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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

*ISCJB **01** 00:05:06.9±0.4, 40.17N×002×2066E±002, h0km±3km, Error ellipse: s-maj=3.2km s-min=2.6km az=15.4*
*SKO **01** 00:05:06.9, 4005N×2054E, h0km*
*ATH **01** 00:05:06.9, 40.17N×2064E, h12km±2km, MD3.6/10*
*CSEM **01** 00:05:07.5±0.1, 4021N×2060E, h2km, MD3.6, Error ellipse: s-maj=3.2km s-min=2.2km az=122.0*
*TIR **01** 00:05:07.5±3.0, 40.17N×2067E, h6km±13km*
*THE **01** 00:05:08.5, 40.18N×2071E, h0km, ML3.5*
*NEIC **01** 00:05:08.5, 40.18N×2071E, h0km, MD3.6(ATH), ML3.5(THE), After THE.*

ISC 01 00:05:07.6±0.3, 4019N±002×2066E±003, h3km±3km, n54, σ1§19/94, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.51**	**283**	*e*PG	**Pg**	**00 05 16.4**	**-1.0**
TPE				*i* SG	**Sg**	**00 05 24.9**	**+0.9**
JAN	**Janina**	**0.55**	**164**	*e*PB	**Pg**	**00 05 16.6**	**-1.6**
JAN				*e*SB	**Sg**	**00 05 25.3**	**0.0**
SRN	**Sarande**	**0.59**	**239**	*e*PG	**Pg**	**00 05 18.5**	**-0.5**
SRN				*i* SG	**Sg**	**00 05 27.9**	**+1.2**
MEV	**Metsovon**	**0.59**	**132**	*e*Pg	**Pg**	**00 05 18.4**	**-0.6**
MEV				*e*Sg	**Sg**	**00 05 28.1**	**+1.4**
MEV	**Metsovon**	**0.59**	**132**	*i* PG	**Pg**	**00 05 18.4**	**-0.6**
MEV				*i* SG	**Sg**	**00 05 28.1**	**+1.4**
IGT	**Igoumenitsa**	**0.70**	**201**	*e*Pg	**Pg**	**00 05 21.1**	**0.0**
IGT				*e*Sg	**Sg**	**00 05 33.2**	**+3.1**
IGT	**Igoumenitsa**	**0.70**	**201**	*i* PG	**Pg**	**00 05 21.1**	**0.0**
IGT				*i* SG	**Sg**	**00 05 33.2**	**+3.1**
FNA	**Florina**	**0.81**	**42**	*e*Pg	**Pg**	**00 05 22.5**	**-0.6**
FNA				*e*Sg	**Sg**	**00 05 35.6**	**+1.9**
FNA	**Florina**	**0.81**	**42**	*i* PG	**Pg**	**00 05 22.5**	**-0.6**
FNA				*i* SG	**Sg**	**00 05 35.6**	**+2.0**
KEK	**Kerkira**	**0.81**	**235**	*e*PB	**Pg**	**00 05 22.1**	**-1.1**
KZN	**Kozani**	**0.86**	**82**	*e*PB	**Pb**	**00 05 23.8**	**-1.3**
OHR	**Ohrid**	**0.93**	**6**	*e*Pg	**Pn**	**00 05 26.4**	**-1.2**
OHR				*e*Sg	**Sn**	**00 05 40.2**	**-1.1**
OHR	**Ohrid**	**0.93**	**6**	*i* PG	**Pn**	**00 05 26.4**	**-1.2**
OHR				*i* SG	**Sn**	**00 05 40.2**	**-1.2**
OHR	**Ohrid**	**0.93**	**6**	*e*Pg	**Pn**	**00 05 26.6**	**-0.9**
OHR				*e*Sg	**Sn**	**00 05 41.0**	**-0.4**
OHR	**Ohrid**	**0.93**	**6**	*e*Pg	**Pn**	**00 05 26.4**	**-1.2**
OHR				*e*Sg	**Sn**	**00 05 40.9**	**-0.5**
BIA	**Bitola**	**0.97**	**31**	*e*Pg	**Pg**	**00 05 25.0**	**-1.3**
BIA				*e*Sg	**Sg**	**00 05 40.5**	**+1.5**
BIA	**Bitola**	**0.97**	**31**	*e*Pg	**Pg**	**00 05 26.2**	**-0.1**
BIA				*e*Sg	**Sg**	**00 05 40.6**	**+1.7**
BIA	**Bitola**	**0.97**	**31**	*e*Pg	**Pg**	**00 05 26.1**	**-0.2**
BIA				*e*Sg	**Sg**	**00 05 40.6**	**+1.7**
THL	**Klokotos Trika**	**1.21**	**120**	*e*Pg	**Pg**	**00 05 29.2**	**-1.7**
THL				*e*Sg	**Sg**	**00 05 48.6**	**+2.0**
THL	**Klokotos Trika**	**1.21**	**120**	*e*Pn	**Pn**	**00 05 29.5**	**-1.9**
THL				*e*Sg	**Sg**	**00 05 48.6**	**+2.0**
KRUS	**Krusevo**	**1.26**	**21**	*e*Pn	**Pn**	**00 05 32.0**	**-0.1**
KRUS				*e*Sn	**Sn**	**00 05 50.8**	**+1.2**
KRUS	**Krusevo**	**1.26**	**21**	*e*Pn	**Pn**	**00 05 32.0**	**-0.1**
KRUS				*e*Sn	**Sn**	**00 05 50.7**	**+1.1**
TIR	**Tirane**	**1.31**	**333**	*e*Pg	**Pg**	**00 05 33.8**	**+1.1**
TIR				*e*Sg	**Sg**	**00 05 53.3**	**+3.6**
TIR	**Tirane**	**1.31**	**333**	*i* PG	**Pg**	**00 05 33.8**	**+1.1**
TIR				*i* SG	**Sg**	**00 05 53.3**	**+3.6**
LIT	**Litokhoron**	**1.41**	**93**	*e*Pg	**Pg**	**00 05 33.6**	**-1.0**
LIT				*e*Sg	**Sg**	**00 05 54.3**	**+1.5**
LKD	**Levkas**	**1.48**	**180**	*e*Pg	**Pg**	**00 05 36.0**	**0.0**
LKD				*e*Sg	**Sg**	**00 05 57.0**	**+2.0**
PHP	**Peshkopia**	**1.51**	**354**	*e*PN	**Pg**	**00 05 37.2**	**+0.7**
GRG	**Griva**	**1.53**	**59**	*e*Pg	**Pg**	**00 05 36.1**	**-0.9**
GRG				*e*Sg	**Sg**	**00 05 57.5**	**+0.6**
EVR	**Evrytania**	**1.55**	**145**	*e*PG	**Pb**	**00 05 35.1**	**-1.8**
AGG	**Agios Georgios**	**1.74**	**131**	*e*Pb	**Pb**	**00 05 38.9**	**-1.2**
AGG				*e*Sb	**Sb**	**00 06 03.0**	**+0.7**
THE	**Thessaloniki**	**1.81**	**75**	*e*Pb	**Pb**	**00 05 39.8**	**-1.7**
THE				*e*Sb	**Sb**	**00 06 04.8**	**+0.2**
VAY	**Valandovo**	**1.84**	**51**	*e*Pn	**Pn**	**00 05 39.9**	**-0.2**
VAY				*e*Sn	**Sn**	**00 06 07.9**	**+4.0**
VAY	**Valandovo**	**1.84**	**51**	*e*Pn	**Pn**	**00 05 39.9**	**-0.2**
VAY				*e*Sn	**Sn**	**00 06 07.8**	**+4.0**
SKO	**Skopje**	**1.88**	**18**	*e*Pb	**Pb**	**00 05 42.2**	**-0.3**
SKO				*e*Sb	**Sb**	**00 06 06.9**	**+0.5**
SKO	**Skopje**	**1.88**	**18**	*i* PG	**Pb**	**00 05 42.2**	**-0.3**
SKO	**Skopje**	**1.88**	**18**	*e*Pn	**Pg**	**00 05 43.1**	**-0.6**
SKO				*e*Sn	**Sg**	**00 06 12.2**	**+4.2**
SKO	**Skopje**	**1.88**	**18**	*e*Pn	**Pg**	**00 05 43.0**	**-0.6**
SKO				*e*Sn	**Sg**	**00 06 12.2**	**+4.2**
STIP	**Stip**	**1.90**	**37**	*e*Pb	**Pb**	**00 05 40.9**	**-2.0**
STIP				*e*Sb	**Sb**	**00 06 07.0**	**0.0**
STIP	**Stip**	**1.90**	**37**	*e*Pn	**Pg**	**00 05 44.0**	**-0.1**
STIP				*e*Sn	**Sg**	**00 06 13.0**	**+4.4**
STIP	**Stip**	**1.90**	**37**	*e*Pn	**Pg**	**00 05 43.9**	**-0.1**
STIP				*e*Sn	**Sg**	**00 06 12.9**	**+4.3**
HORT	**Hortiatis**	**1.91**	**77**	*e*Pb	**Pb**	**00 05 40.8**	**-2.3**
HORT				*e*Sb	**Sb**	**00 06 05.8**	**-1.4**
PUK	**Puka**	**1.94**	**343**	*e*PN	**Pg**	**00 05 46.5**	**+1.6**
KNT	**Kendrikon**	**1.96**	**59**	*e*Pb	**Pb**	**00 05 41.8**	**-2.1**
VLS	**Valsamata**	**2.01**	**182**	*e*PN	**Pn**	**00 05 42.0**	**-0.4**
VLS				*e*SN	**Sn**	**00 06 08.4**	**+0.5**
PLG	**Polygyros**	**2.14**	**84**	*e*Pn	**Pn**	**00 05 43.9**	**-0.3**
PLG				*e*Sn	**Sn**	**00 06 12.4**	**+1.2**
PLG	**Polygyros**	**2.14**	**84**	*e*PN	**Pn**	**00 05 44.7**	**+0.5**
SOH	**Sokhos**	**2.15**	**72**	*e*Pn	**Pn**	**00 05 45.0**	**+0.6**
SOH				*e*Sn	**Sn**	**00 06 13.3**	**+1.9**
NEO	**Neokhori**	**2.16**	**113**	*e*PN	**Pn**	**00 05 45.1**	**+0.6**
RLS	**Riolos of Patr**	**2.22**	**163**	*e*PG	**Pb**	**00 05 47.0**	**-1.3**
BCI	**Bajram Curri**	**2.22**	**349**	*e*PN	**Pg**	**00 05 49.6**	**-0.6**
PAIG	**Paliouri**	**2.33**	**95**	*e*Pn	**Pn**	**00 05 46.6**	**-0.2**
PAIG				*e*Sn	**Sn**	**00 06 17.4**	**+1.5**
LKR	**Lokris**	**2.37**	**130**	*e*PN	**Pn**	**00 05 48.6**	**+1.2**
ITM	**Ithomi**	**3.16**	**161**	*e*PN	**Pn**	**00 05 59.3**	**+1.1**
TIP	**Timpagrande**	**3.17**	**253**	P	**Pn**	**00 05 58.9**	**+0.5**

*NEIC **01** 00:05:28.5±1.1, 4457N×12997W, h10km, mb4.1/4, Error ellipse: s-maj=12.5km s-min=7.4km az=81.0*
*ISCJB **01** 00:05:29.8±0.7, 4449N±004×12951W±006, h10km, mb4.0/5, Error ellipse: s-maj=6.9km s-min=4.9km az=152.4*
*IDC **01** 00:05:30.0±6.0, 4442N×12958W, h0km, mb3.4/3, mb1 3.8/7, mb1mx3.6/27, mbtmp3.5/7, ML3.4/4, Error ellipse: s-maj=78.8km s-min=45.5km az=82.0*

ISC 01 00:05:30.6±1.2, 4444N±004×1295W±01, h2km±15km, n111, σ0§82/125, mb4.0/5, 29C-19D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02A	**Mapleton**	**4.12**	**94**	⇓P	**Pn**	**00 06 33.1**	**-1.4**
I02A	baz=4.4			⇑S	**Sn**	**00 07 22.6**	**-0.6**
HEBO	**Mount Hebo**	**4.18**	**77**	*e*Pn	**Pn**	**00 06 34.5**	**-0.8**
HEBO				*e*Sn	**Sn**	**00 07 26.8**	**+2.1**
RNO	**Roman Nose**	**4.20**	**95**	P	**Pn**	**00 06 35.2**	**-0.3**
J02A	**Umpqua**	**4.44**	**102**	⇑P	**Pn**	**00 06 37.4**	**-1.4**
J02A	baz=4.7			⇑S	**Sn**	**00 07 30.0**	**-1.0**
KMOR	**Kings Mountain**	**4.45**	**72**	P	**Pn**	**00 06 37.3**	**-1.6**
COR	**Corvallis**	**4.46**	**86**	*e*Pn	**Pn**	**00 06 38.8**	**-0.3**
H03A	**Soap Creek Ran**	**4.46**	**85**	⇑P	**Pn**	**00 06 38.5**	**-0.7**
H03A	baz=4.8			⇓S	**Sn**	**00 07 31.1**	**-0.6**
F03A	**Seaside**	**4.48**	**68**	⇓P	**Pn**	**00 06 38.6**	**-0.7**
I03A	**Eugene**	**4.52**	**94**	⇓P	**Pn**	**00 06 39.1**	**-0.9**
I03A	baz=4.8			⇑S	**Sn**	**00 07 32.1**	**-1.0**
G03A	**Yamhill**	**4.53**	**77**	⇑P	**Pn**	**00 06 39.4**	**-0.7**
G03A	baz=4.9			⇓S	**Sn**	**00 07 33.3**	**+0.1**
NLO	**Nicolai Mounta**	**4.60**	**67**	P	**Pn**	**00 06 40.7**	**-0.3**
K02A	**Glendale**	**4.70**	**109**	⇓S	**Sn**	**00 07 36.3**	**-1.1**
WISH	**Wishkah**	**4.84**	**54**	P	**Pn**	**00 06 44.1**	**-0.2**
J03A	**Ideyld Park**	**4.86**	**100**	⇓P	**Pn**	**00 06 43.8**	**-0.9**
J03A	baz=5.2			⇑S	**Sn**	**00 07 41.1**	**-0.5**
BMW	**Boistfort Moun**	**4.88**	**63**	P	**Pn**	**00 06 43.9**	**-1.0**
C03A	**Quillayute Air**	**4.92**	**43**	⇑P	**Pn**	**00 06 44.7**	**-0.7**
NLWA	**Neilton Lookou**	**4.93**	**51**	⇓P	**Pn**	**00 06 44.8**	**-0.8**
NLWA	baz=5.2			⇓S	**Sn**	**00 07 43.6**	**+0.5**
NLWA	**Neilton Lookou**	**4.93**	**51**	*e*Pn	**Pn**	**00 06 45.1**	**-0.5**
OSR	**Olympics--Salm**	**4.94**	**50**	P	**Pn**	**00 06 45.2**	**-0.6**
OOW	**Octopus West**	**4.96**	**47**	P	**Pn**	**00 06 45.6**	**-0.5**
SSOR	**Sweet Springs**	**5.06**	**83**	P	**Pn**	**00 06 47.6**	**+0.2**
BROR	**Big Rock Looko**	**5.08**	**90**	P	**Pn**	**00 06 47.8**	**+0.1**
OTR	**Olympics--Tyee**	**5.12**	**43**	P	**Pn**	**00 06 47.7**	**-0.4**
HUMO	**Hull Mountain**	**5.12**	**109**	⇑S	**Sn**	**00 07 46.4**	**-1.5**
CPW	**Capitol Peak**	**5.14**	**58**	P	**Pn**	**00 06 48.0**	**-0.6**
I04A	**Tendick Farm,**	**5.17**	**95**	⇑P	**Pn**	**00 06 48.3**	**-0.5**
SMW	**South Mountain**	**5.19**	**54**	P	**Pn**	**00 06 48.2**	**-1.0**
OBC	**Olympics--Boni**	**5.22**	**45**	P	**Pn**	**00 06 49.2**	**-0.3**
F04A	**Amboy**	**5.24**	**71**	⇑P	**Pn**	**00 06 49.6**	**-0.3**
H04A	baz=5.6,SNR=12 **Detroit Lake**	**5.25**	**85**	⇓P	**Pn**	**00 06 49.4**	**-0.7**
H04A	baz=5.6			⇑S	**Sn**	**00 07 51.1**	**0.0**
OSD	**Olympics--Snow**	**5.27**	**48**	P	**Pn**	**00 06 49.8**	**-0.6**
LVP	**Lakeview Peak**	**5.29**	**70**	P	**Pn**	**00 06 50.0**	**-0.5**
FRIS	**Frissel Point**	**5.34**	**90**	P	**Pn**	**00 06 51.5**	**+0.3**
FL2	**Flat Top 2**	**5.36**	**68**	P	**Pn**	**00 06 51.0**	**-0.5**
MTMW	**Mount Mitchell**	**5.41**	**70**	P	**Pn**	**00 06 52.0**	**-0.2**
D04A	**Dobbs Creek Ra**	**5.41**	**58**	⇓P	**Pn**	**00 06 52.1**	**-0.1**
VLMM	**Larch Mountain**	**5.43**	**76**	P	**Pn**	**00 06 52.9**	**+0.5**
TDL	**Tradedollar La**	**5.49**	**67**	P	**Pn**	**00 06 53.1**	**-0.2**
B04A	**Port Angeles**	**5.53**	**47**	⇑P	**Pn**	**00 06 53.4**	**-0.4**
HUOR	**Husband**	**5.53**	**91**	P	**Pn**	**00 06 54.3**	**+0.5**
HDW	**Hoodsport**	**5.53**	**52**	P	**Pn**	**00 06 53.8**	**-0.1**
MEW	**McNeil Island**	**5.55**	**58**	P	**Pn**	**00 06 54.5**	**+0.4**
LMW	**Ladd Mountain**	**5.55**	**64**	P	**Pn**	**00 06 54.5**	**+0.3**
TDH	**Tom, Dick, Har**	**5.57**	**79**	P	**Pn**	**00 06 54.7**	**+0.3**
C04A	**Brinnon**	**5.62**	**52**	⇓P	**Pn**	**00 06 54.8**	**-0.3**
GNW	**Green Mountain**	**5.62**	**54**	P	**Pn**	**00 06 54.5**	**-0.6**
BKCOR	**Black Crater**	**5.62**	**89**	P	**Pn**	**00 06 55.5**	**+0.4**
GMW	**Gold Mountain**	**5.63**	**54**	P	**Pn**	**00 06 54.8**	**-0.4**
VLL	**Laurance Lake**	**5.67**	**77**	P	**Pn**	**00 06 56.4**	**+0.7**
HOOD	**Mount Hood Mea**	**5.67**	**78**	*e*Pn	**Pn**	**00 06 56.5**	**+0.8**
YBH	**Yreka Blue Hor**	**5.68**	**116**	Pn	**Pn**	**00 06 58.0**	**+2.0**
VBEM	**Beaver Butte**	**5.69**	**81**	P	**Pn**	**00 06 56.9**	**+0.9**
GHW	**Garrison Hill**	**5.71**	**60**	P	**Pn**	**00 06 56.5**	**+0.2**
VFP	**Flag Point**	**5.80**	**78**	P	**Pn**	**00 06 58.3**	**+0.8**
VGZ	**Gonzales**	**5.84**	**45**	P	**Pn**	**00 06 57.1**	**-1.1**
ASR	**Mount Adams--S**	**5.85**	**70**	P	**Pn**	**00 06 58.5**	**+0.2**
RVC	**Mount Rainier-**	**5.86**	**62**	P	**Pn**	**00 06 59.1**	**+0.8**
E05A	**Randle**	**5.86**	**66**	⇓P	**Pn**	**00 06 58.5**	**+0.1**
F05A	baz=6.2,SNR=35 **White Salmon**	**5.89**	**73**	⇑P	**Pn**	**00 06 59.4**	**+0.7**
G05A	baz=6.2,SNR=19 **Wamic**	**5.89**	**79**	P	**Pn**	**00 06 59.5**	**+0.7**
PGC	baz=6.2,SNR=6.4 **Sidney**	**5.94**	**43**	*e*Pn	**Pn**	**00 06 58.7**	**-0.8**
D05A	**Enumclaw**	**5.94**	**60**	⇓P	**Pn**	**00 07 00.4**	**+0.9**
RCM	baz=6.3 **Mount Rainier-**	**5.97**	**64**	P	**Pn**	**00 07 00.5**	**+0.6**
RCS	**Mount Rainier-**	**5.98**	**63**	P	**Pn**	**00 07 00.7**	**+0.6**
GSM	**Grass Mountain**	**6.07**	**60**	P	**Pn**	**00 07 01.9**	**+0.7**
C05A	**Tolt Reservoir**	**6.35**	**56**	⇑P	**Pn**	**00 07 05.1**	**0.0**
E06A	baz=6.7 **Yakima**	**6.37**	**68**	⇓P	**Pn**	**00 07 05.7**	**+0.4**
G06A	baz=6.7 **Carlson Farm,**	**6.38**	**80**	⇑P	**Pn**	**00 07 05.0**	**-0.4**
B05A	baz=6.7,SNR=14 **Bryant**	**6.41**	**51**	⇑P	**Pn**	**00 07 06.0**	**+0.1**
JCW	baz=6.7 **Jim Creek**	**6.46**	**52**	*e*Pn	**Pn**	**00 07 07.0**	**+0.4**
JCW				Sn	**Sn**	**00 08 20.9**	**+0.1**
H06A	**Lindquist Farm**	**6.57**	**84**	⇓P	**Pn**	**00 07 08.1**	**-0.1**
RPW	baz=6.9 **Rockport**	**6.83**	**51**	*e*Pn	**Pn**	**00 07 11.8**	**+0.1**
RPW				*e*Sn	**Sn**	**00 08 30.6**	**+0.6**
A05A	**Maple Falls**	**6.85**	**46**	⇓P	**Pn**	**00 07 12.1**	**+0.1**
B06A	baz=7.1 **Marblemount**	**6.89**	**51**	⇓P	**Pn**	**00 07 12.6**	**+0.1**
C06A	baz=7.2 **Tall Timber Ra**	**6.93**	**57**	⇑P	**Pn**	**00 07 13.3**	**+0.2**
G07A	baz=7.2 **Ruggs Ranch, H**	**7.06**	**80**	⇑P	**Pn**	**00 07 14.6**	**-0.3**
H07A	baz=7.4,SNR=7.4 **Lands Inn, Kim**	**7.13**	**85**	⇑P	**Pn**	**00 07 15.2**	**-0.5**
ETW	baz=7.4 **Entiat**	**7.14**	**60**	*e*Pn	**Pn**	**00 07 16.7**	**+0.8**
ETW				*e*Sn	**Sn**	**00 08 39.6**	**+2.0**
RSW	**Rattlesnake Hi**	**7.26**	**71**	*e*Pn	**Pn**	**00 07 18.5**	**+0.9**
HAWA	**Hanford**	**7.30**	**71**	*e*Pn	**Pn**	**00 07 19.3**	**+1.1**
C07A	**Waterville**	**7.34**	**60**	⇑P	**Pn**	**00 07 18.7**	**0.0**
G08A	baz=7.6 **Pilot Rock**	**7.56**	**80**	⇑P	**Pn**	**00 07 21.4**	**-0.3**
B07A	baz=7.9,SNR=14 **Winthrop**	**7.64**	**55**	⇑P	**Pn**	**00 07 22.9**	**+0.1**
A07A	baz=7.9 **Ashnola River,**	**7.79**	**51**	⇑P	**Pn**	**00 07 24.8**	**0.0**
B08A	baz=8.1 **Colville Reser**	**8.06**	**57**	⇑P	**Pn**	**00 07 28.1**	**-0.5**
OD2	baz=8.4 **Odessa Site #2**	**8.10**	**65**	*e*Pn	**Pn**	**00 07 29.2**	**+0.1**
OD2				Sn	**Sn**	**00 09 01.6**	**+0.5**
D09A	**Jones Farm, Ri**	**8.27**	**68**	⇓P	**Pn**	**00 07 31.3**	**-0.2**
A08A	baz=8.6 **Turner Farm, O**	**8.37**	**54**	⇑P	**Pn**	**00 07 32.8**	**0.0**
A09A	baz=8.7 **Danville**	**8.78**	**55**	⇑P	**Pn**	**00 07 38.4**	**0.0**
B09A	baz=9.1 **Rice**	**8.81**	**59**	⇑P	**Pn**	**00 07 38.0**	**-0.8**
D10A	baz=9.1 **Wagner Farm, O**	**8.96**	**69**	⇑P	**Pn**	**00 07 40.5**	**-0.4**
NEW	baz=9.3 **Newport**	**9.39**	**62**	*e*Pn	**Pn**	**00 07 46.2**	**-0.6**
NVAR	2.5nm,0.5s **Mina Array Bea**	**10.35**	**122**	Pn	**Pn**	**00 08 01.9**	**+1.9**
ELK	0.0nm,0.3s,baz=284,slow=17,SNR=4.0 **Elko**	**11.16**	**104**	Pn	**Pn**	**00 08 14.0**	**+2.9**
MSO	0.1nm,0.3s,baz=281,slow=8.6,SNR=9.0 **Missoula**	**11.18**	**72**	*e*Pn	**Pn**	**00 08 11.6**	**+0.3**
BOZ	**Bozeman (W)**	**12.72**	**78**	*e*Pn	**Pn**	**00 08 34.5**	**+2.1**
RRI2	**Red Ridge**	**13.18**	**88**	*e*Pn	**Pn**	**00 08 41.9**	**+3.2**
RRI2	56nm,2.1s			Sn	**Sn**	**00 11 09.4**	**+3.6**
TPAW	**Teton Pass**	**13.42**	**88**	*e*Pn	**Pn**	**00 08 46.0**	**+4.1**
SHPR	**Sheep Range**	**13.50**	**121**	*e*Pn	**Pn**	**00 08 51.6**	**+8.6**
REDW	**Red Top Meadow**	**13.52**	**88**	*e*Pn	**Pn**	**00 08 47.3**	**+4.0**
EGMT	**Eagleton**	**14.14**	**68**	*e*Pn	**Pn**	**00 08 55.7**	**+4.0**
MSU	6.9nm,0.8s **Marysvale**	**14.29**	**109**	*e*Pn	**Pn**	**00 08 57.0**	**+3.2**
PDAR	**Pinedale Array**	**14.57**	**90**	Pn	**Pn**	**00 09 01.6**	**+4.1**
MVCO	0.1nm,0.3s,baz=282,slow=10,SNR=6.5 **Mesa Verde**	**17.45**	**107**	*e*Pn	**Pn**	**00 09 36.9**	**+1.8**
ANMO	3.5nm,0.6s **Albuquerque**	**20.07**	**110**	P	**P**	**00 10 06.1**	**+1.0**
ANMO	0.7nm,0.7s,baz=300,slow=10,SNR=3.2 **Albuquerque**	**20.07**	**110**	P	**P**	**00 10 06.1**	**+1.0**
ULM	**Lac du Bonnet**	**23.40**	**64**	P	**P**	**00 10 41.4**	**+0.8**
TXAR	2.3nm,0.4s,mb4.0,baz=280,slow=9.6,SNR=3.5 **Lajitas Array**	**25.46**	**118**	P	**P**	**00 10 59.1**	**-0.7**
WMOK	0.4nm,0.9s,mb3.0,baz=252,slow=10,SNR=3.8 **Wichita Mounta**	**25.47**	**102**	*e*P	**P**	**00 10 59.7**	**-0.2**
EYMN	3.6nm,0.8s,mb4.0 **Ely**	**26.38**	**69**	*e*P	**P**	**00 11 07.7**	**-0.3**
BJT	3.1nm,0.7s,mb4.0 **Baijiatuau**	**77.26**	**314**	*e*P	**P**	**00 17 19.7**	**-6.5**
	9.2nm,0.6s,mb4.9						

*PRU **01** 00:07:50.5, 3890N×1691E, h0km, M4.6*
*LDG **01** 00:07:52.0±0.1, 39.14N×1696E, h10km, Mb4.9/28, Ms3.5/5, Error ellipse: s-maj=3.1km s-min=1.7km az=25.0*
*MOS **01** 00:07:53.6±0.8, 39.13N×1697E, h19km, mb4.5/20, Error ellipse: s-maj=4.0km s-min=3.0km az=102.3*
*ROM **01** 00:07:54.9±0.1, 3900N×17.18E, h10km, Ml4.1/45, Error ellipse: s-maj=2.3km s-min=1.6km az=110.0*
*ISCJB **01** 00:07:55.6±0.3, 39.12N±001×1709E±001, h32km±3km, mb4.2/26, Error ellipse: s-maj=2.2km s-min=1.7km az=168.4*
*NEIC **01** 00:07:55.0, 3903N×17.16E, h10km, mb4.2/30, ML4.1(ROM), After ROM.*
NEIC Felt [V] at Crotone and [IV] at Catanzaro. Also felt at Cosenza.
*PDG **01** 00:07:55.2±0.7, 3903N×17.17E, h17km±2km, MD4.5/2, ML4.4/9, Error ellipse: s-maj=1.3km s-min=1.7km az=0.0*
*CSEM **01** 00:07:55.3±0.0, 3921N×1691E, h30km, mb4.3/4, Ms3.5*
*BGR **01** 00:07:57.2±1.2, 39.34N×1808E, h10km, ML4.1/2, Error ellipse: s-maj=54.5km s-min=17.8km az=76.0*
*IDC **01** 00:07:58.0±1.9, 39.15N×1700E, h33km±16km, mb3.9/16, mb1 4.0/25, mb1mx3.9/37, mbtmp3.9/25, ML3.8/9, Error ellipse: s-maj=13.2km s-min=9.0km az=113.0*
*THE **01** 00:07:57.4, 3904N×17.16E, h31km, ML4.7*

ISC 01 00:07:54.7±0.3, 3905N±001×1706E±002, h12km±2km, n465, σ1§18/537, mb4.2/26, 20C-29D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIP	**Timpagrande**	**0.27**	**299**	⇑*i*Pg	**Pg**	**00 08 02.5**	**+2.2**
TIP	36µm,0.5s			Sg	**Sg**	**00 08 07.9**	**+3.9**
SERS	**Sersale**	**0.29**	**268**	⇓*i*Pg	**Pg**	**00 08 02.9**	**+2.2**
SERS	46µm,0.6s			Sg	**Sg**	**00 08 08.4**	**+3.7**
GRI	**Girifalco**	**0.55**	**246**	⇓*e*Pg	**Pg**	**00 08 06.8**	**+1.3**
CARO	17µm,0.5s **Carolei**	**0.69**	**288**	Pg	**Pg**	**00 08 09.6**	**+1.5**
CARO	22µm,0.6s			Sg	**Sg**	**00 08 21.6**	**+4.5**
PLAC	**Placanica**	**0.77**	**219**	Pg	**Pg**	**00 08 10.7**	**+1.0**
JOPP	4µm,0.8s **Joppolo**	**1.02**	**245**	Pg	**Pg**	**00 08 15.4**	**+1.0**
ORI	4µm,0.5s **Oriolo Calabro**	**1.12**	**335**	Pg	**Pg**	**00 08 17.2**	**+0.9**
SOI	8µm,0.5s **Samo**	**1.25**	**219**	Pg	**Pg**	**00 08 19.1**	**+0.3**
SCLL	2µm,0.7s **Scilla**	**1.32**	**234**	Pg	**Pg**	**00 08 20.8**	**+0.7**
CUC	1µm,0.9s **Castrocucco**	**1.35**	**315**	Pg	**Pg**	**00 08 22.0**	**+1.4**
MPAZ	6µm,0.8s **Palizzi**	**1.37**	**217**	Pg	**Pg**	**00 08 20.9**	**-0.2**
SCHR	2µm,0.6s **S. Chirico Rap**	**1.38**	**327**	Pg	**Pg**	**00 08 22.1**	**+0.9**
CRAC	2µm,0.9s **Craco**	**1.40**	**340**	Pg	**Pg**	**00 08 22.3**	**+0.7**
MSRU	**Castanea**	**1.45**	**238**	Pg	**Pg**	**00 08 21.8**	**-0.7**
MSI	5µm,0.8s **Messina ING**	**1.45**	**235**	Pg	**Pg**	**00 08 22.2**	**-0.4**
SIRI	**Monte Sirino -**	**1.46**	**321**	Pg	**Pg**	**00 08 23.5**	**+0.7**
SCTE	5µm,1.1s **Santa Cesarea**	**1.49**	**46**	Pg	**Pg**	**00 08 21.3**	**-2.1**
MTTG	9µm,1.0s **Motta San Giov**	**1.50**	**226**	Pg	**Pg**	**00 08 22.9**	**-0.6**
MTSN	4µm,0.7s **Montesano sull**	**1.58**	**321**	Pg	**Pg**	**00 08 25.2**	**+0.1**
MGR	3µm,0.8s **Morigerati**	**1.59**	**313**	Pg	**Pg**	**00 08 24.7**	**-0.6**
MCEL	4µm,0.8s **Monticello**	**1.60**	**323**	Pg	**Pg**	**00 08 25.4**	**-0.1**
MIGL	3µm,0.9s **Miglionico**	**1.63**	**343**	Pg	**Pg**	**00 08 24.4**	**-1.5**
PTRP	22µm,1.2s **Pietrapertosa**	**1.66**	**333**	Pg	**Pg**	**00 08 26.2**	**-0.4**
VPL	5µm,0.9s **Vulcano Piano**	**1.76**	**248**	Pg	**Pg**	**00 08 26.1**	**-2.4**
LLI	**Lipari**	**1.76**	**251**	Pg	**Pg**	**00 08 26.5**	**-2.0**
PE1	13µm,0.7s **Pezze di Greco**	**1.78**	**9**	*e*Pn	**Pn**	**00 08 25.3**	**0.0**
MMME	**Mongiuffi-Meli**	**1.80**	**232**	Pg	**Pg**	**00 08 27.8**	**-1.5**
SLNA	2µm,0.7s **Salina**	**1.81**	**255**	Pg	**Pg**	**00 08 27.2**	**-2.2**
SG1	**Sgolgore (BA)**	**1.81**	**351**	*e*Pn	**Pn**	**00 08 26.0**	**+0.2**
CMPR	**Campora**	**1.86**	**314**	Pg	**Pg**	**00 08 28.4**	**-2.0**
CDRU	1µm,0.8s **Civita di Ruta**	**1.98**	**317**	Pg	**Pg**	**00 08 29.7**	**-2.9**
SGO	924nm,0.9s **Sicignano**	**2.03**	**319**	Pg	**Pg**	**00 08 31.0**	**-2.6**
BAI	**Bari**	**2.06**	**356**	*e*Pn	**Pn**	**00 08 29.1**	**-0.1**
PALZ	**Palazzo San Ge**	**2.07**	**336**	Pg	**Pg**	**00 08 34.0**	**-0.5**
MRVN	**Minervino Murg**	**2.12**	**342**	Pg	**Pg**	**00 08 30.5**	**-4.8**
CDT	983nm,0.7s **Castel del Mon**	**2.12**	**344**	*e*Pn	**Pn**	**00 08 26.1**	**-3.9**
ESLN	**Serra La Nave**	**2.13**	**231**	P

OHR	Ohrid	3.53	53	ePn	Pn	00 08 50.1	+0.8
OHR	Ohrid	3.53	53	ePn	Pn	00 08 50.1	+0.7
OHR				eSn	Sn	00 09 30.5	-0.5
BUM	Brajici-Budva	3.54	23	⇑iPn	Pn	00 08 49.0	-0.4
BUM				eSn	Sn	00 09 32.0	+0.8
HCY	Herceg Novi	3.57	17	⇓iPn	Pn	00 08 49.0	-0.9
HCY				eSn	Sn	00 09 33.4	+1.5
SDI	San Donato 46nm,0.4s	3.64	318	Pg	Pg	00 08 52.6	-12
PHP	Peshkopia	3.69	43	ePN	Pn	00 08 52.4	+0.9
PUK	Puka	3.69	35	ePN	Pn	00 08 51.4	-0.1
POFI	Posta Fibreno 523nm,1.8s	3.69	317	Pg	Pg	00 08 53.6	-12
FNA	Florina	3.74	61	ePn	Pn	00 08 53.5	+1.2
FNA				eSn	Sn	00 09 35.0	-1.3
PDG	Podgorica	3.77	26	⇓iPn	Pn	00 08 51.9	-0.7
TTG	Podgorica	3.77	26	⇓iPn	Pn	00 08 51.9	-0.7
TTG				eSn	Sn	00 09 38.1	+1.2
TREB	Trebinje	3.79	14	ePn	Pn	00 08 52.3	-0.7
TREB				eSn	Sn	00 09 36.2	-1.3
BIA	Bitola	3.82	58	ePn	Pn	00 08 53.6	+0.3
BIA	Bitola	3.82	58	ePn	Pn	00 08 53.5	+0.2
BIA				eSn	Sn	00 09 37.8	-0.4
BIA	Bitola	3.82	58	ePn	Pn	00 08 53.7	+0.4
BIA				eSn	Sn	00 09 37.7	-0.4
GIUL	Giuliano Di Ro 208nm,1.3s	3.84	312	Pg	Pg	00 08 56.1	-12
STON	Ston	3.85	7	ePn	Pn	00 08 53.3	-0.4
STON				Sn	Sn	00 09 37.2	-1.7
VVLD	Villa Vallelon 603nm,1.3s	3.85	318	Pg	Pg	00 08 55.8	-13
THL	Klokotos Trika	3.88	81	ePn	Pn	00 08 54.4	+0.2
THL				eSn	Sn	00 09 38.4	-1.2
THL	Klokotos Trika	3.88	81	ePn	Pn	00 08 54.3	+0.2
THL				eSn	Sn	00 09 38.4	-1.2
KRUS	Krusevo	3.96	53	ePn	Pn	00 08 56.2	+1.1
KRUS				eSn	Sn	00 09 40.6	-0.9
KRUS	Krusevo	3.96	53	ePn	Pn	00 08 56.2	+1.0
KRUS				eSn	Sn	00 09 40.5	-1.0
BRY	Bratogost	4.01	16	⇓iPn	Pn	00 08 55.7	-0.2
BRY				eSn	Sn	00 09 44.2	+1.4
BCI	Bajram Curri	4.02	34	ePN	Pn	00 08 56.3	+0.1
AGG	Agios Georgios	4.10	89	ePn	Pn	00 08 57.4	+0.2
AGG				eSn	Sn	00 09 43.5	-1.6
PVY	Plav	4.17	31	⇑iPn	Pn	00 08 59.1	+0.9
PVY				eSn	Sn	00 09 47.5	+0.6
AQU	L'Aquila	4.32	321	⇓iP	Pn	00 09 10.4	+10
AQU	L'Aquila	4.32	321	⇓P	Pn	00 09 10.4	+10
LIT	Litokhoron	4.32	74	ePn	Pn	00 09 00.8	+0.5
LIT				eSn	Sn	00 09 50.0	-0.6
UPM	Unac-Piva	4.38	18	⇓iPn	Pn	00 09 01.5	+0.5
UPM				eSn	Sn	00 09 53.3	+1.4
BEY	Berane	4.38	28	⇓iPn	Pn	00 09 02.6	+1.6
IVA	Berane	4.38	28	⇓iPn	Pn	00 09 02.6	+1.6
IVA				eSn	Sn	00 09 52.5	+0.5
SKO	Skopje	4.43	47	ePn	Pn	00 09 02.1	+0.3
SKO				eSn	Sn	00 09 53.4	+0.1
SKO	Skopje	4.43	47	ePn	Pn	00 09 02.5	+0.7
SKO				eSn	Sn	00 09 51.5	-1.8
SKO	Skopje	4.43	47	ePn	Pn	00 09 02.4	+0.6
SKO				eSn	Sn	00 09 51.4	-1.9
SKO				S	Sn	00 09 53.3	0.0
VLX	Vlachokerasia	4.51	110	ePn	Pn	00 09 03.6	+0.8
VLX				eSn	Sn	00 09 53.7	-1.5
GRG	Griva	4.52	63	ePn	Pn	00 09 03.6	+0.6
GRG				eSn	Sn	00 09 54.8	-0.7
PLE	Pljevlja	4.62	22	⇑iPn	Pn	00 09 05.2	+0.8
PLE				eSn	Sn	00 09 58.8	+0.8
LKR	Lokris	4.65	93	ePn	Pn	00 09 05.6	+0.9
LKR				eSn	Sn	00 09 57.9	-0.8
STIP	Stip	4.72	54	ePn	Pn	00 09 05.7	-0.1
STIP	Stip	4.72	54	ePn	Pn	00 09 06.3	+0.6
STIP				eSn	Sn	00 09 56.8	-3.6
LTK	Loutraki	4.74	101	ePn	Pn	00 09 07.1	+1.1
LTK				eSn	Sn	00 09 59.2	-1.7
SJES	Sjenica	4.75	27	ePn	Pn	00 09 06.7	+0.6
SJES	Sjenica	4.75	27	ePn	Pn	00 09 06.1	0.0
SJES				eSn	Sn	00 09 58.9	-2.1
XOR	Xorichti	4.77	84	ePn	Pn	00 09 07.1	+0.7
XOR				eSn	Sn	00 10 00.9	-0.8
VAY	Valandovo	4.79	60	ePn	Pn	00 09 06.9	+0.3
VAY	Valandovo	4.79	60	ePn	Pn	00 09 07.7	+1.0
VAY				eSn	Sn	00 09 59.3	-2.8
VAY	Valandovo	4.79	60	ePn	Pn	00 09 07.6	+0.9
VAY				eSn	Sn	00 09 59.3	-2.8
THE	Thessaloniki	4.81	69	ePn	Pn	00 09 07.6	+0.6
HORT	Hortiatis	4.90	70	ePn	Pn	00 09 08.2	0.0
HORT				eSn	Sn	00 10 04.5	-0.3
HORT	Hortiatis	4.90	70	ePn	Pn	00 09 08.1	-0.1
HORT				S	Sn	00 10 04.5	-0.3
KNT	Kendrikon	4.95	63	ePn	Pn	00 09 09.1	+0.2
DID	Didima	5.10	106	ePn	Pn	00 09 11.1	+0.2
DID				eSn	Sn	00 10 09.4	-0.3
PLG	Polygyros	5.10	73	ePn	Pn	00 09 10.9	0.0
SOH	Sokhos	5.15	68	ePn	Pn	00 09 12.6	+1.0
PAIG	Paliouri	5.19	78	ePn	Pn	00 09 12.1	-0.1
PAIG				eSn	Sn	00 10 10.6	-1.5
BARS	Barje	5.21	42	ePn	Pn	00 09 12.2	-0.2
AOS	Alonnisos	5.30	87	ePn	Pn	00 09 14.1	+0.3
SRS	Serrai	5.42	66	ePn	Pn	00 09 16.6	+1.3
OUR	Ouranopolis	5.49	74	ePn	Pn	00 09 16.8	+0.5
DIVS	Divibare	5.50	23	ePn	Pn	00 09 16.0	-0.4
DIVS				eSn	Sn	00 10 20.0	+0.4
DIVS	Divibare	5.50	23	⇑iPn	Pn	00 09 15.3	-1.1
GRUS	Gruza	5.56	28	ePn	Pn	00 09 16.5	-0.7
NVLJ	Novalja	5.75	344	ePn	Pn	00 09 19.8	-0.1
NVLJ				Sn	Sn	00 10 22.6	-3.1
NVLJ	Novalja	5.75	344	ePn	Pn	00 09 19.7	-0.1
NVLJ				Sn	Sn	00 10 22.5	-3.2
VTS	Vitosha	5.85	51	⇑iP	Pn	00 09 21.7	+0.4
VTS	Vitosha	5.85	51	P	Pn	00 09 21.9	+0.6
SVIS	Svilajnac	6.07	29	ePn	Pn	00 09 23.6	-0.6
BEO	Beograd	6.29	23	⇑ePn	Pn	00 09 25.1	-2.2
LIA	Limnos Island	6.34	80	ePn	Pn	00 09 28.6	+0.6
FGSL	Fruska Gora	6.44	18	ePn	Pn	00 09 25.2	-4.1
FGSL	Fruska Gora	6.44	18	ePn	Pn	00 09 28.3	-1.0
FGSL				eSn	Sn	00 10 39.7	-2.9
KARN	Karanos	6.57	122	ePn	Pn	00 09 31.6	+0.4
KARN	Karanos	6.57	122	ePn	Pn	00 09 31.5	+0.4
BOJS	Bojanci	6.59	349	*i* Pn	Pn	00 09 32.3	+0.9
BOJS				*i* Sn	Sn	00 10 43.1	-3.3
VAM	Vamos	6.75	120	P	Pn	00 09 42.8	+9.1
RDO	Rodhopi	6.83	69	P	Pn	00 09 37.6	+3.0
VISS	Visnje	6.95	347	ePn	Pn	00 09 37.2	+0.9
APE	Apeiranthos	6.97	104	ePn	Pn	00 09 37.6	+1.0
KEST	Kesra 0.2nm,0.3s,baz=1.3,slow=5.0,SNR=10.0	6.98	244	Pn	Pn	00 09 39.7	+3.0
PGF	Pioggiola 30nm,0.7s	7.04	302	eP	Pn	00 09 36.6	-1.0
PGF	Pioggiola 15nm,0.7s	7.04	302	eP	Pn	00 09 36.6	-1.0
CHOS	Chios island	7.06	93	ePn	Pn	00 09 38.9	+1.0
PRK	Paraskevi	7.16	86	ePn	Pn	00 09 40.1	+0.9
JAVS	Javornik	7.19	343	*i* Pn	Pn	00 09 40.2	+0.6
LJU	Ljubljana	7.24	346	*i* Pn	Pn	00 09 41.0	+0.8
LJU				*i* Sn	Sn	00 10 59.2	-3.1
PKSM	Moragy	7.25	9	ePn	Pn	00 09 39.3	-1.2
PKSM	Moragy	7.25	9	P	Pn	00 09 39.8	-0.7
PKSM	Moragy	7.25	9	P	Pn	00 09 39.8	-0.7
IDI	Anoyia 5.4nm,0.3s,baz=312,slow=12,SNR=26	7.29	119	Pn	Pn	00 09 41.5	+0.4
IDI				Sn	Sn	00 11 00.5	-3.2
	13nm,0.3s,baz=339,slow=21,SNR=7.3						
VOY	Vojsko	7.36	342	ePn	Pn	00 09 42.6	+0.7
VOY				eSn	Sn	00 11 04.0	-1.3
SIVA	Sivas	7.39	121	ePn	Pn	00 09 43.0	+0.7
GZR	Gura Zlata	7.62	32	⇓iP	Pn	00 09 45.2	-0.4
GZR	Gura Zlata	7.62	32	P	Pn	00 09 46.1	+0.5
GZR	Gura Zlata	7.62	32	P	Pn	00 09 46.1	+0.5
OBKA	Obir SNR=51	7.68	347	⇓*i*Pn	Pn	00 09 47.0	+0.6
OBKA				⇓*i*Sn	Sn	00 11 15.4	+2.2
PERS	Pernice	7.72	350	*i* Pn	Pn	00 09 47.9	+1.1
LAST	Lasithi	7.76	117	ePn	Pn	00 09 47.9	+0.4
SOKA	Soboth	7.77	350	⇑iPn	Pn	00 09 47.5	-0.1
SOKA				⇓*i*Sn	Sn	00 11 17.8	+2.3
SMG	Samos	7.79	97	P	Pn	00 09 49.3	+1.4
NPS	Neapolis	7.80	116	P	Pn	00 09 48.2	+0.2
MYKA	Terra Mystica	7.98	343	⇑*i*Pn	Pn	00 09 51.5	+1.0
ARSA	Arzberg	8.28	353	⇓*i*Pn	Pn	00 09 54.6	+0.1
	SNR=19						
ARSA	Arzberg	8.28	353	*e*Pn	Pn	00 09 54.8	+0.3
PKSG		8.39	6	*e*Pn	Pn	00 09 56.3	+0.2
SOP	Sopron	8.64	358	*e*	Pn	00 09 59.6	+0.1
SBF	Sospel 27nm,0.7s	8.68	307	*e*P	Pn	00 09 59.2	-0.9
SBF	Sospel 13nm,0.7s	8.68	307	*e*P	Pn	00 09 59.2	-0.9
VOIR		8.71	40	⇑*i*P	Pn	00 10 00.6	+0.2
VOIR		8.71	40	⇑P	Pn	00 10 00.6	+0.2
DRGR		8.78	26	⇑*i*P	Pn	00 10 00.9	-0.5
DRGR		8.78	26	⇑P	Pn	00 10 00.9	-0.4
CONA	Conrad Observa	8.92	355	⇓*i*Sn	Sn	00 11 45.5	+1.8
CONA	Conrad Observa SNR=11	8.92	355	⇑*i*Pn	Pn	00 10 03.5	+0.2
CONA				⇓*i*Sn	Sn	00 11 45.5	+1.8
CONA	Conrad Observa 10.0nm,8.0s	8.92	355	Pn	Pn	00 10 03.5	+0.2
CSNA	Conrad Observa	8.92	355	⇑*i*Pn	Pn	00 10 03.5	+0.1
MOA	Molln SNR=71	9.03	348	*i* Pn	Pn	00 10 06.0	+1.2
MOA	Molln 71nm,4.0s	9.03	348	*e*Pn	Pn	00 10 06.0	+1.2
MOA	Molln	9.03	348	Pn	Pn	00 10 06.0	+1.2
LMR	La Mourre	9.03	302	*e*P	Pn	00 10 04.1	-0.8
FRF	La Foret Royal	9.04	303	*e*P	Pn	00 10 04.1	-0.9
PSZ	Piszkesteto	9.10	12	⇓*e*	Pn	00 10 05.8	0.0
PSZ	Piszkesteto	9.10	12	⇑*i*P	Pn	00 10 05.9	+0.1
PSZ	Piszkesteto	9.10	12	P	Pn	00 10 05.5	-0.3
PSZ	Piszkesteto	9.10	12	P	Pn	00 10 05.5	-0.3
WTTA	Wattenberg	9.12	336	⇑*i*Pn	Pn	00 10 06.5	+0.5
WTTA	Wattenberg	9.12	336	*e*Pn	Pn	00 10 09.6	+3.6
ZST	Bratislava	9.14	0	*i* PN	Pn	00 10 06.3	-0.1
ZST				*e*SG		00 13 12.0	
WATA	Walderalm SNR=5.2	9.20	336	⇓*i*Pn	Pn	00 10 08.6	+1.4
WATA	Walderalm 5.0nm,2.0s	9.20	336	Pn	Pn	00 10 08.6	+1.5
ARG	Arkhangelos	9.22	104	P	Pn	00 10 09.5	+2.0
MODS	Modra-Piesok	9.32	1	*i* PN	Pn	00 10 09.3	+0.4
MODS				*e*PG	Pn	00 10 57.4	+49
MODS				*e*SN	Sn	00 11 45.0	-8.6
DAVOX	Davos/Dischmat 0.4nm,0.3s,baz=349,slow=23,SNR=4.8	9.35	328	Pn	Pn	00 10 15.6	+6.4
DAVOS	Davos	9.43	328	P	Pn	00 10 15.6	+5.3
VYHS	Vyhne	9.53	7	*i* PN	Pn	00 10 12.5	+0.8
VYHS				*e*SN	Sn	00 11 56.2	-2.4
MBDF	Montbardon 18nm,0.7s	9.54	310	*e*P	Pn	00 10 11.1	-0.7
MBDF	Montbardon 9.1nm,0.7s	9.54	310	*e*P	Pn	00 10 11.1	-0.7
KOLL	Kolacno	9.58	5	*i* PN	Pn	00 10 12.9	+0.6
KECS	Kecovo	9.75	14	*e*PN	Pn	00 10 15.5	+0.8
DAVA	Damuels	9.76	330	*e*Pn	Pn	00 10 18.3	+3.5
BNI	Bardonecchia	9.78	311	*e*P	Pn	00 10 15.6	+0.5
BNI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BNI	Bardonecchia comp=Z,7.8nm,0.8s	9.78	311	*e*Pn	Pn	00 10 15.6	+0.5
BNI	Bardonecchia comp=Z,7.8nm,0.8s	9.78	311	*e*Pn	Pn	00 10 15.6	+0.6
PLOR	Plostina	9.81	43	⇑*i*P	Pn	00 10 16.3	+0.7
SMRF	Simiane la Rot comp=Z,90nm,1.8s	9.92	303	*e*P	Pn	00 10 16.1	-1.0
SMRF	Simiane la Rot comp=Z,45nm,1.8s	9.92	303	*e*P	Pn	00 10 16.1	-1.0
LPG	La Plagne comp=Z,51nm,1.1s	9.99	313	*e*P	Pn	00 10 17.5	-0.5
LPG	La Plagne comp=Z,26nm,1.1s	9.99	313	*e*P	Pn	00 10 17.5	-0.5
LPL	La Plagne comp=Z,36nm,1.0s	10.01	314	*e*P	Pn	00 10 17.6	-0.7
LPL	La Plagne comp=Z,18nm,1.0s	10.01	314	*e*P	Pn	00 10 17.6	-0.7
GEC2	GERESS Array S	10.09	347	*e*Pn	Pn	00 10 19.4	+0.1
GEC2				*e*Sn	Sn	00 12 06.4	-6.0
GEC2	GERESS Array S	10.09	347	*e*Pn	Pn	00 10 19.4	+0.1
GEC2				*e*Sn	Sn	00 12 06.4	-5.9
GERES	GERESS Array B comp=Z,0.7nm,0.3s,baz=163,slow=14,SNR=40	10.09	347	Pn	Pn	00 10 19.5	+0.2
GERES				Sn	Sn	00 12 06.9	-5.5
	comp=Z,0.7nm,0.3s,baz=162,slow=23,SNR=4.3						
GERES	GERESS Array B	10.09	347	P	Pn	00 10 19.5	+0.2
GERES						00 12 06.9	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES				smax			
	comp=N,1.0nm,0.3s						
ORIF	Oris-en-Rattie comp=N,19nm,0.7s	10.18	309	*e*P	Pn	00 10 19.8	-0.8
ORIF				*e*MLR	MLR		
	comp=Z,809nm,20.2s						
ORIF	Oris-en-Rattie	10.18	309	*e*P	Pn	00 10 19.8	-0.8
ORIF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ORIF	Oris-en-Rattie comp=Z,9.3nm,0.7s	10.18	309	*e*P	Pn	00 10 19.8	-0.8
VRAC	Vranov comp=Z,0.4nm,0.3s,baz=188,slow=13,SNR=2.1	10.26	358	Pn	Pn	00 10 21.6	-0.1
UZH	Uzhgorod	10.29	20	*e*P	Pn	00 10 26.2	+4.1
TREC	Trest comp=Z,1μm,14.0s	10.31	354	*e*P	Pn	00 10 23.5	+1.2
TREC	Trest	10.31	354	*e*P	Pn	00 10 23.5	+1.2
	comp=Z,1μm,14.0s						
TREC				AMS	AMS	00 15 00.0	
CRVS	Cervenica-Dubn	10.35	16	*i* PN	Pn	00 10 22.4	-0.5
KHC	Kasperske Hory	10.38	347	Pn	Pn	00 10 23.3	-0.1
KHC				*e*S	Sn	00 12 17.9	-1.7
	comp=Z,1μm,13.0s						
KHC	Kasperske Hory	10.38	347	*e*P	Pn	00 10 23.3	-0.1
KHC				*e*x	x	00 10 28.0	
KHC				*e*x	x	00 10 31.5	
KHC				*e*x	x	00 11 12.0	
KHC				*e*S	Sn	00 12 17.9	-1.7
KHC				AMS	AMS	00 14 50.0	
	comp=Z,1μm,13.0s						
KHC	Kasperske Hory	10.38	347	*e*Pn	Pn	00 10 23.3	-0.1
KHC				*e*		00 10 28.0	
KHC				*e*		00 10 31.5	
KHC				*e*		00 11 12.0	
KHC				*e*Sn	Sn	00 12 17.9	-1.7
BURAR	Bucovina Array	10.41	32	⇑*i*P	Pn	00 10 24.3	+0.5
WET	Wettzell	10.53	345	*e*Pn	Pn	00 10 25.8	+0.5
WET				*e*Sn	Sn	00 12 18.9	-4.2
WET	Wettzell	10.53	345	*e*Pn	Pn	00 10 25.8	+0.4
WET				*e*Sn	Sn	00 12 18.9	-4.3
KOLS	Kolonicke sedl	10.57	19	*i* PN	Pn	00 10 28.1	+2.2
NIE	Niedzica	10.62	12	*e*P	Pn	00 10 29.2	+2.5
MORC	Moravsky Berou	10.73	2	⇓P	Pn	00 10 29.5	+1.4
MORC	Moravsky Berou	10.73	2	⇓P	Pn	00 10 29.5	+1.4
OKC	Ostrava-Krasne comp=Z,400nm,13.2s	10.81	4	AMS	AMS	00 16 10.0	
VIVF	Saint-Julien-l	10.89	306	*e*P	Pn	00 10 29.4	-1.0
CABF	La Chapelle comp=Z,18nm,0.9s	11.04	317	*e*P	Pn	00 10 32.0	-0.4
CABF	La Chapelle comp=Z,9.0nm,0.9s	11.04	317	*e*P	Pn	00 10 32.0	-0.4
CABF				pmax	pmax		
CABF	La Chapelle comp=Z,8.8nm,0.9s	11.04	317	*e*P	Pn	00 10 32.0	-0.4
ETOS	Mallorca comp=Z,14nm,1.0s	11.05	278	P	Pn	00 10 33.7	+1.1
ETOS	Mallorca comp=Z,14nm,1.0s	11.05	278	P	Pn	00 10 33.7	+1.1
PRU	Pruhonice	11.08	352	*e*P	Pn	00 10 32.4	-0.6
PRU				AMS	AMS	00 15 30.0	
	comp=Z,900nm,12.6s						
LASF	Ste Croix comp=Z,11nm,0.9s	11.09	301	*e*P	Pn	00 10 32.2	-0.9
LASF	Ste Croix comp=Z,5.4nm,0.9s	11.09	301	*e*P	Pn	00 10 32.2	-0.9
ROTZ	Rotzenmuhle	11.26	344	*e*Pn	Pn	00 10 35.2	-0.2
DPC	Dobruska-Polom comp=Z,500nm,15.6s	11.31	358	*e*P	Pn	00 10 36.4	+0.3
DPC	Dobruska-Polom	11.31	358	*e*P	Pn	00 10 36.4	+0.3
DPC				AMS	AMS	00 15 40.0	
	comp=Z,500nm,15.6s						
KWP	Kalwaria	11.32	19	⇓*i*P	Pn	00 10 36.4	+0.2
KWP	Kalwaria	11.32	19	⇓P	Pn	00 10 36.5	+0.3
KWP	Kalwaria	11.32	19	⇓P	Pn	00 10 36.5	+0.3
HINF	Hinterlalfeld comp=Z,7.0nm,0.6s	11.47	323	*e*P	Pn	00 10 37.4	-0.9
HINF	Hinterlalfeld	11.47	323	*e*P	Pn	00 10 37.4	-0.9
HINF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HINF	Hinterlalfeld comp=Z,3.5nm,0.6s	11.47	323	*e*P	Pn	00 10 37.4	-0.9
PVCC	Panska Ves comp=Z,800nm,14.0s	11.61	352	AMS	AMS	00 15 50.0	
CDF	Champ du Feu comp=Z,5.2nm,0.4s	11.72	326	*e*P	Pn	00 10 41.2	-0.5
CDF	Champ du Feu	11.72	326	*e*P	Pn	00 10 41.2	-0.5
CDF				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CDF	Champ du Feu comp=Z,2.6nm,0.4s	11.72	326	*e*P	Pn	00 10 41.2	-0.5
HAU	Haudompre comp=Z,6.8nm,0.5s	11.85	323	*e*P	Pn	00 10 42.4	-1.0
HAU				*e*MLR	MLR		
	comp=Z,769nm,21.5s						
HAU	Haudompre	11.85	323	*e*P	Pn	00 10 42.4	-1.0
HAU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HAU	Haudompre comp=Z,3.4nm,0.5s	11.85	323	*e*P	Pn	00 10 42.4	-1.0
WERD	Werda	11.88	345	*e*Pn	Pn	00 10 44.2	+0.3
MTLF	Montolieu comp=Z,19nm,1.0s	11.97	296	*e*P	Pn	00 10 44.0	-1.2
MTLF	Montolieu	11.97	296	*e*P	Pn	00 10 44.0	-1.2
MTLF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MTLF	Montolieu comp=Z,9.6nm,1.0s	11.97	296	*e*P	Pn	00 10 44.0	-1.2
MOX	Moxa	12.22	343	*e*Pn	Pn	00 10 48.3	-0.2
MOX	Moxa	12.22	343	*e*P	Pn	00 10 47.7	-0.7
CLL	Collm	12.59	348	*e*(P)	Pn	00 10 55.0	+1.5
CLL				*ex*	x	00 11 09.0	
CAF	Calviac comp=Z,5.9nm,0.9s	12.60	303	*e*P	Pn	00 10 52.7	-1.0
CAF	Calviac	12.60	303	*e*P	Pn	00 10 52.7	-1.0
CAF				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CAF	Calviac comp=Z,3.0nm,0.9s	12.60	303	*e*P	Pn	00 10 52.7	-1.0
LOR	Lormes	12.65	315	*e*P	Pn	00 10 53.2	-1.2
LOR				*e*MLR	MLR		
	comp=Z,650nm,18.5s						
SSF	Saint Saulge comp=Z,4.8nm,0.8s	12.73	313	*e*P	Pn	00 10 54.3	-1.2
SSF	Saint Saulge	12.73	313	*e*P	Pn	00 10 54.3	-1.2
SSF				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SSF	Saint Saulge comp=Z,2.4nm,0.8s	12.73	313	*e*P	Pn	00 10 54.3	-1.2
MEZF	Maizieres J'vi	12.81	321	*e*P	Pn	00 10 55.4	-1.2
BGF	Bois d'Agland	12.85	310	*e*P	Pn	00 10 55.8	-1.2
TCF	Toulx Ste Croi comp=Z,18nm,1.2s	13.10	308	*e*P	Pn	00 10 59.5	-1.0
TCF	Toulx Ste Croi	13.10	308	*e*P	Pn	00 10 59.5	-1.0
TCF				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TCF	Toulx Ste Croi comp=Z,8.9nm,1.2s	13.10	308	*e*P	Pn	00 10 59.5	-1.0
RJF	Les Rejaudoux	13.11	303	*e*P	Pn	00 10 59.6	-1.0
RJF				*e*MLR	MLR		
	comp=Z,591nm,21.0s						
EPF	Esparros comp=Z,12nm,0.8s	13.23	293	*e*P	Pn	00 11 01.4	-1.0
EPF	Esparros	13.23	293	*e*P	Pn	00 11 01.4	-1.0
EPF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EPF	Esparros comp=Z,5.8nm,0.8s	13.23	293	*e*P	Pn	00 11 01.4	-1.0
LFF	La Frestale	13.48	301	*e*P	Pn	00 11 04.5	-1.3
CSS	Prodhromos comp=Z,15nm,0.7s	13.62	102	Pn	Pn	00 11 04.1	-3.7
CSS				*e*Sn	Sn	00 13 28.6	-10
ETSF	Etsaut comp=Z,23nm,0.7s	13.86	292	*e*P	Pn	00 11 10.1	-0.8
ETSF	Etsaut	13.86	292	*e*P	Pn	00 11 10.1	-0.8
ETSF				pmax	pmax		
	comp=Z,12nm,0.7s						
ETSF	Etsaut comp=Z,12nm,0.7s	13.86	292	*e*P	Pn	00 11 10.1	-0.8
ECHE	Chera	13.97	278	P	Pn	00 11 21.5	+9.0
ECHE				pmax	pmax		
	comp=Z,16nm,1.1s						
ECHE	Chera comp=Z,16nm,1.1s	13.97	278	P	Pn	00 11 21.5	+9.0
SJPF	Ste Jean comp=Z,38nm,0.9s	14.38	292	*e*P	Pn	00 11 16.7	-1.3
SJPF	Ste Jean	14.38	292	*e*P	Pn	00 11 16.7	-1.3
SJPF				pmax	pmax		
	comp=Z,19nm,0.9s						
SJPF	Ste Jean comp=Z,19nm,0.9s	14.38	292	*e*P	Pn	00 11 16.7	-1.3
AKASG	Malin Array Be comp=Z,0.4nm,0.3s,baz=169,slow=26,SNR=3.0	14.47	32	Pn	Pn	00 11 18.0	-1.2
AKASG	Malin Array Be	14.47	32	Pn	Pn	00 11 18.0	-1.2
EALK	Alkurruntz comp=Z,39nm,1.3s	14.60	293	P	Pn	00 11 29.9	+9.0
ELIZ	Elizondo comp=Z,21nm,1.0s	14.60	292	P	Pn	00 11 30.0	+8.9
MFF	Saint Martin d comp=Z,18nm,1.0s	14.69	306	*e*P	Pn	00 11 21.0	-1.3
MFF	Saint Martin d	14.69	306	*e*P	Pn	00 11 21.0	-1.3
MFF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MFF	Saint Martin d comp=Z,

comp=Z,4.6nm,0.6s
EGUA Guajares 16.42 269 P **Pn 00 11 49.8 +4.8**
EGUA pmax pmax
comp=Z,43nm,0.8s
EGUA Guajares 16.42 269 P **Pn 00 11 49.8 +4.8**
comp=Z,43nm,0.8s
EGUA Guajares 16.42 269 P **Pn 00 11 49.8 +4.8**
comp=Z,43nm,0.8s
ERON Agron 16.57 270 P **Pn 00 11 52.3 +5.5**
comp=Z,3.9nm,0.8s
ERON Agron 16.57 270 P **Pn 00 11 52.3 +5.4**
comp=Z,3.9nm,0.8s
MALT Malatya 16.70 86 ⇓*i*P **Pn 00 11 51.7 +3.2**
MALT Malatya 16.70 86 ⇓P **Pn 00 11 51.7 +3.2**
ELOJ Sierra Loja 16.81 270 P **Pn 00 11 53.1 +3.2**
ELOJ pmax pmax
comp=Z,2.0nm,0.6s
ELOJ Sierra Loja 16.81 270 P **Pn 00 11 53.1 +3.2**
comp=Z,2.3nm,0.6s
ELOJ Sierra Loja 16.81 270 P **Pn 00 11 53.1 +3.3**
comp=Z,2.3nm,0.6s
ELUQ Luque 16.81 272 P **Pn 00 11 53.3 +3.4**
ELUQ pmax pmax
comp=Z,1.0nm,0.6s
ELUQ Luque 16.81 272 P **Pn 00 11 53.3 +3.4**
comp=Z,1.2nm,0.6s
ELUQ Luque 16.81 272 P **Pn 00 11 53.3 +3.4**
comp=Z,1.2nm,0.6s
SGMF Saint Gilles 16.88 309 *e*P **Pn 00 11 48.7 -2.0**
EADA Adamuz 16.94 274 P **Pn 00 11 55.2 +3.7**
comp=Z,18nm,1.5s
EADA Adamuz 16.94 274 P **Pn 00 11 55.2 +3.7**
comp=Z,18nm,1.5s
QUIF Quistinic 17.11 308 *e*P **Pn 00 11 51.6 -2.0**
comp=Z,136nm,1.8s
QUIF Quistinic 17.11 308 *e*P **Pn 00 11 51.6 -2.0**
QUIF pmax pmax
comp=Z,68nm,1.8s
QUIF Quistinic 17.11 308 *e*P **Pn 00 11 51.6 -2.0**
comp=Z,68nm,1.8s
EARI Arriondas 17.29 291 P **Pn 00 11 59.0 +3.2**
comp=Z,49nm,1.3s
EARI Arriondas 17.29 291 P **Pn 00 11 59.0 +3.2**
comp=Z,49nm,1.3s
ROSF Rostrenen 17.35 309 *e*P **Pn 00 11 54.6 -2.0**
EMIJ Mijas 17.43 269 P **Pn 00 11 59.4 +1.7**
comp=Z,8.3nm,0.7s
EMIJ Mijas 17.43 269 P **Pn 00 11 59.4 +1.7**
comp=Z,8.3nm,0.7s
EIL Elat 17.46 117 P **Pn 00 11 55.5 -2.6**
comp=Z,1.0nm,0.3s,baz=328,slow=7.4,SNR=11
EIL S **Sn 00 14 59.8 -12**
comp=Z,0.8nm,0.3s,baz=93,slow=23,SNR=9.4
EIL Elat 17.46 117 P **Pn 00 11 55.5 -2.6**
EIL S **Sn 00 14 59.8 -12**
ASF Jabal al Asfar 17.51 107 P **Pn 00 12 01.7 +3.0**
comp=Z,0.4nm,0.3s,baz=172,slow=5.2,SNR=6.5
EJIF Jimena Fronter 18.00 269 P **Pn 00 12 05.8 +1.1**
EJIF pmax pmax
comp=Z,20nm,1.0s
EJIF Jimena Fronter 18.00 269 P **Pn 00 12 05.8 +1.1**
comp=Z,20nm,1.0s
EJIF Jimena Fronter 18.00 269 P **Pn 00 12 05.8 +1.0**
comp=Z,20nm,1.0s
ESPR Espera 18.20 270 P **Pn 00 12 06.5 -0.7**
comp=Z,21nm,0.9s
ESPR Espera 18.20 270 P **Pn 00 12 06.5 -0.7**
comp=Z,21nm,0.9s
ECAL Calabor 18.32 287 P **Pn 00 12 12.3 +3.7**
comp=Z,31nm,1.4s
ECAL Calabor 18.32 287 P **Pn 00 12 12.3 +3.7**
comp=Z,31nm,1.4s
PBRG Braganca 18.32 286 *e*P **Pn 00 12 11.4 +2.8**
comp=Z,21nm,1.2s
MVO Moncorvo 18.54 284 *e*P **Pn 00 12 13.5 +2.2**
comp=Z,20nm,1.4s
MDT Midelt 18.60 257 P **Pn 00 12 13.0 +0.9**
comp=Z,0.1nm,0.3s,baz=76,slow=11,SNR=7.3
EMIN Mina Concepcio 18.64 274 P **Pn 00 12 12.4 -0.1**
comp=Z,51nm,1.0s
EMIN Mina Concepcio 18.64 274 P **Pn 00 12 12.3 -0.2**
comp=Z,51nm,1.0s
EPON Pontenova 18.70 291 P **Pn 00 12 14.4 +1.2**
comp=Z,55nm,1.9s
EPON Pontenova 18.70 291 P **Pn 00 12 14.4 +1.2**
comp=Z,55nm,1.9s
PBAR Barrancos 18.85 275 *e*P **Pn 00 12 15.3 +0.2**
comp=Z,20nm,1.9s
PMRV Marv??o 18.94 279 *e*P **Pn 00 12 16.1 0.0**
comp=Z,20nm,2.5s
PCBR Castelo Branco 18.96 280 *e*P **Pn 00 12 17.1 +0.7**
comp=Z,14nm,1.9s
TAM Tamanrasset 18.96 215 *e*P **Pn 00 12 18.2 +1.7**
TAM *e*S **Sn 00 15 46.6 -2.1**
TAM Tamanrasset 18.96 215 *e*P **Pn 00 12 18.2 +1.7**
TAM *e*S **Sn 00 15 46.6 -2.1**
MTE Manteigas 18.96 282 *e*P **Pn 00 12 17.3 +0.8**
comp=Z,26nm,1.9s
PVIS Viseu 19.21 283 *e*P **Pn 00 12 20.0 +0.6**
comp=Z,32nm,2.1s
PCAB Cabril 19.28 286 *e*P **Pn 00 12 20.7 +0.4**
comp=Z,40nm,2.1s
ELOB Lobios 19.31 286 P **Pn 00 12 22.5 +1.9**
comp=Z,20nm,1.5s
EGRO El Granado 19.32 273 P **Pn 00 12 19.7 -1.0**
comp=Z,21nm,0.9s
EGRO El Granado 19.32 273 P **Pn 00 12 19.7 -1.0**
comp=Z,21nm,0.9s
PBEJ Beja 19.52 275 *e*P **Pn 00 12 22.5 -0.6**
comp=Z,27nm,1.3s
EVO Evora 19.54 276 *e*P **Pn 00 12 22.2 -1.2**
comp=Z,11nm,0.8s
EVO Evora 19.54 276 *e*P **Pn 00 12 22.2 -1.2**
comp=Z,19nm,1.4s
EVOP Sao Brissos 19.63 276 *e*P **Pn 00 12 22.2 -2.2**
comp=Z,5.5nm,0.8s
STS Santiago 19.69 289 P **Pn 00 12 24.1 -1.1**
STS pmax pmax
comp=Z,62nm,1.8s
STS Santiago 19.69 289 P **Pn 00 12 24.1 -1.1**
comp=Z,62nm,1.8s
STS Santiago 19.69 289 P **Pn 00 12 24.1 -1.1**
comp=Z,62nm,1.8s
PTOM Tomar 19.70 280 *e*P **Pn 00 12 25.4 +0.1**
comp=Z,27nm,0.6s
VRSR Storozhevoye 19.70 45 *e*P **Pn 00 12 29.2 +4.0**
VRSR pmax pmax
comp=Z,1.0nm,0.5s
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=E,2.0nm,0.7s
KIV Kislovodsk 19.77 67 *e*P **Pn 00 12 26.6 +0.5**
KIV pmax pmax
comp=Z,7.0nm,1.1s
PTEO Sao Teotonio 20.28 274 *e*P **P 00 12 30.6 +0.4**
comp=Z,52nm,1.3s
OBN Obninsk 20.73 33 *e*P **P 00 12 34.9 0.0**
OBN pmax pmax
comp=Z,12nm,0.8s
OBN Obninsk 20.73 33 *e*P **P 00 12 35.4 +0.5**
comp=Z,12nm,0.8s
OBN Obninsk 20.73 33 *e*P **P 00 12 35.4 +0.5**
comp=Z,12nm,0.8s
EKA Eskdalemuir Ar 21.18 327 P **P 00 12 39.5 -0.4**
comp=Z,1.4nm,0.6s,mb3.5,baz=134,slow=12,SNR=8.2
EKA Eskdalemuir Ar 21.18 327 P **P 00 12 39.5 -0.3**
EKA pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 21.21 355 P **P 00 12 40.4 +0.3**
comp=Z,2.8nm,0.4s,mb3.9,baz=168,slow=7.6,SNR=26
HFS Hagfors 21.21 355 P **P 00 12 40.4 +0.3**
HFS pmax pmax
comp=Z,3.0nm,0.4s
GNI Garni 21.33 78 P **P 00 12 43.4 +2.0**
comp=Z,4.7nm,0.6s,mb4.0,baz=347,slow=2.4,SNR=11
GNI Garni 21.33 78 ⇓*i*P **P 00 12 42.3 +0.8**
GNI pmax pmax
comp=Z,31nm,1.5s
NAO01 NORSAR Array S 22.16 352 *e*P **P 00 12 50.4 +0.2**
comp=Z,5.7nm,0.7s,mb4.1
NB2 NORSAR Subarra 22.32 352 P **P 00 12 52.1 +0.3**
comp=Z,1.2nm,0.7s,mb3.4,baz=162,slow=11
NOA NORSAR Array B 22.32 352 P **P 00 12 52.1 +0.3**
comp=Z,2.4nm,0.5s,mb3.9,baz=166,slow=11,SNR=16
NOA NORSAR Array B 22.32 352 P **P 00 12 52.1 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.5s
KLMR Klimovskoe 25.92 25 *e*P **P 00 13 33.7 +7.2**
KLMR pmax pmax
comp=Z,15nm,1.3s,mb4.4
TORD Torodi Ar. Bea 29.17 212 P **P 00 13 55.6 -0.3**
comp=Z,6.2nm,0.8s,mb4.4,baz=17,slow=9.8,SNR=38
ARCES ARCESS Array B 30.88 6 P **P 00 14 10.6 0.0**
comp=Z,2.0nm,0.5s,mb4.2,baz=188,slow=8.2,SNR=18
ARCES ARCESS Array B 30.88 6 P **P 00 14 10.6 0.0**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARU Arti 32.26 44*c i*P **P 00 14 23.1 +0.3**
ARU *e* 00 15 26.3
ARU *e*S **S 00 19 38.8 +3.1**
ARU *e*SS SS 00 21 32.1 -22
ARU pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
SVE Sverdlovsk 33.46 43 *e*P **P 00 14 34.0 +0.6**
SVE pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
DBIC Dimbokro 37.82 217 P **P 00 15 11.6 +0.4**
comp=Z,6.0nm,1.1s,mb4.2,baz=45,slow=16,SNR=4.1
DBIC Dimbokro 37.82 217 P **P 00 15 11.6 +0.4**
DBIC pmax pmax
comp=Z,6.0nm,1.1s
LIC Lamto 38.29 217 *e*P **P 00 15 15.4 +0.2**
comp=Z,23nm,0.9s,mb4.6
LIC Lamto 38.29 217 *e*P **P 00 15 15.4 +0.2**
comp=Z,12nm,0.9s,mb4.6
BRVK Borovoye 38.59 51 *e*P **P 00 15 17.6 +0.3**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
BRVK Borovoye 38.59 51 *e*P **P 00 15 17.6 +0.3**
comp=Z,5.8nm,0.8s,mb4.4
BRVK Borovoye 38.59 51 *e*P **P 00 15 17.6 +0.3**
comp=Z,5.8nm,0.8s,mb4.4
BVAR Borovoye Array 38.65 51 P **P 00 15 18.1 +0.3**
comp=Z,1.1nm,0.4s,mb4.0,baz=268,slow=10,SNR=14
BVAR Borovoye Array 38.65 51 P **P 00 15 18.1 +0.3**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 43.94 54 *e*P **P 00 16 00.4 -0.9**
KURK pmax pmax
comp=Z,5.0nm,1.4s,mb4.0
KURK Kurchatov 43.94 54 *e*P **P 00 16 01.7 +0.4**
comp=Z,3.8nm,0.9s,mb4.1
KURK Kurchatov 43.94 54 *e*P **P 00 16 01.7 +0.4**
comp=Z,3.8nm,0.9s,mb4.1
NVS Novosibirsk 46.07 47 *e*P **P 00 16 19.5 +1.3**
NVS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
NVS pmax pmax
comp=E,6.0nm,1.0s
ZAL Zalesovo 47.12 48 P **P 00 16 27.1 +0.7**
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAA0 Zalesovo Array 47.13 48 *e*P **P 00 16 26.8 +0.3**
ZAA0 Zalesovo Array 47.13 48 *e*P **P 00 16 26.8 +0.2**
ZALV Zalesovo Beam 47.13 48 P **P 00 16 27.1 +0.5**
comp=Z,3.0nm,0.5s,mb4.4,baz=278,slow=8.3,SNR=16
ZALV Zalesovo Beam 47.13 48 P **P 00 16 27.0 +0.5**
MKAR Makanchi Array 47.15 58 P **P 00 16 27.1 +0.3**
comp=Z,3.3nm,0.6s,mb4.5,baz=281,slow=7.3,SNR=42
MKAR Makanchi Array 47.15 58 P **P 00 16 27.1 +0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
HVS Khovu-Aksy 53.09 50 *e*P **P 00 17 10.9 -0.8**
SCHQ Schefferville 55.97 316 P **P 00 17 30.6 -2.1**
comp=Z,3.4nm,0.8s,mb4.4,baz=106,slow=2.5,SNR=8.2
SCHQ Schefferville 55.97 316 P **P 00 17 30.5 -2.1**
TLY Talaya 58.67 47 *e*P **P 00 18 01.2 +9.4**
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BOD Bodaibo 61.34 37 *e*P **P 00 18 09.7 -0.2**
BOD pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
SONM Songino Array 61.98 50 P **P 00 18 13.2 -1.2**
comp=Z,1.5nm,0.8s,mb4.2,baz=301,slow=8.1,SNR=8.5
SONM Songino Array 61.98 50 P **P 00 18 13.2 -1.3**
SONM pmax pmax
comp=Z,2.0nm,0.8s
BOSA Boshof 67.75 172 P **P 00 18 52.5 +0.5**
comp=Z,3.2nm,1.0s,mb4.3,baz=65,slow=19,SNR=3.9
BOSA Boshof 67.75 172 P **P 00 18 52.5 +0.5**
BOSA pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BOSA Boshof 67.75 172 P **P 00 18 52.5 +0.5**
INK Inuvik 70.72 349 P **P 00 19 10.6 +0.5**
comp=Z,1.2nm,0.8s,mb3.9,baz=34,slow=19,SNR=4.2
INK Inuvik 70.72 349 P **P 00 19 10.6 +0.6**
INK pmax pmax
comp=Z,1.0nm,0.8s
PDAR Pinedale Array 85.27 324 P **P 00 20 31.6 +0.2**
comp=Z,0.4nm,0.8s,mb3.6,baz=74,slow=12,SNR=4.0
PDAR Pinedale Array 85.27 324 P **P 00 20 31.5 +0.2**
TXAR Lajitas Array 92.39 311 P **P 00 21 05.5 +0.1**
comp=Z,0.6nm,1.0s,mb3.9,baz=50,slow=5.0,SNR=3.5
TXAR Lajitas Array 92.39 311 P **P 00 21 05.5 +0.1**
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 92.39 311 P **P 00 21 05.5 +0.1**

*ISCJB **01** 00:27:56.0±0.4,3143N±004×14202E±008,h56km, mb4.2/17,Error ellipse: s-maj=10.2km s-min=4.1km az=157.9*
*JMA **01** 00:27:55.5±0.4,3161N×142.18E,h30km,M4.0*
*MOS **01** 00:27:55.7±1.1,3134N×14207E,h53km,mb4.5/13,Error ellipse: s-maj=19.8km s-min=8.6km az=115.5*
*IDC **01** 00:27:57.8±0.8,3134N×142.12E,h55km±6km,mb3.9/11, mb1 4.0/15,mb1mx3.9/25,mbtmp3.9/15,MS3.6/2, Ms1 3.5/2,ms1mx3.2/41,Error ellipse: s-maj=19.7km s-min=11.5km az=67.0*
*NEIC **01** 00:27:57.6±0.6,3134N×14208E,h52km±5km,mb4.6/8, Error ellipse: s-maj=8.6km s-min=5.3km az=76.0*
ISC 01 00:27:58.1±0.4,3142N±004×14200E±008,h58km, h58km±3.2km:pP-P,n80,σ1§19/85,mb4.2/17,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.50**	**313**	*e*S	**Sn**	**00 29 05.9**	**+0.2**
JHJ	**Hachijo jima 2**	**2.53**	**313**	P	**Pn**	**00 28 36.3**	**-0.4**
15nm,0.3s,baz=89,slow=22,SNR=3.7							
JHJ				S	**Sn**	**00 29 03.5**	**-2.9**
82nm,0.3s,baz=314,slow=23,SNR=9.7							
BSO1	**Boso 1**	**3.34**	**345**	P	**Pn**	**00 28 44.6**	**-3.2**
BSO3	**Boso 3**	**3.60**	**340**	P	**Pn**	**00 28 49.3**	**-2.0**
BSO4	**Boso 4**	**3.82**	**339**	P	**Pn**	**00 28 53.8**	**-0.6**
CBIJ	**Chichi jima**	**4.31**	**178**	P	**Pn**	**00 28 58.0**	**-3.2**
15nm,0.3s,baz=288,slow=22,SNR=5.5							
CBIJ				S	**Sn**	**00 29 42.7**	**-7.4**
37nm,0.3s,baz=285,slow=23,SNR=3.3							
CBIJ				LR	LR	00 30 32.9	
comp=Z,696nm,18.4s,baz=332,slow=37							
JOD2	**Odawara 2**	**4.54**	**328**	P	**Pn**	**00 29 03.9**	**-0.4**
JOD2				*e*S	**Sn**	**00 29 55.3**	**-0.4**
JHU	**Hanno**	**4.97**	**334**	P	**Pn**	**00 29 09.1**	**-1.0**
JHU				*e*S	**Sn**	**00 30 04.7**	**-1.5**
JNY	**Yasuok**	**5.23**	**320**	P	**Pn**	**00 29 16.7**	**+2.9**
JRY	**Ryogami san**	**5.26**	**331**	P	**Pn**	**00 29 13.1**	**-1.0**
JRY				*e*S	**Sn**	**00 30 13.9**	**+0.5**
JHO	**Hitachi**	**5.31**	**347**	P	**Pn**	**00 29 11.7**	**-3.1**
JAG	**Ashikaga**	**5.42**	**338**	P	**Pn**	**00 29 14.5**	**-1.8**
MJAR	**Matsushiro Arr**	**6.00**	**329**	P	**Pn**	**00 29 23.4**	**-0.8**
2.5nm,0.3s,baz=144,slow=12,SNR=18							
MJAR				S	**Sn**	**00 30 32.3**	**+0.7**
1.6nm,0.3s,baz=288,slow=5.8,SNR=4.5							
MJAR	**Matsushiro Arr**	**6.00**	**329**	P	**Pn**	**00 29 23.4**	**-0.8**
MJAR				S	**Sn**	**00 30 32.3**	**+0.7**
MJAR				pmax	pmax		
comp=Z,3.0nm,0.3s							
MJAR				smax			
comp=N,2.0nm,0.3s							
MJAR	**Matsushiro Arr**	**6.00**	**329**	P	**Pn**	**00 29 23.4**	**-0.8**
MJAR				S	**Sn**	**00 30 32.3**	**+0.7**
MAJO	**Matsushiro**	**6.00**	**329**	*e*P	**Pn**	**00 29 20.7**	**-3.6**
MAJO				*e*		00 30 27.0	
MAJO				pmax	pmax		
comp=Z,15nm,0.4s							
MAJO	**Matsushiro**	**6.00**	**329**	*e*Pn	**Pn**	**00 29 20.6**	**-3.6**
comp=Z,15nm,0.4s							
MAJO				*e*Sn	**Sn**	**00 30 27.0**	**-4.6**
MAT	**Matsushiro**	**6.00**	**329**	P	**Pn**	**00 29 24.0**	**-0.3**
MAT				S	**Sn**	**00 30 30.9**	**-0.7**
JFK	**Kawauchi**	**6.00**	**351**	P	**Pn**	**00 29 20.3**	**-4.0**
JFK				*e*S	**Sn**	**00 30 25.0**	**-6.7**
JMK	**Ichinoseki**	**7.54**	**355**	*e*S	**Sn**	**00 31 00.3**	**-9.1**
KSRS	**Korea Array**	**13.08**	**301**	P	**Pn**	**00 31 04.1**	**+3.1**
comp=Z,0.5nm,0.3s,baz=310,slow=41,SNR=3.8							
INCN	**Inchon**	**14.04**	**300**	Pn	**Pn**	**00 31 15.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**15.53**	**2**	P	**Pn**	**00 31 34.4**	**+1.2**
MDJ	**Mudanjiang**	**16.38**	**327**	Pn	**Pn**	**00 31 45.6**	**+1.5**
GUMO	**Guam**	**17.94**	**171**	P	**Pn**	**00 32 03.2**	**-0.4**
TATO	**Taipei**	**19.17**	**256**	*e*P	**Pn**	**00 32 17.7**	**-0.6**
comp=Z,29nm,0.8s							
YHNB	**Yeheng**	**19.39**	**255**	*e*P	**Pn**	**00 32 19.4**	**-1.6**
comp=Z,9.0nm,0.7s							
SONM	**Songino Array**	**31.61**	**312**	P	**P**	**00 34 17.8**	**+2.6**
comp=Z,3.1nm,0.8s,mb4.2,baz=116,slow=8.4,SNR=11							
SONM	**Songino Array**	**31.61**	**312**	P	**P**	**00 34 17.8**	**+2.6**
SONM				pmax	pmax		
comp=Z,3.0nm,0.8s							
BOD	**Bodaibo**	**32.63**	**332**	*e*P	**P**	**00 34 23.1**	**-0.9**
TLY	**Talaya**	**34.58**	**317**	*e*P	**P**	**00 34 41.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**40.87**	**262**	P	**P**	**00 35 35.3**	**+0.7**
comp=Z,0.7nm,0.3s,mb3.7,baz=65,slow=6.1,SNR=4.3							
CMAR	**Chiang Mai Arr**	**40.87**	**262**	P	**P**	**00 35 35.3**	**+0.7**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
KSM	**Kuching**	**42.23**	**231**	*e*P	**P**	**00 35 45.0**	**-0.7**
ZALV	**Zalesovo Beam**	**46.19**	**316**	P	**P**	**00 36 17.8**	**+0.9**
comp=Z,1.2nm,0.6s,mb4.0,baz=102,slow=6.8,SNR=7.0							
ZALV				PcP	PcP	00 37 52.1	+0.3
comp=Z,1.4nm,0.4s,baz=114,slow=3.6,SNR=7.1							
ZALV				pPcP		00 38 08.3	
comp=Z,0.9nm,0.5s,baz=156,slow=2.7,SNR=3.7							
ZALV	**Zalesovo Beam**	**46.19**	**316**	P	**P**	**00 36 17.8**	**+0.9**
ZALV				PcP	PcP	00 37 52.1	+0.3
ZALV				pPcP		00 38 08.3	
ZAL	**Zalesovo**	**46.20**	**316**	P	**P**	**00 36 17.8**	**+0.8**
ZAL						00 37 52.1	
ZAL						00 38 08.4	
ZAL				pmax	pmax		
comp=Z,1.0nm,0.6s							
ZAL				pmax	pmax		
comp=Z,1.0nm,0.4s							
ZAL				pmax	pmax		
comp=Z,1.0nm,0.5s							
NVS	**Novosibirsk**	**47.19**	**318**	*e*P	**P**	**00 36 25.9**	**+1.2**
MKAR	**Makanchi Array**	**47.69**	**307**	P	**P**	**00 36 30.4**	**+1.7**
comp=Z,1.8nm,0.5s,mb4.3,baz=89,slow=9.6,SNR=21							
MKAR				pP	pP	00 36 45.9	+2.1
comp=Z,0.8nm,0.4s,baz=78,slow=9.3,SNR=5.5							
MKAR	**Makanchi Array**	**47.69**	**307**	P	**P**	**00 36 30.4**	**+1.7**
MKAR				*PP	pP	00 36 45.9	+2.1
MKAR				pmax	pmax		
comp=Z,2.0nm,0.5s							
MKAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**47.69**	**307**	P	**P**	**00 36 30.4**	**+1.7**
MKAR				pP	pP	00 36 45.9	+2.1
KURK	**Kurchatov**	**49.91**	**312**	*e*P	**P**	**00 36 46.7**	**+1.0**
KURK				*e*	pP	00 37 02.2	+1.3
KURK				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.7							
KURK	**Kurchatov**	**49.91**	**312**	*e*P	**P**	**00 36 46.7**	**+1.0**
comp=Z,5.7nm,0.8s,mb4.7							
KURK				*e*	pP	00 37 02.2	+1.3
WRAB	**Tennant Creek**	**51.58**	**189**	*e*P	**P**	**00 36 57.5**	**-1.0**
WRAB				pmax	pmax		
comp=Z,11nm,1.0s,mb4.7							
WRAB	**Tennant Creek**	**51.58**	**189**	*e*P	**P**	**00 36 57.5**	**-1.0**
comp=Z,11nm,1.0s,mb4.7							
WB2	**Warramunga Arr**	**51.59**	**189**	*e*P	**P**	**00 36 57.6**	**-1.0**
WB2	**Warramunga Arr**	**51.59**	**189**	*e*P	**P**	**00 36 57.9**	**-0.7**
WRA	**Warramunga Arr**	**51.59**	**189**	P	**P**	**00 36 57.6**	**-0.9**
comp=Z,3.4nm,0.5s,mb4.6,baz=4.4,slow=7.7,SNR=35							
WRA				pP	pP	00 37 12.7	-1.2
comp=Z,1.4nm,0.6s,baz=5.9,slow=7.6,SNR=2.8							
WRA	**Warramunga Arr**	**51.59**	**189**	P	**P**	**00 36 57.6**	**-1.0**
WRA				*PP	pP	00 37 12.7	-1.2
WRA				pmax	pmax		
comp=Z,3.0nm,0.5s							
WRA				pmax	pmax		
comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**51.59**	**189**	pP	pP	00 37 12.7	-1.2
TKM2	**Tokmak 2**	**52.89**	**302**	*e*P	**P**	**00 37 08.7**	**+0.6**
TKM2				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.0							
TKM2	**Tokmak 2**	**52.89**	**302**	*e*P	**P**	**00 37 08.7**	**+0.7**
comp=Z,2.3nm,0.9s,mb4.1							
EKS2	**Erkin-Say**	**54.25**	**302**	*e*P	**P**	**00 37 18.4**	**+0.3**
AML	**Almayashu**	**54.42**	**302**	*e*P	**P**	**00 37 22.5**	**+3.2**
comp=Z,6.7nm,0.7s,mb4.7							
BRVK	**Borovoye**	**54.87**	**316**	*e*P	**P**	**00 37 23.4**	**+1.1**
ASAR	**Alice Springs**	**55.32**	**189**	P	**P**	**00 37 25.1**	**-0.7**
comp=Z,1.2nm,0.5s,mb4.2,baz=6.1,slow=5.4,SNR=20							
ASAR				pP	pP	00 37 40.4	-0.9
comp=Z,0.6nm,0.5s,baz=2.0,slow=5.7,SNR=3.6							
ASAR	**Alice Springs**	**55.32**	**189**	P	**P**	**00 37 25.1**	**-0.7**
ASAR				*PP	pP	00 37 40.4	-0.9
ASAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
ASAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
MBWA	**Marble Bar**	**56.47**	**205**	P	**P**	**00 37 33.9**	**-0.3**
INK	**Inuvik**	**59.20**	**26**	P	**P**	**00 37 52.8**	**+0.1**
comp=Z,0.9nm,0.7s,mb3.9,baz=319,slow=11,SNR=4.4							
INK	**Inuvik**	**59.20**	**26**	P	**P**	**00 37 52.8**	**+0.1**
INK				pmax	pmax		
comp=Z,1.0nm,0.7s							
KBL	**Kabul**	**60.02**	**294**	*e*P	**P**	**00 37 59.9**	**+0.9**
comp=Z,4.5nm,0.8s,mb4.5							
ARU	**Arti**	**60.95**	**321**	*e*P	**P**	**00 38 05.9**	**+1.0**
ARU				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.7							
ARU	**Arti**	**60.95**	**321**	*e*P	**P**	**00 38 05.9**	**+1.0**
comp=Z,6.6nm,1.1s,mb4.7							
TAU	**Tasmania Unive**	**74.13**	**176**	P	**P**	**00 39 27.2**	**-0.7**
KIV	**Kislovodsk**	**75.00**	**312**	*e*P	**P**	**00 39 34.0**	**+0.7**
KIV	**Kislovodsk**	**75.00**	**312**	*e*P	**P**	**00 39 34.0**	**+0.7**
AKASG	**Malin Array Be**	**79.05**	**323**	P	**P**	**00 39 56.3**	**+0.4**
comp=Z,0.3nm,0.4s,mb3.6,baz=47,slow=5.7,SNR=9.4							
NB2	**NORSAR Subarra**	**79.55**	**338**	P	**P**	**00 39 59.1**	**+0.7**
comp=Z,1.2nm,0.6s,mb4.0,baz=41,slow=5.3							
NOA	**NORSAR Array B**	**79.55**	**338**	P	**P**	**00 39 58.8**	**+0.3**
comp=Z,1.8nm,0.7s,mb4.1,baz=40,slow=5.3,SNR=5.9							
NOA	**NORSAR Array B**	**79.55**	**338**	P	**P**	**00 39 58.8**	**+0.4**
NOA				pmax	pmax		
comp=Z,2.0nm,0.7s							
PDAR	**Pinedale Array**	**81.27**	**45**	P	**P**	**00 40 08.1**	**0.0**
comp=Z,0.8nm,0.6s,mb3.8,baz=263,slow=1.2,SNR=9.3							
PSZ	**Piszkesteto**	**85.52**	**325**	P	**P**	**00 40 31.0**	**+1.3**
TXAR	**Lajitas Array**	**93.14**	**53**	P	**P**	**00 41 06.7**	**+0.5**
comp=Z,1.3nm,0.8s,mb4.4,baz=301,slow=2.6,SNR=12							
TXAR				pP	pP	00 41 21.3	-1.4
comp=Z,1.0nm,0.8s,baz=296,slow=4.0,SNR=4.4							
TXAR	**Lajitas Array**	**93.14**	**53**	P	**P**	**00 41 06.7**	**+0.6**
TXAR				*PP	pP	00 41 21.3	-1.4
TXAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
TXAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**93.14**	**53**	P	**P**	**00 41 06.7**	**+0.5**
TXAR				pP	pP	00 41 21.3	-1.4
TORD	**Torodi Ar. Bea**	**121.57**	**313**	PKP	PKPdf	00 46 46.0	+0.2
comp=Z,0.2nm,0.6s,baz=17,slow=2.4,SNR=4.5							
LPAZ	**La Paz**	**148.73**	**68**	PKPbc	PKPbc	00 47 40.4	+0.9
comp=Z,1.2nm,0.5s,baz=14,slow=2.8,SNR=6.8							
LPAZ	**La Paz**	**148.73**	**68**	PKP2	PKPbc	00 47 40.4	+1.0
LPAZ				pmax	pmax		
comp=Z,1.0nm,0.5s							
PLCA	**Paso Flores**	**152.23**	**119**	PKPbc	PKPbc	00 47 47.8	+0.7
comp=Z,1.4nm,0.9s,baz=212,slow=13,SNR=2.9							
PLCA	**Paso Flores**	**152.23**	**119**	PKIKP	PKPbc	00 47 47.8	+0.7
PLCA				pmax	pmax		
comp=Z,1.0nm,0.9s							

*ISCJB **01** 00:36:59.6±1.6,2734N±005×12686E±006,h2km±10km, mb3.3/3,MS4.3/3,Error ellipse: s-maj=10.5km s-min=7.2km az=144.2*
*JMA **01** 00:36:59.3±0.4,2736N×12680E,h5km

ISC 01 00:37:01.2±1.4, 2731N±006×12692E±006, h7km±9km, n13, σ0$91/16, mb3.3/3, MS4.3/3, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	Aguni-jima	0.77	158	P	Pg	00 37 15.9	-0.2
JAGN				S	Sg	00 37 27.3	+1.2
JIH	Iheya	0.97	106	P	Pg	00 37 20.1	+0.1
JKE	Kume jima 2	0.98	187	P	Pg	00 37 18.7	-1.5
JKE				eS	Sg	00 37 32.8	-0.1
NAH1	Naha	1.30	148	P	Pn	00 37 25.9	0.0
NAH1				S	Sb	00 37 43.2	+0.3
JOW	Kunigami	1.30	111	P	Pn	00 37 24.9	-1.0
JOW				eS	Sb	00 37 44.2	+1.2
JOW	Kunigami	1.30	111	Pn	Pn	00 37 24.9	-0.9
	18nm,0.3s,baz=287,slow=12,SNR=57						
JOW				Sn	Sn	00 37 41.3	-2.2
	16nm,0.3s,baz=177,slow=23,SNR=8.6						
JJT2	Tamagusuku 2	1.38	147	P	Pn	00 37 26.5	-0.5
JJT2				eS	Sb	00 37 46.0	+0.7
SONM	Songino Array	26.02	327	P	P	00 42 34.8	-0.1
	0.8nm,0.7s,mb3.4,baz=132,slow=10,SNR=4.6						
MKAR	Makanchi Array	39.94	311	P	P	00 44 36.5	+0.4
	0.4nm,0.6s,mb3.4,baz=101,slow=8.4,SNR=4.8						
ZALV	Zalesovo Beam	40.68	323	P	P	00 44 43.4	+1.3
	0.3nm,0.4s,mb3.3,baz=120,slow=10,SNR=2.5						
ARCES	ARCESS Array B	68.58	338	LR	LR	01 24 51.4	
	comp=Z,204nm,21.4s,MS4.3,baz=207,slow=42						
HFS	Hagfors	77.32	332	LR	LR	01 22 47.2	
	comp=Z,136nm,21.7s,MS4.2,baz=84,slow=36						
ESDC	Sonseca Array	99.17	324	LR	LR	01 44 24.9	
	comp=Z,116nm,18.1s,MS4.4,baz=20,slow=41						

IDC 01 00:40:11.4±54.0, 1647S×17646W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.9/17, mbtmp4.2/3, Error ellipse: s-maj=1011.0km s-min=166.7km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.95	240	P	P	00 47 56.6	+0.6
	2.7nm,0.8s,baz=64,slow=8.4,SNR=4.8						
WRA	Warramunga Arr	46.74	258	P	P	00 48 42.2	-0.5
	0.6nm,0.5s,baz=96,slow=7.1,SNR=13						
ASAR	Alice Springs	46.98	253	P	P	00 48 44.5	-0.1
	5.0nm,0.6s,baz=89,slow=8.8,SNR=62						

*ISCJB **01** 01:12:06.1±0.5, 2433S±004×6707W±008, h169km±12km, mb3.6/2, Error ellipse: s-maj=11.6km s-min=6.4km az=10.6*
*NEIC **01** 01:12:07.1±0.8, 2435S×6700W, h160km±13km, mb4.0/2, MD3.8(GUC), Error ellipse: s-maj=18.0km s-min=9.2km az=104.0*
*IDC **01** 01:12:07.2±1.1, 2430S×6697W, h158km±15km, mb3.3/1, mb1 3.2/7, mb1mx3.1/20, mbtmp3.1/7, Error ellipse: s-maj=18.6km s-min=13.1km az=85.0*
*GUC **01** 01:12:10.2±0.7, 2457S×6780W, h220km±97km, MD3.8, ML4.1*

ISC 01 01:12:06.8±0.5, 2433S±004×6701W±007, h155km±11km, n19, σ1$29/29, mb3.6/2, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.44	314	P	Pn	01 12 49.7	+2.2
	23nm,0.3s,baz=117,slow=4.4,SNR=280						
LVC				S	Sn	01 13 20.6	+1.7
	64nm,0.3s,baz=316,slow=22,SNR=99						
CEN1	Los Morros	3.06	287	⇓i P	Pn	01 12 57.0	+1.7
CEN1				i S	Sn	01 13 32.7	+0.1
CEN1				AML	AML	01 13 35.0	
	comp=N,426nm,0.5s						
CPN1	Cerro Paranal	3.10	264	⇑i P	Pn	01 12 56.4	+0.7
CPN1				i S	Sn	01 13 31.2	-2.3
CPN1				AML	AML	01 13 34.0	
	comp=E,514nm,0.4s						
ANCH	Antofagasta	3.17	281	eP	Pn	01 12 57.8	+1.2
ANCH				i S	Sn	01 13 33.2	-1.9
CDCH	Caldera	4.39	231	eP	Pn	01 13 11.0	-1.3
CDCH				i S	Sn	01 13 57.9	-5.5
LCO	Las Campanas	5.71	214	ePn	Pn	01 13 28.8	-0.9
	comp=E,24nm,0.3s						
LCO				eS	Sn	01 14 25.5	-9.0
CFAA	Coronel Fontan	7.33	188	P	Pn	01 13 53.0	+1.7
	comp=E,0.1nm,0.3s,baz=11,slow=5.2,SNR=6.8						
CFAA				S	Sn	01 15 12.3	-0.9
	comp=E,0.2nm,0.3s,baz=263,slow=14,SNR=5.9						
CFAA	Coronel Fontan	7.33	188	P	Pn	01 13 53.0	+1.7
CFAA				S	Sn	01 15 12.3	-0.9
LPAZ	La Paz	8.07	352	P	Pn	01 14 02.5	+1.4
	comp=E,1.3nm,0.3s,baz=171,slow=9.0,SNR=38						
LPAZ				S	Sn	01 15 29.5	-1.7
	comp=E,0.1nm,0.3s,baz=344,slow=21,SNR=6.2						
LPAZ	La Paz	8.07	352	P	Pn	01 14 02.5	+1.4
LPAZ				S	Sn	01 15 29.5	-1.7
CPUP	Villa Florida	8.98	105	P	Pn	01 14 13.8	+0.5
	comp=E,0.2nm,0.3s,baz=239,slow=12,SNR=4.2						
SIV	San Ignacio	9.99	35	P	Pn	01 14 25.4	-1.4
	comp=E,0.4nm,0.3s,baz=220,slow=15,SNR=19						
SIV				S	Sn	01 16 15.8	-1.8
	comp=E,0.0nm,0.3s,baz=104,slow=22,SNR=3.7						
TRQA	Tornquist	14.34	164	ePn	Pn	01 15 22.7	0.0
	comp=E,8.8nm,1.0s						
PLCA	Paso Flores	16.62	189	P	Pn	01 15 55.8	+5.0
	comp=E,0.3nm,0.3s,baz=350,slow=16,SNR=6.5						
BDFB	Brasilia	19.82	68	P	P	01 16 26.4	+0.9
	comp=E,0.5nm,0.3s,baz=244,slow=16,SNR=13						
SNAA	Sanae	59.05	161	eP	P	01 21 50.4	+0.4
	comp=E,1.2nm,0.7s,mb3.8						
TOA0	Torodi Ar. Sit	76.70	69	eP	P	01 23 40.9	-0.3
TORD	Torodi Ar. Bea	76.70	69	P	P	01 23 41.0	-0.2
	comp=E,0.4nm,0.4s,mb3.4,baz=258,slow=5.7,SNR=17						
WRA	Warramunga Arr	131.33	207	PKP	PKPdf	01 31 01.0	-0.4
	comp=E,0.9nm,1.1s,baz=149,slow=1.6,SNR=5.6						

*IDC **01** 01:17:46.8±0.9, 292N×12789E, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/19, mbtmp4.1/8, MS3.4/1, Ms1 3.4/1, ms1mx2.9/32, Error ellipse: s-maj=76.0km s-min=16.0km az=76.0*
*ISCJB **01** 01:17:50.1±0.6, 286N±009×1276E±02, h33km, mb4.2/14, Error ellipse: s-maj=36.8km s-min=9.0km az=163.3*
*NEIC **01** 01:17:51.8±0.5, 289N×12784E, h35km, mb4.4/8, Error ellipse: s-maj=30.8km s-min=7.6km az=74.0*

ISC 01 01:17:52.0±0.7, 29N±01×1278E±03, h35km, n21, σ0$75/20, mb4.2/14, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	11.21	226	LR	LR	01 25 38.0	
	comp=Z,198nm,19.8s,baz=106,slow=42						
FITZ	Fitzroy Crossi	20.93	186	eP	P	01 22 31.7	-0.2
	3.8nm,0.4s						
FITZ	Fitzroy Crossi	20.93	186	P	P	01 22 31.2	-0.7
	3.9nm,0.8s,baz=5.1,slow=12,SNR=11						
WRAB	Tennant Creek	23.55	164	eP	P	01 22 59.7	+0.2
	4.4nm,0.6s,mb4.1						
WRA	Warramunga Arr	23.55	164	P	P	01 22 59.4	-0.1
	3.4nm,0.4s,mb4.1,baz=333,slow=11,SNR=21						
WB2	Warramunga Arr	23.56	164	eP	P	01 22 59.8	+0.3
WB2	Warramunga Arr	23.56	164	eP	P	01 22 59.9	+0.3
JOW	Kunigami	23.84	1	P	P	01 22 59.8	-2.3
	3.1nm,0.4s,mb4.1,baz=282,slow=10,SNR=5.0						
MBWA	Marble Bar	25.14	198	eP	P	01 23 13.4	-0.5
	20nm,1.0s,mb4.6						
ASAR	Alice Springs	27.03	168	P	P	01 23 30.6	-0.4
	0.5nm,0.4s,mb3.4,baz=350,slow=6.5,SNR=10.0						
ASAR				PcP	PcP	01 26 52.7	+0.7
	0.7nm,0.5s,baz=3.8,slow=2.0,SNR=6.1						
STKA	Stephens Creek	36.95	160	eP	P	01 24 58.7	+0.8
	2.5nm,0.4s,mb4.4						
STKA	Stephens Creek	36.95	160	P	P	01 24 59.0	+1.1
	3.1nm,0.5s,mb4.4,baz=355,slow=7.6,SNR=9.1						
STKA	Stephens Creek	36.95	160	eP	P	01 24 58.5	+0.6
SONM	Songino Array	48.46	341	P	P	01 26 32.3	+1.3
	0.8nm,0.7s,mb3.9,baz=167,slow=9.1,SNR=3.7						
MKAR	Makanchi Array	58.87	325	P	P	01 27 47.5	+0.2
	1.4nm,0.5s,mb4.3,baz=120,slow=8.2,SNR=16						
TKM2	Tokmak 2	61.09	318	eP	P	01 28 02.5	-0.1
	1.2nm,0.6s,mb4.2						
AML	Almayashu	62.04	317	eP	P	01 28 08.2	-0.9
	3.6nm,0.5s,mb4.8						
EKS2	Erkin-Say	62.20	318	eP	P	01 28 10.6	+0.5
	1.4nm,0.7s,mb4.2						
KURK	Kurchatov	63.04	327	eP	P	01 28 15.8	+0.3
	3.3nm,0.6s,mb4.6						
BRVK	Borovoye	68.69	327	eP	P	01 28 52.4	+0.5
	4.5nm,0.9s,mb4.4						
VNDA	Vanda	82.44	173	P	P	01 30 10.1	-0.1
	0.3nm,0.4s,mb3.5,baz=295,slow=6.7,SNR=5.3						

MEX 01 01:44:37.9±0.5, 1450N×9107W, h174km±22km, MD4.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.23	290	i P	Pn	01 45 05.3	-1.4
THIG				i S	Sn	01 45 27.0	-2.0
CCIG	Comitan	2.05	330	i P	Pn	01 45 14.1	-1.0
CCIG				i S	Sn	01 45 42.2	-1.7
SCX	San Cristobal	2.69	326	eP	Pn	01 45 20.9	-1.5
SCX				i S	Sn	01 45 55.8	-1.4
TGIG		3.01	319	i P	Pn	01 45 26.1	-0.2
TGIG				i S	Sn	01 46 01.0	-3.1

*ISK **01** 01:49:55.2, 4000N×3859E, h4km, MD3.4*
*DDA **01** 01:49:55.2, 3997N×3853E, h6km±5km, Md3.3*
*CSEM **01** 01:49:55.3±0.1, 4001N×3858E, h5km, MD3.4, Error ellipse: s-maj=1.5km s-min=1.4km az=24.0*
*ISCJB **01** 01:49:56.4±0.3, 4004N±003×3858E±003, h10km, Error ellipse: s-maj=4.0km s-min=3.4km az=173.7*

ISC 01 01:49:56.3±0.7, 4002N±004×3860E±003, h4km±7km, n26, σ0$92/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMT	Gumushane	0.81	57	PG	Pg	01 50 11.6	-0.1
ESPY	Espiye-Giresun	0.90	6	PG	Pg	01 50 13.7	+0.1
GRSN	GIRESUNGRSN	0.94	345	i P	Pg	01 50 14.6	+0.4
GRSN				i S	Sg	01 50 24.1	-2.3
EZC	Erzincan	0.98	106	PG	Pg	01 50 07.9	-7.1
EZC				eSG	Sg	01 50 17.4	-10
RSDY	Resadiye-TOKAT	1.04	292	ePG	Pg	01 50 15.7	-0.6
RSDY				eSG	Sg	01 50 30.5	+0.7
SVSK	Karacayir	1.23	266	ePN	Pn	01 50 18.8	-1.5
SVSK				eSN	Sn	01 50 36.8	-0.7
MACK	Trabzon	1.28	44	i P	Pg	01 50 21.6	+0.7
MACK				i S	Sg	01 50 38.8	+1.3
PTK	Pertek	1.28	151	ePN	Pn	01 50 19.7	-1.3
KTUT	Trabzon	1.31	42	ePN	Pn	01 50 20.6	-0.8
KOPT	Kop Dagi	1.46	90	i P	Pg	01 50 23.5	-0.7
KOPT				i S	Sg	01 50 46.5	+3.3
ELZG	Elazig	1.55	169	i P	Pn	01 50 23.8	-0.9
ELZG				i S	Sn	01 50 45.3	0.0
MYA	Malataya	1.70	185	ePN	Pn	01 50 26.4	-0.3
MALT	Malatya	1.71	184	ePN	Pn	01 50 26.5	-0.4
SVRC	Sivrice-ELAZID	1.73	161	ePN	Pn	01 50 27.0	-0.2
BINT	Bingol	1.86	127	ePN	Pn	01 50 29.2	+0.3
EZM	Erzurum	2.13	92	ePN	Pn	01 50 32.7	0.0
PINB	Pinarbasi	2.17	232	i S	Sn	01 51 01.8	+1.3
KVT	Kavak	2.21	299	ePN	Pn	01 50 33.9	+0.1
BNN	Bunyan	2.43	242	ePN	Pn	01 50 37.0	+0.2
YOZ	Yozgat	2.55	262	ePN	Pn	01 50 38.3	-0.2
BCA	Borcka	2.70	57	ePN	Pn	01 50 40.8	+0.2
KMRS	Kahramanmaras	2.84	208	ePN	Pn	01 50 42.5	+0.1
DIKM	Dikmen	3.01	304	ePN	Pn	01 50 45.0	+0.3
CORM	Corum	3.05	274	ePN	Pn	01 50 45.5	+0.3
AVNT	Avonos	3.15	248	i P	Pn	01 50 49.8	+3.0
AVNT				i S	Sg	01 51 38.0	+0.4
CDAG	Cicekdag	3.28	264	i P	Pn	01 50 50.6	+2.2
CDAG				i S	Sg	01 51 41.1	-0.5

*BJI **01** 01:55:59.0, 3656N×7073E, h169km, mB4.2, mb4.3*
*MOS **01** 01:56:00.0±1.1, 3653N×7087E, h189km, mb4.2/11, Error ellipse: s-maj=14.6km s-min=7.0km az=90.1*
*ISCJB **01** 01:56:00.3±0.3, 3653N±002×7095E±004, h191km±4km, mb4.0/16, Error ellipse: s-maj=5.8km s-min=3.3km az=169.3*
*NEIC **01** 01:56:01.5±0.8, 3653N×7093E, h187km±8km, mb4.2/8, Error ellipse: s-maj=9.2km s-min=7.7km az=97.0*
*IDC **01** 01:56:03.7±3.3, 3648N×7091E, h213km±31km, mb3.7/10, mb1 3.9/14, mb1mx3.6/26, mbtmp3.7/14, Error ellipse: s-maj=14.3km s-min=11.7km az=47.0*
*NNC **01** 01:56:04.9±3.0, 3690N×7078E, h190km±26km, mb3.5, mpv5.1, Error ellipse: s-maj=25.2km s-min=20.0km az=18.0*

ISC 01 01:56:01.3±0.3, 3654N±002×7095E±005, h186km±4km, n108, σ0$99/129, mb4.0/16, 9C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.53	219	ePn	Pn	01 56 45.1	+0.4
KBL				eSn	Sn	01 57 17.3	-1.0
CEP	Cherat	2.82	164	⇑P	Pn	01 56 49.4	+1.3
CEP				S	Sn	01 57 26.0	+1.5
CHCP	Chirah Chowk	3.44	146	⇑P	Pn	01 56 57.0	+1.4
THW	Thamme Wali	3.79	170	⇓P	Pn	01 57 00.5	+0.5
DRP	Derazinda	4.83	188	P	Pn	01 57 13.3	+0.2
KSH	Kashi	4.95	52	P	Pn	01 57 16.8	+2.1
KSH				S	Sn	01 58 12.5	+0.2
KSH				Smax			
	comp=N,1μm,0.3s						
KSH				Smax			
	comp=E,2μm,0.3s						
THN	Thein Dam	5.68	135	eP	Pn	01 57 23.3	-0.9
THN				eS	Sn	01 58 26.8	-2.6
AML	Almayashu	5.97	20	P	Pn	01 57 28.4	+0.6
	SNR=882						
UCH	Uchtor	6.31	25	P	Pn	01 57 33.1	+0.8
	SNR=26						
UCH	Uchtor	6.31	25	ePn	Pn	01 57 32.6	+0.3
	comp=E,32nm,0.5s						
UCH				eSn	Sn	01 58 43.6	-0.6
KZA	Kyzart	6.45	30	P	Pn	01 57 34.2	+0.1
	SNR=39						
EKS2	Erkin-Say	6.49	19	P	Pn	01 57 35.0	+0.4
	SNR=112						
EKS2	Erkin-Say	6.49	19	ePn	Pn	01 57 34.9	+0.3
	comp=E,120nm,0.4s						
EKS2				eSn	Sn	01 58 46.5	-1.8
KK31	Karatay Array	6.56	357	⇓P	Pn	01 57 35.4	-0.1
	comp=E,40nm,0.4s,baz=200,slow=18,SNR=984						
KK31				⇓S	Sn	01 58 45.3	-4.8
	comp=E,65nm,0.4s,baz=188,slow=24,SNR=6.8						
AAK	Ala-Archa	6.67	23	P	Pn	01 57 37.7	+0.7
	SNR=56						
BHK	Bhakra	6.83	137	eS	Sn	01 58 52.0	-4.7
KBK	Karagaybulak	6.84	26	P	Pn	01 57 39.9	+0.7
	SNR=70						
ULHL	Ulahol	7.01	34	P	Pn	01 57 41.3	-0.2
	SNR=42						
CHMS	Chumysh	7.08	23	P	Pn	01 57 42.4	0.0
	SNR=35						
SDNR	Sundarnagar	7.09	133	eP	Pn	01 57 41.4	-1.2
SDNR				eS	Sn	01 58 56.4	-6.2
USP	Ospenovka	7.25	21	P	Pn	01 57 44.1	-0.5
	SNR=65						
TKM2	Tokmak 2	7.31	28	⇓P	Pn	01 57 45.8	+0.5
	comp=E,159nm,0.6s						
TKM2				⇑S	Sn	01 59 07.5	-0.2
	comp=E,26nm,0.8s						
TKM2	Tokmak 2	7.31	28	PN	Pn	01 57 45.8	+0.5
TKM2				S	Sn	01 59 07.5	-0.2
TKM2				pmax	pmax		
	comp=Z,114nm,0.7s						
TKM2				smax			
	comp=Z,24nm,0.8s						
TKM2	Tokmak 2	7.31	28	ePn	Pn	01 57 45.6	+0.3
	comp=Z,185nm,0.6s						
SMLA	Simla	7.47	134	i P	Pn	01 57 47.2	-0.5
SMLA				i S	Sn	01 59 07.3	-4.5
KLP	Kalpa	7.85	127	eP	Pn	01 57 52.3	-0.2
KLP				eS	Sn	01 59 15.8	-4.9
KLP				AML	AML	01 59 19.9	
	comp=E,408nm,0.4s						
KLP				AML	AML	01 59 20.1	
	comp=N,688nm,0.6s						
DDI	Dehra Dun	8.58	134	eP	Pn	01 58 04.4	+2.2
DDI				ex	x	01 59 37.1	
JOSI	Joshimath	9.34	127	eS	Sn	01 59 49.7	-6.6
NDI	New Delhi	9.45	144	eP	Pn	01 58 12.0	-1.5
NDI				eS	Sn	01 59 49.0	-10
AYAN	Aya Nagar	9.57	145	eS	Sn	01 59 53.6	-8.5
AYAN				AML	AML	01 59 56.8	
	comp=Z,80nm,0.5s						
SONA	Sohna	9.75	146	eS	Sn	01 59 56.9	-9.4
SONA				AML	AML	02 00 00.6	
	comp=N,33nm,0.3s						
SONA				AML	AML	02 00 01.8	
	comp=E,121nm,0.4s						
AJM	Ajmer	10.51	162	i P	Pn	01 58 26.0	-1.4
AJM				i S	Sn	02 00 16.0	-8.5
MK31	Makanchi Array	13.28	36	⇑P	Pn	01 59 02.0	-0.5
	comp=E,4.3nm,0.7s,baz=225,slow=10.0,SNR=35						
MK31	Makanchi Array	13.28	36	i P	Pn	01 59 02.0	-0.6
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK31	Makanchi Array	13.28	36	ePn	Pn	01 59 01.9	-0.7
MKAR	Makanchi Array	13.28	36	P	Pn	01 59 03.0	+0.5
	comp=Z,0.6nm,0.3s,baz=217,slow=12,SNR=37						
MKAR	Makanchi Array	13.28	36	P	Pn	01 59 03.1	+0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DANN	Dangsing	13.54	123	eP	Pn	01 59 05.4	-0.7
	comp=Z,46nm,0.3s						
KOLN	Koldanda	13.82	126	eP	Pn	01 59 08.4	-1.1
	comp=Z,23nm,0.3s						
GKN	Gorkha	14.36	122	eP	Pn	01 59 16.0	-0.2
	comp=Z,4.4nm,0.4s						
KKN	Kakani	14.93	122	eP	Pn	01 59 22.7	-0.6
	comp=Z,74nm,0.6s						
AB31	Akbulak array	15.03	331	⇑P	Pn	01 59 23.1	-1.2
	comp=Z,2.9nm,0.5s,baz=145,slow=12,SNR=79						
AB31	Akbulak array	15.03	331	eP	Pn	01 59 23.2	-1.1
AB31				S	S	02 02 03.0	-8.3
AB31				smax			
	comp=Z,1.0nm,0.3s						
KURBB	Kurchatov Arra	15.10	19	⇑P	Pn	01 59 23.6	-1.5
	comp=Z,1.1nm,0.5s						
PKI	Pulchoki	15.16	122	eP	Pn	01 59 26.1	0.0
	comp=Z,178nm,0.6s						
KURK	Kurchatov	15.20	19	eP	Pn	01 59 24.9	-1.5
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KURK	Kurchatov	15.20	19	eP	Pn	01 59 24.9	-1.4
	comp=Z,8.9nm,0.9s						
GUN	Gumba	15.27	120	eP	Pn	01 59 27.9	+0.5
	comp=Z,37nm,0.4s						
JIRN	Jiri	15.64	120	eP	Pn	01 59 31.9	0.0
	comp=Z,44nm,0.4s						
VOSK	Vostochnaya	16.18	0	⇑P	Pn	01 59 37.0	-1.2
	comp=Z,13nm,0.8s						
VOSK	Vostochnaya	16.18	0	P	Pn	01 59 36.7	-1.5
VOSK				pmax	pmax		
	comp=Z,11nm,0.9s						
RAMN	Ramite	16.37	121	eP	Pn	01 59 40.4	-0.3
	comp=Z,67nm,0.6s						
BVA0	Borovoye Array	16.49	359	⇑P	Pn	01 59 42.3	+0.5
	comp=Z,2.3nm,1.1s,baz=162,slow=14,SNR=46						
BVA0				⇑S	S	02 02 41.0	-3.0
	comp=Z,0.8nm,1.1s,baz=172,slow=25,SNR=4.5						
BVA0	Borovoye Array	16.49	359	eP	Pn	01 59 41.5	-0.4
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.1s						
BVAR	Borovoye Array	16.49	359	P	Pn	01 59 41.5	-0.4
	comp=Z,2.2nm,0.3s,baz=144,slow=13,SNR=33						
BVAR	Borovoye Array	16.49	359	P	Pn	01 59 41.5	-0.4
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRVK	Borovoye	16.52	359	eP	Pn	01 59 41.7	-0.6
BRVK				pmax	pmax		
	comp=Z,12nm,0.5s						
BRVK	Borovoye	16.52	359	eP	Pn	01 59 41.7	-0.6
	comp=Z,12nm,0.5s						
AKL	Akola	16.65	160	ex	x	02 02 39.7	
AKTK	Aktyubinsk	16.73	330	P	Pn	01 59 45.2	+0.4
AKTK				S	S	02 02 44.0	-4.8
AKTO	Aktyubinsk	16.73	330	P	Pn	01 59 45.2	+0.4
	comp=Z,2.1nm,0.3s,baz=136,slow=12,SNR=39						
AKTO				S	S	02 02 44.0	-4.8
	comp=Z,0.2nm,0.3s,baz=204,slow=19,SNR=3.7						
AKTO	Aktyubinsk	16.73	330	P	Pn	01 59 45.2	+0.4
AKTO				S	S	02 02 44.1	-4.8
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NGP	Nagpur	16.88	153	ex	x	02 02 41.8	
TAPN	Taplejung	16.90	118	eP	Pn	01 59 48.3	+1.2
	comp=Z,26nm,0.5s						
ODAN	Odare	16.97	120	eP	Pn	01 59 48.3	+0.3
	comp=Z,67nm,0.6s						
LSA	Lhasa	18.23	106	P	P	02 00 04.1	+3.6
LSA	Lhasa	18.23	106	eP	P	02 00 03.8	+3.3
LSA				pmax	pmax		
	comp=Z,13nm,0.6s						
LSA	Lhasa	18.23	106	eP	P	02 00 03.8	+3.3
	comp=Z,13nm,0.6s						
ZAL	Zalesovo	19.88	25	P	P	02 00 18.9	+0.9
ZAL				S	S	02 03 52.0	+0.6
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAA0	Zalesovo Array	19.89	25	eP	P	02 00 18.8	+0.6
ZALV	Zalesovo Beam	19.89	25	P	P	02 00 18.9	+0.6
	comp=Z,2.1nm,0.3s,baz=222,slow=11,SNR=49						
ZALV				S	S	02 03 52.0	+0.3
	comp=Z,0.1nm,0.3s,baz=215,slow=20,SNR=3.7						
ZALV	Zalesovo Beam	19.89	25	P	P	02 00 18.9	+0.6
ZALV				S	S	02 03 52.0	+0.3
NVS	Novosibirsk	20.16	21	eP	P	02 00 21.5	+0.5
NVS				eS	S	02 03 55.3	-1.5
NVS				pmax	pmax		
	comp=Z,5.0nm,0.4s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.5s						
NVS				smax			
	comp=N,15nm,1.1s						
NVS				smax			
	comp=E,16nm,1.4s						
SHL	Shillong	20.96	116	ex	P	02 00 32.0	+2.1
ARU	Arti	21.58	341	eP	P	02 00 36.8	+0.7
ARU	Arti	21.58	341	eP	P	02 00 36.9	+0.8
	comp=E,2.9nm,0.4s,mb4.1						
SONM	Songino Array	28.34	55	P	P	02 01 38.6	+1.0
	comp=E,1.4nm,0.8s,mb3.7,baz=246,slow=10,SNR=5.2						
SONM	Songino Array	28.34	55	P	P	02 01 38.6	+0.9
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CHTO	Chiang Mai	30.27	118	eP	P	02 01 56.7	+1.7
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
CHTO	Chiang Mai	30.27	118	eP	P	02 01

FITZ	Fitzroy Crossi	74.95	127	P	P	02 07 21.5	-0.6
	comp=Z,2.9nm,0.9s,mb3.9,baz=66,slow=6.6,SNR=4.7						
YKA	Yellowknife Ar	81.21	3	P	P	02 07 56.5	+0.6
	comp=Z,1.5nm,0.3s,mb4.0,baz=349,slow=5.3,SNR=22						
YKA	Yellowknife Ar	81.21	3	P	P	02 07 56.5	+0.6
YKA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YKA	Yellowknife Ar	81.21	3	P	P	02 07 56.5	+0.6
NWAO	Narrogin (SRO)	81.52	142	P	P	02 07 56.5	-1.4
	comp=Z,46nm,1.3s,mb5.0,baz=188,slow=3.1,SNR=3.1						
NWAO	Narrogin (SRO)	81.52	142	P	P	02 07 56.5	-1.3
NWAO				pmax	pmax		
	comp=Z,46nm,1.3s						
NWAO	Narrogin (SRO)	81.52	142	P	P	02 07 56.5	-1.4
WRA	Warramunga Arr	82.04	122	P	P	02 07 59.9	-1.0
	comp=Z,3.4nm,0.5s,mb4.3,baz=324,slow=5.0,SNR=83						
WRA	Warramunga Arr	82.04	122	P	P	02 07 59.9	-1.0
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRAB	Tennant Creek	82.04	122	*eP*	P	02 07 59.8	-1.1
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
WRAB	Tennant Creek	82.04	122	*eP*	P	02 07 59.8	-1.1
	comp=Z,4.1nm,0.4s,mb4.4						
ASAR	Alice Springs	84.31	125	P	P	02 08 11.7	-0.7
	comp=Z,3.0nm,0.6s,mb4.2,baz=315,slow=4.4,SNR=46						
ASAR	Alice Springs	84.31	125	P	P	02 08 11.7	-0.7
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						

IDC ***01*** *02:45:42.6±1.3,3191S×7157W,h0km,mb4.2/3,mb1 3.9/6, mb1mx3.8/16,mbtmp3.8/6,ML3.8/3,MS3.1/4,Ms1 3.1/4, ms1mx2.9/22,Error ellipse: s-maj=58.6km s-min=32.4km az=144.0*

ISCJB ***01*** *02:45:47.0±0.9,3170S±002×7175W±007,h17km±6km, mb4.0/4,Error ellipse: s-maj=10.1km s-min=3.1km az=177.4*

NEIC ***01*** *02:45:48.4,3169S×7161W,h32km,mb4.0/1,ML4.1(GUC), After GUC.*

GUC ***01*** *02:45:48.4±0.6,3169S×7161W,h32km±2km,MD4.3, ML4.1*

ISC 01 02:45:46.4±1.0,3170S±002×7173W±006,h8km±5km,n37, σ1§03/55,mb4.0/4,8C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.81	50	⇑*iP*	Pg	02 46 02.5	+0.5
CMCH				*i* S	Sg	02 46 12.6	+0.1
CMCH				AML	AML	02 46 13.9	
	comp=E,17μm,0.8s						
CMCH	Combarbala	0.81	50	⇑*iP*	Pg	02 46 02.5	+0.5
CMCH				*i* S	Sg	02 46 12.6	+0.1
PTCH	Petorca	0.88	130	⇓*eP*	Pg	02 46 03.5	+0.1
PTCH				*i* S	Sg	02 46 14.5	-0.3
OVCH	Ovalle	1.18	23	⇓*eP*	Pb	02 46 08.7	-0.3
OVCH				*i* S	Sg	02 46 23.7	-0.5
IHA	Instituto Hidr	1.33	177	⇓*eP*	Pn	02 46 11.1	-0.1
IHA				*i* S	Sb	02 46 27.8	-0.9
JACH	Jahuel	1.37	136	*eP*	Pn	02 46 11.7	-0.1
JACH				*i* S	Sb	02 46 28.9	-1.1
ROCH	El Roble	1.41	155	*eP*	Pn	02 46 12.0	-0.3
ROCH				*i* S	Sb	02 46 30.2	-0.8
PEL	Peldehue	1.69	149	⇑*iP*	Pn	02 46 16.6	+0.4
PEL				*i* S	Sn	02 46 38.0	0.0
PEL				AML	AML	02 46 40.0	
	comp=E,6μm,0.4s						
TLL	Tololo Astrono	1.72	28	⇑*iP*	Pn	02 46 17.2	+0.6
TLL				*i* S	Sn	02 46 39.2	+0.4
TLL				AML	AML	02 46 44.2	
	comp=N,2μm,0.5s						
TLL	Tololo Astrono	1.72	28	⇑*iP*	Pn	02 46 17.2	+0.6
TLL				*i* S	Sn	02 46 39.2	+0.4
LSCH	La Serena	1.83	13	*eP*	Pn	02 46 18.3	+0.1
LSCH				*i* S	Sn	02 46 42.8	+1.3
CLCH	Cerro Calan	1.97	150	⇑*iP*	Pn	02 46 20.6	+0.6
CLCH				*i* S	Sn	02 46 44.8	-0.1
CLCH				AML	AML	02 46 55.0	
	comp=E,5μm,0.6s						
FCH	Farellones	2.03	144	⇓*iP*	Pn	02 46 21.9	+1.0
FCH				*i* S	Sn	02 46 47.3	+0.9
FCH				AML	AML	02 46 50.2	
	comp=E,1μm,0.4s						
TACH	Talagante	2.06	161	⇑*iP*	Pn	02 46 21.9	+0.6
PCH	Pirque	2.17	152	*eP*	Pn	02 46 23.2	+0.3
PCH				*i* S	Sn	02 46 49.7	-0.3
YECH	El Yeso	2.40	145	*eP*	Pn	02 46 27.6	+1.6
YECH				*i* S	Sn	02 46 57.4	+1.7
LMEL	Las Melosas	2.50	149	⇓*eP*	Pn	02 46 28.1	+0.8
LMEL				*i* S	Sn	02 46 57.9	-0.1
LMEL				AML	AML	02 47 07.1	
	comp=N,2μm,0.3s						
LMEL	Las Melosas	2.50	149	⇓*eP*	Pn	02 46 28.1	+0.8
LMEL				*i* S	Sn	02 46 57.9	-0.1
LCO	Las Campanas	2.82	19	*e*Pn	Pn	02 46 31.9	+0.2
LCO				*e*Sn	Sn	02 47 06.9	+0.9
SFDO	San Fernando	2.97	169	⇑*iP*	Pn	02 46 34.3	+0.5
CFAA	Coronel Fontan	2.98	89	Pn	Pn	02 46 36.9	+3.0
	comp=N,4.7nm,0.3s,baz=250,slow=10,SNR=124						
CFAA				Pg	Pg	02 46 47.8	+4.3
	comp=N,6.0nm,0.3s,baz=273,slow=14,SNR=27						
CFAA				Lg		02 47 16.9	
	comp=N,11nm,0.3s,baz=43,slow=18,SNR=10.0						
VACH	Vallenar	3.22	15	⇓*eP*	Pn	02 46 38.5	+1.3
VACH				*i* S	Sn	02 47 15.8	0.0
CDCH	Caldera	4.67	10	*eP*	Pn	02 46 54.9	-2.3
PLCA	Paso Flores	9.07	174	Pn	Pn	02 47 58.0	+0.4
	comp=N,0.2nm,0.3s,baz=338,slow=13,SNR=7.4						
PLCA				LR	LR	02 51 17.6	
	comp=N,106nm,18.2s,baz=358,slow=38						
LVC	Limon Verde	9.39	16	Pn	Pn	02 48 11.8	+10
	comp=N,0.7nm,0.3s,baz=150,slow=5.7,SNR=5.9						
LVC				Sn	Sn	02 50 14.8	+27
	comp=N,0.8nm,0.3s,baz=325,slow=21,SNR=5.6						
LVC				LR	LR	02 51 34.7	
	comp=N,101nm,18.7s,baz=220,slow=37						
TRQA	Tornquist	10.21	131	*eP*	Pn	02 48 13.2	0.0
	comp=N,4.8nm,0.6s						
CPUP	Villa Florida	13.68	71	Pn	Pn	02 48 58.7	-2.1
	comp=N,0.3nm,0.3s,baz=157,slow=19,SNR=3.1						
CPUP				Sn	Sn	02 51 32.3	-0.7
	comp=N,0.6nm,0.3s,baz=183,slow=14,SNR=3.3						
CPUP				LR	LR	02 54 39.5	
	comp=N,93nm,18.2s,baz=73,slow=39						
LPAZ	La Paz	15.69	13	Pn	Pn	02 49 28.4	+0.6
	comp=N,0.1nm,0.3s,baz=178,slow=11,SNR=5.4						
LPAZ	La Paz	15.69	13	*eP*	Pn	02 49 27.0	-0.8
	comp=N,1.7nm,0.9s						
SIV	San Ignacio	18.40	34	P	P	02 49 58.7	-3.3
	comp=N,0.1nm,0.3s,baz=224,slow=12,SNR=4.2						
BDFB	Brasilia	26.87	59	P	P	02 51 25.8	-2.0
	comp=N,1.7nm,0.7s,mb3.7,baz=300,slow=27,SNR=3.7						
BDFB				LR	LR	03 03 38.3	
	comp=N,33nm,19.2s,baz=21,slow=40						
SNAA	Sanae	53.62	158	*eP*	P	02 55 05.6	-2.1
	comp=N,1.5nm,0.8s,mb4.0						
DBIC	Dimbokro	74.20	72	P	P	02 57 20.3	-3.8
	comp=N,3.2nm,0.6s,mb4.4,baz=228,slow=5.7,SNR=6.6						
TORD	Torodi Ar. Bea	83.18	70	P	P	02 58 10.8	-2.6
	comp=N,1.4nm,0.8s,mb4.0,baz=262,slow=5.2,SNR=6.9						
WRA	Warramunga Arr	122.89	209	PKP	PKPdf	03 04 40.9	-2.9
	comp=N,0.2nm,0.5s,baz=160,slow=1.7,SNR=6.2						
ZALV	Zalesovo Beam	152.13	30	PKPbc	PKPbc	03 05 40.0	-1.8
	comp=N,4.3nm,0.8s,baz=294,slow=2.9,SNR=11						
ZALV				PKPab	PKPab	03 05 49.1	-2.3
	comp=N,4.0nm,0.7s,baz=288,slow=2.5,SNR=9.2						
MKAR	Makanchi Array	155.01	45	PKPab	PKPab	03 06 02.0	-2.0
	comp=N,0.3nm,0.6s,baz=305,slow=5.1,SNR=3.4						

IDC ***01*** *02:52:48.0±2.0,253N×96.31E,h0km,mb3.7/5,mb1 3.8/6, mb1mx3.6/21,mbtmp3.7/6,ML3.4/1,Error ellipse: s-maj=61.0km s-min=21.6km az=54.0*

DJA ***01*** *02:52:48,264N×96.20E,h0km,ML4.1/4*

ISCJB ***01*** *02:52:50.5±1.2,25N±0.1×962E±0.1,h33km,mb3.7/6,Error ellipse: s-maj=29.3km s-min=15.6km az=42.8*

NEIC ***01*** *02:52:52.5±1.1,253N×96.35E,h30km,mb3.9/1,Error ellipse: s-maj=29.2km s-min=12.6km az=49.0*

ISC 01 02:52:53.1±1.2,25N±01×963E±01,h35km,n10,σ§43/12, mb3.7/6,1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	Tuntungan	2.44	66	*eP*	Pn	02 53 31.0	+0.5
PSI	Prapat	2.61	83	Pn	Pn	02 53 32.5	-0.3
	7.1nm,0.3s,baz=304,slow=7.8,SNR=18						
PSI				Sn	Sn	02 53 56.0	-7.3
	8.9nm,0.3s,baz=309,slow=22,SNR=8.2						
BSI	Banda Aceh	3.14	341	⇓*eP*	Pn	02 53 32.0	-8.2
BSI				*eS*	Sn	02 54 07.0	-10
WRA	Warramunga Arr	43.47	123	P	P	03 00 53.1	-0.1
	0.5nm,0.5s,mb3.5,baz=302,slow=9.3,SNR=8.1						
WRAB	Tennant Creek	43.47	123	*eP*	P	03 00 53.1	-0.2
	0.9nm,0.4s,mb3.9						
ASAR	Alice Springs	44.88	128	P	P	03 01 04.8	+0.3
	0.1nm,0.3s,mb3.1,baz=164,slow=11,SNR=3.8						
MKAR	Makanchi Array	45.77	347	P	P	03 01 11.3	+0.1
	0.9nm,0.7s,mb3.8,baz=163,slow=6.5,SNR=4.2						
MKAR	Makanchi Array	45.77	347	P	P	03 01 11.3	+0.1
SONM	Songino Array	45.98	9	P	P	03 01 12.0	-0.8
	0.7nm,0.4s,mb3.9,baz=191,slow=11,SNR=5.7						
ZALV	Zalesovo Beam	52.14	351	P	P	03 02 00.4	+0.5
	0.9nm,0.4s,mb4.1,baz=163,slow=7.6,SNR=4.1						

BJI ***01*** *03:05:57.9,450S×14072E,h30km,mB5.1,mb4.9,Ms4.6, Msz4.5*

ISCJB ***01*** *03:06:05.8±0.2,375S±003×14025E±004,h39km, mb4.9/60,MS4.4/27,Error ellipse: s-maj=5.6km s-min=4.1km az=16.6*

MOS ***01*** *03:06:05.2±1.0,360S×14006E,h31km,mb5.1/16,Error ellipse: s-maj=16.9km s-min=7.6km az=100.0*

IDC ***01*** *03:06:06.7±4.2,368S×13995E,h28km±28km,mb4.4/12, mb1 4.5/14,mb1mx4.5/15,mbtmp4.4/14,ML4.5/2,MS4.5/18, Ms1 4.5/18,ms1mx4.3/24,Error ellipse: s-maj=24.0km s-min=9.3km az=86.0*

NEIC ***01*** *03:06:07.9±0.2,366S×140.10E,mb5.0/29,Error ellipse: s-maj=8.4km s-min=5.0km az=97.0*

NEIC Felt [III] at Jayapura.

GCMT ***01*** *03:06:07.9±0.2,355S×14020E,h41km,MW5.3/80, Moment Tensor Solution. s74,c116; s80,c120; Duration: 1§1 Moment tensor: Scale 1017Nm; Mrr1.01±.03; Mθθ-0.74±.02; Mφφ-0.26±.02; Mrθ-0.16±.02; Mθφ0.53±.01; Mφr0.19±.02; Best double couple: M0 1.07700×1017 NP1:φ119.00000°,δ39.00000°, λ84.00000°. NP2:φ307.00000°,δ51.00000°,λ95.00000°. Principal axes: T 1.0410, Plg82.0000°, Azm246.0000°; N 0.0750, Plg4.0000°, Azm124.0000°; P -1.1130, Plg6.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

DJA ***01*** *03:06:27,443S×13973E,h168km,mb5.2/30*

ISC 01 03:06:08.0±0.2,371S±003×14028E±004,h41km, h41km±1.1km:pP-P,n163,σ1§03/154,mb4.9/60,MS4.4/27, 10C-11D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	7.76	255	⇑*eP*	Pn	03 07 59.0	+0.5
COEN	Coen	10.58	165	*e*Pn	Pn	03 08 37.3	+0.2
	15nm,0.6s						
KAKA	Kakadu	11.84	220	⇓*iP*	Pn	03 08 52.2	-2.2
	326nm,0.4s						
KAKA				*e*S	Sn	03 10 57.7	-7.5
WRAB	Tennant Creek	17.13	199	Pn	Pn	03 10 02.0	-2.5
	2μm,0.9s,SNR=21						
WRAB	Tennant Creek	17.13	199	*e*Pn	Pn	03 10 02.5	-2.0
WB2	Warramunga Arr	17.14	199	*eP*	Pn	03 10 01.9	-2.7
WB2				*eS*	S	03 13 05.7	-17
WRA	Warramunga Arr	17.15	199	P	Pn	03 10 02.5	-2.2
	1.9nm,0.3s,baz=14,slow=13,SNR=95						
WRA				S	S	03 13 09.6	-13
	2.4nm,0.3s,baz=12,slow=22,SNR=5.5						
WRA				Lg		03 15 12.1	
	baz=14,slow=28,SNR=4.1						
WRA	Warramunga Arr	17.15	199	P	Pn	03 10 02.5	-2.2
WRA				S	S	03 13 09.6	-13
CTA	Charters Tower	17.29	161	*eP*	Pn	03 10 08.3	+1.8
	18nm,0.7s						
CTA	Charters Tower	17.29	161	P	Pn	03 10 08.3	+1.8
	1.0nm,0.3s,baz=338,slow=10,SNR=6.6						
CTA				S	S	03 13 17.8	-7.6
	0.3nm,0.3s,baz=216,slow=23,SNR=1.6						
CTA				Lg		03 15 20.2	
	0.4nm,0.3s,baz=61,slow=22,SNR=6.2						
CTA				LR	LR	03 17 08.5	
	comp=Z,3μm,20.3s,baz=344,slow=38						
CTA	Charters Tower	17.29	161	*eP*	Pn	03 10 08.3	+1.8
CTA				pmax	pmax		
	comp=Z,18nm,0.7s						
CTAO	Charters Tower	17.29	161	*eP*	Pn	03 10 08.6	+2.1
CTAO				*e*		03 13 19.1	
CTAO				pmax	pmax		
	comp=Z,20nm,0.7s						
CTAO	Charters Tower	17.29	161	*eP*	Pn	03 10 08.6	+2.2
	comp=Z,20nm,0.7s						
CTAO				*e*Sn	Sn	03 13 19.1	+1.1
KDI	Kendari	17.62	269	⇓*eP*	Pn	03 10 12.1	+1.4
KDI				*eS*	S	03 13 21.7	-11
BATI	Baumata	17.70	248	P	Pn	03 10 10.7	-0.9
	comp=Z,16nm,0.3s,baz=149,slow=2.2,SNR=30						
BATI				S	S	03 13 23.3	-11
	comp=Z,3.8nm,0.3s,baz=4.9,slow=22,SNR=4.0						
GUMO	Guam	17.78	15	LR	LR	03 17 27.7	
	comp=Z,1μm,18.1s,baz=252,slow=38						
FITZ	Fitzroy Crossi	20.25	224	⇓*iP*	P	03 10 39.8	-0.2
	comp=Z,86nm,0.8s						
FITZ				*eS*	S	03 14 17.0	-8.2
FITZ	Fitzroy Crossi	20.25	224	P	P	03 10 40.9	+0.8
	comp=Z,26nm,0.5s,baz=39,slow=13,SNR=103						
FITZ				S	S	03 14 18.2	-7.0
	comp=Z,87nm,0.9s,baz=183,slow=19,SNR=13						
FITZ				Lg		03 16 50.0	
	comp=Z,43nm,1.0s,baz=178,slow=14,SNR=1.9						
FITZ				LR	LR	03 19 24.9	
	comp=Z,2μm,19.0s,MS4.5,baz=38,slow=40						
HNR	Honiara	20.34	107	LR	LR	03 17 55.0	
	comp=Z,623nm,19.0s,MS4.0,baz=357,slow=34						
KAPI	Kappang	20.51	266	P	P	03 10 43.0	+0.1
	comp=Z,18nm,0.7s,baz=85,slow=3.8,SNR=8.7						
KAPI	Kappang	20.51	266	*eP*	P	03 10 42.4	-0.5
	comp=Z,14nm,0.5s						
ASAR	Alice Springs	20.78	197	P	P	03 10 46.4	+0.7
	comp=Z,107nm,0.7s,baz=32,slow=10,SNR=297						
ASAR				S	S	03 14 36.3	+0.9
	comp=Z,50nm,1.0s,baz=25,slow=21,SNR=7.2						
MYLDM	Lahad Datu	23.48	292	⇑P	P	03 11 15.1	+0.7
TSM	Tawau	23.76	289	⇑P	P	03 11 17.7	+0.7
SDKM	Sandakan	24.86	292	⇓P	P	03 11 26.7	-0.2
KKM	Kota Kinabalu	25.91	292	⇓P	P	03 11 37.4	+0.9
MBWA	Marble Bar	26.46	227	*eP*	P	03 11 41.7	+0.3
	comp=Z,72nm,1.1s,mb5.1						
BTM	Bintulu	28.03	284	⇓P	P	03 11 57.0	+1.4
STKA	Stephens Creek	28.05	178	*eP*	P	03 11 57.8	+2.3
	comp=Z,3.4nm,0.6s,mb4.2						
STKA	Stephens Creek	28.05	178	P	P	03 11 57.5	+2.0
	comp=Z,2.2nm,0.4s,mb4.1,baz=341,slow=13,SNR=5.3						
STKA				Lg		03 21 09.8	
	comp=Z,13nm,1.1s,baz=225,slow=19,SNR=3.1						
STKA				LR	LR	03 24 13.3	
	comp=Z,4μm,19.0s,MS5.0,baz=349,slow=39						
SBUM	Sibu	28.70	282	⇑P	P	03 12 02.7	+1.1
FORT	Forrest	29.29	202	*eP*	P	03 12 04.8	-1.8
	comp=Z,23nm,0.7s,mb5.0						
KSM	Kuching	30.39	279	⇓P	P	03 12 17.4	+0.8
KSM	Kuching	30.39	279	*eP*	P	03 12 16.1	-0.5
CAN	Canberra	32.48	167	*eP*	P	03 12 30.0	-4.6
KLBR	Kellerberrin	34.90	215	*eP*	P	03 12 54.3	-1.5
	comp=Z,19nm,0.7s,mb5.1						
MYKOM	Kota Tinggi	36.82	278	⇑P	P	03 13 13.5	+1.0
KGM	Kluang	37.38	278	⇓P	P	03 13 18.7	+1.5
QIZ	Qiongzhong	37.52	308	P	P	03 13 17.1	-1.2
QIZ				XP	sP	03 13 32.8	-1.7
QIZ				S	S	03 19 00.4	-4.4
QIZ				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.8						
QIZ				LR	LR		
	comp=N,305nm,27.7s,MS4.1						
QIZ				LR	LR		
	comp=E,180nm,23.4s,MS4.1						
QIZ				LR	LR		
	comp=Z,412nm,32.0s						
KTGM	Kuala Trenggan	38.17	283	⇑P	P	03 13 24.6	+0.6
SSE	Sheshan	39.11	334	P	P	03 13 30.9	-0.6
SSE				XP	sP	03 13 47.3	-0.4
SSE				S	S	03 19 28.0	-0.5
SSE				SS	SS	03 22 22.1	-0.2
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,117nm,7.0s						
SSE				LR	LR		
	comp=N,237nm,25.5s,MS4.1						
SSE				LR	LR		
	comp=E,261nm,25.5s,MS4.1						
SSE				LR	LR		
	comp=Z,430nm,24.1s,MS4.2						
FRIM	Kepong	39.24	280	⇓P	P	03 13 34.1	+1.1
IPM	Ipoh	40.05	281	⇑P	P	03 13 40.2	+0.5
MJAR	Matsushiro Arr	40.09	357	P	P	03 13 37.9	-1.6
	comp=Z,1.7nm,0.7s,mb3.9,baz=174,slow=8.2,SNR=6.1						
MJAR				LR	LR	03 28 39.4	
	comp=Z,371nm,21.9s,MS4.2,baz=185,slow=34						
MAT	Matsushiro	40.09	357	P	P	03 13 39.9	+0.3
MAT				S	S	03 19 46.0	+3.0
KULM	Kulim	40.58	282	⇓P	P	03 13 44.6	+0.6
KSRS	Korea Array	42.53	345	P	P	03 13 59.2	-0.4
	comp=Z,2.0nm,0.5s,mb4.1,baz=159,slow=9.3,SNR=9.4						
KSRS				PcP	PcP	03 15 53.8	+2.1
	comp=Z,2.4nm,0.9s,baz=164,slow=2.2,SNR=5.0						
KSRS				LR	LR	03 31 12.1	
	comp=Z,502nm,20.0s,MS4.4,baz=163,slow=36						
GYA	Guiyang	44.23	315	⇑*iP*	P	03 14 15.2	+1.7
GYA				AP	pP	03 14 26.9	+1.8
GYA				XP	sP	03 14 31.2	+1.3
GYA				PCP	PcP	03 15 59.4	+1.7
GYA				SCP	ScP	03 19 46.8	+0.1
GYA				S	S	03 20 45.0	+0.5
GYA				XS	sS	03 21 04.4	+0.8
GYA				SCS	ScS	03 24 07.0	-2.0
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=N,540nm,18.4s,MS4.6						
GYA				LR	LR		
	comp=E,510nm,17.9s,MS4.6						
GYA				LR	LR		
	comp=Z,480nm,19.2s,MS4.4						
CMAR	Chiang Mai Arr	46.29	300	P	P	03 14 28.6	-1.3
	comp=Z,5.3nm,0.5s,mb4.7,baz=122,slow=6.0,SNR=20						
CMAR				LR	LR	03 35 23.1	
	comp=Z,174nm,19.1s,MS4.0,baz=101,slow=38						
CMAR	Chiang Mai Arr	46.29	300	*i* P	P	03 14 29.5	-0.5
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMI	Kunming	46.35	310	P	P	03 14 31.6	+1.2
KMI				AP	pP	03 14 40.4	-1.6
KMI				XP	sP	03 14 45.5	-1.3
KMI				PP	PP	03 16 20.2	+0.4
KMI				PPP		03 17 04.6	
KMI				S	S	03 21 14.3	-0.9
KMI				XS	sS	03 21 31.6	-2.9
KMI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,70nm,3.5s						
KMI				LR	LR		
	comp=N,257nm,24.6s,MS4.4						
KMI				LR	LR		
	comp=E,373nm,19.7s,MS4.4						
KMI				LR	LR		
	comp=Z,569nm,21.8s,MS4.5						
CHTO	Chiang Mai	46.44	300	*eP*	P	03 14 30.4	-0.7
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
CHTO	Chiang Mai	46.44	300	*eP*	P	03 14 30.4	-0.7
	comp=Z,8.1nm,0.8s,mb4.7						
RAO	Raoul Island	47.05	127	LR	LR	03 32 35.1	
	comp=Z,163nm,20.4s,MS4.0,baz=334,slow=34						
XAN	Xi'an	47.79	324	P	P	03 14 41.1	-0.4
XAN				AP	pP	03 14 51.6	-1.5
XAN				XP	sP	03 14 54.4	-3.5
XAN				PCP	PcP	03 16 12.1	+2.1
XAN				PP	PP	03 16 31.1	-2.5
XAN				PPP		03 17 17.4	
XAN				SCP	ScP	03 20 02.7	+1.4
XAN				S	S	03 21 32.3	-3.1
XAN				SCS	ScS	03 24 30.0	-1.8
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
XAN				AMB	AMB		
	comp=Z,106nm,15.0s						
XAN				LR	LR		
	comp=N,144nm,26.6s						
XAN				LR	LR		
	comp=E,174nm,32.4s						
XAN				LR	LR		
	comp=Z,361nm,28.4s,MS4.2						
URZ	Urewera	48.06	141	LR	LR	03 32 58.8	
	comp=Z,499nm,20.8s,MS4.5,baz=218,slow=33						
CD2	Chengdu	48.97	317	P	P	03 14 49.9	-0.7
CD2				AP	pP	03 15 00.6	-1.7
CD2				XP	sP	03 15 05.4	-1.7
CD2				PCP	PcP	03 16 13.9	-0.4
CD2				PP	PP	03 16 43.5	-0.9
CD2				S	S	03 21 50.0	-2.2
CD2				XS	sS	03 22 11.0	-0.5
CD2				SCS	ScS	03 24 35.1	-4.7
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,50nm,5.8s						
CD2				LR	LR		
	comp=N,210nm,18.0s,MS4.4						
CD2				LR	LR		
	comp=E,270nm,16.8s,MS4.4						
CD2				LR	LR		
	comp=Z,390nm,15.6s,MS4.5						
MDJ	Mudanjiang	49.05	350	P	P	03 14 51.5	+0.5
MDJ				AP	pP	03 15 03.2	+0.6
MDJ				XP	sP	03 15 07.8	+0.4
MDJ				PP	PP	03 16 46.4	+1.5
MDJ				SCP	ScP	03 20 04.9	-1.5
MDJ				PCS	PcS	03 20 11.0	+0.5
MDJ				S	S	03 21 53.3	+0.5
MDJ				XS	sS	03 22 12.4	+0.2
MDJ				SS	SS	03 25 31.9	+7.4
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,90nm,4.1s						
MDJ				LR	LR		
	comp=N,352nm,16.7s,MS4.5						
MDJ				LR	LR		
	comp=E,190nm,16.2s,MS4.5						
MDJ

comp=N,293nm,20.2s,MS4.4
HHC LR LR
comp=E,285nm,22.6s,MS4.4
HHC LR LR
comp=Z,394nm,26.2s,MS4.3
HABR Khabarovsk 52.16 356 *e*P **P 03 15 12.8 -1.6**
HABR *e* 03 17 10.2
HABR *e*S **S 03 22 36.5 +0.6**
HABR *e*SS SS 03 26 16.6 +2.7
LZH Lanzhou 52.22 323 *e*P **P 03 15 15.6 +0.6**
LZH AP pP 03 15 27.5 +0.7
LZH XP sP 03 15 32.7 +1.2
LZH PP PP 03 17 21.0 +7.1
LZH AMB AMB
comp=Z,27nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,123nm,7.4s
LZH LR LR
comp=N,897nm,16.7s
LZH LR LR
comp=Z,1μm,19.2s,MS4.9
KLR Kul'dur 53.24 353 *e*P **P 03 15 17.9 -4.4**
KLR pmax pmax
comp=Z,40nm,1.6s,mb5.1
SHL Shillong 55.19 305 *e*P **P 03 15 37.0 0.0**
GTA Gaotai 56.80 323 *e*P **P 03 15 48.6 +0.4**
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
PETK Petropavlovsk- 58.48 12 P **P 03 16 00.5 +0.8**
comp=Z,8.8nm,0.8s,mb4.8,baz=174,slow=6.3,SNR=15
PETK LR LR 03 38 08.8
comp=Z,342nm,21.9s,MS4.4,baz=203,slow=33
PET Petropavlovsk 58.61 13 *e*P pP 03 16 12.3 -0.3
PET *e*S **S 03 24 08.0 +6.2**
PET *e*SS SS 03 27 57.5 +2.2
PET pmax pmax
comp=Z,200nm,6.8s
PET pmax pmax
comp=Z,200nm,13.7s
SONM Songino Array 59.29 334 P **P 03 16 05.2 -0.3**
comp=Z,0.5nm,0.4s,mb3.9,baz=325,slow=46,SNR=4.3
SONM LR LR 03 42 46.6
comp=Z,483nm,18.2s,MS4.7,baz=134,slow=37
TAPN Taplejung 59.33 305 *e*P **P 03 16 06.7 +0.5**
ODAN Odare 59.40 304 *e*P **P 03 16 08.4 +1.7**
RAMN Ramite 60.09 304 *e*P **P 03 16 11.8 +0.4**
comp=Z,31nm,0.7s,mb5.4
JIRN Jiri 60.69 305 *e*P **P 03 16 16.3 +0.8**
comp=Z,26nm,0.7s,mb5.5
GUN Gumba 61.04 305 *e*P **P 03 16 17.3 -0.6**
comp=Z,34nm,0.7s,mb5.6
PKI Pulchoki 61.30 304 *e*P **P 03 16 19.6 -0.1**
KKN Kakani 61.49 304 *e*P **P 03 16 20.6 -0.4**
comp=Z,37nm,0.8s,mb5.6
DMN Daman 61.57 304 *e*P **P 03 16 21.3 -0.2**
comp=Z,41nm,0.9s,mb5.6
GKN Gorkha 62.10 304 *e*P **P 03 16 25.2 +0.2**
ZAK Zakamensk 62.55 334 *e*P **P 03 16 27.9 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.4
KOLN Koldanda 62.87 304 *e*P **P 03 16 30.3 +0.1**
comp=Z,21nm,0.7s,mb5.4
DANN Dangsing 62.94 304 *e*P **P 03 16 29.9 -0.8**
TLY Talaya 63.36 335 *e*P **P 03 16 34.8 +1.8**
TLY *e*S **S 03 25 05.0 +2.5**
TLY pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
MA2 Magadan 63.63 6 *e*P **P 03 16 34.5 -0.1**
MA2 *e*S **S 03 25 06.5 +1.0**
MA2 *e*PS 03 25 23.3
MA2 *e*SS SS 03 29 14.2 +0.4
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
HYB Hyderabad 64.39 291 *i* P **P 03 16 40.0 -0.4**
HYB *e* pP 03 16 54.0 +1.5
HYB Hyderabad 64.39 291 *e*P **P 03 16 40.0 -0.4**
BOD Bodaibo 64.87 345 *e*P **P 03 16 42.0 -0.8**
BOD pmax pmax
comp=Z,6.0nm,2.0s,mb4.3
CASY Casey 65.84 193 *e*P **P 03 16 49.4 +0.5**
comp=Z,24nm,1.3s,mb5.1
YAK Yakutsk 66.06 355 *e*P **P 03 16 50.0 -0.3**
YAK pmax pmax
comp=Z,30nm,0.8s,mb5.4
WMQ Urumqi 66.76 321 P **P 03 16 56.6 +1.4**
WMQ AP pP 03 17 06.9 -0.4
WMQ XP sP 03 17 10.8 -1.2
WMQ PCP PcP 03 17 25.7 +1.8
WMQ PP PP 03 19 25.3 +2.6
WMQ S S 03 25 44.0 -0.5
WMQ SCS ScS 03 26 47.2 -2.1
WMQ AMB AMB
comp=Z,11nm,0.6s,mb5.1
WMQ AMB AMB
comp=Z,66nm,9.6s
WMQ LR LR
comp=N,161nm,23.2s,MS4.3
WMQ LR LR
comp=E,152nm,23.8s,MS4.3
WMQ LR LR
comp=Z,139nm,25.2s,MS4.1
SEY Seymchan 67.09 6 *e*P **P 03 16 56.6 -0.3**
HVS Khovu-Aksy 67.52 330 *e*P **P 03 16 58.3 -1.6**
HVS pmax pmax
comp=Z,14nm,1.2s,mb4.9
PPT Papeete 69.96 107 *e*S S 03 26 25.0 +1.4
comp=Z,189nm,24.2s
PPT *e*LQ 03 35 46.6
comp=Z,454nm,31.2s
PPT *e*LR LR 03 38 46.9
comp=Z,526nm,26.8s,baz=274
PPT Papeete 69.96 107 LR LR 03 42 58.0
comp=Z,248nm,18.6s,MS4.5,baz=264,slow=32
TBI Tubuai 70.42 113 *e*S S 03 26 29.8 +1.0
comp=Z,136nm,25.8s
TBI Tubuai 70.42 113 *e*LR LR 03 39 00.0
comp=Z,488nm,33.5s
MK31 Makanchi Array 71.53 322 *e*P **P 03 17 24.5 -0.2**
MKAR Makanchi Array 71.53 322 P **P 03 17 24.2 -0.5**
comp=Z,2.8nm,0.6s,mb4.4,baz=106,slow=7.9,SNR=29
MKAR LR LR 03 50 19.4
comp=Z,79nm,20.7s,MS4.0,baz=249,slow=37
MKAR Makanchi Array 71.53 322 *i* P **P 03 17 24.2 -0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
ZAA0 Zalesovo Array 73.58 329 *e*P **P 03 17 35.3 -1.5**
ZALV Zalesovo Beam 73.58 329 P **P 03 17 35.1 -1.7**
comp=Z,3.4nm,0.7s,mb4.4,baz=106,slow=6.3,SNR=9.3
ZALV LR LR 03 50 26.1
comp=Z,174nm,21.9s,MS4.3,baz=104,slow=36
ZAL Zalesovo 73.59 329 P **P 03 17 35.1 -1.7**
TKM2 Tokmak 2 74.34 316 *e*P **P 03 17 40.9 -0.6**
TKM2 pmax pmax
comp=Z,23nm,0.6s,mb5.3
TKM2 Tokmak 2 74.34 316 *e*P **P 03 17 40.9 -0.6**
comp=Z,23nm,0.6s,mb5.3
VNDA Vanda 74.66 175 P **P 03 17 42.0 -0.8**
comp=Z,5.2nm,0.8s,mb4.5,baz=322,slow=6.6,SNR=33
VNDA LR LR 03 49 57.8
comp=Z,874nm,19.1s,MS5.1,baz=353,slow=35
VNDA Vanda 74.66 175 *e*P **P 03 17 43.3 +0.6**
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA Vanda 74.66 175 *e*P **P 03 17 43.3 +0.6**
comp=Z,8.6nm,1.0s,mb4.6
AML Almayashu 75.40 315 *e*P **P 03 17 48.0 +0.4**
comp=Z,14nm,0.9s,mb4.9
SBA Scott Base 75.41 174 *e*P **P 03 17 49.4 +2.4**
SBA pmax pmax
comp=Z,15nm,1.1s,mb4.8
SBA Scott Base 75.41 174 *e*P **P 03 17 49.4 +2.4**
comp=Z,15nm,1.1s,mb4.8
KURK Kurchatov 75.43 325 *e*P **P 03 17 46.2 -1.4**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KURK Kurchatov 75.43 325 *e*P **P 03 17 46.1 -1.5**
comp=Z,7.0nm,0.8s,mb4.6
EKS2 Erkin-Say 75.51 316 *e*P **P 03 17 47.6 -0.6**
comp=Z,4.1nm,0.8s,mb4.4
EKS2 *e*pP pP 03 18 01.1 +0.6
CHGN Chignik 77.66 30 *e*P **P 03 18 00.2 +0.1**
OHAK Old Harbor 80.61 30 *e*P **P 03 18 16.5 +0.3**
comp=Z,75nm,1.3s,mb5.5
OHAK *e*pP pP 03 18 28.6 0.0
BVAR Borovoye Array 81.02 325 P **P 03 18 16.9 -1.6**
comp=Z,6.2nm,0.5s,mb4.8,baz=110,slow=7.8,SNR=34
SVW2 Sparrevohn 81.06 26 *e*P **P 03 18 19.1 +0.6**
BRVK Borovoye 81.09 325 *e*P **P 03 18 17.9 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BRVK Borovoye 81.09 325 *e*P **P 03 18 17.9 -1.0**
comp=Z,5.9nm,0.6s,mb4.7
KDAK Kodiak Island 81.17 30 P **P 03 18 19.6 +0.4**
comp=Z,134nm,0.7s,mb6.0,SNR=5.4
KDAK Kodiak Island 81.17 30 *e*P **P 03 18 19.3 +0.1**
comp=Z,17nm,0.8s,mb5.0
MAW Mawson 81.80 202 P **P 03 18 23.1 +0.7**
comp=Z,10nm,0.8s,mb4.8,baz=94,slow=7.7,SNR=8.5
MAW LR LR 03 53 07.6
comp=Z,446nm,19.9s,MS4.8,baz=218,slow=34
PPLA Purkeypile 83.25 25 *e*P **P 03 18 29.8 -0.2**
comp=Z,12nm,0.6s,mb5.1
CHUM Lake Minchumin 83.56 24 *e*P **P 03 18 32.0 +0.4**
comp=Z,16nm,0.6s,mb5.3
CHUM *e*pP pP 03 18 43.8 -0.1
RKT Rikitea 83.73 113 *e*PP PP 03 21 47.7 +1.0
comp=Z,788nm,32.8s
RKT Rikitea 83.73 113 *e*LR LR 03 45 11.5
comp=Z,461nm,35.0s
IMA2 Indian Mountai 83.87 22 *e*P **P 03 18 33.3 +0.2**
KTH Kantishna Hill 84.02 25 *e*P **P 03 18 32.9 -1.0**
comp=Z,7.9nm,0.8s,mb4.9
KTH *e*pP pP 03 18 45.1 -1.2
PMR Palmer 84.13 27 *e*P **P 03 18 34.1 -0.4**
PMR *e**PP pP 03 18 45.3 -1.6
PMR pmax pmax
comp=Z,14nm,0.8s,mb5.1
PMR Palmer 84.13 27 *e*P **P 03 18 34.1 -0.4**
comp=Z,14nm,0.8s,mb5.1
PMR *e*pP pP 03 18 45.3 -1.6
TRF Thorofare Moun 84.25 25 *e*P **P 03 18 34.6 -0.4**
comp=Z,4.7nm,0.7s,mb4.7
TRF *e*pP pP 03 18 47.7 +0.2
MCK McKinley 84.92 25 *e*P **P 03 18 36.8 -1.6**
MCK *e**PP pP 03 18 49.3 -1.5
MCK pmax pmax
comp=Z,12nm,0.7s,mb5.1
MCK McKinley 84.92 25 *e*P **P 03 18 36.8 -1.6**
comp=Z,12nm,0.7s,mb5.1
MCK *e*pP pP 03 18 49.3 -1.5
DIV Divide 85.54 28 *e*P **P 03 18 41.9 +0.3**
comp=Z,30nm,0.7s,mb5.6
DIV *e*pP pP 03 18 53.6 -0.4
COLD Coldfoot 85.60 21 *e*P **P 03 18 42.6 +0.8**
comp=Z,9.8nm,0.8s,mb5.1
COLD *e*pP pP 03 18 54.2 0.0
COLA College 85.73 24 *e*P **P 03 18 42.2 -0.2**
BMRM Bremner River 86.05 28 *e*P **P 03 18 44.0 -0.1**
EGAK Eagle 88.47 25 *e*P **P 03 18 56.1 +0.4**
comp=Z,7.1nm,0.8s,mb5.0
EGAK *e*pP pP 03 19 07.7 -0.5
ARU Arti 88.48 327 *d i*P **P 03 18 54.8 -1.2**
ARU *e*S S 03 29 20.3 -18
ARU *e*SS SS 03 35 21.9 -7.7
ARU pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
DAWY Dawson 89.08 26 *e*P **P 03 18 59.4 +0.8**
SYO Syowa Base 90.39 201⇑ *e*P **P 03 19 04.6 -0.1**
SYO Syowa Base 90.39 201⇑ *e*PcP PcP 03 19 06.1 +0.3
INK Inuvik 92.01 22 LR LR 03 56 46.5
comp=Z,307nm,21.2s,MS4.7,baz=240,slow=33
SNAA Sanae 101.05 191 *e*Pdiff Pdif 03 19 54.4 +1.0
SNAA *e* 03 19 59.5
SNAA *e* 03 20 05.0
SNAA *e* 03 20 09.1
SNAA Sanae 101.05 191 *e*P Pdif 03 19 54.0 +0.6
SNAA pmax pmax
comp=Z,6.0nm,1.1s
SNAA Sanae 101.05 191 *e*Pdif Pdif 03 19 54.0 +0.6
comp=Z,6.5nm,1.1s
ARCES ARCESS Array B 101.96 341 P Pdif 03 19 55.5 -2.0
comp=Z,1.8nm,0.6s,baz=90,slow=8.5,SNR=10
CLL Collm 115.43 326 *e*PS PS 03 35 31.0 +3.3
CLL LmV 03 19 00.0
comp=Z,300nm,18.8s
CLL *e*PPS 03 36 37.0
CLL *e*SS SS 03 42 00.0 +18
CLL *e*SSS 03 46 48.0
KHC Kasperske Hory 116.11 324 *e*P 03 21 14.0
KHC *e*x x 03 21 35.5
GERES GERESS Array B 116.17 324 PKP PKPdf 03 24 46.9 0.0
comp=Z,0.5nm,0.5s,baz=31,slow=2.3,SNR=5.6
PLCA Paso Flores 127.55 151 PKP PKPdf 03 25 10.1 +1.0
comp=Z,1.7nm,0.8s,baz=213,slow=5.8,SNR=5.0
TORD Torodi Ar. Bea 138.03 285 PKhKP 03 25 20.5
comp=Z,0.4nm,0.8s,baz=62,slow=2.4,SNR=7.8
TORD PKP PKPdf 03 25 29.4 -0.1
comp=Z,1.0nm,0.8s,baz=71,slow=2.0,SNR=8.8
KIC Kosan Boka 145.06 276 *e*PKP1 PKPbc 03 25 41.8 +0.2
comp=Z,76nm,0.6s
DBIC Dimbokro 145.16 276 PKP PKPdf 03 25 41.4 -0.9
comp=Z,15nm,0.7s,baz=75,slow=5.7,SNR=28
DBIC Dimbokro 145.16 276 *e*PKPbc PKPbc 03 25 41.3 -0.6
DBIC *e*pPKPdf pPKPdf 03 25 53.8 -1.4
TIC Toumodi 145.32 276 *e*PKP1 PKPbc 03 25 41.8 -0.6
comp=Z,51nm,0.6s
LIC Lamto 145.35 276 *e*PKP1 PKPbc 03 25 42.5 0.0
comp=Z,123nm,1.6s
ROSC El Rosal 145.47 87 PKPbc PKPbc 03 25 45.8 +2.9
comp=Z,2.8nm,0.5s,baz=315,slow=4.3,SNR=3.5
LPAZ La Paz 145.59 126 PKPbc PKPbc 03 25 46.0 +2.8
comp=Z,8.4nm,0.8s,baz=248,slow=0.7,SNR=39
LPAZ La Paz 145.59 126 *e*PKPbc PKPbc 03 25 45.5 +2.4
CPUP Villa Florida 145.62 151 PKPbc PKPbc 03 25 43.7 +0.7
comp=Z,18nm,0.9s,baz=214,slow=3.1,SNR=40
CPUP Villa Florida 145.62 151 *e*PKPbc PKPbc 03 25 43.9 +1.0
SDV Santo Domingo 148.86 79 *e*PKPdf PKPdf 03 25 49.1 +0.7
SDV *e*PKPbc PKPbc 03 25 53.5 +1.1
BDFB Brasilia 159.10 157 PKPab PKPab 03 26 40.7 +1.4
comp=Z,3.5nm,0.7s,baz=205,slow=9.8,SNR=9.3

MEX 01 03:11:05.2±0.6, 2446N×10244W, h21km±42km, MD4.6, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNIG	**Linares**	**2.74**	**80**	*i* P	Pn	03 11 46.2	-1.8
LNIG				*i* S	Sn	03 12 16.7	-3.7
HPIG		**3.82**	**311**	*i* P	Pn	03 12 01.0	-1.8
HPIG				*i* S	Sn	03 12 44.4	-2.6
MAIG	**Mazatlaan**	**3.86**	**252**	*e*P	Pn	03 12 18.5	+15
MAIG				*i* S	Sn	03 12 44.8	-3.4
ANIG	**Ahuacatlan**	**3.90**	**210**	*e*P	Pn	03 12 00.9	-2.9
ANIG				*i* S	Sn	03 12 47.0	-2.0
SFJM	**Santa Fe**	**3.99**	**188**	*i* P	Pn	03 12 03.0	-2.2
SFJM				*i* S	Sn	03 12 50.1	-1.2
CGIG		**7.67**	**321**	*e*P	Pn	03 12 54.4	-1.4
CGIG				*i* S	Sn	03 14 18.6	-3.4

MEX 01 03:11:53.5±0.9, 1680N×9513W, h102km±13km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.37**	**39**	*i* P	Pn	03 12 07.7	-1.0
CMIG				*i* S	Sn	03 12 18.1	-1.9
HUIG	**Huatulco**	**1.39**	**223**	*i* P	Pn	03 12 16.8	-1.7
HUIG				*i* S	Sn	03 12 37.0	-0.6
VHO	**Vista Hermosa**	**1.56**	**280**	*i* P	Pn	03 12 20.1	-0.5
VHO				*i* S	Sn	03 12 41.1	-0.1
TGIG		**1.92**	**90**	*e*P	Pn	03 12 23.7	-1.4
TGIG				*i* S	Sn	03 12 46.8	-2.4
UTMO	**Huajuapan**	**2.76**	**292**	*i* P	Pn	03 12 36.0	-0.1
UTMO				*i* S	Sn	03 13 07.3	-1.5
PNIG	**Pinotepa**	**2.91**	**262**	*i* P	Pn	03 12 38.7	+0.7
PNIG				*i* S	Sn	03 13 09.3	-3.1
IIO	**Organos**	**4.41**	**310**	*i* P	Pn	03 13 01.6	+3.5

*ISCJB **01** 03:14:30.4±1.0, 2062S±006×689W±02, h130km±11km, Error ellipse: s-maj=36.4km s-min=8.9km az=3.6*
*NEIC **01** 03:14:31.1±1.1, 2062S×6884W, h117km±13km, mb3.6/2, Error ellipse: s-maj=27.3km s-min=11.7km az=95.0*
*IDC **01** 03:14:32.1±2.6, 2056S×6874W, h125km±27km, mb3.3/2, mb1 3.2/4, mb1mx3.0/18, mbtmp3.0/4, Error ellipse: s-maj=54.4km s-min=20.9km az=94.0*
ISC 01 03:14:31.8±1.0, 2063S±006×688W±02, h120km±12km, n8, σ0§49/10, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.98**	**183**	*e*Pn	**Pn**	**03 15 04.0**	**-1.0**
LVC				*e*Sn	**Sn**	**03 15 30.8**	**+0.4**
LPAZ	**La Paz**	**4.36**	**8**	P	**Pn**	**03 15 36.4**	**+0.2**
	1.0nm,0.3s,baz=182,slow=9.0,SNR=32						
LPAZ				S	**Sn**	**03 16 26.4**	**+0.2**
	0.3nm,0.3s,baz=111,slow=2.5,SNR=5.6						
CPUP	**Villa Florida**	**11.96**	**121**	P	**Pn**	**03 17 18.4**	**+0.1**
	0.2nm,0.3s,baz=264,slow=9.2,SNR=3.2						
TRQA	**Tornquist**	**18.35**	**163**	*e*P	**P**	**03 18 37.2**	**+0.4**
	2.6nm,0.7s						
PLCA	**Paso Flores**	**20.10**	**184**	P	**P**	**03 18 56.5**	**+0.7**
	2.0nm,0.9s,baz=19,slow=11,SNR=4.5						
PLCA	**Paso Flores**	**20.10**	**184**	*e*P	**P**	**03 18 55.9**	**+0.1**
	2.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P	**P**	**03 26 11.1**	**-0.6**
	0.5nm,0.5s,baz=253,slow=4.6,SNR=9.3						
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P	**P**	**03 26 11.1**	**-0.6**

*NEIC **01** 03:15:04.9, 3586S×7136W, h103km, MD3.5(GUC), After GUC.*
GUC 01 03:15:04.9±0.6, 3586S×7136W, h103km±5km, MD3.5, ML3.1, 4C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.51**	**334**	*e*P	Pn	03 15 20.7	-0.3
TALC				*i* S	Sn	03 15 33.4	+0.3
TALC				AML	AML	03 15 34.5	
	comp=E,4μm,0.1s						
TALC	**Talca**	**0.51**	**334**	*e*P	Pn	03 15 20.7	-0.3
TALC				*i* S	Sn	03 15 33.4	+0.3
CCHI	**Chillan**	**0.94**	**218⇑**	*e*P	Pn	03 15 24.9	0.0
CCHI				*i* S	Sn	03 15 40.5	+0.4
CCHI				AML	AML	03 15 41.0	
	comp=N,231nm,0.2s						
CCHI	**Chillan**	**0.94**	**218⇑**	*e*P	Pn	03 15 24.9	0.0
CCHI				*i* S	Sn	03 15 40.5	+0.4
CNCO	**Chanco**	**0.96**	**277⇓**	*e*P	Pn	03 15 25.4	+0.3
CNCO				*i* S	Sn	03 15 40.9	+0.5
SFDO	**San Fernando**	**1.27**	**13⇓**	*i* P	Pn	03 15 29.0	+0.4
SFDO				*i* S	Sn	03 15 47.5	+1.1
CICH	**Cipreses**	**1.71**	**27**	*e*P	Pn	03 15 34.5	+0.5
CICH				*i* S	Sn	03 15 57.2	+1.2
LNV	**Longovilo**	**1.90**	**359**	*e*P	Pn	03 15 36.6	+0.3
LNV				*i* S	Sn	03 16 00.3	+0.1
LMEL	**Las Melosas**	**2.22**	**26⇑**	*e*P	Pn	03 15 41.5	+1.1
LMEL				*i* S	Sn	03 16 08.8	+1.3
LMEL				AML	AML	03 16 14.0	
	comp=N,73nm,0.2s						
LMEL	**Las Melosas**	**2.22**	**26⇑**	*e*P	Pn	03 15 41.5	+1.1
LMEL				*i* S	Sn	03 16 08.8	+1.3
TACH	**Talagante**	**2.23**	**9**	*i* P	Pn	03 15 40.4	-0.1
TACH				*i* S	Sn	03 16 06.9	-0.8
PCH	**Pirque**	**2.34**	**18**	*i* S	Sn	03 16 10.9	+0.6

IDC 01 03:22:08.0±1.2, 2079S×17554W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.9/18, mbtmp3.8/6, ML4.3/1, Error ellipse: s-maj=39.5km s-min=27.4km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.54**	**198**	P	Pn	03 26 24.2	-2.1
	0.9nm,0.3s,baz=21,slow=14,SNR=5.9						
STKA	**Stephens Creek**	**39.75**	**245**	P	P	03 29 43.9	+1.3
	1.5nm,0.7s,baz=99,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**46.70**	**257**	P	P	03 30 38.8	-0.1
	0.5nm,0.6s,baz=86,slow=7.7,SNR=6.2						
WRA	**Warramunga Arr**	**46.84**	**262**	P	P	03 30 39.4	-0.7
	0.4nm,0.7s,baz=95,slow=8.1,SNR=7.6						
VNDA	**Vanda**	**57.84**	**186**	P	P	03 32 01.1	+0.2
	0.5nm,0.8s,baz=2.8,slow=5.5,SNR=2.7						
NVAR	**Mina Array Bea**	**79.67**	**42**	P	P	03 34 17.9	+0.4
	0.9nm,0.6s,baz=219,slow=7.0,SNR=7.4						

MEX 01 03:41:29.3±0.6, 1681N×9971W, h4km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.20**	**285**	*i* P	Pg	03 41 32.8	-0.5
ACX				*i* S	Sg	03 41 36.1	+0.1
CAIG	**El Cayaco**	**0.58**	**294**	*i* P	Pg	03 41 40.3	-0.2
CAIG				*i* S	Sg	03 41 48.7	+0.6
MEIG	**Mezcala**	**1.11**	**4**	*i* P	Pg	03 41 48.2	-2.5
MEIG				*i* S	Sg	03 42 01.9	-3.1
PNIG	**Pinotepa**	**1.57**	**105**	*i* P	Pn	03 41 55.7	-2.3
PNIG				*i* S	Sn	03 42 13.4	-5.4
UTMO	**Huajuapan**	**2.08**	**61**	*i* P	Pn	03 41 56.8	-8.2
UTMO				*i* P		03 42 01.9	
UTMO				*i* S	Sn	03 42 26.2	-5.2

*NIED **01** 03:45:00, 2730N×12670E, h5km, Mw4.0 Best double couple: M0 9.53000×10^14 NP1:φ0 68.00000°, δ46.00000°, λ-77.00000°. NP2:φ0 229.00000°, δ45.00000°, λ-104.00000°.*
*JMA **01** 03:45:46.7±0.4, 2735N×12673E, h7km±5km, M3.8*
*IDC **01** 03:45:47.2±0.8, 2727N×12687E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.8/24, mbtmp3.9/9, ML3.3/1, Error ellipse: s-maj=26.7km s-min=14.1km az=50.0*
*ISCJB **01** 03:45:48.7±1.1, 2731N±004×12677E±005, h18km±8km, mb4.0/10, Error ellipse: s-maj=7.9km s-min=6.9km az=38.2*
*NEIC **01** 03:45:49.0±0.4, 2729N×12683E, h10km, mb4.1/2, Error ellipse: s-maj=22.3km s-min=7.7km az=45.0*
ISC 01 03:45:48.7±1.0, 2728N±004×12681E±004, h6km±7km, n23, σ0§86/30, mb4.0/10, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.79**	**151**	P	**Pg**	**03 46 03.6**	**-0.3**
JAGN				S	**Sg**	**03 46 15.0**	**+0.9**
JKE	**Kume jima 2**	**0.95**	**181**	P	**Pg**	**03 46 05.8**	**-1.2**
JKE				S	**Sg**	**03 46 19.2**	**-0.1**
JIH	**Iheya**	**1.06**	**103**	P	**Pg**	**03 46 08.0**	**-1.0**
JIH				S	**Sg**	**03 46 23.2**	**+0.5**
NAH1	**Naha**	**1.33**	**144**	P	**Pn**	**03 46 13.4**	**-0.3**
NAH1				*e*S	**Sb**	**03 46 31.7**	**+0.4**
JOW	**Kunigami**	**1.38**	**109**	P	**Pn**	**03 46 12.9**	**-1.5**
JOW				*e*S	**Sb**	**03 46 32.9**	**+0.2**
JOW	**Kunigami**	**1.38**	**109**	Pn	**Pn**	**03 46 13.1**	**-1.3**
	47nm,0.3s,baz=292,slow=9.4,SNR=39						
JOW				Sn	**Sn**	**03 46 31.5**	**-1.4**
	245nm,0.3s,baz=108,slow=22,SNR=23						
JJT2	**Tamagusuku 2**	**1.41**	**143**	P	**Pn**	**03 46 14.5**	**-0.4**
JJT2				*e*S	**Sb**	**03 46 34.6**	**+0.9**
JAM	**Amami Oshima**	**2.72**	**65**	P	**Pn**	**03 46 34.7**	**+1.9**
JTJ	**Tarama**	**3.24**	**216**	P	**Pn**	**03 46 42.1**	**+2.0**
KSRS	**Korea Array**	**10.19**	**5**	Pn	**Pn**	**03 48 16.5**	**+1.1**
	0.3nm,0.3s,baz=271,slow=24,SNR=4.1						
GUMO	**Guam**	**21.68**	**125**	*e*P	**P**	**03 50 41.5**	**+1.3**
	86nm,0.6s						
SONM	**Songino Array**	**25.99**	**328**	P	**P**	**03 51 22.2**	**+0.2**
	1.5nm,0.7s,mb3.6,baz=140,slow=9.4,SNR=6.6						
MK31	**Makanchi Array**	**39.89**	**311**	*e*P	**P**	**03 53 23.4**	**+0.2**
MKAR	**Makanchi Array**	**39.89**	**311**	P	**P**	**03 53 22.6**	**-0.6**
	1.2nm,0.6s,mb3.8,baz=103,slow=10,SNR=14						
ZALV	**Zalesovo Beam**	**40.65**	**323**	P	**P**	**03 53 29.0**	**-0.3**
	1.6nm,0.5s,mb3.9,baz=116,slow=6.9,SNR=5.0						
KURK	**Kurchatov**	**43.19**	**316**	*e*P	**P**	**03 53 49.6**	**-0.5**
	1.8nm,0.8s,mb3.9						
TKM2	**Tokmak 2**	**44.04**	**305**	*e*P	**P**	**03 53 57.5**	**+0.3**
	4.7nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**47.51**	**170**	P	**P**	**03 54 23.7**	**-1.0**
	1.3nm,0.7s,mb4.1,baz=353,slow=8.7,SNR=9.3						
BVAR	**Borovoye Array**	**48.65**	**318**	P	**P**	**03 54 33.2**	**0.0**
	0.9nm,0.6s,mb4.0,baz=120,slow=8.7,SNR=4.8						
ASAR	**Alice Springs**	**51.11**	**172**	P	**P**	**03 54 51.9**	**-0.3**
	0.7nm,0.6s,mb3.8,baz=360,slow=14,SNR=10						
STKA	**Stephens Creek**	**60.49**	**166**	P	**P**	**03 55 59.4**	**0.0**
	3.2nm,0.9s,mb4.3,baz=322,slow=12,SNR=2.9						
INK	**Inuvik**	**68.43**	**23**	P	**P**	**03 56 50.4**	**-0.5**
	1.1nm,0.8s,mb3.9,baz=323,slow=10,SNR=4.9						
INK	**Inuvik**	**68.43**	**23**	P	**P**	**03 56 50.4**	**-0.5**

*BJI **01** 03:46:44.0,2176N×14433E,h118km,mB4.8,mb5.0*
*ISCJB **01** 03:46:51.8±1.1,2234N±005×14346E±008,h121km±9km, mb4.8/55, Error ellipse: s-maj=11.8km s-min=8.2km az=170.6*
*NEIC **01** 03:46:52.9±1.3,2234N×14345E,h118km±12km,mb4.9/10, Error ellipse: s-maj=14.8km s-min=7.6km az=75.0*
*IDC **01** 03:46:53.9±0.5,2235N×14336E,h124km±4km,mb4.1/19, mb1 4.2/22,mb1mx4.2/26,mbtmp4.1/22,Error ellipse: s-maj=15.6km s-min=7.9km az=79.0*
*MOS **01** 03:46:53.0±0.8,2229N×14346E,h137km,mb4.6/25,Error ellipse: s-maj=18.3km s-min=7.4km az=112.8*

ISC 01 03:46:53.1±1.0,2235N±005×14353E±008,h119km±8km, h129km±6.0km:pP-P,n114,σ0§86/108,mb4.8/55,2C-2D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.88**	**346**	P	**Pn**	**03 48 05.0**	**+0.6**
	122nm,0.3s,baz=107,slow=23,SNR=24						
CBIJ				S	**Sn**	**03 48 59.0**	**-0.8**
	408nm,0.3s,baz=262,slow=22,SNR=21						
GUMO	**Guam**	**8.80**	**171**	P	**Pn**	**03 48 57.7**	**+0.1**
	4.7nm,0.3s,baz=250,slow=2.3,SNR=3.9						
GUMO				S	**Sn**	**03 50 41.0**	**+5.9**
	34nm,0.3s,baz=187,slow=23,SNR=10						
MJAR	**Matsushiro Arr**	**14.88**	**343**	P	**Pn**	**03 50 16.3**	**-1.1**
	1.4nm,0.3s,baz=161,slow=8.7,SNR=18						
MJAR	**Matsushiro Arr**	**14.88**	**343**	P	**Pn**	**03 50 16.3**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**14.88**	**343**	*e*P	**Pn**	**03 50 11.3**	**-6.1**
MAJO				pmax	pmax		
	comp=Z,19nm,0.4s						
MAJO	**Matsushiro**	**14.88**	**343**	*e*P	**Pn**	**03 50 11.2**	**-6.1**
	comp=Z,19nm,0.4s						
MAT	**Matsushiro**	**14.88**	**343**	P	**Pn**	**03 50 16.7**	**-0.7**
KSRS	**Korea Array**	**20.20**	**322**	P	**P**	**03 51 19.4**	**+1.0**
	comp=Z,31nm,0.5s,baz=146,slow=8.8,SNR=66						
KSRS	**Korea Array**	**20.20**	**322**	P	**P**	**03 51 19.4**	**+1.0**
KSRS				pmax	pmax		
	comp=Z,31nm,0.5s						
ASAJ	**Asahikawa**	**21.73**	**358**	P	**P**	**03 51 36.0**	**+1.3**
	comp=Z,9.9nm,0.7s,mb4.3,baz=200,slow=11,SNR=8.1						
ASAJ	**Asahikawa**	**21.73**	**358**	P	**P**	**03 51 36.0**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDJ	**Mudanjiang**	**25.00**	**336**	P	**P**	**03 52 06.7**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,57nm,4.8s						
WHN	**Wuhan**	**27.31**	**294**	*e*P	**P**	**03 52 30.0**	**+3.3**
KLR	**Kul'dur**	**28.41**	**344⇑**	*i*P	**P**	**03 52 33.6**	**-2.6**
KLR				pmax	pmax		
	comp=E,40nm,0.7s						
KLR				pmax	pmax		
	comp=Z,76nm,0.7s,mb5.3						
CD2	**Chengdu**	**36.40**	**292**	P	**P**	**03 53 46.0**	**-0.2**
CD2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
CD2				AMB	AMB		
	comp=Z,50nm,6.2s						
KMI	**Kunming**	**37.34**	**283**	P	**P**	**03 53 54.6**	**+0.4**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
SONM	**Songino Array**	**39.05**	**320**	P	**P**	**03 54 08.6**	**+0.4**
	comp=Z,6.2nm,0.7s,mb4.5,baz=128,slow=8.5,SNR=26						
SONM	**Songino Array**	**39.05**	**320**	P	**P**	**03 54 08.6**	**+0.4**
SONM				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA	**Gaotai**	**40.76**	**305**	*e*P	**P**	**03 54 23.8**	**+1.3**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.5						
YAK	**Yakutsk**	**40.78**	**350**	*e*P	**P**	**03 54 22.4**	**+0.1**
YAK				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.2						
BOD	**Bodaibo**	**41.37**	**336**	*e*P	**P**	**03 54 26.6**	**-0.6**
BOD				pmax	pmax		
	comp=Z,3.0nm,2.1s,mb3.8						
CMAR	**Chiang Mai Arr**	**41.85**	**273**	P	**P**	**03 54 30.8**	**-0.9**
	comp=Z,1.4nm,0.3s,mb4.1,baz=61,slow=8.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**41.85**	**273**	P	**P**	**03 54 30.8**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAK	**Zakamensk**	**42.03**	**322⇓**	*i*P	**P**	**03 54 33.1**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
CTA	**Charters Tower**	**42.26**	**176**	P	**P**	**03 54 33.8**	**-1.0**
	comp=Z,2.6nm,0.4s,mb4.3,baz=356,slow=9.1,SNR=4.8						
CTA	**Charters Tower**	**42.26**	**176**	P	**P**	**03 54 33.8**	**-1.0**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRA	**Warramunga Arr**	**42.98**	**193**	P	**P**	**03 54 40.0**	**-0.6**
	comp=Z,2.1nm,0.3s,mb4.3,baz=16,slow=9.2,SNR=70						
WRA				pP	pP	03 55 08.7	+0.8
	comp=Z,2.5nm,0.6s,baz=15,slow=9.0,SNR=3.6						
WRA				PcP	PcP	03 56 29.4	+0.3
	comp=Z,1.7nm,0.7s,baz=5.8,slow=3.5,SNR=6.5						
WRA				ScP	ScP	04 00 08.1	-1.1
	comp=Z,2.9nm,0.9s,baz=7.1,slow=4.3,SNR=5.6						
WRA	**Warramunga Arr**	**42.98**	**193**	P	**P**	**03 54 40.0**	**-0.6**
WRA				*PP	pP	03 55 08.7	+0.9
WRA						03 56 29.4	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA				pmax	pmax		
	comp=N,3.0nm,1.0s						
ASAR	**Alice Springs**	**46.69**	**192**	P	**P**	**03 55 08.5**	**-1.5**
	comp=N,0.9nm,0.6s,baz=9.0,slow=6.9,SNR=6.9						
ASAR				pP	pP	03 55 39.5	+2.0
	comp=N,0.8nm,0.7s,baz=14,slow=5.9,SNR=2.7						
ASAR				PcP	PcP	03 56 41.8	+0.1
	comp=N,0.6nm,0.7s,baz=46,slow=3.6,SNR=4.2						
ASAR				ScP	ScP	04 00 23.6	-0.8
	comp=N,1.3nm,0.8s,baz=15,slow=4.8,SNR=3.1						
ASAR	**Alice Springs**	**46.69**	**192**	P	**P**	**03 55 08.5**	**-1.5**
ASAR				*PP	pP	03 55 39.6	+2.1
ASAR						03 56 41.8	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.9s						
LSA	**Lhasa**	**47.31**	**290**	P	**P**	**03 55 16.8**	**+1.9**
HVS	**Khovu-Aksy**	**47.94**	**320***c*	*i*P	**P**	**03 55 20.2**	**+0.8**
HVS				pmax	pmax		
	comp=Z,96nm,0.9s,mb5.6						
TAPN	**Taplejung**	**50.55**	**288**	*e*P	**P**	**03 55 40.3**	**+0.6**
	comp=Z,40nm,0.4s,mb5.8						
ODAN	**Odare**	**50.90**	**287**	*e*P	**P**	**03 55 42.5**	**+0.2**
	comp=Z,31nm,0.4s,mb5.7						
RAMN	**Ramite**	**51.58**	**287**	*e*P	**P**	**03 55 47.6**	**+0.2**
	comp=Z,21nm,0.5s,mb5.4						
JIRN	**Jiri**	**51.85**	**288**	*e*P	**P**	**03 55 50.2**	**+0.8**
	comp=Z,93nm,0.5s						
GUN	**Gumba**	**52.09**	**289**	*e*P	**P**	**03 55 51.7**	**+0.6**
	comp=Z,54nm,0.5s,mb5.8						
PKI	**Pulchoki**	**52.55**	**288**	*e*P	**P**	**03 55 54.6**	**+0.1**
KKN	**Kakani**	**52.63**	**289**	*e*P	**P**	**03 55 55.3**	**+0.2**
	comp=Z,19nm,0.3s,mb5.6						
DMN	**Daman**	**52.81**	**288**	*e*P	**P**	**03 55 56.7**	**+0.3**
	comp=Z,30nm,0.4s,mb5.7						
GKN	**Gorkha**	**53.16**	**289**	*e*P	**P**	**03 55 59.2**	**+0.1**
	comp=Z,3.5nm,0.3s,mb4.8						
DANN	**Dangsing**	**53.88**	**289**	*e*P	**P**	**03 56 05.2**	**+0.9**
	comp=Z,219nm,0.4s						
ZAA0	**Zalesovo Array**	**53.90**	**321**	*e*P	**P**	**03 56 03.3**	**-0.7**
ZALV	**Zalesovo Beam**	**53.90**	**321**	P	**P**	**03 56 03.6**	**-0.3**
	comp=Z,18nm,0.5s,mb5.4,baz=115,slow=9.2,SNR=49						
ZALV				PcP	PcP	03 57 06.7	-1.3
	comp=Z,3.8nm,0.6s,baz=130,slow=4.6,SNR=5.0						
ZAL	**Zalesovo**	**53.91**	**321**	P	**P**	**03 56 03.7**	**-0.4**
ZAL						03 57 06.7	
ZAL				pmax	pmax		
	comp=Z,18nm,0.5s						
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
STKA	**Stephens Creek**	**53.95**	**182**	P	**P**	**03 56 05.2**	**+0.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=355,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**53.95**	**182**	P	**P**	**03 56 05.2**	**+0.6**
KOLN	**Koldanda**	**54.10**	**289**	*e*P	**P**	**03 56 06.3**	**+0.4**
	comp=Z,22nm,0.3s,mb5.7						
MK31	**Makanchi Array**	**54.49**	**312**	*i*P	**P**	**03 56 08.6**	**+0.2**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
MKAR	**Makanchi Array**	**54.49**	**312**	P	**P**	**03 56 08.8**	**+0.3**
	comp=Z,4.9nm,0.4s,mb4.9,baz=90,slow=8.8,SNR=67						
MKAR				pP	pP	03 56 36.5	-0.3
	comp=Z,1.0nm,0.5s,baz=92,slow=10,SNR=2.1						
MKAR				PcP	PcP	03 57 09.7	-0.7
	comp=Z,1.5nm,0.6s,baz=86,slow=6.6,SNR=4.6						
MKAR	**Makanchi Array**	**54.49**	**312**	P	**P**	**03 56 08.8**	**+0.4**
MKAR				*PP	pP	03 56 36.5	-0.2
MKAR						03 57 09.7	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**54.49**	**312**	P	**P**	**03 56 08.8**	**+0.3**
MKAR				pP	pP	03 56 36.5	-0.3
MKAR				PcP	PcP	03 57 09.7	-0.7
NVS	**Novosibirsk**	**54.99**	**322**	*e*P	**P**	**03 56 11.5**	**-0.3**
KURK	**Kurchatov**	**57.22**	**317**	*e*P	**P**	**03 56 27.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
KURK	**Kurchatov**	**57.22**	**317**	*e*P	**P**	**03 56 27.6**	**-0.2**
	comp=Z,12nm,0.7s,mb5.0						
KDAK	**Kodiak Island**	**57.49**	**35**	P	**P**	**03 56 30.3**	**+0.8**
	comp=Z,1.6nm,0.3s,mb4.6,baz=314,slow=3.4,SNR=6.2						
KDAK	**Kodiak Island**	**57.49**	**35**	P	**P**	**03 56 30.3**	**+0.8**
KDAK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
TKM2	**Tokmak 2**	**59.20**	**308**	*e*P	**P**	**03 56 42.6**	**+0.9**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
TKM2	**Tokmak 2**	**59.20**	**308**	*e*P	**P**	**03 56 42.6**	**+0.9**
	comp=Z,3.6nm,0.5s,mb4.7						
EKS2	**Erkin-Say**	**60.55**	**307**	*e*P	**P**	**03 56 51.0**	**+0.1**
	comp=Z,2.5nm,0.6s,mb4.4						
BVA0	**Borovoye Array**	**62.39**	**319**	*i*P	**P**	**03 57 03.1**	**0.0**
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BVAR	**Borovoye Array**	**62.39**	**319**	P	**P**	**03 57 03.4**	**+0.3**
	comp=Z,36nm,0.6s,mb5.6,baz=93,slow=7.8,SNR=139						
BVAR	**Borovoye Array**	**62.39**	**319**	P	**P**	**03 57 03.4**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,36nm,0.6s						
BRVK	**Borovoye**	**62.45**	**319**	*e*P	**P**	**03 57 03.3**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
BRVK	**Borovoye**	**62.45**	**319**	*e*P	**P**	**03 57 03.3**	**-0.2**
	comp=Z,10nm,0.5s,mb5.1						
KBL	**Kabul**	**65.30**	**299**	*e*P	**P**	**03 57 22.5**	**-0.1**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.0						
KBL	**Kabul**	**65.30**	**299**	*e*P	**P**	**03 57 22.4**	**-0.1**
	comp=Z,8.6nm,0.4s,mb4.9						
INK	**Inuvik**	**66.85**	**24**	P	**P**	**03 57 32.3**	**+0.5**
	comp=Z,2.9nm,0.9s,mb4.1,baz=313,slow=10,SNR=6.6						
INK	**Inuvik**	**66.85**	**24**	P	**P**	**03 57 32.3**	**+0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	**Arti**	**68.93**	**324⇓**	*i*P	**P**	**03 57 44.7**	**-0.4**
ARU				*e*PP	PP	04 00 14.7	-3.8
ARU				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.9						
ARU	**Arti**	**68.93**	**324**	*e*P	**P**	**03 57 44.7**	**-0.3**
	comp=Z,28nm,1.1s,mb5.0						
AB31	**Akbulak array**	**69.31**	**316**	*i*P	**P**	**03 57 47.0**	**-0.5**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**75.73**	**28**	P	**P**	**03 58 25.2**	**-0.2**
	comp=Z,2.1nm,0.4s,mb4.2,baz=291,slow=5.4,SNR=5.5						
YKA	**Yellowknife Ar**	**75.73**	**28**	P	**P**	**03 58 25.2**	**-0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YKA	**Yellowknife Ar**	**75.73**	**28**	P	**P**	**03 58 25.2**	**-0.2**
KLMR	**Klimovskoe**	**77.29**	**331**	*e*P	**P**	**03 58 33.3**	**-0.9**
ARCES	**ARCESS Array B**	**78.41**	**342**	P	**P**	**03 58 40.2**	**0.0**
	comp=Z,18nm,0.6s,mb5.0,baz=72,slow=8.4,SNR=81						
ARCES	**ARCESS Array B**	**78.41**	**342**	P	**P**	**03 58 40.3**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,18nm,0.6s						
KTK1	**Kautokeino**	**79.37**	**342**	*e*P	**P**	**03 58 46.0**	**+0.6**
KTK1				AMb	AMB	03 58 50.1	
	comp=Z,21nm,1.3s,mb4.8						
KTK1	**Kautokeino**	**79.37**	**342**	*e*P	**P**	**03 58 46.0**	**+0.6**
	comp=Z,21nm,1.3s,mb4.8						
TRO	**Tromso**	**80.21**	**343**	*e*P	**P**	**03 58 49.5**	**-0.5**
TRO				AMb	AMB	03 58 53.3	
	comp=Z,30nm,1.5s,mb4.9						
TRO	**Tromso**	**80.21**	**343**	*e*P	**P**	**03 58 49.6**	**-0.3**
CMB	**Columbia Colle**	**81.12**	**53**	*e*P	**P**	**03 58 56.8**	**+1.4**
	comp=Z,1.2nm,0.6s,mb3.9						
KIV	**Kislovodsk**	**82.20**	**314**	*e*P	**P**	**03 59 01.4**	**+0.4**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
STEI	**Steigen**	**82.34**	**343**	*e*P	**P**	**03 59 00.9**	**-0.3**
STEI				AMb	AMB	03 59 09.3	
	comp=Z,40nm,1.8s,mb5.0						
NVAR	**Mina Array Bea**	**82.49**	**52**	P	**P**	**03 59 04.1**	**+1.5**
	comp=Z,1.1nm,0.7s,mb3.8,baz=292,slow=4.8,SNR=7.3						
UMR	**Umm Al-Rimmam**	**84.04**	**299**	*e*P	**P**	**03 59 09.9**	**-0.8**
	baz=298						
STOK	**Stokkvaagen**	**84.08**	**342**	*e*P	**P**	**03 59 09.4**	**-0.8**
STOK				AMb	AMB	03 59 24.9	
	comp=Z,67nm,1.6s,mb5.2						
MIB	**Mutribah**	**84.25**	**300**	*e*P	**P**	**03 59 11.4**	**-0.5**
	baz=298						
MIB				AMb	AMB	03 59 12.1	
	comp=Z,56nm,0.8s,mb5.5,baz=298						
RDF	**Al-Radifah**	**84.41**	**299**	*e*P	**P**	**03 59 12.6**	**0.0**
	baz=298						
RDF				AMb	AMB	03 59 14.1	
	comp=Z,21nm,0.4s,mb5.3,baz=298						
NAY	**Al-Naaiem**	**84.54**	**299**	*e*P	**P**	**03 59 12.6**	**-0.7**
	baz=298						
NAY				AMb	AMB	03 59 13.9	
	comp=Z,33nm,0.8s,mb5.3,baz=298						
DUG	**Dugway**	**85.67**	**48**	*e*P	**P**	**03 59 20.0**	**+1.3**
	comp=Z,1.9nm,0.5s,mb4.3						
NSS	**Namsos**	**85.68**	**341**	*e*P	**P**	**03 59 16.1**	**-2.1**
NSS				AMb	AMB	03 59 21.2	
	comp=Z,40nm,1.6s,mb5.1						
NSS	**Namsos**	**85.68**	**341**	*e*P	**P**	**03 59 16.1**	**-2.1**
	comp=Z,40nm,1.6s,mb5.1						
PDAR	**Pinedale Array**	**86.71**	**45**	P	**P**	**03 59 24.7**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=285,slow=2.9,SNR=4.1						
PDAR				pP	pP	03 59 58.0	+3.6
	comp=Z,0.4nm,0.5s,baz=199,slow=1.3,SNR=3.3						
AKASG	**Malin Array Be**	**87.17**	**325**	P	**P**	**03 59 24.0**	**-1.8**
	comp=Z,2.6nm,0.5s,mb4.4,baz=52,slow=5.0,SNR=8.8						
AKASG	**Malin Array Be**	**87.17**	**325**	P	**P**	**03 59 24.0**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	**Malin Array Be**	**87.17**	**325**	P	**P**	**03 59 24.0**	**-1.8**
MALT	**Malatya**	**87.50**	**311**	*e*P	**P**	**03 59 27.9**	**+0.2**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MALT	**Malatya**	**87.50**	**311**	*e*P	**P**	**03 59 27.9**	**+0.2**
	comp=Z,3.2nm,0.8s,mb4.3						
NB2	**NORSAR Subarra**	**88.46**	**339**	P	**P**	**03 59 30.1**	**-1.6**
	comp=Z,4.0nm,0.5s,mb4.7,baz=43,slow=5.1						
NOA	**NORSAR Array B**	**88.46**	**339**	P	**P**	**03 59 29.8**	**-1.9**
	comp=Z,4.0nm,0.6s,mb4.6,baz=45,slow=4.6,SNR=17						
NOA	**NORSAR Array B**	**88.46**	**339**	P	**P**	**03 59 29.8**	**-1.9**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CLL	**Collm**	**94.78**	**331**	*e*P	**P**	**04 00 00.0**	**-1.2**
GERES	**GERESS Array B**	**96.19**	**329**	P	**P**	**04 00 06.3**	**-1.3**
	comp=Z,0.5nm,0.6s,mb4.1,baz=28,slow=6.0,SNR=5.2						
GERES	**GERESS Array B**	**96.19**	**329**	P	**P**	**04 00 06.3**	**-1.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**128.58**	**310**	PKP	PKPdf	04 05 46.8	-0.2
	comp=Z,0.7nm,0.5s,baz=44,slow=0.9,SNR=24						
DBIC	**Dimbokro**	**137.69**	**309**	PKP	PKPdf	04 06 05.5	+1.3
	comp=Z,1.2nm,0.5s,baz=177,slow=12,SNR=3.7						
DBIC	**Dimbokro**	**137.69**	**309**	PKIKP	PKPdf	04 06 05.5	+1.4
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PLCA	**Paso Flores**	**145.94**	**131**	PKPbc	PKPbc	04 06 20.1	+1.2
	comp=Z,2.5nm,0.4s,baz=259,slow=1.1,SNR=20						
PLCA				pPKPbc	pPKPbc	04 06 50.0	-0.7
	comp=Z,1.6nm,0.6s,baz=227,slow=7.8,SNR=2.6						
PLCA	**Paso Flores**	**145.94**	**131**	PKP2	PKPab	04 06 20.1	+0.5
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LPAZ	**La Paz**	**149.56**	**84**	PKPbc	PKPbc	04 06 30.9	+1.5
	comp=Z,1.5nm,0.6s,baz=36,slow=1.6,SNR=10						
LPAZ				PKPab	PKPab	04 06 36.0	+1.3
	comp=Z,1.3nm,0.6s,baz=247,slow=8.2,SNR=8.4						
LPAZ				pPKPbc	pPKPbc	04 07 04.3	+3.0
	comp=Z,1.5nm,0.7s,baz=334,slow=4.5,SNR=3.3						
LPAZ	**La Paz**	**149.56**	**84**	PKP2	PKPbc	04 06 30.9	+1.6
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPAZ	**La Paz**	**149.56**	**84**	PKPbc	PKPbc	04 06 30.9	+1.5
LPAZ				PKPab	PKPab	04 06 36.0	+1.3
LPAZ				pPKPbc	pPKPbc	04 07 04.3	+3.0

*NIED **01** 03:50:00,2950N×13080E,h11km,Mw4.6 Best double couple: M0:8.76000×10^15 NP1:φ0:177.00000°,δ83.00000°, λ-99.00000°. NP2:φ0:50.00000°,δ12.00000°,λ-37.00000°.*
*BJI **01** 03:50:18.9,2979N×13096E,h36km,mB4.5,mb4.6,Ms3.9, Msz3.7*
*MOS **01** 03:50:20.6±0.9,2957N×13063E,h42km,mb4.7/19,Error ellipse: s-maj=13.7km s-min=9.1km az=88.7*
*JMA **01** 03:50:20.3,2946N×13077E,h69km±2km,M4.4*
*ISCJB **01** 03:50:21.2±0.6,2949N±003×13067E±005,h41km±4km, mb4.5/43,MS3.8/9,Error ellipse: s-maj=7.7km s-min=4.2km az=25.3*
*IDC **01** 03:50:23.9±2.9,2959N×13073E,h54km±25km,mb4.0/14, mb1 4.1/17,mb1mx4.0/27,mbtmp4.0/17,ML4.1/3,MS3.7/12, Ms1 3.7/12,ms1mx3.5/34,Error ellipse: s-maj=20.8km s-min=16.1km az=84.0*
*NEIC **01** 03:50:24.3±5.8,3040N×13067E,h26km±42km,mb4.7/27, MW4.6(NIED),Error ellipse: s-maj=12.4km s-min=9.6km az=66.0*

ISC 01 03:50:22.1±0.5,2949N±003×13069E±005,h38km±4km, n278,σ0§63/271,mb4.5/43,MS3.8/9,76C-79D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.79**	**297**	P	**Pn**	**03 50 37.0**	**+0.2**
JNN				S	**Sn**	**03 50 50.1**	**+2.7**
JKC	**Kuchinoerabu**	**1.06**	**336**	P	**Pn**	**03 50 40.7**	**+0.2**
JKC				S	**Sn**	**03 50 55.7**	**+1.7**
JTN	**Tanegashima 3**	**1.19**	**12**	P	**Pn**	**03 50 41.3**	**-0.9**
JTN				S	**Sn**	**03 50 56.7**	**-0.5**
JZK	**Kikaishima**	**1.33**	**209**	P	**Pn**	**03 50 43.7**	**-0.5**
JAM	**Amami Oshima**	**1.44**	**222**	P	**Pn**	**03 50 44.8**	**-0.8**
JAM				*e*S	**Sn**	**03 51 03.6**	**+0.4**
JTSR	**Tashiro 2**	**1.68**	**7**	P	**Pn**	**03 50 48.5**	**-0.5**
JTSR				*e*S	**Sn**	**03 51 09.8**	**+0.4**
JSU	**Suzuyama**	**2.02**	**354**	P	**Pn**	**03 50 53.1**	**-0.6**
JSU				*e*S	**Sn**	**03 51 18.5**	**+0.8**
JNAR	**Kushima--Naru**	**2.09**	**14**	P	**Pn**	**03 50 54.3**	**-0.3**
JTK	**Tokunoshima**	**2.29**	**222**	P	**Pn**	**03 50 56.9**	**-0.4**
JTK				*e*S	**Sn**	**03 51 24.5**	**+0.3**
JSJ	**Shimokoshiki**	**2.34**	**339**	P	**Pn**	**03 50 57.8**	**-0.2**
JSJ				*e*S	**Sn**	**03 51 25.4**	**-0.1**
JTZ	**Takazaki**	**2.43**	**8**	P	**Pn**	**03 50 59.2**	**-0.1**
JOW	**Kunigami**	**3.40**	**219**	P	Px	03 51 23.8	
	51nm,0.3s,baz=64,slow=16,SNR=3.7						
JOW				S	**Sn**	**03 52 03.5**	**+12**
	baz=172,slow=27,SNR=2.5						
JOW				LR	LR	03 53 01.5	
	comp=Z,2μm,18.4s,baz=21,slow=45						
KSRS	**Korea Array**	**8.27**	**345**	P	**Pn**	**03 52 21.6**	**+2.1**
	0.4nm,0.3s,baz=160,slow=15,SNR=4.9						
KSRS				LR	LR	03 55 10.8	
	comp=Z,54nm,19.9s,baz=166,slow=35						
JHJ	**Hachijo jima 2**	**8.58**	**63**	P	**Pn**	**03 52 23.7**	**0.0**
	38nm,0.3s,baz=96,slow=8.5,SNR=8.7						
JHJ				LR	LR	03 55 25.7	
	comp=Z,390nm,18.2s,baz=274,slow=35						
MAJO	**Matsushiro**	**9.45**	**40**	*e*P	**Pn**	**03 52 30.5**	**-5.1**
MAT	**Matsushiro**	**9.45**	**40**	P	**Pn**	**03 52 35.0**	**-0.6**
MJAR	**Matsushiro Arr**	**9.45**	**40**	P	**Pn**	**03 52 35.4**	**-0.2**
	1.9nm,0.3s,baz=19,slow=25,SNR=8.9						
MJAR	**Matsushiro Arr**	**9.45**	**40**	P	**Pn**	**03 52 35.4**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**17.41**	**30**	LR	LR	04 01 12.3	
	comp=Z,313nm,21.2s,baz=216,slow=38						
KLR	**Kul'dur**	**19.73**	**2**	*e*P	**Pn**	**03 54 42.9**	**-7.2**
GUMO	**Guam**	**20.56**	**137**	LR	LR	04 01 04.5	
	comp=Z

WRA	Warramunga Arr	49.27	175	P	P	03 59 08.3	+1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WB2	Warramunga Arr	49.27	175	eP	pP	03 59 18.6	+0.4
BVAR	Borovoye Array	49.37	316	P	P	03 59 07.0	-0.6
	comp=Z,4.7nm,0.6s,mb4.7,baz=100,slow=9.4,SNR=5.6						
BVAR	Borovoye Array	49.37	316	P	P	03 59 07.0	-0.6
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	Borovoye	49.43	316	eP	P	03 59 07.7	-0.4
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
BRVK	Borovoye	49.43	316	eP	P	03 59 07.7	-0.4
	comp=Z,5.3nm,0.6s,mb4.8						
ASAR	Alice Springs	52.94	176	P	P	03 59 35.9	+1.3
	comp=Z,0.5nm,0.4s,mb3.8,baz=16,slow=13,SNR=7.9						
ASAR	Alice Springs	52.94	176	P	P	03 59 35.9	+1.3
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARU	Arti	56.23	321	eP	P	03 59 57.2	-1.0
ARU				pmax	pmax		
	comp=Z,7.0nm,0.3s,mb5.2						
ARU	Arti	56.23	321	eP	P	03 59 57.2	-1.1
	comp=Z,7.2nm,0.3s,mb5.2						
CHUM	Lake Minchumin	58.26	30	eP	P	04 00 12.0	-0.5
	comp=Z,6.4nm,0.8s,mb4.7						
KDAK	Kodiak Island	58.62	38	P	P	04 00 14.2	-0.8
	comp=Z,8.1nm,0.5s,mb5.0,baz=275,slow=5.1,SNR=19						
KDAK	Kodiak Island	58.62	38	P	P	04 00 14.2	-0.8
KDAK				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
KDAK	Kodiak Island	58.62	38	eP	P	04 00 13.8	-1.2
	comp=Z,3.9nm,0.4s,mb4.8						
MCK	McKinley	59.77	31	eP	P	04 00 22.1	-0.8
MCK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
MCK	McKinley	59.77	31	eP	P	04 00 22.1	-0.8
	comp=Z,2.3nm,0.5s,mb4.5						
PMR	Palmer	59.92	33	eP	P	04 00 23.2	-0.8
PMR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
PMR	Palmer	59.92	33	eP	P	04 00 23.2	-0.7
	comp=Z,9.5nm,1.0s,mb4.8						
COLA	College	60.12	29	eP	P	04 00 24.2	-1.1
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
COLA	College	60.12	29	eP	P	04 00 24.2	-1.1
	comp=Z,2.6nm,0.6s,mb4.4						
DIV	Divide	61.59	33	eP	P	04 00 35.4	+0.1
	comp=Z,6.8nm,0.7s,mb4.9						
STKA	Stephens Creek	61.90	169	eP	pP	04 00 49.6	+0.6
	comp=Z,4.8nm,0.7s						
STKA	Stephens Creek	61.90	169	P	P	04 00 37.6	-0.1
	comp=Z,3.3nm,0.8s,mb4.5,baz=143,slow=12,SNR=3.0						
BMRM	Bremner River	62.18	33	eP	P	04 00 38.8	-0.5
EGAK	Eagle	62.96	29	eP	P	04 00 44.1	-0.3
INK	Inuvik	65.04	24	P	P	04 00 57.5	-0.5
	comp=Z,3.3nm,0.6s,mb4.5,baz=294,slow=6.9,SNR=12						
INK	Inuvik	65.04	24	P	P	04 00 57.6	-0.5
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES	ARCESS Array B	67.78	338	P	P	04 01 14.6	-1.0
	comp=Z,2.0nm,0.7s,mb4.2,baz=79,slow=9.3,SNR=4.3						
ARCES	ARCESS Array B	67.78	338	P	P	04 01 14.6	-1.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SIT	Sitka	67.85	36	eP	P	04 01 16.1	-0.1
KIV	Kislovodsk	68.86	309	eP	P	04 01 21.8	-1.0
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
DLBC	Dease Lake	69.97	34	eP	P	04 01 30.4	+1.1
MALT	Malatya	74.02	305	eP	P	04 01 55.0	+1.0
MALT				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
MALT	Malatya	74.02	305	eP	P	04 01 55.0	+0.9
	comp=Z,1.8nm,0.6s,mb4.2						
AKASG	Malin Array Be	74.47	320	P	P	04 01 55.6	-0.8
	comp=Z,0.4nm,0.3s,mb3.8,baz=56,slow=6.3,SNR=4.6						
YKA	Yellowknife Ar	74.66	26	P	P	04 01 56.5	-0.8
	comp=Z,3.0nm,0.8s,mb4.3,baz=306,slow=4.6,SNR=5.5						
YKA	Yellowknife Ar	74.66	26	P	P	04 01 56.5	-0.8
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RAO	Raoul Island	76.27	135	LR	LR	04 31 24.9	
	comp=Z,92nm,21.3s,MS4.1,baz=213,slow=32						
NOA	NORSAR Array B	77.35	334	P	P	04 02 12.8	+0.2
	comp=Z,0.8nm,0.8s,mb3.7,baz=51,slow=6.2,SNR=2.7						
NOA	NORSAR Array B	77.35	334	P	P	04 02 12.8	+0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KOLS	Kolonicke sedl	79.25	320	eP	pP	04 02 33.3	-1.7
KOLS	Kolonicke sedl	79.25	320	epP	pP	04 02 33.3	-1.7
F03A	Seaside	79.31	43	⇑P	P	04 02 23.8	0.0
	baz=79						
A07A	Ashnola River,	79.47	39	⇑P	P	04 02 24.4	-0.2
	baz=79						
CRVS	Cervenica-Dubn	79.72	321	eP	P	04 02 31.2	+5.3
CRVS	Cervenica-Dubn	79.72	321	eP	P	04 02 31.3	+5.4
B07A	Winthrop	79.94	40	⇓P	P	04 02 27.1	0.0
	baz=79						
F04A	Amboy	79.98	43	⇑P	P	04 02 27.7	+0.4
	baz=79						
C07A	Waterville	80.39	40	⇓P	P	04 02 29.1	-0.5
	baz=80						
B08A	Colville Reser	80.43	39	⇑P	P	04 02 28.5	-1.3
	baz=80						
EIL	Elat	80.49	299	LR	LR	04 43 14.9	
	comp=Z,76nm,18.2s,MS4.1,baz=22,slow=39						
A09A	Danville	80.50	39	⇓P	P	04 02 29.9	-0.2
	baz=80						
E06A	Yakima	80.50	42	⇑P	P	04 02 30.3	+0.2
	baz=80						
EDM	Edmonton	80.69	33	eP	P	04 02 31.4	+0.4
B09A	Rice	81.05	39	⇑P	P	04 02 32.9	-0.2
	baz=80						
A10A	Northport	81.05	38	⇓P	P	04 02 33.2	+0.1
	baz=80						
VYHS	Vyhne	81.39	321	eP	P	04 02 34.3	-0.6
D08A	Wollman Farm,	81.39	40	⇑P	P	04 02 34.8	-0.1
	baz=81						
G06A	Carlson Farm,	81.41	43	⇑P	P	04 02 34.8	-0.2
	baz=81						
NEW	Newport	81.70	39	eP	P	04 02 36.6	+0.1
A11A	Hall Mountain,	81.71	38	P	P	04 02 37.4	+0.9
	baz=81,SNR=6.3						
G07A	Ruggs Ranch, H	81.96	42	⇑P	P	04 02 38.0	0.0
	baz=81						
J05A	Fort Rock	82.12	44	⇓P	P	04 02 38.8	-0.1
	baz=81						
E09A	Wood Farm, Sta	82.14	41	⇑P	P	04 02 38.9	0.0
	baz=81						
F08A	Pendleton	82.18	41	⇑P	P	04 02 39.6	+0.5
	baz=81						
G08A	Pilot Rock	82.36	42	⇑P	P	04 02 40.1	0.0
	baz=82						
K05A	Summer Lake	82.64	45	⇓P	P	04 02 41.5	0.0
	baz=82						
M03C	McCloud	82.67	47	⇓P	P	04 02 41.7	-0.1
	baz=82						
E10A	Myers Farm, Un	82.74	40	⇑P	P	04 02 42.0	+0.1
	baz=82						
A13A	Flathead Natio	82.75	37	⇓P	P	04 02 40.9	-1.1
	baz=82						
J06A	Christmas Vall	82.80	44	⇓P	P	04 02 42.3	-0.1
	baz=82						
D11A	Klaveano Farm,	82.84	39	⇑P	P	04 02 42.2	-0.3
	baz=82						
WALA	Waterton Lakes	82.94	37	eP	P	04 02 43.6	+0.7
	comp=Z,6.9nm,1.0s,mb4.6						
F10A	Beach Ranch, E	82.97	41	⇑P	P	04 02 42.8	-0.4
	baz=82						
H08A	Prairie City	82.97	42	⇑P	P	04 02 43.6	+0.3
	baz=82						
K06A	Valley Falls	82.99	45	⇑P	P	04 02 43.5	+0.1
	baz=82						
G09A	Cove	83.06	41	⇓P	P	04 02 43.6	-0.1
	baz=82,SNR=5.2						
B13A	Whitefish	83.06	38	P	P	04 02 44.6	+0.9
	baz=82,SNR=5.2						
J07A	Hines	83.24	44	⇑P	P	04 02 45.1	+0.5
	baz=82						
E11A	Bogner Ranch,	83.32	40	⇑P	P	04 02 45.2	+0.2
	baz=82						
I08A	Drewsey	83.38	43	⇓P	P	04 02 45.7	+0.3
	baz=83						
D12A	Red Ives Fores	83.38	39	⇑P	P	04 02 45.4	+0.1
	baz=83						
C13A	Hot Springs	83.43	38	⇓P	P	04 02 45.9	+0.4
	baz=83						
G10A	Bishop Farm, J	83.43	41	⇓P	P	04 02 45.1	-0.4
	baz=83,SNR=7.8						
MOD	Modoc	83.46	45	⇑P	P	04 02 45.6	-0.2
	baz=83						
H09A	Durkee	83.48	42	⇓P	P	04 02 45.1	-0.8
	baz=83						
BMO	Blue Mountains	83.58	42	eP	P	04 02 46.5	+0.2
	comp=Z,11nm,1.4s,mb4.8						
F11A	Grangeville	83.63	40	⇓P	P	04 02 46.9	+0.3
	baz=83						
K07A	Rock Creek Ran	83.67	44	⇓P	P	04 02 45.9	-1.0
	baz=83						
J08A	Circle Bar Ran	83.75	43	⇓P	P	04 02 47.6	+0.3
	baz=83						
C14A	Swan Lake	83.82	38	⇑P	P	04 02 47.5	0.0
	baz=83						
G11A	Walters Elk Ra	83.85	41	P	P	04 02 47.6	-0.2
	baz=83,SNR=7.4						
L07A	Adell	83.99	45	⇑P	P	04 02 48.8	+0.3
	baz=83,SNR=6.5						
ORV	Oroville	84.00	48	⇓P	P	04 02 47.8	-0.9
	baz=83						
H10A	Noah's Angus R	84.05	42	P	P	04 02 48.6	-0.2
	baz=83,SNR=7.3						
K08A	Mann Creek Ran	84.10	44	⇓P	P	04 02 48.7	-0.3
	baz=83						
WVOR	Wild Horse Val	84.18	44	eP	P	04 02 48.0	-1.5
WVOR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
WVOR	Wild Horse Val	84.18	44	eP	P	04 02 48.0	-1.5
	comp=Z,1.4nm,0.6s,mb4.3						
J09A	Fry Pan Ranch,	84.19	43	⇓P	P	04 02 49.4	-0.1
	baz=83,SNR=6.9						
F12A	Elk City	84.21	40	P	P	04 02 49.5	0.0
	baz=83,SNR=16						
D14A	Greenough	84.37	38	⇓P	P	04 02 49.8	-0.5
	baz=84						
E13A	Victor	84.39	39	⇑P	P	04 02 49.8	-0.6
	baz=84						
N06A	Buffalo Meadow	84.40	46	⇓P	P	04 02 50.5	-0.1
	baz=84						
H11A	Donnelly	84.41	41	⇓P	P	04 02 49.6	-1.0
	baz=84						
M07A	Soldier Meadow	84.45	45	⇑P	P	04 02 50.1	-0.8
	baz=84						
L08A	Fields	84.50	44	⇓P	P	04 02 50.8	-0.3
	baz=84						
BEKR	Beckwourth	84.56	47	⇑P	P	04 02 49.4	-2.1
	baz=84,SNR=5.1						
K09A	Rome	84.58	44	⇓P	P	04 02 50.6	-0.9
	baz=84,SNR=7.2						
O06A	Flanigan	84.73	47	⇑P	P	04 02 51.9	-0.4
	baz=84						
E14A	Clinton	84.78	39	⇓P	P	04 02 51.5	-1.0
	baz=84						
M08A	Happy Creek Ra	84.91	45	⇑P	P	04 02 53.7	+0.5
	baz=84						
I11A	Placerville	84.91	42	⇓P	P	04 02 53.6	+0.5
	baz=84						
D15A	Lincoln	84.92	38	⇑P	P	04 02 53.0	-0.1
	baz=84						
N07B	Gerlach	84.92	46	⇓P	P	04 02 53.5	+0.2
	baz=84						
LAVA	Lava Cap Winer	84.94	48	⇑P	P	04 02 52.7	-0.7
	baz=84						
L09A	Wilkinson Ranc	85.01	44	⇑P	P	04 02 53.0	-0.7
	baz=84						
K10A	MacKenzie Ranc	85.04	43	⇑P	P	04 02 54.2	+0.3
	baz=84						
G13A	Cobalt	85.18	40	⇓P	P	04 02 54.4	0.0
	baz=84						
E15A	Deer Lodge	85.24	38	⇓P	P	04 02 55.0	+0.2
	baz=84						
PAHR	Pah Rah Range	85.27	47	eP	P	04 02 54.9	-0.1
	comp=Z,7.3nm,1.0s,mb4.8						
MFID	Camas Ranch	85.28	42	⇓P	P	04 02 55.0	0.0
	baz=84						
O07A	Toulon	85.33	46	⇑P	P	04 02 55.1	-0.2
	baz=85						
R05C	Kirkwood Meado	85.40	48	⇓P	P	04 02 54.7	-1.0
	baz=85						
N08A	GE Springer Mi	85.44	45	⇑P	P	04 02 56.2	+0.3
	baz=85						
H13A	Challis	85.50	41	⇑P	P	04 02 56.0	0.0
	baz=85						
K11A	Parker Ranch,	85.55	43	⇑P	P	04 02 55.9	-0.4
	baz=85						
PACP	Pacheco Peak	85.55	50	⇑P	P	04 02 56.5	0.0
	baz=85						
CMB	Columbia Colle	85.57	49	eP	P	04 02 56.0	-0.6
CMB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
CMB	Columbia Colle	85.57	49	⇓P	P	04 02 55.6	-0.9
	baz=85						
CMB	Columbia Colle	85.57	49	eP	P	04 02 56.0	-0.6
	comp=Z,4.2nm,0.8s,mb4.7						
F15A	Butte	85.69	39	⇑P	P	04 02 56.3	-0.6
	baz=85						
L10A	Juniper Basin	85.70	43	⇑P	P	04 02 57.4	+0.3
	baz=85						
LRM	Limekiln Ridge	85.72	39	eP	P	04 02 57.8	+0.6
EGMT	Eagleton	85.74	36	⇓P	P	04 02 56.4	-0.8
	baz=85						
EGMT	Eagleton	85.74	36	eP	P	04 02 57.0	-0.2
	comp=Z,13nm,1.2s,mb5.0						
N09A	Rock Creek Ran	85.78	45	⇓P	P	04 02 57.6	+0.1
	baz=85						
R06C	Coleville	85.90	48	⇓P	P	04 02 57.9	-0.3
	baz=85						
DLMT	Dillon	85.93	39	eP	P	04 02 58.5	+0.3
	comp=Z,11nm,1.0s,mb5.0						
I13A	Wildhorse Cree	85.97	41	P	P	04 02 59.4	+0.9
	baz=85,SNR=8.6						
M10A	I.L. Ranch, Tu	85.98	44	⇓P	P	04 02 59.2	+0.7
	baz=85						
S06C	San Francisco	86.01	48	⇓P	P	04 02 58.4	-0.4
	baz=85						
HLID	Hailey	86.01	41	⇑P	P	04 02 59.0	+0.3
	baz=85,SNR=10						
HLID	Hailey	86.01	41	eP	P	04 02 59.0	+0.3
	comp=Z,5.3nm,1.1s,mb4.7						
L11A	Cat Creek Ranc	86.07	43	P	P	04 02 59.2	+0.3
	baz=85,SNR=11						
G15A	Dillon	86.11	39	P	P	04 02 59.6	+0.6
	baz=85,SNR=10						
U04C	Hernandez Rese	86.25	50	⇑P	P	04 02 59.5	-0.5
	baz=86						
J13A	Cove Ranch, Pi	86.25	41	P	P	04 03 00.7	+0.9
	baz=86,SNR=7.2						
BOZ	Bozeman (W)	86.28	39	⇑P	P	04 02 59.9	0.0
	baz=85						
BOZ	Bozeman (W)	86.28	39	eP	P	04 03 00.1	+0.2
K12A	Draper Farm, C	86.29	42	⇑P	P	04 03 00.5	+0.5
	baz=86						
O09A	Fish Creek Ran	86.38	45	P	P	04 03 01.2	+0.6
	baz=86,SNR=5.1						
M11A	Holland Ranch,	86.49	44	⇓P	P	04 03 02.0	+0.9
	baz=86						
L12A	House Creek Ra	86.52	43	⇑P	P	04 03 01.4	+0.2
	baz=86						
T06C	Millerton Lake	86.59	49	⇑P	P	04 03 01.2	-0.5
	baz=86						
KCC	Kaiser Creek	86.67	49	⇓P	P	04 03 01.5	-0.5
	baz=86						
Q08A	Gabbs	86.68	47	⇓P	P	04 03 01.9	-0.1
	baz=86						
NVAR	Mina Array Bea	86.69	47	P	P	04 03 02.5	+0.4
	comp=Z,1.6nm,0.7s,mb4.4,baz=300,slow=5.7,SNR=10						
M12A	Wells	87.03	43	⇑P	P	04 03 04.3	+0.7
	baz=86						
L13A	Double Diamond	87.19	42	⇑P	P	04 03 05.7	+1.2
	baz=86						
HELL	Mitchell Peak	87.23	49	⇓P	P	04 03 04.1	-0.7
	baz=87						
N12A	Clover Valley,	87.29	44	⇓P	P	04 03 05.6	+0.7
	baz=86						
S08C	White Mtn Res	87.32	48	⇑P	P	04 03 05.1	-0.1
	baz=87						
O11A	Cowboy Ranch,	87.35	45	⇓P	P	04 03 05.7	+0.4
	baz=87						
K14A	Jones Ranch, D	87.36	42	⇑P	P	04 03 05.7	+0.5
	baz=87						
R09A	Tonopah	87.59	47	⇓P	P	04 03 06.3	-0.1
	baz=87						
L14A	Malta	87.64	42	⇓P	P	04 03 07.6	+1.0
	baz=87						
IMW	Indian Meadow	87.77	40	eP	P	04 03 08.6	+1.4
	comp=Z,6.3nm,1.1s,mb4.8						
S09A	Goldfield	87.80	47	⇓P	P	04 03 07.4	-0.1
	baz=87						
O12A	Currie	87.82	44	⇑P	P	04 03 07.9	+0.3
	baz=87						
M14A	Sheep Mountain	87.90	43	⇑P	P	04 03 07.5	-0.4
	baz=87,SNR=5.6						
TPAW	Teton Pass	88.03	40	eP	P	04 03 09.5	+1.1
	comp=Z,4.3nm,0.9s,mb4.7						
S10A	Tonopah Range,	88.08	47	⇑P	P	04 03 08.9	+0.1
	baz=87						
K16A	Soda Springs	88.09	41	⇓P	P	04 03 08.9	+0.2
	baz=87						
LOHW	Long Hollow	88.14	40	eP	P	04 03 08.5	-0.4
	comp=Z,2.0nm,1.0s,mb4.3						
P12A	McGill	88.21	45	⇑P	P	04 03 08.7	-0.6
	baz=88						
N14A	Grayback Hills	88.40	43	⇓P	P	04 03 09.9	-0.4
	baz=88						
LAO	LASA Array	88.42	35	eP	P	04 03 10.9	+0.7
	comp=Z,7.2nm,0.9s,mb4.9						
R11A	Troy Canyon, C	88.47	46	⇓P	P	04 03 10.9	+0.3
	baz=88						
P13A	Bates Ranch, G	88.76	44	⇑P	P	04 03 12.1	+0.1
	baz=88						
TPNV	Topopah Spring	88.88	47	⇑P	P	04 03 12.3	-0.2
	baz=88						
DUG	Dugway	89.03	43	eP	P	04 03 11.4	-1.8
DUG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
DUG	Dugway	89.03	43	eP	P	04 03 11.4	-1.8
	comp=Z,2.2nm,0.9s,mb4.5						
R12A	Pony Springs,	89.09	46	⇓P	P	04 03 12.9	-0.6
	baz=88						
P14A	Drum Mountains	89.26	44	⇑P	P	04 03 13.9	-0.3
	baz=88						
BW06	Boulder Array	89.27	40	eP	P	04 03 14.4	+0.1
PDAR	Pinedale Array	89.27	40	P	P	04 03 14.2	-0.1
	comp=Z,1.3nm,0.8s,mb4.3,baz=22,slow=0.9,SNR=13						
T11A	Corn Creek, Al	89.36	47	⇑P	P	04 03 15.5	+0.6
	baz=89						
GSC	Goldstone	89.50	49	⇑P	P	04 03 15.5	0.0
	baz=89						
Q14A	Sevier Lake (B	89.50	44	⇓P	P	04 03 15.5	0.0
	baz=89						
P15A	Leamington	89.74	44	⇓P	P	04 03 17.2	+0.6
	baz=89						
S13A	Holt Ranch, En	90.01	46	⇓P	P	04 03 16.9	-0.9
	baz=89						
Q15A	Fillmore	90.04	44	⇓P	P	04 03 17.3	-0.7
	baz=89						
O18A	Roosevelt	90.64	42	⇓P	P	04 03 21.0	+0.2
	baz=90						
Q16A	Castle Valley	90.82	43	⇑P	P	04 03 22.8	+1.2
	baz=90						
P18A	Preston Nutter	90.92	42	⇑P	P	04 03 22.6	+0.6
	baz=90						
SRU	San Rafael	91.08	43	⇓P	P	04 03 22.4	-0.4
	baz=90						
SRU	San Rafael	91.08	43	eP	P	04 03 23.6	+0.8
T15A	Red Dirt Ranch	91.28	46	⇑P	P	04 03 24.2	+0.4
	baz=90						
Q18A	Rafter H Ranch	91.32	43	⇓P	P	04 03 23.1	-0.8
	baz=90						
R17A	Hanksville Air	91.42	44	⇑P	P	04 03 25.2	+0.8
	baz=91						
W13A	Hualapai Mount	91.52	48	⇑P	P	04 03 25.0	+0.1
	baz=91						
V14A	Boquillas Ranc	91.69	47	⇑P	P	04 03 26.2	+0.4
	baz=91						
U15A	North Rim	91.71	46	⇑P	P	04 03 26.5	+0.7
	baz=91						
S17A	Black Ridge (B	91.87	44	⇑P	P	04 03 26.5	0.0
	baz=91						
X13A	Yucca	91.87	48	⇓P	P	04 03 27.1	+0.6
	baz=91						
R18A	Canyonlands Na	91.93	43	⇓P	P	04 03 27.1	+0.3
	baz=91						
Q19A	Hogan Spring (	91.93	42	⇓P	P	04 03 27.4	+0.7
	baz=91						
W14A	Seligman	91.97	47	⇓P	P	04 03 27.0	-0.1
	baz=91						
V15A	Kaibab Nationa	92.17	46	⇓P	P	04 03 28.8	+0.8
	baz=91						
T17A	Navajo Res., N	92.27	45	⇓P	P	04 03 28.0	-0.3
	baz=92						
S18A	Hurst Farm, Bl	92.32	44	⇓P	P	04 03 29.4	+0.8
	baz=92						
R19A	Curley Farm, L	92.37	43	⇓P	P	04 03 29.3	+0.5
	baz=92						
X14A	Yava	92.56	48	⇓P	P	04 03 29.7	-0.1
	baz=92						
U17A	Shonto	92.62	45	⇑P	P	04 03 30.7	+0.7
	baz=92						
U16A	Tuba City	92.62	46	⇓P	P	04 03 30.7	+0.7
	baz=92						
T18A	Mexican Hat	92.75	44	⇓P	P	04 03 30.8	+0.2
	baz=92						
S19A	Harvey Farm, M	92.80	43	⇑P	P	04 03 31.3	+0.5
	baz=92						
WUAZ	Wupatki	92.86	46	⇑P	P	04 03 31.5	+0.3
	baz=92						
WUAZ	Wupatki	92.86	46	eP	P	04 03 31.3	+0.1
	comp=Z,4.1nm,0.9s,mb4.9						
X15A	Humboldt	92.97	47	⇑P	P	04 03 32.3	+0.7
	baz=92						
W16A	Flagstaff	93.03	47	⇓P	P	04 03 32.8	+0.9
	baz=92						
U18A	Rough Rock, Ch	93.22	45	⇓P	P	04 03 33.7	+0.9
	baz=92						
Y15A	Casa Rosa Ranc	93.24	48	⇑P	P	04 03 33.0	+0.1
	baz=92						
MVCO	Mesa Verde	93.53	43	⇑P	P	04 03 35.0	+0.8
	baz=93						
V18A	Ganado	93.64	45	⇓P	P	04 03 35.0	+0.3
	baz=93						
Y16A	Circle Bar Ran	93.84	48	⇑P	P	04 03 36.2	+0.6
	baz=93						
X17A	Forest Lakes	93.97	47	⇓P	P	04 03 36.8	+0.5
	baz=93						
214A	Organ Pipe Nat	94.17	50	⇑P	P	04 03 37.3	0.0
	baz=94						
Y17A	Roosevelt	94.36	47	⇑P	P	04 03 38.4	+0.3
	baz=94						
X18A	Snowflake	94.39	46	⇓P	P	04 03 38.6	+0.4
	baz=94						
116A	Eloy	94.52	49	⇓P	P	04 03 38.8	0.0
	baz=94						
Y18A	Canyon Day Jun	94.82	47	⇑P	P	04 03 41.0	+0.8
	baz=94						
X19A	St. Johns	94.87	46	⇓P	P	04 03 41.0	+0.6
	baz=94						
117A	Oracle	95.14	48	⇓P	P	04 03 41.8	+0.1
	baz=94						
217A	Green Valley	95.60	49	⇓P	P	04 03 44.5	+0.7
	baz=95						

*IDC **01** 04:23:51.6±2.0, 1.16N×97.16E, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, ML4.0/2, Error

ZALV	**Zalesovo Beam**	**53.51 351**	P	**P**	**04 33 14.0**	**-0.2**
	1.4nm,0.4s,mb4.3,baz=174,slow=4.5,SNR=4.6					
ZALV	**Zalesovo Beam**	**53.51 351**	P	**P**	**04 33 14.0**	**-0.3**

*IDC **01** 04:53:31.8±1.0,3392N×7448E,h0km,mb3.7/6,mb1 3.8/8, mb1mx3.6/25,mbtmp3.7/8,ML3.6/2,Error ellipse: s-maj=33.5km s-min=21.3km az=62.0*
*ISCJB **01** 04:53:33.7±2.8,3397N±005×744E±0.1,h28km±23km, mb3.6/5,Error ellipse: s-maj=16.6km s-min=5.2km az=153.5*
*MOS **01** 04:53:34.9±0.9,3401N×7440E,h33km,mb3.9/4,Error ellipse: s-maj=43.5km s-min=13.3km az=88.9*
*NDI **01** 04:53:38.3±3.5,3418N×7471E,h33km,ML3.3, mb3.4(NEIC)*
*NEIC **01** 04:53:38.7±1.6,3408N×7461E,h48km±15km,mb3.4/1, Error ellipse: s-maj=17.5km s-min=12.0km az=141.0*
ISC 01 04:53:37.9±0.6,3402N±004×7455E±009,h42km±10km, n32,σ1§29/33,mb3.6/5,1C,Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**0.26**	**72**	*e*P	Px	04 53 35.0	
SRNI				*e*S	Sx	04 53 37.0	
THN	**Thein Dam**	**1.86**	**148**	*e*P	**Pn**	**04 54 08.9**	**+1.6**
THN				*e*S	**Sn**	**04 54 33.6**	**+4.1**
SDNR	**Sundarnagar**	**3.24**	**140**	*e*x	x	04 54 35.0	
SDNR				*e*x	x	04 55 17.0	
SMLA	**Simla**	**3.63**	**142**	*e*S	**Sn**	**04 55 12.4**	**-0.8**
KLP	**Kalpa**	**3.98**	**127**	*e*P	**Pn**	**04 54 37.4**	**+1.0**
KLP				*e*S	**Sn**	**04 55 20.0**	**-1.8**
KLP				AML	AML	04 55 49.8	
	comp=N,92nm,0.5s						
KLP				AML	AML	04 55 53.0	
	comp=E,122nm,0.4s						
KBL	**Kabul**	**4.59**	**278**	*e*Pn	**Pn**	**04 54 47.2**	**+2.5**
DDI	**Dehra Dun**	**4.74**	**140**	*e*x	**Sn**	**04 55 43.0**	**+2.6**
NDI	**New Delhi**	**5.79**	**156**	*e*x	x	04 55 30.0	
NDI				*e*S	**Sn**	**04 56 06.0**	**-0.3**
KUDL	**Kundal**	**6.09**	**164**	*e*P	**Pn**	**04 55 06.8**	**+1.4**
KUDL				*e*S	**Sn**	**04 56 11.7**	**-2.0**
AJM	**Ajmer**	**7.51**	**179**	*e*S	**Sn**	**04 56 45.6**	**-3.3**
AJM				AML	AML	04 56 50.4	
	comp=N,14nm,0.3s						
AJM				AML	AML	04 57 33.8	
	comp=E,19nm,0.3s						
AML	**Almayashu**	**8.13**	**356**	*e*Pn	**Pn**	**04 55 33.0**	**-0.3**
	comp=E,4.5nm,0.4s						
UCH	**Uchtor**	**8.20**	**360**	*e*Pn	**Pn**	**04 55 34.5**	**+0.3**
EKS2	**Erkin-Say**	**8.65**	**356**	*e*Pn	**Pn**	**04 55 41.2**	**+0.8**
TKM2	**Tokmak 2**	**8.93**	**5**	*e*P	**Pn**	**04 55 43.6**	**-0.6**
KK31	**Karatay Array**	**9.60**	**342**	Pn	**Pn**	**04 55 51.8**	**-1.7**
	comp=E,0.7nm,0.3s,baz=162,slow=13,SNR=31						
KK31				Lg		04 57 33.1	
	comp=E,2.4nm,0.4s,baz=168,slow=25,SNR=14						
MKAR	**Makanchi Array**	**14.05**	**22**	Pn	**Pn**	**04 56 53.2**	**-0.9**
	comp=E,0.1nm,0.3s,baz=196,slow=13,SNR=4.7						
KURK	**Kurchatov**	**16.95**	**9**	*e*P	**Pn**	**04 57 32.4**	**+0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURK	**Kurchatov**	**16.95**	**9**	*e*P	**Pn**	**04 57 32.4**	**+0.6**
	comp=Z,3.3nm,1.0s						
AB09	**Akbulak array**	**18.70**	**329**	⇑P	**Pn**	**04 57 51.2**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=162,slow=13						
BVAR	**Borovoye Array**	**19.23**	**352**	P	**Pn**	**04 57 57.6**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=144,slow=10,SNR=5.7						
BVAR	**Borovoye Array**	**19.23**	**352**	P	**Pn**	**04 57 57.6**	**-2.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTK	**Aktyubinsk**	**20.39**	**329**	P	**P**	**04 58 10.9**	**-0.1**
AKTO	**Aktyubinsk**	**20.39**	**329**	P	**P**	**04 58 10.9**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=126,slow=11,SNR=7.7						
AKTO	**Aktyubinsk**	**20.39**	**329**	P	**P**	**04 58 10.9**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	**Zalesovo**	**21.19**	**17**	P	**P**	**04 58 21.2**	**+1.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**21.21**	**17**	P	**P**	**04 58 21.2**	**+1.4**
	comp=Z,0.7nm,0.3s,mb3.4,baz=209,slow=12,SNR=3.7						
ARCES	**ARCESS Array B**	**44.54**	**338**	P	**P**	**05 01 45.4**	**+0.3**
	comp=Z,2.2nm,0.8s,mb4.0,baz=115,slow=8.5,SNR=9.5						
ARCES	**ARCESS Array B**	**44.54**	**338**	P	**P**	**05 01 45.4**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**68.63**	**272**	P	**P**	**05 04 36.8**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=43,slow=6.8,SNR=6.2						
WRA	**Warramunga Arr**	**78.21**	**124**	P	**P**	**05 05 33.2**	**0.0**
	comp=Z,0.6nm,1.0s,mb3.5,baz=314,slow=6.4,SNR=7.1						
WRA	**Warramunga Arr**	**78.21**	**124**	P	**P**	**05 05 33.2**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**80.45**	**127**	P	**P**	**05 05 45.7**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=322,slow=6.7,SNR=4.1						

*ISCJB **01** 05:56:09.1±0.6,4892S±008×1246E±02,h10km,mb4.1/8, MS3.8/9,Error ellipse: s-maj=17.0km s-min=11.4km az=8.8*
*IDC **01** 05:56:09.1±0.8,4890S×12456E,h0km,mb4.2/8, mb1 4.4/9,mb1mx4.2/17,mbtmp4.3/9,ML3.1/1,MS3.9/9, Ms1 3.9/9,ms1mx3.6/23,Error ellipse: s-maj=29.8km s-min=16.1km az=98.0*
*NEIC **01** 05:56:10.8±0.6,4894S×12454E,h10km,mb4.3/1,Error ellipse: s-maj=15.5km s-min=11.2km az=95.0*
ISC 01 05:56:11.1±0.6,4891S±008×1246E±02,h10km,n23, σ0§79/15,mb4.1/8,MS3.8/9,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.89**	**338**	Pn	**Pn**	**06 00 08.0**	**+0.6**
	3.5nm,0.3s,baz=169,slow=8.5,SNR=18						
NWAO	**Narrogin (SRO)**	**16.89**	**338**	*e*P	**Pn**	**06 00 09.0**	**+1.6**
TAU	**Tasmania Unive**	**16.90**	**78**	P	**Pn**	**06 00 08.6**	**+1.1**
	35nm,1.2s						
STKA	**Stephens Creek**	**21.31**	**43**	P	**P**	**06 00 57.9**	**0.0**
	9.2nm,0.8s,mb4.2,baz=199,slow=9.2,SNR=9.5						
STKA				LR	LR	06 07 30.1	
	comp=Z,301nm,21.6s,MS3.6,baz=208,slow=32						
STKA	**Stephens Creek**	**21.31**	**43**	*e*P	**P**	**06 00 58.1**	**+0.3**
STKA				LR	LR	06 07 30.1	
ASAR	**Alice Springs**	**26.25**	**20**	P	**P**	**06 01 45.3**	**-1.0**
	1.8nm,0.6s,mb3.8,baz=192,slow=8.7,SNR=20						
WRA	**Warramunga Arr**	**29.95**	**19**	P	**P**	**06 02 17.7**	**-1.6**
	0.3nm,0.4s,mb3.3,baz=195,slow=11,SNR=6.2						
WRA				PcP	PcP	06 05 20.4	-1.3
	0.5nm,0.7s,baz=202,slow=2.9,SNR=4.8						
WRA				LR	LR	06 13 10.0	
	comp=Z,205nm,21.2s,MS3.7,baz=260,slow=34						
VNDA	**Vanda**	**32.04**	**166**	P	**P**	**06 02 36.8**	**-0.5**
	4.7nm,0.9s,mb4.3,baz=314,slow=8.7,SNR=28						
VNDA				LR	LR	06 13 50.3	
	comp=Z,133nm,21.5s,MS3.6,baz=148,slow=33						
CTA	**Charters Tower**	**33.61**	**39**	LR	LR	06 14 09.1	
	comp=Z,199nm,20.0s,MS3.8,baz=230,slow=32						
URZ	**Urewera**	**38.80**	**94**	P	**P**	**06 03 35.8**	**0.0**
	11nm,0.7s,mb4.7,baz=257,slow=1.9,SNR=9.3						
URZ				LR	LR	06 15 52.9	
	comp=Z,489nm,21.2s,MS4.3,baz=11,slow=30						
QSPA	**South Pole Qui**	**41.21**	**180**	P	**P**	**06 03 55.3**	**0.0**
	2.8nm,1.0s,mb3.9,baz=319,slow=6.9,SNR=5.6						
HNR	**Honiara**	**49.22**	**49**	LR	LR	06 23 06.3	
	comp=Z,63nm,18.9s,MS3.6,baz=180,slow=33						
SNAA	**Sanae**	**54.12**	**198**	*e*	**P**	**06 05 35.1**	**-0.4**
SNAA				*e*		06 05 43.8	
SNAA				*e*		06 05 49.1	
SNAA	**Sanae**	**54.12**	**198**	P	**P**	**06 05 35.4**	**-0.1**
	5.4nm,0.9s,mb4.5,baz=146,slow=9.6,SNR=42						
VNA1	**Neumayer--Stat**	**56.01**	**197**	*e*	**P**	**06 05 49.8**	**+0.6**
VNA1				*e*		06 05 57.9	
VNA1				*e*		06 06 04.0	
CMAR	**Chiang Mai Arr**	**70.84**	**334**	P	**P**	**06 07 28.2**	**+0.4**
	0.5nm,0.2s,mb4.0,baz=185,slow=5.0,SNR=6.4						
CMAR				LR	LR	06 42 13.7	
	comp=Z,51nm,18.2s,MS3.8,baz=170,slow=39						
CMAR	**Chiang Mai Arr**	**70.84**	**334**	P	**P**	**06 07 28.2**	**+0.4**
CMAR				LR	LR	06 42 13.7	
PLCA	**Paso Flores**	**89.75**	**169**	LR	LR	06 47 57.9	
	comp=Z,41nm,18.9s,MS3.9,baz=186,slow=35						
SONM	**Songino Array**	**97.64**	**348**	LR	LR	06 53 02.7	
	comp=Z,51nm,18.4s,MS4.0,baz=258,slow=35						
TORD	**Torodi Ar. Bea**	**121.25**	**253**	PKP	PKPdf	06 15 03.3	-1.1
	0.3nm,0.8s,baz=132,slow=2.1,SNR=2.6						
PDAR	**Pinedale Array**	**142.48**	**78**	PKhKP		06 15 36.9	
	0.4nm,0.6s,baz=186,slow=3.0,SNR=4.6						
YKA	**Yellowknife Ar**	**145.34**	**45**	PKPbc	PKPbc	06 15 47.4	-0.2
	8.5nm,0.7s,baz=265,slow=3.6,SNR=22						
YKA	**Yellowknife Ar**	**145.34**	**45**	PKPbc	PKPbc	06 15 47.4	-0.2

NEIC 01 06:04:40.7,3962S×17405E,h231km,MG3.8(WEL),After WEL.,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEZ	**North Egmont**	**0.35**	**6**	P	Pn	06 05 11.4	+0.4
NEZ				S	S	06 05 34.1	-0.5
RAEZ	**Rainy Point**	**0.42**	**39**	P	Pn	06 05 11.3	+0.1
RAEZ				S	S	06 05 33.3	-1.6
PKE	**Pukeiti**	**0.43**	**353**	P	Pn	06 05 11.3	+0.1
PKE				S	S	06 05 33.6	-1.4
WAZ	**Wanganui**	**0.73**	**101**	P	Pn	06 05 12.9	+0.7
VRZ	**Vera Road**	**0.74**	**48**	P	Pn	06 05 11.6	-0.7
VRZ				S	S	06 05 33.6	-3.4
TWVZ	**Taurewa**	**1.21**	**64**	P	Pn	06 05 14.5	-0.5
FWVZ	**Far West T-bar**	**1.22**	**73**	P	Pn	06 05 15.1	0.0
DRZ	**Dome Shelter**	**1.22**	**74**	P	Pn	06 05 15.5	+0.4
WPVZ	**Whakapapa**	**1.23**	**71**	P	Pn	06 05 15.1	-0.1
WNVZ	**Wahianoa**	**1.23**	**77**	P	Pn	06 05 15.3	+0.1
HIZ	**Hauiti**	**1.27**	**30**	P	Pn	06 05 14.8	-0.7
NGZ	**Ngauruhoe**	**1.28**	**70**	P	Pn	06 05 15.6	+0.1
TUVZ	**Tukino**	**1.29**	**75**	P	Pn	06 05 15.8	+0.2
WTVZ	**West Tongariro**	**1.29**	**68**	P	Pn	06 05 15.4	-0.2
MOVZ	**Moawhango**	**1.33**	**81**	P	Pn	06 05 15.5	-0.4
KIW	**Kapiti Island**	**1.41**	**152**	P	Pn	06 05 16.3	-0.1
RATZ	**Rangitukua**	**1.53**	**61**	P	Pn	06 05 17.4	-0.1
TSZ	**Takapari Road**	**1.54**	**107**	P	Pn	06 05 17.4	0.0
RITZ	**Rihia Road**	**1.54**	**66**	P	Pn	06 05 17.7	+0.2
RITZ				S	S	06 05 47.2	+0.9
MRZ	**Mangatainoka R**	**1.57**	**132**	P	Pn	06 05 17.5	-0.2
TCW	**Tory Channel**	**1.60**	**174**	P	Pn	06 05 18.2	+0.3
NNZ	**Nelson**	**1.68**	**198**	P	Pn	06 05 18.7	+0.1
QRZ	**Quartz Range**	**1.68**	**224**	P	Pn	06 05 18.3	-0.3
CAW	**Cannon Point**	**1.68**	**153**	P	Pn	06 05 18.5	-0.1
MRW	**Makara Radio**	**1.68**	**163**	P	Pn	06 05 18.5	-0.1
SNZO	**South Karori**	**1.76**	**164**	*e*Pn	Pn	06 05 19.2	-0.1
SNZO				Sn	S	06 05 46.3	-3.5
BHW	**Baring Head**	**1.89**	**161**	P	Pn	06 05 20.5	0.0
MTW	**Mount Morrison**	**1.90**	**145**	P	Pn	06 05 20.3	-0.2
BKZ	**Black Stump Fm**	**1.95**	**77**	P	Pn	06 05 20.7	-0.4
MSWZ	**Moikau Station**	**2.01**	**153**	P	Pn	06 05 21.3	-0.3
PAWZ	**Paruwai Farm**	**2.05**	**150**	P	Pn	06 05 21.8	-0.2
BSWZ	**Blackbirch Sta**	**2.10**	**184**	P	Pn	06 05 22.7	+0.3
THZ	**Tophouse**	**2.31**	**202**	P	Pn	06 05 24.6	0.0
DSZ	**Denniston Nort**	**2.73**	**218**	P	Pn	06 05 28.9	0.0
URZ	**Urewera**	**2.75**	**61**	P	Pn	06 05 25.9	-3.3
KHZ	**Kahutara**	**2.82**	**188**	P	Pn	06 05 29.8	-0.1
KNZ	**Kokohu**	**2.87**	**79**	P	Pn	06 05 30.4	-0.2
MWZ	**Matawai**	**3.00**	**66**	P	Pn	06 05 31.1	-0.9
LTZ	**Lake Taylor**	**3.43**	**202**	P	Pn	06 05 36.6	-0.3
PUZ	**Puketiti**	**3.63**	**66**	P	Pn	06 05 38.2	-1.0
MQZ	**McQueen's Vall**	**4.22**	**194**	P	Pn	06 05 44.7	-1.4
RPZ	**Rata Peaks**	**4.67**	**208**	P	Pn	06 05 51.0	-0.7
FOZ	**Fox Glacier**	**5.12**	**218**	P	Pn	06 05 56.0	-1.3
JCZ	**Jackson Bay**	**5.95**	**220**	P	Pn	06 06 07.2	-0.5
ODZ	**Otahua Downs**	**5.98**	**204**	P	Pn	06 06 08.3	+0.3

*NEIC **01** 06:05:29.0,1565N×9655W,h20km,MD4.0(MEX),After MEX.*
MEX 01 06:05:29.1±0.9,1564N×9654W,h16km±60km,MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.44**	**73**	*i* P	Pg	06 05 36.7	-1.2
HUIG				*i* S	Sg	06 05 42.4	-1.4
VHO	**Vista Hermosa**	**1.43**	**353**	*i* P	Pn	06 05 50.9	-3.5
VHO				*i* S	Sn	06 06 07.5	-5.4
OXX	**Oaxaca**	**1.44**	**353**	*i* P	Pn	06 05 52.0	-2.5
OXX				*i* S	Sn	06 06 08.5	-4.6
PNIG	**Pinotepa**	**1.69**	**296**	*i* P	Pn	06 05 55.0	-3.0
PNIG				*i* S	Sn	06 06 13.4	-6.0
CMIG	**Matias Romero**	**2.15**	**48**	*i* P	Pn	06 06 00.2	-4.0
CMIG				*i* S	Sn	06 06 22.5	-8.1
CMIG				*i* S	Sn	06 06 26.0	-4.6
UTMO	**Huajuapan**	**2.49**	**331**	*i* P	Pn	06 06 06.2	-2.7
UTMO				*i* S	Sn	06 06 35.5	-3.5
TPIG	**Tehuac#an**	**2.87**	**344**	*i* P	Pn	06 06 11.8	-2.4
TPIG				*i* S	Sn	06 06 44.2	-4.1
TGIG		**3.48**	**71**	*e*P	Pn	06 06 23.8	+1.3
TGIG				*i* S	Sn	06 07 01.3	-2.1
CAIG	**El Cayaco**	**3.84**	**292**	*i* P	Pn	06 06 24.2	-3.3
CAIG				*i* S	Sn	06 07 09.3	-3.0
CAIG	**El Cayaco**	**3.84**	**292**	*i* S	Sn	06 07 04.0	-8.3
PPM	**Popocatepetl**	**3.94**	**330**	*i* P	Pn	06 06 28.7	-0.2
PPM				*i* S	Sn	06 07 12.3	-2.6
PPM	**Popocatepetl**	**3.94**	**330**	*i* P	Pb	06 06 40.5	+2.2
PPM				*i* S	Sn	06 07 19.0	+4.1
IIO	**Organos**	**4.44**	**332**	*e*P	Pn	06 06 34.0	-1.9
IIO				*i* S	Sn	06 07 24.0	-3.2
IIO	**Organos**	**4.44**	**332**	*i* P	Pb	06 06 50.2	+3.5

KRSC 01 07:30:16.3±1.1,5028N×15724E,h46km±46km,ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.23**	**299**	*e*P	Pn	07 30 36.4	-0.6
ALID				*i* S	Sn	07 30 51.0	-1.4
MIPR	**Malaya Ipel'ka**	**2.02**	**352**	*e*P	Pn	07 30 50.2	+2.4
MIPR				*i* S	Sn	07 31 14.8	+2.9
RUS	**Russkaya**	**2.30**	**20**	*e*P	Pn	07 30 53.6	+2.0
RUS				*i* S	Sn	07 31 21.0	+2.3
GRL	**Gorelyy**	**2.33**	**13**	*e*P	Pn	07 30 55.0	+2.9
GRL				*i* S	Sn	07 31 23.6	+4.1
PET	**Petropavlovsk**	**2.89**	**17**	*e*P	Pn	07 31 02.4	+2.7
PET				*i* S	Sn	07 31 36.5	+3.4
AVH	**Avacha**	**3.13**	**17**	*e*P	Pn	07 31 07.3	+4.2
AVH				*i* S	Sn	07 31 44.9	+5.8
NLC	**Nalytchevo**	**3.18**	**24**	*e*P	Pn	07 31 04.9	+1.2
SPN	**Mys Shipunski**	**3.31**	**30**	*e*P	Pn	07 31 08.2	+2.7
SPN				*i* S	Sn	07 31 46.3	+2.7
GNL	**Ganaly**	**3.45**	**7**	*e*P	Pn	07 31 11.7	+4.3
MKZ	**Mys Kozlova**	**5.09**	**31**	*e*P	Pn	07 31 32.3	+2.4
MKZ				*i* S	Sn	07 32 28.8	+1.5
TUMR	**Tumrok**	**5.31**	**18**	*e*P	Pn	07 31 36.5	+3.5
KBTR	**Krutoberegovo**	**6.81**	**27**	*e*P	Pn	07 31 56.5	+3.0

*IDC **01** 07:36:27.9±2.4,1533S×7083W,h41km±23km,mb3.9/7, mb1 4.1/11,mb1mx3.9/23,mbtmp3.9/11,ML4.0/4,MS3.1/6, Ms1 3.1/6,ms1mx2.9/29,Error ellipse: s-maj=28.4km s-min=18.3km az=64.0*
*ISCJB **01** 07:36:28.3±1.2,1546S±007×7111W±008,h69km±14km, mb4.1/9,Error ellipse: s-maj=14.1km s-min=10.0km az=150.7*
*NEIC **01** 07:36:28.8±1.0,1539S×7102W,h51km±11km,mb4.4/3, Error ellipse: s-maj=14.9km s-min=10.0km az=58.0*
ISC 01 07:36:29.6±1.1,1540S±007×7105W±008,h62km±13km, n26,σ1§15/21,mb4.2/9,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.94**	**108**	P	**Pn**	**07 37 15.8**	**+1.8**
	10nm,0.3s,baz=289,slow=12,SNR=202						
LPAZ				Lg		07 37 58.3	
	2.1nm,0.3s,baz=319,slow=9.0,SNR=1.8						
LPAZ	**La Paz**	**2.94**	**108**	*e*Pn	**Pn**	**07 37 15.8**	**+1.9**
LPAZ				Sn	**Sn**	**07 37 49.1**	**+1.0**
LPAZ				Lg		07 37 58.3	
NNA	**Nana**	**6.58**	**300**	P	**Pn**	**07 38 03.9**	**+0.1**
	4.7nm,0.3s,baz=132,slow=13,SNR=12						
NNA				LR	LR	07 40 53.6	
	comp=Z,409nm,19.9s,baz=136,slow=40						
NNA	**Nana**	**6.58**	**300**	*e*Pn	**Pn**	**07 38 04.0**	**+0.2**
NNA				LR	LR	07 40 53.6	
LVC	**Limon Verde**	**7.45**	**165**	P	**Pn**	**07 38 14.0**	**-1.7**
	1.0nm,0.3s,baz=324,slow=9.5,SNR=16						
LVC				LR	LR	07 41 35.3	
	comp=Z,173nm,20.3s,baz=321,slow=41						
LVC	**Limon Verde**	**7.45**	**165**	*e*Pn	**Pn**	**07 38 14.0**	**-1.7**
LVC				*e*Sn	**Sn**	**07 39 39.4**	**+0.6**
LVC				LR	LR	07 41 35.3	
SIV	**San Ignacio**	**9.62**	**95**	P	**Pn**	**07 38 42.8**	**-2.7**
	0.5nm,0.3s,baz=273,slow=12,SNR=24						
SIV				Lg		07 41 29.8	
	0.4nm,0.3s,baz=11,slow=22,SNR=3.2						
CFAA	**Coronel Fontan**	**16.33**	**171**	P	**Pn**	**07 40 13.9**	**-1.0**
	0.1nm,0.3s,baz=350,slow=13,SNR=28						
CFAA				LR	LR	07 46 34.8	
	comp=Z,12nm,19.8s,baz=83,slow=37						
CPUP	**Villa Florida**	**16.79**	**133**	LR	LR	07 47 38.7	
	comp=Z,78nm,21.9s,baz=119,slow=40						
BDFB	**Brasilia**	**22.19**	**94**	LR	LR	07 50 47.9	
	comp=Z,40nm,21.5s,baz=31,slow=39						
SDV	**Santo Domingo**	**24.14**	**1**	P	**P**	**07 41 39.9**	**0.0**
	2.8nm,0.8s,mb3.8,baz=212,slow=18,SNR=2.5						
SDV				LR	LR	07 51 36.7	
	comp=Z,87nm,20.8s,baz=263,slow=38						
PLCA	**Paso Flores**	**25.24**	**179**	P	**P**	**07 41 51.0**	**+1.2**
	9.4nm,1.2s,mb4.2,baz=6.4,slow=11,SNR=6.6						
PLCA	**Paso Flores**	**25.24**	**179**	P	**P**	**07 41 51.4**	**+1.6**
	6.0nm,1.2s,mb4.0						
SWET	**Sewanee**	**52.28**	**345**	*e*P	**P**	**07 45 34.5**	**-0.3**
PLAL	**Pickwick Lake**	**52.65**	**342**	*e*P	**P**	**07 45 36.9**	**-0.6**
	8.8nm,1.0s,mb4.6						
CCM	**Cathedral Cave**	**56.45**	**341**	*e*P	**P**	**07 46 05.2**	**+0.1**
	4.8nm,1.1s,mb4.4						
PDAR	**Pinedale Array**	**67.84**	**330**	P	**P**	**07 47 22.8**	**+1.5**
	1.9nm,0.7s,mb4.3,baz=128,slow=8.2,SNR=8.7						
ULM	**Lac du Bonnet**	**68.92**	**343**	P	**P**	**07 47 27.9**	**+0.1**
	7.6nm,0.7s,mb4.7,baz=136,slow=7.0,SNR=5.7						
NVAR	**Mina Array Bea**	**69.46**	**322**	P	**P**	**07 47 31.4**	**0.0**
	0.7nm,0.8s,mb3.6,baz=165,slow=6.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**77.34**	**72**	P	**P**	**07 48 16.1**	**-2.3**
	1.3nm,0.8s,mb3.9,baz=264,slow=5.1,SNR=6.2						
YKA	**Yellowknife Ar**	**84.79**	**341**	P	**P**	**07 48 57.6**	**+0.8**
	3.4nm,1.0s,mb4.4,baz=133,slow=5.7,SNR=4.9						
WRA	**Warramunga Arr**	**136.91**	**216**	PKP	PKPdf	07 55 46.9	+0.7
	0.6nm,0.9s,baz=139,slow=2.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**137.16**	**21**	PKP	PKPdf	07 55 46.8	+1.2
	3.1nm,0.7s,baz=343,slow=4.6,SNR=4.0						
MJAR	**Matsushiro Arr**	**146.53**	**314**	PKPbc	PKPbc	07 56 04.7	+0.3
	2.5nm,0.8s,baz=63,slow=2.6,SNR=7.3						
SONM	**Songino Array**	**147.59**	**3**	PKPbc	PKPbc	07 56 08.7	+1.7
	4.1nm,0.7s,baz=321,slow=1.5,SNR=25						
KSRS	**Korea Array**	**152.34**	**326**	PKPbc	PKPbc	07 56 20.1	+1.2
	2.7nm,0.9s,baz=25,slow=2.4,SNR=6.7						

*IDC **01** 07:54:22.7±0.7,1612N×12028E,h0km,mb4.1/14, mb1 4.2/14,mb1mx4.1/25,mbtmp4.2/14,MS3.4/4, Ms1 3.4/4,ms1mx2.9/31,Error ellipse: s-maj=26.1km s-min=15.1km az=70.0*
*ISCJB **01** 07:54:27.7±0.3,1613N±003×11996E±004,h45km±4km, mb4.3/22,MS3.4/3,Error ellipse: s-maj=6.5km s-min=4.2km az=168.7*
*MAN **01** 07:54:28,1583N×120.15E,h1km,mb5.1,ML4.1,MS4.3*
MAN INTENSITY IV - DAGUPAN CITY, LINGAYEN, PANGASINAN.
*NEIC **01** 07:54:30.8±0.7,1608N×12020E,h64km±7km,mb4.5/7, Error ellipse: s-maj=9.1km s-min=4.7km az=87.0*
NEIC Felt [IV PIVS] at Dagupan and Lingayen; [II PIVS] at Villasis.
*BJI **01** 07:54:31.0,1625N×12030E,h51km,mB4.5,mb4.4*
ISC 01 07:54:28.5±0.4,1612N±002×12000E±003,h34km±3km, n63,σ1§25/76,mb4.3/22,MS3.4/3,6C-3D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.27**	**341**	*e*P	**Pb**	**07 54 34.8**	**-1.2**
BOLP				*e*S	**Sb**	**07 54 40.5**	**-0.6**
SCZP	**Santa Cruz**	**0.36**	**195**	*e*P	**Pb**	**07 54 36.2**	**-0.8**
SCZP				*e*S	**Sb**	**07 54 43.4**	**+0.5**
BCPH	**Baguio City Da**	**0.61**	**65**	⇑*i*P	**Pn**	**07 54 40.1**	**-0.7**
BCPH				*i* S	**Sb**	**07 54 48.8**	**-0.6**
PCPH	**Palayan**	**1.19**	**118**	⇓*e*P	**Pn**	**07 54 48.1**	**-0.6**
PCPH				*e*S	**Sn**	**07 55 03.7**	**0.0**
NBP	**Mount Natib**	**1.43**	**164**	⇓*e*P	**Pn**	**07 54 52.1**	**+0.1**
NBP				*e*S	**Sn**	**07 55 07.2**	**-2.5**
BALP	**Baler**	**1.56**	**104**	*e*P	**Pn**	**07 54 54.5**	**+0.7**
BALP				*e*S	**Sb**	**07 55 16.8**	**+0.6**
NZB	**Bigte**	**1.64**	**140**	⇑*e*P	**Pn**	**07 54

MKAR **Makanchi Array 43.70 323** P **P** **08 02 30.8 +0.5**
PETK **Petropavlovsk- 47.26 30** P **P** **08 02 57.2 -1.1**
comp=Z,7.6nm,0.7s,mb4.7,baz=203,slow=4.6,SNR=17
KURK **Kurchatov 47.82 325** *e*P **P** **08 03 02.6 0.0**
comp=Z,5.4nm,0.8s,mb4.6
STKA **Stephens Creek 52.02 157** P **P** **08 03 32.9 -1.9**
comp=Z,3.0nm,1.0s,mb4.2,baz=336,slow=12,SNR=3.1
STKA **Stephens Creek 52.02 157** P **P** **08 03 32.9 -1.9**
BVAR **Borovoye Array 53.41 325** P **P** **08 03 45.3 +0.5**
comp=Z,1.9nm,0.5s,mb4.3,baz=116,slow=10,SNR=11
BRVK **Borovoye 53.48 325** *e*P **P** **08 03 46.0 +0.6**
comp=Z,3.1nm,1.1s,mb4.2
AKTK **Aktyubinsk 59.94 319** P **P** **08 04 31.6 +0.3**
AKTO **Aktyubinsk 59.94 319** P **P** **08 04 31.6 +0.3**
comp=Z,2.0nm,0.7s,mb4.3,baz=97,slow=10,SNR=8.2
GNI **Garni 68.61 307** LR LR 08 36 33.3
comp=Z,73nm,19.1s,MS3.9,baz=92,slow=37
KDAK **Kodiak Island 75.15 34** P **P** **08 06 05.8 -1.4**
comp=Z,3.2nm,0.6s,mb4.4,baz=204,slow=8.0,SNR=4.9
MCK **McKinley 76.16 27** *e*P **P** **08 06 11.4 -1.4**
comp=Z,9.2nm,1.0s,mb4.7
PMR **Palmer 76.38 29** *e*P **P** **08 06 13.0 -1.1**
comp=Z,7.3nm,1.2s,mb4.5
ARCES **ARCESS Array B 76.60 339** P **P** **08 06 16.0 +0.8**
comp=Z,2.7nm,0.8s,mb4.2,baz=93,slow=6.3,SNR=4.0
SPITS **Spitsbergen Ar 77.10 348** P **P** **08 06 18.0 +0.1**
comp=Z,2.1nm,0.5s,mb4.3,baz=32,slow=11,SNR=5.0
SPITS **Spitsbergen Ar 77.10 348** P **P** **08 06 18.0 +0.1**
INK **Inuvik 81.09 21** P **P** **08 06 37.2 -2.7**
comp=Z,1.1nm,0.7s,mb3.9,baz=315,slow=2.9,SNR=4.3
INK **Inuvik 81.09 21** *e*P **P** **08 06 38.8 -1.2**
comp=Z,162nm,1.3s,mb5.8

ISCJB ***01*** *07:58:09.7±0.7,3444S±006×1787W±0.1,h47km,mb4.7/14, MS3.7/5, Error ellipse: s-maj=14.3km s-min=7.0km az=20.4*
IDC ***01*** *07:58:10.8±0.7,3418S×17861W,h44km±4km,mb4.4/9, mb1 4.5/10,mb1mx4.3/18,mbtmp4.4/10,ML4.4/1,MS3.6/6, Ms1 3.6/6,ms1mx3.4/21, Error ellipse: s-maj=17.0km s-min=13.2km az=144.0*
NEIC ***01*** *07:58:10.4±0.5,3445S×17863W,mb4.9/9, Error ellipse: s-maj=13.7km s-min=6.9km az=115.0*
ISC 01 07:58:11.5±0.7,3444S±006×1787W±0.1,h49km, h49km±1.9km:pP-P,n67,σ1§17/48,mb4.7/14,MS3.7/5, 1C-2D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.95**	**217**	P	**Pn**	**07 59 10.0**	**+0.5**
PUZ	**Puketiti**	**4.38**	**213**	P	**Pn**	**07 59 14.5**	**-0.9**
PUZ				S	**Sn**	**08 00 10.4**	**+5.3**
MWZ	**Matawai**	**4.93**	**217**	P	**Pn**	**07 59 23.1**	**0.0**
MWZ				S	**Sn**	**08 00 24.2**	**+5.4**
URZ	**Urewera**	**5.09**	**220**	P	**Pn**	**07 59 26.7**	**+1.5**
13nm,0.3s,baz=36,slow=5.9,SNR=36							
URZ				S	**Sn**	**08 00 27.7**	**+5.0**
19nm,0.3s,baz=145,slow=20,SNR=11							
URZ				LR	LR	08 00 36.1	
comp=Z,130nm,21.6s,baz=194,slow=27							
URZ	**Urewera**	**5.09**	**220**	P	**Pn**	**07 59 25.6**	**+0.4**
KNZ	**Kokohu**	**5.42**	**211**	P	**Pn**	**07 59 28.0**	**-1.7**
BKZ	**Black Stump Fm**	**6.09**	**218**	P	**Pn**	**07 59 38.9**	**0.0**
BKZ				S	**Sn**	**08 00 50.4**	**+3.2**
TSZ	**Takapari Road**	**7.04**	**216**	P	**Pn**	**07 59 48.5**	**-3.4**
TSZ				S	**Sn**	**08 01 11.7**	**+1.2**
MRZ	**Mangatainoka R**	**7.69**	**214**	P	**Pn**	**07 59 57.9**	**-3.0**
THZ	**Tophouse**	**9.85**	**220**	P	**Pn**	**08 00 30.1**	**-0.3**
THZ				S	**Sn**	**08 02 17.5**	**-2.1**
KHZ	**Kahutara**	**10.02**	**215**	P	**Pn**	**08 00 32.3**	**-0.4**
LTZ	**Lake Taylor**	**10.91**	**218**	P	**Pn**	**08 00 42.0**	**-2.9**
RPZ	**Rata Peaks**	**12.20**	**218**	P	**Pn**	**08 01 00.9**	**-1.6**
3.0nm,0.3s,baz=47,slow=4.3,SNR=21							
RPZ				S	**Sn**	**08 03 10.7**	**-6.3**
1.5nm,0.3s,baz=328,slow=18,SNR=7.5							
RAR	**Rarotonga**	**21.26**	**57**	LR	LR	08 08 36.0	
comp=Z,76nm,20.7s,MS3.1,baz=13,slow=30							
PPT	**Papeete**	**30.95**	**65**	LR	LR	08 14 44.1	
comp=Z,67nm,19.7s,MS3.3,baz=200,slow=32							
STKA	**Stephens Creek**	**33.19**	**263**	*e*P	**P**	**08 04 45.1**	**+1.5**
4.0nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**33.19**	**263**	P	**P**	**08 04 44.5**	**+0.9**
4.6nm,0.8s,mb4.5,baz=93,slow=9.3,SNR=5.9							
STKA				PcP	PcP	08 07 24.9	-0.6
2.2nm,0.7s,baz=120,slow=8.1,SNR=4.0							
STKA				LR	LR	08 16 13.5	
comp=Z,238nm,21.5s,MS3.9,baz=24,slow=32							
CTA	**Charters Tower**	**34.08**	**286**	*e*P	**P**	**08 04 52.9**	**+1.5**
6.2nm,0.6s,mb4.7							
CTA	**Charters Tower**	**34.08**	**286**	P	**P**	**08 04 52.8**	**+1.4**
6.5nm,0.5s,mb4.8,baz=118,slow=9.8,SNR=9.9							
CTAO	**Charters Tower**	**34.08**	**286**	*e*P	**P**	**08 04 50.7**	**-0.8**
7.4nm,0.6s,mb4.8							
CTAO				*e*pP	pP	08 05 01.7	-2.5
ASAR	**Alice Springs**	**42.46**	**272**	P	**P**	**08 06 02.2**	**+0.4**
17nm,0.7s,mb4.8,baz=114,slow=8.3,SNR=149							
ASAR				pP	pP	08 06 15.0	+0.1
10nm,0.7s,baz=113,slow=8.3,SNR=11							
ASAR				PcP	PcP	08 07 54.0	-0.1
1.7nm,0.5s,baz=114,slow=4.7,SNR=6.7							
ASAR				S	**S**	**08 12 21.8**	**+1.4**
0.9nm,0.9s,baz=125,slow=16,SNR=5.3							
WB2	**Warramunga Arr**	**43.80**	**277**	*e*P	**P**	**08 06 12.4**	**-0.3**
WB2	**Warramunga Arr**	**43.80**	**277**	*e*P	**P**	**08 06 12.6**	**-0.1**
WRAB	**Tennant Creek**	**43.81**	**277**	*e*P	**P**	**08 06 12.4**	**-0.4**
25nm,1.0s,mb4.9							
WRA	**Warramunga Arr**	**43.81**	**277**	P	**P**	**08 06 12.5**	**-0.3**
21nm,0.8s,mb4.9,baz=118,slow=7.3,SNR=134							
WRA				pP	pP	08 06 25.1	-0.8
7.2nm,0.5s,baz=118,slow=7.4,SNR=8.4							
VNDA	**Vanda**	**44.03**	**186**	pP	pP	08 06 29.9	+3.0
0.7nm,0.7s,baz=349,slow=8.7,SNR=3.3							
FORT	**Forrest**	**44.57**	**259**	*e*P	**P**	**08 06 19.1**	**+0.4**
19nm,0.5s,mb5.2							
KAKA	**Kakadu**	**49.17**	**284**	*e*P	**P**	**08 06 54.2**	**-0.7**
6.1nm,0.5s,mb4.9							
CASY	**Casey**	**51.32**	**209**	*e*P	**P**	**08 07 11.7**	**+1.3**
FITZ	**Fitzroy Crossi**	**51.88**	**273**	*e*P	**P**	**08 07 14.9**	**-0.3**
11nm,0.6s,mb5.0							
FITZ	**Fitzroy Crossi**	**51.88**	**273**	P	**P**	**08 07 15.0**	**-0.2**
5.4nm,0.6s,mb4.7,baz=152,slow=9.1,SNR=27							
FITZ				pP	pP	08 07 28.0	-0.7
4.0nm,0.8s,baz=157,slow=11,SNR=4.8							
KLBR	**Kellerberrin**	**52.57**	**254**	*e*P	**P**	**08 07 20.1**	**-0.2**
14nm,0.6s,mb5.0							
MUN	**Mundaring**	**53.66**	**253**	*e*P	**P**	**08 07 28.7**	**+0.5**
QSPA	**South Pole Qui**	**55.68**	**180**	P	**P**	**08 07 44.9**	**+2.7**
2.2nm,0.9s,mb4.2,baz=48,slow=7.7,SNR=8.4							
QSPA				pP	pP	08 07 57.9	+2.2
4.5nm,0.5s,baz=343,slow=1.9,SNR=9.4							
KAPI	**Kappang**	**63.82**	**283**	LR	LR	08 33 47.5	
comp=Z,206nm,19.2s,MS4.3,baz=0.9,slow=34							
SYO	**Syowa Base**	**73.06**	**194**‖	*e*P	**P**	**08 09 34.8**	**-1.1**
SYO	**Syowa Base**	**73.06**	**194**‖	*e*P	**P**	**08 09 45.6**	**+10**
SNAA	**Sanae**	**74.14**	**179**	*e*	**P**	**08 09 42.5**	**+0.3**
SNAA				*e*	pP	08 09 58.0	+1.7
SNAA				*e*		08 10 11.4	
SNAA	**Sanae**	**74.14**	**179**	*e*P	**P**	**08 09 43.3**	**+1.1**
5.8nm,1.4s,mb4.3							
VNA1	**Neumayer--Stat**	**74.98**	**177**	*e*	**P**	**08 09 48.7**	**+1.6**
VNA1				*e*	pP	08 10 03.7	+2.5
VNA1				*e*		08 10 16.5	
VNA1				*e*		08 37 43.4	
VNA1				*e*		08 37 51.0	
KSRS	**Korea Array**	**87.04**	**320**	P	**P**	**08 10 51.5**	**-0.1**
4.0nm,0.7s,mb4.8,baz=139,slow=5.7,SNR=14							
KSRS				LR	LR	08 46 01.8	
comp=Z,50nm,18.6s,MS4.0,baz=159,slow=33							
PETK	**Petropavlovsk-**	**89.57**	**346**	P	**P**	**08 11 02.8**	**-0.4**
5.7nm,0.7s,mb5.0,baz=133,slow=6.6,SNR=15							
BSI	**Banda Aceh**	**89.78**	**277**‖	*e*P	**P**	**08 10 58.5**	**-6.7**
BSI				*e*S	sP	08 11 24.0	-1.0
NVAR	**Mina Array Bea**	**91.60**	**43**	P	**P**	**08 11 11.8**	**-1.2**
0.4nm,0.7s,mb3.8,baz=216,slow=7.3,SNR=4.4							
NVAR				pP	pP	08 11 24.1	-3.2
0.5nm,0.7s,baz=222,slow=8.5,SNR=4.3							
MKAR	**Makanchi Array**	**119.86**	**309**	PKP	PKPdf	08 16 54.7	-1.2
1.5nm,0.7s,baz=48,slow=1.8,SNR=9.4							
MKAR	**Makanchi Array**	**119.86**	**309**	PKP	PKPdf	08 16 54.7	-1.2
TKM2	**Tokmak 2**	**123.11**	**302**	*e*PKPdf	PKPdf	08 17 02.0	-0.3
BVAR	**Borovoye Array**	**128.81**	**314**	PKP	PKPdf	08 17 12.7	-0.2
2.4nm,0.6s,baz=96,slow=1.5,SNR=7.4							
AKTK	**Aktyubinsk**	**136.28**	**309**	PKP	PKPdf	08 17 26.8	-0.3
AKTO	**Aktyubinsk**	**136.28**	**309**	PKP	PKPdf	08 17 26.8	-0.3
2.3nm,0.6s,baz=45,slow=3.4,SNR=9.4							

ARCES	**ARCESS Array B 142.38 346**	PKhKP				08 17 32.7	
2.1nm,0.7s,baz=34,slow=5.5,SNR=4.6							
ARCES	**ARCESS Array B 142.38 346**	PKP				08 17 32.7	
JOF	**Joensuu 145.90 336**	*e*p		PKPdf		08 17 42.9	-1.0
18nm,0.5s							
KAF	**Kangasniemi 148.10 338**	*e*p		PKPdf		08 17 49.3	+1.7
7.2nm,0.6s							
EIL	**Elat 151.16 270**	PKPbc		PKPbc		08 17 60.0	+0.5
3.9nm,0.6s,baz=226,slow=1.4,SNR=4.6							
MMAI	**Mount Meron Ar 151.67 277**	PKPbc		PKPbc		08 18 01.7	+1.2
3.9nm,0.5s,baz=91,slow=7.8,SNR=5.4							
DBIC	**Dimbokro 151.79 167**	PKPbc		PKPbc		08 18 01.4	+0.1
3.0nm,0.7s,baz=162,slow=13,SNR=3.6							
NB2	**NORSAR Subarra152.62 349**	PKP		PKPbc		08 18 00.5	-1.3
comp=Z,6.7nm,0.8s,baz=18,slow=2.6							
NOA	**NORSAR Array B 152.62 349**	PKPbc		PKPbc		08 18 00.9	-0.9
comp=Z,4.7nm,0.8s,baz=13,slow=4.1,SNR=10							
HFS	**Hagfors 153.05 346**	PKPbc		PKPbc		08 18 01.2	-1.6
comp=Z,5.6nm,0.8s,baz=122,slow=1.9,SNR=6.7							
AKASG	**Malin Array Be 154.00 317**	PKPbc		PKPbc		08 18 04.3	-0.8
comp=Z,1.0nm,0.5s,baz=57,slow=2.2,SNR=6.8							
AKASG		pPKPbc		pPKPbc		08 18 17.7	-2.3
comp=Z,5.2nm,0.7s,baz=47,slow=4.2,SNR=6.6							
AKASG	**Malin Array Be 154.00 317**	PKPbc		PKPbc		08 18 04.3	-0.8
AKASG		pPKPbc		pPKPbc		08 18 17.7	-2.2
TORD	**Torodi Ar. Bea 158.80 181**	PKPab		PKPab		08 18 39.9	-0.2
comp=Z,0.8nm,0.5s,baz=169,slow=3.3,SNR=5.0							
TORD		pPKPab		pPKPab		08 18 53.2	-1.4
comp=Z,1.4nm,0.5s,baz=170,slow=4.0,SNR=4.7							
CLL	**Collm 161.12 337**	*i* PKPab		PKPab		08 18 48.0	-1.4
comp=Z,19nm,1.5s							
BRG	**Berggiesshubel 161.17 335**	*e*P		PKPab		08 18 48.7	-0.8
comp=Z,7.5nm,0.9s							
GERES	**GERESS Array B 162.91 331**	PKPab		PKPab		08 18 55.8	-1.4
comp=Z,0.9nm,0.7s,baz=64,slow=3.1,SNR=6.3							
DAVOX	**Davos/Dischmat 166.07 335**	PKPab		PKPab		08 19 08.8	-2.4
comp=Z,2.1nm,0.4s,baz=32,slow=14,SNR=5.1							

ISCJB ***01*** *08:00:35.6±1.3,2705N±007×577E±0.1,h10km, Error ellipse: s-maj=14.2km s-min=8.7km az=148.8*
CSEM ***01*** *08:00:35.7±0.2,2722N×5770E,h2km,ML4.3/1, Error ellipse: s-maj=4.8km s-min=3.9km az=121.0*
THR ***01*** *08:00:36.3±0.4,2718N×5775E,h14km±7km,ML3.1*
ISC 01 08:00:36.5±1.2,2704N±008×5773E±010,h10km,n11, σ0§93/14,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.43**	**285**	*e*Pg	**Pn**	**08 01 02.5**	**-0.1**
BNDS				*e*Sg	**Sg**	**08 01 21.8**	**-0.9**
BNDS				AML	AML	08 01 29.6	
comp=N,278nm,0.4s							
BNDS	**Bandar-Abbas**	**1.43**	**285**	*e*Pg	**Pn**	**08 01 02.5**	**-0.1**
SNR=90							
BNDS				*e*Sg	**Sg**	**08 01 21.8**	**-0.9**
SNR=90							
BANOM	**Banah**	**1.70**	**229**	P	**Pn**	**08 01 06.0**	**-0.2**
SNR=39							
BANOM	**Banah**	**1.70**	**229**	Pn	**Pn**	**08 01 06.0**	**-0.2**
SNR=39							
BANOM				Sn	**Sg**	**08 01 37.5**	**+6.4**
HATD	**Hatta, Dubai**	**2.63**	**214**	Pn	**Pn**	**08 01 18.1**	**-1.0**
ASHO	**Ashiyiah**	**2.79**	**213**	P	**Pn**	**08 01 21.0**	**-0.2**
SNR=27							
FAQ	**Al Faqa, Dubai**	**2.99**	**221**	Pn	**Pn**	**08 01 25.1**	**+1.1**
SNR=19							
KRBR	**Kerman**	**3.05**	**344**	*e*Pn	**Pn**	**08 01 24.7**	**-0.2**
KRBR				AML	AML	08 02 02.8	
comp=N,67nm,1.4s							
KRBR				AML	AML	08 02 03.1	
comp=E,61nm,0.2s							
ASUD	**Al Ashush, Dub**	**3.23**	**223**	Pn	**Pn**	**08 01 28.9**	**+1.6**
SNR=17							
BIDO	**Bidbid**	**3.52**	**174**	P	**Pn**	**08 01 30.1**	**-1.3**
SNR=6.4							
GHIR	**Ghir-Karzin**	**4.39**	**288**	*e*Pn	**Pn**	**08 01 44.5**	**+1.3**

NIED ***01*** *08:15:00,3400N×13680E,h400km,Mw5.5 Best double couple: M0=2.32000×10^17 NP1:φs165.00000°,δ87.00000°, λ35.00000°. NP2:φs73.00000°,δ55.00000°,λ176.00000°.*
ORF ***01*** *08:15:12.1,3387N×14197E,h30km,mb5.6*
MOS ***01*** *08:15:57.9±0.8,3398N×13663E,h357km,mb5.3/119, Error ellipse: s-maj=6.7km s-min=3.5km az=108.5*
BJI ***01*** *08:15:57.7,3402N×13656E,h354km,mB5.3,mb5.6*
JMA ***01*** *08:15:58.9±0.2,3399N×13677E,h383km±2km,M5.5 Broadband fault plane solution: P waves. NP1: φs62.00000°,δ59.00000°,λ-178.00000°. NP2: φs331.00000°,δ88.00000°,λ-31.00000°. Principal axes: T Plg20.0000°, Azm21.0000°; N Plg59.0000°, Azm148.0000°; P Plg23.0000°, Azm282.0000°;*
JMA Felt II J1.
SZGRF ***01*** *08:15:59.4,3447N×13789E,h370km,mb5.5,Near south coast of eastern Honshu, Japan*
ISCJB ***01*** *08:15:59.6±0.1,3402N±002×13663E±001,h369km, mb5.2/291, Error ellipse: s-maj=2.6km s-min=1.5km az=161.7*
GCMT ***01*** *08:16:00.2±0.2,3384N×13660E,h374km±1km,MW5.4/73, Moment Tensor Solution. s73,c126; Duration: 1§3 Moment tensor: Scale 10^17Nm; Mrr0.32±.03; Mθθ0.69±.04; Mφφ-1.00±.05; Mrθ0.37±.04; Mθφ-1.03±.04; Mφr-1.06±.04; Best double couple: M0 1.75900×10^17 NP1:φs68.00000°, δ49.00000°,λ171.00000°. NP2:φs164.00000°,δ83.00000°, λ42.00000°. Principal axes: T 1.6970, Plg33.0000°, Azm35.0000°; N 0.1250, Plg48.0000°, Azm172.0000°; P -1.8200, Plg22.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s.*
IDC ***01*** *08:16:00.1±0.4,3389N×13665E,h374km±3km,mb4.7/29, mb1 4.8/33,mb1mx4.7/37,mbtmp4.7/33 Error ellipse: s-maj=7.0km s-min=5.4km az=78.0*
DJA ***01*** *08:16:00,3394N×13661E,h367km,mb5.2/29*
NEIC ***01*** *08:16:00.2±0.1,3391N×13661E,mb5.3/201,MW5.5, MW5.5(NIED), Error ellipse: s-maj=4.1km s-min=3.0km az=160.0,Moment Tensor Solution. s20 Moment tensor: Scale 10^17Nm; Mrr0.00; Mθθ0.47; Mφφ-0.47; Mrθ0.41; Mθφ-1.33; Mφr-1.29; Best double couple: M0 2.00000×10^17 NP1:φs169.00000°,δ89.00000°,λ43.00000°. NP2: φs78.00000°,δ47.00000°,λ178.00000°. Principal axes: T 2.0500, Plg30.0000°, Azm43.0000°; N -0.1900, Plg46.0000°, Azm171.0000°; P -1.8600, Plg28.0000°, Azm295.0000°;*
NEIC Felt [II] at Tokyo. Also felt at Higashi-matsuyama and Kashima. Recorded [2 JMA] in Chiba, Fukushima, Ibaraki, Miyagi, Saitama, Tochigi and Tokyo; [1 JMA] in Gumma, Iwate, Kanagawa and Yamanashi Prefectures.
ISC 01 08:16:00.9±0.1,3402N±002×13662E±001,h371km, h371km±7km:pP-P,n1246,σ0§78/1315,mb5.2/291, 193C-241D,Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKN2	**Miekihoku**	**0.36**	**308**	⇑P	**Pn**	**08 16 46.9**	**-0.2**
JIE	**Ise**	**0.38**	**11**	‖P	**Pn**	**08 16 47.0**	**-0.1**
JIE				S	**S**	**08 17 24.1**	**-0.3**
TSUJ	**Tsu 2**	**0.71**	**347**	S	**S**	**08 17 25.0**	**-0.7**
JAA	**Atsumi**	**0.75**	**35**	‖P	**Pn**	**08 16 47.7**	**-0.2**
JAA				S	**S**	**08 17 25.1**	**-0.8**
TK01	**Tokai 1**	**0.85**	**107**	P	**Pn**	**08 16 47.4**	**-0.9**
JWY	**Kouya**	**0.87**	**284**	⇑P	**Pn**	**08 16 48.4**	**+0.1**
JWY				S	**S**	**08 17 25.9**	**-0.7**
JWZ	**Kozaga**	**0.90**	**238**	⇑P	**Pn**	**08 16 47.7**	**-0.8**
JWZ				S	**S**	**08 17 25.0**	**-1.8**
TK02	**Tokai 2**	**0.95**	**94**	‖P	**Pn**	**08 16 48.1**	**-0.5**
TK02				S	**S**	**08 17 27.3**	**+0.3**
JHE	**Heguri**	**1.00**	**310**	⇑P	**Pn**	**08 16 48.7**	**-0.1**
JWM	**Minabe**	**1.06**	**261**	⇑P	**Pn**	**08 16 48.6**	**-0.5**
TK04	**Tokai 4**	**1.10**	**70**	P	**Pn**	**08 16 48.9**	**-0.3**
TK04				S	**S**	**08 17 28.6**	**+0.5**
TK03	**Tokai 3**	**1.13**	**82**	P	**Pn**	**08 16 48.3**	**-1.0**
TK03				S	**S**	**08 17 29.4**	**+1.2**
HMMJ	**Hamamatsu 2**	**1.24**	**47**	‖P	**Pn**	**08 16 49.2**	**-0.5**
HMMJ				S	**S**	**08 17 28.0**	**-1.1**
JYZW	**Yoshizawa**	**1.34**	**43**	P	**Pn**	**08 16 49.5**	**-0.7**
JAO	**Obara**	**1.35**	**23**	‖P	**Pn**	**08 16 50.2**	**0.0**
JFM	**Mihama**	**1.60**	**341**	‖P	**Pn**	**08 16 51.8**	**+0.3**
JWT	**Wachi**	**1.61**	**322**	‖P	**Pn**	**08 16 51.8**	**+0.2**
JWT				S	**S**	**08 17 31.8**	**-0.7**
SHZ3	**Shizuoka 3**	**1.68**	**51**	‖P	**Pn**	**08 16 51.5**	**-0.5**
JGM	**Miyama**	**1.68**	**3**	‖P	**Pn**	**08 16 52.0**	**0.0**
JGM				S	**S**	**08 17 33.0**	**-0.2**
JNY	**Yasuok**	**1.69**	**37**	‖P	**Pn**	**08 16 51.5**	**-0.5**
JAI	**Aioi**	**1.82**	**264**	⇑P	**Pn**	**08 16 52.9**	**0.0**
JAI				S	**S**	**08 17 34.5**	**-0.2**
JIZS	**Izushimoda**	**2.00**	**69**	‖P	**Pn**	**08 16 52.8**	**-1.2**
MRT2	**Murotomisaki 2**	**2.16**	**254**	⇑P	**Pn**	**08 16 55.0**	**-0.2**
JYN	**Shimob**	**2.17**	**46**	P	**Pn**	**08 16 54.1**	**-1.0**
JNT	**Takato**	**2.24**	**34**	‖P	**Pn**	**08 16 54.9**	**-0.7**
JKSM	**Kasumi**	**2.25**	**315**	‖P	**Pn**	**08 16 55.9**	**+0.2**
JKG	**Kaga**	**2.27**	**354**	⇑P	**Pn**	**08 16 55.8**	**0.0**
JKG				S	**S**	**08 17 39.5**	**-0.7**
JGN	**Niukaw**	**2.27**	**14**	P	**Pn**	**08 16 55.5**	**-0.4**
JGN				S	**S**	**08 17 39.7**	**-0.6**
AJI	**Ajiro2**	**2.29**	**63**	‖P	**Pn**	**08 16 54.6**	**-1.4**
JMN	**Monobe**	**2.30**	**264**	⇑P	**Pn**	**08 16 56.6**	**+0.5**
JMN				S	**S**	**08 17 41.9**	**+1.2**
JOD2	**Odawara 2**	**2.39**	**58**	‖P	**Pn**	**08 16 55.5**	**-1.2**
JOD2				S	**S**	**08 17 40.7**	**-1.1**
JIM2	**Oshima 3**	**2.43**	**72**	‖P	**Pn**	**08 16 55.5**	**-1.6**
JTT	**Ttatey**	**2.65**	**13**	‖P	**Pn**	**08 16 58.7**	**0.0**
JNG	**Nsakai**	**2.68**	**27**	‖P	**Pn**	**08 16 58.3**	**-0.7**
JNG				S	**S**	**08 17 44.8**	**-1.1**
JRY	**Ryogami san**	**2.74**	**43**	‖P	**Pn**	**08 16 58.6**	**-0.9**
JRY				S	**S**	**08 17 45.8**	**-1.0**
JHJ	**Hachijo jima 2**	**2.79**	**108**	P	**Pn**	**08 16 58.0**	**-2.0**
1μm,0.3s,baz=350,slow=2.5,SNR=259							
JHJ				S	**S**	**08 17 48.9**	**+1.2**
450nm,0.3s,baz=245,slow=22,SNR=4.0							
JHJ2	**Mitsune**	**2.82**	**108**	P	**Pn**	**08 16 58.0**	**-2.2**
MAJO	**Matsushiro**	**2.84**	**27**	*e*Pn	**Pn**	**08 16 56.1**	**-4.1**
MAJO				*e*Sn	**S**	**08 17 42.5**	**-5.8**
MAT	**Matsushiro**	**2.84**	**27**	P	**Pn**	**08 16 59.4**	**-0.9**
MAT				S	**S**	**08 17 45.2**	**-3.1**
MAT	**Matsushiro**	**2.84**	**27**	P	**Pn**	**08 16 59.4**	**-0.9**
MAT				S	**S**	**08 17 46.4**	**-1.9**
MJAR	**Matsushiro Arr**	**2.84**	**27**	P	**Pn**	**08 16 58.9**	**-1.3**
107nm,0.3s,baz=195,slow=9.1,SNR=2709							
MJAR				S	**S**	**08 17 46.0**	**-2.2**
52nm,0.3s,baz=191,slow=16,SNR=15							
MJAR	**Matsushiro Arr**	**2.84**	**27**	P	**Pn**	**08 16 58.9**	**-1.4**
MJAR				S	**S**	**08 17 46.1**	**-2.2**
MJAR				pmax	pmax		
comp=Z,107nm,0.3s							
MJAR				smax			
comp=N,52nm,0.3s							
MJAR	**Matsushiro Arr**	**2.84**	**27**	P	**Pn**	**08 16 58.9**	**-1.4**
MJAR				S	**S**	**08 17 46.0**	**-2.2**
JGK	**Kuni**	**3.03**	**32**	‖P	**Pn**	**08 17 01.0**	**-0.9**
JKU	**Kubokawa**	**3.05**	**258**	⇑P	**Pn**	**08 17 02.5**	**+0.3**
JHS	**Saijyo**	**3.05**	**290**	‖P	**Pn**	**08 17 02.8**	**+0.6**
JHS				S	**S**	**08 17 54.0**	**+2.3**
BSO4	**Boso 4**	**3.22**	**71**	‖P	**Pn**	**08 17 01.1**	**-2.6**
JNM	**Ikuma**	**3.30**	**298**	‖P	**Pn**	**08 17 04.9**	**+0.5**
BSO3	**Boso 3**	**3.31**	**75**	‖P	**Pn**	**08 17 01.0**	**-3.5**
JAG	**Ashikaga**	**3.34**	**43**	‖P	**Pn**	**08 17 02.3**	**-2.4**
JAG				S	**S**	**08 17 51.4**	**-4.9**
JTO	**Tosashimizu**	**3.39**	**251**	⇑P	**Pn**	**08 17 05.5**	**+0.2**
JTO				S	**S**	**08 17 57.4**	**+0.1**
JHM	**Kurahashi**	**3.40**	**273**	‖P	**Pn**	**08 17 05.7**	**+0.4**
SAI	**Saigo**	**3.46**	**310**	P	**Pn**	**08 17 06.9**	**+1.1**
SAI				S	**S**	**08 17 59.6**	**+1.2**
JSZ	**Suzu**	**3.48**	**10**	⇑P	**Pn**	**08 17 05.2**	**-0.7**
JKT	**Katashina**	**3.49**	**37**	‖P	**Pn**	**08 17 04.3**	**-1.7**
JHT	**Toyohira**	**3.53**	**282**	‖P	**Pn**	**08 17 06.9**	**+0.4**
BSO1	**Boso 1**	**3.66**	**79**	‖P	**Pn**	**08 17 03.6**	**-4.2**
JHIK	**Hikimi**	**3.92**	**279**	‖P	**Pn**	**08 17 10.8**	**+0.6**
JKD	**Kudamatsu**	**3.94**	**272**	‖P	**Pn**	**08 17 11.2**	**+0.7**
JHO	**Hitachi**	**4.14**	**50**	P	**Pn**	**08 17 09.3**	**-3.1**
JUS	**Usuki**	**4.17**	**258**	⇑P	**Pn**	**08 17 13.5**	**+0.7**
JKI	**Kunimi**	**4.22**	**266**	⇑P	**Pn**	**08 17 14.3**	**+1.0**
JSD	**Sado**	**4.23**	**18**	⇑P	**Pn**	**08 17 12.0**	**

YUK				pmax	pmax	
	comp=Z,15μm,2.3s					
YUK				pmax	pmax	
	comp=N,18μm,2.7s					
YUK				pmax	pmax	
	comp=E,9μm,2.5s					
YUK				pmax	pmax	
	comp=N,740nm,0.4s					
YUK				pmax	pmax	
	comp=Z,2μm,0.4s					
YUK				pmax	pmax	
	comp=E,2μm,0.7s					
YUK				smax		
	comp=N,6μm,1.8s					
YUK				smax		
	comp=E,13μm,2.6s					
YUK				smax		
	comp=N,3μm,0.5s					
YUK				smax		
	comp=E,2μm,0.5s					
YUK				MLR	MLR	
	comp=Z,5μm,16.0s					
YUK				MLR	MLR	
	comp=E,7μm,15.5s					
SNY	**Shenyang**	**12.90 311**	⇓P	**P**	**08 18 52.0 +0.6**	
SNY			XP		08 20 09.8	
SNY			S	**S**	**08 21 13.4 +0.7**	
SNY			AMB	AMB		
	comp=Z,451nm,1.3s					
SNY			AMB	AMB		
	comp=Z,2μm,5.3s					
DL2	**Dalian**	**13.01 296**	*i* P	**P**	**08 18 52.5 -0.2**	
DL2			S	**S**	**08 21 12.7 -2.2**	
DL2			AMB	AMB		
	comp=Z,250nm,1.0s					
DL2			AMB	AMB		
	comp=Z,570nm,7.0s					
CN2	**Changchun**	**13.07 322**	⇓P	**P**	**08 18 53.4 +0.2**	
CN2			*e*S	**S**	**08 21 15.2 -0.7**	
CN2			AMB	AMB		
	comp=Z,200nm,3.0s					
SSE	**Sheshan**	**13.34 262**	P	**P**	**08 18 55.1 -1.3**	
SSE			S	**S**	**08 21 21.2 -0.5**	
SSE			AMB	AMB		
	comp=Z,53nm,0.6s					
SSE			AMB	AMB		
	comp=Z,693nm,7.6s					
YSS	**Yuzh-Sakhalins**	**13.73 18**	*αe*P	**P**	**08 19 00.0 -0.5**	
YSS			*e*S	**S**	**08 21 26.0 -3.2**	
YSS			pmax	pmax		
	comp=N,3μm,1.0s					
YSS			pmax	pmax		
	comp=E,1μm,1.0s					
YSS			pmax	pmax		
	comp=Z,2μm,1.0s					
YSS			pmax	pmax		
	comp=N,10μm,1.0s					
YSS			pmax	pmax		
	comp=E,3μm,1.0s					
YSS			pmax	pmax		
	comp=Z,10μm,1.0s					
YSS			smax			
	comp=N,810nm,1.1s					
YSS			smax			
	comp=E,630nm,1.2s					
YSS			smax			
	comp=N,2μm,6.0s					
YSS			smax			
	comp=E,3μm,7.0s					
YSS			MLR	MLR		
	comp=Z,500nm,13.0s					
YSS			MLR	MLR		
	comp=N,900nm,11.0s					
YSS			MLR	MLR		
	comp=E,600nm,13.0s					
YSS	**Yuzh-Sakhalins**	**13.73 18**	*e*P	**P**	**08 19 00.9 +0.4**	
JTJ	**Tarama**	**13.96 231**	P	**P**	**08 19 02.4 -0.9**	
JTJ			S	**S**	**08 21 30.3 -4.1**	
KUR	**Kuril'sk**	**14.15 34**	P	**P**	**08 19 00.5 -4.5**	
KUR			*e*S	**S**	**08 21 39.0 +1.4**	
KUR			pmax	pmax		
	comp=N,3μm,2.0s					
KUR			pmax	pmax		
	comp=E,2μm,2.0s					
KUR			pmax	pmax		
	comp=Z,8μm,2.0s					
KUR			pmax	pmax		
	comp=N,750nm,1.0s					
KUR			pmax	pmax		
	comp=E,750nm,1.0s					
KUR			pmax	pmax		
	comp=Z,3.0nm,1.0s					
KUR			smax			
	comp=N,12μm,4.0s					
KUR			smax			
	comp=E,12μm,4.0s					
KUR			smax			
	comp=N,2μm,1.0s					
KUR			smax			
	comp=E,380nm,1.0s					
HABR	**Khabarovsk**	**14.49 356**	⇓*e*P	**P**	**08 19 07.6 -1.1**	
HABR			*e*S	**S**	**08 21 42.9 -1.5**	
HABR			pmax	pmax		
	comp=Z,203nm,1.2s					
JIJ	**Ishigaki jima**	**14.52 232**	P	**P**	**08 19 07.9 -1.5**	
JIJ			S	**S**	**08 21 41.7 -3.9**	
HATJ	**Hateruma jima**	**14.96 232**	P	**P**	**08 19 13.0 -1.1**	
NJ2	**Nanjing**	**15.03 267**	*e*P	**P**	**08 19 15.1 +0.2**	
NJ2			XP		08 20 37.6	
NJ2			S	**S**	**08 21 53.0 -2.6**	
NJ2			PCP	PcP	08 23 57.6 +0.1	
NJ2			PCS	PcS	08 27 31.5 -1.4	
NJ2			SCS	ScS	08 30 35.5 +1.6	
NJ2			AMB	AMB		
	comp=Z,760nm,1.0s					
NJ2			AMB	AMB		
	comp=Z,900nm,5.7s					
YOJ	**Yonaguni jima**	**15.21 235**	P	**P**	**08 19 15.0 -1.9**	
KLR	**Kul'dur**	**15.62 348**	*e*P	**P**	**08 19 15.2 -5.8**	
KLR			*e*S	**S**	**08 21 58.5 -8.5**	
TATO	**Taipei**	**15.94 240**	P	**P**	**08 19 23.4 -1.4**	
	SNR=6.0					
TATO	**Taipei**	**15.94 240**	*e*P	**P**	**08 19 25.0 +0.2**	
	comp=Z,50nm,0.8s					
TIA	**Tai'an**	**16.10 283**	⇓P	**P**	**08 19 26.3 -0.1**	
TIA			S	**S**	**08 22 18.5 +1.7**	
TIA			AMB	AMB		
	comp=Z,382nm,1.0s					
YHNB	**Yeheng**	**16.21 239**	*e*P	**P**	**08 19 26.5 -1.2**	
	comp=Z,122nm,1.0s					
NACB	**Ninganchiao**	**16.37 237**	*e*P	**P**	**08 19 26.7 -2.7**	
	comp=Z,130nm,1.1s					
BJI	**Beijing**	**17.38 296**	P	**P**	**08 19 39.1 -1.0**	
BJI			XP	sP	08 21 14.5 -5.5	
BJI			S	**S**	**08 22 39.9 -1.8**	
BJI			SCP	ScP	08 26 58.8 -1.3	
BJI			SCS	ScS	08 30 39.4 -0.9	
BJI			AMB	AMB		
	comp=Z,320nm,1.1s					
BJI			AMB	AMB		
	comp=Z,2μm,3.8s					
BJT	**Baijiatuau**	**17.38 296**	*e*P	**P**	**08 19 39.0 -1.1**	
BJT			S	**S**	**08 22 41.8 +0.1**	
BJT			pmax	pmax		
	comp=Z,524nm,1.2s					
BJT	**Baijiatuau**	**17.38 296**	*e*P	**P**	**08 19 39.0 -1.0**	
	comp=Z,524nm,1.2s					
BJT			S	**S**	**08 22 41.8 +0.1**	
QZH	**Quanzhou**	**18.09 245**	⇓*i*P	**P**	**08 19 45.4 -2.4**	
QZH			S	**S**	**08 22 51.4 -4.3**	
QZH			AMB	AMB		
	comp=Z,420nm,1.0s					
WHN	**Wuhan**	**19.14 266**	P	**P**	**08 19 57.4 -1.3**	
WHN			S	**S**	**08 23 12.0 -2.8**	
WHN			SCP	ScP	08 27 04.8 +0.7	
WHN			AMB	AMB		
	comp=Z,632nm,0.6s					
HIA	**Hailar**	**19.71 326**	*e*P	**P**	**08 20 02.6 -1.8**	
HIA			pmax	pmax		
	comp=Z,318nm,0.8s					
HIA	**Hailar**	**19.71 326**	*e*P	**P**	**08 20 02.6 -1.8**	
	comp=Z,318nm,0.8s					
HHC	**Hu-ho-hao-te**	**20.99 296**	⇓*i*P	**P**	**08 20 15.8 -0.4**	
HHC			XP	sP	08 21 54.2 -5.7	
HHC			S	**S**	**08 23 44.8 0.0**	
HHC			PCP	PcP	08 24 10.3 +2.8	
HHC			PCS	PcS	08 27 46.9 +1.2	
HHC			SCS	ScS	08 30 52.6 +0.3	
HHC			AMB	AMB		
	comp=Z,179nm,1.7s					
HHC			AMB	AMB		
	comp=Z,2μm,4.6s					
GUMO	**Guam**	**21.67 158**	P	**P**	**08 20 20.6 -2.1**	
	comp=Z,210nm,0.7s,mb5.5,baz=154,slow=3.5,SNR=9.4					
GUMO	**Guam**	**21.67 158**	P	**P**	**08 20 20.6 -2.1**	
GUMO			pmax	pmax		
	comp=Z,210nm,0.7s,mb5.5					
GUMO	**Guam**	**21.67 158**	*e*P	**P**	**08 20 22.4 -0.3**	
	comp=Z,620nm,1.4s,mb5.7					
SKR	**Severo-Kuril's**	**21.92 35**	*e*P	**P**	**08 20 22.0 -2.5**	
SKR			*e*		08 24 06.0	
SKR			pmax	pmax		
	comp=E,1μm,4.0s					
SKR			pmax	pmax		
	comp=Z,1μm,4.0s					
SKR			pmax	pmax		
	comp=N,110nm,0.5s					
SKR			pmax	pmax		
	comp=E,140nm,0.5s					
SKR			pmax	pmax		
	comp=Z,460nm,0.5s,mb6.0					
BTO	**Baotou**	**22.11 295**	*e*P	**P**	**08 20 26.3 -0.1**	
XAN	**Xi'an**	**22.93 278**	P	**P**	**08 20 33.2 -0.8**	
XAN			XP	sP	08 22 11.6 -9.4	
XAN			S	**S**	**08 24 07.6 -8.4**	
XAN			PCP	PcP	08 24 14.2 +2.7	
XAN			SCP	ScP	08 27 17.6 +4.1	
XAN			PCS	PcS	08 27 52.7 +1.8	
XAN			SCS	ScS	08 31 01.5 +1.7	
XAN			AMB	AMB		
	comp=Z,290nm,1.3s,mb5.3					
XAN			AMB	AMB		
	comp=Z,754nm,11.1s					
CLNS	**Chul'man**	**24.19 344**	*e*P	**P**	**08 20 45.7 +0.7**	
CLNS			*e*		08 24 08.5	
CLNS			*e*S	**S**	**08 24 38.9 +3.6**	
CLNS			pmax	pmax		
	comp=Z,95nm,0.8s,mb5.1					
CLNS			pmax	pmax		
	comp=N,91nm,1.2s					
CLNS			pmax	pmax		
	comp=E,28nm,0.7s					
CLNS			smax			
	comp=N,130nm,1.4s					
CLNS			smax			
	comp=E,79nm,1.4s					
PETK	**Petropavlovsk-**	**24.28 32**	P	**P**	**08 20 45.2 -0.6**	
	comp=E,99nm,0.9s,mb5.1,baz=211,slow=5.4,SNR=130					
PETK			ScP	ScP	08 27 14.9 -1.8	
	comp=E,4.1nm,0.8s,baz=171,slow=2.8,SNR=5.4					
PETK	**Petropavlovsk-**	**24.28 32**	*e*P	**P**	**08 20 45.9 0.0**	
CIT	**Chita**	**24.49 324**	*e*P	**P**	**08 20 48.3 +0.6**	
CIT			*e*		08 22 29.7	
CIT			*e*		08 24 41.2	
CIT			*e*		08 31 02.4	
CIT			pmax	pmax		
	comp=Z,458nm,2.5s,mb5.3					
PET	**Petropavlovsk**	**24.65 33**	*α i*P	**P**	**08 20 48.6 -0.6**	
PET			*e**SP	sP	08 22 37.0 -2.2	
PET			*e*S	**S**	**08 24 42.3 -0.3**	
PET			pmax	pmax		
	comp=Z,800nm,3.1s					
PET			pmax	pmax		
	comp=Z,184nm,0.8s,mb5.4					
PET			pmax	pmax		
	comp=Z,400nm,12.3s					
PET			MLR	MLR		
	comp=Z,600nm,17.0s					
PET			MLR	MLR		
	comp=Z,700nm,15.0s					
PET	**Petropavlovsk**	**24.65 33**	*e*P	**P**	**08 20 48.5 -0.7**	
	comp=Z,117nm,0.7s,mb5.2					
SONM	**Songino Array**	**26.49 310**	P	**P**	**08 21 06.7 +1.2**	
	comp=Z,194nm,0.9s,mb5.3,baz=118,slow=8.4,SNR=275					
SONM			S	**S**	**08 25 13.9 +2.3**	
	comp=Z,2.1nm,0.9s,baz=126,slow=7.4,SNR=1.9					
SONM			ScP	ScP	08 27 22.3 -1.0	
	comp=Z,4.3nm,0.8s,baz=121,slow=2.1,SNR=6.4					
SONM	**Songino Array**	**26.49 310**	P	**P**	**08 21 06.7 +1.1**	
SONM			S	**S**	**08 25 13.9 +2.3**	
SONM			pmax	pmax		
	comp=Z,194nm,1.0s					
SONM			smax			
	comp=N,2.0nm,0.9s					
SONM			pmax	pmax		
	comp=N,4.0nm,0.8s					
LZH	**Lanzhou**	**26.84 284**	⇓P	**P**	**08 21 08.3 -0.6**	
LZH			AP		08 22 12.6	
LZH			PP	PP	08 22 19.5 +0.8	
LZH			XP	sP	08 22 53.4 -6.7	
LZH			PCP	PcP	08 24 21.0 +0.7	
LZH			S	**S**	**08 25 18.0 +0.4**	
LZH			XS	sS	08 27 13.2 -9.3	
LZH			SCP	ScP	08 27 24.5 -0.1	
LZH			SCS	ScS	08 31 13.6 -2.5	
LZH			AMB	AMB		
	comp=Z,215nm,1.2s,mb5.2					
LZH			AMB	AMB		
	comp=Z,725nm,4.3s					
GYA	**Guiyang**	**26.89 262**	⇑*i*P	**P**	**08 21 08.2 -1.2**	
GYA			AP		08 22 14.8	
GYA			XP	sP	08 22 56.9 -3.6	
GYA			PCP	PcP	08 24 22.4 +1.8	
GYA			S	**S**	**08 25 19.0 +0.6**	
GYA			XS	sS	08 27 15.6 -7.8	
GYA			SCP	ScP	08 27 26.9 +2.0	
GYA			PCS	PcS	08 28 02.3 -0.3	
GYA			SCS	ScS	08 31 17.0 +0.4	
GYA			AMB	AMB		
	comp=Z,30nm,0.8s,mb4.6					
GYA			AMB	AMB		
	comp=Z,170nm,4.5s					
MA2	**Magadan**	**27.22 16**	*c i*P	**P**	**08 21 11.7 -0.2**	
MA2			*e**PP		08 22 16.0	
MA2			*i* S	**S**	**08 25 23.4 +0.5**	
MA2			*e*SSS		08 27 22.4	
MA2			pmax	pmax		
	comp=N,200nm,0.9s					
MA2			pmax	pmax		
	comp=Z,300nm,0.9s,mb5.5					
MA2	**Magadan**	**27.22 16**	*e*P	**P**	**08 21 11.7 -0.2**	
	comp=Z,314nm,1.0s,mb5.5					
MA2			*e*S	**S**	**08 25 23.1 +0.3**	
CD2	**Chengdu**	**27.83 273**	⇓*i*P	**P**	**08 21 16.6 -1.1**	
CD2			AP		08 22 22.1	
CD2			XP	sP	08 23 05.7 -3.4	
CD2			PCP	PcP	08 24 23.0 +0.1	
CD2			S	**S**	**08 25 34.2 +1.0**	
CD2			XS	sS	08 27 28.9 -10	
CD2			SCS	ScS	08 31 22.6 +1.9	
CD2			AMB	AMB		
	comp=Z,480nm,0.8s,mb5.8					
CD2			AMB	AMB		
	comp=Z,560nm,6.0s					
QIZ	**Qiongzhong**	**28.11 245**	⇑P	**P**	**08 21 20.5 +0.2**	
QIZ			AP		08 22 25.4	
QIZ			PP	PP	08 22 31.7 -1.4	
QIZ			XP	sP	08 23 06.5 -5.1	
QIZ			S	**S**	**08 25 36.3 -1.5**	
QIZ			AMB	AMB		
	comp=Z,244nm,3.6s					
QIZ	**Qiongzhong**	**28.11 245**	*e*P	**P**	**08 21 21.0 +0.7**	
	comp=Z,42nm,1.4s,mb4.5					
BOD	**Bodaibo**	**28.27 334**	*e*P	**P**	**08 21 20.5 -0.7**	
BOD			*e*S	ScS	08 31 16.3 -5.4	
BOD			pmax	pmax		
	comp=Z,50nm,1.2s,mb4.6					
YAK	**Yakutsk**	**28.38 353**	*e*P	**P**	**08 21 21.1 -1.0**	
YAK			*e*S	**S**	**08 25 40.0 -1.0**	
YAK			*e*		08 31 18.4	
YAK			pmax	pmax		
	comp=Z,30nm,0.8s,mb4.6					
YAK			pmax	pmax		
	comp=N,22nm,1.1s					
YAK			pmax	pmax		
	comp=E,1.0nm,0.6s					
YAK			pmax	pmax		
	comp=Z,85nm,1.5s,mb4.8					
YAK			pmax	pmax		
	comp=N,58nm,1.2s					
YAK			pmax	pmax		
	comp=E,23nm,1.2s					
YAK			smax			
	comp=N,17nm,0.7s					
YAK			smax			
	comp=E,61nm,1.2s					
YAK	**Yakutsk**	**28.38 353**	*e*P	**P**	**08 21 21.5 -0.6**	
	comp=E,20nm,0.4s,mb4.7					
ZAK	**Zakamensk**	**29.30 314**	⇓*i*P	**P**	**08 21 31.4 +1.0**	
ZAK			pmax	pmax		
	comp=Z,76nm,1.3s,mb4.8					
IRK	**Irkutsk**	**29.47 318**	⇓*i*P	**P**	**08 21 32.6 +0.8**	
IRK			*e*S	**S**	**08 26 05.0 +6.8**	
IRK			pmax	pmax		
	comp=Z,175nm,1.4s,mb5.1					
TLY	**Talaya**	**29.59 317**	P	**P**	**08 21 34.5 +1.7**	
	SNR=89					
TLY	**Talaya**	**29.59 317**	*d i*P	**P**	**08 21 34.1 +1.3**	
TLY			*e*		08 23 25.5	
TLY			*e*S	**S**	**08 26 04.0 +3.9**	
TLY			pmax	pmax		
	comp=Z,118nm,0.9s,mb5.1					
TLY			MLR	MLR		
	comp=Z,267nm,15.0s					
TLY	**Talaya**	**29.59 317**	*e*P	**P**	**08 21 34.3 +1.4**	
	comp=Z,103nm,0.9s,mb5.1					
GTA	**Gaotai**	**29.85 291**	⇓*i*P	**P**	**08 21 35.2 -0.1**	
GTA			AP		08 22 40.2	
GTA			XP	sP	08 23 18.0 -9.1	
GTA			PCP	PcP	08 24 28.8 +1.0	
GTA			S	**S**	**08 26 03.8 -0.7**	
GTA			SCP	ScP	08 27 38.4 +4.4	
GTA			XS	sS	08 28 01.1 -9.3	
GTA			PCS	PcS	08 28 11.3 -0.3	
GTA			SCS	ScS	08 31 27.7 -2.2	
GTA			AMB	AMB		
	comp=Z,166nm,1.2s,mb5.1					
GTA			AMB	AMB		
	comp=Z,680nm,8.8s					
SEY	**Seymchan**	**30.59 14**	*c i*P	**P**	**08 21 41.3 -0.1**	
SEY	**Seymchan**	**30.59 14**	⇑*i*P	**P**	**08 21 41.4 0.0**	
KMI	**Kunming**	**30.66 262**	P	**P**	**08 21 41.5 -1.0**	
KMI			AP	pP	08 22 53.0 +1.7	
KMI			PP	PP	08 22 59.7 -1.4	
KMI			PPP		08 23 17.5	
KMI			XP	sP	08 23 34.0 -0.4	
KMI			S	**S**	**08 26 11.9 -5.5**	
KMI			SCP	ScP	08 27 38.0 +1.1	
KMI			SS	SS	08 28 41.1 -6.4	
KMI			AMB	AMB		
	comp=Z,60nm,1.2s,mb4.7					
KMI			AMB	AMB		
	comp=Z,440nm,3.1s					
MOY	**Mondy**	**31.11 315**	*e*P	**P**	**08 21 47.1 +1.0**	
MOY			pmax	pmax		
	comp=Z,103nm,1.6s,mb4.8					
SMY	**Shemya**	**32.55 43**	*e*P	**P**	**08 21 58.6 0.0**	
SMY			pmax	pmax		
	comp=Z,985nm,2.0s,mb5.7					
SMY	**Shemya**	**32.55 43**	*e*P	**P**	**08 21 58.6 0.0**	
	comp=Z,985nm,2.0s,mb5.7					
KDM	**Kudat**	**32.59 219**	⇓P	**P**	**08 22 00.5 +1.2**	
MYLDM	**Lahad Datu**	**33.26 214**	⇑P	**P**	**08 22 06.5 +1.4**	
SDKM	**Sandakan**	**33.49 217**	⇓P	**P**	**08 22 06.8 -0.3**	
KKM	**Kota Kinabalu**	**33.65 219**	⇑P	**P**	**08 22 08.9 +0.5**	
TSM	**Tawau**	**34.33 215**	⇓P	**P**	**08 22 13.9 -0.4**	
AMKA	**Amchitka**	**35.26 47**	*e*P	**P**	**08 22 21.6 +0.1**	
HVS	**Khovu-Aksy**	**35.35 312**	*c i*P	**P**	**08 22 23.4 +1.0**	
HVS			pmax	pmax		
	comp=Z,811nm,1.1s,mb5.9					
CHTO	**Chiang Mai**	**36.75 255**	P	**P**	**08 22 34.7 +0.1**	
	SNR=8.0					
CHTO	**Chiang Mai**	**36.75 255**	*e*P	**P**	**08 22 34.1 -0.5**	
CHTO			pmax	pmax		
	comp=Z,37nm,1.2s,mb4.5					
CHTO	**Chiang Mai**	**36.75 255**	*e*P	**P**	**08 22 34.1 -0.5**	
	comp=Z,37nm,1.2s,mb4.5					
CM31	**Chiang Mai Arr**	**36.94 255**	*e*P	**P**	**08 22 36.1 -0.1**	
	comp=Z,24nm,0.9s,mb4.4					
CMAR	**Chiang Mai Arr**	**36.94 255**	P	**P**	**08 22 35.4 -0.8**	
	comp=Z,19nm,0.5s,mb4.6,baz=49,slow=7.2,SNR=66					
CMAR			PP	PP	08 24 07.1 -2.8	
	comp=Z,1.2nm,0.3s,baz=49,slow=8.5,SNR=2.9					
CMAR			PcP	PcP	08 24 48.8 +0.3	
	comp=Z,4.5nm,0.8s,baz=331,slow=1.0,SNR=6.3					
CMAR			ScP	ScP	08 28 00.1 +0.9	
	comp=Z,11nm,0.9s,baz=25,slow=3.3,SNR=23					
CMAR	**Chiang Mai Arr**	**36.94 255**	P	**P**	**08 22 35.4 -0.8**	
CMAR					08 24 07.1	
CMAR					08 24 48.8	
CMAR					08 28 00.2	
CMAR			pmax	pmax		
	comp=Z,19nm,0.5s					
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
CMAR			pmax	pmax		
	comp=Z,5.0nm,0.8s					
CMAR			pmax	pmax		
	comp=N,11nm,0.9s					
KRAR	**Krasnoyarsk**	**37.09 320**	⇑*e*P	**P**	**08 22 37.8 +0.9**	
KRAR			pmax	pmax		
	comp=Z,78nm,0.5s,mb5.2					
BTM	**Bintulu**	**37.70 221**	⇑P	**P**	**08 22 42.5 0.0**	
ADK	**Adak**	**37.81 47**	*e*P	**P**	**08 22 42.0 -0.9**	
ADK			pmax	pmax		
	comp=Z,156nm,0.7s,mb5.3					
ADK	**Adak**	**37.81 47**	*e*P	**P**	**08 22 42.0 -0.9**	
	comp=Z,156nm,0.7s,mb5.3					
TIXI	**Tiksi**	**37.92 356**	*c i*P	**P**	**08 22 42.7 -0.9**	
TIXI			pmax	pmax		
	comp=Z,41nm,0.7s,mb4.8					
TIXI	**Tiksi**	**37.92 356**	*e*P	**P**	**08 22 42.8 -0.7**	
	comp=Z,44nm,0.9s,mb4.7					
BILL	**Bilibino**	**38.05 18**	*c i*P	**P**	**08 22 44.7 0.0**	
BILL			*e*		08 24 22.4	
BILL			*i* S	**S**	**08 28 11.4 +2.6**	
BILL			pmax	pmax		
	comp=Z,859nm,1.2s,mb5.8					
BILL	**Bilibino**	**38.05 18**	*e*P	**P**	**08 22 44.9 +0.2**	
	comp=Z,392nm,0.4s,mb6.0					
LSA	**Lhasa**	**38.62 276**	P	**P**	**08 22 51.5 +1.6**	
LSA			S	**S**	**08 28 16.4 -1.8**	
LSA			AMB	AMB		
	comp=Z,50nm,1.1s,mb4.7					
LSA	**Lhasa**	**38.62 276**	*e*P	**P**	**08 22 51.0 +1.1**	
LSA			pmax	pmax		
	comp=Z,65nm,1.0s,mb4.8					
LSA	**Lhasa**	**38.62 276**	*e*P	**P**	**08 22 51.0 +1.0**	
	comp=Z,65nm,1.0s,mb4.8					
SBUM	**Sibu**	**38.79 221**	⇑P	**P**	**08 22 51.4 -0.1**	
WMQ	**Urumqi**	**38.81 299**	P	**P**	**08 22 53.2 +1.9**	
WMQ			AP	pP	08 24 02.3 -0.4	
WMQ			PP	PP	08 24 33.6 +4.1	
WMQ			XP	sP	08 24 41.4 -3.8	
WMQ			PCP	PcP	08 24 57.2 +3.4	
WMQ			S	**S**	**08 28 25.5 +4.8**	
WMQ			SCS	ScS	08 32 21.4 +3.3	
WMQ			AMB	AMB		
	comp=Z,267nm,1.0s,mb5.4					
SHL	**Shillong**	**39.47 270**	*e*P	**P**	**08 22 57.0 0.0**	
SHL			*ex*	x	08 24 41.0	
SHL			*ex*	x	08 28 10.0	
KSM	**Kuching**	**40.66 223**	⇓P	**P**	**08 23 06.2 -0.5**	
KSM	**Kuching**	**40.66 223**	*e*P	**P**	**08 23 07.4 +0.6**	
ZAA0	**Zalesovo Array**	**41.17 315**	*e*P	**P**	**08 23 10.1 -0.2**	
ZALV	**Zalesovo Beam**	**41.17 315**	P	**P**	**08 23 10.0 -0.3**	
	comp=Z,42nm,0.7s,mb4.8,baz=99,slow=9.2,SNR=118					
ZALV			PcP	PcP	08 25 00.6 -0.7	
	comp=Z,20nm,0.6s,baz=108,slow=3.6,SNR=8.9					
ZALV			ScP	ScP	08 28 13.6 -1.4	
	comp=Z,17nm,0.6s,baz=123,slow=5.5,SNR=14					
ZALV			S	**S**	**08 28 54.0 -1.1**	
	comp=Z,1.4nm,0.7s,baz=66,slow=3.5,SNR=2.0					
ZALV	**Zalesovo Beam**	**41.17 315**	P	**P**	**08 23 10.0 -0.3**	
ZALV			PcP	PcP	08 25 00.6 -0.7	
ZALV			ScP	ScP	08 28 13.6 -1.4	
ZALV			S	**S**	**08 28 54.0 -1.1**	
ZAL	**Zalesovo**	**41.18 315**	P	**P**	**08 23 10.0 -0.4**	
ZAL					08 25 00.6	
ZAL			S	**S**	**08 28 54.0 -1.3**	
ZAL			pmax	pmax		
	comp=Z,42nm,0.7s					
ZAL			pmax	pmax		
	comp=Z,20nm,0.6s					
ZAL			pmax	pmax		

comp=N,17nm,0.6s
ZAL smax
comp=N,1.0nm,0.7s
KAPI Kappang 41.97 206 P **P 08 23 16.1 -1.1**
SNR=9.3
KAPI Kappang 41.97 206 P **P 08 23 15.2 -2.0**
comp=N,59nm,0.6s,mb4.9,baz=13,slow=3.3,SNR=32
KAPI S **S 08 29 04.5 -3.1**
comp=N,4.6nm,0.8s,baz=228,slow=19,SNR=2.9
KAPI Kappang 41.97 206 *e*P **P 08 23 15.5 -1.7**
comp=N,107nm,1.1s,mb4.9
KTGM Kuala Trenggan 42.17 235 ⇓P **P 08 23 19.4 +0.6**
NVS Novosibirsk 42.20 316 ⇓*i*P **P 08 23 18.4 -0.1**
NVS *e* 08 25 03.6
NVS *i* S **S 08 29 10.6 +0.5**
NVS *i* 08 32 34.6
NVS pmax pmax
comp=E,244nm,1.3s
NVS pmax pmax
comp=Z,298nm,1.3s,mb5.3
NVS smax
comp=E,227nm,2.1s
NVS smax
comp=N,98nm,1.7s
TAPN Taplejung 42.26 275 *e*P **P 08 23 19.3 -0.2**
comp=N,112nm,0.7s,mb5.1
MK31 Makanchi Array 42.49 304 *i*P **P 08 23 21.1 +0.1**
MK31 pmax pmax
comp=Z,222nm,0.9s,mb5.3
MK31 Makanchi Array 42.49 304 *e*P **P 08 23 21.3 +0.4**
MKAR Makanchi Array 42.49 304 P **P 08 23 21.3 +0.3**
comp=Z,110nm,0.8s,mb5.1,baz=91,slow=9.3,SNR=439
MKAR PcP PcP 08 25 06.1 +0.2
comp=Z,9.5nm,0.8s,baz=60,slow=5.7,SNR=3.8
MKAR ScP ScP 08 28 19.0 -1.5
comp=Z,9.1nm,0.8s,baz=80,slow=5.0,SNR=8.8
MKAR S **S 08 29 15.1 +0.5**
comp=Z,1.1nm,0.8s,baz=55,slow=10,SNR=2.0
MKAR Makanchi Array 42.49 304 P **P 08 23 21.3 +0.3**
MKAR 08 25 06.1
MKAR S **S 08 29 15.1 +0.6**
MKAR pmax pmax
comp=Z,110nm,0.8s
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR pmax pmax
comp=N,9.0nm,0.8s
MKAR smax
comp=N,1.0nm,0.8s
MKAR Makanchi Array 42.49 304 P **P 08 23 21.3 +0.3**
MKAR PcP PcP 08 25 06.1 +0.2
MKAR ScP ScP 08 28 19.0 -1.5
MKAR S **S 08 29 15.1 +0.5**
NIKO Nikolski 42.70 47 *e*P **P 08 23 21.3 -1.2**
comp=N,188nm,0.5s,mb5.5
ODAN Odare 42.71 274 *e*P **P 08 23 22.6 -0.4**
comp=N,77nm,0.5s,mb5.1
RAMN Ramite 43.33 275 *e*P **P 08 23 27.6 -0.3**
JIRN Jiri 43.41 276 *e*P **P 08 23 28.9 +0.4**
comp=N,164nm,0.3s,mb5.6
GUN Gumba 43.57 276 *e*P **P 08 23 30.0 +0.2**
KULM Kulim 43.91 237 ⇑P **P 08 23 33.1 +0.5**
PKI Pulchoki 44.09 276 *e*P **P 08 23 33.4 -0.5**
comp=N,296nm,1.1s,mb5.3
KKN Kakani 44.11 276 *e*P **P 08 23 33.9 -0.2**
UNV Unalaska Valle 44.15 45 *e*P **P 08 23 31.6 -2.4**
comp=N,33nm,0.7s,mb4.6
IPM Ipoh 44.23 236 ⇑P **P 08 23 34.9 -0.2**
DMN Daman 44.32 276 *e*P **P 08 23 35.4 -0.3**
MYKOM Kota Tinggi 44.33 231 ⇓P **P 08 23 36.5 +0.6**
KGM Kluang 44.50 232 ⇑P **P 08 23 38.2 +0.9**
GKN Gorkha 44.57 277 *e*P **P 08 23 38.0 +0.4**
AKUT Akutan 44.60 45 *e*P **P 08 23 35.6 -1.8**
comp=N,42nm,0.8s,mb4.6
FRIM Kepong 44.71 234 ⇑P **P 08 23 38.6 -0.4**
KURK Kurchatov 44.79 310 P **P 08 23 39.2 +0.1**
SNR=124
KURK Kurchatov 44.79 310 *d*P **P 08 23 38.6 -0.4**
KURK pmax pmax
comp=Z,425nm,0.9s,mb5.6
KURK Kurchatov 44.79 310 *i*P **P 08 23 38.7 -0.3**
DANN Dangsing 45.16 278 *e*P **P 08 23 42.6 +0.3**
BOK Bokaro 45.17 271 *e*P **P 08 23 42.2 -0.2**
BOK AMb AMB 08 23 43.5
comp=Z,144nm,1.1s,mb5.0
TNA Tin City 45.39 29 *e*P **P 08 23 44.2 +0.7**
comp=Z,238nm,1.2s,mb5.2
KOLN Koldanda 45.51 277 *e*P **P 08 23 44.8 -0.1**
comp=Z,525nm,1.2s,mb5.5
BATI Baumata 45.67 198 P **P 08 23 44.5 -1.7**
comp=Z,109nm,0.5s,mb5.3,baz=54,slow=6.4,SNR=4.7
KAKA Kakadu 46.64 186 *e*P **P 08 23 52.2 -1.5**
comp=Z,40nm,0.6s,mb4.8
PSI Prapat 46.88 237 P **P 08 23 55.1 -0.5**
comp=Z,38nm,0.9s,mb4.6,baz=6.9,slow=5.8,SNR=11
PSI ScP ScP 08 28 39.0 -0.2
comp=Z,14nm,0.8s,baz=170,slow=3.8,SNR=4.2
PSI Prapat 46.88 237 ⇓*e*P **P 08 23 55.3 -0.4**
PSI Prapat 46.88 237 P **P 08 23 55.2 -0.5**
PSI pmax pmax
comp=Z,38nm,0.9s,mb4.6
PSI pmax pmax
comp=N,14nm,0.8s
ULHL Ulahol 47.33 299 P **P 08 23 59.6 +0.9**
SNR=8.3
PTH Pithoragarh 47.65 281 *e*P **P 08 23 59.9 -1.4**
LGTI Lohaghat 47.66 281 *ex* x 08 23 58.4
TKM2 Tokmak 2 47.67 300 *i*P **P 08 24 01.9 +0.6**
TKM2 pmax pmax
comp=Z,162nm,1.4s,mb5.1
TKM2 Tokmak 2 47.67 300 P **P 08 24 02.0 +0.8**
SNR=60
TKM2 Tokmak 2 47.67 300 *e*P **P 08 24 01.9 +0.6**
comp=Z,144nm,1.2s,mb5.1
SDPT Sand Point 47.69 43 *e*P **P 08 24 00.6 -0.6**
comp=Z,87nm,0.6s,mb5.2
KSH Kashi 48.10 295 P **P 08 24 05.9 +1.3**
KSH *e*AP pP 08 25 17.9 -1.6
KSH *e*PCP PcP 08 25 27.6 +1.9
KSH XP sP 08 25 55.3 -5.7
KSH *e*PP PP 08 26 01.2 +0.5
KSH *e*SCP ScP 08 28 47.2 +3.2
KSH PCS PcS 08 29 22.4 +0.4
KSH S **S 08 30 36.8 +2.5**
KSH XS sS 08 32 42.9 -5.7
KSH SCS ScS 08 33 17.7 +0.7
KSH SS SS 08 34 08.4 -0.2
KBK Karagaybulak 48.19 299 P **P 08 24 05.7 +0.5**
SNR=14
CHMS Chumysh 48.26 300 P **P 08 24 06.5 +0.7**
SNR=13
USP Ospenovka 48.39 300 P **P 08 24 07.5 +0.7**
SNR=17
AAK Ala-Archa 48.52 299 P **P 08 24 07.9 +0.2**
SNR=14
UCH Uchtor 48.59 299 P **P 08 24 10.1 +1.9**
SNR=7.7
UCH Uchtor 48.59 299 *e*P **P 08 24 09.1 +0.9**
comp=Z,35nm,1.3s,mb4.4
CHGN Chignik 48.84 42 *e*P **P 08 24 09.3 -0.6**
BLSP Bilaspur 49.01 271 *e*P **P 08 24 11.2 -0.6**
BLSP AMb AMB 08 24 12.9
comp=Z,179nm,0.7s,mb5.4
EKS2 Erkin-Say 49.03 300 P **P 08 24 11.6 0.0**
SNR=20
EKS2 Erkin-Say 49.03 300 *e*P **P 08 24 11.9 +0.3**
comp=Z,144nm,1.2s,mb5.1
DDI Dehra Dun 49.13 283 *e*P **P 08 24 11.4 -1.1**
DDI *ex* x 08 26 06.4
AML Almayashu 49.20 299 P **P 08 24 14.0 +1.1**
SNR=14
AML Almayashu 49.20 299 *e*P **P 08 24 14.0 +1.1**
comp=Z,40nm,0.7s,mb4.8
SMLA Simla 49.57 284 *e*P **P 08 24 15.1 -0.7**
SMLA AMb AMB 08 24 17.0
comp=Z,235nm,1.1s,mb5.3
BVA0 Borovoye Array 49.76 314 *i*P **P 08 24 16.5 -0.3**
BVA0 pmax pmax
comp=Z,36nm,1.2s,mb4.5
BVAR Borovoye Array 49.76 314 P **P 08 24 16.7 -0.1**
comp=Z,103nm,0.9s,mb5.1,baz=96,slow=8.2,SNR=224
BVAR PcP PcP 08 25 30.4 -1.0
comp=Z,10nm,0.6s,baz=89,slow=2.3,SNR=4.3
BVAR ScP ScP 08 28 49.9 -0.9
comp=Z,17nm,0.6s,baz=93,slow=5.2,SNR=17
BVAR S **S 08 30 55.5 -1.4**
comp=Z,5.9nm,1.0s,baz=90,slow=9.4,SNR=7.2
BVAR Borovoye Array 49.76 314 P **P 08 24 16.7 -0.1**
BVAR pP 08 25 30.4 -1.9
BVAR S **S 08 30 55.5 -1.4**
BVAR pmax pmax
comp=Z,103nm,0.9s
BVAR pmax pmax
comp=Z,10.0nm,0.6s
BVAR pmax pmax
comp=N,17nm,0.6s
BVAR smax
comp=N,6.0nm,1.0s
BRVK Borovoye 49.82 314 P **P 08 24 17.4 +0.1**
SNR=68
BRVK Borovoye 49.82 314 *e*P **P 08 24 17.3 0.0**
BRVK pmax pmax
comp=Z,186nm,1.1s,mb5.2
BRVK Borovoye 49.82 314 *e*P **P 08 24 17.3 0.0**
comp=Z,186nm,1.1s,mb5.2
DLH Dalhousie 50.06 286 *e*P **P 08 24 18.0 -1.4**
VIS Vishakhapatnam 50.08 265 *e*P **P 08 24 18.9 -0.8**
VIS AMb AMB 08 24 22.6
comp=Z,159nm,1.2s,mb5.1
SVW2 Sparrevohn 50.27 36 *e*P **P 08 24 20.9 +0.5**
THN Thein Dam 50.30 286 *e*P **P 08 24 18.8 -2.4**
NDI New Delhi 50.40 281 ⇓*i*P **P 08 24 20.8 -1.2**
IMA2 Indian Mountai 51.25 29 *e*P **P 08 24 28.0 +0.4**
KK31 Karatay Array 51.28 301 *i*P **P 08 24 27.8 -0.4**
KK31 pmax pmax
comp=Z,28nm,0.4s,mb4.8
KK31 Karatay Array 51.28 301 *i*P **P 08 24 27.9 -0.3**
OHAK Old Harbor 51.60 41 *e*P **P 08 24 29.4 -0.9**
CHUM Lake Minchumin 51.79 32 *e*P **P 08 24 32.6 +1.0**
comp=Z,14μm,0.6s
PPLA Purkeypile 51.86 33 *e*P **P 08 24 33.2 +1.0**
comp=Z,151nm,0.7s,mb5.4
KDAK Kodiak Island 51.94 40 P **P 08 24 31.9 -0.9**
comp=Z,110nm,0.4s,mb5.5,baz=271,slow=4.2,SNR=350
KDAK PcP PcP 08 25 39.5 -0.1
comp=Z,24nm,0.6s,baz=247,slow=2.7,SNR=2.6
KDAK Kodiak Island 51.94 40 *e*P **P 08 24 32.2 -0.5**
comp=Z,297nm,1.1s,mb5.5
NGP Nagpur 52.01 271 *ex* x 08 24 29.7
NGP AMb AMB 08 24 31.2
comp=Z,216nm,1.5s,mb5.2
KTH Kantishna Hill 52.41 33 *e*P **P 08 24 36.7 +0.5**
comp=Z,3μm,0.9s,mb6.6
COLD Coldfoot 52.66 28 *e*P **P 08 24 38.7 +0.7**
comp=Z,54nm,0.7s,mb5.0
FITZ Fitzroy Crossi 52.87 193 *e*P **P 08 24 39.4 -0.6**
comp=Z,67nm,0.7s,mb5.1
FITZ *e*S **S 08 31 35.7 -4.1**
FIB Fire Island 52.89 36 P **P 08 24 40.3 +0.7**
FIB pmax pmax
comp=Z,750nm,0.8s,mb6.1
FIB Fire Island 52.89 36 P **P 08 24 40.2 +0.6**
comp=Z,750nm,0.8s,mb6.1
SLKM Skilak Lake 52.92 36 *e*P **P 08 24 39.4 -0.5**
RC01 Rabbit Creek A 53.11 36 *e*P **P 08 24 40.6 -0.6**
comp=Z,385nm,1.2s,mb5.6
MCK McKinley 53.29 32 *e*P **P 08 24 42.4 -0.1**
MCK pmax pmax
comp=Z,19nm,0.8s,mb4.5
MCK McKinley 53.29 32 *e*P **P 08 24 42.4 -0.1**
comp=Z,19nm,0.8s,mb4.5
SEW Seward 53.34 37 *e*P **P 08 24 42.4 -0.5**
PMR Palmer 53.36 35 *e*P **P 08 24 42.2 -0.8**
PMR MLR MLR
comp=Z,100nm,18.0s
AJM Ajmer 53.36 280 *i*P **P 08 24 42.0 -1.7**
WRAB Tennant Creek 53.69 183 *e*P **P 08 24 44.5 -1.4**
WRAB pmax pmax
comp=Z,13nm,0.5s,mb4.5
WRAB Tennant Creek 53.69 183 *e*P **P 08 24 44.5 -1.4**
comp=Z,13nm,0.5s,mb4.5
COLA College 53.69 31 *e*P **P 08 24 45.4 0.0**
COLA pmax pmax
comp=Z,72nm,0.5s,mb5.3
COLA College 53.69 31 *e*P **P 08 24 45.4 0.0**
comp=Z,72nm,0.5s,mb5.3
WB2 Warramunga Arr 53.70 183 *e*P **P 08 24 44.2 -1.8**
WB2 *e*PCP PcP 08 25 19.5 -27
WB2 *e*S **S 08 31 46.3 -4.5**
WRA Warramunga Arr 53.70 183 P **P 08 24 43.9 -2.1**
comp=Z,13nm,0.4s,mb4.6,baz=360,slow=7.5,SNR=284
WRA pP pP 08 26 00.3 -2.6
comp=Z,12nm,1.2s,baz=0.1,slow=7.6,SNR=1.4
WRA ScP ScP 08 29 07.5 -0.7
comp=Z,4.2nm,0.8s,baz=355,slow=4.6,SNR=5.0
WRA S **S 08 31 46.0 -4.8**
comp=Z,1.9nm,0.9s,baz=9.2,slow=13,SNR=4.8
WRA Warramunga Arr 53.70 183 P **P 08 24 43.9 -2.1**
WRA *PP pP 08 26 00.3 -2.6
WRA S **S 08 31 46.0 -4.8**
WRA pmax pmax
comp=Z,13nm,0.4s
WRA pmax pmax
comp=Z,12nm,1.2s
WRA pmax pmax
comp=N,4.0nm,0.8s
WRA smax
comp=N,2.0nm,0.9s
HYB Hyderabad 54.19 268 *e*P **P 08 24 49.0 -0.7**
HYB pmax pmax
comp=Z,150nm,1.0s,mb5.3
HYB Hyderabad 54.19 268 *i*P **P 08 24 49.0 -0.7**
comp=Z,150nm,1.0s,mb5.3
HYB *e*PcP PcP 08 25 50.0 +1.2
HYB Hyderabad 54.19 268 *e*P **P 08 24 49.0 -0.7**
comp=Z,150nm,1.0s,mb5.3
CTA Charters Tower 54.58 169 *e*P **P 08 24 51.5 -0.7**
comp=Z,3.1nm,1.2s
KBL Kabul 54.84 291 *e*P **P 08 24 53.8 -0.3**
comp=Z,118nm,1.1s,mb5.1
SVE Sverdlovsk 54.85 319 ⇓*e*P **P 08 24 54.8 +1.1**
SVE *e* pP 08 26 13.4 +2.5
SVE *e*S **S 08 32 02.5 -2.7**
SVE pmax pmax
comp=Z,159nm,0.7s,mb5.5
MID Middleton Isla 54.98 37 *e*P **P 08 24 54.0 -0.7**
DIV Divide 55.02 35 *e*P **P 08 24 55.2 +0.3**
comp=Z,178nm,0.5s,mb5.7
MDRS Chennai 55.02 262 *ex* x 08 23 10.5
EYAK Cordova Ski Ar 55.11 36 *e*P **P 08 24 55.9 +0.3**
comp=Z,115nm,0.6s,mb5.4
LATR Latur 55.36 270 *ex* x 08 26 02.7
LATR AMb AMB 08 26 04.4
comp=Z,155nm,1.0s,mb5.3
RAGM Ragged Mountai 55.66 36 *e*P **P 08 24 60.0 +0.6**
MENT Mentasta 55.71 33 *e*P **P 08 25 00.4 +0.7**
ARU Arti 56.05 319 *d*/*i*P **P 08 25 01.9 -0.3**
ARU *e* 08 25 52.2
ARU *e*PP pP 08 26 18.6 -1.2
ARU *e*SP sP 08 26 58.0 -2.6
ARU *e* 08 27 08.9
ARU *e*S **S 08 32 22.1 +1.1**
ARU *e*SS SS 08 36 13.9 +0.8
ARU pmax pmax
comp=Z,391nm,1.7s,mb5.5
ARU Arti 56.05 319 *e*P **P 08 25 02.1 -0.1**
comp=Z,142nm,0.8s,mb5.3
ARU *e*S **S 08 32 22.8 +1.9**
SOKR Solikamsk 56.36 323 *d*/*i*P **P 08 25 04.3 0.0**
SOKR pmax pmax
comp=Z,130nm,1.1s,mb5.2
EGAK Eagle 56.55 31 *e*P **P 08 25 05.2 -0.3**
comp=Z,2μm,0.8s,mb6.5
AB31 Akbulak array 56.90 310 *i*P **P 08 25 07.9 -0.4**
MBWA Marble Bar 57.18 199 *e*P **P 08 25 09.3 -1.2**
comp=Z,84nm,1.2s,mb4.9
ASAR Alice Springs 57.42 183 P **P 08 25 10.1 -2.0**
comp=Z,3.6nm,0.4s,mb4.1,baz=8.7,slow=4.0,SNR=73
ASAR pP pP 08 26 28.2 -2.0
comp=Z,1.8nm,0.6s,baz=13,slow=8.6,SNR=1.5
ASAR S **S 08 32 36.1 -3.4**
comp=Z,2.4nm,0.8s,baz=21,slow=19,SNR=10
ASAR Alice Springs 57.42 183 P **P 08 25 10.1 -2.0**
ASAR *PP pP 08 26 28.2 -2.0
ASAR S **S 08 32 36.1 -3.3**
ASAR pmax pmax
comp=Z,4.0nm,0.4s
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR smax
comp=N,2.0nm,0.8s
DAWY Dawson 57.43 31 *e*P **P 08 25 11.9 +0.2**
POO Poona 57.55 271 *e*P **P 08 25 12.9 -0.4**
POO AMb AMB 08 25 15.3
comp=Z,148nm,1.4s,mb5.1
AKTK Aktyubinsk 57.79 312 P **P 08 25 13.9 -0.5**
AKTK PP PP 08 27 22.4 -4.7
AKTK ScP ScP 08 29 24.0 -1.9
AKTK S **S 08 32 42.5 -1.2**
AKTO Aktyubinsk 57.79 312 P **P 08 25 13.9 -0.5**
comp=Z,80nm,0.8s,mb5.1,baz=80,slow=7.9,SNR=93
AKTO PP PP 08 27 22.4 -4.7
comp=Z,13nm,1.2s,baz=152,slow=22,SNR=1.9
AKTO ScP ScP 08 29 24.0 -1.9
comp=Z,7.2nm,0.8s,baz=114,slow=5.4,SNR=4.7
AKTO S **S 08 32 42.5 -1.2**
comp=Z,5.0nm,1.1s,baz=265,slow=18,SNR=12
AKTO Aktyubinsk 57.79 312 P **P 08 25 13.9 -0.5**
AKTO S **S 08 32 42.5 -1.2**
AKTO pmax pmax
comp=Z,80nm,0.8s,mb5.1
AKTO pmax pmax
comp=Z,13nm,1.2s,mb4.1
AKTO pmax pmax
comp=N,7.0nm,0.8s
AKTO smax
comp=N,5.0nm,1.1s
KAD Karad 57.87 270 *ex* x 08 25 21.8
KAD AMb AMB 08 25 24.9
comp=Z,137nm,1.1s,mb5.2
PNL Peninsula 58.40 36 *e*P **P 08 25 19.1 +0.6**
comp=Z,196nm,1.0s,mb5.4
INK Inuvik 58.83 26 P **P 08 25 20.5 -0.7**
comp=Z,59nm,0.5s,mb5.3,baz=296,slow=6.4,SNR=596
INK PP PP 08 27 33.8 -2.1
comp=Z,7.4nm,1.1s,baz=297,slow=14,SNR=2.0
INK S **S 08 32 56.1 -0.3**
comp=Z,0.5nm,0.7s,baz=216,slow=20,SNR=4.7
INK Inuvik 58.83 26 P **P 08 25 20.5 -0.7**
INK 08 27 33.8
INK S **S 08 32 56.2 -0.3**
INK pmax pmax
comp=Z,59nm,0.5s
INK pmax pmax
comp=Z,7.0nm,1.1s
INK smax
comp=N,1.0nm,0.7s
INK Inuvik 58.83 26 *e*P **P 08 25 21.1 0.0**
comp=N,2μm,0.6s
KOD Kodaikanal 58.84 261 *e*P **P 08 25 22.0 -0.1**
KOD AMb AMB 08 25 23.9
comp=Z,123nm,0.5s,mb5.6
HYT Haines Junctio 59.02 35 *e*P **P 08 25 23.8 +1.2**
GOA Goa 59.07 268 *e*P **P 08 25 25.1 +1.4**
GOA AMb AMB 08 25 25.2
comp=Z,229nm,1.1s,mb5.5
DHAK Deception Hill 59.13 37 *e*P **P 08 25 23.9 +0.5**
TRD Trivandrum 60.21 260 *e*P **P 08 25 31.1 -0.3**
SKAG Skagway 60.45 36 *e*P **P 08 25 32.7 +0.4**
comp=Z,210nm,1.4s,mb5.4
SKAG LR LR
comp=Z,100nm,18.0s
POHA Pohakuloa 61.18 85 *e*P **P 08 25 38.5 +0.7**
comp=Z,202nm,0.7s,mb5.7
SIT Sitka 61.20 39 *e*P **P 08 25 37.9 +0.6**
SIT pmax pmax
comp=Z,198nm,1.3s,mb5.4
SIT Sitka 61.20 39 *e*P **P 08 25 37.9 +0.6**
comp=Z,198nm,1.3s,mb5.4
SPITS Spitsbergen Ar 62.70 348 P **P 08 25 47.0 +0.1**
comp=Z,7.0nm,0.6s,mb4.3,baz=15,slow=8.1,SNR=10
SPITS Spitsbergen Ar 62.70 348 P **P 08 25 47.0 +0.1**
SPITS pmax pmax
comp=Z,7.0nm,0.6s
CRAG Craig 62.90 40 *e*P **P 08 25 48.7 +0.2**
CRAG pP pP 08 27 10.6 +2.4
KBS Kingsbay 62.94 350 *e*P **P 08 25 49.0 +0.6**
KBS pmax pmax
comp=Z,5.0nm,0.6s,mb4.2
KBS Kingsbay 62.94 350 *e*P **P 08 25 49.0 +0.6**
comp=Z,5.0nm,0.6s,mb4.2
WRAK Wrangell Islan 62.96 39 *e*P **P 08 25 49.2 +0.3**
comp=Z,26nm,0.8s,mb4.8
WRAK *e*pP pP 08 27 09.9 +1.3
DLBC Dease Lake 63.38 36 *e*P **P 08 25 52.6 +1.0**
APA Apatity 63.81 335 ⇓*i*P **P 08 25 53.5 -0.7**
APA *i* 08 26 24.0
APA *i* S **S 08 33 59.0 +0.3**
APA *i* 08 35 06.0
APA pmax pmax
comp=Z,31nm,1.0s,mb4.9
KLMR Klimovskoe 64.20 327 *e*P **P 08 25 55.4 -1.4**
KLMR *e* 08 28 22.4
KLMR pmax pmax
comp=Z,49nm,1.1s,mb5.0
KEV Kevo 64.85 339 *e*p **P 08 26 00.2 -0.7**
comp=Z,16nm,0.9s,mb4.7
KEV Kevo 64.85 339 *e*P **P 08 26 00.2 -0.7**
KEV pmax pmax
comp=Z,16nm,0.9s,mb4.7
FORT Forrest 64.95 188 *e*P **P 08 26 00.1 -1.8**
comp=Z,47nm,0.7s,mb5.2
ARCES ARCESS Array B 65.42 339 P **P 08 26 04.4 -0.1**
comp=Z,19nm,0.8s,mb4.8,baz=57,slow=8.2,SNR=48
ARCES S S 08 34 20.0 +2.0
comp=Z,5.6nm,0.9s,baz=36,slow=21,SNR=3.7
ARCES ARCESS Array B 65.42 339 P **P 08 26 04.4 -0.1**
ARCES S S 08 34 20.0 +1.9
ARCES pmax pmax
comp=Z,19nm,0.8s
ARCES smax
comp=N,6.0nm,0.9s
ARE0 ARCESS Array S 65.42 339 *e*P **P 08 26 04.8 +0.4**
ARMA Armidale 65.64 166 *e*P **P 08 25 57.2 -9.1**
STKA Stephens Creek 65.71 175 *e*P **P 08 26 05.6 -1.1**
comp=N,2.6nm,0.4s,mb4.3
STKA Stephens Creek 65.71 175 P **P 08 26 05.3 -1.4**
comp=N,3.7nm,0.5s,mb4.4,baz=314,slow=6.3,SNR=12
STKA pP pP 08 27 24.9 -2.5
comp=N,5.1nm,0.9s,baz=12,slow=9.3,SNR=3.0
KTK1 Kautokeino 66.38 339 *e*P **P 08 26 10.6 +0.1**
KTK1 AMb AMB 08 26 12.8
comp=Z,33nm,1.8s,mb4.8
KTK1 Kautokeino 66.38 339 *e*P **P 08 26 10.9 +0.3**
comp=Z,33nm,1.8s,mb4.8
RES Resolute Bay 66.46 13 *e*P **P 08 26 10.8 -0.1**
comp=Z,2μm,0.7s
JOF Joensuu 66.75 331 *e*p **P 08 26 07.6 -5.4**
comp=Z,565nm,0.5s,mb6.5
MAK Makhachkala 67.20 307 *e*P **P 08 26 12.6 -3.5**
MAK *e* 08 26 39.2
MAK *e* 08 28 53.8
MAK *e*PPP 08 30 31.6
MAK *e*S S 08 34 36.9 -3.3
MAK *e* 08 35 32.1
MAK pmax pmax
comp=Z,182nm,1.3s,mb5.7
MAK MLR MLR
comp=Z,297nm,15.0s
MOS Moscow 67.31 323 ⇑*i*P **P 08 26 15.8 -0.7**
MOS *e*PP pP 08 27 35.7 -1.8
MOS *e*S S 08 34 38.2 -2.8
MOS pmax pmax
comp=Z,176nm,1.0s,mb5.8
MOS pmax pmax
comp=Z,300nm,1.3s,mb5.9
WBK Wadi Bani Khal 67.85 283 P **P 08 26 21.3 +0.8**
SNR=10
BIDO Bidbid 68.09 284 P **P 08 26 22.7 +0.7**
SNR=16
OBN Obninsk 68.13 322 *d*/*i*P **P 08 26 21.5 -0.2**
OBN *e* 08 26 43.6
OBN *i* 08 28 57.3
OBN *i* S S 08 34 49.4 -1.3
OBN *e*SS SS 08 39 21.5 +0.6
OBN pmax pmax
comp=Z,150nm,1.1s,mb5.6
OBN MLR MLR
comp=Z,200nm,16.0s
OBN Obninsk 68.13 322 *e*P **P 08 26 21.7 +0.1**
comp=Z,76nm,0.8s,mb5.5
OBN PP PP 08 28 57.0 -0.1
YKA Yellowknife Ar 68.34 28 P **P 08 26 20.9 -1.9**
comp=Z,13nm,0.4s,mb5.0,baz=300,slow=5.7,SNR=50
YKA pP pP 08 27 43.4 -0.6
comp=Z,4.2nm,0.8s,baz=298,slow=6.7,SNR=3.3

YKA	**Yellowknife Ar**	68.34	28	P	P	08 26 20.9	-1.9
YKA				*PP	pP	08 27 43.4	-0.7
YKA				pmax	pmax		
	comp=Z,13nm,0.4s						
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SMDO	**Samad**	68.38	284	P	P	08 26 24.3	+0.6
	SNR=10						
DAG	**Danmarks Havn**	68.40	354	⇓iP	P	08 26 22.9	-0.1
DAG				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
DAG	**Danmarks Havn**	68.40	354	⇓iP	P	08 26 22.9	-0.1
	comp=Z,12nm,0.7s,mb4.7						
VRSR	**Storozhevoye**	68.57	318	diP	P	08 26 23.9	-0.5
VRSR				e*PP	pP	08 27 43.0	-2.7
VRSR				eS	S	08 34 53.8	-2.2
VRSR				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.2						
VRSR				pmax	pmax		
	comp=N,20nm,0.8s						
VRSR				pmax	pmax		
	comp=E,30nm,0.9s						
VRSR				smax			
	comp=N,80nm,2.9s						
VRSR				smax			
	comp=Z,10.0nm,2.5s						
VRSR				smax			
	comp=E,60nm,2.8s						
JMDO	**Jabal Madar**	68.67	283	P	P	08 26 25.4	-0.1
	SNR=7.6						
HOQ	**Hoqain**	68.72	285	P	P	08 26 26.3	+0.5
	SNR=18						
NWAO	**Narrogin (SRO)**	69.04	197	eP	P	08 26 26.2	-1.2
NWAO				pmax	pmax		
	comp=Z,61nm,1.9s						
NWAO	**Narrogin (SRO)**	69.04	197	eP	P	08 26 26.2	-1.2
	comp=Z,61nm,1.9s,mb5.0						
HATD	**Hatta, Dubai**	69.07	286	P	P	08 26 28.8	+0.9
	SNR=5.9						
KAF	**Kangasniemi**	69.15	332	ep	P	08 26 26.8	-1.0
	comp=Z,43nm,0.5s,mb5.4,baz=54,slow=5.7						
KAF	**Kangasniemi**	69.15	332	eP	P	08 26 26.8	-1.0
KAF				pmax	pmax		
	comp=Z,43nm,0.5s,mb5.4						
ASHO	**Ashiyiah**	69.20	286	P	P	08 26 29.5	+0.8
	SNR=7.8						
BSY	**Bisya**	69.22	284	P	P	08 26 29.5	+0.7
	SNR=17						
MTA	**Mtatsminda**	69.56	307	P	P	08 26 31.1	+0.5
KIV	**Kislovodsk**	69.88	310	P	P	08 26 33.1	+0.6
	SNR=53						
KIV	**Kislovodsk**	69.88	310	eP	P	08 26 32.8	+0.3
KIV				e		08 26 51.0	
KIV				e*PP	pP	08 27 54.0	-0.2
KIV				e		08 29 14.4	
KIV				eS	S	08 35 12.3	+0.8
KIV				pmax	pmax		
	comp=Z,223nm,1.0s,mb5.8						
KIV				pmax	pmax		
	comp=Z,51nm,4.0s						
KIV				MLR	MLR		
	comp=Z,72nm,18.0s						
KIV	**Kislovodsk**	69.88	310	⇑iP	P	08 26 32.9	+0.4
KIV	**Kislovodsk**	69.88	310	eP	P	08 26 33.3	+0.8
	comp=Z,427nm,1.3s,mb6.0						
GNI	**Garni**	70.32	306	P	P	08 26 36.1	+0.8
	comp=Z,21nm,0.6s,mb5.0,baz=274,slow=3.0,SNR=35						
GNI	**Garni**	70.32	306	eP	P	08 26 36.4	+1.2
GNI				pmax	pmax		
	comp=Z,91nm,1.0s						
GNI	**Garni**	70.32	306	eP	P	08 26 36.4	+1.2
	comp=Z,91nm,1.0s,mb5.5						
AKH	**Akhalkalaki**	70.56	307	P	P	08 26 38.3	+1.7
MOR8	**Moi Rana**	70.79	339	eP	P	08 26 36.0	-1.5
MOR8				AMb	AMB	08 26 37.6	
	comp=Z,63nm,0.9s,mb5.3						
MOR8	**Moi Rana**	70.79	339	eP	P	08 26 36.0	-1.5
	comp=Z,63nm,0.9s,mb5.3						
C03A	**Quillayute Air**	70.94	45	⇓P	P	08 26 40.0	+1.3
	baz=71,SNR=8.2						
OBC	**Olympics--Boni**	71.18	44	P	P	08 26 41.1	+0.9
PGC	**Sidney**	71.23	44	eP	P	08 26 40.8	+0.3
	comp=Z,204nm,0.9s,mb5.9						
CLDR	**Caldiran**	71.36	305	eP	P	08 26 42.3	+0.8
B04A	**Port Angeles**	71.50	44	⇓P	P	08 26 42.7	+0.6
	baz=71,SNR=16						
MCW	**Mount Constitu**	71.57	43	P	P	08 26 43.1	+0.6
A04A	**Legoe Bay, Lum**	71.62	43	P	P	08 26 43.3	+0.5
	baz=71,SNR=25						
NLWA	**Neilton Lookou**	71.62	45	P	P	08 26 43.9	+1.1
	baz=71,SNR=37						
NLWA	**Neilton Lookou**	71.62	45	eP	P	08 26 43.8	+1.0
	comp=Z,208nm,1.0s,mb5.8						
BCA	**Borcka**	71.77	308	eP	P	08 26 43.5	-0.3
AGRB	**Hanur-Agry**	71.78	306	eP	P	08 26 43.6	-0.3
VDB	**Vedder Mountai**	71.81	43	P	P	08 26 43.6	-0.3
D03A	**Wishkah Elem.**	71.82	45	⇓P	P	08 26 45.0	+1.0
	baz=72,SNR=13						
A05A	**Maple Falls**	71.83	43	P	P	08 26 44.0	0.0
	baz=72,SNR=53						
SOC	**Sochi**	71.94	311	diP	P	08 26 44.2	-0.6
SOC				e		08 26 57.8	
SOC				e		08 29 26.3	
SOC				ePPP		08 31 16.0	
SOC				pmax	pmax		
	comp=Z,66nm,0.7s,mb5.5						
SOC	**Sochi**	71.94	311	iP	P	08 26 45.4	+0.6
HDW	**Hoodsport**	71.97	44	P	P	08 26 45.6	+0.8
C04A	**Brinnon**	71.98	44	⇓P	P	08 26 45.6	+0.6
	baz=72,SNR=21						
A06A	**Chilliwack**	72.12	43	⇑P	P	08 26 45.2	-0.5
	baz=72,SNR=13						
GNW	**Green Mountain**	72.14	44	eP	P	08 26 46.4	+0.5
	comp=Z,119nm,1.2s,mb5.5						
B05A	**Bryant**	72.20	43	⇓P	P	08 26 46.5	+0.3
	baz=72,SNR=75						
E03A	**Lebam**	72.23	46	⇓P	P	08 26 46.8	+0.4
	baz=72,SNR=15						
JCW	**Jim Creek**	72.33	43	eP	P	08 26 47.5	+0.5
D04A	**Dobbs Creek Ra**	72.39	45	⇑P	P	08 26 48.2	+0.9
	baz=72,SNR=7.2						
B06A	**Marblemount**	72.42	43	⇓P	P	08 26 47.8	+0.3
	baz=72,SNR=38						
RPW	**Rockport**	72.44	43	P	P	08 26 47.7	+0.1
F03A	**Seaside**	72.55	46	⇑P	P	08 26 48.9	+0.6
	baz=72						
E04A	**Onalaska**	72.71	45	⇑P	P	08 26 50.0	+0.8
	baz=72,SNR=14						
C05A	**Tolt Reservoir**	72.73	44	⇓P	P	08 26 49.4	+0.1
	baz=73,SNR=39						
ANN	**Anapa**	72.75	313	eP	P	08 26 48.6	-0.9
ANN				e*PP	pP	08 28 10.1	-1.8
ANN				eS	S	08 35 43.4	-0.6
ANN				pmax	pmax		
	comp=Z,247nm,1.6s,mb5.7						
ANN	**Anapa**	72.75	313	⇓iP	P	08 26 48.9	-0.6
A07A	**Ashnola River,**	72.76	42	⇓P	P	08 26 49.5	0.0
	baz=73,SNR=89						
MNK	**Minsk**	72.77	325	⇑iP	P	08 26 47.0	-2.4
MNK				pmax	pmax		
	comp=Z,220nm,1.0s,mb5.8						
HEBO	**Mount Hebo**	72.80	47	eP	P	08 26 49.4	-0.4
	comp=Z,270nm,1.4s,mb5.8						
D05A	**Enumclaw**	72.83	44	P	P	08 26 50.9	+1.0
	baz=73,SNR=21						
H02A	**Toledo**	72.93	47	⇑P	P	08 26 51.5	+0.9
	baz=73						
G03A	**Yamhill**	73.03	47	⇑P	P	08 26 51.8	+0.6
	baz=73,SNR=13						
C06A	**Tall Timber Ra**	73.07	43	⇑P	P	08 26 51.3	0.0
	baz=73,SNR=6.8						
LON	**Longmire**	73.16	45	P	P	08 26 51.7	-0.1
B07A	**Winthrop**	73.22	43	⇑P	P	08 26 52.2	0.0
	baz=73,SNR=95						
F04A	**Amboy**	73.23	46	P	P	08 26 52.5	+0.2
	baz=73,SNR=31						
E05A	**Randle**	73.29	45	⇑P	P	08 26 52.3	-0.3
	baz=73,SNR=17						
UMR	**Umm Al-Rimmam**	73.32	295	eP	P	08 26 52.4	-0.7
	baz=295						
UMR				AMb	AMB	08 26 53.7	
	comp=Z,136nm,1.0s,mb5.6,baz=295						
H03A	**Soap Creek Ran**	73.36	47	⇑P	P	08 26 53.8	+0.7
	baz=73,SNR=16						
I02A	**Mapleton**	73.38	48	⇓P	P	08 26 53.8	+0.6
	baz=73						
COR	**Corvallis**	73.40	47	eP	P	08 26 54.8	+1.5
COR				pmax	pmax		
	comp=Z,212nm,1.0s,mb5.8						
COR	**Corvallis**	73.40	47	eP	P	08 26 54.8	+1.6
	comp=Z,212nm,1.0s,mb5.8						
A08A	**Turner Farm, O**	73.43	42	⇑P	P	08 26 53.2	-0.1
	baz=73,SNR=74						
MIB	**Mutribah**	73.47	295	eP	P	08 26 53.2	-0.8
	baz=295						
MIB				AMb	AMB	08 26 54.6	
	comp=Z,188nm,0.9s,mb5.8,baz=295						
BTMT	**Batman**	73.48	305	eP	P	08 26 54.5	+0.6
D06A	**Cle Elum**	73.48	44	⇓P	P	08 26 53.7	0.0
	baz=73						
ETW	**Entiat**	73.56	43	eP	P	08 26 54.2	+0.1
K01A	**Sixes**	73.60	49	⇓P	P	08 26 55.0	+0.5
	baz=73,SNR=11						
SUMG	**Summit**	73.64	358	eP	P	08 26 55.5	+1.4
	comp=Z,17nm,0.6s,mb5.0						
C07A	**Waterville**	73.67	43	P	P	08 26 54.3	-0.4
	baz=74,SNR=53						
GUMT	**Gumushane**	73.67	308	eP	P	08 26 55.9	+0.9
B08A	**Colville Reser**	73.72	42	⇓P	P	08 26 54.9	-0.1
	baz=74,SNR=93						
I03A	**Eugene**	73.74	48	⇓P	P	08 26 55.9	+0.7
	baz=74,SNR=19						
E06A	**Yakima**	73.75	45	⇑P	P	08 26 55.7	+0.4
	baz=74,SNR=45						
RDF	**Al-Radifah**	73.75	294	eP	P	08 26 55.6	0.0
	baz=294						
RDF				AMb	AMB	08 26 56.9	
	comp=Z,283nm,1.1s,mb5.9,baz=294						
A09A	**Danville**	73.79	42	P	P	08 26 55.8	+0.4
	baz=74,SNR=74						
EBG	**Ellensburg**	73.80	44	P	P	08 26 55.8	+0.3
F05A	**White Salmon**	73.82	45	⇓P	P	08 26 56.0	+0.3
	baz=74,SNR=12						
NAY	**Al-Naaiem**	73.83	295	eP	P	08 26 55.2	-0.8
	baz=295						
NAY				AMb	AMB	08 26 56.6	
	comp=Z,158nm,1.1s,mb5.7,baz=295						
J02A	**Umpqua**	73.87	48	⇓P	P	08 26 56.6	+0.6
	baz=74,SNR=16						
HOOD	**Mount Hood Mea**	74.01	46	eP	P	08 26 57.2	+0.5
	comp=Z,196nm,1.1s,mb5.8						
HOOD				epP	pP	08 28 21.3	+1.8
H04A	**Detroit Lake**	74.03	47	⇑P	P	08 26 56.9	+0.1
	baz=74,SNR=34						
EDM	**Edmonton**	74.11	36	eP	P	08 26 57.2	0.0
C08A	**Higginbotham F**	74.19	43	⇓P	P	08 26 57.4	-0.3
	baz=74,SNR=19						
AKASG	**Malin Array Be**	74.23	321	P	P	08 26 57.2	-0.7
	comp=Z,24nm,0.5s,mb5.2,baz=49,slow=5.9,SNR=96						
AKASG	**Malin Array Be**	74.23	321	P	P	08 26 57.2	-0.7
AKASG				pmax	pmax		
	comp=Z,24nm,0.5s						
AKASG	**Malin Array Be**	74.23	321	P	P	08 26 57.2	-0.7
AKBB	**Malin Array Si**	74.23	321	eP	P	08 26 57.2	-0.7
K02A	**Glendale**	74.24	49	⇓P	P	08 26 58.6	+0.4
	baz=74						
KIEV	**Kiev**	74.24	321	eP	P	08 26 57.4	-0.6
KIEV				pmax	pmax		
	comp=Z,49nm,0.7s,mb5.3						
KIEV	**Kiev**	74.24	321	eP	P	08 26 57.4	-0.5
	comp=Z,49nm,0.7s,mb5.3						
G05A	**Wamic**	74.25	46	⇓P	P	08 26 58.5	+0.3
	baz=74,SNR=12						
F06A	**Goldendale**	74.29	45	⇓P	P	08 26 58.6	+0.3
	baz=74,SNR=14						
M01C	**Crescent City**	74.32	50	⇑P	P	08 26 59.2	+0.6
	baz=74						
B09A	**Rice**	74.34	42	⇓P	P	08 26 58.8	+0.2
	baz=74,SNR=68						
A10A	**Northport**	74.35	41	⇓P	P	08 26 58.8	+0.1
	baz=74,SNR=48						
I04A	**Tendick Farm,**	74.36	48	P	P	08 26 59.2	+0.4
	baz=74,SNR=34						
E07A	**Sunnyside**	74.40	44	⇓P	P	08 26 59.1	+0.1
	baz=74,SNR=5.4						
WHFO	**Wadi Hawf**	74.41	281	P	P	08 26 59.2	-0.3
	SNR=6.3						
L02A	**Cave Junction**	74.49	50	P	P	08 27 00.2	+0.7
	baz=74,SNR=8.7						
PTK	**Pertek**	74.54	307	eP	P	08 27 00.7	+0.8
OD2	**Odessa Site #2**	74.60	43	eP	P	08 26 59.9	-0.2
C09A	**Chrisman Ranch**	74.62	42	⇑P	P	08 27 00.2	0.0
	baz=74,SNR=38						
RSW	**Rattlesnake Hi**	74.64	44	eP	P	08 27 01.1	+0.7
HUMO	**Hull Mountain**	74.66	49	⇑P	P	08 27 00.9	+0.4
	baz=74,SNR=14						
HUMO	**Hull Mountain**	74.66	49	eP	P	08 27 00.7	+0.2
	comp=Z,30nm,0.6s,mb5.2						
D08A	**Wollman Farm,**	74.66	43	P	P	08 27 00.6	+0.1
	baz=74,SNR=58						
G06A	**Carlson Farm,**	74.66	46	⇓P	P	08 27 00.6	+0.1
	baz=74,SNR=43						
SIM	**Simferopol'**	74.67	314	deP	P	08 27 00.7	+0.2
SIM				iS	S	08 36 06.1	+0.8
SIM				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.0						
HAWA	**Hanford**	74.68	44	eP	P	08 27 00.6	+0.1
	comp=Z,113nm,1.1s,mb5.5						
F07A	**Phinny Hill Vi**	74.72	45	⇑P	P	08 27 01.1	+0.3
	baz=74,SNR=37						
J04A	**Umpqua Nationa**	74.84	48	⇓P	P	08 27 02.2	+0.6
	baz=75,SNR=41						
I05A	**Bend**	74.86	47	⇓P	P	08 27 01.9	+0.2
	baz=75,SNR=11						
E08A	**Dider Farm, El**	74.89	44	⇓P	P	08 27 01.9	+0.1
	baz=75						
B10A	**Chitwood Farm,**	74.92	42	⇓P	P	08 27 01.8	0.0
	baz=75,SNR=6.7						
JCC	**Jacoby Creek**	74.92	51	⇓P	P	08 27 02.5	+0.5
	baz=75						
NEW	**Newport**	75.00	42	eP	P	08 27 02.4	+0.1
NEW				pmax	pmax		
	comp=Z,102nm,1.1s						
NEW	**Newport**	75.00	42	eP	P	08 27 02.4	+0.1
	comp=Z,102nm,1.1s,mb5.5						
D09A	**Jones Farm, Ri**	75.01	43	⇓P	P	08 27 02.2	-0.2
	baz=75,SNR=14						
A11A	**Hall Mountain,**	75.02	41	⇓P	P	08 27 03.3	+0.9
	baz=75,SNR=132						
H06A	**Lindquist Farm**	75.11	46	⇓P	P	08 27 03.0	-0.1
	baz=75,SNR=25						
C10A	**Spilker Farm,**	75.14	42	⇑P	P	08 27 03.0	-0.1
	baz=75						
HFS	**Hagfors**	75.16	334	P	P	08 27 02.5	-0.5
	comp=Z,42nm,0.6s,mb5.4,baz=33,slow=3.5,SNR=179						
HFS				S	S	08 36 06.4	-3.7
	comp=Z,13nm,1.1s,baz=142,slow=15,SNR=4.3						
HFS	**Hagfors**	75.16	334	P	P	08 27 02.5	-0.5
HFS				S	S	08 36 06.4	-3.7
HFS				pmax	pmax		
	comp=Z,42nm,0.6s						
HFS				smax			
	comp=N,13nm,1.2s						
G07A	**Ruggs Ranch, H**	75.22	45	⇑P	P	08 27 04.0	+0.3
	baz=75,SNR=33						
SUW	**Suwalki**	75.25	326	eP	P	08 27 03.5	-0.2
SUW	**Suwalki**	75.25	326	eP	P	08 27 03.5	-0.2
YBH	**Yreka Blue Hor**	75.28	50	eP	P	08 27 04.8	+0.8
YBH				e*PP	pP	08 28 28.8	+1.7
YBH				pmax	pmax		
	comp=Z,136nm,1.3s						
YBH	**Yreka Blue Hor**	75.28	50	P	P	08 27 04.9	+0.9
	baz=75,SNR=17						
YBH	**Yreka Blue Hor**	75.28	50	eP	P	08 27 04.8	+0.8
	comp=Z,136nm,1.3s,mb5.5						
YBH				epP	pP	08 28 28.8	+1.7
B11A	**Sandpoint**	75.31	41	P	P	08 27 04.8	+0.6
	baz=75,SNR=86						
J05A	**Fort Rock**	75.36	48	⇓P	P	08 27 05.1	+0.6
	baz=75,SNR=80						
M02C	**Callahan**	75.37	50	P	P	08 27 05.5	+0.9
	baz=75,SNR=22						
N02C	**Big Bar**	75.39	51	P	P	08 27 05.2	+0.5
	baz=75,SNR=9.5						
NB2	**NORSAR Subarra**	75.39	336	P	P	08 27 03.9	-0.4
	comp=Z,59nm,0.9s,mb5.3,baz=44,slow=5.6						
NOA	**NORSAR Array B**	75.39	336	P	P	08 27 03.9	-0.4
	comp=Z,35nm,0.7s,mb5.2,baz=44,slow=5.6,SNR=100						
NOA				pP	pP	08 28 27.5	+0.2
	comp=Z,2.9nm,0.8s,baz=44,slow=5.7,SNR=1.9						
NOA				PP	PP	08 29 54.5	-3.9
	comp=Z,1.0nm,0.6s,baz=42,slow=5.3,SNR=2.6						
NOA	**NORSAR Array B**	75.39	336	P	P	08 27 03.9	-0.4
NOA				*PP	pP	08 28 27.5	+0.2
NOA				pmax	pmax		
	comp=Z,35nm,0.7s						
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
E09A	**Wood Farm, Sta**	75.41	44	P	P	08 27 05.0	+0.3
	baz=75,SNR=73						
A12A	**Yaak River Ran**	75.42	40	⇓P	P	08 27 05.3	+0.6
	baz=75,SNR=24						
K04A	**Chilquin**	75.42	48	⇓P	P	08 27 05.3	+0.4
	baz=75						
O01C	**Eel River Cons**	75.42	51	⇑P	P	08 27 05.6	+0.7
	baz=75,SNR=6.2						
F08A	**Pendleton**	75.44	44	P	P	08 27 05.6	+0.7
	baz=75,SNR=40						
MOL	**Molde**	75.46	338	eP	P	08 27 05.0	+0.4
MOL				AMb	AMB	08 27 11.0	
	comp=Z,37nm,1.8s,mb4.8						
MYA	**Malataya**	75.48	306	eP	P	08 27 06.9	+1.7
MALT	**Malatya**	75.48	306	eP	P	08 27 06.0	+0.7
MALT	**Malatya**	75.48	306	eP	P	08 27 06.1	+0.8
MALT				e		08 30 00.9	
MALT				pmax	pmax		
	comp=Z,87nm,0.8s,mb5.5						
MALT	**Malatya**	75.48	306	⇑iP	P	08 27 06.2	+0.9
MALT	**Malatya**	75.48	306	eP	P	08 27 06.1	+0.8
	comp=Z,87nm,0.8s,mb5.5						
MALT				ePP	PP	08 30 00.9	+1.0
L04A	**Klamath Falls**	75.55	49	⇓P	P	08 27 06.1	+0.5
	baz=75,SNR=42						
KVT	**Kavak**	75.56	310	eP	P	08 27 06.2	+0.5
SVSK	**Karacayir**	75.57	308	eP	P	08 27 06.0	+0.3
D10A	**Wagner Farm, O**	75.59	43	P	P	08 27 05.5	-0.2
	baz=75,SNR=37						
G08A	**Pilot Rock**	75.62	45	P	P	08 27 06.3	+0.4
	baz=75,SNR=41						
I06A	**Prineville**	75.62	47	P	P	08 27 06.6	+0.7
	baz=75,SNR=38						
NAO01	**NORSAR Array S**	75.64	336	eP	P	08 27 05.7	0.0
	comp=Z,22nm,0.8s,mb4.9						
H07A	**Lands Inn, Kim**	75.65	46	⇑P	P	08 27 06.0	-0.1
	baz=76,SNR=17						
TOKT	**Tokat**	75.65	309	eP	P	08 27 07.2	+1.0
URFA	**Urfa**	75.68	306	eP	P	08 27 07.0	+0.6
LNOR	**Lincton Mounta**	75.69	44	eP	P	08 27 06.9	+0.6
B12A	**Libby**	75.72	41	⇓P	P	08 27 06.7	+0.3
	baz=76,SNR=22						
M04C	**Macdoel**	75.80	49	⇑P	P	08 27 07.4	+0.4
	baz=76,SNR=44						
K05A	**Sumner Lake**	75.87	48	⇑P	P	08 27 08.3	+0.9
	baz=76,SNR=49						
M03C	**McCloud**	75.90	50	⇓P	P	08 27 08.0	+0.4
	baz=76,SNR=34						
I07A	**Izee**	75.97	46	⇓P	P	08 27 08.3	+0.4
	baz=76,SNR=30						
F09A	**S2 Ranch, Elgi**	76.00	44	⇓P	P	08 27 08.2	+0.2
	baz=76,SNR=16						
WDC	**Whiskeytown Da**	76.01	50	eP	P	08 27 08.2	0.0
WDC				pmax	pmax		
	comp=Z,57nm,0.9s,mb5.3						
WDC	**Whiskeytown Da**	76.01	50	⇓P	P	08 27 08.2	0.0
	baz=76,SNR=26						
WDC	**Whiskeytown Da**	76.01	50	eP	P	08 27 08.2	+0.1
	comp=Z,57nm,0.9s,mb5.3						
E10A	**Myers Farm, Un**	76.01	43	P	P	08 27 08.3	+0.2
	baz=76,SNR=63						
J06A	**Christmas Vall**	76.04	47	P	P	08 27 08.8	+0.5
	baz=76,SNR=56						
LASM	**Arnica Sink**	76.06	49	P	P	08 27 09.0	+0.5
O02C	**Red Bluff**	76.06	51	⇑P	P	08 27 09.1	+0.6
	baz=76,SNR=26						
A13A	**Flathead Natio**	76.08	40	⇑P	P	08 27 08.7	+0.3
	baz=76						
P01C	**Double 8 Ranch**	76.09	52	⇓P	P	08 27 08.7	+0.1
	baz=76						
D11A	**Klaveano Farm,**	76.13	42	⇑P	P	08 27 08.3	-0.4
	baz=76,SNR=144						
H08A	**Prairie City**	76.22	45	P	P	08 27 09.8	+0.6
	baz=76,SNR=80						
K06A	**Valley Falls**	76.23	48	P	P	08 27 10.0	+0.7
	baz=76,SNR=50						
F10A	**Beach Ranch, E**	76.24	44	P	P	08 27 09.4	+0.1
	baz=76,SNR=74						
WALA	**Waterton Lakes**	76.27	40	eP	P	08 27 09.9	+0.5
	comp=Z,101nm,0.6s,mb5.7						
L05A	**Lakeview**	76.28	48	⇓P	P	08 27 10.4	+0.8
	baz=76,SNR=18						
G09A	**Cove**	76.31	44	⇓P	P	08 27 09.9	+0.1
	baz=76,SNR=54						
B13A	**Whitefish**	76.38	40	P	P	08 27 10.8	+0.8
	baz=76,SNR=136						
GASB	**Alder Springs**	76.39	51	⇓P	P	08 27 11.1	+0.7
	baz=76,SNR=23						
M05C	**Lookout**	76.47	49	P	P	08 27 11.0	+0.3
	baz=76,SNR=30						
J07A	**Hines**	76.48	47	⇑P	P	08 27 11.6	+0.9
	baz=76,SNR=118						
HOPS	**Hopland**	76.52	52	⇑P	P	08 27 11.0	-0.1
	baz=76						
HATC	**Hat Creek Radi**	76.56	50	⇓P	P	08 27 11.4	+0.1
	baz=76,SNR=28						
KIS	**Kishinev**	76.58	318	eP	P	08 27 10.0	-1.2
KIS				pmax	pmax		
	comp=Z,72nm,1.6s,mb5.2						
KIS	**Kishinev**	76.58	318	eP	P	08 27 10.0	-1.2
	comp=Z,70nm,1.6s,mb5.1						
E11A	**Bogner Ranch,**	76.60	43	P	P	08 27 11.2	-0.2
	baz=76,SNR=58						
I08A	**Drewsey**	76.62	46	P	P	08 27 12.2	+0.7
	baz=76,SNR=53						
O03C	**Acorn Hollow,**	76.65	51	⇓P	P	08 27 11.3	-0.5
	baz=76,SNR=12						
D12A	**Red Ives Fores**	76.67	42	P	P	08 27 11.8	+0.1
	baz=76,SNR=20						
G10A	**Bishop Farm, J**	76.69	44	⇑P	P	08 27 12.0	+0.1
	baz=76,SNR=162						
MOD	**Modoc**	76.69	48	⇓P	P	08 27 12.3	+0.3
	baz=76,SNR=29						
MOD	**Modoc**	76.69	48	eP	P	08 27 12.2	+0.3
	comp=Z,54nm,0.7s,mb5.4						
MOD				epP	pP	08 28 36.6	+1.3
H09A	**Durkee**	76.73	45	P	P	08 27 12.8	+0.7
	baz=76,SNR=29						
C13A	**Hot Springs**	76.73	41	⇓P	P	08 27 12.4	+0.4
	baz=76,SNR=185

baz=77
CVS Carmenet Viney 77.28 52 ⇓P P 08 27 14.7 -0.6
baz=77,SNR=10
H10A Noah's Angus R 77.31 45 P P 08 27 15.2 -0.1
baz=77,SNR=101
K08A Mann Creek Ran 77.34 47 ⇑P P 08 27 15.9 +0.4
baz=77,SNR=96
O05C Quincy 77.38 50 ⇑P P 08 27 15.8 0.0
baz=77,SNR=28
Q03C Winters 77.41 52 ⇓P P 08 27 16.7 +0.7
baz=77,SNR=9.3
WVOR Wild Horse Val 77.42 47 *eP* **P 08 27 16.4 +0.5**
WVOR *e**PP pP 08 28 40.9 +1.4
WVOR pmax pmax
comp=Z,76nm,1.0s,mb5.4
WVOR Wild Horse Val 77.42 47 *eP* **P 08 27 16.4 +0.4**
comp=Z,76nm,1.0s,mb5.4
WVOR *ep*P pP 08 28 40.9 +1.4
J09A Fry Pan Ranch, 77.43 46 ⇑P P 08 27 16.3 +0.3
baz=77,SNR=105
LVV L'vov 77.43 322 *eP* **P 08 27 15.9 0.0**
F12A Elk City 77.49 43 P P 08 27 16.5 +0.2
baz=77,SNR=300
I10A Payette 77.57 45 ⇓P P 08 27 17.1 +0.4
baz=77,SNR=14
MSO Missoula 77.58 42 *eP* **P 08 27 16.3 -0.4**
comp=Z,70nm,1.3s,mb5.2
SAFT Safranbolu 77.59 311 *eP* **P 08 27 17.6 +0.7**
N06A Buffalo Meadow 77.63 49 ⇑P P 08 27 17.2 0.0
baz=77,SNR=72
KOZT Kozan 77.66 307 *eP* **P 08 27 19.4 +2.0**
H11A Donnelly 77.67 44 ⇓P P 08 27 16.7 -0.5
baz=78,SNR=111
D14A Greenough 77.67 41 P P 08 27 16.9 -0.3
baz=78,SNR=174
E13A Victor 77.68 42 ⇓P P 08 27 16.5 -0.8
baz=78,SNR=22
M07A Soldier Meadow 77.68 48 ⇓P P 08 27 18.0 +0.6
baz=78
Q04C Lincoln 77.71 51 ⇓P P 08 27 17.4 -0.2
baz=78,SNR=14
L08A Fields 77.74 47 P P 08 27 18.4 +0.7
baz=78,SNR=114
BEKR Beckwourth 77.79 50 ⇓P P 08 27 18.0 -0.1
baz=78,SNR=138
K09A Rome 77.82 47 ⇓P P 08 27 18.2 +0.1
baz=78,SNR=63
BDM Black Diamond 77.88 52 ⇓P P 08 27 18.5 0.0
baz=78,SNR=6.2
JRSC Jasper Ridge 77.94 53 ⇓P P 08 27 18.4 -0.5
baz=78,SNR=11
P05C Yuba Gap, Truc 77.95 51 ⇑P P 08 27 18.6 -0.3
baz=78,SNR=45
O06A Flanigan 77.96 50 ⇓P P 08 27 19.0 0.0
baz=78,SNR=131
J10A Berg Farm, Mel 77.97 46 ⇓P P 08 27 18.8 -0.1
baz=78,SNR=19
KAMT Kaman 78.00 309 *eP* **P 08 27 19.6 +0.5**
E14A Clinton 78.08 42 ⇓P P 08 27 19.0 -0.4
baz=78,SNR=43
BNLO Ben Lomond (Sa 78.13 53 ⇑P P 08 27 19.5 -0.4
baz=78,SNR=8.8
WENL Wente Brothers 78.14 53 ⇑P P 08 27 19.7 -0.2
baz=78,SNR=9.8
M08A Happy Creek Ra 78.14 48 ⇑P P 08 27 20.4 +0.5
baz=78,SNR=39
N07B Gerlach 78.15 49 ⇓P P 08 27 20.2 +0.2
baz=78,SNR=11
I11A Placerville 78.17 45 P P 08 27 19.9 0.0
baz=78,SNR=45
LAVA Lava Cap Winer 78.17 51 ⇑P P 08 27 19.7 -0.4
baz=78,SNR=97
BSD Bornholm Skovb 78.17 330 *i*⇓*P* **P 08 27 19.3 -0.5**
BSD *i* S S 08 36 41.8 -0.8
BSD pmax pmax
comp=Z,65nm,0.7s,mb5.5
BSD Bornholm Skovb 78.17 330 *i*⇓*P* **P 08 27 19.3 -0.5**
comp=Z,65nm,0.7s,mb5.5
BSD *i* S S 08 36 41.8 -0.8
BURAR Bucovina Array 78.17 320 *i*⇑*P* **P 08 27 20.3 +0.3**
P06A Stead Airport, 78.19 50 ⇑P P 08 27 20.5 +0.3
baz=78,SNR=19
KWP Kalwaria 78.22 323 *eP* **P 08 27 21.1 +0.9**
KWP Kalwaria 78.22 323 *i*⇑*P* **P 08 27 21.0 +0.8**
D15A Lincoln 78.23 41 P P 08 27 20.1 -0.2
baz=78,SNR=40
L09A Wilkinson Ranc 78.25 47 ⇓P P 08 27 21.0 +0.6
baz=78,SNR=28
K10A MacKenzie Ranc 78.29 46 ⇓P P 08 27 21.0 +0.3
baz=78,SNR=94
KARA Karaisali 78.30 307 *eP* **P 08 27 20.6 -0.3**
ANTO Ankara 78.30 310 P P 08 27 22.1 +1.3
SNR=11
ANTO Ankara 78.30 310 *eP* **P 08 27 21.6 +0.8**
ANTO pmax pmax
comp=Z,20nm,0.6s,mb5.0
ANTO Ankara 78.30 310 *i*⇑*P* **P 08 27 21.8 +1.0**
ANTO Ankara 78.30 310 *eP* **P 08 27 21.6 +0.8**
comp=Z,20nm,0.6s,mb5.0
FCC Fort Churchill 78.40 24 *eP* **P 08 27 20.6 -0.4**
FCC pmax pmax
comp=Z,62nm,0.7s,mb5.5
FCC Fort Churchill 78.40 24 *eP* **P 08 27 20.6 -0.4**
comp=Z,62nm,0.7s,mb5.5
VRI Vrincioaia 78.41 318 *i*⇑*P* **P 08 27 22.6 +1.3**
VRI Vrincioaia 78.41 318 P P 08 27 22.5 +1.2
H12A Diamond D Ranc 78.43 44 P P 08 27 21.5 +0.1
baz=78,SNR=160
GKP Gorka Klasztor 78.44 328 *eP* **P 08 27 21.5 +0.2**
GKP Gorka Klasztor 78.44 328 *eP* **P 08 27 21.5 +0.2**
G13A Cobalt 78.46 43 P P 08 27 20.9 -0.6
baz=78,SNR=84
PLOR Plostina 78.47 318 P P 08 27 22.5 +0.9
PLOR Plostina 78.47 318 *i*⇑*P* **P 08 27 22.4 +0.8**
S04C Ingram Canyon, 78.48 53 ⇓P P 08 27 21.7 -0.1
baz=78,SNR=11
WCN Washoe City 78.50 50 ⇓P P 08 27 22.0 +0.1
baz=78,SNR=48
PAHR Pah Rah Range 78.50 50 *eP* **P 08 27 21.9 0.0**
comp=Z,85nm,0.7s,mb5.6
PAHR *ep*P pP 08 28 46.1 +0.4
F14A Wisdom 78.51 42 ⇓P P 08 27 21.8 0.0
baz=78,SNR=7.4
MFID Camas Ranch 78.53 45 ⇓P P 08 27 22.2 +0.2
baz=78,SNR=83
E15A Deer Lodge 78.54 41 ⇓P P 08 27 22.1 +0.1
baz=78,SNR=61
O07A Toulon 78.56 49 ⇓P P 08 27 22.7 +0.5
baz=78,SNR=97
R05C Kirkwood Meado 78.63 51 ⇑P P 08 27 22.6 0.0
baz=78,SNR=91
M09A Marrel Ranch, 78.72 48 ⇑P P 08 27 23.2 +0.2
baz=78,SNR=22
SNART Snartemo 78.76 335 *eP* **P 08 27 23.2 +0.3**
SNART AMb AMB 08 27 24.0
comp=Z,29nm,1.5s,mb4.8
H13A Challis 78.77 44 P P 08 27 23.3 +0.1
baz=79,SNR=161
PACP Pacheco Peak 78.79 53 ⇑P P 08 27 23.6 +0.1
baz=79,SNR=28
K11A Parker Ranch, 78.79 46 P P 08 27 23.7 +0.3
baz=79,SNR=64
CMB Columbia Colle 78.81 52 *eP* **P 08 27 23.5 -0.1**
CMB *e**PP pP 08 28 48.3 +0.9
CMB pmax pmax
comp=Z,71nm,0.6s,mb5.6
CMB Columbia Colle 78.81 52 ⇑P P 08 27 23.4 -0.1
baz=79,SNR=87
CMB Columbia Colle 78.81 52 *eP* **P 08 27 23.5 -0.1**
comp=Z,71nm,0.6s,mb5.6
CMB *ep*P pP 08 28 48.3 +0.9
G14A Jackson 78.81 43 ⇓P P 08 27 22.8 -0.6
baz=79,SNR=12
SAO San Andreas Ge 78.82 53 *eP* **P 08 27 23.4 -0.3**
SAO pmax pmax
comp=Z,27nm,0.9s,mb5.0
SAO San Andreas Ge 78.82 53 *eP* **P 08 27 23.4 -0.2**
comp=Z,27nm,0.9s,mb5.0
MERS Mersin 78.87 307 *eP* **P 08 27 23.5 -0.5**
KOLS Kolonicke sedl 78.89 322 *i P* **P 08 27 24.0 +0.2**
P07A Fallon 78.91 50 ⇑P P 08 27 24.5 +0.4
baz=79,SNR=10.0
L10A Juniper Basin 78.94 47 ⇓P P 08 27 24.7 +0.5
baz=79,SNR=13
O08A Rochester Mine 78.94 49 ⇓P P 08 27 25.0 +0.7
baz=79
MDU Mudurnu 78.95 311 *eP* **P 08 27 25.2 +0.9**

HAST Hastings Reser 78.96 54 ⇓P P 08 27 24.2 -0.2
baz=79,SNR=27
F15A Butte 78.98 42 P P 08 27 24.8 +0.4
baz=79,SNR=240
N09A Rock Creek Ran 79.01 48 P P 08 27 25.4 +0.7
baz=79,SNR=48
UZH Uzhgorod 79.07 322 *i*⇑*P* **P 08 27 25.8 +1.0**
MLR Muntele Rosu 79.08 318 *i*⇓*P* **P 08 27 24.7 -0.2**
MLR Muntele Rosu 79.08 318 P P 08 27 25.5 +0.7
EGMT Eagleton 79.09 39 *eP* **P 08 27 24.9 0.0**
comp=Z,99nm,0.8s,mb5.6
SFJD Kangerlussuaq 79.16 3 *eP* **P 08 27 24.9 0.0**
SFJD pmax pmax
comp=Z,26nm,0.8s,mb5.0
SFJD Kangerlussuaq 79.16 3 *eP* **P 08 27 24.9 0.0**
comp=Z,26nm,0.8s,mb5.0
DLMT Dillon 79.22 42 *eP* **P 08 27 26.0 +0.3**
comp=Z,184nm,1.0s,mb5.8
M10A I.L. Ranch, Tu 79.22 47 P P 08 27 26.6 +0.9
baz=79,SNR=77
S05C Merced 79.23 52 ⇓P P 08 27 25.5 -0.4
baz=79,SNR=54
I13A Wildhorse Cree 79.23 44 P P 08 27 26.6 +0.9
baz=79,SNR=166
S06C San Francisco 79.24 52 P P 08 27 25.7 -0.2
baz=79,SNR=34
T05C Eagle Field, D 79.26 53 ⇑P P 08 27 26.3 +0.3
baz=79,SNR=6.2
HLID Hailey 79.27 44 P P 08 27 26.6 +0.7
baz=79,SNR=117
HLID Hailey 79.27 44 *eP* **P 08 27 26.5 +0.5**
comp=Z,49nm,0.9s,mb5.2
HLID *ep*P pP 08 28 50.7 +0.8
OJC Ojcow 79.28 324 *eP* **P 08 27 26.2 +0.3**
OJC *e*S S 08 36 53.7 -0.8
OJC L 09 06 46.5
comp=Z,0.3nm,18.5s
OJC Ojcow 79.28 324 *eP* **P 08 27 26.2 +0.3**
OJC *e*S S 08 36 53.8 -0.7
OJC LR LR
comp=Z,300nm,18.5s
Q07A Schurz 79.31 50 ⇑P P 08 27 26.3 +0.1
baz=79
L11A Cat Creek Ranc 79.31 46 P P 08 27 27.1 +0.9
baz=79,SNR=98
CRVS Cervenica-Dubn 79.32 323 *i P* **P 08 27 26.8 +0.7**
CRVS *i* 08 18 40.4
CRVS *i* S S 08 36 54.4 -0.5
P08A Dixie Valley 79.33 49 ⇓P P 08 27 27.0 +0.6
baz=79,SNR=5.2
V03C Hunter Liggett 79.38 54 P P 08 27 26.8 +0.1
baz=79,SNR=15
G15A Dillon 79.40 42 ⇑P P 08 27 26.7 +0.1
baz=79
BMN Battle Mountai 79.44 48 *eP* **P 08 27 27.6 +0.7**
BMN pmax pmax
comp=Z,59nm,0.8s,mb5.4
BMN Battle Mountai 79.44 48 *eP* **P 08 27 27.6 +0.7**
comp=Z,58nm,0.8s,mb5.4
KIZT Kizilcal 79.45 310 *eP* **P 08 27 25.6 -1.4**
U04C Hernandez Rese 79.49 53 ⇓P P 08 27 27.5 +0.2
baz=79,SNR=15
J13A Cove Ranch, Pi 79.51 44 P P 08 27 28.1 +0.9
baz=79,SNR=58
LADK Ladik-KONYA 79.53 309 *eP* **P 08 27 26.9 -0.5**
K12A Draper Farm, C 79.54 45 P P 08 27 27.9 +0.5
baz=79,SNR=66
NIE Niedzica 79.55 323 *eP* **P 08 27 28.4 +1.1**
BOZ Bozeman (W) 79.58 41 *eP* **P 08 27 27.9 +0.4**
BOZ *e**PP pP 08 28 52.0 +0.4
BOZ pmax pmax
comp=Z,70nm,1.0s,mb5.3
BOZ Bozeman (W) 79.58 41 P P 08 27 28.0 +0.4
baz=79,SNR=136
BOZ Bozeman (W) 79.58 41 *eP* **P 08 27 27.9 +0.4**
comp=Z,70nm,1.0s,mb5.3
BOZ *ep*P pP 08 28 52.0 +0.4
VOIR 79.61 318 *i*⇑*P* **P 08 27 28.6 +0.9**
VOIR 79.61 318 P P 08 27 28.4 +0.7
O09A Fish Creek Ran 79.61 48 ⇓P P 08 27 28.5 +0.6
baz=79,SNR=101
R07C Lee Vining 79.64 51 ⇓P P 08 27 28.5 +0.4
baz=80,SNR=27
KONT Konya--Tatoy 79.67 309 *eP* **P 08 27 27.6 -0.6**
N10A Dunphy 79.71 48 ⇑P P 08 27 28.8 +0.4
baz=80
M11A Holland Ranch, 79.73 47 P P 08 27 29.6 +1.1
baz=80,SNR=55
L12A House Creek Ra 79.77 46 P P 08 27 29.6 +0.9
baz=80,SNR=71
IKL Isikli 79.78 307 *eP* **P 08 27 27.5 -1.3**
T06C Millerton Lake 79.83 52 ⇓P P 08 27 28.5 -0.5
baz=80,SNR=53
V04C Ramage Ranch, 79.84 54 ⇑P P 08 27 29.4 +0.2
baz=80,SNR=14
ASF Jabal al Asfar 79.86 302 P P 08 27 29.1 -0.2
comp=Z,20nm,0.7s,mb5.0,baz=283,slow=3.5,SNR=34
ASF Jabal al Asfar 79.86 302 P P 08 27 29.1 -0.2
ASF pmax pmax
comp=Z,20nm,0.7s
PKD Parkfield 79.88 53 ⇓P P 08 27 29.1 -0.3
baz=80,SNR=21
KCC Kaiser Creek 79.91 52 ⇑P P 08 27 29.1 -0.3
baz=80,SNR=43
Q08A Gabbs 79.91 50 ⇓P P 08 27 29.6 +0.1
baz=80,SNR=68
NVAR Mina Array Bea 79.92 50 P P 08 27 29.1 -0.5
comp=Z,36nm,0.6s,mb5.3,baz=297,slow=5.4,SNR=367
NVAR *p*P pP 08 28 53.7 0.0
comp=Z,8.3nm,0.9s,baz=274,slow=5.2,SNR=4.7
NVAR PP PP 08 30 32.5 -4.1
comp=Z,1.1nm,0.7s,baz=268,slow=7.1,SNR=2.2
U05C Westside ANR, 79.94 53 ⇓P P 08 27 29.8 +0.2
baz=80
O10A Cortez Mining, 79.97 48 ⇓P P 08 27 30.5 +0.8
baz=80,SNR=37
P09A Austin 80.01 49 ⇑P P 08 27 30.4 +0.5
baz=80,SNR=26
K13A Stover Farm, H 80.02 45 ⇓P P 08 27 30.6 +0.7
baz=80,SNR=81
DRGR 80.02 320 *i*⇓*P* **P 08 27 30.3 +0.4**
DRGR 80.02 320 P P 08 27 30.5 +0.6
MLAC Mammoth Lakes 80.04 51 ⇓P P 08 27 30.8 +0.6
baz=80,SNR=21
BORG Borgarnes 80.05 351 P P 08 27 30.9 +1.2
comp=Z,8.7nm,0.6s,mb4.7,baz=18,slow=6.4,SNR=4.1
BORG Borgarnes 80.05 351 *eP* **P 08 27 28.4 -1.3**
KECS Kecovo 80.08 323 *i P* **P 08 27 30.4 +0.2**
KECS pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
KECS Kecovo 80.08 323 *i P* **P 08 27 30.4 +0.2**
comp=Z,9.3nm,0.8s,mb4.6
R08A Mina 80.10 50 ⇓P P 08 27 30.9 +0.4
baz=80
N11A Elko Archery C 80.13 47 ⇓P P 08 27 31.2 +0.6
baz=80,SNR=20
M12A Wells 80.27 46 P P 08 27 32.2 +0.9
baz=80,SNR=100
OKC Ostrava-Krasne 80.33 325 *eP* **P 08 27 32.0 +0.5**
OKC AMS AMS 09 07 20.0
comp=Z,200nm,11.5s
V05C Boulder Hill, 80.36 53 ⇓P P 08 27 32.0 +0.2
baz=80,SNR=5.2
P10A Eureka 80.39 49 ⇓P P 08 27 32.5 +0.5
baz=80,SNR=43
Q09A Carvers 80.40 50 ⇓P P 08 27 32.2 +0.2
baz=80,SNR=16
LFK Lefkose 80.43 306 *eP* **P 08 27 31.8 -0.4**
L13A Double Diamond 80.44 45 ⇓P P 08 27 33.1 +0.9
baz=80,SNR=74
HELL Mitchell Peak 80.47 52 ⇑P P 08 27 31.6 -0.9
baz=80,SNR=46
ELK Elko 80.47 47 *eP* **P 08 27 33.3 +0.9**
ELK pmax pmax
comp=Z,51nm,0.9s
ELK Elko 80.47 47 *eP* **P 08 27 33.3 +0.9**
comp=Z,51nm,0.9s,mb5.2
RUE Ruedersdorf 80.50 329 *eP* **P 08 27 32.8 +0.5**
comp=Z,51nm,1.0s,mb5.2
KSP Ksiaz 80.52 326 *eP* **P 08 27 33.0 +0.6**
KSP Ksiaz 80.52 326 *eP* **P 08 27 32.8 +0.4**
KSP *e*S S 08 37 05.9 -1.4
KSP Ksiaz 80.52 326 *eP* **P 08 27 32.8 +0.4**
KSP *e*S S 08 37 05.9 -1.4
KSP *e*SS SS 08 42 25.2 -2.5
N12A Clover Valley, 80.53 47 ⇓P P 08 27 33.4 +0.7
baz=80,SNR=61
RCTC Rector, Farmer 80.54 53 ⇓P P 08 27 31.9 -0.9
baz=80,SNR=10.0
S08C White Mtn Res 80.55 51 P P 08 27 33.5 +0.6
baz=80,SNR=140
YMR Madison River 80.56 42 *eP* **P 08 27 33.5 +0.8**
comp=Z,81nm,0.9s,mb5.5
YMR *ep*P pP 08 28 59.1 +2.1
O11A Cowboy Ranch, 80.58 48 ⇓P P 08 27 33.3 +0.3
baz=80,SNR=50
SMMC Simmler 80.61 54 ⇑P P 08 27 33.4 +0.2
baz=80,SNR=15
K14A Jones Ranch, D 80.61 45 P P 08 27 34.0 +1.0
baz=80,SNR=136
MORC Moravsky Berou 80.66 325 *eP* **P 08 27 33.5 +0.3**
MORC pmax pmax
comp=Z,28nm,0.9s,mb5.0
MORC Moravsky Berou 80.66 325 *i*⇑*P* **P 08 27 33.5 +0.3**
MORC Moravsky Berou 80.66 325 *eP* **P 08 27 33.5 +0.3**
comp=Z,26nm,0.9s,mb5.0
YNR Norris Junctio 80.68 42 *eP* **P 08 27 35.4 +2.0**
CSS Prodhromos 80.75 306 *eP* **P 08 27 33.9 0.0**
comp=Z,36nm,0.6s,mb5.3
PSZ Piszkesteto 80.75 323 *eP* **P 08 27 34.5 +0.8**
PSZ *e**PP pP 08 28 59.8 +1.8
PSZ *e*SP 08 29 33.8
PSZ *e* 08 30 39.4
PSZ pmax pmax
comp=Z,105nm,1.4s,mb5.4
PSZ Piszkesteto 80.75 323 *eP* **P 08 27 34.2 +0.5**
PSZ Piszkesteto 80.75 323 *i*⇑*P* **P 08 27 34.1 +0.4**
PSZ Piszkesteto 80.75 323 *eP* **P 08 27 34.5 +0.8**
comp=Z,105nm,1.4s,mb5.4
PSZ *ep*P pP 08 28 59.8 +1.8
PSZ *e*SP 08 29 33.8
PSZ *e*PP PP 08 30 39.4 -3.7
YFT Old Faithful 80.76 42 *eP* **P 08 27 36.2 +2.4**
YFT *ep*P pP 08 29 00.8 +2.6
TIN Tinemaha 80.77 51 ⇑P P 08 27 34.2 +0.2
baz=81,SNR=13
R09A Tonopah 80.82 50 P P 08 27 34.5 +0.3
baz=81,SNR=185
TPH Tonopah 80.82 50 *eP* **P 08 27 34.6 +0.3**
TPH pmax pmax
comp=Z,119nm,0.9s,mb5.6
TPH Tonopah 80.82 50 *eP* **P 08 27 34.6 +0.3**
comp=Z,119nm,0.9s,mb5.6
DPC Dobruska-Polom 80.84 326 *eP* **P 08 27 35.0 +0.9**
DPC *ep*P pP 08 28 59.2 +0.7
DPC AMS AMS 09 09 30.0
comp=Z,200nm,11.0s
P11A Circle Ranch, 80.87 48 ⇑P P 08 27 35.1 +0.6
baz=81,SNR=17
GZR Gura Zlata 80.88 319 *i*⇑*P* **P 08 27 35.0 +0.6**
GZR Gura Zlata 80.88 319 P P 08 27 35.0 +0.6
UPC Upice 80.88 326 *eP* **P 08 27 34.9 +0.6**
UPC *ep*P pP 08 28 59.9 +1.2
L14A Malta 80.89 45 P P 08 27 35.5 +1.0
baz=81,SNR=137
BSEG Bad Segeberg 80.89 331 *eP* **P 08 27 34.3 0.0**
comp=Z,45nm,1.1s,mb5.1
BSEG *e*PP PP 08 30 46.0 +2.0
VYHS Vyhne 80.90 323 *i P* **P 08 27 35.0 +0.6**
VYHS pmax pmax
comp=Z,24nm,1.2s,mb4.8
VYHS Vyhne 80.90 323 *i P* **P 08 27 35.0 +0.6**
VYHS *i* 08 18 47.7
VYHS *i* S S 08 37 09.4 -1.8
VYHS Vyhne 80.90 323 *i P* **P 08 27 35.0 +0.6**
comp=Z,24nm,1.2s,mb4.8
VYHS *i* S S 08 37 09.4 -1.8
Q10A Clear Creek Ra 80.90 49 ⇓P P 08 27 34.9 +0.2
baz=81,SNR=5.7
VES Vestal, Richgr 80.92 53 ⇑P P 08 27 33.5 -1.3
baz=81,SNR=33
ISP Isparta 80.93 310 *eP* **P 08 27 34.7 -0.1**
ISP *e* 08 30 46.3
ISP pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
ISP Isparta 80.93 310 *i*⇓*P* **P 08 27 34.2 -0.6**
ISP Isparta 80.93 310 *eP* **P 08 27 34.7 -0.2**
comp=Z,9.8nm,0.6s,mb4.7
ISP *e*PP PP 08 30 46.2 +1.4
LKWY Lake 80.93 42 P P 08 27 37.0 +2.3
LKWY *e**PP pP 08 29 02.1 +3.0
LKWY pmax pmax
comp=Z,96nm,1.0s,mb5.5
LKWY Lake 80.93 42 P P 08 27 37.0 +2.2
comp=Z,96nm,1.0s,mb5.5
LKWY *ep*P pP 08 29 02.1 +3.0
LEF Lefka 80.95 306 *eP* **P 08 27 33.3 -1.7**
PKM Peak Mountain 80.97 54 ⇑P P 08 27 35.4 +0.3
baz=81,SNR=16
S09A Goldfield 81.03 50 P P 08 27 35.6 +0.2
baz=81,SNR=122
KOLL Kolacno 81.05 324 *i P* **P 08 27 35.9 +0.6**
IMW Indian Meadow 81.06 43 *eP* **P 08 27 36.6 +1.2**
comp=Z,123nm,0.9s,mb5.6
O12A Currie 81.06 47 P P 08 27 36.0 +0.6
baz=81,SNR=176
FLWY Flagg Ranch 81.07 42 *eP* **P 08 27 36.8 +1.3**
comp=Z,212nm,1.0s,mb5.8
FLWY *ep*P pP 08 29 01.9 +2.0
DCID1 Drake Creek 81.11 43 *eP* **P 08 27 37.1 +1.5**
M14A Sheep Mountain 81.15 46 ⇓P P 08 27 36.6 +0.7
baz=81,SNR=127
RRI2 Red Ridge 81.18 43 *eP* **P 08 27 37.0 +0.9**
comp=Z,78nm,0.7s,mb5.5
RRI2 *ep*P pP 08 29 02.6 +2.1
RLMT Red Lodge 81.20 41 *eP* **P 08 27 36.6 +0.5**
comp=Z,51nm,0.8s,mb5.3
CWC Cottonwood Cre 81.23 52 ⇑P P 08 27 36.1 -0.3
baz=81,SNR=17
MOOW Moose Ponds 81.26 43 *eP* **P 08 27 37.3 +0.9**
comp=Z,192nm,1.4s,mb5.6
MOOW *ep*P pP 08 29 02.6 +1.7
R10A Warm Springs 81.28 50 P P 08 27 37.1 +0.5
baz=81,SNR=58
SBC Santa Barbara 81.30 54 ⇓P P 08 27 36.7 -0.2
baz=81
TPAW Teton Pass 81.30 43 *eP* **P 08 27 37.8 +1.1**
comp=Z,116nm,0.8s,mb5.7
S10A Tonopah Range, 81.31 50 ⇓P P 08 27 37.1 +0.2
baz=81,SNR=211
HVU Hansel Valley 81.32 45 *eP* **P 08 27 37.4 +0.6**
HVU *e**PP pP 08 29 03.1 +1.9
HVU pmax pmax
comp=Z,97nm,0.6s,mb5.7
HVU Hansel Valley 81.32 45 *eP* **P 08 27 37.4 +0.6**
comp=Z,96nm,0.6s,mb5.7
HVU *ep*P pP 08 29 03.1 +1.8
K16A Soda Springs 81.35 44 ⇑P P 08 27 37.9 +0.9
baz=81,SNR=121
Q11A Duckwater 81.35 49 ⇓P P 08 27 36.9 -0.1
baz=81,SNR=53
GRAC Grapevine Rang 81.36 51 ⇓P P 08 27 37.2 +0.1
baz=81,SNR=20
L15A Malad City 81.41 45 ⇓P P 08 27 37.6 +0.3
baz=81,SNR=76
ISA Isabella 81.42 53 *eP* **P 08 27 36.3 -1.1**
ISA *e**PP pP 08 29 01.8 -0.1
ISA pmax pmax
comp=Z,25nm,0.7s,mb5.0
ISA Isabella 81.42 53 ⇓P P 08 27 36.3 -1.1
baz=81,SNR=34
ISA Isabella 81.42 53 *eP* **P 08 27 36.3 -1.2**
comp=Z,25nm,0.7s,mb5.0
ISA *ep*P pP 08 29 01.8 -0.1
LOHW Long Hollow 81.42 43 *eP* **P 08 27 37.7 +0.4**
comp=Z,71nm,1.0s,mb5.3
SNOW Snow King Moun 81.43 43 *eP* **P 08 27 38.2 +0.9**
comp=Z,126nm,0.9s,mb5.7
VRAC Vranov 81.43 325 *i*⇓*P* **P 08 27 37.9 +0.7**
VRAC Vranov 81.43 325 P P 08 27 38.0 +0.8
REDW Red Top Meadow 81.44 43 *eP* **P 08 27 38.1 +0.7**
comp=Z,128nm,1.2s,mb5.5
P12A McGill 81.44 48 ⇓P P 08 27 38.0 +0.5
baz=81,SNR=81
BUD Budapest 81.48 323 *eP* **P 08 27 37.9 +0.4**
ARVC Arvin 81.50 53 ⇑P P 08 27 37.3 -0.6
baz=81,SNR=13
PVCC Panska Ves 81.53 327 *eP* **P 08 27 38.0 +0.3**
BRG Berggiesshubel 81.57 327 *i P* **P 08 27 38.1 +0.2**
BRG *e* 08 30 48.4
BRG S S 08 37 18.0 +0.1

BRG e 08 37 25.5
BRG pmax pmax
comp=Z,14nm,0.7s,mb4.9
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
BRG pmax pmax
comp=Z,15nm,1.2s,mb4.7
BRG pmax pmax
comp=Z,7.0nm,1.7s,mb4.2
BRG MLR MLR
comp=N,87nm,22.1s
BRG MLR MLR
comp=E,90nm,15.1s
BRG MLR MLR
comp=Z,126nm,14.4s
BRG Berggiesshubel 81.57 327 *e*P **P 08 27 37.9 0.0**
comp=Z,23nm,0.7s,mb5.1
BRG *e*S S 08 37 19.1 +1.2
BRG Berggiesshubel 81.57 327 *i* P **P 08 27 38.1 +0.2**
comp=Z,6.0nm,1.0s,mb4.4
BRG *e*PP PP 08 30 48.4 -1.2
comp=Z,6.5nm,1.0s
BRG S S 08 37 18.0 +0.1
BRG *e* 08 37 25.5
comp=Z,24nm,1.2s
BRG SS SS 08 42 37.0 -6.2
BRG *e* 08 45 59.7
comp=Z,12nm,1.7s
BRG
comp=N,145nm,22.1s
BRG
comp=E,150nm,15.1s
BRG
comp=Z,210nm,14.4s
BRG Berggiesshubel 81.57 327 *i* P **P 08 27 38.1 +0.2**
comp=Z,14nm,0.7s,mb4.9
BRG *e* 08 29 26.1
BRG *e*PP PP 08 30 48.4 -1.2
BRG S S 08 37 18.0 +0.1
BRG *e* 08 37 25.5
BRG SS SS 08 42 37.0 -6.2
BRG LR LR
comp=Z,130nm,14.4s
DGMT Dagmar 81.60 36 *e*P **P 08 27 37.6 -0.6**
comp=Z,88nm,0.9s,mb5.6
O13A Hicks Ranch, I 81.61 47 ⇑P **P 08 27 39.0 +0.6**
baz=81,SNR=12
BSC Santa Cruz Isl 81.61 55 ⇑P **P 08 27 38.0 -0.5**
baz=81
N14A Grayback Hills 81.65 46 P **P 08 27 39.2 +0.7**
baz=82,SNR=145
CLL Collm 81.67 328 ⇓*i*P **P 08 27 38.4 0.0**
CLL *e*S S 08 37 18.0 -1.0
CLL pmax pmax
comp=Z,69nm,1.2s,mb5.4
CLL Collm 81.67 328 *e*P **P 08 27 38.1 -0.3**
comp=Z,69nm,1.2s,mb5.4
CLL *e*PP PP 08 30 50.6 +0.1
CLL Collm 81.67 328 ⇓*i*P **P 08 27 38.4 0.0**
comp=Z,69nm,1.2s,mb5.4
CLL LmV 08 03 00.0
comp=Z,200nm,20.7s
CLL *e*x x 08 29 27.0
comp=Z,16nm,1.0s
CLL *e*PP PP 08 30 50.0 -0.5
CLL *e*x x 08 35 57.0
CLL *e*S S 08 37 18.0 -1.0
CLL *e*PS 08 38 58.0
CLL *e*pS 08 39 06.0
CLL *e*sS sS 08 39 48.0 -1.0
CLL *e*SS SS 08 42 39.0 -5.7
CLL *e*SSS 08 45 54.0
CLL *e*SSSS 08 49 00.0
CLL Collm 81.67 328 ⇓*i*P **P 08 27 38.4 0.0**
comp=Z,69nm,1.2s,mb5.4
CLL *e* 08 29 27.0
CLL *e*S S 08 37 18.0 -1.0
CLL *e*sS sS 08 39 41.0 -8.0
AHID Auburn Hatcher 81.67 44 *e*P **P 08 27 38.8 +0.1**
comp=Z,47nm,0.7s,mb5.4
AHID *e*PcP PcP 08 27 43.0 -0.3
BGU Big Grassy Mou 81.69 46 *e*P **P 08 27 39.2 +0.5**
BGU *e*pP pP 08 29 04.3 +1.0
R11A Troy Canyon, C 81.69 49 P **P 08 27 39.2 +0.4**
baz=82,SNR=153
M15A Larsen Ranch, 81.71 45 P **P 08 27 39.2 +0.4**
baz=82,SNR=98
MODS Modra-Piesok 81.74 324 *i* P **P 08 27 39.7 +0.8**
MODS pmax pmax
comp=Z,26nm,1.3s,mb4.9
MODS Modra-Piesok 81.74 324 *i* P **P 08 27 39.7 +0.8**
comp=Z,26nm,1.3s,mb4.9
MODS *i* S S 08 37 20.8 +1.0
KDZ Kurdzhali 81.75 315 *e*P **P 08 27 39.3 +0.3**
Q12A Willow Creek R 81.75 48 P **P 08 27 39.7 +0.6**
baz=82,SNR=36
LAO LASA Array 81.79 38 *e*P **P 08 27 39.0 -0.2**
comp=Z,85nm,1.1s,mb5.5
LAO *e*pP pP 08 29 03.7 +0.1
SPUT South Promonto 81.80 45 *e*P **P 08 27 39.8 +0.5**
SPUT *e*pP pP 08 29 05.0 +1.2
MPMC Manual Prospec 81.83 52 P **P 08 27 39.6 +0.1**
baz=82,SNR=114
OSI Osito Adit 81.86 54 ⇑P **P 08 27 39.8 0.0**
baz=82,SNR=5.6
OSI Osito Adit 81.86 54 *e*P **P 08 27 39.8 0.0**
comp=Z,48nm,0.7s,mb5.4
PLD Plovdiv 81.88 316 *e*P **P 08 27 39.7 0.0**
PRU Pruhonice 81.92 326 *e*P **P 08 27 40.2 +0.5**
PRU *e*pP pP 08 29 05.6 +1.3
BLG Laguna Peak 81.93 54 ⇑P **P 08 27 40.1 0.0**
baz=82,SNR=10.0
ZST Bratislava 81.95 324 *i* P **P 08 27 40.7 +0.8**
ZST pmax pmax
comp=Z,54nm,1.5s,mb5.2
ZST Bratislava 81.95 324 *i* P **P 08 27 40.6 +0.7**
ZST *i* S S 08 37 22.6 +0.7
ZST Bratislava 81.95 324 *i* P **P 08 27 40.7 +0.8**
comp=Z,54nm,1.5s,mb5.2
ZST *i* S S 08 37 22.6 +0.7
L16A Fish Haven 81.96 44 ⇓P **P 08 27 40.6 +0.5**
baz=82,SNR=34
TREC Trest 81.97 326 *e*P **P 08 27 40.4 +0.4**
TREC AMS AMS 09 07 50.0
comp=Z,300nm,16.3s
P13A Bates Ranch, G 82.00 48 P **P 08 27 40.9 +0.5**
baz=82,SNR=76
FURC Furnace Creek, 82.00 51 ⇓P **P 08 27 40.4 -0.1**
baz=82,SNR=144
S11A Rachel 82.02 50 P **P 08 27 41.0 +0.5**
baz=82,SNR=72
N15A Stansbury Isla 82.02 46 ⇑P **P 08 27 40.9 +0.4**
baz=82,SNR=9.2
LRMC Laurel Mountai 82.05 53 ⇓P **P 08 27 40.3 -0.4**
baz=82,SNR=25
TPNV Topopah Spring 82.11 51 *e*P **P 08 27 41.0 0.0**
TPNV *e**PP pP 08 29 06.3 +0.7
TPNV pmax pmax
comp=Z,121nm,0.7s,mb5.8
TPNV Topopah Spring 82.11 51 P **P 08 27 41.1 +0.1**
baz=82,SNR=229
TPNV Topopah Spring 82.11 51 *e*P **P 08 27 41.0 0.0**
comp=Z,121nm,0.7s,mb5.8
TPNV *e*pP pP 08 29 06.2 +0.6
EDW2 Edwards Air Fo 82.20 53 P **P 08 27 41.4 -0.1**
baz=82,SNR=56
DUG Dugway 82.28 46 *e*P **P 08 27 42.3 +0.5**
DUG *e**PP pP 08 29 07.2 +0.8
DUG pmax pmax
comp=Z,139nm,1.1s,mb5.7
DUG Dugway 82.28 46 P **P 08 27 42.3 +0.6**
baz=82,SNR=122
DUG Dugway 82.28 46 *e*P **P 08 27 42.3 +0.5**
comp=Z,139nm,1.1s,mb5.7
DUG *e*pP pP 08 29 07.2 +0.8
M16A Huntsville 82.28 45 P **P 08 27 42.1 +0.4**
baz=82,SNR=116
Q13A Wheeler Ranch, 82.30 48 P **P 08 27 42.3 +0.3**
baz=82,SNR=70
R12A Pony Springs, 82.32 49 P **P 08 27 42.5 +0.4**
baz=82,SNR=145
DECC Green Verdugo 82.34 54 ⇓P **P 08 27 41.4 -0.9**
baz=82,SNR=5.4
U10A Ash Meadows, A 82.38 51 ⇑P **P 08 27 42.5 +0.2**
baz=82,SNR=68
CLZ Clausthal 82.41 330 *e*P **P 08 27 42.5 +0.3**
CLZ *e*S S 08 37 22.5 -4.0
CLZ pmax pmax
comp=Z,81nm,1.0s,mb5.5
CLZ Clausthal 82.41 330 *e*P **P 08 27 42.5 +0.3**
comp=Z,81nm,1.0s,mb5.5
CLZ *e*S S 08 37 22.5 -4.0
O15A The Old Anders 82.43 46 ⇑P **P 08 27 42.9 +0.4**
baz=82
VTS Vitosha 82.43 317 *e*P **P 08 27 43.3 +0.8**
VTS Vitosha 82.43 317 ⇑*i*P **P 08 27 43.5 +1.0**
VTS Vitosha 82.43 317 ⇑P **P 08 27 43.5 +0.9**
P14A Drum Mountains 82.49 47 ⇑P **P 08 27 43.4 +0.5**
baz=82,SNR=179
PKSM Moragy 82.53 322 ⇑*i*P **P 08 27 41.0 -1.9**
PKSM Moragy 82.53 322 P **P 08 27 42.6 -0.4**
MWC Mount Wilson 82.54 54 *e*P **P 08 27 42.9 -0.3**
MWC *e**PP pP 08 29 07.9 -0.1
MWC pmax pmax
comp=Z,101nm,1.2s,mb5.5
MWC Mount Wilson 82.54 54 *e*P **P 08 27 42.9 -0.3**
comp=Z,100nm,1.2s,mb5.5
MWC *e*pP pP 08 29 07.9 -0.1
BW06 Boulder Array 82.55 43 *e*P **P 08 27 43.0 -0.2**
comp=Z,79nm,0.9s,mb5.5
PDAR Pinedale Array 82.55 43 P **P 08 27 42.9 -0.2**
comp=Z,59nm,0.8s,mb5.5,baz=285,slow=2.0,SNR=348
PDAR pP pP 08 29 07.5 -0.3
comp=Z,1.6nm,0.8s,baz=29,slow=3.4,SNR=1.3
PDAR PP PP 08 30 56.4 -1.6
comp=Z,3.2nm,0.9s,baz=308,slow=5.1,SNR=4.2
TANN Tannenbergstha 82.55 328 *e*P **P 08 27 43.2 +0.2**
comp=Z,22nm,1.1s,mb4.9
TANN *e*PP PP 08 30 58.5 +0.9
TANN *e*S S 08 37 27.4 -0.5
SOP Sopron 82.57 324 ⇓*e*P **P 08 27 43.5 +0.4**
T11A Corn Creek, Al 82.59 50 ⇓P **P 08 27 43.5 0.0**
baz=82,SNR=117
CTU Camp Tracy 82.60 45 *e*P **P 08 27 44.1 +0.7**
comp=Z,82nm,1.0s,mb5.5
WERD Werda 82.60 328 *e*P **P 08 27 43.2 0.0**
comp=Z,36nm,1.2s,mb5.1
WERD *e*PP PP 08 30 58.8 +0.8
S12A Delamar Landin 82.61 49 P **P 08 27 44.1 +0.6**
baz=82,SNR=49
GUNZ Gunzen 82.65 328 *e*P **P 08 27 43.8 +0.3**
comp=Z,50nm,0.9s,mb5.3
GUNZ *e*PP PP 08 30 59.3 +0.9
N16A Rees Ranch, Co 82.66 45 ⇓P **P 08 27 44.2 +0.4**
baz=82,SNR=23
FMP Fort Macarthur 82.68 54 ⇓P **P 08 27 43.1 -0.9**
baz=82
WERN Wernitzgruen 82.68 328 *e*P **P 08 27 43.9 +0.3**
comp=Z,54nm,1.0s,mb5.3
NKC Novy Kostel 82.69 328 *e*P **P 08 27 44.0 +0.3**
NKC *e* 08 43 10.2
SHOC Shoshone 82.72 51 ⇓P **P 08 27 43.7 -0.4**
baz=82,SNR=23
GSC Goldstone 82.73 52 *e*P **P 08 27 44.0 -0.2**
GSC pmax pmax
comp=Z,99nm,1.0s,mb5.6
GSC Goldstone 82.73 52 ⇑P **P 08 27 44.0 -0.2**
baz=83,SNR=65
GSC Goldstone 82.73 52 *e*P **P 08 27 44.0 -0.2**
comp=Z,99nm,1.0s,mb5.6
CONA Conrad Observa 82.74 324 *i* P **P 08 27 44.8 +0.8**
comp=Z,29nm,0.8s,mb5.2,SNR=16
CONA Conrad Observa 82.74 324 *i* PcP **P 08 27 44.8 +0.8**
comp=Z,29nm,0.8s,mb5.2,SNR=16
Q14A Sevier Lake (B 82.74 48 ⇑P **P 08 27 44.6 +0.4**
baz=82,SNR=260
CSNA Conrad Observa 82.74 324 ⇓*i*P **P 08 27 44.8 +0.8**
comp=Z,29nm,0.8s,mb5.2
CSNA Conrad Observa 82.74 324 ⇓*i*PcP **P 08 27 44.8 +0.8**
comp=Z,29nm,0.8s,mb5.2
MOX Moxa 82.76 328 *e*P **P 08 27 44.0 0.0**
comp=Z,34nm,1.2s,mb5.0
MOX *e* 08 30 54.8
MOX
comp=Z,100nm,20.0s
MOX Moxa 82.76 328 *e*P **P 08 27 44.0 0.0**
MOX pmax pmax
comp=Z,34nm,1.2s,mb5.0
MOX MLR MLR
comp=Z,100nm,20.0s
MOX Moxa 82.76 328 *e*P **P 08 27 44.0 0.0**
comp=Z,37nm,1.2s,mb5.1
MOX *e*PP PP 08 31 00.8 +1.5
MOX *e*S S 08 37 29.0 -1.0
MMB Musomiste 82.77 316 *e*P **P 08 27 44.5 +0.2**
CIS Catalina Islan 82.79 55 ⇑P **P 08 27 43.6 -1.0**
baz=83,SNR=12
BFSC Mount Baldy St 82.80 53 ⇓P **P 08 27 43.9 -0.6**
baz=83,SNR=31
R13A O'Grain Ranch, 82.81 49 ⇑P **P 08 27 44.6 +0.1**
baz=83,SNR=66
JLU Jordanelle 82.83 45 *e*P **P 08 27 45.4 +0.7**
RRX Edison Barstow 82.86 53 ⇓P **P 08 27 44.8 0.0**
baz=83
NLU North Lily Min 82.87 46 *e*P **P 08 27 45.4 +0.6**
NLU pP pP 08 29 10.7 +1.1
SCI San Clemente I 82.94 55 ⇓P **P 08 27 44.9 -0.4**
baz=83
KKB Krupnik 82.96 316 *e*P **P 08 27 45.8 +0.6**
KHC Kasperske Hory 82.97 326 *e*P **P 08 27 45.3 +0.2**
KHC *e*pP pP 08 29 11.1 +1.2
KHC AMS AMS 09 08 50.0
comp=Z,200nm,15.8s
N17A Moffit Pass 82.98 45 P **P 08 27 45.7 +0.4**
baz=83,SNR=116
U11A Corn Creek 82.98 51 ⇑P **P 08 27 45.7 +0.2**
baz=83,SNR=21
P15A Leamington 82.98 47 ⇓P **P 08 27 45.8 +0.4**
baz=83,SNR=30
O16A Springville 83.05 46 ⇓P **P 08 27 46.0 +0.3**
baz=83,SNR=38
DAU Daniels Canyon 83.07 45 *e*P **P 08 27 46.6 +0.8**
MPU Maple Canyon 83.09 46 *e*P **P 08 27 46.5 +0.6**
comp=Z,152nm,1.0s,mb5.8
MPU *e*pP pP 08 29 11.9 +1.1
GEC2 GERESS Array S 83.12 326 *e*P **P 08 27 45.6 -0.3**
GEC2 *e* 08 31 04.1
GEC2 *e*S S 08 37 33.1 -0.5
GEC2 pmax pmax
comp=Z,21nm,0.8s,mb5.0
GEC2 GERESS Array S 83.12 326 *e*P **P 08 27 45.6 -0.3**
comp=Z,21nm,0.8s,mb5.0
GEC2 *e*PP PP 08 31 04.1 +1.8
GEC2 *e*S S 08 37 33.1 -0.5
GERES GERESS Array B 83.12 326 P **P 08 27 45.4 -0.4**
comp=Z,15nm,0.7s,mb5.0,baz=39,slow=5.1,SNR=96
GERES GERESS Array B 83.12 326 P **P 08 27 45.4 -0.5**
GERES pmax pmax
comp=Z,15nm,0.7s
ROTZ Rotzenmuhle 83.14 327 *e*P **P 08 27 46.5 +0.6**
comp=Z,87nm,1.5s,mb5.4
ROTZ *e*PP PP 08 31 03.5 +1.1
ROTZ *e*S S 08 37 32.9 -0.9
IBBN Ibbenburen 83.14 331 *e*P **P 08 27 45.7 -0.2**
comp=Z,82nm,0.8s,mb5.6
T12A Moapa 83.23 50 ⇑P **P 08 27 46.8 +0.1**
baz=83,SNR=20
TUQ Turquoise Mtn. 83.23 52 ⇓P **P 08 27 46.6 -0.1**
baz=83,SNR=24
S13A Holt Ranch, En 83.24 49 ⇑P **P 08 27 47.1 +0.4**
baz=83,SNR=189
BBRC Big Bear Sol-O 83.28 53 ⇓P **P 08 27 46.5 -0.4**
baz=83,SNR=42
Q15A Fillmore 83.28 47 P **P 08 27 47.1 +0.2**
baz=83,SNR=123
WET Wettzell 83.28 327 *e*P **P 08 27 47.0 +0.3**
WET *e**PP pP 08 29 12.2 +0.6
WET *e*S S 08 37 33.6 -1.7
WET pmax pmax
comp=Z,23nm,1.1s,mb4.9
WET Wettzell 83.28 327 *e*P **P 08 27 47.0 +0.3**
comp=Z,23nm,1.1s,mb4.9
WET *e*pP pP 08 29 12.2 +0.6
WET *e*S S 08 37 33.6 -1.7
V11A Goodsprings 83.31 51 ⇑P **P 08 27 47.0 -0.1**
baz=83,SNR=63
R14A James Farms, M 83.32 48 ⇓P **P 08 27 47.4 +0.3**
baz=83,SNR=9.3
HEC Hector,Ludlow 83.33 52 ⇑P **P 08 27 46.8 -0.4**
baz=83,SNR=18
UBBA Unterbreizbach 83.33 329 *e*P **P 08 27 46.6 -0.3**
comp=Z,13nm,0.8s,mb4.8
UBBA *e*PP PP 08 31 04.5 +0.6
UBBA *e*S S 08 37 34.9 -0.7
P16A Fountain Green 83.33 46 ⇑P **P 08 27 47.8 +0.7**
baz=83,SNR=39
ARSA Arzberg 83.38 324 ⇓*i*P **P 08 27 46.8 -0.4**
comp=Z,16nm,1.0s,mb4.8
MURC Murrieta 83.48 54 ⇑P **P 08 27 47.0 -1.0**
baz=83,SNR=30
U12A Valley of Fire 83.52 50 ⇓P **P 08 27 48.3 +0.1**
baz=83,SNR=21
MOA Molln 83.56 325 ⇑*i*P **P 08 27 48.4 +0.3**
comp=Z,21nm,1.4s,mb4.8
MOA Molln 83.56 325 ⇑*i*PcP **P 08 27 48.4 +0.3**
comp=Z,21nm,1.4s,mb4.8
T13A Saint George 83.56 49 ⇑P **P 08 27 48.8 +0.4**
baz=83,SNR=142
S14A Cedar City 83.56 48 ⇑P **P 08 27 48.2 -0.2**
baz=83,SNR=30
GRA1 Grafenberg Arr 83.63 328 *e*P **P 08 27 49.0 +0.6**
comp=Z,63nm,1.1s,mb5.4
GRA1 *e*pP pP 08 29 13.9 +0.5
GRA1 *e*S S 08 37 39.0 +0.3
GRF Grafenberg Arr 83.63 328 *e*P **P 08 27 49.0 +0.6**
GRF *e**PP pP 08 29 13.9 +0.5
GRF *e*S S 08 37 39.0 +0.3
GRF pmax pmax
comp=Z,63nm,1.1s,mb5.4
GRF Grafenberg Arr 83.63 328 *e*P **P 08 27 49.0 +0.6**
comp=Z,63nm,1.1s,mb5.4
GRF *e*pP pP 08 29 13.9 +0.5
GRF *e*S S 08 37 39.0 +0.3
MSU Marysvale 83.71 47 *e*P **P 08 27 50.1 +1.0**
MSU *e**PP pP 08 29 15.1 +1.0
V12A Nelson 83.75 51 ⇓P **P 08 27 49.2 -0.2**
baz=84,SNR=51
WTSB Winterswijk 83.78 331 *e*P **P 08 27 48.7 -0.4**
comp=Z,35nm,0.7s,mb5.3
WTSB Winterswijk 83.78 331 *e*PP PP 08 31 08.4 +0.9
WTSB Winterswijk 83.78 331 *e*S S 08 37 38.8 -1.2
GMRC Granite Mounta 83.80 52 ⇑P **P 08 27 49.2 -0.4**
baz=84,SNR=89
R15A Junction 83.83 48 ⇑P **P 08 27 50.4 +0.7**
baz=84,SNR=75
U13A Pakoon Wash 83.89 50 ⇑P **P 08 27 50.2 +0.2**
baz=84,SNR=72
109C Camp Elliot, M 83.97 54 P **P 08 27 50.0 -0.5**
baz=84,SNR=13
LDFC Landfair 83.97 52 *e*P **P 08 27 50.3 -0.2**
comp=Z,199nm,1.2s,mb5.8
PFO Pinyon Flat Ob 83.97 53 *e*P **P 08 27 50.1 -0.4**
PFO *e**PP pP 08 29 15.4 -0.2
PFO pmax pmax
comp=Z,122nm,0.9s,mb5.7
PFO Pinyon Flat Ob 83.97 53 P **P 08 27 50.0 -0.5**
baz=84,SNR=108
PFO Pinyon Flat Ob 83.97 53 *e*P **P 08 27 50.1 -0.4**
comp=Z,122nm,0.9s,mb5.7
PFO *e*pP pP 08 29 15.4 -0.1
BUG Bochum--Univer 83.99 331 *e*P **P 08 27 49.9 -0.3**
comp=Z,37nm,0.8s,mb5.3
BUG *e*S S 08 37 39.7 -2.5
W12A Cal Nev Ari 84.00 51 ⇑P **P 08 27 50.3 -0.2**
baz=84,SNR=25
SOKA Soboth 84.02 324 ⇓*i*P **P 08 27 50.3 -0.1**
BELC Belle Mtn. 84.04 53 P **P 08 27 50.3 -0.5**
baz=84,SNR=108
T14A Hurricane 84.05 49 ⇓P **P 08 27 51.0 +0.2**
baz=84,SNR=67
Q16A Castle Valley 84.06 47 P **P 08 27 51.5 +0.7**
baz=84,SNR=52
S15A Panguitch 84.12 48 ⇑P **P 08 27 52.1 +0.9**
baz=84,SNR=24
V13A Grand Canyon W 84.23 50 P **P 08 27 51.9 +0.1**
baz=84,SNR=64
SRU San Rafael 84.33 46 *e*P **P 08 27 52.5 +0.3**
SRU *e**PP pP 08 29 18.7 +1.4
SRU pmax pmax
comp=Z,70nm,0.6s,mb5.7
SRU San Rafael 84.33 46 P **P 08 27 52.5 +0.3**
baz=84,SNR=214
SRU San Rafael 84.33 46 *e*P **P 08 27 52.5 +0.4**
comp=Z,70nm,0.6s,mb5.7
SRU *e*pP pP 08 29 18.6 +1.4
BAR Barrett 84.39 54 *e*P **P 08 27 52.1 -0.5**
comp=Z,74nm,0.9s,mb5.5
BAR *e*pP pP 08 29 17.4 -0.3
U14A Mt Trumbull 84.39 50 P **P 08 27 52.9 +0.4**
baz=84,SNR=59
MONP Monument Peak 84.43 54 P **P 08 27 52.5 -0.3**
baz=84,SNR=73
TNS Taunus Mts 84.43 330 *e*P **P 08 27 52.2 -0.2**
TNS pmax pmax
comp=Z,20nm,1.2s,mb4.8
TNS Taunus Mts 84.43 330 *e*P **P 08 27 52.2 -0.2**
comp=Z,20nm,1.2s,mb4.8
NEE2 Needles Airpor 84.48 52 ⇑P **P 08 27 52.3 -0.7**
baz=84,SNR=5.1
IRM Iron Mountain 84.51 52 ⇑P **P 08 27 52.8 -0.3**
baz=84,SNR=52
T15A Red Dirt Ranch 84.52 49 ⇑P **P 08 27 53.3 +0.2**
baz=84,SNR=132
Q18A Rafter H Ranch 84.57 46 P **P 08 27 53.2 -0.2**
baz=84,SNR=48
RWWY Rawlins 84.58 42 *e*P **P 08 27 53.5 +0.1**
comp=Z,138nm,0.9s,mb5.8
BC3 Big Chuckw Mtn 84.61 53 P **P 08 27 53.4 -0.3**
baz=84,SNR=67
RSSD Black Hills 84.66 39 *e*P **P 08 27 53.2 -0.5**
RSSD *e**PP pP 08 29 18.4 -0.5
RSSD *e* 08 31 13.7
RSSD pmax pmax
comp=Z,69nm,1.4s,mb5.3
RSSD Black Hills 84.66 39 *e*P **P 08 27 53.1 -0.5**
comp=Z,68nm,1.4s,mb5.3
RSSD *e*pP pP 08 29 18.4 -0.5
RSSD *e*PP PP 08 31 13.7 -1.1
R17A Hanksville Air 84.66 47 ⇓P **P 08 27 54.0 +0.2**
baz=84
FUR Furstenfeldbru 84.72 327 *e*P **P 08 27 54.2 +0.3**
FUR *e*S S 08 37 49.1 -0.4
FUR pmax pmax
comp=Z,39nm,0.7s,mb5.3
FUR Furstenfeldbru 84.72 327 *e*P **P 08 27 54.2 +0.3**
comp=Z,39nm,0.7s,mb5.3
FUR *e*S S 08 37 49.1 -0.4
W13A Hualapai Mount 84.75 51 P **P 08 27 54.3 0.0**
baz=85,SNR=79
DVTC Desert V Tower 84.78 54 ⇓P **P 08 27 54.0 -0.5**
baz=85,SNR=39
SWSC Sam W. Stewart 84.82 54 ⇓P **P 08 27 53.9 -0.8**
baz=85,SNR=17
V14A Boquillas Ranc 84.92 50 P **P 08 27 55.6 +0.4**
baz=85,SNR=98
U15A North Rim 84.94 49 P **P 08 27 55.8 +0.6**
baz=85,SNR=81
HGN Heimansgroeve 85.05 331 *e*P **P 08 27 55.3 -0.1**
comp=Z,27nm,1.0s,mb5.0
HGN Heimansgroeve 85.05 331 *e*PP PP 08 31 25.4 +7.6
HGN Heimansgroeve 85.05 331 *e*S S 08 37 43.0 -10
HGN Heimansgroeve 85.05 331 *e*SS SS 08 43 43.8 +10
PDMCI Parker Dam,Lak 85.08 52 ⇓P **P 08 27 55.4 -0.6**
baz=85,SNR=18
T16A Glen Canyon Da 85.08 48 ⇑P **P 08 27 55.3 -0.6**
baz=85,SNR=11
X13A Yucca 85.10 51 P **P 08 27 55.9 -0.2**
baz=85,SNR=76
BEBN Eben Emael 85.13 331 P **P 08 27 55.9 0.0**
comp=Z,15nm,1.1s,mb4.7
MEM Membach 85.14 331 P **P 08 27 55.7 -0.2**
comp=Z,14nm,1.2s,mb4.7
Y12C Blythe 85.17 52 ⇑P **P 08 27 56.2 -0.3**
baz=85,SNR=25
R18A Canyonlands Na 85.17 46 P **P 08 27 56.1 -0.2**
baz=85,SNR=90
Q19A Hogan Spring (85.18 46 ⇓P **P 08 27 56.3 -0.1**
baz=85,SNR=61
W14A Seligman 85.20 50 P **P 08 27 56.6 +0.1**
baz=85,SNR=92
STU Stuttgart 85.20 328 *e*P **P 08 27 56.1 -0.2**

STU pmax pmax
comp=Z,18nm,1.0s,mb4.9
STU Stuttgart 85.20 328 eS S 08 37 52.5 -1.6
STU Stuttgart 85.20 328 eP **P 08 27 56.1 -0.1**
comp=Z,18nm,1.0s,mb4.9
GLA Glamis 85.40 53 eP **P 08 27 57.9 +0.4**
GLA pmax pmax
comp=Z,99nm,0.7s,mb5.8
GLA Glamis 85.40 53 ⇑P **P 08 27 57.5 -0.1**
baz=85,SNR=48
GLA Glamis 85.40 53 eP **P 08 27 57.9 +0.3**
comp=Z,99nm,0.7s,mb5.8
V15A Kaibab Nationa 85.40 49 P **P 08 27 58.0 +0.5**
baz=85,SNR=73
S18A Hurst Farm, Bl 85.56 47 P **P 08 27 58.2 0.0**
baz=85,SNR=75
BCLA Clavier 85.57 331 P **P 08 27 58.3 +0.2**
comp=Z,11nm,1.3s,mb4.5
Y13A Salome 85.58 52 ⇓P **P 08 27 58.2 -0.2**
baz=85,SNR=10
AGMN Agassiz Refuge 85.60 32 eP **P 08 27 57.7 -0.5**
comp=Z,22nm,0.9s,mb5.0
R19A Curley Farm, L 85.61 46 ⇓P **P 08 27 58.5 0.0**
baz=85,SNR=92
PV10 Paradox Valley 85.69 46 eP **P 08 27 59.7 +0.8**
W15A Williams 85.74 50 ⇑P **P 08 27 59.9 +0.7**
baz=86,SNR=18
X14A Yava 85.79 51 P **P 08 27 59.8 +0.4**
baz=86,SNR=47
PHWY Pilot Hill 85.81 42 eP **P 08 27 59.4 0.0**
PHWY epP pP 08 29 26.0 +1.2
WLF Walferdange 85.82 330 P **P 08 28 00.3 +1.1**
FETA Feichten 85.82 326 ⇓iP **P 08 27 59.1 -0.2**
comp=Z,12nm,0.8s,mb4.8
FETA Feichten 85.82 326 ⇓iPcP PcP 08 27 59.1 -2.4
comp=Z,12nm,0.8s
U17A Shonto 85.85 48 ⇑P **P 08 28 00.1 +0.4**
baz=86,SNR=55
U16A Tuba City 85.85 49 P **P 08 28 00.3 +0.6**
baz=86,SNR=83
112A Yuma 85.88 53 ⇑P **P 08 27 59.4 -0.5**
baz=86,SNR=6.7
BFO Black Forest 85.92 328 eP **P 08 27 58.8 -0.9**
BFO e*PP pP 08 29 25.2 0.0
BFO e 08 31 24.5
BFO eS S 08 37 58.9 -2.1
BFO pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
BFO Black Forest 85.92 328 eP **P 08 27 58.8 -0.9**
comp=Z,9.0nm,0.6s,mb4.8
BFO epP pP 08 29 25.2 0.0
BFO ePP PP 08 31 24.5 -0.3
BFO eS S 08 37 58.9 -2.1
BFO eScS ScS 08 38 05.7 -2.7
T18A Mexican Hat 85.99 47 P **P 08 27 59.8 -0.5**
baz=86,SNR=50
DAVA Damuels 86.01 327 ⇓iP **P 08 28 00.1 -0.2**
comp=Z,20nm,0.6s,mb5.1
DAVA Damuels 86.01 327 ⇓iPcP PcP 08 28 00.1 -2.3
comp=Z,20nm,0.6s
GIVF Givet 86.01 331 eP **P 08 27 59.2 -1.0**
S19A Harvey Farm, M 86.04 46 P **P 08 28 00.5 -0.1**
baz=86,SNR=50
Y14A Wickenburg 86.04 51 ⇑P **P 08 28 00.4 -0.3**
baz=86,SNR=37
WUAZ Wupatki 86.09 49 ⇓P **P 08 28 01.1 +0.2**
baz=86,SNR=29
WUAZ Wupatki 86.09 49 eP **P 08 28 01.3 +0.4**
comp=Z,77nm,1.2s,mb5.4
DOU Dourbes 86.11 331 P **P 08 28 00.9 +0.3**
PV01 Paradox Valley 86.13 46 eP **P 08 28 01.1 +0.1**
X15A Humboldt 86.20 51 P **P 08 28 01.8 +0.4**
baz=86,SNR=58
W16A Flagstaff 86.26 50 ⇓P **P 08 28 01.9 +0.2**
baz=86,SNR=26
113A Mohawk Valley, 86.27 53 ⇑P **P 08 28 01.1 -0.7**
baz=86,SNR=8.8
CDF Champ du Feu 86.31 329 eP **P 08 28 00.6 -1.0**
comp=Z,25nm,1.0s,mb4.7
CDF Champ du Feu 86.31 329 eP **P 08 28 00.6 -1.0**
CDF pmax pmax
comp=Z,13nm,1.0s,mb4.7
CDF Champ du Feu 86.31 329 eP **P 08 28 00.6 -1.0**
comp=Z,12nm,1.0s,mb4.7
Z14A Wintersburg 86.44 52 ⇑P **P 08 28 02.3 -0.3**
baz=86
U18A Rough Rock, Ch 86.45 48 P **P 08 28 03.2 +0.6**
baz=86,SNR=70
Y15A Casa Rosa Ranc 86.47 51 ⇑P **P 08 28 02.6 -0.1**
baz=86,SNR=57
ECH Echery 86.51 329 eP **P 08 28 02.3 -0.3**
ISCO Idaho Springs 86.74 43 eP **P 08 28 04.3 +0.4**
ISCO e*PP pP 08 29 29.8 +0.2
ISCO pmax pmax
comp=Z,31nm,0.8s,mb5.2
ISCO Idaho Springs 86.74 43 eP **P 08 28 04.3 +0.4**
comp=Z,31nm,0.8s,mb5.2
ISCO epP pP 08 29 29.8 +0.2
X16A Lo Mia Camp, P 86.75 50 ⇑P **P 08 28 04.2 +0.1**
baz=87,SNR=41
MVCO Mesa Verde 86.78 47 P **P 08 28 04.4 +0.3**
baz=87,SNR=33
MVCO Mesa Verde 86.78 47 eP **P 08 28 04.3 +0.2**
comp=Z,75nm,1.3s,mb5.4
MVCO epP pP 08 29 29.5 -0.2
W17A Winslow 86.79 49 ⇓P **P 08 28 04.5 +0.3**
baz=87
TUE Stuetta 86.86 327 eP **P 08 28 04.1 -0.2**
comp=Z,20nm,0.6s,mb5.1
V18A Ganado 86.87 48 ⇓P **P 08 28 04.9 +0.3**
baz=87,SNR=32
HINF Hinteralfeld 86.95 329 eP **P 08 28 03.8 -0.9**
comp=Z,13nm,0.6s,mb4.6
HINF Hinteralfeld 86.95 329 eP **P 08 28 03.8 -0.9**
HINF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
HINF Hinteralfeld 86.95 329 eP **P 08 28 03.8 -0.9**
comp=Z,6.5nm,0.6s,mb4.6
Z15A Gila River Ind 87.00 51 ⇓P **P 08 28 04.9 -0.4**
baz=87,SNR=9.1
HAU Haudompre 87.02 329 eP **P 08 28 04.5 -0.5**
comp=Z,12nm,0.6s,mb4.6
HAU eMLR MLR
comp=Z,105nm,21.0s
HAU Haudompre 87.02 329 eP **P 08 28 04.5 -0.5**
HAU pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
HAU MLR MLR
comp=Z,110nm,21.0s
HAU Haudompre 87.02 329 eP **P 08 28 04.5 -0.5**
comp=Z,6.1nm,0.6s,mb4.6
HAU LR LR
comp=Z,110nm,21.0s
Y16A Circle Bar Ran 87.07 51 ⇑P **P 08 28 05.7 +0.1**
baz=87,SNR=34
X17A Forest Lakes 87.20 50 ⇓P **P 08 28 06.8 +0.6**
baz=87,SNR=28
W18A Petrified Fore 87.38 49 ⇑P **P 08 28 07.2 +0.2**
baz=87
214A Organ Pipe Nat 87.41 53 ⇓P **P 08 28 06.9 -0.3**
baz=87,SNR=11
V19A Window Rock 87.42 48 ⇑P **P 08 28 07.7 +0.5**
baz=87
Z16A Peralta Trail, 87.44 51 ⇓P **P 08 28 07.2 -0.1**
baz=87,SNR=21
Y17A Roosevelt 87.59 50 ⇓P **P 08 28 08.0 0.0**
baz=87,SNR=40
W19A Sanders 87.60 49 ⇑P **P 08 28 08.3 +0.3**
baz=87
X18A Snowflake 87.62 49 ⇑P **P 08 28 08.1 0.0**
baz=87,SNR=11
EYMN Ely 87.75 30 eP **P 08 28 07.8 -0.6**
comp=Z,58nm,1.0s,mb5.4
EYMN ePP PP 08 31 40.0 +0.6
116A Eloy 87.76 52 ⇑P **P 08 28 08.7 -0.1**
baz=88,SNR=12
AQU L'Aquila 87.91 322 ⇑iP **P 08 28 09.1 -0.3**
AQU L'Aquila 87.91 322 ⇑P **P 08 28 09.1 -0.3**
Y18A Canyon Day Jun 88.05 50 ⇑P **P 08 28 10.5 +0.3**
baz=88,SNR=24
Z17A San Carlos Hig 88.08 51 ⇑P **P 08 28 10.6 +0.3**
baz=88,SNR=15
X19A St. Johns 88.10 49 P **P 08 28 10.8 +0.4**
baz=88,SNR=19
SDCO Great Sand Dun 88.19 45 eP **P 08 28 11.6 +0.8**
comp=Z,29nm,0.9s,mb5.1
SDCO epP pP 08 29 38.6 +1.8

CABF La Chapelle 88.21 328 eP **P 08 28 09.7 -1.0**
comp=Z,18nm,0.6s,mb4.8
CABF La Chapelle 88.21 328 eP **P 08 28 09.7 -1.0**
CABF pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
CABF La Chapelle 88.21 328 eP **P 08 28 09.7 -1.0**
comp=Z,8.9nm,0.6s,mb4.8
216A Three Points, 88.27 52 ⇑P **P 08 28 11.3 +0.1**
baz=88
117A Oracle 88.38 51 ⇑P **P 08 28 11.6 -0.1**
baz=88,SNR=9.1
Y19A Nutrioso 88.43 49 ⇑P **P 08 28 12.6 +0.6**
baz=88,SNR=12
Z18A Geronimo 88.50 50 ⇓P **P 08 28 12.6 +0.3**
baz=88
TUC Tucson 88.52 51 eP **P 08 28 13.1 +0.7**
TUC e*PP pP 08 29 39.1 +0.6
TUC e 08 31 44.9
TUC pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
TUC Tucson 88.52 51 eP **P 08 28 13.1 +0.7**
comp=Z,3.4nm,0.7s,mb4.3
TUC epP pP 08 29 39.1 +0.7
TUC ePP PP 08 31 44.9 -1.1
LOR Lormes 88.64 330 eP **P 08 28 12.0 -0.7**
comp=Z,17nm,0.8s,mb4.6
LOR eMLR MLR
comp=Z,97nm,19.8s
LOR Lormes 88.64 330 eP **P 08 28 12.0 -0.7**
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
LOR MLR MLR
comp=Z,100nm,19.8s
LOR Lormes 88.64 330 eP **P 08 28 12.0 -0.7**
comp=Z,8.4nm,0.8s,mb4.6
LOR LR LR
comp=Z,100nm,19.8s
ECSD EROS,Sioux Fal 88.67 36 eP **P 08 28 12.3 -0.6**
comp=Z,31nm,0.8s,mb5.2
LPL La Plagne 88.77 327 eP **P 08 28 12.8 -0.5**
comp=Z,26nm,0.5s,mb5.0
LPL La Plagne 88.77 327 eP **P 08 28 12.8 -0.5**
LPL pmax pmax
comp=Z,13nm,0.5s,mb5.0
LPL La Plagne 88.77 327 eP **P 08 28 12.8 -0.5**
comp=Z,13nm,0.5s,mb5.0
LPG La Plagne 88.78 327 eP **P 08 28 13.1 -0.2**
118A Homack Ranch, 88.83 51 ⇓P **P 08 28 14.1 +0.2**
baz=89,SNR=22
217A Green Valley 88.84 52 ⇓P **P 08 28 14.2 +0.3**
baz=89,SNR=15
Z19A T-Link Ranch, 88.86 50 ⇓P **P 08 28 14.2 +0.2**
baz=89
SSF Saint Saulge 88.95 330 eP **P 08 28 13.5 -0.6**
comp=Z,20nm,0.9s,mb4.6
SSF Saint Saulge 88.95 330 eP **P 08 28 13.5 -0.6**
SSF pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
SSF Saint Saulge 88.95 330 eP **P 08 28 13.5 -0.6**
comp=Z,9.9nm,0.9s,mb4.6
SMF Signal de Mont 89.14 330 eP **P 08 28 14.4 -0.6**
comp=Z,21nm,1.0s,mb4.6
SMF Signal de Mont 89.14 330 eP **P 08 28 14.4 -0.6**
SMF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
SMF Signal de Mont 89.14 330 eP **P 08 28 14.4 -0.6**
comp=Z,10nm,1.0s,mb4.6
FLN La Foliniere 89.15 333 eP **P 08 28 14.4 -0.6**
FLN eMLR MLR
comp=Z,88nm,21.2s
FLN La Foliniere 89.15 333 eP **P 08 28 14.4 -0.6**
FLN LR LR
comp=Z,90nm,21.3s
LDF La Druitiere 89.15 333 eP **P 08 28 14.5 -0.5**
comp=Z,9.5nm,0.5s,mb4.6
LDF La Druitiere 89.15 333 eP **P 08 28 14.5 -0.5**
LDF pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
LDF La Druitiere 89.15 333 eP **P 08 28 14.5 -0.5**
comp=Z,4.8nm,0.5s,mb4.6
BNI Bardonecchia 89.15 327 eP **P 08 28 14.8 -0.3**
BNI pmax pmax
comp=Z,13nm,1.0s,mb4.7
BNI Bardonecchia 89.15 327 eP **P 08 28 14.8 -0.3**
comp=Z,13nm,1.0s,mb4.7
119A Ashpeak Ranch, 89.17 50 ⇑P **P 08 28 15.7 +0.3**
baz=89,SNR=12
218A Dragoon 89.21 51 P **P 08 28 16.2 +0.5**
baz=89,SNR=16
AVF Avril sur Loir 89.23 330 eP **P 08 28 14.7 -0.7**
comp=Z,24nm,0.8s,mb4.8
AVF Avril sur Loir 89.23 330 eP **P 08 28 14.7 -0.7**
AVF pmax pmax
comp=Z,12nm,0.8s,mb4.8
AVF Avril sur Loir 89.23 330 eP **P 08 28 14.7 -0.7**
comp=Z,12nm,0.8s,mb4.8
SCHQ Schefferville 89.24 13 P **P 08 28 15.1 -0.2**
comp=Z,9.0nm,0.6s,mb4.8,baz=357,slow=3.9,SNR=21
SCHQ pP pP 08 29 41.6 +0.1
comp=Z,2.2nm,0.6s,baz=291,slow=7.6,SNR=2.4
SCHQ Schefferville 89.24 13 eP **P 08 28 14.7 -0.6**
comp=Z,9.2nm,0.6s,mb4.8
MBDF Montbardon 89.36 327 eP **P 08 28 15.0 -1.1**
comp=Z,22nm,0.8s,mb4.7
MBDF Montbardon 89.36 327 eP **P 08 28 15.0 -1.1**
MBDF pmax pmax
comp=Z,11nm,0.8s,mb4.7
MBDF Montbardon 89.36 327 eP **P 08 28 15.0 -1.1**
comp=Z,11nm,0.8s,mb4.7
318A Bisbee 89.59 52 P **P 08 28 17.7 +0.2**
baz=89,SNR=22
GRR Gorron 89.60 333 eP **P 08 28 16.4 -0.7**
comp=Z,20nm,0.7s,mb4.9
GRR Gorron 89.60 333 eP **P 08 28 16.4 -0.7**
GRR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
GRR Gorron 89.60 333 eP **P 08 28 16.4 -0.7**
comp=Z,10nm,0.7s,mb4.9
ORIF Oris-en-Rattie 89.62 327 eP **P 08 28 16.4 -0.9**
ORIF eMLR MLR
comp=Z,123nm,18.8s
BGF Bois d'Agland 89.63 330 eP **P 08 28 16.5 -0.8**
comp=Z,9.6nm,0.6s,mb4.6
BGF Bois d'Agland 89.63 330 eP **P 08 28 16.5 -0.8**
BGF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BGF Bois d'Agland 89.63 330 eP **P 08 28 16.5 -0.8**
comp=Z,4.8nm,0.6s,mb4.6
219A White Tail Can 89.70 51 P **P 08 28 18.2 +0.2**
baz=90,SNR=28
Y22C IRIS PASSCAL I 89.81 48 ⇓P **P 08 28 18.9 +0.5**
baz=90
SSB Saint Sauveur 89.92 328 eP **P 08 28 18.4 -0.3**
PGF Pioggiola 89.97 324 eP **P 08 28 17.3 -1.7**
comp=Z,26nm,1.1s,mb4.8
PGF Pioggiola 89.97 324 eP **P 08 28 17.3 -1.7**
PGF pmax pmax
comp=Z,13nm,1.1s,mb4.8
PGF Pioggiola 89.97 324 eP **P 08 28 17.3 -1.7**
comp=Z,13nm,1.1s,mb4.8
319A Douglas 90.09 51 ⇑P **P 08 28 19.9 +0.1**
baz=90,SNR=16
TCF Toulx Ste Croi 90.11 330 eP **P 08 28 18.7 -0.8**
comp=Z,23nm,0.8s,mb4.8
TCF Toulx Ste Croi 90.11 330 eP **P 08 28 18.7 -0.8**
TCF pmax pmax
comp=Z,11nm,0.8s,mb4.8
TCF Toulx Ste Croi 90.11 330 eP **P 08 28 18.7 -0.8**
comp=Z,11nm,0.8s,mb4.8
COWI Conover 90.19 30 eP **P 08 28 19.6 -0.3**
comp=Z,52nm,1.0s,mb5.4
COWI ePP PP 08 31 59.2 +0.6
VIVF Saint-Julien-l 90.20 328 eP **P 08 28 19.2 -0.8**
comp=Z,40nm,1.0s,mb5.0
VIVF Saint-Julien-l 90.20 328 eP **P 08 28 19.2 -0.8**
VIVF pmax pmax
comp=Z,20nm,1.0s,mb5.0
VIVF Saint-Julien-l 90.20 328 eP **P 08 28 19.2 -0.8**
comp=Z,20nm,1.0s,mb5.0
FRF La Foret Royal 90.32 326 eP **P 08 28 19.2 -1.4**
SGMF Saint Gilles 90.34 334 eP **P 08 28 19.2 -1.3**
comp=Z,30nm,0.8s,mb5.0
SGMF Saint Gilles 90.34 334 eP **P 08 28 19.2 -1.3**
SGMF pmax pmax
comp=Z,15nm,0.8s,mb5.0
SGMF Saint Gilles 90.34 334 eP **P 08 28 19.2 -1.3**
comp=Z,15nm,0.8s,mb5.0

SMRF Simiane la Rot 90.49 327 eP **P 08 28 20.5 -0.8**
ROSF Rostrenen 90.53 335 eP **P 08 28 20.4 -1.0**
comp=Z,47nm,0.8s,mb5.1
ROSF Rostrenen 90.53 335 eP **P 08 28 20.4 -1.0**
ROSF pmax pmax
comp=Z,23nm,0.8s,mb5.2
ROSF Rostrenen 90.53 335 eP **P 08 28 20.4 -1.0**
comp=Z,23nm,0.8s,mb5.2
LMR La Mourre 90.56 326 eP **P 08 28 20.2 -1.5**
comp=Z,17nm,0.9s,mb4.7
LMR La Mourre 90.56 326 eP **P 08 28 20.2 -1.5**
LMR pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LMR La Mourre 90.56 326 eP **P 08 28 20.2 -1.5**
comp=Z,8.6nm,0.9s,mb4.7
CBKS Cedar Bluff 90.68 41 eP **P 08 28 22.2 -0.1**
CBKS e 08 32 03.9
CBKS pmax pmax
comp=Z,76nm,1.4s,mb5.4
CBKS Cedar Bluff 90.68 41 eP **P 08 28 22.2 -0.2**
comp=Z,76nm,1.4s,mb5.4
CBKS ePP PP 08 32 03.9 +1.1
MFF Saint Martin d 90.80 332 eP **P 08 28 21.8 -0.9**
comp=Z,52nm,0.9s,mb5.2
MFF Saint Martin d 90.80 332 eP **P 08 28 21.8 -0.9**
MFF pmax pmax
comp=Z,26nm,0.9s,mb5.2
MFF Saint Martin d 90.80 332 eP **P 08 28 21.8 -0.9**
comp=Z,26nm,0.9s,mb5.2
QUIF Quistinic 90.84 334 eP **P 08 28 21.8 -1.1**
comp=Z,23nm,0.8s,mb4.9
QUIF Quistinic 90.84 334 eP **P 08 28 21.8 -1.1**
QUIF pmax pmax
comp=Z,12nm,0.8s,mb4.9
QUIF Quistinic 90.84 334 eP **P 08 28 21.8 -1.1**
comp=Z,12nm,0.8s,mb4.9
LASF Ste Croix 91.17 328 eP **P 08 28 23.9 -0.6**
comp=Z,17nm,0.8s,mb4.7
RJF Les Rejaudoux 91.19 330 eP **P 08 28 24.0 -0.5**
comp=Z,47nm,1.0s,mb5.1
RJF eMLR MLR
comp=Z,144nm,22.0s
RJF Les Rejaudoux 91.19 330 eP **P 08 28 24.0 -0.5**
RJF pmax pmax
comp=Z,23nm,1.0s,mb5.1
RJF MLR MLR
comp=Z,140nm,22.0s
RJF Les Rejaudoux 91.19 330 eP **P 08 28 24.0 -0.5**
comp=Z,23nm,1.0s,mb5.1
RJF LR LR
comp=Z,140nm,22.0s
CAF Calviac 91.27 330 eP **P 08 28 24.4 -0.5**
SCIA State Center 91.69 35 eP **P 08 28 27.0 +0.1**
comp=Z,129nm,1.3s,mb5.7
LFF La Frestale 91.81 330 eP **P 08 28 26.8 -0.6**
comp=Z,66nm,0.7s,mb5.4
LFF La Frestale 91.81 330 eP **P 08 28 26.8 -0.6**
LFF pmax pmax
comp=Z,33nm,0.7s,mb5.4
LFF La Frestale 91.81 330 eP **P 08 28 26.8 -0.6**
comp=Z,33nm,0.7s,mb5.4
KSU1 Kansas State U 92.13 39 eP **P 08 28 28.6 -0.5**
comp=Z,61nm,1.0s,mb5.5
JFWS Jewell Farm 92.26 32 eP **P 08 28 28.2 -1.3**
JFWS pmax pmax
comp=Z,19nm,0.9s,mb5.0
JFWS Jewell Farm 92.26 32 eP **P 08 28 28.2 -1.3**
comp=Z,19nm,0.9s,mb5.0
AMTX Amarillo 92.40 44 eP **P 08 28 30.4 +0.1**
comp=Z,58nm,0.6s,mb5.7
GLMI Grayling 93.06 28 eP **P 08 28 33.6 +0.4**
comp=Z,96nm,0.9s,mb5.8
ETSF Etsaut 94.02 330 eP **P 08 28 37.2 -0.4**
comp=Z,14nm,0.8s,mb4.8
ETSF Etsaut 94.02 330 eP **P 08 28 37.2 -0.4**
ETSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ETSF Etsaut 94.02 330 eP **P 08 28 37.2 -0.4**
comp=Z,6.9nm,0.8s,mb4.7
WMOK Wichita Mounta 94.16 43 eP **P 08 28 38.0 -0.4**
WMOK pmax pmax
comp=Z,34nm,1.1s,mb5.3
WMOK Wichita Mounta 94.16 43 eP **P 08 28 38.0 -0.4**
comp=Z,34nm,1.1s,mb5.3
CCM Cathedral Cave 95.63 36 eP **P 08 28 44.6 -0.4**
CCM pmax pmax
comp=Z,13nm,0.8s,mb5.1
CCM Cathedral Cave 95.63 36 eP **P 08 28 44.6 -0.5**
comp=Z,13nm,0.8s,mb5.1
JCT Junction City 96.64 46 P **P 08 28 49.6 -0.1**
JCT pmax pmax
comp=Z,9.0nm,0.5s,mb5.2
JCT Junction City 96.64 46 P **P 08 28 49.6 -0.2**
comp=Z,8.5nm,0.5s,mb5.1
MIAR Mount Ida 97.16 40 eP **P 08 28 51.6 -0.4**
MIAR pmax pmax
comp=Z,15nm,1.3s,mb5.0
MIAR Mount Ida 97.16 40 eP **P 08 28 51.6 -0.4**
comp=Z,16nm,1.3s,mb5.0
NCB Newcomb 97.45 22 eP **P 08 28 53.0 -0.1**
comp=Z,14nm,1.3s,mb4.9
NCB epP pP 08 30 19.5 -0.2
ALLY Alegheny Colle 97.47 27 eP **P 08 28 53.9 +0.7**
comp=Z,18nm,0.3s,mb5.7
KMBO Kilima Mbogo 98.40 274 iP **P 08 28 56.5 -1.4**
KMBO pmax pmax
comp=Z,12nm,0.4s
TAM Tamanrasset 106.82 313 ePKPdf PKiKP 08 33 44.1 +0.9
TAM ePP PP 08 34 05.3 +0.3
SBA Scott Base 113.08 173 ePKIKP PKiKP 08 33 51.5 -1.8
SBA e 08 34 48.9
TORD Torodi Ar. Bea 116.46 310 PKP PKPdf 08 33 59.7 -1.9
comp=Z,1.1nm,0.7s,baz=49,slow=2.2,SNR=9.6
TORD PP PP 08 34 49.9 -24
comp=Z,1.1nm,0.8s,baz=25,slow=3.0,SNR=5.2
TORD PKKPbc PKKPbc 08 44 26.6 -3.2
comp=Z,0.6nm,0.6s,baz=214,slow=2.8,SNR=7.0
BOSA Boshof 122.09 255 PKP PKPdf 08 34 11.2 -0.8
comp=Z,5.4nm,0.7s,baz=104,slow=3.6,SNR=12
BOSA PKKPbc PKKPbc 08 44 08.1 -1.4
comp=Z,1.4nm,0.6s,baz=256,slow=2.6,SNR=4.0
BOSA Boshof 122.09 255 PKIKP PKPdf 08 34 11.2 -0.8
BOSA pmax pmax
comp=Z,5.0nm,0.7s
BOSA pmax pmax
comp=Z,1.0nm,0.6s
SYO Syowa Base 123.78 205 ⇑eP PKPdf 08 34 12.3 -1.7
DBIC Dimbokro 125.54 311 PKP PKPdf 08 34 17.9 -1.2
comp=Z,4.2nm,0.7s,baz=102,slow=4.3,SNR=4.3
DBIC PP PP 08 36 08.1 -7.0
comp=Z,6.7nm,1.0s,baz=20,slow=5.3,SNR=3.4
DBIC Dimbokro 125.54 311 PKIKP PKPdf 08 34 18.0 -1.1
DBIC pmax pmax
comp=Z,4.0nm,0.7s
DBIC pmax pmax
comp=Z,7.0nm,1.0s
DBIC Dimbokro 125.54 311 PKP PKPdf 08 34 17.9 -1.2
DBIC PP PP 08 36 08.1 -7.0
SDV Santo Domingo 130.11 36 ePKPdf PKPdf 08 34 27.2 -0.6
ROSC El Rosal 131.53 43 PKP PKPdf 08 34 31.0 +0.4
comp=Z,3.4nm,0.5s,baz=112,slow=14,SNR=5.4
ROSC pPKP pPKPdf 08 36 02.3 +0.6
comp=Z,2.8nm,0.8s,baz=101,slow=23,SNR=1.5
MAIT Maitri 133.06 202 ePKPdif 08 37 24.0
PMSA Palmer Station 146.74 164 PKPbc PKPbc 08 34 57.0 -1.8
comp=Z,4.8nm,0.7s,baz=277,slow=13,SNR=3.3
LPAZ La Paz 151.60 58 PKP PKPdf 08 35 05.5 -0.1
comp=Z,4.4nm,1.1s,baz=360,slow=2.6,SNR=12
LPAZ PKPbc PKPbc 08 35 12.5 +0.3
comp=Z,15nm,0.8s,baz=336,slow=4.4,SNR=56
LPAZ pPKPbc pPKPbc 08 36 44.7 +1.8
comp=Z,4.2nm,0.9s,baz=304,slow=3.6,SNR=2.1
LPAZ La Paz 151.60 58 ePKPdf PKPdf 08 35 05.8 +0.2
LPAZ ePKPbc PKPbc 08 35 12.3 +0.1
LPAZ ePKPab PKPab 08 35 22.5 +0.1
LVC Limon Verde 154.89 70 ePKPab PKPab 08 35 37.2 +0.9
PLCA Paso Flores 157.44 115 PKP PKPdf 08 35 11.8 -1.1
comp=Z,1.0nm,0.7s,baz=270,slow=2.0,SNR=2.7
PLCA PKPab PKPab 08 35 44.8 -2.0
comp=Z,5.7nm,0.9s,baz=224,slow=5.6,SNR=8.3
PLCA Paso Flores 157.44 115 PKIKP PKPdf 08 35 11.8 -1.1
PLCA 08 35 44.8
PLCA pmax pmax
comp=Z,1.0nm,0.7s
PLCA pmax pmax
comp=Z,6.0nm,0.9s

PLCA	**Paso Flores**	**157.44 115**	PKP	PKPdf	08 35 11.8	-1.1
PLCA			PKPab	PKPab	08 35 44.8	-2.0
BDFB	**Brasilia**	**161.23 14**	PKP	PKPdf	08 35 17.6	-0.3
comp=Z,0.8nm,0.7s,baz=198,slow=26,SNR=3.0						
BDFB			PKPab	PKPab	08 36 03.2	-0.5
comp=Z,3.3nm,0.7s,baz=320,slow=14,SNR=7.3						
BDFB			PP	PP	08 39 44.8	-2.0
comp=Z,4.1nm,1.1s,baz=145,slow=26,SNR=4.7						
BDFB	**Brasilia**	**161.23 14**	PKIKP	PKPdf	08 35 17.6	-0.4
BDFB					08 36 03.2	
BDFB					08 39 44.8	
BDFB			pmax	pmax		
comp=Z,1.0nm,0.7s						
BDFB			pmax	pmax		
comp=Z,3.0nm,0.7s						
BDFB			pmax	pmax		
comp=Z,4.0nm,1.1s						
CPUP	**Villa Florida**	**165.72 61**	PKP	PKPdf	08 35 21.2	-0.7
comp=Z,0.4nm,0.4s,baz=209,slow=3.6,SNR=3.8						
CPUP			PKPab	PKPab	08 36 21.4	-2.1
comp=Z,2.5nm,0.6s,baz=293,slow=4.7,SNR=13						
CPUP	**Villa Florida**	**165.72 61**	PKIKP	PKPdf	08 35 21.2	-0.7
CPUP					08 36 21.4	
CPUP			pmax	pmax		
comp=Z,3.0nm,0.6s						

*ISCJB **01** 08:25:09.8±0.8, 1157N±005×6202W±004, h98km±7km, Error ellipse: s-maj=7.9km s-min=6.4km az=169.7*
*FUNV **01** 08:25:09.6, 1167N×6180W, h62km, MW2.8*
*TRN **01** 08:25:10.5, 1154N×6215W, h83km, MD3.1*
*NEIC **01** 08:25:11.8, 1150N×6216W, h26km, MD3.1(TRN), After TRN.*

ISC 01 08:25:10.9±0.9, 1158N±004×6202W±004, h89km±9km, n20, σ0§95/31, 2C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGR	**Grenville**	**0.66**	**33**	*e*Pg	**Pn**	**08 25 26.0**	**-0.9**
GRGR				*e*Sg	**Sn**	**08 25 36.0**	**-2.8**
GRW	**Mount Saint Ca**	**0.68**	**31**	*e*P	**Pn**	**08 25 27.7**	**+0.6**
GRW				*e*S	**Sn**	**08 25 39.7**	**+0.6**
TCE	**Chacachacare**	**0.91**	**164**	*e*P	**Pn**	**08 25 29.3**	**-0.2**
TCE				*e*S	**Sn**	**08 25 42.1**	**-1.4**
TCE	**Chacachacare**	**0.91**	**164**	*e*P	**Pn**	**08 25 29.3**	**-0.2**
TCE				*e*S	**Sn**	**08 25 43.7**	**+0.3**
GUIV	**Guiria**	**0.95**	**192**	*e*P	**Pn**	**08 25 29.1**	**-0.8**
GUIV				*e*S	**Sn**	**08 25 43.0**	**-1.1**
TRN	**Trinidad (W)**	**1.10**	**147**	*e*P	**Pn**	**08 25 32.0**	**+0.3**
TRN				*e*S	**Sn**	**08 25 48.0**	**+0.7**
ITEV	**Isla Los Testi**	**1.12**	**259**	⇑*i*P	**Pn**	**08 25 31.8**	**0.0**
ITEV				*e*S	**Sn**	**08 25 48.0**	**+0.4**
TPR	**Prospect**	**1.28**	**108**	*e*P	**Pn**	**08 25 34.1**	**+0.4**
TPR				*e*S	**Sn**	**08 25 52.8**	**+1.8**
TPP	**Pointe-a-Pierr**	**1.37**	**156**	*e*P	**Pn**	**08 25 38.6**	**+3.6**
TBH	**Brigand Hill**	**1.43**	**139**	*e*P	**Pn**	**08 25 36.0**	**+0.3**
TBH				*e*S	**Sn**	**08 25 54.4**	**-0.1**
CRUV	**Carupano**	**1.50**	**233**	⇑*i*P	**Pn**	**08 25 36.5**	**-0.1**
CRUV				*e*S	**Sn**	**08 25 56.0**	**+0.1**
GUNV	**Guanoco**	**1.68**	**213**	*e*P	**Pn**	**08 25 38.8**	**-0.1**
GUNV				*e*S	**Sn**	**08 26 01.5**	**+1.5**
RIOV	**Rio Grande**	**3.49**	**177**	*e*P	**Pn**	**08 26 02.3**	**-0.8**
PRGV	**PARIAGUAN**	**3.81**	**223**	*e*P	**Pn**	**08 26 08.1**	**+0.7**
GURV	**El Guri**	**3.94**	**196**	*e*P	**Pn**	**08 26 07.6**	**-1.5**
CUPV	**Cœpira**	**4.00**	**248**	*e*P	**Pn**	**08 26 11.1**	**+1.1**
BIRV	**Birongo**	**4.32**	**256**	*e*P	**Pn**	**08 26 14.7**	**+0.4**
LUEV	**Luepa**	**5.72**	**174**	*e*P	**Pn**	**08 26 30.4**	**-3.1**
CAOV	**Caicara del Or**	**5.99**	**226**	*e*P	**Pn**	**08 26 37.1**	**0.0**
BAUV	**El Baul**	**6.48**	**247**	*e*P	**Pn**	**08 26 43.3**	**-0.4**

MAN 01 09:16:40, 949N×12568E, h12km, mb4.4, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.34**	**327**	⇓*e*P	Pg	09 16 48.9	+2.0
SCPH				*e*S	Sg	09 16 56.3	+4.8
BUTP	**Butuan**	**0.53**	**186**	*e*P	Pg	09 16 51.1	+0.8
BUTP				*e*S	Sg	09 17 01.1	+3.8
MSLP	**Maasin**	**1.03**	**308**	*e*P	Pb	09 16 58.9	-0.8
BUKP	**Musuan**	**1.72**	**201**	*e*P	Pn	09 17 10.0	+0.2
BUKP				*e*S	Sn	09 17 33.8	+2.2
BESP	**Borongan**	**2.11**	**354**	*e*P	Pn	09 17 17.2	+2.1
BESP				*e*S	Sn	09 17 42.4	+1.2
PAGZ	**Pagadian**	**2.80**	**234**	*e*P	Pn	09 17 25.8	+1.2

*ISCJB **01** 09:17:27.3±0.4, 4371N±002×770E±002, h10km, Error ellipse: s-maj=3.3km s-min=2.3km az=153.7*
*LDG **01** 09:17:27.9±0.1, 4371N×777E, h15km, Md2.9/2, Ml2.9/9, Error ellipse: s-maj=1.8km s-min=1.5km az=84.0*
*STR **01** 09:17:27.9±0.3, 4372N×778E, h5km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*GEN **01** 09:17:28.7, 4371N×772E, h13km, ML2.0*
*NEIC **01** 09:17:28.7, 4371N×772E, h13km, ML2.7(STR), ML2.6(GEN), ML2.9(LDG), After GEN.*
*CSEM **01** 09:17:28.3±0.1, 4373N×774E, h20km, ML2.9/8, Error ellipse: s-maj=2.3km s-min=1.3km az=159.0*
*ROM **01** 09:17:29.3±0.2, 4378N×772E, h10km±1km, Md2.6/7, Ml2.7/3, Error ellipse: s-maj=3.0km s-min=1.0km az=47.0*

ISC 01 09:17:27.3±0.5, 4367N±002×773E±003, h10km, n69, σ0§97/132, 1C-1D, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEGI	**Seborga**	**0.18**	**354**	P	**Pg**	**09 17 32.3**	**+1.2**
NEGI	**Seborga**	**0.18**	**354**	P	**Pg**	**09 17 32.3**	**+1.2**
NEGI				S	**Sg**	**09 17 34.8**	**+1.0**
IMI	**Imperia**	**0.27**	**26**	⇑*i*Pg	**Pg**	**09 17 33.8**	**+1.1**
IMI				Sg	**Sg**	**09 17 37.2**	**+0.9**
1μm,0.1s							
REVF	**Revere**	**0.27**	**285**	Pg	**Pg**	**09 17 34.4**	**+1.7**
REVF				Sg	**Sg**	**09 17 38.9**	**+2.5**
SBF	**Sospel**	**0.29**	**312**	*e*Pg	**Pg**	**09 17 34.2**	**+1.2**
SBF				*e*Sg	**Sg**	**09 17 37.7**	**+0.8**
784nm,0.2s							
SBF	**Sospel**	**0.29**	**312**	*e*Pg	**Pg**	**09 17 34.2**	**+1.2**
SBF				*e*Sg	**Sg**	**09 17 37.7**	**+0.8**
392nm,0.2s							
SAOF	**Saorge**	**0.34**	**338**	Pg	**Pg**	**09 17 34.7**	**+0.7**
SAOF				Sg	**Sg**	**09 17 38.8**	**+0.2**
LUCF	**Luceram**	**0.35**	**309**	Pg	**Pg**	**09 17 35.3**	**+1.0**
AUTN	**L'Aution**	**0.39**	**326**	Pg	**Pg**	**09 17 35.8**	**+0.9**
AUTN				Sg	**Sg**	**09 17 40.9**	**+0.7**
MVIF	**Mont Vial**	**0.47**	**299**	Pg	**Pg**	**09 17 37.4**	**+0.9**
MVIF				Sg	**Sg**	**09 17 44.1**	**+1.3**
TOUF	**Mont Tournerai**	**0.49**	**315**	Pg	**Pg**	**09 17 37.5**	**+0.7**
RORO	**Rocca Rossa**	**0.50**	**29**	P	**Pg**	**09 17 38.3**	**+1.2**
RORO	**Rocca Rossa**	**0.50**	**29**	P	**Pg**	**09 17 38.3**	**+1.2**
RORO				S	**Sg**	**09 17 44.2**	**+0.5**
ENR	**Entracque**	**0.60**	**338**	P	**Pg**	**09 17 39.4**	**+0.5**
ENR	**Entracque**	**0.60**	**338**	P	**Pg**	**09 17 39.4**	**+0.5**
ENR				S	**Sg**	**09 17 46.5**	**-0.3**
CALN	**Calern**	**0.61**	**278**	Pg	**Pg**	**09 17 40.4**	**+1.3**
CALN				Sg	**Sg**	**09 17 48.5**	**+1.3**
ROB	**Robourent**	**0.63**	**9**	P	**Pg**	**09 17 39.9**	**+0.4**
ROB	**Robourent**	**0.63**	**9**	P	**Pg**	**09 17 39.9**	**+0.4**
ROB				S	**Sg**	**09 17 47.5**	**-0.3**
FIN	**Finale Ligure**	**0.64**	**33**	Pg	**Pg**	**09 17 40.0**	**+0.4**
FIN				Sg	**Sg**	**09 17 48.3**	**+0.3**
FIN	**Finale Ligure**	**0.64**	**33**	P	**Pg**	**09 17 40.0**	**+0.4**
FIN				S	**Sg**	**09 17 48.2**	**+0.2**
STV	**Sant Anna di V**	**0.64**	**333**	⇓*i*Pg	**Pg**	**09 17 40.1**	**+0.4**
STV				Sg	**Sg**	**09 17 47.8**	**-0.3**
290nm,0.2s							
STV	**Sant Anna di V**	**0.64**	**333**	P	**Pg**	**09 17 40.1**	**+0.4**
STV				S	**Sg**	**09 17 47.7**	**-0.5**
QLNO	**Quiliano**	**0.79**	**34**	Pg	**Pg**	**09 17 43.0**	**+0.5**
QLNO				Sg	**Sg**	**09 17 53.0**	**+0.2**
FRF	**La Foret Royal**	**0.79**	**262**	*e*Pn	**Pb**	**09 17 43.2**	**+0.1**
FRF				*e*Sg	**Sb**	**09 17 54.0**	**+0.1**
178nm,0.2s							
FRF	**La Foret Royal**	**0.79**	**262**	*e*Pn	**Pb**	**09 17 43.2**	**+0.1**
FRF				*e*Sg	**Sb**	**09 17 54.0**	**+0.1**
89nm,0.2s							
DOI	**San Damiano**	**0.90**	**338**	Pg	**Pg**	**09 17 44.7**	**+0.1**
DOI				Sg	**Sg**	**09 17 55.6**	**-0.8**
325nm,0.2s							
LMR	**La Mourre**	**0.95**	**250**	*e*Pn	**Pb**	**09 17 45.4**	**-0.3**
LMR				*e*Sn	**Sb**	**09 17 57.9**	**-0.4**
33nm,0.2s							
LMR	**La Mourre**	**0.95**	**250**	*e*Pn	**Pb**	**09 17 45.4**	**-0.3**
LMR				*e*Sn	**Sb**	**09 17 57.9**	**-0.4**
17nm,0.2s							
SURF	**Saint Ours**	**1.04**	**321**	Pg	**Pg**	**09 17 47.6**	**+0.3**
SURF				Sg	**Sg**	**09 18 00.7**	**-0.2**
PCP	**Piancastagn**	**1.05**	**34**	Pg	**Pg**	**09 17 47.1**	**-0.4**
PCP				Sg	**Sg**	**09 18 00.7**	**-0.4**
PCP	**Piancastagn**	**1.05**	**34**	P	**Pg**	**09 17 47.6**	**+0.1**
BHB	**Bricherasio**	**1.22**	**344**	P	**Pn**	**09 17 48.3**	**-2.0**
BHB	**Bricherasio**	**1.22**	**344**	P	**Pn**	**09 17 48.3**	**-2.0**
MBDF	**Montbardon**	**1.26**	**327**	*e*Pg	**Pg**	**09 17 50.7**	**-0.7**
MBDF				*e*Sg	**Sg**	**09 18 07.0**	**-0.8**
84nm,0.3s							
MBDF	**Montbardon**	**1.26**	**327**	*e*Pg	**Pg**	**09 17 50.7**	**-0.7**
MBDF				*e*Sg	**Sg**	**09 18 07.0**	**-0.8**
42nm,0.3s							
MBDF	**Montbardon**	**1.26**	**327**	*e*Pn	**Pn**	**09 17 49.4**	**-1.5**
MBDF				*e*Pg	**Pg**	**09 17 50.7**	**-0.7**
MBDF				*e*Sg	**Sg**	**09 18 07.0**	**-0.8**
OG22	**Abries**	**1.28**	**334**	Pg	**Pg**	**09 17 50.7**	**-1.2**
OG22				Sg	**Sg**	**09 18 05.8**	**-2.7**
PGF	**Pioggiola**	**1.46**	**140**	*e*Pn	**Pn**	**09 17 52.1**	**-1.5**
PGF				*e*Sn	**Sn**	**09 18 09.0**	**-3.7**
12nm,0.2s							
PGF	**Pioggiola**	**1.46**	**140**	*e*Pn	**Pn**	**09 17 52.1**	**-1.5**
PGF				*e*Sn	**Sn**	**09 18 09.0**	**-3.7**
5.8nm,0.2s							
RSP	**Reno Superiore**	**1.52**	**347**	P	**Pn**	**09 17 53.7**	**-0.7**
RSP	**Reno Superiore**	**1.52**	**347**	P	**Pn**	**09 17 53.7**	**-0.7**
BNI	**Bardonecchia**	**1.57**	**332**	*e*Pn	**Pn**	**09 17 55.2**	**0.0**
BNI				*e*Sg	**Sg**	**09 18 17.6**	**-0.2**
BNI	**Bardonecchia**	**1.57**	**332**	*e*Pn	**Pn**	**09 17 55.2**	**+0.1**
BNI				*e*Sg	**Sg**	**09 18 17.6**	**-0.3**
SMRF	**Simiane la Rot**	**1.59**	**282**	*e*Pg	**Pg**	**09 17 57.9**	**+0.2**
SMRF				*e*Sg	**Sg**	**09 18 19.1**	**+0.8**
33nm,0.2s							
SMRF	**Simiane la Rot**	**1.59**	**282**	*e*Pg	**Pg**	**09 17 57.9**	**+0.2**
SMRF				*e*Sg	**Sg**	**09 18 19.1**	**+0.8**
17nm,0.2s							
SMRF	**Simiane la Rot**	**1.59**	**282**	*e*Pn	**Pn**	**09 17 54.7**	**-0.7**
SMRF				*e*Pg	**Pg**	**09 17 57.9**	**+0.2**
SMRF				*e*Sg	**Sg**	**09 18 19.1**	**+0.8**
ORIF	**Oris-en-Rattie**	**1.82**	**314**	*e*Pn	**Pn**	**09 17 57.1**	**-1.5**
ORIF	**Oris-en-Rattie**	**1.82**	**314**	*e*P	**Pn**	**09 17 59.5**	**+0.9**
ORIF	**Oris-en-Rattie**	**1.82**	**314**	*e*Pg	**Pg**	**09 18 01.9**	**-0.3**
ORIF				*e*Sn	**Sn**	**09 18 18.2**	**-3.5**
ORIF				*e*Sg	**Sg**	**09 18 25.2**	**-0.6**
24nm,0.3s							
ORIF	**Oris-en-Rattie**	**1.82**	**314**	*e*P	**Pn**	**09 17 59.5**	**+0.9**
ORIF	**Oris-en-Rattie**	**1.82**	**314**	*e*Pg	**Pg**	**09 18 01.9**	**-0.3**
ORIF				*e*Sn	**Sn**	**09 18 18.2**	**-3.5**
ORIF				*e*Sg	**Sg**	**09 18 25.2**	**-0.6**
12nm,0.3s							
ORIF	**Oris-en-Rattie**	**1.82**	**314**	*e*P	**Pn**	**09 17 59.5**	**+0.9**
ORIF				*e*Pg	**Pg**	**09 18 01.9**	**-0.3**
ORIF				*e*Sn	**Sn**	**09 18 18.2**	**-3.5**
ORIF				*e*Sg	**Sg**	**09 18 25.2**	**-0.6**
LSD	**Lago del Serru**	**1.83**	**347**	Pg	**Pn**	**09 18 00.3**	**+1.6**
LSD	**Lago del Serru**	**1.83**	**347**	P	**Pn**	**09 17 59.0**	**+0.3**
LSD	**Lago del Serru**	**1.83**	**347**	Pg	**Pn**	**09 18 00.3**	**+1.6**
LSD	**Lago del Serru**	**1.83**	**347**	P	**Pn**	**09 17 59.0**	**+0.2**
LPG	**La Plagne**	**1.96**	**339**	*e*Pg	**Pg**	**09 18 04.0**	**-0.7**
LPG				*e*Sn	**Sn**	**09 18 20.8**	**-4.2**
LPG				*e*Sg	**Sg**	**09 18 28.7**	**-1.4**
7.9nm,0.3s							
LPG	**La Plagne**	**1.96**	**339**	*e*Pg	**Pg**	**09 18 04.0**	**-0.7**
LPG				*e*Sn	**Sn**	**09 18 20.8**	**-4.2**
LPG				*e*Sg	**Sg**	**09 18 28.7**	**-1.4**
4.0nm,0.3s							
LPG	**La Plagne**	**1.96**	**339**	*e*P	**Pn**	**09 18 01.3**	**+0.9**
LPG				*e*Pg	**Pg**	**09 18 04.0**	**-0.7**
LPG				*e*Sn	**Sn**	**09 18 20.8**	**-4.2**
LPG				*e*Sg	**Sg**	**09 18 28.7**	**-1.4**
LPL	**La Plagne**	**1.98**	**339**	*e*Pg	**Pg**	**09 18 04.2**	**-1.0**
LPL				*e*Sg	**Sg**	**09 18 29.1**	**-1.7**
8.2nm,0.4s							
LPL	**La Plagne**	**1.98**	**339**	*e*Pg	**Pg**	**09 18 04.2**	**-1.0**
LPL				*e*Sg	**Sg**	**09 18 29.1**	**-1.7**
4.1nm,0.4s							
LPL	**La Plagne**	**1.98**	**339**	*e*Pn	**Pn**	**09 18 01.1**	**+0.4**
LPL				*e*Pg	**Pg**	**09 18 04.2**	**-1.0**
LPL				*e*Sg	**Sg**	**09 18 29.1**	**-1.7**
OSPF	**L'Ospedale**	**2.28**	**151**	Pn	**Pn**	**09 18 04.6**	**-0.2**
VIVF	**Saint-Julien-l**	**2.49**	**299**	*e*Pn	**Pn**	**09 18 07.0**	**-0.8**
VIVF				*e*Sn	**Sn**	**09 18 34.5**	**-3.8**
VIVF				*e*Sg	**Sg**	**09 18 46.9**	**-0.5**
7.1nm,0.3s							
VIVF	**Saint-Julien-l**	**2.49**	**299**	*e*Pn	**Pn**	**09 18 07.0**	**-0.8**
VIVF				*e*Sn	**Sn**	**09 18 34.5**	**-3.8**
VIVF				*e*Sg	**Sg**	**09 18 46.9**	**-0.5**
3.5nm,0.3s							
LASF	**Ste Croix**	**2.83**	**280**	*e*Pn	**Pn**	**09 18 11.3**	**-1.1**
LASF				*e*Sn	**Sn**	**09 18 43.1**	**-3.4**
LASF				*e*Sg	**Sg**	**09 18 57.5**	**-0.6**
4.9nm,0.4s							
LASF	**Ste Croix**	**2.83**	**280**	*e*Pn	**Pn**	**09 18 11.3**	**-1.1**
LASF				*e*Sn	**Sn**	**09 18 43.1**	**-3.4**
LASF				*e*Sg	**Sg**	**09 18 57.5**	**-0.6**
2.5nm,0.4s							
MTLF	**Montolieu**	**4.02**	**267**	*e*Pn	**Pn**	**09 18 27.5**	**-1.3**
CAF	**Calviac**	**4.25**	**289**	*e*Pn	**Pn**	**09 18 31.1**	**-0.9**

IDC 01 09:25:20.5±8.4, 3481S×17907W, h85km±58km, mb3.8/3, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.6/2, MS3.9/2, Ms1 4.1/2, ms1mx3.2/21, Error ellipse: s-maj=76.1km s-min=37.2km az=48.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.61**	**221**	P	Pn	09 26 28.5	+0.7
3.1nm,0.3s,baz=29,slow=4.1,SNR=19							
URZ				S	Sn	09 27 30.3	+10
15nm,0.3s,baz=149,slow=23,SNR=15							
RPZ	**Rata Peaks**	**11.72**	**218**	P	Pn	09 28 03.8	-0.8
0.3nm,0.3s,baz=143,slow=11,SNR=2.5							
RPZ				S	Sn	09 30 12.4	-1.1
0.8nm,0.3s,baz=140,slow=20,SNR=6.1							
PPT	**Papeete**	**31.39**	**64**	LR	LR	09 41 44.0	
comp=Z,83nm,20.5s,baz=202,slow=31							
ASAR	**Alice Springs**	**42.17**	**272**	P	P	09 33 05.5	+0.5
3.2nm,0.8s,baz=114,slow=7.7,SNR=26							
WB2	**Warramunga Arr**	**43.55**	**277**	*e*P	P	09 33 16.0	-0.1
WRA	**Warramunga Arr**	**43.56**	**277**	P	P	09 33 15.6	-0.6
3.6nm,0.9s,baz=117,slow=6.8,SNR=22							
FITZ	**Fitzroy Crossi**	**51.60**	**274**	P	P	09 34 18.4	-0.1
1.2nm,0.8s,baz=140,slow=13,SNR=3.2							

*GII **01** 10:08:15.0±1.2, 3207N×3496E, h0km, ML2.1/4, EXPLOSION*
*ISCJB **01** 10:08:16.4±1.2, 3210N±004×3487E±008, h0km, Error ellipse: s-maj=10.5km s-min=3.4km az=29.2*

ISC 01 10:08:17.2±1.2, 3211N±004×3489E±008, h0km, n22, σ1§02/28, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLTI	**Sal'it**	**0.19**	**44**	Sg	**Sg**	**10 08 24.0**	**+0.8**
SLTI	**Sal'it**	**0.19**	**44**	Sg	**Sg**	**10 08 24.0**	**+0.8**
MMLI	**Mount Malkishu**	**0.56**	**54**	Pg	**Pg**	**10 08 27.1**	**-0.9**
MMLI				Sg	**Sg**	**10 08 36.3**	**+1.1**
MMLI	**Mount Malkishu**	**0.56**	**54**	Pg	**Pg**	**10 08 27.1**	**-0.9**
MMLI				Sg	**Sg**	**10 08 35.9**	**+0.7**
HMDT	**Nahal Hemdat**	**0.56**	**75**	Pg	**Pg**	**10 08 26.2**	**-1.8**
HMDT				Sg	**Sg**	**10 08 36.2**	**+1.0**
HMDT	**Nahal Hemdat**	**0.56**	**75**	Pg	**Pg**	**10 08 26.2**	**-1.8**
HMDT				Sg	**Sg**	**10 08 36.2**	**+1.0**
DSI	**Dead Sea**	**0.68**	**142**	Pg	**Pg**	**10 08 28.4**	**-1.9**
DSI				Sg	**Sg**	**10 08 39.5**	**+0.4**
DSI	**Dead Sea**	**0.68**	**142**	Pg	**Pg**	**10 08 28.4**	**-1.9**
DSI				Sg	**Sg**	**10 08 40.2**	**+1.1**
MZDA	**Masada**	**0.89**	**153**	Sg	**Sg**	**10 08 45.0**	**-1.0**
MZDA	**Masada**	**0.89**	**153**	Sg	**Sg**	**10 08 46.7**	**+0.8**
RTMI	**Retamim**	**1.06**	**189**	Sg	**Sg**	**10 08 52.0**	**+0.7**
RTMI	**Retamim**	**1.06**	**189**	Sg	**Sg**	**10 08 52.0**	**+0.7**
KZIT	**Kziot**	**1.27**	**199**	Sg	**Sg**	**10 08 59.0**	**+1.0**
KZIT	**Kziot**	**1.27**	**199**	Sg	**Sg**	**10 08 59.0**	**+1.0**
ZFRI	**Zfri**	**1.57**	**171**	Sn	**Sn**	**10 09 06.0**	**-1.3**
ZFRI	**Zfri**	**1.57**	**171**	Sn	**Sn**	**10 09 06.0**	**-1.3**
PRNI	**Paran**	**1.75**	**177**	Sn	**Sn**	**10 09 11.9**	**0.0**
PRNI	**Paran**	**1.75**	**177**	Sn	**Sn**	**10 09 11.9**	**0.0**
KRMI	**Paran Flat**	**1.99**	**184**	Sn	**Sn**	**10 09 17.8**	**0.0**
KRMI	**Paran Flat**	**1.99**	**184**	Sn	**Sn**	**10 09 17.8**	**0.0**
MBRI	**Mt Berech**	**2.31**	**179**	Sn	**Sn**	**10 09 26.1**	**+0.6**
MBRI	**Mt Berech**	**2.31**	**179**	Sn	**Sn**	**10 09 26.1**	**+0.6**

KRSC 01 10:13:28.3±1.1, 5153N×15845E, h80km±70km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.91**	**2**	*i* P	Pn	10 13 47.6	+1.4
RUS				*i* S	Sn	10 14 01.6	+2.1
GRL	**Gorelyy**	**1.05**	**347**	*e*P	Pn	10 13 50.1	+2.2
GRL				*i* S	Sn	10 14 05.6	+3.0
MIPR	**Malaya Ipel'ka**	**1.29**	**306**	*e*P	Pn	10 13 51.8	+1.0
MIPR				*i* S	Sn	10 14 08.9	+1.1
PET	**Petropavlovsk**	**1.50**	**5**	*e*P	Pn	10 13 55.3	+1.7
PET				*i* S	Sn	10 14 15.1	+2.4
NLC	**Nalytchevo**	**1.73**	**18**	*e*P	Pn	10 13 57.4	+0.8
NLC				*i* S	Sn	10 14 18.6	+0.5
AVH	**Avacha**	**1.75**	**6**	*e*P	Pn	10 13 59.5	+2.7
SPN	**Mys Shipunski**	**1.84**	**31**	*e*P	Pn	10 13 59.9	+1.9
SPN				*i* S	Sn	10 14 22.9	+2.2
ALID	**Alaid**	**1.94**	**251**	*e*P	Pn	10 13 58.8	-0.5
ALID				*i* S	Sn	10 14 21.2	-1.8
GNL	**Ganaly**	**2.19**	**352**	*e*P	Pn	10 14 05.1	+2.4
MKZ	**Mys Kozlova**	**3.62**	**32**	*e*P	Pn	10 14 23.0	+1.1
MKZ				*i* S	Sn	10 15 03.0	-0.5
TUMR	**Tumrok**	**3.90**	**14**	P	Pn	10 14 28.0	+2.3
KBTR	**Krutoberegovo**	**5.35**	**27**	*e*P	Pn	10 14 47.5	+2.0

*GRAL **01** 10:36:00.7±0.3, 3369N×3706E, h15km±79km, MD3.2*
*GII **01** 10:36:01.3±0.6, 3387N×3669E, h0km±30km, EXPLOSION*

ISC 01 10:36:00.1±1.5, 3372N±006×3697E±009, h0km, n12, σ0§80/17, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.99**	**256**	*e*P	**Pg**	**10 36 18.7**	**-0.3**
RCY				*e*S	**Sg**	**10 36 32.2**	**+0.3**
HWQ	**Hawqa**	**1.01**	**303**	*e*P	**Pg**	**10 36 19.8**	**+0.2**
HWQ				*e*S	**Sg**	**10 36 33.7**	**+1.0**
BHL	**Bhannes**	**1.11**	**280**	*e*P	**Pg**	**10 36 21.3**	**-0.1**
HRI	**Mount Hermon**	**1.13**	**247**	Pg	**Pg**	**10 36 20.9**	**-0.8**
HRI				Sg	**Sg**	**10 36 35.3**	**-1.1**
KSDI	**Kefar Szold**	**1.22**	**245**	Pg	**Pg**	**10 36 22.8**	**-0.6**
KSHT	**Keshet**	**1.22**	**233**	Pg	**Pg**	**10 36 22.9**	**-0.6**
MMC7	**Mount Meron ar**	**1.49**	**243**	Pn	**Pn**	**10 36 27.5**	**-0.7**
MMC6	**Mount Meron ar**	**1.50**	**242**	Pn	**Pn**	**10 36 27.6**	**-0.7**
HNTI	**Hanita**	**1.63**	**248**	Pn	**Pn**	**10 36 29.5**	**-0.6**
MMLI	**Mount Malkishu**	**1.82**	**226**	Pn	**Pn**	**10 36 33.6**	**+0.9**
HMDT	**Nahal Hemdat**	**1.90**	**220**	Pn	**Pn**	**10 36 33.8**	**0.0**
HMDT				Sn	**Sn**	**10 37 00.6**	**+2.2**
SLTI	**Sal'it**	**2.19**	**228**	Pn	**Pn**	**10 36 38.1**	**+0.3**
SLTI				Sn	**Sn**	**10 37 06.7**	**+1.1**

*NIED **01** 10:56:00, 2000N×122.10E, h44km, Mw3.9 Best double couple: M0 7.71000×10^14 NP1:φs268.00000°, δ68.00000°, λ-145.00000°. NP2:φs164.00000°, δ58.00000°, λ-26.00000°.*
*IDC **01** 10:56:20.2±1.3, 1980N×122.16E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=39.4km s-min=21.6km az=86.0*
*NEIC **01** 10:56:21.4±0.8, 1982N×12207E, h10km, Error ellipse: s-maj=22.2km s-min=12.1km az=91.0*
*ISCJB **01** 10:56:24.1±1.6, 2000N±007×122.1E±0.1, h42km±18km, mb3.5/3, Error ellipse: s-maj=17.0km s-min=11.0km az=18.4*
*JMA **01** 10:56:25.1±0.2, 2003N×122.10E, h69km, M3.9*

ISC 01 10:56:25.3±1.6, 1996N±008×1220E±01, h36km±19km, n14, σ0§80/22, mb3.5/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**4.39**	**22**	P	**Pn**	**10 57 29.8**	**+0.3**
HATJ				*e*S	**Sn**	**10 58 18.7**	**-0.8**
YOJ	**Yonaguni jima**

NIED ***01*** *11:00:00, 3640N×141.10E, h47km, Mw3.8 Best double couple: M0=4.87000×10^14 NP1:φs=290.00000°, δ55.00000°, λ-118.00000°. NP2:φs=153.00000°, δ44.00000°, λ-56.00000°.*

ISCJB ***01*** *11:00:38.8±1.0, 3638N±004×141.15E±006, h31km±6km, mb3.6/3, Error ellipse: s-maj=8.5km s-min=6.7km az=15.0*

JMA ***01*** *11:00:40.3±0.1, 3641N×14104E, h47km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=284.00000°, δ45.00000°, λ-130.00000°. NP2: φs=154.00000°, δ57.00000°, λ-57.00000°. Principal axes: T Plg7.0000°, Azm221.0000°; N Plg27.0000°, Azm315.0000°; P Plg62.0000°, Azm118.0000°;*

JMA Felt II J1.

IDC ***01*** *11:00:40.7±5.6, 3641N×141.13E, h34km±47km, mb3.4/3, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, ML3.7/3 Error ellipse: s-maj=37.4km s-min=21.3km az=109.0*

ISC 01 11:00:40.0±1.0, 3642N±004×14109E±006, h27km±6km, n15, σ0°75/24, mb3.6/3, 3C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.46**	**295**	⇓P	**Pb**	**11 00 50.2**	**+0.5**
JHO				S	**Sb**	**11 00 57.0**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.72**	**341**	⇑P	**Pb**	**11 00 53.7**	**-0.3**
ONAJ				S	**Sb**	**11 01 03.2**	**-0.4**
JYT	**Yasato**	**0.75**	**256**	⇑P	**Pb**	**11 00 54.0**	**-0.4**
JYT				S	**Sb**	**11 01 03.4**	**-0.8**
JFK	**Kawauchi**	**0.96**	**350**	P	**Pn**	**11 00 57.0**	**-0.7**
JFT	**Otama**	**1.25**	**331**	⇓P	**Pn**	**11 01 02.4**	**+0.7**
JFT				S	**Sn**	**11 01 17.6**	**-0.1**
JAG	**Ashikaga**	**1.32**	**271**	⇑P	**Pn**	**11 01 02.3**	**-0.3**
JAG				S	**Sn**	**11 01 17.7**	**-1.6**
JFY	**Yanaizu**	**1.49**	**312**	P	**Pn**	**11 01 05.2**	**+0.3**
JKT	**Katashina**	**1.52**	**284**	P	**Pn**	**11 01 05.8**	**+0.4**
JKT				S	**Sn**	**11 01 24.0**	**-0.3**
MJAR	**Matsushiro Arr**	**2.33**	**274**	Pn	**Pn**	**11 01 16.5**	**+0.1**
	27nm,0.3s,baz=115,slow=8.6,SNR=222						
MJAR				Sn	**Sn**	**11 01 45.3**	**+1.2**
	26nm,0.3s,baz=57,slow=22,SNR=14						
MAT	**Matsushiro**	**2.33**	**274**	P	**Pn**	**11 01 16.8**	**+0.3**
MAT				S	**Sn**	**11 01 47.8**	**+3.6**
JHJ	**Hachijo jima 2**	**3.46**	**198**	Pn	**Pn**	**11 01 33.4**	**+1.3**
	23nm,0.3s,baz=76,slow=21,SNR=7.6						
JHJ				Sn	**Sn**	**11 02 11.5**	**-0.6**
	50nm,0.3s,baz=253,slow=22,SNR=8.3						
ASAJ	**Asahikawa**	**7.78**	**8**	Pn	**Pn**	**11 02 30.7**	**-0.6**
	0.8nm,0.3s,baz=207,slow=7.2,SNR=8.6						
WRA	**Warramunga Arr**	**56.41**	**188**	P	**P**	**11 10 18.0**	**-1.0**
	1.2nm,0.6s,mb4.1,baz=5.2,slow=7.4,SNR=20						
ASAR	**Alice Springs**	**60.14**	**188**	P	**P**	**11 10 45.6**	**+0.6**
	0.3nm,0.7s,mb3.4,baz=17,slow=6.2,SNR=6.8						
PDAR	**Pinedale Array**	**78.29**	**45**	P	**P**	**11 12 38.0**	**+0.5**
	0.3nm,0.6s,mb3.4,baz=279,slow=1.8,SNR=3.7						

NEIC ***01*** *11:06:37.7, 1606N×99.16W, h16km, MD3.8(MEX), After MEX.*

MEX 01 11:06:38.1±0.4, 1623N×9914W, h13km±9km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.98**	**311**	*i* P	Pb	11 06 53.3	-3.6
ACX				*i* S	Sb	11 07 06.6	-3.2
ACX	**Acapulco**	**0.98**	**311**	*i* P	Pb	11 06 53.0	-3.9
ACX				*i* S	Sb	11 07 05.0	-4.8
PNIG	**Pinotepa**	**0.99**	**80**	*i* P	Pb	11 06 54.0	-3.1
PNIG				*i* S	Sb	11 07 06.0	-3.9
PNIG	**Pinotepa**	**0.99**	**80**	*i* P	Pb	11 06 54.0	-3.1
PNIG				*i* S	Sb	11 07 06.0	-3.9
PNIG				*i* S	Sb	11 07 09.6	-0.4
CAIG	**El Cayaco**	**1.35**	**307**	*i* P	Pn	11 06 58.8	-3.9
CAIG				*i* S	Sn	11 07 15.9	-4.6
CAIG	**El Cayaco**	**1.35**	**307**	*i* P	Pn	11 06 58.8	-3.9
CAIG				*i* S	Sn	11 07 21.7	+1.1
MEIG	**Mezcala**	**1.75**	**345**	*i* P	Pn	11 07 05.2	-3.0
MEIG				*i* S	Sn	11 07 25.6	-4.7
UTMO	**Huajuapan**	**2.04**	**39**	*e*P	Pn	11 07 09.8	-2.4
UTMO				*e*S	Sn	11 07 33.2	-4.3
VHO	**Vista Hermosa**	**2.46**	**70**	*i* S	Sn	11 07 41.7	-6.0
PPM	**Popocatepetl**	**2.87**	**10**	*i* P	Pn	11 07 20.9	-2.6
PPM				*i* S	Sn	11 07 57.1	-0.8

IDC ***01*** *11:09:26.6±1.2, 3900N×7682E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, ML3.5/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/34, Error ellipse: s-maj=26.5km s-min=25.0km az=78.0*

BJI ***01*** *11:09:30.7, 3936N×7704E, h23km, mB4.4, mb4.4, ML3.8, Ms4.3, Msz4.1*

MOS ***01*** *11:09:31.2±1.9, 3926N×7678E, h33km, mb3.8/3, Error ellipse: s-maj=22.2km s-min=11.0km az=89.3*

ISCJB ***01*** *11:09:32.6±0.6, 3928N±003×7694E±007, h50km±8km, mb4.2/12, MS3.6/2, Error ellipse: s-maj=8.7km s-min=4.5km az=170.4*

NNC ***01*** *11:09:35.8±1.6, 3968N×7655E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=13.9km s-min=11.5km az=142.0*

NEIC ***01*** *11:09:36.1±1.5, 3945N×7680E, h79km±17km, Error ellipse: s-maj=18.6km s-min=11.9km az=142.0*

ISC 01 11:09:34.3±1.2, 3930N±003×7685E±007, h30km±11km, n57, σ1°39/66, mb4.2/12, MS3.6/2, 9C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.71**	**288**	⇑*i*PG	**Pb**	**11 09 46.1**	**-2.1**
KSH				SG	**Sb**	**11 09 58.6**	**+0.9**
KSH				Smax			
	comp=N,10μm,0.8s						
KSH				Smax			
	comp=E,20μm,0.8s						
ULHL	**Ulahol**	**2.98**	**351**	P	**Pn**	**11 10 19.0**	**-0.5**
	SNR=159						
KZA	**Kyzart**	**3.03**	**337**	P	**Pn**	**11 10 20.9**	**+0.7**
	SNR=64						
UCH	**Uchtor**	**3.42**	**330**	P	**Pn**	**11 10 27.2**	**+1.6**
	SNR=6.3						
UCH	**Uchtor**	**3.42**	**330**	*e*Pn	**Pn**	**11 10 25.9**	**+0.4**
UCH				*e*Sn	**Sn**	**11 11 10.3**	**+5.2**
KBK	**Karagaybulak**	**3.65**	**337**	P	**Pn**	**11 10 34.0**	**+5.3**
	SNR=24						
AML	**Almayashu**	**3.71**	**321**	P	**Pn**	**11 10 28.6**	**-0.9**
	SNR=16						
AML	**Almayashu**	**3.71**	**321**	*e*Pn	**Pn**	**11 10 28.6**	**-0.9**
AML				*e*Sn	**Sn**	**11 11 14.7**	**+2.5**
TKM2	**Tokmak 2**	**3.74**	**346**	⇓Pn	**Pn**	**11 10 29.1**	**-0.9**
	comp=E,19nm,0.3s						
TKM2				⇓Lg		11 11 21.8	
	comp=E,170nm,0.8s						
TKM2	**Tokmak 2**	**3.74**	**346**	P	**Pn**	**11 10 29.3**	**-0.7**
	SNR=43						
TKM2	**Tokmak 2**	**3.74**	**346**	*e*Pn	**Pn**	**11 10 29.2**	**-0.8**
TKM2				*e*Sn	**Sn**	**11 11 22.1**	**+9.1**
AAK	**Ala-Archa**	**3.78**	**333**	P	**Pn**	**11 10 29.5**	**-1.0**
	SNR=25						
CHMS	**Chumysh**	**4.02**	**338**	P	**Pn**	**11 10 32.8**	**-1.0**
	SNR=8.3						
EKS2	**Erkin-Say**	**4.09**	**326**	P	**Pn**	**11 10 34.3**	**-0.4**
	SNR=20						
EKS2	**Erkin-Say**	**4.09**	**326**	*e*Pn	**Pn**	**11 10 34.2**	**-0.5**
KK31	**Karatay Array**	**6.11**	**311**	⇑Pn	**Pn**	**11 11 00.5**	**-1.9**
	comp=E,0.9nm,0.3s						
KK31				⇓Pg	**Pn**	**11 11 18.7**	**+16**
	comp=E,8.4nm,0.5s						
KK31				⇑Lg		11 12 37.1	
	comp=E,22nm,0.6s						
KK31	**Karatay Array**	**6.11**	**311**	PN	**Pn**	**11 11 00.5**	**-1.9**
KK31				PG	**Pn**	**11 11 18.7**	**+16**
KK31				SG	**Sn**	**11 12 39.1**	**+28**
CHCP	**Chirah Chowk**	**6.32**	**208**	⇑P	**Pn**	**11 11 09.1**	**+3.7**
CEP	**Cherat**	**6.75**	**218**	⇑P	**Pn**	**11 11 13.9**	**+2.6**
CEP				S	**Sn**	**11 12 33.0**	**+5.8**
DLH	**Dalhousie**	**6.78**	**186**	*ex*	x	11 11 35.0	
THN	**Thein Dam**	**6.91**	**188**	*e*P	**Pn**	**11 11 13.9**	**+0.4**
THN				*ex*	x	11 12 35.5	
KLP	**Kalpa**	**7.83**	**171**	*e*P	**Pn**	**11 11 28.6**	**+2.5**
KLP				*e*S	**Sn**	**11 12 51.9**	**-1.8**
KLP				AML	AML	11 13 10.9	
	comp=E,83nm,0.8s						
KLP				AML	AML	11 13 12.9	
	comp=N,61nm,0.4s						
KBL	**Kabul**	**7.84**	**235**	*e*Pn	**Pn**	**11 11 28.4**	**+2.1**
	comp=N,9.7nm,0.5s						
SMLA	**Simla**	**8.15**	**178**	*i* P	**Pn**	**11 11 36.2**	**+5.7**
SMLA				*i* S	**Sn**	**11 13 05.1**	**+3.5**
SMLA				*ex*	x	11 13 06.9	
	comp=N,462nm,0.3s						
SMLA				*ex*	x	11 13 07.7	
	comp=E,382nm,0.4s						
MK31	**Makanchi Array**	**8.49**	**26**	⇑Pn	**Pn**	**11 11 37.0**	**+2.0**
	comp=E,1.5nm,0.5s,baz=219,slow=16,SNR=4.4						
MK31				⇓Lg		11 13 56.4	
	comp=E,7.8nm,0.8s,baz=213,slow=30,SNR=3.6						
MK31	**Makanchi Array**	**8.49**	**26**	*e*Pn	**Pn**	**11 11 35.3**	**+0.2**
MKAR	**Makanchi Array**	**8.49**	**26**	Pn	**Pn**	**11 11 35.3**	**+0.2**
	comp=E,0.4nm,0.3s,baz=209,slow=15,SNR=6.6						
MKAR				Pg	Pn	11 12 01.4	+26
	comp=E,0.4nm,0.3s,baz=215,slow=12,SNR=4.8						
MKAR				Lg		11 13 49.7	
	comp=E,0.6nm,0.3s,baz=220,slow=30,SNR=3.6						
MKAR	**Makanchi Array**	**8.49**	**26**	Pn	**Pn**	**11 11 35.3**	**+0.2**
MKAR				Pg	Pn	11 12 01.4	+26
MKAR				Lg		11 13 49.7	
JOSI	**Joshimath**	**9.00**	**165**	*e*P	**Pn**	**11 11 46.4**	**+4.2**
JOSI				*e*S	**Sn**	**11 13 22.0**	**-0.5**
JOSI				AML	AML	11 13 44.4	
	comp=N,163nm,0.7s						
JOSI				AML	AML	11 13 44.7	
	comp=E,125nm,0.7s						
DDI	**Dehra Dun**	**9.01**	**173**	*ex*	x	11 11 47.2	
DDI				*e*S	**Sn**	**11 13 22.7**	**+0.1**
NDI	**New Delhi**	**10.59**	**178**	*e*S	**Sn**	**11 13 55.0**	**-6.5**
SONA	**Sohna**	**11.02**	**179**	*e*P	**Pn**	**11 12 09.7**	**-0.2**
SONA				*e*S	**Sn**	**11 14 06.2**	**-5.8**
KUDL	**Kundal**	**11.12**	**182**	*e*P	**Pn**	**11 12 11.6**	**+0.2**
KUDL				*e*S	**Sn**	**11 14 08.3**	**-6.3**
KURBB	**Kurchatov Arra**	**11.39**	**5**	⇑Lg		11 15 24.1	
	comp=E,4.4nm,0.8s						
KURK	**Kurchatov**	**11.49**	**6**	⇑Lg		11 15 29.1	
	comp=E,8.6nm,0.9s						
BVAR	**Borovoye Array**	**14.43**	**344**	Pn	**Pn**	**11 12 52.3**	**-4.0**
	comp=E,0.2nm,0.3s,baz=167,slow=14,SNR=7.4						
BVAR				Lg		11 17 00.6	
	comp=E,0.0nm,0.3s,baz=142,slow=26,SNR=5.5						
ZAL	**Zalesovo**	**15.62**	**18**	P	**Pn**	**11 13 08.5**	**-3.5**
ZAL				MLR	MLR		
	comp=Z,36nm,21.3s						
ZALV	**Zalesovo Beam**	**15.63**	**18**	Pn	**Pn**	**11 13 08.5**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=194,slow=11,SNR=3.7						
ZALV				Lg		11 17 43.0	
	comp=Z,0.1nm,0.3s,baz=223,slow=25,SNR=2.3						
ZALV				LR	LR	11 19 31.2	
	comp=Z,36nm,21.3s,baz=252,slow=38						
AB31	**Akbulak array**	**15.64**	**315**	⇑P	**Pn**	**11 13 13.2**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=124,slow=12,SNR=3.9						
AKTK	**Aktyubinsk**	**17.33**	**316**	P	**Pn**	**11 13 34.0**	**+0.2**
AKTO	**Aktyubinsk**	**17.33**	**316**	⇓P	**Pn**	**11 13 35.3**	**+1.6**
	comp=Z,1.1nm,1.5s						
AKTO	**Aktyubinsk**	**17.33**	**316**	P	**Pn**	**11 13 34.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=119,slow=15,SNR=5.7						
LZH	**Lanzhou**	**21.58**	**90**	*e*P	**P**	**11 14 22.5**	**+1.1**
LZH				AP		11 14 31.7	
LZH				XP	sP	11 14 36.0	+2.7
LZH				*e*PP		11 14 45.8	
LZH				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,76nm,4.2s						
LZH				LR	LR		
	comp=E,321nm,10.3s						
LZH				LR	LR		
	comp=Z,507nm,13.8s,MS4.1						
ZAK	**Zakamensk**	**21.66**	**51**	*e*P	**P**	**11 14 23.3**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.5						
SONM	**Songino Array**	**22.94**	**58**	P	**P**	**11 14 33.7**	**-2.1**
	comp=Z,0.7nm,0.7s,mb3.2,baz=245,slow=9.4,SNR=3.9						
SONM	**Songino Array**	**22.94**	**58**	P	**P**	**11 14 33.7**	**-2.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CD2	**Chengdu**	**23.49**	**103**	*e*P	**P**	**11 14 43.0**	**+1.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,20nm,5.2s						
UMR	**Umm Al-Rimmam**	**25.82**	**257**	*e*P	**P**	**11 14 59.5**	**-3.4**
	baz=267						
UMR				AMb	AMB	11 15 05.6	
	comp=Z,37nm,0.8s,mb5.0,baz=267						
MIB	**Mutribah**	**25.99**	**258**	*e*P	**P**	**11 15 03.0**	**-1.4**
	baz=269						
MIB				AMb	AMB	11 15 07.7	
	comp=Z,19nm,0.9s,mb4.6,baz=269						
RDF	**Al-Radifah**	**26.27**	**256**	*e*P	**P**	**11 15 03.0**	**-3.9**
	baz=265						
RDF				AMb	AMB	11 15 10.6	
	comp=Z,31nm,1.2s,mb4.7,baz=265						
NAY	**Al-Naaiem**	**26.33**	**257**	*e*P	**P**	**11 15 06.2**	**-1.4**
	baz=267						
NAY				AMb	AMB	11 15 10.6	
	comp=Z,13nm,0.8s,mb4.5,baz=267						
NJ2	**Nanjing**	**34.64**	**89**	*e*P	**P**	**11 16 15.3**	**-5.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
KSRS	**Korea Array**	**39.65**	**76**	LR	LR	11 35 37.3	
	comp=Z,32nm,19.0s,MS3.2,baz=165,slow=40						
TORD	**Torodi Ar. Bea**	**70.35**	**271**	P	**P**	**11 20 41.5**	**-3.9**
	comp=Z,0.4nm,0.4s,mb3.7,baz=39,slow=5.8,SNR=5.9						
YKA	**Yellowknife Ar**	**78.14**	**5**	P	**P**	**11 21 30.3**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=340,slow=5.5,SNR=3.7						
YKA	**Yellowknife Ar**	**78.14**	**5**	P	**P**	**11 21 30.3**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**79.72**	**126**	P	**P**	**11 21 35.8**	**-3.5**
	comp=Z,0.4nm,0.9s,mb3.4,baz=321,slow=6.1,SNR=2.9						

ISCJB ***01*** *11:38:57.9±1.0, 026N±009×1222E±0.1, h162km±10km, mb3.8/6, Error ellipse: s-maj=17.9km s-min=15.4km az=8.4*

IDC ***01*** *11:39:01.0±4.5, 020N×12230E, h174km±43km, mb3.6/6, mb1 3.7/8, mb1mx3.5/20, mbtmp3.5/8, Error ellipse: s-maj=66.4km s-min=15.4km az=65.0*

DJA ***01*** *11:39:02, 001N×12258E, h20km, ML4.6/1*

ISC 01 11:38:59.0±1.0, 025N±009×1223E±01, h155km±11km, n12, σ0°86/13, mb3.8/6, 2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**2.69**	**245**	⇓*e*P	**Pn**	**11 39 41.0**	**-1.7**
MNI	**Manado**	**2.83**	**65**	⇓*e*P	**Pn**	**11 39 44.5**	**0.0**
MNI				*e*S	**Sn**	**11 40 12.0**	**-7.6**
KAPI	**Kappang**	**5.80**	**206**	P	**Pn**	**11 40 24.9**	**+1.7**
	1.1nm,0.3s,baz=157,slow=5.0,SNR=3.3						
FITZ	**Fitzroy Crossi**	**18.54**	**170**	*e*P	**P**	**11 43 04.2**	**+0.3**
	5.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**18.54**	**170**	P	**P**	**11 43 04.0**	**+0.1**
	1.1nm,0.3s,baz=6.4,slow=11,SNR=30						
WRA	**Warramunga Arr**	**23.29**	**150**	P	**P**	**11 43 52.1**	**-1.1**
	2.1nm,0.4s,mb3.9,baz=333,slow=8.5,SNR=61						
WB2	**Warramunga Arr**	**23.30**	**150**	*e*P	**P**	**11 43 53.2**	**0.0**
ASAR	**Alice Springs**	**26.32**	**155**	P	**P**	**11 44 20.6**	**0.0**
	1.2nm,0.5s,mb3.8,baz=346,slow=14,SNR=26						
ASAR				PcP	PcP	11 47 42.0	-0.7
	0.4nm,0.5s,baz=357,slow=1.8,SNR=6.0						
STKA	**Stephens Creek**	**36.82**	**152**	P	**P**	**11 45 52.6**	**+0.5**
	4.5nm,0.7s,mb4.2,baz=306,slow=4.8,SNR=5.4						
SONM	**Songino Array**	**49.36**	**346**	P	**P**	**11 47 32.9**	**+0.2**
	1.1nm,0.6s,mb3.7,baz=168,slow=10,SNR=6.6						
MKAR	**Makanchi Array**	**58.02**	**329**	P	**P**	**11 48 36.2**	**+0.6**
	0.5nm,0.3s,mb3.8,baz=125,slow=8.3,SNR=4.5						
VNDA	**Vanda**	**80.59**	**172**	P	**P**	**11 50 52.9**	**-0.9**
	0.8nm,0.5s,mb3.6,baz=44,slow=2.9,SNR=6.9						

KRSC ***01*** *11:43:53.8±0.8, 5423N×16073E, h69km±68km, ML4.2*

MOS ***01*** *11:43:53.4±1.4, 5428N×16069E, h88km, mb3.6/3, Error ellipse: s-maj=25.0km s-min=10.4km az=76.7*

ISCJB ***01*** *11:43:54.4±0.4, 5420N±003×16078E±009, h81km±5km, mb3.5/6, Error ellipse: s-maj=9.1km s-min=3.3km az=22.7*

NEIC ***01*** *11:43:56.4±1.8, 5445N×16003E, h94km±14km, Error ellipse: s-maj=30.2km s-min=21.5km az=154.0*

IDC ***01*** *11:43:57.2±2.5, 5447N×15999E, h103km±22km, mb3.3/6, mb1 3.6/7, mb1mx3.4/22, mbtmp3.3/7, Error ellipse: s-maj=38.0km s-min=19.1km az=146.0*

ISC 01 11:43:55.4±0.4, 5421N±003×16074E±009, h77km±5km, n41, σ0°84/58, mb3.5/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.67**	**59**	*e*P	**Pn**	**11 44 09.7**	**-0.8**
MKZ				*i* S	**Sn**	**11 44 20.8**	**-0.8**
KII	**Karymskiy**	**0.78**	**257**	*e*P	**Pn**	**11 44 10.9**	**-0.8**
KII				*i* S	**Sn**	**11 44 23.2**	**-0.5**
TUMR	**Tumrok**	**1.13**	**342**	*i* P	**Pn**	**11 44 15.2**	**-0.6**
TUMR				*i* S	**Sn**	**11 44 30.9**	**-0.1**
SPN	**Mys Shipunski**	**1.20**	**201**	*e*P	**Pn**	**11 44 16.2**	**-0.5**
SPN				*i* S	**Sn**	**11 44 32.0**	**-0.6**
NLC	**Nalytchevo**	**1.33**	**219**	*e*P	**Pn**	**11 44 18.1**	**-0.3**
NLC				*i* S	**Sn**	**11 44 35.6**	**-0.1**
AVH	**Avacha**	**1.52**	**232**	*e*P	**Pn**	**11 44 21.2**	**+0.4**
KMNR	**Kamenistaya**	**1.57**	**350**	*e*P	**Pn**	**11 44 21.4**	**-0.1**
KMNR				*i* S	**Sn**	**11 44 41.5**	**+0.3**
PET	**Petropavlovsk**	**1.72**	**227**	*e*P	**Pn**	**11 44 23.4**	**-0.1**
PET				*i* S	**Sn**	**11 44 45.3**	**+0.5**
PET	**Petropavlovsk**	**1.72**	**227**	*e*Pn	**Pn**	**11 44 23.3**	**-0.2**
PET				*e*Sn	**Sn**	**11 44 44.0**	**-0.7**
BZMR	**Bezymyannaya**	**1.73**	**355**	*e*P	**Pn**	**11 44 23.6**	**0.0**
GNL	**Ganaly**	**1.74**	**254**	*e*P	**Pn**	**11 44 23.7**	**+0.1**
GNL				*i* S	**Sn**	**11 44 45.7**	**+0.7**
KIRR	**Kirishev**	**1.76**	**353**	*e*P	**Pn**	**11 44 23.8**	**-0.1**
KIRR				*i* S	**Sn**	**11 44 46.0**	**+0.4**
KPT	**Kopyto**	**1.78**	**351**	*e*P	**Pn**	**11 44 23.8**	**-0.4**
ZLN	**Zelenaya**	**1.81**	**1**	*e*P	**Pn**	**11 44 24.9**	**+0.3**
ZLN				*i* S	**Sn**	**11 44 47.7**	**+1.0**
CIRR	**Tsirk**	**1.91**	**0**	*e*P	**Pn**	**11 44 26.3**	**+0.4**
KOZ	**Kozyrevsk**	**1.92**	**345**	*e*P	**Pn**	**11 44 25.6**	**-0.4**
KOZR	**Kozyr**	**1.92**	**346**	PN	**Pn**	**11 44 25.6**	**-0.5**
KRSR	**Krestovskiy**	**2.01**	**357**	*e*P	**Pn**	**11 44 26.9**	**-0.4**
KRSR				*i* S	**Sn**	**11 44 51.5**	**-0.1**
KLY	**Klyuchi**	**2.10**	**359**	*e*P	**Pn**	**11 44 28.4**	**-0.1**
KLY				*i* S	**Sn**	**11 44 54.1**	**+0.3**
PETK	**Petropavlovsk-**	**2.12**	**240**	P	**Pn**	**11 44 28.7**	**-0.1**
	15nm,0.3s,baz=68,slow=18,SNR=157						
PETK				S	**Sn**	**11 45 01.0**	**+6.7**
	9.9nm,0.3s,baz=158,slow=25,SNR=6.4						
PETK	**Petropavlovsk-**	**2.12**	**240**	*e*Pn	**Pn**	**11 44 28.8**	**0.0**
SRDR	**Sredinnyy**	**2.19**	**345**	*e*P	**Pn**	**11 44 28.8**	**-0.9**
GRL	**Gorelyy**	**2.31**	**225**	*e*P	**Pn**	**11 44 32.7**	**+1.4**
GRL				*i* S	**Sn**	**11 45 01.3**	**+2.6**
BDR	**Baidarnaya**	**2.38**	**6**	*e*P	**Pn**	**11 44 32.5**	**+0.3**
BDR				*i* S	**Sn**	**11 45 00.7**	**+0.4**
SMKR	**Semkarok**	**2.41**	**10**	*e*P	**Pn**	**11 44 32.9**	**+0.3**
SMKR				*i* S	**Sn**	**11 45 01.9**	**+0.7**
SRKR	**Sorokina**	**2.46**	**5**	*e*P	**Pn**	**11 44 33.5**	**+0.2**
MIPR	**Malaya Ipel'ka**	**3.08**	**233**	*e*P	**Pn**	**11 44 42.7**	**+1.0**
SKR	**Severo-Kuril's**	**4.53**	**221**	*e*PN	**Pn**	**11 45 01.2**	**-0.2**
ALID	**Alaid**	**4.61**	**226**	*e*P	**Pn**	**11 45 05.3**	**+2.8**
ASAJ	**Asahikawa**	**15.54**	**237**	P	**Pn**	**11 47 29.1**	**-0.7**
	0.4nm,0.3s,baz=72,slow=17,SNR=3.8						
YAK	**Yakutsk**	**18.02**	**308**	*i* P	**Pn**	**11 47 57.8**	**-2.5**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
MJAR	**Matsushiro Arr**	**23.55**	**231**	P	**P**	**11 48 56.7**	**-1.9**
	comp=Z,1.5nm,0.7s,mb3.4,baz=24,slow=10,SNR=5.7						
MJAR	**Matsushiro Arr**	**23.55**	**231**	*e*P	**P**	**11 48 58.6**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**48.02**	**295**	P	**P**	**11 52 21.6**	**-4.8**
	comp=Z,0.4nm,0.4s,mb3.6,baz=52,slow=8.6,SNR=4.7						
MKAR	**Makanchi Array**	**48.02**	**295**	*e*P	**P**	**11 52 23.8**	**-2.6**
NVAR	**Mina Array Bea**	**55.01**	**71**	P	**P**	**11 53 20.5**	**+1.9**
	comp=Z,0.7nm,0.6s,mb3.9,baz=338,slow=12,SNR=8.1						
PDAR	**Pinedale Array**	**56.65**	**62**	P	**P**	**11 53 31.4**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=338,slow=3.7,SNR=4.9						
SOC	**Sochi**	**70.37**	**319**	*e*P	**P**	**11 54 56.5**	**-4.2**
SOC				*e*S	S	12 04 03.4	-3.4
WRA	**Warramunga Arr**	**77.26**	**205**	P	**P**	**11 55 40.1**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.4,baz=20,slow=6.1,SNR=14						
ASAR	**Alice Springs**	**80.94**	**205**	P	**P**	**11 56 00.5**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.3,baz=31,slow=4.7,SNR=9.2						
ASAR	**Alice Springs**	**80.94**	**205**	*e*P	**P**	**11 56 00.8**	**-0.2**

IDC 01 11:49:54.4±16.0, 1714S×17324W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/20, mbtmp4.2/5, Error ellipse: s-maj=317.8km s-min=154.8km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.44**	**259**	P	P	11 57 18.0	-0.1
	4.2nm,0.6s,baz=86,slow=9.4,SNR=6.5						
STKA	**Stephens Creek**	**43.32**	**242**	P	P	11 57 58.8	+

*JMA **01** 12:09:01.0±0.3,2736N×12680E,h14km±3km,M4.5*
*IDC **01** 12:09:01.1±0.9,2736N×12704E,h0km,mb4.0/5,*
mb1 4.2/5,mb1mx3.9/21,mbtmp4.0/5,MS3.5/7,Ms1 3.5/7,
ms1mx3.2/29,Error ellipse: s-maj=35.2km s-min=14.7km
az=46.0
*ISCJB **01** 12:09:02.6±2.0,2733N±003×12687E±003,h14km±14km,*
mb4.1/9,MS3.7/8,Error ellipse: s-maj=6.1km s-min=4.3km
az=32.4
*BJI **01** 12:09:02.1,27.11N×12676E,h10km,mB4.5,mb4.4,ML3.9,*
Ms4.1,Msz3.6
*NEIC **01** 12:09:02.7±0.6,2732N×12697E,h10km,mb4.2/1,Error*
ellipse: s-maj=15.3km s-min=9.5km az=221.0

ISC 01 12:09:02.9±1.0,2729N±004×12693E±003,h6km±7km,n35,
σ1º05/37,mb4.1/9,MS3.7/8,1C,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.75**	**158**	P	**Pg**	**12 09 17.3**	**-0.1**
JAGN				S	**Sg**	**12 09 28.3**	**+1.0**
JIH	**Iheya**	**0.96**	**105**	P	**Pg**	**12 09 20.9**	**-0.5**
JIH				*e*S	**Sg**	**12 09 35.7**	**+1.8**
JKE	**Kume jima 2**	**0.97**	**188**	P	**Pg**	**12 09 20.1**	**-1.5**
JKE				*e*S	**Sg**	**12 09 33.1**	**-1.1**
NAH1	**Naha**	**1.28**	**148**	P	**Pn**	**12 09 26.1**	**-1.2**
NAH1				S	**Sb**	**12 09 44.0**	**-0.1**
JOW	**Kunigami**	**1.28**	**111**	P	**Pn**	**12 09 26.3**	**-1.1**
JOW				S	**Sb**	**12 09 45.9**	**+1.7**
JOW	**Kunigami**	**1.28**	**111**	Pn	**Pn**	**12 09 26.3**	**-1.1**
	179nm,0.3s,baz=301,slow=12,SNR=100						
JOW				Sn	**Sn**	**12 09 42.0**	**-2.9**
	129nm,0.3s,baz=326,slow=30,SNR=22						
JJT2	**Tamagusuku 2**	**1.36**	**147**	P	**Pn**	**12 09 27.4**	**-1.1**
JJT2				S	**Sb**	**12 09 47.4**	**+0.9**
JTK	**Tokunoshima**	**1.86**	**74**	P	**Pn**	**12 09 34.2**	**-1.1**
JAM	**Amami Oshima**	**2.62**	**64**	P	**Pn**	**12 09 45.9**	**+0.2**
JAM				*e*S	**Sn**	**12 10 18.4**	**+0.6**
JOGS	**Gusukube**	**2.87**	**209**	P	**Pn**	**12 09 50.5**	**+1.3**
JTJ	**Tarama**	**3.31**	**218**	P	**Pn**	**12 09 55.9**	**+0.6**
JIJ	**Ishigaki jima**	**3.85**	**221**	P	**Pn**	**12 10 02.5**	**-0.1**
JKRS	**Kuro-shima**	**4.02**	**222**	P	**Pn**	**12 10 05.5**	**+0.5**
IRIF	**Iriomote-Funau**	**4.12**	**225**	P	**Pn**	**12 10 08.1**	**+1.7**
YHNB	**Yeheng**	**5.64**	**244**	*e*Pn	**Pn**	**12 10 27.1**	**-0.1**
	48nm,0.8s						
NJ2	**Nanjing**	**8.47**	**306**	*e*P	**Pn**	**12 11 07.9**	**+1.7**
NJ2				Smax			
	comp=N,80nm,0.9s						
NJ2				Smax			
	comp=E,50nm,0.8s						
NJ2				LR	LR		
	comp=N,910nm,18.1s						
NJ2				LR	LR		
	comp=E,350nm,14.4s						
NJ2				LR	LR		
	comp=Z,310nm,13.8s						
KSRS	**Korea Array**	**10.17**	**4**	LR	LR	12 15 32.4	
	comp=Z,281nm,18.9s,baz=170,slow=39						
MJAR	**Matsushiro Arr**	**13.29**	**43**	LR	LR	12 17 30.9	
	comp=Z,180nm,21.3s,baz=210,slow=39						
CN2	**Changchun**	**16.52**	**356**	*e*P	**Pn**	**12 13 02.8**	**+7.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CD2	**Chengdu**	**20.56**	**286**	P	**P**	**12 13 42.3**	**0.0**
CD2				AMB	AMB		
	comp=Z,50nm,1.2s						
ASAJ	**Asahikawa**	**21.00**	**33**	LR	LR	12 22 15.9	
	comp=Z,98nm,18.8s,MS3.2,baz=166,slow=38						
LZH	**Lanzhou**	**21.47**	**300**	⇑P	**P**	**12 13 52.3**	**+0.1**
LZH				AP		12 14 00.5	
LZH				XP	sP	12 14 05.0	+10
LZH				PP		12 14 20.4	
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,93nm,4.2s						
LZH				LR	LR		
	comp=N,655nm,10.5s						
LZH				LR	LR		
	comp=Z,876nm,12.6s,MS4.3						
KMI	**Kunming**	**21.80**	**270**	P	**P**	**12 13 57.0**	**+1.2**
KMI				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.4						
KMI				AMB	AMB		
	comp=Z,60nm,4.0s						
KMI				LR	LR		
	comp=N,514nm,11.9s,MS4.2						
KMI				LR	LR		
	comp=E,230nm,13.7s,MS4.2						
KMI				LR	LR		
	comp=Z,191nm,15.9s,MS3.6						
GTA	**Gaotai**	**25.57**	**305**	*e*P	**P**	**12 14 31.9**	**-0.7**
GTA				AP	pP	12 14 36.4	+1.8
GTA				XP	sP	12 14 39.6	+4.2
GTA				PP		12 15 14.7	
GTA				S	**S**	**12 19 02.8**	**+2.1**
GTA				XS	sS	12 19 09.3	+5.3
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.0						
GTA				AMB	AMB		
	comp=Z,73nm,6.1s						
GTA				LR	LR		
	comp=N,313nm,16.4s,MS4.0						
GTA				LR	LR		
	comp=E,194nm,16.8s,MS4.0						
GTA				LR	LR		
	comp=Z,148nm,14.5s,MS3.6						
SONM	**Songino Array**	**26.03**	**327**	P	**P**	**12 14 36.7**	**0.0**
	comp=Z,3.0nm,1.0s,mb3.8,baz=140,slow=9.8,SNR=15						
CMAR	**Chiang Mai Arr**	**27.19**	**257**	LR	LR	12 25 51.4	
	comp=Z,63nm,18.5s,MS3.2,baz=70,slow=37						
PETK	**Petropavlovsk-**	**34.42**	**33**	LR	LR	12 30 25.5	
	comp=Z,37nm,18.4s,MS3.1,baz=206,slow=37						
MK31	**Makanchi Array**	**39.96**	**311**	*e*P	**P**	**12 16 36.8**	**-1.2**
MKAR	**Makanchi Array**	**39.96**	**311**	P	**P**	**12 16 36.8**	**-1.3**
	comp=Z,1.9nm,0.7s,mb3.9,baz=101,slow=9.7,SNR=18						
ZALV	**Zalesovo Beam**	**40.70**	**323**	P	**P**	**12 16 43.1**	**-0.9**
	comp=Z,1.0nm,0.4s,mb3.8,baz=116,slow=6.8,SNR=4.5						
TKM2	**Tokmak 2**	**44.12**	**305**	*e*P	**P**	**12 17 12.7**	**+0.6**
	comp=Z,3.0nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**47.50**	**171**	P	**P**	**12 17 38.1**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.2,baz=352,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**51.11**	**172**	P	**P**	**12 18 06.4**	**0.0**
	comp=Z,2.0nm,0.9s,mb4.0,baz=360,slow=7.7,SNR=13						
NWAO	**Narrogin (SRO)**	**60.59**	**189**	LR	LR	12 45 25.4	
	comp=Z,117nm,20.4s,MS4.0,baz=96,slow=36						
GERES	**GERESS Array B**	**83.65**	**322**	LR	LR	13 01 44.9	
	comp=Z,42nm,19.2s,MS3.8,baz=261,slow=38						

*NIED **01** 12:14:00,2740N×12680E,h5km,Mw3.7 Best double*
couple: M0=4.70000×10^14 NP1:φs=53.00000°,δ52.00000°,
λ-91.00000°. NP2:φs=235.00000°,δ38.00000°,
λ-88.00000°.
*ISCJB **01** 12:14:52.0±1.7,2733N±005×12683E±006,h2km±10km,*
mb3.3/4,Error ellipse: s-maj=9.6km s-min=7.7km az=42.1
*JMA **01** 12:14:52.0±0.4,2737N×12679E,h9km,M3.5*
*IDC **01** 12:14:53.1±1.2,2741N×12708E,h0km,mb3.4/4,*
mb1 3.6/4,mb1mx3.5/21,mbtmp3.4/4,MS3.8/1,Ms1 3.8/1,
ms1mx2.8/22,Error ellipse: s-maj=48.2km s-min=18.9km
az=48.0

ISC 01 12:14:54.0±1.3,2729N±005×12688E±006,h7km±8km,n11,
σ0º76/17,mb3.3/4,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.77**	**155**	P	**Pg**	**12 15 08.7**	**-0.1**
JAGN				S	**Sg**	**12 15 19.8**	**+1.0**
JKE	**Kume jima 2**	**0.96**	**185**	P	**Pg**	**12 15 11.3**	**-1.2**
JKE				S	**Sg**	**12 15 25.4**	**+0.4**
JIH	**Iheya**	**1.00**	**104**	P	**Pg**	**12 15 12.4**	**-0.9**
JIH				*e*S	**Sg**	**12 15 27.6**	**+1.3**
NAH1	**Naha**	**1.30**	**146**	P	**Pn**	**12 15 18.2**	**-0.5**
NAH1				S	**Sb**	**12 15 35.4**	**-0.4**
JOW	**Kunigami**	**1.32**	**110**	P	**Pn**	**12 15 17.3**	**-1.7**
JOW				*e*S	**Sb**	**12 15 36.5**	**+0.1**
JOW	**Kunigami**	**1.32**	**110**	Pn	**Pn**	**12 15 17.6**	**-1.4**
	62nm,0.3s,baz=291,slow=11,SNR=61						
JJT2	**Tamagusuku 2**	**1.39**	**146**	P	**Pn**	**12 15 19.5**	**-0.3**
JJT2				S	**Sb**	**12 15 37.9**	**-0.3**
SONM	**Songino Array**	**26.01**	**327**	P	**P**	**12 20 27.9**	**+0.3**
	0.3nm,0.3s,mb3.3,baz=138,slow=9.2,SNR=4.2						
MKAR	**Makanchi Array**	**39.93**	**311**	P	**P**	**12 22 29.3**	**+0.5**
	0.3nm,0.6s,mb3.2,baz=101,slow=9.7,SNR=3.5						
WRA	**Warramunga Arr**	**47.50**	**170**	P	**P**	**12 23 30.7**	**+0.8**
	0.5nm,0.9s,mb3.6,baz=352,slow=8.5,SNR=3.3						
ASAR	**Alice Springs**	**51.11**	**172**	P	**P**	**12 23 58.2**	**+0.8**
	0.2nm,0.5s,mb3.3,baz=5.2,slow=7.6,SNR=5.2						

*ISCJB **01** 12:17:24.3±0.3,4368N±002×1341E±003,h13km±2km,*
Error ellipse: s-maj=3.3km s-min=2.8km az=176.6
*CSEM **01** 12:17:24.3±0.1,4368N×1340E,h17km,MD3.0/31,Error*
ellipse: s-maj=1.5km s-min=1.4km az=116.0
*NEIC **01** 12:17:25.0,4366N×1334E,h3km,ML3.0(ROM),*
ML3.1(LDG),After ROM.
NEIC Felt [III] at Ancona, Falconara Marittima and
Montemarciano.
*LDG **01** 12:17:25.3±0.2,4367N×1350E,h10km,Ml3.1/5,Error*
ellipse: s-maj=7.2km s-min=4.7km az=84.0
*ROM **01** 12:17:25.0±0.3,4367N×1337E,h6km±2km,Md3.0/31,*
Ml3.0/25,Error ellipse: s-maj=3.4km s-min=2.1km
az=173.0

ISC 01 12:17:25.3±0.3,4365N±002×1339E±003,h14km±2km,n64,
σ1º02/104,12C-9D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENI	**Senigallia**	**0.12**	**295**	⇓*i*Pg	**Pg**	**12 17 28.1**	**-0.6**
SENI				Sg	**Sg**	**12 17 30.2**	**-0.9**
AOI	**Ancona**	**0.19**	**123**	Pg	**Pg**	**12 17 29.5**	**-0.1**
AOI				Sg	**Sg**	**12 17 33.7**	**+1.1**
	4μm,0.1s						
CING	**Cingoli**	**0.31**	**207**	⇓*i*Pg	**Pg**	**12 17 31.9**	**+0.2**
CING				Sg	**Sg**	**12 17 37.8**	**+1.8**
	1μm,0.4s						
ARVD	**Arcevia**	**0.36**	**245**	⇓*i*Pg	**Pg**	**12 17 32.4**	**-0.2**
ARVD				Sg	**Sg**	**12 17 39.0**	**+1.5**
	891nm,0.8s						
FSSB	**Fossombrone**	**0.44**	**275**	⇓*i*Pg	**Pg**	**12 17 33.5**	**-0.7**
FSSB				Sg	**Sg**	**12 17 41.0**	**+0.9**
	2μm,0.5s						
PESA	**Pesaro**	**0.49**	**306**	Pg	**Pg**	**12 17 34.5**	**-0.5**
PESA				Sg	**Sg**	**12 17 42.6**	**+1.0**
	939nm,0.4s						
SNTG	**Esanatoglia**	**0.51**	**219**	⇓*i*Pg	**Pg**	**12 17 35.3**	**-0.2**
	220nm,0.2s						
PIEI	**Pieia**	**0.63**	**260**	Pg	**Pg**	**12 17 36.8**	**-0.8**
PIEI				Sg	**Sg**	**12 17 47.9**	**+1.9**
	548nm,0.4s						
MURB	**Monte Urbino**	**0.74**	**238**	Pg	**Pg**	**12 17 39.3**	**-0.4**
MURB				Sg	**Sg**	**12 17 51.8**	**+2.4**
	1μm,0.3s						
OFFI	**Offida**	**0.75**	**163**	Pg	**Pg**	**12 17 42.0**	**+2.1**
	3μm,0.5s						
ASS	**Assisi**	**0.80**	**223**	Pg	**Pg**	**12 17 40.3**	**-0.5**
	23nm,0.7s						
BADI	**Badiali**	**0.84**	**261**	Pg	**Pg**	**12 17 40.9**	**-0.8**
	61μm,13.0s						
NRCA	**Norcia**	**0.84**	**194**	Pg	**Pg**	**12 17 41.1**	**-0.6**
TERO	**Teramo**	**1.04**	**171**	Pg	**Pg**	**12 17 45.2**	**-0.2**
	558nm,0.6s						
LNSS	**Leonessa**	**1.08**	**194**	Pg	**Pg**	**12 17 46.0**	**-0.2**
	891nm,0.4s						
CAMP	**Campotosto**	**1.12**	**179**	Pg	**Pg**	**12 17 46.1**	**-0.8**
	94nm,0.6s						
SFI	**Santa Sofia**	**1.14**	**283**	Pg	**Pg**	**12 17 47.0**	**-0.4**
	72nm,0.4s						
AQU	**L'Aquila**	**1.30**	**180**	*e*Pg	**Pg**	**12 17 50.2**	**-0.1**
AQU	**L'Aquila**	**1.30**	**180**	*e*Pg	**Pg**	**12 17 50.2**	**-0.1**
AQU				*e*Sg	**Sg**	**12 18 12.1**	**+4.9**
VCEL	**Villa Celiera**	**1.30**	**165**	Pg	**Pg**	**12 17 50.7**	**+0.3**
	292nm,0.5s						
SACS	**San Casciano d**	**1.35**	**234**	Pg	**Pg**	**12 17 50.6**	**-0.6**
	193nm,0.6s						
MNS	**Montasola**	**1.37**	**202**	Pg	**Pg**	**12 17 51.7**	**0.0**
	243nm,0.5s						
FAGN	**Fagnano**	**1.39**	**174**	Pg	**Pg**	**12 17 51.6**	**-0.5**
	365nm,0.5s						
FIAM	**Fiamignano**	**1.40**	**188**	Pg	**Pg**	**12 17 50.7**	**-1.5**
	275nm,0.7s						
NVLJ	**Novalja**	**1.40**	**49**	*e*Pn	**Pn**	**12 17 50.1**	**-0.4**
NVLJ				Sg	**Sg**	**12 18 09.0**	**-1.6**
NVLJ	**Novalja**	**1.40**	**49**	*e*Pn	**Pn**	**12 17 50.1**	**-0.4**
NVLJ				Sg	**Sg**	**12 18 08.9**	**-1.7**
CSNT	**Castellina Chi**	**1.53**	**264**	Pg	**Pg**	**12 17 54.6**	**-0.2**
	182nm,1.1s						
LATE	**Laterza**	**1.56**	**229**	Pg	**Pg**	**12 17 54.6**	**-0.6**
	18nm,0.5s						
ARCI	**Arcidosso**	**1.61**	**241**	Pg	**Pg**	**12 17 56.0**	**-0.3**
	66nm,0.9s						
INTR	**Introdacqua**	**1.68**	**167**	Pg	**Pb**	**12 17 55.7**	**-0.4**
	211nm,0.7s						
CERT	**Cerreto**	**1.73**	**190**	Pg	**Pb**	**12 17 56.4**	**-0.5**
	159nm,0.8s						
CRMI	**Carmignano**	**1.76**	**275**	Pg	**Pb**	**12 17 57.2**	**-0.1**
	65nm,1.0s						
VVLD	**Villa Vallelon**	**1.79**	**174**	Pg	**Pb**	**12 17 57.7**	**-0.2**
	191nm,0.7s						
PZZT	**Monte Pizzetto**	**1.89**	**286**	Pg	**Pn**	**12 17 58.9**	**+1.8**
	66nm,0.6s						
SDI	**San Donato**	**1.97**	**171**	Pg	**Pb**	**12 18 00.2**	**-0.7**
	26nm,0.4s						
KNDS	**Knezji Dol**	**2.00**	**20**	*e*Pn	**Pn**	**12 17 59.0**	**+0.3**
KNDS				*e*Sn	**Sn**	**12 18 25.0**	**+1.4**
PII	**Pisa**	**2.08**	**273**	Pg	**Pg**	**12 18 01.4**	**-3.8**
	35nm,0.6s						
VISS	**Visnje**	**2.39**	**25**	*e*Pn	**Pn**	**12 18 06.2**	**+2.2**
VISS				*e*Sn	**Sn**	**12 18 35.3**	**+2.2**
VISS							
	comp=Z,33nm,0.4s						
VISS	**Visnje**	**2.39**	**25**	*e*Pn	**Pn**	**12 18 06.2**	**+2.2**
VISS				*e*Sn	**Sn**	**12 18 35.3**	**+2.3**
VISS	**Visnje**	**2.39**	**25**	*e*Pn	**Pn**	**12 18 06.2**	**+2.2**
VISS				*e*Sn	**Sn**	**12 18 35.3**	**+2.2**
VOY	**Vojsko**	**2.41**	**8**	*e*Pn	**Pn**	**12 18 04.3**	**0.0**
VOY				*e*Pg	**Pg**	**12 18 09.8**	**-1.6**
VOY				*e*Sn	**Sn**	**12 18 33.3**	**-0.2**
DRE	**Drenchia**	**2.53**	**4**	⇓*i*Pn	**Pn**	**12 18 05.3**	**-0.6**
DRE				*i* Sn	**Sn**	**12 18 35.7**	**-0.8**
BUA	**Buia**	**2.57**	**356**	⇓*i*Pn	**Pn**	**12 18 06.3**	**-0.2**
BAD	**Bernadia**	**2.58**	**358**	*e*Pn	**Pn**	**12 18 06.3**	**-0.4**
BAD				*e*Sn	**Sn**	**12 18 35.5**	**-2.5**
PTCC	**Patocco-Chiusa**	**2.75**	**360**	Pg	**Pn**	**12 18 08.7**	**-0.3**
OBKA	**Obir**	**2.97**	**16**	⇑*i*Pn	**Pn**	**12 18 12.8**	**+0.7**
OBKA				⇑*i*Sn	**Sn**	**12 18 48.4**	**+0.9**
OBKA				⇑*i*Sg	**Sg**	**12 19 00.0**	**-0.7**
	comp=Z,68nm,0.6s						
OBKA	**Obir**	**2.97**	**16**	Pn	**Pn**	**12 18 12.8**	**+0.8**
OBKA				Sn	**Sn**	**12 18 48.4**	**+0.9**
OBKA				Sg	**Sg**	**12 19 00.0**	**-0.8**
MYKA	**Terra Mystica**	**2.98**	**3**	⇑*i*Pn	**Pn**	**12 18 12.1**	**-0.1**
MYKA				⇑*i*Sn	**Sn**	**12 18 48.6**	**+0.8**
MYKA				⇓*i*Sg	**Sg**	**12 19 02.9**	**+1.8**
	comp=Z,14nm,0.4s						
PGF	**Pioggiola**	**3.40**	**253**	*e*Pn	**Pn**	**12 18 19.7**	**+1.8**
PGF				*e*Sn	**Sn**	**12 18 56.3**	**-1.7**
	comp=Z,4.7nm,0.6s						
PGF	**Pioggiola**	**3.40**	**253**	*e*Pn	**Pn**	**12 18 19.7**	**+1.8**
PGF				*e*Sn	**Sn**	**12 18 56.3**	**-1.7**
	comp=Z,2.3nm,0.6s						
KBA	**Koelnbreinsper**	**3.43**	**360**	⇑*i*Pn	**Pn**	**12 18 19.0**	**+0.7**
KBA				⇑*i*Sn	**Sn**	**12 18 59.1**	**+0.4**
TREB	**Trebinje**	**3.75**	**103**	*e*Pn	**Pn**	**12 18 23.8**	**+1.1**
TREB				*e*Sn	**Sn**	**12 19 05.2**	**-1.4**
FETA	**Feichten**	**3.85**	**332**	⇑*i*Pn	**Pn**	**12 18 24.6**	**+0.4**
FETA				⇑*i*Sn	**Sn**	**12 19 09.9**	**+0.7**
MOA	**Molln**	**4.24**	**8**	⇓*i*Pn	**Pn**	**12 18 29.4**	**-0.1**
MOA				⇑*i*Sn	**Sn**	**12 19 19.0**	**+0.3**
CONA	**Conrad Observa**	**4.61**	**21**	⇑*i*Pn	**Pn**	**12 18 34.7**	**+0.2**
CONA				⇑*i*Sn	**Sn**	**12 19 27.2**	**-0.7**
DIVS	**Divibare**	**4.80**	**82**	*e*Pn	**Pn**	**12 18 39.5**	**+2.4**
DIVS				*e*Sn	**Sn**	**12 19 33.1**	**+0.7**
MBDF	**Montbardon**	**4.88**	**285**	*e*Sn	**Sn**	**12 19 31.1**	**-3.3**
	comp=Z,1.4nm,0.3s						
LMR	**La Mourre**	**5.01**	**269**	*e*Pn	**Pn**	**12 18 39.7**	**-0.4**
KHC	**Kasperske Hory**	**5.48**	**1**	*e*PN	**Pn**	**12 18 45.8**	**-0.7**
KHC				*e*PG	**Pg**	**12 19 10.0**	**-0.2**
KHC				*ex*	x	12 19 28.5	
KHC				*e*SN	**Sn**	**12 19 46.5**	**-2.8**
KHC				*e*SG	**Sg**	**12 20 29.0**	**+7.8**
KHC	**Kasperske Hory**	**5.48**	**1**	*e*Pn	**Pn**	**12 18 45.8**	**-0.7**
KHC				*e*		12 19 10.0	
KHC				*e*Sn	**Sn**	**12 19 46.5**	**-2.8**
KHC				*e*		12 20 29.0	
HINF	**Hinteralfeld**	**6.18**	**315**	*e*Pn	**Pn**	**12 18 56.5**	**+0.4**
HINF				*e*Sn	**Sn**	**12 20 02.5**	**-4.1**
	comp=Z,7.6nm,0.4s						
CDF	**Champ du Feu**	**6.38**	**320**	*e*Pn	**Pn**	**12 18 58.6**	**-0.3**
CDF				*e*Sn	**Sn**	**12 20 06.8**	**-4.7**
	comp=Z,2.1nm,0.3s						
HAU	**Haudompre**	**6.57**	**314**	*e*Pn	**Pn**	**12 19 01.2**	**-0.2**
HAU				*e*Sn	**Sn**	**12 20 11.2**	**-4.8**
	comp=Z,12nm,0.4s						
LIKS	**Likavka**	**6.69**	**34**	*i* PG	**Pg**	**12 19 28.0**	**-5.4**

*CSEM **01** 12:46:57.1,6390N×2223W,h8km,ML3.8,After REY*

REY 01 12:46:57.1,6390N×2223W,h8km,ML3.8,ML3.2,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRI	**Krysuvik**	**0.07**	**107**	P	Pg	12 46 59.0	0.0
IKRI				S	Sg	12 47 00.4	+0.1
IVOG	**Vogar**	**0.10**	**315**	P	Pg	12 46 59.5	+0.1
IGRV	**Grindav??k**	**0.11**	**247**	P	Pg	12 46 59.6	+0.1
IGRV				S	Sg	12 47 01.5	+0.4
IKAS	**Kald??rsel**	**0.21**	**54**	P	Pg	12 47 01.4	+0.1
IKAS				S	Sg	12 47 04.7	+0.6
INYL	**Nylenda**	**0.23**	**289**	P	Pg	12 47 01.7	-0.1
INYL				S	Sg	12 47 05.2	+0.3
IVOS	**Vogsosar**	**0.24**	**101**	P	Pg	12 47 01.9	+0.1
IVOS				S	Sg	12 47 05.6	+0.6
ISAN	**Sandskeio**	**0.33**	**62**	P	Pg	12 47 03.4	-0.2
ISAN				S	Sg	12 47 08.3	+0.3
IBJA	**Bjarnastaoir**	**0.41**	**83**	P	Pg	12 47 04.9	-0.2
IBJA				S	Sg	12 47 10.7	+0.2
IKUD	**Kuludalsa**	**0.45**	**20**	P	Pg	12 47 05.1	-0.7
IKUD				S	Sg	12 47 11.1	-0.6
IKRO	**Krokur**	**0.53**	**67**	P	Pg	12 47 06.5	-0.8
IKRO				S	Sg	12 47 14.1	-0.1
IHEI	**Heioarbar**	**0.53**	**55**	P	Pg	12 47 06.5	-0.9
IHEI				S	Sg	12 47 14.1	-0.2
ISOL	**Solvholt**	**0.57**	**86**	P	Pg	12 47 07.3	-0.8
ISOL				S	Sg	12 47 15.1	-0.4
IASM	**Asmuli**	**0.72**	**95**	P	Pg	12 47 09.8	-1.1
IASM				S	Sg	12 47 19.6	-0.7
ISAU	**Saurbar**	**0.81**	**83**	P	Pg	12 47 11.3	-1.3
ISAU				S	Sg	12 47 22.3	-0.8
IASB	**`sbjarnarst**	**0.94**	**25**	P	Pg	12 47 13.0	-2.1
IASB				S	Sg	12 47 25.7	-1.6
IGYG	**Gygjarholskot**	**0.97**	**66**	P	Pg	12 47 13.6	-2.0
IGYG				S	Sg	12 47 26.6	-1.5
IVES	**Vestmannaeyjar**	**0.98**	**117**	P	Pg	12 47 13.8	-2.1
IVES				S	Sg	12 47 26.5	-2.1
IHAU	**Haukadalur**	**1.00**	**85**	P	Pg	12 47 14.4	-1.9
IHAU				S	Sg	12 47 28.1	-1.3
IMID	**Miomork**	**1.07**	**102**	P	Pg	12 47 15.3	-2.3
IMID				S	Sg	12 47 29.5	-2.0
IESK	**Eystri-Skogar**	**1.29**	**106**	P	Pn	12 47 18.1	-3.4
IESK				S	Sb	12 47 34.4	-4.0
IVAT	**Vatnsfell**	**1.49**	**77**	P	Pn	12 47 22.4	-1.7
IVAT				S	Sn	12 47 42.7	-1.0
IHVE	**Hveravellir**	**1.51**	**49**	P	Pn	12 47 22.2	-2.3
IHVE				S	Sn	12 47 43.1	-1.3
IHVO	**Lagu-Hvolar**	**1.55**	**102**	P	Pn	12 47 22.7	-2.3
ISNB	**Snabyli**	**1.61**	**94**	P	Pn	12 47 23.6	-2.2
ISNB				S	Sn	12 47 43.8	-2.9
ISKR	**Skrokkalda**	**1.81**	**67**	P	Pn	12 47 26.8	-1.7
IKAL	**Kalfafell**	**2.01**	**87**	P	Pn	12 47 30.6	-0.7
IHRN	**Hraun**	**2.39**	**21**	S	Sn	12 48 07.2	+1.1
IFAG	**Fagurholsmyri**	**2.47**	**88**	P	Pn	12 47 37.5	-0.1
IFAG				S	Sn	12 48 08.6	+0.7
ISVA	**Svartarkot**	**2.58**	**54**	P	Pn	12 47 39.7	+0.5
IHLA	**Hella**	**2.63**	**37**	P	Pn	12 47 40.0	+0.2
IHLA				S	Sn	12 48 12.6	+0.8
ISIG	**Siglufjorour**	**2.65**	**31**	P	Pn	12 47 39.8	-0.3
ISIG				S	Sn	12 48 14.6	+2.3
IBRU	**Bruarjokull**	**2.83**	**68**	P	Pn	12 47 43.5	+0.9
IGRA	**Granastaoir**	**2.84**	**42**	P	Pn	12 47 42.7	+0.1

*ISCJB **01** 12:55:18.4±0.4,2311N±001×12130E±002,h6km±2km,*
Error ellipse: s-maj=2.6km s-min=2.2km az=31.3
*JMA **01** 12:55:19.2±0.3,2309N×12125E,h89km,M2.8*
*TAP **01** 12:55:19.0,23.15N×12120E,h8km,ML3.7*
TAP Felt I J at Tauyuan, I J at Hungye, II J at Lidau, I J at
Chenggung.

ISC 01 12:55:18.7±0.3,2311N±001×12131E±002,h5km±3km,n65,
σ1º01/116,11C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.06**	**103**	⇑*i*P	**Pg**	**12 55 23.7**	**+3.6**
CHKT				S	**Sg**	**12 55 27.6**	**+6.6**
TWF1	**Yuli**	**0.24**	**358**	⇑*i*P	**Pg**	**12 55 23.9**	**+0.5**
TWF1				S	**Sg**	**12 55 26.8**	**+0.3**
ELDTW	**Lidau**	**0.28**	**286**	⇑*i*P	**Pg**	**12 55 23.1**	**-1.0**
ELDTW				S	**Sg**	**12 55 25.6**	**-2.1**
TWG	**Pinlang**	**0.36**	**217**	⇓*i*P	**Pg**	**12 55 26.1**	**+0.4**
TWG				S	**Sg**	**12 55 31.4**	**+1.1**
TTN	**Taitung**	**0.39**	**202**	*e*P	**Pg**	**12 55 28.

WTCT			S		Sg	12 55 57.1	-0.3
HEN	**Hengchun**	**1.22 206**	*e*P		**Pg**	**12 55 42.9**	**+0.8**
HEN			S		**Sg**	**12 55 59.8**	**+1.8**
TWK1	**Hengchun**	**1.25 202**	*e*P		**Pg**	**12 55 43.2**	**+0.5**
TWK1			S		**Sg**	**12 55 59.9**	**+1.0**
TSEB	**Hengchuen, Pin**	**1.26 197**	*e*P		**Pg**	**12 55 41.8**	**-1.2**
NNS	**Nan Shan**	**1.32 3**	P		**Pn**	**12 55 43.5**	**-0.4**
NNS			S		**Sb**	**12 56 00.8**	**-0.5**
TWQ1	**Liyutan**	**1.32 338**	*i* P		**Pn**	**12 55 44.2**	**+0.3**
TWQ1			S		**Sb**	**12 56 02.1**	**+0.7**
NSY	**Sanyi**	**1.39 339**	P		**Pn**	**12 55 45.4**	**+0.6**
NSY			S		**Sb**	**12 56 03.6**	**+0.4**
NSTT	**Nanjuang**	**1.54 350**	P		**Pn**	**12 55 47.2**	**+0.4**
NSTT			S		**Sn**	**12 56 07.7**	**+0.5**
ENTT	**Nioudou**	**1.54 9**	P		**Pn**	**12 55 47.1**	**+0.2**
ENTT			S		**Sn**	**12 56 06.9**	**-0.3**
NSK	**Sanguang**	**1.56 2**	*e*P		**Pn**	**12 55 47.5**	**+0.5**
NSK			S		**Sn**	**12 56 06.0**	**-1.7**
TWE	**Neicheng**	**1.64 12**	*e*P		**Pn**	**12 55 49.4**	**+1.2**
TWE			S		**Sn**	**12 56 11.1**	**+1.4**
PNG	**Penghu**	**1.67 286**	*e*P		**Pn**	**12 55 47.4**	**-1.2**
PNG			S		**Sn**	**12 56 07.8**	**-2.7**
EGS		**1.82 18**	*e*P		**Pn**	**12 55 52.1**	**+1.4**
TWA	**Mucha**	**1.88 8**	*e*P		**Pn**	**12 55 53.0**	**+1.5**
TWA			S		**Sn**	**12 56 17.5**	**+1.9**
TWS1	**Kuangyinshan**	**1.98 3**	*e*P		**Pn**	**12 55 55.4**	**+2.4**
TWS1			S		**Sn**	**12 56 21.0**	**+2.8**
TWB1	**Santiao Chiao**	**1.99 18**	*e*P		**Pn**	**12 55 54.5**	**+1.5**
NWF	**Wu-fen Shan**	**2.00 12**	*e*P		**Pn**	**12 55 54.5**	**+1.3**
YOJ	**Yonaguni jima**	**2.06 49**	P		**Pn**	**12 55 53.4**	**-0.6**
YOJ			*e*S		**Sn**	**12 56 19.5**	**-0.6**
YOJ	**Yonaguni jima**	**2.06 49**	*i* P		**Pn**	**12 55 53.2**	**-0.8**
YOJ			S		**Sn**	**12 56 19.0**	**-1.1**
TWY	**Chenhua**	**2.17 7**	*e*P		**Pn**	**12 55 57.6**	**+2.1**
HATJ	**Hateruma jima**	**2.48 67**	P		**Pn**	**12 55 59.1**	**-0.7**
HATJ			*e*S		**Sn**	**12 56 28.7**	**-1.7**
IRIF	**Iriomote-Funau**	**2.53 61**	P		**Pn**	**12 56 00.0**	**-0.5**
IRIF			*e*S		**Sn**	**12 56 31.2**	**-0.6**
JKRS	**Kuro-shima**	**2.72 65**	P		**Pn**	**12 56 02.7**	**-0.4**
JKRS			*e*S		**Sn**	**12 56 35.9**	**-0.5**
JIJ	**Ishigaki jima**	**2.88 64**	P		**Pn**	**12 56 04.8**	**-0.5**
JIJ			*e*S		**Sn**	**12 56 38.5**	**-1.9**
JTJ	**Tarama**	**3.46 63**	P		**Pn**	**12 56 12.3**	**-1.0**
JTJ			S		**Sn**	**12 56 53.8**	**-0.9**

*IDC **01** 13:36:54.8±1.8, 4660N×14169E, h307km±18km, mb2.8/5, mb1 3.2/7, mb1mx3.0/21, mbtmp2.9/7, Error ellipse: s-maj=25.1km s-min=21.9km az=134.0*
*NEIC **01** 13:36:57.6±0.8, 4653N×14159E, h339km±8km, Error ellipse: s-maj=24.3km s-min=14.4km az=121.0*
*ISCJB **01** 13:36:58.2±0.5, 4578N±006×1435E±0.1, h322km±4km, mb3.3/4, Error ellipse: s-maj=12.9km s-min=9.5km az=177.7*
*JMA **01** 13:36:58.0±0.4, 4581N×14347E, h330km±4km, M3.5*
*MOS **01** 13:36:58.1±0.5, 4594N×14321E, h326km, mb3.7/1, Error ellipse: s-maj=99.9km s-min=34.7km az=80.3*

ISC 01 13:36:59.1±0.5,**4576N**±006×**1436E**±01,**h316**km±4km,**n28,** σ1§**03**/38,**mb3.3**/4,**1D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**1.06**	**221**	P	**Pn**	**13 37 41.6**	**+0.2**
JWK2	**Keihoku**	**1.25**	**250**	P	**Pn**	**13 37 42.8**	**+0.4**
JWK2				*e*S	**S**	**13 38 17.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**1.32**	**335**	||*i* PN	**Pn**	**13 37 41.9**	**-0.7**
YSS				*e*S	**S**	**13 38 14.6**	**-2.7**
YSS				pmax	pmax		
	comp=Z,60nm,0.3s						
YSS				smax			
	comp=N,180nm,1.0s						
YSS				smax			
	comp=E,50nm,0.9s						
YSS	**Yuzh-Sakhalins**	**1.32**	**335**	*e*Pn	**Pn**	**13 37 42.1**	**-0.5**
JRR	**Rishiri**	**1.70**	**249**	P	**Pn**	**13 37 45.0**	**-0.1**
ASAJ	**Asahikawa**	**1.78**	**203**	P	**Pn**	**13 37 46.8**	**+1.0**
	comp=E,11nm,0.3s,baz=20,slow=5.0,SNR=119						
ASAJ	**Asahikawa**	**1.78**	**203**	PN	**Pn**	**13 37 46.8**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
JTKR	**Abashiri--Toko**	**1.81**	**172**	P	**Pn**	**13 37 46.9**	**+1.0**
JTKR				*e*S	**S**	**13 38 25.5**	**+2.2**
JKK2	**Kamakawa 2**	**1.98**	**197**	P	**Pn**	**13 37 48.1**	**+1.0**
JRA	**Rausu**	**2.14**	**148**	P	**Pn**	**13 37 49.7**	**+1.3**
JHR	**Hokuryu**	**2.41**	**214**	P	**Pn**	**13 37 51.3**	**+0.7**
JAR	**Ashorobuto**	**2.47**	**176**	P	**Pn**	**13 37 52.3**	**+1.1**
JAR				*e*S	**S**	**13 38 34.2**	**+1.5**
JFR	**Furan**	**2.69**	**195**	P	**Pn**	**13 37 54.0**	**+0.9**
NEM2	**Nemuro 2**	**2.86**	**146**	P	**Pn**	**13 37 53.5**	**-1.2**
NEM2				*e*S	**S**	**13 38 37.5**	**-1.6**
JAK	**Akkeshi**	**2.88**	**163**	P	**Pn**	**13 37 54.5**	**-0.4**
JAK				*e*S	**S**	**13 38 39.3**	**-0.2**
JCH	**Churui**	**3.15**	**183**	P	**Pn**	**13 37 56.9**	**-0.6**
JCH				*e*S	**S**	**13 38 42.0**	**-2.2**
JEW	**Eniwo**	**3.29**	**208**	P	**Pn**	**13 37 59.9**	**+1.1**
JNBK	**Urakawa-nobuka**	**3.53**	**190**	P	**Pn**	**13 38 01.0**	**-0.3**
JNBK				*e*S	**S**	**13 38 50.6**	**-0.5**
JKB	**Kayabe**	**4.28**	**206**	P	**Pn**	**13 38 08.6**	**-0.7**
JKB				*e*S	**S**	**13 39 03.6**	**-2.0**
JOSM	**Okushiri--Mats**	**4.71**	**220**	P	**Pn**	**13 38 13.6**	**-0.4**
JOT	**Ohata**	**4.74**	**203**	P	**Pn**	**13 38 13.4**	**-1.0**
JOT				*e*S	**S**	**13 39 10.0**	**-4.9**
MJAR	**Matsushiro Arr**	**10.05**	**205**	P	**Pn**	**13 39 18.3**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=5.3,slow=12,SNR=6.6						
MJAR	**Matsushiro Arr**	**10.05**	**205**	PN	**Pn**	**13 39 18.3**	**+0.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**65.92**	**190**	P	**P**	**13 47 11.7**	**-0.1**
	comp=Z,0.3nm,0.8s,mb3.1,baz=7.0,slow=6.7,SNR=4.8						
NVAR	**Mina Array Bea**	**68.64**	**57**	P	**P**	**13 47 28.9**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.3,baz=309,slow=5.7,SNR=4.1						
ASAR	**Alice Springs**	**69.65**	**189**	P	**P**	**13 47 35.6**	**+0.8**
	comp=Z,0.5nm,1.1s,mb3.2,baz=8.6,slow=4.5,SNR=4.4						
BW06	**Boulder Array**	**70.53**	**48**	*e*P	**P**	**13 47 39.0**	**-0.9**
PDAR	**Pinedale Array**	**70.53**	**48**	P	**P**	**13 47 39.6**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.5,baz=11,slow=9.5,SNR=4.5						

*ISCJB **01** 13:45:13.7±2.5, 238S±0.1×1789W±0.2, h416km±38km, mb3.7/8, Error ellipse: s-maj=25.9km s-min=13.3km az=36.1*
*IDC **01** 13:45:17.9±6.4, 2395S×179.18W, h429km±67km, mb3.4/8, mb1 3.5/9, mb1mx3.4/18, mbtmp3.4/9, Error ellipse: s-maj=36.4km s-min=22.6km az=52.0*
*NEIC **01** 13:45:18.7±1.1, 2392S×17907W, h455km±17km, mb4.3/2, Error ellipse: s-maj=17.1km s-min=12.7km az=125.0*

ISC 01 13:45:17.9±1.5,**239S**±01×**1790W**±02,**h444**km±23km,**n20,** σ0§**98**/20,**mb3.7**/8,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.08**	**36**	P	**P**	**13 47 55.3**	**-2.6**
	0.8nm,0.3s,baz=41,slow=17,SNR=2.1						
AFI				S	**S**	**13 50 01.4**	**-8.5**
	0.6nm,0.3s,baz=76,slow=20,SNR=2.5						
AFI	**Afiamalu**	**12.08**	**36**	*e*P	**P**	**13 47 58.8**	**+0.9**
AFI				S	**S**	**13 50 01.4**	**-8.5**
DZM	**Mont Dzumac**	**13.49**	**275**	P	**P**	**13 48 13.5**	**+0.4**
URZ	**Urewera**	**14.68**	**192**	P	**P**	**13 48 26.8**	**+1.2**
	2.0nm,0.3s,baz=336,slow=5.6,SNR=10						
RPZ	**Rata Peaks**	**21.38**	**200**	P	**P**	**13 49 30.8**	**-1.2**
	5.6nm,0.7s,mb4.1,baz=20,slow=17,SNR=8.4						
CTA	**Charters Tower**	**32.35**	**270**	*e*P	**P**	**13 51 09.5**	**+0.3**
	12nm,0.5s,mb4.5						
CTA	**Charters Tower**	**32.35**	**270**	P	**P**	**13 51 09.5**	**+0.3**
	14nm,0.5s,mb4.5,baz=98,slow=10,SNR=43						
CTAO	**Charters Tower**	**32.35**	**270**	*e*P	**P**	**13 51 09.3**	**+0.1**
STKA	**Stephens Creek**	**35.54**	**248**	P	**P**	**13 51 36.3**	**+0.3**
	3.2nm,0.8s,mb3.7,baz=140,slow=8.3,SNR=6.2						
STKA	**Stephens Creek**	**35.54**	**248**	*e*P	**P**	**13 51 36.7**	**+0.7**
ASAR	**Alice Springs**	**42.90**	**260**	P	**P**	**13 52 35.9**	**-0.1**
	1.1nm,0.7s,mb3.3,baz=100,slow=7.3,SNR=22						
WB2	**Warramunga Arr**	**43.27**	**266**	*e*P	**P**	**13 52 38.0**	**-1.0**
WRAB	**Tennant Creek**	**43.27**	**266**	*e*P	**P**	**13 52 38.3**	**-0.7**
WRA	**Warramunga Arr**	**43.28**	**266**	P	**P**	**13 52 38.4**	**-0.7**
	3.0nm,0.5s,mb3.9,baz=97,slow=8.4,SNR=59						
FITZ	**Fitzroy Crossi**	**51.70**	**265**	*e*P	**P**	**13 53 43.1**	**+0.3**
	4.6nm,0.7s,mb3.8						
FITZ	**Fitzroy Crossi**	**51.70**	**265**	P	**P**	**13 53 43.5**	**+0.7**
	2.2nm,0.6s,mb3.5,baz=115,slow=4.4,SNR=9.5						
KSRS	**Korea Array**	**78.81**	**320**	P	**P**	**13 56 33.7**	**+0.1**
	0.9nm,0.7s,mb3.5,baz=140,slow=7.6,SNR=2.8						
PETK	**Petropavlovsk-**	**79.31**	**346**	P	**P**	**13 56 38.2**	**+2.4**
	0.4nm,0.7s,mb3.2,baz=126,slow=7.3,SNR=3.8						
AKASG	**Malin Array Be**	**145.44**	**328**	PKPbc	PKPbc	14 04 05.4	+0.3
	0.2nm,0.3s,baz=43,slow=4.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**169.28**	**184**	PKPab	PKPab	14 05 50.9	+1.9
	0.3nm,0.7s,baz=151,slow=3.3,SNR=2.3						

*CSEM **01** 14:36:25.9±0.2, 3998N×3535E, h10km, MD2.7, Error ellipse: s-maj=4.1km s-min=3.4km az=38.0*
*ISK **01** 14:36:26.2, 3998N×3535E, h13km, MD2.8*
*ISCJB **01** 14:36:27.3±0.9, 3999N±004×3532E±007, h7km±9km, Error ellipse: s-maj=9.3km s-min=6.0km az=164.2*
*DDA **01** 14:36:27.2, 3990N×3537E, h7km±1km, Md2.7*

ISC 01 14:36:27.5±0.9,**3998N**±004×**3535E**±008,**h11**km±8km,**n8,** σ0§**86**/13,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.34**	**184**	*e*PG	**Pg**	**14 36 33.4**	**-0.8**
YOZ				*e*SG	**Sg**	**14 36 39.0**	**+0.3**
CORM	**Corum**	**0.59**	**290**	*e*PG	**Pg**	**14 36 38.2**	**-0.7**
CTKT	**Corum**	**0.78**	**327**	*i* P	**Pg**	**14 36 43.7**	**+1.2**
CTKT				*i* S	**Sg**	**14 36 53.0**	**+0.4**
CDAG	**Cicekdag**	**0.83**	**245**	*i* P	**Pg**	**14 36 42.8**	**-0.7**
CDAG				*i* S	**Sg**	**14 36 54.8**	**+0.5**
AVNT	**Avonos**	**1.25**	**198**	*i* P	**Pn**	**14 36 49.8**	**-1.0**
AVNT				*i* S	**Sb**	**14 37 08.1**	**+0.9**
SVSK	**Karacayir**	**1.27**	**92**	*e*PN	**Pn**	**14 36 50.2**	**-0.8**
KAMT	**Kaman**	**1.40**	**245**	*e*PN	**Pn**	**14 36 52.0**	**-0.8**
PINB	**Pinarbasi**	**1.53**	**147**	*i* P	**Pn**	**14 36 55.9**	**+1.2**
PINB				*i* S	**Sn**	**14 37 18.5**	**+4.0**

*NEIC **01** 14:37:02.5, 16.10N×9760W, h20km, MD3.9(MEX), After MEX.*

MEX 01 14:37:02.3±0.8,**1609N×9760W,h17**km±53km,**MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.59**	**301**	*i* P	Pg	14 37 11.9	-2.1
PNIG				*i* S	Sg	14 37 19.7	-2.3
VHO	**Vista Hermosa**	**1.28**	**40**	*i* P	Pn	14 37 22.0	-3.5
VHO				*i* S	Sb	14 37 37.1	-5.1
OXX	**Oaxaca**	**1.29**	**40**	*i* P	Pn	14 37 23.0	-2.6
OXX				*i* S	Sb	14 37 37.5	-5.1
HUIG	**Huatulco**	**1.47**	**102**	*i* P	Pn	14 37 24.5	-3.5
HUIG				*i* S	Sn	14 37 42.0	-4.8
UTMO	**Huajuapan**	**1.74**	**353**	*i* P	Pn	14 37 29.5	-2.3
UTMO				*i* S	Sn	14 37 49.3	-4.4
ACX	**Acapulco**	**2.36**	**290**	*i* P	Pn	14 37 42.8	+2.5
ACX				*i* S	Sn	14 38 07.5	-1.3
MEIG	**Mezcala**	**2.66**	**314**	*i* P	Pn	14 37 47.1	+2.7
MEIG				*i* S	Sn	14 38 13.6	-2.8
CAIG	**El Cayaco**	**2.73**	**291**	*i* S	Sn	14 38 16.1	-2.0
CAIG	**El Cayaco**	**2.73**	**291**	*i* S	Sn	14 38 27.2	+9.1
CMIG	**Matias Romero**	**2.79**	**69**	*i* P	Pn	14 37 43.7	-2.5
CMIG				*i* S	Sn	14 38 15.8	-3.6
PPM	**Popocatepetl**	**3.12**	**342**	*i* P	Pn	14 37 52.7	+1.9
PPM				*i* S	Sn	14 38 25.3	-2.4
PPM	**Popocatepetl**	**3.12**	**342**	*i* P	Pn	14 37 55.4	+4.6
PPM				*i* S	Sn	14 38 37.6	+10
IIO	**Organos**	**3.65**	**343**	*i* P	Pn	14 37 54.4	-3.6
TGIG		**4.35**	**80**	*i* P	Pn	14 38 05.0	-2.6
TGIG				*i* S	Sn	14 38 55.4	-2.6

*ISCJB **01** 14:45:03.6±0.6, 3189N±005×4944E±005, h10km, Error ellipse: s-maj=6.8km s-min=6.4km az=141.2*
*CSEM **01** 14:45:03.3±0.1, 3180N×4936E, h30km, ML3.2, Error ellipse: s-maj=3.0km s-min=2.5km az=104.0*
*THR **01** 14:45:04.1±1.6, 3184N×4935E, h33km±11km, ML3.2*
*SGS **01** 14:45:04.3, 3189N×4930E, h7km*

ISC 01 14:45:04.4±0.5,**3192N**±004×**4944E**±005,**h10**km,**n18,** σ1§**11**/24,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.57**	**289**	*e*Pg	**Pg**	**14 45 14.9**	**-0.6**
SHGR				*e*Sg	**Sg**	**14 45 23.5**	**+0.4**
SHGR				AML	AML	14 45 29.4	
	comp=N,830nm,0.7s						
SHGR				AML	AML	14 45 36.0	
	comp=E,972nm,0.6s						
SHGR	**Shooshtar-Gavs**	**0.57**	**289**	*e*Pg	**Pg**	**14 45 14.9**	**-0.6**
SNR=114							
SHGR				*e*Sg	**Sg**	**14 45 23.5**	**+0.5**
	comp=E,972nm,0.6s,SNR=114						
ASAO	**Ashtian**	**2.67**	**10**	*e*Pn	**Pn**	**14 45 48.9**	**+1.5**
ASAO				*e*Sg	**Sg**	**14 46 28.8**	**-1.3**
ASAO				AML	AML	14 46 38.4	
	comp=N,130nm,0.7s						
ASAO				AML	AML	14 46 40.3	
	comp=E,80nm,0.6s						
ASAO	**Ashtian**	**2.67**	**10**	*e*Pn	**Pn**	**14 45 48.9**	**+1.5**
SNR=54							
ASAO				*e*Sg	**Sg**	**14 46 28.8**	**-1.3**
SNR=93							
MIB	**Mutribah**	**2.78**	**221**	*e*P	**Pn**	**14 45 49.0**	**+0.1**
baz=221							
MIB				AML	AML	14 46 33.6	
	comp=Z,38nm,0.5s,baz=221						
UMR	**Umm Al-Rimmam**	**2.79**	**213**	*e*P	**Pn**	**14 45 49.0**	**-0.1**
baz=213							
UMR				AML	AML	14 46 31.8	
	comp=Z,56nm,0.4s,baz=213						
NASN	**Na'in**	**2.98**	**72**	*e*Pn	**Pn**	**14 45 52.4**	**+0.7**
GHVR	**GHOM**	**2.99**	**31**	*e*Pn	**Pn**	**14 45 53.4**	**+1.6**
GHVR				*e*Sg	**Sg**	**14 46 37.8**	**-2.6**
GHVR				AML	AML	14 46 45.8	
	comp=N,98nm,0.9s						
GHVR				AML	AML	14 46 49.2	
	comp=E,79nm,0.5s						
GHVR	**GHOM**	**2.99**	**31**	*e*Pn	**Pn**	**14 45 53.4**	**+1.6**
SNR=54							
GHVR				*e*Sg	**Sg**	**14 46 37.8**	**-2.7**
SNR=93							
NAY	**Al-Naaiem**	**3.27**	**216**	*e*P	**Pn**	**14 45 55.9**	**+0.3**
baz=216							
RDF	**Al-Radifah**	**3.40**	**209**	*e*P	**Pn**	**14 45 58.4**	**+0.9**
baz=209							
RDF				AML	AML	14 46 37.9	
	comp=Z,36nm,0.5s,baz=209						
SNGE	**Sanandaj**	**3.61**	**332**	*e*Pn	**Pn**	**14 46 00.8**	**+0.4**
SNGE				AML	AML	14 46 47.2	
	comp=N,43nm,0.3s						
SNGE				AML	AML	14 46 47.6	
	comp=E,51nm,0.4s						
CHTH	**Charan**	**4.22**	**19**	*e*Pn	**Pn**	**14 46 09.1**	**+0.3**
DAMV	**Damavand**	**4.26**	**29**	*e*Pn	**Pn**	**14 46 09.7**	**+0.4**
GHIR	**Ghir-Karzin**	**4.75**	**139**	*e*Pn	**Pn**	**14 46 16.1**	**0.0**
ASYS		**6.25**	**227**	P	**Pn**	**14 46 33.8**	**-2.8**
BTHS		**7.94**	**171**	S	**Sn**	**14 48 24.5**	**-5.4**
HRDDS		**8.96**	**180**	P	**Pn**	**14 47 12.2**	**-1.7**

*ISCJB **01** 15:06:12.7±1.0, 3973N±004×2608E±007, h10km, Error ellipse: s-maj=9.0km s-min=4.4km az=143.0*
*ISK **01** 15:06:13.8, 3985N×2613E, h5km, MD2.7*
*DDA **01** 15:06:13.4, 3975N×2612E, h5km±3km, Md2.9*
*CSEM **01** 15:06:13.7±0.2, 3984N×2613E, h2km, MD2.7, Error ellipse: s-maj=5.5km s-min=2.1km az=44.0*

ISC 01 15:06:13.4±1.0,**3975N**±004×**2609E**±007,**h9**km±5km,**n12,** σ0§**72**/19,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.09**	**342**	*i* P	**Pg**	**15 06 15.8**	**+0.1**
BOZC				*i* S	**Sg**	**15 06 17.5**	**+0.2**
EZN	**Ezine**	**0.20**	**68**	*e*PG	**Pg**	**15 06 17.6**	**+0.2**
EZN				*e*SG	**Sg**	**15 06 20.4**	**+0.3**
GADA	**Gvkgeada**	**0.46**	**341**	*e*PG	**Pg**	**15 06 22.4**	**+0.1**
AYVA	**Ayvalik**	**0.64**	**134**	*i* P	**Pg**	**15 06 25.9**	**+0.2**
AYVA				*i* S	**Sg**	**15 06 34.6**	**+0.5**
ENEZ	**Enez**	**0.98**	**3**	*e*PG	**Pg**	**15 06 31.9**	**-0.4**
BALY	**Balya**	**1.18**	**90**	*i* P	**Pb**	**15 06 36.5**	**+0.6**
BALY				*i* S	**Sb**	**15 06 50.7**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.25**	**41**	*e*PN	**Pn**	**15 06 36.9**	**-0.1**
SART	**Tekirdag**	**1.25**	**41**	*i* P	**Pn**	**15 06 36.7**	**-0.4**
SART				*i* S	**Sb**	**15 06 55.2**	**+1.7**
MRMT	**Marmara Adasi**	**1.43**	**53**	*e*PN	**Pg**	**15 06 40.8**	**0.0**
EDC	**Edincik**	**1.48**	**66**	*e*PN	**Pg**	**15 06 41.6**	**-0.2**
AKHS	**Akhisar**	**1.60**	**123**	*i* P	**Pg**	**15 06 43.6**	**-0.4**
AKHS				*i* S	**Sg**	**15 07 05.4**	**+0.7**
ULDT	**Uludag**	**2.37**	**80**	*i* P	**Pg**	**15 06 56.3**	**-2.5**
ULDT				*i* S	**Sg**	**15 07 29.0**	**-0.6**

*IDC **01** 15:15:50.3±1.4, 1407N×9291W, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/24, mbtmp4.0/8, ML3.9/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/32, Error ellipse: s-maj=64.3km s-min=17.8km az=45.0*
*MEX **01** 15:15:52.0±1.3, 1391N×9312W, h19km±65km, MD4.7*
*ISCJB **01** 15:15:53.3±0.6, 1410N±004×9316W±003, h33km, mb4.2/17, MS3.5/8, Error ellipse: s-maj=6.7km s-min=3.9km az=20.9*
*NEIC **01** 15:15:55.0±3.6, 1421N×9283W, h28km±25km, mb4.3/12, MD4.8(MEX), Error ellipse: s-maj=17.8km s-min=12.2km az=204.0*
*CASC **01** 15:15:55.6±1.5, 1401N×9291W, h80km±70km, MD3.8, mb4.3(NEIC)*

ISC 01 15:15:55.3±0.6,**1412N**±005×**9309W**±003,**h35**km,**n61,** σ1§**55**/62,**mb4.2**/17,**MS3.5**/8,**1D,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.12**	**45**	*i* P	**Pn**	**15 16 11.8**	**-2.7**
THIG				*i* S	**Sn**	**15 16 26.5**	**-2.3**
JAT	**Jato**	**1.42**	**82**	*e*P	**Pn**	**15 16 18.5**	**-0.2**
FG6		**2.18**	**78**	*e*P	**Pn**	**15 16 28.5**	**-0.7**
FUG	**Fuego 3**	**2.20**	**81**	||*e*P	**Pn**	**15 16 28.6**	**-0.9**
CCIG	**Comitan**	**2.34**	**23**	*i* P	**Pn**	**15 16 31.6**	**+0.3**
CCIG				*i* S	**Sn**	**15 17 00.3**	**+1.4**
CCIG	**Comitan**	**2.34**	**23**	*i* P	**Pn**	**15 16 31.6**	**+0.3**
CCIG				*i* S	**Sn**	**15 17 01.0**	**+2.1**
SCX	**San Cristobal**	**2.64**	**10**	*i* P	**Pn**	**15 16 32.9**	**-2.5**
SCX				*i* S	**Sn**	**15 17 08.6**	**+2.3**
TGIG		**2.65**	**359**	*i* P	**Pn**	**15 16 34.0**	**-1.6**
TGIG				*i* S	**Sn**	**15 17 06.3**	**-0.2**
NBG	**Las Nubes**	**2.70**	**80**	*e*P	**Pn**	**15 16 36.9**	**+0.6**
RBDL	**Robledal**	**3.30**	**90**	*e*P	x	15 16 43.2	
HUIG	**Huatulco**	**3.35**	**300**	*i* S	**Sn**	**15 17 21.3**	**-2.5**
RTR	**El Retiro**	**3.35**	**93**	*e*P	x	15 16 43.6	
SBLS	**San Blas**	**3.38**	**94**	*e*P	x	15 16 44.9	
SNJE	**San Jose**	**3.39**	**94**	*e*P	x	15 16 44.5	
SNJE				*e*S	x	15 17 22.2	
CMIG	**Matias Romero**	**3.43**	**330**	Pn	**Pn**	**15 16 45.2**	**-1.0**
	10.0nm,0.3s,baz=137,slow=11,SNR=57						
CMIG				Sn	**Sn**	**15 17 23.7**	**-2.0**
	18nm,0.3s,baz=102,slow=16,SNR=8.9						
CMIG	**Matias Romero**	**3.43**	**330**	*i* P	**Pn**	**15 16 45.0**	**-1.3**
CMIG				*i* S	**Sn**	**15 17 24.6**	**-1.0**
CMIG	**Matias Romero**	**3.43**	**330**	Pn	**Pn**	**15 16 45.2**	**-1.0**
CMIG				Sn	**Sn**	**15 17 23.7**	**-2.0**
CMIG				*i* S	**Sn**	**15 17 24.6**	**-1.0**
LFRS	**El Faro**	**3.94**	**97**	*e*P	x	15 16 52.3	
LCBS	**La Ceiba**	**4.02**	**96**	*e*P	x	15 16 53.5	
TUIG	**Tuzandepetl**	**4.10**	**342**	*i* P	**Pn**	**15 16 55.0**	**-0.5**
TUIG				*i* S	**Sn**	**15 17 43.1**	**+0.7**
TUIG	**Tuzandepetl**	**4.10**	**342**	*i* P	**Pn**	**15 16 51.4**	**-4.1**
TUIG				*i* S	**Sn**	**15 17 44.0**	**+1.7**
OXX	**Oaxaca**	**4.58**	**311**	*e*P	**Pn**	**15 16 57.5**	**-4.6**
OXX				*i* P		15 17 00.9	
OXX				*i* S	**Sn**	**15 17 54.2**	**+0.2**
VHO	**Vista Hermosa**	**4.58**	**310**	*e*P	**Pn**	**15 16 57.8**	**-4.3**
VHO				*i* S	**Sn**	**15 17 53.6**	**-0.5**
PNIG	**Pinotepa**	**5.36**	**296**	*i* P	**Pn**	**15 17 10.6**	**-2.3**
PNIG				*i* S	**Sn**	**15 18 11.7**	**-1.8**
PNIG	**Pinotepa**	**5.36**	**296**	*i* P	**Pn**	**15 17 15.6**	**+2.6**
PNIG				*i* S	**Sn**	**15 18 31.0**	**+18**
UTMO	**Huajuapan**	**5.85**	**310**	*i* P	**Pn**	**15 17 17.2**	**-2.3**
UTMO				*i* S	**Sn**	**15 18 24.1**	**-1.3**
PPM	**Popocatepetl**	**7.24**	**314**	*i* P	**Pn**	**15 17 42.9**	**+4.2**
PPM				*i* S	**Sn**	**15 19 06.4**	**+6.7**
PLIG	**Platanillo**	**7.48**	**305**	*i* S	**Sn**	**15 19 04.2**	**-1.5**
CAIG	**El Cayaco**	**7.50**	**294**	*i* P	**Pn**	**15 17 44.8**	**+2.5**
IIO	**Organos**	**7.66**	**316**	*i* P	**Pn**	**15 17 45.6**	**+1.1**
MIAR	**Mount Ida**	**20.34**	**359**	*e*P	**P**	**15 20 25.8**	**-2.9**
	17nm,0.9s						
GOGA	**Godfrey**	**21.11**	**23**	*e*P	**P**	**15 20 31.2**	**-5.7**
	64nm,0.9s,m

DANN Dangsing 1.64 120 *e*Pn **Pn 15 18 24.4 -0.4**
DANN *e*Sn **Sn 15 18 47.5 +2.8**
5μm,0.5s
DANN *e*Sn **Sn 15 18 48.4 +3.7**
LGTI Lohaghat 1.68 280 *e*x x 15 18 24.8
LGTI *e*S **Sn 15 18 50.0 +4.3**
PTH Pithoragarh 1.73 283 *e*P **Pn 15 18 26.9 +1.0**
PTH *e*S **Sn 15 18 50.9 +4.1**
KOLN Koldanda 1.90 137 *e*Pn **Pn 15 18 29.4 +1.1**
KOLN *e*Sn **Sn 15 18 53.4 +2.4**
653nm,0.4s
KOLN *e*Sn **Sn 15 18 55.1 +4.1**
4μm,0.5s
GKN Gorkha 2.48 118 *e*Pn **Pn 15 18 36.7 +0.4**
GKN *e*Sn **Sn 15 19 07.8 +2.4**
JOSI Joshimath 2.63 302 *e*P **Pn 15 18 38.6 +0.2**
JOSI *e*S **Sn 15 19 12.5 +3.3**
JOSI AML AML 15 19 21.1
comp=N,6μm,0.7s
JOSI AML AML 15 19 21.4
comp=E,4μm,0.8s
DMN Daman 3.04 120 *e*Pn **Pn 15 18 44.2 +0.2**
DMN *e*Sn **Sn 15 19 21.1 +2.0**
comp=E,753nm,0.4s
KKN Kakani 3.08 116 *e*Pn **Pn 15 18 44.4 -0.2**
KKN *e*Sn **Sn 15 19 22.0 +1.8**
comp=E,432nm,0.3s
PKI Pulchoki 3.29 118 *e*Pn **Pn 15 18 47.5 +0.1**
PKI *e*Sn **Sn 15 19 27.5 +2.2**
comp=E,367nm,0.3s
GUN Gumba 3.52 110 *e*Pn **Pn 15 18 51.1 +0.6**
DDI Dehra Dun 3.74 289 *e*P **Pn 15 18 53.2 -0.3**
DDI *e*x x 15 19 53.5
ALBI Allahabad 3.87 185 *e*x x 15 18 53.0
ALBI *e*x x 15 19 06.5
JIRN Jiri 3.87 112 *e*Pn **Pn 15 18 55.1 -0.2**
JIRN *e*Sn **Sn 15 19 40.1 +0.6**
comp=E,350nm,0.2s
KLP Kalpa 4.11 306 *e*P **Pn 15 19 00.4 +1.8**
KLP *e*S **Sn 15 19 47.5 +2.2**
KLP AML AML 15 20 11.4
comp=E,636nm,0.7s
KLP AML AML 15 20 15.4
comp=N,527nm,0.5s
BISR Bishrakh 4.17 263 *e*P **Pn 15 19 00.3 +0.8**
NDI New Delhi 4.35 265 *e*P **Pn 15 19 01.0 -0.9**
NDI *e*PN **Pn 15 19 02.5 +0.6**
NDI *e*SN **Sn 15 19 51.5 +0.1**
NDI *e*x x 15 20 13.0
AYAN Aya Nagar 4.46 262 *e*P **Pn 15 19 03.4 0.0**
RAMN Ramite 4.52 118 *e*Pn **Pn 15 19 04.0 -0.3**
RAMN *e*Sn **Sn 15 19 55.2 -0.3**
comp=N,438nm,0.3s
SONA Sohna 4.54 259 *e*P **Pn 15 19 05.1 +0.5**
SONA *e*S **Sn 15 19 56.0 -0.1**
SONA AML AML 15 20 28.6
comp=E,1μm,0.4s
SONA AML AML 15 20 29.0
comp=N,1μm,0.4s
SMLA Simla 4.73 295 *i*P **Pn 15 19 07.2 0.0**
SMLA *i*S **Sn 15 20 00.6 -0.2**
SMLA *e*x x 15 20 07.5
comp=N,2μm,0.5s
SMLA *e*x x 15 20 08.3
comp=E,1μm,0.3s
JHNI Jhansi 4.89 222 *i*x x 15 19 13.0
JHNI *i*x x 15 19 32.0
SDNR Sundarnagar 5.04 299 *e*P **Pn 15 19 13.0 +1.6**
SDNR *e*x x 15 20 37.0
ODAN Odare 5.18 115 *e*Pn **Pn 15 19 13.4 +0.1**
ODAN *e*Sn **Sn 15 20 12.4 +0.6**
comp=E,163nm,0.2s
TAPN Taplejung 5.23 109 *e*Pn **Pn 15 19 14.0 -0.1**
TAPN *e*Sn **Sn 15 20 12.1 -1.0**
comp=E,128nm,0.3s
BHK Bhakra 5.43 296 *e*P **Pn 15 19 18.2 +1.4**
PONG Pong 6.02 299 *e*x x 15 19 30.0
DLH Dalhousie 6.28 304 *e*P **Pn 15 19 29.0 +0.5**
BOK Bokaro 6.32 147 *e*P **Pn 15 19 28.6 -0.4**
BOK *e*S **Sn 15 20 37.7 -2.2**
THN Thein Dam 6.41 302 *e*P **Pn 15 19 29.2 -1.0**
THN *e*x x 15 20 29.6
BLSP Bilaspur 7.02 180 *e*P **Pn 15 19 38.5 -0.1**
BLSP *e*S **Sn 15 20 53.7 -3.4**
AJM Ajmer 7.17 250 *e*P **Pn 15 19 41.2 +0.6**
AJM *e*S **Sn 15 20 57.4 -3.3**
LSA Lhasa 7.87 84 P **Pn 15 19 50.0 -0.2**
LSA S **Sn 15 21 18.3 +0.4**
LSA Lhasa 7.87 84 *e*P **Pn 15 19 49.3 -0.9**
LSA pmax pmax
comp=Z,17nm,0.5s
LSA Lhasa 7.87 84 *e*P **Pn 15 19 49.3 -0.9**
comp=Z,17nm,0.5s
NGP Nagpur 8.47 200 *e*P **Pn 15 19 52.5 -5.9**
NGP *e*S **Sn 15 21 23.0 -10**
SARP Sargodha 8.62 291 P **Pn 15 19 59.4 -1.0**
SHL Shillong 9.37 110 *e*P **Pn 15 20 09.0 -1.8**
SHL *e*x x 15 21 52.0
BWNR Bhubaneshwar 9.45 159 *e*x x 15 20 05.0
BWNR *e*S **Sn 15 21 48.0 -8.7**
THW Thamme Wali 9.63 295 P **Pn 15 20 11.7 -2.6**
AKL Akola 9.63 210 *e*P **Pn 15 20 11.3 -3.1**
AKL *e*S **Sn 15 21 50.7 -11**
CEP Cherat 9.89 301 P **Pn 15 20 16.0 -1.9**
CEP S **Sn 15 22 02.0 -5.4**
VIS Vishakhapatnam 11.46 174 *e*P **Pn 15 20 36.7 -2.6**
VIS *e*S **Sn 15 22 37.5 -8.4**
LATR Latur 11.87 207 *e*P **Pn 15 20 42.8 -2.2**
LATR *e*S **Sn 15 22 48.6 -7.4**
HYB Hyderabad 12.16 197 *i*P **Pn 15 20 46.5 -2.5**
HYB *e*S **Sn 15 23 05.0 +1.8**
HYB Hyderabad 12.16 197 *e*P **Pn 15 20 46.5 -2.5**
HYB *e*S **Sn 15 22 55.0 -8.2**
KBL Kabul 12.35 299 *e*P **Pn 15 20 49.9 -1.6**
comp=Z,10nm,0.6s
POO Poona 13.03 217 *e*x x 15 20 56.8
POO *e*S **Sn 15 23 15.1 -9.2**
KAD Karad 13.89 213 *e*P **Pn 15 21 14.7 +2.1**
UCH Uchtor 14.41 337 *e*Pn **Pn 15 21 15.2 -4.2**
comp=Z,2μm,0.8s
AML Almayashu 14.63 334 *e*Pn **Pn 15 21 18.0 -4.2**
comp=Z,40nm,0.6s
TKM2 Tokmak 2 14.69 341 *i*P **Pn 15 21 20.3 -2.9**
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 14.69 341 *e*P **Pn 15 21 20.2 -3.0**
comp=Z,6.5nm,0.8s
FRU Bishkek 14.92 338 *e*P **Pn 15 21 24.0 -2.1**
EKS2 Erkin-Say 15.05 336 *e*P **Pn 15 21 24.5 -3.4**
comp=Z,18nm,0.9s
KK31 Karatay Array 16.75 329 *i*P **Pn 15 21 45.3 -4.2**
KK31 pmax pmax
comp=Z,4.0nm,0.3s
MK31 Makanchi Array 17.59 0 *e*P **Pn 15 21 56.1 -3.7**
MKAR Makanchi Array 17.59 0 P **Pn 15 21 56.1 -3.7**
comp=Z,2.2nm,0.3s,baz=185,slow=11,SNR=42
MKAR S **S 15 25 12.5 -7.8**
comp=Z,0.0nm,0.3s,baz=166,slow=40,SNR=2.4
MKAR Makanchi Array 17.59 0 P **Pn 15 21 56.1 -3.7**
MKAR S **S 15 25 12.5 -7.8**
MKAR pmax pmax
comp=Z,2.0nm,0.3s
GTA Gaotai 17.78 50 *e*P **Pn 15 22 01.6 -0.7**
GTA AP pP 15 22 11.0 -2.8
GTA XP sP 15 22 16.7 -3.3
GTA AMB AMB
comp=Z,9.0nm,1.0s
CMAR Chiang Mai Arr 18.68 121 P **Pn 15 22 08.2 -5.2**
comp=Z,0.2nm,0.3s,baz=303,slow=10,SNR=3.5
KMI Kunming 18.76 98 P **Pn 15 22 13.9 -0.4**
KMI AMB AMB
comp=Z,12nm,0.7s
KURK Kurchatov 21.68 354*c* *i*P **P 15 22 43.2 -1.6**
KURK pmax pmax
comp=Z,16nm,0.9s,mb4.5
KURK MLR MLR
comp=Z,100nm,24.0s,MS3.1
KURK Kurchatov 21.68 354 *e*P **P 15 22 42.9 -1.8**
comp=Z,14nm,0.8s,mb4.4
XAN Xi'an 23.28 71 P **P 15 23 01.2 -0.7**
XAN AP 15 23 07.9
XAN XP sP 15 23 09.8 -10
XAN AMB AMB
comp=Z,6.0nm,1.1s,mb3.9
XAN AMB AMB
comp=Z,88nm,7.2s
HVS Khovu-Aksy 23.59 18⇑*e*P **P 15 23 04.3 -0.2**
HVS pmax pmax
comp=Z,30nm,0.6s,mb4.9
ZAL Zalesovo 24.82 4 P **P 15 23 15.3 -0.4**
ZAL pmax pmax
comp=Z,8.0nm,0.5s
ZAL MLR MLR
comp=Z,15nm,20.6s
ZAA0 Zalesovo Array 24.83 4 *e*P **P 15 23 15.2 -0.6**
ZALV Zalesovo Beam 24.83 4 P **P 15 23 15.3 -0.5**
comp=Z,7.6nm,0.5s,mb4.5,baz=188,slow=9.7,SNR=27
ZALV LR LR 15 35 11.0
comp=Z,15nm,20.6s,MS2.5,baz=176,slow=42
ZALV Zalesovo Beam 24.83 4 P **P 15 23 15.3 -0.5**
ZALV LR LR 15 35 11.0
BVA0 Borovoye Array 25.35 343 P **P 15 23 20.0 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.3
BVAR Borovoye Array 25.35 343 P **P 15 23 20.3 -0.3**
comp=Z,3.1nm,0.4s,mb4.2,baz=144,slow=10,SNR=21
BVAR LR LR 15 33 37.2
comp=Z,41nm,18.0s,MS3.0,baz=127,slow=37
BVAR Borovoye Array 25.35 343 P **P 15 23 20.3 -0.3**
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BVAR MLR MLR
comp=Z,41nm,18.0s
BRVK Borovoye 25.41 343 *e*P **P 15 23 20.2 -0.9**
BRVK pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
BRVK Borovoye 25.41 343 *e*P **P 15 23 20.2 -0.9**
comp=Z,8.2nm,0.7s,mb4.4
NVS Novosibirsk 25.66 1 *e*P **P 15 23 22.1 -1.2**
AB31 Akbulak array 26.25 326 *i*P **P 15 23 29.5 +0.8**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
SONM Songino Array 26.41 38 P **P 15 23 31.4 +1.2**
comp=Z,12nm,0.7s,mb4.5,baz=223,slow=9.6,SNR=36
SONM LR LR 15 34 41.9
comp=Z,103nm,18.1s,MS3.4,baz=53,slow=38
SONM Songino Array 26.41 38 P **P 15 23 31.4 +1.2**
SONM pmax pmax
comp=Z,12nm,0.7s
SONM MLR MLR
comp=Z,103nm,18.1s
ZAK Zakamensk 26.52 31⇑*i*P **P 15 23 31.9 +0.8**
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
AKTK Aktyubinsk 27.96 326 P **P 15 23 44.5 +0.4**
AKTK LR LR 15 36 05.2
AKTO Aktyubinsk 27.96 326 P **P 15 23 44.5 +0.4**
comp=Z,0.9nm,0.3s,mb3.9,baz=118,slow=7.8,SNR=7.9
AKTO LR LR 15 36 05.2
comp=Z,88nm,21.1s,MS3.3,baz=139,slow=39
AKTO Aktyubinsk 27.96 326 P **P 15 23 44.5 +0.4**
AKTO pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
AKTO MLR MLR
comp=Z,88nm,21.1s,MS3.3
UMR Umm Al-Rimmam 29.95 279 *e*P **P 15 24 03.0 +1.0**
baz=281
RDF Al-Radifah 30.18 278 *e*P **P 15 24 05.1 +1.0**
baz=280
RDF AMb AMB 15 24 05.5
comp=Z,14nm,0.9s,mb4.7,baz=280
MIB Mutribah 30.24 280 *e*P **P 15 24 05.7 +1.1**
baz=282
MIB AMb AMB 15 24 06.2
comp=Z,24nm,0.5s,mb5.2,baz=282
NAY Al-Naaiem 30.40 279 *e*P **P 15 24 06.8 +0.8**
baz=281
NAY AMb AMB 15 24 07.4
comp=Z,6.0nm,0.9s,mb4.3,baz=281
ARU Arti 31.95 335*c* *i*P **P 15 24 19.3 0.0**
ARU *e* 15 25 19.1
ARU *e* 15 27 09.9
ARU *e*S **S 15 29 25.1 -1.8**
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
ARU Arti 31.95 335 *e*P **P 15 24 19.1 -0.2**
comp=Z,8.4nm,0.8s,mb4.6
BOD Bodaibo 36.17 29 *e*P **P 15 24 56.0 +0.1**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KSRS Korea Array 38.82 65 P **P 15 25 17.7 -0.9**
comp=Z,1.7nm,0.4s,mb4.1,baz=273,slow=9.4,SNR=6.0
KSRS LR LR 15 43 40.8
comp=Z,33nm,19.1s,MS3.2,baz=180,slow=40
KSRS Korea Array 38.82 65 P **P 15 25 17.7 -0.9**
KSRS pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
KSRS MLR MLR
comp=Z,33nm,19.1s,MS3.2
EIL Elat 40.88 283 P **P 15 25 33.0 -2.8**
comp=Z,2.4nm,0.4s,mb4.2,baz=53,slow=5.1,SNR=3.0
OBN Obninsk 41.53 322⇓*e*P **P 15 25 41.5 +0.8**
OBN pmax pmax
comp=Z,14nm,0.8s,mb4.6
AKASG Malin Array Be 44.80 314 P **P 15 26 07.4 +0.2**
comp=Z,0.6nm,0.4s,mb3.8,baz=77,slow=7.1,SNR=6.9
AKASG Malin Array Be 44.80 314 P **P 15 26 07.4 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
YAK Yakutsk 45.08 29 *i*P **P 15 26 09.0 -0.3**
YAK pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
PLOR Plostina 46.12 307⇑*i*P **P 15 26 20.1 +2.4**
MLR Muntele Rosu 46.61 306⇑*i*P **P 15 26 24.5 +2.9**
BURAR Bucovina Array 47.16 309⇑*i*P **P 15 26 27.0 +1.2**
ARCES ARCESS Array B 51.45 338 P **P 15 26 58.2 -0.1**
comp=Z,7.3nm,0.7s,mb4.7,baz=98,slow=7.2,SNR=16
ARCES ARCESS Array B 51.45 338 P **P 15 26 58.2 -0.1**
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 51.45 338 P **P 15 26 58.2 -0.1**
PKSM Moragy 51.69 308⇓*i*P **P 15 27 01.3 +0.9**
MORC Moravsky Berou 52.23 312⇑*i*P **P 15 27 05.6 +1.2**
DPC Dobruska-Polom 53.00 313 *e*P **P 15 27 11.4 +1.4**
UPC Upice 53.19 313 *e*P **P 15 27 13.0 +1.6**
PRU Pruhonice 54.16 313 *e*P **P 15 27 19.5 +1.0**
BRG Berggiesshubel 54.48 314 *e*P **P 15 27 21.7 +0.9**
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRG Berggiesshubel 54.48 314 *e*P **P 15 27 21.7 +0.8**
comp=Z,9.0nm,0.8s,mb4.8
GERES GERESS Array B 54.81 311 P **P 15 27 23.7 +0.5**
comp=Z,1.1nm,0.6s,mb4.0,baz=89,slow=6.9,SNR=8.5
GERES GERESS Array B 54.81 311 P **P 15 27 23.7 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.6s
KHC Kasperske Hory 54.86 312 *e*P **P 15 27 24.2 +0.6**
NB2 NORSAR Subarra 55.76 326 P **P 15 27 29.0 -0.9**
comp=Z,4.6nm,0.8s,mb4.6,baz=88,slow=7.4
NOA NORSAR Array B 55.76 326 P **P 15 27 29.4 -0.4**
comp=Z,3.6nm,0.7s,mb4.5,baz=90,slow=6.9,SNR=9.4
NOA LR LR 15 52 53.2
comp=Z,60nm,18.0s,MS3.7,baz=85,slow=38
NOA NORSAR Array B 55.76 326 P **P 15 27 29.5 -0.4**
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA MLR MLR
comp=Z,60nm,18.0s
PETK Petropavlovsk- 58.77 43 P **P 15 27 50.2 -1.0**
comp=Z,1.1nm,0.8s,mb4.0,baz=298,slow=3.2,SNR=4.0
BILL Bilibino 61.11 25⇓*e*P **P 15 28 07.1 0.0**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
WRA Warramunga Arr 70.13 128 P **P 15 29 06.0 +0.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=321,slow=6.2,SNR=27
WRA Warramunga Arr 70.13 128 P **P 15 29 06.0 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRAB Tennant Creek 70.13 128 *e*P **P 15 29 06.2 +0.3**
WB2 Warramunga Arr 70.14 128 *e*P **P 15 29 05.5 -0.5**
ASAR Alice Springs 72.38 131 P **P 15 29 19.3 -0.1**
comp=Z,0.6nm,0.5s,mb3.8,baz=314,slow=5.0,SNR=17
ASAR Alice Springs 72.38 131 P **P 15 29 19.3 -0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
TOA0 Torodi Ar. Sit 75.47 277 P **P 15 29 38.4 +0.6**
TORD Torodi Ar. Bea 75.47 277 P **P 15 29 38.4 +0.6**
comp=Z,1.7nm,0.6s,mb4.1,baz=50,slow=4.7,SNR=12
IMA2 Indian Mountai 75.97 20 *e*P **P 15 29 39.7 -0.1**
PPLA Purkeypile 78.60 22 *e*P **P 15 29 53.0 -1.5**
BOSA Boshof 79.11 229 P **P 15 29 57.7 -0.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=59,slow=5.9,SNR=2.6
BOSA Boshof 79.11 229 P **P 15 29 57.7 -0.1**
BOSA pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BOSA Boshof 79.11 229 P **P 15 29 57.7 -0.1**
DAWY Dawson 81.50 17 *e*P **P 15 30 09.6 -0.6**
BMRM Bremner River 82.47 21 P **P 15 30 13.6 -1.6**
STKA Stephens Creek 82.92 132 P **P 15 30 17.7 -0.2**
comp=Z,1.9nm,0.7s,mb4.3,baz=315,slow=4.3,SNR=2.9
DBIC Dimbokro 84.18 274 P **P 15 30 25.3 +0.3**
comp=Z,1.7nm,0.5s,mb4.4,baz=46,slow=6.9,SNR=4.0
DBIC Dimbokro 84.18 274 P **P 15 30 25.3 +0.3**
DBIC pmax pmax
comp=Z,2.0nm,0.5s
DBIC Dimbokro 84.18 274 *e*P **P 15 30 25.4 +0.4**
YKA Yellowknife Ar 87.67 8 P **P 15 30 40.9 -0.4**
comp=Z,1.3nm,0.6s,mb4.4,baz=336,slow=5.3,SNR=4.0
YKA Yellowknife Ar 87.67 8 P **P 15 30 40.9 -0.4**
YKA pmax pmax
comp=Z,1.0nm,0.6s
CPUP Villa Florida 144.15 265 PKP PKPdf 15 37 27.4 -1.7
comp=Z,0.7nm,0.4s,baz=65,slow=2.8,SNR=4.7
CPUP Villa Florida 144.15 265 PKIKP PKPdf 15 37 27.4 -1.7
CPUP pmax pmax
comp=Z,1.0nm,0.4s

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*IDC **01** 15:33:49.0±0.9, 35.96N×7.124E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.9/25, mbtmp3.9/11, ML3.9/3, Error ellipse: s-maj=26.1km s-min=20.7km az=51.0*
*MOS **01** 15:33:56.5±0.9, 36.15N×7.126E, h67km, mb4.3/5, Error ellipse: s-maj=22.6km s-min=9.0km az=83.2*
*NNC **01** 15:33:59.9±3.1, 36.65N×7.071E, h0km, mb4.2, mpv4.7, Error ellipse: s-maj=26.5km s-min=25.8km az=125.0*
*ISCJB **01** 15:34:01.8±0.5, 36.35N±0.003×7.148E±0.006, h118km±6km, mb3.7/8, Error ellipse: s-maj=7.9km s-min=4.2km az=169.1*
*NEIC **01** 15:34:02.5±1.0, 36.35N×7.142E, h105km±9km, mb4.4/6, Error ellipse: s-maj=14.6km s-min=9.2km az=126.0*
*BJI **01** 15:34:02.0, 36.00N×7.161E, h116km*
ISC 01 15:34:03.2±0.4, 36.32N±0.003×7.154E±0.006, h114km±6km, n78, σ1.28/92, mb3.7/8, 7C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.51**	**173**	⇑P	**Pn**	**15 34 45.2**	**+2.3**
KBL	**Kabul**	**2.71**	**230**	*e*P	**Pn**	**15 34 44.6**	**-0.7**
CHCP	**Chirah Chowk**	**3.01**	**151**	P	**Pn**	**15 34 52.6**	**+3.2**
THW	**Thamme Wali**	**3.52**	**177**	⇑P	**Pn**	**15 34 57.3**	**+1.1**
SARP	**Sargodha**	**4.49**	**168**	P	**Pn**	**15 35 11.0**	**+1.9**
SARP				S	**Sn**	**15 36 01.0**	**+0.6**
DRP	**Derazinda**	**4.70**	**194**	P	**Pn**	**15 35 12.8**	**+0.8**
KSH	**Kashi**	**4.74**	**46**	P	**Pn**	**15 35 16.3**	**+3.9**
KSH				S	**Sn**	**15 36 08.5**	**+2.2**
KSH				Smax			
	comp=N,603nm,0.4s						
KSH				Smax			
	comp=E,499nm,0.2s						
THN	**Thein Dam**	**5.19**	**137**	*e*P	**Pn**	**15 35 20.6**	**+2.0**
THN				*e*x	x	15 36 19.4	
DLH	**Dalhousie**	**5.25**	**135**	*e*P	**Pn**	**15 35 21.0**	**+1.6**
DLH				*e*x	x	15 36 21.0	
AML	**Almayashu**	**6.04**	**15**	P	**Pn**	**15 35 29.4**	**-0.6**
	SNR=101						
AML	**Almayashu**	**6.04**	**15**	*e*P	**Pn**	**15 35 29.6**	**-0.4**
	comp=E,70nm,0.4s						
UCH	**Uchtor**	**6.33**	**20**	*e*P	**Pn**	**15 35 34.6**	**+0.6**
	comp=E,5.4nm,0.4s						
KZA	**Kyzart**	**6.43**	**25**	P	**Pn**	**15 35 35.6**	**+0.4**
	SNR=11						
EKS2	**Erkin-Say**	**6.56**	**15**	P	**Pn**	**15 35 36.9**	**-0.2**
	SNR=29						
EKS2	**Erkin-Say**	**6.56**	**15**	*e*P	**Pn**	**15 35 36.7**	**-0.3**
	comp=E,11nm,0.3s						
SDNR	**Sundarnagar**	**6.59**	**135**	*e*P	**Pn**	**15 35 38.0**	**+0.4**
SDNR				*e*S	**Sn**	**15 36 48.0**	**-3.3**
AAK	**Ala-Archa**	**6.70**	**19**	P	**Pn**	**15 35 39.3**	**+0.4**
	SNR=22						
KK31	**Karatay Array**	**6.82**	**354**	⇑P	**Pn**	**15 35 38.4**	**-2.1**
	comp=E,50nm,0.4s,baz=176,slow=10,SNR=487						
KK31				⇓S	**Sn**	**15 36 50.3**	**-6.4**
	comp=E,10.0nm,0.3s,baz=181,slow=22,SNR=8.5						
KBK	**Karagaybulak**	**6.85**	**22**	P	**Pn**	**15 35 37.4**	**-3.6**
	SNR=7.0						
FRU	**Bishkek**	**6.92**	**19**	*e*PN	**Pn**	**15 35 40.5**	**-1.4**
ULHL	**Ulahol**	**6.95**	**30**	P	**Pn**	**15 35 42.9**	**+0.6**
	SNR=7.3						
SMLA	**Simla**	**6.98**	**136**	*i*P	**Pn**	**15 35 44.4**	**+1.5**
SMLA				*i*S	**Sn**	**15 36 58.6**	**-2.1**
SMLA				*e*x	x	15 37 03.7	
	comp=E,672nm,0.5s						
SMLA				*e*x	x	15 37 06.1	
	comp=N,770nm,0.4s						
CHMS	**Chumysh**	**7.11**	**19**	P	**Pn**	**15 35 44.3**	**-0.2**
	SNR=20						
TKM2	**Tokmak 2**	**7.29**	**24**	⇑P	**Pn**	**15 35 47.2**	**+0.2**
	comp=N,12nm,0.5s						
TKM2				⇓S	**Sn**	**15 37 14.6**	**+6.5**
	comp=N,6.9nm,0.7s						
TKM2	**Tokmak 2**	**7.29**	**24**	*e*P	**Pn**	**15 35 47.2**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,19nm,0.6s						
TKM2	**Tokmak 2**	**7.29**	**24**	P	**Pn**	**15 35 47.4**	**+0.4**
	SNR=29						
TKM2	**Tokmak 2**	**7.29**	**24**	*e*P	**Pn**	**15 35 47.2**	**+0.2**
	comp=Z,20nm,0.6s						
USP	**Ospenovka**	**7.30**	**17**	P	**Pn**	**15 35 46.2**	**-0.8**
	SNR=13						
KLP	**Kalpa**	**7.34**	**129**	*e*P	**Pn**	**15 35 46.9**	**-0.8**
KLP				*e*S	**Sn**	**15 37 06.9**	**-2.5**
KLP				AML	AML	15 37 15.2	
	comp=N,197nm,0.4s						
KLP				AML	AML	15 37 15.2	
	comp=E,214nm,0.6s						
JOSI	**Joshimath**	**8.83**	**128**	*e*P	**Pn**	**15 36 08.4**	**+0.6**
JOSI				*e*S	**Sn**	**15 37 42.3**	**-3.2**
JOSI				AML	AML	15 37 49.8	
	comp=E,102nm,0.5s						
JOSI				AML	AML	15 37 49.8	
	comp=N,141nm,0.6s						
NDI	**New Delhi**	**9.00**	**146**	*e*x	x	15 37 29.5	
KUDL	**Kundal**	**9.16**	**151**	*e*P	**Pn**	**15 36 11.0**	**-1.4**
KUDL				*e*S	**Sn**	**15 37 44.4**	**-9.4**
SONA	**Sohna**	**9.31**	**148**	*e*S	**Sn**	**15 37 49.7**	**-7.7**
DANN	**Dangsing**	**13.03**	**124**	*e*P	**Pn**	**15 37 03.4**	**-0.5**
MK31	**Makanchi Array**	**13.19**	**34**	P	**Pn**	**15 37 09.2**	**+3.4**
	comp=N,0.8nm,0.5s,baz=242,slow=14,SNR=7.4						
MK31	**Makanchi Array**	**13.19**	**34**	*e*P	**Pn**	**15 37 04.0**	**-1.8**
MKAR	**Makanchi Array**	**13.19**	**34**	Pn	**Pn**	**15 37 05.0**	**-0.9**
	comp=N,0.1nm,0.3s,baz=219,slow=12,SNR=7.3						
KOLN	**Koldanda**	**13.31**	**126**	*e*P	**Pn**	**15 37 07.1**	**-0.4**
KOLN				*e*S	**Sn**	**15 39 27.1**	**-7.0**
GKN	**Gorkha**	**13.84**	**123**	*e*P	**Pn**	**15 37 14.1**	**-0.3**
GKN				*e*S	**Sn**	**15 39 37.9**	**-9.1**
DMN	**Daman**	**14.41**	**123**	*e*P	**Pn**	**15 37 21.3**	**-0.4**
	comp=N,7.6nm,0.3s						
KKN	**Kakani**	**14.41**	**122**	*e*P	**Pn**	**15 37 20.5**	**-1.3**
	comp=N,12nm,0.5s						
PKI	**Pulchoki**	**14.64**	**123**	*e*P	**Pn**	**15 37 25.2**	**+0.5**
GUN	**Gumba**	**14.75**	**121**	*e*P	**Pn**	**15 37 25.0**	**-1.0**
	comp=N,10.0nm,0.3s						
JIRN	**Jiri**	**15.12**	**121**	*e*P	**Pn**	**15 37 30.7**	**0.0**
KURBB	**Kurchatov Arra**	**15.16**	**17**	⇑P	**Pn**	**15 37 33.0**	**+2.0**
	comp=N,0.4nm,0.5s						
KURK	**Kurchatov**	**15.27**	**17**	⇑P	**Pn**	**15 37 34.1**	**+1.8**
	comp=N,1.8nm,0.6s						
KURK	**Kurchatov**	**15.27**	**17**	P	**Pn**	**15 37 33.2**	**+0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**15.27**	**17**	P	**Pn**	**15 37 33.1**	**+0.8**
	comp=Z,2.1nm,0.8s						
AB31	**Akbulak array**	**15.45**	**330**	⇑P	**Pn**	**15 37 30.7**	**-4.0**
	comp=Z,3.0nm,0.3s,baz=141,slow=13,SNR=211						
RAMN	**Ramite**	**15.85**	**122**	*e*P	**Pn**	**15 37 38.7**	**-1.1**
TAPN	**Taplejung**	**16.38**	**119**	*e*P	**Pn**	**15 37 47.3**	**+1.0**
ODAN	**Odare**	**16.45**	**121**	*e*P	**Pn**	**15 37 46.9**	**-0.3**
BVA0	**Borovoye Array**	**16.72**	**358**	P	**Pn**	**15 37 49.4**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=239,slow=37,SNR=7.6						
BVA0				S	**S**	**15 40 58.1**	**+1.4**
	comp=Z,0.4nm,1.2s,baz=178,slow=26,SNR=4.9						

BVAR Borovoye Array 16.72 358 P **Pn 15 37 49.0 -1.3**
comp=Z,0.6nm,0.3s,baz=165,slow=12,SNR=8.3
BVAR Borovoye Array 16.72 358 P **Pn 15 37 49.0 -1.3**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
AKTK Aktyubinsk 17.15 330 P **Pn 15 37 53.1 -2.5**
AKTK S **S 15 40 51.0 -16**
AKTO Aktyubinsk 17.15 330 P **Pn 15 37 52.7 -2.9**
AKTO Aktyubinsk 17.15 330 P **Pn 15 37 53.1 -2.5**
comp=Z,1.1nm,0.3s,baz=127,slow=15,SNR=35
AKTO S **S 15 40 51.0 -16**
comp=Z,0.3nm,0.3s,baz=32,slow=17,SNR=5.6
AKTO Aktyubinsk 17.15 330 P **Pn 15 37 53.1 -2.5**
AKTO S **S 15 40 51.0 -16**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
ZAL Zalesovo 19.88 23 P **P 15 38 25.8 +0.6**
ZAL pmax pmax
comp=Z,8.0nm,0.5s
ZAA0 Zalesovo Array 19.90 24 *eP* **P 15 38 25.6 +0.2**
ZALV Zalesovo Beam 19.90 24 P **P 15 38 25.8 +0.4**
comp=Z,7.5nm,0.5s,baz=212,slow=11,SNR=25
NVS Novosibirsk 20.20 20 *eP* **P 15 38 20.7 -7.9**
ARU Arti 21.95 340 P **P 15 38 47.0 -0.2**
ARU pmax pmax
comp=Z,4.0nm,0.8s,mb3.8
ARU Arti 21.95 340 P **P 15 38 47.0 -0.1**
comp=Z,4.4nm,0.8s,mb3.8
AKASG Malin Array Be 33.40 309 P **P 15 40 29.7 -0.8**
comp=Z,1.3nm,0.4s,mb4.1,baz=82,slow=6.9,SNR=5.9
AKASG Malin Array Be 33.40 309 P **P 15 40 29.7 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 41.48 338 P **P 15 41 39.5 +1.2**
comp=Z,4.2nm,0.8s,mb4.3,baz=119,slow=9.0,SNR=14
ARCES ARCESS Array B 41.48 338 P **P 15 41 39.5 +1.2**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 41.48 338 P **P 15 41 39.5 +1.2**
NB2 NORSAR Subarra 44.78 323 P **P 15 42 05.3 +0.3**
comp=Z,0.9nm,0.4s,mb3.9,baz=94,slow=7.9
NOA NORSAR Array B 44.78 323 P **P 15 42 05.5 +0.5**
comp=Z,1.1nm,0.5s,mb3.9,baz=96,slow=7.7,SNR=7.0
NOA NORSAR Array B 44.78 323 P **P 15 42 05.5 +0.5**
NOA pmax pmax
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 66.15 269 P **P 15 44 36.5 -2.1**
comp=Z,1.0nm,0.7s,mb3.8,baz=49,slow=5.9,SNR=8.1
INK Inuvik 74.01 9 *eP* **P 15 45 27.4 +1.7**
YKA Yellowknife Ar 81.40 3 P **P 15 46 08.4 +1.6**
comp=Z,0.3nm,0.4s,mb3.5,baz=351,slow=5.4,SNR=3.2
WRA Warramunga Arr 81.53 122 P **P 15 46 08.6 +0.6**
comp=Z,0.2nm,0.4s,mb3.3,baz=324,slow=5.0,SNR=9.5
ASAR Alice Springs 83.79 125 P **P 15 46 21.0 +1.2**
comp=Z,0.2nm,0.7s,mb3.0,baz=321,slow=4.0,SNR=3.0

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*BJI **01** 15:47:27.4, 987S×11876E, h15km, mB5.0, mb5.0*
*IDC **01** 15:47:31.2±0.5, 936S×11837E, h0km, mb4.5/18, mb1 4.5/20, mb1mx4.4/26, mbtmp4.4/20, ML4.2/2, MS3.6/6, Ms1 3.6/6, ms1mx3.2/34, Error ellipse: s-maj=20.2km s-min=12.4km az=58.0*
*NEIC **01** 15:47:39.8±1.5, 939S×11845E, h68km±14km, mb4.6/7, Error ellipse: s-maj=14.8km s-min=6.3km az=51.0*
*ISCJB **01** 15:47:40.1±0.5, 951S±004×11850E±003, h96km±5km, mb4.6/37, Error ellipse: s-maj=7.2km s-min=4.8km az=29.1*
*DJA **01** 15:47:41, 948S×11849E, h62km, ML5.2/10*
ISC 01 15:47:41.1±0.5, 957S±004×11846E±003, h90km±4km, h11km±6.5km:pP-P, n104, σ1§18/109, mb4.6/37, 10C-7D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHKI	**Kahang-Kahang**	**3.06**	**293**	P		**Pn**		**15 48 26.9**	**-0.6**
	0.0nm,0.0s								
KHKI	**Kahang-Kahang**	**3.06**	**293**	⇓*eP*		**Pn**		**15 48 26.9**	**-0.6**
KHKI				*eS*		Sn		15 48 41.9	-21
DNP	**Denpasar**	**3.33**	**285**	P		**Pn**		**15 48 31.3**	**+0.2**
	0.0nm,0.0s								
IGBI	**Denpasar**	**3.36**	**283**	P		**Pn**		**15 48 31.0**	**-0.5**
	0.0nm,0.0s								
NBBI	**Negara**	**3.98**	**287**	P		**Pn**		**15 48 40.2**	**+0.3**
	0.0nm,0.0s								
MKS	**Makassar**	**4.44**	**13**	⇑*eP*		**Pn**		**15 48 45.8**	**-0.4**
MKS				*eS*		**Sn**		**15 49 35.3**	**-1.4**
KAPI	**Kappang**	**4.71**	**16**	Pn		**Pn**		**15 48 48.2**	**-1.6**
	14nm,0.3s,baz=190,slow=7.0,SNR=31								
KAPI				Sn		**Sn**		**15 49 37.8**	**-5.4**
	148nm,0.3s,baz=100,slow=23,SNR=23								
KAPI				LR		LR		15 50 47.0	
	comp=Z,202nm,21.5s,baz=206,slow=43								
KAPI	**Kappang**	**4.71**	**16**	*e*Pn		**Pn**		**15 48 47.8**	**-2.0**
KAPI				*e*Sn		**Sn**		**15 49 38.2**	**-5.0**
KAPI				LR		LR		15 50 47.0	
BATI	**Baumata**	**5.16**	**97**	P		**Pn**		**15 48 55.2**	**-0.8**
	0.0nm,0.0s								
BATI	**Baumata**	**5.16**	**97**	Pn		**Pn**		**15 48 55.2**	**-0.7**
	108nm,0.3s,baz=300,slow=1.5,SNR=130								
BATI				Sn		**Sn**		**15 49 54.1**	**-0.2**
	52nm,0.3s,baz=263,slow=18,SNR=6.5								
BATI				LR		LR		15 51 20.2	
	comp=Z,678nm,19.0s,baz=11,slow=43								
BBSI	**Bau Bau**	**5.75**	**45**	P		**Pn**		**15 49 04.3**	**+0.3**
	0.0nm,0.0s								
TRT	**Tretes**	**6.05**	**287**	⇑*eP*		**Pn**		**15 49 07.5**	**-0.6**
TRT				*eS*		**Sn**		**15 50 12.0**	**-4.0**
KRKI	**Karangkates**	**6.10**	**283**	P		**Pn**		**15 49 11.3**	**+2.5**
	0.0nm,0.0s								
KRKI	**Karangkates**	**6.10**	**283**	⇑*eP*		**Pn**		**15 49 11.4**	**+2.6**
KRKI				*eS*		**Sn**		**15 50 15.6**	**-1.6**
SJI	**Sawahan**	**6.87**	**285**	P		**Pn**		**15 49 22.8**	**+3.6**
	0.0nm,0.0s								
KDI	**Kendari**	**6.94**	**37**	P		**Pn**		**15 49 21.9**	**+1.7**
	0.0nm,0.0s								
KDI	**Kendari**	**6.94**	**37**	⇑*eP*		**Pn**		**15 49 22.6**	**+2.4**
KDI				*eS*		**Sn**		**15 50 46.0**	**+8.3**
BBKI	**Banjar Baru**	**7.05**	**329**	P		**Pn**		**15 49 23.0**	**+1.2**
	0.0nm,0.0s								
PCI	**Palu**	**8.72**	**9**	P		**Pn**		**15 49 48.0**	**+3.6**
	0.0nm,0.0s								
FITZ	**Fitzroy Crossi**	**10.97**	**141**	Pn		**Pn**		**15 50 12.9**	**-2.2**
	1.2nm,0.3s,baz=324,slow=8.2,SNR=26								
FITZ				Sn		**Sn**		**15 52 05.3**	**-11**
	3.4nm,0.3s,baz=185,slow=20,SNR=7.8								
FITZ	**Fitzroy Crossi**	**10.97**	**141**	*e*P		**Pn**		**15 50 12.3**	**-2.8**
	10nm,0.4s								
FITZ				*e*Pn		**Pn**		**15 50 12.7**	**-2.5**
FITZ				*eS*		**Sn**		**15 52 05.9**	**-10**
STKI	**Sintang**	**11.83**	**324**	P		**Pn**		**15 50 28.6**	**+1.7**
	0.0nm,0.0s								
SBUM	**Sibu**	**13.46**	**332**	⇑P		**Pn**		**15 50 51.7**	**+3.2**
KSM	**Kuching**	**13.65**	**323**	⇓P		**Pn**		**15 50 57.6**	**+6.7**
KSM	**Kuching**	**13.65**	**323**	*e*P		**Pn**		**15 50 57.8**	**+6.9**
BTM	**Bintulu**	**13.77**	**337**	⇓P		**Pn**		**15 50 59.3**	**+6.8**
TSM	**Tawau**	**13.79**	**358**	⇑P		**Pn**		**15 50 57.5**	**+4.8**
KAKA	**Kakadu**	**14.06**	**104**	*e*P		**Pn**		**15 50 54.9**	**-1.4**
	48nm,0.6s								
MYLDM	**Lahad Datu**	**14.65**	**0**	⇑P		**Pn**		**15 51 07.5**	**+3.6**
SDKM	**Sandakan**	**15.16**	**355**	⇑P		**Pn**		**15 51 17.6**	**+7.1**
KKM	**Kota Kinabalu**	**15.67**	**352**	⇓P		**Pn**		**15 51 23.2**	**+6.3**
KKM	**Kota Kinabalu**	**15.67**	**352**	*e*P		**Pn**		**15 51 19.8**	**+2.9**
WRA	**Warramunga Arr**	**18.48**	**126**	P		**Pn**		**15 51 50.5**	**-0.7**
	0.9nm,0.3s,baz=301,slow=13,SNR=35								
WRA				S		**S**		**15 55 00.6**	**-16**
	0.2nm,0.3s,baz=308,slow=20,SNR=2.9								
WRAB	**Tennant Creek**	**18.48**	**126**	*e*P		**Pn**		**15 51 51.1**	**-0.2**
	7.0nm,0.6s								
WB2	**Warramunga Arr**	**18.49**	**126**	*e*P		**Pn**		**15 51 51.1**	**-0.2**
WB2				*eS*		**S**		**15 55 03.2**	**-13**
WB2	**Warramunga Arr**	**18.49**	**126**	*e*P		**Pn**		**15 51 51.0**	**-0.3**
KGM	**Kluang**	**18.97**	**307**	⇑P		**Pn**		**15 51 57.0**	**-0.2**
ASAR	**Alice Springs**	**20.35**	**135**	P		**P**		**15 52 12.4**	**+2.1**
	10nm,0.7s,baz=309,slow=9.0,SNR=186								
ASAR				S		**S**		**15 55 46.8**	**-6.8**
	1.2nm,0.9s,baz=301,slow=22,SNR=4.1								
FRIM	**Kepong**	**21.05**	**306**	⇑P		**P**		**15 52 20.1**	**+2.0**
KTGM	**Kuala Trenggan**	**21.27**	**313**	⇓P		**P**		**15 52 21.0**	**+0.6**
KLBR	**Kellerberrin**	**21.92**	**182**	*e*P		pP		15 52 40.3	-4.7
	165nm,2.0s								
KLBR				*eS*		**S**		**15 56 18.8**	**-5.2**
IPM	**Ipoh**	**22.29**	**308**	⇓P		**P**		**15 52 31.5**	**+0.3**
MUN	**Mundaring**	**22.39**	**185**	*e*P		pP		15 52 48.6	-1.5
MUN				*eS*		**S**		**15 56 30.0**	**-1.9**
PSI	**Prapat**	**23.02**	**301**	P		**P**		**15 52 37.5**	**-1.2**
	20nm,0.6s,mb4.6,baz=149,slow=7.5,SNR=12								
PSI				LR		LR		16 04 10.0	
	comp=Z,316nm,18.1s,baz=269,slow=44								
KULM	**Kulim**	**23.09**	**309**	⇓P		**P**		**15 52 38.6**	**-0.7**
NWAO	**Narrogin (SRO)**	**23.27**	**183**	P		**P**		**15 52 40.0**	**-0.8**
	9.6nm,0.9s,mb4.2,baz=44,slow=5.0,SNR=3.1								
NWAO				S		**S**		**15 56 54.3**	**+8.2**
	14nm,0.6s,baz=250,slow=11,SNR=6.3								
COEN	**Coen**	**24.58**	**103**	*e*P		**P**		**15 52 54.8**	**+1.9**
	7.9nm,0.4s,mb4.5								
CTA	**Charters Tower**	**28.78**	**114**	P		**P**		**15 53 33.2**	**+2.6**
	4.0nm,0.8s,mb4.1,baz=261,slow=14,SNR=4.1								
CTAO	**Charters Tower**	**28.78**	**114**	*e*P		**P**		**15 53 32.9**	**+2.3**
STKA	**Stephens Creek**	**30.86**	**139**	*e*P		**P**		**15 53 51.5**	**+2.6**
	6.7nm,1.8s,mb4.1								
STKA	**Stephens Creek**	**30.86**	**139**	P		**P**		**15 53 51.2**	**+2.4**
	1.6nm,0.5s,mb4.0,baz=282,slow=20,SNR=5.7								
STKA	**Stephens Creek**	**30.86**	**139**	*e*P		**P**		**15 53 51.3**	**+2.5**
CMAR	**Chiang Mai Arr**	**33.86**	**325**	P		**P**		**15 54 15.7**	**+0.5**
	2.9nm,0.5s,mb4.3,baz=152,slow=6.8,SNR=11								
CHTO	**Chiang Mai**	**34.15**	**326**	*e*P		**P**		**15 54 17.6**	**-0.1**
CD2	**Chengdu**	**42.65**	**341**	P		**P**		**15 55 28.8**	**0.0**
CD2				AMB		AMB			
	comp=Z,40nm,0.6s,mb5.3								
CBIJ	**Chichi jima**	**43.10**	**32**	LR		LR		16 13 35.7	
	comp=Z,97nm,20.9s,baz=145,slow=36								
XAN	**Xi'an**	**44.31**	**349**	P		**P**		**15 55 41.5**	**-0.5**
XAN				AP		pP		15 55 48.0	-16
XAN				XP		sP		15 55 49.9	-24
XAN				AMB		AMB			
	comp=Z,9.0nm,1.2s,mb4.4								
XAN				AMB		AMB			
	comp=Z,91nm,10.3s								
LSA	**Lhasa**	**47.08**	**327**	P		**P**		**15 56 05.2**	**+1.2**
LSA	**Lhasa**	**47.08**	**327**	*e*P		**P**		**15 56 04.4**	**+0.5**
	comp=Z,4.5nm,0.4s,mb4.5								
ODAN	**Odare**	**47.12**	**321**	*e*P		**P**		**15 56 03.8**	**-0.6**
	comp=Z,11nm,0.5s,mb4.8								
TAPN	**Taplejung**	**47.28**	**322**	*e*P		**P**		**15 56 05.5**	**-0.1**
	comp=Z,24nm,0.6s,mb5.1								
LZH	**Lanzhou**	**47.46**	**344**	*e*P		**P**		**15 56 07.2**	**+0.4**
LZH				AP		pP		15 56 12.0	-17
LZH				XP		sP		15 56 14.5	-24
LZH				AMB		AMB			
	comp=Z,20nm,1.1s,mb4.8								
LZH				AMB		AMB			
	comp=Z,86nm,4.5s								
KSRS	**Korea Array**	**47.61**	**10**	P		**P**		**15 56 08.4**	**+0.5**
	comp=Z,4.6nm,0.5s,mb4.5,baz=190,slow=9.5,SNR=20								
RAMN	**Ramite**	**47.68**	**320**	*e*P		**P**		**15 56 08.3**	**-0.4**
	comp=Z,24nm,0.7s,mb5.1								
JIRN	**Jiri**	**48.44**	**321**	*e*P		**P**		**15 56 14.3**	**-0.2**
	comp=Z,34nm,0.5s,mb5.4								
GUN	**Gumba**	**48.81**	**321**	*e*P		**P**		**15 56 17.0**	**-0.4**
	comp=Z,25nm,0.6s,mb5.3								
PKI	**Pulchoki**	**48.87**	**320**	*e*P		**P**		**15 56 16.8**	**-1.0**
	comp=Z,16nm,0.5s,mb5.2								
DMN	**Daman**	**49.09**	**320**	*e*P		**P**		**15 56 18.8**	**-0.7**
KKN	**Kakani**	**49.10**	**320**	*e*P		**P**		**15 56 18.6**	**-1.0**
MJAR	**Matsushiro Arr**	**49.49**	**21**	P		**P**		**15 56 21.2**	**-1.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=188,slow=6.0,SNR=3.5								
GKN	**Gorkha**	**49.66**	**320**	*e*P		**P**		**15 56 22.8**	**-1.1**
	comp=Z,3.7nm,0.5s,mb4.5								
KOLN	**Koldanda**	**50.17**	**319**	*e*P		**P**		**15 56 26.6**	**-1.1**
	comp=Z,24nm,0.7s,mb5.2								
DANN	**Dangsing**	**50.46**	**319**	*e*P		**P**		**15 56 29.0**	**-0.9**
	comp=Z,36nm,0.5s,mb5.5								
GTA	**Gaotai**	**51.72**	**342**	P		**P**		**15 56 39.9**	**+0.8**
GTA				AP		pP		15 56 44.0	-17
GTA				XP		sP		15 56 47.4	-24
GTA				AMB		AMB			
	comp=Z,13nm,0.8s,mb5.0								
MDJ	**Mudanjiang**	**54.87**	**10**	P		**P**		**15 57 02.0**	**-0.1**
MDJ				AMB		AMB			
	comp=Z,24nm,0.6s,mb5.4								
MDJ	**Mudanjiang**	**54.87**	**10**	*e*P		**P**		**15 57 02.0**	**-0.1**
	comp=Z,18nm,0.6s,mb5.3								
DDI	**Dehra Dun**	**55.50**	**317**	*ex*		x		15 57 51.0	
SONM	**Songino Array**	**58.15**	**350**	P		**P**		**15 57 25.8**	**+0.5**
	comp=Z,6.2nm,0.5s,mb4.9,baz=166,slow=8.6,SNR=34								
KBL	**Kabul**	**64.13**	**316**	*e*P		**P**		**15 58 04.6**	**-1.4**
MK31	**Makanchi Array**	**64.72**	**333**	*e*P		**P**		**15 58 09.2**	**-0.5**
MKAR	**Makanchi Array**	**64.72**	**333**	P		**P**		**15 58 09.4**	**-0.2**
	comp=Z,8.7nm,0.7s,mb4.7,baz=141,slow=7.8,SNR=48								
MKAR				LR		LR		16 31 17.0	
	comp=Z,33nm,18.7s,baz=95,slow=41								
AML	**Almayashu**	**65.77**	**325**	*e*P		**P**		**15 58 16.9**	**+0.4**
MAW	**Mawson**	**68.52**	**200**	P		**P**		**15 58 35.6**	**+2.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=294,slow=17,SNR=2.5								
KURK	**Kurchatov**	**69.27**	**334**	*e*P		**P**		**15 58 38.0**	**-0.4**
	comp=Z,13nm,0.9s,mb4.8								
OPO	**Ambohidratompo**	**69.35**	**254**	P		**P**		**15 58 40.4**	**+0.9**
	comp=Z,2.7nm,0.9s,mb4.1								
ZAA0	**Zalesovo Array**	**69.38**	**340**	*e*P		**P**		**15 58 37.2**	**-1.8**
ZALV	**Zalesovo Beam**	**69.38**	**340**	P		**P**		**15 58 38.0**	**-1.0**
	comp=Z,6.6nm,0.4s,mb4.8,baz=143,slow=5.7,SNR=32								
PETK	**Petropavlovsk-**	**70.81**	**24**	P		**P**		**15 58 47.7**	**0.0**
	comp=Z,0.4nm,0.3s,mb3.7,baz=181,slow=6.1,SNR=9.2								
BVAR	**Borovoye Array**	**74.55**	**332**	P		**P**		**15 59 09.8**	**-0.1**
	comp=Z,6.6nm,0.7s,mb4.5,baz=137,slow=7.6,SNR=31								
BRVK	**Borovoye**	**74.62**	**332**	*e*P		**P**		**15 59 09.2**	**-1.1**
	comp=Z,8.0nm,1.1s,mb4.4								
AKTK	**Aktyubinsk**	**79.39**	**326**	P		**P**		**15 59 37.1**	**0.0**
AKTO	**Aktyubinsk**	**79.39**	**326**	P		**P**		**15 59 37.1**	**0.0**
	comp=Z,3.1nm,0.5s,mb4.4								
QSPA	**South Pole Qui**	**80.43**	**180**	P		**P**		**15 59 46.4**	**+4.1**
	comp=Z,0.9nm,0.7s,mb3.7								
QSPA	**South Pole Qui**	**80.43**	**180**	P		**P**		**15 59 46.4**	**+4.1**
LSZ	**Lusaka**	**87.78**	**255**	*e*P		**P**		**16 00 23.8**	**+2.9**
	comp=Z,2.3nm,0.7s,mb4.3								
ASF	**Jabal al Asfar**	**87.98**	**303**	P		**P**		**16 00 23.5**	**+2.0**
	comp=Z,3.7nm,0.8s,mb4.5								
PPT	**Papeete**	**89.01**	**108**	LR		LR		16 38 51.6	
	comp=Z,58nm,20.4s,baz=180,slow=35								
EIL	**Elat**	**89.10**	**300**	P		**P**		**16 00 28.8**	**+2.0**
	comp=Z,5.0nm,0.9s,mb4.5								
TORD	**Torodi Ar. Bea**	**118.03**	**280**	PKP		PKPdf		16 06 20.3	+1.9
	comp=Z,1.0nm,0.7s,baz=61,slow=1.8,SNR=9.1								
NVAR	**Mina Array Bea**	**121.79**	**51**	PKP		PKPdf		16 06 27.9	+2.9
	comp=Z,0.4nm,0.6s,baz=318,slow=1.2,SNR=4.5								
CPUP	**Villa Florida**	**144.08**	**186**	PKP		PKPdf		16 07 08.9	+1.9
	comp=Z,1.1nm,0.7s,baz=90,slow=5.1,SNR=3.9								
CPUP	**Villa Florida**	**144.08**	**186**	*e*PKP		PKPdf		16 07 08.6	+1.5
CMIG	**Matias Romero**	**146.74**	**73**	PKPbc		PKPab		16 07 16.6	+1.6
	comp=Z,5.6nm,0.6s,baz=296,slow=3.5,SNR=4.5								
TKL	**Tuckaleechee C**	**147.07**	**35**	PKPbc		PKPbc		16 07 15.4	+1.4
	comp=Z,3.6nm,0.5s,baz=326,slow=3.6,SNR=4.1								

NNC 01 15:53:05.8±4.8, 3710N×6901E, h0km, mb3.7, mpv3.5, 3C-2D, Error ellipse: s-maj=46.8km s-min=33.6km az=146.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.11**	**10**	⇑Pn		Pn		15 54 37.4	+0.1
	0.8nm,0.2s,baz=194,slow=14,SNR=40								
KK31				⇓Sn		Sn		15 55 49.2	+1.3
	2.3nm,0.3s,baz=191,slow=22								
TKM2	**Tokmak 2**	**7.71**	**39**	⇑Pn		Pn		15 54 57.3	-1.9
	2.2nm,0.6s								
AB31	**Akbulak array**	**13.82**	**334**	⇓P		Pn		15 56 21.8	-1.0
	0.9nm,0.4s,baz=156,slow=13,SNR=43								
AKTO	**Aktyubinsk**	**15.49**	**333**	⇑P		Pn		15 56 47.4	+2.0
	0.4nm,0.8s								

IDC 01 16:10:25.1±56.0, 1655S×17768W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/16, mbtmp4.3/3, Error ellipse: s-maj=1042.0km s-min=151.2km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.90**	**240**	P		P		16 18 01.2	+0.3
	2.0nm,0.6s,baz=80,slow=11,SNR=11								
WRA	**Warramunga Arr**	**45.57**	**258**	P		P		16 18 47.0	-0.2
	0.8nm,0.5s,baz=93,slow=8.2,SNR=36								
ASAR	**Alice Springs**	**45.84**	**253**	P		P		16 18 49.0	-0.2
	6.1nm,0.6s,baz=89,slow=8.5,SNR=245								

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*ISCJB **01** 16:28:25.9±2.6, 201S±01×1757W±03, h183km±36km, mb4.0/7, Error ellipse: s-maj=38.8km s-min=18.2km az=179.4*

*IDC **01** 16:28:27.0±3.0, 1983S×17606W, h157km±35km, mb3.7/5, mb1 3.9/7, mb1mx3.6/19, mbtmp3.8/7, Error ellipse: s-maj=39.6km s-min=19.3km az=110.0*
*NEIC **01** 16:28:29.1±1.0, 1983S×17572W, h200km, mb4.3/2, Error ellipse: s-maj=26.9km s-min=14.8km az=126.0*
ISC 01 16:28:26.2±2.6, 199S±01×1761W±03, h145km±40km, n15, σ0§83/18, mb4.0/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.22**	**35**	P		**Pn**		**16 30 09.3**	**0.0**
	4.6nm,0.3s,baz=236,slow=15,SNR=8.8								
AFI				S		**Sn**		**16 31 23.0**	**-7.0**
	8.6nm,0.3s,baz=218,slow=20,SNR=8.2								
AFI	**Afiamalu**	**7.22**	**35**	*e*P		**Pn**		**16 30 09.3**	**+0.1**
AFI				S		**Sn**		**16 31 23.0**	**-7.0**
URZ	**Urewera**	**19.24**	**197**	P		**P**		**16 32 38.1**	**-1.1**
	3.8nm,0.3s,baz=17,slow=4.1,SNR=18								
URZ				S		**S**		**16 35 58.7**	**-11**
	0.2nm,0.3s,baz=336,slow=17,SNR=2.7								
RPZ	**Rata Peaks**	**26.09**	**202**	P		**P**		**16 33 48.2**	**+1.9**
	3.8nm,0.4s,mb4.3,baz=11,slow=11,SNR=8.7								
CTA	**Charters Tower**	**35.38**	**263**	*e*P		**P**		**16 35 09.7**	**+1.6**
	4.4nm,0.4s,mb4.4								
STKA	**Stephens Creek**	**39.70**	**244**	*e*P		**P**		**16 35 44.1**	**-0.2**
	5.2nm,1.5s,mb3.9								
STKA	**Stephens Creek**	**39.70**	**244**	P		**P**		**16 35 43.7**	**-0.7**
	2.5nm,0.9s,mb3.9,baz=84,slow=12,SNR=4.5								
STKA	**Stephens Creek**	**39.70**	**244**	P		**P**		**16 35 44.1**	**-0.3**
ASAR	**Alice Springs**	**46.44**	**256**	P		**P**		**16 36 38.6**	**0.0**
	2.4nm,0.7s,mb4.0,baz=91,slow=9.4,SNR=59								
ASAR				PcP		PcP		16 38 09.3	-1.8
	0.8nm,0.7s,baz=106,slow=4.4,SNR=10								
WB2	**Warramunga Arr**	**46.49**	**261**	*e*P		**P**		**16 36 38.9**	**-0.2**
WB2	**Warramunga Arr**	**46.49**	**261**	*e*P		**P**		**16 36 38.8**	**-0.3**
WRAB	**Tennant Creek**	**46.49**	**261**	*e*P		**P**		**16 36 38.5**	**-0.5**
WRA	**Warramunga Arr**	**46.50**	**261**	P		**P**		**16 36 38.8**	**-0.3**
	1.1nm,0.3s,mb4.0,baz=96,slow=7.5,SNR=130								
WRA				PcP		PcP		16 38 09.9	-1.4
	0.7nm,0.7s,baz=95,slow=3.1,SNR=4.1								
FITZ	**Fitzroy Crossi**	**54.93**	**261**	*e*P		**P**		**16 37 42.0**	**-0.3**
	4.0nm,1.1s,mb4.1								
PETK	**Petropavlovsk-**	**76.18**	**344**	P		**P**		**16 39 57.8**	**-0.2**
	1.1nm,0.7s,mb3.6,baz=91,slow=6.2,SNR=4.0								

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*CSEM **01** 16:35:39.9±0.1, 3480N×363W, h5km, ML3.2/5, Error ellipse: s-maj=3.5km s-min=1.9km az=111.0*
*NEIC **01** 16:35:41.1, 3481N×385W, h0km, MG3.6(MDD), After MDD.*
*INMG **01** 16:35:41.3±1.1, 3458N×377W, h30km, ML2.6, Error ellipse: s-maj=6.2km s-min=3.6km az=157.0*
*ISCJB **01** 16:35:42.5±0.5, 3491N±002×394W±004, h16km±5km, Error ellipse: s-maj=5.2km s-min=2.6km az=15.1*
*MDD **01** 16:35:42.1±0.4, 3485N×372W, h0km, mb3.5/14, Error ellipse: s-maj=4.4km s-min=2.8km az=99.0, PRIMO*
*CNRM **01** 16:35:42.6, 3486N×368W, h3km, MD3.7*
ISC 01 16:35:42.8±0.5, 3490N±002×388W±003, h13km±3km, n65, σ1§20/112, Morocco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**60**	P		**Pg**		**16 35 44.5**	**-1.5**
TOU				S		**Sg**		**16 35 46.5**	**-1.8**
TOU	**Touzarine**	**0.12**	**60**	*i* P		**Pg**		**16 35 44.5**	**-1.5**
MPAL	**Palemas**	**0.33**	**352**	P		**Pg**		**16 35 50.5**	**+1.0**
MPAL				S		**Sg**		**16 35 55.5**	**+1.6**
MPAL	**Palemas**	**0.33**	**352**	*i* P		**Pg**		**16 35 50.5**	**+1.0**
TZK	**Tazeka**	**0.85**	**197**	*i* P		**Pg**		**16 35 58.0**	**-1.1**
TZK				*i* S		**Sg**		**16 36 10.5**	**+0.3**
ZAI	**Zaio**	**0.94**	**85**	*e*P		**Pg**		**16 35 56.0**	**-4.9**
ZAI				*i* S		**Sg**		**16 36 08.0**	**-5

TZC	**Tazercounte**	**3.50 219**	*e*P		**Pn**	**16 36 37.0**	**0.0**
EMUR	**La Murta**	**3.63 35**	S		**Sn**	**16 37 19.0**	**-2.4**
	10nm,0.4s,SNR=4.0						
EMUR	**La Murta**	**3.63 35**	S		**Sn**	**16 37 19.0**	**-2.4**
	10nm,0.4s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.64 323**	P		**Pn**	**16 36 38.9**	**0.0**
	2.5nm,0.2s,SNR=17						
EMIN			S		**Sn**	**16 37 20.4**	**-1.3**
	1.2nm,0.1s						
EMIN	**Mina Concepcio**	**3.64 323**	P		**Pn**	**16 36 38.9**	**0.0**
	2.5nm,0.2s,SNR=17						
EGRO	**El Granado**	**3.92 313**	S		**Sn**	**16 37 26.5**	**-2.1**
	4.3nm,0.3s						
PVAQ	**Vaqueiros**	**3.98 310**	*e*Pn		**Pn**	**16 36 43.5**	**-0.1**
PVAQ			*e*Sn		**Sn**	**16 37 29.2**	**-0.9**
PVAQ			A			16 37 33.2	
	8.3nm,0.3s						
PVAQ	**Vaqueiros**	**3.98 310**	*e*Pn		**Pn**	**16 36 43.5**	**-0.1**
PVAQ			*e*Sn		**Sn**	**16 37 29.2**	**-0.9**
	8.3nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.03 307**	*e*Pn		**Pn**	**16 36 44.4**	**+0.2**
PBDV			*e*Sn		**Sn**	**16 37 31.6**	**+0.4**
PBDV			A			16 37 34.3	
	5.8nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.03 307**	*e*Pn		**Pn**	**16 36 44.4**	**+0.2**
PBDV			*e*Sn		**Sn**	**16 37 31.6**	**+0.4**
	5.8nm,0.4s						
PBAR	**Barrancos**	**4.14 323**	*e*Pn		**Pn**	**16 36 46.6**	**+0.9**
PBAR			*e*Sn		**Sn**	**16 37 32.2**	**-1.8**
PBAR			A			16 37 38.6	
	8.7nm,0.6s						
PBAR	**Barrancos**	**4.14 323**	*e*Pn		**Pn**	**16 36 46.6**	**+0.9**
PBAR			*e*Sn		**Sn**	**16 37 32.2**	**-1.8**
	8.7nm,0.6s						
ETOB	**Tobarra**	**4.18 26**	P		**Pn**	**16 36 47.6**	**+1.3**
	1.4nm,0.2s,SNR=5.2						
ETOB			S		**Sn**	**16 37 35.0**	**0.0**
	4.0nm,0.4s						
ETOB	**Tobarra**	**4.18 26**	P		**Pn**	**16 36 47.6**	**+1.3**
	1.4nm,0.2s,SNR=5.2						
ETOB			S		**Sn**	**16 37 35.0**	**0.0**
MORF	**Marmelete**	**4.54 303**	*e*Sn		**Sn**	**16 37 42.9**	**-1.1**
MORF			A			16 37 46.8	
	5.1nm,0.8s						
MORF	**Marmelete**	**4.54 303**	*e*Sn		**Sn**	**16 37 42.9**	**-1.1**
	5.1nm,0.8s						
PFVI	**Vila Bisbo**	**4.58 301**	*e*Pn		**Pn**	**16 36 53.0**	**+1.2**
PFVI			*e*Sn		**Sn**	**16 37 44.1**	**-0.9**
EBAD	**Badajoz**	**4.59 328**	P		**Pn**	**16 36 52.9**	**+0.9**
	1.4nm,0.1s,SNR=12						
EBAD			S		**Sn**	**16 37 42.8**	**-2.4**
	15nm,0.5s						
EBAD	**Badajoz**	**4.59 328**	P		**Pn**	**16 36 52.9**	**+0.9**
PTEO	**Sao Teotonio**	**4.72 305**	*e*Pn		**Pn**	**16 36 54.6**	**+0.9**
PTEO			*e*Sn		**Sn**	**16 37 48.2**	**-0.1**
ESDC	**Sonseca Array**	**4.77 359**	P		**Pn**	**16 36 55.1**	**+0.7**
	0.9nm,0.1s,baz=172,slow=11,SNR=4.0						
ESDC	**Sonseca Array**	**4.77 359**	P		**Pn**	**16 36 55.1**	**+0.8**
PESTR	**Estremoz**	**4.95 324**	*e*Pn		**Pn**	**16 36 58.1**	**+1.2**
PESTR			*e*Sn		**Sn**	**16 37 54.6**	**+0.6**
PESTR			A			16 37 55.7	
	7.8nm,0.5s						
PESTR	**Estremoz**	**4.95 324**	*e*Pn		**Pn**	**16 36 58.1**	**+1.2**
PESTR			*e*Sn		**Sn**	**16 37 54.6**	**+0.6**
	7.8nm,0.5s						
OUK	**Oukaimeden**	**4.97 223**	P		**Pn**	**16 36 59.0**	**+1.8**
OUK			S		**Sn**	**16 37 55.0**	**+0.4**
OUK	**Oukaimeden**	**4.97 223**	*e*P		**Pn**	**16 36 59.0**	**+1.8**
PCBR	**Castelo Branco**	**5.70 331**	*e*Pn		**Pn**	**16 37 08.0**	**+0.8**
PCBR			*e*Sn		**Sn**	**16 38 10.1**	**-2.4**
PCBR			A			16 38 12.4	
	5.8nm,0.6s						
PCBR	**Castelo Branco**	**5.70 331**	P		**Pn**	**16 37 08.0**	**+0.8**
PCBR			S		**Sn**	**16 38 10.1**	**-2.4**
	2.9nm,0.6s						

IDC 01 16:53:52.8±1.9, 1161S×16674E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=50.3km s-min=35.3km az=96.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.41**	**182**	*e*P	Pn	16 56 40.8	+17
WRA	**Warramunga Arr**	**32.22**	**251**	P	P	17 00 22.9	0.0
	0.2nm,0.5s,baz=83,slow=9.2,SNR=7.5						
ASAR	**Alice Springs**	**33.42**	**245**	P	P	17 00 33.7	+0.2
	0.4nm,0.4s,baz=72,slow=11,SNR=11						
VNDA	**Vanda**	**65.95**	**181**	P	P	17 04 40.5	+0.1
	0.3nm,0.6s,baz=343,slow=7.5,SNR=3.9						
SONM	**Songino Array**	**79.69**	**323**	P	P	17 06 03.0	+0.7
	0.3nm,0.4s,baz=126,slow=7.3,SNR=2.4						
MKAR	**Makanchi Array**	**94.60**	**317**	P	P	17 07 14.7	-0.8
	0.9nm,0.8s,baz=104,slow=6.1,SNR=4.5						

*NEIC **01** 16:57:05.1, 4394N×14.16W, h0km, MG4.0(MDD), After MDD.*

MDD 01 16:57:04.9±4.0, 4395N×1416W, h0km, mb3.4/6, 1D, Error ellipse: s-maj=45.0km s-min=35.2km az=19.0, PRIMO, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.90 103**		⇓P	Pn	16 58 05.0	-1.1
	0.3nm,0.1s,SNR=18						
EMAZ				S	Sn	16 58 48.3	-4.3
	2.2nm,0.1s						
EMAZ	**Mazaricos**	**3.90 103**		P	Pn	16 58 05.0	-1.1
	3.1nm,0.1s,SNR=18						
EMAZ				S	Sn	16 58 48.3	-4.3
	2.2nm,0.1s						
ELOB	**Lobios**	**4.94 113**		P	Pn	16 58 19.4	-0.9
	0.1nm,0.1s,SNR=7.2						
ELOB				S	Sn	16 59 15.3	-2.8
	0.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**4.94 113**		P	Pn	16 58 19.4	-0.9
	0.8nm,0.1s,SNR=7.2						
ELOB				S	Sn	16 59 15.3	-2.8
	0.7nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**5.13 95**		P	Pn	16 58 21.3	-1.6
	0.1nm,0.0s,SNR=7.9						
EPON				S	Sn	16 59 17.7	-5.0
	0.9nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**5.13 95**		P	Pn	16 58 21.3	-1.6
	0.3nm,0.1s,SNR=7.9						
EPON				S	Sn	16 59 17.7	-5.0
	0.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.80 108**		P	Pn	16 58 31.5	-0.7
	0.0nm,0.0s,SNR=7.9						
ECAL				S	Sn	16 59 35.1	-4.4
	1.5nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.80 108**		P	Pn	16 58 31.6	-0.6
	0.5nm,0.1s,SNR=7.9						
ECAL				S	Sn	16 59 35.1	-4.3
	1.5nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.80 108**		P	Pn	16 58 31.6	-0.6
ECAL				S	Sn	16 59 35.1	-4.4
EARI	**Arriondas**	**6.53 93**		P	Pn	16 58 41.2	-1.0
	0.5nm,0.2s,SNR=8.3						
EARI	**Arriondas**	**6.53 93**		P	Pn	16 58 41.5	-0.6
	1.2nm,0.1s,SNR=8.3						
EARI	**Arriondas**	**6.53 93**		P	Pn	16 58 41.5	-0.6
EBAD	**Badajoz**	**7.47 132**		P	Pn	16 58 53.6	-1.4
	0.0nm,0.0s,SNR=7.9						
EBAD				S	Sn	17 00 12.6	-7.8
	1.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**7.47 132**		P	Pn	16 58 53.6	-1.4
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	17 00 12.6	-7.8
	1.0nm,0.2s,SNR=7.9						

*SZGRF **01** 17:08:49.0, 1535S×16842E, h33km, Vanuatu Islands*
*GCMT **01** 17:08:51.4±0.1, 1541S×16741E, h126km, MW7.2/116, Moment Tensor Solution. s113,c305; s116,c571; Duration: 9s5 Moment tensor: Scale 10^19Nm; Mrr6.06±.03; Mθθ0.17±.02; Mφφ-6.23±.02; Mrθ-0.99±.02; Mθφ-0.29±.02; Mφr-3.94±.02; Best double couple: M0 7.37300×10^19 NP1:φs356.00000°, δ29.00000°, λ79.00000°. NP2:φs189.00000°, δ62.00000°, λ96.00000°. Principal axes: T 7.3210, Plg73.0000°, Azm114.0000°; N 0.1040, Plg5.0000°, Azm6.0000°; P -7.4250, Plg17.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **01** 17:08:51.4±0.1, 1560S×16768E, h120km, mb6.2/126, ME6.6, MW7.2 Error ellipse: s-maj=4.1km s-min=3.1km az=91.0, Moment Tensor Solution. s49 Moment tensor: Scale 10^19Nm; Mrr6.10; Mθθ-1.00; Mφφ-5.11; Mrθ-0.66; Mθφ-1.18; Mφr-3.94; Best double couple: M0 7.00000×10^19 NP1:φs192.00000°, δ62.00000°, λ88.00000°. NP2: φs17.00000°, δ28.00000°, λ95.00000°. Principal axes: T 7.3500, Plg73.0000°, Azm96.0000°; N -0.6900, Plg2.0000°, Azm193.0000°; P -6.6700, Plg17.0000°, Azm284.0000°; Broadband fault plane solution: P waves. NP1:φs10.00000°, δ30.00000°, λ90.00000°. NP2: φs190.00000°, δ60.00000°, λ90.00000°. Principal axes: T Plg75.0000°, Azm100.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm280.0000°; Complex earthquake, with at least one larger event occurring about 3 seconds after the onset observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*
NEIC Some buildings, roads and a bridge damaged [VII] at Luganville. Power outages also occurred at Luganville. Felt at Port-Olry.
*BGS **01** 17:08:51.4±4.4, 1560S×16768E, h120km, mb6.2(NEIC)*
*ISCJB **01** 17:08:53.3±0.1, 1569S±002×16764E±002, h148km, mb6.1/171, Error ellipse: s-maj=2.6km s-min=2.4km az=152.0*
*MOS **01** 17:08:53.5±0.9, 1568S×16769E, h147km, mb6.2/64, MS6.8/43, Error ellipse: s-maj=6.9km s-min=6.1km az=68.2*
*IDC **01** 17:08:55.0±0.4, 1566S×16775E, h149km±3km, mb5.6/18, mb1 5.6/21, mb1mx5.6/21, mbtmp5.6/21, MS6.6/15, Ms1 6.6/15, ms1mx6.3/22, Error ellipse: s-maj=7.6km s-min=7.0km az=26.0*
*LDG **01** 17:08:54.3±0.1, 1571S×16749E, h150km, Mb6.6/4, Ms6.8/10, Error ellipse: s-maj=16.5km s-min=4.8km az=91.0*
*IGIL **01** 17:08:54.1, 1571S×16769E, h147km, MS7.0*
*DJA **01** 17:08:54, 1598S×16775E, h130km, Mwp7.4/58*
*BJI **01** 17:08:55.7, 1498S×16765E, h145km, mB7.0, mb6.2*
ISC 01 17:08:55.0±0.1, 1567S±002×16770E±002, h149km, h149km±1.3km; pP-P, n1878, σ0981/928, mb6.1/170, 271C-237D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.47**	**190**	*e*P	**Pn**	**17 10 26.9**	**-1.1**
DZM	**Mont Dzumac**	**6.47**	**190**	*e*P	**Pn**	**17 10 26.5**	**-1.5**
HNR	**Honiara**	**9.78**	**308**	P	**Pn**	**17 11 11.9**	**-0.3**
	50nm,0.3s,baz=107,slow=10,SNR=50						
HNR				S	**Sn**	**17 13 05.7**	**+5.0**
	621nm,0.3s,baz=90,slow=20,SNR=2.7						
HNR	**Honiara**	**9.78**	**308**	P	**Pn**	**17 11 11.9**	**-0.4**
HNR				S	**Sn**	**17 13 05.7**	**+5.0**
HNR				pmax	pmax		
	comp=Z,50nm,0.3s						
HNR				smax			
	comp=N,621nm,0.3s						
HNR	**Honiara**	**9.78**	**308**	⇓*e*P	**Pn**	**17 11 11.1**	**-1.2**
	comp=N,61μm,1.0s						
FUNA	**Funafuti**	**13.29**	**59**	*e*P	**Pn**	**17 12 01.0**	**+2.9**
	comp=N,5μm,1.3s						
TARA	**Tarawa**	**17.69**	**17**	P	**Pn**	**17 12 53.9**	**+1.6**
RAO	**Raoul Island**	**18.93**	**138**	P	**P**	**17 13 05.3**	**+0.8**
	comp=N,26nm,0.3s,baz=321,slow=14,SNR=2.4						
RAO				S	**S**	**17 16 34.9**	**+3.3**
	comp=N,71nm,0.3s,baz=285,slow=20,SNR=3.1						
RAO	**Raoul Island**	**18.93**	**138**	P	**P**	**17 13 05.3**	**+0.9**
RAO				S	**S**	**17 16 34.9**	**+3.3**
RAO				pmax	pmax		
	comp=Z,26nm,0.3s						
RAO				smax			
	comp=N,71nm,0.3s						
RAO	**Raoul Island**	**18.93**	**138**	P	**P**	**17 13 05.3**	**+0.8**
RAO				S	**S**	**17 16 34.9**	**+3.3**
AFI	**Afiamalu**	**19.92**	**88**	P	**P**	**17 13 14.3**	**-1.1**
	comp=N,14nm,0.3s,baz=254,slow=14,SNR=27						
AFI	**Afiamalu**	**19.92**	**88**	*e*P	**P**	**17 13 14.5**	**-0.8**
AFI				pmax	pmax		
	comp=Z,2μm,1.1s						
AFI	**Afiamalu**	**19.92**	**88**	*e*P	**P**	**17 13 14.5**	**-0.8**
	comp=Z,1μm,1.1s						
OUZ	**Omahuta**	**20.17**	**166**	P	**P**	**17 13 19.4**	**+1.6**
ARMA	**Armidale**	**20.79**	**222**	*e*P	**P**	**17 13 25.7**	**+1.2**
ARMA				*e*		17 13 58.9	
ARMA				*e*		17 14 14.1	
ARMA				*e*S	**S**	**17 17 16.1**	**+7.8**
CTA	**Charters Tower**	**20.87**	**255**	*e*P	**P**	**17 13 25.6**	**+0.2**
	comp=Z,1μm,0.9s						
CTA				*e*		17 13 58.9	
CTA				*e*		17 14 11.5	
CTA				*e*S	**S**	**17 17 18.8**	**+8.9**
CTA				*e*PCP	x	17 18 44.1	
CTA				*e*PCS	PcS	17 21 11.5	+5.5
CTA				*e*SCS	ScS	17 24 42.0	+7.5
CTA	**Charters Tower**	**20.87**	**255**	P	**P**	**17 13 26.8**	**+1.3**
	comp=Z,384nm,1.0s,baz=79,slow=12,SNR=48						
CTA				S	**S**	**17 17 13.7**	**+3.8**
	comp=Z,57nm,0.8s,baz=84,slow=18,SNR=1.3						
CTA	**Charters Tower**	**20.87**	**255**	P	**P**	**17 13 26.8**	**+1.4**
CTA				S	**S**	**17 17 13.7**	**+3.8**
CTA				pmax	pmax		
	comp=Z,384nm,1.0s						
CTA				smax			
	comp=N,57nm,0.8s						
CTAO	**Charters Tower**	**20.87**	**255**	*e*P	**P**	**17 13 25.5**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,3μm,1.0s						
CTAO	**Charters Tower**	**20.87**	**255**	*e*P	**P**	**17 13 25.5**	**0.0**
	comp=Z,3μm,1.0s						
OTAZ	**Otara**	**22.14**	**164**	*e*P	**P**	**17 13 39.3**	**+0.6**
MKAZ	**Moumakai**	**22.36**	**164**	P	**P**	**17 13 40.8**	**-0.1**
TOZ	**Tahuroa Road**	**23.03**	**164**	P	**P**	**17 13 48.0**	**+1.0**
TGRZ	**Tauranga**	**23.24**	**163**	P	**P**	**17 13 49.3**	**+0.4**
RIV	**Riverview**	**23.44**	**217**	*e*P	**P**	**17 13 51.5**	**+0.7**
RIV				*e*		17 14 23.6	
HIZ	**Hauiti**	**23.61**	**166**	P	**P**	**17 13 53.4**	**+1.1**
MXZ	**Matakaoa Point**	**23.74**	**159**	P	**P**	**17 13 53.9**	**+0.4**
COEN	**Coen**	**23.77**	**271**	*e*P	**P**	**17 13 53.8**	**-0.2**
	comp=Z,4μm,1.8s,mb6.6						
URZ	**Urewera**	**23.98**	**162**	P	**P**	**17 13 55.6**	**-0.1**
	comp=Z,508nm,1.0s,mb6.0,baz=331,slow=6.6,SNR=82						
URZ				S	**S**	**17 18 01.3**	**-0.3**
	comp=Z,89nm,0.9s,baz=357,slow=17,SNR=1.7						
URZ				LR	LR	17 21 53.1	
	comp=Z,93μm,21.3s,baz=163,slow=32						
URZ				P3KPbc		17 47 15.4	
	comp=Z,18nm,0.9s,baz=340,slow=7.7,SNR=5.3						
URZ	**Urewera**	**23.98**	**162**	P	**P**	**17 13 56.2**	**+0.5**
RATZ	**Rangitukua**	**24.17**	**164**	*e*P	**P**	**17 13 59.0**	**+1.6**
MWZ	**Matawai**	**24.18**	**161**	P	**P**	**17 13 57.7**	**+0.2**
PUZ	**Puketiti**	**24.18**	**159**	P	**P**	**17 13 57.2**	**-0.3**
RAEZ	**Rainy Point**	**24.25**	**167**	P	**P**	**17 13 59.2**	**+1.1**
WTVZ	**West Tongariro**	**24.36**	**165**	*e*P	**P**	**17 14 00.1**	**+1.0**
NGZ	**Ngauruhoe**	**24.42**	**165**	*e*P	**P**	**17 14 00.8**	**+1.2**
WPVZ	**Whakapapa**	**24.43**	**165**	P	**P**	**17 14 01.0**	**+1.2**
FWVZ	**Far West T-bar**	**24.48**	**165**	P	**P**	**17 14 01.6**	**+1.4**
TUVZ	**Tukino**	**24.52**	**165**	*e*P	**P**	**17 14 01.8**	**+1.2**
BKZ	**Black Stump Fm**	**24.64**	**163**	P	**P**	**17 14 01.9**	**+0.2**
MOVZ	**Moawhango**	**24.68**	**165**	P	**P**	**17 14 03.7**	**+1.7**
WAZ	**Wanganui**	**24.82**	**167**	P	**P**	**17 14 05.6**	**+2.3**
KNZ	**Kokohu**	**24.85**	**161**	P	**P**	**17 14 03.1**	**-0.5**
TSZ	**Takapari Road**	**25.34**	**165**	P	**P**	**17 14 07.4**	**-0.6**
QRZ	**Quartz Range**	**25.41**	**171**	*e*P	**P**	**17 14 09.4**	**+0.8**
CAN	**Canberra**	**25.75**	**217**	P	**P**	**17 14 12.0**	**+0.2**
CAN	**Canberra**	**25.75**	**217**	*e*P	**P**	**17 14 12.1**	**+0.3**
MRZ	**Mangatainoka R**	**25.82**	**166**	P	**P**	**17 14 11.1**	**-1.2**
KIW	**Kapiti Island**	**25.87**	**167**	P	**P**	**17 14 12.2**	**-0.5**
TCW	**Tory Channel**	**26.08**	**169**	*e*P	**P**	**17 14 14.1**	**-0.5**
CAW	**Cannon Point**	**26.14**	**167**	P	**P**	**17 14 14.3**	**-0.9**
MRW	**Makara Radio**	**26.18**	**168**	P	**P**	**17 14 14.8**	**-0.7**
DSZ	**Denniston Nort**	**26.22**	**173**	*e*P	**P**	**17 14 16.2**	**+0.3**
WEL	**Wellington**	**26.25**	**168**	P	**P**	**17 14 16.9**	**+0.8**
SNZO	**South Karori**	**26.25**	**168**	P	**P**	**17 14 15.2**	**-1.0**
MTW	**Mount Morrison**	**26.28**	**167**	P	**P**	**17 14 15.3**	**-1.1**
THZ	**Tophouse**	**26.38**	**171**	*e*P	**P**	**17 14 16.9**	**-0.5**
MSWZ	**Moikau Station**	**26.47**	**167**	*e*P	**P**	**17 14 16.7**	**-1.4**
PAWZ	**Paruwai Farm**	**26.48**	**167**	*e*P	**P**	**17 14 16.9**	**-1.3**
KHZ	**Kahutara**	**27.12**	**170**	P	**P**	**17 14 22.6**	**-1.3**
LTZ	**Lake Taylor**	**27.30**	**173**	P	**P**	**17 14 25.3**	**-0.2**
	comp=Z,853nm,0.5s,mb6.6						
WVZ	**Waitaha Valley**	**27.43**	**175**	P	**P**	**17 14 26.4**	**-0.3**
MMPI	**Merauke**	**27.63**	**282**	P	**P**	**17 14 33.6**	**+4.7**
FOZ	**Fox Glacier**	**27.85**	**177**	P	**P**	**17 14 30.7**	**+0.3**
RPZ	**Rata Peaks**	**28.09**	**175**	P	**P**	**17 14 31.9**	**-0.7**
	comp=Z,292nm,0.6s,mb6.2,baz=8.5,slow=7.4,SNR=242						
RPZ				LR	LR	17 24 22.7	
	comp=Z,31μm,19.0s,baz=352,slow=33						
RPZ	**Rata Peaks**	**28.09**	**175**	P	**P**	**17 14 32.3**	**-0.3**
CRLZ	**Canterbury Las**	**28.12**	**172**	P	**P**	**17 14 32.5**	**-0.4**
MQZ	**McQueen's Vall**	**28.26**	**172**	P	**P**	**17 14 33.3**	**-0.7**
JCZ	**Jackson Bay**	**28.32**	**178**	*e*P	**P**	**17 14 35.1**	**+0.5**
LBZ	**Lake Benmore**	**28.70**	**176**	P	**P**	**17 14 37.0**	**-0.9**
STKA	**Stephens Creek**	**28.71**	**231**	*e*P	**P**	**17 14 38.6**	**+0.3**
	comp=Z,330nm,0.9s,mb6.1						
STKA				*e*		17 14 52.7	
STKA				*e*PCP	PcP	17 17 54.0	+9.0
STKA				*e*S	**S**	**17 19 22.5**	**+6.0**
STKA				*e*PCS	PcS	17 21 30.1	+2.3
STKA				*e*SCS	ScS	17 25 09.8	+3.5
STKA	**Stephens Creek**	**28.71**	**231**	P	**P**	**17 14 38.8**	**+0.5**
	comp=Z,139nm,0.7s,mb5.8,baz=48,slow=7.3,SNR=81						
STKA				PcP	PcP	17 17 45.1	+0.1
	comp=Z,139nm,0.8s,baz=22,slow=1.9,SNR=2.4						
STKA				S	**S**	**17 19 16.2**	**-0.2**
	comp=Z,154nm,1.1s,baz=36,slow=8.7,SNR=2.3						
STKA				ScP	ScP	17 21 14.1	+1.6
	comp=Z,46nm,0.9s,baz=27,slow=4.5,SNR=1.9						
STKA				LR	LR	17 25 27.2	
	comp=Z,230μm,21.1s,baz=168,slow=34						
STKA	**Stephens Creek**	**28.71**	**231**	*e*P	**P**	**17 14 38.4**	**+0.1**
MSZ	**Milford Sound**	**28.91**	**180**	P	**P**	**17 14 40.5**	**+0.7**
WKZ	**Wanaka**	**29.08**	**178**	P	**P**	**17 14 40.9**	**-0.4**
TOO	**Toolangi**	**29.35**	**218**	*e*P	**P**	**17 14 44.2**	**+0.4**
TOO				*e*S	**S**	**17 19 30.0**	**+3.7**
ODZ	**Otahua Downs**	**29.38**	**176**	P	**P**	**17 14 43.1**	**-0.9**
EAZ	**Earnscleugh**	**29.50**	**178**	P	**P**	**17 14 45.1**	**+0.1**
MLZ	**Mavora Lakes**	**29.58**	**179**	P	**P**	**17 14 46.0**	**+0.2**
JAY	**Jayapura**	**29.63**	**293**	P	**P**	**17 14 50.6**	**+4.0**
WHZ	**Wether Hill Ro**	**30.13**	**180**	P	**P**	**17 14 50.1**	**-0.5**
TUZ	**Tuapeka**	**30.23**	**177**	*e*P	**P**	**17 14 51.0**	**-0.5**
RAR	**Rarotonga**	**31.31**	**105**	P	**P**	**17 15 00.9**	**-0.3**
	comp=Z,89nm,0.8s,mb5.5,baz=258,slow=6.9,SNR=13						
RAR	**Rarotonga**	**31.31**	**105**	P	**P**	**17 15 00.9**	**-0.4**
RAR				pmax	pmax		
	comp=Z,89nm,0.8s						
WB2	**Warramunga Arr**	**32.00**	**257**	*e*P	**P**	**17 15 05.9**	**-1.5**
WB2				*e*	pP	17 15 40.6	+1.4
WB2				*e*S	**S**	**17 20 05.8**	**-2.3**
WB2				*e*SCS	ScS	17 25 24.0	+1.4
WB2	**Warramunga Arr**	**32.00**	**257**	*e*P	**P**	**17 15 05.8**	**-1.6**
WB2				*e*P		17 15 05.9	
WB2				*e*	pP	17 15 40.6	+1.4
WB2				*e*S	**S**	**17 20 05.8**	**-2.3**
WB2				*e*ScS	ScS	17 25 24.0	+1.4
WRAB	**Tennant Creek**	**32.00**	**257**	P	**P**	**17 15 06.0**	**-1.4**
	comp=Z,4μm,1.0s,mb7.1,SNR=41						
WRAB	**Tennant Creek**	**32.00**	**257**	*e*P	**P**	**17 15 05.4**	**-2.0**
WRAB				*e**PP	pP	17 15 37.3	-1.9
WRAB				pmax	pmax		
	comp=Z,1μm,1.1s,mb6.5						
WRAB	**Tennant Creek**	**32.00**	**257**	*e*P	**P**	**17 15 05.4**	**-2.0**
	comp=Z,1μm,1.1s,mb6.5						
WRAB				*e*pP	pP	17 15 37.3	-1.9
WRA	**Warramunga Arr**	**32.01**	**257**	P	**P**	**17 15 07.4**	**0.0**
	comp=Z,38nm,0.5s,mb5.4,baz=80,slow=5.8,SNR=238						
WRA				pP	pP	17 15 41.1	+1.8
	comp=Z,403nm,1.0s,baz=87,slow=8.8,SNR=5.1						
WRA				PcP	PcP	17 17 53.7	-0.2
	comp=Z,93nm,1.0s,baz=87,slow=2.4,SNR=2.7						
WRA				S	**S**	**17 20 08.2**	**-0.1**
	comp=Z,91nm,1.1s,baz=85,slow=15,SNR=4.3						
WRA				ScP	ScP	17 21 28.1	+4.5
	comp=Z,47nm,1.1s,baz=91,slow=3.1,SNR=2.1						
WRA				PKiKP	PKiKP	17 25 20.5	-1.6
	comp=Z,10nm,0.8s,baz=5.7,slow=0.4,SNR=7.2						
WRA				LR	LR	17 27 47.7	
	comp=Z,241μm,19.1s,baz=95,slow=35						
WRA				P3KPbc		17 46 35.6	
	comp=Z,4.0nm,1.0s,baz=285,slow=2.9,SNR=5.6						
WRA	**Warramunga Arr**	**32.01**	**257**	P	**P**	**17 15 07.4**	**-0.1**
WRA				*PP	pP	17 15 41.1	+1.8
WRA						17 17 53.7	
WRA				S	**S**	**17 20 08.2**	**-0.1**
WRA				*i*		17 25 20.5	
WRA				pmax	pmax		
	comp=Z,38nm,0.5s						
WRA				smax			
	comp=N,91nm,1.1s						
WRA				MLR	MLR		
	comp=Z,241μm,19.1s						
WRA	**Warramunga Arr**	**32.01**	**257**	P	**P**	**17 15 07.4**	**0.0**
WRA				pP	pP	17 15 41.1	+1.8
WRA				PcP	PcP	17 17 53.7	-0.2
WRA				S	**S**	**17 20 08.2**	**-0.1**
WRA				ScP	ScP	17 21 28.1	+4.5
TAU	**Tasmania Unive**	**32.27**	**209**	P	**P**	**17 15 10.7**	**+1.3**
	comp=Z,2μm,1.2s,mb6.7,SNR=10						
TAU	**Tasmania Unive**	**32.27**	**209**	*e*P	**P**	**17 15 09.4**	**0.0**
TAU				pmax	pmax		
	comp=Z,600nm,1.1s,mb6.2						
TAU	**Tasmania Unive**	**32.27**	**209**	*e*P	**P**	**17 15 09.4**	**0.0**
	comp=Z,600nm,1.1s,mb6.2						

PPT eLQ 17 26 03.0
comp=Z,146μm,25.5s
PPT eLR LR 17 27 43.9
comp=Z,385μm,36.5s
PPT Papeete 40.92 99 P **P 17 16 23.5 +0.4**
comp=Z,119nm,0.8s,mb5.6,baz=246,slow=12,SNR=9.5
PPT Papeete 40.92 99 P **P 17 16 23.5 +0.5**
PPT pmax pmax
comp=Z,119nm,0.8s
TBI Tubuai 40.98 108 eP **P 17 16 23.2 -0.2**
comp=Z,402nm,1.0s,mb6.0
TBI Tubuai 40.98 108 eLR LR 17 27 49.8
comp=Z,405nm,38.0s
TIAR Tiarei 41.14 99 eP **P 17 16 24.8 0.0**
comp=Z,13μm,0.8s
TIAR eP'P' 17 48 32.8
TVO Taravao 41.22 99 eP **P 17 16 25.5 0.0**
comp=Z,10μm,0.8s,mb7.5
TVO eP'P' 17 48 32.6
MEH Mehetia 42.34 99 eP **P 17 16 34.5 -0.1**
comp=Z,50μm,1.5s
PMOR Pomariorio Ree 42.77 95 eP **P 17 16 38.3 +0.2**
comp=Z,4μm,1.4s,mb6.9
MNI Manado 45.64 288⇓eP **P 17 17 03.5 +2.6**
MBWA Marble Bar 45.70 256 eP **P 17 17 00.8 -0.6**
comp=Z,44nm,0.9s,mb5.1
MBWA epP pP 17 17 28.1 -6.8
KDI Kendari 45.81 280⇓eP **P 17 17 06.2 +3.9**
KDI eS **S 17 23 38.5 +3.3**
MIDW Midway 45.96 18 eP **P 17 17 05.4 +2.2**
comp=Z,1μm,1.3s,mb6.3
MIDW epP pP 17 17 37.0 +0.2
DAV Davao City (W) 47.44 295⇓eP **P 17 17 18.7 +3.7**
DAV Davao City (W) 47.44 295 eP **P 17 17 19.8 +4.9**
comp=Z,3μm,1.4s,mb6.7
GSPH General Santos 47.53 294⇓eP **P 17 17 14.4 -1.3**
KCP Kidapawan 47.84 295⇑eP **P 17 17 18.9 +0.8**
KLBR Kellerberrin 48.01 241 eP **P 17 17 18.3 -0.9**
comp=Z,3μm,1.7s,mb6.7
KLBR eS **S 17 24 11.7 +5.7**
KAPI Kappang 48.23 277 P **P 17 17 21.5 +0.4**
comp=Z,5μm,1.0s,mb7.1,SNR=79
KAPI Kappang 48.23 277 eP **P 17 17 20.6 -0.5**
comp=Z,4μm,1.3s,mb6.9
KAPI epP pP 17 17 56.6 +1.6
BUKP Musuan 48.28 296 eP **P 17 17 22.3 +0.9**
BUTP Butuan 48.34 298 eP **P 17 17 21.7 -0.1**
MKS Makassar 48.45 277⇑eP **P 17 17 25.5 +2.8**
MKS eS x 17 20 23.9
NWAO Narrogin (SRO) 48.63 240 eP **P 17 17 23.4 -0.5**
NWAO pmax pmax
comp=Z,1μm,1.0s
NWAO Narrogin (SRO) 48.63 240 eP **P 17 17 23.4 -0.5**
comp=Z,1μm,1.0s,mb6.5
CTBH Cotabato--PC H 48.68 295 eP **P 17 17 24.2 -0.3**
CTBH *i* S PcP 17 18 35.2 -12
SCPH Surigao 48.86 298⇓eP **P 17 17 23.4 -2.5**
MUN Mundaring 49.37 241 eP **P 17 17 29.1 -0.4**
MUN eS **S 17 24 24.1 -0.8**
PCI Palu 49.43 283⇓eP **P 17 17 32.0 +1.8**
MSLP Maasin 49.57 298 eP **P 17 17 31.4 +0.2**
PAGZ Pagadian 49.73 295 eP **P 17 17 33.4 +1.0**
BESP Borongan 49.84 300 eP **P 17 17 33.5 +0.2**
HON Honolulu 49.84 43 eP **P 17 17 35.7 +2.5**
KIP Kipapa 49.90 43 eP **P 17 17 33.4 -0.2**
KIP pmax pmax
comp=Z,894nm,1.3s,mb6.2
KIP Kipapa 49.90 43 eP **P 17 17 33.4 -0.2**
comp=Z,894nm,1.3s,mb6.2
PLP Palo 50.00 300⇓eP **P 17 17 35.8 +1.3**
KHU Kahuku 50.07 47 eP **P 17 17 35.1 +0.2**
TBP Tagbilaran 50.20 297 eP **P 17 17 36.4 +0.4**
OCLP Ormoc 50.25 299 eP **P 17 17 36.2 -0.1**
IPIL Ipil 50.41 294 eP **P 17 17 37.8 +0.2**
LLP Lapu-Lapu 50.42 298 eP **P 17 17 39.4 +1.8**
LLP eS **S 17 24 44.3 +4.4**
POHA Pohakuloa 50.46 47 eP **P 17 17 38.0 +0.2**
comp=Z,490nm,0.8s,mb6.2
ZMPH Zamboanga City 50.48 293⇓eP **P 17 17 38.5 +0.4**
STCH Steam Cracks 50.51 48 eP **P 17 17 37.2 -1.0**
SNPH Sibulan 50.56 296 eP **P 17 17 42.0 +3.3**
CNP Cataman 50.96 301 eP **P 17 17 41.6 -0.1**
TAOE Nuku Hiva Isla 51.31 89 eP **P 17 17 45.2 +0.9**
TAOE eS **S 17 24 52.7 +0.4**
TAOE eLQ 17 30 25.3
TAOE eLR LR 17 32 31.1
TAOE Nuku Hiva Isla 51.31 89 eP **P 17 17 45.2 +0.9**
TAOE eS **S 17 24 52.7 +0.4**
TAOE eLQ 17 30 25.3
KHKI Kahang-Kahang 51.36 272⇓eP **P 17 17 43.8 -0.9**
KHKI eS **S 17 24 50.6 -2.4**
GUIM Jordan 51.75 298 eP **P 17 17 46.9 -0.7**
PVCP Virac 51.96 302 eP **P 17 17 49.2 +0.2**
RCP Roxas 52.08 299⇓eP **P 17 17 50.5 +0.6**
KALP Kalibo 52.48 299⇓eP **P 17 17 45.6 -7.4**
OTRP Odiongan 53.09 299 eP **P 17 17 57.6 +0.1**
TSM Tawau 53.15 288⇑P **P 17 17 58.9 +1.0**
CUYO Cuyo Island 53.20 297 eP **P 17 17 58.4 +0.1**
SJMP San Jose 53.90 299 eP **P 17 18 03.6 +0.3**
DRV Dumont d'Urvil 54.12 193 P **P 17 18 08.0 +3.9**
DRV S **S 17 25 42.0 +13**
DRV SS SS 17 29 24.0 +12
DRV L 17 31 00.0
RKT Rikitea 54.30 107 eP **P 17 18 07.1 +0.9**
comp=Z,190nm,0.9s,mb5.8
RKT eS **S 17 25 33.2 +0.6**
comp=Z,121μm,26.0s
RKT eLQ 17 31 42.2
comp=Z,115μm,30.8s
RKT eLR LR 17 33 57.6
comp=Z,340μm,36.5s
RKT Rikitea 54.30 107 eP **P 17 18 07.1 +0.9**
RKT eS **S 17 25 33.2 +0.6**
RKT pmax pmax
comp=Z,190nm,0.9s,mb5.8
RKT Rikitea 54.30 107 eP **P 17 18 07.1 +0.9**
comp=Z,190nm,0.9s,mb5.8
RKT eS **S 17 25 33.2 +0.6**
RKT eLQ 17 31 42.2
SDKM Sandakan 54.30 289⇑P **P 17 18 07.2 +0.9**
TRT Tretes 54.38 272⇓eP **P 17 18 06.0 -0.9**
POLP Polillo Island 54.38 301 eP **P 17 18 06.7 -0.1**
KRKI Karangkates 54.45 271⇑eP **P 17 18 08.2 +0.8**
BUSP Coron 54.46 298 eP **P 17 18 07.4 0.0**
PPR Puerto Princes 54.69 294⇑eP **P 17 18 15.0 +5.9**
LBPH Los Banos 54.71 300⇑eP **P 17 18 11.3 +2.1**
ENPP El Nido 54.74 296 eP **P 17 18 09.5 +0.1**
BATP Bataraza 55.08 293 eP **P 17 18 12.2 +0.3**
KDM Kudat 55.15 290⇓P **P 17 18 13.2 +0.8**
BALP Baler 55.21 302 eP **P 17 18 12.0 -0.8**
PALP Palanan 55.24 304 eP **P 17 18 13.3 +0.3**
LUBP Lubang 55.27 299 eP **P 17 18 11.7 -1.5**
KKM Kota Kinabalu 55.35 289⇑P **P 17 18 15.4 +1.5**
KKM Kota Kinabalu 55.35 289 eP **P 17 18 14.3 +0.5**
PCPH Palayan 55.51 302⇓eP **P 17 18 14.0 -0.9**
NBP Mount Natib 55.64 301⇑eP **P 17 18 15.8 -0.1**
CAUP Cauayan 55.66 304 eP **P 17 18 16.1 +0.2**
SGCP Mt. Cagua 56.19 305 eP **P 17 18 19.4 -0.3**
BCPH Baguio City Da 56.36 302⇓eP **P 17 18 18.7 -2.2**
SCZP Santa Cruz 56.59 301 eP **P 17 18 28.5 +5.9**
APYP Conner 56.62 304 eP **P 17 18 21.7 -1.0**
BOLP Bolinao 56.90 302 eP **P 17 18 27.1 +2.4**
ABRA Dolores 56.93 304 eP **P 17 18 23.9 -1.0**
BTM Bintulu 57.18 284⇓P **P 17 18 27.7 +0.8**
SIPP Brgy, Tapao 57.28 304⇓*i*P **P 17 18 29.4 +2.0**
SBUM Sibu 57.72 283⇑P **P 17 18 31.8 +1.2**
MJAR Matsushiro Arr 58.93 332 P **P 17 18 37.2 -1.3**
comp=Z,195nm,1.1s,mb5.9,baz=162,slow=7.3,SNR=139
MJAR pP pP 17 19 13.6 0.0
comp=Z,326nm,0.9s,baz=164,slow=8.1,SNR=4.8
MJAR S **S 17 26 27.0 -5.9**
comp=Z,3.4nm,1.2s,baz=68,slow=14,SNR=3.3
MJAR PKPPKP 17 48 08.3
comp=Z,12nm,1.3s,baz=333,slow=1.9,SNR=5.0
MJAR Matsushiro Arr 58.93 332 P **P 17 18 37.2 -1.3**
MJAR *PP pP 17 19 13.6 -0.1
MJAR S **S 17 26 27.0 -5.9**
MJAR pmax pmax
comp=Z,195nm,1.1s
MJAR smax
comp=N,3.0nm,1.2s
MJAR Matsushiro Arr 58.93 332 P **P 17 18 37.2 -1.3**
MJAR pP pP 17 19 13.6 0.0
MJAR S **S 17 26 27.0 -6.0**
MJAR P'P' 17 48 08.3
MAJO Matsushiro 58.93 332 eP **P 17 18 33.4 -5.1**
MAJO e*PP pP 17 19 09.4 -4.3
MAJO pmax pmax
comp=Z,582nm,0.8s,mb6.5
MAJO Matsushiro 58.93 332 eP **P 17 18 33.4 -5.1**
comp=Z,582nm,0.8s,mb6.5
MAJO epP pP 17 19 09.4 -4.3
MAT Matsushiro 58.93 332 P **P 17 18 37.6 -0.9**
MAT S **S 17 26 33.3 +0.4**
KSM Kuching 59.20 281⇓P **P 17 18 41.5 +0.7**
KSM Kuching 59.20 281 eP **P 17 18 40.6 -0.3**
KSM epP pP 17 19 17.4 +1.3
LEM Lembang 59.42 271⇓eP **P 17 18 43.1 +0.7**
NACB Ninganchiao 59.95 311 eP **P 17 18 45.2 -0.6**
comp=Z,3μm,1.4s,mb6.9
NACB epP pP 17 19 19.4 -1.7
YHNB Yeheng 60.41 311 eP **P 17 18 48.6 -0.3**
comp=Z,1μm,0.9s,mb6.8
TPI Tanjungpandan 60.45 276⇑eP **P 17 18 49.0 -0.4**
XMIS Christmas Isla 60.49 267 eP **P 17 18 50.5 +0.8**
XMIS epP pP 17 19 22.1 -2.8
TATO Taipei 60.51 311 eP **P 17 18 49.1 -0.5**
comp=Z,2μm,1.3s,mb6.7
VNDA Vanda 61.93 181 P **P 17 18 58.5 +0.2**
comp=Z,188nm,1.0s,mb5.9,baz=358,slow=7.1,SNR=170
VNDA S **S 17 27 07.2 -3.0**
comp=Z,3.3nm,0.9s,baz=307,slow=10,SNR=1.6
VNDA LR LR 17 44 13.8
comp=Z,22μm,18.8s,baz=18,slow=34
VNDA PKPPKP 17 48 06.2
comp=Z,15nm,1.1s,baz=243,slow=3.8,SNR=7.0
VNDA PKP2ab 17 48 21.2
comp=Z,28nm,1.1s,baz=204,slow=2.0,SNR=8.6
VNDA P4KPbc 17 55 57.5
comp=Z,1.7nm,1.0s,baz=303,slow=5.6,SNR=4.5
VNDA Vanda 61.93 181 P **P 17 18 58.5 +0.1**
VNDA S **S 17 27 07.2 -3.0**
VNDA pmax pmax
comp=Z,188nm,1.0s
VNDA smax
comp=N,3.0nm,0.9s
VNDA MLR MLR
comp=Z,22μm,18.8s
VNDA Vanda 61.93 181 eP **P 17 18 58.4 +0.1**
comp=Z,75nm,1.3s,mb5.4
SBA Scott Base 62.20 180 eP **P 17 19 01.3 +1.2**
comp=Z,5.5nm,0.6s,mb4.6
QZH Quanzhou 62.62 309⇑*i*P **P 17 19 04.1 +0.4**
QZH AP pP 17 19 41.0 +1.7
QZH XP sP 17 19 58.0 +2.5
QZH S **S 17 27 22.1 +1.9**
QZH AMB AMB
comp=Z,860nm,1.0s,mb6.5
QZH AMB AMB
comp=Z,20μm,7.0s
QZH LR LR
comp=N,71μm,15.6s
QZH LR LR
comp=E,44μm,17.7s
QZH LR LR
comp=Z,309μm,41.4s
YUK Yuzh-Kuril'sk 62.68 342 eP **P 17 19 05.0 +1.3**
YUK *e* 17 21 20.0
YUK eS **S 17 27 14.6 -5.6**
YUK pmax pmax
comp=Z,23μm,7.0s
YUK pmax pmax
comp=N,21μm,4.0s
YUK pmax pmax
comp=E,10μm,3.8s
YUK pmax pmax
comp=E,330nm,0.6s
YUK pmax pmax
comp=Z,310nm,0.6s,mb6.3
YUK pmax pmax
comp=N,630nm,0.7s
YUK smax
comp=E,37μm,17.0s
YUK smax
comp=N,59μm,19.0s
CASY Casey 62.82 202 eP **P 17 19 04.2 -0.2**
CASY eS **S 17 27 19.0 -2.5**
SSE Sheshan 64.49 316 P **P 17 19 16.5 +0.6**
SSE AP pP 17 19 50.3 -1.3
SSE S **S 17 27 45.2 +2.1**
SSE XS sS 17 28 43.5 -1.4
SSE AMB AMB
comp=Z,299nm,1.1s,mb6.0
SSE AMB AMB
comp=Z,25μm,10.3s
SSE LR LR
comp=N,64μm,25.0s
SSE LR LR
comp=E,72μm,25.0s
SSE LR LR
comp=Z,105μm,25.0s
HKC Hong Kong Obse 64.59 304⇑*i*P **P 17 19 18.0 +1.3**
HKC *i* S **S 17 27 48.0 +3.2**
KSRS Korea Array 64.75 326 P **P 17 19 17.1 -0.3**
comp=Z,48nm,0.8s,mb5.4,baz=144,slow=6.7,SNR=39
KSRS pP pP 17 19 54.2 +1.0
comp=Z,139nm,0.9s,baz=146,slow=6.1,SNR=5.5
KSRS S **S 17 27 53.6 +7.5**
comp=Z,4.8nm,1.1s,baz=156,slow=10,SNR=4.5
KSRS LR LR 17 44 43.3
comp=Z,77μm,19.6s,baz=131,slow=33
KSRS PKP2bc 17 48 00.8
comp=Z,4.6nm,1.0s,baz=316,slow=5.1,SNR=5.7
KSRS Korea Array 64.75 326 P **P 17 19 17.1 -0.3**
KSRS *PP pP 17 19 54.2 +1.0
KSRS S **S 17 27 53.6 +7.5**
KSRS pmax pmax
comp=Z,48nm,0.8s,mb5.4
KSRS smax
comp=N,5.0nm,1.1s
KSRS MLR MLR
comp=Z,77μm,19.6s
INCN Inchon 65.48 325 eP **P 17 19 22.5 +0.4**
comp=Z,1μm,1.5s,mb6.5
GZH Guangzhou 65.65 305 P **P 17 19 24.8 +1.2**
GZH S S 17 28 00.9 +3.2
GZH SCS ScS 17 29 01.4 -4.0
GZH LR LR
comp=N,41μm,22.5s
GZH LR LR
comp=E,70μm,23.4s
GZH LR LR
comp=Z,119μm,20.3s
KGM Kluang 65.99 279⇓P **P 17 19 26.2 +0.3**
YSS Yuzh-Sakhalins 66.25 342α*e*P **P 17 19 27.5 +0.6**
YSS e*SP sP 17 20 04.0 -15
YSS *e*PPP 17 23 28.5
YSS *i* S S 17 28 05.0 +1.0
YSS *e* 17 29 06.0
YSS *e*SS SS 17 32 18.0 -5.5
YSS pmax pmax
comp=N,12μm,4.0s
YSS pmax pmax
comp=Z,32μm,4.0s
YSS pmax pmax
comp=E,4μm,3.0s
YSS pmax pmax
comp=N,440nm,1.0s
YSS pmax pmax
comp=Z,1μm,1.0s,mb6.6
YSS smax
comp=N,56μm,16.0s
YSS smax
comp=E,41μm,14.0s
YSS MLR MLR
comp=Z,37μm,19.0s
YSS MLR MLR
comp=N,30μm,20.0s
YSS MLR MLR
comp=E,18μm,18.0s
YSS Yuzh-Sakhalins 66.25 342 eP **P 17 19 27.2 +0.4**
comp=E,846nm,0.9s,mb6.6
YSS epP pP 17 20 05.7 +3.0
QIZ Qiongzhong 66.56 299 P **P 17 19 29.5 +0.1**
QIZ S S 17 28 11.9 +3.2
QIZ LR LR
comp=N,61μm,21.2s
QIZ LR LR
comp=Z,138μm,44.7s
QIZ Qiongzhong 66.56 299 eP **P 17 19 30.1 +0.7**
comp=Z,1μm,1.5s,mb6.5
QIZ epP pP 17 20 00.3 -5.0
NJ2 Nanjing 66.64 316 eP **P 17 19 29.8 +0.1**
NJ2 AP pP 17 20 00.5 -5.1
NJ2 PP PP 17 21 59.0 +0.4
NJ2 S S 17 28 10.5 +1.2
NJ2 XS sS 17 29 06.0 -5.4
NJ2 AMB AMB
comp=Z,180nm,1.0s,mb5.9
NJ2 AMB AMB
comp=Z,10μm,7.8s
NJ2 LR LR
comp=N,59μm,18.4s
NJ2 LR LR
comp=E,112μm,29.2s
NJ2 LR LR
comp=Z,86μm,26.3s
SKR Severo-Kuril's 66.85 352 eP **P 17 19 29.0 -1.6**
SKR *e* pP 17 20 03.0 -3.5
SKR *e* 17 21 59.0
SKR eS S 17 28 04.0 -7.0
SKR ePS 17 28 40.0
SKR *e* 17 29 02.4
SKR eSS SS 17 32 32.0 -0.6
SKR pmax pmax
comp=E,800nm,1.5s
SKR pmax pmax
comp=Z,2μm,1.5s,mb6.6
SKR pmax pmax
comp=N,50nm,0.5s
SKR pmax pmax
comp=N,11μm,12.0s
SKR pmax pmax
comp=Z,22μm,12.0s
SKR pmax pmax
comp=E,7μm,6.0s
SKR smax
comp=E,63μm,12.0s
SKR smax
comp=N,36μm,16.0s
SKR MLR MLR
comp=N,18μm,16.0s
SKR MLR MLR
comp=E,13μm,16.0s
SKR MLR MLR
comp=Z,34μm,16.0s
VLA Vladivostok 67.10 332 eP **P 17 19 32.0 -0.3**
VLA *e* 17 19 54.5
VLA *i* *PP pP 17 20 09.3 +1.0
VLA *i* *SP sP 17 20 25.8 +1.4
VLA eS S 17 28 19.0 +4.7
VLA *i* *SS sS 17 29 17.1 +0.6
VLA pmax pmax
comp=Z,1μm,1.5s,mb6.5
VLA MLR MLR
comp=Z,33μm,18.0s
KTGM Kuala Trenggan 67.22 283⇓P **P 17 19 34.8 +1.1**
AMKA Amchitka 67.53 8 eP **P 17 19 34.9 +0.1**
FRIM Kepong 67.98 280⇓P **P 17 19 38.5 0.0**
SMY Shemya 68.34 4 P **P 17 19 41.6 +1.7**
SMY pmax pmax
comp=Z,410nm,1.0s,mb6.1
SMY Shemya 68.34 4 eP **P 17 19 44.3 +4.4**
comp=Z,2μm,2.3s,mb6.4
SMY LR LR
comp=Z,115μm,22.0s
COCO West Island 68.59 263 eP **P 17 19 43.5 +1.2**
comp=Z,963nm,1.3s,mb6.4
PET Petropavlovsk 68.86 354c *i*P **P 17 19 42.8 -0.3**
PET e*PP pP 17 20 14.0 -5.2
PET e*SP sP 17 20 37.3 +2.0
PET *i* S S 17 28 36.2 +1.4
PET eSS SS 17 32 58.7 -4.8
PET eSSS 17 36 08.4
PET pmax pmax
comp=Z,19μm,5.7s
PET pmax pmax
comp=Z,426nm,1.5s,mb6.0
PET pmax pmax
comp=N,12μm,16.8s
PET pmax pmax
comp=Z,26μm,15.7s
PET smax
comp=N,26μm,12.6s
PET smax
comp=E,35μm,12.0s
PET smax
comp=E,61μm,21.1s
PET smax
comp=N,55μm,26.2s
PET MLR MLR
comp=Z,27μm,21.0s
PET MLR MLR
comp=Z,35μm,18.0s
PET Petropavlovsk 68.86 354 eP **P 17 19 42.4 -0.7**
comp=Z,682nm,1.3s,mb6.2
PET epP pP 17 20 22.2 +3.0
WHN Wuhan 68.88 312⇓P **P 17 19 43.1 -0.6**
WHN AP pP 17 20 21.0 +1.1
WHN S S 17 28 35.9 -0.1
WHN AMB AMB
comp=Z,18μm,6.8s
WHN LR LR
comp=N,113μm,23.1s
WHN LR LR
comp=E,91μm,15.7s
WHN LR LR
comp=Z,173μm,21.0s
IPM Ipoh 68.93 281⇑P **P 17 19 44.9 +0.5**
PETK Petropavlovsk- 69.04 354 P **P 17 19 43.8 -0.4**
comp=Z,66nm,1.1s,mb5.3,baz=138,slow=6.9,SNR=53
PETK pP pP 17 20 22.5 +2.1
comp=Z,375nm,0.9s,baz=168,slow=7.4,SNR=7.9
PETK PKiKP PKiKP 17 26 01.8 +1.4
comp=Z,7.2nm,1.2s,baz=81,slow=4.5,SNR=3.2
PETK S S 17 28 25.1 -12
comp=Z,3.7nm,0.9s,baz=150,slow=3.2,SNR=3.4
PETK LR LR 17 44 34.8
comp=Z,62μm,20.5s,baz=165,slow=31
PETK PKP2bc 17 47 51.7
comp=Z,3.5nm,1.0s,baz=348,slow=6.4,SNR=4.0
PETK Petropavlovsk- 69.04 354 eP **P 17 19 43.6 -0.6**
DL2 Dalian 69.30 323⇑*i*P **P 17 19 46.5 +0.4**
DL2 AP pP 17 20 17.6 -4.7
DL2 PP PP 17 22 21.8 +0.3
DL2 S S 17 28 44.0 +3.4
DL2 SS SS 17 33 09.5 -1.4
DL2 AMB AMB
comp=Z,810nm,0.9s,mb6.5
DL2 AMB AMB
comp=Z,8μm,5.8s
MDJ Mudanjiang 69.30 332 P **P 17 19 46.7 +0.7**
MDJ AP pP 17 20 16.3 -5.9
MDJ AMB AMB
comp=Z,640nm,0.8s,mb6.4
MDJ AMB AMB
comp=Z,18μm,6.5s
MDJ LR LR
comp=N,38μm,18.9s
MDJ LR LR
comp=Z,52μm,18.9s
MDJ Mudanjiang 69.30 332 eP **P 17 19 46.6 +0.5**
comp=Z,873nm,0.9s,mb6.5
KULM Kulim 69.55 282⇓P **P 17 19 48.7 +0.5**
MIR Mirnyy 69.64 204α*i*P **P 17 19 48.0 +0.2**
MIR *i* 17 20 15.0
MIR *i* 17 22 30.0
MIR *i* PPP 17 24 10.0
MIR *i* PS 17 29 34.0
MIR *i* SS SS 17 33 20.0 +5.5
MIR pmax pmax
comp=Z,1μm,1.0s,mb6.6
MIR pmax pmax
comp=Z,6μm,3.0s
MIR MLR MLR
comp=Z,38μm,20.0s
HABR Khabarovsk 70.16 338⇑*i*P **P 17 19 52.2 +1.0**
HABR *e* 17 22 25.2
HABR eS S 17 28 53.1 +2.8
HABR eSS SS 17 33 22.2 -1.6
HABR pmax pmax
comp=Z,1μm,1.1s,mb6.5
HABR MLR MLR
comp=Z,12μm,12.0s

SNY	**Shenyang**	**70.22 326**	⇑P	**P**	**17 19 51.6**	**-0.1**
SNY			AP	pP	17 20 29.6	+1.6
SNY			XS	sS	17 29 46.1	-7.8
SNY			AMB	AMB		
	comp=Z,14μm,10.8s					
SNY			LR	LR		
	comp=N,64μm,17.9s					
SNY			LR	LR		
	comp=E,37μm,18.2s					
SNY			LR	LR		
	comp=Z,64μm,19.2s					
TIA	**Tai'an**	**70.32 318**	⇑P	**P**	**17 19 52.0**	**-0.4**
TIA			S	S	17 28 41.0	-12
TIA			AMB	AMB		
	comp=Z,165nm,1.1s,mb5.7					
TIA			AMB	AMB		
	comp=Z,5μm,4.0s					
TIA			LR	LR		
	comp=N,3μm,14.0s					
TIA			LR	LR		
	comp=E,2μm,14.0s					
PSI	**Prapat**	**70.41 279**	LR	LR	17 50 46.2	
	comp=E,75μm,21.8s,baz=116,slow=36					
CN2	**Changchun**	**70.66 329**	⇑P	**P**	**17 19 53.9**	**-0.5**
CN2			PCP	PcP	17 20 13.5	-0.9
CN2			*e*AP	pP	17 20 29.2	-1.5
CN2			PP	PP	17 22 35.7	+2.5
CN2			*e*S	S	17 28 57.2	+0.9
CN2			AMB	AMB		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,49μm,25.0s					
CN2			LR	LR		
	comp=E,54μm,25.0s					
CN2			LR	LR		
	comp=Z,46μm,24.0s					
TSI	**Tuntungan**	**70.96 279**	⇓*e*P	**P**	**17 20 01.0**	**+4.1**
NIKO	**Nikolski**	**71.30 15**	*e*P	**P**	**17 19 57.9**	**-0.1**
KLR	**Kul'dur**	**72.03 336**	*de*P	**P**	**17 19 58.8**	**-3.6**
KLR			*e*S	S	17 29 17.0	+5.2
KLR			*e*PS		17 30 00.0	
KLR			pmax	pmax		
	comp=N,8μm,8.0s					
KLR			pmax	pmax		
	comp=E,5μm,8.0s					
KLR			pmax	pmax		
	comp=Z,15μm,8.0s					
GYA	**Guiyang**	**72.59 305**	⇑*i*P	**P**	**17 20 05.8**	**-0.5**
GYA			PCP	PcP	17 20 24.9	+1.9
GYA			AP	pP	17 20 42.7	-0.1
GYA			PP	PP	17 22 51.6	+1.6
GYA			PPP		17 24 37.0	
GYA			S	S	17 29 21.3	+2.2
GYA			SKS		17 29 53.4	
GYA			PS		17 30 13.2	
GYA			AMB	AMB		
	comp=Z,1μm,1.2s,mb6.5					
GYA			AMB	AMB		
	comp=Z,35μm,14.0s					
GYA			LR	LR		
	comp=N,62μm,23.3s					
GYA			LR	LR		
	comp=E,54μm,21.8s					
GYA			LR	LR		
	comp=Z,66μm,23.0s					
AKUT	**Akutan**	**73.14 16**	*e*P	**P**	**17 20 08.9**	**+0.1**
	comp=Z,533nm,1.4s,mb6.1					
BJI	**Beijing**	**73.26 321**	P	**P**	**17 20 10.2**	**+0.3**
BJI			AMB	AMB		
	comp=Z,214nm,1.2s,mb5.8					
BJI			AMB	AMB		
	comp=Z,24μm,9.6s					
BJI			LR	LR		
	comp=N,83μm,26.1s					
BJI			LR	LR		
	comp=E,50μm,27.8s					
BJI			LR	LR		
	comp=Z,200μm,41.5s					
TIY	**Taiyuan**	**74.23 317**	⇑*i*P	**P**	**17 20 16.6**	**+1.0**
TIY			AP	pP	17 20 54.6	+2.3
TIY			S	S	17 29 33.4	-3.8
TIY			AMB	AMB		
	comp=Z,14μm,5.6s					
TIY			LR	LR		
	comp=N,38μm,17.3s					
TIY			LR	LR		
	comp=E,40μm,17.0s					
TIY			LR	LR		
	comp=Z,47μm,19.5s					
QSPA	**South Pole Qui**	**74.36 180**	PKKPbc	PKKPbc	17 39 47.3	+1.1
	baz=275,slow=2.4					
QSPA			LR	LR	17 52 38.5	
	comp=Z,21μm,18.1s,baz=23,slow=35					
XAN	**Xi'an**	**74.63 313**	P	**P**	**17 20 18.4**	**+0.4**
XAN			PCP	PcP	17 20 31.7	+0.1
XAN			AP	pP	17 20 52.6	-2.1
XAN			XP	sP	17 21 08.3	-2.4
XAN			S	S	17 29 39.9	-1.9
XAN			SKS		17 30 09.3	
XAN			SCS	ScS	17 30 12.8	-3.1
XAN			PS		17 30 36.4	
XAN			XS	sS	17 30 39.9	-5.3
XAN			SS	SS	17 34 29.3	-3.3
XAN			AMB	AMB		
	comp=Z,128nm,1.2s,mb5.4					
XAN			AMB	AMB		
	comp=Z,14μm,15.0s					
XAN			LR	LR		
	comp=N,36μm,24.7s					
XAN			LR	LR		
	comp=E,35μm,26.0s					
XAN			LR	LR		
	comp=Z,90μm,34.9s					
KMI	**Kunming**	**75.15 302**	P	**P**	**17 20 22.7**	**+1.5**
KMI			AP	pP	17 20 59.3	+1.4
KMI			XP	sP	17 21 15.9	+2.0
KMI			PP	PP	17 23 15.6	+3.8
KMI			PPP		17 25 03.0	
KMI			S	S	17 29 51.7	+3.8
KMI			SS	SS	17 34 41.2	+0.4
KMI			SSS		17 37 58.4	
KMI			AMB	AMB		
	comp=Z,1μm,1.3s,mb6.3					
KMI			AMB	AMB		
	comp=Z,10μm,4.0s					
KMI			LR	LR		
	comp=N,45μm,22.5s					
KMI			LR	LR		
	comp=E,23μm,24.3s					
KMI			LR	LR		
	comp=Z,111μm,46.8s					
SDPT	**Sand Point**	**75.69 18**	*e*P	**P**	**17 20 24.8**	**+1.2**
	comp=Z,97nm,0.5s,mb5.7					
CMAR	**Chiang Mai Arr**	**75.71 294**	P	**P**	**17 20 25.5**	**+1.0**
	comp=Z,55nm,0.7s,mb5.3,baz=121,slow=4.2,SNR=95					
CMAR			pP	pP	17 21 03.0	+1.8
	comp=Z,151nm,0.8s,baz=127,slow=5.4,SNR=6.1					
CMAR			S	S	17 30 00.6	+6.3
	comp=Z,1.5nm,0.9s,baz=359,slow=3.6,SNR=2.3					
CMAR			PKPPKP		17 47 41.0	
	comp=Z,5.1nm,1.2s,baz=293,slow=2.2,SNR=6.6					
CMAR	**Chiang Mai Arr**	**75.71 294**	*i* P	**P**	**17 20 25.5**	**+1.0**
CMAR			pmax	pmax		
	comp=Z,55nm,0.7s					
CHTO	**Chiang Mai**	**75.84 294**	P	**P**	**17 20 24.9**	**-0.4**
CHTO			pmax	pmax		
	comp=Z,740nm,1.3s,mb6.2					
CHTO	**Chiang Mai**	**75.84 294**	*e*P	**P**	**17 20 25.2**	**-0.1**
	comp=Z,736nm,1.3s,mb6.2					
MA2	**Magadan**	**76.24 351**	*e*P	**P**	**17 20 26.2**	**-0.4**
MA2			*e**SP	sP	17 21 21.1	+1.8
MA2			*e*		17 23 28.7	
MA2			*e*S	S	17 29 55.9	-2.5
MA2			*e**SS	sS	17 31 04.1	+2.1
MA2			pmax	pmax		
	comp=Z,300nm,0.9s,mb5.9					
MA2			pmax	pmax		
	comp=N,200nm,1.4s					
MA2	**Magadan**	**76.24 351**	*e*P	**P**	**17 20 26.7**	**+0.1**
	comp=N,215nm,0.8s,mb5.8					
MA2			*e*pP	pP	17 21 03.1	-0.3
HHC	**Hu-ho-hao-te**	**76.57 320**	*e*P	**P**	**17 20 29.9**	**+1.0**
HHC			AP	pP	17 21 04.8	-0.9
HHC			XP	sP	17 21 20.2	-1.5
HHC			PP	PP	17 23 25.1	+1.7
HHC			S	S	17 30 03.5	+0.7
HHC			SKS		17 30 22.5	
HHC			PS		17 31 03.0	
HHC			AMB	AMB		
	comp=Z,224nm,1.0s,mb5.8					
HHC			LR	LR		
	comp=N,62μm,25.0s					
HHC			LR	LR		
	comp=E,57μm,23.8s					
HHC			LR	LR		
	comp=Z,192μm,23.8s					
CD2	**Chengdu**	**76.91 308**	P	**P**	**17 20 31.5**	**+0.4**
CD2			PP	PP	17 23 28.4	+2.0
CD2			S	S	17 30 03.7	-3.2
CD2			SCS	ScS	17 30 28.5	-5.9
CD2			SS	SS	17 35 07.8	+0.6
CD2			AMB	AMB		
	comp=Z,890nm,1.1s,mb6.3					
CD2			AMB	AMB		
	comp=Z,20μm,11.8s					
CD2			LR	LR		
	comp=N,58μm,20.4s					
CD2			LR	LR		
	comp=E,53μm,20.4s					
CD2			LR	LR		
	comp=Z,136μm,33.6s					
HIA	**Hailar**	**77.31 330**	*e*P	**P**	**17 20 33.0**	**+0.2**
HIA			pmax	pmax		
	comp=Z,1μm,1.4s					
HIA	**Hailar**	**77.31 330**	*e*P	**P**	**17 20 33.0**	**+0.2**
	comp=Z,1μm,1.4s,mb6.4					
BTO	**Baotou**	**77.40 319**	*e*P	**P**	**17 20 34.9**	**+1.3**
LZH	**Lanzhou**	**79.26 312**	⇓P	**P**	**17 20 45.0**	**+1.1**
LZH			AP	pP	17 21 23.0	+2.0
LZH			XP	sP	17 21 36.2	-0.6
LZH			PP	PP	17 23 49.3	+3.4
LZH			S	S	17 30 33.0	+1.2
LZH			SKS		17 30 43.1	
LZH			XS	sS	17 31 35.0	-1.0
LZH			AMB	AMB		
	comp=Z,3μm,1.3s,mb6.7					
LZH			AMB	AMB		
	comp=Z,34μm,9.4s					
LZH			LR	LR		
	comp=E,81μm,18.2s					
LZH			LR	LR		
	comp=Z,83μm,20.0s					
SEY	**Seymchan**	**79.26 353**	*c i*P	**P**	**17 20 42.8**	**-0.5**
SEY	**Seymchan**	**79.26 353**	⇑*i*P	**P**	**17 20 42.9**	**-0.4**
OHAK	**Old Harbor**	**79.52 20**	*e*P	**P**	**17 20 43.5**	**-1.3**
	comp=Z,1μm,2.4s,mb6.1					
OHAK			LR	LR		
	comp=Z,47μm,19.0s					
KDAK	**Kodiak Island**	**80.20 20**	P	**P**	**17 20 52.1**	**+3.7**
	comp=Z,490nm,1.0s,mb6.1,SNR=19					
KDAK	**Kodiak Island**	**80.20 20**	*e*P	**P**	**17 20 47.3**	**-1.1**
	comp=Z,402nm,0.6s,mb6.2					
CLNS	**Chul'man**	**80.55 338**	*e*P	**P**	**17 20 51.3**	**+1.0**
CLNS			*e*S	S	17 30 51.5	+7.0
CLNS			*e*		17 31 44.5	
CLNS			pmax	pmax		
	comp=Z,1μm,1.5s,mb6.3					
CLNS			pmax	pmax		
	comp=N,689nm,1.4s					
CLNS			pmax	pmax		
	comp=E,278nm,1.6s					
CLNS			smax			
	comp=N,50μm,14.0s					
CLNS			smax			
	comp=E,32μm,14.5s					
CLNS			MLR	MLR		
	comp=N,10μm,17.0s					
CLNS			MLR	MLR		
	comp=Z,18μm,17.0s					
CLNS			MLR	MLR		
	comp=E,12μm,18.0s					
MAW	**Mawson**	**81.17 202**	*e*S	S	17 31 00.1	+9.3
MAW	**Mawson**	**81.17 202**	P	**P**	**17 20 53.8**	**+0.2**
	comp=E,149nm,1.0s,mb5.6,baz=106,slow=6.8,SNR=126					
MAW			pP	pP	17 21 31.1	+0.3
	comp=E,248nm,1.0s,baz=77,slow=4.1,SNR=3.1					
MAW			S	S	17 30 53.5	+2.7
	comp=E,3.8nm,0.9s,baz=29,slow=14,SNR=2.1					
MAW			PKKPbc	PKKPbc	17 39 33.2	+2.3
	comp=E,9.1nm,0.9s,baz=289,slow=5.9,SNR=6.3					
MAW			PKPPKP		17 47 24.6	
	comp=E,4.8nm,0.9s,baz=346,slow=4.2,SNR=5.2					
MAW			LR	LR	17 54 16.6	
	comp=E,30μm,21.2s,baz=356,slow=34					
MAW	**Mawson**	**81.17 202**	*e*P	**P**	**17 20 54.0**	**+0.4**
	comp=E,418nm,1.3s,mb5.9					
MAW			*e*S	S	17 31 00.1	+9.3
SVW2	**Sparrevohn**	**81.93 17**	*e*P	**P**	**17 20 57.6**	**+0.1**
CIT	**Chita**	**82.09 330**	*e*P	**P**	**17 20 59.5**	**+0.9**
CIT			*e*	pP	17 21 34.4	-1.5
CIT			*e*		17 31 00.9	
CIT			pmax	pmax		
	comp=Z,5μm,2.9s,mb6.6					
IMP	**Imphal**	**82.36 298**	*i* P	**P**	**17 21 00.0**	**-0.6**
SEW	**Seward**	**83.03 20**	*e*P	**P**	**17 21 02.0**	**-1.2**
PAF	**Port-aux-Franc**	**83.05 221**	*e*P	**P**	**17 21 03.8**	**0.0**
PAF			*e**PP	pP	17 21 39.9	-1.2
YAK	**Yakutsk**	**83.05 343**	*c i*P	**P**	**17 21 03.1**	**-0.2**
YAK			*e**PP	pP	17 21 40.7	0.0
YAK			*e*S	S	17 31 04.8	-5.1
YAK			*e**SS	sS	17 32 19.6	+5.0
YAK			*e*SS	SS	17 36 45.2	+7.6
YAK			pmax	pmax		
	comp=N,49nm,0.7s					
YAK			pmax	pmax		
	comp=E,38nm,0.8s					
YAK			pmax	pmax		
	comp=Z,543nm,1.0s,mb6.2					
YAK			smax			
	comp=N,12μm,6.8s					
YAK			smax			
	comp=E,8μm,6.4s					
YAK	**Yakutsk**	**83.05 343**	*e*P	**P**	**17 21 02.7**	**-0.6**
	comp=E,1μm,0.6s,mb6.8					
TNA	**Tin City**	**83.06 10**	*e*P	**P**	**17 21 02.6**	**-0.7**
	comp=E,46μm,1.3s					
SLKM	**Skilak Lake**	**83.08 20**	*e*P	**P**	**17 21 02.4**	**-1.1**
TTA	**Tatalina**	**83.31 16**	*e*P	**P**	**17 21 06.3**	**+1.7**
BILL	**Bilibino**	**83.48 359**	⇑*i*P	**P**	**17 21 04.7**	**-0.7**
BILL			*i* *PP	pP	17 21 46.8	+4.0
BILL			*i* S	S	17 31 19.6	+5.5
BILL			*i* PS		17 32 09.5	
BILL			pmax	pmax		
	comp=Z,46nm,1.5s,mb5.0					
BILL			MLR	MLR		
	comp=Z,20μm,16.0s					
BILL	**Bilibino**	**83.48 359**	*e*P	**P**	**17 21 04.4**	**-1.0**
BILL			*e*pP	pP	17 21 43.1	+0.3
SONM	**Songino Array**	**83.50 324**	P	**P**	**17 21 06.4**	**+0.5**
	comp=Z,329nm,1.0s,mb6.0,baz=134,slow=4.7,SNR=474					
SONM			pP	pP	17 21 43.3	-0.1
	comp=Z,180nm,0.9s,baz=154,slow=8.3,SNR=2.1					
SONM			PKiKP	PKiKP	17 26 27.3	+5.2
	comp=Z,6.8nm,0.7s,baz=92,slow=3.5,SNR=5.9					
SONM			S	S	17 31 24.7	+10
	comp=Z,16nm,1.4s,baz=132,slow=6.4,SNR=4.1					
SONM			PKKPbc	PKKPbc	17 39 28.4	+2.5
	comp=Z,6.3nm,1.1s,baz=270,slow=1.4,SNR=4.3					
SONM			PKPPKP		17 47 29.8	
	comp=Z,2.5nm,0.9s,baz=243,slow=2.4,SNR=4.9					
SONM			LR	LR	17 53 20.5	
	comp=Z,50μm,21.8s,baz=128,slow=32					
SONM	**Songino Array**	**83.50 324**	P	**P**	**17 21 06.4**	**+0.5**
SONM			*PP	pP	17 21 43.3	0.0
SONM			pmax	pmax		
	comp=Z,329nm,1.0s					
SONM			MLR	MLR		
	comp=Z,50μm,21.8s					
MID	**Middleton Isla**	**83.60 22**	*e*P	**P**	**17 21 06.1**	**-0.1**
FIB	**Fire Island**	**83.60 19**	*e*P	**P**	**17 21 06.3**	**+0.2**
FIB			pmax	pmax		
	comp=Z,2μm,1.0s,mb6.9					
FIB	**Fire Island**	**83.60 19**	*e*P	**P**	**17 21 06.3**	**+0.2**
	comp=Z,2μm,1.0s,mb6.9					
GTA	**Gaotai**	**83.62 314**	P	**P**	**17 21 07.7**	**+0.9**
GTA			AP	pP	17 21 43.3	-0.9
GTA			XP	sP	17 21 58.2	-1.7
GTA			S	S	17 31 19.8	+3.2
GTA			AMB	AMB		
	comp=Z,239nm,1.8s,mb5.6					
GTA			AMB	AMB		
	comp=Z,5μm,6.1s					
GTA			LR	LR		
	comp=N,55μm,25.9s					
GTA			LR	LR		
	comp=E,39μm,25.5s					
GTA			LR	LR		
	comp=Z,73μm,32.3s					
RC01	**Rabbit Creek A**	**83.68 19**	*e*P	**P**	**17 21 05.6**	**-1.0**
	comp=Z,475nm,1.0s,mb6.2					
FARB	**Farallon Islan**	**83.88 48**	⇑P	**P**	**17 21 08.1**	**-0.1**
	baz=84					
MCCM	**Marconi Confer**	**84.16 48**	⇑P	**P**	**17 21 08.7**	**-0.8**
	baz=84					
MCCM	**Marconi Confer**	**84.16 48**	*e*P	**P**	**17 21 10.0**	**+0.5**
	comp=Z,185nm,1.0s,mb5.8					
BNLO	**Ben Lomond (Sa**	**84.24 49**	⇑P	**P**	**17 21 09.5**	**-0.5**
	baz=84					
PMR	**Palmer**	**84.25 19**	*e*P	**P**	**17 21 08.9**	**-0.5**
PMR			pmax	pmax		
	comp=Z,50nm,0.9s,mb5.2					
PMR			MLR	MLR		
	comp=Z,56μm,19.0s					
PMR	**Palmer**	**84.25 19**	*e*P	**P**	**17 21 08.9**	**-0.5**
	comp=Z,50nm,0.9s,mb5.2					
PMR			LR	LR		
	comp=Z,56μm,19.0s					
JRSC	**Jasper Ridge**	**84.31 49**	⇓P	**P**	**17 21 10.2**	**-0.1**
	baz=84					
KCPM	**Cahto Peak**	**84.32 46**	*e*P	**P**	**17 21 08.7**	**-1.6**
O01C	**Eel River Cons**	**84.35 46**	⇓P	**P**	**17 21 10.7**	**+0.2**
	baz=84					
HOPS	**Hopland**	**84.38 47**	⇑P	**P**	**17 21 10.3**	**-0.3**
	baz=84					
HOPS	**Hopland**	**84.38 47**	*e*P	**P**	**17 21 11.5**	**+0.9**
	comp=Z,422nm,1.3s,mb6.0					
SHL	**Shillong**	**84.38 298**	⇑*i x*	x	17 21 12.5	
	comp=Z,920nm,1.0s					
SHL			*e*SS	SS	17 37 00.0	+1.3
HAST	**Hastings Reser**	**84.39 50**	⇑P	**P**	**17 21 10.9**	**+0.1**
	baz=84,SNR=28					
P01C	**Double 8 Ranch**	**84.39 47**	⇑P	**P**	**17 21 10.8**	**+0.1**
	baz=85					
KIPM	**Iron Peak**	**84.44 46**	*e*P	**P**	**17 21 12.2**	**+1.3**
V03C	**Hunter Liggett**	**84.48 50**	⇓P	**P**	**17 21 11.3**	**+0.1**
	baz=85,SNR=19					
JCC	**Jacoby Creek**	**84.50 45**	⇓P	**P**	**17 21 11.6**	**+0.4**
	baz=85					
NSHM	**Saint Helena R**	**84.51 48**	*e*P	**P**	**17 21 10.2**	**-1.1**
CVS	**Carmenet Viney**	**84.54 48**	⇑P	**P**	**17 21 11.9**	**+0.4**
	baz=85					
V04C	**Ramage Ranch,**	**84.60 51**	⇓P	**P**	**17 21 12.5**	**+0.7**
	baz=85,SNR=9.4					
SAO	**San Andreas Ge**	**84.62 50**	*e*P	**P**	**17 21 12.0**	**+0.1**
SAO			pmax	pmax		
	comp=Z,152nm,1.2s,mb5.6					
SAO	**San Andreas Ge**	**84.62 50**	*e*P	**P**	**17 21 12.0**	**+0.1**
	comp=Z,152nm,1.2s,mb5.6					
SNCC	**San Nicolas Is**	**84.69 54**	⇑P	**P**	**17 21 13.1**	**+0.7**
	baz=85					
WENL	**Wente Brothers**	**84.75 49**	⇓P	**P**	**17 21 12.8**	**+0.3**
	baz=85					
MNRC	**McLaughlin Nat**	**84.78 47**	⇑P	**P**	**17 21 13.2**	**+0.5**
	baz=85,SNR=16					
BDM	**Black Diamond**	**84.80 48**	⇑P	**P**	**17 21 13.0**	**+0.3**
	baz=85					
PACP	**Pacheco Peak**	**84.84 49**	⇑P	**P**	**17 21 13.3**	**+0.4**
	baz=85,SNR=35					
RAGM	**Ragged Mountai**	**84.87 22**	*e*P	**P**	**17 21 12.2**	**-0.3**
M01C	**Crescent City**	**84.89 44**	⇑P	**P**	**17 21 13.2**	**+0.1**
	baz=85					
KRMB	**Red Mountain**	**84.89 45**	*e*P	**P**	**17 21 15.5**	**+2.4**
BSC	**Santa Cruz Isl**	**84.89 53**	⇓P	**P**	**17 21 13.8**	**+0.5**
	baz=85,SNR=20					
GASB	**Alder Springs**	**84.91 47**	⇓P	**P**	**17 21 13.8**	**+0.6**
	baz=85,SNR=14					
U04C	**Hernandez Rese**	**84.95 50**	⇑P	**P**	**17 21 13.8**	**+0.2**
	baz=85,SNR=28					
PKD	**Parkfield**	**84.97 51**	⇑P	**P**	**17 21 13.5**	**-0.2**
	baz=85,SNR=31					
Q03C	**Winters**	**84.98 48**	⇓P	**P**	**17 21 14.0**	**+0.4**
	baz=85					
N02C	**Big Bar**	**85.00 45**	⇑P	**P**	**17 21 13.8**	**+0.1**
	baz=85,SNR=11					
SBC	**Santa Barbara**	**85.00 52**	⇓P	**P**	**17 21 14.1**	**+0.3**
	baz=85					
S04C	**Ingram Canyon,**	**85.01 49**	⇓P	**P**	**17 21 14.1**	**+0.2**
	baz=85,SNR=26					
O02C	**Red Bluff**	**85.08 46**	⇓P	**P**	**17 21 14.4**	**+0.3**
	baz=85,SNR=22					
K01A	**Sixes**	**85.08 43**	⇑P	**P**	**17 21 15.0**	**+0.9**
	baz=85					
PKM	**Peak Mountain**	**85.10 52**	⇑P	**P**	**17 21 15.0**	**+0.7**
	baz=85,SNR=32					
SMMC	**Simmler**	**85.12 51**	⇑P	**P**	**17 21 15.0**	**+0.6**
	baz=85					
KEBM	**Edson Butte**	**85.20 43**	*e*P	**P**	**17 21 16.5**	**+1.8**
T05C	**Eagle Field, D**	**85.24 50**	⇑P	**P**	**17 21 15.7**	**+0.7**
	baz=85					
SCI	**San Clemente I**	**85.35 54**	⇓P	**P**	**17 21 16.0**	**+0.3**
	baz=86,SNR=11					
L02A	**Cave Junction**	**85.37 44**	⇑P	**P**	**17 21 16.5**	**+1.0**
	baz=86,SNR=9.3					
BLG	**Laguna Peak**	**85.37 53**	⇓P	**P**	**17 21 15.6**	**-0.1**
	baz=86					
V05C	**Boulder Hill,**	**85.41 51**	⇑P	**P**	**17 21 16.2**	**+0.3**
	baz=86,SNR=6.5					
WDC	**Whiskeytown Da**	**85.42 46**	⇑*e*P	**P**	**17 21 15.7**	**-0.1**
WDC			*e**PP	pP	17 21 52.4	-1.0
WDC			pmax	pmax		
	comp=Z,264nm,1.4s,mb5.8					
WDC	**Whiskeytown Da**	**85.42 46**	⇓P	**P**	**17 21 15.7**	**-0.1**
	baz=86,SNR=20					
WDC	**Whiskeytown Da**	**85.42 46**	⇑*e*P	**P**	**17 21 15.7**	**-0.1**
	comp=Z,264nm,1.4s,mb5.8					
WDC			*e*pP	pP	17 21 52.4	-1.0
U05C	**Westside ANR,**	**85.43 50**	⇑P	**P**	**17 21 16.3**	**+0.3**
	baz=86					
BOD	**Bodaibo**	**85.50 334**	⇓*i*P	**P**	**17 21 14.8**	**-1.0**
BOD			*e*S	S	17 31 29.5	-4.9
BOD			pmax	pmax		
	comp=Z,491nm,1.3s,mb6.1					
Q04C	**Lincoln**	**85.52 48**	⇑P	**P**	**17 21 16.4**	**+0.1**
	baz=86					
O03C	**Acorn Hollow,**	**85.53 46**	⇓P	**P**	**17 21 16.8**	**+0.4**
	baz=86					
M02C	**Callahan**	**85.55 45**	⇑P	**P**	**17 21 16.7**	**+0.3**
	baz=86,SNR=28					
VIB	**Van Inlet**	**85.59 31**	T		18 55 32.4	
DIB	**Dawson Inlet,**	**85.59 31**	T		18 55 26.8	
	SNR=136					
CIS	**Catalina Islan**	**85.62 54**	⇑P	**P**	**17 21 16.7**	**-0.2**
	baz=86					
S05C	**Merced**	**85.67 49**	⇓P	**P**	**17 21 17.0**	**-0.2**
	baz=86,SNR=10					
ORV	**Oroville**	**85.72 47**	⇑P	**P**	**17 21 16.9**	**-0.3**
	baz=86,SNR=39					
YBH	**Yreka Blue Hor**	**85.79 45**	*e*P	**P**	**17 21 17.8**	**+0.2**
YBH			pmax	pmax		
	comp=Z,247nm,1.3s					
YBH	**Yreka Blue Hor**	**85.79 45**	⇑P	**P**	**17 21 17.7**	**+0.1**
	baz=86,SNR=33					
YBH	**Yreka Blue Hor**	**85.79 45**	*e*P	**P**	**17 21 17.8**	**+0.2**
	comp=Z,247nm,1.3s,mb5.8					
FMP	**Fort Macarthur**	**85.82 53**	⇓P	**P**	**17 21 17.8**	**-0.2**
	baz=86					
OSI	**Osito Adit**	**85.83 52**	⇑P	**P**	**17 21 17.8**	**-0.1**
	baz=86					
OSI	**Osito Adit**	**85.83 52**	*e*P	**P**	**17 21 22.5**	**+4.5**
	comp=Z,1μm,1.8s,mb6.3					
CMB	**Columbia Colle**	**85.91 49**	*e*P	**P**	**17 21 17.9**	**-0.3**
CMB			pmax	pmax		
	comp=Z,205nm,1.3s,mb5.7					
CMB	**Columbia Colle**	**85.91 49**	⇓P	**P**	**17 21 18.0**	**-0.3**
	baz=86,SNR=51					
CMB	**Columbia Colle**	**85.91 49**	*e*P	**P**	**17 21 17.9**	**-0.3**
	comp=Z,205nm,1.3s,mb5.7					
J02A	**Umpqua**	**85.92 43**	⇓P	**P**	**17 21 18.7**	**+0.5**
	baz=86,SNR=13					
ARVC	**Arvin**	**85.94 52**	⇑P	**P**	**17 21 18.6**	**+0.1**
	baz=86,SNR=15					
LAVA	**Lava Cap Winer**	**85.94 48**	⇓P	**P**	**17 21 19.1**	**+0.7**
	baz=86,SNR=11					
DECC	**Green Verdugo**	**85.99 53**	⇑P	**P**	**17 21 18.4**	**-0.4**
	baz=86					
HUMO	**Hull Mountain**	**86.00 44**	P	**P**	**17 21 19.4**	**+0.8**
	baz=86,SNR=42					

HUMO	Hull Mountain	86.00	44	eP	P	17 21 17.9	-0.7
	comp=Z,145nm,1.0s,mb5.7						
T06C	Millerton Lake	86.00	50	⇑P	P	17 21 18.3	-0.4
	baz=86,SNR=50						
M03C	McCloud	86.00	45	⇓P	P	17 21 18.9	+0.3
	baz=86,SNR=11						
VES	Vestal, Richgr	86.02	51	⇓P	P	17 21 19.7	+0.9
	baz=86,SNR=26						
I02A	Mapleton	86.03	42	⇑P	P	17 21 19.6	+0.9
	baz=86						
RCTC	Rector, Farmer	86.08	51	⇓P	P	17 21 19.1	0.0
	baz=86						
LHEM	Herd Peak	86.08	45	P	P	17 21 21.2	+2.2
MWC	Mount Wilson	86.19	53	eP	P	17 21 19.9	+0.2
MWC				pmax	pmax		
	comp=Z,635nm,1.4s,mb6.2						
MWC	Mount Wilson	86.19	53	eP	P	17 21 19.9	+0.1
	comp=Z,635nm,1.4s,mb6.2						
H02A	Toledo	86.22	42	⇓P	P	17 21 20.4	+0.8
	baz=86						
S06C	San Francisco	86.24	49	P	P	17 21 19.6	-0.3
	baz=86,SNR=79						
P05C	Yuba Gap, Truc	86.25	48	P	P	17 21 20.1	+0.1
	baz=86,SNR=46						
HATC	Hat Creek Radi	86.27	46	⇓P	P	17 21 20.0	0.0
	baz=86,SNR=22						
O05C	Quincy	86.30	47	⇑P	P	17 21 20.1	0.0
	baz=86,SNR=11						
BBOR	Butler Butte	86.30	44	P	P	17 21 25.2	+5.2
O04C	Chester	86.32	46	⇓P	P	17 21 20.0	-0.2
	baz=86						
PNL	Peninsula	86.36	24	eP	P	17 21 18.0	-1.9
	comp=Z,115nm,1.1s,mb5.5						
I03A	Eugene	86.38	42	⇑P	P	17 21 20.4	0.0
	baz=86						
HELL	Mitchell Peak	86.38	50	P	P	17 21 20.1	-0.5
	baz=86,SNR=78						
R05C	Kirkwood Meado	86.39	48	⇓P	P	17 21 20.7	+0.1
	baz=86,SNR=53						
M04C	Macdoel	86.40	45	⇓P	P	17 21 20.7	+0.1
	baz=87,SNR=22						
ISA	Isabella	86.41	52	eP	P	17 21 20.4	-0.4
ISA				pmax	pmax		
	comp=Z,406nm,1.4s,mb6.0						
ISA	Isabella	86.41	52	P	P	17 21 20.7	0.0
	baz=86,SNR=60						
ISA	Isabella	86.41	52	eP	P	17 21 20.4	-0.4
	comp=Z,406nm,1.4s,mb6.0						
KCC	Kaiser Creek	86.41	50	P	P	17 21 20.7	-0.1
	baz=87,SNR=78						
LSA	Lhasa	86.41	302	P	P	17 21 23.1	+2.2
LSA				S	S	17 31 37.6	-6.9
LSA				SS	SS	17 37 23.5	-4.9
LSA	Lhasa	86.41	302	eP	P	17 21 21.7	+0.8
LSA				e*PP	pP	17 22 00.2	+1.6
LSA				pmax	pmax		
	comp=Z,412nm,1.1s,mb6.1						
LSA	Lhasa	86.41	302	eP	P	17 21 21.7	+0.7
	comp=Z,412nm,1.1s,mb6.1						
LSA				epP	pP	17 22 00.2	+1.6
109C	Camp Elliot, M	86.45	55	⇓P	P	17 21 20.9	-0.1
	baz=87						
CAL	Calcutta	86.45	294	ex	x	17 21 23.4	
CAL				ex	x	17 31 40.4	
SIT	Sitka	86.45	27	eP	P	17 21 21.0	+0.6
SIT				pmax	pmax		
	comp=Z,148nm,1.5s,mb5.5						
SIT	Sitka	86.45	27	eP	P	17 21 21.0	+0.5
	comp=Z,148nm,1.5s,mb5.5						
IMA2	Indian Mountai	86.45	15	eP	P	17 21 19.8	-0.4
EDW2	Edwards Air Fo	86.48	52	⇑P	P	17 21 21.0	-0.2
	baz=87,SNR=38						
BFSC	Mount Baldy St	86.50	53	⇓P	P	17 21 20.8	-0.4
	baz=87,SNR=27						
L04A	Klamath Falls	86.53	45	⇓P	P	17 21 21.0	-0.2
	baz=87,SNR=10						
CRAG	Craig	86.54	29	eP	P	17 21 25.8	+4.9
	comp=Z,146nm,1.9s,mb5.5						
CRAG				LR	LR		
	comp=Z,54µm,18.0s						
ZAK	Zakamensk	86.56	325	⇑iP	P	17 21 21.2	+0.1
ZAK				e	pP	17 22 00.4	+1.6
ZAK				e		17 31 39.8	
ZAK				pmax	pmax		
	comp=Z,580nm,1.2s,mb6.3						
COR	Corvallis	86.62	42	eP	P	17 21 24.0	+2.4
COR				pmax	pmax		
	comp=Z,136nm,1.0s,mb5.7						
COR	Corvallis	86.62	42	eP	P	17 21 24.0	+2.4
	comp=Z,136nm,1.0s,mb5.7						
MURC	Murrieta	86.63	54	⇑P	P	17 21 21.5	-0.4
	baz=87						
BEKR	Beckwourth	86.65	47	⇑P	P	17 21 21.7	-0.1
	baz=87,SNR=58						
H03A	Soap Creek Ran	86.67	42	⇓P	P	17 21 21.9	+0.1
	baz=87						
ELFS	Eagle Lake Fie	86.69	46	⇓P	P	17 21 22.3	+0.2
	baz=87,SNR=34						
M05C	Lookout	86.70	46	⇑P	P	17 21 22.0	-0.1
	baz=87,SNR=25						
BAR	Barrett	86.71	55	eP	P	17 21 22.2	-0.1
	comp=Z,384nm,1.6s,mb6.0						
K04A	Chilquin	86.82	44	⇓P	P	17 21 22.5	-0.1
	baz=87						
J04A	Umpqua Nationa	86.83	44	⇑P	P	17 21 22.5	-0.2
	baz=87,SNR=18						
WCN	Washoe City	86.86	48	⇓P	P	17 21 22.9	+0.1
	baz=87,SNR=15						
I04A	Tendick Farm,	86.86	43	⇓P	P	17 21 22.1	-0.7
	baz=87,SNR=15						
MLAC	Mammoth Lakes	86.88	50	⇓P	P	17 21 23.0	0.0
	baz=87						
R07C	Lee Vining	86.90	49	⇓P	P	17 21 23.1	0.0
	baz=87,SNR=41						
P06A	Stead Airport,	86.90	47	⇓P	P	17 21 23.4	+0.3
	baz=87						
LRMC	Laurel Mountai	86.93	52	⇓P	P	17 21 23.6	+0.2
	baz=87,SNR=19						
IRK	Irkutsk	86.95	327	⇑iP	P	17 21 22.5	-0.5
IRK				eS	S	17 31 49.3	+0.6
G03A	Yamhill	86.96	41	⇑P	P	17 21 23.3	+0.1
	baz=87						
MTUM	Tungsten Hills	86.98	50	eP	P	17 21 23.5	0.0
MONP	Monument Peak	86.98	55	P	P	17 21 23.6	-0.1
	baz=87,SNR=33						
CWC	Cottonwood Cre	86.99	51	P	P	17 21 23.3	-0.3
	baz=87,SNR=34						
TLY	Talaya	87.00	326	P	P	17 21 23.0	-0.2
	comp=Z,3µm,1.0s,mb7.1						
TLY	Talaya	87.00	326	c iP	P	17 21 22.7	-0.5
TLY				e	pP	17 22 00.8	-0.1
TLY				e		17 24 57.9	
TLY				ePPP		17 26 47.3	
TLY				eS	S	17 31 38.6	-11
TLY				pmax	pmax		
	comp=Z,913nm,1.4s,mb6.4						
TLY	Talaya	87.00	326	eP	P	17 21 22.9	-0.4
	comp=Z,853nm,1.3s,mb6.4						
F03A	Seaside	87.05	41	⇓P	P	17 21 23.6	0.0
	baz=87						
IRO	Indian Ridge	87.06	43	P	P	17 21 25.4	+1.7
BBRC	Big Bear Sol-O	87.08	53	⇓P	P	17 21 24.1	0.0
	baz=87						
COLA	College	87.09	17	eP	P	17 21 20.6	-2.8
COLA				e*PP	pP	17 21 56.2	-4.9
COLA				pmax	pmax		
	comp=Z,247nm,0.9s,mb6.0						
COLA	College	87.09	17	eP	P	17 21 20.6	-2.7
	comp=Z,247nm,0.9s,mb6.0						
COLA				epP	pP	17 21 56.2	-4.9
M06C	Likely Place G	87.10	46	⇓P	P	17 21 23.9	-0.1
	baz=87,SNR=15						
TIN	Tinemaha	87.11	50	⇑P	P	17 21 24.5	+0.3
	baz=87,SNR=12						
O06A	Flanigan	87.14	47	P	P	17 21 24.3	+0.1
	baz=87,SNR=59						
DVTC	Desert V Tower	87.16	55	⇑P	P	17 21 24.7	+0.2
	baz=87,SNR=12						
L05A	Lakeview	87.20	45	⇑P	P	17 21 24.8	+0.4
	baz=87,SNR=16						
PFO	Pinyon Flat Ob	87.21	54	P	P	17 21 26.5	+1.8
	comp=Z,365nm,1.4s,mb6.0,SNR=12						
PFO	Pinyon Flat Ob	87.21	54	eP	P	17 21 24.9	+0.2
PFO				pmax	pmax		
	comp=Z,1µm,2.2s,mb6.3						
PFO	Pinyon Flat Ob	87.21	54	⇑P	P	17 21 24.6	-0.1
	baz=87,SNR=8.5						
PFO	Pinyon Flat Ob	87.21	54	eP	P	17 21 24.9	+0.2
	comp=Z,1µm,2.2s,mb6.3						
PFO				epP	pP	17 22 03.0	+0.5
RRX	Edison Barstow	87.24	53	⇓P	P	17 21 24.0	-0.8
	baz=87						
PAHR	Pah Rah Range	87.28	48	eP	P	17 21 24.7	-0.2
	comp=Z,384nm,1.4s,mb6.0						
SSOR	Sweet Springs	87.28	42	P	P	17 21 29.4	+4.6
MPMC	Manual Prospec	87.30	52	P	P	17 21 25.1	+0.1
	baz=87,SNR=62						
E03A	Lebam	87.32	40	⇓P	P	17 21 24.8	-0.1
	baz=88,SNR=12						
S08C	White Mtn Res	87.32	50	P	P	17 21 25.7	+0.5
	baz=88,SNR=81						
C03A	Quillayute Air	87.33	39	⇑P	P	17 21 25.4	+0.5
	baz=88						
N06A	Buffalo Meadow	87.37	46	P	P	17 21 25.2	-0.1
	baz=88,SNR=45						
H04A	Detroit Lake	87.39	42	⇑P	P	17 21 24.8	-0.4
	baz=88,SNR=13						
Q07A	Schurz	87.40	48	⇓P	P	17 21 25.6	+0.1
	baz=88						
J05A	Fort Rock	87.43	44	P	P	17 21 25.8	+0.2
	baz=88,SNR=48						
K05A	Summer Lake	87.43	44	⇓P	P	17 21 26.0	+0.5
	baz=88,SNR=18						
WRAK	Wrangell Islan	87.43	29	eP	P	17 21 24.1	-1.1
	comp=Z,60nm,1.1s,mb5.3						
D03A	Wishkah Elem.	87.44	40	⇓P	P	17 21 25.7	+0.2
	baz=88						
BMW	Boistfort Moun	87.49	40	eP	P	17 21 26.7	+1.0
SWSC	Sam W. Stewart	87.49	55	⇑P	P	17 21 25.4	-0.7
	baz=88,SNR=11						
NLWA	Neilton Lookou	87.50	39	⇑P	P	17 21 25.4	-0.4
	baz=88,SNR=11						
NLWA	Neilton Lookou	87.50	39	eP	P	17 21 25.8	0.0
	comp=Z,209nm,1.3s,mb5.8						
MOD	Modoc	87.50	45	P	P	17 21 25.6	-0.3
	baz=88,SNR=23						
MOD	Modoc	87.50	45	eP	P	17 21 24.4	-1.5
	comp=Z,124nm,1.1s,mb5.7						
GSC	Goldstone	87.54	52	P	P	17 21 26.7	+0.4
GSC				pmax	pmax		
	comp=Z,457nm,1.6s,mb6.1						
GSC	Goldstone	87.54	52	⇑P	P	17 21 25.7	-0.6
	baz=88,SNR=9.4						
GSC	Goldstone	87.54	52	P	P	17 21 26.7	+0.4
	comp=Z,457nm,1.6s,mb6.1						
P07A	Fallon	87.57	48	⇑P	P	17 21 26.3	0.0
	baz=88						
NVAR	Mina Array Bea	87.57	49	P	P	17 21 26.1	-0.2
	comp=Z,7.9nm,0.9s,baz=237,slow=4.9,SNR=36						
NVAR				pP	pP	17 22 03.1	-1.0
	comp=Z,73nm,1.2s,baz=230,slow=3.7,SNR=3.8						
NVAR				PKKPbc	PKKPbc	17 39 15.7	+0.1
	comp=Z,3.0nm,0.7s,baz=99,slow=2.3,SNR=7.8						
NVAR				PKPPKP		17 47 22.4	
	comp=Z,17nm,1.1s,baz=93,slow=2.5,SNR=13						
R08A	Mina	87.69	49	⇑P	P	17 21 26.7	-0.1
	baz=88,SNR=14						
BELC	Belle Mtn.	87.70	54	⇑P	P	17 21 27.0	0.0
	baz=88,SNR=19						
GTK	Gangtok	87.73	299	eP	P	17 21 24.0	-3.3
GRAC	Grapevine Rang	87.73	51	⇓P	P	17 21 27.3	+0.2
	baz=88,SNR=23						
HEC	Hector,Ludlow	87.74	53	⇓P	P	17 21 26.9	-0.3
	baz=88,SNR=9.5						
F04A	Amboy	87.77	41	⇓P	P	17 21 26.5	-0.5
	baz=88,SNR=7.5						
I05A	Bend	87.77	43	⇓P	P	17 21 27.3	+0.2
	baz=88						
O07A	Toulon	87.81	47	P	P	17 21 27.6	+0.1
	baz=88,SNR=56						
HYT	Haines Junctio	87.82	24	eP	P	17 21 24.6	-2.3
E04A	Onalaska	87.86	40	⇑P	P	17 21 28.7	+1.2
	baz=88						
SHBG	Sahibganj	87.86	297	ex	x	17 21 01.3	
SKAG	Skagway	87.86	25	eP	P	17 21 30.5	+3.3
	comp=Z,178nm,1.6s,mb5.7						
SKAG				LR	LR		
	comp=Z,62µm,18.0s						
K06A	Valley Falls	87.89	44	⇓P	P	17 21 28.1	+0.4
	baz=88,SNR=34						
FURC	Furnace Creek,	87.92	51	⇓P	P	17 21 27.7	-0.3
	baz=88,SNR=26						
SYO	Syowa Base	87.92	196	⇓iP	P	17 21 25.6	-1.9
N07B	Gerlach	87.98	47	⇑P	P	17 21 28.4	+0.2
	baz=88						
BWNR	Bhubaneshwar	88.00	292	eP	P	17 21 27.0	-1.7
BWNR				ex	x	17 22 06.0	
HOOD	Mount Hood Mea	88.00	42	eP	P	17 21 28.3	+0.1
	comp=Z,235nm,1.0s,mb6.0						
Q08A	Gabbs	88.00	49	⇓P	P	17 21 28.3	0.0
	baz=88,SNR=8.4						
BC3	Big Chuckw Mtn	88.01	54	⇓P	P	17 21 28.7	+0.2
	baz=88,SNR=16						
B04A	Port Angeles	88.02	39	⇑P	P	17 21 28.4	+0.3
	baz=88,SNR=13						
D04A	Dobbs Creek Ra	88.03	40	⇑P	P	17 21 28.6	+0.3
	baz=88						
M07A	Soldier Meadow	88.08	46	⇑P	P	17 21 28.8	+0.2
	baz=88,SNR=16						
S09A	Goldfield	88.10	50	⇑P	P	17 21 29.2	+0.3
	baz=88,SNR=24						
VFP	Flag Point	88.12	42	P	P	17 21 28.2	-0.5
J06A	Christmas Vall	88.14	44	⇓P	P	17 21 28.5	-0.4
	baz=88,SNR=46						
SHOC	Shoshone	88.16	52	⇑P	P	17 21 29.1	-0.1
	baz=88,SNR=21						
G05A	Wamic	88.18	42	⇑P	P	17 21 28.7	-0.3
	baz=88,SNR=13						
C04A	Brinnon	88.19	39	⇓P	P	17 21 29.4	+0.4
	baz=88						
P08A	Dixie Valley	88.21	48	⇓P	P	17 21 29.7	+0.4
	baz=88						
L07A	Adell	88.21	45	⇓P	P	17 21 29.2	0.0
	baz=88,SNR=64						
GNW	Green Mountain	88.21	39	eP	P	17 21 28.7	-0.4
	comp=Z,246nm,1.4s,mb5.8						
TPH	Tonopah	88.23	50	eP	P	17 21 29.6	+0.2
TPH				e*PP	pP	17 22 08.2	+0.9
TPH				pmax	pmax		
	comp=Z,366nm,1.5s,mb6.0						
TPH	Tonopah	88.23	50	eP	P	17 21 29.6	+0.2
	comp=Z,366nm,1.5s,mb6.0						
TPH				epP	pP	17 22 08.2	+1.0
GMRC	Granite Mounta	88.24	53	⇑P	P	17 21 29.4	-0.1
	baz=88,SNR=13						
TUQ	Turquoise Mtn.	88.26	53	⇓P	P	17 21 29.8	+0.1
	baz=88,SNR=27						
GLA	Glamis	88.30	55	eP	P	17 21 30.9	+1.0
GLA				e*PP	pP	17 22 07.6	-0.1
GLA				pmax	pmax		
	comp=Z,666nm,1.5s,mb6.2						
GLA	Glamis	88.30	55	⇓P	P	17 21 29.9	+0.1
	baz=88,SNR=12						
GLA	Glamis	88.30	55	eP	P	17 21 30.9	+1.1
	comp=Z,666nm,1.5s,mb6.2						
GLA				epP	pP	17 22 07.6	-0.1
U10A	Ash Meadows, A	88.30	52	⇑P	P	17 21 29.9	0.0
	baz=88,SNR=15						
PGC	Sidney	88.31	38	eP	P	17 21 29.6	0.0
	comp=Z,599nm,1.4s,mb6.2						
112A	Yuma	88.32	56	⇓P	P	17 21 29.5	-0.5
	baz=88						
VIPM	Ingram Point	88.33	43	P	P	17 21 29.7	-0.1
F05A	White Salmon	88.36	41	⇓P	P	17 21 29.6	-0.2
	baz=88,SNR=15						
O08A	Rochester Mine	88.38	47	⇓P	P	17 21 30.1	0.0
	baz=88						
I06A	Prineville	88.38	43	⇑P	P	17 21 30.0	0.0
	baz=88,SNR=32						
R09A	Tonopah	88.40	50	P	P	17 21 30.1	-0.2
	baz=88,SNR=48						
IRM	Iron Mountain	88.42	54	⇑P	P	17 21 30.3	-0.1
	baz=88,SNR=28						
MOY	Mondy	88.44	325	eP	P	17 21 29.8	-0.3
E05A	Randle	88.45	41	⇑P	P	17 21 29.7	-0.6
	baz=89,SNR=19						
K07A	Rock Creek Ran	88.53	45	⇓P	P	17 21 30.2	-0.5
	baz=89,SNR=60						
Q09A	Carvers	88.54	49	⇓P	P	17 21 31.0	+0.1
	baz=89,SNR=13						
TPNV	Topopah Spring	88.55	51	eP	P	17 21 30.6	-0.4
TPNV				pmax	pmax		
	comp=Z,199nm,0.6s,mb6.2						
TPNV	Topopah Spring	88.55	51	P	P	17 21 30.8	-0.1
	baz=89,SNR=52						
TPNV	Topopah Spring	88.55	51	eP	P	17 21 30.6	-0.4
	comp=Z,199nm,0.6s,mb6.2						
D05A	Enumclaw	88.57	40	⇓P	P	17 21 31.0	+0.2
	baz=89,SNR=14						
H06A	Lindquist Farm	88.61	43	P	P	17 21 30.9	-0.2
	baz=89,SNR=48						
G06A	Carlson Farm,	88.62	42	⇑P	P	17 21 31.1	0.0
	baz=89,SNR=10						
S10A	Tonopah Range,	88.64	50	P	P	17 21 31.1	-0.2
	baz=89,SNR=69						
M08A	Happy Creek Ra	88.65	46	⇓P	P	17 21 31.6	+0.3
	baz=89,SNR=33						
F06A	Goldendale	88.74	42	⇓P	P	17 21 31.8	+0.2
	baz=89,SNR=16						
J07A	Hines	88.75	44	⇑P	P	17 21 31.6	-0.2
	baz=89,SNR=15						
LDFC	Landfair	88.77	53	eP	P	17 21 33.3	+1.3
	comp=Z,823nm,1.3s,mb6.5						
LDFC				epP	pP	17 22 10.1	+0.2
Y12C	Blythe	88.77	55	⇓P	P	17 21 31.8	-0.3
	baz=89,SNR=10						
V11A	Goodsprings	88.78	52	⇑P	P	17 21 31.7	-0.4
	baz=89,SNR=13						
A04A	Legoe Bay, Lum	88.78	38	⇑P	P	17 21 31.1	-0.6
	baz=89,SNR=54						
P09A	Austin	88.83	48	⇑P	P	17 21 32.2	0.0
	baz=89						
WVOR	Wild Horse Val	88.85	45	P	P	17 21 32.0	-0.2
WVOR				pmax	pmax		
	comp=Z,390nm,1.4s,mb6.1						
WVOR	Wild Horse Val	88.85	45	eP	P	17 21 32.0	-0.2
	comp=Z,8µm,1.4s,mb7.5						
I07A	Izee	88.90	44	⇑P	P	17 21 32.5	+0.1
	baz=89,SNR=52						
E06A	Yakima	88.93	41	P	P	17 21 32.4	-0.1
	baz=89,SNR=34						
B05A	Bryant	88.96	39	⇓P	P	17 21 32.4	-0.1
	baz=89,SNR=12						
L08A	Fields	88.96	46	⇓P	P	17 21 32.4	-0.3
	baz=89,SNR=56						
C05A	Tolt Reservoir	88.97	40	⇓P	P	17 21 32.4	-0.3
	baz=89,SNR=12						
BOK	Bokaro	88.97	295	eP	P	17 21 33.2	0.0
BOK				AMb	AMB	17 22 19.3	
	comp=Z,272nm,1.1s,mb6.1						
R10A	Warm Springs	88.98	50	⇑P	P	17 21 33.0	+0.1
	baz=89,SNR=29						
O09A	Fish Creek Ran	89.02	48	⇓P	P	17 21 33.2	+0.1
	baz=89,SNR=24						
U11A	Corn Creek	89.02	52	⇓P	P	17 21 33.1	-0.1
	baz=89						
W12A	Cal Nev Ari	89.03	53	⇓P	P	17 21 33.6	+0.4
	baz=89						
JCW	Jim Creek	89.03	39	eP	P	17 21 33.0	+0.1
N09A	Rock Creek Ran	89.03	47	⇓P	P	17 21 33.3	+0.1
	baz=89,SNR=21						
NEE2	Needles Airpor	89.04	54	⇓P	P	17 21 33.4	+0.1
	baz=89						
113A	Mohawk Valley,	89.04	56	⇓P	P	17 21 33.2	-0.2
	baz=89						
H07A	Lands Inn, Kim	89.06	43	P	P	17 21 33.0	-0.1
	baz=89,SNR=42						
EGAK	Eagle	89.06	19	eP	P	17 21 31.0	-1.7
	comp=Z,402nm,2.4s,mb5.9						
EGAK				epP	pP	17 22 09.6	-0.9
K08A	Mann Creek Ran	89.06	45	P	P	17 21 33.3	+0.1
	baz=89,SNR=43						
PALK	Pallekele	89.06	278	eP	P	17 21 34.5	+0.6
	comp=Z,401nm,1.4s,mb6.2						
BMN	Battle Mountai	89.09	48	eP	P	17 21 33.3	-0.1
BMN				pmax	pmax		
	comp=Z,347nm,1.4s,mb6.1						
BMN	Battle Mountai	89.09	48	eP	P	17 21 33.3	-0.1
	comp=Z,347nm,1.4s,mb6.1						
Q10A	Clear Creek Ra	89.10	49	⇑P	P	17 21 33.5	0.0
	baz=89,SNR=42						
S11A	Rachel	89.17	51	⇑P	P	17 21 33.5	-0.3
	baz=89,SNR=29						
DAWY	Dawson	89.18	21	eP	P	17 21 31.8	-1.5
V12A	Nelson	89.19	53	⇓P	P	17 21 34.1	+0.1
	baz=89,SNR=18						
LPIG	La Paz	89.22	65	i P	P	17 21 37.2	+2.8
PDMCI	Parker Dam,Lak	89.25	54	⇑P	P	17 21 33.5	-0.8
	baz=89,SNR=16						
A05A	Maple Falls	89.27	38	⇓P	P	17 21 33.3	-0.8
	baz=90						
D06A	Cle Elum	89.28	40	⇑P	P	17 21 33.8	-0.3
	baz=90,SNR=13						
M09A	Marrel Ranch,	89.29	47	⇑P	P	17 21 34.6	+0.3
	baz=89,SNR=25						
J08A	Circle Bar Ran	89.31	44	P	P	17 21 34.5	+0.2
	baz=90,SNR=34						
F07A	Phinny Hill Vi	89.34	42	⇓P	P	17 21 34.2	-0.2
	baz=90						
Y13A	Salome	89.34	55	⇓P	P	17 21 34.4	-0.3
	baz=90,SNR=28						
P10A	Eureka	89.34	49	⇑P	P	17 21 34.6	0.0
	baz=90,SNR=16						
L09A	Wilkinson Ranc	89.36	46	⇑P	P	17 21 34.7	0.0
	baz=90,SNR=33						
RPW	Rockport	89.39	39	eP	P	17 21 33.6	-1.0
T11A	Corn Creek, Al	89.42	51	P	P	17 21 35.0	-0.1
	baz=90,SNR=36						
B06A	Marblemount	89.43	39	⇑P	P	17 21 34.0	-0.8
	baz=90						
I08A	Drewsey	89.46	44	⇓P	P	17 21 34.8	-0.3
	baz=90,SNR=21						
VIS	Vishakhapatnam	89.49	288	i P	P	17 21 35.6	-0.2
VIS				eP		17 21 35.7	
VIS				ex	x	17 21 44.7	
	comp=Z,240nm,1.6s						
VIS				i x	x	17 32 00.1	
R11A	Troy Canyon, C	89.53	50	P	P	17 21 35.4	-0.2
	baz=90,SNR=54						
214A	Organ Pipe Nat	89.54	57	⇓P	P	17 21 35.4	-0.4
	baz=90,SNR=11						
C06A	Tall Timber Ra	89.55	40	⇓P	P	17 21 34.9	-0.4
	baz=90						
O10A	Cortez Mining,	89.55	48	⇑P	P	17 21 35.1	-0.5
	baz=90,SNR=18						
K09A	Rome	89.57	45	P	P	17 21 35.5	-0.1
	baz=90,SNR=50						
DLBC	Dease Lake	89.58	28	eP	P	17 21 34.1	-1.1
X13A	Yucca	89.59	54	⇓P	P	17 21 35.6	-0.3
	baz=90,SNR=31						
H08A	Prairie City	89.62	43	⇓P	P	17 21 35.8	0.0
	baz=90,SNR=31						
T12A	Moapa	89.63	52	⇓P	P	17 21 36.2	+0.1
	baz=90						
E07A	Sunnyside	89.65	41	⇓P	P	17 21 35.8	-0.1
	baz=90,SNR=18						
Q11A	Duckwater	89.66	49	P	P	17 21 36.1	0.0
	baz=90,SNR=39						
U12

U13A	**Pakoon Wash**	90.09	52	⇑P		P	17 21 38.4	+0.2
	baz=90,SNR=36							
O11A	**Cowboy Ranch,**	90.10	48	⇓P		P	17 21 38.2	+0.1
	baz=90,SNR=28							
E08A	**Dider Farm, El**	90.13	41	⇑P		P	17 21 38.0	-0.1
	baz=90							
K10A	**MacKenzie Ranc**	90.19	45	⇑P		P	17 21 38.3	-0.2
	baz=90,SNR=42							
L10A	**Juniper Basin**	90.21	46	⇑P		P	17 21 38.4	-0.2
	baz=90,SNR=52							
B07A	**Winthrop**	90.24	39	P		P	17 21 38.4	-0.2
	baz=90,SNR=28							
R12A	**Pony Springs,**	90.25	50	⇑P		P	17 21 38.3	-0.6
	baz=90,SNR=26							
N11A	**Elko Archery C**	90.28	48	⇑P		P	17 21 39.0	0.0
	baz=90							
X14A	**Yava**	90.29	54	⇑P		P	17 21 38.8	-0.3
	baz=90,SNR=30							
A07A	**Ashnola River,**	90.31	39	P		P	17 21 38.8	-0.1
	baz=90,SNR=33							
Q12A	**Willow Creek R**	90.33	49	⇓P		P	17 21 39.3	+0.1
	baz=90,SNR=28							
T13A	**Saint George**	90.33	52	⇑P		P	17 21 38.9	-0.4
	baz=90,SNR=15							
H09A	**Durkee**	90.34	43	⇑P		P	17 21 38.7	-0.4
	baz=90,SNR=29							
W14A	**Seligman**	90.38	54	⇓P		P	17 21 39.2	-0.3
	baz=90,SNR=41							
LNOR	**Lincton Mounta**	90.39	42	*e*P		P	17 21 39.8	+0.5
P12A	**McGill**	90.42	49	P		P	17 21 39.7	0.0
	baz=91,SNR=44							
D08A	**Wollman Farm,**	90.43	41	⇑P		P	17 21 39.2	-0.4
	baz=91,SNR=22							
M11A	**Holland Ranch,**	90.46	47	⇑P		P	17 21 40.1	+0.4
	baz=91,SNR=42							
Z15A	**Gila River Ind**	90.49	56	⇑P		P	17 21 40.1	0.0
	baz=91							
J10A	**Berg Farm, Mel**	90.49	45	⇓P		P	17 21 39.4	-0.5
	baz=91							
V14A	**Boquillas Ranc**	90.50	53	P		P	17 21 40.3	+0.2
	baz=91,SNR=35							
S13A	**Holt Ranch, En**	90.56	51	⇓P		P	17 21 40.5	+0.1
	baz=91,SNR=17							
Y15A	**Casa Rosa Ranc**	90.56	55	⇑P		P	17 21 40.2	-0.2
	baz=91,SNR=32							
F09A	**S2 Ranch, Elgi**	90.57	42	⇑P		P	17 21 40.3	+0.1
	baz=91							
ELK	**Elko**	90.61	48	*e*P		P	17 21 40.7	+0.2
ELK				*e**PP		pP	17 22 17.4	-1.0
ELK				pmax		pmax		
	comp=Z,192nm,1.3s							
ELK	**Elko**	90.61	48	*e*P		P	17 21 40.6	+0.1
	comp=Z,192nm,1.3s,mb6.0							
ELK				*e*pP		pP	17 22 17.4	-1.0
116A	**Eloy**	90.62	56	⇓P		P	17 21 40.8	0.0
	baz=91,SNR=13							
C08A	**Higginbotham F**	90.64	40	⇓P		P	17 21 40.0	-0.5
	baz=91,SNR=15							
BMO	**Blue Mountains**	90.65	43	*e*P		P	17 21 39.9	-0.7
BMO				*e**PP		pP	17 22 19.8	+1.3
BMO				pmax		pmax		
	comp=Z,166nm,0.6s,mb6.2							
BMO	**Blue Mountains**	90.65	43	*e*P		P	17 21 39.9	-0.7
	comp=Z,166nm,0.6s,mb6.2							
BMO				*e*pP		pP	17 22 19.8	+1.3
216A	**Three Points,**	90.65	57	⇓P		P	17 21 40.6	-0.3
	baz=91,SNR=9.7							
R13A	**O'Grain Ranch,**	90.67	51	⇑P		P	17 21 40.5	-0.4
	baz=91,SNR=20							
B08A	**Colville Reser**	90.68	40	⇑P		P	17 21 39.8	-0.8
	baz=91,SNR=23							
U14A	**Mt Trumbull**	90.69	52	P		P	17 21 41.2	+0.2
	baz=91,SNR=60							
OD2	**Odessa Site #2**	90.69	41	*e*P		P	17 21 39.8	-0.9
OD2				*e*pP		pP	17 22 17.7	-0.9
I10A	**Payette**	90.71	44	⇓P		P	17 21 41.0	+0.2
	baz=91							
E09A	**Wood Farm, Sta**	90.72	42	⇓P		P	17 21 40.7	-0.1
	baz=91,SNR=17							
L11A	**Cat Creek Ranc**	90.74	46	P		P	17 21 41.2	+0.1
	baz=91,SNR=40							
PMSA	**Palmer Station**	90.75	160	PKKPbc		PKKPbc	17 39 05.1	-3.0
	comp=Z,9.2nm,1.0s,baz=155,slow=4.0,SNR=4.5							
PMSA				PKPPKP			17 47 07.9	
	comp=Z,9.7nm,1.0s,baz=72,slow=1.4,SNR=4.6							
PMSA	**Palmer Station**	90.75	160	*e*P		P	17 21 40.0	-0.7
	comp=Z,1µm,1.5s,mb6.8							
K11A	**Parker Ranch,**	90.76	46	⇑P		P	17 21 41.2	0.0
	baz=91,SNR=22							
N12A	**Clover Valley,**	90.79	48	⇑P		P	17 21 41.6	+0.2
	baz=91,SNR=28							
O12A	**Currie**	90.80	48	⇓P		P	17 21 41.4	-0.1
	baz=91,SNR=32							
X15A	**Humboldt**	90.80	54	⇑P		P	17 21 41.8	+0.3
	baz=91							
D09A	**Jones Farm, Ri**	90.82	41	P		P	17 21 41.1	-0.2
	baz=91,SNR=31							
Q13A	**Wheeler Ranch,**	90.89	50	⇑P		P	17 21 41.9	0.0
	baz=91,SNR=28							
CCUT	**Cedar City**	90.92	51	*e*P		P	17 21 46.8	+4.8
H10A	**Noah's Angus R**	90.92	44	⇑P		P	17 21 41.4	-0.4
	baz=91,SNR=25							
G10A	**Bishop Farm, J**	90.93	43	P		P	17 21 41.9	0.0
	baz=91,SNR=39							
ARUT	**Antelope Range**	90.94	51	P		P	17 21 42.6	+0.5
A08A	**Turner Farm, O**	90.95	39	⇓P		P	17 21 41.8	-0.1
	baz=91,SNR=21							
T14A	**Hurricane**	90.97	52	⇓P		P	17 21 42.5	+0.2
	baz=91							
TIXI	**Tiksi**	90.97	349	*c i*P		P	17 21 40.2	-1.3
TIXI				*e**PP		pP	17 22 18.5	-0.9
TIXI				*e**SP		sP	17 22 34.5	-0.5
TIXI				*e*S		SKSac	17 31 55.5	-3.3
TIXI				*e*			17 32 24.2	
TIXI				*e*			17 33 31.1	
TIXI				pmax		pmax		
	comp=Z,7µm,9.8s							
TIXI				pmax		pmax		
	comp=N,154nm,1.5s							
TIXI				pmax		pmax		
	comp=E,278nm,1.5s							
TIXI				pmax		pmax		
	comp=Z,262nm,1.1s,mb6.2							
TIXI	**Tiksi**	90.97	349	*e*P		P	17 21 40.2	-1.2
	comp=Z,271nm,1.1s,mb6.2							
W15A	**Williams**	91.00	54	⇓P		P	17 21 42.4	-0.1
	baz=91,SNR=14							
P13A	**Bates Ranch, G**	91.06	49	⇑P		P	17 21 42.2	-0.5
	baz=91,SNR=50							
MDRS	**Chennai**	91.06	283	*e*P		P	17 21 42.0	-1.2
MDRS				AMb		AMB	17 21 53.0	
	comp=Z,405nm,1.4s,mb6.2							
MDRS	**Chennai**	91.06	283	*ex*		pP	17 22 17.7	-3.4
MDRS				*ex*		x	17 25 07.0	
MDRS				*ex*		x	17 25 49.0	
MDRS				*ex*		x	17 27 52.5	
MDRS				*e*S		S	17 32 04.0	-25
MDRS				*ex*		x	17 33 18.0	
M12A	**Wells**	91.07	47	⇓P		P	17 21 42.4	-0.3
	baz=91,SNR=17							
Z16A	**Peralta Trail,**	91.09	56	⇓P		P	17 21 42.8	-0.1
	baz=91							
217A	**Green Valley**	91.10	57	⇑P		P	17 21 42.9	-0.1
	baz=91							
F10A	**Beach Ranch, E**	91.11	42	⇓P		P	17 21 41.8	-0.9
	baz=91,SNR=40							
C09A	**Chrisman Ranch**	91.12	40	⇑P		P	17 21 42.1	-0.6
	baz=91							
MFID	**Camas Ranch**	91.13	45	⇓P		P	17 21 42.7	-0.1
	baz=91,SNR=16							
S14A	**Cedar City**	91.13	51	⇓P		P	17 21 43.1	+0.1
	baz=91							
Y16A	**Circle Bar Ran**	91.21	55	⇓P		P	17 21 43.2	-0.2
	baz=91,SNR=17							
I11A	**Placerville**	91.21	45	⇑P		P	17 21 42.9	-0.3
	baz=91,SNR=18							
L12A	**House Creek Ra**	91.25	47	⇓P		P	17 21 43.7	+0.2
	baz=91,SNR=18							
V15A	**Kaibab Nationa**	91.27	53	⇓P		P	17 21 44.0	+0.3
	baz=91							
TUC	**Tucson**	91.29	57	*e*P		P	17 21 43.9	0.0
TUC				*e**PP		pP	17 22 18.1	-3.7
TUC				pmax		pmax		
	comp=Z,266nm,1.5s,mb6.0							
TUC	**Tucson**	91.29	57	*e*P		P	17 21 43.9	0.0
	comp=Z,266nm,1.5s,mb6.0							
TUC				*e*pP		pP	17 22 18.1	-3.7

O13A	**Hicks Ranch, I**	91.31	49	⇑P		P	17 21 43.8	+0.1
	baz=91,SNR=6.3							
E10A	**Myers Farm, Un**	91.37	42	⇓P		P	17 21 43.0	-0.9
	baz=92							
U15A	**North Rim**	91.37	53	⇑P		P	17 21 44.8	+0.7
	baz=92,SNR=57							
A09A	**Danville**	91.38	39	⇓P		P	17 21 43.5	-0.3
	baz=92,SNR=13							
117A	**Oracle**	91.40	57	⇑P		P	17 21 44.1	-0.3
	baz=92,SNR=19							
X16A	**Lo Mia Camp, P**	91.41	55	⇓P		P	17 21 44.1	-0.2
	baz=92,SNR=26							
R14A	**James Farms, M**	91.42	51	⇑P		P	17 21 44.3	0.0
	baz=92							
B09A	**Rice**	91.43	40	⇓P		P	17 21 43.9	-0.2
	baz=92,SNR=18							
Q14A	**Sevier Lake (B**	91.45	50	⇑P		P	17 21 43.8	-0.6
	baz=92,SNR=42							
H11A	**Donnelly**	91.45	44	⇓P		P	17 21 43.9	-0.5
	baz=92							
D10A	**Wagner Farm, O**	91.47	41	⇑P		P	17 21 43.7	-0.6
	baz=92,SNR=19							
T15A	**Red Dirt Ranch**	91.49	52	⇑P		P	17 21 44.5	-0.2
	baz=92,SNR=18							
K12A	**Draper Farm, C**	91.50	46	⇓P		P	17 21 44.8	+0.2
	baz=92,SNR=12							
G11A	**Walters Elk Ra**	91.53	43	⇓P		P	17 21 43.7	-0.9
	baz=92,SNR=45							
W16A	**Flagstaff**	91.55	54	⇑P		P	17 21 45.3	+0.3
	baz=92							
Y17A	**Roosevelt**	91.66	56	⇑P		P	17 21 45.4	-0.1
	baz=92,SNR=12							
318A	**Bisbee**	91.67	58	⇓P		P	17 21 45.8	+0.2
	baz=92							
S15A	**Panguitch**	91.71	51	⇑P		P	17 21 46.5	+0.8
	baz=92							
C10A	**Spilker Farm,**	91.73	41	⇓P		P	17 21 45.1	-0.4
	baz=92							
218A	**Dragoon**	91.78	57	⇑P		P	17 21 46.5	+0.3
	baz=92							
P14A	**Drum Mountains**	91.80	49	⇓P		P	17 21 46.2	+0.1
	baz=92,SNR=16							
WUAZ	**Wupatki**	91.80	54	⇓P		P	17 21 46.0	-0.1
	baz=92,SNR=16							
WUAZ	**Wupatki**	91.80	54	*e*P		P	17 21 46.2	+0.1
	comp=Z,348nm,1.4s,mb6.2							
WUAZ				*e*pP		pP	17 22 23.9	-0.2
BLSP	**Bilaspur**	91.81	292	*e*P		P	17 21 45.0	-1.5
BLSP				AMb		AMB	17 21 55.1	
	comp=Z,566nm,1.6s,mb6.3							
Z17A	**San Carlos Hig**	91.84	56	⇓P		P	17 21 46.2	-0.2
	baz=92							
X17A	**Forest Lakes**	91.88	55	⇓P		P	17 21 46.8	+0.2
	baz=92							
E11A	**Bogner Ranch,**	91.91	42	⇓P		P	17 21 45.3	-1.0
	baz=92,SNR=18							
R15A	**Junction**	91.94	51	⇑P		P	17 21 46.2	-0.5
	baz=92							
B10A	**Chitwood Farm,**	91.96	40	⇓P		P	17 21 46.2	-0.4
	baz=92							
L13A	**Double Diamond**	91.98	47	⇓P		P	17 21 46.4	-0.4
	baz=92,SNR=7.2							
A10A	**Northport**	92.00	39	⇑P		P	17 21 46.0	-0.7
	baz=92,SNR=20							
NEW	**Newport**	92.01	40	*e*P		P	17 21 46.1	-0.7
NEW				*e**PP		pP	17 22 21.3	-3.4
NEW				pmax		pmax		
	comp=Z,76nm,1.1s							
NEW	**Newport**	92.01	40	*e*P		P	17 21 46.1	-0.7
	comp=Z,76nm,1.1s,mb5.6							
NEW				*e*pP		pP	17 22 21.3	-3.4
118A	**Homack Ranch,**	92.04	57	⇓P		P	17 21 46.9	-0.4
	baz=92							
K13A	**Stover Farm, H**	92.07	46	⇑P		P	17 21 46.4	-0.8
	baz=92,SNR=7.6							
D11A	**Klaveano Farm,**	92.07	42	⇑P		P	17 21 46.5	-0.7
	baz=92							
MSU	**Marysvale**	92.11	51	*e*P		P	17 21 47.8	+0.3
Q15A	**Fillmore**	92.12	50	⇓P		P	17 21 47.3	-0.3
	baz=92							
N14A	**Grayback Hills**	92.12	48	⇓P		P	17 21 47.3	-0.2
	baz=92							
Z18A	**Geronimo**	92.12	56	⇑P		P	17 21 47.4	-0.3
	baz=92							
HLID	**Hailey**	92.15	45	⇑P		P	17 21 47.5	0.0
	baz=92,SNR=12							
HLID	**Hailey**	92.15	45	*e*P		P	17 21 47.9	+0.4
	comp=Z,102nm,1.4s,mb5.7							
T16A	**Glen Canyon Da**	92.15	52	⇓P		P	17 21 47.6	-0.1
	baz=92							
DUG	**Dugway**	92.18	49	*e*P		P	17 21 47.0	-0.8
DUG				pmax		pmax		
	comp=Z,168nm,1.5s,mb5.8							
DUG	**Dugway**	92.18	49	⇓P		P	17 21 47.8	0.0
	baz=92,SNR=19							
DUG	**Dugway**	92.18	49	*e*P		P	17 21 47.0	-0.8
	comp=Z,168nm,1.5s,mb5.8							
U16A	**Tuba City**	92.18	53	⇓P		P	17 21 47.9	0.0
	baz=92,SNR=11							
H12A	**Diamond D Ranc**	92.18	44	⇑P		P	17 21 47.4	-0.2
	baz=92,SNR=33							
NVL	**N'lazarevskaya**	92.18	188	*c i*P		P	17 21 46.8	-0.5
NVL							17 25 35.9	
NVL				pmax		pmax		
	comp=Z,116nm,1.6s,mb5.7							
NVL				MLR		MLR		
	comp=N,27µm,18.0s							
NVL				MLR		MLR		
	comp=E,11µm,18.0s							
NVL				MLR		MLR		
	comp=Z,34µm,18.0s							
W17A	**Winslow**	92.18	54	⇑P		P	17 21 48.0	+0.1
	baz=92							
MAIT	**Maitri**	92.18	188	*e*P		P	17 21 45.0	-2.3
M14A	**Sheep Mountain**	92.21	48	⇓P		P	17 21 47.3	-0.6
	baz=92,SNR=20							
319A	**Douglas**	92.23	58	⇑P		P	17 21 47.2	-1.1
	baz=92							
BGU	**Big Grassy Mou**	92.25	48	*e*P		P	17 21 53.0	+4.9
BGU				*e*pP		pP	17 22 27.0	+1.0
J13A	**Cove Ranch, Pi**	92.25	46	⇓P		P	17 21 48.0	0.0
	baz=92,SNR=13							
F12A	**Elk City**	92.32	43	P		P	17 21 48.0	-0.3
	baz=92,SNR=33							
Y18A	**Canyon Day Jun**	92.33	56	⇑P		P	17 21 48.8	+0.2
	baz=92							
HVS	**Khovu-Aksy**	92.36	323	*c i*P		P	17 21 48.3	0.0
HVS				pmax		pmax		
	comp=Z,435nm,1.3s,mb6.3							
P15A	**Leamington**	92.37	50	⇑P		P	17 21 48.7	0.0
	baz=92							
MAIG	**Mazatlaan**	92.37	67	*e*P		P	17 21 49.3	+0.2
219A	**White Tail Can**	92.43	58	⇓P		P	17 21 49.1	-0.1
	baz=92							
O15A	**The Old Anders**	92.45	49	⇓P		P	17 21 48.7	-0.4
	baz=93,SNR=5.7							
L14A	**Malta**	92.46	47	⇓P		P	17 21 48.5	-0.6
	baz=93							
I13A	**Wildhorse Cree**	92.47	45	⇑P		P	17 21 48.8	-0.3
	baz=93,SNR=13							
B11A	**Sandpoint**	92.54	40	⇓P		P	17 21 48.9	-0.4
	baz=93,SNR=18							
H13A	**Challis**	92.59	44	⇑P		P	17 21 49.6	0.0
	baz=93,SNR=13							
N15A	**Stansbury Isla**	92.61	48	⇑P		P	17 21 49.7	-0.1
	baz=93,SNR=14							
X18A	**Snowflake**	92.62	55	⇓P		P	17 21 50.2	+0.2
	baz=93							
119A	**Ashpeak Ranch,**	92.62	57	⇓P		P	17 21 50.0	0.0
	baz=93							
SNAA	**Sanae**	92.63	183	*e*P		P	17 21 48.6	-0.8
SNAA				*e*			17 21 49.6	
SNAA				*e*			17 21 53.7	
SNAA				*e*			17 21 59.3	
SNAA				*e*			17 25 29.9	
SNAA	**Sanae**	92.63	183	PKKPbc		PKKPbc	17 39 02.3	-1.2
	comp=Z,3.0nm,0.9s,baz=256,slow=4.2,SNR=6.0							
SNAA				PKPPKP			17 47 04.2	
	comp=Z,2.8nm,1.2s,baz=286,slow=9.9,SNR=3.6							
SNAA	**Sanae**	92.63	183	*e*P		P	17 21 48.5	-0.9
	comp=Z,2µm,1.4s,mb7.1							
NLU	**North Lily Min**	92.64	49	*e*P		P	17 21 55.4	+5.5
NLU				*e*pP		pP	17 22 29.3	+1.4
K14A	**Jones Ranch, D**	92.67	47	⇑P		P	17 21 50.1	+0.1
	baz=93							
U17A	**Shonto**	92.67	53	⇑P		P	17 21 50.2	0.0
	baz=93							

HVU	**Hansel Valley**	92.71	47	*e*P		P	17 21 54.9	+4.7
HVU				pmax		pmax		
	comp=Z,284nm,1.6s,mb6.2							
HVU	**Hansel Valley**	92.71	47	*e*P		P	17 21 54.9	+4.7
	comp=Z,284nm,1.6s,mb6.2							
HVU				*e*pP		pP	17 22 23.2	-4.9
A11A	**Hall Mountain,**	92.73	40	⇓P		P	17 21 50.0	-0.1
	baz=93,SNR=24							
G13A	**Cobalt**	92.78	44	⇑P		P	17 21 50.4	0.0
	baz=93,SNR=16							
SPUT	**South Promonto**	92.79	48	*e*P		P	17 21 55.1	+4.5
Z19A	**T-Link Ranch,**	92.80	56	⇑P		P	17 21 50.9	+0.1
	baz=93							
NOQ	**North Oquirrh**	92.82	49	*e*P		P	17 21 56.3	+5.5
	comp=Z,40nm,0.8s,mb5.6							
NOQ				*e*pP		pP	17 22 30.2	+1.5
P16A	**Fountain Green**	92.84	50	⇓P		P	17 21 51.2	+0.4
	baz=93							
M15A	**Larsen Ranch,**	92.84	48	⇓P		P	17 21 50.3	-0.5
	baz=93,SNR=18							
W18A	**Petrified Fore**	92.96	54	⇑P		P	17 21 51.5	0.0
	baz=93							
TRD	**Trivandrum**	92.97	278	*e*P		P	17 21 49.9	-2.1
TRD				AMb		AMB	17 22 07.5	
	comp=Z,277nm,2.2s,mb6.0							
V18A	**Ganado**	92.98	54	⇑P		P	17 21 51.7	+0.1
	baz=93,SNR=18							
MPU	**Maple Canyon**	92.98	49	*e*P		P	17 21 55.9	+4.4
	comp=Z,216nm,1.5s,mb6.1							
MPU				*e*pP		pP	17 22 30.6	+1.2
Q16A	**Castle Valley**	92.99	51	⇑P		P	17 21 51.3	-0.3
	baz=93,SNR=11							
Y19A	**Nutrioso**	93.00	56	⇑P		P	17 21 52.2	+0.4
	baz=93							
B12A	**Libby**	93.04	40	⇑P		P	17 21 52.1	+0.6
	baz=93							
L15A	**Malad City**	93.05	47	⇑P		P	17 21 51.6	-0.2
	baz=93,SNR=10							
TMUT	**Trail Mountain**	93.07	50	*e*P		P	17 21 52.5	+0.6
CTU	**Camp Tracy**	93.10	49	*e*P		P	17 21 56.8	+4.7
	comp=Z,46nm,0.9s,mb5.6							
CTU				*e*pP		pP	17 22 28.6	-1.3
X19A	**St. Johns**	93.11	55	⇑P		P	17 21 52.3	+0.1
	baz=93							
O16A	**Springville**	93.13	49	⇑P		P	17 21 52.6	+0.4
	baz=93							
A12A	**Yaak River Ran**	93.16	40	⇓P		P	17 21 52.3	+0.2
	baz=93							
R17A	**Hanksville Air**	93.18	51	⇓P		P	17 21 51.8	-0.7
	baz=93,SNR=8.0							
W19A	**Sanders**	93.23	55	⇓P		P	17 21 52.0	-0.8
	baz=93							
U18A	**Rough Rock, Ch**	93.23	53	⇑P		P	17 21 53.2	+0.5
	baz=93							
E13A	**Victor**	93.25	43	⇑P		P	17 21 51.7	-0.8
	baz=93							
D13A	**Huson**	93.29	42	⇑P		P	17 21 51.7	-1.1
	baz=93							
JLU	**Jordanelle**	93.29	49	*e*P		P	17 21 56.4	+3.5
G14A	**Jackson**	93.34	44	⇑P		P	17 21 52.9	-0.1
	baz=94							
DAU	**Daniels Canyon**	93.38	49	*e*P		P	17 21 55.1	+1.8
M16A	**Huntsville**	93.38	48	⇑P		P	17 21 52.7	-0.6
	baz=94							
N16A	**Rees Ranch, Co**	93.39	49	⇑P		P	17 21 52.8	-0.5
	baz=94,SNR=6.6							
C13A	**Hot Springs**	93.41	41	⇓P		P	17 21 52.1	-1.2
	baz=94							
T18A	**Mexican Hat**	93.44	53	⇓P		P	17 21 52.9	-0.7
	baz=94,SNR=33							
S18A	**Hurst Farm, Bl**	93.51	52	P		P	17 21 53.5	-0.4
	baz=94,SNR=13							
SRU	**San Rafael**	93.53	50	*e*P		P	17 21 57.3	+3.3
SRU				*e**PP		pP	17 22 33.4	+1.4
SRU				pmax		pmax		
	comp=Z,53nm,1.3s,mb5.5							
SRU	**San Rafael**	93.53	50	⇓P		P	17 21 53.8	-0.2
	baz=94							
SRU	**San Rafael**	93.53	50	*e*P		P	17 21 57.3	+3.2
	comp=Z,53nm,1.3s,mb5.5							
SRU				*e*pP		pP	17 22 33.4	+1.5
MSO	**Missoula**	93.54	42	*e*P		P	17 21 51.4	-2.5
	comp=Z,26nm,1.2s,mb5.2							
VNA2	**Neumayer--Watz**	93.55	182	*e*P		P	17 21 53.0	-0.6
VNA2				*e*			17 21 54.0	
VNA2				*e*			17 21 58.6	
VNA2				*e*			17 22 03.7	
VNA2				*e*			17 25 39.1	
F14A	**Wisdom**	93.59	43	⇓P		P	17 21 53.6	-0.5
	baz=94							
MCMT	**McKenzie Canyo**	93.62	45	*e*P		P	17 21 57.1	+2.8
INK	**Inuvik**	93.65	19	*e*P		P	17 21 50.2	-3.6
	comp=Z,3µm,1.4s,mb7.2							
V19A	**Window Rock**	93.67	54	⇑P		P	17 21 53.7	-1.0
	baz=94							
WMQ	**Urumqi**	93.68	314	P		P	17 21 54.3	-0.3
WMQ				PP		PP	17 25 44.3	+2.4
WMQ				SKS			17 32 10.4	
WMQ				S		S	17 32 44.5	-6.3
WMQ				PS		PS	17 34 27.1	+2.6
WMQ				AMB		AMB		
	comp=Z,841nm,1.2s,mb6.8							
WMQ				AMB		AMB		
	comp=Z,12µm,12.0s							
WMQ				LR		LR		
	comp=N,84µm,26.0s							
WMQ				LR		LR		
	comp=E,59µm,31.4s							
WMQ				LR		LR		
	comp=Z,55µm,31.4s							
E14A	**Clinton**	93.70	43	⇓P		P	17 21 53.9	-0.7
	baz=94							
B13A	**Whitefish**	93.71	41	⇑P		P	17 21 53.9	-0.7
	baz=94							
L16A	**Fish Haven**	93.73	48	⇑P		P	17 21 54.3	-0.6
	baz=94							

baz=95
TPAW Teton Pass 94.51 46 *e*P **P 17 22 03.3 +4.8**
comp=Z,45nm,1.1s,mb5.6
D15A Lincoln 94.53 42 ⇓P **P 17 21 57.4 -1.0**
baz=95
REDW Red Top Meadow 94.54 46 *e*P **P 17 22 00.2 +1.6**
comp=Z,74nm,1.3s,mb5.8
QLMT Earthquake Lak 94.58 45 *e*P **P 17 22 02.4 +3.6**
KRAR Krasnoyarsk 94.62 327 *i* P **P 17 21 58.7 +0.1**
KRAR MLR MLR
comp=Z,18μm,16.0s
SNOW Snow King Moun 94.64 46 *e*P **P 17 22 02.9 +3.8**
comp=Z,29nm,1.0s,mb5.5
IMW Indian Meadow 94.64 46 *e*P **P 17 22 00.4 +1.4**
comp=Z,95nm,1.4s,mb5.8
SFJM Santa Fe 94.69 70 *i* P **P 17 22 01.3 +1.5**
BOZ Bozeman (W) 94.69 44 *e*P **P 17 22 01.3 +2.1**
BOZ pmax pmax
comp=Z,58nm,1.4s,mb5.6
BOZ Bozeman (W) 94.69 44 ⇓P **P 17 21 58.5 -0.7**
baz=95
BOZ Bozeman (W) 94.69 44 *e*P **P 17 22 01.3 +2.1**
comp=Z,58nm,1.4s,mb5.6
PV01 Paradox Valley 94.71 52 *e*P **P 17 22 01.3 +1.8**
MOOW Moose Ponds 94.73 46 *e*P **P 17 21 59.7 +0.3**
comp=Z,304nm,0.5s,mb6.8
LOHW Long Hollow 94.79 46 *e*P **P 17 22 00.2 +0.5**
comp=Z,74nm,1.1s,mb5.8
FLWY Flagg Ranch 94.86 46 *e*P **P 17 22 04.8 +4.8**
comp=Z,125nm,1.5s,mb5.9
YFT Old Faithful 94.88 45 *e*P **P 17 22 07.1 +7.0**
HRY Holter Researc 94.88 43 *e*P **P 17 22 01.2 +1.1**
Y22C IRIS PASSCAL I 94.89 56 ⇓P **P 17 21 59.4 -1.0**
baz=95
YNR Norris Junctio 95.06 45 *e*P **P 17 22 03.0 +2.1**
LKWY Lake 95.21 45 P **P 17 22 04.3 +2.7**
LKWY pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
LKWY Lake 95.21 45 P **P 17 22 04.3 +2.7**
comp=Z,7.4nm,0.7s,mb5.0
USHA Ushuaia 95.25 151 PKKPbc PKKPbc 17 38 53.1 -3.0
comp=Z,12nm,1.0s,baz=50,slow=7.9,SNR=2.5
USHA PKPPKP 17 47 05.2
comp=Z,10nm,0.8s,baz=66,slow=0.6,SNR=2.8
BW06 Boulder Array 95.28 47 *e*P **P 17 22 05.2 +3.3**
comp=Z,40nm,1.4s,mb5.5
PDAR Pinedale Array 95.28 47 P **P 17 22 02.5 +0.5**
comp=Z,2.7nm,0.8s,baz=248,slow=1.6,SNR=10
PDAR PP PP 17 25 57.9 +3.5
comp=Z,18nm,1.1s,baz=239,slow=4.9,SNR=5.3
PDAR PKiKP PKiKP 17 26 43.0 +1.0
comp=Z,8.6nm,1.1s,baz=204,slow=2.0,SNR=2.5
PDAR PKKPbc PKKPbc 17 38 54.9 -1.2
comp=Z,11nm,1.0s,baz=104,slow=4.7,SNR=9.3
PDAR PKPPKP 17 47 05.0
comp=Z,3.9nm,1.0s,baz=109,slow=3.6,SNR=7.0
PDAR LR LR 18 01 39.5
comp=Z,27μm,19.8s,baz=264,slow=33
PDAR Pinedale Array 95.28 47 P **P 17 22 02.5 +0.5**
PDAR PP PP 17 25 57.9 +3.5
LGTI Lohaghat 95.39 299 *ex* x 17 21 58.8
ZIIG Zihuatanejo 95.40 73 *i* P **P 17 22 05.6 +2.5**
PTH Pithoragarh 95.44 299 *e*P **P 17 22 01.4 -1.6**
PTH *ex* x 17 26 48.3
ANMO Albuquerque 95.49 55*c i*P **P 17 21 56.1 -7.0**
LATR Latur 95.88 287 *e*P **P 17 22 03.2 -2.1**
EDM Edmonton 95.94 36 *e*P **P 17 22 06.1 +1.4**
AKL Akola 96.03 290 *i* P **P 17 22 06.4 +0.5**
AKL *i* x x 17 32 38.4
GCMT Greycliff 96.05 44 *e*P **P 17 22 06.1 +0.7**
MNGI Mangalore 96.14 282 *ex* x 17 22 09.3
MNGI *ex* x 17 23 18.9
comp=Z,171nm,1.4s
RLMT Red Lodge 96.14 45 P **P 17 22 04.2 -1.6**
comp=Z,37nm,1.4s,mb5.5
CAIG El Cayaco 96.37 74 *i* P **P 17 22 08.3 +0.8**
EGMT Eagleton 96.61 42 ⇓P **P 17 22 07.3 -0.6**
baz=97
EGMT Eagleton 96.61 42 *e*P **P 17 22 08.6 +0.8**
comp=Z,144nm,1.8s,mb6.0
RWWY Rawlins 96.67 49 *e*P **P 17 22 09.8 +1.5**
comp=Z,64nm,1.3s,mb5.8
SDCO Great Sand Dun 96.95 53 *e*P **P 17 22 10.5 +0.9**
comp=Z,4.9nm,0.9s,mb4.8
ISCO Idaho Springs 97.37 51 *e*P **P 17 22 13.8 +2.3**
ISCO pmax pmax
comp=Z,35nm,1.3s,mb5.5
ISCO Idaho Springs 97.37 51 *e*P **P 17 22 13.8 +2.2**
comp=Z,35nm,1.3s,mb5.5
DDI Dehra Dun 97.45 299 *e*P **P 17 22 10.2 -1.9**
DDI *ex* x 17 26 39.2
GOA Goa 97.70 284⇑*i*P **P 17 22 17.1 +3.6**
GOA *e*S SKSac 17 32 42.0 +4.6
NDI New Delhi 97.78 298 *e*P **P 17 22 10.0 -3.6**
NDI *ex* x 17 31 38.0
KAD Karad 97.81 286 *e*P **P 17 22 14.3 +0.4**
KAD AMb AMB 17 22 32.2
comp=Z,160nm,1.5s,mb6.2
PHWY Pilot Hill 97.85 49 *e*P **P 17 22 14.7 +1.1**
MK31 Makanchi Array 98.17 316 *i* P **P 17 22 14.6 -0.3**
MK31 Makanchi Array 98.17 316 *e*P **P 17 22 14.4 -0.5**
MKAR Makanchi Array 98.17 316 P **P 17 22 14.7 -0.3**
comp=Z,32nm,0.9s,mb5.7,baz=98,slow=5.0,SNR=102
MKAR pP pP 17 22 52.0 -0.9
comp=Z,112nm,0.9s,baz=116,slow=5.5,SNR=4.5
MKAR PKiKP PKiKP 17 26 49.0 +2.0
comp=Z,120nm,1.2s,baz=76,slow=2.0,SNR=9.1
MKAR PKKPbc PKKPbc 17 38 49.9 +1.5
comp=Z,2.4nm,0.7s,baz=258,slow=1.6,SNR=7.5
MKAR PKPPKP 17 47 00.6
comp=Z,0.6nm,0.9s,baz=272,slow=1.7,SNR=2.4
MKAR LR LR 18 06 04.2
comp=Z,28μm,20.5s,baz=102,slow=35
MKAR Makanchi Array 98.17 316 P **P 17 22 14.7 -0.2**
MKAR *PP pP 17 22 52.0 -1.0
MKAR pmax pmax
comp=Z,32nm,1.0s
MKAR MLR MLR
comp=Z,28μm,20.5s
MKAR Makanchi Array 98.17 316 P **P 17 22 14.7 -0.3**
MKAR pP pP 17 22 52.0 -0.9
YKA Yellowknife Ar 98.19 27 P **P 17 22 13.1 -1.5**
comp=Z,25nm,0.8s,mb5.7,baz=253,slow=4.6,SNR=39
YKA pP pP 17 22 51.6 -1.1
comp=Z,25nm,0.9s,baz=261,slow=4.7,SNR=1.9
YKA PKiKP PKiKP 17 26 47.3 +0.7
comp=Z,7.6nm,1.1s,baz=267,slow=2.3,SNR=3.9
YKA PKKPbc PKKPbc 17 38 46.0 -2.9
comp=Z,6.1nm,0.8s,baz=69,slow=2.9,SNR=6.5
YKA PKPPKP 17 46 57.7
comp=Z,2.5nm,0.9s,baz=58,slow=3.8,SNR=3.5
YKA LR LR 18 09 25.1
comp=Z,13μm,18.4s,baz=250,slow=37
YKA Yellowknife Ar 98.19 27 P **P 17 22 13.1 -1.5**
YKA *PP pP 17 22 51.6 -1.1
YKA pmax pmax
comp=Z,25nm,0.8s
YKA MLR MLR
comp=Z,13μm,18.4s
PNIG Pinotepa 98.20 75 *i* P **P 17 22 14.2 -1.6**
PPM Popocatepetl 98.37 73 *i* P **P 17 22 20.3 +3.8**
SMLA Simla 98.38 300 *i* P **P 17 22 15.6 -0.7**
SMLA *ex* x 17 26 29.5
comp=E,26nm,0.4s
SMLA *i* x x 17 26 41.4
ZAA0 Zalesovo Array 98.39 324 *e*P **P 17 22 13.8 -2.0**
ZALV Zalesovo Beam 98.39 324 P **P 17 22 14.3 -1.5**
comp=E,80nm,0.8s,mb6.2,baz=108,slow=4.8,SNR=154
ZALV pP pP 17 22 53.4 -0.4
comp=E,119nm,0.8s,baz=115,slow=4.2,SNR=3.9
ZALV PKiKP PKiKP 17 26 49.4 +2.2
comp=E,25nm,1.1s,baz=104,slow=4.6,SNR=3.4
ZALV PKKP PKKPbc 17 38 55.4 +7.4
comp=E,2.5nm,0.5s,baz=298,slow=3.1,SNR=3.9
ZALV LR LR 18 05 21.5
comp=E,22μm,20.4s,baz=94,slow=34
ZALV Zalesovo Beam 98.39 324 P **P 17 22 14.3 -1.5**
ZALV pP pP 17 22 53.4 -0.4
ZAL Zalesovo 98.40 324 P **P 17 22 14.3 -1.5**
ZAL *PP pP 17 22 53.4 -0.4
ZAL pmax pmax
comp=Z,80nm,0.8s
ZAL MLR MLR
comp=Z,22μm,20.4s
POO Poona 98.41 287 *e*P **P 17 22 15.3 -1.3**
POO AMb AMB 17 22 24.8
comp=Z,214nm,2.7s,mb6.1
POO *i* S SKSac 17 32 42.0 +1.1
BHK Bhakra 99.07 300 *ex* x 17 22 23.0
BHK *ex* x 17 26 55.2
AMTX Amarillo 99.29 56 *e*P Pdif 17 22 19.8 -0.1
comp=Z,24nm,1.0s
BOM Bombay 99.44 287 *ex* x 17 22 23.8
BOM *ex* x 17 25 40.9
AJM Ajmer 99.50 295 *e*P Pdif 17 22 20.0 -0.9
AJM *e*P 17 22 21.0
NVS Novosibirsk 99.51 324 *i* P Pdif 17 22 19.7 -1.2
NVS *i* *PP pP 17 22 59.0 +0.2
NVS *i* S S 17 33 45.5 +5.3
NVS pmax pmax
comp=N,86nm,1.6s
NVS pmax pmax
comp=E,494nm,1.6s
NVS pmax pmax
comp=Z,446nm,1.6s,mb6.7
NVS smax
comp=E,2μm,2.3s
RSSD Black Hills 99.51 47 *e*P Pdif 17 22 24.2 +3.3
RSSD pmax pmax
comp=Z,35nm,1.3s,mb5.6
RSSD Black Hills 99.51 47 *e*P Pdif 17 22 24.2 +3.3
comp=Z,35nm,1.3s
VHO Vista Hermosa 99.66 75 *i* P Pdif 17 22 19.1 -2.4
THN Thein Dam 99.87 301 *e*P Pdif 17 22 20.0 -2.5
THN *ex* x 17 26 22.2
KSH Kashi 101.10 308 P Pdif 17 22 34.3 +6.3
KSH AMB AMB
comp=Z,8μm,8.0s
KSH LR LR
comp=N,41μm,14.0s
KSH LR LR
comp=E,77μm,17.4s
KSH LR LR
comp=Z,72μm,21.6s
KURK Kurchatov 101.39 320 P Pdif 17 22 28.1 -1.1
KURK pmax pmax
comp=Z,170nm,1.3s
KURK Kurchatov 101.39 320 *e*P Pdif 17 22 28.1 -1.2
comp=Z,169nm,1.4s
WMOK Wichita Mounta 101.60 57 *e*Pdif Pdif 17 22 28.9 -1.3
comp=Z,1.3nm,0.6s
TKM2 Tokmak 2 102.01 311 *e*P Pdif 17 22 32.1 +0.1
TKM2 pmax pmax
comp=Z,19nm,0.8s
TKM2 Tokmak 2 102.01 311 *e*Pdif Pdif 17 22 32.1 +0.1
comp=Z,19nm,0.8s
PLCA Paso Flores 102.16 139 P Pdif 17 22 33.0 +0.3
comp=Z,3.5nm,0.8s,baz=234,slow=8.2,SNR=7.1
PLCA PP PP 17 26 43.2 -3.0
comp=Z,4.8nm,1.1s,baz=244,slow=6.0,SNR=3.6
PLCA PKKPbc PKKPbc 17 38 36.3 -0.2
comp=Z,8.8nm,1.0s,baz=16,slow=3.7,SNR=5.5
PLCA PKPPKP 17 46 50.1
comp=Z,19nm,1.3s,baz=45,slow=2.9,SNR=5.3
PLCA Paso Flores 102.16 139 *e*Pdif Pdif 17 22 33.2 +0.5
comp=Z,51nm,1.7s
FRU Bishkek 102.71 311⇓*i*P Pdif 17 22 42.5 +7.4
FRU pmax pmax
comp=Z,5μm,9.5s
BHJ Bhuj 103.26 291⇑*e*P Pdif 17 22 37.4 -0.1
BHJ *e*S SKSac 17 33 05.7 +1.5
BHJ *ex* x 18 02 09.1
AML Almayashu 103.27 310 *e*P Pdif 17 22 41.3 +3.7
EKS2 Erkin-Say 103.29 311 *e*Pdif Pdif 17 22 36.8 -0.9
comp=Z,67nm,1.1s
ECSD EROS,Sioux Fal 104.72 48 *e*Pdif Pdif 17 22 43.8 -0.2
comp=Z,4.7nm,0.9s
KK31 Karatay Array 105.73 311 P Pdif 17 22 48.7 +0.2
KK31 pmax pmax
comp=Z,42nm,1.2s
KBL Kabul 105.74 302 *e*Pdif Pdif 17 22 50.0 +1.5
comp=Z,7.8nm,0.8s
KBL *e*PKiKP PKiKP 17 27 02.9 +1.8
AGMN Agassiz Refuge 105.78 44 *e*PKiKP PKiKP 17 27 04.1 +3.3
ULM Lac du Bonnet 105.97 42 Pdiff Pdif 17 22 50.0 +0.4
comp=Z,3.7nm,0.7s,baz=268,slow=1.2,SNR=1.7
ULM PKiKP PKiKP 17 26 59.2 -1.8
comp=Z,6.1nm,0.5s,baz=248,slow=4.5,SNR=4.7
ULM PKKPbc PKKPbc 17 38 29.1 +3.4
comp=Z,7.7nm,0.7s,baz=85,slow=3.7,SNR=7.5
ULM PKPPKP 17 46 45.5
comp=Z,7.3nm,1.0s,baz=72,slow=5.1,SNR=2.8
ULM Lac du Bonnet 105.97 42 Pdif Pdif 17 22 50.0 +0.4
ULM *e*PKiKP PKiKP 17 27 02.1 +1.0
BVA0 Borovoye Array 106.74 321 *i* P Pdif 17 22 52.0 -1.0
BVA0 pmax pmax
comp=Z,32nm,1.7s
BVAR Borovoye Array 106.74 321 PKKPbc PKKPbc 17 38 20.9 -2.5
comp=Z,2.0nm,0.7s,baz=298,slow=3.1,SNR=3.1
BVAR PKKP PKKPbc 17 38 34.3 +11
comp=Z,2.8nm,0.6s,baz=285,slow=3.2,SNR=6.8
BRVK Borovoye 106.81 321 *e*P Pdif 17 22 52.3 -1.0
BRVK pmax pmax
comp=Z,120nm,1.6s
BRVK Borovoye 106.81 321 *e*Pdif Pdif 17 22 52.3 -1.1
comp=Z,120nm,1.6s
BRVK *e*PKiKP PKiKP 17 26 59.0 -3.5
UALR University of 106.83 58 *e*PKiKP PKiKP 17 27 05.3 +2.1
RES Resolute Bay 106.97 16 *e*PKiKP PKiKP 17 27 00.8 -1.5
FCC Fort Churchill 107.51 33 *e*PKiKP PKiKP 17 27 05.7 +2.0
EYMN Ely 108.67 44 *e*PKiKP PKiKP 17 27 04.7 -1.5
CFAA Coronel Fontan 108.69 132 PKKPbc PKKPbc 17 38 07.4 -9.1
comp=Z,0.3nm,0.5s,baz=106,slow=1.8,SNR=3.2
CFAA PKKPab PKKPab 17 38 33.2 +2.3
comp=Z,1.9nm,1.0s,baz=66,slow=4.1,SNR=5.2
CFAA PKPPKP 17 46 41.0
comp=Z,0.5nm,0.5s,baz=14,slow=2.4,SNR=4.6
FVM French Village 108.73 55 *e*PKiKP PKiKP 17 27 04.6 -2.0
TRQA Tornquist 109.10 140 *e*PKiKP PKiKP 17 27 13.4 +6.0
JFWS Jewell Farm 109.27 50 *e*PKiKP PKiKP 17 27 05.6 -1.8
COWI Conover 110.21 46 *e*PKiKP PKiKP 17 27 07.4 -1.7
OLIL Olney 110.62 54 PKiKP PKiKP 17 27 06.4 -3.7
ABPO Ambohimpanom 112.04 242 *e*PKiKP PKiKP 17 27 13.1 -0.3
SWET Sewanee 112.11 58 *e*PKiKP PKiKP 17 27 13.5 +0.4
SVE Sverdlovsk 112.31 325 *e*P Pdif 17 23 19.2 +1.4
SVE *i* 17 27 12.6
SVE *e* 17 27 52.0
SVE *e*PS PS 17 37 33.4 -2.7
SVE *e*SS SS 17 43 30.5 +2.3
SVE pmax pmax
comp=Z,299nm,1.2s
SVE MLR MLR
comp=Z,47μm,20.0s
CPCT Cooper Cave 113.28 58 *e*PKiKP PKiKP 17 27 13.4 -1.9
AB31 Akbulak array 113.28 317 *i* P Pdif 17 23 23.1 +1.0
AB31 pmax pmax
comp=Z,1.0nm,0.5s
SOR Soroa 113.40 72 *e*P Pdif 17 23 34.5 +12
ARU Arti 113.50 325 P Pdif 17 23 24.5 +1.4
ARU *i* 17 27 14.6
ARU 17 28 10.9
ARU SP SP 17 37 34.9 +6.1
ARU PS PS 17 37 50.4 +3.4
ARU MLR MLR
comp=Z,41μm,19.0s
ARU Arti 113.50 325 *e*Pdif Pdif 17 23 22.1 -1.0
ARU *e*PKiKP PKiKP 17 27 14.3 -0.7
ARU ⇑*i*PKP PKiKP 17 27 14.5 -0.5
LPA La Plata 113.62 140*ce*P Pdif 17 23 24.0 +0.4
LPA *e*PP PP 17 28 10.0 +0.5
LPA *e*SKKS SKKSac 17 34 53.0 -4.4
LPA *e*PS PS 17 37 49.0 +0.6
LPA
comp=Z,12μm,22.0s
TKL Tuckaleechee C 113.90 58 *e*PKIKP PKiKP 17 27 14.6 -1.9
SOKR Solikamsk 113.96 329*c i*P Pdif 17 23 29.0 +3.9
SOKR *i* 17 27 15.0
SOKR 17 28 17.2
SOKR SP SP 17 37 38.2 +5.4
SOKR SS SS 17 44 00.7 +11
SOKR pmax pmax
comp=Z,350nm,1.2s
TZTN Tazewell 114.11 57 PKPdf PKiKP 17 27 15.2 -1.7
AKTK Aktyubinsk 114.45 319 PKP PKiKP 17 27 16.7 -0.4
AKTK PKKPbc PKKPbc 17 37 59.2 +1.1
AKTO Aktyubinsk 114.45 319 PKP PKiKP 17 27 16.7 -0.4
comp=Z,44nm,0.9s,baz=87,slow=3.9,SNR=19
AKTO PKKPbc PKKPbc 17 37 59.2 +1.1
comp=Z,9.4nm,0.9s,baz=258,slow=3.5,SNR=7.1
AKTO Aktyubinsk 114.45 319 PKIKP PKiKP 17 27 16.7 -0.4
AKTO 17 37 59.3
AKTO pmax pmax
comp=Z,44nm,1.0s
ACSO Alum Creek Sta 114.63 53 *e*PKiKP PKiKP 17 27 15.2 -2.5
KBS Kingsbay 115.67 355 *e* pPKPdf 17 27 51.0 -7.3
KBS *e*PP PP 17 28 22.9 -0.6
KBS *e*SS SS 17 44 16.8 +5.7
KBS Kingsbay 115.67 355 *e*P Pdif 17 23 31.4 -1.3
KBS *e* 17 27 19.4
KBS Kingsbay 115.67 355 *e*P Pdif 17 23 31.4 -1.3
KBS *e*PKPdf PKPdf 17 27 19.4 +0.7
KBS *e* 17 27 51.0
SPB4 Spitsbergen Ar 115.91 354 *e*PKPdf PKPdf 17 27 19.0 -0.2
MGV Manicaragua 116.09 73 *e*P Pdif 17 23 44.6 +10
ELN Prospectdale 116.37 56 *e*PKPdf PKPdf 17 27 19.8 -1.4
LPAZ La Paz 116.41 117 PKP PKPdf 17 27 21.4 -0.4
comp=Z,3.2nm,0.6s,baz=260,slow=3.2,SNR=9.3
LPAZ PP PP 17 28 36.4 +6.4
comp=Z,11nm,0.8s,baz=215,slow=3.3,SNR=2.5
LPAZ PKKPbc PKKPbc 17 37 51.0 +0.5
comp=Z,10nm,1.0s,baz=63,slow=0.4,SNR=4.5
LPAZ PKPPKP 17 46 29.1
comp=Z,8.8nm,1.3s,baz=340,slow=5.7,SNR=4.3
LPAZ La Paz 116.41 117 PKIKP PKPdf 17 27 21.4 -0.5
LPAZ 17 28 36.4
LPAZ 17 37 51.0
LPAZ pmax pmax
comp=Z,3.0nm,0.6s
LPAZ pmax pmax
comp=Z,11nm,0.8s
LPAZ La Paz 116.41 117 *e*PKPdf PKPdf 17 27 21.0 -0.9
BLA Blacksburg 116.63 56 *e*PKIKP PKPdf 17 27 20.0 -1.7
ROSC El Rosal 118.22 93 PKP PKPdf 17 27 24.5 -1.0
comp=Z,12nm,0.5s,baz=265,slow=11,SNR=7.2
ROSC PP PP 17 28 51.1 +8.0
comp=Z,12nm,0.6s,baz=75,slow=22,SNR=3.8
ROSC El Rosal 118.22 93 *e*PKPdf PKPdf 17 27 24.1 -1.3
LMGC Las Mercedes 118.59 75 *e*P Pdif 17 23 54.0 +8.3
DAG Danmarks Havn 118.80 2⇑*i*PKIKP PKPdf 17 27 23.5 -1.3
DAG pmax pmax
comp=Z,3.0nm,0.5s
DAG Danmarks Havn 118.80 2⇑*i*P PKPdf 17 27 23.5 -1.3
comp=Z,2.8nm,0.5s
URVA University of 118.92 56 *e*PKPdf PKPdf 17 27 24.1 -2.0
SDMD Soldier's Deli 119.38 53 *e*PKPdf PKPdf 17 27 24.1 -2.8
CPUP Villa Florida 119.51 133 PKP PKPdf 17 27 25.9 -1.7
comp=Z,5.9nm,0.6s,baz=215,slow=2.1,SNR=8.2
CPUP pPKP pPKPdf 17 28 06.0 -1.3
comp=Z,29nm,1.0s,baz=235,slow=2.1,SNR=4.3
CPUP PKKPbc PKKPbc 17 37 40.2 +0.5
comp=Z,7.0nm,0.8s,baz=40,slow=3.3,SNR=6.6
CPUP PKKP PKKPdf 17 38 11.2 +1.2
comp=Z,9.5nm,0.6s,baz=44,slow=3.4,SNR=7.8
CPUP Villa Florida 119.51 133 PKIKP PKPdf 17 27 25.9 -1.7
CPUP 17 28 06.0
CPUP pmax pmax
comp=Z,6.0nm,0.6s
CPUP Villa Florida 119.51 133 *e*PKPdf PKPdf 17 27 24.8 -2.9
MVL Millersville 119.72 53 *e*PKPdf PKPdf 17 27 26.1 -1.5
RCC Rio Carpintero 119.80 76 *e*P Pdif 17 23 53.1 +2.0
BINY Binghamton 119.80 50 *e*PKPdf PKPdf 17 27 25.9 -1.8
LVZ Lovozero 119.83 341 *i* PKIKP PKPdf 17 27 26.7 -0.2
APA Apatity 120.40 341⇑*i*PKIKP PKPdf 17 27 27.0 -1.0
APA *i* 17 29 00.0
APA *i* 17 34 15.0
APA *i* SS SS 17 45 07.0 -5.6
APA pmax pmax
comp=Z,252nm,0.8s
APA MLR MLR
comp=Z,43μm,22.0s
LONY Lake Ozonia 120.53 47 *e*PKPdf PKPdf 17 27 26.9 -2.0
MOAC Moa 120.56 75 *e*P Pdif 17 24 06.9 +12
KEV Kevo 120.74 345 *e*p PKPdf 17 27 27.7 -0.9
comp=Z,145nm,0.7s
KEV Kevo 120.74 345 *e*PKIKP PKPdf 17 27 27.7 -0.9
KEV pmax pmax
comp=Z,145nm,0.7s
NCB Newcomb 120.87 48 *e*PKPdf PKPdf 17 27 27.9 -1.8
BRNJ Basking Ridge 121.02 52 *e*PKPdf PKPdf 17 27 29.0 -1.1
SUMG Summit 121.10 9 *e*PKPdf PKPdf 17 27 29.4 +0.1
MASC Masc 121.19 76 *e*P Pdif 17 24 04.8 +7.5
FRNY Flat Rock 121.19 47 *e*PKPdf PKPdf 17 27 28.2 -2.0
ARCES ARCESS Array B 121.27 345 PKP PKPdf 17 27 28.3 -1.3
comp=Z,14nm,0.4s,baz=59,slow=1.8,SNR=91
ARCES PKKPbc PKKPbc 17 37 32.2 -2.0
comp=Z,10nm,0.8s,baz=219,slow=2.1,SNR=15
ARE0 ARCESS Array S 121.27 345 *e*PKPdf PKPdf 17 27 28.9 -0.8
ACCN Adirondack Com 121.35 49 *e*PKPdf PKPdf 17 27 28.4 -2.2
CPNY Central Park 121.46 52 *e*PKPdf PKPdf 17 27 29.1 -1.8
PAL Palisades 121.48 51 *e*PKIKP PKPdf 17 27 28.3 -2.6
MDV Middlebury 121.61 48 *e*PKPdf PKPdf 17 27 29.3 -1.8
KLMR Klimovskoe 121.71 333 *e*P Pdif 17 23 58.3 -1.3
KLMR *e* 17 27 29.6
KLMR *e* 17 29 04.5
KLMR *e* 17 34 27.1
KLMR *e*SP SP 17 38 46.7 +4.3
KLMR pmax pmax
comp=Z,29nm,1.9s
KLMR pmax pmax
comp=Z,1.0nm,1.4s
KTK1 Kautokeino 122.20 346 *e*P PKPdf 17 27 31.1 -0.4
KTK1 AMb AMB 17 27 42.0
comp=Z,275nm,1.2s
HNH Hanover 122.30 48 *e*PKPdf PKPdf 17 27 31.5 -0.9
LBNH Lisbon 122.47 47 *e*PKIKP PKPdf 17 27 31.4 -1.3
QUA2 Belchertown 122.47 50 *e*PKPdf PKPdf 17 27 31.1 -1.6
SIV San Ignacio 122.49 121 PKKPbc PKKPbc 17 37 28.2 -0.1
comp=Z,4.2nm,1.0s,baz=74,slow=7.4,SNR=2.4
MAK Makhachkala 122.55 311 *e*P Pdif 17 24 00.6 -2.7
MAK *i* 17 27 33.8
MAK *i* 17 29 20.3
MAK *i* 17 34 33.5
MAK *i* SP SP 17 39 06.2 +15
MAK *i* SS SS 17 45 37.1 -4.5
MAK pmax pmax
comp=Z,2μm,1.3s
MAK MLR MLR
comp=Z,30μm,22.0s
SUR Sutherland 122.66 213 PKP PKPdf 17 27 32.4 -1.1
baz=146,slow=5.8
SUR PKKPab PKKPab 17 37 31.7 +2.1
comp=Z,19nm,0.9s,baz=50,slow=2.6,SNR=5.3
SUR Sutherland 122.66 213 *e*PKPdf PKPdf 17 27 33.5 0.0
TRO Tromso 122.67 348 *e*PP PP 17 29 10.4 -1.2
TRO *i* 17 38 58.8
TRO *e*SS SS 17 45 44.5 +3.3
TRO AMS AMS 18 20 43.4
comp=Z,25μm,21.1s
TRO Tromso 122.67 348 *e*P Pdif 17 24 02.5 -1.4
TRO *e* 17 27 29.6
TRO Tromso 122.67 348 *e*P Pdif 17 24 02.5 -1.3
TRO *e* 17 27 29.6
TRO *i* 17 29 02.7
SDV Santo Domingo 122.75 89 *e*PKPdf PKPdf 17 27 32.2 -1.9
FFD Franklin Falls 122.79 48 *e*PKPdf PKPdf 17 27 32.9 -0.5
SCHQ Schefferville 122.84 34 PKP PKPdf 17 27 31.2 -1.9
comp=Z,26nm,0.8s,baz=237,slow=6.4,SNR=14
SCHQ pPKP pPKPdf 17 28 13.4 +0.7
comp=Z,51nm,0.9s,baz=249,slow=2.9,SNR=4.4
SCHQ PKKPbc PKKPbc 17 37 26.8 -1.0
comp=Z,15nm,0.6s,baz=126,slow=3.8,SNR=13
SCHQ Schefferville 122.84 34 *e*PKPdf PKPdf 17 27 30.0 -3.1
BOSA Boshof 122.92 220 PKP PKPdf 17 27 34.1 0.0
comp=Z,113nm,0.9s,baz=123,slow=2.0,SNR=85
BOSA pPKP pPKPdf 17 28 14.7 +0.9
comp=Z,72nm,0.8s,baz=103,slow=3.3,SNR=2.4
BOSA PKKPab PKKPab 17 37 32.8 +4.5
comp=Z,7.7nm,0.9s,baz=315,slow=5.6,SNR=4.4
BOSA Boshof 122.92 220 *e*PKPdf PKPdf 17 27 33.8 -0.3
SFJD Kangerlussuaq 122.95 17 *i* P Pdif 17 24 08.7 +3.6
SFJD *i* 17 29 15.6
SFJD MLR MLR
comp=Z,36μm,18.0s
SFJD Kangerlussuaq 122.95 17 *i* P Pdif 17 24 08.7 +3.6
SFJD *e*PKPdf PKPdf 17 27 32.1 -0.8
SFJD *i* 17 27 40.5
SFJD *i* 17 29 15.6
SFJD *e* 17 36 58.8
SFJD LR LR
comp=Z,36μm,18.0s
HRV Adam Dziewonsk 123.02 49 *e*PKIKP PKPdf 17 27 31.9 -1.9
WES Weston 123.21 49 *e*PKPdf PKPdf 17 27 33.5 -0.7
UMR Umm Al-Rimmam 123.45 295 *i* P PKPdf 17 27 34.6 -0.4
baz=295

UMR				AMb	AMB	17 27 45.5	
	comp=Z,2μm,1.0s,baz=295						
RDF	**Al-Radifah**	**123.59 294**	*i* P		PKPdf	17 27 35.4	0.0
	baz=294						
RDF				AMb	AMB	17 27 46.3	
	comp=Z,2μm,1.4s,baz=294						
MIB	**Mutribah**	**123.78 296**	*i* P		PKPdf	17 27 35.0	-0.6
	baz=296						
MIB				AMb	AMB	17 27 46.0	
	comp=Z,2μm,1.2s,baz=296						
SDDR	**Presa de Saban**	**123.81 77**	*e*P		PKPdf	17 27 34.4	-1.6
NAY	**Al-Naaiem**	**123.86 295**	*i* P		PKPdf	17 27 35.3	-0.5
	baz=295						
NAY				AMb	AMB	17 27 46.0	
	comp=Z,703nm,1.2s,baz=295						
JOF	**Joensuu**	**123.91 338**	*e*p		PKPdf	17 27 33.2	-1.7
	comp=Z,244nm,0.8s						
JOF	**Joensuu**	**123.91 338**	*e*PKIKP		PKPdf	17 27 33.2	-1.7
JOF				pmax	pmax		
	comp=Z,244nm,0.8s						
PKME	**Peaks-Kenny Pk**	**124.10 46**	*e*PKPdf		PKPdf	17 27 34.8	-1.0
BDHA	**Al Bayda'**	**124.18 276⇑**	*e*P		PKPdf	17 27 37.9	+1.1
DGRG	**David-gareji**	**124.35 310**	P		PKPdf	17 27 37.6	+1.2
LBOS		**124.47 276⇑**	*e*P		PKPdf	17 27 38.6	+1.2
VRHR	**Novokhopersk**	**124.47 322**	*i* PKIKP		PKPdf	17 27 35.8	-0.5
VRHR			*e*			17 29 25.5	
VRHR			*e*			17 34 24.3	
VRHR			*e*PS		PS	17 39 11.4	-14
VRHR			*e*SSS			17 50 47.4	
VRHR				pmax	pmax		
	comp=N,70nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,210nm,0.9s						
VRHR				pmax	pmax		
	comp=E,60nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,3μm,8.4s						
VRHR				pmax	pmax		
	comp=N,160nm,5.5s						
VRHR				pmax	pmax		
	comp=E,920nm,8.5s						
VRHR				MLR	MLR		
	comp=Z,21μm,17.0s						
VRHR				MLR	MLR		
	comp=N,10μm,23.0s						
VRHR				MLR	MLR		
	comp=E,12μm,16.0s						
ADEN	**Aden**	**124.53 275⇑**	*e*P		PKPdf	17 27 38.3	+0.8
JMIC	**Jan Mayen**	**124.66 358**	PKP		PKPdf	17 27 38.2	+2.1
	comp=E,48nm,0.4s						
JMIC	**Jan Mayen**	**124.66 358**	*e*PP		PP	17 29 25.7	+0.9
JMIC			*e*SS		SS	17 46 10.9	+4.8
JMIC				AMS	AMS	18 15 47.9	
	comp=Z,7μm,21.0s						
JMIC	**Jan Mayen**	**124.66 358**	*e*P		Pdif	17 24 15.4	+2.7
JMIC				PKP	PKPdf	17 27 38.2	+2.1
JMIC			*e*			17 27 41.4	
JMIC			*i*			17 29 29.2	
JMIC				LR	LR		
	comp=Z,7μm,21.0s						
MTA	**Mtatsminda**	**124.74 310**	P		PKPdf	17 27 37.9	+0.8
TBLG	**Delisi**	**124.77 310**	P		PKPdf	17 27 38.0	+0.8
STEI	**Steigen**	**124.84 348**	*e*P		PKPdf	17 27 36.6	0.0
MOS	**Moscow**	**124.90 328***a*	*i*PKIKP		PKPdf	17 27 36.4	-0.6
MOS			*i*			17 28 15.2	
MOS			*e*			17 29 24.7	
MOS			*e*			17 34 36.0	
MOS			*e*SS		SS	17 46 08.9	-1.3
MOS				pmax	pmax		
	comp=Z,200nm,1.1s						
MOS				pmax	pmax		
	comp=Z,164nm,0.9s						
LOF	**Lofoten**	**125.01 348**	*e*		PKPdf	17 27 38.0	+1.2
GNI	**Garni**	**125.04 308**	*e*P		PKPdf	17 27 38.4	+0.6
GNI	**Garni**	**125.04 308**	PKP		PKPdf	17 27 37.8	+0.1
	comp=Z,114nm,0.9s,baz=6.5,slow=2.9,SNR=36						
GNI	**Garni**	**125.04 308**	PKIKP		PKPdf	17 27 37.8	0.0
GNI				pmax	pmax		
	comp=Z,114nm,0.9s						
GNI	**Garni**	**125.04 308**	*e*PKPdf		PKPdf	17 27 38.1	+0.4
GOR	**Gori**	**125.19 311**	P		PKPdf	17 27 39.5	+1.5
LBTB	**Lobatse**	**125.22 223**	*e*PKIKP		PKPdf	17 27 37.8	-0.8
DHBB	**Dhamar BB**	**125.40 277⇑**	*e*P		PKPdf	17 27 40.4	+1.2
ONI	**Oni**	**125.55 311**	P		PKPdf	17 27 38.7	+0.1
VOR	**Voronezh**	**125.67 323**	*i* PKIKP		PKPdf	17 27 37.0	-1.6
VOR				pmax	pmax		
	comp=Z,2μm,2.0s						
UDYN	**Al 'Udayn**	**125.71 276⇑**	*e*P		PKPdf	17 27 40.7	+1.0
OBN	**Obninsk**	**125.72 328***c*	*i*P		Pdif	17 24 20.7	+3.3
OBN			*i*			17 27 38.2	
OBN			*i*			17 34 40.2	
OBN			*i* PPS			17 41 08.4	
OBN				pmax	pmax		
	comp=Z,800nm,18.4s						
OBN				pmax	pmax		
	comp=Z,158nm,1.0s						
OBN				pmax	pmax		
	comp=Z,211μm,1.1s						
OBN	**Obninsk**	**125.72 328**	*e*PKPdf		PKPdf	17 27 38.3	-0.2
AKH	**Akhalkalaki**	**125.75 310**	P		PKPdf	17 27 40.8	+1.8
KIV	**Kislovodsk**	**125.79 313**	*e*P		Pdif	17 24 22.3	+4.6
KIV			*i*			17 27 38.4	
KIV			*e*			17 29 37.7	
KIV			*e*			17 34 28.0	
KIV			*e*SP		SP	17 39 24.0	+4.4
KIV				pmax	pmax		
	comp=Z,791nm,1.2s						
KIV				MLR	MLR		
	comp=Z,19μm,21.0s						
KIV	**Kislovodsk**	**125.79 313⇑**	*i*P		PKPdf	17 27 38.8	-0.3
KIV	**Kislovodsk**	**125.79 313**	*e*PKPdf		PKPdf	17 27 39.4	+0.4
CLDR	**Caldiran**	**125.83 307**	*e*P		PKPdf	17 27 38.7	-0.6
VRSR	**Storozhevoye**	**125.87 323**	*e*P		Pdif	17 24 21.4	+3.3
VRSR			*i*			17 27 38.5	
VRSR			*e*			17 29 36.3	
VRSR			*e*			17 34 35.1	
VRSR			*e*PS		PS	17 39 16.2	-22
VRSR			*e*SSS			17 51 04.1	
VRSR				pmax	pmax		
	comp=Z,50nm,5.3s						
VRSR				pmax	pmax		
	comp=N,20nm,5.4s						
VRSR				pmax	pmax		
	comp=E,10.0nm,2.5s						
VRSR				pmax	pmax		
	comp=Z,40nm,0.9s						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRSR				pmax	pmax		
	comp=Z,440nm,7.4s						
VRSR				pmax	pmax		
	comp=N,80nm,6.8s						
VRSR				pmax	pmax		
	comp=E,180nm,7.3s						
VRSR				MLR	MLR		
	comp=Z,7μm,22.0s						
VRSR				MLR	MLR		
	comp=N,2μm,19.0s						
VRSR				MLR	MLR		
	comp=E,6μm,20.0s						
BHD	**Baghdad**	**126.15 300**	*ex*		x	17 24 19.0	
BHD			*ex*		x	17 27 27.0	
BHD			*i* x		x	17 29 31.5	
BHD			*i* x		x	17 34 30.5	
BHD			*i* x		x	17 39 20.5	
BHD			*i* x		x	17 39 57.0	
HKR	**Hakkari**	**126.20 305**	*e*P		PKPdf	17 27 40.6	+0.6
KARS	**Kars**	**126.20 309**	*e*P		PKPdf	17 27 41.0	+1.0
KAF	**Kangasniemi**	**126.22 339**	*e*p		PKPdf	17 27 38.3	-1.0
	comp=E,146nm,0.7s						
KAF	**Kangasniemi**	**126.22 339**	*e*PKIKP		PKPdf	17 27 38.3	-1.0
KAF				pmax	pmax		
	comp=Z,146nm,0.7s						
VANB	**Van**	**126.32 307**	*e*P		PKPdf	17 27 41.0	+0.7
HAJJ	**Hajjah**	**126.32 278⇓**	*e*P		PKPdf	17 27 42.0	+1.1
AGRB	**Hanur-Agry**	**126.46 308**	*e*P		PKPdf	17 27 40.8	+0.3
MOR8	**Moi Rana**	**126.50 347**	*e*P		PKPdf	17 27 38.1	-1.7
MOR8				AMb	AMB	17 27 54.4	
	comp=Z,266nm,1.5s						
FLOS	**Flostrand**	**126.59 347**	*e*P		PKPdf	17 27 40.0	0.0
STOK	**Stokkvaagen**	**126.67 348**	*e*P		PKPdf	17 27 37.4	-2.7
MSL	**Mosul**	**126.89 304**	*ex*		x	17 24 21.0	
MSL			*i* x		x	17 27 46.0	
MSL			*i* x		x	17 29 37.5	
MSL			*i* x		x	17 31 00.0	
MSL			*i* x		x	17 34 36.0	
MSL			*i* x		x	17 39 39.0	
BCA	**Borcka**	**127.12 310**	*e*P		PKPdf	17 27 41.7	0.0
SIRT	**Sirnak**	**127.23 305**	*e*P		PKPdf	17 27 45.0	+3.0
EZM	**Erzurum**	**127.63 309**	*e*P		PKPdf	17 27 44.4	+1.7
BTMT	**Batman**	**127.86 306**	*e*P		PKPdf	17 27 44.2	+1.0
SOC	**Sochi**	**127.97 313**	*e*PKIKP		PKPdf	17 27 42.3	-0.9
SOC			*e*			17 28 18.1	
SOC			*e*			17 29 44.8	
SOC			*e*SS		SS	17 46 44.3	-5.1
SOC				pmax	pmax		
	comp=Z,101nm,1.1s						
SOC				MLR	MLR		
	comp=Z,13μm,17.0s						
SPB	**Sao Paulo**	**128.02 138**	*e*PKPdf		PKPdf	17 27 41.4	-2.6
AOPR	**Arecibo Observ**	**128.02 79**	*e*PKPdf		PKPdf	17 27 41.3	-2.8
KMBO	**Kilima Mbogo**	**128.28 256**	pPdiff			17 08 54.6	
	comp=Z,25nm,0.6s,baz=99,slow=0.5,SNR=4.8						
KMBO				PKP	PKPdf	17 27 46.0	+1.2
	comp=Z,13nm,0.4s,baz=109,slow=2.5,SNR=3.0						
KMBO				SKKPbc		17 40 38.6	
	comp=Z,25nm,0.6s,baz=88,slow=0.2,SNR=4.0						
NSS	**Namsos**	**128.45 347**	*e*P		PKPdf	17 27 44.1	+0.6
NSS			*e*PP		PP	17 29 49.0	-0.9
NSS			*e*SS		SS	17 46 56.1	+2.7
NSS				AMS	AMS	18 23 20.1	
	comp=Z,24μm,20.5s						
NSS	**Namsos**	**128.45 347**	*e*P		PKPdf	17 27 44.1	+0.6
NSS			*e*			17 29 54.9	
NSS				LR	LR		
	comp=Z,24μm,20.5s						
BINT	**Bingol**	**128.50 307**	*e*P		PKPdf	17 27 45.4	+1.0
SJG	**San Juan**	**128.57 79**	*e*PKIKP		PKPdf	17 27 43.4	-1.7
KTUT	**Trabzon**	**128.59 310**	*e*P		PKPdf	17 27 45.0	+0.5
CPD	**Cerro la Pandu**	**128.78 79**	*e*PKIKP		PKPdf	17 27 43.8	-1.7
EZC	**Erzincan**	**128.83 309**	*e*P		PKPdf	17 27 47.9	+2.9
HUMP	**Col San Antoni**	**128.85 79**	*e*PKPdf		PKPdf	17 27 43.8	-1.8
DIY	**Diyarbakir**	**128.89 306**	*e*P		PKPdf	17 27 45.7	+0.5
GUMT	**Gumushane**	**128.92 310**	*e*P		PKPdf	17 27 46.8	+1.6
MTP	**Monte Pirata**	**129.13 79**	*e*PKPdf		PKPdf	17 27 43.9	-2.3
ANN	**Anapa**	**129.18 316**	*e*P		Pdif	17 24 32.3	-0.5
ANN			*i*			17 27 43.9	
ANN			*e*			17 29 54.0	
ANN				pmax	pmax		
	comp=Z,373nm,1.3s						
ANN				MLR	MLR		
	comp=N,18μm,19.0s						
ANN				MLR	MLR		
	comp=E,14μm,19.0s						
ANN				MLR	MLR		
	comp=Z,24μm,19.0s						
ANN	**Anapa**	**129.18 316⇑**	*i*PKP		PKPdf	17 27 44.1	-1.4
PTK	**Pertek**	**129.34 308**	*e*P		PKPdf	17 27 46.7	+0.7
ESPY	**Espiye-Giresun**	**129.37 310**	*e*P		PKPdf	17 27 45.2	-0.8
SVRC	**Sivrice-ELAZID**	**129.51 307**	*e*P		PKPdf	17 27 46.3	-0.1
LSZ	**Lusaka**	**129.55 234**	SKP			17 31 06.8	
	comp=Z,64nm,1.1s,baz=128,slow=8.4,SNR=2.5						
LSZ	**Lusaka**	**129.55 234**	*e*PKIKP		PKPdf	17 27 46.9	-0.2
URFA	**Urfa**	**130.07 306**	*e*P		PKPdf	17 27 45.5	-1.9
MALT	**Malatya**	**130.20 307**	*e*P		PKPdf	17 27 47.6	-0.1
MALT	**Malatya**	**130.20 307⇑**	*i*P		PKPdf	17 27 48.8	+1.1
MALT	**Malatya**	**130.20 307**	*e*PKPdf		PKPdf	17 27 48.5	+0.8
RSDY	**Resadiye-TOKAT**	**130.53 310**	*e*P		PKPdf	17 27 49.4	+1.2
BORG	**Borgarnes**	**130.59 5**	*e*PKPdf		PKPdf	17 27 48.2	+0.6
SVSK	**Karacayir**	**130.90 310**	*e*P		PKPdf	17 27 47.6	-1.4
MOL	**Molde**	**131.12 348**	*e*PP		PP	17 30 05.8	-1.4
MOL			*e*SS		SS	17 47 36.4	+10
MOL	**Molde**	**131.12 348**	*e*P		Pdif	17 24 40.5	-0.9
MOL			*i*			17 27 44.2	
DOMB	**Dombas**	**131.27 347**	*e*P		PKPdf	17 27 42.5	-6.4
KVT	**Kavak**	**131.28 311**	*e*P		PKPdf	17 27 49.5	-0.2
SIM	**Simferopol'**	**131.35 317**	*i* PKIKP		PKPdf	17 27 49.6	0.0
SIM			*e*			17 30 07.0	
SIM			*e*PS		PS	17 40 02.0	-24
SIM				pmax	pmax		
	comp=Z,228nm,0.9s						
SIM				pmax	pmax		
	comp=Z,9μm,16.4s						
GAZ	**Gaziantep**	**131.38 306**	*e*P		PKPdf	17 27 50.3	+0.4
KMRS	**Kahramanmaras**	**131.55 306**	*e*P		PKPdf	17 27 54.1	+3.9
NB2	**NORSAR Subarra**	**131.64 345**	PKPdf			17 27 38.0	
	comp=Z,47nm,1.1s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**131.64 345**	PKPdf			17 27 38.0	
	baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**131.64 345**	PKPdf		PKPdf	17 27 47.5	-2.2
NOA	**NORSAR Array B**	**131.64 345**	PKhKP			17 27 37.6	
	comp=Z,7.8nm,1.0s,baz=51,slow=2.2,SNR=7.8						
NOA				PKP	PKPdf	17 27 50.7	+1.0
	comp=Z,20nm,0.6s,baz=65,slow=1.8,SNR=18						
NOA				SKPbc	SKPbc	17 31 03.7	+2.2
	comp=Z,106nm,1.0s,baz=33,slow=2.8,SNR=10						
NOA				SKKPbc		17 40 25.7	
	comp=Z,5.9nm,1.0s,baz=198,slow=2.4,SNR=4.3						
NOA	**NORSAR Array B**	**131.64 345**	*i* PKHKP			17 27 37.6	
NOA						17 27 50.7	
NOA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NOA				pmax	pmax		
	comp=Z,20nm,0.6s						
NOA				pmax	pmax		
	comp=N,106nm,1.0s						
DIKM	**Dikmen**	**131.68 312**	*e*P		PKPdf	17 27 49.3	-1.0
TCE	**Chacachacare**	**131.68 90**	*e*P		PKPdf	17 27 50.4	-0.8
HFS	**Hagfors**	**131.74 343**	PKhKP			17 27 35.7	
	comp=N,3.4nm,0.7s,baz=64,slow=3.4,SNR=6.8						
HFS				PKP	PKPdf	17 27 49.8	-0.1
	comp=N,22nm,0.8s,baz=46,slow=4.8,SNR=12						
HFS				SKPbc	SKPbc	17 31 04.4	+2.5
	comp=N,64nm,0.8s,baz=29,slow=3.4,SNR=6.2						
HFS				PKKP		17 37 49.2	
	comp=N,2.6nm,0.6s,baz=134,slow=4.3,SNR=4.4						
HFS				SKKPbc		17 40 35.3	
	comp=N,11nm,1.0s,baz=199,slow=4.1,SNR=3.7						
HFS	**Hagfors**	**131.74 343**	*i* PKHKP			17 27 35.7	
HFS						17 27 49.8	
HFS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS				pmax	pmax		
	comp=Z,22nm,0.8s						
AKASG	**Malin Array Be**	**131.75 326**	PKhKP			17 27 36.0	
	comp=Z,1.0nm,0.4s,baz=54,slow=4.6,SNR=7.0						
AKASG				PKP	PKPdf	17 27 48.9	-1.3
	comp=Z,48nm,0.9s,baz=60,slow=2.2,SNR=34						
AKASG				SKPbc	SKPbc	17 31 04.9	+2.8
	comp=Z,41nm,0.6s,baz=47,slow=4.3,SNR=14						
AKASG				PKKP		17 37 55.0	
	comp=Z,0.8nm,0.4s,baz=259,slow=2.6,SNR=4.7						
AKASG	**Malin Array Be**	**131.75 326**	*i* PKHKP			17 27 36.0	
AKASG						17 27 48.9	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,48nm,0.9s						
AKBB	**Malin Array Si**	**131.75 326**	*e*PKPdf		PKPdf	17 27 49.3	-0.9
AKBB			*e*SKP			17 31 02.1	
KIEV	**Kiev**	**131.76 326**	*e*PKPdf		PKPdf	17 27 49.6	-0.6
KIEV			*e*SKP			17 31 01.7	
NAO01	**NORSAR Array S**	**131.89 345**	*e*PKPpre			17 27 43.0	
TPP	**Pointe-a-Pierr**	**131.90 90**	*e*P		PKPdf	17 27 53.6	+2.1
TRN	**Trinidad (W)**	**132.01 90**	*e*P		PKPdf	17 27 49.6	-2.1
BNN	**Bunyan**	**132.03 308**	*e*P		PKPdf	17 27 50.7	-0.4
BYBT	**Boyabat**	**132.08 312**	*e*P		PKPdf	17 27 51.7	+0.6
YOZ	**Yozgat**	**132.22 310**	*e*P		PKPdf	17 27 51.9	+0.5
TBH	**Brigand Hill**	**132.30 90**	*e*P		PKPdf	17 27 55.4	+3.1
KOZT	**Kozan**	**132.39 307**	*e*P		PKPdf	17 27 52.4	+0.6
BZK	**Bozkurt**	**132.47 313**	*e*P		PKPdf	17 27 52.3	+0.4
LZG	**Guadaloupe-1**	**132.51 82**	*e*P		PKPdf	17 27 51.9	-0.8
ASF	**Jabal al Asfar**	**132.54 299**	PKhKP			17 27 38.0	
	comp=Z,8.9nm,1.1s,baz=90,slow=1.0,SNR=5.3						
ASF				PKP	PKPdf	17 27 52.5	+0.3
	comp=Z,45nm,0.9s,baz=62,slow=1.3,SNR=26						
ASF				SKPbc	SKPbc	17 31 08.3	+2.7
	comp=Z,47nm,0.9s,baz=76,slow=4.2,SNR=2.6						
ASF	**Jabal al Asfar**	**132.54 299**	*i* PKHKP			17 27 38.0	
ASF						17 27 52.5	
ASF				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ASF				pmax	pmax		
	comp=N,47nm,0.9s						
ASF				pmax	pmax		
	comp=Z,45nm,0.9s						
CEYT	**Ceyhan**	**132.56 306**	*e*P		PKPdf	17 27 52.7	+0.6
CORM	**Corum**	**132.57 311**	*e*P		PKPdf	17 27 50.1	-2.0
HYA	**Hoyanger**	**132.66 348**	*e*		PKPdf	17 27 53.0	+1.4
TPR	**Prospect**	**132.72 89**	*e*P		PKPdf	17 27 52.1	-1.0
TOS	**Tosya**	**132.75 312**	*e*P		PKPdf	17 27 52.6	+0.2
SUW	**Suwalki**	**132.82 332**	*e*PKP		PKPdf	17 27 52.9	+0.8
SUW			*ep*PKP		pPKPdf	17 28 31.0	-0.8
SUW			*e*PP		PP	17 30 22.3	+3.8
SUW			*e*			17 31 07.3	
SUW			*e*SP		SP	17 40 13.7	-5.6
SUW			*e*SS		SS	17 47 58.9	+11
SUW				LMZ		18 13 52.5	
	comp=Z,48μm,30.8s						
SUW	**Suwalki**	**132.82 332**	*e*PKIKP		PKPdf	17 27 52.9	+0.8
SUW			*e*			17 28 31.0	
SUW			*e*			17 30 22.3	
SUW			*e*SP		SP	17 40 13.7	-5.6
SUW	**Suwalki**	**132.82 332**	*e*PKPpre			17 27 37.4	
SUW			*e*PKP		PKPdf	17 27 52.9	+0.8
SUW			*ep*PKP		pPKPdf	17 28 31.0	-0.8
SUW			*e*PP		PP	17 30 22.3	+3.8
SUW			*e*			17 31 07.4	
SUW			*e*SP		SP	17 40 13.7	-5.6
SUW			*e*SS		SS	17 47 58.9	+11
FDF	**Fort de France**	**132.93 84**	*e*P		PKPdf	17 27 53.4	-0.1
FDF	**Fort de France**	**132.93 84**	*e*PKPdf		PKPdf	17 27 52.7	-0.8
BDFB	**Brasilia**	**132.97 130**	PKhKP			17 27 43.7	
	comp=Z,1.9nm,0.6s,baz=225,slow=4.3,SNR=4.7						
BDFB				PKP	PKPdf	17 27 54.3	+0.8
	comp=Z,11nm,0.8s,baz=214,slow=1.4,SNR=6.7						
BDFB	**Brasilia**	**132.97 130**	*i* PKHKP			17 27 43.7	
BDFB						17 27 54.3	
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BDFB				pmax	pmax		
	comp=Z,11nm,0.8s						
HWQ	**Hawqa**	**132.98 302**	*e*P		PKPdf	17 27 53.2	+0.2
SLW	**Petit Monier**	**133.04 85**	*e*P		PKPdf	17 27 57.8	+4.1
KARA	**Karaisali**	**133.04 307**	*e*P		PKPdf	17 27 53.6	+0.5
MVM	**Montagne Vaucl**	**133.15 85**	*e*P		PKPdf	17 27 58.1	+4.2
NIG	**Nigde**	**133.16 308**	*e*P		PKPdf	17 27 49.6	-3.7
CANT	**Cankiri**	**133.18 311**	*e*P		PKPdf	17 27 52.8	-0.4
RCY	**Rachaya**	**133.22 301**	*e*P		PKPdf	17 27 54.5	+1.0
KONO	**Kongsberg**	**133.25 345**	*e*		PKPdf	17 27 53.2	+0.5
KONO			*e*PP		PP	17 30 21.5	+0.6
KONO			*i*			17 30 24.5	
KONO			*e*SS		SS	17 48 03.5	+11
KONO				AMS	AMS	18 20 56.3	
	comp=Z,20μm,19.4s						
KONO	**Kongsberg**	**133.25 345**	*e*P		Pdif	17 24 55.1	+4.2
KONO			*e*			17 27 53.2	
KONO			*i*			17 30 24.5	
KONO				MLR	MLR		
	comp=Z,20μm,19.4s						
BHL	**Bhannes**	**133.28 302**	*e*P		PKPdf	17 27 54.0	+0.3
KAMT	**Kaman**	**133.49 310**	*e*P		PKPdf	17 27 53.7	-0.1
RUND	**Rundenannen**	**133.52 348**	*e*		PKPdf	17 27 54.6	+1.3
MERS	**Mersin**	**133.55 306**	*e*P		PKPdf	17 27 47.5	-6.6
BER	**Bergen**	**133.55 348**	*e*			17 27 33.9	
BER			*e*PP		PP	17 30 22.0	-0.8
BER			*i*			17 40 35.9	
BER			*e*SS		SS	17 48 01.2	+5.6
BER				AMS	AMS	18 22 44.6	
	comp=Z,19μm,20.8s						
BER	**Bergen**	**133.55 348**	*e*P		Pdif	17 24 55.1	+2.9
BER			*e*			17 27 33.9	
BER			*i*			17 30 22.0	
SAFT	**Safranbolu**	**133.64 313**	*e*P		PKPdf	17 27 53.1	-0.9
MMAI	**Mount Meron Ar**	**133.65 301**	PKhKP			17 27 45.9	
	comp=Z,5.0nm,0.6s,baz=94,slow=7.6,SNR=6.8						
MMAI				PKP	PKPdf	17 27 55.5	+1.2
	comp=Z,84nm,0.9s,baz=64,slow=3.4,SNR=25						
MMAI				SKPbc	SKPbc	17 31 10.2	+0.9
	comp=Z,30nm,0.9s,baz=82,slow=3.1,SNR=3.3						
KIS	**Kishinev**	**133.82 321**	*e*P		Pdif	17 25 00.0	+6.6
KIS			*e*			17 27 39.0	
KIS			*i*			17 27 53.0	
KIS			*e*			17 28 32.0	
KIS			*e*			17 28 50.0	
KIS			*i*			17 30 28.0	
KIS			*e*			17 40 30.0	
KIS				pmax	pmax		
	comp=Z,370nm,1.0s						
KIS				pmax	pmax		
	comp=Z,4μm,5.0s						
KIS				pmax	pmax		
	comp=Z,5μm,25.0s						
KIS	**Kishinev**	**133.82 321**	*i* PKP		PKPdf	17 27 53.0	-1.2
	comp=Z,400nm,1.0s						
KIS	**Kishinev**	**133.82 321**	PKPM2			17 28 08.0	
	comp=Z,6μm,15.0s						
ANTO	**Ankara**	**134.01 311**	*e*P		PKPdf	17 27 52.8	-2.0
ANTO	**Ankara**	**134.01 311⇑**	*i*P		PKPdf	17 27 54.6	-0.2
ANTO	**Ankara**	**134.01 311**	*e*PKPdf		PKPdf	17 27 54.8	0.0
EREN	**Erenkoy**	**134.14 305**	*e*P		PKPdf	17 27 56.0	+0.8
BLS5	**Blasjo**	**134.19 347**	*e*P		PKPdf	17 27 54.6	+0.1
IKL	**Isikli**	**134.36 306**	*e*P		PKPdf	17 27 49.0	-6.6
PHNC	**Paralimni**	**134.37 304**	P		PKPdf	17 27 57.8	+2.2
	comp=Z,12nm,1.5s						
CAM3	**Guarapari**	**134.43 142**	*e*P		PKPdf	17 27 52.6	-3.6
CAM3			*i*			17 28 00.3	
CAM3			*i*			17 28 04.9	
CAM3			*i*			17 28 39.8	
CAM3			*i*			17 29 12.4	
CAM3			*i*			17 29 23.4	
EIL	**Elat**	**134.53 296**	PKhKP			17 27 44.5	
	comp=Z,16nm,1.1s,baz=124,slow=3.6,SNR=1.0						
EIL				PKP	PKPdf	17 27 55.2	-0.9
	comp=Z,70nm,1.0s,baz=86,slow=1.7,SNR=2.7						
EIL				SKPbc	SKPbc	17 31 09.9	-2.4
	comp=Z,65nm,1.2s,baz=77,slow=4.0,SNR=3.0						
EIL	**El

comp=Z,31µm,21.0s
HDMB Hadim 135.10 307 *e*P PKPdf 17 27 52.6 -4.3
LEF Lefka 135.26 304 *e*P PKPdf 17 27 53.3 -4.0
TIRR Tirgusor 135.26 318 ⇓*i*P PKPdf 17 27 50.3 -6.7
TIRR Tirgusor 135.26 318 ⇓P PKPdf 17 27 50.3 -6.7
TIRR *e*PKPdf PKPdf 17 27 56.7 -0.3
TIRR P 17 28 02.1
BSD Bornholm Skovb 135.39 338 *i* P Pdif 17 25 01.7 +1.3
BSD *i* 17 27 44.1
BSD *i* 17 30 37.5
BSD
comp=Z,23µm,22.0s
BSD Bornholm Skovb 135.39 338 *i* P Pdif 17 25 01.7 +1.3
BSD *i* 17 27 44.1
BSD *i* 17 30 37.5
HARR Harsova 135.46 319 ⇓*i*P PKPdf 17 27 59.5 +2.1
HARR Harsova 135.46 319 P PKPdf 17 27 58.1 +0.7
ALFC Alevga 135.48 304 P PKPdf 17 27 56.6 -1.1
comp=Z,4.1nm,0.8s
ODB Odobesti 135.48 321 ⇓*i*P PKPdf 17 28 01.2 +3.8
ODB Odobesti 135.48 321 ⇓P PKPdf 17 28 01.2 +3.8
ESKT Eskisehir 135.54 311 *e*P PKPdf 17 27 58.3 +0.7
BURAR Bucovina Array 135.61 324 ⇓*i*P PKPdf 17 28 00.4 +2.8
BURAR Bucovina Array 135.61 324 P PKPdf 17 28 00.6 +3.1
VRI Vrincioaia 135.64 321 PKIKP PKPdf 17 27 58.4 +0.7
VRI Vrincioaia 135.64 321 ⇑*i*P PKPdf 17 27 50.9 -6.8
VRI Vrincioaia 135.64 321 ⇑P PKPdf 17 27 50.9 -6.8
VRI P 17 27 58.4
PLOR Plostina 135.69 321 ⇑*i*P PKPdf 17 27 58.0 +0.2
AKMC Akamas 135.72 304 P PKPdf 17 27 58.1 -0.1
PPCY Paphos 135.75 304 P PKPdf 17 27 58.1 -0.1
COP Copenhagen 135.79 340 *i* P Pdif 17 25 05.3 +3.1
COP *i* 17 27 46.8
COP *i* 17 30 43.2
COP
comp=Z,11µm,22.0s
KWP Kalwaria 135.81 328 *e*PKP PKPdf 17 27 59.6 +1.7
KWP *ep*PKP pPKPdf 17 28 39.6 +2.1
KWP *e* 17 31 18.7
KWP *e*SS SS 17 48 22.4 -1.3
KWP LMZ 18 18 15.7
comp=Z,51µm,32.0s
KWP Kalwaria 135.81 328 *e*PKIKP PKPdf 17 27 59.6 +1.8
KWP *e* 17 28 39.7
KWP *e*SS SS 17 48 22.4 -1.3
KWP Kalwaria 135.81 328 ⇓*i*P PKPdf 17 27 59.5 +1.7
KWP Kalwaria 135.81 328 *e*PKPpre 17 27 50.9
KWP *e*PKP PKPdf 17 27 59.6 +1.8
KWP *ep*PKP pPKPdf 17 28 39.7 +2.2
KWP *e* 17 31 18.7
KWP *e*SS SS 17 48 22.4 -1.3
GKP Gorka Klasztor 135.89 335 *e*PKP PKPdf 17 28 00.3 +2.4
GKP *ep*PKP pPKPdf 17 28 38.9 +1.3
GKP *e*PP PP 17 30 45.1 +7.2
GKP *e* 17 31 15.1
GKP *e*SP SP 17 40 32.6 -13
GKP *e*SS SS 17 48 33.5 +9.3
GKP LMZ 18 19 38.6
comp=Z,74µm,25.9s
GKP Gorka Klasztor 135.89 335 *e*PKIKP PKPdf 17 28 00.3 +2.4
GKP *e* 17 28 38.9
GKP *e* 17 30 45.1
GKP MLR MLR
comp=Z,74µm,25.9s
GKP Gorka Klasztor 135.89 335 *e*PKP PKPdf 17 28 00.3 +2.4
GKP *ep*PKP pPKPdf 17 28 38.9 +1.4
GKP *e*PP PP 17 30 45.1 +7.2
GKP *e* 17 31 15.1
GKP *e*SP SP 17 40 32.6 -13
GKP *e*SS SS 17 48 33.5 +9.3
GKP LR LR
comp=Z,74µm,25.9s
HRT Hereke 135.92 313 *e*P PKPdf 17 27 58.0 -0.3
ADVT Abdulvahap 136.02 313 *e*P PKPdf 17 27 58.1 -0.4
SHUT Suhut-Afyon 136.08 310 *e*P PKPdf 17 27 56.5 -2.2
ISR Istrita 136.12 320 ⇓*i*P PKPdf 17 28 03.6 +5.0
ISR Istrita 136.12 320 ⇓P PKPdf 17 28 03.6 +5.0
MUD Monsted U'grnd 136.13 343 *e*PKIKP PKPdf 17 28 01.8 +3.6
MUD *i* 17 30 44.2
MUD MLR MLR
comp=Z,35µm,22.0s
MUD Monsted U'grnd 136.13 343 *i* P PKPdf 17 28 01.8 +3.6
MUD *i* 17 30 44.2
MUD
comp=Z,35µm,22.0s
MUD Monsted U'grnd 136.13 343 *e*P PKPdf 17 28 01.8 +3.6
MUD *i* 17 30 44.2
YLV Yalova 136.22 313 *e*P PKPdf 17 27 58.9 0.0
ALT Altintas 136.24 311 *e*P PKPdf 17 27 59.4 +0.4
ISK Istanbul-Kandi 136.25 314 *e*P PKPdf 17 27 58.8 -0.1
MLR Muntele Rosu 136.30 321 ⇓*i*P PKPdf 17 27 58.0 -0.9
MLR Muntele Rosu 136.30 321 P PKPdf 17 27 58.0 -0.9
BCK Bucak 136.40 308 *e*P PKPdf 17 27 59.9 +0.6
RGN Rugen 136.41 339 *e*SS SS 17 48 40.2 +10
RGN Rugen 136.41 339 *e*PKPdf PKPdf 17 27 55.1 -3.7
KOLS Kolonicke sedl 136.46 327 *e*PKHKP 17 27 50.9
KOLS *e* 17 30 41.3
KOLS *i* SS SS 17 48 30.4 -1.0
KOLS *e* 17 53 31.3
KOLS Kolonicke sedl 136.46 327 *e*PKP PKPdf 17 27 50.9 -8.2
KOLS *e* 17 28 37.7
KOLS *e*PP PP 17 30 41.2 -0.5
KOLS *i* SKP 17 31 15.0
KOLS *i* SS SS 17 48 30.4 -1.0
KOLS *i* 17 53 31.3
KOLS Kolonicke sedl 136.46 327 *e*PKP PKPdf 17 27 50.9 -8.2
KOLS *e* 17 28 37.7
KOLS *e*PP PP 17 30 41.3 -0.4
KOLS *e* 17 31 15.0
KOLS *i* SS SS 17 48 30.4 -1.0
KOLS *e* 17 53 31.3
PRD Provadia 136.48 317 *e*P PKPdf 17 28 02.0 +2.7
ANTB Antalya 136.52 307 *e*P PKPdf 17 28 04.9 +5.3
UZH Uzhgorod 136.63 327 *i* PKHKP 17 27 48.6
UZH *e* 17 27 59.6
UZH *e* 17 28 34.0
UZH *e* 17 30 46.0
UZH *e* 17 34 50.0
UZH *e* 17 42 44.0
UZH MLR MLR
comp=Z,11µm,20.0s
SLAT Slait 136.77 277 *i* P PKPdf 17 27 51.7 -8.9
SLAT *i* S SKSac 17 35 01.3 +0.1
SLAT AMS AMS 17 50 49.6
comp=N,7µm,18.4s
BUC1 Bucharest 136.82 319 PKIKP PKPdf 17 28 03.7 +3.8
VOIR 136.87 321 ⇓*i*P PKPdf 17 27 54.1 -5.9
VOIR 136.87 321 ⇓P PKPdf 17 27 54.1 -5.8
VOIR P 17 28 06.4
OJC Ojcow 136.88 330 *e*PKPdf 17 27 50.9
OJC *ep*PKPdf pPKPdf 17 28 39.9 +0.4
OJC *e*PP PP 17 30 39.9 -4.3
OJC *e*SKSac SKKSac 17 37 16.1 -8.4
OJC L 18 24 38.0
comp=N,44nm,28.1s
OJC Ojcow 136.88 330 *e*PKHKP 17 27 50.9
OJC *e* 17 30 39.9
JAWL J.Aulia 136.90 276 *i* P 17 27 51.9
JAWL *i* S SKPbc 17 31 11.1 -8.9
CRVS Cervenica-Dubn 136.90 328 *e*PKHKP 17 27 51.0
CRVS *i* 17 30 47.2
CRVS *i* SS SS 17 48 36.0 -0.7
CRVS Cervenica-Dubn 136.90 328 *e*PKP 17 27 51.0
CRVS *e* 17 28 36.8
CRVS *i* PP PP 17 30 47.1 +2.7
CRVS *i* SKP 17 31 17.2
CRVS *e* 17 40 32.6
CRVS *i* SS SS 17 48 36.0 -0.7
CRVS Cervenica-Dubn 136.90 328 *e*PKP 17 27 51.0
CRVS *e* 17 28 36.8
CRVS *i* PP PP 17 30 47.2 +2.8
CRVS *e* 17 31 17.2
CRVS *e* 17 40 32.6
CRVS *i* SS SS 17 48 36.0 -0.7
KHL Karahalli 136.92 310 *e*P PKPdf 17 28 00.7 +0.4
MLA1 Latheron 136.92 353 *e*P PKPdf 17 27 55.3 -4.4
ELL Elmali 137.14 308 *e*P PKPdf 17 28 02.5 +1.7
NIE Niedzica 137.16 329 *e*PKPdf PKPdf 17 27 53.6 -6.8
JMB Yambol 137.34 317 *e*P PKPdf 17 27 52.1 -8.9
MVH1 Achvaich 137.39 354 *e*P PKPdf 17 27 53.6 -6.9
KULA Kula-Manisa 137.49 310 *e*P PKPdf 17 27 54.3 -7.0

DRGR 137.49 324 ⇓*i*P PKPdf 17 28 02.0 +0.9
DRGR 137.49 324 P PKPdf 17 27 55.5 -5.6
DRGR ⇓P 17 28 02.0
EDRB Edirne 137.51 316 *e*P PKPdf 17 28 00.6 -0.7
ZIMR 137.57 319 ⇑*i*P PKPdf 17 28 03.5 +2.2
ZIMR 137.57 319 P PKPdf 17 28 05.2 +3.9
MFT Murefte 137.60 314 *e*P PKPdf 17 28 01.4 -0.1
MCD Coleburn Disti 137.62 353 *e*P PKPdf 17 27 55.5 -5.5
BALB Balikesir 137.64 312 *e*P PKPdf 17 28 01.5 -0.1
KECS Kecovo 137.67 328 *e*PKIKP PKPdf 17 27 56.5 -4.8
KECS *e* 17 30 55.3
KECS Kecovo 137.67 328 *e*PKP PKPdf 17 27 56.5 -4.8
KECS *i* *e*PP PP 17 30 55.3 +6.1
KECS *i* 17 31 25.1
KECS Kecovo 137.67 328 *e*PKP PKPdf 17 27 56.5 -4.8
KECS *e*PP PP 17 30 55.3 +6.1
KECS *e* 17 31 25.1
RAC Raciborz 137.74 331 *e*PKHKP 17 27 46.9
RAC *e* 17 30 46.3
RAC MLR MLR
comp=Z,46µm,22.0s
RAC Raciborz 137.74 331 *e*PKPdf 17 27 46.9
RAC *e*PP PP 17 30 46.3 -3.2
RAC *e*SS SS 17 48 58.5 +12
RAC LR LR
comp=Z,46µm,22.0s
PVL Pavlikeni 137.81 318 *e*P PKPdf 17 28 05.9 +4.1
MME1 Meikle Cairn 137.84 352 *e*P PKPdf 17 27 59.3 -2.1
RUE Ruedersdorf 137.87 336 *e*Pdiff Pdif 17 25 14.0 +2.6
RUE *e*PKPdf PKPdf 17 27 52.5 -9.1
RUE *e*SS SS 17 49 09.0 +21
RUE Ruedersdorf 137.87 336 *e*PKPdf PKPdf 17 28 00.1 -1.5
MDO Dochfour 137.88 354 *e*P PKPdf 17 27 55.4 -6.0
KAC Achnashellach 137.92 354 *e*P PKPdf 17 27 55.0 -6.5
BSEG Bad Segeberg 137.93 340 *e*Pdiff Pdif 17 25 14.9 +3.2
BSEG *e*PKPdf PKPdf 17 27 52.8 -8.8
BSEG *e*SKPbc SKPbc 17 31 33.1 +11
BSEG *e*SS SS 17 48 52.9 +4.8
OKC Ostrava-Krasne 137.93 331 *e*PKPpre 17 27 56.5
OKC *e*PKPDF PKPdf 17 28 03.0 +1.2
OKC *ex* x 17 28 13.8
OKC *e*PP PP 17 31 01.5 +11
OKC *ex* x 17 43 29.4
OKC *e*SS SS 17 48 59.9 +11
OKC Ostrava-Krasne 137.93 331 AMS AMS 18 20 30.0
comp=Z,27µm,32.9s
AKS Akhisar 137.97 311 *e*P PKPdf 17 28 01.6 -0.6
LIKS Likavka 138.00 329 *e*PKP PKPdf 17 28 05.9 +4.0
LIKS *e*SKP 17 31 27.8
KSP Ksiaz 138.06 333 *e*PKP PKPdf 17 28 05.4 +3.4
KSP *ep*PKP pPKPdf 17 28 43.2 +1.5
KSP *e*PP PP 17 31 00.1 +8.7
KSP *e* 17 31 31.9
KSP *e*SP SP 17 40 52.5 -11
KSP *e*SS SS 17 49 07.0 +17
KSP LMZ 18 16 52.1
comp=Z,83µm,35.6s
KSP Ksiaz 138.06 333 *i* PKIKP PKPdf 17 28 03.9 +1.9
KSP *e* 17 28 41.8
KSP *e* 17 30 56.6
KSP Ksiaz 138.06 333 *e*PKPdf PKPdf 17 27 52.8 -9.2
KSP *e*PKPdf PKPdf 17 28 03.9 +1.9
KSP *ep*PKPdf pPKPdf 17 28 41.8 +0.2
KSP *e*PP PP 17 30 56.6 +5.2
KSP *e*SS SS 17 49 06.3 +16
DALT Dalyan (Mudla) 138.10 308 *e*P PKPdf 17 28 03.8 +1.3
KPL Plockton 138.11 355 *e*P PKPdf 17 27 55.1 -6.7
KPL AMb AMB 17 28 09.0
comp=Z,302nm,1.6s
LPK Lapseki 138.13 314 *e*P PKPdf 17 28 02.8 +0.3
CRAR CRAIOVA 138.21 321 PKIKP PKPdf 17 28 02.7 +0.2
CRAR CRAIOVA 138.21 321 ⇑*i*P PKPdf 17 28 03.3 +0.8
KSB Sheil Bridge 138.22 354 *e*P PKPdf 17 27 58.0 -4.1
GZR Gura Zlata 138.24 323 ⇑*i*P PKPdf 17 28 02.9 +0.4
GZR Gura Zlata 138.24 323 P PKPdf 17 27 59.0 -3.4
GZR ⇑P 17 28 02.9
YER Yerkesik 138.25 309 *e*P PKPdf 17 28 03.5 +0.7
MORC Moravsky Berou 138.25 331 PKIKP PKPdf 17 27 57.8 -4.6
MORC Moravsky Berou 138.25 331 ⇑*i*P PKPdf 17 27 57.9 -4.5
MORC Moravsky Berou 138.25 331 *e*PKPpre 17 27 57.0
PSZ Piszkesteto 138.33 327 PKIKP PKPdf 17 27 59.3 -3.3
PSZ Piszkesteto 138.33 327 ⇓*e*PKP PKPdf 17 27 58.2 -4.4
PSZ Piszkesteto 138.33 327 ⇓*i*P PKPdf 17 27 58.7 -3.9
PSZ Piszkesteto 138.33 327 *e*PKPpre 17 27 53.3
PSZ ⇓P 17 27 58.7
PSZ P 17 27 59.3
ENEZ Enez 138.40 315 *e*P PKPdf 17 28 02.3 -0.6
ALN Alexandroupoli 138.40 315 *e*P PKPdf 17 28 00.9 -2.1
DPC Dobruska-Polom 138.41 332 *e*PKIKP PKPdf 17 27 56.5 -6.1
DPC *e* 17 31 02.5
DPC Dobruska-Polom 138.41 332 *e*PKPpre 17 27 56.5
DPC *e*PKPDF PKPdf 17 28 03.8 +1.2
DPC *ex* x 17 28 13.0
DPC *e*PP PP 17 31 02.5 +8.9
DPC *ex* x 17 43 34.8
DPC *e*SS SS 17 49 02.5 +8.4
DPC Dobruska-Polom 138.41 332 AMS AMS 18 15 00.0
comp=Z,65µm,46.0s
UPC Upice 138.43 333 *e*PKPpre 17 27 58.1
UPC *e*PKPDF PKPdf 17 28 03.7 +1.0
UPC *ex* x 17 28 10.4
HLG Helgoland 138.47 342 *e*SS SS 17 49 04.4 +10
KDZ Kurdzhali 138.49 316 *e*P PKPdf 17 28 03.0 -0.1
VYHS Vyhne 138.50 329 *e*PKHKP 17 27 55.6
VYHS *i* 17 30 57.6
VYHS *i* SS SS 17 48 57.5 +2.0
VYHS Vyhne 138.50 329 *e*PKP 17 27 55.6
VYHS *e* 17 28 36.1
VYHS *i* PP PP 17 30 57.6 +3.3
VYHS *i* SKP 17 31 30.0
VYHS *e* 17 40 47.9
VYHS *i* SS SS 17 48 57.5 +2.0
VYHS *e* 17 53 59.9
VYHS Vyhne 138.50 329 *e*PKP 17 27 55.6
VYHS *e* 17 28 36.2
VYHS *i* PP PP 17 30 57.6 +3.3
VYHS *e* 17 31 30.0
VYHS *e* 17 40 47.9
VYHS *i* SS SS 17 48 57.5 +2.0
VYHS *e* 17 53 59.9
KAR1 Arisaig 138.54 355 *e*P PKPdf 17 27 58.4 -4.3
IZM Izmir 138.55 311 *e*P PKPdf 17 27 59.4 -3.9
MLSB Milas 138.57 309 *e*P PKPdf 17 28 03.8 +0.4
KOLL Kolacno 138.66 329 *e*PKP PKPdf 17 28 02.7 -0.4
EZN Ezine 138.66 313 *e*P PKPdf 17 27 58.1 -5.3
BLCB Balcova 138.72 311 *e*P PKPdf 17 27 58.5 -5.0
PLD Plovdiv 138.75 311 *e*P PKPdf 17 28 03.3 -0.3
BZS Buzias 138.79 324 ⇓*i*P PKPdf 17 28 02.0 -1.5
BZS Buzias 138.79 324 P PKPdf 17 28 03.1 -0.3
PGB Panagyurishte 138.88 318 *e*P PKPdf 17 28 01.4 -2.4
PRK Paraskevi 138.94 313 *e*P PKPdf 17 28 00.0 -4.0
EBH Black Hill 138.95 353 *e*P PKPdf 17 27 58.0 -5.4
BODT Bodrum 139.00 309 *e*P PKPdf 17 28 05.8 +1.6
VRAC Vranov 139.02 331 PKhKP 17 27 54.5
comp=Z,7.8nm,0.9s,baz=76,slow=5.1,SNR=7.9
VRAC PKP PKPdf 17 28 01.8 -2.0
comp=Z,26nm,0.9s,baz=69,slow=2.6,SNR=16
VRAC PP PP 17 31 05.5 +8.0
comp=Z,44nm,1.1s,baz=131,slow=18,SNR=3.3
VRAC SKPbc SKPbc 17 31 24.7 -0.3
comp=Z,24nm,1.0s,baz=321,slow=17,SNR=2.1
VRAC Vranov 139.02 331 PKIKP PKPdf 17 28 02.0 -1.8
VRAC Vranov 139.02 331 ⇑*i*P 17 27 55.5
VRAC Vranov 139.02 331 ⇑P 17 27 55.5
PVCC Panska Ves 139.04 334 *e*PKPpre 17 27 59.3
PVCC *e*PKPDF PKPdf 17 28 05.3 +1.5
PVCC *ex* x 17 28 16.0
PVCC *e*PP PP 17 31 05.2 +7.8
PVCC *ex* x 17 43 02.6
PVCC *ex* x 17 49 18.8
PVCC Panska Ves 139.04 334 AMS AMS 18 18 40.0
comp=Z,68µm,43.8s
BRG Berggiesshubel 139.04 335 *e*PKHKP 17 27 55.3
BRG *i* 17 31 05.0
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,117nm,1.3s
BRG MLR MLR
comp=N,15µm,20.9s
BRG MLR MLR

comp=E,14µm,22.7s
BRG MLR MLR
comp=Z,21µm,21.8s
BRG Berggiesshubel 139.04 335 *e*Pdiff Pdif 17 25 18.6 +2.0
BRG *e*PKPdf PKPdf 17 27 54.6 -9.2
BRG *e*PP PP 17 31 05.8 +8.4
BRG *e*SS SS 17 49 07.0 +5.6
BRG Berggiesshubel 139.04 335 PDIF Pdif 17 25 19.0 +2.4
BRG Berggiesshubel 139.04 335 *e*PKP PKPdf 17 27 55.3 -8.4
comp=Z,11nm,1.1s
BRG *i* 17 28 10.9
comp=Z,396nm,1.3s
BRG *i* 17 28 14.6
comp=Z,753nm,1.3s
BRG *i* 17 31 05.0
BRG *i* 17 31 33.4
comp=Z,195nm,1.3s
BRG *i* 17 37 43.0
BRG SS SS 17 49 20.0 +19
BRG
comp=N,26µm,20.9s
BRG
comp=E,24µm,22.7s
BRG
comp=Z,35µm,21.8s
BRG Berggiesshubel 139.04 335 *e*PKP PKPdf 17 27 55.3 -8.4
BRG *i* 17 28 10.9
BRG *i* 17 28 14.6
BRG *i* 17 31 05.0
BRG *i* 17 31 33.4
BRG *i* 17 37 43.0
BRG SS SS 17 49 20.0 +19
BRG LR LR
comp=Z,21µm,21.8s
BUD Budapest 139.06 327 *e*PKP/Dd 17 28 07.8
CLL Collm 139.08 336 *e*PKIKP PKPdf 17 28 04.0 +0.2
CLL *e* 17 31 01.0
CLL pmax pmax
comp=Z,380nm,1.5s
CLL MLR MLR
comp=Z,31µm,19.1s
CLL Collm 139.08 336 *e*Pdiff Pdif 17 25 19.8 +3.0
CLL *e*PKPdf PKPdf 17 27 54.6 -9.2
CLL *e*PP PP 17 31 05.6 +8.0
CLL *e*SKPbc SKPbc 17 31 36.2 +11
CLL *e*SS SS 17 49 14.4 +13
CLL Collm 139.08 336 *e*(Pdif) 17 25 22.0
CLL *e*PKPpre 17 27 55.0
CLL *e*PKPdf PKPdf 17 28 04.0 +0.2
CLL *e*(PKiKP) 17 28 08.0
comp=Z,405nm,1.8s
CLL *i* x x 17 28 11.3
comp=Z,227nm,0.9s
CLL *i* x x 17 28 14.6
comp=Z,700nm,1.7s
CLL *e*sPKPdf 17 28 50.0
CLL *i* x x 17 28 59.9
CLL *i* x x 17 29 19.2
CLL *e*PP PP 17 31 01.0 +3.4
comp=Z,10µm,19.4s
CLL *i* SKPab 17 31 36.1
comp=Z,380nm,1.5s
CLL *i* PKSab 17 31 50.6
CLL *ep*SKPdf 17 32 11.0
CLL *es*SKPdf 17 32 25.0
CLL LmV 17 36 00.0
comp=Z,31µm,19.1s
CLL *e*SKKSac SKKSac 17 37 48.0 +11
CLL *e*PSKS 17 41 06.0
CLL *e*PPS 17 43 11.0
CLL *e*SKKSdf SKKSdf 17 44 25.0 -7.6
CLL *ex* x 17 45 50.0
CLL *e*SS SS 17 49 07.0 +5.1
CLL *e*PSPS 17 50 13.0
CLL *ex* x 17 51 59.0
CLL *e*SSS 17 54 15.0
CLL *ex* x 17 55 42.0
CLL Collm 139.08 336 *e*PKP PKPdf 17 28 04.0 +0.2
CLL *e* 17 28 08.0
CLL *i* 17 28 11.3
CLL *ep*PKP pPKPdf 17 28 50.0 +6.5
CLL *e*PP PP 17 31 01.0 +3.4
CLL *i* PKS 17 31 36.1
CLL *e*SKKS SKKSac 17 37 48.0 +11
CLL LR LR
comp=Z,31µm,19.1s
EAB Aberfoyle 139.11 353 *e*P PKPdf 17 28 00.7 -3.0
ESY Stoneypath 139.15 352 *e*P PKPdf 17 27 57.3 -6.5
EDI Edinburgh 139.23 352 *e*P PKPdf 17 27 58.7 -5.2
EDI AMb AMB 17 28 06.3
comp=Z,74nm,1.9s
EAU Auchinoon 139.34 352 *e*P PKPdf 17 27 58.1 -6.0
MODS Modra-Piesok 139.35 330 *e*PKHKP 17 27 54.8
MODS *i* 17 31 05.1
MODS *i* SS SS 17 48 58.7 -6.7
MODS Modra-Piesok 139.35 330 *e*PKP 17 27 54.8
MODS *e* 17 28 42.8
MODS *i* PP PP 17 31 05.1 +5.6
MODS *i* SKP 17 31 29.0
MODS *e* 17 40 54.6
MODS *i* SS SS 17 48 58.6 -6.8
MODS *i* 17 54 10.1
MODS 18 30 24.6
MODS Modra-Piesok 139.35 330 *e*PKP 17 27 54.8
MODS *e* 17 28 42.8
MODS *i* PP PP 17 31 05.1 +5.6
MODS *e* 17 31 29.0
MODS *e* 17 40 54.6
MODS *i* SS SS 17 48 58.7 -6.7
MODS *e* 17 54 10.1
EBL Broad Law 139.35 352 *e*P PKPdf 17 27 56.8 -7.4
LIA Limnos Island 139.43 314 *e*P PKPdf 17 28 02.9 -1.9
CHOS Chios island 139.43 311 *e*P PKPdf 17 28 00.4 -4.5
PRA Prague 139.44 334 PKPDF PKPdf 17 28 04.0 -0.5
PRA PP PP 17 31 06.0 +6.1
PRA *ex* x 17 31 36.0
PRU Pruhonice 139.45 333 *e*PKIKP PKPdf 17 27 58.8 -5.7
PRU *e* 17 31 08.4
PRU *e* 17 43 06.0
PRU Pruhonice 139.45 333 *e*PKPpre 17 27 58.8
PRU *e*PKPDF PKPdf 17 28 04.5 0.0
PRU *ex* x 17 28 16.0
PRU *e*PP PP 17 31 08.4 +8.4
PRU *ex* x 17 43 06.0
PRU *e*SS SS 17 49 17.2 +11
PRU Pruhonice 139.45 333 AMS AMS 18 18 50.0
comp=Z,71µm,45.1s
VTS Vitosha 139.47 319 *e*P PKPdf 17 28 04.8 0.0
VTS Vitosha 139.47 319 ⇑*i*P PKPdf 17 28 05.3 +0.5
VTS Vitosha 139.47 319 P PKPdf 17 28 05.1 +0.2
PGBU Glenifferbraes 139.50 353 *e*P PKPdf 17 27 55.7 -8.7
XSO Sourhope Farm 139.51 351 *e*P PKPdf 17 28 01.1 -3.4
TREC Trest 139.54 332 *e*PKIKP PKPdf 17 28 05.0 +0.3
TREC *e* 17 31 08.8
TREC *e* 17 43 06.2
TREC Trest 139.54 332 *e*PKPDF PKPdf 17 28 05.0 +0.3
TREC *ex* x 17 28 16.9
TREC *e*PP PP 17 31 08.8 +8.2
TREC *ex* x 17 43 06.2
TREC *e*SS SS 17 49 20.3 +13
TREC Trest 139.54 332 AMS AMS 18 17 50.0
comp=Z,57µm,34.4s
ZST Bratislava 139.56 330 *e*PKIKP PKPdf 17 27 59.7 -5.1
ZST *i* 17 31 04.8
ZST Bratislava 139.56 330 *e*PKP PKPdf 17 27 59.7 -5.1
ZST *i* PP PP 17 31 04.8 +4.1
ZST *i* SKP 17 31 31.9
ZST *i* 17 31 34.8
ZST Bratislava 139.56 330 *e*PKP PKPdf 17 27 59.7 -5.1
ZST *i* PP PP 17 31 04.8 +4.1
ZST *i* PP 17 31 31.9
ZST *e* 17 31 34.8
CLZ Clausthal 139.64 338 *e*PKHKP 17 27 56.0
CLZ *e* 17 31 09.2
CLZ *e*SS SS 17 49 15.0 +6.7
CLZ Clausthal 139.64 338 *e*Pdiff Pdif 17 25 22.2 +2.9
CLZ *e*PKPdf 17 27 56.0
CLZ *e*PP PP 17 31 09.2 +8.2
CLZ *e*SS SS 17 49 15.0 +6.7
EKA Eskdalemuir Ar 139.80 352 PKhKP 17 27 56.2
comp=Z,8.4nm,0.5s,baz=359,slow=2.1,SNR=21
EKA PKP PKPdf 17 28 04.5 -0.5

comp=Z,26nm,0.7s,baz=6.7,slow=2.4,SNR=26
EKA SKPbc SKPbc 17 31 28.8 +1.8
comp=Z,16nm,0.9s,baz=16,slow=3.8,SNR=3.9
EKA SKKPbc 17 39 59.1
comp=Z,2.9nm,0.7s,baz=170,slow=5.0,SNR=4.3
EKA Eskdalemuir Ar 139.80 352 *i* PKHKP 17 27 56.2
EKA 17 28 04.6
EKA pmax pmax
comp=Z,8.0nm,0.5s
EKA pmax pmax
comp=Z,26nm,0.7s
EKA pmax pmax
comp=N,16nm,0.9s
ESK Eskdalemuir 139.82 352 *e*P PKPdf 17 27 59.1 -5.9
ESK AMb AMB 17 28 15.0
comp=Z,152nm,1.4s
ESK Eskdalemuir 139.82 352 *e*PKPpre 17 27 59.4
KKB Krupnik 139.92 318 *e*P PKPdf 17 28 05.6 -0.1
ECK Cauldkaine Hil 139.94 352 *e*P PKPdf 17 28 00.1 -5.2
SRS Serrai 139.95 316 *e*P PKPdf 17 27 58.6 -7.2
TANN Tannenbergstha 139.99 335 *e*Pdiff Pdif 17 25 23.5 +2.6
TANN *e*PKPdf PKPdf 17 27 56.7 -8.8
TANN *e*PP PP 17 31 11.3 +8.1
TANN *e*SKPbc SKPbc 17 31 38.7 +11
TANN *e*SS SS 17 49 20.3 +7.7
OUR Ouranopolis 140.06 315 *e*P PKPdf 17 27 58.1 -7.8
PKSM Moragy 140.08 326 ⇓*i*P PKPdf 17 28 05.9 +0.1
PKSM Moragy 140.08 326 P PKPdf 17 28 02.0 -3.8
PKSM ⇓P 17 28 05.9
IBBN Ibbenburen 140.13 341 *e*Pdiff Pdif 17 25 23.5 +2.0
IBBN *e*PKPdf PKPdf 17 27 56.4 -9.3
IBBN *e*PP PP 17 31 11.0 +7.1
IBBN *e*SKPbc SKPbc 17 31 38.3 +10
IBBN *e*SS SS 17 49 19.7 +5.8
NKC Novy Kostel 140.14 335 *e*PKPpre 17 27 58.6
NKC *e*PKPDF PKPdf 17 28 07.7 +1.9
NKC *e*x x 17 28 17.5
NKC *e*PP PP 17 31 10.1 +6.0
NKC *e*x x 17 43 10.2
NKC *e*SS SS 17 49 27.6 +13
NKC Novy Kostel 140.14 335 AMS AMS 18 18 30.0
comp=Z,60µm,42.6s
MOX Moxa 140.15 336 *e*PKP PKPdf 17 27 57.5 -8.3
comp=Z,443nm,1.8s
MOX *e* 17 31 39.2
MOX
comp=Z,18µm,19.0s
MOX Moxa 140.15 336 *e*Pdiff Pdif 17 25 24.1 +2.6
MOX *e*PKPdf PKPdf 17 27 56.8 -9.0
MOX *e*PP PP 17 31 12.0 +7.9
MOX *e*SS SS 17 49 21.5 +7.2
SOP Sopron 140.17 329 ⇓*e*PKP PKPdf 17 28 05.8 -0.1
APE Apeiranthos 140.33 310 *e*P PKPdf 17 28 02.7 -3.9
APE Apeiranthos 140.33 310 ⇓*i*P PKPdf 17 28 04.9 -1.7
CONA Conrad Observa 140.34 330 ⇑*i*P PKiKP 17 28 10.3 +1.5
comp=Z,477nm,1.1s
CONA Conrad Observa 140.34 330 ⇓*i*PKPdf PKPdf 17 27 59.4 -6.9
comp=Z,16nm,1.0s,SNR=13
CONA ⇑*i*PKiKP PKiKP 17 28 10.3 +1.5
comp=Z,477nm,1.1s
CONA ⇑*i*PP PP 17 31 11.5 +5.9
comp=Z,8µm,5.2s
GCD Castle Douglas 140.36 352 *e*P PKPdf 17 28 02.5 -3.5
PLG Polygyros 140.40 316 *e*P PKPdf 17 27 59.1 -7.5
PAIG Paliouri 140.45 315 *e*P PKPdf 17 28 02.5 -4.2
ZKR Zakros 140.50 307 *e*P PKPdf 17 28 00.8 -6.1
KHC Kasperske Hory 140.51 333 *e*PKHKP 17 27 58.7
KHC *e* 17 28 05.4
KHC *e* 17 31 16.0
KHC *e* 17 43 10.0
KHC *e*SS SS 17 49 19.1 +0.4
KHC Kasperske Hory 140.51 333 *e*PKPpre 17 27 58.7
KHC *e*PKPDF PKPdf 17 28 05.4 -1.1
KHC *e*x x 17 28 16.4
KHC *e*PP PP 17 31 16.0 +10
KHC *e*x x 17 43 10.0
KHC *e*SS SS 17 49 19.1 +0.4
KHC Kasperske Hory 140.51 333 AMS AMS 18 20 00.0
comp=Z,62µm,34.1s
VAY Valandovo 140.52 317 *e*P PKPdf 17 27 59.6 -7.2
VAY Valandovo 140.52 317 *e*PKP PKPdf 17 27 58.9 -7.9
HORT Hortiatis 140.53 316 *e*P PKPdf 17 28 00.8 -6.0
STIP Stip 140.58 318 *e*P PKPdf 17 28 02.8 -4.1
STIP Stip 140.58 318 *e*PKP PKPdf 17 28 00.9 -6.0
ROTZ Rotzenmuhle 140.60 335 *e*Pdiff Pdif 17 25 25.9 +2.3
ROTZ *e*PKPdf PKPdf 17 27 58.1 -8.5
ROTZ *e*PP PP 17 31 14.9 +7.9
ROTZ *e*SKPbc SKPbc 17 31 40.6 +11
ROTZ *e*SS SS 17 49 26.7 +7.0
THE Thessaloniki 140.60 316 *e*P PKPdf 17 28 03.2 -3.8
DIVS Divibare 140.61 323 *e*P PKPdf 17 28 01.4 -5.4
UBBA Unterbreizbach 140.61 338 *e*Pdiff Pdif 17 25 25.9 +2.3
UBBA *e*PKPdf PKPdf 17 27 57.5 -9.1
UBBA *e*PP PP 17 31 14.4 +7.4
UBBA *e*SKPbc SKPbc 17 31 40.6 +11
UBBA *e*SS SS 17 49 28.7 +9.0
GEC2 GERESS Array S 140.67 333 *e*Pdiff Pdif 17 25 25.9 +2.0
GEC2 *e*PKPdf PKPdf 17 27 57.7 -9.1
GEC2 *e*PP PP 17 31 14.6 +7.1
GEC2 *e*SS SS 17 49 19.0 -1.6
GERES GERESS Array B 140.67 333 PKhKP 17 27 59.9
comp=Z,6.9nm,0.8s,baz=41,slow=4.3,SNR=25
GERES PKP PKPdf 17 28 06.8 0.0
comp=Z,28nm,0.8s,baz=50,slow=1.5,SNR=25
GERES SKPbc SKPbc 17 31 32.5 +3.0
comp=Z,29nm,0.8s,baz=46,slow=3.9,SNR=5.0
GERES GERESS Array B 140.67 333 *i* PKHKP 17 27 59.9
GERES 17 28 06.8
GERES pmax pmax
comp=Z,7.0nm,0.9s
GERES pmax pmax
comp=N,29nm,0.8s
GERES pmax pmax
comp=Z,28nm,0.8s
WTSB Winterswijk 140.72 341 *e*PKiKP PKiKP 17 28 01.1 -8.3
WET Wettzell 140.80 334 *e*Pdiff Pdif 17 25 26.5 +2.0
WET *e*PKPdf PKPdf 17 27 58.2 -8.8
WET *e*PP PP 17 31 15.7 +7.5
WET *e*SS SS 17 49 14.7 -7.4
GRG Griva 140.81 317 *e*P PKPdf 17 28 02.4 -4.9
HPK Haverah Park 140.90 350 *e*P PKPdf 17 28 01.6 -5.5
HPK AMb AMB 17 28 14.6
comp=Z,193nm,1.4s
SKO Skopje 140.91 319 *e*P PKPdf 17 28 02.2 -5.3
SKO Skopje 140.91 319 *e*PKP PKPdf 17 28 01.5 -6.0
ARSA Arzberg 140.98 330 ⇑*i*P PKPdf 17 28 07.0 -0.4
SNR=18
ARSA Arzberg 140.98 330 ⇑*i*PKPdf PKPdf 17 28 02.0 -5.4
comp=Z,9.2nm,0.9s
ARSA ⇑*i*PKPdf PKPdf 17 28 07.0 -0.4
SNR=18
BUG Bochum--Univer 141.03 341 *e*Pdiff Pdif 17 25 26.5 +1.0
BUG *e*PKPdf PKPdf 17 27 58.3 -9.1
BUG *e*PP PP 17 31 16.5 +7.1
BUG *e*SKPbc SKPbc 17 31 40.2 +10
BUG *e*SS SS 17 49 31.6 +7.2
XOR Xorichti 141.04 314 *e*P PKPdf 17 28 01.6 -6.2
LAST Lasithi 141.05 307 *e*P PKPdf 17 28 01.7 -6.2
GRA1 Grafenberg Arr 141.06 336 *e*PKPdf PKPdf 17 27 58.7 -8.8
GRA1 *e*PP PP 17 31 17.6 +7.9
GRA1 *e*SS SS 17 49 28.6 +3.6
GRF Grafenberg Arr 141.06 336 *e*Pdiff Pdif 17 25 27.7 +2.1
GRF *e*PKPdf PKPdf 17 27 58.7 -8.8
GRF *e*PP PP 17 31 17.6 +7.9
GRF *e*SS SS 17 49 28.6 +3.6
GRF Grafenberg Arr 141.06 336 *e*PKP PKPdf 17 27 58.7 -8.8
GRF *e*PP PP 17 31 17.6 +7.9
GRF *e*SS SS 17 49 28.6 +3.6
GRFO Grafenberg 141.06 336 *e*SS SS 17 49 29.0 +4.0
MOA Molln 141.15 331 ⇑*i*P PKPdf 17 28 11.6 +3.9
comp=Z,315nm,1.4s
MOA Molln 141.15 331 ⇓*e*PKPdf PKPdf 17 28 02.5 -5.2
comp=Z,33nm,1.4s,SNR=11
MOA ⇑*i*PKiKP PKiKP 17 28 11.6 +1.1
comp=Z,315nm,1.4s
LIT Litokhoron 141.17 316 *e*P PKPdf 17 28 01.4 -6.6
KRUS Krusevo 141.35 318 *e*PKP PKPdf 17 28 01.7 -6.5
IVA Berane 141.38 321 ⇑*i*PKP PKPdf 17 28 02.0 -6.3
PLE Pljevlja 141.41 322 ⇑*i*PKP PKPdf 17 28 03.7 -4.6
IDI Anoyia 141.46 307 PKhKP 17 28 03.6
comp=Z,12nm,0.3s,baz=66,slow=7.6,SNR=24
IDI PKP PKPdf 17 28 07.6 -1.1
comp=Z,27nm,0.4s,baz=72,slow=5.1,SNR=20
BIA Bitola 141.49 318 *e*PKP PKPdf 17 28 00.5 -8.0
PVY Plav 141.49 321 ⇑*i*PKP PKPdf 17 28 01.4 -7.1
LKR Lokris 141.50 313 *e*P PKPdf 17 28 07.2 -1.4
KBI1 Birley Grange 141.56 350 *e*P PKPdf 17 28 04.9 -3.4
FNA Florina 141.57 317 *e*P PKPdf 17 28 02.4 -6.3
SIVA Sivas 141.62 307 *e*P PKPdf 17 28 05.5 -3.5
SOKA Soboth 141.62 329 ⇑*i*P PKPdf 17 28 08.8 +0.2
comp=Z,151nm,1.4s
SOKA Soboth 141.62 329 ⇑*i*P PKiKP 17 28 17.6 +6.1
comp=Z,426nm,1.1s
SOKA Soboth 141.62 329 ⇓*i*PKPdf PKPdf 17 28 03.1 -5.4
comp=Z,34nm,1.2s
SOKA ⇑*i*PKPdf PKPdf 17 28 08.8 +0.2
comp=Z,151nm,1.4s
SOKA ⇑*i*PKiKP PKiKP 17 28 17.6 +6.1
comp=Z,426nm,1.1s
TNS Taunus Mts 141.67 338 *e*Pdiff Pdif 17 25 30.1 +1.8
TNS *e*PKPdf PKPdf 17 28 00.1 -8.4
TNS *e*PP PP 17 31 21.2 +7.9
TNS *e*SS SS 17 49 38.3 +6.4
THL Klokotos Trika 141.75 315 *e*P PKPdf 17 28 03.1 -6.0
UPM Unac-Piva 141.77 322 ⇑*i*PKP PKPdf 17 28 04.4 -4.6
OHR Ohrid 141.78 318 *e*P PKPdf 17 28 03.1 -6.0
OHR Ohrid 141.78 318 *e*PKP PKPdf 17 28 02.7 -6.3
AGG Agios Georgios 141.79 314 *e*P PKPdf 17 28 06.0 -3.1
LTK Loutraki 141.80 312 *e*P PKPdf 17 28 05.0 -4.1
DID Didima 141.83 312 *e*P PKPdf 17 28 03.0 -6.2
STNC Stoke 141.83 350 *e*P PKPdf 17 28 04.2 -4.5
KWE Weaver Farm 141.84 350 *e*P PKPdf 17 28 03.4 -5.3
OBKA Obir 141.98 330 ⇑*i*P PKiKP 17 28 14.3 +2.1
comp=Z,257nm,1.2s
OBKA Obir 141.98 330 *i* PKPdf PKPdf 17 28 04.6 -4.7
comp=Z,34nm,1.1s,SNR=20
OBKA ⇑*i*PKiKP PKiKP 17 28 14.3 +2.1
comp=Z,257nm,1.2s
TTG Podgorica 142.01 321 ⇑*i*PKP PKPdf 17 28 04.3 -5.1
HGN Heimansgroeve 142.04 341 *e*PKiKP PKiKP 17 28 05.2 -7.0
HGN Heimansgroeve 142.04 341 *e*PP PP 17 31 21.3 +5.8
TOD Tromm 142.05 338 P PKPdf 17 28 05.3 -3.9
BEBN Eben Emael 142.09 341 PKP PKPdf 17 28 10.1 +0.8
KBA Koelnbreinsper 142.14 331 *i* P PKPdf 17 28 05.1 -4.3
comp=Z,163nm,1.1s,SNR=59
MEM Membach 142.15 341 PKP PKPdf 17 28 04.8 -4.6
KARN Karanos 142.16 308 *e*P PKPdf 17 28 05.0 -4.9
BRY Bratogost 142.17 322 ⇑*i*PKP PKPdf 17 28 03.9 -5.8
SBD1 Bryn Du 142.17 351 *e*P PKPdf 17 28 03.9 -5.4
MEV Metsovon 142.17 316 *e*P PKPdf 17 28 06.3 -3.5
SWS Schriesheim-Wi 142.19 338 P PKPdf 17 28 07.0 -2.5
DSB Dublin 142.22 354 *e*PKPdf PKPdf 17 28 07.6 -1.9
FUR Furstenfeldbru 142.23 334 *e*Pdiff Pdif 17 25 32.0 +1.2
FUR *e*PKPdf PKPdf 17 28 00.8 -8.8
FUR *e*PP PP 17 31 25.1 +8.2
FUR *e*SS SS 17 49 40.2 +1.5
GVD Gavdhos 142.24 307 *e*PKPpre 17 28 05.3
TIR Tirane 142.25 319 *e*P PKPdf 17 28 06.3 -3.6
ABH Alteburg 142.27 339 P PKPdf 17 28 12.6 +3.0
ULC Ulcinj 142.29 320 ⇑*i*PKP PKPdf 17 28 05.0 -4.9
BUM Brajici-Budva 142.31 321 ⇑*i*PKP PKPdf 17 28 03.8 -6.1
LJU Ljubljana 142.31 329 *i* PKPdf PKPdf 17 28 05.8 -4.1
LJU *i* 17 28 10.6
LJU *e* 17 28 15.0
LJU *e* 17 28 42.7
LJU *e*PP PP 17 31 24.3 +6.7
LJU *e* 17 49 28.2
BOJS Bojanci 142.32 328 *e*PKPdf PKPdf 17 28 06.7 -3.1
MYKA Terra Mystica 142.33 330 ⇑*i*P PKPdf 17 28 10.7 +0.8
comp=Z,205nm,0.8s
MYKA Terra Mystica 142.33 330 ⇓*i*PKPdf PKPdf 17 28 05.5 -4.4
comp=Z,50nm,1.1s
MYKA ⇑*i*PKPdf PKPdf 17 28 10.7 +0.8
comp=Z,205nm,0.8s
HDH Heidenheim-Cha 142.34 335 P PKPdf 17 28 06.4 -3.4
HCY Herceg Novi 142.46 322 ⇑*i*PKP PKPdf 17 28 03.7 -6.5
UCC Uccle 142.48 343 PKP PKPdf 17 28 09.3 -0.7
HLM1 Long Mynd 142.49 351 *e*P PKPdf 17 28 06.2 -3.7
VLX Vlachokerasia 142.50 312 *e*P PKPdf 17 28 05.9 -4.5
BCLA Clavier 142.53 341 PKP PKPdf 17 28 05.3 -4.7
KTD Kalmit 142.55 338 P PKPdf 17 28 08.7 -1.4
STU Stuttgart 142.59 336 *e*Pdiff Pdif 17 25 35.0 +2.6
STU *e*PKPdf PKPdf 17 28 01.5 -8.7
STU *e*PP PP 17 31 26.8 +7.8
STU *e*SKPbc SKPbc 17 31 45.6 +11
STU *e*SS SS 17 49 47.5 +4.8
STU Stuttgart 142.59 336 *e*PKPpre 17 28 07.6
PTCC Patocco-Chiusa 142.63 330 P PKPdf 17 28 06.2 -4.2
VOY Vojsko 142.63 330 *e*PKPdf PKPdf 17 28 05.8 -4.6
VOY *e* 17 29 09.0
STON Ston 142.68 323 *i* P PKPdf 17 28 04.5 -6.1
WATA Walderalm 142.74 333 ⇑*i*P PKPdf 17 28 13.8 +3.2
comp=Z,389nm,0.9s
WATA Walderalm 142.74 333 ⇑*i*PKPdf PKPdf 17 28 07.8 -2.8
comp=Z,32nm,0.7s,SNR=12
WATA ⇑*i*PKiKP PKiKP 17 28 13.8 +0.1
comp=Z,389nm,0.9s
ABTA Abfaltersbach 142.77 332 ⇑*i*P PKPdf 17 28 12.2 +1.6
comp=Z,921nm,1.5s
ABTA Abfaltersbach 142.77 332 ⇑*i*PKPdf PKPdf 17 28 05.9 -4.7
comp=Z,179nm,1.3s,SNR=78
ABTA ⇑*i*PKiKP PKiKP 17 28 12.2 -1.6
comp=Z,921nm,1.5s
WTTA Wattenberg 142.77 333 ⇑*i*P PKPdf 17 28 13.2 +2.6
comp=Z,543nm,0.9s
WTTA Wattenberg 142.77 333 ⇓*e*PKPdf PKPdf 17 28 06.7 -3.9
comp=Z,114nm,1.1s,SNR=83
WTTA ⇑*i*PKiKP PKiKP 17 28 13.2 -0.6
comp=Z,543nm,0.9s
GMNA Gemona 142.78 330 P PKPdf 17 28 06.5 -4.1
BUCH Bad Urach 142.79 336 P PKPdf 17 28 10.2 -0.4
LBG Lerchenberg 142.83 337 P PKPdf 17 28 08.3 -2.4
SSW Stow on the Wo 142.85 349 *e*P PKPdf 17 28 07.8 -2.8
SKP1 Kophill 142.88 348 *e*P PKPdf 17 28 04.8 -5.9
HAE Alders End 142.90 350 *e*P PKPdf 17 28 07.4 -3.2
IGT Igoumenitsa 142.90 316 *e*P PKPdf 17 28 07.0 -4.1
SEST Monte Rota 142.90 332 P PKPdf 17 28 07.6 -3.3
WLF Walderdange 142.92 340 PKP PKPdf 17 28 07.1 -3.7
WLF Walderdange 142.92 340 PKIKP PKPdf 17 28 07.5 -3.3
WLF Walderdange 142.92 340 *e*Pdiff Pdif 17 25 36.2 +2.3
WLF *e*PKPdf PKPdf 17 28 03.2 -7.6
WLF *e*PP PP 17 31 29.1 +8.2
WLF *e*SKPbc SKPbc 17 31 47.1 +12
WLF *e*SS SS 17 49 47.8 +1.5
WLF Walderdange 142.92 340 *e*PKPpre 17 28 07.7
LANF Langenberg 142.93 338 PKP PKPdf 17 28 08.3 -2.5
MOTA Moosalm 142.94 333 ⇓*i*P PKPdf 17 28 12.9 +2.0
comp=Z,638nm,1.1s
MOTA Moosalm 142.94 333 ⇑*i*PKPdf PKPdf 17 28 07.6 -3.3
comp=Z,143nm,1.0s,SNR=32
MOTA ⇓*i*PKiKP PKiKP 17 28 12.9 -1.2
comp=Z,638nm,1.1s
GIVF Givet 142.96 342 *e*PKIKP PKPdf 17 28 08.5 -2.3
comp=Z,887nm,1.1s
HTR Trewern Hill 142.98 351 *e*P PKPdf 17 28 08.6 -2.3
RETA Reutte 142.98 334 ⇓*i*P PKPdf 17 28 07.3 -3.6
comp=Z,451nm,1.5s,SNR=17
SQTA Sankt Quirin 142.99 333 ⇓*i*P PKPdf 17 28 08.4 -2.6
comp=Z,106nm,1.0s,SNR=14
SQTA Sankt Quirin 142.99 333 ⇓*i*P PKPdf 17 28 08.4 -2.6
MCH1 Michaelchurch 143.01 350 *e*P PKPdf 17 28 03.9 -7.0
MCH1 AMb AMB 17 28 23.3
comp=Z,792nm,1.2s
TFO1 Folkestone 143.03 346 *e*P PKPdf 17 28 04.5 -6.5
TFO1 AMb AMB 17 28 20.9
comp=Z,919nm,1.5s
DOU Dourbes 143.03 342 PKP PKPdf 17 28 07.1 -3.9
LKD Levkas 143.09 315 *e*P PKPdf 17 28 08.9 -2.6
UBR Ueberruh 143.10 335 P PKPdf 17 28 09.1 -2.1
TSA1 Sevenoaks 143.14 347 *e*P PKPdf 17 28 08.8 -2.3
NVLJ Novalja 143.16 327 *i* P PKPdf 17 28 05.7 -5.7
BAIF Baives 143.18 342 *e*PKIKP PKPdf 17 28 08.2 -3.0
comp=Z,756nm,1.1s
GUT Gutenstein 143.19 336 P PKPdf 17 28 08.5 -2.8
SWN1 Swindon 143.27 349 *e*P PKPdf 17 28 07.4 -3.9
SWN1 AMb AMB 17 28 17.2
comp=Z,782nm,1.5s
STR Strasbourg 143.28 338 PKP PKPdf 17 28 08.6 -2.9
BFO Black Forest 143.28 337 *e*Pdiff Pdif 17 25 37.4 +1.9
BFO *e*PKPdf PKPdf 17 28 03.0 -8.5
BFO *e*PP PP 17 31 31.0 +7.9
BFO *e*SKPbc SKPbc 17 31 48.5 +12
BFO *e*SS SS 17 49 53.9 +3.3
BFO Black Forest 143.28 337 *e*PKPdf PKPdf 17 28 03.0 -8.5
BFO *e*PKPpre 17 28 09.0
BFO *e*PP PP 17 31 31.0 +7.9
BFO *e*SKPbc SKPbc 17 31 48.5 +12
BFO *e*SS SS 17 49 53.9 +3.3
SPAK Spaichingen-Ko 143.29 336 PKP PKPdf 17 28 09.5 -2.0
MENF Mencas 143.30 345 PKP PKPdf 17 28 09.0 -2.4
HGH Gray Hill 143.33 350 *e*P PKPdf 17 28 08.6 -2.9
FETA Feichten 143.35 333 ⇓*i*P PKPdf 17 28 09.1 -2.6
comp=Z,848nm,1.1s,SNR=143
VLS Valsamata 143.39 314 *e*P PKPdf 17 28 08.6 -3.4
DAVA Damuels 143.51 334 ⇓*i*P PKiKP 17 28 15.4 +0.1
comp=Z,723nm,1.6s
DAVA Damuels 143.51 334 *i* PKPdf PKPdf 17 28 09.7 -2.2
comp=Z,154nm,1.1s,SNR=83
DAVA ⇓*i*PKiKP PKiKP 17 28 15.4 +0.1
comp=Z,723nm,1.6s
APPI Appiano 143.55 332 P PKPdf 17 28 08.8 -3.2
SISB Singen-Schiene 143.56 336 P PKPdf 17 28 11.3 -0.7
CDF Champ du Feu 143.60 338 *e*PKIKP PKPdf 17 28 10.1 -1.9
comp=Z,835nm,0.9s
CTI Castel Tesino 143.69 331 P PKPdf 17 28 09.8 -2.5
LIBD Limburg 143.70 337 PKP PKPdf 17 28 09.8 -2.4
KIZ Kirchzarten 143.74 337 P PKPdf 17 28 10.0 -2.3
FELD Feldberg im Sc 143.78 337 PKP PKPdf 17 28 09.8 -2.6
ECH Echery 143.81 338 PKP PKPdf 17 28 09.5 -2.9
ECH Echery 143.81 338 *e*PKPpre 17 28 10.1
DAVOX Davos/Dischmat 143.91 334 PKP PKPdf 17 28 11.7 -0.9
comp=Z,245nm,1.0s,baz=48,slow=1.7,SNR=135
DAVOX SKPbc SKPbc 17 31 37.9 +0.3
comp=Z,51nm,0.9s,baz=36,slow=2.9,SNR=1.8
HEX Exmoor 144.04 351 *e*P PKPdf 17 28 09.8 -3.0
MABI Malga Bissina 144.20 333 P PKPdf 17 28 11.9 -1.2
HTL Hartland 144.21 352 *e*P PKPdf 17 28 07.9 -5.1
HTL AMb AMB 17 28 21.7
comp=Z,859nm,1.2s
THEF They Montfort 144.22 339 PKP PKPdf 17 28 11.2 -1.9
HINF Hinteralfeld 144.26 338 *e*PKIKP PKPdf 17 28 11.3 -1.9
comp=Z,929nm,0.9s
HAU Haudompre 144.28 338 *e*PKIKP PKPdf 17 28 11.7 -1.5
comp=Z,2µm,0.9s
HAU *e*MLR MLR
comp=Z,34µm,21.7s
HAU Haudompre 144.28 338 *e*PKPdf PKPdf 17 28 11.7 -1.5
HAU LR LR
comp=Z,34µm,21.7s
MEZF Maizieres J'vi 144.29 340 *e*PKIKP PKPdf 17 28 11.6 -1.6
comp=Z,2µm,1.0s
BBS Basel-Blauen 144.31 337 PKP PKPdf 17 28 11.7 -1.6
MAGA Magasa 144.36 332 P PKPdf 17 28 12.5 -0.9
TUE Stuetta 144.38 334 *e*PKPdf PKPdf 17 28 12.6 -0.8
FGMS Monte Sant'Ang 144.42 322 P PKPdf 17 28 12.3 -1.4
MSAG Monte S. Angel 144.44 323 P PKPdf 17 28 14.0 +0.3
SGRT San Giovanni R 144.51 323 P PKPdf 17 28 13.4 -0.4
PESA Pesaro 144.65 328 P PKPdf 17 28 14.9 +0.9
RGNG Rignano Grg 144.66 323 P PKPdf 17 28 13.1 -1.0
LOMF Lomont 144.66 337 PKP PKPdf 17 28 13.2 -0.7
BRSN Barisano 144.78 329 P PKPdf 17 28 15.8 +1.6
FIU Minerbio Fiu 144.81 330 P PKPdf 17 28 15.0 +0.7
FG2 Serracapriola 144.82 323 P PKPdf 17 28 14.4 0.0
RSM Repubblica di 144.85 328 P PKPdf 17 28 15.0 +0.6
FSSB Fossombrone 144.85 328 P PKPdf 17 28 14.4 0.0
OFFI Offida 144.90 326 P PKPdf 17 28 16.0 +1.5
RAVA Ravarino 144.90 330 P PKPdf 17 28 15.1 +0.7
FG4 Candela 145.03 322 P PKPbc 17 28 14.4 -0.1
SNTG Esanatoglia 145.08 327 P PKPbc 17 28 14.7 +0.2
PTRP Pietrapertosa 145.08 321 P PKPbc 17 28 15.1 +0.5
FG5 Orsara di Pugl 145.09 322 P PKPbc 17 28 14.6 0.0
PIEI Pieia 145.09 328 P PKPbc 17 28 15.3 +0.7
VAI Varese 145.10 334 P PKPbc 17 28 13.7 -0.8
ORI Oriolo Calabro 145.11 320 P PKPbc 17 28 15.4 +0.7
TERO Teramo 145.16 326 P PKPbc 17 28 15.3 +0.5
SFI Santa Sofia 145.17 329 P PKPbc 17 28 15.1 +0.3
BADI Badiali 145.26 328 P PKPdf 17 28 14.6 -0.5
NRCA Norcia 145.28 326 P PKPdf 17 28 14.7 -0.4
MRLC Muro Lucano 145.28 322 P PKPdf 17 28 15.1 -0.1
VMG Vicchio 145.28 329 P PKPdf 17 28 15.6 +0.5
MURB Monte Urbino 145.29 327 P PKPdf 17 28 16.1 +1.0
CDCA Citt' di Caste 145.30 328 P PKPdf 17 28 15.4 +0.3
SEI Scarperia 145.31 329 P PKPdf 17 28 15.9 +0.8
FNVD Fontana Vidola 145.34 330 P PKPdf 17 28 16.7 +1.5
ASS Assisi 145.36 327 P PKPdf 17 28 14.8 -0.5
PSB1 Pescosannita 145.39 323 P PKPab 17 28 17.2 +1.3
INTR Introdacqua 145.40 325 P PKPdf 17 28 15.7 +0.3
TDS Terranova Siba 145.42 319 P PKPdf 17 28 16.8 +1.3
TIP Timpagrande 145.43 318 *e*PKPdf PKPdf 17 28 14.6 -0.9
AQU L'Aquila 145.45 325 ⇑*i*P PKPdf 17 28 15.8 +0.4
AQU L'Aquila 145.45 325 *e*PKPdf PKPdf 17 28 14.8 -0.7
GSCL Gusciola 145.46 331 P PKPdf 17 28 15.8 +0.4
RNI2 Rionero Sannit 145.46 324 P PKPdf 17 28 15.3 -0.2
ERBM Eremo 145.49 331 P PKPdf 17 28 15.5 +0.1
CSSN Cassano Irpino 145.50 322 P PKPdf 17 28 14.9 -0.7
SGO Sicignano 145.51 321 P PKPdf 17 28 15.0 -0.6
CUC Castrocucco 145.55 320 *e*PKPdf PKPdf 17 28 13.8 -1.9
CABF La Chapelle 145.55 337 *e*PKIKP PKPdf 17 28 13.7 -1.8
comp=Z,7µm,1.1s
OG01 Vacheresse 145.56 337 PKP PKPdf 17 28 16.4 +0.9
GRAM Graiana 145.60 331 P PKPdf 17 28 16.1 +0.5
FLN La Foliniere 145.61 346 *e*PKIKP PKPdf 17 28 13.9 -1.6
comp=Z,4µm,0.8s
FLN *e*MLR MLR
comp=Z,42µm,21.2s
FLN La Foliniere 145.61 346 *e*PKPdf PKPdf 17 28 13.9 -1.6
FLN LR LR
comp=Z,42µm,21.3s
MGR Morigerati 145.62 321 P PKPdf 17 28 16.1 +0.3
VALM Valbona 145.62 331 P PKPdf 17 28 16.3 +0.7
ORO Oropa 145.62 334 P PKPdf 17 28 14.5 -1.1
SDI San Donato 145.65 324 P PKPdf 17 28 14.9 -0.9
FIAM Fiamignano 145.66 326 P PKPab 17 28 17.8 +0.9
BOB Bobbio (Coli) 145.67 332 P PKPdf 17 28 16.4 +0.7
BDI Bagni Di Lucca 145.67 330 P PKPdf 17 28 16.0 +0.2
SARO Sassorosso 145.67 331 P PKPdf 17 28 15.8 +0.1
PTQR Pietraquaria 145.67 325 P PKPdf 17 28 15.5 -0.3
LDF La Druitiere 145.68 346 *e*PKIKP PKPdf 17 28 14.1 -1.5
comp=Z,3µm,0.8s
VLC Villacollemand 145.70 330 *e*PKPdf PKPdf 17 28 15.9 +0.1
BACM Baccana 145.75 331 P PKPdf 17 28 16.2 +0.3
LOR Lormes 145.76 340 *e*PKIKP PKPdf 17 28 14.3 -1.5
comp=Z,5µm,1.0s
LOR *e*MLR MLR
comp=Z,32µm,20.5s
LOR Lormes 145.76 340 *e*PKPdf PKPdf 17 28 14.3 -1.5
LOR LR LR
comp=Z,32µm,20.5s
CSNT Castellina Chi 145.76 329 P PKPdf 17 28 16.4 +0.5
CODM Codolo 145.77 331 P PKPdf 17 28 16.3 +0.3
RFI Roccamonfina 145.82 324 P PKPdf 17 28 16.8 +0.7
VINC Vinca 145.82 331 P PKPdf 17 28 15.9 -0.1
MAIM Mastiano 145.83 330 P PKPdf 17 28 15.8 -0.2
GRI Girifalco 145.84 318 P PKPdf 17 28 16.7 +0.5
SC2M Scurtabo 145.91 332 P PKPdf 17 28 16.5 +0.3
PII Pisa 145.96 330 P PKPdf 17 28 14.9 -1.4
MTCE Montecelio 146.03 326 P PKPdf 17 28 15.7 -0.7
GRR Gorron 146.05 346 *e*PKIKP PKPdf 17 28 14.7 -1.6
comp=Z,6µm,1.0s
SSF Saint Saulge 146.06 341 *e*PKIKP PKPdf 17 28 14.7 -1.6
LSD Lago del Serru 146.10 335 P PKPdf 17 28 16.5 +0.1
LATE Laterza 146.12 327 P PKPdf 17 28 17.2 +0.6
RSL Roselend 146.12 336 PKP PKPdf 17 28 17.6 +1.1
HYF Humbligny 146.15 342 *e*PKIKP PKPdf 17 28 15.4 -1.1
GRFL Gerfalco 146.16 329 P PKPdf 17 28 15.7 -0.9
GENL Genova Univers 146.16 332 P PKPdf 17 28 16.6 0.0
LPL La Plagne 146.22 336 *e*PKIKP PKPdf 17 28 16.4 -0.2
RDP Rocca di Papa 146.23 325 P PKPdf 17 28 17.9 +1.1
LPG La Plagne 146.23 336 *e*PKIKP PKPdf 17 28 16.4 -0.3
comp=Z,2µm,1.1s
PCP Piancastagn 146.25 333 P PKPdf 17 28 16.3 -0.4
MA9 Marino 146.25 325 P PKPdf 17 28 18.1 +1.3
OG05 Jujurieux 146.27 338 PKP PKPdf 17 28 16.7 0.0
ROM9 Roma 146.29 326 P PKPab 17 28 20.3 +1.0
LAV9 Lanuvio 146.29 325 P PKPdf 17 28 18.4 +1.5
RSP Reno Superiore 146.31 335 P PKPdf 17 28 16.9 +0.1
SMF Signal de Mont 146.31 340 *e*PKIKP PKPdf 17 28 15.2 -1.6
comp=Z,3µm,0.9s
AVF Avril sur Loir 146.35 340 *e*PKIKP PKPdf 17 28 15.2 -1.6
comp=Z,3µm,1.0s
VENT Ventotene 146.47 323 P PKPdf 17 28 14.0 -3.2
CEL Celeste 146.50 318 *e*PKPdf PKPdf 17 28 17.6 +0.2
SOI Samo 146.50 317 P PKPdf 17 28 17.1 -0.3
QLNO Quiliano 146.50 333 P PKPdf 17 28 18.3 +1.1
SGMF Saint Gilles 146.53 348 *e*PKIKP PKPdf 17 28 15.6 -1.5
comp=Z,3µm,0.8s
BHB Bricherasio 146.56 334 P PKPdf 17 28 17.0 -0.3

ROSF	Rostrenen	146.59 349	*e*PKIKP	PKPdf	17 28 15.6	-1.6
	comp=Z,2μm,0.8s					
BNI	Bardonecchia	146.62 335	*e*PKPdf	PKPdf	17 28 17.1	-0.2
FIN	Finale Ligure	146.66 333	P	PKPdf	17 28 16.2	-1.2
OG22	Abries	146.70 335	PKP	PKPdf	17 28 18.1	+0.6
BGF	Bois d'Agland	146.72 341	*e*PKIKP	PKPdf	17 28 15.8	-1.6
	comp=Z,3μm,0.9s					
GDM	Grand'Maison	146.72 336	PKP	PKPab	17 28 19.9	-1.0
ROB	Robourent	146.74 333	P	PKPdf	17 28 16.4	-1.2
MSI	Messina ING	146.75 318	P	PKPdf	17 28 19.0	+1.2
MTTG	Motta San Giov	146.78 317	P	PKPdf	17 28 19.5	+1.7
RORO	Rocca Rossa	146.80 333	P	PKPdf	17 28 19.5	+1.8
GRN	Grenoble	146.83 336	PKP	PKPab	17 28 20.5	-0.8
MBDF	Montbardon	146.85 335	*e*PKIKP	PKPdf	17 28 17.1	-0.6
QUIF	Quistinic	146.97 349	*e*PKIKP	PKPdf	17 28 16.3	-1.5
	comp=Z,1μm,0.8s					
PLDF	La Plantade	146.98 339	PKP	PKPbc	17 28 19.8	-0.3
ENR	Entracque	146.99 334	P	PKPdf	17 28 17.0	-1.0
STV	Sant Anna di V	147.01 334	P	PKPdf	17 28 16.9	-1.2
IMI	Imperia	147.03 333	P	PKPdf	17 28 16.6	-1.5
SURF	Saint Ours	147.04 334	PKP	PKPbc	17 28 20.5	+0.2
ORIF	Oris-en-Rattie	147.05 336	*e*PKIKP	PKPdf	17 28 17.4	-0.7
	comp=Z,2μm,0.9s					
ORIF			*e*MLR	MLR		
	comp=Z,32μm,22.5s					
AGO	Saint Agoulin	147.07 340	PKP	PKPdf	17 28 19.8	+1.7
SAOF	Saorge	147.12 333	PKP	PKPbc	17 28 20.6	0.0
TCF	Toulx Ste Croi	147.15 341	*e*PKIKP	PKPdf	17 28 16.9	-1.3
	comp=Z,3μm,1.0s					
NEGI	Seborga	147.16 333	P	PKPdf	17 28 18.4	+0.1
AUTN	L'Aution	147.17 333	PKP	PKPbc	17 28 20.9	+0.2
TOUF	Mont Tournerai	147.23 334	PKP	PKPbc	17 28 20.3	-0.6
SSB	Saint Sauveur	147.25 338	PKP	PKPbc	17 28 20.5	-0.4
SSB	Saint Sauveur	147.25 338	*e*PKPdf	PKPdf	17 28 17.7	-0.7
SBF	Sospel	147.27 333	*e*PKIKP	PKPdf	17 28 17.5	-1.0
	comp=Z,8μm,1.3s					
LUCF	Luceram	147.28 333	PKP	PKPbc	17 28 20.7	-0.3
COLF	Collangettes	147.35 339	PKP	PKPbc	17 28 20.5	-0.6
MVIF	Mont Vial	147.37 333	PKP	PKPbc	17 28 21.2	0.0
PYM	Petit Puy Mans	147.38 340	PKP	PKPdf	17 28 18.3	-0.3
MON	Monaco	147.38 333	P	PKPdf	17 28 20.0	+1.4
REVF	Revere	147.40 333	PKP	PKPbc	17 28 21.2	-0.1
MNO	Monte Soro	147.47 318	P	PKPdf	17 28 15.7	-3.3
MFF	Saint Martin d	147.54 344	*e*PKIKP	PKPdf	17 28 18.4	-0.4
	comp=Z,4μm,0.8s					
OCF	Saint Nazaire	147.56 336	PKP	PKPbc	17 28 22.1	+0.4
OG26	St.-Nazaire-De	147.56 336	PKP	PKPbc	17 28 22.1	+0.4
VIVF	Saint-Julien-l	147.57 337	*e*PKIKP	PKPdf	17 28 18.3	-0.6
	comp=Z,2μm,1.2s					
PGF	Pioggiola	147.58 330	*e*PKIKP	PKPdf	17 28 18.4	-0.6
	comp=Z,4μm,1.1s					
CALN	Calern	147.59 334	PKP	PKPbc	17 28 21.7	-0.2
CORF	Corte	147.69 329	PKP	PKPbc	17 28 21.8	-0.4
LBL	Lubilhac	147.75 339	PKP	PKPdf	17 28 20.0	+0.8
FRNF	Fournols	147.84 340	PKP	PKPbc	17 28 22.7	+0.2
FRF	La Foret Royal	147.85 334	*e*PKIKP	PKPdf	17 28 18.7	-0.7
	comp=Z,3μm,1.1s					
GIB	Gibilmanna	147.86 319	P	PKPbc	17 28 22.7	-0.1
CSLB	Castelbuono	147.87 319	P	PKPdf	17 28 20.9	+1.3
SHEL	Horse Pasture	147.91 192	*e*PKPdf	PKPdf	17 28 20.6	+0.3
VAE	Valguarnera	147.91 318	PKPbc	PKPbc	17 28 23.7	+0.7
	comp=Z,164nm,1.1s,baz=41,slow=3.0,SNR=10					
USI	Ustica	147.95 321	P	PKPbc	17 28 22.1	-0.9
SMRF	Simiane la Rot	147.96 335	*e*PKIKP	PKPdf	17 28 18.6	-1.0
	comp=Z,2μm,1.1s					
HMDC	Modica	147.97 317	P	PKPbc	17 28 22.2	-0.9
LMR	La Mourre	148.10 334	*e*PKIKP	PKPdf	17 28 18.7	-1.1
	comp=Z,4μm,1.3s					
OSPF	L'Ospedale	148.15 329	PKP	PKPbc	17 28 23.4	0.0
RJF	Les Rejaudoux	148.25 341	*e*PKIKP	PKPdf	17 28 19.6	-0.4
	comp=Z,3μm,1.0s					
RJF			*e*MLR	MLR		
	comp=Z,29μm,21.2s					
RJF	Les Rejaudoux	148.25 341	*e*PKPdf	PKPdf	17 28 19.6	-0.4
RJF			LR	LR		
	comp=Z,29μm,21.3s					
MATF	Mathat	148.29 344	PKP	PKPbc	17 28 24.0	+0.4
MCT	Mte Cammarata	148.32 319	P	PKPdf	17 28 18.0	-2.4
CAF	Calviac	148.42 340	*e*PKIKP	PKPdf	17 28 20.0	-0.3
	comp=Z,3μm,1.3s					
LASF	Ste Croix	148.54 337	*e*PKIKP	PKPdf	17 28 19.8	-0.7
	comp=Z,4μm,1.2s					
ERC	Erice	148.73 320	P	PKPdf	17 28 21.9	+0.8
LFF	La Frestale	148.82 342	*e*PKIKP	PKPdf	17 28 20.2	-0.8
	comp=Z,4μm,1.1s					
DGI	Dorgali Grotta	148.91 326	P	PKPbc	17 28 23.2	-2.2
CGL	Cagliari Serpe	149.76 325	P	PKPdf	17 28 23.1	+0.4
MTLF	Montolieu	149.76 339	*e*PKIKP	PKPdf	17 28 21.4	-1.1
	comp=Z,3μm,1.0s					
LRDF	Laroque-de-Fa	150.00 338	PKP	PKPbc	17 28 27.9	-0.1
EJON	La Jonquera	150.30 337	PKP	PKPbc	17 28 28.1	-0.6
FILF	Fillols	150.32 337	PKP	PKPbc	17 28 27.9	-0.9
CARF	Carcanieres	150.35 338	PKP	PKPbc	17 28 27.3	-1.5
MLS	Moulis	150.49 340	PKP	PKPbc	17 28 28.9	-0.2
VALF	Valcebollere	150.66 338	PKP	PKPbc	17 28 28.8	-0.8
EPF	Esparros	150.67 341	*e*PKIKP	PKPdf	17 28 23.5	-0.5
	comp=Z,2μm,1.1s					
MELF	Melles	150.67 340	PKP	PKPbc	17 28 29.1	-0.5
LABF	Labassere	150.74 341	PKP	PKPbc	17 28 28.8	-0.9
REYF	Montagne du Re	150.86 342	PKP	PKPbc	17 28 29.7	-0.3
RESF	Ens	150.87 341	PKP	PKPbc	17 28 28.3	-1.7
ORDF	Ordiarp	150.88 343	PKP	PKPbc	17 28 28.6	-1.5
VIEF	Viey	150.90 341	PKP	PKPbc	17 28 29.4	-0.7
ATE	Arette	150.93 342	PKP	PKPbc	17 28 29.6	-0.6
OSSF	Osses	150.94 343	PKP	PKPbc	17 28 28.8	-1.4
EALK	Alkurruntz	151.04 344	PKP	PKPbc	17 28 29.6	-0.8
EBIE	Bielsa	151.04 341	PKP	PKPbc	17 28 28.4	-2.0
SJPF	Ste Jean	151.06 343	*e*PKIKP	PKPdf	17 28 24.6	0.0
	comp=Z,2μm,1.2s					
LARF	Larrau	151.06 343	PKP	PKPbc	17 28 28.8	-1.7
ETSF	Etsaut	151.06 342	*e*PKIKP	PKPdf	17 28 24.7	+0.1
	comp=Z,2μm,0.9s					
ELIZ	Elizondo	151.09 344	PKP	PKPbc	17 28 28.4	-2.2
EMIR	Miracle	151.26 338	PKP	PKPdf	17 28 27.3	+2.4
ELAN	Lanestosa	151.51 346	PKP	PKPbc	17 28 29.4	-2.1
EARI	Arriondas	151.81 349	PKP	PKPbc	17 28 29.1	-3.1
EPOB	Poblet	151.91 338	PKP	PKPbc	17 28 31.5	-1.0
EPON	Pontenova	152.09 352	PKP	PKPbc	17 28 30.4	-2.5
ESAC	San Caprasio	152.11 341	PKP	PKPdf	17 28 28.6	+2.4
KEST	Kesra	152.20 320	PKP	PKPdf	17 28 26.8	+0.3
	comp=Z,139nm,1.0s,baz=16,slow=7.4,SNR=18					
KEST			PKPbc	PKPbc	17 28 34.0	+0.7
	comp=Z,132nm,0.8s,baz=19,slow=0.7,SNR=122					
ERTA	Horta de San J	152.53 339	PKP	PKPdf	17 28 27.1	+0.2
ETOS	Mallorca	152.60 334	PKP	PKPbc	17 28 32.2	-1.9
EMAZ	Mazaricos	152.67 355	PKP	PKPbc	17 28 32.5	-1.6
STS	Santiago	152.69 354	PKP	PKPdf	17 28 26.8	-0.2
CMAH	Djebel Manchou	152.74 324	P	PKPdf	17 28 31.0	+3.7
SRBC	Serra Branca	152.94 28	*e*PKP	PKPbc	17 28 36.1	+1.2
CAEH	'Ain El Ouahch	152.96 325	P	PKPdf	17 28 31.0	+3.4
PCED	Cedros	152.96 29	*e*PKP	PKPbc	17 28 34.4	-0.5
CALA	Caldeira	153.00 29	*e*PKP	PKPbc	17 28 36.3	+1.3
ERUA	La Rua	153.01 352	PKP	PKPbc	17 28 31.3	-3.6
ROSA	Rosais	153.10 28	*e*PKP	PKPbc	17 28 36.1	+0.9
PICO	Pico	153.19 29	*e*PKP	PKPbc	17 28 37.9	+2.5
PMAN	Manadas	153.24 28	*e*PKP	PKPbc	17 28 36.1	+0.6
CKFL	Kef-Lekhel	153.30 324	P	PKPdf	17 28 32.0	+3.9
EMOS	Mosqueruela	153.33 340	PKP	PKPdf	17 28 30.7	+2.7
ECAL	Calabor	153.39 351	PKP	PKPbc	17 28 32.9	-2.8
ETOR	Torete	153.41 342	PKP	PKPbc	17 28 32.1	-3.7
CASM	Ain Smara	153.53 324	P	PKPdf	17 28 33.0	+4.6
ADH	Angra Heroismo	153.61 27	*e*PKP	PKPdf	17 28 31.1	+2.6
PSCM	Serra do Cume	153.62 27	*e*PKP	PKPbc	17 28 35.1	-1.3
ELOB	Lobios	153.64 353	PKP	PKPdf	17 28 29.9	+1.5
DFRA	Djebel Bou Aff	153.66 326	P	PKPdf	17 28 30.0	+1.4
CTEI	Djebel Teioual	153.72 324	P	PKPdf	17 28 37.0	+8.3
PCAB	Cabril	153.79 353	*e*PKPdf	PKPdf	17 28 31.7	+3.1
EIBI	Ibiza	153.83 335	PKP	PKPbc	17 28 33.3	-3.5
GUD	Guadarrama	154.13 346	PKP	PKPdf	17 28 29.8	+0.7
SET	Setif	154.18 326	P	PKPdf	17 28 30.0	+0.6
ECHE	Chera	154.19 340	PKP	PKPdf	17 28 29.8	+0.5
MVO	Moncorvo	154.19 351	*e*PKPdf	PKPdf	17 28 31.0	+1.8
MVO	Moncorvo	154.19 351	*e*PP	PP	17 32 31.9	+5.8
CKHR	Kef el Ahmar	154.25 325	P	PKPdf	17 28 37.0	+7.5
CMER	Merouana	154.32 324	P	PKPdf	17 28 31.0	+1.4
EBEN	Beniarda	154.72 337	PKP	PKPdf	17 28 29.1	-0.9
PVIS	Viseu	154.76 352	*e*PKPdf	PKPdf	17 28 30.3	+0.3
PVIS	Viseu	154.76 352	*e*PKPab	PKPab	17 28 59.3	+5.2
ABA	Alger-Bouzarea	154.93 330	P	PKPdf	17 28 35.6	+5.2
PSET	Sete Cidades	154.95 26	*e*PKP	PKPbc	17 28 35.6	-3.6
ESDC	Sonseca Array	155.00 345	PKP	PKPdf	17 28 29.9	-0.4
	comp=Z,18nm,1.1s,baz=3.6,slow=2.6,SNR=12					
ESDC			PKPbc	PKPdf	17 28 39.6	+9.2
	comp=Z,63nm,1.2s,baz=356,slow=3.5,SNR=36					
ESDC			PP	PP	17 32 33.1	+2.3
	comp=Z,38nm,1.0s,baz=23,slow=5.6,SNR=5.7					
ESDC	Sonseca Array	155.00 345	PKP	PKPdf	17 28 30.5	+0.2
ESLA	Sonseca Array	155.00 345	*e*PKPdf	PKPdf	17 28 30.0	-0.4
MTE	Manteigas	155.02 351	*e*PKPdf	PKPdf	17 28 32.0	+1.6
MTE	Manteigas	155.02 351	*e*PKPab	PKPab	17 29 00.5	+5.2
MTE	Manteigas	155.02 351	*e*PP	PP	17 32 35.8	+5.1
MTE	Manteigas	155.02 351	*e*PKPdf	PKPdf	17 28 29.9	-0.5
ATAF	Djebel Tarf	155.02 327	P	PKPdf	17 28 31.6	+1.1
PDA	Ponta Delgada	155.04 26	*e*PKP	PKPdf	17 28 36.4	+5.9
PDA	Ponta Delgada	155.04 26	*e*PP	PP	17 32 47.0	+16
PDA	Ponta Delgada	155.04 26	*i* LQ		18 13 24.0	
PDA			*i* LR	LR	18 21 11.0	
CMLA	Cha da Macela	155.08 25	*e*PKP	PKPdf	17 28 36.2	+5.6
CMLA	Cha da Macela	155.08 25	*e*LR	LR	18 21 05.8	
CMLA	Cha da Macela	155.08 25	*e*PKPbc	PKiKP	17 28 44.5	+5.1
AKET	Djebel Ketaf	155.10 328	P	PKPdf	17 28 33.4	+2.8
PAB	San Pablo	155.22 345	*e*PKPdf	PKPdf	17 28 30.1	-0.6
ADJB	Djebel Djouab	155.24 328	P	PKPdf	17 28 31.9	+1.1
EMHD	Djebel Mahouad	155.45 329	P	PKPdf	17 28 31.0	-0.1
EVIA	Vianos	155.55 341	PKP	PKPdf	17 28 31.7	+0.5
PCBR	Castelo Branco	155.56 351	*e*PKPdf	PKPdf	17 28 34.5	+3.4
PCBR	Castelo Branco	155.56 351	*e*PP	PP	17 32 38.4	+4.7
EMUR	La Murta	155.85 338	PKP	PKPdf	17 28 36.2	+4.6
PMRV	Marv??o	155.95 351	*e*PKPdf	PKPdf	17 28 33.3	+1.6
PMRV	Marv??o	155.95 351	*e*PKPab	PKPab	17 29 04.5	+5.2
PMRV	Marv??o	155.95 351	*e*PP	PP	17 32 39.7	+3.8
CART	Cartagena	155.99 338	*e*PKPdf	PKPdf	17 28 30.5	-1.3
EBNR	Beni Rached	156.05 332	P	PKPdf	17 28 35.0	+3.1
ECHA	Ech Chlef	156.24 332	P	PKPdf	17 28 36.0	+3.8
EHUE	Huescar	156.34 341	PKP	PKPdf	17 28 34.8	+2.5
ASCN	Ascension	156.46 175	*e*PKPdf	PKPdf	17 28 31.1	-2.0
EQES	Quesada	156.50 341	PKP	PKPdf	17 28 34.0	+1.5
EANR	'Ain N'Sour	156.53 332	P	PKPdf	17 28 37.0	+4.5
PESTR	Estremoz	156.53 351	*e*PKPdf	PKPdf	17 28 34.2	+1.8
PESTR	Estremoz	156.53 351	*e*PKPab	PKPab	17 29 06.8	+5.0
PESTR	Estremoz	156.53 351	*e*PP	PP	17 32 43.5	+4.4
EBAD	Badajoz	156.54 350	PKP	PKPdf	17 28 34.5	+2.0
EADA	Adamuz	156.58 345	PKP	PKPdf	17 28 33.8	+1.3
PMAFR	Mafra	156.66 354	*e*PKPdf	PKPdf	17 28 34.2	+1.6
PMAFR	Mafra	156.66 354	*e*PKPab	PKPab	17 29 08.2	+5.9
PMAFR	Mafra	156.66 354	*e*PP	PP	17 32 44.4	+4.6
OKGL	Djebel Kef Gue	156.66 333	P	PKPdf	17 28 42.0	+9.3
LIS	Lisbon	156.88 354	*e*P	PKPdf	17 28 31.7	-1.2
LIS			*e*SS	SS	17 52 23.2	+2.3
LIS			*e*SS	SS	17 52 24.0	+3.1
LIS			AMS	AMS	18 31 25.7	
	comp=Z,24μm,23.8s					
LIS	Lisbon	156.88 354	*e*SS	SS	17 52 23.2	+2.3
LIS			A		18 31 25.7	
	comp=Z,24μm,23.8s					
ETRT	Tiaret	156.90 331	P	PKPdf	17 28 38.0	+5.0
EVO	Evora	156.92 351	*e*PKIKP	PKPdf	17 28 31.2	-1.8
	comp=Z,654nm,1.3s					
EVO			*e*MLR	MLR		
	comp=Z,18μm,18.2s					
EVO	Evora	156.92 351	*e*PKPdf	PKPdf	17 28 34.5	+1.6
EVO	Evora	156.92 351	*e*PKPab	PKPab	17 29 08.3	+4.8
EVO	Evora	156.92 351	*e*PP	PP	17 32 46.7	+5.5
ENIJ	Nijar	156.97 339	PKP	PKPdf	17 28 37.5	+4.5
ELUQ	Luque	157.07 343	PKP	PKPdf	17 28 37.2	+4.0
PBAR	Barrancos	157.11 349	*e*PKPdf	PKPdf	17 28 34.8	+1.6
PBAR	Barrancos	157.11 349	*e*PKPab	PKPab	17 29 09.4	+5.1
PBAR	Barrancos	157.11 349	*e*PP	PP	17 32 47.7	+5.4
ECOG	Cogollos-Vega	157.13 342	PKP	PKPdf	17 28 36.3	+3.0
EBER	Berja	157.27 340	PKP	PKPdf	17 28 34.6	+1.1
PBEJ	Beja	157.39 351	*e*PKPdf	PKPdf	17 28 35.1	+1.5
PBEJ	Beja	157.39 351	*e*PKPab	PKPab	17 29 11.4	+5.9
PBEJ	Beja	157.39 351	*e*PP	PP	17 32 53.4	+10
ELOJ	Sierra Loja	157.42 343	PKP	PKPdf	17 28 36.9	+3.3
EMIN	Mina Concepcio	157.44 348	PKP	PKPdf	17 28 36.4	+2.8
ERON	Agron	157.44 342	PKP	PKPdf	17 28 35.5	+1.8
EGUA	Guajares	157.54 341	PKP	PKPdf	17 28 35.8	+2.0
ODJA	Bouhanifia	157.60 333	P	PKPdf	17 28 36.0	+2.1
EGRO	El Granado	157.81 350	PKP	PKPdf	17 28 38.4	+4.3
PVAQ	Vaqueiros	157.98 350	*e*PKPdf	PKPdf	17 28 36.2	+1.9
PVAQ	Vaqueiros	157.98 350	*e*PKPab	PKPab	17 29 12.3	+4.2
PVAQ	Vaqueiros	157.98 350	*e*PP	PP	17 32 52.3	+5.2
PTEO	Sao Teotonio	157.99 352	*e*PKPdf	PKPdf	17 28 37.6	+3.3
PTEO	Sao Teotonio	157.99 352	*e*PKPab	PKPab	17 29 13.6	+5.5
ESPR	Espera	158.13 346	PKP	PKPdf	17 28 35.4	+0.9
EMIJ	Mijas	158.14 344	PKP	PKPdf	17 28 36.2	+1.7
PBDV	Barranco-do-Ve	158.17 351	*e*PKPdf	PKPdf	17 28 36.5	+2.0
PBDV	Barranco-do-Ve	158.17 351	*e*PKPab	PKPab	17 29 13.9	+5.0
EALB	Alboran	158.19 339	PKP	PKPdf	17 28 37.2	+2.6
MORF	Marmelete	158.21 352	*e*PKPdf	PKPdf	17 28 36.2	+1.6
MORF	Marmelete	158.21 352	*e*PKPab	PKPab	17 29 14.6	+5.5
MORF	Marmelete	158.21 352	*e*PP	PP	17 32 53.8	+5.5
PFVI	Vila Bisbo	158.41 352	*e*PKPdf	PKPdf	17 28 36.6	+1.8
PFVI	Vila Bisbo	158.41 352	*e*PKPab	PKPab	17 29 15.0	+5.1
PFVI	Vila Bisbo	158.41 352	*e*PP	PP	17 32 53.3	+3.9
EJIF	Jimena Fronter	158.43 345	PKP	PKPdf	17 28 37.8	+2.9
SFS	San Fernando	158.59 346	*e*PKP	PKPdf	17 28 44.5	+9.4
MDT	Midelt	161.56 339	PP	PP	17 33 12.6	+5.9
	comp=Z,28nm,1.1s,baz=32,slow=6.8,SNR=3.7					
TAM	Tamanrasset	161.75 296	*e*PKPdf	PKPdf	17 28 38.9	0.0
PMAR	Madeira	162.52 13	*e*PKPdf	PKPdf	17 28 43.2	+3.7
PMAR	Madeira	162.52 13	*e*PKPab	PKPab	17 29 32.9	+4.9
EHIG	Higuera	166.21 21	PKP	PKPdf	17 28 47.1	+4.3
TOA0	Torodi Ar. Sit	166.21 261	*e*PKPdf	PKPdf	17 28 41.8	-1.5
TORD	Torodi Ar. Bea	166.21 261	PKP	PKPdf	17 28 42.4	-0.8
	comp=Z,38nm,1.0s,baz=82,slow=0.8,SNR=74					
TORD			PKPab	PKPab	17 29 45.2	+0.2
	comp=Z,34nm,0.7s,baz=106,slow=4.1,SNR=4.3					
TORD			pPKPab	pPKPab	17 30 23.3	+0.2
	comp=Z,148nm,0.8s,baz=101,slow=4.1,SNR=5.8					
TORD			PP	PP	17 33 34.0	+0.9
	comp=Z,37nm,1.0s,baz=69,slow=4.8,SNR=3.4					
TORD	Torodi Ar. Bea	166.21 261	PKP	PKPdf	17 28 42.4	-0.8
TORD			PKPab	PKPab	17 29 45.2	+0.2
TORD			pPKPab	pPKPab	17 30 23.3	+0.2
TORD			PP	PP	17 33 34.0	+0.9
EGOM	La Gomera	166.77 19	PKP	PKPdf	17 28 49.7	+6.4
CCAN	Las Canadas	166.89 17	PKP	PKPdf	17 28 50.7	+7.3
EOSO	Osorio	167.30 13	PKP	PKPdf	17 28 46.5	+2.8
KIC	Kosan Boka	168.14 220	*e*PKIKP	PKPdf	17 28 43.4	-1.3
	comp=Z,3μm,1.4s					
LIC	Lamto	168.21 218	⇑*i*PKIKP	PKPdf	17 28 43.4	-1.4
	comp=Z,2μm,1.4s					
LIC			*e*MLR	MLR		
	comp=Z,65μm,23.0s					
LIC	Lamto	168.21 218	*e*PKIKP	PKPdf	17 28 43.4	-1.4
	comp=Z,1μm,1.4s					
LIC	Lamto	168.21 218	⇑*i*PKPdf	PKPdf	17 28 43.4	-1.4
LIC			LR	LR		
	comp=Z,32μm,23.0s					
DBIC	Dimbokro	168.45 220	PKP	PKPdf	17 28 43.5	-1.5
	comp=Z,52nm,0.9s,baz=112,slow=0.5,SNR=38					
DBIC			pPKP	pPKPdf	17 29 23.6	-1.2
	comp=Z,80nm,1.0s,baz=168,slow=1.1,SNR=2.5					
DBIC			PKPab	PKPab	17 29 54.5	-0.2
	comp=Z,71nm,1.1s,baz=158,slow=2.1,SNR=3.6					
DBIC			pPKPab	pPKPab	17 30 33.0	+0.2
	comp=Z,143nm,1.2s,baz=127,slow=3.3,SNR=3.1					
DBIC			PP	PP	17 33 51.5	+8.4
	comp=Z,27nm,0.9s,baz=151,slow=7.2,SNR=2.6					
DBIC	Dimbokro	168.45 220	PKIKP	PKPdf	17 28 43.5	-1.4
DBIC					17 29 23.7	
DBIC					17 29 54.5	
DBIC					17 33 51.6	
DBIC			pmax	pmax		
	comp=Z,52nm,0.9s					
DBIC			pmax	pmax		
	comp=Z,27nm,0.9s					
DBIC	Dimbokro	168.45 220	*e*PKPdf	PKPdf	17 28 43.5	-1.4
TIC	Toumodi	168.53 219	*e*PKIKP	PKPdf	17 28 43.7	-1.3
	comp=Z,3μm,1.4s					

MAN 01 17:34:46,709N×12369E,h9km,mb4.2,ML3.0,MS2.7,1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.57**	**77**	⇓*i*P	Pg	17 34 57.2	+0.1
CTBH				*i* S	Sg	17 35 05.1	+0.5
PAGZ	**Pagadian**	**0.81**	**338**	*e*P	Pg	17 35 02.6	+1.0
PAGZ				*e*S	Sg	17 35 16.0	+3.8
IPIL	**Ipil**	**1.30**	**302**	*e*P	Pn	17 35 10.7	+0.2
IPIL				*e*S	Sb	17 35 28.1	+0.6
BUKP	**Musuan**	**1.57**	**60**	*e*P	Pn	17 35 14.0	-0.1
MSLP	**Maasin**	**3.24**	**21**	*e*S	Sn	17 36 15.0	-0.8

*IDC **01** 17:47:54.2±1.3,35.84N×27.06E,h0km,mb3.5/2,mb1 3.6/6, mb1mx3.5/25,mbtmp3.5/6,ML3.7/4,Error ellipse: s-maj=31.2km s-min=19.0km az=1.0*
*ATH **01** 17:47:56.5,35.90N×26.88E,h31km±2km,MD3.7/9*
*CSEM **01** 17:47:57.7±0.1,35.95N×26.91E,h25km,MD3.7,Error ellipse: s-maj=3.3km s-min=2.4km az=122.0*
*ISCJB **01** 17:47:57.8±0.3,35.92N±0.002×26.94E±0.002,h33km,mb3.3/2, Error ellipse: s-maj=3.1km s-min=2.5km az=152.5*
*THE **01** 17:47:58.7,35.93N×27.03E,h32km,ML3.7*
*NEIC **01** 17:47:58.0,35.99N×26.98E,h10km,ML3.5(ATH),After ATH.*
*HLW **01** 17:48:03.0,35.64N×27.22E,h33km,Mb3.5*
*DDA **01** 17:48:04.5,36.29N×27.59E,h5km±7km,Md3.3*
*ISK **01** 17:48:05.1,36.39N×27.41E,h6km,MD3.5*
ISC 01 17:47:58.4±0.6,3592N±002×2695E±002,h27km±5km,n58, σ1°24/92,mb3.3/2,3C-4D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.41**	**155**	⇑*i*PB	Pb	17 48 06.2	-0.9
KARP				*e*SB	Sb	17 48 12.6	-0.5
NISR	**Nisiros**	**0.71**	**12**	*e*PN	Pn	17 48 10.6	-2.0
NISR				*e*SB	Sb	17 48 22.9	+1.4
ZKR	**Zakros**	**1.00**	**217**	*e*Pg	Pn	17 48 16.1	-0.6
ZKR				*e*Sg	Sn	17 48 29.7	-0.1
ZKR	**Zakros**	**1.00**	**217**	*e*Pg	Pn	17 48 16.0	-0.6
ZKR				*e*Sg	Sn	17 48 29.7	-0.1
ARG	**Arkhangelos**	**1.00**	**72**	*e*PN	Pn	17 48 17.1	+0.5
ARG				*e*SN	Sn	17 48 31.6	+1.7
BODT	**Bodrum**	**1.18**	**14**	*e*PG	Pn	17 48 18.6	-0.6
BODT				*e*SG	Sn	17 48 28.5	-5.8
BDRM	**Kayabasi**	**1.21**	**19**	*i* P	Pn	17 48 18.7	-0.8
BDRM				*i* S	Sn	17 48 40.0	+4.9
NPS	**Neapolis**	**1.27**	**239**	⇓*i*PN	Pn	17 48 19.6	-0.7
NPS				*e*SN	Sn	17 48 35.9	-0.6
LAST	**Lasithi**	**1.42**	**238**	*e*Pg	Pn	17 48 21.8	-0.5
LAST				*e*Sg	Sn	17 48 40.4	+0.3
MLSB	**Milas**	**1.53**	**26**	*e*PG	Pn	17 48 23.8	-0.1
MLSB				*e*SG	Sn	17 48 37.6	-5.3
DALT	**Dalyan (Mudla)**	**1.61**	**58**	*e*PG	Pn	17 48 25.8	+0.8
APE	**Apeiranthos**	**1.62**	**316**	*e*Pb	Pb	17 48 24.0	-3.6
APE				*e*Sb	Sb	17 48 44.9	-2.7
APE	**Apeiranthos**	**1.62**	**316**	*e*Pb	Pb	17 48 24.2	-3.4
APE				*e*Sn	Sn	17 48 43.4	-1.8
APE				*e*Sb	Sb	17 48 44.9	-2.7
APE	**Apeiranthos**	**1.62**	**316**	*e*Pb	Pb	17 48 24.2	-3.4
APE				*e*Sn	Sn	17 48 43.4	-1.8
YER	**Yerkesik**	**1.62**	**41**	*e*PG	Pn	17 48 25.3

OHR	**Ohrid**	**0.34**	**155**	*i* Pg	**Pg**	**18 06 21.1**	**-0.3**
OHR				*e*Sg	**Sg**	**18 06 26.9**	**+1.1**
OHR				*e*Lg		18 06 27.1	
	comp=E,225nm,0.4s						
OHR				*e*Lg		18 06 27.4	
	comp=N,170nm,0.4s						
OHR	**Ohrid**	**0.34**	**155**	*i* Pg	**Pg**	**18 06 21.0**	**-0.3**
OHR				*e*Sg	**Sg**	**18 06 26.8**	**+1.0**
KRUS	**Krusevo**	**0.49**	**96**	*i* Pg	**Pg**	**18 06 24.5**	**+0.3**
KRUS				*e*Sg	**Sg**	**18 06 32.4**	**+2.0**
KRUS				*e*Lg		18 06 32.5	
	comp=E,75nm,0.2s						
KRUS				*e*Lg		18 06 32.9	
	comp=N,109nm,0.2s						
KRUS	**Krusevo**	**0.49**	**96**	*i* Pg	**Pg**	**18 06 24.4**	**+0.3**
KRUS				*e*Sg	**Sg**	**18 06 32.4**	**+2.0**
TIR	**Tirane**	**0.56**	**263**	*e*Pg	**Pg**	**18 06 24.8**	**-0.7**
TIR				*e*Sg	**Sg**	**18 06 33.4**	**+0.5**
BIA	**Bitola**	**0.67**	**126**	*e*Pg	**Pg**	**18 06 26.9**	**-0.8**
BIA				*e*Sg	**Sg**	**18 06 37.3**	**+0.9**
BIA	**Bitola**	**0.67**	**126**	*e*Pg	**Pg**	**18 06 27.0**	**-0.7**
BIA				*e*Sg	**Sg**	**18 06 37.9**	**+1.4**
BIA				*e*Lg		18 06 38.0	
	comp=E,70nm,0.5s						
BIA				*e*Lg		18 06 38.3	
	comp=N,53nm,0.4s						
BIA	**Bitola**	**0.67**	**126**	*e*Pg	**Pg**	**18 06 27.0**	**-0.7**
BIA				*e*Sg	**Sg**	**18 06 37.8**	**+1.4**
SKO	**Skopje**	**0.83**	**48**	*e*Pg	**Pn**	**18 06 32.3**	**-1.3**
SKO				*e*Sg	**Sg**	**18 06 44.6**	**+3.0**
SKO	**Skopje**	**0.83**	**48**	*e*Pg	**Pg**	**18 06 30.9**	**+0.1**
SKO				*i* Sg	**Sg**	**18 06 42.5**	**+0.9**
SKO				*e*Lg		18 06 42.6	
	comp=E,54nm,0.3s						
SKO				*e*Lg		18 06 43.0	
	comp=N,102nm,0.3s						
SKO	**Skopje**	**0.83**	**48**	*e*Pg	**Pg**	**18 06 30.9**	**+0.1**
SKO				*e*Sg	**Sg**	**18 06 44.6**	**+3.0**
FNA	**Florina**	**0.86**	**137**	*e*Pg	**Pg**	**18 06 30.9**	**-0.5**
FNA				*e*Sg	**Sg**	**18 06 44.2**	**+1.7**
ULC	**Ulcinj**	**1.15**	**299⇑**	*i*Pg	**Pg**	**18 06 35.8**	**-1.1**
ULC				*e*Sg	**Sg**	**18 06 51.9**	**+0.1**
ULC	**Ulcinj**	**1.15**	**299**	*i* PN	**Pg**	**18 06 35.8**	**-1.1**
ULC				*i* SN	**Sg**	**18 06 51.9**	**+0.1**
STIP	**Stip**	**1.22**	**76**	*e*Pg	**Pg**	**18 06 37.7**	**-0.5**
STIP				*e*Sg	**Sg**	**18 06 54.0**	**+0.1**
STIP				*e*Lg		18 06 54.2	
	comp=E,7.6nm,0.4s						
STIP				*e*Lg		18 06 54.2	
	comp=N,14nm,0.3s						
STIP	**Stip**	**1.22**	**76**	*e*Pg	**Pg**	**18 06 37.7**	**-0.4**
STIP				*e*Sg	**Sg**	**18 06 53.7**	**-0.2**
PVY	**Plav**	**1.27**	**338⇓**	*i*Pg	**Pg**	**18 06 37.8**	**-1.2**
PVY				*e*Sg	**Sg**	**18 06 56.1**	**+0.7**
PVY	**Plav**	**1.27**	**338**	*i* PG	**Pg**	**18 06 37.8**	**-1.2**
PVY				*i* SG	**Sg**	**18 06 56.1**	**+0.7**
PDG	**Podgorica**	**1.42**	**316**	*i* PG	**Pg**	**18 06 41.3**	**-0.8**
PDG				*i* SG	**Sg**	**18 07 01.1**	**+0.6**
PDG	**Podgorica**	**1.42**	**316**	*e*Pg	**Pg**	**18 06 41.3**	**-0.8**
PDG				*e*Sg	**Sg**	**18 07 01.1**	**+0.6**
TTG	**Podgorica**	**1.42**	**316**	*e*Pg	**Pg**	**18 06 41.3**	**-0.8**
TTG				*e*Sg	**Sg**	**18 07 01.1**	**+0.6**
GRG	**Griva**	**1.43**	**108**	*e*Pg	**Pg**	**18 06 40.5**	**-1.8**
VAY	**Valandovo**	**1.48**	**93**	*e*Pg	**Pn**	**18 06 40.1**	**-2.4**
VAY				*e*Sg	**Sn**	**18 07 01.1**	**-1.4**
VAY	**Valandovo**	**1.48**	**93**	*e*Pg	**Pn**	**18 06 40.1**	**-2.4**
VAY				*e*Sg	**Sn**	**18 07 01.0**	**-1.5**
BEY	**Berane**	**1.54**	**340**	*i* PG	**Pg**	**18 06 43.2**	**-1.2**
BEY				*i* SG	**Sg**	**18 07 05.4**	**+1.0**
BEY	**Berane**	**1.54**	**340⇓**	*i*Pg	**Pg**	**18 06 43.2**	**-1.2**
BEY				*e*Sg	**Sg**	**18 07 05.4**	**+1.0**
IVA	**Berane**	**1.54**	**340⇓**	*i*Pg	**Pg**	**18 06 43.2**	**-1.2**
IVA				*e*Sg	**Sg**	**18 07 05.4**	**+1.0**
BUM	**Brajici-Budva**	**1.55**	**305⇓**	*i*Pg	**Pg**	**18 06 42.8**	**-1.7**
BUM				*e*Sg	**Sg**	**18 07 04.9**	**+0.3**
BUM	**Brajici-Budva**	**1.55**	**305**	*i* PG	**Pg**	**18 06 42.8**	**-1.7**
BUM				*i* SG	**Sg**	**18 07 04.9**	**+0.3**
HCY	**Herceg Novi**	**1.88**	**304⇓**	*i*Pn	**Pn**	**18 06 48.8**	**+0.8**
HCY				*e*Sn	**Sn**	**18 07 12.9**	**+0.7**
HCY	**Herceg Novi**	**1.88**	**304**	*i* PG	**Pn**	**18 06 48.8**	**+0.8**
HCY				*i* SG	**Sn**	**18 07 12.9**	**+0.7**
BRY	**Bratogost**	**2.13**	**315⇑**	*i*Pn	**Pn**	**18 06 51.7**	**+0.3**
BRY				*e*Sn	**Sn**	**18 07 19.4**	**+0.9**
BRY	**Bratogost**	**2.13**	**315**	*i* PG	**Pn**	**18 06 51.7**	**+0.3**
BRY				*i* SG	**Sn**	**18 07 19.4**	**+0.9**
UPM	**Unac-Piva**	**2.18**	**325⇓**	*i*Pn	**Pn**	**18 06 52.8**	**+0.7**
UPM				*e*Sn	**Sn**	**18 07 20.6**	**+0.9**

ORF ***01*** *18:07:30.0, 1850S×170.11E, h30km, mb6.4*
NEIC ***01*** *18:07:46.5±0.1, 1546S×16763E, mb5.1/25, Error ellipse: s-maj=4.6km s-min=4.1km az=62.0*
ISCJB ***01*** *18:07:47.9±1.2, 1556S±004×16755E±003, h143km±10km, mb5.0/66, Error ellipse: s-maj=6.0km s-min=5.1km az=3.7*
IDC ***01*** *18:07:47.1±1.2, 1552S×16759E, h123km±9km, mb4.8/27, mb1 4.8/28, mb1mx4.8/29, mbtmp4.8/28, Error ellipse: s-maj=10.1km s-min=9.7km az=142.0*
MOS ***01*** *18:07:49.4±1.5, 1541S×16757E, h147km, mb5.1/30, Error ellipse: s-maj=9.3km s-min=7.2km az=130.2*
BJI ***01*** *18:07:50.9, 1462S×16750E, h139km, mB5.3, mb5.0*
LDG ***01*** *18:07:52.0±0.2, 1573S×16685E, h160km, Mb5.2/4, Error ellipse: s-maj=28.6km s-min=7.4km az=86.0*
DJA ***01*** *18:08:02, 1605S×16727E, h229km, mb5.1/19*
ISC 01 18:07:49.2±1.1, 1554S±004×16759E±003, h142km±10km, h142km±2.6km; pP-P, n608, σ0s67/326, mb5.0/66, 145C-83D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.59**	**189**	*e*P	**Pn**	**18 09 22.7**	**-1.0**
DZM				*e*S	**Sn**	**18 10 37.4**	**-0.3**
HNR	**Honiara**	**9.62**	**308**	P	**Pn**	**18 10 03.6**	**-0.7**
	104nm,0.3s,baz=214,slow=1.5,SNR=40						
HNR	**Honiara**	**9.62**	**308**	P	**Pn**	**18 10 03.6**	**-0.7**
HNR				pmax	pmax		
	comp=Z,104nm,0.3s						
HNR	**Honiara**	**9.62**	**308**	*e*P	**Pn**	**18 10 04.1**	**-0.2**
	comp=Z,374nm,0.6s						
AFI	**Afiamalu**	**20.02**	**88**	P	**P**	**18 12 11.3**	**+0.2**
	comp=Z,129nm,1.0s,baz=256,slow=19,SNR=8.6						
AFI	**Afiamalu**	**20.02**	**88**	*e*P	**P**	**18 12 12.1**	**+1.0**
AFI				pmax	pmax		
	comp=Z,142nm,1.0s						
AFI	**Afiamalu**	**20.02**	**88**	*e*P	**P**	**18 12 12.1**	**+1.0**
	comp=Z,142nm,1.0s						
CTA	**Charters Tower**	**20.81**	**254**	*e*P	**P**	**18 12 20.7**	**+1.2**
	comp=Z,54nm,1.0s						
CTA				*e*PCP	PcP	18 16 23.1	+0.3
CTA				*e*SCP	ScP	18 19 49.8	+3.4
CTA	**Charters Tower**	**20.81**	**254**	P	**P**	**18 12 20.8**	**+1.3**
	comp=Z,42nm,0.5s,baz=78,slow=12,SNR=53						
CTA	**Charters Tower**	**20.81**	**254**	*e*P	**P**	**18 12 20.7**	**+1.2**
CTA				*e*		18 16 23.1	
CTA				pmax	pmax		
	comp=Z,54nm,1.0s						
CTAO	**Charters Tower**	**20.81**	**254**	*e*P	**P**	**18 12 20.5**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,105nm,1.0s						
CTAO	**Charters Tower**	**20.81**	**254**	*e*P	**P**	**18 12 20.5**	**+1.0**
	comp=Z,105nm,1.0s						
ARMA	**Armidale**	**20.83**	**222**	*e*P	**P**	**18 12 21.2**	**+1.6**
ARMA				*e*PCP	PcP	18 16 23.7	+1.1
RIV	**Riverview**	**23.49**	**216**	*e*P	**P**	**18 12 48.0**	**+1.9**
COEN	**Coen**	**23.66**	**271**	*e*P	**P**	**18 12 48.3**	**+0.4**
	comp=Z,173nm,1.6s,mb5.3						
HIZ	**Hauiti**	**23.77**	**166**	P	**P**	**18 12 49.4**	**+0.8**
URZ	**Urewera**	**24.14**	**161**	P	**P**	**18 12 52.0**	**0.0**
	comp=Z,41nm,0.3s,mb5.4,baz=13,slow=2.5,SNR=40						
URZ	**Urewera**	**24.14**	**161**	P	**P**	**18 12 51.8**	**-0.2**
MWZ	**Matawai**	**24.34**	**161**	P	**P**	**18 12 53.3**	**-0.5**
PUZ	**Puketiti**	**24.34**	**159**	P	**P**	**18 12 53.0**	**-0.8**
WPVZ	**Whakapapa**	**24.59**	**165**	P	**P**	**18 12 58.3**	**+2.2**
BKZ	**Black Stump Fm**	**24.80**	**163**	P	**P**	**18 12 57.6**	**-0.4**
KNZ	**Kokohu**	**25.02**	**161**	P	**P**	**18 12 58.7**	**-1.2**
TSZ	**Takapari Road**	**25.50**	**165**	P	**P**	**18 13 03.5**	**-0.8**
QRZ	**Quartz Range**	**25.56**	**171**	P	**P**	**18 13 05.5**	**+0.7**
MRZ	**Mangataiboka R**	**25.98**	**166**	P	**P**	**18 13 07.4**	**-1.2**
THZ	**Tophouse**	**26.54**	**171**	P	**P**	**18 13 13.3**	**-0.3**
KHZ	**Kahutara**	**27.27**	**170**	P	**P**	**18 13 19.0**	**-1.2**
LTZ	**Lake Taylor**	**27.45**	**173**	P	**P**	**18 13 21.7**	**0.0**
WVZ	**Waitaha Valley**	**27.58**	**175**	P	**P**	**18 13 22.6**	**-0.3**
RPZ	**Rata Peaks**	**28.24**	**175**	P	**P**	**18 13 28.3**	**-0.4**
	comp=Z,83nm,0.7s,mb5.6,baz=317,slow=2.0,SNR=54						
STKA	**Stephens Creek**	**28.72**	**231**	*e*P	**P**	**18 13 33.9**	**+0.7**
	comp=Z,20nm,0.5s,mb5.1						
STKA				*e*PCP	PcP	18 16 40.2	+0.1
STKA				*e*SCP	ScP	18 20 11.4	+3.0
STKA	**Stephens Creek**	**28.72**	**231**	P	**P**	**18 13 34.2**	**+1.1**
	comp=Z,22nm,0.5s,mb5.2,baz=44,slow=7.6,SNR=108						
STKA				PcP	PcP	18 16 40.6	+0.5
	comp=Z,23nm,0.8s,baz=71,slow=3.4,SNR=6.4						
STKA				ScP	ScP	18 20 11.8	+3.5
	comp=Z,7.1nm,0.7s,baz=30,slow=3.3,SNR=4.5						
TUZ	**Tuapeka**	**30.37**	**177**	P	**P**	**18 13 47.8**	**+0.2**
RAR	**Rarotonga**	**31.45**	**105**	P	**P**	**18 13 56.7**	**-0.6**
	comp=Z,16nm,0.4s,mb5.1,baz=238,slow=7.0,SNR=6.3						
RAR	**Rarotonga**	**31.45**	**105**	P	**P**	**18 13 56.7**	**-0.7**
RAR				pmax	pmax		
	comp=Z,16nm,0.4s						
WB2	**Warramunga Arr**	**31.93**	**257**	*e*P	**P**	**18 14 00.6**	**-1.0**
WB2				*e*PCP	PcP	18 16 49.0	+0.3
WB2				*e*S	**S**	**18 18 57.8**	**-4.7**
WB2				*e*SCP	ScP	18 20 22.9	+3.8
WB2	**Warramunga Arr**	**31.93**	**257**	*e*P	PKiKP	18 24 17.7	+0.6
WRAB	**Tennant Creek**	**31.93**	**257**	P	**P**	**18 14 00.0**	**-1.6**
	comp=Z,242nm,0.4s,SNR=36						
WRAB	**Tennant Creek**	**31.93**	**257**	*e*P	**P**	**18 13 59.9**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.2						
WRAB	**Tennant Creek**	**31.93**	**257**	*e*P	**P**	**18 13 59.9**	**-1.7**
	comp=Z,55nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**31.94**	**257**	P	**P**	**18 14 00.4**	**-1.3**
	comp=Z,13nm,0.4s,mb5.0,baz=80,slow=6.1,SNR=286						
WRA				PcP	PcP	18 16 49.2	+0.5
	comp=Z,6.0nm,0.5s,baz=85,slow=2.7,SNR=9.2						
WRA				S	**S**	**18 19 00.2**	**-2.4**
	comp=Z,14nm,1.2s,baz=85,slow=14,SNR=12						
WRA				ScP	ScP	18 20 21.5	+2.4
	comp=Z,16nm,1.2s,baz=84,slow=3.6,SNR=10						
WRA				PKiKP	PKiKP	18 24 15.4	-1.7
	comp=Z,1.0nm,0.5s,baz=11,slow=0.4,SNR=22						
WRA	**Warramunga Arr**	**31.94**	**257**	P	**P**	**18 14 00.4**	**-1.3**
WRA						18 16 49.2	
WRA				S	**S**	**18 19 00.2**	**-2.5**
WRA				*i*		18 24 15.4	
WRA				pmax	pmax		
	comp=Z,13nm,0.4s						
WRA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WRA				smax			
	comp=N,15nm,1.2s						
WRA				pmax	pmax		
	comp=N,16nm,1.2s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**31.94**	**257**	P	**P**	**18 14 00.4**	**-1.3**
WRA				PcP	PcP	18 16 49.2	+0.5
WRA				S	**S**	**18 19 00.2**	**-2.4**
WRA				ScP	ScP	18 20 21.5	+2.4
ASAR	**Alice Springs**	**32.69**	**250**	P	**P**	**18 14 07.9**	**-0.3**
	comp=Z,22nm,0.4s,mb5.2,baz=85,slow=9.0,SNR=563						
ASAR				PcP	PcP	18 16 50.9	+0.1
	comp=Z,7.9nm,0.9s,baz=111,slow=5.3,SNR=6.3						
ASAR				ScP	ScP	18 20 25.2	+3.6
	comp=Z,9.6nm,1.0s,baz=113,slow=4.8,SNR=16						
ASAR				PKiKP	PKiKP	18 24 15.8	-1.8
	comp=Z,0.6nm,0.5s,baz=105,slow=1.9,SNR=13						
ASAR	**Alice Springs**	**32.69**	**250**	P	**P**	**18 14 07.9**	**-0.3**
ASAR						18 16 50.9	
ASAR				*i*		18 24 15.8	
ASAR				pmax	pmax		
	comp=Z,22nm,0.4s						
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ASAR				pmax	pmax		
	comp=N,10.0nm,1.0s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAKA	**Kakadu**	**34.18**	**270**	*e*P	**P**	**18 14 20.6**	**-0.6**
	comp=Z,10.0nm,0.4s,mb4.9						
KAKA				*e*PCP	PcP	18 16 55.6	+0.5
GUMO	**Guam**	**36.64**	**321**	P	**P**	**18 14 41.5**	**-0.7**
	comp=Z,31nm,0.6s,mb5.2,baz=184,slow=15,SNR=4.3						
GUMO	**Guam**	**36.64**	**321**	P	**P**	**18 14 41.5**	**-0.7**
GUMO				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.1						
FORT	**Forrest**	**39.16**	**240**	*e*P	**P**	**18 15 03.5**	**+0.3**
	comp=Z,71nm,0.5s,mb5.5						
FITZ	**Fitzroy Crossi**	**40.18**	**260**	*e*P	**P**	**18 15 11.8**	**0.0**
	comp=Z,58nm,0.4s,mb5.6						
FITZ				*e*S	**S**	**18 20 54.7**	**-14**
FITZ	**Fitzroy Crossi**	**40.18**	**260**	P	**P**	**18 15 12.0**	**+0.1**
	comp=Z,24nm,0.4s,mb5.2,baz=91,slow=9.3,SNR=51						
FITZ				ScP	ScP	18 20 53.6	+4.1
	comp=Z,4.9nm,0.9s,baz=36,slow=5.8,SNR=3.6						
PAE	**Paea**	**41.04**	**99**	*e*P	**P**	**18 15 19.2**	**+0.3**
	comp=Z,1μm,1.2s						
PAE				*e*pP	pP	18 15 51.7	+1.4
	comp=Z,2μm,1.3s						
PAE	**Paea**	**41.04**	**99**	*e*P	**P**	**18 15 19.2**	**+0.3**
PAE				*e**PP	pP	18 15 51.7	+1.4
PAE				pmax	pmax		
	comp=Z,1μm,1.2s						
PPT	**Papeete**	**41.05**	**99**	*e*P	**P**	**18 15 19.8**	**+0.8**
	comp=Z,52nm,1.1s,mb5.1						
PPT	**Papeete**	**41.05**	**99**	*e*P	**P**	**18 15 19.8**	**+0.8**
PPT				pmax	pmax		
	comp=Z,52nm,1.1s						
TIAR	**Tiarei**	**41.27**	**99**	*e*P	**P**	**18 15 21.7**	**+0.9**
	comp=Z,2μm,1.2s						
TVO	**Taravao**	**41.34**	**99**	*e*P	**P**	**18 15 22.0**	**+0.6**
	comp=Z,2μm,1.1s						
TVO	**Taravao**	**41.34**	**99**	*e*P	**P**	**18 15 22.0**	**+0.6**
TVO				pmax	pmax		
	comp=Z,2μm,1.1s						
MEH	**Mehetia**	**42.46**	**100**	*e*P	**P**	**18 15 31.0**	**+0.5**
	comp=Z,4μm,1.2s						
PMOR	**Pomariorio Ree**	**42.89**	**95**	*e*P	**P**	**18 15 34.8**	**+0.9**
	comp=Z,416nm,1.4s,mb5.9						
MBWA	**Marble Bar**	**45.64**	**255**	*e*P	**P**	**18 15 56.4**	**+0.7**
	comp=Z,18nm,0.7s,mb4.8						
KLBR	**Kellerberrin**	**47.99**	**241**	*e*P	**P**	**18 16 13.7**	**-0.2**
	comp=Z,11nm,0.6s,mb4.7						
KAPI	**Kappang**	**48.11**	**277**	P	**P**	**18 16 14.9**	**-0.2**
	comp=Z,22nm,0.9s,mb4.8,baz=121,slow=10,SNR=6.4						
KAPI				ScP	ScP	18 21 25.8	+3.8
	comp=Z,34nm,1.2s,baz=128,slow=10.0,SNR=4.3						
NWAO	**Narrogin (SRO)**	**48.61**	**240**	P	**P**	**18 16 19.1**	**+0.5**
	comp=Z,12nm,0.7s,mb4.6,baz=100,slow=7.9,SNR=8.9						
NWAO	**Narrogin (SRO)**	**48.61**	**240**	P	**P**	**18 16 19.1**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,12nm,0.7s						
NWAO	**Narrogin (SRO)**	**48.61**	**240**	*e*P	**P**	**18 16 19.2**	**+0.6**
MUN	**Mundaring**	**49.34**	**241**	*e*P	**P**	**18 16 25.2**	**+1.0**
TAOE	**Nuku Hiva Isla**	**51.41**	**89**	*e*P	**P**	**18 16 40.8**	**+0.8**
JOW	**Kunigami**	**56.85**	**317**	P	**P**	**18 17 19.9**	**+0.7**
	comp=Z,48nm,0.8s,mb5.4,baz=161,slow=8.8,SNR=9.0						
MJAR	**Matsushiro Arr**	**58.76**	**332**	P	**P**	**18 17 31.3**	**-1.0**
	comp=Z,7.4nm,0.6s,mb4.7,baz=171,slow=8.7,SNR=26						
MJAR	**Matsushiro Arr**	**58.76**	**332**	P	**P**	**18 17 31.3**	**-1.0**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VNDA	**Vanda**	**62.07**	**181**	P	**P**	**18 17 54.6**	**+0.4**
	comp=Z,62nm,1.2s,mb5.3,baz=359,slow=6.9,SNR=74						
VNDA	**Vanda**	**62.07**	**181**	P	**P**	**18 17 54.6**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,62nm,1.2s						
SBA	**Scott Base**	**62.34**	**180**	*e*P	**P**	**18 17 57.2**	**+1.2**
SBA				pmax	pmax		
	comp=Z,166nm,1.1s,mb5.8						
SBA	**Scott Base**	**62.34**	**180**	*e*P	**P**	**18 17 57.2**	**+1.2**
	comp=Z,166nm,1.1s,mb5.8						
CASY	**Casey**	**62.90**	**202**	*e*P	**P**	**18 18 00.0**	**+0.1**
ASAJ	**Asahikawa**	**63.60**	**340**	P	**P**	**18 18 05.6**	**+0.8**
	comp=Z,38nm,0.6s,mb5.4,baz=216,slow=9.4,SNR=59						
ASAJ	**Asahikawa**	**63.60**	**340**	P	**P**	**18 18 05.6**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,38nm,0.6s						
KSRS	**Korea Array**	**64.58**	**326**	P	**P**	**18 18 11.3**	**0.0**
	comp=Z,5.1nm,0.7s,mb4.5,baz=146,slow=6.7,SNR=15						
KSRS	**Korea Array**	**64.58**	**326**	P	**P**	**18 18 11.3**	**0.0**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
YSS	**Yuzh-Sakhalins**	**66.09**	**342⇑**	*e*P	**P**	**18 18 21.5**	**+0.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.2						
YSS				MLR	MLR		
	comp=Z,2μm,18.0s						
YSS	**Yuzh-Sakhalins**	**66.09**	**342**	*e*P	**P**	**18 18 20.6**	**-0.2**
	comp=Z,42nm,0.6s,mb5.5						
NJ2	**Nanjing**	**66.47**	**316**	*e*P	**P**	**18 18 23.6**	**0.0**
NJ2				AP	pP	18 18 57.1	-0.8
NJ2				XP	sP	18 19 13.1	-0.1
NJ2				PP	PP	18 20 52.5	+0.5
NJ2				S	S	18 27 01.5	-1.3
NJ2				XS	sS	18 28 00.5	-1.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,6.3s						
NJ2				LR	LR		
	comp=N,3μm,21.0s						
NJ2				LR	LR		
	comp=E,4μm,24.5s						
NJ2				LR	LR		
	comp=Z,4μm,24.5s						
WHN	**Wuhan**	**68.71**	**312**	P	**P**	**18 18 37.5**	**-0.2**
PET	**Petropavlovsk**	**68.71**	**354⇓**	*e*P	**P**	**18 18 37.0**	**-0.2**
PET				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.8						
PET	**Petropavlovsk**	**68.71**	**354**	*e*P	**P**	**18 18 36.6**	**-0.5**
	comp=Z,14nm,0.5s,mb4.9						
PETK	**Petropavlovsk-**	**68.89**	**354**	P	**P**	**18 18 38.2**	**-0.1**
	comp=Z,4.3nm,0.5s,mb4.4,baz=136,slow=7.6,SNR=18						
PETK	**Petropavlovsk-**	**68.89**	**354**	P	**P**	**18 18 38.2**	**-0.1**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
MDJ	**Mudanjiang**	**69.13**	**332**	P	**P**	**18 18 40.6**	**+0.6**
MDJ				AP	pP	18 19 16.2	+1.7
MDJ				S	S	18 27 33.7	-0.4
MDJ				AMB	AMB		
	comp=Z,39nm,0.8s,mb5.2						
MDJ				LR	LR		
	comp=Z,7μm,16.3s						
HABR	**Khabarovsk**	**70.00**	**338**	*e*P	**P**	**18 18 45.2**	**0.0**
HABR				*e*		18 21 17.6	
HABR						18 28 30.1	
HABR				*e*SS	SS	18 32 08.9	-7.8
HABR				pmax	pmax		
	comp=Z,98nm,1.7s,mb5.3						
CN2	**Changchun**	**70.49**	**329**	⇑P	**P**	**18 18 48.6**	**+0.3**
CN2				PCP	PcP	18 19 08.3	-0.4
CN2				*e*AP	pP	18 19 23.8	+0.8
CN2				*e*S	S	18 27 50.2	+0.2
CN2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,8.0s						
KLR	**Kul'dur**	**71.87**	**336⇓**	*i*P	**P**	**18 18 52.9**	**-3.5**
KLR				pmax	pmax		
	comp=E,62nm,1.6s						
KLR				pmax	pmax		
	comp=Z,160nm,1.6s,mb5.5						
GYA	**Guiyang**	**72.43**	**305⇑**	*i*P	**P**	**18 19 02.0**	**+1.7**
GYA				PCP	PcP	18 19 19.6	+2.2
GYA				AP	pP	18 19 38.8	+3.7
GYA				PP	PP	18 21 46.3	+2.8
GYA				S	S	18 28 12.2	-0.7
GYA				SKS		18 28 47.5	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,4.7s						
GYA				LR	LR		
	comp=N,540nm,22.0s						
GYA				LR	LR		
	comp=E,500nm,21.4s						
GYA				LR	LR		
	comp=Z,490nm,22.6s						
BJI	**Beijing**	**73.08**	**321**	P	**P**	**18 19 04.5**	**+0.6**
BJI				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.2						
XAN	**Xi'an**	**74.46**	**313**	P	**P**	**18 19 12.4**	**+0.3**
XAN				PCP	PcP	18 19 26.6	+0.7
XAN				AP	pP	18 19 47.1	0.0
XAN				XP	sP	18 20 02.2	0.0
XAN				S	S	18 28 33.3	-2.2
XAN				AMB	AMB		
	comp=Z,42nm,0.8s,mb5.2						
KMI	**Kunming**	**74.99**	**302**	P	**P**	**18 19 16.8**	**+1.5**
KMI				AP	pP	18 19 48.4	-1.9
KMI				XP	sP	18 20 02.9	-2.6
KMI				AMB	AMB		
	comp=Z,29nm,1.1s,mb4.8						
CMAR	**Chiang Mai Arr**	**75.56**	**294**	P	**P**	**18 19 19.9**	**+1.2**
	comp=Z,7.6nm,0.7s,mb4.5,baz=132,slow=5.1,SNR=37						
CMAR	**Chiang Mai Arr**	**75.56**	**294**	P	**P**	**18 19 19.9**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CHTO	**Chiang Mai**	**75.69**	**294**	*e*P	**P**	**18 19 20.0**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
CHTO	**Ch

comp=N,2µm,14.8s
YAK smax
comp=E,3µm,17.0s
YAK Yakutsk 82.89 343 *e*P **P 18 19 56.9 -0.6**
comp=E,46nm,0.6s,mb5.4
YAK *e*pP pP 18 20 23.8 -9.4
SLKM Skilak Lake 82.99 20 *e*P **P 18 19 56.3 -1.7**
SONM Songino Array 83.33 324 P **P 18 20 00.6 +0.5**
comp=E,14nm,0.4s,mb5.0,baz=144,slow=6.9,SNR=54
SONM Songino Array 83.33 324 P **P 18 20 00.6 +0.5**
SONM pmax pmax
comp=Z,14nm,0.4s
BILL Bilibino 83.35 360⇑ *e*P **P 18 20 00.0 +0.3**
BILL pmax pmax
comp=Z,18nm,1.0s,mb4.8
GTA Gaotai 83.45 314 P **P 18 20 02.0 +1.1**
GTA AP pP 18 20 37.0 +0.4
GTA XP sP 18 20 53.3 +1.7
GTA PP PP 18 23 17.4 +2.1
GTA SKS 18 30 08.2
GTA S S 18 30 12.0 +1.4
GTA XS sS 18 31 11.6 -0.7
GTA AMB AMB
comp=Z,31nm,1.1s,mb5.0
GTA LR LR
comp=N,5µm,16.8s
GTA LR LR
comp=E,2µm,18.3s
GTA LR LR
comp=Z,6µm,17.6s
PMR Palmer 84.16 19 *e*P **P 18 20 02.6 -1.4**
PMR *e*pP pP 18 20 34.1 -5.6
BNLO Ben Lomond (Sa 84.23 49 ⇓P **P 18 20 05.2 +0.2**
baz=84
HAST Hastings Reser 84.39 50 ⇑P **P 18 20 05.8 +0.1**
baz=84
PACP Pacheco Peak 84.83 50 ⇑P **P 18 20 08.1 +0.1**
baz=85
GASB Alder Springs 84.89 47 ⇑P **P 18 20 09.0 +0.8**
baz=85
U04C Hernandez Rese 84.94 50 ⇓P **P 18 20 08.6 +0.1**
baz=85
PKD Parkfield 84.96 51 ⇑P **P 18 20 08.9 +0.2**
baz=85
S04C Ingram Canyon, 85.00 49 ⇑P **P 18 20 09.4 +0.6**
baz=85
O02C Red Bluff 85.06 46 ⇓P **P 18 20 09.6 +0.5**
baz=85
PKM Peak Mountain 85.10 52 ⇑P **P 18 20 09.6 +0.2**
baz=85
BOD Bodaibo 85.33 334 *e*P **P 18 20 09.0 -0.9**
BOD pmax pmax
comp=Z,31nm,1.8s,mb4.7
WDC Whiskeytown Da 85.40 46 ⇑P **P 18 20 10.3 -0.4**
baz=85
M02C Callahan 85.53 45 ⇑P **P 18 20 11.4 0.0**
baz=86
ORV Oroville 85.70 47 ⇑P **P 18 20 11.9 -0.3**
baz=86
YBH Yreka Blue Hor 85.77 45 P **P 18 20 12.4 -0.1**
comp=Z,2.0nm,0.4s,mb4.2,baz=203,slow=5.9,SNR=7.1
YBH Yreka Blue Hor 85.77 45 P **P 18 20 12.4 -0.1**
YBH pmax pmax
comp=Z,2.0nm,0.4s
YBH Yreka Blue Hor 85.77 45 ⇑P **P 18 20 12.3 -0.2**
baz=86
CMB Columbia Colle 85.89 49 ⇑P **P 18 20 13.2 -0.1**
baz=86
HUMO Hull Mountain 85.97 44 ⇓P **P 18 20 13.2 -0.3**
baz=86
T06C Millerton Lake 85.99 50 ⇓P **P 18 20 13.8 +0.1**
baz=86
S06C San Francisco 86.22 49 ⇓P **P 18 20 14.9 0.0**
baz=86
P05C Yuba Gap, Truc 86.24 48 ⇑P **P 18 20 14.9 0.0**
baz=86
LSA Lhasa 86.25 302 *e*P **P 18 20 16.2 +1.0**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
LSA Lhasa 86.25 302 *e*P **P 18 20 16.2 +1.0**
comp=Z,6.0nm,0.6s,mb4.5
O04C Chester 86.31 47 ⇓P **P 18 20 15.0 -0.2**
baz=86
IMA2 Indian Mountai 86.34 15 *e*P **P 18 20 14.1 -0.7**
HELL Mitchell Peak 86.37 51 ⇓P **P 18 20 15.6 0.0**
baz=86
R05C Kirkwood Meado 86.38 48 ⇓P **P 18 20 15.6 0.0**
baz=86
ZAK Zakamensk 86.39 325⇑ *i*P **P 18 20 15.4 +0.1**
ZAK pmax pmax
comp=Z,17nm,1.5s,mb4.5
KCC Kaiser Creek 86.40 50 ⇑P **P 18 20 15.4 -0.3**
baz=86
ISA Isabella 86.41 52 ⇓P **P 18 20 15.3 -0.4**
baz=86,SNR=7.4
EDW2 Edwards Air Fo 86.48 53 ⇑P **P 18 20 15.8 -0.4**
baz=86
BFSC Mount Baldy St 86.50 53 ⇑P **P 18 20 16.2 -0.1**
baz=86
BEKR Beckwourth 86.64 47 ⇑P **P 18 20 16.6 -0.2**
baz=87
ELFS Eagle Lake Fie 86.67 46 ⇓P **P 18 20 16.7 -0.2**
baz=87
R06C Coleville 86.76 49 ⇑P **P 18 20 17.5 +0.1**
baz=87
IRK Irkutsk 86.78 327 *e*P **P 18 20 16.6 -0.6**
IRK pmax pmax
comp=Z,53nm,2.3s,mb5.0
TLY Talaya 86.83 326 P **P 18 20 17.6 +0.2**
comp=Z,101nm,0.9s,mb5.7,SNR=6.2
TLY Talaya 86.83 326 *i*P **P 18 20 18.0 +0.6**
TLY pmax pmax
comp=Z,23nm,1.2s,mb4.9
TLY MLR MLR
comp=Z,5µm,24.0s
TLY Talaya 86.83 326 *e*P **P 18 20 17.0 -0.5**
comp=Z,13nm,1.0s,mb4.7
I04A Tendick Farm, 86.84 43 ⇓P **P 18 20 18.2 +0.6**
baz=87
R07C Lee Vining 86.89 49 ⇓P **P 18 20 18.6 +0.5**
baz=87
LRMC Laurel Mountai 86.93 52 ⇑P **P 18 20 18.7 +0.4**
baz=87
MTUM Tungsten Hills 86.97 50 *e*P **P 18 20 18.1 -0.4**
MONP Monument Peak 86.99 55 ⇑P **P 18 20 20.0 +1.3**
baz=87
O06A Flanigan 87.13 47 ⇓P **P 18 20 18.4 -0.8**
baz=87
L05A Lakeview 87.17 45 ⇑P **P 18 20 19.1 -0.2**
baz=87
MPMC Manual Prospec 87.29 52 P **P 18 20 20.0 0.0**
baz=87,SNR=6.4
S08C White Mtn Res 87.31 50 P **P 18 20 20.6 +0.5**
baz=87,SNR=11
N06A Buffalo Meadow 87.35 47 ⇑P **P 18 20 20.2 0.0**
baz=87
J05A Fort Rock 87.40 44 ⇓P **P 18 20 21.0 +0.6**
baz=87
K05A Summer Lake 87.41 44 ⇓P **P 18 20 18.8 -1.6**
baz=87
SWSC Sam W. Stewart 87.50 55 ⇓P **P 18 20 21.6 +0.5**
baz=88
GSC Goldstone 87.54 52 *e*P **P 18 20 20.8 -0.5**
GSC pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
GSC Goldstone 87.54 52 ⇑P **P 18 20 21.5 +0.2**
baz=88
GSC Goldstone 87.54 52 *e*P **P 18 20 20.8 -0.5**
GSC *e*pP pP 18 20 51.1 -6.2
NVAR Mina Array Bea 87.56 49 P **P 18 20 21.6 +0.3**
comp=Z,1.2nm,0.6s,baz=226,slow=7.3,SNR=13
NVAR PKKPbc PKKPbc 18 38 11.4 +0.7
comp=Z,0.6nm,0.6s,baz=89,slow=4.7,SNR=4.5
BELC Belle Mtn. 87.71 54 ⇓P **P 18 20 22.3 +0.2**
baz=88,SNR=8.4
HEC Hector,Ludlow 87.74 53 ⇑P **P 18 20 22.0 -0.2**
baz=88
O07A Toulon 87.80 47 ⇓P **P 18 20 22.4 0.0**
baz=88
K06A Valley Falls 87.87 45 ⇓P **P 18 20 23.1 +0.5**
baz=88
FURC Furnace Creek, 87.92 51 ⇑P **P 18 20 22.8 -0.2**
baz=88
N07B Gerlach 87.97 47 ⇓P **P 18 20 22.8 -0.4**
baz=88
Q08A Gabbs 87.99 49 ⇓P **P 18 20 23.3 0.0**
baz=88
BC3 Big Chuckw Mtn 88.02 54 ⇑P **P 18 20 24.2 +0.6**
baz=88
SYO Syowa Base 88.03 197⇑ *e*pP pP 18 21 02.0 +3.0
M07A Soldier Meadow 88.06 46 ⇑P **P 18 20 23.6 0.0**
baz=88
S09A Goldfield 88.09 50 ⇓P **P 18 20 23.4 -0.5**
baz=88,SNR=5.5
J06A Christmas Vall 88.11 44 ⇓P **P 18 20 23.3 -0.5**
baz=88
G05A Wamic 88.15 42 ⇑P **P 18 20 23.6 -0.3**
baz=88
L07A Adell 88.19 45 ⇓P **P 18 20 23.9 -0.3**
baz=88,SNR=5.6
GMRC Granite Mounta 88.24 53 ⇑P **P 18 20 24.4 -0.2**
baz=88
TUQ Turquoise Mtn. 88.26 53 ⇑P **P 18 20 25.1 +0.4**
baz=88
MOY Mondy 88.27 325 *e*P **P 18 20 24.2 -0.1**
MOY pmax pmax
comp=Z,45nm,2.5s,mb4.9
U10A Ash Meadows, A 88.30 52 ⇑P **P 18 20 24.9 0.0**
baz=88
GLA Glamis 88.30 55 ⇓P **P 18 20 25.5 +0.5**
baz=88
I06A Prineville 88.35 43 ⇓P **P 18 20 24.7 -0.2**
baz=88
R09A Tonopah 88.39 50 ⇓P **P 18 20 24.8 -0.5**
baz=88
IRM Iron Mountain 88.42 54 P **P 18 20 25.9 +0.4**
baz=88,SNR=6.1
K07A Rock Creek Ran 88.51 45 P **P 18 20 25.8 +0.1**
baz=88,SNR=8.5
TPNV Topopah Spring 88.54 51 ⇑P **P 18 20 26.0 0.0**
baz=89
N08A GE Springer Mi 88.56 47 P **P 18 20 26.1 +0.1**
baz=89,SNR=6.4
H06A Lindquist Farm 88.58 43 ⇑P **P 18 20 25.4 -0.6**
baz=89,SNR=5.7
G06A Carlson Farm, 88.59 42 ⇑P **P 18 20 25.5 -0.5**
baz=89
S10A Tonopah Range, 88.63 50 P **P 18 20 26.3 -0.1**
baz=89,SNR=9.2
M08A Happy Creek Ra 88.63 46 ⇑P **P 18 20 26.0 -0.3**
baz=89
A04A Legoe Bay, Lum 88.74 38 ⇑P **P 18 20 26.3 -0.2**
baz=89
V11A Goodsprings 88.78 52 ⇓P **P 18 20 25.3 -1.8**
baz=89
WVOR Wild Horse Val 88.83 45 P **P 18 20 26.2 -1.0**
WVOR pmax pmax
comp=Z,32nm,1.7s,mb5.0
WVOR Wild Horse Val 88.83 45 P **P 18 20 26.2 -1.0**
comp=Z,32nm,1.7s,mb5.0
I07A Izee 88.87 44 P **P 18 20 27.5 +0.1**
baz=89,SNR=8.8
E06A Yakima 88.89 41 ⇓P **P 18 20 26.7 -0.7**
baz=89
L08A Fields 88.94 46 ⇓P **P 18 20 27.5 -0.2**
baz=89
O09A Fish Creek Ran 89.00 48 ⇑P **P 18 20 27.9 -0.1**
baz=89
N09A Rock Creek Ran 89.01 47 ⇓P **P 18 20 27.1 -1.0**
baz=89
H07A Lands Inn, Kim 89.03 43 P **P 18 20 27.9 -0.2**
baz=89,SNR=6.4
K08A Mann Creek Ran 89.04 45 ⇓P **P 18 20 27.8 -0.4**
baz=89
Q10A Clear Creek Ra 89.09 49 ⇓P **P 18 20 28.6 +0.1**
baz=89
S11A Rachel 89.16 51 ⇑P **P 18 20 28.9 +0.1**
baz=89
V12A Nelson 89.18 53 ⇓P **P 18 20 29.6 +0.6**
baz=89
G07A Ruggs Ranch, H 89.23 42 ⇑P **P 18 20 28.8 -0.2**
baz=89
PDMCI Parker Dam,Lak 89.26 54 ⇑P **P 18 20 29.9 +0.5**
baz=89
M09A Marrel Ranch, 89.27 47 ⇑P **P 18 20 29.3 +0.1**
baz=89
J08A Circle Bar Ran 89.29 45 P **P 18 20 29.2 -0.1**
baz=89,SNR=7.2
T11A Corn Creek, Al 89.42 51 P **P 18 20 30.6 +0.6**
baz=89,SNR=6.1
I08A Drewsey 89.43 44 ⇓P **P 18 20 29.7 -0.3**
baz=90
R11A Troy Canyon, C 89.53 50 P **P 18 20 30.6 +0.1**
baz=90,SNR=8.2
O10A Cortez Mining, 89.54 48 ⇓P **P 18 20 30.6 0.0**
baz=90
K09A Rome 89.55 45 P **P 18 20 30.4 -0.2**
baz=90,SNR=7.4
214A Organ Pipe Nat 89.56 57 ⇓P **P 18 20 31.8 +1.0**
baz=90
H08A Prairie City 89.59 43 P **P 18 20 30.3 -0.4**
baz=90,SNR=5.3
X13A Yucca 89.60 54 ⇑P **P 18 20 31.5 +0.5**
baz=90
Q11A Duckwater 89.65 49 P **P 18 20 31.2 +0.2**
baz=90,SNR=12
G08A Pilot Rock 89.70 43 P **P 18 20 31.1 0.0**
baz=90,SNR=9.7
W13A Hualapai Mount 89.72 53 ⇓P **P 18 20 31.8 +0.2**
baz=90
J09A Fry Pan Ranch, 89.77 45 P **P 18 20 31.9 +0.4**
baz=90,SNR=6.4
P11A Circle Ranch, 89.82 49 ⇓P **P 18 20 31.9 0.0**
baz=90
S12A Delamar Landin 89.82 51 ⇑P **P 18 20 32.2 +0.3**
baz=90
M10A I.L. Ranch, Tu 89.95 47 ⇑P **P 18 20 32.5 +0.1**
baz=90
Y14A Wickenburg 90.03 55 ⇑P **P 18 20 33.8 +0.8**
baz=90
O11A Cowboy Ranch, 90.09 48 ⇑P **P 18 20 33.2 +0.1**
baz=90
U13A Pakoon Wash 90.09 52 ⇓P **P 18 20 33.4 +0.1**
baz=90
E08A Dider Farm, El 90.09 41 ⇑P **P 18 20 32.6 -0.3**
baz=90
K10A MacKenzie Ranc 90.17 45 P **P 18 20 33.2 -0.2**
baz=90,SNR=7.0
L10A Juniper Basin 90.19 46 ⇑P **P 18 20 33.4 -0.1**
baz=90,SNR=5.4
R12A Pony Springs, 90.24 50 P **P 18 20 34.5 +0.6**
baz=90,SNR=9.2
A07A Ashnola River, 90.27 39 ⇑P **P 18 20 33.7 -0.1**
baz=90
X14A Yava 90.29 54 ⇓P **P 18 20 34.7 +0.5**
baz=90
H09A Durkee 90.31 44 ⇓P **P 18 20 33.7 -0.4**
baz=90
Q12A Willow Creek R 90.32 50 ⇑P **P 18 20 34.2 -0.1**
baz=90
T13A Saint George 90.33 52 ⇓P **P 18 20 34.3 0.0**
baz=90
W14A Seligman 90.38 54 ⇑P **P 18 20 35.0 +0.4**
baz=90
P12A McGill 90.41 49 P **P 18 20 34.7 +0.1**
baz=90,SNR=6.5
M11A Holland Ranch, 90.44 47 ⇑P **P 18 20 34.8 0.0**
baz=90,SNR=6.5
G09A Cove 90.46 43 ⇓P **P 18 20 33.8 -0.9**
baz=90
V14A Boquillas Ranc 90.50 53 ⇑P **P 18 20 35.9 +0.8**
baz=90
S13A Holt Ranch, En 90.55 51 ⇑P **P 18 20 35.8 +0.4**
baz=91
Y15A Casa Rosa Ranc 90.57 55 ⇓P **P 18 20 34.6 -0.9**
baz=91
BMO Blue Mountains 90.62 43 *e*P **P 18 20 33.5 -2.0**
BMO pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BMO Blue Mountains 90.62 43 *e*P **P 18 20 33.5 -2.0**
comp=Z,3.8nm,1.0s,mb4.4
B08A Colville Reser 90.64 40 ⇑P **P 18 20 34.8 -0.7**
baz=91
R13A O'Grain Ranch, 90.67 51 ⇑P **P 18 20 36.1 +0.3**
baz=91
E09A Wood Farm, Sta 90.69 42 ⇑P **P 18 20 35.4 -0.3**
baz=91
U14A Mt Trumbull 90.69 52 ⇓P **P 18 20 36.6 +0.6**
baz=91
L11A Cat Creek Ranc 90.72 46 ⇓P **P 18 20 35.8 -0.2**
baz=91,SNR=8.7
K11A Parker Ranch, 90.74 46 ⇑P **P 18 20 35.9 -0.1**
baz=91
N12A Clover Valley, 90.78 48 ⇓P **P 18 20 36.3 0.0**
baz=91
D09A Jones Farm, Ri 90.79 41 ⇑P **P 18 20 36.0 -0.2**
baz=91
O12A Currie 90.79 48 ⇓P **P 18 20 36.5 +0.1**
baz=91
X15A Humboldt 90.81 54 ⇓P **P 18 20 37.3 +0.6**
baz=91
TIXI Tiksi 90.82 349⇓ *e*P **P 18 20 35.0 -0.8**
TIXI pmax pmax
comp=Z,34nm,2.4s,mb5.0
TIXI Tiksi 90.82 349 *e*P **P 18 20 32.9 -2.9**
comp=Z,19nm,1.3s,mb5.0
H10A Noah's Angus R 90.90 44 P **P 18 20 36.5 -0.3**
baz=91,SNR=5.5
G10A Bishop Farm, J 90.90 43 P **P 18 20 36.4 -0.4**
baz=91,SNR=5.3
A08A Turner Farm, O 90.91 39 ⇓P **P 18 20 36.3 -0.4**
baz=91
PMSA Palmer Station 90.91 160 *e*P **P 18 20 36.0 -0.5**
comp=Z,146nm,1.6s,mb5.8
P13A Bates Ranch, G 91.05 49 P **P 18 20 38.1 +0.5**
baz=91,SNR=10
F10A Beach Ranch, E 91.08 42 ⇓P **P 18 20 37.6 0.0**
baz=91
MFID Camas Ranch 91.11 45 ⇓P **P 18 20 37.5 -0.3**
baz=91
217A Green Valley 91.11 57 ⇑P **P 18 20 38.6 +0.5**
baz=91
Y16A Circle Bar Ran 91.22 55 ⇑P **P 18 20 39.3 +0.7**
baz=91
L12A House Creek Ra 91.23 47 ⇑P **P 18 20 38.2 -0.2**
baz=91
V15A Kaibab Nationa 91.27 53 ⇑P **P 18 20 39.3 +0.5**
baz=91
A09A Danville 91.33 39 ⇓P **P 18 20 38.5 -0.2**
baz=91
U15A North Rim 91.37 53 ⇑P **P 18 20 40.0 +0.8**
baz=91
117A Oracle 91.42 57 ⇓P **P 18 20 40.1 +0.7**
baz=91
Q14A Sevier Lake (B 91.44 50 P **P 18 20 40.0 +0.6**
baz=92,SNR=8.1
K12A Draper Farm, C 91.48 46 ⇑P **P 18 20 39.2 -0.3**
baz=92
G11A Walters Elk Ra 91.50 43 P **P 18 20 39.1 -0.4**
baz=92,SNR=5.6
P14A Drum Mountains 91.79 49 ⇑P **P 18 20 41.5 +0.5**
baz=92
E11A Bogner Ranch, 91.88 42 ⇑P **P 18 20 40.4 -0.9**
baz=92
118A Homack Ranch, 92.06 57 ⇑P **P 18 20 43.6 +1.1**
baz=92
N14A Grayback Hills 92.10 48 ⇓P **P 18 20 43.5 +1.0**
baz=92
MSU Marysvale 92.11 51 *e*P **P 18 20 41.6 -0.9**
HLID Hailey 92.12 45 ⇓P **P 18 20 42.9 +0.4**
baz=92
H12A Diamond D Ranc 92.15 44 ⇑P **P 18 20 43.2 +0.6**
baz=92
U16A Tuba City 92.18 53 ⇓P **P 18 20 44.1 +1.2**
baz=92
HVS Khovu-Aksy 92.19 323 *d i*P **P 18 20 42.7 +0.1**
HVS pmax pmax
comp=Z,44nm,0.5s,mb5.7
M14A Sheep Mountain 92.20 48 ⇑P **P 18 20 42.6 -0.2**
baz=92
F12A Elk City 92.29 43 ⇑P **P 18 20 42.9 -0.3**
baz=92
NVL N'lazarevskaya 92.30 188 *c i*P **P 18 20 42.6 -0.3**
NVL pmax pmax
comp=Z,101nm,1.2s,mb5.7
MAIT Maitri 92.30 188 *e*P **P 18 20 41.4 -1.5**
Y18A Canyon Day Jun 92.34 56 ⇓P **P 18 20 43.5 -0.2**
baz=92
I13A Wildhorse Cree 92.44 45 ⇓P **P 18 20 43.8 -0.1**
baz=92
H13A Challis 92.56 44 ⇓P **P 18 20 44.1 -0.4**
baz=93
D12A Red Ives Fores 92.67 42 ⇑P **P 18 20 44.0 -0.9**
baz=93
T17A Navajo Res., N 92.68 52 ⇓P **P 18 20 46.5 +1.2**
baz=93
A11A Hall Mountain, 92.69 40 ⇑P **P 18 20 44.9 0.0**
baz=93
G13A Cobalt 92.75 44 ⇓P **P 18 20 45.0 -0.3**
baz=93
SNAA Sanae 92.76 183 *e*P **P 18 20 44.1 -0.9**
SNAA *e* 18 20 45.2
SNAA *e* 18 20 47.3
T18A Mexican Hat 93.44 53 ⇑P **P 18 20 48.2 -0.5**
baz=94
WMQ Urumqi 93.51 314 P **P 18 20 49.3 +0.4**
WMQ AP pP 18 21 27.3 +2.2
WMQ AMB AMB
comp=Z,25nm,0.8s,mb5.4
VNA2 Neumayer--Watz 93.69 182 *e*P **P 18 20 48.7 -0.6**
VNA2 *e* 18 20 49.3
VNA2 *e* 18 20 51.2
R18A Canyonlands Na 93.78 51 ⇓P **P 18 20 50.4 +0.2**
baz=94
VNA1 Neumayer--Stat 93.98 181 *e*P **P 18 20 50.1 -0.5**
VNA1 *e* 18 20 50.8
VNA1 *e* 18 20 53.2
PDAR Pinedale Array 95.26 47 P **P 18 20 57.4 +0.5**
comp=Z,0.3nm,0.4s,baz=270,slow=5.1,SNR=3.3
PDAR PP PP 18 24 46.4 -2.8
comp=Z,1.5nm,1.1s,baz=265,slow=5.5,SNR=6.1
PDAR PKKPbc PKKPbc 18 37 50.0 -1.3
comp=Z,1.4nm,0.9s,baz=111,slow=4.9,SNR=7.2
MK31 Makanchi Array 98.00 316 *e*P **P 18 21 08.6 -0.6**
MKAR Makanchi Array 98.00 316 P **P 18 21 09.0 -0.2**
comp=Z,7.1nm,0.8s,mb5.1,baz=92,slow=5.8,SNR=24
MKAR PKiKP PKiKP 18 25 41.2 -0.6
comp=Z,1.7nm,0.5s,baz=219,slow=1.1,SNR=20
MKAR PKKPbc PKKPbc 18 37 40.2 -3.7
comp=Z,0.3nm,0.5s,baz=256,slow=3.9,SNR=7.7
YKA Yellowknife Ar 98.12 27 P **P 18 21 07.9 -1.5**
comp=Z,1.7nm,0.6s,mb4.7,baz=254,slow=4.6,SNR=7.3
YKA PKiKP PKiKP 18 25 40.6 -0.9
comp=Z,0.8nm,0.4s,baz=245,slow=1.4,SNR=8.1
YKA Yellowknife Ar 98.12 27 P **P 18 21 07.9 -1.4**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 98.12 27 P **P 18 21 07.9 -1.5**
ZAA0 Zalesovo Array 98.22 324 *e*P **P 18 21 08.8 -1.2**
ZALV Zalesovo Beam 98.22 324 P **P 18 21 08.9 -1.1**
comp=Z,9.3nm,0.7s,mb5.3,baz=114,slow=4.8,SNR=28
ZALV PKiKP PKiKP 18 25 41.3 -0.6
comp=Z,1.1nm,0.4s,baz=187,slow=1.0,SNR=7.0
ZAL Zalesovo 98.23 324 P **P 18 21 08.9 -1.2**
ZAL pmax pmax
comp=Z,9.0nm,0.7s
ZAL pmax pmax
comp=Z,1.0nm,0.4s
NVS Novosibirsk 99.34 324 *e*P Pdif 18 21 13.9 -1.3
KURK Kurchatov 101.21 320 *e*P Pdif 18 21 23.2 -0.3
ULM Lac du Bonnet 105.93 42 PKiKP PKiKP 18 25 54.1 -1.9
comp=Z,4.4nm,0.5s,baz=297,slow=4.0,SNR=6.8
BVAR Borovoye Array 106.57 321 Pdiff Pdif 18 21 47.3 0.0
comp=Z,1.5nm,0.6s,baz=96,slow=5.8,SNR=8.0
BVAR PKiKP PKiKP 18 25 56.8 -0.4
comp=Z,4.0nm,0.4s,baz=146,slow=1.8,SNR=42
BVAR Borovoye Array 106.57 321 P Pdif 18 21 47.3 0.0
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=Z,4.0nm,0.4s
SVE Sverdlovsk 112.14 325 *e*PKIKP PKiKP 18 26 07.5 0.0
SVE pmax pmax
comp=Z,27nm,1.5s
OPO Ambohidratompo 112.24 242 PKiKP PKiKP 18 26 09.0 +0.1
comp=Z,2.3nm,0.7s,baz=270,slow=1.0,SNR=5.7
ARU Arti 113.32 325 *i* PKIKP PKiKP 18 26 09.3 -0.5
LPAZ La Paz 116.56 117 PKP PKPdf 18 26 17.6 +0.4
comp=Z,0.8nm,0.4s,baz=342,slow=3.2,SNR=4.9
LPAZ La Paz 116.56 117 PKIKP PKPdf 18 26 17.6 +0.4
LPAZ pmax pmax
comp=Z,1.0nm,0.4s
CPUP Villa Florida 119.68 133 PKP PKPdf 18 26 21.5 -1.6
comp=Z,0.4nm,0.3s,baz=270,slow=4.0,SNR=3.0
KEV Kevo 120.58 345 *ep* PKPdf 18 26 21.9 -1.5
comp=Z,5.7nm,0.4s
KEV Kevo 120.58 345 *e*P PKPdf 18 26 22.9 -0.5
KEV Kevo 120.58 345 *e*PKIKP PKPdf 18 26 21.9 -1.5
KEV pmax pmax

comp=Z,6.0nm,0.4s
ARCES ARCESS Array B 121.11 345 PKP PKPdf 18 26 23.9 -0.5
comp=Z,30nm,0.5s,baz=101,slow=0.7,SNR=302
ARCES PKKPbc PKKPbc 18 36 26.1 -3.8
comp=Z,2.2nm,0.7s,baz=240,slow=2.9,SNR=12
ARCES ARCESS Array B 121.11 345 PKIKP PKPdf 18 26 23.9 -0.5
ARCES pmax pmax
comp=Z,30nm,0.5s
ARCES pmax pmax
comp=Z,2.0nm,0.7s
KLMR Klimovskoe 121.54 333 *e*PKIKP PKPdf 18 26 22.4 -3.1
TRO Tromso 122.52 348 *e*P PKPdf 18 26 26.2 -0.9
SCHQ Schefferville 122.79 34 PKP PKPdf 18 26 26.9 -1.1
comp=Z,3.9nm,0.5s,baz=248,slow=5.1,SNR=18
SCHQ PKKPbc PKKPbc 18 36 21.4 -1.6
comp=Z,3.6nm,0.5s,baz=113,slow=5.1,SNR=13
SCHQ Schefferville 122.79 34 PKP PKPdf 18 26 26.9 -1.1
SCHQ PKKPbc PKKPbc 18 36 21.4 -1.6
BOSA Boshof 122.96 220 PKP PKPdf 18 26 29.5 +0.2
comp=Z,14nm,0.9s,baz=97,slow=1.5,SNR=16
BOSA Boshof 122.96 220 PKIKP PKPdf 18 26 29.5 +0.2
BOSA pmax pmax
comp=Z,14nm,0.9s
UMR Umm Al-Rimmam 123.30 295 *e*P PKPdf 18 26 29.7 -0.1
baz=295
UMR AMb AMB 18 26 31.3
comp=Z,89nm,0.6s,baz=295
RDF Al-Radifah 123.44 295 *e*P PKPdf 18 26 30.3 +0.1
baz=295
RDF AMb AMB 18 26 31.4
comp=Z,140nm,0.6s,baz=295
MIB Mutribah 123.62 296 *e*P PKPdf 18 26 30.1 -0.4
baz=296
MIB AMb AMB 18 26 30.9
comp=Z,67nm,0.8s,baz=296
NAY Al-Naaiem 123.71 295 *e*P PKPdf 18 26 30.0 -0.6
baz=295
NAY AMb AMB 18 26 32.1
comp=Z,32nm,1.4s,baz=295
JOF Joensuu 123.75 338 *e*p PKPdf 18 26 28.3 -1.3
comp=Z,7.7nm,0.4s
VRHR Novokhopersk 124.30 322 *i* PKIKP PKPdf 18 26 30.9 -0.2
VRHR pmax pmax
comp=Z,70nm,0.5s
VRHR pmax pmax
comp=N,50nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.4s
STEI Steigen 124.69 348 *e*P PKPdf 18 26 30.5 -0.8
STEI AMb AMB 18 26 46.4
comp=Z,52nm,2.0s
GNI Garni 124.87 308 ⇓*i*PKIKP PKPdf 18 26 33.7 +1.2
GNI Garni 124.87 308 *e*PKPdf PKPdf 18 26 32.2 -0.3
OBN Obninsk 125.55 328 ⇓*i*PKIKP PKPdf 18 26 32.9 -0.4
OBN pmax pmax
comp=Z,32nm,0.9s
OBN Obninsk 125.55 328 *e*PKPdf PKPdf 18 26 33.0 -0.3
KIV Kislovodsk 125.62 313 *e*PKIKP PKPdf 18 26 34.2 +0.4
KIV pmax pmax
comp=Z,32nm,1.2s
KIV Kislovodsk 125.62 313 ⇑*i*P PKPdf 18 26 34.5 +0.7
KIV Kislovodsk 125.62 313 *e*PKPdf PKPdf 18 26 33.7 -0.1
VRSR Storozhevoye 125.70 323 *i* PKIKP PKPdf 18 26 33.5 -0.2
VRSR pmax pmax
comp=N,3.0nm,0.6s
VRSR pmax pmax
comp=Z,9.0nm,0.6s
VRSR pmax pmax
comp=E,3.0nm,0.8s
BHD Baghdad 125.99 300 *ex* x 18 23 18.0
BHD *i* x x 18 26 51.3
BHD *i* x x 18 28 47.0
BHD *i* x x 18 32 48.0
BHD *i* x x 18 39 32.0
KAF Kangasniemi 126.06 339 *e*p PKPdf 18 26 33.0 -1.1
comp=E,7.3nm,0.4s
KAF Kangasniemi 126.06 339 *e*PKIKP PKPdf 18 26 33.0 -1.1
KAF pmax pmax
comp=Z,7.0nm,0.4s
STOK Stokkvaagen 126.51 348 *e*P PKPdf 18 26 34.6 -0.2
STOK AMb AMB 18 26 46.0
comp=Z,97nm,2.6s
KMBO Kilima Mbogo 128.22 256 *e*PKIKP PKPdf 18 26 41.0 +1.3
HUMP Col San Antoni 128.93 79 *e*PKPdf PKPdf 18 26 39.4 -1.5
LSZ Lusaka 129.54 235 PKP PKPdf 18 26 42.8 +0.6
comp=Z,8.1nm,0.5s,baz=161,slow=2.0,SNR=21
LSZ Lusaka 129.54 235 PKIKP PKPdf 18 26 42.8 +0.6
LSZ pmax pmax
comp=Z,8.0nm,0.5s
MALT Malatya 130.03 307 ⇓*i*P PKPdf 18 26 43.9 +1.5
MALT Malatya 130.03 307 *e*PKPdf PKPdf 18 26 42.9 +0.5
SIM Simferopol' 131.18 317 *i* PKIKP PKPdf 18 26 44.5 +0.1
SIM pmax pmax
comp=Z,14nm,0.5s
NB2 NORSAR Subarra 131.48 345 PKPdf PKPdf 18 26 31.8 -13
comp=Z,0.5nm,0.5s,baz=31,slow=1.9
NB2 NORSAR Subarra 131.48 345 PKPdf PKPdf 18 26 43.9 -0.6
comp=Z,7.6nm,0.6s,baz=31,slow=1.9
NB2 NORSAR Subarra 131.48 345 PKPdf PKPdf 18 26 43.9 -0.6
baz=31,slow=1.9
NOA NORSAR Array B 131.48 345 PKP PKPdf 18 26 44.8 +0.4
comp=Z,6.2nm,0.5s,baz=33,slow=2.1,SNR=36
NOA SKPbc SKPbc 18 29 58.5 +1.8
comp=Z,6.7nm,0.9s,baz=32,slow=2.8,SNR=8.2
NOA NORSAR Array B 131.48 345 PKIKP PKPdf 18 26 44.8 +0.3
NOA pmax pmax
comp=Z,6.0nm,0.5s
NOA pmax pmax
comp=N,7.0nm,0.9s
AKASG Malin Array Be 131.57 326 PKP PKPdf 18 26 44.8 -0.1
comp=N,5.6nm,0.4s,baz=56,slow=2.0,SNR=7.1
AKASG Malin Array Be 131.57 326 PKIKP PKPdf 18 26 44.8 -0.1
AKASG pmax pmax
comp=Z,6.0nm,0.4s
KIEV Kiev 131.59 326 *e*PKIKP PKPdf 18 26 44.2 -0.8
SUW Suwalki 132.65 332 *e*PKP PKPdf 18 26 46.8 -0.1
SUW Suwalki 132.65 332 *e*PKP PKPdf 18 26 46.8 -0.1
ANTO Ankara 133.84 311 ⇓*i*P PKPdf 18 26 50.0 +0.4
ANTO Ankara 133.84 311 P PKPdf 18 26 50.0 +0.4
TSUM Tsumeb 134.58 222 PKhKP 18 26 44.0
baz=243,slow=1.7
TSUM PKP PKPdf 18 26 53.1 +1.5
comp=Z,4.0nm,0.6s,baz=155,slow=4.1
TSUM Tsumeb 134.58 222 *e*PKPdf PKPdf 18 26 52.2 +0.6
TIRR Tirgusor 135.09 318 ⇑*i*P PKPdf 18 26 52.1 +0.3
TIRR Tirgusor 135.09 318 ⇑P PKPdf 18 26 52.1 +0.3
BURAR Bucovina Array 135.44 324 ⇓*i*P PKPdf 18 26 54.1 +1.8
BURAR Bucovina Array 135.44 324 ⇓P PKPdf 18 26 54.1 +1.8
VRI Vrincioaia 135.47 321 ⇓*i*P PKPdf 18 26 52.0 -0.4
PLOR Plostina 135.52 321 ⇑*i*P PKPdf 18 26 52.6 +0.1
KWP Kalwaria 135.64 328 ⇓*i*P PKPdf 18 26 39.3 -13
MLR Muntele Rosu 136.13 321 ⇑*i*P PKPdf 18 26 52.8 -0.9
MLR Muntele Rosu 136.13 321 ⇑P PKPdf 18 26 52.8 -0.8
KOLS Kolonicke sedl 136.29 327 *i* PKP PKPdf 18 26 54.2 +0.4
KOLS *i* 18 30 16.6
KOLS Kolonicke sedl 136.29 327 *i* PKP PKPdf 18 26 54.2 +0.4
KOLS *e* 18 30 16.6
UZH Uzhgorod 136.46 327 *e*PKIKP PKPdf 18 26 54.2 0.0
VOIR 136.70 321 ⇑*i*P PKPdf 18 26 55.0 +0.3
VOIR 136.70 321 ⇑P PKPdf 18 26 55.0 +0.3
OJC Ojcow 136.71 330 *e*PKPdf PKPdf 18 26 54.6 0.0
CRVS Cervenica-Dubn 136.73 328 *i* PKP PKPdf 18 26 55.2 +0.5
CRVS *i* 18 30 17.9
CRVS Cervenica-Dubn 136.73 328 *i* PKP PKPdf 18 26 55.2 +0.5
CRVS *e* 18 30 17.9
NIE Niedzica 136.99 329 *e*PKPdf PKPdf 18 26 56.9 +1.8
KECS Kecovo 137.50 328 *e*PKP PKPdf 18 26 52.6 -3.5
KECS *i* 18 30 20.8
KECS Kecovo 137.50 328 *e*PKP PKPdf 18 26 52.6 -3.5
KECS *e* 18 30 20.8
OKC Ostrava-Krasne 137.76 331 *e*PKPDF PKPdf 18 26 56.8 +0.3
OKC *e*SKP 18 30 20.5
BSEG Bad Segeberg 137.76 340 *e*PKPdf PKPdf 18 26 56.2 -0.2
BSEG *e*SKPbc SKPbc 18 30 20.0 +2.8
KSP Ksiaz 137.89 333 *e*PKP PKPdf 18 26 59.2 +2.5
KSP Ksiaz 137.89 333 *e*PKPdf PKPdf 18 26 57.4 +0.6
KSP *e*PKPdf PKPdf 18 26 59.3 +2.5
KSP *e*PP SKPbc 18 30 20.9 +3.3
GZR Gura Zlata 138.07 323 ⇑*i*P PKPdf 18 26 57.3 0.0
GZR Gura Zlata 138.07 323 ⇑P PKPdf 18 26 57.4 +0.1
MORC Moravsky Berou 138.08 331 ⇑*i*P PKPdf 18 26 54.0 -3.1
MORC Moravsky Berou 138.08 331 *e*PKPpre 18 26 50.2
MORC ⇑P 18 26 54.0
MORC P 18 26 58.0

PSZ Piszkesteto 138.16 327 *e*PKIKP PKPdf 18 26 57.3 0.0
DPC Dobruska-Polom 138.24 332 *e*PKPDF PKPdf 18 26 57.9 +0.5
DPC *e*SKP 18 30 22.2
UPC Upice 138.26 333 *e*PKPDF PKPdf 18 26 58.0 +0.6
UPC *e*SKP 18 30 21.9
VYHS Vyhne 138.33 329 *i* PKP PKPdf 18 26 57.6 0.0
VYHS *i* 18 30 22.2
VYHS Vyhne 138.33 329 *i* PKP PKPdf 18 26 57.6 0.0
VYHS *e* 18 30 22.2
KOLL Kolacno 138.49 329 *i* PKP PKPdf 18 26 58.8 +0.9
BZS Buzias 138.62 324 ⇓*i*P PKPdf 18 26 58.2 -0.1
BZS Buzias 138.62 324 ⇓P PKPdf 18 26 58.2 0.0
PVCC Panska Ves 138.87 334 *e*PKPDF PKPdf 18 26 58.8 +0.2
PVCC *e*SKP 18 30 23.0
BRG Berggiesshubel 138.87 335 *e*PKHKP 18 26 50.5
BRG *i* 18 26 58.6
BRG pmax pmax
comp=Z,1.0nm,0.7s
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG pmax pmax
comp=Z,18nm,1.3s
BRG pmax pmax
comp=Z,14nm,1.5s
BRG Berggiesshubel 138.87 335 *e*PKPdf PKPdf 18 26 58.6 +0.1
BRG *e*SKPbc SKPbc 18 30 23.3 +2.9
BRG Berggiesshubel 138.87 335 *e*PKP PKPdf 18 26 50.5 -8.0
comp=Z,2.2nm,0.7s
BRG *e* 18 26 53.1
comp=Z,4.2nm,0.7s
BRG *i* 18 26 58.6
comp=Z,30nm,1.3s
BRG *i* PKS 18 30 23.5
comp=Z,23nm,1.5s
CLL Collm 138.91 336 *e*PKPdf PKPdf 18 27 00.6 +2.0
CLL *e*SKPbc SKPbc 18 30 23.1 +2.6
CLL Collm 138.91 336 *i* PKPdf PKPdf 18 26 59.3 +0.7
CLL *i* PKiKP PKiKP 18 27 00.6 -0.2
comp=Z,14nm,0.5s
CLL *i* SKPdf SKPdf 18 30 23.0 +2.7
comp=Z,10.0nm,1.0s
CLL *e*PKSdf 18 30 36.0
CLL Collm 138.91 336 *i* PKP PKPdf 18 26 59.3 +0.7
CLL *i* PKP PKPdf 18 27 00.6 +2.0
CLL *i* SKP 18 30 23.0
PRU Pruhonice 139.28 333 *e*PKPDF PKPdf 18 26 59.1 -0.2
PRU *e*SKP 18 30 24.6
VTS Vitosha 139.30 319 PKIKP PKPdf 18 27 00.0 +0.4
TREC Trest 139.37 332 *e*PKPDF PKPdf 18 26 59.9 +0.4
TREC *e*SKP 18 30 24.8
ZST Bratislava 139.38 330 *i* PKP PKPdf 18 27 00.2 +0.6
CLZ Clausthal 139.48 338 *e*PKPdf PKPdf 18 27 01.9 +2.3
CLZ *e*SKPbc SKPbc 18 30 25.1 +3.1
TANN Tannenbergstha 139.82 335 *e*SKPbc SKPbc 18 30 24.8 +1.8
PKSM Moragy 139.91 326 ⇑*i*P PKPdf 18 27 00.5 -0.1
PKSM Moragy 139.91 326 P PKPdf 18 27 00.8 +0.2
NKC Novy Kostel 139.97 335 *e*PKPDF PKPdf 18 27 00.9 +0.3
NKC *e*SKP 18 30 26.7
MOX Moxa 139.98 336 *e*PKP PKPdf 18 27 01.2 +0.6
MOX Moxa 139.98 336 *e*SKPbc SKPbc 18 30 25.3 +1.9
CONA Conrad Observa 140.17 330 ⇑*i*P PKPdf 18 27 02.0 +1.0
comp=Z,11nm,0.5s
CONA Conrad Observa 140.17 330 ⇓*i*PKPdf PKPdf 18 26 55.4 -5.6
comp=Z,2.3nm,0.7s
CONA ⇑*i*PKiKP PKiKP 18 27 02.0 -1.5
comp=Z,11nm,0.5s
CONA Conrad Observa 140.17 330 ⇑*i*P PKPdf 18 27 02.0 +1.0
KHC Kasperske Hory 140.34 333 *e*PKHKP 18 26 55.8
KHC *e* 18 27 01.7
KHC Kasperske Hory 140.34 333 *e*PKPpre 18 26 55.8
KHC *e*PKPDF PKPdf 18 27 01.7 +0.4
KHC *e*SKP 18 30 26.2
KHC Kasperske Hory 140.34 333 *e*PKP PKPdf 18 27 01.7 +0.4
ROTZ Rotzenmuhle 140.43 335 *e*SKPbc SKPbc 18 30 27.0 +2.4
UBBA Unterbreizbach 140.45 338 *e*SKPbc SKPbc 18 30 27.1 +2.4
GEC2 GERESS Array S 140.50 333 *e*PKPdf PKPdf 18 27 01.2 -0.4
GEC2 *e*SKPbc SKPbc 18 30 27.6 +2.7
GERES GERESS Array B 140.50 333 PKhKP 18 26 54.9
comp=Z,1.1nm,0.6s,baz=35,slow=4.9,SNR=11
GERES PKP PKPdf 18 27 03.7 +2.1
comp=Z,3.8nm,0.5s,baz=56,slow=1.8,SNR=22
GERES SKPbc SKPbc 18 30 27.5 +2.7
comp=Z,3.3nm,0.8s,baz=48,slow=2.0,SNR=12
GERES GERESS Array B 140.50 333 PKHKP 18 26 54.9
GERES 18 27 03.7
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,4.0nm,0.5s
GERES pmax pmax
comp=N,3.0nm,0.8s
GERES GERESS Array B 140.50 333 PKP PKPdf 18 27 03.7 +2.1
GERES SKPbc SKPbc 18 30 27.5 +2.7
WET Wettzell 140.63 334 *e*PKPdf PKPdf 18 27 02.0 +0.2
WET *e*SKPbc SKPbc 18 30 27.6 +2.4
ARSA Arzberg 140.81 330 ⇓*i*P PKPdf 18 26 57.3 -4.9
comp=N,7.2nm,1.4s
GRA1 Grafenberg Arr 140.89 336 *e*PKPdf PKPdf 18 27 02.3 +0.1
GRA1 *e*SKPbc SKPbc 18 30 28.1 +2.3
GRF Grafenberg Arr 140.89 336 *e*PKPdf PKPdf 18 27 02.3 +0.1
GRF *e*SKPbc SKPbc 18 30 28.1 +2.3
MOA Moln 140.98 331 ⇑*i*P PKPdf 18 26 57.3 -5.1
comp=N,17nm,1.6s
PERS Pernice 141.44 329 *i* PKPdf PKPdf 18 26 58.9 -4.4
SOKA Soboth 141.45 329 ⇑*i*P PKPdf 18 26 58.5 -4.8
comp=N,15nm,1.2s
OBKA Obir 141.81 330 ⇑*i*P PKPdf 18 26 59.4 -4.6
comp=N,7.7nm,0.9s
KBA Koelnbreinsper 141.97 331 ⇑*i*P PKPdf 18 27 00.0 -4.2
comp=N,19nm,1.1s
MEM Membach 141.99 341 PKP PKPdf 18 27 01.7 -2.5
LJU Ljubljana 142.14 329 *i* PKPdf PKPdf 18 26 59.7 -4.9
LJU *i* 18 27 04.3
BOJS Bojanci 142.15 328 *i* PKPdf PKPdf 18 27 00.5 -4.2
BOJS *i* 18 27 04.8
BOJS *i* 18 27 07.9
MYKA Terra Mystica 142.16 330 ⇓*i*P PKPdf 18 26 58.9 -5.7
comp=N,4.6nm,0.5s
UCC Uccle 142.32 343 PKP PKPdf 18 27 00.2 -4.6
BCLA Clavier 142.37 341 PKP PKPdf 18 27 00.6 -4.3
WATA Walderalm 142.57 333 ⇑*i*P PKPdf 18 27 02.2 -3.1
comp=N,15nm,0.5s
ABTA Abfaltersbach 142.60 332 ⇑*i*P PKPdf 18 27 01.0 -4.4
comp=N,14nm,0.8s,SNR=13
WTTA Wattenberg 142.60 333 ⇑*i*P PKPdf 18 27 01.3 -4.1
comp=N,34nm,1.1s
WLF Walferdange 142.76 340 PKP PKPdf 18 27 02.1 -3.5
WLF Walferdange 142.76 340 *e*PKPdf PKPdf 18 27 02.1 -3.5
WLF Walferdange 142.76 340 *e*PKPpre 18 27 01.9
MOTA Moosalm 142.77 333 ⇑*i*P PKPdf 18 27 02.0 -3.7
comp=N,14nm,0.7s,SNR=10
GIVF Givet 142.80 342 *e*PKP1 PKPdf 18 27 02.4 -3.2
RETA Reutte 142.81 334 ⇑*i*P PKPdf 18 27 02.6 -3.2
comp=N,12nm,0.6s
SQTA Sankt Quirin 142.82 333 ⇑*i*P PKPdf 18 27 02.6 -3.1
DOU Dourbes 142.87 342 PKP PKPdf 18 27 01.9 -3.9
BAIF Baives 143.02 342 *e*PKP1 PKPdf 18 27 02.2 -3.8
comp=N,10nm,0.5s
BFO Black Forest 143.11 337 *e*PKPdf PKPdf 18 27 03.3 -3.0
BFO *e*SKPbc SKPbc 18 30 33.2 +1.7
SPAK Spaichingen-Ko 143.12 336 PKP PKPdf 18 27 05.4 -0.9
MENF Mencas 143.14 344 PKP PKPdf 18 27 02.6 -3.6
FETA Feichten 143.19 333 ⇑*i*P PKPdf 18 27 04.2 -2.3
comp=N,32nm,0.7s,SNR=39
DAVA Damuels 143.34 334 ⇑*i*P PKPdf 18 27 04.5 -2.1
comp=N,23nm,0.6s,SNR=23
CDF Champ du Feu 143.44 338 ⇑*i*PKP1 PKPdf 18 27 04.0 -2.8
comp=N,34nm,0.6s
LIBD Limburg 143.53 337 PKIKP PKPdf 18 27 04.4 -2.6
FELD Feldberg im Sc 143.61 337 PKP PKPdf 18 27 03.9 -3.3
ECH Echery 143.64 338 PKP PKPdf 18 27 04.4 -2.8
HEX Exmoor 143.89 351 P PKPdf 18 27 05.0 -2.5
HEX Exmoor 143.89 351 *e*P PKPdf 18 27 05.0 -2.5
THEF They Montfort 144.05 339 PKP PKPdf 18 27 05.9 -2.0
HINF Hinteralfeld 144.09 338 ⇑*i*PKP1 PKPdf 18 27 06.0 -2.0
comp=N,62nm,0.5s
HAU Haudompre 144.11 338 ⇑*i*PKP1 PKPdf 18 27 06.3 -1.7
comp=N,96nm,0.7s
MEZF Maizieres J'vi 144.13 340 ⇑*i*PKP1 PKPdf 18 27 06.7 -1.3
comp=N,84nm,0.5s
BBS Basel-Blauen 144.14 337 PKIKP PKPdf 18 27 05.6 -2.5
TUE Stuetta 144.21 334 *e*PKPpre 18 27 07.2
LOMF Lomont 144.49 337 PKP PKPdf 18 27 07.8 -0.9

TIP Timpagrande 145.25 318 *e*PKPdf PKPdf 18 27 10.3 +0.1
AQU L'Aquila 145.28 325 ⇓*i*P PKPdf 18 27 10.6 +0.4
AQU L'Aquila 145.28 325 *e*PKPdf PKPdf 18 27 11.0 +0.8
CUC Castrocucco 145.37 320 *e*PKPdf PKPdf 18 27 08.9 -1.6
CABF La Chapelle 145.39 337 ⇑*i*PKP1 PKPbc 18 27 11.3 +0.8
comp=N,277nm,0.7s
OG01 Vacheresse 145.40 336 PKP PKPdf 18 27 10.7 +0.4
GRAM Graiana 145.43 331 P PKPdf 18 27 09.6 -0.8
GRAM Graiana 145.43 331 P PKPdf 18 27 09.6 -0.8
VALM Valbona 145.45 331 P PKPdf 18 27 09.5 -1.0
VALM Valbona 145.45 331 P PKPdf 18 27 09.5 -1.0
FLN La Foliniere 145.45 346 ⇑*i*PKP1 PKPbc 18 27 10.4 -0.2
comp=N,250nm,0.6s
SARO Sassorosso 145.50 330 P PKPdf 18 27 10.3 -0.3
LDF La Druitiere 145.52 346 ⇑*i*PKP1 PKPbc 18 27 10.6 -0.2
comp=N,125nm,0.6s
BACM Baccana 145.59 331 P PKPdf 18 27 10.6 -0.1
BACM Baccana 145.59 331 P PKPdf 18 27 10.6 -0.1
LOR Lormes 145.60 340 ⇑*i*PKP1 PKPbc 18 27 11.4 +0.3
comp=N,142nm,0.7s
CODM Codolo 145.60 331 P PKPdf 18 27 10.7 0.0
VINC Vinca 145.65 331 P PKPdf 18 27 09.6 -1.2
VINC Vinca 145.65 331 P PKPdf 18 27 09.6 -1.2
MAIM Mastiano 145.66 330 P PKPdf 18 27 10.3 -0.5
SC2M Scurtabo 145.74 332 P PKPdf 18 27 10.9 -0.1
GRR Gorron 145.89 346 ⇑*i*PKP1 PKPbc 18 27 12.0 +0.1
comp=N,262nm,0.6s
SSF Saint Saulge 145.89 340 ⇑*i*PKP1 PKPbc 18 27 12.4 +0.4
comp=N,228nm,0.6s
LSD Lago del Serru 145.93 335 PKP2 PKPab 18 27 13.1 +0.3
RSL Roselend 145.95 336 PKP PKPdf 18 27 11.4 +0.1
HYF Humbligny 145.98 342 ⇑*i*PKP1 PKPbc 18 27 12.9 +0.7
LPL La Plagne 146.05 336 ⇑*i*PKP1 PKPbc 18 27 13.4 +0.9
comp=N,126nm,0.7s
LPG La Plagne 146.06 336 ⇑*i*PKP1 PKPbc 18 27 13.5 +1.0
comp=N,164nm,0.8s
PCP Piancastagn 146.08 333 PKP2 PKPab 18 27 12.1 -1.3
OG05 Jujurieux 146.10 337 PKP PKPdf 18 27 12.4 +0.9
RSP Reno Superiore 146.14 335 PKP2 PKPab 18 27 12.4 -1.2
SMF Signal de Mont 146.15 340 ⇑*i*PKP1 PKPbc 18 27 12.9 +0.1
comp=N,123nm,0.7s
AVF Avril sur Loir 146.18 340 ⇑*i*PKP1 PKPbc 18 27 12.8 -0.1
comp=N,73nm,0.5s
CEL Celeste 146.33 318 *e*PKPdf PKPdf 18 27 11.4 -0.7
SGMF Saint Gilles 146.38 348 ⇑*i*PKP1 PKPbc 18 27 13.3 -0.1
comp=N,178nm,0.6s
BHB Bricherasio 146.39 334 P PKPdf 18 27 12.0 -0.1
ROSF Rostrenen 146.44 349 ⇑*i*PKP1 PKPbc 18 27 13.4 -0.1
comp=N,46nm,0.7s
BNI Bardonecchia 146.46 335 *e*PKIKP PKPdf 18 27 12.0 -0.1
FIN Finale Ligure 146.49 333 PKIKP PKPdf 18 27 12.9 +0.7
OG22 Abries 146.53 335 PKP PKPdf 18 27 13.3 +1.0
OG22 Abries 146.53 335 PKP PKPdf 18 27 12.9 +0.6
OG22 PKP PKPdf 18 27 13.3 +1.0
BGF Bois d'Agland 146.55 341 ⇑*i*PKP1 PKPbc 18 27 14.2 +0.3
comp=N,208nm,0.5s
ROB Robourent 146.57 333 PKP2 PKPab 18 27 13.2 -2.1
RORO Rocca Rossa 146.63 333 P PKPdf 18 27 12.3 -0.1
GRN Grenoble 146.67 336 PKP PKPbc 18 27 14.8 +0.5
GRN Grenoble 146.67 336 PKP PKPbc 18 27 14.8 +0.5
MBDF Montbardon 146.69 335 ⇑*i*PKP1 PKPbc 18 27 14.5 +0.1
comp=N,51nm,0.5s
PLDF La Plantade 146.81 339 PKP PKPbc 18 27 15.3 +0.6
ENR Entracque 146.82 334 PKIKP PKPdf 18 27 13.1 +0.3
QUIF Quistinic 146.82 349 ⇑*i*PKP1 PKPbc 18 27 14.3 -0.4
comp=N,43nm,0.5s
STV Sant Anna di V 146.84 334 PKIKP PKPdf 18 27 13.1 +0.3
SURF Saint Ours 146.87 334 PKP PKPdf 18 27 13.7 +0.8
ORIF Oris-en-Rattie 146.88 336 ⇑*i*PKP1 PKPbc 18 27 15.4 +0.5
comp=N,70nm,0.5s
AGO Saint Agoulin 146.91 340 PKP PKPbc 18 27 15.5 +0.5
SAOF Saorge 146.95 333 PKP PKPdf 18 27 13.5 +0.5
TCF Toulx Ste Croi 146.99 341 ⇑*i*PKP1 PKPbc 18 27 15.4 +0.2
comp=N,122nm,0.7s
AUTN L'Aution 147.00 333 PKP PKPdf 18 27 13.8 +0.7
TOUF Mont Tournerai 147.06 333 PKP PKPdf 18 27 14.6 +1.4
SSB Saint Sauveur 147.09 338 PKP PKPbc 18 27 16.0 +0.5
SSB Saint Sauveur 147.09 338 *e*PKPbc PKPbc 18 27 15.7 +0.2
SBF Sospel 147.10 333 ⇑*i*PKP1 PKPbc 18 27 15.3 -0.3
comp=N,141nm,0.6s
LUCF Luceram 147.12 333 PKP PKPdf 18 27 14.3 +1.0
COLF Collangettes 147.18 339 PKP PKPbc 18 27 16.2 +0.4
PYM Petit Puy Mans 147.21 340 PKP PKPbc 18 27 16.3 +0.5
REVF Revere 147.23 333 PKP PKPdf 18 27 14.7 +1.2
MFF Saint Martin d 147.38 344 ⇑*i*PKP1 PKPbc 18 27 16.4 +0.1
comp=N,163nm,0.5s
OCF Saint Nazaire 147.40 336 PKP PKPbc 18 27 16.9 +0.5
OG26 St.-Nazaire-De 147.40 336 PKP PKPbc 18 27 16.9 +0.5
VIVF Saint-Julien-l 147.40 337 ⇑*i*PKP1 PKPbc 18 27 16.7 +0.3
PGF Pioggiola 147.41 330 *e*PKP1 PKPbc 18 27 16.5 0.0
comp=N,152nm,1.0s
CALN Calern 147.43 334 PKP PKPdf 18 27 13.9 +0.1
CORF Corte 147.52 329 PKP PKPbc 18 27 16.6 -0.2
LBL Lubilhac 147.59 339 PKP PKPbc 18 27 17.9 +1.0
FRNF Fournols 147.68 340 PKP PKPbc 18 27 17.8 +0.7
FRF La Foret Royal 147.69 334 ⇑*i*PKP1 PKPbc 18 27 17.1 -0.1
comp=N,94nm,0.8s
SMRF Simiane la Rot 147.79 335 ⇑*i*PKP1 PKPbc 18 27 18.0 +0.5
comp=N,78nm,0.8s
LMR La Mourre 147.93 334 ⇑*i*PKP1 PKPbc 18 27 17.8 0.0
comp=N,80nm,0.7s
OSPF L'Ospedale 147.97 329 PKP PKPbc 18 27 17.7 -0.3
SHEL Horse Pasture 148.02 192 *e*PKP2 PKPab 18 27 19.4 -2.4
RJF Les Rejaudoux 148.09 341 ⇑*i*PKP1 PKPbc 18 27 18.5 +0.3
comp=N,94nm,0.7s
CAF Calviac 148.25 340 ⇑*i*PKP1 PKPbc 18 27 19.1 +0.5
comp=N,53nm,0.7s
LASF Ste Croix 148.37 337 ⇑*i*PKP1 PKPbc 18 27 19.5 +0.5
comp=N,91nm,0.7s
LFF La Frestale 148.65 342 ⇑*i*PKP1 PKPbc 18 27 19.9 +0.2
comp=N,77nm,0.6s
MTLF Montolieu 149.60 339 ⇑*i*PKP1 PKPbc 18 27 22.4 +0.3
comp=N,84nm,0.8s
LRDF Laroque-de-Fa 149.84 338 PKP PKPbc 18 27 22.6 -0.1
FILF Fillols 150.16 337 PKP PKPbc 18 27 23.1 -0.3
MLS Moulis 150.32 340 PKP PKPbc 18 27 23.8 0.0
VALF Valcebollere 150.49 338 PKP PKPbc 18 27 24.4 +0.1
EPF Esparros 150.50 341 ⇑*i*PKP1 PKPbc 18 27 24.3 0.0
comp=N,53nm,0.8s
MELF Melles 150.51 340 PKP PKPbc 18 27 25.1 +0.8
LABF Labassere 150.57 341 PKP PKPbc 18 27 24.2 -0.2
REYF Montagne du Re 150.69 342 PKP PKPbc 18 27 25.6 +0.9
RESF Ens 150.71 341 PKP PKPbc 18 27 25.9 +1.2
VIEF Viey 150.74 341 PKP PKPbc 18 27 25.7 +0.9
ATE Arette 150.77 342 PKP PKPbc 18 27 24.8 -0.1
SJPF Ste Jean 150.90 343 *e*PKP1 PKPbc 18 27 25.7 +0.5
comp=N,48nm,0.8s
LARF Larrau 150.90 343 PKP PKPbc 18 27 25.7 +0.5
ETSF Etsaut 150.90 342 ⇑*i*PKP1 PKPbc 18 27 26.0 +0.8
comp=N,66nm,0.5s
KEST Kesra 152.03 320 PKP PKPdf 18 27 21.7 +0.3
comp=N,1.4nm,0.9s,baz=27,slow=1.0,SNR=4.7
KEST PKPbc PKPbc 18 27 28.6 +0.6
comp=N,14nm,0.6s,baz=186,slow=0.3,SNR=62
CMAH Djebel Manchou 152.57 324 P PKPbc 18 27 29.0 -0.2
CKFL Kef-Lekhel 153.13 324 P PKPbc 18 27 30.0 -0.4
CASM Ain Smara 153.36 324 P PKPbc 18 27 31.0 +0.1
DFRA Djebel Bou Aff 153.49 326 P PKPbc 18 27 32.0 +0.8
ESDC Sonseca Array 154.84 345 PKP PKPdf 18 27 25.0 -0.3
comp=N,0.1nm,0.3s,baz=347,slow=4.0,SNR=4.9
ESDC PKPbc PKPbc 18 27 33.7 -0.3
comp=N,1.2nm,0.5s,baz=52,slow=1.9,SNR=5.9
ESDC PKPab PKPab 18 27 49.6 0.0
comp=N,3.3nm,0.6s,baz=13,slow=4.0,SNR=9.8
PAB San Pablo 155.06 345 *e*PKIKP PKPdf 18 27 25.6 0.0
EVO Evora 156.77 351 *e*PKIKP PKPdf 18 27 27.4 -0.4
comp=N,55nm,1.6s
TORD Torodi Ar. Bea 166.13 262 PKP PKPdf 18 27 37.3 -0.9
comp=N,4.6nm,0.5s,baz=348,slow=1.1,SNR=59
TORD PKPab PKPab 18 28 39.1 -0.5
comp=N,6.3nm,1.1s,baz=86,slow=4.0,SNR=7.1
KIC Kosan Boka 168.18 220 *e*P PKPab 18 28 48.2 -0.4
comp=N,275nm,1.3s
LIC Lamto 168.25 219 *e*PKIKP PKPdf 18 27 38.7 -1.2
comp=N,31nm,0.9s
LIC Lamto 168.25 219 *e*P PKPab 18 28 48.6 -0.3
comp=N,199nm,1.6s
DBIC Dimbokro 168.49 221 PKP PKPdf 18 27 38.8 -1.2
comp=N,14nm,1.1s,baz=285,slow=3.8,SNR=4.3
DBIC PKPab PKPab 18 28 50.2 +0.3
comp=N,6.0nm,0.7s,baz=167,slow=7.7,SNR=6.0
DBIC Dimbokro 168.49 221 PKIKP PKPdf 18 27 38.8 -1.2
DBIC 18 28 50.2
DBIC pmax pmax

comp=Z,14nm,1.2s
DBIC pmax pmax
comp=Z,6.0nm,0.7s
TIC Toumodi 168.57 220 *e*P PKPab 18 28 50.1 -0.2
comp=Z,191nm,1.2s

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*DJA **01** 18:08:33, 543S×10148E, h33km, ML5.2/7*
*IDC **01** 18:08:38.8±1.1, 5.15S×10273E, h0km, mb4.5/13, mb1 4.6/14, mb1mx4.4/23, mbtmp4.5/14, ML3.1/1, Error ellipse: s-maj=45.0km s-min=13.1km az=52.0*
*NEIC **01** 18:08:41.0±0.8, 502S×10287E, h10km, mb4.8/3, Error ellipse: s-maj=38.2km s-min=6.0km az=51.0*
*ISCJB **01** 18:08:43.3±0.9, 50S±02×103.1E±02, h33km, mb4.7/20, Error ellipse: s-maj=37.6km s-min=8.3km az=137.4*
ISC 01 18:08:45.4±0.9,**50S**±02×**1030E**±02,**h35**km,**n32**,σ0§**66**/32,
mb4.7/20,**2D**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.75**	**332**	Pn	**Pn**	**18 10 45.5**	**-4.0**
0.2nm,0.3s,baz=137,slow=22,SNR=10							
BATI	**Baumata**	**21.11**	**105**	P	**P**	**18 13 28.1**	**+0.8**
21nm,0.3s,mb5.0,baz=339,slow=2.1,SNR=26							
CMAR	**Chiang Mai Arr**	**23.64**	**350**	P	**P**	**18 13 53.2**	**-0.4**
4.4nm,0.4s,mb4.3,baz=182,slow=8.9,SNR=26							
FITZ	**Fitzroy Crossi**	**25.67**	**122**	P	**P**	**18 14 12.1**	**-0.2**
3.1nm,0.4s,mb4.2,baz=316,slow=8.7,SNR=9.9							
WRA	**Warramunga Arr**	**33.91**	**119**	P	**P**	**18 15 25.3**	**-0.1**
5.5nm,0.7s,mb4.6,baz=310,slow=9.3,SNR=10							
WRAB	**Tennant Creek**	**33.92**	**119**	*e*P	**P**	**18 15 25.1**	**-0.3**
16nm,0.7s,mb5.0							
ASAR	**Alice Springs**	**35.08**	**125**	P	**P**	**18 15 35.4**	**-0.1**
3.1nm,0.5s,mb4.5,baz=308,slow=5.6,SNR=6.3							
ASAR				PcP	PcP	18 18 05.3	-1.5
1.3nm,0.3s,baz=124,slow=7.5,SNR=4.7							
ODAN	**Odare**	**35.08**	**335**	*e*P	**P**	**18 15 36.1**	**+0.7**
15nm,0.5s,mb5.1							
TAPN	**Taplejung**	**35.38**	**336**	*e*P	**P**	**18 15 38.7**	**+0.7**
JIRN	**Jiri**	**36.29**	**334**	*e*P	**P**	**18 15 46.7**	**+0.9**
GUN	**Gumba**	**36.65**	**334**	*e*P	**P**	**18 15 49.7**	**+0.9**
32nm,0.5s,mb5.5							
DMN	**Daman**	**36.73**	**333**	*e*P	**P**	**18 15 50.0**	**+0.5**
KKN	**Kakani**	**36.81**	**333**	*e*P	**P**	**18 15 50.5**	**+0.4**
GKN	**Gorkha**	**37.28**	**333**	*e*P	**P**	**18 15 54.7**	**+0.5**
KOLN	**Koldanda**	**37.57**	**331**	*e*P	**P**	**18 15 57.3**	**+0.7**
27nm,0.7s,mb5.1							
DANN	**Dangsing**	**37.98**	**332**	*e*P	**P**	**18 16 00.5**	**+0.4**
38nm,0.5s,mb5.4							
STKA	**Stephens Creek**	**44.93**	**131**	P	**P**	**18 16 57.8**	**+0.6**
7.2nm,0.6s,mb4.7,baz=326,slow=12,SNR=3.9							
STKA				PcP	PcP	18 18 35.7	-2.5
21nm,0.6s,baz=308,slow=7.5,SNR=12							
STKA	**Stephens Creek**	**44.93**	**131**	P	**P**	**18 16 57.8**	**+0.6**
STKA				PcP	PcP	18 18 35.7	-2.5
KSRS	**Korea Array**	**48.18**	**27**	P	**P**	**18 17 22.2**	**-0.2**
2.1nm,0.5s,mb4.4,baz=222,slow=7.6,SNR=10							
SONM	**Songino Array**	**52.68**	**3**	P	**P**	**18 17 56.5**	**+0.3**
3.9nm,0.7s,mb4.4,baz=182,slow=8.5,SNR=16							
SONM				PcP	PcP	18 19 05.5	-0.3
1.4nm,0.4s,baz=191,slow=4.1,SNR=6.7							
MK31	**Makanchi Array**	**54.72**	**343**	*e*P	**P**	**18 18 10.6**	**-0.6**
MKAR	**Makanchi Array**	**54.72**	**343**	P	**P**	**18 18 10.7**	**-0.6**
4.3nm,0.5s,mb4.7,baz=153,slow=8.7,SNR=53							
KURK	**Kurchatov**	**59.32**	**342**	*e*P	**P**	**18 18 43.0**	**-0.8**
7.7nm,1.0s,mb4.7							
ZALV	**Zalesovo Beam**	**60.67**	**348**	P	**P**	**18 18 52.0**	**-0.9**
3.4nm,0.3s,mb4.9,baz=151,slow=5.7,SNR=28							
ZALV	**Zalesovo Beam**	**60.67**	**348**	P	**P**	**18 18 52.0**	**-0.9**
BVAR	**Borovoye Array**	**64.02**	**339**	P	**P**	**18 19 14.3**	**-1.1**
4.7nm,0.5s,mb4.8,baz=145,slow=9.2,SNR=40							
BRVK	**Borovoye**	**64.08**	**339**	*e*P	**P**	**18 19 14.8**	**-1.0**
4.0nm,0.7s,mb4.6							
SYO	**Syowa Base**	**76.05**	**199**	‖ *i*P	**P**	**18 20 21.3**	**-7.6**
SYO	**Syowa Base**	**76.05**	**199**	‖ *e*P	**P**	**18 20 24.2**	**-4.7**
AKASG	**Malin Array Be**	**83.67**	**322**	P	**P**	**18 21 09.8**	**-0.7**
0.6nm,0.4s,mb4.1,baz=87,slow=5.3,SNR=6.1							
ARCES	**ARCESS Array B**	**90.29**	**340**	P	**P**	**18 21 41.9**	**-0.3**
0.9nm,0.3s,mb4.5,baz=102,slow=4.3,SNR=26							
ARCES	**ARCESS Array B**	**90.29**	**340**	P	**P**	**18 21 41.9**	**-0.3**

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*SKO **01** 18:12:31.5, 4138N×2050E, h24km, M1.9, ML2.1*
*CSEM **01** 18:12:32.7±0.1, 4144N×2060E, h5km, ML2.1, Error ellipse: s-maj=2.4km s-min=1.5km az=179.0*
*ISCJB **01** 18:12:33.2±0.5, 4145N±004×2056E±004, h18km±9km, Error ellipse: s-maj=6.6km s-min=4.3km az=35.7*
*THE **01** 18:12:33.1, 4146N×2061E, h6km, ML3.6*
ISC 01 18:12:32.7±0.6,**4145N**±004×**2058E**±004,**h19**km±6km,**n20**,
σ0§**62**/36,**4C**,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.26**	**336**	*e*PG	**Pg**	**18 12 38.2**	**-0.4**
PHP				*i* SG	**Sg**	**18 12 42.6**	**0.0**
OHR	**Ohrid**	**0.38**	**154**	*e*Pg	**Pg**	**18 12 39.9**	**-0.7**
OHR				*e*Sg	**Sg**	**18 12 45.6**	**-0.3**
OHR	**Ohrid**	**0.38**	**154**	⇑ *i*Pg	**Pg**	**18 12 39.9**	**-0.7**
OHR				*i* Sg	**Sg**	**18 12 45.8**	**-0.1**
OHR				*e*Lg		18 12 46.2	
comp=N,204nm,0.4s							
OHR				*e*Lg		18 12 49.2	
comp=E,272nm,0.5s							
OHR	**Ohrid**	**0.38**	**154**	⇑ *i*Pg	**Pg**	**18 12 39.8**	**-0.8**
OHR				*i* Sg	**Sg**	**18 12 45.7**	**-0.2**
KRUS	**Krusevo**	**0.51**	**99**	⇑ *i*Pg	**Pg**	**18 12 43.3**	**+0.4**
KRUS				*i* Sg	**Sg**	**18 12 51.1**	**+1.3**
KRUS				*e*Lg		18 12 51.3	
comp=E,79nm,0.3s							
KRUS				*e*Lg		18 12 51.4	
comp=N,101nm,0.2s							
KRUS	**Krusevo**	**0.51**	**99**	⇑ *i*Pg	**Pg**	**18 12 43.3**	**+0.4**
KRUS				*i* Sg	**Sg**	**18 12 51.0**	**+1.2**
QSH	**Qafa e Shtames**	**0.51**	**278**	*e*PG	**Pg**	**18 12 43.0**	**0.0**
TIR	**Tirane**	**0.55**	**259**	*e*Pg	**Pg**	**18 12 43.6**	**-0.1**
TIR				*e*Sg	**Sg**	**18 12 52.2**	**+1.1**
BIA	**Bitola**	**0.71**	**127**	*i* Pg	**Pg**	**18 12 45.4**	**-1.2**
BIA				*i* Sg	**Sg**	**18 12 56.4**	**+0.4**
BIA				*e*Lg		18 12 57.0	
comp=N,51nm,0.3s							
BIA				*e*Lg		18 12 57.0	
comp=E,72nm,0.5s							
BIA	**Bitola**	**0.71**	**127**	*e*Pg	**Pg**	**18 12 45.9**	**-0.7**
BIA				*e*Sg	**Sg**	**18 12 56.8**	**+0.8**
PUK	**Puka**	**0.78**	**319**	*e*PG	**Pg**	**18 12 47.7**	**-0.4**
SKO	**Skopje**	**0.83**	**51**	*e*Pg	**Pn**	**18 12 50.3**	**+0.9**
SKO				*e*Sg	**Sn**	**18 13 01.1**	**+0.1**
SKO	**Skopje**	**0.83**	**51**	*i* Pg	**Pn**	**18 12 49.7**	**+0.4**
SKO				*i* Sg	**Sn**	**18 13 01.0**	**-0.1**
SKO				*e*Lg		18 13 01.2	
comp=E,74nm,0.7s							
SKO				*e*Lg		18 13 01.2	
comp=N,101nm,0.3s							
SKO	**Skopje**	**0.83**	**51**	*i* Pg	**Pn**	**18 12 49.7**	**+0.4**
SKO				*e*Sg	**Sn**	**18 13 01.1**	**+0.1**
FNA	**Florina**	**0.90**	**138**	*e*Pg	**Pg**	**18 12 49.8**	**-0.3**
FNA				*e*Sg	**Sg**	**18 13 02.6**	**+0.6**
BCI	**Bajram Curri**	**0.99**	**337**	*e*PG	**Pg**	**18 12 52.1**	**+0.1**
STIP	**Stip**	**1.23**	**78**	*e*Pg	**Pg**	**18 12 55.9**	**-0.6**
STIP				*e*Sg	**Sg**	**18 13 12.5**	**0.0**
STIP	**Stip**	**1.23**	**78**	*e*Pg	**Pg**	**18 12 55.8**	**-0.6**
STIP				*i* Sg	**Sg**	**18 13 12.9**	**+0.4**
STIP				*e*Lg		18 13 13.1	
comp=N,17nm,0.4s							
STIP				*e*Lg		18 13 14.2	
comp=E,7.5nm,0.4s							
STIP	**Stip**	**1.23**	**78**	*e*Pg	**Pg**	**18 12 55.7**	**-0.7**
STIP				*i* Sg	**Sg**	**18 13 12.8**	**+0.3**
GRG	**Griva**	**1.46**	**109**	*e*Pg	**Pg**	**18 12 59.7**	**-1.1**

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*CSEM **01** 18:25:11.2±0.1, 4154N×2059E, h35km, ML2.2, Error ellipse: s-maj=3.4km s-min=2.1km az=13.0*
*THE **01** 18:25:12.6, 4158N×2065E, h9km, ML3.6*
*ISCJB **01** 18:25:13.7±0.8, 4149N±005×2058E±005, h30km±6km, Error ellipse: s-maj=9.0km s-min=6.5km az=177.2*
*SKO **01** 18:25:14.0, 4137N×2058E, h20km, M1.9, ML2.2*
ISC 01 18:25:13.9±0.8,**4148N**±005×**2057E**±005,**h30**km±8km,**n13**,
σ1§**00**/26,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.41**	**155**	*e*Pg	**Pb**	**18 25 21.5**	**-1.3**
OHR				*e*Sg	**Sb**	**18 25 28.5**	**-0.4**
OHR	**Ohrid**	**0.41**	**155**	*i* Pg	**Pb**	**18 25 21.4**	**-1.3**
OHR				*i* Sg	**Sb**	**18 25 27.4**	**-1.5**
OHR				*e*Lg		18 25 27.8	
comp=N,188nm,0.4s							
OHR				*e*Lg		18 25 30.8	
comp=E,258nm,0.5s							
OHR	**Ohrid**	**0.41**	**155**	*i* Pg	**Pb**	**18 25 21.4**	**-1.4**
OHR				*e*Sg	**Sb**	**18 25 28.5**	**-0.4**
KRUS	**Krusevo**	**0.52**	**102**	*i* Pg	**Pb**	**18 25 24.8**	**+0.2**
KRUS				*i* Sg	**Sb**	**18 25 32.9**	**+1.0**
KRUS				*e*Lg		18 25 33.0	
comp=E,62nm,0.3s							
KRUS				*e*Lg		18 25 33.0	
comp=N,89nm,0.2s							
KRUS	**Krusevo**	**0.52**	**102**	*i* Pg	**Pb**	**18 25 24.8**	**+0.2**
KRUS				*i* Sg	**Sb**	**18 25 32.8**	**+0.9**
TIR	**Tirane**	**0.55**	**256**	*e*Pg	**Pb**	**18 25 25.2**	**+0.1**
TIR				*e*Sg	**Sb**	**18 25 33.3**	**+0.7**
BIA	**Bitola**	**0.73**	**129**	*e*Pg	**Pb**	**18 25 27.4**	**-0.7**
BIA				*e*Sg	**Sb**	**18 25 38.1**	**+0.4**
BIA	**Bitola**	**0.73**	**129**	*i* Pg	**Pb**	**18 25 27.0**	**-1.1**
BIA				*e*Sg	**Sb**	**18 25 37.7**	**0.0**
BIA				*e*Lg		18 25 39.5	
comp=N,46nm,0.3s							
BIA				*e*Lg		18 25 41.2	
comp=E,68nm,0.5s							
BIA	**Bitola**	**0.73**	**129**	*i* Pg	**Pb**	**18 25 26.9**	**-1.1**
BIA				*e*Sg	**Sb**	**18 25 38.1**	**+0.4**
SKO	**Skopje**	**0.82**	**53**	*e*Pg	**Pb**	**18 25 30.7**	**+1.2**
SKO				*e*Sg	**Sb**	**18 25 42.6**	**+2.4**
SKO				*e*Lg		18 25 42.7	
comp=N,104nm,0.3s							
SKO				*e*Lg		18 25 42.9	
comp=E,46nm,0.3s							
SKO	**Skopje**	**0.82**	**53**	*e*Pg	**Pb**	**18 25 26.5**	**-3.0**
SKO				*e*Sg	**Sb**	**18 25 38.8**	**-1.4**
FNA	**Florina**	**0.92**	**139**	*e*Pg	**Pn**	**18 25 31.4**	**+0.7**
FNA				*e*Sg	**Sb**	**18 25 44.1**	**+1.0**
STIP	**Stip**	**1.23**	**79**	*e*Pg	**Pn**	**18 25 33.7**	**-1.3**
STIP				*e*Sg	**Sn**	**18 25 50.8**	**+0.3**

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*ISCJB **01** 18:30:32.8±0.9, 1577N±008×87.10E±008, h10km, Error ellipse: s-maj=13.5km s-min=6.9km az=43.5*
*NDI **01** 18:30:38.0±1.7, 1564N×8686E, h10km, ML3.5*
ISC 01 18:30:35.4±0.9,**1575N**±007×**8703E**±008,**h10**km,**n16**,
σ0§**90**/20,**Bay of Bengal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**4.05**	**299**	*i* P	**Pn**	**18 31 38.3**	**+0.8**
VIS				*e*S	**Sn**	**18 32 23.8**	**-1.3**
VIS				*ex*	x	18 32 27.3	
comp=N,304nm,0.2s							
VIS				*ex*	x	18 32 27.3	
comp=E,298nm,0.3s							
BWNR	**Bhubaneshwar**	**4.67**	**346**	*ex*	**Pn**	**18 31 41.0**	**-5.0**
BWNR				*e*S	**Sn**	**18 32 41.0**	**+0.7**
PBA	**Port Blair**	**6.88**	**126**	*ex*	**Pb**	**18 32 26.0**	**-9.2**
PBA				*e*S	**Sn**	**18 33 34.0**	**-0.9**
BLSP	**Bilaspur**	**7.86**	**325**	*e*P	**Pn**	**18 32 31.1**	**+1.3**
BLSP				*e*S	**Sn**	**18 33 55.7**	**-3.2**
BLSP				AML	AML	18 34 02.7	
comp=E,29nm,0.3s							
BLSP				AML	AML	18 34 05.7	
comp=N,42nm,0.3s							
BOK	**Bokaro**	**8.08**	**353**	*e*S	**Sn**	**18 34 02.3**	**-1.9**
BOK				AML	AML	18 34 09.8	
comp=N,16nm,0.3s							
BOK				AML	AML	18 34 10.5	
comp=E,16nm,0.5s							
ODAN	**Odare**	**11.06**	**2**	*e*P	**Pn**	**18 33 13.6**	**-0.2**
comp=E,13nm,0.5s							
RAMN	**Ramite**	**11.15**	**358**	*e*P	**Pn**	**18 33 15.5**	**+0.5**
comp=E,24nm,0.4s							
TAPN	**Taplejung**	**11.56**	**3**	*e*P	**Pn**	**18 33 20.0**	**-0.6**
PKI	**Pulchoki**	**11.86**	**353**	*e*P	**Pn**	**18 33 25.6**	**+0.9**
comp=E,25nm,0.5s							
JIRN	**Jiri**	**11.88**	**356**	*e*P	**Pn**	**18 33 24.9**	**0.0**
comp=E,11nm,0.3s							
DMN	**Daman**	**11.94**	**352**	*e*P	**Pn**	**18 33 26.3**	**+0.6**
comp=E,15nm,0.4s							
KKN	**Kakani**	**12.09**	**353**	*e*P	**Pn**	**18 33 28.4**	**+0.5**
comp=E,12nm,0.5s							
GUN	**Gumba**	**12.15**	**355**	*e*P	**Pn**	**18 33 28.8**	**+0.2**
comp=E,20nm,0.5s							
KOLN	**Koldanda**	**12.38**	**346**	*e*P	**Pn**	**18 33 31.9**	**+0.1**
comp=E,62nm,0.7s							
GKN	**Gorkha**	**12.40**	**350**	*e*P	**Pn**	**18 33 32.3**	**+0.3**
comp=E,7.2nm,0.5s							
DANN	**Dangsing**	**12.90**	**347**	*e*P	**Pn**	**18 33 38.5**	**-0.4**

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*LDG **01** 18:32:30.2±0.2, 1540S×16639E, h120km, Mb4.0/2, Error ellipse: s-maj=41.4km s-min=4.6km az=83.0*
*ISCJB **01** 18:32:32.9±2.3, 157S±01×1672E±02, h164km±16km, mb3.7/7, Error ellipse: s-maj=37.6km s-min=13.2km az=162.1*
*NEIC **01** 18:32:32.9±3.6, 1566S×16736E, h156km±28km, mb3.6/2, Error ellipse: s-maj=31.1km s-min=21.2km az=96.0*
*IDC **01** 18:32:33.2±5.9, 1563S×16735E, h158km±49km, mb3.5/6, mb1 3.7/7, mb1mx3.5/18, mbtmp3.6/7, Error ellipse: s-maj=39.2km s-min=25.4km az=82.0*
ISC 01 18:32:32.8±2.3,**157S**±01×**1673E**±02,**h152**km±16km,**n23**,
σ0§**67**/11,**mb3.7**/7,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.44**	**187**	*e*P	**Pn**	**18 34 04.3**	**-1.2**
DZM				*e*S	**Sn**	**18 35 19.0**	**+1.0**
HNR	**Honiara**	**9.50**	**310**	P	**Pn**	**18 34 46.5**	**+0.2**
7.6nm,0.3s,baz=172,slow=3.0,SNR=4.2							
WRAB	**Tennant Creek**	**31.67**	**257**	*e*P	**P**	**18 38 41.6**	**-0.4**
0.5nm,0.4s,mb3.6							
WRA	**Warramunga Arr**	**31.68**	**257**	P	**P**	**18 38 41.5**	**-0.6**
0.4nm,0.4s,mb3.5,baz=80,slow=6.1,SNR=14							
ASAR	**Alice Springs**	**32.42**	**250**	P	**P**	**18 38 49.0**	**+0.4**
1.5nm,0.6s,mb3.9,baz=80,slow=9.6,SNR=31							
VNDA	**Vanda**	**61.95**	**181**	P	**P**	**18 42 36.4**	**+0.4**
0.3nm,0.5s,mb3.4,baz=355,slow=7.1,SNR=5.0							
VNDA	**Vanda**	**61.95**	**181**	*e*P	**P**	**18 42 36.3**	**+0.3**
0.5nm,0.6s,mb3.5							
SONM	**Songino Array**	**83.28**	**324**	P	**P**	**18 44 42.5**	**+0.2**
1.0nm,0.6s,mb3.7,baz=116,slow=3.4,SNR=4.0							
SNAA	**Sanae**	**92.64**	**183**	P	**P**	**18 45 26.2**	**-0.7**
0.4nm,0.6s,mb3.8,baz=210,slow=7.1,SNR=15							
MKAR	**Makanchi Array**	**97.92**	**316**	P	**P**	**18 45 52.2**	**+0.9**
0.3nm,0.6s,mb3.9,baz=96,slow=4.3,SNR=3.6							
ARCES	**ARCESS Array B**	**121.16**	**345**	PKP	PKPdf	18 51 05.6	-1.3
2.8nm,0.7s,baz=82,slow=1.9,SNR=10							
CABF	**La Chapelle**	**145.40**	**337**	*e*PKP1	PKPbc	18 51 52.5	-0.4
12nm,0.7s							
FLN	**La Foliniere**	**145.50**	**346**	*e*PKP1	PKPbc	18 51 51.6	-1.6
22nm,0.8s							
LDF	**La Druitiere**	**145.57**	**345**	*e*PKP1	PKPbc	18 51 51.9	-1.5
7.9nm,0.7s							
LOR	**Lormes**	**145.62**	**340**	*e*PKP1	PKPbc	18 51 52.6	-1.0
4.8nm,0.6s							
SSF	**Saint Saulge**	**145.92**	**340**	*e*PKP1	PKPbc	18 51 53.6	-0.9
8.7nm,0.6s							
GRR	**Gorron**	**145.94**	**346**	*e*PKP1	PKPbc	18 51 53.3	-1.2
7.9nm,0.5s							
LPL	**La Plagne**	**146.06**	**335**	*e*PKP1	PKPbc	18 51 54.5	-0.5
6.9nm,0.8s							
LPG	**La Plagne**	**146.06**	**335**	*e*PKP1	PKPbc	18 51 55.2	+0.2
7.1nm,0.7s							
SMF	**Signal de Mont**	**146.17**	**339**	*e*PKP1	PKPbc	18 51 53.4	-1.9
8.0nm,0.7s							
AVF	**Avril sur Loir**	**146.21**	**340**	*e*PKP1	PKPbc	18 51 53.8	-1.6
SGMF	**Saint Gilles**	**146.44**	**348**	*e*PKP1	PKPbc	18 51 54.5	-1.5
12nm,0.7s							
MFF	**Saint Martin d**	**147.42**	**344**	*e*PKP1	PKPbc	18 51 57.6	-1.2
16nm,0.8s							

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*DDA **01** 18:52:41.7, 3890N×2661E, h9km±5km, Md2.8*
*NEIC **01** 18:52:41.0, 3894N×2661E, h3km, MD3.2(ATH), ML3.0(ISK), After ISK.*
*ISCJB **01** 18:52:42.1±0.4, 3891N±002×2656E±003, h7km±4km, Error ellipse: s-maj=4.4km s-min=2.9km az=150.9*
*THE **01** 18:52:42.4, 3893N×2666E, h7km, ML3.1*
*ISK **01** 18:52:42.3, 3895N×2665E, h5km, MD3.0*
*ATH **01** 18:52:42.3, 3883N×2633E, h21km±3km, MD3.2/3*
*CSEM **01** 18:52:42.0±0.1, 3893N×2663E, h10km, MD2.8, Error ellipse: s-maj=1.8km s-min=1.4km az=69.0*
ISC 01 18:52:42.8±0.4,**3892N**±002×**2657E**±003,**h11**km±3km,**n27**,
σ0§**97**/45,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.40**	**13**	*i* P	**Pg**	**18 52 49.9**	**-0.7**
AYVA				*i* S	**Sg**	**18 52 56.8**	**+1.0**
PRK	**Paraskevi**	**0.40**	**324**	*e*Pg	**Pg**	**18 52 51.0**	**+0.4**
PRK				*e*Sg	**Sg**	**18 52 57.0**	**+1.0**
URLA	**Izmir**	**0.56**	**178**	*i* P	**Pg**	**18 52 53.0**	**-0.8**
URLA				*i* S	**Sg**	**18 53 04.2**	**+3.1**
BLCB	**Balcova**	**0.65**	**145**	*e*PG	**Pg**	**18 52 54.9**	**-0.5**
BLCB	**Balcova**	**0.65**	**145**	*e*Pg	**Pg**	**18 52 54.7**	**-0.7**
BLCB				*e*Sg	**Sg**	**18 53 03.6**	**-0.4**
CHOS	**Chios island**	**0.67**	**217**	*e*Pg	**Pg**	**18 52 55.6**	**-0.2**
CHOS				*e*Sg	**Sg**	**18 53 07.5**	**+2.9**
KDAG	**Bornova**	**0.75**	**134**	*i* P	**Pg**	**18 52 58.1**	**+0.8**
KDAG				*i* S	**Sg**	**18 53 10.1**	**+2.9**
IZM	**Izmir**	**0.75**	**134**	*e*PG	**Pg**	**18 52 57.4**	**+0.1**
IZM				*e*SG	**Sg**	**18 53 07.8**	**+0.6**
EZN	**Ezine**	**0.92**	**348**	*e*PG	**Pg**	**18 53 00.1**	**-0.5**
EZN				*e*SG	**Sg**	**18 53 13.3**	**+0.7**
EZN	**Ezine**	**0.92**	**348**	*e*Pg	**Pg**	**18 53 00.0**	**-0.5**
EZN				*e*Sg	**Sg**	**18 53 13.3**	**+0.7**
AKS	**Akhisar**	**0.97**	**92**	*e*PG	**Pg**	**18 53 00.3**	**-1.2**
AKS				*e*SG	**Sg**	**18 53 13.4**	**-0.7**
AKHS	**Akhisar**	**0.97**	**92**	*i* P	**Pg**	**18 53 00.6**	**-0.9**
AKHS				*i* S	**Sg**	**18 53 13.9**	**-0.2**
BOZC	**Bozcaada**	**1.00**	**336**	*i* P	**Pg**	**18 53 01.6**	**-0.5**
BOZC				*i* S	**Sg**	**18 53 15.5**	**+0.4**
BALY	**Balya**	**1.15**	**45**	*i* P	**Pb**	**18 53 03.7**	**-1.0**
BALY				*i* S	**Sb**	**18 53 20.2**	**+0.5**
SMG	**Samos**	**1.23**	**170**	*e*PN	**Pn**	**18 53 04.7**	**-1.3**
SMG				*e*SN	**Sn**	**18 53 21.9**	**-0.7**
BALB	**Balikesir**	**1.24**	**54**	*e*PN	**Pn**	**18 53 05.1**	**-1.0**
GADA	**Gvkgeada**	**1.37**	**338**	*e*PN	**Pn**	**18 53 08.2**	**+0.3**
LIA	**Limnos Island**	**1.45**	**313**	*e*Pg	**Pg**	**18 53 08.7**	**-1.9**
LIA				*e*Sg	**Sg**	**18 53 29.0**	**-0.5**
MANT	**Manisa**	**1.61**	**105**	*e*P	**Pn**	**18 53 10.5**	**-0.7**
MANT				*e*S	**Sn**	**18 53 33.5**	**+1.5**
DEMI	**Demirci**	**1.68**	**85**	*i* P	**Pn**	**18 53 11.1**	**-1.0**
DEMI				*i* S	**Sn**	**18 53 34.8**	**+1.3**
KULA	**Kula-Manisa**	**1.68**	**103**	*e*PN	**Pn**	**18 53 12.7**	**+0.5**
DST	**Dursunbey**	**1.73**	**66**	*e*PN	**Pn**	**18 53 13.2**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.82**	**15**	*e*PN	**Pn**	**18 53 14.5**	**+0.4**
ENEZ	**Enez**	**1.84**	**350**	*e*PN	**Pn**	**18 53 15.4**	**+1.1**
MFT	**Murefte**	**1.94**	**16**	*e*PN	**Pn**	**18 53 16.1**	**+0.4**
APE	**Apeiranthos**	**2.03**	**204**	*e*Pn	**Pn**	**18 53 16.3**	**-0.6**
APE				*e*Sn	**Sn**	**18 53 42.4**	**+0.2**
APE	**Apeiranthos**	**2.03**	**204**	*e*PN	**Pn**	**18 53 15.1**	**-1.8**

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*ISK **01** 18:57:16.4, 4062N×2726E, h4km, MD3.1, ML3.4*
*CSEM **01** 18:57:16.8±0.0, 4064N×2728E, h5km, MD3.1, Error ellipse: s-maj=0.9km s-min=0.7km az=24.0*
*ATH **01** 18:57:16.4, 4073N×2743E, h32km±12km, MD3.5/5*
*NEIC **01** 18:57:16.0, 4062N×2726E, h5km, MD3.0(ISK), MD3.5(ATH), After ISK.*
*ISCJB **01** 18:57:17.2±0.2, 4066N±002×2722E±002, h10km, Error ellipse: s-maj=2.5km s-min=2.1km az=19.6*
*DDA **01** 18:57:17.1, 4065N×2726E, h7km±3km, Md3.1*
*SOF **01** 18:57:18.7, 4054N×2672E, h2km, MD2.9*
*THE **01** 18:57:20.1, 4057N×2701E, h2km, ML3.5*
ISC 01 18:57:17.0±0.3,**4065N**±002×**2722E**±002,**h1**km±3km,**n81**,
σ0§**85**/110,**3D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKY	**Sarkoy-Tekirda**	**0.06**	**321**	PG	**Pg**	**18 57 18.8**	**+0.7**
MFT	**Murefte**	**0.15**	**17**	*e*PG	**Pg**	**18 57 20.9**	**+1.1**
MFT				*e*SG	**Sg**	**18 57 23.5**	**+1.7**
MRMT	**Marmara Adasi**	**0.29**	**98**	*e*PG	**Pg**	**18 57 22.2**	**-0.3**
TKR	**Tekirdag**	**0.42**	**34**	*e*PG	**Pg**	**18 57 25.2**	**+0.2**
LPK	**Lapseki**	**0.45**	**233**	*e*PG	**Pg**	**18 57 26.1**	**+0.5**
EDC	**Edincik**	**0.57**	**121**	*e*PG	**Pg**	**18 57 27.6**	**-0.3**
BNT	**Bandirma**	**0.60**	**118**	*e*PG	**Pg**	**18 57 28.1**	**-0.5**
CRLT	**Corlu**	**0.62**	**39**	*e*PG	**Pg**	**18 57 28.6**	**-0.2**
ENEZ	**Enez**	**0.82**	**277**	*e*PG	**Pg**	**18 57 33.4**	**+0.7**
ALN	**Alexandroupoli**	**0.93**	**286**	*e*Pg	**Pg**	**18 57 35.5**	**+0.7**
ALN				*e*Sg	**Sg**	**18 57 47.4**	**+0.5**
**

PAIG			*e*Sn	**Sn**	**18 58 36.0**	**-1.4**
PLG	**Polygyros**	**2.89 266**	*e*Pn	**Pn**	**18 58 03.7**	**-0.5**
PLG	**Polygyros**	**2.89 266**	*e*Pn	**Pn**	**18 58 04.0**	**-0.2**
KHL	**Karahalli**	**2.92 142**	*e*PN	**Pn**	**18 58 05.0**	**+0.4**
SOH	**Sokhos**	**2.95 275**	*e*Pn	**Pn**	**18 58 05.1**	**+0.2**
SOH			*e*Sn	**Sn**	**18 58 39.6**	**-1.2**
SMG	**Samos**	**2.95 186**	*e*PN	**Pn**	**18 58 04.4**	**-0.5**
ESKT	**Eskisehir**	**3.00 111**	*e*PN	**Pn**	**18 58 05.8**	**+0.2**
ESKT	**Eskisehir**	**3.00 111**	*e*Pn	**Pn**	**18 58 05.8**	**+0.2**
MDU	**Mudurnu**	**3.05 92**	*e*PN	**Pn**	**18 58 06.6**	**+0.3**
HORT	**Hortiatis**	**3.14 270**	*e*Pn	**Pn**	**18 58 07.3**	**-0.3**
SHUT	**Suhut-Afyon**	**3.31 128**	*e*PN	**Pn**	**18 58 10.5**	**+0.5**
KNT	**Kendrikon**	**3.32 280**	*e*Pn	**Pn**	**18 58 10.6**	**+0.5**
KKB	**Krupnik**	**3.35 293**	*i* Pg	**Pg**	**18 58 18.5**	**-2.7**
VTS	**Vitosha**	**3.58 304**	*i* P	**Pg**	**18 58 24.3**	**-1.4**
VTS	**Vitosha**	**3.58 304**	⇓*i*P	**Pg**	**18 58 23.8**	**-1.9**
VTS	**Vitosha**	**3.58 304**	S	**Sg**	**18 59 12.9**	**+0.8**
LIT	**Litokhoron**	**3.66 263**	*e*Pn	**Pn**	**18 58 14.2**	**-0.4**
GRG	**Griva**	**3.67 276**	*e*Pn	**Pn**	**18 58 15.7**	**+0.8**
APE	**Apeiranthos**	**3.81 201**	P	**Pn**	**18 58 16.6**	**-0.1**
MLR	**Muntele Rosu**	**4.93 349**	⇓*i*P	**Pn**	**18 58 37.3**	**+5.1**
MLR	**Muntele Rosu**	**4.93 349**	S	**Sg**	**19 00 02.8**	**+7.4**

ISK ***01*** *19:03:07.9, 4079N×3009E, h4km, MD3.8, ML4.0*
ISCJB ***01*** *19:03:08.6±0.4, 4080N±002×3007E±002, h8km±3km, mb3.6/5, Error ellipse: s-maj=3.6km s-min=2.7km az=2.4*
CSEM ***01*** *19:03:08.5±0.0, 4080N×3008E, h10km, MD3.8, Error ellipse: s-maj=1.3km s-min=1.1km az=15.0*
DDA ***01*** *19:03:08.7, 4075N×3007E, h7km±2km, Md3.5*
MOS ***01*** *19:03:08.4±0.9, 4080N×3011E, h10km, mb3.8/4, Error ellipse: s-maj=14.1km s-min=8.1km az=96.5*
NEIC ***01*** *19:03:09.8±0.6, 4075N×3008E, h10km, ML3.3(BUC), ML3.9(ISK), Error ellipse: s-maj=10.5km s-min=8.6km az=55.0*
NEIC Felt at Kocaeli.
IDC ***01*** *19:03:12.2±5.4, 4081N×2998E, h32km±45km, mb3.5/5, mb1 3.6/7, mb1mx3.4/24, mbtmp3.5/7, ML3.5/2, MS4.3/1, Ms1 4.3/1, ms1mx3.7/33, Error ellipse: s-maj=25.2km s-min=15.2km az=108.0*
ATH ***01*** *19:03:52.1, 3911N×2570E, h10km, MD3.0/3*
ISC 01 19:03:09.0±0.5, 4078N±002×3006E±002, h2km±3km, n110, σ0§85/128, mb3.6/5, 10C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRT	**Hereke**	**0.30**	**279**	PG	**Pg**	**19 03 15.3**	**+0.6**
HRT				*e*SG	**Sg**	**19 03 19.6**	**+1.0**
ADVT	**Abdulvahap**	**0.42**	**216**	PG	**Pg**	**19 03 16.5**	**-0.5**
SILT	**Sile**	**0.49**	**320**	*e*PG	**Pg**	**19 03 18.4**	**0.0**
GPA	**Golpazari**	**0.52**	**159**	PG	**Pg**	**19 03 18.8**	**-0.1**
YLV	**Yalova**	**0.56**	**248**	*e*PG	**Pg**	**19 03 20.4**	**+0.7**
HENT	**Hendek**	**0.64**	**85**	*i* P	**Pg**	**19 03 21.6**	**+0.4**
HENT				*i* S	**Sg**	**19 03 30.0**	**+0.5**
GADT	**Buyukada**	**0.72**	**276**	*e*PG	**Pg**	**19 03 23.1**	**+0.4**
GEMT	**Gemlik**	**0.74**	**243**	*e*PG	**Pg**	**19 03 22.7**	**-0.5**
ISK	**Istanbul-Kandi**	**0.81**	**291**	*e*PG	**Pg**	**19 03 24.4**	**-0.1**
KLYT	**Kilyos**	**0.91**	**302**	*e*PG	**Pg**	**19 03 25.5**	**-0.8**
MDU	**Mudurnu**	**0.93**	**109**	*e*PG	**Pg**	**19 03 26.3**	**-0.5**
ULDT	**Uludag**	**0.95**	**228**	*i* P	**Pg**	**19 03 26.6**	**-0.5**
ULDT				*i* S	**Sg**	**19 03 38.5**	**-0.8**
KDZE	**Karadeniz Ereo**	**1.18**	**62**	*e*PN	**Pn**	**19 03 30.3**	**-2.2**
ELBA	**Catalca**	**1.29**	**287**	*i* P	**Pg**	**19 03 33.3**	**-0.3**
ELBA				*i* S	**Sg**	**19 03 49.6**	**-0.8**
CTT	**Catalca**	**1.29**	**287**	*e*PN	**Pn**	**19 03 32.6**	**-1.4**
ESKT	**Eskisehir**	**1.39**	**154**	*e*PN	**Pn**	**19 03 34.8**	**-0.7**
ESKT	**Eskisehir**	**1.39**	**154**	*i* P	**Pn**	**19 03 34.6**	**-0.8**
SEYT	**Eskypehyr**	**1.39**	**154**	*i* P	**Pn**	**19 03 34.6**	**-0.8**
KCT	**Karacabey**	**1.39**	**249**	*e*PN	**Pn**	**19 03 35.4**	**-0.1**
SGKT	**Sivrigoynuk**	**1.53**	**97**	*i* P	**Pn**	**19 03 37.7**	**+0.4**
SGKT				*i* S	**Sn**	**19 03 59.0**	**+1.2**
DST	**Dursunbey**	**1.60**	**224**	*e*PN	**Pn**	**19 03 38.8**	**+0.5**
BNT	**Bandirma**	**1.68**	**256**	*e*PN	**Pn**	**19 03 40.0**	**+0.6**
ALT	**Altintas**	**1.72**	**179**	*e*PN	**Pn**	**19 03 39.4**	**-0.5**
EDC	**Edincik**	**1.73**	**256**	*e*PN	**Pn**	**19 03 40.3**	**+0.3**
GDZ	**Gediz**	**1.74**	**195**	*i* P	**Pn**	**19 03 38.9**	**-1.3**
CRLT	**Corlu**	**1.79**	**282**	*e*PN	**Pn**	**19 03 41.0**	**+0.1**
BTOK	**Tokmak**	**1.85**	**238**	*i* P	**Pn**	**19 03 40.8**	**-0.9**
TKR	**Tekirdag**	**1.93**	**277**	*e*PN	**Pn**	**19 03 43.0**	**+0.2**
DEMI	**Demirci**	**2.02**	**211**	*i* P	**Pn**	**19 03 42.9**	**-1.1**
BALB	**Balikesir**	**2.02**	**237**	*e*PN	**Pn**	**19 03 44.0**	**0.0**
SAFT	**Safranbolu**	**2.04**	**76**	*e*PN	**Pn**	**19 03 43.8**	**-0.6**
MFT	**Murefte**	**2.11**	**271**	*e*PN	**Pn**	**19 03 45.8**	**+0.5**
BALY	**Balya**	**2.13**	**242**	*i* P	**Pn**	**19 03 44.7**	**-0.9**
RKY	**Sarkoy-Tekirda**	**2.19**	**269**	*e*PN	**Pn**	**19 03 46.5**	**+0.1**
SHUT	**Suhut-Afyon**	**2.25**	**170**	*e*PN	**Pn**	**19 03 46.9**	**-0.3**
ANTO	**Ankara**	**2.28**	**113**	*e*PN	**Pn**	**19 03 46.9**	**-0.7**
ANTO	**Ankara**	**2.28**	**113**	⇓*i*P	**Pn**	**19 03 47.5**	**-0.1**
ANTO	**Ankara**	**2.28**	**113**	⇓P	**Pn**	**19 03 47.5**	**-0.1**
ANTO	**Ankara**	**2.28**	**113**	⇓P	**Pn**	**19 03 47.5**	**-0.1**
KIZT	**Kizilcal**	**2.36**	**143**	*e*PN	**Pn**	**19 03 48.2**	**-0.5**
KHAL	**Karahalli**	**2.44**	**191**	*i* P	**Pn**	**19 03 48.8**	**-1.1**
KHL	**Karahalli**	**2.48**	**190**	*e*PN	**Pn**	**19 03 50.5**	**+0.1**
KULA	**Kula-Manisa**	**2.50**	**206**	*e*PN	**Pn**	**19 03 51.3**	**+0.7**
LPK	**Lapseki**	**2.54**	**262**	*e*PN	**Pn**	**19 03 51.4**	**+0.1**
AKHS	**Akhisar**	**2.56**	**223**	*i* P	**Pn**	**19 03 50.0**	**-1.5**
AKS	**Akhisar**	**2.56**	**223**	*e*PN	**Pn**	**19 03 52.0**	**+0.4**
BALT	**Daday**	**2.62**	**72**	*i* P	**Pn**	**19 03 52.7**	**+0.4**
CANT	**Cankiri**	**2.71**	**92**	*e*PN	**Pn**	**19 03 53.3**	**-0.2**
EDRB	**Edirne**	**2.72**	**294**	*e*PN	**Pn**	**19 03 53.4**	**-0.2**
ENEZ	**Enez**	**2.97**	**271**	*e*PN	**Pn**	**19 03 57.7**	**+0.6**
EZN	**Ezine**	**3.01**	**253**	*e*PN	**Pn**	**19 03 57.5**	**-0.1**
TOS	**Tosya**	**3.02**	**84**	*e*PN	**Pn**	**19 03 58.1**	**+0.4**
LADK	**Ladik-KONYA**	**3.13**	**145**	*e*PN	**Pn**	**19 03 59.0**	**-0.3**
KAMT	**Kaman**	**3.14**	**115**	*e*PN	**Pn**	**19 03 59.4**	**0.0**
BZK	**Bozkurt**	**3.20**	**67**	*e*PN	**Pn**	**19 04 00.5**	**+0.3**
IZM	**Izmir**	**3.21**	**223**	*e*PN	**Pn**	**19 04 01.3**	**+0.9**
GADA	**Gvkgeada**	**3.23**	**261**	*e*PN	**Pn**	**19 04 01.2**	**+0.5**
PRK	**Paraskevi**	**3.29**	**244**	*e*PB	**Pb**	**19 04 01.1**	**-6.9**
BCK	**Bucak**	**3.34**	**173**	*e*PN	**Pn**	**19 04 02.8**	**+0.6**
BLCB	**Balcova**	**3.34**	**225**	*e*PN	**Pn**	**19 04 03.3**	**+1.1**
KONT	**Konya--Tatoy**	**3.34**	**147**	*e*PN	**Pn**	**19 04 02.0**	**-0.2**
CORM	**Corum**	**3.54**	**98**	*e*PN	**Pn**	**19 04 05.2**	**+0.3**
CTKT	**Corum**	**3.60**	**91**	*i* P	**Pn**	**19 04 06.3**	**+0.6**
BYBT	**Boyabat**	**3.62**	**77**	*e*PN	**Pn**	**19 04 06.3**	**+0.2**
LIA	**Limnos Island**	**3.83**	**258**	*e*PB	**Pb**	**19 04 08.9**	**-8.3**
TIRR	**Tirgusor**	**3.88**	**342**	⇓*i*P	**Pn**	**19 04 09.8**	**+0.2**
TIRR	**Tirgusor**	**3.88**	**342**	P	**Pn**	**19 04 09.8**	**+0.2**
TIRR				S	**Sn**	**19 04 52.9**	**-2.7**
TIRR	**Tirgusor**	**3.88**	**342**	P	**Pn**	**19 04 09.8**	**+0.2**
YER	**Yerkesik**	**3.89**	**201**	*e*PN	**Pn**	**19 04 10.9**	**+1.2**
ANTB	**Antalya**	**3.90**	**173**	*e*PN	**Pn**	**19 04 11.1**	**+1.2**
MLSB	**Milas**	**3.90**	**208**	*e*PN	**Pn**	**19 04 11.3**	**+1.4**
SMG	**Samos**	**3.95**	**220**	*e*PB	**Pb**	**19 04 23.2**	**+3.8**
ELL	**Elmali**	**4.02**	**182**	*e*PN	**Pn**	**19 04 12.8**	**+1.2**
HARR	**Harsova**	**4.21**	**339**	⇑*i*P	**Pn**	**19 04 14.3**	**+0.1**
HARR	**Harsova**	**4.21**	**339**	⇑P	**Pn**	**19 04 14.3**	**+0.1**
SEV	**Sevastopol'**	**4.61**	**34**	*e*P	**Pn**	**19 04 18.2**	**-1.5**
SEV				*e*S	**Sn**	**19 05 08.6**	**-5.2**
SEV				pmax	pmax		
	comp=Z,6.0nm,0.2s						
SEV				smax			
	comp=N,21nm,0.2s						
SEV				smax			
	comp=E,4.0nm,0.2s						
SEV	**Sevastopol'**	**4.61**	**34**	*e*P	**Pn**	**19 04 18.2**	**-1.5**
	comp=E,6.0nm,0.2s						
YAL	**Yalta**	**4.78**	**38**	*e*P	**Pn**	**19 04 22.4**	**+0.4**
YAL				*e*S	**Sn**	**19 05 13.5**	**-4.5**
YAL				pmax	pmax		
	comp=Z,39nm,0.3s						
YAL				smax			
	comp=N,97nm,0.3s						
YAL				smax			
	comp=E,86nm,0.3s						
YAL	**Yalta**	**4.78**	**38**	*e*P	**Pn**	**19 04 22.4**	**+0.4**
	comp=E,39nm,0.3s						
YAL				*e*S	**Sn**	**19 05 13.5**	**-4.5**
ALU	**Alushta**	**5.05**	**38**	*e*P	**Pn**	**19 04 25.4**	**-0.2**
ALU				*i* S	**Sn**	**19 05 19.8**	**-4.7**
ALU				pmax	pmax		
	comp=Z,40nm,0.4s						
ALU				smax			
	comp=N,70nm,0.4s						
ALU	**Alushta**	**5.05**	**38**	*e*P	**Pn**	**19 04 25.4**	**-0.2**
	comp=N,40nm,0.4s						
SIM	**Simferopol'**	**5.13**	**34**	*de*P	**Pn**	**19 04 26.9**	**+0.2**
SIM				*e*S	**Sn**	**19 05 22.3**	**-4.2**
SIM				pmax	pmax		
	comp=Z,23nm,0.1s						
SIM	**Simferopol'**	**5.13**	**34**	*e*P	**Pn**	**19 04 26.9**	**+0.2**
	comp=Z,23nm,0.1s						
SIM				*e*S	**Sn**	**19 05 22.3**	**-4.2**
VTS	**Vitosha**	**5.44**	**292**	⇑*i*P	**Pn**	**19 04 31.4**	**+0.3**
VTS	**Vitosha**	**5.44**	**292**	⇑P	**Pn**	**19 04 31.4**	**+0.3**
VTS				S	**Sn**	**19 05 33.6**	**-0.6**
VTS	**Vitosha**	**5.44**	**292**	⇑P	**Pn**	**19 04 31.4**	**+0.3**
VTS				S	**Sn**	**19 05 33.5**	**-0.7**
MLR	**Muntele Rosu**	**5.59**	**329**	⇑*i*P	**Pn**	**19 04 34.0**	**+0.9**
MLR	**Muntele Rosu**	**5.59**	**329**	⇑P	**Pn**	**19 04 34.0**	**+0.9**
MLR				S	**Sn**	**19 05 40.8**	**+2.9**
MLR	**Muntele Rosu**	**5.59**	**329**	⇑P	**Pn**	**19 04 34.0**	**+0.9**
MLR				S	**Sn**	**19 05 40.8**	**+2.9**
VRI	**Vrincioaia**	**5.64**	**336**	⇑*i*P	**Pn**	**19 04 34.2**	**+0.4**
VRI	**Vrincioaia**	**5.64**	**336**	⇑P	**Pn**	**19 04 34.2**	**+0.4**
PLOR	**Plostina**	**5.65**	**335**	⇓*i*P	**Pn**	**19 04 34.5**	**+0.6**
KIS	**Kishinev**	**6.29**	**352**	*e*	**Sn**	**19 05 50.0**	**-5.0**
IDI	**Anoyia**	**6.83**	**218**	Pn	**Pn**	**19 04 50.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=330,slow=6.0,SNR=2.6						
GZR	**Gura Zlata**	**7.05**	**313**	⇓*i*P	**Pn**	**19 04 54.7**	**+1.6**
GZR	**Gura Zlata**	**7.05**	**313**	⇓P	**Pn**	**19 04 54.7**	**+1.5**
BURAR	**Bucovina Array**	**7.67**	**335**	⇓*i*P	**Pn**	**19 05 02.8**	**+1.2**
AKASG	**Malin Array Be**	**9.94**	**357**	Pn	**Pn**	**19 05 30.7**	**-2.1**
	comp=Z,2.6nm,0.3s,baz=176,slow=12,SNR=7.5						
AKASG				Sn	**Sn**	**19 07 17.2**	**-7.7**
	comp=Z,3.7nm,0.3s,baz=179,slow=23,SNR=5.8						
AKASG				LR	LR	19 09 15.5	
	comp=Z,2μm,21.7s,baz=320,slow=37						
AKASG	**Malin Array Be**	**9.94**	**357**	P	**Pn**	**19 05 30.7**	**-2.1**
AKASG						19 07 17.2	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG				smax			
	comp=N,4.0nm,0.3s						
AKASG				MLR	MLR		
	comp=Z,2μm,21.7s						
AKASG	**Malin Array Be**	**9.94**	**357**	Pn	**Pn**	**19 05 30.7**	**-2.1**
AKASG				Sn	**Sn**	**19 07 17.2**	**-7.7**
AKASG				LR	LR	19 09 15.5	
AKTK	**Aktyubinsk**	**21.70**	**54**	P	**P**	**19 08 02.0**	**+1.0**
AKTK	**Aktyubinsk**	**21.70**	**54**	P	**P**	**19 08 02.0**	**+1.0**
AKTO	**Aktyubinsk**	**21.70**	**54**	P	**P**	**19 08 02.0**	**+1.0**
	comp=Z,1.6nm,0.7s,mb3.6,baz=259,slow=9.2,SNR=9.6						
AKTO	**Aktyubinsk**	**21.70**	**54**	P	**P**	**19 08 02.0**	**+1.0**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
NOA	**NORSAR Array B**	**23.35**	**337**	P	**P**	**19 08 18.4**	**0.0**
	comp=Z,1.0nm,0.8s,mb3.3,baz=139,slow=9.8,SNR=3.4						
NOA	**NORSAR Array B**	**23.35**	**337**	P	**P**	**19 08 18.5**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**37.06**	**230**	P	**P**	**19 10 18.8**	**-1.7**
	comp=Z,0.7nm,0.5s,mb3.7,baz=39,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**37.60**	**63**	P	**P**	**19 10 24.1**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.6,baz=274,slow=7.7,SNR=4.3						
MKAR	**Makanchi Array**	**37.60**	**63**	P	**P**	**19 10 24.1**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**62.33**	**89**	P	**P**	**19 13 31.1**	**-2.0**
	comp=Z,0.4nm,0.4s,mb4.0,baz=297,slow=8.6,SNR=4.2						

DDA ***01*** *19:08:18.4, 3791N×2605E, h7km±2km, Md3.4*
NEIC ***01*** *19:08:19.4, 3792N×2610E, h35km, MD3.3(ATH), After ATH.*
THE ***01*** *19:08:19.5, 3791N×2608E, h9km, ML3.6*
ISCJB ***01*** *19:08:19.3±0.4, 3790N±002×2604E±004, h10km, Error ellipse: s-maj=4.5km s-min=3.0km az=32.1*
ATH ***01*** *19:08:19.3, 3792N×2609E, h35km±5km, MD3.3/7*
CSEM ***01*** *19:08:19.3±0.1, 3791N×2607E, h5km, ML3.6, Error ellipse: s-maj=2.0km s-min=1.5km az=124.0*
ISK ***01*** *19:08:19.0, 3792N×2612E, h5km, MD3.4*
ISC 01 19:08:18.9±0.7, 3790N±003×2602E±004, h2km±5km, n32, σ1§03/48, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.49**	**3**	*e*Pg	**Pg**	**19 08 28.5**	**+0.2**
CHOS				*e*Sg	**Sg**	**19 08 36.5**	**+1.9**
URLA	**Izmir**	**0.65**	**44**	*i* P	**Pg**	**19 08 30.7**	**-0.5**
URLA				*i* S	**Sg**	**19 08 40.1**	**+0.4**
SMG	**Samos**	**0.68**	**106**	*e*PN	**Pg**	**19 08 32.0**	**+0.2**
SMG				SN	**Sg**	**19 08 42.1**	**+1.5**
APE	**Apeiranthos**	**0.92**	**205**	*e*Pg	**Pg**	**19 08 37.0**	**+0.6**
APE				*e*Sg	**Sg**	**19 08 51.0**	**+2.8**
APE	**Apeiranthos**	**0.92**	**205**	*e*Pn	**Pn**	**19 08 37.5**	**-1.3**
APE				*e*Sg	**Sg**	**19 08 51.0**	**+2.7**
APE				Sn	**Sn**	**19 08 51.4**	**-1.1**
BLCB	**Balcova**	**0.94**	**59**	*e*PG	**Pg**	**19 08 36.5**	**-0.4**
BLCB				*e*SG	**Sg**	**19 08 49.6**	**+0.5**
BLCB	**Balcova**	**0.94**	**59**	*e*Pg	**Pg**	**19 08 36.2**	**-0.7**
BLCB				*e*Sg	**Sg**	**19 08 49.6**	**+0.5**
IZM	**Izmir**	**1.10**	**63**	*e*PG	**Pg**	**19 08 40.0**	**0.0**
KDAG	**Bornova**	**1.10**	**63**	*i* P	**Pg**	**19 08 39.2**	**-0.8**
KDAG				*i* S	**Sg**	**19 08 54.2**	**-0.2**
BODT	**Bodrum**	**1.32**	**129**	*e*PN	**Pn**	**19 08 44.5**	**+0.1**
PRK	**Paraskevi**	**1.36**	**8**	*e*Pg	**Pn**	**19 08 43.0**	**-1.9**
PRK				*e*Sg	**Sn**	**19 09 01.7**	**-1.8**
PRK	**Paraskevi**	**1.36**	**8**	*e*PN	**Pn**	**19 08 43.1**	**-1.8**
AYDN	**Tasoluk**	**1.49**	**99**	*i* P	**Pn**	**19 08 46.2**	**-0.6**
AYDN				*i* S	**Sb**	**19 09 06.6**	**-0.2**
AYVA	**Ayvalik**	**1.50**	**20**	*i* P	**Pn**	**19 08 46.1**	**-0.7**
AYVA				*i* S	**Sb**	**19 09 07.4**	**+0.4**
MLSB	**Milas**	**1.52**	**113**	*e*PN	**Pn**	**19 08 47.4**	**+0.3**
PTL	**Penteli**	**1.71**	**276**	*e*PN	**Pn**	**19 08 49.0**	**-0.7**
AKHS	**Akhisar**	**1.72**	**55**	*i* P	**Pn**	**19 08 50.0**	**+0.2**
AKHS				*i* S	**Sn**	**19 09 14.2**	**+1.9**
AKS	**Akhisar**	**1.72**	**55**	*e*PN	**Pn**	**19 08 50.4**	**+0.6**
EZN	**Ezine**	**1.94**	**7**	*e*PN	**Pn**	**19 08 53.6**	**+0.8**
YER	**Yerkesik**	**1.96**	**112**	*e*PN	**Pn**	**19 08 54.0**	**+0.9**
NAIG	**Nisos Aigina**	**2.01**	**267**	*e*PN	**Pn**	**19 08 54.0**	**+0.2**
NAIG	**Nisos Aigina**	**2.01**	**267**	*e*Pb	**Pn**	**19 08 55.0**	**+1.2**
MANT	**Manisa**	**2.08**	**73**	*i* P	**Pg**	**19 08 57.3**	**-1.5**
MANT				*i* S	**Sg**	**19 09 24.9**	**-0.9**
LIA	**Limnos Island**	**2.10**	**342**	*e*PN	**Pn**	**19 08 54.2**	**-0.9**
KULA	**Kula-Manisa**	**2.17**	**73**	*e*PN	**Pn**	**19 08 56.8**	**+0.8**
BALY	**Balya**	**2.22**	**34**	*i* P	**Pn**	**19 08 57.7**	**+0.9**
BALY				*i* S	**Sn**	**19 09 29.2**	**+4.4**
BALB	**Balikesir**	**2.27**	**39**	*e*PN	**Pn**	**19 08 58.2**	**+0.9**
DALT	**Dalyan (Mudla)**	**2.37**	**118**	*e*PN	**Pn**	**19 08 59.4**	**+0.6**
DEMI	**Demirci**	**2.41**	**61**	*i* P	**Pn**	**19 09 00.2**	**+1.0**
NPS	**Neapolis**	**2.65**	**187**	*e*PN	**Pn**	**19 09 01.6**	**-1.1**
KHAL	**Karahalli**	**2.78**	**79**	*i* P	**Pg**	**19 09 10.8**	**-1.3**
KHAL				*i* S	**Sg**	**19 09 45.9**	**-2.2**
KHL	**Karahalli**	**2.80**	**80**	*e*PN	**Pn**	**19 09 05.7**	**+1.0**

NSSP ***01*** *20:20:34.8, 4168N×4632E, h10km, ML3.1*
ISCJB ***01*** *20:20:56.7±0.3, 4189N±002×4653E±003, h10km, Error ellipse: s-maj=3.4km s-min=2.4km az=32.2*
MOS ***01*** *20:20:57.8±2.0, 4195N×4665E, h10km, mb4.0/1, Error ellipse: s-maj=12.2km s-min=8.7km az=125.9*
TIF ***01*** *20:20:57.2, 4177N×4644E, h10km±2km*
CSEM ***01*** *20:20:59.6±0.2, 4166N×4669E, h6km±3km, mb4.0, Error ellipse: s-maj=5.6km s-min=2.6km az=78.0*
ISC 01 20:20:56.8±0.4, 4186N±002×4656E±003, h8km±4km, n28, σ1§47/55, 2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMKR	**Kumukh**	**0.48**	**56**	*i* PG	**Pg**	**20 21 05.5**	**-0.7**
KMKR				*e*S	**Sg**	**20 21 16.5**	**+3.9**
SEKA	**Sheki**	**0.81**	**143**	P	**Pg**	**20 21 12.3**	**0.0**
	SNR=110						
SEKA				S	**Sg**	**20 21 24.8**	**+2.0**
BTLR	**Botlikh**	**0.84**	**343**	*e*PG	**Pg**	**20 21 12.2**	**-0.8**
BTLR				*i* S	**Sg**	**20 21 24.3**	**+0.3**
URKR	**Urkarakh**	**0.86**	**69**	*i* Pg	**Pn**	**20 21 12.4**	**-2.8**
URKR				*e*Sg	**Sn**	**20 21 26.0**	**-1.9**
DGRG	**David-gareji**	**0.98**	**246**	P	**Pg**	**20 21 15.8**	**+0.2**
DGRG				S	**Sg**	**20 21 30.6**	**+2.3**
DBC	**Dubki**	**1.18**	**10**	*e*PG	**Pg**	**20 21 18.3**	**-1.1**
DBC				*i* S	**Sg**	**20 21 36.5**	**+1.8**
GANJ	**Ganja**	**1.23**	**189**	P	**Pg**	**20 21 17.8**	**-2.5**
	SNR=9.4						
GANJ				S	**Sg**	**20 21 33.7**	**-2.5**
MAK	**Makhachkala**	**1.30**	**32**	*e*PG	**Pg**	**20 21 29.4**	**+7.5**
MAK				*e*		20 21 44.7	
MAK				smax			
	comp=N,399nm,0.6s						
MAK				smax			
	comp=E,354nm,0.6s						
MAK	**Makhachkala**	**1.30**	**32**	*e*Pg	**Pg**	**20 21 29.4**	**+7.5**
MAK				*e*Sg	**Sg**	**20 21 44.7**	**+5.9**
MTA	**Mtatsminda**	**1.33**	**263**	P	**Pn**	**20 21 20.8**	**-1.0**
MTA				S	**Sb**	**20 21 38.2**	**-1.1**
TBLG	**Delisi**	**1.37**	**265**	P	**Pn**	**20 21 21.4**	**-0.9**
TBLG				S	**Sb**	**20 21 39.8**	**-0.5**
BRDA	**Brd**	**1.66**	**163**	P	**Pn**	**20 21 27.2**	**+0.9**
	SNR=4.0						
BRDA				S	**Sn**	**20 21 51.3**	**+3.5**
SNJR	**Sundja**	**1.77**	**314**	*e*Pn	**Pg**	**20 21 32.0**	**+1.2**
SNJR				*e*Sg	**Sg**	**20 21 56.4**	**+2.7**
VADZ	**Vardenis**	**1.79**	**200**	P	**Pn**	**20 21 26.0**	**-2.1**
VADZ				S	**Sn**	**20 21 49.0**	**-2.1**
VLKR	**Vladikavkaz**	**1.83**	**311**	*e*Pn	**Pg**	**20 21 32.8**	**+0.9**
VLKR				*e*Sg	**Sg**	**20 21 58.3**	**+2.6**
GOR	**Gori**	**1.83**	**275**	P	**Pn**	**20 21 29.2**	**+0.6**
GOR				S	**Sn**	**20 21 53.8**	**+1.7**
STE	**Stepanavan**	**1.86**	**243**	⇓P	**Pn**	**20 21 27.5**	**-1.5**
STE				S	**Sn**	**20 21 51.0**	**-1.6**
PQL	**Pirkuli**	**1.87**	**124**	P	**Pg**	**20 21 33.4**	**+0.8**
	SNR=6.5						
PQL				S	**Sg**	**20 22 02.0**	**+5.2**
SIZA	**Siyzn**	**1.92**	**113**	P	**Pg**	**20 21 34.4**	**+0.7**
	SNR=12						
SIZA				S	**Sg**	**20 22 04.7**	**+6.1**
LACR	**Lac**	**1.94**	**301**	*i* Pn	**Pg**	**20 21 34.0**	**0.0**
LACR				*i* Sg	**Sg**	**20 21 59.5**	**+0.4**
BTKR	**Batakoyurt**	**2.12**	**316**	*e*PN	**Pg**	**20 21 36.6**	**-0.9**
BTKR				*e*S	**Sg**	**20 22 05.0**	**0.0**
ARNR	**Ardon**	**2.15**	**309**	*e*PN	**Pg**	**20 21 37.3**	**-0.7**
ARNR				*e*S	**Sg**	**20 22 06.0**	**+0.2**
ZEI	**Tsey**	**2.17**	**296**	*e*PN	**Pg**	**20 21 38.1**	**-0.4**
ZEI				*e*S	**Sg**	**20 22 07.6**	**+0.9**
GNI	**Garni**	**2.19**	**219**	⇓P	**Pn**	**20 21 34.4**	**+0.8**
GNI				S	**Sn**	**20 22 02.9**	**+2.0**
TRKR	**Terskaya**	**2.30**	**325**	*e*Pn	**Pg**	**20 21 38.7**	**-2.2**
TRKR				*e*Sn	**Sg**	**20 22 08.8**	**-1.9**
AKH	**Akhalkalaki**	**2.34**	**260**	P	**Pn**	**20 21 35.9**	**+0.3**
AKH				S	**Sn**	**20 22 06.7**	**+2.1**
ONI	**Oni**	**2.42**	**288**	P	**Pn**	**20 21 39.2**	**+2.5**
ONI				S	**Sn**	**20 22 12.0**	**+5.5**
DIGR	**Digorskoe uzhe**	**2.44**	**296**	*e*Pn	**Pg**	**20 21 40.7**	**-2.9**
DIGR				*e*Sn	**Sg**	**20 22 13.2**	**-2.0**

CSEM ***01*** *20:31:55.2, 4932N×004E, h5km, ML3.5, After NEIC*
**NEIC 01 20:31:55.

AKTO Aktyubinsk 18.24 333 ⇓P Pn 20 53 58.5 +1.6
comp=N,0.5nm,0.9s

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*CASC **01** 20:51:46.0, 1306N×8941W, h15km, MD4.2, ML4.4, mb4.0(NEIC)*
*ISCJB **01** 20:51:47.2±0.5, 135N±0.1×8920W±008, h82km±9km, mb3.9/5, Error ellipse: s-maj=21.2km s-min=5.2km az=35.3*
*IDC **01** 20:51:47.2±3.4, 1355N×8905W, h64km±32km, mb3.5/5, mb1 3.9/7, mb1mx3.6/21, mbtmp3.7/7, ML4.1/2, Error ellipse: s-maj=37.5km s-min=17.4km az=46.0*
*NEIC **01** 20:51:49.1±1.1, 1343N×8921W, h87km±10km, mb4.0/2, MD4.6(SNET), Error ellipse: s-maj=23.2km s-min=9.2km az=204.0*
NEIC Felt [IV] at San Salvador. Felt at Antiguo Cuscatlan.
ISC 01 20:51:48.9±0.5, 135N±01×8913W±008, h79km±9km, n62, σ1§01/49, mb3.9/5, 12D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES		**0.10**	**129**	⇓*e*P	x	20 51 57.6	
AIES				*e*S	x	20 52 06.0	
AIES				*i*		20 52 08.9	
	comp=Z,17μm,0.3s						
LFRS	**El Faro**	**0.12**	**34**	⇓*i*P	x	20 51 59.0	
SNET	**Serv Nac Est T**	**0.19**	**330**	⇓*e*P	x	20 51 58.7	
SNET				*e*S	x	20 52 08.1	
SNET				*i*		20 52 12.1	
	comp=Z,77μm,0.3s						
LCBS	**La Ceiba**	**0.20**	**48**	⇓*i*P	x	20 51 59.7	
LBRS	**Las Brisas**	**0.23**	**22**	⇓*i*P	x	20 52 00.5	
BOQS	**Boqueron**	**0.26**	**326**	*i* P	x	20 51 59.4	
SNVI	**San Vicente**	**0.30**	**72**	*e*P	x	20 52 00.3	
SNVI				*e*S	x	20 52 11.5	
SBLS	**San Blas**	**0.57**	**304**	*e*P	x	20 52 01.1	
SNJE	**San Jose**	**0.57**	**307**	⇓*i*P	x	20 52 01.1	
SONS		**0.61**	**291**	*e*P	x	20 51 59.6	
SONS				*e*S	x	20 52 09.2	
RTR	**El Retiro**	**0.62**	**307**	⇓*i*P	x	20 52 01.8	
RBDL	**Robledal**	**0.80**	**318**	⇓*i*P	x	20 52 04.3	
VSM	**San Miguel**	**0.84**	**96**	*e*P	x	20 52 06.7	
	comp=Z,31nm,0.8s						
VSM				⇓*e*P	x	20 52 06.8	
MTO2	**Montecristo 2**	**0.90**	**346**	⇓*e*P	x	20 52 07.5	
CAHU	**Cacacuatique**	**0.93**	**74**	*e*P	x	20 52 08.8	
CAHU				*e*S	x	20 52 26.4	
CNCH	**Conchagua**	**1.29**	**101**	*e*P	x	20 52 12.1	
TGUH	**Tegucigalpa,Un**	**1.88**	**73**	*e*P	**Pn**	**20 52 21.5**	**+2.2**
TGUH	**Tegucigalpa,Un**	**1.88**	**73**	*e*P	**Pn**	**20 52 21.4**	**+2.1**
CRIN	**San Cristobal**	**2.19**	**112**	*e*P	**Pn**	**20 52 23.5**	**+0.2**
TEL3	**Telica 3**	**2.42**	**113**	*e*P	**Pn**	**20 52 26.2**	**-0.3**
	comp=Z,3μm,0.6s						
TELN	**Telica**	**2.42**	**112**	*e*P	**Pn**	**20 52 26.6**	**+0.2**
	comp=Z,316nm,0.5s						
CNGN	**Cerro Negro**	**2.58**	**113**	*e*P	**Pn**	**20 52 27.7**	**-0.9**
MOMN	**Momotombo**	**2.76**	**113**	*e*P	**Pn**	**20 52 30.6**	**-0.4**
COPN	**Copaltepe**	**2.81**	**118**	*e*P	**Pn**	**20 52 30.2**	**-1.6**
CSAN		**2.96**	**116**	*e*P	**Pn**	**20 52 32.6**	**-1.1**
APYN	**Apoyeque**	**3.00**	**115**	*e*P	**Pn**	**20 52 33.6**	**-0.7**
	comp=Z,1μm,0.6s						
TISN	**Laguna Tiscapa**	**3.11**	**116**	*e*P	**Pn**	**20 52 35.2**	**-0.5**
HUEN		**3.12**	**112**	*e*P	**Pn**	**20 52 35.2**	**-0.6**
MGAN	**Managua**	**3.13**	**116**	*e*P	**Pn**	**20 52 36.4**	**+0.4**
CRUN	**El Crucero**	**3.16**	**119**	*e*P	**Pn**	**20 52 37.2**	**+0.8**
MASN	**Masaya**	**3.28**	**117**	*e*P	**Pn**	**20 52 38.4**	**+0.2**
SSN	**San Juan del S**	**3.89**	**124**	*e*P	**Pn**	**20 52 44.9**	**-1.4**
CONN	**Concepcion**	**3.94**	**119**	*e*P	**Pn**	**20 52 47.2**	**+0.1**
CCIG	**Comitan**	**4.00**	**314**	*i* P	**Pn**	**20 52 48.9**	**+1.0**
CCIG				*i* S	**Sn**	**20 53 29.3**	**-4.2**
MADN	**Villa Maderas**	**4.09**	**120**	*e*P	**Pn**	**20 52 48.3**	**-0.8**
SCX	**San Cristobal**	**4.65**	**314**	*i* P	**Pn**	**20 52 55.5**	**-1.3**
SCX				*i* S	**Sn**	**20 53 55.6**	**+6.0**
VCR	**Vista de Mar**	**4.81**	**134**	*e*P	**Pn**	**20 52 58.3**	**-0.6**
JCR	**Jicaral**	**5.37**	**132**	*e*P	**Pn**	**20 53 05.8**	**-0.7**
CGA2	**Cerro Gallo 2**	**5.75**	**127**	*e*P	**Pn**	**20 53 13.0**	**+1.3**
PRS1	**Puriscal**	**5.88**	**126**	⇓*e*P	**Pn**	**20 53 15.7**	**+2.1**
LCR2	**La Lucha 2**	**6.27**	**126**	*e*P	**Pn**	**20 53 20.1**	**+1.2**
QCR	**Quepos**	**6.35**	**129**	*e*P	**Pn**	**20 53 20.2**	**+0.3**
BUS	**Buena Vista**	**6.58**	**126**	⇓*e*P	**Pn**	**20 53 24.9**	**+1.8**
CMIG	**Matias Romero**	**6.59**	**303**	P	**Pn**	**20 53 22.0**	**-1.2**
	comp=Z,4.1nm,0.3s,baz=91,slow=10,SNR=23						
CMIG				S	**Sn**	**20 54 36.2**	**-0.7**
	comp=Z,16nm,0.3s,baz=48,slow=9.9,SNR=8.2						
CMIG	**Matias Romero**	**6.59**	**303**	*e*P	**Pn**	**20 53 19.4**	**-3.8**
CMIG				P		20 53 22.0	
CMIG				S	**Sn**	**20 54 36.2**	**-0.7**
CMIG				*i* S	**Sn**	**20 54 36.5**	**-0.3**
BRU2	**Volcan**	**7.87**	**126**	*e*P	**Pn**	**20 53 41.6**	**+0.8**
PNIG	**Pinotepa**	**9.15**	**289**	*i* P	**Pn**	**20 53 51.6**	**-6.6**
PNIG				*i* S	**Sn**	**20 55 30.9**	**-8.6**
PPM	**Popocatepetl**	**10.65**	**302**	*i* P	**Pn**	**20 54 19.4**	**+0.7**
PPM				*i* S	**Sn**	**20 56 02.3**	**-14**
IIO	**Organos**	**11.00**	**305**	*i* S	**Pn**	**20 54 24.2**	**+0.8**
CHI2		**17.56**	**119**	*e*P	Px	20 52 23.0	
SDV	**Santo Domingo**	**18.72**	**102**	P	**Pn**	**20 56 01.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=302,slow=9.5,SNR=5.0						
PDAR	**Pinedale Array**	**34.07**	**333**	P	**P**	**20 58 26.0**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.5,baz=120,slow=13,SNR=3.6						
NVAR	**Mina Array Bea**	**35.82**	**319**	P	**P**	**20 58 42.8**	**+2.0**
	comp=Z,0.7nm,0.5s,mb3.8,baz=141,slow=8.9,SNR=5.2						
NVAR				PcP	PcP	21 01 07.8	+0.9
	comp=Z,0.5nm,0.6s,baz=145,slow=5.4,SNR=3.9						
LPAZ	**La Paz**	**36.17**	**144**	P	**P**	**20 58 43.7**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=306,slow=8.7,SNR=3.1						
LPAZ	**La Paz**	**36.17**	**144**	*e*P	**P**	**20 58 43.4**	**-0.6**
	comp=Z,1.1nm,0.9s,mb3.8						
SCHQ	**Schefferville**	**44.75**	**18**	P	**P**	**20 59 53.2**	**-1.1**
	comp=Z,2.3nm,0.8s,mb4.0,baz=228,slow=14,SNR=2.8						
SCHQ	**Schefferville**	**44.75**	**18**	*e*P	**P**	**20 59 54.5**	**+0.2**
	comp=Z,4.1nm,1.0s,mb4.1						
YKA	**Yellowknife Ar**	**52.16**	**345**	P	**P**	**21 00 50.0**	**-1.1**
	comp=Z,0.7nm,0.3s,mb4.1,baz=147,slow=7.2,SNR=8.0						
YKA	**Yellowknife Ar**	**52.16**	**345**	P	**P**	**21 00 50.0**	**-1.1**
WRA	**Warramunga Arr**	**137.97**	**255**	PKP	PKPdf	21 11 04.7	-0.7
	comp=Z,0.8nm,0.6s,baz=90,slow=2.2,SNR=14						
ASAR	**Alice Springs**	**138.12**	**250**	PKhKP		21 11 00.8	
	comp=Z,0.3nm,0.6s,baz=76,slow=3.9,SNR=3.3						
ASAR				PKP	PKPdf	21 11 05.5	-0.1
	comp=Z,0.4nm,0.7s,baz=92,slow=3.3,SNR=5.2						
CMAR	**Chiang Mai Arr**	**147.24**	**346**	PKPbc	PKPbc	21 11 22.6	-1.6
	comp=Z,0.7nm,0.4s,baz=334,slow=2.9,SNR=5.4						

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*ISCJB **01** 21:09:29.7±1.1, 4132N±006×2056E±006, h40km±17km, Error ellipse: s-maj=11.0km s-min=6.8km az=9.6*
*CSEM **01** 21:09:29.1±0.1, 4136N×2055E, h31km, ML1.8, Error ellipse: s-maj=4.1km s-min=2.5km az=9.0*
*SKO **01** 21:09:29.2, 4137N×2056E, h31km, M1.5, ML1.8*
*THE **01** 21:09:29.1, 4090N×2036E, h17km, ML3.0*
ISC 01 21:09:29.8±1.0, 4131N±007×2056E±006, h40km±15km, n12, σ0§87/24, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.27**	**138**	*i* Pg	**Pn**	**21 09 37.4**	**-0.3**
OHR				*e*Sg	**Sn**	**21 09 42.7**	**-0.4**
OHR				*e*Lg		21 09 43.0	
	comp=N,72nm,0.4s						
OHR				*e*Lg		21 09 43.1	
	comp=E,93nm,0.5s						
OHR	**Ohrid**	**0.27**	**138**	*e*Pg	**Pn**	**21 09 37.2**	**-0.5**
OHR				*e*Sg	**Sn**	**21 09 43.1**	**-0.1**
TIR	**Tirane**	**0.52**	**274**	*e*Pg	**Pn**	**21 09 40.2**	**-0.6**
TIR				*e*Sg	**Sn**	**21 09 49.4**	**+0.8**
TIR	**Tirane**	**0.52**	**274**	*e*Pg	**Pn**	**21 09 40.2**	**-0.6**
TIR				*e*Sg	**Sn**	**21 09 49.3**	**+0.8**
KRUS	**Krusevo**	**0.52**	**84**	*i* Pg	**Pn**	**21 09 40.5**	**-0.3**
KRUS				*i* Sg	**Sn**	**21 09 48.4**	**-0.1**
KRUS				*e*Lg		21 09 49.0	
	comp=N,28nm,0.3s						
KRUS				*e*Lg		21 09 49.0	
	comp=E,22nm,0.3s						
KRUS	**Krusevo**	**0.52**	**84**	*i* Pg	**Pn**	**21 09 40.5**	**-0.3**
KRUS				*i* Sg	**Sn**	**21 09 48.4**	**-0.2**
BIA	**Bitola**	**0.65**	**117**	*e*Pg	**Pn**	**21 09 43.9**	**+1.4**
BIA				*e*Sg	**Sn**	**21 09 53.6**	**+2.1**
BIA	**Bitola**	**0.65**	**117**	*e*Pg	**Pn**	**21 09 43.2**	**+0.7**
BIA				*i* Sg	**Sn**	**21 09 54.0**	**+2.4**
BIA				*e*Lg		21 09 55.1	
	comp=N,19nm,0.2s						
BIA				*e*Lg		21 09 55.1	
	comp=E,29nm,0.6s						
BIA	**Bitola**	**0.65**	**117**	*e*Pg	**Pn**	**21 09 43.2**	**+0.7**
BIA				*i* Sg	**Sn**	**21 09 53.9**	**+2.3**
FNA	**Florina**	**0.81**	**130**	*e*Pg	**Pn**	**21 09 43.2**	**-1.5**
FNA				*e*Sg	**Sn**	**21 09 55.2**	**-0.5**
FNA	**Florina**	**0.81**	**130**	*e*Pg	**Pn**	**21 09 43.2**	**-1.6**
FNA				*e*Sg	**Sn**	**21 09 55.2**	**-0.4**
SKO	**Skopje**	**0.93**	**45**	*e*Pg	**Pn**	**21 09 46.8**	**+0.4**
SKO				*e*Sg	**Sn**	**21 09 58.2**	**-0.3**
SKO				*e*Lg		21 09 58.3	
	comp=N,47nm,0.4s						
SKO				*e*Lg		21 09 58.6	
	comp=E,22nm,0.3s						

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*ISCJB **01** 21:15:14.9±1.7, 36N±01×956E±02, h10km, mb3.5/4, Error ellipse: s-maj=36.3km s-min=10.6km az=151.3*
*IDC **01** 21:15:16.3±3.0, 376N×95.70E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.4/22, mbtmp3.5/6, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx3.0/30, Error ellipse: s-maj=87.9km s-min=25.3km az=53.0*
ISC 01 21:15:17.7±1.8, 37N±02×957E±02, h10km, n7, σ0§69/8, mb3.5/4, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.81**	**347**	⇓*e*P	**Pn**	**21 15 45.1**	**-3.9**
BSI				*e*S	**Sn**	**21 16 12.5**	**+0.5**
PSI	**Prapat**	**3.34**	**106**	Pn	**Pn**	**21 16 09.8**	**-0.3**
	1.6nm,0.3s,baz=270,slow=13,SNR=5.5						
PSI				LR	LR	21 17 07.0	
	comp=Z,430nm,20.5s,baz=167,slow=33						
CMAR	**Chiang Mai Arr**	**14.98**	**12**	Pn	**Pn**	**21 18 49.2**	**-0.5**
	baz=180,slow=20,SNR=2.8						
MKAR	**Makanchi Array**	**44.45**	**347**	P	**P**	**21 23 28.2**	**-0.7**
	0.3nm,0.4s,mb3.3,baz=151,slow=9.9,SNR=7.1						
WRA	**Warramunga Arr**	**44.64**	**123**	P	**P**	**21 23 31.5**	**+0.6**
	0.4nm,0.9s,mb3.2,baz=302,slow=9.2,SNR=3.1						
SONM	**Songino Array**	**44.90**	**10**	P	**P**	**21 23 33.3**	**+0.9**
	0.3nm,0.4s,mb3.5,baz=190,slow=8.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**50.85**	**352**	P	**P**	**21 24 18.2**	**-0.3**
	0.9nm,0.5s,mb3.9,baz=160,slow=4.7,SNR=3.8						

NNC 01 21:49:22.8±3.6, 5008N×8793E, h0km, mb3.9, mpv3.5, 5C-3D, Error ellipse: s-maj=27.4km s-min=17.1km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.99**	**231**	Pn	Pn	21 50 39.1	+0.2
	4.5nm,0.4s,baz=56,slow=13,SNR=180						
MK31				Pg	Pg	21 50 54.9	-3.5
	5.6nm,0.6s,baz=64,slow=15,SNR=5.8						
MK31				⇑Sn	Sn	21 51 38.7	+1.4
	3.0nm,0.5s,baz=50,slow=21,SNR=4.7						
MK31				⇑Lg		21 51 58.5	
	11nm,0.5s,baz=69,slow=31,SNR=8.0						
KURK	**Kurchatov**	**5.99**	**280**	⇑Pn	Pn	21 50 52.1	-0.4
	2.9nm,0.5s						
KURK				⇓Sn	Sn	21 52 03.7	+2.0
	6.9nm,0.6s						
KURK				⇓Lg		21 52 31.3	
	18nm,0.7s						
KURBB	**Kurchatov Arra**	**6.04**	**279**	⇑Pn	Pn	21 50 52.8	-0.5
	1.1nm,0.5s						
KURBB				⇑Sn	Sn	21 52 03.8	+0.7
	2.8nm,0.6s						
KURBB				⇓Lg		21 52 34.9	
	8.1nm,0.6s						

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*BJI **01** 21:52:53.3, 040N×12390E, h213km, mB4.7, mb4.7*
*MOS **01** 21:52:53.4±1.0, 044N×12390E, h219km, mb4.8/40, Error ellipse: s-maj=11.9km s-min=5.8km az=112.7*
*ISCJB **01** 21:52:53.0±0.4, 038N±003×12397E±004, h215km±4km, mb4.8/94, Error ellipse: s-maj=6.6km s-min=4.6km az=163.1*
*IDC **01** 21:52:53.5±1.1, 043N×12394E, h203km±10km, mb4.5/25, mb1 4.5/28, mb1mx4.5/30, mbtmp4.5/28, Error ellipse: s-maj=13.5km s-min=7.3km az=76.0*
*NEIC **01** 21:52:54.4±0.9, 040N×12391E, h214km±9km, mb4.8/31, Error ellipse: s-maj=7.8km s-min=4.0km az=67.0*
*DJA **01** 21:52:55, 030N×12405E, h200km, ML4.6/6*
ISC 01 21:52:53.9±0.4, 036N±003×12396E±004, h208km±4km, h201km±2.4km; pP-P, n228, σ1§12/229, mb4.8/94, 16C-15D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.39**	**39**	P	**Pn**	**21 53 27.1**	**-0.3**
	0.0nm,0.0s						
MNI	**Manado**	**1.39**	**39**	⇓*e*P	**Pn**	**21 53 27.0**	**-0.4**
MNI				*e*S	**Sn**	**21 53 54.0**	**+0.5**
LBMI	**Labuha**	**3.67**	**106**	P	**Pn**	**21 53 50.5**	**-1.5**
	0.0nm,0.0s						
PCI	**Palu**	**4.31**	**253**	P	**Pn**	**21 54 00.7**	**+0.8**
	0.0nm,0.0s						
PCI	**Palu**	**4.31**	**253**	⇓*e*P	**Pn**	**21 54 02.0**	**+2.1**
KDI	**Kendari**	**4.49**	**197**	P	**Pn**	**21 54 01.1**	**-1.1**
	0.0nm,0.0s						
KDI	**Kendari**	**4.49**	**197**	⇑*e*P	**Pn**	**21 54 00.0**	**-2.2**
KDI				*e*S	**Sn**	**21 54 52.1**	**-3.9**
AAI	**Ambon**	**5.83**	**134**	P	**Pn**	**21 54 19.8**	**+0.6**
	230nm,0.9s						
AAI	**Ambon**	**5.83**	**134**	P	**Pn**	**21 54 19.8**	**+0.6**
	329nm,0.9s						
KAPI	**Kappang**	**6.79**	**218**	P	**Pn**	**21 54 32.1**	**+0.5**
	3.3nm,0.3s,baz=20,slow=8.0,SNR=8.3						
KAPI	**Kappang**	**6.79**	**218**	*e*Pn	**Pn**	**21 54 32.1**	**+0.5**
KAPI				*e*Sn	**Sn**	**21 55 43.1**	**-6.1**
KKM	**Kota Kinabalu**	**9.58**	**306**	Pn	**Pn**	**21 55 06.8**	**-0.9**
BATI	**Baumata**	**10.50**	**182**	P	**Pn**	**21 55 21.9**	**+2.4**
	101nm,0.9s						
BATI	**Baumata**	**10.50**	**182**	P	**Pn**	**21 55 21.1**	**+1.5**
	8.1nm,0.3s,baz=9.0,slow=1.3,SNR=16						
BTM	**Bintulu**	**11.23**	**285**	⇑P	**Pn**	**21 55 36.8**	**+7.8**
SBUM	**Sibu**	**11.92**	**280**	⇓P	**Pn**	**21 55 45.1**	**+7.4**
IGBI	**Denpasar**	**12.66**	**224**	P	**Pn**	**21 55 53.6**	**+6.6**
	600nm,1.0s						
KSM	**Kuching**	**13.70**	**275**	⇓P	**Pn**	**21 56 04.2**	**+4.2**
KSM	**Kuching**	**13.70**	**275**	*e*Pn	**Pn**	**21 56 01.0**	**+1.0**
KAKA	**Kakadu**	**15.47**	**147**	*e*P	**Pn**	**21 56 18.6**	**-3.0**
	216nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.42**	**175**	⇓*i*P	**P**	**21 56 53.8**	**0.0**
	120nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.42**	**175**	P	**P**	**21 56 53.9**	**0.0**
	6.1nm,0.3s,baz=9.0,slow=10,SNR=157						
FITZ				ScP	ScP	22 04 32.5	+1.3
	0.3nm,0.3s,baz=336,slow=5.6,SNR=6.2						
KGM	**Kluang**	**20.70**	**275**	⇓P	**P**	**21 57 19.1**	**+0.6**
KTGM	**Kuala Trenggan**	**21.38**	**284**	⇑P	**P**	**21 57 23.6**	**-2.0**
MBWA	**Marble Bar**	**21.78**	**191**	*e*P	**P**	**21 57 28.5**	**-1.0**
	38nm,0.6s,mb5.1						
FRIM	**Kepong**	**22.51**	**278**	⇑P	**P**	**21 57 37.0**	**+0.7**
WRAB	**Tennant Creek**	**22.59**	**154**	P	**P**	**21 57 36.6**	**-0.3**
	1μm,0.4s						
WRAB	**Tennant Creek**	**22.59**	**154**	*e*P	**P**	**21 57 36.7**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,120nm,0.5s,mb5.7						
WRAB	**Tennant Creek**	**22.59**	**154**	*e*P	**P**	**21 57 36.7**	**-0.2**
	comp=Z,120nm,0.5s,mb5.7						
WRA	**Warramunga Arr**	**22.59**	**154**	P	**P**	**21 57 36.6**	**-0.4**
	comp=Z,136nm,0.5s,mb5.7,baz=337,slow=10,SNR=833						
WRA				ScP	ScP	22 04 42.2	+1.1
	comp=Z,1.1nm,0.5s,baz=323,slow=2.7,SNR=7.4						
WRA	**Warramunga Arr**	**22.59**	**154**	P	**P**	**21 57 36.6**	**-0.4**
WRA				pmax	pmax		
	comp=Z,137nm,0.5s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.5s						
WB2	**Warramunga Arr**	**22.60**	**154**	⇓*i*P	**P**	**21 57 36.6**	**-0.4**
WB2	**Warramunga Arr**	**22.60**	**154**	*e*P	**P**	**21 57 36.8**	**-0.2**
QIZ	**Qiongzhong**	**23.16**	**324**	P	**P**	**21 57 43.4**	**+1.3**
IPM	**Ipoh**	**23.27**	**280**	⇓P	**P**	**21 57 43.4**	**+0.1**
COEN	**Coen**	**23.75**	**128**	*e*P	**P**	**21 57 47.3**	**-0.3**
	comp=N,9.9nm,0.7s,mb4.5						
NACB	**Ninganchiao**	**23.79**	**355**	*e*P	**P**	**21 57 47.5**	**-0.2**
KULM	**Kulim**	**23.79**	**282**	⇑P	**P**	**21 57 47.4**	**-0.6**
YHNB	**Yeheng**	**24.30**	**354**	*e*P	**P**	**21 57 51.2**	**-1.2**
	comp=N,40nm,0.6s,mb5.2						
TATO	**Taipei**	**24.59**	**355**	*e*P	**P**	**21 57 52.7**	**-2.4**
	comp=N,48nm,0.8s,mb5.2						
QZH	**Quanzhou**	**24.99**	**348**	⇑*i*P	**P**	**21 58 00.5**	**+1.8**
QZH				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.3						
PSI	**Prapat**	**25.14**	**276**	P	**P**	**21 58 01.2**	**+0.9**
	comp=Z,6.2nm,0.6s,mb4.4,baz=46,slow=9.9,SNR=3.7						
PSI	**Prapat**	**25.14**	**276**	P	**P**	**21 58 01.2**	**+0.9**
PSI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**25.76**	**159**	P	**P**	**21 58 06.2**	**+0.6**
	comp=Z,16nm,0.7s,mb4.8,baz=343,slow=7.8,SNR=205						
ASAR				ScP	ScP	22 04 50.5	+0.7
	comp=Z,2.8nm,0.5s,baz=354,slow=2.4,SNR=15						
ASAR	**Alice Springs**	**25.76**	**159**	P	**P**	**21 58 06.3**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,16nm,0.7s						
ASAR				pmax	pmax		
	comp=N,3.0nm,0.5s						
JOW	**Kunigami**	**26.65**	**9**	P	**P**	**21 58 14.2**	**+0.7**
	comp=N,25nm,0.6s,mb5.0,baz=198,slow=11,SNR=5.3						
CTA	**Charters Tower**	**29.83**	**134**	*e*P	**P**	**21 58 43.1**	**+1.3**
	comp=N,6.4nm,1.0s,mb4.2						
CTA	**Charters Tower**	**29.83**	**134**	P	**P**	**21 58 43.4**	**+1.5**
	comp=N,8.4nm,0.9s,mb4.4,baz=300,slow=10,SNR=5.1						
CTA	**Charters Tower**	**29.83**	**134**	P	**P**	**21 58 43.4**	**+1.6**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CTAO	**Charters Tower**	**29.83**	**134**	*e*P	**P**	**21 58 43.1**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
CTAO	**Charters Tower**	**29.83**	**134**	*e*P	**P**	**21 58 43.1**	**+1.3**
	comp=Z,7.5nm,0.8s,mb4.4						
CM31	**Chiang Mai Arr**	**30.45**	**308**	*e*P	**P**	**21 58 54.8**	**+7.4**
CMAR	**Chiang Mai Arr**	**30.45**	**308**	P	**P**	**21 58 48.0**	**+0.7**
	comp=Z,6.1nm,0.8s,mb4.3,baz=136,slow=7.3,SNR=26						
CMAR				PcP	PcP	22 01 43.0	+1.3
	comp=Z,3.1nm,0.6s,baz=163,slow=1.8,SNR=16						
CMAR				ScP	ScP	22 05 05.8	+1.3
	comp=Z,1.7nm,0.8s,baz=170,slow=2.7,SNR=9.1						
CMAR	**Chiang Mai Arr**	**30.45**	**308**	P	**P**	**21 58 48.1**	**+0.7**
CMAR						22 01 43.0	
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR				pmax	pmax		
	comp=N,2.0nm,0.8s						
CHTO	**Chiang Mai**	**30.65**	**308**	*e*P	**P**	**21 58 48.1**	**-1.0**
GYA	**Guiyang**	**30.84**	**329**	⇑*i*P	**P**	**21 58 52.9**	**+2.2**
GYA				AP	pP	21 59 34.6	+1.6
GYA				XP	sP	21 59 57.4	+0.4
GYA				PP	PP	22 00 03.2	-1.6
GYA				S	**S**	**22 03 41.7**	**+2.8**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=N,490nm,16.0s						
GYA				LR	LR		
	comp=E,460nm,17.4s						
GYA				LR	LR		
	comp=Z,480nm,16.6s						
FORT	**Forrest**	**31.21**	**173**	*e*P	**P**	**21 58 53.2**	**-0.6**
	comp=Z,115nm,0.5s,mb5.8						
NJ2	**Nanjing**	**31.89**	**352**	*e*P	**P**	**21 59 04.6**	**+4.8**
NJ2				AP	pP	21 59 44.1	+1.9
NJ2				XP	sP	22 00 06.1	-0.1
NJ2				PP	PP	22 00 16.5	+0.1
NJ2				S	**S**	**22 03 59.5**	**+4.4**
NJ2				AMB	AMB		
	comp=Z,130nm,0.7s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,420nm,5.5s						
NJ2				LR	LR		
	comp=N,1μm,21.0s						
NJ2				LR	LR		
	comp=E,230nm,20.3s						
NJ2				LR	LR		
	comp=Z,1μm,17.5s						
KMI	**Kunming**	**32.05**	**322**	P	**P**	**21 59 03.0**	**+1.7**
KMI				AP	pP	21 59 45.3	+1.6
KMI				XP	sP	22 00 08.1	+0.4
KMI				PP	PP	22 00 18.7	+0.5
KMI				S	**S**	**22 04 02.2**	**+4.4**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.2						
KMI				AMB	AMB		
	comp=Z,119nm,8.2s						
KMI				LR	LR		
	comp=N,155nm,17.9s						
KMI				LR	LR		
	comp=E,187nm,15.7s						
KMI				LR	LR		
	comp=Z,362nm,38.1s						
KLBR	**Kellerberrin**	**32.32**	**190**	⇓*i*P	**P**	**21 59 03.2**	**-0.3**
	comp=Z,20nm,0.4s,mb5.0						
MUN	**Mundaring**	**32.99**	**192**	*e*P	**P**	**21 59 08.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**33.71**	**190**	*e*P	**P**	**21 59 15.2**	**-0.4**
NWAO				pmax

HHC AP pP 22 01 06.6 -1.1
HHC PP PP 22 02 09.6 +4.7
HHC S **S** **22 06 30.1 +4.7**
HHC SCS ScS 22 10 04.2 +0.6
HHC AMB AMB
comp=Z,11nm,0.8s,mb4.3
HHC AMB AMB
comp=Z,170nm,9.2s
CAN Canberra 42.49 149 *e*P **P** **22 00 30.7 +1.9**
TOO Toolangi 42.66 155 ⇓ *i*P **P** **22 00 32.1 +2.0**
LSA Lhasa 42.75 316 P **P** **22 00 32.3 +1.3**
LSA Lhasa 42.75 316 *e*P **P** **22 00 32.5 +1.5**
LSA *e* 22 02 19.5
LSA pmax pmax
comp=Z,17nm,0.6s,mb4.7
LSA Lhasa 42.75 316 *e*P **P** **22 00 32.5 +1.4**
comp=Z,17nm,0.6s,mb4.7
LSA *e*PcP PcP 22 02 19.5 +0.8
CN2 Changchun 43.27 2 *e*P **P** **22 00 35.9 +1.0**
CN2 *e*AP pP 22 01 17.8 -1.6
CN2 *e*S **S** **22 06 49.1 +2.9**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
CN2 AMB AMB
comp=Z,200nm,3.0s
PALK Pallekele 43.68 280 *e*P **P** **22 00 39.1 +0.4**
PALK pmax pmax
comp=Z,12nm,0.8s,mb4.3
PALK Pallekele 43.68 280 *e*P **P** **22 00 39.1 +0.4**
comp=Z,12nm,0.8s,mb4.3
ODAN Odare 43.93 310 *e*P **P** **22 00 40.7 +0.2**
comp=Z,38nm,0.7s,mb4.9
TAPN Taplejung 43.94 311 *e*P **P** **22 00 40.8 +0.3**
comp=Z,36nm,0.4s,mb5.1
MDJ Mudanjiang 44.35 6 P **P** **22 00 44.1 +0.6**
MDJ AMB AMB
comp=Z,44nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,199nm,11.3s
RAMN Ramite 44.58 309 *e*P **P** **22 00 46.1 +0.5**
comp=Z,81nm,0.5s,mb5.3
GTA Gaotai 44.70 333 P **P** **22 00 46.9 +0.6**
GTA PP PP 22 02 35.9 +0.7
GTA S **S** **22 07 09.9 +2.9**
GTA AMB AMB
comp=Z,14nm,1.1s,mb4.2
GTA AMB AMB
comp=Z,45nm,5.0s
GTA LR LR
comp=N,143nm,9.9s
GTA LR LR
comp=E,156nm,10.3s
GTA LR LR
comp=Z,172nm,9.9s
JIRN Jiri 45.25 310 *e*P **P** **22 00 51.2 +0.3**
comp=Z,47nm,0.4s,mb5.2
GUN Gumba 45.62 310 *e*P **P** **22 00 54.1 +0.3**
comp=Z,83nm,0.4s,mb5.4
PKI Pulchoki 45.81 310 *e*P **P** **22 00 56.0 +0.7**
comp=Z,25nm,0.4s,mb4.9
KKN Kakani 46.02 310 *e*P **P** **22 00 56.7 -0.2**
comp=Z,34nm,0.5s,mb4.9
GKN Gorkha 46.62 310 *e*P **P** **22 01 01.8 +0.2**
comp=Z,6.0nm,0.5s,mb4.2
ASAJ Asahikawa 46.62 18 P **P** **22 01 00.8 -0.5**
comp=Z,26nm,0.8s,mb4.7,baz=226,slow=9.0,SNR=12
ASAJ Asahikawa 46.62 18 P **P** **22 01 00.8 -0.5**
ASAJ pmax pmax
comp=Z,27nm,0.8s
KOLN Koldanda 47.31 309 *e*P **P** **22 01 07.0 +0.1**
comp=Z,106nm,0.7s,mb5.3
DANN Dangsing 47.46 309 *e*P **P** **22 01 07.9 -0.2**
comp=Z,98nm,0.5s,mb5.4
HYB Hyderabad 47.77 293 *i*P **P** **22 01 10.0 -0.6**
HYB Hyderabad 47.77 293 *e*P **P** **22 01 10.0 -0.6**
TAU Tasmania Unive 47.91 157 *e*P **P** **22 01 11.7 +0.4**
HIA Hailar 48.85 356 *e*P **P** **22 01 18.3 0.0**
HIA pmax pmax
comp=Z,44nm,1.1s
HIA Hailar 48.85 356 *e*P **P** **22 01 18.3 0.0**
comp=Z,44nm,1.1s,mb4.7
HABR Khabarovsk 48.88 10 *e*P **P** **22 01 16.6 -1.9**
HABR *e* 22 03 12.1
HABR *e*S **S** **22 08 05.1 -0.8**
HABR *e*SS SS 22 11 36.3 -3.3
KLR Kul'dur 49.14 7 *e*P **P** **22 01 15.8 -4.7**
YSS Yuzh-Sakhalins 49.23 17⇑ *e*P **P** **22 01 21.6 +0.4**
YSS pmax pmax
comp=Z,31nm,1.6s,mb4.4
YSS Yuzh-Sakhalins 49.23 17 P **P** **22 01 20.9 -0.3**
SONM Songino Array 49.69 345 P **P** **22 01 24.4 -0.3**
comp=Z,29nm,0.8s,mb4.7,baz=158,slow=8.8,SNR=106
SONM PcP PcP 22 02 41.2 -1.4
comp=Z,1.6nm,0.6s,baz=162,slow=5.2,SNR=2.1
SONM Songino Array 49.69 345 P **P** **22 01 24.4 -0.3**
SONM 22 02 41.2
SONM pmax pmax
comp=Z,29nm,0.8s
SONM pmax pmax
comp=Z,2.0nm,0.6s
ZAK Zakamensk 52.86 344 *e*P **P** **22 01 47.6 -0.6**
ZAK *e* pP 22 02 32.2 -2.2
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,0.9s
SMLA Simla 53.83 309 *i* x **P** **22 01 55.2 -0.4**
SMLA *e*x x 22 01 57.4
comp=Z,532nm,0.4s
SMLA *i* x **S** **22 09 10.3 -3.9**
TLY Talaya 53.93 344 P **P** **22 01 58.6 +2.7**
comp=Z,169nm,0.8s,mb5.6,SNR=5.0
TLY Talaya 53.93 344⇓ *e*P **P** **22 01 58.0 +2.1**
TLY pmax pmax
comp=Z,26nm,1.0s,mb4.7
TLY Talaya 53.93 344 *e*P **P** **22 01 55.7 -0.2**
comp=Z,17nm,0.6s,mb4.7
WMQ Urumqi 53.99 328 P **P** **22 01 57.8 +1.3**
WMQ AP pP 22 02 40.8 -2.2
WMQ AMB AMB
comp=Z,17nm,1.2s,mb4.5
THN Thein Dam 55.50 310 *e*x x 22 02 05.0
HVS Khovu-Aksy 56.70 338 *c* *i*P **P** **22 02 15.6 -0.1**
HVS pmax pmax
comp=Z,168nm,1.1s,mb5.6
BOD Bodaibo 57.84 354⇑ *i*P **P** **22 02 23.4 -0.1**
BOD pmax pmax
comp=Z,26nm,0.9s,mb4.9
MK31 Makanchi Array 58.82 328 *e*P **P** **22 02 30.1 -0.4**
MK31 *e* pP 22 03 17.6 -0.2
MKAR Makanchi Array 58.82 328 P **P** **22 02 30.1 -0.5**
comp=Z,24nm,0.6s,mb5.0,baz=121,slow=8.8,SNR=119
MKAR PcP PcP 22 03 17.6 -0.1
comp=Z,4.8nm,0.6s,baz=140,slow=3.5,SNR=5.9
MKAR Makanchi Array 58.82 328 P **P** **22 02 30.1 -0.4**
MKAR pP 22 03 17.6 -0.2
MKAR pmax pmax
comp=Z,24nm,0.6s
MKAR pmax pmax
comp=Z,5.0nm,0.6s
PETK Petropavlovsk- 59.58 23 P **P** **22 02 36.9 +1.3**
comp=Z,12nm,0.8s,mb4.6,baz=191,slow=5.5,SNR=16
PETK Petropavlovsk- 59.58 23 P **P** **22 02 36.9 +1.3**
PETK pmax pmax
comp=Z,12nm,0.8s,mb4.6
PET Petropavlovsk 59.89 23 *e*P **P** **22 02 39.2 +1.5**
PET pmax pmax
comp=Z,18nm,0.6s,mb4.9
KZA Kyzart 60.31 320 P **P** **22 02 43.3 +2.6**
SNR=8.6
TKM2 Tokmak 2 60.51 321 P **P** **22 02 42.2 +0.1**
SNR=23
KBK Karagaybulak 60.79 320 P **P** **22 02 46.7 +2.6**
SNR=15
UCH Uchtor 60.86 320 *e*P **P** **22 02 44.6 +0.1**
comp=Z,6.2nm,0.9s,mb4.2
AAK Ala-Archa 61.07 320 P **P** **22 02 48.5 +2.5**
SNR=10
CHMS Chumysh 61.09 321 P **P** **22 02 45.4 -0.6**
SNR=8.1
AML Almayashu 61.34 319 P **P** **22 02 48.0 +0.2**
SNR=23
AML Almayashu 61.34 319 *e*P **P** **22 02 48.3 +0.6**
AML *e*PcP PcP 22 03 28.9 +1.0
USP Ospenovka 61.38 321 P **P** **22 02 47.8 -0.2**
SNR=35

KBL Kabul 61.45 310 *e*P **P** **22 02 48.0 -0.6**
KBL pmax pmax
comp=Z,23nm,0.7s,mb4.9
KBL Kabul 61.45 310 *e*P **P** **22 02 48.0 -0.6**
comp=Z,23nm,0.7s,mb4.9
EKS2 Erkin-Say 61.54 320 P **P** **22 02 49.1 0.0**
SNR=26
EKS2 Erkin-Say 61.54 320 *e*P **P** **22 02 48.9 -0.2**
comp=Z,27nm,1.0s,mb4.8
EKS2 PcP PcP 22 03 29.4 +0.6
YAK Yakutsk 61.67 3⇑ *e*P **P** **22 02 49.7 +0.2**
YAK pmax pmax
comp=Z,133nm,0.9s,mb5.6
YAK Yakutsk 61.67 3 *e*P **P** **22 02 49.8 +0.3**
ZAA0 Zalesovo Array 62.39 335 *e*P **P** **22 02 52.9 -1.6**
ZAL Zalesovo 62.39 335 P **P** **22 02 52.8 -1.7**
ZAL pmax pmax
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 62.39 335 P **P** **22 02 52.8 -1.7**
comp=Z,11nm,0.7s,mb4.6,baz=124,slow=6.1,SNR=28
MA2 Magadan 62.64 15 *e*P **P** **22 02 57.6 +1.6**
MA2 pmax pmax
comp=N,20nm,0.7s
MA2 pmax pmax
comp=Z,70nm,0.7s,mb5.4
MA2 Magadan 62.64 15 *e*P **P** **22 02 57.2 +1.2**
KURK Kurchatov 63.15 330 P **P** **22 02 58.8 -0.8**
comp=Z,494nm,0.5s,SNR=61
KURK Kurchatov 63.15 330 *e*P **P** **22 02 58.6 -1.0**
NVS Novosibirsk 63.68 335 *i*P **P** **22 03 00.8 -2.1**
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS pmax pmax
comp=Z,22nm,0.8s,mb4.8
NVS pmax pmax
comp=E,20nm,0.7s
KK31 Karatay Array 63.87 319 P **P** **22 03 03.2 -1.3**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
SEY Seymchan 65.93 14⇑ *e*P **P** **22 03 18.4 +1.1**
CASY Casey 67.18 186 *e*P **P** **22 03 25.7 +0.6**
comp=Z,7.9nm,0.9s,mb4.3
BVA0 Borovoye Array 68.68 329 *i*P **P** **22 03 33.6 -1.2**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
BVAR Borovoye Array 68.68 329 P **P** **22 03 33.7 -1.0**
comp=Z,13nm,0.7s,mb4.7,baz=139,slow=7.9,SNR=52
BVAR Borovoye Array 68.68 329 P **P** **22 03 33.7 -1.1**
BVAR pmax pmax
comp=Z,13nm,0.7s
BRVK Borovoye 68.75 329 P **P** **22 03 34.5 -0.7**
comp=Z,164nm,1.0s,mb5.6,SNR=12
BRVK Borovoye 68.75 329 *e*P **P** **22 03 34.0 -1.2**
TIXI Tiksi 71.25 2 *c* *i*P **P** **22 03 49.6 -0.4**
TIXI pmax pmax
comp=Z,18nm,0.7s,mb4.8
TIXI Tiksi 71.25 2 *e*P **P** **22 03 49.3 -0.7**
comp=Z,27nm,1.0s,mb4.8
AB31 Akbulak array 73.04 322 P **P** **22 03 59.9 -1.2**
AB31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
BILL Bilibino 73.50 15 *e*P **P** **22 04 03.2 -0.2**
BILL pmax pmax
comp=Z,13nm,1.1s,mb4.5
BILL Bilibino 73.50 15 *e*P **P** **22 04 03.2 -0.2**
comp=Z,13nm,1.1s,mb4.5
AKTK Aktyubinsk 74.61 323 P **P** **22 04 09.3 -0.9**
AKTO Aktyubinsk 74.61 323 P **P** **22 04 09.3 -0.8**
comp=Z,27nm,0.6s,mb5.0,baz=112,slow=7.8,SNR=54
AKTO Aktyubinsk 74.61 323 P **P** **22 04 09.3 -0.9**
AKTO pmax pmax
comp=Z,27nm,0.6s,mb5.0
SVE Sverdlovsk 75.41 329⇑ *e*P **P** **22 04 13.9 -0.7**
SVE *e*S S 22 13 59.1 +22
SVE pmax pmax
comp=Z,43nm,0.7s,mb5.2
ARU Arti 76.33 329 *c* *i*P **P** **22 04 18.2 -1.6**
ARU *e* 22 04 27.3
ARU *e* 22 07 08.5
ARU *e*S S 22 13 47.8 +0.7
ARU *e*SS SS 22 18 47.1 +1.1
ARU pmax pmax
comp=Z,38nm,1.0s,mb5.0
ARU Arti 76.33 329 *e*P **P** **22 04 18.4 -1.4**
comp=Z,32nm,0.9s,mb5.0
MAW Mawson 79.66 200 P **P** **22 04 38.3 +0.4**
comp=Z,2.0nm,0.6s,mb3.9,baz=80,slow=5.4,SNR=6.2
MAW pP pP 22 05 28.6 +0.6
comp=Z,2.2nm,0.8s,baz=38,slow=6.1,SNR=3.2
MAW Mawson 79.66 200 P **P** **22 04 38.3 +0.4**
MAW *PP pP 22 05 28.6 +0.6
MAW pmax pmax
comp=Z,2.0nm,0.6s
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 79.66 200 *e*P **P** **22 04 38.0 +0.1**
comp=Z,2.8nm,0.5s,mb4.2
VNDA Vanda 80.47 172 P **P** **22 04 42.9 +0.8**
comp=Z,2.4nm,0.4s,mb4.2,baz=315,slow=6.2,SNR=29
VNDA Vanda 80.47 172 P **P** **22 04 42.9 +0.8**
VNDA pmax pmax
comp=Z,2.0nm,0.4s
SBA Scott Base 81.41 172 *e*P **P** **22 04 47.7 +0.6**
SBA pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
SBA Scott Base 81.41 172 *e*P **P** **22 04 47.7 +0.7**
comp=Z,2.2nm,0.8s,mb3.8
GNI Garni 81.53 310 *e*P **P** **22 04 48.2 -0.2**
GNI pmax pmax
comp=Z,6.0nm,0.6s
GNI Garni 81.53 310 *e*P **P** **22 04 48.2 -0.2**
comp=Z,5.6nm,0.6s,mb4.4
KIV Kislovodsk 83.46 314 *e*P **P** **22 04 57.7 -0.7**
KIV pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
KIV Kislovodsk 83.46 314 *e*P **P** **22 04 57.4 -1.0**
VRHR Novokhopersk 84.90 321 *e*P **P** **22 05 03.6 -1.8**
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,30nm,1.2s
VRHR pmax pmax
comp=E,20nm,0.5s
KDAK Kodiak Island 86.20 32 P **P** **22 05 11.0 -0.7**
comp=E,5.2nm,0.6s,mb4.4,baz=299,slow=5.0,SNR=4.0
KDAK Kodiak Island 86.20 32 P **P** **22 05 11.0 -0.7**
KDAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
MALT Malatya 86.27 308 *e*P **P** **22 05 13.0 +0.5**
VRSR Storozhevoye 86.44 321 *e*P **P** **22 05 11.4 -1.6**
VRSR pmax pmax
comp=Z,9.0nm,0.5s,mb4.8
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=E,3.0nm,0.5s
IMA2 Indian Mountai 86.56 24 *e*P **P** **22 05 13.8 +0.5**
KMBO Kilima Mbogo 86.72 269 P **P** **22 05 14.8 -0.4**
comp=E,8.7nm,0.3s,mb5.0,baz=52,slow=23,SNR=3.0
KMBO Kilima Mbogo 86.72 269 P **P** **22 05 14.8 -0.4**
KMBO pmax pmax
comp=Z,9.0nm,0.3s
KLMR Klimovskoe 86.97 331 *e*P **P** **22 05 13.9 -1.4**
KLMR pmax pmax
comp=Z,60nm,1.2s,mb5.2
ANN Anapa 87.28 315 *e*P **P** **22 05 15.4 -1.8**
ANN pmax pmax
comp=Z,20nm,0.7s,mb5.0
ASF Jabal al Asfar 87.32 302 P **P** **22 05 18.0 +0.3**
comp=Z,6.8nm,0.8s,mb4.4,baz=3.8,slow=5.2,SNR=12
ASF Jabal al Asfar 87.32 302 P **P** **22 05 18.0 +0.3**
ASF pmax pmax
comp=Z,7.0nm,0.8s
MOS Moscow 87.64 326 *e*P **P** **22 05 18.7 +0.1**
MOS pmax pmax
comp=Z,43nm,1.0s,mb5.2
OBN Obninsk 88.21 325 *i*P **P** **22 05 20.2 -1.1**
OBN pmax pmax
comp=Z,17nm,1.3s,mb4.7
OBN Obninsk 88.21 325 *e*P **P** **22 05 19.7 -1.7**
comp=Z,39nm,1.6s,mb5.0
MMAI Mount Meron Ar 88.60 303 P **P** **22 05 24.2 +0.5**
comp=Z,3.8nm,0.6s,mb4.4,baz=84,slow=7.6,SNR=5.4
COLA College 88.90 25 P **P** **22 05 24.5 +0.1**
JOF Joensuu 90.90 333 *e*p **P** **22 05 31.5 -2.2**
comp=Z,3.8nm,0.3s,mb4.8

DAWY Dawson 92.60 26 *e*P **P** **22 05 42.6 +1.1**
ARCES ARCESS Array B 92.63 340 P **P** **22 05 39.9 -1.7**
comp=Z,4.9nm,0.8s,mb4.6,baz=84,slow=6.2,SNR=15
ARCES ARCESS Array B 92.63 340 P **P** **22 05 39.9 -1.7**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 92.63 340 P **P** **22 05 39.9 -1.7**
AKASG Malin Array Be 92.74 321 P **P** **22 05 40.7 -1.8**
comp=Z,4.1nm,0.7s,mb4.6,baz=75,slow=4.3,SNR=8.7
AKASG Malin Array Be 92.74 321 P **P** **22 05 40.7 -1.8**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 93.28 332 *e*p **P** **22 05 42.6 -2.1**
comp=Z,1.0nm,0.4s,mb4.2
KAF Kangasniemi 93.28 332 *e*P **P** **22 05 42.6 -2.1**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
HYT Haines Junctio 93.86 29 *e*P **P** **22 05 48.6 +1.2**
INK Inuvik 94.29 21 P **P** **22 05 48.5 -0.7**
comp=Z,2.2nm,0.5s,mb4.5,baz=323,slow=4.5,SNR=8.9
INK Inuvik 94.29 21 P **P** **22 05 48.6 -0.6**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 94.29 21 *e*P **P** **22 05 49.0 -0.3**
MLR Muntele Rosu 95.38 316 ⇓ *i*P **P** **22 05 53.8 -0.9**
BURAR Bucovina Array 95.64 318⇑ *i*P **P** **22 05 55.8 -0.1**
SUW Suwalki 96.05 324 *e*P **P** **22 06 00.3 +2.7**
SUW pmax pmax
comp=Z,15nm,0.8s,mb5.3
SUW Suwalki 96.05 324 *e*P **P** **22 06 00.3 +2.7**
comp=Z,15nm,0.8s,mb5.3
UZH Uzhgorod 97.44 319 *e*P **P** **22 06 03.3 -0.7**
NOA NORSAR Array B 100.53 333 P Pdif 22 06 15.2 -2.4
comp=Z,0.9nm,0.9s,baz=72,slow=4.7,SNR=3.4
NOA NORSAR Array B 100.53 333 P Pdif 22 06 15.3 -2.3
NOA pmax pmax
comp=Z,1.0nm,0.9s
BRG Berggiesshubel 102.25 322 P Pdif 22 06 27.7 +2.4
BRG pmax pmax
comp=Z,2.0nm,1.0s
BRG Berggiesshubel 102.25 322 *e*(P) Pdif 22 06 27.7 +2.4
comp=Z,3.8nm,1.0s
GERES GERESS Array B 102.95 321 P Pdif 22 06 28.8 +0.4
comp=Z,0.2nm,0.4s,baz=64,slow=6.1,SNR=3.9
AQU L'Aquila 104.84 314 *e*P Pdif 22 06 43.3 +6.5
TORD Torodi Ar. Bea 121.24 286 PKP PKPdf 22 11 22.9 -0.2
comp=Z,2.5nm,0.4s,baz=74,slow=1.6,SNR=92
TORD Torodi Ar. Bea 121.24 286 PKP PKPdf 22 11 22.9 -0.2
SCHQ Schefferville 124.28 8 PKP PKPdf 22 11 28.5 +0.6
comp=Z,2.2nm,0.4s,baz=45,slow=6.5,SNR=8.1
DBIC Dimbokro 128.46 279 PKP PKPdf 22 11 37.2 +0.1
comp=Z,1.3nm,0.5s,baz=342,slow=19,SNR=5.1
DBIC Dimbokro 128.46 279 PKIKP PKPdf 22 11 37.2 +0.1
DBIC pmax pmax
comp=Z,1.0nm,0.5s

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*ISCJB **01** 22:07:17.3±0.7, 4194N±004×1564E±003, h10km, Error ellipse: s-maj=6.5km s-min=2.3km az=24.2*
*CSEM **01** 22:07:18.2±0.1, 4191N×1559E, h12km, ML3.7/4, Error ellipse: s-maj=3.1km s-min=1.3km az=20.0*
*ROM **01** 22:07:18.7±0.2, 4186N×1560E, h1km, Md2.7/36, Ml2.6/25, Error ellipse: s-maj=3.2km s-min=1.3km az=24.0*
ISC 01 22:07:18.2±0.8, 4192N±005×1564E±003, h18km±6km, n39, σ1§04/53, 1C-1D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**0.18**	**155**	⇓ *i*Pg	**Pg**	**22 07 22.2**	**-0.6**
SGRT				Sg	**Sg**	**22 07 24.9**	**-1.1**
	1μm,0.1s						
RGNG	**Rignano Grg**	**0.25**	**189**	⇑ *i*Pg	**Pg**	**22 07 22.8**	**-1.0**
RGNG				Sg	**Sg**	**22 07 25.6**	**-2.1**
MSAG	**Monte S. Angel**	**0.29**	**136**	Pg	**Pg**	**22 07 24.6**	**+0.1**
MSAG				Sg	**Sg**	**22 07 29.5**	**+0.7**
	942nm,0.5s						
MS1	**Monte Sant'Ang**	**0.31**	**133**	*e*Pg	**Pg**	**22 07 25.2**	**+0.3**
MS1				*e*Sg	**Sg**	**22 07 30.2**	**+0.8**
FGMS	**Monte Sant'Ang**	**0.32**	**132**	Pg	**Pg**	**22 07 25.3**	**+0.3**
FGMS				Sg	**Sg**	**22 07 31.4**	**+1.9**
	172nm,0.2s						
FG2	**Serracapriola**	**0.38**	**252**	Pg	**Pg**	**22 07 25.6**	**-0.4**
FG2				Sg	**Sg**	**22 07 30.5**	**-0.8**
	881nm,0.2s						
FG5	**Orsara di Pugl**	**0.69**	**204**	Pg	**Pg**	**22 07 31.8**	**0.0**
	98nm,0.3s						
FG4	**Candela**	**0.79**	**187**	Pg	**Pg**	**22 07 34.2**	**+0.5**
	200nm,0.2s						
SGTA	**Sant Agata di**	**0.81**	**195**	Pg	**Pg**	**22 07 34.6**	**+0.6**
	168nm,0.4s						
TRIV	**Trivento**	**0.83**	**260**	Pg	**Pg**	**22 07 35.7**	**+1.4**
TRIV				Sg	**Sg**	**22 07 47.6**	**+2.3**
BSSO	**Busso**	**0.87**	**245**	Pg	**Pg**	**22 07 34.2**	**-0.9**
	132nm,0.5s						
SACR	**S. Croce Del S**	**0.87**	**234**	Pg	**Pg**	**22 07 35.1**	**-0.1**
	93nm,0.3s						
CAFE	**Carife**	**0.94**	**199**	Pg	**Pg**	**22 07 36.4**	**-0.1**
	159nm,0.3s						
MRVN	**Minervino Murg**	**0.95**	**154**	Pg	**Pg**	**22 07 36.9**	**+0.2**
	305nm,0.6s						
VULT	**Monte Vulture**	**0.96**	**181**	Pg	**Pg**	**22 07 37.8**	**+0.9**
	442nm,0.2s						
PALZ	**Palazzo San Ge**	**1.00**	**166**	Pg	**Pg**	**22 07 38.1**	**+0.5**
PALZ				Sg	**Sg**	**22 07 51.8**	**+1.0**
	248nm,0.6s						
SNAL	**S. Angelo Dei**	**1.04**	**198**	Pg	**Pg**	**22 07 38.3**	**-0.1**
SNAL				Sg	**Sg**	**22 07 53.9**	**+1.8**
	237nm,0.7s						
MIDA	**Miranda**	**1.07**	**255**	Pg	**Pg**	**22 07 38.1**	**-0.9**
	114nm,0.5s						
SGG	**Gregorio Mates**	**1.08**	**241**	Pg	**Pg**	**22 07 39.1**	**-0.1**
	118nm,0.4s						
RNI2	**Rionero Sannit**	**1.13**	**259**	Pg	**Pg**	**22 07 40.5**	**+0.4**
	119nm,0.3s						
ACER	**Acerenza**	**1.16**	**169**	Pg	**Pg**	**22 07 40.6**	**+0.1**
CSSN	**Cassano Irpino**	**1.16**	**204**	Pg	**Pg**	**22 07 40.1**	**-0.4**
	30nm,0.3s						
MRLC	**Muro Lucano**	**1.17**	**186**	Pg	**Pg**	**22 07 40.4**	**-0.3**
VAGA	**Valle Agricola**	**1.17**	**245**	Pg	**Pg**	**22 07 41.1**	**+0.4**
	135nm,0.3s						
MCRV	**Calabrutti - M**	**1.19**	**198**	Pg	**Pg**	**22 07 40.1**	**-1.1**
	370nm,0.9s						
BAI	**Bari**	**1.23**	**131**	*e*Pg	**Pg**	**22 07 41.9**	**-0.1**
BAI				*e*Sg	**Sg**	**22 08 00.0**	**+1.8**
AMUR	**Altamura**	**1.25**	**144**	Pg	**Pg**	**22 07 41.7**	**-0.5**
	67nm,0.6s						
CERA	**Filignano**	**1.25**	**256**	Pg	**Pg**	**22 07 43.7**	**+1.3**
	154nm,0.5s						
INTR	**Introdacqua**	**1.30**	**275**	Pg	**Pg**	**22 07 42.5**	**-0.7**
INTR				Sg	**Sg**	**22 08 02.0**	**+1.8**
	207nm,0.7s						
SG1	**Sgolgore (BA)**	**1.33**	**144**	*e*Pg	**Pg**	**22 07 43.4**	**-0.5**
SG1				*e*Sg	**Sg**	**22 08 02.2**	**+0.9**
SGO	**Sicignano**	**1.38**	**191**	Pg	**Pg**	**22 07 43.7**	**-1.1**
	24nm,0.3s						
SDI	**San Donato**	**1.38**	**262**	Pg	**Pg**	**22 07 45.1**	**+0.3**
	30nm,0.5s						
CDRU	**Civita di Ruta**	**1.45**	**190**	Pg	**Pg**	**22 07 44.3**	**-1.8**
	53nm,0.6s						
POFI	**Posta Fibreno**	**1.46**	**263**	Pg	**Pg**	**22 07 45.6**	**-0.6**
	22nm,0.5s						
VVLD	**Villa Vallelon**	**1.51**	**269**	Pg	**Pg**	**22 07 46.1**	**-1.1**
VVLD				Sg	**Sg**	**22 08 08.2**	**+1.4**
	231nm,0.9s						
NOCI	**Noci**	**1.56**	**136**	Pg	**Pg**	**22 07 46.3**	**-1.9**
	113nm,0.2s						
FAGN	**Fagnano**	**1.57**	**283**	Pg	**Pg**	**22 07 48.2**	**-0.2**
	89nm,0.5s						
CMPR	**Campora**	**1.62**	**189**	Pg	**Pg**	**22 07 46.9**	**-2.4**
	27nm,0.4s						
PE1	**Pezze di Greco**	**1.74**	**129**	*e*Pg	**Pg**	**22 07 49.2**	**-2.5**
PE1				*e*Sg	**Sg**	**22 08 15.2**	**+0.8**

IDC 01 22:16:49.3±3.5, 5015S×11250E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.7/13, mbtmp3.6/3, Error ellipse: s-maj=136.4km s-min=31.9km az=102.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**31.27**	**40**	P	P	22 23 11.8	+1.1
	0.4nm,0.6s,baz=205,slow=8.6,SNR=7.6						
VNDA	**Vanda**	**33.02**	**162**	P	P	22 23 25.1	-0.5
	1.0nm,0.8s,baz=290,slow=9.5,SNR=3.1						

WRA	**Warramunga Arr**	**34.78**	**38**	P	P	22 23 39.9	-1.5
	0.5nm,0.7s,baz=208,slow=9.2,SNR=4.5						
YKA	**Yellowknife Ar**	**151.81**	**46**	PKPbc	PKPbc	22 36 45.0	+0.5
	1.2nm,0.9s,baz=273,slow=4.4,SNR=3.8						

IDC 01 22:36:33.8±2.8, 1526S×16774E, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.0/16, mbtmp4.3/5, Error ellipse: s-maj=95.7km s-min=33.4km az=130.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.00**	**231**	P	P	22 42 36.1	+0.7
	1.6nm,0.4s,baz=61,slow=12,SNR=6.4						
WB2	**Warramunga Arr**	**32.13**	**257**	*e*P	P	22 43 02.5	-0.7
WRA	**Warramunga Arr**	**32.14**	**257**	P	P	22 43 02.9	-0.4
	2.5nm,0.6s,baz=85,slow=8.8,SNR=25						
ASAR	**Alice Springs**	**32.91**	**250**	P	P	22 43 09.8	-0.2
	5.5nm,0.6s,baz=83,slow=9.5,SNR=79						
FITZ	**Fitzroy Crossi**	**40.37**	**260**	*e*P	P	22 44 13.8	+0.1
	11nm,0.3s						
SONM	**Songino Array**	**83.19**	**323**	P	P	22 49 03.0	+1.2
	0.6nm,0.4s,baz=155,slow=7.4,SNR=5.3						
MKAR	**Makanchi Array**	**97.90**	**316**	P	P	22 50 10.8	-0.7
	0.1nm,0.3s,baz=89,slow=6.2,SNR=3.5						
ARCES	**ARCESS Array B**	**120.88**	**345**	PKP	PKPdf	22 55 26.8	-0.7
	2.4nm,0.9s,baz=10.0,slow=2.7,SNR=5.3						

IGQ 01 22:47:22.5, 262S×7792W, h9km±4km, Mb4.0, Ms3.8, 8C-7D, Error ellipse: s-maj=6.9km s-min=1.6km az=147.8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.23**	**335**	⇓P	Pn	22 47 46.2	+0.3
PATA	**Patacocha**	**1.23**	**335**	⇓S	Sb	22 48 02.4	+0.5
ARRY	**Arrayan**	**1.23**	**334**	⇓P	Pn	22 47 46.1	+0.1
ULBA	**Ulba**	**1.26**	**337**	⇓P	Pn	22 47 47.0	+0.6
ULBA	**Ulba**	**1.26**	**337**	⇓S	Sb	22 48 05.2	+2.2
RETU	**Refugio**	**1.28**	**336**	P	Pn	22 47 47.1	+0.5
RUN5	**Runtun**	**1.30**	**337**	P	Pn	22 47 47.5	+0.5
RUN5	**Runtun**	**1.30**	**337**	S	Sb	22 48 05.2	+1.2
JUI6	**Juive**	**1.31**	**335**	⇑P	Pn	22 47 47.6	+0.5
JUI6	**Juive**	**1.31**	**335**	⇑S	Sb	22 48 05.2	+0.9
BILB	**Tungurahua vol**	**1.31**	**334**	P	Pn	22 47 47.7	+0.6
IGUA	**Igualata**	**1.33**	**328**	P	Pn	22 47 49.2	+1.8
PISA	**Pisayambo**	**1.62**	**343**	⇑P	Pn	22 47 53.2	+1.8
PISA	**Pisayambo**	**1.62**	**343**	⇑S	Sn	22 48 15.5	+3.0
TAMB	**Tambo**	**1.97**	**347**	P	Pn	22 47 58.9	+2.8
TAMB	**Tambo**	**1.97**	**347**	S	Sn	22 48 27.4	+6.4
CAMI	**Rancho Maria**	**2.02**	**343**	⇑P	Pn	22 48 00.5	+3.7
CAMI	**Rancho Maria**	**2.02**	**343**	⇑S	Sn	22 48 28.9	+6.6
VC1	**Cotopaxi 1**	**2.03**	**346**	⇑P	Pn	22 48 00.2	+3.3
VC1	**Cotopaxi 1**	**2.03**	**346**	⇑S	Sn	22 48 29.4	+7.0
ANTI	**Antisana**	**2.17**	**354**	⇓P	Pn	22 48 01.6	+2.6
ANTI	**Antisana**	**2.17**	**354**	⇓S	Sn	22 48 30.8	+4.7
JUA2	**San Juan 2**	**2.49**	**344**	P	Pn	22 48 08.8	+5.5
GGP	**Refugio Guagua**	**2.52**	**345**	P	Pn	22 48 09.1	+5.3
LAV3	**Lava3-Reventad**	**2.53**	**7**	P	Pn	22 48 07.9	+4.0
TERV	**Terraza Guagua**	**2.53**	**344**	P	Pn	22 48 09.7	+5.9
PINO	**Pino**	**2.54**	**344**	P	Pn	22 48 08.6	+4.6
CONE	**Cono NE Rev Vo**	**2.55**	**6**	P	Pn	22 48 07.7	+3.6
CONE	**Cono NE Rev Vo**	**2.55**	**6**	S	Sn	22 48 42.7	+7.3
YANA	**Yana**	**2.57**	**345**	P	Pn	22 48 09.7	+5.2
YANA	**Yana**	**2.57**	**345**	S	Sn	22 48 45.5	+10
CAYA	**Cayambe**	**2.68**	**359**	P	Pn	22 48 10.5	+4.6
CAYA	**Cayambe**	**2.68**	**359**	S	Sn	22 48 47.3	+8.8
COTA	**Cotacachi**	**2.97**	**352**	P	Pn	22 48 15.0	+5.1

*TEH **01** 23:15:00.1, 2889N×5099E, h12km, ML3.8*
*IDC **01** 23:15:17.0±1.2, 2857N×5108E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/26, mbtmp3.9/11, Error ellipse: s-maj=31.5km s-min=18.5km az=143.0*
*ISCJB **01** 23:15:20.3±1.3, 2885N±003×5094E±004, h25km±12km, mb3.8/17, Error ellipse: s-maj=6.5km s-min=5.2km az=33.6*
*MOS **01** 23:15:20.6±1.0, 2862N×51.16E, h33km, mb4.1/9, Error ellipse: s-maj=27.9km s-min=12.4km az=87.1*
*CSEM **01** 23:15:21.3±0.1, 2880N×5100E, h40km, mb4.0/6, Error ellipse: s-maj=2.3km s-min=1.6km az=163.0*
*THR **01** 23:15:21.0±0.4, 2883N×5088E, h43km±6km, ML3.7*
*NEIC **01** 23:15:22.2, 2889N×5099E, h12km, mb3.9/3, ML3.7(THR), MN3.8(TEH), After TEH.*

ISC 01 23:15:20.7±1.0, 2882N±003×5096E±004, h16km±8km, n91, σ1§06/104, mb3.8/17, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**1.58**	**58**	*e*Pg	**Pg**	**23 15 50.0**	**-1.2**
SHI				*e*		23 16 14.3	
GHIR	**Ghir-Karzin**	**1.86**	**106**	*e*Pg	**Pg**	**23 15 55.7**	**-0.7**
GHIR				*e*Sg	**Sg**	**23 16 21.2**	**+0.7**
GHIR				AML	AML	23 16 22.9	
	comp=N,560nm,0.5s						
GHIR				AML	AML	23 16 28.1	
	comp=E,678nm,0.5s						
GHIR	**Ghir-Karzin**	**1.86**	**106**	*e*Pg	**Pg**	**23 15 55.0**	**-1.4**
GHIR				*e*Sg	**Sg**	**23 16 21.0**	**+0.5**
ISRV	**Sarvestan**	**1.96**	**73**	*e*Pg	**Pg**	**23 15 54.0**	**-4.4**
ISRV				*e*		23 16 31.9	
ISRV	**Sarvestan**	**1.96**	**73**	Pg	**Pg**	**23 15 53.9**	**-4.5**
IPAR	**Pars**	**2.09**	**60**	*e*Pn	**Pn**	**23 15 55.6**	**+0.5**
KFJS		**2.73**	**257**	P	**Pn**	**23 16 03.3**	**-0.7**
UMR	**Umm Al-Rimmam**	**2.93**	**285**	*e*P	**Pn**	**23 16 07.3**	**+0.6**
UMR	**Umm Al-Rimmam**	**2.93**	**285**	*e*P	**Pn**	**23 16 07.3**	**+0.6**
	baz=284						
UMR				AML	AML	23 16 42.7	
	comp=Z,96nm,0.4s,baz=284						
RDF	**Al-Radifah**	**3.00**	**273**	*e*P	**Pn**	**23 16 08.4**	**+0.9**
	baz=272						
RDF				AML	AML	23 16 45.8	
	comp=Z,89nm,0.3s,baz=272						
BOQSS		**3.26**	**206**	P	**Pn**	**23 16 12.1**	**+0.9**
NAY	**Al-Naaiem**	**3.29**	**278**	*e*P	**Pn**	**23 16 12.2**	**+0.6**
	baz=277						
NAY				AML	AML	23 16 51.2	
	comp=Z,44nm,0.6s,baz=277						
MIB	**Mutribah**	**3.31**	**288**	*e*P	**Pn**	**23 16 12.6**	**+0.6**
	baz=287						
MIB				AML	AML	23 16 51.7	
	comp=Z,54nm,0.4s,baz=287						
IGAR	**Gharneh**	**3.69**	**14**	*e*Pn	**Pn**	**23 16 18.1**	**+0.9**
IGAR				*e*		23 17 04.0	
IPIR	**Pirpir**	**3.85**	**359**	*e*Pn	**Pn**	**23 16 20.5**	**+1.1**
IPIR				*e*Sn	**Sn**	**23 17 04.2**	**-0.1**
IPIR	**Pirpir**	**3.85**	**359**	*e*Pn	**Pn**	**23 16 20.5**	**+1.1**
IPIR				*e*Sn	**Sn**	**23 17 04.2**	**-0.1**
IPIR				*e*		23 17 08.7	
IPIR	**Pirpir**	**3.85**	**359**	Pn	**Pn**	**23 16 20.5**	**+1.1**
IPIR				Sn	**Sn**	**23 17 04.1**	**-0.2**
IMEH	**Mehriz**	**4.07**	**50**	*e*Pn	**Pn**	**23 16 23.7**	**+1.3**
IMEH				*e*		23 16 25.0	
IZEF	**Zefreh**	**4.23**	**16**	*e*Pn	**Pn**	**23 16 24.9**	**+0.3**
IZEF				*e*		23 16 43.1	
IZEF	**Zefreh**	**4.23**	**16**	Pn	**Pn**	**23 16 24.8**	**+0.2**
NASN	**Na'in**	**4.27**	**21**	*e*Pn	**Pn**	**23 16 25.4**	**+0.3**
NASN	**Na'in**	**4.27**	**21**	*e*Pn	**Pn**	**23 16 25.0**	**-0.1**
IKLH	**Kolahrood**	**4.52**	**7**	Pn	**Pn**	**23 16 28.6**	**+0.1**
IKLH				*e*Sn	**Sn**	**23 17 18.8**	**-1.9**
IKLH	**Kolahrood**	**4.52**	**7**	*e*Pn	**Pn**	**23 16 28.7**	**+0.2**
IKLH				*e*		23 16 46.7	
IKLH				*e*Sn	**Sn**	**23 17 18.8**	**-1.9**
IKLH	**Kolahrood**	**4.52**	**7**	Pn	**Pn**	**23 16 28.6**	**+0.1**
IKLH				Sn	**Sn**	**23 17 18.7**	**-2.0**
ICHK	**Chekchek**	**4.53**	**40**	*e*Pn	**Pn**	**23 16 29.0**	**+0.4**
ICHK				*e*		23 16 50.2	
ICHK				*e*Sn	**Sn**	**23 17 14.9**	**-6.0**
BTHS		**4.75**	**181**	P	**Pn**	**23 16 32.0**	**+0.2**
BNDS	**Bandar-Abbas**	**4.81**	**106**	*e*Pn	**Pn**	**23 16 33.7**	**+1.1**
BNDS				AML	AML	23 17 51.7	
	comp=N,30nm,0.4s						
BNDS	**Bandar-Abbas**	**4.81**	**106**	*e*Pn	**Pn**	**23 16 33.0**	**+0.4**
IBAF	**Bafgh**	**4.85**	**54**	Pn	**Pn**	**23 16 33.5**	**+0.4**
IBAF	**Bafgh**	**4.85**	**54**	*e*Pn	**Pn**	**23 16 33.6**	**+0.5**
IBAF				*e*		23 16 56.8	
ASAO	**Ashtian**	**5.77**	**352**	*e*Pn	**Pn**	**23 16 45.9**	**+0.2**
ASAO				AML	AML	23 17 55.0	
	comp=E,28nm,0.7s						
ASAO				AML	AML	23 18 01.2	
	comp=N,39nm,0.6s						
ASAO	**Ashtian**	**5.77**	**352**	*e*Pn	**Pn**	**23 16 45.0**	**-0.7**
ASYS		**5.99**	**259**	P	**Pn**	**23 16 46.3**	**-2.4**
HRDDS		**6.02**	**193**	P	**Pn**	**23 16 49.2**	**0.0**
IKOM	**Komasi**	**6.10**	**332**	*e*Pn	**Pn**	**23 16 51.1**	**+0.9**
IKOM				*e*Sn	**Sn**	**23 17 56.5**	**-3.2**
IKOM	**Komasi**	**6.10**	**332**	Pn	**Pn**	**23 16 51.0**	**+0.8**
IKOM				Sn	**Sn**	**23 17 56.5**	**-3.2**
IRAZ	**Razeghan**	**6.62**	**353**	*e*Pn	**Pn**	**23 16 56.9**	**-0.6**
IRAZ				*e*		23 18 29.2	
IRAZ	**Razeghan**	**6.62**	**353**	Pn	**Pn**	**23 16 56.8**	**-0.7**
IVIS	**Veis**	**6.68**	**329**	*e*Pn	**Pn**	**23 16 58.7**	**+0.4**
IVIS				*e*		23 18 20.7	
ILAS	**Lasjerd**	**6.76**	**14**	*e*Pn	**Pn**	**23 16 58.8**	**-0.5**
ILAS	**Lasjerd**	**6.76**	**14**	*e*Pn	**Pn**	**23 16 58.7**	**-0.6**
IDMV	**Damavand**	**6.80**	**7**	*e*Pn	**Pn**	**23 16 59.5**	**-0.3**
IDMV				*e*		23 17 03.0	
ILIN	**Lien**	**6.97**	**332**	Pn	**Pn**	**23 17 02.2**	**0.0**
ILIN				*e*Sn	**Sn**	**23 18 17.4**	**-3.7**
ILIN	**Lien**	**6.97**	**332**	*e*Pn	**Pn**	**23 17 02.3**	**+0.1**
ILIN				*e*Sn	**Sn**	**23 18 17.4**	**-3.7**
ILIN				*e*		23 18 25.0	
ILIN	**Lien**	**6.97**	**332**	Pn	**Pn**	**23 17 02.2**	**0.0**
ILIN				Sn	**Sn**	**23 18 17.3**	**-3.8**
SNGE	**Sanandaj**	**6.97**	**335**	*e*Pn	**Pn**	**23 17 01.8**	**-0.3**
SNGE	**Sanandaj**	**6.97**	**335**	*e*Pn	**Pn**	**23 17 01.0**	**-1.2**
IFIR	**Firoozkooh**	**6.97**	**12**	*e*Pn	**Pn**	**23 17 01.7**	**-0.5**
IFIR				*e*		23 17 13.4	
IFIR	**Firoozkooh**	**6.97**	**12**	Pn	**Pn**	**23 17 01.6**	**-0.6**
IANJ	**Anjilo**	**7.08**	**20**	*e*Pn	**Pn**	**23 17 02.9**	**-0.9**
BHD	**Baghdad**	**7.18**	**310**	*ex*	x	23 17 17.0	
BHD				*ex*	x	23 18 57.4	
ISHM	**Shahmirzad**	**7.24**	**15**	*e*Pn	**Pn**	**23 17 04.5**	**-1.4**
LYLS		**7.54**	**207**	P	**Pn**	**23 17 08.8**	**-1.3**
IGLO	**Ghaloghah**	**8.03**	**17**	*e*Pn	**Pn**	**23 17 17.2**	**+0.4**
KIV	**Kislovodsk**	**16.50**	**339**	*e*P	**Pn**	**23 19 13.6**	**+2.2**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
KIV	**Kislovodsk**	**16.50**	**339**	*e*P	**Pn**	**23 19 13.6**	**+2.2**
	comp=Z,13nm,1.1s						
KIV	**Kislovodsk**	**16.50**	**339**	*e*Pn	**Pn**	**23 19 13.8**	**+2.4**
	comp=Z,8.7nm,0.9s						
AKTK	**Aktyubinsk**	**22.24**	**12**	P	**P**	**23 20 17.9**	**+1.2**
AKTK	**Aktyubinsk**	**22.24**	**12**	P	**P**	**23 20 17.9**	**+1.2**
AKTO	**Aktyubinsk**	**22.24**	**12**	P	**P**	**23 20 17.9**	**+1.2**
	comp=Z,1.2nm,0.5s,mb3.6,baz=187,slow=11,SNR=8.4						
AKTO	**Aktyubinsk**	**22.24**	**12**	P	**P**	**23 20 17.9**	**+1.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
AML	**Almayashu**	**22.70**	**48**	*e*P	**P**	**23 20 21.2**	**-0.4**
	comp=Z,9.7nm,1.0s,mb4.2						
AML	**Almayashu**	**22.70**	**48**	*e*P	**P**	**23 20 21.2**	**-0.4**
	comp=Z,9.7nm,1.0s,mb4.2						
IDI	**Anoyia**	**22.98**	**293**	P	**P**	**23 20 24.7**	**0.0**
	comp=Z,3.9nm,0.9s,mb3.9,baz=100,slow=11,SNR=3.9						
EKS2	**Erkin-Say**	**23.01**	**47**	*e*P	**P**	**23 20 25.7**	**+0.8**
	comp=Z,2.8nm,1.0s,mb3.6						
EKS2	**Erkin-Say**	**23.01**	**47**	*e*P	**P**	**23 20 25.7**	**+0.8**
	comp=Z,2.8nm,1.0s,mb3.6						
VRHR	**Novokhopersk**	**23.34**	**345**	*e*P	**P**	**23 20 27.8**	**-0.4**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
VRHR				pmax	pmax		
	comp=N,4.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VRHR	**Novokhopersk**	**23.34**	**345**	*e*P	**P**	**23 20 27.8**	**-0.4**
	comp=E,4.0nm,0.5s,mb4.1						
VRSR	**Storozhevoye**	**24.06**	**342**	*e*P	**P**	**23 20 36.4**	**+1.3**
VRSR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
VRSR				pmax	pmax		
	comp=N,2.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.7s						
VRSR	**Storozhevoye**	**24.06**	**342**	*e*P	**P**	**23 20 36.4**	**+1.3**
	comp=E,2.0nm,0.6s,mb3.7						
AKASG	**Malin Array Be**	**27.32**	**329**	P	**P**	**23 21 05.7**	**+1.1**
	comp=E,0.3nm,0.4s,mb3.2,baz=142,slow=9.3,SNR=6.0						
AKASG	**Malin Array Be**	**27.32**	**329**	P	**P**	**23 21 05.7**	**+1.1**
BVAR	**Borovoye Array**	**28.11**	**25**	P	**P**	**23 21 13.6**	**+1.9**
	comp=E,0.9nm,0.7s,mb3.5,baz=242,slow=9.4,SNR=4.5						
BVAR	**Borovoye Array**	**28.11**	**25**	P	**P**	**23 21 13.6**	**+1.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**30.29**	**45**	P	**P**	**23 21 29.4**	**-1.8**
	comp=Z,0.4nm,0.7s,mb3.2,baz=237,slow=4.2,SNR=4.2						
ZAL	**Zalesovo**	**35.14**	**35**	P	**P**	**23 22 12.5**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAL	**Zalesovo**	**35.14**	**35**	P	**P**	**23 22 12.5**	**-0.9**
	comp=Z,2.0nm,0.8s,mb4.1						
ZALV	**Zalesovo Beam**	**35.16**	**35**	P	**P**	**23 22 12.4**	**-1.1**
	comp=Z,2.2nm,0.8s,mb4.1,baz=258,slow=7.4,SNR=7.6						
ARCES	**ARCESS Array B**	**43.32**	**347**	P	**P**	**23 23 23.7**	**+2.2**
	comp=Z,1.8nm,0.8s,mb3.8,baz=131,slow=6.6,SNR=4.2						
ARCES	**ARCESS Array B**	**43.32**	**347**	P	**P**	**23 23 23.7**	**+2.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**46.38**	**50**	P	**P**	**23 23 45.6**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=276,slow=7.1,SNR=3.9						
SONM	**Songino Array**	**46.38**	**50**	P	**P**	**23 23 45.6**	**-0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**48.23**	**262**	P	**P**	**23 23 59.2**	**-1.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=57,slow=8.3,SNR=30						
TORD	**Torodi Ar. Bea**	**48.23**	**262**	P	**P**	**23 23 59.2**	**-1.9**
BOD	**Bodaibo**	**51.83**	**37**	*e*P	**P**	**23 24 26.3**	**-1.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BOD	**Bodaibo**	**51.83**	**37**	*e*P	**P**	**23 24 26.3**	**-1.5**
	comp=Z,4.0nm,1.1s,mb4.3						
BOSA	**Boshof**	**62.18**	**206**	P	**P**	**23 25 40.3**	**-1.1**
	comp=Z,1.9nm,0.8s,mb4.3,baz=342,slow=9.6,SNR=3.4						
BOSA	**Boshof**	**62.18**	**206**	P	**P**	**23 25 40.3**	**-1.1**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
YKA	**Yellowknife Ar**	**88.27**	**353**	P	**P**	**23 28 12.1**	**+1.0**
	comp=Z,0.5nm,0.7s,mb3.9,baz=5.7,slow=4.8,SNR=4.1						
YKA	**Yellowknife Ar**	**88.27**	**353**	P	**P**	**23 28 12.1**	**+1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*NEIC **01** 23:21:59.7, 4560N×2660E, h110km, MD3.0(BUC), After BUC.*
*CSEM **01** 23:21:59.8±0.5, 4564N×2651E, h117km±5km, MD3.5/3, Error ellipse: s-maj=4.7km s-min=3.5km az=71.0, After BUC*

BUC 01 23:21:59.9±0.7, 4564N×2651E, h115km±7km, MD3.4/3, 18C-8D, Error ellipse: s-maj=5.6km s-min=4.1km az=79.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.23**	**25**	⇑*i*P	Pn	23 22 16.3	+0.3
PLOR				*i* S	Sn	23 22 28.8	+0.7
VRI	**Vrincioaia**	**0.27**	**34**	⇑*i*P	Pn	23 22 16.6	+0.5
VRI				*i* S	Sn	23 22 28.8	+0.5
VRI	**Vrincioaia**	**0.27**	**34**	⇑*i*P	Pn	23 22 16.6	+0.5
VRI				*i* S	Sn	23 22 29.0	+0.7
VRI	**Vrincioaia**	**0.27**	**34**	P	Pn	23 22 16.7	+0.6
ODB	**Odobesti**	**0.40**	**71**	⇓*i*P	Pn	23 22 18.1	+1.4
ODB				*i* S	Sn	23 22 28.4	-0.9
ODB	**Odobesti**	**0.40**	**71**	⇑P	Pn	23 22 18.1	+1.5
ODB				S	Sn	23 22 28.4	-1.0
MLR	**Muntele Rosu**	**0.43**	**249**	⇑*i*P	Pn	23 22 17.4	+0.6
MLR				*i* S	Sn	23 22 30.1	+0.6
MLR	**Muntele Rosu**	**0.43**	**249**	P	Pn	23 22 17.5	+0.7
ISR	**Istrita**	**0.53**	**178**	⇑*i*P	Pn	23 22 18.5	+1.1
ISR				*i* S	Sn	23 22 29.9	-0.7
ISR	**Istrita**	**0.53**	**178**	⇑P	Pn	23 22 18.4	+1.0
ISR				S	Sn	23 22 29.9	-0.7
TESR		**0.87**	**6**	⇓*i*P	Pn	23 22 20.3	+0.1
TESR				*i* S	Sn	23 22 34.7	-0.9
ONCR	**Oncesti**	**0.97**	**32**	⇑*i*P	Pn	23 22 21.5	+0.3
ONCR				*i* S	Sn	23 22 37.0	-0.4
VOIR		**1.05**	**259**	⇓*i*P	Pn	23 22 22.0	+0.1
VOIR				*i* S	Sn	23 22 38.8	+0.2
VOIR		**1.05**	**259**	P	Pn	23 22 22.1	+0.1
CFR	**Carcaliu**	**1.23**	**112**	⇑*i*P	Pn	23 22 24.5	+0.6
CFR	**Carcaliu**	**1.23**	**112**	S	Sn	23 22 41.7	-0.5
BUC1	**Bucharest**	**1.34**	**195**	⇑*i*P	Pn	23 22 25.7	+0.6
BUC1				*i* S	Sn	23 22 44.5	+0.2
BUC1	**Bucharest**	**1.34**	**195**	⇑P	Pn	23 22 25.7	+0.5
BUC1				S	Sn	23 22 44.5	+0.2
HARR	**Harsova**	**1.38**	**133**	⇓*i*P	Pn	23 22 26.3	+0.7
HARR				*i* S	Sn	23 22 44.7	-0.5
HARR	**Harsova**	**1.38**	**133**	P	Pn	23 22 26.3	+0.7
CVD	**Cernavoda**	**1.71**	**140**	⇑*i*P	Pn	23 22 30.1	+0.6
CVD				*i* S	Sn	23 22 52.2	+0.1
CVD	**Cernavoda**	**1.71**	**140**	⇑P	Pn	23 22 30.1	+0.6
CVD				S	Sn	23 22 52.2	+0.2
IAS	**Iasi**	**1.71**	**25**	⇑*i*P	Pn	23 22 29.8	+0.3
IAS				*i* S	Sn	23 22 51.5	-0.6
IAS	**Iasi**	**1.71**	**25**	⇓P	Pn	23 22 29.8	+0.3
IAS				S	Sn	23 22 51.5	-0.5
TIRR	**Tirgusor**	**1.79**	**131**	⇓*i*P	Pn	23 22 31.2	+0.7
TIRR				*i* S	Sn	23 22 53.3	-0.6
TIRR	**Tirgusor**	**1.79**	**131**	P	Pn	23 22 31.2	+0.7
ZIMR		**2.15**	**203**	⇑*i*P	Pn	23 22 34.9	-0.1
ZIMR				*i* S	Sn	23 23 00.8	-1.0
ZIMR		**2.15**	**203**	⇑P	Pn	23 22 34.9	0.0
ZIMR				S	Sn	23 23 00.8	-0.9
BURAR	**Bucovina Array**	**2.17**	**336**	⇓*i*P	Pn	23 22 36.5	+1.4
BURAR	**Bucovina Array**	**2.17**	**336**	⇓P	Pn	23 22 36.5	+1.4
GZR	**Gura Zlata**	**2.64**	**266**	⇑*i*P	Pn	23 22 42.0	+0.8
GZR				*i* S	Sn	23 23 15.7	+2.7
GZR	**Gura Zlata**	**2.64**	**266**	⇑P	Pn	23 22 42.0	+0.8
GZR				S	Sn	23 23 15.7	+2.6

*NNC **01** 23:44:28.1±3.6, 3742N×6927E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=35.3km s-min=28.6km az=102.0*
*ISCJB **01** 23:44:30.6±0.4, 3768N±004×6952E±009, h10km, mb4.0/4, Error ellipse: s-maj=10.4km s-min=4.6km az=15.9*
*IDC **01** 23:44:31.7±3.3, 3767N×6952E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/24, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=90.4km s-min=24.2km az=147.0*
*NEIC **01** 23:44:35.4±0.9, 3759N×6960E, h38km±19km, mb3.9/3, Error ellipse: s-maj=23.5km s-min=7.4km az=122.0*

ISC 01 23:44:31.6±1.2, 3772N±004×6944E±009, h1km±9km, n18, σ1§04/25, mb4.0/4, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.19**	**186**	*e*Pn	**Pn**	**23 45 22.0**	**-0.8**
KBL				*e*Pg	**Pg**	**23 45 32.9**	**+0.2**
KBL				*e*Sn	**Sn**	**23 46 00.8**	**-0.6**
KBL				*e*Sg	**Sg**	**23 46 14.3**	**+0.3**
KK31	**Karatay Array**	**5.44**	**8**	Pn	**Pn**	**23 45 55.8**	**+2.0**
	1.3nm,0.5s,baz=192,slow=14,SNR=39						
KK31				⇓Pg	**Pg**	**23 46 14.2**	**-1.7**
	1.8nm,0.4s,baz=196,slow=14,SNR=6.7						
KK31				⇑Sn	**Sn**	**23 47 02.5**	**+5.6**
	1.7nm,0.4s,baz=182,slow=24,SNR=3.9						
AML	**Almayashu**	**5.49**	**35**	*e*Pn	**Pn**	**23 45 55.9**	**+1.5**
	136nm,0.7s						
AML				*e*Sn	**Sn**	**23 46 54.8**	**-3.4**
EKS2	**Erkin-Say**	**5.95**	**33**	*e*Pn	**Pn**	**23 46 02.5**	**+1.8**
	4.5nm,0.6s						
EKS2				*e*Sn	**Sn**	**23 47 06.0**	**-3.5**
TKM2	**Tokmak 2**	**7.01**	**40**	*e*Pn	**Pn**	**23 46 15.9**	**+0.6**
	2.1nm,0.4s						
MK31	**Makanchi Array**	**13.13**	**42**	P	**Pn**	**23 47 38.8**	**-0.3**
	1.0nm,0.7s,baz=236,slow=14,SNR=11						
MK31	**Makanchi Array**	**13.13**	**42**	*e*Pn	**Pn**	**23 47 38.7**	**-0.5**
MKAR	**Makanchi Array**	**13.13**	**42**	Pn	**Pn**	**23 47 38.8**	**-0.4**
	0.1nm,0.3s,baz=234,slow=14,SNR=12						
AB31	**Akbulak array**	**13.42**	**332**	⇑P	**Pn**	**23 47 42.3**	**-0.7**
	0.4nm,0.5s,baz=154,slow=13,SNR=13						
KURK	**Kurchatov**	**14.55**	**24**	*e*Pn	**Pn**	**23 47 59.0**	**+0.6**
GNI	**Garni**	**19.35**	**285

1.4nm,0.6s,mb4.3
BRVK Borovoye 67.81 327 P P 00 39 48.7 +0.3
ARU Arti 75.36 328 *eP* **P 00 40 33.9 0.0**
2.0nm,0.7s,mb4.2
GNI Garni 81.76 310 P P 00 41 10.3 +0.8
SBA Scott Base 83.79 172 *eP* **P 00 41 17.7 -1.5**
0.9nm,0.5s,mb4.2

ISCJB ***02*** *00:45:14.0±0.5, 2200S±004×6709W±006, h187km±6km, mb4.1/10, Error ellipse: s-maj=9.9km s-min=6.6km az=163.8*
NEIC ***02*** *00:45:14.8±0.6, 2195S×67.12W, h180km±7km, mb4.1/5, Error ellipse: s-maj=10.7km s-min=7.7km az=79.0*
IDC ***02*** *00:45:14.1±0.7, 2198S×6701W, h173km±8km, mb3.9/7, mb1 3.8/13, mb1mx3.6/20, mbtmp3.7/13, Error ellipse: s-maj=14.2km s-min=10.7km az=122.0*
ISC 02 00:45:14.9±0.5, 2201S±005×6705W±006, h179km±6km, n33, σ0°86/39, mb4.1/10, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.82**	**250**	P	**Pn**	**00 45 50.6**	**+0.5**
	40nm,0.3s,baz=53,slow=7.3,SNR=374						
LVC				S	**Sn**	**00 46 17.1**	**-0.1**
	44nm,0.3s,baz=270,slow=20,SNR=66						
LPAZ	**La Paz**	**5.78**	**350**	P	**Pn**	**00 46 40.5**	**+1.5**
	4.2nm,0.3s,baz=172,slow=9.9,SNR=62						
LPAZ				S	**Sn**	**00 47 46.2**	**+1.0**
	0.8nm,0.3s,baz=264,slow=23,SNR=3.8						
LPAZ	**La Paz**	**5.78**	**350**	P	**Pn**	**00 46 40.5**	**+1.5**
LPAZ				S	**Sn**	**00 47 46.2**	**+1.0**
ARE	**Arequipa**	**6.93**	**322**	*eP*	**Pn**	**00 46 51.0**	**-3.1**
ARE				*eS*	**Sn**	**00 48 07.0**	**-5.5**
SIV	**San Ignacio**	**8.23**	**44**	P	**Pn**	**00 47 10.1**	**-1.2**
	18nm,0.3s,baz=240,slow=12,SNR=267						
SIV				S	**Sn**	**00 48 37.4**	**-6.1**
	6.3nm,0.3s,baz=320,slow=23,SNR=7.4						
CFAA	**Coronel Fontan**	**9.62**	**186**	P	**Pn**	**00 47 28.3**	**-1.1**
	0.2nm,0.3s,baz=18,slow=12,SNR=18						
CFAA				S	**Sn**	**00 49 09.0**	**-7.5**
	0.4nm,0.3s,baz=110,slow=21,SNR=10						
CFAA	**Coronel Fontan**	**9.62**	**186**	P	**Pn**	**00 47 28.3**	**-1.1**
CFAA				S	**Sn**	**00 49 09.0**	**-7.5**
CPUP	**Villa Florida**	**9.86**	**118**	P	**Pn**	**00 47 32.3**	**-0.3**
	1.8nm,0.3s,baz=272,slow=11,SNR=14						
CPUP	**Villa Florida**	**9.86**	**118**	*e*Pn	**Pn**	**00 47 35.9**	**+3.3**
CPUP				Sn	**Sn**	**00 49 22.6**	**+0.2**
NNA	**Nana**	**13.66**	**315**	Pn	**Pn**	**00 48 21.2**	**-0.3**
TRQA	**Tornquist**	**16.58**	**166**	*eP*	**Pn**	**00 48 55.9**	**-1.2**
	5.4nm,0.4s						
TRQA				S	**S**	**00 51 55.2**	**-5.5**
PLCA	**Paso Flores**	**18.90**	**188**	P	**P**	**00 49 21.7**	**-0.1**
	0.2nm,0.3s,baz=9.0,slow=14,SNR=3.7						
PLCA	**Paso Flores**	**18.90**	**188**	*eP*	**P**	**00 49 22.1**	**+0.3**
	1.8nm,0.8s						
BDFB	**Brasilia**	**19.09**	**74**	P	**P**	**00 49 24.3**	**+0.2**
	0.4nm,0.3s,baz=243,slow=19,SNR=7.1						
ROSC	**El Rosal**	**27.63**	**344**	P	**P**	**00 50 45.9**	**-0.1**
PMSA	**Palmer Station**	**42.80**	**178**	*eP*	**P**	**00 52 56.8**	**+2.2**
	12nm,0.7s,mb4.6						
VNA2	**Neumayer--Watz**	**59.61**	**161**	*e*	**P**	**00 55 00.4**	**+1.0**
VNA2				*e*		00 55 04.2	
SNAA	**Sanae**	**61.24**	**161**	*e*	**P**	**00 55 11.1**	**+0.6**
SNAA				*e*		00 55 13.9	
SNAA	**Sanae**	**61.24**	**161**	*eP*	**P**	**00 55 11.2**	**+0.7**
	1.6nm,0.6s,mb4.0						
DBIC	**Dimbokro**	**67.23**	**72**	P	**P**	**00 55 49.8**	**-0.6**
	2.2nm,0.7s,mb4.1,baz=228,slow=11,SNR=4.1						
PDAR	**Pinedale Array**	**75.42**	**329**	P	**P**	**00 56 38.8**	**0.0**
	0.3nm,0.5s,mb3.2,baz=108,slow=4.8,SNR=3.8						
TOA0	**Torodi Ar. Sit**	**75.91**	**69**	*eP*	**P**	**00 56 41.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**75.91**	**69**	P	**P**	**00 56 41.8**	**-0.4**
	11nm,0.5s,mb4.7,baz=256,slow=5.5,SNR=310						
ULM	**Lac du Bonnet**	**76.33**	**341**	P	**P**	**00 56 43.0**	**-0.8**
	1.6nm,0.4s,mb4.0,baz=112,slow=5.4,SNR=2.9						
VNDA	**Vanda**	**76.65**	**190**	P	**P**	**00 56 45.0**	**-0.3**
TSUM	**Tsumeb**	**78.24**	**106**	*eP*	**P**	**00 56 55.6**	**+0.4**
	2.6nm,0.6s,mb4.0						
BOSA	**Boshof**	**81.68**	**117**	P	**P**	**00 57 13.8**	**+0.2**
	4.7nm,0.6s,mb4.3,baz=296,slow=4.3,SNR=19						
MAW	**Mawson**	**83.35**	**163**	P	**P**	**00 57 22.0**	**+0.6**
	1.0nm,0.6s,mb3.7,baz=166,slow=4.2,SNR=3.9						
CASY	**Casey**	**91.97**	**179**	P	**P**	**00 58 02.8**	**-0.1**
YKA	**Yellowknife Ar**	**92.24**	**340**	P	**P**	**00 58 03.6**	**-0.3**
	0.6nm,0.6s,mb3.8,baz=130,slow=4.9,SNR=5.6						
WRA	**Warramunga Arr**	**133.36**	**208**	PKP	PKPdf	01 04 10.6	+0.2
	0.1nm,0.3s,baz=132,slow=1.4,SNR=2.9						
MKAR	**Makanchi Array**	**145.00**	**38**	PKP	PKPdf	01 04 31.0	+0.4
	0.4nm,0.6s,baz=344,slow=4.7,SNR=4.3						
MKAR	**Makanchi Array**	**145.00**	**38**	PKP	PKPdf	01 04 31.0	+0.4

IDC ***02*** *01:56:09.6±1.0, 3877N×7131E, h0km, mb3.8/8, mb1 4.0/12, mb1mx3.8/25, mbtmp3.8/12, ML3.7/4, MS2.9/1, Ms1 2.9/1, ms1mx2.2/34, Error ellipse: s-maj=17.0km s-min=16.5km az=159.0*
MOS ***02*** *01:56:13.2±1.3, 3900N×7112E, h33km, mb4.0/8, Error ellipse: s-maj=17.7km s-min=9.3km az=88.4*
ISCJB ***02*** *01:56:15.2±0.8, 3902N±003×7117E±006, h55km±9km, mb3.7/12, Error ellipse: s-maj=7.9km s-min=5.4km az=175.2*
NNC ***02*** *01:56:16.0±2.8, 3896N×7109E, h160km±28km, mb3.0, mpv4.2, Error ellipse: s-maj=24.4km s-min=13.1km az=9.0*
NEIC ***02*** *01:56:18.1±1.0, 3919N×7120E, h52km±10km, mb4.0/3, Error ellipse: s-maj=12.5km s-min=9.8km az=129.0*
ISC 02 01:56:15.7±0.6, 3899N±003×7105E±006, h37km±8km, n64, σ1°35/81, mb3.7/12, 8C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.73**	**32**	P	**Pn**	**01 57 11.8**	**+1.1**
	SNR=94						
AML	**Almayashu**	**3.73**	**32**	*e*Pn	**Pn**	**01 57 11.3**	**+0.7**
AML				*e*Sn	**Sn**	**01 57 48.5**	**-4.8**
KK31	**Karatay Array**	**4.13**	**354**	⇑P	**Pn**	**01 57 17.8**	**+1.6**
	20nm,0.3s,baz=180,slow=13,SNR=801						
KK31				⇑S	**Sn**	**01 58 08.7**	**+5.5**
	30nm,0.3s,baz=174,slow=17,SNR=6.2						
KK31	**Karatay Array**	**4.13**	**354**	*e*PN	**Pn**	**01 57 17.7**	**+1.5**
KK31				*e*S	**Sn**	**01 58 08.7**	**+5.5**
KK31				pmax	pmax		
	comp=Z,23nm,0.4s						
KK31				smax			
	comp=Z,26nm,0.3s						
UCH	**Uchtor**	**4.17**	**38**	P	**Pn**	**01 57 17.6**	**+0.8**
	SNR=7.8						
UCH	**Uchtor**	**4.17**	**38**	*e*Pn	**Pn**	**01 57 16.6**	**-0.2**
UCH				*e*Sn	**Sn**	**01 58 05.5**	**+1.2**
EKS2	**Erkin-Say**	**4.21**	**29**	P	**Pn**	**01 57 18.7**	**+1.4**
	SNR=21						
EKS2	**Erkin-Say**	**4.21**	**29**	*e*Pn	**Pn**	**01 57 18.4**	**+1.1**
KZA	**Kyzart**	**4.44**	**45**	P	**Pn**	**01 57 21.2**	**+0.8**
	SNR=53						
AAK	**Ala-Archa**	**4.48**	**35**	P	**Pn**	**01 57 22.3**	**+1.4**
	SNR=29						
KBK	**Karagaybulak**	**4.71**	**38**	P	**Pn**	**01 57 25.7**	**+1.6**
	SNR=18						
KBL	**Kabul**	**4.72**	**201**	*e*Pn	**Pn**	**01 57 30.4**	**+6.0**
KBL				*e*Sn	**Sn**	**01 58 29.9**	**+12**
CHMS	**Chumysh**	**4.88**	**34**	P	**Pn**	**01 57 27.7**	**+1.1**
	SNR=36						
USP	**Ospenovka**	**5.00**	**30**	P	**Pn**	**01 57 29.4**	**+1.3**
	SNR=27						
ULHL	**Ulahol**	**5.11**	**49**	P	**Pn**	**01 57 29.6**	**-0.1**
	SNR=12						
TKM2	**Tokmak 2**	**5.22**	**40**	P	**Pn**	**01 57 32.6**	**+1.4**
TKM2				S	**Sn**	**01 58 32.1**	**+2.1**
TKM2	**Tokmak 2**	**5.22**	**40**	P	**Pn**	**01 57 32.5**	**+1.4**
	SNR=31						
TKM2	**Tokmak 2**	**5.22**	**40**	*e*Pn	**Pn**	**01 57 31.6**	**+0.4**
THN	**Thein Dam**	**7.56**	**148**	*eP*	**Pn**	**01 58 04.1**	**+0.7**
THN				*ex*	x	01 59 32.3	
DLH	**Dalhousie**	**7.57**	**147**	*e*S	**Sn**	**01 59 30.0**	**+2.0**
SMLA	**Simla**	**9.30**	**146**	*i* P	**Pn**	**01 58 27.0**	**-0.2**
SMLA				*e*S	**Sn**	**02 00 08.8**	**-1.9**
SMLA				AML	AML	02 00 14.4	
	comp=N,58nm,0.2s						
SMLA				*ex*	x	02 00 15.9	
	comp=E,284nm,0.4s						
JOSI	**Joshimath**	**10.94**	**138**	*ex*	x	01 59 00.5	
JOSI				*e*S	**Sn**	**02 00 48.0**	**-2.6**
JOSI				AML	AML	02 01 02.6	
	comp=N,80nm,0.4s						
JOSI				AML	AML	02 01 02.8	
	comp=E,71nm,0.4s						
MK31	**Makanchi Array**	**11.34**	**43**	⇓P	**Pn**	**01 58 54.8**	**-0.2**
	comp=E,1.0nm,0.6s						
MK31				⇑S	**Sn**	**02 00 59.3**	**-1.0**
	comp=E,2.6nm,0.7s						
MK31	**Makanchi Array**	**11.34**	**43**	P	**Pn**	**01 58 54.7**	**-0.3**
MK31	**Makanchi Array**	**11.34**	**43**	*e*Pn	**Pn**	**01 58 54.3**	**-0.7**
MKAR	**Makanchi Array**	**11.34**	**43**	Pn	**Pn**	**01 58 54.3**	**-0.7**
	comp=E,0.1nm,0.3s,baz=234,slow=13,SNR=9.7						
AYAN	**Aya Nagar**	**11.63**	**152**	*eP*	**Pn**	**01 58 57.5**	**-1.6**
AYAN				*e*S	**Sn**	**02 01 04.1**	**-3.6**
AYAN				AML	AML	02 01 10.9	
	comp=Z,16nm,0.9s						
KUDL	**Kundal**	**11.72**	**156**	*eP*	**Pn**	**01 58 59.9**	**-0.5**
KUDL				*e*S	**Sn**	**02 01 05.2**	**-4.8**
KUDL				AML	AML	02 01 38.6	
	comp=N,3.6nm,1.0s						
KURBB	**Kurchatov Arra**	**12.78**	**22**	⇑P	**Pn**	**01 59 10.8**	**-3.8**
	comp=N,0.3nm,0.8s						
KURBB				⇑S	**Sn**	**02 01 36.5**	**+1.1**
	comp=N,2.1nm,0.8s						
KURK	**Kurchatov**	**12.88**	**22**	⇑S	**Sn**	**02 01 36.5**	**-1.5**
	comp=N,12nm,0.9s						
AB31	**Akbulak array**	**12.98**	**326**	⇓P	**Pn**	**01 59 15.6**	**-1.9**
	comp=N,3.0nm,0.5s						
AB31				⇑S	**Sn**	**02 01 36.0**	**-4.5**
	comp=N,7.4nm,0.6s,baz=138,slow=24,SNR=12						
AB31	**Akbulak array**	**12.98**	**326**	P	**Pn**	**01 59 15.7**	**-1.8**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVA0	**Borovoye Array**	**14.04**	**358**	⇓P	**Pn**	**01 59 29.3**	**-2.6**
	comp=Z,0.3nm,0.6s,baz=170,slow=15,SNR=6.9						
BVA0				S	**Sn**	**02 02 01.1**	**-5.2**
	comp=Z,1.0nm,1.3s,baz=175,slow=14,SNR=8.1						
BVAR	**Borovoye Array**	**14.04**	**358**	Pn	**Pn**	**01 59 30.4**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=158,slow=12,SNR=7.6						
BVAR				Sn	**Sn**	**02 02 02.0**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=179,slow=20,SNR=6.9						
BVAR				LR	LR	02 06 14.0	
	comp=Z,54nm,20.5s,baz=312,slow=42						
BVAR	**Borovoye Array**	**14.04**	**358**	P	**Pn**	**01 59 30.4**	**-1.5**
BVAR						02 02 02.0	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,54nm,20.5s						
BRVK	**Borovoye**	**14.08**	**358**	*e*Pn	**Pn**	**01 59 30.4**	**-2.0**
	comp=Z,2.5nm,0.6s						
AKTK	**Aktyubinsk**	**14.70**	**325**	Pn	**Pn**	**01 59 39.8**	**-1.0**
AKTK				Sn	**Sn**	**02 02 22.7**	**+0.5**
AKTO	**Aktyubinsk**	**14.70**	**325**	⇑P	**Pn**	**01 59 38.7**	**-2.1**
	comp=Z,2.3nm,0.9s						
AKTO				⇓S	**Sn**	**02 02 20.0**	**-2.2**
	comp=Z,0.8nm,0.6s						
AKTO	**Aktyubinsk**	**14.70**	**325**	Pn	**Pn**	**01 59 39.8**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=137,slow=15,SNR=11						
AKTO				Sn	**Sn**	**02 02 22.7**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=74,slow=18,SNR=7.1						
AKTO	**Aktyubinsk**	**14.70**	**325**	P	**Pn**	**01 59 39.8**	**-1.0**
AKTO						02 02 22.7	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
ZAL	**Zalesovo**	**17.64**	**28**	P	**Pn**	**02 00 17.6**	**-0.8**
ZAA0	**Zalesovo Array**	**17.66**	**28**	*e*Pn	**Pn**	**02 00 16.1**	**-2.4**
ZALV	**Zalesovo Beam**	**17.66**	**28**	P	**Pn**	**02 00 17.6**	**-1.0**
	comp=N,0.4nm,0.3s,baz=205,slow=10,SNR=6.2						
ARU	**Arti**	**19.31**	**339**	P	**Pn**	**02 00 39.4**	**+0.8**
ARU	**Arti**	**19.31**	**339**	*eP*	**Pn**	**02 00 37.7**	**-0.8**
	comp=N,3.8nm,0.6s						
KIV	**Kislovodsk**	**21.77**	**292**	*eP*	**P**	**02 01 09.1**	**+5.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
KIV	**Kislovodsk**	**21.77**	**292**	*eP*	**P**	**02 01 09.5**	**+5.5**
	comp=Z,7.1nm,0.6s,mb4.3						
ZAK	**Zakamensk**	**25.39**	**53**	*eP*	**P**	**02 01 38.8**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.5						
SONM	**Songino Array**	**26.96**	**59**	P	**P**	**02 01 51.9**	**-1.6**
	comp=Z,0.8nm,0.7s,mb3.4,baz=245,slow=9.4,SNR=2.8						
SONM	**Songino Array**	**26.96**	**59**	P	**P**	**02 01 51.9**	**-1.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BOD	**Bodaibo**	**33.42**	**41**	*eP*	**P**	**02 02 49.2**	**-1.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
ARCES	**ARCESS Array B**	**38.87**	**336**	P	**P**	**02 03 37.3**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.9,baz=103,slow=5.5,SNR=5.1						
ARCES	**ARCESS Array B**	**38.87**	**336**	P	**P**	**02 03 37.3**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MORC	**Moravsky Berou**	**38.96**	**304**	*eP*	**P**	**02 03 40.1**	**+2.2**
	comp=Z,1.9nm,0.8s,mb3.9						
GERES	**GERESS Array B**	**41.57**	**303**	P	**P**	**02 04 00.6**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.0,baz=79,slow=6.9,SNR=4.3						
NB2	**NORSAR Subarra**	**42.44**	**321**	P	**P**	**02 04 07.3**	**+0.9**
	comp=Z,0.6nm,0.5s,mb3.5,baz=93,slow=8.6						
NOA	**NORSAR Array B**	**42.44**	**321**	P	**P**	**02 04 07.4**	**+1.0**
	comp=Z,0.7nm,0.6s,mb3.4,baz=90,slow=7.7,SNR=3.8						
NOA	**NORSAR Array B**	**42.44**	**321**	P	**P**	**02 04 07.4**	**+1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ESDC	**Sonseca Array**	**56.36**	**296**	P	**P**	**02 05 55.0**	**+2.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=53,slow=8.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**65.84**	**268**	P	**P**	**02 06 58.2**	**+0.6**
	comp=Z,1.8nm,0.7s,mb4.2,baz=48,slow=5.6,SNR=34						
YKA	**Yellowknife Ar**	**78.76**	**3**	P	**P**	**02 08 15.2**	**+1.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=353,slow=6.2,SNR=2.4						
YKA	**Yellowknife Ar**	**78.76**	**3**	P	**P**	**02 08 15.2**	**+1.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**83.27**	**122**	P	**P**	**02 08 37.7**	**-0.8**
	comp=Z,0.7nm,0.7s,mb3.8,baz=326,slow=4.9,SNR=6.4						
WRA	**Warramunga Arr**	**83.27**	**122**	P	**P**	**02 08 37.7**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

NEIC ***02*** *02:09:01.3, 2792N×1807W, h32km, MN2.6(MDD), After MDD.*
CSEM ***02*** *02:09:01.3±0.4, 2792N×1807W, h32km±4km, ML2.6, Error ellipse: s-maj=5.0km s-min=2.6km az=151.0, After MDD*
MDD 02 02:09:01.3±0.4, 2792N×1807W, h32km±4km, mb3.5/4, mbLg2.5/7, Error ellipse: s-maj=5.0km s-min=2.6km az=151.0, PRIMO TT-model: canary, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIE	**El Hierro**	**0.22**	**154**	P	Pb	02 09 07.3	-0.7
	28nm,0.1s,SNR=7.9						
CHIE				S	Sb	02 09 11.7	-0.8
	226nm,0.1s,SNR=63						
EHIG	**Higuera**	**0.67**	**20**	P	Pn	02 09 12.2	-2.4
	19nm,0.1s,SNR=7.9						
EHIG				S	Sb	02 09 20.8	-2.9
	89nm,0.1s,SNR=6.2						
EHIG	**Higuera**	**0.67**	**20**	P	Pn	02 09 12.2	-2.4
	19nm,0.1s,SNR=7.9						
EHIG				S	Sb	02 09 20.8	-2.9
	89nm,0.1s,SNR=6.2						
EGOM	**La Gomera**	**0.80**	**73**	P	Pn	02 09 14.4	-1.9
	14nm,0.1s,SNR=50						
EGOM				S	Sn	02 09 24.6	-2.4
	93nm,0.1s,SNR=32						
EGOM	**La Gomera**	**0.80**	**73**	P	Pn	02 09 14.4	-1.9
	14nm,0.1s,SNR=50						
EGOM				S	Sn	02 09 24.6	-2.5
	93nm,0.1s,SNR=32						
CHIO	**Chio**	**1.15**	**74**	P	Pn	02 09 20.2	-1.0
	13nm,0.2s,SNR=9.4						
CHIO				S	Sn	02 09 31.7	-4.2
	8.8nm,0.1s,SNR=13						
CICO	**Icod de los Vi**	**1.26**	**70**	P	Pn	02 09 21.7	-1.1
	0.4nm,0.3s,SNR=5.2						
CICO				S	Sn	02 09 36.8	-1.8
	0.9nm,0.2s,SNR=8.8						
CCAN	**Las Canadas**	**1.33**	**77**	P	Pn	02 09 22.1	-1.6
	2.2nm,0.1s,SNR=15						
CCAN				S	Sn	02 09 36.1	-4.1
	0.9nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**1.33**	**77**	P	Pn	02 09 22.1	-1.5
	2.2nm,0.1s,SNR=15						
CCAN				S	Sn	02 09 36.1	-4.1
	0.9nm,0.1s,SNR=7.9						
CRAJ	**Montana Rajada**	**1.34**	**75**	P	Pn	02 09 23.0	-0.9
	0.2nm,0.4s,SNR=7.9						
CRAJ				S	Sn	02 09 38.2	-2.5
	7.9nm,0.1s,SNR=7.9						
CRAJ	**Montana Rajada**	**1.34**	**75**	P	Pn	02 09 23.0	-0.9
	SNR=7.9						
CRAJ				S	Sn	02 09 38.2	-2.4
	7.9nm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**1.64**	**68**	P	Pn	02 09 26.3	-1.7
	0.7nm,0.2s,SNR=7.9						
EBAJ				S	Sn	02 09 45.1	-2.9
	2.0nm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**1.64**	**68**	P	Pn	02 09 26.3	-1.7
	SNR=7.9						
EBAJ				S	Sn	02 09 45.1	-2.9
	2.0nm,0.1s,SNR=7.9						
EOSO	**Osorio**	**2.23**	**86**	P	Pn	02 09 36.2	+0.1
	5.3nm,0.6s,SNR=4.0						
EOSO				S	Sn	02 09 58.3	-4.2
	5.4nm,0.2s,SNR=7.9						
EOSO	**Osorio**	**2.23**	**86**	P	Pn	02 09 36.2	+0.1
	SNR=4.0						
EOSO				S	Sn	02 09 58.3	-4.2
	SNR=7.9						
CFUE	**Fuerteventura**	**3.72**	**78**	P	Pn	02 09 55.3	-1.2
	13nm,0.6s,SNR=7.9						
CFUE				S	Sn	02 10 33.6	-5.6
	0.8nm,0.0s,SNR=7.9						

JMA 02 02:16:12.3±0.2, 4398N×14816E, h0km, M4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.86**	**252**	P	Pn	02 16 45.8	+0.4
NEM2				*e*S	Sn	02 17 10.6	+1.1
JRA	**Rausu**	**2.19**	**270**	P	Pn	02 16 50.8	+0.8
JRA				*e*S	Sn	02 17 18.7	+0.9
JNK	**Nakash**	**2.52**	**262**	P	Pn	02 16 55.4	+0.9
JNK				*e*S	Sn	02 17 27.2	+1.3
JAK	**Akkeshi**	**2.71**	**250**	P	Pn	02 16 58.1	+1.1
JAK				*e*S	Sn	02 17 31.7	+1.3
JAR	**Ashorobuto**	**3.26**	**259**	P	Pn	02 17 06.3	+1.7
JCH	**Churui**	**3.76**	**250**	P	Pn	02 17 13.1	+1.6
JCH				*e*S	Sn	02 17 58.6	+2.2
JNBK	**Urakawa-nobuka**	**4.31**	**249**	P	Pn	02 17 21.1	+2.1
JKB	**Kayabe**	**5.63**	**251**	P	Pn	02 17 39.2	+1.9
JKB				*e*S	Sn	02 18 43.8	+1.2
JOT	**Ohata**	**5.85**	**246**	P	Pn	02 17 42.0	+1.8
JOT				*e*S	Sn	02 18 48.0	+0.1
JANG	**Nango**	**6.11**	**236**	P	Pn	02 17 46.4	+2.6

ISCJB ***02*** *02:22:28.1±0.9, 738S±005×12875E±005, h138km±9km, mb4.1/16, Error ellipse: s-maj=8.7km s-min=7.8km az=42.2*
IDC ***02*** *02:22:28.2±3.4, 740S×12853E, h120km±31km, mb3.9/11, mb1 4.1/14, mb1mx4.0/18, mbtmp4.0/14, Error ellipse: s-maj=26.8km s-min=12.8km az=66.0*
NEIC ***02*** *02:22:29.1±1.4, 741S×12858E, h128km±13km, mb4.1/8, Error ellipse: s-maj=11.2km s-min=8.1km az=60.0*
ISC 02 02:22:29.6±0.8, 741S±005×12875E±005, h134km±8km, n37, σ1°04/43, mb4.1/16, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**4.34**	**66**	⇓*eP*	**Pn**	**02 23 30.0**	**-3.9**
TLE				*e*S	**Sn**	**02 24 23.5**	**-0.4**
BATI	**Baumata**	**5.74**	**241**	P	**Pn**	**02 23 55.3**	**+2.5**
	50nm,0.3s,baz=79,slow=2.7,SNR=30						
BATI				S	**Sn**	**02 24 57.5**	**-0.1**
	51nm,0.3s,baz=43,slow=21,SNR=14						
KAKA	**Kakadu**	**6.40**	**146**	⇓*iP*	**Pn**	**02 24 05.1**	**+3.6**
	114nm,0.1s						
KAKA				*e*S	**Sn**	**02 25 12.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.05**	**196**	*eP*	**Pn**	**02 25 02.6**	**-1.2**
	47nm,0.4s						
FITZ				*e*S	**Sn**	**02 26 59.6**	**-6.2**
FITZ	**Fitzroy Crossi**	**11.05**	**196**	P	**Pn**	**02 25 03.0**	**-0.9**
	8.1nm,0.3s,baz=29,slow=11,SNR=163						
FITZ				S	**Sn**	**02 26 58.1**	**-7.7**
	3.1nm,0.3s,baz=273,slow=18,SNR=2.6						
WRAB	**Tennant Creek**	**13.58**	**157**	*e*Pn	**Pn**	**02 25 36.8**	**-0.1**
	15nm,0.5s						
WRAB				*e*Sn	**Sn**	**02 28 00.2**	**-6.7**
WRA	**Warramunga Arr**	**13.58**	**157**	P	**Pn**	**02 25 36.6**	**-0.3**
	5.5nm,0.3s,baz=320,slow=15,SNR=170						
WRA				S	**Sn**	**02 28 00.7**	**-6.3**
	3.5nm,0.3s,baz=330,slow=22,SNR=5.6						
WB2	**Warramunga Arr**	**13.59**	**157**	*eP*	**Pn**	**02 25 36.2**	**-0.7**
WB2				*e*S	**Sn**	**02 27 58.9**	**-8.2**
COEN	**Coen**	**15.59**	**116**	*eP*	**Pn**	**02 26 04.9**	**+2.7**
COEN				*e*Sn	**Sn**	**02 28 45.1**	**-10**
MBWA	**Marble Bar**	**16.21**	**212**	*eP*	**Pn**	**02 26 10.4**	**+0.7**
ASAR	**Alice Springs**	**16.90**	**164**	P	**Pn**	**02 26 19.

HUIG	**Huatulco**	**1.42 302**	*i* P	Pn	02 33 09.2	-3.6
HUIG			*i* S	Sn	02 33 25.4	-5.6
CMIG	**Matias Romero**	**2.07 359**	*i* P	Pn	02 33 18.8	-3.0
CMIG			*i* S	Sn	02 33 42.6	-4.6
TGIG		**2.43 43**	*i* P	Pn	02 33 23.3	-3.3
TGIG			*i* S	Sn	02 33 52.4	-3.6
OXX	**Oaxaca**	**2.73 319**	*i* P	Pn	02 33 29.2	-1.5
OXX			*i* S	Sn	02 34 01.4	-2.0
VHO	**Vista Hermosa**	**2.73 319**	*i* P	Pn	02 33 30.2	-0.6
VHO			*i* S	Sn	02 34 01.4	-2.0
SCX	**San Cristobal**	**2.75 51**	*i* P	Pn	02 33 28.6	-2.4
SCX			*i* S	Sn	02 33 59.8	-4.0
SCX	**San Cristobal**	**2.75 51**	*i* P	Pn	02 33 28.6	-2.4
SCX			*i* S	Sn	02 33 58.6	-5.2
CCIG	**Comitan**	**2.91 64**	*i* P	Pn	02 33 30.9	-2.5
CCIG			*i* S	Sn	02 34 05.1	-2.9
PNIG	**Pinotepa**	**3.43 294**	*i* P	Pn	02 33 38.6	-1.9
PNIG			*i* S	Sn	02 34 14.6	-6.2
PNIG	**Pinotepa**	**3.43 294**	*i* P	Pn	02 33 38.6	-1.9
PNIG			*i* S	Sn	02 34 13.7	-7.1
UTMO	**Huajuapan**	**3.98 315**	*i* P	Pn	02 33 48.1	+0.2
UTMO			*i* S	Sn	02 34 36.5	+2.2
ACX	**Acapulco**	**5.20 291**	*i* P	Pn	02 34 03.3	-1.5
PPM	**Popocatepetl**	**5.41 319**	*i* P	Pn	02 34 10.3	+2.6
PPM			*i* S	Sn	02 35 06.3	-3.2
IIO	**Organos**	**5.86 322**	*i* P	Pn	02 34 17.4	+3.6
MZVM		**5.89 315**	*i* P	Pn	02 34 17.0	+2.7
PTVM	**Pico Tres Padr**	**6.10 319**	*i* P	Pn	02 34 18.4	+1.2

NIED ***02*** *02:37:00, 4720N×14170E, h5km, Mw6.1 Best double couple: M₀1.64000×10¹⁸ NP1:φs211.00000°, δ48.00000°, λ95.00000°. NP2:φs23.00000°, δ42.00000°, λ84.00000°.*
JMA ***02*** *02:37:33.6±0.4, 4722N×14172E, h0km, M6.4*
JMA Felt II J1.
SZGRF ***02*** *02:37:38.5, 4585N×14245E, h33km, mb5.4, MS6.6, Hokkaido, Japan, region*
SKHL ***02*** *02:37:39.6±0.0, 4680N×14180E, h11km, mb5.1/9, mbh6.3/7, mbv6.4/7, ms6.3/4, msh6.0/5*
BJI ***02*** *02:37:39.8, 4709N×14183E, h6km, mB6.1, mb5.0, Ms6.8, Msz6.6*
IDC ***02*** *02:37:40.5±0.5, 4694N×14184E, h0km, mb4.7/19, mb1 4.8/22, mb1mx4.8/23, mbtmp4.6/22, ML3.8/3, Error ellipse: s-maj=15.0km s-min=13.4km az=122.0*
MOS ***02*** *02:37:40.7±1.1, 4691N×14173E, h9km, mb5.4/87, MS6.5/41, Error ellipse: s-maj=6.8km s-min=4.2km az=104.7*
MOS Felt (VII-VIII) at Nevel'sk; (V) at Kholmsk; (IV) at Shebunino; (III-IV) at Chekhov, Yuzhno-Sakhalinsk.
NEIC ***02*** *02:37:42.4±0.2, 4712N×14180E, h5km, mb5.3/217, MS6.2/199, MW6.2, Error ellipse: s-maj=5.0km s-min=2.9km az=175.0, Moment Tensor Solution. s20 Moment tensor: Scale 10¹⁸Nm; Mrr1.63; Mθθ-0.08; Mφφ-1.55; Mrθ0.17; Mθφ-0.14; Mφr1.57; Best double couple: M₀2.20000×10¹⁸ NP1:φs6.00000°, δ67.00000°, λ91.00000°. NP2:φs185.00000°, δ23.00000°, λ89.00000°. Principal axes: T 2.2800, Plg68.0000°, Azm277.0000°; N -0.0700, Plg0.0000°, Azm186.0000°; P -2.2000, Plg22.0000°, Azm96.0000°;*
NEIC At least 2 people killed, 12 injured, 1,000 homeless, 11 buildings destroyed and 20 buildings damaged at Nevel'sk. Felt [III] at Yuzhno-Sakhalinsk. Felt at Dolinsk. A tsunami with recorded wave heights [peak-to-trough] of 30 cm at Wakkanai and 20 cm at Rumoi, Hokkaido. Recorded [2 JMA] in northern Hokkaido.
GCMT ***02*** *02:37:42.4±0.1, 4684N×14182E, h12km, MW6.2/113, Moment Tensor Solution. s95,c224; s113,c411; Duration: 3¹0 Moment tensor: Scale 10¹⁸Nm; Mrr2.31±.01; Mθθ0.04±.01; Mφφ-2.35±.02; Mrθ-0.04±.04; Mθφ-0.15±.01; Mφr-0.24±.04; Best double couple: M₀2.34700×10¹⁸ NP1:φs3.00000°, δ42.00000°, λ89.00000°. NP2:φs184.00000°, δ48.00000°, λ91.00000°. Principal axes: T 2.3220, Plg87.0000°, Azm104.0000°; N 0.0490, Plg1.0000°, Azm4.0000°; P -2.3720, Plg3.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***02*** *02:37:42.4±0.1, 4693N±002×14183E±002, h20km, mb5.2/311, MS6.3/241 Error ellipse: s-maj=2.5km s-min=1.8km az=173.0*
IGIL ***02*** *02:37:43.2, 4726N×14175E, h5km, MS6.5*
DJA ***02*** *02:37:46, 4764N×14159E, h6km, mB6.3/4*
ISC 02 02:37:44.6±0.1, 4695N±002×14179E±002, h21km, h21km±1.9km:pP-P, n1331, σ0s95/1257, mb5.2/311, MS6.3/241, 176C-226D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.66**	**89**	*e*PN	**Pb**	**02 37 51.8**	**-5.6**
YSS				*e*		02 38 02.8	
YSS	comp=N,320nm,0.8s			pmax	pmax		
YSS	comp=E,530nm,0.8s			pmax	pmax		
YSS	comp=Z,540nm,0.8s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**0.66**	**89**	*e*Pg	**Pb**	**02 37 51.8**	**-5.6**
YSS				*i* Pg	**Pb**	**02 37 51.8**	**-5.6**
YSS				⇓*i*Pg	**Pb**	**02 37 51.8**	**-5.6**
YSS	comp=Z,320nm,0.8s			AMB	AMB	02 37 53.8	
YSS	comp=Z,530nm,0.8s			AMB	AMB	02 37 53.8	
YSS	comp=Z,540nm,0.8s			AMB	AMB	02 37 53.8	
YSS	comp=Z,1834μm,5.0s			AMS	AMS	02 38 36.0	
YSS	comp=Z,1713μm,5.0s			AMS	AMS	02 38 36.0	
YSS	comp=Z,1428μm,5.0s			AMS	AMS	02 38 36.0	
YSS	comp=Z,1617μm,5.0s			AMS	AMS	02 38 37.0	
YSS	comp=Z,1575μm,5.0s			AMS	AMS	02 38 37.0	
YSS	comp=Z,1054μm,5.0s			AMS	AMS	02 38 37.0	
YSS	**Yuzh-Sakhalins**	**0.66**	**89**	*e*Pg	**Pb**	**02 37 52.5**	**-4.8**
JWK2	**Keihoku**	**1.64**	**177**	P	**Pn**	**02 38 07.4**	**-4.7**
JWK2				*e*S	**Sn**	**02 38 32.2**	**-0.3**
JRR	**Rishiri**	**1.84**	**191**	P	**Pn**	**02 38 11.1**	**-3.8**
JRR				*e*S	**Sn**	**02 38 39.0**	**+1.4**
JSE	**Soyaes**	**2.07**	**164**	P	**Pn**	**02 38 13.2**	**-4.8**
UGL	**Uglegorsk**	**2.14**	**5**	*e*PN	**Pn**	**02 38 16.5**	**-2.4**
UGL				*e*		02 38 51.0	
UGL	comp=N,2μm,1.0s			pmax	pmax		
UGL	comp=E,5μm,1.0s			pmax	pmax		
UGL	comp=Z,5μm,1.0s			pmax	pmax		
UGL	comp=N,36μm,4.0s			pmax	pmax		
UGL	comp=E,22μm,4.0s			pmax	pmax		
UGL	comp=Z,27μm,4.0s			smax			
UGL	comp=N,6μm,0.6s			smax			
UGL	comp=E,8μm,0.6s						
UGL	**Uglegorsk**	**2.14**	**5**	*e*P	**Pn**	**02 38 17.0**	**-1.9**
UGL				*i* P		02 38 17.0	
UGL				*e*Pg	**Pn**	**02 38 23.9**	**+5.0**
UGL	comp=E,2μm,1.0s			AMB	AMB	02 38 29.0	
UGL	comp=E,5μm,1.0s			AMB	AMB	02 38 29.0	
UGL	comp=E,5μm,1.0s			AMB	AMB	02 38 29.0	
UGL	comp=E,36μm,4.0s			AMB	AMB	02 38 31.0	
UGL	comp=E,22μm,4.0s			AMB	AMB	02 38 31.0	
UGL	comp=E,27μm,4.0s			AMB	AMB	02 38 31.0	
UGL				*e*S	**Sn**	**02 38 44.2**	**-0.6**
UGL				*i* Sg	**Sn**	**02 38 57.0**	**+12**
UGL	comp=E,6μm,0.6s			A		02 39 03.0	
UGL	comp=E,8μm,0.6s			A		02 39 03.0	
JYG	**Yagishiri**	**2.54**	**186**	P	**Pn**	**02 38 21.6**	**-2.8**
JSS	**Shosan**	**2.55**	**179**	P	**Pn**	**02 38 21.9**	**-2.7**
ASAJ	**Asahikawa**	**2.89**	**168**	P	**Pn**	**02 38 26.0**	**-3.3**
ASAJ	**Asahikawa**	**2.89**	**168**	Pn	**Pn**	**02 38 28.6**	**-0.7**
ASAJ	comp=E,11nm,0.3s,baz=342,slow=16,SNR=32			Sn	**Sn**	**02 39 12.1**	**+8.7**
ASAJ	**Asahikawa**	**2.89**	**168**	PN	**Pn**	**02 38 28.7**	**-0.6**
ASAJ	comp=E,150nm,0.3s,baz=343,slow=27,SNR=8.8					02 39 12.1	
ASAJ	comp=Z,11nm,0.3s			pmax	pmax		
ASAJ	comp=N,150nm,0.3s			smax			
JMP	**Maruseppu**	**3.15**	**159**	P	**Pn**	**02 38 29.6**	**-3.2**
JKK2	**Kamakawa 2**	**3.15**	**167**	P	**Pn**	**02 38 29.7**	**-3.2**
JTKR	**Abashiri--Toko**	**3.33**	**153**	P	**Pn**	**02 38 28.8**	**-6.6**
JAB	**Ashibetsu**	**3.46**	**175**	P	**Pn**	**02 38 38.2**	**+1.1**
JSK	**Shakotan**	**3.72**	**195**	P	**Pn**	**02 38 40.1**	**-0.6**
JRA	**Rausu**	**3.82**	**141**	P	**Pn**	**02 38 42.0**	**0.0**
JFR	**Furan**	**3.83**	**171**	P	**Pn**	**02 38 41.1**	**-1.1**
JAR	**Ashorobuto**	**3.91**	**158**	P	**Pn**	**02 38 39.2**	**-4.2**
YUK	**Yuzh-Kuril'sk**	**4.09**	**134**	*e*PN	**Pn**	**02 38 41.3**	**-4.4**
YUK	**Yuzh-Kuril'sk**	**4.09**	**134**	*e*P	**Pn**	**02 38 41.5**	**-4.2**
YUK				*i* Pg	**Pn**	**02 38 58.0**	**+12**
YUK				*e*Sg	Sn	02 39 53.4	+21
YUK	comp=N,7μm,1.0s			A		02 40 19.0	
YUK	comp=N,37μm,1.6s			A		02 40 19.0	
YUK	comp=N,287μm,15.0s			AMS	AMS	02 40 53.0	
YUK	comp=N,612μm,15.0s			AMS	AMS	02 40 53.0	
YUK	comp=N,392μm,15.0s			AMS	AMS	02 40 53.0	
TEY	**Ternei**	**4.09**	**244**	*i* P	**Pn**	**02 38 42.3**	**-3.5**
TEY				*i* Pg	**Pn**	**02 38 59.4**	**+14**
TEY	comp=N,64μm,19.0s			AMB	AMB	02 39 00.0	
TEY	comp=N,96μm,19.0s			AMB	AMB	02 39 10.0	
TEY	comp=N,200μm,20.0s			AMB	AMB	02 39 12.0	
JEW	**Eniwo**	**4.12**	**183**	P	**Pn**	**02 38 50.9**	**+4.7**
JCH	**Churui**	**4.48**	**165**	P	**Pn**	**02 38 50.2**	**-0.9**
NEM2	**Nemuro 2**	**4.55**	**141**	P	**Pn**	**02 38 52.5**	**+0.4**
KUR	**Kuril'sk**	**4.56**	**110**	*e*P	**Pn**	**02 38 44.0**	**-8.3**
KUR				*e*Pg	**Pn**	**02 39 07.2**	**+15**
KUR	comp=N,260nm,1.0s			AMB	AMB	02 39 14.6	
KUR	comp=N,340nm,1.0s			AMB	AMB	02 39 14.6	
KUR	comp=N,750nm,1.0s			AMB	AMB	02 39 14.6	
KUR	comp=N,52μm,16.0s			AMB	AMB	02 39 19.0	
KUR	comp=N,105μm,16.0s			AMB	AMB	02 39 19.0	
KUR	comp=N,62μm,16.0s			AMB	AMB	02 39 19.0	
KUR				*e*S	**Sn**	**02 39 40.0**	**-4.6**
KUR	comp=N,54μm,13.0s			A		02 39 52.0	
KUR	comp=N,81μm,13.0s			A		02 39 52.0	
KUR	comp=N,1μm,1.0s			A		02 40 03.2	
KUR	comp=N,1μm,1.0s			A		02 40 03.2	
KUR	comp=N,118μm,18.0s			AMS	AMS	02 40 33.0	
KUR	comp=N,281μm,18.0s			AMS	AMS	02 40 33.0	
KUR	comp=N,157μm,18.0s			AMS	AMS	02 40 33.0	
KUR	comp=N,182μm,16.0s			AMS	AMS	02 40 33.0	
KUR	comp=N,546μm,16.0s			AMS	AMS	02 40 33.0	
KUR	comp=N,325μm,16.0s			AMS	AMS	02 40 33.0	
HABR	**Khabarovsk**	**4.80**	**291**	⇓*i*PN	**Pn**	**02 38 57.3**	**+1.8**
HABR				*e*S	**Sn**	**02 39 51.1**	**+0.7**
HABR	comp=Z,146nm,0.9s			pmax	pmax		
HABR	comp=Z,553μm,12.0s			MLR	MLR		
GRNR	**Gornyy**	**5.21**	**319**	*e*P	**Pn**	**02 38 52.2**	**-8.9**
GRNR	comp=Z,92nm,1.0s			AMB	AMB	02 38 53.0	
NKL	**Nikolayevsk**	**6.25**	**354**	*e*P	**Pn**	**02 39 10.0**	**-5.4**
NKL				*e*P		02 39 14.0	
NKL				*e*S	**Sn**	**02 40 27.0**	**+1.0**
NKL	comp=Z,13μm,13.0s			A		02 40 50.0	
NKL				*e*Sg	Sn	02 41 13.0	+47
NKL	comp=Z,150μm,15.0s			AMS	AMS	02 42 10.0	
NKL	comp=Z,250μm,15.0s			AMS	AMS	02 42 10.0	
NKL	comp=Z,190μm,15.0s			AMS	AMS	02 42 10.0	
OKH	**Okha**	**6.65**	**6**	*e*PN	**Pn**	**02 39 30.0**	**+9.1**
OKH				*e*S	**Sn**	**02 40 44.4**	**+8.5**
OKH	comp=Z,14μm,10.0s			pmax	pmax		
OKH	comp=N,28μm,11.0s			smax			
OKH	**Okha**	**6.65**	**6**	*e*P	**Pn**	**02 39 22.8**	**+1.9**
OKH	comp=N,2μm,9.0s			AMB	AMB	02 39 40.0	
OKH	comp=N,14μm,10.0s			AMB	AMB	02 39 40.0	
OKH	comp=N,17μm,10.0s			AMB	AMB	02 39 40.0	
OKH				*e*S	**Sn**	**02 40 41.0**	**+5.1**
OKH	comp=N,10μm,12.0s			A		02 40 49.0	
OKH	comp=N,28μm,10.0s			A		02 40 49.0	
OKH	comp=N,126μm,14.0s			AMS	AMS	02 43 28.4	
KLR	**Kul'dur**	**7.10**	**292**	*e*P	**Pn**	**02 39 22.0**	**-5.1**
KLR				*e*P		02 39 22.5	
VLA	**Vladivostok**	**7.99**	**245**	*e*PN	**Pn**	**02 39 45.0**	**+5.7**
VLA	comp=Z,102nm,1.7s			pmax	pmax		
VLA	comp=Z,132μm,10.0s			MLR	MLR		
EKMR	**Ekimchan**	**8.36**	**320**	*e*P	**Pn**	**02 39 41.2**	**-3.1**
EKMR				AMB	AMB	02 39 58.0	
EKMR	comp=Z,5.0nm,0.5s			AMB	AMB	02 39 58.0	
EKMR	comp=Z,14nm,0.5s			AMB	AMB	02 39 58.0	
EKMR	comp=Z,27nm,0.5s						
EKMR				*e*S	**Sn**	**02 41 21.0**	**+3.0**
MDJ	**Mudanjiang**	**8.84**	**259**	P	**Pn**	**02 39 52.9**	**+1.9**
MDJ				PCP	PcP	02 46 20.1	+4.1
MDJ				SCP	ScP	02 49 51.2	+4.7
MDJ	comp=Z,30nm,1.0s			AMB	AMB		
MDJ	comp=Z,11μm,15.3s			AMB	AMB		
MDJ	comp=N,210μm,13.1s			LR	LR		
MDJ	comp=E,300μm,15.6s			LR	LR		
MDJ	comp=Z,494μm,15.6s			LR	LR		
SKR	**Severo-Kuril's**	**10.16**	**63**	*e*PN	**Pn**	**02 40 11.0**	**+2.0**
SKR	comp=Z,50nm,0.7s			pmax	pmax		
SKR	comp=Z,6μm,16.0s			pmax	pmax		
SKR	comp=N,4μm,10.0s			pmax	pmax		
SKR	comp=E,8μm,10.0s			pmax	pmax		
SKR	comp=N,14μm,12.0s			MLR	MLR		
SKR	comp=E,6μm,12.0s			MLR	MLR		
SKR	comp=Z,32μm,12.0s			MLR	MLR		
SKR	**Severo-Kuril's**	**10.16**	**63**	*e*P	**Pn**	**02 40 08.3**	**-0.7**
SKR				AMB	AMB	02 40 18.6	
SKR	comp=Z,50nm,0.7s			AMB	AMB	02 40 19.0	
SKR	comp=Z,4μm,10.0s			AMB	AMB	02 40 19.0	
SKR	comp=Z,7μm,10.0s			AMB	AMB	02 40 19.0	
SKR	comp=Z,5μm,16.0s			AMB	AMB	02 40 19.0	
SKR	comp=Z,4μm,10.0s			AMB	AMB	02 40 19.0	
SKR	comp=Z,8μm,10.0s			AMB	AMB	02 40 19.0	
SKR	comp=Z,6μm,16.0s			AMB	AMB	02 40 19.0	
SKR				*e*S	**Sn**	**02 42 08.0**	**+5.8**
SKR	comp=Z,167μm,16.0s			AMS	AMS	02 44 32.0	
SKR	comp=Z,165μm,16.0s			AMS	AMS	02 44 32.0	
SKR	comp=Z,438μm,16.0s			AMS	AMS	02 44 32.0	
SKR	comp=Z,14μm,12.0s			AMS	AMS	02 45 00.0	
SKR	comp=Z,6μm,12.0s			AMS	AMS	02 45 00.0	
SKR	comp=Z,32μm,12.0s			AMS	AMS	02 45 00.0	
MAT	**Matsushiro**	**10.74**	**196**	P	**Pn**	**02 40 15.5**	**-1.5**
MAT				S	**Sn**	**02 42 24.0**	**+7.5**
MJAR	**Matsushiro Arr**	**10.74**	**196**	Pn	**Pn**	**02 40 16.9**	**-0.1**
MJAR	**Matsushiro Arr**	**10.74**	**196**	PN	**Pn**	**02 40 16.9**	**-0.1**
MJAR	comp=Z,1.0nm,0.3s			pmax	pmax		
BMKR	**Bomnak**	**11.27**	**318**	*e*P	**Pn**	**02 40 20.3**	**-3.9**
BMKR	comp=Z,48nm,1.0s			AMB	AMB	02 40 25.0	
BMKR				*e*S	**Sn**	**02 42 34.5**	**+5.1**
ZEA	**Zeya**	**11.50**	**312**	*e*P	**Pn**	**02 40 25.6**	**-1.7**
ZEA				*e*P		02 40 30.0	
ZEA	comp=Z,3μm,12.0s			AMB	AMB	02 40 42.0	
ZEA	comp=Z,6μm,12.0s			AMB	AMB	02 40 42.0	
ZEA	comp=Z,10μm,12.0s			AMB	AMB	02 40 42.0	
ZEA				*e*S	**Sn**	**02 42 43.6**	**+8.7**
ZEA	comp=Z,9μm,16.0s			A		02 43 02.0	
ZEA	comp=Z,9μm,16.0s			A		02 43 02.0	
ZEA	comp=Z,8μm,14.0s			A		02 43 02.0	
CN2	**Changchun**	**11.92**	**261**	*e*P	**Pn**	**02 40 33.7**	**+0.6**
CN2				*e*PP		02 40 43.3	
CN2				*e*PPP		02 40 50.3	
CN2				*e*S	**Sn**	**02 42 48.3**	**+3.0**
CN2				*e*SS		02 43 02.4	
CN2	comp=Z,20nm,0.9s			AMB	AMB		
PETK	**Petropavlovsk-**	**11.93**	**53**	Pn	**Pn**	**02 40 36.4**	**+3.2**
PETK	comp=Z,0.6nm,0.3s,baz=221,slow=8.8,SNR=18 **Petropavlovsk-**	**11.93**	**53**	*e*Pn	**Pn**	**02 40 32.0**	**-1.1**
KROS	**Kirovskiy**	**12.00**	**314**	*e*P	**Pn**	**02 40 32.3**	**-1.8**
KROS	comp=Z,35nm,0.9s			AMB	AMB	02 40 36.9	
PET	**Petropavlovsk**	**12.42**	**55**	*d*PN	**Pn**	**02 40 41.6**	**+1.7**
PET				*e*S	**Sn**	**02 43 09.4**	**+12**
PET	comp=N,4μm,10.7s			pmax	pmax		
PET	comp=Z,8μm,10.3s			pmax	pmax		
PET	comp=E,7μm,10.5s			pmax	pmax		
PET	comp=Z,70nm,1.1s			pmax	pmax		
PET	comp=N,5μm,9.4s			smax			
PET	comp=N,8μm,13.3s			smax			
PET	comp=Z,225μm,13.0s			MLR	MLR		
PET	comp=Z,252μm,13.0s			MLR	MLR		
PET	**Petropavlovsk**	**12.42**	**55**	*i* P	**Pn**	**02 40 43.1**	**+3.2**
PET	comp=Z,4μm,11.0s			AMB	AMB	02 40 49.0	
PET	comp=Z,8μm,10.0s			AMB	AMB	02 40 49.1	
PET	comp=Z,7μm,11.0s			AMB	AMB	02 40 49.2	
PET	comp=Z,9μm,11.0s			AMB	AMB	02 40 51.4	
PET	comp=Z,7μm,10.0s			AMB	AMB	02 40 51.8	
PET	comp=Z,4μm,10.0s			AMB	AMB	02 40 51.9	
PET	comp=Z,70nm,1.1s			AMB	AMB	02 40 52.1	
PET	comp=Z,12μm,9.3s			AMB	AMB	02 40 54.2	
PET				*e*S	**Sn**	**02 43 07.8**	**+10**
PET	comp=Z,5μm,9.4s			A		02 43 12.2	
PET	comp=Z,252μm,14.0s			AMS	AMS	02 46 24.9	
PET	comp=Z,225μm,13.0s			AMS	AMS	02 46 28.6	
PET	**Petropavlovsk**	**12.42**	**55**	*e*Pn	**Pn**	**02 40 39.3**	**-0.6**
MA2	**Magadan**	**13.72**	**20**	⇓*i*P	**Pn**	**02 41 00.8**	**+3.2**
MA2				*e*S	**Sn**	**02 43 34.3**	**+5.1**
MA2	comp=Z,100nm,2.0s			pmax	pmax		
MA2	comp=Z,148μm,16.1s			MLR	MLR		
MA2	**Magadan**	**13.72**	**20**	*e*Pn	**Pn**	**02 41 01.1**	**+3.5**
KSRS	**Korea Array**	**13.97**	**232**	Pn	**Pn**	**02 41 02.0**	**+0.8**
SNY	**Shenyang**	**13.99**	**255**	P	**Pn**	**02 41 06.7**	**+5.4**
SNY				AP		02 41 10.7	
SNY				XP		02 41 14.6	
SNY	comp=Z,16μm,10.0s			AMB	AMB		
SNY	comp=N,175μm,13.7s			LR	LR		
SNY	comp=E,313μm,13.1s			LR	LR		
SNY	comp=Z,393μm,13.9s			LR	LR		
KS15	**Wonju Array Si**	**14.00**	**232**	*e*Pn	**Pn**	**02 41 05.0**	**+3.5**
CLNS	**Chul'man**	**14.34**	**320**	*e*P	**Pn**	**02 41 04.8**	**-1.2**
CLNS				*e*S	**Sn**	**02 43 54.9**	**+11**
CLNS	comp=Z,30nm,1.1s			pmax	pmax		
CLNS	comp=N,29nm,1.2s			pmax	pmax		
CLNS	comp=E,12nm,0.9s			pmax	pmax		
CLNS	comp=N,5μm,14.2s			smax			
CLNS	comp=E,4μm,12.8s			smax			
CLNS	comp=Z,96μm,15.0s			MLR	MLR		
CLNS	comp=N,27μm,10.0s			MLR	MLR		
CLNS	comp=E,84μm,14.0s			MLR	MLR		
INCN	**Inchon**	**14.66**	**235**	*e*P	**Pn**	**02 41 18.2**	**+7.6**
HIA	**Hailar**	**14.90**	**287**	*d*P	**Pn**	**02 41 14.7**	**+0.9**
HIA	**Hailar**	**14.90**	**287**	*e*Pn	**Pn**	**02 41 12.4**	**-1.3**
YAK	**Yakutsk**	**16.62**	**340**	*e*P	**Pn**	**02 41 36.3**	**+0.4**
YAK				*e*S	**Sn**	**02 44 41.6**	**+2.0**
YAK	comp=N,83nm,1.7s			pmax	pmax		
YAK	comp=Z,88nm,1.0s			pmax	pmax		
YAK	comp=E,28nm,1.3s			pmax	pmax		
YAK				pmax	pmax		

comp=Z,622nm,2.3s
YAK smax
comp=N,7μm,11.4s
YAK smax
comp=E,13μm,10.4s
YAK MLR MLR
comp=Z,44μm,12.0s
YAK MLR MLR
comp=N,63μm,16.0s
YAK MLR MLR
comp=E,17μm,14.0s
YAK Yakutsk 16.62 340 *e*Pn **Pn 02 41 35.2 -0.7**
comp=E,202nm,1.2s
DL2 Dalian 16.78 249⇑ *i*P **Pn 02 41 37.3 -0.8**
DL2 S **Sn 02 44 47.1 +3.3**
DL2 LG1 02 46 40.8
DL2 LG2 02 47 03.3
DL2 AMB AMB
comp=Z,60nm,0.9s
DL2 AMB AMB
comp=Z,11μm,9.3s
DL2 LR LR
comp=N,118μm,13.4s
DL2 LR LR
comp=E,82μm,12.0s
DL2 LR LR
comp=Z,136μm,13.2s
SEY Seymchan 17.09 17*d* *i*P **Pn 02 41 44.0 +2.2**
SEY Seymchan 17.09 17 *i*P **Pn 02 41 44.0 +2.2**
CIT Chita 18.97 296 *e*P **Pn 02 42 04.1 -0.9**
CIT pmax pmax
comp=Z,543nm,3.0s
BJI Beijing 19.77 259 P **Pn 02 42 10.6 -4.1**
BJI S **Sn 02 46 01.9 +5.8**
BJI AMB AMB
comp=Z,19nm,2.6s
BJI AMB AMB
comp=Z,18μm,13.2s
BJI LR LR
comp=N,139μm,15.1s
BJI LR LR
comp=E,273μm,13.3s
BJI LR LR
comp=Z,168μm,16.9s
BJT Baijiatuan 19.79 259 *e*P **Pn 02 42 14.5 -0.3**
comp=Z,77nm,1.2s
BOD Bodaibo 19.99 313 *e*P **P 02 42 14.8 -0.6**
BOD pmax pmax
comp=Z,84nm,1.8s
SMY Shemya 21.50 62 *e*P **P 02 42 31.2 -0.5**
comp=Z,292nm,1.3s,mb5.5
SMY LR LR
comp=Z,62μm,22.0s,MS6.0
SSE Sheshan 22.41 232 P **P 02 42 44.6 +3.0**
SSE XP sP 02 42 49.0 -1.3
SSE S **S 02 46 53.1 +6.2**
SSE XS sS 02 46 57.6 +1.0
SSE AMB AMB
comp=Z,38nm,1.2s,mb4.7
SSE AMB AMB
comp=Z,4μm,12.0s
SSE LR LR
comp=N,23μm,22.5s,MS5.7
SSE LR LR
comp=E,24μm,22.5s,MS5.7
SSE LR LR
comp=Z,34μm,13.5s
HHC Hu-ho-hao-te 22.53 265 *e*P **P 02 42 44.4 +1.6**
HHC AP 02 42 48.5
HHC XP sP 02 42 49.6 -1.9
HHC PP 02 43 12.2
HHC S **S 02 46 47.5 -1.6**
HHC SS 02 47 27.9
HHC PCS PcS 02 50 14.8 +0.1
HHC AMB AMB
comp=Z,31nm,0.8s,mb4.8
HHC AMB AMB
comp=Z,7μm,5.8s
HHC LR LR
comp=N,103μm,12.5s,MS6.8
HHC LR LR
comp=E,198μm,13.7s,MS6.8
HHC LR LR
comp=Z,237μm,14.3s,MS6.8
NJ2 Nanjing 23.01 238 *e*P **P 02 42 50.5 +2.6**
NJ2 AP 02 42 54.3
NJ2 XP sP 02 42 57.6 +1.0
NJ2 S **S 02 46 57.5 +0.3**
NJ2 XS sS 02 47 05.0 -2.6
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,4μm,10.3s
NJ2 LR LR
comp=N,62μm,15.4s,MS6.3
NJ2 LR LR
comp=E,52μm,14.7s,MS6.3
NJ2 LR LR
comp=Z,51μm,14.7s,MS6.1
TIY Taiyuan 23.47 257 *i*P **P 02 42 55.5 +2.8**
TIY PPP 02 43 39.8
TIY S **S 02 47 03.1 -1.6**
TIY XS sS 02 47 15.3 +0.2
TIY SS 02 47 50.3
TIY AMB AMB
comp=Z,5μm,9.7s
TIY LR LR
comp=N,33μm,9.7s
TIY LR LR
comp=E,35μm,8.0s
TIY LR LR
comp=Z,19μm,9.7s
BTO Baotou 23.69 266 *e*P **P 02 42 57.7 +3.0**
BTO S **S 02 47 11.7 +3.5**
SONM Songino Array 23.86 285 P **P 02 42 55.4 -0.8**
comp=Z,12nm,1.1s,mb4.2,baz=75,slow=7.7,SNR=30
SONM PcP PcP 02 46 39.8 +1.2
comp=Z,3.1nm,0.8s,baz=46,slow=4.6,SNR=2.7
SONM Songino Array 23.86 285 P **P 02 42 55.4 -0.8**
SONM 02 46 39.8
SONM pmax pmax
comp=Z,12nm,1.1s
BILL Bilibino 24.56 22⇑ *e*P **P 02 43 03.1 +0.7**
BILL *i* 02 43 10.2
BILL *e* 02 43 32.6
BILL *i*S **S 02 47 29.0 +7.2**
BILL pmax pmax
comp=Z,33nm,1.0s,mb4.8
BILL MLR MLR
comp=Z,60μm,16.0s,MS6.2
BILL Bilibino 24.56 22 *e*P **P 02 43 00.5 -1.9**
comp=Z,301nm,1.4s,mb5.6
BILL LR LR
comp=Z,34μm,19.0s,MS5.9
IRK Irkutsk 24.69 296⇑ *i*P **P 02 43 02.4 -1.3**
AMKA Amchitka 24.74 66 *e*P **P 02 43 04.5 +0.3**
TLY Talaya 25.11 295 P **P 02 43 07.5 -0.1**
comp=Z,353nm,1.0s,mb5.8,SNR=35
TLY Talaya 25.11 295*c* *i*P **P 02 43 06.6 -1.0**
TLY *e* 02 43 42.4
TLY *e*PPP 02 43 54.7
TLY *e*S **S 02 47 35.8 +4.9**
TLY *e*SS 02 48 29.6
TLY pmax pmax
comp=Z,86nm,1.2s,mb5.2
TLY MLR MLR
comp=Z,168μm,15.0s,MS6.7
TLY Talaya 25.11 295 *e*P **P 02 43 07.1 -0.5**
comp=Z,78nm,1.1s,mb5.2
TLY LR LR
comp=Z,113μm,22.0s,MS6.3
ZAK Zakamensk 25.47 292⇑ *i*P **P 02 43 10.4 -0.4**
ZAK pmax pmax
comp=Z,78nm,1.2s,mb5.1
TIXI Tiksi 25.52 351 *e*P **P 02 43 10.8 -0.3**
TIXI *e*S **S 02 47 45.8 +8.8**
TIXI pmax pmax
comp=Z,89nm,1.7s,mb5.0
TIXI MLR MLR
comp=Z,32μm,10.0s,MS6.1
TIXI MLR MLR
comp=E,12μm,13.0s,MS5.9
TIXI MLR MLR
comp=N,18μm,13.0s,MS5.9
TIXI Tiksi 25.52 351 *e*P **P 02 43 08.8 -2.2**
comp=N,76nm,1.2s,mb5.1
TIXI LR LR
comp=Z,23μm,19.0s,MS5.7
MOY Mondy 26.76 295 *e*P **P 02 43 22.0 -0.4**
WHN Wuhan 26.76 242⇓ P **P 02 43 19.1 -3.6**
WHN S **S 02 48 02.0 +4.7**
WHN AMB AMB
comp=Z,8μm,6.7s
WHN LR LR
comp=N,71μm,10.0s,MS6.8
WHN LR LR
comp=E,115μm,11.6s,MS6.8
WHN LR LR
comp=Z,151μm,12.3s,MS6.8
TATO Taipei 27.25 223 *e*P **P 02 43 27.7 +0.6**
comp=Z,42nm,0.8s,mb5.0
TATO LR LR
comp=Z,33μm,19.0s,MS5.9
YHNB Yeheng 27.57 223 *e*P **P 02 43 31.1 +1.1**
comp=Z,40nm,0.9s,mb5.0
YHNB LR LR
comp=Z,36μm,22.0s,MS5.9
XAN Xi'an 27.91 254 P **P 02 43 36.1 +3.1**
XAN PP 02 44 26.9
XAN PPP 02 44 38.3
XAN PCP PcP 02 46 50.8 +2.7
XAN S **S 02 48 19.2 +3.8**
XAN SS 02 49 40.5
XAN SCP ScP 02 50 30.7 +3.2
XAN PCS PcS 02 50 32.4 +2.2
XAN SCS ScS 02 54 21.6 +1.8
XAN AMB AMB
comp=Z,8.0nm,0.7s,mb4.5
XAN AMB AMB
comp=Z,4μm,15.0s
XAN LR LR
comp=N,70μm,16.4s,MS6.6
XAN LR LR
comp=E,102μm,16.2s,MS6.6
XAN LR LR
comp=Z,165μm,16.6s,MS6.7
QZH Quanzhou 28.70 228 P **P 02 43 39.2 -0.9**
QZH S **S 02 48 34.0 +6.1**
QZH AMB AMB
comp=Z,70nm,1.1s,mb5.3
QZH AMB AMB
comp=Z,8μm,10.0s
QZH LR LR
comp=N,45μm,12.7s,MS6.4
QZH LR LR
comp=E,37μm,10.6s,MS6.4
QZH LR LR
comp=Z,57μm,12.2s,MS6.4
LZH Lanzhou 30.14 263 *e*P **P 02 43 50.5 -2.3**
LZH AP pP 02 43 56.2 -3.0
LZH XP sP 02 43 58.3 -3.5
LZH S **S 02 48 52.0 +1.6**
LZH SS SS 02 50 25.1 -34
LZH AMB AMB
comp=Z,1μm,4.6s
LZH LR LR
comp=E,166μm,14.8s
LZH LR LR
comp=Z,189μm,15.2s,MS6.8
KRAR Krasnoyarsk 31.18 305 *i*P **P 02 44 03.1 +1.4**
GTA Gaotai 31.22 272 *e*P **P 02 44 03.0 +0.7**
GTA AP pP 02 44 07.1 -1.6
GTA XP sP 02 44 10.7 -0.6
GTA PP PP 02 45 03.6 -9.1
GTA PCP PcP 02 47 01.6 +5.1
GTA S **S 02 49 14.5 +7.2**
GTA XS sS 02 49 22.3 +4.4
GTA SCS ScS 02 54 36.4 +1.1
GTA AMB AMB
comp=Z,2μm,7.3s
GTA LR LR
comp=N,39μm,17.5s,MS6.7
GTA LR LR
comp=E,129μm,12.6s,MS6.7
HVS Khovu-Aksy 31.35 296⇑ *e*P **P 02 44 02.9 -0.4**
HVS pmax pmax
comp=Z,88nm,0.8s,mb5.6
GZH Guangzhou 33.00 234 P **P 02 44 14.4 -3.6**
GZH S **S 02 49 31.8 -3.4**
GZH AMB AMB
comp=Z,4μm,10.6s
GZH LR LR
comp=N,45μm,14.5s,MS6.5
GZH LR LR
comp=E,40μm,12.3s,MS6.5
GZH LR LR
comp=Z,31μm,22.2s
HKC Hong Kong Obse 33.17 232⇓ *i*P **P 02 44 26.0 +6.5**
HKC *i*S **S 02 49 44.0 +6.0**
CD2 Chengdu 33.27 255 P **P 02 44 19.9 -0.4**
CD2 AP pP 02 44 24.3 -2.4
CD2 XP sP 02 44 27.5 -1.8
CD2 PP PP 02 45 31.7 -3.9
CD2 PCP PcP 02 47 01.4 -0.8
CD2 S **S 02 49 38.0 -1.3**
CD2 XS sS 02 49 46.9 -3.0
CD2 SS SS 02 51 43.2 -20
CD2 SCS ScS 02 54 43.6 -2.3
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
CD2 AMB AMB
comp=Z,4μm,7.5s
CD2 LR LR
comp=N,89μm,18.6s,MS6.7
CD2 LR LR
comp=E,80μm,14.4s,MS6.7
CD2 LR LR
comp=Z,105μm,17.4s,MS6.6
GUMO Guam 33.36 175 PFAKE 02 44 30.0 +8.9
GUMO LR LR
comp=Z,24μm,20.0s,MS5.9
GYA Guiyang 34.40 246⇑ *i*P **P 02 44 31.8 +1.6**
GYA AP pP 02 44 40.3 +3.7
GYA PP PP 02 45 49.2 +1.0
GYA PPP 02 46 07.5
GYA PCP PcP 02 47 09.0 +3.5
GYA S **S 02 49 53.5 -3.4**
GYA SCP ScP 02 50 53.6 +4.4
GYA SS SS 02 52 11.2 -15
GYA SSS 02 52 38.9
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.3
GYA AMB AMB
comp=Z,2μm,12.9s
GYA LR LR
comp=N,51μm,12.0s,MS6.6
GYA LR LR
comp=E,47μm,11.9s,MS6.6
GYA LR LR
comp=Z,73μm,12.7s,MS6.6
ZAA0 Zalesovo Array 36.07 303 *e*P **P 02 44 42.1 -2.2**
ZALV Zalesovo Beam 36.07 303 P **P 02 44 43.5 -0.7**
comp=Z,12nm,0.8s,mb4.8,baz=76,slow=6.3,SNR=13
ZALV PcP PcP 02 47 12.2 +2.2
comp=Z,6.5nm,0.7s,baz=98,slow=2.0,SNR=4.2
ZAL Zalesovo 36.08 303 P **P 02 44 43.6 -0.8**
ZAL 02 47 12.2
ZAL pmax pmax
comp=Z,12nm,0.9s
NVS Novosibirsk 36.78 304 *i*P **P 02 44 49.6 -0.7**
NVS pmax pmax
comp=Z,145nm,2.6s,mb5.3
NVS pmax pmax
comp=N,37nm,2.2s
NVS pmax pmax
comp=E,68nm,2.0s
MIDW Midway 36.87 106 PFAKE 02 45 00.0 +8.6
MIDW LR LR
comp=Z,22μm,19.0s,MS6.0
TTA Tatalina 37.44 42 *e*P **P 02 44 55.9 +0.1**
TTA Tatalina 37.44 42 *e*P **P 02 44 56.2 +0.4**
WMQ Urumqi 37.49 286 P **P 02 44 58.9 +2.4**
WMQ AP pP 02 45 03.4 +0.4
WMQ XP sP 02 45 05.9 +0.3
WMQ PP PP 02 46 26.7 +4.7
WMQ S **S 02 50 46.2 +2.2**
WMQ PCS PcS 02 51 05.3 +2.5
WMQ SS SS 02 53 18.2 -10
WMQ SCS ScS 02 55 10.2 +1.8
WMQ AMB AMB
comp=Z,39nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,2μm,8.0s
WMQ LR LR
comp=N,79μm,18.2s,MS6.7
WMQ LR LR
comp=E,69μm,15.6s,MS6.7
WMQ LR LR
comp=Z,104μm,16.4s,MS6.7
KMI Kunming 37.83 249 P **P 02 44 58.3 -1.2**
KMI PP PP 02 46 30.8 +4.8
KMI S **S 02 50 51.0 +1.6**
KMI SS SS 02 53 26.1 -10
KMI SSS 02 53 59.0
KMI AMB AMB
comp=Z,29nm,1.8s,mb4.7
KMI AMB AMB
comp=Z,714nm,3.3s
KMI LR LR
comp=N,56μm,12.8s,MS6.6
KMI LR LR
comp=E,48μm,16.2s,MS6.6
KMI LR LR
comp=Z,68μm,13.5s,MS6.6
SVW2 Sparrevohn 37.84 45 *e*P **P 02 45 00.3 +1.1**
QIZ Qiongzhong 38.19 234 P **P 02 45 01.4 -1.2**
QIZ PP PP 02 46 33.4 +3.4
QIZ S **S 02 51 01.6 +6.8**
QIZ LR LR
comp=E,38μm,13.7s
QIZ LR LR
comp=Z,40μm,14.3s,MS6.4
IMA2 Indian Mountai 38.25 37 *e*P **P 02 45 02.2 -0.4**
CHUM Lake Minchumin 39.01 40 *e*P **P 02 45 08.6 -0.4**
comp=Z,136nm,1.5s,mb5.5
PPLA Purkeypile 39.19 41 *e*P **P 02 45 11.2 +0.7**
comp=Z,499nm,1.8s,mb5.9
COLD Coldfoot 39.57 35 *e*P **P 02 45 12.7 -0.9**
comp=Z,21nm,0.9s,mb4.9
OHAK Old Harbor 39.72 50 *e*P **P 02 45 14.6 -0.4**
comp=Z,116nm,1.6s,mb5.4
MK31 Makanchi Array 39.81 292 *i*P **P 02 45 14.4 -1.5**
MK31 pmax pmax
comp=Z,45nm,0.9s,mb5.2
MK31 Makanchi Array 39.81 292 *e*P **P 02 45 13.5 -2.4**
MKAR Makanchi Array 39.81 292 P **P 02 45 14.8 -1.0**
comp=Z,20nm,1.0s,mb4.8,baz=73,slow=9.0,SNR=37
MKAR Makanchi Array 39.81 292 P **P 02 45 14.9 -1.0**
MKAR pmax pmax
comp=Z,20nm,1.0s
KDAK Kodiak Island 39.95 49 P **P 02 45 15.8 -1.1**
comp=Z,34nm,1.2s,mb4.9,baz=276,slow=5.4,SNR=4.7
KDAK Kodiak Island 39.95 49 *e*P **P 02 45 16.4 -0.5**
comp=Z,98nm,1.4s,mb5.3
TRF Thorofare Moun 39.96 40 *e*P **P 02 45 15.2 -1.8**
comp=Z,208nm,1.6s,mb5.6
MCK McKinley 40.51 40 *e*P **P 02 45 21.4 -0.1**
comp=Z,34nm,0.9s,mb5.0
SLKM Skilak Lake 40.53 45 *e*P **P 02 45 21.9 +0.2**
SLKM Skilak Lake 40.53 45 *e*P **P 02 45 21.6 -0.1**
KURK Kurchatov 40.63 299 P **P 02 45 21.3 -1.4**
comp=Z,156nm,0.8s,mb5.7,SNR=19
KURK Kurchatov 40.63 299*c* *i*P **P 02 45 20.9 -1.8**
KURK pmax pmax
comp=Z,30nm,1.0s,mb4.9
KURK Kurchatov 40.63 299 *e*P **P 02 45 21.1 -1.5**
comp=Z,20nm,0.8s,mb4.8
KURK LR LR
comp=Z,66μm,19.0s,MS6.5
RC01 Rabbit Creek A 40.64 44 *e*P **P 02 45 23.5 +0.9**
comp=Z,127nm,1.5s,mb5.3
COLA College 40.79 38 P **P 02 45 23.2 -0.6**
COLA pmax pmax
comp=Z,110nm,1.2s,mb5.4
COLA College 40.79 38 *e*P **P 02 45 22.8 -1.0**
comp=Z,109nm,1.3s,mb5.3
COLA LR LR
comp=Z,26μm,19.0s,MS6.1
PMR Palmer 40.82 43 *e*P **P 02 45 24.4 +0.3**
comp=Z,160nm,1.7s,mb5.4
PMR LR LR
comp=Z,33μm,20.0s,MS6.2
SEW Seward 40.99 45 *e*P **P 02 45 25.0 -0.5**
DAV Davao City (W) 42.10 204⇓ *e*P **P 02 45 37.6 +2.6**
DAV Davao City (W) 42.10 204 PFAKE 02 45 50.0 +15
DAV LR LR
comp=Z,12μm,22.0s,MS5.7
DIV Divide 42.50 43 *e*P **P 02 45 37.3 -0.6**
comp=Z,208nm,1.5s,mb5.6
LSA Lhasa 42.52 265 P **P 02 45 39.6 +1.3**
LSA LR LR
comp=E,55μm,8.8s
LSA LR LR
comp=Z,70μm,12.1s,MS6.8
LSA Lhasa 42.52 265 PFAKE 02 45 50.0 +12
LSA LR LR
comp=Z,81μm,19.0s,MS6.6
EYAK Cordova Ski Ar 42.66 44 *e*P **P 02 45 38.0 -1.1**
comp=Z,208nm,1.2s,mb5.7
BMRM Bremner River 43.09 43 *e*P **P 02 45 43.0 +0.3**
RAGM Ragged Mountai 43.22 44 *e*P **P 02 45 43.6 -0.1**
EGAK Eagle 43.62 37 *e*P **P 02 45 45.5 -1.3**
comp=Z,36nm,0.8s,mb5.2
EGAK LR LR
comp=Z,25μm,20.0s,MS6.1
DAWY Dawson 44.55 38 *e*P **P 02 45 53.5 -0.7**
BVA0 Borovoye Array 44.56 305 *i*P **P 02 45 54.7 +0.2**
BVA0 pmax pmax
comp=Z,26nm,1.9s,mb4.7
BVAR Borovoye Array 44.56 305 P **P 02 45 54.1 -0.4**
comp=Z,13nm,0.9s,mb4.8,baz=78,slow=6.8,SNR=25
BVAR PcP PcP 02 47 38.9 +1.7
comp=Z,11nm,0.7s,baz=90,slow=2.9,SNR=7.9
BVAR Borovoye Array 44.56 305 P **P 02 45 54.1 -0.4**
BVAR 02 47 38.9
BVAR pmax pmax
comp=Z,13nm,0.9s
BRVK Borovoye 44.61 305 P **P 02 45 54.2 -0.7**
comp=Z,154nm,1.0s,mb5.8,SNR=12
BRVK Borovoye 44.61 305 *e*P **P 02 45 53.5 -1.4**
comp=Z,31nm,1.0s,mb5.1
BRVK LR LR
comp=Z,81μm,19.0s,MS6.7
SHL Shillong 44.67 259 *i*P **P 02 45 56.0 +0.3**
SHL *i*x x 02 52 40.0
AAA Alma-Ata 44.74 290 *i*P **P 02 46 02.1 +6.0**
AAA *i*S **S 02 52 41.0 +9.3**
AAA pmax pmax
comp=Z,5μm,14.4s
AAA smax
comp=E,6μm,18.5s
AAA MLR MLR
comp=Z,79μm,13.6s,MS6.8
CHTO Chiang Mai 44.82 246 *e*P **P 02 45 56.3 -0.7**
comp=Z,20nm,0.9s,mb5.0
CHTO LR LR
comp=Z,35μm,19.0s,MS6.3
CM31 Chiang Mai Arr 45.09 246 PFAKE 02 46 10.0 +11
CM31 LR LR
comp=Z,30μm,20.0s,MS6.2
CMAR Chiang Mai Arr 45.09 246 P **P 02 45 58.4 -0.7**
comp=Z,7.5nm,0.9s,mb4.5,baz=32,slow=7.8,SNR=15
CMAR Chiang Mai Arr 45.09 246 P **P 02 45 58.4 -0.7**
CMAR pmax pmax
comp=Z,8.0nm,0.9s
INK Inuvik 45.59 31 P **P 02 46 01.1 -1.4**
comp=Z,13nm,0.8s,mb4.9,baz=300,slow=7.5,SNR=11
INK Inuvik 45.59 31 P **P 02 46 01.1 -1.4**
INK pmax pmax
comp=Z,13nm,0.8s
INK Inuvik 45.59 31 *e*P **P 02 46 01.5 -1.0**
ULHL Ulahol 45.69 289 P **P 02 46 03.3 -0.4**
SNR=10
TKM2 Tokmak 2 45.78 290 P **P 02 46 04.7 +0.4**
TKM2 pmax pmax
comp=Z,56nm,1.1s,mb5.4
TKM2 Tokmak 2 45.78 290 P **P 02 46 04.8 +0.5**
SNR=22
TKM2 Tokmak 2 45.78 290 *e*P **P 02 46 04.1 -0.2**
comp=Z,56nm,1.1s,mb5.4
TKM2 LR LR
comp=Z,48μm,20.0s,MS6.4
PNL Peninsula 45.96 44 *e*P **P 02 46 06.2 +0.7**
comp=Z,22nm,1.2s,mb5.0
KKM Kota Kinabalu 46.31 216 PFAKE 02 46 20.0 +11
KKM LR LR
comp=Z,26μm,22.0s,MS6.1

USP	Ospenovka	46.31 291	P	P	02 46 08.2	-0.4
	SNR=14					
KBK	Karagaybulak	46.33 290	P	P	02 46 08.5	-0.2
	SNR=9.5					
TAPN	Taplejung	46.34 265	eP	P	02 46 08.9	0.0
	comp=Z,60nm,0.9s,mb5.5					
KZA	Kyzart	46.42 289	P	P	02 46 09.6	+0.2
	SNR=16					
HYT	Haines Junctio	46.43 42	eP	P	02 46 09.4	+0.2
FRU	Bishkek	46.45 291	eP	P	02 46 10.0	+0.4
FRU			e		02 48 03.0	
FRU			eS	S	02 53 06.0	+10
FRU			pmax	pmax		
	comp=Z,340nm,3.1s					
FRU			pmax	pmax		
	comp=Z,3μm,11.0s					
UCH	Uchtor	46.82 290	PFAKE		02 46 20.0	+7.5
UCH			LR	LR		
	comp=Z,8μm,19.0s,MS5.7					
ODAN	Odare	46.87 264	eP	P	02 46 13.6	+0.5
EKS2	Erkin-Say	47.07 291	P	P	02 46 17.7	+3.2
	SNR=12					
EKS2	Erkin-Say	47.07 291	eP	P	02 46 13.9	-0.6
	comp=Z,26nm,0.8s,mb5.2					
EKS2			LR	LR		
	comp=Z,46μm,19.0s,MS6.5					
JIRN	Jiri	47.18 266	eP	P	02 46 14.5	-1.0
	comp=Z,60nm,0.8s,mb5.6					
GUN	Gumba	47.23 267	eP	P	02 46 14.8	-1.1
KSH	Kashi	47.25 286	eP	P	02 46 17.8	+1.8
KSH			AP	pP	02 46 26.9	+4.3
KSH			XP	sP	02 46 29.7	+4.6
KSH			PCS	PcS	02 51 46.1	+4.0
KSH			S	S	02 53 10.1	+2.3
KSH			AMB	AMB		
	comp=Z,5μm,8.2s					
KSH			LR	LR		
	comp=N,61μm,13.6s,MS7.2					
KSH			LR	LR		
	comp=E,178μm,13.2s,MS7.2					
RAMN	Ramite	47.35 265	eP	P	02 46 15.7	-1.2
	comp=E,124nm,0.8s,mb5.9					
AML	Almayashu	47.39 290	P	P	02 46 23.9	+6.9
	SNR=5.0					
AML	Almayashu	47.39 290	eP	P	02 46 16.9	-0.1
	comp=E,9.4nm,0.8s,mb4.8					
AML			LR	LR		
	comp=Z,41μm,21.0s,MS6.4					
KKN	Kakani	47.72 267	eP	P	02 46 19.6	-0.1
DMN	Daman	47.95 267	eP	P	02 46 20.8	-0.7
SKAG	Skagway	47.96 43	eP	P	02 46 21.0	-0.1
	comp=Z,6.4nm,0.9s,mb4.7					
SVE	Sverdlovsk	48.21 313⇓	eP	P	02 46 23.0	-0.1
SVE			e		02 48 22.5	
SVE			eS	S	02 53 33.0	+12
SVE			e		02 56 18.8	
SVE			pmax	pmax		
	comp=Z,99nm,1.4s,mb5.7					
SVE			pmax	pmax		
	comp=Z,2μm,11.7s					
SVE			MLR	MLR		
	comp=Z,57μm,15.0s,MS6.7					
DANN	Dangsing	48.41 269	eP	P	02 46 24.2	-0.8
	comp=Z,170nm,0.8s,mb6.2					
KOLN	Koldanda	48.88 268	eP	P	02 46 27.4	-1.3
	comp=Z,89nm,1.0s,mb5.8					
SOKR	Solikamsk	48.90 318	c iP	P	02 46 27.1	-1.3
SOKR					02 48 24.4	
SOKR			S	S	02 53 39.8	+9.3
SOKR			pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2					
SOKR			MLR	MLR		
	comp=Z,35μm,14.0s,MS6.5					
KK31	Karatay Array	48.93 293	i P	P	02 46 27.8	-1.0
KK31			pmax	pmax		
	comp=Z,29nm,0.8s,mb5.4					
SIT	Sitka	48.97 46	P	P	02 46 30.9	+2.0
SIT				pP	02 46 37.4	+1.9
SIT			pmax	pmax		
	comp=Z,110nm,1.4s,mb5.7					
SIT	Sitka	48.97 46	eP	P	02 46 30.3	+1.4
	comp=Z,108nm,1.5s,mb5.7					
CAL	Calcutta	49.10 259	eP	P	02 46 32.1	+1.7
CAL			eS	S	02 53 38.9	+4.7
ARU	Arti	49.41 313	P	P	02 46 32.6	+0.2
	comp=Z,218nm,1.0s,mb6.1,SNR=7.9					
ARU	Arti	49.41 313	c iP	P	02 46 31.4	-1.0
ARU			e		02 47 49.9	
ARU			e		02 48 24.3	
ARU			ePPP		02 49 14.9	
ARU			eS	S	02 53 40.2	+2.3
ARU			e		02 56 18.6	
ARU			eSS	SS	02 57 07.5	-1.6
ARU			pmax	pmax		
	comp=Z,45nm,1.2s,mb5.4					
ARU			pmax	pmax		
	comp=Z,2μm,12.1s					
ARU			MLR	MLR		
	comp=Z,44μm,16.0s,MS6.5					
ARU	Arti	49.41 313	eP	P	02 46 31.8	-0.6
	comp=Z,57nm,1.0s,mb5.6					
ARU			LR	LR		
	comp=Z,33μm,21.0s,MS6.3					
BOK	Bokaro	49.91 263	eP	P	02 46 37.8	+1.3
BOK			AMb	AMB	02 46 55.5	
	comp=Z,60nm,1.3s,mb5.5					
WRAK	Wrangell Islan	50.72 46	eP	P	02 46 42.9	+0.6
	comp=Z,38nm,1.2s,mb5.2					
WRAK			LR	LR		
	comp=Z,16μm,19.0s,MS6.0					
CRAG	Craig	50.78 47	eP	P	02 46 37.5	-5.2
	comp=Z,55nm,1.0s,mb5.4					
DLBC	Dease Lake	50.88 43	eP	P	02 46 43.6	+0.2
KBS	Kingsbay	50.96 349	eP	P	02 46 49.2	+5.4
KBS			eS	S	02 54 02.6	+3.6
KBS			eSS	SS	02 57 42.6	+9.5
KBS			AMS	AMS	03 10 43.8	
	comp=Z,13μm,15.9s,MS6.0					
KBS	Kingsbay	50.96 349	d iP	P	02 46 51.0	+7.2
KBS	Kingsbay	50.96 349	eP	P	02 46 42.6	-1.2
	comp=Z,18nm,0.9s,mb5.0					
KBS			LR	LR		
	comp=Z,13μm,20.0s,MS5.9					
SMLA	Simla	51.21 276	eP	P	02 46 44.7	-1.6
SMLA			AMb	AMB	02 46 51.5	
	comp=Z,91nm,2.1s,mb5.3					
THN	Thein Dam	51.41 279	ex	P	02 46 47.1	-0.7
AB31	Akbulak array	52.12 305	i P	P	02 46 51.3	-1.6
AB31			pmax	pmax		
	comp=Z,37nm,0.9s,mb5.3					
AB31	Akbulak array	52.12 305⇑	eP	P	02 46 51.4	-1.5
AKTK	Aktyubinsk	52.59 307	i P	P	02 46 55.2	-1.1
AKTO	Aktyubinsk	52.59 307	i P	P	02 46 55.1	-1.2
AKTO			pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4					
NDI	New Delhi	52.68 274	eP	P	02 46 54.0	-3.3
NDI			eP		02 46 55.0	
NDI			eS	S	02 54 27.0	+3.2
NDI			eS	S	02 54 28.0	+4.2
KSM	Kuching	52.94 221	eP	P	02 47 02.2	+2.9
BJO	Bjornoya	52.96 344	eP	P	02 47 04.8	+6.1
BJO			eS	S	02 54 28.7	+2.3
BJO			AMS	AMS	03 13 19.6	
	comp=Z,18μm,18.2s,MS6.2					
RES	Resolute Bay	52.97 16	P	P	02 46 59.6	+0.8
RES	Resolute Bay	52.97 16	eP	P	02 46 57.9	-0.8
	comp=Z,625nm,0.8s,mb6.6					
LVZ	Lovozero	53.28 333	deP	P	02 47 08.1	+6.9
LVZ	Lovozero	53.28 333	PFAKE		02 47 10.0	+8.8
LVZ			LR	LR		
	comp=Z,12μm,19.0s,MS6.0					
KDI	Kendari	53.44 204⇓	eP	P	02 47 07.2	+4.2
BLSP	Bilaspur	53.58 264	eP	P	02 47 05.5	+1.5
BLSP			AMb	AMB	02 47 14.8	
	comp=Z,58nm,0.9s,mb5.5					
APA	Apatity	53.86 333	⇓iP	P	02 47 12.6	+7.2
APA			i		02 48 10.0	
APA			i		02 49 07.0	
APA			i S	S	02 54 48.0	+9.2
APA			i		02 57 00.0	
APA			i SS	SS	02 58 20.0	+0.9
APA			pmax	pmax		
	comp=Z,36nm,1.2s,mb5.2					
PBA	Port Blair	54.12 246	eP	x	02 47 38.3	
PBA			eS	x	02 55 20.8	
KEV	Kevo	54.34 337	eP	P	02 47 12.2	+3.3
	comp=Z,18nm,0.8s,mb5.0					
KEV			LR	LR		
	comp=Z,19μm,20.0s,MS6.2					
KIP	Kipapa	54.42 96	eP	P	02 47 09.2	-0.9
KIP	Kipapa	54.42 96	PFAKE		02 47 20.0	+10
KIP			LR	LR		
	comp=Z,13μm,22.0s,MS6.0					
KBL	Kabul	54.63 285	eP	P	02 47 13.2	+1.7
	comp=Z,40nm,1.0s,mb5.4					
ARCES	ARCESS Array B	54.88 337	P	P	02 47 12.0	-0.8
	comp=Z,13nm,1.0s,mb4.9,baz=26,slow=8.5,SNR=8.3					
ARCES	ARCESS Array B	54.88 337	P	P	02 47 12.0	-0.8
ARCES			pmax	pmax		
	comp=Z,13nm,1.0s					
YKA	Yellowknife Ar	55.22 33	P	P	02 47 14.5	-0.9
	comp=Z,10nm,0.8s,mb4.9,baz=304,slow=6.7,SNR=20					
YKA	Yellowknife Ar	55.22 33	P	P	02 47 14.5	-0.9
YKA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
YKA	Yellowknife Ar	55.22 33	P	P	02 47 14.5	-0.9
KAPI	Kappang	55.29 207	P	P	02 47 14.3	-2.1
	comp=Z,205nm,0.9s,mb6.2,SNR=5.5					
KAPI	Kappang	55.29 207	eP	P	02 47 19.9	+3.4
	comp=Z,26nm,0.8s,mb5.3					
KAPI			LR	LR		
	comp=Z,4μm,21.0s,MS5.5					
KLMR	Klimovskoe	55.67 325	d iP	P	02 47 24.2	+5.6
KLMR			e		02 49 28.4	
KLMR			eS	S	02 55 12.9	+10
KLMR			pmax	pmax		
	comp=Z,56nm,1.4s,mb5.4					
KLMR			MLR	MLR		
	comp=Z,32μm,16.0s,MS6.5					
VIS	Vishakhapatnam	55.81 259	i P	P	02 47 22.0	+1.8
VIS			AMb	AMB	02 47 24.5	
	comp=Z,28nm,0.8s,mb5.4					
VIS			i x	x	02 55 09.2	
KTK1	Kautokeino	55.84 338	eP	P	02 47 23.7	+4.0
KTK1			AMb	AMB	02 47 32.0	
	comp=Z,91nm,2.1s,mb5.4					
KTK1	Kautokeino	55.84 338	eP	P	02 47 23.7	+4.0
	comp=Z,91nm,2.1s,mb5.4					
AJM	Ajmer	55.84 273	eP	P	02 47 20.8	+0.4
AJM			AMb	AMB	02 47 24.7	
	comp=Z,22nm,0.8s,mb5.3					
DAG	Danmarks Havn	55.93 355	⇓iP	P	02 47 19.9	-0.4
DAG			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6					
DAG	Danmarks Havn	55.93 355	⇓iP	P	02 47 19.9	-0.4
	comp=Z,5.9nm,0.9s,mb4.6					
SGF	Sodankyl	56.00 335	P	P	02 47 24.2	+3.3
MSF	Maaselka	56.25 333	P	P	02 47 26.5	+3.8
PMG	Port Moresby	56.31 174	eP	P	02 47 25.8	+2.2
	comp=Z,32nm,1.0s,mb5.3					
PMG			LR	LR		
	comp=Z,6μm,21.0s,MS5.6					
NGP	Nagpur	56.34 265	eP	P	02 47 25.5	+1.5
NGP			AMb	AMB	02 47 37.9	
	comp=Z,57nm,1.5s,mb5.4					
TRO	Tromso	56.48 339	eS	S	02 55 13.2	-0.6
TRO			AMS	AMS	03 17 50.6	
	comp=Z,9μm,16.0s,MS6.0					
JOF	Joensuu	57.45 329	ep	P	02 47 33.5	+2.2
	comp=Z,9.4nm,0.6s,mb5.0					
JOF	Joensuu	57.45 329	eP	P	02 47 33.5	+2.2
JOF			pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0					
AKL	Akola	58.04 267	eP	P	02 47 37.4	+1.4
HNR	Honiara	58.42 159	PFAKE		02 47 50.0	+11
HNR			LR	LR		
	comp=Z,9μm,20.0s,MS5.9					
HYB	Hyderabad	59.26 263	i P	P	02 47 48.0	+3.5
HYB			eS	S	02 56 00.0	+8.6
HYB			LR	LR	03 16 46.0	
	comp=Z,13nm,16.0s					
HYB	Hyderabad	59.26 263	eP	P	02 47 48.0	+3.5
HYB			eS	S	02 56 00.0	+8.6
HYB			e		03 16 46.0	
C03A	Quillayute Air	59.34 51	⇓P	P	02 47 44.7	0.0
	baz=59					
SUF	Sumiainen	59.34 331	P	P	02 47 48.2	+3.8
PPI	Padang Panjang	59.46 230	P	P	02 47 50.0	+4.1
PGC	Sidney	59.50 50	eP	P	02 47 43.8	-2.0
	comp=Z,42nm,1.0s,mb5.4					
GSI	Gunungsitoli	59.51 234	P	P	02 47 54.1	+7.8
SNB	Saturna Island	59.57 50	P	P	02 47 46.9	+0.7
MOS	Moscow	59.61 321	eP	P	02 47 45.4	-1.0
MOS			e	pP	02 47 52.6	-0.5
MOS			e		02 48 35.9	
MOS			ePPP		02 51 20.1	
MOS			eS	S	02 55 57.7	+2.7
MOS			i		02 57 33.7	
MOS			eSS	SS	02 59 54.3	+4.5
MOS			pmax	pmax		
	comp=Z,46nm,1.3s,mb5.3					
MOS			MLR	MLR		
	comp=Z,34μm,13.0s,MS6.7					
KAF	Kangasniemi	59.71 331	ep	P	02 47 48.6	+1.6
	comp=Z,6.7nm,0.7s,mb4.8					
KAF	Kangasniemi	59.71 331	eP	P	02 47 48.6	+1.6
KAF			pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8					
B04A	Port Angeles	59.83 51	⇑P	P	02 47 47.7	-0.4
	baz=60					
A04A	Legoe Bay, Lum	59.85 50	⇑P	P	02 47 48.1	0.0
	baz=60					
LATR	Latur	59.92 265	eP	P	02 47 47.4	-1.7
LATR			AMb	AMB	02 48 07.1	
	comp=Z,84nm,1.3s,mb5.6					
KAKA	Kakadu	59.98 191	eP	P	02 47 47.5	-1.8
	comp=Z,23nm,0.6s,mb5.4					
A05A	Maple Falls	60.00 49	⇓P	P	02 47 48.9	-0.3
	baz=60					
NLWA	Neilton Lookou	60.05 51	⇓P	P	02 47 49.3	-0.2
	baz=60					
NLWA	Neilton Lookou	60.05 51	eP	P	02 47 50.2	+0.6
	comp=Z,35nm,1.1s,mb5.3					
NLWA			LR	LR		
	comp=Z,11μm,20.0s,MS6.0					
MOR8	Moi Rana	60.21 338	eP	P	02 47 49.6	-0.8
MOR8			AMb	AMB	02 47 59.6	
	comp=Z,75nm,1.8s,mb5.4					
MOR8	Moi Rana	60.21 338	eP	P	02 47 49.6	-0.8
	comp=Z,75nm,1.8s,mb5.4					
A06A	Chilliwack	60.25 49	⇑P	P	02 47 50.4	-0.5
	baz=60					
D03A	Wishkah Elem.	60.27 52	⇓P	P	02 47 51.1	0.0
	baz=60					
C04A	Brinnon	60.33 51	⇑P	P	02 47 51.7	+0.3
	baz=60					
B05A	Bryant	60.45 50	⇑P	P	02 47 52.3	0.0
	baz=60					
JMIC	Jan Mayen	60.45 349	eP	P	02 47 58.8	+6.9
JMIC			eS	S	02 56 06.6	+1.2
JMIC			AMS	AMS	03 18 29.2	
	comp=Z,5μm,22.7s,MS5.6					
OBN	Obninsk	60.47 320	P	P	02 47 50.4	-1.9
	comp=Z,199nm,0.8s,mb6.2,SNR=6.9					
OBN	Obninsk	60.47 320	⇑eP	P	02 47 50.6	-1.7
OBN			e		02 50 03.0	
OBN			i S	S	02 56 12.4	+6.3
OBN			i SS	SS	03 00 04.8	+1.5
OBN			pmax	pmax		
	comp=Z,52nm,1.3s,mb5.4					
OBN			MLR	MLR		
	comp=Z,30μm,14.0s,MS6.6					
OBN	Obninsk	60.47 320	eP	P	02 47 52.3	0.0
	comp=Z,42nm,0.9s,mb5.5					
OBN			LR	LR		
	comp=Z,19μm,20.0s,MS6.2					
JCW	Jim Creek	60.58 50	P	P	02 47 54.0	+0.9
B06A	Marblemount	60.61 49	⇓P	P	02 47 53.5	+0.1
	baz=60					
RPW	Rockport	60.64 49	eP	P	02 47 53.2	-0.3
COEN	Coen	60.64 178	eP	P	02 47 56.4	+2.6
	comp=Z,13nm,1.2s,mb4.9					
VRHR	Novokhopersk	60.72 315	eP	P	02 47 55.7	+1.6
VRHR			ePP	pP	02 48 00.4	-0.4
VRHR			e		02 50 07.8	
VRHR			ePPP		02 51 35.3	
VRHR			eS	S	02 56 16.9	+7.5
VRHR			e		02 57 46.9	
VRHR			pmax	pmax		
	comp=Z,20nm,0.6s,mb5.4					
VRHR			pmax	pmax		
	comp=N,40nm,0.5s					
VRHR			pmax	pmax		
	comp=E,50nm,0.5s					
VRHR			pmax	pmax		
	comp=Z,730nm,13.0s					
VRHR			pmax	pmax		
	comp=N,290nm,12.0s					
VRHR			pmax	pmax		
	comp=E,230nm,9.4s					
VRHR			MLR	MLR		
	comp=Z,51μm,13.0s,MS6.8					
VRHR			MLR	MLR		
	comp=N,21μm,14.0s,MS6.7					
VRHR			MLR	MLR		
	comp=E,32μm,12.0s,MS6.7					
E03A	Lebam	60.74 52	⇑P	P	02 47 54.7	+0.4
	baz=60					
SUMG	Summit	60.78 0	eP	P	02 47 54.5	+0.3
	comp=E,14nm,0.9s,mb5.1					
D04A	Dobbs Creek Ra	60.79 51	⇓P	P	02 47 54.0	-0.6
	baz=60					
A07A	Ashnola River,	60.84 48	⇑P	P	02 47 55.0	+0.1
	baz=60					
C05A	Tolt Reservoir	61.02 50	⇓P	P	02 47 56.3	+0.1
	baz=61					
D05A	Enumclaw	61.18 51	⇑P	P	02 47 57.8	+0.5
	baz=61					
C06A	Tall Timber Ra	61.29 50	⇑P	P	02 47 57.9	-0.1
	baz=61					
B07A	Winthrop	61.35 49	⇓P	P	02 47 58.6	+0.2
	baz=61					
BHJ	Bhuj	61.36 274	eP	P	02 47 58.4	-0.4
A08A	Turner Farm, O	61.47 48	⇓P	P	02 47 59.6	+0.5
	baz=61					
VOR	Voronezh	61.47 316	P	P	02 47 58.0	-1.2
VOR			pmax	pmax		
	comp=Z,100nm,3.0s					
FMW	Mount Fremont	61.51 51	P	P	02 48 03.7	+4.2
EDM	Edmonton	61.55 41	P	P	02 48 00.0	+0.4
EDM	Edmonton	61.55 41	eP	P	02 47 58.5	-1.2
TDL	Tradedollar La	61.58 52	P	P	02 48 01.4	+1.3
FL2	Flat Top 2	61.61 52	P	P	02 48 05.0	+4.9
POO	Poona	61.69 267	eP	P	02 48 02.3	+1.2
E05A	Randle	61.70 51	⇑P	P	02 48 00.6	-0.1
	baz=61					
F04A	Amboy	61.74 52	⇓P	P	02 48 01.6	+0.5
	baz=61					
D06A	Cle Elum	61.78 50	⇑P	P	02 48 01.6	+0.2
	baz=61					
ETW	Entiat	61.78 50	eP	P	02 48 00.8	-0.5
A09A	Danville	61.80 47	⇑P	P	02 48 01.4	0.0
	baz=61					
B08A	Colville Reser	61.82 48	⇓P	P	02 48 01.4	-0.2
	baz=61					
C07A	Waterville	61.87 49	⇑P	P	02 48 01.7	-0.3
	baz=62					
H03A	Soap Creek Ran	62.06 54	⇑P	P	02 48 04.0	+0.8
	baz=62					
COR	Corvallis	62.11 54	PFAKE		02 48 20.0	+16
COR			LR	LR		
	comp=Z,13μm,22.0s,MS6.0					
E06A	Yakima	62.12 51	⇓P	P	02 48 03.8	+0.1
	baz=62					
BOM	Bombay	62.15 268	eP	P	02 48 11.0	+6.8
BOM			eS	S	02 56 40.8	+12
NSS	Namsos	62.15 338	eS	S	02 56 29.1	+1.8
NSS			AMS	AMS	03 19 57.6	
	comp=Z,18μm,19.4s,MS6.2					
I02A	Mapleton	62.19 54	⇓P	P	02 48 03.8	-0.3
	baz=62					
F05A	White Salmon	62.29 52	⇓P	P	02 48 05.0	+0.3
	baz=62					
KAD	Karad	62.31 266	eP	P	02 48 06.3	+1.0
KAD			AMb	AMB	02 48 31.4	
	comp=Z,76nm,1.3s,mb5.7					
A10A	Northport	62.31 47	⇓P	P	02 48 05.1	+0.2
	baz=62					
C08A	Higginbotham F	62.34 49	⇑P	P	02 48 05.4	+0.3
	baz=62					
B09A	Rice	62.38 48	⇓P	P	02 48 05.8	+0.5
	baz=62					
I03A	Eugene	62.52 54	⇓P	P	02 48 07.7	+1.4
	baz=62					
HOOD	Mount Hood Mea	62.54 52	eP	P	02 48 07.6	+1.1
	comp=Z,86nm,1.0s,mb5.8					
H04A	Detroit Lake	62.66 53	⇑P	P	02 48 08.1	+0.8
	baz=62					
E07A	Sunnyside	62.71 50	⇑P	P	02 48 06.8	-0.7
	baz=62					
C09A	Chrisman Ranch	62.72 48	⇓P	P	02 48 07.0	-0.7
	baz=62					
F06A	Goldendale	62.73 51	⇑P	P	02 48 07.0	-0.7
	baz=62					
J02A	Umpqua	62.74 55	⇑P	P	02 48 06.8	-1.0
	baz=62					
OD2	Odessa Site #2	62.76 49	eP	P	02 48 07.5	-0.4
G05A	Wamic	62.78 52	⇑P	P	02 48 08.3	+0.3
	baz=62					
MAK	Makhachkala	62.80 305	eP	P	02 48 08.1	-0.1
MAK			e		02 48 47.7	
MAK			e		02 50 24.3	
MAK			eS	S	02 56 41.2	+5.2
MAK			e		02 58 03.2	
MAK			eSS	SS	03 00 39.1	-1.3
MAK			pmax	pmax		
	comp=N,205nm,1.8s					
MAK			pmax	pmax		
	comp=Z,944nm,2.7s,mb6.4					
MAK			pmax	pmax		
	comp=E,178nm,1.6s					
MAK			smax			
	comp=E,7171μm,9.2s					
MAK			smax			
	comp=N,1877μm,7.9s					
D08A	Wollman Farm,	62.87 49	⇓P	P	02 48 08.6	0.0
	baz=62					
A11A	Hall Mountain,	62.93 46	⇓P	P	02 48 08.9	-0.1
	baz=62					
B10A	Chitwood Farm,	62.93 47	⇑P	P	02 48 08.8	-0.2
	baz=62					
RSW	Rattlesnake Hi	62.95 50	eP	P	02 48 09.4	+0.3
HAWA	Hanford	62.98 50	eP	P	02 48 08.7	-0.7
	comp=N,46nm,1.5s,mb5.4					
HAWA			LR	LR		
	comp=Z,9μm,21.0s,MS5.9					
NEW	Newport	63.00 47	P	P	02 48 10.0	+0.5
NEW			pmax	pmax		
	comp=Z,14nm,1.0s					
NEW	Newport	63.00 47	eP	P	02 48 09.2	-0.3
	comp=Z,14nm,1.0s,mb5.0					
NEW			LR	LR		
	comp=Z,12μm,19.0s,MS6.1					
F07A	Phinny Hill Vi	63.10 51	⇓P	P	02 48 10.8	+0.6
	baz=63					
I04A	Tendick Farm,	63.11 54	⇓P	P	02 48 10.8	+0.6
	baz=63					
CROR	Criterion Ridg	63.12 52	P	P	02 48 11.6	+1.3
E08A	Dider Farm, El	63.17 50	⇑P	P	02 48 10.8	+0.2
	baz=63					
K02A	Glendale	63.17 55	⇑P	P	02 48 11.1	+0.5
	baz=63					
D09A	Jones Farm, Ri	63.19 49	⇓P	P	02 48 10.6	-0.1
	baz=63					
C10A	Spilker Farm,	63.20 48	⇑P	P	02 48 10.9	+0.1
	baz=63					
VTHM	Trough	63.22 52	P	P	02 48 12.2	+1.2
B11A	Sandpoint	63.27 47	⇑P	P	02 48 11.1	-0.2
	baz=63					
A12A	Yaak River Ran	63.29 46	⇑P	P	02 48 11.1	-0.3
	baz=63					
M01C	Crescent City	63.40 56	⇑P	P	02 48 12.6	+0.4
	baz=63					
L02A	Cave Junction	63.50 56	⇑P	P	02 48 13.0	+0.1
	baz=63					
I05A	Bend	63.50 53	⇑P	P	02 48 13.4	+0.5
	baz=63					
HUMO	Hull Mountain	63.57 55	⇑P	P	02 48 13.6	+0.2
	baz=63					
HUMO	Hull Mountain	63.57 55	PFAKE		02 48 30.0	+17
HUMO			LR	LR		
	comp=Z,2μm,21.0s,MS5.2					
E09A	Wood Farm, Sta	63.63 49	⇓P	P	02 48 13.4	-0.3
	baz=63					
VIPM	Ingram Point	63.63 52	P	P	02 48 14.2	+0.5
H06A	Lindquist Farm	63.64 52	⇓P	P	02 48 13.9	+0.2
	baz=63					

J04A	Umpqua Nationa	63.64	54	⇓P	P	02 48 13.6	-0.2
	baz=63						
G07A	Ruggs Ranch, H	63.65	51	⇓P	P	02 48 13.9	+0.1
	baz=63						
D10A	Wagner Farm, O	63.72	48	⇑P	P	02 48 13.7	-0.5
	baz=63						
F08A	Pendleton	63.77	50	⇓P	P	02 48 14.7	+0.1
	baz=63						
GOA	Goa	63.82	265	⇓*i*P	P	02 48 15.0	-0.3
GOA				AMb	AMB	02 48 22.2	
	comp=Z,79nm,0.9s,mb5.7						
GOA				*ex*	x	02 56 51.5	
GOF	Gofitskoye	63.90	309	⇓*i*P	P	02 48 14.3	-1.2
GOF				pmax	pmax		
	comp=Z,209nm,1.3s,mb6.0						
A13A	Flathead Natio	63.90	45	⇑P	P	02 48 15.1	-0.3
	baz=64						
LNOR	Lincton Mounta	63.98	50	P	P	02 48 17.2	+1.2
LNOR	Lincton Mounta	63.98	50	*e*P	P	02 48 16.8	+0.9
G08A	Pilot Rock	64.01	51	⇓P	P	02 48 16.4	+0.3
	baz=64						
WALA	Waterton Lakes	64.06	45	*e*P	P	02 48 16.3	-0.1
	comp=Z,48nm,1.4s,mb5.3						
J05A	Fort Rock	64.09	54	⇓P	P	02 48 17.2	+0.4
	baz=64,SNR=11						
H07A	Lands Inn, Kim	64.14	52	⇑P	P	02 48 17.1	0.0
	baz=64						
E10A	Myers Farm, Un	64.19	49	⇓P	P	02 48 17.3	0.0
	baz=64						
D11A	Klaveano Farm,	64.21	48	⇑P	P	02 48 17.4	0.0
	baz=64						
I06A	Prineville	64.22	53	⇑P	P	02 48 17.8	+0.2
	baz=64						
B13A	Whitefish	64.25	46	⇑P	P	02 48 17.6	-0.1
	baz=64						
K04A	Chilquin	64.26	55	⇑P	P	02 48 18.4	+0.6
	baz=64						
YBH	Yreka Blue Hor	64.28	56	P	P	02 48 18.8	+0.8
YBH				pmax	pmax		
	comp=Z,29nm,1.1s						
YBH	Yreka Blue Hor	64.28	56	⇑P	P	02 48 17.6	-0.4
	baz=64						
YBH	Yreka Blue Hor	64.28	56	*e*P	P	02 48 18.7	+0.7
	comp=Z,29nm,1.2s,mb5.2						
YBH				LR	LR		
	comp=Z,11μm,22.0s,MS6.0						
F09A	S2 Ranch, Elgi	64.28	50	⇓P	P	02 48 18.5	+0.5
	baz=64						
M02C	Callahan	64.42	56	⇑P	P	02 48 18.7	-0.3
	baz=64						
L04A	Klamath Falls	64.45	55	⇓P	P	02 48 19.1	0.0
	baz=64						
F10A	Beach Ranch, E	64.47	49	⇓P	P	02 48 18.9	-0.3
	baz=64						
FUNA	Funafuti	64.47	138	PFAKE		02 48 30.0	+11
FUNA				LR	LR		
	comp=Z,16μm,19.0s,MS6,2						
I07A	Izee	64.51	52	⇓P	P	02 48 20.0	+0.5
	baz=64						
N02C	Big Bar	64.54	57	⇑P	P	02 48 20.2	+0.5
	baz=64						
MNK	Minsk	64.57	324	*e*P	P	02 48 20.0	+0.3
MNK				*e*		02 50 46.0	
MNK				*e*PPP		02 52 24.0	
MNK				*e*S	S	02 57 04.0	+6.4
MNK				*e*PS		02 57 32.0	
MNK				MLR	MLR		
	comp=N,41μm,15.0s,MS6.9						
MNK				MLR	MLR		
	comp=Z,107μm,14.0s,MS7.2						
MNK				MLR	MLR		
	comp=E,38μm,12.0s,MS6.9						
G09A	Cove	64.64	50	⇑P	P	02 48 20.4	+0.1
	baz=64						
K05A	Summer Lake	64.65	54	P	P	02 48 20.9	+0.5
	baz=64,SNR=7.5						
C13A	Hot Springs	64.67	47	⇓P	P	02 48 20.5	+0.1
	baz=64						
H08A	Prairie City	64.67	51	⇓P	P	02 48 20.9	+0.4
	baz=64						
O01C	Eel River Cons	64.69	58	⇑P	P	02 48 21.3	+0.6
	baz=64						
D12A	Red Ives Fores	64.70	48	⇓P	P	02 48 20.3	-0.4
	baz=64						
J06A	Christmas Vall	64.71	53	⇑P	P	02 48 21.5	+0.7
	baz=64						
E11A	Bogner Ranch,	64.73	49	⇑P	P	02 48 21.0	+0.1
	baz=64						
M04C	Macdoel	64.74	55	⇑P	P	02 48 20.9	-0.2
	baz=64						
KIV	Kislovodsk	64.81	308	P	P	02 48 21.9	+0.4
	comp=E,547nm,0.9s,mb6.6,SNR=17						
KIV	Kislovodsk	64.81	308	*e*P	P	02 48 21.3	-0.2
KIV				*e*		02 48 59.5	
KIV				*e*		02 50 40.1	
KIV				*e*PPP		02 52 16.2	
KIV				*e*S	S	02 57 04.2	+3.2
KIV				*e*SS	SS	03 01 15.6	+4.0
KIV				pmax	pmax		
	comp=Z,124nm,1.2s,mb5.8						
KIV				pmax	pmax		
	comp=Z,1μm,7.7s						
KIV				MLR	MLR		
	comp=Z,39μm,18.0s,MS6.6						
KIV	Kislovodsk	64.81	308	⇑*i*P	P	02 48 23.0	+1.5
KIV	Kislovodsk	64.81	308	*e*P	P	02 48 21.5	0.0
	comp=Z,114nm,1.0s,mb5.9						
KIV				LR	LR		
	comp=Z,44μm,20.0s,MS6.7						
MOL	Molde	64.89	339	*e*P	P	02 48 26.7	+5.0
MOL				*e*S	S	02 57 03.0	+1.6
MOL				AMS	AMS	03 21 25.5	
	comp=Z,17μm,19.9s,MS6.2						
M03C	McCloud	64.92	56	⇑P	P	02 48 22.8	+0.6
	baz=65						
K06A	Valley Falls	64.95	54	⇑P	P	02 48 23.1	+0.7
	baz=65,SNR=8.2						
G10A	Bishop Farm, J	64.98	50	⇑P	P	02 48 23.0	+0.5
	baz=65						
C14A	Swan Lake	65.02	46	⇑P	P	02 48 23.2	+0.4
	baz=65						
F11A	Grangeville	65.08	49	⇓P	P	02 48 23.1	0.0
	baz=65						
J07A	Hines	65.09	53	⇓P	P	02 48 22.9	-0.3
	baz=65						
H09A	Durkee	65.11	51	⇑P	P	02 48 23.6	+0.3
	baz=65						
KOD	Kodaikanal	65.12	258	*e*P	P	02 48 24.9	+1.1
KOD				AMb	AMB	02 48 42.5	
	comp=Z,76nm,2.5s,mb5.3						
D13A	Huson	65.12	47	⇓P	P	02 48 23.1	-0.3
	baz=65						
L05A	Lakeview	65.13	55	⇓P	P	02 48 24.1	+0.6
	baz=65						
I08A	Drewsey	65.13	52	⇑P	P	02 48 23.9	+0.4
	baz=65						
WDC	Whiskeytown Da	65.13	57	⇑P	P	02 48 23.8	+0.2
	baz=65						
WDC	Whiskeytown Da	65.13	57	*e*P	P	02 48 24.3	+0.7
	comp=Z,23nm,1.2s,mb5.1						
WDC				LR	LR		
	comp=Z,7μm,20.0s,MS5.8						
PALK	Pallekele	65.15	253	PFAKE		02 48 40.0	+16
PALK				LR	LR		
	comp=Z,16μm,20.0s,MS6.2						
BMO	Blue Mountains	65.17	50	*e*P	P	02 48 23.0	-0.7
	comp=Z,23nm,1.3s,mb5.0						
BMO				LR	LR		
	comp=Z,11μm,20.0s,MS6.1						
NB2	NORSAR Subarra	65.20	336	P	P	02 48 22.4	-1.3
	comp=Z,7.9nm,0.8s,mb4.8,baz=35,slow=6.5						
NOA	NORSAR Array B	65.20	336	P	P	02 48 22.6	-1.0
	comp=Z,12nm,0.8s,mb5.0,baz=34,slow=6.4,SNR=17						
NOA	NORSAR Array B	65.20	336	P	P	02 48 22.7	-1.0
NOA				pmax	pmax		
	comp=Z,12nm,0.8s						
HFA0	Hagfors New Ar	65.22	334	P	P	02 48 23.0	-0.8
O02C	Red Bluff	65.26	57	⇑P	P	02 48 24.8	+0.4
	baz=65						
ONI	Oni	65.31	306	P	P	02 48 24.1	-0.6
LTIM	Timbered Crate	65.34	56	P	P	02 48 25.8	+0.9
G11A	Walters Elk Ra	65.35	49	⇑P	P	02 48 24.8	-0.1
	baz=65,SNR=20						
M05C	Lookout	65.41	55	⇓P	P	02 48 25.8	+0.5
	baz=65						
NAO01	NORSAR Array S	65.45	336	*e*P	P	02 48 23.1	-2.2
	comp=Z,8.6nm,0.8s,mb4.8						
NAO01				LR	LR		
	comp=Z,18μm,20.0s,MS6.3						
MOD	Modoc	65.52	54	⇓P	P	02 48 25.9	-0.2
	baz=65						
MOD	Modoc	65.52	54	*e*P	P	02 48 26.2	+0.2
	comp=Z,15nm,1.0s,mb5.0						
MOD				LR	LR		
	comp=Z,11μm,21.0s,MS6.0						
I09A	Lost Marbles R	65.53	51	⇓P	P	02 48 26.1	0.0
	baz=65						
J08A	Circle Bar Ran	65.55	52	⇑P	P	02 48 26.2	-0.1
	baz=65						
MSO	Missoula	65.56	47	*e*P	P	02 48 26.0	-0.3
	comp=Z,29nm,1.3s,mb5.2						
MSO				LR	LR		
	comp=Z,8μm,22.0s,MS5.9						
K07A	Rock Creek Ran	65.58	53	⇑P	P	02 48 26.4	-0.1
	baz=65,SNR=11						
HATC	Hat Creek Radi	65.59	56	⇑P	P	02 48 26.4	-0.1
	baz=65						
D14A	Greenough	65.61	47	⇓P	P	02 48 26.9	+0.3
	baz=65						
F12A	Elk City	65.63	49	P	P	02 48 26.6	-0.1
	baz=65,SNR=12						
GASB	Alder Springs	65.64	58	⇓P	P	02 48 26.9	0.0
	baz=65						
H10A	Noah's Angus R	65.65	50	P	P	02 48 26.9	+0.1
	baz=65,SNR=12						
E13A	Victor	65.70	47	⇑P	P	02 48 26.5	-0.7
	baz=65						
O03C	Acorn Hollow,	65.81	57	⇓P	P	02 48 28.9	+0.9
	baz=66						
CHMT	Chamberlain Mo	65.85	47	*e*P	P	02 48 27.8	-0.4
HOPS	Hopland	65.88	58	⇓P	P	02 48 29.2	+0.8
	baz=66						
HOPS	Hopland	65.88	58	PFAKE		02 48 40.0	+12
HOPS				LR	LR		
	comp=Z,14μm,21.0s,MS6.2						
M06C	Likely Place G	65.89	55	⇓P	P	02 48 29.2	+0.7
	baz=66						
J09A	Fry Pan Ranch,	65.95	52	⇑P	P	02 48 29.2	+0.4
	baz=66						
H11A	Donnelly	65.95	50	⇑P	P	02 48 29.1	+0.2
	baz=66						
I10A	Payette	65.96	51	⇑P	P	02 48 29.5	+0.6
	baz=66						
K08A	Mann Creek Ran	65.97	53	⇓P	P	02 48 29.6	+0.7
	baz=66,SNR=7.7						
L07A	Adell	65.98	54	P	P	02 48 29.5	+0.5
	baz=66,SNR=11						
SFJD	Kangerlussuaq	65.99	5	*i* P	P	02 48 29.8	+1.1
SFJD				*i*		02 57 16.1	
SFJD				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.5						
SFJD				MLR	MLR		
	comp=Z,15μm,20.0s,MS6.2						
SFJD	Kangerlussuaq	65.99	5	*i* P	P	02 48 29.8	+1.1
	comp=Z,60nm,1.2s,mb5.5						
SFJD				*i*		02 57 16.1	
SFJD							
	comp=Z,15μm,20.0s						
AKH	Akhalkalaki	66.07	305	P	P	02 48 31.6	+1.9
E14A	Clinton	66.07	47	⇓P	P	02 48 29.9	+0.3
	baz=66						
WVOR	Wild Horse Val	66.08	53	*e*P	P	02 48 29.3	-0.4
	comp=Z,38nm,1.2s,mb5.3						
WVOR				LR	LR		
	comp=Z,8μm,20.0s,MS5.9						
D15A	Lincoln	66.12	46	⇑P	P	02 48 30.2	+0.3
	baz=66						
O04C	Chester	66.14	56	⇑P	P	02 48 30.7	+0.6
	baz=66						
ELFS	Eagle Lake Fie	66.14	56	⇓P	P	02 48 31.1	+1.0
	baz=66						
GNI	Garni	66.21	304	⇑*e*P	P	02 48 31.7	+1.2
GNI				pmax	pmax		
	comp=Z,43nm,2.1s						
GNI	Garni	66.21	304	*e*P	P	02 48 32.5	+1.9
	comp=Z,90nm,1.3s,mb5.6						
GNI				LR	LR		
	comp=Z,23μm,20.0s,MS6.4						
MNRC	McLaughlin Nat	66.32	58	⇓P	P	02 48 32.0	+0.8
	baz=66						
FITZ	Fitzroy Crossi	66.37	197	*e*P	P	02 48 28.9	-2.7
	comp=Z,24nm,1.1s,mb5.1						
K09A	Rome	66.40	52	⇓P	P	02 48 32.1	+0.4
	baz=66						
L08A	Fields	66.41	53	⇓P	P	02 48 31.8	0.0
	baz=66						
ORV	Oroville	66.41	57	⇓P	P	02 48 32.0	+0.1
	baz=66						
J10A	Berg Farm, Mel	66.42	51	⇓P	P	02 48 31.8	-0.1
	baz=66						
HYA	Hoyanger	66.43	338	*e*P	P	02 48 37.0	+5.4
HYA				AMb	AMB	02 48 45.8	
	comp=Z,96nm,1.7s,mb5.5						
NSHM	Saint Helena R	66.46	58	*e*P	P	02 48 33.0	+0.9
SUTB	Sutter Butte	66.47	57	⇑P	P	02 48 32.1	-0.1
	baz=66						
O05C	Quincy	66.47	56	⇑P	P	02 48 32.5	+0.2
	baz=66						
E15A	Deer Lodge	66.49	47	⇑P	P	02 48 31.9	-0.3
	baz=66						
M07A	Soldier Meadow	66.50	54	P	P	02 48 33.1	+0.7
	baz=66,SNR=20						
I11A	Placerville	66.52	50	⇓P	P	02 48 32.0	-0.5
	baz=66						
F14A	Wisdom	66.55	47	⇓P	P	02 48 32.6	-0.1
	baz=66						
MCCM	Marconi Confer	66.55	59	⇑P	P	02 48 33.3	+0.5
	baz=66						
MCCM	Marconi Confer	66.55	59	PFAKE		02 48 40.0	+7.2
MCCM				LR	LR		
	comp=Z,11μm,21.0s,MS6.0						
N06A	Buffalo Meadow	66.56	55	P	P	02 48 33.1	+0.4
	baz=66,SNR=11						
OHCM	Honcut	66.57	57	*e*P	P	02 48 31.6	-1.2
G13A	Cobalt	66.61	48	⇑P	P	02 48 32.9	-0.2
	baz=66						
SOC	Sochi	66.65	309	*c i*P	P	02 48 31.3	-2.0
SOC				*e*		02 49 01.0	
SOC				*e*		02 50 58.3	
SOC				*e*PPP		02 52 40.8	
SOC				*e*S	S	02 57 25.2	+1.7
SOC				*e*		02 58 29.8	
SOC				*e*SS	SS	03 01 47.6	+7.4
SOC				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.2						
SOC				pmax	pmax		
	comp=Z,337nm,3.5s						
SOC				MLR	MLR		
	comp=Z,23μm,12.0s,MS6.6						
SOC	Sochi	66.65	309	⇓*i*P	P	02 48 33.6	+0.3
H12A	Diamond D Ranc	66.66	49	P	P	02 48 33.4	+0.1
	baz=66,SNR=12						
CVS	Carmenet Viney	66.67	58	⇓P	P	02 48 33.3	-0.2
	baz=66						
HRY	Holter Researc	66.69	46	*e*P	P	02 48 33.8	+0.2
TRD	Trivandrum	66.72	257	*e*P	P	02 48 35.0	+0.8
TRD				AMb	AMB	02 48 45.6	
	comp=Z,64nm,1.0s,mb5.6						
Q03C	Winters	66.73	58	⇓P	P	02 48 34.7	+0.8
	baz=66						
AKASG	Malin Array Be	66.73	320	P	P	02 48 32.5	-1.2
	comp=Z,20nm,0.9s,mb5.1,baz=41,slow=6.8,SNR=28						
AKASG	Malin Array Be	66.73	320	P	P	02 48 32.5	-1.2
AKASG				pmax	pmax		
	comp=Z,20nm,0.9s						
AKASG	Malin Array Be	66.73	320	P	P	02 48 32.5	-1.2
AKBB	Malin Array Si	66.73	320	P	P	02 48 32.8	-0.9
AKBB	Malin Array Si	66.73	320	*e*P	P	02 48 32.1	-1.7
KIEV	Kiev	66.75	320	P	P	02 48 32.0	-1.8
KIEV				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
KIEV	Kiev	66.75	320	*e*P	P	02 48 31.9	-1.9
	comp=Z,28nm,1.0s,mb5.2						
KIEV				LR	LR		
	comp=Z,29μm,19.0s,MS6.5						
SUW	Suwalki	66.77	326	*e*P	P	02 48 35.6	+1.7
SUW				*e*S	S	02 57 32.7	+8.2
SUW				LMZ		03 19 51.4	
	comp=Z,30μm,20.2s						
SUW	Suwalki	66.77	326	*e*P	P	02 48 35.6	+1.7
SUW				*e*S	S	02 57 32.7	+8.2
EGMT	Eagleton	66.78	44	⇓P	P	02 48 34.3	+0.3
	baz=66						
EGMT	Eagleton	66.78	44	*e*P	P	02 48 33.5	-0.6
	comp=Z,29nm,1.0s,mb5.3						
EGMT				LR	LR		
	comp=Z,18μm,19.0s,MS6.3						
FARB	Farallon Islan	66.78	59	⇓P	P	02 48 34.2	-0.1
	baz=66						
KONO	Kongsberg	66.80	336	*e*P	P	02 48 39.1	+5.1
KONO				*e*S	S	02 57 28.1	+3.3
KONO				AMS	AMS	03 22 11.9	
	comp=Z,14μm,20.1s,MS6.2						
KONO	Kongsberg	66.80	336	⇑*i*P	P	02 48 33.1	-0.9
K10A	MacKenzie Ranc	66.81	52	⇑P	P	02 48 34.5	+0.1
	baz=66,SNR=13						
CTAO	Charters Tower	66.84	175	PFAKE		02 48 50.0	+15
CTAO				LR	LR		
	comp=Z,4μm,20.0s,MS5.7						
BEKR	Beckwourth	66.85	56	P	P	02 48 34.7	0.0
	baz=66,SNR=9.4						
M08A	Happy Creek Ra	66.89	54	⇓P	P	02 48 35.2	+0.3
	baz=66,SNR=5.2						
L09A	Wilkinson Ranc	66.90	53	⇑P	P	02 48 35.1	+0.2
	baz=66						
G14A	Jackson	66.90	48	⇓P	P	02 48 34.3	-0.5
	baz=66						
WRAB	Tennant Creek	66.91	188	*e*P	P	02 48 31.4	-3.6
WRAB	Tennant Creek	66.91	188	*e*P	P	02 48 37.7	+2.7
	comp=Z,38nm,1.4s,mb5.2						
WRAB				LR	LR		
	comp=Z,6μm,22.0s,MS5.8						
WB2	Warramunga Arr	66.92	188	*e*P	P	02 48 35.6	+0.5
WRA	Warramunga Arr	66.92	188	P	P	02 48 33.1	-2.0
	comp=Z,3.6nm,1.0s,mb4.4,baz=3.1,slow=6.9,SNR=9.0						
WRA	Warramunga Arr	66.92	188	P	P	02 48 33.1	-2.0
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MFID	Camas Ranch	66.93	51	P	P	02 48 35.5	+0.4
	baz=66,SNR=11						
O06A	Flanigan	66.95	55	⇑P	P	02 48 35.6	+0.3
	baz=67,SNR=8.4						
Q04C	Lincoln	66.96	57	⇑P	P	02 48 35.3	-0.1
	baz=67						
H13A	Challis	66.96	49	⇓P	P	02 48 35.6	+0.3
	baz=67						
F15A	Butte	66.97	47	P	P	02 48 35.3	-0.1
	baz=67,SNR=11						
ANN	Anapa	67.01	311	*d i*P	P	02 48 35.6	0.0
ANN				*i*		02 49 02.4	
ANN				*i*		02 51 00.3	
ANN				*i* PPP		02 52 41.4	
ANN				*i* S	S	02 57 32.3	+4.6
ANN				*e*SS	SS	03 01 52.3	+6.7
ANN				pmax	pmax		
	comp=Z,45nm,2.3s,mb5.1						
ANN	Anapa	67.01	311	*e*P	P	02 48 35.5	-0.1
N07B	Gerlach	67.02	55	⇑P	P	02 48 36.3	+0.6
	baz=67						
P05C	Yuba Gap, Truc	67.09	57	⇑P	P	02 48 36.3	+0.1
	baz=67						
P06A	Stead Airport,	67.24	56	⇑P	P	02 48 37.4	+0.2
	baz=67						
DLMT	Dillon	67.25	47	*e*P	P	02 48 37.2	+0.1
	comp=Z,59nm,1.2s,mb5.5						
K11A	Parker Ranch,	67.26	51	⇑P	P	02 48 37.2	0.0
	baz=67						
BDM	Black Diamond	67.28	58	⇓P	P	02 48 38.0	+0.7
	baz=67						
BER	Bergen	67.32	338	*e*P	P	02 48 44.1	+6.8
BER				*e*S	S	02 57 31.4	+0.5
BER				AMS	AMS	03 22 16.1	
	comp=Z,14μm,19.4s,MS6.2						
LAVA	Lava Cap Winer	67.39	57	⇑P	P	02 48 38.2	+0.1
	baz=67						
M09A	Marrel Ranch,	67.42	53	⇑P	P	02 48 38.8	+0.5
	baz=67						
JRSC	Jasper Ridge	67.43	59	⇑P	P	02 48 38.4	+0.1
	baz=67						
G15A	Dillon	67.45	48	⇑P	P	02 48 38.4	+0.1
	baz=67,SNR=24						
N08A	GE Springer Mi	67.48	54	⇑P	P	02 48 38.6	-0.1
	baz=67,SNR=8.1						
I13A	Wildhorse Cree	67.48	49	P	P	02 48 38.7	+0.1
	baz=67,SNR=24						
O07A	Toulon	67.49	55	⇑P	P	02 48 39.3	+0.6
	baz=67						
MCMT	McKenzie Canyo	67.50	48	*e*P	P	02 48 38.4	-0.3
L10A	Juniper Basin	67.50	52	⇓P	P	02 48 39.4	+0.7
	baz=67						
PAHR	Pah Rah Range	67.51	56	*e*P	P	02 48 38.2	-0.6
	comp=Z,24nm,1.0s,mb5.2						
BOZ	Bozeman (W)	67.54	47	P	P	02 48 38.7	-0.2
BOZ				pmax	pmax		
	comp=Z,73nm,1.9s,mb5.4						
BOZ	Bozeman (W)	67.54	47	⇑P	P	02 48 39.4	+0.4
	baz=67						
BOZ	Bozeman (W)	67.54	47	*e*P	P	02 48 38.2	-0.7
	comp=Z,73nm,1.9s,mb5.4						
BOZ				LR	LR		
	comp=Z,12μm,20.0s,MS6.1						
WENL	Wente Brothers	67.56	59	⇓P	P	02 48 39.0	-0.2
	baz=67						
HLID	Hailey	67.57	50	⇓P	P	02 48 39.3	+0.1
	baz=67						
HLID	Hailey	67.57	50	*e*P	P	02 48 40.0	+0.8
	comp=Z,32nm,1.6s,mb5.1						
HLID				LR	LR		
	comp=Z,14μm,19.0s,MS6.2						
WCN	Washoe City	67.58	56	⇓P	P	02 48 39.4	+0.1
	baz=67						
BNLO	Ben Lomond (Sa	67.65	59	⇑P	P	02 48 39.9	+0.2
	baz=67						
N09A	Rock Creek Ran	67.77	54	⇓P	P	02 48 40.8	+0.3
	baz=67						
R05C	Kirkwood Meado	67.80	57	⇓P	P	02 48 40.8	+0.1
	baz=68,SNR=5.0						
J13A	Cove Ranch, Pi	67.81	50	⇓P	P	02 48 40.9	+0.2
	baz=67						
L11A	Cat Creek Ranc	67.83	52	P	P	02 48 41.1	+0.3
	baz=67,SNR=12						
M10A	I.L. Ranch, Tu	67.85	53	⇓P	P	02 48 41.0	0.0
	baz=68						
BORG	Borgarnes	67.86	352	PFAKE		02 48 50.0	+9.4
BORG				LR	LR		
	comp=Z,6μm,20.0s,MS5.8						
S04C	Ingram Canyon,	67.89	58	⇑P	P	02 48 41.3	0.0
	baz=68						
P07A	Fallon	67.91	55	⇑P	P	02 48 41.2	-0.2
	baz=68						
K12A	Draper Farm, C	67.96	51	⇑P	P	02 48 41.6	0.0
	baz=68						
CMB	Columbia Colle	68.08	57	P	P	02 48 42.4	-0.1
CMB				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
CMB	Columbia Colle	68.08	57	P	P	02 48 42.5	+0.1
	baz=68,SNR=12						
CMB	Columbia Colle	68.08	57	*e*P	P	02 48 42.2	-0.2
	comp=Z,18nm,1.0s,mb5.0						
CMB				LR	LR		
	comp=Z,10μm,21.0s,MS6.0						
QLMT	Earthquake Lak	68.22	47	*e*P	P	02 48 42.8	-0.4
BMN	Battle Mountai	68.23	54	P	P	02 48 44.6	+1.3
BMN				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
BMN	Battle Mountai	68.23	54	*e*P	P	02 48 44.0	+0.6
	comp=Z,14nm,0.9s,mb5.0						
BMN				LR	LR		
	comp=Z,11μm,22.0s,MS6.1						
L12A	House Creek Ra	68.24	51	⇓P	P	02 48 43.5	+0.1
	baz=68						
PACP	Pacheco Peak	68.25	59	⇓P	P	02 48 43.6	0.0
	baz=68						
P08A	Dixie Valley	68.26	55	⇑P	P	02 48 43.9	+0.3
	baz=68						
R06C	Coleville	68.28	57	⇑P	P	02 48 43.7	0.0
	baz=68						
M11A	Holland Ranch,	68.32	52	P	P	02 48 44.5	+0.7
	baz=68,SNR=9.8						
SAO	San Andreas Ge

HAST Hastings Reser 68.52 59 ⇓P P 02 48 46.2 +0.9
baz=68
YMR Madison River 68.56 47 PFAKE 02 49 00.0 +15
YMR LR LR
comp=Z,17μm,21.0s,MS6.2
SIM Simferopol' 68.58 313 *de*P **P 02 48 46.0 +0.5**
SIM *e* 02 51 14.0
SIM *e*PPP 02 52 59.0
SIM *e*S S 02 57 56.0 +9.5
SIM PS 02 58 40.0
SIM pmax pmax
comp=Z,800nm,11.4s
SIM MLR MLR
comp=Z,20μm,15.2s,MS6.5
S05C Merced 68.58 58 ⇑P **P 02 48 45.6 0.0**
baz=68
T05C Eagle Field, D 68.69 59 ⇓P **P 02 48 46.3 0.0**
baz=68
O10A Cortez Mining, 68.72 53 ⇑P **P 02 48 46.6 +0.2**
baz=68
N11A Elko Archery C 68.78 53 ⇓P **P 02 48 46.8 0.0**
baz=68
YFT Old Faithful 68.78 47 *e*P **P 02 48 47.6 +0.9**
M12A Wells 68.80 52 ⇑P **P 02 48 47.3 +0.4**
baz=68
R07C Lee Vining 68.81 57 ⇓P **P 02 48 47.5 +0.5**
baz=68
L13A Double Diamond 68.85 51 ⇑P **P 02 48 47.5 +0.2**
baz=68
P09A Austin 68.88 54 ⇓P **P 02 48 47.9 +0.4**
baz=68
XMAS Kiritimati 68.89 111 PFAKE 02 49 00.0 +12
XMAS LR LR
comp=Z,18μm,22.0s,MS6.3
BSD Bornholm Skovb 68.90 330 *e*P **P 02 48 47.7 +0.4**
BSD *i* 02 51 17.4
BSD *i*S S 02 57 59.1 +9.2
BSD pmax pmax
comp=Z,37nm,0.9s,mb5.3
BSD MLR MLR
comp=Z,23μm,18.0s,MS6.5
BSD Bornholm Skovb 68.90 330 *i*P **P 02 48 47.7 +0.4**
comp=Z,37nm,0.9s,mb5.3
BSD *i* 02 51 17.4
BSD *e* 02 53 12.1
BSD *i*S S 02 57 59.1 +9.2
BSD
comp=Z,23μm,18.0s
BSD Bornholm Skovb 68.90 330 *e*P **P 02 48 47.7 +0.4**
comp=Z,37nm,0.9s,mb5.3
BSD *i* 02 51 17.4
BSD *e* 02 53 12.1
BSD *i*S S 02 57 59.1 +9.2
Q08A Gabbs 68.91 55 ⇓P **P 02 48 48.3 +0.6**
baz=69
LKWY Lake 68.92 47 PFAKE 02 49 00.0 +12
LKWY LR LR
comp=Z,28μm,19.0s,MS6.5
K14A Jones Ranch, D 68.93 50 P **P 02 48 48.8 +1.1**
baz=68,SNR=12
V03C Hunter Liggett 68.96 60 ⇓P **P 02 48 48.3 +0.3**
baz=69
U04C Hernandez Rese 68.99 59 ⇑P **P 02 48 48.3 +0.2**
baz=69
NVAR Mina Array Bea 69.00 56 P **P 02 48 48.1 -0.1**
comp=Z,2.8nm,0.7s,mb4.3,baz=288,slow=5.3,SNR=19
DGMT Dagmar 69.01 41 *e*P **P 02 48 46.0 -2.1**
comp=Z,48nm,1.2s,mb5.3
DGMT LR LR
comp=Z,20μm,20.0s,MS6.4
RLMT Red Lodge 69.08 46 *e*P **P 02 48 48.9 +0.3**
comp=Z,48nm,1.4s,mb5.2
RLMT LR LR
comp=Z,14μm,19.0s,MS6.2
ELK Elko 69.10 52 P **P 02 48 49.9 +1.1**
ELK pmax pmax
comp=Z,14nm,1.0s
ELK Elko 69.10 52 *e*P **P 02 48 49.0 +0.2**
comp=Z,14nm,1.0s,mb4.8
ELK LR LR
comp=Z,11μm,22.0s,MS6.1
FLWY Flagg Ranch 69.11 47 *e*P **P 02 48 50.6 +1.8**
comp=Z,65nm,1.5s,mb5.3
IMW Indian Meadow 69.13 48 *e*P **P 02 48 50.2 +1.3**
comp=Z,30nm,1.2s,mb5.1
N12A Clover Valley, 69.13 52 ⇑P **P 02 48 49.4 +0.4**
baz=69
R08A Mina 69.17 56 ⇓P **P 02 48 49.5 +0.2**
baz=69
T06C Millerton Lake 69.17 58 ⇓P **P 02 48 49.2 -0.1**
baz=69
KCC Kaiser Creek 69.18 57 ⇑P **P 02 48 49.5 +0.1**
baz=69
P10A Eureka 69.21 54 ⇓P **P 02 48 49.7 +0.2**
baz=69
COP Copenhagen 69.25 332 *i*P **P 02 48 51.8 +2.4**
COP *i* 02 53 06.7
COP pmax pmax
comp=Z,32nm,1.0s,mb5.2
COP MLR MLR
comp=Z,16μm,18.0s,MS6.3
COP Copenhagen 69.25 332 *i*P **P 02 48 51.8 +2.4**
comp=Z,32nm,1.0s,mb5.2
COP *i* 02 53 06.7
COP *i*S S 02 58 06.7 +13
COP *e* 03 02 52.8
COP
comp=Z,16μm,18.0s
MLAC Mammoth Lakes 69.25 57 ⇑P **P 02 48 50.4 +0.6**
baz=69
L14A Malta 69.26 50 ⇓P **P 02 48 49.6 -0.1**
baz=69,SNR=6.6
O11A Cowboy Ranch, 69.30 53 ⇓P **P 02 48 50.3 +0.3**
baz=69
RRI2 Red Ridge 69.33 48 *e*P **P 02 48 50.5 +0.4**
comp=Z,42nm,0.9s,mb5.4
MOOW Moose Ponds 69.33 48 *e*P **P 02 48 49.7 -0.5**
comp=Z,25nm,1.2s,mb5.0
Q09A Carvers 69.35 55 ⇑P **P 02 48 50.7 +0.3**
baz=69
LAO LASA Array 69.40 43 *e*P **P 02 48 50.6 0.0**
comp=Z,97nm,1.7s,mb5.5
LAO LR LR
comp=Z,18μm,21.0s,MS6.3
TPAW Teton Pass 69.41 48 *e*P **P 02 48 51.6 +0.9**
comp=Z,49nm,1.3s,mb5.3
PKD Parkfield 69.42 59 ⇓P **P 02 48 51.0 +0.2**
baz=69
V04C Ramage Ranch, 69.44 60 ⇓P **P 02 48 51.0 +0.1**
baz=69
LOHW Long Hollow 69.50 48 *e*P **P 02 48 50.9 -0.3**
comp=Z,53nm,1.5s,mb5.2
SNOW Snow King Moun 69.53 48 *e*P **P 02 48 51.4 0.0**
comp=Z,87nm,1.8s,mb5.4
REDW Red Top Meadow 69.55 48 *e*P **P 02 48 52.1 +0.6**
comp=Z,55nm,1.4s,mb5.3
K16A Soda Springs 69.56 49 ⇓P **P 02 48 52.3 +0.7**
baz=69
GKP Gorka Klasztor 69.57 328 *e*P **P 02 48 52.0 +0.5**
GKP *e*S S 02 58 07.4 +9.5
GKP LMZ 03 22 12.2
comp=Z,59μm,18.6s
GKP Gorka Klasztor 69.57 328 *e*P **P 02 48 52.0 +0.5**
GKP *e*S S 02 58 07.4 +9.4
GKP LR LR
comp=Z,59μm,18.6s,MS6.9
N13A Wendover, West 69.58 52 ⇓P **P 02 48 52.4 +0.6**
baz=69
M14A Sheep Mountain 69.58 51 P **P 02 48 52.4 +0.6**
baz=69,SNR=9.8
MTUM Tungsten Hills 69.60 57 *e*P **P 02 48 52.2 +0.3**
MUD Monsted U'grnd 69.61 334 *i*P **P 02 49 00.6 +8.9**
MUD *i* 02 53 16.7
MUD *i*S S 02 58 11.7 +13
MUD MLR MLR
comp=Z,20μm,18.0s,MS6.4
MUD Monsted U'grnd 69.61 334 *i*P **P 02 49 00.6 +8.9**
MUD *i* 02 53 16.7
MUD *i*S S 02 58 11.7 +13
MUD *i* 03 05 03.3
MUD
comp=Z,20μm,18.0s
MUD Monsted U'grnd 69.61 334 *i*P **P 02 49 00.6 +8.9**
MUD *i* 02 53 16.7
MUD *i*S S 02 58 11.7 +13
MUD *i* 03 05 03.3

LVV L'vov 69.62 322 *e*P **P 02 48 51.4 -0.4**
LVV *e* 02 49 12.2
LVV *e* 02 51 32.8
LVV *e*S S 02 58 06.1 +7.5
LVV *e*PS 03 02 28.8
LVV MLR MLR
comp=N,22μm,15.0s,MS6.8
LVV MLR MLR
comp=E,34μm,15.0s,MS6.8
LVV MLR MLR
comp=Z,40μm,15.0s,MS6.8
KIS Kishinev 69.63 318 *α i*P **P 02 48 56.0 +4.0**
KIS *i* 02 49 16.0
KIS *e* 02 51 30.0
KIS *e*PPP 02 53 12.0
KIS *i*S S 02 58 08.0 +9.1
KIS *i*SS SS 03 02 32.0 +6.0
KIS pmax pmax
comp=Z,2μm,10.0s
KIS pmax pmax
comp=Z,2μm,15.0s
KIS smax
comp=N,6μm,15.0s
KIS MLR MLR
comp=N,21μm,16.0s,MS6.8
KIS MLR MLR
comp=Z,57μm,16.0s,MS6.9
KIS MLR MLR
comp=E,38μm,18.0s,MS6.8
KIS MLR MLR
comp=Z,60μm,16.0s
KIS Kishinev 69.63 318 ⇑ *i*P **P 02 48 56.0 +4.0**
comp=Z,2μm,10.0s
KIS Kishinev 69.63 318 *i*PcP PcP 02 49 16.0 +1.2
KIS Kishinev 69.63 318 *e*PP PP 02 51 30.0 +4.6
KIS Kishinev 69.63 318 *e*PsP x 02 54 56.0
KIS *i*S S 02 58 08.0 +9.1
comp=Z,6μm,15.0s
KIS Kishinev 69.63 318 *i*PS 02 58 32.0
KIS *i*SS SS 03 02 34.0 +8.0
KIS *e*SSS 03 06 56.0
KIS *e*L 03 10 00.0
KIS *e*LQ 03 13 20.0
KIS LRM 03 21 48.0
comp=Z,24μm,20.0s
KIS
comp=Z,60μm,16.0s
P11A Circle Ranch, 69.65 54 ⇓P **P 02 48 52.6 +0.4**
baz=69
HVU Hansel Valley 69.69 50 P **P 02 48 55.9 +3.5**
HVU pmax pmax
comp=Z,17nm,1.2s,mb4.8
HVU Hansel Valley 69.69 50 *e*P **P 02 48 52.8 +0.5**
comp=Z,17nm,1.2s,mb4.9
O12A Currie 69.70 53 P **P 02 48 52.9 +0.4**
baz=69,SNR=9.6
S08C White Mtn Res 69.72 57 ⇓P **P 02 48 52.4 -0.2**
baz=69,SNR=7.1
L15A Malad City 69.73 50 ⇓P **P 02 48 53.1 +0.5**
baz=69
MSL Mosul 69.78 302 *ex* x 02 48 57.0
MSL *ex* x 02 58 20.0
HELL Mitchell Peak 69.80 58 P **P 02 48 52.2 -0.9**
baz=70,SNR=12
Q10A Clear Creek Ra 69.80 55 ⇓P **P 02 48 53.7 +0.6**
baz=69
R09A Tonopah 69.83 55 P **P 02 48 52.9 -0.4**
baz=70,SNR=13
V05C Boulder Hill, 69.85 59 ⇓P **P 02 48 53.2 -0.3**
baz=70
AHID Auburn Hatcher 69.85 49 PFAKE 02 49 10.0 +17
AHID LR LR
comp=Z,7μm,19.0s,MS5.9
TPH Tonopah 69.86 56 P **P 02 48 54.6 +1.1**
TPH pmax pmax
comp=Z,47nm,1.4s,mb5.2
TPH Tonopah 69.86 56 *e*P **P 02 48 54.2 +0.7**
comp=Z,48nm,1.4s,mb5.2
TPH LR LR
comp=Z,10μm,21.0s,MS6.0
M15A Larsen Ranch, 70.08 50 ⇓P **P 02 48 55.1 +0.2**
baz=70
S09A Goldfield 70.10 56 ⇓P **P 02 48 55.4 +0.4**
baz=70,SNR=8.3
N14A Grayback Hills 70.13 51 ⇓P **P 02 48 55.0 -0.1**
baz=70
BGU Big Grassy Mou 70.16 51 *e*P **P 02 48 54.6 -0.7**
P12A McGill 70.17 53 P **P 02 48 55.8 +0.4**
baz=70,SNR=7.8
Q11A Duckwater 70.20 54 ⇑P **P 02 48 55.8 +0.2**
baz=70
O13A Hicks Ranch, I 70.21 52 ⇓P **P 02 48 55.5 -0.1**
baz=70
L16A Fish Haven 70.22 49 ⇓P **P 02 48 56.0 +0.3**
baz=70
R10A Warm Springs 70.23 55 ⇑P **P 02 48 56.2 +0.5**
baz=70
KWP Kalwaria 70.31 323 *e*P **P 02 48 55.4 -0.7**
KWP *e*S S 02 58 17.0 +10
KWP LMZ 03 22 27.4
comp=Z,18μm,18.1s
KWP Kalwaria 70.31 323 ⇓ *i*P **P 02 48 56.2 +0.1**
KWP Kalwaria 70.31 323 *e*P **P 02 48 55.4 -0.7**
KWP *e*S S 02 58 17.0 +10
S10A Tonopah Range, 70.32 55 ⇑P **P 02 48 56.6 +0.2**
baz=70
N15A Stansbury Isla 70.45 51 ⇑P **P 02 48 57.5 +0.4**
baz=70
CWC Cottonwood Cre 70.51 57 ⇓P **P 02 48 57.8 +0.3**
baz=70
Q12A Willow Creek R 70.52 53 ⇓P **P 02 48 57.5 -0.1**
baz=70
GRAC Grapevine Rang 70.53 57 P **P 02 48 58.0 +0.4**
baz=70,SNR=15
PKM Peak Mountain 70.57 60 ⇓P **P 02 48 57.5 -0.4**
baz=70
R11A Troy Canyon, C 70.59 54 ⇓P **P 02 48 58.0 +0.1**
baz=70
M16A Huntsville 70.62 50 ⇑P **P 02 48 57.6 -0.5**
baz=70
BW06 Boulder Array 70.64 48 *e*P **P 02 48 57.1 -1.1**
comp=Z,17nm,1.0s,mb4.9
BW06 LR LR
comp=Z,8μm,22.0s,MS6.0
PDAR Pinedale Array 70.64 48 P **P 02 48 58.0 -0.3**
comp=Z,2.6nm,0.8s,mb4.2,baz=300,slow=1.2,SNR=20
ASAR Alice Springs 70.64 188 P **P 02 48 56.9 -1.4**
comp=Z,8.0nm,0.8s,mb4.7,baz=16,slow=4.6,SNR=28
ASAR Alice Springs 70.64 188 P **P 02 48 56.9 -1.4**
ASAR pmax pmax
comp=Z,8.0nm,0.8s
MBWA Marble Bar 70.66 202 PFAKE 02 49 10.0 +12
MBWA LR LR
comp=Z,7μm,20.0s,MS5.9
P13A Bates Ranch, G 70.67 53 P **P 02 48 58.8 +0.4**
baz=70,SNR=9.8
BURAR Bucovina Array 70.79 320 ⇓ *i*P **P 02 49 00.2 +1.2**
BURAR Bucovina Array 70.79 320 ⇓P **P 02 49 00.2 +1.1**
DUG Dugway 70.79 51 P **P 02 48 59.0 -0.2**
DUG pmax pmax
comp=Z,42nm,1.1s,mb5.3
DUG Dugway 70.79 51 P **P 02 48 58.8 -0.4**
baz=70,SNR=13
DUG Dugway 70.79 51 *e*P **P 02 48 58.5 -0.7**
comp=Z,42nm,1.1s,mb5.3
DUG LR LR
comp=Z,8μm,19.0s,MS6.0
ISA Isabella 70.82 58 P **P 02 48 58.9 -0.6**
ISA pmax pmax
comp=Z,17nm,1.2s,mb4.8
ISA Isabella 70.82 58 ⇓P **P 02 48 58.7 -0.7**
baz=70
ISA Isabella 70.82 58 *e*P **P 02 48 58.4 -1.0**
comp=Z,17nm,1.2s,mb4.8
ISA LR LR
comp=Z,6μm,20.0s,MS5.8
NOQ North Oquirrh 70.83 51 *e*P **P 02 48 58.5 -1.0**
comp=Z,48nm,1.1s,mb5.3
DAC Darwin (Calif) 70.90 57 PFAKE 02 49 10.0 +10
DAC LR LR
comp=Z,9μm,22.0s,MS6.0
O15A The Old Anders 70.92 51 ⇑P **P 02 48 59.8 -0.1**
baz=70
SBC Santa Barbara 70.94 60 ⇓P **P 02 49 00.3 +0.1**
baz=71
ARVC Arvin 70.99 59 ⇓P **P 02 49 00.3 -0.2**
baz=71

S11A Rachel 70.99 55 ⇑P **P 02 49 00.5 +0.1**
baz=71
Q13A Wheeler Ranch, 71.02 53 ⇑P **P 02 49 00.7 +0.1**
baz=71
MALT Malatya 71.02 306 P **P 02 49 01.0 +0.4**
MALT pmax pmax
comp=Z,47nm,1.4s,mb5.2
MALT Malatya 71.02 306 ⇓ *i*P **P 02 48 58.4 -2.2**
MALT Malatya 71.02 306 *e*P **P 02 49 00.6 0.0**
comp=Z,46nm,1.4s,mb5.2
MALT LR LR
comp=Z,18μm,19.0s,MS6.3
OJC Ojcow 71.03 325 *e*P **P 02 49 00.6 +0.2**
OJC *e*PcP PcP 02 49 20.7 0.0
OJC *e*S S 02 58 22.5 +7.4
OJC L 03 22 39.9
comp=Z,31nm,19.6s
N16A Rees Ranch, Co 71.03 50 ⇑P **P 02 49 00.5 -0.1**
baz=71
KOLS Kolonicke sedl 71.03 323 *i*P **P 02 49 01.2 +0.7**
KOLS *i*S S 02 58 24.2 +9.0
P14A Drum Mountains 71.09 52 ⇓P **P 02 49 01.3 +0.3**
baz=71
BHD Baghdad 71.11 299 *ex* x 02 48 58.5
BHD *ex* x 02 58 23.0
MPMC Manual Prospec 71.11 57 ⇑P **P 02 49 00.6 -0.6**
baz=71,SNR=8.8
ULM Lac du Bonnet 71.14 35 P **P 02 49 02.6 +1.5**
comp=Z,5.7nm,0.6s,mb4.7,baz=340,slow=6.8,SNR=9.4
ULM Lac du Bonnet 71.14 35 *e*P **P 02 49 00.5 -0.6**
comp=Z,56nm,1.5s,mb5.3
ULM LR LR
comp=Z,14μm,22.0s,MS6.2
R12A Pony Springs, 71.14 54 ⇓P **P 02 49 01.2 -0.2**
baz=71
FURC Furnace Creek, 71.19 57 P **P 02 49 01.0 -0.6**
baz=71,SNR=13
TPNV Topopah Spring 71.20 56 P **P 02 49 01.0 -0.7**
TPNV pmax pmax
comp=Z,30nm,1.0s,mb5.2
TPNV Topopah Spring 71.20 56 ⇑P **P 02 49 02.1 +0.4**
baz=71
TPNV Topopah Spring 71.20 56 *e*P **P 02 49 00.9 -0.8**
comp=Z,30nm,0.9s,mb5.2
TPNV LR LR
comp=Z,12μm,20.0s,MS6.1
JLU Jordanelle 71.23 50 *e*P **P 02 49 02.3 +0.5**
UZH Uzhgorod 71.26 322 *e*P **P 02 49 01.0 -0.9**
UZH MLR MLR
comp=Z,22μm,14.0s,MS6.6
COCO West Island 71.27 227 PFAKE 02 49 20.0 +18
COCO LR LR
comp=Z,3μm,20.0s,MS5.5
N17A Moffit Pass 71.30 50 ⇑P **P 02 49 01.1 -1.1**
baz=71
BSC Santa Cruz Isl 71.31 60 ⇓P **P 02 49 02.2 -0.2**
baz=71
NLU North Lily Min 71.36 51 *e*P **P 02 49 02.3 -0.4**
BSEG Bad Segeberg 71.39 332 *e*P **P 02 49 02.7 +0.2**
comp=Z,48nm,1.5s,mb5.2
BSEG *e*S S 02 58 26.7 +7.6
CRVS Cervenica-Dubn 71.39 323 *i*P **P 02 49 02.9 +0.2**
CRVS *i*S S 02 58 27.3 +8.0
CRVS Cervenica-Dubn 71.39 323 *i*P **P 02 49 02.9 +0.2**
CRVS *i*S S 02 58 27.3 +8.0
CRVS *e* 03 03 23.9
Q14A Sevier Lake (B 71.41 53 ⇓P **P 02 49 02.2 -0.7**
baz=71
LRMC Laurel Mountai 71.41 58 ⇑P **P 02 49 03.2 +0.2**
baz=71
OSI Osito Adit 71.41 59 ⇑P **P 02 49 02.8 -0.2**
baz=71
VRI Vrincioaia 71.44 318 ⇓ *i*P **P 02 49 04.8 +1.8**
VRI Vrincioaia 71.44 318 ⇓ *i*P **P 02 49 04.8 +1.8**
VRI Vrincioaia 71.44 318 ⇓P **P 02 49 04.8 +1.8**
RUE Ruedersdorf 71.44 329 *e*P **P 02 49 02.6 -0.3**
comp=Z,33nm,0.6s,mb5.4
NIE Niedzica 71.45 324 *e*P **P 02 49 03.5 +0.5**
DAU Daniels Canyon 71.47 50 P **P 02 49 04.6 +1.3**
DAU Daniels Canyon 71.47 50 *e*P **P 02 49 04.7 +1.4**
O16A Springville 71.48 51 ⇓P **P 02 49 03.7 +0.4**
baz=71
PLOR Plostina 71.48 318 ⇓ *i*P **P 02 49 06.9 +3.6**
S12A Delamar Landin 71.52 55 P **P 02 49 04.4 +0.8**
baz=71,SNR=6.8
P15A Leamington 71.53 52 ⇑P **P 02 49 04.3 +0.6**
baz=71
U10A Ash Meadows, A 71.53 56 ⇓P **P 02 49 04.3 +0.6**
baz=71
MPU Maple Canyon 71.55 51 *e*P **P 02 49 03.7 0.0**
comp=Z,20nm,1.0s,mb5.0
MPU LR LR
comp=Z,12μm,20.0s,MS6.2
BLG Laguna Peak 71.56 60 ⇑P **P 02 49 04.0 +0.1**
baz=71
T11A Corn Creek, Al 71.57 55 ⇓P **P 02 49 03.9 0.0**
baz=71,SNR=13
R13A O'Grain Ranch, 71.60 54 ⇑P **P 02 49 04.4 +0.3**
baz=71
EDW2 Edwards Air Fo 71.65 58 ⇓P **P 02 49 04.0 -0.5**
baz=71
MIB Mutribah 71.70 294 *e*P **P 02 48 58.2 -6.7**
baz=294
MIB AMb AMB 02 49 15.3
comp=Z,51nm,0.9s,mb5.5,baz=294
RAC Raciborz 71.76 326 *e*P **P 02 49 05.6 +0.7**
RAC *e* 02 51 49.0
RAC MLR MLR
comp=Z,30μm,18.0s,MS6.6
RAC Raciborz 71.76 326 *e*P **P 02 49 05.6 +0.7**
RAC *e*PP PP 02 51 49.0 +5.4
RAC *e*S S 02 58 35.2 +12
RAC LR LR
comp=Z,30μm,18.0s,MS6.6
P16A Fountain Green 71.83 51 ⇓P **P 02 49 05.5 0.0**
baz=71
KSP Ksiaz 71.87 327 *e*P **P 02 49 04.8 -0.8**
KSP *e*S S 02 58 35.0 +10
KSP LMZ 03 23 34.5
comp=Z,69μm,19.2s
KSP Ksiaz 71.87 327 *e*P **P 02 49 04.4 -1.1**
KSP *e*pP pP 02 49 06.4 -6.0
KSP *e*PP PP 02 51 49.0 +4.5
KSP *e*S S 02 58 29.8 +5.0
KSP LR LR
comp=Z,79μm,19.2s,MS7.0
Q15A Fillmore 71.88 52 ⇓P **P 02 49 05.7 -0.1**
baz=72
SNCC San Nicolas Is 71.89 61 PFAKE 02 49 20.0 +14
SNCC LR LR
comp=Z,10μm,22.0s,MS6.0
DECC Green Verdugo 71.90 59 ⇑P **P 02 49 05.5 -0.5**
baz=72
SHOC Shoshone 71.92 57 ⇑P **P 02 49 05.7 -0.3**
baz=72
OKC Ostrava-Krasne 71.98 325 *e*P **P 02 49 06.3 +0.1**
OKC *e* 02 51 49.5
OKC MLR MLR
comp=Z,24μm,13.3s,MS6.6
OKC Ostrava-Krasne 71.98 325 *e*P **P 02 49 06.3 +0.1**
OKC *e*PP PP 02 51 49.5 +4.0
OKC *e*S S 02 58 37.1 +11
OKC AMS AMS 03 24 20.0
comp=Z,24μm,13.3s
OKC Ostrava-Krasne 71.98 325 *e*P **P 02 49 06.3 +0.1**
OKC *e*PP PP 02 51 49.5 +4.0
OKC *e*S S 02 58 37.1 +11
R14A James Farms, M 72.04 53 ⇓P **P 02 49 06.4 -0.3**
baz=72
GSC Goldstone 72.04 57 P **P 02 49 07.3 +0.5**
GSC pmax pmax
comp=Z,19nm,1.0s,mb5.0
GSC Goldstone 72.04 57 ⇑P **P 02 49 07.0 +0.2**
baz=72
GSC Goldstone 72.04 57 *e*P **P 02 49 06.9 +0.1**
comp=Z,19nm,1.1s,mb4.9
GSC LR LR
comp=Z,6μm,19.0s,MS5.8
MWC Mount Wilson 72.08 59 P **P 02 49 13.0 +6.0**
MWC pmax pmax
comp=Z,56nm,1.4s,mb5.3
MWC Mount Wilson 72.08 59 *e*P **P 02 49 07.7 +0.7**
comp=Z,56nm,1.5s,mb5.3
MWC LR LR
comp=Z,9μm,21.0s,MS6.0
MLR Muntele Rosu 72.08 318 ⇓ *i*P **P 02 49 08.4 +1.5**

MLR Muntele Rosu 72.08 318 ⇓P P 02 49 08.4 +1.5
S13A Holt Ranch, En 72.09 54 ⇑P P 02 49 07.4 +0.3
baz=72,SNR=9.2
KECS Kecovo 72.12 323 *i* P **P 02 49 07.7 +0.6**
comp=Z,2.9nm,1.1s,mb4.1
NAY Al-Naaiem 72.14 294 *e*P **P 02 49 00.4 -7.1**
baz=294
NAY AMb AMB 02 49 17.8
comp=Z,18nm,0.8s,mb5.0,baz=294
ARUT Antelope Range 72.17 54 P **P 02 49 08.3 +0.7**
ARUT Antelope Range 72.17 54 *e*P **P 02 49 07.8 +0.3**
RDF Al-Radifah 72.17 293 *e*P **P 02 49 00.3 -7.4**
baz=293
RDF AMb AMB 02 49 18.8
comp=Z,46nm,1.2s,mb5.3,baz=293
UPC Upice 72.25 327 *e*P **P 02 49 08.3 +0.5**
MORC Moravsky Berou 72.26 326 P **P 02 49 07.4 -0.5**
MORC pmax pmax
comp=Z,24nm,1.0s,mb5.1
MORC Moravsky Berou 72.26 326 ⇑*i*P **P 02 49 08.0 +0.1**
MORC Moravsky Berou 72.26 326 *e*P **P 02 49 07.3 -0.5**
comp=Z,24nm,1.0s,mb5.1
DPC Dobruska-Polom 72.26 327 *e*P **P 02 49 07.7 -0.2**
DPC *e*PP PP 02 51 49.3 +1.4
DPC *e*S S 02 58 37.3 +8.0
DPC AMS AMS 03 24 10.0
comp=Z,33µm,15.8s
FMP Fort Macarthur 72.30 60 ⇓P **P 02 49 07.8 -0.5**
baz=72
BFSC Mount Baldy St 72.30 59 ⇑P **P 02 49 07.9 -0.4**
baz=72
TMUT Trail Mountain 72.30 51 *e*P **P 02 49 07.5 -0.7**
MVU Marysvale 72.33 52 PFAKE 02 49 20.0 +12
MVU LR LR
comp=Z,12µm,22.0s,MS6.1
RSSD Black Hills 72.34 44 *e*P **P 02 49 08.2 -0.2**
comp=Z,24nm,1.1s,mb5.0
RSSD LR LR
comp=Z,16µm,22.0s,MS6.2
MSU Marysvale 72.34 52 *e*P **P 02 49 08.8 +0.3**
S14A Cedar City 72.34 53 ⇑P **P 02 49 08.3 -0.3**
baz=72
CCUT Cedar City 72.39 54 *e*P **P 02 49 12.5 +3.7**
CIS Catalina Islan 72.45 60 ⇓P **P 02 49 08.7 -0.6**
baz=72
V11A Goodsprings 72.45 56 ⇑P **P 02 49 08.4 -0.9**
baz=72
TUQ Turquoise Mtn. 72.46 57 P **P 02 49 09.4 +0.2**
baz=72,SNR=16
T13A Saint George 72.47 54 P **P 02 49 09.5 +0.2**
baz=72,SNR=14
R15A Junction 72.51 53 ⇓P **P 02 49 09.8 +0.3**
baz=72
DRGR 72.51 321 ⇑*i*P **P 02 49 10.4 +1.0**
DRGR 72.51 321 P **P 02 49 10.9 +1.5**
VOIR 72.53 319 ⇑*i*P **P 02 49 10.0 +0.5**
VOIR 72.53 319 ⇑P **P 02 49 10.0 +0.5**
U12A Valley of Fire 72.53 55 ⇓P **P 02 49 10.0 +0.2**
baz=72
Q16A Castle Valley 72.59 51 ⇓P **P 02 49 10.3 +0.3**
baz=72
RWWY Rawlins 72.61 47 *e*P **P 02 49 10.5 +0.4**
comp=Z,80nm,1.7s,mb5.4
HEC Hector,Ludlow 72.65 58 P **P 02 49 10.5 +0.1**
baz=72,SNR=8.8
CLL Collm 72.68 329 *i* P **P 02 49 09.9 -0.4**
CLL *i* pP 02 49 16.8 -0.4
CLL *i* 02 49 27.4
CLL *e*S S 02 58 44.0 +10
CLL pmax pmax
comp=Z,57nm,1.8s,mb5.2
CLL MLR MLR
comp=Z,32µm,16.9s,MS6.7
CLL Collm 72.68 329 *e*P **P 02 49 08.3 -2.0**
comp=Z,37nm,1.2s,mb5.2
CLL *e*S S 02 58 38.7 +4.6
CLL Collm 72.68 329 *i* P **P 02 49 09.9 -0.4**
comp=Z,57nm,1.8s,mb5.2
CLL *i* x x 02 49 16.8
CLL *i* x x 02 49 20.6
comp=Z,35nm,1.2s
CLL *i* PcP PcP 02 49 27.4 -0.3
comp=Z,31nm,1.1s
CLL *e*PP PP 02 51 55.0 +3.6
CLL *e*PPP 02 53 48.0
CLL *e*S S 02 58 44.0 +10
CLL *e*x x 02 59 34.0
CLL *e*SS SS 03 03 14.0 +1.6
CLL *e*x x 03 04 13.0
CLL *e*SSS 03 06 36.0
CLL Collm 72.68 329 *i* P **P 02 49 09.9 -0.4**
comp=Z,57nm,1.8s,mb5.2
CLL *i* pP 02 49 16.8 -0.4
CLL *i* 02 49 20.6
CLL *i* PcP PcP 02 49 27.4 -0.3
CLL *e*S S 02 58 44.0 +10
CLL LR LR
comp=Z,32µm,16.9s,MS6.7
AGMN Agassiz Refuge 72.69 36 *e*P **P 02 49 09.4 -1.1**
comp=Z,20nm,1.3s,mb4.9
AGMN LR LR
comp=Z,17µm,20.0s,MS6.3
BRG Berggiesshubel 72.71 328 *e*P **P 02 49 09.0 -1.5**
BRG *e* 02 49 21.1
BRG 02 51 56.0
BRG *i* 02 59 26.0
BRG pmax pmax
comp=Z,13nm,1.5s,mb4.6
BRG MLR MLR
comp=N,18µm,15.8s,MS6.6
BRG MLR MLR
comp=E,13µm,14.7s,MS6.6
BRG MLR MLR
comp=Z,30µm,15.6s,MS6.7
BRG Berggiesshubel 72.71 328 *e*P **P 02 49 10.3 -0.2**
comp=Z,118nm,2.4s,mb5.4
BRG *e*S S 02 58 41.2 +6.8
BRG Berggiesshubel 72.71 328 *e*P **P 02 49 09.0 -1.5**
comp=Z,21nm,1.5s,mb4.8
BRG *e* 02 49 21.1
comp=Z,18nm,1.3s
BRG PP PP 02 51 56.0 +4.3
BRG S S 02 58 45.0 +11
BRG *i* 02 59 26.0
BRG SS SS 03 03 43.0 +30
BRG *e* 03 11 20.9
comp=Z,20nm,1.9s
BRG *e*PKPPKP 03 16 31.6
comp=Z,8.2nm,1.7s
BRG
comp=N,30µm,15.8s
BRG
comp=E,22µm,14.7s
BRG
comp=Z,50µm,15.6s
BRG Berggiesshubel 72.71 328 *e*P **P 02 49 09.0 -1.5**
comp=Z,12nm,1.5s,mb4.6
BRG *e* 02 49 21.1
BRG PP PP 02 51 56.0 +4.3
BRG S S 02 58 45.0 +11
BRG *i* 02 59 26.0
BRG SS SS 03 03 43.0 +30
BRG *e* 03 11 20.9
BRG *e*P'P' 03 16 31.6
BRG LR LR
comp=Z,30µm,15.6s,MS6.7
BBRC Big Bear Sol-O 72.71 58 ⇓P **P 02 49 09.9 -0.9**
baz=72
PVCC Panska Ves 72.76 328 *e*P **P 02 49 10.6 -0.2**
PVCC *e*PP PP 02 51 59.7 +7.5
PVCC *e*S S 02 58 43.3 +8.3
PVCC AMS AMS 03 24 00.0
comp=Z,56µm,16.6s
PVCC Panska Ves 72.76 328 *e*P **P 02 49 10.6 -0.2**
PVCC *e*PP PP 02 51 59.7 +7.5
PVCC *e*S S 02 58 43.3 +8.3
VYHS Vyhne 72.78 324 *i* P **P 02 49 09.7 -1.3**
VYHS *i* S S 02 58 40.9 +5.6
VYHS pmax pmax
comp=Z,16nm,1.5s,mb4.7
VYHS Vyhne 72.78 324 *i* P **P 02 49 09.7 -1.3**
comp=Z,16nm,1.5s,mb4.7
VYHS *i* PP PP 02 51 56.4 +4.0
VYHS *e* 02 53 27.1
VYHS *i* S S 02 58 40.9 +5.6

SRU San Rafael 72.80 51 *e*P **P 02 49 12.7 +1.4**
SRU pmax pmax
comp=Z,14nm,0.9s,mb4.9
SRU San Rafael 72.80 51 ⇑P **P 02 49 10.8 -0.5**
baz=72
SRU San Rafael 72.80 51 *e*P **P 02 49 10.6 -0.7**
comp=Z,14nm,0.9s,mb4.9
PSZ Piszkesteto 72.81 323 P **P 02 49 11.2 0.0**
PSZ pmax pmax
comp=Z,20nm,1.1s,mb5.0
PSZ Piszkesteto 72.81 323 ⇓*e*P **P 02 49 08.9 -2.3**
PSZ Piszkesteto 72.81 323 *e*P **P 02 49 11.0 -0.2**
comp=Z,20nm,1.1s,mb5.0
PSZ LR LR
comp=Z,19µm,20.0s,MS6.4
S15A Panguitch 72.85 53 ⇓P **P 02 49 10.8 -0.8**
baz=72
V12A Nelson 72.86 56 ⇑P **P 02 49 12.1 +0.4**
baz=72
U13A Pakoon Wash 72.87 55 P **P 02 49 12.2 +0.5**
baz=72,SNR=10
FBE Freiberg 72.88 329 *e*S S 02 58 42.9 +6.6
T14A Hurricane 72.89 54 ⇑P **P 02 49 11.9 +0.1**
baz=72
ANTO Ankara 72.93 310 P **P 02 49 14.2 +2.2**
ANTO *e* 02 49 31.1
ANTO pmax pmax
comp=Z,49nm,1.3s,mb5.3
ANTO Ankara 72.93 310 ⇓*i*P **P 02 49 14.6 +2.6**
ANTO Ankara 72.93 310 *e*P **P 02 49 12.7 +0.7**
comp=Z,22nm,1.1s,mb5.0
ANTO LR LR
comp=Z,22µm,20.0s,MS6.4
JAVC Velka Javorina 72.95 325 P **P 02 49 13.5 +1.5**
VRAC Vranov 73.00 326 ⇓*i*P **P 02 49 13.1 +0.8**
VRAC Vranov 73.00 326 P **P 02 49 12.6 +0.3**
Q18A Rafter H Ranch 73.01 51 ⇓P **P 02 49 12.3 -0.2**
baz=73
GMRC Granite Mounta 73.08 57 P **P 02 49 12.6 -0.4**
baz=73,SNR=10
CLZ Clausthal 73.13 331 *e*P **P 02 49 12.4 -0.6**
comp=Z,41nm,1.0s,mb5.3
CLZ *e*S S 02 58 45.9 +6.7
W12A Cal Nev Ari 73.15 56 ⇑P **P 02 49 13.4 0.0**
baz=73
LDFC Landfair 73.18 57 *e*P **P 02 49 12.6 -1.0**
comp=Z,44nm,1.2s,mb5.3
PRA Prague 73.19 328 P **P 02 49 15.0 +1.6**
R17A Hanksville Air 73.20 51 ⇑P **P 02 49 13.3 -0.4**
baz=73
PRU Pruhonice 73.22 328 *e*P **P 02 49 12.7 -0.8**
PRU *e*PP PP 02 52 03.8 +7.8
PRU *e*S S 02 58 47.4 +7.2
PRU AMS AMS 03 24 10.0
comp=Z,39µm,16.9s
V13A Grand Canyon W 73.26 55 ⇑P **P 02 49 14.2 +0.1**
baz=73
KRUC Moravsky 73.28 326 P **P 02 49 14.0 +0.1**
U14A Mt Trumbull 73.30 54 ⇓P **P 02 49 14.4 +0.1**
baz=73
T15A Red Dirt Ranch 73.31 54 ⇑P **P 02 49 14.4 +0.1**
baz=73
BELC Belle Mtn. 73.44 58 ⇑P **P 02 49 14.9 -0.2**
baz=73
TREC Trest 73.44 327 *e*P **P 02 49 14.5 -0.3**
TREC *e*x x 02 58 55.3
TREC AMS AMS 03 24 50.0
comp=Z,44µm,14.8s
PFO Pinyon Flat Ob 73.45 58 P **P 02 49 14.2 -1.0**
PFO pmax pmax
comp=Z,16nm,1.0s,mb4.9
PFO Pinyon Flat Ob 73.45 58 ⇑P **P 02 49 14.6 -0.6**
baz=73
PFO Pinyon Flat Ob 73.45 58 *e*P **P 02 49 14.0 -1.2**
comp=Z,16nm,1.0s,mb4.9
PFO LR LR
comp=Z,11µm,21.0s,MS6.1
AFI Afiamalu 73.47 133 PFAKE 02 49 30.0 +15
AFI LR LR
comp=Z,6µm,22.0s,MS5.9
MODS Modra-Piesok 73.50 325 *i* P **P 02 49 12.8 -2.4**
MODS *e* 02 53 45.2
MODS *i* S S 02 58 51.9 +8.5
MODS pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MODS Modra-Piesok 73.50 325 *i* P **P 02 49 12.8 -2.4**
comp=Z,10.0nm,1.2s,mb4.6
MODS *e* 02 53 45.2
MODS *i* S S 02 58 51.9 +8.5
BUD Budapest 73.51 324 *e*P **P 02 49 16.6 +1.3**
Q19A Hogan Spring (73.58 50 ⇑P **P 02 49 15.0 -0.9**
baz=73
109C Camp Elliot, M 73.58 59 ⇑P **P 02 49 15.6 -0.4**
baz=73
IBBN Ibbenburen 73.58 333 *e*P **P 02 49 15.6 -0.1**
comp=Z,45nm,1.2s,mb5.3
TANN Tannenbergstha 73.61 329 *e*P **P 02 49 14.7 -1.2**
comp=Z,193nm,2.8s,mb5.5
TANN *e*S S 02 58 50.2 +5.5
WERD Werda 73.64 329 *e*P **P 02 49 15.5 -0.5**
comp=Z,31nm,1.4s,mb5.0
WERD *e*S S 02 58 50.2 +5.2
R18A Canyonlands Na 73.66 51 P **P 02 49 15.9 -0.5**
baz=73,SNR=7.0
NEE2 Needles Airpor 73.68 56 ⇓P **P 02 49 16.2 -0.4**
baz=73
GUNZ Gunzen 73.70 329 *e*P **P 02 49 15.9 -0.5**
comp=Z,24nm,1.2s,mb5.0
GUNZ *e*S S 02 58 51.0 +5.3
ZST Bratislava 73.71 325 *i* P **P 02 49 18.7 +2.2**
ZST pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ZST Bratislava 73.71 325 *i* P **P 02 49 18.7 +2.2**
comp=Z,9.7nm,0.8s,mb4.8
ZST *i* S S 02 58 55.3 +9.5
MOX Moxa 73.72 330 *e*P **P 02 49 15.6 -0.9**
comp=Z,63nm,1.6s,mb5.3
MOX *e* 02 52 10.0
MOX
comp=Z,23µm,19.0s
MOX Moxa 73.72 330 *e*P **P 02 49 15.6 -0.9**
MOX *e* 02 52 10.0
MOX pmax pmax
comp=Z,63nm,1.6s,mb5.3
MOX MLR MLR
comp=Z,23µm,19.0s,MS6.5
MOX Moxa 73.72 330 *e*P **P 02 49 15.8 -0.7**
comp=Z,49nm,1.5s,mb5.2
MOX *e*S S 02 58 52.3 +6.5
WERN Wernitzgruen 73.75 329 *e*P **P 02 49 17.3 +0.6**
comp=Z,32nm,1.5s,mb5.0
WERN *e*S S 02 58 51.9 +5.7
NKC Novy Kostel 73.77 329 *e*P **P 02 49 18.1 +1.3**
NKC *e*S S 02 58 57.2 +11
NKC AMS AMS 03 24 40.0
comp=Z,24µm,15.8s
NKC Novy Kostel 73.77 329 *e*P **P 02 49 18.1 +1.3**
NKC *e*S S 02 58 57.2 +11
PHWY Pilot Hill 73.78 46 *e*P **P 02 49 17.1 +0.1**
SZH Strazhica 73.78 317 *e*P PcP 02 49 28.0 -4.6
U15A North Rim 73.79 54 ⇑P **P 02 49 17.5 +0.3**
baz=73,SNR=8.1
IRM Iron Mountain 73.81 57 ⇓P **P 02 49 17.1 -0.2**
baz=74,SNR=18
T16A Glen Canyon Da 73.82 53 ⇑P **P 02 49 16.7 -0.6**
baz=73
W13A Hualapai Mount 73.86 56 ⇓P **P 02 49 17.1 -0.5**
baz=74
BZS Buzias 73.91 321 P **P 02 49 17.8 +0.1**
V14A Boquillas Ranc 73.91 55 ⇓P **P 02 49 17.5 -0.4**
baz=74
ESK Eskdalemuir 73.92 340 PFAKE 02 49 30.0 +12
ESK LR LR
comp=Z,11µm,19.0s,MS6.2
MONP Monument Peak 73.98 59 ⇑P **P 02 49 18.0 -0.3**
baz=74
BAR Barrett 73.98 59 *e*P **P 02 49 17.2 -1.1**
comp=Z,8.0nm,1.0s,mb4.6
BAR LR LR
comp=Z,8µm,21.0s,MS6.0
BC3 Big Chuckw Mtn 74.00 58 ⇓P **P 02 49 18.1 -0.3**
baz=74,SNR=9.5
R19A Curley Farm, L 74.07 51 ⇓P **P 02 49 18.4 -0.4**
baz=74
S18A Hurst Farm, Bl 74.12 52 ⇓P **P 02 49 18.6 -0.5**
baz=74,SNR=10

UBBA Unterbreizbach 74.12 331 *e*P **P 02 49 19.1 +0.3**
comp=Z,106nm,2.2s,mb5.4
UBBA *e*S S 02 58 56.2 +5.8
WTSB Winterswijk 74.18 333 ⇓*e*P **P 02 49 19.7 +0.6**
comp=Z,35nm,1.4s,mb5.1
W14A Seligman 74.23 55 ⇓P **P 02 49 19.9 +0.1**
baz=74
ROTZ Rotzenmuhle 74.25 329 *e*P **P 02 49 19.4 -0.2**
comp=Z,30nm,1.2s,mb5.1
ROTZ *e*S S 02 58 59.2 +7.4
X13A Yucca 74.25 56 P **P 02 49 20.0 +0.1**
baz=74,SNR=10
KHC Kasperske Hory 74.28 328 *e*P **P 02 49 19.5 -0.3**
KHC *e*S S 02 59 03.1 +11
KHC AMS AMS 03 24 40.0
comp=Z,46µm,17.6s
PDMCI Parker Dam,Lak 74.29 57 ⇑P **P 02 49 20.0 -0.1**
baz=74
V15A Kaibab Nationa 74.30 54 ⇓P **P 02 49 20.0 -0.2**
baz=74
SWSC Sam W. Stewart 74.31 59 ⇑P **P 02 49 19.3 -0.9**
baz=74
DVTC Desert V Tower 74.33 59 ⇓P **P 02 49 20.4 -0.1**
baz=74
SOP Sopron 74.34 325 ⇓*e*P **P 02 49 21.9 +1.7**
CONA Conrad Observa 74.41 326 *e*P **P 02 49 20.9 +0.3**
comp=Z,36nm,1.3s,mb5.1,SNR=14
CONA Conrad Observa 74.41 326 *e*pP **P 02 49 20.9 +0.3**
comp=Z,36nm,1.3s,mb5.1,SNR=14
Y12C Blythe 74.47 57 ⇓P **P 02 49 20.9 -0.2**
baz=74
GEC2 GERESS Array S 74.47 327 P **P 02 49 20.9 0.0**
GEC2 GERESS Array S 74.47 327 *e*P **P 02 49 20.4 -0.5**
comp=Z,24nm,1.4s,mb4.9
GEC2 *e*S S 02 59 01.3 +6.9
GERES GERESS Array B 74.47 327 P **P 02 49 20.1 -0.8**
comp=Z,4.6nm,0.9s,mb4.4,baz=33,slow=3.2,SNR=19
BUG Bochum--Univer 74.48 332 *e*P **P 02 49 20.8 -0.1**
comp=Z,69nm,1.4s,mb5.4
WET Wettzell 74.53 328 *e*P **P 02 49 21.1 -0.1**
comp=Z,37nm,1.2s,mb5.2
WET *e*S S 02 59 02.1 +7.1
S19A Harvey Farm, M 74.54 51 ⇑P **P 02 49 20.9 -0.6**
baz=74,SNR=12
U17A Shonto 74.56 53 ⇓P **P 02 49 21.5 -0.2**
baz=74
T18A Mexican Hat 74.59 52 ⇓P **P 02 49 21.7 -0.1**
baz=74,SNR=7.5
U16A Tuba City 74.64 53 ⇓P **P 02 49 21.8 -0.3**
baz=74,SNR=9.6
GRA1 Grafenberg Arr 74.66 329 *e*P **P 02 49 22.2 +0.2**
comp=Z,64nm,1.1s,mb5.5
GRA1 *e*S S 02 59 03.4 +7.0
GRA1 LR LR
comp=Z,26µm,19.0s,MS6.5
GRF Grafenberg Arr 74.66 329 *e*P **P 02 49 22.2 +0.2**
comp=Z,64nm,1.1s,mb5.5
GRF *e*S S 02 59 03.4 +7.0
GRF *e*L 03 25 18.8
comp=Z,26µm,19.0s
GRFO Grafenberg 74.66 329 *e*S S 02 59 03.4 +7.0
PKSM Moragy 74.69 323 ⇑*i*P **P 02 49 27.6 +5.4**
PKSM Moragy 74.69 323 P **P 02 49 22.4 +0.2**
EYMN Ely 74.70 34 *e*P **P 02 49 21.1 -1.1**
comp=Z,22nm,1.0s,mb5.0
EYMN LR LR
comp=Z,9µm,19.0s,MS6.1
W15A Williams 74.71 55 ⇓P **P 02 49 22.9 +0.3**
baz=74
GLA Glamis 74.80 58 P **P 02 49 23.3 +0.2**
GLA pmax pmax
comp=Z,74nm,1.5s,mb5.4
GLA Glamis 74.80 58 ⇓P **P 02 49 23.4 +0.3**
baz=74
GLA Glamis 74.80 58 *e*P **P 02 49 22.8 -0.3**
comp=Z,74nm,1.5s,mb5.4
GLA LR LR
comp=Z,8µm,21.0s,MS6.0
Y13A Salome 74.82 57 ⇓P **P 02 49 23.2 0.0**
baz=74
ISCO Idaho Springs 74.83 47 P **P 02 49 23.8 +0.6**
ISCO pmax pmax
comp=Z,67nm,2.0s,mb5.2
ISCO Idaho Springs 74.83 47 *e*P **P 02 49 23.2 0.0**
comp=Z,67nm,2.0s,mb5.2
ISCO LR LR
comp=Z,14µm,20.0s,MS6.2
X14A Yava 74.88 56 ⇑P **P 02 49 23.9 +0.4**
baz=74
WUAZ Wupatki 74.96 54 ⇓P **P 02 49 24.6 +0.6**
baz=75
WUAZ Wupatki 74.96 54 *e*P **P 02 49 24.7 +0.7**
comp=Z,24nm,1.2s,mb5.0
WUAZ LR LR
comp=Z,8µm,20.0s,MS6.0
MOA Molln 75.09 326 ⇓*i*P **P 02 49 24.2 -0.3**
comp=Z,8.7nm,1.1s,mb4.6
MOA Molln 75.09 326 ⇓*i*pP **P 02 49 24.2 -0.3**
comp=Z,8.7nm,1.1s,mb4.6
ARSA Arzberg 75.10 325 ⇓*i*P **P 02 49 24.6 0.0**
comp=Z,23nm,1.1s,mb5.0,SNR=10
ARSA Arzberg 75.10 325 ⇓*i*pP **P 02 49 24.6 0.0**
comp=Z,23nm,1.1s,mb5.0,SNR=10
U18A Rough Rock, Ch 75.12 52 ⇑P **P 02 49 25.1 +0.2**
baz=75
TNS Taunus Mts 75.15 331 *e*P **P 02 49 25.3 +0.5**
comp=Z,37nm,1.2s,mb5.2
TNS *e*S S 02 59 08.5 +6.6
W16A Flagstaff 75.18 54 ⇑P **P 02 49 25.5 +0.2**
baz=75
Y14A Wickenburg 75.20 56 ⇑P **P 02 49 25.3 -0.1**
baz=75
X15A Humboldt 75.23 55 ⇓P **P 02 49 25.7 +0.1**
baz=75
PLD Plovdiv 75.26 317 *e*P **P 02 49 28.0 +2.4**
MVCO Mesa Verde 75.28 51 ⇑P **P 02 49 25.8 0.0**
baz=75
MVCO Mesa Verde 75.28 51 *e*P **P 02 49 26.0 +0.2**
comp=Z,26nm,1.1s,mb5.1
MVCO LR LR
comp=Z,8µm,19.0s,MS6.0
112A Yuma 75.31 58 ⇓P **P 02 49 26.0 -0.1**
baz=75
HGN Heimansgroeve 75.49 333 *e*P **P 02 49 23.8 -3.0**
HGN Heimansgroeve 75.49 333 ⇓*e*P **P 02 49 27.0 +0.3**
comp=Z,36nm,2.9s,mb4.8
HGN Heimansgroeve 75.49 333 *e*PP PP 02 52 16.6 +1.3
HGN Heimansgroeve 75.49 333 *e*S S 02 59 14.5 +8.8
HGN Heimansgroeve 75.49 333 *e*ScS ScS 02 59 42.5 +3.8
BEBN Eben Emael 75.55 333 P **P 02 49 27.2 +0.1**
TOD Tromm 75.56 331 *e*P **P 02 49 27.4 +0.2**
Y15A Casa Rosa Ranc 75.57 56 P **P 02 49 27.4 -0.1**
baz=75,SNR=8.4
VTS Vitosha 75.57 318 *e*P **P 02 49 27.7 +0.3**
VTS Vitosha 75.57 318 ⇑*i*P **P 02 49 30.2 +2.8**
VTS Vitosha 75.57 318 P **P 02 49 27.8 +0.4**
RZN Rozhen 75.58 316 *e*P **P 02 49 31.0 +3.6**
MEM Membach 75.61 333 P **P 02 49 27.3 -0.2**
comp=Z,19nm,1.4s,mb4.8
V18A Ganado 75.61 53 ⇓P **P 02 49 28.2 +0.4**
baz=75
113A Mohawk Valley, 75.61 57 ⇓P **P 02 49 28.0 +0.2**
baz=75
W17A Winslow 75.65 54 ⇓P **P 02 49 28.0 +0.1**
baz=75
Z14A Wintersburg 75.65 56 ⇓P **P 02 49 27.6 -0.4**
baz=75
X16A Lo Mia Camp, P 75.73 55 ⇓P **P 02 49 29.2 +0.7**
baz=75
SCHQ Schefferville 75.75 17 P **P 02 49 26.8 -1.4**
comp=Z,6.2nm,0.7s,mb4.6,baz=340,slow=8.7,SNR=4.0
SCHQ Schefferville 75.75 17 *e*P **P 02 49 27.7 -0.4**
comp=Z,35nm,1.1s,mb5.2
SCHQ LR LR
comp=Z,17µm,20.0s,MS6.3
SOKA Soboth 75.76 325 ⇓*i*P **P 02 49 28.1 -0.2**
SOKA Soboth 75.76 325 ⇓*i*pP **P 02 49 28.1 -0.2**
PERS Pernice 75.76 325 *e*P **P 02 49 27.4 -1.0**
FUR Furstenfeldbru 75.93 328 *e*P **P 02 49 29.2 -0.1**
comp=Z,90nm,1.2s,mb5.6
UCC Uccle 75.95 334 P **P 02 49 29.7 +0.3**
HDH Heidenheim-Cha 75.95 329 P **P 02 49 31.2 +1.8**
BCLA Clavier 75.99 333 P **P 02 49 29.0 -0.6**
comp=Z,19nm,1.6s,mb4.8
ECSD EROS,Sioux Fal 76.02 40 *e*P **P 02 49 28.0 -1.9**
comp=Z,92nm,1.8s,mb5.4
ECSD LR LR

comp=Z,29µm,21.0s,MS6.6
KBA Koelnbreinsper 76.08 327 *i* P **P 02 49 30.5 +0.4**
comp=Z,62nm,1.1s,mb5.5,SNR=24
KBA Koelnbreinsper 76.08 327 *i* pP **P 02 49 30.5 +0.4**
comp=Z,62nm,1.1s,mb5.5,SNR=24
OBKA Obir 76.09 325 ⇓ *i* P **P 02 49 30.1 -0.1**
comp=Z,36nm,1.6s,mb5.0
OBKA Obir 76.09 325 ⇓ *i* pP **P 02 49 30.1 -0.1**
comp=Z,36nm,1.6s,mb5.0
V19A Window Rock 76.09 52 ⇓ P **P 02 49 30.9 +0.4**
baz=76
STU Stuttgart 76.14 330 P **P 02 49 32.6 +2.1**
STU pmax pmax
comp=Z,50nm,1.0s,mb5.4
STU Stuttgart 76.14 330 *e* P **P 02 49 31.2 +0.7**
comp=Z,55nm,1.3s,mb5.3
STU Stuttgart 76.14 330 *e* P **P 02 49 30.8 +0.3**
comp=Z,50nm,1.0s,mb5.4
CSS Prodhromos 76.27 307 *e* P **P 02 49 29.2 -2.2**
comp=Z,26nm,1.0s,mb5.1
CSS LR LR
comp=Z,14µm,22.0s,MS6.2
MYKA Terra Mystica 76.34 326 ⇓ *i* P **P 02 49 31.0 -0.6**
comp=Z,30nm,0.9s,mb5.2
MYKA Terra Mystica 76.34 326 ⇓ *i* pP **P 02 49 31.0 -0.6**
comp=Z,30nm,0.9s,mb5.2
BUCH Bad Urach 76.36 330 P **P 02 49 33.8 +2.0**
LBG Lerchenberg 76.37 330 P **P 02 49 34.1 +2.3**
WLF Walferdange 76.38 332 P **P 02 49 35.5 +3.6**
WLF pmax pmax
comp=Z,27nm,1.2s,mb5.0
WLF Walferdange 76.38 332 *e* P **P 02 49 31.8 -0.1**
comp=Z,185nm,2.3s,mb5.6
WLF *e* S S 02 59 22.2 +6.7
WLF Walferdange 76.38 332 *e* P **P 02 49 27.3 -4.5**
comp=Z,27nm,1.3s,mb5.0
WLF LR LR
comp=Z,18µm,21.0s,MS6.4
GIVF Givet 76.42 333 *e* P **P 02 49 30.8 -1.2**
comp=Z,62nm,1.1s,mb5.2
GIVF Givet 76.42 333 *e* P **P 02 49 30.8 -1.2**
comp=Z,31nm,1.1s,mb5.2
SDCO Great Sand Dun 76.44 49 *e* P **P 02 49 32.3 -0.2**
comp=Z,12nm,1.2s,mb4.7
SDCO LR LR
comp=Z,12µm,19.0s,MS6.2
LJU Ljubljana 76.48 325 *i* P **P 02 49 32.6 +0.2**
LJU *i* pP 02 49 39.1 -0.3
LJU *e* S S 02 59 24.6 +7.9
DOU Dourbes 76.49 333 P **P 02 49 31.5 -1.0**
comp=Z,18nm,1.6s,mb4.8
WATA Walderalm 76.52 328 ⇓ *i* P **P 02 49 33.7 +1.0**
comp=Z,15nm,0.6s,mb5.1
WATA Walderalm 76.52 328 ⇓ *i* pP **P 02 49 33.7 +1.0**
comp=Z,15nm,0.6s,mb5.1
WTTA Wattenberg 76.56 328 ⇓ *i* P **P 02 49 33.4 +0.5**
comp=Z,39nm,1.0s,mb5.3,SNR=14
WTTA Wattenberg 76.56 328 ⇓ *i* P PcP 02 49 45.0 +0.6
comp=Z,100nm,1.2s
WTTA Wattenberg 76.56 328 ⇓ *i* pP **P 02 49 33.4 +0.5**
comp=Z,39nm,1.0s,mb5.3,SNR=14
WTTA ⇓ *i* PcP PcP 02 49 45.0 +0.6
comp=Z,100nm,1.2s
WTTA Wattenberg 76.56 328 ⇓ *i* P **P 02 49 33.4 +0.5**
comp=Z,39nm,1.0s,mb5.3
PTCC Patocco-Chiusa 76.63 326 P **P 02 49 33.3 0.0**
BOJS Bojanci 76.64 324 *e* P **P 02 49 32.2 -1.2**
BOJS *e* S S 02 59 27.2 +8.7
BAIF Baives 76.64 333 *e* P **P 02 49 32.1 -1.2**
comp=Z,146nm,1.8s,mb5.3
BAIF Baives 76.64 333 *e* P **P 02 49 32.1 -1.2**
comp=Z,73nm,1.8s,mb5.3
ABTA Abfaltersbach 76.67 327 ⇑ *i* P **P 02 49 31.9 -1.6**
comp=Z,13nm,1.1s,mb4.8
MOTA Moosalm 76.68 328 *i* P **P 02 49 34.0 +0.4**
comp=Z,45nm,1.0s,mb5.3,SNR=29
MOTA Moosalm 76.68 328 *i* pP **P 02 49 34.0 +0.4**
comp=Z,45nm,1.0s,mb5.3,SNR=29
RETA Reutte 76.68 328 ⇓ *i* P **P 02 49 33.6 0.0**
comp=Z,24nm,1.1s,mb5.0,SNR=12
RETA Reutte 76.68 328 ⇑ *i* P PcP 02 49 45.8 +0.9
comp=Z,62nm,1.3s
RETA Reutte 76.68 328 ⇓ *i* pP **P 02 49 33.6 0.0**
comp=Z,24nm,1.1s,mb5.0,SNR=12
RETA ⇑ *i* PcP PcP 02 49 45.8 +0.9
comp=Z,62nm,1.3s
VOY Vojsko 76.74 326 *e* P **P 02 49 32.9 -1.0**
VOY *e* pP 02 49 40.8 0.0
VOY *e* 02 49 52.3
STIP Stip 76.75 318 ⇓ *e* Pdi **P 02 49 34.7 +0.7**
SQTA Sankt Quirin 76.75 328 ⇑ *e* P **P 02 49 34.3 +0.3**
comp=Z,25nm,0.9s,mb5.2
SQTA Sankt Quirin 76.75 328 ⇑ *e* pP **P 02 49 34.3 +0.3**
comp=Z,25nm,0.9s,mb5.2
GUT Gutenstein 76.77 330 P **P 02 49 34.6 +0.5**
CEY Cerknica 76.77 325 P **P 02 49 34.5 +0.4**
SEST Monte Rota 76.77 327 P **P 02 49 34.9 +0.8**
GMNA Gemona 76.79 326 P **P 02 49 35.0 +0.8**
JAVS Javornik 76.79 325 *i* P **P 02 49 32.8 -1.4**
BFO Black Forest 76.82 330 P **P 02 49 32.0 -2.3**
comp=Z,158nm,1.1s,mb5.9,SNR=9.8
BFO Black Forest 76.82 330 P **P 02 49 34.3 0.0**
BFO pmax pmax
comp=Z,34nm,1.1s,mb5.2
BFO Black Forest 76.82 330 *e* P **P 02 49 33.5 -0.8**
comp=Z,44nm,1.2s,mb5.3
BFO *e* S S 02 59 26.1 +5.8
SPAK Spaichingen-Ko 76.86 330 *e* P **P 02 49 34.2 -0.4**
VAY Valandovo 76.86 318 ⇓ *e* Pdi **P 02 49 33.6 -1.1**
SKO Skopje 76.87 319 ⇓ *e* Pdi **P 02 49 33.8 -1.0**
FETA Feichten 77.09 328 ⇑ *i* P **P 02 49 36.3 +0.4**
comp=Z,18nm,0.9s,mb5.0,SNR=11
FETA Feichten 77.09 328 ⇑ *i* pP **P 02 49 36.3 +0.4**
comp=Z,18nm,0.9s,mb5.0,SNR=11
CDF Champ du Feu 77.10 331 *e* P **P 02 49 34.8 -1.1**
comp=Z,103nm,1.3s,mb5.3
CDF Champ du Feu 77.10 331 *e* P **P 02 49 34.8 -1.1**
comp=Z,51nm,1.3s,mb5.3
COWI Conover 77.13 34 *e* P **P 02 49 34.3 -1.8**
comp=Z,26nm,1.3s,mb5.0
COWI LR LR
comp=Z,6µm,22.0s,MS5.9
SISB Singen-Schiene 77.15 329 P **P 02 49 40.3 +4.1**
DAVA Damuels 77.17 329 ⇓ *i* P **P 02 49 36.3 0.0**
comp=Z,25nm,0.8s,mb5.2,SNR=14
DAVA Damuels 77.17 329 ⇓ *i* pP **P 02 49 36.3 0.0**
comp=Z,25nm,0.8s,mb5.2,SNR=14
KIZ Kirchzarten 77.28 330 P **P 02 49 38.4 +1.4**
ECH Echery 77.31 331 *e* P **P 02 49 36.9 -0.2**
ECH Echery 77.31 331 *e* P **P 02 49 36.5 -0.6**
FELD Feldberg im Sc 77.32 330 *e* P **P 02 49 36.9 -0.3**
KRUS Krusevo 77.43 318 ⇓ *e* Pdi **P 02 49 37.8 -0.2**
NVLJ Novalja 77.57 324 P **P 02 49 35.6 -3.1**
CTI Castel Tesino 77.58 327 P **P 02 49 38.0 -0.6**
TUC Tucson 77.66 56 *e* P **P 02 49 39.1 -0.2**
comp=Z,6.8nm,1.4s,mb4.4
TUC LR LR
comp=Z,6µm,20.0s,MS5.9
BRMO Bormio 77.68 328 P **P 02 49 39.0 -0.2**
THEF They Montfort 77.69 332 *e* P **P 02 49 39.1 -0.1**
MEZF Maizieres J'vi 77.75 332 *e* P **P 02 49 38.7 -0.9**
comp=Z,210nm,1.4s,mb5.6
MEZF Maizieres J'vi 77.75 332 *e* P **P 02 49 38.7 -0.9**
comp=Z,210nm,1.4s,mb5.9
HINF Hinteralfeld 77.76 331 *e* P **P 02 49 38.2 -1.4**
comp=Z,57nm,1.2s,mb5.1
HINF Hinteralfeld 77.76 331 *e* P **P 02 49 38.2 -1.4**
comp=Z,28nm,1.2s,mb5.1
HAU Haudompre 77.76 331 *e* P **P 02 49 38.4 -1.3**
comp=Z,52nm,1.1s,mb5.1
HAU *e* MLR MLR
comp=Z,20µm,19.2s,MS6.2
HAU Haudompre 77.76 331 *e* P **P 02 49 38.4 -1.3**
comp=Z,26nm,1.1s,mb5.1
HAU LR LR
comp=Z,20µm,19.3s,MS6.5
STON Ston 77.79 321 P **P 02 49 35.0 -4.9**
BBS Basel-Blauen 77.84 330 *e* P **P 02 49 40.1 0.0**
LIT Litokhoron 77.86 317 P **P 02 49 38.7 -1.7**
MABI Malga Bissina 77.99 328 P **P 02 49 41.1 +0.1**
TUE Stuetta 78.06 329 *e* P **P 02 49 40.7 -0.6**
comp=Z,23nm,0.9s,mb5.1
TUE LR LR
comp=Z,26µm,19.0s,MS6.6
ANMO Albuquerque 78.06 51 P **P 02 49 41.4 -0.1**
ANMO pmax pmax
comp=Z,17nm,1.3s
ANMO Albuquerque 78.06 51 *e* P **P 02 49 40.6 -1.0**
comp=Z,18nm,1.4s,mb4.8
ANMO LR LR
comp=Z,6µm,19.0s,MS5.9
TIR Tirane 78.07 319 PFAKE 02 49 50.0 +8.5
TIR LR LR
comp=Z,15µm,21.0s,MS6.3
LAZ Ladron 78.11 52 *e* P **P 02 49 42.9 +1.1**
FORT Forrest 78.36 192 *e* P **P 02 49 45.2 +2.3**
comp=Z,4.9nm,0.9s,mb4.4
STKA Stephens Creek 78.46 180 *e* P **P 02 49 45.9 +2.4**
comp=Z,7.5nm,1.1s,mb4.5
STKA Stephens Creek 78.46 180 P **P 02 49 48.8 +5.3**
comp=Z,3.1nm,0.7s,mb4.4,baz=337,slow=11,SNR=4.4
CBKS Cedar Bluff 78.49 44 *e* P **P 02 49 43.1 -0.8**
comp=Z,6.5nm,0.6s,mb4.7
CBKS LR LR
comp=Z,10µm,21.0s,MS6.1
BNM Barren Site 78.58 52 *e* P **P 02 49 44.3 -0.1**
VAI Varese 78.78 329 P **P 02 49 44.5 -0.8**
FIU Minerbio Fiu 78.83 326 P **P 02 49 47.3 +1.7**
AOI Ancona 78.92 324 P **P 02 49 47.1 +1.0**
SCIA State Center 78.96 39 *e* P **P 02 49 44.9 -1.5**
comp=Z,34nm,1.2s,mb5.2
SCIA LR LR
comp=Z,20µm,20.0s,MS6.5
RSM Repubblica di 79.06 325 P **P 02 49 48.5 +1.6**
CABF La Chapelle 79.07 331 *e* P **P 02 49 45.4 -1.5**
FSSB Fossombrone 79.13 325 P **P 02 49 48.1 +0.8**
FLN La Foliniere 79.18 336 *e* P **P 02 49 46.2 -1.3**
comp=Z,114nm,1.2s,mb5.4
FLN *e* MLR MLR
comp=Z,18µm,17.5s,MS6.2
FLN La Foliniere 79.18 336 *e* P **P 02 49 46.2 -1.3**
comp=Z,57nm,1.2s,mb5.4
FLN LR LR
comp=Z,18µm,17.5s,MS6.5
LOR Lormes 79.22 332 *e* P **P 02 49 46.4 -1.3**
comp=Z,140nm,1.2s,mb5.5
LOR *e* MLR MLR
comp=Z,26µm,23.0s,MS6.2
LOR Lormes 79.22 332 *e* P **P 02 49 46.4 -1.3**
comp=Z,70nm,1.2s,mb5.5
LOR LR LR
comp=Z,26µm,23.0s,MS6.5
LDF La Druitiere 79.23 335 *e* P **P 02 49 46.1 -1.7**
comp=Z,122nm,1.3s,mb5.4
LDF La Druitiere 79.23 335 *e* P **P 02 49 46.1 -1.7**
comp=Z,61nm,1.3s,mb5.4
ORO Oropa 79.27 329 P **P 02 49 48.1 +0.1**
PIEI Pieia 79.36 325 P **P 02 49 49.7 +1.2**
JFWS Jewell Farm 79.36 36 PFAKE 02 50 00.0 +11
JFWS LR LR
comp=Z,14µm,20.0s,MS6.3
SEI Scarperia 79.37 326 P **P 02 49 50.2 +1.6**
GSCL Gusciola 79.41 327 P **P 02 49 49.4 +0.6**
SNTG Esanatoglia 79.43 325 P **P 02 49 50.0 +1.1**
GRAM Graiana 79.49 327 P **P 02 49 49.5 +0.3**
BADI Badiali 79.49 325 P **P 02 49 51.0 +1.7**
SSF Saint Saulge 79.51 332 *e* P **P 02 49 47.8 -1.5**
comp=Z,41nm,1.0s,mb5.0
SSF Saint Saulge 79.51 332 *e* P **P 02 49 47.8 -1.5**
comp=Z,21nm,1.0s,mb5.0
VALM Valbona 79.54 327 P **P 02 49 48.7 -0.8**
MURB Monte Urbino 79.59 325 P **P 02 49 51.4 +1.6**
HYF Humbligny 79.60 333 *e* P **P 02 49 48.9 -0.9**
SARO Sassorosso 79.62 327 P **P 02 49 48.5 -1.5**
GRR Gorron 79.63 336 *e* P **P 02 49 48.6 -1.3**
comp=Z,180nm,1.4s,mb5.5
GRR Gorron 79.63 336 *e* P **P 02 49 48.6 -1.3**
comp=Z,90nm,1.4s,mb5.5
VLC Villacollemand 79.65 327 *e* P **P 02 49 49.6 -0.5**
comp=Z,72nm,1.1s,mb5.5
VLC LR LR
comp=Z,31µm,19.0s,MS6.7
CODM Codolo 79.66 327 P **P 02 49 50.1 0.0**
BDI Bagni Di Lucca 79.66 327 P **P 02 49 49.6 -0.5**
BACM Baccana 79.67 327 P **P 02 49 48.2 -2.0**
RSL Roselend 79.69 330 *e* P **P 02 49 49.7 -0.6**
LSD Lago del Serru 79.71 329 P **P 02 49 50.4 +0.1**
KSU1 Kansas State U 79.73 42 *e* P **P 02 49 50.0 -0.6**
comp=Z,7.6nm,0.7s,mb4.7
KSU1 LR LR
comp=Z,14µm,22.0s,MS6.3
VINC Vinca 79.76 327 P **P 02 49 50.2 -0.5**
SC2M Scurtabo 79.76 327 P **P 02 49 50.5 -0.2**
SMF Signal de Mont 79.78 332 *e* P **P 02 49 49.5 -1.2**
comp=Z,208nm,1.2s,mb5.6
SMF Signal de Mont 79.78 332 *e* P **P 02 49 49.5 -1.2**
comp=Z,104nm,1.2s,mb5.6
AVF Avril sur Loir 79.80 332 *e* P **P 02 49 49.8 -1.1**
comp=Z,248nm,1.4s,mb5.7
AVF Avril sur Loir 79.80 332 *e* P **P 02 49 49.8 -1.1**
comp=Z,124nm,1.4s,mb5.7
LPL La Plagne 79.80 330 *e* P **P 02 49 49.7 -1.2**
comp=Z,29nm,1.1s,mb4.8
LPL La Plagne 79.80 330 *e* P **P 02 49 49.7 -1.2**
comp=Z,15nm,1.1s,mb4.8
LPG La Plagne 79.81 330 *e* P **P 02 50 50.0 -1.0**
comp=Z,81nm,1.2s,mb5.2
LPG La Plagne 79.81 330 *e* P **P 02 50 50.0 -1.0**
comp=Z,40nm,1.2s,mb5.2
MAIM Mastiano 79.82 327 P **P 02 49 48.7 -2.3**
GLMI Grayling 79.89 32 PFAKE 02 50 00.0 +8.6
GLMI LR LR
comp=Z,19µm,19.0s,MS6.5
RSP Reno Superiore 79.94 329 P **P 02 49 51.6 0.0**
PII Pisa 79.97 326 P **P 02 49 52.4 +0.5**
AQU L'Aquila 80.00 324 P **P 02 49 52.5 +0.5**
AQU pmax pmax
comp=Z,55nm,1.1s,mb5.4
AQU L'Aquila 80.00 324 ⇓ *i* P **P 02 49 52.6 +0.6**
AQU L'Aquila 80.00 324 *e* P **P 02 49 50.4 -1.7**
comp=Z,54nm,1.1s,mb5.4
AQU LR LR
comp=Z,26µm,19.0s,MS6.6
PCP Piancastagn 80.00 328 P **P 02 49 51.4 -0.7**
BGF Bois d'Agland 80.17 333 *e* P **P 02 49 51.4 -1.5**
FIAM Fiamignano 80.19 324 P **P 02 49 54.2 +1.1**
BHB Bricherasio 80.20 329 P **P 02 49 53.0 -0.1**
SGMF Saint Gilles 80.22 337 *e* P **P 02 49 51.6 -1.5**
comp=Z,82nm,1.0s,mb5.3
SGMF Saint Gilles 80.22 337 *e* P **P 02 49 51.6 -1.5**
comp=Z,41nm,1.0s,mb5.3
BNI Bardonecchia 80.22 329 P **P 02 49 53.3 +0.1**
BNI pmax pmax
comp=Z,31nm,1.2s,mb5.1
BNI Bardonecchia 80.22 329 *e* P **P 02 49 52.9 -0.3**
comp=Z,31nm,1.3s,mb5.1
BNI LR LR
comp=Z,15µm,20.0s,MS6.3
RNI2 Rionero Sannit 80.24 323 P **P 02 49 54.9 +1.6**
MIDA Miranda 80.25 323 P **P 02 49 54.3 +0.9**
QLNO Quiliano 80.26 328 P **P 02 49 53.3 -0.1**
PTQR Pietraquaria 80.28 324 P **P 02 49 54.2 +0.6**
VVLD Villa Vallelon 80.32 323 P **P 02 49 54.5 +0.7**
ROSF Rostrenen 80.34 337 *e* P **P 02 49 53.0 -0.7**
comp=Z,210nm,1.3s,mb5.6
ROSF Rostrenen 80.34 337 *e* P **P 02 49 53.0 -0.7**
comp=Z,105nm,1.3s,mb5.6
SDI San Donato 80.38 323 P **P 02 49 53.6 -0.5**
SGG Gregorio Mates 80.41 323 P **P 02 49 55.4 +1.1**
FIN Finale Ligure 80.41 328 P **P 02 49 52.5 -1.7**
LATE Laterza 80.42 325 P **P 02 49 54.9 +0.6**
ROB Robourent 80.46 328 P **P 02 49 52.0 -2.4**
MBDF Montbardon 80.48 329 *e* P **P 02 49 53.2 -1.4**
CERT Cerreto 80.51 324 P **P 02 49 54.8 0.0**
AGO Saint Agoulin 80.53 332 *e* P **P 02 49 55.7 +0.9**
RORO Rocca Rossa 80.55 328 P **P 02 49 54.1 -0.8**
AMTX Amarillo 80.61 48 *e* P **P 02 49 55.3 -0.1**
comp=Z,54nm,1.6s,mb5.2
AMTX LR LR
comp=Z,6µm,19.0s,MS6.0
TCF Toulx Ste Croi 80.61 333 *e* P **P 02 49 53.9 -1.3**
comp=Z,126nm,1.4s,mb5.3
TCF Toulx Ste Croi 80.61 333 *e* P **P 02 49 53.9 -1.3**
comp=Z,63nm,1.4s,mb5.3
ORIF Oris-en-Rattie 80.62 330 *e* P **P 02 49 53.9 -1.4**
comp=Z,49nm,0.9s,mb5.1
ORIF *e* MLR MLR
comp=Z,14µm,18.5s,MS6.0
ORIF Oris-en-Rattie 80.62 330 *e* P **P 02 49 53.9 -1.4**
comp=Z,24nm,0.9s,mb5.1
QUIF Quistinic 80.69 337 *e* P **P 02 49 54.8 -0.9**
comp=Z,76nm,1.0s,mb5.3
QUIF Quistinic 80.69 337 *e* P **P 02 49 54.8 -0.9**
comp=Z,38nm,1.0s,mb5.3
STV Sant Anna di V 80.70 329 P **P 02 49 54.7 -1.1**
SGO Sicignano 80.71 322 P **P 02 49 58.2 +2.3**
SSB Saint Sauveur 80.75 331 *e* P **P 02 49 56.4 +0.4**
SSB Saint Sauveur 80.75 331 P **P 02 49 57.2 +1.2**
SSB Saint Sauveur 80.75 331 *e* P **P 02 49 54.3 -1.7**
RDP Rocca di Papa 80.78 324 P **P 02 49 56.9 +0.7**
TOLF Tolfa 80.81 325 P **P 02 49 57.2 +0.8**
COLF Collangettes 80.82 332 *e* P **P 02 49 56.2 -0.2**
PYM Petit Puy Mans 80.84 332 *e* P **P 02 49 57.1 +0.6**
SAOF Saorge 80.84 328 *e* P **P 02 49 56.3 -0.2**
AUTN L'Aution 80.88 328 *e* P **P 02 49 55.9 -0.8**
NEGI Seborga 80.91 328 P **P 02 49 54.6 -2.3**
TOUF Mont Tournerai 80.93 329 *e* P **P 02 49 57.1 +0.1**
CUC Castrocucco 80.96 321 *e* P **P 02 49 56.8 -0.5**
comp=Z,32nm,1.1s,mb5.2
CUC LR LR
comp=Z,24µm,19.0s,MS6.6
SBF Sospel 80.99 328 *e* P **P 02 49 55.7 -1.6**
comp=Z,91nm,1.2s,mb5.3
SBF Sospel 80.99 328 *e* P **P 02 49 55.7 -1.6**
comp=Z,46nm,1.2s,mb5.3
LUCF Luceram 81.00 328 *e* P **P 02 49 57.1 -0.3**
MFF Saint Martin d 81.04 335 *e* P **P 02 49 56.0 -1.5**
comp=Z,108nm,1.1s,mb5.4
MFF Saint Martin d 81.04 335 *e* P **P 02 49 56.0 -1.5**
comp=Z,54nm,1.1s,mb5.4
VIVF Saint-Julien-l 81.08 331 *e* P **P 02 49 56.3 -1.5**
comp=Z,114nm,1.4s,mb5.3
VIVF Saint-Julien-l 81.08 331 *e* P **P 02 49 56.3 -1.5**
comp=Z,57nm,1.4s,mb5.3
OCF Saint Nazaire 81.11 330 *e* P **P 02 49 59.2 +1.2**
OG26 St.-Nazaire-De 81.11 330 *e* P **P 02 49 59.2 +1.2**
REVF Revere 81.12 328 *e* P **P 02 49 57.2 -0.8**
KLBR Kellerberrin 81.13 201 *e* P **P 02 50 00.0 +2.0**
comp=Z,32nm,1.2s,mb5.1
TIP Timpagrande 81.22 320 *e* P **P 02 49 56.7 -1.9**
comp=Z,26nm,1.4s,mb5.0
TIP LR LR
comp=Z,13µm,21.0s,MS6.2
LBL Lubilhac 81.22 332 *e* P **P 02 49 59.6 +1.1**
FRF La Foret Royal 81.54 329 *e* P **P 02 49 58.5 -1.7**
comp=Z,134nm,1.8s,mb5.3
FRF La Foret Royal 81.54 329 *e* P **P 02 49 58.5 -1.7**
comp=Z,67nm,1.8s,mb5.3
SMRF Simiane la Rot 81.55 330 *e* P **P 02 49 58.4 -1.9**
PGF Pioggiola 81.55 327 *e* P **P 02 49 58.7 -1.6**
comp=Z,81nm,1.5s,mb5.1
PGF Pioggiola 81.55 327 *e* P **P 02 49 58.7 -1.6**
comp=Z,41nm,1.5s,mb5.1
DGAR Diego Garcia 81.58 250 PFAKE 02 50 10.0 +9.2
DGAR LR LR
comp=Z,6µm,20.0s,MS6.0
RJF Les Rejaudoux 81.71 333 *e* P **P 02 49 59.5 -1.6**
RJF *e* MLR MLR
comp=Z,29µm,22.0s,MS6.3
RJF Les Rejaudoux 81.71 333 *e* P **P 02 49 59.5 -1.6**
RJF LR LR
comp=Z,29µm,22.0s,MS6.6
CORF Corte 81.71 327 *e* P **P 02 50 01.6 +0.4**
HDIL Hopedale 81.73 37 *e* P **P 02 50 00.2 -1.1**
comp=Z,17nm,0.7s,mb5.1
HDIL LR LR
comp=Z,19µm,19.0s,MS6.5
LMR La Mourre 81.78 329 *e* P **P 02 49 59.8 -1.7**
comp=Z,52nm,1.1s,mb5.1
LMR La Mourre 81.78 329 *e* P **P 02 49 59.8 -1.7**
comp=Z,26nm,1.1s,mb5.1
CAF Calviac 81.87 332 *e* P **P 02 50 00.3 -1.7**
comp=Z,125nm,1.3s,mb5.4
CAF Calviac 81.87 332 *e* P **P 02 50 00.3 -1.7**
comp=Z,62nm,1.3s,mb5.4
LASF Ste Croix 82.04 331 *e* P **P 02 50 01.5 -1.4**
comp=Z,78nm,1.4s,mb5.1
WMOK Wichita Mounta 82.18 46 P **P 02 50 03.8 0.0**
WMOK pmax pmax
comp=Z,20nm,1.4s,mb4.8
WMOK Wichita Mounta 82.18 46 *e* P **P 02 50 02.5 -1.3**
comp=Z,20nm,1.4s,mb4.8
WMOK LR LR
comp=Z,12µm,20.0s,MS6.2
OSPF L'Ospedale 82.24 326 *e* P **P 02 50 03.2 -0.8**
LFF La Frestale 82.28 333 *e* P **P 02 50 02.3 -1.8**
comp=Z,160nm,1.3s,mb5.5
LFF La Frestale 82.28 333 *e* P **P 02 50 02.3 -1.8**
comp=Z,80nm,1.3s,mb5.5
CEL Celeste 82.36 320 *e* P **P 02 50 02.8 -1.8**
comp=Z,34nm,0.9s,mb5.3
AAM Ann Arbor 82.42 32 PFAKE 02 50 20.0 +15
AAM LR LR
comp=Z,7µm,20.0s,MS6.0
NWAO Narrogin (SRO) 82.53 201 P **P 02 50 07.2 +1.9**
comp=Z,15nm,0.9s,mb5.0,baz=14,slow=4.7,SNR=5.2
NWAO Narrogin (SRO) 82.53 201 P **P 02 50 07.2 +1.9**
NWAO LR LR
comp=Z,3µm,20.0s,MS5.7
CCM Cathedral Cave 82.99 39 P **P 02 50 06.9 -1.1**
CCM pmax pmax
comp=Z,58nm,1.8s,mb5.3
CCM Cathedral Cave 82.99 39 *e* P **P 02 50 06.6 -1.4**
comp=Z,58nm,1.8s,mb5.3
CCM LR LR
comp=Z,18µm,20.0s,MS6.4
MTLF Montolieu 83.24 332 *e* P **P 02 50 07.4 -1.7**
LONY Lake Ozonia 83.34 25 PFAKE 02 50 20.0 +10
LONY LR LR
comp=Z,12µm,19.0s,MS6.3
EJON La Jonquera 83.81 331 P **P 02 50 14.0 +1.9**
comp=Z,474nm,4.3s
MLS Moulis 83.95 332 *e* P **P 02 50 13.0 +0.2**
NCB Newcomb 84.04 25 *e* P **P 02 50 11.2 -2.1**
comp=Z,15nm,1.3s,mb5.0
NCB LR LR
comp=Z,12µm,20.0s,MS6.3
RAO Raoul Island 84.12 145 PFAKE 02 50 30.0 +16
RAO LR LR
comp=Z,10µm,22.0s,MS6.2
EPF Esparros 84.12 333 *e* P **P 02 50 11.7 -2.0**
comp=Z,28nm,0.9s,mb5.1
EPF Esparros 84.12 333 *e* P **P 02 50 11.7 -2.0**
comp=Z,14nm,0.9s,mb5.1
PKME Peaks-Kenny Pk 84.18 22 PFAKE 02 50 20.0 +6.1
PKME LR LR
comp=Z,11µm,19.0s,MS6.3
ALLY Alegheny Colle 84.24 30 *e* P **P 02 50 13.4 -0.9**
comp=Z,48nm,1.2s,mb5.5
RESF Ens 84.32 333 *e* P **P 02 50 16.1 +1.4**
LBNH Lisbon 84.44 24 PFAKE 02 50 30.0 +15
LBNH LR LR
comp=Z,10µm,20.0s,MS6.2
ACSO Alum Creek Sta 84.47 33 *e* P **P 02 50 15.3 -0.2**
comp=Z,16nm,0.8s,mb5.2
ACSO LR LR
comp=Z,7µm,20.0s,MS6.0
EBIE Bielsa 84.49 333 P **P 02 50 17.3 +1.8**
comp=Z,304nm,3.7s
ETSF Etsaut 84.52 333 *e* P **P 02 50 13.8 -1.9**
comp=Z,62nm,1.1s,mb5.3
ETSF Etsaut 84.52 333 *e* P **P 02 50 13.8 -1.9**
comp=Z,31nm,1.1s,mb5.3
SJPF Ste Jean 84.53 334 *e* P **P 02 50 13.9 -1.8**
ACCN Adirondack Com 84.73 25 *e* P **P 02 50 14.9 -1.8**
comp=Z,27nm,1.5s,mb5.2
MIAR Mount Ida 84.85 43 *e* P **P 02 50 13.6 -3.9**
comp=Z,118nm,1.2s,mb5.9
MIAR LR LR
comp=Z,13µm,19.0s,MS6.3
WCI Wyandotte Cave 84.92 36 *e* P **P 02 50 20.0 +2.2**
comp=Z,8.1nm,0.8s,mb4.9
WCI LR LR
comp=Z,15µm,20.0s,MS6.4
JCT Junction City 85.05 50 P **P 02 50 19.3 +0.7**
JCT pmax pmax
comp=Z,24nm,1.2s,mb5.2
JCT Junction City 85.05 50 *e* P **P 02 50 18.0 -0.6**
comp=Z,24nm,1.2s,mb5.2
JCT LR LR
comp=Z,9µm,20.0s,MS6.2
ELAN Lanestosa 85.07 335 P **P 02 50 19.7 +1.2**
comp=Z,385nm,3.3s
BINY Binghamton 85.11 27 *e* P **P 02 50 17.6 -1.1**
BINY LR LR
comp=Z,9µm,22.0s,MS6.1
EPOB Poblet 85.40 331 P **P 02 50 20.7 +0.6**

comp=Z,16nm,0.9s,mb5.1
EARI Arriondas 85.51 336 P **P 02 50 21.3 +0.7**
comp=Z,527nm,3.6s
ESAC San Caprasio 85.56 333 P **P 02 50 22.9 +2.0**
comp=Z,36nm,0.9s,mb5.6
EPON Pontenova 86.00 338 P **P 02 50 26.7 +3.6**
comp=Z,515nm,3.7s
MCWV Mont Chateau 86.11 31 *e*P **P 02 50 23.8 +0.1**
comp=Z,37nm,1.1s,mb5.5
MCWV LR LR
comp=Z,17μm,19.0s,MS6.5
HRV Adam Dziewonsk 86.14 24 PFAKE 02 50 30.0 +6.2
HRV LR LR
comp=Z,10μm,19.0s,MS6.2
WES Weston 86.32 24 PFAKE 02 50 40.0 +15
WES LR LR
comp=Z,8μm,19.0s,MS6.2
STS Santiago 86.77 339 P **P 02 50 28.2 +1.4**
OXF Oxford 86.77 40 *e*P **P 02 50 26.2 -0.8**
comp=Z,8.5nm,0.8s,mb5.0
OXF LR LR
comp=Z,14μm,19.0s,MS6.4
ERUA La Rua 86.87 337 P **P 02 50 30.6 +3.3**
ETOR Torete 86.87 333 P **P 02 50 27.8 +0.4**
comp=Z,13nm,1.1s,mb5.1
PLAL Pickwick Lake 86.95 39 *e*P **P 02 50 26.6 -1.3**
comp=Z,28nm,1.4s,mb5.3
PLAL LR LR
comp=Z,16μm,20.0s,MS6.4
KEST Kesra 87.29 323 P **P 02 50 30.6 +1.1**
comp=Z,1.1nm,0.7s,mb4.2,baz=232,slow=1.2,SNR=6.2
TZTN Tazewell 87.47 35 PFAKE 02 50 40.0 +10
TZTN LR LR
comp=Z,13μm,19.0s,MS6.4
HKT Hockley 87.51 47 PFAKE 02 50 40.0 +9.3
HKT LR LR
comp=Z,21μm,19.0s,MS6.6
GUD Guadarrama 87.67 335 P **P 02 50 32.3 +1.0**
comp=Z,4.2nm,0.8s,mb4.7
ELN Prospectdale 87.94 33 *e*P **P 02 50 32.0 -0.6**
MVO Moncorvo 87.99 337 *e*P **P 02 50 33.5 +0.7**
comp=Z,26nm,2.1s,mb5.1
MVO Moncorvo 87.99 337 *e*PP PP 02 54 08.3 +10
MVO *e*S S 03 01 20.8 +5.9
MVO Moncorvo 87.99 337 *e*LQ 03 26 08.2
MVO *e*LR LR 03 31 56.7
comp=Z,13μm,18.0s
CPCT Cooper Cave 88.04 36 *e*P **P 02 50 32.9 -0.2**
BLA Blacksburg 88.08 32 *e*P **P 02 50 27.9 -5.3**
BLA LR LR
comp=Z,11μm,20.0s,MS6.2
TKL Tuckaleechee C 88.16 36 *e*P **P 02 50 31.0 -2.7**
VBMS Vicksburg 88.20 42 PFAKE 02 50 50.0 +16
VBMS LR LR
comp=Z,12μm,20.0s,MS6.3
ESDC Sonseca Array 88.50 334 P **P 02 50 35.7 +0.5**
comp=Z,3.7nm,0.8s,mb4.8,baz=20,slow=3.9,SNR=7.4
ESDC Sonseca Array 88.50 334 P **P 02 50 35.8 +0.6**
comp=Z,4.0nm,0.8s,mb4.8
ESLA Sonseca Array 88.50 334 *e*P **P 02 50 36.2 +0.9**
comp=Z,22nm,1.6s,mb5.2
ESLA LR LR
comp=Z,90μm,21.0s,MS7.2
PAB San Pablo 88.73 334 *e*P **P 02 50 38.1 +1.8**
comp=Z,15nm,1.2s,mb5.2
PAB LR LR
comp=Z,15μm,19.0s,MS6.4
MTE Manteigas 88.84 337 *e*P **P 02 50 38.8 +2.0**
comp=Z,26nm,1.4s,mb5.4
MTE Manteigas 88.84 337 *e*PP PP 02 54 12.7 +7.6
MTE *e*S S 03 01 29.6 +6.6
MTE Manteigas 88.84 337 *e*LQ 03 26 15.8
MTE *e*LR LR 03 34 38.8
comp=Z,14μm,16.0s
MTE Manteigas 88.84 337 *e*P **P 02 50 37.7 +0.9**
comp=Z,28nm,1.1s,mb5.5
MTE LR LR
comp=Z,12μm,19.0s,MS6.3
PPT Papeete 88.88 117 *e*SKSac SKSac 03 01 03.6 -1.8
comp=Z,2μm,28.2s
PPT *e*SS SS 03 07 16.0 -0.8
comp=Z,4μm,27.0s
PPT *e*LQ 03 14 50.9
comp=Z,9μm,27.0s
PPT *e*LR LR 03 18 39.5
comp=Z,43μm,26.2s,baz=322
EVIA Vianos 89.01 333 P **P 02 50 44.5 +6.8**
comp=Z,7.5nm,0.8s,mb5.1
EMUR La Murta 89.33 332 P **P 02 50 44.5 +5.3**
PCBR Castelo Branco 89.34 337 *e*P **P 02 50 39.5 +0.3**
comp=Z,15nm,1.8s,mb5.0
TAU Tasmania Unive 89.61 176 PFAKE 02 50 50.0 +10
TAU LR LR
comp=Z,4μm,19.0s,MS5.8
PMRV Marv??o 89.71 337 *e*P **P 02 50 42.1 +1.2**
comp=Z,31nm,1.7s,mb5.4
PMRV Marv??o 89.71 337 *e*PP PP 02 54 17.6 +5.6
PMRV *e*S S 03 01 36.2 +5.1
PMRV Marv??o 89.71 337 *e*LQ 03 26 32.7
PMRV *e*LR LR 03 32 08.7
comp=Z,7μm,18.0s
PMRV Marv??o 89.71 337 *e*P **P 02 50 42.2 +1.3**
EHUE Huescar 89.79 333 P **P 02 50 47.2 +5.9**
comp=Z,26nm,1.7s,mb5.3
EQES Quesada 89.95 333 P **P 02 50 42.8 +0.7**
comp=Z,461nm,3.3s
EADA Adamuz 90.08 334 P **P 02 50 42.9 +0.2**
comp=Z,94nm,3.0s
GOGA Godfrey 90.24 36 *e*P **P 02 50 44.1 +0.7**
comp=Z,50nm,1.6s,mb5.6
GOGA LR LR
comp=Z,23μm,21.0s,MS6.6
PESTR Estremoz 90.29 337 *e*P **P 02 50 44.1 +0.5**
comp=Z,22nm,1.4s,mb5.3
PESTR Estremoz 90.29 337 *e*PP PP 02 54 21.1 +4.5
PESTR *e*S S 03 01 41.6 +5.1
PESTR Estremoz 90.29 337 *e*LQ 03 26 12.7
PESTR *e*LR LR 03 27 52.0
comp=Z,8μm,18.0s
ECOG Cogollos-Vega 90.59 333 P **P 02 50 50.4 +5.4**
comp=Z,1.2nm,0.4s,mb4.6
PMAFR Mafra 90.65 338 *e*P **P 02 50 45.7 +0.4**
comp=Z,118nm,1.4s,mb6.0
PMAFR Mafra 90.65 338 *e*S S 03 01 45.2 +5.3
PMAFR Mafra 90.65 338 *e*LQ 03 26 31.5
PMAFR *e*LR LR 03 31 44.0
comp=Z,14μm,18.0s
EVO Evora 90.71 337 *e*P **P 02 50 46.8 +1.2**
comp=Z,18nm,1.9s,mb5.1
EVO Evora 90.71 337 *e*PP PP 02 54 23.2 +3.1
EVO Evora 90.71 337 *e*P **P 02 50 49.6 +4.0**
CNNC Cliffs of the 90.75 32 PFAKE 02 51 00.0 +14
CNNC LR LR
comp=Z,9μm,21.0s,MS6.2
BRAL Brewton 90.78 40 PFAKE 02 51 00.0 +14
BRAL LR LR
comp=Z,10μm,20.0s,MS6.2
PBAR Barrancos 90.78 336 *e*P **P 02 50 45.2 -0.7**
comp=Z,33nm,1.4s,mb5.5
PBAR Barrancos 90.78 336 *e*PP PP 02 54 22.6 +2.0
PBAR *e*S S 03 01 45.2 +4.1
PBAR Barrancos 90.78 336 *e*LQ 03 26 09.0
PBAR *e*LR LR 03 31 34.9
comp=Z,20μm,18.0s
LIS Lisbon 90.84 338 *e*P **P 02 50 46.3 +0.1**
LIS *e*S SKSac 03 01 16.8 +0.1
LIS *e*S SKSac 03 01 16.9 +0.2
LIS AMS AMS 04 19 26.7
comp=Z,26μm,23.4s,MS6.6
LIS Lisbon 90.84 338 A 04 19 26.7
comp=Z,26μm,23.4s
MSEY Mahe Island 90.86 264 PFAKE 02 51 00.0 +13
MSEY LR LR
comp=Z,11μm,22.0s,MS6.2
ELOJ Sierra Loja 90.89 333 P **P 02 50 55.3 +8.9**
comp=Z,3.7nm,0.6s,mb4.9
ERON Agron 90.90 333 P **P 02 50 50.3 +3.8**
EMIN Mina Concepcio 91.06 336 P **P 02 50 53.8 +6.6**
PBEJ Beja 91.15 336 *e*P **P 02 50 47.8 +0.2**
comp=Z,20nm,1.5s,mb5.2
PVAQ Vaqueiros 91.69 336 *e*P **P 02 50 52.6 +2.4**
comp=Z,41nm,1.6s,mb5.5
PVAQ Vaqueiros 91.69 336 *e*PP PP 02 54 36.2 +8.4
PVAQ *e*S S 03 01 53.9 +4.5
PVAQ Vaqueiros 91.69 336 *e*LQ 03 25 37.4
PVAQ *e*LR LR 03 28 15.8
comp=Z,16μm,20.0s
NHSC New Hope 91.81 34 PFAKE 02 51 00.0 +9.2
NHSC LR LR
comp=Z,14μm,20.0s,MS6.4
PBDV Barranco-do-Ve 91.90 336 *e*P **P 02 50 50.7 -0.4**
comp=Z,70nm,1.4s,mb5.8
PBDV Barranco-do-Ve 91.90 336 *e*S S 03 01 59.0 +7.7
PBDV Barranco-do-Ve 91.90 336 *e*LQ 03 23 31.3
PBDV *e*LR LR 03 28 45.9
comp=Z,13μm,20.0s
MORF Marmelete 92.04 337 *e*P **P 02 50 52.5 +0.7**
comp=Z,29nm,1.4s,mb5.4
MORF Marmelete 92.04 337 *e*PP PP 02 54 33.1 +2.6
MORF *e*S S 03 01 58.1 +5.6
MORF Marmelete 92.04 337 *e*LQ 03 28 53.1
MORF *e*LR LR 03 32 22.4
comp=Z,10μm,20.0s
MORF Marmelete 92.04 337 *e*P **P 02 50 52.4 +0.6**
SFS San Fernando 92.14 335 PFAKE 02 51 00.0 +7.8
SFS LR LR
comp=Z,39μm,19.0s,MS6.9
PFVI Vila Bisbo 92.25 337 *e*P **P 02 50 51.5 -1.2**
comp=Z,89nm,1.6s,mb5.8
PFVI Vila Bisbo 92.25 337 *e*S S 03 01 58.6 +4.2
PFVI Vila Bisbo 92.25 337 *e*LQ 03 28 59.9
PFVI *e*LR LR 03 33 06.4
comp=Z,10μm,18.0s
SNZO South Karori 92.62 156 PFAKE 02 51 10.0 +16
SNZO LR LR
comp=Z,8μm,21.0s,MS6.2
TBI Tubuai 93.37 121 *e*PS PS 03 03 22.3 +2.2
comp=Z,2μm,29.9s
TBI *e*SS SS 03 08 24.8 +3.2
comp=Z,3μm,27.8s
TBI *e*LQ 03 16 30.8
comp=Z,5μm,33.2s
TBI *e*LR LR 03 20 32.0
comp=Z,28μm,24.5s,baz=316
RTC Rabat Centre 94.63 334 PFAKE 02 51 10.0 +6.2
RTC LR LR
comp=Z,9μm,22.0s,MS6.2
CMLA Cha da Macela 94.90 350 *e*P **P 02 51 04.1 -0.8**
CMLA Cha da Macela 94.90 350 *e*PP PP 02 55 04.2 +11
CMLA *e*S S 03 02 25.9 +8.2
CMLA *e*SS SS 03 08 49.2 +8.7
CMLA *e*LQ 03 17 47.2
CMLA *e*LR LR 03 22 56.9
CMLA Cha da Macela 94.90 350 PFAKE 02 51 20.0 +15
CMLA LR LR
comp=Z,5μm,21.0s,MS6.0
PDA Ponta Delgada 94.94 350 *e*PP PP 02 55 29.0 +36
PDA *e*S S 03 02 26.0 +8.0
PDA *e*SS SS 03 08 44.0 +3.0
DWPF Disney 95.71 37 PFAKE 02 51 20.0 +11
DWPF LR LR
comp=Z,9μm,19.0s,MS6.3
BBSR BB Station 97.51 22 PFAKE 02 51 30.0 +13
BBSR LR LR
comp=Z,7μm,21.0s,MS6.1
RKT Rikitea 102.13 111 *e*PS PS 03 04 55.5 +0.4
comp=Z,2μm,30.5s
RKT *e*SS SS 03 10 30.9 +6.0
comp=Z,4μm,28.8s
RKT Rikitea 102.13 111 *e*LQ 03 20 32.7
comp=Z,3μm,37.0s
RKT *e*LR LR 03 24 44.2
comp=Z,21μm,34.2s,baz=313
TGUH Tegucigalpa,Un 105.06 49 PFAKE 02 52 00.0 +9.4
TGUH LR LR
comp=Z,10μm,22.0s,MS6.3
PTCN Pitcairn Islan 106.65 109 PFAKE 02 56 20.0 +12
PTCN LR LR
comp=Z,10μm,22.0s,MS6.3
ABPO Ambohimpanom 106.71 260 PFAKE 02 56 20.0 +12
ABPO LR LR
comp=Z,8μm,21.0s,MS6.3
TORD Torodi Ar. Bea 110.32 318 PKiKP PKiKP 02 56 16.5 +1.3
comp=Z,0.3nm,0.7s,baz=35,slow=1.9,SNR=3.9
TORD PP PP 02 56 45.4 -3.7
comp=Z,4.9nm,1.0s,baz=24,slow=6.5,SNR=8.1
TORD Torodi Ar. Bea 110.32 318 PKPdf PKiKP 02 56 16.5 +1.3
TORD PP PP 02 56 45.4 -3.7
SJG San Juan 110.52 28 PFAKE 02 56 30.0 +14
SJG LR LR
comp=Z,6μm,21.0s,MS6.2
BCIP Isla Barro Col 112.97 45 PFAKE 02 56 30.0 +10
BCIP LR LR
comp=Z,7μm,22.0s,MS6.2
CASY Casey 115.42 193 PFAKE 02 56 40.0 +17
CASY LR LR
comp=Z,3μm,21.0s,MS5.9
PAYG Puerto Ayora 115.44 61 PFAKE 02 56 40.0 +15
PAYG LR LR
comp=Z,16μm,21.0s,MS6.6
LSZ Lusaka 117.09 277 *e*PKPdf PKPdf 02 56 25.6 -2.4
LSZ LR LR
comp=Z,13μm,19.0s,MS6.6
BBGH Gun Hill 117.19 23 PFAKE 02 56 40.0 +12
BBGH LR LR
comp=Z,8μm,20.0s,MS6.3
SDV Santo Domingo 117.36 37 PFAKE 02 56 40.0 +11
SDV LR LR
comp=Z,2μm,22.0s,MS5.8
GRGR Grenville 117.55 26 PFAKE 02 56 40.0 +11
GRGR LR LR
comp=Z,6μm,20.0s,MS6.2
DBIC Dimbokro 118.97 321 PFAKE 02 56 40.0 +8.2
DBIC LR LR
comp=Z,8μm,20.0s,MS6.3
OTAV Otavalo 121.33 49 PFAKE 02 56 50.0 +14
OTAV LR LR
comp=Z,5μm,21.0s,MS6.2
VNDA Vanda 124.82 175 PKP PKPdf 02 56 45.5 +4.5
comp=Z,0.8nm,0.7s,baz=295,slow=4.2,SNR=4.3
VNDA Vanda 124.82 175 *e*PKPdf PKPdf 02 56 43.1 +2.0
VNDA LR LR
comp=Z,4μm,22.0s,MS6.0
SBA Scott Base 125.48 174 PFAKE 02 56 50.0 +7.7
SBA LR LR
comp=Z,3μm,21.0s,MS5.9
LBTB Lobatse 125.50 270 *e*PKPdf PKPdf 02 56 47.1 +3.2
LBTB LR LR
comp=Z,9μm,19.0s,MS6.5
TSUM Tsumeb 127.02 282 *e*PKPdf PKPdf 02 56 49.1 +2.1
TSUM LR LR
comp=Z,11μm,20.0s,MS6.5
BOSA Boshof 128.03 267 PFAKE 02 57 00.0 +11
BOSA LR LR
comp=Z,11μm,21.0s,MS6.5
MAW Mawson 128.49 209 PFAKE 02 57 00.0 +12
MAW LR LR
comp=Z,5μm,20.0s,MS6.2
NNA Nana 132.37 56 PFAKE 02 57 10.0 +13
NNA LR LR
comp=Z,9μm,20.0s,MS6.5
SUR Sutherland 133.36 266 PFAKE 02 57 10.0 +11
SUR LR LR
comp=Z,7μm,21.0s,MS6.3
ASCN Ascension 136.10 325 PFAKE 02 57 20.0 +16
ASCN LR LR
comp=Z,5μm,22.0s,MS6.2
SHEL Horse Pasture 139.03 308 PFAKE 02 57 20.0 +10
SHEL LR LR
comp=Z,8μm,22.0s,MS6.4
LPAZ La Paz 140.65 49 PKP PKPdf 02 57 16.9 +4.3
comp=Z,2.4nm,0.9s,baz=18,slow=7.0,SNR=7.4
LPAZ La Paz 140.65 49 PKIKP PKPdf 02 57 16.9 +4.3
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 140.65 49 *e*PKPdf PKPdf 02 57 15.8 +3.2
LPAZ LR LR
comp=Z,12μm,22.0s,MS6.6
LVC Limon Verde 145.37 56 *e*PKPbc PKPbc 02 57 20.9 +0.3
LVC LR LR
comp=Z,12μm,21.0s,MS6.6
NVL N'lazarevskaya 146.42 207 *c i*PKP2 PKPab 02 57 23.0 -0.4
NVL *e* 03 00 51.4
NVL pmax pmax
comp=Z,52nm,1.4s
NVL MLR MLR
comp=N,2μm,23.0s,MS5.9
NVL MLR MLR
comp=E,1μm,23.0s,MS5.9
NVL MLR MLR
comp=Z,5μm,23.0s,MS6.2
MAIT Maitri 146.45 207 *e*PKPdif 02 57 22.6
BDFB Brasilia 147.73 18 PKPbc PKPbc 02 57 27.2 -0.5
comp=Z,2.2nm,0.9s,baz=260,slow=13,SNR=4.5
BDFB Brasilia 147.73 18 PKPbc PKPbc 02 57 27.2 -0.5
BDFB LR LR
comp=Z,4μm,22.0s,MS6.2
LCO Las Campanas 149.05 66 PFAKE 02 57 40.0 +13
LCO LR LR
comp=Z,27μm,21.0s,MS7.0
SNAA Sanae 150.20 202 *e*PKPdf PKPdf 02 57 28.8 +1.6
SNAA *e* 02 57 34.4
SNAA *e* 02 57 38.5
SNAA *e* 02 57 48.5
SNAA *e* 02 57 50.5
SNAA Sanae 150.20 202 PKPbc PKPbc 02 57 30.4 -1.9
comp=Z,1.9nm,0.8s,baz=164,slow=2.5,SNR=5.6
SNAA Sanae 150.20 202 PKIKP PKPdf 02 57 30.4 +3.2
SNAA pmax pmax
comp=Z,2.0nm,0.8s
SNAA Sanae 150.20 202 *e*PKPdf PKPdf 02 57 29.2 +2.0
SNAA *e*PKPbc PKPbc 02 57 34.1 +1.8
SNAA *e*PKPab PKPab 02 57 40.7 +2.2
VNA2 Neumayer--Watz 151.81 201 *e*PKPdf PKPdf 02 57 31.8 +2.1
VNA2 *e* 02 57 38.2
VNA2 *e* 02 57 40.6
VNA2 *e* 02 57 52.2
VNA2 *e* 02 57 54.4
VNA1 Neumayer--Stat 152.21 201 *e*PKPdf PKPdf 02 57 32.3 +2.0
VNA1 *e* 02 57 37.5
VNA1 *e* 02 57 40.0
VNA1 *e* 02 57 52.0
VNA1 *e* 02 57 54.6
CPUP Villa Florida 154.46 43 *e*PKPdf PKPdf 02 57 34.9 -0.1
CPUP *e*PKPbc PKPbc 02 57 43.7 +0.4
CPUP *e*PKPab PKPab 02 57 57.4 -0.3
CPUP LR LR
comp=Z,2μm,21.0s,MS5.8
PLCA Paso Flores 155.97 87 PKPab PKPab 02 58 02.9 -0.9
comp=Z,4.1nm,1.0s,baz=224,slow=7.2,SNR=4.1
PLCA Paso Flores 155.97 87 PKP2 PKPab 02 58 02.9 -0.9
PLCA pmax pmax
comp=Z,4.0nm,1.0s
PLCA Paso Flores 155.97 87 *e*PKPab PKPab 02 58 04.1 +0.2
PLCA LR LR
comp=Z,24μm,21.0s,MS7.0
PMSA Palmer Station 157.28 151 PFAKE 02 57 50.0 +13
PMSA LR LR
comp=Z,32μm,20.0s,MS7.1
TRIS Tristan da Cun 158.46 288 PFAKE 02 57 50.0 +10
TRIS LR LR
comp=Z,6μm,22.0s,MS6.4
TRQA Tornquist 160.41 72 PFAKE 02 57 50.0 +8.0
TRQA LR LR
comp=Z,15μm,20.0s
EFI East Falkland 166.22 117 PFAKE 02 58 00.0 +13
EFI LR LR
comp=Z,26μm,21.0s

MOS ***02*** *02:51:08.9±0.8, 4686N×14165E, h9km, mb4.2/6, Error ellipse: s-maj=25.1km s-min=13.0km az=86.4*
IDC ***02*** *02:51:09.9±0.7, 4685N×14161E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.9/24, mbtmp3.8/12, ML3.5/1, Error ellipse: s-maj=23.0km s-min=17.0km az=108.0*
ISCJB ***02*** *02:51:10.0±1.0, 4687N±004×14168E±007, h12km±6km, mb4.1/21, Error ellipse: s-maj=7.7km s-min=6.1km az=2.7*
SKHL ***02*** *02:51:09.6±0.4, 4688N×14167E, h10km, mb4.4/2*
JMA ***02*** *02:51:10.4±0.7, 4687N×14180E, h0km, M4.1*
NEIC ***02*** *02:51:11.3±0.4, 4682N×14172E, h10km, mb4.3/12, Error ellipse: s-maj=10.3km s-min=7.1km az=146.0*
ISC 02 02:51:11.7±1.0, 4685N±004×14173E±006, h12km±6km, n52, σ1 904/58, mb4.1/21, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.71**	**81**	⇓*i*PN	**Pg**	**02 51 23.8**	**-1.7**
YSS				*e*		02 51 34.0	
YSS				pmax	pmax		
	comp=Z,350nm,0.8s						
YSS				smax			
	comp=N,4μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.71**	**81**	⇓*i*Pg	**Pg**	**02 51 23.8**	**-1.7**
YSS				AMB	AMB	02 51 24.6	
	comp=N,350nm,0.8s						
YSS				*e*Sg	**Sg**	**02 51 34.0**	**-0.8**
YSS				A		02 51 39.0	
	comp=N,4μm,0.4s						
YSS	**Yuzh-Sakhalins**	**0.71**	**81**	*e*Pg	**Pg**	**02 51 24.1**	**-1.3**
YSS				*e*Sg	**Sg**	**02 51 35.8**	**+1.0**
JWK2	**Keihoku**	**1.54**	**175**	P	**Pn**	**02 51 39.0**	**+0.1**
UGL	**Uglegorsk**	**2.24**	**6**	*e*PN	**Pn**	**02 51 48.0**	**-0.6**
UGL				*e*		02 52 17.0	
UGL				pmax	pmax		
	comp=Z,79nm,0.6s						
UGL				smax			
	comp=N,640nm,0.6s						
UGL				smax			
	comp=E,1μm,0.6s						
UGL	**Uglegorsk**	**2.24**	**6**	*e*P	**Pn**	**02 51 47.5**	**-1.1**
UGL				AMB	AMB	02 51 51.5	
	comp=E,79nm,0.6s						
UGL				*e*Pg	**Pg**	**02 51 54.0**	**-0.6**
UGL				AMB	AMB	02 51 57.0	
	comp=E,143nm,0.5s						
UGL				*e*S	**Sn**	**02 52 13.5**	**-2.7**
UGL				*e*Sg	**Sg**	**02 52 24.8**	**+1.2**
UGL				A		02 52 29.0	
	comp=E,636nm,0.6s						
UGL				A		02 52 29.0	
	comp=E,954nm,0.6s						
ASAJ	**Asahikawa**	**2.80**	**167**	Pn	**Pn**	**02 51 56.5**	**+0.2**
	comp=E,4.6nm,0.3s,baz=356,slow=13,SNR=9.3						
ASAJ				Sn	**Sn**	**02 52 37.5**	**+7.5**
	comp=E,4.7nm,0.3s,baz=89,slow=31,SNR=4.4						
ASAJ	**Asahikawa**	**2.80**	**167**	PN	**Pn**	**02 51 56.6**	**+0.3**
ASAJ						02 52 37.5	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
TEY	**Ternei**	**4.01**	**245**	*e*P	**Pn**	**02 52 13.5**	**+0.6**
TYV	**Tymovskoe**	**4.06**	**8**	*e*PS	**Pn**	**02 52 18.0**	**+4.4**
KUR	**Kuril'sk**	**4.57**	**108**	*e*S	**Sn**	**02 53 12.0**	**-1.6**
KUR				A		02 53 15.0	
	comp=N,90nm,0.5s						
KUR				A		02 53 15.0	
	comp=N,76nm,0.5s						
GRNR	**Gornyy**	**5.26**	**320**	*e*PS	**Pn**	**02 52 25.0**	**-5.0**
GRNR				*e*SS	**Sn**	**02 53 26.0**	**-4.5**
NKL	**Nikolayevsk**	**6.34**	**354**	*e*PS	**Pn**	**02 52 40.0**	**-4.9**
EKMR	**Ekimchan**	**8.41**	**321**	*e*PS	**Pn**	**02 53 11.5**	**-1.7**
MJAR	**Matsushiro Arr**	**10.63**	**196**	Pn	**Pn**	**02 53 43.6**	**-0.1**
	baz=1.3,slow=14,SNR=2.2						
PETK	**Petropavlovsk-**	**12.03**	**53**	Pn	**Pn**	**02 54 04.7**	**+1.9**
	baz=206,slow=9.6,SNR=2.2						
MA2	**Magadan**	**13.83**	**20**	*e*Pn	**Pn**	**02 54 29.0**	**+1.6**
TNA	**Tin City**	**32.48**	**37**	*e*P	**P**	**02 57 45.4**	**+3.8**
	comp=N,20nm,1.1s,mb4.9						
PPLA	**Purkeypile**	**39.29**	**41**	*e*P	**P**	**02 58 37.9**	**-2.1**
COLD	**Coldfoot**	**39.67**	**34**	*e*P	**P**	**02 58 43.1**	**0.0**
	comp=N,5.1nm,0.9s,mb4.2						
KTH	**Kantishna Hill**	**39.77**	**40**	*e*P	**P**	**02 58 45.0**	**+1.1**
	comp=N,5.9nm,0.8s,mb4.4						
MK31	**Makanchi Array**	**39.80**	**292**	*e*P	**P**	**02 58 44.2**	**-0.2**
MKAR	**Makanchi Array**	**39.80**	**292**	P	**P**	**02 58 44.8**	**+0.3**
	comp=N,1.0nm,0.7s,mb3.7,baz=74,slow=8.0,SNR=10						
MKAR	**Makanchi Array**	**39.80**	**292**	P	**P**	**02 58 44.8**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MCK	**McKinley**	**40.62**	**40**	*e*P	**P**	**02 58 52.0**	**+1.0**
	comp=Z,5.5nm,0.8s,mb4.2						
KURK	**Kurchatov**	**40.65**	**299**	*e*P	**P**	**02 58 51.0**	**-0.3**
	comp=Z,1.8nm,0.7s,mb3.8						
COLA	**College**	**40.90**	**38**	*e*P	**P**	**02 58 53.4**	**+0.1**
	comp=Z,6.4nm,0.8s,mb4.3						
DIV	**Divide**	**42.61**	**43**	*e*P	**P**	**02 59 07.3**	**0.0**
	comp=Z,7.1nm,0.9s,mb4.4						
EGAK	**Eagle**	**43.72**	**37**	*e*P	**P**	**02 59 15.4**	**-0.8**
	comp=Z,12nm,0.8s,mb4.7						
DAWY	**Dawson**	**44.65**	**38**	*e*P	**P**	**02 59 24.7**	**+1.0**
INK	**Inuvik**	**45.70**	**31**	P	**P**	**02 59 31.7**	**-0.2**
	comp=Z,4.3nm,0.9s,mb4.4,baz=305,slow=10,SNR=5.5						
INK	**Inuvik**	**45.70**	**31**	P	**P**	**02 59 31.7**	**-0.2**

INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 45.70 31 *e*P **P 02 59 31.4 -0.5**
HYT Haines Junctio 46.53 42 *e*P **P 02 59 40.0 +1.4**
AKTK Aktyubinsk 52.61 307 P **P 03 00 25.3 +0.2**
AKTO Aktyubinsk 52.61 307 P **P 03 00 25.3 +0.2**
comp=Z,0.6nm,0.6s,mb3.7,baz=59,slow=12,SNR=3.6
AKTO Aktyubinsk 52.61 307 P **P 03 00 25.3 +0.2**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
YKA Yellowknife Ar 55.33 33 P **P 03 00 44.7 0.0**
comp=Z,2.3nm,0.7s,mb4.3,baz=304,slow=6.9,SNR=7.8
YKA Yellowknife Ar 55.33 33 P **P 03 00 44.7 -0.1**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 55.33 33 P **P 03 00 44.7 0.0**
AKASG Malin Array Be 66.78 320 P **P 03 02 01.0 -1.7**
comp=Z,0.4nm,0.4s,mb3.8,baz=40,slow=6.8,SNR=4.3
KIEV Kiev 66.79 320 *e*P **P 03 02 01.8 -1.0**
comp=Z,2.8nm,0.8s,mb4.3
WRA Warramunga Arr 66.81 188 P **P 03 02 02.3 -0.7**
comp=Z,0.5nm,1.0s,mb3.5,baz=3.1,slow=7.1,SNR=2.6
WRA Warramunga Arr 66.81 188 P **P 03 02 02.3 -0.8**
WRA pmax pmax
comp=Z,1.0nm,1.0s
NVAR Mina Array Bea 69.09 56 P **P 03 02 17.9 +0.4**
comp=Z,1.0nm,0.8s,mb3.8,baz=294,slow=5.3,SNR=7.7
MOOW Moose Ponds 69.43 48 *e*P **P 03 02 19.6 +0.2**
comp=Z,2.0nm,1.0s,mb4.0
ASAR Alice Springs 70.54 188 P **P 03 02 26.9 +0.7**
comp=Z,1.4nm,0.8s,mb3.9,baz=18,slow=6.0,SNR=10
ASAR Alice Springs 70.54 188 P **P 03 02 27.0 +0.7**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
PDAR Pinedale Array 70.74 48 P **P 03 02 29.5 +2.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=343,slow=1.5,SNR=6.4
DUG Dugway 70.89 51 *e*P **P 03 02 28.3 -0.1**
comp=Z,0.8nm,0.6s,mb3.8
MORC Moravsky Berou 72.32 326 *e*P **P 03 02 37.4 +0.6**
comp=Z,2.0nm,0.9s,mb4.0
SNAA Sanae 150.09 202 *e*PKPab PKPab 03 11 06.6 -0.2

ISCJB ***02*** *02:55:13.3±0.9, 3834N±003×2038E±007, h3km±4km, Error ellipse: s-maj=9.3km s-min=3.4km az=158.3*
NEIC ***02*** *02:55:13.3, 3832N×2036E, h17km, ML3.8(ATH), After ATH.*
ATH ***02*** *02:55:13.3, 3832N×2036E, h17km±1km, MD3.5/10, ML3.8*
CSEM ***02*** *02:55:14.1±0.1, 3836N×2038E, h5km, ML3.8, Error ellipse: s-maj=3.5km s-min=1.4km az=71.0*
THE ***02*** *02:55:14.4, 3836N×2041E, h0km, ML3.5*
ISC 02 02:55:14.1±0.9, 3835N±003×2041E±007, h3km±4km, n25, σ1§02/43, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.22**	**139**	*e*Pg	**Pg**	**02 55 18.8**	**+0.4**
VLS				*e*Sg	**Sg**	**02 55 22.4**	**+1.1**
VLS	**Valsamata**	**0.22**	**139**	⇑*i*Pb	**Pg**	**02 55 19.0**	**+0.6**
VLS				*e*Sg	**Sg**	**02 55 22.4**	**+1.1**
VLS				*e*Sb	**Sg**	**02 55 22.6**	**+1.3**
KFL	**Anninata**	**0.38**	**128**	*e*Pg	**Pg**	**02 55 21.4**	**-0.1**
KFL				*e*Sg	**Sg**	**02 55 27.2**	**+0.8**
LKD	**Levkas**	**0.41**	**28**	*e*Pg	**Pg**	**02 55 21.5**	**-0.5**
LKD				*e*Sg	**Sg**	**02 55 27.7**	**+0.4**
RLS	**Riolos of Patr**	**0.88**	**109**	*e*PN	**Pn**	**02 55 30.3**	**-3.1**
RLS				*e*SN	**Sn**	**02 55 43.6**	**-3.1**
IGT	**Igoumenitsa**	**1.19**	**357**	*e*Pg	**Pg**	**02 55 36.2**	**-0.7**
IGT				*e*Sg	**Sg**	**02 55 54.0**	**+1.7**
EVR	**Evrytania**	**1.24**	**62**	*e*PN	**Pn**	**02 55 37.2**	**-1.1**
JAN	**Janina**	**1.35**	**15**	*e*PN	**Pn**	**02 55 39.8**	**-0.1**
JAN				*e*SN	**Sn**	**02 55 58.2**	**-0.1**
KEK	**Kerkira**	**1.45**	**341**	*e*PN	**Pn**	**02 55 40.7**	**-0.4**
MEV	**Metsovon**	**1.57**	**24**	*e*Pg	**Pg**	**02 55 43.2**	**-1.1**
MEV				*e*Sg	**Sg**	**02 56 04.5**	**-0.2**
MEV	**Metsovon**	**1.57**	**24**	*e*Pg	**Pg**	**02 55 43.2**	**-1.1**
MEV				*e*Sg	**Sg**	**02 56 04.5**	**-0.2**
AGG	**Agios Georgios**	**1.65**	**65**	*e*Pb	**Pb**	**02 55 43.5**	**-1.6**
AGG				*e*Sb	**Sb**	**02 56 07.1**	**+0.8**
ITM	**Ithomi**	**1.68**	**134**	*e*PN	**Pn**	**02 55 44.4**	**+0.1**
THL	**Klokotos Trika**	**1.75**	**45**	*e*PN	**Pn**	**02 55 45.8**	**+0.5**
VLX	**Vlachokerasia**	**1.84**	**121**	*e*Pb	**Pb**	**02 55 47.4**	**-1.0**
VLX				*e*Sb	**Sb**	**02 56 11.9**	**+0.1**
VLX	**Vlachokerasia**	**1.84**	**121**	*e*Pb	**Pb**	**02 55 47.3**	**-1.1**
VLX				*e*Sb	**Sb**	**02 56 11.9**	**+0.2**
LKR	**Lokris**	**2.06**	**81**	*e*PN	**Pn**	**02 55 49.9**	**+0.4**
DID	**Didima**	**2.39**	**110**	*e*Pn	**Pn**	**02 55 54.8**	**+0.7**
DID				*e*Sn	**Sn**	**02 56 25.4**	**+1.6**
NEO	**Neokhori**	**2.40**	**66**	*e*PB	**Pb**	**02 55 55.0**	**-2.9**
FNA	**Florina**	**2.55**	**17**	*e*Pn	**Pn**	**02 55 56.5**	**+0.2**
FNA				*e*Sn	**Sn**	**02 56 28.8**	**+1.1**
VLI	**Veliai**	**2.58**	**128**	*e*PN	**Pn**	**02 55 56.5**	**-0.3**
ATH	**Athens Observa**	**2.64**	**97**	*e*PN	**Pn**	**02 55 57.3**	**-0.2**
TIR	**Tirane**	**3.03**	**352**	*e*Pn	**Pn**	**02 56 02.7**	**-0.2**
TIR				*e*Sn	**Sn**	**02 56 41.1**	**+1.5**
KRUS	**Krusevo**	**3.09**	**12**	*e*Pn	**Pn**	**02 56 04.3**	**+0.6**
KRUS				*e*Sn	**Sn**	**02 56 37.7**	**-3.5**
KRUS	**Krusevo**	**3.09**	**12**	*e*Pn	**Pn**	**02 56 04.3**	**+0.6**
KRUS				*e*Sn	**Sn**	**02 56 37.6**	**-3.5**

JMA ***02*** *02:59:44.1±0.3, 4693N×14167E, h7km, M5.0*
MOS ***02*** *02:59:47.7±1.2, 4672N×14171E, h11km, mb4.4/16, Error ellipse: s-maj=10.7km s-min=7.1km az=98.8*
SKHL ***02*** *02:59:47.0±0.4, 4660N×14170E, h10km, mb4.4/5*
IDC ***02*** *02:59:47.5±0.5, 4670N×14173E, h0km, mb4.1/18, mb1 4.3/20, mb1mx4.2/26, mbtmp4.1/20, ML3.9/2, Error ellipse: s-maj=18.0km s-min=11.3km az=75.0*
ISCJB ***02*** *02:59:47.7±0.6, 4672N±002×14177E±004, h9km±4km, mb4.4/65, Error ellipse: s-maj=4.2km s-min=3.0km az=177.1*
NEIC ***02*** *02:59:49.4±0.2, 4675N×14172E, h10km, mb4.5/40, Error ellipse: s-maj=6.8km s-min=4.6km az=163.0*
BJI ***02*** *02:59:52.1, 4686N×14133E, h10km, mB5.8, mb4.8, Ms5.3, Msz5.2*
SZGRF ***02*** *03:00:04.0, 48.12N×14050E, h33km, mb5.1, Primorye, Russia*
ISC 02 02:59:49.3±0.7, 4670N±002×14179E±004, h10km±4km, n163, σ1§21/184, mb4.4/65, 7C-6D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.71**	**68**	⇓*i*PN	**Pg**	**03 00 02.2**	**-0.8**
YSS				*e*		03 00 13.0	
YSS	**Yuzh-Sakhalins**	**0.71**	**68**	⇓*i*Pg	**Pg**	**03 00 02.2**	**-0.8**
YSS				AMB	AMB	03 00 03.0	
	610nm,0.5s						
YSS				*e*Sg	**Sg**	**03 00 13.0**	**+0.7**
YSS				AMS	AMS	03 00 44.0	
	60μm,4.0s						
YSS				AMS	AMS	03 00 44.0	
	39μm,4.0s						
YSS				AMS	AMS	03 00 44.0	
	40μm,4.0s						
YSS	**Yuzh-Sakhalins**	**0.71**	**68**	*e*Pg	**Pg**	**03 00 02.8**	**-0.2**
YSS				*e*Sg	**Sg**	**03 00 10.9**	**-1.4**
JWK2	**Keihoku**	**1.38**	**177**	⇑P	**Pn**	**03 00 13.2**	**-1.5**
JWK2				*e*S	**Sb**	**03 00 34.4**	**+1.5**
JRR	**Rishiri**	**1.59**	**192**	P	**Pn**	**03 00 16.8**	**-0.8**
JRR				*e*S	**Sn**	**03 00 39.4**	**+1.1**
JSE	**Soyaes**	**1.82**	**162**	P	**Pn**	**03 00 19.6**	**-1.2**
JSE				*e*S	**Sn**	**03 00 45.7**	**+1.8**
JYG	**Yagishiri**	**2.28**	**187**	P	**Pn**	**03 00 26.2**	**-0.9**
JYG				*e*S	**Sn**	**03 00 57.7**	**+2.4**
JSS	**Shosan**	**2.30**	**179**	P	**Pn**	**03 00 26.6**	**-0.7**
UGL	**Uglegorsk**	**2.39**	**4**	*e*PN	**Pn**	**03 00 27.5**	**-1.1**
UGL				*i*		03 01 03.5	
UGL				pmax	pmax		
	comp=N,65nm,0.7s						
UGL				pmax	pmax		
	comp=E,112nm,0.7s						
UGL				pmax	pmax		
	comp=Z,97nm,0.7s						
UGL	**Uglegorsk**	**2.39**	**4**	*e*P	**Pn**	**03 00 27.5**	**-1.1**
UGL				AMB	AMB	03 00 30.0	
	comp=Z,65nm,0.7s						
UGL				AMB	AMB	03 00 30.0	
	comp=Z,112nm,0.7s						
UGL				AMB	AMB	03 00 30.0	
	comp=Z,97nm,0.7s						
UGL				*e*Pg	**Pg**	**03 00 36.0**	**+0.8**
UGL				AMB	AMB	03 00 55.5	
	comp=Z,385nm,0.6s						
UGL				AMB	AMB	03 00 55.5	
	comp=Z,716nm,0.6s						
UGL				*e*S	**Sn**	**03 00 57.0**	**-0.9**
UGL				*e*Sb	**Sb**	**03 01 02.0**	**0.0**
UGL				A		03 01 04.5	
	comp=Z,2μm,0.7s						
UGL				A		03 01 04.5	
	comp=Z,2μm,0.7s						
UGL				*e*Sg	**Sg**	**03 01 10.0**	**+3.9**
UGL				A		03 01 12.5	
	comp=Z,1μm,0.4s						
ASAJ	**Asahikawa**	**2.64**	**167**	P	**Pn**	**03 00 31.1**	**-0.9**
ASAJ	**Asahikawa**	**2.64**	**167**	Pn	**Pn**	**03 00 32.5**	**+0.5**
	comp=Z,35nm,0.3s,baz=8.3,slow=12,SNR=70						
ASAJ				Sn	**Sn**	**03 01 04.2**	**+0.2**
	comp=Z,27nm,0.3s,baz=310,slow=19,SNR=3.8						
ASAJ				Lg		03 01 14.1	
	comp=Z,68nm,0.3s,baz=136,slow=31,SNR=11						
ASAJ	**Asahikawa**	**2.64**	**167**	PN	**Pn**	**03 00 32.5**	**+0.5**
ASAJ						03 01 04.3	
ASAJ				pmax	pmax		
	comp=Z,35nm,0.3s						
ASAJ				smax			
	comp=N,27nm,0.3s						
JKK2	**Kamakawa 2**	**2.90**	**166**	P	**Pn**	**03 00 35.3**	**-0.3**
JMP	**Maruseppu**	**2.91**	**157**	P	**Pn**	**03 00 34.5**	**-1.2**
JHR	**Hokuryu**	**2.95**	**181**	P	**Pn**	**03 00 36.0**	**-0.3**
JTKR	**Abashiri--Toko**	**3.11**	**151**	⇑P	**Pn**	**03 00 37.0**	**-1.4**
JFR	**Furan**	**3.58**	**171**	P	**Pn**	**03 00 44.2**	**-0.7**
JAR	**Ashorobuto**	**3.68**	**157**	P	**Pn**	**03 00 45.6**	**-0.6**
TEY	**Ternei**	**3.99**	**247**	*e*P	**Pn**	**03 00 48.0**	**-2.5**
TEY				*e*Pg	**Pg**	**03 01 02.5**	**-3.2**
TYV	**Tymovskoe**	**4.21**	**7**	*e*P	**Pn**	**03 00 54.0**	**+0.4**
TYV				*e*Pg	**Pg**	**03 01 11.3**	**+1.4**
TYV				AMB	AMB	03 01 21.2	
	comp=N,57nm,0.8s						
TYV				AMB	AMB	03 01 21.2	
	comp=N,55nm,0.8s						
KUR	**Kuril'sk**	**4.48**	**107**	*e*PN	**Pn**	**03 00 51.0**	**-6.3**
KUR				pmax	pmax		
	comp=N,110nm,0.8s						
KUR				pmax	pmax		
	comp=E,60nm,0.8s						
KUR				pmax	pmax		
	comp=Z,130nm,0.8s						
KUR	**Kuril'sk**	**4.48**	**107**	*e*P	**Pn**	**03 00 55.0**	**-2.3**
KUR				AMB	AMB	03 01 12.5	
	comp=Z,110nm,0.8s						
KUR				AMB	AMB	03 01 12.5	
	comp=Z,60nm,0.8s						
KUR				AMB	AMB	03 01 12.5	
	comp=Z,130nm,0.8s						
KUR				*e*S	**Sn**	**03 01 47.0**	**-2.4**
KUR				A		03 01 58.2	
	comp=Z,420nm,1.0s						
KUR				A		03 01 58.2	
	comp=Z,100nm,1.0s						
HABR	**Khabarovsk**	**4.90**	**294**	*e*PN	**Pn**	**03 01 02.4**	**-0.6**
HABR				*e*S	**Sn**	**03 02 00.0**	**+0.3**
GRNR	**Gornyy**	**5.41**	**321**	*e*PS		03 01 05.3	
GRNR				*e*Pg	**Pg**	**03 01 31.5**	**-1.3**
GRNR				AMB	AMB	03 01 38.0	
	comp=Z,17nm,0.5s						
GRNR				*e*Sg	**Sg**	**03 02 46.0**	**+3.2**
GRNR				A		03 02 48.0	
	comp=Z,61nm,0.4s						
NKL	**Nikolayevsk**	**6.50**	**354**	*i* P	**Pn**	**03 01 20.8**	**-4.2**
NKL				AMB	AMB	03 01 21.8	
	comp=Z,10.0nm,0.6s						
NKL				*e*Pg	**Pg**	**03 01 57.0**	**+3.2**
NKL				AMB	AMB	03 01 58.5	
	comp=Z,42nm,0.7s						
NKL				*e*S	**Sn**	**03 02 33.0**	**-6.2**
NKL				*e*Sg	**Sg**	**03 03 27.8**	**+10**
OKH	**Okha**	**6.90**	**6**	*e*P	**Pn**	**03 01 34.0**	**+3.5**
KLR	**Kul'dur**	**7.20**	**294**	*e*PN	**Pn**	**03 01 31.6**	**-3.1**
VLA	**Vladivostok**	**7.88**	**247**	*e*PN	**Pn**	**03 01 44.0**	**0.0**
VLA				pmax	pmax		
	comp=Z,31nm,0.6s						
EKMR	**Ekimchan**	**8.56**	**321**	*e*P	**Pn**	**03 01 51.0**	**-2.2**
MDJ	**Mudanjiang**	**8.80**	**261**	P	**Pn**	**03 02 00.2**	**+3.7**
MDJ				AMB	AMB		
	comp=Z,6μm,8.3s						
MAJO	**Matsushiro**	**10.49**	**196**	*e*Pn	**Pn**	**03 02 21.0**	**+1.2**
MAT	**Matsushiro**	**10.49**	**196**	P	**Pn**	**03 02 21.9**	**+2.1**
MJAR	**Matsushiro Arr**	**10.49**	**196**	Pn	**Pn**	**03 02 20.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=10,slow=13,SNR=24						
MJAR	**Matsushiro Arr**	**10.49**	**196**	*e*PN	**Pn**	**03 02 22.4**	**+2.6**
BMKR	**Bomnak**	**11.47**	**319**	*e*P	**Pn**	**03 02 31.0**	**-2.0**
CN2	**Changchun**	**11.88**	**262**	*e*P	**Pn**	**03 02 42.3**	**+3.6**
PETK	**Petropavlovsk-**	**12.08**	**52**	Pn	**Pn**	**03 02 44.6**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=219,slow=9.5,SNR=16						
PETK				Sn	**Sn**	**03 04 56.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=230,slow=10,SNR=3.5						
PET	**Petropavlovsk**	**12.57**	**54**	*e*PN	**Pn**	**03 02 49.1**	**+1.0**
PET	**Petropavlovsk**	**12.57**	**54**	*e*Pn	**Pn**	**03 02 47.5**	**-0.7**
KSRS	**Korea Array**	**13.82**	**233**	Pn	**Pn**	**03 03 08.0**	**+2.8**
	baz=46,slow=12,SNR=4.3						
MA2	**Magadan**	**13.96**	**19**	*e*P	**Pn**	**03 03 12.6**	**+5.6**
MA2				pmax	pmax		
	comp=Z,12nm,1.3s						
MA2	**Magadan**	**13.96**	**19**	P	**Pn**	**03 03 03.1**	**-3.9**
YAK	**Yakutsk**	**16.86**	**340**	⇑*e*P	**Pn**	**03 03 45.6**	**+0.4**
YAK				pmax	pmax		
	comp=Z,14nm,0.5s						
SEY	**Seymchan**	**17.34**	**16**	⇓*i*P	**Pn**	**03 03 55.1**	**+3.9**
BOD	**Bodaibo**	**20.17**	**314**	*e*P	**P**	**03 04 24.8**	**+1.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.8s						
HHC	**Hu-ho-hao-te**	**22.51**	**266**	*e*P	**P**	**03 04 51.7**	**+2.7**
HHC				AP		03 04 55.4	
HHC				XP	sP	03 04 57.8	+4.8
HHC				PP		03 05 19.2	
HHC				S	**S**	**03 08 54.5**	**-1.7**
HHC				PCS	PcS	03 12 23.4	+2.0
HHC				AMB	AMB		
	comp=Z,34nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,7μm,8.2s						
HHC				LR	LR		
	comp=N,7μm,17.2s						
HHC				LR	LR		
	comp=E,8μm,15.5s						
HHC				LR	LR		
	comp=Z,7μm,16.7s						
SONM	**Songino Array**	**23.93**	**286**	P	**P**	**03 05 02.1**	**-1.2**
	comp=Z,1.5nm,0.7s,mb3.5,baz=81,slow=8.8,SNR=9.3						
SONM				PcP	PcP	03 08 45.0	-0.4
	comp=Z,0.4nm,0.4s,baz=160,slow=2.9,SNR=3.5						
SONM	**Songino Array**	**23.93**	**286**	P	**P**	**03 05 02.1**	**-1.2**
SONM						03 08 45.0	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BILL	**Bilibino**	**24.80**	**22**	⇑*e*P	**P**	**03 05 13.1**	**+2.0**
BILL				*e*		03 05 42.4	
BILL				*e*S	**S**	**03 09 25.2**	**-8.1**
BILL				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.6						
TLY	**Talaya**	**25.22**	**296**	*e*P	**P**	**03 05 18.1**	**+3.0**
ZAK	**Zakamensk**	**25.57**	**293**	*e*P	**P**	**03 05 18.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb3.9						
TIXI	**Tiksi**	**25.77**	**351**	⇑*i*P	**P**	**03 05 22.7**	**+2.8**
TIXI				pmax	pmax		
	comp=Z,29nm,2.5s,mb4.4						
TIXI	**Tiksi**	**25.77**	**351**	*e*P	**P**	**03 05 20.0**	**+0.2**
	comp=Z,7.1nm,0.9s,mb4.2						
CD2	**Chengdu**	**33.20**	**255**	*e*P	**P**	**03 06 30.9**	**+4.6**
CD2				AP	pP	03 06 35.2	+6.0
CD2				XP	sP	03 06 38.2	+7.8
CD2				PP	PP	03 07 42.8	+1.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
GYA	**Guiyang**	**34.30**	**246**	P	**P**	**03 06 40.8**	**+5.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
ZALV	**Zalesovo Beam**	**36.21**	**303**	P	**P**	**03 06 51.2**	**-0.8**
	comp=Z,0.9nm,0.4s,mb4.0,baz=91,slow=5.9,SNR=4.7						
ZALV				PcP	PcP	03 09 17.5	+0.4
	comp=Z,1.0nm,0.5s,baz=114,slow=1.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**36.21**	**303**	P	**P**	**03 06 51.2**	**-0.8**
ZALV				PcP	PcP	03 09 17.5	+0.4
ZAL	**Zalesovo**	**36.23**	**303**	P	**P**	**03 06 51.2**	**-0.9**
ZAL						03 09 17.5	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WMQ	**Urumqi**	**37.56**	**286**	*e*P	**P**	**03 07 06.0**	**+2.3**
KMI	**Kunming**	**37.74**	**249**	P	**P**	**03 07 05.8**	**+0.5**
KMI				AP	pP	03 07 12.4	+4.1
KMI				XP	sP	03 07 14.4	+5.0
KMI				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.4						
SVW2	**Sparrevohn**	**38.02**	**44**	*e*P	**P**	**03 07 08.2**	**+1.0**
IMA2	**Indian Mountai**	**38.45**	**36**	*e*P	**P**	**03 07 10.8**	**-0.1**
COLD	**Coldfoot**	**39.78**	**34**	*e*P	**P**	**03 07 21.3**	**-0.7**
	comp=Z,5.5nm,0.9s,mb4.3						
MK31	**Makanchi Array**	**39.91**	**293**	*e*P	**P**	**03 07 22.8**	**-0.5**
MKAR	**Makanchi Array**	**39.91**	**293**	P	**P**	**03 07 23.1**	**-0.2**
	comp=Z,2.2nm,0.7s,mb4.0,baz=78,slow=8.7,SNR=22						
MKAR				PcP	PcP	03 09 28.1	-0.6
	comp=Z,0.5nm,0.5s,baz=346,slow=0.9,SNR=4.9						
MKAR	**Makanchi Array**	**39.91**	**293**	*e*P	**P**	**03 07 23.1**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TRF	**Thorofare Moun**	**40.15**	**40**	*e*P	**P**	**03 07 25.4**	**+0.2**
	comp=Z,23nm,1.2s,mb4.8						
MCK	**McKinley**	**40.71**	**40**	*e*P	**P**	**03 07 28.6**	**-1.1**
	comp=Z,7.2nm,0.8s,mb4.3						
KURK	**Kurchatov**	**40.76**	**300**	*e*P	**P**	**03 07 31.8**	**+1.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.1						
KURK	**Kurchatov**	**40.76**	**300**	*e*P	**P**	**03 07 30.1**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.0						
COLA	**College**	**40.99**	**38**	*e*P	**P**	**03 07 32.0**	**0.0**
	comp=Z,9.5nm,0.8s,mb4.5						
DIV	**Divide**	**42.69**	**43**	*e*P	**P**	**03 07 45.8**	**-0.1**
	comp=Z,9.9nm,1.0s,mb4.5						
EGAK	**Eagle**	**43.82**	**37**	*e*P	**P**	**03 07 54.5**	**-0.5**
	comp=Z,24nm,1.1s,mb4.8						
BVAR	**Borovoye Array**	**44.71**	**306**	P	**P**	**03 08 01.9**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.7,baz=94,slow=7.6,SNR=6.6						
BVAR				PcP	PcP	03 09 44.0	-0.5
	comp=Z,0.8nm,0.6s,baz=50,slow=2.3,SNR=3.6						
BVAR	**Borovoye Array**	**44.71**	**306**	P	**P**	**03 08 01.9**	**-0.4**
BVAR						03 09 44.0	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DAWY	**Dawson**	**44.75**	**38**	P	**P**	**03 08 03.1**	**+0.7**
BRVK	**Borovoye**	**44.76**	**306**	*e*P	**P**	**03 08 03.0**	**+0.3**
	comp=Z,1.0nm,0.4s,mb4.0						
INK	**Inuvik**	**45.80**	**31**	P	**P**	**03 08 09.8**	**-1.0**
	comp=Z,3.5nm,0.9s,mb4.3,baz=287,slow=7.1,SNR=6.9						
INK	**Inuvik**	**45.80**	**31**	P	**P**	**03 08 09.8**	**-1.0**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**45.80**	**31**	*e*P	**P**	**03 08 10.0**	**-0.8**
TKM2	**Tokmak 2**	**45.87**	**291**	*e*P	**P**	**03 08 13.4**	**+1.7**
	comp=Z,9.0nm,0.6s,mb4.9						
HYT	**Haines Junctio**	**46.62**	**42**	*e*P	**P**	**03 08 18.0**	**+0.7**
UCH	**Uchtor**	**46.91**	**290**	P	**P**	**03 08 23.3**	**+3.5**
	comp=Z,1.8nm,0.6s,mb4.2						
EKS2	**Erkin-Say**	**47.17**	**291**	P	**P**	**03 08 22.2**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.0						
ARU	**Arti**	**49.59**	**314**	*d i*P	**P**	**03 08 39.9**	**-0.4**
ARU				*e*		03 10 32.9	
ARU				S	**S**	**03 15 49.0**	**+0.9**
ARU				*e*SS	SS	03 19 12.5	-7.1
ARU				pmax	pmax		
	comp=Z,31nm,2.1s,mb5.0						
AKTK	**Aktyubinsk**	**52.74**	**307**	P	**P**	**03 09 02.6**	**-1.5**
AKTO	**Aktyubinsk**	**52.74**	**307**	P	**P**	**03 09 02.6**	**-1.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=63,slow=9.0,SNR=4.1						
AKTO	**Aktyubinsk**	**52.74**	**307**	P	**P**	**03 09 02.6**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
RES	**Resolute Bay**	**53.21**	**16**	*e*P	**P**	**03 09 06.6**	**-0.6**
	comp=Z,310nm,0.8s						
ARCES	**ARCESS Array B**	**55.12**	**337**	P	**P**	**03 09 21.9**	**+0.7**
	comp=Z,3.6nm,1.0s,mb4.3,baz=39,slow=7.8,SNR=3.6						
ARCES	**ARCESS Array B**	**55.12**	**337**	P	**P**	**03 09 21.9**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YKA	**Yellowknife Ar**	**55.44**	**33**	P	**P**	**03 09 23.5**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=305,slow=6.7,SNR=6.7						
YKA	**Yellowknife Ar**	**55.44**	**33**	*e*P	**P**	**03 09 25.6**	**+2.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
OBN	**Obninsk**	**60.67**	**321**	⇑*e*P	**P**	**03 10 02.0**	**+1.7**
OBN				*e*		03 12 12.4	
OBN				*e*S	**S**	**03 18 18.7**	**+2.2**
OBN				pmax	pmax		
	comp=Z,29nm,1.7s,mb5.1						
NEW	**Newport**	**63.17**	**47**	*e*P	**P**	**03 10 18.1**	**+0.8**
	comp=Z,3.0nm,0.9s,mb4.4						
KIV	**Kislovodsk**	**64.97**	**308**	⇑*i*P	**P**	**03 10 29.8**	**+0.7**
KIV				pmax	pmax		
	comp=Z,27nm,1.7s,mb5.0						
KIV	**Kislovodsk**	**64.97**	**308**	*e*P	**P**	**03 10 30.3**	**+1.2**
	comp=Z,9.3nm,0.6s,mb5.0						
NOA	**NORSAR Array B**	**65.43**	**336**	P	**P**	**03 10 32.0**	**+0.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=35,slow=6.3,SNR=4.9						
NOA	**NORSAR Array B**	**65.43**	**336**	P	**P**	**03 10 32.0**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**65.45**	**334**	P	**P**	**03 10 31.7**	**-0.2**
	comp=Z,2.8nm

EKA	**Eskdalemuir Ar**	**74.14 340**	P	**P**	**03 11 26.1**	**+0.6**
EKA			pmax	pmax		
	comp=Z,2.0nm,1.0s					
KHC	**Kasperske Hory**	**74.50 328**	*e*P	**P**	**03 11 28.5**	**+0.8**
GERES	**GERESS Array B**	**74.69 327**	P	**P**	**03 11 28.6**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.7,baz=46,slow=5.8,SNR=7.2					
GERES	**GERESS Array B**	**74.69 327**	P	**P**	**03 11 28.6**	**-0.2**
GERES			pmax	pmax		
	comp=Z,1.0nm,0.6s					
GRA1	**Grafenberg Arr**	**74.88 329**	*e*P	**P**	**03 11 30.1**	**+0.2**
	comp=Z,30nm,1.9s,mb4.9					
GRF	**Grafenberg Arr**	**74.88 329**	*e*P	**P**	**03 11 30.1**	**+0.2**
	comp=Z,30nm,1.9s,mb4.9					
BAIF	**Baives**	**76.88 333**	*e*P	**P**	**03 11 39.8**	**-1.5**
CDF	**Champ du Feu**	**77.33 331**	*e*P	**P**	**03 11 42.7**	**-1.2**
LOR	**Lormes**	**79.44 332**	*e*P	**P**	**03 11 54.1**	**-1.5**
	comp=Z,12nm,0.8s,mb4.5					
LOR	**Lormes**	**79.44 332**	*e*P	**P**	**03 11 54.1**	**-1.5**
	comp=Z,5.8nm,0.8s,mb4.6					
SSF	**Saint Saulge**	**79.74 332**	*e*P	**P**	**03 11 55.1**	**-2.1**
	comp=Z,7.2nm,0.9s,mb4.3					
SSF	**Saint Saulge**	**79.74 332**	*e*P	**P**	**03 11 55.1**	**-2.1**
	comp=Z,3.6nm,0.9s,mb4.3					
GRR	**Gorron**	**79.86 336**	*e*P	**P**	**03 11 56.6**	**-1.3**
	comp=Z,25nm,1.1s,mb4.8					
GRR	**Gorron**	**79.86 336**	*e*P	**P**	**03 11 56.6**	**-1.3**
	comp=Z,13nm,1.1s,mb4.8					
SMF	**Signal de Mont**	**80.00 332**	*e*P	**P**	**03 11 57.3**	**-1.4**
	comp=Z,18nm,0.9s,mb4.7					
SMF	**Signal de Mont**	**80.00 332**	*e*P	**P**	**03 11 57.3**	**-1.4**
	comp=Z,9.3nm,0.9s,mb4.7					
LPL	**La Plagne**	**80.02 330**	*e*P	**P**	**03 11 58.1**	**-0.7**
	comp=Z,5.2nm,0.7s,mb4.2					
LPL	**La Plagne**	**80.02 330**	*e*P	**P**	**03 11 58.1**	**-0.7**
	comp=Z,2.6nm,0.7s,mb4.3					
AVF	**Avril sur Loir**	**80.03 332**	*e*P	**P**	**03 11 57.4**	**-1.4**
	comp=Z,85nm,1.6s,mb5.1					
AVF	**Avril sur Loir**	**80.03 332**	*e*P	**P**	**03 11 57.4**	**-1.4**
	comp=Z,42nm,1.6s,mb5.1					
LPG	**La Plagne**	**80.03 330**	*e*P	**P**	**03 11 58.3**	**-0.5**
	comp=Z,9.6nm,0.8s,mb4.5					
LPG	**La Plagne**	**80.03 330**	*e*P	**P**	**03 11 58.3**	**-0.5**
	comp=Z,4.8nm,0.8s,mb4.5					
BNI	**Bardonecchia**	**80.45 330**	*e*P	**P**	**03 12 01.4**	**+0.3**
	comp=Z,4.4nm,1.0s,mb4.3					
MBDF	**Montbardon**	**80.70 329**	*e*P	**P**	**03 12 00.9**	**-1.5**
	comp=Z,7.4nm,0.9s,mb4.3					
MBDF	**Montbardon**	**80.70 329**	*e*P	**P**	**03 12 00.9**	**-1.5**
	comp=Z,3.7nm,0.9s,mb4.3					
TCF	**Toulx Ste Croi**	**80.84 333**	*e*P	**P**	**03 12 02.1**	**-1.1**
ORIF	**Oris-en-Rattie**	**80.84 330**	*e*P	**P**	**03 12 02.2**	**-1.0**
	comp=Z,13nm,0.9s,mb4.5					
ORIF	**Oris-en-Rattie**	**80.84 330**	*e*P	**P**	**03 12 02.2**	**-1.0**
	comp=Z,6.6nm,0.9s,mb4.6					
MFF	**Saint Martin d**	**81.27 335**	*e*P	**P**	**03 12 04.5**	**-1.0**
LMR	**La Mourre**	**82.00 329**	*e*P	**P**	**03 12 07.8**	**-1.6**
	comp=Z,22nm,1.2s,mb4.7					
LMR	**La Mourre**	**82.00 329**	*e*P	**P**	**03 12 07.8**	**-1.6**
	comp=Z,11nm,1.2s,mb4.7					
ESDC	**Sonseca Array**	**88.73 334**	P	**P**	**03 12 42.5**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.5,baz=19,slow=3.9,SNR=9.0					
SNAA	**Sanae**	**149.97 201**	*e*PKPdf	PKPbc	03 19 38.1	-0.4
SNAA			*e*		03 19 43.8	
SNAA	**Sanae**	**149.97 201**	*e*PKPbc	PKPbc	03 19 40.2	+1.7
VNA1	**Neumayer--Stat**	**151.97 201**	*e*PKPdf	PKPbc	03 19 46.6	+3.4
VNA1			*e*	PKPab	03 19 52.9	+0.2

JMA 02 03:03:44.1±0.2,4676N×14164E,h5km,M3.9,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.46**	**173**	P	Pn	03 04 10.8	-0.2
JWK2				*e*S	Sb	03 04 29.7	-0.7
JRR	**Rishiri**	**1.64**	**188**	*e*S	Sn	03 04 36.0	+1.0
JSE	**Soyaes**	**1.92**	**160**	P	Pn	03 04 17.6	+0.2

*SKHL **02** 03:12:52.9±0.6,4680N×14170E,h10km,mb4.4/1*
*ISCJB **02** 03:12:54.0±1.2,4681N±004×1417E±01,h10km,Error ellipse: s-maj=11.3km s-min=5.2km az=10.9*
*JMA **02** 03:12:53.2±0.3,4687N×14157E,h17km,M3.5*

ISC 02 03:12:55.1±1.2,4677N±004×1418E±01,h10km,n5,σ0°99/7,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.69**	**74**	*e*Pg	**Pg**	**03 13 07.4**	**-1.1**
YSS				AMB	AMB	03 13 10.5	
	250nm,0.3s						
YSS				*e*Sg	**Sg**	**03 13 18.0**	**+0.4**
YSS				A		03 13 20.0	
	630nm,0.3s						
JWK2	**Keihoku**	**1.45**	**177**	P	**Pn**	**03 13 20.4**	**-1.0**
JWK2				S	**Sn**	**03 13 40.3**	**-0.2**
JSE	**Soyaes**	**1.89**	**162**	*e*S	**Sn**	**03 13 51.6**	**+0.3**
UGL	**Uglegorsk**	**2.32**	**5**	*e*Sg	**Sg**	**03 14 10.2**	**+0.5**
UGL				A		03 14 13.0	
	92nm,0.3s						
JKK2	**Kamakawa 2**	**2.97**	**166**	*e*S	**Sn**	**03 14 21.1**	**+3.1**

*IDC **02** 03:19:44.7±3.2,4726N×14301E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.6/20,mbtmp3.5/5,ML3.6/1,Error ellipse: s-maj=87.9km s-min=23.9km az=62.0*
*MOS **02** 03:19:49.9±1.4,4670N×14172E,h10km,mb3.7/4,Error ellipse: s-maj=27.4km s-min=20.1km az=98.2*
*SKHL **02** 03:19:49.6±0.5,4660N×14160E,h10km,mb4.3/2*
*JMA **02** 03:19:50.2±0.4,4689N×14168E,h16km,M3.9*
*NEIC **02** 03:19:51.0±0.7,4662N×14178E,h10km,MG3.9(JMA), Error ellipse: s-maj=16.8km s-min=10.6km az=161.0*
*ISCJB **02** 03:19:52.8±1.8,4682N±004×1418E±02,h29km±18km, mb3.5/5,Error ellipse: s-maj=17.6km s-min=7.0km az=171.0*

ISC 02 03:19:53.1±1.6,4679N±005×1418E±01,h18km±14km,n25,σ0°86/31,mb3.5/5,1D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.69**	**76**	⇓*i*Pg	**Pg**	**03 20 05.6**	**-1.0**
YSS				AMB	AMB	03 20 06.2	
	160nm,0.7s						
YSS				*e*Sg	**Sg**	**03 20 16.4**	**+0.6**
YSS				A		03 20 18.8	
	600nm,0.3s						
YSS	**Yuzh-Sakhalins**	**0.69**	**76**	*e*Pg	**Pg**	**03 20 05.2**	**-1.4**
JWK2	**Keihoku**	**1.47**	**177**	P	**Pn**	**03 20 18.0**	**-0.6**
JWK2				*e*S	**Sn**	**03 20 37.6**	**+0.2**
JRR	**Rishiri**	**1.68**	**191**	P	**Pn**	**03 20 21.3**	**-0.2**
JRR				*e*S	**Sn**	**03 20 43.9**	**+1.4**
JSE	**Soyaes**	**1.91**	**163**	P	**Pn**	**03 20 23.8**	**-0.9**
JSE				*e*S	**Sn**	**03 20 49.7**	**+1.5**
UGL	**Uglegorsk**	**2.30**	**5**	*e*Pg	**Pg**	**03 20 38.5**	**+1.3**
UGL				AMB	AMB	03 20 39.7	
	83nm,0.3s						
UGL				*e*Sg	**Sg**	**03 21 12.5**	**+5.4**
UGL				A		03 21 15.0	
	154nm,0.5s						
UGL				A		03 21 15.0	
	162nm,0.5s						
JYG	**Yagishiri**	**2.37**	**186**	P	**Pn**	**03 20 31.2**	**+0.2**
JSS	**Shosan**	**2.39**	**179**	P	**Pn**	**03 20 31.1**	**-0.1**
ASAJ	**Asahikawa**	**2.73**	**168**	P	**Pn**	**03 20 35.9**	**0.0**
ASAJ	**Asahikawa**	**2.73**	**168**	Pn	**Pn**	**03 20 36.1**	**+0.2**
	4.9nm,0.3s,baz=21,slow=12,SNR=17						
ASAJ				Sn	**Sn**	**03 21 14.6**	**+6.2**
	7.2nm,0.3s,baz=114,slow=19,SNR=9.5						
ASAJ	**Asahikawa**	**2.73**	**168**	PN	**Pn**	**03 20 36.2**	**+0.3**
ASAJ						03 21 14.6	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,7.0nm,0.3s						
JKK2	**Kamakawa 2**	**2.99**	**167**	P	**Pn**	**03 20 39.5**	**0.0**
JHR	**Hokuryu**	**3.04**	**181**	P	**Pn**	**03 20 40.6**	**+0.4**
JTKR	**Abashiri--Toko**	**3.19**	**151**	P	**Pn**	**03 20 41.9**	**-0.3**
JAR	**Ashorobuto**	**3.76**	**157**	P	**Pn**	**03 20 49.8**	**-0.3**
SONM	**Songino Array**	**23.89**	**286**	P	**P**	**03 25 05.5**	**+0.1**
	comp=N,0.5nm,0.4s,mb3.3,baz=90,slow=8.9,SNR=4.8						
SONM	**Songino Array**	**23.89**	**286**	P	**P**	**03 25 05.5**	**+0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAK	**Zakamensk**	**25.53**	**292**	*e*P	**P**	**03 25 21.0**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.2						
TIXI	**Tiksi**	**25.68**	**351**	P	**P**	**03 25 22.7**	**+1.3**
MK31	**Makanchi Array**	**39.87**	**293**	*e*P	**P**	**03 27 24.3**	**-1.0**
MKAR	**Makanchi Array**	**39.87**	**293**	P	**P**	**03 27 25.1**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.6,baz=66,slow=7.1,SNR=8.0						
MKAR	**Makanchi Array**	**39.87**	**293**	P	**P**	**03 27 25.1**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**66.75**	**188**	P	**P**	**03 30 41.9**	**-1.1**
	comp=Z,1.2nm,1.3s,mb3.8,baz=6.8,slow=7.6,SNR=5.6						
WRA	**Warramunga Arr**	**66.75**	**188**	P	**P**	**03 30 41.9**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.3s						
ASAR	**Alice Springs**	**70.48**	**188**	P	**P**	**03 31 04.1**	**-2.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=9.5,slow=5.6,SNR=2.8						

*IDC **02** 03:21:39.1±0.3,5136N×17989W,h0km,mb5.8/42, mb1 5.8/44,mb1mx5.8/44,mbtmp5.8/44,ML5.7/1,MS6.3/37, Ms1 6.3/37,ms1mx6.1/45,Error ellipse: s-maj=9.8km s-min=6.8km az=149.0*
*SZGRF **02** 03:21:39.8,5054N×17869E,h33km,mb6.4,MS6.4,Rat Islands,Aleutian Islands, United States*
*BJI **02** 03:21:41.8,5130N×18000W,h41km,mB6.6,mb6.1,Ms6.4, Msz6.2*
*GCMT **02** 03:21:42.8±0.0,5110N×17973W,h32km,MW6.7/114, Moment Tensor Solution. s114,c299; s113,c532; Duration: 5s7 Moment tensor: Scale 10^19Nm; Mrr1.05±.01; Mθθ-1.08±.00; Mφφ0.02±.00; Mrθ0.81±.01; Mθφ-0.40±.00; Mφr0.75±.01; Best double couple: M0 1.58400×10^19 NP1:φs271.00000°,δ27.00000°, λ123.00000°. NP2:φs55.00000°,δ68.00000°,λ75.00000°. Principal axes: T 1.5660, Plg64.0000°, Azm299.0000°; N 0.0330, Plg14.0000°, Azm60.0000°; P -1.6020, Plg21.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BGS **02** 03:21:42.6,5129N×17948W,h20km,mb6.4*
*NEIC **02** 03:21:42.8±0.1,5131N×17997W,h21km,mb6.3/287, ME6.3,MS6.6/212,MW6.6,Error ellipse: s-maj=3.2km s-min=2.0km az=11.0,Moment Tensor Solution. s54 Moment tensor: Scale 10^19Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M0 1.00000×10^19 NP1:φs55.00000°,δ65.00000°, λ85.00000°. NP2:φs246.00000°,δ25.00000°,λ100.00000°. Principal axes: T 0.9900, Plg69.0000°, Azm316.0000°; N 0.0900, Plg4.0000°, Azm57.0000°; P -1.0700, Plg20.0000°, Azm148.0000°; Broadband fault plane solution: P waves. NP1:φs235.00000°,δ25.00000°, λ90.00000°. NP2:φs55.00000°,δ65.00000°,λ90.00000°. Principal axes: T Plg70.0000°, Azm325.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm145.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*ISCJB **02** 03:21:43.9±0.4,5131N±002×17998W±002,h38km±3km, mb6.2/460,MS6.5/283 Error ellipse: s-maj=3.4km s-min=1.6km az=5.4*
*MOS **02** 03:21:45.2±0.9,5131N×17988W,h53km,mb6.4/147, MS6.7/88,Error ellipse: s-maj=6.1km s-min=3.6km az=97.2*
*DJA **02** 03:22:06,5130N×17954W,h221km,Mwp6.8/26*

ISC 02 03:21:47.4±0.4,5136N±002×17998W±002,h54km±3km, h52km±2.6km:pP-P,n2075,σ0°89/2002,mb6.2/460, MS6.5/283,298C-236D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.45**	**272**	P	**Pn**	**03 21 54.1**	**-4.2**
AMKA				S	**Sn**	**03 22 02.5**	**-3.6**
SMY	**Shemya**	**3.90**	**293**	*e*P	**Pn**	**03 22 46.1**	**+1.4**
SMY	**Shemya**	**3.90**	**293**	*e*P	**Pn**	**03 22 44.1**	**-0.6**
FX1	**Attu Island--F**	**4.49**	**292**	P	**Pn**	**03 22 53.7**	**+1.0**
FX1				S	**Sn**	**03 23 50.0**	**+6.4**
NIKO	**Nikolski**	**7.04**	**72**	P	**Pn**	**03 23 26.7**	**-0.9**
SPIA	**Saint Paul Isl**	**8.15**	**41**	P	**Pn**	**03 23 44.5**	**+1.7**
SPIA				S	**Sn**	**03 25 21.9**	**+8.6**
UNV	**Unalaska Valle**	**8.58**	**68**	P	**Pn**	**03 23 48.4**	**-0.3**
UNV				S	**Sn**	**03 25 28.7**	**+4.8**
AKGG	**Akutan Green G**	**8.94**	**66**	P	**Pn**	**03 23 54.8**	**+1.1**
AKLV	**Akutan Long Va**	**8.96**	**66**	P	**Pn**	**03 23 55.3**	**+1.5**
AKUT	**Akutan**	**9.06**	**67**	*e*P	**Pn**	**03 23 56.0**	**+0.8**
	164nm,0.3s						
FALS	**False Pass**	**10.55**	**64**	*e*Pn	**Pn**	**03 24 15.2**	**-0.5**
SDPT	**Sand Point**	**12.31**	**63**	*e*P	**Pn**	**03 24 37.4**	**-2.2**
	338nm,0.4s						
PET	**Petropavlovsk**	**13.21**	**286**	⇑*i*P	**Pn**	**03 24 52.6**	**+0.7**
PET				*e*S	**Sn**	**03 27 24.6**	**+7.6**
PET				pmax	pmax		
	comp=Z,109nm,2.3s						
PET				pmax	pmax		
	comp=Z,6μm,4.2s						
PET				pmax	pmax		
	comp=Z,12μm,8.1s						
PET				MLR	MLR		
	comp=Z,63μm,18.0s						
PET				MLR	MLR		
	comp=Z,55μm,17.0s						
PET	**Petropavlovsk**	**13.21**	**286**	*e*Pn	**Pn**	**03 24 52.0**	**+0.1**
	comp=Z,433nm,1.0s						
CHGN	**Chignik**	**13.64**	**60**	*e*P	**Pn**	**03 24 55.9**	**-1.9**
PETK	**Petropavlovsk-**	**13.78**	**286**	Pn	**Pn**	**03 24 58.1**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=92,slow=15,SNR=56						
PETK				Sn	**Sn**	**03 27 37.5**	**+6.6**
	comp=Z,3.1nm,0.3s,baz=82,slow=15,SNR=3.1						
PETK				PcP	PcP	03 30 20.5	+1.2
	comp=Z,1.9nm,0.3s,baz=93,slow=2.0,SNR=5.7						
PETK				ScP	ScP	03 33 52.7	+4.7
	comp=Z,0.7nm,0.3s,baz=72,slow=4.7,SNR=7.8						
PETK				PKiKP	PKiKP	03 38 15.1	-0.1
	comp=Z,0.3nm,0.3s,baz=134,slow=4.3,SNR=4.8						
PETK	**Petropavlovsk-**	**13.78**	**286**	*e*Pn	**Pn**	**03 25 00.3**	**+0.7**
SKR	**Severo-Kuril's**	**15.04**	**277**	*e*P	**Pn**	**03 25 16.0**	**-0.3**
SKR				*e*S	**Sn**	**03 27 56.0**	**-5.6**
SKR				pmax	pmax		
	comp=N,130nm,0.8s						
SKR				pmax	pmax		
	comp=E,140nm,0.8s						
SKR				pmax	pmax		
	comp=Z,540nm,0.8s						
SKR				smax			
	comp=N,940nm,1.0s						
SKR				smax			
	comp=E,670nm,1.0s						
TNA	**Tin City**	**15.53**	**19**	*e*P	**Pn**	**03 25 26.4**	**+4.0**
	comp=E,7μm,2.0s						
OHAK	**Old Harbor**	**16.59**	**59**	*e*P	**Pn**	**03 25 31.2**	**-4.7**
	comp=E,206nm,0.6s						
SVW2	**Sparrevohn**	**16.60**	**45**	*e*P	**Pn**	**03 25 37.2**	**+1.1**
KDAK	**Kodiak Island**	**17.06**	**57**	Pn	**Pn**	**03 25 38.0**	**-3.8**
	comp=E,30nm,0.3s,baz=253,slow=6.4,SNR=140						
KDAK				Sn	**Sn**	**03 28 46.6**	**-3.6**
	comp=E,10nm,0.3s,baz=162,slow=20,SNR=7.9						
KDAK				ScP	ScP	03 33 58.2	+4.2
	comp=E,0.3nm,0.3s,baz=234,slow=0.4,SNR=4.4						
KDAK	**Kodiak Island**	**17.06**	**57**	*e*Pn	**Pn**	**03 25 37.9**	**-3.8**
TTA	**Tatalina**	**17.29**	**39**	*e*P	**Pn**	**03 25 46.3**	**+1.7**
TTA	**Tatalina**	**17.29**	**39**	*e*P	**Pn**	**03 25 46.4**	**+1.8**
BILL	**Bilibino**	**18.03**	**343**	⇑*e*P	**Pn**	**03 25 56.2**	**+2.6**
BILL				pmax	pmax		
	comp=Z,2μm,1.2s						
BILL				MLR	MLR		
	comp=Z,339μm,21.0s						
BILL	**Bilibino**	**18.03**	**343**	⇓*e*P	**Pn**	**03 25 56.2**	**+2.6**
MA2	**Magadan**	**18.38**	**308**	⇑*i*P	**Pn**	**03 25 59.0**	**+1.1**
MA2				*e*S	**S**	**03 29 26.6**	**+3.4**
MA2				pmax	pmax		
	comp=Z,100nm,0.9s						
MA2				pmax	pmax		
	comp=N,25nm,0.8s						
MA2				MLR	MLR		
	comp=Z,103μm,17.0s						
MA2	**Magadan**	**18.38**	**308**	*e*Pn	**Pn**	**03 25 59.1**	**+1.2**
SEY	**Seymchan**	**18.77**	**319**	*c i*P	**Pn**	**03 26 03.1**	**+0.5**
SLKM	**Skilak Lake**	**18.86**	**49**	*e*P	**Pn**	**03 26 02.4**	**-1.4**
FIB	**Fire Island**	**19.07**	**48**	*e*P	**Pn**	**03 26 10.5**	**+4.2**
FIB				pmax	pmax		
	comp=Z,2μm,0.8s						
FIB	**Fire Island**	**19.07**	**48**	*e*P	**Pn**	**03 26 09.9**	**+3.6**
	comp=Z,2μm,0.8s						
PMR	**Palmer**	**19.68**	**47**	*e*P	**Pn**	**03 26 10.2**	**-3.3**
PMR	**Palmer**	**19.68**	**47**	*e*P	**Pn**	**03 26 10.0**	**-3.5**
	comp=Z,80nm,0.7s						
IMA2	**Indian Mountai**	**19.85**	**32**	*e*P	**Pn**	**03 26 14.2**	**-1.2**
MCK	**McKinley**	**20.50**	**41**	*e*P	**P**	**03 26 19.6**	**-0.9**
MID	**Middleton Isla**	**20.55**	**54**	*e*P	**P**	**03 26 21.7**	**+0.7**
EYAK	**Cordova Ski Ar**	**21.02**	**51**	*e*P	**P**	**03 26 24.9**	**-1.3**
	comp=Z,899nm,0.9s,mb6.1						
DIV	**Divide**	**21.13**	**49**	*e*P	**P**	**03 26 26.2**	**-1.1**
	comp=Z,1μm,0.9s,mb6.2						
COLA	**College**	**21.39**	**39**	*c i*P	**P**	**03 26 29.0**	**-1.0**
COLA	**College**	**21.39**	**39**	*e*P	**P**	**03 26 29.4**	**-0.6**
	comp=Z,1μm,0.9s,mb6.3						
COLA				LR	LR		
	comp=Z,230μm,19.0s,MS6.6						
RAGM	**Ragged Mountai**	**21.52**	**51**	*e*P	**P**	**03 26 29.4**	**-2.1**
MENT	**Mentasta**	**22.48**	**45**	*e*P	**P**	**03 26 40.7**	**-1.0**
OKH	**Okha**	**22.54**	**290**	⇑*i*P	**P**	**03 26 44.0**	**+1.6**
OKH				pmax	pmax		
	comp=Z,36μm,8.0s						
MIDW	**Midway**	**23.20**	**174**	*e*P	**P**	**03 26 45.8**	**-3.8**
	comp=Z,5μm,1.9s,mb6.6						
MIDW				LR	LR		
	comp=Z,98μm,22.0s,MS6.2						
YUK	**Yuzh-Kuril'sk**	**23.96**	**266**	⇑*i*P	**P**	**03 26 57.0**	**+0.6**
YUK				*i* SP		03 27 12.0	
YUK				*i*		03 27 38.0	
YUK				*e*S	**S**	**03 31 15.0**	**+5.9**
YUK				*i* SS		03 32 00.0	
YUK				pmax	pmax		
	comp=N,15μm,3.0s						
YUK				pmax	pmax		
	comp=E,28μm,3.0s						
YUK				pmax	pmax		
	comp=Z,28μm,3.0s						
YUK				pmax	pmax		
	comp=N,450nm,0.8s						
YUK				pmax	pmax		
	comp=E,520nm,0.8s						
YUK				pmax	pmax		
	comp=Z,780nm,0.8s,mb6.2						
YUK				smax			
	comp=E,22μm,15.0s						
YUK				smax			
	comp=N,21μm,16.0s						
EGAK	**Eagle**	**24.05**	**41**	*e*P	**P**	**03 26 55.5**	**-1.5**
	comp=N,2μm,0.9s,mb6.5						
EGAK				LR	LR		
	comp=Z,251μm,22.0s,MS6.7						
UGL	**Uglegorsk**	**24.21**	**280**	*e*P	**P**	**03 26 59.4**	**+0.8**
UGL				*e*		03 27 08.5	
UGL						03 27 53.6	
UGL				pmax	pmax		
	comp=N,210nm,0.7s						
UGL				pmax	pmax		
	comp=E,260nm,0.7s						
UGL				pmax	pmax		
	comp=Z,750nm,0.7s,mb6.2						
UGL				pmax	pmax		
	comp=Z,24μm,8.0s						
YSS	**Yuzh-Sakhalins**	**24.58**	**274**	⇑*i*P	**P**	**03 27 04.0**	**+2.0**
YSS				*e*S	**S**	**03 31 19.0**	**-0.1**
YSS	**Yuzh-Sakhalins**	**24.58**	**274**	*e*P	**P**	**03 27 02.8**	**+0.7**
YSS				LR	LR		
	comp=Z,10μm,19.0s,MS5.3						
DAWY	**Dawson**	**24.63**	**43**	*e*P	**P**	**03 27 00.8**	**-1.5**
HYT	**Haines Junctio**	**25.08**	**51**	*e*P	**P**	**03 27 04.6**	**-1.8**
ASAJ	**Asahikawa**	**25.96**	**269**	P	**P**	**03 27 15.4**	**+0.8**
	comp=Z,374nm,1.0s,mb5.9,baz=46,slow=5.6,SNR=25						
ASAJ				S	**S**	**03 31 46.9**	**+5.8**
	comp=Z,43nm,0.9s,baz=131,slow=20,SNR=2.5						
ASAJ				ScP	ScP	03 34 20.4	+4.1
	comp=Z,26nm,0.6s,baz=30,slow=8.1,SNR=5.5						
ASAJ	**Asahikawa**	**25.96**	**269**	P	**P**	**03 27 15.4**	**+0.8**
ASAJ				S	**S**	**03 31 46.9**	**+5.9**
ASAJ				pmax	pmax		
	comp=Z,374nm,1.0s						
ASAJ				smax			
	comp=N,43nm,0.9s						
SKAG	**Skagway**	**26.16**	**54**	*e*P	**P**	**03 27 14.5**	**-1.7**
	comp=N,447nm,1.8s,mb5.7						
SIT	**Sitka**	**26.34**	**60**	*e*P	**P**	**03 27 17.1**	**-0.8**
SIT	**Sitka**	**26.34**	**60**	*e*P	**P**	**03 27 17.3**	**-0.6**
	comp=N,164nm,1.1s,mb5.5						
SIT				LR	LR		
	comp=Z,297μm,21.0s,MS6.8						
CRAG	**Craig**	**27.81**	**63**	*e*P	**P**	**03 27 31.3**	**+0.3**
	comp=Z,99nm,0.9s,mb5.4						
INK	**Inuvik**	**27.90**	**35**	P	**P**	**03 27 31.1**	**-0.6**
	comp=Z,87nm,1.0s,mb5.3,baz=258,slow=9.5,SNR=122						
INK				PcP	PcP	03 30 47.1	+1.3
	comp=Z,161nm,1.1s,baz=309,slow=3.3,SNR=4.0						
INK				S	**S**	**03 32 16.7**	**+5.6**
	comp=Z,26nm,1.1s,baz=181,slow=18,SNR=1.6						
INK				ScP	ScP	03 34 27.0	+5.3
	comp=Z,69nm,1.0s,baz=221,slow=10.0,SNR=6.5						
INK				LR	LR	03 39 49.1	
	comp=Z,150μm,18.8s,MS6.6,baz=247,slow=39						
INK	**Inuvik**	**27.90**	**35**	P	**P**	**03 27 31.1**	**-0.6**
INK						03 30 47.1	
INK				S	**S**	**03 32 16.7**	**+5.6**
INK				pmax	pmax		
	comp=Z,87nm,1.0s						
INK				smax			
	comp=N,26nm,1.1s						
INK				MLR	MLR		
	comp=Z,150μm,18.8s						
INK	**Inuvik**	**27.90**	**35**	*e*P	**P**	**03 27 30.9**	**-0.8**
WRAK	**Wrangell Islan**	**28.06**	**61**	*e*P	**P**	**03 27 33.5**	**+0.2**
WRAK				LR	LR		
	comp=Z,143μm,21.0s,MS6.5						
HABR	**Khabarovsk**	**28.75**	**282**	⇑*i*P	**P**	**03 27 40.5**	**+1.0**
HABR				*e*		03 28 32.9	
HABR				*e*S	**S**	**03 32 27.1**	**+2.2**
HABR				*e*SS	SS	03 33 56.9	-31
HABR				pmax	pmax		
	comp=Z,1μm,2.9s,mb6.2						
HABR				MLR	MLR		
	comp=Z,34μm,22.0s,MS5.9						
YAK	**Yakutsk**	**28.87**	**311**	*c i*P	**P**	**03 27 40.6**	**+0.2**
YAK				*e*PPP		03 28 40.1	
YAK				*e*		03 30 50.3	
YAK				*e*S	**S**	**03 32 27.7**	**+1

TIXI	Tiksi	30.29	331	eP	P	03 27 52.9 +0.1
TIXI				LR	LR	
comp=Z,99μm,20.0s,MS6.5						
KLR	Kul'dur	30.47	285	eP	P	03 27 50.0 -4.7
CLNS	Chul'man	32.02	302	eP	P	03 28 08.5 +0.3
CLNS				eS	S	03 33 11.0 -4.9
CLNS				e		03 35 10.1
CLNS				e		03 38 30.3
CLNS				pmax	pmax	
comp=Z,223nm,1.5s,mb5.8						
CLNS				pmax	pmax	
comp=E,177nm,1.4s						
CLNS				pmax	pmax	
comp=N,88nm,1.2s						
CLNS				smax		
comp=E,1μm,10.4s						
CLNS				smax		
comp=N,2μm,14.7s						
CLNS				MLR	MLR	
comp=Z,142μm,24.0s,MS6.6						
CLNS				MLR	MLR	
comp=N,43μm,20.0s,MS6.5						
CLNS				MLR	MLR	
comp=E,86μm,22.0s,MS6.5						
MJAR	Matsushiro Arr	33.05	260	P	P	03 28 16.9 -0.6
comp=E,35nm,0.7s,mb5.4,baz=48,slow=6.8,SNR=56						
MJAR				PcP	PcP	03 31 01.1 +1.2
comp=E,16nm,0.8s,baz=52,slow=1.8,SNR=4.2						
MJAR				ScP	ScP	03 34 42.4 +3.2
comp=E,13nm,1.1s,baz=32,slow=2.7,SNR=4.3						
MJAR				LR	LR	03 42 26.2
comp=E,11μm,18.5s,MS5.6,baz=60,slow=38						
MJAR	Matsushiro Arr	33.05	260	P	P	03 28 16.9 -0.6
MJAR						03 31 01.1
MJAR				pmax	pmax	
comp=Z,35nm,0.7s						
MAJO	Matsushiro	33.05	260	eP	P	03 28 13.2 -4.3
MAJO				LR	LR	
comp=Z,23μm,22.0s,MS5.8						
MAT	Matsushiro	33.05	260	P	P	03 28 16.9 -0.6
MAT				S	S	03 33 37.0 +4.7
VLA	Vladivostok	33.17	275	diP	P	03 28 19.4 +0.9
VLA				e*PP	pP	03 28 32.3 +0.1
VLA				e*SP	sP	03 28 37.7 -0.8
VLA				eS	S	03 33 36.7 +2.7
VLA				e*SS	sS	03 33 57.6 +0.4
VLA				pmax	pmax	
comp=Z,939nm,2.3s,mb6.3						
MDJ	Mudanjiang	33.84	279	P	P	03 28 23.5 -0.8
MDJ				AP	pP	03 28 32.2 -5.8
MDJ				XP	sP	03 28 37.3 -7.0
MDJ				PP	PP	03 29 40.6 -0.9
MDJ				S	S	03 33 51.3 +6.9
MDJ				XS	sS	03 34 02.8 -4.8
MDJ				SCP	ScP	03 34 45.4 +3.5
MDJ				AMB	AMB	
comp=Z,146nm,0.9s,mb5.9						
MDJ				LR	LR	
comp=N,53μm,34.1s,MS6.2						
MDJ				LR	LR	
comp=E,58μm,33.4s,MS6.2						
MDJ				LR	LR	
comp=Z,86μm,36.3s,MS6.2						
MDJ	Mudanjiang	33.84	279	PFAKE		03 28 40.0 +16
MDJ				LR	LR	
comp=Z,30μm,22.0s,MS6.0						
OZB	Mount Ozzard	34.32	72	P	P	03 28 29.4 +1.1
JHJ	Hachijo jima 2	34.38	254	P	P	03 28 29.1 +0.1
comp=Z,397nm,0.9s,mb6.3,baz=72,slow=20,SNR=5.5						
JHJ				LR	LR	03 40 32.6
comp=Z,9μm,20.6s,MS5.5,baz=62,slow=33						
KIP	Kipapa	34.45	142	eP	P	03 28 28.8 -0.9
comp=Z,682nm,1.2s,mb6.5						
KIP				LR	LR	
comp=Z,91μm,21.0s,MS6.5						
HON	Honolulu	34.54	142	eP	P	03 28 35.6 +5.1
C03A	Quillayute Air	35.32	73	⇑P	P	03 28 38.8 +1.8
baz=35,SNR=41						
PGC	Sidney	35.67	72	eP	P	03 28 39.9 -0.1
YKW3	Yellowknife Ar	35.76	46	eP	P	03 28 39.3 -1.3
YKA	Yellowknife Ar	35.78	46	P	P	03 28 39.2 -1.5
comp=Z,311nm,0.9s,mb6.2,baz=282,slow=8.6,SNR=303						
YKA				PcP	PcP	03 31 08.0 +0.8
comp=Z,45nm,0.8s,baz=297,slow=3.4,SNR=5.2						
YKA				S	S	03 34 15.1 +1.3
comp=Z,5.0nm,1.0s,baz=279,slow=15,SNR=3.3						
YKA				ScP	ScP	03 34 51.0 +2.5
comp=Z,56nm,0.8s,baz=293,slow=3.1,SNR=7.3						
YKA				LR	LR	03 44 49.7
comp=Z,108μm,19.4s,MS6.6,baz=255,slow=39						
YKA				P3KPbc		03 59 20.9
comp=Z,2.1nm,0.8s,baz=95,slow=5.0,SNR=8.6						
YKA				PKPPKP		04 01 40.7
baz=166,slow=2.9						
YKA	Yellowknife Ar	35.78	46	P	P	03 28 39.2 -1.6
YKA						03 31 08.0
YKA				S	S	03 34 15.1 +1.3
YKA				pmax	pmax	
comp=Z,311nm,0.9s						
YKA				smax		
comp=N,5.0nm,1.0s						
YKA				MLR	MLR	
comp=Z,108μm,19.4s						
YKA	Yellowknife Ar	35.78	46	P	P	03 28 39.2 -1.5
YKA				PcP	PcP	03 31 08.1 +0.8
YKA				S	S	03 34 15.1 +1.3
YKA				ScP	ScP	03 34 51.0 +2.5
YKA				LR	LR	03 44 49.7
YKA				e		03 59 20.9
SNB	Saturna Island	35.78	71	P	P	03 28 42.0 +1.0
VGZ	Gonzales	35.85	72	P	P	03 28 42.0 +0.5
B04A	Port Angeles	35.90	73	⇑P	P	03 28 43.1 +1.1
baz=36,SNR=47						
NLWA	Neilton Lookou	35.99	74	P	P	03 28 44.1 +1.4
baz=36,SNR=153						
NLWA	Neilton Lookou	35.99	74	eP	P	03 28 43.5 +0.7
NLWA				LR	LR	
comp=Z,135μm,22.0s,MS6.7						
A04A	Legoe Bay, Lum	36.08	71	⇑P	P	03 28 44.5 +1.0
baz=36,SNR=102						
D03A	Wishkah Elem.	36.18	74	⇑P	P	03 28 45.9 +1.6
baz=36,SNR=42						
WISH	Wishkah	36.18	74	P	P	03 28 45.9 +1.5
A05A	Maple Falls	36.33	70	⇓P	P	03 28 46.0 +0.4
baz=36,SNR=134						
C04A	Brinnon	36.38	73	⇑P	P	03 28 47.1 +1.0
baz=36,SNR=129						
GNW	Green Mountain	36.54	73	P	P	03 28 47.5 +0.1
E03A	Lebam	36.58	75	⇑P	P	03 28 48.7 +0.9
baz=36,SNR=131						
A06A	Chilliwack	36.64	70	⇓P	P	03 28 48.5 +0.2
baz=36,SNR=27						
B05A	Bryant	36.65	71	⇓P	P	03 28 49.2 +0.9
baz=36,SNR=241						
D04A	Dobbs Creek Ra	36.76	74	⇓P	P	03 28 50.8 +1.5
baz=37,SNR=18						
JCW	Jim Creek	36.78	71	eP	P	03 28 49.6 +0.1
JCW				eS	S	03 34 35.0 +5.6
BMW	Boistfort Moun	36.81	75	eP	P	03 28 50.4 +0.6
CN2	Changchun	36.82	280	eP	P	03 28 48.5 -1.4
CN2				eAP	pP	03 29 00.7 -3.0
CN2				ePP	PP	03 30 14.5 +0.2
CN2				eS	S	03 34 28.4 -1.7
CN2				eSS	SS	03 36 57.9 -15
CN2				LR	LR	
comp=N,26μm,21.0s,MS6.2						
CN2				LR	LR	
comp=E,35μm,21.0s,MS6.2						
CN2				LR	LR	
comp=Z,70μm,22.0s,MS6.4						
F03A	Seaside	36.88	76	⇑P	P	03 28 51.7 +1.4
baz=37,SNR=24						
B06A	Marblemount	36.90	71	P	P	03 28 50.6 +0.2
baz=37,SNR=59						
RPW	Rockport	36.91	71	eP	P	03 28 50.4 -0.2
RPW				eS	S	03 34 34.4 +3.1
POHA	Pohakuloa	36.93	140	⇓eP	P	03 28 49.9 -1.1
comp=Z,345nm,1.0s,mb6.1						
POHA				LR	LR	
comp=Z,123μm,22.0s,MS6.7						
E04A	Onalaska	37.06	74	⇓P	P	03 28 53.4 +1.5
baz=37,SNR=52						
HEBO	Mount Hebo	37.12	77	eP	P	03 28 53.2 +0.9
comp=Z,2μm,1.3s,mb6.8						
C05A	Tolt Reservoir	37.16	72	⇓P	P	03 28 53.2 +0.6
baz=37,SNR=207						
D05A	Enumclaw	37.22	73	⇓P	P	03 28 54.4 +1.3
baz=37,SNR=197						
H02A	Toledo	37.24	78	⇑P	P	03 28 55.0 +1.6
baz=37,SNR=14						
A07A	Ashnola River,	37.30	69	⇑P	P	03 28 54.4 +0.5
baz=37,SNR=290						
G03A	Yamhill	37.35	76	⇑P	P	03 28 55.6 +1.2
baz=37,SNR=50						
KHU	Kahuku	37.36	140	eP	P	03 28 53.1 -1.5
BOD	Bodaibo	37.39	306	eP	P	03 28 53.5 -1.0
BOD				e		03 34 41.0
BOD				pmax	pmax	
comp=Z,632nm,1.1s,mb6.4						
CBIJ	Chichi jima	37.40	244	P	P	03 28 54.2 -0.7
comp=Z,526nm,0.9s,mb6.4,baz=55,slow=8.9,SNR=10						
CBIJ				LR	LR	03 46 32.5
comp=Z,8μm,18.0s,MS5.6,baz=35,slow=40						
STCH	Steam Cracks	37.43	139	P	P	03 28 52.6 -2.6
C06A	Tall Timber Ra	37.52	71	⇑P	P	03 28 56.1 +0.4
baz=37,SNR=21						
LON	Longmire	37.53	74	eP	P	03 28 56.4 +0.5
comp=Z,194nm,0.4s,mb6.2						
F04A	Amboy	37.57	75	⇑P	P	03 28 56.8 +0.6
baz=37,SNR=116						
HIA	Hailar	37.60	291	⇑iP	P	03 28 55.6 -0.8
HIA	Hailar	37.60	291	eP	P	03 28 55.2 -1.2
comp=Z,488nm,1.0s,mb6.2						
HIA				ePcP	PcP	03 31 13.0 0.0
HIA				eS	ScP	03 34 58.7 +3.2
HIA				LR	LR	
comp=Z,49μm,22.0s,MS6.3						
E05A	Randle	37.66	74	⇓P	P	03 28 57.0 +0.1
baz=38,SNR=156						
H03A	Soap Creek Ran	37.67	77	⇑P	P	03 28 58.0 +0.9
baz=38,SNR=54						
I02A	Mapleton	37.69	79	⇑P	P	03 28 58.2 +1.0
baz=38,SNR=21						
COR	Corvallis	37.71	77	eP	P	03 28 58.0 +0.6
COR				eScP	ScP	03 34 54.8 -1.3
COR				LR	LR	
comp=Z,109μm,20.0s,MS6.7						
B07A	Winthrop	37.73	70	⇑P	P	03 28 57.9 +0.4
baz=38,SNR=307						
D06A	Cle Elum	37.90	72	⇑P	P	03 28 59.4 +0.5
baz=38,SNR=188						
K01A	Sixes	37.93	81	⇓P	P	03 28 59.7 +0.4
baz=38,SNR=24						
LTY	Liberty	37.97	72	P	P	03 28 59.9 +0.4
KEBM	Edson Butte	37.98	80	eP	P	03 29 00.6 +0.9
A08A	Turner Farm, O	38.00	69	⇓P	P	03 29 00.1 +0.4
baz=38,SNR=214						
ETW	Entiat	38.01	72	eP	P	03 28 59.5 -0.4
ETW				eS	S	03 34 47.5 -0.5
I03A	Eugene	38.05	78	⇓P	P	03 29 01.4 +1.2
baz=38,SNR=67						
C07A	Waterville	38.13	71	⇓P	P	03 29 00.9 +0.1
baz=38,SNR=214						
E06A	Yakima	38.13	73	P	P	03 29 01.8 +0.8
baz=38,SNR=210						
F05A	White Salmon	38.17	75	⇑P	P	03 29 02.1 +0.8
baz=38,SNR=66						
J02A	Umpqua	38.19	79	⇑P	P	03 29 02.6 +1.2
baz=38,SNR=106						
EBG	Ellensburg	38.20	73	P	P	03 29 01.4 -0.1
B08A	Colville Reser	38.24	70	⇑P	P	03 29 02.1 +0.3
baz=38,SNR=441						
HOOD	Mount Hood Mea	38.34	75	eP	P	03 29 03.4 +0.8
comp=Z,708nm,0.9s,mb6.4						
HOOD				eScP	ScP	03 34 59.9 +1.5
H04A	Detroit Lake	38.34	77	⇑P	P	03 29 03.5 +0.8
baz=38,SNR=221						
A09A	Danville	38.39	69	⇓P	P	03 29 03.5 +0.5
baz=38,SNR=174						
KBO	Bosley Butte	38.41	81	eP	P	03 29 05.2 +1.9
J03A	Ideyld Park	38.56	79	⇑P	P	03 29 05.8 +1.3
baz=38						
K02A	Glendale	38.56	80	⇑P	P	03 29 05.6 +1.0
baz=38						
G05A	Wamic	38.59	75	⇓P	P	03 29 05.9 +1.2
baz=38,SNR=78						
F06A	Goldendale	38.64	74	⇑P	P	03 29 06.0 +0.8
baz=38,SNR=30						
I04A	Tendick Farm,	38.67	78	P	P	03 29 06.2 +0.8
baz=38,SNR=160						
M01C	Crescent City	38.68	82	⇓P	P	03 29 06.8 +1.2
baz=38,SNR=9.0						
C08A	Higginbotham F	38.68	71	⇑P	P	03 29 05.6 +0.1
baz=38,SNR=146						
E07A	Sunnyside	38.80	73	⇓P	P	03 29 07.4 +0.9
baz=39,SNR=59						
L02A	Cave Junction	38.83	81	⇓P	P	03 29 08.2 +1.4
baz=39,SNR=90						
KSRS	Korea Array	38.90	270	P	P	03 29 07.6 +0.2
comp=Z,96nm,0.8s,mb5.6,baz=56,slow=7.8,SNR=92						
KSRS				ScP	ScP	03 35 03.0 +2.4
comp=Z,3.6nm,0.9s,baz=60,slow=4.8,SNR=2.8						
KSRS				LR	LR	03 44 57.7
comp=Z,10μm,21.3s,MS5.6,baz=58,slow=36						
B09A	Rice	38.91	69	⇑P	P	03 29 07.5 +0.2
baz=39						
KS15	Wonju Array Si	38.93	270	eP	P	03 29 08.0 +0.3
HUMO	Hull Mountain	38.98	80	P	P	03 29 09.0 +1.0
baz=39,SNR=108						
HUMO	Hull Mountain	38.98	80	eP	P	03 29 08.9 +0.8
comp=Z,704nm,1.3s,mb6.2						
HUMO				LR	LR	
comp=Z,171μm,22.0s,MS6.8						
A10A	Northport	38.99	68	⇓P	P	03 29 08.3 +0.3
baz=39,SNR=132						
KRMB	Red Mountain	38.99	82	eP	P	03 29 09.4 +1.2
RSW	Rattlesnake Hi	39.04	73	eP	P	03 29 08.5 -0.1
RSW				eS	S	03 35 04.2 +0.6
SNY	Shenyang	39.05	279	⇑P	P	03 29 08.6 0.0
SNY				AMB	AMB	
comp=Z,422nm,1.9s,mb5.8						
SNY				LR	LR	
comp=N,18μm,26.4s,MS6.0						
SNY				LR	LR	
comp=E,23μm,30.0s,MS6.0						
SNY				LR	LR	
comp=Z,53μm,35.3s						
OD2	Odessa Site #2	39.07	71	eP	P	03 29 08.0 -0.8
OD2				e		03 35 02.3
HAWA	Hanford	39.08	73	eP	P	03 29 08.3 -0.5
comp=Z,765nm,0.9s,mb6.4						
HAWA				e		03 35 03.8
HAWA				LR	LR	
comp=Z,91μm,22.0s,MS6.6						
F07A	Phinny Hill Vi	39.09	74	⇑P	P	03 29 09.7 +0.8
baz=39,SNR=58						
D08A	Wollman Farm,	39.11	72	⇓P	P	03 29 09.2 +0.1
baz=39,SNR=244						
C09A	Chrisman Ranch	39.13	70	⇑P	P	03 29 09.1 -0.1
baz=39,SNR=155						
J04A	Umpqua Nationa	39.16	79	⇑P	P	03 29 10.8 +1.3
baz=39						
I05A	Bend	39.18	77	P	P	03 29 10.6 +0.9
baz=39,SNR=102						
E08A	Dider Farm, El	39.31	72	⇓P	P	03 29 11.0 +0.2
baz=39,SNR=154						
JCC	Jacoby Creek	39.32	83	⇓P	P	03 29 11.7 +0.8
baz=39						
H06A	Lindquist Farm	39.44	75	⇑P	P	03 29 12.1 +0.2
baz=39,SNR=202						
EDM	Edmonton	39.47	60	eP	P	03 29 10.4 -1.5
EDM				eS	S	03 35 08.7 -1.2
KHMM	Horse Mountain	39.47	83	eP	P	03 29 14.2 +2.1
D09A	Jones Farm, Ri	39.47	71	P	P	03 29 11.9 -0.2
baz=39,SNR=98						
B10A	Chitwood Farm,	39.51	69	⇑P	P	03 29 12.4 +0.1
baz=39,SNR=23						
G07A	Ruggs Ranch, H	39.57	74	P	P	03 29 13.2 +0.2
baz=39,SNR=169						
NEW	Newport	39.58	69	eP	P	03 29 11.9 -1.1
comp=Z,410nm,0.8s,mb6.2						
NEW				LR	LR	
comp=Z,50μm,20.0s,MS6.3						
YBH	Yreka Blue Hor	39.62	81	P	P	03 29 14.7 +1.3
baz=40,SNR=254						
YBH	Yreka Blue Hor	39.62	81	eP	P	03 29 14.6 +1.2
YBH				LR	LR	
comp=Z,134μm,22.0s,MS6.7						
J05A	Fort Rock	39.67	78	⇑P	P	03 29 15.2 +1.4
baz=40,SNR=298						
INCN	Inchon	39.69	271	P	P	03 29 14.7 +0.7
SNR=29

baz=42,SNR=332
H10A Noah's Angus R 41.69 74 ⇑P P 03 29 30.6 +0.2
baz=42,SNR=364
D13A Huson 41.73 69 ⇓P P 03 29 30.3 -0.4
baz=42,SNR=296
WVOR Wild Horse Val 41.73 77 *eP* **P 03 29 30.2 -0.6**
WVOR pmax pmax
comp=Z,502nm,1.0s,mb6.1
WVOR MLR MLR
comp=Z,126µm,22.0s,MS6.8
WVOR Wild Horse Val 41.73 77 *eP* **P 03 29 30.2 -0.6**
comp=Z,502nm,1.0s,mb6.1
WVOR LR LR
comp=Z,126µm,22.0s,MS6.8
O05C Quincy 41.75 82 ⇑P P 03 29 31.4 +0.4
baz=42,SNR=68
CVS Carmenet Viney 41.75 85 ⇑P P 03 29 31.0 0.0
baz=42,SNR=42
J09A Fry Pan Ranch, 41.76 76 ⇑P P 03 29 31.7 +0.7
baz=42,SNR=484
OHCM Honcut 41.77 83 *eP* **P 03 29 30.4 -0.7**
C14A Swan Lake 41.80 68 ⇑P P 03 29 31.3 0.0
baz=42
FARB Farallon Islan 41.81 86 ⇓P P 03 29 31.4 -0.1
baz=42,SNR=10.0
Q03C Winters 41.86 84 ⇓P P 03 29 33.2 +1.3
baz=42
I10A Payette 41.93 74 ⇓P P 03 29 33.2 +0.8
baz=42,SNR=175
DL2 Dalian 41.95 276 ⇑*iP* **P 03 29 31.9 -0.8**
DL2 PCP PcP 03 31 30.5 +3.4
DL2 SCP ScP 03 35 16.1 +3.5
DL2 PCS PcS 03 35 18.3 -0.4
DL2 S **S 03 35 49.7 +2.5**
DL2 SS SS 03 38 43.0 -12
DL2 SCS ScS 03 39 31.4 +1.4
DL2 AMB AMB
comp=Z,200nm,1.0s,mb5.7
DL2 AMB AMB
comp=Z,4µm,9.4s
DL2 LR LR
comp=N,10µm,25.3s,MS5.8
DL2 LR LR
comp=E,11µm,26.2s,MS5.8
DL2 LR LR
comp=Z,24µm,29.2s,MS5.9
F12A Elk City 41.96 71 ⇑P P 03 29 32.6 0.0
baz=42,SNR=1000
N06A Buffalo Meadow 41.96 80 ⇓P P 03 29 33.4 +0.7
baz=42,SNR=646
M07A Soldier Meadow 42.00 79 ⇓P P 03 29 33.7 +0.7
baz=42,SNR=910
L08A Fields 42.05 78 ⇑P P 03 29 33.9 +0.5
baz=42,SNR=397
H11A Donnelly 42.07 73 ⇓P P 03 29 33.6 0.0
baz=42,SNR=300
Q04C Lincoln 42.13 84 ⇑P P 03 29 34.0 -0.1
baz=42,SNR=17
K09A Rome 42.14 77 P P 03 29 34.4 +0.3
baz=42,SNR=185
BEKR Beckwourth 42.15 82 ⇓P P 03 29 34.5 +0.2
baz=42,SNR=185
MSO Missoula 42.17 69 *eP* **P 03 29 33.1 -1.2**
comp=Z,833nm,1.3s,mb6.2
MSO LR LR
comp=Z,36µm,19.0s,MS6.3
E13A Victor 42.23 70 ⇑P P 03 29 34.6 -0.2
baz=42,SNR=488
SAC San Andreas 42.25 86 *eP* **P 03 29 35.4 +0.3**
D14A Greenough 42.29 69 ⇓P P 03 29 34.7 -0.6
baz=42,SNR=1000
O06A Flanigan 42.30 81 ⇑P P 03 29 35.8 +0.3
baz=42,SNR=194
J10A Berg Farm, Mel 42.31 75 ⇑P P 03 29 35.6 +0.1
baz=42,SNR=50
P05C Yuba Gap, Truc 42.33 83 ⇑P P 03 29 35.9 +0.1
baz=42,SNR=102
BDM Black Diamond 42.36 85 ⇓P P 03 29 35.9 -0.1
baz=42
M08A Happy Creek Ra 42.45 78 ⇓P P 03 29 37.4 +0.8
baz=42,SNR=276
JRSC Jasper Ridge 42.47 86 ⇑P P 03 29 36.5 -0.4
baz=42,SNR=21
N07B Gerlach 42.47 80 ⇓P P 03 29 37.3 +0.4
baz=42,SNR=333
CHMT Chamberlain Mo 42.53 69 *eP* **P 03 29 35.7 -1.5**
I11A Placerville 42.53 74 ⇑P P 03 29 37.3 0.0
baz=42,SNR=275
P06A Stead Airport, 42.55 82 ⇓P P 03 29 38.0 +0.5
baz=42,SNR=58
L09A Wilkinson Ranc 42.56 77 ⇓P P 03 29 38.0 +0.5
baz=42,SNR=210
LAVA Lava Cap Winer 42.58 83 ⇓P P 03 29 37.9 +0.2
baz=42,SNR=115
K10A MacKenzie Ranc 42.61 76 ⇓P P 03 29 38.2 +0.3
baz=42,SNR=758
WENL Wente Brothers 42.63 85 ⇓P P 03 29 38.3 +0.1
baz=42,SNR=36
E14A Clinton 42.65 69 ⇑P P 03 29 38.0 -0.2
baz=42,SNR=385
BNLO Ben Lomond (Sa 42.68 86 ⇑P P 03 29 38.2 -0.4
baz=43,SNR=33
H12A Diamond D Range 42.85 73 ⇓P P 03 29 39.5 -0.3
baz=43,SNR=422
PAHR Pah Rah Range 42.85 81 *eP* **P 03 29 39.9 0.0**
comp=Z,964nm,1.3s,mb6.4
WCN Washoe City 42.86 82 ⇑P P 03 29 40.2 +0.2
baz=43,SNR=90
D15A Lincoln 42.89 68 ⇓P P 03 29 39.6 -0.6
baz=43,SNR=310
MFID Camas Ranch 42.89 74 ⇓P P 03 29 40.2 +0.1
baz=43,SNR=221
O07A Toulon 42.89 80 P P 03 29 40.5 +0.3
baz=43,SNR=378
G13A Cobalt 42.92 72 ⇓P P 03 29 40.2 -0.3
baz=43,SNR=1000
S04C Ingram Canyon, 42.97 85 ⇓P P 03 29 40.8 -0.2
baz=43,SNR=29
N08A GE Springer Mi 42.99 79 ⇓P P 03 29 41.4 +0.4
baz=43,SNR=317
R05C Kirkwood Meado 43.02 83 ⇓P P 03 29 41.8 +0.4
baz=43,SNR=100
M09A Marrel Ranch, 43.03 78 ⇓P P 03 29 41.9 +0.5
baz=43,SNR=113
F14A Wisdom 43.04 70 ⇑P P 03 29 41.8 +0.4
baz=43,SNR=42
K11A Parker Ranch, 43.13 75 ⇓P P 03 29 42.6 +0.4
baz=43,SNR=258
E15A Deer Lodge 43.14 69 ⇓P P 03 29 41.7 -0.5
baz=43,SNR=493
H13A Challis 43.20 72 ⇑P P 03 29 42.7 0.0
baz=43
CMB Columbia Colle 43.24 84 P P 03 29 43.2 +0.1
baz=43,SNR=146
CMB Columbia Colle 43.24 84 *eP* **P 03 29 43.1 +0.1**
CMB LR LR
comp=Z,129µm,22.0s,MS6.8
P07A Fallon 43.26 81 ⇑P P 03 29 43.7 +0.5
baz=43,SNR=21
L10A Juniper Basin 43.26 77 P P 03 29 43.5 +0.4
baz=43,SNR=266
O08A Rochester Mine 43.26 80 ⇓P P 03 29 43.8 +0.6
baz=43,SNR=6.9
G14A Jackson 43.30 71 ⇓P P 03 29 43.3 -0.2
baz=43,SNR=58
PACP Pacheco Peak 43.31 86 ⇓P P 03 29 43.8 +0.1
baz=43,SNR=65
N09A Rock Creek Ran 43.32 79 ⇓P P 03 29 44.2 +0.5
baz=43,SNR=241
SAO San Andreas Ge 43.36 86 *eP* **P 03 29 44.5 +0.4**
HRY Holter Researc 43.46 68 *eP* **P 03 29 43.9 -0.8**
R06C Coleville 43.52 83 ⇑P P 03 29 45.9 +0.5
baz=43
HAST Hastings Reser 43.53 87 P P 03 29 45.4 -0.1
baz=43,SNR=47
M10A I.L. Ranch, Tu 43.53 77 ⇓P P 03 29 46.0 +0.6
baz=43,SNR=311
F15A Butte 43.54 70 ⇓P P 03 29 45.2 -0.3
baz=43,SNR=166
LRM Limekiln Ridge 43.58 70 *eP* **P 03 29 44.5 -1.2**
I13A Wildhorse Cree 43.64 73 ⇓P P 03 29 46.6 +0.3
baz=44,SNR=569
L11A Cat Creek Ranc 43.64 76 ⇓P P 03 29 46.8 +0.5
baz=44,SNR=784
HLID Hailey 43.66 73 ⇓P P 03 29 47.0 +0.6
baz=44,SNR=587
HLID Hailey 43.66 73 *eP* **P 03 29 45.9 -0.5**
comp=Z,1µm,1.4s,mb6.4
HLID *e*ScP ScP 03 35 19.4 0.0
HLID LR LR
comp=Z,80µm,22.0s,MS6.6
P08A Dixie Valley 43.66 80 ⇑P P 03 29 47.3 +0.8
baz=44,SNR=43
S06C San Francisco 43.66 84 ⇓P P 03 29 46.9 +0.4
baz=44,SNR=244
Q07A Schurz 43.67 82 ⇓P P 03 29 47.1 +0.6
baz=44,SNR=18
S05C Merced 43.70 85 ⇑P P 03 29 46.4 -0.4
baz=44,SNR=63
DLMT Dillon 43.74 70 *eP* **P 03 29 46.0 -1.0**
comp=Z,950nm,1.4s,mb6.3
BMN Battle Mountai 43.75 79 *eP* **P 03 29 47.1 -0.1**
BMN LR LR
comp=Z,121µm,22.0s,MS6.8
T05C Eagle Field, D 43.76 85 ⇑P P 03 29 47.8 +0.5
baz=44,SNR=9.1
MCMT McKenzie Canyo 43.89 71 *eP* **P 03 29 47.0 -1.2**
K12A Draper Farm, C 43.89 75 ⇓P P 03 29 48.7 +0.4
baz=44,SNR=387
J13A Cove Ranch, Pi 43.90 74 ⇓P P 03 29 48.8 +0.5
baz=44,SNR=585
G15A Dillon 43.91 70 ⇑P P 03 29 48.1 -0.3
baz=44,SNR=666
O09A Fish Creek Ran 43.93 79 ⇑P P 03 29 49.6 +1.0
baz=44,SNR=445
V03C Hunter Liggett 43.96 87 ⇓P P 03 29 49.3 +0.4
baz=44,SNR=58
EGMT Eagleton 43.96 66 ⇑P P 03 29 48.1 -0.7
baz=44,SNR=163
EGMT Eagleton 43.96 66 *eP* **P 03 29 47.3 -1.5**
comp=Z,464nm,0.9s,mb6.2
EGMT LR LR
comp=Z,58µm,20.0s,MS6.5
N10A Dunphy 44.02 78 ⇑P P 03 29 50.0 +0.7
baz=44,SNR=50
U04C Hernandez Rese 44.03 86 ⇓P P 03 29 49.9 +0.5
baz=44,SNR=40
R07C Lee Vining 44.04 83 ⇑P P 03 29 50.2 +0.7
baz=44
M11A Holland Ranch, 44.04 77 P P 03 29 50.4 +0.9
baz=44,SNR=269
L12A House Creek Ra 44.10 76 ⇓P P 03 29 50.6 +0.6
baz=44,SNR=632
BOZ Bozeman (W) 44.16 69⇑*eP* **P 03 29 49.4 -1.0**
BOZ pmax pmax
comp=Z,1µm,1.3s,mb6.6
BOZ MLR MLR
comp=Z,49µm,19.0s,MS6.5
BOZ Bozeman (W) 44.16 69 ⇑P P 03 29 50.4 0.0
baz=44,SNR=1000
BOZ Bozeman (W) 44.16 69⇑*eP* **P 03 29 49.4 -1.0**
comp=Z,1µm,1.3s,mb6.6
BOZ LR LR
comp=Z,49µm,19.0s,MS6.5
Q08A Gabbs 44.26 81 ⇓P P 03 29 51.6 +0.3
baz=44,SNR=264
O10A Cortez Mining, 44.28 79 ⇑P P 03 29 52.4 +1.0
baz=44,SNR=102
NVAR Mina Array Bea 44.29 82 P P 03 29 51.7 +0.2
comp=Z,49nm,0.7s,mb5.4,baz=290,slow=7.1,SNR=228
NVAR ScP ScP 03 35 26.3 +4.2
comp=Z,12nm,1.1s,baz=297,slow=4.0,SNR=4.7
NVAR PKPPKP 04 01 27.2
comp=Z,1.0nm,0.7s,baz=83,slow=3.7,SNR=4.3
NVAR Mina Array Bea 44.29 82 P P 03 29 51.7 +0.2
NVAR ScP ScP 03 35 26.3 +4.2
NVAR P'P' 04 01 27.2
T06C Millerton Lake 44.30 85 P P 03 29 51.4 -0.2
baz=44,SNR=160
P09A Austin 44.33 80 ⇓P P 03 29 52.7 +0.9
baz=44,SNR=126
KCC Kaiser Creek 44.34 84 ⇓P P 03 29 52.3 +0.4
baz=44,SNR=240
K13A Stover Farm, H 44.38 74 P P 03 29 52.6 +0.4
baz=44,SNR=85
V04C Ramage Ranch, 44.44 87 ⇓P P 03 29 53.0 +0.3
baz=44,SNR=30
N11A Elko Archery C 44.44 78 ⇓P P 03 29 53.4 +0.8
baz=44,SNR=71
PKD Parkfield 44.44 86 P P 03 29 52.6 -0.1
baz=44,SNR=46
MLAC Mammoth Lakes 44.45 83 ⇓P P 03 29 53.9 +1.1
baz=44,SNR=29
U05C Westside ANR, 44.46 86 ⇓P P 03 29 53.7 +0.8
baz=44
R08A Mina 44.46 82 ⇑P P 03 29 53.3 +0.4
baz=44,SNR=34
M12A Wells 44.59 76 ⇑P P 03 29 54.5 +0.6
baz=44,SNR=210
BJI Beijing 44.65 281 P P 03 29 54.3 -0.1
BJI S **S 03 36 22.5 -4.1**
BJI AMB AMB
comp=Z,158nm,0.9s,mb5.8
BJI LR LR
comp=N,35µm,25.1s,MS6.2
BJI LR LR
comp=E,9µm,28.7s,MS6.2
BJT Baijiatuau 44.67 281 *eP* **P 03 29 54.2 -0.3**
BJT pmax pmax
comp=Z,264nm,0.8s
BJT MLR MLR
comp=Z,41µm,22.0s
BJT Baijiatuau 44.67 281 *eP* **P 03 29 54.2 -0.3**
comp=Z,264nm,0.8s,mb6.1
BJT LR LR
comp=Z,41µm,22.0s,MS6.3
P10A Eureka 44.70 79 ⇓P P 03 29 55.2 +0.4
baz=45,SNR=184
QLMT Earthquake Lak 44.73 70 *eP* **P 03 29 54.4 -0.5**
Q09A Carvers 44.74 81 ⇑P P 03 29 55.7 +0.6
baz=45,SNR=95
L13A Double Diamond 44.78 75 P P 03 29 55.6 +0.2
baz=45,SNR=298
ELK Elko 44.78 77 *eP* **P 03 29 55.3 -0.1**
ELK LR LR
comp=Z,115µm,22.0s,MS6.8
MTUM Tungsten Hills 44.79 83 *eP* **P 03 29 55.9 +0.4**
IRK Irkutsk 44.82 302⇑*iP* **P 03 29 55.9 +0.3**
IRK *e* 03 39 51.4
IRK pmax pmax
comp=Z,850nm,1.8s,mb6.3
PTRM Twissleman Ran 44.84 86 *eP* **P 03 29 56.3 +0.4**
N12A Clover Valley, 44.84 77 ⇑P P 03 29 56.3 +0.4
baz=45,SNR=294
V05C Boulder Hill, 44.89 86 ⇑P P 03 29 56.8 +0.5
baz=45,SNR=11
O11A Cowboy Ranch, 44.90 78 P P 03 29 56.9 +0.6
baz=45,SNR=214
HELL Mitchell Peak 44.93 84 P P 03 29 56.3 -0.3
baz=45,SNR=330
S08C White Mtn Res 44.95 83 ⇓P P 03 29 57.6 +0.8
baz=45,SNR=290
K14A Jones Ranch, D 44.98 74 ⇓P P 03 29 57.6 +0.6
baz=45,SNR=69
RCTC Rector, Farmer 45.03 85 ⇓P P 03 29 57.1 -0.3
baz=45,SNR=58
YMR Madison River 45.09 70 *eP* **P 03 29 57.4 -0.4**
comp=Z,2µm,1.2s,mb6.8
YMR LR LR
comp=Z,50µm,19.0s,MS6.5
R09A Tonopah 45.17 81 ⇑P P 03 29 58.9 +0.3
baz=45,SNR=842
TPH Tonopah 45.18 82 *eP* **P 03 29 58.2 -0.4**
TPH *e*ScP ScP 03 35 29.1 +3.3
TPH LR LR
comp=Z,95µm,20.0s,MS6.7
P11A Circle Ranch, 45.18 79 ⇓P P 03 29 59.3 +0.7
baz=45,SNR=128
SMMC Simmler 45.19 87 ⇓P P 03 29 58.6 -0.1
baz=45,SNR=24
TIN Tinemaha 45.19 83 ⇓P P 03 29 59.2 +0.5
baz=45,SNR=80
GCMT Greycliff 45.22 68 *eP* **P 03 29 57.9 -0.9**
Q10A Clear Creek Ra 45.23 80 P P 03 29 59.5 +0.5
baz=45,SNR=625
YNR Norris Junctio 45.23 70 *eP* **P 03 29 59.1 +0.2**
L14A Malta 45.24 75 ⇑P P 03 29 59.7 +0.6
baz=45,SNR=709
YFT Old Faithful 45.29 70 *eP* **P 03 30 00.2 +0.8**
YFT *e*ScP ScP 03 35 31.2 +5.1
N13A Wendover, West 45.35 76 ⇓P P 03 30 00.5 +0.5
baz=45,SNR=35
O12A Currie 45.37 78 ⇑P P 03 30 00.6 +0.5
baz=45,SNR=541
S09A Goldfield 45.39 82 P P 03 30 00.3 0.0
baz=45,SNR=216
VES Vestal, Richgr 45.42 85 P P 03 29 60.0 -0.6
baz=45,SNR=200
TLY Talaya 45.45 302 P P 03 30 00.1 -0.4
comp=Z,1µm,0.8s,mb6.8
TLY Talaya 45.45 302 P P 03 30 01.1 +0.6
SNR=293
TLY Talaya 45.45 302 P P 03 30 01.1 +0.6
SNR=293
TLY Talaya 45.45 302 P P 03 30 01.1 +0.6
SNR=293
TLY Talaya 45.45 302 P P 03 30 01.1 +0.6
SNR=293
TLY Talaya 45.45 302 P P 03 30 01.1 +0.6
SNR=293
TLY Talaya 45.45 302 P P 03 30 01.1 +0.6
SNR=293
TLY Talaya 45.45 302 *c iP* **P 03 30 00.7 +0.2**
TLY *e* 03 31 45.0
TLY *e*S S 03 36 58.1 +20
TLY pmax pmax
comp=Z,417nm,1.1s,mb6.2
TLY Talaya 45.45 302 *eP* **P 03 30 00.8 +0.3**
comp=Z,303nm,0.9s,mb6.1
TLY *e*ScP ScP 03 35 30.1 +3.4
TLY LR LR
comp=Z,67µm,22.0s,MS6.5
LKWY Lake 45.48 70 *eP* **P 03 30 01.8 +0.9**
LKWY LR LR
comp=Z,46µm,20.0s,MS6.4
M14A Sheep Mountain 45.49 75 ⇓P P 03 30 01.4 +0.4
baz=45,SNR=155
IMW Indian Meadow 45.54 71 *eP* **P 03 30 01.0 -0.4**
comp=Z,1µm,1.1s,mb6.7
PKM Peak Mountain 45.57 87 ⇓P P 03 30 02.3 +0.6
baz=46,SNR=62
DCID1 Drake Creek 45.57 72 *eP* **P 03 30 03.0 +1.4**
FLWY Flagg Ranch 45.58 71 *eP* **P 03 30 01.9 +0.2**
comp=Z,2µm,1.1s,mb7.0
R10A Warm Springs 45.62 81 P P 03 30 02.2 +0.1
baz=46,SNR=213
RRI2 Red Ridge 45.63 72 *eP* **P 03 30 02.4 +0.2**
comp=Z,880nm,1.0s,mb6.6
S10A Tonopah Range, 45.66 81 ⇑P P 03 30 02.3 -0.2
baz=46,SNR=572
CWC Cottonwood Cre 45.67 84 ⇓P P 03 30 02.7 +0.2
baz=46,SNR=81
HVU Hansel Valley 45.67 75 *eP* **P 03 30 02.2 -0.2**
comp=Z,378nm,0.8s,mb6.4
Q11A Duckwater 45.67 80 ⇑P P 03 30 02.6 +0.1
baz=46,SNR=494
MOOW Moose Ponds 45.74 71 *eP* **P 03 30 02.3 -0.7**
comp=Z,436nm,1.2s,mb6.3
P12A McGill 45.75 78 ⇑P P 03 30 03.4 +0.3
baz=46,SNR=432
GRAC Grapevine Rang 45.76 83 ⇑P P 03 30 03.8 +0.6
baz=46,SNR=187
TPAW Teton Pass 45.77 72 *eP* **P 03 30 03.3 +0.1**
comp=Z,324nm,0.9s,mb6.3
K16A Soda Springs 45.77 73 P P 03 30 04.5 +1.3
baz=46,SNR=405
L15A Malad City 45.77 74 P P 03 30 03.5 +0.3
baz=46,SNR=157
RLMT Red Lodge 45.83 69 *eP* **P 03 30 01.9 -1.7**
RLMT LR LR
comp=Z,41µm,20.0s,MS6.4
JOW Kunigami 45.84 258 P P 03 30 05.0 +1.1
comp=Z,136nm,1.0s,mb5.8,baz=73,slow=9.3,SNR=11
JOW LR LR 03 47 43.0
comp=Z,11µm,21.4s,MS5.8,baz=66,slow=34
SNOW Snow King Moun 45.90 71 *eP* **P 03 30 04.5 +0.3**
comp=Z,740nm,1.3s,mb6.5
REDW Red Top Meadow 45.90 72 *eP* **P 03 30 04.2 0.0**
comp=Z,1µm,1.4s,mb6.6
LOHW Long Hollow 45.91 71 *eP* **P 03 30 03.7 -0.6**
comp=Z,250nm,0.9s,mb6.1
ISA Isabella 45.92 85 P P 03 30 03.7 -0.8
baz=46,SNR=233
ISA Isabella 45.92 85 *eP* **P 03 30 03.0 -1.5**
comp=Z,233nm,1.0s,mb6.1
ISA LR LR
comp=Z,63µm,20.0s,MS6.6
O13A Hicks Ranch, I 45.92 77 ⇓P P 03 30 04.7 +0.3
baz=46,SNR=90
SBC Santa Barbara 45.93 87 ⇑P P 03 30 04.6 0.0
baz=46
N14A Grayback Hills 45.97 76 ⇑P P 03 30 05.3 +0.4
baz=46,SNR=332
SONM Songino Array 45.99 296 P P 03 30 05.4 +0.5
comp=Z,32nm,0.4s,mb5.6,baz=56,slow=7.6,SNR=184
SONM PcP PcP 03 31 42.8 +2.2
comp=Z,112nm,1.1s,baz=80,slow=3.4,SNR=3.2
SONM ScP ScP 03 35 33.9 +4.9
comp=Z,27nm,1.1s,baz=59,slow=3.0,SNR=4.1
SONM LR LR 03 50 21.8
comp=Z,66µm,20.4s,MS6.6,baz=58,slow=37
SONM Songino Array 45.99 296 P P 03 30 05.4 +0.5
SONM 03 31 42.8
SONM pmax pmax
comp=Z,32nm,0.4s
SONM MLR MLR
comp=Z,66µm,20.4s
R11A Troy Canyon, C 46.02 80 ⇑P P 03 30 05.4 +0.1
baz=46,SNR=793
BGU Big Grassy Mou 46.02 76 *eP* **P 03 30 05.1 -0.1**
ARVC Arvin 46.04 86 ⇑P P 03 30 04.7 -0.8
baz=46,SNR=24
M15A Larsen Ranch, 46.06 75 ⇓P P 03 30 05.9 +0.4
baz=46,SNR=58
Q12A Willow Creek R 46.06 79 ⇓P P 03 30 06.0 +0.4
baz=46,SNR=352
DAC Darwin (Calif) 46.07 84 PFAKE 03 30 20.0 +14
DAC LR LR
comp=Z,89µm,20.0s,MS6.7
AHID Auburn Hatcher 46.10 72 *eP* **P 03 30 06.2 +0.4**
AHID LR LR
comp=Z,89µm,22.0s,MS6.7
SPUT South Promonto 46.15 75⇑*iP* **P 03 30 06.5 +0.3**
BSC Santa Cruz Isl 46.27 88 ⇓P P 03 30 06.8 -0.4
baz=46,SNR=18
MPMC Manual Prospec 46.28 84 ⇓P P 03 30 07.5 +0.2
baz=46,SNR=214
P13A Bates Ranch, G 46.31 78 ⇓P P 03 30 08.0 +0.5
baz=46,SNR=376
ZAK Zakamensk 46.33 301⇑*iP* **P 03 30 08.1 +0.6**
ZAK *e* 03 31 46.6
ZAK pmax pmax
comp=Z,318nm,1.3s,mb6.1
L16A Fish Haven 46.34 73 ⇓P P 03 30 08.0 +0.3
baz=46,SNR=118
N15A Stansbury Isla 46.35 75 P P 03 30 08.1 +0.3
baz=46,SNR=204
S11A Rachel 46.36 81 ⇓P P 03 30 08.0 0.0
baz=46,SNR=183
FURC Furnace Creek, 46.41 83 ⇓P P 03 30 08.3 0.0
baz=46,SNR=445
TIA Tai'an 46.43 276 ⇑P P 03 30 07.6 -0.9
TIA AMB AMB
comp=Z,327nm,1.1s,mb6.2
TIA LR LR
comp=N,10µm,15.0s,MS5.9
TIA LR LR
comp=E,3µm,15.0s,MS5.9
OSI Osito Adit 46.44 86 ⇓P P 03 30 08.3 -0.3
baz=46
OSI Osito Adit 46.44 86 *eP* **P 03 30 08.6 +0.1**
comp=E,338nm,0.9s,mb6.3
TPNV Topopah Spring 46.48 82 ⇓P P 03 30 09.1 +0.1
baz=46,SNR=1000
TPNV Topopah Spring 46.48 82 *eP* **P 03 30 08.0 -0.9**
TPNV LR LR
comp=Z,148µm,21.0s,MS6.9
FCC Fort Churchill 46.51 46 *eP* **P 03 30 08.9 +0.1**
LRMC Laurel Mountai 46.52 85 ⇑P P 03 30 08.7 -0.6
baz=46,SNR=84
BLG Laguna Peak 46.55 87 ⇓P P 03 30 08.9 -0.5
baz=46,SNR=24
DUG Dugway 46.60 76 ⇑P P 03 30 10.0 +0.3
baz=46,SNR=1000
DUG Dugway 46.60 76 *eP* **P 03 30 09.1 -0.6**
DUG LR LR
comp=Z,78µm,22.0s,MS6.6
Q13A Wheeler Ranch, 46.61 78 ⇑P P 03 30 10.2 +0.3
baz=46,SNR=386
R12A Pony Springs, 46.64 80 ⇑P P 03 30 10.3 +0.2

baz=46
M16A Huntsville 46.64 74 ⇓P P 03 30 10.2 +0.1
baz=46,SNR=304
LAO LASA Array 46.70 65 *e*P **P 03 30 09.6 -0.9**
LAO LR LR
comp=Z,75μm,20.0s,MS6.6
EDW2 Edwards Air Fo 46.72 86 ⇓P P 03 30 10.6 -0.2
baz=47,SNR=98
NOQ North Oquirrh 46.74 75 *e*P **P 03 30 11.1 +0.2**
O15A The Old Anders 46.75 76 ⇓P P 03 30 11.6 +0.6
baz=47,SNR=84
U10A Ash Meadows, A 46.77 83 ⇓P P 03 30 11.5 +0.4
baz=47,SNR=153
P14A Drum Mountains 46.81 77 ⇓P P 03 30 11.9 +0.5
baz=47,SNR=471
SNCC San Nicolas Is 46.83 88 PFAKE 03 30 20.0 +8.3
SNCC LR LR
comp=Z,63μm,20.0s,MS6.6
DGMT Dagmar 46.85 62 *e*P **P 03 30 10.5 -1.1**
comp=Z,626nm,1.4s,mb6.3
DGMT LR LR
comp=Z,95μm,22.0s,MS6.7
MOY Mondy 46.85 303 *e*P **P 03 30 11.9 +0.3**
MOY pmax pmax
comp=Z,1μm,2.6s,mb6.3
DECC Green Verdugo 46.92 86 ⇓P P 03 30 11.9 -0.4
baz=47,SNR=12
S12A Delamar Landin 46.94 80 ⇓P P 03 30 12.9 +0.4
baz=47,SNR=632
T11A Corn Creek, Al 46.94 81 ⇑P P 03 30 12.6 +0.1
baz=47,SNR=865
CTU Camp Tracy 46.94 75 *e*P **P 03 30 12.5 +0.1**
HHC Hu-ho-hao-te 46.98 285 *e*P **P 03 30 14.2 +1.5**
HHC AP pP 03 30 27.3 +0.4
HHC XP sP 03 30 32.1 -1.1
HHC PP PP 03 32 06.1 +2.6
HHC PCS PcS 03 35 40.1 +0.8
HHC S **S 03 37 01.0 +1.0**
HHC XS sS 03 37 23.6 -0.3
HHC SCS ScS 03 40 01.8 -0.1
HHC AMB AMB
comp=Z,286nm,1.2s,mb6.1
HHC AMB AMB
comp=Z,4μm,4.4s
HHC LR LR
comp=N,25μm,17.8s,MS6.4
HHC LR LR
comp=E,32μm,22.6s,MS6.4
HHC LR LR
comp=Z,38μm,23.8s,MS6.3
N16A Rees Ranch, Co 47.01 75 ⇓P P 03 30 13.7 +0.7
baz=47,SNR=53
BW06 Boulder Array 47.02 72 *e*P **P 03 30 12.1 -0.9**
BW06 LR LR
comp=Z,86μm,22.0s,MS6.7
PDAR Pinedale Array 47.02 72 P **P 03 30 12.1 -0.9**
comp=Z,553nm,1.0s,mb6.5,baz=303,slow=3.6,SNR=593
PDAR ScP ScP 03 35 38.7 +5.4
comp=Z,8.8nm,0.9s,baz=345,slow=3.2,SNR=4.4
PDAR S **S 03 37 00.8 +0.3**
comp=Z,6.4nm,1.1s,baz=30,slow=18,SNR=2.8
PDAR LR LR 03 47 25.4
comp=Z,70μm,21.8s,MS6.6,baz=311,slow=33
PDAR PKPPKP 04 01 32.2
comp=Z,2.7nm,1.0s,baz=116,slow=3.4,SNR=4.5
Q14A Sevier Lake (B 47.05 78 ⇑P P 03 30 14.0 +0.7
baz=47,SNR=676
MWC Mount Wilson 47.11 86 *e*P **P 03 30 13.6 -0.2**
comp=Z,901nm,1.5s,mb6.5
MWC *e*S **S 03 37 07.3 +5.3**
MWC LR LR
comp=Z,83μm,22.0s,MS6.7
R13A O'Grain Ranch, 47.12 79 ⇑P P 03 30 14.0 +0.1
baz=47,SNR=588
GUMO Guam 47.13 230 P **P 03 30 12.0 -2.1**
comp=Z,181nm,0.7s,mb6.1,baz=163,slow=17,SNR=13
GUMO LR LR 03 48 08.0
comp=Z,13μm,19.1s,MS5.9,baz=29,slow=34
GUMO Guam 47.13 230 P **P 03 30 12.0 -2.1**
GUMO pmax pmax
comp=Z,181nm,0.7s,mb6.1
GUMO Guam 47.13 230 *e*P **P 03 30 12.2 -1.9**
comp=Z,419nm,1.1s,mb6.3
GUMO LR LR
comp=Z,11μm,21.0s,MS5.8
SHOC Shoshone 47.13 83 ⇑P P 03 30 14.0 0.0
baz=47,SNR=73
JLU Jordanelle 47.18 75 *e*P **P 03 30 14.1 -0.1**
GSC Goldstone 47.19 84 ⇓P P 03 30 14.1 -0.3
baz=47,SNR=342
GSC Goldstone 47.19 84 *e*P **P 03 30 13.5 -1.0**
comp=Z,627nm,1.0s,mb6.5
GSC LR LR
comp=Z,54μm,21.0s,MS6.5
NLU North Lily Min 47.19 76 *e*P **P 03 30 14.2 -0.2**
SSE Sheshan 47.26 268 P **P 03 30 14.9 -0.1**
SSE AP pP 03 30 28.5 -0.7
SSE PP PP 03 32 05.6 -0.6
SSE S **S 03 37 04.2 0.0**
SSE XS sS 03 37 27.0 -1.1
SSE AMB AMB
comp=Z,273nm,1.0s,mb6.1
SSE AMB AMB
comp=Z,8μm,11.7s
SSE LR LR
comp=N,16μm,27.8s,MS6.0
SSE LR LR
comp=E,15μm,27.8s,MS6.0
SSE LR LR
comp=Z,28μm,28.0s,MS6.1
FMP Fort Macarthur 47.30 87 ⇑P P 03 30 14.4 -0.8
baz=47
P15A Leamington 47.30 77 ⇑P P 03 30 15.7 +0.5
baz=47,SNR=150
RRX Edison Barstow 47.34 85 ⇓P P 03 30 15.5 -0.1
baz=47,SNR=5.3
N17A Moffit Pass 47.34 74 ⇓P P 03 30 15.8 +0.2
baz=47,SNR=147
BFSC Mount Baldy St 47.35 86 P **P 03 30 15.3 -0.4**
baz=47,SNR=102
U11A Corn Creek 47.36 82 ⇑P P 03 30 16.0 +0.2
baz=47,SNR=27
O16A Springville 47.39 75 P **P 03 30 16.4 +0.5**
baz=47,SNR=206
DAU Daniels Canyon 47.41 75 *e*P **P 03 30 16.0 -0.1**
MPU Maple Canyon 47.42 76 *e*P **P 03 30 16.0 -0.2**
MPU LR LR
comp=Z,102μm,21.0s,MS6.8
CIS Catalina Islan 47.43 87 ⇑P P 03 30 15.6 -0.7
baz=47,SNR=16
SHPR Sheep Range 47.44 82 *e*P **P 03 30 16.1 -0.3**
S13A Holt Ranch, En 47.57 80 ⇓P P 03 30 17.6 +0.3
baz=47,SNR=971
T12A Moapa 47.58 81 ⇑P P 03 30 16.9 -0.5
baz=47,SNR=6.3
Q15A Fillmore 47.59 77 P **P 03 30 17.8 +0.3**
baz=47,SNR=114
SCI San Clemente I 47.62 88 ⇓P P 03 30 17.6 -0.2
baz=48,SNR=19
R14A James Farms, M 47.63 79 ⇓P P 03 30 17.9 +0.1
baz=48,SNR=47
TUQ Turquoise Mtn. 47.65 84 ⇑P P 03 30 17.8 -0.2
baz=48,SNR=161
P16A Fountain Green 47.66 76 ⇑P P 03 30 18.8 +0.8
baz=48,SNR=62
ARUT Antelope Range 47.70 79 *e*P **P 03 30 18.0 -0.3**
V11A Goodsprings 47.70 83 P **P 03 30 18.4 0.0**
baz=48,SNR=148
HEC Hector,Ludlow 47.79 84 ⇑P P 03 30 18.8 -0.3
baz=48,SNR=52
BBRC Big Bear Sol-O 47.79 85 ⇑P P 03 30 18.9 -0.3
baz=48,SNR=16
U12A Valley of Fire 47.88 82 P **P 03 30 19.8 0.0**
baz=48,SNR=229
S14A Cedar City 47.88 79 ⇓P P 03 30 19.7 -0.1
baz=48,SNR=122
T13A Saint George 47.89 80 ⇓P P 03 30 20.2 +0.3
baz=48,SNR=513
CCUT Cedar City 47.89 80 *e*P **P 03 30 23.3 +3.5**
MVU Marysvale 48.00 78 PFAKE 03 30 30.0 +9.3
MVU LR LR
comp=Z,107μm,20.0s,MS6.8
MSU Marysvale 48.02 78 *e*P **P 03 30 20.8 0.0**
MURC Murrieta 48.05 86 ⇑P P 03 30 20.7 -0.4
baz=48,SNR=60
BTO Baotou 48.06 286 *e*P **P 03 30 22.3 +1.2**
NJ2 Nanjing 48.07 271 *e*P **P 03 30 21.8 +0.5**

NJ2 AP pP 03 30 27.9 -7.7
NJ2 XP sP 03 30 30.7 -11
NJ2 PP PP 03 32 13.4 -0.2
NJ2 S **S 03 37 18.0 +2.3**
NJ2 AMB AMB
comp=Z,120nm,1.0s,mb5.9
NJ2 AMB AMB
comp=Z,4μm,10.6s
NJ2 LR LR
comp=N,29μm,29.3s,MS6.2
NJ2 LR LR
comp=E,28μm,26.2s,MS6.2
NJ2 LR LR
comp=Z,28μm,26.2s,MS6.1
TMUT Trail Mountain 48.12 76 *e*P **P 03 30 22.0 +0.4**
V12A Nelson 48.13 82 P **P 03 30 21.6 -0.1**
baz=48,SNR=99
R15A Junction 48.15 78 P **P 03 30 22.4 +0.6**
baz=48,SNR=92
U13A Pakoon Wash 48.24 81 P **P 03 30 22.8 +0.2**
baz=48,SNR=253
GMRC Granite Mounta 48.24 84 P **P 03 30 22.2 -0.4**
baz=48,SNR=278
P17A Butcher Ranch, 48.30 76 ⇑P P 03 30 23.2 +0.2
baz=48,SNR=106
T14A Hurricane 48.37 80 ⇑P P 03 30 23.9 +0.3
baz=48,SNR=69
Q16A Castle Valley 48.38 77 ⇑P P 03 30 23.9 +0.3
baz=48,SNR=138
TIY Taiyuan 48.38 281 P **P 03 30 25.6 +2.0**
TIY PP PP 03 32 19.1 +2.7
TIY S **S 03 37 26.6 +6.6**
TIY LR LR
comp=N,12μm,14.5s,MS6.1
TIY LR LR
comp=E,10μm,15.6s,MS6.1
TIY LR LR
comp=Z,13μm,15.7s,MS6.0
LDFC Landfair 48.39 83 *e*P **P 03 30 22.6 -1.1**
W12A Cal Nev Ari 48.40 83 ⇓P P 03 30 23.5 -0.2
baz=48,SNR=32
S15A Panguitch 48.43 79 ⇑P P 03 30 25.0 +1.0
baz=48,SNR=204
PFO Pinyon Flat Ob 48.51 86 P **P 03 30 24.0 -0.7**
comp=Z,992nm,1.3s,mb6.7,SNR=46
PFO Pinyon Flat Ob 48.51 86 P **P 03 30 24.1 -0.6**
baz=48,SNR=80
PFO Pinyon Flat Ob 48.51 86 *e*P **P 03 30 23.9 -0.8**
PFO LR LR
comp=Z,85μm,21.0s,MS6.7
KRAR Krasnoyarsk 48.54 312 ⇓*e*P **P 03 30 24.5 -0.1**
KRAR pmax pmax
comp=Z,858nm,1.7s,mb6.5
KRAR MLR MLR
comp=Z,33μm,23.0s,MS6.2
BELC Belle Mtn. 48.54 85 ⇓P P 03 30 24.1 -0.8
baz=48,SNR=183
109C Camp Elliot, M 48.59 87 ⇓P P 03 30 24.9 -0.3
baz=48,SNR=24
V13A Grand Canyon W 48.59 82 ⇓P P 03 30 25.4 +0.2
baz=48,SNR=228
SRU San Rafael 48.66 76 P **P 03 30 25.9 +0.2**
baz=48,SNR=322
SRU San Rafael 48.66 76 *e*P **P 03 30 25.8 +0.1**
U14A Mt Trumbull 48.73 81 ⇓P P 03 30 26.5 +0.2
baz=49,SNR=218
T15A Red Dirt Ranch 48.83 79 ⇑P P 03 30 27.4 +0.3
baz=49,SNR=354
Q18A Rafter H Ranch 48.90 76 ⇑P P 03 30 27.2 -0.3
baz=49,SNR=406
NEE2 Needles Airpor 48.90 83 ⇓P P 03 30 26.9 -0.7
baz=49,SNR=15
IRM Iron Mountain 48.97 84 ⇓P P 03 30 27.6 -0.5
baz=49,SNR=341
R17A Hanksville Air 48.97 77 ⇑P P 03 30 28.1 0.0
baz=49,SNR=371
BAR Barrett 48.99 87 *e*P **P 03 30 27.3 -1.1**
comp=Z,281nm,1.1s,mb6.2
BAR LR LR
comp=Z,51μm,21.0s,MS6.5
MONP Monument Peak 49.01 86 ⇑P P 03 30 28.2 -0.4
baz=49,SNR=104
RWWY Rawlins 49.06 71 *e*P **P 03 30 27.8 -1.0**
BC3 Big Chuckw Mtn 49.11 85 ⇑P P 03 30 28.6 -0.7
baz=49,SNR=144
W13A Hualapai Mount 49.14 82 P **P 03 30 29.2 -0.2**
baz=49,SNR=139
U15A North Rim 49.27 80 ⇓P P 03 30 31.0 +0.6
baz=49,SNR=869
V14A Boquillas Ranc 49.28 81 ⇑P P 03 30 30.6 +0.1
baz=49,SNR=339
DVTC Desert V Tower 49.37 86 ⇑P P 03 30 30.7 -0.5
baz=49,SNR=34
SWSC Sam W. Stewart 49.37 86 P **P 03 30 30.4 -0.9**
baz=49,SNR=47
T16A Glen Canyon Da 49.40 79 ⇑P P 03 30 30.7 -0.7
baz=49,SNR=41
RSSD Black Hills 49.45 67 *e*P **P 03 30 30.0 -1.7**
RSSD pmax pmax
comp=Z,163nm,1.1s,mb6.0
RSSD MLR MLR
comp=Z,50μm,19.0s,MS6.5
RSSD Black Hills 49.45 67 *e*P **P 03 30 30.0 -1.7**
comp=Z,163nm,1.1s,mb6.0
RSSD LR LR
comp=Z,50μm,19.0s,MS6.5
R18A Canyonlands Na 49.49 76 ⇑P P 03 30 31.4 -0.7
baz=49,SNR=408
PDMCI Parker Dam,Lak 49.50 83 ⇓P P 03 30 31.7 -0.5
baz=49,SNR=84
X13A Yucca 49.50 83 P **P 03 30 31.7 -0.5**
baz=49,SNR=159
Q19A Hogan Spring (49.52 75 ⇓P P 03 30 31.8 -0.5
baz=49,SNR=463
W14A Seligman 49.56 82 P **P 03 30 32.7 0.0**
baz=49,SNR=154
Y12C Blythe 49.63 84 ⇓P P 03 30 32.4 -0.8
baz=50,SNR=138
V15A Kaibab Nationa 49.73 80 ⇓P P 03 30 34.3 +0.3
baz=50,SNR=744
KBS Kingsbay 49.78 357 *e*P **P 03 30 32.9 -0.9**
KBS AMb AMB 03 30 40.3
comp=Z,591nm,1.7s,mb6.3
KBS *e*S **S 03 37 43.0 +4.3**
KBS Kingsbay 49.78 357 *e*P **P 03 30 34.3 +0.5**
KBS LR LR
comp=Z,49μm,19.0s,MS6.5
S18A Hurst Farm, Bl 49.87 77 ⇑P P 03 30 34.8 -0.2
baz=50,SNR=480
GLA Glamis 49.90 85 P **P 03 30 34.9 -0.4**
baz=50,SNR=64
GLA Glamis 49.90 85 *e*P **P 03 30 34.9 -0.4**
comp=Z,490nm,0.9s,mb6.5
GLA LR LR
comp=Z,67μm,20.0s,MS6.6
R19A Curley Farm, L 49.94 76 P **P 03 30 35.1 -0.4**
baz=50,SNR=147
Y13A Salome 50.02 84 ⇓P P 03 30 35.7 -0.5
baz=50,SNR=101
W15A Williams 50.09 81 P **P 03 30 37.2 +0.5**
baz=50,SNR=100
U17A Shonto 50.16 79 P **P 03 30 36.8 -0.4**
baz=50,SNR=90
U16A Tuba City 50.17 79 P **P 03 30 37.4 +0.1**
baz=50,SNR=207
X14A Yava 50.17 82 ⇑P P 03 30 37.5 +0.2
baz=50,SNR=209
TARA Tarawa 50.19 189 P **P 03 30 40.7 +3.1**
T18A Mexican Hat 50.30 78 ⇓P P 03 30 37.7 -0.6
baz=50,SNR=496
ULM Lac du Bonnet 50.31 56 P **P 03 30 36.6 -1.5**
comp=Z,84nm,0.9s,mb5.8,baz=306,slow=8.0,SNR=52
ULM ScP ScP 03 35 53.6 +6.3
comp=Z,20nm,0.9s,baz=297,slow=5.8,SNR=3.4
ULM LR LR 03 52 09.1
comp=Z,86μm,21.6s,MS6.7,baz=310,slow=36
ULM Lac du Bonnet 50.31 56 *e*P **P 03 30 36.2 -2.0**
comp=Z,515nm,1.7s,mb6.3
ULM LR LR
comp=Z,125μm,22.0s,MS6.9
PHWY Pilot Hill 50.34 71 *e*P **P 03 30 37.5 -0.9**
SPB4 Spitsbergen Ar 50.34 356 *e*P **P 03 30 37.3 -0.7**
S19A Harvey Farm, M 50.36 77 ⇑P P 03 30 38.3 -0.4
baz=50,SNR=380
112A Yuma 50.40 85 ⇓P P 03 30 38.5 -0.5
baz=50,SNR=45
WUAZ Wupatki 50.42 80 ⇑P P 03 30 39.5 +0.2

baz=50
WUAZ Wupatki 50.42 80 *e*P **P 03 30 39.0 -0.2**
comp=Z,778nm,1.1s,mb6.7
WUAZ LR LR
comp=Z,127μm,22.0s,MS6.9
Y14A Wickenburg 50.45 83 ⇑P P 03 30 39.1 -0.3
baz=50,SNR=119
X15A Humboldt 50.56 82 P **P 03 30 40.3 0.0**
baz=50,SNR=154
W16A Flagstaff 50.60 81 ⇑P P 03 30 41.1 +0.5
baz=50,SNR=164
113A Mohawk Valley, 50.75 85 ⇓P P 03 30 40.9 -0.8
baz=51,SNR=100
SMCO Snowmass 50.76 74 *e*P **P 03 30 46.0 +4.3**
U18A Rough Rock, Ch 50.76 78 P **P 03 30 41.6 -0.2**
baz=51,SNR=171
Y15A Casa Rosa Ranc 50.86 82 P **P 03 30 42.3 -0.2**
baz=51,SNR=263
Z14A Wintersburg 50.87 83 ⇓P P 03 30 42.0 -0.6
baz=51,SNR=37
HVS Khovu-Aksy 50.92 306 *d*P **P 03 30 43.0 +0.3**
HVS pmax pmax
comp=Z,4μm,1.6s,mb7.1
MVCO Mesa Verde 51.09 77 P **P 03 30 44.0 -0.2**
baz=51,SNR=176
MVCO Mesa Verde 51.09 77 *e*P **P 03 30 43.9 -0.3**
comp=Z,624nm,1.2s,mb6.4
MVCO LR LR
comp=Z,24μm,19.0s,MS6.2
X16A Lo Mia Camp, P 51.10 81 ⇓P P 03 30 44.7 +0.4
baz=51,SNR=305
W17A Winslow 51.12 80 ⇑P P 03 30 44.6 +0.2
baz=51,SNR=45
ISCO Idaho Springs 51.18 72 *e*P **P 03 30 44.8 -0.1**
comp=Z,542nm,1.2s,mb6.3
ISCO LR LR
comp=Z,70μm,20.0s,MS6.7
V18A Ganado 51.19 79 P **P 03 30 45.0 +0.1**
baz=51,SNR=135
TATO Taipei 51.38 262 *e*P **P 03 30 46.5 0.0**
comp=Z,82nm,0.9s,mb5.7
TATO LR LR
comp=Z,15μm,21.0s,MS6.0
Z15A Gila River Ind 51.41 83 ⇑P P 03 30 46.3 -0.4
baz=51,SNR=38
Y16A Circle Bar Ran 51.44 82 ⇓P P 03 30 47.0 +0.2
baz=51,SNR=152
AGMN Agassiz Refuge 51.48 58 *e*P **P 03 30 44.7 -2.2**
comp=Z,105nm,0.6s,mb5.9
AGMN LR LR
comp=Z,77μm,22.0s,MS6.7
X17A Forest Lakes 51.55 81 P **P 03 30 48.1 +0.4**
baz=51,SNR=91
DAG Danmarks Havn 51.59 5 ⇓*i*P **P 03 30 47.7 +0.3**
DAG pmax pmax
comp=Z,580nm,1.6s,mb6.3
DAG Danmarks Havn 51.59 5 ⇓*i*P **P 03 30 47.7 +0.3**
comp=Z,579nm,1.6s,mb6.3
YHNB Yeheng 51.67 262 PFAKE 03 31 00.0 +11
YHNB LR LR
comp=Z,14μm,22.0s,MS6.0
W18A Petrified Fore 51.70 79 ⇑P P 03 30 48.9 +0.2
baz=52,SNR=98
V19A Window Rock 51.73 78 ⇑P P 03 30 49.4 +0.4
baz=52,SNR=30
Z16A Peralta Trail, 51.83 82 P **P 03 30 49.4 -0.3**
baz=52,SNR=108
NACB Ninganchiao 51.90 261 *e*P **P 03 30 48.7 -1.6**
214A Organ Pipe Nat 51.90 85 P **P 03 30 49.7 -0.6**
baz=52,SNR=143
W19A Sanders 51.91 79 ⇓P P 03 30 50.9 +0.5
baz=52,SNR=27
WHN Wuhan 51.92 273 ⇓P P 03 30 49.7 -0.8
WHN XS sS 03 38 26.5 -7.0
WHN AMB AMB
comp=Z,13μm,2.6s,mb7.4
WHN LR LR
comp=Z,78μm,33.4s,MS6.5
X18A Snowflake 51.95 80 ⇓P P 03 30 50.9 +0.3
baz=52,SNR=168
Y17A Roosevelt 51.95 82 ⇑P P 03 30 50.5 -0.2
baz=52,SNR=212
116A Eloy 52.18 83 ⇑P P 03 30 51.9 -0.4
baz=52,SNR=53
Y18A Canyon Day Jun 52.40 81 P **P 03 30 54.4 +0.3**
baz=52,SNR=281
X19A St. Johns 52.43 80 ⇓P P 03 30 54.6 +0.4
baz=52,SNR=175
Z17A San Carlos Hig 52.45 82 ⇑P P 03 30 54.6 +0.2
baz=52,SNR=84
SDCO Great Sand Dun 52.56 74 PFAKE 03 31 10.0 +15
SDCO LR LR
comp=Z,58μm,21.0s,MS6.6
XMAS Kiritimati 52.67 151 *e*P **P 03 30 55.3 -0.8**
comp=Z,1μm,1.6s,mb6.5
XMAS LR LR
comp=Z,51μm,21.0s,MS6.5
216A Three Points, 52.71 84 ⇑P P 03 30 56.0 -0.3
baz=53,SNR=42
Y19A Nutrioso 52.76 80 P **P 03 30 57.1 +0.4**
baz=53,SNR=204
117A Oracle 52.77 83 P **P 03 30 56.7 -0.1**
baz=53,SNR=195
Z18A Geronimo 52.86 82 ⇑P P 03 30 57.4 0.0
baz=53,SNR=25
TUC Tucson 52.92 83 *e*P **P 03 30 56.7 -1.2**
TUC pmax pmax
comp=Z,269nm,1.2s,mb6.0
TUC MLR MLR
comp=Z,44μm,20.0s,MS6.5
TUC Tucson 52.92 83 *e*P **P 03 30 56.7 -1.1**
comp=Z,269nm,1.2s,mb6.0
TUC LR LR
comp=Z,44μm,20.0s,MS6.5
XAN Xi'an 52.93 280 P **P 03 30 57.2 -0.7**
XAN AP pP 03 31 10.1 -2.3
XAN XP sP 03 31 16.4 -2.2
XAN PCP PcP 03 32 06.6 +0.4
XAN PP PP 03 32 57.1 -0.6
XAN PPP 03 34 04.0
XAN SCP ScP 03 35 59.2 +0.4
XAN PCS PcS 03 36 04.1 -0.9
XAN S **S 03 38 16.7 -6.4**
XAN PS 03 38 36.8
XAN SCS ScS 03 40 40.3 -2.3
XAN AMB AMB
comp=Z,218nm,1.6s,mb5.8
XAN AMB AMB
comp=Z,4μm,11.3s
XAN LR LR
comp=N,6μm,33.9s,MS5.8
XAN LR LR
comp=E,13μm,29.4s,MS5.8
XAN LR LR
comp=Z,28μm,31.2s,MS6.1
Z19A T-Link Ranch, 53.20 81 P **P 03 31 00.3 +0.4**
baz=53,SNR=52
118A Homack Ranch, 53.20 82 P **P 03 30 59.9 0.0**
baz=53,SNR=256
QZH Quanzhou 53.20 265 ⇑*i*P **P 03 31 00.6 +0.6**
QZH S **S 03 38 30.4 +3.4**
QZH AMB AMB
comp=Z,8μm,3.0s
QZH LR LR
comp=N,8μm,14.5s,MS6.0
QZH LR LR
comp=E,3μm,10.8s,MS6.0
QZH LR LR
comp=Z,12μm,25.0s
217A Green Valley 53.26 83 ⇑P P 03 31 00.4 +0.1
baz=53,SNR=61
SUMG Summit 53.49 13 *e*P **P 03 31 01.6 +0.1**
comp=Z,104nm,1.0s,mb5.7
SUMG *e*ScP ScP 03 36 03.8 +3.2
ZAA0 Zalesovo Array 53.50 313 *e*P **P 03 31 00.8 -1.0**
ZALV Zalesovo Beam 53.50 313 P **P 03 31 00.9 -0.9**
comp=Z,16nm,0.4s,mb5.3,baz=52,slow=6.5,SNR=42
ZALV PcP PcP 03 32 09.8 +1.7
comp=Z,91nm,0.7s,baz=22,slow=3.8,SNR=7.7
ZALV LR LR 03 56 48.2
comp=Z,15μm,19.2s,MS6.1,baz=48,slow=39
ZALV PKPPKP 04 01 21.8
comp=Z,0.8nm,0.3s,baz=232,slow=7.3,SNR=4.8
ZAL Zalesovo 53.52 313 P **P 03 31 00.9 -1.0**
ZAL 03 32 09.8
ZAL pmax pmax
comp=Z,16nm,0.4s

ZAL					MLR	MLR		
	comp=Z,15μm,19.3s							
119A	**Ashpeak Ranch,**	**53.53**	**81**	P	**P**		**03 31 02.3**	**-0.1**
	baz=53,SNR=194							
218A	**Dragoon**	**53.61**	**83**	P	**P**		**03 31 03.0**	**0.0**
	baz=54,SNR=174							
NVS	**Novosibirsk**	**53.66**	**315**	*i* P	**P**		**03 31 02.9**	**0.0**
NVS				pmax	pmax			
	comp=Z,534nm,1.8s,mb6.2							
NVS				pmax	pmax			
	comp=N,322nm,2.2s							
NVS				pmax	pmax			
	comp=E,453nm,2.2s							
BJO	**Bjornoya**	**53.76**	**354**	*e*P	**P**		**03 31 04.5**	**+1.1**
BJO				AMb	AMB		03 31 09.2	
	comp=Z,795nm,2.4s,mb6.2							
BJO				*e*S	**S**		**03 38 41.9**	**+8.5**
BJO				AMS	AMS		03 52 34.6	
	comp=Z,23μm,22.8s,MS6.2							
LAZ	**Ladron**	**53.77**	**78**	*e*P	**P**		**03 31 04.1**	**0.0**
BJO1	**Bjornoya**	**53.78**	**354**	*e*P	**P**		**03 31 04.5**	**+0.9**
	comp=Z,795nm,2.4s,mb6.2							
BJO1				LR	LR			
	comp=Z,23μm,22.8s,MS6.2							
ANMO	**Albuquerque**	**53.82**	**77**	*e*P	**P**		**03 31 04.2**	**-0.3**
	comp=Z,11nm,0.6s,mb5.0							
ANMO				LR	LR			
	comp=Z,77μm,22.0s,MS6.7							
ECSD	**EROS,Sioux Fal**	**53.90**	**63**	*e*P	**P**		**03 31 02.3**	**-2.6**
	comp=Z,4.9nm,0.1s,mb5.4							
ECSD				LR	LR			
	comp=Z,79μm,19.0s,MS6.8							
EYMN	**Ely**	**54.00**	**56**	*e*P	**P**		**03 31 03.7**	**-1.8**
	comp=Z,162nm,0.8s,mb6.0							
EYMN				LR	LR			
	comp=Z,73μm,22.0s,MS6.7							
318A	**Bisbee**	**54.01**	**83**	P	**P**		**03 31 05.5**	**-0.3**
	baz=54,SNR=212							
LENM	**Lemitar**	**54.03**	**78**	*e*P	**P**		**03 31 06.3**	**+0.3**
219A	**White Tail Can**	**54.08**	**82**	⇓P	**P**		**03 31 06.5**	**+0.1**
	baz=54,SNR=110							
Y22C	**IRIS PASSCAL I**	**54.12**	**79**	⇓P	**P**		**03 31 07.5**	**+0.8**
	baz=54,SNR=17							
LPM	**Los Pinos Moun**	**54.14**	**78**	*e*P	**P**		**03 31 06.8**	**0.0**
BNM	**Barren Site**	**54.25**	**78**	*e*P	**P**		**03 31 07.4**	**-0.2**
319A	**Douglas**	**54.49**	**83**	P	**P**		**03 31 09.2**	**-0.2**
	baz=54,SNR=118							
LZH	**Lanzhou**	**54.67**	**285**	*e*P	**P**		**03 31 11.0**	**+0.4**
LZH				PP	PP		03 33 14.5	+1.2
LZH				PCS	PcS		03 36 12.0	-0.6
LZH				S	**S**		**03 38 47.0**	**+0.4**
LZH				AMB	AMB			
	comp=Z,2μm,1.5s,mb6.9							
LZH				AMB	AMB			
	comp=Z,9μm,6.8s							
LZH				LR	LR			
	comp=E,33μm,14.6s							
LZH				LR	LR			
	comp=Z,54μm,15.9s,MS6.7							
GTA	**Gaotai**	**54.88**	**291**	P	**P**		**03 31 12.2**	**+0.1**
GTA				AP	pP		03 31 24.3	-2.3
GTA				XP	sP		03 31 30.1	-2.7
GTA				PP	PP		03 33 18.3	+3.2
GTA				SCP	ScP		03 36 09.6	+2.3
GTA				PCS	PcS		03 36 14.9	+1.5
GTA				S	**S**		**03 38 48.8**	**-0.5**
GTA				XS	sS		03 39 08.7	-5.0
GTA				SS	SS		03 42 30.7	-2.0
GTA				AMB	AMB			
	comp=Z,160nm,1.8s,mb5.8							
GTA				AMB	AMB			
	comp=Z,7μm,5.7s							
GTA				LR	LR			
	comp=N,21μm,17.2s,MS6.3							
GTA				LR	LR			
	comp=E,14μm,18.0s,MS6.3							
GTA				LR	LR			
	comp=Z,36μm,18.7s,MS6.5							
CBKS	**Cedar Bluff**	**55.30**	**69**	PFAKE			03 31 30.0	+15
CBKS				LR	LR			
	comp=Z,41μm,20.0s,MS6.5							
SFJD	**Kangerlussuaq**	**55.94**	**22**	P	**P**		**03 31 17.8**	**-1.5**
	comp=Z,84nm,0.8s,mb5.8,baz=308,slow=11,SNR=3.9							
SFJD				ScP	ScP		03 36 14.9	+3.4
	comp=Z,20nm,0.8s,baz=295,slow=3.2,SNR=6.4							
SFJD	**Kangerlussuaq**	**55.94**	**22**	*e*P	**P**		**03 31 18.8**	**-0.5**
SFJD				*e*S	S		03 39 28.1	+25
SFJD				pmax	pmax			
	comp=Z,481nm,1.4s,mb6.3							
SFJD				MLR	MLR			
	comp=Z,32μm,21.0s,MS6.4							
SFJD	**Kangerlussuaq**	**55.94**	**22**	*i* P	**P**		**03 31 09.7**	**-10**
	comp=Z,466nm,1.4s,mb6.3							
SFJD				*e*S	S		03 39 28.1	+25
SFJD								
	comp=Z,32μm,21.0s							
SFJD	**Kangerlussuaq**	**55.94**	**22**	*e*P	**P**		**03 31 18.8**	**-0.4**
	comp=Z,481nm,1.4s,mb6.3							
SFJD				*e*ScP	ScP		03 36 12.8	+1.4
SFJD				*e*S	S		03 39 28.1	+25
SFJD				LR	LR			
	comp=Z,32μm,21.0s,MS6.4							
SGCP	**Mt. Cagua**	**56.05**	**256**	*e*P	**P**		**03 31 19.8**	**-1.0**
COWI	**Conover**	**56.42**	**57**	*e*P	**P**		**03 31 20.9**	**-2.1**
	comp=Z,1μm,0.4s,mb7.3							
COWI				LR	LR			
	comp=Z,64μm,22.0s,MS6.7							
PALP	**Palanan**	**56.73**	**255**	*e*P	**P**		**03 31 25.7**	**+0.1**
AMTX	**Amarillo**	**56.77**	**74**	PFAKE			03 31 40.0	+14
AMTX				LR	LR			
	comp=Z,59μm,21.0s,MS6.7							
APYP	**Conner**	**56.84**	**257**	*e*P	**P**		**03 31 25.6**	**-0.7**
KSU1	**Kansas State U**	**56.93**	**67**	*e*P	**P**		**03 31 25.0**	**-1.7**
	comp=Z,16nm,0.9s,mb5.1							
KSU1				LR	LR			
	comp=Z,39μm,19.0s,MS6.5							
SCIA	**State Center**	**56.99**	**63**	*e*P	**P**		**03 31 25.7**	**-1.4**
	comp=Z,208nm,0.6s,mb6.3							
SCIA				LR	LR			
	comp=Z,65μm,19.0s,MS6.8							
CAUP	**Cauayan**	**57.19**	**255**	*e*P	**P**		**03 31 30.0**	**+1.2**
ABRA	**Dolores**	**57.32**	**257**	*e*P	**P**		**03 31 29.2**	**-0.5**
KEV	**Kevo**	**57.60**	**349**	*e*P	**P**		**03 31 31.4**	**+0.4**
	comp=Z,47nm,0.7s,mb5.6							
KEV				LR	LR			
	comp=Z,56μm,20.0s,MS6.7							
JMIC	**Jan Mayen**	**57.80**	**3**	P	**P**		**03 31 33.7**	**+1.3**
	comp=Z,57nm,0.5s,mb5.9,baz=17,slow=1.5,SNR=3.6							
JMIC	**Jan Mayen**	**57.80**	**3**	*e*S	**S**		**03 39 31.3**	**+4.2**
JMIC				AMS	AMS		03 55 27.1	
	comp=Z,22μm,20.3s,MS6.3							
JFWS	**Jewell Farm**	**57.95**	**60**	*e*P	**P**		**03 31 31.8**	**-2.0**
JFWS				pmax	pmax			
	comp=Z,488nm,1.0s,mb6.5							
JFWS				MLR	MLR			
	comp=Z,101μm,22.0s,MS6.9							
JFWS	**Jewell Farm**	**57.95**	**60**	*e*P	**P**		**03 31 31.8**	**-2.1**
	comp=Z,488nm,1.0s,mb6.5							
JFWS				LR	LR			
	comp=Z,101μm,22.0s,MS6.9							
ARCES	**ARCESS Array B**	**57.98**	**350**	P	**P**		**03 31 32.6**	**-1.0**
	comp=Z,96nm,0.9s,mb5.8,baz=21,slow=6.4,SNR=70							
ARCES				LR	LR		03 59 43.4	
	comp=Z,71μm,20.0s,MS6.8,baz=9.8,slow=39							
ARCES				PKPPKP			04 01 15.0	
	comp=Z,6.5nm,0.9s,baz=164,slow=4.8,SNR=5.3							
ARCES				PKP2bc			04 01 29.1	
	comp=Z,9.4nm,0.8s,baz=284,slow=0.5,SNR=6.2							
ARCES	**ARCESS Array B**	**57.98**	**350**	P	**P**		**03 31 32.6**	**-1.0**
ARCES				LR	LR		03 59 43.4	
ARCES				P'P'			04 01 15.0	
ARCES				⇑*e*			04 01 29.1	
ARE0	**ARCESS Array S**	**57.98**	**350**	*e*P	**P**		**03 31 32.4**	**-1.3**
CD2	**Chengdu**	**58.25**	**281**	P	**P**		**03 31 35.7**	**-0.4**
CD2				AP	pP		03 31 49.2	-1.6
CD2				XP	sP		03 31 53.7	-3.2
CD2				PCP	PcP		03 32 27.1	+0.2
CD2				PP	PP		03 33 47.6	+2.3
CD2				S	**S**		**03 39 31.5**	**-2.5**
CD2				XS	sS		03 39 50.9	-7.7
CD2				SCS	ScS		03 41 17.7	-3.2
CD2				AMB	AMB			
	comp=Z,280nm,1.0s,mb6.2							
CD2				AMB	AMB			
	comp=Z,6μm,8.4s							
CD2				LR	LR			
	comp=N,18μm,26.4s							
CD2				LR	LR			
	comp=E,20μm,18.0s							
CD2				LR	LR			
	comp=Z,28μm,31.2s,MS6.2							
BALP	**Baler**	**58.26**	**255**	*e*P	**P**		**03 31 35.4**	**-1.0**
LVZ	**Lovozero**	**58.27**	**345**	P	**P**		**03 31 34.5**	**-1.2**
	comp=Z,4μm,0.7s,mb7.5,SNR=92							
LVZ	**Lovozero**	**58.27**	**345**	*c i*P	**P**		**03 31 34.3**	**-1.4**
LVZ				pmax	pmax			
	comp=Z,222nm,0.9s,mb6.2							
LVZ	**Lovozero**	**58.27**	**345**	⇑*i*P	**P**		**03 31 34.4**	**-1.3**
LVZ				LR	LR			
	comp=Z,91μm,20.0s,MS6.9							
BCPH	**Baguio City Da**	**58.37**	**256**	⇓*e*P	**P**		**03 31 34.4**	**-2.7**
PVCP	**Virac**	**58.39**	**251**	*e*P	**P**		**03 31 38.0**	**+0.8**
KURK	**Kurchatov**	**58.49**	**313**	P	**P**		**03 31 37.1**	**-0.4**
	comp=Z,3μm,0.7s,mb7.4							
KURK	**Kurchatov**	**58.49**	**313**	*e*P	**P**		**03 31 37.7**	**+0.2**
KURK				pmax	pmax			
	comp=Z,532nm,1.0s,mb6.5							
KURK				MLR	MLR			
	comp=Z,69μm,22.0s,MS6.7							
KURK	**Kurchatov**	**58.49**	**313**	*e*P	**P**		**03 31 37.7**	**+0.2**
	comp=Z,532nm,1.0s,mb6.5							
KURK				LR	LR			
	comp=Z,69μm,22.0s,MS6.7							
TRO	**Tromso**	**58.53**	**352**	*e*P	**P**		**03 31 36.9**	**-0.6**
TRO				AMb	AMB		03 31 42.6	
	comp=Z,251nm,2.0s,mb5.9							
TRO				*e*S	**S**		**03 39 49.4**	**+13**
TRO				AMS	AMS		03 56 37.4	
	comp=Z,19μm,23.3s,MS6.2							
TRO	**Tromso**	**58.53**	**352**	*e*P	**P**		**03 31 36.9**	**-0.6**
TRO				pmax	pmax			
	comp=Z,251nm,2.0s,mb5.9							
TRO				MLR	MLR			
	comp=Z,19μm,23.3s,MS6.2							
TRO	**Tromso**	**58.53**	**352**	*e*P	**P**		**03 31 36.9**	**-0.6**
	comp=Z,251nm,2.0s,mb5.9							
TRO				LR	LR			
	comp=Z,19μm,23.3s,MS6.2							
WMOK	**Wichita Mounta**	**58.61**	**72**	*e*P	**P**		**03 31 37.5**	**-1.1**
WMOK				pmax	pmax			
	comp=Z,23nm,0.9s,mb5.2							
WMOK				MLR	MLR			
	comp=Z,53μm,22.0s,MS6.6							
WMOK	**Wichita Mounta**	**58.61**	**72**	*e*P	**P**		**03 31 37.5**	**-1.0**
	comp=Z,23nm,0.9s,mb5.2							
WMOK				LR	LR			
	comp=Z,53μm,22.0s,MS6.6							
KTK1	**Kautokeino**	**58.73**	**350**	*e*P	**P**		**03 31 37.8**	**-1.0**
KTK1				AMb	AMB		03 31 43.6	
	comp=Z,557nm,1.8s,mb6.3							
KTK1	**Kautokeino**	**58.73**	**350**	*e*P	**P**		**03 31 37.8**	**-1.0**
	comp=Z,557nm,1.8s,mb6.3							
WMQ	**Urumqi**	**58.73**	**302**	P	**P**		**03 31 42.1**	**+2.9**
WMQ				AP	pP		03 31 54.8	+0.9
WMQ				PCP	PcP		03 32 31.1	+2.6
WMQ				PP	PP		03 33 54.1	+5.0
WMQ				SCP	ScP		03 36 26.3	+2.1
WMQ				S	**S**		**03 39 42.4**	**+2.5**
WMQ				PS			03 40 02.9	
WMQ				SCS	ScS		03 41 24.3	+0.3
WMQ				SS	SS		03 43 37.7	+4.8
WMQ				AMB	AMB			
	comp=Z,451nm,1.0s,mb6.5							
WMQ				LR	LR			
	comp=N,74μm,24.0s,MS6.8							
WMQ				LR	LR			
	comp=E,49μm,22.1s,MS6.8							
WMQ				LR	LR			
	comp=Z,76μm,22.5s,MS6.8							
BOLP	**Bolinao**	**58.78**	**257**	*e*P	**P**		**03 31 39.7**	**-0.2**
POLP	**Polillo Island**	**58.83**	**254**	*e*P	**P**		**03 31 40.3**	**0.0**
CNP	**Catarman**	**58.95**	**250**	*e*P	**P**		**03 31 41.2**	**+0.1**
BESP	**Borongan**	**59.22**	**248**	*e*P	**P**		**03 31 47.4**	**+4.3**
SCZP	**Santa Cruz**	**59.25**	**256**	*e*P	**P**		**03 31 41.8**	**-1.4**
MK31	**Makanchi Array**	**59.46**	**308**	*i* P	**P**		**03 31 43.6**	**-0.7**
MK31				pmax	pmax			
	comp=Z,685nm,1.0s,mb6.6							
MK31	**Makanchi Array**	**59.46**	**308**	*e*P	**P**		**03 31 43.4**	**-0.9**
MKAR	**Makanchi Array**	**59.46**	**308**	P	**P**		**03 31 43.5**	**-0.8**
	comp=Z,141nm,0.5s,mb6.3,baz=54,slow=6.5,SNR=324							
MKAR				PP	PP		03 33 51.4	-4.1
	comp=Z,26nm,0.7s,baz=44,slow=7.7,SNR=2.3							
MKAR				S	**S**		**03 39 52.5**	**+3.2**
	comp=Z,3.7nm,0.9s,baz=45,slow=11,SNR=3.2							
MKAR				LR	LR		03 58 34.4	
	comp=Z,22μm,20.5s,MS6.3,baz=32,slow=37							
MKAR				PKPPKP			04 01 07.1	
	comp=Z,1.6nm,0.9s,baz=194,slow=0.5,SNR=4.9							
MKAR	**Makanchi Array**	**59.46**	**308**	⇑*e*P	**P**		**03 31 43.5**	**-0.8**
MKAR	**Makanchi Array**	**59.46**	**308**	P	**P**		**03 31 43.5**	**-0.8**
MKAR				PP	PP		03 33 51.4	-4.1
MKAR				S	**S**		**03 39 52.5**	**+3.2**
MKAR				LR	LR		03 58 34.4	
MKAR				P'P'			04 01 07.1	
GYA	**Guiyang**	**59.59**	**275**	⇑*i*P	**P**		**03 31 45.5**	**+0.1**
GYA				AP	pP		03 32 01.2	+1.1
GYA				XP	sP		03 32 05.8	-0.4
GYA				PCP	PcP		03 32 33.4	+1.2
GYA				PP	PP		03 34 02.1	+4.9
GYA				PPP			03 35 25.6	
GYA				SCP	ScP		03 36 28.5	+0.3
GYA				S	**S**		**03 39 52.0**	**+0.6**
GYA				PS			03 40 11.5	
GYA				SS	SS		03 43 47.6	+0.4
GYA				SSS			03 46 17.0	
GYA				AMB	AMB			
	comp=Z,140nm,1.0s,mb6.0							
GYA				AMB	AMB			
	comp=Z,6μm,13.8s							
GYA				LR	LR			
	comp=N,12μm,24.6s							
GYA				LR	LR			
	comp=E,14μm,19.5s							
GYA				LR	LR			
	comp=Z,11μm,19.8s,MS6.0							
GLMI	**Grayling**	**59.63**	**55**	*e*P	**P**		**03 31 44.4**	**-1.1**
	comp=Z,135nm,0.8s,mb6.0							
GLMI				LR	LR			
	comp=Z,92μm,20.0s,MS6.9							
FUNA	**Funafuti**	**59.65**	**181**	PFAKE			03 32 00.0	+14
FUNA				LR	LR			
	comp=Z,26μm,21.0s,MS6.3							
HDIL	**Hopedale**	**60.08**	**62**	*e*P	**P**		**03 31 46.7**	**-1.9**
	comp=Z,16nm,0.9s,mb5.0							
HDIL				LR	LR			
	comp=Z,80μm,21.0s,MS6.8							
OCLP	**Ormoc**	**60.15**	**249**	*e*P	**P**		**03 31 50.7**	**+1.3**
SOKR	**Solikamsk**	**60.28**	**331**	*c i*P	**P**		**03 31 49.8**	**+0.1**
SOKR							03 34 02.6	
SOKR				S	S		03 40 28.9	+29
SOKR				pmax	pmax			
	comp=Z,80nm,1.3s,mb5.6							
SOKR				MLR	MLR			
	comp=Z,44μm,21.0s,MS6.6							
LOF	**Lofoten**	**60.40**	**354**	*e*P	**P**		**03 31 53.3**	**+2.9**
LOF				AMb	AMB		03 31 57.7	
	comp=Z,500nm,1.7s,mb6.3							
LOF	**Lofoten**	**60.40**	**354**	*e*P	**P**		**03 31 53.3**	**+2.9**
	comp=Z,500nm,1.7s,mb6.3							
BVA0	**Borovoye Array**	**60.42**	**319**	*i* P	**P**		**03 31 50.5**	**-0.3**
BVA0				pmax	pmax			
	comp=Z,99nm,1.1s,mb5.8							
BVAR	**Borovoye Array**	**60.42**	**319**	P	**P**		**03 31 50.1**	**-0.7**
	comp=Z,46nm,0.5s,mb5.8,baz=49,slow=6.3,SNR=164							
BVAR				PcP	PcP		03 32 36.3	+1.1
	comp=Z,127nm,0.8s,baz=48,slow=5.9,SNR=6.3							
BVAR				ScP	ScP		03 36 36.5	+5.0
	comp=Z,10.0nm,0.7s,baz=66,slow=3.5,SNR=5.0							
BVAR				LR	LR		03 59 56.8	
	comp=Z,63μm,21.3s,MS6.7,baz=44,slow=38							
BVAR				PKPPKP			04 01 11.9	
	comp=Z,3.4nm,0.8s,baz=204,slow=3.3,SNR=5.6							
BVAR	**Borovoye Array**	**60.42**	**319**	P	**P**		**03 31 50.1**	**-0.7**
BVAR							03 32 36.3	
BVAR				pmax	pmax			
	comp=Z,46nm,0.5s							
BVAR				MLR	MLR			
	comp=Z,63μm,21.3s							
BVAR	**Borovoye Array**	**60.42**	**319**	P	**P**		**03 31 50.1**	**-0.7**
BVAR				PcP	PcP		03 32 36.3	+1.1
BVAR				ScP	ScP		03 36 36.5	+5.0
BVAR				LR	LR		03 59 56.8	
BVAR				P'P'			04 01 11.9	
BRVK	**Borovoye**	**60.44**	**319**	P	**P**		**03 31 51.4**	**+0.5**
	comp=Z,1μm,1.2s,mb6.9,SNR=50							
BRVK	**Borovoye**	**60.44**	**319**	P	**P**		**03 31 50.5**	**-0.4**
	SNR=198

SNR=7.3
DAV Davao City (W) 62.80 245⇑ *e*P **P 03 32 05.6 -1.6**
DAV Davao City (W) 62.80 245 PFAKE 03 32 20.0 +13
DAV LR LR
comp=Z,10μm,21.0s,MS5.9
HBAR Harrisburg 62.81 66 *e*P **P 03 32 06.0 -1.1**
GNAR Gosnell 62.88 66 *e*P **P 03 32 07.0 -0.6**
comp=Z,11μm,1.2s
HNR Honiara 62.99 202 LR LR 03 55 49.1
comp=Z,18μm,20.2s,MS6.2,baz=1.7,slow=32
HNR Honiara 62.99 202 PFAKE 03 32 20.0 +12
HNR LR LR
comp=Z,18μm,20.0s,MS6.2
KMI Kunming 62.99 277 P **P 03 32 08.8 +0.3**
KMI AP pP 03 32 22.7 -0.6
KMI XP sP 03 32 27.8 -1.5
KMI PP PP 03 34 30.2 +2.9
KMI PPP 03 36 00.9
KMI S **S 03 40 37.1 +2.4**
KMI XS sS 03 40 57.8 -1.8
KMI SS SS 03 44 39.2 -1.3
KMI SSS 03 47 25.8
KMI AMB AMB
comp=Z,157nm,1.7s,mb5.9
KMI AMB AMB
comp=Z,6μm,8.8s
KMI LR LR
comp=N,14μm,25.0s,MS6.2
KMI LR LR
comp=E,18μm,26.4s,MS6.2
KMI LR LR
comp=Z,28μm,32.4s
QIZ Qiongzhong 63.02 267 ⇑P **P 03 32 09.6 +0.9**
QIZ PP PP 03 34 29.9 +2.3
QIZ S **S 03 40 41.8 +6.6**
QIZ XS sS 03 40 49.2 -11
QIZ AMB AMB
comp=Z,116nm,2.1s,mb5.6
QIZ LR LR
comp=E,6μm,26.3s
QIZ LR LR
comp=Z,9μm,41.5s
QIZ Qiongzhong 63.02 267 *e*P **P 03 32 07.8 -0.9**
comp=Z,253nm,1.4s,mb6.2
QIZ LR LR
comp=Z,6μm,22.0s,MS5.7
BORG Borgarnes 63.05 10 P **P 03 32 10.0 +1.8**
comp=Z,554nm,1.3s,mb6.5,SNR=9.5
BORG Borgarnes 63.05 10 P **P 03 32 08.8 +0.5**
comp=Z,43nm,0.8s,mb5.7,baz=11,slow=4.5,SNR=13
BORG PKP2bc 04 01 16.2
comp=Z,14nm,0.9s,baz=248,slow=2.7,SNR=3.8
BORG LR LR 04 01 40.3
comp=Z,21μm,18.3s,MS6.3,baz=330,slow=38
BORG Borgarnes 63.05 10 *e*P **P 03 32 08.6 +0.4**
comp=Z,74nm,0.8s,mb5.9
BORG LR LR
comp=Z,31μm,20.0s,MS6.5
GLAT Glass 63.08 65 *e*P **P 03 32 09.4 +0.5**
ENPP El Nido 63.10 253 *e*P **P 03 32 09.6 +0.3**
UTMT University of 63.27 65 *e*P **P 03 32 09.5 -0.7**
comp=Z,3μm,1.0s,mb7.4
HALT Halls 63.31 65 *e*P **P 03 32 10.0 -0.5**
WCI Wyandotte Cave 63.37 62 *e*P **P 03 32 09.7 -1.1**
WCI pmax pmax
comp=Z,344nm,0.9s,mb6.5
WCI MLR MLR
comp=Z,75μm,19.0s,MS6.9
WCI Wyandotte Cave 63.37 62 *e*P **P 03 32 09.7 -1.1**
comp=Z,344nm,0.9s,mb6.5
WCI LR LR
comp=Z,75μm,19.0s,MS6.9
JOF Joensuu 63.42 345 *e*p **P 03 32 09.2 -1.5**
comp=Z,180nm,0.6s,mb6.4
JOF Joensuu 63.42 345 *e*P **P 03 32 09.2 -1.5**
JOF pmax pmax
comp=Z,180nm,0.6s,mb6.4
PAGZ Pagadian 63.43 248 *e*P **P 03 32 11.5 0.0**
MET Memphis--Engin 63.53 66 *e*P **P 03 32 11.7 -0.2**
ACSO Alum Creek Sta 63.73 58 *e*P **P 03 32 12.1 -1.0**
comp=Z,218nm,0.9s,mb6.2
ACSO LR LR
comp=Z,60μm,21.0s,MS6.8
KLMR Klimovskoe 63.74 340*c i*P **P 03 32 12.4 -0.4**
KLMR *e*S **S 03 40 40.4 -2.6**
KLMR pmax pmax
comp=Z,398nm,1.2s,mb6.3
KLMR MLR MLR
comp=Z,88μm,21.0s,MS6.9
HKT Hockley 63.74 74 *e*P **P 03 32 12.5 -0.9**
HKT pmax pmax
comp=Z,825nm,1.7s,mb6.5
HKT MLR MLR
comp=Z,57μm,22.0s,MS6.7
HKT Hockley 63.74 74 *e*P **P 03 32 12.5 -0.8**
comp=Z,825nm,1.7s,mb6.5
HKT LR LR
comp=Z,57μm,22.0s,MS6.7
IPIL Ipil 63.95 248 *e*P **P 03 32 13.7 -1.1**
NSS Namsos 64.07 354 *e*P **P 03 32 14.2 -0.8**
NSS AMb AMB 03 32 19.3
comp=Z,454nm,1.6s,mb6.3
NSS *e*S **S 03 40 51.4 +4.4**
NSS Namsos 64.07 354 *e*P **P 03 32 14.2 -0.8**
comp=Z,454nm,1.5s,mb6.3
ALLY Alegheny Colle 64.18 55 *e*P **P 03 32 14.9 -1.1**
comp=Z,659nm,1.0s,mb6.6
OXF Oxford 64.27 66 PFAKE 03 32 30.0 +13
OXF LR LR
comp=Z,51μm,21.0s,MS6.7
AAA Alma-Ata 64.63 308 *i* P **P 03 32 20.4 +1.4**
AAA *i* S **S 03 40 57.7 +3.2**
AAA pmax pmax
comp=Z,9μm,15.8s
AAA smax
comp=N,10μm,19.4s
AAA MLR MLR
comp=Z,25μm,15.7s,MS6.5
PPR Puerto Princes 64.64 253⇑ *e*P **P 03 32 22.0 +2.6**
PLAL Pickwick Lake 64.69 65 *e*P **P 03 32 17.5 -2.0**
comp=Z,4μm,2.3s,mb7.1
PLAL LR LR
comp=Z,22μm,19.0s,MS6.4
LONY Lake Ozonia 64.76 50 *e*P **P 03 32 18.3 -1.5**
comp=Z,144nm,1.1s,mb5.9
LONY LR LR
comp=Z,90μm,20.0s,MS7.0
KAF Kangasniemi 64.96 347 *e*p **P 03 32 19.2 -1.6**
comp=Z,187nm,0.6s,mb6.3,baz=14,slow=5.8
KAF Kangasniemi 64.96 347 *e*P **P 03 32 19.2 -1.6**
KAF pmax pmax
comp=Z,187nm,0.6s,mb6.3
FRNY Flat Rock 65.07 49 *e*P **P 03 32 19.8 -2.1**
comp=Z,222nm,0.5s,mb6.5
VBMS Vicksburg 65.27 69 *e*P **P 03 32 22.9 -0.4**
comp=Z,1μm,1.1s,mb6.8
VBMS LR LR
comp=Z,44μm,20.0s,MS6.7
AFI Afiamalu 65.39 171 P **P 03 32 24.1 0.0**
comp=Z,24nm,0.7s,mb5.3,baz=246,slow=10.0,SNR=3.6
AFI LR LR 03 55 03.7
comp=Z,27μm,20.4s,MS6.4,baz=356,slow=31
NCB Newcomb 65.42 50 PFAKE 03 32 40.0 +16
NCB LR LR
comp=Z,103μm,20.0s,MS7.0
TKM2 Tokmak 2 65.55 309 *e*P **P 03 32 25.6 +0.7**
TKM2 pmax pmax
comp=Z,583nm,0.9s,mb6.6
TKM2 MLR MLR
comp=Z,32μm,19.0s,MS6.5
TKM2 Tokmak 2 65.55 309 P **P 03 32 25.5 +0.6**
SNR=293
TKM2 Tokmak 2 65.55 309 *e*P **P 03 32 25.6 +0.6**
comp=Z,583nm,0.9s,mb6.6
TKM2 LR LR
comp=Z,32μm,19.0s,MS6.5
MIV Mineville/With 65.67 49 *e*P **P 03 32 22.6 -3.1**
ULHL Ulahol 65.73 308 P **P 03 32 24.0 -2.1**
SNR=28
SWET Sewanee 65.73 64 *e*P **P 03 32 25.1 -1.1**
MCWV Mont Chateau 65.80 56 PFAKE 03 32 40.0 +13
MCWV LR LR
comp=Z,92μm,20.0s,MS7.0
USP Oepenovka 65.83 310 P **P 03 32 27.3 +0.6**
SNR=207
BINY Binghamton 65.88 52 PFAKE 03 32 40.0 +13
BINY LR LR
comp=Z,115μm,22.0s,MS7.0
MDV Middlebury 65.89 49 *e*P **P 03 32 25.6 -1.5**
CHMS Chumysh 65.90 309 P **P 03 32 27.7 +0.5**
SNR=75
BATP Bataraza 65.97 253 *e*P **P 03 32 28.7 +0.7**
KBK Karagaybulak 66.06 309 P **P 03 32 30.6 +2.4**
SNR=71
TZTN Tazewell 66.09 61 *e*P **P 03 32 27.9 -0.7**
comp=Z,432nm,1.2s,mb6.4
TZTN LR LR
comp=Z,90μm,22.0s,MS6.9
FRU Bishkek 66.09 309*c i*P **P 03 32 29.0 +0.6**
FRU pmax pmax
comp=Z,3μm,2.2s,mb7.0
ACCN Adirondack Com 66.12 50 *e*P **P 03 32 26.9 -1.8**
comp=Z,54nm,0.4s,mb5.9
MOL Molde 66.26 356 *e*P **P 03 32 29.4 +0.3**
LBNH Lisbon 66.30 48 PFAKE 03 32 40.0 +10
LBNH LR LR
comp=Z,82μm,19.0s,MS7.0
KZA Kyzart 66.35 308 P **P 03 32 31.1 +1.0**
SNR=63
CPCT Cooper Cave 66.35 63 *e*P **P 03 32 29.3 -0.9**
HNH Hanover 66.54 49 *e*P **P 03 32 30.6 -0.7**
comp=Z,238nm,1.0s,mb6.2
PUL Pulkovo 66.55 344 *i* P **P 03 32 31.6 +0.5**
UCH Uchtor 66.60 309 P **P 03 32 34.8 +3.1**
SNR=27
UCH Uchtor 66.60 309 *e*P **P 03 32 33.2 +1.5**
comp=Z,207nm,1.3s,mb6.0
UCH LR LR
comp=Z,10μm,20.0s,MS6.0
TKL Tuckaleechee C 66.62 62 LR LR 04 02 36.3
comp=Z,76μm,20.5s,MS6.9,baz=335,slow=37
TKL Tuckaleechee C 66.62 62 *e*P **P 03 32 31.1 -0.8**
EKS2 Erkin-Say 66.63 310 P **P 03 32 32.8 +0.9**
SNR=19
EKS2 Erkin-Say 66.63 310 *e*P **P 03 32 32.5 +0.6**
comp=Z,523nm,0.9s,mb6.6
EKS2 LR LR
comp=Z,25μm,22.0s,MS6.4
DOMB Dombas 66.72 355 *e*P **P 03 32 31.2 -0.9**
DOMB AMb AMB 03 32 39.0
comp=Z,779nm,1.6s,mb6.5
PKME Peaks-Kenny Pk 66.73 46 *e*P **P 03 32 31.6 -0.9**
comp=Z,146nm,0.6s,mb6.2
PKME LR LR
comp=Z,115μm,22.0s,MS7.0
COLM Colima 66.74 88 *i* P **P 03 32 31.5 -1.4**
LSA Lhasa 66.75 289 P **P 03 32 33.3 +0.5**
LSA AP pP 03 32 45.6 -2.1
LSA LR LR
comp=N,10μm,14.5s,MS6.4
LSA LR LR
comp=E,16μm,19.1s,MS6.4
LSA LR LR
comp=Z,14μm,25.7s
LSA Lhasa 66.75 289 *e*P **P 03 32 34.0 +1.2**
LSA pmax pmax
comp=Z,324nm,0.8s,mb6.4
LSA MLR MLR
comp=Z,11μm,19.0s,MS6.1
LSA Lhasa 66.75 289 *e*P **P 03 32 34.0 +1.2**
comp=Z,324nm,0.8s,mb6.4
LSA LR LR
comp=Z,11μm,19.0s,MS6.1
PMG Port Moresby 66.85 216 *e*P **P 03 32 33.1 -0.4**
PMG pmax pmax
comp=Z,125nm,1.1s
PMG MLR MLR
comp=Z,11μm,20.0s
PMG Port Moresby 66.85 216 *e*P **P 03 32 33.1 -0.4**
comp=Z,125nm,1.1s,mb5.8
PMG LR LR
comp=Z,11μm,20.0s,MS6.1
FFD Franklin Falls 67.01 49 *e*P **P 03 32 33.5 -0.8**
comp=Z,187nm,0.9s,mb6.1
AML Almayashu 67.07 309 P **P 03 32 35.9 +1.2**
SNR=128
AML Almayashu 67.07 309 *e*P **P 03 32 36.2 +1.5**
comp=Z,529nm,0.9s,mb6.6
AML LR LR
comp=Z,46μm,19.0s,MS6.7
ELN Prospectdale 67.11 59 *e*P **P 03 32 34.1 -0.9**
AKTK Aktyubinsk 67.27 324 P **P 03 32 35.0 -0.8**
AKTK LR LR 04 05 01.1
AKTO Aktyubinsk 67.27 324 P **P 03 32 35.0 -0.8**
comp=Z,74nm,0.4s,mb6.0,baz=56,slow=7.0,SNR=66
AKTO LR LR 04 05 01.2
comp=Z,56μm,19.0s,MS6.8,baz=32,slow=39
AKTO Aktyubinsk 67.27 324 P **P 03 32 35.0 -0.8**
AKTO pmax pmax
comp=Z,74nm,0.4s,mb6.1
AKTO MLR MLR
comp=Z,56μm,19.0s,MS6.8
BLA Blacksburg 67.30 59 *e*P **P 03 32 35.5 -0.7**
BLA pmax pmax
comp=Z,355nm,1.2s,mb6.3
BLA MLR MLR
comp=Z,89μm,20.0s,MS7.0
BLA Blacksburg 67.30 59 *e*P **P 03 32 35.5 -0.7**
comp=Z,355nm,1.2s,mb6.3
BLA LR LR
comp=Z,89μm,20.0s,MS7.0
MVL Millersville 67.34 54 *e*P **P 03 32 35.5 -1.0**
comp=Z,18nm,0.6s,mb5.3
AB31 Akbulak array 67.50 322⇑ *e*P **P 03 32 36.9 -0.4**
SDMD Soldier's Deli 67.53 55 *e*P **P 03 32 36.9 -0.8**
comp=Z,245nm,0.9s,mb6.2
QUA2 Belchertown 67.59 50 *e*P **P 03 32 36.3 -1.7**
comp=Z,672nm,1.4s,mb6.5
NB2 NORSAR Subarra 67.59 354 P **P 03 32 37.3 -0.4**
comp=Z,642nm,1.1s,mb6.6,baz=7.4,slow=6.5
NOA NORSAR Array B 67.59 354 P **P 03 32 36.9 -0.8**
comp=Z,167nm,0.8s,mb6.1,baz=7.2,slow=6.4,SNR=124
NOA LR LR 04 00 23.9
comp=Z,16μm,22.0s,MS6.2,baz=355,slow=34
NOA PKP2bc 04 00 53.7
comp=Z,8.9nm,0.9s,baz=158,slow=3.3,SNR=10
NOA NORSAR Array B 67.59 354 P **P 03 32 36.9 -0.8**
NOA LR LR 04 00 23.9
NOA ⇑*e* 04 00 53.7
HYA Hoyanger 67.72 357 *e*P **P 03 32 39.2 +0.8**
HYA AMb AMB 03 32 44.5
comp=Z,708nm,1.5s,mb6.5
HYA Hoyanger 67.72 357 *e*P **P 03 32 39.2 +0.8**
comp=Z,708nm,1.5s,mb6.5
BRNJ Basking Ridge 67.72 52 *e*P **P 03 32 38.9 +0.1**
comp=Z,407nm,1.1s,mb6.4
HRV Adam Dziewonsk 67.80 49 *e*P **P 03 32 37.9 -1.4**
HRV pmax pmax
comp=Z,297nm,1.4s,mb6.1
HRV MLR MLR
comp=Z,78μm,20.0s,MS6.9
HRV Adam Dziewonsk 67.80 49 *e*P **P 03 32 37.9 -1.4**
comp=Z,297nm,1.4s,mb6.1
HRV LR LR
comp=Z,78μm,20.0s,MS6.9
PAL Palisades 67.80 52 *e*P **P 03 32 38.4 -0.9**
PAL pmax pmax
comp=Z,260nm,0.8s,mb6.3
PAL Palisades 67.80 52 *e*P **P 03 32 38.4 -1.0**
comp=Z,260nm,0.8s,mb6.3
NAO01 NORSAR Array S 67.81 354 *e*P **P 03 32 39.5 +0.5**
comp=Z,244nm,1.1s,mb6.2
NAO01 LR LR
comp=Z,28μm,19.0s,MS6.5
KK31 Karatay Array 67.85 312 *i* P **P 03 32 39.8 +0.2**
KK31 pmax pmax
comp=Z,398nm,0.8s,mb6.5
KSH Kashi 67.91 306 P **P 03 32 42.5 +2.5**
KSH AP pP 03 32 55.4 +0.4
KSH XP sP 03 33 00.7 -0.3
KSH PP PP 03 35 14.8 +5.0
KSH PPP 03 36 52.8
KSH SCP 03 37 06.6
KSH PCS 03 37 11.2
KSH S S 03 41 37.5 +3.1
KSH XS sS 03 41 58.4 -1.2
KSH SCS ScS 03 42 33.5 -0.6
KSH LR LR
comp=N,44μm,17.5s,MS7.1
KSH LR LR
comp=E,91μm,19.6s,MS7.1
KSH LR LR
comp=Z,52μm,30.3s
CPNY Central Park 67.94 52 *e*P **P 03 32 39.3 -0.9**
comp=Z,236nm,0.8s,mb6.3
MOIG Morelia 67.94 86 *i* P **P 03 32 40.2 -0.3**
WES Weston 68.00 49 *e*P **P 03 32 38.8 -1.8**
WES pmax pmax
comp=Z,141nm,0.7s,mb6.1
WES MLR MLR
comp=Z,49μm,20.0s,MS6.7
WES Weston 68.00 49 *e*P **P 03 32 38.8 -1.8**
comp=Z,141nm,0.7s,mb6.1
WES LR LR
comp=Z,49μm,20.0s,MS6.7
BRAL Brewton 68.17 67 *e*P **P 03 32 41.0 -0.7**
comp=Z,1μm,1.0s,mb6.9
BRAL LR LR
comp=Z,29μm,20.0s,MS6.5
BRYW Bryant College 68.26 50 *e*P **P 03 32 40.3 -1.8**
comp=Z,171nm,0.8s,mb6.1
HFA0 Hagfors New Ar 68.31 353 P **P 03 32 42.0 -0.2**
HFS Hagfors 68.31 353 P **P 03 32 41.2 -1.0**
comp=Z,150nm,0.7s,mb6.1,baz=38,slow=7.5,SNR=85
HFS PcP PcP 03 33 07.5 +0.1
comp=Z,175nm,1.0s,baz=5.7,slow=4.3,SNR=3.8
HFS Hagfors 68.31 353 P **P 03 32 41.2 -1.0**
HFS 03 33 07.5
HFS pmax pmax
comp=Z,150nm,0.7s
MYLDM Lahad Datu 68.43 250 ⇑P **P 03 32 45.9 +2.3**
ASK Askoy 68.43 357 *e*P **P 03 32 42.6 -0.4**
ASK AMb AMB 03 32 47.7
comp=Z,703nm,1.6s,mb6.4
ASK Askoy 68.43 357 *e*P **P 03 32 42.6 -0.4**
comp=Z,703nm,1.6s,mb6.4
GOGA Godfrey 68.44 63 *e*P **P 03 32 42.2 -1.3**
GOGA pmax pmax
comp=Z,428nm,1.1s,mb6.4
GOGA MLR MLR
comp=Z,66μm,21.0s,MS6.8
GOGA Godfrey 68.44 63 *e*P **P 03 32 42.2 -1.3**
comp=Z,428nm,1.1s,mb6.4
GOGA LR LR
comp=Z,66μm,21.0s,MS6.8
RUND Rundenannen 68.50 357⇑*i*P **P 03 32 46.3 +3.0**
RUND AMb AMB 03 32 51.0
comp=Z,420nm,1.6s,mb6.2
RUND Rundenannen 68.50 357 *e*P **P 03 32 46.3 +3.0**
comp=Z,420nm,1.6s,mb6.2
BER Bergen 68.53 357 *e*P **P 03 32 44.3 +0.8**
BER AMb AMB 03 32 49.2
comp=Z,456nm,1.5s,mb6.2
BER AMS AMS 04 01 15.8
comp=Z,14μm,19.4s,MS6.2
BER Bergen 68.53 357 *e*P **P 03 32 44.3 +0.8**
comp=Z,456nm,1.5s,mb6.2
BER LR LR
comp=Z,14μm,19.4s,MS6.2
URVA University of 68.55 56 *e*P **P 03 32 42.7 -1.4**
EGD Espegrend 68.64 357⇑*i*P **P 03 32 42.3 -2.0**
EGD AMb AMB 03 32 49.0
comp=Z,565nm,1.5s,mb6.3
EGD Espegrend 68.64 357 *e*P **P 03 32 42.3 -2.0**
comp=Z,565nm,1.5s,mb6.3
IMP Imphal 68.67 283 *e*P **P 03 32 44.0 -1.0**
OSL Oslo 68.72 354 *e*P **P 03 32 44.5 -0.3**
OSL AMb AMB 03 32 51.4
comp=Z,878nm,1.6s,mb6.5
OSL Oslo 68.72 354 *e*P **P 03 32 44.5 -0.3**
comp=Z,878nm,1.6s,mb6.4
WAL1 Walls 68.73 1 *e*P **P 03 32 44.3 -0.5**
MOS Moscow 68.80 338 *e*P **P 03 32 43.7 -1.6**
MOS *e* 03 35 16.6
MOS *e*PPP 03 36 53.3
MOS *e*S S 03 41 45.8 +1.3
MOS *i* 03 42 12.1
MOS *i* 03 42 44.8
MOS pmax pmax
comp=Z,1μm,2.0s,mb6.4
MOS pmax pmax
comp=Z,558nm,1.7s,mb6.2
MOS MLR MLR
comp=Z,51μm,19.0s,MS6.8
SDKM Sandakan 68.83 252 ⇓P **P 03 32 46.7 +0.6**
LRW Lerwick 68.85 1 *e*P **P 03 32 44.9 -0.6**
LRW AMb AMB 03 32 50.9
comp=Z,586nm,1.3s,mb6.4
ODD1 Odda 68.95 356⇑*i*P **P 03 32 46.1 -0.1**
ODD1 AMb AMB 03 32 50.9
comp=Z,651nm,1.5s,mb6.3
ODD1 Odda 68.95 356⇑*i*P **P 03 32 46.1 -0.1**
comp=Z,651nm,1.5s,mb6.3
JSC Jenkinsville 69.02 61 *e*P **P 03 32 45.9 -1.1**
KONO Kongsberg 69.07 355*c i*P **P 03 32 46.5 -0.4**
KKM Kota Kinabalu 69.10 253 ⇓P **P 03 32 49.2 +1.4**
KKM Kota Kinabalu 69.10 253 *e*P **P 03 32 47.9 +0.2**
KKM LR LR
comp=Z,7μm,21.0s,MS5.9
TAOE Nuku Hiva Isla 69.11 137 *e*S S 03 41 50.5 +1.5
comp=Z,291μm,27.5s
TAOE *e*SS SS 03 46 07.0 -9.3
comp=Z,51μm,27.9s
TAOE *e*LR LR 03 53 43.1
comp=Z,472μm,23.1s,baz=341
LHS Liberty Hill 69.12 61 *e*P **P 03 32 48.2 +0.5**
PTVM Pico Tres Padr 69.30 84 *i* P **P 03 32 47.7 -1.3**
ZIIG Zihuatanejo 69.31 88 *i* P **P 03 32 47.7 -1.4**
SHL Shillong 69.34 285 *i* P **P 03 32 50.0 +0.8**
SHL *i* PP PP 03 35 21.0 -1.6
SHL *i* S S 03 41 56.0 +4.2
PBVM Pinon 69.43 84 *i* P **P 03 32 49.5 -0.2**
BLS5 Blasjo 69.45 356⇑*i*P **P 03 32 50.6 +1.3**
BLS5 AMb AMB 03 32 55.4
comp=Z,210nm,1.1s,mb6.0
BLS5 Blasjo 69.45 356 *e*P **P 03 32 50.6 +1.4**
comp=Z,210nm,1.1s,mb6.0
IIO Organos 69.55 84 *i* P **P 03 32 49.5 -0.9**
OBN Obninsk 69.62 339 P **P 03 32 50.9 +0.5**
comp=Z,2μm,0.9s,mb7.0,SNR=17
OBN Obninsk 69.62 339⇓*e*P **P 03 32 49.6 -0.8**
OBN *e*S S 03 42 01.5 +7.3
OBN pmax pmax
comp=Z,552nm,1.7s,mb6.2
OBN MLR MLR
comp=Z,72μm,22.0s,MS6.9
OBN Obninsk 69.62 339 *e*P **P 03 32 49.9 -0.5**
comp=Z,745nm,1.4s,mb6.4
OBN LR LR
comp=Z,66μm,20.0s,MS6.9
TLE Tual 69.68 231⇑*e*P **P 03 32 46.5 -4.8**
KMY Karmoy 69.70 357⇑*i*P **P 03 32 51.5 +0.7**
KMY AMb AMB 03 32 56.2
comp=Z,372nm,1.4s,mb6.1
KMY Karmoy 69.70 357⇑*i*P **P 03 32 51.5 +0.7**
comp=Z,372nm,1.4s,mb6.1
PLIG Platanillo 69.95 85 *i* P **P 03 32 51.8 -1.2**
STAV Stavanger 69.97 357⇑*i*P **P 03 32 53.2 +0.8**
GTK Gangtok 69.99 289 *e*P **P 03 32 53.0 -0.1**
PPM Popocatepetl 70.00 84 *i* P **P 03 32 53.9 +0.6**
COW Cow Castle Cre 70.00 61 *e*P **P 03 32 53.1 0.0**
CHTO Chiang Mai 70.01 275 P **P 03 32 53.1 -0.3**
SNR=42
CHTO Chiang Mai 70.01 275 P **P 03 32 53.1 -0.3**
SNR=42
CHTO Chiang Mai 70.01 275 P **P 03 32 53.1 -0.3**
SNR=42
CHTO Chiang Mai 70.01 275 P **P 03 32 53.1 -0.3**
SNR=42
CHTO Chiang Mai 70.01 275 P **P 03 32 53.1 -0.3**
SNR=42
CHTO Chiang Mai 70.01 275 P **P 03 32 53.1 -0.3**
SNR=42
CHTO Chiang Mai 70.01 275 P **P 03 32 53.1 -0.3**
SNR=42
CHTO Chiang Mai 70.01 275 P **P 03 32 53.1 -0.3**
SNR=42
CHTO Chiang Mai 70.01 275 P **P 03 32 53.1 -0.3**
SNR=42
CHTO Chiang Mai 70.01 275 *e*P **P 03 32 51.8 -1.5**
CHTO pmax pmax
comp=Z,142nm,1.0s,mb5.8
CHTO MLR MLR
comp=Z,7μm,20.0s,MS5.9
CHTO Chiang Mai 70.01 275 *e*P **P 03 32 51.8 -1.5**
comp=Z,142nm,1.0s,mb5.8

CHTO LR LR
comp=Z,7μm,20.0s,MS5.9
CNNC Cliffs of the 70.13 58 *eP* **P 03 32 53.9 0.0**
comp=Z,162nm,0.8s,mb6.0
CNNC LR LR
comp=Z,97μm,20.0s,MS7.0
CM31 Chiang Mai Arr 70.28 275 PFAKE 03 33 10.0 +15
CM31 LR LR
comp=Z,8μm,19.0s,MS6.0
CMAR Chiang Mai Arr 70.28 275 P **P 03 32 54.5 -0.5**
comp=Z,56nm,0.8s,mb5.5,baz=28,slow=6.6,SNR=67
CMAR PKPPKP 04 00 58.4
comp=Z,1.8nm,0.3s,baz=210,slow=4.7,SNR=6.3
CMAR LR LR 04 06 05.0
comp=Z,7μm,19.9s,MS5.9,baz=209,slow=38
CMAR Chiang Mai Arr 70.28 275⇑ *eP* **P 03 32 54.5 -0.5**
CAIG El Cayaco 70.48 87 *i* P **P 03 32 54.6 -1.6**
NHSC New Hope 70.50 61 *eP* **P 03 32 56.2 0.0**
comp=Z,1μm,1.3s,mb6.7
NHSC LR LR
comp=Z,73μm,19.0s,MS7.0
SNART Snartemo 70.50 356 *eP* **P 03 32 55.5 -0.2**
SNART AMb AMB 03 33 01.2
comp=Z,359nm,1.9s,mb6.0
RTO Tolsta 70.50 3 *eP* **P 03 32 55.7 0.0**
TAPN Taplejung 70.52 289 *eP* **P 03 32 56.9 +0.6**
comp=Z,2μm,1.0s,mb7.0
RSC Scourie 70.57 3 *eP* **P 03 32 55.4 -0.7**
MLA1 Latheron 70.66 2 *eP* **P 03 32 56.9 +0.2**
REB Eisghbrachaidh 70.80 3⇑ *eP* **P 03 32 57.6 +0.1**
ACX Acapulco 70.84 87 *i* P **P 03 33 04.7 +6.3**
LVIG Laguna Verde 70.88 82 *i* P **P 03 32 57.1 -1.5**
RRH Rhenigidale 70.94 4⇑ *eP* **P 03 32 58.5 0.0**
AGT Agartala 70.97 285⇓ *i* x x 03 34 58.0
AGT *i* x x 03 35 31.0
MVH1 Achvaich 71.02 2 *eP* **P 03 32 58.9 0.0**
RRR Rubha Reidh 71.04 3⇑ *eP* **P 03 32 59.3 +0.3**
ODAN Odare 71.07 289 *eP* **P 03 32 59.3 -0.4**
comp=Z,644nm,0.8s,mb6.6
GUN Gumba 71.17 291 *eP* **P 03 33 00.7 +0.4**
JIRN Jiri 71.18 291 *eP* **P 03 33 01.2 +0.8**
comp=Z,2μm,0.9s,mb7.0
MCD Coleburn Disti 71.39 2⇑ *eP* **P 03 33 00.4 -0.7**
KSK Scoval 71.40 4⇑ *eP* **P 03 33 00.2 -1.0**
KAC Achmashellach 71.41 3⇑ *eP* **P 03 33 01.3 0.0**
RAMN Ramite 71.47 290 *eP* **P 03 33 02.4 +0.3**
comp=Z,2μm,0.9s,mb7.0
MDO Dochfour 71.50 2 *eP* **P 03 33 01.2 -0.6**
KPL Plockton 71.56 3 *eP* **P 03 33 02.1 0.0**
KPL AMb AMB 03 33 07.8
comp=Z,611nm,1.4s,mb6.3
KKN Kakani 71.61 291 *eP* **P 03 33 03.1 +0.1**
comp=Z,1μm,0.7s,mb6.9
MME1 Meikle Cairn 71.66 2⇑ *eP* **P 03 33 02.4 -0.3**
KSB Sheil Bridge 71.70 3⇑ *eP* **P 03 33 01.8 -1.2**
PKI Pulchoki 71.70 291 *eP* **P 03 33 03.3 -0.2**
comp=Z,1μm,0.8s,mb6.8
PMOR Pomariorio Ree 71.77 147 *eP* **P 03 33 03.6 -0.2**
comp=Z,539nm,1.4s,mb6.3
GKN Gorkha 71.83 292 *eP* **P 03 33 04.4 +0.1**
comp=Z,282nm,1.0s,mb6.2
DMN Daman 71.85 291 *eP* **P 03 33 04.9 +0.5**
comp=Z,1μm,0.9s,mb6.8
KAR1 Arisaig 71.98 3⇑ *eP* **P 03 33 04.2 -0.5**
MNK Minsk 71.98 343 *eP* **P 03 33 03.0 -1.7**
MNK *eS* S 03 42 18.0 -3.6
MNK pmax pmax
comp=N,2μm,1.8s
MNK MLR MLR
comp=Z,182μm,22.0s,MS7.3
MNK MLR MLR
comp=E,64μm,24.0s,MS7.1
MNK MLR MLR
comp=N,106μm,25.0s,MS7.1
VRHR Novokhopersk 72.00 334 *eP* **P 03 33 03.7 -1.2**
VRHR *eS* S 03 42 13.7 -8.2
VRHR *ePS* 03 42 47.5
VRHR *ePPS* 03 43 18.0
VRHR pmax pmax
comp=Z,60nm,0.5s,mb5.8
VRHR pmax pmax
comp=N,90nm,0.7s
VRHR pmax pmax
comp=E,70nm,0.6s
VRHR smax
comp=N,610nm,4.4s
VRHR smax
comp=Z,430nm,5.3s
VRHR smax
comp=E,230nm,2.3s
VRHR MLR MLR
comp=Z,34μm,24.0s,MS6.5
VRHR MLR MLR
comp=N,36μm,22.0s,MS6.7
VRHR MLR MLR
comp=E,20μm,20.0s,MS6.7
VOR Voronezh 72.07 336 *eP* **P 03 33 05.0 -0.3**
VOR pmax pmax
comp=Z,200nm,2.0s,mb5.7
DANN Dangsing 72.08 293 *eP* **P 03 33 06.3 +0.6**
comp=Z,1μm,0.7s,mb7.0
SHBG Sahibganj 72.13 288 *ex* x 03 31 31.8
MUD Monsted U'grnd 72.28 355⇑ *iP* **P 03 33 07.7 +1.2**
MUD *i* S S 03 42 33.8 +8.8
MUD pmax pmax
comp=Z,460nm,1.2s,mb6.3
MUD MLR MLR
comp=Z,20μm,20.0s,MS6.4
MUD Monsted U'grnd 72.28 355⇑ *iP* **P 03 33 07.7 +1.2**
comp=Z,460nm,1.2s,mb6.3
MUD *i* S S 03 42 33.8 +8.8
MUD *i* 03 47 52.8
MUD *i* 03 53 08.7
MUD
comp=Z,20μm,20.0s
MUD Monsted U'grnd 72.28 355⇑ *iP* **P 03 33 07.7 +1.2**
comp=Z,460nm,1.2s,mb6.3
MUD *i* S S 03 42 33.8 +8.8
MUD *i* 03 47 52.8
MUD *i* 03 53 08.7
PNIG Pinotepa 72.32 86 *i* P **P 03 33 07.4 +0.1**
COEN Coen 72.52 218 *eP* **P 03 33 07.1 -1.2**
comp=Z,60nm,1.1s,mb5.4
VRSR Storozhevoye 72.55 335 *eP* **P 03 33 08.1 -0.1**
VRSR *e**SP sP 03 33 26.4 -2.9
VRSR *eS* S 03 42 22.0 -6.2
VRSR *ePS* 03 42 54.6
VRSR *e*SPP 03 43 07.2
VRSR pmax pmax
comp=Z,40nm,1.4s,mb5.2
VRSR pmax pmax
comp=N,20nm,1.2s
VRSR smax
comp=E,320nm,11.3s
VRSR smax
comp=Z,150nm,7.9s
VRSR smax
comp=N,270nm,12.5s
VRSR MLR MLR
comp=N,4μm,22.0s,MS6.1
VRSR MLR MLR
comp=Z,8μm,22.0s,MS6.0
VRSR MLR MLR
comp=E,9μm,20.0s,MS6.1
KOLN Koldanda 72.60 293 *eP* **P 03 33 08.6 -0.3**
comp=E,699nm,0.9s,mb6.6
OXX Oaxaca 72.67 84 *i* P **P 03 33 11.7 +2.2**
VHO Vista Hermosa 72.67 84 *i* P **P 03 33 09.5 +0.1**
EBH Black Hill 72.72 2⇑ *eP* **P 03 33 08.5 -0.6**
EAB Aberfoyle 72.76 3⇑ *eP* **P 03 33 08.9 -0.4**
KLP Kalpa 72.77 299 *eP* **P 03 33 10.5 +0.7**
KLP AMb AMB 03 33 18.5
comp=Z,1μm,1.0s,mb6.8
JOSI Joshimath 72.79 297 *eP* **P 03 33 11.4 +1.4**
COP Copenhagen 72.82 353⇑ *iP* **P 03 33 10.6 +0.9**
COP pmax pmax
comp=Z,250nm,0.7s,mb6.2
COP MLR MLR
comp=Z,21μm,21.0s,MS6.4
COP Copenhagen 72.82 353⇑ *iP* **P 03 33 10.6 +0.9**
comp=Z,248nm,0.7s,mb6.2
COP
comp=Z,21μm,21.0s
EDI Edinburgh 73.05 2⇑ *eP* **P 03 33 10.7 -0.4**
EDI AMb AMB 03 33 13.5
comp=Z,297nm,1.2s,mb6.1
ESY Stoneypath 73.07 2 *eP* **P 03 33 10.5 -0.7**
EAU Auchinoon 73.12 2⇑ *eP* **P 03 33 11.2 -0.3**
PGBU Glenifferbraes 73.13 3 *eP* **P 03 33 11.3 -0.2**
PGBU AMb AMB 03 33 17.7
comp=Z,985nm,1.6s,mb6.5
BSD Bornholm Skovb 73.17 351⇑ *iP* **P 03 33 11.9 +0.1**
BSD pmax pmax
comp=Z,150nm,0.8s,mb6.0
BSD MLR MLR
comp=Z,44μm,20.0s,MS6.7
BSD Bornholm Skovb 73.17 351⇑ *iP* **P 03 33 11.9 +0.1**
comp=Z,154nm,0.8s,mb6.0
BSD
comp=Z,44μm,20.0s
PTH Pithoragarh 73.19 296 *eP* **P 03 33 13.0 +0.7**
PTH *ex* x 03 36 24.2
EBL Broad Law 73.20 2⇑ *eP* **P 03 33 12.0 0.0**
SUW Suwalki 73.22 346 *eP* **P 03 33 11.8 -0.3**
SUW *e*PP PP 03 35 46.7 -8.2
SUW LMZ 04 06 34.1
comp=Z,54μm,22.0s
SUW Suwalki 73.22 346 *eP* **P 03 33 11.8 -0.3**
SUW *e*PP PP 03 35 46.7 -8.2
THN Thein Dam 73.45 301 *eP* **P 03 33 12.2 -1.6**
THN *ex* x 03 43 02.4
SDNR Sundarnagar 73.49 300 *eP* **P 03 33 13.0 -1.1**
SDNR *e*S S 03 42 41.0 +1.5
XSO Sourhope Farm 73.50 1⇑ *eP* **P 03 33 13.2 -0.5**
KDI Kendari 73.52 241⇓ *eP* **P 03 33 14.2 -0.2**
KDI *eS* S 03 42 43.9 +3.7
DWPF Disney 73.57 66 *eP* **P 03 33 14.2 -0.4**
comp=Z,375nm,0.8s,mb6.4
DWPF LR LR
comp=Z,42μm,21.0s,MS6.7
PPT Papeete 73.61 150 *eP* **P 03 33 14.5 -0.2**
comp=Z,246nm,1.5s,mb5.9
PPT *e*S S 03 42 39.6 -1.2
comp=Z,158μm,29.5s
PPT *e*SS SS 03 47 25.9 +0.5
comp=Z,24μm,26.5s
PPT *e*LR LR 03 55 40.2
comp=Z,139μm,28.8s,baz=344
PPT Papeete 73.61 150 P **P 03 33 16.2 +1.4**
comp=Z,35nm,0.8s,mb5.3,baz=236,slow=5.9,SNR=3.9
PPT LR LR 03 59 13.8
comp=Z,22μm,20.9s,MS6.4,baz=43,slow=31
EKA Eskdalemuir Ar 73.64 2 P **P 03 33 14.2 -0.4**
comp=Z,134nm,0.7s,mb6.0,baz=356,slow=4.1,SNR=144
EKA Eskdalemuir Ar 73.64 2 P **P 03 33 14.2 -0.4**
EKA pmax pmax
comp=Z,134nm,0.7s
ESK Eskdalemuir 73.66 2 P **P 03 33 14.8 +0.2**
comp=Z,2μm,0.8s,mb7.0,SNR=23
ESK Eskdalemuir 73.66 2 *eP* **P 03 33 14.0 -0.6**
ESK AMb AMB 03 33 20.1
comp=Z,642nm,1.6s,mb6.3
ESK Eskdalemuir 73.66 2 PFAKE 03 33 30.0 +15
ESK LR LR
comp=Z,26μm,21.0s,MS6.5
SMLA Simla 73.67 299 *eP* **P 03 33 15.2 +0.1**
SMLA AMb AMB 03 33 21.8
comp=Z,2μm,2.0s,mb6.7
TIAR Tiarei 73.68 150 *eP* **P 03 33 14.6 -0.5**
comp=Z,2μm,1.2s,mb6.9
PONG Pong 73.69 301 *eP* **P 03 33 15.5 +0.2**
PAE Paea 73.70 150 *eP* **P 03 33 14.8 -0.5**
comp=Z,2μm,1.3s,mb6.9
PAE Paea 73.70 150 *eP* **P 03 33 14.8 -0.5**
PAE pmax pmax
comp=Z,2μm,1.3s,mb6.9
CAL Calcutta 73.75 286 *eP* **P 03 33 16.0 +0.3**
CAL *ex* x 03 42 39.8
ECK Cauldkaine Hil 73.80 2⇑ *eP* **P 03 33 14.5 -0.9**
CMIG Matias Romero 73.81 83 LR LR 04 01 32.8
comp=Z,33μm,21.9s,MS6.6,baz=297,slow=32
CMIG Matias Romero 73.81 83 *i* P **P 03 33 15.7 -0.4**
BHK Bhakra 73.86 300 *eP* **P 03 33 15.0 -1.2**
BHK *ex* x 03 33 46.2
RGN Rugen 73.88 352 *eP* **P 03 33 15.8 -0.1**
comp=Z,935nm,0.8s,mb6.8
RGN Rugen 73.88 352 *eP* **P 03 33 16.1 +0.2**
comp=Z,1μm,0.9s,mb6.8
TVO Taravao 73.92 150 *eP* **P 03 33 16.4 -0.1**
comp=Z,2μm,1.5s,mb6.8
TVO Taravao 73.92 150 *eP* **P 03 33 16.4 -0.1**
TVO pmax pmax
comp=Z,2μm,1.5s,mb6.8
HUIG Huatulco 74.05 85 *i* P **P 03 33 17.3 -0.2**
GAL1 Galloway 74.07 3 *eP* **P 03 33 16.1 -0.9**
GAL1 AMb AMB 03 33 22.4
comp=Z,689nm,1.5s,mb6.3
DZM Mont Dzumac 74.08 193 *eP* **P 03 33 18.6 +1.2**
GCD Castle Douglas 74.09 2⇑ *eP* **P 03 33 16.5 -0.7**
XAL Allendale 74.13 1⇑ *eP* **P 03 33 16.7 -0.7**
BOK Bokaro 74.27 288 *i* P **P 03 33 19.4 +0.6**
BOK *i* S S 03 42 53.4 +4.9
SBUM Sibu 74.35 254⇓ P **P 03 33 20.8 +1.5**
MEH Mehetia 74.39 148 *eP* **P 03 33 18.7 -0.6**
comp=Z,8μm,1.4s,mb7.4
RAR Rarotonga 74.41 160 P **P 03 33 19.5 +0.2**
comp=Z,16nm,1.0s,mb4.9,baz=346,slow=8.4,SNR=2.2
RAR Rarotonga 74.41 160 P **P 03 33 19.5 +0.2**
RAR Rarotonga 74.41 160 P **P 03 33 19.6 +0.2**
RAR LR LR
comp=Z,1.0nm,21.0s
HLG Helgoland 74.62 355 *eP* **P 03 33 20.3 0.0**
comp=Z,2μm,1.5s,mb6.8
GMM Mts of Mourne 74.65 4⇑ *eP* **P 03 33 19.8 -0.6**
BSEG Bad Segeberg 74.72 354 *eP* **P 03 33 20.7 -0.2**
comp=Z,674nm,0.9s,mb6.6
GKP Gorka Klasztor 74.74 349 *eP* **P 03 33 21.7 +0.7**
GKP LMZ 04 08 27.4
comp=Z,55μm,23.2s
GKP Gorka Klasztor 74.74 349 *eP* **P 03 33 21.7 +0.7**
GKP LR LR
comp=Z,55μm,23.2s,MS6.8
KKR Kurukshetra 74.76 299 *eP* **P 03 33 21.9 +0.4**
KKR AMb AMB 03 33 29.2
comp=Z,2μm,1.4s,mb6.7
HPK Haverah Park 75.04 1⇑ *eP* **P 03 33 22.6 -0.1**
HPK AMb AMB 03 33 28.3
comp=Z,820nm,1.5s,mb6.4
WAR Warsaw 75.26 347 *eP* **P 03 33 25.6 +1.6**
WAR LMZ 04 07 21.8
comp=Z,48μm,23.3s
WAR Warsaw 75.26 347 *eP* **P 03 33 25.6 +1.6**
WAR LR LR
comp=Z,48μm,23.3s,MS6.7
KBL Kabul 75.26 307 *eP* **P 03 33 23.8 -0.5**
comp=Z,1μm,1.2s,mb6.7
AKASG Malin Array Be 75.33 341 P **P 03 33 23.2 -1.2**
comp=Z,49nm,0.4s,mb5.8,baz=21,slow=5.9,SNR=196
AKASG S S 03 43 00.8 +1.3
comp=Z,4.1nm,0.9s,baz=14,slow=11,SNR=5.6
AKASG PKPPKP 04 00 46.8
comp=Z,0.9nm,0.7s,baz=218,slow=2.1,SNR=6.0
AKASG LR LR 04 11 30.1
comp=Z,22μm,20.2s,MS6.5,baz=10.0,slow=40
AKASG Malin Array Be 75.33 341 P **P 03 33 23.3 -1.1**
AKASG S S 03 43 00.8 +1.3
AKASG pmax pmax
comp=Z,49nm,0.4s
AKASG smax
comp=N,4.0nm,0.9s
AKASG MLR MLR
comp=Z,22μm,20.2s
AKBB Malin Array Si 75.33 341 *eP* **P 03 33 23.0 -1.4**
KIEV Kiev 75.34 341 *eP* **P 03 33 22.8 -1.7**
KIEV pmax pmax
comp=Z,401nm,1.1s,mb6.3
KIEV MLR MLR
comp=Z,34μm,22.0s,MS6.6
KIEV Kiev 75.34 341 *eP* **P 03 33 22.8 -1.7**
comp=Z,401nm,1.1s,mb6.3
KIEV LR LR
comp=Z,34μm,22.0s,MS6.6
SCX San Cristobal 75.48 81 *i* P **P 03 33 27.5 +1.7**
ALBI Allahabad 75.51 292 *eP* **P 03 33 24.5 -1.4**
NDI New Delhi 75.53 298 *eP* **P 03 33 25.5 -0.4**
NDI *eP* 03 33 28.0
NDI *ex* x 03 43 03.0
NDI *eS* S 03 43 04.0 +1.7
DSB Dublin 75.63 4 *eP* **P 03 33 26.0 -0.1**
comp=Z,298nm,0.8s,mb6.3
RTK Rohtak 75.70 299 *ex* x 03 33 19.6
RTK AMb AMB 03 33 24.6
comp=Z,784nm,0.8s,mb6.7
AYAN Aya Nagar 75.73 298 *eP* **P 03 33 26.8 -0.4**
AYAN AMb AMB 03 33 31.8
comp=Z,253nm,1.1s,mb6.1
KBI1 Birley Grange 75.75 1⇑ *eP* **P 03 33 25.9 -0.9**
RUE Ruedersdorf 75.88 351 *eP* **P 03 33 26.8 -0.8**
comp=Z,365nm,0.9s,mb6.3
RUE Ruedersdorf 75.88 351 *eP* **P 03 33 28.0 +0.5**
comp=Z,380nm,1.0s,mb6.3
STNC Stoke 75.91 1 *eP* **P 03 33 27.3 -0.4**
SONA Sohna 75.94 298 *eP* **P 03 33 27.8 -0.5**
SONA AMb AMB 03 33 35.6
comp=Z,307nm,0.7s,mb6.3
KAKA Kakadu 75.97 228 *eP* **P 03 33 26.2 -2.3**
comp=Z,398nm,0.9s,mb6.3
KWE Weaver Farm 75.98 1⇑ *eP* **P 03 33 27.6 -0.5**
KAPI Kappang 75.99 243 P **P 03 33 28.3 -0.3**
comp=Z,526nm,1.2s,mb6.3,SNR=20
KAPI Kappang 75.99 243 P **P 03 33 28.1 -0.6**
SNR=14
KAPI Kappang 75.99 243 P **P 03 33 28.1 -0.6**
SNR=14
KAPI Kappang 75.99 243 P **P 03 33 28.1 -0.6**
SNR=14
KAPI Kappang 75.99 243 P **P 03 33 28.1 -0.6**
SNR=14
KAPI Kappang 75.99 243 P **P 03 33 28.1 -0.6**
SNR=14
KAPI Kappang 75.99 243 P **P 03 33 28.1 -0.6**
SNR=14
KAPI Kappang 75.99 243 P **P 03 33 28.1 -0.6**
SNR=14
KAPI Kappang 75.99 243 P **P 03 33 28.1 -0.6**
SNR=14
KAPI Kappang 75.99 243 *eP* **P 03 33 28.2 -0.5**
comp=Z,277nm,1.2s,mb6.1
KAPI LR LR
comp=Z,3μm,22.0s,MS5.5
SBD1 Bryn Du 76.07 2⇑ *eP* **P 03 33 28.2 -0.4**
ABA1 Baconsthorpe 76.12 359 *eP* **P 03 33 28.4 -0.5**
CCIG Comitan 76.13 81 *i* P **P 03 33 29.8 +0.3**
CWF Charnwood Fore 76.27 1⇑ *eP* **P 03 33 30.2 +0.5**
CWF AMb AMB 03 33 36.0
comp=Z,656nm,1.6s,mb6.3
KSM Kuching 76.28 255⇓ P **P 03 33 31.6 +1.2**
KSM Kuching 76.28 255 *eP* **P 03 33 29.7 -0.7**
MKS Makassar 76.31 243⇑ *eP* **P 03 33 30.5 0.0**
KUDL Kundal 76.35 298 *eP* **P 03 33 30.5 -0.1**
KUDL AMb AMB 03 33 38.6
comp=Z,854nm,0.8s,mb6.7
AEU East Anglia Un 76.39 359 *eP* **P 03 33 29.9 -0.6**
HLM1 Long Mynd 76.47 2 *eP* **P 03 33 31.0 +0.1**
IBBN Ibbenburen 76.50 355 *eP* **P 03 33 30.8 -0.3**
comp=Z,1μm,1.0s,mb6.8
SOR Soroa 76.72 70 *e* **P 03 33 32.8 0.0**
CLZ Clausthal 76.80 353 *eP* **P 03 33 32.6 -0.2**
CLZ pmax pmax
comp=Z,738nm,1.1s,mb6.5
CLZ Clausthal 76.80 353 *eP* **P 03 33 32.6 -0.2**
comp=Z,738nm,1.1s,mb6.5
WTSB Winterswijk 76.89 356 *eP* **P 03 33 32.8 -0.4**
comp=Z,419nm,1.8s,mb6.1
HTR Trewern Hill 76.90 2⇑ *eP* **P 03 33 32.5 -0.8**
BWNR Bhubaneshwar 76.97 286 *eP* **P 03 33 34.0 -0.2**
MCH1 Michaelchurch 76.99 2 *eP* **P 03 33 33.2 -0.6**
MCH1 AMb AMB 03 33 39.1
comp=Z,623nm,1.7s,mb6.3
GOF Gofitskoye 77.02 330⇑ *iP* **P 03 33 33.5 -0.6**
GOF *eS* S 03 43 13.4 -4.8
GOF pmax pmax
comp=Z,657nm,1.2s,mb6.4
SSW Stow on the Wo 77.04 1⇑ *eP* **P 03 33 34.5 +0.4**
CTA Charters Tower 77.06 212 *eP* **P 03 33 34.8 +0.3**
comp=Z,97nm,1.0s,mb5.7
CTA *eS* S 03 43 19.7 +0.8
CTA Charters Tower 77.06 212 P **P 03 33 34.9 +0.4**
comp=Z,107nm,0.9s,mb5.8,baz=20,slow=6.9,SNR=32
CTA Charters Tower 77.06 212 *eP* **P 03 33 34.8 +0.3**
CTA *eS* S 03 43 19.7 +0.8
CTA pmax pmax
comp=Z,97nm,1.0s
CTAO Charters Tower 77.06 212 *eP* **P 03 33 33.2 -1.3**
CTAO pmax pmax
comp=Z,189nm,1.1s,mb5.9
CTAO MLR MLR
comp=Z,9μm,22.0s,MS6.1
CTAO Charters Tower 77.06 212 *eP* **P 03 33 33.2 -1.3**
comp=Z,189nm,1.1s,mb5.9
CTAO LR LR
comp=Z,9μm,22.0s,MS6.1
CLL Collm 77.12 352⇑ *iP* **P 03 33 34.7 +0.1**
CLL *i* pP 03 33 52.4 +2.7
CLL *eS* S 03 43 34.0 +15
CLL pmax pmax
comp=Z,226nm,1.0s,mb6.0
CLL Collm 77.12 352 *eP* **P 03 33 33.4 -1.2**
comp=Z,226nm,1.0s,mb6.0
CLL Collm 77.12 352⇑ *iP* **P 03 33 34.7 +0.1**
comp=Z,226nm,1.0s,mb6.0
CLL *i* (PcP) PcP 03 33 43.9 -1.3
CLL *e*(S) S 03 43 34.0 +15
CLL *e*PS 03 44 08.0
CLL *e*SS SS 03 48 36.0 +20
CLL *e*PKPPKPdf 04 00 48.0
CLL *e*P 04 01 01.0
CLL LmV 04 09 00.0
comp=Z,38μm,22.0s
CLL LmH 04 11 00.0
comp=N,32μm,20.8s
CLL LmH 04 11 00.0
comp=E,17μm,19.7s
CLL Collm 77.12 352⇑ *iP* **P 03 33 34.7 +0.1**
comp=E,226nm,1.0s,mb6.0
CLL *i* pP 03 33 52.4 +2.7
CLL *eS* S 03 43 34.0 +15
CLL *e*P'P' 04 01 01.0
CLL LR LR
comp=Z,38μm,22.0s,MS6.7
LVV L'vov 77.14 344 *eP* **P 03 33 34.4 -0.3**
LVV MLR MLR
comp=Z,82μm,23.0s,MS7.0
LVV MLR MLR
comp=N,51μm,25.0s,MS6.8
LVV MLR MLR
comp=E,34μm,22.0s,MS6.8
KSP Ksiaz 77.24 350 *eP* **P 03 33 35.8 +0.6**
KSP LMZ 04 11 24.9
comp=E,95μm,21.3s
KSP Ksiaz 77.24 350 *eP* **P 03 33 34.7 -0.5**
KSP *eS* S 03 43 20.3 -0.1
KSP *e*SS SS 03 48 22.2 +4.6
KSP LR LR
comp=Z,107μm,21.3s,MS7.1
SKP1 Kophill 77.29 1⇑ *eP* **P 03 33 35.2 -0.3**
HGH Gray Hill 77.35 2 *eP* **P 03 33 34.9 -1.0**
BUG Bochum--Univer 77.39 355 *eP* **P 03 33 35.4 -0.7**
comp=Z,331nm,0.9s,mb6.3
OJC Ojcow 77.41 347 *eP* **P 03 33 36.5 +0.3**
OJC *e*sP sP 03 33 50.0 -7.4
OJC *eS* S 03 43 27.8 +5.6
OJC L 04 12 54.6
comp=Z,61nm,20.0s
MAK Makhachkala 77.41 326 *eP* **P 03 33 37.0 +0.7**
MAK *i* pP 03 33 47.5 -4.1
MAK *i* 03 36 33.0
MAK *e*PPP 03 38 18.5
MAK *eS* S 03 43 26.9 +4.4
MAK *i* 03 43 53.4
MAK *e*SS SS 03 48 28.6 +7.9
MAK pmax pmax
comp=Z,410nm,1.8s,mb6.1
MAK pmax pmax
comp=N,325nm,1.3s
MAK pmax pmax
comp=E,212nm,1.3s
MAK MLR MLR
comp=E,63μm,16.0s
MAK MLR MLR
comp=Z,77μm,18.0s,MS7.1

MAK MLR MLR
comp=N,121μm,24.0s
BRG Berggiesshubel 77.46 351 *i* P **P 03 33 35.4 -1.1**
BRG *i* pP 03 33 46.9 -4.8
BRG *e* 03 43 30.9
BRG *e* 03 43 47.4
BRG S ScS 03 43 56.0 +6.2
BRG *e* 03 44 20.0
BRG pmax pmax
comp=Z,117nm,1.1s,mb5.7
BRG MLR MLR
comp=N,21μm,20.2s,MS6.5
BRG MLR MLR
comp=E,10μm,21.3s,MS6.5
BRG MLR MLR
comp=Z,30μm,20.1s,MS6.6
BRG Berggiesshubel 77.46 351 *e*P **P 03 33 35.4 -1.1**
comp=Z,217nm,1.0s,mb6.0
BRG *e* pP 03 33 52.6 +0.9
BRG Berggiesshubel 77.46 351 *i* P **P 03 33 35.4 -1.1**
comp=Z,195nm,1.1s,mb5.9
BRG *i* pP 03 33 46.9 -4.8
comp=Z,74nm,1.1s
BRG *e* 03 43 30.9
comp=Z,49nm,2.2s
BRG *e* 03 43 47.4
comp=Z,45nm,1.9s
BRG S ScS 03 43 56.0 +6.2
BRG *e* 03 44 20.0
BRG SS SS 03 48 42.0 +21
BRG *e*PKPPKP 04 00 36.0
comp=Z,19nm,1.6s
BRG
comp=N,34μm,20.2s
BRG
comp=E,16μm,21.3s
BRG
comp=Z,51μm,20.1s
BRG Berggiesshubel 77.46 351 *i* P **P 03 33 35.4 -1.1**
comp=Z,117nm,1.1s,mb5.7
BRG *i* pP 03 33 46.9 -4.8
BRG *e* 03 43 30.9
BRG *e* 03 43 47.4
BRG S ScS 03 43 56.0 +6.2
BRG *e*P'P' 04 00 36.0
BRG LR LR
comp=Z,30μm,20.1s,MS6.6
SWN1 Swindon 77.49 1 P **P 03 33 37.1 +0.5**
SWN1 Swindon 77.49 1⇑*e*P **P 03 33 37.1 +0.4**
SWN1 ⇑*e*P 03 33 37.1
KWP Kalwaria 77.54 345 *e*P **P 03 33 37.0 0.0**
KWP LMZ 04 07 01.5
comp=Z,74μm,25.2s
KWP Kalwaria 77.54 345⇓*i*P **P 03 33 37.1 +0.1**
UPC Upice 77.60 350 *e*P **P 03 33 36.8 -0.5**
UPC *e*pP pP 03 33 49.6 -2.9
WOL Wolverton 77.70 1 *e*P **P 03 33 37.2 -0.6**
DPC Dobruska-Polom 77.72 349 *e*P **P 03 33 37.5 -0.4**
DPC *ex* x 03 44 00.9
DPC AMS AMS 04 12 40.0
comp=Z,48μm,20.3s
PVCC Panska Ves 77.74 351 *e*P **P 03 33 37.3 -0.7**
PVCC AMS AMS 04 12 00.0
comp=Z,58μm,20.1s
RAC Raciborz 77.75 348 *e*P **P 03 33 39.2 +1.1**
RAC *e*S S 03 43 32.6 +6.6
RAC Raciborz 77.75 348 *e*P **P 03 33 39.2 +1.1**
RAC *e*S S 03 43 32.6 +6.6
RAC LR LR
comp=Z,51μm,18.0s,MS6.9
TSA1 Sevenoaks 77.77 360 *e*P **P 03 33 38.9 +0.7**
UBBA Unterbreizbach 77.84 354 *e*P **P 03 33 37.9 -0.7**
comp=Z,684nm,1.8s,mb6.3
MOX Moxa 77.89 352 *e*P **P 03 33 38.2 -0.7**
comp=Z,642nm,1.6s,mb6.3
MOX
comp=Z,16μm,22.0s
MOX Moxa 77.89 352 *e*P **P 03 33 38.2 -0.7**
MOX pmax pmax
comp=Z,642nm,1.6s,mb6.3
MOX MLR MLR
comp=Z,16μm,22.0s,MS6.3
HEX Exmoor 77.90 2⇑*e*P **P 03 33 38.3 -0.6**
TFO1 Folkestone 77.90 359 *e*P **P 03 33 38.9 0.0**
TFO1 AMb AMB 03 33 44.5
comp=Z,1μm,1.5s,mb6.7
HTL Hartland 77.95 3⇑*e*P **P 03 33 39.2 0.0**
HTL AMb AMB 03 33 45.5
comp=Z,478nm,1.6s,mb6.2
OKC Ostrava-Krasne 78.00 348 *e*P **P 03 33 39.2 -0.3**
OKC AMS AMS 04 14 20.0
comp=Z,38μm,17.8s
WERD Werda 78.03 352 *e*P **P 03 33 39.0 -0.7**
comp=Z,225nm,1.1s,mb6.0
TANN Tannenbergstha 78.05 352 *e*P **P 03 33 39.0 -0.8**
comp=Z,259nm,1.3s,mb6.0
TANN *e* pP 03 33 56.2 +1.2
BEBN Eben Emael 78.11 356 P **P 03 33 39.9 -0.2**
GUNZ Gunzen 78.11 352 *e*P **P 03 33 39.5 -0.6**
comp=Z,242nm,0.9s,mb6.1
NIE Niedzica 78.11 347 *e*P **P 03 33 40.3 +0.2**
KIV Kislovodsk 78.12 330 P **P 03 33 41.5 +1.2**
comp=Z,699nm,1.6s,mb6.3,SNR=14
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.3 0.0**
SNR=47
KIV Kislovodsk 78.12 330 P **P 03 33 40.9 +0.6**
KIV *e*S S 03 43 33.2 +3.1
KIV *e*SS SS 03 48 28.6 -2.7
KIV pmax pmax
comp=Z,2μm,6.3s
KIV pmax pmax
comp=Z,145nm,1.2s,mb5.8
KIV MLR MLR
comp=Z,56μm,21.0s,MS6.9
KIV Kislovodsk 78.12 330⇑*i*P **P 03 33 42.7 +2.4**
KIV Kislovodsk 78.12 330 *e*P **P 03 33 39.7 -0.5**
comp=Z,117nm,0.9s,mb5.8
KIV LR LR
comp=Z,49μm,22.0s,MS6.8
HGN Heimansgroeve 78.13 356 *e*P **P 03 33 39.8 -0.4**
comp=Z,2μm,1.8s,mb6.8
HGN Heimansgroeve 78.13 356 *e*S S 03 43 32.9 +2.9
comp=Z,66nm,5.5s
HGN Heimansgroeve 78.13 356 *e*SS SS 03 49 03.9 +33
MORC Moravsky Berou 78.14 348⇓*i*P **P 03 33 39.9 -0.4**
MORC Moravsky Berou 78.14 348 P **P 03 33 40.0 -0.3**
UCC Uccle 78.15 357 P **P 03 33 39.5 -0.8**
BATI Baumata 78.18 237 LR LR 04 01 36.3
comp=Z,4μm,21.6s,MS5.7,baz=240,slow=31
WERN Wernitzgruen 78.19 352 *e*P **P 03 33 40.0 -0.5**
comp=Z,431nm,1.0s,mb6.3
PRA Prague 78.20 351 P **P 03 33 41.0 +0.4**
NKC Novy Kostel 78.23 352 *e*P **P 03 33 40.1 -0.7**
NKC *ex* x 03 44 10.4
NKC AMS AMS 04 11 40.0
comp=Z,32μm,21.0s
NKC Novy Kostel 78.23 352 *e*P **P 03 33 40.1 -0.7**
NKC *e*S S 03 44 10.4 +39
PRU Pruhonice 78.27 350 *e*P **P 03 33 40.1 -0.9**
PRU *ex* x 03 44 08.3
PRU AMS AMS 04 12 20.0
comp=Z,59μm,20.5s
MEM Membach 78.28 356 P **P 03 33 40.9 -0.1**
comp=Z,302nm,1.0s,mb6.2
KOLS Kolonicke sedl 78.29 345 *i* P **P 03 33 41.0 -0.1**
KOLS *i* pS 03 43 51.4
KOLS *e*SS SS 03 48 45.2 +12
SIW Isle of Wight 78.34 1 *e*P **P 03 33 41.1 -0.3**
MENF Mencas 78.44 359 *e*P **P 03 33 42.5 +0.6**
CRVS Cervenica-Dubn 78.45 346 *i* P **P 03 33 41.7 -0.3**
CRVS *e*S S 03 43 31.4 -2.0
CRVS Cervenica-Dubn 78.45 346 *i* P **P 03 33 41.7 -0.3**
CRVS *e*S S 03 43 31.4 -2.0
CRVS *i* SS SS 03 48 53.8 +18
BCLA Clavier 78.50 357 P **P 03 33 41.9 -0.3**
DYA Yadsworthy 78.53 3 *e*P **P 03 33 41.8 -0.6**
DYA AMb AMB 03 33 44.8
comp=Z,646nm,1.3s,mb6.4
TNS Taunus Mts 78.54 354 *e*P **P 03 33 41.9 -0.6**
TNS pmax pmax
comp=Z,315nm,1.0s,mb6.2
TNS Taunus Mts 78.54 354 *e*P **P 03 33 41.9 -0.6**
comp=Z,315nm,1.0s,mb6.2
UZH Uzhgorod 78.58 345⇓*i*P **P 03 33 42.7 0.0**
UZH *i* pP 03 33 55.0 -3.0
LIKS Likavka 78.65 347 *i* P **P 03 33 44.5 +1.4**
LIKS pmax pmax
comp=Z,255nm,0.7s,mb6.3
LIKS Likavka 78.65 347 *i* P **P 03 33 44.5 +1.4**
comp=Z,255nm,0.7s,mb6.3
AJM Ajmer 78.67 298 *i* P **P 03 33 43.0 -0.6**
VRAC Vranov 78.72 349 P **P 03 33 43.1 -0.4**
comp=Z,180nm,0.8s,mb6.0,baz=11,slow=5.3,SNR=121
VRAC Vranov 78.72 349 P **P 03 33 43.1 -0.4**
VRAC pmax pmax
comp=Z,180nm,0.9s
VRAC Vranov 78.72 349⇓*i*P **P 03 33 43.4 -0.1**
VRAC Vranov 78.72 349 P **P 03 33 43.5 +0.1**
ROTZ Rotzenmuhle 78.72 352 *e*P **P 03 33 43.1 -0.4**
comp=Z,257nm,1.1s,mb6.1
GIVF Givet 78.83 357 *e*P **P 03 33 43.8 -0.3**
comp=Z,954nm,1.2s,mb6.3
GIVF Givet 78.83 357 *e*P **P 03 33 43.8 -0.3**
GIVF pmax pmax
comp=Z,477nm,1.2s,mb6.3
GIVF Givet 78.83 357 *e*P **P 03 33 43.8 -0.3**
comp=Z,477nm,1.2s,mb6.3
DOU Dourbes 78.85 357 P **P 03 33 43.8 -0.4**
comp=Z,190nm,1.2s,mb5.9
TREC Trest 78.86 350 *e*P **P 03 33 43.2 -1.0**
TREC AMS AMS 04 13 20.0
comp=Z,64μm,20.1s
GRA1 Grafenberg Arr 78.87 353 *e*P **P 03 33 44.1 -0.2**
comp=Z,564nm,1.0s,mb6.5
GRA1 *e*SS SS 03 49 22.5 +40
GRA1 *e*P'P' 04 00 32.2
GRA1 LR LR
comp=Z,18μm,21.7s,MS6.4
GRF Grafenberg Arr 78.87 353 *e*P **P 03 33 44.1 -0.2**
GRF pmax pmax
comp=Z,564nm,1.0s,mb6.5
GRF MLR MLR
comp=Z,18μm,21.7s,MS6.4
GRF Grafenberg Arr 78.87 353 *e*P **P 03 33 44.1 -0.2**
GRF pmax pmax
comp=Z,564nm,1.0s,mb6.5
GRF MLR MLR
comp=Z,18μm,21.7s,MS6.4
GRF Grafenberg Arr 78.87 353 *e*P **P 03 33 44.1 -0.2**
comp=Z,564nm,1.0s,mb6.5
GRF *e*SS SS 03 49 22.5 +40
GRF *e*P'P'df 04 00 32.2
GRF *e*L 04 13 35.2
comp=Z,18μm,21.7s
BAIF Baives 78.89 357 *e*P **P 03 33 43.9 -0.5**
comp=Z,1μm,0.9s,mb6.4
BAIF Baives 78.89 357 *e*P **P 03 33 43.9 -0.5**
BAIF pmax pmax
comp=Z,505nm,0.9s,mb6.5
BAIF Baives 78.89 357 *e*P **P 03 33 43.9 -0.5**
comp=Z,505nm,0.9s,mb6.5
ANN Anapa 78.90 334*c* *i*P **P 03 33 44.2 -0.3**
ANN *e* 03 33 53.2
ANN *e*S S 03 43 39.0 +0.6
ANN *e*SS SS 03 48 49.3 +6.4
ANN pmax pmax
comp=Z,95nm,1.3s,mb5.6
ABH Alteburg 78.93 355 *e*P **P 03 33 45.4 +0.8**
KIS Kishinev 78.94 340⇑*i*P **P 03 33 44.0 -0.7**
KIS *e*S S 03 43 40.0 +1.2
KIS pmax pmax
comp=Z,900nm,1.8s,mb6.4
KIS MLR MLR
comp=N,34μm,22.0s,MS6.8
KIS MLR MLR
comp=Z,41μm,22.0s,MS6.7
KIS MLR MLR
comp=E,29μm,19.0s,MS6.8
KIS MLR MLR
comp=Z,50μm,22.0s
KIS Kishinev 78.94 340⇑*i*P **P 03 33 44.0 -0.7**
comp=Z,900nm,1.8s,mb6.4
KIS *e*S S 03 43 40.0 +1.2
KIS LRM 04 10 20.0
comp=Z,41μm,22.0s
KRUC Moravsky 78.98 349 P **P 03 33 44.4 -0.5**
KECS Kecovo 79.00 346 *i* P **P 03 33 45.2 +0.2**
KECS pmax pmax
comp=Z,154nm,0.9s,mb5.9
KECS Kecovo 79.00 346 *i* P **P 03 33 45.2 +0.2**
comp=Z,154nm,0.9s,mb5.9
IAS Iasi 79.01 341⇓*i*P **P 03 33 46.5 +1.4**
IAS Iasi 79.01 341 P **P 03 33 46.5 +1.4**
MGV Manicaragua 79.02 68 *e* **P 03 33 44.2 -1.3**
BURAR Bucovina Array 79.06 343⇓*i*P **P 03 33 45.4 0.0**
BURAR Bucovina Array 79.06 343 P **P 03 33 46.7 +1.3**
TBI Tubuai 79.08 152 *e*P **P 03 33 46.3 +0.7**
comp=Z,474nm,1.2s,mb6.3
TBI *e*S S 03 43 42.0 +1.4
TBI
comp=Z,61μm,34.2s
TBI *e*SS SS 03 48 51.1 +3.0
comp=Z,13μm,27.2s
TBI *e*LR LR 03 58 17.2
comp=Z,95μm,24.0s,baz=338
TBI Tubuai 79.08 152 *e*P **P 03 33 46.3 +0.7**
comp=Z,474nm,1.2s,mb6.3
TBI *e*S S 03 43 42.0 +1.4
TBI *e*SS SS 03 48 51.1 +3.0
TOD Tromm 79.13 354 *e*P **P 03 33 46.2 +0.5**
BBSR BB Station 79.14 51 *e*P **P 03 33 46.1 0.0**
comp=Z,69nm,0.7s,mb5.7
BBSR LR LR
comp=Z,58μm,21.0s,MS6.9
KOLL Kolacno 79.20 348 *i* P **P 03 33 46.2 +0.1**
WLF Walferdange 79.22 356 P **P 03 33 46.4 +0.2**
WLF Walferdange 79.22 356 *e*P **P 03 33 46.1 -0.1**
WLF pmax pmax
comp=Z,357nm,1.0s,mb6.2
WLF MLR MLR
comp=Z,54μm,21.0s,MS6.9
WLF Walferdange 79.22 356 *e*P **P 03 33 46.0 -0.2**
comp=Z,450nm,1.1s,mb6.3
WLF Walferdange 79.22 356 *e*P **P 03 33 46.1 -0.1**
comp=Z,356nm,1.0s,mb6.2
WLF LR LR
comp=Z,54μm,21.0s,MS6.9
KHC Kasperske Hory 79.22 351 *e*P **P 03 33 45.8 -0.4**
KHC AMS AMS 04 12 40.0
comp=Z,56μm,20.4s
VYHS Vyhne 79.23 347 *i* P **P 03 33 46.1 -0.2**
VYHS pmax pmax
comp=Z,128nm,1.2s,mb5.7
VYHS Vyhne 79.23 347 *i* P **P 03 33 46.1 -0.2**
comp=Z,128nm,1.2s,mb5.7
VYHS *e*S S 03 44 00.6 +19
VYHS *i* SS SS 03 48 52.1 +4.5
KULM Kulim 79.25 265⇑P **P 03 33 47.7 +0.8**
SWS Schriesheim-Wi 79.26 354 P **P 03 33 47.4 +1.0**
WET Wettzell 79.27 351 *e*P **P 03 33 46.0 -0.5**
WET pmax pmax
comp=Z,214nm,1.2s,mb6.0
WET Wettzell 79.27 351 *e*P **P 03 33 46.0 -0.5**
comp=Z,214nm,1.2s,mb6.0
SIND Sindeldorf 79.33 354 P **P 03 33 46.3 -0.6**
SOC Sochi 79.36 332 *e*P **P 03 33 47.4 +0.3**
SOC *e* 03 33 56.7
SOC *e*S S 03 43 58.4 +15
SOC pmax pmax
comp=Z,122nm,1.2s,mb5.7
SOC MLR MLR
comp=Z,40μm,20.0s,MS6.8
KTD Kalmit 79.46 355 *e*P **P 03 33 47.4 -0.1**
GEC2 GERESS Array S 79.49 351 *e*P **P 03 33 47.0 -0.7**
GEC2 pmax pmax
comp=Z,217nm,1.1s,mb6.0
GEC2 GERESS Array S 79.49 351 *e*P **P 03 33 47.0 -0.7**
comp=Z,217nm,1.1s,mb6.0
GERES GERESS Array B 79.49 351 P **P 03 33 47.0 -0.7**
comp=Z,50nm,0.7s,mb5.6,baz=21,slow=4.0,SNR=153
GERES PKKPbc PKKPbc 03 52 34.0 +0.1
comp=Z,2.1nm,0.9s,baz=198,slow=2.5,SNR=6.7
GERES PKPPKP 04 00 40.7
comp=Z,2.9nm,1.0s,baz=149,slow=3.1,SNR=8.0
GERES LR LR 04 13 22.9
comp=Z,61μm,20.9s,MS6.9,baz=9.7,slow=39
WSI Waingapu 79.53 240⇓*e*P **P 03 33 48.0 -0.3**
MODS Modra-Piesok 79.55 348 *i* P **P 03 33 48.3 +0.3**
MODS pmax pmax
comp=Z,322nm,1.6s,mb6.0
MODS Modra-Piesok 79.55 348 *i* P **P 03 33 48.3 +0.3**
comp=Z,322nm,1.6s,mb6.0
MODS *e*S S 03 43 47.7 +2.5
SIM Simferopol' 79.64 336 *e*P **P 03 33 49.9 +1.3**
SIM pmax pmax
comp=Z,52nm,0.8s,mb5.5
SIM MLR MLR
comp=Z,81μm,22.7s,MS7.0
PSZ Piszkesteto 79.64 347 *e*P **P 03 33 48.6 +0.1**
PSZ pmax pmax
comp=Z,560nm,1.3s,mb6.3
PSZ MLR MLR
comp=Z,41μm,22.0s,MS6.7
PSZ Piszkesteto 79.64 347⇑*e*P **P 03 33 50.0 +1.5**
PSZ Piszkesteto 79.64 347⇓*i*P **P 03 33 49.4 +0.9**
PSZ Piszkesteto 79.64 347 *e*P **P 03 33 48.6 +0.1**
comp=Z,560nm,1.3s,mb6.3
PSZ LR LR
comp=Z,41μm,22.0s,MS6.7
IPM Ipoh 79.64 264⇑P **P 03 33 49.2 +0.2**
ZST Bratislava 79.75 348 *i* P **P 03 33 49.5 +0.4**
ZST pmax pmax
comp=Z,238nm,0.9s,mb6.1
ZST Bratislava 79.75 348 *i* P **P 03 33 49.5 +0.4**
comp=Z,238nm,0.9s,mb6.1
LANF Langenberg 79.82 355 *e*P **P 03 33 49.8 +0.3**
STU Stuttgart 79.94 354 *e*P **P 03 33 49.4 -0.7**
comp=Z,298nm,1.0s,mb6.2
STU *e* pP 03 34 06.5 +1.1
MYKOM Kota Tinggi 79.98 260⇓P **P 03 33 52.2 +1.3**
HDH Heidenheim-Cha 80.05 353 P **P 03 33 50.5 -0.3**
LBG Lerchenberg 80.07 354 P **P 03 33 51.8 +0.9**
KGM Kluang 80.13 261⇓P **P 03 33 53.1 +1.4**
CONA Conrad Observa 80.16 349⇑*i*P **P 03 33 54.0 +2.7**
comp=Z,243nm,1.1s,mb6.0
CONA Conrad Observa 80.16 349 *i* P **P 03 33 51.4 +0.1**
comp=Z,16nm,0.8s,mb5.0,SNR=144
CONA ⇑*r*pP pP 03 33 54.0 -13
comp=Z,243nm,1.1s
CONA Conrad Observa 80.16 349⇑*i*P **P 03 33 54.0 +2.7**
comp=Z,243nm,1.1s,mb6.0
BUD Budapest 80.19 347 *e*P **P 03 33 53.0 +1.5**
STR Strasbourg 80.21 355 *e*P **P 03 33 52.5 +0.9**
FRIM Kepong 80.23 263⇓P **P 03 33 53.1 +0.9**
BUCH Bad Urach 80.25 354 P **P 03 33 51.8 0.0**
FLN La Foliniere 80.25 0 *e*P **P 03 33 51.0 -0.8**
comp=Z,2μm,1.4s,mb6.5
FLN *e*MLR MLR
comp=Z,36μm,19.5s,MS6.4
FLN La Foliniere 80.25 0 *e*P **P 03 33 51.0 -0.8**
FLN pmax pmax
comp=Z,982nm,1.4s,mb6.5
FLN MLR MLR
comp=Z,36μm,19.5s,MS6.7
FLN La Foliniere 80.25 0 *e*P **P 03 33 51.0 -0.8**
comp=Z,982nm,1.4s,mb6.5
FLN LR LR
comp=Z,36μm,19.5s,MS6.7
RAO Raoul Island 80.28 178 LR LR 04 02 59.6
comp=Z,18μm,21.3s,MS6.4,baz=16,slow=31
RAO Raoul Island 80.28 178 PFAKE 03 34 00.0 +8.0
RAO LR LR
comp=Z,23μm,21.0s,MS6.5
DRGR 80.30 344⇓*i*P **P 03 33 51.9 -0.2**
DRGR 80.30 344 P **P 03 33 52.1 0.0**
SOP Sopron 80.32 349⇑*e*P **P 03 33 53.7 +1.5**
NGP Nagpur 80.32 292 *e*P **P 03 33 49.0 -3.6**
NGP AMb AMB 03 33 57.5
comp=Z,548nm,1.7s,mb6.2
NGP *e*S S 03 43 50.9 -3.2
JASL Jaisalmer 80.35 301 *e*P **P 03 33 53.0 +0.3**
JASL AMb AMB 03 34 00.1
comp=Z,950nm,1.4s,mb6.5
FUR Furstenfeldbru 80.38 352 *e*P **P 03 33 51.9 -0.6**
FUR pmax pmax
comp=Z,441nm,1.0s,mb6.3
FUR Furstenfeldbru 80.38 352 *e*P **P 03 33 51.9 -0.6**
comp=Z,441nm,1.0s,mb6.3
CDF Champ du Feu 80.41 355 *e*P **P 03 33 52.0 -0.7**
comp=Z,583nm,1.2s,mb6.1
CDF Champ du Feu 80.41 355 *e*P **P 03 33 52.0 -0.7**
CDF pmax pmax
comp=Z,291nm,1.2s,mb6.1
CDF Champ du Feu 80.41 355 *e*P **P 03 33 52.0 -0.7**
comp=Z,291nm,1.2s,mb6.1
MOA Molln 80.42 350⇑*i*P **P 03 33 52.1 -0.6**
comp=Z,128nm,1.6s,mb5.6,SNR=82
MEZF Maizieres J'vi 80.42 357 *e*P **P 03 33 52.3 -0.4**
comp=Z,1μm,1.2s,mb6.4
MEZF Maizieres J'vi 80.42 357 *e*P **P 03 33 52.3 -0.4**
comp=Z,1μm,1.2s,mb6.7
LDF La Druitiere 80.42 0 *e*P **P 03 33 51.9 -0.9**
comp=Z,611nm,0.8s,mb6.3
LDF La Druitiere 80.42 0 *e*P **P 03 33 51.9 -0.9**
LDF pmax pmax
comp=Z,305nm,0.8s,mb6.3
LDF La Druitiere 80.42 0 *e*P **P 03 33 51.9 -0.9**
comp=Z,306nm,0.8s,mb6.3
BFO Black Forest 80.43 354 P **P 03 33 52.7 -0.1**
comp=Z,1μm,1.0s,mb6.7,SNR=41
BFO Black Forest 80.43 354 *e*P **P 03 33 52.1 -0.7**
BFO *e* pP 03 34 09.3 +1.2
BFO pmax pmax
comp=Z,282nm,1.1s,mb6.1
BFO MLR MLR
comp=Z,20μm,20.0s,MS6.5
BFO Black Forest 80.43 354 *e*P **P 03 33 52.1 -0.7**
comp=Z,282nm,1.1s,mb6.1
BFO *e* pP 03 34 09.3 +1.2
BFO Black Forest 80.43 354 *e*P **P 03 33 52.1 -0.7**
comp=Z,282nm,1.1s,mb6.1
BFO *e* pP 03 34 09.3 +1.2
BFO LR LR
comp=Z,20μm,20.0s,MS6.5
VIS Vishakhapatnam 80.44 286 *i* P **P 03 33 54.4 +1.1**
VIS *ex* x 03 33 59.4
comp=Z,354nm,1.7s
VIS *i* x x 03 44 04.0
VRI Vrincioaia 80.45 341⇓*i*P **P 03 33 54.1 +1.2**
VRI Vrincioaia 80.45 341 P **P 03 33 54.0 +1.1**
ODB Odobesti 80.47 341⇓*i*P **P 03 33 55.9 +2.9**
PLOR Plostina 80.48 341⇓*i*P **P 03 33 54.6 +1.5**
ECH Echery 80.61 355 *e*P **P 03 33 54.2 +0.4**
ECH Echery 80.61 355 *e*P **P 03 33 53.2 -0.5**
GRR Gorron 80.63 1 *e*P **P 03 33 53.2 -0.6**
comp=Z,1μm,0.9s,mb6.5
GRR Gorron 80.63 1 *e*P **P 03 33 53.2 -0.6**
GRR pmax pmax
comp=Z,504nm,0.9s,mb6.5
GRR Gorron 80.63 1 *e*P **P 03 33 53.2 -0.6**
comp=Z,504nm,0.9s,mb6.5
SPAK Spaichingen-Ko 80.63 354 *e*P **P 03 33 54.2 +0.3**
GUT Gutenstein 80.64 354 P **P 03 33 53.7 -0.2**
ROSF Rostrenen 80.64 2 *e*P **P 03 33 53.2 -0.7**
comp=Z,2μm,1.5s,mb6.5
ROSF Rostrenen 80.64 2 *e*P **P 03 33 53.2 -0.7**
ROSF pmax pmax
comp=Z,928nm,1.5s,mb6.5
ROSF Rostrenen 80.64 2 *e*P **P 03 33 53.2 -0.7**
comp=Z,928nm,1.5s,mb6.5
LIBD Limburg 80.66 355 *e*P **P 03 33 54.4 +0.4**
THEF They Montfort 80.66 356 *e*P **P 03 33 54.7 +0.7**
BCA Borcka 80.72 330 *e*P **P 03 33 54.9 +0.4**
SGMF Saint Gilles 80.74 2 *e*P **P 03 33 53.7 -0.7**
comp=Z,1μm,0.9s,mb6.5
SGMF Saint Gilles 80.74 2 *e*P **P 03 33 53.7 -0.7**
SGMF pmax pmax
comp=Z,518nm,0.9s,mb6.5
SGMF Saint Gilles 80.74 2 *e*P **P 03 33 53.7 -0.7**
comp=Z,518nm,0.9s,mb6.5
KIZ Kirchzarten 80.83 355 P **P 03 33 55.7 +0.8**

TGUH Tegucigalpa,Un 80.84 79 *eP* **P 03 33 56.4 +0.9**
comp=Z,2µm,1.5s,mb6.8
TGUH LR LR
comp=Z,34µm,22.0s,MS6.7
GNI Garni 80.86 327 *eP* **P 03 34 00.5 +5.3**
GNI Garni 80.86 327 P **P 03 33 56.6 +1.4**
SNR=46
GNI Garni 80.86 327 P **P 03 33 56.6 +1.4**
SNR=46
GNI Garni 80.86 327 P **P 03 33 56.6 +1.4**
SNR=46
GNI Garni 80.86 327 P **P 03 33 56.6 +1.4**
SNR=46
GNI Garni 80.86 327 P **P 03 33 56.6 +1.4**
SNR=46
GNI Garni 80.86 327 P **P 03 33 56.6 +1.4**
SNR=46
GNI Garni 80.86 327 P **P 03 33 56.6 +1.4**
SNR=46
GNI Garni 80.86 327 P **P 03 33 56.6 +1.4**
SNR=46
GNI Garni 80.86 327 P **P 03 33 57.8 +2.6**
comp=Z,61nm,1.0s,mb5.5,baz=189,slow=3.0,SNR=24
GNI Garni 80.86 327 *eP* **P 03 33 56.7 +1.5**
GNI pmax pmax
comp=Z,217nm,1.1s
GNI MLR MLR
comp=Z,48µm,20.0s
GNI Garni 80.86 327 *eP* **P 03 33 56.6 +1.4**
comp=Z,217nm,1.1s,mb6.0
GNI LR LR
comp=Z,48µm,20.0s,MS6.8
HAU Haudompre 80.86 356 *eP* **P 03 33 54.7 -0.4**
comp=Z,542nm,1.1s,mb6.1
HAU *e*MLR MLR
comp=Z,68µm,20.0s,MS6.7
HAU Haudompre 80.86 356 *eP* **P 03 33 54.7 -0.4**
HAU pmax pmax
comp=Z,271nm,1.1s,mb6.1
HAU MLR MLR
comp=Z,68µm,20.0s,MS7.0
HAU Haudompre 80.86 356 *eP* **P 03 33 54.7 -0.4**
comp=Z,271nm,1.1s,mb6.1
HAU LR LR
comp=Z,68µm,20.0s,MS7.0
ARSA Arzberg 80.87 349⇑*iP* **P 03 33 57.9 +2.7**
comp=Z,416nm,1.6s,mb6.1
ARSA Arzberg 80.87 349⇑*iP* **P 03 33 55.4 +0.3**
SNR=134
ARSA ⇑*i*PcP PcP 03 33 57.9 -3.8
comp=Z,416nm,1.6s
ARSA Arzberg 80.87 349⇑*iP* **P 03 33 57.9 +2.7**
comp=Z,416nm,1.6s,mb6.1
FELD Feldberg im Sc 80.91 355 *eP* **P 03 33 54.7 -0.6**
UBR Ueberruh 80.96 353 P **P 03 33 56.6 +1.0**
MLR Muntele Rosu 80.96 342⇓*iP* **P 03 33 57.9 +2.2**
MLR Muntele Rosu 80.96 342 P **P 03 33 56.8 +1.1**
KARS Kars 81.00 328 *eP* **P 03 33 59.0 +3.0**
HINF Hinteralfeld 81.03 355 *eP* **P 03 33 55.4 -0.6**
comp=Z,388nm,1.2s,mb5.9
HINF Hinteralfeld 81.03 355 *eP* **P 03 33 55.4 -0.6**
HINF pmax pmax
comp=Z,194nm,1.2s,mb5.9
HINF Hinteralfeld 81.03 355 *eP* **P 03 33 55.4 -0.6**
comp=Z,194nm,1.2s,mb5.9
SISB Singen-Schiene 81.03 354 P **P 03 33 57.9 +1.9**
KHKI Kahang-Kahang 81.06 245⇓*eP* **P 03 33 52.9 -3.7**
KHKI *e*S sP 03 34 26.9 +9.1
QUIF Quistinic 81.06 2 *eP* **P 03 33 55.1 -1.1**
RETA Reutte 81.10 353⇑*iP* **P 03 33 58.5 +2.2**
comp=Z,258nm,1.4s,mb6.0
RETA Reutte 81.10 353⇑*iP* **P 03 33 56.0 -0.4**
comp=Z,5.8nm,0.9s,SNR=117
RETA ⇑*i*PcP PcP 03 33 58.5 -4.1
comp=Z,258nm,1.4s
WATA Walderalm 81.18 352⇑*iP* **P 03 33 58.7 +1.9**
comp=Z,255nm,0.7s,mb6.3
WATA Walderalm 81.18 352 *i* P **P 03 33 56.7 -0.1**
comp=Z,17nm,0.8s,mb5.0,SNR=128
WATA ⇑*i*PcP PcP 03 33 58.7 -4.3
comp=Z,255nm,0.7s
WATA Walderalm 81.18 352⇑*iP* **P 03 33 58.7 +1.9**
WATA pmax pmax
comp=Z,255nm,0.7s,mb6.3
WATA Walderalm 81.18 352⇑*iP* **P 03 33 58.7 +1.9**
comp=Z,255nm,0.7s,mb6.3
VOIR 81.19 342⇑*iP* **P 03 33 57.2 +0.3**
VOIR 81.19 342 P **P 03 33 57.9 +1.1**
ISR Istrita 81.20 341⇑*iP* **P 03 33 59.3 +2.3**
MOTA Moosalm 81.21 352⇑*iP* **P 03 33 59.2 +2.2**
comp=Z,358nm,1.1s,mb6.2
MOTA Moosalm 81.21 352 *i* P **P 03 33 56.9 0.0**
comp=Z,18nm,0.7s,mb5.1,SNR=135
MOTA ⇑*i*PcP PcP 03 33 59.2 -3.9
comp=Z,358nm,1.1s
MOTA Moosalm 81.21 352⇑*iP* **P 03 33 59.2 +2.2**
MOTA pmax pmax
comp=Z,358nm,1.1s,mb6.2
MOTA Moosalm 81.21 352⇑*iP* **P 03 33 59.2 +2.2**
comp=Z,358nm,1.1s,mb6.2
WTTA Wattenberg 81.25 352⇑*iP* **P 03 33 59.9 +2.7**
comp=Z,388nm,0.8s,mb6.4
WTTA Wattenberg 81.25 352⇑*iP* **P 03 33 57.2 0.0**
comp=Z,88nm,0.9s,mb5.7,SNR=139
WTTA ⇑*i*PcP PcP 03 33 59.9 -3.4
comp=Z,388nm,0.8s
WTTA Wattenberg 81.25 352⇑*iP* **P 03 33 59.9 +2.7**
WTTA pmax pmax
comp=Z,389nm,0.8s,mb6.4
WTTA Wattenberg 81.25 352⇑*iP* **P 03 33 59.9 +2.7**
comp=Z,388nm,0.8s,mb6.4
KBA Koelnbreinsper 81.27 351 *i* P **P 03 33 57.8 +0.5**
comp=Z,914nm,0.7s,mb6.8,SNR=395
KBA Koelnbreinsper 81.27 351 *i* P **P 03 33 57.8 +0.5**
KBA pmax pmax
comp=Z,915nm,0.7s,mb6.8
HARR Harsova 81.33 340⇑*iP* **P 03 33 58.2 +0.6**
HARR Harsova 81.33 340 P **P 03 33 59.5 +1.9**
SQTA Sankt Quirin 81.33 352⇑*iP* **P 03 33 59.6 +2.0**
SQTA Sankt Quirin 81.33 352⇓*iP* **P 03 33 57.8 +0.2**
SNR=36
SQTA ⇑*i*PcP PcP 03 33 59.6 -4.0
SQTA Sankt Quirin 81.33 352⇑*iP* **P 03 33 59.6 +2.0**
BBS Basel-Blauen 81.34 355 *eP* **P 03 33 58.1 +0.4**
DAVA Damuels 81.37 353⇑*iP* **P 03 33 58.6 +0.8**
comp=Z,184nm,1.4s,mb5.8,SNR=75
TIRR Tirgusor 81.44 340 *eP* **P 03 33 57.5 -0.8**
TIRR pmax pmax
comp=Z,146nm,1.0s,mb5.9
TIRR Tirgusor 81.44 340⇓*iP* **P 03 33 58.5 +0.2**
TIRR Tirgusor 81.44 340 *eP* **P 03 33 57.5 -0.8**
comp=Z,146nm,1.0s,mb5.9
WRAB Tennant Creek 81.48 223 P **P 03 33 57.1 -1.5**
comp=Z,1µm,1.0s,mb6.7,SNR=25
WRAB Tennant Creek 81.48 223 *eP* **P 03 33 56.5 -2.1**
WRAB pmax pmax
comp=Z,195nm,1.0s,mb6.0
WRAB MLR MLR
comp=Z,10µm,20.0s,MS6.2
WRAB Tennant Creek 81.48 223 *eP* **P 03 33 56.5 -2.1**
comp=Z,196nm,1.0s,mb6.0
WRAB LR LR
comp=Z,10µm,20.0s,MS6.2
WB2 Warramunga Arr 81.48 223 *eP* **P 03 33 56.3 -2.3**
WB2 *e*S S 03 44 02.9 -3.0
PKSM Moragy 81.49 347⇓*iP* **P 03 33 57.8 -0.7**
PKSM Moragy 81.49 347 P **P 03 33 58.9 +0.4**
SOKA Soboth 81.49 350⇑*iP* **P 03 34 01.0 +2.6**
SOKA Soboth 81.49 350⇑*iP* **P 03 33 58.3 -0.2**
SOKA ⇑*i*PcP PcP 03 34 01.0 -3.3
WRA Warramunga Arr 81.49 223 P **P 03 33 56.8 -1.9**
comp=Z,77nm,0.9s,mb5.7,baz=37,slow=5.7,SNR=112
WRA S S 03 44 08.8 +2.8
comp=Z,8.6nm,1.4s,baz=44,slow=6.9,SNR=7.2
WRA LR LR 04 09 29.2
comp=Z,8µm,19.6s,MS6.1,baz=45,slow=35
WRA Warramunga Arr 81.49 223 P **P 03 33 56.8 -1.9**
WRA S S 03 44 08.8 +2.8
WRA pmax pmax
comp=Z,77nm,0.9s
WRA smax
comp=N,9.0nm,1.4s
WRA MLR MLR
comp=Z,8µm,19.6s

PERS Pernice 81.52 350 *iP* **P 03 33 58.5 -0.1**
FETA Feichten 81.57 353⇑⇑*iP* **P 03 34 01.4 +2.5**
comp=Z,224nm,1.0s,mb6.0
FETA Feichten 81.57 353 *i* P **P 03 33 58.7 -0.2**
comp=Z,16nm,0.9s,mb5.0,SNR=119
FETA ⇑⇑*i*PcP PcP 03 34 01.4 -3.3
comp=Z,224nm,1.0s
KOGS Kog 81.57 349 P **P 03 33 59.7 +0.8**
BZS Buzias 81.62 345⇓⇓*iP* **P 03 33 58.9 -0.3**
BZS Buzias 81.62 345 P **P 03 33 58.9 -0.2**
GZR Gura Zlata 81.64 344⇓⇓*iP* **P 03 33 59.4 +0.1**
GZR Gura Zlata 81.64 344 P **P 03 33 59.4 +0.1**
ABTA Abfaltersbach 81.68 351⇑⇑*iP* **P 03 34 01.7 +2.2**
comp=Z,318nm,0.9s,mb6.3
ABTA Abfaltersbach 81.68 351⇑⇑*iP* **P 03 33 59.1 -0.4**
comp=Z,15nm,0.8s,mb5.0,SNR=162
ABTA ⇑⇑*i*PcP PcP 03 34 01.7 -3.5
comp=Z,318nm,0.9s
MYKA Terra Mystica 81.69 351⇑⇑*iP* **P 03 34 00.0 +0.5**
comp=Z,198nm,1.0s,mb6.0
LOR Lormes 81.70 357 *eP* **P 03 33 58.9 -0.6**
comp=Z,635nm,1.2s,mb6.1
LOR *e*MLR MLR
comp=Z,50µm,20.2s,MS6.6
LOR Lormes 81.70 357 *eP* **P 03 33 58.9 -0.6**
LOR pmax pmax
comp=Z,318nm,1.2s,mb6.1
LOR MLR MLR
comp=Z,50µm,20.3s,MS6.9
LOR Lormes 81.70 357 *eP* **P 03 33 58.9 -0.6**
comp=Z,318nm,1.2s,mb6.1
LOR LR LR
comp=Z,50µm,20.3s,MS6.9
OBKA Obir 81.71 350⇑⇑*iP* **P 03 34 02.3 +2.6**
comp=Z,298nm,0.9s,mb6.2
OBKA Obir 81.71 350⇓⇓*iP* **P 03 33 59.7 +0.1**
comp=Z,68nm,1.0s,mb5.5,SNR=114
OBKA ⇑⇑*i*PcP PcP 03 34 02.3 -3.0
comp=Z,298nm,0.9s
OBKA Obir 81.71 350⇑⇑*iP* **P 03 34 02.3 +2.6**
comp=Z,298nm,0.9s,mb6.2
HYF Humbligny 81.72 358 *eP* **P 03 33 59.3 -0.4**
DAVOS Davos 81.82 353 P **P 03 34 00.8 +0.6**
AKL Akola 81.85 293 *iP* **P 03 34 02.0 +1.2**
AKL AMb AMB 03 34 07.2
comp=Z,479nm,1.0s,mb6.4
AKL *i*S S 03 44 14.8 +4.7
DAVOX Davos/Dischmat 81.87 353 P **P 03 34 00.8 +0.4**
comp=Z,152nm,0.8s,mb6.0,baz=348,slow=8.7,SNR=106
SSF Saint Saulge 81.91 358 *eP* **P 03 34 00.1 -0.6**
comp=Z,497nm,1.1s,mb6.1
SSF Saint Saulge 81.91 358 *eP* **P 03 34 00.1 -0.6**
SSF pmax pmax
comp=Z,248nm,1.1s,mb6.0
SSF Saint Saulge 81.91 358 *eP* **P 03 34 00.1 -0.6**
comp=Z,248nm,1.1s,mb6.0
AGRB Hanur-Agry 81.96 328 *eP* **P 03 34 04.3 +3.2**
CLDR Caldiran 82.04 327 *eP* **P 03 34 03.7 +2.2**
BUC1 Bucharest 82.04 341 P **P 03 34 02.5 +1.1**
BRMO Bormio 82.14 353 P **P 03 34 04.2 +2.3**
LJU Ljubljana 82.17 350 *iP* **P 03 34 02.2 +0.2**
LJU *e*S S 03 44 20.9 +8.3
AVF Avril sur Loir 82.19 358 *eP* **P 03 34 01.5 -0.6**
comp=Z,694nm,1.1s,mb6.2
AVF Avril sur Loir 82.19 358 *eP* **P 03 34 01.5 -0.6**
AVF pmax pmax
comp=Z,347nm,1.1s,mb6.2
AVF Avril sur Loir 82.19 358 *eP* **P 03 34 01.5 -0.6**
comp=Z,347nm,1.1s,mb6.2
EZM Erzurum 82.20 329 *eP* **P 03 34 03.3 +1.0**
TUE Stuetta 82.22 354 *eP* **P 03 34 02.0 -0.3**
comp=Z,360nm,0.9s,mb6.3
TRT Tretes 82.23 247⇓⇓*eP* **P 03 34 00.0 -2.7**
PSN Preselentsi 82.23 340 P **P 03 34 03.5 +1.1**
VOY Vojsko 82.25 350 *eP* **P 03 34 01.7 -0.8**
VOY *e* pP 03 34 19.5 +1.7
VOY *e* 03 34 57.8
CABF La Chapelle 82.27 356 *eP* **P 03 34 02.1 -0.5**
comp=Z,658nm,1.2s,mb6.1
CABF La Chapelle 82.27 356 *eP* **P 03 34 02.1 -0.5**
CABF pmax pmax
comp=Z,329nm,1.2s,mb6.1
CABF La Chapelle 82.27 356 *eP* **P 03 34 02.1 -0.5**
comp=Z,329nm,1.2s,mb6.1
CRES Cresnjev 82.28 349 P **P 03 34 02.7 +0.1**
GUMT Gumushane 82.29 331 *eP* **P 03 34 01.9 -0.9**
SMF Signal de Mont 82.32 357 *eP* **P 03 34 02.3 -0.5**
comp=Z,1µm,1.2s,mb6.4
SMF Signal de Mont 82.32 357 *eP* **P 03 34 02.3 -0.5**
SMF pmax pmax
comp=Z,573nm,1.2s,mb6.4
SMF Signal de Mont 82.32 357 *eP* **P 03 34 02.3 -0.5**
comp=Z,573nm,1.2s,mb6.4
JAVS Javornik 82.37 350 *eP* **P 03 34 03.0 -0.1**
DJES Djerdap 82.39 344 P **P 03 34 04.0 +0.8**
DIKM Dikmen 82.41 334 *eP* **P 03 34 04.6 +1.2**
MFF Saint Martin d 82.42 0 *eP* **P 03 34 02.2 -1.1**
comp=Z,677nm,1.1s,mb6.2
MFF Saint Martin d 82.42 0 *eP* **P 03 34 02.2 -1.1**
MFF pmax pmax
comp=Z,338nm,1.1s,mb6.2
MFF Saint Martin d 82.42 0 *eP* **P 03 34 02.2 -1.1**
comp=Z,338nm,1.1s,mb6.2
BGF Bois d'Agland 82.43 358 *eP* **P 03 34 02.8 -0.6**
comp=Z,661nm,1.2s,mb6.1
BGF Bois d'Agland 82.43 358 *eP* **P 03 34 02.8 -0.6**
BGF pmax pmax
comp=Z,331nm,1.2s,mb6.1
BGF Bois d'Agland 82.43 358 *eP* **P 03 34 02.8 -0.6**
comp=Z,331nm,1.2s,mb6.1
CTI Castel Tesino 82.45 352 P **P 03 34 06.3 +2.8**
CRAR CRAIOVA 82.49 343 P **P 03 34 04.5 +0.7**
MABI Malga Bissina 82.54 353 P **P 03 34 06.7 +2.7**
BEO Beograd 82.59 345 P **P 03 34 03.5 -0.8**
BOJS Bojanci 82.62 349 *iP* **P 03 34 04.1 -0.3**
VANB Van 82.71 327 *eP* **P 03 34 05.9 +0.9**
TCF Toulx Ste Croi 82.71 358 *eP* **P 03 34 04.3 -0.6**
comp=Z,313nm,1.0s,mb6.0
TCF Toulx Ste Croi 82.71 358 *eP* **P 03 34 04.3 -0.6**
TCF pmax pmax
comp=Z,157nm,1.0s,mb6.0
TCF Toulx Ste Croi 82.71 358 *eP* **P 03 34 04.3 -0.6**
comp=Z,157nm,1.0s,mb6.0
BYBT Boyabat 82.72 334 *eP* **P 03 34 06.3 +1.3**
KVT Kavak 82.72 333 *eP* **P 03 34 04.3 -0.8**
ZIMR 82.84 342⇓*iP* **P 03 34 06.6 +1.0**
ZIMR 82.84 342 P **P 03 34 06.6 +1.0**
PRD Provadia 82.86 340 P **P 03 34 06.8 +1.1**
AGO Saint Agoulin 82.93 358 *eP* **P 03 34 06.9 +0.9**
RSDY Resadiye-TOKAT 82.99 332 *eP* **P 03 34 05.3 -1.2**
PLDF La Plantade 83.00 357 *eP* **P 03 34 07.6 +1.2**
SZH Strazhica 83.10 341 P **P 03 34 07.3 +0.4**
ORO Oropa 83.15 354 P **P 03 34 07.3 +0.2**
PYM Petit Puy Mans 83.23 358 *eP* **P 03 34 08.1 +0.5**
TOKT Tokat 83.29 333 *eP* **P 03 34 08.4 +0.5**
TOS Tosya 83.32 335 *eP* **P 03 34 08.6 +0.5**
LPL La Plagne 83.33 355 *eP* **P 03 34 07.9 -0.2**
comp=Z,198nm,0.9s,mb5.8
LPL La Plagne 83.33 355 *eP* **P 03 34 07.9 -0.2**
LPL pmax pmax
comp=Z,99nm,0.9s,mb5.8
LPL La Plagne 83.33 355 *eP* **P 03 34 07.9 -0.2**
comp=Z,99nm,0.9s,mb5.8
LPG La Plagne 83.35 355 *eP* **P 03 34 07.9 -0.3**
comp=Z,685nm,1.3s,mb6.2
LPG La Plagne 83.35 355 *eP* **P 03 34 07.9 -0.3**
LPG pmax pmax
comp=Z,343nm,1.3s,mb6.2
LPG La Plagne 83.35 355 *eP* **P 03 34 07.9 -0.3**
comp=Z,343nm,1.3s,mb6.2
DIVS Divibare 83.36 346 *eP* **P 03 34 08.0 -0.3**
LSD Lago del Serru 83.36 355 P **P 03 34 08.8 +0.5**
CVJ Coleyville 83.47 69⇓*iP* **P 03 34 10.6 +1.4**
SAFT Safranbolu 83.48 336 *eP* **P 03 34 09.7 +0.7**
BBJ Bamboo Saint A 83.50 69⇓*iP* **P 03 34 10.9 +1.6**
HKR Hakkari 83.51 326 *eP* **P 03 34 10.4 +1.2**
HYB Hyderabad 83.52 290 *eP* **P 03 34 09.0 -0.5**
HYB pmax pmax
comp=Z,330nm,1.0s,mb6.4
HYB Hyderabad 83.52 290 *iP* **P 03 34 09.0 -0.5**
comp=Z,330nm,1.0s,mb6.4
HYB *e*S S 03 44 28.0 +0.9
HYB LR LR 04 15 10.0
comp=Z,23nm,16.0s
HYB Hyderabad 83.52 290 *eP* **P 03 34 09.0 -0.5**

comp=Z,330nm,1.0s,mb6.4
HYB *e*S S 03 44 38.0 +11
SVSK Karacayir 83.53 332 *eP* **P 03 34 07.4 -1.8**
NVLJ Novalja 83.59 349 P **P 03 34 09.9 +0.4**
GRN Grenoble 83.65 356 *eP* **P 03 34 11.0 +1.3**
GRN Grenoble 83.65 356 *eP* **P 03 34 10.8 +1.1**
SSB Saint Sauveur 83.66 357 *eP* **P 03 34 09.1 -0.7**
RSP Reno Superiore 83.67 355 P **P 03 34 10.0 +0.2**
GDM Grand'Maison 83.67 356 *eP* **P 03 34 11.3 +1.5**
GDM Grand'Maison 83.67 356 *eP* **P 03 34 11.4 +1.6**
RJF Les Rejaudoux 83.71 359 *eP* **P 03 34 09.3 -0.7**
comp=Z,1µm,1.6s,mb6.5
RJF *e*MLR MLR
comp=Z,53µm,20.8s,MS6.6
RJF Les Rejaudoux 83.71 359 *eP* **P 03 34 09.3 -0.7**
RJF pmax pmax
comp=Z,689nm,1.6s,mb6.5
RJF MLR MLR
comp=Z,53µm,20.8s,MS6.9
RJF Les Rejaudoux 83.71 359 *eP* **P 03 34 09.3 -0.7**
comp=Z,689nm,1.6s,mb6.5
RJF LR LR
comp=Z,53µm,20.8s,MS6.9
BTMT Batman 83.71 328 *eP* **P 03 34 11.4 +1.2**
JMB Yambol 83.74 341 *eP* **P 03 34 10.4 +0.2**
JMB Yambol 83.74 341 P **P 03 34 11.0 +0.8**
LBL Lubilhac 83.75 358 *eP* **P 03 34 11.2 +1.0**
BNI Bardonecchia 83.80 355 *eP* **P 03 34 11.5 +1.0**
BNI pmax pmax
comp=Z,399nm,1.0s,mb6.5
BNI MLR MLR
comp=Z,37µm,21.0s,MS6.7
BNI Bardonecchia 83.80 355 *eP* **P 03 34 11.5 +1.0**
comp=Z,398nm,1.0s,mb6.5
BNI LR LR
comp=Z,37µm,21.0s,MS6.7
CANT Cankiri 83.83 335 *eP* **P 03 34 13.8 +3.1**
MASC Masc 83.85 65 *e* **P 03 34 12.0 +0.9**
FITZ Fitzroy Crossi 83.87 231 *e*S S 03 44 27.0 -3.3
FITZ Fitzroy Crossi 83.87 231 S S 03 44 27.7 -2.6
baz=221,slow=19
FITZ LR LR 04 07 05.5
comp=Z,3µm,21.6s,MS5.7,baz=215,slow=32
FITZ Fitzroy Crossi 83.87 231 *eP* **P 03 34 09.5 -1.6**
comp=Z,407nm,1.1s,mb6.5
FITZ *e*S S 03 44 27.0 -3.3
BOB Bobbio (Coli) 83.91 353 P **P 03 34 11.7 +0.7**
LATR Latur 83.91 292 *eP* **P 03 34 12.4 +0.9**
LATR AMb AMB 03 34 35.2
comp=Z,480nm,1.8s,mb6.3
CORM Corum 83.96 334 *eP* **P 03 34 11.6 +0.2**
ORIF Oris-en-Rattie 83.97 356 *eP* **P 03 34 10.7 -0.7**
comp=Z,350nm,1.0s,mb6.2
ORIF *e*MLR MLR
comp=Z,36µm,20.8s,MS6.4
ORIF Oris-en-Rattie 83.97 356 *eP* **P 03 34 10.7 -0.7**
ORIF pmax pmax
comp=Z,175nm,1.0s,mb6.1
ORIF Oris-en-Rattie 83.97 356 *eP* **P 03 34 10.7 -0.7**
comp=Z,175nm,1.0s,mb6.1
BHB Bricherasio 83.97 355 P **P 03 34 11.0 -0.4**
STH Stony Hill 84.01 69⇓*iP* **P 03 34 13.2 +1.2**
SIRT Sirnak 84.02 327 *eP* **P 03 34 13.0 +1.2**
RKT Rikitea 84.03 139 *eP* **P 03 34 10.9 -0.9**
comp=Z,383nm,1.5s,mb6.3
RKT *e*LR LR
comp=Z,88µm,24.2s
RKT *e*LR LR
comp=Z,52µm,24.8s
RKT Rikitea 84.03 139 *e*S S 03 44 30.8 -0.9
comp=Z,20µm,41.8s
RKT *e*SS SS 03 50 03.8 +2.0
comp=Z,16µm,28.2s
RKT Rikitea 84.03 139 *e*LR LR 04 00 30.7
comp=Z,82µm,29.8s
GWJ Greenwich 84.06 69⇓*iP* **P 03 34 13.5 +1.3**
PCJ Portland Cotta 84.07 69⇓*iP* **P 03 34 13.2 +1.0**
CAF Calviac 84.08 359 *eP* **P 03 34 11.2 -0.7**
comp=Z,1µm,1.6s,mb6.5
CAF Calviac 84.08 359 *eP* **P 03 34 11.2 -0.7**
CAF pmax pmax
comp=Z,671nm,1.6s,mb6.5
CAF Calviac 84.08 359 *eP* **P 03 34 11.2 -0.7**
comp=Z,671nm,1.6s,mb6.5
LFF La Frestale 84.08 359 *eP* **P 03 34 11.1 -0.8**
comp=Z,2µm,1.4s,mb6.7
LFF La Frestale 84.08 359 *eP* **P 03 34 11.1 -0.8**
LFF pmax pmax
comp=Z,948nm,1.4s,mb6.7
LFF La Frestale 84.08 359 *eP* **P 03 34 11.1 -0.8**
comp=Z,948nm,1.4s,mb6.7
VIVF Saint-Julien-I 84.08 357 *eP* **P 03 34 11.1 -0.8**
comp=Z,460nm,1.1s,mb6.2
VIVF Saint-Julien-I 84.08 357 *eP* **P 03 34 11.1 -0.8**
VIVF pmax pmax
comp=Z,230nm,1.1s,mb6.2
VIVF Saint-Julien-I 84.08 357 *eP* **P 03 34 11.1 -0.8**
comp=Z,230nm,1.1s,mb6.2
HOJ Hope 84.10 69⇓⇓*iP* **P 03 34 13.2 +0.8**
MBDF Montbardon 84.11 355 *eP* **P 03 34 11.5 -0.6**
comp=Z,588nm,1.2s,mb6.3
MBDF Montbardon 84.11 355 *eP* **P 03 34 11.5 -0.6**
MBDF pmax pmax
comp=Z,294nm,1.2s,mb6.3
MBDF Montbardon 84.11 355 *eP* **P 03 34 11.5 -0.6**
comp=Z,294nm,1.2s,mb6.3
GRAM Graiana 84.13 353 P **P 03 34 12.8 +0.6**
ERBM Eremo 84.18 353 P **P 03 34 14.0 +1.6**
PCP Piancastagn 84.19 354 P **P 03 34 11.2 -1.3**
PLE Pljevlja 84.20 346⇓*iP* **P 03 34 12.0 -0.6**
GSCL Gusciola 84.23 352 P **P 03 34 14.1 +1.4**
SVRC Sivrice-ELAZID 84.25 330 *eP* **P 03 34 13.1 +0.2**
CODM Codolo 84.25 353 P **P 03 34 13.0 +0.2**
VALM Valbona 84.26 353 P **P 03 34 13.8 +0.9**
SC2M Scurtabo 84.26 353 P **P 03 34 13.2 +0.3**
YOZ Yozgat 84.27 333 *eP* **P 03 34 10.8 -2.2**
VTS Vitosha 84.28 343 P **P 03 34 13.1 +0.1**
VTS Vitosha 84.28 343⇓*iP* **P 03 34 12.9 -0.1**
VTS Vitosha 84.28 343 P **P 03 34 14.0 +1.1**
GENL Genova Univers 84.30 354 P **P 03 34 12.8 -0.3**
BARS Barje 84.31 344 P **P 03 34 13.4 +0.3**
DOI San Damiano 84.31 355 P **P 03 34 14.2 +1.1**
YHJ Yallahs 84.34 69⇓*iP* **P 03 34 15.1 +1.5**
BACM Baccana 84.34 353 P **P 03 34 13.6 +0.4**
SURF Saint Ours 84.36 355 *eP* **P 03 34 15.0 +1.7**
SURF Saint Ours 84.36 355 *eP* **P 03 34 14.8 +1.5**
FNVD Fontana Vidola 84.37 352 P **P 03 34 14.2 +0.8**
UPM Unac-Piva 84.40 346⇓⇓*iP* **P 03 34 12.2 -1.4**
SARO Sassorosso 84.41 353 P **P 03 34 14.2 +0.5**
PESA Pesaro 84.43 351 P **P 03 34 15.1 +1.4**
VLC Villacollemand 84.44 353 *eP* **P 03 34 14.0 +0.3**
comp=Z,178nm,0.8s,mb6.2
VLC LR LR
comp=Z,26µm,20.0s,MS6.6
SEI Scarperia 84.46 352 P **P 03 34 15.2 +1.3**
PLD Plovdiv 84.46 342 *eP* **P 03 34 14.9 +0.9**
VINC Vinca 84.47 353 P **P 03 34 13.4 -0.5**
ROB Robourent 84.48 354 P **P 03 34 12.4 -1.6**
BDI Bagni Di Lucca 84.52 352 P **P 03 34 14.6 +0.5**
VMG Vicchio 84.53 352 P **P 03 34 16.6 +2.4**
FIN Finale Ligure 84.55 354 P **P 03 34 13.0 -1.3**
SFI Santa Sofia 84.56 351 P **P 03 34 14.9 +0.5**
STV Sant Anna di V 84.56 355 P **P 03 34 12.2 -2.2**
MYA Malataya 84.57 331 *eP* **P 03 34 15.1 +0.6**
IVA Berane 84.57 345⇓*iP* **P 03 34 13.8 -0.6**
ENR Entracque 84.58 355 P **P 03 34 12.3 -2.2**
MALT Malatya 84.58 331 *eP* **P 03 34 13.0 -1.6**
MALT Malatya 84.58 331 *eP* **P 03 34 15.1 +0.5**
MALT pmax pmax
comp=Z,242nm,1.1s,mb6.2
MALT MLR MLR
comp=Z,29µm,22.0s,MS6.6
MALT Malatya 84.58 331⇓*iP* **P 03 34 15.3 +0.7**
MALT Malatya 84.58 331 *eP* **P 03 34 15.1 +0.5**
comp=Z,242nm,1.1s,mb6.2
MALT LR LR
comp=Z,29µm,22.0s,MS6.6
MDU Mudurnu 84.58 337 *eP* **P 03 34 15.4 +0.8**
RORO Rocca Rossa 84.65 354 P **P 03 34 15.3 +0.5**
MAIM Mastiano 84.67 352 P **P 03 34 14.7 -0.2**
FSSB Fossombrone 84.68 351 P **P 03 34 15.3 +0.3**
AOI Ancona 84.74 350 P **P 03 34 16.9 +1.6**
ANTO Ankara 84.74 335 *eP* **P 03 34 15.6 +0.2**
ANTO Ankara 84.74 335 P **P 03 34 16.5 +1.1**

SNR=23
ANTO Ankara 84.74 335 P **P 03 34 16.5 +1.1**
SNR=23
ANTO Ankara 84.74 335 P **P 03 34 16.5 +1.1**
SNR=23
ANTO Ankara 84.74 335 P **P 03 34 16.5 +1.1**
SNR=23
ANTO Ankara 84.74 335 P **P 03 34 16.5 +1.1**
SNR=23
ANTO Ankara 84.74 335 P **P 03 34 16.5 +1.1**
SNR=23
ANTO Ankara 84.74 335 *eP* **P 03 34 15.5 +0.1**
ANTO pmax pmax
comp=Z,179nm,1.1s,mb6.1
ANTO MLR MLR
comp=Z,39µm,22.0s,MS6.7
ANTO Ankara 84.74 335 ‖ *iP* **P 03 34 16.2 +0.8**
ANTO Ankara 84.74 335 *eP* **P 03 34 15.5 +0.1**
comp=Z,179nm,1.1s,mb6.1
ANTO LR LR
comp=Z,39µm,22.0s,MS6.7
BRY Bratogost 84.75 346 ‖ *iP* **P 03 34 14.3 -1.0**
TOUF Mont Tournerai 84.80 355 *eP* **P 03 34 16.5 +0.9**
AUTN L'Aution 84.81 355 *eP* **P 03 34 17.3 +1.7**
SAOF Saorge 84.81 355 *eP* **P 03 34 15.9 +0.3**
PVY Plav 84.83 345 ‖ *iP* **P 03 34 13.1 -2.6**
BNN Bunyan 84.85 333 *eP* **P 03 34 15.1 -0.9**
LASF Ste Croix 84.89 357 *eP* **P 03 34 15.3 -0.7**
comp=Z,460nm,1.3s,mb6.2
MSL Mosul 84.89 326 *ex* x 03 33 37.0
MSL *ex* x 03 43 27.0
STON Ston 84.90 347 P **P 03 34 15.6 -0.5**
LUCF Luceram 84.91 355 *eP* **P 03 34 16.7 +0.5**
BADI Badiali 84.92 351 P **P 03 34 16.7 +0.5**
MVIF Mont Vial 84.92 355 *eP* **P 03 34 16.1 -0.1**
SMRF Simiane la Rot 84.92 356 *eP* **P 03 34 15.4 -0.8**
comp=Z,732nm,1.1s,mb6.4
SMRF Simiane la Rot 84.92 356 *eP* **P 03 34 15.4 -0.8**
comp=Z,732nm,1.1s,mb6.7
NEGI Seborga 84.94 354 P **P 03 34 16.5 +0.2**
SBF Sospel 84.94 355 *eP* **P 03 34 15.5 -0.8**
comp=Z,1µm,1.0s,mb6.7
SBF Sospel 84.94 355 *eP* **P 03 34 15.5 -0.8**
SBF pmax pmax
comp=Z,572nm,1.0s,mb6.7
SBF Sospel 84.94 355 *eP* **P 03 34 15.5 -0.8**
comp=Z,572nm,1.0s,mb6.7
CING Cingoli 84.95 350 P **P 03 34 16.4 0.0**
KAMT Kaman 84.96 334 *eP* **P 03 34 15.6 -0.9**
CDCA Citt' di Caste 84.97 351 P **P 03 34 17.3 +0.9**
ASAR Alice Springs 84.98 222 P **P 03 34 14.8 -1.7**
comp=Z,69nm,0.8s,mb5.8,baz=42,slow=4.3,SNR=144
ASAR S S 03 44 31.2 -10
baz=43,slow=4.2
ASAR PKPPKP 04 00 28.1
comp=Z,1.1nm,0.8s,baz=160,slow=4.0,SNR=4.4
CSNT Castellina Chi 85.04 352 P **P 03 34 17.0 +0.2**
REVF Revere 85.06 355 *eP* **P 03 34 17.3 +0.4**
MON Monaco 85.07 355 P **P 03 34 17.0 +0.1**
CALN Calern 85.08 355 *eP* **P 03 34 17.7 +0.7**
SNTG Esanatoglia 85.10 351 P **P 03 34 17.1 0.0**
TTG Podgorica 85.10 346 *eP* **P 03 34 16.2 -0.9**
MURB Monte Urbino 85.13 351 P **P 03 34 18.5 +1.2**
ARMA Armidale 85.18 204 *eP* **P 03 34 19.1 +1.7**
ARMA *eS* S 03 44 41.1 -1.7
SKO Skopje 85.19 344 *eP* **P 03 34 18.5 +0.9**
SKO Skopje 85.19 344 ‖ *ePdi* **P 03 34 18.2 +0.6**
HCY Herceg Novi 85.20 346 ‖ *iP* **P 03 34 18.0 +0.4**
URFA Urfa 85.26 330 *eP* **P 03 34 17.9 -0.1**
BUM Brajici-Budva 85.28 346 ‖ *iP* **P 03 34 17.7 -0.3**
FRF La Foret Royal 85.28 355 *eP* **P 03 34 17.1 -0.9**
comp=Z,364nm,0.9s,mb6.2
FRF La Foret Royal 85.28 355 *eP* **P 03 34 17.1 -0.9**
FRF pmax pmax
comp=Z,182nm,0.9s,mb6.2
FRF La Foret Royal 85.28 355 *eP* **P 03 34 17.1 -0.9**
comp=Z,182nm,0.9s,mb6.2
ASS Assisi 85.32 351 P **P 03 34 19.0 +0.8**
STIP Stip 85.33 344 ‖ *ePdi* **P 03 34 17.6 -0.7**
OFFI Offida 85.33 350 P **P 03 34 20.3 +2.0**
ALN Alexandroupoli 85.35 341 *eP* **P 03 34 19.0 +0.6**
POO Poona 85.39 294 *eP* **P 03 34 18.5 -0.4**
POO AMb AMB 03 34 24.4
comp=Z,548nm,1.1s,mb6.6
POO *e*PP PP 03 37 34.5 -2.6
POO *i* x x 03 44 45.0
EPON Pontenova 85.49 5 P **P 03 34 19.1 +0.1**
comp=Z,119nm,0.8s,mb6.1
LMR La Mourre 85.52 355 *eP* **P 03 34 18.3 -0.9**
comp=Z,1µm,1.4s,mb6.6
LMR La Mourre 85.52 355 *eP* **P 03 34 18.3 -0.9**
LMR pmax pmax
comp=Z,539nm,1.4s,mb6.6
LMR La Mourre 85.52 355 *eP* **P 03 34 18.3 -0.9**
comp=Z,539nm,1.4s,mb6.6
ULC Ulcinj 85.56 346 ‖ *iP* **P 03 34 14.7 -4.7**
EARI Arriondas 85.61 4 P **P 03 34 19.9 +0.2**
comp=Z,78nm,0.8s,mb6.0
VAY Valandovo 85.62 343 *eP* **P 03 34 19.2 -0.6**
VAY Valandovo 85.62 343 ‖ *ePdi* **P 03 34 19.0 -0.7**
TERO Teramo 85.65 350 P **P 03 34 21.3 +1.4**
MTLF Montolieu 85.66 358 *eP* **P 03 34 19.0 -0.9**
BOM Bombay 85.69 295 *eP* **P 03 34 19.6 -0.8**
BOM *ex* x 03 34 22.6
comp=Z,2µm,3.2s
BOM *ex* x 03 44 55.1
KNT Kendrikon 85.72 343 *eP* **P 03 34 20.1 -0.2**
ELAN Lanestosa 85.74 3 P **P 03 34 20.5 +0.2**
comp=Z,291nm,1.1s,mb6.4
EMAZ Mazaricos 85.75 7 P **P 03 34 21.1 +0.8**
comp=Z,42nm,0.6s,mb5.8
OSSF Osses 85.76 1 *eP* **P 03 34 19.8 -0.6**
KMRS Kahramanmaras 85.79 331 *eP* **P 03 34 18.0 -2.6**
EALK Alkurruntz 85.79 1 P **P 03 34 21.6 +1.0**
comp=Z,96nm,0.8s,mb6.1
ORDF Ordiarp 85.80 1 ⅊ *eP* **P 03 34 20.4 -0.2**
KRUS Krusevo 85.81 344 ‖ *ePdi* **P 03 34 20.2 -0.5**
STS Santiago 85.84 6 P **P 03 34 21.7 +0.9**
STS pmax pmax
comp=Z,46nm,0.6s,mb5.9
STS Santiago 85.84 6 P **P 03 34 21.7 +1.0**
comp=Z,46nm,0.6s,mb5.9
ELIZ Elizondo 85.85 1 P **P 03 34 20.6 -0.2**
NIG Nigde 85.89 333 *eP* **P 03 34 21.3 +0.2**
SJPF Ste Jean 85.90 1 *eP* **P 03 34 20.2 -0.9**
comp=Z,122nm,0.7s,mb5.9
SJPF Ste Jean 85.90 1 *eP* **P 03 34 20.2 -0.9**
SJPF pmax pmax
comp=Z,61nm,0.7s,mb5.9
SJPF Ste Jean 85.90 1 *eP* **P 03 34 20.2 -0.9**
comp=Z,61nm,0.7s,mb5.9
KIZT Kizilcal 85.91 336 *eP* **P 03 34 19.4 -1.8**
ATE Arette 85.93 1 *eP* **P 03 34 20.6 -0.6**
AQU L'Aquila 85.94 350 *eP* **P 03 34 21.2 -0.1**
AQU pmax pmax
comp=Z,573nm,0.9s,mb6.8
AQU MLR MLR
comp=Z,42µm,21.0s,MS6.8
AQU L'Aquila 85.94 350 ‖ *iP* **P 03 34 22.0 +0.7**
AQU L'Aquila 85.94 350 *eP* **P 03 34 21.2 -0.1**
comp=Z,573nm,0.9s,mb6.8
AQU LR LR
comp=Z,42µm,21.0s,MS6.8
REYF Montagne du Re 85.95 0 *eP* **P 03 34 21.0 -0.3**
LABF Labassere 85.97 360 *eP* **P 03 34 21.3 -0.1**
LARF Larrau 85.98 1 *eP* **P 03 34 22.0 +0.5**
EPF Esparros 85.99 360 *eP* **P 03 34 20.6 -0.9**
comp=Z,85nm,0.7s,mb5.8
EPF Esparros 85.99 360 *eP* **P 03 34 20.6 -0.9**
EPF pmax pmax
comp=Z,42nm,0.7s,mb5.8
EPF Esparros 85.99 360 *eP* **P 03 34 20.6 -0.9**
comp=Z,42nm,0.7s,mb5.8
GAZ Gaziantep 86.00 331 *eP* **P 03 34 21.5 -0.1**
GRG Griva 86.01 343 *eP* **P 03 34 22.0 +0.3**
FIAM Fiamignano 86.06 350 P **P 03 34 22.9 +1.0**
LRDF Laroque-de-Fa 86.06 358 ⅊ *eP* **P 03 34 22.7 +0.8**
MLS Moulis 86.06 359 *eP* **P 03 34 22.2 +0.3**
TIR Tirane 86.06 345 *eP* **P 03 34 21.9 0.0**
TIR pmax pmax
comp=Z,156nm,1.0s,mb6.2
TIR Tirane 86.06 345 *eP* **P 03 34 21.9 0.0**
comp=Z,156nm,1.0s,mb6.2
ETSF Etsaut 86.12 0 *eP* **P 03 34 21.4 -0.8**
comp=Z,353nm,0.9s,mb6.3
ETSF Etsaut 86.12 0 *eP* **P 03 34 21.4 -0.8**
ETSF pmax pmax
comp=Z,177nm,0.9s,mb6.3
ETSF Etsaut 86.12 0 *eP* **P 03 34 21.4 -0.8**
comp=Z,176nm,0.9s,mb6.3
KOZT Kozan 86.13 332 *eP* **P 03 34 23.2 +0.9**
VIEF Viey 86.14 360 *eP* **P 03 34 22.9 +0.7**
BIA Bitola 86.14 344 ‖ *ePdi* **P 03 34 20.6 -1.7**
OHR Ohrid 86.14 344 ‖ *ePdi* **P 03 34 20.3 -2.0**
MELF Melles 86.14 359 ⅊ *eP* **P 03 34 22.0 -0.3**
PGF Pioggiola 86.14 353 *eP* **P 03 34 21.7 -0.6**
comp=Z,2µm,1.2s,mb6.9
PGF Pioggiola 86.14 353 *eP* **P 03 34 21.7 -0.6**
PGF pmax pmax
comp=Z,889nm,1.2s,mb6.9
PGF Pioggiola 86.14 353 *eP* **P 03 34 21.7 -0.6**
comp=Z,889nm,1.2s,mb6.9
KAD Karad 86.16 293 *ex* x 03 34 30.3
KAD AMb AMB 03 34 36.6
comp=Z,344nm,1.1s,mb6.5
RESF Ens 86.21 360 *eP* **P 03 34 23.5 +0.9**
INTR Introdacqua 86.22 350 P **P 03 34 23.3 +0.6**
SALF Salau 86.25 359 ⅊ *eP* **P 03 34 23.0 +0.2**
SGRT San Giovanni R 86.26 348 P **P 03 34 23.2 +0.3**
PTQR Pietraquaria 86.27 350 P **P 03 34 22.6 -0.3**
FGMS Monte Sant'Ang 86.28 348 P **P 03 34 24.0 +1.0**
MSAG Monte S. Angel 86.28 348 P **P 03 34 23.5 +0.5**
FG2 Serracapriola 86.28 349 P **P 03 34 24.4 +1.4**
CARF Carcanieres 86.29 358 ⅊ *eP* **P 03 34 23.4 +0.4**
OUR Ouranopolis 86.31 342 *eP* **P 03 34 21.7 -1.5**
EBIE Bielsa 86.33 360 P **P 03 34 24.0 +0.8**
comp=Z,60nm,0.8s,mb5.9
RGNG Rignano Grg 86.36 348 P **P 03 34 23.8 +0.4**
FNA Florina 86.36 344 *eP* **P 03 34 22.9 -0.4**
TOLF Tolfa 86.37 351 P **P 03 34 23.8 +0.4**
CORF Corte 86.38 353 *eP* **P 03 34 24.0 +0.5**
ECRI Cripan 86.39 2 P **P 03 34 24.8 +1.3**
CERT Cerreto 86.39 350 P **P 03 34 23.8 +0.3**
ERUA La Rua 86.42 5 P **P 03 34 21.8 -1.9**
LADK Ladik-KONYA 86.42 335 *eP* **P 03 34 20.6 -3.2**
FILF Fillols 86.43 358 *eP* **P 03 34 23.8 +0.1**
SDDR Presa de Saban 86.46 64 *eP* **P 03 34 23.9 -0.4**
comp=Z,181nm,0.8s,mb6.4
SDDR LR LR
comp=Z,31µm,19.0s,MS6.7
SDI San Donato 86.53 350 P **P 03 34 23.6 -0.6**
EJON La Jonquera 86.54 358 P **P 03 34 24.4 +0.2**
KARA Karaisali 86.56 333 *eP* **P 03 34 23.7 -0.7**
CEYT Ceyhan 86.59 332 *eP* **P 03 34 25.0 +0.4**
MA9 Marino 86.60 351 P **P 03 34 25.0 +0.5**
VALF Valcebollere 86.60 359 *eP* **P 03 34 25.0 +0.5**
RDP Rocca di Papa 86.60 351 P **P 03 34 24.8 +0.2**
KONT Konya--Tatoy 86.66 335 *eP* **P 03 34 24.6 -0.3**
LAV9 Lanuvio 86.68 351 P **P 03 34 25.7 +0.7**
SRBC Serra Branca 86.69 22 *eP* **P 03 34 26.6 +1.6**
FG5 Orsara di Pugl 86.78 349 P **P 03 34 27.1 +1.7**
ELOB Lobios 86.89 6 P **P 03 34 26.1 +0.1**
comp=Z,49nm,0.9s,mb5.7
ECAL Calabor 86.89 5 P **P 03 34 26.9 +1.0**
comp=Z,47nm,0.8s,mb5.8
FG4 Candela 86.90 348 P **P 03 34 26.4 +0.4**
RFI Roccamonfina 86.92 350 P **P 03 34 25.1 -1.0**
ROSA Rosais 86.94 22 *eP* **P 03 34 27.9 +1.6**
CALA Caldeira 86.97 22 *eP* **P 03 34 27.8 +1.4**
PCAB Cabril 87.04 6 *eP* **P 03 34 26.6 -0.1**
comp=Z,174nm,2.2s,mb5.9
PMAN Manadas 87.06 22 *eP* **P 03 34 27.0 +0.1**
comp=Z,444nm,1.6s,mb6.4
MERS Mersin 87.08 333 *eP* **P 03 34 27.8 +0.8**
EMIR Miracle 87.09 359 P **P 03 34 28.3 +1.3**
comp=Z,22nm,0.9s,mb5.4
PICO Pico 87.11 22 *eP* **P 03 34 34.1 +7.0**
CSSN Cassano Irpino 87.23 349 P **P 03 34 26.5 -1.1**
ISP Isparta 87.24 336 PFAKE 03 34 40.0 +12
ISP LR LR
comp=Z,31µm,21.0s,MS6.7
ADH Angra Heroismo 87.24 21 *eP* **P 03 34 27.9 +0.2**
ESAC San Caprasio 87.30 0 P **P 03 34 28.1 +0.2**
HTY Hatay 87.30 331 *eP* **P 03 34 28.2 +0.2**
VENT Ventotene 87.48 350 P **P 03 34 29.3 +0.5**
SGO Sicignano 87.49 348 P **P 03 34 28.7 -0.2**
HDMB Hadim 87.55 335 *eP* **P 03 34 27.2 -2.1**
MVO Moncorvo 87.65 5 *eP* **P 03 34 29.9 +0.3**
comp=Z,171nm,1.2s,mb6.2
MVO Moncorvo 87.65 5 *e*LR LR 04 03 49.3
comp=Z,25µm,20.0s
MVO Moncorvo 87.65 5 *eP* **P 03 34 30.8 +1.2**
EPOB Poblet 87.66 359 P **P 03 34 29.8 +0.1**
comp=Z,99nm,1.0s,mb6.0
GOA Goa 87.81 292 ‖ *eP* **P 03 34 22.5 -8.3**
GOA AMb AMB 03 34 36.3
comp=Z,164nm,1.8s,mb6.0
GOA *e*S S 03 44 50.9 -18
PTCN Pitcairn Islan 87.82 136 PFAKE 03 34 40.0 +10
PTCN LR LR
comp=Z,68µm,21.0s,MS7.0
ORI Oriolo Calabro 87.83 347 P **P 03 34 31.4 +0.9**
MGR Morigerati 87.87 348 P **P 03 34 30.7 0.0**
IKL Isikli 87.90 333 *eP* **P 03 34 27.7 -3.2**
CUC Castrocucco 87.98 348 *eP* **P 03 34 29.3 -1.9**
comp=Z,93nm,0.9s,mb6.0
CUC LR LR
comp=Z,40µm,19.0s,MS6.9
PVIS Viseu 88.04 6 *eP* **P 03 34 31.4 -0.1**
comp=Z,203nm,1.4s,mb6.2
ERTA Horta de San J 88.06 360 P **P 03 34 29.4 -2.2**
ETOR Torete 88.18 2 P **P 03 34 32.8 +0.6**
ETOR pmax pmax
comp=Z,51nm,0.8s,mb5.8
ETOR Torete 88.18 2 P **P 03 34 32.8 +0.6**
comp=Z,51nm,0.8s,mb5.8
GUD Guadarrama 88.30 3 P **P 03 34 33.1 +0.3**
GUD pmax pmax
comp=Z,35nm,0.7s,mb5.7
GUD Guadarrama 88.30 3 P **P 03 34 33.1 +0.3**
comp=Z,35nm,0.7s,mb5.7
MTE Manteigas 88.38 6 *eP* **P 03 34 33.3 +0.2**
comp=Z,163nm,1.0s,mb6.2
MTE Manteigas 88.38 6 *e*LR LR 04 03 55.8
comp=Z,19µm,20.0s
MTE Manteigas 88.38 6 *eP* **P 03 34 31.2 -1.9**
comp=Z,98nm,0.8s,mb6.1
MTE LR LR
comp=Z,24µm,21.0s,MS6.6
EREN Erenkoy 88.42 333 *eP* **P 03 34 30.9 -2.5**
CMLA Cha da Macela 88.47 20 *eP* **P 03 34 34.0 +0.4**
comp=Z,272nm,1.3s,mb6.3
CMLA Cha da Macela 88.47 20 *eP* **P 03 34 33.3 -0.3**
comp=Z,187nm,1.1s,mb6.2
CMLA LR LR
comp=Z,33µm,22.0s,MS6.7
LKD Levkas 88.50 344 *eP* **P 03 34 33.9 +0.1**
RIV Riverview 88.54 204 *eP* **P 03 34 35.2 +1.6**
XMIS Christmas Isla 88.54 251 *eP* **P 03 34 33.8 -0.4**
BANOM Banah 88.55 311 P **P 03 34 34.4 +0.3**
SNR=33
BANOM Banah 88.55 311 P **P 03 34 34.4 +0.3**
SNR=33
BANOM Banah 88.55 311 P **P 03 34 34.4 +0.3**
SNR=33
BANOM Banah 88.55 311 P **P 03 34 34.4 +0.3**
SNR=33
BANOM Banah 88.55 311 P **P 03 34 34.4 +0.3**
SNR=33
BANOM Banah 88.55 311 P **P 03 34 34.4 +0.3**
SNR=33
BANOM Banah 88.55 311 P **P 03 34 34.4 +0.3**
SNR=33
EMOS Mosqueruela 88.65 0 P **P 03 34 31.8 -2.6**
TIP Timpagrande 88.65 347 *eP* **P 03 34 33.9 -0.6**
comp=Z,145nm,1.1s,mb6.2
TIP LR LR
comp=Z,27µm,21.0s,MS6.6
LFK Lefkose 88.84 333 *eP* **P 03 34 34.8 -0.6**
PCBR Castelo Branco 88.94 6 *eP* **P 03 34 35.4 -0.4**
comp=Z,166nm,1.5s,mb6.1
PHNC Paralimni 88.95 333 P **P 03 34 36.1 +0.2**
comp=Z,2.8nm,1.1s
VLS Valsamata 89.03 344 *eP* **P 03 34 34.8 -1.5**
GRI Girifalco 89.05 347 P **P 03 34 35.2 -1.1**
MIB Mutribah 89.09 320 *eP* **P 03 34 36.2 -0.4**
baz=320
MIB AMb AMB 03 34 41.8
comp=Z,413nm,0.9s,mb6.8,baz=320
LEF Lefka 89.17 334 *eP* **P 03 34 34.0 -3.0**
BCIP Isla Barro Col 89.18 76 *eP* **P 03 34 35.2 -2.1**
comp=Z,345nm,1.5s,mb6.5
BCIP LR LR
comp=Z,17µm,22.0s,MS6.4
CSS Prodhromos 89.19 333 P **P 03 34 35.0 -2.1**
comp=Z,1.0nm,0.8s
CSS Prodhromos 89.19 333 *eP* **P 03 34 38.8 +1.7**
CSS Prodhromos 89.19 333 P **P 03 34 38.8 +1.7**
CSS LR LR
comp=Z,24µm,22.0s,MS6.6
AGPR Aguadilla, PR 89.20 61 *eP* **P 03 34 35.6 -1.7**
ALFC Alevga 89.22 334 P **P 03 34 35.2 -2.0**
comp=Z,3.1nm,0.8s,mb4.7
ETOS Mallorca 89.22 358 P **P 03 34 34.6 -2.5**
ESBB Sonseca Array 89.27 3 P **P 03 34 35.1 -2.2**
ESDC Sonseca Array 89.28 3 P **P 03 34 36.8 -0.6**
comp=Z,20nm,0.8s,mb5.5,baz=356,slow=4.0,SNR=76
ESDC PKKPbc PKKPbc 03 52 13.4 +2.2
comp=Z,1.3nm,0.7s,baz=155,slow=3.6,SNR=4.1
ESDC PKPPKP 04 00 22.7
comp=Z,1.0nm,0.7s,baz=194,slow=1.6,SNR=4.8
ESDC LR LR 04 14 33.8
comp=Z,13µm,20.6s,MS6.3,baz=350,slow=36
ESLA Sonseca Array 89.28 3 *eP* **P 03 34 36.9 -0.5**
comp=Z,61nm,1.4s,mb5.7
ESLA LR LR
comp=Z,127µm,19.0s,MS7.4
URZ Urewera 89.28 182 P **P 03 34 35.2 -1.8**
comp=Z,33nm,0.8s,mb5.7,baz=358,slow=3.6,SNR=7.4
PMRV Marv??o 89.36 6 *eP* **P 03 34 37.1 -0.6**
comp=Z,174nm,1.6s,mb6.1
PMRV Marv??o 89.36 6 *e*LR LR 04 04 16.8
comp=Z,20µm,22.0s
PMRV Marv??o 89.36 6 *eP* **P 03 34 37.9 +0.2**
PAB San Pablo 89.39 3 *eP* **P 03 34 37.3 -0.6**
PAB pmax pmax
comp=Z,57nm,1.0s,mb5.9
PAB MLR MLR
comp=Z,34µm,20.0s,MS6.8
PAB San Pablo 89.39 3 *eP* **P 03 34 37.3 -0.6**
comp=Z,57nm,1.0s,mb5.9
PAB LR LR
comp=Z,34µm,20.0s,MS6.8
MBWA Marble Bar 89.40 234 *eP* **P 03 34 36.9 -1.1**
comp=Z,131nm,1.0s,mb6.2
MBWA LR LR
comp=Z,5µm,20.0s,MS5.9
ECHE Chera 89.42 1 P **P 03 34 38.9 +0.9**
ECHE pmax pmax
comp=Z,28nm,0.9s,mb5.6
ECHE Chera 89.42 1 P **P 03 34 38.9 +0.8**
comp=Z,28nm,0.9s,mb5.6
AOPR Arecibo Observ 89.49 61 *eP* **P 03 34 38.8 +0.1**
comp=Z,146nm,1.1s,mb6.2
BHL Bhannes 89.50 331 *eP* **P 03 34 38.8 +0.3**
STKA Stephens Creek 89.51 212 *eP* **P 03 34 37.3 -0.9**
comp=Z,162nm,1.1s,mb6.3
STKA Stephens Creek 89.51 212 P **P 03 34 37.5 -0.7**
comp=Z,146nm,0.8s,mb6.4,baz=355,slow=5.9,SNR=69
SLNA Salina 89.52 348 P **P 03 34 37.8 -0.7**
ALMR Almeirim 89.55 7 *eP* **P 03 34 37.9 -0.7**
HATD Hatta, Dubai 89.56 311 P **P 03 34 38.6 -0.3**
SNR=32
HATD Hatta, Dubai 89.56 311 P **P 03 34 38.6 -0.3**
SNR=32
HATD Hatta, Dubai 89.56 311 P **P 03 34 38.6 -0.3**
SNR=32
HATD Hatta, Dubai 89.56 311 P **P 03 34 38.6 -0.3**
SNR=32
HATD Hatta, Dubai 89.56 311 P **P 03 34 38.6 -0.3**
SNR=32
HATD Hatta, Dubai 89.56 311 P **P 03 34 38.6 -0.3**
SNR=32
HATD Hatta, Dubai 89.56 311 P **P 03 34 38.6 -0.3**
SNR=32
HATD Hatta, Dubai 89.56 311 P **P 03 34 38.6 -0.3**
SNR=32
HATD Hatta, Dubai 89.56 311 P **P 03 34 38.6 -0.3**
SNR=32
USI Ustica 89.57 350 P **P 03 34 38.9 +0.2**
NAY Al-Naaiem 89.62 320 *eP* **P 03 34 38.4 -0.7**
baz=320
NAY AMb AMB 03 34 44.1
comp=Z,106nm,0.8s,mb6.2,baz=320
CEL Celeste 89.68 348 *eP* **P 03 34 37.9 -1.4**
comp=Z,99nm,0.8s,mb6.2
PMAFR Mafra 89.69 7 *eP* **P 03 34 38.9 -0.4**
comp=Z,287nm,0.9s,mb6.6
PMAFR Mafra 89.69 7 *e*LR LR 04 05 05.2
comp=Z,27µm,18.0s
SCLL Scilla 89.70 348 P **P 03 34 38.1 -1.3**
BIDO Bidbid 89.71 309 P **P 03 34 39.8 +0.2**
SNR=19
BIDO Bidbid 89.71 309 P **P 03 34 39.8 +0.2**
SNR=19
BIDO Bidbid 89.71 309 P **P 03 34 39.8 +0.2**
SNR=19
BIDO Bidbid 89.71 309 P **P 03 34 39.8 +0.2**
SNR=19
BIDO Bidbid 89.71 309 P **P 03 34 39.8 +0.2**
SNR=19
BIDO Bidbid 89.71 309 P **P 03 34 39.8 +0.2**
SNR=19
ASHO Ashiyiah 89.72 311 P **P 03 34 39.4 -0.3**
SNR=38
ASHO Ashiyiah 89.72 311 P **P 03 34 39.4 -0.3**
SNR=38
RDF Al-Radifah 89.78 320 *eP* **P 03 34 40.0 +0.1**
baz=320
RDF AMb AMB 03 34 48.5
comp=Z,248nm,0.8s,mb6.6,baz=320
RCY Rachaya 89.84 331 *eP* **P 03 34 40.6 +0.5**
SOI Samo 89.84 347 P **P 03 34 39.0 -1.0**
PESTR Estremoz 89.90 6 *eP* **P 03 34 39.7 -0.6**
comp=Z,195nm,1.9s,mb6.1
PESTR Estremoz 89.90 6 *e*LR LR 04 04 41.1
comp=Z,23µm,20.0s
MTTG Motta San Giov 89.96 348 P **P 03 34 39.9 -0.7**
EIBI Ibiza 89.98 359 P **P 03 34 39.3 -1.4**
SJG San Juan 90.01 60 LR LR 04 16 02.2
comp=Z,39µm,21.9s,MS6.8,baz=165,slow=36
SJG San Juan 90.01 60 *eP* **P 03 34 40.3 -0.8**
SJG pmax pmax
comp=Z,606nm,1.4s
SJG MLR MLR
comp=Z,35µm,20.0s
SJG San Juan 90.01 60 *eP* **P 03 34 40.3 -0.8**
comp=Z,606nm,1.4s,mb6.7
SJG LR LR
comp=Z,35µm,20.0s,MS6.8
EBAD Badajoz 90.05 5 P **P 03 34 41.1 +0.1**
comp=Z,35nm,0.9s,mb5.7
HOQ Hoqain 90.05 309 P **P 03 34 40.7 -0.5**
SNR=27
HOQ Hoqain 90.05 309 P **P 03 34 40.7 -0.5**
SNR=27
HOQ Hoqain 90.05 309 P **P 03 34 40.7 -0.5**
SNR=27
HOQ Hoqain 90.05 309 P **P 03 34 40.7 -0.5**
SNR=27
HOQ Hoqain 90.05 309 P **P 03 34 40.7 -0.5**
SNR=27
HOQ Hoqain 90.05 309 P **P 03 34 40.7 -0.5**
SNR=27
HOQ Hoqain 90.05 309 P **P 03 34 40.7 -0.5**
SNR=27
WBK Wadi Bani Khal 90.06 308 P **P 03 34 42.8 +1.6**
SNR=14
WBK Wadi Bani Khal 90.06 308 P **P 03 34 42.8 +1.6**
SNR=14
WBK Wadi Bani Khal 90.06 308 P **P 03 34 42.8 +1.6**
SNR=14
WBK Wadi Bani Khal 90.06 308 P **P 03 34 42.8 +1.6**
SNR=14
WBK Wadi Bani Khal 90.06 308 P **P 03 34 42.8 +1.6**
SNR=14
WBK Wadi Bani Khal 90.06 308 P **P 03 34 42.8 +1.6**
SNR=14
SMDO Samad 90.13 309 P **P 03 34 42.6 +1.0**
SNR=21
SMDO Samad 90.13 309 P **P 03 34 42.6 +1.0**

SNR=21
SMDO Samad 90.13 309 P **P 03 34 42.6 +1.0**
SNR=21
SMDO Samad 90.13 309 P **P 03 34 42.6 +1.0**
SNR=21
SMDO Samad 90.13 309 P **P 03 34 42.6 +1.0**
SNR=21
SMDO Samad 90.13 309 P **P 03 34 42.6 +1.0**
SNR=21
HUMP Col San Antoni 90.15 60 *e*P **P 03 34 41.6 -0.2**
comp=Z,846nm,1.6s,mb6.8
MNO Monte Soro 90.15 348 P **P 03 34 41.6 +0.1**
PALK Pallekele 90.16 282 *e*P **P 03 34 40.0 -1.8**
comp=Z,75nm,1.0s,mb6.0
PALK LR LR
comp=Z,8μm,20.0s,MS6.2
GIB Gibilmanna 90.18 349 P **P 03 34 41.8 +0.2**
CPD Cerro la Pandu 90.20 60 *e*P **P 03 34 41.8 -0.2**
CPD pmax pmax
comp=Z,1μm,1.2s,mb7.1
CPD Cerro la Pandu 90.20 60 *e*P **P 03 34 41.8 -0.2**
comp=Z,1μm,1.2s,mb7.1
EVO Evora 90.21 6 *e*P **P 03 34 40.2 -1.5**
comp=Z,359nm,1.6s,mb6.2
EVO *e*MLR MLR
comp=Z,42μm,21.8s,MS6.5
EVO Evora 90.21 6 *e*P **P 03 34 41.5 -0.2**
comp=Z,162nm,1.9s,mb6.0
EVO Evora 90.21 6 *e*P **P 03 34 42.2 +0.5**
CSLB Castelbuono 90.23 349 P **P 03 34 42.0 +0.2**
ERC Erice 90.30 350 P **P 03 34 43.0 +0.9**
EBEN Beniarda 90.31 0 P **P 03 34 43.0 +0.8**
comp=Z,22nm,0.8s,mb5.5
PAYG Puerto Ayora 90.33 91 P **P 03 34 41.7 -1.0**
comp=Z,602nm,1.6s,mb6.7
PAYG LR LR
comp=Z,23μm,20.0s,MS6.6
EVIA Vianos 90.35 2 P **P 03 34 43.9 +1.5**
EVIA pmax pmax
comp=Z,19nm,0.6s,mb5.6
EVIA Vianos 90.35 2 P **P 03 34 43.9 +1.5**
comp=Z,19nm,0.6s,mb5.6
MTP Monte Pirata 90.35 60 *e*P **P 03 34 42.4 -0.3**
ETOB Tobarra 90.36 1 P **P 03 34 43.6 +1.2**
comp=Z,46nm,0.8s,mb5.9
MMAI Mount Meron Ar 90.40 331 P **P 03 34 41.9 -0.8**
comp=Z,43nm,0.9s,mb5.8,baz=27,slow=6.0,SNR=15
CAN Canberra 90.52 205 *e*P **P 03 34 42.2 -0.6**
PBAR Barrancos 90.62 6 *e*P **P 03 34 43.2 -0.5**
comp=Z,286nm,1.8s,mb6.3
PBAR Barrancos 90.62 6 *e*LR LR 04 05 00.9
comp=Z,26μm,20.0s
JMDO Jabal Madar 90.69 308 P **P 03 34 45.1 +0.9**
SNR=31
JMDO Jabal Madar 90.69 308 P **P 03 34 45.1 +0.9**
SNR=31
JMDO Jabal Madar 90.69 308 P **P 03 34 45.1 +0.9**
SNR=31
JMDO Jabal Madar 90.69 308 P **P 03 34 45.1 +0.9**
SNR=31
JMDO Jabal Madar 90.69 308 P **P 03 34 45.1 +0.9**
SNR=31
ASF Jabal al Asfar 90.72 329 P **P 03 34 44.7 +0.5**
comp=Z,38nm,0.8s,mb5.8,baz=290,slow=1.7,SNR=25
ASF S S 03 45 15.9 -20
comp=Z,0.7nm,0.4s,baz=7.4,slow=23,SNR=5.7
ASF Jabal al Asfar 90.72 329 P **P 03 34 44.7 +0.5**
ASF S S 03 45 15.9 -20
ASF pmax pmax
comp=Z,39nm,0.8s
PBEJ Beja 90.72 6 *e*P **P 03 34 43.7 -0.4**
comp=Z,136nm,1.8s,mb6.0
PBEJ Beja 90.72 6 *e*P **P 03 34 44.6 +0.5**
EADA Adamuz 90.76 4 P **P 03 34 44.4 +0.1**
comp=Z,31nm,0.8s,mb5.7
EBAN Banos Encina 90.79 3 P **P 03 34 45.0 +0.6**
EBAN pmax pmax
comp=Z,27nm,1.1s,mb5.5
EBAN Banos Encina 90.79 3 P **P 03 34 45.0 +0.6**
comp=Z,27nm,1.1s,mb5.5
BSY Bisya 90.81 309 P **P 03 34 44.2 -0.6**
SNR=47
BSY Bisya 90.81 309 P **P 03 34 44.2 -0.6**
SNR=47
BSY Bisya 90.81 309 P **P 03 34 44.2 -0.6**
SNR=47
BSY Bisya 90.81 309 P **P 03 34 44.2 -0.6**
SNR=47
BSY Bisya 90.81 309 P **P 03 34 44.2 -0.6**
SNR=47
BSY Bisya 90.81 309 P **P 03 34 44.2 -0.6**
SNR=47
ZKR Zakros 90.86 339 *e*P **P 03 34 39.2 -5.7**
LAST Lasithi 90.99 339 *e*P **P 03 34 43.6 -1.8**
IDI Anoyia 90.99 340 P **P 03 34 44.1 -1.3**
comp=Z,22nm,0.7s,mb5.6,baz=30,slow=8.4,SNR=12
IDI S S 03 45 19.3 -19
comp=Z,15nm,1.1s,baz=288,slow=21,SNR=4.9
EMIN Mina Concepcio 91.05 5 P **P 03 34 45.5 -0.2**
comp=Z,58nm,0.8s,mb6.0
HAVL Avola 91.06 348 P **P 03 34 45.6 -0.1**
KARN Karanos 91.09 341 *e*P **P 03 34 45.7 -0.2**
PTEO Sao Teotonio 91.14 7 *e*P **P 03 34 45.7 -0.4**
comp=Z,210nm,2.4s,mb6.0
PTEO Sao Teotonio 91.14 7 *e*P **P 03 34 46.8 +0.7**
EMUR La Murta 91.17 1 P **P 03 34 45.9 -0.3**
comp=Z,14nm,0.8s,mb5.3
EHUE Huescar 91.17 2 P **P 03 34 44.6 -1.6**
EQES Quesada 91.17 2 P **P 03 34 46.4 +0.2**
comp=Z,94nm,1.4s,mb5.9
EGRO El Granado 91.23 6 P **P 03 34 47.1 +0.6**
comp=Z,56nm,1.0s,mb5.8
PVAQ Vaqueiros 91.35 6 *e*P **P 03 34 46.5 -0.5**
comp=Z,224nm,2.1s,mb6.1
PVAQ Vaqueiros 91.35 6 *e*LR LR 04 04 23.8
comp=Z,25μm,20.0s
ELUQ Luque 91.37 3 P **P 03 34 48.0 +0.8**
ELUQ pmax pmax
comp=Z,20nm,0.8s,mb5.5
ELUQ Luque 91.37 3 P **P 03 34 48.0 +0.8**
comp=Z,20nm,0.8s,mb5.5
MORF Marmelete 91.38 7 *e*P **P 03 34 47.7 +0.5**
comp=Z,262nm,1.7s,mb6.3
MORF Marmelete 91.38 7 *e*LR LR 04 05 54.6
comp=Z,24μm,20.0s
MORF Marmelete 91.38 7 *e*P **P 03 34 48.0 +0.8**
CART Cartagena 91.42 1 *e*P **P 03 34 47.2 -0.2**
comp=Z,46nm,0.8s,mb5.9
PBDV Barranco-do-Ve 91.49 6 *e*P **P 03 34 48.7 +1.0**
comp=Z,196nm,1.8s,mb6.1
PBDV Barranco-do-Ve 91.49 6 *e*LR LR 04 04 25.3
comp=Z,25μm,20.0s
PFVI Vila Bisbo 91.54 7 *e*P **P 03 34 48.3 +0.4**
comp=Z,215nm,1.7s,mb6.2
PFVI Vila Bisbo 91.54 7 *e*LR LR 04 06 06.1
comp=Z,23μm,24.0s
PFVI Vila Bisbo 91.54 7 *e*P **P 03 34 48.7 +0.8**
ECOG Cogollos-Vega 91.68 3 P **P 03 34 49.2 +0.6**
ECOG pmax pmax
comp=Z,13nm,0.7s,mb5.4
ECOG Cogollos-Vega 91.68 3 P **P 03 34 49.2 +0.6**
comp=Z,13nm,0.7s,mb5.4
ELOJ Sierra Loja 91.79 3 P **P 03 34 49.9 +0.8**
ELOJ pmax pmax
comp=Z,52nm,1.1s,mb5.8
ELOJ Sierra Loja 91.79 3 P **P 03 34 49.9 +0.8**
comp=Z,52nm,1.1s,mb5.8
ERON Agron 91.93 3 P **P 03 34 48.6 -1.1**
ESPR Espera 91.99 5 P **P 03 34 51.0 +1.0**
comp=Z,71nm,1.0s,mb6.0
ENIJ Nijar 92.02 2 P **P 03 34 49.7 -0.5**
ENIJ pmax pmax
comp=Z,22nm,1.0s,mb5.4
ENIJ Nijar 92.02 2 P **P 03 34 49.7 -0.4**
comp=Z,22nm,1.0s,mb5.4
EBER Berja 92.08 2 P **P 03 34 48.9 -1.5**
EGUA Guajares 92.12 3 P **P 03 34 49.4 -1.2**
CMAH Djebel Manchou 92.15 354 P **P 03 34 50.0 -0.7**
DFRA Djebel Bou Aff 92.31 355 P **P 03 34 54.0 +2.5**
EMIJ Mijas 92.35 4 P **P 03 34 52.2 +0.5**
comp=Z,43nm,0.8s,mb5.8
SFS San Fernando 92.38 5 PFAKE 03 35 00.0 +8.2
SFS LR LR
comp=Z,43μm,19.0s,MS6.9
SNZO South Karori 92.41 184 PFAKE 03 35 00.0 +8.6
SNZO LR LR
comp=Z,16μm,20.0s,MS6.5

CKFL Kef-Lekhel 92.41 355 P **P 03 34 52.0 0.0**
EJIF Jimena Fronter 92.43 4 P **P 03 34 52.1 +0.1**
ABSA Djebel Ababsia 92.49 354 P **P 03 34 51.0 -1.4**
CASM Ain Smara 92.57 355 P **P 03 34 52.0 -0.7**
SET Setif 92.68 356 P **P 03 34 55.0 +1.8**
EBNR Beni Rached 92.71 359 P **P 03 34 54.8 +1.4**
CTEI Djebel Teioual 92.77 355 P **P 03 34 55.5 +1.9**
EMHD Djebel Mahouad 92.77 358 P **P 03 34 54.0 +0.4**
ECHA Ech Chlef 92.85 359 P **P 03 34 55.0 +1.0**
KEST Kesra 92.89 352 P **P 03 34 52.9 -1.3**
comp=Z,18nm,1.0s,mb5.5,baz=23,slow=0.5,SNR=17
KEST PP PP 03 38 36.8 +0.7
comp=Z,13nm,1.1s,baz=299,slow=3.7,SNR=4.3
KEST LR LR 04 20 27.6
comp=Z,12μm,21.3s,MS6.3,baz=132,slow=38
OKGL Djebel Kef Gue 92.97 359 P **P 03 34 57.0 +2.4**
EANR 'Ain N'Sour 93.06 359 P **P 03 34 56.0 +1.0**
USTO Oran 93.28 0 P **P 03 35 02.0 +6.0**
TOO Toolangi 93.59 207 *e*P **P 03 34 57.5 +0.5**
ETRT Tiaret 93.61 359 P **P 03 34 57.0 -0.5**
EIL Elat 93.65 330 P **P 03 34 57.5 -0.3**
comp=Z,4.3nm,0.6s,mb5.1,baz=8.1,slow=6.9,SNR=8.4
FORT Forrest 93.68 223 *e*P **P 03 34 57.3 -0.3**
comp=Z,102nm,0.9s,mb6.2
ODZI Dzioua 93.71 1 P **P 03 35 03.0 +5.0**
HMG Houelmont 94.16 58 *e*P **P 03 35 01.4 +1.1**
RTC Rabat Centre 94.80 6 PFAKE 03 35 10.0 +7.0
RTC LR LR
comp=Z,20μm,20.0s,MS6.6
SDV Santo Domingo 94.92 69 LR LR 04 16 29.1
comp=Z,16μm,21.1s,MS6.5,baz=132,slow=35
SDV Santo Domingo 94.92 69 *e*P **P 03 35 03.4 -0.4**
comp=Z,91nm,0.9s,mb6.2
SDV LR LR
comp=Z,6μm,19.0s,MS6.1
RPZ Rata Peaks 95.02 187 P **P 03 35 03.3 -0.1**
comp=Z,30nm,0.8s,mb5.8,baz=146,slow=5.3,SNR=11
ROSC El Rosal 95.92 75 P **P 03 35 08.5 +0.2**
comp=Z,5.8nm,0.6s,mb5.2,baz=71,slow=1.5,SNR=8.3
ROSC LR LR 04 22 42.2
comp=Z,11μm,20.1s,MS6.3,baz=355,slow=38
ROSC El Rosal 95.92 75 *e*P **P 03 35 09.8 +1.4**
MDT Midelt 96.09 4 P **P 03 35 08.6 -0.3**
comp=Z,34nm,1.2s,mb5.6,baz=13,slow=5.1,SNR=18
MDT PKKPbc PKKPbc 03 51 54.7 +0.9
baz=208,slow=8.5
WHFO Wadi Hawf 96.59 309 P **P 03 35 11.4 +0.1**
SNR=6.6
WHFO Wadi Hawf 96.59 309 P **P 03 35 11.4 +0.1**
SNR=6.6
WHFO Wadi Hawf 96.59 309 P **P 03 35 11.4 +0.1**
SNR=6.6
WHFO Wadi Hawf 96.59 309 P **P 03 35 11.4 +0.1**
SNR=6.6
OTAV Otavalo 97.02 81 *e*P **P 03 35 14.4 +1.0**
comp=Z,10nm,0.8s,mb5.3
OTAV LR LR
comp=Z,8μm,19.0s,MS6.2
PCRV Puerto La Cruz 97.33 64 LR LR 04 20 35.3
comp=Z,43μm,21.2s,MS6.9,baz=150,slow=36
GRGR Grenville 97.37 60 *e*P **P 03 35 13.9 -1.1**
comp=Z,122nm,0.8s,mb6.4
GRGR LR LR
comp=Z,53μm,22.0s,MS7.0
BBGH Gun Hill 97.66 58 PFAKE 03 35 30.0 +14
BBGH LR LR
comp=Z,59μm,22.0s,MS7.0
TAU Tasmania Unive 98.10 204 PFAKE 03 35 30.0 +13
TAU LR LR
comp=Z,11μm,21.0s,MS6.3
TCE Chacachacare 98.50 61 *e*P **P 03 35 16.6 -3.5**
TPR Prospect 98.63 60 *e*P **P 03 35 21.7 +1.1**
TRN Trinidad (W) 98.73 61 *e*P **P 03 35 20.6 -0.5**
TPP Pointe-a-Pierr 98.98 61 *e*P **P 03 35 19.8 -2.4**
KLBR Kellerberrin 99.04 230 *e*P **P 03 35 20.7 -1.2**
comp=Z,50nm,1.1s,mb6.0
TBH Brigand Hill 99.05 61 *e*P **P 03 35 21.9 -0.6**
RPN Rapa Nui 99.68 121 PFAKE 03 35 40.0 +15
RPN LR LR
comp=Z,16μm,21.0s,MS6.5
NWAO Narrogin (SRO) 100.39 229 PFAKE 03 35 40.0 +12
NWAO LR LR
comp=Z,4μm,19.0s,MS5.9
DGAR Diego Garcia 106.71 279 PFAKE 03 40 20.0 +13
DGAR LR LR
comp=Z,7μm,20.0s,MS6.2
NNA Nana 107.47 87 PFAKE 03 40 20.0 +12
NNA LR LR
comp=Z,15μm,19.0s,MS6.6
BBTS Babate 112.69 17 PKiKP PKiKP 03 40 19.2 +1.3
comp=Z,38nm,1.1s,baz=267,slow=4.2,SNR=3.6
ARE Arequipa 114.22 86 PKIKP PKiKP 03 40 22.0 +1.3
MSEY Mahe Island 114.67 295 PFAKE 03 40 30.0 +8.3
MSEY LR LR
comp=Z,11μm,21.0s,MS6.5
TOA0 Torodi Ar. Sit 115.75 358 *e*PKPdf PKPdf 03 40 24.3 +0.5
TORD Torodi Ar. Bea 115.75 358 PKP PKPdf 03 40 22.7 -1.1
comp=Z,15nm,0.7s,baz=350,slow=2.3,SNR=33
TORD PP PP 03 41 20.9 -5.3
comp=Z,13nm,1.0s,baz=354,slow=7.0,SNR=4.1
TORD PKKPbc PKKPbc 03 50 53.5 -0.3
comp=Z,11nm,0.8s,baz=168,slow=2.7,SNR=35
TORD Torodi Ar. Bea 115.75 358 PKP PKPdf 03 40 22.7 -1.1
TORD PP PP 03 41 20.9 -5.3
TORD PKKPbc PKKPbc 03 50 53.5 -0.3
LPAZ La Paz 116.18 83 PKP PKPdf 03 40 25.4 +1.0
comp=Z,2.6nm,0.8s,baz=1.4,slow=3.8,SNR=7.2
LPAZ La Paz 116.18 83 *e*PKPdf PKPdf 03 40 25.6 +1.2
LPAZ LR LR
comp=Z,12μm,22.0s,MS6.5
SIV San Ignacio 120.32 77 PKP PKPdf 03 40 31.7 -0.7
comp=Z,5.3nm,0.9s,baz=216,slow=0.8,SNR=10
SIV PP PP 03 41 58.3 -0.7
comp=Z,35nm,1.2s,baz=328,slow=9.1,SNR=13
SIV PKKPbc PKKPbc 03 50 40.9 +3.7
comp=Z,3.9nm,0.8s,baz=151,slow=7.6,SNR=8.1
LVC Limon Verde 120.41 89 PKP PKPdf 03 40 31.7 -0.7
comp=Z,10nm,0.8s,baz=329,slow=3.6,SNR=6.4
LVC PP PP 03 41 54.3 -5.4
baz=331,slow=13
LVC Limon Verde 120.41 89 *e*PKPdf PKPdf 03 40 33.6 +1.2
LVC LR LR
comp=Z,12μm,21.0s,MS6.5
DRV SS SS 03 58 36.0 -2.0
DRV L 04 12 00.0
DRV R 04 20 00.0
DRV R 07 45 00.0
DRV Dumont d'Urvil 121.55 197 SP PKKPdf 03 51 11.0 +1.9
DBIC Dimbokro 122.05 6 PKP PKPdf 03 40 34.8 -1.2
comp=Z,46nm,0.5s,baz=2.9,slow=1.8,SNR=29
DBIC PKKPbc PKKPbc 03 50 33.1 +2.2
comp=Z,6.1nm,0.8s,baz=126,slow=7.6,SNR=6.3
DBIC Dimbokro 122.05 6 *e*PKPdf PKPdf 03 40 36.2 +0.2
DBIC LR LR
comp=Z,25μm,19.0s,MS6.9
TIC Toumodi 122.06 6 *e*PKIKP PKPdf 03 40 36.6 +0.6
comp=Z,596nm,1.0s
KIC Kosan Boka 122.36 6 *e*PKIKP PKPdf 03 40 37.2 +0.6
comp=Z,393nm,0.9s
LIC Lamto 122.48 6 *e*PKIKP PKPdf 03 40 35.4 -1.4
comp=Z,235nm,0.9s
LIC *e*MLR MLR
comp=Z,45μm,21.5s,MS6.8
LIC Lamto 122.48 6 *e*PKIKP PKPdf 03 40 37.4 +0.6
comp=Z,342nm,0.9s
LIC Lamto 122.48 6 *e*PKPdf PKPdf 03 40 35.4 -1.4
LIC LR LR
comp=Z,22μm,21.5s,MS6.8
LCO Las Campanas 123.86 95 *e*PKPdf PKPdf 03 40 39.5 +0.6
LCO LR LR
comp=Z,27μm,21.0s,MS6.9
CLCH Cerro Calan 126.97 99 ‖ *i*P PKPdf 03 40 45.4 +0.7
FCH Farellones 127.08 99 ‖ *i*P PKPdf 03 40 45.0 +0.1
CFAA Coronel Fontan 127.19 96 PKP PKPdf 03 40 43.5 -1.7
comp=Z,6.3nm,0.6s,baz=280,slow=2.6,SNR=69
BDFB Brasilia 127.78 65 PKP PKPdf 03 40 47.5 +0.8
comp=Z,5.4nm,0.8s,baz=300,slow=5.1,SNR=11
BDFB Brasilia 127.78 65 PKP PKPdf 03 40 47.5 +0.8
BDFB LR LR
comp=Z,26μm,22.0s,MS6.9
CASY Casey 128.57 209 *e*P PKPdf 03 40 47.0 +0.3
CASY LR LR
comp=Z,7μm,20.0s,MS6.3
VNDA Vanda 129.11 185 PKP PKPdf 03 40 47.9 +0.4
comp=Z,2.4nm,0.6s,baz=326,slow=4.4,SNR=17
VNDA SKPbc 03 44 06.8
comp=Z,5.3nm,0.9s,baz=327,slow=2.6,SNR=3.3
VNDA PKKP 03 50 56.1
comp=Z,1.6nm,0.7s,baz=281,slow=6.7,SNR=5.4
VNDA Vanda 129.11 185 *e*PKPdf PKPdf 03 40 47.4 -0.1
VNDA LR LR
comp=Z,5μm,22.0s,MS6.2
SBA Scott Base 129.21 184 *e*PKIKP PKPdf 03 40 47.7 0.0
SBA MLR MLR
comp=Z,5μm,22.0s,MS6.2
CPUP Villa Florida 130.34 82 PKP PKPdf 03 40 50.9 -0.5
comp=Z,14nm,0.8s,baz=307,slow=1.8,SNR=28
CPUP SKPbc SKPbc 03 44 12.8 +3.1
comp=Z,20nm,1.0s,baz=303,slow=5.2,SNR=4.3
CPUP Villa Florida 130.34 82 *e*PKPdf PKPdf 03 40 51.6 +0.3
CPUP *e*SKPbc SKPbc 03 44 12.1 +2.3
CPUP LR LR
comp=Z,2μm,19.0s,MS5.9
OPO Ambohidratompo130.61 294 PKP PKPdf 03 40 51.7 -0.3
comp=Z,20nm,1.0s,baz=52,slow=2.2,SNR=8.8
OPO SKPbc SKPbc 03 44 14.2 +3.2
comp=Z,23nm,1.0s,baz=359,slow=5.8,SNR=3.1
ABPO Ambohimpanom 130.94 293 PFAKE 03 41 00.0 +7.3
ABPO LR LR
comp=Z,10μm,21.0s,MS6.5
PLCA Paso Flores 131.67 106 PKP PKPdf 03 40 52.6 -0.8
comp=Z,60nm,0.8s,baz=290,slow=2.6,SNR=29
PLCA SKPbc SKPbc 03 44 17.8 +3.5
comp=Z,48nm,1.2s,baz=308,slow=4.5,SNR=11
PLCA Paso Flores 131.67 106 PKIKP PKPdf 03 40 52.6 -0.8
PLCA pmax pmax
comp=Z,60nm,0.8s
PLCA pmax pmax
comp=N,48nm,1.2s
PLCA Paso Flores 131.67 106 *e*PKPpre 03 40 44.9
PLCA *e*PKPdf PKPdf 03 40 52.3 -1.1
PLCA PKP PKPdf 03 40 52.6 -0.8
PLCA SKPbc SKPbc 03 44 17.8 +3.5
PLCA LR LR
comp=Z,24μm,21.0s,MS6.9
SPB Sao Paulo 134.35 71 *e*PKPdf PKPdf 03 40 59.6 +0.6
MIR Mirnyy 134.49 214 ‖ *i*PKIKP PKPdf 03 40 57.0 -0.9
MIR *i* 03 41 15.0
MIR pmax pmax
comp=Z,200nm,2.0s
ASCN Ascension 135.10 20 PFAKE 03 41 10.0 +9.3
ASCN LR LR
comp=Z,35μm,21.0s,MS7.1
TRQA Tornquist 135.28 98 *e*PKPpre 03 40 52.2
TRQA *e*PKPdf PKPdf 03 41 00.4 +0.2
TRQA LR LR
comp=Z,16μm,20.0s,MS6.7
LPA La Plata 135.83 91 *c e*PKP PKPdf 03 41 02.0 +0.6
LPA *e*PP PP 03 43 41.0 0.0
LPA *e*SKP 03 44 30.0
LPA *e*SKP 03 44 35.0
LPA
comp=Z,32μm,19.0s
CAM3 Guarapari 136.06 61 ‖ *i*P PKPdf 03 40 52.4 -10
CAM3 *i* 03 41 02.5
CAM3 *i* 03 41 02.5
CAM3 *i* 03 41 23.4
CAM3 *i* 03 41 35.6
CAM3 *i* 03 41 54.9
LSZ Lusaka 137.51 318 P PKPdf 03 41 08.0 +3.0
SNR=9.6
LSZ Lusaka 137.51 318 P PKPdf 03 41 08.0 +3.0
SNR=9.6
LSZ Lusaka 137.51 318 P PKPdf 03 41 08.0 +3.0
SNR=9.6
LSZ Lusaka 137.51 318 PKhKP 03 40 56.7
comp=Z,8.6nm,0.7s,baz=39,slow=4.4,SNR=11
LSZ Lusaka 137.51 318 *e*PKPpre 03 40 57.4
LSZ *e*PKPdf PKPdf 03 41 07.1 +2.0
LSZ LR LR
comp=Z,14μm,20.0s,MS6.7
USHA Ushuaia 140.23 123 PKhKP 03 41 03.4
comp=Z,12nm,0.7s,baz=237,slow=1.6,SNR=4.3
USHA PKP PKPdf 03 41 09.0 +0.2
comp=Z,17nm,0.7s,baz=26,slow=5.3
QSPA South Pole Qui 141.11 180 PKhKP 03 41 04.3
comp=Z,20nm,0.6s,baz=334,slow=0.8,SNR=51
SHEL Horse Pasture 144.38 10 *e*PKPdf PKPdf 03 41 16.8 -0.7
SHEL LR LR
comp=Z,16μm,21.0s,MS6.8
EFI East Falkland 144.69 114 *e*PKIKP PKPdf 03 41 15.5 -1.3
EFI MLR MLR
comp=Z,26μm,21.0s,MS7.0
TSUM Tsumeb 145.04 330 PKPbc PKPbc 03 41 18.6 +0.7
baz=3.5,slow=4.9
TSUM Tsumeb 145.04 330 *e*PKPbc PKPbc 03 41 17.6 -0.4
TSUM LR LR
comp=Z,18μm,19.0s,MS6.9
PMSA Palmer Station 145.22 137 *e*PKPbc PKPbc 03 41 17.3 +0.1
PMSA LR LR
comp=Z,32μm,20.0s,MS7.1
MAW Mawson 146.02 218 *e*P PKPdf 03 41 17.8 -0.8
comp=Z,146nm,1.0s
MAW Mawson 146.02 218 PKPbc PKPdf 03 41 17.1 -1.5
comp=Z,121nm,0.9s,baz=84,slow=4.0,SNR=64
MAW Mawson 146.02 218 *e*P PKPdf 03 41 17.8 -0.8
MAW LR LR
comp=Z,18μm,22.0s,MS6.8
LBTB Lobatse 147.21 314 PKPbc PKPbc 03 41 23.3 -1.1
comp=Z,125nm,0.7s,baz=30,slow=1.9,SNR=91
LBTB Lobatse 147.21 314 *e*PKPdf PKPdf 03 41 22.9 +0.9
LBTB *e*PKPbc PKPab 03 41 26.5 +0.3
LBTB LR LR
comp=Z,16μm,21.0s,MS6.8
BOSA Boshof 150.43 311 PKPbc PKPbc 03 41 32.4 -0.1
comp=Z,85nm,0.7s,baz=30,slow=2.2,SNR=83
BOSA Boshof 150.43 311 *e*PKPdf PKPdf 03 41 27.7 +0.5
BOSA *e*PKPbc PKPbc 03 41 32.2 -0.2
BOSA PKPbc PKPbc 03 41 32.4 -0.1
BOSA LR LR
comp=Z,24μm,20.0s,MS7.0
SYO Syowa Base 154.27 212 ‖ *e*X PKPdf 03 41 28.4 -3.1
SYO Syowa Base 154.27 212 ‖ *i*pPKPdf PKPbc 03 41 38.8 -1.0
SYO Syowa Base 154.27 212 ‖ *i*X PKPab 03 41 52.9 -1.2
SUR Sutherland 155.66 313 PKP PKPdf 03 41 35.7 +1.1
comp=Z,9.1nm,0.9s,baz=148,slow=1.2,SNR=3.1
SUR PKPab PKPab 03 42 02.3 +1.3
comp=Z,46nm,0.9s,baz=37,slow=4.1,SNR=6.8
SUR Sutherland 155.66 313 PKP PKPdf 03 41 35.7 +1.1
SUR PKPab PKPab 03 42 02.4 +1.3
SUR LR LR
comp=Z,26μm,22.0s,MS7.0
SNAA Sanae 159.58 177 *e*PKPdf PKPdf 03 41 36.1 -2.1
SNAA *e* 03 42 15.7
SNAA *e* 03 42 22.6
SNAA Sanae 159.58 177 PKP PKPdf 03 41 36.4 -1.8
comp=Z,2.6nm,0.9s,baz=167,slow=1.3,SNR=25
SNAA PKPab PKPab 03 42 16.2 -0.7
comp=Z,10nm,0.9s,baz=223,slow=4.3,SNR=15
SNAA Sanae 159.58 177 PKIKP PKPdf 03 41 36.4 -1.8
SNAA 03 42 16.2
SNAA pmax pmax
comp=Z,3.0nm,1.0s
SNAA Sanae 159.58 177 *e*PKPdf PKPdf 03 41 36.1 -2.1
SNAA *e*PKPab PKPab 03 42 16.0 -0.9
NVL N'lazarevskaya 159.78 191 *e*PKIKP PKPdf 03 41 38.1 -0.4
NVL *e* 03 42 16.7
NVL *e* 03 59 12.5
NVL *e* 04 06 05.9
NVL pmax pmax
comp=Z,63nm,1.8s
MAIT Maitri 159.79 191 *e*PKPdif PKPab 03 42 15.2 -2.6
VNA1 Neumayer--Stat 160.27 172 *e*PKPdf PKPdf 03 41 38.3 -0.7
VNA1 *e* 03 42 19.6
VNA1 *e* 03 42 26.8
TRIS Tristan da Cun 163.23 36 PFAKE 03 41 50.0 +6.9
TRIS LR LR
comp=Z,16μm,21.0s

NEIC 02 03:24:40.3, 5109N×17986W, h15km, mb5.3/4, ML5.0 (AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.60**	**299**	P	Pg	03 24 52.1	0.0
AMKA				S	Sg	03 25 00.4	+0.3
SMY	**Shemya**	**4.08**	**296**	P	Pn	03 25 43.3	+1.2
FX1	**Attu Island--F**	**4.67**	**295**	P	Pn	03 25 51.1	+0.9
NIKO	**Nikolski**	**7.05**	**70**	P	Pn	03 26 25.4	+2.5
KTH	**Kantishna Hill**	**19.77**	**40**	*e*P	Pn	03 29 08.4	-2.7

160nm,0.8s
IMA2 Indian Mountai 20.04 32 *e*P P 03 29 14.2 +1.7
TIXI Tiksi 30.56 331 *e*P P 03 30 53.2 +0.4
MCMT McKenzie Canyo 43.91 71 *e*P P 03 32 49.1 +3.0
BOZ Bozeman (W) 44.18 69 *e*P P 03 32 46.5 -1.8
19nm,0.6s
RLMT Red Lodge 45.86 69 *e*P P 03 33 00.8 -0.8
71nm,0.9s
BW06 Boulder Array 47.03 71 *e*P P 03 33 09.1 -1.8
16nm,0.6s

JMA ***02*** *03:24:58.6±0.6,4701N×14171E,h12km,M3.2*
SKHL ***02*** *03:24:59.5±0.4,4680N×14170E,h10km,mb4.5/2*
ISCJB ***02*** *03:25:01.4±0.8,4684N±003×14181E±009,h10km,Error ellipse: s-maj=9.3km s-min=4.9km az=179.7*
ISC 02 03:25:01.8±0.9,4683N±004×14180E±010,h10km,n4, σ1§17/9,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.67**	**79**	*e*Pg	**Pg**	**03 25 14.0**	**-0.8**
YSS				AMB	AMB	03 25 15.0	
	118nm,0.2s						
YSS				*e*Sg	**Sg**	**03 25 24.0**	**+0.5**
YSS				A		03 25 26.0	
	2μm,0.6s						
JWK2	**Keihoku**	**1.51**	**177**	P	**Pn**	**03 25 28.7**	**-0.3**
JWK2				*e*S	**Sn**	**03 25 50.0**	**+1.3**
JSE	**Soyaes**	**1.95**	**163**	P	**Pn**	**03 25 33.9**	**-1.0**
UGL	**Uglegorsk**	**2.26**	**4**	*e*Pb	**Pb**	**03 25 42.0**	**-0.7**
UGL				*e*Pg	**Pg**	**03 25 46.0**	**+0.9**
UGL				AMB	AMB	03 25 48.0	
	83nm,0.3s						
UGL				*e*Sb	**Sb**	**03 26 09.0**	**-1.6**
UGL				*e*Sg	**Sg**	**03 26 17.0**	**+2.6**
UGL				A		03 26 19.5	
	100nm,0.5s						

JMA 02 03:26:50.8±0.4,4682N×14161E,h0km,M4.8,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.52**	**172**	P	Pn	03 27 19.0	-0.2
JWK2				*e*S	Sg	03 27 39.1	-0.4
JRR	**Rishiri**	**1.69**	**187**	P	Pn	03 27 22.2	+0.6
JRR				*e*S	Sn	03 27 45.2	+1.2
JSE	**Soyaes**	**1.98**	**160**	P	Pn	03 27 26.4	+0.9
JSE				*e*S	Sn	03 27 50.6	-0.4

NEIC ***02*** *03:28:15.7±6.0,3491N×566E,h6km±45km,MG3.8(MDD), Error ellipse: s-maj=10.0km s-min=6.2km az=120.0*
CRAAG ***02*** *03:28:16.1,3589N×536E,Ml4.2*
MDD ***02*** *03:28:18.1±1.8,3497N×549E,h0km,mb3.8/11,Error ellipse: s-maj=19.7km s-min=7.9km az=174.0,PRIMO*
LDG ***02*** *03:28:19.6±0.4,3485N×572E,h30km,Ml3.6/13,Error ellipse: s-maj=7.2km s-min=4.9km az=151.0*
ISCJB ***02*** *03:28:21.0±0.6,3549N±004×545E±003,h10km,mb4.2/2, Error ellipse: s-maj=5.3km s-min=3.8km az=6.7*
IDC ***02*** *03:28:21.6±2.4,3488N×545E,h55km±30km,mb3.7/3, mb1 3.7/7,mb1mx3.5/27,mbtmp3.5/7,ML3.8/3,MS4.6/2, Ms1 4.6/2,ms1mx3.8/56,Error ellipse: s-maj=26.2km s-min=21.3km az=130.0*
CSEM ***02*** *03:28:22.0±0.3,3540N×524E,h10km,ML4.2,Error ellipse: s-maj=8.4km s-min=3.3km az=10.0*
ISC 02 03:28:19.9±0.7,3521N±005×541E±003,h7km±5km,n80, σ1§35/114,mb4.2/2,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMER	**Merouana**	**0.57**	**44**	P	**Pg**	**03 28 31.0**	**+0.1**
SET	**Setif**	**0.99**	**360**	P	**Pg**	**03 28 40.0**	**+1.2**
CTEI	**Djebel Teioual**	**1.18**	**43**	P	**Pb**	**03 28 43.0**	**+0.5**
CASM	**Ain Smara**	**1.37**	**40**	P	**Pn**	**03 28 45.0**	**-0.3**
DFRA	**Djebel Bou Aff**	**1.39**	**16**	P	**Pn**	**03 28 46.0**	**+0.4**
CKFL	**Kef-Lekhel**	**1.59**	**42**	P	**Pn**	**03 28 50.0**	**+1.5**
CAEH	**'Ain El Ouahch**	**1.95**	**36**	P	**Pn**	**03 28 53.0**	**-0.4**
ABSA	**Djebel Ababsia**	**1.99**	**57**	P	**Pg**	**03 28 57.0**	**-1.0**
CABS	**Djebel Ababsia**	**1.99**	**57**	P	**Pg**	**03 28 57.0**	**-1.0**
CMAH	**Djebel Manchou**	**2.16**	**49**	P	**Pn**	**03 28 55.0**	**-1.2**
ABMS	**Boumerdes**	**2.19**	**315**	P	**Pn**	**03 28 57.4**	**+0.7**
EMHD	**Djebel Mahouad**	**2.23**	**297**	P	**Pg**	**03 29 02.0**	**-0.6**
KEST	**Kesra**	**3.25**	**80**	P	**Pn**	**03 29 10.8**	**-0.5**
	0.4nm,0.3s,baz=266,slow=2.7,SNR=19						
KEST				LR	LR	03 30 18.3	
	comp=Z,4μm,19.4s,baz=328,slow=35						
EBNR	**Beni Rached**	**3.33**	**290**	P	**Pg**	**03 29 20.0**	**-3.7**
ETRT	**Tiaret**	**3.37**	**274**	P	**Pg**	**03 29 29.0**	**+4.6**
ECHA	**Ech Chlef**	**3.42**	**287**	P	**Pg**	**03 29 23.0**	**-2.4**
ECHF	**Ech Chlef**	**3.44**	**287**	P	**Pg**	**03 29 23.0**	**-2.9**
EANR	**'Ain N'Sour**	**3.59**	**283**	P	**Pg**	**03 29 26.0**	**-2.6**
ETOS	**Mallorca**	**5.00**	**336**	P	**Pn**	**03 29 36.1**	**+0.9**
	0.2nm,0.1s,SNR=18						
ETOS				S	**Sn**	**03 30 33.2**	**+0.1**
	3.4nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**5.00**	**336**	P	**Pn**	**03 29 36.1**	**+0.9**
	0.2nm,0.1s,SNR=18						
ETOS				S	**Sn**	**03 30 33.2**	**+0.1**
	3.4nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**5.00**	**336**	P	**Pn**	**03 29 36.1**	**+0.9**
ETOS				S	**Sn**	**03 30 33.2**	**+0.1**
EIBI	**Ibiza**	**5.01**	**321**	P	**Pn**	**03 29 37.0**	**+1.7**
	1.0nm,0.2s,SNR=12						
EIBI				S	**Sn**	**03 30 34.7**	**+1.3**
	1.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**5.01**	**321**	P	**Pn**	**03 29 37.0**	**+1.7**
	1.0nm,0.2s,SNR=12						
EIBI				S	**Sn**	**03 30 34.7**	**+1.3**
	1.8nm,0.2s,SNR=7.9						
CART	**Cartagena**	**5.69**	**297**	*e*Pn	**Pn**	**03 29 45.0**	**+0.3**
CART	**Cartagena**	**5.69**	**297**	*e*Pn	**Pn**	**03 29 45.0**	**+0.2**
EBEN	**Beniarda**	**5.70**	**309**	P	**Pn**	**03 29 46.4**	**+1.5**
	0.3nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**03 30 51.5**	**+1.0**
	0.3nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**5.70**	**309**	P	**Pn**	**03 29 46.4**	**+1.5**
	0.3nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**03 30 51.5**	**+1.0**
	0.3nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**5.96**	**298**	P	**Pn**	**03 29 47.2**	**-1.3**
	0.4nm,0.2s,SNR=6.1						
EMUR	**La Murta**	**5.96**	**298**	P	**Pn**	**03 29 47.2**	**-1.3**
	0.4nm,0.2s,SNR=6.1						
ETOB	**Tobarra**	**6.54**	**304**	P	**Pn**	**03 29 57.6**	**+1.1**
	3.3nm,0.4s,SNR=7.5						
ETOB				S	**Sn**	**03 31 11.2**	**-0.1**
	0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.54**	**304**	P	**Pn**	**03 29 57.6**	**+1.2**
	3.3nm,0.4s,SNR=7.5						
ETOB				S	**Sn**	**03 31 11.2**	**0.0**
	0.2nm,0.2s,SNR=7.9						
EBER	**Berja**	**6.93**	**286**	P	**Pn**	**03 30 00.7**	**-1.0**
	0.2nm,0.2s,SNR=6.9						
EBER	**Berja**	**6.93**	**286**	P	**Pn**	**03 29 59.5**	**-2.3**
EMOS	**Mosqueruela**	**6.94**	**320**	P	**Pn**	**03 30 03.8**	**+2.0**
	2.5nm,0.4s,SNR=9.0						
EMOS				S	**Sn**	**03 31 20.0**	**-1.0**
	0.5nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**6.94**	**320**	P	**Pn**	**03 30 03.8**	**+1.9**
	2.5nm,0.4s,SNR=9.0						
EMOS				S	**Sn**	**03 31 20.0**	**-1.0**
	0.5nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**7.01**	**332**	P	**Pn**	**03 30 03.9**	**+1.0**
	0.6nm,0.4s,SNR=7.9						
EPOB				S	**Sn**	**03 31 22.5**	**-0.3**
	0.4nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**7.01**	**332**	P	**Pn**	**03 30 03.9**	**+1.0**
	SNR=7.9						
EPOB				S	**Sn**	**03 31 22.5**	**-0.3**
	0.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**7.30**	**293**	P	**Pn**	**03 30 07.1**	**+0.3**
	0.1nm,0.1s,SNR=8.3						
EQES				S	**Sn**	**03 31 27.6**	**-2.4**
	0.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**7.30**	**293**	P	**Pn**	**03 30 07.1**	**+0.2**
	0.1nm,0.1s,SNR=8.3						
EQES				S	**Sn**	**03 31 30.1**	**+0.1**
	SNR=7.9						
EQES	**Quesada**	**7.30**	**293**	P	**Pn**	**03 30 07.1**	**+0.3**
EQES				S	**Sn**	**03 31 30.1**	**+0.1**
EMIR	**Miracle**	**7.35**	**337**	P	**Pn**	**03 30 10.1**	**+2.5**
	3.3nm,0.2s,SNR=18						
EMIR				S	**Sn**	**03 31 30.9**	**-0.3**
	1.8nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**7.35**	**337**	P	**Pn**	**03 30 10.1**	**+2.6**
	3.3nm,0.2s,SNR=18						
EMIR				S	**Sn**	**03 31 30.9**	**-0.3**
	1.8nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**7.49**	**346**	P	**Pn**	**03 30 10.5**	**+1.1**
	5.1nm,0.3s,SNR=17						
EJON				S	**Sn**	**03 31 34.6**	**0.0**
	0.6nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**7.49**	**346**	P	**Pn**	**03 30 10.5**	**+1.1**
	5.1nm,0.3s,SNR=17						
EJON				S	**Sn**	**03 31 36.5**	**+1.9**
	0.6nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**7.49**	**346**	P	**Pn**	**03 30 10.5**	**+1.1**
EJON				S	**Sn**	**03 31 36.5**	**+2.0**
PGF	**Pioggiola**	**7.84**	**20**	*e*Pn	**Pn**	**03 30 13.7**	**-0.6**
PGF				*e*Sn	**Sn**	**03 31 39.7**	**-3.5**
	11nm,0.5s						
LMR	**La Mourre**	**8.16**	**6**	*e*Pn	**Pn**	**03 30 15.7**	**-2.9**
LMR				*e*Sn	**Sn**	**03 31 47.6**	**-3.4**
	8.5nm,0.6s						
FRF	**La Foret Royal**	**8.39**	**6**	*e*Pn	**Pn**	**03 30 22.0**	**+0.2**
FRF				*e*Sn	**Sn**	**03 31 53.6**	**-3.2**
	6.5nm,0.6s						
MTLF	**Montolieu**	**8.49**	**344**	*e*Pn	**Pn**	**03 30 24.1**	**+1.0**
MTLF				*e*Sn	**Sn**	**03 31 57.7**	**-1.4**
	8.6nm,0.5s						
MDT	**Midelt**	**8.66**	**257**	P	**Pn**	**03 30 23.2**	**-2.3**
	0.2nm,0.3s,baz=78,slow=13,SNR=14						
ESDC	**Sonseca Array**	**8.68**	**304**	P	**Pn**	**03 30 26.8**	**+0.9**
	0.2nm,0.3s,baz=118,slow=12,SNR=3.2						
EPF	**Esparros**	**8.74**	**335**	*e*Pn	**Pn**	**03 30 29.0**	**+2.4**
EPF				*e*Sn	**Sn**	**03 32 04.0**	**-1.4**
	4.9nm,0.7s						
EPF	**Esparros**	**8.74**	**335**	*e*Pn	**Pn**	**03 30 29.0**	**+2.4**
EPF				*e*Sn	**Sn**	**03 32 04.0**	**-1.4**
	2.5nm,0.7s						
SMRF	**Simiane la Rot**	**8.76**	**1**	*e*Pn	**Pn**	**03 30 27.2**	**+0.4**
SBF	**Sospel**	**8.78**	**10**	*e*Pn	**Pn**	**03 30 25.9**	**-1.2**
SBF				*e*Sn	**Sn**	**03 32 02.4**	**-3.9**
	9.4nm,0.5s						
LASF	**Ste Croix**	**8.93**	**353**	*e*Pn	**Pn**	**03 30 28.7**	**-0.5**
LASF				*e*Sn	**Sn**	**03 32 06.8**	**-3.3**
	3.5nm,0.4s						
ETSF	**Etsaut**	**8.97**	**331**	*e*Pn	**Pn**	**03 30 31.4**	**+1.7**
ETSF				*e*Sn	**Sn**	**03 32 09.7**	**-1.2**
	2.7nm,0.5s						
ETSF	**Etsaut**	**8.97**	**331**	*e*Pn	**Pn**	**03 30 31.4**	**+1.7**
ETSF				*e*Sn	**Sn**	**03 32 09.7**	**-1.2**
	1.4nm,0.5s						
SJPF	**Ste Jean**	**9.42**	**329**	*e*Pn	**Pn**	**03 30 37.6**	**+1.7**
MBDF	**Montbardon**	**9.56**	**6**	*e*Sn	**Sn**	**03 32 21.4**	**-4.1**
	3.0nm,0.6s						
VIVF	**Saint-Julien-l**	**9.65**	**357**	*e*Pn	**Pn**	**03 30 38.5**	**-0.6**
VIVF				*e*Sn	**Sn**	**03 32 24.2**	**-3.5**
	12nm,0.6s						
ORIF	**Oris-en-Rattie**	**9.70**	**2**	*e*Pn	**Pn**	**03 30 40.3**	**+0.5**
ORIF				*e*Sn	**Sn**	**03 32 25.3**	**-3.6**
	1.3nm,0.4s						
CAF	**Calviac**	**10.04**	**346**	*e*Pn	**Pn**	**03 30 44.9**	**+0.6**
CAF				*e*Sn	**Sn**	**03 32 34.2**	**-2.9**
	2.8nm,0.5s						
LPL	**La Plagne**	**10.34**	**5**	*e*Pn	**Pn**	**03 30 49.0**	**+0.5**
LPL				*e*Sn	**Sn**	**03 32 40.5**	**-4.2**
	1.4nm,0.3s						
LFF	**La Frestale**	**10.35**	**341**	*e*Pn	**Pn**	**03 30 49.2**	**+0.5**
RJF	**Les Rejaudoux**	**10.51**	**345**	*e*Pn	**Pn**	**03 30 50.5**	**-0.3**
BGF	**Bois d'Agland**	**11.50**	**351**	*e*Pn	**Pn**	**03 31 04.6**	**+0.2**
DAVOX	**Davos/Dischmat**	**12.04**	**15**	LR	LR	03 36 16.5	
	comp=Z,6μm,19.3s,baz=100,slow=38						
MFF	**Saint Martin d**	**12.13**	**341**	*e*Pn	**Pn**	**03 31 13.7**	**+0.8**
TAM	**Tamanrasset**	**12.38**	**180**	*e*Pn	**Pn**	**03 31 09.2**	**-7.3**
GERES	**GERESS Array B**	**14.94**	**22**	P	**Pn**	**03 31 54.5**	**+3.2**
	0.4nm,0.3s,baz=208,slow=12,SNR=11						
EKA	**Eskdalemuir Ar**	**20.98**	**346**	P	**P**	**03 33 04.1**	**+0.8**
	2.0nm,1.0s,baz=153,slow=9.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**22.22**	**190**	P	**P**	**03 33 10.5**	**-6.5**
	5.0nm,0.7s,mb4.0,baz=3.0,slow=10,SNR=30						
ESPY	**Espiye-Giresun**	**26.74**	**68**	*e*P	**P**	**03 34 01.5**	**+1.6**
PTK	**Pertek**	**27.28**	**72**	*e*P	**P**	**03 34 11.0**	**+6.2**
KTUT	**Trabzon**	**27.53**	**68**	*e*P	**P**	**03 34 02.2**	**-4.8**
EZC	**Erzincan**	**27.57**	**70**	*e*P	**P**	**03 34 05.9**	**-1.6**
DIY	**Diyarbakir**	**28.00**	**74**	*e*P	**P**	**03 34 14.8**	**+3.5**
BINT	**Bingol**	**28.13**	**72**	*e*P	**P**	**03 34 11.2**	**-1.2**
MKAR	**Makanchi Array**	**56.99**	**53**	P	**P**	**03 38 02.1**	**-3.8**
	2.5nm,0.7s,mb4.4,baz=288,slow=6.4,SNR=5.9						

JMA ***02*** *03:36:10.7±0.4,4694N×14174E,h17km,M3.3*
SKHL ***02*** *03:36:11.3±0.5,4674N×14165E,h10km,mb4.2/3*
ISC 02 03:36:13.4±1.2,4675N±008×14171E±009,h11km±21km, n6,σ0§92/8,1C,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.75**	**74⇑**	*i*Pg	**Pg**	**03 36 26.6**	**-1.2**
YSS				AMB	AMB	03 36 30.0	
	243nm,0.3s						
YSS				*i* Sg	**Sg**	**03 36 38.0**	**+0.5**
YSS				A		03 36 39.0	
	1μm,0.3s						
YSS				AMS	AMS	03 36 44.0	
	16μm,20.0s						
YSS				AMS	AMS	03 36 44.0	
	14μm,20.0s						
JWK2	**Keihoku**	**1.44**	**175**	P	**Pn**	**03 36 38.8**	**-0.6**
JWK2				*e*S	**Sb**	**03 36 59.5**	**+1.0**
JSE	**Soyaes**	**1.89**	**161**	P	**Pn**	**03 36 45.1**	**-0.5**
UGL	**Uglegorsk**	**2.34**	**6**	*e*Pg	**Pg**	**03 36 58.5**	**+0.3**
UGL				AMB	AMB	03 37 03.0	
	49nm,0.4s						
TEY	**Ternei**	**3.96**	**246**	*e*Pg	**Pg**	**03 37 29.0**	**-0.1**
TEY				AMB	AMB	03 37 31.0	
	18nm,0.4s						
TYV	**Tymovskoe**	**4.16**	**8**	*e*Pg	**Pg**	**03 37 33.5**	**+0.4**

JMA ***02*** *03:43:00.8±0.3,4685N×14170E,h0km,M4.0*
SKHL ***02*** *03:43:01.6±0.6,4669N×14171E,h10km,mb4.2/2*
ISCJB ***02*** *03:43:02.3±0.7,4678N±003×14168E±005,h1km±6km, Error ellipse: s-maj=5.6km s-min=4.3km az=0.6*
ISC 02 03:43:05.1±0.7,4677N±003×14179E±006,h17km±6km, n10,σ1§21/22,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.69**	**74**	*e*Pg	**Pg**	**03 43 16.6**	**-2.0**
YSS				*e*Sg	**Sg**	**03 43 27.6**	**-0.2**
YSS				A		03 43 30.0	
	3μm,0.3s						
YSS				A		03 43 30.0	
	2μm,0.3s						
JWK2	**Keihoku**	**1.45**	**177**	P	**Pn**	**03 43 29.6**	**-0.9**
JWK2				*e*S	**Sn**	**03 43 49.8**	**+0.7**
JRR	**Rishiri**	**1.66**	**192**	P	**Pn**	**03 43 33.1**	**-0.3**
JRR				*e*S	**Sn**	**03 43 55.9**	**+1.6**
JSE	**Soyaes**	**1.89**	**163**	P	**Pn**	**03 43 36.7**	**+0.2**
UGL	**Uglegorsk**	**2.32**	**5**	*e*P	**Pn**	**03 43 42.0**	**-0.4**
UGL				*e*Pg	**Pg**	**03 43 50.0**	**+0.5**
UGL				AMB	AMB	03 43 52.5	
	126nm,0.4s						
UGL				*e*S	**Sn**	**03 44 09.5**	**-0.9**
UGL				*e*Sg	**Sg**	**03 44 22.3**	**+2.7**
UGL				A		03 44 24.0	
	228nm,0.4s						
UGL				A		03 44 24.0	
	245nm,0.4s						
TEY	**Ternei**	**4.01**	**246**	*e*Pg	**Pg**	**03 44 19.5**	**-2.4**
TEY				*e*Sg	**Sg**	**03 45 14.0**	**+0.2**
TEY				A		03 45 25.0	
	19nm,0.3s						
TYV	**Tymovskoe**	**4.14**	**8**	*e*P	**Pn**	**03 44 07.5**	**+0.1**
TYV				*e*Pg	**Pg**	**03 44 25.6**	**+1.3**
GRNR	**Gornyy**	**5.35**	**320**	*e*P	**Pn**	**03 44 19.5**	**-4.5**
GRNR				*e*Pg	**Pg**	**03 44 44.0**	**-3.4**
GRNR				AMB	AMB	03 44 45.0	
	6.0nm,0.6s						
GRNR				*e*Sg	**Sg**	**03 45 56.0**	**-0.6**
GRNR				A		03 45 57.5	
	22nm,0.5s						
NKL	**Nikolayevsk**	**6.43**	**354**	*e*Pg	**Pn**	**03 45 09.0**	**+30**
NKL				*e*S	**Sn**	**03 45 50.0**	**-1.7**
NKL				*e*Sg	**Sn**	**03 46 36.7**	**+45**
NKL				A		03 46 41.0	
	18nm,0.5s						
EKMR	**Ekimchan**	**8.50**	**321**	*e*S	**Sn**	**03 46 47.5**	**+5.0**
EKMR				*e*Sg	Sn	03 47 45.3	+63
EKMR				A		03 47 48.5	
	6.0nm,0.6s						
EKMR				A		03 47 48.5	
	8.0nm,0.6s						

DJA ***02*** *03:43:35,2.12S×139.14E,h10km,mb5.0/5*
ISCJB ***02*** *03:43:43.1±2.4,281S±007×1390E±0.1,h51km±22km, mb4.5/13,Error ellipse: s-maj=23.1km s-min=11.8km az=179.3*
NEIC ***02*** *03:43:46.7±1.9,288S×13899E,h68km±17km,mb4.6/5, Error ellipse: s-maj=18.3km s-min=11.8km az=82.0*
IDC ***02*** *03:43:57.5±6.4,3.10S×13876E,h166km±56km,mb4.0/8, mb1 4.2/11,mb1mx3.9/17,mbtmp4.1/11,Error ellipse: s-maj=39.4km s-min=15.0km az=72.0*
ISC 02 03:43:46.0±1.6,285S±007×1389E±01,h57km±15km,n26, σ0§87/28,mb4.5/13,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.70**	**213**	*e*P	**Pn**	**03 46 29.6**	**-0.7**
	34nm,0.6s						
COEN	**Coen**	**11.81**	**159**	*e*Pn	**Pn**	**03 46 31.7**	**-0.1**
BATI	**Baumata**	**16.81**	**244**	P	**Pn**	**03 47 38.1**	**+0.4**
	7.9nm,0.3s,baz=155,slow=4.4,SNR=7.7						
WRAB	**Tennant Creek**	**17.55**	**194**	*e*P	**Pn**	**03 47 47.9**	**+1.1**
	32nm,0.6s						
WB2	**Warramunga Arr**	**17.56**	**194**	*e*P	**Pn**	**03 47 48.0**	**+1.1**
WRA	**Warramunga Arr**	**17.56**	**194**	P	**Pn**	**03 47 47.8**	**+0.8**
	4.0nm,0.3s,baz=17,slow=12,SNR=90						
WRA				S	**S**	**03 51 00.4**	**-6.5**
	0.2nm,0.3s,baz=9.4,slow=22,SNR=4.5						
FITZ	**Fitzroy Crossi**	**19.97**	**220**	*e*P	**Pn**	**03 48 13.7**	**-2.2**
	6.4nm,0.4s						
FITZ				*e*S	**S**	**03 51 58.6**	**+3.1**
FITZ	**Fitzroy Crossi**	**19.97**	**220**	P	**Pn**	**03 48 13.7**	**-2.2**
	0.4nm,0.3s,baz=44,slow=12,SNR=12						
FITZ				S	**S**	**03 51 55.7**	**+0.3**
	0.2nm,0.3s,baz=202,slow=19,SNR=3.6						
ASAR	**Alice Springs**	**21.25**	**193**	P	**P**	**03 48 27.9**	**+0.3**
	11nm,0.7s,mb4.3,baz=28,slow=11,SNR=70						
ASAR				S	**S**	**03 52 20.9**	**+0.3**
	0.5nm,0.5s,baz=19,slow=17,SNR=3.2						
MBWA	**Marble Bar**	**26.07**	**224**	*e*P	**P**	**03 49 13.8**	**-0.6**
	21nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**28.98**	**175**	*e*P	**P**	**03 49 39.9**	**-0.4**
	5.9nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**28.98**	**175**	P	**P**	**03 49 39.9**	**-0.4**
	6.2nm,0.8s,mb4.4,baz=347,slow=6.8,SNR=14						
STKA	**Stephens Creek**	**28.98**	**175**	*e*P	**P**	**03 49 39.7**	**-0.6**
FORT	**Forrest**	**29.61**	**199**	*e*P	**P**	**03 49 46.6**	**+0.7**
	41nm,0.6s,mb5.3						
KLBR	**Kellerberrin**	**34.85**	**213**	*e*P	**P**	**03 50 30.9**	**-0.9**
	28nm,1.2s,mb5.1						
NWAO	**Narrogin (SRO)**	**36.16**	**212**	P	**P**	**03 50 42.5**	**-0.6**
	10nm,0.8s,mb4.8,baz=28,slow=8.7,SNR=5.6						
CMAR	**Chiang Mai Arr**	**44.68**	**300**	P	**P**	**03 51 54.1**	**+0.5**
	3.5nm,0.8s,mb4.2,baz=121,slow=7.2,SNR=9.7						
MK31	**Makanchi Array**	**70.02**	**322**	*e*P	**P**	**03 54 52.1**	**+0.3**
MKAR	**Makanchi Array**	**70.02**	**322**	P	**P**	**03 54 51.8**	**0.0**
	7.0nm,1.0s,mb4.5,baz=120,slow=7.3,SNR=11						
ZALV	**Zalesovo Beam**	**72.16**	**330**	P	**P**	**03 55 04.9**	**+0.4**
	1.2nm,0.6s,mb4.0,baz=104,slow=6.3,SNR=3.9						
KURK	**Kurchatov**	**73.94**	**325**	*e*P	**P**	**03 55 14.9**	**-0.2**
	7.2nm,1.1s,mb4.5						
BVAR	**Borovoye Array**	**79.54**	**325**	P	**P**	**03 55 46.9**	**+0.3**
	4.1nm,0.7s,mb4.5,baz=116,slow=6.8,SNR=8.5						
BRVK	**Borovoye**	**79.61**	**325**	*e*P	**P**	**03 55 47.2**	**+0.2**
	8.4nm,1.0s,mb4.6						
MAW	**Mawson**	**82.07**	**202**	P	**P**	**03 55 56.9**	**-3.0**
	1.7nm,0.6s,mb4.2,baz=10,slow=3.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**136.48**	**286**	PKP	PKPdf	04 02 58.3	-4.3
	0.9nm,0.9s,baz=129,slow=2.2,SNR=5.5						
LPAZ	**La Paz**	**147.20**	**126**	PKPbc	PKPbc	04 03 21.7	-2.2
	2.3nm,0.8s,baz=209,slow=2.6,SNR=7.7						

JMA ***02*** *03:45:39.4±0.7,4700N×14175E,h0km,M4.5*
MOS ***02*** *03:45:41.5±1.0,4690N×14174E,h12km,mb4.7/23,Error ellipse: s-maj=11.0km s-min=6.5km az=94.5*
ISCJB ***02*** *03:45:41.7±0.2,4695N±003×14174E±005,h10km, mb4.3/49,Error ellipse: s-maj=4.5km s-min=3.7km az=179.8*
IDC ***02*** *03:45:42.2±0.6,4704N×14158E,h0km,mb4.1/17, mb1 4.3/19,mb1mx4.2/24,mbtmp4.1/19,ML3.3/2,Error ellipse: s-maj=18.2km s-min=16.4km az=126.0*
NEIC ***02*** *03:45:43.5±0.3,4701N×14172E,h10km,mb4.6/24,Error ellipse: s-maj=7.7km s-min=5.4km az=169.0*
BJI ***02*** *03:45:47.9,47.19N×14091E,h10km,mb4.1*
ISC 02 03:45:43.2±0.2,4690N±002×14174E±005,h10km,n113, σ1§04/117,mb4.3/49,3C-1D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.70**	**85⇑**	*i*PN	**Pg**	**03 45 53.0**	**-3.7**
YSS				*i*	**Sg**	**03 46 05.0**	**-0.8**
YSS				smax			
	comp=N,5μm,0.4s						
YSS				smax			
	comp=E,7μm,

BILL pmax pmax
comp=Z,32nm,1.2s,mb4.7
IRK Irkutsk 24.68 296 *eP* **P 03 51 03.9 -0.1**
IRK pmax pmax
comp=Z,40nm,1.6s,mb4.7
TLY Talaya 25.10 295 *eP* **P 03 51 09.0 +1.2**
TLY pmax pmax
comp=Z,9.0nm,1.2s,mb4.2
ZAK Zakamensk 25.46 292 *eP* **P 03 51 11.5 +0.4**
ZAK pmax pmax
comp=Z,13nm,1.3s,mb4.3
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb3.7
TIXI Tiksi 25.56 351 *eP* **P 03 51 11.0 -0.8**
TIXI pmax pmax
comp=Z,12nm,2.5s,mb4.0
TIXI Tiksi 25.56 351 *eP* **P 03 51 10.8 -1.0**
comp=Z,2.9nm,0.7s,mb3.9
ZALV Zalesovo Beam 36.07 303 P **P 03 52 42.9 -1.8**
comp=Z,0.6nm,0.3s,mb4.0,baz=83,slow=6.1,SNR=4.0
ZAL Zalesovo 36.09 303 P **P 03 52 42.9 -1.9**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
KMI Kunming 37.78 249 P **P 03 53 02.2 +2.7**
KMI AP pP 03 53 10.9 +8.3
KMI AMB AMB
comp=Z,6.0nm,1.7s,mb4.0
SVW2 Sparrevohn 37.90 45 *eP* **P 03 52 59.2 -0.9**
IMA2 Indian Mountai 38.31 36 *eP* **P 03 53 02.8 -0.7**
BPAW Bear Paw Mtn. 39.62 39 *eP* **P 03 53 14.5 0.0**
comp=Z,7.3nm,0.9s,mb4.4
MK31 Makanchi Array 39.80 292 *eP* **P 03 53 15.6 -0.6**
MKAR Makanchi Array 39.80 292 P **P 03 53 16.0 -0.2**
comp=Z,3.5nm,0.9s,mb4.1,baz=75,slow=9.6,SNR=13
MKAR Makanchi Array 39.80 292 *eP* **P 03 53 16.0 -0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 39.80 292 P **P 03 53 16.0 -0.2**
TRF Thorofare Moun 40.02 40 *eP* **P 03 53 17.7 -0.1**
comp=Z,6.5nm,0.8s,mb4.4
MCK McKinley 40.58 40 *eP* **P 03 53 22.2 -0.2**
MCK pmax pmax
comp=Z,13nm,1.0s,mb4.5
MCK McKinley 40.58 40 *eP* **P 03 53 22.2 -0.2**
comp=Z,13nm,1.0s,mb4.5
KURK Kurchatov 40.63 299 *eP* **P 03 53 22.1 -0.9**
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
KURK Kurchatov 40.63 299 *eP* **P 03 53 22.1 -0.9**
comp=Z,2.5nm,0.6s,mb4.0
COLA College 40.86 38 *eP* **P 03 53 24.6 -0.1**
COLA pmax pmax
comp=Z,16nm,1.0s,mb4.6
COLA College 40.86 38 *eP* **P 03 53 24.6 -0.1**
comp=Z,16nm,1.0s,mb4.6
SEW Seward 41.05 45 *eP* **P 03 53 26.0 -0.4**
DIV Divide 42.56 43 *eP* **P 03 53 38.8 +0.1**
comp=Z,17nm,0.8s,mb4.8
EGAK Eagle 43.68 37 *eP* **P 03 53 46.7 -1.0**
comp=Z,21nm,0.9s,mb4.9
DAWY Dawson 44.61 38 *eP* **P 03 53 55.5 +0.3**
INK Inuvik 45.65 31 P **P 03 54 02.6 -0.7**
comp=Z,6.4nm,0.8s,mb4.6,baz=280,slow=6.4,SNR=8.1
INK Inuvik 45.65 31 P **P 03 54 02.7 -0.7**
INK pmax pmax
comp=Z,6.0nm,0.8s
INK Inuvik 45.65 31 *eP* **P 03 54 02.5 -0.9**
comp=Z,336nm,1.0s
HYT Haines Junctio 46.49 42 *eP* **P 03 54 11.1 +1.0**
SKAG Skagway 48.02 43 *eP* **P 03 54 20.9 -1.1**
comp=Z,34nm,1.1s,mb5.3
ARU Arti 49.43 313 *d iP* **P 03 54 32.4 -0.5**
ARU *e* 03 56 21.8
ARU *eS* **S 04 01 39.5 -0.1**
ARU *e*SS SS 04 05 07.9 -2.8
ARU pmax pmax
comp=Z,11nm,1.7s,mb4.6
DLBC Dease Lake 50.94 43 *eP* **P 03 54 45.6 +1.3**
RES Resolute Bay 53.03 16 *eP* **P 03 54 59.2 -0.5**
RES pmax pmax
comp=Z,303nm,0.9s
RES Resolute Bay 53.03 16 *eP* **P 03 54 59.2 -0.5**
comp=Z,303nm,0.9s
ARCES ARCESS Array B 54.92 337 P **P 03 55 13.9 +0.4**
comp=Z,2.8nm,0.8s,mb4.3,baz=30,slow=7.4,SNR=4.0
ARCES ARCESS Array B 54.92 337 P **P 03 55 13.9 +0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 55.29 33 P **P 03 55 16.6 +0.3**
comp=Z,4.4nm,0.8s,mb4.6,baz=306,slow=6.8,SNR=11
YKA Yellowknife Ar 55.29 33 P **P 03 55 16.6 +0.3**
YKA pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 60.49 320⇑ *eP* **P 03 55 51.4 -1.5**
OBN *e*S **S 04 04 07.0 -1.0**
OBN pmax pmax
comp=Z,43nm,2.5s,mb5.0
GOF Gofitskoye 63.91 309 *eP* **P 03 56 07.9 -8.1**
KIV Kislovodsk 64.82 308 *eP* **P 03 56 22.1 +0.1**
KIV pmax pmax
comp=Z,19nm,1.0s,mb5.1
KIV Kislovodsk 64.82 308 *eP* **P 03 56 23.2 +1.2**
comp=Z,5.2nm,0.5s,mb4.8
NOA NORSAR Array B 65.23 336 P **P 03 56 23.6 -0.8**
comp=Z,1.5nm,1.0s,mb4.0,baz=35,slow=6.3,SNR=3.7
NOA NORSAR Array B 65.23 336 *eP* **P 03 56 25.7 +1.3**
NOA pmax pmax
comp=Z,2.0nm,1.0s
BMO Blue Mountains 65.23 50 *eP* **P 03 56 24.9 +0.3**
comp=Z,2.5nm,1.0s,mb4.2
HFS Hagfors 65.26 334 P **P 03 56 23.9 -0.6**
comp=Z,2.5nm,0.9s,mb4.3,baz=72,slow=9.8,SNR=4.1
HFS Hagfors 65.26 334 P **P 03 56 23.9 -0.6**
HFS pmax pmax
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 66.14 53 *eP* **P 03 56 30.9 +0.3**
WVOR pmax pmax
comp=Z,18nm,1.8s,mb4.8
WVOR Wild Horse Val 66.14 53 *eP* **P 03 56 30.9 +0.3**
comp=Z,18nm,1.8s,mb4.8
GNI Garni 66.21 304 *eP* **P 03 56 31.5 +0.5**
GNI pmax pmax
comp=Z,22nm,2.5s
AKASG Malin Array Be 66.75 320 P **P 03 56 33.2 -1.1**
comp=Z,2.7nm,0.7s,mb4.4,baz=41,slow=6.7,SNR=9.2
AKASG Malin Array Be 66.75 320 P **P 03 56 33.3 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
KIEV Kiev 66.77 320 *eP* **P 03 56 33.1 -1.3**
KIEV pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KIEV Kiev 66.77 320 *eP* **P 03 56 33.1 -1.3**
comp=Z,5.4nm,1.0s,mb4.5
WRA Warramunga Arr 66.86 188 P **P 03 56 37.1 +1.9**
comp=Z,0.7nm,0.8s,mb3.8,baz=2.1,slow=6.9,SNR=4.4
WRA Warramunga Arr 66.86 188 P **P 03 56 37.1 +1.9**
WRA pmax pmax
comp=Z,1.0nm,0.8s
HLID Hailey 67.63 50 *eP* **P 03 56 40.8 +0.8**
comp=Z,1.8nm,1.0s,mb4.1
NVAR Mina Array Bea 69.06 56 P **P 03 56 49.5 +0.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=294,slow=6.5,SNR=16
ELK Elko 69.16 52 *eP* **P 03 56 49.5 -0.1**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 69.16 52 *eP* **P 03 56 49.5 -0.1**
comp=Z,2.7nm,0.9s,mb4.2
MOOW Moose Ponds 69.39 48 *eP* **P 03 56 50.9 -0.2**
comp=Z,4.8nm,1.1s,mb4.3
TPAW Teton Pass 69.47 48 *eP* **P 03 56 52.5 +1.0**
comp=Z,8.2nm,1.4s,mb4.5
LOHW Long Hollow 69.56 48 *eP* **P 03 56 52.8 +0.8**
comp=Z,14nm,1.8s,mb4.6
ASAR Alice Springs 70.59 188 P **P 03 56 59.2 +0.8**
comp=Z,2.5nm,0.8s,mb4.2,baz=20,slow=4.6,SNR=7.5
ASAR Alice Springs 70.59 188 P **P 03 56 59.2 +0.8**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
BW06 Boulder Array 70.70 48 *eP* **P 03 56 59.1 +0.1**
comp=Z,49nm,2.5s,mb5.0
PDAR Pinedale Array 70.70 48 P **P 03 56 59.1 +0.1**
comp=Z,2.6nm,0.9s,mb4.2,baz=328,slow=2.1,SNR=12
DUG Dugway 70.85 51 *eP* **P 03 57 00.7 +0.7**
DUG pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
DUG Dugway 70.85 51 *eP* **P 03 57 00.7 +0.6**
comp=Z,5.1nm,1.0s,mb4.4
MORC Moravsky Berou 72.29 326 *eP* **P 03 57 07.9 -0.6**
MORC pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
MORC Moravsky Berou 72.29 326 *eP* **P 03 57 07.9 -0.6**
comp=Z,2.0nm,0.7s,mb4.2
RSSD Black Hills 72.40 44 *eP* **P 03 57 09.2 -0.1**
RSSD pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
RSSD Black Hills 72.40 44 *eP* **P 03 57 09.2 -0.1**
comp=Z,5.5nm,1.0s,mb4.4
CLL Collm 72.71 329 *eP* **P 03 57 10.0 -1.0**
comp=Z,6.0nm,1.1s,mb4.4
GERES GERESS Array B 74.50 327 P **P 03 57 21.1 -0.4**
comp=Z,0.4nm,0.7s,mb3.5,baz=54,slow=6.8,SNR=4.5
MVCO Mesa Verde 75.33 51 *eP* **P 03 57 27.0 +0.4**
comp=Z,5.0nm,1.0s,mb4.4
SCHQ Schefferville 75.81 17 P **P 03 57 29.7 +0.7**
comp=Z,2.5nm,0.7s,mb4.2,baz=352,slow=5.7,SNR=4.2
DAVOS Davos 77.61 328 P **P 03 57 39.5 +0.2**
DAVOX Davos/Dischmat 77.63 328 P **P 03 57 39.5 +0.1**
comp=Z,1.3nm,0.5s,mb4.1,baz=11,slow=8.5,SNR=3.8
ANMO Albuquerque 78.12 51 *eP* **P 03 57 43.2 +0.8**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 78.12 51 *eP* **P 03 57 43.2 +0.9**
comp=Z,3.3nm,1.2s,mb4.1
ESDC Sonseca Array 88.54 334 P **P 03 58 36.1 +0.2**
comp=Z,0.6nm,0.6s,mb4.1,baz=16,slow=7.2,SNR=2.9
SIV San Ignacio 143.82 39 PKP PKPdf 04 05 18.6 -0.2
comp=Z,1.2nm,0.9s,baz=333,slow=1.5,SNR=5.7
BDFB Brasilia 147.79 18 PKPbc PKPbc 04 05 30.7 +2.3
comp=Z,1.1nm,0.8s,baz=350,slow=2.6,SNR=4.8
BDFB Brasilia 147.79 18 PKP2 PKPab 04 05 30.7 -0.1
BDFB pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 150.14 202 PKPbc PKPbc 04 05 34.2 +1.5
comp=Z,0.5nm,0.9s,baz=102,slow=3.4,SNR=5.8
SNAA Sanae 150.14 202 PKIKP PKPbc 04 05 34.2 +1.5
SNAA pmax pmax
comp=Z,1.0nm,0.9s

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*IDC **02** 03:58:23.8±0.8, 1855N×8164W, h0km, mb4.0/7, mb1 4.2/9, mb1mx3.9/22, mbtmp4.0/9, ML3.6/2, Error ellipse: s-maj=31.3km s-min=17.7km az=75.0*
*JSN **02** 03:58:25.6±0.7, 1812N×8184W, h50km±999km*
*ISCJB **02** 03:58:27.1±1.2, 1858N±006×8151W±007, h34km±12km, mb4.0/18, Error ellipse: s-maj=12.8km s-min=7.5km az=43.9*
*NEIC **02** 03:58:29.1±1.5, 1856N×8164W, h36km±15km, mb4.1/12, Error ellipse: s-maj=15.0km s-min=7.5km az=60.0*
*SSNC **02** 03:58:32.7±9.8, 1891N×8133W, h20km±302km, MD3.9, ML3.3*

ISC 02 03:58:29.0±2.3, 1859N±006×8152W±005, h34km±18km, n36, σ0°96/36, mb4.0/18, 5C-2D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGV	**Manicaragua**	**3.79**	**22**	*eP*	**Pn**	**03 59 24.2**	**-0.9**
CVJ	**Coleyville**	**3.80**	**95⇑**	*eP*	**Pn**	**03 59 24.5**	**-0.6**
BBJ	**Bamboo Saint A**	**4.04**	**92⇓**	*eP*	**Pn**	**03 59 28.5**	**+0.1**
PCJ	**Portland Cotta**	**4.23**	**101⇑**	*eP*	**Pn**	**03 59 30.0**	**-1.1**
SOR	**Soroa**	**4.41**	**342**	*eP*	**Pn**	**03 59 34.8**	**+1.2**
STH	**Stony Hill**	**4.50**	**96⇑**	*eP*	**Pn**	**03 59 34.4**	**-0.3**
STH				*e*S	**Sn**	**04 00 25.3**	**-0.6**
LMGC	**Las Mercedes**	**4.51**	**70**	*eP*	**Pn**	**03 59 37.1**	**+2.2**
	baz=214						
LMGC				*e*S	**Sn**	**04 00 25.9**	**-0.2**
	comp=N,15nm,0.2s						
LMGC				*e*			
	comp=E,25nm,0.5s						
HOJ	**Hope**	**4.56**	**97⇑**	*eP*	**Pn**	**03 59 34.5**	**-1.2**
GWJ	**Greenwich**	**4.58**	**96⇑**	*eP*	**Pn**	**03 59 35.6**	**-0.2**
YHJ	**Yallahs**	**4.82**	**97⇓**	*eP*	**Pn**	**03 59 38.4**	**-0.8**
SDDR	**Presa de Saban**	**9.70**	**86**	*e*Pn	**Pn**	**04 00 48.0**	**+1.8**
	comp=E,11nm,0.6s						
SDV	**Santo Domingo**	**14.30**	**131**	Pn	**Pn**	**04 01 50.3**	**+1.2**
	comp=E,0.2nm,0.3s,baz=331,slow=18,SNR=2.5						
TKL	**Tuckaleechee C**	**17.12**	**354**	P	**Pn**	**04 02 25.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=170,slow=14,SNR=2.8						
OTAV	**Otavalo**	**18.48**	**170**	*eP*	**Pn**	**04 02 42.9**	**+0.3**
	comp=E,5.7nm,1.2s						
WMOK	**Wichita Mounta**	**22.24**	**320**	*eP*	**P**	**04 03 21.7**	**-1.1**
	comp=E,3.8nm,1.1s,mb3.7						
AMTX	**Amarillo**	**24.17**	**316**	*eP*	**P**	**04 03 41.9**	**-0.3**
	comp=E,8.3nm,0.8s,mb4.2						
SADO	**Sadowa**	**26.18**	**4**	P	**P**	**04 04 01.6**	**+1.3**
	baz=212,slow=9.5						
SDCO	**Great Sand Dun**	**28.35**	**317**	*eP*	**P**	**04 04 20.1**	**+0.3**
	comp=E,6.4nm,1.4s,mb4.1						
ULM	**Lac du Bonnet**	**33.61**	**343**	*eP*	**P**	**04 05 06.8**	**+0.8**
	comp=E,5.1nm,0.9s,mb4.5						
BW06	**Boulder Array**	**33.82**	**322**	*eP*	**P**	**04 05 07.2**	**-0.8**
	comp=E,2.2nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**33.82**	**322**	P	**P**	**04 05 07.3**	**-0.6**
	comp=E,0.8nm,0.8s,mb3.7,baz=128,slow=12,SNR=4.5						
TPAW	**Teton Pass**	**35.07**	**322**	*eP*	**P**	**04 05 19.2**	**+0.5**
	comp=E,9.0nm,1.6s,mb4.5						
MOOW	**Moose Ponds**	**35.10**	**322**	*eP*	**P**	**04 05 19.0**	**-0.1**
	comp=E,2.8nm,1.0s,mb4.2						
BOZ	**Bozeman (W)**	**36.74**	**324**	*eP*	**P**	**04 05 33.3**	**+0.2**
	comp=E,3.8nm,1.3s,mb4.1						
HLID	**Hailey**	**37.21**	**319**	*eP*	**P**	**04 05 37.2**	**+0.2**
	comp=E,1.7nm,1.1s,mb3.8						
SCHQ	**Schefferville**	**37.88**	**14**	P	**P**	**04 05 43.6**	**+1.0**
	comp=E,6.1nm,0.7s,mb4.4,baz=217,slow=8.2,SNR=8.7						
WVOR	**Wild Horse Val**	**39.39**	**315**	*eP*	**P**	**04 05 55.7**	**+0.3**
	comp=E,9.4nm,1.4s,mb4.3						
SIV	**San Ignacio**	**39.82**	**148**	P	**P**	**04 05 57.9**	**-1.3**
	comp=E,3.0nm,0.8s,mb4.1,baz=335,slow=8.7,SNR=13						
NEW	**Newport**	**41.33**	**324**	*eP*	**P**	**04 06 09.3**	**-2.0**
	comp=E,3.5nm,1.1s,mb3.9						
YKA	**Yellowknife Ar**	**49.49**	**341**	P	**P**	**04 07 13.8**	**-2.0**
	comp=E,0.3nm,0.5s,mb3.6,baz=98,slow=31,SNR=3.2						
PLCA	**Paso Flores**	**59.89**	**170**	P	**P**	**04 08 32.8**	**+1.4**
	comp=E,1.9nm,1.0s,mb4.1,baz=17,slow=11,SNR=3.0						
ESDC	**Sonseca Array**	**68.95**	**54**	P	**P**	**04 09 31.5**	**+0.7**
	comp=E,1.6nm,0.8s,mb4.0,baz=282,slow=6.2,SNR=6.9						
CLL	**Collm**	**78.48**	**40**	*eP*	**P**	**04 10 27.0**	**+0.4**
GERES	**GERESS Array B**	**79.58**	**42**	P	**P**	**04 10 33.2**	**+0.6**
	comp=E,0.3nm,0.6s,mb3.4,baz=271,slow=5.8,SNR=5.6						
WRA	**Warramunga Arr**	**146.16**	**262**	PKPbc	PKPbc	04 18 07.4	+0.9
	comp=E,1.2nm,0.4s,baz=89,slow=3.1,SNR=16						
ASAR	**Alice Springs**	**146.63**	**255**	PKPbc	PKPbc	04 18 05.8	-1.9
	comp=E,0.4nm,0.5s,baz=108,slow=5.9,SNR=4.2						

JMA 02 04:02:50.1±0.5, 4688N×14160E, h0km, M3.9, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.58**	**172**	P	Pn	04 03 19.0	-0.3
JWK2				*e*S	Sn	04 03 40.3	-0.1

JMA 02 04:04:12.0±0.4, 4682N×14154E, h21km, M3.6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.52**	**170**	P	Pn	04 04 38.3	+0.3
JWK2				*e*S	Sn	04 04 57.4	+0.3
JSE	**Soyaes**	**2.00**	**158**	*e*S	Sn	04 05 09.1	+0.2

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*IDC **02** 04:08:47.9±0.8, 5118N×17994W, h0km, mb4.2/20, mb1 4.4/21, mb1mx4.3/29, mbtmp4.2/21, ML4.5/1, Error ellipse: s-maj=25.3km s-min=12.9km az=177.0*
*BJI **02** 04:08:50.6, 5100N×17990W, h33km, mB4.6, mb4.8, Ms5.2, Msz5.1*
*NEIC **02** 04:08:51.1, 5102N×17987W, h5km, mb4.6/26, ML4.2(AEIC), After AEIC.*
*ISCJB **02** 04:08:53.1±0.8, 512N±0.1×17986W±005, h45km±6km, mb4.4/53, MS5.0/2, Error ellipse: s-maj=17.2km s-min=5.0km az=177.4*
*MOS **02** 04:08:53.5±1.0, 5118N×17987W, h53km, mb4.6/25, Error ellipse: s-maj=13.4km s-min=10.1km az=114.4*

ISC 02 04:08:54.9±0.8, 512N±01×17987W±005, h44km±6km, h35km±1.8km; pP-P, n125, σ1°06/124, mb4.4/53, MS5.0/2, 1C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.54**	**285**	P	**Pn**	**04 09 03.7**	**-2.5**
AMKA				S	**Sn**	**04 09 12.5**	**-1.8**
SMY	**Shemya**	**4.01**	**294**	P	**Pn**	**04 09 55.7**	**+2.0**
FX1	**Attu Island--F**	**4.60**	**294**	P	**Pn**	**04 10 04.2**	**+2.4**
NIKO	**Nikolski**	**7.00**	**71**	P	**Pn**	**04 10 35.7**	**+0.9**
UNV	**Unalaska Valle**	**8.56**	**67**	*e*Pn	**Pn**	**04 10 56.0**	**0.0**
PETK	**Petropavlovsk-**	**13.88**	**286**	Pn	**Pn**	**04 12 09.8**	**+1.2**
	0.3nm,0.3s,baz=93,slow=18,SNR=4.0						
SVW2	**Sparrevohn**	**16.64**	**44**	*eP*	**Pn**	**04 12 47.2**	**+2.7**
KDAK	**Kodiak Island**	**17.06**	**57**	P	**Pn**	**04 12 47.7**	**-2.2**
	1.5nm,0.3s,baz=285,slow=11,SNR=11						
KDAK				S	**S**	**04 15 51.9**	**-14**
	0.1nm,0.3s,baz=130,slow=18,SNR=2.5						
KDAK	**Kodiak Island**	**17.06**	**57**	P	**Pn**	**04 12 47.7**	**-2.2**
KDAK				S	**S**	**04 15 51.9**	**-14**
KTH	**Kantishna Hill**	**19.66**	**40**	*eP*	**Pn**	**04 13 20.5**	**-0.8**
	23nm,0.6s						
IMA2	**Indian Mountai**	**19.92**	**32**	*eP*	**Pn**	**04 13 23.0**	**-1.3**
MCK	**McKinley**	**20.54**	**41**	*eP*	**P**	**04 13 29.4**	**+0.2**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MCK	**McKinley**	**20.54**	**41**	*eP*	**P**	**04 13 29.4**	**+0.2**
	comp=Z,5.0nm,0.7s						
EGAK	**Eagle**	**24.09**	**41**	*eP*	**P**	**04 14 05.1**	**-0.6**
	comp=Z,13nm,0.9s,mb4.4						
DAWY	**Dawson**	**24.67**	**43**	*eP*	**P**	**04 14 10.3**	**-0.7**
HYT	**Haines Junctio**	**25.10**	**51**	*eP*	**P**	**04 14 15.5**	**+0.5**
INK	**Inuvik**	**27.96**	**35**	P	**P**	**04 14 40.4**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.7,baz=276,slow=11,SNR=3.5						
INK	**Inuvik**	**27.96**	**35**	P	**P**	**04 14 40.4**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**27.96**	**35**	*eP*	**P**	**04 14 40.7**	**+0.1**
KLR	**Kul'dur**	**30.57**	**286**	*eP*	**P**	**04 15 02.2**	**-1.8**
MDJ	**Mudanjiang**	**33.93**	**279**	P	**P**	**04 15 33.1**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,4μm,16.7s						
YKA	**Yellowknife Ar**	**35.81**	**46**	P	**P**	**04 15 48.7**	**-0.8**
	comp=Z,2.4nm,0.6s,mb4.3,baz=281,slow=7.5,SNR=14						
YKA	**Yellowknife Ar**	**35.81**	**46**	P	**P**	**04 15 48.7**	**-0.8**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**35.81**	**46**	P	**P**	**04 15 48.7**	**-0.8**
BOD	**Bodaibo**	**37.52**	**307⇓**	*iP*	**P**	**04 16 03.4**	**-0.6**
BOD				*e*		04 25 01.5	
BOD				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
KSRS	**Korea Array**	**38.97**	**270**	P	**P**	**04 16 16.0**	**-0.4**
	comp=Z,2.3nm,0.9s,mb3.9,baz=70,slow=7.2,SNR=4.8						
KSRS	**Korea Array**	**38.97**	**270**	P	**P**	**04 16 16.0**	**-0.4**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
NEW	**Newport**	**39.56**	**69**	*eP*	**P**	**04 16 21.2**	**-0.1**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	**Newport**	**39.56**	**69**	*eP*	**P**	**04 16 21.1**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.1						
YBH	**Yreka Blue Hor**	**39.57**	**81**	P	**P**	**04 16 20.3**	**-1.1**
	comp=Z,1.4nm,0.8s,mb3.8,baz=344,slow=7.4,SNR=3.9						
YBH	**Yreka Blue Hor**	**39.57**	**81**	P	**P**	**04 16 20.3**	**-1.1**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WVOR	**Wild Horse Val**	**41.69**	**77**	*eP*	**P**	**04 16 39.9**	**+1.0**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
WVOR	**Wild Horse Val**	**41.69**	**77**	*eP*	**P**	**04 16 39.9**	**+1.0**
	comp=Z,2.6nm,0.7s,mb4.0						
HLID	**Hailey**	**43.62**	**73**	*eP*	**P**	**04 16 55.0**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.0						
MCMT	**McKenzie Canyo**	**43.86**	**71**	*eP*	**P**	**04 16 56.5**	**+0.1**
BOZ	**Bozeman (W)**	**44.13**	**69**	*eP*	**P**	**04 16 58.6**	**0.0**
BOZ				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
BOZ	**Bozeman (W)**	**44.13**	**69**	*eP*	**P**	**04 16 58.6**	**0.0**
	comp=Z,8.1nm,1.0s,mb4.4						
NVAR	**Mina Array Bea**	**44.24**	**82**	P	**P**	**04 17 00.6**	**+1.0**
	comp=Z,0.6nm,0.6s,mb3.5,baz=303,slow=6.7,SNR=5.2						
NVAR	**Mina Array Bea**	**44.24**	**82**	P	**P**	**04 17 00.6**	**+1.0**
ELK	**Elko**	**44.74**	**77**	P	**P**	**04 17 03.5**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.0,baz=302,slow=7.6,SNR=7.6						
ELK	**Elko**	**44.74**	**77**	P	**P**	**04 17 03.5**	**-0.1**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ELK	**Elko**	**44.74**	**77**	*eP*	**P**	**04 17 04.2**	**+0.7**
	comp=Z,2.5nm,0.8s,mb4.1						
BJT	**Baijiatuau**	**44.76**	**282**	*eP*	**P**	**04 17 02.8**	**-0.9**
BJT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJT	**Baijiatuau**	**44.76**	**282**	*eP*	**P**	**04 17 02.8**	**-0.9**
	comp=Z,5.6nm,0.5s,mb4.7						
MOOW	**Moose Ponds**	**45.72**	**71**	*eP*	**P**	**04 17 10.9**	**-0.4**
	comp=Z,1.0nm,0.7s,mb3.9						
RLMT	**Red Lodge**	**45.81**	**69**	*eP*	**P**	**04 17 12.3**	**+0.4**
	comp=Z,11nm,0.9s,mb4.8						
LOHW	**Long Hollow**	**45.88**	**71**	*eP*	**P**	**04 17 10.9**	**-1.6**
	comp=Z,1.3nm,0.8s,mb3.9						
SONM	**Songino Array**	**46.10**	**296**	P	**P**	**04 17 14.4**	**+0.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=57,slow=9.1,SNR=12						
SONM				PcP	PcP	04 18 50.0	+0.3
	comp=Z,0.9nm,0.5s,baz=61,slow=3.2,SNR=4.0						
SONM	**Songino Array**	**46.10**	**296**	P	**P**	**04 17 14.4**	**+0.2**
SONM						04 18 50.0	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DUG	**Dugway**	**46.56**	**76**	*eP*	**P**	**04 17 18.5**	**+0.6**
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
DUG	**Dugway**	**46.56**	**76**	*eP*	**P**	**04 17 18.4**	**+0.6**
	comp=Z,3.9nm,0.9s,mb4.3						
MOY	**Mondy**	**46.98**	**303**	*eP*	**P**	**04 17 16.8**	**-4.2**
BW06	**Boulder Array**	**46.99**	**71**	*eP*	**P**	**04 17 21.4**	**+0.2**
	comp=Z,4.3nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**46.99**	**71**	P	**P**	**04 17 21.6**	**+0.3**
	comp=Z,4.5nm,0.8s,mb4.5,baz=313,slow=3.9,SNR=14						
HHC	**Hu-ho-hao-te**	**47.08**	**285**	*eP*	**P**	**04 17 22.4**	**+0.5**
HHC				AP	pP	04 17 33.3	-1.0
HHC				XP	sP	04 17 36.9	-2.5
HHC				PP	PP	04 19 12.1	-0.7
HHC				PCS	PcS	04 22 48.5	+0.2
HHC				S	**S**	**04 24 10.6**	**0.0**
HHC				SCS	ScS	04 27 11.3	-0.7
HHC				AMB	AMB		
	comp=Z,17nm,0.6s,mb5.2						
HHC				LR	LR		
	comp=N,3μm,22.6s,MS5.4						
HHC				LR	LR		
	comp=E,4μm,20.2s,MS5.4						
HHC				LR	LR		
	comp=Z,5μm,20.2s,MS5.4						
MSU	**Marysvale**	**47.98**	**78**	*eP*	**P**	**04 17 30.0**	**+1.1**
NJ2	**Nanjing**	**48.14**	**271**	*eP*	**P**	**04 17 33.6**	**+3.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
ULM	**Lac du Bonnet**	**50.32**	**56**	P	**P**	**04 17 47.2**	**+0.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=288,slow=19,SNR=1.7						
ULM	**Lac du Bonnet**	**50.32**	**56**	P	**P**	**04 17 47.2**	**+0.5**
SPITS	**Spitsbergen Ar**	**50.46**

CD2				AP	pP	04 18 55.9	-2.0
CD2				XP	sP	04 19 01.2	-1.8
CD2				PP	PP	04 20 55.8	+1.3
CD2				S	**S**	**04 26 42.3**	**-2.2**
CD2				SS	SS	04 30 35.2	-1.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,5.8s						
WMOK	**Wichita Mounta**	**58.58**	**72**	*e*P	**P**	**04 18 46.9**	**0.0**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
WMOK	**Wichita Mounta**	**58.58**	**72**	*e*P	**P**	**04 18 46.9**	**0.0**
	comp=Z,1.2nm,0.7s,mb4.0						
KURK	**Kurchatov**	**58.62**	**313**	*e*P	**P**	**04 18 46.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
KURK	**Kurchatov**	**58.62**	**313**	*e*P	**P**	**04 18 46.6**	**-0.3**
	comp=Z,5.5nm,0.6s,mb4.8						
WMQ	**Urumqi**	**58.85**	**302**	*e*P	**P**	**04 18 51.1**	**+2.5**
MK31	**Makanchi Array**	**59.59**	**308**	*e*P	**P**	**04 18 53.1**	**-0.6**
MKAR	**Makanchi Array**	**59.59**	**308**	P	**P**	**04 18 53.4**	**-0.2**
	comp=Z,6.6nm,0.9s,mb4.7,baz=54,slow=6.7,SNR=33						
MKAR	**Makanchi Array**	**59.59**	**308**	P	**P**	**04 18 53.4**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MKAR	**Makanchi Array**	**59.59**	**308**	P	**P**	**04 18 53.4**	**-0.3**
GYA	**Guiyang**	**59.67**	**275**	⇑*i*P	**P**	**04 18 52.4**	**-2.1**
GYA				AP	pP	04 19 10.4	+3.2
GYA				PCP	PcP	04 19 38.6	-2.6
GYA				PP	PP	04 21 06.2	-0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,80nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,22.8s,MS4.7						
GYA				LR	LR		
	comp=E,440nm,22.6s,MS4.7						
GYA				LR	LR		
	comp=Z,470nm,22.4s,MS4.6						
BVAR	**Borovoye Array**	**60.55**	**319**	P	**P**	**04 18 59.9**	**-0.3**
	comp=Z,5.1nm,0.6s,mb4.8,baz=52,slow=7.7,SNR=22						
BVAR	**Borovoye Array**	**60.55**	**319**	P	**P**	**04 18 59.9**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**60.57**	**319**	*e*P	**P**	**04 19 01.0**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
BRVK	**Borovoye**	**60.57**	**319**	*e*P	**P**	**04 19 01.0**	**+0.7**
	comp=Z,8.5nm,1.0s,mb4.8						
KMI	**Kunming**	**63.08**	**277**	P	**P**	**04 19 20.9**	**+3.3**
KMI				AP	pP	04 19 30.2	-0.1
KMI				XP	sP	04 19 34.9	-0.5
KMI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.8						
TKM2	**Tokmak 2**	**65.68**	**309**	*e*P	**P**	**04 19 35.4**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
TKM2	**Tokmak 2**	**65.68**	**309**	P	**P**	**04 19 35.7**	**+1.4**
	SNR=9.2						
TKM2	**Tokmak 2**	**65.68**	**309**	*e*P	**P**	**04 19 35.4**	**+1.1**
	comp=Z,8.4nm,0.9s,mb4.8						
ULHL	**Ulahol**	**65.86**	**308**	P	**P**	**04 19 37.0**	**+1.4**
	SNR=6.9						
USP	**Ospenovka**	**65.95**	**310**	P	**P**	**04 19 37.4**	**+1.3**
	SNR=10						
EKS2	**Erkin-Say**	**66.76**	**310**	P	**P**	**04 19 42.2**	**+1.0**
	SNR=12						
EKS2	**Erkin-Say**	**66.76**	**310**	*e*P	**P**	**04 19 42.2**	**+1.0**
	comp=Z,13nm,1.0s,mb4.9						
AML	**Almayashu**	**67.20**	**309**	P	**P**	**04 19 46.2**	**+2.1**
	SNR=6.8						
AML	**Almayashu**	**67.20**	**309**	*e*P	**P**	**04 19 45.5**	**+1.5**
	comp=Z,10nm,1.0s,mb4.8						
AKTK	**Aktyubinsk**	**67.40**	**324**	P	**P**	**04 19 44.4**	**-0.8**
AKTO	**Aktyubinsk**	**67.40**	**324**	P	**P**	**04 19 44.4**	**-0.8**
	comp=Z,1.5nm,0.5s,mb4.3,baz=66,slow=8.4,SNR=6.4						
AKTO	**Aktyubinsk**	**67.40**	**324**	P	**P**	**04 19 44.4**	**-0.8**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
NB2	**NORSAR Subarra**	**67.72**	**354**	P	**P**	**04 19 46.6**	**-0.4**
	comp=Z,2.8nm,0.7s,mb4.4,baz=7.1,slow=6.5						
NOA	**NORSAR Array B**	**67.72**	**354**	P	**P**	**04 19 46.9**	**-0.1**
	comp=Z,5.2nm,0.8s,mb4.6,baz=6.8,slow=6.3,SNR=14						
NOA	**NORSAR Array B**	**67.72**	**354**	P	**P**	**04 19 46.9**	**-0.1**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NOA	**NORSAR Array B**	**67.72**	**354**	P	**P**	**04 19 46.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**70.36**	**275**	P	**P**	**04 20 03.8**	**-0.2**
	comp=Z,1.4nm,0.3s,mb4.3,baz=19,slow=6.1,SNR=5.4						
CMAR	**Chiang Mai Arr**	**70.36**	**275**	P	**P**	**04 20 03.8**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBL	**Kabul**	**75.39**	**307**	*e*P	**P**	**04 20 33.5**	**-0.1**
	comp=Z,18nm,1.1s,mb4.9						
AKASG	**Malin Array Be**	**75.47**	**341**	P	**P**	**04 20 33.3**	**-0.5**
	comp=Z,1.6nm,0.5s,mb4.2,baz=23,slow=5.7,SNR=7.1						
AKASG	**Malin Array Be**	**75.47**	**341**	P	**P**	**04 20 33.3**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKBB	**Malin Array Si**	**75.47**	**341**	*e*P	**P**	**04 20 30.9**	**-2.9**
KWP	**Kalwaria**	**77.67**	**345**	*e*P	**P**	**04 20 46.5**	**+0.2**
KWP				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
KWP	**Kalwaria**	**77.67**	**345**	*e*P	**P**	**04 20 46.5**	**+0.2**
	comp=Z,9.9nm,0.7s,mb4.8						
MEM	**Membach**	**78.40**	**356**	P	**P**	**04 20 50.5**	**+0.2**
	comp=Z,4.9nm,1.0s,mb4.4						
BCLA	**Clavier**	**78.62**	**357**	P	**P**	**04 20 51.7**	**+0.2**
DOU	**Dourbes**	**78.97**	**357**	P	**P**	**04 20 53.6**	**+0.2**
	comp=Z,4.3nm,2.0s,mb4.0						
GERES	**GERESS Array B**	**79.62**	**351**	P	**P**	**04 20 56.2**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.9,baz=26,slow=6.4,SNR=9.7						
GERES	**GERESS Array B**	**79.62**	**351**	P	**P**	**04 20 56.2**	**-0.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PSZ	**Piszkesteto**	**79.77**	**347**	*e*P	**P**	**04 20 57.7**	**-0.1**
PSZ				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
PSZ	**Piszkesteto**	**79.77**	**347**	*e*P	**P**	**04 20 57.7**	**-0.1**
	comp=Z,6.9nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**81.45**	**223**	P	**P**	**04 21 04.7**	**-2.3**
	comp=Z,0.8nm,1.1s,mb3.6,baz=21,slow=2.7,SNR=4.5						
WRA	**Warramunga Arr**	**81.45**	**223**	P	**P**	**04 21 04.7**	**-2.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TUE	**Stuetta**	**82.34**	**354**	*e*P	**P**	**04 21 12.3**	**+0.8**
	comp=Z,2.2nm,0.8s,mb4.1						
BNI	**Bardonecchia**	**83.92**	**355**	*e*P	**P**	**04 21 20.9**	**+1.2**
BNI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BNI	**Bardonecchia**	**83.92**	**355**	*e*P	**P**	**04 21 20.9**	**+1.2**
	comp=Z,4.2nm,0.9s,mb4.6						
TORD	**Torodi Ar. Bea**	**115.87**	**358**	PKiKP	PKiKP	04 27 31.0	-1.7
	comp=Z,0.3nm,0.7s,baz=359,slow=1.0,SNR=4.9						
TSUM	**Tsumeb**	**145.18**	**330**	PKPbc	PKPbc	04 28 27.5	+0.5
	comp=Z,6.5nm,1.0s,baz=342,slow=5.7,SNR=12						
TSUM	**Tsumeb**	**145.18**	**330**	*e*PKPbc	PKPbc	04 28 27.0	0.0
LBTB	**Lobatse**	**147.34**	**314**	*e*PKP2	PKPab	04 28 33.7	-1.6
BOSA	**Boshof**	**150.56**	**311**	PKPbc	PKPbc	04 28 41.2	-0.2
	comp=Z,3.7nm,0.7s,baz=114,slow=11,SNR=6.4						
BOSA	**Boshof**	**150.56**	**311**	*e*PKPbc	PKPbc	04 28 41.1	-0.3

JMA 02 04:13:29.2±0.4, 4697N×14165E, h5km, M3.7, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.66**	**174**	P	Pn	04 13 59.2	+0.2
JWK2				*e*S	Sn	04 14 20.5	-0.2
JRR	**Rishiri**	**1.85**	**187**	P	Pn	04 14 02.5	+1.0
JRR				*e*S	Sn	04 14 26.5	+1.3
JSE	**Soyaes**	**2.11**	**162**	P	Pn	04 14 05.0	-0.2

*MOS **02** 04:14:02.8±1.1, 4692N×14167E, h8km, mb4.3/10, Error ellipse: s-maj=12.9km s-min=8.1km az=95.0*
*JMA **02** 04:14:02.9±0.4, 4692N×14166E, h3km, M4.6*
*ISCJB **02** 04:14:03.6±0.3, 4692N±002×14165E±005, h10km, mb4.1/26, Error ellipse: s-maj=5.2km s-min=3.5km az=176.0*
*IDC **02** 04:14:03.6±0.6, 4681N×14160E, h0km, mb3.9/14,*

mb1 4.1/15, mb1mx4.1/23, mbtmp3.9/15, ML3.8/1, Error ellipse: s-maj=19.1km s-min=11.9km az=73.0
*NEIC **02** 04:14:05.5±0.4, 4688N×14165E, h10km, mb4.5/7, Error ellipse: s-maj=10.7km s-min=7.4km az=166.0*

ISC 02 04:14:05.2±0.3, 4687N±002×14168E±005, h10km, n65, σ1$03/72, mb4.1/26, 2C-2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzn-Sakhalins**	**0.74**	**83**	⇑*i*PN	**Pg**	**04 14 18.0**	**-1.5**
YSS				*e*	**Sg**	**04 14 29.0**	**-0.1**
YSS				smax			
	comp=N,4μm,0.5s						
YSS				smax			
	comp=E,5μm,0.5s						
YSS	**Yuzn-Sakhalins**	**0.74**	**83**	*e*Pg	**Pg**	**04 14 19.1**	**-0.4**
YSS				*e*Sg	**Sg**	**04 14 28.6**	**-0.5**
JWK2	**Keihoku**	**1.56**	**174**	P	**Pn**	**04 14 32.1**	**-0.9**
JWK2				*e*S	**Sn**	**04 14 53.3**	**+0.1**
JRR	**Rishiri**	**1.75**	**189**	P	**Pn**	**04 14 35.5**	**-0.1**
JRR				*e*S	**Sn**	**04 14 59.0**	**+1.1**
JSE	**Soyaes**	**2.02**	**161**	P	**Pn**	**04 14 38.2**	**-1.0**
JSE				*e*S	**Sn**	**04 15 04.9**	**+0.5**
JYG	**Yagishiri**	**2.45**	**184**	P	**Pn**	**04 14 45.0**	**-0.2**
JYG				*e*S	**Sn**	**04 15 14.6**	**-0.6**
JSS	**Shosan**	**2.48**	**177**	P	**Pn**	**04 14 45.5**	**0.0**
ASAJ	**Asahikawa**	**2.83**	**167**	P	**Pn**	**04 14 49.9**	**-0.5**
ASAJ				*e*S	**Sn**	**04 15 24.9**	**+0.4**
ASAJ	**Asahikawa**	**2.83**	**167**	Pn	**Pn**	**04 14 49.9**	**-0.5**
	comp=E,9.4nm,0.3s,baz=24,slow=13,SNR=5.0						
ASAJ				Pg	**Pg**	**04 14 54.2**	**-5.2**
	comp=E,25nm,0.3s,baz=3.8,slow=14,SNR=8.4						
ASAJ				Lg	**Sg**	**04 15 33.3**	**-2.7**
	comp=E,18nm,0.3s,baz=131,slow=32,SNR=6.3						
JHR	**Hokuryu**	**3.13**	**179**	P	**Pn**	**04 14 55.2**	**+0.7**
HABR	**Khabarovsk**	**4.76**	**292**	*e*PN	**Pn**	**04 15 13.9**	**-2.9**
MJAR	**Matsushiro Arr**	**10.64**	**195**	Pn	**Pn**	**04 16 39.5**	**+2.0**
	comp=E,0.5nm,0.3s,baz=359,slow=13,SNR=11						
MJAR	**Matsushiro Arr**	**10.64**	**195**	PN	**Pn**	**04 16 39.5**	**+1.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**12.53**	**54**	*e*PN	**Pn**	**04 17 04.3**	**+1.0**
MA2	**Magadan**	**13.82**	**20**	*e*P	**Pn**	**04 17 19.6**	**-1.3**
MA2				pmax	pmax		
	comp=Z,18nm,1.3s						
YAK	**Yakutsk**	**16.67**	**340**	*e*P	**Pn**	**04 17 54.8**	**-3.7**
YAK				pmax	pmax		
	comp=Z,19nm,0.7s						
SEY	**Seymchan**	**17.19**	**17**	*i* P	**Pn**	**04 18 03.3**	**-1.8**
SONM	**Songino Array**	**23.80**	**285**	P	**P**	**04 19 17.7**	**-0.3**
	comp=Z,1.3nm,0.9s,mb3.3,baz=76,slow=6.8,SNR=5.4						
SONM	**Songino Array**	**23.80**	**285**	P	**P**	**04 19 17.7**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BILL	**Bilibino**	**24.67**	**22**	*e*P	**P**	**04 19 24.4**	**-1.2**
BILL				*e*S	**S**	**04 23 37.9**	**-8.9**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.4						
BILL				MLR	MLR		
	comp=Z,4μm,17.0s						
ZAK	**Zakamensk**	**25.43**	**292**	*e*P	**P**	**04 19 33.4**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
TIXI	**Tiksi**	**25.58**	**351**	*e*P	**P**	**04 19 34.3**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.7s,mb3.8						
ZALV	**Zalesovo Beam**	**36.05**	**303**	P	**P**	**04 21 06.8**	**+0.4**
	comp=Z,0.5nm,0.3s,mb3.9,baz=108,slow=9.5,SNR=3.7						
ZAL	**Zalesovo**	**36.06**	**303**	P	**P**	**04 21 06.8**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**39.77**	**292**	*e*P	**P**	**04 21 38.4**	**+0.5**
MKAR	**Makanchi Array**	**39.77**	**292**	P	**P**	**04 21 38.4**	**+0.5**
	comp=Z,2.0nm,0.8s,mb3.9,baz=75,slow=7.8,SNR=7.5						
MKAR	**Makanchi Array**	**39.77**	**292**	*e*P	**P**	**04 21 38.4**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KTH	**Kantishna Hill**	**39.77**	**40**	*e*P	**P**	**04 21 39.0**	**+1.3**
	comp=Z,18nm,1.2s,mb4.7						
KURK	**Kurchatov**	**40.61**	**299**	⇑*i*P	**P**	**04 21 45.0**	**+0.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.0						
KURK	**Kurchatov**	**40.61**	**299**	*e*P	**P**	**04 21 44.5**	**-0.2**
	comp=Z,2.5nm,0.8s,mb3.9						
COLA	**College**	**40.90**	**38**	*e*P	**P**	**04 21 47.5**	**+0.5**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
COLA	**College**	**40.90**	**38**	*e*P	**P**	**04 21 47.5**	**+0.4**
	comp=Z,9.4nm,0.9s,mb4.4						
EGAK	**Eagle**	**43.72**	**37**	*e*P	**P**	**04 22 09.6**	**-0.4**
	comp=Z,14nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**44.54**	**305**	P	**P**	**04 22 16.9**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.6,baz=70,slow=13,SNR=4.5						
BVAR	**Borovoye Array**	**44.54**	**305**	P	**P**	**04 22 16.9**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**45.69**	**31**	P	**P**	**04 22 25.9**	**+0.3**
	comp=Z,4.2nm,1.0s,mb4.3,baz=284,slow=8.4,SNR=6.4						
INK	**Inuvik**	**45.69**	**31**	P	**P**	**04 22 26.0**	**+0.3**
INK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
INK	**Inuvik**	**45.69**	**31**	*e*P	**P**	**04 22 25.6**	**0.0**
	comp=Z,139nm,1.1s,mb5.8						
HYT	**Haines Junctio**	**46.54**	**42**	*e*P	**P**	**04 22 33.6**	**+1.2**
ARU	**Arti**	**49.41**	**313**	*d i*P	**P**	**04 22 53.5**	**-1.2**
ARU				*e*		04 24 42.2	
ARU				*e*S	**S**	**04 30 00.0**	**-1.3**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
AKTK	**Aktyubinsk**	**52.58**	**307**	P	**P**	**04 23 18.3**	**-0.2**
AKTO	**Aktyubinsk**	**52.58**	**307**	P	**P**	**04 23 18.3**	**-0.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=34,slow=5.2,SNR=3.6						
YKA	**Yellowknife Ar**	**55.33**	**33**	P	**P**	**04 23 38.0**	**-0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=303,slow=6.8,SNR=6.3						
YKA	**Yellowknife Ar**	**55.33**	**33**	*e*P	**P**	**04 23 41.7**	**+3.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**55.33**	**33**	P	**P**	**04 23 38.0**	**-0.5**
OBN	**Obninsk**	**60.48**	**320**	⇓*e*P	**P**	**04 24 11.3**	**-3.5**
OBN				*e*S	**S**	**04 32 33.3**	**+3.5**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.1						
NOA	**NORSAR Array B**	**65.24**	**336**	P	**P**	**04 24 46.3**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.7,baz=41,slow=6.2,SNR=2.6						
AKASG	**Malin Array Be**	**66.75**	**320**	P	**P**	**04 24 55.9**	**-0.3**
	comp=Z,0.3nm,0.3s,mb3.9,baz=40,slow=6.7,SNR=6.6						
AKASG	**Malin Array Be**	**66.75**	**320**	*e*P	**P**	**04 24 55.9**	**-0.3**
WRA	**Warramunga Arr**	**66.83**	**188**	P	**P**	**04 24 55.3**	**-1.6**
	comp=Z,1.1nm,1.0s,mb3.8,baz=1.5,slow=6.7,SNR=10						
WRA	**Warramunga Arr**	**66.83**	**188**	P	**P**	**04 24 55.3**	**-1.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NVAR	**Mina Array Bea**	**69.11**	**56**	P	**P**	**04 25 14.0**	**+2.7**
	comp=Z,1.5nm,1.0s,mb3.9,baz=293,slow=6.2,SNR=5.8						
MOOW	**Moose Ponds**	**69.44**	**48**	*e*P	**P**	**04 25 14.7**	**+1.5**
	comp=Z,2.9nm,1.3s,mb4.0						
TPAW	**Teton Pass**	**69.52**	**48**	*e*P	**P**	**04 25 15.6**	**+1.9**
	comp=Z,7.5nm,1.4s,mb4.4						
ASAR	**Alice Springs**	**70.56**	**188**	P	**P**	**04 25 20.7**	**+0.6**
	comp=Z,1.5nm,0.8s,mb4.0,baz=14,slow=4.7,SNR=12						
ASAR	**Alice Springs**	**70.56**	**188**	*e*P	**P**	**04 25 20.7**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PDAR	**Pinedale Array**	**70.75**	**48**	P	**P**	**04 25 21.8**	**+0.5**
	comp=Z,1.1nm,0.9s,mb3.8,baz=338,slow=3.5,SNR=6.5						
DUG	**Dugway**	**70.90**	**51**	*e*P	**P**	**04 25 21.5**	**-0.8**
DUG				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
DUG	**Dugway**	**70.90**	**51**	*e*P	**P**	**04 25 21.5**	**-0.7**
	comp=Z,4.0nm,1.2s,mb4.2						
GERES	**GERESS Array B**	**74.50**	**327**	P	**P**	**04 25 43.8**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=26,slow=4.8,SNR=4.3						
SIV	**San Ignacio**	**143.87**	**39**	PKP	PKPdf	04 33 42.7	+1.9
	comp=Z,0.4nm,0.6s,baz=189,slow=5.1,SNR=4.1						
SNAA	**Sanae**	**150.10**	**202**	*e*	PKPab	04 34 00.8	+0.2
SNAA	**Sanae**	**150.10**	**202**	PKPbc	PKPbc	04 33 53.6	-1.0
	comp=Z,0.3nm,0.8s,baz=178,slow=5.6,SNR=2.0						
SNAA				PKPab	PKPab	04 33 59.7	-0.9
	comp=Z,0.9nm,0.6s,baz=85,slow=5.9,SNR=10.0						
SNAA	**Sanae**	**150.10**	**202**	PKIKP	PKPbc	04 33 53.6	-1.0
SNAA						04 33 59.7	
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNA1	**Neumayer--Stat**	**152.11**	**201**	*e*	PKPab	04 34 09.3	+0.3

*NEIC **02** 04:17:23.9±1.4, 5064N×17989W, h10km, mb4.1/3, ML3.8(AEIC), Error ellipse: s-maj=27.1km s-min=9.4km az=191.0*
*ISCJB **02** 04:17:26.7±2.2, 509N±02×1799W±01, h39km±16km, mb4.0/3, Error ellipse: s-maj=39.1km s-min=11.7km az=5.6*

ISC 02 04:17:25.2±4.1, 508N±02×1799W±01, h11km±21km, n12, σ1$20/13, mb4.0/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.75**	**318**	P	**Pg**	**04 17 39.8**	**+0.1**
AMKA				S	**Sg**	**04 17 48.2**	**-1.2**
SMY	**Shemya**	**4.18**	**299**	*e*P	**Pn**	**04 18 30.8**	**+2.0**
FX1	**Attu Island--F**	**4.76**	**298**	P	**Pn**	**04 18 38.3**	**+1.5**
NIKO	**Nikolski**	**7.17**	**68**	*e*Pn	**Pn**	**04 19 10.0**	**+0.2**
OKCE	**Okmok Cone E**	**7.69**	**66**	P	**Pn**	**04 19 18.1**	**+1.2**
SVW2	**Sparrevohn**	**16.96**	**43**	*e*Pn	**Pn**	**04 21 23.8**	**+1.8**
IMA2	**Indian Mountai**	**20.29**	**31**	*e*P	**P**	**04 22 00.5**	**+0.1**
DAWY	**Dawson**	**24.99**	**43**	*e*P	**P**	**04 22 47.8**	**-0.6**
WVOR	**Wild Horse Val**	**41.80**	**77**	*e*P	**P**	**04 25 12.8**	**-1.6**
	4.9nm,1.2s,mb4.0						
BOZ	**Bozeman (W)**	**44.30**	**69**	*e*P	**P**	**04 25 34.1**	**-0.5**
	1.0nm,0.5s,mb3.8						
BW06	**Boulder Array**	**47.15**	**71**	*e*P	**P**	**04 25 56.3**	**-0.8**
	1.6nm,0.7s,mb4.1						
MK31	**Makanchi Array**	**59.83**	**308**	*e*P	**P**	**04 27 28.3**	**-1.8**

JMA 02 04:18:31.4±0.5, 4692N×14165E, h3km, M4.2, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.61**	**174**	P	Pn	04 19 00.9	+0.2
JWK2				*e*S	Sn	04 19 22.1	+0.1
JRR	**Rishiri**	**1.80**	**188**	*e*S	Sn	04 19 27.9	+1.3
JSE	**Soyaes**	**2.07**	**161**	P	Pn	04 19 06.4	-0.6
JSE				*e*S	Sn	04 19 31.3	-1.9
JYG	**Yagishiri**	**2.50**	**184**	P	Pn	04 19 13.6	+0.7

*NEIC **02** 04:34:25.8, 3790N×2121E, h41km, MD3.5(ATH), After ATH.*
*CSEM **02** 04:34:26.9±0.2, 3790N×2130E, h28km±4km, MD3.5, Error ellipse: s-maj=10.5km s-min=6.4km az=11.0*
*ATH **02** 04:34:26.0, 3788N×2120E, h38km±1km, MD3.5/3*
*ISCJB **02** 04:34:27.3±0.9, 3791N±007×2123E±007, h37km±15km, Error ellipse: s-maj=13.4km s-min=7.0km az=32.9*
*THE **02** 04:34:27.5, 3768N×2093E, h22km, ML3.4*

ISC 02 04:34:27.5±0.7, 3791N±007×2122E±006, h34km±5km, n9, σ0$83/14, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.24**	**51**	⇓*i*PB	**Pb**	**04 34 34.4**	**-0.3**
RLS				*e*SB	**Sb**	**04 34 40.0**	**+0.4**
KFL	**Anninata**	**0.40**	**301**	*e*Pg	**Pb**	**04 34 35.5**	**-1.2**
KFL				*e*Sg	**Sb**	**04 34 43.4**	**+0.4**
VLS	**Valsamata**	**0.57**	**299**	*e*Pg	**Pn**	**04 34 38.3**	**-0.9**
VLS				*e*Sg	**Sb**	**04 34 47.9**	**+0.6**
VLS	**Valsamata**	**0.57**	**299**	*e*PN	**Pn**	**04 34 38.3**	**-0.8**
VLS				*e*SN	**Sn**	**04 34 47.5**	**+0.2**
ITM	**Ithomi**	**0.91**	**142**	*e*PN	**Pn**	**04 34 43.3**	**-0.6**
ITM				*e*SN	**Sn**	**04 34 56.6**	**+0.8**
LKD	**Levkas**	**0.92**	**331**	*e*Pg	**Pn**	**04 34 45.1**	**+1.2**
EVR	**Evrytania**	**1.11**	**24**	*e*PN	**Pn**	**04 34 47.0**	**+0.4**
EVR	**Evrytania**	**1.11**	**24**	*e*P	**Pn**	**04 34 47.8**	**+1.2**
THL	**Klokotos Trika**	**1.77**	**20**	*e*P	**Pn**	**04 34 54.2**	**-1.4**

JMA 02 04:34:35.3±0.4, 4681N×14170E, h15km, M3.6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.50**	**175**	P	Pn	04 35 01.8	+0.2
JWK2				*e*S	Sn	04 35 21.2	+0.3
JRR	**Rishiri**	**1.69**	**189**	P	Pn	04 35 05.4	+1.1
JRR				*e*S	Sn	04 35 27.1	+1.4
JSE	**Soyaes**	**1.95**	**161**	P	Pn	04 35 08.0	+0.2
JSE				*e*S	Sn	04 35 32.5	+0.5
JYG	**Yagishiri**	**2.39**	**185**	P	Pn	04 35 15.1	+1.2
ASAJ	**Asahikawa**	**2.77**	**166**	P	Pn	04 35 20.2	+1.2
ASAJ				*e*S	Sn	04 35 52.7	+0.6
JKK2	**Kamakawa 2**	**3.03**	**166**	P	Pn	04 35 23.6	+1.0
JHR	**Hokuryu**	**3.07**	**180**	P	Pn	04 35 25.0	+1.8
JTKR	**

VACH				AML	AML	04 42 40.7	
	comp=N,662nm,0.2s						
CICH	**Cipreses**	**3.01**	**160**	*e*P	Pn	04 41 50.3	+1.1

MOS ***02*** *04:47:10.9±1.0,5174N×17349W,h33km,mb4.7/36,Error ellipse: s-maj=9.7km s-min=7.6km az=83.0*
ISCJB ***02*** *04:47:11.5±1.0,5179N±005×17341W±004,h36km±8km, mb4.6/83,MS5.5/3,Error ellipse: s-maj=9.2km s-min=3.4km az=11.1*
BJI ***02*** *04:47:11.8,5181N×17404W,h42km,mB5.1,mb4.8,Ms5.7, Msz5.4*
NEIC ***02*** *04:47:13.4±0.9,5172N×17336W,h42km±7km,mb4.6/52, Error ellipse: s-maj=7.9km s-min=4.1km az=184.0*
IDC ***02*** *04:47:13.7±0.5,5173N×17336W,h45km±5km,mb4.1/22, mb1 4.2/23,mb1mx4.2/27,mbtmp4.1/23,Error ellipse: s-maj=19.0km s-min=10.0km az=165.0*
SZGRF ***02*** *04:47:13.6,5160N×175.17W,h33km,mb4.5,Andreanof Islands, Aleutian Islands, United States*
ISC 02 04:47:14.0±0.9,5180N±005×17340W±004,h42km±7km, h48km±1.8km:pP-P,n494,σ0°64/490,mb4.6/83,MS5.5/3, 85C-72D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**3.03**	**65**	P	**Pn**	**04 47 57.6**	**-1.7**
NIKO				S	**Sn**	**04 48 32.7**	**-1.6**
AMKA	**Amchitka**	**4.57**	**268**	P	**Pn**	**04 48 12.8**	**-7.6**
AMKA				S		04 48 21.0	
UNV	**Unalaska Valle**	**4.66**	**61**	*e*Pn	**Pn**	**04 48 22.0**	**+0.2**
FALS	**False Pass**	**6.72**	**59**	*e*Pn	**Pn**	**04 48 51.8**	**+1.8**
	160nm,0.7s						
SMY	**Shemya**	**7.73**	**282**	*e*P	**Pn**	**04 48 55.5**	**-8.3**
SMY				pmax	pmax		
	comp=Z,36nm,0.6s						
SMY	**Shemya**	**7.73**	**282**	*e*Pn	**Pn**	**04 48 55.5**	**-8.3**
	comp=Z,36nm,0.6s						
FX1	**Attu Island--F**	**8.30**	**283**	P	**Pn**	**04 49 12.8**	**+1.2**
KDAK	**Kodiak Island**	**13.39**	**55**	P	**Pn**	**04 50 18.4**	**-2.9**
	comp=Z,1.3nm,0.3s,baz=243,slow=8.2,SNR=8.7						
KDAK				S	**Sn**	**04 53 05.9**	**+17**
	comp=Z,0.4nm,0.3s,baz=279,slow=11,SNR=3.3						
KDAK	**Kodiak Island**	**13.39**	**55**	*e*Pn	**Pn**	**04 50 18.8**	**-2.4**
	comp=Z,86nm,1.2s						
SVW2	**Sparrevohn**	**13.52**	**40**	*e*P	**Pn**	**04 50 27.8**	**+5.0**
TTA	**Tatalina**	**14.52**	**33**	*e*P	**Pn**	**04 50 36.9**	**+0.5**
TTA				pmax	pmax		
	comp=Z,11nm,0.5s						
TTA	**Tatalina**	**14.52**	**33**	*e*Pn	**Pn**	**04 50 36.3**	**-0.1**
	comp=Z,11nm,0.5s						
SLKM	**Skilak Lake**	**15.51**	**47**	P	**Pn**	**04 50 50.7**	**+1.3**
SLKM	**Skilak Lake**	**15.51**	**47**	*e*Pn	**Pn**	**04 50 48.8**	**-0.6**
SEW	**Seward**	**15.71**	**49**	*e*P	**Pn**	**04 50 49.8**	**-2.2**
PPLA	**Purkeypile**	**15.87**	**37**	*e*P	**Pn**	**04 50 57.4**	**+3.4**
	comp=Z,25nm,1.2s						
CHUM	**Lake Minchumin**	**16.40**	**34**	*e*P	**Pn**	**04 51 04.5**	**+3.7**
	comp=Z,15nm,0.8s						
KTH	**Kantishna Hill**	**16.71**	**37**	*e*Pn	**Pn**	**04 51 06.5**	**+1.8**
	comp=Z,18nm,0.9s						
TRF	**Thorofare Moun**	**16.89**	**37**	*e*P	**Pn**	**04 51 08.1**	**+1.2**
	comp=Z,3μm,0.9s						
BPAW	**Bear Paw Mtn.**	**17.00**	**35**	*e*P	**Pn**	**04 51 10.3**	**+2.0**
	comp=Z,2μm,0.6s						
PET	**Petropavlovsk**	**17.05**	**285**	⇑*e*P	**Pn**	**04 51 06.2**	**-2.8**
IMA2	**Indian Mountai**	**17.43**	**27**	*e*P	**Pn**	**04 51 17.8**	**+4.2**
MCK	**McKinley**	**17.55**	**38**	*e*P	**Pn**	**04 51 14.0**	**-1.1**
MCK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MCK	**McKinley**	**17.55**	**38**	*e*P	**Pn**	**04 51 14.0**	**-1.1**
	comp=Z,9.8nm,0.8s						
PETK	**Petropavlovsk-**	**17.61**	**286**	P	**Pn**	**04 51 17.0**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=89,slow=15,SNR=28						
RAGM	**Ragged Mountai**	**18.06**	**50**	*e*P	**Pn**	**04 51 21.9**	**+0.5**
BMRM	**Bremner River**	**18.25**	**49**	*e*P	**Pn**	**04 51 21.5**	**-2.3**
COLA	**College**	**18.56**	**35**	P	**Pn**	**04 51 28.8**	**+1.3**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
COLA	**College**	**18.56**	**35**	*e*P	**Pn**	**04 51 25.7**	**-1.7**
	comp=Z,7.2nm,0.8s						
BILL	**Bilibino**	**19.04**	**336**	⇓*e*P	**Pn**	**04 51 31.8**	**-1.4**
BILL				*e*S	**S**	**04 55 06.0**	**+0.3**
BILL				pmax	pmax		
	comp=Z,16nm,1.1s						
BILL				MLR	MLR		
	comp=Z,2μm,17.0s						
PNL	**Peninsula**	**20.51**	**54**	*e*P	**P**	**04 51 48.4**	**+0.3**
	comp=Z,45nm,0.8s						
EGAK	**Eagle**	**21.05**	**40**	*e*P	**P**	**04 51 53.3**	**-0.7**
	comp=Z,52nm,0.7s,mb5.0						
SEY	**Seymchan**	**21.27**	**315**	⇑*e*P	**P**	**04 51 57.1**	**+0.8**
DAWY	**Dawson**	**21.52**	**42**	*e*P	**P**	**04 51 57.6**	**-1.4**
HYT	**Haines Junctio**	**21.61**	**51**	*e*P	**P**	**04 51 59.5**	**-0.4**
SIT	**Sitka**	**22.55**	**61**	*e*P	**P**	**04 52 11.4**	**+1.4**
SIT				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.5						
SIT	**Sitka**	**22.55**	**61**	*e*P	**P**	**04 52 11.4**	**+1.4**
	comp=Z,13nm,0.6s,mb4.5						
SKAG	**Skagway**	**22.55**	**55**	*e*P	**P**	**04 52 09.7**	**-0.3**
	comp=Z,29nm,1.1s,mb4.6						
CRAG	**Craig**	**23.92**	**65**	*e*P	**P**	**04 52 23.0**	**-0.7**
	comp=Z,31nm,0.9s,mb4.7						
INK	**Inuvik**	**25.21**	**34**	P	**P**	**04 52 34.4**	**-0.8**
	comp=Z,5.3nm,0.4s,mb4.4,baz=236,slow=8.2,SNR=23						
INK	**Inuvik**	**25.21**	**34**	P	**P**	**04 52 34.4**	**-0.8**
INK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
INK	**Inuvik**	**25.21**	**34**	*e*P	**P**	**04 52 34.2**	**-1.0**
	comp=Z,697nm,0.9s,mb6.2						
DLBC	**Dease Lake**	**25.31**	**58**	P	**P**	**04 52 37.3**	**+1.1**
BBB	**Bella Bella**	**27.55**	**71**	P	**P**	**04 52 54.9**	**-1.6**
	comp=Z,3.5nm,0.8s,mb4.0,baz=230,slow=11,SNR=10						
ASAJ	**Asahikawa**	**30.06**	**273**	P	**P**	**04 53 18.9**	**0.0**
	comp=Z,16nm,0.7s,mb4.8,baz=242,slow=3.8,SNR=6.5						
ASAJ	**Asahikawa**	**30.06**	**273**	P	**P**	**04 53 19.0**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.7s						
YKA	**Yellowknife Ar**	**32.48**	**48**	P	**P**	**04 53 39.5**	**-0.5**
	comp=Z,1.5nm,0.5s,mb4.1,baz=273,slow=8.2,SNR=12						
YKA				PcP	PcP	04 56 24.3	-1.6
	comp=Z,1.4nm,0.7s,baz=283,slow=3.6,SNR=5.0						
YKA	**Yellowknife Ar**	**32.48**	**48**	⇑*e*P	**P**	**04 53 39.5**	**-0.5**
YKA	**Yellowknife Ar**	**32.48**	**48**	P	**P**	**04 53 39.5**	**-0.5**
YKA				PcP	PcP	04 56 24.3	-1.6
B05A	**Bryant**	**32.59**	**76**	⇑P	**P**	**04 53 41.7**	**+0.6**
	baz=32						
HABR	**Khabarovsk**	**32.64**	**285**	*e*P	**P**	**04 53 39.1**	**-2.5**
HABR				*e*		04 54 46.5	
HABR				*e*S	**S**	**04 58 55.1**	**+0.7**
C05A	**Tolt Reservoir**	**33.09**	**76**	⇑P	**P**	**04 53 46.0**	**+0.5**
	baz=33						
A07A	**Ashnola River,**	**33.28**	**73**	⇓P	**P**	**04 53 46.9**	**-0.2**
	baz=33						
F04A	**Amboy**	**33.47**	**80**	⇑P	**P**	**04 53 48.8**	**+0.1**
	baz=33						
E05A	**Randle**	**33.57**	**78**	⇓P	**P**	**04 53 49.7**	**+0.1**
	baz=33						
B07A	**Winthrop**	**33.69**	**74**	⇓P	**P**	**04 53 51.1**	**+0.4**
	baz=34						
A08A	**Turner Farm, O**	**33.98**	**73**	P	**P**	**04 53 53.5**	**+0.4**
	baz=34,SNR=6.5						
E06A	**Yakima**	**34.05**	**78**	⇓P	**P**	**04 53 53.8**	**-0.1**
	baz=34						
J02A	**Umpqua**	**34.06**	**84**	⇑P	**P**	**04 53 54.3**	**+0.3**
	baz=34						
C07A	**Waterville**	**34.07**	**75**	⇑P	**P**	**04 53 54.2**	**+0.2**
	baz=34						
B08A	**Colville Reser**	**34.20**	**74**	P	**P**	**04 53 55.5**	**+0.4**
	baz=34,SNR=7.6						
H04A	**Detroit Lake**	**34.23**	**81**	⇓P	**P**	**04 53 55.8**	**+0.4**
	baz=34						
A09A	**Danville**	**34.38**	**73**	⇓P	**P**	**04 53 56.6**	**0.0**
	baz=34						
K02A	**Glendale**	**34.44**	**85**	⇑P	**P**	**04 53 57.8**	**+0.6**
	baz=34						
I04A	**Tendick Farm,**	**34.55**	**83**	⇓P	**P**	**04 53 58.4**	**+0.2**
	baz=34						
C08A	**Higginbotham F**	**34.64**	**75**	⇑P	**P**	**04 53 58.3**	**-0.5**
	baz=34						
L02A	**Cave Junction**	**34.70**	**86**	⇑P	**P**	**04 53 59.8**	**+0.3**
	baz=35						
HUMO	**Hull Mountain**	**34.85**	**85**	⇓P	**P**	**04 54 00.7**	**-0.1**
	baz=35						
B09A	**Rice**	**34.88**	**73**	⇑P	**P**	**04 54 01.2**	**+0.2**
	baz=35						
RSW	**Rattlesnake Hi**	**34.97**	**77**	*e*P	**P**	**04 54 01.8**	**0.0**
A10A	**Northport**	**34.98**	**72**	⇑P	**P**	**04 54 02.3**	**+0.5**
	baz=35						
F07A	**Phinny Hill Vi**	**35.01**	**78**	⇑P	**P**	**04 54 02.5**	**+0.4**
	baz=35						
J04A	**Umpqua Nationa**	**35.03**	**83**	⇑P	**P**	**04 54 02.8**	**+0.4**
	baz=35						
D08A	**Wollman Farm,**	**35.05**	**76**	⇑P	**P**	**04 54 02.3**	**-0.2**
	baz=35						
I05A	**Bend**	**35.06**	**81**	⇓P	**P**	**04 54 02.4**	**-0.2**
	baz=35						
C09A	**Chrisman Ranch**	**35.09**	**74**	⇓P	**P**	**04 54 02.9**	**+0.1**
	baz=35						
E08A	**Dider Farm, El**	**35.24**	**77**	⇑P	**P**	**04 54 04.2**	**+0.2**
	baz=35						
H06A	**Lindquist Farm**	**35.34**	**80**	⇑P	**P**	**04 54 04.9**	**0.0**
	baz=35						
D09A	**Jones Farm, Ri**	**35.42**	**75**	⇑P	**P**	**04 54 05.6**	**0.0**
	baz=35						
G07A	**Ruggs Ranch, H**	**35.48**	**79**	⇓P	**P**	**04 54 06.4**	**+0.2**
	baz=35						
YBH	**Yreka Blue Hor**	**35.49**	**86**	⇓P	**P**	**04 54 07.0**	**+0.7**
	baz=35,SNR=5.6						
J05A	**Fort Rock**	**35.55**	**83**	⇓P	**P**	**04 54 07.5**	**+0.8**
	baz=35,SNR=5.3						
NEW	**Newport**	**35.56**	**73**	*e*P	**P**	**04 54 06.7**	**-0.1**
NEW				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NEW	**Newport**	**35.56**	**73**	*e*P	**P**	**04 54 06.7**	**-0.2**
	comp=Z,6.9nm,0.8s,mb4.6						
M02C	**Callahan**	**35.59**	**87**	⇑P	**P**	**04 54 07.8**	**+0.7**
	baz=36						
N02C	**Big Bar**	**35.64**	**88**	⇑P	**P**	**04 54 08.1**	**+0.5**
	baz=36						
EDM	**Edmonton**	**35.64**	**63**	P	**P**	**04 54 07.7**	**+0.2**
EDM	**Edmonton**	**35.64**	**63**	*e*P	**P**	**04 54 07.4**	**0.0**
A11A	**Hall Mountain,**	**35.70**	**71**	P	**P**	**04 54 09.0**	**+1.0**
	baz=36,SNR=6.4						
O01C	**Eel River Cons**	**35.71**	**89**	⇑P	**P**	**04 54 08.5**	**+0.2**
	baz=36						
L04A	**Klamath Falls**	**35.75**	**85**	⇓P	**P**	**04 54 09.0**	**+0.5**
	baz=36,SNR=6.7						
F08A	**Pendleton**	**35.75**	**78**	⇑P	**P**	**04 54 08.9**	**+0.4**
	baz=36						
E09A	**Wood Farm, Sta**	**35.78**	**76**	⇓P	**P**	**04 54 09.2**	**+0.5**
	baz=36						
I06A	**Prineville**	**35.83**	**81**	⇑P	**P**	**04 54 09.1**	**-0.1**
	baz=36						
G08A	**Pilot Rock**	**35.90**	**78**	⇑P	**P**	**04 54 09.6**	**-0.2**
	baz=36						
B11A	**Sandpoint**	**35.93**	**72**	⇑P	**P**	**04 54 10.2**	**+0.2**
	baz=36						
M04C	**Macdoel**	**36.00**	**85**	⇑P	**P**	**04 54 11.0**	**+0.3**
	baz=36,SNR=5.6						
LNOR	**Lincton Mounta**	**36.01**	**77**	P	**P**	**04 54 11.1**	**+0.4**
LNOR	**Lincton Mounta**	**36.01**	**77**	*e*P	**P**	**04 54 09.4**	**-1.4**
D10A	**Wagner Farm, O**	**36.04**	**75**	P	**P**	**04 54 10.8**	**-0.1**
	baz=36,SNR=6.9						
K05A	**Summer Lake**	**36.06**	**83**	⇑P	**P**	**04 54 11.8**	**+0.6**
	baz=36,SNR=6.2						
M03C	**McCloud**	**36.11**	**86**	⇓P	**P**	**04 54 11.7**	**0.0**
	baz=36						
A12A	**Yaak River Ran**	**36.12**	**71**	⇓P	**P**	**04 54 12.0**	**+0.3**
	baz=36						
I07A	**Izee**	**36.19**	**80**	P	**P**	**04 54 12.8**	**+0.6**
	baz=36,SNR=6.1						
J06A	**Christmas Vall**	**36.23**	**82**	P	**P**	**04 54 13.4**	**+0.8**
	baz=36,SNR=5.4						
WDC	**Whiskeytown Da**	**36.25**	**88**	P	**P**	**04 54 13.4**	**+0.5**
	baz=36,SNR=6.3						
F09A	**S2 Ranch, Elgi**	**36.32**	**77**	⇓P	**P**	**04 54 13.8**	**+0.5**
	baz=36						
O02C	**Red Bluff**	**36.33**	**88**	P	**P**	**04 54 14.9**	**+1.4**
	baz=36,SNR=5.2						
P01C	**Double 8 Ranch**	**36.41**	**90**	⇓P	**P**	**04 54 14.1**	**-0.1**
	baz=36						
E10A	**Myers Farm, Un**	**36.42**	**76**	⇓P	**P**	**04 54 14.5**	**+0.4**
	baz=36						
K06A	**Valley Falls**	**36.42**	**83**	⇓P	**P**	**04 54 14.7**	**+0.5**
	baz=36,SNR=7.8						
H08A	**Prairie City**	**36.47**	**79**	⇓P	**P**	**04 54 14.7**	**0.0**
	baz=36						
L05A	**Lakeview**	**36.47**	**84**	⇓P	**P**	**04 54 15.5**	**+0.8**
	baz=36						
F10A	**Beach Ranch, E**	**36.60**	**76**	⇑P	**P**	**04 54 16.1**	**+0.3**
	baz=36						
D11A	**Klaveano Farm,**	**36.61**	**74**	P	**P**	**04 54 15.0**	**-0.8**
	baz=36,SNR=5.6						
G09A	**Cove**	**36.62**	**78**	⇑P	**P**	**04 54 16.0**	**+0.1**
	baz=36						
M05C	**Lookout**	**36.67**	**85**	⇑P	**P**	**04 54 16.5**	**+0.2**
	baz=36,SNR=11						
GASB	**Alder Springs**	**36.69**	**89**	⇑P	**P**	**04 54 16.9**	**+0.3**
	baz=36						
J07A	**Hines**	**36.69**	**81**	⇑P	**P**	**04 54 16.7**	**+0.2**
	baz=36						
HATC	**Hat Creek Radi**	**36.78**	**86**	⇑P	**P**	**04 54 17.7**	**+0.4**
	baz=37						
A13A	**Flathead Natio**	**36.85**	**70**	⇑P	**P**	**04 54 18.1**	**+0.3**
	baz=37						
I08A	**Drewsey**	**36.85**	**80**	P	**P**	**04 54 18.5**	**+0.6**
	baz=37,SNR=6.9						
MOD	**Modoc**	**36.88**	**84**	P	**P**	**04 54 18.9**	**+0.8**
	baz=37,SNR=9.0						
G10A	**Bishop Farm, J**	**37.01**	**77**	P	**P**	**04 54 19.3**	**+0.1**
	baz=37,SNR=11						
E11A	**Bogner Ranch,**	**37.02**	**75**	⇑P	**P**	**04 54 18.5**	**-0.8**
	baz=37						
B13A	**Whitefish**	**37.08**	**71**	⇑P	**P**	**04 54 19.6**	**-0.2**
	baz=37						
K07A	**Rock Creek Ran**	**37.10**	**82**	⇓P	**P**	**04 54 20.3**	**+0.3**
	baz=37,SNR=5.5						
BMO	**Blue Mountains**	**37.13**	**78**	*e*P	**P**	**04 54 20.0**	**-0.3**
	comp=Z,3.4nm,0.9s,mb4.2						
M06C	**Likely Place G**	**37.17**	**85**	⇑P	**P**	**04 54 20.8**	**+0.1**
	baz=37,SNR=5.6						
MJAR	**Matsushiro Arr**	**37.18**	**265**	P	**P**	**04 54 20.7**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.1,baz=50,slow=7.6,SNR=4.5						
MJAR	**Matsushiro Arr**	**37.18**	**265**	P	**P**	**04 54 20.7**	**0.0**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
D12A	**Red Ives Fores**	**37.19**	**74**	⇓P	**P**	**04 54 20.6**	**-0.1**
	baz=37						
J08A	**Circle Bar Ran**	**37.21**	**81**	P	**P**	**04 54 21.4**	**+0.4**
	baz=37,SNR=6.0						
F11A	**Grangeville**	**37.29**	**76**	⇑P	**P**	**04 54 21.4**	**-0.2**
	baz=37						
O04C	**Chester**	**37.30**	**87**	⇑P	**P**	**04 54 22.1**	**+0.4**
	baz=37,SNR=13						
MNRC	**McLaughlin Nat**	**37.32**	**90**	⇓P	**P**	**04 54 22.1**	**+0.2**
	baz=37						
C13A	**Hot Springs**	**37.35**	**72**	⇓P	**P**	**04 54 22.1**	**0.0**
	baz=37						
ELFS	**Eagle Lake Fie**	**37.35**	**86**	⇓P	**P**	**04 54 22.9**	**+0.7**
	baz=37						
L07A	**Adell**	**37.41**	**83**	⇓P	**P**	**04 54 22.5**	**-0.2**
	baz=37,SNR=6.2						
G11A	**Walters Elk Ra**	**37.47**	**77**	P	**P**	**04 54 23.1**	**-0.1**
	baz=37,SNR=5.8						
ORV	**Orroville**	**37.50**	**88**	P	**P**	**04 54 23.0**	**-0.5**
	baz=37,SNR=5.4						
SUTB	**Sutter Butte**	**37.52**	**89**	⇑P	**P**	**04 54 23.1**	**-0.4**
	baz=37						
K08A	**Mann Creek Ran**	**37.54**	**82**	P	**P**	**04 54 24.4**	**+0.6**
	baz=37,SNR=8.3						
H10A	**Noah's Angus R**	**37.60**	**78**	P	**P**	**04 54 24.4**	**+0.1**
	baz=38,SNR=16						
WVOR	**Wild Horse Val**	**37.61**	**82**	*e*P	**P**	**04 54 24.8**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
WVOR	**Wild Horse Val**	**37.61**	**82**	*e*P	**P**	**04 54 24.8**	**+0.4**
	comp=Z,8.5nm,0.8s,mb4.5						
O05C	**Quincy**	**37.62**	**87**	P	**P**	**04 54 25.0**	**+0.5**
	baz=38,SNR=6.3						
CVS	**Carmenet Viney**	**37.63**	**90**	⇓P	**P**	**04 54 24.8**	**+0.3**
	baz=38						
OHCM	**Honcut**	**37.64**	**88**	*e*P	**P**	**04 54 23.9**	**-0.7**
J09A	**Fry Pan Ranch,**	**37.65**	**80**	P	**P**	**04 54 25.2**	**+0.5**
	baz=38,SNR=6.5						
C14A	**Swan Lake**	**37.79**	**72**	⇓P	**P**	**04 54 25.9**	**+0.1**
	baz=38						
N06A	**Buffalo Meadow**	**37.83**	**85**	P	**P**	**04 54 26.8**	**+0.6**
	baz=38,SNR=14						
I10A	**Payette**	**37.84**	**79**	⇑P	**P**	**04 54 26.5**	**+0.2**
	baz=38						
M07A	**Soldier Meadow**	**37.87**	**84**	P	**P**	**04 54 27.3**	**+0.7**
	baz=38,SNR=16						
F12A	**Elk City**	**37.90**	**75**	P	**P**	**04 54 26.7**	**0.0**
	baz=38,SNR=10.0						
L08A	**Fields**	**37.93**	**82**	P	**P**	**04 54 27.6**	**+0.6**
	baz=38,SNR=8.7						
H11A	**Donnelly**	**37.99**	**77**	⇑P	**P**	**04 54 27.2**	**-0.4**
	baz=38						
BEKR	**Beckwourth**	**38.02**	**87**	⇓P	**P**	**04 54 27.8**	**0.0**
	baz=38,SNR=5.2						
K09A	**Rome**	**38.03**	**81**	⇑P	**P**	**04 54 27.7**	**-0.2**
	baz=38						
O06A	**Flanigan**	**38.17**	**86**	P	**P**	**04 54 29.8**	**+0.6**
	baz=38,SNR=6.0						
E13A	**Victor**	**38.19**	**74**	⇑P	**P**	**04 54 29.4**	**+0.2**
	baz=38						
P05C	**Yuba Gap, Truc**	**38.20**	**88**	P	**P**	**04 54 29.9**	**+0.5**
	baz=38,SNR=6.6						
D14A	**Greenough**	**38.27**	**73**	P	**P**	**04 54 29.6**	**-0.3**
	baz=38,SNR=14						
M08A	**Happy Creek Ra**	**38.33**	**83**	P	**P**	**04 54 31.2**	**+0.8**
	baz=38,SNR=5.9						
N07B	**Gerlach**	**38.35**	**85**	P	**P**	**04 54 31.2**	**+0.7**
	baz=38,SNR=7.4						
JRSC	**Jasper Ridge**	**38.35**	**91**	⇑P	**P**	**04 54 30.6**	**0.0**
	baz=38						
P06A	**Stead Airport,**	**38.42**	**87**	⇓P	**P**	**04 54 31.3**	**+0.1**
	baz=38						
L09A	**Wilkinson Ranc**	**38.44**	**82**	⇓P	**P**	**04 54 31.3**	**-0.1**
	baz=38						
I11A	**Placerville**	**38.44**	**78**	P	**P**	**04 54 31.2**	**-0.1**
	baz=38,SNR=7.9						
LAVA	**Lava Cap Winer**	**38.45**	**89**	P	**P**	**04 54 31.6**	**+0.1**
	baz=38,SNR=5.2						
K10A	**MacKenzie Ranc**	**38.51**	**81**	⇓P	**P**	**04 54 31.7**	**-0.2**
	baz=38,SNR=7.6						
CHMT	**Chamberlain Mo**	**38.51**	**73**	*e*P	**P**	**04 54 31.1**	**-0.8**
WENL	**Wente Brothers**	**38.52**	**91**	⇓P	**P**	**04 54 31.5**	**-0.5**
	baz=38						
E14A	**Clinton**	**38.62**	**74**	⇑P	**P**	**04 54 32.9**	**+0.2**
	baz=38						
WCN	**Washoe City**	**38.73**	**87**	P	**P**	**04 54 34.2**	**+0.4**
	baz=39,SNR=9.8						
O07A	**Toulon**	**38.77**	**85**	P	**P**	**04 54 34.8**	**+0.7**
	baz=39,SNR=14						
H12A	**Diamond D Ranc**	**38.77**	**77**	P	**P**	**04 54 33.7**	**-0.4**
	baz=39,SNR=6.1						
MFID	**Camas Ranch**	**38.79**	**79**	⇑P	**P**	**04 54 34.2**	**0.0**
	baz=39						
G13A	**Cobalt**	**38.86**	**76**	P	**P**	**04 54 34.6**	**-0.2**
	baz=39,SNR=7.3						
N08A	**GE Springer Mi**	**38.86**	**84**	⇓P	**P**	**04 54 34.6**	**-0.3**
	baz=39						
D15A	**Lincoln**	**38.88**	**72**	P	**P**	**04 54 34.5**	**-0.4**
	baz=39,SNR=9.6						
R05C	**Kirkwood Meado**	**38.90**	**88**	P	**P**	**04 54 35.9**	**+0.7**
	baz=39,SNR=11						
F14A	**Wisdom**	**39.00**	**74**	P	**P**	**04 54 36.1**	**+0.2**
	baz=39,SNR=5.8						
K11A	**Parker Ranch,**	**39.02**	**80**	P	**P**	**04 54 36.4**	**+0.1**
	baz=39,SNR=8.2						
CMB	**Columbia Colle**	**39.11**	**89**	P	**P**	**04 54 37.2**	**+0.1**
	baz=39,SNR=8.7						
E15A	**Deer Lodge**	**39.12**	**73**	⇑P	**P**	**04 54 36.5**	**-0.5**
	baz=39,SNR=5.1						
H13A	**Challis**	**39.13**	**77**	⇑P	**P**	**04 54 37.0**	**0.0**
	baz=39						
L10A	**Juniper Basin**	**39.14**	**81**	⇑P	**P**	**04 54 37.3**	**0.0**
	baz=39						
PACP	**Pacheco Peak**	**39.19**	**91**	⇓P	**P**	**04 54 37.5**	**-0.2**
	baz=39						
N09A	**Rock Creek Ran**	**39.20**	**84**	⇓P	**P**	**04 54 37.8**	**+0.1**
	baz=39						
R06C	**Coleville**	**39.39**	**88**	⇓P	**P**	**04 54 39.4**	**0.0**
	baz=39						
M10A	**I.L. Ranch, Tu**	**39.42**	**82**	⇑P	**P**	**04 54 39.2**	**-0.4**
	baz=39						
HAST	**Hastings Reser**	**39.42**	**92**	⇓P	**P**	**04 54 38.9**	**-0.7**
	baz=39						
HRY	**Holter Researc**	**39.45**	**72**	*e*P	**P**	**04 54 39.3**	**-0.4**
F15A	**Butte**	**39.51**	**74**	⇑P	**P**	**04 54 40.2**	**0.0**
	baz=39						
L11A	**Cat Creek Ranc**	**39.53**	**81**	⇓P	**P**	**04 54 40.4**	**-0.1**
	baz=39,SNR=8.8						
S06C	**San Francisco**	**39.54**	**89**	P	**P**	**04 54 40.8**	**+0.2**
	baz=39,SNR=26						
I13A	**Wildhorse Cree**	**39.56**	**77**	P	**P**	**04 54 40.8**	**+0.1**
	baz=39,SNR=10						
HLID	**Hailey**	**39.57**	**78**	P	**P**	**04 54 40.9**	**+0.1**
	baz=39,SNR=10						
HLID	**Hailey**	**39.57**	**78**	*e*P	**P**	**04 54 40.6**	**-0.1**
	comp=Z,11nm,1.3s,mb4.4						
S05C	**Merced**	**39.58**	**90**	⇑P	**P**	**04 54 40.3**	**-0.5**
	baz=39						
K12A	**Draper Farm, C**	**39.79**	**79**	P	**P**	**04 54 43.1**	**+0.5**
	baz=40,SNR=7.3						
O09A	**Fish Creek Ran**	**39.80**	**84**	P	**P**	**04 54 43.6**	**+0.8**
	baz=40,SNR=6.6						
J13A	**Cove Ranch, Pi**	**39.81**	**78**	P	**P**	**

baz=41
O12A **Currie** 41.25 82 P P 04 54 54.9 +0.2
baz=41,SNR=19
S09A **Goldfield** 41.27 87 P P 04 54 55.0 +0.1
baz=41,SNR=9.5
VES **Vestal, Richgr** 41.31 91 P P 04 54 54.6 -0.6
baz=41,SNR=7.7
M14A **Sheep Mountain** 41.39 80 P P 04 54 56.1 +0.3
baz=41,SNR=6.4
PKM **Peak Mountain** 41.46 92 P P 04 54 56.9 +0.5
baz=41,SNR=5.3
R10A **Warm Springs** 41.49 86 P P 04 54 57.0 +0.3
baz=41,SNR=7.5
S10A **Tonopah Range,** 41.53 86 P P 04 54 57.1 0.0
baz=41,SNR=23
CWC **Cottonwood Cre** 41.54 89 P P 04 54 57.3 +0.2
baz=41,SNR=8.8
Q11A **Duckwater** 41.55 85 P P 04 54 57.3 +0.1
baz=41,SNR=8.9
GRAC **Grapevine Rang** 41.63 88 ⇓P P 04 54 58.1 +0.2
baz=42
P12A **McGill** 41.63 83 P P 04 54 58.1 +0.3
baz=42,SNR=14
L15A **Malad City** 41.68 79 ⇑P P 04 54 58.3 +0.1
baz=42
MOOW **Moose Ponds** 41.69 75 eP P 04 54 58.0 -0.3
comp=Z,15nm,1.9s,mb4.3
K16A **Soda Springs** 41.69 77 ⇑P P 04 54 59.8 +1.5
baz=42,SNR=7.0
TPAW **Teton Pass** 41.71 76 eP P 04 54 58.9 +0.5
comp=Z,16nm,1.5s,mb4.4
ISA **Isabella** 41.80 91 ⇓P P 04 54 58.6 -0.6
baz=42,SNR=16
RLMT **Red Lodge** 41.81 73 eP P 04 54 59.2 -0.1
comp=Z,24nm,1.2s,mb4.7
SNOW **Snow King Moun** 41.84 76 eP P 04 54 59.7 +0.2
comp=Z,3.4nm,0.6s,mb4.2
LOHW **Long Hollow** 41.85 76 eP P 04 54 59.6 +0.1
comp=Z,4.0nm,1.1s,mb4.0
N14A **Grayback Hills** 41.87 81 ⇑P P 04 54 59.6 -0.2
baz=42
R11A **Troy Canyon, C** 41.90 85 P P 04 54 59.9 -0.2
baz=42,SNR=19
Q12A **Willow Creek R** 41.94 84 P P 04 55 00.9 +0.6
baz=42,SNR=14
MPMC **Manual Prospec** 42.15 89 P P 04 55 02.2 +0.1
baz=42,SNR=12
P13A **Bates Ranch, G** 42.19 83 P P 04 55 02.3 -0.1
baz=42,SNR=15
L16A **Fish Haven** 42.26 78 P P 04 55 03.4 +0.4
baz=42,SNR=5.8
FURC **Furnace Creek,** 42.28 88 P P 04 55 03.2 0.0
baz=42,SNR=14
TPNV **Topopah Spring** 42.36 87 eP P 04 55 03.6 -0.2
TPNV pmax pmax
comp=Z,21nm,1.0s,mb4.7
TPNV **Topopah Spring** 42.36 87 P P 04 55 03.9 +0.1
baz=42,SNR=22
TPNV **Topopah Spring** 42.36 87 eP P 04 55 03.6 -0.2
comp=Z,21nm,1.1s,mb4.7
LRMC **Laurel Mountai** 42.41 90 ⇓P P 04 55 03.6 -0.6
baz=42
BLG **Laguna Peak** 42.45 93 ⇑P P 04 55 03.7 -0.8
baz=42
DUG **Dugway** 42.48 81 eP P 04 55 04.8 0.0
DUG pmax pmax
comp=Z,23nm,1.3s,mb4.7
DUG **Dugway** 42.48 81 ⇓P P 04 55 04.4 -0.3
baz=42
DUG **Dugway** 42.48 81 eP P 04 55 04.8 +0.1
comp=Z,23nm,1.3s,mb4.7
Q13A **Wheeler Ranch,** 42.49 83 P P 04 55 05.1 +0.2
baz=42,SNR=6.9
R12A **Pony Springs,** 42.51 85 ⇑P P 04 55 04.8 -0.3
baz=42
M16A **Huntsville** 42.55 79 P P 04 55 05.3 0.0
baz=42,SNR=15
EDW2 **Edwards Air Fo** 42.61 91 P P 04 55 05.6 -0.3
baz=42,SNR=6.2
U10A **Ash Meadows, A** 42.64 88 P P 04 55 06.6 +0.5
baz=42,SNR=7.9
P14A **Drum Mountains** 42.69 82 P P 04 55 06.5 0.0
baz=42,SNR=7.5
S12A **Delamar Landin** 42.81 86 ⇓P P 04 55 07.7 +0.2
baz=43
T11A **Corn Creek, Al** 42.81 86 P P 04 55 07.5 0.0
baz=43,SNR=33
N16A **Rees Ranch, Co** 42.91 79 ⇓P P 04 55 08.7 +0.4
baz=43
Q14A **Sevier Lake (B** 42.93 83 P P 04 55 08.4 0.0
baz=43,SNR=19
BW06 **Boulder Array** 42.96 76 eP P 04 55 08.1 -0.4
comp=Z,11nm,1.0s,mb4.5
PDAR **Pinedale Array** 42.96 76 P P 04 55 08.4 -0.2
comp=Z,6.7nm,0.6s,mb4.5,baz=309,slow=3.7,SNR=52
KSRS **Korea Array** 42.98 274 P P 04 55 09.3 +0.5
comp=Z,7.6nm,0.8s,mb4.5,baz=58,slow=7.7,SNR=18
KSRS **Korea Array** 42.98 274 P P 04 55 09.4 +0.6
KSRS pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
R13A **O'Grain Ranch,** 43.00 84 P P 04 55 09.0 0.0
baz=43,SNR=7.6
SHOC **Shoshone** 43.01 89 P P 04 55 09.0 -0.1
baz=43,SNR=9.0
GSC **Goldstone** 43.07 90 P P 04 55 09.4 -0.1
baz=43,SNR=21
JLU **Jordanelle** 43.08 80 eP P 04 55 09.7 +0.2
N17A **Moffit Pass** 43.25 79 ⇑P P 04 55 11.0 +0.1
baz=43
O16A **Springville** 43.28 80 ⇓P P 04 55 11.8 +0.5
baz=43
DAU **Daniels Canyon** 43.31 80 P P 04 55 12.3 +0.9
DAU **Daniels Canyon** 43.31 80 eP P 04 55 11.9 +0.5
S13A **Holt Ranch, En** 43.44 85 P P 04 55 12.7 +0.1
baz=43,SNR=22
Q15A **Fillmore** 43.48 82 P P 04 55 13.0 +0.2
baz=43,SNR=6.4
SCI **San Clemente I** 43.52 94 ⇓P P 04 55 12.5 -0.7
baz=43
TUQ **Turquoise Mtn.** 43.53 89 P P 04 55 13.0 -0.3
baz=43,SNR=7.1
P16A **Fountain Green** 43.55 81 ⇑P P 04 55 13.9 +0.5
baz=43
ARUT **Antelope Range** 43.57 84 P P 04 55 13.7 +0.1
ARUT **Antelope Range** 43.57 84 eP P 04 55 13.5 -0.1
V11A **Goodsprings** 43.57 88 P P 04 55 13.7 +0.1
baz=43,SNR=8.0
HEC **Hector,Ludlow** 43.67 90 ⇓P P 04 55 13.9 -0.5
baz=44
U12A **Valley of Fire** 43.75 87 P P 04 55 15.2 +0.2
baz=44,SNR=9.7
S14A **Cedar City** 43.76 84 ⇑P P 04 55 14.8 -0.3
baz=44
T13A **Saint George** 43.77 86 P P 04 55 15.4 +0.2
baz=44,SNR=16
MSU **Marysvale** 43.90 83 P P 04 55 16.4 +0.2
MSU **Marysvale** 43.90 83 eP P 04 55 16.2 0.0
MURC **Murrieta** 43.94 92 ⇓P P 04 55 15.8 -0.8
baz=44
V12A **Nelson** 44.01 88 P P 04 55 17.1 +0.1
baz=44,SNR=8.7
R15A **Junction** 44.02 83 P P 04 55 17.6 +0.4
baz=44,SNR=8.8
U13A **Pakoon Wash** 44.11 86 P P 04 55 18.1 +0.2
baz=44,SNR=20
GMRC **Granite Mounta** 44.12 89 P P 04 55 17.7 -0.3
baz=44,SNR=9.8
T14A **Hurricane** 44.25 85 P P 04 55 19.2 +0.2
baz=44,SNR=14
LDFC **Landfair** 44.27 89 eP P 04 55 18.3 -0.9
comp=Z,20nm,1.0s,mb4.8
Q16A **Castle Valley** 44.27 81 P P 04 55 19.5 +0.3
baz=44,SNR=13
S15A **Panguitch** 44.31 84 ⇑P P 04 55 19.7 +0.2
baz=44
PFO **Pinyon Flat Ob** 44.40 91 eP P 04 55 19.6 -0.7
PFO pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
PFO **Pinyon Flat Ob** 44.40 91 P P 04 55 19.8 -0.5
baz=44,SNR=5.0
PFO **Pinyon Flat Ob** 44.40 91 eP P 04 55 19.4 -0.8
comp=Z,8.0nm,1.2s,mb4.3
BELC **Belle Mtn.** 44.42 90 P P 04 55 19.7 -0.7
baz=44,SNR=7.0
V13A **Grand Canyon W** 44.46 87 P P 04 55 20.9 +0.1
baz=44,SNR=14
109C **Camp Elliot, M** 44.48 92 ⇑P P 04 55 20.3 -0.6
baz=44

SRU **San Rafael** 44.55 81 P P 04 55 21.7 +0.3
SRU pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
SRU **San Rafael** 44.55 81 P P 04 55 21.7 +0.3
baz=44,SNR=11
SRU **San Rafael** 44.55 81 eP P 04 55 21.3 -0.1
comp=Z,7.2nm,0.7s,mb4.6
U14A **Mt Trumbull** 44.60 86 P P 04 55 22.1 +0.3
baz=44,SNR=8.6
T15A **Red Dirt Ranch** 44.71 84 P P 04 55 22.9 +0.2
baz=45,SNR=8.4
Q18A **Rafter H Ranch** 44.79 81 P P 04 55 22.9 -0.4
baz=45,SNR=9.1
IRM **Iron Mountain** 44.84 90 P P 04 55 23.4 -0.4
baz=45,SNR=7.3
R17A **Hanksville Air** 44.86 82 P P 04 55 23.9 0.0
baz=45,SNR=13
MONP **Monument Peak** 44.90 92 P P 04 55 24.1 -0.2
baz=45,SNR=6.4
BC3 **Big Chuckw Mtn** 44.99 90 ⇓P P 04 55 24.2 -0.8
baz=45
RWWY **Rawlins** 45.00 76 eP P 04 55 22.4 -2.5
comp=Z,7.3nm,0.9s,mb4.5
W13A **Hualapai Mount** 45.01 88 P P 04 55 24.9 -0.2
baz=45,SNR=6.8
U15A **North Rim** 45.14 85 P P 04 55 26.5 +0.4
baz=45,SNR=26
V14A **Boquillas Ranc** 45.15 86 P P 04 55 26.3 +0.1
baz=45,SNR=12
DVTC **Desert V Tower** 45.26 92 ⇑P P 04 55 26.5 -0.6
baz=45
SWSC **Sam W. Stewart** 45.26 91 ⇑P P 04 55 26.0 -1.1
baz=45
X13A **Yucca** 45.38 88 P P 04 55 27.4 -0.7
baz=45,SNR=5.9
PDMCI **Parker Dam,Lak** 45.38 89 ⇓P P 04 55 27.4 -0.7
baz=45
R18A **Canyonlands Na** 45.38 81 P P 04 55 27.1 -1.0
baz=45,SNR=7.0
Q19A **Hogan Spring (** 45.41 80 ⇓P P 04 55 27.6 -0.6
baz=45
W14A **Seligman** 45.44 87 P P 04 55 28.3 -0.2
baz=45,SNR=7.0
RSSD **Black Hills** 45.46 71 P P 04 55 28.2 -0.4
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
RSSD **Black Hills** 45.46 71 eP P 04 55 28.1 -0.6
comp=Z,2.8nm,0.6s,mb4.3
Y12C **Blythe** 45.50 90 P P 04 55 28.8 -0.2
baz=45,SNR=6.4
V15A **Kaibab Nationa** 45.61 86 P P 04 55 30.1 +0.3
baz=46,SNR=17
S18A **Hurst Farm, Bl** 45.76 82 P P 04 55 30.5 -0.5
baz=46,SNR=20
GLA **Glamis** 45.78 90 ⇑P P 04 55 30.6 -0.7
baz=46
R19A **Curley Farm, L** 45.83 81 P P 04 55 31.0 -0.5
baz=46,SNR=6.2
Y13A **Salome** 45.89 89 ⇑P P 04 55 31.3 -0.8
baz=46
W15A **Williams** 45.96 86 P P 04 55 33.0 +0.3
baz=46,SNR=6.8
X14A **Yava** 46.04 88 P P 04 55 33.3 0.0
baz=46,SNR=9.1
U16A **Tuba City** 46.04 84 ⇓P P 04 55 32.9 -0.3
baz=46
T18A **Mexican Hat** 46.18 83 P P 04 55 33.4 -1.0
baz=46,SNR=17
S19A **Harvey Farm, M** 46.25 81 P P 04 55 34.3 -0.5
baz=46,SNR=14
WUAZ **Wupatki** 46.30 85 P P 04 55 35.3 0.0
baz=46,SNR=8.6
WUAZ **Wupatki** 46.30 85 eP P 04 55 35.1 -0.2
comp=Z,8.7nm,0.8s,mb4.7
Y14A **Wickenburg** 46.32 88 ⇓P P 04 55 34.8 -0.7
baz=46,SNR=5.5
X15A **Humboldt** 46.44 87 P P 04 55 36.2 -0.2
baz=46,SNR=9.0
W16A **Flagstaff** 46.47 86 ⇓P P 04 55 36.1 -0.6
baz=46
ULM **Lac du Bonnet** 46.60 60 P P 04 55 36.8 -0.7
comp=Z,2.9nm,0.5s,mb4.5,baz=305,slow=9.8,SNR=5.5
113A **Mohawk Valley,** 46.63 90 ⇑P P 04 55 36.8 -1.2
baz=46
U18A **Rough Rock, Ch** 46.64 83 ⇓P P 04 55 38.0 0.0
baz=46
Y15A **Casa Rosa Ranc** 46.73 88 P P 04 55 38.4 -0.3
baz=47,SNR=9.1
Z14A **Wintersburg** 46.74 89 ⇑P P 04 55 38.4 -0.4
baz=47
X16A **Lo Mia Camp, P** 46.98 86 P P 04 55 41.1 +0.5
baz=47,SNR=7.6
MVCO **Mesa Verde** 46.98 81 ⇓P P 04 55 40.3 -0.3
baz=47
MVCO **Mesa Verde** 46.98 81 eP P 04 55 39.8 -0.9
comp=Z,22nm,0.7s,mb5.2
V18A **Ganado** 47.06 84 P P 04 55 41.5 +0.2
baz=47,SNR=5.7
Y16A **Circle Bar Ran** 47.31 87 P P 04 55 43.4 +0.2
baz=47,SNR=7.0
X17A **Forest Lakes** 47.42 86 ⇓P P 04 55 43.9 -0.1
baz=47
W18A **Petrified Fore** 47.57 85 ⇑P P 04 55 45.1 -0.1
baz=47
Z16A **Peralta Trail,** 47.70 88 ⇑P P 04 55 45.8 -0.4
baz=48
214A **Organ Pipe Nat** 47.77 90 P P 04 55 46.2 -0.7
baz=48,SNR=5.5
Y17A **Roosevelt** 47.82 87 P P 04 55 47.0 -0.2
baz=48,SNR=9.9
X18A **Snowflake** 47.83 85 ⇑P P 04 55 46.8 -0.4
baz=48
116A **Eloy** 48.05 89 ⇓P P 04 55 48.8 -0.2
baz=48
Y18A **Canyon Day Jun** 48.27 86 P P 04 55 51.1 +0.5
baz=48,SNR=7.4
X19A **St. Johns** 48.30 85 ⇑P P 04 55 51.0 +0.1
baz=48
Z17A **San Carlos Hig** 48.32 87 ⇑P P 04 55 51.4 +0.3
baz=48
SDCO **Great Sand Dun** 48.47 79 eP P 04 55 51.1 -1.0
comp=Z,6.6nm,1.0s,mb4.6
Y19A **Nutrioso** 48.63 85 ⇓P P 04 55 53.3 -0.2
baz=48
117A **Oracle** 48.64 88 ⇓P P 04 55 53.2 -0.3
baz=48
TUC **Tucson** 48.79 88 eP P 04 55 53.7 -1.0
TUC pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
TUC **Tucson** 48.79 88 eP P 04 55 53.7 -1.0
comp=Z,6.6nm,0.9s,mb4.7
118A **Homack Ranch,** 49.08 87 P P 04 55 56.6 -0.2
baz=49,SNR=11
217A **Green Valley** 49.14 89 ⇓P P 04 55 56.8 -0.6
baz=49
119A **Ashpeak Ranch,** 49.40 87 P P 04 55 59.2 -0.1
baz=49,SNR=5.5
SONM **Songino Array** 49.43 299 P P 04 55 58.8 -0.6
comp=Z,2.3nm,0.6s,mb4.4,baz=49,slow=7.5,SNR=23
SONM PcP PcP 04 57 22.1 +1.1
comp=Z,0.8nm,0.7s,baz=60,slow=2.5,SNR=3.8
SONM **Songino Array** 49.43 299 P P 04 55 58.8 -0.6
SONM 04 57 22.1
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.7s
ANMO **Albuquerque** 49.70 82 P P 04 56 01.7 +0.1
comp=Z,2.0nm,0.9s,mb4.2,baz=306,slow=8.4,SNR=7.5
ANMO **Albuquerque** 49.70 82 P P 04 56 01.7 +0.1
318A **Bisbee** 49.88 88 P P 04 56 02.5 -0.5
baz=50,SNR=8.5
219A **White Tail Can** 49.95 87 ⇓P P 04 56 03.1 -0.4
baz=50,SNR=12
ECSD **EROS,Sioux Fal** 50.00 67 eP P 04 56 01.8 -2.0
comp=Z,28nm,0.7s,mb5.4
Y22C **IRIS PASSCAL I** 50.00 83 ⇓P P 04 56 04.0 +0.1
baz=50
HHC **Hu-ho-hao-te** 50.78 289 eP P 04 56 03.5 -6.2
HHC PP PP 04 58 00.4 -5.4
HHC PCS PcS 05 01 17.8 -5.7
HHC S **S** **05 03 14.4 -7.8**
HHC PS 05 03 25.1
HHC SCS ScS 05 05 50.2 -6.4
HHC SS SS 05 06 46.1 -10
HHC AMB AMB
comp=Z,9.0nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,1μm,7.1s
HHC LR LR
comp=N,3μm,17.8s,MS5.6
HHC LR LR
comp=E,3μm,13.1s,MS5.6
HHC LR LR
comp=Z,5μm,20.2s
ZALV **Zalesovo Beam** 56.13 316 PcP PcP 04 57 44.6 -1.6
comp=Z,0.7nm,0.3s,baz=47,slow=6.5,SNR=4.8
HDIL **Hopedale** 56.21 66 eP P 04 56 48.9 -0.6
comp=Z,39nm,0.9s,mb5.4
SCHQ **Schefferville** 57.53 41 P P 04 56 58.6 0.0
comp=Z,3.8nm,0.8s,mb4.5,baz=196,slow=2.4,SNR=3.8
ARCES **ARCESS Array B** 58.19 352 P P 04 57 02.6 -0.4
comp=Z,4.4nm,0.9s,mb4.5,baz=27,slow=8.2,SNR=4.9
ARCES **ARCESS Array B** 58.19 352 P P 04 57 02.6 -0.4
ARCES pmax pmax
comp=Z,4.0nm,0.9s
LZH **Lanzhou** 58.46 289 eP P 04 57 06.0 +0.6
LZH AP pP 04 57 10.5 -7.0
LZH AMB AMB
comp=Z,19nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,73nm,4.3s
GTA **Gaotai** 58.49 295 eP P 04 57 05.2 -0.4
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.4
KURK **Kurchatov** 61.11 316‖ eP P 04 57 23.2 -0.2
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
KURK **Kurchatov** 61.11 316 eP P 04 57 22.8 -0.6
comp=Z,5.4nm,0.8s,mb4.7
WMQ **Urumqi** 61.89 306 eP P 04 57 25.0 -3.7
MK31 **Makanchi Array** 62.35 311 i P P 04 57 31.1 -0.7
MK31 **Makanchi Array** 62.35 311 eP P 04 57 30.9 -0.9
MKAR **Makanchi Array** 62.35 311 P P 04 57 31.4 -0.4
comp=Z,2.0nm,0.7s,mb4.3,baz=56,slow=5.4,SNR=18
MKAR **Makanchi Array** 62.35 311 P P 04 57 31.4 -0.4
MKAR pmax pmax
comp=Z,2.0nm,0.7s
BVA0 **Borovoye Array** 62.68 322 i P P 04 57 33.9 0.0
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
BRVK **Borovoye** 62.70 322 eP P 04 57 34.0 0.0
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
BRVK **Borovoye** 62.70 322 eP P 04 57 34.0 0.0
comp=Z,3.5nm,0.6s,mb4.7
GYA **Guiyang** 63.60 280 P P 04 57 41.6 +1.2
GYA AP pP 04 57 53.4 +0.8
GYA XP sP 04 57 58.6 +1.2
GYA PCP PcP 04 58 17.2 +0.7
GYA PP PP 05 00 03.8 +3.5
GYA SCP 05 02 15.3
GYA S **S** **05 06 10.2 -0.9**
GYA XS sS 05 06 29.6 -1.9
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,70nm,4.9s
KMI **Kunming** 66.97 282 P P 04 57 58.0 -4.2
KMI PCP PcP 04 58 27.5 -3.0
KMI PP PP 05 00 25.3 -4.5
KMI PPP 05 01 59.9
KMI S S 05 06 45.3 -7.2
KMI AMB AMB
comp=Z,5.0nm,0.7s,mb4.7
KMI AMB AMB
comp=Z,229nm,8.0s
KMI LR LR
comp=N,1μm,13.0s,MS5.5
KMI LR LR
comp=E,2μm,15.2s,MS5.5
KMI LR LR
comp=Z,2μm,20.6s
NOA **NORSAR Array B** 67.46 358 P P 04 58 03.9 -0.8
comp=Z,0.5nm,0.5s,mb3.8,baz=2.4,slow=6.3,SNR=2.9
NOA **NORSAR Array B** 67.46 358 P P 04 58 03.9 -0.8
NOA pmax pmax
comp=Z,1.0nm,0.5s
TKM2 **Tokmak 2** 68.39 312 eP P 04 58 11.0 +0.1
TKM2 pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
TKM2 **Tokmak 2** 68.39 312 eP P 04 58 11.0 +0.1
comp=Z,6.9nm,1.5s,mb4.5
AKTO **Aktyubinsk** 69.21 328 P P 04 58 15.5 -0.4
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
EKS2 **Erkin-Say** 69.42 313 eP P 04 58 17.7 +0.4
comp=Z,3.7nm,0.6s,mb4.5
AB31 **Akbulak array** 69.56 326 i P P 04 58 18.0 -0.1
LSA **Lhasa** 70.42 293 P P 04 58 25.7 +2.0
LSA **Lhasa** 70.42 293 eP P 04 58 25.5 +1.8
LSA pmax pmax
comp=Z,16nm,0.8s,mb5.0
LSA **Lhasa** 70.42 293 eP P 04 58 25.5 +1.9
comp=Z,16nm,0.8s,mb5.0
KK31 **Karatay Array** 70.51 316 i P P 04 58 23.6 -0.4
KK31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
OBN **Obninsk** 70.59 342‖ eP P 04 58 23.5 -0.7
OBN eS S 05 07 40.9 +6.5
OBN pmax pmax
comp=Z,11nm,0.6s,mb5.0
OBN MLR MLR
comp=Z,1μm,17.0s,MS5.3
SHL **Shillong** 73.12 290 eP P 04 58 42.0 +2.0
SHL eP 05 10 01.0
TAPN **Taplejung** 74.17 294 eP P 04 58 46.6 +0.5
comp=Z,49nm,0.8s,mb5.5
CMAR **Chiang Mai Arr** 74.29 280 P P 04 58 48.0 +1.2
comp=Z,8.0nm,0.8s,mb4.7,baz=24,slow=7.1,SNR=25
CMAR **Chiang Mai Arr** 74.29 280 P P 04 58 48.1 +1.2
CMAR pmax pmax
comp=Z,8.0nm,0.8s
ODAN **Odare** 74.72 294 eP P 04 58 49.9 +0.6
GUN **Gumba** 74.77 296 eP P 04 58 50.3 +0.8
comp=Z,52nm,0.8s,mb5.5
JIRN **Jiri** 74.79 295 eP P 04 58 50.5 +0.8
comp=Z,48nm,0.7s,mb5.5
RAMN **Ramite** 75.10 295 eP P 04 58 51.9 +0.4
comp=Z,65nm,0.8s,mb5.6
KKN **Kakani** 75.20 296 eP P 04 58 52.5 +0.5
PKI **Pulchoki** 75.29 296 eP P 04 58 53.2 +0.6
DMN **Daman** 75.43 296 eP P 04 58 54.1 +0.7
COEN **Coen** 75.52 224 eP P 04 58 48.6 -5.2
comp=Z,2.6nm,0.9s,mb4.2
DANN **Dangsing** 75.60 297 eP P 04 58 55.0 +0.7
comp=Z,6.7nm,0.8s,mb5.6
AKASG **Malin Array Be** 76.09 345 P P 04 58 55.7 -1.0
comp=Z,0.8nm,0.4s,mb4.0,baz=16,slow=5.6,SNR=6.8
AKASG **Malin Array Be** 76.09 345 P P 04 58 55.7 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** 76.09 345 P P 04 58 55.7 -1.0
KOLN **Koldanda** 76.14 297 eP P 04 58 57.6 +0.2
comp=Z,30nm,1.0s,mb5.2
KBL **Kabul** 78.16 312 eP P 04 59 07.9 -0.7
comp=Z,8.8nm,0.9s,mb4.7
GRA1 **Grafenberg Arr** 78.81 357 eP P 04 59 12.3 +0.3
comp=Z,5.0nm,1.0s,mb4.4
GRF **Grafenberg Arr** 78.81 357 eP P 04 59 12.3 +0.3
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
GRF **Grafenberg Arr** 78.81 357 eP P 04 59 12.3 +0.3
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
GRF **Grafenberg Arr** 78.81 357 eP P 04 59 12.3 +0.3
comp=Z,5.0nm,1.0s,mb4.4
GERES **GERESS Array B** 79.56 355 P P 04 59 15.7 -0.3
comp=Z,0.9nm,0.6s,mb3.9,baz=5.7,slow=5.4,SNR=9.9
GERES **GERESS Array B** 79.56 355 P P 04 59 15.7 -0.3
GERES pmax pmax
comp=Z,1.0nm,0.6s
HAU **Haudompre** 80.58 0 eP P 04 59 21.4 -0.2
comp=Z,8.5nm,0.8s,mb4.4
HAU **Haudompre** 80.58 0 eP P 04 59 21.4 -0.2
HAU pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
HAU **Haudompre** 80.58 0 eP P 04 59 21.4 -0.2
comp=Z,4.3nm,0.8s,mb4.4
LOR **Lormes** 81.29 2 eP P 04 59 24.3 -1.1
comp=Z,8.0nm,0.9s,mb4.3
LOR **Lormes** 81.29 2 eP P 04 59 24.3 -1.1
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3

LOR	Lormes	81.29	2	eP	P	04 59 24.3	-1.1
	comp=Z,4.0nm,0.9s,mb4.3						
SSF	Saint Saulge	81.49	2	eP	P	04 59 26.1	-0.3
	comp=Z,4.6nm,0.6s,mb4.3						
SSF	Saint Saulge	81.49	2	eP	P	04 59 26.1	-0.3
SSF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SSF	Saint Saulge	81.49	2	eP	P	04 59 26.1	-0.3
	comp=Z,2.3nm,0.6s,mb4.3						
SMF	Signal de Mont	81.91	2	eP	P	04 59 28.4	-0.3
	comp=Z,7.1nm,0.8s,mb4.4						
SMF	Signal de Mont	81.91	2	eP	P	04 59 28.4	-0.3
SMF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SMF	Signal de Mont	81.91	2	eP	P	04 59 28.4	-0.3
	comp=Z,3.5nm,0.8s,mb4.3						
BGF	Bois d'Agland	81.97	3	eP	P	04 59 30.1	+1.1
TCF	Toulx Ste Croi	82.22	3	eP	P	04 59 30.0	-0.3
BNI	Bardonecchia	83.53	360	eP	P	04 59 38.1	+1.0
BNI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
BNI	Bardonecchia	83.53	360	eP	P	04 59 38.1	+1.0
	comp=Z,2.0nm,0.5s,mb4.5						
SBF	Sospel	84.72	359	eP	P	04 59 44.4	+1.2
	comp=Z,24nm,0.9s,mb5.0						
SBF	Sospel	84.72	359	eP	P	04 59 44.4	+1.2
SBF				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
SBF	Sospel	84.72	359	eP	P	04 59 44.4	+1.2
	comp=Z,12nm,0.9s,mb5.0						
WRA	Warramunga Arr	84.73	228	P	P	04 59 40.9	-2.5
	comp=Z,1.1nm,0.7s,mb4.1,baz=35,slow=6.0,SNR=11						
WRA				pP	pP	04 59 55.5	-0.6
	comp=Z,4.8nm,0.7s,baz=32,slow=5.6,SNR=24						
WRA	Warramunga Arr	84.73	228	P	P	04 59 40.9	-2.5
WRA				*PP	pP	04 59 55.5	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PGF	Pioggiola	86.01	358	eP	P	04 59 49.9	+0.2
	comp=Z,18nm,1.0s,mb5.0						
PGF	Pioggiola	86.01	358	eP	P	04 59 49.9	+0.2
PGF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
PGF	Pioggiola	86.01	358	eP	P	04 59 49.9	+0.2
	comp=Z,9.3nm,1.0s,mb5.0						
FITZ	Fitzroy Crossi	87.44	236	P	P	04 59 55.3	-1.5
	comp=Z,1.9nm,0.8s,mb4.4,baz=90,slow=9.1,SNR=4.3						
FITZ				pP	pP	05 00 09.3	-0.2
	comp=Z,10.0nm,0.9s,baz=68,slow=3.4,SNR=12						
ASAR	Alice Springs	88.15	227	P	P	04 59 59.2	-0.8
	comp=Z,1.5nm,0.7s,mb4.3,baz=35,slow=4.7,SNR=21						
ASAR				pP	pP	05 00 12.8	0.0
	comp=Z,7.4nm,0.8s,baz=48,slow=4.5,SNR=30						
ASAR	Alice Springs	88.15	227	P	P	04 59 59.3	-0.7
ASAR				*PP	pP	05 00 12.8	0.0
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
STKA	Stephens Creek	92.19	217	P	P	05 00 17.4	-1.3
	comp=Z,3.0nm,0.7s,mb4.7,baz=326,slow=11,SNR=3.5						
STKA				pP	pP	05 00 31.7	+0.2
	comp=Z,13nm,0.9s,baz=344,slow=5.4,SNR=7.7						
PLCA	Paso Flores	127.91	110	PKP	PKPdf	05 06 12.3	-2.0
	comp=Z,1.6nm,0.9s,baz=331,slow=4.9,SNR=3.1						
PLCA	Paso Flores	127.91	110	PKIKP	PKPdf	05 06 12.4	-1.9
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TSUM	Tsumeb	146.35	341	ePKPbc	PKPbc	05 06 50.4	+0.4
MAW	Mawson	148.88	218	PKPbc	PKPbc	05 06 54.2	-1.2
	comp=Z,3.1nm,0.7s,baz=49,slow=2.2,SNR=7.5						
MAW				pPKPbc	pPKPbc	05 07 08.3	-0.3
	comp=Z,11nm,0.8s,baz=49,slow=2.3,SNR=14						
MAW	Mawson	148.88	218	PKP2	PKPbc	05 06 54.2	-1.3
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAW				pmax	pmax		
	comp=Z,11nm,0.8s						
MAW	Mawson	148.88	218	ePKPbc	PKPbc	05 06 54.6	-0.9
MAW				e		05 07 08.1	
LBTB	Lobatse	149.58	324	ePKP2	PKPbc	05 06 58.4	-0.2
BOSA	Boshof	152.97	322	PKPbc	PKPbc	05 07 05.8	-0.5
	comp=Z,2.1nm,0.8s,baz=194,slow=5.5,SNR=4.1						
BOSA	Boshof	152.97	322	PKIKP	PKPbc	05 07 05.8	-0.5
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.8s						

ISCJB ***02*** *04:50:20.4±0.1, 1255N±003×8779W±002, h67km, mb5.0/142, Error ellipse: s-maj=4.3km s-min=1.7km az=28.8*

IDC ***02*** *04:50:20.4±0.4, 1284N×8734W, h54km±3km, mb4.4/25, mb1 4.5/27, mb1mx4.4/30, mbtmp4.4/27, MS4.6/4, Ms1 4.6/4, ms1mx4.1/36, Error ellipse: s-maj=16.5km s-min=7.6km az=57.0*

NEIC ***02*** *04:50:21.3±0.2, 1252N×8777W, mb5.2/123, MD5.1(SNET), Error ellipse: s-maj=5.2km s-min=3.2km az=216.0*

NEIC Felt [III] at Managua. Felt at Chinandega, Corinto and Leon. Felt [II] at San Salvador, El Salvador.

CASC ***02*** *04:50:21.2±2.8, 1252N×8784W, h46km±42km, MD4.5, ML5.3, mb5.2(NEIC)*

BJI ***02*** *04:50:21.3, 1250N×8780W, h67km, mB5.1, Ms6.0, Msz5.7*

SZGRF ***02*** *04:50:26.9, 1127N×8805W, h33km, mb5.2, Off coast of central America*

SSNC ***02*** *04:51:42.9±16.0, 1778N×8454W, h0km±999km*

ISC 02 04:50:22.3±0.1, 1259N±003×8770W±002, h69km, h69km±1.1km: pP-P, n723, σ0.9 87/655, mb5.0/141, 75C-100D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.65	80	eP	Pn	04 50 36.5	0.0
CRIN				eS	Sn	04 50 49.4	+2.4
CNCH	Conchagua	0.69	349	⇓iP	x	04 50 35.7	1.7
LEON	Leon	0.81	102	eP	Pn	04 50 35.8	-2.6
LEON				eS	Sn	04 50 50.6	+0.3
TEL3	Telica 3	0.84	91	⇓eP	Pn	04 50 38.2	-0.5
TELN	Telica	0.85	89	⇓iP	Pn	04 50 38.9	0.0
TELN				eS	Sn	04 50 51.7	+0.6
CNGN	Cerro Negro	0.98	95	⇓eP	Pn	04 50 39.9	-0.6
CNGN				AML	AML	04 51 01.9	
	comp=E,96μm,0.4s						
BLLM	Bellamira	1.00	328	⇓eP	x	04 50 38.3	
VSM	San Miguel	1.00	326	⇓iP	x	04 50 38.6	
MOMN	Momotombo	1.15	99	eP	Pn	04 50 42.6	0.0
COPN	Copaltepe	1.16	110	⇓eP	Pn	04 50 41.8	-0.9
CAHU	Cacacuatique	1.27	337	⇑eP	x	04 50 42.9	
CAHU				eS	x	04 51 02.7	
CSAN		1.31	108	⇑eP	Pn	04 50 44.3	-0.4
APYN	Apoyeque	1.37	105	⇑eP	Pn	04 50 45.0	-0.5
XAVN	Gruta Xavier	1.41	108	⇓eP	Pn	04 50 45.5	-0.6
TISN	Laguna Tiscapa	1.47	107	⇑eP	Pn	04 50 46.4	-0.5
TISN				eS	Sn	04 51 08.6	+3.3
MGAN	Managua	1.49	107	⇓eP	Pn	04 50 47.1	0.0
MGAN				eS	Sn	04 51 08.0	+2.3
MGAN				AML	AML	04 51 09.7	
	comp=N,127μm,0.2s						
SNVI	San Vicente	1.50	313	eP	x	04 50 45.0	
HUEN		1.52	99	⇓eP	Pn	04 50 47.2	-0.2
TGUH	Tegucigalpa,Un	1.52	16	eP	Pn	04 50 47.7	+0.2
TGUH				⇓iP		04 50 48.0	
TGUH				eS	Sn	04 51 08.2	+1.7
TGUH				eS	Sn	04 51 16.2	+10
TGUH	Tegucigalpa,Un	1.52	16	⇓iPn	Pn	04 50 47.9	+0.4
TICN	Ticuantepe	1.54	111	eP	Pn	04 50 47.3	-0.5
AIES		1.57	303	eP	x	04 50 45.1	
AIES				eS	x	04 51 03.1	
AIES				i		04 51 09.9	
	comp=Z,25μm,0.4s						
MASN	Masaya	1.63	111	eP	Pn	04 50 48.5	-0.4
LCBS	La Ceiba	1.63	311	⇓iP	x	04 50 46.4	
LCBS				eP	x	04 50 46.5	
LFRS	El Faro	1.68	308	⇓eP	x	04 50 46.6	
LFRS				eP	x	04 50 46.8	
APON	Apoyo	1.73	112	⇓eP	Pn	04 50 49.8	-0.5
LBRS	Las Brisas	1.74	311	⇓eP	x	04 50 47.8	
LBRS				eP	x	04 50 48.4	
LFU	La Fuente	1.79	310	eP	x	04 50 49.5	
LFU				eP	x	04 50 49.8	
BOQS	Boqueron	1.91	307	eP	x	04 50 50.4	
BOAB	BOACO BROADBAN	.99	94	⇓eP	Pn	04 50 53.6	-0.2
SSN	San Juan del S	2.22	125	eP	Pn	04 50 56.1	-0.7
SSN				eS	Sn	04 51 22.3	-1.0
CONN	Concepcion	2.27	116	eP	Pn	04 50 57.3	-0.3
MTO2	Montecristo 2	2.42	318	⇓eP	x	04 50 57.5	
MADN	Villa Maderas	2.42	119	eP	Pn	04 50 58.6	-1.1
RBDL	Robledal	2.46	308	eP	x	04 50 58.3	
CUI		3.13	127	eP	Pn	04 51 10.8	+1.5
2RIO	Dos Rios de Up	3.17	130	eP	Pn	04 51 05.7	-4.2
2RIO				eS	Sn	04 51 39.8	-6.7
VCR	Vista de Mar	3.18	140	eP	Pn	04 51 09.5	-0.4
NBG	Las Nubes	3.25	308	eP	Pn	04 51 10.8	-0.1
FUG	Fuego 3	3.57	302	eP	Pn	04 51 15.6	+0.3
FORC	Fortuna	3.64	125	eP	Pn	04 51 17.9	+1.6
FG6		3.66	303	eP	Pn	04 51 16.4	-0.2
FG6				i S	Sn	04 51 60.0	+1.4
JCR	Jicaral	3.72	137	eP	Pn	04 51 17.5	+0.1
CGA2	Cerro Gallo 2	4.08	129	eP	Pn	04 51 23.9	+1.7
JAT	Jato	4.20	295	eP	Pn	04 51 22.4	-1.5
PRS1	Puriscal	4.21	128	eP	Pn	04 51 25.9	+1.8
SJS	Escuela Geolog	4.44	126	eP	Pn	04 51 28.4	+1.2
LCR2	La Lucha 2	4.60	128	eP	Pn	04 51 30.6	+1.2
QCR	Quepos	4.69	132	⇑eP	Pn	04 51 31.8	+1.2
BUS	Buena Vista	4.91	128	eP	Pn	04 51 34.8	+1.3
LIO	Limon	5.25	119	eP	Pn	04 51 41.1	+2.8
BAR1		5.45	127	⇑eP	Pn	04 51 43.2	+2.3
CCIG	Comitan	5.65	311	iP	Pn	04 51 43.2	-0.5
CCIG				i S	Sn	04 52 42.2	-5.1
SCX	San Cristobal	6.31	311	iP	Pn	04 51 50.1	-2.6
DVD	David	6.61	128	eP	Pn	04 51 55.8	-1.1
CMIG	Matias Romero	6.26	304	P	Pn	04 52 18.9	-0.6
	comp=Z,3.9nm,0.3s,baz=127,slow=11,SNR=52						
CMIG				S	Sn	04 53 53.6	+2.3
	comp=Z,2.8nm,0.3s,baz=103,slow=14,SNR=3.5						
CMIG				LR	LR	04 55 11.6	
	comp=Z,2μm,20.6s,baz=112,slow=34						
BCIP	Isla Barro Col	8.44	113	ePn	Pn	04 52 22.9	+1.0
OXX	Oaxaca	9.80	298	iP	Pn	04 52 46.5	+6.1
VHO	Vista Hermosa	9.80	298	iP	Pn	04 52 39.8	-0.8
VHO				i S	Sn	04 54 23.0	-6.1
PNIG	Pinotepa	10.78	292	iP	Pn	04 52 46.4	-7.5
PNIG				i S	Sn	04 54 47.2	-5.7
SOR	Soroa	11.09	23	eP	Pn	04 53 01.8	+3.8
CVJ	Coleyville	11.29	59	⇑iP	Pn	04 53 04.7	+3.9
PCJ	Portland Cotta	11.39	62	⇑eP	Pn	04 53 04.8	+2.5
BBJ	Bamboo Saint A	11.59	59	⇑iP	Pn	04 53 08.8	+3.9
STH	Stony Hill	11.84	61	⇑iP	Pn	04 53 12.2	+4.0
HOJ	Hope	11.86	62	⇑iP	Pn	04 53 12.2	+3.7
GWJ	Greenwich	11.90	61	⇑iP	Pn	04 53 13.1	+3.9
MGV	Manicaragua	11.99	37	eP	Pn	04 53 14.0	+3.6
YHJ	Yallahs	12.03	63	⇑iP	Pn	04 53 14.4	+3.4
PPM	Popocatepetl	12.32	303	iP	Pn	04 53 15.0	0.0
PPM				i S	Sn	04 55 34.4	+3.8
IIO	Organos	12.67	305	iP	Pn	04 53 20.5	+0.8
LMGC	Las Mercedes	12.67	53	eP	Pn	04 53 23.6	+4.0
PLIG	Platanillo	12.75	298	iP	Pn	04 53 20.9	+0.1
CAIG	El Cayaco	12.93	292	iP	Pn	04 53 18.6	-4.6
PAYG	Puerto Ayora	13.42	191	ePn	Pn	04 53 32.8	+3.0
MOAC	Moa	14.61	55	eP	sP	04 54 10.7	-2.1
MOIG	Morelia	14.74	300	iP	Pn	04 53 46.7	-0.4
ROSC	El Rosal	15.28	119	P	Pn	04 53 52.3	-1.8
	comp=Z,0.7nm,0.3s,baz=108,slow=19,SNR=3.4						
ROSC				LR	LR	04 59 15.5	
	comp=Z,2μm,20.8s,baz=3.1,slow=35						
ROSC	El Rosal	15.28	119	ePn	Pn	04 53 57.8	+3.7
OTAV	Otavalo	15.32	143	ePn	Pn	04 53 55.2	+0.6
	comp=Z,150nm,1.6s						
CHI2		15.89	119	⇓eP	Px	04 50 35.8	
DWPF	Disney	16.52	20	eP	Pn	04 54 12.7	+3.1
	comp=Z,270nm,1.2s						
COLM	Colima	16.71	295	iP	Pn	04 54 15.3	+3.2
SDV	Santo Domingo	17.17	101	P	Pn	04 54 16.9	-0.9
	comp=Z,1.5nm,0.3s,baz=285,slow=5.9,SNR=37						
SDV				PcP	PcP	04 58 58.7	+0.1
	comp=Z,0.4nm,0.3s,baz=264,slow=3.9,SNR=3.7						
SDV	Santo Domingo	17.17	101	eP	Pn	04 54 17.0	-0.7
HKT	Hockley	18.85	338	eP	Pn	04 54 37.7	-0.4
	comp=Z,291nm,1.7s						
VBMS	Vicksburg	19.71	353	eP	Pn	04 54 48.9	+0.7
	comp=Z,791nm,1.4s						
AOPR	Arecibo Observ	20.98	72	eP	P	04 55 01.8	+1.7
	comp=Z,38nm,0.9s						
JCT	Junction City	21.03	330	eP	P	04 55 00.1	-0.3
	comp=Z,57nm,0.8s,mb5.0						
GOGA	Godfrey	21.09	10	eP	P	04 55 02.9	+1.9
	comp=Z,391nm,1.2s,mb5.6						
SJG	San Juan	21.49	73	P	P	04 55 00.6	-4.9
	comp=Z,11nm,0.8s,mb4.3,baz=65,slow=22,SNR=2.7						
SJG				PcP	PcP	04 59 05.8	-0.5
	comp=Z,18nm,0.7s,baz=56,slow=1.8,SNR=4.4						
SJG				LR	LR	05 03 33.4	
	comp=Z,2μm,19.5s,baz=288,slow=38						
SJG	San Juan	21.49	73	eP	P	04 55 07.0	+1.4
	comp=Z,66nm,0.9s,mb5.0						
SJG				PcP	PcP	04 59 05.8	-0.5
SJG				LR	LR	05 03 33.4	
ATAH	Atahualpa	21.55	154	P	P	04 55 09.7	+3.5
	comp=Z,16nm,0.8s,mb4.4,baz=353,slow=6.5,SNR=17						
ATAH				PcP	PcP	04 59 08.4	+2.0
	comp=Z,4.5nm,0.8s,baz=207,slow=4.5,SNR=3.7						
ATAH				LR	LR	05 01 48.4	
	comp=Z,4μm,21.2s,baz=314,slow=32						
NHSC	New Hope	21.55	17	eP	P	04 55 07.5	+1.5
	comp=Z,396nm,1.2s,mb5.6						
COW	Cow Castle Cre	21.66	16	eP	P	04 55 10.8	+3.6
CPD	Cerro la Pandu	21.69	73	eP	P	04 55 09.2	+1.5
	comp=Z,46nm,0.8s,mb4.9						
HUMP	Col San Antoni	21.77	73	eP	P	04 55 10.4	+1.8
	comp=Z,65nm,0.9s,mb5.0						
CBYP	Canovanas	21.79	72	eP	P	04 55 10.8	+2.0
	comp=Z,62nm,1.0s,mb4.9						
CBYP				ePP		04 55 21.1	
OXF	Oxford	21.88	356	eP	P	04 55 09.9	+0.4
	comp=Z,756nm,1.4s,mb5.8						
PTP	Ponta Puerca	22.01	72	eP	Px	04 51 56.3	
MTP	Monte Pirata	22.04	73	eP	P	04 55 12.0	+0.5
PLAL	Pickwick Lake	22.30	359	eP	P	04 55 13.9	0.0
	comp=Z,188nm,1.3s,mb5.3						
JSC	Jenkinsville	22.38	14	eP	P	04 55 16.4	+1.6
UALR	University of	22.49	350	eP	P	04 55 16.0	+0.1
	comp=Z,121nm,1.0s,mb5.2						
MIAR	Mount Ida	22.50	347	eP	P	04 55 16.4	+0.3
	comp=Z,192nm,0.9s,mb5.4						
SWET	Sewanee	22.59	4	eP	P	04 55 17.6	+0.7
PCRV	Puerto La Cruz	22.74	94	P	P	04 55 19.3	+0.5
	comp=Z,41nm,0.6s,mb4.9,baz=228,slow=2.2,SNR=14						
CPCT	Cooper Cave	22.94	7	eP	P	04 55 22.0	+1.3
HBAR	Harrisburg	23.02	354	eP	P	04 55 21.1	-0.5
TKL	Tuckaleechee C	23.24	8	P	P	04 55 24.2	+0.6
	comp=Z,72nm,0.8s,mb5.0,baz=179,slow=9.1,SNR=73						
TKL	Tuckaleechee C	23.24	8	eP	P	04 55 24.2	+0.6
HALT	Halls	23.27	357	eP	P	04 55 23.8	-0.1
HALT				ePP		04 55 38.5	
GNAR	Gosnell	23.37	355	eP	P	04 55 24.6	-0.2
	comp=Z,2μm,1.1s,mb6.2						
GLAT	Glass	23.62	357	eP	P	04 55 27.9	+0.8
UTMT	University of	23.67	358	ePP	pP	04 55 45.8	+2.6
PARMO	Parma	24.04	356	eP	P	04 55 30.7	-0.2
TZTN	Tazewell	24.14	8	eP	P	04 55 32.3	+0.5
	comp=Z,130nm,1.2s,mb5.1						
WMOK	Wichita Mounta	24.23	337	eP	P	04 55 31.9	-0.9
	comp=Z,39nm,0.8s,mb4.8						
CNNC	Cliffs of the	24.24	20	eP	P	04 55 34.2	+1.5
	comp=Z,100nm,1.0s,mb5.1						
CNNC				ePP		04 55 51.5	
LPIG	La Paz	24.28	301	P	P	04 55 34.3	+1.0
	comp=Z,38nm,0.6s,mb4.9,baz=145,slow=2.6,SNR=7.3						
GDL2	Guadalupe Moun	24.80	325	eP	P	04 55 37.8	-0.1
SIUC	Southern Illin	25.06	357	eP	P	04 55 39.9	-0.3
	comp=Z,242nm,1.2s,mb5.5						
SIUC				ePP	pP	04 55 56.2	-0.3
USIN	University of	25.27	0	eP	P	04 55 41.8	-0.3
	comp=Z,158nm,1.0s,mb5.4						
USIN				ePP	pP	04 55 59.1	+0.6
ELN	Prospectdale	25.31	13	eP	P	04 55 43.4	+0.9
BLA	Blacksburg	25.37	14	eP	P	04 55 44.5	+1.4
	comp=Z,115nm,1.1s,mb5.2						
BLA				ePP	pP	04 56 01.1	+1.7
FVM	French Village	25.41	355	eP	P	04 55 42.3	-1.0
	comp=Z,28nm,1.1s,mb4.6						
CCM	Cathedral Cave	25.56	354	eP	P	04 55 43.2	-1.5
	comp=Z,49nm,0.8s,mb5.0						
AMTX	Amarillo	25.56	333	eP	P	04 55 44.4	-0.4
	comp=Z,122nm,1.1s,mb5.2						
AMTX				ePP	pP	04 56 01.0	-0.1
WCI	Wyandotte Cave	25.57	3	eP	P	04 55 44.5	-0.2
	comp=Z,72nm,1.0s,mb5.1						
WCI				ePP	pP	04 56 01.1	-0.1
OLIL	Olney	26.04	359	eP	P	04 55 48.1	-1.0
	comp=Z,46nm,0.9s,mb4.9						
OLIL				ePP	pP	04 56 04.8	-0.6
URVA	University of	26.49	18	eP	P	04 55 54.0	+0.9
URVA				ePP	pP	04 56 11.4	+1.9
BLO	Bloomington	26.50	2	eP	P	04 55 52.1	-1.1
	comp=Z,67nm,1.2s,mb4.9						
319A	Douglas	27.29	317	P	P	04 56 01.4	+0.9
	baz=27,SNR=10						
BNM	Barren Site	27.52	324	eP	P	04 56 02.8	+0.4
KSU1	Kansas State U	27.56	345	eP	P	04 56 01.8	-0.9
	comp=Z,100nm,1.1s,mb5.3						
KSU1				ePP	pP	04 56 18.6	-0.6
LPM	Los Pinos Moun	27.64	325	eP	P	04 56 04.0	+0.6
LENM	Lemitar	27.73	324	eP	P	04 56 03.0	-1.3
MCWV	Mont Chateau	27.84	13	eP	P	04 56 05.8	+0.6
	comp=Z,21nm,0.7s,mb4.8						
MCWV				ePP	pP	04 56 22.5	+0.8
ACSO	Alum Creek Sta	27.85	8	eP	P	04 56 05.1	-0.2
	comp=Z,43nm,0.8s,mb5.0						
HDIL	Hopedale	27.89	357	eP	P	04 56 05.0	-0.7
	comp=Z,87nm,1.2s,mb5.2						
HDIL				ePP	pP	04 56 20.4	-1.8
LAZ	Ladron	27.99	324	eP	P	04 56 01.3	-5.3
ANMO	Albuquerque	28.01	326	P	P	04 56 08.0	+1.1
	comp=Z,4.9nm,0.6s,mb4.2,baz=145,slow=8.7,SNR=21						
ANMO				PcP	PcP	04 59 20.5	+0.2
	comp=Z,8.7nm,1.2s,baz=109,slow=6.3,SNR=3.5						
ANMO	Albuquerque	28.01	326	eP	P	04 56 07.5	+0.7
ANMO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ANMO	Albuquerque	28.01	326	eP	P	04 56 07.5	+0.7
	comp=Z,8.4nm,0.8s,mb4.3						
119A	Ashpeak Ranch,	28.18	319	⇑P	P	04 56 08.3	-0.1
	baz=28						
CBKS	Cedar Bluff	28.22	340	eP	P	04 56 08.5	-0.1
CBKS				e*PP	pP	04 56 26.4	+1.3
CBKS				pmax	pmax		
	comp=Z,24nm,0.5s,mb5.0						
CBKS	Cedar Bluff	28.22	340	eP	P	04 56 08.5	-0.2
	comp=Z,24nm,0.5s,mb5.0						
CBKS				ePP	pP	04 56 26.4	+1.3
SDMD	Soldier's Deli	28.39	18	eP	P	04 56 11.3	+1.1
	comp=Z,38nm,0.6s,mb5.1						
SDMD				ePP	pP	04 56 28.6	+2.0
Z19A	T-Link Ranch,	28.50	320	⇓P	P	04 56 11.1	-0.1
	baz=28						
118A	Homack Ranch,	28.54	318	⇓P	P	04 56 10.5	-1.0
	baz=28						
217A	Green Valley	28.57	316	⇑P	P	04 56 11.1	-0.7
	baz=29						
Z18A	Geronimo	28.86	319	⇑P	P	04 56 13.9	-0.5
	baz=29						
Y19A	Nutrioso	28.94	321	⇓P	P	04 56 14.7	-0.4
	baz=29						
117A	Oracle	29.00	317	⇑P	P	04 56 15.3	-0.3
	baz=29						
MVL	Millersville	29.08	18	eP	P	04 56 17.8	+1.5
	comp=Z,16nm,0.6s,mb4.8						
MVL				ePP	pP	04 56 35.1	+2.4
216A	Three Points,	29.14	315	⇓P	P	04 56 16.3	-0.6
	baz=29						
X19A	St. Johns	29.28	322	⇓P	P	04 56 17.8	-0.3
	baz=29						
Y18A	Canyon Day Jun	29.31	320	⇑P	P	04 56 18.0	-0.3
	baz=29						
SCIA	State Center	29.60	352	eP	P	04 56 20.3	-0.5
	comp=Z,16nm,0.6s,mb4.8						
116A	Eloy	29.64	316	⇑P	P	04 56 20.8	-0.6
	baz=30						
SDCO	Great Sand Dun	29.67	331	eP	P	04 56 21.0	-0.5
	comp=Z,22nm,1.1s,mb4.7						
SDCO				ePP	pP	04 56 37.7	-0.3
ALLY	Alegheny Colle	29.69	11	eP	P	04 56 22.1	+0.4
	comp=Z,24nm,0.6s,mb5.0						
X18A	Snowflake	29.75	321	⇓P	P	04 56 22.3	+0.1
	baz=30						
AAM	Ann Arbor	29.81	6	eP	P	04 56 22.5	-0.2
	comp=Z,29nm,0.6s,mb5.1						
AAM				ePP	pP	04 56 38.8	-0.4
Z16A	Peralta Trail,	29.93	318	⇑P	P	04 56 23.9	+0.1
	baz=30						
W18A	Petrified Fore	30.02	322	⇓P	P	04 56 25.0	+0.3
	baz=30						
V19A	Window Rock	30.02	324	⇑P	P	04 56 24.7	0.0
	baz=30						
214A	Organ Pipe Nat	30.06	314	⇓P	P	04 56 24.9	-0.2
	baz=30						
X17A	Forest Lakes	30.16	320	⇑P	P	04 56 26.1	+0.3
	baz=30						
JFWS	Jewell Farm	30.30	356	eP	P	04 56 26.1	-0.9
JFWS				pmax	pmax		
	comp=Z,13nm,0.5s,mb4.8					

U15A North Rim 32.44 321 ⇓P P 04 56 46.8 +0.9
baz=32
V14A Boquillas Ranc 32.44 319 P P 04 56 46.8 +0.9
baz=32,SNR=9.1
BRYW Bryant College 32.44 23 eP P 04 56 46.3 +0.5
comp=Z,25nm,0.6s,mb5.1
Q19A Hogan Spring (32.48 328 ⇑P P 04 56 46.8 +0.5
baz=32,SNR=9.4
PHWY Pilot Hill 32.55 335 eP P 04 56 47.1 +0.2
PHWY epP pP 04 57 03.3 -0.2
W13A Hualapai Mount 32.61 318 ⇓P P 04 56 48.2 +0.8
baz=33,SNR=9.6
SWSC Sam W. Stewart 32.71 313 ⇓P P 04 56 48.7 +0.3
baz=33
DVTC Desert V Tower 32.78 312 ⇑P P 04 56 49.6 +0.6
baz=33
BC3 Big Chuckw Mtn 32.85 314 ⇑P P 04 56 49.8 +0.3
baz=33,SNR=9.3
R17A Hanksville Air 32.87 326 ⇓P P 04 56 50.5 +0.8
baz=33,SNR=15
T15A Red Dirt Ranch 32.88 322 P P 04 56 50.6 +0.9
baz=33,SNR=6.1
IRM Iron Mountain 32.92 315 ⇓P P 04 56 50.8 +0.6
baz=33
HRV Adam Dziewonsk 32.94 22 eP P 04 56 50.6 +0.4
comp=Z,24nm,1.1s,mb4.9
HRV epP pP 04 57 06.6 -0.2
U14A Mt Trumbull 32.98 320 P P 04 56 51.6 +1.0
baz=33,SNR=6.1
ARE Arequipa 33.02 151 eP P 04 56 53.0 +1.9
Q18A Rafter H Ranch 33.05 327 P P 04 56 52.0 +0.8
baz=33,SNR=11
MONP Monument Peak 33.13 312 ⇑P P 04 56 52.6 +0.6
baz=33
V13A Grand Canyon W 33.13 319 P P 04 56 53.1 +1.1
baz=33,SNR=6.5
SRU San Rafael 33.27 327 P P 04 56 53.9 +0.8
baz=33,SNR=13
SRU San Rafael 33.27 327 eP P 04 56 53.6 +0.5
comp=Z,18nm,0.6s,mb5.1
S15A Panguitch 33.30 323 P P 04 56 54.6 +1.2
baz=33,SNR=7.7
T14A Hurricane 33.33 321 P P 04 56 54.7 +1.0
baz=33,SNR=10
NCB Newcomb 33.35 18 eP P 04 56 53.0 -0.7
comp=Z,54nm,1.5s,mb5.2
NCB epP pP 04 57 10.1 -0.3
W12A Cal Nev Ari 33.38 317 ⇓P P 04 56 54.7 +0.5
baz=33
BELC Belle Mtn. 33.42 314 ⇑P P 04 56 55.0 +0.5
baz=33,SNR=6.5
COWI Conover 33.42 358 eP P 04 56 52.3 -2.0
comp=Z,17nm,0.7s,mb5.0
U13A Pakoon Wash 33.47 320 ⇑P P 04 56 55.8 +0.9
baz=34,SNR=8.4
Q16A Castle Valley 33.48 326 P P 04 56 56.0 +1.0
baz=34,SNR=11
PFO Pinyon Flat Ob 33.53 313 ⇓P P 04 56 55.6 +0.1
baz=34
R15A Junction 33.61 324 P P 04 56 57.2 +1.1
baz=34,SNR=8.5
GMRC Granite Mounta 33.61 316 ⇑P P 04 56 56.5 +0.3
baz=34
RWWY Rawlins 33.62 333 eP P 04 56 57.0 +0.9
comp=Z,123nm,1.4s,mb5.5
RWWY epP pP 04 57 12.2 -0.6
V12A Nelson 33.62 318 P P 04 56 57.1 +0.9
baz=34,SNR=21
MDV Middlebury 33.70 19 eP P 04 56 58.4 +1.6
MSU Marysvale 33.76 324 eP P 04 56 58.2 +0.8
T13A Saint George 33.81 321 ⇓P P 04 56 58.7 +0.8
baz=34,SNR=7.3
S14A Cedar City 33.84 322 P P 04 56 58.8 +0.7
baz=34,SNR=11
LONY Lake Ozonia 33.84 17 eP P 04 56 57.3 -0.7
comp=Z,22nm,0.7s,mb5.1
LONY epP pP 04 57 15.1 +0.4
U12A Valley of Fire 33.84 319 ⇑P P 04 56 58.8 +0.7
baz=34
ARUT Antelope Range 34.02 322 eP P 04 56 59.8 +0.1
MURC Murrieta 34.06 313 ⇑P P 04 57 00.6 +0.5
baz=34
V11A Goodsprings 34.07 318 ⇓P P 04 57 00.5 +0.3
baz=34
HEC Hector,Ludlow 34.10 315 ⇓P P 04 57 01.0 +0.5
baz=34
S13A Holt Ranch, En 34.14 321 P P 04 57 02.1 +1.4
baz=34,SNR=16
TUQ Turquoise Mtn. 34.16 317 ⇓P P 04 57 01.1 +0.2
baz=34
Q15A Fillmore 34.21 325 P P 04 57 01.9 +0.6
baz=34,SNR=12
P16A Fountain Green 34.24 326 P P 04 57 02.5 +1.0
baz=34,SNR=9.4
LBNH Lisbon 34.33 20 eP P 04 57 02.6 +0.4
comp=Z,75nm,1.7s,mb5.2
FRNY Flat Rock 34.33 18 eP P 04 57 02.2 0.0
comp=Z,67nm,1.4s,mb5.3
FRNY epP pP 04 57 18.6 -0.3
RSSD Black Hills 34.41 339 eP P 04 57 03.4 +0.4
comp=Z,16nm,0.6s,mb5.0
MPU Maple Canyon 34.51 327 eP P 04 57 04.0 +0.1
comp=Z,37nm,0.8s,mb5.3
P15A Leamington 34.55 325 ⇑P P 04 57 04.5 +0.2
baz=35
Q16A Springville 34.58 327 P P 04 57 05.1 +0.6
baz=35,SNR=29
R13A O'Grain Ranch, 34.59 322 P P 04 57 06.1 +1.5
baz=35,SNR=8.4
DAU Daniels Canyon 34.60 327 eP P 04 57 05.2 +0.6
LPAZ La Paz 34.61 145 P P 04 57 05.7 +0.7
comp=Z,2.7nm,0.4s,mb4.4,baz=334,slow=7.3,SNR=25
LPAZ PcP PcP 04 59 39.3 +1.1
LPAZ La Paz 34.61 145 eP P 04 57 05.6 +0.6
comp=Z,61nm,1.9s,mb5.1
BFSC Mount Baldy St 34.71 313 ⇑P P 04 57 05.9 +0.2
baz=35
Q14A Sevier Lake (B 34.72 324 P P 04 57 06.7 +1.0
baz=35,SNR=16
S12A Delamar Landin 34.76 321 ⇓P P 04 57 06.8 +0.7
baz=35
N17A Moffit Pass 34.77 329 P P 04 57 06.8 +0.8
baz=35,SNR=20
T11A Corn Creek, Al 34.77 320 ⇓P P 04 57 06.7 +0.5
baz=35
JLU Jordanelle 34.84 328 eP P 04 57 06.9 +0.2
U10A Ash Meadows, A 34.99 318 ⇓P P 04 57 08.8 +0.7
baz=35
P14A Drum Mountains 35.00 325 P P 04 57 09.3 +1.1
baz=35,SNR=27
N16A Rees Ranch, Co 35.04 328 P P 04 57 09.6 +1.1
baz=35,SNR=12
CTU Camp Tracy 35.06 327 eP P 04 57 08.6 -0.1
comp=Z,29nm,0.7s,mb5.2
R12A Pony Springs, 35.07 322 ⇑P P 04 57 09.6 +0.8
baz=35
Q13A Wheeler Ranch, 35.12 323 P P 04 57 10.1 +0.9
baz=35,SNR=19
O15A The Old Anders 35.15 326 P P 04 57 10.7 +1.2
baz=35,SNR=8.7
NOQ North Oquirrh 35.23 327 eP P 04 57 10.4 +0.3
comp=Z,72nm,0.7s,mb5.6
TPNV Topopah Spring 35.25 318 P P 04 57 11.7 +1.4
baz=35,SNR=8.7
TPNV Topopah Spring 35.25 318 eP P 04 57 11.0 +0.6
EDW2 Edwards Air Fo 35.28 314 ⇑P P 04 57 10.6 0.0
baz=35
DUG Dugway 35.28 326 P P 04 57 11.5 +1.0
baz=35,SNR=12
DUG Dugway 35.28 326 eP P 04 57 10.9 +0.4
comp=Z,16nm,1.0s,mb4.8
S11A Rachel 35.35 320 ⇑P P 04 57 11.9 +0.8
baz=35,SNR=11
FURC Furnace Creek, 35.37 317 ⇓P P 04 57 11.7 +0.3
baz=35
LRMC Laurel Mountai 35.38 315 ⇑P P 04 57 11.7 +0.2
baz=35
EYMN Ely 35.39 356 eP P 04 57 09.1 -2.2
comp=Z,35nm,1.2s,mb5.1
M16A Huntsville 35.45 328 P P 04 57 12.1 +0.2
baz=36,SNR=21
P13A Bates Ranch, G 35.45 324 P P 04 57 12.9 +0.9
baz=36,SNR=24
BW06 Boulder Array 35.53 332 eP P 04 57 11.9 -0.7
comp=Z,11nm,0.7s,mb4.9
PDAR Pinedale Array 35.53 332 P P 04 57 12.7 0.0
comp=Z,15nm,0.7s,mb5.0,baz=126,slow=11,SNR=53
PDAR PcP PcP 04 59 40.0 -0.5
comp=Z,2.1nm,0.7s,baz=143,slow=5.2,SNR=5.1
N15A Stansbury Isla 35.61 327 P P 04 57 14.2 +0.9
baz=36,SNR=5.7
Q12A Willow Creek R 35.66 322 ⇑P P 04 57 14.0 +0.2
baz=36,SNR=6.5
R11A Troy Canyon, C 35.68 321 ⇓P P 04 57 14.3 +0.3
baz=36,SNR=6.5
L16A Fish Haven 35.86 329 P P 04 57 15.4 0.0
baz=36,SNR=50
SPUT South Promonto 35.87 327 eP P 04 57 16.2 +0.6
O13A Hicks Ranch, I 35.89 325 ⇑P P 04 57 16.4 +0.7
baz=36,SNR=6.7
N14A Grayback Hills 35.94 326 P P 04 57 16.6 +0.5
baz=36,SNR=27
M15A Larsen Ranch, 35.98 328 P P 04 57 17.2 +0.8
baz=36,SNR=14
P12A McGill 35.98 323 P P 04 57 17.3 +0.7
baz=36,SNR=9.9
ARVC Arvin 35.99 314 ⇑P P 04 57 17.0 +0.3
baz=36
GRAC Grapevine Rang 36.01 318 ⇑P P 04 57 17.7 +0.9
baz=36
ISA Isabella 36.02 315 ⇑P P 04 57 17.3 +0.3
baz=36
Q11A Duckwater 36.03 322 P P 04 57 17.9 +0.9
baz=36,SNR=12
S10A Tonopah Range, 36.05 320 P P 04 57 17.9 +0.7
baz=36,SNR=5.7
R10A Warm Springs 36.09 320 ⇓P P 04 57 18.2 +0.8
baz=36,SNR=7.4
PKME Peaks-Kenny Pk 36.15 22 eP P 04 57 18.5 +0.6
comp=Z,105nm,1.3s,mb5.6
PKME epP pP 04 57 35.9 +1.2
AGMN Agassiz Refuge 36.24 351 eP P 04 57 16.8 -1.8
comp=Z,44nm,0.8s,mb5.4
AHID Auburn Hatcher 36.26 330 eP P 04 57 18.8 -0.1
comp=Z,66nm,0.6s,mb5.7
S09A Goldfield 36.34 319 P P 04 57 20.0 +0.4
baz=36,SNR=5.9
L15A Malad City 36.34 328 ⇑P P 04 57 19.9 +0.3
baz=36,SNR=58
HVU Hansel Valley 36.38 328 eP P 04 57 20.0 +0.1
comp=Z,39nm,0.9s,mb5.3
O12A Currie 36.41 324 P P 04 57 21.1 +0.9
baz=36,SNR=10
M14A Sheep Mountain 36.48 327 ⇓P P 04 57 21.2 +0.4
baz=36,SNR=58
N13A Wendover, West 36.50 325 P P 04 57 21.8 +0.9
baz=36,SNR=30
P11A Circle Ranch, 36.54 322 ⇓P P 04 57 22.0 +0.7
baz=37
VES Vestal, Richgr 36.54 315 ⇓P P 04 57 21.9 +0.6
baz=36
R09A Tonopah 36.54 320 P P 04 57 22.0 +0.7
baz=36,SNR=7.8
K16A Soda Springs 36.55 330 P P 04 57 22.0 +0.7
baz=37,SNR=6.3
PKM Peak Mountain 36.58 313 ⇓P P 04 57 22.0 +0.3
baz=36
REDW Red Top Meadow 36.60 331 eP P 04 57 21.9 +0.2
comp=Z,170nm,0.7s,mb6.1
SNOW Snow King Moun 36.63 331 eP P 04 57 22.2 +0.2
comp=Z,216nm,0.8s,mb6.1
LOHW Long Hollow 36.67 332 eP P 04 57 22.3 0.0
comp=Z,51nm,0.9s,mb5.5
TPAW Teton Pass 36.74 331 eP P 04 57 23.1 +0.2
comp=Z,76nm,0.7s,mb5.7
L14A Malta 36.80 328 P P 04 57 23.7 +0.2
baz=37,SNR=32
RRI2 Red Ridge 36.81 331 eP P 04 57 23.5 0.0
comp=Z,34nm,0.6s,mb5.5
S08C White Mtn Res 36.82 318 ⇑P P 04 57 24.4 +0.7
baz=37,SNR=13
MOOW Moose Ponds 36.84 332 eP P 04 57 23.4 -0.4
comp=Z,38nm,0.7s,mb5.4
O11A Cowboy Ranch, 36.85 323 ⇓P P 04 57 24.3 +0.4
baz=37,SNR=5.2
RCTC Rector, Farmer 36.89 315 ⇓P P 04 57 24.8 +0.5
baz=37
DCID1 Drake Creek 36.93 331 eP P 04 57 24.9 +0.3
HELL Mitchell Peak 36.94 316 P P 04 57 25.2 +0.5
baz=37,SNR=11
N12A Clover Valley, 36.97 325 P P 04 57 25.6 +0.6
baz=37,SNR=19
P10A Eureka 37.01 322 ⇓P P 04 57 25.8 +0.6
baz=37,SNR=5.8
ELK Elko 37.01 324 eP P 04 57 25.6 +0.3
comp=Z,16nm,0.8s,mb5.0
IMW Indian Meadow 37.05 332 eP P 04 57 25.5 0.0
comp=Z,30nm,0.6s,mb5.4
IMW ePcP PcP 04 59 45.2 +0.2
FLWY Flagg Ranch 37.08 332 eP P 04 57 26.0 +0.2
comp=Z,40nm,0.6s,mb5.5
K14A Jones Ranch, D 37.13 328 ⇓P P 04 57 26.6 +0.3
baz=37,SNR=75
L13A Double Diamond 37.21 327 P P 04 57 27.5 +0.5
baz=37,SNR=16
RLMT Red Lodge 37.27 335 eP P 04 57 26.7 -0.8
comp=Z,24nm,0.9s,mb5.1
RLMT ePcP PcP 04 59 44.9 -0.8
M12A Wells 37.28 325 P P 04 57 28.0 +0.4
baz=37,SNR=10
N11A Elko Archery C 37.34 324 P P 04 57 28.8 +0.7
baz=37,SNR=23
LAO LASA Array 37.41 339 eP P 04 57 28.1 -0.4
comp=Z,96nm,1.6s,mb5.5
YFT Old Faithful 37.43 332 eP P 04 57 30.0 +1.3
NVAR Mina Array Bea 37.44 319 P P 04 57 29.9 +0.9
comp=Z,6.8nm,0.8s,mb4.6,baz=131,slow=7.4,SNR=31
NVAR PcP PcP 04 59 47.6 +1.2
comp=Z,3.9nm,0.5s,baz=132,slow=4.0,SNR=16
NVAR ScP ScP 05 03 30.5 +2.8
comp=Z,2.2nm,0.7s,baz=134,slow=5.2,SNR=16
NVAR Mina Array Bea 37.44 319 P P 04 57 29.9 +0.9
NVAR PcP PcP 04 59 47.6 +1.2
NVAR ScP ScP 05 03 30.5 +2.7
O10A Cortez Mining, 37.45 323 ⇑P P 04 57 29.4 +0.3
baz=38
Q08A Gabbs 37.45 320 P P 04 57 29.7 +0.7
baz=38,SNR=11
KCC Kaiser Creek 37.49 317 P P 04 57 30.0 +0.6
baz=38,SNR=7.0
PKD Parkfield 37.61 314 ⇑P P 04 57 30.5 0.0
baz=38
YMR Madison River 37.66 333 eP P 04 57 31.4 +0.7
comp=Z,74nm,0.8s,mb5.6
YMR epP pP 04 57 47.5 0.0
K13A Stover Farm, H 37.68 328 P P 04 57 31.0 +0.1
baz=38,SNR=9.1
N10A Dunphy 37.73 323 ⇑P P 04 57 32.2 +0.9
baz=38
M11A Holland Ranch, 37.78 325 P P 04 57 32.4 +0.6
baz=38,SNR=8.2
O09A Fish Creek Ran 37.78 322 P P 04 57 32.5 +0.7
baz=38,SNR=15
L12A House Creek Ra 37.83 326 P P 04 57 32.5 +0.3
baz=38,SNR=9.4
GCMT Greycliff 37.98 335 eP P 04 57 32.8 -0.6
U04C Hernandez Rese 37.99 314 ⇑P P 04 57 33.7 0.0
baz=38
QLMT Earthquake Lak 37.99 332 eP P 04 57 34.1 +0.6
P08A Dixie Valley 38.04 321 ⇑P P 04 57 34.7 +0.8
baz=38
K12A Draper Farm, C 38.10 327 P P 04 57 34.5 0.0
baz=38,SNR=28
V03C Hunter Liggett 38.14 314 ⇓P P 04 57 34.9 0.0
baz=38
S06C San Francisco 38.14 317 P P 04 57 35.5 +0.6
baz=38,SNR=7.5
ULM Lac du Bonnet 38.15 352 P P 04 57 32.5 -2.2
comp=Z,28nm,0.6s,mb5.2,baz=167,slow=9.1,SNR=29
ULM ScP ScP 05 03 28.4 -1.8
comp=Z,5.6nm,1.0s,baz=124,slow=3.6,SNR=4.2
ULM Lac du Bonnet 38.15 352 eP P 04 57 32.2 -2.5
comp=Z,27nm,0.7s,mb5.2
ULM epP pP 04 57 49.3 -2.3
S05C Merced 38.18 316 ⇑P P 04 57 35.1 -0.2
baz=38
R06C Coleville 38.23 318 ⇓P P 04 57 36.8 +1.2
baz=38
L11A Cat Creek Ranc 38.25 326 P P 04 57 35.6 0.0
baz=38,SNR=17
J13A Cove Ranch, Pi 38.26 328 P P 04 57 35.8 0.0
baz=38,SNR=21
M10A I.L. Ranch, Tu 38.26 324 P P 04 57 36.5 +0.6
baz=38,SNR=7.1
DGMT Dagmar 38.31 342 eP P 04 57 35.9 -0.3
comp=Z,126nm,0.6s,mb5.9
N09A Rock Creek Ran 38.41 323 P P 04 57 37.5 +0.4
baz=38,SNR=20
HLID Hailey 38.49 328 P P 04 57 37.9 +0.2
baz=38,SNR=30
HLID Hailey 38.49 328 eP P 04 57 37.6 -0.2
comp=Z,19nm,0.9s,mb4.9
HAST Hastings Reser 38.54 314 ⇓P P 04 57 38.1 -0.1
baz=38
CMB Columbia Colle 38.58 317 P P 04 57 38.8 +0.2
baz=39,SNR=7.6
L10A Juniper Basin 38.59 325 ⇓P P 04 57 38.4 -0.1
baz=39
I13A Wildhorse Cree 38.60 329 P P 04 57 39.2 +0.6
baz=39,SNR=38
MCMT McKenzie Canyo 38.65 331 eP P 04 57 39.9 +0.9
PACP Pacheco Peak 38.66 315 ⇓P P 04 57 39.3 0.0
baz=39
BOZ Bozeman (W) 38.71 333 P P 04 57 39.7 +0.1
baz=39,SNR=50
BOZ Bozeman (W) 38.71 333 eP P 04 57 39.4 -0.2
comp=Z,20nm,0.7s,mb5.1
M09A Marrel Ranch, 38.72 323 ⇓P P 04 57 39.9 +0.2
baz=39
N08A GE Springer Mi 38.73 322 P P 04 57 40.2 +0.4
baz=39,SNR=8.5
G15A Dillon 38.73 332 P P 04 57 40.5 +0.8
baz=39,SNR=61
SIV San Ignacio 38.73 136 P P 04 57 39.8 -0.3
comp=Z,56nm,0.9s,mb5.4,baz=315,slow=9.2,SNR=200
SIV PcP PcP 04 59 51.2 +0.5
comp=Z,22nm,0.8s,baz=278,slow=2.9,SNR=9.9
R05C Kirkwood Meado 38.74 318 ⇓P P 04 57 40.5 +0.6
baz=39,SNR=9.7
K11A Parker Ranch, 38.80 326 P P 04 57 40.2 -0.2
baz=39,SNR=28
O07A Toulon 38.81 321 P P 04 57 40.8 +0.3
baz=39,SNR=12
WCN Washoe City 38.87 319 ⇓P P 04 57 41.0 +0.1
baz=39
DLMT Dillon 38.93 332 eP P 04 57 42.1 +0.7
comp=Z,99nm,1.1s,mb5.6
DLMT epP pP 04 57 57.9 -0.4
S04C Ingram Canyon, 38.94 316 ⇑P P 04 57 41.7 0.0
baz=39
LCCM Lewis and Clar 38.97 333 P P 04 57 42.0 +0.3
MFID Camas Ranch 39.13 327 P P 04 57 43.1 0.0
baz=39,SNR=23
H13A Challis 39.13 330 P P 04 57 43.4 +0.3
baz=39,SNR=89
LAVA Lava Cap Winer 39.20 318 ⇑P P 04 57 44.1 +0.4
baz=39
L09A Wilkinson Ranc 39.23 324 P P 04 57 44.1 +0.2
baz=39,SNR=6.9
G14A Jackson 39.24 331 P P 04 57 44.3 +0.3
baz=39,SNR=31
F15A Butte 39.25 332 P P 04 57 44.2 +0.2
baz=39,SNR=41
K10A MacKenzie Ranc 39.27 325 P P 04 57 44.3 +0.1
baz=39,SNR=21
M08A Happy Creek Ra 39.28 323 P P 04 57 44.3 -0.1
baz=39,SNR=13
BNLO Ben Lomond (Sa 39.34 314 ⇑P P 04 57 44.9 0.0
baz=39
O06A Flanigan 39.40 320 P P 04 57 46.2 +0.8
baz=39,SNR=12
P05C Yuba Gap, Truc 39.41 318 ⇑P P 04 57 45.9 +0.4
baz=39,SNR=5.9
H12A Diamond D Ranc 39.42 329 P P 04 57 45.7 +0.2
baz=40,SNR=37
G13A Cobalt 39.51 330 P P 04 57 46.0 -0.1
baz=40,SNR=35
JRSC Jasper Ridge 39.52 315 ⇓P P 04 57 47.1 +0.6
baz=40
LVC Limon Verde 39.53 152 P P 04 57 48.1 +1.4
comp=Z,17nm,0.9s,mb4.9,baz=322,slow=6.3,SNR=11
LVC Limon Verde 39.53 152 eP P 04 57 48.1 +1.4
comp=Z,103nm,1.6s,mb5.4
I11A Placerville 39.54 327 P P 04 57 46.5 +0.1
baz=40,SNR=65
BEKR Beckwourth 39.57 319 P P 04 57 47.2 +0.5
baz=40,SNR=13
F14A Wisdom 39.63 332 P P 04 57 47.3 +0.1
baz=40,SNR=17
HRY Holter Researc 39.63 334 eP P 04 57 46.9 -0.2
HRY epP pP 04 58 03.0 -1.1
J10A Berg Farm, Mel 39.64 326 ⇓P P 04 57 47.4 +0.1
baz=40
Q04C Lincoln 39.67 317 ⇑P P 04 57 47.9 +0.2
baz=40
K09A Rome 39.70 325 P P 04 57 48.2 +0.4
baz=40,SNR=51
M07A Soldier Meadow 39.72 322 P P 04 57 47.6 -0.4
baz=40,SNR=18
L08A Fields 39.73 324 P P 04 57 48.1 +0.1
baz=40,SNR=22
N06A Buffalo Meadow 39.74 321 P P 04 57 48.0 -0.3
baz=40,SNR=15
E15A Deer Lodge 39.76 333 P P 04 57 48.2 -0.1
baz=40,SNR=34
EGMT Eagleton 39.83 337 P P 04 57 48.8 0.0
baz=40,SNR=9.1
EGMT Eagleton 39.83 337 eP P 04 57 48.5 -0.3
O05C Quincy 39.98 319 ⇓P P 04 57 50.5 +0.3
baz=40
OHCM Honcut 40.00 318 eP P 04 57 50.3 -0.1
WVOR Wild Horse Val 40.05 324 eP P 04 57 50.1 -0.6
comp=Z,30nm,0.9s,mb5.1
I10A Payette 40.10 327 P P 04 57 51.2 +0.1
baz=40,SNR=12
H11A Donnelly 40.12 328 P P 04 57 50.9 -0.4
baz=40,SNR=45
J09A Fry Pan Ranch, 40.13 325 P P 04 57 51.4 0.0
baz=40,SNR=60
ORV Oroville 40.13 318 P P 04 57 52.2 +0.7
baz=40,SNR=13
E14A Clinton 40.14 332 P P 04 57 51.4 0.0
baz=40,SNR=25
SUTB Sutter Butte 40.15 318 ⇓P P 04 57 51.6 0.0
baz=40,SNR=5.8
K08A Mann Creek Ran 40.15 324 P P 04 57 51.6 +0.1
baz=40,SNR=129
D15A Lincoln 40.18 334 P P 04 57 51.9 +0.1
baz=40,SNR=24
L07A Adell 40.20 323 P P 04 57 52.0 -0.1
baz=40,SNR=32
ELFS Eagle Lake Fie 40.23 320 ⇓P P 04 57 52.8 +0.6
baz=40,SNR=8.6
O04C Chester 40.28 319 P P 04 57 53.5 +0.7
baz=40,SNR=7.1
MCCM Marconi Confer 40.33 315 ⇓P P 04 57 53.5 +0.4
baz=40
NSHM Saint Helena R 40.33 316 eP P 04 57 52.7 -0.4
M06C Likely Place G 40.40 321 P P 04 57 53.7 0.0
baz=40,SNR=6.8
CHMT Chamberlain Mo 40.41 333 eP P 04 57 52.9 -0.7
CHMT epP pP 04 58 08.8 -1.8
H10A Noah's Angus R 40.42 328 ⇓P P 04 57 52.8 -0.9
baz=40,SNR=21
E13A Victor 40.48 332 P P 04 57 53.9 -0.3
baz=40,SNR=71
F12A Elk City 40.48 330 P P 04 57 54.0 -0.2
baz=40,SNR=141
I09A Lost Marbles R 40.53 326 P P 04 57 54.4 -0.3
baz=41,SNR=14
J08A Circle Bar Ran 40.54 325 P P 04 57 54.5 -0.3
baz=41,SNR=16
K07A Rock Creek Ran 40.56 324 P P 04 57 54.8 -0.2
baz=41,SNR=33
D14A Greenough 40.65 333 P P 04 57 55.0 -0.6
baz=41,SNR=20
MSO Missoula 40.65 332 eP P 04 57 55.1 -0.5
comp=Z,57nm,1.3s,mb5.2
MSO epP pP 04 58 11.3 -1.4
MOD Modoc 40.71 322 P P 04 57 55.2 -0.9
baz=41,SNR=7.3
G11A Walters Elk Ra 40.73 329 P P 04 57 55.3 -1.0
baz=41,SNR=50
LBCM Butte Creek Ri 40.74 320 P P 04 57 56.3 -0.1
HATC Hat Creek Radi 40.80 320 ⇓P P 04 57 56.7 -0.2
baz=41
BMO Blue Mountains 40.89 328 eP P 04 57 55.9 -1.8
comp=Z,14nm,0.8s,mb4.8
BMO epP pP 04 58 12.2 -2.4
M05C Lookout 40.91 321 P P 04 57 57.3 -0.5
baz=41,SNR=10.0
I08A Drewsey 40.95 326 P P 04 57 57.7 -0.4
baz=41,SNR=9.2

H09A **Durkee** 40.95 327 ⇑P P 04 57 57.1 -1.1
baz=41
GASB **Alder Springs** 40.98 318 ⇓P P 04 57 59.4 +1.0
baz=41,SNR=5.1
F11A **Grangeville** 41.02 330 P P 04 57 57.4 -1.3
baz=41,SNR=29
J07A **Hines** 41.02 324 P P 04 57 57.9 -0.9
baz=41,SNR=13
D13A **Huson** 41.08 332 P P 04 57 58.7 -0.5
baz=41,SNR=30
G10A **Bishop Farm, J** 41.09 328 P P 04 57 58.2 -1.1
baz=41,SNR=31
L05A **Lakeview** 41.11 322 ⇓P P 04 57 58.5 -1.0
baz=41
K06A **Valley Falls** 41.21 323 P P 04 57 59.8 -0.5
baz=41,SNR=6.7
C14A **Swan Lake** 41.27 333 P P 04 58 00.3 -0.5
baz=41,SNR=7.0
P01C **Double 8 Ranch** 41.30 317 ⇑P P 04 58 01.1 +0.1
baz=41
O02C **Red Bluff** 41.30 318 ⇑P P 04 58 00.3 -0.8
baz=41
WDC **Whiskeytown Da** 41.35 319 ⇑P P 04 57 59.0 -2.5
baz=41
E11A **Bogner Ranch,** 41.38 330 P P 04 58 00.3 -1.3
baz=41,SNR=52
H08A **Prairie City** 41.40 326 P P 04 58 01.2 -0.5
baz=41,SNR=21
G09A **Cove** 41.42 328 P P 04 58 00.8 -1.2
baz=42,SNR=18
J06A **Christmas Vall** 41.43 324 P P 04 58 01.1 -1.0
baz=41,SNR=12
M03C **McCloud** 41.47 320 P P 04 58 01.7 -0.7
baz=42,SNR=9.1
D12A **Red Ives Fores** 41.47 331 P P 04 58 01.4 -0.9
baz=42,SNR=43
K05A **Summer Lake** 41.55 323 ⇓P P 04 58 02.1 -1.0
baz=42
C13A **Hot Springs** 41.57 333 P P 04 58 02.7 -0.5
baz=42,SNR=16
M04C **Macdoel** 41.57 321 ⇓P P 04 58 02.5 -0.8
baz=42,SNR=8.0
I07A **Izee** 41.58 325 P P 04 58 02.7 -0.6
baz=42,SNR=14
F10A **Beach Ranch, E** 41.61 329 P P 04 58 02.8 -0.8
baz=42,SNR=42
F09A **S2 Ranch, Elgi** 41.78 328 P P 04 58 04.5 -0.4
baz=42,SNR=21
L04A **Klamath Falls** 41.83 321 P P 04 58 05.2 -0.2
baz=42,SNR=7.3
I06A **Prineville** 41.89 324 P P 04 58 05.3 -0.5
baz=42,SNR=9.1
E10A **Myers Farm, Un** 41.91 329 P P 04 58 05.1 -0.9
baz=42,SNR=7.0
D11A **Klaveano Farm,** 41.93 331 P P 04 58 04.8 -1.3
baz=42,SNR=28
H07A **Lands Inn, Kim** 41.93 326 P P 04 58 05.4 -0.8
baz=42,SNR=18
B13A **Whitefish** 42.05 333 P P 04 58 07.0 -0.1
baz=42,SNR=19
G08A **Pilot Rock** 42.05 327 P P 04 58 06.3 -0.9
baz=42,SNR=9.1
J05A **Fort Rock** 42.08 323 ⇓P P 04 58 07.2 -0.2
baz=42
LNOR **Lincton Mounta** 42.09 328 *e*P P 04 58 06.3 -1.1
YBH **Yreka Blue Hor** 42.09 320 ⇑P P 04 58 05.9 -1.6
baz=42
F08A **Pendleton** 42.29 328 P P 04 58 08.0 -1.1
baz=42,SNR=8.6
WALA **Waterton Lakes** 42.33 334 *e*P P 04 58 09.1 -0.2
comp=Z,87nm,1.6s,mb5.2
WALA *e*pP pP 04 58 25.2 -1.2
D10A **Wagner Farm, O** 42.39 330 P P 04 58 08.7 -1.2
baz=42,SNR=43
G07A **Ruggs Ranch, H** 42.42 326 ⇓P P 04 58 09.5 -0.6
baz=42
JCC **Jacoby Creek** 42.44 318 ⇑P P 04 58 10.6 +0.2
baz=42
A13A **Flathead Natio** 42.45 334 ⇑P P 04 58 10.3 0.0
baz=42
E09A **Wood Farm, Sta** 42.45 329 P P 04 58 09.6 -0.7
baz=42,SNR=17
H06A **Lindquist Farm** 42.45 325 ⇑P P 04 58 09.5 -0.9
baz=42
VIPM **Ingram Point** 42.47 325 P P 04 58 09.9 -0.6
J04A **Umpqua Nationa** 42.57 322 ⇓P P 04 58 11.1 -0.3
baz=43
B12A **Libby** 42.62 333 P P 04 58 12.1 +0.4
baz=43,SNR=12
I05A **Bend** 42.62 324 ⇓P P 04 58 11.4 -0.5
baz=43
D09A **Jones Farm, Ri** 42.90 329 P P 04 58 13.4 -0.6
baz=43,SNR=42
B11A **Sandpoint** 42.95 332 P P 04 58 14.4 +0.1
baz=43,SNR=20
F07A **Phinny Hill Vi** 42.96 327 P P 04 58 14.9 +0.4
baz=43,SNR=5.8
A12A **Yaak River Ran** 42.99 333 P P 04 58 15.2 +0.5
baz=43,SNR=7.3
I04A **Tendick Farm,** 43.07 323 P P 04 58 14.6 -0.8
baz=43,SNR=9.9
RSW **Rattlesnake Hi** 43.11 328 P P 04 58 15.0 -0.7
K02A **Glendale** 43.14 321 ⇓P P 04 58 15.3 -0.7
baz=43
NEW **Newport** 43.17 331 *e*P P 04 58 14.7 -1.5
comp=Z,13nm,0.8s,mb4.7
GBL **Gable Mountain** 43.18 328 P P 04 58 15.5 -0.7
D08A **Wollman Farm,** 43.21 329 P P 04 58 15.8 -0.7
baz=43,SNR=36
GBB **Gable Butte** 43.27 328 P P 04 58 16.4 -0.6
G05A **Wamic** 43.31 325 P P 04 58 18.2 +0.8
baz=43,SNR=7.8
A11A **Hall Mountain,** 43.32 333 P P 04 58 17.5 +0.1
baz=43,SNR=35
OD2 **Odessa Site #2** 43.33 329 P P 04 58 17.1 -0.4
WAH2 **Wahluke Slope** 43.34 328 P P 04 58 17.1 -0.4
F06A **Goldendale** 43.34 326 P P 04 58 18.3 +0.7
baz=43,SNR=13
E07A **Sunnyside** 43.36 328 P P 04 58 17.5 -0.2
baz=43,SNR=11
C09A **Chrisman Ranch** 43.40 330 P P 04 58 17.1 -0.9
baz=43,SNR=24
VFP **Flag Point** 43.44 325 P P 04 58 18.8 +0.4
H04A **Detroit Lake** 43.46 324 P P 04 58 17.6 -1.0
baz=44,SNR=11
J02A **Umpqua** 43.52 322 ⇓P P 04 58 18.5 -0.6
baz=44
HOOD **Mount Hood Mea** 43.55 325 *e*P P 04 58 19.6 +0.4
comp=Z,106nm,0.9s,mb5.6
HOOD *e*pP pP 04 58 36.0 -0.4
I03A **Eugene** 43.69 323 ⇑P P 04 58 19.7 -0.6
baz=44
C08A **Higginbotham F** 43.76 330 P P 04 58 21.4 +0.5
baz=44,SNR=27
B09A **Rice** 43.77 331 ⇑P P 04 58 20.5 -0.5
baz=44,SNR=55
F05A **White Salmon** 43.78 326 P P 04 58 21.7 +0.6
baz=44,SNR=8.2
A10A **Northport** 43.88 332 P P 04 58 21.2 -0.7
baz=44,SNR=13
E06A **Yakima** 43.94 327 P P 04 58 22.4 +0.1
baz=44,SNR=15
I02A **Mapleton** 44.03 322 ⇓P P 04 58 22.9 -0.3
baz=44
H03A **Soap Creek Ran** 44.10 323 ⇓P P 04 58 23.3 -0.4
baz=44
WTV **Waterville** 44.16 329 P P 04 58 23.9 -0.2
C07A **Waterville** 44.21 329 P P 04 58 25.1 +0.6
baz=44,SNR=22
D06A **Cle Elum** 44.29 328 P P 04 58 25.1 0.0
baz=44,SNR=10.0
ETW **Entiat** 44.29 328 *e*P P 04 58 24.9 -0.3
B08A **Colville Reser** 44.29 330 P P 04 58 24.1 -1.0
baz=44,SNR=29
F04A **Amboy** 44.34 325 P P 04 58 25.6 0.0
baz=44,SNR=5.4
A09A **Danville** 44.36 331 P P 04 58 25.0 -0.7
baz=44,SNR=34
E05A **Randle** 44.37 326 P P 04 58 25.4 -0.4
baz=44,SNR=13
G03A **Yamhill** 44.46 324 P P 04 58 26.5 -0.1
baz=44,SNR=6.6
A08A **Turner Farm, O** 44.67 331 P P 04 58 27.4 -0.8
baz=45,SNR=24
B07A **Winthrop** 44.75 330 ⇑P P 04 58 27.9 -0.9
baz=45
C06A **Tall Timber Ra** 44.78 328 ⇓P P 04 58 28.8 -0.3
baz=45

D05A **Enumclaw** 44.88 327 P P 04 58 29.6 -0.3
baz=45,SNR=9.6
E04A **Onalaska** 44.91 326 P P 04 58 29.8 -0.4
baz=45,SNR=5.9
F03A **Seaside** 44.98 325 ⇓P P 04 58 30.6 -0.1
baz=45
C05A **Tolt Reservoir** 45.05 328 P P 04 58 29.9 -1.3
baz=45,SNR=17
SCHQ **Schefferville** 45.22 17 P P 04 58 31.1 -1.3
comp=Z,64nm,0.5s,mb5.6,baz=211,slow=5.4,SNR=149
SCHQ **Schefferville** 45.22 17 *e*P P 04 58 30.8 -1.6
comp=Z,71nm,0.6s,mb5.6
SCHQ *e*pP pP 04 58 48.1 -1.6
A07A **Ashnola River,** 45.27 330 P P 04 58 32.9 -0.1
baz=45,SNR=40
E03A **Lebam** 45.35 325 P P 04 58 33.1 -0.5
baz=45,SNR=9.5
EDM **Edmonton** 45.39 339 *e*P P 04 58 31.9 -2.0
EDM *e*pP pP 04 58 48.6 -2.4
RPW **Rockport** 45.44 329 *e*P P 04 58 32.8 -1.5
B06A **Marblemount** 45.47 329 P P 04 58 33.5 -1.1
baz=46,SNR=17
JCW **Jim Creek** 45.49 328 *e*P P 04 58 32.9 -1.8
GNW **Green Mountain** 45.56 327 *e*P P 04 58 33.6 -1.7
comp=Z,34nm,0.7s,mb5.2
GNW *e*PcP PcP 05 00 12.6 -0.2
B05A **Bryant** 45.62 328 P P 04 58 33.9 -1.8
baz=46,SNR=14
C04A **Brinnon** 45.74 327 P P 04 58 35.7 -0.9
baz=46,SNR=16
D03A **Wishkah Elem.** 45.80 326 P P 04 58 37.4 +0.2
baz=46,SNR=5.2
NLWA **Neilton Lookou** 46.02 326 P P 04 58 38.6 -0.2
baz=46,SNR=9.0
NLWA **Neilton Lookou** 46.02 326 *e*P P 04 58 38.2 -0.7
comp=Z,41nm,1.0s,mb5.1
A05A **Maple Falls** 46.09 329 P P 04 58 38.6 -0.7
baz=46,SNR=5.6
OSD **Olympics--Snow** 46.19 327 P P 04 58 40.5 +0.3
A04A **Legoe Bay, Lum** 46.22 328 P P 04 58 39.9 -0.5
baz=46,SNR=6.7
B04A **Port Angeles** 46.23 327 P P 04 58 40.6 +0.1
baz=46,SNR=5.2
FCC **Fort Churchill** 46.33 355 *e*P P 04 58 39.5 -1.7
comp=Z,41nm,0.6s,mb5.3
FCC *e*pP pP 04 58 54.6 -3.8
C03A **Quillayute Air** 46.73 326 ⇓P P 04 58 44.5 +0.1
baz=47
CFAA **Coronel Fontan** 47.74 157 P P 04 58 53.0 +0.5
comp=Z,0.8nm,0.8s,baz=318,slow=6.4,SNR=11
CFAA **Coronel Fontan** 47.74 157 P P 04 58 53.0 +0.5
BDFB **Brasilia** 48.26 124 P P 04 58 54.1 -2.6
comp=Z,3.5nm,0.8s,mb4.2,baz=292,slow=17,SNR=9.5
BDFB PcP PcP 05 00 23.1 +0.2
comp=Z,2.6nm,0.5s,baz=283,slow=6.9,SNR=4.9
CPUP **Villa Florida** 48.67 143 P P 04 58 58.4 -1.4
comp=Z,13nm,0.8s,mb4.9,baz=314,slow=8.2,SNR=32
CPUP PcP PcP 05 00 23.7 -0.5
comp=Z,4.9nm,0.8s,baz=259,slow=6.9,SNR=3.0
CPUP **Villa Florida** 48.67 143 *e*P P 04 58 58.4 -1.4
comp=Z,167nm,1.4s,mb5.8
CPUP *e*PcP PcP 05 00 23.1 -1.1
BBB **Bella Bella** 51.07 329 P P 04 59 17.1 -0.5
comp=Z,9.1nm,0.8s,mb4.9,baz=119,slow=5.8,SNR=9.5
YKA **Yellowknife Ar** 53.41 345 P P 04 59 32.9 -1.8
comp=Z,9.3nm,0.7s,mb4.9,baz=138,slow=7.9,SNR=48
YKA pP pP 04 59 48.0 -4.4
comp=Z,15nm,1.0s,baz=139,slow=7.7,SNR=9.7
YKA PcP PcP 05 00 39.5 -1.6
comp=Z,5.4nm,0.7s,baz=147,slow=3.8,SNR=9.3
YKA ScP ScP 05 04 33.7 +0.7
comp=Z,1.0nm,0.5s,baz=146,slow=4.4,SNR=6.8
YKA **Yellowknife Ar** 53.41 345 P P 04 59 32.9 -1.8
YKA pP pP 04 59 48.0 -4.5
YKA PcP PcP 05 00 39.5 -1.6
YKA ScP ScP 05 04 33.7 +0.7
PLCA **Paso Flores** 55.38 164 P P 04 59 49.4 +0.1
comp=Z,24nm,1.1s,mb5.1,baz=337,slow=8.5,SNR=23
PLCA pP pP 05 00 04.8 -2.2
comp=Z,12nm,1.1s,baz=346,slow=5.4,SNR=3.8
PLCA **Paso Flores** 55.38 164 *e*P P 04 59 48.9 -0.4
comp=Z,48nm,1.4s,mb5.3
DLBC **Dease Lake** 55.68 335 P P 04 59 51.5 +0.3
baz=142,slow=6.1
DLBC **Dease Lake** 55.68 335 *e*P P 04 59 51.1 -0.2
DLBC *e*pP pP 05 00 07.2 -1.9
TRQA **Tornquist** 55.85 156 *e*P P 04 59 51.9 -0.9
comp=Z,85nm,1.6s,mb5.5
HYT **Haines Junctio** 60.16 334 *e*P P 05 00 21.6 -1.0
HYT *e*pP pP 05 00 38.1 -2.5
RES **Resolute Bay** 62.21 358 *e*P P 05 00 34.3 -1.9
comp=Z,326nm,0.6s
DAWY **Dawson** 62.57 337 *e*P P 05 00 36.9 -1.9
DAWY *e*pP pP 05 00 52.6 -4.3
INK **Inuvik** 63.00 343 P P 05 00 40.0 -1.5
comp=Z,10nm,1.0s,mb4.7,baz=141,slow=8.6,SNR=13
INK pP pP 05 00 55.8 -3.9
comp=Z,6.0nm,0.9s,baz=161,slow=6.0,SNR=3.5
INK **Inuvik** 63.00 343 *e*P P 05 00 40.0 -1.6
comp=Z,542nm,1.0s
EGAK **Eagle** 63.59 337 *e*P P 05 00 43.2 -2.4
EGAK *e*pP pP 05 00 58.6 -5.1
KDAK **Kodiak Island** 66.12 328 P P 05 01 01.1 -1.0
comp=Z,7.6nm,0.6s,mb4.7,baz=122,slow=2.8,SNR=9.9
COLA **College** 66.22 336 *e*P P 05 01 00.6 -1.9
comp=Z,5.4nm,0.8s,mb4.4
MCK **McKinley** 66.23 335 *e*P P 05 01 01.4 -1.4
comp=Z,6.3nm,0.6s,mb4.6
MCK *e*pP pP 05 01 17.4 -3.6
SUMG **Summit** 66.52 14 *e*P P 05 01 04.4 0.0
comp=Z,4.8nm,0.9s,mb4.3
TRF **Thorofare Moun** 66.71 334 *e*P P 05 01 04.5 -1.2
comp=Z,28nm,1.1s,mb5.0
TRF *e*pP pP 05 01 20.4 -3.6
KTH **Kantishna Hill** 67.01 334 *e*P P 05 01 05.6 -2.0
comp=Z,5.7nm,0.7s,mb4.5
KTH *e*pP pP 05 01 21.7 -4.2
BORG **Borgarnes** 68.69 25 P P 05 01 27.6 +9.4
comp=Z,400nm,0.4s,SNR=9.2
STS **Santiago** 73.63 49 P pP 05 02 08.1 +1.1
ELOB **Lobios** 74.03 50 P pP 05 02 10.3 +0.9
PVIS **Viseu** 74.22 51 *e*pP pP 05 02 11.7 +1.2
EVO **Evora** 74.25 53 *e*P P 05 01 49.9 -2.3
comp=Z,49nm,1.0s,mb4.9
MTE **Manteigas** 74.50 51 *e*pP pP 05 02 13.1 +0.9
PESTR **Estremoz** 74.56 53 *e*pP pP 05 02 14.3 +1.7
PVAQ **Vaqueiros** 74.56 54 *e*pP pP 05 02 14.3 +1.7
PCBR **Castelo Branco** 74.58 52 *e*pP pP 05 02 13.3 +0.6
PMRV **Marv??o** 74.68 52 *e*pP pP 05 02 14.3 +1.1
ERUA **La Rua** 74.69 49 P pP 05 02 10.8 -2.5
EGRO **El Granado** 74.74 54 P pP 05 02 14.8 +1.1
MVO **Moncorvo** 74.84 51 *e*P P 05 01 55.4 -0.2
comp=Z,44nm,1.6s,mb4.9
MVO *e*pP pP 05 02 15.4 +1.2
EBAD **Badajoz** 75.02 53 P pP 05 02 16.1 +0.8
PBAR **Barrancos** 75.04 54 *e*pP pP 05 02 16.6 +1.2
EARI **Arriondas** 76.05 48 P pP 05 02 21.5 +0.4
EJIF **Jimena Fronter** 76.44 55 P pP 05 02 25.3 +1.8
ROSF **Rostrenen** 77.02 43 *e*P P 05 02 06.7 -1.2
QUIF **Quistinic** 77.13 43 *e*P P 05 02 07.3 -1.1
ESDC **Sonseca Array** 77.30 52 P P 05 02 06.8 -2.8
comp=Z,2.2nm,0.7s,mb4.0,baz=283,slow=6.0,SNR=8.1
ESDC sP sP 05 02 29.3 -6.5
comp=Z,15nm,0.9s,baz=285,slow=5.0,SNR=16
SGMF **Saint Gilles** 77.51 43 *e*P P 05 02 08.3 -2.3
EHUE **Huescar** 78.57 54 P pP 05 02 36.9 +1.5
GRR **Gorron** 78.62 43 *e*P P 05 02 16.1 -0.6
comp=Z,36nm,1.0s,mb4.9
GRR **Gorron** 78.62 43 *e*P P 05 02 16.1 -0.6
comp=Z,18nm,1.0s,mb4.8
ETOR **Torete** 78.62 51 P pP 05 02 37.1 +1.5
EALK **Alkurruntz** 78.75 48 P pP 05 02 35.9 -0.4
FLN **La Foliniere** 78.83 42 *e*P P 05 02 16.4 -1.5
comp=Z,47nm,1.2s,mb4.9
FLN **La Foliniere** 78.83 42 *e*P P 05 02 16.4 -1.5
comp=Z,24nm,1.2s,mb4.9
SJPF **Ste Jean** 78.97 48 *e*P P 05 02 19.0 +0.3
comp=Z,67nm,1.0s,mb5.1
SJPF **Ste Jean** 78.97 48 *e*P P 05 02 19.0 +0.3
comp=Z,34nm,1.0s,mb5.1
LDF **La Druitiere** 79.09 42 *e*P P 05 02 18.7 -0.6
comp=Z,48nm,1.1s,mb5.0
LDF **La Druitiere** 79.09 42 *e*P P 05 02 18.7 -0.6
comp=Z,24nm,1.1s,mb4.9
MFF **Saint Martin d** 79.31 45 *e*P P 05 02 19.9 -0.6
comp=Z,40nm,1.0s,mb4.9

MFF **Saint Martin d** 79.31 45 *e*P P 05 02 19.9 -0.6
comp=Z,20nm,1.0s,mb4.9
ETSF **Etsaut** 79.48 48 *e*P P 05 02 21.8 +0.3
comp=Z,47nm,1.3s,mb4.9
ETSF **Etsaut** 79.48 48 *e*P P 05 02 21.8 +0.3
comp=Z,23nm,1.3s,mb4.8
ESAC **San Caprasio** 79.70 49 P pP 05 02 42.5 +1.0
EMOS **Mosqueruela** 79.88 51 P pP 05 02 42.5 0.0
EBIE **Bielsa** 80.02 48 P pP 05 02 43.9 +0.7
EPF **Esparros** 80.11 48 *e*P P 05 02 25.0 0.0
comp=Z,30nm,1.0s,mb4.8
EPF **Esparros** 80.11 48 *e*P P 05 02 25.0 0.0
comp=Z,15nm,1.0s,mb4.8
LFF **La Frestale** 80.14 46 *e*P P 05 02 24.8 -0.3
comp=Z,64nm,1.2s,mb5.0
LFF **La Frestale** 80.14 46 *e*P P 05 02 24.8 -0.3
comp=Z,32nm,1.2s,mb5.0
SPITS **Spitsbergen Ar** 80.62 12 P P 05 02 25.6 -1.5
comp=Z,7.7nm,0.8s,mb4.6,baz=45,slow=0.3,SNR=5.0
RJF **Les Rejaudoux** 80.63 46 *e*P P 05 02 27.3 -0.4
EPOB **Poblet** 80.90 50 P pP 05 02 47.1 -0.9
TCF **Toulx Ste Croi** 80.96 45 *e*P P 05 02 28.3 -1.1
CAF **Calviac** 81.07 46 *e*P P 05 02 29.6 -0.4
comp=Z,31nm,1.3s,mb4.7
CAF **Calviac** 81.07 46 *e*P P 05 02 29.6 -0.4
comp=Z,15nm,1.3s,mb4.7
EMIR **Miracle** 81.14 49 P pP 05 02 50.2 +0.8
BGF **Bois d'Agland** 81.36 44 *e*P P 05 02 30.8 -0.7
MTLF **Montolieu** 81.42 48 *e*P P 05 02 31.6 -0.4
comp=Z,54nm,1.2s,mb4.9
MTLF **Montolieu** 81.42 48 *e*P P 05 02 31.6 -0.4
comp=Z,27nm,1.3s,mb4.9
EIBI **Ibiza** 81.46 52 P pP 05 02 50.8 -0.3
DBIC **Dimbokro** 81.62 85 P P 05 02 30.9 -2.6
comp=Z,2.5nm,0.7s,mb4.2,baz=158,slow=12,SNR=2.7
DBIC sP pP 05 02 53.4 +1.0
comp=Z,8.6nm,1.1s,baz=169,slow=6.0,SNR=2.9
AVF **Avril sur Loir** 81.66 44 *e*P P 05 02 32.0 -1.1
comp=Z,4.2nm,0.7s,mb4.1
AVF **Avril sur Loir** 81.66 44 *e*P P 05 02 32.0 -1.1
comp=Z,2.1nm,0.7s,mb4.1
SSF **Saint Saulge** 81.72 44 *e*P P 05 02 32.5 -0.9
comp=Z,20nm,1.3s,mb4.5
SSF **Saint Saulge** 81.72 44 *e*P P 05 02 32.5 -0.9
comp=Z,10nm,1.3s,mb4.5
DOU **Dourbes** 81.93 41 AP pP 05 02 52.9 -0.3
LOR **Lormes** 81.93 43 *e*P P 05 02 33.7 -0.8
comp=Z,20nm,1.1s,mb4.6
LOR **Lormes** 81.93 43 *e*P P 05 02 33.7 -0.8
comp=Z,9.9nm,1.1s,mb4.5
SMF **Signal de Mont** 82.02 44 *e*P P 05 02 33.8 -1.2
comp=Z,16nm,1.1s,mb4.5
SMF **Signal de Mont** 82.02 44 *e*P P 05 02 33.8 -1.2
comp=Z,7.8nm,1.1s,mb4.5
GIVF **Givet** 82.07 41 *e*P P 05 02 34.7 -0.5
LASF **Ste Croix** 82.47 47 *e*P P 05 02 37.4 -0.1
comp=Z,58nm,1.4s,mb4.9
MEZF **Maizieres J'vi** 82.50 42 *e*P P 05 02 36.8 -0.7
VIVF **Saint-Julien-I** 82.91 46 *e*P P 05 02 39.9 +0.2
comp=Z,34nm,1.0s,mb4.8
VIVF **Saint-Julien-I** 82.91 46 *e*P P 05 02 39.9 +0.2
comp=Z,17nm,1.0s,mb4.8
WLF **Walferdange** 83.00 41 P P 05 02 39.9 -0.1
comp=Z,14nm,2.0s,mb4.4
NB2 **NORSAR Subarra** 83.37 29 P P 05 02 39.4 -2.3
comp=Z,1.3nm,0.6s,mb3.9,baz=284,slow=5.1
NOA **NORSAR Array B** 83.37 29 P P 05 02 40.0 -1.7
comp=Z,2.1nm,0.8s,mb4.0,baz=286,slow=4.9,SNR=6.4
NOA sP pP 05 03 01.8 +1.2
comp=Z,2.4nm,0.7s,baz=286,slow=5.0,SNR=4.8
NOA **NORSAR Array B** 83.37 29 P P 05 02 40.0 -1.7
NOA sP pP 05 03 01.8 +1.2
HAU **Haudompre** 83.44 42 *e*P P 05 02 41.7 -0.7
comp=Z,23nm,1.0s,mb4.6
HAU **Haudompre** 83.44 42 *e*P P 05 02 41.7 -0.7
comp=Z,11nm,1.0s,mb4.7
CABF **La Chapelle** 83.55 44 *e*P P 05 02 42.6 -0.3
comp=Z,27nm,1.1s,mb4.7
CABF **La Chapelle** 83.55 44 *e*P P 05 02 42.6 -0.3
comp=Z,13nm,1.1s,mb4.7
HINF **Hinteralfeld** 83.82 43 *e*P P 05 02 43.5 -0.8
CDF **Champ du Feu** 83.97 42 *e*P P 05 02 44.4 -0.7
SBF **Sospel** 85.05 46 *e*P P 05 02 50.3 -0.3
comp=Z,42nm,1.0s,mb5.0
SBF **Sospel** 85.05 46 *e*P P 05 02 50.3 -0.3
comp=Z,21nm,1.0s,mb5.0
TUE **Stuetta** 85.77 43 *e*P P 05 02 53.1 -1.0
comp=Z,22nm,1.3s,mb4.9
TUE *e*pP pP 05 03 10.7 -2.4
ARCES **ARCESS Array B** 86.14 19 P P 05 02 53.3 -2.1
comp=Z,1.2nm,0.5s,mb4.1,baz=288,slow=4.2,SNR=10
ARCES sP pP 05 03 14.8 +0.4
comp=Z,4.1nm,0.8s,baz=309,slow=4.4,SNR=3.4
ARCES **ARCESS Array B** 86.14 19 P P 05 02 53.3 -2.1
ARCES sP pP 05 03 14.8 +0.4
GRA1 **Grafenberg Arr** 86.20 40 *e*P pP 05 03 10.1 -5.0
GRF **Grafenberg Arr** 86.20 40 *e*P pP 05 03 10.1 -5.0
comp=Z,30nm,1.4s
PGF **Pioggiola** 86.46 47 *e*P P 05 02 57.1 -0.5
comp=Z,24nm,1.0s,mb4.8
PGF **Pioggiola** 86.46 47 *e*P P 05 02 57.1 -0.5
comp=Z,12nm,1.0s,mb4.8
FETA **Feichten** 86.56 43⇑*e*P pP 05 03 12.4 -4.6
comp=Z,8.8nm,0.9s
FETA **Feichten** 86.56 43⇑*e*P P 05 02 55.9 -2.2
comp=Z,3.4nm,0.8s,mb4.3
FETA ⇑*e*pP pP 05 03 12.4 -4.6
comp=Z,8.8nm,0.9s
TORD **Torodi Ar. Bea** 86.62 77 P P 05 02 55.9 -3.0
comp=Z,0.5nm,0.5s,baz=296,slow=4.4,SNR=12
TORD sP pP 05 03 18.4 +0.5
comp=Z,0.8nm,0.9s,baz=294,slow=4.4,SNR=3.5
CLL **Collm** 86.86 38 *e*pP pP 05 03 19.0 +0.6
comp=Z,9.0nm,1.1s
CLL *e*sP sP 05 03 24.0 -1.9
comp=Z,9.0nm,1.0s
KHC **Kasperske Hory** 87.83 40 *e*P pP 05 03 21.5 -1.6
GERES **GERESS Array B** 87.99 40 P P 05 03 01.8 -3.0
comp=Z,0.6nm,0.7s,baz=286,slow=5.0,SNR=3.4
GERES sP pP 05 03 23.2 -0.7
comp=Z,1.3nm,0.8s,baz=242,slow=2.3,SNR=3.5
TAM **Tamanrasset** 88.12 67 *e*P P 05 03 06.1 +0.1
MOA **Molln** 88.64 41⇑*i*P pP 05 03 27.8 +0.7
comp=Z,4.5nm,0.9s
MOA **Molln** 88.64 41⇑*i*pP pP 05 03 27.8 +0.7
comp=Z,4.5nm,0.9s
SOKA **Soboth** 89.49 42⇓*e*P pP 05 03 32.4 +1.3
SOKA **Soboth** 89.49 42⇓*e*pP pP 05 03 32.4 +1.3
CONA **Conrad Observa** 89.64 41⇓*i*P P 05 03 10.2 -2.4
comp=Z,1.3nm,0.6s,mb4.3
CONA ⇑*e*pP pP 05 03 28.7 -3.0
comp=Z,6.4nm,1.0s
PETK **Petropavlovsk-** 94.14 327 P P 05 03 32.0 -1.4
comp=Z,1.1nm,0.4s,mb4.5,baz=106,slow=11,SNR=4.8
SNAA **Sanae** 100.24 161 *e*Pdif Pdif 05 04 00.1 -0.8
comp=Z,4.8nm,1.2s
BOSA **Boshof** 115.97 116 PKiKP PKiKP 05 08 56.1 -1.8
comp=Z,5.8nm,0.7s,baz=324,slow=2.5,SNR=8.9
BOSA **Boshof** 115.97 116 *e*PKPdf PKPdf 05 08 57.3 -0.6
LBTB **Lobatse** 116.19 112 *e*PKPdf PKPdf 05 08 57.7 -0.8
CN2 **Changchun** 116.26 334 *e*PKP PKPdf 05 08 54.2 -3.9
SONM **Songino Array** 118.55 349 PKP PKPdf 05 09 00.6 -1.8
comp=Z,0.5nm,0.3s,baz=13,slow=0.4,SNR=4.3
KSRS **Korea Array** 120.03 328 PKP PKPdf 05 09 05.2 -0.4
comp=Z,6.2nm,0.7s,baz=7.2,slow=1.7,SNR=19
KSRS pPKP pPKPdf 05 09 22.0 -3.4
comp=Z,5.5nm,0.8s,baz=15,slow=1.1,SNR=7.1
MKAR **Makanchi Array** 120.21 8 PKP PKPdf 05 09 02.9 -2.7
comp=Z,0.2nm,0.4s,baz=311,slow=3.1,SNR=4.1
MKAR **Makanchi Array** 120.21 8 PKP PKPdf 05 09 02.9 -2.7
MAW **Mawson** 121.73 167 PKP PKPdf 05 09 07.4 -0.4
comp=Z,1.5nm,0.6s,baz=192,slow=5.0,SNR=6.4
HHC **Hu-ho-hao-te** 123.92 342 *e*PKP PKPdf 05 09 09.3 -3.6
HHC PP PP 05 10 57.1 +1.3
HHC PKS 05 12 44.1
HHC SKKS SKKSac 05 17 40.2 -9.3
HHC LR LR
comp=N,1μm,22.6s
HHC LR LR
comp=E,2μm,21.4s
HHC LR LR
comp=Z,2μm,20.2s
NJ2 **Nanjing** 128.84 331 *e*PKP PKPdf 05 09 26.6 +4.0
LZH **Lanzhou** 130.38 348 *e*PKP PKPdf 05 09 23.0 -2.4
STKA **Stephens Creek** 130.96 239 *e*P PKPdf 05 09 23.2 -3.3
comp=Z,8.3nm,1.4s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**130.96**	**239**	PKP	PKPdf	05 09 26.2	-0.3
	comp=Z,3.7nm,0.5s,baz=137,slow=6.4,SNR=9.1						
STKA				pPKP	pPKPdf	05 09 41.3	-5.0
	comp=Z,4.3nm,0.7s,baz=91,slow=3.1,SNR=3.2						
STKA	**Stephens Creek**	**130.96**	**239**	*e*P	PKPdf	05 09 23.2	-3.3
STKA				*e*PKPdf	PKPdf	05 09 26.7	+0.2
CD2	**Chengdu**	**135.37**	**346**	*e*PKP	PKPdf	05 09 33.2	-1.8
CD2				PP	PP	05 12 13.0	+2.7
CD2				PKS		05 13 08.2	
CD2				SKS	SKSdf	05 16 38.8	-1.5
CD2				SKKS	SKKSac	05 18 59.0	-1.9
CD2				PP	PP		
	comp=Z,120nm,10.8s						
GYA	**Guiyang**	**138.75**	**340**	PDIF	Pdif	05 06 50.8	-1.2
GYA				LR	LR		
	comp=N,280nm,24.8s						
GYA				LR	LR		
	comp=E,140nm,23.6s						
GYA				LR	LR		
	comp=Z,270nm,24.4s						
WB2	**Warramunga Arr**	**139.06**	**254**	*e*P		05 09 32.1	
WRAB	**Tennant Creek**	**139.06**	**254**	*e*PKPpre		05 09 33.6	
WRAB				*e*PKPdf	PKPdf	05 09 41.8	-0.2
WRA	**Warramunga Arr**	**139.07**	**254**	PKhKP		05 09 33.7	
	comp=Z,3.0nm,0.9s,baz=96,slow=2.9,SNR=23						
WRA				PKP	PKPdf	05 09 41.7	-0.3
	comp=Z,3.9nm,0.4s,baz=87,slow=2.2,SNR=23						
ASAR	**Alice Springs**	**139.09**	**248**	PKhKP		05 09 35.3	
	comp=Z,1.2nm,0.7s,baz=131,slow=2.9,SNR=11						
ASAR				PKP	PKPdf	05 09 42.4	+0.4
	comp=Z,4.8nm,0.9s,baz=122,slow=3.3,SNR=19						
HYB	**Hyderabad**	**147.24**	**25**	*i* P	PKPdf	05 09 57.0	+0.5
HYB	**Hyderabad**	**147.24**	**25**	*e*P	PKPdf	05 09 57.0	+0.5
FITZ	**Fitzroy Crossi**	**147.42**	**256**	*e*P	PKPdf	05 09 57.0	+0.3
	comp=Z,36nm,1.1s						
CM31	**Chiang Mai Arr**	**148.46**	**348**	*e*PKPbc	PKPbc	05 10 00.9	-1.1
CMAR	**Chiang Mai Arr**	**148.46**	**348**	PKP	PKPdf	05 09 57.5	-1.0
	comp=Z,9.3nm,0.8s,baz=312,slow=2.7,SNR=17						
KKM	**Kota Kinabalu**	**149.87**	**307**	*e*PKPbc	PKPbc	05 10 05.0	-0.7
KLBR	**Kellerberrin**	**149.90**	**227**	*e*P	PKPbc	05 10 04.4	-0.9
	comp=Z,87nm,1.5s						
MUN	**Mundaring**	**150.76**	**225**	*e*P	PKPbc	05 10 07.6	+0.3
KAPI	**Kappang**	**151.87**	**283**	*e*PKPbc	PKPbc	05 10 10.1	-0.4
MBWA	**Marble Bar**	**152.44**	**248**	*e*PKPbc	PKPbc	05 10 10.9	-0.6
MBWA				*e*PKPab	PKPab	05 10 21.6	-0.2
KSM	**Kuching**	**157.31**	**307**	*e*PKPdf	PKPdf	05 10 11.4	-0.1
KSM				*e*PKPab	PKPab	05 10 42.9	+0.1

NEIC ***02*** *04:51:26.1±1.2,5082N×17984W,h10km,mb4.5/8, ML4.2(AEIC),Error ellipse: s-maj=24.2km s-min=8.3km az=188.0*

ISCJB ***02*** *04:51:28.2±1.6,510N±02×17983W±007,h37km±10km, mb4.3/13,Error ellipse: s-maj=29.0km s-min=7.7km az=2.7*

IDC ***02*** *04:51:31.4±1.1,5274N×17987E,h0km,mb3.9/5, mb1 4.2/6,mb1mx3.9/23,mbtmp4.0/6,ML4.2/1,Error ellipse: s-maj=38.8km s-min=22.9km az=153.0*

MOS ***02*** *04:51:33.0±2.6,5238N×17960W,h33km,mb4.5/11,Error ellipse: s-maj=19.6km s-min=17.7km az=16.9*

ISC 02 04:51:30.1±1.5,510N±02×17992W±007,h38km±10km,n43, σ1°35/41,mb4.3/13,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.60**	**306**	P	**Pn**	**04 51 40.6**	**-1.5**
AMKA				S	**Sn**	**04 51 49.9**	**-0.8**
SMY	**Shemya**	**4.08**	**297**	P	**Pn**	**04 52 32.1**	**+2.2**
FX1	**Attu Island--F**	**4.66**	**296**	P	**Pn**	**04 52 40.3**	**+2.4**
NIKO	**Nikolski**	**7.11**	**70**	*e*Pn	**Pn**	**04 53 10.1**	**-1.3**
OKCE	**Okmok Cone E**	**7.61**	**67**	P	**Pn**	**04 53 18.3**	**-0.1**
UNV	**Unalaska Valle**	**8.67**	**66**	*e*Pn	**Pn**	**04 53 32.0**	**-0.8**
SVW2	**Sparrevohn**	**16.81**	**44**	*e*Pn	**Pn**	**04 55 23.0**	**+0.7**
KDAK	**Kodiak Island**	**17.20**	**56**	Pn	**Pn**	**04 55 21.6**	**-5.6**
	0.8nm,0.3s,baz=249,slow=17,SNR=7.1						
KTH	**Kantishna Hill**	**19.84**	**40**	*e*P	**Pn**	**04 55 55.2**	**-4.0**
	19nm,0.8s						
IMA2	**Indian Mountai**	**20.11**	**32**	*e*P	**P**	**04 56 01.7**	**+1.4**
DIV	**Divide**	**21.32**	**49**	*e*P	**P**	**04 56 14.9**	**+1.6**
	6.7nm,0.7s,mb4.1						
COLA	**College**	**21.62**	**38**	*e*P	**P**	**04 56 17.5**	**+0.9**
COLA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.4						
COLA	**College**	**21.62**	**38**	*e*P	**P**	**04 56 17.5**	**+0.9**
	comp=Z,13nm,0.9s,mb4.4						
BMRM	**Bremner River**	**21.84**	**49**	*e*P	**P**	**04 56 20.2**	**+1.3**
EGAK	**Eagle**	**24.27**	**41**	*e*P	**P**	**04 56 41.1**	**-2.2**
DAWY	**Dawson**	**24.84**	**43**	*e*P	**P**	**04 56 49.2**	**+0.7**
INK	**Inuvik**	**28.15**	**35**	*e*P	**P**	**04 57 17.7**	**-0.6**
YKA	**Yellowknife Ar**	**35.98**	**46**	P	**P**	**04 58 24.1**	**-2.8**
	comp=Z,0.6nm,0.3s,mb4.0,baz=281,slow=7.9,SNR=11						
YKA	**Yellowknife Ar**	**35.98**	**46**	P	**P**	**04 58 24.1**	**-2.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BMW	**Boistfort Moun**	**36.86**	**74**	*e*P	**P**	**04 58 30.6**	**-4.0**
BOD	**Bodaibo**	**37.62**	**307**	*e*P	**P**	**04 58 38.1**	**-2.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
BOZ	**Bozeman (W)**	**44.24**	**69**	*e*P	**P**	**04 59 33.8**	**-1.6**
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
BOZ	**Bozeman (W)**	**44.24**	**69**	*e*P	**P**	**04 59 33.8**	**-1.6**
	comp=Z,4.9nm,0.8s,mb4.3						
MTUM	**Tungsten Hills**	**44.79**	**83**	*e*P	**P**	**04 59 41.8**	**+1.8**
ELK	**Elko**	**44.82**	**77**	*e*P	**P**	**04 59 40.3**	**+0.1**
ELK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ELK	**Elko**	**44.82**	**77**	*e*P	**P**	**04 59 40.3**	**+0.2**
	comp=Z,6.7nm,0.8s,mb4.5						
SONM	**Songino Array**	**46.17**	**296**	P	**P**	**04 59 51.3**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=70,slow=9.5,SNR=5.0						
SONM	**Songino Array**	**46.17**	**296**	P	**P**	**04 59 51.3**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DUG	**Dugway**	**46.64**	**76**	*e*P	**P**	**04 59 56.0**	**+1.5**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
DUG	**Dugway**	**46.64**	**76**	*e*P	**P**	**04 59 56.0**	**+1.5**
	comp=Z,7.0nm,1.0s,mb4.5						
BW06	**Boulder Array**	**47.09**	**71**	*e*P	**P**	**04 59 56.9**	**-1.1**
	comp=Z,6.4nm,0.9s,mb4.5						
MK31	**Makanchi Array**	**59.70**	**308**	*e*P	**P**	**05 01 29.4**	**-1.0**
MKAR	**Makanchi Array**	**59.70**	**308**	P	**P**	**05 01 29.3**	**-1.1**
	comp=Z,1.3nm,0.4s,mb4.3,baz=56,slow=5.7,SNR=14						
MKAR	**Makanchi Array**	**59.70**	**308**	P	**P**	**05 01 29.3**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TKM2	**Tokmak 2**	**65.79**	**309**	*e*P	**P**	**05 02 11.3**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
TKM2	**Tokmak 2**	**65.79**	**309**	*e*P	**P**	**05 02 11.3**	**+0.3**
	comp=Z,1.6nm,0.5s,mb4.3						
CLL	**Collm**	**77.45**	**352**	*e*P	**P**	**05 03 21.0**	**-0.1**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
CLL	**Collm**	**77.45**	**352**	*e*P	**P**	**05 03 21.0**	**-0.1**
CLL				*e*		05 03 23.0	
BRG	**Berggiesshubel**	**77.79**	**351**	*e*P	**P**	**05 03 24.0**	**+1.0**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.4						
BRG	**Berggiesshubel**	**77.79**	**351**	*e*P	**P**	**05 03 24.0**	**+1.1**
	comp=Z,16nm,1.8s,mb4.6						
WRA	**Warramunga Arr**	**81.27**	**223**	P	pP	05 03 54.7	+1.0
	comp=Z,0.7nm,0.6s,baz=18,slow=6.2,SNR=7.7						
WRA	**Warramunga Arr**	**81.27**	**223**	P	pP	05 03 54.7	+1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**84.75**	**222**	P	pP	05 04 13.8	+2.0
	comp=Z,0.4nm,0.6s,baz=28,slow=4.5,SNR=3.2						

JMA ***02*** *04:58:31.9±0.4,4674N×14159E,h0km,M4.1*

IDC ***02*** *04:58:32.6±0.7,4677N×14164E,h0km,mb4.0/14, mb1 4.1/16,mb1mx4.1/23,mbtmp4.0/16,ML3.7/2,Error ellipse: s-maj=19.3km s-min=13.9km az=61.0*

MOS ***02*** *04:58:32.9±0.9,4670N×14169E,h16km,mb4.5/15,Error ellipse: s-maj=14.0km s-min=8.5km az=107.8*

ISCJB ***02*** *04:58:33.2±1.1,4676N±003×14171E±007,h15km±7km, mb4.2/29,Error ellipse: s-maj=7.6km s-min=4.4km az=176.9*

NEIC ***02*** *04:58:33.8±0.3,4672N×14167E,h10km,mb4.3/9,Error ellipse: s-maj=8.9km s-min=5.0km az=166.0*

ISC 02 04:58:33.8±1.3,4671N±003×14171E±007,h8km±8km,n70, σ0°78/76,mb4.2/29,2C-3D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.76**	**71**	⇓*i*PN	**Pg**	**04 58 47.2**	**-1.1**
YSS				*i*	**Sg**	**04 58 58.3**	**+0.1**
YSS				smax			
	comp=N,8μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.76**	**71**	*e*Pg	**Pg**	**04 58 47.6**	**-0.7**
YSS				*e*Sg	**Sg**	**04 58 58.2**	**+0.1**
JWK2	**Keihoku**	**1.40**	**175**	P	**Pn**	**04 58 58.9**	**-0.6**
JWK2				*e*S	**Sb**	**04 59 18.6**	**+0.5**
JRR	**Rishiri**	**1.60**	**190**	P	**Pn**	**04 59 02.3**	**+0.1**
JRR				*e*S	**Sn**	**04 59 23.2**	**+0.2**
JSE	**Soyaes**	**1.86**	**160**	P	**Pn**	**04 59 05.4**	**-0.4**
JSE				*e*S	**Sn**	**04 59 27.6**	**-1.8**
JYG	**Yagishiri**	**2.29**	**185**	P	**Pn**	**04 59 12.6**	**+0.8**
JYG				*e*S	**Sn**	**04 59 41.5**	**+1.4**
JSS	**Shosan**	**2.31**	**177**	P	**Pn**	**04 59 12.6**	**+0.5**
ASAJ	**Asahikawa**	**2.67**	**166**	Pn	**Pn**	**04 59 17.9**	**+1.0**
	comp=N,10.0nm,0.3s,baz=24,slow=14,SNR=11						
ASAJ				Lg		04 59 58.3	
	comp=N,13nm,0.3s,baz=153,slow=31,SNR=5.2						
JTKR	**Abashiri--Toko**	**3.15**	**150**	P	**Pn**	**04 59 22.6**	**-0.9**
MJAR	**Matsushiro Arr**	**10.49**	**196**	Pn	**Pn**	**05 01 04.2**	**-0.1**
	comp=N,0.4nm,0.3s,baz=302,slow=12,SNR=3.5						
HIA	**Hailar**	**14.92**	**288**	⇓*i*P	**Pn**	**05 02 06.6**	**+1.9**
YAK	**Yakutsk**	**16.82**	**340**	*i* P	**Pn**	**05 02 30.0**	**+0.7**
SEY	**Seymchan**	**17.34**	**17**	*e*P	**Pn**	**05 02 39.3**	**+3.6**
BOD	**Bodaibo**	**20.12**	**314**	*e*P	**P**	**05 03 07.6**	**-0.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s						
SONM	**Songino Array**	**23.87**	**286**	P	**P**	**05 03 46.7**	**-0.7**
	comp=Z,2.3nm,0.9s,mb3.6,baz=78,slow=8.4,SNR=12						
SONM	**Songino Array**	**23.87**	**286**	*e*P	**P**	**05 03 46.7**	**-0.7**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL	**Bilibino**	**24.81**	**22**⇑	*e*P	**P**	**05 03 57.3**	**+1.6**
BILL				*i*		05 04 32.3	
BILL				*e*S	**S**	**05 08 04.5**	**-14**
BILL				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.5						
TLY	**Talaya**	**25.16**	**295**	*i* P	**P**	**05 03 58.9**	**-0.2**
TIXI	**Tiksi**	**25.74**	**351**	*i* P	**P**	**05 04 05.0**	**+0.8**
HVS	**Khovu-Aksy**	**31.40**	**296**⇑	*e*P	**P**	**05 04 55.6**	**+0.7**
HVS				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.1						
ZALV	**Zalesovo Beam**	**36.15**	**303**	P	**P**	**05 05 35.1**	**-1.0**
	comp=Z,1.0nm,0.3s,mb4.3,baz=79,slow=8.0,SNR=5.6						
ZAL	**Zalesovo**	**36.17**	**303**	P	**P**	**05 05 35.1**	**-1.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SVW2	**Sparrevohn**	**38.05**	**44**	*e*P	**P**	**05 05 52.9**	**+0.8**
COLD	**Coldfoot**	**39.80**	**34**	*e*P	**P**	**05 06 06.4**	**-0.2**
	comp=Z,2.4nm,0.8s,mb4.0						
MK31	**Makanchi Array**	**39.85**	**293**	*e*P	**P**	**05 06 06.6**	**-0.8**
MKAR	**Makanchi Array**	**39.85**	**293**	P	**P**	**05 06 07.3**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.2,baz=76,slow=8.5,SNR=25						
MKAR	**Makanchi Array**	**39.85**	**293**	P	**P**	**05 06 07.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KTH	**Kantishna Hill**	**39.88**	**40**	*e*P	**P**	**05 06 07.3**	**-0.2**
	comp=Z,23nm,1.4s,mb4.7						
KURK	**Kurchatov**	**40.70**	**300**	*i* P	**P**	**05 06 14.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
COLA	**College**	**41.02**	**38**	*e*P	**P**	**05 06 16.6**	**-0.2**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
COLA	**College**	**41.02**	**38**	*e*P	**P**	**05 06 16.6**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.1						
EGAK	**Eagle**	**43.84**	**37**	*e*P	**P**	**05 06 39.1**	**-0.6**
	comp=Z,7.6nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**44.65**	**305**	P	**P**	**05 06 46.6**	**+0.2**
	comp=Z,0.9nm,0.5s,mb3.9,baz=74,slow=11,SNR=7.7						
BVAR	**Borovoye Array**	**44.65**	**305**	P	**P**	**05 06 46.6**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**44.70**	**306**	*e*P	**P**	**05 06 45.5**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
BRVK	**Borovoye**	**44.70**	**306**	*e*P	**P**	**05 06 45.5**	**-1.3**
	comp=Z,4.5nm,1.0s,mb4.2						
INK	**Inuvik**	**45.82**	**31**	*e*P	**P**	**05 06 55.4**	**-0.1**
HYT	**Haines Junctio**	**46.65**	**42**	*e*P	**P**	**05 07 03.3**	**+1.3**
ARU	**Arti**	**49.54**	**314**	*i* P	**P**	**05 07 24.2**	**-0.3**
ARU				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
ARCES	**ARCESS Array B**	**55.08**	**337**	P	**P**	**05 08 05.3**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=34,slow=13,SNR=3.4						
ARCES	**ARCESS Array B**	**55.08**	**337**	P	**P**	**05 08 05.3**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BBB	**Bella Bella**	**55.22**	**49**	P	**P**	**05 08 07.2**	**+0.5**
	comp=Z,3.3nm,0.7s,mb4.5,baz=232,slow=20,SNR=3.4						
BBB	**Bella Bella**	**55.22**	**49**	P	**P**	**05 08 07.2**	**+0.5**
YKA	**Yellowknife Ar**	**55.45**	**33**	P	**P**	**05 08 07.9**	**-0.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=303,slow=6.8,SNR=4.6						
YKA	**Yellowknife Ar**	**55.45**	**33**	P	**P**	**05 08 07.9**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**55.45**	**33**	P	**P**	**05 08 07.9**	**-0.3**
OBN	**Obninsk**	**60.62**	**320**⇓	*e*P	**P**	**05 08 44.1**	**-0.4**
OBN				*e*		05 10 57.8	
OBN				*i* S	**S**	**05 16 56.6**	**-3.9**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.2						
OBN				MLR	MLR		
	comp=Z,1μm,20.0s						
NB2	**NORSAR Subarra**	**65.39**	**336**	P	**P**	**05 09 15.7**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.8,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**65.39**	**336**	P	**P**	**05 09 15.8**	**-0.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=35,slow=6.3,SNR=4.2						
NOA	**NORSAR Array B**	**65.39**	**336**	*e*P	**P**	**05 09 18.0**	**+1.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**65.39**	**336**	P	**P**	**05 09 15.8**	**-0.3**
WVOR	**Wild Horse Val**	**66.27**	**53**	*e*P	**P**	**05 09 22.3**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
WVOR	**Wild Horse Val**	**66.27**	**53**	*e*P	**P**	**05 09 22.3**	**+0.1**
	comp=Z,2.0nm,0.9s,mb4.2						
CTAO	**Charters Tower**	**66.61**	**175**	*e*P	**P**	**05 09 21.1**	**-3.3**
AKASG	**Malin Array Be**	**66.88**	**320**	P	**P**	**05 09 25.4**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.2,baz=40,slow=6.1,SNR=12						
AKASG	**Malin Array Be**	**66.88**	**320**	P	**P**	**05 09 25.5**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KIEV	**Kiev**	**66.89**	**320**	*e*P	**P**	**05 09 25.2**	**-0.8**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
KIEV	**Kiev**	**66.89**	**320**	*e*P	**P**	**05 09 25.2**	**-0.8**
	comp=Z,5.6nm,0.9s,mb4.6						
NVAR	**Mina Array Bea**	**69.18**	**56**	P	**P**	**05 09 41.4**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.7,baz=306,slow=5.0,SNR=6.0						
NVAR	**Mina Array Bea**	**69.18**	**56**	P	**P**	**05 09 41.4**	**+0.8**
TPAW	**Teton Pass**	**69.61**	**48**	*e*P	**P**	**05 09 43.5**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.1						
BW06	**Boulder Array**	**70.84**	**48**	*e*P	**P**	**05 09 50.7**	**0.0**
	comp=Z,1.0nm,0.8s,mb3.8						
PDAR	**Pinedale Array**	**70.84**	**48**	P	**P**	**05 09 50.6**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=304,slow=3.2,SNR=6.3						
CLL	**Collm**	**72.86**	**329**	*i* P	**P**	**05 10 02.5**	**-0.1**
	comp=Z,5.0nm,0.7s,mb4.5						
GERES	**GERESS Array B**	**74.64**	**327**	P	**P**	**05 10 13.6**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=31,slow=3.4,SNR=4.8						
GERES	**GERESS Array B**	**74.64**	**327**	P	**P**	**05 10 13.6**	**+0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KEST	**Kesra**	**87.44**	**323**	P	**P**	**05 11 21.1**	**-0.5**
	comp=Z,0.6nm,0.6s,mb4.0,baz=342,slow=3.2,SNR=2.7						
ESDC	**Sonseca Array**	**88.69**	**334**	P	**P**	**05 11 27.6**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.9,baz=22,slow=4.3,SNR=4.2						
SNAA	**Sanae**	**149.96**	**202**	*e*PKPdf	PKPdf	05 18 18.0	-0.1
SNAA				*e*PKPbc	PKPbc	05 18 22.1	-1.0
SNAA				*e*PKPab	PKPab	05 18 28.5	-0.4
PMSA	**Palmer Station**	**157.10**	**151**	PKPab	PKPab	05 19 01.0	+1.8
	comp=Z,26nm,0.7s,baz=338,slow=23,SNR=18						

JMA ***02*** *05:01:43.8±0.3,4682N×14165E,h3km,M5.0*

JMA Felt I J1.

IDC ***02*** *05:01:44.9±0.4,4667N×14170E,h0km,mb4.6/25, mb1 4.7/28,mb1mx4.7/30,mbtmp4.6/28,ML4.0/3,MS4.6/4, Ms1 4.6/4,ms1mx4.1/36,Error ellipse: s-maj=12.5km s-min=10.5km az=85.0*

SKHL ***02*** *05:01:44.2±0.3,4661N×14166E,h10km,mb5.0/6*

SKHL Felt (III-IV) at Nevel'sk.

MOS ***02*** *05:01:44.9±0.8,4663N×14167E,h10km,mb5.2/87, MS4.8/9,Error ellipse: s-maj=7.4km s-min=3.8km az=105.8*

MOS Felt (III-IV) at Nevel'sk.

ISCJB ***02*** *05:01:45.1±0.6,4671N±002×14171E±002,h9km±3km, mb4.9/181,MS4.9/14,Error ellipse: s-maj=3.0km s-min=2.5km az=165.6*

NEIC ***02*** *05:01:46.3±0.1,4660N×14168E,h10km,mb5.1/120,Error ellipse: s-maj=3.9km s-min=2.4km az=170.0*

NEIC Recorded [1 JMA] in northern Hokkaido.

BJI ***02*** *05:01:47.0,4669N×14182E,h31km,mB5.2,mb4.8,ML5.0, Ms5.2,Msz5.0*

DJA ***02*** *05:01:50,4630N×14107E,h10km,mb5.4/9*

SZGRF ***02*** *05:01:55.9,4744N×14150E,h33km,mb5.2,Sakhalin Island, Russia*

ISC 02 05:01:46.7±0.6,4670N±002×14169E±002,h8km±3km, h46km±2.1km:pP-P,n739,σ0°65/747,mb4.9/181,MS4.9/14, 115C-108D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.78**	**70**	*d i*PN	**Pg**	**05 02 00.9**	**-0.7**
YSS				*i*	**Sg**	**05 02 11.6**	**-0.2**
YSS				smax			
	comp=E,44μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.78**	**70**	⇓*i*Pg	**Pg**	**05 02 00.5**	**-1.1**
YSS				*i* Sg	**Sg**	**05 02 11.6**	**-0.2**
YSS				A		05 02 13.9	
	comp=E,44μm,0.5s						
YSS				AMS	AMS	05 02 43.0	
	comp=E,85μm,4.0s						
YSS				AMS	AMS	05 02 43.0	
	comp=E,101μm,5.0s						
YSS				AMS	AMS	05 02 43.0	
	comp=E,82μm,4.0s						
YSS	**Yuzh-Sakhalins**	**0.78**	**70**	*e*Pg	**Pg**	**05 02 00.8**	**-0.9**
YSS				*e*Sg	**Sg**	**05 02 11.7**	**0.0**
JWK2	**Keihoku**	**1.39**	**174**	P	**Pn**	**05 02 11.6**	**-0.7**
JWK2				*e*S	**Sb**	**05 02 31.1**	**+0.4**
JRR	**Rishiri**	**1.58**	**190**	P	**Pn**	**05 02 15.0**	**0.0**
JRR				*e*S	**Sn**	**05 02 37.7**	**+2.1**
JSE	**Soyaes**	**1.85**	**160**	⇑P	**Pn**	**05 02 17.8**	**-0.8**
JSE				*e*S	**Sn**	**05 02 43.3**	**+1.1**
JYG	**Yagishiri**	**2.28**	**185**	P	**Pn**	**05 02 24.5**	**0.0**
JSS	**Shosan**	**2.30**	**177**	P	**Pn**	**05 02 25.3**	**+0.4**
UGL	**Uglegorsk**	**2.40**	**6**	*e*PN	**Pn**	**05 02 25.0**	**-1.2**
UGL				S	**Sn**	**05 02 56.0**	**+0.3**
UGL				pmax	pmax		
	comp=Z,77nm,0.5s						
UGL				smax			
	comp=N,2μm,0.5s						
UGL				smax			
	comp=E,3μm,0.5s						
UGL	**Uglegorsk**	**2.40**	**6**	*e*P	**Pn**	**05 02 25.0**	**-1.2**
UGL				AMB	AMB	05 02 26.0	
	comp=E,77nm,0.5s						
UGL				*e*Pg	**Pg**	**05 02 33.0**	**+0.4**
UGL				AMB	AMB	05 02 39.0	
	comp=E,948nm,0.4s						
UGL				*e*S	**Sn**	**05 02 55.0**	**-0.7**
UGL				A		05 03 04.5	
	comp=E,2μm,0.5s						
UGL				A		05 03 04.5	
	comp=E,3μm,0.5s						
ASAJ	**Asahikawa**	**2.66**	**166**	P	**Pn**	**05 02 29.8**	**0.0**
ASAJ	**Asahikawa**	**2.66**	**166**	Pn	**Pn**	**05 02 30.2**	**+0.5**
	comp=E,58nm,0.3s,baz=12,slow=10,SNR=38						
ASAJ				Sn	**Sn**	**05 03 03.8**	**+1.6**
	comp=E,117nm,0.3s,baz=303,slow=33,SNR=7.1						
ASAJ				Lg		05 03 09.1	
	comp=E,163nm,0.3s,baz=143,slow=30,SNR=15						
ASAJ				LR	LR	05 03 16.8	
	comp=E,2μm,21.5s,baz=23,slow=35						
JKK2	**Kamakawa 2**	**2.92**	**165**	⇓P	**Pn**	**05 02 33.9**	**+0.5**
JMP	**Maruseppu**	**2.94**	**156**	P	**Pn**	**05 02 32.5**	**-1.1**
JHR	**Hokuryu**	**2.96**	**179**	P	**Pn**	**05 02 34.5**	**+0.7**
JTKR	**Abashiri--Toko**	**3.15**	**149**	⇑P	**Pn**	**05 02 35.3**	**-1.2**
JTKR				*e*S	**Sn**	**05 03 13.6**	**-0.5**
JAB	**Ashibetsu**	**3.22**	**173**	P	**Pn**	**05 02 38.9**

KSRS	**Korea Array**	**13.76 233**	Pn	**Pn**	**05 05 04.5 +2.5**
	comp=Z,0.5nm,0.3s,baz=49,slow=12,SNR=9.5				
MA2	**Magadan**	**13.98 19**	*e*Pn	**Pn**	**05 05 06.0 +1.2**
CLNS	**Chul'man**	**14.49 321**	*e*P	**Pn**	**05 05 13.0 +1.3**
CLNS			*e*S	**Sn**	**05 07 59.0 +6.6**
CLNS			pmax	pmax	
	comp=Z,19nm,1.5s				
CLNS			pmax	pmax	
	comp=E,12nm,1.6s				
CLNS			smax		
	comp=N,64nm,8.5s				
CLNS			smax		
	comp=E,29nm,6.9s				
CLNS			MLR	MLR	
	comp=Z,3μm,12.0s				
CLNS			MLR	MLR	
	comp=N,1μm,14.0s				
CLNS			MLR	MLR	
	comp=E,2μm,11.0s				
HIA	**Hailar**	**14.91 288⇑**	*e*P	**Pn**	**05 05 19.2 +1.6**
YAK	**Yakutsk**	**16.83 340**	*e*P	**Pn**	**05 05 42.0 -0.4**
YAK			pmax	pmax	
	comp=Z,24nm,1.5s				
YAK			pmax	pmax	
	comp=N,12nm,1.2s				
YAK			pmax	pmax	
	comp=E,9.0nm,1.1s				
SEY	**Seymchan**	**17.36 17**	*d i*P	**Pn**	**05 05 50.9 +2.0**
BOD	**Bodaibo**	**20.12 314**	*e*P	**P**	**05 06 20.6 0.0**
BOD			pmax	pmax	
	comp=Z,17nm,1.6s				
HHC	**Hu-ho-hao-te**	**22.44 266**	*e*P	**P**	**05 06 46.7 +0.9**
HHC			AP		05 06 57.7
HHC			XP	sP	05 07 03.7 +15
HHC			PP		05 07 15.6
HHC			AMB	AMB	
	comp=Z,20nm,0.6s,mb4.7				
HHC			AMB	AMB	
	comp=Z,864nm,6.5s				
HHC			LR	LR	
	comp=N,3μm,10.7s,MS5.1				
HHC			LR	LR	
	comp=E,3μm,12.5s,MS5.1				
HHC			LR	LR	
	comp=Z,5μm,19.0s				
NJ2	**Nanjing**	**22.81 238**	*e*P	**P**	**05 06 50.6 +0.8**
NJ2			AMB	AMB	
	comp=Z,20nm,0.6s,mb4.7				
SONM	**Songino Array**	**23.85 286**	P	**P**	**05 07 00.1 -0.1**
	comp=Z,12nm,1.0s,mb4.3,baz=75,slow=6.2,SNR=42				
SONM			PcP	PcP	05 10 43.3 +0.4
	comp=Z,2.6nm,0.7s,baz=145,slow=2.6,SNR=4.7				
SONM			LR	LR	05 16 52.7
	comp=Z,1μm,18.5s,MS4.5,baz=350,slow=38				
SONM	**Songino Array**	**23.85 286**	P	**P**	**05 07 00.1 -0.1**
SONM					05 10 43.3
SONM			pmax	pmax	
	comp=Z,12nm,1.0s				
SONM			MLR	MLR	
	comp=Z,1μm,18.5s				
IRK	**Irkutsk**	**24.74 297⇑**	*i*P	**P**	**05 07 08.4 +0.2**
IRK			pmax	pmax	
	comp=Z,73nm,1.6s,mb5.0				
BILL	**Bilibino**	**24.83 22⇑**	*e*P	**P**	**05 07 09.9 +1.0**
BILL			*e*		05 07 42.4
BILL			*e*S	**S**	**05 11 31.0 -0.4**
BILL			pmax	pmax	
	comp=Z,46nm,1.2s,mb4.9				
BILL			MLR	MLR	
	comp=Z,2μm,16.0s,MS4.6				
BILL	**Bilibino**	**24.83 22**	*e*P	**P**	**05 07 09.7 +0.8**
	comp=Z,57nm,1.0s,mb5.1				
AMKA	**Amchitka**	**24.91 65**	*e*P	**P**	**05 07 10.2 +0.4**
TLY	**Talaya**	**25.15 295**	*e*P	**P**	**05 07 12.7 +0.7**
TLY			pmax	pmax	
	comp=Z,18nm,1.4s,mb4.4				
TLY			MLR	MLR	
	comp=Z,2μm,14.0s,MS4.7				
TLY	**Talaya**	**25.15 295**	*e*P	**P**	**05 07 12.4 +0.4**
	comp=Z,13nm,1.1s,mb4.4				
ZAK	**Zakamensk**	**25.50 293⇑**	*i*P	**P**	**05 07 15.9 +0.7**
ZAK			*e*		05 07 56.0
ZAK			pmax	pmax	
	comp=Z,10.0nm,1.4s,mb4.2				
ZAK			pmax	pmax	
	comp=Z,14nm,1.3s,mb4.3				
TIXI	**Tiksi**	**25.75 351**	*e*P	**P**	**05 07 17.0 -0.3**
TIXI			pmax	pmax	
	comp=Z,43nm,2.0s,mb4.6				
TIXI			MLR	MLR	
	comp=Z,2μm,11.0s,MS4.8				
TIXI	**Tiksi**	**25.75 351**	*e*P	**P**	**05 07 18.1 +0.8**
	comp=Z,20nm,0.9s,mb4.7				
XAN	**Xi'an**	**27.77 255**	P	**P**	**05 07 36.1 +0.3**
XAN			AP	pP	05 07 48.4 +10
XAN			XP	sP	05 07 53.1 +14
XAN			AMB	AMB	
	comp=Z,8.0nm,1.4s,mb4.2				
XAN			AMB	AMB	
	comp=Z,904nm,14.8s				
LZH	**Lanzhou**	**30.04 263**	*e*P	**P**	**05 07 57.2 +1.2**
LZH			AP	pP	05 08 09.4 +11
LZH			XP	sP	05 08 14.8 +15
LZH			PP	PP	05 08 56.7 -6.9
LZH			AMB	AMB	
	comp=Z,38nm,1.0s,mb5.1				
LZH			AMB	AMB	
	comp=Z,133nm,4.2s				
LZH			LR	LR	
	comp=N,3μm,15.2s				
LZH			LR	LR	
	comp=Z,4μm,16.5s,MS5.2				
GTA	**Gaotai**	**31.16 272**	*e*P	**P**	**05 08 07.4 +1.6**
GTA			AP	pP	05 08 18.5 +10
GTA			XP	sP	05 08 23.8 +15
GTA			PCP	PcP	05 11 01.6 +0.9
GTA			S	**S**	**05 13 14.9 +3.3**
GTA			AMB	AMB	
	comp=Z,627nm,9.9s				
GTA			LR	LR	
	comp=N,3μm,13.8s,MS5.2				
GTA			LR	LR	
	comp=E,2μm,15.3s,MS5.2				
GTA			LR	LR	
	comp=Z,4μm,14.5s,MS5.3				
KRAR	**Krasnoyarsk**	**31.27 305**	*i*P	**P**	**05 08 07.4 +0.8**
KRAR			pmax	pmax	
	comp=Z,25nm,0.6s,mb5.2				
HVS	**Khovu-Aksy**	**31.39 296⇑**	*e*P	**P**	**05 08 08.8 +1.0**
HVS			pmax	pmax	
	comp=Z,53nm,1.3s,mb5.2				
CD2	**Chengdu**	**33.13 255**	P	**P**	**05 08 23.5 +0.3**
CD2			AP	pP	05 08 27.9 +2.2
CD2			AMB	AMB	
	comp=Z,30nm,1.0s,mb5.2				
CD2			AMB	AMB	
	comp=Z,50nm,5.2s				
CD2			LR	LR	
	comp=N,230nm,12.8s				
CD2			LR	LR	
	comp=Z,210nm,14.2s,MS4.0				
GYA	**Guiyang**	**34.23 246⇑**	*i*P	**P**	**05 08 33.2 +0.4**
GYA			AP	pP	05 08 46.4 +11
GYA			PP	PP	05 09 49.4 -0.8
GYA			PCP	PcP	05 11 10.2 +0.8
GYA			S	**S**	**05 13 55.8 -3.9**
GYA			XS	sS	05 14 17.8 +14
GYA			SCP	ScP	05 14 50.2 -4.3
GYA			SS	SS	05 16 05.4 -22
GYA			AMB	AMB	
	comp=Z,20nm,1.0s,mb5.0				
GYA			AMB	AMB	
	comp=Z,90nm,4.7s				
GYA			LR	LR	
	comp=N,580nm,16.8s,MS4.5				
GYA			LR	LR	
	comp=E,540nm,15.6s,MS4.5				
GYA			LR	LR	
	comp=Z,570nm,16.4s,MS4.4				
ZAA0	**Zalesovo Array**	**36.15 303**	*e*P	**P**	**05 08 49.6 +0.6**
ZALV	**Zalesovo Beam**	**36.15 303**	P	**P**	**05 08 48.3 -0.7**
	comp=Z,6.3nm,0.9s,mb4.5,baz=90,slow=7.4,SNR=7.5				
ZALV			PcP	PcP	05 11 14.1 -0.4
	comp=Z,5.7nm,0.8s,baz=85,slow=1.8,SNR=6.4				
ZAL	**Zalesovo**	**36.16 303**	P	**P**	**05 08 48.3 -0.9**
ZAL					05 11 14.1
ZAL			pmax	pmax	
	comp=Z,6.0nm,1.0s				
NVS	**Novosibirsk**	**36.86 305**	*i*P	**P**	**05 08 55.1 0.0**
NVS			*i*		05 11 19.8
NVS			pmax	pmax	
	comp=Z,22nm,1.4s,mb4.8				
NVS			pmax	pmax	
	comp=N,6.0nm,1.0s				
NVS			pmax	pmax	
	comp=E,26nm,1.6s				
WMQ	**Urumqi**	**37.49 286**	*e*P	**P**	**05 09 03.0 +2.4**
WMQ	**Urumqi**	**37.49 286**	*e*PKP	**P**	**05 09 08.1 +7.5**
KMI	**Kunming**	**37.67 249**	P	**P**	**05 09 02.8 +0.5**
KMI			AP	pP	05 09 15.4 +11
KMI			AMB	AMB	
	comp=Z,35nm,1.6s,mb4.8				
KMI			AMB	AMB	
	comp=Z,174nm,3.5s				
KMI			LR	LR	
	comp=N,1μm,13.0s,MS5.1				
KMI			LR	LR	
	comp=E,2μm,15.2s,MS5.1				
KMI			LR	LR	
	comp=Z,2μm,20.6s				
TTA	**Tatalina**	**37.68 42**	*e*P	**P**	**05 09 01.9 -0.1**
QIZ	**Qiongzhong**	**37.98 234**	P	**P**	**05 09 04.4 -0.5**
SVW2	**Sparrevohn**	**38.07 44**	*e*P	**P**	**05 09 05.8 +0.5**
IMA2	**Indian Mountai**	**38.50 36**	*e*P	**P**	**05 09 08.6 -0.2**
CHUM	**Lake Minchumin**	**39.25 40**	*e*P	**P**	**05 09 15.8 +0.6**
	comp=Z,23nm,0.9s,mb4.9				
PPLA	**Purkeypile**	**39.43 41**	*e*P	**P**	**05 09 17.6 +1.0**
	comp=Z,168nm,1.5s,mb5.5				
BPAW	**Bear Paw Mtn.**	**39.80 39**	*e*P	**P**	**05 09 19.7 0.0**
	comp=Z,25nm,0.9s,mb4.9				
COLD	**Coldfoot**	**39.82 34**	*e*P	**P**	**05 09 19.4 -0.5**
	comp=Z,11nm,0.8s,mb4.7				
MK31	**Makanchi Array**	**39.84 293**	*i*P	**P**	**05 09 20.3 0.0**
MK31			pmax	pmax	
	comp=Z,29nm,1.1s,mb4.9				
MK31	**Makanchi Array**	**39.84 293**	*e*P	**P**	**05 09 20.5 +0.2**
MKAR	**Makanchi Array**	**39.84 293**	P	**P**	**05 09 20.1 -0.1**
	comp=Z,11nm,0.9s,mb4.6,baz=72,slow=9.2,SNR=51				
MKAR			LR	LR	05 27 30.8
	comp=Z,4μm,20.4s,MS5.2,baz=340,slow=39				
MKAR	**Makanchi Array**	**39.84 293**	P	**P**	**05 09 20.1 -0.2**
MKAR			pmax	pmax	
	comp=Z,11nm,0.9s				
MKAR			MLR	MLR	
	comp=Z,4μm,20.4s				
KTH	**Kantishna Hill**	**39.90 40**	*e*P	**P**	**05 09 20.9 +0.3**
	comp=Z,90nm,1.2s,mb5.4				
KDAK	**Kodiak Island**	**40.17 49**	P	**P**	**05 09 22.1 -0.8**
	comp=Z,16nm,0.7s,mb4.8,baz=306,slow=7.0,SNR=14				
KDAK	**Kodiak Island**	**40.17 49**	*e*P	**P**	**05 09 21.6 -1.3**
	comp=Z,13nm,0.7s,mb4.8				
KDAK			*e*pP	pP	05 09 35.6 +10
TRF	**Thorofare Moun**	**40.20 40**	*e*P	**P**	**05 09 23.2 +0.1**
	comp=Z,29nm,1.0s,mb5.0				
TRF			*e*pP	pP	05 09 38.4 +13
KURK	**Kurchatov**	**40.70 300**	*c i*P	**P**	**05 09 27.3 0.0**
KURK			pmax	pmax	
	comp=Z,12nm,0.8s,mb4.6				
KURK	**Kurchatov**	**40.70 300**	*e*P	**P**	**05 09 27.3 0.0**
	comp=Z,4.9nm,0.6s,mb4.3				
MCK	**McKinley**	**40.75 40**	*e*P	**P**	**05 09 27.6 0.0**
MCK			pmax	pmax	
	comp=Z,25nm,0.8s,mb4.9				
MCK	**McKinley**	**40.75 40**	*e*P	**P**	**05 09 27.6 -0.1**
	comp=Z,25nm,0.8s,mb4.9				
COLA	**College**	**41.04 38**	*e*P	**P**	**05 09 29.8 -0.2**
COLA			pmax	pmax	
	comp=Z,32nm,0.8s,mb5.0				
COLA	**College**	**41.04 38**	*e*P	**P**	**05 09 29.8 -0.2**
	comp=Z,32nm,0.8s,mb5.0				
PMR	**Palmer**	**41.06 43**	*e*P	**P**	**05 09 29.7 -0.4**
PMR			pmax	pmax	
	comp=Z,25nm,0.6s,mb5.0				
PMR	**Palmer**	**41.06 43**	*e*P	**P**	**05 09 29.7 -0.4**
	comp=Z,25nm,0.6s,mb5.0				
SEW	**Seward**	**41.22 45**	*e*P	**P**	**05 09 31.1 -0.5**
DIV	**Divide**	**42.74 43**	*e*P	**P**	**05 09 44.0 +0.1**
	comp=Z,14nm,0.6s,mb4.9				
MENT	**Mentasta**	**43.22 40**	*e*P	**P**	**05 09 47.9 +0.1**
RAGM	**Ragged Mountai**	**43.45 44**	*e*P	**P**	**05 09 50.0 +0.3**
EGAK	**Eagle**	**43.86 37**	*e*P	**P**	**05 09 52.1 -0.8**
	comp=Z,36nm,0.6s,mb5.3				
BVAR	**Borovoye Array**	**44.65 305**	P	**P**	**05 09 59.9 +0.6**
	comp=Z,7.0nm,0.9s,mb4.5,baz=86,slow=7.6,SNR=17				
BVAR			PcP	PcP	05 11 41.6 -0.2
	comp=Z,2.1nm,0.5s,baz=66,slow=3.8,SNR=4.0				
BVAR	**Borovoye Array**	**44.65 305**	P	**P**	**05 09 59.9 +0.5**
BVAR					05 11 41.6
BVAR			pmax	pmax	
	comp=Z,7.0nm,0.9s				
CHTO	**Chiang Mai**	**44.65 246**	*e*P	**P**	**05 09 57.3 -2.5**
CHTO			*e*	pP	05 10 00.7 -1.6
BRVK	**Borovoye**	**44.69 306**	*e*P	**P**	**05 10 00.1 +0.4**
BRVK			pmax	pmax	
	comp=Z,12nm,1.0s,mb4.7				
BRVK	**Borovoye**	**44.69 306**	*e*P	**P**	**05 10 00.1 +0.3**
	comp=Z,12nm,1.0s,mb4.7				
DAWY	**Dawson**	**44.79 38**	*e*P	**P**	**05 10 00.1 -0.3**
CMAR	**Chiang Mai Arr**	**44.92 246**	*i*P	**P**	**05 10 00.9 -1.0**
CMAR			pmax	pmax	
	comp=Z,10.0nm,0.7s				
CMAR	**Chiang Mai Arr**	**44.92 246**	PKPbc	**P**	**05 10 00.8 -1.1**
	comp=Z,10nm,0.7s,mb4.8,baz=346,slow=3.7,SNR=28				
ULHL	**Ulahol**	**45.71 289**	P	**P**	**05 10 09.1 +1.2**
	SNR=6.0				
TKM2	**Tokmak 2**	**45.80 290**	*e*P	**P**	**05 10 09.8 +1.1**
TKM2			pmax	pmax	
	comp=Z,27nm,1.1s,mb5.1				
TKM2	**Tokmak 2**	**45.80 290**	P	**P**	**05 10 10.1 +1.4**
	SNR=16				
TKM2	**Tokmak 2**	**45.80 290**	*e*P	**P**	**05 10 09.8 +1.1**
	comp=Z,27nm,1.1s,mb5.1				
INK	**Inuvik**	**45.84 31**	P	**P**	**05 10 08.3 -0.4**
	comp=Z,7.6nm,0.7s,mb4.8,baz=284,slow=8.5,SNR=23				
INK	**Inuvik**	**45.84 31**	P	**P**	**05 10 08.3 -0.3**
INK			pmax	pmax	
	comp=Z,8.0nm,0.7s				
INK	**Inuvik**	**45.84 31**	*e*P	**P**	**05 10 08.3 -0.3**
	comp=Z,170nm,0.6s,mb6.2				
USP	**Ospenovka**	**46.34 291**	P	**P**	**05 10 13.5 +0.6**
	SNR=9.8				
KZA	**Kyzart**	**46.43 290**	P	**P**	**05 10 15.4 +1.8**
	SNR=12				
HYT	**Haines Junctio**	**46.67 42**	*e*P	**P**	**05 10 15.8 +0.6**
EKS2	**Erkin-Say**	**47.10 291**	P	**P**	**05 10 19.4 +0.6**
	SNR=5.5				
EKS2	**Erkin-Say**	**47.10 291**	*e*P	**P**	**05 10 19.1 +0.2**
	comp=Z,9.1nm,1.1s,mb4.6				
SKAG	**Skagway**	**48.19 43**	*e*P	**P**	**05 10 27.0 -0.1**
SVE	**Sverdlovsk**	**48.33 313⇓**	*e*P	**P**	**05 10 29.1 +0.9**
SVE			*e*S	**S**	**05 17 47.1 +19**
SVE			*e*		05 20 22.3
SVE			pmax	pmax	
	comp=Z,57nm,1.2s,mb5.5				
KK31	**Karatay Array**	**48.96 293**	*i*P	**P**	**05 10 33.1 -0.2**
KK31			pmax	pmax	
	comp=Z,5.0nm,0.6s,mb4.7				
SOKR	**Solikamsk**	**49.03 318**	*e*P	**P**	**05 10 34.7 +1.1**
SOKR			pmax	pmax	
	comp=Z,30nm,1.1s,mb5.2				
ARU	**Arti**	**49.54 314**	*c i*P	**P**	**05 10 37.6 +0.1**
ARU			*e*		05 11 58.0
ARU			*e*		05 12 28.5
ARU			*e*S	**S**	**05 17 46.6 +1.5**
ARU			*e*SS	SS	05 21 08.9 -7.5
ARU			pmax	pmax	
	comp=Z,65nm,1.7s,mb5.4				
ARU	**Arti**	**49.54 314**	*e*P	**P**	**05 10 37.7 +0.2**
	comp=Z,49nm,1.2s,mb5.4				
DLBC	**Dease Lake**	**51.11 42**	P	**P**	**05 10 49.8 +0.4**
	baz=314,slow=9.1				
SPITS	**Spitsbergen Ar**	**51.11 348**	P	**P**	**05 10 49.2 +0.1**
	comp=Z,9.7nm,0.8s,mb4.8,baz=64,slow=4.5,SNR=3.9				
SPITS	**Spitsbergen Ar**	**51.11 348**	P	**P**	**05 10 49.2 +0.1**
SPITS			pmax	pmax	
	comp=Z,10.0nm,0.8s				
KBS	**Kingsbay**	**51.20 349⇑**	*e*P	**P**	**05 10 50.9 +1.1**
AB31	**Akbulak array**	**52.21 305**	*i*P	**P**	**05 10 57.8 +0.1**
AB31			pmax	pmax	
	comp=Z,7.0nm,0.7s,mb4.7				
AKTO	**Aktyubinsk**	**52.68 307**	*i*P	**P**	**05 11 00.9 -0.3**
KSM	**Kuching**	**52.70 221**	*e*P	**P**	**05 10 59.7 -2.0**
RES	**Resolute Bay**	**53.23 16**	*e*P	**P**	**05 11 04.9 0.0**
	comp=Z,621nm,0.7s				
KEV	**Kevo**	**54.55 337**	*e*p	**P**	**05 11 14.8 +0.2**
	comp=Z,1.3nm,0.4s,mb4.3				
KEV	**Kevo**	**54.55 337**	*e*P	**P**	**05 11 14.8 +0.2**
KEV			pmax	pmax	
	comp=Z,1.0nm,0.4s,mb4.2				
KBL	**Kabul**	**54.62 285**	*e*P	**P**	**05 11 15.1 -0.5**
	comp=Z,15nm,1.0s,mb5.0				
ARCES	**ARCESS Array B**	**55.09 337**	P	**P**	**05 11 18.6 +0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=46,slow=8.7,SNR=11				
ARCES	**ARCESS Array B**	**55.09 337**	P	**P**	**05 11 18.6 +0.1**
ARCES			pmax	pmax	
	comp=Z,2.0nm,0.6s				
BBB	**Bella Bella**	**55.24 49**	P	**P**	**05 11 19.1 -0.7**
	comp=Z,4.1nm,0.7s,mb4.6,baz=294,slow=7.5,SNR=4.2				
YKW3	**Yellowknife Ar**	**55.43 33**	*e*P	**P**	**05 11 20.6 -0.5**
YKA	**Yellowknife Ar**	**55.48 33**	P	**P**	**05 11 20.8 -0.6**
	comp=Z,6.1nm,0.6s,mb4.8,baz=305,slow=6.9,SNR=36				
YKA	**Yellowknife Ar**	**55.48 33**	P	**P**	**05 11 20.8 -0.6**
YKA			pmax	pmax	
	comp=Z,6.0nm,0.6s				
KLMR	**Klimovskoe**	**55.84 325**	P	**P**	**05 11 23.6 -0.4**
KLMR			pmax	pmax	
	comp=Z,55nm,1.9s,mb5.3				
DAG	**Danmarks Havn**	**56.17 355⇓**	*e*P	**P**	**05 11 26.0 -0.2**
DAG			pmax	pmax	
	comp=Z,8.0nm,0.5s,mb5.0				
DAG	**Danmarks Havn**	**56.17 355⇓**	*i*P	**P**	**05 11 26.0 -0.2**
	comp=Z,7.7nm,0.5s,mb5.0				
DAG	**Danmarks Havn**	**56.17 355⇓**	*e*P	**P**	**05 11 26.0 -0.2**
	comp=Z,7.8nm,0.5s,mb5.0				
JOF	**Joensuu**	**57.63 329**	*e*p	**P**	**05 11 36.5 -0.2**
	comp=Z,1.2nm,0.4s,mb4.3				
JOF	**Joensuu**	**57.63 329**	*e*P	**P**	**05 11 36.5 -0.2**
JOF			pmax	pmax	
	comp=Z,1.0nm,0.4s,mb4.2				
HYB	**Hyderabad**	**59.15 263**	*i*P	**P**	**05 11 48.0 +0.1**
HYB	**Hyderabad**	**59.15 263**	*e*P	**P**	**05 11 48.0 +0.1**
KAKA	**Kakadu**	**59.71 190**	*e*P	**P**	**05 11 51.1 -0.6**
	comp=Z,29nm,0.7s,mb5.4				
MOS	**Moscow**	**59.76 321**	*e*P	**P**	**05 11 50.5 -1.1**
MOS			pmax	pmax	
	comp=Z,38nm,0.6s,mb5.6				
KAF	**Kangasniemi**	**59.90 331**	*e*p	**P**	**05 11 52.3 -0.2**
	comp=Z,2.6nm,0.4s,mb4.6				
KAF	**Kangasniemi**	**59.90 331**	*e*P	**P**	**05 11 52.3 -0.2**
KAF			pmax	pmax	
	comp=Z,3.0nm,0.4s,mb4.7				
NLWA	**Neilton Lookou**	**60.26 51**	⇓P	**P**	**05 11 55.1 -0.1**
	baz=60				
OBN	**Obninsk**	**60.62 320⇓**	*e*P	**P**	**05 11 57.6 +0.1**
OBN			*e*S	**S**	**05 20 09.3 -4.3**
OBN			pmax	pmax	
	comp=Z,42nm,1.3s,mb5.4				
OBN			MLR	MLR	
	comp=Z,1μm,18.0s,MS5.1				
JCW	**Jim Creek**	**60.80 50**	*e*P	**P**	**05 11 59.0 +0.2**
VRHR	**Novokhopersk**	**60.84 315**	*e*P	**P**	**05 11 59.0 -0.1**
VRHR			pmax	pmax	
	comp=Z,10.0nm,0.4s,mb5.3				
VRHR			pmax	pmax	
	comp=N,30nm,0.8s				
VRHR			pmax	pmax	
	comp=E,30nm,0.6s				
RPW	**Rockport**	**60.86 49**	*e*P	**P**	**05 11 59.0 -0.3**
E03A	**Lebam**	**60.95 52**	⇑P	**P**	**05 11 59.6 -0.4**
	baz=61				
SUMG	**Summit**	**61.03 0**	*e*P	**P**	**05 12 01.3 +1.2**
	comp=E,13nm,1.0s,mb5.0				
A07A	**Ashnola River,**	**61.06 48**	⇑P	**P**	**05 12 00.1 -0.6**
	baz=61				
B07A	**Winthrop**	**61.57 49**	⇓P	**P**	**05 12 03.3 -0.8**
	baz=61				
A08A	**Turner Farm, O**	**61.69 48**	⇑P	**P**	**05 12 04.3 -0.6**
	baz=62				
EDM	**Edmonton**	**61.79 41**	*e*P	**P**	**05 12 05.0 -0.5**
VRSR	**Storozhevoye**	**61.95 316**	*e*P	**P**	**05 12 06.3 -0.3**
VRSR			pmax	pmax	
	comp=E,5.0nm,1.0s				
VRSR			pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.6				
VRSR			pmax	pmax	
	comp=N,6.0nm,1.1s				
D06A	**Cle Elum**	**62.00 50**	⇑P	**P**	**05 12 06.6 -0.4**
	baz=62				
A09A	**Danville**	**62.03 47**	⇓P	**P**	**05 12 06.8 -0.3**
	baz=62				
B08A	**Colville Reser**	**62.04 48**	⇓P	**P**	**05 12 06.8 -0.5**
	baz=62				
C07A	**Waterville**	**62.09 49**	⇓P	**P**	**05 12 07.3 -0.3**
	baz=62				
A10A	**Northport**	**62.54 47**	⇑P	**P**	**05 12 10.4 -0.2**
	baz=62				
C08A	**Higginbotham F**	**62.56 49**	⇓P	**P**	**05 12 10.1 -0.6**
	baz=62				
B09A	**Rice**	**62.60 48**	⇑P	**P**	**05 12 10.3 -0.7**
	baz=62				
HOOD	**Mount Hood Mea**	**62.76 52**	*e*P	**P**	**05 12 12.5 +0.4**
	comp=N,22nm,0.8s,mb5.3				
H04A	**Detroit Lake**	**62.87 53**	⇓P	**P**	**05 12 12.4 -0.5**
	baz=63,SNR=5.5				
F06A	**Goldendale**	**62.94 51**	⇓P	**P**	**05 12 13.2 -0.1**
	baz=63				
C09A	**Chrisman Ranch**	**62.94 48**	⇓P	**P**	**05 12 12.7 -0.6**
	baz=63				
J02A	**Umpqua**	**62.94 55**	⇓P	**P**	**05 12 13.0 -0.4**
	baz=63				
G05A	**Wamic**	**62.99 52**	⇓P	**P**	**05 12 13.6 0.0**
	baz=63				
A11A	**Hall Mountain,**	**63.15 46**	P	**P**	**05 12 15.0 +0.3**
	baz=63,SNR=5.6				
NEW	**Newport**	**63.23 47**	*e*P	**P**	**05 12 15.0 -0.2**
NEW			pmax	pmax	
	comp=Z,19nm,1.8s				
NEW	**Newport**	**63.23 47**	*e*P	**P**	**05 12 15.0 -0.2**
	comp=Z,19nm,1.8s,mb4.9				
I04A	**Tendick Farm,**	**63.32 54**	⇑P	**P**	**05 12 16.1 +0.2**
	baz=63				
D09A	**Jones Farm, Ri**	**63.41 49**	⇓P	**P**	**05 12 15.9 -0.5**
	baz=63				
B11A	**Sandpoint**	**63.49 47**	⇓P	**P**	**05 12 16.9 -0.1**
	baz=63				
I05A	**Bend**	**63.71 53**	⇑P	**P**	**05 12 18.9 +0.4**
	baz=64				
HUMO	**Hull Mountain**	**63.78 55**	⇑P	**P**	**05 12 19.3 +0.4**
	baz=64				
J04A	**Umpqua Nationa**	**63.84 54**	⇓P	**P**	**05 12 19.5 +0.2**
	baz=64				
E09A	**Wood Farm, Sta**	**63.85 49**	⇑P	**P**	**05 12 18.8 -0.5**
	baz=64				
H06A	**Lindquist Farm**	**63.85 52**	⇓P	**P**	**05 12 19.4 +0.1**
	baz=64				
G07A	**Ruggs Ranch, H**	**63.86 51**	⇑P	**P**	**05 12 18.8 -0.7**
	baz=64				
D10A	**Wagner Farm, O**	**63.95 48**	⇓P	**P**	**05 12 19.2 -0.7**
	baz=64				
GOF	**Gofitskoye**	**64.00 309**	*e*P	**P**	**05 12 18.9 -1.4**
A13A	**Flathead Natio**	**64.13 45**	⇓P	**P**	**05 12 20.8 -0.3**
	baz=64				
WALA	**Waterton Lakes**	**64.29 45**	*e*P	**P**	**05 12 22.2 0.0**
	comp=Z,9.6nm,1.0s,mb4.8				
H07A	**Lands Inn, Kim**	**64.36 52**	⇑P	**P**	**05 12 22.3 -0.4**
	baz=64				
I06A	**Prineville**	**64.43 52**	⇑P	**P**	**05 12 22.9 -0.3**
	baz=64				
B13A	**Whitefish**	**64.48 46**	⇓P	**P**	**05 12 23.1 -0.3**
	baz=64				
YBH	**Yreka Blue Hor**	**64.48 56**	P	**P**	**05 12 24.5 +0.9**
	comp=Z,7.2nm,1.0s,mb4.7,baz=333,slow=2.0,SNR=7.7				
YBH	**Yreka Blue Hor**	**64.48 56**	P	**P**	**05 12 24.5 +0.9**
YBH			pmax	pmax	
	comp=Z,7.0nm,1.0s				
YBH	**Yreka Blue Hor**	**64.48 56**	⇑P	**P**	**05 12 23.6 0.0**
	baz=64				
F09A	**S2 Ranch, Elgi**	**64.50 50**	⇓P	**P**	**05 12 23.6 0.0**
	baz=64				
M02C	**Callahan**	**64.62 56**	⇓P	**P**	**05 12 24.9 +0.4**
	baz=64				
L04A	**Klamath Falls**	**64.66 55**	⇑P	**P**

G09A	Cove	64.86	50	⇓P	P	05 12 25.8	-0.2
	baz=65						
H08A	Prairie City	64.89	51	⇑P	P	05 12 25.9	-0.3
	baz=65						
C13A	Hot Springs	64.90	46	⇑P	P	05 12 26.3	+0.1
	baz=65						
KIV	Kislovodsk	64.91	308	eP	P	05 12 27.6	+1.3
KIV				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3						
KIV				MLR	MLR		
	comp=Z,3µm,20.0s,MS5.5						
KIV	Kislovodsk	64.91	308	eP	P	05 12 27.8	+1.5
	comp=Z,48nm,1.2s,mb5.4						
J06A	Christmas Vall	64.92	53	⇓P	P	05 12 26.4	+0.1
	baz=65						
D12A	Red Ives Fores	64.93	47	⇑P	P	05 12 26.1	-0.2
	baz=65						
M04C	Macdoel	64.94	55	⇑P	P	05 12 26.9	+0.3
	baz=65						
E11A	Bogner Ranch,	64.96	48	⇑P	P	05 12 26.3	-0.3
	baz=65						
K06A	Valley Falls	65.16	53	⇑P	P	05 12 28.0	0.0
	baz=65,SNR=6.3						
G10A	Bishop Farm, J	65.20	50	P	P	05 12 28.1	0.0
	baz=65,SNR=6.4						
C14A	Swan Lake	65.25	46	⇑P	P	05 12 28.5	0.0
	baz=65						
J07A	Hines	65.30	52	⇓P	P	05 12 29.5	+0.7
	baz=65						
WDC	Whiskeytown Da	65.33	56	⇓P	P	05 12 29.6	+0.5
	baz=65						
L05A	Lakeview	65.34	54	⇓P	P	05 12 29.8	+0.7
	baz=65						
I08A	Drewsey	65.35	52	⇑P	P	05 12 29.6	+0.4
	baz=65						
D13A	Huson	65.35	47	P	P	05 12 28.9	-0.3
	baz=65,SNR=6.0						
BMO	Blue Mountains	65.39	50	eP	P	05 12 29.5	0.0
	comp=Z,8.8nm,1.3s,mb4.6						
NB2	NORSAR Subarra	65.40	336	P	P	05 12 29.0	-0.2
	comp=Z,9.8nm,0.9s,mb4.8,baz=34,slow=6.5						
NOA	NORSAR Array B	65.40	336	P	P	05 12 29.0	-0.2
	comp=Z,5.8nm,0.7s,mb4.7,baz=35,slow=6.3,SNR=19						
NOA	NORSAR Array B	65.40	336	P	P	05 12 29.0	-0.2
NOA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
O02C	Red Bluff	65.46	57	⇓P	P	05 12 29.9	0.0
	baz=65						
G11A	Walters Elk Ra	65.57	49	P	P	05 12 30.4	-0.2
	baz=65,SNR=13						
M05C	Lookout	65.61	55	⇑P	P	05 12 31.2	+0.3
	baz=65						
MOD	Modoc	65.73	54	⇑P	P	05 12 31.8	+0.2
	baz=66						
I09A	Lost Marbles R	65.75	51	⇑P	P	05 12 31.7	-0.1
	baz=66						
J08A	Circle Bar Ran	65.77	52	P	P	05 12 32.4	+0.5
	baz=66,SNR=6.2						
K07A	Rock Creek Ran	65.79	53	⇓P	P	05 12 32.2	+0.2
	baz=66,SNR=8.9						
MSO	Missoula	65.79	47	eP	P	05 12 31.7	-0.3
HATC	Hat Creek Radi	65.80	56	⇓P	P	05 12 32.2	+0.1
	baz=66						
D14A	Greenough	65.84	46	P	P	05 12 32.0	-0.2
	baz=66,SNR=5.3						
GASB	Alder Springs	65.84	57	⇓P	P	05 12 32.4	0.0
	baz=66						
F12A	Elk City	65.85	48	P	P	05 12 32.5	+0.2
	baz=66,SNR=11						
H10A	Noah's Angus R	65.86	50	P	P	05 12 32.3	-0.2
	baz=66,SNR=11						
J09A	Fry Pan Ranch,	66.16	52	⇓P	P	05 12 34.5	+0.1
	baz=66						
H11A	Donnelly	66.17	50	⇓P	P	05 12 34.3	-0.2
	baz=66						
I10A	Payette	66.17	51	⇓P	P	05 12 34.7	+0.2
	baz=66						
K08A	Mann Creek Ran	66.18	53	P	P	05 12 34.9	+0.4
	baz=66,SNR=5.8						
L07A	Adell	66.19	54	P	P	05 12 35.4	+0.7
	baz=66,SNR=9.9						
SFJD	Kangerlussuaq	66.25	5	eP	P	05 12 33.8	-0.8
SFJD				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
SFJD	Kangerlussuaq	66.25	5	eP	P	05 12 33.8	-0.8
	comp=Z,28nm,1.1s,mb5.2						
GNI	Garni	66.29	304	⇓eP	P	05 12 37.4	+2.1
GNI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WVOR	Wild Horse Val	66.30	53	eP	P	05 12 35.6	+0.3
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
WVOR	Wild Horse Val	66.30	53	eP	P	05 12 35.6	+0.3
	comp=Z,10.0nm,1.2s,mb4.7						
E14A	Clinton	66.30	47	⇓P	P	05 12 34.6	-0.6
	baz=66						
O04C	Chester	66.34	56	P	P	05 12 36.0	+0.4
	baz=66,SNR=10.0						
D15A	Lincoln	66.35	46	⇓P	P	05 12 35.2	-0.4
	baz=66						
MNRC	McLaughlin Nat	66.52	58	⇑P	P	05 12 36.9	+0.1
	baz=66						
ORV	Oroville	66.61	57	⇑P	P	05 12 36.6	-0.8
	baz=66						
K09A	Rome	66.61	52	⇓P	P	05 12 36.9	-0.5
	baz=66						
L08A	Fields	66.62	53	⇑P	P	05 12 37.4	0.0
	baz=66						
WRAB	Tennant Creek	66.65	188	i P	P	05 12 35.7	-1.9
WRA	Warramunga Arr	66.66	188	P	P	05 12 36.4	-1.2
	comp=Z,2.6nm,0.8s,mb4.3,baz=3.0,slow=6.9,SNR=11						
WRA	Warramunga Arr	66.66	188	P	P	05 12 36.4	-1.3
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
O05C	Quincy	66.67	56	⇓P	P	05 12 37.4	-0.4
	baz=66						
M07A	Soldier Meadow	66.70	54	P	P	05 12 38.5	+0.6
	baz=66,SNR=23						
E15A	Deer Lodge	66.72	46	⇑P	P	05 12 37.7	-0.3
	baz=66						
I11A	Placerville	66.74	50	⇓P	P	05 12 37.8	-0.3
	baz=67						
N06A	Buffalo Meadow	66.76	55	P	P	05 12 38.5	+0.2
	baz=67,SNR=10						
OHCM	Honcut	66.77	57	eP	P	05 12 38.2	-0.2
F14A	Wisdom	66.78	47	⇑P	P	05 12 37.5	-0.8
	baz=67						
G13A	Cobalt	66.83	48	⇑P	P	05 12 37.6	-1.0
	baz=67						
AKASG	Malin Array Be	66.88	320	P	P	05 12 38.4	-0.5
	comp=Z,4.1nm,0.6s,mb4.7,baz=40,slow=6.6,SNR=26						
AKASG	Malin Array Be	66.88	320	i P	P	05 12 38.4	-0.5
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKBB	Malin Array Si	66.88	320	eP	P	05 12 37.4	-1.5
H12A	Diamond D Ranc	66.88	49	P	P	05 12 39.2	+0.2
	baz=67,SNR=14						
KIEV	Kiev	66.89	320	eP	P	05 12 37.5	-1.5
KIEV				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
KIEV	Kiev	66.89	320	eP	P	05 12 37.5	-1.5
	comp=Z,18nm,1.1s,mb5.0						
HRY	Holter Researc	66.92	46	eP	P	05 12 39.6	+0.4
KONO	Kongsberg	67.01	336	i P	P	05 12 40.5	+1.0
EGMT	Eagleton	67.01	44	⇓P	P	05 12 39.4	-0.4
	baz=67						
EGMT	Eagleton	67.01	44	eP	P	05 12 39.8	+0.1
	comp=Z,16nm,1.0s,mb5.0						
K10A	MacKenzie Ranc	67.02	52	P	P	05 12 40.1	+0.2
	baz=67,SNR=9.8						
BEKR	Beckwourth	67.06	56	⇓P	P	05 12 39.7	-0.5
	baz=67						
M08A	Happy Creek Ra	67.10	53	⇓P	P	05 12 40.7	+0.3
	baz=67						
L09A	Wilkinson Ranc	67.11	53	⇓P	P	05 12 40.4	-0.1
	baz=67						
ANN	Anapa	67.12	312	eP	P	05 12 39.0	-1.5
ANN				e*PP	pP	05 12 42.3	-0.9
ANN				e		05 13 04.3	
ANN				eS	S	05 21 34.5	-0.2
ANN				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
ANN				MLR	MLR		
	comp=N,2µm,22.0s,MS5.3						
ANN				MLR	MLR		
	comp=E,859nm,22.0s,MS5.3						
ANN				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.3						
MFID	Camas Ranch	67.15	51	P	P	05 12 41.1	+0.4
	baz=67,SNR=8.3						
O06A	Flanigan	67.16	55	⇓P	P	05 12 41.0	+0.1
	baz=67						
H13A	Challis	67.19	49	⇓P	P	05 12 40.4	-0.6
	baz=67						
F15A	Butte	67.20	47	P	P	05 12 41.1	+0.2
	baz=67,SNR=6.1						
N07B	Gerlach	67.22	54	⇑P	P	05 12 41.3	0.0
	baz=67						
LRM	Limekiln Ridge	67.23	47	eP	P	05 12 41.2	0.0
DLMT	Dillon	67.48	47	eP	P	05 12 43.1	+0.4
	comp=Z,12nm,0.8s,mb5.0						
K11A	Parker Ranch,	67.48	51	⇑P	P	05 12 42.5	-0.3
	baz=67						
LAVA	Lava Cap Winer	67.58	57	⇓P	P	05 12 43.3	-0.3
	baz=67						
G15A	Dillon	67.67	47	P	P	05 12 43.9	-0.1
	baz=68,SNR=20						
N08A	GE Springer Mi	67.69	54	P	P	05 12 44.4	+0.2
	baz=68,SNR=8.5						
O07A	Toulon	67.70	55	P	P	05 12 44.6	+0.4
	baz=68,SNR=6.3						
I13A	Wildhorse Cree	67.70	49	P	P	05 12 44.5	+0.2
	baz=68,SNR=24						
L10A	Juniper Basin	67.72	52	⇑P	P	05 12 44.6	+0.3
	baz=68						
MCMT	McKenzie Canyo	67.72	48	eP	P	05 12 44.1	-0.2
BOZ	Bozeman (W)	67.77	47	eP	P	05 12 44.8	+0.2
BOZ				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.7						
BOZ	Bozeman (W)	67.77	47	⇓P	P	05 12 44.8	+0.2
	baz=68						
BOZ	Bozeman (W)	67.77	47	eP	P	05 12 44.8	+0.2
	comp=Z,14nm,1.6s,mb4.8						
WCN	Washoe City	67.78	56	⇑P	P	05 12 45.0	+0.2
	baz=68						
HLID	Hailey	67.79	50	⇑P	P	05 12 45.0	+0.2
	baz=68						
HLID	Hailey	67.79	50	eP	P	05 12 45.3	+0.5
	comp=Z,20nm,2.1s,mb4.8						
N09A	Rock Creek Ran	67.98	53	⇑P	P	05 12 45.9	-0.1
	baz=68						
R05C	Kirkwood Meado	68.00	57	⇓P	P	05 12 46.2	0.0
	baz=68						
J13A	Cove Ranch, Pi	68.03	50	⇑P	P	05 12 46.2	-0.1
	baz=68						
L11A	Cat Creek Ranc	68.04	51	P	P	05 12 47.0	+0.5
	baz=68,SNR=13						
M10A	I.L. Ranch, Tu	68.06	52	⇓P	P	05 12 47.2	+0.6
	baz=68,SNR=6.7						
K12A	Draper Farm, C	68.18	51	⇑P	P	05 12 47.5	+0.3
	baz=68						
CMB	Columbia Colle	68.28	57	eP	P	05 12 47.5	-0.4
CMB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
CMB	Columbia Colle	68.28	57	P	P	05 12 47.6	-0.3
	baz=68,SNR=9.7						
CMB	Columbia Colle	68.28	57	eP	P	05 12 47.5	-0.4
	comp=Z,8.8nm,1.0s,mb4.7						
PACP	Pacheco Peak	68.45	59	⇑P	P	05 12 49.0	0.0
	baz=68						
L12A	House Creek Ra	68.45	51	P	P	05 12 49.5	+0.5
	baz=68,SNR=6.9						
R06C	Coleville	68.48	56	⇓P	P	05 12 49.6	+0.3
	baz=68						
M11A	Holland Ranch,	68.53	52	⇑P	P	05 12 50.1	+0.6
	baz=68,SNR=6.5						
O09A	Fish Creek Ran	68.63	54	P	P	05 12 50.6	+0.5
	baz=68,SNR=5.3						
GCMT	Greycliff	68.64	45	eP	P	05 12 50.2	+0.2
S06C	San Francisco	68.69	57	P	P	05 12 50.4	-0.2
	baz=68,SNR=8.3						
HAST	Hastings Reser	68.71	59	⇑P	P	05 12 50.1	-0.5
	baz=68						
S05C	Merced	68.78	58	⇓P	P	05 12 50.8	-0.3
	baz=69						
O10A	Cortez Mining,	68.93	53	⇑P	P	05 12 52.4	+0.4
	baz=69						
R07C	Lee Vining	69.01	57	⇑P	P	05 12 53.0	+0.5
	baz=69						
M12A	Wells	69.02	52	⇑P	P	05 12 52.8	+0.3
	baz=69						
L13A	Double Diamond	69.07	51	⇑P	P	05 12 53.3	+0.5
	baz=69						
Q08A	Gabbs	69.12	55	⇑P	P	05 12 53.4	+0.2
	baz=69						
V03C	Hunter Liggett	69.15	59	⇓P	P	05 12 53.5	+0.1
	baz=69						
K14A	Jones Ranch, D	69.15	50	P	P	05 12 53.9	+0.6
	baz=69,SNR=6.9						
U04C	Hernandez Rese	69.18	59	⇓P	P	05 12 53.7	+0.1
	baz=69						
NVAR	Mina Array Bea	69.20	56	P	P	05 12 53.9	+0.2
	comp=Z,4.0nm,0.7s,mb4.4,baz=300,slow=5.5,SNR=39						
DGMT	Dagmar	69.25	41	eP	P	05 12 53.7	-0.1
	comp=Z,12nm,0.8s,mb4.9						
RLMT	Red Lodge	69.31	46	eP	P	05 12 54.6	+0.3
	comp=Z,3.6nm,0.6s,mb4.5						
N12A	Clover Valley,	69.34	52	P	P	05 12 55.3	+0.8
	baz=69,SNR=6.0						
IMW	Indian Meadow	69.35	48	eP	P	05 12 55.7	+1.2
	comp=Z,7.8nm,1.1s,mb4.5						
T06C	Millerton Lake	69.37	58	⇑P	P	05 12 54.2	-0.5
	baz=69						
KCC	Kaiser Creek	69.38	57	⇓P	P	05 12 54.6	-0.2
	baz=69						
P10A	Eureka	69.42	54	⇑P	P	05 12 55.1	+0.1
	baz=69						
L14A	Malta	69.48	50	P	P	05 12 55.9	+0.6
	baz=69,SNR=6.2						
O11A	Cowboy Ranch,	69.51	53	⇓P	P	05 12 55.3	-0.3
	baz=69						
RRI2	Red Ridge	69.55	48	eP	P	05 12 56.5	+0.8
	comp=Z,11nm,0.8s,mb4.8						
MOOW	Moose Ponds	69.56	48	eP	P	05 12 56.2	+0.5
PKD	Parkfield	69.61	59	⇑P	P	05 12 56.0	-0.3
	baz=69						
TPAW	Teton Pass	69.64	48	eP	P	05 12 57.4	+1.1
	comp=Z,23nm,1.5s,mb4.9						
LAO	LASA Array	69.64	43	eP	P	05 12 56.4	+0.2
LOHW	Long Hollow	69.72	48	eP	P	05 12 57.3	+0.5
K16A	Soda Springs	69.78	49	⇓P	P	05 12 58.1	+0.9
	baz=70						
REDW	Red Top Meadow	69.78	48	eP	P	05 12 58.0	+0.8
	comp=Z,16nm,1.4s,mb4.8						
N13A	Wendover, West	69.79	52	⇓P	P	05 12 57.4	+0.1
	baz=70						
M14A	Sheep Mountain	69.80	51	⇓P	P	05 12 57.7	+0.4
	baz=70						
O12A	Currie	69.91	52	P	P	05 12 58.4	+0.3
	baz=70,SNR=6.4						
S08C	White Mtn Res	69.92	56	⇓P	P	05 12 58.4	+0.2
	baz=70						
L15A	Malad City	69.95	50	⇑P	P	05 12 58.1	-0.1
	baz=70						
HELL	Mitchell Peak	69.99	58	P	P	05 12 58.1	-0.5
	baz=70,SNR=12						
PTRM	Twissleman Ran	70.00	59	eP	P	05 12 58.5	-0.2
R09A	Tonopah	70.03	55	P	P	05 12 58.8	0.0
	baz=70,SNR=8.8						
S09A	Goldfield	70.31	56	P	P	05 13 00.6	+0.1
	baz=70,SNR=6.5						
N14A	Grayback Hills	70.34	51	⇑P	P	05 13 00.3	-0.4
	baz=70						
SMMC	Simmler	70.37	59	⇑P	P	05 13 00.8	-0.1
	baz=70						
P12A	McGill	70.38	53	⇓P	P	05 13 00.9	0.0
	baz=70						
ASAR	Alice Springs	70.38	188	P	P	05 13 00.8	0.0
	comp=Z,3.1nm,0.5s,mb4.5,baz=8.8,slow=5.7,SNR=23						
ASAR	Alice Springs	70.38	188	P	P	05 13 00.9	0.0
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
Q11A	Duckwater	70.41	54	⇓P	P	05 13 01.3	+0.2
	baz=70						
L16A	Fish Haven	70.44	49	⇑P	P	05 13 01.5	+0.3
	baz=70						
KWP	Kalwaria	70.47	323	eP	P	05 13 01.7	+0.4
KWP				pmax	pmax		
	comp=Z,59nm,1.4s,mb5.3						
KWP	Kalwaria	70.47	323	eP	P	05 13 01.7	+0.4
	comp=Z,59nm,1.4s,mb5.3						
S10A	Tonopah Range,	70.52	55	P	P	05 13 01.9	+0.1
	baz=70,SNR=5.7						
VES	Vestal, Richgr	70.54	58	⇑P	P	05 13 01.3	-0.7
	baz=70						
CWC	Cottonwood Cre	70.71	57	⇓P	P	05 13 02.8	-0.2
	baz=70						
GRAC	Grapevine Rang	70.73	56	⇑P	P	05 13 03.6	+0.5
	baz=71						
Q12A	Willow Creek R	70.73	53	P	P	05 13 03.3	+0.2
	baz=70,SNR=5.9						
R11A	Troy Canyon, C	70.79	54	P	P	05 13 03.4	-0.1
	baz=71,SNR=6.1						
M16A	Huntsville	70.84	50	⇑P	P	05 13 03.3	-0.4
	baz=71						
BW06	Boulder Array	70.86	48	eP	P	05 13 03.5	-0.3
PDAR	Pinedale Array	70.86	48	P	P	05 13 03.7	-0.1
	comp=Z,4.2nm,0.7s,mb4.5,baz=340,slow=1.6,SNR=37						
P13A	Bates Ranch, G	70.88	53	⇓P	P	05 13 03.8	-0.1
	baz=71						
DUG	Dugway	71.01	51	eP	P	05 13 05.3	+0.6
DUG				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
DUG	Dugway	71.01	51	⇓P	P	05 13 05.1	+0.4
	baz=71						
DUG	Dugway	71.01	51	eP	P	05 13 05.3	+0.5
	comp=Z,8.2nm,0.9s,mb4.7						
ISA	Isabella	71.02	58	⇑P	P	05 13 04.0	-0.9
	baz=71						
ISA	Isabella	71.02	58	eP	P	05 13 04.0	-0.9
MALT	Malatya	71.11	306	eP	P	05 13 06.0	+0.6
MALT				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
MALT	Malatya	71.11	306	eP	P	05 13 06.0	+0.6
	comp=Z,14nm,1.3s,mb4.7						
KOLS	Kolonicke sedl	71.19	323	i P	P	05 13 05.9	+0.2
OJC	Ojcow	71.19	325	eP	P	05 13 06.2	+0.5
S11A	Rachel	71.20	55	P	P	05 13 06.2	+0.3
	baz=71,SNR=6.8						
Q13A	Wheeler Ranch,	71.23	53	P	P	05 13 06.4	+0.3
	baz=71,SNR=9.7						
N16A	Rees Ranch, Co	71.25	50	⇑P	P	05 13 06.4	+0.2
	baz=71						
P14A	Drum Mountains	71.30	52	P	P	05 13 06.8	+0.2
	baz=71,SNR=6.1						
MPMC	Manual Prospec	71.31	57	P	P	05 13 06.6	-0.1
	baz=71,SNR=7.4						
R12A	Pony Springs,	71.35	54	⇓P	P	05 13 06.8	0.0
	baz=71						
ULM	Lac du Bonnet	71.39	35	P	P	05 13 05.8	-1.1
	comp=Z,7.5nm,0.6s,mb4.8,baz=320,slow=5.6,SNR=14						
FURC	Furnace Creek,	71.39	56	P	P	05 13 07.2	+0.1
	baz=71,SNR=10						
TPNV	Topopah Spring	71.40	56	P	P	05 13 07.2	0.0
	baz=71,SNR=16						
TPNV	Topopah Spring	71.40	56	eP	P	05 13 07.1	-0.1
UZH	Uzhgorod	71.42	322	⇑iP	P	05 13 07.7	+0.6
N17A	Moffit Pass	71.52	50	⇓P	P	05 13 07.6	-0.2
	baz=71						
CRVS	Cervenica-Dubn	71.55	323	i P	P	05 13 07.6	-0.3
BSEG	Bad Segeberg	71.58	332	eP	P	05 13 08.0	+0.1
	comp=Z,25nm,1.4s,mb5.0						
NLU	North Lily Min	71.58	51	eP	P	05 13 08.7	+0.5
LRMC	Laurel Mountai	71.61	58	⇑P	P	05 13 08.1	-0.3
	baz=71						
NIE	Niedzica	71.62	324	eP	P	05 13 09.2	+0.9
Q14A	Sevier Lake (B	71.62	52	P	P	05 13 08.7	+0.3
	baz=71,SNR=10						
S12A	Delamar Landin	71.73	54	⇓P	P	05 13 09.2	+0.1
	baz=72						
U10A	Ash Meadows, A	71.73	56	⇑P	P	05 13 09.1	-0.1
	baz=72						
P15A	Leamington	71.74	51	⇓P	P	05 13 09.2	0.0
	baz=72						
BLG	Laguna Peak	71.75	60	⇑P	P	05 13 09.1	-0.2
	baz=72						
T11A	Corn Creek, Al	71.78	55	P	P	05 13 09.6	+0.1
	baz=72,SNR=12						
R13A	O'Grain Ranch,	71.81	53	⇓P	P	05 13 10.0	+0.3
	baz=72						
EDW2	Edwards Air Fo	71.85	58	P	P	05 13 09.8	-0.1
	baz=72,SNR=6.3						
KSP	Ksiaz	72.05	327	eP	P	05 13 10.6	-0.2
P16A	Fountain Green	72.05	51	⇑P	P	05 13 10.6	-0.4
	baz=72						
Q15A	Fillmore	72.10	52	⇓P	P	05 13 11.6	+0.2
	baz=72						
GSC	Goldstone	72.24	57	⇓P	P	05 13 11.8	-0.4
	baz=72						
GSC	Goldstone	72.24	57	eP	P	05 13 12.0	-0.2
KECS	Kecovo	72.28	323	eP	P	05 13 11.8	-0.5
	comp=Z,3.4nm,1.4s,mb4.1						
S13A	Holt Ranch, En	72.30	54	P	P	05 13 12.6	+0.1
	baz=72,SNR=6.3						
SHPR	Sheep Range	72.33	55	eP	P	05 13 12.9	+0.1
ARUT	Antelope Range	72.38	53	eP	P	05 13 13.2	+0.1
UPC	Upice	72.42	327	eP	P	05 13 13.3	+0.2
MORC	Moravsky Berou	72.43	326	eP	P	05 13 13.8	+0.7
MORC				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
MORC	Moravsky Berou	72.43	326	eP	P	05 13 13.8	+0.7
	comp=Z,5.3nm,0.6s,mb4.7						
DPC	Dobruska-Polom	72.43	327	eP	P	05 13 14.1	+1.0
BFSC	Mount Baldy St	72.49	59	⇓P	P	05 13 13.3	-0.4
	baz=72						
TMUT	Trail Mountain	72.51	51	eP	P	05 13 14.3	+0.5
MSU	Marysvale	72.56	52	eP	P	05 13 14.7	+0.6
V11A	Goodsprings	72.65	56	⇑P	P	05 13 14.8	+0.1
	baz=72						
TUQ	Turquoise Mtn.	72.66	57	P	P	05 13 14.8	0.0
	baz=72,SNR=7.4						
T13A	Saint George	72.67	54	⇑P	P	05 13 15.0	+0.2
	baz=72						
R15A	Junction	72.72	52	⇓P	P	05 13 15.5	+0.5
	baz=72						
U12A	Valley of Fire	72.74	55	⇑P	P	05 13 15.3	+0.1
	baz=73						
Q16A	Castle Valley	72.81	51	⇓P	P	05 13 15.9	+0.3
	baz=73						
RWWY	Rawlins	72.84	47	eP	P	05 13 15.5	-0.2
	comp=Z,40nm,1.8s,mb5.0						
HEC	Hector,Ludlow	72.85	57	⇑P	P	05 13 16.1	+0.2
	baz=73						
CLL	Collm	72.86	329	⇑iP	P	05 13 15.4	-0.3
CLL				pmax	pmax		
	comp=Z,50nm,1.9s,mb5.1						
CLL	Collm	72.86	329	eP	P	05 13 15.0	-0.7
	comp=Z,84nm,2.2s,mb5.3						
CLL	Collm	72.86	329	⇑iP	P	05 13 15.4	-0.3
	comp=Z,50nm,1.9s,mb5.1						
CLL	Collm	72.86	329	⇑iP	P	05 13 15.4	-0.3
	comp=Z,50nm,1.9s,mb5.1						
BRG	Berggiesshubel	72.89	328	eP	P	05 13 15.7	-0.1
BRG				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.6						
BRG	Berggiesshubel	72.89	328	eP	P	05 13 15.5	-0.3
	comp=Z,30nm,1.7s,mb5.0						
BRG	Berggiesshubel	72.89	328	eP	P	05 13 15.7	-0.1
	comp=Z,22nm,1.6s,mb4.8						
BBRC	Big Bear Sol-O	72.91	58	⇑P	P

baz=73,SNR=9.7
V13A **Grand Canyon W** 73.47 55 ⇓P P 05 13 19.4 -0.1
baz=73
U14A **Mt Trumbull** 73.51 54 P P 05 13 20.1 +0.3
baz=73,SNR=7.5
TREC **Trest** 73.61 327 eP P 05 13 20.6 +0.5
BELC **Belle Mtn.** 73.63 58 ⇑P P 05 13 19.7 -0.8
baz=74
PFO **Pinyon Flat Ob** 73.64 58 ⇑P P 05 13 20.1 -0.5
baz=74
MODS **Modra-Piesok** 73.66 325 eP P 05 13 21.2 +0.8
MODS pmax pmax
comp=Z,14nm,1.7s,mb4.6
MODS **Modra-Piesok** 73.66 325 eP P 05 13 21.2 +0.8
comp=Z,14nm,1.7s,mb4.6
BUD **Budapest** 73.67 323 eP P 05 13 22.0 +1.5
IBBN **Ibbenburen** 73.78 333 eP P 05 13 20.7 -0.3
comp=Z,20nm,0.9s,mb5.0
TANN **Tannenbergstha** 73.80 329 eP P 05 13 21.0 -0.2
comp=Z,19nm,1.8s,mb4.7
Q19A **Hogan Spring (** 73.80 50 ⇓P P 05 13 20.8 -0.7
baz=74
R18A **Canyonlands Na** 73.88 51 P P 05 13 21.6 -0.3
baz=74,SNR=9.3
MOX **Moxa** 73.90 330 eP P 05 13 21.9 +0.1
comp=Z,34nm,2.0s,mb4.9
MOX e 05 13 59.8
MOX **Moxa** 73.90 330 eP P 05 13 21.9 +0.1
MOX pmax pmax
comp=Z,34nm,2.0s,mb4.9
MOX **Moxa** 73.90 330 eP P 05 13 21.6 -0.2
comp=Z,19nm,1.4s,mb4.8
NKC **Novy Kostel** 73.95 329 eP P 05 13 22.6 +0.5
U15A **North Rim** 74.00 54 P P 05 13 23.4 +0.8
baz=74,SNR=8.3
IRM **Iron Mountain** 74.01 57 P P 05 13 22.8 +0.1
baz=74,SNR=8.6
W13A **Hualapai Mount** 74.06 56 ⇑P P 05 13 23.3 +0.3
baz=74
V14A **Boquillas Ranc** 74.12 55 P P 05 13 23.8 +0.5
baz=74,SNR=6.6
MONP **Monument Peak** 74.17 59 ⇑P P 05 13 23.4 -0.4
baz=74
BC3 **Big Chuckw Mtn** 74.20 58 ⇑P P 05 13 23.6 -0.2
baz=74
UBBA **Unterbreizbach** 74.31 331 eP P 05 13 23.8 -0.4
comp=Z,31nm,1.7s,mb5.0
S18A **Hurst Farm, Bl** 74.33 51 P P 05 13 24.3 -0.2
baz=74,SNR=9.6
WTSB **Winterswijk** 74.37 333 eP P 05 13 24.1 -0.4
comp=Z,30nm,1.8s,mb4.9
ROTZ **Rotzenmuhle** 74.43 329 eP P 05 13 25.2 +0.3
comp=Z,22nm,1.6s,mb4.8
W14A **Seligman** 74.43 55 P P 05 13 25.5 +0.3
baz=74,SNR=5.4
KHC **Kasperske Hory** 74.46 328 eP P 05 13 25.8 +0.7
KHC ex x 05 14 01.5
KHC **Kasperske Hory** 74.46 328 eP P 05 13 25.8 +0.7
KHC e 05 14 01.5
X13A **Yucca** 74.46 56 P P 05 13 25.3 0.0
baz=74,SNR=6.7
PDMCI **Parker Dam,Lak** 74.49 56 ⇑P P 05 13 25.2 -0.3
baz=74
SOP **Sopron** 74.50 325⇑eP P 05 13 26.7 +1.3
SWSC **Sam W. Stewart** 74.51 58 ⇑P P 05 13 25.1 -0.6
baz=74
V15A **Kaibab Nationa** 74.51 54 P P 05 13 26.1 +0.5
baz=74,SNR=7.4
CONA **Conrad Observa** 74.58 326 i P P 05 13 27.0 +1.2
comp=Z,26nm,1.4s,mb5.0,SNR=13
CONA **Conrad Observa** 74.58 326 i pP pP 05 13 27.0 -1.5
comp=Z,26nm,1.4s,SNR=13
GEC2 **GERESS Array S** 74.65 327 eP P 05 13 26.1 -0.1
GEC2 pmax pmax
comp=Z,20nm,1.6s,mb4.8
GEC2 **GERESS Array S** 74.65 327 eP P 05 13 26.1 -0.1
comp=Z,20nm,1.6s,mb4.8
GERES **GERESS Array B** 74.65 327 P P 05 13 26.6 +0.4
comp=Z,2.0nm,0.6s,mb4.3,baz=43,slow=6.0,SNR=18
GERES **GERESS Array B** 74.65 327 P P 05 13 26.6 +0.4
GERES pmax pmax
comp=Z,2.0nm,0.6s
Y12C **Blythe** 74.67 57 ⇓P P 05 13 26.4 -0.2
baz=74
BUG **Bochum--Univer** 74.68 332 eP P 05 13 25.9 -0.4
comp=Z,70nm,1.7s,mb5.3
WET **Wettzell** 74.70 328 eP P 05 13 26.8 +0.3
WET pmax pmax
comp=Z,86nm,2.3s,mb5.3
WET **Wettzell** 74.70 328 eP P 05 13 26.8 +0.3
comp=Z,86nm,2.3s,mb5.3
S19A **Harvey Farm, M** 74.75 51 P P 05 13 26.8 -0.3
baz=75,SNR=7.0
U17A **Shonto** 74.77 53 ⇑P P 05 13 26.9 -0.2
baz=75
T18A **Mexican Hat** 74.81 52 P P 05 13 26.8 -0.6
baz=75,SNR=11
SMCO **Snowmass** 74.83 49 eP P 05 13 21.0 -6.5
GRA1 **Grafenberg Arr** 74.84 329 eP P 05 13 27.6 +0.3
comp=Z,19nm,0.9s,mb5.0
GRF **Grafenberg Arr** 74.84 329 eP P 05 13 27.6 +0.3
GRF pmax pmax
comp=Z,19nm,0.9s,mb5.0
GRF **Grafenberg Arr** 74.84 329 eP P 05 13 27.6 +0.3
GRF pmax pmax
comp=Z,19nm,0.9s,mb5.0
GRF **Grafenberg Arr** 74.84 329 eP P 05 13 27.6 +0.3
comp=Z,19nm,0.9s,mb5.0
U16A **Tuba City** 74.85 53 ⇓P P 05 13 27.8 +0.2
baz=75
GLA **Glamis** 74.99 58 ⇑P P 05 13 28.5 0.0
baz=75
Y13A **Salome** 75.02 57 ⇓P P 05 13 28.7 0.0
baz=75
X14A **Yava** 75.08 56 ⇑P P 05 13 29.1 +0.2
baz=75
WUAZ **Wupatki** 75.17 54 ⇓P P 05 13 30.0 +0.6
baz=75
U18A **Rough Rock, Ch** 75.34 52 ⇓P P 05 13 30.6 +0.2
baz=75
TNS **Taunus Mts** 75.34 331 eP P 05 13 30.1 -0.1
TNS pmax pmax
comp=Z,31nm,1.6s,mb5.0
TNS **Taunus Mts** 75.34 331 eP P 05 13 30.1 -0.1
comp=Z,31nm,1.6s,mb5.0
W16A **Flagstaff** 75.39 54 ⇓P P 05 13 31.3 +0.6
baz=75
Y14A **Wickenburg** 75.40 56 ⇑P P 05 13 30.6 -0.2
baz=75
X15A **Humboldt** 75.44 55 P P 05 13 31.4 +0.4
baz=75,SNR=9.4
MVCO **Mesa Verde** 75.49 51 P P 05 13 31.3 +0.1
baz=75,SNR=7.1
MVCO **Mesa Verde** 75.49 51 eP P 05 13 31.2 0.0
comp=Z,7.7nm,0.6s,mb4.8
HGN **Heimansgroeve** 75.69 333 eP P 05 13 32.1 0.0
comp=Z,24nm,1.7s,mb4.8
TOD **Tromm** 75.75 331 eP P 05 13 32.4 -0.1
Y15A **Casa Rosa Ranc** 75.77 56 P P 05 13 33.1 +0.2
baz=76,SNR=6.8
MEM **Membach** 75.80 333 P P 05 13 32.9 +0.1
comp=Z,11nm,1.7s,mb4.5
113A **Mohawk Valley,** 75.81 57 ⇑P P 05 13 32.8 -0.3
baz=76
V18A **Ganado** 75.82 53 P P 05 13 33.5 +0.4
baz=76,SNR=5.3
SOKA **Soboth** 75.93 325⇑iP P 05 13 34.1 +0.5
comp=Z,19nm,1.3s,mb4.9
SOKA **Soboth** 75.93 325⇑ipP P 05 13 34.1 +0.5
comp=Z,19nm,1.3s,mb4.9
X16A **Lo Mia Camp, P** 75.94 55 P P 05 13 34.5 +0.6
baz=76,SNR=8.5
SCHQ **Schefferville** 76.01 17 P P 05 13 33.5 -0.4
comp=Z,13nm,1.0s,mb4.8,baz=333,slow=5.7,SNR=16
SCHQ **Schefferville** 76.01 17 P P 05 13 33.5 -0.4
FUR **Furstenfeldbru** 76.10 328 eP P 05 13 34.8 +0.2
FUR pmax pmax
comp=Z,54nm,1.3s,mb5.3
FUR **Furstenfeldbru** 76.10 328 eP P 05 13 34.8 +0.2
comp=Z,54nm,1.3s,mb5.3
BCLA **Clavier** 76.18 333 P P 05 13 34.4 -0.6
comp=Z,15nm,1.8s,mb4.6
KBA **Koelnbreinsper** 76.25 327 iP P 05 13 36.8 +1.4
comp=Z,46nm,1.4s,mb5.2,SNR=8.6
KBA **Koelnbreinsper** 76.25 327 ipP P 05 13 36.8 +1.4
comp=Z,46nm,1.4s,mb5.2,SNR=8.6
KBA **Koelnbreinsper** 76.25 327 iP P 05 13 36.8 +1.4
KBA pmax pmax
comp=Z,46nm,1.4s,mb5.2
ECSD **EROS,Sioux Fal** 76.26 39 eP P 05 13 34.3 -1.2
Y16A **Circle Bar Ran** 76.31 55 ⇑P P 05 13 36.5 +0.5
baz=76
STU **Stuttgart** 76.33 330 eP P 05 13 35.6 -0.2
comp=Z,23nm,0.9s,mb5.1
X17A **Forest Lakes** 76.35 54 ⇓P P 05 13 36.9 +0.7
baz=76
WLF **Walferdange** 76.57 332 P P 05 13 37.1 -0.1
comp=Z,11nm,1.9s,mb4.5
WLF **Walferdange** 76.57 332 eP P 05 13 37.3 +0.1
comp=Z,16nm,1.3s,mb4.8
GIVF **Givet** 76.61 333 eP P 05 13 37.1 -0.3
LANF **Langenberg** 76.62 331 eP P 05 13 37.5 0.0
X18A **Snowflake** 76.69 54 ⇓P P 05 13 38.2 0.0
baz=76
DOU **Dourbes** 76.69 333 P P 05 13 36.8 -1.0
comp=Z,9.9nm,1.6s,mb4.5
WATA **Walderalm** 76.69 328⇑iP P 05 13 38.7 +0.8
comp=Z,31nm,1.2s,mb5.1
WATA **Walderalm** 76.69 328⇑ipP P 05 13 38.7 +0.8
comp=Z,31nm,1.2s,mb5.1
WATA **Walderalm** 76.69 328⇑iP P 05 13 38.7 +0.8
WATA pmax pmax
comp=Z,31nm,1.2s,mb5.1
WTTA **Wattenberg** 76.73 328⇑iP P 05 13 39.1 +1.0
comp=Z,24nm,0.9s,mb5.1,SNR=9.4
WTTA **Wattenberg** 76.73 328⇑ipP P 05 13 39.1 +1.0
comp=Z,24nm,0.9s,mb5.1,SNR=9.4
WTTA **Wattenberg** 76.73 328⇑iP P 05 13 39.1 +1.0
WTTA pmax pmax
comp=Z,25nm,0.9s,mb5.1
Z16A **Peralta Trail,** 76.73 55 ⇑P P 05 13 38.5 0.0
baz=77
Y17A **Roosevelt** 76.80 55 ⇓P P 05 13 38.6 -0.2
baz=77
214A **Organ Pipe Nat** 76.96 57 ⇑P P 05 13 39.3 -0.3
baz=77
BFO **Black Forest** 77.00 330 eP P 05 13 39.4 -0.2
BFO pmax pmax
comp=Z,33nm,1.4s,mb5.1
BFO **Black Forest** 77.00 330 eP P 05 13 39.4 -0.2
comp=Z,33nm,1.4s,mb5.1
SPAK **Spaichingen-Ko** 77.04 330 eP P 05 13 40.0 +0.1
X19A **St. Johns** 77.13 53 P P 05 13 41.1 +0.5
baz=77,SNR=8.6
116A **Eloy** 77.15 56 ⇓P P 05 13 40.9 +0.2
baz=77
Y18A **Canyon Day Jun** 77.20 54 ⇓P P 05 13 41.4 +0.4
baz=77
CDF **Champ du Feu** 77.29 331 eP P 05 13 41.1 -0.2
comp=Z,43nm,1.2s,mb5.0
CDF **Champ du Feu** 77.29 331 eP P 05 13 41.1 -0.2
CDF pmax pmax
comp=Z,22nm,1.2s,mb5.0
CDF **Champ du Feu** 77.29 331 eP P 05 13 41.1 -0.2
comp=Z,22nm,1.2s,mb5.0
DAVA **Damuels** 77.35 329⇑iP P 05 13 41.9 +0.3
comp=Z,15nm,0.7s,mb5.0,SNR=6.5
DAVA **Damuels** 77.35 329⇑ipP P 05 13 41.9 +0.3
comp=Z,15nm,0.7s,mb5.0,SNR=6.5
ECH **Echery** 77.50 331 eP P 05 13 42.4 0.0
Y19A **Nutrioso** 77.50 54 ⇓P P 05 13 43.5 +0.8
baz=77
FELD **Feldberg im Sc** 77.50 330 eP P 05 13 42.4 -0.1
117A **Oracle** 77.69 55 ⇓P P 05 13 43.6 -0.2
baz=78
216A **Three Points,** 77.70 56 ⇓P P 05 13 43.9 0.0
baz=78
THEF **They Montfort** 77.88 331 eP P 05 13 44.3 -0.2
MEZF **Maizieres J'vi** 77.94 332 eP P 05 13 44.7 -0.2
HINF **Hinteralfeld** 77.95 331 eP P 05 13 44.6 -0.3
HAU **Haudompre** 77.95 331 eP P 05 13 44.5 -0.5
BBS **Basel-Blauen** 78.03 330 eP P 05 13 45.5 +0.1
118A **Homack Ranch,** 78.08 55 P P 05 13 46.3 +0.3
baz=78,SNR=7.5
STKA **Stephens Creek** 78.21 180 P P 05 13 45.0 -1.3
comp=Z,4.2nm,1.0s,mb4.3,baz=315,slow=10.0,SNR=2.4
TUE **Stuetta** 78.24 329 eP P 05 13 46.7 +0.1
comp=Z,20nm,1.3s,mb4.9
217A **Green Valley** 78.24 56 ⇓P P 05 13 47.2 +0.4
baz=78
ANMO **Albuquerque** 78.28 51 P P 05 13 47.2 +0.2
comp=Z,1.5nm,0.6s,mb4.1,baz=319,slow=8.6,SNR=10
ANMO **Albuquerque** 78.28 51 P P 05 13 47.2 +0.2
ANMO pmax pmax
comp=Z,2.0nm,0.6s
LAZ **Ladron** 78.32 52 eP P 05 13 47.7 +0.4
119A **Ashpeak Ranch,** 78.36 54 ⇓P P 05 13 47.6 +0.2
baz=78
218A **Dragoon** 78.53 55 ⇓P P 05 13 48.6 +0.1
baz=78
BNM **Barren Site** 78.79 52 eP P 05 13 50.0 +0.1
219A **White Tail Can** 78.95 55 ⇓P P 05 13 50.8 0.0
baz=79
318A **Bisbee** 78.96 56 P P 05 13 50.9 +0.1
baz=79,SNR=7.1
CABF **La Chapelle** 79.25 331 eP P 05 13 51.4 -0.8
FLN **La Foliniere** 79.39 336 eP P 05 13 51.9 -0.9
comp=Z,117nm,1.4s,mb5.3
FLN **La Foliniere** 79.39 336 eP P 05 13 51.9 -0.9
FLN pmax pmax
comp=Z,59nm,1.4s,mb5.3
FLN **La Foliniere** 79.39 336 eP P 05 13 51.9 -0.9
comp=Z,59nm,1.4s,mb5.3
319A **Douglas** 79.41 55 ⇑P P 05 13 53.3 0.0
baz=79
LOR **Lormes** 79.41 332 eP P 05 13 52.2 -0.8
comp=Z,71nm,1.3s,mb5.1
LOR **Lormes** 79.41 332 eP P 05 13 52.2 -0.8
LOR pmax pmax
comp=Z,36nm,1.3s,mb5.1
LOR **Lormes** 79.41 332 eP P 05 13 52.2 -0.8
comp=Z,36nm,1.3s,mb5.1
LDF **La Druitiere** 79.44 335 eP P 05 13 52.6 -0.5
comp=Z,123nm,1.5s,mb5.3
LDF **La Druitiere** 79.44 335 eP P 05 13 52.6 -0.5
LDF pmax pmax
comp=Z,61nm,1.5s,mb5.3
LDF **La Druitiere** 79.44 335 eP P 05 13 52.6 -0.5
comp=Z,61nm,1.5s,mb5.3
SSF **Saint Saulge** 79.70 332 eP P 05 13 53.9 -0.7
comp=Z,26nm,1.1s,mb4.8
SSF **Saint Saulge** 79.70 332 eP P 05 13 53.9 -0.7
SSF pmax pmax
comp=Z,13nm,1.1s,mb4.8
SSF **Saint Saulge** 79.70 332 eP P 05 13 53.9 -0.7
comp=Z,13nm,1.1s,mb4.8
GRR **Gorron** 79.83 336 eP P 05 13 54.8 -0.5
comp=Z,70nm,1.2s,mb5.2
GRR **Gorron** 79.83 336 eP P 05 13 54.8 -0.5
GRR pmax pmax
comp=Z,35nm,1.2s,mb5.2
GRR **Gorron** 79.83 336 eP P 05 13 54.8 -0.5
comp=Z,35nm,1.2s,mb5.2
SMF **Signal de Mont** 79.97 332 eP P 05 13 55.4 -0.6
comp=Z,131nm,1.4s,mb5.4
SMF **Signal de Mont** 79.97 332 eP P 05 13 55.4 -0.6
SMF pmax pmax
comp=Z,66nm,1.4s,mb5.4
SMF **Signal de Mont** 79.97 332 eP P 05 13 55.4 -0.6
comp=Z,66nm,1.4s,mb5.4
LPL **La Plagne** 79.98 330 eP P 05 13 55.8 -0.4
comp=Z,29nm,1.0s,mb4.8
LPL **La Plagne** 79.98 330 eP P 05 13 55.8 -0.4
LPL pmax pmax
comp=Z,15nm,1.0s,mb4.9
LPL **La Plagne** 79.98 330 eP P 05 13 55.8 -0.4
comp=Z,14nm,1.0s,mb4.9
AVF **Avril sur Loir** 79.99 332 eP P 05 13 55.6 -0.6
comp=Z,137nm,1.5s,mb5.4
AVF **Avril sur Loir** 79.99 332 eP P 05 13 55.6 -0.6
AVF pmax pmax
comp=Z,68nm,1.5s,mb5.4
AVF **Avril sur Loir** 79.99 332 eP P 05 13 55.6 -0.6
comp=Z,68nm,1.5s,mb5.4
LPG **La Plagne** 79.99 330 eP P 05 13 56.2 0.0
BGF **Bois d'Agland** 80.36 333 eP P 05 13 57.5 -0.7
BNI **Bardonecchia** 80.41 329 eP P 05 13 58.9 +0.5
BNI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BNI **Bardonecchia** 80.41 329 eP P 05 13 58.9 +0.5
comp=Z,6.0nm,0.8s,mb4.6
SGMF **Saint Gilles** 80.42 337 eP P 05 13 57.5 -1.0
comp=Z,120nm,1.4s,mb5.3
SGMF **Saint Gilles** 80.42 337 eP P 05 13 57.5 -1.0
SGMF pmax pmax
comp=Z,60nm,1.4s,mb5.3
SGMF **Saint Gilles** 80.42 337 eP P 05 13 57.5 -1.0
comp=Z,60nm,1.4s,mb5.3
ROSF **Rostrenen** 80.54 337 eP P 05 13 58.4 -0.7
comp=Z,106nm,1.3s,mb5.3
ROSF **Rostrenen** 80.54 337 eP P 05 13 58.4 -0.7
ROSF pmax pmax
comp=Z,53nm,1.3s,mb5.3
ROSF **Rostrenen** 80.54 337 eP P 05 13 58.4 -0.7
comp=Z,53nm,1.3s,mb5.3
PLDF **La Plantade** 80.63 332 eP P 05 14 00.2 +0.6
MBDF **Montbardon** 80.66 329 eP P 05 13 59.1 -0.7
comp=Z,43nm,1.3s,mb4.9
MBDF **Montbardon** 80.66 329 eP P 05 13 59.1 -0.7
MBDF pmax pmax
comp=Z,22nm,1.3s,mb4.9
MBDF **Montbardon** 80.66 329 eP P 05 13 59.1 -0.7
comp=Z,22nm,1.3s,mb4.9
AGO **Saint Agoulin** 80.72 332 eP P 05 14 00.4 +0.3
ORIF **Oris-en-Rattie** 80.80 330 eP P 05 14 00.0 -0.6
comp=Z,19nm,0.9s,mb4.7
ORIF **Oris-en-Rattie** 80.80 330 eP P 05 14 00.0 -0.6
ORIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ORIF **Oris-en-Rattie** 80.80 330 eP P 05 14 00.0 -0.6
comp=Z,9.6nm,0.9s,mb4.7
TCF **Toulx Ste Croi** 80.80 333 eP P 05 14 00.0 -0.5
comp=Z,58nm,1.4s,mb5.0
TCF **Toulx Ste Croi** 80.80 333 eP P 05 14 00.0 -0.5
TCF pmax pmax
comp=Z,29nm,1.4s,mb5.0
TCF **Toulx Ste Croi** 80.80 333 eP P 05 14 00.0 -0.5
comp=Z,29nm,1.4s,mb5.0
QUIF **Quistinic** 80.90 337 eP P 05 14 00.0 -1.0
comp=Z,179nm,1.7s,mb5.4
QUIF **Quistinic** 80.90 337 eP P 05 14 00.0 -1.0
QUIF pmax pmax
comp=Z,89nm,1.7s,mb5.4
QUIF **Quistinic** 80.90 337 eP P 05 14 00.0 -1.0
comp=Z,89nm,1.7s,mb5.4
SAOF **Saorge** 81.02 328 eP P 05 14 00.9 -0.9
PYM **Petit Puy Mans** 81.03 332 eP P 05 14 01.6 -0.2
SBF **Sospel** 81.17 328 eP P 05 14 01.8 -0.8
MFF **Saint Martin d** 81.24 334 eP P 05 14 02.1 -0.8
comp=Z,128nm,1.6s,mb5.3
MFF **Saint Martin d** 81.24 334 eP P 05 14 02.1 -0.8
MFF pmax pmax
comp=Z,64nm,1.6s,mb5.3
MFF **Saint Martin d** 81.24 334 eP P 05 14 02.1 -0.8
comp=Z,64nm,1.6s,mb5.3
VIVF **Saint-Julien-l** 81.27 331 eP P 05 14 02.4 -0.7
comp=Z,18nm,0.8s,mb4.7
VIVF **Saint-Julien-l** 81.27 331 eP P 05 14 02.4 -0.7
VIVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
VIVF **Saint-Julien-l** 81.27 331 eP P 05 14 02.4 -0.7
comp=Z,8.9nm,0.8s,mb4.8
REVF **Revere** 81.30 328 eP P 05 14 02.6 -0.7
LBL **Lubilhac** 81.41 332 eP P 05 14 04.6 +0.8
GDL2 **Guadalupe Moun** 81.50 52 eP P 05 14 04.8 +0.2
PGF **Pioggiola** 81.73 327 eP P 05 14 04.8 -0.7
SMRF **Simiane la Rot** 81.73 330 eP P 05 14 04.9 -0.6
RJF **Les Rejaudoux** 81.90 333 eP P 05 14 05.8 -0.6
LMR **La Mourre** 81.96 329 eP P 05 14 05.8 -1.0
comp=Z,65nm,1.3s,mb5.1
LMR **La Mourre** 81.96 329 eP P 05 14 05.8 -1.0
LMR pmax pmax
comp=Z,32nm,1.3s,mb5.1
LMR **La Mourre** 81.96 329 eP P 05 14 05.8 -1.0
comp=Z,32nm,1.3s,mb5.1
CAF **Calviac** 82.06 332 eP P 05 14 06.4 -0.9
comp=Z,76nm,1.5s,mb5.1
CAF **Calviac** 82.06 332 eP P 05 14 06.4 -0.9
CAF pmax pmax
comp=Z,38nm,1.5s,mb5.1
CAF **Calviac** 82.06 332 eP P 05 14 06.4 -0.9
comp=Z,38nm,1.5s,mb5.1
LASF **Ste Croix** 82.23 331 eP P 05 14 07.3 -0.9
comp=Z,57nm,1.4s,mb5.0
WMOK **Wichita Mounta** 82.41 46 eP P 05 14 08.9 -0.4
LFF **La Frestale** 82.47 333 eP P 05 14 08.6 -0.8
comp=Z,126nm,1.3s,mb5.4
LFF **La Frestale** 82.47 333 eP P 05 14 08.6 -0.8
LFF pmax pmax
comp=Z,63nm,1.3s,mb5.4
LFF **La Frestale** 82.47 333 eP P 05 14 08.6 -0.8
comp=Z,63nm,1.3s,mb5.4
MTLF **Montolieu** 83.43 331 eP P 05 14 13.2 -1.2
comp=Z,59nm,1.5s,mb5.1
MTLF **Montolieu** 83.43 331 eP P 05 14 13.2 -1.2
MTLF pmax pmax
comp=Z,29nm,1.5s,mb5.1
MTLF **Montolieu** 83.43 331 eP P 05 14 13.2 -1.2
comp=Z,29nm,1.5s,mb5.1
EPF **Esparros** 84.31 333 eP P 05 14 18.4 -0.5
MDV **Middlebury** 84.57 24 eP P 05 14 19.2 -1.0
EBIE **Bielsa** 84.69 333 P P 05 14 20.9 +0.1
comp=Z,6.9nm,0.8s,mb4.8
EALK **Alkurruntz** 84.71 334 P P 05 14 22.0 +1.1
comp=Z,78nm,1.6s,mb5.6
ETSF **Etsaut** 84.72 333 eP P 05 14 20.0 -0.9
comp=Z,78nm,1.5s,mb5.3
ETSF **Etsaut** 84.72 333 eP P 05 14 20.0 -0.9
ETSF pmax pmax
comp=Z,39nm,1.5s,mb5.3
ETSF **Etsaut** 84.72 333 eP P 05 14 20.0 -0.9
comp=Z,39nm,1.5s,mb5.3
ACSO **Alum Creek Sta** 84.72 33 eP P 05 14 20.0 -1.0
comp=Z,14nm,0.6s,mb5.3
MIAR **Mount Ida** 85.08 43 eP P 05 14 22.6 -0.4
MIAR pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
MIAR **Mount Ida** 85.08 43 eP P 05 14 22.6 -0.4
comp=Z,7.1nm,0.9s,mb4.8
ELAN **Lanestosa** 85.27 335 P P 05 14 23.3 -0.4
comp=Z,12nm,0.9s,mb5.0
EPOB **Poblet** 85.58 331 P P 05 14 24.9 -0.4
comp=Z,14nm,0.8s,mb5.2
EARI **Arriondas** 85.71 336 P P 05 14 25.4 -0.5
comp=Z,18nm,1.1s,mb5.2
ESAC **San Caprasio** 85.75 333 P P 05 14 26.5 +0.3
comp=Z,31nm,0.7s,mb5.6
ERTA **Horta de San J** 86.19 332 P P 05 14 28.9 +0.6
comp=Z,76nm,1.8s,mb5.6
EPON **Pontenova** 86.20 338 P P 05 14 28.0 -0.4
comp=Z,9.0nm,0.5s,mb5.3
ETOS **Mallorca** 86.41 329 P P 05 14 28.5 -1.0
comp=Z,22nm,1.3s,mb5.2
STS **Santiago** 86.98 339 P P 05 14 31.3 -0.9
STS pmax pmax
comp=Z,23nm,1.2s,mb5.3
STS **Santiago** 86.98 339 P P 05 14 31.3 -0.9
comp=Z,23nm,1.2s,mb5.3
EMOS **Mosqueruela** 86.98 332 P P 05 14 31.1 -1.2
comp=Z,8.8nm,1.0s,mb4.9
ETOR **Torete** 87.07 333 P P 05 14 32.3 -0.4
ETOR pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
ETOR **Torete** 87.07 333 P P 05 14 32.3 -0.3
comp=Z,8.2nm,0.8s,mb5.0
ERUA **La Rua** 87.08 337 P P 05 14 32.5 -0.2
ERUA pmax pmax
comp=Z,6.0nm,1.3s,mb4.7
ERUA **La Rua** 87.08 337 P P 05 14 32.5 -0.1
comp=Z,6.2nm,1.3s,mb4.7
KEST **Kesra** 87.44 323 P P 05 14 34.0 -0.6
comp=Z,2.1nm,1.0s,mb4.3,baz=276,slow=3.7,SNR=6.5
ELOB **Lobios** 87.81 338 P P 05 14 36.8 +0.6
comp=Z,33nm,1.6s,mb5.3
ECHE **Chera** 87.84 332 P P 05 14 38.5 +2.1
ECHE pmax pmax
comp=Z,23nm,1.4s,mb5.2
ECHE **Chera** 87.84 332 P P 05 14 38.5 +2.1
comp=Z,23nm,1.4s,mb5.2
GUD **Guadarrama** 87.86 335 P P 05 14 35.5 -1.0
GUD pmax pmax
comp=Z,2.0nm,0.4s,mb4.7
GUD **Guadarrama** 87.86 335 P P 05 14 35.5 -1.0
comp=Z,1.6nm,0.4s,mb4.6
ELN **Prospectdale** 88.19 33 eP P 05 14 37.0 -1.1
CPCT **Cooper Cave** 88.28 36 eP P 05 14 38.0 -0.6
TKL **Tuckaleechee C** 88.41 35 P P 05 14 38.5 -0.7
comp=Z,3.0nm,0.6s,mb4.7,baz=207,slow=3.5,SNR=7.7
TKL **Tuckaleechee C** 88.41 35 P P 05 14 38.5 -0.7
TKL pmax pmax

comp=Z,3.0nm,0.6s,mb4.7
TKL Tuckaleechee C 88.41 35 P **P 05 14 38.5 -0.7**
ESDC Sonseca Array 88.70 334 P **P 05 14 40.6 +0.1**
comp=Z,4.0nm,0.6s,mb4.9,baz=21,slow=4.2,SNR=11
ESDC Sonseca Array 88.70 334 P **P 05 14 40.3 -0.2**
comp=Z,4.0nm,0.6s,mb4.9
EVIA Vianos 89.20 333 P **P 05 14 42.9 +0.1**
EVIA pmax pmax
comp=Z,11nm,1.0s,mb5.1
EVIA Vianos 89.20 333 P **P 05 14 42.9 +0.1**
comp=Z,10nm,1.0s,mb5.1
EHUE Huescar 89.98 332 P **P 05 14 46.2 -0.3**
EHUE pmax pmax
comp=Z,9.0nm,1.4s,mb4.9
EHUE Huescar 89.98 332 P **P 05 14 46.2 -0.3**
comp=Z,8.8nm,1.4s,mb4.9
EBAN Banos Encina 90.03 333 P **P 05 14 46.5 -0.3**
EBAN pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
EBAN Banos Encina 90.03 333 P **P 05 14 46.5 -0.3**
comp=Z,8.5nm,0.9s,mb5.1
EADA Adamuz 90.27 334 P **P 05 14 46.6 -1.3**
comp=Z,7.4nm,0.9s,mb5.0
EBAD Badajoz 90.43 336 P **P 05 14 47.5 -1.1**
comp=Z,2.3nm,0.9s,mb4.5
ESPR Espera 91.86 334 P **P 05 14 54.3 -0.9**
comp=Z,2.3nm,0.5s,mb4.8
SDV Santo Domingo 117.61 37 PKP PKPdf 05 20 32.5 -1.1
comp=Z,3.2nm,0.7s,baz=288,slow=6.4,SNR=5.6
VNDA Vanda 124.58 175 PKP PKPdf 05 20 43.9 -1.0
comp=Z,0.7nm,0.5s,baz=312,slow=4.4,SNR=11
VNDA Vanda 124.58 175 PKIKP PKPdf 05 20 43.9 -1.0
VNDA pmax pmax
comp=Z,1.0nm,0.5s
QSPA South Pole Qui 136.43 180 PKP PKPdf 05 21 06.3 -1.0
comp=Z,1.6nm,0.6s,baz=252,slow=2.9,SNR=10
LPAZ La Paz 140.87 49 PKP PKPdf 05 21 15.6 -1.7
comp=Z,1.1nm,0.9s,baz=0,0,slow=9.1,SNR=2.4
LPAZ La Paz 140.87 49 PKIKP PKPdf 05 21 15.6 -1.7
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
SIV San Ignacio 144.00 39 PKP PKPdf 05 21 20.1 -2.8
comp=Z,3.6nm,0.8s,baz=332,slow=1.0,SNR=11
LVC Limon Verde 145.57 56 PKPbc PKPbc 05 21 25.9 +0.3
comp=Z,5.5nm,0.7s,baz=296,slow=3.2,SNR=6.1
LVC Limon Verde 145.57 56 PKPbc PKPbc 05 21 25.9 +0.3
NVL N'lazarevskaya 146.16 207 *e*PKP2 PKPab 05 21 25.0 -1.7
NVL pmax pmax
comp=Z,44nm,1.5s
BDFB Brasilia 148.00 18 PKPbc PKPbc 05 21 32.2 -0.5
comp=Z,4.2nm,0.7s,baz=303,slow=9.4,SNR=8.4
BDFB Brasilia 148.00 18 PKP2 PKPbc 05 21 32.2 -0.5
BDFB pmax pmax
comp=Z,4.0nm,0.7s
SNAA Sanae 149.94 202 *e*PKPdf PKPbc 05 21 34.8 -1.2
SNAA *e* 05 21 41.7
SNAA *e* 05 21 45.3
SNAA *e* 05 22 17.5
VNA1 Neumayer--Stat 151.95 201 *e*PKPdf PKPbc 05 21 40.6 -0.2
VNA1 *e* 05 21 50.4
VNA1 *e* 05 21 54.5
VNA1 *e* 05 22 26.3
CFAA Coronel Fontan 152.54 67 PKPbc PKPbc 05 21 42.2 -1.1
comp=Z,0.5nm,0.6s,baz=291,slow=1.7,SNR=15
CFAA PKPab PKPab 05 21 53.4 -0.3
comp=Z,0.3nm,0.7s,baz=273,slow=4.9,SNR=4.1
CFAA Coronel Fontan 152.54 67 PKPbc PKPbc 05 21 42.2 -1.1
CFAA PKPab PKPab 05 21 53.4 -0.3
CPUP Villa Florida 154.69 43 PKPbc PKPbc 05 21 47.2 -0.9
comp=Z,0.3nm,0.4s,baz=18,slow=3.2,SNR=3.2
CPUP PKPab PKPab 05 22 01.5 -1.5
comp=Z,1.6nm,0.7s,baz=332,slow=6.5,SNR=6.3
CPUP Villa Florida 154.69 43 PKP2 PKPab 05 22 01.5 -1.5
CPUP pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 156.06 87 PKPbc PKPdf 05 21 49.6 +8.6
comp=Z,1.1nm,0.6s,baz=240,slow=4.7,SNR=6.6
PLCA PKPab PKPab 05 22 08.4 -0.1
comp=Z,2.6nm,1.0s,baz=280,slow=6.1,SNR=2.3
PLCA Paso Flores 156.06 87 PKP2 PKPab 05 22 08.4 -0.1
PLCA pmax pmax
comp=Z,3.0nm,1.0s

ISCJB ***02*** *05:02:17.9±0.5, 46.08N±0.09×14.19E±0.1, h10km, mb4.5/22, Error ellipse: s-maj=14.4km s-min=10.8km az=141.2*
MOS ***02*** *05:02:17.7±1.4, 46.12N×141.89E, h10km, mb4.6/12, Error ellipse: s-maj=26.6km s-min=12.9km az=85.7*
IDC ***02*** *05:02:18.2±0.6, 46.17N×141.86E, h0km, mb4.5/19, mb1 4.6/19, mb1mx4.6/23, mbtmp4.5/19, Error ellipse: s-maj=18.9km s-min=16.9km az=127.0*
NEIC ***02*** *05:02:19.9±0.5, 46.18N×141.84E, h10km, mb4.8/3, Error ellipse: s-maj=14.2km s-min=11.0km az=152.0*
ISC 02 05:02:19.8±0.6, 461N±01×1419E±01, h10km, n46, σ0.99/44, mb4.5/22, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.01**	**36**	*e*PN	**Pn**	**05 02 37.2**	**-2.9**
YSS				*e*		05 02 47.7	
YSS				smax			
comp=E,22μm,0.4s							
OKH	**Okha**	**7.45**	**5**	*e*PN	**Pn**	**05 04 12.2**	**+3.7**
SONM	**Songino Array**	**24.15**	**287**	P	**P**	**05 07 36.0**	**+0.2**
comp=E,4.4nm,0.8s,mb4.0,baz=78,slow=8.0,SNR=4.1							
SONM	**Songino Array**	**24.15**	**287**	P	**P**	**05 07 36.0**	**+0.3**
SONM				pmax	pmax		
comp=Z,4.0nm,0.8s							
CHUM	**Lake Minchumin**	**39.59**	**39**	*e*P	**P**	**05 09 51.4**	**+0.6**
comp=Z,14nm,1.0s,mb4.6							
MKAR	**Makanchi Array**	**40.19**	**293**	P	**P**	**05 09 56.0**	**0.0**
comp=Z,8.4nm,0.9s,mb4.5,baz=74,slow=8.9,SNR=5.7							
MKAR	**Makanchi Array**	**40.19**	**293**	P	**P**	**05 09 56.0**	**0.0**
MKAR				pmax	pmax		
comp=Z,8.0nm,0.9s							
KTH	**Kantishna Hill**	**40.24**	**40**	*e*P	**P**	**05 10 00.3**	**+4.0**
comp=Z,55nm,1.1s,mb5.2							
KDAK	**Kodiak Island**	**40.44**	**49**	P	**P**	**05 09 57.7**	**-0.2**
comp=Z,11nm,0.6s,mb4.8,baz=155,slow=16,SNR=7.5							
TRF	**Thorofare Moun**	**40.54**	**40**	*e*P	**P**	**05 09 59.2**	**+0.5**
comp=Z,18nm,0.9s,mb4.7							
RC01	**Rabbit Creek A**	**41.18**	**43**	*e*P	**P**	**05 10 04.7**	**+0.7**
comp=Z,4μm,1.2s							
BVAR	**Borovoye Array**	**45.09**	**306**	P	**P**	**05 10 36.0**	**+0.2**
comp=Z,8.6nm,1.0s,mb4.5,baz=74,slow=12,SNR=5.5							
BVAR	**Borovoye Array**	**45.09**	**306**	P	**P**	**05 10 36.0**	**+0.3**
BVAR				pmax	pmax		
comp=Z,9.0nm,1.0s							
INK	**Inuvik**	**46.25**	**31**	P	**P**	**05 10 43.9**	**-0.9**
comp=Z,6.3nm,0.7s,mb4.7,baz=294,slow=7.6,SNR=6.4							
INK	**Inuvik**	**46.25**	**31**	P	**P**	**05 10 43.9**	**-0.8**
INK				pmax	pmax		
comp=Z,6.0nm,0.7s							
ARCES	**ARCESS Array B**	**55.66**	**338**	P	**P**	**05 11 56.4**	**+0.9**
comp=Z,1.6nm,0.5s,mb4.3,baz=39,slow=9.7,SNR=6.1							
ARCES	**ARCESS Array B**	**55.66**	**338**	P	**P**	**05 11 56.4**	**+0.9**
ARCES				pmax	pmax		
comp=Z,2.0nm,0.5s							
YKA	**Yellowknife Ar**	**55.87**	**33**	P	**P**	**05 11 56.5**	**-0.5**
comp=Z,4.5nm,0.7s,mb4.6,baz=305,slow=6.9,SNR=6.3							
YKA	**Yellowknife Ar**	**55.87**	**33**	P	**P**	**05 11 56.5**	**-0.5**
YKA				pmax	pmax		
comp=Z,5.0nm,0.7s							
YKA	**Yellowknife Ar**	**55.87**	**33**	P	**P**	**05 11 56.5**	**-0.6**
NB2	**NORSAR Subarra**	**65.97**	**336**	P	**P**	**05 13 05.1**	**-0.6**
comp=Z,10nm,1.0s,mb4.8,baz=34,slow=6.9							
NOA	**NORSAR Array B**	**65.97**	**336**	P	**P**	**05 13 04.8**	**-0.9**
comp=Z,1.8nm,0.5s,mb4.3,baz=35,slow=6.4,SNR=3.5							
NOA	**NORSAR Array B**	**65.97**	**336**	P	**P**	**05 13 04.8**	**-0.9**
NOA				pmax	pmax		
comp=Z,2.0nm,0.5s							
WRA	**Warramunga Arr**	**66.12**	**188**	P	**P**	**05 13 06.1**	**-0.9**
comp=Z,1.7nm,0.6s,mb4.3,baz=360,slow=4.7,SNR=13							
WRA	**Warramunga Arr**	**66.12**	**188**	P	**P**	**05 13 06.1**	**-0.9**
WRA				pmax	pmax		
comp=Z,2.0nm,0.6s							
HRY	**Holter Researc**	**67.21**	**46**	*e*P	**P**	**05 13 14.1**	**+0.2**
AKASG	**Malin Array Be**	**67.40**	**321**	P	**P**	**05 13 14.1**	**-1.0**
comp=Z,1.9nm,0.5s,mb4.4,baz=41,slow=6.5,SNR=5.9							
AKASG	**Malin Array Be**	**67.40**	**321**	P	**P**	**05 13 14.1**	**-0.9**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
NVAR	**Mina Array Bea**	**69.40**	**56**	P	**P**	**05 13 29.3**	**+1.5**
comp=Z,2.7nm,0.7s,mb4.3,baz=300,slow=5.5,SNR=6.7							
NVAR	**Mina Array Bea**	**69.40**	**56**	P	**P**	**05 13 29.3**	**+1.5**
ASAR	**Alice Springs**	**69.85**	**188**	P	**P**	**05 13 32.5**	**+2.1**
comp=Z,4.2nm,0.9s,mb4.4,baz=28,slow=4.0,SNR=5.4							
ASAR	**Alice Springs**	**69.85**	**188**	P	**P**	**05 13 32.6**	**+2.2**
ASAR				pmax	pmax		
comp=Z,4.0nm,0.9s							
PDAR	**Pinedale Array**	**71.14**	**48**	P	**P**	**05 13 39.0**	**+0.7**
comp=Z,4.3nm,0.8s,mb4.4,baz=348,slow=1.3,SNR=5.7							
ULM	**Lac du Bonnet**	**71.77**	**35**	P	**P**	**05 13 40.7**	**-1.3**
comp=Z,4.9nm,0.6s,mb4.6,baz=320,slow=8.3,SNR=5.4							
ULM	**Lac du Bonnet**	**71.77**	**35**	P	**P**	**05 13 40.7**	**-1.3**
CLL	**Collm**	**73.42**	**329**	*e*P	**P**	**05 13 53.0**	**+1.2**
GERES	**GERESS Array B**	**75.19**	**328**	P	**P**	**05 14 01.6**	**-0.5**
comp=Z,1.8nm,0.6s,mb4.2,baz=20,slow=3.9,SNR=5.8							
GERES	**GERESS Array B**	**75.19**	**328**	P	**P**	**05 14 01.6**	**-0.6**
GERES				pmax	pmax		
comp=Z,2.0nm,0.6s							
SCHQ	**Schefferville**	**76.51**	**17**	P	**P**	**05 14 08.5**	**-1.1**
comp=Z,9.1nm,1.0s,mb4.6,baz=357,slow=6.2,SNR=3.9							
STKA	**Stephens Creek**	**77.65**	**180**	P	**P**	**05 14 14.9**	**-1.1**
comp=Z,3.1nm,0.8s,mb4.3,baz=105,slow=3.4,SNR=3.0							
TKL	**Tuckaleechee C**	**88.78**	**36**	P	**P**	**05 15 14.0**	**+0.3**
comp=Z,3.4nm,0.8s,mb4.7,baz=97,slow=2.7,SNR=5.4							
TKL	**Tuckaleechee C**	**88.78**	**36**	P	**P**	**05 15 14.0**	**+0.3**
TKL				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.7							
TKL	**Tuckaleechee C**	**88.78**	**36**	P	**P**	**05 15 14.0**	**+0.3**
ESDC	**Sonseca Array**	**89.27**	**334**	P	**P**	**05 15 15.8**	**-0.2**
comp=Z,1.8nm,0.5s,mb4.7,baz=15,slow=4.3,SNR=6.7							
CPUP	**Villa Florida**	**155.00**	**44**	PKPbc	PKPdf	05 22 23.9	+11
comp=Z,0.5nm,0.5s,baz=243,slow=2.3,SNR=2.0							
CPUP				PKPab	PKPab	05 22 36.9	-0.2
comp=Z,1.3nm,0.7s,baz=306,slow=4.4,SNR=3.6							
CPUP	**Villa Florida**	**155.00**	**44**	PKP2	PKPab	05 22 36.9	-0.2
CPUP				pmax	pmax		
comp=Z,1.0nm,0.7s							

JMA 02 05:06:40.1±0.2, 4687N×14163E, h11km, M4.0, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.56**	**173**	P	Pn	05 07 07.7	-0.1
JWK2				*e*S	Sn	05 07 28.1	+0.1
JYG	**Yagishiri**	**2.45**	**183**	P	Pn	05 07 20.8	+0.9
JYG				*e*S	Sn	05 07 51.1	+1.3

JMA 02 05:09:00.0±0.5, 4688N×14170E, h10km, M4.0, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.57**	**175**	P	Pn	05 09 27.9	0.0
JWK2				*e*S	Sn	05 09 47.9	-0.3
JRR	**Rishiri**	**1.76**	**189**	P	Pn	05 09 31.3	+0.8
JRR				*e*S	Sn	05 09 54.6	+1.6
JSE	**Soyaes**	**2.02**	**162**	P	Pn	05 09 34.0	0.0
JSE				*e*S	Sn	05 09 58.1	-1.2
JYG	**Yagishiri**	**2.46**	**185**	P	Pn	05 09 41.3	+1.2
JTKR	**Abashiri--Toko**	**3.30**	**151**	P	Pn	05 09 51.6	-0.1

NEIC ***02*** *05:10:09.5, 51.31N×173.21W, h15km, ML3.1(AEIC), After AEIC.*
ISCJB ***02*** *05:10:11.7±6.7, 51.6N±03×173.3W±02, h29km±53km, mb3.6/2, Error ellipse: s-maj=47.5km s-min=14.0km az=162.1*
IDC ***02*** *05:10:12.8±1.2, 53.76N×172.88W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/23, mbtmp3.8/5, Error ellipse: s-maj=73.7km s-min=22.5km az=162.0*
ISC 02 05:10:12.7±6.3, 515N±03×1733W±02, h24km±50km, n9, σ0.85/8, mb3.6/2, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**4.72**	**58**	Pn	**Pn**	**05 11 23.0**	**+0.7**
UNV				*e*Sn	**Sn**	**05 12 16.2**	**0.0**
KDAK	**Kodiak Island**	**13.47**	**54**	Pn	**Pn**	**05 13 21.1**	**-1.0**
32nm,1.0s							
KTH	**Kantishna Hill**	**16.86**	**36**	*e*Pn	**Pn**	**05 14 07.2**	**+0.4**
PETK	**Petropavlovsk-**	**17.77**	**286**	P	**Pn**	**05 14 18.2**	**0.0**
baz=85,slow=16,SNR=5.0							
DLBC	**Dease Lake**	**25.37**	**57**	P	**P**	**05 15 28.3**	**-9.3**
NVAR	**Mina Array Bea**	**40.09**	**87**	P	**P**	**05 17 46.8**	**+0.6**
0.9nm,0.8s,mb3.5,baz=302,slow=8.4,SNR=4.7							
PDAR	**Pinedale Array**	**42.94**	**76**	P	**P**	**05 18 08.7**	**-0.7**
0.8nm,0.6s,mb3.6,baz=314,slow=3.5,SNR=5.2							
WRA	**Warramunga Arr**	**84.62**	**228**	P	pP	05 22 55.8	+4.1
0.4nm,0.6s,baz=29,slow=5.4,SNR=6.2							
ASAR	**Alice Springs**	**88.04**	**227**	P	pP	05 23 12.8	+4.3
0.7nm,0.7s,baz=38,slow=4.2,SNR=6.9							

JMA 02 05:17:14.6±0.3, 4682N×14157E, h2km, M3.7, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.52**	**171**	P	Pn	05 17 42.7	-0.1
JWK2				*e*S	Sn	05 18 02.3	-0.8
JRR	**Rishiri**	**1.69**	**186**	P	Pn	05 17 45.9	+0.8
JRR				*e*S	Sn	05 18 08.5	+1.2
JSE	**Soyaes**	**1.99**	**159**	P	Pn	05 17 48.9	-0.3
JSE				*e*S	Sn	05 18 12.8	-1.9
JYG	**Yagishiri**	**2.40**	**182**	P	Pn	05 17 56.0	+1.2
JSS	**Shosan**	**2.43**	**175**	*e*S	Sn	05 18 26.5	+1.0
ASAJ	**Asahikawa**	**2.80**	**165**	*e*S	Sn	05 18 35.7	+1.1

NIED ***02*** *05:22:00, 47.00N×141.70E, h5km, Mw5.7 Best double couple: M0:3.78000×10^17 NP1:φ=202.00000°, δ=54.00000°, λ=105.00000°. NP2:φ=357.00000°, δ=38.00000°, λ=70.00000°.*
JMA ***02*** *05:22:14.9±0.3, 46.97N×141.69E, h27km, M5.9*
JMA Felt III J1.
BJI ***02*** *05:22:15.4, 46.78N×141.76E, h14km, mB5.8, mb5.3, ML5.6, Ms6.1, Msz5.9*
SKHL ***02*** *05:22:15.7±1.7, 46.74N×141.65E, h10km, mb6.1/6, mbh5.8/5, Ms5.9/6, msh5.6/4*
SKHL Felt (VI-VII) at Nevel'sk, (IV) at Yushno-Sakhalinsk, (III) at Ogon'ki, Il'inskiy, Kril'on.
IDC ***02*** *05:22:16.0±0.3, 46.76N×141.72E, h0km, mb5.2/23, mb1 5.3/28, mb1mx5.3/29, mbtmp5.2/28, ML4.6/5, MS5.5/27, Ms1 5.5/27, ms1mx5.2/45, Error ellipse: s-maj=12.7km s-min=9.7km az=101.0*
ISCJB ***02*** *05:22:15.8±0.5, 46.77N±0.01×141.77E±0.02, h7km±3km, mb5.5/307, MS5.6/198, Error ellipse: s-maj=2.3km s-min=1.9km az=160.3*
BGS ***02*** *05:22:16.0, 46.34N×141.84E, h10km, mb5.8*
MOS ***02*** *05:22:16.8±0.9, 46.76N×141.70E, h13km, mb5.8/124, MS5.6/66, Error ellipse: s-maj=6.0km s-min=3.2km az=104.9*
MOS Felt (VI-VII) at Nevel'sk; (IV) at Kholmsk, Yushno-Sakhalinsk; (III) at Ogon'ki, Il'inskiy, cape Kril'on.
GCMT ***02*** *05:22:17.7±0.2, 46.81N×141.67E, h13km, MW5.8/97, Moment Tensor Solution. s47,c61; s97,c211; Duration: 1±8 Moment tensor: Scale 10^17Nm; Mrr:5.45±.21; Mθθ:0.49±.11; Mφφ:-4.96±.14; Mrθ:0.87±.30; Mrφ:0.71±.07; Mθφ:0.97±.27; Best double couple: M0:5.41500×10^17 NP1:φ=2.00000°, δ=51.00000°, λ=80.00000°. NP2: φ=196.00000°, δ=51.00000°, λ=98.00000°. Principal axes: T 5.6470, Plg81.0000°, Azm148.0000°; N -0.4630, Plg7.0000°, Azm10.0000°; P -5.1830, Plg6.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***02*** *05:22:17.7±0.1, 46.71N×141.72E, h10km, mb5.6/178, MS5.5/143 Error ellipse: s-maj=3.0km s-min=2.3km az=162.0*
NEIC Felt [III] at Yuzhno-Sakhalinsk. Also felt at Korsakov and Makarov. Recorded [3 JMA] in northern Hokkaido.
SZGRF ***02*** *05:22:26.0, 47.44N×141.50E, h33km, mb5.7, Sakhalin Island, Russia*
DJA ***02*** *05:22:26, 46.74N×141.58E, h62km, mb5.7/33*
ISC 02 05:22:17.6±0.5, 4676N±001×14175E±002, h8km±3km, h18km±1.9km: pP-P, n1501, σ0.76/1412, mb5.5/307, MS5.6/198, 222C-196D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.72**	**74**	*d*PN	**Pg**	**05 22 31.0**	**-0.5**
YSS				*e*S	**Sg**	**05 22 41.7**	**+0.8**
YSS				smax			
comp=E,64μm,0.3s							
YSS	**Yuzh-Sakhalins**	**0.72**	**74**	⇓*i*Pg	**Pg**	**05 22 31.0**	**-0.5**
YSS				⇓*i*Pg	**Pg**	**05 22 31.0**	**-0.5**
YSS				A		05 22 44.9	
comp=E,64μm,0.3s							
YSS				AMS	AMS	05 23 12.0	
comp=E,719μm,4.5s							
YSS				AMS	AMS	05 23 13.0	
comp=E,689μm,4.5s							
YSS				AMS	AMS	05 23 13.0	
comp=E,786μm,4.5s							
YSS	**Yuzh-Sakhalins**	**0.72**	**74**	*e*Pg	**Pg**	**05 22 31.4**	**-0.1**
JWK2	**Keihoku**	**1.44**	**176**	P	**Pn**	**05 22 43.1**	**-0.9**
JWK2				*e*S	**Sn**	**05 23 03.0**	**-0.1**
JRR	**Rishiri**	**1.65**	**191**	P	**Pn**	**05 22 46.3**	**-0.5**
JRR				*e*S	**Sn**	**05 23 09.5**	**+1.4**
JSE	**Soyaes**	**1.89**	**162**	⇑P	**Pn**	**05 22 49.2**	**-0.9**
JSE				*e*S	**Sn**	**05 23 13.1**	**-1.0**
UGL	**Uglegorsk**	**2.33**	**5**	*e*PN	**Pn**	**05 22 54.5**	**-1.8**
UGL				pmax	pmax		
comp=Z,900nm,0.8s							
UGL	**Uglegorsk**	**2.33**	**5**	*e*P	**Pn**	**05 22 54.5**	**-1.8**
UGL				⇑*i*P		05 22 54.5	
UGL				AMB	AMB	05 22 59.0	
comp=Z,900nm,0.8s							
UGL				*e*Pg	**Pg**	**05 23 03.0**	**+0.7**
UGL				*e*S	**Sn**	**05 23 23.2**	**-1.9**
UGL				*e*Sg	**Sg**	**05 23 31.2**	**-1.4**
JYG	**Yagishiri**	**2.34**	**186**	P	**Pn**	**05 22 56.0**	**-0.3**
JYG				*e*S	**Sn**	**05 23 25.2**	**0.0**
JSS	**Shosan**	**2.36**	**178**	P	**Pn**	**05 22 56.4**	**-0.1**
ASAJ	**Asahikawa**	**2.71**	**167**	⇑P	**Pn**	**05 23 01.0**	**-0.3**
ASAJ				*e*S	**Sn**	**05 23 35.9**	**+1.7**
ASAJ	**Asahikawa**	**2.71**	**167**	Pn	**Pn**	**05 23 01.1**	**-0.3**
comp=Z,131nm,0.3s,baz=336,slow=16,SNR=78							
ASAJ				Sn	**Sn**	**05 23 31.8**	**-2.5**
comp=Z,438nm,0.3s,baz=351,slow=25,SNR=7.9							
ASAJ				Lg		05 23 43.1	
comp=Z,434nm,0.3s,baz=140,slow=28,SNR=14							
ASAJ	**Asahikawa**	**2.71**	**167**	P	**Pn**	**05 23 00.9**	**-0.4**
JKK2	**Kamakawa 2**	**2.97**	**166**	⇑P	**Pn**	**05 23 04.7**	**-0.2**
JKK2				*e*S	**Sn**	**05 23 43.7**	**+3.0**
JMP	**Maruseppu**	**2.97**	**157**	P	**Pn**	**05 23 04.1**	**-0.9**
JHR	**Hokuryu**	**3.01**	**180**	P	**Pn**	**05 23 05.4**	**-0.2**
JTKR	**Abashiri--Toko**	**3.17**	**151**	⇑P	**Pn**	**05 23 06.4**	**-1.4**
JAB	**Ashibetsu**	**3.27**	**174**	P	**Pn**	**05 23 09.6**	**+0.5**
JSK	**Shakotan**	**3.52**	**195**	P	**Pn**	**05 23 12.9**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**3.98**	**132**	⇓*i*PN	**Pn**	**05 23 18.5**	**-0.3**
YUK				pmax	pmax		
comp=N,550nm,0.5s							
YUK				pmax	pmax		
comp=E,760nm,0.5s							
YUK				pmax	pmax		
comp=Z,960nm,0.5s							
YUK				pmax	pmax		
comp=Z,6μm,2.2s							
YUK				pmax	pmax		
comp=N,3μm,2.0s							
YUK				pmax	pmax		
comp=E,5μm,2.0s							
YUK				MLR	MLR		
comp=Z,121μm,11.0s							
YUK				MLR	MLR		
comp=N,93μm,9.0s							
YUK				MLR	MLR		
comp=E,152μm,12.0s							
YUK	**Yuzh-Kuril'sk**	**3.98**	**132**	⇓*i*P	**Pn**	**05 23 18.5**	**-0.3**
YUK				AMB	AMB	05 23 22.0	
comp=E,550nm,0.5s							
YUK				AMB	AMB	05 23 22.0	
comp=E,760nm,0.5s							
YUK				AMB	AMB	05 23 22.0	
comp=E,980nm,0.5s							
YUK				AMB	AMB	05 23 27.5	
comp=E,3μm,2.0s							
YUK				AMB	AMB	05 23 27.5	
comp=E,5μm,2.0s							
YUK				AMB	AMB	05 23 27.5	
comp=E,6μm,2.0s							
YUK				*i*S	**Sn**	**05 24 05.5**	**-0.1**
YUK				A		05 24 11.8	
comp=E,8μm,0.8s							
YUK				A		05 24 11.8	
comp=E,5μm,0.8s							
YUK				AMS	AMS	05 25 26.0	
comp=E,93μm,11.0s							
YUK				AMS	AMS	05 25 26.0	
comp=E,152μm,11.0s							
YUK				AMS	AMS	05 25 26.0	
comp=E,121μm,11.0s							
YUK	**Yuzh-Kuril'sk**	**3.98**	**132**	*e*P	**Pn**	**05 23 19.0**	**+0.2**
TEY	**Ternei**	**3.98**	**246**	*i*P	**Pn**	**05 23 17.0**	**-1.9**
TEY				*e*Pg	**Pg**	**05 23 34.0**	**+0.2**
TEY				AMB	AMB	05 23 42.0	
comp=E,884nm,0.5s							
TEY				AMB	AMB	05 23 45.0	
comp=E,21μm,20.0s							
TEY				AMB	AMB	05 23 45.0	
comp=E,33μm,20.0s							
TYV	**Tymovskoe**	**4.16**	**8**	*e*P	**Pn**	**05 23 21.0**	**-0.3**
TYV				*e*Pg	**Pg**	**05 23 38.5**	**+1.3**
TYV				AMB	AMB	05 23 48.0	
comp=E,449nm,1.0s							
TYV				AMB	AMB	05 23 48.0	
comp=E,1581μm,1.0s							
KUR	**Kuril'sk**	**4.53**	**107**	*e*PN	**Pn**	**05 23 22.0**	**-4.4**
KUR				pmax	pmax		
comp=Z,6μm,1.6s							
KUR				pmax	pmax		
comp=N,340nm,0.8s							
KUR				pmax	pmax		
comp=E,430nm,0.8s							
KUR				pmax	pmax		
comp=Z,940nm,0.8s							
KUR				MLR	MLR		
comp=N,76μm,16.0s							
KUR				MLR	MLR		
comp=E,66μm,16.0s							
KUR				MLR	MLR		
comp=Z,84μm,16.0s							
KUR	**Kuril'sk**	**4.53**	**107**	*e*P	**Pn**	**05 23 23.2**	**-3.2**
KUR				AMB	AMB	05 23 42.0	
comp=Z,6μm,1.6s							
KUR				AMB	AMB	05 23 42.4	
comp=Z,340nm,0.8s							
KUR				AMB	AMB	05 23 42.4	
comp=Z,430nm,0.8s							
KUR				AMB	AMB	05 23 42.4	
comp=Z,940nm,0.8s							
KUR				*i*S	**Sn**	**05 24 15.5**	**-3.7**
KUR				A		05 24 23.2	
comp=Z,3μm,0.8s							
KUR				A		05 24 23.2	
comp=Z,1μm,0.8s							
KUR				A		05 24 34.0	
comp=Z,35μm,5.0s							
KUR				A		05 24 34.0	
comp=Z,22μm,5.0s							
KUR				AMS	AMS	05 25 26.0	
comp=Z,33μm,15.0s							
KUR				AMS	AMS	05 25 26.0	
comp=Z,28μm,15.0s							
KUR				AMS	AMS	05 25 26.0	
comp=Z,39μm,15.0s							
KUR				AMS	AMS	05 25 26.0	
comp=Z,76μm,16.0s	

comp=Z,500nm,0.9s
NKL AMB AMB 05 24 05.0
comp=Z,2μm,9.0s
NKL AMB AMB 05 24 05.0
comp=Z,2μm,9.0s
NKL *e*S **Sn** **05 25 02.0 -4.2**
NKL A 05 25 06.0
comp=Z,3μm,8.0s
NKL AMS AMS 05 27 05.0
comp=Z,36μm,13.0s
NKL AMS AMS 05 27 05.0
comp=Z,33μm,13.0s
NKL AMS AMS 05 27 05.0
comp=Z,60μm,13.0s
OKH Okha 6.85 6 *e*PN **Pn** **05 24 03.0 +4.8**
OKH *e*S **Sn** **05 25 23.0 +6.8**
OKH pmax pmax
comp=Z,2μm,7.0s
OKH smax
comp=N,9μm,8.0s
OKH Okha 6.85 6 *e*P **Pn** **05 24 01.0 +2.8**
OKH AMB AMB 05 24 05.8
comp=N,3μm,9.0s
OKH AMB AMB 05 24 05.8
comp=N,2μm,9.0s
OKH AMB AMB 05 24 05.8
comp=N,2μm,9.0s
OKH *e*S **Sn** **05 25 17.0 +0.8**
OKH A 05 25 24.0
comp=N,9μm,8.0s
OKH AMS AMS 05 27 48.4
comp=N,61μm,13.0s
OKH AMS AMS 05 27 48.4
comp=N,45μm,13.0s
OKH AMS AMS 05 27 48.4
comp=N,35μm,13.0s
KLR Kul'dur 7.15 294 *e*P **Pn** **05 23 57.8 -4.6**
KLR *e*Sg **Sg** **05 26 06.0 -0.9**
VLA Vladivostok 7.88 246 *e*PN **Pn** **05 24 16.9 +4.5**
VLA *e* 05 25 55.6
VLA pmax pmax
comp=Z,59nm,0.8s
VLA MLR MLR
comp=Z,25μm,9.7s
EKMR Ekimchan 8.49 321 *e*P **Pn** **05 24 17.5 -3.2**
EKMR *e*S **Sn** **05 25 58.0 +1.3**
EKMR A 05 26 13.8
comp=Z,167nm,0.7s
EKMR A 05 26 13.8
comp=Z,212nm,0.7s
MDJ Mudanjiang 8.77 260 P **Pn** **05 24 25.4 +0.7**
MDJ SCP ScP 05 34 25.3 +2.1
MDJ AMB AMB
comp=Z,16nm,0.8s
MDJ AMB AMB
comp=Z,3μm,13.9s
MDJ LR LR
comp=E,29μm,27.3s
MDJ LR LR
comp=Z,47μm,18.0s
JSD Sado 9.08 198 ⇑P **Pn** **05 24 31.9 +3.0**
SKR Severo-Kuril's 10.28 62 *e*PN **Pn** **05 24 49.9 +4.7**
SKR S **Sn** **05 26 57.0 +16**
SKR pmax pmax
comp=Z,360nm,1.0s
SKR MLR MLR
comp=N,42μm,16.0s
SKR MLR MLR
comp=E,28μm,16.0s
SKR MLR MLR
comp=Z,65μm,16.0s
SKR Severo-Kuril's 10.28 62 *e*P **Pn** **05 24 49.0 +3.8**
SKR AMB AMB 05 24 55.9
comp=Z,360nm,1.0s
SKR *e*S **Sn** **05 26 54.0 +13**
SKR AMS AMS 05 29 00.0
comp=Z,44μm,16.0s
SKR AMS AMS 05 29 00.0
comp=Z,31μm,16.0s
SKR AMS AMS 05 29 00.0
comp=Z,68μm,16.0s
SKR AMS AMS 05 29 00.0
comp=Z,42μm,16.0s
SKR AMS AMS 05 29 00.0
comp=Z,28μm,16.0s
SKR AMS AMS 05 29 00.0
comp=Z,65μm,16.0s
MAJO Matsushiro 10.54 196 *e*PN **Pn** **05 24 47.4 -1.5**
MAJO Matsushiro 10.54 196 *e*Pn **Pn** **05 24 47.5 -1.3**
MAT Matsushiro 10.54 196 P **Pn** **05 24 50.0 +1.1**
MAT S **Sn** **05 26 53.0 +5.9**
MJAR Matsushiro Arr 10.54 196 Pn **Pn** **05 24 50.4 +1.5**
comp=Z,1.6nm,0.3s,baz=8.9,slow=13,SNR=51
MJAR LR LR 05 29 00.6
comp=Z,7μm,18.4s,baz=20,slow=38
BMKR Bomnak 11.40 319 *e*P **Pn** **05 24 57.5 -3.0**
BMKR AMB AMB 05 25 02.1
comp=Z,73nm,1.1s
BMKR *e*S **Sn** **05 27 05.3 -2.7**
BMKR *e*Sg 05 28 39.0
BMKR A 05 28 44.0
comp=Z,92nm,0.5s
BMKR A 05 28 44.0
comp=Z,105nm,0.8s
ZEA Zeya 11.60 312 *e*P **Pn** **05 25 00.5 -2.8**
ZEA AMB AMB 05 25 14.0
comp=Z,3μm,13.0s
ZEA AMB AMB 05 25 14.0
comp=Z,2μm,12.0s
ZEA AMB AMB 05 25 14.0
comp=Z,1μm,13.0s
ZEA *e*S **Sn** **05 27 14.0 +1.0**
ZEA A 05 27 24.0
comp=Z,2μm,15.0s
ZEA AMS AMS 05 29 44.0
comp=Z,1μm,13.0s
ZEA AMS AMS 05 29 44.0
comp=Z,43μm,13.0s
CN2 Changchun 11.86 261 *e*P **Pn** **05 25 08.9 +2.1**
CN2 *e*XP 05 25 16.0
CN2 *e*PP 05 25 18.6
CN2 *e*S **Sn** **05 27 21.4 +2.2**
CN2 *e*SS 05 27 35.5
CN2 AMB AMB
comp=Z,40nm,1.2s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,53μm,14.0s
CN2 LR LR
comp=E,82μm,14.0s
CN2 LR LR
comp=Z,87μm,15.0s
PETK Petropavlovsk- 12.07 52 Pn **Pn** **05 25 12.4 +2.6**
comp=Z,2.6nm,0.3s,baz=230,slow=9.3,SNR=29
PETK LR LR 05 29 48.9
comp=Z,13μm,21.5s,baz=94,slow=38
PETK Petropavlovsk- 12.07 52 *e*Pn **Pn** **05 25 11.9 +2.1**
PETK *e*Sn **Sn** **05 27 26.5 +2.0**
KROS Kirovskiy 12.12 315 *e*P **Pn** **05 25 06.8 -3.5**
KROS AMB AMB 05 25 19.9
comp=Z,55nm,1.0s
KROS *e*Sg 05 28 41.3
JWT Wachi 12.41 205 P **Pn** **05 25 16.9 +2.4**
PET Petropavlovsk 12.56 54 *e*PN **Pn** **05 25 19.6 +3.1**
PET pmax pmax
comp=Z,4μm,8.6s
PET pmax pmax
comp=Z,3μm,9.4s
PET MLR MLR
comp=Z,21μm,16.0s
PET MLR MLR
comp=Z,22μm,15.0s
PET Petropavlovsk 12.56 54 *e*P **Pn** **05 25 20.5 +4.0**
PET AMB AMB 05 25 23.5
comp=Z,4μm,8.6s
PET AMB AMB 05 25 27.1
comp=Z,160nm,0.9s
PET *e*S **Sn** **05 27 44.6 +8.1**
PET AMS AMS 05 31 32.6
comp=Z,26μm,12.0s
PET AMS AMS 05 31 35.7
comp=Z,22μm,12.0s
PET Petropavlovsk 12.56 54 *e*Pn **Pn** **05 25 18.5 +2.1**
PET *e*Sn **Sn** **05 27 55.0 +19**
JHJ Hachijo jima 2 13.70 187 Pn **Pn** **05 25 31.2 -0.9**
comp=Z,9.7nm,0.3s,baz=342,slow=0.9,SNR=5.6
JHJ LR LR 05 32 06.7
comp=Z,5μm,18.6s,baz=18,slow=43
KSRS Korea Array 13.83 233 Pn **Pn** **05 25 34.1 +0.4**
comp=Z,2.0nm,0.3s,baz=45,slow=12,SNR=49
KSRS LR LR 05 29 51.7
comp=Z,14μm,21.5s,baz=46,slow=33
MA2 Magadan 13.92 19 *e*P **Pn** **05 25 36.7 +1.8**
MA2 pmax pmax
comp=Z,250nm,1.0s
MA2 pmax pmax
comp=N,190nm,1.1s
MA2 pmax pmax
comp=E,100nm,1.1s
MA2 Magadan 13.92 19 *e*Pn **Pn** **05 25 36.5 +1.6**
CLNS Chul'man 14.47 320 *e*P **Pn** **05 25 44.8 +2.4**
CLNS *e*S **Sn** **05 28 24.5 +1.6**
CLNS pmax pmax
comp=Z,79nm,1.3s
CLNS pmax pmax
comp=E,53nm,1.5s
CLNS pmax pmax
comp=N,67nm,1.2s
CLNS smax
comp=E,706nm,17.8s
CLNS smax
comp=N,713nm,14.5s
CLNS MLR MLR
comp=Z,17μm,11.0s
CLNS MLR MLR
comp=N,6μm,12.0s
CLNS MLR MLR
comp=E,12μm,10.0s
CLNS Chul'man 14.47 320 *e*P **Pn** **05 25 43.4 +1.0**
INCN Inchon 14.53 236 *e*Pn **Pn** **05 25 44.2 +0.9**
HIA Hailar 14.93 288 *e*P **Pn** **05 25 50.0 +1.2**
HIA *e* 05 28 41.5
HIA pmax pmax
comp=Z,125nm,0.9s
HIA Hailar 14.93 288 *e*Pn **Pn** **05 25 50.0 +1.2**
comp=Z,125nm,0.9s
HIA *e*Sn **Sn** **05 28 41.5 +7.2**
DL2 Dalian 16.68 249 ⇑*i*P **Pn** **05 26 12.2 +0.6**
DL2 S **Sn** **05 29 20.3 +3.4**
DL2 AMB AMB
comp=Z,70nm,1.1s
DL2 AMB AMB
comp=Z,3μm,7.6s
DL2 LR LR
comp=N,28μm,13.1s
DL2 LR LR
comp=E,15μm,11.9s
DL2 LR LR
comp=Z,16μm,12.7s
YAK Yakutsk 16.79 340 *e*P **Pn** **05 26 11.3 -1.5**
YAK *e*S **Sn** **05 29 16.9 -2.4**
YAK pmax pmax
comp=Z,174nm,1.2s
YAK pmax pmax
comp=N,144nm,1.0s
YAK pmax pmax
comp=E,83nm,1.0s
YAK pmax pmax
comp=Z,589nm,2.3s
YAK pmax pmax
comp=E,310nm,1.8s
YAK pmax pmax
comp=N,738nm,2.2s
YAK smax
comp=N,1μm,9.4s
YAK MLR MLR
comp=E,8μm,11.0s
YAK MLR MLR
comp=N,13μm,11.0s
YAK MLR MLR
comp=Z,15μm,12.0s
YAK Yakutsk 16.79 340 *e*Pn **Pn** **05 26 12.3 -0.5**
comp=Z,190nm,1.1s
SEY Seymchan 17.29 17*c i*P **Pn** **05 26 20.1 +1.1**
CIT Chita 19.03 296 *e*P **Pn** **05 26 41.0 +0.6**
CIT pmax pmax
comp=Z,543nm,3.0s
CBIJ Chichi jima 19.63 179 P **Pn** **05 26 45.4 -2.4**
comp=Z,9.1nm,0.3s,baz=316,slow=7.9,SNR=10
CBIJ LR LR 05 34 19.8
comp=Z,6μm,19.3s,baz=350,slow=37
CBIJ Chichi jima 19.63 179 P **Pn** **05 26 46.6 -1.2**
BJT Baijiatuau 19.72 259 *e*P **Pn** **05 26 47.2 -1.6**
BJT *e*S **Sn** **05 30 29.1 -1.2**
BJT pmax pmax
comp=Z,87nm,1.1s
BJT Baijiatuau 19.72 259 *e*P **Pn** **05 26 47.2 -1.6**
comp=Z,87nm,1.1s
BJT *e*S **Sn** **05 30 29.1 -1.2**
TIA Tai'an 21.16 249 *e*P **P** **05 27 01.4 -1.6**
TIA XP sP 05 27 14.5 +8.2
TIA S **S** **05 31 00.0 +1.6**
TIA AMB AMB
comp=Z,65nm,1.1s,mb4.9
SMY Shemya 21.62 62 *e*P **P** **05 27 10.1 +2.2**
SMY pmax pmax
comp=Z,320nm,1.0s,mb5.7
SMY Shemya 21.62 62 *e*P **P** **05 27 09.4 +1.5**
comp=Z,316nm,1.0s,mb5.7
SSE Sheshan 22.27 233 P **P** **05 27 15.4 +0.4**
SSE XP sP 05 27 19.6 +1.3
SSE S **S** **05 31 21.2 +1.0**
SSE XS sS 05 31 26.0 +2.2
SSE AMB AMB
comp=Z,45nm,1.2s,mb4.8
SSE AMB AMB
comp=Z,884nm,10.3s
SSE LR LR
comp=N,7μm,12.0s,MS5.4
SSE LR LR
comp=E,5μm,12.0s,MS5.4
SSE LR LR
comp=Z,9μm,10.9s,MS5.5
JOW Kunigami 22.56 213 P **P** **05 27 16.6 -1.4**
comp=Z,40nm,0.8s,mb4.9,baz=46,slow=5.5,SNR=5.7
NJ2 Nanjing 22.87 238 *e*P **P** **05 27 20.2 -1.2**
NJ2 AP 05 27 23.5
NJ2 XP sP 05 27 26.6 +1.9
NJ2 PP 05 27 51.2
NJ2 S **S** **05 31 23.0 -8.3**
NJ2 XS sS 05 31 30.0 -5.3
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.6
NJ2 AMB AMB
comp=Z,860nm,6.2s
NJ2 LR LR
comp=N,15μm,14.8s,MS5.6
NJ2 LR LR
comp=E,9μm,16.0s,MS5.6
NJ2 LR LR
comp=Z,9μm,16.0s,MS5.3
TIY Taiyuan 23.40 258 *i* P **P** **05 27 28.2 +1.3**
TIY S **S** **05 31 40.0 +0.2**
TIY LR LR
comp=N,6μm,9.4s
TIY LR LR
comp=E,14μm,10.3s
TIY LR LR
comp=Z,18μm,15.2s,MS5.7
BTO Baotou 23.65 267 *e*P **P** **05 27 28.3 -1.0**
BTO S **S** **05 31 46.0 +2.2**
BTO LR LR
comp=N,10μm,11.2s,MS5.6
BTO LR LR
comp=E,6μm,12.4s,MS5.6
SONM Songino Array 23.88 286 P **P** **05 27 30.5 -0.8**
comp=E,71nm,1.1s,mb5.0,baz=81,slow=5.3,SNR=98
SONM PcP PcP 05 31 13.1 -0.8
comp=E,8.9nm,0.9s,baz=142,slow=3.7,SNR=6.0
SONM LR LR 05 37 32.4
comp=E,28μm,18.8s,MS5.8,baz=159,slow=38
SONM Songino Array 23.88 286 P **P** **05 27 30.5 -0.9**
SONM 05 31 13.1
SONM pmax pmax
comp=Z,71nm,1.1s
SONM MLR MLR
comp=Z,28μm,18.8s
IRK Irkutsk 24.75 297 ⇑*i*P **P** **05 27 38.8 -0.5**
IRK pmax pmax
comp=Z,380nm,1.6s,mb5.7
BILL Bilibino 24.76 22*c i*P **P** **05 27 39.0 -0.2**
BILL *e*S **S** **05 32 04.7 +3.4**
BILL pmax pmax
comp=Z,152nm,1.0s,mb5.5
BILL MLR MLR
comp=Z,9μm,14.0s,MS5.4
BILL Bilibino 24.76 22 *e*P **P** **05 27 40.8 +1.6**
comp=Z,303nm,1.0s,mb5.8
BILL LR LR
comp=Z,8μm,20.0s,MS5.2
TLY Talaya 25.17 295 P **P** **05 27 43.1 0.0**
comp=Z,283nm,1.0s,mb5.8,SNR=18
TLY Talaya 25.17 295 P **P** **05 27 43.5 +0.4**
SNR=44
TLY Talaya 25.17 295*c i*P **P** **05 27 43.2 +0.1**
TLY *e*PPP 05 28 18.2
TLY *e*S **S** **05 32 09.1 +1.0**
TLY *e*SS 05 32 59.8
TLY pmax pmax
comp=Z,61nm,1.2s,mb5.0
TLY MLR MLR
comp=Z,25μm,15.0s,MS5.8
TLY Talaya 25.17 295 *e*P **P** **05 27 43.8 +0.7**
comp=Z,114nm,1.3s,mb5.2
ZAK Zakamensk 25.52 292 ⇑*i*P **P** **05 27 46.5 +0.2**
ZAK pmax pmax
comp=Z,74nm,1.3s,mb5.1
TIXI Tiksi 25.70 351*c i*P **P** **05 27 46.2 -1.6**
TIXI pmax pmax
comp=Z,178nm,2.0s,mb5.2
TIXI MLR MLR
comp=Z,16μm,12.0s,MS5.8
TIXI Tiksi 25.70 351 *e*P **P** **05 27 47.9 +0.1**
WHN Wuhan 26.64 242 ⇓P **P** **05 27 55.5 -1.1**
WHN AP pP 05 28 07.5 +8.5
WHN S **S** **05 32 34.4 +2.6**
WHN AMB AMB
comp=Z,3μm,6.3s
WHN LR LR
comp=N,16μm,11.1s,MS6.2
WHN LR LR
comp=E,34μm,11.7s,MS6.2
WHN LR LR
comp=Z,29μm,13.0s,MS6.0
TATO Taipei 27.09 224 ⇑P **P** **05 28 01.9 +1.2**
SNR=6.5
TATO Taipei 27.09 224 *e*P **P** **05 27 58.4 -2.2**
comp=Z,172nm,1.1s,mb5.5
YHNB Yeheng 27.40 223 *e*P **P** **05 28 04.4 +0.9**
comp=Z,70nm,0.9s,mb5.2
XAN Xi'an 27.83 255 P **P** **05 28 06.1 -1.1**
XAN S **S** **05 32 47.0 -3.4**
XAN SCP ScP 05 35 07.1 +3.1
XAN SCS ScS 05 38 57.4 +1.2
XAN AMB AMB
comp=Z,25nm,1.4s,mb4.7
XAN AMB AMB
comp=Z,1μm,13.5s
XAN LR LR
comp=N,11μm,16.3s,MS5.8
XAN LR LR
comp=E,18μm,15.5s,MS5.8
XAN LR LR
comp=Z,28μm,16.5s,MS5.9
QZH Quanzhou 28.55 228 P **P** **05 28 14.3 +0.6**
QZH S **S** **05 33 08.0 +6.2**
QZH AMB AMB
comp=Z,160nm,1.2s,mb5.6
QZH AMB AMB
comp=Z,2μm,5.2s
QZH LR LR
comp=N,9μm,11.9s,MS5.9
QZH LR LR
comp=E,14μm,11.9s,MS5.9
QZH LR LR
comp=Z,16μm,11.5s,MS5.9
LZH Lanzhou 30.09 263 *e*P **P** **05 28 27.8 +0.5**
LZH AP pP 05 28 34.2 +4.5
LZH XP sP 05 28 36.5 +5.8
LZH PP PP 05 29 25.0 -10
LZH PCP PcP 05 31 30.6 +1.8
LZH S **S** **05 33 27.0 +1.1**
LZH SS SS 05 34 58.0 -36
LZH AMB AMB
comp=Z,169nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,1μm,5.0s
LZH LR LR
comp=E,25μm,13.1s
LZH LR LR
comp=Z,29μm,15.2s,MS6.0
GTA Gaotai 31.19 272 P **P** **05 28 37.2 +0.1**
GTA AP pP 05 28 41.2 +1.7
GTA XP sP 05 28 44.4 +3.9
GTA PP PP 05 29 40.5 -6.8
GTA PCP PcP 05 31 32.6 +0.9
GTA S **S** **05 33 41.5 -1.7**
GTA XS sS 05 33 50.2 +3.0
GTA SS SS 05 35 29.5 -27
GTA SCS ScS 05 39 09.4 -2.5
GTA AMB AMB
comp=Z,9.0nm,1.5s,mb4.4
GTA AMB AMB
comp=Z,875nm,5.7s
GTA LR LR
comp=N,17μm,11.5s,MS6.1
GTA LR LR
comp=E,19μm,13.0s,MS6.1
GTA LR LR
comp=Z,33μm,13.8s,MS6.2
TNA Tin City 32.55 37 *e*P **P** **05 28 49.4 +0.6**
comp=Z,67nm,1.0s,mb5.5
GUMO Guam 33.16 174 PFAKE 05 29 10.0 +15
GUMO LR LR
comp=Z,4μm,19.0s,MS5.1
CD2 Chengdu 33.18 255 P **P** **05 28 53.8 -0.8**
CD2 AP pP 05 28 59.6 +2.6
CD2 XP sP 05 29 02.6 +4.6
CD2 PP PP 05 30 04.4 -5.1
CD2 PCP PcP 05 31 37.5 +0.2
CD2 S **S** **05 34 10.2 -4.2**
CD2 XS sS 05 34 19.9 +1.5
CD2 SS SS 05 36 10.5 -27
CD2 SCS ScS 05 39 18.2 -4.0
CD2 AMB AMB
comp=Z,90nm,1.0s,mb5.7
CD2 AMB AMB
comp=Z,1μm,11.5s
CD2 LR LR
comp=N,24μm,18.6s,MS6.0
CD2 LR LR
comp=E,19μm,18.0s,MS6.0
CD2 LR LR
comp=Z,18μm,17.4s,MS5.8
GYA Guiyang 34.29 246 ⇑*i*P **P** **05 29 03.9 -0.4**
GYA AP pP 05 29 13.4 +6.7
GYA XP sP 05 29 16.8 +9.1
GYA PP PP 05 30 21.8 0.0
GYA PPP 05 30 39.6
GYA PCP PcP 05 31 42.9 +2.4
GYA S **S** **05 34 31.8 +0.2**
GYA SCP ScP 05 35 25.6 0.0
GYA SS SS 05 36 40.5 -19
GYA SSS 05 37 06.8
GYA SCS ScS 05 39 26.4 -1.8
GYA AMB AMB
comp=Z,80nm,0.9s,mb5.7
GYA AMB AMB
comp=Z,2μm,14.6s
GYA LR LR
comp=N,12μm,11.3s,MS6.0
GYA LR LR
comp=E,10μm,11.8s,MS6.0
GYA LR LR
comp=Z,11μm,12.4s,MS5.8
ZAA0 Zalesovo Array 36.15 303 *e*P **P** **05 29 19.8 -0.2**
ZALV Zalesovo Beam 36.15 303 P **P** **05 29 19.7 -0.3**
comp=Z,37nm,1.0s,mb5.2,baz=79,slow=7.7,SNR=59
ZALV PcP PcP 05 31 44.6 -0.9
comp=Z,11nm,0.8s,baz=55,slow=2.0,SNR=4.9
ZALV LR LR 05 43 07.8
comp=Z,4μm,21.4s,MS5.1,baz=81,slow=35
ZAL Zalesovo 36.16 303 P **P** **05 29 19.7 -0.4**
ZAL 05 31 44.6
ZAL pmax pmax
comp=Z,37nm,1.0s

ZAL MLR MLR
comp=Z,4µm,21.4s
MIDW Midway 36.85 106 PFAKE 05 29 40.0 +14
MIDW LR LR
comp=Z,4µm,19.0s,MS5.2
NVS Novosibirsk 36.87 305 *i* P **P 05 29 25.7 -0.4**
NVS *i* S **S 05 35 13.8 +3.3**
NVS pmax pmax
comp=E,100nm,1.2s
NVS pmax pmax
comp=Z,97nm,1.2s,mb5.5
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS smax
comp=N,64nm,2.0s
NVS smax
comp=E,37nm,1.7s
CHGN Chignik 37.31 53 *e*P **P 05 29 30.6 +0.8**
WMQ Urumqi 37.52 286 P **P 05 29 32.3 +0.6**
WMQ AP pP 05 29 39.7 +5.5
WMQ XP sP 05 29 43.1 +7.9
WMQ PP PP 05 31 00.8 +3.7
WMQ PCP PcP 05 31 45.3 -4.5
WMQ *e*S **S 05 35 19.3 -1.4**
WMQ SS SS 05 37 54.2 -11
WMQ SCS ScS 05 39 41.8 -3.5
WMQ AMB AMB
comp=Z,65nm,1.1s,mb5.3
WMQ AMB AMB
comp=Z,2µm,10.0s
WMQ LR LR
comp=N,13µm,16.0s,MS6.0
WMQ LR LR
comp=E,14µm,18.4s,MS6.0
WMQ LR LR
comp=Z,17µm,18.8s,MS5.9
TTA Tatalina 37.61 42 *e*P **P 05 29 31.6 -0.7**
KMI Kunming 37.73 249 P **P 05 29 33.6 -0.1**
KMI AP pP 05 29 37.7 +1.5
KMI XP sP 05 29 38.7 +1.5
KMI PP PP 05 31 04.1 +4.3
KMI PPP 05 31 24.7
KMI S **S 05 35 23.5 -0.7**
KMI XS sS 05 35 29.2 +0.9
KMI SS SS 05 37 58.0 -12
KMI SSS 05 38 27.9
KMI AMB AMB
comp=Z,126nm,1.3s,mb5.5
KMI AMB AMB
comp=Z,992nm,4.2s
KMI LR LR
comp=N,16µm,13.4s,MS6.1
KMI LR LR
comp=E,12µm,14.0s,MS6.1
KMI LR LR
comp=Z,12µm,14.6s,MS5.8
SVW2 Sparrevohn 38.00 45 *e*P **P 05 29 36.1 +0.5**
QIZ Qiongzhong 38.04 234 ⇑P **P 05 29 37.3 +0.9**
QIZ AP pP 05 29 39.2 +0.3
QIZ PP PP 05 31 03.8 +0.5
QIZ S **S 05 35 33.2 +4.1**
QIZ AMB AMB
comp=Z,28nm,1.6s,mb4.7
QIZ AMB AMB
comp=Z,951nm,5.2s
QIZ LR LR
comp=E,11µm,13.4s
QIZ LR LR
comp=Z,8µm,13.7s,MS5.7
QIZ Qiongzhong 38.04 234 *e*P **P 05 29 37.0 +0.6**
comp=Z,55nm,1.3s,mb5.1
IMA2 Indian Mountai 38.43 36 *e*P **P 05 29 38.7 -0.5**
CHUM Lake Minchumin 39.18 40 *e*P **P 05 29 46.5 +1.0**
comp=Z,119nm,1.0s,mb5.6
PPLA Purkeypile 39.36 41 *e*P **P 05 29 47.9 +0.9**
comp=Z,404nm,1.2s,mb6.0
BPAW Bear Paw Mtn. 39.73 39 *e*P **P 05 29 50.3 +0.2**
comp=Z,72nm,0.7s,mb5.5
COLD Coldfoot 39.75 34 *e*P **P 05 29 49.7 -0.5**
comp=Z,98nm,0.8s,mb5.6
KTH Kantishna Hill 39.83 40 *e*P **P 05 29 51.3 +0.4**
comp=Z,3µm,1.2s,mb7.0
MK31 Makanchi Array 39.85 293 *i* P **P 05 29 50.7 -0.6**
MK31 pmax pmax
comp=Z,60nm,0.8s,mb5.4
MK31 Makanchi Array 39.85 293 *e*P **P 05 29 50.9 -0.5**
MKAR Makanchi Array 39.85 293 P **P 05 29 50.7 -0.6**
comp=Z,50nm,1.0s,mb5.2,baz=74,slow=8.9,SNR=146
MKAR PcP PcP 05 31 56.2 -0.8
comp=Z,3.1nm,0.7s,baz=71,slow=4.8,SNR=7.4
MKAR LR LR 05 47 27.0
comp=Z,27µm,19.5s,MS6.1,baz=73,slow=38
MKAR Makanchi Array 39.85 293⇑*e*P **P 05 29 50.7 -0.6**
MKAR Makanchi Array 39.85 293 P **P 05 29 50.7 -0.6**
MKAR PcP PcP 05 31 56.2 -0.8
MKAR LR LR 05 47 26.9
OHAK Old Harbor 39.87 50 *e*P **P 05 29 50.0 -1.3**
comp=Z,189nm,1.0s,mb5.8
KDAK Kodiak Island 40.10 49 P **P 05 29 52.0 -1.3**
comp=Z,510nm,0.6s,mb6.4,SNR=19
KDAK Kodiak Island 40.10 49 LR LR 05 46 54.3
comp=Z,9µm,22.0s,MS5.6,baz=168,slow=37
KDAK Kodiak Island 40.10 49 *e*P **P 05 29 53.5 +0.2**
comp=Z,56nm,0.6s,mb5.5
KDAK LR LR
comp=Z,8µm,22.0s,MS5.5
TRF Thorofare Moun 40.13 40 *e*P **P 05 29 53.6 +0.2**
comp=Z,158nm,1.0s,mb5.7
MCK McKinley 40.68 40 *e*P **P 05 29 58.4 +0.4**
MCK pmax pmax
comp=Z,193nm,1.0s,mb5.7
MCK McKinley 40.68 40 *e*P **P 05 29 58.4 +0.4**
comp=Z,193nm,1.0s,mb5.7
SLKM Skilak Lake 40.69 45 *e*P **P 05 29 57.6 -0.5**
KURK Kurchatov 40.70 300 P **P 05 29 57.9 -0.4**
comp=Z,347nm,1.2s,mb5.9,SNR=37
KURK Kurchatov 40.70 300 P **P 05 29 58.2 -0.2**
SNR=32
KURK Kurchatov 40.70 300 *e*P **P 05 29 57.7 -0.6**
KURK pmax pmax
comp=Z,42nm,0.8s,mb5.1
KURK MLR MLR
comp=Z,12µm,20.0s,MS5.8
KURK Kurchatov 40.70 300 *e*P **P 05 29 57.7 -0.7**
comp=Z,42nm,0.8s,mb5.1
KURK LR LR
comp=Z,12µm,20.0s,MS5.8
RC01 Rabbit Creek A 40.80 44 *e*P **P 05 29 59.4 +0.4**
comp=Z,123nm,0.9s,mb5.5
COLA College 40.97 38 *e*P **P 05 30 00.1 -0.2**
COLA pmax pmax
comp=Z,201nm,0.9s,mb5.8
COLA MLR MLR
comp=Z,4µm,19.0s,MS5.3
COLA College 40.97 38 *e*P **P 05 30 00.1 -0.2**
comp=Z,201nm,0.9s,mb5.8
COLA LR LR
comp=Z,4µm,19.0s,MS5.3
PMR Palmer 40.99 43 *e*P **P 05 29 58.9 -1.6**
PMR pmax pmax
comp=Z,110nm,1.3s,mb5.3
PMR MLR MLR
comp=Z,6µm,21.0s,MS5.4
PMR Palmer 40.99 43 *e*P **P 05 29 58.9 -1.6**
comp=Z,110nm,1.3s,mb5.3
PMR LR LR
comp=Z,6µm,21.0s,MS5.4
SEW Seward 41.15 45 *e*P **P 05 30 01.1 -0.8**
DAV Davao City (W) 41.91 204 PFAKE 05 30 20.0 +11
DAV LR LR
comp=Z,4µm,20.0s,MS5.2
LSA Lhasa 42.47 265 P **P 05 30 15.1 +2.1**
LSA XP sP 05 30 25.9 +9.4
LSA PP PP 05 31 58.2 +6.9
LSA LR LR
comp=E,9µm,9.8s
LSA LR LR
comp=Z,12µm,9.3s
LSA Lhasa 42.47 265 *e*P **P 05 30 14.2 +1.2**
LSA pmax pmax
comp=Z,88nm,1.4s,mb5.2
LSA Lhasa 42.47 265 *e*P **P 05 30 14.2 +1.2**
comp=Z,88nm,1.4s,mb5.2
DIV Divide 42.67 43 *e*P **P 05 30 14.2 0.0**
comp=Z,130nm,0.7s,mb5.8
EYAK Cordova Ski Ar 42.83 44 *e*P **P 05 30 15.5 -0.1**
comp=Z,106nm,0.8s,mb5.6
MENT Mentasta 43.15 40 *e*P **P 05 30 18.2 +0.1**
BMRM Bremner River 43.26 43 *e*P **P 05 30 19.1 0.0**
RAGM Ragged Mountai 43.38 44 *e*P **P 05 30 20.4 +0.3**
IMP Imphal 43.75 257 *ex* PP 05 32 03.0 -2.1
EGAK Eagle 43.79 37 *e*P **P 05 30 22.3 -1.0**
EGAK LR LR
comp=Z,4µm,20.0s,MS5.4
SHL Shillong 44.60 260 *i* P **P 05 30 31.5 +1.2**
SHL *i x* **S 05 37 13.0 +6.6**
BVA0 Borovoye Array 44.65 305 *i* P **P 05 30 29.7 -0.6**
BVA0 pmax pmax
comp=Z,38nm,1.5s,mb5.0
BVAR Borovoye Array 44.65 305 LR LR 05 50 35.6
comp=Z,16µm,18.4s,MS6.0,baz=75,slow=38
BRVK Borovoye 44.69 306 P **P 05 30 30.6 -0.1**
comp=Z,329nm,1.1s,mb6.1,SNR=14
BRVK Borovoye 44.69 306 P **P 05 30 30.9 +0.2**
SNR=36
BRVK Borovoye 44.69 306 *e*P **P 05 30 30.7 0.0**
BRVK pmax pmax
comp=Z,94nm,1.3s,mb5.5
BRVK MLR MLR
comp=Z,10µm,19.0s,MS5.7
BRVK Borovoye 44.69 306 *e*P **P 05 30 30.7 0.0**
comp=Z,94nm,1.3s,mb5.5
BRVK LR LR
comp=Z,10µm,19.0s,MS5.7
CHTO Chiang Mai 44.72 246 P **P 05 30 32.0 +0.8**
SNR=12
CHTO Chiang Mai 44.72 246 *e*P **P 05 30 31.4 +0.2**
CHTO pmax pmax
comp=Z,63nm,1.2s,mb5.3
CHTO Chiang Mai 44.72 246 *e*P **P 05 30 31.2 0.0**
comp=Z,56nm,1.2s,mb5.3
CHTO LR LR
comp=Z,6µm,19.0s,MS5.5
DAWY Dawson 44.72 38 *e*P **P 05 30 30.4 -0.3**
CM31 Chiang Mai Arr 44.98 246 *e*P **P 05 30 33.6 +0.3**
comp=Z,21nm,1.0s,mb4.9
CM31 LR LR
comp=Z,6µm,20.0s,MS5.5
CMAR Chiang Mai Arr 44.98 246 P **P 05 30 33.9 +0.6**
comp=Z,26nm,1.0s,mb5.0,baz=37,slow=7.1,SNR=49
CMAR PcP PcP 05 32 15.1 +0.6
comp=Z,10nm,0.9s,baz=12,slow=3.5,SNR=6.9
CMAR LR LR 05 52 07.2
comp=Z,8µm,18.8s,MS5.7,baz=37,slow=40
CMAR Chiang Mai Arr 44.98 246⇑*e*P **P 05 30 33.9 +0.6**
ULHL Ulahol 45.73 289 P **P 05 30 39.3 +0.2**
SNR=59
INK Inuvik 45.77 31 P **P 05 30 38.5 -0.6**
comp=Z,60nm,0.8s,mb5.5,baz=295,slow=6.4,SNR=44
INK LR LR 05 52 09.2
comp=Z,3µm,18.1s,MS5.3,baz=21,slow=39
INK Inuvik 45.77 31 P **P 05 30 38.5 -0.5**
INK pmax pmax
comp=Z,60nm,0.8s
INK MLR MLR
comp=Z,3µm,18.1s
INK Inuvik 45.77 31 *e*P **P 05 30 38.6 -0.4**
comp=Z,2µm,0.9s
TKM2 Tokmak 2 45.82 290 *e*P **P 05 30 40.3 +0.6**
TKM2 pmax pmax
comp=Z,101nm,1.1s,mb5.7
TKM2 Tokmak 2 45.82 290 P **P 05 30 40.1 +0.4**
SNR=102
TKM2 Tokmak 2 45.82 290 *e*P **P 05 30 40.2 +0.5**
comp=Z,101nm,1.1s,mb5.7
SDKM Sandakan 46.11 215 ⇓P **P 05 30 42.6 +0.4**
PNL Peninsula 46.13 44 *e*P **P 05 30 42.4 +0.4**
comp=Z,22nm,0.7s,mb5.2
KKM Kota Kinabalu 46.13 216 PFAKE 05 30 50.0 +7.5
KKM LR LR
comp=Z,4µm,22.0s,MS5.3
TAPN Taplejung 46.29 265 *e*P **P 05 30 43.8 +0.2**
CHMS Chumysh 46.33 291 P **P 05 30 44.1 +0.4**
SNR=10
USP Ospenovka 46.36 291 P **P 05 30 44.0 0.0**
SNR=73
KBK Karagaybulak 46.37 290 P **P 05 30 45.7 +1.6**
SNR=14
KZA Kyzart 46.45 290 P **P 05 30 46.0 +1.2**
SNR=51
FRU Bishkek 46.49 291⇑*e*P **P 05 30 44.5 -0.5**
FRU pmax pmax
comp=Z,120nm,1.8s,mb5.5
HYT Haines Junctio 46.60 42 *e*P **P 05 30 46.5 +0.9**
ODAN Odare 46.82 265 *e*P **P 05 30 47.3 -0.5**
comp=Z,114nm,1.1s,mb5.7
UCH Uchtor 46.86 290 *e*P **P 05 30 48.5 +0.6**
comp=Z,20nm,1.4s,mb4.8
TSM Tawau 47.08 213 ⇓P **P 05 30 50.3 +0.4**
EKS2 Erkin-Say 47.12 291 P **P 05 30 49.5 -0.4**
SNR=32
EKS2 Erkin-Say 47.12 291 *e*P **P 05 30 50.3 +0.4**
comp=Z,46nm,1.1s,mb5.3
EKS2 LR LR
comp=Z,12µm,20.0s,MS5.8
JIRN Jiri 47.14 266 *e*P **P 05 30 50.6 +0.3**
comp=Z,143nm,1.1s,mb5.8
GUN Gumba 47.19 267 *e*P **P 05 30 51.2 +0.5**
KSH Kashi 47.28 286 P **P 05 30 52.5 +1.3**
KSH *e*AP pP 05 30 56.7 +3.0
KSH XP sP 05 30 59.3 +4.6
KSH PCP PcP 05 32 23.1 +0.8
KSH PP PP 05 32 42.2 +0.1
KSH PPP 05 33 29.4
KSH SCP ScP 05 36 15.8 -0.5
KSH PCS PcS 05 36 17.5 +0.1
KSH S **S 05 37 43.4 -1.2**
KSH XS sS 05 37 51.4 +2.7
KSH SCS ScS 05 40 43.4 -2.1
KSH SS SS 05 41 03.5 -8.1
KSH AMB AMB
comp=Z,1µm,3.6s
KSH LR LR
comp=N,40µm,15.8s
KSH LR LR
comp=E,25µm,10.7s
KSH LR LR
comp=Z,51µm,19.2s,MS6.5
RAMN Ramite 47.31 265 *e*P **P 05 30 51.3 -0.3**
comp=Z,116nm,0.7s,mb5.9
AML Almayashu 47.43 290 P **P 05 30 53.7 +1.3**
SNR=12
AML Almayashu 47.43 290 *e*P **P 05 30 52.6 +0.2**
comp=Z,35nm,1.2s,mb5.2
AML LR LR
comp=Z,8µm,20.0s,MS5.7
KKN Kakani 47.68 267 *e*P **P 05 30 54.1 -0.4**
PKI Pulchoki 47.73 267 *e*P **P 05 30 54.6 -0.3**
comp=Z,414nm,1.7s,mb6.2
DMN Daman 47.91 267 *e*P **P 05 30 56.0 -0.3**
SKAG Skagway 48.12 43 *e*P **P 05 30 58.1 +0.6**
comp=Z,64nm,1.0s,mb5.6
SVE Sverdlovsk 48.32 313⇓*e*P **P 05 30 59.2 +0.1**
SVE *e* 05 32 22.8
SVE *e* 05 32 55.8
SVE *e*S **S 05 38 05.9 +7.0**
SVE *e*SSS 05 42 46.3
SVE pmax pmax
comp=Z,216nm,1.3s,mb6.0
SVE MLR MLR
comp=Z,7µm,15.0s,MS5.8
DANN Dangsing 48.37 269 *e*P **P 05 31 00.1 +0.2**
KOLN Koldanda 48.85 268 *e*P **P 05 31 03.4 -0.1**
comp=Z,225nm,1.2s,mb6.1
KK31 Karatay Array 48.98 293 *i* P **P 05 31 03.9 -0.4**
KK31 pmax pmax
comp=Z,18nm,0.6s,mb5.3
SOKR Solikamsk 49.02 318*c i*P **P 05 31 04.5 +0.1**
SOKR pmax pmax
comp=Z,150nm,1.1s,mb5.9
SOKR MLR MLR
comp=Z,7µm,19.0s,MS5.7
CAL Calcutta 49.03 259 *e*P **P 05 31 06.0 +1.1**
CAL *ex* x 05 38 17.9
SIT Sitka 49.13 46 *e*P **P 05 31 07.5 +2.2**
ARU Arti 49.53 314 P **P 05 31 08.1 -0.2**
comp=Z,662nm,1.3s,mb6.5,SNR=19
ARU Arti 49.53 314*c i*P **P 05 31 07.7 -0.6**
ARU *e* 05 32 27.2
ARU *e* 05 33 01.4
ARU *e*PPP 05 33 53.5
ARU *e*S **S 05 38 15.3 -0.6**
ARU *e*SS SS 05 41 47.8 +0.6
ARU pmax pmax
comp=Z,203nm,1.2s,mb6.0
ARU MLR MLR
comp=Z,5µm,15.0s,MS5.7
ARU Arti 49.53 314 *e*P **P 05 31 08.0 -0.3**
comp=Z,246nm,1.3s,mb6.1
ARU LR LR
comp=Z,6µm,22.0s,MS5.5
JOSI Joshimath 49.91 274 *e*P **P 05 31 11.4 -0.1**
JOSI AMb AMB 05 31 16.1
comp=Z,608nm,1.0s,mb6.6
BTM Bintulu 50.01 219 ⇓P **P 05 31 13.1 +0.7**
PTH Pithoragarh 50.07 273 *e*P **P 05 31 12.2 -0.6**
KLP Kalpa 50.22 276 *e*P **P 05 31 13.8 -0.1**
KLP AMb AMB 05 31 16.9
comp=Z,101nm,1.0s,mb5.8
WRAK Wrangell Islan 50.88 46 *e*P **P 05 31 19.7 +1.1**
comp=Z,34nm,1.0s,mb5.2
CRAG Craig 50.94 47 *e*P **P 05 31 21.6 +2.5**
comp=Z,92nm,2.1s,mb5.3
DLBC Dease Lake 51.04 43 P **P 05 31 21.3 +1.5**
baz=293,slow=6.8
DLBC Dease Lake 51.04 43 *e*P **P 05 31 20.9 +1.1**
SBUM Sibu 51.05 219 ⇑P **P 05 31 20.9 +0.5**
SPITS Spitsbergen Ar 51.07 348 LR LR 05 55 56.4
comp=Z,4µm,18.9s,MS5.4,baz=340,slow=40
DDI Dehra Dun 51.08 275 *e*P **P 05 31 18.4 -2.0**
KBS Kingsbay 51.15 349 *e*P **P 05 31 21.5 +1.2**
KBS AMb AMB 05 31 27.3
comp=Z,174nm,1.2s,mb5.9
KBS *e*SS SS 05 42 29.5 +17
KBS AMS AMS 05 55 38.6
comp=Z,3µm,16.5s,MS5.4
KBS Kingsbay 51.15 349 *e*P **P 05 31 21.8 +1.5**
comp=Z,157nm,1.4s,mb5.8
KBS LR LR
comp=Z,3µm,19.0s,MS5.4
DLH Dalhousie 51.17 279 *e*P **P 05 31 20.0 -1.1**
SMLA Simla 51.20 276 *e*P **P 05 31 20.9 -0.5**
SMLA AMb AMB 05 31 23.2
comp=Z,181nm,2.8s,mb5.5
PCI Palu 51.21 209 P **P 05 31 21.5 0.0**
THN Thein Dam 51.41 279 *e*P **P 05 31 19.8 -3.1**
BHK Bhakra 51.54 277 *ex* x 05 31 23.6
KKR Kurukshetra 52.14 275 *e*P **P 05 31 28.0 -0.4**
AB31 Akbulak array 52.21 305 P **P 05 31 28.4 -0.2**
AB31 pmax pmax
comp=Z,124nm,1.1s,mb5.8
NDI New Delhi 52.66 274 *e*P **P 05 31 31.0 -1.3**
AKTK Aktyubinsk 52.68 307 *i* P **P 05 31 32.2 +0.1**
AKTO Aktyubinsk 52.68 307 LR LR 05 55 45.0
comp=Z,12µm,18.3s,MS6.0,baz=188,slow=38
AKTO Aktyubinsk 52.68 307 *i* P **P 05 31 32.1 0.0**
AKTO pmax pmax
comp=Z,15nm,1.4s,mb4.7
KSM Kuching 52.77 221 ⇓P **P 05 31 33.9 +0.7**
KSM Kuching 52.77 221 *e*P **P 05 31 33.4 +0.3**
AYAN Aya Nagar 52.85 274 *e*P **P 05 31 33.1 -0.5**
AYAN AMb AMB 05 31 35.1
comp=Z,71nm,1.2s,mb5.5
KTGM Kuala Trenggan 52.99 231 ⇓P **P 05 31 36.6 +1.8**
RTK Rohtak 52.99 275 *ex* x 05 31 24.5
BJO Bjornoya 53.14 344 AMS AMS 05 58 13.7
comp=Z,4µm,17.5s,MS5.5
RES Resolute Bay 53.16 16 *e*P **P 05 31 35.7 +0.3**
comp=Z,2µm,1.0s
RES *e*PcP PcP 05 32 45.1 +1.8
LVZ Lovozero 53.44 333 *e*P **P 05 31 37.5 0.0**
LVZ pmax pmax
comp=Z,37nm,1.3s,mb5.2
LVZ MLR MLR
comp=Z,3µm,24.0s,MS5.3
KULM Kulim 54.37 234 ⇑P **P 05 31 46.3 +1.3**
KIP Kipapa 54.43 96 PFAKE 05 32 00.0 +15
KIP LR LR
comp=Z,4µm,20.0s,MS5.4
KEV Kevo 54.51 337 *e*P **P 05 31 45.3 0.0**
comp=Z,35nm,0.7s,mb5.5
KEV LR LR
comp=Z,4µm,20.0s,MS5.4
KBL Kabul 54.65 285 *e*P **P 05 31 45.4 -1.4**
comp=Z,73nm,1.0s,mb5.7
IPM Ipoh 54.84 233 ⇑P **P 05 31 49.2 +0.9**
ARCES ARCESS Array B 55.05 337 P **P 05 31 49.4 +0.2**
comp=Z,5.4nm,0.5s,mb4.8,baz=42,slow=7.7,SNR=18
ARCES ARCESS Array B 55.05 337 P **P 05 31 49.4 +0.2**
ARCES pmax pmax
comp=Z,5.0nm,0.5s
ARE0 ARCESS Array S 55.05 337 *e*P **P 05 31 50.4 +1.2**
KAPI Kappang 55.10 207 P **P 05 31 49.4 -0.8**
comp=Z,302nm,0.9s,mb6.3,SNR=6.8
KAPI Kappang 55.10 207 P **P 05 31 49.4 -0.8**
SNR=5.8
KAPI Kappang 55.10 207 *e*P **P 05 31 48.9 -1.3**
KAPI LR LR
comp=Z,2µm,20.0s,MS5.2
BBB Bella Bella 55.17 49 P **P 05 31 50.1 -0.2**
comp=Z,23nm,0.9s,mb5.2,baz=314,slow=4.7,SNR=11
BBB LR LR 05 54 45.9
comp=Z,4µm,18.9s,MS5.5,baz=100,slow=35
YKW3 Yellowknife Ar 55.36 33 *e*P **P 05 31 51.8 +0.3**
YKA Yellowknife Ar 55.41 33 P **P 05 31 51.2 -0.6**
comp=Z,34nm,0.8s,mb5.5,baz=304,slow=6.9,SNR=48
YKA Yellowknife Ar 55.41 33 *i* P **P 05 31 51.2 -0.6**
YKA pmax pmax
comp=Z,34nm,0.8s
YKA Yellowknife Ar 55.41 33 P **P 05 31 51.2 -0.6**
FRIM Kepong 55.55 231 ⇑P **P 05 31 54.5 +1.1**
MYKOM Kota Tinggi 55.61 228 ⇑P **P 05 31 55.1 +1.2**
KGM Kluang 55.69 229 ⇓P **P 05 31 55.7 +1.2**
KLMR Klimovskoe 55.81 325 *e*P **P 05 31 54.2 -0.6**
KLMR pmax pmax
comp=Z,136nm,1.3s,mb5.8
AJM Ajmer 55.82 274 *ex* x 05 32 09.2
PMG Port Moresby 56.12 174 *e*P **P 05 31 56.6 -0.8**
PMG pmax pmax
comp=Z,184nm,2.1s
PMG MLR MLR
comp=Z,6µm,22.0s
PMG Port Moresby 56.12 174 *e*P **P 05 31 56.5 -0.8**
comp=Z,184nm,2.1s,mb5.7
PMG LR LR
comp=Z,6µm,22.0s,MS5.7
DAG Danmarks Havn 56.12 355⇓*e*P **P 05 31 56.2 -0.6**
DAG pmax pmax
comp=Z,86nm,1.0s,mb5.7
DAG Danmarks Havn 56.12 355⇓*i*P **P 05 31 56.2 -0.6**
comp=Z,86nm,1.0s,mb5.7
DAG Danmarks Havn 56.12 355⇓*e*P **P 05 31 56.2 -0.6**
comp=Z,86nm,1.0s,mb5.7
SGF Sodankyl 56.16 335 P **P 05 31 57.9 +0.7**
NGP Nagpur 56.30 266 *ex* **P 05 31 54.1 -4.7**
NGP AMb AMB 05 31 55.1
comp=Z,87nm,1.2s,mb5.7
NGP *e*S **S 05 39 49.4 +0.3**
MSF Maaselka 56.41 333 P **P 05 32 00.2 +1.2**
TRO Tromso 56.65 339 *e*P **P 05 32 01.2 +0.6**
TRO AMb AMB 05 32 07.4
comp=Z,121nm,1.2s,mb5.8
TRO AMS AMS 06 01 52.0
comp=Z,2µm,17.5s,MS5.3
TRO Tromso 56.65 339 *e*P **P 05 32 01.2 +0.6**
comp=Z,121nm,1.2s,mb5.8
TRO LR LR
comp=Z,2µm,17.5s,MS5.3
POHA Pohakuloa 57.26 96 PFAKE 05 32 20.0 +14
POHA LR LR
comp=Z,4µm,22.0s,MS5.5
JOF Joensuu 57.61 329 *ep* **P 05 32 07.1 -0.4**
comp=Z,21nm,0.7s,mb5.3
JOF Joensuu 57.61 329 *e*P **P 05 32 07.1 -0.4**
JOF pmax pmax
comp=Z,21nm,0.7s,mb5.3
AKL Akola 58.00 267 *e*P **P 05 32 11.1 +0.3**
AKL AMb AMB 05 32 11.8
comp=Z,130nm,2.0s,mb5.6
JASL Jaisalmer 58.10 277 *e*P **P 05 32 10.9 -0.5**
JASL AMb AMB 05 32 12.4
comp=Z,83nm,0.8s,mb5.8
HNR Honiara 58.25 159 PFAKE 05 32 20.0 +7.5
HNR LR LR
comp=Z,4µm,20.0s,MS5.5
STEI Steigen 58.82 339 *e*P **P 05 32 18.8 +2.9**
HYB Hyderabad 59.20 263 *e*P **P 05 32 19.0 -0.2**

HYB eS S 05 40 40.0 +13
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.8
HYB Hyderabad 59.20 263 *i* P **P 05 32 19.0 -0.2**
comp=Z,100nm,1.0s,mb5.8
HYB eS S 05 40 26.0 -1.2
HYB LR LR 05 59 44.0
comp=Z,4.4nm,16.0s
HYB Hyderabad 59.20 263 *e*P **P 05 32 19.0 -0.2**
comp=Z,100nm,1.0s,mb5.8
HYB eS S 05 40 40.0 +13
MOS Moscow 59.74 321 *e*P **P 05 32 20.7 -1.7**
MOS *e* 05 33 10.8
MOS *e* 05 34 32.3
MOS eS S 05 40 31.1 -2.1
MOS pmax pmax
comp=Z,400nm,1.9s,mb6.1
MOS pmax pmax
comp=Z,157nm,1.2s,mb5.9
MOS MLR MLR
comp=Z,3µm,13.0s,MS5.7
MOS Moscow 59.74 321 *e*P **P 05 32 21.2 -1.2**
KAKA Kakadu 59.78 191 *e*P **P 05 32 21.8 -1.3**
comp=Z,49nm,0.8s,mb5.6
LATR Latur 59.87 265 *e*P **P 05 32 23.9 0.0**
LATR AMb AMB 05 32 24.7
comp=Z,99nm,1.2s,mb5.7
KAF Kangasniemi 59.87 331 *e*p **P 05 32 22.3 -0.9**
comp=Z,9.2nm,0.7s,mb4.9,baz=45,slow=6.6
KAF Kangasniemi 59.87 331 *e*P **P 05 32 22.3 -0.9**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
B04A Port Angeles 59.98 51 ⇓P **P 05 32 23.9 -0.3**
baz=60
A04A Legoe Bay, Lum 60.00 50 ⇓P **P 05 32 24.0 -0.3**
baz=60
VDB Vedder Mountai 60.12 49 P **P 05 32 25.2 +0.1**
A05A Maple Falls 60.15 49 ⇑P **P 05 32 24.9 -0.5**
baz=60
NLWA Neilton Lookou 60.20 51 ⇑P **P 05 32 26.0 +0.3**
baz=60,SNR=11
NLWA Neilton Lookou 60.20 51 PFAKE 05 32 40.0 +14
NLWA LR LR
comp=Z,2µm,19.0s,MS5.4
MOR8 Moi Rana 60.38 338 *e*P **P 05 32 25.1 -1.6**
MOR8 AMb AMB 05 32 28.9
comp=Z,46nm,0.6s,mb5.7
MOR8 Moi Rana 60.38 338 *e*P **P 05 32 25.1 -1.6**
comp=Z,46nm,0.6s,mb5.7
D03A Wishkah Elem. 60.42 52 ⇓P **P 05 32 27.5 +0.3**
baz=60
COEN Coen 60.44 178 *e*P **P 05 32 25.1 -2.5**
comp=Z,16nm,1.1s,mb4.9
C04A Brinnon 60.48 51 ⇑P **P 05 32 27.5 -0.1**
baz=60,SNR=7.0
CMW Cultus Mountai 60.49 50 P **P 05 32 28.7 +1.0**
B05A Bryant 60.60 50 ⇑P **P 05 32 28.0 -0.5**
baz=60,SNR=5.6
OBN Obninsk 60.60 320*c i*P **P 05 32 27.5 -0.8**
OBN eS S 05 40 40.7 -3.6
OBN pmax pmax
comp=Z,171nm,1.2s,mb6.0
OBN MLR MLR
comp=Z,4µm,17.0s,MS5.7
OBN Obninsk 60.60 320 PFAKE 05 32 40.0 +12
OBN LR LR
comp=Z,5µm,19.0s,MS5.7
STOK Stokkvaagen 60.62 339 *e*P **P 05 32 29.4 +1.1**
STOK AMb AMB 05 32 34.4
comp=Z,121nm,1.2s,mb5.9
JMIC Jan Mayen 60.64 349 AMS AMS 06 02 47.4
comp=Z,1µm,18.0s,MS5.0
JCW Jim Creek 60.73 50 *e*P **P 05 32 30.6 +1.3**
B06A Marblemount 60.76 49 ⇑P **P 05 32 29.2 -0.3**
baz=61,SNR=5.9
RPW Rockport 60.79 49 P **P 05 32 29.2 -0.5**
VRHR Novokhopersk 60.83 315 *e*P **P 05 32 29.3 -0.7**
VRHR pmax pmax
comp=Z,110nm,1.2s,mb5.9
VRHR pmax pmax
comp=N,140nm,1.7s
VRHR pmax pmax
comp=E,70nm,0.8s
E03A Lebam 60.88 52 ⇓P **P 05 32 29.8 -0.6**
baz=61
D04A Dobbs Creek Ra 60.94 51 ⇓P **P 05 32 30.4 -0.3**
baz=61
A07A Ashnola River, 61.00 48 ⇑P **P 05 32 30.7 -0.5**
baz=61,SNR=17
BMW Boistfort Moun 61.11 52 *e*P **P 05 32 30.6 -1.3**
C05A Tolt Reservoir 61.17 50 ⇑P **P 05 32 32.2 -0.1**
baz=61,SNR=5.8
F03A Seaside 61.27 52 ⇑P **P 05 32 31.8 -1.2**
baz=61
E04A Onalaska 61.31 51 ⇑P **P 05 32 33.2 -0.1**
baz=61
D05A Enumclaw 61.33 51 ⇑P **P 05 32 33.8 +0.4**
baz=61,SNR=6.4
BHJ Bhuj 61.35 274 *e*P **P 05 32 33.4 -0.5**
BHJ AMb AMB 05 32 36.0
comp=Z,119nm,1.1s,mb5.9
C06A Tall Timber Ra 61.44 49 ⇓P **P 05 32 33.9 -0.2**
baz=61
B07A Winthrop 61.50 49 ⇓P **P 05 32 33.9 -0.7**
baz=61,SNR=13
VOR Voronezh 61.59 316 *e*P **P 05 32 34.0 -1.1**
VOR pmax pmax
comp=Z,200nm,1.4s,mb6.0
HEBO Mount Hebo 61.61 53 *e*P **P 05 32 35.8 +0.4**
comp=Z,340nm,1.8s,mb6.2
A08A Turner Farm, O 61.62 48 P **P 05 32 35.0 -0.4**
baz=61,SNR=30
POO Poona 61.65 267 *e*P **P 05 32 36.0 0.0**
POO AMb AMB 05 32 36.9
comp=Z,103nm,1.1s,mb5.8
EDM Edmonton 61.72 41 *e*P **P 05 32 35.5 -0.4**
TDL Tradedollar La 61.73 51 P **P 05 32 36.7 +0.6**
FL2 Flat Top 2 61.76 52 P **P 05 32 37.4 +1.1**
G03A Yamhill 61.80 53 ⇑P **P 05 32 36.5 -0.2**
baz=62
E05A Randle 61.84 51 P **P 05 32 36.6 -0.3**
baz=62,SNR=11
F04A Amboy 61.89 52 ⇓P **P 05 32 36.7 -0.5**
baz=62,SNR=7.6
D06A Cle Elum 61.93 50 ⇓P **P 05 32 37.0 -0.5**
baz=62
VRSR Storozhevoye 61.93 316 *e*P **P 05 32 36.8 -0.6**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.2
VRSR pmax pmax
comp=N,20nm,1.4s
VRSR pmax pmax
comp=E,20nm,1.2s
ETW Entiat 61.94 49 *e*P **P 05 32 38.0 +0.4**
TWW Teanaway 61.95 50 P **P 05 32 39.1 +1.4**
A09A Danville 61.96 47 ⇑P **P 05 32 37.2 -0.5**
baz=62,SNR=25
B08A Colville Reser 61.97 48 P **P 05 32 37.1 -0.6**
baz=62,SNR=16
C07A Waterville 62.02 49 ⇓P **P 05 32 37.4 -0.7**
baz=62,SNR=11
WTV Waterville 62.07 49 P **P 05 32 38.6 +0.1**
H03A Soap Creek Ran 62.20 53 ⇑P **P 05 32 39.1 -0.2**
baz=62
COR Corvallis 62.25 54 *e*P **P 05 32 41.7 +2.0**
COR Corvallis 62.25 54 PFAKE 05 32 50.0 +10
COR LR LR
comp=Z,3µm,22.0s,MS5.3
EBG Ellensburg 62.26 50 P **P 05 32 40.7 +1.0**
KAD Karad 62.26 266 *ex* x 05 32 47.2
KAD AMb AMB 05 32 50.0
comp=Z,96nm,0.7s,mb6.0
E06A Yakima 62.27 51 ⇓P **P 05 32 39.6 -0.2**
baz=62,SNR=18
NSS Namsos 62.32 338 *e*P **P 05 32 41.0 +1.2**
NSS AMS AMS 06 04 33.9
comp=Z,4µm,16.5s,MS5.7
I02A Mapleton 62.33 54 ⇓P **P 05 32 39.0 -1.2**
baz=62
F05A White Salmon 62.44 51 ⇓P **P 05 32 40.5 -0.3**
baz=62
A10A Northport 62.47 47 P **P 05 32 41.1 0.0**
baz=62,SNR=22
C08A Higginbotham F 62.49 49 ⇓P **P 05 32 40.5 -0.7**
baz=62,SNR=14
B09A Rice 62.54 48 ⇑P **P 05 32 41.2 -0.4**
baz=62,SNR=16
SSOR Sweet Springs 62.55 53 P **P 05 32 43.4 +1.8**
VLL Laurance Lake 62.59 52 P **P 05 32 43.7 +1.8**
I03A Eugene 62.66 54 ⇑P **P 05 32 41.8 -0.6**
baz=62
K01A Sixes 62.73 56 ⇑P **P 05 32 42.8 -0.1**
baz=62
H04A Detroit Lake 62.81 53 ⇓P **P 05 32 43.5 +0.2**
baz=63,SNR=20
E07A Sunnyside 62.86 50 ⇓P **P 05 32 43.8 +0.1**
baz=63
F06A Goldendale 62.87 51 ⇓P **P 05 32 44.1 +0.3**
baz=63
C09A Chrisman Ranch 62.88 48 P **P 05 32 43.5 -0.2**
baz=63,SNR=10
J02A Umpqua 62.88 55 ⇑P **P 05 32 44.1 +0.2**
baz=63
MAK Makhachkala 62.89 305 *e*P **P 05 32 41.6 -2.4**
MAK eS S 05 41 19.6 +6.0
MAK pmax pmax
comp=Z,214nm,1.5s,mb6.0
OD2 Odessa Site #2 62.92 49 P **P 05 32 44.2 +0.1**
G05A Wamic 62.92 52 ⇓P **P 05 32 44.7 +0.5**
baz=63
D08A Wollman Farm, 63.02 49 ⇑P **P 05 32 44.4 -0.3**
baz=63,SNR=8.5
B10A Chitwood Farm, 63.08 47 ⇑P **P 05 32 45.2 0.0**
baz=63
A11A Hall Mountain, 63.09 46 P **P 05 32 45.4 +0.2**
baz=63,SNR=22
RSW Rattlesnake Hi 63.10 50 *e*P **P 05 32 46.3 +1.0**
HAWA Hanford 63.13 50 PFAKE 05 33 00.0 +14
HAWA LR LR
comp=Z,2µm,20.0s,MS5.3
NEW Newport 63.16 47 *e*P **P 05 32 45.5 -0.2**
NEW Newport 63.16 47 PFAKE 05 33 00.0 +14
NEW LR LR
comp=Z,3µm,22.0s,MS5.4
IRO Indian Ridge 63.20 54 P **P 05 32 46.7 +0.7**
F07A Phinny Hill Vi 63.25 51 ⇑P **P 05 32 46.2 -0.1**
baz=63,SNR=13
I04A Tendick Farm, 63.25 54 ⇓P **P 05 32 46.2 -0.2**
baz=63,SNR=12
K02A Glendale 63.31 55 ⇑P **P 05 32 46.1 -0.7**
baz=63
E08A Dider Farm, El 63.32 50 ⇑P **P 05 32 46.2 -0.6**
baz=63
D09A Jones Farm, Ri 63.34 49 ⇑P **P 05 32 46.3 -0.6**
baz=63
C10A Spilker Farm, 63.36 48 ⇑P **P 05 32 46.6 -0.4**
baz=63
B11A Sandpoint 63.43 47 P **P 05 32 47.9 +0.4**
baz=63,SNR=15
A12A Yaak River Ran 63.45 46 ⇓P **P 05 32 47.9 +0.3**
baz=63
M01C Crescent City 63.54 56 ⇓P **P 05 32 48.7 +0.4**
baz=63
L02A Cave Junction 63.64 56 ⇑P **P 05 32 49.6 +0.7**
baz=63
I05A Bend 63.65 53 ⇑P **P 05 32 49.1 +0.2**
baz=64
HUMO Hull Mountain 63.71 55 ⇓P **P 05 32 50.2 +0.8**
baz=64
HUMO Hull Mountain 63.71 55 PFAKE 05 33 00.0 +11
HUMO LR LR
comp=Z,2µm,20.0s,MS5.3
J04A Umpqua Nationa 63.78 54 ⇑P **P 05 32 49.8 -0.1**
baz=64
E09A Wood Farm, Sta 63.78 49 ⇑P **P 05 32 49.5 -0.4**
baz=64,SNR=20
H06A Lindquist Farm 63.78 52 ⇑P **P 05 32 49.9 0.0**
baz=64,SNR=17
B12A Libby 63.79 46 ⇑P **P 05 32 50.1 +0.3**
baz=64
G07A Ruggs Ranch, H 63.79 51 P **P 05 32 49.8 -0.1**
baz=64,SNR=12
D10A Wagner Farm, O 63.88 48 ⇑P **P 05 32 50.1 -0.4**
baz=64,SNR=20
F08A Pendleton 63.92 50 ⇓P **P 05 32 50.8 0.0**
baz=64,SNR=9.1
GOF Gofitskoye 64.00 309 *e*P **P 05 32 50.6 -0.7**
GOF pmax pmax
comp=Z,481nm,1.5s,mb6.3
A13A Flathead Natio 64.06 45 ⇓P **P 05 32 51.3 -0.4**
baz=64
LNOR Lincton Mounta 64.13 50 *e*P **P 05 32 53.5 +1.4**
G08A Pilot Rock 64.16 51 P **P 05 32 52.8 +0.5**
baz=64,SNR=11
J05A Fort Rock 64.23 54 ⇑P **P 05 32 53.3 +0.4**
baz=64,SNR=24
JCC Jacoby Creek 64.26 57 ⇓P **P 05 32 53.3 +0.3**
baz=64
H07A Lands Inn, Kim 64.29 52 ⇓P **P 05 32 52.9 -0.3**
baz=64,SNR=11
E10A Myers Farm, Un 64.34 49 ⇓P **P 05 32 53.0 -0.5**
baz=64,SNR=16
D11A Klaveano Farm, 64.36 48 ⇓P **P 05 32 52.9 -0.7**
baz=64,SNR=21
I06A Prineville 64.37 52 ⇓P **P 05 32 53.7 0.0**
baz=64,SNR=11
K04A Chilquin 64.40 54 ⇑P **P 05 32 54.3 +0.4**
baz=64
B13A Whitefish 64.41 46 ⇑P **P 05 32 53.8 -0.1**
baz=64,SNR=11
YBH Yreka Blue Hor 64.42 56 LR LR 05 55 56.7
comp=Z,3µm,21.5s,MS5.4,baz=313,slow=31
YBH Yreka Blue Hor 64.42 56 *e*P **P 05 32 56.1 +2.0**
YBH pmax pmax
comp=Z,37nm,1.0s
YBH Yreka Blue Hor 64.42 56 ⇑P **P 05 32 54.4 +0.3**
baz=64,SNR=10
F09A S2 Ranch, Elgi 64.44 50 ⇓P **P 05 32 54.4 +0.3**
baz=64
M02C Callahan 64.56 56 ⇑P **P 05 32 55.7 +0.7**
baz=64,SNR=11
L04A Klamath Falls 64.59 55 ⇑P **P 05 32 55.5 +0.3**
baz=64,SNR=13
F10A Beach Ranch, E 64.62 49 P **P 05 32 55.1 -0.2**
baz=64,SNR=23
I07A Izee 64.66 52 ⇓P **P 05 32 56.0 +0.4**
baz=64,SNR=19
N02C Big Bar 64.67 57 ⇑P **P 05 32 55.9 +0.2**
baz=64
MNK Minsk 64.71 324⇓*e*P **P 05 32 54.0 -1.8**
MNK *e* 05 35 24.0
MNK eS S 05 41 30.0 -5.9
MNK *e*SS SS 05 45 44.0 -1.8
MNK pmax pmax
comp=Z,360nm,1.0s,mb6.4
MNK pmax pmax
comp=N,310nm,1.0s
MNK MLR MLR
comp=N,10µm,14.0s,MS6.3
MNK MLR MLR
comp=Z,15µm,14.0s,MS6.3
MNK MLR MLR
comp=E,10µm,14.0s,MS6.3
K05A Summer Lake 64.79 54 ⇑P **P 05 32 56.5 0.0**
baz=65,SNR=28
G09A Cove 64.79 50 ⇓P **P 05 32 56.3 -0.1**
baz=65
O01C Eel River Cons 64.82 58 ⇑P **P 05 32 57.4 +0.7**
baz=65
H08A Prairie City 64.82 51 P **P 05 32 57.4 +0.7**
baz=65,SNR=24
C13A Hot Springs 64.83 47 P **P 05 32 56.7 +0.1**
baz=65,SNR=15
J06A Christmas Vall 64.85 53 ⇓P **P 05 32 57.0 +0.2**
baz=65,SNR=16
D12A Red Ives Fores 64.86 47 ⇑P **P 05 32 57.0 +0.1**
baz=65
M04C Macdoel 64.88 55 ⇑P **P 05 32 57.3 +0.2**
baz=65,SNR=22
E11A Bogner Ranch, 64.89 48 P **P 05 32 57.9 +0.9**
baz=65,SNR=22
KIV Kislovodsk 64.91 308 P **P 05 32 57.1 -0.1**
comp=E,911nm,1.2s,mb6.7,SNR=20
KIV Kislovodsk 64.91 308 P **P 05 32 58.0 +0.8**
SNR=64
KIV Kislovodsk 64.91 308*c i*P **P 05 32 57.6 +0.4**
KIV eS S 05 41 39.7 +1.0
KIV pmax pmax
comp=Z,198nm,1.1s,mb6.1
KIV pmax pmax
comp=Z,337nm,4.7s
KIV MLR MLR
comp=Z,7µm,19.0s,MS5.9
KIV Kislovodsk 64.91 308⇑*i*P **P 05 32 57.8 +0.6**
KIV Kislovodsk 64.91 308 PFAKE 05 33 10.0 +13
KIV LR LR
comp=Z,8µm,20.0s,MS5.9
KOD Kodaikanal 65.05 258 *e*P **P 05 32 58.9 +0.3**
M03C McCloud 65.05 56 ⇓P **P 05 32 58.4 +0.2**
baz=65
PALK Pallekele 65.07 253 PFAKE 05 33 10.0 +11
PALK LR LR
comp=Z,3µm,20.0s,MS5.5
K06A Valley Falls 65.10 53 ⇑P **P 05 32 58.6 +0.2**
baz=65,SNR=22
G10A Bishop Farm, J 65.13 50 P **P 05 32 58.5 -0.1**
baz=65,SNR=35
LASM Arnica Sink 65.15 55 P **P 05 32 59.3 +0.5**
C14A Swan Lake 65.18 46 ⇑P **P 05 32 58.6 -0.4**
baz=65
F11A Grangeville 65.23 49 P **P 05 32 59.0 -0.3**
baz=65,SNR=17
J07A Hines 65.23 52 ⇓P **P 05 32 59.4 0.0**
baz=65,SNR=37
H09A Durkee 65.26 51 ⇑P **P 05 32 59.4 -0.1**
baz=65
FCC Fort Churchill 65.26 28 *e*P **P 05 32 59.0 -0.3**
FCC pmax pmax
comp=Z,159nm,1.6s,mb5.8
FCC Fort Churchill 65.26 28 *e*P **P 05 32 59.0 -0.2**
comp=Z,159nm,1.6s,mb5.8
WDC Whiskeytown Da 65.27 57 *e*P **P 05 33 01.0 +1.4**
WDC Whiskeytown Da 65.27 57 ⇑P **P 05 32 59.5 -0.2**
baz=65,SNR=13
L05A Lakeview 65.27 54 ⇑P **P 05 33 00.3 +0.7**
baz=65,SNR=16
I08A Drewsey 65.28 52 ⇓P **P 05 32 59.8 +0.2**
baz=65,SNR=32
D13A Huson 65.28 47 P **P 05 32 59.3 -0.3**
baz=65,SNR=22
BMO Blue Mountains 65.32 50 PFAKE 05 33 10.0 +10
BMO LR LR
comp=Z,3µm,22.0s,MS5.5
NB2 NORSAR Subarra 65.36 336 P **P 05 32 59.3 -0.6**
comp=Z,42nm,0.9s,mb5.5,baz=36,slow=6.5
NB2 NORSAR Subarra 65.36 336 P **P 05 33 00.0 +0.1**
NOA NORSAR Array B 65.36 336 P **P 05 32 59.4 -0.6**
comp=Z,32nm,1.0s,mb5.3,baz=35,slow=6.3,SNR=27
NOA LR LR 06 05 20.4
comp=Z,4µm,18.6s,MS5.6,baz=355,slow=40
NOA NORSAR Array B 65.36 336 P **P 05 32 59.4 -0.5**
NOA pmax pmax
comp=Z,32nm,1.0s
NOA MLR MLR
comp=Z,4µm,18.6s
HFA0 Hagfors New Ar 65.38 334 P **P 05 33 02.0 +2.0**
O02C Red Bluff 65.39 57 ⇓P **P 05 33 00.9 +0.4**
baz=65,SNR=23
ONI Oni 65.40 307 P **P 05 33 01.1 +0.7**
LTIM Timbered Crate 65.48 55 P **P 05 33 01.6 +0.6**
G11A Walters Elk Ra 65.50 49 ⇓P **P 05 33 01.0 -0.1**
baz=65,SNR=62
P01C Double 8 Ranch 65.54 58 ⇑P **P 05 33 01.7 +0.3**
baz=65
M05C Lookout 65.55 55 ⇓P **P 05 33 01.4 -0.1**
baz=65,SNR=16
NAO01 NORSAR Array S 65.62 336 *e*P **P 05 33 01.4 -0.1**
comp=Z,36nm,1.1s,mb5.3
NAO01 LR LR
comp=Z,3µm,20.0s,MS5.5
MOD Modoc 65.66 54 P **P 05 33 02.2 0.0**
baz=66,SNR=22
MOD Modoc 65.66 54 PFAKE 05 33 10.0 +7.8
MOD LR LR
comp=Z,2µm,19.0s,MS5.3
I09A Lost Marbles R 65.68 51 ⇑P **P 05 33 02.0 -0.2**
baz=66,SNR=13
J08A Circle Bar Ran 65.70 52 ⇑P **P 05 33 03.0 +0.7**
baz=66,SNR=24
K07A Rock Creek Ran 65.72 53 P **P 05 33 02.9 +0.4**
baz=66,SNR=37
MSO Missoula 65.72 47 PFAKE 05 33 10.0 +7.5
MSO LR LR
comp=Z,2µm,21.0s,MS5.3
HATC Hat Creek Radi 65.73 56 ⇓P **P 05 33 02.8 +0.2**
baz=66,SNR=16
D14A Greenough 65.77 46 P **P 05 33 02.6 -0.2**
baz=66,SNR=40
GASB Alder Springs 65.78 57 ⇑P **P 05 33 03.3 +0.3**
baz=66,SNR=16
F12A Elk City 65.78 48 P **P 05 33 02.9 0.0**
baz=66,SNR=55
H10A Noah's Angus R 65.80 50 ⇑P **P 05 33 02.8 -0.2**
baz=66,SNR=79
E13A Victor 65.86 47 ⇑P **P 05 33 02.9 -0.5**
baz=66,SNR=15
O03C Acorn Hollow, 65.95 57 ⇑P **P 05 33 03.7 -0.3**
baz=66
HOPS Hopland 66.01 58 ⇑P **P 05 33 04.4 -0.1**
baz=66
HOPS Hopland 66.01 58 PFAKE 05 33 20.0 +16
HOPS LR LR
comp=Z,3µm,20.0s,MS5.5
M06C Likely Place G 66.03 55 ⇑P **P 05 33 04.7 +0.2**
baz=66
J09A Fry Pan Ranch, 66.09 52 P **P 05 33 05.3 +0.3**
baz=66,SNR=24
H11A Donnelly 66.11 50 ⇓P **P 05 33 05.2 +0.3**
baz=66,SNR=18
I10A Payette 66.11 51 ⇓P **P 05 33 05.3 +0.3**
baz=66
K08A Mann Creek Ran 66.11 53 P **P 05 33 05.5 +0.4**
baz=66,SNR=32
L07A Adell 66.12 54 ⇑P **P 05 33 05.4 +0.3**
baz=66,SNR=42
AKH Akhalkalaki 66.16 306 P **P 05 33 06.8 +1.5**
FITZ Fitzroy Crossi 66.17 197⇓*i*P **P 05 33 05.3 -0.2**
comp=Z,38nm,1.1s,mb5.3
SFJD Kangerlussuaq 66.19 5⇑*i*P **P 05 33 04.4 -0.7**
SFJD pmax pmax
comp=Z,120nm,1.0s,mb5.9
SFJD MLR MLR
comp=Z,2µm,18.0s,MS5.4
SFJD Kangerlussuaq 66.19 5⇑*i*P **P 05 33 04.4 -0.7**
comp=Z,115nm,1.0s,mb5.9
SFJD
comp=Z,2µm,18.0s
WVOR Wild Horse Val 66.23 53 *e*P **P 05 33 06.1 +0.3**
WVOR pmax pmax
comp=Z,35nm,1.0s,mb5.3
WVOR Wild Horse Val 66.23 53 *e*P **P 05 33 06.1 +0.3**
comp=Z,35nm,1.0s,mb5.3
E14A Clinton 66.23 47 P **P 05 33 05.8 0.0**
baz=66,SNR=19
O04C Chester 66.27 56 P **P 05 33 06.7 +0.5**
baz=66,SNR=52
ELFS Eagle Lake Fie 66.28 56 ⇓P **P 05 33 06.9 +0.8**
baz=66
D15A Lincoln 66.28 46 P **P 05 33 06.4 +0.3**
baz=66,SNR=18
GNI Garni 66.29 304 P **P 05 33 08.5 +2.2**
SNR=27
GNI Garni 66.29 304 LR LR 06 04 57.2
comp=Z,7µm,18.3s,MS5.9,baz=304,slow=39
GNI Garni 66.29 304*c i*P **P 05 33 07.3 +1.1**
GNI pmax pmax
comp=Z,64nm,1.3s
GNI MLR MLR
comp=Z,7µm,19.0s
GNI Garni 66.29 304 PFAKE 05 33 20.0 +14
GNI LR LR
comp=Z,5µm,19.0s,MS5.8
MNRC McLaughlin Nat 66.45 58 ⇓P **P 05 33 07.7 +0.4**
baz=66,SNR=18
ORV Oroville 66.55 57 P **P 05 33 07.5 -0.4**
baz=66,SNR=21
K09A Rome 66.55 52 ⇓P **P 05 33 07.6 -0.2**
baz=66,SNR=10
L08A Fields 66.55 53 ⇑P **P 05 33 07.7 -0.2**
baz=66,SNR=10
J10A Berg Farm, Mel 66.57 51 ⇓P **P 05 33 07.4 -0.6**
baz=66
NSHM Saint Helena R 66.59 58 *e*P **P 05 33 08.7 +0.5**
SUTB Sutter Butte 66.60 57 ⇑P **P 05 33 07.3 -0.9**
baz=66
O05C Quincy 66.61 56 ⇓P **P 05 33 07.7 -0.6**
baz=66,SNR=10
M07A Soldier Meadow 66.64 54 ⇑P **P 05 33 08.6 +0.2**
baz=66,SNR=83
TRD Trivandrum 66.64 257 *e*P **P 05 33 08.7 -0.2**

TRD AMb AMB 05 33 10.0
comp=Z,143nm,1.0s,mb6.0
E15A Deer Lodge 66.65 47 ⇓P P 05 33 08.4 0.0
baz=66,SNR=20
CTAO Charters Tower 66.65 175 PFAKE 05 33 20.0 +11
CTAO LR LR
comp=Z,6µm,20.0s,MS5.8
I11A Placerville 66.67 50 ⇓P P 05 33 08.1 -0.5
baz=66,SNR=15
MCCM Marconi Confer 66.68 59 ⇑P P 05 33 09.4 +0.6
baz=66
MCCM Marconi Confer 66.68 59 PFAKE 05 33 20.0 +11
MCCM LR LR
comp=Z,3µm,21.0s,MS5.4
N06A Buffalo Meadow 66.69 55 P **P 05 33 08.9 +0.1**
baz=66,SNR=42
F14A Wisdom 66.71 47 ⇑P P 05 33 08.6 -0.2
baz=66,SNR=13
WRAB Tennant Creek 66.71 188 P **P 05 33 08.0 -0.9**
comp=Z,141nm,1.3s,mb5.8,SNR=8.8
WRAB Tennant Creek 66.71 188 *c i*P **P 05 33 07.6 -1.3**
WB2 Warramunga Arr 66.72 188 ⇓*i*P **P 05 33 07.9 -1.1**
WRA Warramunga Arr 66.72 188 P **P 05 33 07.5 -1.5**
comp=Z,14nm,1.0s,mb5.0,baz=4.7,slow=6.9,SNR=54
WRA Warramunga Arr 66.72 188 *i* P **P 05 33 07.5 -1.5**
WRA pmax pmax
comp=Z,14nm,1.0s
SOC Sochi 66.75 309 *e*P **P 05 33 09.1 0.0**
SOC *e**PP pP 05 33 13.1 +1.4
SOC *e*S S 05 42 02.5 +1.3
SOC *e*SS SS 05 46 11.9 -6.2
SOC pmax pmax
comp=Z,101nm,1.4s,mb5.7
SOC pmax pmax
comp=Z,360nm,2.5s,mb6.0
SOC MLR MLR
comp=Z,6µm,17.0s,MS5.9
SOC Sochi 66.75 309 *i* P **P 05 33 10.0 +0.9**
G13A Cobalt 66.76 48 ⇑P P 05 33 08.8 -0.4
baz=67,SNR=12
CVS Carmenet Viney 66.80 58 ⇑P P 05 33 09.4 -0.1
baz=67
H12A Diamond D Ranc 66.81 49 ⇑P P 05 33 09.3 -0.2
baz=67,SNR=38
Q03C Winters 66.86 58 ⇑P P 05 33 10.2 +0.3
baz=67
AKASG Malin Array Be 66.86 320 P **P 05 33 08.7 -1.0**
comp=Z,34nm,0.9s,mb5.4,baz=40,slow=6.5,SNR=123
AKASG LR LR 06 06 32.0
comp=Z,2µm,18.3s,MS5.4,baz=55,slow=40
AKASG Malin Array Be 66.86 320 P **P 05 33 08.7 -1.0**
AKASG pmax pmax
comp=Z,34nm,0.9s
AKASG MLR MLR
comp=Z,2µm,18.3s
AKBB Malin Array Si 66.86 320 *e*P **P 05 33 09.2 -0.5**
KIEV Kiev 66.88 320 *e*P **P 05 33 09.1 -0.7**
KIEV pmax pmax
comp=Z,76nm,1.1s,mb5.6
KIEV MLR MLR
comp=Z,4µm,21.0s,MS5.6
KIEV Kiev 66.88 320 *e*P **P 05 33 09.1 -0.7**
comp=Z,76nm,1.1s,mb5.6
KIEV LR LR
comp=Z,4µm,21.0s,MS5.6
FARB Farallon Islan 66.91 59 ⇑P P 05 33 09.6 -0.7
baz=67
SUW Suwalki 66.91 326 *e*P **P 05 33 09.8 -0.2**
SUW Suwalki 66.91 326 *e*P **P 05 33 09.8 -0.2**
EGMT Eagleton 66.94 44 ⇓P P 05 33 09.9 -0.4
baz=67,SNR=21
K10A MacKenzie Ranc 66.96 52 P **P 05 33 10.6 +0.2**
baz=67,SNR=50
BEKR Beckwourth 66.99 56 ⇑P P 05 33 10.5 -0.2
baz=67,SNR=61
M08A Happy Creek Ra 67.03 54 ⇑P P 05 33 11.1 +0.2
baz=67,SNR=18
L09A Wilkinson Ranc 67.04 53 ⇓P P 05 33 11.1 +0.2
baz=67,SNR=24
G14A Jackson 67.06 48 ⇑P P 05 33 10.5 -0.5
baz=67
MFID Camas Ranch 67.08 51 ⇑P P 05 33 11.2 0.0
baz=67,SNR=36
O06A Flanigan 67.09 55 ⇓P P 05 33 11.1 -0.2
baz=67,SNR=19
Q04C Lincoln 67.09 57 ⇑P P 05 33 11.1 -0.3
baz=67
ANN Anapa 67.11 312 *e*P **P 05 33 11.0 -0.4**
ANN *e**PP pP 05 33 16.6 +2.6
ANN *e* 05 35 41.8
ANN *e*S S 05 42 06.4 +0.9
ANN pmax pmax
comp=Z,141nm,1.9s,mb5.7
H13A Challis 67.12 49 ⇑P P 05 33 10.7 -0.7
baz=67,SNR=14
F15A Butte 67.13 47 P **P 05 33 11.3 -0.2**
baz=67,SNR=35
N07B Gerlach 67.16 54 ⇓P P 05 33 11.6 -0.2
baz=67
P05C Yuba Gap, Truc 67.23 57 ⇑P P 05 33 11.7 -0.6
baz=67
P06A Stead Airport, 67.38 56 ⇑P P 05 33 13.0 -0.2
baz=67
BDM Black Diamond 67.41 58 ⇓P P 05 33 12.8 -0.5
baz=67
K11A Parker Ranch, 67.41 51 P **P 05 33 13.2 -0.1**
baz=67,SNR=18
BER Bergen 67.49 338 *e*P **P 05 33 15.4 +1.9**
BER AMb AMB 05 33 20.6
comp=Z,94nm,2.2s,mb5.4
BER AMS AMS 06 07 54.3
comp=Z,3µm,16.2s,MS5.6
BER Bergen 67.49 338 *e*P **P 05 33 15.4 +1.9**
comp=Z,94nm,2.2s,mb5.4
BER LR LR
comp=Z,3µm,16.2s,MS5.6
LAVA Lava Cap Winer 67.52 57 P **P 05 33 13.8 -0.2**
baz=67,SNR=27
M09A Marrel Ranch, 67.56 53 ⇑P P 05 33 14.6 +0.3
baz=67,SNR=5.3
G15A Dillon 67.60 47 P **P 05 33 14.3 -0.1**
baz=67,SNR=86
N08A GE Springer Mi 67.62 54 P **P 05 33 14.9 +0.2**
baz=67,SNR=41
O07A Toulon 67.63 55 ⇓P P 05 33 14.8 0.0
baz=67,SNR=43
I13A Wildhorse Cree 67.64 49 P **P 05 33 15.1 +0.4**
baz=67,SNR=90
L10A Juniper Basin 67.65 52 ⇑P P 05 33 14.8 -0.1
baz=67
MCMT McKenzie Canyo 67.66 48 *e*P **P 05 33 15.7 +0.9**
WENL Wente Brothers 67.69 59 ⇓P P 05 33 14.9 -0.3
baz=68
BOZ Bozeman (W) 67.70 47 *e*P **P 05 33 15.2 +0.1**
BOZ pmax pmax
comp=Z,33nm,1.2s,mb5.2
BOZ Bozeman (W) 67.70 47 P **P 05 33 15.1 0.0**
baz=68,SNR=37
BOZ Bozeman (W) 67.70 47 PFAKE 05 33 30.0 +15
BOZ LR LR
comp=Z,2µm,19.0s,MS5.3
WCN Washoe City 67.72 56 ⇓P P 05 33 15.4 +0.1
baz=68,SNR=25
HLID Hailey 67.72 50 P **P 05 33 15.3 0.0**
baz=68,SNR=25
HLID Hailey 67.72 50 PFAKE 05 33 30.0 +15
HLID LR LR
comp=Z,2µm,19.0s,MS5.4
BNLO Ben Lomond (Sa 67.78 59 ⇑P P 05 33 15.7 0.0
baz=68
TUTA Tutak 67.89 304 *i* P **P 05 33 17.3 +0.9**
N09A Rock Creek Ran 67.91 54 ⇑P P 05 33 16.7 +0.2
baz=68,SNR=9.2
R05C Kirkwood Meado 67.94 57 ⇑P P 05 33 16.5 -0.2
baz=68,SNR=26
J13A Cove Ranch, Pi 67.97 50 ⇑P P 05 33 16.5 -0.4
baz=68,SNR=14
HOMI Horasan 67.97 305 *i* P **P 05 33 18.9 +2.0**
L11A Cat Creek Ranc 67.98 52 P **P 05 33 17.2 +0.3**
baz=68,SNR=51
M10A I.L. Ranch, Tu 68.00 52 ⇑P P 05 33 17.4 +0.4
baz=68,SNR=28
S04C Ingram Canyon, 68.02 58 ⇓P P 05 33 16.6 -0.7
baz=68
P07A Fallon 68.05 55 ⇑P P 05 33 17.1 -0.3
baz=68
BORG Borgarnes 68.05 352 P **P 05 33 19.3 +2.3**
comp=Z,662nm,1.0s,mb6.6,SNR=5.9
BORG Borgarnes 68.05 352 PFAKE 05 33 30.0 +13
BORG LR LR
comp=Z,2µm,19.0s,MS5.3
K12A Draper Farm, C 68.11 51 P **P 05 33 17.9 +0.2**
baz=68,SNR=30
CMB Columbia Colle 68.21 57 *e*P **P 05 33 18.1 -0.4**
CMB pmax pmax
comp=Z,33nm,1.0s,mb5.3
CMB Columbia Colle 68.21 57 ⇓P P 05 33 18.5 +0.1
baz=68,SNR=49
CMB Columbia Colle 68.21 57 PFAKE 05 33 30.0 +12
CMB LR LR
comp=Z,3µm,20.0s,MS5.5
BMN Battle Mountai 68.37 54 *e*P **P 05 33 20.1 +0.7**
BMN pmax pmax
comp=Z,28nm,1.0s,mb5.2
BMN Battle Mountai 68.37 54 PFAKE 05 33 30.0 +11
BMN LR LR
comp=Z,2µm,19.0s,MS5.4
PACP Pacheco Peak 68.38 59 ⇑P P 05 33 19.3 -0.3
baz=68,SNR=13
L12A House Creek Ra 68.39 51 ⇓P P 05 33 19.3 -0.2
baz=68,SNR=23
P08A Dixie Valley 68.40 55 ⇓P P 05 33 20.1 +0.5
baz=68
R06C Coleville 68.42 56 ⇑P P 05 33 19.8 +0.1
baz=68
SAO San Andreas Ge 68.45 59 *e*P **P 05 33 20.8 +0.8**
M11A Holland Ranch, 68.47 52 P **P 05 33 20.7 +0.7**
baz=68,SNR=31
Q07A Schurz 68.50 56 ⇑P P 05 33 20.3 +0.1
baz=68
K13A Stover Farm, H 68.53 50 ⇑P P 05 33 20.4 0.0
baz=68
N10A Dunphy 68.56 53 ⇓P P 05 33 20.7 0.0
baz=68
GCMT Greycliff 68.57 45 *e*P **P 05 33 22.1 +1.6**
O09A Fish Creek Ran 68.57 54 ⇑P P 05 33 20.6 -0.1
baz=68,SNR=21
BANOM Banah 68.60 285 P **P 05 33 21.1 0.0**
SNR=8.1
S06C San Francisco 68.63 57 P **P 05 33 20.9 -0.2**
baz=68,SNR=46
HAKT HAKKARI 68.63 302 *i* P **P 05 33 22.5 +1.4**
HAST Hastings Reser 68.65 59 ⇑P P 05 33 20.5 -0.7
baz=68,SNR=12
SIM Simferopol' 68.69 313 *e*P **P 05 33 21.7 +0.4**
SIM pmax pmax
comp=Z,59nm,1.1s,mb5.4
SIM MLR MLR
comp=Z,4µm,15.2s,MS5.8
S05C Merced 68.71 58 ⇑P P 05 33 21.2 -0.4
baz=68,SNR=20
YMR Madison River 68.72 47 *e*P **P 05 33 22.5 +1.0**
comp=Z,28nm,1.0s,mb5.1
KOPT Kop Dagi 68.77 306 *i* P **P 05 33 23.0 +1.0**
T05C Eagle Field, D 68.82 58 ⇑P P 05 33 22.4 +0.1
baz=69
O10A Cortez Mining, 68.86 53 ⇑P P 05 33 22.9 +0.4
baz=69,SNR=12
N11A Elko Archery C 68.92 53 ⇓P P 05 33 23.0 +0.2
baz=69
R07C Lee Vining 68.95 57 ⇓P P 05 33 23.2 +0.2
baz=69,SNR=6.8
M12A Wells 68.95 52 ⇓P P 05 33 23.2 +0.1
baz=69,SNR=18
L13A Double Diamond 69.00 51 ⇓P P 05 33 23.4 +0.1
baz=69,SNR=17
BIDO Bidbid 69.00 282 P **P 05 33 24.0 +0.4**
SNR=9.8
P09A Austin 69.02 54 ⇑P P 05 33 23.4 -0.1
baz=69
Q08A Gabbs 69.05 55 ⇓P P 05 33 24.0 +0.3
baz=69,SNR=29
BSD Bornholm Skovb 69.05 331 *i* P **P 05 33 23.5 +0.1**
BSD pmax pmax
comp=Z,59nm,1.0s,mb5.5
BSD MLR MLR
comp=Z,5µm,18.0s,MS5.8
BSD Bornholm Skovb 69.05 331 *i* P **P 05 33 23.5 +0.1**
comp=Z,59nm,1.0s,mb5.5
BSD
comp=Z,5µm,18.0s
WBK Wadi Bani Khal 69.06 281 P **P 05 33 24.7 +0.7**
SNR=7.1
LKWY Lake 69.08 47 *e*P **P 05 33 26.7 +2.9**
LKWY Lake 69.08 47 PFAKE 05 33 40.0 +16
LKWY LR LR
comp=Z,5µm,20.0s,MS5.7
V03C Hunter Liggett 69.08 59 ⇓P P 05 33 23.5 -0.4
baz=69
K14A Jones Ranch, D 69.08 50 ⇑P P 05 33 24.2 +0.4
baz=69,SNR=31
U04C Hernandez Rese 69.12 59 ⇑P P 05 33 24.0 -0.2
baz=69,SNR=9.7
NVAR Mina Array Bea 69.14 56 P **P 05 33 24.8 +0.5**
comp=Z,18nm,0.8s,mb5.0,baz=300,slow=6.1,SNR=61
NVAR Mina Array Bea 69.14 56 P **P 05 33 24.8 +0.5**
DGMT Dagmar 69.18 41 PFAKE 05 33 40.0 +16
DGMT LR LR
comp=Z,4µm,20.0s,MS5.6
ELK Elko 69.24 52 *e*P **P 05 33 25.5 +0.7**
ELK Elko 69.24 52 PFAKE 05 33 40.0 +15
ELK LR LR
comp=Z,2µm,19.0s,MS5.5
N12A Clover Valley, 69.28 52 ⇑P P 05 33 25.3 +0.3
baz=69,SNR=23
R08A Mina 69.31 56 ⇓P P 05 33 25.2 -0.1
baz=69,SNR=6.0
T06C Millerton Lake 69.31 58 P **P 05 33 25.5 +0.2**
baz=69,SNR=14
KCC Kaiser Creek 69.31 57 P **P 05 33 25.5 +0.2**
baz=69,SNR=20
P10A Eureka 69.35 54 ⇓P P 05 33 25.7 +0.2
baz=69,SNR=15
SMDO Samad 69.37 282 P **P 05 33 26.8 +0.9**
SNR=7.8
MLAC Mammoth Lakes 69.38 57 ⇑P P 05 33 26.2 +0.4
baz=69
COP Copenhagen 69.41 332 *i* P **P 05 33 29.6 +4.0**
COP
comp=Z,2µm,19.0s
COP Copenhagen 69.41 332 *e*P **P 05 33 29.6 +4.0**
COP LR LR
comp=Z,2µm,19.0s,MS5.4
L14A Malta 69.41 50 ⇓P P 05 33 26.1 +0.3
baz=69,SNR=20
O11A Cowboy Ranch, 69.44 53 ⇓P P 05 33 26.1 0.0
baz=69,SNR=12
HATD Hatta, Dubai 69.45 285 P **P 05 33 26.0 -0.4**
SNR=16
Q09A Carvers 69.49 55 ⇑P P 05 33 26.6 +0.2
baz=69
HOQ Hoqain 69.51 283 P **P 05 33 26.6 -0.1**
SNR=15
U05C Westside ANR, 69.53 59 ⇑P P 05 33 26.5 -0.2
baz=69
PKD Parkfield 69.55 59 P **P 05 33 26.7 0.0**
baz=69,SNR=11
V04C Ramage Ranch, 69.56 60 ⇓P P 05 33 27.0 +0.1
baz=69
LAO LASA Array 69.57 43 PFAKE 05 33 40.0 +13
LAO LR LR
comp=Z,4µm,22.0s,MS5.6
ASHO Ashiyiah 69.60 285 P **P 05 33 26.7 -0.5**
SNR=16
KMPD K-Podol'skiy 69.66 320 P **P 05 33 27.0 -0.3**
K16A Soda Springs 69.71 49 ⇑P P 05 33 28.1 +0.4
baz=70,SNR=15
N13A Wendover, West 69.72 52 ⇑P P 05 33 28.1 +0.3
baz=70,SNR=9.8
M14A Sheep Mountain 69.73 51 ⇑P P 05 33 27.8 0.0
baz=70,SNR=16
LVV L'vov 69.75 322 *d i*P **P 05 33 27.4 -0.4**
LVV 05 33 58.1
LVV *e*S S 05 42 35.4 -1.4
LVV MLR MLR
comp=N,2µm,15.0s,MS5.7
LVV MLR MLR
comp=E,2µm,15.0s,MS5.7
LVV MLR MLR
comp=Z,4µm,15.0s,MS5.7
LVV L'vov 69.75 322 *i* P **P 05 33 27.6 -0.2**
KIS Kishinev 69.76 318 *e*P **P 05 33 27.0 -0.9**
KIS MLR MLR
comp=N,5µm,14.0s
KIS MLR MLR
comp=Z,10µm,14.0s,MS6.2
KIS MLR MLR
comp=Z,10µm,15.0s
P11A Circle Ranch, 69.79 54 ⇓P P 05 33 28.2 -0.1
baz=70
JMDO Jabal Madar 69.80 281 P **P 05 33 29.2 +0.6**
SNR=6.7
HVU Hansel Valley 69.84 50 *e*P **P 05 33 30.0 +1.5**
O12A Currie 69.84 52 ⇓P P 05 33 28.7 +0.2
baz=70,SNR=15
S08C White Mtn Res 69.86 57 P **P 05 33 29.1 +0.4**
baz=70,SNR=19
L15A Malad City 69.88 50 ⇓P P 05 33 28.9 +0.1
baz=70,SNR=21
HELL Mitchell Peak 69.93 58 P **P 05 33 28.5 -0.7**
baz=70,SNR=63
Q10A Clear Creek Ra 69.94 54 ⇑P P 05 33 29.0 -0.2
baz=70
PTRM Twissleman Ran 69.94 59 *e*P **P 05 33 30.4 +1.1**
R09A Tonopah 69.97 55 P **P 05 33 29.1 -0.3**
baz=70,SNR=38
V05C Boulder Hill, 69.97 59 ⇓P P 05 33 29.2 -0.3
baz=70
TPH Tonopah 70.00 56 *e*P **P 05 33 30.0 +0.5**
TPH pmax pmax
comp=Z,43nm,1.1s,mb5.3
AHID Auburn Hatcher 70.01 48 PFAKE 05 33 40.0 +10
AHID LR LR
comp=Z,1µm,19.0s,MS5.2
TIN Tinemaha 70.13 57 ⇑P P 05 33 29.9 -0.4
baz=70
BSY Bisya 70.16 282 P **P 05 33 30.8 0.0**
SNR=15
M15A Larsen Ranch, 70.23 50 ⇑P P 05 33 30.6 -0.4
baz=70
S09A Goldfield 70.24 56 P **P 05 33 31.1 +0.1**
baz=70,SNR=32
N14A Grayback Hills 70.27 51 ⇑P P 05 33 31.1 -0.1
baz=70,SNR=12
SMMC Simmler 70.30 59 ⇑P P 05 33 31.3 -0.2
baz=70,SNR=5.3
P12A McGill 70.31 53 P **P 05 33 31.7 +0.3**
baz=70,SNR=19
Q11A Duckwater 70.34 54 ⇓P P 05 33 31.3 -0.3
baz=70,SNR=13
O13A Hicks Ranch, I 70.36 52 ⇑P P 05 33 31.4 -0.3
baz=70
R10A Warm Springs 70.37 55 ⇓P P 05 33 31.6 -0.2
baz=70,SNR=9.3
L16A Fish Haven 70.37 49 ⇑P P 05 33 31.4 -0.4
baz=70
ASAR Alice Springs 70.44 188 P **P 05 33 31.9 -0.3**
comp=Z,28nm,0.9s,mb5.2,baz=20,slow=3.9,SNR=101
KWP Kalwaria 70.45 323 ⇑*i*P **P 05 33 32.3 +0.2**
KWP Kalwaria 70.45 323 *e*P **P 05 33 32.5 +0.4**
KWP LR LR
comp=Z,3µm,20.0s,MS5.6
S10A Tonopah Range, 70.46 55 ⇓P P 05 33 31.8 -0.6
baz=70,SNR=26
MBWA Marble Bar 70.46 202 PFAKE 05 33 40.0 +7.6
MBWA LR LR
comp=Z,5µm,19.0s,MS5.8
VES Vestal, Richgr 70.48 58 ⇑P P 05 33 31.5 -1.1
baz=70,SNR=20
MARD Mardin 70.49 304 *i* P **P 05 33 33.0 +0.5**
N15A Stansbury Isla 70.60 51 ⇓P P 05 33 32.8 -0.4
baz=70
CWC Cottonwood Cre 70.64 57 P **P 05 33 33.7 +0.2**
baz=70,SNR=13
Q12A Willow Creek R 70.66 53 ⇓P P 05 33 33.5 -0.1
baz=70,SNR=16
GRAC Grapevine Rang 70.66 56 ⇑P P 05 33 33.5 -0.2
baz=70,SNR=30
PKM Peak Mountain 70.69 59 ⇑P P 05 33 33.6 -0.2
baz=70
R11A Troy Canyon, C 70.73 54 P **P 05 33 34.2 +0.2**
baz=70,SNR=24
M16A Huntsville 70.77 50 ⇑P P 05 33 33.9 -0.4
baz=71
BW06 Boulder Array 70.80 48 *e*P **P 05 33 34.1 -0.2**
comp=Z,25nm,0.9s,mb5.1
BW06 LR LR
comp=Z,1µm,19.0s,MS5.2
PDAR Pinedale Array 70.80 48 P **P 05 33 33.8 -0.6**
comp=Z,18nm,0.7s,mb5.1,baz=320,slow=1.6,SNR=54
PDAR LR LR 06 02 35.6
comp=Z,2µm,20.9s,MS5.2,baz=154,slow=34
P13A Bates Ranch, G 70.81 53 P **P 05 33 35.0 +0.4**
baz=71,SNR=18
BURAR Bucovina Array 70.92 320 ⇑*i*P **P 05 33 34.7 -0.3**
BURAR Bucovina Array 70.92 320 ⇑P **P 05 33 34.6 -0.4**
DUG Dugway 70.94 51 *e*P **P 05 33 35.4 +0.1**
DUG pmax pmax
comp=Z,58nm,1.2s,mb5.4
DUG Dugway 70.94 51 ⇓P P 05 33 35.0 -0.2
baz=71,SNR=24
ISA Isabella 70.95 58 *e*P **P 05 33 34.0 -1.4**
ISA Isabella 70.95 58 P **P 05 33 34.1 -1.3**
baz=71,SNR=21
ISA Isabella 70.95 58 PFAKE 05 33 50.0 +15
ISA LR LR
comp=Z,2µm,19.0s,MS5.3
DAC Darwin (Calif) 71.04 57 PFAKE 05 33 50.0 +14
DAC LR LR
comp=Z,2µm,22.0s,MS5.2
O15A The Old Anders 71.06 51 ⇑P P 05 33 35.8 -0.2
baz=71
COCO West Island 71.11 227 PFAKE 05 33 50.0 +14
COCO LR LR
comp=Z,2µm,21.0s,MS5.3
MALT Malatya 71.11 306 ⇑*i*P **P 05 33 37.2 +0.9**
MALT Malatya 71.11 306 *e*P **P 05 33 37.1 +0.8**
comp=Z,76nm,1.5s,mb5.4
MALT LR LR
comp=Z,3µm,19.0s,MS5.6
ARVC Arvin 71.12 59 ⇓P P 05 33 35.9 -0.5
baz=71
S11A Rachel 71.13 55 ⇑P P 05 33 36.4 -0.1
baz=71,SNR=30
Q13A Wheeler Ranch, 71.17 53 ⇑P P 05 33 36.7 0.0
baz=71,SNR=26
KOLS Kolonicke sedl 71.17 323 *i* P **P 05 33 35.4 -1.1**
OJC Ojcow 71.17 325 *e*P **P 05 33 36.2 -0.3**
OJC *e*S S 05 42 51.8 -1.5
OJC L 06 07 24.8
comp=Z,3.4nm,20.9s
N16A Rees Ranch, Co 71.18 50 ⇑P P 05 33 36.7 0.0
baz=71
P14A Drum Mountains 71.23 52 ⇓P P 05 33 36.8 -0.2
baz=71,SNR=12
MPMC Manual Prospec 71.25 57 P **P 05 33 37.2 0.0**
baz=71,SNR=34
R12A Pony Springs, 71.29 54 ⇑P P 05 33 36.9 -0.5
baz=71
ULM Lac du Bonnet 71.32 35 P **P 05 33 36.5 -0.9**
comp=Z,20nm,0.6s,mb5.2,baz=320,slow=7.6,SNR=17
ULM LR LR 06 07 21.7
comp=Z,3µm,18.5s,MS5.5,baz=237,slow=38
ULM Lac du Bonnet 71.32 35 *e*P **P 05 33 36.3 -1.1**
comp=Z,21nm,0.6s,mb5.2
FURC Furnace Creek, 71.32 57 ⇑P P 05 33 37.4 -0.3
baz=71,SNR=70
TPNV Topopah Spring 71.34 56 *e*P **P 05 33 37.5 -0.2**
TPNV pmax pmax
comp=Z,51nm,0.9s,mb5.5
TPNV Topopah Spring 71.34 56 P **P 05 33 37.6 -0.1**
baz=71,SNR=83
UZH Uzhgorod 71.39 322 *e*P **P 05 33 36.7 -1.2**
UZH *i* 05 43 37.0
UZH Uzhgorod 71.39 322 *e*P **P 05 33 38.0 +0.1**
BSC Santa Cruz Isl 71.43 60 ⇓P P 05 33 37.9 -0.4
baz=71
N17A Moffit Pass 71.45 50 P **P 05 33 38.2 -0.2**
baz=71,SNR=18
ODB Odobesti 71.48 318 ⇑*i*P **P 05 33 39.7 +1.3**
ODB Odobesti 71.48 318 ⇑P **P 05 33 39.7 +1.3**
BALT Daday 71.52 311 *i* P **P 05 33 41.4 +2.6**
CRVS Cervenica-Dubn 71.53 323 *i* P **P 05 33 37.9 -0.8**
OSI Osito Adit 71.54 59 ⇑P P 05 33 38.6 -0.4
baz=71
LRMC Laurel Mountai 71.54 58 ⇓P P 05 33 38.7 -0.3
baz=71
BSEG Bad Segeberg 71.54 332 *e*P **P 05 33 38.0 -0.7**
comp=Z,80nm,1.3s,mb5.5
Q14A Sevier Lake (B 71.55 53 P **P 05 33 39.0 0.0**
baz=71,SNR=26

VRI Vrincioaia 71.56 318⇓*i*P P 05 33 38.5 -0.4
VRI Vrincioaia 71.56 318 P P 05 33 40.1 +1.2
NIE Niedzica 71.59 324 *e*P P 05 33 39.6 +0.5
PLOR Plostina 71.61 318⇓*i*P P 05 33 40.6 +1.4
DAU Daniels Canyon 71.61 50 *e*P P 05 33 40.5 +1.2
O16A Springville 71.63 51 ⇑P P 05 33 39.3 -0.1
baz=71
S12A Delamar Landin 71.66 54 ⇓P P 05 33 39.7 +0.1
baz=72,SNR=23
U10A Ash Meadows, A 71.66 56 ⇑P P 05 33 39.5 -0.2
baz=72,SNR=20
P15A Leamington 71.67 52 ⇓P P 05 33 39.6 -0.1
baz=72
UMR Umm Al-Rimmam 71.69 294 *e*P P 05 33 38.2 -1.7
baz=294
UMR AMb AMB 05 33 40.7
comp=Z,127nm,1.1s,mb5.8,baz=294
MPU Maple Canyon 71.70 51 PFAKE 05 33 50.0 +10
MPU LR LR
comp=Z,2μm,20.0s,MS5.3
T11A Corn Creek, Al 71.71 55 P P 05 33 39.9 -0.1
baz=72,SNR=58
R13A O'Grain Ranch, 71.75 54 ⇓P P 05 33 40.2 0.0
baz=72,SNR=13
MIB Mutribah 71.75 294 *e*P P 05 33 38.9 -1.4
baz=294
MIB AMb AMB 05 33 41.1
comp=Z,148nm,1.1s,mb5.8,baz=294
EDW2 Edwards Air Fo 71.78 58 P P 05 33 40.5 +0.1
baz=72,SNR=28
TIRR Tirgusor 71.83 316⇓*i*P P 05 33 41.2 +0.6
TIRR Tirgusor 71.83 316 ⇓P P 05 33 41.2 +0.6
HARR Harsova 71.89 317⇓*i*P P 05 33 41.4 +0.5
HARR Harsova 71.89 317 ⇓P P 05 33 41.4 +0.5
PINB Pinarbasi 71.97 307 *i* P P 05 33 42.1 +0.6
P16A Fountain Green 71.98 51 ⇑P P 05 33 41.3 -0.2
baz=72,SNR=9.4
SNCC San Nicolas Is 72.02 61 ⇑P P 05 33 41.4 -0.5
baz=72
KSP Ksiaz 72.02 327 *e*P P 05 33 41.7 +0.1
KSP Ksiaz 72.02 327⇑*e*P P 05 33 41.6 0.0
KSP *e*pP pP 05 33 46.3 +2.1
KSP *e*S S 05 43 03.0 -0.1
KSP LR LR
comp=Z,10μm,23.0s,MS6.0
DECC Green Verdugo 72.03 59 ⇑P P 05 33 41.6 -0.3
baz=72
Q15A Fillmore 72.03 52 ⇓P P 05 33 41.4 -0.5
baz=72,SNR=12
MCD Coleburn Disti 72.04 341⇓*e*P P 05 33 41.8 +0.2
SHOC Shoshone 72.06 57 ⇓P P 05 33 41.7 -0.4
baz=72,SNR=7.7
OKC Ostrava-Krasne 72.12 325 *e*P P 05 33 42.9 +0.7
OKC AMS AMS 06 09 10.0
comp=Z,5μm,13.1s
GSC Goldstone 72.18 57 *e*P P 05 33 42.6 -0.2
GSC Goldstone 72.18 57 P P 05 33 42.5 -0.3
baz=72,SNR=18
GSC Goldstone 72.18 57 PFAKE 05 33 50.0 +7.2
GSC LR LR
comp=Z,1μm,20.0s,MS5.2
R14A James Farms, M 72.18 53 ⇑P P 05 33 42.2 -0.6
baz=72
NAY Al-Naaiem 72.19 294 *e*P P 05 33 41.4 -1.6
baz=294
NAY AMb AMB 05 33 43.7
comp=Z,52nm,1.1s,mb5.4,baz=294
U11A Corn Creek 72.20 56 ⇓P P 05 33 42.9 -0.1
baz=72,SNR=5.4
MWC Mount Wilson 72.20 59 *e*P P 05 33 42.9 -0.1
MWC pmax pmax
comp=Z,43nm,1.1s,mb5.3
MWC Mount Wilson 72.20 59 PFAKE 05 34 00.0 +17
MWC LR LR
comp=Z,2μm,20.0s,MS5.4
MLR Muntele Rosu 72.21 318⇓*i*P P 05 33 44.3 +1.5
MLR Muntele Rosu 72.21 318 P P 05 33 44.1 +1.3
MME1 Meikle Cairn 72.22 341⇓*e*P P 05 33 42.6 0.0
RDF Al-Radifah 72.22 293 *e*P P 05 33 41.7 -1.5
baz=293
RDF AMb AMB 05 33 44.7
comp=Z,151nm,1.1s,mb5.8,baz=293
S13A Holt Ranch, En 72.23 54 ⇑P P 05 33 43.1 0.0
baz=72,SNR=22
KECS Kecovo 72.26 323 *i* P P 05 33 42.5 -0.6
KECS pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
KECS Kecovo 72.26 323 *i* P P 05 33 42.5 -0.6
comp=Z,9.9nm,1.3s,mb4.6
GZT Gaziantep 72.27 306 *i* P P 05 33 45.5 +2.2
ARUT Antelope Range 72.32 54 *e*P P 05 33 44.4 +0.8
RRX Edison Barstow 72.36 58 ⇓P P 05 33 43.4 -0.5
baz=72
T12A Moapa 72.36 55 ⇓P P 05 33 44.0 +0.1
baz=72
LIKS Likavka 72.37 324 *e*P P 05 33 44.6 +0.9
LIKS pmax pmax
comp=Z,65nm,1.4s,mb5.4
LIKS Likavka 72.37 324 *e*P P 05 33 44.6 +0.9
comp=Z,65nm,1.4s,mb5.4
UPC Upice 72.40 327 *e*P P 05 33 44.0 +0.1
MORC Moravsky Berou 72.41 326⇑*i*P P 05 33 44.7 +0.8
DPC Dobruska-Polom 72.41 327 *e*P P 05 33 44.3 +0.4
DPC AMS AMS 06 10 30.0
comp=Z,6μm,12.6s
MDO Dochfour 72.41 342⇓*e*P P 05 33 43.9 +0.1
FMP Fort Macarthur 72.42 59 ⇑P P 05 33 43.8 -0.5
baz=72
BFSC Mount Baldy St 72.43 59 ⇓P P 05 33 43.8 -0.5
baz=72,SNR=19
MVU Marysvale 72.48 52 PFAKE 05 34 00.0 +15
MVU LR LR
comp=Z,2μm,20.0s,MS5.4
S14A Cedar City 72.49 53 ⇑P P 05 33 44.5 -0.1
baz=72,SNR=16
MSU Marysvale 72.49 52 *e*P P 05 33 45.2 +0.6
RSSD Black Hills 72.51 44 *e*P P 05 33 44.4 -0.2
RSSD Black Hills 72.51 44 PFAKE 05 34 00.0 +15
RSSD LR LR
comp=Z,3μm,20.0s,MS5.5
CCUT Cedar City 72.53 54 *e*P P 05 33 48.9 +4.1
CIS Catalina Islan 72.57 60 ⇑P P 05 33 44.7 -0.5
baz=72
V11A Goodsprings 72.59 56 P P 05 33 45.6 +0.4
baz=72,SNR=12
TUQ Turquoise Mtn. 72.59 57 P P 05 33 45.6 +0.4
baz=72,SNR=25
T13A Saint George 72.61 54 P P 05 33 45.7 +0.4
baz=72,SNR=32
DRGR 72.65 321⇓*i*P P 05 33 45.5 +0.1
DRGR 72.65 321 P P 05 33 46.2 +0.8
R15A Junction 72.65 53 ⇑P P 05 33 45.9 +0.3
baz=72,SNR=12
VOIR 72.65 319⇓*i*P P 05 33 45.8 +0.3
VOIR 72.65 319 P P 05 33 46.2 +0.7
U12A Valley of Fire 72.67 55 ⇓P P 05 33 45.8 +0.1
baz=72,SNR=12
AVNT Avonos 72.74 308 *i* P P 05 33 45.2 -0.9
Q16A Castle Valley 72.74 51 ⇓P P 05 33 46.3 +0.2
baz=72,SNR=12
KPL Plockton 72.78 342⇓*e*P P 05 33 46.8 +0.8
KPL AMb AMB 05 33 51.8
comp=Z,142nm,1.5s,mb5.7
HEC Hector,Ludlow 72.78 57 ⇑P P 05 33 46.4 -0.1
baz=73,SNR=19
SCI San Clemente I 72.79 60 ⇑P P 05 33 46.1 -0.4
baz=73
ANDN Andirin 72.79 307 *i* P P 05 33 48.0 +1.6
CLL Collm 72.83 329 *i* P P 05 33 46.0 -0.4
CLL *i* 05 33 50.5
CLL *e* 05 33 54.0
CLL pmax pmax
comp=Z,90nm,1.3s,mb5.5
CLL MLR MLR
comp=Z,5μm,19.8s,MS5.8
CLL Collm 72.83 329 *e*P P 05 33 45.0 -1.4
comp=Z,91nm,1.3s,mb5.5
CLL Collm 72.83 329 *i* P P 05 33 46.0 -0.4
comp=Z,90nm,1.3s,mb5.5
CLL LmV 05 06 00.0
comp=Z,5μm,19.8s
CLL *i* pP pP 05 33 50.5 +1.5
CLL *e*x x 05 33 54.0
CLL Collm 72.83 329 *i* P P 05 33 46.0 -0.4
comp=Z,90nm,1.3s,mb5.5
CLL *i* 05 33 50.5
CLL *e* 05 33 54.0
CLL LR LR
comp=Z,5μm,19.8s,MS5.8
BBRC Big Bear Sol-O 72.84 58 ⇑P P 05 33 46.5 -0.3
baz=73,SNR=5.9
BRG Berggiesshubel 72.86 328 *e*P P 05 33 46.9 +0.3
BRG *e* 05 34 03.8
BRG pmax pmax
comp=Z,24nm,1.3s,mb5.0
BRG MLR MLR
comp=N,3μm,16.5s,MS5.8
BRG MLR MLR
comp=E,3μm,14.3s,MS5.8
BRG MLR MLR
comp=Z,5μm,16.9s,MS5.8
BRG Berggiesshubel 72.86 328 *e*P P 05 33 45.5 -1.1
comp=Z,46nm,1.2s,mb5.3
BRG Berggiesshubel 72.86 328 *e*P P 05 33 46.9 +0.3
comp=Z,41nm,1.3s,mb5.2
BRG *e* 05 34 03.8
comp=Z,24nm,1.2s
BRG
comp=N,5μm,16.5s
BRG
comp=E,5μm,14.3s
BRG
comp=Z,8μm,16.9s
BRG Berggiesshubel 72.86 328 *e*P P 05 33 46.9 +0.3
comp=Z,24nm,1.3s,mb5.0
BRG *e* 05 34 03.8
BRG LR LR
comp=Z,5μm,16.9s,MS5.8
AGMN Agassiz Refuge 72.87 36 PFAKE
AGMN LR LR 05 34 00.0 +13
comp=Z,2μm,21.0s,MS5.4
SGKT Sivrigoynuk 72.90 311 *i* P P 05 33 45.9 -1.2
PVCC Panska Ves 72.91 328 *e*P P 05 33 47.3 +0.4
PVCC AMS AMS 06 08 30.0
comp=Z,8μm,18.5s
VYHS Vyhne 72.92 324 *i* P P 05 33 46.7 -0.3
VYHS pmax pmax
comp=Z,39nm,1.2s,mb5.2
VYHS Vyhne 72.92 324 *i* P P 05 33 46.7 -0.3
comp=Z,39nm,1.2s,mb5.2
VYHS *e*S S 05 43 11.7 -1.8
SRU San Rafael 72.95 51 *e*P P 05 33 48.5 +1.2
SRU San Rafael 72.95 51 ⇑P P 05 33 47.1 -0.2
baz=73,SNR=21
PSZ Piszkesteto 72.95 323⇑*e*P P 05 33 47.6 +0.4
PSZ Piszkesteto 72.95 323⇑*i*P P 05 33 47.6 +0.4
PSZ Piszkesteto 72.95 323 PFAKE
PSZ LR LR 05 34 00.0 +13
comp=Z,3μm,19.0s,MS5.6
S15A Panguitch 72.99 53 ⇑P P 05 33 48.0 +0.4
baz=73,SNR=14
V12A Nelson 73.00 56 P P 05 33 47.8 +0.1
baz=73,SNR=18
U13A Pakoon Wash 73.01 55 P P 05 33 48.0 +0.3
baz=73,SNR=43
T14A Hurricane 73.03 54 ⇓P P 05 33 47.8 -0.1
baz=73
ANTO Ankara 73.04 310 P P 05 33 49.1 +1.3
SNR=6.8
ANTO Ankara 73.04 310 *e*P P 05 33 48.8 +1.0
ANTO pmax pmax
comp=Z,82nm,1.4s,mb5.5
ANTO MLR MLR
comp=Z,4μm,19.0s,MS5.7
ANTO Ankara 73.04 310⇑*i*P P 05 33 48.0 +0.2
ANTO Ankara 73.04 310 *e*P P 05 33 48.8 +0.9
comp=Z,82nm,1.4s,mb5.5
ANTO LR LR
comp=Z,4μm,19.0s,MS5.7
JAVC Velka Javorina 73.09 325 P P 05 33 49.7 +1.7
MURC Murrieta 73.15 59 ⇑P P 05 33 47.9 -0.8
baz=73
VRAC Vranov 73.15 326⇑*i*P P 05 33 48.8 +0.5
VRAC Vranov 73.15 326 P P 05 33 49.0 +0.7
Q18A Rafter H Ranch 73.16 51 ⇓P P 05 33 48.1 -0.5
baz=73
GMRC Granite Mounta 73.21 57 ⇓P P 05 33 48.5 -0.4
baz=73,SNR=15
CLZ Clausthal 73.29 331 *e*P P 05 33 48.6 -0.5
CLZ pmax pmax
comp=Z,99nm,1.2s,mb5.6
CLZ Clausthal 73.29 331 *e*P P 05 33 48.6 -0.5
comp=Z,99nm,1.2s,mb5.6
W12A Cal Nev Ari 73.29 56 ⇓P P 05 33 48.8 -0.7
baz=73
PRA Prague 73.34 328 P P 05 33 50.0 +0.6
R17A Hanksville Air 73.35 51 P P 05 33 49.7 0.0
baz=73,SNR=27
AFI Afiamalu 73.36 133 LR 05 59 51.1
comp=Z,903nm,20.9s,MS5.0,baz=357,slow=31
PRU Pruhonice 73.37 328 *e*P P 05 33 49.8 +0.2
PRU AMS AMS 06 08 10.0
comp=Z,6μm,19.6s
V13A Grand Canyon W 73.40 55 P P 05 33 50.0 0.0
baz=73,SNR=20
KRUC Moravsky 73.42 326 P P 05 33 50.8 +0.8
U14A Mt Trumbull 73.44 54 P P 05 33 50.6 +0.3
baz=73,SNR=26
T15A Red Dirt Ranch 73.45 53 P P 05 33 50.5 +0.1
baz=73,SNR=28
EAB Aberfoyle 73.56 341 *e*P P 05 33 50.8 +0.2
BELC Belle Mtn. 73.57 58 P P 05 33 50.8 -0.3
baz=73,SNR=19
PFO Pinyon Flat Ob 73.58 58 P P 05 33 51.6 +0.4
comp=Z,118nm,0.9s,mb5.8,SNR=8.7
PFO Pinyon Flat Ob 73.58 58 *e*P P 05 33 50.9 -0.3
PFO Pinyon Flat Ob 73.58 58 ⇓P P 05 33 50.5 -0.7
baz=73,SNR=14
PFO Pinyon Flat Ob 73.58 58 PFAKE
PFO LR LR 05 34 00.0 +8.8
comp=Z,2μm,19.0s,MS5.4
TREC Trest 73.58 327 *e*P P 05 33 51.9 +1.0
TREC AMS AMS 06 10 10.0
comp=Z,6μm,14.3s
MODS Modra-Piesok 73.64 325 *i* P P 05 33 50.7 -0.5
MODS *e*S S 05 43 11.7 -10
BUD Budapest 73.65 324 *e*P P 05 33 51.5 +0.2
GZR Gura Zlata 73.70 320 P P 05 33 52.9 +1.2
109C Camp Elliot, M 73.71 59 ⇓P P 05 33 51.3 -0.6
baz=74
Q19A Hogan Spring (73.73 50 P P 05 33 51.2 -0.7
baz=74,SNR=28
IBBN Ibbenburen 73.75 333 *e*P P 05 33 50.7 -1.1
comp=Z,84nm,1.3s,mb5.5
TANN Tannenbergstha 73.77 329 *e*P P 05 33 51.0 -1.0
comp=Z,50nm,1.5s,mb5.2
R18A Canyonlands Na 73.81 51 ⇓P P 05 33 51.8 -0.6
baz=74,SNR=28
NEE2 Needles Airpor 73.82 56 ⇑P P 05 33 51.7 -0.8
baz=74
ZST Bratislava 73.85 325 *i* P P 05 33 53.5 +1.0
ZST pmax pmax
comp=Z,21nm,1.2s,mb4.9
ZST Bratislava 73.85 325 *i* P P 05 33 53.5 +1.0
comp=Z,21nm,1.2s,mb5.0
MOX Moxa 73.87 330 *e*P P 05 33 52.4 -0.2
comp=Z,124nm,1.7s,mb5.6
MOX
comp=Z,5μm,19.0s
MOX Moxa 73.87 330 *e*P P 05 33 52.4 -0.2
MOX pmax pmax
comp=Z,124nm,1.7s,mb5.6
MOX MLR MLR
comp=Z,5μm,19.0s,MS5.8
MOX Moxa 73.87 330 *e*P P 05 33 51.6 -1.0
comp=Z,79nm,1.4s,mb5.5
NKC Novy Kostel 73.92 329 *e*P P 05 33 53.7 +0.8
NKC AMS AMS 06 07 00.0
comp=Z,4μm,18.4s
U15A North Rim 73.93 54 ⇓P P 05 33 53.1 -0.1
baz=74,SNR=26
PGBU Glenifferbraes 73.94 341⇓*e*P P 05 33 53.6 +0.7
PGBU AMb AMB 05 33 59.6
comp=Z,303nm,1.7s,mb6.0
IRM Iron Mountain 73.94 57 ⇓P P 05 33 52.9 -0.4
baz=74,SNR=32
T16A Glen Canyon Da 73.96 53 ⇑P P 05 33 52.4 -0.9
baz=74
W13A Hualapai Mount 74.00 56 P P 05 33 53.5 -0.1
baz=74,SNR=17
BZS Buzias 74.04 321⇑*i*P P 05 33 53.2 -0.4
BZS Buzias 74.04 321 P P 05 33 53.9 +0.3
V14A Boquillas Ranc 74.05 55 P P 05 33 54.2 +0.4
baz=74,SNR=26
ESK Eskdalemuir 74.10 340⇓*e*P P 05 33 53.9 +0.1
ESK AMb AMB 05 33 59.4
comp=Z,76nm,1.8s,mb5.3
ESK Eskdalemuir 74.10 340 *e*P P 05 33 56.5 +2.7
ESK Eskdalemuir 74.10 340 PFAKE 05 34 10.0 +16
ESK LR LR
comp=Z,3μm,21.0s,MS5.5
MONP Monument Peak 74.11 59 ⇓P P 05 33 53.8 -0.5
baz=74,SNR=14
BAR Barrett 74.11 59 PFAKE 05 34 10.0 +16
BAR LR LR
comp=Z,1μm,20.0s,MS5.2
BC3 Big Chuckw Mtn 74.13 58 P P 05 33 54.4 0.0
baz=74,SNR=19
ECK Cauldkaine Hil 74.20 340 *e*P P 05 33 55.0 +0.6
JMB Yambol 74.21 316 P P 05 33 56.0 +1.3
R19A Curley Farm, L 74.22 51 ⇑P P 05 33 54.7 -0.1
baz=74
S18A Hurst Farm, Bl 74.27 52 P P 05 33 55.1 0.0
baz=74,SNR=26
UBBA Unterbreizbach 74.28 331 *e*P P 05 33 53.8 -1.1
comp=Z,122nm,1.8s,mb5.5
WTSB Winterswijk 74.34 333 *e*P P 05 33 54.7 -0.6
W14A Seligman 74.37 55 P P 05 33 56.0 +0.2
baz=74,SNR=26
X13A Yucca 74.39 56 P P 05 33 55.8 -0.1
baz=74,SNR=35
ROTZ Rotzenmuhle 74.40 329 *e*P P 05 33 55.2 -0.5
comp=Z,72nm,1.5s,mb5.4
PDMCI Parker Dam,Lak 74.43 56 ⇑P P 05 33 55.7 -0.4
baz=74,SNR=8.6
KHC Kasperske Hory 74.43 328 *e*P P 05 33 56.2 +0.3
KHC AMS AMS 06 09 20.0
comp=Z,8μm,18.2s
V15A Kaibab Nationa 74.44 54 P P 05 33 56.5 +0.3
baz=74,SNR=22
SWSC Sam W. Stewart 74.44 58 ⇑P P 05 33 55.8 -0.4
baz=74,SNR=9.4
DVTC Desert V Tower 74.46 59 P P 05 33 56.4 0.0
baz=74,SNR=12
SOP Sopron 74.48 325⇑*e*P P 05 33 57.0 +0.8
CONA Conrad Observa 74.56 326⇑*i*P P 05 33 57.5 +0.9
comp=Z,71nm,1.4s,mb5.4,SNR=18
CONA Conrad Observa 74.56 326⇑*i*pP pP 05 33 57.5 -1.7
comp=Z,71nm,1.4s,SNR=18
Y12C Blythe 74.60 57 P P 05 33 57.4 +0.3
baz=74,SNR=16
GEC2 GERESS Array S 74.62 327 *e*P P 05 33 56.2 -0.8
GEC2 pmax pmax
comp=Z,150nm,2.1s,mb5.5
GEC2 GERESS Array S 74.62 327 *e*P P 05 33 56.2 -0.8
comp=Z,150nm,2.1s,mb5.5
GERES GERESS Array B 74.62 327 P P 05 33 56.8 -0.2
comp=Z,7.4nm,0.7s,mb4.7,baz=35,slow=4.9,SNR=34
GERES LR LR 06 10 21.8
comp=Z,7μm,18.8s,MS6.0,baz=264,slow=39
GERES GERESS Array B 74.62 327 P P 05 33 56.8 -0.2
GERES pmax pmax
comp=Z,7.0nm,0.7s
GERES MLR MLR
comp=Z,7μm,18.8s
BUG Bochum--Univer 74.64 332 *e*P P 05 33 56.0 -1.1
comp=Z,158nm,1.4s,mb5.8
WET Wettzell 74.68 328 *e*P P 05 33 56.8 -0.5
WET pmax pmax
comp=Z,88nm,1.4s,mb5.5
WET Wettzell 74.68 328 *e*P P 05 33 56.8 -0.5
comp=Z,88nm,1.4s,mb5.5
S19A Harvey Farm, M 74.69 51 P P 05 33 57.3 -0.3
baz=74,SNR=29
U17A Shonto 74.70 53 ⇓P P 05 33 57.3 -0.3
baz=74,SNR=21
ULDT Uludag 74.71 313 *i* P P 05 33 58.5 +0.8
T18A Mexican Hat 74.74 52 ⇓P P 05 33 57.4 -0.5
baz=74,SNR=30
U16A Tuba City 74.78 53 P P 05 33 58.9 +0.8
baz=75,SNR=20
GRA1 Grafenberg Arr 74.81 329 *e*P P 05 33 57.6 -0.4
comp=Z,125nm,1.2s,mb5.7
GRF Grafenberg Arr 74.81 329 *e*P P 05 33 57.6 -0.4
GRF pmax pmax
comp=Z,125nm,1.2s,mb5.7
GRF Grafenberg Arr 74.81 329 *e*P P 05 33 57.6 -0.4
GRF pmax pmax
comp=Z,125nm,1.2s,mb5.7
GRF Grafenberg Arr 74.81 329 *e*P P 05 33 57.6 -0.4
comp=Z,125nm,1.2s,mb5.7
GRFO Grafenberg 74.81 329 P P 05 33 59.4 +1.3
PKSM Moragy 74.83 323⇑*i*P P 05 33 58.6 +0.4
PKSM Moragy 74.83 323 P P 05 33 57.9 -0.4
W15A Williams 74.85 55 ⇓P P 05 33 58.6 +0.1
baz=75
EYMN Ely 74.88 34 PFAKE 05 34 10.0 +12
EYMN LR LR
comp=Z,2μm,21.0s,MS5.5
GLA Glamis 74.93 58 *e*P P 05 34 00.1 +1.1
GLA pmax pmax
comp=Z,35nm,1.0s,mb5.2
GLA Glamis 74.93 58 ⇑P P 05 33 58.8 -0.3
baz=75,SNR=9.8
GLA Glamis 74.93 58 PFAKE 05 34 10.0 +11
GLA LR LR
comp=Z,2μm,20.0s,MS5.4
Y13A Salome 74.95 57 ⇓P P 05 33 58.8 -0.4
baz=75,SNR=7.0
ISCO Idaho Springs 74.99 47 *e*P P 05 33 59.7 +0.4
ISCO pmax pmax
comp=Z,68nm,1.9s,mb5.2
X14A Yava 75.02 56 P P 05 34 00.3 +0.8
baz=75,SNR=12
WUAZ Wupatki 75.10 54 ⇓P P 05 34 00.2 +0.2
baz=75,SNR=9.7
MOA Molln 75.23 326⇓*i*P P 05 34 01.6 +1.1
comp=Z,24nm,1.0s,mb5.1,SNR=14
MOA Molln 75.23 326⇓*i*pP P 05 34 01.6 +1.1
comp=Z,24nm,1.0s,mb5.1,SNR=14
ARSA Arzberg 75.24 325⇑*i*P P 05 34 01.0 +0.4
comp=Z,60nm,1.4s,mb5.3,SNR=26
ARSA Arzberg 75.24 325⇑*i*pP P 05 34 01.0 +0.4
comp=Z,60nm,1.4s,mb5.3,SNR=26
U18A Rough Rock, Ch 75.27 52 ⇓P P 05 34 00.5 -0.5
baz=75,SNR=13
PGB Panagyurishte 75.29 317 P P 05 34 00.8 -0.1
TNS Taunus Mts 75.31 331 *e*P P 05 34 00.1 -0.8
TNS pmax pmax
comp=Z,115nm,1.4s,mb5.6
TNS Taunus Mts 75.31 331 *e*P P 05 34 00.1 -0.8
comp=Z,115nm,1.4s,mb5.6
W16A Flagstaff 75.32 54 ⇑P P 05 34 01.1 -0.2
baz=75
Y14A Wickenburg 75.34 56 ⇓P P 05 34 01.5 +0.1
baz=75,SNR=17
X15A Humboldt 75.37 55 P P 05 34 01.9 +0.3
baz=75,SNR=25
PLD Plovdiv 75.38 317 P P 05 34 02.9 +1.4
KDZ Kurdzhali 75.39 316 P P 05 34 01.7 +0.1
MVCO Mesa Verde 75.42 51 ⇓P P 05 34 01.2 -0.6
baz=75,SNR=24
MVCO Mesa Verde 75.42 51 PFAKE 05 34 10.0 +8.2
MVCO LR LR
comp=Z,1μm,20.0s,MS5.2
112A Yuma 75.44 58 ⇓P P 05 34 01.4 -0.6
baz=75
KBI1 Birley Grange 75.56 338⇓*e*P P 05 34 02.5 +0.2
HGN Heimansgroeve 75.65 333 *e*P P 05 34 02.0 -0.9
comp=Z,70nm,1.8s,mb5.3
HGN Heimansgroeve 75.65 333 *e*S S 05 43 43.6 -0.4
SIND Sindeldorf 75.66 330 P P 05 34 03.7 +0.7
VTS Vitosha 75.70 318 P P 05 34 03.5 +0.2
VTS Vitosha 75.70 318⇑*i*P P 05 34 03.4 +0.1
VTS Vitosha 75.70 318 ⇑P P 05 34 03.4 +0.1
BEBN Eben Emael 75.71 333 P P 05 34 03.1 -0.1
comp=Z,29nm,1.7s,mb4.9
Y15A Casa Rosa Ranc 75.71 56 ⇑P P 05 34 03.5 0.0
baz=76,SNR=23
TOD Tromm 75.72 331 *e*P P 05 34 02.9 -0.4
ISP Isparta 75.73 310 PFAKE 05 34 20.0 +16
ISP LR LR
comp=Z,6μm,19.0s,MS5.9
113A Mohawk Valley, 75.75 57 ⇑P P 05 34 03.4 -0.4
baz=76
V18A Ganado 75.76 53 ⇓P P 05 34 03.7 -0.1
baz=76,SNR=14
MEM Membach 75.77 333 P P 05 34 03.9 +0.4

comp=Z,49nm,1.8s,mb5.1
Z14A Wintersburg 75.79 56 ⇑P P 05 34 03.4 -0.5
baz=76
W17A Winslow 75.79 54 ⇓P P 05 34 04.0 +0.1
baz=76
SWS Schriesheim-Wi 75.86 331 P **P 05 34 05.6 +1.5**
KWE Weaver Farm 75.86 338⇓*eP* **P 05 34 04.5 +0.4**
KHAL Karahalli 75.87 311 *iP* **P 05 34 03.8 -0.5**
X16A Lo Mia Camp, P 75.87 55 P **P 05 34 04.8 +0.4**
baz=76,SNR=32
SOKA Soboth 75.90 325⇓*iP* **P 05 34 05.4 +1.0**
SOKA Soboth 75.90 325⇓*ipP* **P 05 34 05.4 +1.0**
PERS Pernice 75.91 325 *iP* **P 05 34 04.5 +0.1**
SCHQ Schefferville 75.94 17 P **P 05 34 03.9 -0.6**
comp=Z,52nm,0.9s,mb5.4,baz=352,slow=5.7,SNR=24
SCHQ Schefferville 75.94 17 *eP* **P 05 34 04.4 0.0**
comp=Z,105nm,1.1s,mb5.7
CWF Charnwood Fore 75.97 338 *eP* **P 05 34 05.2 +0.5**
CWF AMb AMB 05 34 11.1
comp=Z,144nm,1.5s,mb5.7
FUR Furstenfeldbru 76.08 328 *eP* **P 05 34 04.7 -0.6**
FUR pmax pmax
comp=Z,210nm,1.4s,mb5.9
FUR Furstenfeldbru 76.08 328 *eP* **P 05 34 04.7 -0.6**
comp=Z,210nm,1.4s,mb5.9
HDH Heidenheim-Cha 76.10 329 P **P 05 34 07.1 +1.6**
ZAVS Zavodnje 76.11 325 P **P 05 34 02.5 -3.1**
UCC Uccle 76.11 334 P **P 05 34 05.7 +0.2**
comp=Z,60nm,1.8s,mb5.2
BCLA Clavier 76.15 333 P **P 05 34 06.1 +0.4**
comp=Z,34nm,1.6s,mb5.0
ECSD EROS,Sioux Fal 76.19 39 PFAKE
ECSD LR LR 05 34 20.0 +14
comp=Z,5μm,21.0s,MS5.8
KTD Kalmit 76.20 331 *eP* **P 05 34 05.7 -0.4**
KBA Koelnbreinsper 76.22 327⇑*iP* **P 05 34 07.1 +1.0**
comp=Z,114nm,1.2s,mb5.7,SNR=46
KBA Koelnbreinsper 76.22 327⇑*ipP* **P 05 34 07.1 +1.0**
comp=Z,114nm,1.2s,mb5.7,SNR=46
KBA Koelnbreinsper 76.22 327⇑*iP* **P 05 34 07.2 +1.0**
KBA pmax pmax
comp=Z,114nm,1.2s,mb5.7
OBKA Obir 76.23 325⇓*iP* **P 05 34 07.3 +1.0**
comp=Z,71nm,1.7s,mb5.3,SNR=12
OBKA Obir 76.23 325⇓*ipP* **P 05 34 07.3 +1.0**
comp=Z,71nm,1.7s,mb5.3,SNR=12
MMB Musomiste 76.24 317 P **P 05 34 06.3 -0.1**
V19A Window Rock 76.24 52 ⇓P **P 05 34 06.4 -0.1**
baz=76
Y16A Circle Bar Ran 76.24 55 P **P 05 34 06.8 +0.2**
baz=76,SNR=17
MANT Manisa 76.25 312 *iP* **P 05 34 07.0 +0.5**
X17A Forest Lakes 76.29 54 ⇓P **P 05 34 07.1 +0.3**
baz=76,SNR=14
Z15A Gila River Ind 76.29 56 ⇓P **P 05 34 06.3 -0.5**
baz=76
STU Stuttgart 76.30 330 *eP* **P 05 34 06.5 -0.1**
STU pmax pmax
comp=Z,87nm,1.2s,mb5.6
STU Stuttgart 76.30 330 *eP* **P 05 34 05.5 -1.1**
comp=Z,85nm,1.2s,mb5.5
STU Stuttgart 76.30 330 *eP* **P 05 34 06.5 -0.1**
comp=Z,87nm,1.2s,mb5.6
W18A Petrified Fore 76.30 53 ⇓P **P 05 34 06.9 +0.1**
baz=76
SBD1 Bryn Du 76.31 339⇓*eP* **P 05 34 07.2 +0.6**
KKB Krupnik 76.32 318 P **P 05 34 10.0 +3.1**
CSS Prodhromos 76.36 307 *eP* **P 05 34 07.2 0.0**
comp=Z,26nm,0.9s,mb5.2
MYKA Terra Mystica 76.48 326⇓*iP* **P 05 34 08.4 +0.7**
comp=Z,202nm,1.6s,mb5.8
MYKA Terra Mystica 76.48 326⇓*ipP* **P 05 34 08.4 +0.7**
comp=Z,202nm,1.6s,mb5.8
W19A Sanders 76.50 53 ⇑P **P 05 34 08.0 +0.1**
baz=76,SNR=8.5
BUCH Bad Urach 76.52 330 P **P 05 34 09.2 +1.4**
LBG Lerchenberg 76.53 330 P **P 05 34 09.6 +1.7**
WLF Walferdange 76.54 332 P **P 05 34 08.8 +0.8**
comp=Z,52nm,2.1s,mb5.1
WLF Walferdange 76.54 332 *eP* **P 05 34 08.5 +0.5**
WLF Walferdange 76.54 332 *eP* **P 05 34 07.4 -0.6**
comp=Z,118nm,1.6s,mb5.6
GIVF Givet 76.58 333 *eP* **P 05 34 08.0 -0.2**
LANF Langenberg 76.59 331 *eP* **P 05 34 07.8 -0.4**
SDCO Great Sand Dun 76.60 49 *eP* **P 05 34 08.7 +0.2**
comp=Z,30nm,1.6s,mb5.0
X18A Snowflake 76.62 54 ⇓P **P 05 34 08.6 -0.1**
baz=76,SNR=9.8
LJU Ljubljana 76.62 325 *eP* **P 05 34 08.0 -0.5**
LJU Ljubljana 76.62 325 P **P 05 34 08.8 +0.3**
DOU Dourbes 76.66 333 P **P 05 34 07.9 -0.7**
comp=Z,37nm,1.8s,mb5.0
WATA Walderalm 76.67 328⇓*iP* **P 05 34 09.6 +0.8**
comp=Z,126nm,1.3s,mb5.7,SNR=8.4
WATA Walderalm 76.67 328⇓*ipP* **P 05 34 09.6 +0.8**
comp=Z,126nm,1.3s,mb5.7,SNR=8.4
WATA Walderalm 76.67 328⇓*iP* **P 05 34 09.6 +0.9**
WATA pmax pmax
comp=Z,126nm,1.3s,mb5.7
Z16A Peralta Trail, 76.67 55 ⇓P **P 05 34 08.8 -0.2**
baz=76
VISS Visnje 76.70 325 *iP* **P 05 34 08.4 -0.5**
WTTA Wattenberg 76.70 328⇑*iP* **P 05 34 09.7 +0.8**
comp=Z,172nm,1.3s,mb5.8,SNR=13
WTTA Wattenberg 76.70 328⇑*ipP* **P 05 34 09.7 +0.8**
comp=Z,172nm,1.3s,mb5.8,SNR=13
WTTA Wattenberg 76.70 328⇑*iP* **P 05 34 09.7 +0.8**
WTTA pmax pmax
comp=Z,172nm,1.3s,mb5.8
Y17A Roosevelt 76.74 55 ⇑P **P 05 34 08.9 -0.4**
baz=76,SNR=17
BOJS Bojanci 76.78 324 *eP* **P 05 34 09.0 -0.4**
BAIF Baives 76.81 333 *eP* **P 05 34 08.8 -0.6**
ABTA Abfaltersbach 76.81 327 *iP* **P 05 34 09.8 +0.2**
comp=Z,43nm,1.3s,mb5.2,SNR=15
ABTA Abfaltersbach 76.81 327 *ipP* **P 05 34 09.8 +0.2**
comp=Z,43nm,1.3s,mb5.2,SNR=15
MOTA Moosalm 76.83 328⇓*iP* **P 05 34 10.3 +0.6**
comp=Z,133nm,1.1s,mb5.8,SNR=35
MOTA Moosalm 76.83 328⇓*ipP* **P 05 34 10.3 +0.6**
comp=Z,133nm,1.1s,mb5.8,SNR=35
MOTA Moosalm 76.83 328⇓*iP* **P 05 34 10.3 +0.7**
MOTA pmax pmax
comp=Z,133nm,1.1s,mb5.8
RETA Reutte 76.83 328⇑*iP* **P 05 34 10.3 +0.6**
comp=Z,118nm,1.6s,mb5.6,SNR=23
RETA Reutte 76.83 328⇑*ipP* **P 05 34 10.3 +0.6**
comp=Z,118nm,1.6s,mb5.6,SNR=23
STIP Stip 76.87 318⇓*ePdi* **P 05 34 06.5 -3.4**
VOY Vojsko 76.88 326 *eP* **P 05 34 09.9 0.0**
214A Organ Pipe Nat 76.89 57 ⇑P **P 05 34 09.9 -0.4**
baz=77,SNR=13
SQTA Sankt Quirin 76.90 328⇓*iP* **P 05 34 10.9 +0.9**
SQTA Sankt Quirin 76.90 328⇓*ipP* **P 05 34 10.9 +0.9**
UBR Ueberruh 76.91 329 P **P 05 34 11.3 +1.2**
CEY Cerknica 76.92 325 P **P 05 34 10.4 +0.3**
GUT Gutenstein 76.92 330 P **P 05 34 11.4 +1.3**
JAVS Javornik 76.93 325 *iP* **P 05 34 09.3 -0.9**
BFO Black Forest 76.97 330 P **P 05 34 10.6 +0.2**
comp=Z,257nm,1.2s,mb6.0,SNR=13
BFO Black Forest 76.97 330 *eP* **P 05 34 09.4 -1.0**
BFO pmax pmax
comp=Z,209nm,1.8s,mb5.8
BFO MLR MLR
comp=Z,3μm,21.0s,MS5.6
BFO Black Forest 76.97 330 *eP* **P 05 34 09.4 -1.0**
comp=Z,209nm,1.8s,mb5.8
BFO LR LR
comp=Z,3μm,21.0s,MS5.6
KDAG Bornova 76.98 313 *iP* **P 05 34 11.5 +0.8**
MENF Mencas 76.98 335 *eP* **P 05 34 10.2 -0.2**
VAY Valandovo 76.99 318⇓*ePdi* **P 05 34 09.0 -1.7**
SKO Skopje 76.99 319⇓*ePdi* **P 05 34 09.6 -1.1**
SPAK Spaichingen-Ko 77.01 330 *eP* **P 05 34 10.4 -0.2**
X19A St. Johns 77.06 53 ⇑P **P 05 34 11.1 -0.1**
baz=77,SNR=34
HTR Trewern Hill 77.08 339⇓*eP* **P 05 34 11.4 +0.5**
MCH1 Michaelchurch 77.08 339⇓*eP* **P 05 34 10.8 -0.2**
MCH1 AMb AMB 05 34 16.8
comp=Z,163nm,1.5s,mb5.7
116A Eloy 77.08 56 ⇓P **P 05 34 11.3 0.0**
baz=77,SNR=10.0
Y18A Canyon Day Jun 77.13 54 P **P 05 34 11.8 +0.3**
baz=77,SNR=21
Z17A San Carlos Hig 77.24 55 ⇑P **P 05 34 12.2 0.0**
baz=77

FETA Feichten 77.24 328⇓*iP* **P 05 34 12.2 +0.3**
comp=Z,104nm,1.2s,mb5.6,SNR=43
FETA Feichten 77.24 328⇓*ipP* **P 05 34 12.2 +0.3**
comp=Z,104nm,1.2s,mb5.6,SNR=43
CDF Champ du Feu 77.26 331 *eP* **P 05 34 11.8 -0.2**
comp=Z,232nm,1.5s,mb5.6
CDF Champ du Feu 77.26 331 *eP* **P 05 34 11.8 -0.2**
CDF pmax pmax
comp=Z,116nm,1.5s,mb5.6
CDF Champ du Feu 77.26 331 *eP* **P 05 34 11.8 -0.2**
comp=Z,116nm,1.5s,mb5.6
SISB Singen-Schiene 77.31 329 P **P 05 34 14.0 +1.7**
COWI Conover 77.31 34 PFAKE
COWI LR LR 05 34 20.0 +7.6
comp=Z,2μm,20.0s,MS5.4
DAVA Damuels 77.32 329⇑*iP* **P 05 34 12.7 +0.3**
comp=Z,122nm,1.2s,mb5.7,SNR=13
DAVA Damuels 77.32 329⇑*ipP* **P 05 34 12.7 +0.3**
comp=Z,122nm,1.2s,mb5.7,SNR=13
DAVA Damuels 77.32 329⇑*iP* **P 05 34 12.7 +0.3**
comp=Z,122nm,1.2s,mb5.7
HGH Gray Hill 77.36 338⇓*eP* **P 05 34 13.0 +0.4**
LIBD Limburg 77.37 330 *eP* **P 05 34 13.5 +0.8**
Y19A Nutrioso 77.43 54 ⇓P **P 05 34 13.7 +0.4**
baz=77,SNR=7.5
KIZ Kirchzarten 77.44 330 P **P 05 34 13.7 +0.7**
TURN Turunc 77.46 311 *iP* **P 05 34 14.9 +1.6**
ECH Echery 77.47 331 *eP* **P 05 34 12.6 -0.6**
ECH Echery 77.47 331 *eP* **P 05 34 13.4 +0.2**
FELD Feldberg im Sc 77.47 330 *eP* **P 05 34 12.8 -0.4**
KRUS Krusevo 77.56 318⇓*ePdi* **P 05 34 10.8 -3.1**
117A Oracle 77.62 56 P **P 05 34 14.7 +0.4**
baz=77,SNR=10.0
216A Three Points, 77.64 56 P **P 05 34 14.7 +0.3**
baz=77,SNR=16
TUC Tucson 77.79 56 *eP* **P 05 34 15.2 -0.1**
BIA Bitola 77.80 318⇓*ePdi* **P 05 34 11.6 -3.6**
BRMO Bormio 77.83 328 P **P 05 34 16.3 +1.0**
THEF They Montfort 77.85 331 *eP* **P 05 34 14.6 -0.7**
MEZF Maizieres J'vi 77.91 332 *eP* **P 05 34 15.5 -0.2**
BDRM Kayabasi 77.91 312 *iP* **P 05 34 16.0 +0.2**
HINF Hinteralfeld 77.92 331 *eP* **P 05 34 15.1 -0.6**
Z19A T-Link Ranch, 77.92 54 ⇑P **P 05 34 16.2 +0.2**
baz=78
HAU Haudompre 77.92 331 *eP* **P 05 34 15.3 -0.4**
comp=Z,226nm,1.7s,mb5.5
HAU *e*MLR MLR
comp=Z,4μm,20.0s,MS5.4
HAU Haudompre 77.92 331 *eP* **P 05 34 15.3 -0.4**
HAU pmax pmax
comp=Z,113nm,1.7s,mb5.5
HAU MLR MLR
comp=Z,4μm,20.0s,MS5.7
HAU Haudompre 77.92 331 *eP* **P 05 34 15.3 -0.4**
comp=Z,113nm,1.7s,mb5.5
HAU LR LR
comp=Z,4μm,20.0s,MS5.7
OHR Ohrid 77.97 318⇓*ePdi* **P 05 34 13.0 -3.1**
BBS Basel-Blauen 78.00 330 *eP* **P 05 34 15.8 -0.4**
118A Homack Ranch, 78.01 55 P **P 05 34 17.1 +0.5**
baz=78,SNR=21
HEX Exmoor 78.14 339 *eP* **P 05 34 16.0 -0.9**
MABI Malga Bissina 78.14 328 P **P 05 34 16.6 -0.4**
FORT Forrest 78.16 192 *eP* **P 05 34 17.4 +0.4**
comp=Z,49nm,0.9s,mb5.4
217A Green Valley 78.17 56 ⇓P **P 05 34 17.3 -0.1**
baz=78,SNR=20
ANMO Albuquerque 78.21 51 *eP* **P 05 34 17.8 +0.2**
ANMO Albuquerque 78.21 51 PFAKE
ANMO LR LR 05 34 30.0 +12
comp=Z,1μm,19.0s,MS5.3
TUE Stuetta 78.21 329 *eP* **P 05 34 17.4 0.0**
comp=Z,82nm,1.2s,mb5.5
LAZ Ladron 78.25 52 *eP* **P 05 34 18.1 +0.3**
STKA Stephens Creek 78.27 180 *eP* **P 05 34 17.8 +0.2**
comp=Z,10nm,1.6s,mb4.5
STKA Stephens Creek 78.27 180 P **P 05 34 17.8 +0.2**
comp=Z,8.7nm,1.0s,mb4.6,baz=353,slow=4.4,SNR=5.9
119A Ashpeak Ranch, 78.29 54 ⇑P **P 05 34 18.0 0.0**
baz=78
LOMF Lomont 78.33 331 *eP* **P 05 34 17.8 -0.2**
MAGA Magasa 78.33 327 P **P 05 34 19.9 +1.8**
218A Dragoon 78.46 55 ⇑P **P 05 34 19.0 0.0**
baz=78,SNR=13
Y22C IRIS PASSCAL I 78.62 52 ⇓P **P 05 34 20.5 +0.7**
baz=78
CBKS Cedar Bluff 78.65 44 *eP* **P 05 34 22.8 +2.9**
CBKS Cedar Bluff 78.65 44 PFAKE
CBKS LR LR 05 34 30.0 +10
comp=Z,2μm,20.0s,MS5.5
BNM Barren Site 78.72 52 *eP* **P 05 34 20.8 +0.3**
DYA Yadsworthy 78.75 338⇓*eP* **P 05 34 20.4 +0.1**
DYA AMb AMB 05 34 26.6
comp=Z,274nm,1.6s,mb5.9
219A White Tail Can 78.89 55 P **P 05 34 21.6 +0.2**
baz=79,SNR=22
318A Bisbee 78.89 56 P **P 05 34 21.3 -0.1**
baz=79,SNR=22
VAI Varese 78.93 329 P **P 05 34 20.8 -0.6**
RSM Repubblica di 79.20 325 P **P 05 34 23.5 +0.6**
CABF La Chapelle 79.22 331 *eP* **P 05 34 22.7 -0.2**
comp=Z,298nm,1.7s,mb5.6
CABF La Chapelle 79.22 331 *eP* **P 05 34 22.7 -0.2**
CABF pmax pmax
comp=Z,149nm,1.7s,mb5.6
CABF La Chapelle 79.22 331 *eP* **P 05 34 22.7 -0.2**
comp=Z,149nm,1.7s,mb5.6
319A Douglas 79.34 55 ⇑P **P 05 34 23.6 -0.3**
baz=79,SNR=25
FLN La Foliniere 79.35 336 *eP* **P 05 34 23.0 -0.6**
comp=Z,272nm,1.4s,mb5.7
FLN *e*MLR MLR
comp=Z,4μm,21.8s,MS5.4
FLN La Foliniere 79.35 336 *eP* **P 05 34 23.0 -0.6**
FLN pmax pmax
comp=Z,136nm,1.4s,mb5.7
FLN MLR MLR
comp=Z,4μm,21.8s,MS5.7
FLN La Foliniere 79.35 336 *eP* **P 05 34 23.0 -0.6**
comp=Z,136nm,1.4s,mb5.7
FLN LR LR
comp=Z,4μm,21.8s,MS5.7
CING Cingoli 79.37 325 P **P 05 34 23.8 0.0**
LOR Lormes 79.38 332 *eP* **P 05 34 23.3 -0.5**
comp=Z,386nm,1.4s,mb5.8
LOR *e*MLR MLR
comp=Z,6μm,22.8s,MS5.5
LOR Lormes 79.38 332 *eP* **P 05 34 23.3 -0.5**
LOR pmax pmax
comp=Z,193nm,1.4s,mb5.8
LOR MLR MLR
comp=Z,6μm,22.8s,MS5.8
LOR Lormes 79.38 332 *eP* **P 05 34 23.3 -0.5**
comp=Z,193nm,1.4s,mb5.8
LOR LR LR
comp=Z,6μm,22.8s,MS5.8
LDF La Druitiere 79.40 335 *eP* **P 05 34 23.2 -0.7**
comp=Z,389nm,1.5s,mb5.8
LDF La Druitiere 79.40 335 *eP* **P 05 34 23.2 -0.7**
LDF pmax pmax
comp=Z,194nm,1.5s,mb5.8
LDF La Druitiere 79.40 335 *eP* **P 05 34 23.2 -0.7**
comp=Z,194nm,1.5s,mb5.8
ORO Oropa 79.42 329 P **P 05 34 23.3 -0.7**
SFI Santa Sofia 79.46 326 P **P 05 34 23.7 -0.6**
PIEI Pieia 79.50 325 P **P 05 34 24.7 +0.2**
FNVD Fontana Vidola 79.51 326 P **P 05 34 25.6 +1.0**
SEI Scarperia 79.52 326 P **P 05 34 26.3 +1.7**
VMG Vicchio 79.53 326 P **P 05 34 26.1 +1.5**
JFWS Jewell Farm 79.54 36 *eP* **P 05 34 23.5 -1.2**
JFWS pmax pmax
comp=Z,210nm,2.4s,mb5.6
JFWS Jewell Farm 79.54 36 PFAKE 05 34 40.0 +15
JFWS LR LR
comp=Z,2μm,19.0s,MS5.5
GSCL Gusciola 79.56 327 P **P 05 34 25.8 +1.0**
ERBM Eremo 79.57 327 P **P 05 34 25.7 +0.8**
SNTG Esanatoglia 79.57 325 P **P 05 34 25.6 +0.7**
BOB Bobbio (Coli) 79.63 328 P **P 05 34 25.3 +0.1**
BADI Badiali 79.63 325 P **P 05 34 26.2 +1.0**
GRAM Graiana 79.64 327 P **P 05 34 25.2 -0.1**
SSF Saint Saulge 79.67 332 *eP* **P 05 34 24.9 -0.5**
comp=Z,103nm,1.2s,mb5.3
SSF Saint Saulge 79.67 332 *eP* **P 05 34 24.9 -0.5**
SSF pmax pmax
comp=Z,52nm,1.2s,mb5.3
SSF Saint Saulge 79.67 332 *eP* **P 05 34 24.9 -0.5**
comp=Z,52nm,1.2s,mb5.3
CDCA Citt' di Caste 79.68 325 P **P 05 34 26.4 +0.9**
VALM Valbona 79.69 327 P **P 05 34 25.3 -0.2**
MURB Monte Urbino 79.73 325 P **P 05 34 26.3 +0.5**
HYF Humbligny 79.76 333 *eP* **P 05 34 25.8 -0.1**
SARO Sassorosso 79.77 327 P **P 05 34 26.0 0.0**
GRR Gorron 79.80 336 *eP* **P 05 34 25.3 -0.7**
comp=Z,441nm,1.6s,mb5.8
GRR Gorron 79.80 336 *eP* **P 05 34 25.3 -0.7**
GRR pmax pmax
comp=Z,221nm,1.6s,mb5.8
GRR Gorron 79.80 336 *eP* **P 05 34 25.3 -0.7**
comp=Z,221nm,1.6s,mb5.8
VLC Villacollemand 79.80 327 *eP* **P 05 34 26.7 +0.6**
comp=Z,128nm,1.3s,mb5.7
BDI Bagni Di Lucca 79.80 327 P **P 05 34 25.7 -0.4**
CODM Codolo 79.80 327 P **P 05 34 25.7 -0.4**
BACM Baccana 79.82 327 P **P 05 34 26.0 -0.2**
TERO Teramo 79.83 324 P **P 05 34 26.4 +0.1**
RSL Roselend 79.84 330 *eP* **P 05 34 25.8 -0.5**
ASS Assisi 79.85 325 P **P 05 34 26.6 +0.2**
NRCA Norcia 79.86 324 P **P 05 34 27.0 +0.5**
LSD Lago del Serru 79.86 329 P **P 05 34 26.3 -0.1**
KSU1 Kansas State U 79.90 42 PFAKE 05 34 40.0 +13
KSU1 LR LR
comp=Z,3μm,19.0s,MS5.7
VINC Vinca 79.90 327 P **P 05 34 25.5 -1.2**
SC2M Scurtabo 79.91 327 P **P 05 34 25.9 -0.8**
SMF Signal de Mont 79.93 332 *eP* **P 05 34 26.2 -0.6**
comp=Z,495nm,1.4s,mb6.0
SMF Signal de Mont 79.93 332 *eP* **P 05 34 26.2 -0.6**
SMF pmax pmax
comp=Z,248nm,1.4s,mb6.0
SMF Signal de Mont 79.93 332 *eP* **P 05 34 26.2 -0.6**
comp=Z,248nm,1.4s,mb6.0
LPL La Plagne 79.96 330 *eP* **P 05 34 27.0 +0.1**
comp=Z,227nm,1.3s,mb5.6
LPL La Plagne 79.96 330 *eP* **P 05 34 27.0 +0.1**
LPL pmax pmax
comp=Z,114nm,1.3s,mb5.6
LPL La Plagne 79.96 330 *eP* **P 05 34 27.0 +0.1**
comp=Z,114nm,1.3s,mb5.6
AVF Avril sur Loir 79.96 332 *eP* **P 05 34 26.6 -0.3**
comp=Z,594nm,1.5s,mb6.0
AVF Avril sur Loir 79.96 332 *eP* **P 05 34 26.6 -0.3**
AVF pmax pmax
comp=Z,297nm,1.5s,mb6.0
AVF Avril sur Loir 79.96 332 *eP* **P 05 34 26.6 -0.3**
comp=Z,297nm,1.5s,mb6.0
LPG La Plagne 79.97 330 *eP* **P 05 34 27.0 0.0**
comp=Z,213nm,1.2s,mb5.7
LPG La Plagne 79.97 330 *eP* **P 05 34 27.0 0.0**
LPG pmax pmax
comp=Z,107nm,1.2s,mb5.7
LPG La Plagne 79.97 330 *eP* **P 05 34 27.0 0.0**
comp=Z,107nm,1.2s,mb5.7
MAIM Mastiano 79.97 327 P **P 05 34 26.0 -1.1**
GLMI Grayling 80.07 32 *eP* **P 05 34 28.2 +0.6**
comp=Z,76nm,0.9s,mb5.6
GLMI LR LR
comp=Z,2μm,19.0s,MS5.5
RSP Reno Superiore 80.09 329 P **P 05 34 27.6 -0.1**
GENL Genova Univers 80.12 328 P **P 05 34 25.1 -2.8**
PII Pisa 80.12 326 P **P 05 34 27.6 -0.3**
AQU L'Aquila 80.14 324 *eP* **P 05 34 29.0 +1.0**
AQU pmax pmax
comp=Z,120nm,1.2s,mb5.7
AQU L'Aquila 80.14 324⇑*iP* **P 05 34 28.2 +0.2**
AQU L'Aquila 80.14 324 PFAKE 05 34 40.0 +12
AQU LR LR
comp=Z,5μm,19.0s,MS5.8
PCP Piancastagn 80.15 328 P **P 05 34 27.2 -0.8**
INTR Introdacqua 80.22 323 P **P 05 34 27.8 -0.7**
FG5 Orsara di Pugl 80.26 322 P **P 05 34 29.8 +1.1**
FG4 Candela 80.28 322 P **P 05 34 29.6 +0.8**
BGF Bois d'Agland 80.33 333 *eP* **P 05 34 28.5 -0.4**
comp=Z,369nm,1.7s,mb5.7
BGF Bois d'Agland 80.33 333 *eP* **P 05 34 28.5 -0.4**
BGF pmax pmax
comp=Z,184nm,1.7s,mb5.7
BGF Bois d'Agland 80.33 333 *eP* **P 05 34 28.5 -0.4**
comp=Z,184nm,1.7s,mb5.7
FIAM Fiamignano 80.33 324 P **P 05 34 29.0 0.0**
BHB Bricherasio 80.36 329 P **P 05 34 27.5 -1.7**
BNI Bardonecchia 80.38 329 *eP* **P 05 34 29.3 +0.1**
BNI pmax pmax
comp=Z,45nm,1.0s,mb5.3
BNI Bardonecchia 80.38 329 PFAKE 05 34 40.0 +11
BNI LR LR
comp=Z,5μm,20.0s,MS5.8
MIDA Miranda 80.39 323 P **P 05 34 29.7 +0.4**
SGMF Saint Gilles 80.39 337 *eP* **P 05 34 28.5 -0.7**
comp=Z,441nm,1.6s,mb5.8
SGMF Saint Gilles 80.39 337 *eP* **P 05 34 28.5 -0.7**
SGMF pmax pmax
comp=Z,221nm,1.6s,mb5.8
SGMF Saint Gilles 80.39 337 *eP* **P 05 34 28.5 -0.7**
comp=Z,221nm,1.6s,mb5.8
MNS Montasola 80.41 324 P **P 05 34 28.7 -0.7**
QLNO Quiliano 80.41 328 P **P 05 34 28.7 -0.7**
PTQR Pietraquaria 80.42 324 P **P 05 34 30.4 +0.9**
GRFL Gerfalco 80.43 326 P **P 05 34 29.0 -0.6**
GDM Grand'Maison 80.44 330 *eP* **P 05 34 29.7 +0.1**
ROSF Rostrenen 80.51 337 *eP* **P 05 34 29.8 -0.1**
comp=Z,500nm,1.5s,mb5.9
ROSF Rostrenen 80.51 337 *eP* **P 05 34 29.8 -0.1**
ROSF pmax pmax
comp=Z,250nm,1.5s,mb5.9
ROSF Rostrenen 80.51 337 *eP* **P 05 34 29.8 -0.1**
comp=Z,250nm,1.5s,mb5.9
SDI San Donato 80.51 323 P **P 05 34 30.3 +0.3**
GRN Grenoble 80.53 330 *eP* **P 05 34 30.4 +0.3**
LATE Laterza 80.56 325 P **P 05 34 30.2 -0.1**
FIN Finale Ligure 80.56 328 P **P 05 34 28.6 -1.6**
PLDF La Plantade 80.60 332 *eP* **P 05 34 30.1 -0.3**
ROB Robourent 80.61 328 P **P 05 34 29.0 -1.5**
MBDF Montbardon 80.63 329 *eP* **P 05 34 29.8 -0.8**
comp=Z,76nm,1.1s,mb5.2
MBDF Montbardon 80.63 329 *eP* **P 05 34 29.8 -0.8**
MBDF pmax pmax
comp=Z,38nm,1.1s,mb5.2
MBDF Montbardon 80.63 329 *eP* **P 05 34 29.8 -0.8**
comp=Z,38nm,1.1s,mb5.2
CERT Cerreto 80.65 324 P **P 05 34 30.2 -0.6**
DOI San Damiano 80.65 329 P **P 05 34 29.5 -1.2**
AGO Saint Agoulin 80.69 332 *eP* **P 05 34 31.3 +0.4**
RORO Rocca Rossa 80.70 328 P **P 05 34 30.3 -0.6**
CSSN Cassano Irpino 80.71 322 P **P 05 34 31.3 +0.2**
ORI Oriolo Calabro 80.76 321 P **P 05 34 32.7 +1.3**
AMTX Amarillo 80.76 48 PFAKE 05 34 40.0 +8.5
AMTX LR LR
comp=Z,2μm,21.0s,MS5.3
TCF Toulx Ste Croi 80.77 333 *eP* **P 05 34 31.1 -0.2**
comp=Z,172nm,1.3s,mb5.5
TCF Toulx Ste Croi 80.77 333 *eP* **P 05 34 31.1 -0.2**
TCF pmax pmax
comp=Z,86nm,1.3s,mb5.5
TCF Toulx Ste Croi 80.77 333 *eP* **P 05 34 31.1 -0.2**
comp=Z,86nm,1.3s,mb5.5
ORIF Oris-en-Rattie 80.77 330 *eP* **P 05 34 31.3 0.0**
comp=Z,98nm,1.0s,mb5.4
ORIF *e*MLR MLR
comp=Z,4μm,18.8s,MS5.5
ORIF Oris-en-Rattie 80.77 330 *eP* **P 05 34 31.3 0.0**
ORIF pmax pmax
comp=Z,49nm,1.0s,mb5.4
ORIF Oris-en-Rattie 80.77 330 *eP* **P 05 34 31.3 0.0**
comp=Z,49nm,1.0s,mb5.4
RFI Roccamonfina 80.78 323 P **P 05 34 32.0 +0.5**
SURF Saint Ours 80.83 329 *eP* **P 05 34 31.6 -0.1**
ENR Entracque 80.83 329 P **P 05 34 29.3 -2.4**
SGO Sicignano 80.84 322 P **P 05 34 32.2 +0.4**
STV Sant Anna di V 80.85 329 P **P 05 34 29.1 -2.7**
QUIF Quistinic 80.86 337 *eP* **P 05 34 31.1 -0.7**
comp=Z,106nm,1.0s,mb5.4
QUIF Quistinic 80.86 337 *eP* **P 05 34 31.1 -0.7**
QUIF pmax pmax
comp=Z,53nm,1.0s,mb5.4
QUIF Quistinic 80.86 337 *eP* **P 05 34 31.1 -0.7**
comp=Z,53nm,1.0s,mb5.4
SSB Saint Sauveur 80.91 331 *eP* **P 05 34 31.8 -0.3**
SSB Saint Sauveur 80.91 331 *eP* **P 05 34 31.9 -0.2**

KLBR Kellerberrin 80.94 201 *e*P **P 05 34 32.1 0.0**
comp=Z,39nm,1.0s,mb5.3
TOLF Tolfa 80.95 325 P **P 05 34 32.0 -0.4**
COLF Collangettes 80.98 332 *e*P **P 05 34 32.3 -0.1**
SAOF Saorge 80.99 328 *e*P **P 05 34 31.6 -0.9**
PYM Petit Puy Mans 81.00 332 *e*P **P 05 34 32.2 -0.3**
AUTN L'Aution 81.03 328 *e*P **P 05 34 31.9 -0.8**
NEGI Seborga 81.06 328 P **P 05 34 31.8 -1.1**
CUC Castrocucco 81.09 321 *e*P **P 05 34 31.1 -2.1**
comp=Z,63nm,1.3s,mb5.4
TDS Terranova Siba 81.14 320 P **P 05 34 32.1 -1.3**
SBF Sospel 81.14 328 *e*P **P 05 34 32.6 -0.7**
comp=Z,297nm,1.5s,mb5.7
SBF Sospel 81.14 328 *e*P **P 05 34 32.6 -0.7**
SBF pmax pmax
comp=Z,148nm,1.5s,mb5.7
SBF Sospel 81.14 328 *e*P **P 05 34 32.6 -0.7**
comp=Z,148nm,1.5s,mb5.7
LUCF Luceram 81.15 328 *e*P **P 05 34 32.8 -0.6**
MFF Saint Martin d 81.21 334 *e*P **P 05 34 33.3 -0.3**
comp=Z,418nm,1.4s,mb5.9
MFF Saint Martin d 81.21 334 *e*P **P 05 34 33.3 -0.3**
MFF pmax pmax
comp=Z,209nm,1.4s,mb5.9
MFF Saint Martin d 81.21 334 *e*P **P 05 34 33.3 -0.3**
comp=Z,209nm,1.4s,mb5.9
MVIF Mont Vial 81.22 329 *e*P **P 05 34 32.8 -0.9**
VIVF Saint-Julien-l 81.24 331 *e*P **P 05 34 33.4 -0.4**
comp=Z,92nm,1.0s,mb5.3
VIVF Saint-Julien-l 81.24 331 *e*P **P 05 34 33.4 -0.4**
VIVF pmax pmax
comp=Z,46nm,1.0s,mb5.4
VIVF Saint-Julien-l 81.24 331 *e*P **P 05 34 33.4 -0.4**
comp=Z,46nm,1.0s,mb5.4
OCF Saint Nazaire 81.27 330 *e*P **P 05 34 34.2 +0.2**
OG26 St.-Nazaire-De 81.27 330 *e*P **P 05 34 34.2 +0.2**
REVF Revere 81.27 328 *e*P **P 05 34 33.1 -0.9**
LBL Lubilhac 81.38 332 *e*P **P 05 34 35.0 +0.4**
CALN Calern 81.44 329 *e*P **P 05 34 34.0 -0.9**
FRNF Fournols 81.46 332 *e*P **P 05 34 35.3 +0.3**
DGAR Diego Garcia 81.48 250 PFAKE 05 34 50.0 +14
DGAR LR LR
comp=Z,2μm,21.0s,MS5.4
FRF La Foret Royal 81.69 329 *e*P **P 05 34 35.4 -0.8**
PGF Pioggiola 81.70 327 *e*P **P 05 34 35.3 -1.0**
comp=Z,142nm,1.5s,mb5.4
PGF Pioggiola 81.70 327 *e*P **P 05 34 35.3 -1.0**
PGF pmax pmax
comp=Z,71nm,1.5s,mb5.4
PGF Pioggiola 81.70 327 *e*P **P 05 34 35.3 -1.0**
comp=Z,71nm,1.5s,mb5.4
SMRF Simiane la Rot 81.70 330 *e*P **P 05 34 35.8 -0.5**
comp=Z,100nm,1.5s,mb5.2
SMRF Simiane la Rot 81.70 330 *e*P **P 05 34 35.8 -0.5**
comp=Z,100nm,1.5s,mb5.5
GRI Girifalco 81.79 320 P **P 05 34 37.5 +0.6**
CORF Corte 81.86 327 *e*P **P 05 34 36.7 -0.5**
RJF Les Rejaudoux 81.87 333 *e*P **P 05 34 36.7 -0.5**
comp=Z,322nm,1.5s,mb5.7
RJF *e*MLR MLR
comp=Z,6μm,22.2s,MS5.6
RJF Les Rejaudoux 81.87 333 *e*P **P 05 34 36.7 -0.5**
RJF pmax pmax
comp=Z,161nm,1.5s,mb5.7
RJF MLR MLR
comp=Z,6μm,22.3s,MS5.9
RJF Les Rejaudoux 81.87 333 *e*P **P 05 34 36.7 -0.5**
comp=Z,161nm,1.5s,mb5.7
RJF LR LR
comp=Z,6μm,22.3s,MS5.9
HDIL Hopedale 81.90 37 PFAKE 05 34 50.0 +13
HDIL LR LR
comp=Z,4μm,19.0s,MS5.8
LMR La Mourre 81.94 329 *e*P **P 05 34 36.9 -0.6**
comp=Z,208nm,1.4s,mb5.6
LMR La Mourre 81.94 329 *e*P **P 05 34 36.9 -0.6**
LMR pmax pmax
comp=Z,104nm,1.4s,mb5.6
LMR La Mourre 81.94 329 *e*P **P 05 34 36.9 -0.6**
comp=Z,104nm,1.4s,mb5.6
CAF Calviac 82.03 332 *e*P **P 05 34 37.7 -0.3**
comp=Z,315nm,1.5s,mb5.7
CAF Calviac 82.03 332 *e*P **P 05 34 37.7 -0.3**
CAF pmax pmax
comp=Z,158nm,1.5s,mb5.7
CAF Calviac 82.03 332 *e*P **P 05 34 37.7 -0.3**
comp=Z,158nm,1.5s,mb5.7
LASF Ste Croix 82.20 331 *e*P **P 05 34 38.2 -0.7**
comp=Z,168nm,1.4s,mb5.5
NWAO Narrogin (SRO) 82.34 201 *e*P **P 05 34 39.6 +0.1**
NWAO pmax pmax
comp=Z,43nm,1.0s
NWAO MLR MLR
comp=Z,2μm,21.0s
NWAO Narrogin (SRO) 82.34 201 *e*P **P 05 34 39.5 +0.1**
comp=Z,43nm,1.0s,mb5.3
NWAO LR LR
comp=Z,2μm,21.0s,MS5.4
OSPF L'Ospedale 82.39 326 *e*P **P 05 34 39.3 -0.7**
LFF La Frestale 82.44 333 *e*P **P 05 34 39.5 -0.6**
comp=Z,433nm,1.5s,mb5.8
LFF La Frestale 82.44 333 *e*P **P 05 34 39.5 -0.6**
LFF pmax pmax
comp=Z,216nm,1.5s,mb5.9
LFF La Frestale 82.44 333 *e*P **P 05 34 39.5 -0.6**
comp=Z,216nm,1.5s,mb5.9
CEL Celeste 82.49 320 *e*P **P 05 34 40.6 +0.1**
comp=Z,66nm,1.0s,mb5.5
SOI Samo 82.57 320 P **P 05 34 40.7 -0.3**
AAM Ann Arbor 82.60 32 *e*P **P 05 34 41.3 +0.2**
AAM pmax pmax
comp=Z,61nm,1.1s,mb5.5
AAM Ann Arbor 82.60 32 PFAKE 05 34 50.0 +8.9
AAM LR LR
comp=Z,2μm,19.0s,MS5.5
SLNA Salina 82.70 321 P **P 05 34 41.1 -0.5**
MTTG Motta San Giov 82.79 320 P **P 05 34 41.5 -0.6**
CCM Cathedral Cave 83.17 39 *e*P **P 05 34 42.6 -1.5**
CCM pmax pmax
comp=Z,26nm,1.0s,mb5.2
CCM MLR MLR
comp=Z,3μm,20.0s,MS5.7
CCM Cathedral Cave 83.17 39 *e*P **P 05 34 42.6 -1.4**
comp=Z,26nm,1.0s,mb5.2
CCM LR LR
comp=Z,3μm,20.0s,MS5.7
MNO Monte Soro 83.29 321 P **P 05 34 44.4 -0.3**
MTLF Montolieu 83.40 332 *e*P **P 05 34 44.2 -1.0**
comp=Z,133nm,1.5s,mb5.5
MTLF Montolieu 83.40 332 *e*P **P 05 34 44.2 -1.0**
MTLF pmax pmax
comp=Z,67nm,1.5s,mb5.5
MTLF Montolieu 83.40 332 *e*P **P 05 34 44.2 -1.0**
comp=Z,67nm,1.5s,mb5.5
LONY Lake Ozonia 83.53 25 PFAKE 05 35 00.0 +14
LONY LR LR
comp=Z,2μm,19.0s,MS5.4
FVM French Village 83.58 39 *e*P **P 05 34 46.2 0.0**
AGST Augusta-Monte 83.61 320 P **P 05 34 45.8 -0.6**
SSY Sortino 83.77 320 P **P 05 34 47.1 -0.1**
HAVL Avola 83.91 320 P **P 05 34 47.8 -0.1**
OLIL Olney 83.93 37 *e*P **P 05 34 47.8 -0.2**
comp=Z,48nm,1.1s,mb5.5
EJON La Jonquera 83.97 331 P **P 05 34 48.8 +0.7**
comp=Z,29nm,1.2s,mb5.3
RAO Raoul Island 83.97 145 PFAKE 05 35 00.0 +12
RAO LR LR
comp=Z,3μm,20.0s,MS5.6
CARF Carcanieres 83.99 331 *e*P **P 05 34 48.3 +0.1**
TXAR Lajitas Array 84.03 53 P **P 05 34 48.8 +0.1**
comp=Z,21nm,0.8s,mb5.3,baz=289,slow=4.0,SNR=81
TXAR LR LR 06 13 56.7
comp=Z,2μm,19.6s,MS5.6,baz=0.0,slow=37
TXAR Lajitas Array 84.03 53 P **P 05 34 48.8 +0.2**
TXAR pmax pmax
comp=Z,21nm,0.8s
TXAR MLR MLR
comp=Z,2μm,19.6s
HMDC Modica 84.06 320 P **P 05 34 49.0 +0.3**
MLS Moulis 84.11 332 *e*P **P 05 34 48.9 +0.1**
LPIG La Paz 84.19 61 P **P 05 34 49.4 -0.1**
comp=Z,29nm,1.1s,mb5.3,baz=185,slow=2.2,SNR=2.4
BLO Bloomington 84.20 36 *e*P **P 05 34 48.8 -0.6**
NCB Newcomb 84.23 25 PFAKE 05 35 00.0 +11
NCB LR LR
comp=Z,2μm,20.0s,MS5.4

EPF Esparros 84.28 333 *e*P **P 05 34 49.1 -0.6**
comp=Z,87nm,1.1s,mb5.5
EPF Esparros 84.28 333 *e*P **P 05 34 49.1 -0.6**
EPF pmax pmax
comp=Z,44nm,1.1s,mb5.5
EPF Esparros 84.28 333 *e*P **P 05 34 49.1 -0.6**
comp=Z,44nm,1.1s,mb5.5
VALF Valcebollere 84.30 331 *e*P **P 05 34 50.0 +0.2**
PKME Peaks-Kenny Pk 84.38 21 PFAKE 05 35 00.0 +10
PKME LR LR
comp=Z,2μm,20.0s,MS5.5
REYF Montagne du Re 84.47 333 *e*P **P 05 34 50.4 -0.3**
RESF Ens 84.48 333 *e*P **P 05 34 51.6 +0.9**
VIEF Viey 84.51 333 *e*P **P 05 34 51.2 +0.3**
LBNH Lisbon 84.63 24 *e*P **P 05 34 51.4 0.0**
LBNH Lisbon 84.63 24 PFAKE 05 35 00.0 +8.6
LBNH LR LR
comp=Z,2μm,21.0s,MS5.4
EBIE Bielsa 84.65 333 P **P 05 34 52.4 +0.8**
comp=Z,54nm,1.1s,mb5.6
ACSO Alum Creek Sta 84.66 33 PFAKE 05 35 00.0 +8.4
ACSO LR LR
comp=Z,1μm,19.0s,MS5.4
EALK Alkurruntz 84.68 334 P **P 05 34 51.9 +0.2**
comp=Z,103nm,1.4s,mb5.8
ETSF Etsaut 84.68 333 *e*P **P 05 34 51.1 -0.6**
comp=Z,264nm,1.5s,mb5.8
ETSF Etsaut 84.68 333 *e*P **P 05 34 51.1 -0.6**
ETSF pmax pmax
comp=Z,132nm,1.5s,mb5.8
ETSF Etsaut 84.68 333 *e*P **P 05 34 51.1 -0.6**
comp=Z,132nm,1.5s,mb5.8
LARF Larrau 84.69 334 *e*P **P 05 34 52.0 +0.3**
SJPF Ste Jean 84.69 334 *e*P **P 05 34 50.8 -1.0**
comp=Z,108nm,1.5s,mb5.5
SJPF Ste Jean 84.69 334 *e*P **P 05 34 50.8 -1.0**
SJPF pmax pmax
comp=Z,54nm,1.5s,mb5.5
SJPF Ste Jean 84.69 334 *e*P **P 05 34 50.8 -1.0**
comp=Z,54nm,1.5s,mb5.5
ELIZ Elizondo 84.74 334 P **P 05 34 52.6 +0.6**
ELIZ pmax pmax
comp=Z,16nm,0.9s,mb5.2
ELIZ Elizondo 84.74 334 P **P 05 34 52.6 +0.6**
comp=Z,16nm,0.9s,mb5.1
PARMO Parma 84.98 39 *e*P **P 05 34 52.7 -0.6**
MIAR Mount Ida 85.01 43 *e*P **P 05 34 53.5 0.0**
MIAR pmax pmax
comp=Z,31nm,1.0s,mb5.4
MIAR MLR MLR
comp=Z,2μm,20.0s,MS5.5
MIAR Mount Ida 85.01 43 *e*P **P 05 34 53.5 -0.1**
comp=Z,32nm,1.0s,mb5.4
MIAR LR LR
comp=Z,2μm,20.0s,MS5.5
WCI Wyandotte Cave 85.10 36 *e*P **P 05 34 52.9 -1.0**
JCT Junction City 85.20 50 *e*P **P 05 34 54.9 +0.3**
JCT Junction City 85.20 50 PFAKE 05 35 10.0 +15
JCT LR LR
comp=Z,2μm,21.0s,MS5.5
ELAN Lanestosa 85.24 335 P **P 05 34 54.6 +0.1**
comp=Z,59nm,1.0s,mb5.7
BINY Binghamton 85.31 27 PFAKE 05 35 10.0 +15
BINY LR LR
comp=Z,2μm,19.0s,MS5.5
UALR University of 85.40 42 *e*P **P 05 34 55.3 -0.2**
comp=Z,9.0nm,0.7s,mb5.0
FFD Franklin Falls 85.42 24 *e*P **P 05 34 56.0 +0.6**
comp=Z,46nm,0.9s,mb5.6
HBAR Harrisburg 85.51 40 *e*P **P 05 34 55.2 -0.8**
EPOB Poblet 85.55 331 P **P 05 34 56.1 0.0**
comp=Z,52nm,0.9s,mb5.8
UTMT University of 85.63 39 *e*P **P 05 34 56.2 -0.4**
comp=Z,78nm,1.3s,mb5.8
EARI Arriondas 85.67 336 P **P 05 34 56.5 -0.1**
comp=Z,81nm,1.2s,mb5.8
ESAC San Caprasio 85.72 333 P **P 05 34 57.8 +0.8**
comp=Z,109nm,0.8s,mb6.1
ERTA Horta de San J 86.15 332 P **P 05 34 59.2 +0.1**
comp=Z,40nm,1.0s,mb5.6
EPON Pontenova 86.17 338 P **P 05 34 58.7 -0.4**
comp=Z,18nm,0.6s,mb5.5
MCWV Mont Chateau 86.30 31 PFAKE 05 35 10.0 +10
MCWV LR LR
comp=Z,3μm,20.0s,MS5.6
HRV Adam Dziewonsk 86.34 24 *e*P **P 05 34 59.9 -0.1**
HRV pmax pmax
comp=Z,63nm,1.4s,mb5.7
HRV MLR MLR
comp=Z,1μm,20.0s,MS5.4
HRV Adam Dziewonsk 86.34 24 *e*P **P 05 34 59.9 -0.1**
comp=Z,63nm,1.4s,mb5.7
HRV LR LR
comp=Z,1μm,20.0s,MS5.4
ETOS Mallorca 86.38 330 P **P 05 35 01.2 +0.9**
comp=Z,46nm,0.9s,mb5.7
WES Weston 86.52 24 *e*P **P 05 35 00.2 -0.7**
OXF Oxford 86.94 40 *e*P **P 05 35 02.4 -0.7**
OXF pmax pmax
comp=Z,141nm,1.4s,mb6.0
OXF MLR MLR
comp=Z,2μm,20.0s,MS5.5
OXF Oxford 86.94 40 *e*P **P 05 35 02.4 -0.7**
comp=Z,141nm,1.4s,mb6.0
OXF LR LR
comp=Z,2μm,20.0s,MS5.5
EMOS Mosqueruela 86.95 332 P **P 05 35 03.4 +0.3**
comp=Z,29nm,0.9s,mb5.5
EMAZ Mazaricos 86.98 339 P **P 05 35 03.3 +0.2**
comp=Z,18nm,0.9s,mb5.3
PAL Palisades 87.03 26 *e*P **P 05 35 03.3 -0.1**
ETOR Torete 87.04 333 P **P 05 35 03.7 +0.3**
ETOR pmax pmax
comp=Z,25nm,0.9s,mb5.4
ETOR Torete 87.04 333 P **P 05 35 03.7 +0.3**
comp=Z,25nm,0.9s,mb5.4
ERUA La Rua 87.04 337 P **P 05 35 03.9 +0.5**
ERUA pmax pmax
comp=Z,30nm,1.1s,mb5.4
ERUA La Rua 87.04 337 P **P 05 35 03.9 +0.4**
comp=Z,30nm,1.1s,mb5.4
PLAL Pickwick Lake 87.13 39 *e*P **P 05 35 02.6 -1.4**
comp=Z,24nm,0.9s,mb5.4
PLAL LR LR
comp=Z,3μm,20.0s,MS5.7
CPNY Central Park 87.21 26 *e*P **P 05 35 04.0 -0.3**
comp=Z,63nm,1.4s,mb5.7
ECAL Calabor 87.35 337 P **P 05 35 04.5 -0.4**
comp=Z,6.8nm,0.7s,mb5.0
KEST Kesra 87.42 323 P **P 05 35 05.4 0.0**
comp=Z,8.8nm,1.1s,mb4.9,baz=319,slow=2.3,SNR=14
KEST LR LR 06 19 35.2
comp=Z,2μm,18.6s,MS5.5,baz=159,slow=39
HKT Hockley 87.67 47 PFAKE 05 35 20.0 +13
HKT LR LR
comp=Z,2μm,20.0s,MS5.5
ELOB Lobios 87.77 338 P **P 05 35 06.4 -0.5**
comp=Z,17nm,1.0s,mb5.2
ECHE Chera 87.81 332 P **P 05 35 07.8 +0.6**
ECHE pmax pmax
comp=Z,14nm,1.0s,mb5.2
ECHE Chera 87.81 332 P **P 05 35 07.8 +0.6**
comp=Z,14nm,1.0s,mb5.1
GUD Guadarrama 87.83 335 P **P 05 35 07.3 0.0**
GUD pmax pmax
comp=Z,11nm,0.9s,mb5.1
GUD Guadarrama 87.83 335 P **P 05 35 07.3 +0.1**
comp=Z,11nm,0.9s,mb5.1
ELN Prospectdale 88.12 33 *e*P **P 05 35 08.2 -0.5**
MVO Moncorvo 88.16 337 *e*P **P 05 35 08.3 -0.5**
comp=Z,63nm,2.1s,mb5.5
MVO Moncorvo 88.16 337 *e*LQ 06 10 27.1
MVO A 06 19 13.7
comp=Z,2μm,17.9s
MVO Moncorvo 88.16 337 *e*P **P 05 35 09.2 +0.4**
BLA Blacksburg 88.26 32 *e*P **P 05 35 08.4 -1.0**
BLA pmax pmax
comp=Z,28nm,0.9s,mb5.5
BLA MLR MLR
comp=Z,3μm,22.0s,MS5.7
BLA Blacksburg 88.26 32 *e*P **P 05 35 08.4 -0.9**
comp=Z,28nm,0.9s,mb5.5
BLA LR LR
comp=Z,3μm,22.0s,MS5.7
TKL Tuckaleechee C 88.33 36 *e*P **P 05 35 08.3 -1.5**
VBMS Vicksburg 88.36 42 *e*P **P 05 35 09.9 -0.1**

comp=Z,77nm,0.9s,mb5.9
EBEN Beniarda 88.37 331 P **P 05 35 09.6 -0.3**
comp=Z,103nm,1.5s,mb5.8
ESDC Sonseca Array 88.67 334 P **P 05 35 11.8 +0.5**
comp=Z,13nm,0.7s,mb5.3,baz=15,slow=3.9,SNR=22
ESDC LR LR 06 20 00.5
comp=Z,3μm,18.2s,MS5.7,baz=30,slow=39
ESDC Sonseca Array 88.67 334 P **P 05 35 10.8 -0.4**
comp=Z,8.3nm,0.6s,mb5.2
ESLA Sonseca Array 88.67 334 *e*P **P 05 35 11.7 +0.5**
comp=Z,4.8nm,0.8s,mb4.9
ESLA LR LR
comp=Z,22μm,21.0s,MS6.5
PVIS Viseu 88.81 337 *e*P **P 05 35 11.9 0.0**
comp=Z,80nm,1.4s,mb5.9
PVIS Viseu 88.81 337 *e*P **P 05 35 12.2 +0.3**
PPT Papeete 88.82 117 *e*LR LR 06 03 29.2
comp=Z,8μm,26.5s
PPT Papeete 88.82 117 LR LR 06 13 23.5
comp=Z,2μm,18.5s,MS5.5,baz=252,slow=34
ETOB Tobarra 88.86 332 P **P 05 35 12.3 +0.1**
comp=Z,5.3nm,0.6s,mb5.0
PAB San Pablo 88.90 334 *e*P **P 05 35 12.9 +0.6**
PAB pmax pmax
comp=Z,14nm,0.8s,mb5.3
PAB MLR MLR
comp=Z,3μm,19.0s,MS5.8
PAB San Pablo 88.90 334 *e*P **P 05 35 12.8 +0.5**
comp=Z,14nm,0.8s,mb5.3
PAB LR LR
comp=Z,3μm,19.0s,MS5.8
URVA University of 88.97 30 *e*P **P 05 35 13.0 +0.3**
MTE Manteigas 89.01 337 *e*P **P 05 35 12.7 -0.1**
comp=Z,75nm,1.5s,mb5.8
MTE Manteigas 89.01 337 *e*P **P 05 35 12.7 -0.2**
comp=Z,36nm,1.1s,mb5.6
MTE LR LR
comp=Z,2μm,21.0s,MS5.4
EVIA Vianos 89.17 333 P **P 05 35 14.3 +0.7**
EVIA pmax pmax
comp=Z,17nm,0.7s,mb5.5
EVIA Vianos 89.17 333 P **P 05 35 14.3 +0.6**
comp=Z,17nm,0.7s,mb5.5
PCBR Castelo Branco 89.51 337 *e*P **P 05 35 15.0 -0.2**
comp=Z,46nm,1.6s,mb5.6
PCBR Castelo Branco 89.51 337 *e*P **P 05 35 15.6 +0.4**
PMRV Marv??o 89.88 337 *e*P **P 05 35 15.6 -1.3**
comp=Z,50nm,1.5s,mb5.6
PMRV Marv??o 89.88 337 *e*LQ 06 12 01.4
PMRV Marv??o 89.88 337 *e*P **P 05 35 16.6 -0.3**
EHUE Huescar 89.95 333 P **P 05 35 16.8 -0.5**
EHUE pmax pmax
comp=Z,13nm,1.1s,mb5.2
EHUE Huescar 89.95 333 P **P 05 35 16.8 -0.5**
comp=Z,13nm,1.1s,mb5.2
EBAN Banos Encina 90.00 334 P **P 05 35 17.7 +0.2**
EBAN pmax pmax
comp=Z,25nm,1.0s,mb5.5
EBAN Banos Encina 90.00 334 P **P 05 35 17.7 +0.1**
comp=Z,25nm,1.0s,mb5.5
EQES Quesada 90.11 333 P **P 05 35 17.9 -0.2**
comp=Z,11nm,0.9s,mb5.2
EADA Adamuz 90.24 334 P **P 05 35 18.4 -0.2**
comp=Z,26nm,1.0s,mb5.5
EBAD Badajoz 90.40 336 P **P 05 35 19.2 -0.1**
comp=Z,12nm,0.9s,mb5.2
GOGA Godfrey 90.41 36 *e*P **P 05 35 19.2 -0.3**
GOGA Godfrey 90.41 36 PFAKE 05 35 30.0 +10
GOGA LR LR
comp=Z,4μm,20.0s,MS5.8
PESTR Estremoz 90.45 337 *e*P **P 05 35 18.7 -0.9**
comp=Z,76nm,1.4s,mb5.8
PESTR Estremoz 90.45 337 *e*LQ 06 12 27.3
JSC Jenkinsville 90.53 34 *e*P **P 05 35 21.1 +1.0**
MSEY Mahe Island 90.81 264 PFAKE 05 35 30.0 +8.4
MSEY LR LR
comp=Z,2μm,21.0s,MS5.6
EBER Berja 90.88 332 P **P 05 35 20.6 -1.1**
comp=Z,31nm,1.2s,mb5.5
EVO Evora 90.88 337 *e*P **P 05 35 20.6 -1.0**
comp=Z,119nm,1.5s,mb5.7
EVO *e*MLR MLR
comp=Z,4μm,17.8s,MS5.6
EVO Evora 90.88 337 *e*P **P 05 35 20.7 -0.9**
comp=Z,62nm,1.5s,mb5.7
EVO Evora 90.88 337 *e*P **P 05 35 21.5 -0.1**
CNNC Cliffs of the 90.94 31 *e*P **P 05 35 21.7 -0.3**
comp=Z,32nm,0.9s,mb5.7
CNNC LR LR
comp=Z,2μm,19.0s,MS5.6
PBAR Barrancos 90.95 336 *e*P **P 05 35 21.9 0.0**
comp=Z,85nm,1.6s,mb5.8
PBAR Barrancos 90.95 336 *e*LQ 06 10 52.0
PBAR *e*LR LR 06 15 27.1
comp=Z,3μm,18.0s
BRAL Brewton 90.95 40 *e*P **P 05 35 21.6 -0.5**
comp=Z,64nm,0.8s,mb6.0
BRAL LR LR
comp=Z,2μm,21.0s,MS5.4
EGUA Guajares 91.16 333 P **P 05 35 22.3 -0.6**
EGUA pmax pmax
comp=Z,55nm,0.9s,mb5.9
EGUA Guajares 91.16 333 P **P 05 35 22.3 -0.6**
comp=Z,55nm,0.9s,mb5.9
EMIN Mina Concepcio 91.22 335 P **P 05 35 22.4 -0.8**
comp=Z,25nm,1.1s,mb5.5
PBEJ Beja 91.32 336 *e*P **P 05 35 23.8 +0.1**
comp=Z,62nm,1.7s,mb5.7
COW Cow Castle Cre 91.54 34 *e*P **P 05 35 24.5 -0.3**
ESPR Espera 91.82 335 P **P 05 35 25.9 -0.1**
comp=Z,21nm,1.0s,mb5.4
PVAQ Vaqueiros 91.86 336 *e*P **P 05 35 26.0 -0.2**
comp=Z,63nm,1.9s,mb5.6
PVAQ Vaqueiros 91.86 336 *e*LQ 06 11 21.1
PVAQ *e*LR LR 06 14 26.9
comp=Z,3μm,20.0s
NHSC New Hope 91.99 34 PFAKE 05 35 40.0 +13
NHSC LR LR
comp=Z,2μm,19.0s,MS5.7
PTEO Sao Teotonio 92.00 337 *e*P **P 05 35 27.1 +0.3**
comp=Z,148nm,1.7s,mb6.0
PBDV Barranco-do-Ve 92.07 336 *e*P **P 05 35 28.4 +1.3**
comp=Z,75nm,1.7s,mb5.7
PBDV Barranco-do-Ve 92.07 336 *e*LQ 06 11 40.4
PBDV *e*LR LR 06 14 38.2
comp=Z,3μm,20.0s
EJIF Jimena Fronter 92.09 334 P **P 05 35 27.6 +0.3**
MORF Marmelete 92.20 337 *e*LQ 06 13 36.5
PFVI Vila Bisbo 92.42 337 *e*LQ 06 13 36.7
TBI Tubuai 93.30 121 *e*LR LR 06 05 19.6
comp=Z,6μm,24.0s
CMLA Cha da Macela 95.09 350 PFAKE 05 35 50.0 +9.0
CMLA LR LR
comp=Z,825nm,19.0s,MS5.2
DWPF Disney 95.89 37 PFAKE 05 36 00.0 +15
DWPF LR LR
comp=Z,2μm,22.0s,MS5.5
BBSR BB Station 97.71 22 PFAKE 05 36 00.0 +7.0
BBSR LR LR
comp=Z,1μm,19.0s,MS5.4
RKT Rikitea 102.09 111 *e*LR LR 06 09 33.8
comp=Z,3μm,33.8s
ABPO Ambohimpanom 106.64 260 PFAKE 05 40 50.0 +6.6
ABPO LR LR
comp=Z,1μm,19.0s,MS5.5
TORD Torodi Ar. Bea 110.45 318 PKKPbc PKKPbc 05 51 49.2 +0.5
comp=Z,0.7nm,1.1s,baz=165,slow=4.1,SNR=3.1
BCIP Isla Barro Col 113.14 45 PFAKE 05 41 10.0 +14
BCIP LR LR
comp=Z,1μm,20.0s,MS5.5
CASY Casey 115.22 193 PFAKE 05 41 10.0 +12
CASY LR LR
comp=Z,989nm,21.0s,MS5.4
PAYG Puerto Ayora 115.56 61 PFAKE 05 41 10.0 +9.5
PAYG LR LR
comp=Z,1μm,22.0s,MS5.5
LSZ Lusaka 117.09 276 *e*PKIKP PKPdf 05 41 03.0 -0.3
LSZ MLR MLR
comp=Z,2μm,19.0s,MS5.8
BBGH Gun Hill 117.39 23 PFAKE 05 41 20.0 +16
BBGH LR LR
comp=Z,3μm,21.0s,MS5.9
SDV Santo Domingo 117.54 37 PKP PKPdf 05 41 04.0 -0.3
comp=Z,7.9nm,0.7s,baz=298,slow=1.8,SNR=8.7
SDV Santo Domingo 117.54 37 *e*PKPdf PKPdf 05 41 03.1 -1.3
GRGR Grenville 117.74 26 PFAKE 05 41 20.0 +15

GRGR LR LR
comp=Z,1μm,21.0s,MS5.5
DBIC Dimbokro 119.11 321 PKP PKPdf 05 41 06.5 -0.9
comp=Z,4.6nm,0.8s,baz=318,slow=0.3,SNR=4.5
DBIC Dimbokro 119.11 321 PKP PKPdf 05 41 06.5 -0.9
DBIC LR LR
comp=Z,1μm,20.0s,MS5.6
ROSC El Rosal 119.52 42 PKP PKPdf 05 41 07.1 -1.0
comp=Z,2.1nm,0.8s,baz=90,slow=20,SNR=2.2
LIC Lamto 119.58 321 *e*PKIKP PKPdf 05 41 06.5 -1.8
LIC *e*MLR MLR
comp=Z,2μm,20.8s,MS5.5
LIC Lamto 119.58 321 *e*PKPdf PKPdf 05 41 06.5 -1.8
LIC LR LR
comp=Z,1μm,20.8s,MS5.5
OTAV Otavalo 121.48 49 PFAKE 05 41 20.0 +8.1
OTAV LR LR
comp=Z,790nm,21.0s,MS5.3
VNDA Vanda 124.63 175 PKP PKPdf 05 41 15.4 -0.6
comp=Z,1.3nm,0.6s,baz=315,slow=4.1,SNR=18
VNDA Vanda 124.63 175 PKIKP PKPdf 05 41 15.4 -0.6
VNDA pmax pmax
comp=Z,1.0nm,0.6s
SBA Scott Base 125.28 174 *e*PKIKP PKPdf 05 41 16.1 -1.1
LBTB Lobatse 125.47 270 *e*PKIKP PKPdf 05 41 19.8 +0.7
LBTB MLR MLR
comp=Z,1μm,20.0s,MS5.6
TSUM Tsumeb 127.03 282 *e*PKPdf PKPdf 05 41 21.9 -0.4
ATAH Atahualpa 127.57 54 PKP PKPdf 05 41 25.5 +2.0
comp=Z,6.8nm,0.7s,baz=86,slow=2.9,SNR=5.3
BOSA Boshof 127.99 267 PKP PKPdf 05 41 23.9 0.0
comp=Z,3.1nm,0.6s,baz=39,slow=6.7,SNR=7.0
BOSA Boshof 127.99 267 PKP PKPdf 05 41 23.9 0.0
BOSA LR LR
comp=Z,2μm,20.0s,MS5.8
MAW Mawson 128.31 209 PKP PKPdf 05 41 23.1 -0.1
comp=Z,3.3nm,1.0s,baz=0.0,slow=2.0,SNR=5.2
MAW Mawson 128.31 209 PKIKP PKPdf 05 41 23.1 -0.1
MAW pmax pmax
comp=Z,3.0nm,1.0s
NNA Nana 132.51 56 PFAKE 05 41 40.0 +7.2
NNA LR LR
comp=Z,668nm,22.0s,MS5.3
ASCN Ascension 136.24 325 PFAKE 05 41 50.0 +10
ASCN LR LR
comp=Z,849nm,19.0s,MS5.5
SYO Syowa Base 136.84 211⇑*e*X Pdif 05 38 41.2 -5.9
LPAZ La Paz 140.80 49 PKP PKPdf 05 41 48.4 +0.3
comp=Z,3.9nm,0.8s,baz=17,slow=8.9,SNR=12
LPAZ La Paz 140.80 49 *e*PKPdf PKPdf 05 41 49.6 +1.5
LPAZ LR LR
comp=Z,581nm,20.0s,MS5.3
SIV San Ignacio 143.94 39 PKP PKPdf 05 41 51.5 -2.2
comp=Z,6.8nm,0.8s,baz=344,slow=1.1,SNR=9.4
LVC Limon Verde 145.50 56 PKPbc PKPbc 05 41 57.3 +1.0
comp=Z,28nm,0.9s,baz=307,slow=3.8,SNR=11
LVC Limon Verde 145.50 56 *e*PKPdf PKPdf 05 41 57.2 +0.9
LVC LR LR
comp=Z,908nm,22.0s,MS5.5
NVL N'lazarevskaya 146.23 207 *e*PKP2 PKPab 05 41 56.9 -1.0
NVL pmax pmax
comp=Z,176nm,1.3s
MAIT Maitri 146.26 207 *e*PKPdif PKPdf 05 41 55.8 -0.2
BDFB Brasilia 147.93 18 PKPbc PKPdf 05 42 01.5 +1.0
comp=Z,8.9nm,0.9s,baz=322,slow=5.8,SNR=17
BDFB Brasilia 147.93 18 PKP2 PKPdf 05 42 01.5 +1.0
BDFB pmax pmax
comp=Z,9.0nm,0.9s
BDFB Brasilia 147.93 18 PFAKE 05 42 10.0 +9.5
BDFB LR LR
comp=Z,812nm,22.0s,MS5.5
LCO Las Campanas 149.16 66 *e*PKPab PKPab 05 42 10.1 -0.7
LCO LR LR
comp=Z,2μm,21.0s,MS5.8
SNAA Sanae 150.01 202 *e*PKPdf PKPbc 05 42 05.8 -1.3
SNAA *e* 05 42 13.4
SNAA *e* 05 42 19.2
SNAA *e* 05 42 22.0
SNAA Sanae 150.01 202 *e*PKPbc PKPbc 05 42 06.1 -1.0
SNAA *e*PKPab PKPab 05 42 13.6 +0.6
VNA1 Neumayer--Stat 152.02 201 *e*PKPdf PKPbc 05 42 09.3 -2.6
VNA1 *e* 05 42 16.3
VNA1 *e* 05 42 22.8
VNA1 *e* 05 42 25.4
CFAA Coronel Fontan 152.48 67 PKPbc PKPbc 05 42 12.9 -1.2
comp=Z,1.9nm,0.8s,baz=254,slow=1.1,SNR=23
CPUP Villa Florida 154.62 43 PKP PKPdf 05 42 10.7 +0.2
comp=Z,4.6nm,1.2s,baz=30,slow=6.0,SNR=4.4
CPUP PKPbc PKPbc 05 42 18.5 -0.5
comp=Z,3.2nm,0.8s,baz=329,slow=3.5,SNR=4.7
CPUP PKPab PKPab 05 42 33.3 -0.3
comp=Z,5.0nm,0.9s,baz=51,slow=5.5,SNR=4.8
CPUP Villa Florida 154.62 43 *e*PKPdf PKPdf 05 42 10.5 0.0
CPUP *e*PKPab PKPab 05 42 34.6 +1.0
CPUP LR LR
comp=Z,216nm,20.0s,MS5.0
SPB Sao Paulo 155.74 21 *e*PKPab PKPab 05 42 39.4 +1.0
PLCA Paso Flores 156.01 87 PKP PKPdf 05 42 10.0 -1.9
comp=Z,1.3nm,0.6s,baz=7.1,slow=16,SNR=1.6
PLCA PKPab PKPab 05 42 39.5 +0.3
comp=Z,12nm,1.1s,baz=334,slow=6.9,SNR=5.4
PLCA Paso Flores 156.01 87 PKP PKPdf 05 42 10.0 -1.9
PLCA PKPab PKPab 05 42 39.5 +0.3
PLCA LR LR
comp=Z,1μm,20.0s,MS5.8
EFI East Falkland 166.16 118 PFAKE 05 42 30.0 +7.7
EFI LR LR
comp=Z,2μm,21.0s

*IDC **02** 05:26:37.7±0.8, 350S×7736W, h0km, mb3.8/7, mb1 4.0/13, mb1mx3.9/26, mbtmp3.8/13, ML3.6/5, Error ellipse: s-maj=24.7km s-min=13.8km az=88.0*
*IGQ **02** 05:26:37.3, 374S×7734W, h12km±11km, Mb4.7, Ms4.6, Error ellipse: s-maj=10.9km s-min=7.0km az=78.5*
*NEIC **02** 05:26:40.3±0.6, 350S×7736W, h20km, mb4.8/1, MD4.6(IGQ), Error ellipse: s-maj=18.8km s-min=9.2km az=80.0*
*ISCJB **02** 05:26:41.1±1.7, 357S±004×7704W±006, h24km±15km, mb3.9/7, Error ellipse: s-maj=11.3km s-min=5.2km az=157.4*
ISC 02 05:26:40.4±1.8, 359S±004×7712W±007, h8km±13km, n49, σ1§31/50, mb3.9/7, 7C-2D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PATA	**Patacocha**	**2.45**	**328**	⇑P		**Pn**	**05 27 20.2**	**-0.5**
ARRY	**Arrayan**	**2.46**	**327**	⇑P		**Pn**	**05 27 19.3**	**-1.6**
ULBA	**Ulba**	**2.48**	**329**	P		**Pn**	**05 27 20.4**	**-0.8**
ULBA	**Ulba**	**2.48**	**329**	S		**Sn**	**05 27 52.0**	**+0.3**
RETU	**Refugio**	**2.50**	**328**	⇑P		**Pn**	**05 27 21.4**	**0.0**
RETU	**Refugio**	**2.50**	**328**	⇑S		**Sn**	**05 27 52.4**	**+0.3**
RUN5	**Runtun**	**2.52**	**329**	⇓P		**Pn**	**05 27 20.8**	**-0.9**
RUN5	**Runtun**	**2.52**	**329**	⇓S		**Sn**	**05 27 52.0**	**-0.6**
JUI6	**Juive**	**2.54**	**328**	⇑P		**Pn**	**05 27 21.6**	**-0.3**
BILB	**Tungurahua vol**	**2.54**	**327**	⇑P		**Pn**	**05 27 21.7**	**-0.3**
BILB	**Tungurahua vol**	**2.54**	**327**	⇑S		**Sn**	**05 27 53.6**	**+0.5**
IGUA	**Igualata**	**2.58**	**324**	P		**Pn**	**05 27 22.3**	**-0.1**
PISA	**Pisayambo**	**2.81**	**333**	P		**Pn**	**05 27 25.6**	**-0.1**
PISA	**Pisayambo**	**2.81**	**333**	S		**Sn**	**05 28 01.1**	**+1.3**
TAMB	**Tambo**	**3.13**	**336**	P		**Pn**	**05 27 30.7**	**+0.6**
VC1	**Cotopaxi 1**	**3.19**	**336**	P		**Pn**	**05 27 31.5**	**+0.6**
CAMI	**Rancho Maria**	**3.21**	**334**	P		**Pn**	**05 27 31.8**	**+0.7**
ANTI	**Antisana**	**3.29**	**342**	P		**Pn**	**05 27 31.9**	**-0.3**
LAV3	**Lava3-Reventad**	**3.50**	**352**	P		**Pn**	**05 27 35.9**	**+0.6**
CONE	**Cono NE Rev Vo**	**3.53**	**351**	P		**Pn**	**05 27 36.1**	**+0.5**
ATAH	**Atahualpa**	**3.62**	**200**	Pn		**Pn**	**05 27 37.1**	**+0.3**
	7.6nm,0.3s,baz=25,slow=8.3,SNR=38							
ATAH				Sn		**Sn**	**05 28 21.9**	**+2.1**
	12nm,0.3s,baz=352,slow=6.9,SNR=7.7							
JUA2	**San Juan 2**	**3.67**	**336**	P		**Pn**	**05 27 39.3**	**+1.9**
GGP	**Refugio Guagua**	**3.70**	**336**	P		**Pn**	**05 27 38.4**	**+0.5**
TERV	**Terraza Guagua**	**3.70**	**336**	P		**Pn**	**05 27 41.4**	**+3.5**
PINO	**Pino**	**3.72**	**336**	P		**Pn**	**05 27 39.0**	**+0.8**
CAYA	**Cayambe**	**3.74**	**347**	P		**Pn**	**05 27 40.1**	**+1.7**
YANA	**Yana**	**3.74**	**337**	P		**Pn**	**05 27 40.1**	**+1.7**
COTA	**Cotacachi**	**4.08**	**343**	P		**Pn**	**05 27 48.3**	**+5.1**
CHIS	**Cerro-Chispas-**	**4.40**	**305**	P		**Pn**	**05 27 44.0**	**-3.5**
NNA	**Nana**	**8.35**	**178**	Pn		**Pn**	**05 28 39.5**	**-2.4**
	2.2nm,0.3s,baz=354,slow=10.0,SNR=7.2							
NNA				Sn		**Sn**	**05 30 09.1**	**-7.3**
	3.8nm,0.3s,baz=308,slow=22,SNR=9.6							
NNA	**Nana**	**8.35**	**178**	Pn		**Pn**	**05 28 39.5**	**-2.4**
NNA				Sn		**Sn**	**05 30 09.1**	**-7.3**
ROSC	**El Rosal**	**8.84**	**18**	Pn		**Pn**	**05 28 47.7**	**-0.8**
	0.3nm,0.3s,baz=107,slow=19,SNR=1.9							
ROSC				Lg			05 31 14.2	
	1.3nm,0.3s,baz=243,slow=19,SNR=2.4							
SDV	**Santo Domingo**	**13.98**	**28**	Pn		**Pn**	**05 29 55.9**	**-3.0**
	0.1nm,0.3s,baz=288,slow=20,SNR=2.4							
SDV				Lg			05 34 00.1	
	0.4nm,0.3s,baz=281,slow=22,SNR=2.7							
LPAZ	**La Paz**	**15.41**	**146**	Pn		**Pn**	**05 30 20.4**	**+2.1**
	0.0nm,0.3s,baz=326,slow=11,SNR=3.8							
PCRV	**Puerto La Cruz**	**18.48**	**42**	P		**Pn**	**05 30 56.2**	**-0.8**
	0.4nm,0.3s,baz=6.6,slow=23,SNR=1.9							
SIV	**San Ignacio**	**20.02**	**129**	P		**P**	**05 31 16.2**	**+2.3**
	1.1nm,0.6s,baz=325,slow=12,SNR=10.0							
CPUP	**Villa Florida**	**29.52**	**142**	P		**P**	**05 32 46.2**	**+0.8**
	0.5nm,0.5s,mb3.5,baz=262,slow=6.7,SNR=3.0							
PLCA	**Paso Flores**	**37.45**	**172**	P		**P**	**05 33 52.9**	**-1.4**
	1.8nm,0.8s,mb4.0,baz=316,slow=7.3,SNR=5.6							
GLAT	**Glass**	**41.25**	**345**	*e*P		**P**	**05 34 22.5**	**-3.6**
WMOK	**Wichita Mounta**	**43.23**	**334**	*e*P		**P**	**05 34 39.1**	**-3.1**
	19nm,0.9s,mb4.8							
ALLY	**Alegheny Colle**	**45.10**	**357**	*e*P		**P**	**05 34 50.5**	**-6.6**
BRYW	**Bryant College**	**45.57**	**6**	*e*P		**P**	**05 35 02.9**	**+2.0**
PDAR	**Pinedale Array**	**54.67**	**331**	P		**P**	**05 36 07.7**	**-2.3**
	1.1nm,0.8s,mb4.0,baz=119,slow=8.7,SNR=4.5							
NVAR	**Mina Array Bea**	**56.53**	**322**	P		**P**	**05 36 21.2**	**-2.2**
	0.5nm,0.8s,mb3.6,baz=277,slow=7.2,SNR=3.7							
YKA	**Yellowknife Ar**	**71.78**	**343**	P		**P**	**05 38 00.7**	**-2.3**
	0.9nm,0.5s,mb3.9,baz=138,slow=6.2,SNR=8.2							
TORD	**Torodi Ar. Bea**	**79.95**	**76**	P		**P**	**05 38 51.4**	**+0.7**
	0.7nm,1.0s,mb3.6,baz=236,slow=10,SNR=20							
TORD	**Torodi Ar. Bea**	**79.95**	**76**	P		**P**	**05 38 51.4**	**+0.7**
WRA	**Warramunga Arr**	**141.25**	**232**	PKP		PKPdf	05 46 09.8	-2.9
	0.4nm,0.6s,baz=119,slow=2.0,SNR=7.1							
WRA	**Warramunga Arr**	**141.25**	**232**	PKP		PKPdf	05 46 09.8	-2.9

JMA 02 05:27:53.0±0.3, 4686N×14160E, h24km, M4.1, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.56**	**172**	P		Pn	05 28 19.8	+0.6
JWK2				*e*S		Sn	05 28 39.3	+0.7
JSE	**Soyaes**	**2.02**	**160**	P		Pn	05 28 26.9	+1.4
JSE				*e*S		Sn	05 28 49.7	-0.3

JMA 02 05:28:31.8±0.5, 4681N×14155E, h0km, M4.5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.51**	**171**	P		Pn	05 29 00.1	0.0
JWK2				*e*S		Sg	05 29 19.7	-0.7
JRR	**Rishiri**	**1.68**	**186**	*e*S		Sn	05 29 26.0	+1.4

*ISCJB **02** 05:34:55.7±1.3, 4687N±003×14164E±007, h7km±8km, mb4.2/26, Error ellipse: s-maj=7.8km s-min=4.9km az=0.9*
*JMA **02** 05:34:55.1±0.6, 4688N×14164E, h0km, M4.3*
*MOS **02** 05:34:55.5±1.0, 4681N×14163E, h10km, mb4.4/12, Error ellipse: s-maj=13.7km s-min=8.8km az=99.8*
*IDC **02** 05:34:55.8±0.6, 4683N×14172E, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.2/25, mbtmp4.0/18, ML3.6/2, Error ellipse: s-maj=17.2km s-min=11.7km az=76.0*
*NEIC **02** 05:34:57.8±0.3, 4692N×14169E, h10km, mb4.7/5, Error ellipse: s-maj=9.3km s-min=5.9km az=160.0*
ISC 02 05:34:56.4±1.2, 4682N±003×14164E±007, h1km±8km, n63, σ0§96/72, mb4.3/26, 3C-3D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.78**	**79**⇓	*e*PN		**Pg**	**05 35 11.0**	**-0.3**
YSS				*e*		**Sg**	**05 35 22.0**	**+0.7**
YSS				smax				
	comp=N,7μm,0.7s							
YSS				smax				
	comp=E,12μm,0.4s							
JWK2	**Keihoku**	**1.51**	**173**	P		**Pn**	**05 35 24.2**	**-0.3**
JWK2				*e*S		**Sg**	**05 35 45.4**	**+0.5**
JRR	**Rishiri**	**1.69**	**188**	P		**Pn**	**05 35 27.8**	**+0.8**
JRR				*e*S		**Sn**	**05 35 51.4**	**+2.1**
JSE	**Soyaes**	**1.97**	**160**	P		**Pn**	**05 35 30.3**	**-0.5**
UGL	**Uglegorsk**	**2.28**	**7**	*e*PN		**Pn**	**05 35 34.0**	**-1.1**
UGL				S		**Sn**	**05 36 06.0**	**+2.2**
UGL				pmax	pmax			
	comp=Z,92nm,0.7s							
UGL				smax				
	comp=E,1μm,0.7s							
UGL				smax				
	comp=N,716nm,0.6s							
JYG	**Yagishiri**	**2.39**	**184**	P		**Pn**	**05 35 37.4**	**+0.8**
ASAJ	**Asahikawa**	**2.78**	**166**	Pn		**Pn**	**05 35 41.5**	**-0.4**
	comp=N,7.2nm,0.3s,baz=340,slow=12,SNR=3.9							
ASAJ				Pg		**Pg**	**05 35 46.1**	**-3.6**
	comp=N,14nm,0.3s,baz=14,slow=15,SNR=7.7							
ASAJ				Sn		**Sn**	**05 36 14.6**	**-1.6**
	comp=N,12nm,0.3s,baz=332,slow=14,SNR=3.0							
ASAJ				Lg			05 36 26.0	
	comp=N,14nm,0.3s,baz=117,slow=25,SNR=3.9							
ASAJ	**Asahikawa**	**2.78**	**166**	PN		**Pn**	**05 35 41.6**	**-0.4**
ASAJ							05 36 14.6	
ASAJ				pmax	pmax			
	comp=Z,7.0nm,0.3s							
ASAJ				pmax	pmax			
	comp=Z,14nm,0.3s							
ASAJ				smax				
	comp=N,12nm,0.3s							
JTKR	**Abashiri--Toko**	**3.26**	**150**	P		**Pn**	**05 35 48.1**	**-0.5**
HABR	**Khabarovsk**	**4.75**	**293**	*e*PN		**Pn**	**05 36 07.0**	**-2.0**
MJAR	**Matsushiro Arr**	**10.58**	**195**	Pn		**Pn**	**05 37 30.8**	**+1.8**
	comp=N,0.4nm,0.3s,baz=16,slow=19,SNR=3.0							
PETK	**Petropavlovsk-**	**12.10**	**53**	Pn		**Pn**	**05 37 51.5**	**+1.8**
	comp=N,0.1nm,0.3s,baz=225,slow=10,SNR=7.1							
SONM	**Songino Array**	**23.79**	**285**	P		**P**	**05 40 10.6**	**+0.2**
	comp=N,0.4nm,0.3s,mb3.4,baz=82,slow=6.1,SNR=5.8							
BILL	**Bilibino**	**24.73**	**22**⇓	*i*P		**P**	**05 40 19.9**	**+1.2**
BILL				*e*S		**S**	**05 44 44.4**	**+3.2**
BILL				pmax	pmax			
	comp=Z,19nm,1.2s,mb4.5							
HVS	**Khovu-Aksy**	**31.31**	**296**	*i*P		**P**	**05 41 18.2**	**+0.4**
ZALV	**Zalesovo Beam**	**36.05**	**303**	P		**P**	**05 41 58.9**	**-0.1**
	comp=Z,1.0nm,0.3s,mb4.2,baz=78,slow=7.7,SNR=4.3							
ZAL	**Zalesovo**	**36.07**	**303**	P		**P**	**05 41 58.9**	**-0.2**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PPLA	**Purkeypile**	**39.36**	**41**	Pn		**P**	**05 42 25.6**	**-1.1**
	comp=Z,24nm,1.3s,mb4.8							
MK31	**Makanchi Array**	**39.76**	**292**	*e*P		**P**	**05 42 30.3**	**-0.1**
MKAR	**Makanchi Array**	**39.76**	**292**	P		**P**	**05 42 30.8**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.0,baz=74,slow=9.1,SNR=14							
MKAR	**Makanchi Array**	**39.76**	**292**	*e*P		**P**	**05 42 30.7**	**+0.3**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KTH	**Kantishna Hill**	**39.84**	**40**	*e*P		**P**	**05 42 30.6**	**-0.1**
	comp=Z,22nm,1.2s,mb4.8							
KURK	**Kurchatov**	**40.61**	**299**⇑	*e*P		**P**	**05 42 37.1**	**-0.2**
KURK				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.1							
KURK	**Kurchatov**	**40.61**	**299**	*e*P		**P**	**05 42 37.4**	**+0.1**
	comp=Z,4.1nm,1.1s,mb4.0							
MCK	**McKinley**	**40.68**	**40**	*e*P		**P**	**05 42 37.4**	**-0.4**
MCK				pmax	pmax			
	comp=Z,17nm,1.2s,mb4.5							
MCK	**McKinley**	**40.68**	**40**	*e*P		**P**	**05 42 37.4**	**-0.3**
	comp=Z,17nm,1.2s,mb4.5							
COLA	**College**	**40.97**	**38**	*i*P		**P**	**05 42 40.3**	**+0.2**
SEW	**Seward**	**41.16**	**45**	P		**P**	**05 42 40.5**	**-1.2**
EGAK	**Eagle**	**43.79**	**37**	*e*P		**P**	**05 43 02.0**	**-1.0**
	comp=Z,19nm,0.9s,mb4.8							
BVAR	**Borovoye Array**	**44.55**	**305**	P		**P**	**05 43 08.8**	**-0.5**
	comp=Z,1.6nm,0.8s,mb3.9,baz=134,slow=4.2,SNR=4.4							
BVAR				PcP		PcP	05 44 52.1	-0.3
	comp=Z,1.0nm,0.6s,baz=92,slow=4.9,SNR=3.9							
BVAR	**Borovoye Array**	**44.55**	**305**	P		**P**	**05 43 08.8**	**-0.5**
BVAR							05 44 52.1	
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**44.94**	**246**⇑	*e*P		**P**	**05 43 07.0**	**-5.8**
INK	**Inuvik**	**45.76**	**31**	P		**P**	**05 43 17.5**	**-1.2**
	comp=Z,3.8nm,0.9s,mb4.3,baz=287,slow=9.0,SNR=4.4							
INK	**Inuvik**	**45.76**	**31**	P		**P**	**05 43 17.5**	**-1.2**
INK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
HYT	**Haines Junctio**	**46.60**	**42**	*e*P		**P**	**05 43 26.2**	**+0.8**
ARU	**Arti**	**49.43**	**313***c*	*i*P		**P**	**05 43 47.9**	**+0.5**
ARU				*e*			05 45 42.4	
ARU				*e*S		**S**	**05 50 55.7**	**+0.7**
ARU				pmax	pmax			
	comp=Z,9.0nm,1.3s,mb4.6							
AKTK	**Aktyubinsk**	**52.59**	**307**	P		**P**	**05 44 11.1**	**-0.1**
AKTO	**Aktyubinsk**	**52.59**	**307**	P		**P**	**05 44 11.1**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.1,baz=53,slow=4.3,SNR=7.3							
AKTO	**Aktyubinsk**	**52.59**	**307**	P		**P**	**05 44 11.1**	**-0.1**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
YKA	**Yellowknife Ar**	**55.39**	**33**	P		**P**	**05 44 30.9**	**-0.6**
	comp=Z,2.8nm,0.8s,mb4.3,baz=303,slow=6.9,SNR=8.0							
YKA	**Yellowknife Ar**	**55.39**	**33**	P		**P**	**05 44 30.9**	**-0.6**
YKA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
YKA	**Yellowknife Ar**	**55.39**	**33**	P		**P**	**05 44 30.9**	**-0.6**
OBN	**Obninsk**	**60.51**	**320**⇓	*e*P		**P**	**05 45 07.7**	**+0.2**
OBN				*e*			05 47 20.9	
OBN				*e*S		**S**	**05 53 21.8**	**-1.8**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.5s,mb5.0							
OBN				MLR	MLR			
	comp=Z,2μm,17.0s							
KIV	**Kislovodsk**	**64.81**	**308**	*e*P		**P**	**05 45 38.6**	**+2.1**
KIV				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
NB2	**NORSAR Subarra**	**65.28**	**336**	P		**P**	**05 45 38.9**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=37,slow=6.5							
NOA	**NORSAR Array B**	**65.28**	**336**	P		**P**	**05 45 39.1**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=37,slow=6.3,SNR=4.3							
NOA	**NORSAR Array B**	**65.28**	**336**	P		**P**	**05 45 39.1**	**-0.1**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**66.77**	**187**	P		**P**	**05 45 47.3**	**-1.9**
	comp=Z,0.5nm,0.7s,mb3.6,baz=0.9,slow=6.9,SNR=5.4							
WRA	**Warramunga Arr**	**66.77**	**187**	P		**P**	**05 45 47.3**	**-1.8**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**66.77**	**320**	P		**P**	**05 45 48.8**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.4,baz=41,slow=6.9,SNR=11							
AKASG	**Malin Array Be**	**66.77**	**320**	P		**P**	**05 45 48.8**	**-0.1**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.7s							
NVAR	**Mina Array Bea**	**69.16**	**56**	P		**P**	**05 46 04.2**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=286,slow=6.5,SNR=5.6							
NVAR	**Mina Array Bea**	**69.16**	**56**	P		**P**	**05 46 04.2**	**0.0**
ASAR	**Alice Springs**	**70.50**	**188**	P		**P**	**05 46 12.6**	**+0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=17,slow=4.7,SNR=10							
ASAR	**Alice Springs**	**70.50**	**188**	P		**P**	**05 46 12.6**	**+0.2**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**70.81**	**48**	P		**P**	**05 46 14.1**	**-0.2**
	comp=Z,1.5nm,0.9s,mb3.9,baz=337,slow=3.4,SNR=7.1							
CLL	**Collm**	**72.74**	**329**	*e*P		**P**	**05 46 26.0**	**+0.3**
	comp=Z,6.0nm,0.9s,mb4.5							
GERES	**GERESS Array B**	**74.53**	**327**	P		**P**	**05 46 36.8**	**+0.5**
	comp=Z,0.5nm,0.3s,mb3.9,baz=46,slow=5.6,SNR=3.9							
GERES	**GERESS Array B**	**74.53**	**327**	P		**P**	**05 46 36.8**	**+0.5**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SCHQ	**Schefferville**	**75.90**	**17**	P		**P**	**05 46 43.4**	**-0.7**
	comp=Z,3.8nm,0.9s,mb4.3,baz=290,slow=2.7,SNR=3.8							
TXAR	**Lajitas Array**	**84.05**	**53**	P		**P**	**05 47 28.5**	**-0.1**
	comp=Z,1.7nm,0.9s,mb4.2,baz=270,slow=4.2,SNR=13							
TXAR	**Lajitas Array**	**84.05**	**53**	P		**P**	**05 47 28.5**	**-0.1**
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
TXAR	**Lajitas Array**	**84.05**	**53**	P		**P**	**05 47 28.5**	**-0.1**

*ISCJB **02** 05:39:12.1±1.4, 4686N±003×14160E±007, h1km±9km, mb4.1/20, Error ellipse: s-maj=8.6km s-min=5.4km az=16.1*
*MOS **02** 05:39:12.8±1.4, 4690N×14164E, h10km, mb4.2/10, Error ellipse: s-maj=14.1km s-min=9.4km az=91.3*
*JMA **02** 05:39:13.6±0.4, 4688N×14168E, h15km, M4.2*
*IDC **02** 05:39:13.5±0.6, 4680N×14179E, h0km, mb3.8/11, mb1 4.0/14, mb1mx4.0/24, mbtmp3.8/14, ML3.7/2, Error ellipse: s-maj=19.5km s-min=13.1km az=92.0*
*NEIC **02** 05:39:15.6±0.7, 4682N×14169E, h10km, mb4.3/2, Error ellipse: s-maj=20.1km s-min=11.7km az=129.0*
ISC 02 05:39:13.9±1.4, 4683N±003×14164E±008, h3km±9km, n48, σ1§11/51, mb4.0/20, 2C-2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.77**	**80**⇓	*i*PN		**Pg**	**05 39 28.0**	**-0.7**
YSS				*e*		**Sg**	**05 39 39.0**	**+0.3**
YSS				smax				
	comp=E,4μm,0.3s							
JWK2	**Keihoku**	**1.52**	**173**	P		**Pn**	**05 39 41.0**	**-0.9**
JWK2				*e*S		**Sn**	**05 40 01.5**	**-0.6**
JRR	**Rishiri**	**1.70**	**188**	P		**Pn**	**05 39 44.3**	**-0.1**
JSE	**Soyaes**	**1.98**	**160**	P		**Pn**	**05 39 47.1**	**-1.1**
JYG	**Yagishiri**	**2.40**	**184**	P		**Pn**	**05 39 54.6**	**+0.6**
JSS	**Shosan**	**2.43**	**176**	P		**Pn**	**05 39 54.7**	**+0.3**
ASAJ	**Asahikawa**	**2.79**	**166**	Pn		**Pn**	**05 39 59.2**	**-0.1**
	comp=E,12nm,0.3s,baz=8.4,slow=11,SNR

OBN				*e*S	**S**	**05 57 39.1**	**-1.4**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,1μm,17.0s						
NB2	**NORSAR Subarra**	**65.27**	**336**	P	**P**	**05 49 58.0**	**+1.7**
	comp=Z,1.9nm,0.8s,mb4.2,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**65.27**	**336**	P	**P**	**05 49 58.4**	**+2.1**
	comp=Z,1.5nm,0.9s,mb4.0,baz=103,slow=4.3,SNR=4.1						
NOA	**NORSAR Array B**	**65.27**	**336**	P	**P**	**05 49 58.4**	**+2.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**66.76**	**320**	P	**P**	**05 50 06.0**	**-0.1**
	comp=Z,0.2nm,0.3s,mb3.6,baz=45,slow=6.2,SNR=5.2						
WRA	**Warramunga Arr**	**66.78**	**187**	P	**P**	**05 50 05.5**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.6,baz=5.7,slow=6.7,SNR=5.4						
WRA	**Warramunga Arr**	**66.78**	**187**	*e*P	**P**	**05 50 07.7**	**+1.3**
NVAR	**Mina Array Bea**	**69.16**	**56**	P	**P**	**05 50 21.9**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=308,slow=4.5,SNR=6.3						
ASAR	**Alice Springs**	**70.51**	**188**	P	**P**	**05 50 30.2**	**+0.6**
	comp=Z,0.9nm,0.8s,mb3.8,baz=13,slow=5.1,SNR=7.8						
ASAR	**Alice Springs**	**70.51**	**188**	*e*P	**P**	**05 50 30.6**	**+1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**70.80**	**48**	P	**P**	**05 50 31.6**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=5.7,slow=1.5,SNR=8.3						
TXAR	**Lajitas Array**	**84.04**	**53**	P	**P**	**05 51 45.6**	**-0.1**
	comp=Z,1.0nm,0.8s,mb4.0,baz=290,slow=3.5,SNR=14						
TXAR	**Lajitas Array**	**84.04**	**53**	P	**P**	**05 51 45.6**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SNAA	**Sanae**	**150.05**	**202**	PKPab	PKPab	05 59 09.5	-0.7
	comp=Z,0.5nm,0.5s,baz=252,slow=13,SNR=11						
SNAA	**Sanae**	**150.05**	**202**	PKIKP	PKPab	05 59 09.5	-0.7
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

JMA 02 05:43:33.3±0.4, 4681N×14158E, h6km, M3.5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.51**	**171**	P	Pn	05 44 00.6	-0.2
JWK2				*e*S	Sn	05 44 20.4	-0.4
JRR	**Rishiri**	**1.68**	**186**	P	Pn	05 44 03.9	+0.7
JSE	**Soyaes**	**1.98**	**159**	*e*S	Sn	05 44 32.2	-0.2
JYG	**Yagishiri**	**2.39**	**183**	P	Pn	05 44 13.8	+0.9

JMA 02 05:45:35.4±0.5, 4688N×14181E, h0km, M4.1, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.56**	**178**	P	Pn	05 46 04.3	-0.1
JWK2				*e*S	Sn	05 46 24.7	-0.7
JRR	**Rishiri**	**1.78**	**191**	P	Pn	05 46 08.6	+1.3
JRR				*e*S	Sn	05 46 31.6	+1.0
JYG	**Yagishiri**	**2.47**	**186**	P	Pn	05 46 17.4	+0.6

MOS ***02*** *05:50:51.7±0.9, 6140N×16742E, h10km, mb4.6/13, Error ellipse: s-maj=16.1km s-min=7.9km az=81.1*
ISCJB ***02*** *05:50:51.7±1.5, 6141N±004×16735E±006, h11km±9km, mb4.3/27, Error ellipse: s-maj=6.5km s-min=4.5km az=167.1*
IDC ***02*** *05:50:51.7±0.6, 6131N×16747E, h0km, mb4.1/19, mb1 4.3/19, mb1mx4.2/29, mbtmp4.2/19, ML2.9/1, Error ellipse: s-maj=19.5km s-min=12.1km az=169.0*
KRSC ***02*** *05:50:53.9±0.6, 6119N×167.12E, h4km±5km, ML4.6*
NEIC ***02*** *05:50:53.3±0.4, 6135N×16748E, h10km, mb4.4/8, Error ellipse: s-maj=13.5km s-min=5.7km az=174.0*
NERS ***02*** *05:50:59.8, 6193N×16621E, h0km*
ISC 02 05:50:53.9±1.5, 6143N±004×16742E±006, h11km±9km, n79, σ1§14/90, mb4.3/27, 5C-1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVNR	**Evensk**	**3.92**	**281**	⇑Sgmax	**Pn**	**05 51 55.7**	**+1.9**
EVNR				Pmax		05 51 56.6	
	40nm,0.4s						
EVNR				*e*	**Pg**	**05 52 08.1**	**-0.7**
EVNR				*e*Sg	**Sb**	**05 52 44.7**	**-5.5**
EVNR				Sgmax		05 53 09.1	
	480nm,0.6s						
OMS	**Omsukchan**	**5.60**	**286**	*e*P	**Pn**	**05 52 15.0**	**-1.9**
OMS				*e*		05 52 23.0	
OMS				*e*Sg	**Sb**	**05 53 35.0**	**-3.5**
OMS				Sgmax		05 54 28.8	
	320nm,1.5s						
OMS				Sgmax		05 54 28.8	
	140nm,1.2s						
OMS				Sgmax		05 54 28.8	
	120nm,1.2s						
KBTR	**Krutoberegovo**	**5.76**	**207**	*e*P	**Pn**	**05 52 19.5**	**+0.4**
KBTR				*e*S	**Sn**	**05 53 24.1**	**-0.9**
BILL	**Bilibino**	**6.66**	**356**	*e*P	**Pn**	**05 52 32.9**	**+1.6**
BILL				*e*Sg	**Sb**	**05 54 17.3**	**+8.6**
BILL				Sgmax		05 54 33.4	
	250nm,1.0s						
BILL				Sgmax		05 54 33.4	
	140nm,0.8s						
BILL	**Bilibino**	**6.66**	**356**	⇑*e*PN	**Pn**	**05 52 32.7**	**+1.4**
BILL				pmax	pmax		
	comp=Z,13nm,0.4s						
BILL	**Bilibino**	**6.66**	**356**	P	**Pb**	**05 52 40.7**	**-8.7**
BILL				*i* S	**Sb**	**05 54 01.3**	**-7.4**
SEY	**Seymchan**	**7.20**	**289**	*e*P	**Pn**	**05 52 40.8**	**+2.0**
SEY				Pmax		05 52 45.4	
	comp=Z,10.0nm,0.9s						
SEY				*e*S	**Sb**	**05 54 23.0**	**-1.4**
SEY				Sgmax		05 55 09.9	
	comp=Z,180nm,1.0s						
SEY				Sgmax		05 55 09.9	
	comp=Z,60nm,0.8s						
SEY	**Seymchan**	**7.20**	**289**	*e*PN	**Pn**	**05 52 41.0**	**+2.2**
TLAR	**Talaya**	**7.25**	**274**	*e*	**Pn**	**05 52 48.7**	**+9.2**
TLAR				*e*		05 54 06.7	
MKZ	**Mys Kozlova**	**7.53**	**206**	*e*P	**Pn**	**05 52 44.7**	**+1.4**
MGD	**Magadan 1**	**8.29**	**268**	*e*	**Pn**	**05 53 04.2**	**+10**
MA2	**Magadan**	**8.43**	**265**	*e*P	**Pn**	**05 52 57.9**	**+2.3**
MA2				Pmax		05 52 58.6	
	comp=Z,40nm,1.0s						
MA2				*e*S	**Sn**	**05 54 36.5**	**+5.9**
MA2	**Magadan**	**8.43**	**265**	*e*PN	**Pn**	**05 52 58.0**	**+2.4**
MA2				pmax	pmax		
	comp=Z,40nm,1.0s						
MA2	**Magadan**	**8.43**	**265**	*e*P	**Pn**	**05 52 57.9**	**+2.3**
MA2				*e*S	**Sn**	**05 54 31.7**	**+1.1**
MA2	**Magadan**	**8.43**	**265**	Pn	**Pn**	**05 52 54.7**	**-0.9**
	comp=Z,30nm,0.9s						
SPN	**Mys Shipunski**	**9.26**	**209**	P	**Pn**	**05 53 07.5**	**+0.4**
GNL	**Ganaly**	**9.27**	**217**	P	**Pn**	**05 53 09.8**	**+2.6**
PET	**Petropavlovsk**	**9.67**	**213**	⇑*e*PN	**Pn**	**05 53 12.7**	**0.0**
PETK	**Petropavlovsk-**	**9.85**	**217**	Pn	**Pn**	**05 53 12.9**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=76,slow=37,SNR=3.3						
RUS	**Russkaya**	**10.24**	**212**	P	**Pn**	**05 53 22.7**	**+2.2**
IMA2	**Indian Mountai**	**17.59**	**58**	*e*Pn	**Pn**	**05 54 59.2**	**+0.7**
YAK	**Yakutsk**	**17.73**	**289**	*e*P	**Pn**	**05 54 59.3**	**-0.9**
TIXI	**Tiksi**	**18.05**	**320**	*e*P	**Pn**	**05 55 07.3**	**+3.2**
TIXI				pmax	pmax		
	comp=Z,17nm,0.8s						
TIXI	**Tiksi**	**18.05**	**320**	Pn	**Pn**	**05 55 00.1**	**-4.0**
	comp=Z,16nm,0.8s						
COLD	**Coldfoot**	**18.92**	**54**	*e*P	**Pn**	**05 55 12.6**	**-2.2**
	comp=Z,57nm,1.3s						
KTH	**Kantishna Hill**	**19.11**	**65**	*e*P	**Pn**	**05 55 17.4**	**+0.3**
	comp=Z,21nm,1.3s						
COLA	**College**	**20.16**	**61**	*e*P	**P**	**05 55 27.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**20.27**	**236**	*e*P	**P**	**05 55 27.6**	**-1.4**
KDAK	**Kodiak Island**	**20.33**	**82**	P	**P**	**05 55 27.3**	**-2.2**
	comp=Z,6.3nm,0.7s,baz=3.7,slow=5.0,SNR=5.0						
HABR	**Khabarovsk**	**22.38**	**249**	*e*P	**P**	**05 55 49.9**	**-1.7**
HABR				*e*		05 56 12.9	
HABR				*e*S	**S**	**05 59 57.2**	**-0.1**
HABR				*e*SS		06 00 26.5	
EGAK	**Eagle**	**22.96**	**59**	*e*P	**P**	**05 55 55.5**	**-2.2**
	comp=Z,11nm,0.9s,mb4.3						
DAWY	**Dawson**	**23.91**	**60**	*e*P	**P**	**05 56 05.4**	**-1.7**
INK	**Inuvik**	**25.05**	**49**	P	**P**	**05 56 18.1**	**+0.6**
	comp=Z,20nm,0.7s,mb4.8,baz=296,slow=12,SNR=52						
INK	**Inuvik**	**25.05**	**49**	P	**P**	**05 56 18.1**	**+0.6**
INK				pmax	pmax		
	comp=Z,21nm,0.7s						
HYT	**Haines Junctio**	**25.94**	**67**	*e*P	**P**	**05 56 25.7**	**0.0**
DLBC	**Dease Lake**	**30.42**	**67**	P	**P**	**05 57 06.2**	**+0.5**
	baz=316,slow=11						
MJAR	**Matsushiro Arr**	**30.94**	**230**	P	**P**	**05 57 11.1**	**+0.7**
	comp=Z,0.7nm,0.3s,mb3.9,baz=14,slow=7.6,SNR=3.2						
MJAR	**Matsushiro Arr**	**30.94**	**230**	P	**P**	**05 57 11.1**	**+0.7**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**34.29**	**244**	P	**P**	**05 57 39.0**	**-0.8**
	comp=Z,1.3nm,0.5s,mb4.1,baz=22,slow=9.1,SNR=4.5						
KSRS	**Korea Array**	**34.29**	**244**	P	**P**	**05 57 39.0**	**-0.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
SONM	**Songino Array**	**36.40**	**277**	P	**P**	**05 57 56.6**	**-1.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=80,slow=9.2,SNR=2.3						
SONM				PcP	PcP	06 00 22.0	+0.2
	comp=Z,0.8nm,0.7s,baz=66,slow=1.9,SNR=4.2						
SPITS	**Spitsbergen Ar**	**39.53**	**351**	P	**P**	**05 58 24.6**	**+0.7**
	comp=Z,5.0nm,0.8s,mb4.3,baz=75,slow=10,SNR=3.7						
SPITS	**Spitsbergen Ar**	**39.53**	**351**	P	**P**	**05 58 24.6**	**+0.7**
SPITS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YBH	**Yreka Blue Hor**	**45.14**	**82**	P	**P**	**05 59 09.9**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.1,baz=348,slow=5.7,SNR=6.0						
YBH	**Yreka Blue Hor**	**45.14**	**82**	P	**P**	**05 59 09.9**	**0.0**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BMO	**Blue Mountains**	**45.31**	**75**	*e*P	**P**	**05 59 11.0**	**-0.2**
	comp=Z,8.1nm,1.2s,mb4.4						
KURK	**Kurchatov**	**46.90**	**299**	⇑*i*P	**P**	**05 59 24.1**	**+0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
KURK	**Kurchatov**	**46.90**	**299**	*e*P	**P**	**05 59 23.7**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.3						
MCMT	**McKenzie Canyo**	**47.38**	**72**	*e*P	**P**	**05 59 27.4**	**-0.1**
MKAR	**Makanchi Array**	**48.31**	**294**	P	**P**	**05 59 34.5**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=49,slow=7.3,SNR=5.2						
MKAR	**Makanchi Array**	**48.31**	**294**	P	**P**	**05 59 34.5**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**48.45**	**307**	P	**P**	**05 59 37.0**	**+1.3**
	comp=Z,5.6nm,0.8s,mb4.6,baz=59,slow=6.9,SNR=15						
BVAR	**Borovoye Array**	**48.45**	**307**	P	**P**	**05 59 37.0**	**+1.3**
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RLMT	**Red Lodge**	**48.78**	**69**	*e*P	**P**	**05 59 38.5**	**+0.2**
	comp=Z,4.5nm,1.0s,mb4.5						
LOHW	**Long Hollow**	**49.35**	**71**	*e*P	**P**	**05 59 43.0**	**+0.4**
	comp=Z,3.1nm,0.9s,mb4.3						
NVAR	**Mina Array Bea**	**49.83**	**82**	P	**P**	**05 59 46.0**	**-0.4**
	comp=Z,1.3nm,0.6s,mb4.1,baz=307,slow=7.6,SNR=11						
ARU	**Arti**	**50.00**	**317**	*d i*P	**P**	**05 59 47.8**	**+0.3**
ARU				*e*		06 01 38.7	
ARU				*e*S	**S**	**06 07 01.7**	**+4.2**
ARU				*e*SS	SS	06 10 21.9	-7.8
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
ULM	**Lac du Bonnet**	**50.48**	**56**	P	**P**	**05 59 51.0**	**-0.2**
	comp=Z,1.1nm,0.3s,mb4.3,baz=329,slow=6.4,SNR=3.7						
PDAR	**Pinedale Array**	**50.49**	**71**	P	**P**	**05 59 51.3**	**0.0**
	comp=Z,2.6nm,0.7s,mb4.3,baz=333,slow=3.3,SNR=21						
KLMR	**Klimovskoe**	**51.68**	**331**	*e*P	**P**	**05 59 59.8**	**-0.2**
KLMR				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
ARUT	**Antelope Range**	**52.64**	**78**	*e*P	**P**	**06 00 07.6**	**+0.1**
MSU	**Marysvale**	**52.65**	**77**	*e*P	**P**	**06 00 08.5**	**+0.9**
AKTK	**Aktyubinsk**	**55.11**	**313**	P	**P**	**06 00 25.9**	**+0.5**
AKTO	**Aktyubinsk**	**55.11**	**313**	P	**P**	**06 00 25.9**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.2,baz=337,slow=5.9,SNR=5.9						
AKTO	**Aktyubinsk**	**55.11**	**313**	P	**P**	**06 00 25.9**	**+0.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
NB2	**NORSAR Subarra**	**56.50**	**346**	P	**P**	**06 00 35.2**	**0.0**
	comp=Z,4.3nm,1.0s,mb4.4,baz=14,slow=7.4						
NOA	**NORSAR Array B**	**56.50**	**346**	P	**P**	**06 00 35.5**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.2,baz=13,slow=7.3,SNR=3.4						
NOA	**NORSAR Array B**	**56.50**	**346**	*e*P	**P**	**06 00 41.9**	**+6.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANMO	**Albuquerque**	**58.21**	**75**	⇑*e*P	**P**	**06 00 48.5**	**+0.9**
VRHR	**Novokhopersk**	**59.78**	**324**	*e*P	**P**	**06 00 56.4**	**-1.9**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.2						
VRHR				pmax	pmax		
	comp=E,20nm,1.0s						
VRSR	**Storozhevoye**	**60.36**	**325**	*e*P	**P**	**06 01 03.2**	**+1.0**
VRSR				pmax	pmax		
	comp=N,7.0nm,0.5s						
VRSR				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.6s						
AKASG	**Malin Array Be**	**63.33**	**332**	P	**P**	**06 01 22.3**	**+0.1**
	comp=E,1.6nm,0.6s,mb4.3,baz=23,slow=6.4,SNR=6.1						
AKASG	**Malin Array Be**	**63.33**	**332**	*e*P	**P**	**06 01 22.3**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR	**Lajitas Array**	**64.19**	**76**	P	**P**	**06 01 28.3**	**+0.1**
	comp=Z,3.0nm,0.9s,mb4.3,baz=314,slow=4.5,SNR=26						
TXAR	**Lajitas Array**	**64.19**	**76**	P	**P**	**06 01 28.3**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	**GERESS Array B**	**68.06**	**342**	P	**P**	**06 01 53.5**	**+0.7**
	comp=Z,0.4nm,0.3s,mb3.9,baz=38,slow=6.8,SNR=4.3						
ESDC	**Sonseca Array**	**79.00**	**353**	P	**P**	**06 02 57.9**	**+0.6**
	comp=Z,1.0nm,0.6s,mb4.0,baz=360,slow=5.6,SNR=5.6						
WRA	**Warramunga Arr**	**85.32**	**211**	P	**P**	**06 03 29.1**	**-1.3**
	comp=Z,1.7nm,0.8s,mb4.2,baz=20,slow=5.1,SNR=7.3						
WRA	**Warramunga Arr**	**85.32**	**211**	P	**P**	**06 03 29.1**	**-1.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						

ISCJB ***02*** *05:51:16.8±1.9, 346N±02×730E±03, h10km, Error ellipse: s-maj=50.4km s-min=8.5km az=141.6*
NDI ***02*** *05:51:21.0±2.3, 3341N×7234E, h10km, ML3.8*
ISC 02 05:51:19.7±2.6, 345N±02×730E±03, h22km±16km, n7, σ1§41/12, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**2.41**	**138**	*ex*	x	05 51 27.0	
THN	**Thein Dam**	**3.10**	**132**	*e*P	**Pn**	**05 52 07.8**	**+0.6**
THN				*e*S	**Sn**	**05 52 43.4**	**-0.1**
DLH	**Dalhousie**	**3.18**	**128**	*e*P	**Pn**	**05 52 12.0**	**+3.6**
DLH				*ex*	**Sb**	**05 52 54.0**	**+0.1**
SDNR	**Sundarnagar**	**4.51**	**131**	*ex*	**Pb**	**05 52 35.0**	**-3.1**
SDNR				*e*S	**Sn**	**05 53 14.6**	**-3.8**
SMLA	**Simla**	**4.89**	**133**	*i* P	**Pn**	**05 52 31.5**	**-0.3**
SMLA				*i* S	**Sn**	**05 53 24.1**	**-3.6**
SMLA				*ex*	x	05 53 30.8	
	comp=E,304nm,0.4s						
SMLA				*ex*	x	05 53 32.9	
	comp=N,492nm,0.3s						
KLP	**Kalpa**	**5.34**	**123**	*e*P	**Pn**	**05 52 40.7**	**+2.7**
KLP				*e*S	**Sn**	**05 53 39.5**	**+0.8**
KLP				AML	AML	05 54 01.9	
	comp=N,110nm,0.4s						
KLP				AML	AML	05 54 02.8	
	comp=E,137nm,0.4s						
KK31	**Karatay Array**	**8.77**	**348**	⇑P	**Pn**	**05 53 25.7**	**+0.6**
	comp=E,1.1nm,0.3s,baz=163,slow=13,SNR=28						
KK31				⇓S	**Sn**	**05 54 59.2**	**-4.0**
	comp=E,1.5nm,0.6s,baz=169,slow=23,SNR=6.1						

JMA ***02*** *05:51:24.6±0.6, 4695N×14170E, h5km, M3.9*
MOS ***02*** *05:51:26.5±1.9, 4695N×14153E, h13km, mb3.9/5, Error ellipse: s-maj=24.8km s-min=17.5km az=114.6*
ISCJB ***02*** *05:51:27.0±0.6, 4685N±005×14169E±008, h10km, mb3.6/6, Error ellipse: s-maj=8.2km s-min=6.4km az=37.7*
IDC ***02*** *05:51:27.1±1.1, 4686N×14154E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/22, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=33.7km s-min=22.2km az=93.0*
ISC 02 05:51:28.4±0.6, 4679N±005×14173E±008, h10km, n18, σ1§02/21, mb3.6/6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.72**	**77**	*e*PN	**Pg**	**05 51 41.0**	**-1.3**
YSS				*e*	**Sg**	**05 51 52.0**	**+0.3**
YSS				smax			
	comp=E,3μm,0.6s						
JWK2	**Keihoku**	**1.48**	**175**	P	**Pn**	**05 51 54.3**	**-0.8**
JWK2				*e*S	**Sn**	**05 52 14.7**	**+0.3**
JRR	**Rishiri**	**1.68**	**190**	P	**Pn**	**05 51 57.6**	**-0.2**
JSE	**Soyaes**	**1.93**	**162**	P	**Pn**	**05 52 00.0**	**-1.2**
JYG	**Yagishiri**	**2.38**	**185**	P	**Pn**	**05 52 07.5**	**+0.1**
ASAJ	**Asahikawa**	**2.75**	**167**	Pn	**Pn**	**05 52 14.9**	**+2.5**
	comp=E,6.4nm,0.3s,baz=7.1,slow=16,SNR=7.1						
ASAJ				Sn	**Sn**	**05 52 51.4**	**+5.7**
	comp=E,4.5nm,0.3s,baz=349,slow=22,SNR=2.9						
ASAJ	**Asahikawa**	**2.75**	**167**	PN	**Pn**	**05 52 14.9**	**+2.5**
ASAJ						05 52 51.4	
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
BOD	**Bodaibo**	**20.07**	**313**	*e*P	**P**	**05 55 57.4**	**-4.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.8s						
ZAK	**Zakamensk**	**25.49**	**292**	*e*P	**P**	**05 56 56.5**	**0.0**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.5						
MKAR	**Makanchi Array**	**39.83**	**293**	P	**P**	**05 59 00.8**	**-0.8**
	comp=Z,0.7nm,0.9s,mb3.4,baz=78,slow=8.1,SNR=4.7						
MKAR	**Makanchi Array**	**39.83**	**293**	P	**P**	**05 59 00.8**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**45.74**	**31**	P	**P**	**05 59 50.4**	**+1.2**
	comp=Z,0.7nm,0.8s,mb3.7,baz=286,slow=5.3,SNR=3.0						
INK	**Inuvik**	**45.74**	**31**	P	**P**	**05 59 50.4**	**+1.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**55.38**	**33**	P	**P**	**06 01 03.7**	**+1.6**
	comp=Z,1.5nm,0.7s,mb4.1,baz=299,slow=6.5,SNR=5.2						
YKA	**Yellowknife Ar**	**55.38**	**33**	P	**P**	**06 01 03.7**	**+1.6**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**70.48**	**188**	P	**P**	**06 02 43.2**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=2.1,slow=5.0,SNR=4.1						
TXAR	**Lajitas Array**	**84.01**	**53**	P	**P**	**06 03 58.0**	**-1.1**
	comp=Z,0.6nm,0.7s,mb3.8,baz=287,slow=5.1,SNR=6.9						
TXAR	**Lajitas Array**	**84.01**	**53**	P	**P**	**06 03 58.0**	**-1.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

JMA 02 05:57:33.9±0.6, 4692N×14156E, h0km, M4.6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.62**	**172**	P	Pn	05 58 03.4	-0.3
JWK2				*e*S	Sn	05 58 25.4	+0.2
JRR	**Rishiri**	**1.79**	**186**	P	Pn	05 58 06.9	+0.9
JRR				*e*S	Sn	05 58 31.3	+1.9
JSE	**Soyaes**	**2.09**	**160**	P	Pn	05 58 09.9	-0.2
JTKR	**Abashiri--Toko**	**3.38**	**150**	P	Pn	05 58 27.7	-0.2

NIED ***02*** *06:04:00, 4690N×14170E, h17km, Mw4.7 Best double couple: M0 1.08000×10^16 NP1:φs=92.00000°, δ76.00000°, λ-162.00000°. NP2:φs=358.00000°, δ73.00000°, λ-15.00000°.*
JMA ***02*** *06:04:38.6±0.3, 4691N×14171E, h28km, M5.0*
JMA Felt I J1.
IDC ***02*** *06:04:39.8±0.5, 4668N×14186E, h0km, mb4.3/23, mb1 4.5/27, mb1mx4.5/30, mbtmp4.3/27, ML3.8/4, MS4.2/2, Ms1 4.2/2, ms1mx3.7/46, Error ellipse: s-maj=13.9km s-min=12.1km az=113.0*
MOS ***02*** *06:04:39.6±1.0, 4660N×14189E, h8km, mb5.1/39, Error ellipse: s-maj=8.1km s-min=4.8km az=99.8*
ISCJB ***02*** *06:04:40.0±0.9, 4671N±002×14186E±003, h8km±5km, mb4.7/101, MS4.6/6, Error ellipse: s-maj=3.7km s-min=3.0km az=44.0*
BJI ***02*** *06:04:41.8, 4692N×14157E, h10km, mB5.1, mb4.6, ML4.9, Ms4.8, Msz4.6*
NEIC ***02*** *06:04:41.6±0.2, 4663N×14184E, h10km, mb4.9/63, Error ellipse: s-maj=5.6km s-min=3.6km az=160.0*
NEIC Felt at Poronaysk. Recorded [1 JMA] in northern Hokkaido.
SZGRF ***02*** *06:04:51.4, 4786N×14258E, h33km, mb5.1, Sakhalin Island, Russia*
ISC 02 06:04:42.2±0.8, 4666N±002×14185E±003, h11km±5km, h19km±4.6km: pP-P, n489, σ0§74/493, mb4.7/101, MS4.6/6, 103C-99D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.69**	**65**	*i*PN	**Pn**	**06 04 55.0**	**-2.9**
YSS				*i*		06 05 06.8	
YSS				pmax	pmax		
	comp=N,1μm,0.7s						
YSS				pmax	pmax		
	comp=E,2μm,0.7s						
YSS				pmax	pmax		
	comp=Z,2μm,0.7s						
YSS				pmax	pmax		
	comp=Z,10μm,4.0s						
YSS				pmax	pmax		
	comp=N,6μm,5.0s						
YSS				pmax	pmax		
	comp=E,12μm,5.0s						
YSS				smax			
	comp=N,21μm,0.7s						
YSS				smax			
	comp=E,26μm,1.0s						
YSS				smax			
	comp=N,3μm,0.6s						
YSS				smax			
	comp=E,3μm,0.6s						
YSS	**Yuzh-Sakhalins**	**0.69**	**65**	*e*Pg	**Pg**	**06 04 55.8**	**+0.2**
YSS				*e*Sg	**Sg**	**06 05 06.8**	**+2.3**
JWK2	**Keihoku**	**1.

MDJ					LR	LR		
	comp=N,2µm,14.2s							
MDJ					LR	LR		
	comp=E,2µm,17.4s							
MDJ					LR	LR		
	comp=Z,4µm,16.9s							
MAJO	**Matsushiro**	**10.47**	**196**	*e*PN	**Pn**	**06 07 10.5 -1.6**		
MAJO				pmax	pmax			
	comp=Z,54nm,1.2s							
MAJO	**Matsushiro**	**10.47**	**196**	*e*Pn	**Pn**	**06 07 10.5 -1.6**		
	comp=Z,54nm,1.2s							
MAT	**Matsushiro**	**10.47**	**196**	P	**Pn**	**06 07 10.7 -1.4**		
MJAR	**Matsushiro Arr**	**10.47**	**196**	Pn	**Pn**	**06 07 12.9 +0.8**		
	comp=Z,0.6nm,0.3s,baz=6.1,slow=14,SNR=15							
MJAR	**Matsushiro Arr**	**10.47**	**196**	PN	**Pn**	**06 07 12.9 +0.8**		
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CN2	**Changchun**	**11.91**	**262**	*e*P	**Pn**	**06 07 33.0 +1.2**		
CN2				*e*XP		06 07 39.3		
CN2				*e*S	**Sn**	**06 09 47.8 +3.2**		
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s							
CN2				AMB	AMB			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=N,4µm,13.0s							
CN2				LR	LR			
	comp=E,3µm,13.0s							
CN2				LR	LR			
	comp=Z,4µm,14.0s							
PETK	**Petropavlovsk-**	**12.08**	**52**	Pn	**Pn**	**06 07 34.5 +0.5**		
	comp=Z,0.2nm,0.3s,baz=205,slow=6.6,SNR=8.6							
PETK	**Petropavlovsk-**	**12.08**	**52**	*e*Pn	**Pn**	**06 07 35.4 +1.3**		
PET	**Petropavlovsk**	**12.56**	**53**	*e*PN	**Pn**	**06 07 47.2 +6.5**		
PET				pmax	pmax			
	comp=Z,30nm,1.4s							
PET				MLR	MLR			
	comp=Z,2µm,14.0s							
PET	**Petropavlovsk**	**12.56**	**53**	Pn	**Pn**	**06 07 41.1 +0.4**		
KSRS	**Korea Array**	**13.82**	**233**	Pn	**Pn**	**06 07 59.5 +1.5**		
	comp=Z,0.1nm,0.3s,baz=45,slow=12,SNR=19							
MA2	**Magadan**	**13.98**	**19**	*e*P	**Pn**	**06 07 59.1 -0.9**		
HIA	**Hailar**	**15.03**	**288**	*e*P	**Pn**	**06 08 15.2 +0.9**		
HIA				pmax	pmax			
	comp=Z,17nm,1.0s							
HIA	**Hailar**	**15.03**	**288**	*e*Pn	**Pn**	**06 08 15.2 +0.9**		
	comp=Z,17nm,1.0s							
YAK	**Yakutsk**	**16.90**	**340**	*e*P	**Pn**	**06 08 41.3 +2.9**		
YAK				pmax	pmax			
	comp=Z,12nm,1.2s							
YAK	**Yakutsk**	**16.90**	**340**	*e*Pn	**Pn**	**06 08 38.9 +0.5**		
SEY	**Seymchan**	**17.36**	**16**	⇓*e*P	**Pn**	**06 08 45.7 +1.6**		
BJT	**Baijiatuau**	**19.77**	**260**	*e*P	**Pn**	**06 09 13.5 -0.1**		
BJT				pmax	pmax			
	comp=Z,8.0nm,0.6s							
BJT	**Baijiatuau**	**19.77**	**260**	*e*P	**Pn**	**06 09 13.5 -0.1**		
	comp=Z,7.5nm,0.6s							
BOD	**Bodaibo**	**20.22**	**314**	*e*P	**P**	**06 09 15.7 -1.2**		
NJ2	**Nanjing**	**22.89**	**239**	*e*P	**P**	**06 09 45.2 -0.5**		
NJ2				AMB	AMB			
	comp=Z,30nm,0.7s,mb4.8							
SONM	**Songino Array**	**23.97**	**286**	P	**P**	**06 09 55.2 -1.1**		
	comp=Z,5.5nm,1.0s,mb3.9,baz=78,slow=6.6,SNR=24							
SONM				LR	LR	06 18 29.4		
	comp=Z,2µm,18.7s,MS4.5,baz=349,slow=35							
SONM	**Songino Array**	**23.97**	**286**	P	**P**	**06 09 55.2 -1.1**		
SONM				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SONM				MLR	MLR			
	comp=Z,2µm,18.7s							
BILL	**Bilibino**	**24.82**	**22**	⇑*e*P	**P**	**06 10 05.7 +1.8**		
BILL				pmax	pmax			
	comp=Z,28nm,0.9s,mb4.8							
IRK	**Irkutsk**	**24.85**	**297**	⇑*i*P	**P**	**06 10 04.2 -0.1**		
TLY	**Talaya**	**25.27**	**296**	*e*P	**P**	**06 10 08.7 +0.6**		
TLY				pmax	pmax			
	comp=Z,15nm,1.6s,mb4.3							
TLY	**Talaya**	**25.27**	**296**	*e*P	**P**	**06 10 09.5 +1.3**		
	comp=Z,22nm,1.6s,mb4.4							
ZAK	**Zakamensk**	**25.61**	**293**	*e*P	**P**	**06 10 10.2 -1.1**		
ZAK				*e*		06 13 37.8		
ZAK				pmax	pmax			
	comp=Z,9.0nm,1.3s,mb4.1							
TIXI	**Tiksi**	**25.81**	**351**	*e*P	**P**	**06 10 13.4 +0.6**		
TIXI				pmax	pmax			
	comp=Z,26nm,1.7s,mb4.5							
YHNB	**Yeheng**	**27.38**	**224**	*e*P	**P**	**06 10 26.3 -1.1**		
	comp=Z,3.8nm,0.5s,mb4.2							
ENH	**Enshi**	**29.89**	**248**	*e*P	**P**	**06 10 49.6 -0.2**		
	comp=Z,0.6nm,0.5s,mb3.6							
LZH	**Lanzhou**	**30.14**	**263**	*e*P	**P**	**06 10 52.5 +0.6**		
LZH				AP	pP	06 11 03.0 +7.7		
LZH				AMB	AMB			
	comp=Z,32nm,1.5s,mb4.8							
LZH				AMB	AMB			
	comp=Z,137nm,6.3s							
GTA	**Gaotai**	**31.27**	**272**	*e*P	**P**	**06 11 01.4 -0.4**		
GTA				AP	pP	06 11 05.7 +0.5		
GTA				XP	sP	06 11 09.2 +2.6		
GTA				PP	PP	06 12 07.5 -4.8		
GTA				PCP	PcP	06 13 56.3 +0.3		
GTA				S	**S**	**06 16 07.6 -0.5**		
GTA				XS	sS	06 16 15.2 +1.5		
GTA				SS	SS	06 17 54.2 -27		
GTA				SCS	ScS	06 21 35.8 -0.2		
GTA				AMB	AMB			
	comp=Z,3.0nm,0.8s,mb4.2							
GTA				AMB	AMB			
	comp=Z,441nm,5.7s							
GTA				LR	LR			
	comp=N,928nm,13.0s,MS4.8							
GTA				LR	LR			
	comp=E,1µm,16.0s,MS4.8							
GTA				LR	LR			
	comp=Z,1µm,18.3s,MS4.6							
HVS	**Khovu-Aksy**	**31.51**	**296**	*i*P	**P**	**06 11 03.7 -0.1**		
HVS				pmax	pmax			
	comp=Z,23nm,1.5s,mb4.8							
CD2	**Chengdu**	**33.23**	**255**	*e*P	**P**	**06 11 19.6 +0.5**		
CD2				AP	pP	06 11 24.0 +1.5		
CD2				XP	sP	06 11 26.8 +2.9		
CD2				PP	PP	06 12 30.8 -3.4		
CD2				S	**S**	**06 16 37.8 -1.0**		
CD2				XS	sS	06 16 45.2 +0.8		
CD2				SS	SS	06 18 39.1 -23		
CD2				AMB	AMB			
	comp=Z,10.0nm,1.4s,mb4.5							
CD2				AMB	AMB			
	comp=Z,20nm,5.2s							
CD2				LR	LR			
	comp=N,230nm,12.8s							
CD2				LR	LR			
	comp=Z,210nm,14.2s,MS4.0							
GYA	**Guiyang**	**34.32**	**246**	⇑*i*P	**P**	**06 11 30.8 +2.2**		
GYA				PP	PP	06 12 46.2 -0.1		
GYA				PCP	PcP	06 14 06.8 +2.2		
GYA				S	**S**	**06 16 57.6 +1.8**		
GYA				SCP	ScP	06 17 51.2 +1.8		
GYA				SS	SS	06 19 06.0 -18		
GYA				SCS	ScS	06 21 51.5 -0.5		
GYA				AMB	AMB			
	comp=Z,20nm,0.9s,mb5.0							
GYA				AMB	AMB			
	comp=Z,120nm,4.8s							
GYA				LR	LR			
	comp=N,510nm,11.8s,MS4.6							
GYA				LR	LR			
	comp=E,490nm,12.6s,MS4.6							
GYA				LR	LR			
	comp=Z,470nm,12.5s,MS4.4							
ZALV	**Zalesovo Beam**	**36.26**	**303**	P	**P**	**06 11 44.2 -0.8**		
	comp=Z,3.1nm,0.8s,mb4.3,baz=84,slow=6.7,SNR=9.8							
ZALV				PcP	PcP	06 14 08.5 -1.3		
	comp=Z,2.3nm,0.7s,baz=98,slow=3.0,SNR=6.3							
ZALV	**Zalesovo Beam**	**36.26**	**303**	P	**P**	**06 11 44.2 -0.8**		
ZALV				PcP	PcP	06 14 08.5 -1.3		
ZAL	**Zalesovo**	**36.27**	**303**	P	**P**	**06 11 44.2 -1.0**		
ZAL						06 14 08.5		
ZAL				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NVS	**Novosibirsk**	**36.97**	**305**	*i*P	**P**	**06 11 52.9 +1.8**		
WMQ	**Urumqi**	**37.61**	**286**	*e*P	**P**	**06 11 57.8 +1.2**		
WMQ				AMB	AMB			
	comp=Z,9.0nm,0.6s,mb4.7							
TTA	**Tatalina**	**37.63**	**41**	*e*P	**P**	**06 11 56.7 +0.1**		
KMI	**Kunming**	**37.76**	**249**	P	**P**	**06 12 00.1 +2.0**		
KMI				AP	pP	06 12 03.0 +1.5		
KMI				XP	sP	06 12 04.5 +1.6		
KMI				PP	PP	06 13 28.4 +4.1		
KMI				S	**S**	**06 17 49.7 +1.2**		
KMI				SS	SS	06 20 23.6 -11		
KMI				AMB	AMB			
	comp=Z,19nm,1.7s,mb4.5							
KMI				AMB	AMB			
	comp=Z,173nm,4.1s							
KMI				LR	LR			
	comp=N,820nm,13.5s,MS4.8							
KMI				LR	LR			
	comp=E,807nm,14.0s,MS4.8							
KMI				LR	LR			
	comp=Z,663nm,18.3s,MS4.5							
SVW2	**Sparrevohn**	**38.02**	**44**	*e*P	**P**	**06 12 00.6 +0.7**		
IMA2	**Indian Mountai**	**38.46**	**36**	*e*P	**P**	**06 12 03.2 -0.4**		
CHUM	**Lake Minchumin**	**39.20**	**40**	*e*P	**P**	**06 12 10.5 +0.7**		
	comp=Z,14µm,0.6s							
PPLA	**Purkeypile**	**39.38**	**41**	*e*P	**P**	**06 12 12.5 +1.2**		
	comp=Z,112nm,1.4s,mb5.4							
BPAW	**Bear Paw Mtn.**	**39.76**	**39**	*e*P	**P**	**06 12 14.4 -0.1**		
	comp=Z,12nm,1.0s,mb4.6							
COLD	**Coldfoot**	**39.78**	**34**	*e*P	**P**	**06 12 14.5 -0.1**		
	comp=Z,10nm,1.0s,mb4.5							
KTH	**Kantishna Hill**	**39.86**	**40**	*e*P	**P**	**06 12 15.6 +0.4**		
	comp=Z,56nm,1.1s,mb5.2							
MK31	**Makanchi Array**	**39.95**	**293**	*e*P	**P**	**06 12 15.6 -0.7**		
MKAR	**Makanchi Array**	**39.95**	**293**	P	**P**	**06 12 14.8 -1.5**		
	comp=Z,2.5nm,0.8s,mb4.0,baz=77,slow=8.4,SNR=14							
MKAR	**Makanchi Array**	**39.95**	**293**	P	**P**	**06 12 14.8 -1.5**		
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KDAK	**Kodiak Island**	**40.11**	**49**	P	**P**	**06 12 14.9 -2.5**		
	comp=Z,12nm,1.0s,mb4.6,baz=47,slow=8.6,SNR=2.9							
SLKM	**Skilak Lake**	**40.71**	**45**	*e*P	**P**	**06 12 21.7 -0.6**		
MCK	**McKinley**	**40.71**	**40**	*e*P	**P**	**06 12 22.6 +0.3**		
MCK				pmax	pmax			
	comp=Z,41nm,1.4s,mb4.9							
MCK	**McKinley**	**40.71**	**40**	*e*P	**P**	**06 12 22.6 +0.3**		
	comp=Z,41nm,1.4s,mb4.9							
KURK	**Kurchatov**	**40.81**	**300**	*e*P	**P**	**06 12 24.5 +1.2**		
KURK				pmax	pmax			
	comp=Z,3.0nm,0.3s,mb4.4							
KURK	**Kurchatov**	**40.81**	**300**	*e*P	**P**	**06 12 24.5 +1.2**		
	comp=Z,3.1nm,0.3s,mb4.4							
COLA	**College**	**41.00**	**38**	*e*P	**P**	**06 12 24.7 0.0**		
COLA				pmax	pmax			
	comp=Z,37nm,1.1s,mb4.9							
COLA	**College**	**41.00**	**38**	*e*P	**P**	**06 12 24.6 0.0**		
	comp=Z,37nm,1.1s,mb4.9							
PMR	**Palmer**	**41.01**	**43**	*e*P	**P**	**06 12 24.5 -0.3**		
PMR				pmax	pmax			
	comp=Z,23nm,1.0s,mb4.8							
PMR	**Palmer**	**41.01**	**43**	*e*P	**P**	**06 12 24.5 -0.3**		
	comp=Z,22nm,1.0s,mb4.8							
SEW	**Seward**	**41.17**	**45**	*e*P	**P**	**06 12 25.7 -0.5**		
DIV	**Divide**	**42.69**	**43**	*e*P	**P**	**06 12 38.7 +0.1**		
	comp=Z,23nm,0.9s,mb4.9							
BMRM	**Bremner River**	**43.28**	**43**	*e*P	**P**	**06 12 43.4 +0.1**		
EGAK	**Eagle**	**43.82**	**37**	*e*P	**P**	**06 12 46.9 -0.8**		
DAWY	**Dawson**	**44.75**	**38**	*e*P	**P**	**06 12 54.8 -0.3**		
BVAR	**Borovoye Array**	**44.76**	**306**	P	**P**	**06 12 55.9 +0.6**		
	comp=Z,0.6nm,0.4s,mb3.8,baz=46,slow=8.5,SNR=4.8							
BVAR	**Borovoye Array**	**44.76**	**306**	P	**P**	**06 12 55.9 +0.6**		
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**44.80**	**306**	*e*P	**P**	**06 12 57.4 +1.7**		
BRVK				pmax	pmax			
	comp=Z,20nm,1.8s,mb4.7							
BRVK	**Borovoye**	**44.80**	**306**	*e*P	**P**	**06 12 57.4 +1.7**		
	comp=Z,20nm,1.8s,mb4.7							
INK	**Inuvik**	**45.81**	**31**	P	**P**	**06 13 03.0 -0.4**		
	comp=Z,8.4nm,1.0s,mb4.6,baz=295,slow=8.4,SNR=9.3							
INK	**Inuvik**	**45.81**	**31**	P	**P**	**06 13 03.0 -0.5**		
INK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
INK	**Inuvik**	**45.81**	**31**	*e*P	**P**	**06 13 02.4 -1.1**		
	comp=Z,522nm,1.4s							
HYT	**Haines Junctio**	**46.62**	**42**	*e*P	**P**	**06 13 11.1 +1.2**		
ARU	**Arti**	**49.64**	**314**	*c i*P	**P**	**06 13 35.1 +1.8**		
ARU				*e*PPP		06 16 18.7		
ARU				*e*S	**S**	**06 20 43.2 +1.9**		
ARU				*e*SS	SS	06 24 14.5 +1.6		
ARU				pmax	pmax			
	comp=Z,30nm,1.7s,mb5.0							
ARU	**Arti**	**49.64**	**314**	*e*P	**P**	**06 13 34.0 +0.7**		
	comp=Z,50nm,1.8s,mb5.2							
DLBC	**Dease Lake**	**51.06**	**43**	*e*P	**P**	**06 13 45.4 +1.4**		
AKTK	**Aktyubinsk**	**52.79**	**307**	P	**P**	**06 13 56.5 -0.5**		
AKTO	**Aktyubinsk**	**52.79**	**307**	P	**P**	**06 13 56.5 -0.5**		
	comp=Z,3.1nm,1.0s,mb4.2,baz=62,slow=9.2,SNR=6.5							
AKTO	**Aktyubinsk**	**52.79**	**307**	P	**P**	**06 13 56.6 -0.4**		
AKTO				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
RES	**Resolute Bay**	**53.23**	**16**	*e*P	**P**	**06 13 58.8 -1.1**		
	comp=Z,329nm,0.9s							
ARCES	**ARCESS Array B**	**55.17**	**337**	P	**P**	**06 14 14.4 +0.3**		
	comp=Z,6.0nm,1.0s,mb4.6,baz=347,slow=16,SNR=2.7							
ARCES	**ARCESS Array B**	**55.17**	**337**	P	**P**	**06 14 14.4 +0.3**		
ARCES				pmax	pmax			
	comp=Z,6.0nm,1.0s							
YKA	**Yellowknife Ar**	**55.45**	**33**	P	**P**	**06 14 15.4 -0.7**		
	comp=Z,3.4nm,0.7s,mb4.5,baz=305,slow=6.7,SNR=12							
YKA	**Yellowknife Ar**	**55.45**	**33**	P	**P**	**06 14 15.4 -0.8**		
YKA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
YKA	**Yellowknife Ar**	**55.45**	**33**	P	**P**	**06 14 15.4 -0.8**		
DAG	**Danmarks Havn**	**56.22**	**355**	⇑*i*P	**P**	**06 14 21.0 -0.6**		
DAG				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.7							
DAG	**Danmarks Havn**	**56.22**	**355**	⇑*i*P	**P**	**06 14 21.0 -0.6**		
	comp=Z,6.7nm,0.9s,mb4.7							
KAKA	**Kakadu**	**59.70**	**191**	*e*P	**P**	**06 14 45.0 -1.6**		
	comp=Z,6.0nm,0.7s,mb4.7							
MOS	**Moscow**	**59.85**	**321**	*e*P	**P**	**06 14 48.2 +0.9**		
OBN	**Obninsk**	**60.72**	**321**	⇓*e*P	**P**	**06 14 53.0 -0.2**		
OBN				*e*		06 17 04.0		
OBN				*e*S	S	06 23 34.9 +25		
OBN				pmax	pmax			
	comp=Z,13nm,0.5s,mb5.3							
A07A	**Ashnola River,**	**61.01**	**48**	⇓P	**P**	**06 14 54.6 -0.7**		
	baz=61							
SUMG	**Summit**	**61.06**	**0**	*e*P	**P**	**06 14 56.0 +0.7**		
	comp=Z,12nm,1.3s,mb4.9							
A08A	**Turner Farm, O**	**61.63**	**48**	⇑P	**P**	**06 14 59.1 -0.4**		
	baz=61							
EDM	**Edmonton**	**61.74**	**41**	*e*P	**P**	**06 14 59.6 -0.6**		
A09A	**Danville**	**61.97**	**47**	⇑P	**P**	**06 15 01.3 -0.5**		
	baz=62							
B08A	**Colville Reser**	**61.98**	**48**	⇓P	**P**	**06 15 01.3 -0.6**		
	baz=62							
C07A	**Waterville**	**62.03**	**49**	⇓P	**P**	**06 15 01.8 -0.4**		
	baz=62							
E06A	**Yakima**	**62.28**	**51**	⇓P	**P**	**06 15 03.7 -0.2**		
	baz=62							
A10A	**Northport**	**62.48**	**47**	⇑P	**P**	**06 15 04.7 -0.5**		
	baz=62							
C08A	**Higginbotham F**	**62.50**	**49**	⇑P	**P**	**06 15 04.6 -0.8**		
	baz=62							
HOOD	**Mount Hood Mea**	**62.69**	**52**	*e*P	**P**	**06 15 07.3 +0.6**		
	comp=Z,41nm,1.4s,mb5.4							
H04A	**Detroit Lake**	**62.81**	**53**	⇓P	**P**	**06 15 06.9 -0.6**		
	baz=63							
A11A	**Hall Mountain,**	**63.10**	**46**	⇑P	**P**	**06 15 09.6 +0.2**		
	baz=63							
E08A	**Dider Farm, El**	**63.33**	**50**	⇑P	**P**	**06 15 10.6 -0.3**		
	baz=63							
H06A	**Lindquist Farm**	**63.78**	**52**	⇓P	**P**	**06 15 14.0 0.0**		
	baz=64							
E09A	**Wood Farm, Sta**	**63.79**	**49**	⇓P	**P**	**06 15 13.8 -0.2**		
	baz=64							
D10A	**Wagner Farm, O**	**63.89**	**48**	⇓P	**P**	**06 15 14.0 -0.6**		
	baz=64							
A13A	**Flathead Natio**	**64.08**	**45**	⇑P	**P**	**06 15 15.4 -0.4**		
	baz=64							
G08A	**Pilot Rock**	**64.16**	**51**	⇓P	**P**	**06 15 16.6 +0.2**		
	baz=64							
J05A	**Fort Rock**	**64.23**	**54**	⇓P	**P**	**06 15 17.2 +0.3**		
	baz=64							
H07A	**Lands Inn, Kim**	**64.30**	**52**	⇑P	**P**	**06 15 17.4 +0.1**		
	baz=64							
E10A	**Myers Farm, Un**	**64.35**	**49**	⇓P	**P**	**06 15 16.9 -0.7**		
	baz=64							
I06A	**Prineville**	**64.37**	**53**	⇑P	**P**	**06 15 17.4 -0.4**		
	baz=64							
D11A	**Klaveano Farm,**	**64.37**	**48**	⇑P	**P**	**06 15 17.4 -0.4**		
	baz=64							
YBH	**Yreka Blue Hor**	**64.41**	**56**	P	**P**	**06 15 17.6 -0.5**		
	comp=Z,2.6nm,0.8s,mb4.3,baz=256,slow=6.6,SNR=4.4							
YBH	**Yreka Blue Hor**	**64.41**	**56**	P	**P**	**06 15 17.6 -0.5**		
YBH				pmax	pmax			
	comp=Z,3.0nm,0.8s							
YBH	**Yreka Blue Hor**	**64.41**	**56**	⇓P	**P**	**06 15 18.3 +0.2**		
	baz=64							
B13A	**Whitefish**	**64.43**	**46**	⇓P	**P**	**06 15 18.4 +0.3**		
	baz=64							
F10A	**Beach Ranch, E**	**64.62**	**49**	⇑P	**P**	**06 15 19.3 -0.2**		
	baz=64							
I07A	**Izee**	**64.66**	**52**	⇑P	**P**	**06 15 19.5 -0.2**		
	baz=64							
K05A	**Summer Lake**	**64.79**	**54**	⇑P	**P**	**06 15 21.4 +0.8**		
	baz=65							
G09A	**Cove**	**64.80**	**50**	⇓P	**P**	**06 15 20.5 -0.1**		
	baz=65							
H08A	**Prairie City**	**64.82**	**51**	⇓P	**P**	**06 15 21.1 +0.3**		
	baz=65							
J06A	**Christmas Vall**	**64.85**	**53**	⇓P	**P**	**06 15 21.4 +0.4**		
	baz=65							
M04C	**Macdoel**	**64.88**	**55**	⇑P	**P**	**06 15 21.9 +0.8**		
	baz=65							
E11A	**Bogner Ranch,**	**64.90**	**48**	⇓P	**P**	**06 15 20.5 -0.7**		
	baz=65							
KIV	**Kislovodsk**	**65.02**	**308**	⇑*e*P	**P**	**06 15 23.7 +1.6**		
KIV				pmax	pmax			
	comp=Z,31nm,1.5s,mb5.1							
K06A	**Valley Falls**	**65.10**	**53**	⇓P	**P**	**06 15 23.2 +0.7**		
	baz=65							
G10A	**Bishop Farm, J**	**65.13**	**50**	⇓P	**P**	**06 15 23.1 +0.3**		
	baz=65							
C14A	**Swan Lake**	**65.19**	**46**	⇓P	**P**	**06 15 23.1 0.0**		
	baz=65							
J07A	**Hines**	**65.23**	**53**	⇑P	**P**	**06 15 24.1 +0.7**		
	baz=65							
F11A	**Grangeville**	**65.24**	**49**	⇓P	**P**	**06 15 23.4 -0.1**		
	baz=65							
WDC	**Whiskeytown Da**	**65.26**	**57**	*e*P	**P**	**06 15 24.1 +0.4**		
WDC				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.7							
WDC	**Whiskeytown Da**	**65.26**	**57**	⇑P	**P**	**06 15 24.1 +0.4**		
	baz=65							
WDC	**Whiskeytown Da**	**65.26**	**57**	*e*P	**P**	**06 15 24.1 +0.4**		
	comp=Z,7.6nm,1.1s,mb4.6							
L05A	**Lakeview**	**65.27**	**54**	⇑P	**P**	**06 15 23.9 +0.2**		
	baz=65							
D13A	**Huson**	**65.29**	**47**	⇓P	**P**	**06 15 23.6 -0.2**		
	baz=65							
BMO	**Blue Mountains**	**65.33**	**50**	*e*P	**P**	**06 15 24.5 +0.4**		
NB2	**NORSAR Subarra**	**65.48**	**336**	P	**P**	**06 15 23.6 -1.1**		
	comp=Z,1.2nm,0.7s,mb4.0,baz=33,slow=6.5							
NOA	**NORSAR Array B**	**65.48**	**336**	P	**P**	**06 15 23.8 -0.9**		
	comp=Z,3.1nm,1.0s,mb4.3,baz=35,slow=6.4,SNR=4.8							
NOA	**NORSAR Array B**	**65.48**	**336**	P	**P**	**06 15 23.8 -0.9**		
NOA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
G11A	**Walters Elk Ra**	**65.51**	**49**	P	**P**	**06 15 25.2 0.0**		
	baz=65,SNR=9.0							
M05C	**Lookout**	**65.55**	**55**	⇑P	**P**	**06 15 25.4 -0.1**		
	baz=65							
MOD	**Modoc**	**65.66**	**54**	⇑P	**P**	**06 15 26.2 -0.1**		
	baz=65							
MOD	**Modoc**	**65.66**	**54**	*e*P	**P**	**06 15 26.9 +0.7**		
	comp=Z,5.0nm,1.1s,mb4.5							
J08A	**Circle Bar Ran**	**65.70**	**52**	⇑P	**P**	**06 15 27.0 +0.6**		
	baz=66							
K07A	**Rock Creek Ran**	**65.72**	**53**	⇑P	**P**	**06 15 27.2 +0.5**		
	baz=66							
MSO	**Missoula**	**65.73**	**47**	*e*P	**P**	**06 15 26.6 0.0**		
	comp=Z,8.9nm,1.4s,mb4.6							
D14A	**Greenough**	**65.78**	**46**	P	**P**	**06 15 26.9 0.0**		
	baz=66,SNR=5.8							
F12A	**Elk City**	**65.79**	**48**	P	**P**	**06 15 27.1 +0.1**		
	baz=66,SNR=8.7							
H10A	**Noah's Angus R**	**65.80**	**50**	P	**P**	**06 15 26.9 -0.2**		
	baz=66,SNR=9.1							
E13A	**Victor**	**65.87**	**47**	⇑P	**P**	**06 15 27.0 -0.5**		
	baz=66							
J09A	**Fry Pan Ranch,**	**66.10**	**52**	⇑P	**P**	**06 15 29.5 +0.4**		
	baz=66							
FITZ	**Fitzroy Crossi**	**66.10**	**197**	P	**P**	**06 15 28.2 -0.9**		
	comp=Z,4.4nm,1.0s,mb4.4,baz=331,slow=10,SNR=4.6							
I10A	**Payette**	**66.11**	**51**	⇓P	**P**	**06 15 29.0 -0.1**		
	baz=66							
H11A	**Donnelly**	**66.11**	**50**	⇓P	**P**	**06 15 28.8 -0.3**		
	baz=66							
K08A	**Mann Creek Ran**	**66.11**	**53**	⇓P	**P**	**06 15 29.6 +0.4**		
	baz=66							
L07A	**Adell**	**66.12**	**54**	P	**P**	**06 15 29.9 +0.7**		
	baz=66,SNR=7.9							
E14A	**Clinton**	**66.24**	**47**	⇑P	**P**	**06 15 29.7 -0.2**		
	baz=66							
O04C	**Chester**	**66.27**	**56**	⇑P	**P**	**06 15 30.2 0.0**		
	baz=66							
ORV	**Oroville**	**66.54**	**57**	⇓P	**P**	**06 15 31.3 -0.6**		
	baz=66							
K09A	**Rome**	**66.55**	**52**	⇑P	**P**	**06 15 32.1 +0.2**		
	baz=66							
L08A	**Fields**	**66.55**	**53**	⇑P	**P**	**06 15 32.6 +0.7**		

WCN **Washoe City** 67.71 56 ⇓P P 06 15 39.5 +0.2
baz=68
BOZ **Bozeman (W)** 67.71 47 eP P 06 15 39.7 +0.4
BOZ pmax pmax
comp=Z,13nm,1.7s,mb4.7
BOZ **Bozeman (W)** 67.71 47 ⇓P P 06 15 39.2 0.0
baz=68
BOZ **Bozeman (W)** 67.71 47 eP P 06 15 39.7 +0.4
comp=Z,13nm,1.7s,mb4.7
HLID **Hailey** 67.73 50 ⇓P P 06 15 39.4 -0.1
baz=68
N09A **Rock Creek Ran** 67.91 54 ⇑P P 06 15 40.7 +0.1
baz=68
R05C **Kirkwood Meado** 67.93 57 ⇓P P 06 15 40.9 +0.2
baz=68
J13A **Cove Ranch, Pi** 67.97 50 ⇓P P 06 15 40.6 -0.3
baz=68
L11A **Cat Creek Ranc** 67.98 52 P P 06 15 41.3 +0.3
baz=68,SNR=9.1
M10A **I.L. Ranch, Tu** 68.00 52 ⇓P P 06 15 41.8 +0.7
baz=68
K12A **Draper Farm, C** 68.11 51 ⇑P P 06 15 41.5 -0.3
baz=68
CMB **Columbia Colle** 68.20 57 eP P 06 15 42.7 +0.2
CMB pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
CMB **Columbia Colle** 68.20 57 ⇓P P 06 15 42.8 +0.3
baz=68
CMB **Columbia Colle** 68.20 57 eP P 06 15 42.7 +0.2
comp=Z,8.2nm,1.1s,mb4.7
L12A **House Creek Ra** 68.39 51 ⇓P P 06 15 44.0 +0.4
baz=68
R06C **Coleville** 68.41 56 ⇑P P 06 15 44.1 +0.3
baz=68
M11A **Holland Ranch,** 68.47 52 ⇓P P 06 15 44.4 +0.3
baz=68,SNR=7.4
O09A **Fish Creek Ran** 68.56 54 ⇓P P 06 15 45.0 +0.3
baz=68
GCMT **Greycliff** 68.58 45 eP P 06 15 44.7 0.0
S06C **San Francisco** 68.62 57 ⇓P P 06 15 44.7 -0.4
baz=68
HAST **Hastings Reser** 68.63 59 ⇑P P 06 15 44.8 -0.4
baz=68
R07C **Lee Vining** 68.94 57 ⇓P P 06 15 47.4 +0.3
baz=69
M12A **Wells** 68.95 52 ⇓P P 06 15 47.7 +0.6
baz=69
L13A **Double Diamond** 69.00 51 ⇑P P 06 15 47.9 +0.4
baz=69
Q08A **Gabbs** 69.05 55 ⇓P P 06 15 47.9 +0.2
baz=69
K14A **Jones Ranch, D** 69.09 50 ⇑P P 06 15 48.5 +0.6
baz=69
NVAR **Mina Array Bea** 69.13 56 P P 06 15 48.8 +0.5
comp=Z,2.5nm,0.8s,mb4.2,baz=293,slow=5.9,SNR=23
RLMT **Red Lodge** 69.26 46 eP P 06 15 49.5 +0.6
comp=Z,24nm,1.8s,mb4.8
N12A **Clover Valley,** 69.28 52 ⇓P P 06 15 49.7 +0.6
baz=69
T06C **Millerton Lake** 69.30 58 ⇓P P 06 15 48.9 -0.4
baz=69
KCC **Kaiser Creek** 69.31 57 ⇓P P 06 15 49.2 -0.2
baz=69
P10A **Eureka** 69.35 54 ⇓P P 06 15 50.0 +0.4
baz=69
L14A **Malta** 69.42 50 ⇑P P 06 15 50.4 +0.4
baz=69
O11A **Cowboy Ranch,** 69.44 53 ⇓P P 06 15 50.2 +0.1
baz=69
RRI2 **Red Ridge** 69.49 48 eP P 06 15 51.5 +1.1
comp=Z,9.4nm,0.9s,mb4.7
MOOW **Moose Ponds** 69.50 48 eP P 06 15 50.5 0.0
TPAW **Teton Pass** 69.58 48 eP P 06 15 52.2 +1.2
comp=Z,9.8nm,1.2s,mb4.6
TPAW epP pP 06 16 08.5 +14
LOHW **Long Hollow** 69.67 48 eP P 06 15 52.3 +0.8
comp=Z,13nm,1.5s,mb4.6
REDW **Red Top Meadow** 69.72 48 eP P 06 15 52.5 +0.7
comp=Z,8.4nm,1.2s,mb4.5
REDW epP pP 06 16 05.8 +10
M14A **Sheep Mountain** 69.73 51 ⇓P P 06 15 52.5 +0.6
baz=70
O12A **Currie** 69.84 52 P P 06 15 53.0 +0.3
baz=70,SNR=5.1
S08C **White Mtn Res** 69.85 57 ⇓P P 06 15 53.4 +0.7
baz=70
L15A **Malad City** 69.89 50 ⇑P P 06 15 52.7 -0.2
baz=70
HELL **Mitchell Peak** 69.92 58 P P 06 15 52.8 -0.4
baz=70,SNR=8.6
R09A **Tonopah** 69.96 55 P P 06 15 53.2 -0.2
baz=70,SNR=7.2
S09A **Goldfield** 70.23 56 ⇑P P 06 15 55.3 +0.2
baz=70
N14A **Grayback Hills** 70.28 51 ⇑P P 06 15 54.6 -0.7
baz=70
P12A **McGill** 70.31 53 ⇓P P 06 15 55.2 -0.3
baz=70
ASAR **Alice Springs** 70.36 188 P P 06 15 55.6 -0.2
comp=Z,5.9nm,1.1s,mb4.5,baz=21,slow=3.6,SNR=22
ASAR **Alice Springs** 70.36 188 P P 06 15 55.6 -0.2
ASAR pmax pmax
comp=Z,6.0nm,1.1s
MBWA **Marble Bar** 70.40 202 eP P 06 15 55.1 -1.0
comp=Z,48nm,1.6s,mb5.2
S10A **Tonopah Range,** 70.45 55 ⇓P P 06 15 55.5 -0.9
baz=70
KWP **Kalwaria** 70.56 323 eP P 06 15 58.2 +1.3
KWP pmax pmax
comp=Z,81nm,1.8s,mb5.3
KWP **Kalwaria** 70.56 323 eP P 06 15 58.1 +1.3
comp=Z,81nm,1.8s,mb5.3
GRAC **Grapevine Rang** 70.65 56 ⇑P P 06 15 57.8 +0.1
baz=70
Q12A **Willow Creek R** 70.66 53 ⇑P P 06 15 57.6 0.0
baz=70
R11A **Troy Canyon, C** 70.72 54 ⇑P P 06 15 57.6 -0.4
baz=70
BW06 **Boulder Array** 70.81 48 eP P 06 15 58.3 -0.2
comp=Z,7.3nm,1.2s,mb4.5
PDAR **Pinedale Array** 70.81 48 P P 06 15 58.2 -0.2
comp=Z,2.4nm,0.8s,mb4.2,baz=312,slow=1.5,SNR=23
PDAR PP PP 06 18 36.4 +1.6
comp=Z,0.6nm,0.5s,baz=338,slow=4.1,SNR=7.2
P13A **Bates Ranch, G** 70.82 53 P P 06 15 58.7 +0.1
baz=71,SNR=5.8
DUG **Dugway** 70.94 51 eP P 06 15 59.9 +0.5
DUG pmax pmax
comp=Z,20nm,1.6s,mb4.8
DUG **Dugway** 70.94 51 ⇓P P 06 15 59.6 +0.2
baz=71
DUG **Dugway** 70.94 51 eP P 06 15 59.9 +0.5
comp=Z,20nm,1.6s,mb4.8
ARVC **Arvin** 71.11 59 ⇑P P 06 16 00.8 +0.3
baz=71
S11A **Rachel** 71.13 55 ⇓P P 06 16 00.9 +0.3
baz=71
Q13A **Wheeler Ranch,** 71.17 53 ⇑P P 06 16 00.9 +0.2
baz=71
MALT **Malatya** 71.22 306 eP P 06 16 04.2 +3.1
P14A **Drum Mountains** 71.24 52 ⇑P P 06 16 01.1 0.0
baz=71
MPMC **Manual Prospec** 71.24 57 ⇑P P 06 16 01.3 +0.1
baz=71
R12A **Pony Springs,** 71.28 54 ⇑P P 06 16 01.6 +0.1
baz=71
FURC **Furnace Creek,** 71.32 57 P P 06 16 01.8 +0.1
baz=71,SNR=9.1
TPNV **Topopah Spring** 71.33 56 eP P 06 16 01.4 -0.4
TPNV pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
TPNV **Topopah Spring** 71.33 56 ⇓P P 06 16 01.9 +0.1
baz=71
TPNV **Topopah Spring** 71.33 56 eP P 06 16 01.4 -0.4
comp=Z,5.6nm,0.8s,mb4.5
ULM **Lac du Bonnet** 71.35 35 P P 06 16 00.1 -1.5
comp=Z,2.3nm,0.6s,mb4.3,baz=309,slow=12,SNR=4.5
Q14A **Sevier Lake (B** 71.55 53 ⇓P P 06 16 02.9 -0.2
baz=71
U10A **Ash Meadows, A** 71.66 56 ⇓P P 06 16 04.0 +0.2
baz=71
S12A **Delamar Landin** 71.66 55 ⇑P P 06 16 03.9 +0.2
baz=71
P15A **Leamington** 71.68 52 ⇑P P 06 16 03.4 -0.4
baz=71
T11A **Corn Creek, Al** 71.71 55 P P 06 16 04.2 +0.2
baz=72,SNR=7.6
R13A **O'Grain Ranch,** 71.74 54 ⇓P P 06 16 04.3 +0.1
baz=72
EDW2 **Edwards Air Fo** 71.77 58 ⇑P P 06 16 04.3 -0.2
baz=72
Q15A **Fillmore** 72.03 52 ⇓P P 06 16 06.2 +0.2
baz=72
SHOC **Shoshone** 72.05 57 ⇑P P 06 16 05.9 -0.3
baz=72
GSC **Goldstone** 72.17 57 ⇑P P 06 16 06.9 +0.1
baz=72
S13A **Holt Ranch, En** 72.23 54 ⇑P P 06 16 07.4 +0.2
baz=72
SHPR **Sheep Range** 72.26 56 eP P 06 16 08.0 +0.6
BFSC **Mount Baldy St** 72.42 59 ⇓P P 06 16 08.1 -0.3
baz=72
S14A **Cedar City** 72.49 53 ⇑P P 06 16 08.4 -0.3
baz=72
MSU **Marysvale** 72.49 52 eP P 06 16 09.6 +0.9
UPC **Upice** 72.51 327 eP P 06 16 10.4 +1.8
DPC **Dobrska-Polom** 72.52 327 eP P 06 16 09.1 +0.4
RSSD **Black Hills** 72.53 44 eP P 06 16 08.4 -0.4
V11A **Goodsprings** 72.58 56 ⇓P P 06 16 09.4 +0.1
baz=72
TUQ **Turquoise Mtn.** 72.58 57 P P 06 16 09.7 +0.4
baz=72,SNR=5.7
T13A **Saint George** 72.60 54 P P 06 16 09.9 +0.5
baz=72,SNR=5.4
R15A **Junction** 72.65 53 ⇑P P 06 16 10.1 +0.5
baz=72
U12A **Valley of Fire** 72.67 55 ⇓P P 06 16 10.1 +0.3
baz=72
Q16A **Castle Valley** 72.74 51 ⇓P P 06 16 10.2 0.0
baz=72
CLL **Collm** 72.95 329 eP P 06 16 10.0 -1.2
CLL pmax pmax
comp=Z,61nm,2.3s,mb5.1
CLL MLR MLR
comp=Z,900nm,22.7s,MS5.0
CLL **Collm** 72.95 329 eP P 06 16 12.2 +1.0
comp=Z,10.0nm,0.8s,mb4.8
CLL **Collm** 72.95 329 eP P 06 16 10.0 -1.2
comp=Z,61nm,2.3s,mb5.1
CLL i x x 06 16 21.3
CLL **Collm** 72.95 329 eP P 06 16 10.0 -1.2
comp=Z,61nm,2.3s,mb5.1
CLL i 06 16 21.3
CLL LR LR
comp=Z,900nm,22.7s,MS5.0
SRU **San Rafael** 72.95 51 ⇓P P 06 16 11.8 +0.3
baz=73
SRU **San Rafael** 72.95 51 eP P 06 16 11.5 +0.1
BRG **Berggiesshubel** 72.97 328 eP P 06 16 12.9 +1.6
BRG pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
BRG **Berggiesshubel** 72.97 328 eP P 06 16 12.9 +1.6
comp=Z,10nm,1.3s,mb4.6
V12A **Nelson** 72.99 56 ⇓P P 06 16 12.1 +0.3
baz=73
U13A **Pakoon Wash** 73.00 55 P P 06 16 12.5 +0.7
baz=73,SNR=5.5
PVCC **Panska Ves** 73.03 328 eP P 06 16 13.4 +1.7
GMRC **Granite Mounta** 73.20 57 ⇑P P 06 16 12.7 -0.3
baz=73
LDFC **Landfair** 73.31 57 eP P 06 16 13.7 +0.1
comp=Z,14nm,1.3s,mb4.7
R17A **Hanksville Air** 73.35 51 ⇑P P 06 16 13.8 0.0
baz=73
V13A **Grand Canyon W** 73.39 55 ⇓P P 06 16 14.2 +0.1
baz=73
CLZ **Clausthal** 73.41 331 eP P 06 16 14.7 +0.8
CLZ pmax pmax
comp=Z,87nm,2.3s,mb5.3
CLZ **Clausthal** 73.41 331 eP P 06 16 14.7 +0.8
comp=Z,87nm,2.3s,mb5.3
U14A **Mt Trumbull** 73.44 54 ⇓P P 06 16 14.4 0.0
baz=73
T15A **Red Dirt Ranch** 73.45 53 ⇑P P 06 16 14.2 -0.3
baz=73
PRU **Pruhonice** 73.48 328 eP P 06 16 16.1 +1.7
BELC **Belle Mtn.** 73.56 58 ⇓P P 06 16 14.5 -0.6
baz=73
PFO **Pinyon Flat Ob** 73.57 58 ⇑P P 06 16 15.0 -0.2
baz=73
PFO **Pinyon Flat Ob** 73.57 58 eP P 06 16 15.0 -0.1
Q19A **Hogan Spring (** 73.73 50 ⇓P P 06 16 15.4 -0.7
baz=74
R18A **Canyonlands Na** 73.81 51 ⇓P P 06 16 15.8 -0.8
baz=74
TANN **Tannenbergstha** 73.88 329 eP P 06 16 16.1 -0.6
comp=Z,18nm,1.9s,mb4.7
U15A **North Rim** 73.93 54 P P 06 16 18.1 +0.8
baz=74,SNR=7.9
IRM **Iron Mountain** 73.94 57 ⇑P P 06 16 17.2 -0.1
baz=74
MOX **Moxa** 73.99 330 eP P 06 16 18.9 +1.6
comp=Z,32nm,1.9s,mb4.9
MOX **Moxa** 73.99 330 eP P 06 16 18.9 +1.6
MOX pmax pmax
comp=Z,32nm,1.9s,mb4.9
MOX **Moxa** 73.99 330 eP P 06 16 18.0 +0.7
comp=Z,52nm,2.3s,mb5.0
W13A **Hualapai Mount** 73.99 56 ⇑P P 06 16 17.5 -0.1
baz=74
V14A **Boquillas Ranc** 74.05 55 P P 06 16 18.4 +0.4
baz=74,SNR=6.5
MONP **Monument Peak** 74.10 59 ⇓P P 06 16 18.3 0.0
baz=74
BC3 **Big Chuckw Mtn** 74.12 58 ⇓P P 06 16 18.3 -0.1
baz=74
S18A **Hurst Farm, Bl** 74.27 52 ⇓P P 06 16 18.9 -0.3
baz=74
W14A **Seligman** 74.36 55 ⇓P P 06 16 19.7 -0.1
baz=74
X13A **Yucca** 74.39 56 ⇓P P 06 16 20.2 +0.2
baz=74
UBBA **Unterbreizbach** 74.39 331 eP P 06 16 19.5 -0.2
comp=Z,31nm,2.0s,mb4.9
PDMCI **Parker Dam,Lak** 74.42 56 ⇓P P 06 16 20.2 +0.1
baz=74
V15A **Kaibab Nationa** 74.44 54 ⇓P P 06 16 20.7 +0.5
baz=74
ROTZ **Rotzenmuhle** 74.51 329 eP P 06 16 21.1 +0.7
comp=Z,40nm,2.1s,mb5.0
KHC **Kasperske Hory** 74.55 328 eP P 06 16 20.2 -0.4
Y12C **Blythe** 74.59 57 ⇓P P 06 16 20.8 -0.4
baz=74
CONA **Conrad Observa** 74.67 326 ⇑iP P 06 16 24.4 +3.1
comp=Z,18nm,1.6s,mb4.8
CONA **Conrad Observa** 74.67 326 ⇑ipP P 06 16 24.4 +3.1
comp=Z,18nm,1.6s,mb4.8
S19A **Harvey Farm, M** 74.69 51 ⇑P P 06 16 21.5 -0.1
baz=74
U17A **Shonto** 74.70 53 ⇑P P 06 16 21.9 +0.1
baz=74
GEC2 **GERESS Array S** 74.74 327 eP P 06 16 21.3 -0.4
GEC2 pmax pmax
comp=Z,22nm,2.2s,mb4.7
GEC2 **GERESS Array S** 74.74 327 eP P 06 16 21.3 -0.4
comp=Z,22nm,2.2s,mb4.7
GERES **GERESS Array B** 74.74 327 P P 06 16 22.3 +0.5
comp=Z,0.5nm,0.2s,mb4.1,baz=48,slow=4.2,SNR=6.0
GERES **GERESS Array B** 74.74 327 P P 06 16 22.3 +0.6
GERES pmax pmax
comp=Z,1.0nm,0.2s
T18A **Mexican Hat** 74.74 52 ⇑P P 06 16 21.7 -0.3
baz=74
U16A **Tuba City** 74.78 53 ⇑P P 06 16 22.3 +0.1
baz=74
WET **Wettzell** 74.79 328 eP P 06 16 22.1 +0.1
WET pmax pmax
comp=Z,45nm,2.0s,mb5.0
WET **Wettzell** 74.79 328 eP P 06 16 22.1 +0.1
comp=Z,45nm,2.0s,mb5.0
GLA **Glamis** 74.92 58 ⇑P P 06 16 23.1 0.0
baz=75
GRA1 **Grafenberg Arr** 74.92 329 eP P 06 16 23.1 +0.3
comp=Z,49nm,1.8s,mb5.1
GRF **Grafenberg Arr** 74.92 329 eP P 06 16 23.1 +0.3
GRF pmax pmax
comp=Z,49nm,1.8s,mb5.1
GRF **Grafenberg Arr** 74.92 329 eP P 06 16 23.1 +0.3
GRF pmax pmax
comp=Z,49nm,1.8s,mb5.1
GRF **Grafenberg Arr** 74.92 329 eP P 06 16 23.1 +0.3
comp=Z,49nm,1.8s,mb5.1
X14A **Yava** 75.01 56 ⇑P P 06 16 23.9 +0.4
baz=75
U18A **Rough Rock, Ch** 75.27 52 ⇓P P 06 16 24.6 -0.4
baz=75
Y14A **Wickenburg** 75.33 56 ⇑P P 06 16 24.9 -0.5
baz=75
X15A **Humboldt** 75.37 55 ⇓P P 06 16 25.4 -0.3
baz=75
MVCO **Mesa Verde** 75.43 51 ⇑P P 06 16 25.8 -0.1
baz=75
MVCO **Mesa Verde** 75.43 51 eP P 06 16 26.1 +0.2
comp=Z,22nm,1.6s,mb4.8
Y15A **Casa Rosa Ranc** 75.70 56 ⇑P P 06 16 27.4 -0.1
baz=76
113A **Mohawk Valley,** 75.74 57 ⇓P P 06 16 27.5 -0.2
baz=76
V18A **Ganado** 75.76 53 ⇑P P 06 16 27.7 -0.1
baz=76
HGN **Heimansgroeve** 75.77 333 eP P 06 16 30.8 +3.2
X16A **Lo Mia Camp, P** 75.87 55 ⇓P P 06 16 28.6 +0.1
baz=76
SCHQ **Schefferville** 76.01 17 P P 06 16 27.7 -1.3
comp=Z,4.2nm,0.8s,mb4.4,baz=341,slow=11,SNR=5.1
SCHQ **Schefferville** 76.01 17 P P 06 16 27.7 -1.3
SOKA **Soboth** 76.02 325 ⇑iP P 06 16 29.5 +0.4
comp=Z,17nm,1.6s,mb4.7
SOKA **Soboth** 76.02 325 ⇑ipP P 06 16 29.5 +0.4
comp=Z,17nm,1.6s,mb4.7
ECSD **EROS,Sioux Fal** 76.22 40 eP P 06 16 29.3 -1.0
UCC **Uccle** 76.22 334 P P 06 16 29.9 -0.3
Y16A **Circle Bar Ran** 76.24 55 ⇑P P 06 16 30.5 -0.1
baz=76
X17A **Forest Lakes** 76.28 54 ⇑P P 06 16 30.9 0.0
baz=76
KBA **Koelnbreinsper** 76.34 327 ⇑iP P 06 16 31.2 +0.3
comp=Z,25nm,1.5s,mb4.9
KBA **Koelnbreinsper** 76.34 327 ⇑ipP P 06 16 31.2 +0.3
comp=Z,25nm,1.5s,mb4.9
KBA **Koelnbreinsper** 76.34 327 ⇑iP P 06 16 31.2 +0.3
KBA pmax pmax
comp=Z,25nm,1.5s,mb4.9
Z16A **Peralta Trail,** 76.66 55 ⇓P P 06 16 32.7 -0.4
baz=76
GIVF **Givet** 76.69 333 eP P 06 16 31.8 -1.1
Y17A **Roosevelt** 76.73 55 ⇓P P 06 16 33.5 +0.1
baz=76
DOU **Dourbes** 76.77 333 P P 06 16 33.5 +0.2
comp=Z,6.4nm,1.8s,mb4.2
214A **Organ Pipe Nat** 76.88 57 ⇓P P 06 16 34.1 -0.2
baz=77
BAIF **Baives** 76.92 334 eP P 06 16 33.3 -0.9
comp=Z,18nm,1.0s,mb4.7
BAIF **Baives** 76.92 334 eP P 06 16 33.3 -0.9
BAIF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BAIF **Baives** 76.92 334 eP P 06 16 33.3 -0.9
comp=Z,9.1nm,1.0s,mb4.7
X19A **St. Johns** 77.06 53 ⇑P P 06 16 35.1 -0.1
baz=77
BFO **Black Forest** 77.09 330 eP P 06 16 36.8 +1.7
BFO pmax pmax
comp=Z,36nm,2.0s,mb5.0
BFO **Black Forest** 77.09 330 eP P 06 16 36.8 +1.7
comp=Z,36nm,2.0s,mb5.0
Y18A **Canyon Day Jun** 77.13 54 ⇓P P 06 16 35.8 +0.1
baz=77
CDF **Champ du Feu** 77.37 331 eP P 06 16 36.0 -0.7
Y19A **Nutrioso** 77.43 54 ⇓P P 06 16 37.5 +0.1
baz=77
ECH **Echery** 77.58 331 eP P 06 16 38.0 +0.1
117A **Oracle** 77.62 56 ⇓P P 06 16 38.6 +0.1
baz=77
Z19A **T-Link Ranch,** 77.92 54 ⇑P P 06 16 40.2 +0.1
baz=78
118A **Homack Ranch,** 78.01 55 ⇑P P 06 16 40.5 -0.1
baz=78
MEZF **Maizieres J'vi** 78.02 332 eP P 06 16 39.6 -0.8
HINF **Hinteralfeld** 78.03 331 eP P 06 16 39.3 -1.1
HAU **Haudompre** 78.03 331 eP P 06 16 39.4 -1.0
217A **Green Valley** 78.17 56 ⇑P P 06 16 41.2 -0.2
baz=78
ANMO **Albuquerque** 78.21 51 eP P 06 16 41.9 +0.2
LAZ **Ladron** 78.26 52 eP P 06 16 42.6 +0.6
TUE **Stuetta** 78.32 329 eP P 06 16 44.5 +2.4
comp=Z,6.6nm,1.2s,mb4.4
218A **Dragoon** 78.46 56 ⇓P P 06 16 43.0 -0.1
baz=78
219A **White Tail Can** 78.88 55 ⇓P P 06 16 45.4 0.0
baz=79
318A **Bisbee** 78.89 56 ⇓P P 06 16 45.1 -0.3
baz=79
FLN **La Foliniere** 79.46 336 eP P 06 16 48.1 -0.2
comp=Z,111nm,1.5s,mb5.3
FLN **La Foliniere** 79.46 336 eP P 06 16 48.1 -0.2
FLN pmax pmax
comp=Z,55nm,1.5s,mb5.3
FLN **La Foliniere** 79.46 336 eP P 06 16 48.1 -0.2
comp=Z,55nm,1.5s,mb5.3
LOR **Lormes** 79.49 332 eP P 06 16 47.1 -1.4
comp=Z,63nm,1.5s,mb5.0
LOR **Lormes** 79.49 332 eP P 06 16 47.1 -1.4
LOR pmax pmax
comp=Z,31nm,1.5s,mb5.0
LOR **Lormes** 79.49 332 eP P 06 16 47.1 -1.4
comp=Z,31nm,1.5s,mb5.0
LDF **La Druitiere** 79.51 335 eP P 06 16 47.6 -1.0
comp=Z,75nm,1.5s,mb5.1
LDF **La Druitiere** 79.51 335 eP P 06 16 47.6 -1.0
LDF pmax pmax
comp=Z,38nm,1.5s,mb5.1
LDF **La Druitiere** 79.51 335 eP P 06 16 47.6 -1.0
comp=Z,38nm,1.5s,mb5.1
SSF **Saint Saulge** 79.79 332 eP P 06 16 48.8 -1.3
GRR **Gorron** 79.91 336 eP P 06 16 49.7 -1.0
SMF **Signal de Mont** 80.05 332 eP P 06 16 50.3 -1.2
comp=Z,103nm,1.6s,mb5.2
SMF **Signal de Mont** 80.05 332 eP P 06 16 50.3 -1.2
SMF pmax pmax
comp=Z,52nm,1.6s,mb5.2
SMF **Signal de Mont** 80.05 332 eP P 06 16 50.3 -1.2
comp=Z,52nm,1.6s,mb5.2
LPL **La Plagne** 80.07 330 eP P 06 16 51.1 -0.5
AVF **Avril sur Loir** 80.08 332 eP P 06 16 50.6 -1.0
comp=Z,99nm,1.6s,mb5.2
AVF **Avril sur Loir** 80.08 332 eP P 06 16 50.6 -1.0
AVF pmax pmax
comp=Z,49nm,1.6s,mb5.2
AVF **Avril sur Loir** 80.08 332 eP P 06 16 50.6 -1.0
comp=Z,49nm,1.6s,mb5.2
LPG **La Plagne** 80.08 330 eP P 06 16 51.1 -0.6
BNI **Bardonecchia** 80.49 330 eP P 06 16 59.4 +5.5
BNI pmax pmax
comp=Z,12nm,1.3s,mb4.7
BNI **Bardonecchia** 80.49 330 eP P 06 16 59.4 +5.5
comp=Z,12nm,1.3s,mb4.7
MBDF **Montbardon** 80.74 329 eP P 06 16 54.1 -1.2
TCF **Toulx Ste Croi** 80.88 333 eP P 06 16 55.3 -0.7
ORIF **Oris-en-Rattie** 80.89 330 eP P 06 16 55.4 -0.6
MFF **Saint Martin d** 81.32 335 eP P 06 16 57.6 -0.7
comp=Z,46nm,1.3s,mb5.0
MFF **Saint Martin d** 81.32 335 eP P 06 16 57.6 -0.7
MFF pmax pmax
comp=Z,23nm,1.3s,mb5.0
MFF **Saint Martin d** 81.32 335 eP P 06 16 57.6 -0.7
comp=Z,23nm,1.3s,mb5.0
VIVF **Saint-Julien-l** 81.35 331 eP P 06 16 57.9 -0.6
comp=Z,47nm,1.5s,mb4.9
VIVF **Saint-Julien-l** 81.35 331 eP P 06 16 57.9 -0.6
VIVF pmax pmax
comp=Z,24nm,1.5s,mb4.9
VIVF **Saint-Julien-l** 81.35 331 eP P 06 16 57.9 -0.6
comp=Z,24nm,1.5s,mb4.9
GDL2 **Guadalupe Moun** 81.44 52 eP P 06 16 59.4 +0.2
PGF **Pioggiola** 81.82 327 eP P 06 16 59.7 -1.3
comp=Z,19nm,1.2s,mb4.6
PGF **Pioggiola** 81.82 327 eP P 06 16 59.7 -1.3
PGF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
PGF **Pioggiola** 81.82 327 eP P 06 16 59.7 -1.3
comp=Z,9.6nm,1.2s,mb4.6
RJF **Les Rejaudoux** 81.98 333 eP P 06 17 01.1 -0.7
comp=Z,94nm,1.8s,mb5.1
RJF **Les Rejaudoux** 81.98 333 eP P 06 17 01.1 -0.7
RJF pmax pmax
comp=Z,47nm,1.8s,mb5.1
RJF **Les Rejaudoux** 81.98 333 eP P 06 17 01.1 -0.7
comp=Z,47nm,1.8s,mb5.1
LMR **La Mourre** 82.05 329 eP P 06 17 00.8 -1.4
CAF **Calviac** 82.15 332 eP P 06 17 02.4 -0.3
comp=Z,62nm,1.5s,mb5.0

CAF	**Calviac**	**82.15**	**332**	*e*P		**P**	**06 17 02.4**	**-0.3**
CAF				pmax		pmax		
	comp=Z,31nm,1.5s,mb5.0							
CAF	**Calviac**	**82.15**	**332**	*e*P		**P**	**06 17 02.4**	**-0.3**
	comp=Z,31nm,1.5s,mb5.0							
WMOK	**Wichita Mounta**	**82.36**	**46**	*e*P		**P**	**06 17 03.5**	**-0.5**
WMOK				*e*		pP	06 17 08.6	+0.9
WMOK				pmax		pmax		
	comp=Z,16nm,1.9s,mb4.6							
WMOK	**Wichita Mounta**	**82.36**	**46**	*e*P		**P**	**06 17 03.5**	**-0.5**
	comp=Z,16nm,1.9s,mb4.6							
WMOK				*e*PcP		PcP	06 17 08.6	-0.7
LFF	**La Frestale**	**82.55**	**333**	*e*P		**P**	**06 17 04.4**	**-0.4**
	comp=Z,153nm,1.6s,mb5.5							
LFF	**La Frestale**	**82.55**	**333**	*e*P		**P**	**06 17 04.4**	**-0.4**
LFF				pmax		pmax		
	comp=Z,76nm,1.6s,mb5.5							
LFF	**La Frestale**	**82.55**	**333**	*e*P		**P**	**06 17 04.4**	**-0.4**
	comp=Z,76nm,1.6s,mb5.5							
MTLF	**Montolieu**	**83.51**	**332**	*e*P		**P**	**06 17 08.3**	**-1.5**
TXAR	**Lajitas Array**	**84.03**	**53**	P		**P**	**06 17 12.2**	**-0.6**
	comp=Z,3.8nm,0.8s,mb4.6,baz=291,slow=4.0,SNR=47							
TXAR	**Lajitas Array**	**84.03**	**53**	P		**P**	**06 17 12.2**	**-0.5**
TXAR				pmax		pmax		
	comp=Z,4.0nm,0.8s							
SJPF	**Ste Jean**	**84.81**	**334**	*e*P		**P**	**06 17 15.7**	**-0.7**
KEST	**Kesra**	**87.54**	**323**	P		**P**	**06 17 29.1**	**-0.9**
	comp=Z,0.7nm,0.4s,mb4.2,baz=320,slow=5.0,SNR=4.1							
ESDC	**Sonseca Array**	**88.78**	**334**	P		**P**	**06 17 34.2**	**-1.7**
	comp=Z,1.1nm,0.5s,mb4.4,baz=36,slow=5.4,SNR=5.4							
NVL	**N'lazarevskaya**	**146.18**	**207**	*e*PKP2		PKPab	06 24 20.5	-1.3
NVL				pmax		pmax		
	comp=Z,24nm,1.2s							
BDFB	**Brasilia**	**148.00**	**18**	PKPbc		PKPbc	06 24 26.6	-1.1
	comp=Z,2.2nm,0.9s,baz=334,slow=19,SNR=5.7							
BDFB	**Brasilia**	**148.00**	**18**	PKP2		PKPbc	06 24 26.6	-1.1
BDFB				pmax		pmax		
	comp=Z,2.0nm,0.9s							
SNAA	**Sanae**	**149.95**	**201**	*e*PKPdf		PKPdf	06 24 29.7	+3.6
SNAA				*e*			06 24 36.0	
SNAA				*e*			06 24 41.8	
SNAA	**Sanae**	**149.95**	**201**	PKPbc		PKPbc	06 24 30.1	-1.0
	comp=Z,2.0nm,1.2s,baz=78,slow=2.7,SNR=7.7							
SNAA				PKPab		PKPab	06 24 36.0	-0.8
	comp=Z,2.5nm,0.9s,baz=130,slow=3.9,SNR=19							
SNAA	**Sanae**	**149.95**	**201**	*e*PKPbc		PKPbc	06 24 29.8	-1.2
SNAA				*e*PKPab		PKPab	06 24 36.4	-0.4
VNA1	**Neumayer--Stat**	**151.96**	**201**	*e*PKPdf		PKPbc	06 24 35.2	-0.6
VNA1				*e*			06 24 40.3	
VNA1				*e*			06 24 45.5	
CPUP	**Villa Florida**	**154.64**	**43**	PKPab		PKPab	06 24 57.5	-0.3
	comp=Z,0.4nm,0.4s,baz=313,slow=5.1,SNR=4.1							

NEIC ***02*** *06:11:18.8, 15.25N×92.08W, h162km, MD4.0(MEX), After MEX.*

MEX 02 06:11:18.1±1.0, 15.21N×92.07W, h166km±12km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.36**	**212**	*i* P	Pn	06 11 38.7	-2.0
THIG				*i* S	Sn	06 11 56.5	-1.6
CCIG	**Comitan**	**1.07**	**356**	*i* P	Pn	06 11 44.0	-0.9
CCIG				*i* S	Sn	06 12 03.9	-1.8
SCX	**San Cristobal**	**1.61**	**340**	*i* P	Pn	06 11 50.0	0.0
SCX				*e*S	Sn	06 12 12.0	-2.7
TGIG		**1.86**	**327**	*i* P	Pn	06 11 51.1	-1.6
TGIG				*i* S	Sn	06 12 16.9	-2.4
CMIG	**Matias Romero**	**3.29**	**305**	*i* P	Pn	06 12 09.6	-0.1
CMIG				*e*S	Sn	06 12 46.1	-3.8
CMIG				*i* S	Sn	06 12 48.1	-1.8
VHO	**Vista Hermosa**	**4.85**	**293**	*i* P	Pn	06 12 28.3	-1.6
VHO				*i* S	Sn	06 13 22.8	-3.2
VHO	**Vista Hermosa**	**4.85**	**293**	*i* P	Pn	06 12 26.5	-3.3
VHO				*i* S	Sn	06 13 22.8	-3.2

IDC 02 06:14:56.8±2.8, 2926S×14007E, h0km, mb1 3.1/3, mb1mx3.0/14, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=118.9km s-min=14.6km az=57.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.92**	**154**	Pn	Pn	06 15 43.4	-1.1
	0.4nm,0.3s,baz=305,slow=13,SNR=4.7						
STKA				Pg	Pg	06 15 50.2	-2.5
	0.8nm,0.3s,baz=306,slow=15,SNR=8.1						
STKA				Sn	Sn	06 16 20.6	+0.5
	1.7nm,0.3s,baz=285,slow=17,SNR=4.0						
STKA				Lg		06 16 30.8	
	2.6nm,0.3s,baz=224,slow=20,SNR=6.2						
ASAR	**Alice Springs**	**7.85**	**314**	Pn	Pn	06 16 51.2	-1.0
	0.1nm,0.3s,baz=141,slow=14,SNR=3.2						
ASAR				Lg		06 19 09.0	
	0.1nm,0.3s,baz=149,slow=30,SNR=3.3						
WRA	**Warramunga Arr**	**10.64**	**329**	Pn	Pn	06 17 30.7	+0.2
	0.1nm,0.3s,baz=153,slow=13,SNR=5.4						

BGS ***02*** *06:23:07.3±1.7, 50.35N×176.04W, h10km, mb5.2*
BJI ***02*** *06:23:08.4, 51.20N×180.00W, h10km, mB5.5, mb5.2, Ms5.2, Msz5.0*
IDC ***02*** *06:23:09.7±0.5, 51.21N×179.77W, h0km, mb4.8/27, mb1 4.9/29, mb1mx4.9/31, mbtmp4.8/29, ML4.6/2, MS4.9/27, Ms1 4.9/27, ms1mx4.7/46, Error ellipse: s-maj=16.3km s-min=10.9km az=160.0*
GCMT ***02*** *06:23:11.5±0.4, 50.92N×179.87W, h28km±1km, MW5.6/71, Moment Tensor Solution. s40,c48; s71,c110; Duration: 1!5 Moment tensor: Scale 10^17^Nm; Mrr2.87±.19; Mθθ-2.38±.12; Mφφ-0.49±.10; Mre1.36±.18; Mθφ-0.48±.07; Mθr1.08±.20; Best double couple: M0=3.18500×10^17^ NP1:φs=265.00000°, δ30.00000°, λ108.00000°. NP2: φs=64.00000°, δ61.00000°, λ80.00000°. Principal axes: T 3.4290, Plg72.0000°, Azm311.0000°; N -0.4940, Plg9.0000°, Azm69.0000°; P -2.9410, Plg16.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA ***02*** *06:23:11, 50.94N×179.32W, h10km, mb5.2/9*
NEIC ***02*** *06:23:11.5±0.1, 51.21N×179.96W, h10km, mb5.1/174, ML5.2(AEIC), Error ellipse: s-maj=4.4km s-min=2.1km az=185.0*
ISCJB ***02*** *06:23:14.8±0.5, 51.25N±0.03×179.84W±0.02, h42km±4km, mb5.1/258, MS5.0/58, Error ellipse: s-maj=5.4km s-min=2.0km az=9.7*
MOS ***02*** *06:23:15.8±0.9, 51.25N×179.80W, h52km, mb5.3/117, MS5.1/32, Error ellipse: s-maj=6.3km s-min=4.0km az=93.0*
SZGRF ***02*** *06:23:17.8, 51.32N×178.15E, h48km, mb5.1, Rat Islands, Aleutian Islands, United States*

ISC 02 06:23:17.4±0.4, 51.31N±0.03×179.85W±0.02, h49km±3km, h35km±7.5km: pP-P, n1050, σ0.69/1036, mb5.1/257, MS5.0/58, 171C-120D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.54**	**278**	P	**Pn**	**06 23 26.1**	**-2.9**
AMKA				S	**Sn**	**06 23 37.4**	**+0.1**
SMY	**Shemya**	**4.00**	**293**	*e*P	**Pn**	**06 24 17.7**	**+1.6**
FX1	**Attu Island--F**	**4.59**	**293**	P	**Pn**	**06 24 26.1**	**+2.0**
NIKO	**Nikolski**	**6.97**	**72**	P	**Pn**	**06 24 56.4**	**-0.3**
OKCE	**Okmok Cone E**	**7.46**	**69**	P	**Pn**	**06 25 05.2**	**+1.7**
OKCD	**Okmok Cone D**	**7.49**	**69**	P	**Pn**	**06 25 05.7**	**+1.7**
SPIA	**Saint Paul Isl**	**8.13**	**40**	P	**Pn**	**06 25 16.0**	**+3.4**
UNV	**Unalaska Valle**	**8.52**	**67**	*e*Pn	**Pn**	**06 25 18.6**	**+0.6**
AKUT	**Akutan**	**9.00**	**66**	*e*Pn	**Pn**	**06 25 24.6**	**0.0**
FALS	**False Pass**	**10.50**	**64**	*e*Pn	**Pn**	**06 25 43.2**	**-1.9**
SDPT	**Sand Point**	**12.26**	**63**	*e*P	**Pn**	**06 26 08.0**	**-1.0**
	62nm,0.3s						
PET	**Petropavlovsk**	**13.30**	**286**	*e*P	**Pn**	**06 26 24.1**	**+0.8**
PET				pmax	pmax		
	comp=Z,38nm,1.3s						
PET				MLR	MLR		
	comp=Z,3μm,16.0s						
PET				MLR	MLR		
	comp=Z,3μm,20.0s						
PET	**Petropavlovsk**	**13.30**	**286**	*e*Pn	**Pn**	**06 26 23.0**	**-0.3**
CHGN	**Chignik**	**13.59**	**60**	*e*P	**Pn**	**06 26 26.3**	**-0.9**
PETK	**Petropavlovsk-**	**13.88**	**286**	Pn	**Pn**	**06 26 29.7**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=80,slow=12,SNR=36						
PETK				Sn	**Sn**	**06 29 02.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=263,slow=15,SNR=2.4						
PETK				LR	LR	06 31 32.5	
	comp=Z,5μm,21.5s,baz=98,slow=36						
PETK	**Petropavlovsk-**	**13.88**	**286**	*e*Pn	**Pn**	**06 26 30.7**	**-0.4**
PETK				*e*Sn	**Sn**	**06 29 03.2**	**-0.2**
SKR	**Severo-Kuril's**	**15.13**	**277**	*e*P	**Pn**	**06 26 48.1**	**+0.4**
SKR				*e*		06 29 25.6	
SKR				pmax	pmax		
	comp=Z,110nm,0.8s						
TNA	**Tin City**	**15.55**	**19**	*e*Pn	**Pn**	**06 26 47.9**	**-5.1**
OHAK	**Old Harbor**	**16.54**	**59**	*e*P	**Pn**	**06 27 02.3**	**-3.3**
	comp=Z,27nm,0.3s						
SVW2	**Sparrevohn**	**16.58**	**44**	*e*P	**Pn**	**06 27 07.5**	**+1.4**
KDAK	**Kodiak Island**	**17.01**	**57**	Pn	**Pn**	**06 27 08.0**	**-3.5**
	comp=Z,315nm,0.7s,SNR=42						
KDAK	**Kodiak Island**	**17.01**	**57**	P	**Pn**	**06 27 08.3**	**-3.2**
	comp=Z,11nm,0.3s,baz=262,slow=6.5,SNR=60						
KDAK	**Kodiak Island**	**17.01**	**57**	*e*Pn	**Pn**	**06 27 08.1**	**-3.4**
TTA	**Tatalina**	**17.27**	**39**	*e*P	**Pn**	**06 27 15.1**	**+0.4**
TTA	**Tatalina**	**17.27**	**39**	*e*P	**Pn**	**06 27 17.2**	**+2.5**
BILL	**Biiibino**	**18.10**	**343**	⇑*e*P	**Pn**	**06 27 27.2**	**+2.4**
BILL				*e*S	**S**	**06 30 44.3**	**-4.9**
BILL				pmax	pmax		
	comp=Z,188nm,2.3s						
BILL				MLR	MLR		
	comp=Z,4μm,18.0s						
BILL	**Biiibino**	**18.10**	**343**	*e*P	**Pn**	**06 27 27.1**	**+2.3**
	comp=Z,123nm,1.1s						
MA2	**Magadan**	**18.47**	**308**	*e*P	**Pn**	**06 27 28.3**	**-1.1**
MA2				*e*S	**S**	**06 30 53.6**	**-2.3**
MA2				pmax	pmax		
	comp=Z,40nm,1.5s						
MA2				MLR	MLR		
	comp=Z,13μm,0.0s						
MA2	**Magadan**	**18.47**	**308**	*i* P	**Pn**	**06 27 28.4**	**-1.0**
PPLA	**Purkeypile**	**18.80**	**41**	*e*P	**Pn**	**06 27 32.6**	**-0.7**
	comp=Z,144nm,1.0s						
SLKM	**Skilak Lake**	**18.83**	**49**	*e*P	**Pn**	**06 27 33.3**	**-0.4**
SEY	**Seymchan**	**18.86**	**319**	⇓*e*P	**Pn**	**06 27 36.0**	**+2.0**
SEY	**Seymchan**	**18.86**	**319**	⇓*e*P	**Pn**	**06 27 36.1**	**+2.1**
FIB	**Fire Island**	**19.05**	**47**	P	**Pn**	**06 27 34.6**	**-1.7**
SEW	**Seward**	**19.10**	**51**	*e*P	**Pn**	**06 27 35.4**	**-1.5**
CHUM	**Lake Minchumin**	**19.19**	**38**	*e*P	**Pn**	**06 27 38.3**	**+0.3**
	comp=Z,84nm,0.9s						
RC01	**Rabbit Creek A**	**19.23**	**48**	*e*P	**Pn**	**06 27 39.3**	**+0.9**
	comp=Z,42nm,1.0s						
KTH	**Kantishna Hill**	**19.60**	**40**	*e*P	**Pn**	**06 27 41.9**	**-0.9**
	comp=Z,163nm,0.8s						
PMR	**Palmer**	**19.65**	**47**	P	**Pn**	**06 27 43.0**	**-0.5**
PMR				pmax	pmax		
	comp=Z,30nm,0.9s						
PMR	**Palmer**	**19.65**	**47**	*e*P	**Pn**	**06 27 40.8**	**-2.7**
	comp=Z,14nm,0.4s						
TRF	**Thorofare Moun**	**19.82**	**41**	*e*P	**Pn**	**06 27 43.5**	**-1.8**
	comp=Z,114nm,1.1s						
IMA2	**Indian Mountai**	**19.85**	**32**	*e*P	**Pn**	**06 27 44.9**	**-0.9**
MCK	**McKinley**	**20.48**	**41**	*e*P	**P**	**06 27 50.0**	**-0.7**
EYAK	**Cordova Ski Ar**	**20.99**	**51**	*e*P	**P**	**06 27 55.2**	**-1.0**
	comp=Z,35nm,0.7s						
DIV	**Divide**	**21.10**	**49**	*e*P	**P**	**06 27 57.6**	**+0.2**
	comp=Z,29nm,0.6s,mb4.8						
COLA	**College**	**21.37**	**38**	P	**P**	**06 28 00.5**	**+0.2**
COLA				pmax	pmax		
	comp=Z,100nm,0.9s,mb5.2						
COLA	**College**	**21.37**	**38**	*e*P	**P**	**06 28 00.7**	**+0.4**
	comp=Z,102nm,0.9s,mb5.2						
RAGM	**Ragged Mountai**	**21.49**	**51**	*e*P	**P**	**06 28 02.5**	**+1.0**
BMRM	**Bremner River**	**21.62**	**50**	*e*P	**P**	**06 28 03.2**	**+0.2**
COLD	**Coldfoot**	**21.66**	**31**	*e*P	**P**	**06 28 04.0**	**+0.7**
	comp=Z,20nm,0.6s,mb4.7						
MENT	**Mentasta**	**22.46**	**45**	*e*P	**P**	**06 28 11.6**	**-0.3**
EGAK	**Eagle**	**24.03**	**41**	*e*P	**P**	**06 28 26.0**	**-1.4**
	comp=Z,61nm,0.8s,mb5.1						
PNL	**Peninsula**	**24.05**	**54**	*e*P	**P**	**06 28 26.4**	**-1.1**
	comp=Z,2μm,0.7s						
DAWY	**Dawson**	**24.61**	**43**	*e*P	**P**	**06 28 31.8**	**-0.8**
HYT	**Haines Junctio**	**25.05**	**51**	*e*P	**P**	**06 28 35.9**	**-0.8**
ASAJ	**Asahikawa**	**26.05**	**269**	P	**P**	**06 28 46.2**	**+0.4**
	comp=Z,106nm,1.1s,mb5.3,baz=68,slow=12,SNR=11						
ASAJ				LR	LR	06 38 54.7	
	comp=Z,3μm,19.9s,MS4.8,baz=151,slow=36						
ASAJ	**Asahikawa**	**26.05**	**269**	P	**P**	**06 28 46.2**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,106nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,3μm,19.9s						
SKAG	**Skagway**	**26.12**	**54**	*e*P	**P**	**06 28 45.1**	**-1.2**
	comp=Z,8.4nm,1.1s,mb4.2						
INK	**Inuvik**	**27.89**	**35**	P	**P**	**06 29 01.6**	**-0.6**
	comp=Z,6.7nm,0.7s,mb4.4,baz=228,slow=11,SNR=19						
INK				PcP	PcP	06 32 15.6	-0.8
	comp=Z,6.3nm,0.8s,baz=248,slow=3.5,SNR=4.3						
INK	**Inuvik**	**27.89**	**35**	P	**P**	**06 29 01.6**	**-0.5**
INK						06 32 15.6	
INK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
INK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
INK	**Inuvik**	**27.89**	**35**	*e*P	**P**	**06 29 02.0**	**-0.1**
	comp=Z,629nm,1.0s,mb6.2						
WRAK	**Wrangell Islan**	**28.01**	**61**	*e*P	**P**	**06 29 04.7**	**+1.3**
HABR	**Khabarovsk**	**28.85**	**282**	*e*P	**P**	**06 29 08.2**	**-2.6**
HABR				*e*		06 29 59.0	
HABR				*e*S	**S**	**06 34 00.5**	**+3.3**
HABR				*e*SS	SS	06 35 24.5	-36
HABR				pmax	pmax		
	comp=Z,17nm,0.5s,mb5.0						
HABR				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.6						
YAK	**Yakutsk**	**28.97**	**311**	*c i*P	**P**	**06 29 10.8**	**-1.0**
YAK				*e*PPP		06 30 13.1	
YAK				*e*		06 32 18.0	
YAK				*e*S	**S**	**06 33 59.1**	**+0.2**
YAK				*e*SSS		06 35 47.1	
YAK				*e*		06 39 51.8	
YAK				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.9						
YAK				pmax	pmax		
	comp=N,5.0nm,1.6s						
YAK				pmax	pmax		
	comp=E,24nm,1.4s						
YAK				pmax	pmax		
	comp=Z,62nm,1.1s,mb5.2						
YAK				pmax	pmax		
	comp=N,76nm,2.3s						
YAK				pmax	pmax		
	comp=E,128nm,2.8s						
YAK				smax			
	comp=N,101nm,1.5s						
YAK				smax			
	comp=E,82nm,1.4s						
YAK				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.9						
YAK				MLR	MLR		
	comp=N,426nm,10.0s						
YAK				MLR	MLR		
	comp=E,3μm,18.0s						
YAK	**Yakutsk**	**28.97**	**311**	⇓*e*P	**P**	**06 29 11.8**	**0.0**
KLR	**Kul'dur**	**30.57**	**285**	⇓*i*P	**P**	**06 29 21.7**	**-4.3**
CLNS	**Chul'man**	**32.12**	**302**	*e*P	**P**	**06 29 34.6**	**-5.0**
CLNS				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.9						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,15nm,1.2s						
CLNS				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,1μm,17.0s,MS4.8						
CLNS				MLR	MLR		
	comp=E,1μm,18.0s,MS4.8						
MJAR	**Matsushiro Arr**	**33.12**	**260**	P	**P**	**06 29 48.3**	**-0.3**
	comp=E,9.8nm,0.8s,mb4.8,baz=50,slow=7.8,SNR=22						
MJAR				LR	LR	06 42 13.6	
	comp=E,2μm,19.7s,MS4.8,baz=70,slow=34						
MJAR	**Matsushiro Arr**	**33.12**	**260**	P	**P**	**06 29 48.3**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,2μm,19.7s						
MJAR	**Matsushiro Arr**	**33.12**	**260**	P	**P**	**06 29 48.3**	**-0.3**
MJAR				LR	LR	06 42 13.6	
MAT	**Matsushiro**	**33.12**	**260**	P	**P**	**06 29 48.2**	**-0.4**
MAT				S	**S**	**06 35 04.0**	**-0.3**
VLA	**Vladivostok**	**33.26**	**275**	*d i*P	**P**	**06 29 50.0**	**+0.3**
VLA				pmax	pmax		
	comp=Z,169nm,1.7s,mb5.7						
VLA				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.6						
MDJ	**Mudanjiang**	**33.93**	**279**	P	**P**	**06 29 54.1**	**-1.5**
MDJ				XP	sP	06 29 58.5	-16
MDJ				PCP	PcP	06 32 33.0	+0.2
MDJ				S	**S**	**06 35 19.5**	**+2.8**
MDJ				XS	sS	06 35 24.3	-14
MDJ				PCS	PcS	06 36 19.0	+0.2
MDJ				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.0						
MDJ				LR	LR		
	comp=E,1μm,22.8s						
MDJ				LR	LR		
	comp=Z,2μm,22.3s,MS4.8						
JHJ	**Hachijo jima 2**	**34.45**	**254**	LR	LR	06 41 12.0	
	comp=Z,1μm,20.1s,MS4.6,baz=71,slow=31						
C03A	**Quillayute Air**	**35.25**	**73**	⇑P	**P**	**06 30 07.0**	**+0.1**
	baz=35						
YKW3	**Yellowknife Ar**	**35.74**	**46**	*e*P	**P**	**06 30 09.8**	**-1.1**
YKA	**Yellowknife Ar**	**35.76**	**46**	P	**P**	**06 30 10.1**	**-0.9**
	comp=Z,13nm,0.6s,mb5.0,baz=281,slow=9.3,SNR=60						
YKA				PcP	PcP	06 32 37.7	-0.1
	comp=Z,3.1nm,0.8s,baz=294,slow=2.9,SNR=6.0						
YKA				ScP	ScP	06 36 22.7	+3.2
	comp=Z,1.6nm,0.8s,baz=285,slow=3.1,SNR=4.7						
YKA				LR	LR	06 46 26.1	
	comp=Z,985nm,18.9s,MS4.6,baz=160,slow=39						
YKA	**Yellowknife Ar**	**35.76**	**46**	P	**P**	**06 30 10.1**	**-0.9**
YKA						06 32 37.7	
YKA				pmax	pmax		
	comp=Z,13nm,0.6s						
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA				pmax	pmax		
	comp=N,2.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,985nm,18.9s						
YKA	**Yellowknife Ar**	**35.76**	**46**	P	**P**	**06 30 10.2**	**-0.9**
YKA				PcP	PcP	06 32 37.7	-0.1
YKA				ScP	ScP	06 36 22.7	+3.2
YKA				LR	LR	06 46 26.1	
B04A	**Port Angeles**	**35.84**	**73**	⇑P	**P**	**06 30 12.9**	**+1.0**
	baz=36						
NLWA	**Neilton Lookou**	**35.92**	**74**	⇓P	**P**	**06 30 13.3**	**+0.7**
	baz=36						
NLWA	**Neilton Lookou**	**35.92**	**74**	*e*P	**P**	**06 30 13.8**	**+1.1**
	comp=Z,11nm,0.8s,mb4.8						
A04A	**Legoe Bay, Lum**	**36.02**	**71**	⇑P	**P**	**06 30 14.1**	**+0.6**
	baz=36						
D03A	**Wishkah Elem.**	**36.11**	**74**	⇑P	**P**	**06 30 15.3**	**+1.1**
	baz=36						
A05A	**Maple Falls**	**36.26**	**70**	P	**P**	**06 30 15.8**	**+0.2**
	baz=36,SNR=7.7						
C04A	**Brinnon**	**36.31**	**73**	⇓P	**P**	**06 30 16.6**	**+0.6**
	baz=36,SNR=7.9						
GNW	**Green Mountain**	**36.47**	**73**	P	**P**	**06 30 18.2**	**+0.9**
CMW	**Cultus Mountai**	**36.50**	**71**	P	**P**	**06 30 18.4**	**+0.8**
E03A	**Lebam**	**36.51**	**75**	⇓P	**P**	**06 30 18.3**	**+0.7**
	baz=36,SNR=9.6						
A06A	**Chilliwack**	**36.58**	**70**	⇑P	**P**	**06 30 18.0**	**-0.2**
	baz=36						
B05A	**Bryant**	**36.59**	**71**	⇓P	**P**	**06 30 18.9**	**+0.6**
	baz=36,SNR=13						
D04A	**Dobbs Creek Ra**	**36.70**	**74**	⇑P	**P**	**06 30 20.5**	**+1.2**
	baz=37						
JCW	**Jim Creek**	**36.72**	**71**	*e*P	**P**	**06 30 19.7**	**+0.3**
BMW	**Boistfort Moun**	**36.74**	**75**	*e*P	**P**	**06 30 19.9**	**+0.2**
F03A	**Seaside**	**36.81**	**76**	⇑P	**P**	**06 30 21.3**	**+1.0**
	baz=37						
B06A	**Marblemount**	**36.83**	**71**	⇑P	**P**	**06 30 20.6**	**+0.2**
	baz=37						
RPW	**Rockport**	**36.85**	**71**	*e*P	**P**	**06 30 20.5**	**0.0**
CN2	**Changchun**	**36.91**	**280**	*e*P	**P**	**06 30 19.6**	**-1.5**
CN2				*e*XP	sP	06 30 33.3	-6.6
CN2				*e*S	**S**	**06 36 00.5**	**-1.9**
CN2				*e*SS	SS	06 38 29.2	-16
CN2				AMB	AMB		
	comp=Z,30nm,1.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,17.0s,MS5.1						
CN2				LR	LR		
	comp=E,2μm,17.0s,MS5.1						
CN2				LR	LR		
	comp=Z,2μm,18.0s,MS5.0						
E04A	**Onalaska**	**36.99**	**74**	⇓P	**P**	**06 30 23.1**	**+1.3**
	baz=37,SNR=7.1						
C05A	**Tolt Reservoir**	**37.09**	**72**	⇑P	**P**	**06 30 22.7**	**+0.1**
	baz=37,SNR=11						
D05A	**Enumclaw**	**37.15**	**73**	⇑P	**P**	**06 30 23.8**	**+0.7**
	baz=37,SNR=12						
A07A	**Ashnola River,**	**37.24**	**69**	⇑P	**P**	**06 30 24.0**	**+0.1**
	baz=37,SNR=18						
G03A	**Yamhill**	**37.28**	**76**	⇓P	**P**	**06 30 25.0**	**+0.8**
	baz=37						
TDL	**Tradedollar La**	**37.42**	**74**	P	**P**	**06 30 26.0**	**+0.7**
CBIJ	**Chichi jima**	**37.45**	**244**	LR	LR	06 43 08.1	
	comp=Z,1μm,21.5s,MS4.7,baz=1.0,slow=32						
LON	**Longmire**	**37.47**	**74**	*e*P	**P**	**06 30 26.6**	**+0.7**
	comp=Z,9.6nm,0.6s,mb4.8						
BOD	**Bodaibo**	**37.49**	**306**	⇓*i*P	**P**	**06 30 25.0**	**-0.9**
BOD				*e*		06 36 06.9	
BOD				pmax	pmax		
	comp=Z,67nm,1.3s,mb5.3						
F04A	**Amboy**	**37.50**	**75**	P	**P**	**06 30 26.8**	**+0.7**
	baz=37,SNR=12						
E05A	**Randle**	**37.59**	**74**	⇓P	**P**	**06 30 26.9**	**+0.1**
	baz=38,SNR=10						
H03A	**Soap Creek Ran**	**37.60**	**77**	⇑P	**P**	**06 30 28.0**	**+1.0**
	baz=38						
COR	**Corvallis**	**37.64**	**77**	*e*P	**P**	**06 30 28.7**	**+1.4**
COR				pmax	pmax		
	com

baz=38,SNR=14
HBO Huckleberry Mo 38.63 78 P P 06 30 36.8 +1.2
E07A Sunnyside 38.74 73 ⇑P P 06 30 37.0 +0.5
baz=39
L02A Cave Junction 38.75 81 ⇓P P 06 30 36.5 -0.2
baz=39
B09A Rice 38.85 69 P P 06 30 37.6 +0.2
baz=39,SNR=15
SNIWA Snively Ranch 38.90 73 P P 06 30 38.7 +0.8
HUMO Hull Mountain 38.91 80 ⇑P P 06 30 37.8 -0.2
baz=39
HUMO Hull Mountain 38.91 80 eP P 06 30 38.8 +0.9
comp=Z,15nm,0.9s,mb4.7
KRMB Red Mountain 38.91 82 eP P 06 30 38.7 +0.7
A10A Northport 38.93 68 P P 06 30 38.1 +0.1
baz=39,SNR=6.9
RSW Rattlesnake Hi 38.98 73 eP P 06 30 39.3 +0.8
KSRS Korea Array 38.98 270 P P 06 30 39.2 +0.6
comp=Z,16nm,0.9s,mb4.8,baz=59,slow=7.9,SNR=43
KSRS PcP PcP 06 32 47.9 -0.3
comp=Z,3.4nm,1.0s,baz=42,slow=3.2,SNR=5.4
KSRS LR LR 06 44 10.0
comp=Z,2μm,21.9s,MS4.8,baz=42,slow=32
KSRS Korea Array 38.98 270 P P 06 30 39.2 +0.6
KSRS 06 32 47.9
KSRS pmax pmax
comp=Z,16nm,0.9s,mb4.8
KSRS pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
OD2 Odessa Site #2 39.01 71 P P 06 30 38.5 -0.2
HAWA Hanford 39.01 73 eP P 06 30 39.2 +0.4
comp=Z,29nm,0.9s,mb5.0
KS15 Wonju Array Si 39.01 270 eP P 06 30 39.5 +0.7
F07A Phinny Hill Vi 39.02 74 ⇑P P 06 30 39.2 +0.3
baz=39,SNR=12
D08A Wollman Farm, 39.05 72 ⇓P P 06 30 38.7 -0.3
baz=39,SNR=15
C09A Chrisman Ranch 39.07 70 P P 06 30 39.1 -0.1
baz=39,SNR=14
H2OWA Water 39.08 73 P P 06 30 40.0 +0.7
J04A Umpqua Nationa 39.08 79 ⇑P P 06 30 40.1 +0.7
baz=39
I05A Bend 39.11 77 ⇑P P 06 30 40.3 +0.7
baz=39
SNY Shenyang 39.14 279 ⇑P P 06 30 40.0 +0.1
SNY AMB AMB
comp=Z,90nm,1.7s,mb5.2
SNY AMB AMB
comp=Z,663nm,12.0s
SNY LR LR
comp=N,1μm,16.2s,MS5.1
SNY LR LR
comp=E,2μm,19.8s,MS5.1
SNY LR LR
comp=Z,2μm,20.4s,MS4.9
JCC Jacoby Creek 39.24 83 ⇓P P 06 30 41.5 +0.8
baz=39
E08A Dider Farm, El 39.25 72 P P 06 30 41.1 +0.4
baz=39,SNR=5.9
VIPM Ingram Point 39.32 76 P P 06 30 41.9 +0.5
H06A Lindquist Farm 39.38 76 P P 06 30 42.4 +0.5
baz=39,SNR=11
KHMM Horse Mountain 39.39 83 eP P 06 30 43.4 +1.3
D09A Jones Farm, Ri 39.41 71 P P 06 30 42.1 0.0
baz=39,SNR=6.3
EDM Edmonton 39.42 60 eP P 06 30 41.6 -0.5
B10A Chitwood Farm, 39.45 69 ⇓P P 06 30 42.6 +0.2
baz=39
G07A Ruggs Ranch, H 39.50 74 P P 06 30 43.2 +0.3
baz=39,SNR=6.5
NEW Newport 39.52 69 eP P 06 30 42.8 -0.2
NEW pmax pmax
comp=Z,30nm,1.0s
NEW Newport 39.52 69 eP P 06 30 42.8 -0.2
comp=Z,30nm,1.0s,mb5.0
YBH Yreka Blue Hor 39.54 81 eP P 06 30 44.7 +1.4
comp=Z,17nm,0.9s,mb4.8
J05A Fort Rock 39.60 78 ⇑P P 06 30 44.5 +0.8
baz=40,SNR=12
C10A Spilker Farm, 39.63 70 P P 06 30 43.9 0.0
baz=40,SNR=12
A11A Hall Mountain, 39.63 68 P P 06 30 44.5 +0.5
baz=40,SNR=13
M02C Callahan 39.64 81 ⇓P P 06 30 44.8 +0.7
baz=40
N02C Big Bar 39.69 83 ⇑P P 06 30 44.5 +0.1
baz=40
O01C Eel River Cons 39.76 84 ⇑P P 06 30 45.4 +0.3
baz=40
F08A Pendleton 39.77 73 ⇑P P 06 30 45.2 +0.1
baz=40
INCN Inchon 39.77 271 eP P 06 30 44.4 -0.8
E09A Wood Farm, Sta 39.78 72 ⇑P P 06 30 44.7 -0.5
baz=40,SNR=11
L04A Klamath Falls 39.80 80 ⇓P P 06 30 46.1 +0.7
baz=40
I06A Prineville 39.87 76 ⇑P P 06 30 46.1 +0.1
baz=40,SNR=12
B11A Sandpoint 39.88 68 ⇓P P 06 30 45.4 -0.6
baz=40,SNR=6.7
G08A Pilot Rock 39.92 74 ⇑P P 06 30 46.1 -0.2
baz=40,SNR=8.9
H07A Lands Inn, Kim 39.92 75 ⇓P P 06 30 46.1 -0.3
baz=40,SNR=7.4
CIT Chita 40.00 298 eP P 06 30 46.6 -0.3
LNOR Lincton Mounta 40.02 73 eP P 06 30 47.1 -0.1
D10A Wagner Farm, O 40.03 71 P P 06 30 46.8 -0.4
baz=40,SNR=31
M04C Macdoel 40.05 80 ⇑P P 06 30 48.3 +0.8
baz=40,SNR=12
A12A Yaak River Ran 40.06 67 ⇓P P 06 30 47.8 +0.3
baz=40
RES Resolute Bay 40.08 24 P P 06 30 45.1 -2.2
RES Resolute Bay 40.08 24 eP P 06 30 47.6 +0.3
K05A Summer Lake 40.11 78 ⇓P P 06 30 48.9 +1.0
baz=40,SNR=9.6
KIPM Iron Peak 40.16 84 eP P 06 30 48.7 +0.3
M03C McCloud 40.16 81 ⇑P P 06 30 48.6 +0.2
baz=40
I07A Izee 40.23 76 ⇑P P 06 30 49.1 +0.2
baz=40,SNR=24
J06A Christmas Vall 40.28 77 P P 06 30 50.0 +0.7
baz=40,SNR=12
WDC Whiskeytown Da 40.30 82 eP P 06 30 51.5 +1.9
WDC pmax pmax
comp=Z,13nm,0.9s,mb4.7
WDC Whiskeytown Da 40.30 82 ⇓P P 06 30 50.0 +0.4
baz=40
WDC Whiskeytown Da 40.30 82 eP P 06 30 51.5 +1.9
comp=Z,13nm,0.9s,mb4.7
B12A Libby 40.32 68 ⇓P P 06 30 49.8 +0.2
baz=40
F09A S2 Ranch, Elgi 40.33 73 ⇑P P 06 30 49.9 +0.1
baz=40,SNR=6.5
O02C Red Bluff 40.38 83 ⇑P P 06 30 51.3 +1.0
baz=40
E10A Myers Farm, Un 40.41 71 P P 06 30 50.7 +0.3
baz=40,SNR=26
P01C Double 8 Ranch 40.45 84 ⇓P P 06 30 51.2 +0.4
baz=40
K06A Valley Falls 40.47 78 ⇓P P 06 30 51.6 +0.7
baz=40,SNR=10
H08A Prairie City 40.50 75 P P 06 30 51.4 +0.2
baz=40,SNR=10
L05A Lakeview 40.52 79 ⇓P P 06 30 52.3 +0.9
baz=40
D11A Klaveano Farm, 40.59 70 P P 06 30 51.0 -0.8
baz=40,SNR=36
F10A Beach Ranch, E 40.60 72 P P 06 30 52.0 0.0
baz=40,SNR=15
LTIM Timbered Crate 40.61 81 P P 06 30 53.2 +1.0
G09A Cove 40.63 73 ⇑P P 06 30 52.3 0.0
baz=40
M05C Lookout 40.72 80 ⇓P P 06 30 53.5 +0.4
baz=41,SNR=17
J07A Hines 40.73 77 ⇓P P 06 30 53.6 +0.6
baz=41,SNR=14
GASB Alder Springs 40.73 84 ⇑P P 06 30 53.9 +0.8
baz=41
A13A Flathead Natio 40.77 67 ⇑P P 06 30 53.0 -0.3
baz=41
HATC Hat Creek Radi 40.84 81 ⇑P P 06 30 54.7 +0.7
baz=41
I08A Drewsey 40.89 76 P P 06 30 54.9 +0.5
baz=41,SNR=21
MOD Modoc 40.93 79 ⇓P P 06 30 54.6 -0.2
baz=41,SNR=15
MOD Modoc 40.93 79 eP P 06 30 55.4 +0.6
WALA Waterton Lakes 41.00 66 eP P 06 30 54.9 -0.3
comp=Z,32nm,1.0s,mb4.9
E11A Bogner Ranch, 41.01 71 P P 06 30 54.5 -0.8
baz=41,SNR=14
B13A Whitefish 41.02 67 P P 06 30 55.6 +0.2
baz=41,SNR=8.8
G10A Bishop Farm, J 41.02 73 P P 06 30 55.6 +0.1
baz=41,SNR=45
H09A Durkee 41.03 74 ⇑P P 06 30 55.7 +0.2
baz=41,SNR=7.5
K07A Rock Creek Ran 41.14 78 P P 06 30 57.3 +0.8
baz=41,SNR=23
BMO Blue Mountains 41.15 74 eP P 06 30 56.6 +0.1
comp=Z,6.6nm,0.7s,mb4.4
D12A Red Ives Fores 41.16 70 ⇓P P 06 30 55.7 -0.9
baz=41
M06C Likely Place G 41.22 80 ⇓P P 06 30 57.6 +0.4
baz=41,SNR=9.8
J08A Circle Bar Ran 41.25 76 P P 06 30 57.8 +0.5
baz=41,SNR=20
F11A Grangeville 41.29 72 ⇑P P 06 30 57.0 -0.6
baz=41,SNR=9.8
C13A Hot Springs 41.30 68 P P 06 30 57.5 -0.2
baz=41,SNR=17
I09A Lost Marbles R 41.36 75 ⇓P P 06 30 58.1 -0.2
baz=41
O04C Chester 41.36 82 ⇑P P 06 30 58.4 +0.2
baz=41,SNR=12
ELFS Eagle Lake Fie 41.41 81 ⇑P P 06 30 59.1 +0.4
baz=41
L07A Adell 41.46 78 P P 06 31 00.1 +1.0
baz=41,SNR=12
NSHM Saint Helena R 41.48 85 eP P 06 30 59.3 0.0
G11A Walters Elk Ra 41.48 72 P P 06 30 58.8 -0.4
baz=41,SNR=14
MCCM Marconi Confer 41.53 86 ⇓P P 06 30 59.7 0.0
baz=41
ORV Oroville 41.55 83 ⇓P P 06 30 59.4 -0.5
baz=42
SUTB Sutter Butte 41.56 83 ⇑P P 06 30 59.1 -0.8
baz=42
K08A Mann Creek Ran 41.59 77 P P 06 31 00.6 +0.4
baz=42,SNR=16
H10A Noah's Angus R 41.62 74 P P 06 31 00.5 +0.1
baz=42,SNR=27
WVOR Wild Horse Val 41.66 77 eP P 06 31 00.8 +0.1
WVOR pmax pmax
comp=Z,23nm,0.8s,mb4.9
WVOR Wild Horse Val 41.66 77 eP P 06 31 00.8 +0.1
comp=Z,24nm,0.8s,mb4.9
D13A Huson 41.67 69 P P 06 31 00.1 -0.6
baz=42,SNR=15
O05C Quincy 41.67 82 ⇓P P 06 31 00.9 0.0
baz=42
CVS Carmenet Viney 41.67 85 ⇑P P 06 31 00.2 -0.7
baz=42
OHCM Honcut 41.69 83 eP P 06 31 01.0 0.0
J09A Fry Pan Ranch, 41.69 76 ⇑P P 06 31 01.0 +0.1
baz=42,SNR=17
FARB Farallon Islan 41.73 86 ⇑P P 06 31 01.5 +0.1
baz=42
C14A Swan Lake 41.74 68 ⇓P P 06 31 01.1 -0.2
baz=42
I10A Payette 41.86 74 ⇓P P 06 31 02.7 +0.3
baz=42,SNR=13
N06A Buffalo Meadow 41.88 80 P P 06 31 03.2 +0.7
baz=42,SNR=20
F12A Elk City 41.89 71 ⇓P P 06 31 02.6 0.0
baz=42,SNR=63
M07A Soldier Meadow 41.92 79 P P 06 31 03.6 +0.7
baz=42,SNR=42
L08A Fields 41.98 78 ⇓P P 06 31 03.5 +0.2
baz=42,SNR=11
H11A Donnelly 42.00 73 P P 06 31 03.4 -0.1
baz=42,SNR=24
K09A Rome 42.07 77 P P 06 31 04.2 +0.2
baz=42,SNR=11
BEKR Beckwourth 42.07 82 ⇑P P 06 31 04.3 +0.2
baz=42
MSO Missoula 42.11 69 eP P 06 31 03.8 -0.5
comp=Z,18nm,0.8s,mb4.8
E13A Victor 42.16 70 P P 06 31 04.3 -0.5
baz=42,SNR=42
O06A Flanigan 42.23 81 ⇓P P 06 31 04.9 -0.5
baz=42,SNR=9.1
D14A Greenough 42.23 69 P P 06 31 04.8 -0.5
baz=42,SNR=74
J10A Berg Farm, Mel 42.25 75 ⇑P P 06 31 05.3 -0.2
baz=42,SNR=7.3
P05C Yuba Gap, Truc 42.25 83 ⇑P P 06 31 05.8 +0.2
baz=42
M08A Happy Creek Ra 42.38 78 ⇓P P 06 31 06.4 -0.2
baz=42,SNR=19
JRSC Jasper Ridge 42.39 86 ⇓P P 06 31 05.9 -0.8
baz=42
N07B Gerlach 42.40 80 ⇓P P 06 31 06.8 0.0
baz=42,SNR=18
CHMT Chamberlain Mo 42.47 69 eP P 06 31 06.6 -0.7
I11A Placerville 42.47 74 P P 06 31 07.2 -0.1
baz=42,SNR=28
P06A Stead Airport, 42.47 82 ⇑P P 06 31 07.8 +0.4
baz=42
L09A Wilkinson Ranc 42.49 77 ⇑P P 06 31 07.3 -0.2
baz=42,SNR=8.9
LAVA Lava Cap Winer 42.50 83 ⇑P P 06 31 07.3 -0.3
baz=42
K10A MacKenzie Ranc 42.55 76 P P 06 31 08.3 +0.4
baz=42,SNR=37
E14A Clinton 42.59 69 ⇑P P 06 31 07.6 -0.6
baz=42,SNR=31
BNLO Ben Lomond (Sa 42.60 86 ⇑P P 06 31 07.8 -0.6
baz=42
PAHR Pah Rah Range 42.77 81 eP P 06 31 10.3 +0.5
comp=Z,58nm,1.4s,mb5.1
H12A Diamond D Ranc 42.78 73 P P 06 31 09.4 -0.4
baz=43,SNR=15
WCN Washoe City 42.78 82 ⇓P P 06 31 09.9 0.0
baz=43,SNR=8.3
O07A Toulon 42.82 80 ⇑P P 06 31 10.5 +0.3
baz=43,SNR=19
MFID Camas Ranch 42.82 75 P P 06 31 10.1 -0.1
baz=43,SNR=11
D15A Lincoln 42.83 68 P P 06 31 09.7 -0.4
baz=43,SNR=28
G13A Cobalt 42.86 72 P P 06 31 10.3 -0.1
baz=43,SNR=42
N08A GE Springer Mi 42.91 79 ⇓P P 06 31 11.1 +0.2
baz=43
R05C Kirkwood Meado 42.95 83 ⇓P P 06 31 11.5 +0.3
baz=43
M09A Marrel Ranch, 42.96 78 ⇑P P 06 31 11.5 +0.2
baz=43,SNR=6.3
F14A Wisdom 42.98 70 P P 06 31 11.4 0.0
baz=43,SNR=13
K11A Parker Ranch, 43.06 75 P P 06 31 12.4 +0.3
baz=43,SNR=15
E15A Deer Lodge 43.08 69 P P 06 31 11.7 -0.5
baz=43,SNR=43
H13A Challis 43.13 72 P P 06 31 12.3 -0.3
baz=43,SNR=14
CMB Columbia Colle 43.16 84 eP P 06 31 13.5 +0.6
CMB pmax pmax
comp=Z,120nm,2.5s,mb5.2
CMB Columbia Colle 43.16 84 ⇑P P 06 31 13.0 0.0
baz=43
CMB Columbia Colle 43.16 84 eP P 06 31 13.5 +0.6
comp=Z,5.0nm,0.7s,mb4.3
P07A Fallon 43.18 81 ⇓P P 06 31 13.5 +0.4
baz=43
L10A Juniper Basin 43.19 77 P P 06 31 13.3 +0.2
baz=43,SNR=15
PACP Pacheco Peak 43.23 86 ⇓P P 06 31 13.2 -0.4
baz=43
G14A Jackson 43.23 71 ⇑P P 06 31 13.2 -0.3
baz=43
N09A Rock Creek Ran 43.25 79 P P 06 31 13.9 +0.3
baz=43,SNR=11
SAO San Andreas Ge 43.28 86 eP P 06 31 18.8 +4.9
HRY Holter Researc 43.40 68 eP P 06 31 14.4 -0.4
R06C Coleville 43.44 83 ⇑P P 06 31 15.5 +0.3
baz=43
HAST Hastings Reser 43.45 87 ⇑P P 06 31 15.1 -0.2
baz=43
M10A I.L. Ranch, Tu 43.46 77 ⇓P P 06 31 15.4 +0.1
baz=43,SNR=16
F15A Butte 43.48 70 ⇓P P 06 31 14.8 -0.6
baz=43,SNR=14
LRM Limekiln Ridge 43.52 70 eP P 06 31 15.3 -0.5
L11A Cat Creek Ranc 43.57 76 P P 06 31 16.6 +0.4
baz=44,SNR=30
I13A Wildhorse Cree 43.57 73 P P 06 31 16.4 +0.2
baz=44,SNR=40
S06C San Francisco 43.59 84 P P 06 31 16.6 +0.2
baz=44,SNR=22
HLID Hailey 43.59 74 P P 06 31 16.5 +0.2
baz=44,SNR=40
HLID Hailey 43.59 74 eP P 06 31 16.4 +0.1
S05C Merced 43.62 85 ⇑P P 06 31 16.3 -0.4
baz=44
DLMT Dillon 43.68 70 eP P 06 31 16.6 -0.5
comp=Z,44nm,1.4s,mb5.0
BMN Battle Mountai 43.68 79 P P 06 31 17.8 +0.7
BMN pmax pmax
comp=Z,13nm,0.7s,mb4.8
BMN Battle Mountai 43.68 79 eP P 06 31 17.9 +0.8
comp=Z,7.1nm,0.6s,mb4.6
K12A Draper Farm, C 43.82 75 P P 06 31 18.6 +0.4
baz=44,SNR=24
MCMT McKenzie Canyo 43.82 71 eP P 06 31 18.2 0.0
J13A Cove Ranch, Pi 43.83 74 P P 06 31 18.6 +0.4
baz=44,SNR=19
G15A Dillon 43.85 70 P P 06 31 17.9 -0.5
baz=44,SNR=53
O09A Fish Creek Ran 43.86 79 P P 06 31 19.2 +0.7
baz=44,SNR=15
V03C Hunter Liggett 43.88 87 ⇑P P 06 31 18.5 -0.2
baz=44
EGMT Eagleton 43.91 66 ⇓P P 06 31 17.7 -1.1
baz=44,SNR=17
EGMT Eagleton 43.91 66 eP P 06 31 18.4 -0.5
comp=Z,36nm,0.9s,mb5.1
U04C Hernandez Rese 43.95 86 ⇑P P 06 31 19.5 +0.1
baz=44
N10A Dunphy 43.95 78 ⇑P P 06 31 19.5 +0.2
baz=44
R07C Lee Vining 43.96 83 ⇓P P 06 31 20.0 +0.6
baz=44
M11A Holland Ranch, 43.97 77 ⇓P P 06 31 19.9 +0.4
baz=44,SNR=15
L12A House Creek Ra 44.03 76 P P 06 31 20.5 +0.6
baz=44,SNR=56
BOZ Bozeman (W) 44.09 69 eP P 06 31 20.1 -0.3
BOZ pmax pmax
comp=Z,44nm,0.8s,mb5.2
BOZ Bozeman (W) 44.09 69 P P 06 31 20.3 -0.1
baz=44,SNR=136
BOZ Bozeman (W) 44.09 69 eP P 06 31 20.1 -0.2
comp=Z,44nm,0.8s,mb5.2
Q08A Gabbs 44.18 81 P P 06 31 21.4 +0.2
baz=44,SNR=11
O10A Cortez Mining, 44.21 79 ⇑P P 06 31 21.9 +0.5
baz=44
NVAR Mina Array Bea 44.21 82 P P 06 31 22.0 +0.6
comp=Z,3.3nm,0.8s,mb4.1,baz=290,slow=7.7,SNR=27
T06C Millerton Lake 44.22 85 P P 06 31 21.2 -0.2
baz=44,SNR=11
P09A Austin 44.26 80 ⇓P P 06 31 22.1 +0.4
baz=44,SNR=6.4
KCC Kaiser Creek 44.26 84 P P 06 31 22.0 +0.2
baz=44,SNR=13
K13A Stover Farm, H 44.31 74 ⇑P P 06 31 22.2 +0.1
baz=44
V04C Ramage Ranch, 44.35 87 ⇑P P 06 31 22.8 +0.3
baz=44
PKD Parkfield 44.36 86 ⇑P P 06 31 22.7 0.0
baz=44
N11A Elko Archery C 44.37 78 ⇑P P 06 31 22.7 0.0
baz=44
MLAC Mammoth Lakes 44.37 83 ⇑P P 06 31 23.2 +0.5
baz=44
U05C Westside ANR, 44.38 86 ⇓P P 06 31 22.7 -0.1
baz=44
M12A Wells 44.52 76 ⇓P P 06 31 23.9 +0.1
baz=44,SNR=19
P10A Eureka 44.63 79 P P 06 31 25.2 +0.4
baz=44,SNR=10
Q09A Carvers 44.66 81 ⇓P P 06 31 25.4 +0.4
baz=45
QLMT Earthquake Lak 44.66 70 eP P 06 31 24.8 -0.1
ELK Elko 44.71 77 P P 06 31 25.7 +0.3
ELK pmax pmax
comp=Z,17nm,0.8s
ELK Elko 44.71 77 eP P 06 31 25.6 +0.3
comp=Z,11nm,0.7s,mb4.8
MTUM Tungsten Hills 44.71 83 eP P 06 31 26.1 +0.7
L13A Double Diamond 44.72 75 P P 06 31 26.0 +0.6
baz=45,SNR=18
PTRM Twissleman Ran 44.75 86 eP P 06 31 25.9 +0.1
BJT Baijiatuau 44.76 281 eP P 06 31 26.0 +0.2
BJT pmax pmax
comp=Z,32nm,0.8s
BJT Baijiatuau 44.76 281 eP P 06 31 26.0 +0.2
comp=Z,32nm,0.8s,mb5.2
N12A Clover Valley, 44.77 77 P P 06 31 26.3 +0.4
baz=45,SNR=22
O11A Cowboy Ranch, 44.82 78 P P 06 31 26.6 +0.4
baz=45,SNR=10.0
HELL Mitchell Peak 44.85 84 P P 06 31 26.1 -0.4
baz=45,SNR=19
S08C White Mtn Res 44.87 83 P P 06 31 27.2 +0.6
baz=45,SNR=19
K14A Jones Ranch, D 44.92 74 ⇓P P 06 31 27.2 +0.2
baz=45
IRK Irkutsk 44.92 302 ⇑iP P 06 31 26.5 -0.4
IRK pmax pmax
comp=Z,77nm,1.7s,mb5.3
YMR Madison River 45.03 70 eP P 06 31 28.1 +0.3
comp=Z,56nm,0.9s,mb5.4
R09A Tonopah 45.09 81 ⇓P P 06 31 28.0 -0.5
baz=45,SNR=45
TPH Tonopah 45.10 82 P P 06 31 29.0 +0.5
TPH pmax pmax
comp=Z,21nm,0.9s,mb5.0
TPH Tonopah 45.10 82 eP P 06 31 29.1 +0.6
comp=Z,21nm,0.8s,mb5.0
SMMC Simmler 45.11 87 ⇓P P 06 31 28.5 -0.1
baz=45
P11A Circle Ranch, 45.11 79 ⇑P P 06 31 28.5 -0.1
baz=45,SNR=9.8
GCMT Greycliff 45.16 68 eP P 06 31 29.1 +0.3
YNR Norris Junctio 45.17 70 eP P 06 31 30.0 +1.1
L14A Malta 45.17 75 ⇑P P 06 31 29.0 -0.1
baz=45,SNR=28
YFT Old Faithful 45.23 70 eP P 06 31 31.0 +1.6
N13A Wendover, West 45.28 77 ⇓P P 06 31 30.1 +0.2
baz=45
O12A Currie 45.30 78 P P 06 31 30.1 +0.1
baz=45,SNR=32
S09A Goldfield 45.32 82 P P 06 31 30.2 0.0
baz=45,SNR=17
VES Vestal, Richgr 45.34 85 ⇑P P 06 31 29.4 -1.0
baz=45,SNR=8.1
LKWY Lake 45.42 70 eP P 06 31 32.2 +1.3
LKWY pmax pmax
comp=Z,32nm,0.9s,mb5.2
LKWY Lake 45.42 70 eP P 06 31 32.2 +1.3
comp=Z,32nm,0.8s,mb5.2
M14A Sheep Mountain 45.42 75 P P 06 31 31.4 +0.4
baz=45,SNR=12
IMW Indian Meadow 45.48 71 eP P 06 31 31.8 +0.4
comp=Z,25nm,0.9s,mb5.0
PKM Peak Mountain 45.49 87 ⇓P P 06 31 31.8 +0.2
baz=45
FLWY Flagg Ranch 45.52 71 eP P 06 31 32.4 +0.7
comp=Z,48nm,0.9s,mb5.4
R10A Warm Springs 45.54 81 ⇓P P 06 31 31.8 -0.2
baz=45,SNR=15
TLY Talaya 45.55 302 P P 06 31 32.1 +0.3
comp=Z,246nm,0.8s,mb6.2,SNR=12
TLY Talaya 45.55 302 eP P 06 31 32.0 +0.2
TLY pmax pmax
comp=Z,41nm,0.9s,mb5.4
TLY MLR MLR
comp=Z,2μm,19.0s,MS5.1
TLY Talaya 45.55 302 eP P 06 31 32.3 +0.5
comp=Z,33nm,0.8s,mb5.3
TLY ePcP PcP 06 33 09.8 +0.1
RRI2 Red Ridge 45.57 72 eP P 06 31 32.6 +0.5
S10A Tonopah Range, 45.59 81 ⇓P P 06 31 32.2 -0.1
baz=46,SNR=23
CWC Cottonwood Cre 45.59 84 ⇑P P 06 31 32.4 0.0
baz=46
Q11A Duckwater 45.60 80 P P 06 31 32.5 0.0
baz=46,SNR=18

HVU	Hansel Valley	45.60	75	eP		P	06 31 33.1 +0.7
GRAC	Grapevine Rang	45.68	83	⇓P		P	06 31 33.0 -0.1
	baz=46						
P12A	McGill	45.68	79	⇑P		P	06 31 32.8 -0.2
	baz=46,SNR=18						
MOOW	Moose Ponds	45.68	71	eP		P	06 31 33.1 +0.1
	comp=Z,7.5nm,0.9s,mb4.6						
K16A	Soda Springs	45.70	73	⇑P		P	06 31 33.8 +0.6
	baz=46,SNR=9.7						
TPAW	Teton Pass	45.71	72	eP		P	06 31 33.7 +0.5
	comp=Z,4.8nm,0.6s,mb4.6						
L15A	Malad City	45.71	74	⇓P		P	06 31 33.3 +0.1
	baz=46						
RLMT	Red Lodge	45.77	69	eP		P	06 31 33.8 +0.1
	comp=Z,58nm,0.8s,mb5.6						
ISA	Isabella	45.84	85	P		P	06 31 33.9 -0.5
	baz=46,SNR=7.6						
ISA	Isabella	45.84	85	eP		P	06 31 33.8 -0.6
	comp=Z,10nm,0.9s,mb4.8						
REDW	Red Top Meadow	45.84	72	eP		P	06 31 34.6 +0.3
	comp=Z,44nm,1.4s,mb5.2						
SNOW	Snow King Moun	45.84	71	eP		P	06 31 34.7 +0.4
	comp=Z,18nm,0.8s,mb5.0						
LOHW	Long Hollow	45.84	71	eP		P	06 31 34.4 +0.2
	comp=Z,8.2nm,0.7s,mb4.8						
SBC	Santa Barbara	45.85	87	⇓P		P	06 31 34.1 -0.4
	baz=46						
O13A	Hicks Ranch, I	45.85	77	⇓P		P	06 31 34.4 0.0
	baz=46						
N14A	Grayback Hills	45.90	76	⇑P		P	06 31 34.7 -0.1
	baz=46,SNR=9.3						
JOW	Kunigami	45.91	258	P		P	06 31 34.6 -0.4
	comp=Z,15nm,0.8s,mb5.0,baz=101,slow=12,SNR=3.8						
R11A	Troy Canyon, C	45.95	80	P		P	06 31 34.9 -0.3
	baz=46,SNR=24						
BGU	Big Grassy Mou	45.96	76	eP		P	06 31 35.5 +0.3
ARVC	Arvin	45.96	86	⇑P		P	06 31 34.7 -0.6
	baz=46						
M15A	Larsen Ranch,	45.99	75	⇓P		P	06 31 35.6 +0.2
	baz=46						
Q12A	Willow Creek R	45.99	79	⇓P		P	06 31 35.7 +0.2
	baz=46,SNR=7.8						
AHID	Auburn Hatcher	46.04	72	eP		P	06 31 36.3 +0.5
	comp=Z,14nm,0.7s,mb5.0						
SONM	Songino Array	46.09	296	P		P	06 31 37.2 +1.0
	comp=Z,18nm,0.8s,mb5.1,baz=57,slow=9.6,SNR=73						
SONM				PcP		PcP	06 33 11.7 +0.1
	comp=Z,5.2nm,0.6s,baz=80,slow=2.2,SNR=5.0						
SONM				ScP		ScP	06 37 03.4 +3.0
	comp=Z,1.2nm,0.9s,baz=64,slow=4.1,SNR=4.0						
SONM				LR		LR	06 52 23.3
	comp=Z,5μm,18.6s,MS5.5,baz=53,slow=38						
SONM	Songino Array	46.09	296	P		P	06 31 37.2 +1.0
SONM							06 33 11.7
SONM				pmax		pmax	
	comp=Z,18nm,0.8s						
SONM				pmax		pmax	
	comp=Z,5.0nm,0.6s						
SONM				pmax		pmax	
	comp=N,1.0nm,0.9s						
SONM				MLR		MLR	
	comp=Z,5μm,18.6s						
MPMC	Manual Prospec	46.20	84	P		P	06 31 37.0 -0.2
	baz=46,SNR=12						
P13A	Bates Ranch, G	46.24	78	P		P	06 31 37.5 +0.1
	baz=46,SNR=25						
L16A	Fish Haven	46.28	74	⇑P		P	06 31 37.9 +0.2
	baz=46,SNR=11						
S11A	Rachel	46.28	81	P		P	06 31 38.1 +0.3
	baz=46,SNR=10						
N15A	Stansbury Isla	46.29	75	⇓P		P	06 31 38.0 +0.2
	baz=46						
FURC	Furnace Creek,	46.33	83	P		P	06 31 38.2 0.0
	baz=46,SNR=24						
OSI	Osito Adit	46.35	86	⇑P		P	06 31 38.3 -0.1
	baz=46						
TPNV	Topopah Spring	46.41	82	eP		P	06 31 38.1 -0.7
TPNV				pmax		pmax	
	comp=Z,39nm,1.0s,mb5.3						
TPNV	Topopah Spring	46.41	82	P		P	06 31 38.6 -0.2
	baz=46,SNR=28						
TPNV	Topopah Spring	46.41	82	eP		P	06 31 39.0 +0.2
	comp=Z,39nm,1.0s,mb5.3						
ZAK	Zakamensk	46.43	301	⇑iP		P	06 31 39.7 +0.9
ZAK				pmax		pmax	
	comp=Z,32nm,1.4s,mb5.1						
BLG	Laguna Peak	46.47	87	⇑P		P	06 31 38.5 -0.8
	baz=46						
TIA	Tai'an	46.52	277	⇑P		P	06 31 39.5 -0.2
TIA				AMB		AMB	
	comp=Z,52nm,1.0s,mb5.4						
DUG	Dugway	46.53	76	P		P	06 31 39.7 0.0
DUG				pmax		pmax	
	comp=Z,49nm,1.0s,mb5.4						
DUG	Dugway	46.53	76	P		P	06 31 39.9 +0.3
	baz=46,SNR=45						
DUG	Dugway	46.53	76	eP		P	06 31 39.9 +0.2
	comp=Z,52nm,1.0s,mb5.4						
Q13A	Wheeler Ranch,	46.54	79	⇓P		P	06 31 39.9 0.0
	baz=46,SNR=22						
R12A	Pony Springs,	46.57	80	⇑P		P	06 31 39.6 -0.5
	baz=46						
M16A	Huntsville	46.57	74	P		P	06 31 40.1 +0.1
	baz=46,SNR=22						
EDW2	Edwards Air Fo	46.64	86	P		P	06 31 40.2 -0.5
	baz=46,SNR=6.5						
LAO	LASA Array	46.65	65	eP		P	06 31 40.3 -0.2
	comp=Z,46nm,1.1s,mb5.3						
NOQ	North Oquirrh	46.67	75	eP		P	06 31 41.5 +0.6
O15A	The Old Anders	46.68	76	⇑P		P	06 31 41.0 0.0
	baz=47						
U10A	Ash Meadows, A	46.69	83	⇑P		P	06 31 41.1 0.0
	baz=47,SNR=11						
P14A	Drum Mountains	46.74	77	P		P	06 31 41.5 +0.1
	baz=47,SNR=25						
DGMT	Dagmar	46.80	62	eP		P	06 31 41.1 -0.6
	comp=Z,47nm,1.6s,mb5.2						
S12A	Delamar Landin	46.86	81	⇑P		P	06 31 42.4 0.0
	baz=47						
T11A	Corn Creek, Al	46.86	81	P		P	06 31 42.2 -0.1
	baz=47,SNR=46						
CTU	Camp Tracy	46.87	75	eP		P	06 31 43.5 +1.1
	comp=Z,30nm,1.0s,mb5.2						
N16A	Rees Ranch, Co	46.95	75	⇓P		P	06 31 43.1 +0.2
	baz=47						
BW06	Boulder Array	46.96	72	eP		P	06 31 42.8 -0.3
	comp=Z,30nm,0.8s,mb5.3						
PDAR	Pinedale Array	46.96	72	P		P	06 31 42.8 -0.2
	comp=Z,24nm,0.8s,mb5.2,baz=310,slow=3.8,SNR=182						
PDAR				LR		LR	06 50 41.5
	comp=Z,730nm,19.1s,MS4.7,baz=326,slow=35						
Q14A	Sevier Lake (B	46.98	78	P		P	06 31 43.4 +0.1
	baz=47,SNR=46						
MWC	Mount Wilson	47.03	86	eP		P	06 31 43.6 -0.1
MWC				pmax		pmax	
	comp=Z,17nm,0.9s,mb5.0						
MWC	Mount Wilson	47.03	86	eP		P	06 31 43.6 -0.1
	comp=Z,17nm,0.9s,mb5.0						
R13A	O'Grain Ranch,	47.05	79	P		P	06 31 43.9 +0.1
	baz=47,SNR=21						
SHOC	Shoshone	47.05	83	P		P	06 31 44.0 +0.1
	baz=47,SNR=14						
HHC	Hu-ho-hao-te	47.07	285	eP		P	06 31 43.9 -0.1
HHC				XP		sP	06 31 49.4 -14
HHC				PP		PP	06 33 34.1 -0.7
HHC				PCS		PcS	06 37 10.5 +0.2
HHC				S		S	06 38 33.8 +1.5
HHC				SCS		ScS	06 41 35.7 +2.2
HHC				SS		SS	06 41 52.4 -6.9
HHC				AMB		AMB	
	comp=Z,57nm,1.1s,mb5.4						
HHC				AMB		AMB	
	comp=Z,835nm,5.1s						
HHC				LR		LR	
	comp=N,1μm,19.0s,MS5.1						
HHC				LR		LR	
	comp=E,2μm,15.5s,MS5.1						
HHC				LR		LR	
	comp=Z,1μm,20.2s,MS4.9						
JLU	Jordanelle	47.11	75	eP		P	06 31 44.9 +0.6
GSC	Goldstone	47.11	84	eP		P	06 31 43.8 -0.5
GSC				pmax		pmax	
	comp=Z,18nm,0.8s,mb5.0						
GSC	Goldstone	47.11	84	P		P	06 31 43.9 -0.4
	baz=47,SNR=20						
GSC	Goldstone	47.11	84	eP		P	06 31 43.8 -0.5
	comp=Z,18nm,0.8s,mb5.1						
NLU	North Lily Min	47.12	76	eP		P	06 31 44.9 +0.5
GUMO	Guam	47.16	230	LR		LR	06 51 58.3
	comp=Z,763nm,18.8s,MS4.7,baz=52,slow=37						
P15A	Leamington	47.23	77	P		P	06 31 45.3 +0.1
	baz=47,SNR=9.7						
BFSC	Mount Baldy St	47.27	86	⇓P		P	06 31 45.2 -0.3
	baz=47						
N17A	Moffit Pass	47.28	74	P		P	06 31 45.4 -0.1
	baz=47,SNR=15						
O16A	Springville	47.32	76	P		P	06 31 46.7 +0.8
	baz=47,SNR=13						
DAU	Daniels Canyon	47.34	75	P		P	06 31 46.6 +0.5
DAU	Daniels Canyon	47.34	75	eP		P	06 31 46.7 +0.6
MPU	Maple Canyon	47.35	76	eP		P	06 31 46.6 +0.5
	comp=Z,8.0nm,0.7s,mb4.8						
SHPR	Sheep Range	47.37	82	eP		P	06 31 46.4 +0.1
S13A	Holt Ranch, En	47.49	80	P		P	06 31 47.3 0.0
	baz=47,SNR=22						
T12A	Moapa	47.50	81	⇓P		P	06 31 47.0 -0.3
	baz=47						
Q15A	Fillmore	47.52	77	P		P	06 31 47.7 +0.2
	baz=47,SNR=9.3						
R14A	James Farms, M	47.56	79	⇓P		P	06 31 47.8 0.0
	baz=48						
TUQ	Turquoise Mtn.	47.58	84	⇓P		P	06 31 47.5 -0.5
	baz=48						
P16A	Fountain Green	47.59	76	⇓P		P	06 31 48.2 +0.3
	baz=48						
ARUT	Antelope Range	47.62	79	eP		P	06 31 47.9 -0.4
V11A	Goodsprings	47.62	83	⇓P		P	06 31 48.0 -0.3
	baz=48						
HEC	Hector,Ludlow	47.71	84	⇓P		P	06 31 48.4 -0.6
	baz=48						
U12A	Valley of Fire	47.80	82	P		P	06 31 49.7 0.0
	baz=48,SNR=13						
S14A	Cedar City	47.81	79	P		P	06 31 50.1 +0.4
	baz=48,SNR=8.3						
T13A	Saint George	47.82	81	⇓P		P	06 31 49.7 -0.1
	baz=48,SNR=17						
CCUT	Cedar City	47.82	80	eP		P	06 31 53.8 +4.0
MSU	Marysvale	47.95	78	eP		P	06 31 51.2 +0.4
MSU				e			06 33 20.2
MURC	Murrieta	47.97	86	⇓P		P	06 31 50.3 -0.7
	baz=48						
TMUT	Trail Mountain	48.05	76	eP		P	06 31 52.5 +0.9
V12A	Nelson	48.06	82	P		P	06 31 51.5 -0.2
	baz=48,SNR=6.6						
R15A	Junction	48.07	78	⇓P		P	06 31 51.8 0.0
	baz=48,SNR=15						
NJ2	Nanjing	48.16	271	eP		P	06 31 52.9 +0.4
NJ2				AP		pP	06 31 56.8 -9.0
NJ2				XP		sP	06 31 59.4 -12
NJ2				PP		PP	06 33 43.9 -1.0
NJ2				S		S	06 38 48.5 +0.7
NJ2				XS		sS	06 38 56.0 -14
NJ2				AMB		AMB	
	comp=Z,30nm,1.0s,mb5.3						
NJ2				AMB		AMB	
	comp=Z,300nm,8.1s						
NJ2				LR		LR	
	comp=N,690nm,20.6s,MS4.8						
NJ2				LR		LR	
	comp=E,950nm,20.8s,MS4.8						
NJ2				LR		LR	
	comp=Z,940nm,20.9s,MS4.8						
GMRC	Granite Mounta	48.16	84	⇓P		P	06 31 51.9 -0.6
	baz=48						
U13A	Pakoon Wash	48.16	81	P		P	06 31 52.6 +0.1
	baz=48,SNR=18						
T14A	Hurricane	48.30	80	P		P	06 31 53.8 +0.2
	baz=48,SNR=25						
Q16A	Castle Valley	48.31	77	P		P	06 31 54.0 +0.4
	baz=48,SNR=8.9						
LDFC	Landfair	48.31	83	eP		P	06 31 53.2 -0.4
	comp=Z,25nm,0.9s,mb5.2						
W12A	Cal Nev Ari	48.32	83	⇑P		P	06 31 53.0 -0.7
	baz=48						
S15A	Panguitch	48.36	79	⇑P		P	06 31 54.1 +0.2
	baz=48						
PFO	Pinyon Flat Ob	48.43	86	eP		P	06 31 54.3 -0.3
PFO				pmax		pmax	
	comp=Z,63nm,2.0s,mb5.3						
PFO	Pinyon Flat Ob	48.43	86	P		P	06 31 54.3 -0.3
	baz=48,SNR=6.4						
PFO	Pinyon Flat Ob	48.43	86	eP		P	06 31 54.3 -0.3
	comp=Z,9.9nm,1.0s,mb4.8						
BELC	Belle Mtn.	48.46	85	P		P	06 31 54.3 -0.5
	baz=48,SNR=7.0						
109C	Camp Elliot, M	48.50	87	⇓P		P	06 31 54.7 -0.5
	baz=48						
V13A	Grand Canyon W	48.51	82	P		P	06 31 55.2 +0.1
	baz=48,SNR=11						
SRU	San Rafael	48.59	76	P		P	06 31 55.7 0.0
SRU				pmax		pmax	
	comp=Z,16nm,0.8s,mb5.1						
SRU	San Rafael	48.59	76	P		P	06 31 55.7 0.0
	baz=48,SNR=26						
SRU	San Rafael	48.59	76	eP		P	06 31 56.3 +0.6
	comp=Z,22nm,1.0s,mb5.1						
KRAR	Krasnoyarsk	48.64	312	⇓eP		P	06 31 56.3 +0.5
KRAR				pmax		pmax	
	comp=Z,25nm,0.3s,mb5.7						
KRAR				MLR		MLR	
	comp=Z,1μm,16.0s,MS5.0						
U14A	Mt Trumbull	48.65	81	P		P	06 31 56.5 +0.3
	baz=48,SNR=9.5						
T15A	Red Dirt Ranch	48.76	79	P		P	06 31 57.2 +0.1
	baz=49,SNR=30						
Q18A	Rafter H Ranch	48.83	76	P		P	06 31 57.2 -0.3
	baz=49,SNR=18						
IRM	Iron Mountain	48.89	84	P		P	06 31 57.5 -0.5
	baz=49,SNR=8.3						
R17A	Hanksville Air	48.90	77	P		P	06 31 57.9 -0.2
	baz=49,SNR=20						
BAR	Barrett	48.91	87	eP		P	06 31 58.1 -0.2
	comp=Z,13nm,0.9s,mb5.0						
MONP	Monument Peak	48.93	86	P		P	06 31 58.0 -0.5
	baz=49,SNR=10						
RWWY	Rawlins	49.00	71	eP		P	06 31 58.7 -0.1
	comp=Z,14nm,0.8s,mb5.1						
BC3	Big Chuckw Mtn	49.03	85	⇓P		P	06 31 58.5 -0.7
	baz=49						
W13A	Hualapai Mount	49.06	82	P		P	06 31 59.0 -0.3
	baz=49,SNR=16						
U15A	North Rim	49.19	80	P		P	06 32 00.6 +0.2
	baz=49,SNR=36						
V14A	Boquillas Ranc	49.20	81	P		P	06 32 00.5 0.0
	baz=49,SNR=10.0						
DVTC	Desert V Tower	49.29	86	P		P	06 32 01.1 0.0
	baz=49,SNR=5.1						
SWSC	Sam W. Stewart	49.29	86	⇓P		P	06 32 00.4 -0.7
	baz=49						
T16A	Glen Canyon Da	49.32	79	⇓P		P	06 32 00.8 -0.6
	baz=49						
RSSD	Black Hills	49.39	67	eP		P	06 32 00.9 -0.9
	comp=Z,21nm,1.3s,mb5.0						
R18A	Canyonlands Na	49.42	76	P		P	06 32 01.7 -0.4
	baz=49,SNR=15						
PDMCI	Parker Dam,Lak	49.43	83	⇓P		P	06 32 01.7 -0.5
	baz=49						
X13A	Yucca	49.43	83	⇑P		P	06 32 01.2 -1.0
	baz=49,SNR=9.7						
Q19A	Hogan Spring (	49.45	75	P		P	06 32 01.6 -0.7
	baz=49,SNR=25						
W14A	Seligman	49.49	82	P		P	06 32 02.4 -0.2
	baz=49,SNR=10						
Y12C	Blythe	49.55	84	⇓P		P	06 32 02.3 -0.8
	baz=50						
V15A	Kaibab Nationa	49.66	81	⇑P		P	06 32 03.6 -0.3
	baz=50,SNR=19						
S18A	Hurst Farm, Bl	49.80	77	P		P	06 32 04.4 -0.6
	baz=50,SNR=38						
GLA	Glamis	49.82	85	eP		P	06 32 05.0 -0.2
GLA				pmax		pmax	
	comp=Z,28nm,1.0s,mb5.2						
GLA	Glamis	49.82	85	⇓P		P	06 32 04.9 -0.3
	baz=50						
GLA	Glamis	49.82	85	eP		P	06 32 05.0 -0.2
	comp=Z,28nm,1.0s,mb5.2						
KBS	Kingsbay	49.84	357	iP		P	06 32 06.2 +1.5
R19A	Curley Farm, L	49.87	76	⇑P		P	06 32 05.0 -0.5
	baz=50						
Y13A	Salome	49.94	84	⇑P		P	06 32 05.5 -0.6
	baz=50						
W15A	Williams	50.02	81	⇓P		P	06 32 06.7 0.0
	baz=50						
U17A	Shonto	50.09	79	⇑P		P	06 32 06.5 -0.7
	baz=50						
X14A	Yava	50.09	82	⇓P		P	06 32 06.4 -0.8
	baz=50,SNR=10						
U16A	Tuba City	50.09	79	⇓P		P	06 32 07.0 -0.2
	baz=50						
T18A	Mexican Hat	50.23	78	P		P	06 32 07.2 -1.1
	baz=50,SNR=48						
ULM	Lac du Bonnet	50.27	56	P		P	06 32 07.1 -1.2
	comp=Z,3.0nm,0.4s,mb4.7,baz=287,slow=11,SNR=4.9						
ULM				LR		LR	06 54 20.1
	comp=Z,2μm,21.1s,MS5.1,baz=300,slow=37						
PHWY	Pilot Hill	50.27	71	eP		P	06 32 08.5 0.0
S19A	Harvey Farm, M	50.29	77	⇓P		P	06 32 07.9 -0.8
	baz=50,SNR=20						
112A	Yuma	50.32	85	⇓P		P	06 32 08.4 -0.6
	baz=50						
WUAZ	Wupatki	50.35	80	⇑P		P	06 32 08.7 -0.5
	baz=50,SNR=10.0						
WUAZ	Wupatki	50.35	80	eP		P	06 32 09.2 0.0
	comp=Z,28nm,1.1s,mb5.2						
Y14A	Wickenburg	50.37	83	P		P	06 32 08.8 -0.5
	baz=50,SNR=11						
SPITS	Spitsbergen Ar	50.40	356	LR		LR	06 53 53.6
	comp=Z,548nm,18.9s,MS4.6,baz=30,slow=36						
X15A	Humboldt	50.49	82	P		P	06 32 10.3 0.0
	baz=50,SNR=9.1						
W16A	Flagstaff	50.53	81	P		P	06 32 11.0 +0.5
	baz=50,SNR=6.8						
113A	Mohawk Valley,	50.67	85	⇓P		P	06 32 10.7 -0.9
	baz=51						
U18A	Rough Rock, Ch	50.69	78	P		P	06 32 11.6 -0.2
	baz=51,SNR=9.0						
SMCO	Snowmass	50.70	74	eP		P	06 32 16.1 +4.4
SMCO				ePcP		PcP	06 33 26.1 -2.2
Y15A	Casa Rosa Ranc	50.78	82	P		P	06 32 12.2 -0.2
	baz=51,SNR=16						
Z14A	Wintersburg	50.79	83	⇑P		P	06 32 11.8 -0.7
	baz=51						
HVS	Khovu-Aksy	51.02	306	diP		P	06 32 14.3 +0.3
HVS				pmax		pmax	
	comp=Z,454nm,1.3s,mb6.2						
MVCO	Mesa Verde	51.02	77	⇑P		P	06 32 13.8 -0.5
	baz=51						
MVCO	Mesa Verde	51.02	77	eP		P	06 32 13.9 -0.3
	comp=Z,19nm,1.0s,mb5.0						
X16A	Lo Mia Camp, P	51.03	81	⇑P		P	06 32 14.1 -0.2
	baz=51,SNR=9.7						
W17A	Winslow	51.04	80	⇓P		P	06 32 13.7 -0.7
	baz=51						
V18A	Ganado	51.11	79	P		P	06 32 14.7 -0.2
	baz=51,SNR=15						
ISCO	Idaho Springs	51.12	72	eP		P	06 32 15.3 +0.4
	comp=Z,6.0nm,0.7s,mb4.6						
Y16A	Circle Bar Ran	51.36	82	⇑P		P	06 32 16.6 -0.2
	baz=51						
AGMN	Agassiz Refuge	51.44	58	eP		P	06 32 15.8 -1.3
	comp=Z,24nm,1.4s,mb4.9						
X17A	Forest Lakes	51.48	81	⇓P		P	06 32 17.4 -0.2
	baz=51						
W18A	Petrified Fore	51.62	80	⇓P		P	06 32 18.5 -0.2
	baz=52						
DAG	Danmarks Havn	51.63	5	iP		P	06 32 18.0 -0.3
DAG	Danmarks Havn	51.63	5	eP		P	06 32 18.0 -0.3
V19A	Window Rock	51.66	78	⇑P		P	06 32 18.7 -0.3
	baz=52						
Z16A	Peralta Trail,	51.75	82	⇑P		P	06 32 19.1 -0.6
	baz=52						
214A	Organ Pipe Nat	51.82	85	⇓P		P	06 32 18.9 -1.3
	baz=52						
W19A	Sanders	51.84	79	⇑P		P	06 32 19.9 -0.4
	baz=52,SNR=9.7						
Y17A	Roosevelt	51.88	82	P		P	06 32 20.6 -0.1
	baz=52,SNR=19						
X18A	Snowflake	51.88	80	⇓P		P	06 32 20.7 +0.1
	baz=52,SNR=7.8						
WHN	Wuhan	52.00	273	P		P	06 32 21.0 -0.6
WHN				S		S	06 39 42.6 +1.2
WHN				LR		LR	
	comp=N,3μm,48.7s						
WHN				LR		LR	
	comp=E,2μm,32.4s						
WHN				LR		LR	
	comp=Z,2μm,20.9s						
116A	Eloy	52.10	83	⇑P		P	06 32 21.6 -0.7
	baz=52						
Y18A	Canyon Day Jun	52.32	81	P		P	06 32 24.6 +0.6
	baz=52,SNR=10						
X19A	St. Johns	52.35	80	P		P	06 32 24.4 +0.2
	baz=52,SNR=6.6						
Z17A	San Carlos Hig	52.37	82	⇓P		P	06 32 23.9 -0.4
	baz=52						
SDCO	Great Sand Dun	52.50	74	eP		P	06 32 25.9 +0.7
	comp=Z,64nm,1.9s,mb5.2						
216A	Three Points,	52.63	84	⇑P		P	06 32 25.7 -0.6
	baz=52						
Y19A	Nutrioso	52.69	80	⇓P		P	06 32 26.5 -0.2
	baz=53,SNR=6.1						
117A	Oracle	52.69	83	P		P	06 32 26.3 -0.4
	baz=53,SNR=14						
Z18A	Geronimo	52.79	82	⇑P		P	06 32 27.1 -0.3
	baz=53						
TUC	Tucson	52.84	83	eP		P	06 32 27.2 -0.6
	comp=Z,10.0nm,0.9s,mb4.8						
XAN	Xi'an	53.03	280	P		P	06 32 28.4 -0.7
XAN				XP		sP	06 32 34.4 -14
XAN				PCP		PcP	06 33 39.3 +2.1
XAN				PPP			06 35 37.2
XAN				SCP		ScP	06 37 31.2 +0.9
XAN				S		S	06 39 58.6 +3.3
XAN				PS			06 40 10.2
XAN				SCS		ScS	06 42 13.8 -0.5
XAN				SS		SS	06 43 28.9 -5.6
XAN				AMB		AMB	
	comp=Z,23nm,1.6s,mb4.9						
XAN				AMB		AMB	
	comp=Z,359nm,14.2s						
XAN				LR		LR	
	comp=N,318nm,20.7s,MS4.7						
XAN				LR		LR	
	comp=E,699nm,21.2s,MS4.7						
XAN				LR		LR	
	comp=Z,1μm,21.8s,MS5.0						
Z19A	T-Link Ranch,	53.12	81	⇓P		P	06 32 29.7 -0.2
	baz=53						
118A	Homack Ranch,	53.13	82	⇑P		P	06 32 29.2 -0.7
	baz=53						
217A	Green Valley	53.19	83	⇓P		P	06 32 30.0 -0.3
	baz=53						
QZH	Quanzhou	53.28	265	P		P	06 32 30.8 -0.3
QZH				AMB		AMB	
	comp=Z,380nm,1.7s,mb6.0						
119A	Ashpeak Ranch,	53.46	81	⇑P		P	06 32 31.9 -0.4
	baz=53						
SUMG	Summit	53.52	14	eP		P	06 32 32.7 +0.5
218A	Dragoon	53.53	83	⇑P		P	06 32 32.2 -0.7
	baz=53,SNR=11						
ZAA0	Zalesovo Array	53.60	313	eP		P	06 32 32.8 -0.2
ZALV	Zalesovo Beam	53.60	313	P		P	06 32 32.5 -0.5
	comp=Z,4.0nm,0.7s,mb4.5,baz=50,slow=7.3,SNR=14						
ZALV				PcP		PcP	06 33 39.1 +0.1
	comp=Z,8.9nm,0.7s,baz=29,slow=4.3,SNR=6.2						
ZAL	Zalesovo	53.62	313	P		P	06 32 32.5 -0.7
ZAL							06 33 39.2
ZAL				pmax		pmax	
	comp=Z,4.0nm,0.7s						
ZAL				p

EYMN	**Ely**	**53.96**	**56**	*e*P		**P**	**06 32 34.8**	**-1.0**
	comp=E,15nm,0.9s,mb4.9							
EYMN				*e*PcP		PcP	06 33 39.1	-1.4
219A	**White Tail Can**	**54.00**	**82**	⇓P		**P**	**06 32 36.3**	**-0.1**
	baz=54							
BNM	**Barren Site**	**54.18**	**78**	*e*P		**P**	**06 32 38.1**	**+0.5**
319A	**Douglas**	**54.41**	**83**	⇑P		**P**	**06 32 38.9**	**-0.4**
	baz=54							
LZH	**Lanzhou**	**54.77**	**286**	*e*P		**P**	**06 32 42.5**	**+0.6**
LZH				AP		pP	06 32 46.8	-8.6
LZH				XP		sP	06 32 48.7	-12
LZH				*e*S		**S**	**06 40 20.0**	**+1.2**
LZH				XS		sS	06 40 30.0	-11
LZH				SS		SS	06 44 03.0	+1.1
LZH				AMB		AMB		
	comp=Z,52nm,1.1s,mb5.5							
LZH				AMB		AMB		
	comp=Z,449nm,8.2s							
LZH				LR		LR		
	comp=E,2μm,15.4s							
LZH				LR		LR		
	comp=Z,2μm,17.3s,MS5.3							
GTA	**Gaotai**	**54.98**	**291**	P		**P**	**06 32 43.8**	**+0.5**
GTA				AP		pP	06 32 48.3	-8.6
GTA				XP		sP	06 32 51.7	-11
GTA				S		**S**	**06 40 24.8**	**+3.3**
GTA				XS		sS	06 40 32.1	-12
GTA				SS		SS	06 44 07.4	+2.3
GTA				AMB		AMB		
	comp=Z,37nm,1.5s,mb5.2							
GTA				AMB		AMB		
	comp=Z,537nm,5.7s							
GTA				LR		LR		
	comp=N,1μm,17.2s,MS5.2							
GTA				LR		LR		
	comp=E,1μm,17.6s,MS5.2							
GTA				LR		LR		
	comp=Z,2μm,17.2s,MS5.2							
CBKS	**Cedar Bluff**	**55.24**	**70**	P		**P**	**06 32 45.1**	**-0.1**
CBKS				pmax		pmax		
	comp=Z,65nm,1.0s,mb5.6							
CBKS	**Cedar Bluff**	**55.24**	**70**	*e*P		**P**	**06 32 45.0**	**-0.2**
	comp=Z,46nm,0.7s,mb5.6							
COWI	**Conover**	**56.38**	**57**	*e*P		**P**	**06 32 52.3**	**-0.9**
	comp=Z,9.7nm,0.6s,mb5.0							
AMTX	**Amarillo**	**56.70**	**74**	*e*P		**P**	**06 32 55.3**	**-0.4**
	comp=Z,11nm,0.8s,mb4.9							
KSU1	**Kansas State U**	**56.88**	**67**	*e*P		**P**	**06 32 56.2**	**-0.7**
	comp=Z,42nm,0.7s,mb5.6							
GDL2	**Guadalupe Moun**	**56.89**	**78**	*e*P		**P**	**06 32 57.1**	**0.0**
SCIA	**State Center**	**56.94**	**63**	*e*P		**P**	**06 32 57.0**	**-0.3**
KEV	**Kevo**	**57.67**	**349**	*e*p		**P**	**06 33 02.8**	**+0.8**
	comp=Z,7.0nm,0.8s,mb4.7							
KEV	**Kevo**	**57.67**	**349**	*e*P		**P**	**06 33 02.8**	**+0.8**
KEV				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.7							
JMIC	**Jan Mayen**	**57.85**	**3**	LR		LR	07 00 25.1	
	comp=Z,543nm,18.6s,MS4.7,baz=288,slow=39							
JFWS	**Jewell Farm**	**57.90**	**60**	*e*P		**P**	**06 33 02.8**	**-1.3**
JFWS				pmax		pmax		
	comp=Z,25nm,0.8s,mb5.3							
JFWS	**Jewell Farm**	**57.90**	**60**	*e*P		**P**	**06 33 02.8**	**-1.2**
	comp=Z,25nm,0.8s,mb5.3							
ARCES	**ARCESS Array B**	**58.05**	**350**	P		**P**	**06 33 04.1**	**-0.6**
	comp=Z,8.6nm,0.8s,mb4.8,baz=30,slow=6.1,SNR=20							
ARCES				LR		LR	07 01 10.5	
	comp=Z,1μm,18.1s,MS5.1,baz=37,slow=39							
ARCES	**ARCESS Array B**	**58.05**	**350**	P		**P**	**06 33 04.1**	**-0.6**
ARCES				pmax		pmax		
	comp=Z,9.0nm,0.8s							
ARCES				MLR		MLR		
	comp=Z,1μm,18.1s							
ARCES	**ARCESS Array B**	**58.05**	**350**	P		**P**	**06 33 04.1**	**-0.6**
ARCES				LR		LR	07 01 10.5	
CD2	**Chengdu**	**58.34**	**281**	P		**P**	**06 33 06.8**	**-0.5**
CD2				AP		pP	06 33 11.4	-10
CD2				XP		sP	06 33 14.8	-12
CD2				PCP		PcP	06 33 57.9	+0.1
CD2				PP		PP	06 35 17.4	+0.8
CD2				PCS		PcS	06 37 57.8	-1.7
CD2				S		**S**	**06 41 06.3**	**+0.1**
CD2				XS		sS	06 41 13.9	-15
CD2				SCS		ScS	06 42 52.3	-0.3
CD2				SS		SS	06 44 59.4	+1.1
CD2				AMB		AMB		
	comp=Z,30nm,0.9s,mb5.3							
CD2				AMB		AMB		
	comp=Z,60nm,6.8s							
CD2				LR		LR		
	comp=N,900nm,16.8s,MS5.2							
CD2				LR		LR		
	comp=E,1μm,15.6s,MS5.2							
CD2				LR		LR		
	comp=Z,1μm,19.2s,MS5.0							
LVZ	**Lovozero**	**58.34**	**345**	P		**P**	**06 33 06.8**	**0.0**
	comp=Z,309nm,0.7s,mb6.5,SNR=11							
LVZ	**Lovozero**	**58.34**	**345***c*	*i*P		**P**	**06 33 06.1**	**-0.7**
LVZ				pmax		pmax		
	comp=Z,25nm,0.5s,mb5.5							
LVZ	**Lovozero**	**58.34**	**345**	⇑*i*P		**P**	**06 33 06.2**	**-0.6**
WMOK	**Wichita Mounta**	**58.55**	**73**	P		**P**	**06 33 07.8**	**-0.9**
WMOK				pmax		pmax		
	comp=Z,18nm,1.0s,mb5.1							
WMOK	**Wichita Mounta**	**58.55**	**73**	*e*P		**P**	**06 33 08.1**	**-0.6**
	comp=Z,21nm,1.1s,mb5.1							
KURK	**Kurchatov**	**58.59**	**313**	P		**P**	**06 33 09.9**	**+1.2**
	comp=Z,308nm,0.8s,mb6.4,SNR=47							
KURK	**Kurchatov**	**58.59**	**313***c*	*i*P		**P**	**06 33 08.1**	**-0.6**
KURK				pmax		pmax		
	comp=Z,68nm,1.1s,mb5.6							
KURK	**Kurchatov**	**58.59**	**313**	*e*P		**P**	**06 33 08.6**	**-0.2**
	comp=Z,19nm,0.5s,mb5.4							
WMQ	**Urumqi**	**58.83**	**302**	P		**P**	**06 33 11.8**	**+1.3**
WMQ				AP		pP	06 33 16.4	-7.7
WMQ				XP		sP	06 33 18.8	-11
WMQ				PCP		PcP	06 34 01.1	+1.6
WMQ				PP		PP	06 35 23.8	+3.3
WMQ				*e*S		**S**	**06 41 15.5**	**+3.4**
WMQ				SCS		ScS	06 42 57.5	+1.7
WMQ				SS		SS	06 45 09.8	+4.5
WMQ				AMB		AMB		
	comp=Z,444nm,10.3s							
WMQ				LR		LR		
	comp=N,2μm,20.6s,MS5.3							
WMQ				LR		LR		
	comp=E,2μm,21.3s,MS5.3							
WMQ				LR		LR		
	comp=Z,3μm,21.3s,MS5.3							
MK31	**Makanchi Array**	**59.56**	**308**	*i*P		**P**	**06 33 14.8**	**-0.7**
MK31				pmax		pmax		
	comp=Z,18nm,0.6s,mb5.3							
MK31	**Makanchi Array**	**59.56**	**308**	*e*P		**P**	**06 33 15.1**	**-0.4**
MKAR	**Makanchi Array**	**59.56**	**308**	P		**P**	**06 33 15.3**	**-0.2**
	comp=Z,19nm,0.6s,mb5.3,baz=50,slow=7.1,SNR=165							
MKAR				LR		LR	07 03 00.6	
	comp=Z,1μm,18.1s,MS5.1,baz=34,slow=40							
MKAR	**Makanchi Array**	**59.56**	**308**	*i*P		**P**	**06 33 15.3**	**-0.2**
MKAR				pmax		pmax		
	comp=Z,19nm,0.6s							
MKAR	**Makanchi Array**	**59.56**	**308**	P		**P**	**06 33 15.3**	**-0.2**
MKAR				LR		LR	07 03 00.7	
GYA	**Guiyang**	**59.67**	**275**	P		**P**	**06 33 18.9**	**+2.3**
GYA				PCP		PcP	06 34 05.4	+2.2
GYA				PP		PP	06 35 31.8	+3.4
GYA				SCP		ScP	06 38 04.2	+4.5
GYA				S		**S**	**06 41 26.7**	**+3.2**
GYA				PS			06 41 41.8	
GYA				SCS		ScS	06 43 04.2	+1.6
GYA				SS		SS	06 45 23.5	+4.1
GYA				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.1							
GYA				AMB		AMB		
	comp=Z,130nm,5.2s							
GYA				LR		LR		
	comp=N,580nm,20.8s,MS4.8							
GYA				LR		LR		
	comp=E,520nm,19.6s,MS4.8							
GYA				LR		LR		
	comp=Z,540nm,20.5s,MS4.7							
HDIL	**Hopedale**	**60.03**	**62**	*e*P		**P**	**06 33 18.1**	**-0.7**
SCHQ	**Schefferville**	**60.47**	**38**	P		**P**	**06 33 20.5**	**-1.0**
	comp=Z,13nm,0.9s,mb5.0,baz=328,slow=7.3,SNR=12							
SCHQ	**Schefferville**	**60.47**	**38**	*e*P		**P**	**06 33 20.8**	**-0.7**
	comp=Z,22nm,0.9s,mb5.2							
BVA0	**Borovoye Array**	**60.52**	**319**	*i*P		**P**	**06 33 22.2**	**+0.3**
BVA0				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.9							
BVAR	**Borovoye Array**	**60.52**	**319**	P		**P**	**06 33 21.5**	**-0.4**
	comp=Z,18nm,0.7s,mb5.3,baz=52,slow=7.5,SNR=45							
BVAR				LR		LR	07 02 51.6	
	comp=Z,2μm,18.1s,MS5.4,baz=46,slow=39							
BVAR	**Borovoye Array**	**60.52**	**319**	P		**P**	**06 33 21.5**	**-0.4**
BVAR				pmax		pmax		
	comp=Z,18nm,0.7s							
BVAR				MLR		MLR		
	comp=Z,2μm,18.1s							
BRVK	**Borovoye**	**60.53**	**319**	*e*P		**P**	**06 33 22.1**	**0.0**
	comp=Z,20nm,0.9s,mb5.2							
CCM	**Cathedral Cave**	**60.66**	**65**	P		**P**	**06 33 20.3**	**-2.9**
CCM				pmax		pmax		
	comp=Z,14nm,0.9s,mb5.1							
CCM	**Cathedral Cave**	**60.66**	**65**	*e*P		**P**	**06 33 21.4**	**-1.8**
	comp=Z,13nm,0.9s,mb5.0							
JCT	**Junction City**	**60.89**	**77**	*e*P		**P**	**06 33 23.6**	**-1.2**
JCT				pmax		pmax		
	comp=Z,13nm,0.7s,mb5.2							
JCT	**Junction City**	**60.89**	**77**	*e*P		**P**	**06 33 23.6**	**-1.2**
	comp=Z,13nm,0.7s,mb5.2							
FVM	**French Village**	**61.18**	**64**	*e*P		**P**	**06 33 24.6**	**-2.1**
FVM				pmax		pmax		
	comp=Z,14nm,0.8s,mb5.1							
FVM	**French Village**	**61.18**	**64**	*e*P		**P**	**06 33 24.6**	**-2.1**
	comp=Z,14nm,0.8s,mb5.2							
SVE	**Sverdlovsk**	**61.30**	**327**	*e*P		**P**	**06 33 26.0**	**-1.2**
SVE				*e*			06 34 09.6	
SVE				*e*			06 35 51.7	
SVE				*e*S		**S**	**06 41 40.8**	**-2.6**
SVE				*e*			06 43 10.3	
SVE				pmax		pmax		
	comp=Z,30nm,1.7s,mb5.2							
SVE				MLR		MLR		
	comp=Z,2μm,20.0s,MS5.3							
MIAR	**Mount Ida**	**61.77**	**69**	*e*P		**P**	**06 33 30.1**	**-0.6**
	comp=Z,29nm,1.0s,mb5.4							
OLIL	**Olney**	**61.96**	**62**	*e*P		**P**	**06 33 31.1**	**-0.8**
	comp=Z,47nm,0.9s,mb5.6							
SIUC	**Southern Illin**	**62.05**	**64**	*e*P		**P**	**06 33 31.9**	**-0.7**
	comp=Z,22nm,0.7s,mb5.4							
ARU	**Arti**	**62.31**	**328***c*	*i*P		**P**	**06 33 33.6**	**-0.4**
ARU				*e*			06 34 07.7	
ARU				*e*S		**S**	**06 42 03.1**	**+6.9**
ARU				*e*SS		SS	06 45 59.1	-0.2
ARU				pmax		pmax		
	comp=Z,20nm,1.7s,mb5.0							
ARU				MLR		MLR		
	comp=Z,2μm,19.0s,MS5.2							
ARU	**Arti**	**62.31**	**328**	*e*P		**P**	**06 33 34.1**	**0.0**
	comp=Z,16nm,1.1s,mb5.1							
UALR	**University of**	**62.32**	**68**	*e*P		**P**	**06 33 33.5**	**-0.9**
	comp=Z,16nm,1.0s,mb5.1							
PARMO	**Parma**	**62.49**	**65**	*e*P		**P**	**06 33 35.0**	**-0.4**
BLO	**Bloomington**	**62.52**	**61**	*e*P		**P**	**06 33 35.1**	**-0.6**
	comp=Z,16nm,0.7s,mb5.2							
USIN	**University of**	**62.74**	**63**	*e*P		**P**	**06 33 36.9**	**-0.3**
	comp=Z,50nm,0.9s,mb5.6							
KMI	**Kunming**	**63.08**	**277**	P		**P**	**06 33 39.2**	**-0.4**
KMI				AP		pP	06 33 44.3	-9.1
KMI				XP		sP	06 33 45.6	-13
KMI				PP		PP	06 36 01.7	+3.2
KMI				PPP			06 37 32.4	
KMI				S		**S**	**06 42 08.7**	**+1.9**
KMI				XS		sS	06 42 14.9	-15
KMI				SS		SS	06 46 16.7	+3.9
KMI				AMB		AMB		
	comp=Z,26nm,1.4s,mb5.2							
KMI				AMB		AMB		
	comp=Z,307nm,5.0s							
KMI				LR		LR		
	comp=N,536nm,22.7s,MS4.8							
KMI				LR		LR		
	comp=E,563nm,22.7s,MS4.8							
KMI				LR		LR		
	comp=Z,597nm,26.3s,MS4.6							
QIZ	**Qiongzhong**	**63.10**	**267**	⇑P		**P**	**06 33 39.5**	**-0.3**
QIZ				S		**S**	**06 42 06.0**	**-1.1**
QIZ				AMB		AMB		
	comp=Z,20nm,2.0s,mb4.9							
QIZ				AMB		AMB		
	comp=Z,510nm,9.9s							
QIZ				LR		LR		
	comp=E,620nm,19.8s							
QIZ				LR		LR		
	comp=Z,581nm,20.5s,MS4.7							
UTMT	**University of**	**63.22**	**65**	*e*P		**P**	**06 33 40.4**	**0.0**
	comp=Z,97nm,0.8s,mb6.0							
WCI	**Wyandotte Cave**	**63.32**	**62**	*e*P		**P**	**06 33 40.4**	**-0.6**
	comp=Z,10nm,0.7s,mb5.1							
JOF	**Joensuu**	**63.49**	**345**	*e*p		**P**	**06 33 40.5**	**-1.2**
	comp=Z,19nm,0.6s,mb5.4							
JOF	**Joensuu**	**63.49**	**345**	*e*P		**P**	**06 33 40.5**	**-1.2**
JOF				pmax		pmax		
	comp=Z,19nm,0.6s,mb5.4							
HKT	**Hockley**	**63.67**	**74**	P		**P**	**06 33 43.0**	**-0.5**
HKT				pmax		pmax		
	comp=Z,22nm,1.3s,mb5.0							
HKT	**Hockley**	**63.67**	**74**	*e*P		**P**	**06 33 43.4**	**-0.1**
	comp=Z,22nm,1.4s,mb5.0							
KLMR	**Klimovskoe**	**63.82**	**340**	*e*P		**P**	**06 33 43.2**	**-0.7**
KLMR				pmax		pmax		
	comp=Z,30nm,1.2s,mb5.2							
OXF	**Oxford**	**64.21**	**67**	P		**P**	**06 33 46.1**	**-0.8**
OXF				pmax		pmax		
	comp=Z,120nm,0.9s,mb5.9							
OXF	**Oxford**	**64.21**	**67**	*e*P		**P**	**06 33 46.2**	**-0.8**
	comp=Z,116nm,0.9s,mb5.9							
PLAL	**Pickwick Lake**	**64.64**	**65**	*e*P		**P**	**06 33 49.0**	**-0.7**
	comp=Z,37nm,0.7s,mb5.5							
KAF	**Kangasniemi**	**65.03**	**347**	*e*p		**P**	**06 33 50.4**	**-1.4**
	comp=Z,19nm,0.7s,mb5.2,baz=15,slow=5.9							
KAF	**Kangasniemi**	**65.03**	**347**	*e*P		**P**	**06 33 50.4**	**-1.4**
KAF				pmax		pmax		
	comp=Z,19nm,0.7s,mb5.2							
VBMS	**Vicksburg**	**65.21**	**69**	*e*P		**P**	**06 33 53.6**	**+0.1**
	comp=Z,16nm,0.7s,mb5.2							
AFI	**Afiamalu**	**65.32**	**171**	LR		LR	06 57 28.1	
	comp=Z,1μm,20.4s,MS5.1,baz=50,slow=32							
NCB	**Newcomb**	**65.38**	**50**	*e*P		**P**	**06 33 54.4**	**0.0**
	comp=Z,7.3nm,0.9s,mb4.7							
TKM2	**Tokmak 2**	**65.65**	**309**	P		**P**	**06 33 57.1**	**+0.9**
	SNR=46							
SWET	**Sewanee**	**65.68**	**64**	*e*P		**P**	**06 33 55.5**	**-1.0**
ULHL	**Ulahol**	**65.83**	**308**	P		**P**	**06 33 58.4**	**+1.1**
	SNR=48							
BINY	**Binghamton**	**65.84**	**52**	*e*P		**P**	**06 33 57.0**	**-0.4**
	comp=Z,51nm,1.4s,mb5.4							
USP	**Ospenovka**	**65.92**	**310**	P		**P**	**06 33 59.0**	**+1.1**
	SNR=44							
CHMS	**Chumysh**	**66.00**	**309**	P		**P**	**06 33 59.4**	**+0.9**
	SNR=7.8							
TZTN	**Tazewell**	**66.04**	**61**	*e*P		**P**	**06 33 58.7**	**-0.1**
	comp=Z,30nm,1.2s,mb5.2							
ACCN	**Adirondack Com**	**66.09**	**50**	*e*P		**P**	**06 33 57.8**	**-1.1**
KBK	**Karagaybulak**	**66.16**	**309**	P		**P**	**06 34 00.7**	**+1.3**
	SNR=7.7							
LBNH	**Lisbon**	**66.27**	**48**	*e*P		**P**	**06 33 58.9**	**-1.2**
CPCT	**Cooper Cave**	**66.30**	**63**	*e*P		**P**	**06 34 00.0**	**-0.5**
TKL	**Tuckaleechee C**	**66.57**	**62**	*e*P		**P**	**06 34 01.7**	**-0.4**
EKS2	**Erkin-Say**	**66.73**	**310**	P		**P**	**06 34 04.1**	**+1.1**
	SNR=51							
LSA	**Lhasa**	**66.84**	**289**	P		**P**	**06 34 05.7**	**+1.7**
LSA				LR		LR		
	comp=E,1μm,8.8s							
LSA				LR		LR		
	comp=Z,1μm,7.2s							
ELN	**Prospectdale**	**67.06**	**59**	*e*P		**P**	**06 34 03.7**	**-1.6**
AML	**Almayashu**	**67.17**	**309**	P		**P**	**06 34 07.6**	**+1.7**
	SNR=51							
BLA	**Blacksburg**	**67.25**	**59**	*e*P		**P**	**06 34 06.2**	**-0.3**
BLA				pmax		pmax		
	comp=Z,15nm,0.9s,mb5.0							
BLA	**Blacksburg**	**67.25**	**59**	*e*P		**P**	**06 34 06.2**	**-0.3**
	comp=Z,15nm,0.9s,mb5.0							
MVL	**Millersville**	**67.30**	**54**	*e*P		**P**	**06 34 06.5**	**-0.3**
	comp=Z,5.5nm,0.7s,mb4.7							
AKTK	**Aktyubinsk**	**67.36**	**324**	P		**P**	**06 34 06.8**	**-0.1**
AKTK				LR		LR	07 06 26.7	
AKTO	**Aktyubinsk**	**67.36**	**324**	P		**P**	**06 34 06.8**	**-0.1**
	comp=Z,7.5nm,0.6s,mb4.9,baz=53,slow=8.5,SNR=28							
AKTO				LR		LR	07 06 26.7	
	comp=Z,2μm,19.0s,MS5.4,baz=186,slow=38							
AKTO	**Aktyubinsk**	**67.36**	**324**	P		**P**	**06 34 06.8**	**-0.1**
AKTO				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.9							
AKTO				MLR		MLR		
	comp=Z,2μm,19.0s,MS5.4							
SDMD	**Soldier's Deli**	**67.49**	**55**	*e*P		**P**	**06 34 07.2**	**-0.7**
	comp=Z,17nm,1.1s,mb5.0							
AB31	**Akbulak array**	**67.59**	**322**	*e*P		**P**	**06 34 07.9**	**-0.5**
AB31				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.6							
AB31	**Akbulak array**	**67.59**	**322**	⇑*e*P		**P**	**06 34 07.0**	**-1.4**
NB2	**NORSAR Subarra**	**67.65**	**354**	P		**P**	**06 34 08.4**	**-0.2**
	comp=Z,22nm,0.8s,mb5.2,baz=6.9,slow=6.5							
NOA	**NORSAR Array B**	**67.65**	**354**	P		**P**	**06 34 08.2**	**-0.3**
	comp=Z,18nm,0.7s,mb5.2,baz=7.5,slow=6.3,SNR=53							
NOA	**NORSAR Array B**	**67.65**	**354**	P		**P**	**06 34 08.3**	**-0.3**
NOA				pmax		pmax		
	comp=Z,18nm,0.7s							
PAL	**Palisades**	**67.77**	**52**	*e*P		**P**	**06 34 09.3**	**-0.4**
PAL				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.0							
PAL	**Palisades**	**67.77**	**52**	*e*P		**P**	**06 34 09.3**	**-0.3**
	comp=Z,12nm,0.8s,mb5.0							
NAO01	**NORSAR Array S**	**67.87**	**354**	*e*P		**P**	**06 34 10.3**	**+0.3**
KK31	**Karatay Array**	**67.94**	**312**	*i*P		**P**	**06 34 11.2**	**+0.5**
KK31				pmax		pmax		
	comp=Z,80nm,1.1s,mb5.7							
KK31	**Karatay Array**	**67.94**	**312**	*i*P		**P**	**06 34 11.3**	**+0.6**
EMMW	**East Machias**	**67.96**	**45**	*e*P		**P**	**06 34 09.7**	**-1.1**
WES	**Weston**	**67.97**	**49**	*e*P		**P**	**06 34 10.1**	**-0.8**
	comp=Z,7.5nm,0.6s,mb4.9							
KSH	**Kashi**	**68.01**	**306**	P		**P**	**06 34 13.2**	**+2.0**
KSH				AP		pP	06 34 16.1	-9.0
KSH				XP		sP	06 34 18.9	-12
KSH				PCP		PcP	06 34 38.5	+1.3
KSH				PP		PP	06 36 44.2	+3.0
KSH				PCS			06 38 41.0	
KSH				S		S	06 43 09.1	+2.5
KSH				XS		sS	06 43 17.5	-12
KSH				SCS		ScS	06 44 06.0	+0.1
KSH				SS		SS	06 47 32.0	+3.4
KSH				LR		LR		
	comp=N,3μm,14.6s,MS5.8							
KSH				LR		LR		
	comp=E,3μm,14.9s,MS5.8							
KSH				LR		LR		
	comp=Z,4μm,17.5s,MS5.7							
BRAL	**Brewton**	**68.11**	**68**	*e*P		**P**	**06 34 11.7**	**-0.2**
	comp=Z,40nm,0.7s,mb5.5							
GOGA	**Godfrey**	**68.39**	**63**	*e*P		**P**	**06 34 13.0**	**-0.7**
GOGA				pmax		pmax		
	comp=Z,17nm,1.0s,mb5.0							
GOGA	**Godfrey**	**68.39**	**63**	*e*P		**P**	**06 34 13.0**	**-0.7**
	comp=Z,17nm,0.9s,mb5.1							
URVA	**University of**	**68.51**	**57**	*e*P		**P**	**06 34 14.3**	**-0.1**
MOS	**Moscow**	**68.88**	**338**	*e*P		**P**	**06 34 12.8**	**-3.6**
MOS				pmax		pmax		
	comp=Z,49nm,0.8s,mb5.5							
MOS				MLR		MLR		
	comp=Z,2μm,18.0s,MS5.3							
JSC	**Jenkinsville**	**68.97**	**61**	*e*P		**P**	**06 34 16.9**	**-0.4**
KONO	**Kongsberg**	**69.13**	**355***c*	*i*P		**P**	**06 34 18.0**	**+0.1**
KONO	**Kongsberg**	**69.13**	**355**	⇑*i*P		**P**	**06 34 18.1**	**+0.2**
OBN	**Obninsk**	**69.70**	**339**	⇓*e*P		**P**	**06 34 21.5**	**+0.1**
OBN				pmax		pmax		
	comp=Z,38nm,1.0s,mb5.3							
OBN				MLR		MLR		
	comp=Z,2μm,24.0s,MS5.3							
CHTO	**Chiang Mai**	**70.10**	**275**	*e*P		**P**	**06 34 23.8**	**-0.6**
	comp=Z,10nm,0.8s,mb4.8							
CMAR	**Chiang Mai Arr**	**70.36**	**275**	P		**P**	**06 34 24.7**	**-1.4**
	comp=Z,1.9nm,0.5s,mb4.3,baz=29,slow=6.8,SNR=4.6							
CMAR				LR		LR	07 05 15.7	
	comp=Z,428nm,19.7s,MS4.7,baz=242,slow=36							
CMAR	**Chiang Mai Arr**	**70.36**	**275**	P		**P**	**06 34 24.7**	**-1.4**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
CMAR				MLR		MLR		
	comp=Z,428nm,19.7s							
NHSC	**New Hope**	**70.45**	**61**	*e*P		**P**	**06 34 26.8**	**+0.4**
	comp=Z,70nm,1.1s,mb5.5							
TAPN	**Taplejung**	**70.61**	**290**	*e*P		**P**	**06 34 28.0**	**+0.5**
	comp=Z,149nm,0.9s,mb5.9							
ODAN	**Odare**	**71.17**	**289**	*e*P		**P**	**06 34 31.5**	**+0.7**
	comp=Z,102nm,0.9s,mb5.7							
GUN	**Gumba**	**71.27**	**291**	*e*P		**P**	**06 34 32.6**	**+1.1**
	comp=Z,182nm,0.8s,mb6.1							
JIRN	**Jiri**	**71.28**	**291**	*e*P		**P**	**06 34 32.6**	**+1.1**
	comp=Z,160nm,0.8s,mb6.0							
MCD	**Coleburn Disti**	**71.44**	**2**	*e*P		**P**	**06 34 32.2**	**+0.2**
MDO	**Dochfour**	**71.55**	**3**	*e*P		**P**	**06 34 32.9**	**+0.2**
RAMN	**Ramite**	**71.57**	**290**	*e*P		**P**	**06 34 33.7**	**+0.4**
	comp=Z,179nm,0.8s,mb6.0							
KKN	**Kakani**	**71.71**	**292**	*e*P		**P**	**06 34 35.0**	**+0.9**
	comp=Z,77nm,0.7s,mb5.7							
PKI	**Pulchoki**	**71.80**	**291**	*e*P		**P**	**06 34 35.1**	**+0.4**
	comp=Z,98nm,1.0s,mb5.7							
GKN	**Gorkha**	**71.93**	**292**	*e*P		**P**	**06 34 36.1**	**+0.7**
DMN	**Daman**	**71.95**	**292**	*e*P		**P**	**06 34 36.4**	**+0.9**
	comp=Z,109nm,1.0s,mb5.7							
KAR1	**Arisaig**	**72.03**	**3**	*e*P		**P**	**06 34 34.5**	**-1.1**
MNK	**Minsk**	**72.06**	**343**	⇓*e*P		**P**	**06 34 36.0**	**+0.3**
MNK				pmax		pmax		
	comp=Z,60nm,1.0s,mb5.5							
DANN	**Dangsing**	**72.17**	**293**	*e*P		**P**	**06 34 37.8**	**+0.9**

CLZ *e*pP pP 06 35 17.4 -0.4
HTR Trewern Hill 76.95 2 *e*P **P 06 35 03.5 -0.6**
WTSB Winterswijk 76.95 356 *e*P **P 06 35 04.0 -0.1**
comp=Z,23nm,1.0s,mb5.0
MCH1 Michaelchurch 77.03 2 *e*P **P 06 35 04.7 0.0**
MCH1 AMb AMB 06 35 05.8
comp=Z,35nm,1.0s,mb5.2
CTA Charters Tower 77.06 213 *e*P **P 06 35 03.7 -1.4**
comp=Z,8.6nm,1.5s,mb4.5
CTA Charters Tower 77.06 213 *e*P **P 06 35 03.7 -1.4**
CTA pmax pmax
comp=Z,9.0nm,1.5s
CLL Collm 77.18 352 *i* P **P 06 35 04.8 -0.7**
CLL pmax pmax
comp=Z,16nm,1.0s,mb4.9
CLL Collm 77.18 352 *e*P **P 06 35 04.7 -0.8**
comp=Z,16nm,1.0s,mb4.9
CLL Collm 77.18 352 *i* P **P 06 35 04.8 -0.7**
comp=Z,16nm,1.0s,mb4.9
CLL *e*(sPcP) pP 06 35 21.0 +1.4
LVV L'vov 77.21 344*d i*P **P 06 35 05.6 -0.1**
LVV MLR MLR
comp=Z,600nm,18.0s,MS5.0
LVV MLR MLR
comp=N,200nm,16.0s,MS5.0
LVV MLR MLR
comp=E,600nm,18.0s,MS5.0
HGH Gray Hill 77.40 2 *e*P **P 06 35 06.5 -0.2**
BUG Bochum–Univer 77.45 355 *e*P **P 06 35 06.7 -0.3**
comp=Z,17nm,0.8s,mb5.0
OJC Ojcow 77.48 347 *e*P **P 06 35 07.1 0.0**
BRG Berggiesshubel 77.52 351 *e*P **P 06 35 06.8 -0.6**
BRG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BRG MLR MLR
comp=N,434nm,18.5s,MS4.9
BRG MLR MLR
comp=E,276nm,18.6s,MS4.9
BRG MLR MLR
comp=Z,464nm,16.9s,MS4.9
BRG Berggiesshubel 77.52 351 *e*P **P 06 35 06.8 -0.6**
comp=Z,9.9nm,0.8s,mb4.8
BRG
comp=N,725nm,18.5s
BRG
comp=E,461nm,18.6s
BRG
comp=Z,775nm,16.9s
KWP Kalwaria 77.61 345 *e*P **P 06 35 08.6 +0.7**
KWP Kalwaria 77.61 345⇑*i*P **P 06 35 08.4 +0.5**
UPC Upice 77.67 350 *e*P **P 06 35 08.4 +0.2**
WOL Wolverton 77.75 1 *e*P **P 06 35 08.6 0.0**
DPC Dobruska-Polom 77.79 349 *e*P **P 06 35 08.9 0.0**
DPC AMS AMS 07 15 50.0
comp=Z,1µm,19.2s
PVCC Panska Ves 77.80 351 *e*P **P 06 35 08.9 -0.1**
PVCC AMS AMS 07 13 10.0
comp=Z,1µm,20.0s
UBBA Unterbreizbach 77.91 354 *e*P **P 06 35 09.3 -0.2**
comp=Z,46nm,1.9s,mb5.1
HEX Exmoor 77.95 3 *e*P **P 06 35 09.1 -0.7**
MOX Moxa 77.96 353 *e*P **P 06 35 09.7 -0.1**
comp=Z,23nm,1.1s,mb5.0
MOX Moxa 77.96 353 *e*P **P 06 35 09.7 -0.1**
MOX pmax pmax
comp=Z,23nm,1.1s,mb5.0
MOX Moxa 77.96 353 *e*P **P 06 35 09.5 -0.3**
comp=Z,13nm,0.9s,mb4.9
MOX *e*pP pP 06 35 23.3 -0.7
OKC Ostrava-Krasne 78.07 348 *e*P **P 06 35 11.8 +1.3**
OKC AMS AMS 07 15 00.0
comp=Z,900nm,16.4s
TANN Tannenbergstha 78.11 352 *e*P **P 06 35 10.1 -0.6**
comp=Z,11nm,1.2s,mb4.7
BEBN Eben Emael 78.16 356 P **P 06 35 12.2 +1.2**
NIE Niedzica 78.19 347 *e*P **P 06 35 11.8 +0.7**
HGN Heimansgroeve 78.19 356 *e*P **P 06 35 11.1 0.0**
comp=Z,29nm,0.9s,mb5.2
KIV Kislovodsk 78.20 330 *i* P **P 06 35 13.2 +1.9**
KIV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
MORC Moravsky Berou 78.21 349 *e*P **P 06 35 11.6 +0.4**
MORC pmax pmax
comp=Z,84nm,2.3s,mb5.3
MORC Moravsky Berou 78.21 349⇑*i*P **P 06 35 11.3 +0.1**
MORC Moravsky Berou 78.21 349 *e*P **P 06 35 11.6 +0.4**
comp=Z,3.1nm,0.6s,mb4.4
UCC Uccle 78.21 357 P **P 06 35 11.4 +0.2**
NKC Novy Kostel 78.30 352 *e*P **P 06 35 11.9 +0.2**
NKC AMS AMS 07 11 10.0
comp=Z,800nm,19.9s
MEM Membach 78.34 356 P **P 06 35 12.2 +0.3**
comp=Z,22nm,0.9s,mb5.1
PRU Pruhonice 78.34 351 *e*P **P 06 35 12.0 +0.1**
PRU AMS AMS 07 13 40.0
comp=Z,1µm,17.9s
KOLS Kolonicke sedl 78.36 345 *i* P **P 06 35 12.8 +0.7**
CRVS Cervenica-Dubn 78.52 346 *i* P **P 06 35 13.3 +0.4**
BCLA Clavier 78.56 357 P **P 06 35 13.4 +0.3**
comp=Z,9.1nm,1.0s,mb4.7
TNS Taunus Mts 78.60 355 *e*P **P 06 35 13.3 -0.1**
TNS pmax pmax
comp=Z,21nm,0.9s,mb5.1
TNS Taunus Mts 78.60 355 *e*P **P 06 35 13.3 -0.1**
comp=Z,21nm,0.9s,mb5.1
UZH Uzhgorod 78.65 345 *e*P **P 06 35 13.0 -0.7**
ROTZ Rotzenmuhle 78.78 352 *e*P **P 06 35 14.5 +0.1**
comp=Z,9.0nm,1.0s,mb4.7
VRAC Vranov 78.78 349 LR LR 07 14 30.0
comp=Z,713nm,21.9s,MS5.0,baz=7.2,slow=39
VRAC Vranov 78.78 349⇑*i*P **P 06 35 14.8 +0.4**
VRAC Vranov 78.78 349 P **P 06 35 14.6 +0.2**
GIVF Givet 78.89 357 *e*P **P 06 35 14.9 -0.1**
comp=Z,37nm,0.8s,mb5.0
GIVF Givet 78.89 357 *e*P **P 06 35 14.9 -0.1**
GIVF pmax pmax
comp=Z,18nm,0.8s,mb5.0
GIVF Givet 78.89 357 *e*P **P 06 35 14.9 -0.1**
comp=Z,18nm,0.8s,mb5.1
DOU Dourbes 78.90 357 P **P 06 35 15.2 +0.1**
comp=Z,11nm,1.5s,mb4.6
TREC Trest 78.92 350 *e*P **P 06 35 15.3 +0.1**
TREC AMS AMS 07 16 30.0
comp=Z,1µm,19.2s
GRA1 Grafenberg Arr 78.94 353 *e*P **P 06 35 15.4 +0.2**
comp=Z,21nm,0.8s,mb5.1
GRF Grafenberg Arr 78.94 353 *e*P **P 06 35 15.4 +0.2**
GRF pmax pmax
comp=Z,21nm,0.8s,mb5.1
GRF Grafenberg Arr 78.94 353 *e*P **P 06 35 15.4 +0.2**
GRF pmax pmax
comp=Z,21nm,0.8s,mb5.1
GRF Grafenberg Arr 78.94 353 *e*P **P 06 35 15.4 +0.2**
comp=Z,21nm,0.8s,mb5.1
BAIF Baives 78.95 357 *e*P **P 06 35 15.3 0.0**
comp=Z,62nm,0.9s,mb5.3
BAIF Baives 78.95 357 *e*P **P 06 35 15.3 0.0**
BAIF pmax pmax
comp=Z,31nm,0.9s,mb5.2
BAIF Baives 78.95 357 *e*P **P 06 35 15.3 0.0**
comp=Z,31nm,0.9s,mb5.2
ANN Anapa 78.98 334 *e*P **P 06 35 10.2 -5.4**
ANN *e*S S 06 45 08.2 -2.1
ANN *e*SS SS 06 50 17.3 +2.3
ANN pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TBI Tubuai 79.00 152 *e*LR LR 06 59 36.7
comp=Z,2µm,21.8s,baz=337
KECS Kecovo 79.07 346 *i* P **P 06 35 16.5 +0.5**
KECS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KECS Kecovo 79.07 346 *i* P **P 06 35 16.5 +0.5**
comp=Z,5.8nm,0.7s,mb4.6
BURAR Bucovina Array 79.13 343⇑*i*P **P 06 35 16.4 +0.1**
BURAR Bucovina Array 79.13 343⇑P **P 06 35 16.4 +0.1**
TOD Tromm 79.19 354 *e*P **P 06 35 16.4 -0.2**
KOLL Kolacno 79.27 348 *i* P **P 06 35 17.7 +0.6**
WLF Walferdange 79.28 356 P **P 06 35 17.6 +0.5**
WLF Walferdange 79.28 356 *e*P **P 06 35 17.7 +0.6**
WLF pmax pmax
comp=Z,15nm,0.8s,mb5.0
WLF Walferdange 79.28 356 *e*P **P 06 35 17.4 +0.3**
comp=Z,20nm,1.0s,mb5.0
WLF *e*pP pP 06 35 31.3 0.0
WLF Walferdange 79.28 356 *e*P **P 06 35 17.7 +0.6**
comp=Z,15nm,0.8s,mb5.0
KHC Kasperske Hory 79.28 351 *e*P **P 06 35 17.4 +0.3**
KHC AMS AMS 07 15 10.0
comp=Z,1µm,18.0s
VYHS Vyhne 79.30 347 *i* P **P 06 35 17.3 +0.1**
VYHS pmax pmax
comp=Z,34nm,2.3s,mb4.9
VYHS Vyhne 79.30 347 *i* P **P 06 35 17.3 +0.1**
comp=Z,34nm,2.3s,mb4.9
WET Wettzell 79.34 352 *e*P **P 06 35 17.0 -0.4**
WET pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WET Wettzell 79.34 352 *e*P **P 06 35 17.0 -0.4**
comp=Z,9.0nm,1.0s,mb4.7
SOC Sochi 79.45 332 *e*P **P 06 35 18.9 +0.8**
SOC MLR MLR
comp=Z,1µm,19.0s,MS5.3
GEC2 GERESS Array S 79.55 351 *e*P **P 06 35 18.3 -0.3**
GEC2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GEC2 GERESS Array S 79.55 351 *e*P **P 06 35 18.3 -0.3**
comp=Z,10.0nm,1.1s,mb4.7
GERES GERESS Array B 79.55 351 P **P 06 35 18.9 +0.3**
comp=Z,5.1nm,0.6s,mb4.6,baz=28,slow=6.0,SNR=35
GERES GERESS Array B 79.55 351 P **P 06 35 18.9 +0.3**
GERES pmax pmax
comp=Z,5.0nm,0.6s
MODS Modra-Piesok 79.62 348 *i* P **P 06 35 19.9 +0.9**
MODS Modra-Piesok 79.62 348 *i* P **P 06 35 20.0 +1.0**
PSZ Piszkesteto 79.71 347 *e*P **P 06 35 20.7 +1.2**
PSZ *e* pP 06 35 32.7 -1.0
PSZ pmax pmax
comp=Z,21nm,1.1s,mb5.0
PSZ Piszkesteto 79.71 347⇑*i*P **P 06 35 20.2 +0.7**
PSZ Piszkesteto 79.71 347 *e*P **P 06 35 20.6 +1.1**
comp=Z,20nm,1.1s,mb5.0
ZST Bratislava 79.81 349 *i* P **P 06 35 19.9 -0.1**
ZST pmax pmax
comp=Z,101nm,2.4s,mb5.3
ZST Bratislava 79.81 349 *i* P **P 06 35 19.9 -0.1**
comp=Z,101nm,2.4s,mb5.3
LANF Langenberg 79.88 355 *e*P **P 06 35 19.6 -0.8**
STU Stuttgart 80.00 354 *e*P **P 06 35 20.7 -0.3**
comp=Z,18nm,0.4s,mb5.3
RAO Raoul Island 80.23 178 LR LR 07 06 31.9
comp=Z,752nm,18.6s,MS5.1,baz=355,slow=32
CONA Conrad Observa 80.23 349⇑*i*P **P 06 35 22.8 +0.5**
comp=Z,14nm,0.7s,mb5.0,SNR=12
CONA Conrad Observa 80.23 349⇑*i*pP **P 06 35 22.8 +0.5**
comp=Z,14nm,0.7s,mb5.0,SNR=12
FLN La Foliniere 80.31 0 *e*P **P 06 35 22.2 -0.5**
comp=Z,35nm,0.8s,mb5.0
FLN *e*MLR MLR
comp=Z,1µm,22.8s,MS4.8
FLN La Foliniere 80.31 0 *e*P **P 06 35 22.2 -0.5**
FLN pmax pmax
comp=Z,17nm,0.8s,mb5.0
FLN MLR MLR
comp=Z,1µm,22.8s,MS5.1
FLN La Foliniere 80.31 0 *e*P **P 06 35 22.2 -0.5**
comp=Z,18nm,0.8s,mb5.0
FLN LR LR
comp=Z,1µm,22.8s,MS5.1
DRGR 80.37 344⇑*i*P **P 06 35 23.1 0.0**
DRGR 80.37 344 P **P 06 35 23.5 +0.4**
FUR Furstenfeldbru 80.45 352 *e*P **P 06 35 23.3 -0.2**
FUR pmax pmax
comp=Z,38nm,1.0s,mb5.3
FUR Furstenfeldbru 80.45 352 *e*P **P 06 35 23.3 -0.2**
comp=Z,38nm,1.0s,mb5.3
CDF Champ du Feu 80.47 355 *e*P **P 06 35 23.4 -0.2**
comp=Z,20nm,0.9s,mb4.7
CDF Champ du Feu 80.47 355 *e*P **P 06 35 23.4 -0.2**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 80.47 355 *e*P **P 06 35 23.4 -0.2**
comp=Z,9.9nm,0.9s,mb4.7
LDF La Druitiere 80.48 0 *e*P **P 06 35 23.2 -0.4**
comp=Z,47nm,0.8s,mb5.1
LDF La Druitiere 80.48 0 *e*P **P 06 35 23.2 -0.4**
LDF pmax pmax
comp=Z,23nm,0.8s,mb5.2
LDF La Druitiere 80.48 0 *e*P **P 06 35 23.2 -0.4**
comp=Z,23nm,0.8s,mb5.2
MEZF Maizieres J'vi 80.48 357 *e*P **P 06 35 23.4 -0.2**
MOA Molln 80.48 350⇑*i*P **P 06 35 22.0 -1.7**
comp=Z,2.2nm,0.6s,mb4.3
BFO Black Forest 80.49 354 P **P 06 35 23.6 -0.1**
BFO *e* pP 06 35 37.3 -0.6
BFO pmax pmax
comp=Z,27nm,1.6s,mb4.9
BFO Black Forest 80.49 354 *e*P **P 06 35 23.4 -0.3**
comp=Z,14nm,1.1s,mb4.8
ECH Echery 80.67 355 *e*P **P 06 35 21.6 -3.1**
ECH Echery 80.67 355 *e*P **P 06 35 24.6 -0.1**
GRR Gorron 80.68 1 *e*P **P 06 35 24.6 -0.1**
comp=Z,54nm,0.8s,mb5.2
GRR Gorron 80.68 1 *e*P **P 06 35 24.6 -0.1**
GRR pmax pmax
comp=Z,27nm,0.8s,mb5.2
GRR Gorron 80.68 1 *e*P **P 06 35 24.6 -0.1**
comp=Z,27nm,0.8s,mb5.2
ROSF Rostrenen 80.69 2 *e*P **P 06 35 24.9 +0.1**
THEF They Montfort 80.72 356 *e*P **P 06 35 24.6 -0.3**
TGUH Tegucigalpa,Un 80.76 79 *e*P **P 06 35 26.9 +1.3**
comp=Z,94nm,1.3s,mb5.6
SGMF Saint Gilles 80.79 2 *e*P **P 06 35 25.1 -0.2**
comp=Z,44nm,0.6s,mb5.2
SGMF Saint Gilles 80.79 2 *e*P **P 06 35 25.1 -0.2**
SGMF pmax pmax
comp=Z,22nm,0.6s,mb5.3
SGMF Saint Gilles 80.79 2 *e*P **P 06 35 25.1 -0.2**
comp=Z,22nm,0.6s,mb5.3
HAU Haudompre 80.92 356 *e*P **P 06 35 25.9 -0.1**
comp=Z,19nm,0.8s,mb4.8
HAU *e*MLR MLR
comp=Z,2µm,20.5s,MS5.1
HAU Haudompre 80.92 356 *e*P **P 06 35 25.9 -0.1**
HAU pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
HAU MLR MLR
comp=Z,2µm,20.5s,MS5.4
HAU Haudompre 80.92 356 *e*P **P 06 35 25.9 -0.1**
comp=Z,9.6nm,0.8s,mb4.8
HAU LR LR
comp=Z,2µm,20.5s,MS5.4
ARSA Arzberg 80.94 349⇑*i*P **P 06 35 26.6 +0.5**
comp=Z,9.4nm,0.7s,mb4.8
ARSA Arzberg 80.94 349⇑*i*pP **P 06 35 26.6 +0.5**
comp=Z,9.4nm,0.7s,mb4.8
GNI Garni 80.95 327 P **P 06 35 27.3 +1.0**
comp=Z,4.3nm,0.3s,mb4.8,baz=63,slow=10,SNR=3.9
GNI LR LR 07 16 40.5
comp=Z,2µm,19.1s,MS5.4,baz=211,slow=40
FELD Feldberg im Sc 80.97 355 *e*P **P 06 35 25.2 -1.0**
MLR Muntele Rosu 81.04 342⇑*i*P **P 06 35 27.3 +0.6**
MLR Muntele Rosu 81.04 342⇑P **P 06 35 27.3 +0.6**
HINF Hinteralfeld 81.09 355 *e*P **P 06 35 26.5 -0.4**
comp=Z,22nm,1.1s,mb4.7
HINF Hinteralfeld 81.09 355 *e*P **P 06 35 26.5 -0.4**
HINF pmax pmax
comp=Z,11nm,1.0s,mb4.7
HINF Hinteralfeld 81.09 355 *e*P **P 06 35 26.5 -0.4**
comp=Z,11nm,1.0s,mb4.8
QUIF Quistinic 81.11 2 *e*P **P 06 35 26.7 -0.3**
comp=Z,40nm,1.0s,mb5.0
QUIF Quistinic 81.11 2 *e*P **P 06 35 26.7 -0.3**
QUIF pmax pmax
comp=Z,20nm,1.0s,mb5.0
QUIF Quistinic 81.11 2 *e*P **P 06 35 26.7 -0.3**
comp=Z,20nm,1.0s,mb5.0
RETA Reutte 81.16 353⇑*i*P **P 06 35 27.7 +0.4**
comp=Z,5.0nm,0.7s,mb4.5
RETA Reutte 81.16 353⇑*i*pP **P 06 35 27.7 +0.4**
comp=Z,5.0nm,0.7s,mb4.5
WATA Walderalm 81.25 352⇑*i*P **P 06 35 28.1 +0.4**
comp=Z,20nm,0.8s,mb5.1
WATA Walderalm 81.25 352⇑*i*pP **P 06 35 28.1 +0.4**
comp=Z,20nm,0.8s,mb5.1
WATA Walderalm 81.25 352⇑*i*P **P 06 35 28.1 +0.4**
WATA pmax pmax
comp=Z,20nm,0.8s,mb5.1
VOIR 81.26 343⇑*i*P **P 06 35 28.8 +1.0**
VOIR 81.26 343 P **P 06 35 28.8 +1.0**
MOTA Moosalm 81.28 352⇑*i*P **P 06 35 28.1 +0.2**
comp=Z,18nm,1.0s,mb4.9
MOTA Moosalm 81.28 352⇑*i*pP **P 06 35 28.1 +0.2**
comp=Z,18nm,1.0s,mb4.9
MOTA Moosalm 81.28 352⇑*i*P **P 06 35 28.1 +0.2**
MOTA pmax pmax
comp=Z,18nm,1.0s,mb5.0
WTTA Wattenberg 81.31 352⇑*i*P **P 06 35 28.8 +0.8**
comp=Z,21nm,0.7s,mb5.2,SNR=7.6
WTTA Wattenberg 81.31 352⇑*i*pP **P 06 35 28.8 +0.8**
comp=Z,21nm,0.7s,mb5.2,SNR=7.6
WTTA Wattenberg 81.31 352⇑*i*P **P 06 35 28.8 +0.7**
WTTA pmax pmax
comp=Z,21nm,0.7s,mb5.2
KBA Koelnbreinsper 81.34 351⇑*i*P **P 06 35 29.1 +0.8**
comp=Z,44nm,0.7s,mb5.5,SNR=37
KBA Koelnbreinsper 81.34 351⇑*i*pP **P 06 35 29.1 +0.8**
comp=Z,44nm,0.7s,mb5.5,SNR=37
KBA Koelnbreinsper 81.34 351⇑*i*P **P 06 35 29.1 +0.9**
KBA pmax pmax
comp=Z,44nm,0.7s,mb5.5
SQTA Sankt Quirin 81.39 352⇑*i*P **P 06 35 29.6 +1.1**
SQTA Sankt Quirin 81.39 352⇑*i*pP **P 06 35 29.6 +1.1**
DAVA Damuels 81.43 353⇑*i*P **P 06 35 28.7 0.0**
comp=Z,8.8nm,1.0s,mb4.6
WRAB Tennant Creek 81.50 223 P **P 06 35 27.0 -2.3**
comp=Z,87nm,1.8s,mb5.4,SNR=7.2
WRAB Tennant Creek 81.50 223 P **P 06 35 27.2 -2.1**
WRAB pmax pmax
comp=Z,37nm,1.4s,mb5.1
WRAB Tennant Creek 81.50 223 *e*P **P 06 35 27.3 -2.0**
comp=Z,6.8nm,0.8s,mb4.6
WB2 Warramunga Arr 81.50 223 *e*P **P 06 35 27.0 -2.3**
WRA Warramunga Arr 81.51 223 P **P 06 35 27.4 -1.9**
comp=Z,5.9nm,0.7s,mb4.6,baz=32,slow=5.9,SNR=71
WRA LR LR 07 11 25.3
comp=Z,553nm,19.5s,MS4.9,baz=35,slow=36
WRA Warramunga Arr 81.51 223 P **P 06 35 27.4 -1.9**
WRA pmax pmax
comp=Z,6.0nm,0.7s
WRA MLR MLR
comp=Z,553nm,19.5s
TIRR Tirgusor 81.52 340⇑*i*P **P 06 35 29.9 +0.7**
TIRR Tirgusor 81.52 340 ⇑P **P 06 35 29.9 +0.6**
LOMF Lomont 81.55 355 *e*P **P 06 35 29.1 -0.3**
SOKA Soboth 81.56 350⇑*i*P **P 06 35 29.7 +0.3**
comp=Z,32nm,1.3s,mb5.1
SOKA Soboth 81.56 350⇑*i*pP **P 06 35 29.7 +0.3**
comp=Z,32nm,1.3s,mb5.1
PERS Pernice 81.59 350 *e*P **P 06 35 29.6 0.0**
FETA Feichten 81.63 353⇑*i*P **P 06 35 30.2 +0.5**
comp=Z,19nm,1.0s,mb5.0,SNR=12
FETA Feichten 81.63 353⇑*i*pP **P 06 35 30.2 +0.5**
comp=Z,19nm,1.0s,mb5.0,SNR=12
BZS Buzias 81.69 345⇑*i*P **P 06 35 29.9 -0.2**
BZS Buzias 81.69 345 P **P 06 35 30.3 +0.2**
GZR Gura Zlata 81.71 344 P **P 06 35 31.1 +0.9**
ABTA Abfaltersbach 81.75 351⇑*i*P **P 06 35 30.4 +0.1**
comp=Z,14nm,0.9s,mb4.9,SNR=8.1
LOR Lormes 81.75 357 *e*P **P 06 35 30.1 -0.3**
comp=Z,14nm,0.8s,mb4.6
LOR *e*MLR MLR
comp=Z,1µm,21.0s,MS5.0
LOR Lormes 81.75 357 *e*P **P 06 35 30.1 -0.3**
LOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LOR MLR MLR
comp=Z,1µm,21.0s,MS5.2
LOR Lormes 81.75 357 *e*P **P 06 35 30.1 -0.3**
comp=Z,6.8nm,0.8s,mb4.6
LOR LR LR
comp=Z,1µm,21.0s,MS5.2
MYKA Terra Mystica 81.75 351⇑*i*P **P 06 35 31.4 +1.0**
comp=Z,13nm,0.9s,mb4.8
MYKA Terra Mystica 81.75 351⇑*i*pP **P 06 35 31.4 +1.0**
comp=Z,13nm,0.9s,mb4.8
OBKA Obir 81.78 350⇓*i*P **P 06 35 31.3 +0.7**
comp=Z,22nm,0.8s,mb5.1
OBKA Obir 81.78 350⇓*i*pP **P 06 35 31.3 +0.7**
comp=Z,22nm,0.8s,mb5.1
SSF Saint Saulge 81.97 358 *e*P **P 06 35 31.4 -0.1**
comp=Z,35nm,1.0s,mb4.9
SSF Saint Saulge 81.97 358 *e*P **P 06 35 31.4 -0.1**
SSF pmax pmax
comp=Z,17nm,1.0s,mb4.9
SSF Saint Saulge 81.97 358 *e*P **P 06 35 31.4 -0.1**
comp=Z,17nm,1.0s,mb4.9
AVF Avril sur Loir 82.24 358 *e*P **P 06 35 32.8 -0.2**
comp=Z,32nm,1.0s,mb4.9
AVF Avril sur Loir 82.24 358 *e*P **P 06 35 32.8 -0.2**
AVF pmax pmax
comp=Z,16nm,1.0s,mb4.9
AVF Avril sur Loir 82.24 358 *e*P **P 06 35 32.8 -0.2**
comp=Z,16nm,1.0s,mb4.9
TUE Stuetta 82.28 354 *e*P **P 06 35 33.7 +0.6**
comp=Z,16nm,0.8s,mb5.0
CABF La Chapelle 82.33 356 *e*P **P 06 35 33.3 -0.1**
PSI Prapat 82.33 265 P **P 06 35 33.1 -0.8**
comp=Z,22nm,0.7s,mb5.2,baz=29,slow=4.3,SNR=17
PSI Prapat 82.33 265 P **P 06 35 33.2 -0.7**
PSI pmax pmax
comp=Z,22nm,0.7s,mb5.2
SMF Signal de Mont 82.38 357 *e*P **P 06 35 33.5 -0.2**
comp=Z,53nm,1.1s,mb5.1
SMF Signal de Mont 82.38 357 *e*P **P 06 35 33.5 -0.2**
SMF pmax pmax
comp=Z,27nm,1.1s,mb5.1
SMF Signal de Mont 82.38 357 *e*P **P 06 35 33.5 -0.2**
comp=Z,27nm,1.1s,mb5.1
JAVS Javornik 82.44 350 *e*P **P 06 35 33.4 -0.7**
VISS Visnje 82.44 350 *i* P **P 06 35 33.5 -0.5**
MFF Saint Martin d 82.47 0 *e*P **P 06 35 33.7 -0.5**
comp=Z,31nm,0.9s,mb4.9
MFF Saint Martin d 82.47 0 *e*P **P 06 35 33.7 -0.5**
MFF pmax pmax
comp=Z,16nm,0.9s,mb5.0
MFF Saint Martin d 82.47 0 *e*P **P 06 35 33.7 -0.5**
comp=Z,16nm,0.9s,mb4.9
BGF Bois d'Agland 82.49 358 *e*P **P 06 35 33.9 -0.4**
comp=Z,17nm,0.8s,mb4.8
BGF Bois d'Agland 82.49 358 *e*P **P 06 35 33.9 -0.4**
BGF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BGF Bois d'Agland 82.49 358 *e*P **P 06 35 33.9 -0.4**
comp=Z,8.7nm,0.8s,mb4.7
BOJS Bojanci 82.69 349 *e*P **P 06 35 35.1 -0.2**
TCF Toulx Ste Croi 82.77 359 *e*P **P 06 35 35.4 -0.3**
comp=Z,13nm,0.7s,mb4.8
TCF Toulx Ste Croi 82.77 359 *e*P **P 06 35 35.4 -0.3**
TCF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
TCF Toulx Ste Croi 82.77 359 *e*P **P 06 35 35.4 -0.3**
comp=Z,6.6nm,0.7s,mb4.8
PLDF La Plantade 83.06 358 *e*P **P 06 35 37.7 +0.5**
HYB Hyderabad 83.62 290 *i* P **P 06 35 41.5 +0.9**
HYB Hyderabad 83.62 290 *e*P **P 06 35 41.5 +0.9**
RJF Les Rejaudoux 83.76 359 *e*P **P 06 35 40.5 -0.4**
RJF *e*MLR MLR
comp=Z,1µm,20.8s,MS4.9
RJF Les Rejaudoux 83.76 359 *e*P **P 06 35 40.5 -0.4**
RJF LR LR
comp=Z,1µm,20.8s,MS5.2
BNI Bardonecchia 83.85 355 *e*P **P 06 35 43.1 +1.8**
BNI pmax pmax
comp=Z,15nm,0.9s,mb5.1
BNI Bardonecchia 83.85 355 *e*P **P 06 35 43.1 +1.7**
comp=Z,15nm,0.9s,mb5.1
FITZ Fitzroy Crossi 83.91 231⇑*i*P **P 06 35 40.9 -0.9**
comp=Z,22nm,0.6s,mb5.5
RKT Rikitea 83.94 139 *e*LR LR 07 02 09.3
comp=Z,1µm,24.2s,baz=332
ORIF Oris-en-Rattie 84.03 356 *e*P **P 06 35 41.9 -0.3**
ORIF *e*MLR MLR
comp=Z,1µm,22.5s,MS4.9
CAF Calviac 84.13 359 *e*P **P 06 35 42.4 -0.4**
VIVF Saint-Julien-l 84.14 357 *e*P **P 06 35 42.7 -0.1**
comp=Z,20nm,1.0s,mb4.9
VIVF Saint-Julien-l 84.14 357 *e*P **P 06 35 42.7 -0.1**
VIVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
VIVF Saint-Julien-l 84.14 357 *e*P **P 06 35 42.7 -0.1**
comp=Z,9.9nm,1.0s,mb4.9
MBDF Montbardon 84.17 355 *e*P **P 06 35 42.7 -0.3**
comp=Z,18nm,0.8s,mb4.9
MBDF Montbardon 84.17 355 *e*P **P 06 35 42.7 -0.3**
MBDF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MBDF Montbardon 84.17 355 *e*P **P 06 35 42.7 -0.3**
comp=Z,8.9nm,0.8s,mb5.0

MALT	**Malatya**	**84.67**	**331**	*eP*	**P**	**06 35 46.3**	**+0.7**
MALT				pmax	pmax		
comp=Z,14nm,1.1s,mb5.0							
MALT	**Malatya**	**84.67**	**331**	⇑*iP*	**P**	**06 35 46.4**	**+0.8**
MALT	**Malatya**	**84.67**	**331**	*eP*	**P**	**06 35 46.2**	**+0.7**
comp=Z,14nm,1.1s,mb5.0							
TOUF	**Mont Tournerai**	**84.86**	**355**	*eP*	**P**	**06 35 46.5**	**0.0**
SAOF	**Saorge**	**84.87**	**355**	*eP*	**P**	**06 35 45.9**	**-0.6**
LASF	**Ste Croix**	**84.94**	**357**	*eP*	**P**	**06 35 46.3**	**-0.6**
LUCF	**Luceram**	**84.97**	**355**	*eP*	**P**	**06 35 46.8**	**-0.2**
SMRF	**Simiane la Rot**	**84.98**	**356**	*eP*	**P**	**06 35 46.7**	**-0.4**
comp=Z,64nm,1.3s,mb5.3							
SMRF	**Simiane la Rot**	**84.98**	**356**	*eP*	**P**	**06 35 46.7**	**-0.4**
comp=Z,64nm,1.3s,mb5.6							
ASAR	**Alice Springs**	**84.99**	**222**	P	**P**	**06 35 45.9**	**-1.3**
comp=Z,4.0nm,0.7s,mb4.6,baz=36,slow=5.6,SNR=55							
ASAR	**Alice Springs**	**84.99**	**222**	P	**P**	**06 35 45.9**	**-1.3**
ASAR				pmax	pmax		
comp=Z,4.0nm,0.7s							
SBF	**Sospel**	**85.00**	**355**	*eP*	**P**	**06 35 46.9**	**-0.3**
REVF	**Revere**	**85.12**	**355**	*eP*	**P**	**06 35 47.7**	**-0.1**
ARMA	**Armidale**	**85.17**	**204**	*eP*	**P**	**06 35 41.7**	**-6.2**
FRF	**La Foret Royal**	**85.34**	**355**	*eP*	**P**	**06 35 48.3**	**-0.6**
LMR	**La Mourre**	**85.58**	**355**	*eP*	**P**	**06 35 49.6**	**-0.5**
MTLF	**Montolieu**	**85.71**	**358**	*eP*	**P**	**06 35 50.3**	**-0.4**
ETSF	**Etsaut**	**86.17**	**1**	*eP*	**P**	**06 35 53.0**	**0.0**
comp=Z,17nm,1.0s,mb5.0							
ETSF	**Etsaut**	**86.17**	**1**	*eP*	**P**	**06 35 53.0**	**0.0**
ETSF				pmax	pmax		
comp=Z,9.0nm,1.0s,mb5.0							
ETSF	**Etsaut**	**86.17**	**1**	*eP*	**P**	**06 35 53.0**	**0.0**
comp=Z,8.6nm,1.0s,mb4.9							
PGF	**Pioggiola**	**86.21**	**353**	*eP*	**P**	**06 35 52.6**	**-0.6**
comp=Z,42nm,1.0s,mb5.3							
PGF	**Pioggiola**	**86.21**	**353**	*eP*	**P**	**06 35 52.6**	**-0.6**
PGF				pmax	pmax		
comp=Z,21nm,1.0s,mb5.3							
PGF	**Pioggiola**	**86.21**	**353**	*eP*	**P**	**06 35 52.6**	**-0.6**
comp=Z,21nm,1.0s,mb5.3							
CORF	**Corte**	**86.44**	**353**	*eP*	**P**	**06 35 53.9**	**-0.5**
MVO	**Moncorvo**	**87.69**	**5**	*eP*	**P**	**06 36 00.4**	**0.0**
comp=Z,20nm,1.4s,mb5.2							
MTE	**Manteigas**	**88.42**	**6**	*eP*	**P**	**06 36 03.9**	**0.0**
comp=Z,15nm,1.2s,mb5.3							
URZ	**Urewera**	**89.23**	**182**	LR	LR	07 10 24.6	
comp=Z,797nm,21.1s,MS5.1,baz=35,slow=32							
ESDC	**Sonseca Array**	**89.32**	**3**	*P*	**P**	**06 36 07.6**	**-0.6**
comp=Z,1.2nm,0.7s,mb4.3,baz=352,slow=4.7,SNR=4.0							
STKA	**Stephens Creek**	**89.51**	**212**	*eP*	**P**	**06 36 08.2**	**-0.6**
comp=Z,10nm,1.5s,mb4.9							
STKA	**Stephens Creek**	**89.51**	**212**	P	**P**	**06 36 08.7**	**-0.2**
comp=Z,8.8nm,0.8s,mb5.2,baz=337,slow=5.4,SNR=11							
MTP	**Monte Pirato**	**90.30**	**60**	*eP*	**P**	**06 36 13.5**	**+0.4**
PBAR	**Barrancos**	**90.67**	**6**	*eP*	**P**	**06 36 13.4**	**-1.1**
comp=Z,23nm,1.4s,mb5.3							
KEST	**Kesra**	**92.95**	**353**	*P*	**P**	**06 36 25.0**	**0.0**
comp=Z,1.8nm,1.1s,mb4.4,baz=350,slow=3.5,SNR=3.8							
RPZ	**Rata Peaks**	**94.97**	**187**	LR	LR	07 16 02.8	
comp=Z,1μm,19.2s,MS5.4,baz=13,slow=33							
TORD	**Torodi Ar. Bea**	**115.80**	**358**	PKP	PKPdf	06 41 53.3	-1.2
comp=Z,0.6nm,0.6s,baz=353,slow=2.3,SNR=18							
TORD				PKKPbc	PKKPbc	06 52 23.8	-0.4
comp=Z,1.2nm,0.8s,baz=170,slow=2.2,SNR=10							
TORD	**Torodi Ar. Bea**	**115.80**	**358**	PKP	PKPdf	06 41 53.3	-1.2
TORD				PKKPbc	PKKPbc	06 52 23.8	-0.4
LPAZ	**La Paz**	**116.11**	**83**	PKP	PKPdf	06 41 54.4	-0.5
comp=Z,0.6nm,0.8s,baz=52,slow=4.5,SNR=3.8							
LPAZ	**La Paz**	**116.11**	**83**	PKIKP	PKPdf	06 41 54.4	-0.5
LPAZ				pmax	pmax		
comp=Z,1.0nm,0.8s							
LPAZ	**La Paz**	**116.11**	**83**	PKP	PKPdf	06 41 54.4	-0.5
DBIC	**Dimbokro**	**122.09**	**6**	PKP	PKPdf	06 42 06.2	-0.5
comp=Z,7.0nm,1.1s,baz=146,slow=1.7,SNR=4.9							
DBIC	**Dimbokro**	**122.09**	**6**	PKIKP	PKPdf	06 42 06.2	-0.5
DBIC				pmax	pmax		
comp=Z,7.0nm,1.1s							
LIC	**Lamto**	**122.52**	**6**	*e*PKIKP	PKPdf	06 42 06.4	-1.1
comp=Z,20nm,1.1s							
CPUP	**Villa Florida**	**130.26**	**83**	PKP	PKPdf	06 42 21.1	-0.7
comp=Z,2.5nm,0.7s,baz=315,slow=3.4,SNR=9.2							
CPUP	**Villa Florida**	**130.26**	**83**	PKIKP	PKPdf	06 42 21.1	-0.7
CPUP				pmax	pmax		
comp=Z,3.0nm,0.7s							
PLCA	**Paso Flores**	**131.58**	**107**	PKP	PKPdf	06 42 23.2	-0.6
comp=Z,4.3nm,0.9s,baz=286,slow=2.7,SNR=9.9							
PLCA	**Paso Flores**	**131.58**	**107**	PKIKP	PKPdf	06 42 23.2	-0.6
PLCA				pmax	pmax		
comp=Z,4.0nm,0.9s							
QSPA	**South Pole Qui**	**141.06**	**180**	PKhKP		06 42 33.9	
comp=Z,4.7nm,0.6s,baz=1.9,slow=0.6,SNR=19							
TSUM	**Tsumeb**	**145.13**	**330**	*e*PKPbc	PKPbc	06 42 49.3	+0.5
MAW	**Mawson**	**146.03**	**218**	⇑*iP*	PKPdf	06 42 48.9	-0.4
comp=Z,14nm,1.9s							
MAW	**Mawson**	**146.03**	**218**	PKPbc	PKPbc	06 42 49.1	-1.1
comp=Z,8.9nm,0.7s,baz=101,slow=3.8,SNR=32							
LBTB	**Lobatse**	**147.31**	**314**	*e*PKP2	PKPab	06 42 55.7	-1.4
BOSA	**Boshof**	**150.53**	**311**	PKPbc	PKPbc	06 43 03.8	+0.5
comp=Z,22nm,0.7s,baz=39,slow=2.2,SNR=41							
BOSA	**Boshof**	**150.53**	**311**	*e*PKPbc	PKPbc	06 43 03.2	-0.1
SNAA	**Sanae**	**159.52**	**177**	*e*PKPdf	PKPab	06 43 44.6	-2.6
SNAA				*e*		06 43 49.0	
SNAA				*e*		06 44 01.5	
SNAA	**Sanae**	**159.52**	**177**	PKP	PKPdf	06 43 08.0	-0.8
comp=Z,0.3nm,0.8s,baz=129,slow=7.6,SNR=4.1							
SNAA				PKPab	PKPab	06 43 45.4	-1.8
comp=Z,0.6nm,0.8s,baz=219,slow=5.5,SNR=5.1							
SNAA	**Sanae**	**159.52**	**177**	PKIKP	PKPdf	06 43 08.0	-0.8
SNAA						06 43 45.4	
SNAA				pmax	pmax		
comp=Z,1.0nm,0.8s							
VNA1	**Neumayer--Stat**	**160.21**	**172**	*e*PKPdf	PKPab	06 43 49.2	-1.0
VNA1				*e*		06 43 54.3	
VNA1				*e*		06 44 05.2	

JMA 02 06:27:50.6±0.4, 4683N×14166E, h12km, M3.0, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.52**	**174**	P	Pn	06 28 17.6	0.0
JWK2				*e*S	Sn	06 28 37.0	-0.3
JSE	**Soyaes**	**1.98**	**161**	P	Pn	06 28 24.2	+0.3
JSE				*e*S	Sn	06 28 49.1	+0.5

*ISCJB **02** 06:37:37.8±2.7, 2733N±005×12681E±005, h12km±18km, mb3.7/5, Error ellipse: s-maj=9.4km s-min=6.6km az=43.0*
*JMA **02** 06:37:37.1±0.3, 2735N×12680E, h6km, M3.6*
*IDC **02** 06:37:37.4±1.0, 2730N×12695E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/20, mbtmp3.8/5, Error ellipse: s-maj=37.4km s-min=15.8km az=42.0*

ISC 02 06:37:38.5±1.2, 2730N±005×12686E±005, h7km±7km, n12, σ0§67/18, mb3.7/5, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.79**	**154**	P	**Pg**	**06 37 53.5**	**-0.1**
JAGN				S	**Sg**	**06 38 04.5**	**+0.6**
JKE	**Kume jima 2**	**0.98**	**184**	P	**Pg**	**06 37 56.2**	**-1.0**
JKE				S	**Sg**	**06 38 10.1**	**+0.2**
JIH	**Iheya**	**1.02**	**105**	P	**Pg**	**06 37 57.5**	**-0.5**
JIH				S	**Sg**	**06 38 11.8**	**+0.5**
NAH1	**Naha**	**1.32**	**146**	S	**Sb**	**06 38 20.9**	**+0.1**
JOW	**Kunigami**	**1.34**	**110**	P	**Pn**	**06 38 02.8**	**-0.9**
JOW				S	**Sb**	**06 38 22.0**	**+0.6**
JOW	**Kunigami**	**1.34**	**110**	Pn	**Pn**	**06 38 02.9**	**-0.8**
27nm,0.3s,baz=281,slow=17,SNR=24							
JOW				Sn	**Sn**	**06 38 20.9**	**-1.0**
51nm,0.3s,baz=140,slow=27,SNR=16							
JJT2	**Tamagusuku 2**	**1.41**	**145**	P	**Pn**	**06 38 04.8**	**+0.3**
JJT2				S	**Sb**	**06 38 23.5**	**+0.3**
SONM	**Songino Array**	**25.99**	**327**	P	**P**	**06 43 13.4**	**+1.5**
1.4nm,0.8s,mb3.5,baz=136,slow=11,SNR=5.8							
MKAR	**Makanchi Array**	**39.91**	**311**	P	**P**	**06 45 12.5**	**-0.6**
1.3nm,0.7s,mb3.8,baz=100,slow=10.0,SNR=5.9							
ZALV	**Zalesovo Beam**	**40.66**	**323**	P	**P**	**06 45 19.4**	**+0.3**
0.8nm,0.4s,mb3.7,baz=101,slow=7.7,SNR=4.3							
WRA	**Warramunga Arr**	**47.52**	**170**	P	**P**	**06 46 13.8**	**-0.7**
0.9nm,0.8s,mb3.8,baz=353,slow=8.4,SNR=4.8							
ASAR	**Alice Springs**	**51.12**	**172**	P	**P**	**06 46 42.5**	**+0.4**
0.6nm,0.7s,mb3.6,baz=356,slow=8.4,SNR=7.1							

*NEIC **02** 06:37:45.3±1.0, 5103N×17960W, h10km, mb4.0/5, ML4.1(AEIC), Error ellipse: s-maj=22.0km s-min=6.3km az=182.0*
*ISCJB **02** 06:37:47.4±1.1, 512N±0.1×17970W±008, h43km±9km, mb4.0/19, Error ellipse: s-maj=18.0km s-min=7.1km az=167.4*
*MOS **02** 06:37:48.8±0.7, 5126N×17965W, h58km, mb4.3/11, Error ellipse: s-maj=23.2km s-min=16.5km az=117.6*
*IDC **02** 06:37:54.0±5.2, 5129N×17978W, h89km±48km, mb3.7/15, mb1 3.8/17, mb1mx3.8/27, mbtmp3.7/17, Error ellipse: s-maj=21.3km s-min=15.3km az=160.0*

ISC 02 06:37:49.0±1.0, 512N±01×17975W±007, h41km±8km, n46, σ0§91/47, mb4.0/19, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.61**	**284**	P	**Pn**	**06 37 59.7**	**-1.5**
AMKA				S	**Sn**	**06 38 09.0**	**-0.9**
SMY	**Shemya**	**4.09**	**294**	P	**Pn**	**06 38 51.5**	**+2.7**
FX1	**Attu Island--F**	**4.67**	**293**	P	**Pn**	**06 38 58.7**	**+1.8**
NIKO	**Nikolski**	**6.93**	**71**	*e*Pn	**Pn**	**06 39 27.9**	**0.0**
UNV	**Unalaska Valle**	**8.49**	**67**	*e*Pn	**Pn**	**06 39 48.1**	**-1.0**
PETK	**Petropavlovsk-**	**13.96**	**287**	P	**Pn**	**06 41 08.2**	**+4.3**
0.1nm,0.3s,baz=90,slow=18,SNR=5.1							
KDAK	**Kodiak Island**	**17.00**	**57**	P	**Pn**	**06 41 43.9**	**+0.6**
1.2nm,0.3s,baz=235,slow=6.4,SNR=10.0							
SEW	**Seward**	**19.09**	**51**	*e*P	**Pn**	**06 42 08.4**	**-0.5**
CHUM	**Lake Minchumin**	**19.21**	**38**	*e*P	**Pn**	**06 42 11.0**	**+0.8**
3.5nm,0.8s							
KTH	**Kantishna Hill**	**19.61**	**40**	*e*P	**Pn**	**06 42 14.5**	**-0.5**
7.7nm,0.9s							
TRF	**Thorofare Moun**	**19.83**	**41**	*e*P	**Pn**	**06 42 17.5**	**-0.1**
4μm,1.2s							
BPAW	**Bear Paw Mtn.**	**19.83**	**39**	*e*P	**Pn**	**06 42 17.2**	**-0.4**
2μm,0.6s							
IMA2	**Indian Mountai**	**19.88**	**32**	*e*P	**Pn**	**06 42 18.1**	**-0.1**
BMRM	**Bremner River**	**21.62**	**50**	P	**P**	**06 42 35.5**	**+0.4**
EGAK	**Eagle**	**24.04**	**41**	*e*P	**P**	**06 42 59.5**	**-0.2**
3.8nm,0.8s,mb3.9							
KLR	**Kul'dur**	**30.65**	**286**	*e*P	**P**	**06 43 55.0**	**-4.0**
YKA	**Yellowknife Ar**	**35.76**	**46**	P	**P**	**06 44 42.8**	**-0.6**
0.5nm,0.7s,mb3.5,baz=282,slow=7.8,SNR=4.3							
YKA	**Yellowknife Ar**	**35.76**	**46**	P	**P**	**06 44 42.8**	**-0.6**
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
KSRS	**Korea Array**	**39.05**	**270**	P	**P**	**06 45 12.1**	**+0.6**
comp=Z,1.4nm,0.8s,mb3.7,baz=62,slow=9.2,SNR=4.5							
KSRS	**Korea Array**	**39.05**	**270**	P	**P**	**06 45 12.1**	**+0.6**
KSRS				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.6							
MCMT	**McKenzie Canyo**	**43.79**	**71**	*e*P	**P**	**06 45 50.6**	**+0.3**
BOZ	**Bozeman (W)**	**44.06**	**69**	*e*P	**P**	**06 45 52.7**	**+0.3**
BOZ				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.0							
BOZ	**Bozeman (W)**	**44.06**	**69**	*e*P	**P**	**06 45 52.7**	**+0.2**
comp=Z,3.0nm,1.0s,mb4.0							
NVAR	**Mina Array Bea**	**44.16**	**82**	P	**P**	**06 45 55.4**	**+2.0**
comp=Z,0.7nm,1.0s,mb3.4,baz=290,slow=6.1,SNR=3.9							
RLMT	**Red Lodge**	**45.74**	**69**	*e*P	**P**	**06 46 06.1**	**+0.3**
comp=Z,6.4nm,1.0s,mb4.5							
SONM	**Songino Array**	**46.18**	**296**	P	**P**	**06 46 10.1**	**+0.9**
comp=Z,1.2nm,0.6s,mb4.0,baz=61,slow=7.9,SNR=7.2							
SONM	**Songino Array**	**46.18**	**296**	P	**P**	**06 46 10.1**	**+0.9**
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
ZAK	**Zakamensk**	**46.52**	**301**	*e*P	**P**	**06 46 12.5**	**+0.7**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.3s,mb4.1							
PDAR	**Pinedale Array**	**46.92**	**72**	P	**P**	**06 46 15.5**	**+0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=306,slow=3.3,SNR=16							
ARCES	**ARCESS Array B**	**58.13**	**350**	P	**P**	**06 47 38.6**	**+1.0**
comp=Z,2.7nm,0.9s,mb4.3,baz=30,slow=9.8,SNR=4.7							
ARCES	**ARCESS Array B**	**58.13**	**350**	P	**P**	**06 47 38.6**	**+1.0**
ARCES				pmax	pmax		
comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**59.65**	**308**	P	**P**	**06 47 47.2**	**-1.3**
comp=Z,1.8nm,0.5s,mb4.3,baz=57,slow=7.6,SNR=12							
MKAR	**Makanchi Array**	**59.65**	**308**	P	**P**	**06 47 47.2**	**-1.4**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.5s							
NOA	**NORSAR Array B**	**67.73**	**354**	P	**P**	**06 48 41.3**	**-0.2**
comp=Z,0.7nm,0.6s,mb3.9,baz=342,slow=4.4,SNR=3.4							
NOA	**NORSAR Array B**	**67.73**	**354**	P	**P**	**06 48 41.3**	**-0.2**
NOA				pmax	pmax		
comp=Z,1.0nm,0.6s							
HFS	**Hagfors**	**68.45**	**353**	P	**P**	**06 48 44.8**	**-1.3**
comp=Z,1.3nm,0.6s,mb4.2,baz=45,slow=11,SNR=5.3							
HFS	**Hagfors**	**68.45**	**353**	P	**P**	**06 48 44.8**	**-1.3**
HFS				pmax	pmax		
comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**75.50**	**341**	P	**P**	**06 49 27.4**	**-0.9**
comp=Z,0.2nm,0.3s,mb3.5,baz=20,slow=5.0,SNR=4.1							
CTA	**Charters Tower**	**77.04**	**213**	P	**P**	**06 49 37.8**	**+0.4**
comp=Z,1.2nm,0.4s,mb4.2,baz=309,slow=2.4,SNR=3.3							
CTA	**Charters Tower**	**77.04**	**213**	P	**P**	**06 49 37.8**	**+0.4**
CTA				pmax	pmax		
comp=Z,1.0nm,0.4s							
GERES	**GERESS Array B**	**79.64**	**351**	P	**P**	**06 49 50.9**	**-0.6**
comp=Z,0.3nm,0.2s,mb3.8,baz=64,slow=6.1,SNR=3.8							
WRA	**Warramunga Arr**	**81.50**	**223**	P	**P**	**06 50 00.5**	**-1.2**
comp=Z,1.0nm,1.0s,mb3.7,baz=35,slow=5.3,SNR=5.8							
WRA	**Warramunga Arr**	**81.50**	**223**	P	**P**	**06 50 00.5**	**-1.2**
WRA				pmax	pmax		
comp=Z,1.0nm,1.0s							
FITZ	**Fitzroy Crossi**	**83.91**	**231**	P	**P**	**06 50 14.1**	**-0.2**
comp=Z,2.4nm,0.9s,mb4.3,baz=43,slow=11,SNR=4.3							
ASAR	**Alice Springs**	**84.98**	**222**	P	**P**	**06 50 19.1**	**-0.5**
comp=Z,0.9nm,0.9s,mb3.9,baz=30,slow=5.0,SNR=6.3							
ASAR	**Alice Springs**	**84.98**	**222**	P	**P**	**06 50 19.1**	**-0.5**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.9s							

IDC 02 06:39:33.8±16.0, 1450S×16629E, h160km±138km, mb3.6/5, mb1 3.8/6, mb1mx3.5/18, mbtmp3.6/6, MS3.7/1, Ms1 3.7/1, ms1mx3.4/29, Error ellipse: s-maj=94.2km s-min=37.3km az=114.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.99**	**308**	LR	LR	06 44 06.0	
comp=Z,480nm,18.6s,baz=358,slow=34							
CTA	**Charters Tower**	**19.91**	**251**	P	P	06 43 54.1	+1.0
0.3nm,0.3s,baz=73,slow=13,SNR=6.8							
STKA	**Stephens Creek**	**28.42**	**228**	P	P	06 45 13.3	-0.2
3.9nm,0.8s,baz=64,slow=10,SNR=4.9							
WRA	**Warramunga Arr**	**30.96**	**255**	P	P	06 45 35.3	-0.7
1.6nm,0.7s,baz=86,slow=9.4,SNR=16							
ASAR	**Alice Springs**	**31.87**	**248**	P	P	06 45 43.7	-0.2
1.5nm,0.7s,baz=74,slow=10,SNR=17							
FITZ	**Fitzroy Crossi**	**39.12**	**259**	P	P	06 46 46.7	+0.8
2.7nm,0.9s,baz=86,slow=11,SNR=4.7							
PETK	**Petropavlovsk-**	**67.74**	**354**	P	P	06 50 13.8	+0.1
0.3nm,0.3s,baz=144,slow=11,SNR=5.2							
ARCES	**ARCESS Array B**	**119.79**	**345**	PKP	PKPdf	06 58 04.2	-0.1
1.8nm,0.8s,baz=36,slow=1.7,SNR=5.9							

*ISCJB **02** 06:49:07.2±0.6, 3162S±004×6700W±007, h130km±8km, mb3.7/6, Error ellipse: s-maj=9.5km s-min=6.7km az=8.9*
*NEIC **02** 06:49:07.9±0.4, 3162S×6693W, h125km±4km, mb4.7/1, Error ellipse: s-maj=6.7km s-min=4.3km az=104.0*
*IDC **02** 06:49:08.6±0.5, 3155S×67.18W, h135km±5km, mb3.6/6, mb1 3.7/10, mb1mx3.6/20, mbtmp3.7/10, MS3.8/1, Ms1 3.8/1, ms1mx3.2/30, Error ellipse: s-maj=16.9km s-min=12.1km az=123.0*
*GUC **02** 06:49:08.5±0.7, 3163S×67.16W, h149km±66km, ML4.6*

ISC 02 06:49:08.1±0.6, 3162S±004×6697W±007, h124km±8km, n42, σ0§58/43, mb3.8/6, 4C-3D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.08**	**270**	P	**Pn**	**06 49 31.3**	**+0.1**
20nm,0.3s,baz=94,slow=9.8,SNR=22.34							
CFAA				S	**Sn**	**06 49 48.8**	**0.0**
117nm,0.3s,baz=353,slow=21,SNR=200							
JACH	**Jahuel**	**3.25**	**250**	*i P*	**Pn**	**06 49 58.2**	**+0.4**
FCH	**Farellones**	**3.28**	**238**	⇑*iP*	**Pn**	**06 49 58.6**	**+0.4**
PTCH	**Petorca**	**3.42**	**258**	*i* S	**Sn**	**06 50 39.1**	**-1.2**
PTCH				AML	AML	06 50 41.0	
comp=N,259nm,0.2s							
CMCH	**Combarbala**	**3.47**	**276**	⇑*iP*	**Pn**	**06 50 00.5**	**-0.2**
CMCH				*i* S	**Sn**	**06 50 40.1**	**-1.3**
CMCH				AML	AML	06 50 42.4	
comp=E,3μm,0.6s							
CMCH	**Combarbala**	**3.47**	**276**	⇓*iP*	**Pn**	**06 50 00.9**	**+0.2**
PEL	**Peldehue**	**3.49**	**243**	⇓*iP*	**Pn**	**06 50 01.0**	**0.0**
PEL				*e*S	**Sn**	**06 50 41.2**	**-0.6**
PEL				AML	AML	06 50 46.0	
comp=E,483nm,0.6s							
CLCH	**Cerro Calan**	**3.49**	**239**	*i P*	**Pn**	**06 50 01.1**	**+0.1**
CLCH				*i* S	**Sn**	**06 50 42.3**	**+0.4**
CLCH				AML	AML	06 50 49.3	
comp=N,834nm,0.8s							
LMEL	**Las Melosas**	**3.51**	**230**	*e*P	**Pn**	**06 50 01.9**	**+0.7**
LMEL	**Las Melosas**	**3.51**	**230**	*e*P	**Pn**	**06 50 01.7**	**+0.4**
PCH	**Pirque**	**3.59**	**235**	⇑*iP*	**Pn**	**06 50 02.7**	**+0.4**
TLL	**Tololo Astrono**	**3.60**	**293**	*e*P	**Pn**	**06 50 03.4**	**+1.0**
TLL				*e*S	**Sn**	**06 50 44.2**	**-0.2**
TLL				AML	AML	06 50 48.0	
comp=N,382nm,0.7s							
ANTU	**Antumapu**	**3.65**	**237**	⇑*iP*	**Pn**	**06 50 03.1**	**0.0**
CHCH	**Chadas Angostu**	**3.86**	**232**	*i P*	**Pn**	**06 50 05.9**	**0.0**
CHNG	**Los Chungos**	**3.87**	**265**	*i P*	**Pn**	**06 50 05.6**	**-0.3**
CACH	**El Canelo**	**3.94**	**230**	⇓*iP*	**Pn**	**06 50 07.6**	**+0.7**
LCO	**Las Campanas**	**4.14**	**308**	*e*Pn	**Pn**	**06 50 10.2**	**+0.6**
LCO				*e*Sn	**Sn**	**06 50 57.1**	**-0.2**
VACH	**Vallenar**	**4.47**	**312**	*e*P	**Pn**	**06 50 14.4**	**+0.4**
TRQA	**Tornquist**	**7.62**	**149**	*e*Pn	**Pn**	**06 50 56.0**	**-0.4**
comp=N,20nm,0.8s							
LVC	**Limon Verde**	**9.14**	**349**	P	**Pn**	**06 51 16.8**	**-0.2**
comp=N,2.1nm,0.3s,baz=180,slow=8.9,SNR=20							
LVC				S	**Sn**	**06 52 52.6**	**-5.5**
comp=N,1.2nm,0.3s,baz=322,slow=21,SNR=4.8							
LVC	**Limon Verde**	**9.14**	**349**	P	**Pn**	**06 51 16.8**	**-0.2**
LVC				S	**Sn**	**06 52 52.6**	**-5.5**
PLCA	**Paso Flores**	**9.54**	**197**	P	**Pn**	**06 51 22.5**	**+0.2**
comp=N,0.2nm,0.3s,baz=357,slow=6.5,SNR=6.1							
PLCA				LR	LR	06 55 18.0	
comp=N,538nm,18.2s,baz=41,slow=39							
PLCA	**Paso Flores**	**9.54**	**197**	P	**Pn**	**06 51 22.5**	**+0.2**
PLCA				LR	LR	06 55 18.0	
CPUP	**Villa Florida**	**9.95**	**60**	P	**Pn**	**06 51 26.4**	**-1.5**
comp=N,2.8nm,0.3s,baz=218,slow=12,SNR=23							
CPUP	**Villa Florida**	**9.95**	**60**	P	**Pn**	**06 51 26.4**	**-1.5**
LPAZ	**La Paz**	**15.30**	**356**	P	**Pn**	**06 52 38.5**	**+0.9**
comp=N,0.3nm,0.3s,baz=160,slow=11,SNR=22							
LPAZ	**La Paz**	**15.30**	**356**	P	**Pn**	**06 52 38.5**	**+0.9**
SIV	**San Ignacio**	**16.46**	**20**	P	**Pn**	**06 52 52.5**	**+0.6**
comp=N,1.2nm,0.3s,baz=215,slow=12,SNR=58							
USHA	**Ushuaia**	**23.23**	**182**	P	**P**	**06 54 04.2**	**+0.2**
comp=N,9.2nm,0.8s,mb4.2,baz=330,slow=4.3,SNR=3.1							
BDFB	**Brasilia**	**23.49**	**52**	P	**P**	**06 54 05.8**	**-0.9**
comp=N,0.7nm,0.3s,mb3.4,baz=208,slow=17,SNR=6.6							
SNAA	**Sanae**	**52.22**	**159**	P	**P**	**06 58 05.7**	**-0.1**
comp=N,0.6nm,0.8s,mb3.7,baz=278,slow=5.3,SNR=14							
VNDA	**Vanda**	**67.23**	**190**	P	**P**	**06 59 48.2**	**-0.3**
comp=N,0.6nm,0.7s,mb3.5,baz=128,slow=2.2,SNR=4.4							
MAW	**Mawson**	**74.19**	**162**	P	**P**	**07 00 30.4**	**-0.3**
comp=N,2.4nm,0.7s,mb4.1,baz=211,slow=11,SNR=9.1							
TORD	**Torodi Ar. Bea**	**79.37**	**67**	P	**P**	**07 01 01.0**	**+0.4**
comp=N,0.9nm,0.6s,mb3.8,baz=284,slow=7.4,SNR=17							
TORD				pP	pP	07 01 33.1	+1.2
comp=N,1.2nm,0.8s,baz=254,slow=4.5,SNR=5.3							
TORD	**Torodi Ar. Bea**	**79.37**	**67**	P	**P**	**07 01 01.0**	**+0.4**
TORD				pP	pP	07 01 33.1	+1.2
**

Azm173.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
DJA 02 07:19:24,5236S×1699E,h10km,mb5.4/15
ISC 02 07:19:23.0±3.8,5247S±004×176E±01,h8km±23km,n608,
σ0:95/87,mb5.1/40,MS5.1/134,158C-140D,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
NVL	**N'lazarevskaya**	**18.55**	**186**	*c iP*	**Pn**	**07 23 39.8**	**-0.1**
NVL				pmax	pmax		
	comp=Z,170nm,1.8s						
NVL				MLR	MLR		
	comp=N,6μm,21.0s						
NVL				MLR	MLR		
	comp=Z,8μm,21.0s						
NVL				MLR	MLR		
	comp=E,995nm,11.0s						
MAIT	**Maitri**	**18.57**	**186**	*eP*	**Pn**	**07 23 39.4**	**-0.7**
SYO	**Syowa Base**	**19.56**	**156**	‖*eP*	**Pn**	**07 23 48.0**	**-4.0**
SYO	**Syowa Base**	**19.56**	**156**	‖*eP*	**Pn**	**07 23 51.6**	**-0.4**
SYO	**Syowa Base**	**19.56**	**156**	‖*eP*	**Pn**	**07 23 53.4**	**+1.4**
SUR	**Sutherland**	**20.21**	**8**	P	**P**	**07 23 58.4**	**+0.3**
	comp=E,113nm,1.1s,baz=165,slow=8.5,SNR=16						
SUR				LR	LR	07 29 47.9	
	comp=E,8μm,21.9s,MS5.0,baz=167,slow=31						
SUR	**Sutherland**	**20.21**	**8**	*eP*	**P**	**07 23 58.3**	**+0.2**
	comp=E,241nm,1.4s						
SUR				LR	LR		
	comp=Z,7μm,21.0s,MS5.0						
SNAA	**Sanae**	**21.29**	**198**	*eP*	**P**	**07 24 10.3**	**+0.7**
SNAA				*e*		07 24 13.0	
SNAA				*e*		07 24 17.4	
SNAA				*e*		07 24 22.7	
SNAA				*e*		07 24 32.0	
SNAA				*e*		07 24 37.5	
SNAA	**Sanae**	**21.29**	**198**	P	**P**	**07 24 10.1**	**+0.5**
	comp=Z,85nm,1.2s,mb4.9,baz=34,slow=10,SNR=71						
SNAA				LR	LR	07 30 11.7	
	comp=Z,2μm,21.0s,MS4.5,baz=56,slow=30						
SNAA	**Sanae**	**21.29**	**198**	*eP*	**P**	**07 24 10.5**	**+0.9**
SNAA				*eS*	**S**	**07 28 05.1**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,374nm,1.4s						
SNAA	**Sanae**	**21.29**	**198**	*eP*	**P**	**07 24 10.5**	**+0.9**
	comp=Z,374nm,1.4s,mb5.5						
SNAA				*eS*	**S**	**07 28 05.1**	**-0.7**
VNA1	**Neumayer--Stat**	**21.68**	**203**	*eP*	**P**	**07 24 14.6**	**+0.9**
VNA1				*e*		07 24 17.3	
VNA1				*e*		07 24 22.1	
VNA1				*e*		07 24 26.4	
VNA1				*e*		07 24 35.2	
VNA1				*e*		07 24 40.2	
BOSA	**Boshof**	**24.50**	**16**	P	**P**	**07 24 41.6**	**-0.9**
	comp=Z,60nm,0.9s,mb5.0,baz=193,slow=9.3,SNR=58						
BOSA				LR	LR	07 32 39.0	
	comp=Z,7μm,19.6s,MS5.1,baz=200,slow=33						
BOSA	**Boshof**	**24.50**	**16**	*eP*	**P**	**07 24 41.8**	**-0.7**
BOSA				pmax	pmax		
	comp=Z,67nm,1.0s,mb5.0						
BOSA				MLR	MLR		
	comp=Z,7μm,20.0s,MS5.1						
BOSA	**Boshof**	**24.50**	**16**	*eP*	**P**	**07 24 41.8**	**-0.7**
	comp=Z,67nm,1.0s,mb5.0						
BOSA				LR	LR		
	comp=Z,7μm,20.0s,MS5.1						
MAW	**Mawson**	**26.41**	**142**	P	**P**	**07 24 59.6**	**0.0**
	comp=Z,14nm,0.8s,mb4.5,baz=286,slow=12,SNR=26						
MAW				LR	LR	07 33 17.0	
	comp=Z,2μm,21.2s,MS4.7,baz=295,slow=32						
MAW	**Mawson**	**26.41**	**142**	*eP*	**P**	**07 24 59.3**	**-0.2**
MAW				pmax	pmax		
	comp=Z,50nm,1.1s						
MAW				MLR	MLR		
	comp=Z,4μm,22.0s						
MAW	**Mawson**	**26.41**	**142**	*eP*	**P**	**07 24 59.3**	**-0.2**
	comp=Z,50nm,1.1s,mb5.0						
MAW				LR	LR		
	comp=Z,4μm,22.0s,MS4.9						
LBTB	**Lobatse**	**28.07**	**16**	P	**P**	**07 25 13.6**	**-1.2**
	comp=Z,14nm,0.8s,mb4.6,baz=202,slow=9.3,SNR=20						
LBTB				LR	LR	07 35 06.0	
	comp=Z,5μm,18.6s,MS5.2,baz=181,slow=34						
LBTB	**Lobatse**	**28.07**	**16**	*eP*	**P**	**07 25 14.0**	**-0.8**
LBTB				pmax	pmax		
	comp=Z,58nm,1.4s,mb5.0						
LBTB				MLR	MLR		
	comp=Z,5μm,19.0s,MS5.2						
LBTB	**Lobatse**	**28.07**	**16**	*eP*	**P**	**07 25 14.0**	**-0.9**
	comp=Z,58nm,1.4s,mb5.0						
LBTB				LR	LR		
	comp=Z,5μm,19.0s,MS5.2						
TSUM	**Tsumeb**	**33.20**	**360**	P	**P**	**07 25 59.2**	**-0.9**
	comp=Z,16nm,1.1s,mb4.8,baz=160,slow=11,SNR=15						
TSUM	**Tsumeb**	**33.20**	**360**	*eP*	**P**	**07 26 00.1**	**0.0**
	comp=Z,43nm,1.3s,mb5.2						
QSPA	**South Pole Qui**	**37.77**	**180**	P	**P**	**07 26 39.3**	**+0.5**
	comp=Z,12nm,0.7s,mb4.7,baz=238,slow=4.0,SNR=26						
QSPA	**South Pole Qui**	**37.77**	**180**	P	**P**	**07 26 39.3**	**+0.5**
LSZ	**Lusaka**	**38.04**	**17**	*eP*	**P**	**07 26 40.9**	**-0.8**
LSZ				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.0						
LSZ				MLR	MLR		
	comp=Z,5μm,19.0s,MS5.3						
LSZ	**Lusaka**	**38.04**	**17**	*eP*	**P**	**07 26 40.9**	**-0.8**
	comp=Z,39nm,1.3s,mb5.0						
LSZ				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
ABPO	**Ambohimpanom**	**40.59**	**46**	PFAKE		07 27 10.0	+7.0
ABPO				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
SHEL	**Horse Pasture**	**40.85**	**324**	PFAKE		07 27 20.0	+15
SHEL				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
OPO	**Ambohidratompo**	**40.96**	**46**	P	**P**	**07 27 05.7**	**-0.4**
	comp=Z,3.9nm,0.9s,mb4.0,baz=230,slow=3.4,SNR=3.6						
PMSA	**Palmer Station**	**41.17**	**220**	*eP*	**P**	**07 27 06.6**	**-0.8**
	comp=Z,62nm,1.1s,mb5.2						
EFI	**East Falkland**	**44.51**	**239**	PFAKE		07 27 50.0	+15
EFI				LR	LR		
	comp=Z,3μm,22.0s,MS5.2						
CASY	**Casey**	**44.70**	**145**	*eP*	**P**	**07 27 32.9**	**-3.0**
CASY	**Casey**	**44.70**	**145**	*eP*	**P**	**07 27 36.7**	**+0.8**
	comp=Z,16nm,0.9s,mb4.9						
CASY				LR	LR		
	comp=Z,1μm,22.0s,MS4.8						
USHA	**Ushuaia**	**47.97**	**231**	P	**P**	**07 28 02.4**	**+0.7**
	comp=Z,27nm,1.2s,mb5.2,baz=93,slow=10,SNR=3.2						
VNDA	**Vanda**	**48.39**	**170**	P	**P**	**07 28 04.9**	**+0.2**
	comp=Z,20nm,0.9s,mb5.1,baz=236,slow=8.6,SNR=48						
VNDA				LR	LR	07 47 12.8	
	comp=Z,3μm,21.2s,MS5.3,baz=202,slow=34						
VNDA	**Vanda**	**48.39**	**170**	*eP*	**P**	**07 28 04.8**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,48nm,1.2s						
VNDA	**Vanda**	**48.39**	**170**	*eP*	**P**	**07 28 04.8**	**+0.1**
	comp=Z,48nm,1.2s,mb5.4						
SBA	**Scott Base**	**48.56**	**172**	*eP*	**P**	**07 28 07.3**	**+1.3**
SBA				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.6						
SBA	**Scott Base**	**48.56**	**172**	*eP*	**P**	**07 28 07.2**	**+1.2**
	comp=Z,80nm,1.3s,mb5.6						
ASCN	**Ascension**	**51.50**	**318**	PFAKE		07 28 40.0	+11
ASCN				LR	LR		
	comp=Z,1μm,21.0s,MS4.9						
TRQA	**Tornquist**	**55.05**	**251**	*eP*	**P**	**07 28 54.1**	**-0.9**
	comp=Z,74nm,1.1s,mb5.6						
MSEY	**Mahe Island**	**56.95**	**47**	PFAKE		07 29 20.0	+11
MSEY				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
PLCA	**Paso Flores**	**58.06**	**244**	P	**P**	**07 29 15.7**	**-0.6**
	comp=Z,13nm,0.9s,mb4.9,baz=135,slow=7.2,SNR=17						
PLCA				LR	LR	07 51 03.3	
	comp=Z,898nm,19.4s,MS4.9,baz=141,slow=33						
PLCA	**Paso Flores**	**58.06**	**244**	*eP*	**P**	**07 29 15.5**	**-0.8**
PLCA				pmax	pmax		
	comp=Z,53nm,1.3s						
PLCA	**Paso Flores**	**58.06**	**244**	*eP*	**P**	**07 29 15.5**	**-0.9**
	comp=Z,53nm,1.3s,mb5.4						
CPUP	**Villa Florida**	**60.56**	**264**	P	**P**	**07 29 33.0**	**-0.8**
	comp=Z,4.6nm,0.6s,mb4.8,baz=117,slow=6.4,SNR=18						
CPUP				LR	LR	07 51 12.5	
	comp=Z,432nm,20.2s,MS4.6,baz=118,slow=32						
CPUP	**Villa Florida**	**60.56**	**264**	*eP*	**P**	**07 29 32.8**	**-1.0**
CPUP				pmax	pmax		
	comp=Z,73nm,1.0s						
CPUP				MLR	MLR		
	comp=Z,119nm,19.0s						
CPUP	**Villa Florida**	**60.56**	**264**	*eP*	**P**	**07 29 32.8**	**-0.9**
	comp=Z,74nm,1.0s,mb5.8						
CPUP				LR	LR		
	comp=Z,119nm,19.0s,MS4.1						
LIC	**Lamto**	**61.56**	**334**	*eP*	**P**	**07 29 40.3**	**-0.3**
	comp=Z,82nm,1.3s,mb5.7						
KIC	**Kosan Boka**	**61.62**	**335**	*eP*	**P**	**07 29 42.8**	**+1.8**
	comp=Z,205nm,1.6s,mb6.0						
DBIC	**Dimbokro**	**61.95**	**335**	P	**P**	**07 29 42.8**	**-0.4**
	comp=Z,6.4nm,0.9s,mb4.8,baz=138,slow=10.0,SNR=4.7						
DBIC				LR	LR	07 49 48.9	
	comp=Z,1μm,21.1s,MS5.1,baz=78,slow=30						
DBIC	**Dimbokro**	**61.95**	**335**	*eP*	**P**	**07 29 43.2**	**0.0**
DBIC				pmax	pmax		
	comp=Z,26nm,1.3s						
DBIC				MLR	MLR		
	comp=Z,2μm,20.0s						
DBIC	**Dimbokro**	**61.95**	**335**	*eP*	**P**	**07 29 43.2**	**+0.1**
	comp=Z,26nm,1.3s,mb5.2						
DBIC				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
TIC	**Toumodi**	**61.97**	**334**	*eP*	**P**	**07 29 42.5**	**-0.8**
	comp=Z,131nm,1.1s,mb6.0						
TIC	**Toumodi**	**61.97**	**334**	*eP*	**P**	**07 29 42.5**	**-0.8**
TIC				pmax	pmax		
	comp=Z,131nm,1.1s,mb6.0						
BDFB	**Brasilia**	**62.92**	**280**	P	**P**	**07 29 49.5**	**-0.3**
	comp=Z,6.2nm,1.1s,mb4.7,baz=130,slow=14,SNR=8.7						
BDFB				LR	LR	07 52 48.6	
	comp=Z,223nm,18.6s,MS4.4,baz=303,slow=32						
BDFB	**Brasilia**	**62.92**	**280**	*eP*	**P**	**07 29 50.0**	**+0.2**
BDFB				pmax	pmax		
	comp=Z,40nm,1.5s						
BDFB				MLR	MLR		
	comp=Z,454nm,20.0s						
BDFB	**Brasilia**	**62.92**	**280**	*eP*	**P**	**07 29 50.0**	**+0.2**
	comp=Z,40nm,1.5s,mb5.3						
BDFB				LR	LR		
	comp=Z,454nm,20.0s,MS4.6						
DGAR	**Diego Garcia**	**63.20**	**65**	PFAKE		07 30 00.0	+8.3
DGAR				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
LCO	**Las Campanas**	**66.58**	**253**	*eP*	**P**	**07 30 13.8**	**+0.2**
	comp=Z,106nm,1.7s,mb5.6						
LCO				LR	LR		
	comp=Z,843nm,20.0s,MS5.0						
TOA0	**Torodi Ar. Sit**	**66.78**	**343**	*eP*	**P**	**07 30 14.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**66.78**	**343**	P	**P**	**07 30 13.6**	**-1.2**
	comp=Z,3.1nm,1.0s,mb4.3,baz=178,slow=4.6,SNR=13						
TORD				LR	LR	07 52 14.4	
	comp=Z,498nm,21.9s,MS4.7,baz=120,slow=30						
TORD	**Torodi Ar. Bea**	**66.78**	**343**	P	**P**	**07 30 13.6**	**-1.2**
TORD				LR	LR	07 52 14.4	
NWAO	**Narrogin (SRO)**	**70.00**	**118**	LR	LR	07 54 09.3	
	comp=Z,543nm,19.1s,MS4.8,baz=42,slow=30						
LVC	**Limon Verde**	**70.33**	**258**	*eP*	**P**	**07 30 37.7**	**+0.7**
	comp=Z,34nm,1.3s,mb5.1						
LVC				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
LPAZ	**La Paz**	**74.69**	**263**	P	**P**	**07 31 03.8**	**+0.6**
	comp=Z,8.1nm,0.9s,mb4.6,baz=119,slow=5.8,SNR=26						
LPAZ				LR	LR	08 00 31.8	
	comp=Z,343nm,20.8s,MS4.6,baz=293,slow=33						
LPAZ	**La Paz**	**74.69**	**263**	*eP*	**P**	**07 31 03.5**	**+0.4**
LPAZ				pmax	pmax		
	comp=Z,48nm,1.5s						
LPAZ				MLR	MLR		
	comp=Z,405nm,20.0s						
LPAZ	**La Paz**	**74.69**	**263**	*eP*	**P**	**07 31 03.5**	**+0.4**
	comp=Z,48nm,1.5s,mb5.2						
LPAZ				LR	LR		
	comp=Z,405nm,20.0s,MS4.7						
TAM	**Tamanrasset**	**75.68**	**348**	*eP*	**P**	**07 31 09.5**	**+1.0**
PALK	**Pallekele**	**79.91**	**64**	PFAKE		07 31 40.0	+7.7
PALK				LR	LR		
	comp=Z,972nm,21.0s,MS5.1						
RPZ	**Rata Peaks**	**81.49**	**161**	LR	LR	08 04 52.9	
	comp=Z,3μm,21.5s,MS5.6,baz=211,slow=34						
STKA	**Stephens Creek**	**82.83**	**135**	*eP*	**P**	**07 31 47.2**	**-0.5**
	comp=Z,12nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**82.83**	**135**	P	**P**	**07 31 47.2**	**-0.5**
	comp=Z,13nm,1.0s,mb4.9,baz=234,slow=6.4,SNR=8.7						
STKA				LR	LR	08 00 32.9	
	comp=Z,422nm,20.4s,MS4.8,baz=316,slow=30						
EIL	**Elat**	**83.18**	**15**	LR	LR	08 09 27.0	
	comp=Z,1μm,18.0s,MS5.3,baz=10,slow=36						
NNA	**Nana**	**83.30**	**259**	PFAKE		07 32 00.0	+10
NNA				LR	LR		
	comp=Z,604nm,22.0s,MS4.9						
RDF	**Al-Radifah**	**85.17**	**26**	*eP*	**P**	**07 31 50.8**	**-8.6**
	baz=26						
RDF				AMb	AMB	07 32 04.5	
	comp=Z,120nm,1.5s,mb5.8,baz=26						
NAY	**Al-Naaiem**	**85.40**	**26**	*eP*	**P**	**07 31 51.9**	**-8.6**
	baz=26						
NAY				AMb	AMB	07 32 05.5	
	comp=Z,34nm,1.8s,mb5.2,baz=26						
MIB	**Mutribah**	**85.95**	**26**	*eP*	**P**	**07 31 53.9**	**-9.3**
	baz=26						
MIB				AMb	AMB	07 32 08.1	
	comp=Z,59nm,2.5s,mb5.4,baz=26						
ASAR	**Alice Springs**	**86.14**	**125**	P	**P**	**07 32 04.2**	**-0.5**
	comp=Z,3.8nm,1.0s,mb4.6,baz=198,slow=4.2,SNR=32						
FITZ	**Fitzroy Crossi**	**86.32**	**115**	P	**P**	**07 32 05.8**	**+0.2**
	baz=270,slow=15						
MMAI	**Mount Meron Ar**	**86.53**	**15**	LR	LR	08 12 17.5	
	comp=Z,972nm,18.0s,MS5.2,baz=185,slow=37						
PSI	**Prapat**	**86.91**	**81**	P	**P**	**07 32 09.4**	**+1.0**
	comp=Z,21nm,1.0s,mb5.3,baz=208,slow=8.9,SNR=12						
HYB	**Hyderabad**	**87.22**	**57**	*i* P	**P**	**07 32 11.5**	**+1.7**
HYB	**Hyderabad**	**87.22**	**57**	*eP*	**P**	**07 32 11.5**	**+1.7**
IDI	**Anoyia**	**87.62**	**6**	LR	LR	08 13 37.2	
	comp=Z,1μm,20.8s,MS5.4,baz=264,slow=37						
URZ	**Urewera**	**87.90**	**164**	P	**P**	**07 32 12.2**	**-0.8**
	comp=Z,8.9nm,0.8s,mb5.1,baz=264,slow=3.3,SNR=3.8						
URZ				LR	LR	08 09 12.2	
	comp=Z,2μm,20.5s,MS5.5,baz=101,slow=34						
KEST	**Kesra**	**88.12**	**353**	P	**P**	**07 32 16.2**	**+2.6**
	comp=Z,3.3nm,1.1s,mb4.5,baz=140,slow=5.9,SNR=12						
KEST				LR	LR	08 13 56.0	
	comp=Z,376nm,18.8s,MS4.8,baz=116,slow=37						
WRA	**Warramunga Arr**	**89.46**	**123**	P	**P**	**07 32 20.3**	**-0.3**
	comp=Z,2.9nm,0.9s,mb4.6,baz=201,slow=2.9,SNR=12						
WRA				LR	LR	08 08 34.0	
	comp=Z,298nm,20.8s,MS4.7,baz=190,slow=33						
WRA	**Warramunga Arr**	**89.46**	**123**	P	**P**	**07 32 20.3**	**-0.3**
WRA				LR	LR	08 08 34.0	
WB2	**Warramunga Arr**	**89.47**	**123**	*eP*	**P**	**07 32 18.7**	**-1.9**
WRAB	**Tennant Creek**	**89.48**	**123**	*eP*	**P**	**07 32 20.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.4						
WRAB	**Tennant Creek**	**89.48**	**123**	*eP*	**P**	**07 32 20.4**	**-0.3**
	comp=Z,2.7nm,1.6s,mb4.3						
CEL	**Celeste**	**90.36**	**359**	*eP*	**P**	**07 32 26.9**	**+2.8**
	comp=Z,188nm,1.9s,mb6.1						
SFS	**San Fernando**	**90.97**	**341**	PFAKE		07 32 40.0	+13
SFS				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
TIP	**Timpagrande**	**91.27**	**359**	*eP*	**P**	**07 32 30.0**	**+1.7**
	comp=Z,159nm,2.0s,mb6.0						
ANTO	**Ankara**	**92.90**	**12**	PFAKE		07 32 50.0	+14
ANTO				LR	LR		
	comp=Z,724nm,21.0s,MS5.1						
KAPI	**Kappang**	**93.41**	**103**	LR	LR	08 05 52.0	
	comp=Z,390nm,20.5s,MS4.8,baz=57,slow=30						
KAPI	**Kappang**	**93.41**	**103**	PFAKE		07 32 50.0	+11
KAPI				LR	LR		
	comp=Z,371nm,20.0s,MS4.8						
PAB	**San Pablo**	**93.61**	**343**	PFAKE		07 32 50.0	+11
PAB				LR	LR		
	comp=Z,603nm,19.0s,MS5.1						
ESDC	**Sonseca Array**	**93.66**	**343**	P	**P**	**07 32 38.2**	**-1.1**
	comp=Z,0.3nm,0.3s,mb4.2,baz=240,slow=27,SNR=3.3						
ESLA	**Sonseca Array**	**93.66**	**343**	PFAKE		07 32 50.0	+11
ESLA				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
OTAV	**Otavalo**	**93.89**	**265**	*eP*	**P**	**07 32 41.5**	**+0.3**
	comp=Z,13nm,1.7s,mb5.1						
OTAV				LR	LR		
	comp=Z,368nm,22.0s,MS4.8						
ROSC	**El Rosal**	**95.00**	**271**	P	**P**	**07 32 45.6**	**-0.6**
	comp=Z,4.9nm,0.9s,mb5.0,baz=122,slow=3.7,SNR=5.1						
ROSC				LR	LR	08 14 07.7	
	comp=Z,538nm,18.7s,MS5.0,baz=188,slow=35						
MTE	**Manteigas**	**95.03**	**341**	PFAKE		07 33 00.0	+14
MTE				LR	LR		
	comp=Z,722nm,21.0s,MS5.1						
GNI	**Garni**	**95.20**	**21**	PFAKE		07 33 00.0	+14
GNI				LR	LR		
	comp=Z,721nm,19.0s,MS5.2						
CMLA	**Cha da Macela**	**97.39**	**327**	*e*LR	LR	08 04 12.1	
CMLA	**Cha da Macela**	**97.39**	**327**	PFAKE		07 33 10.0	+14
CMLA				LR	LR		
	comp=Z,404nm,19.0s,MS4.9						
CM31	**Chiang Mai Arr**	**99.28**	**72**	PFAKE		07 33 20.0	+15
CM31				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
CMAR	**Chiang Mai Arr**	**99.28**	**72**	LR	LR	08 12 34.1	
	comp=Z,265nm,19.1s,MS4.8,baz=240,slow=32						
CHTO	**Chiang Mai**	**99.57**	**72**	PFAKE		07 33 20.0	+13
CHTO				LR	LR		
	comp=Z,663nm,21.0s,MS5.1						
BFO	**Black Forest**	**100.73**	**354**	PFAKE		07 33 20.0	+8.1
BFO				LR	LR		
	comp=Z,434nm,21.0s,MS4.9						
GERES	**GERESS Array B**	**100.99**	**357**	PP	PP	07 37 20.9	-0.3
	comp=Z,0.4nm,0.2s,baz=189,slow=7.8,SNR=6.2						
RKT	**Rikitea**	**101.02**	**206**	*e*LR	LR	08 06 29.2	
	comp=Z,1μm,35.0s						
KHC	**Kasperske Hory**	**101.28**	**357**	AMS	AMS	08 23 10.0	
	comp=Z,600nm,20.9s						
TREC	**Trest**	**101.40**	**359**	AMS	AMS	08 22 40.0	
	comp=Z,600nm,18.9s						
BCIP	**Isla Barro Col**	**101.74**	**270**	PFAKE		07 33 30.0	+14
BCIP				LR	LR		
	comp=Z,321nm,20.0s,MS4.8						
KWP	**Kalwaria**	**101.81**	**3**	PFAKE		07 33 30.0	+13
KWP				LR	LR		
	comp=Z,901nm,22.0s,MS5.2						
OKC	**Ostrava-Krasne**	**101.93**	**0**	AMS	AMS	08 25 00.0	
	comp=Z,500nm,15.7s						
PRU	**Pruhonice**	**102.11**	**358**	AMS	AMS	08 23 30.0	
	comp=Z,700nm,19.4s						
NKC	**Novy Kostel**	**102.42**	**357**	AMS	AMS	08 24 00.0	
	comp=Z,800nm,20.4s						
DPC	**Dobruska-Polom**	**102.45**	**359**	AMS	AMS	08 23 00.0	
	comp=Z,600nm,20.3s						
PVCC	**Panska Ves**	**102.65**	**358**	AMS	AMS	08 23 30.0	
	comp=Z,800nm,19.0s						
KIEV	**Kiev**	**103.25**	**8**	PFAKE		07 33 30.0	+6.8
KIEV				LR	LR		
	comp=Z,599nm,21.0s,MS5.1						
AKASG	**Malin Array Be**	**103.26**	**8**	PP	PP	07 37 39.2	+1.0
	comp=Z,0.2nm,0.3s,baz=201,slow=7.8,SNR=8.6						
CLL	**Collm**	**103.47**	**357**	*e*SS	SS	07 52 31.0	+6.7
CLL				Lm		07 24 00.0	
	comp=N,500nm,19.9s						
CLL				Lm		07 24 00.0	
	comp=E,200nm,21.9s						
CLL				Lm		07 24 00.0	
	comp=Z,700nm,20.3s						
TBI	**Tubuai**	**103.67**	**192**	*e*LR	LR	08 07 43.8	
	comp=Z,1μm,35.0s						
LSA	**Lhasa**	**103.83**	**59**	PFAKE		07 33 40.0	+14
LSA				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
DAV	**Davao City (W)**	**106.50**	**100**	PFAKE		07 38 00.0	+11
DAV				LR	LR		
	comp=Z,555nm,19.0s,MS5.1						
KMI	**Kunming**	**106.67**	**71**	PKP	PKiKP	07 37 48.5	0.0
KMI				PP	PP	07 38 08.0	+4.2
KMI				PPP		07 40 26.4	
KMI				SS	SS	07 53 12.4	+3.7
KMI				SSS		07 57 09.9	
KMI				PP	PP		
	comp=Z,136nm,4.3s						
KMI				LR	LR		
	comp=N,357nm,21.0s,MS5.0						
KMI				LR	LR		
	comp=E,341nm,22.1s,MS5.0						
KMI				LR	LR		
	comp=Z,296nm,21.0s,MS4.8						
OBN	**Obninsk**	**108.36**	**11**	PFAKE		07 38 00.0	+9.4
OBN				LR	LR		
	comp=Z,499nm,20.0s,MS5.1						
ESK	**Eskdalemuir**	**108.79**	**348**	PFAKE		07 38 00.0	+8.6
ESK				LR	LR		
	comp=Z,616nm,21.0s,MS5.2						
PPT	**Papeete**	**109.38**	**193**	*e*LR	LR	08 10 15.2	
	comp=Z,1μm,22.8s						
GYA	**Guiyang**	**109.96**	**72**	PDIF	Pdif	07 33 55.9	+2.9
GYA				PKP	PKiKP	07 37 55.6	+1.0
GYA				PKS		07 41 31.0	
GYA				SKS	SKSdf	07 45 05.9	-0.8
GYA				S	Sdif	07 46 05.0	-1.7
GYA				PS	PS	07 47 57.0	+0.9
GYA				SS	SS	07 53 56.7	+3.5
GYA				PP	PP		
	comp=Z,160nm,7.8s						
GYA				LR	LR		
	comp=N,780nm,22.8s						
GYA				LR	LR		
	comp=E,620nm,12.6s						
GYA				LR	LR		
	comp=Z,840nm,21.5s,MS5.3						
HNR	**Honiara**	**110.43**	**140**	PFAKE		07 38 10.0	+14
HNR				LR	LR		
	comp=Z,431nm,21.0s,MS5.0						
CD2	**Chengdu**	**111.65**	**67**	*e*PKP	PKiKP	07 37 57.6	0.0
CD2				XPKP		07 38 05.2	
CD2				PP	PP	07 38 44.2	+4.2
CD2				PKS		07 41 33.1	
CD2				SKS	SKSdf	07 45 04.8	-4.9
CD2				SKKS	SKKSac	07 45 32.8	-9.3
CD2				SS	SS	07 54 11.2	-4.5
CD2				PP	PP		
	comp=Z,180nm,10.2s						
CD2				LR	LR		
	comp=N,240nm,21.2s						
CD2				LR	LR		
	comp=Z,230nm,22.4s,MS4.7						
MKAR	**Makanchi Array**	**113.26**	**43**	PKiKP	PKiKP	07 37 58.6	-1.5
	comp=Z,1.0nm,1.0s,ba

comp=Z,373nm,22.0s,MS5.0
BLA Blacksburg 123.00 290 PFAKE 07 38 30.0 +11
BLA LR LR
comp=Z,334nm,22.0s,MS5.0
LBNH Lisbon 123.12 301 PFAKE 07 38 30.0 +11
LBNH LR LR
comp=Z,344nm,21.0s,MS5.0
HHC Hu-ho-hao-te 123.18 65 *e*PKP PKPdf 07 38 21.6 +2.1
HHC PKS 07 41 55.8
HHC SKKS SKKSac 07 46 55.5 -2.9
HHC SS SS 07 56 48.6 +3.0
HHC LR LR
comp=N,354nm,16.7s,MS5.3
HHC LR LR
comp=E,463nm,14.9s,MS5.3
HHC LR LR
comp=Z,320nm,20.2s
BINY Binghamton 123.91 297 PFAKE 07 38 30.0 +9.2
BINY LR LR
comp=Z,329nm,21.0s,MS5.0
NCB Newcomb 124.16 299 PFAKE 07 38 30.0 +8.8
NCB LR LR
comp=Z,264nm,19.0s,MS4.9
MCWV Mont Chateau 124.34 292 PFAKE 07 38 30.0 +8.3
MCWV LR LR
comp=Z,353nm,19.0s,MS5.0
TZTN Tazewell 124.36 287 PFAKE 07 38 30.0 +8.1
TZTN LR LR
comp=Z,282nm,19.0s,MS5.0
LONY Lake Ozonia 124.78 300 PFAKE 07 38 30.0 +7.6
LONY LR LR
comp=Z,351nm,21.0s,MS5.0
SONM Songino Array 125.15 55 PKP PKPdf 07 38 21.8 -1.2
comp=Z,2.8nm,1.0s,baz=257,slow=0.9,SNR=10
BJT Baijiatuau 125.20 68 PFAKE 07 38 30.0 +6.6
BJT LR LR
comp=Z,6μm,22.0s,MS6.2
TLY Talaya 126.34 50 *e*PKIKP PKPdf 07 38 26.0 +0.9
TLY MLR MLR
comp=Z,2μm,22.0s,MS5.8
ACSO Alum Creek Sta 126.52 291 PFAKE 07 38 40.0 +14
ACSO LR LR
comp=Z,312nm,22.0s,MS4.9
HKT Hockley 127.17 272 PFAKE 07 38 40.0 +13
HKT LR LR
comp=Z,297nm,22.0s,MS4.9
SCHQ Schefferville 127.66 313 PKP PKPdf 07 38 26.5 -1.1
comp=Z,8.0nm,1.1s,baz=80,slow=4.6,SNR=4.9
AAM Ann Arbor 128.25 292 PFAKE 07 38 40.0 +11
AAM LR LR
comp=Z,289nm,22.0s,MS4.9
SIUC Southern Illin 128.49 284 *e*PKPdf PKPdf 07 38 29.6 -0.1
MIAR Mount Ida 128.98 278 PFAKE 07 38 40.0 +9.2
MIAR LR LR
comp=Z,395nm,20.0s,MS5.1
CCM Cathedral Cave 129.92 283 *e*PKIKP PKPdf 07 38 32.1 -0.3
CCM MLR MLR
comp=Z,534nm,20.0s,MS5.2
JCT Junction City 129.97 270 *e*PKIKP PKPdf 07 38 32.5 -0.3
JCT MLR MLR
comp=Z,423nm,22.0s,MS5.1
HDIL Hopedale 130.38 287 PFAKE 07 38 40.0 +6.8
HDIL LR LR
comp=Z,581nm,19.0s,MS5.3
GLMI Grayling 130.39 294 PFAKE 07 38 40.0 +6.9
GLMI LR LR
comp=Z,469nm,20.0s,MS5.2
KBS Kingsbay 131.18 359 PFAKE 07 38 50.0 +16
KBS LR LR
comp=Z,670nm,22.0s,MS5.3
JFWS Jewell Farm 132.42 289 PFAKE 07 38 50.0 +13
JFWS LR LR
comp=Z,486nm,20.0s,MS5.2
CN2 Changchun 132.94 70 *e*PKP PKPdf 07 38 37.4 -0.5
HIA Hailar 132.99 61 PFAKE 07 38 50.0 +12
HIA LR LR
comp=Z,739nm,19.0s,MS5.4
COWI Conover 133.69 293 PFAKE 07 38 50.0 +11
COWI LR LR
comp=Z,344nm,20.0s,MS5.1
KSU1 Kansas State U 133.80 281 PFAKE 07 38 50.0 +10
KSU1 LR LR
comp=Z,438nm,19.0s,MS5.2
AMTX Amarillo 134.14 272 *e*PKPdf PKPdf 07 38 41.5 +1.0
AMTX LR LR
comp=Z,292nm,19.0s,MS5.0
BOD Bodaibo 134.80 49 *e*PKHKP 07 38 25.7
BOD pmax pmax
comp=Z,5.0nm,1.5s
CBKS Cedar Bluff 135.51 278 PFAKE 07 38 50.0 +7.1
CBKS LR LR
comp=Z,352nm,20.0s,MS5.1
MDJ Mudanjiang 135.82 72 PFAKE 07 38 50.0 +6.7
MDJ LR LR
comp=Z,575nm,19.0s,MS5.3
MAJO Matsushiro 136.03 87 PFAKE 07 39 00.0 +16
MAJO LR LR
comp=Z,884nm,20.0s,MS5.5
EYMN Ely 136.07 294 *e*PKPdf PKPdf 07 38 43.4 -0.3
EYMN LR LR
comp=Z,496nm,20.0s,MS5.2
319A Douglas 136.38 263 ⇓P PKPdf 07 38 44.9 +0.1
baz=136
ECSD EROS,Sioux Fal 136.63 286 *e*PKPdf PKPdf 07 38 44.4 -0.4
ECSD LR LR
comp=Z,866nm,21.0s,MS5.5
BNM Barren Site 136.68 268 *e*PKPdf PKPdf 07 38 46.2 +0.9
Y22C IRIS PASSCAL I 136.81 267 ⇑P PKPdf 07 38 45.8 +0.3
baz=137
219A White Tail Can 136.81 263 ⇑P PKPdf 07 38 45.7 +0.1
baz=137
318A Bisbee 136.86 262 ⇑P PKPdf 07 38 46.0 +0.3
baz=137
ANMO Albuquerque 137.11 269 *e*PKIKP PKPdf 07 38 46.5 +0.5
ANMO MLR MLR
comp=Z,241nm,21.0s
LAZ Ladron 137.16 268 *e*PKPdf PKPdf 07 38 47.5 +1.4
218A Dragoon 137.27 263 ⇑P PKPdf 07 38 46.5 +0.1
baz=137
119A Ashpeak Ranch, 137.37 264 ⇑P PKPdf 07 38 46.9 +0.3
baz=138
217A Green Valley 137.59 262 ⇑P PKPdf 07 38 47.3 +0.3
baz=138
118A Homack Ranch, 137.68 263 ⇑P PKPdf 07 38 47.5 +0.3
baz=138
Z19A T-Link Ranch, 137.71 265 ⇑P PKPdf 07 38 47.7 +0.5
baz=138
TUC Tucson 137.95 262 *e*PKIKP PKPdf 07 38 48.5 +0.8
Z18A Geronimo 138.03 264 ⇓P PKPdf 07 38 47.9 +0.1
baz=138
117A Oracle 138.10 263 ⇓P PKPdf 07 38 47.8 -0.1
baz=138
216A Three Points, 138.14 261 ⇑P PKPdf 07 38 48.2 +0.1
baz=138
Y19A Nutrioso 138.15 265 ⇓P PKPdf 07 38 48.3 +0.3
baz=138
Z17A San Carlos Hig 138.44 264 ⇑P PKPdf 07 38 48.7 +0.1
baz=138
X19A St. Johns 138.49 266 ⇓P PKPdf 07 38 48.9 +0.3
baz=139
Y18A Canyon Day Jun 138.50 264 ⇑P PKPdf 07 38 48.8 +0.1
baz=139
116A Eloy 138.68 262 ⇓P PKPdf 07 38 49.0 0.0
baz=139
AGMN Agassiz Refuge 138.73 292 PFAKE 07 39 00.0 +11
AGMN LR LR
comp=Z,658nm,20.0s,MS5.4
214A Organ Pipe Nat 138.93 260 ⇓P PKPdf 07 38 49.7 +0.2
baz=139
Y17A Roosevelt 138.94 264 ⇑P PKPdf 07 38 49.8 +0.3
baz=139
X18A Snowflake 138.96 265 ⇑P PKPdf 07 38 49.6 +0.1
baz=139
W19A Sanders 139.01 267 ⇓P PKPdf 07 38 49.6 +0.1
baz=139
Z16A Peralta Trail, 139.05 263 ⇑P PKPdf 07 38 49.9 +0.3
baz=139
V19A Window Rock 139.20 267 ⇓P PKPdf 07 38 50.1 +0.2
baz=139
W18A Petrified Fore 139.22 266 ⇑P PKPdf 07 38 50.0 +0.1
baz=139
X17A Forest Lakes 139.35 264 ⇓P PKPdf 07 38 50.6 +0.4
baz=140
Y16A Circle Bar Ran 139.45 263 ⇓P PKPdf 07 38 50.7 +0.3
baz=140
Z15A Gila River Ind 139.46 262 ⇑P PKPdf 07 38 50.7 +0.3
baz=140
ISCO Idaho Springs 139.69 275 *e*PKIKP PKPdf 07 38 51.3 +0.7
ISCO MLR MLR
comp=Z,507nm,22.0s,MS5.2
V18A Ganado 139.74 267 ⇑P PKPdf 07 38 51.1 +0.3
baz=140
W17A Winslow 139.79 265 ⇑P PKPdf 07 38 51.2 +0.2
baz=140
X16A Lo Mia Camp, P 139.79 264 ⇑P PKPdf 07 38 51.3 +0.3
baz=140
MVCO Mesa Verde 139.84 270 ⇑P PKPdf 07 38 51.4 +0.4
baz=140
MVCO Mesa Verde 139.84 270 PFAKE 07 39 00.0 +9.0
MVCO LR LR
comp=Z,284nm,22.0s,MS5.0
Z14A Wintersburg 139.99 261 ⇑P PKPdf 07 38 51.9 +0.5
baz=140
Y15A Casa Rosa Ranc 140.02 263 ⇑P PKPdf 07 38 51.7 +0.3
baz=140
113A Mohawk Valley, 140.07 260 ⇑P PKPdf 07 38 51.7 +0.1
baz=140
U18A Rough Rock, Ch 140.16 268 ⇑P PKPdf 07 38 52.0 +0.4
baz=140
W16A Flagstaff 140.31 265 ⇑P PKPdf 07 38 52.1 +0.2
baz=140
X15A Humboldt 140.32 263 ⇑P PKPdf 07 38 52.5 +0.6
baz=140
Y14A Wickenburg 140.42 262 ⇑P PKPdf 07 38 52.4 +0.3
baz=140
WUAZ Wupatki 140.49 265 ⇑P PKPdf 07 38 52.8 +0.5
baz=141
WUAZ Wupatki 140.49 265 *e*PKPdf PKPdf 07 38 53.2 +1.0
S19A Harvey Farm, M 140.57 270 ⇑P PKPdf 07 38 52.5 +0.2
baz=141
T18A Mexican Hat 140.63 268 ⇑P PKPdf 07 38 52.6 +0.2
baz=141
X14A Yava 140.71 263 ⇑P PKPdf 07 38 52.9 +0.2
baz=141
U16A Tuba City 140.75 266 ⇓P PKPdf 07 38 53.2 +0.6
baz=141
U17A Shonto 140.76 267 ⇑P PKPdf 07 38 53.3 +0.7
baz=141
W15A Williams 140.81 264 ⇓P PKPdf 07 38 53.5 +0.7
baz=141
Y13A Salome 140.83 261 ⇓P PKPdf 07 38 52.9 0.0
baz=141
GLA Glamis 140.91 259 ⇓P PKPdf 07 38 53.1 +0.1
baz=141
GLA Glamis 140.91 259 PFAKE 07 39 00.0 +7.0
GLA LR LR
comp=Z,343nm,21.0s,MS5.1
R19A Curley Farm, L 140.99 270 ⇓P PKPdf 07 38 53.3 +0.3
baz=141
S18A Hurst Farm, Bl 141.06 269 ⇑P PKPdf 07 38 53.6 +0.4
baz=141
V15A Kaibab Nationa 141.18 265 ⇓P PKPdf 07 38 53.8 +0.3
baz=141
Y12C Blythe 141.21 260 ⇓P PKPdf 07 38 53.8 +0.2
baz=141
RSSD Black Hills 141.26 282 *e*PKIKP PKPdf 07 38 53.4 +0.1
W14A Seligman 141.33 263 ⇓P PKPdf 07 38 54.2 +0.4
baz=141
PDMCI Parker Dam,Lak 141.35 261 ⇓P PKPdf 07 38 54.1 +0.3
baz=141
X13A Yucca 141.36 262 ⇑P PKPdf 07 38 53.9 +0.1
baz=142
DVTC Desert V Tower 141.40 258 ⇓P PKPdf 07 38 54.4 +0.4
baz=142
Q19A Hogan Spring (141.40 271 ⇑P PKPdf 07 38 53.9 +0.2
baz=142
SWSC Sam W. Stewart 141.41 258 ⇓P PKPdf 07 38 54.4 +0.4
baz=142
R18A Canyonlands Na 141.44 270 ⇓P PKPdf 07 38 53.4 -0.4
baz=142
T16A Glen Canyon Da 141.53 267 ⇑P PKPdf 07 38 54.2 +0.1
baz=142
V14A Boquillas Ranc 141.62 264 ⇓P PKPdf 07 38 54.8 +0.5
baz=142
U15A North Rim 141.65 266 ⇓P PKPdf 07 38 54.6 +0.4
baz=142
BC3 Big Chuckw Mtn 141.70 259 ⇑P PKPdf 07 38 54.6 +0.2
baz=142
W13A Hualapai Mount 141.74 263 ⇑P PKPdf 07 38 55.0 +0.5
baz=142
BAR Barrett 141.75 257 PFAKE 07 39 10.0 +15
BAR LR LR
comp=Z,303nm,21.0s,MS5.0
RWWY Rawlins 141.79 276 *e*PKPdf PKPdf 07 38 55.3 +0.9
IRM Iron Mountain 141.87 260 ⇓P PKPdf 07 38 55.2 +0.4
baz=142
R17A Hanksville Air 141.96 269 ⇓P PKPdf 07 38 56.2 +1.5
baz=142
T15A Red Dirt Ranch 142.09 266 ⇑P PKPdf 07 38 55.5 +0.5
baz=142
109C Camp Elliot, M 142.16 257 ⇑P PKPdf 07 38 55.4 +0.1
baz=142
U14A Mt Trumbull 142.18 265 ⇑P PKPdf 07 38 55.6 +0.3
baz=142
BELC Belle Mtn. 142.27 259 ⇓P PKPdf 07 38 56.0 +0.5
baz=142
SRU San Rafael 142.27 270 ⇑P PKPdf 07 38 55.1 -0.2
baz=142
SRU San Rafael 142.27 270 *e*PKPdf PKPdf 07 38 55.7 +0.4
PFO Pinyon Flat Ob 142.27 258 ⇓P PKPdf 07 38 55.6 +0.1
baz=142
PFO Pinyon Flat Ob 142.27 258 PFAKE 07 39 10.0 +15
PFO LR LR
comp=Z,429nm,22.0s,MS5.2
V13A Grand Canyon W 142.30 263 ⇓P PKPdf 07 38 55.8 +0.3
baz=142
S15A Panguitch 142.50 267 ⇑P PKPdf 07 38 54.1 -1.6
baz=143
T14A Hurricane 142.54 266 ⇑P PKPdf 07 38 54.2 -1.6
baz=143
Q16A Castle Valley 142.55 270 ⇓P PKPdf 07 38 56.0 +0.2
baz=143
GMRC Granite Mounta 142.60 261 ⇓P PKPdf 07 38 56.7 +0.6
baz=143
U13A Pakoon Wash 142.66 264 ⇓P PKPdf 07 38 55.8 -0.3
baz=143
V12A Nelson 142.74 263 ⇓P PKPdf 07 38 56.8 +0.5
baz=143
R15A Junction 142.78 268 ⇓P PKPdf 07 38 56.7 +0.5
baz=143
MVU Marysvale 142.93 268 PFAKE 07 39 10.0 +14
MVU LR LR
comp=Z,414nm,22.0s,MS5.2
CCUT Cedar City 143.03 266 *e*PKPdf PKPdf 07 38 57.7 +1.0
SCI San Clemente I 143.08 256 ⇑P PKPdf 07 38 56.9 0.0
baz=143
V11A Goodsprings 143.17 262 ⇓P PKPdf 07 38 53.5 -3.5
baz=143
TUQ Turquoise Mtn. 143.20 261 ⇓P PKPdf 07 38 55.1 -1.9
baz=143
ARUT Antelope Range 143.23 266 *e*PKIKP PKPdf 07 38 55.6 -1.4
P16A Fountain Green 143.27 270 ⇑P PKPdf 07 38 53.6 -3.4
baz=143
R14A James Farms, M 143.29 267 ⇑P PKPdf 07 38 53.3 -3.8
baz=143
CIS Catalina Islan 143.29 256 ⇑P PKPdf 07 38 52.9 -4.4
baz=143
MPU Maple Canyon 143.50 271 *e*PKPdf PKPdf 07 38 55.9 -1.5
MPU LR LR
comp=Z,1μm,22.0s,MS5.6
DAU Daniels Canyon 143.51 272 *e*PKIKP PKPdf 07 38 55.9 -1.5
U11A Corn Creek 143.53 263 ⇑P PKPdf 07 38 53.3 -4.3
baz=144
O16A Springville 143.54 271 ⇓P PKPdf 07 38 53.1 -4.4
baz=144
DGMT Dagmar 143.61 288 *e*PKPdf PKPdf 07 38 55.4 -1.9
DGMT LR LR
comp=Z,729nm,20.0s,MS5.4
P15A Leamington 143.63 270 ⇓P PKPdf 07 38 54.7 -3.0
baz=144
GSC Goldstone 143.64 260 *e*PKIKP PKPdf 07 38 58.5 +0.7
GSC MLR MLR
comp=Z,279nm,19.0s,MS5.0
MWC Mount Wilson 143.66 258 PFAKE 07 39 10.0 +12
MWC LR LR
comp=Z,318nm,19.0s,MS5.1
YAK Yakutsk 143.70 48 *e*PKIKP PKPdf 07 38 54.4 -2.6
YAK pmax pmax
comp=Z,35nm,0.9s
YAK Yakutsk 143.70 48 *e*PKPdf PKPdf 07 38 56.5 -0.6
NLU North Lily Min 143.74 270 *e*PKPdf PKPdf 07 38 56.3 -1.5
JLU Jordanelle 143.74 272 *e*PKPdf PKPdf 07 38 56.0 -1.9
DECC Green Verdugo 143.84 257 ⇑P PKPdf 07 38 57.0 -1.2
baz=144
PDAR Pinedale Array 143.84 276 PKP PKPdf 07 38 55.0 -2.9
comp=Z,8.5nm,0.7s,baz=125,slow=5.3,SNR=84
SNCC San Nicolas Is 143.85 255 PFAKE 07 39 10.0 +12
SNCC LR LR
comp=Z,595nm,22.0s,MS5.3
Q14A Sevier Lake (B 143.88 268 ⇑P PKPdf 07 38 55.9 -2.3
baz=144
N16A Rees Ranch, Co 143.90 272 ⇑P PKPdf 07 38 55.9 -2.2
baz=144
LAO LASA Array 143.93 284 *e*PKPdf PKPdf 07 38 56.2 -1.7
LAO LR LR
comp=Z,771nm,22.0s,MS5.4
T11A Corn Creek, Al 143.96 264 ⇑P PKPdf 07 38 55.9 -2.4
baz=144,SNR=16
S12A Delamar Landin 143.97 265 ⇓P PKPdf 07 38 55.9 -2.4
baz=144,SNR=10.0
EDW2 Edwards Air Fo 144.07 259 ⇑P PKPdf 07 38 56.1 -2.5
baz=144
U10A Ash Meadows, A 144.10 262 ⇓P PKPdf 07 38 56.3 -2.3
baz=144,SNR=9.9
P14A Drum Mountains 144.12 269 ⇑P PKPdf 07 38 56.7 -1.8
baz=144
O15A The Old Anders 144.17 270 ⇓P PKPdf 07 38 56.9 -1.7
baz=144
BLG Laguna Peak 144.18 257 ⇑P PKPdf 07 38 56.7 -2.2
baz=144
M16A Huntsville 144.27 272 ⇑P PKPdf 07 38 56.5 -2.2
baz=144
R12A Pony Springs, 144.28 266 ⇓P PKPdf 07 38 57.3 -1.6
baz=144
Q13A Wheeler Ranch, 144.31 267 P PKPdf 07 38 57.5 -1.3
baz=144,SNR=35
OSI Osito Adit 144.32 258 ⇑P PKPdf 07 38 56.8 -2.2
baz=144
DUG Dugway 144.33 270 ⇑P PKPdf 07 38 56.9 -1.9
baz=144
DUG Dugway 144.33 270 *e*PKPdf PKPdf 07 38 58.1 -0.8
DUG LR LR
comp=Z,309nm,20.0s,MS5.1
TPNV Topopah Spring 144.40 263 P PKPdf 07 38 57.8 -1.3
baz=144,SNR=22
TPNV Topopah Spring 144.40 263 *e*PKPdf PKPdf 07 38 58.2 -0.9
TPNV LR LR
comp=Z,517nm,21.0s,MS5.3
FURC Furnace Creek, 144.45 262 ⇓P PKPdf 07 38 57.6 -1.6
baz=144,SNR=9.7
S11A Rachel 144.54 264 ⇓P PKPdf 07 38 58.2 -1.2
baz=145,SNR=15
L16A Fish Haven 144.56 274 ⇓P PKPdf 07 38 57.4 -1.8
baz=145
MPMC Manual Prospec 144.56 261 ⇓P PKPdf 07 38 57.9 -1.5
baz=145,SNR=9.2
N15A Stansbury Isla 144.57 271 ⇓P PKPdf 07 38 57.6 -1.7
baz=145
P13A Bates Ranch, G 144.62 268 P PKPdf 07 38 58.2 -1.2
baz=145,SNR=35
ARVC Arvin 144.74 258 ⇓P PKPdf 07 38 58.0 -1.8
baz=145
DAC Darwin (Calif) 144.77 261 PFAKE 07 39 10.0 +10
DAC LR LR
comp=Z,350nm,19.0s,MS5.2
AHID Auburn Hatcher 144.78 275 *e*PKPdf PKPdf 07 38 58.6 -0.9
SBC Santa Barbara 144.79 256 ⇑P PKPdf 07 38 56.8 -3.0
baz=145
M15A Larsen Ranch, 144.86 272 ⇓P PKPdf 07 38 58.1 -1.6
baz=145
Q12A Willow Creek R 144.86 267 ⇑P PKPdf 07 38 59.0 -0.8
baz=145,SNR=23
ISA Isabella 144.89 259 ⇑P PKPdf 07 38 59.3 -0.7
baz=145,SNR=15
ISA Isabella 144.89 259 *e*PKPdf PKPdf 07 38 59.6 -0.4
ISA LR LR
comp=Z,307nm,20.0s,MS5.1
R11A Troy Canyon, C 144.89 265 P PKPdf 07 38 59.2 -0.7
baz=145,SNR=26
BGU Big Grassy Mou 144.90 271 *e*PKPdf PKPdf 07 38 59.0 -0.9
RLMT Red Lodge 144.94 280 *e*PKPdf PKPdf 07 38 59.5 -0.3
RLMT LR LR
comp=Z,545nm,19.0s,MS5.3
LOHW Long Hollow 144.95 277 *e*PKPbc PKPdf 07 38 58.8 -1.0
N14A Grayback Hills 144.95 271 ⇓P PKPdf 07 38 59.2 -0.7
baz=145
SNOW Snow King Moun 144.96 276 *e*PKPdf PKPdf 07 39 00.1 +0.2
REDW Red Top Meadow 144.96 276 *e*PKPdf PKPdf 07 38 59.3 -0.5
O13A Hicks Ranch, I 145.01 269 ⇓P PKPbc 07 38 59.5 0.0
baz=145,SNR=5.3
TPAW Teton Pass 145.09 276 *e*PKPbc PKPbc 07 38 59.6 0.0
MOOW Moose Ponds 145.11 277 *e*PKPbc PKPbc 07 38 59.1 -0.5
GRAC Grapevine Rang 145.11 262 ⇑P PKPbc 07 38 59.9 +0.1
baz=145,SNR=5.9
K16A Soda Springs 145.11 275 ⇑P PKPbc 07 38 59.5 -0.2
baz=145
L15A Malad City 145.13 273 ⇑P PKPbc 07 38 59.2 -0.6
baz=145
TIXI Tiksi 145.14 31 *i* PKP2 PKPab 07 38 57.4 -1.6
TIXI pmax pmax
comp=Z,312nm,2.5s
TIXI Tiksi 145.14 31 *e*PKPdf PKPdf 07 38 58.9 -0.4
CWC Cottonwood Cre 145.17 260 ⇓P PKPbc 07 38 59.8 -0.3
baz=145,SNR=7.5
PKM Peak Mountain 145.17 257 ⇑P PKPbc 07 39 00.3 +0.1
baz=145
P12A McGill 145.18 267 P PKPbc 07 38 60.0 0.0
baz=145,SNR=16
S10A Tonopah Range, 145.24 264 P PKPbc 07 39 00.2 -0.1
baz=145,SNR=30
RRI2 Red Ridge 145.24 276 *e*PKPbc PKPbc 07 39 00.1 0.0
HVU Hansel Valley 145.24 272 *e*PKIKP PKPdf 07 38 59.9 -0.5
Q11A Duckwater 145.24 266 P PKPbc 07 39 00.2 -0.1
baz=145,SNR=49
FLWY Flagg Ranch 145.26 277 *e*PKPbc PKPbc 07 39 00.4 +0.2
R10A Warm Springs 145.29 265 ⇑P PKPbc 07 39 00.6 +0.2
baz=145,SNR=22
DCID1 Drake Creek 145.29 276 *e*PKPbc PKPbc 07 39 00.4 +0.1
IMW Indian Meadow 145.31 277 *e*PKPbc PKPbc 07 39 00.4 +0.1
LKWY Lake 145.34 278 *e*PKIKP PKPdf 07 39 01.2 +0.7
LKWY MLR MLR
comp=Z,792nm,20.0s,MS5.5
VES Vestal, Richgr 145.37 259 P PKPbc 07 39 00.1 -0.7
baz=146,SNR=12
M14A Sheep Mountain 145.43 271 P PKPdf 07 39 00.7 0.0
baz=146,SNR=65
S09A Goldfield 145.49 263 P PKPdf 07 39 01.3 +0.3
baz=146,SNR=97
GCMT Greycliff 145.53 280 *e*PKPab PKPab 07 39 01.2 0.0
YFT Old Faithful 145.54 278 *e*PKPab PKPab 07 39 01.8 +0.5
O12A Currie 145.56 269 P PKPdf 07 39 01.2 +0.2
baz=146,SNR=42
SMMC Simmler 145.56 257 ⇑P PKPdf 07 39 01.7 +0.5
baz=146,SNR=8.5
RES Resolute Bay 145.57 334 *e*PKIKP PKPdf 07 39 01.0 +1.0
N13A Wendover, West 145.58 270 ⇓P PKPdf 07 39 01.3 +0.3
baz=146
YNR Norris Junctio 145.59 278 *e*PKPab PKPab 07 39 01.7 +0.3
TIN Tinemaha 145.66 261 ⇑P PKPdf 07 39 01.9 +0.6
baz=146,SNR=15
L14A Malta 145.67 272 P PKPdf 07 39 01.3 +0.2
baz=146,SNR=20
Q10A Clear Creek Ra 145.69 265 P PKPdf 07 39 02.2 +1.0
baz=146,SNR=13
TPH Tonopah 145.71 263 *e*PKP2 PKPab 07 39 02.0 -0.1
TPH MLR MLR
comp=Z,439nm,20.0s,MS5.2
R09A Tonopah 145.73 264 P PKPdf 07 39 01.9 +0.5
baz=146,SNR=56
YMR Madison River 145.73 278 *e*PKPdf PKPdf 07 39 01.6 +0.5
P11A Circle Ranch, 145.74 267 ⇑P PKPdf 07 39 01.9 +0.6
baz=146
RCTC Rector, Farmer 145.78 259 ⇓P PKPdf 07 39 00.7 -0.8
baz=146
V05C Boulder Hill, 145.88 258 ⇑P PKPdf 07 39 02.4 +0.7
baz=146
HELL Mitchell Peak 145.90 260 P PKPdf 07 39 01.8 +0.1
baz=146,SNR=42
S08C White Mtn Res 145.92 262 ⇑P PKPdf 07 39 02.6 +0.9
baz=146,SNR=28
K14A Jones Ranch, D 145.92 273 P PKPdf 07 39 02.2 +0.7
baz=146,SNR=31
PTRM Twissleman Ran 145.92 257 *e*PKPab PKPab 07 39 03.3 +0.3
O11A Cowboy Ranch, 146.03 268 P PKPdf 07 39 03.1 +1.3
baz=146,SNR=31
MTUM Tungsten Hills 146.06 261 *e*PKPbc PKPbc 07 39 03.0 +0.2
N12A Clover Valley, 146.09 269 ⇓P PKPdf 07 39 03.0 +1.1
baz=146,SNR=20
QLMT Earthquake Lak 146.10 278 *e*PKPab PKPab 07 39 03.9 +0.5
L13A Double Diamond 146.13 272 ⇑P PKPdf 07 39 03.4 +1.5

baz=146,SNR=33
ELK Elko 146.15 269 *e*PKP2 PKPab 07 39 03.3 -0.4
Q09A Carvers 146.17 265 ⇑P PKPdf 07 39 03.5 +1.4
baz=146
P10A Eureka 146.22 266 ⇓P PKPdf 07 39 03.3 +1.2
baz=146
V04C Ramage Ranch, 146.30 257 ⇓P PKPdf 07 39 03.8 +1.4
baz=146
PKD Parkfield 146.32 257 ⇑P PKPdf 07 39 03.6 +1.2
baz=146,SNR=9.2
U05C Westside ANR, 146.33 258 ⇓P PKPdf 07 39 03.6 +1.1
baz=146
M12A Wells 146.34 270 ⇓P PKPdf 07 39 01.9 -0.4
baz=146,SNR=28
MLAC Mammoth Lakes 146.41 261 ⇓P PKPdf 07 39 02.6 +0.1
baz=146,SNR=16
R08A Mina 146.42 263 ⇓P PKPdf 07 39 03.9 +1.4
baz=146
N11A Elko Archery C 146.49 269 ⇑P PKPdf 07 39 04.1 +1.5
baz=147
KCC Kaiser Creek 146.50 260 P PKPdf 07 39 04.2 +1.5
baz=147,SNR=11
T06C Millerton Lake 146.53 260 ⇓P PKPdf 07 39 03.4 +0.7
baz=147,SNR=21
K13A Stover Farm, H 146.54 273 P PKPbc 07 39 04.7 +0.6
baz=147,SNR=20
P09A Austin 146.59 266 ⇑P PKPdf 07 39 04.1 +1.3
baz=147
NVAR Mina Array Bea 146.59 263 PKPbc PKPbc 07 39 04.7 +0.3
comp=Z,24nm,0.7s,baz=134,slow=3.6,SNR=211
Q08A Gabbs 146.64 264 ⇑P PKPdf 07 39 04.5 +1.6
baz=147
BOZ Bozeman (W) 146.64 279 P PKPdf 07 39 04.0 +1.4
baz=147,SNR=12
BOZ Bozeman (W) 146.64 279 *e*PKPbc PKPbc 07 39 04.3 0.0
O10A Cortez Mining, 146.65 267 ⇑P PKPdf 07 39 04.5 +1.6
baz=147,SNR=11
EGMT Eagleton 146.68 284 ⇑P PKPdf 07 39 02.9 +0.3
baz=147,SNR=17
EGMT Eagleton 146.68 284 *e*PKPbc PKPbc 07 39 04.3 0.0
EGMT LR LR
comp=Z,531nm,20.0s,MS5.3
U04C Hernandez Rese 146.74 258 ⇓P PKPdf 07 39 03.8 +0.6
baz=147,SNR=9.0
V03C Hunter Liggett 146.78 257 ⇑P PKPdf 07 39 04.4 +1.2
baz=147
L12A House Creek Ra 146.82 271 ⇑P PKPdf 07 39 04.1 +1.0
baz=147,SNR=18
R07C Lee Vining 146.83 262 ⇓P PKPdf 07 39 03.0 -0.2
baz=147,SNR=9.4
M11A Holland Ranch, 146.88 269 ⇓P PKPdf 07 39 02.2 -1.0
baz=147,SNR=27
LCCM Lewis and Clar 146.89 279 P PKPbc 07 39 05.3 +0.3
N10A Dunphy 146.91 268 ⇑P PKPdf 07 39 01.8 -1.4
baz=147,SNR=8.9
G15A Dillon 146.92 278 ⇓P PKPdf 07 39 03.1 -0.1
baz=147,SNR=21
MCMT McKenzie Canyo 146.96 277 *e*PKPbc PKPbc 07 39 05.6 +0.3
O09A Fish Creek Ran 146.99 266 ⇑P PKPdf 07 39 03.4 0.0
baz=147,SNR=17
J13A Cove Ranch, Pi 147.00 274 ⇓P PKPdf 07 39 03.6 +0.3
baz=147,SNR=18
K12A Draper Farm, C 147.03 272 ⇓P PKPdf 07 39 04.0 +0.6
baz=147,SNR=24
T05C Eagle Field, D 147.03 259 ⇓P PKPdf 07 39 03.9 +0.3
baz=147
DLMT Dillon 147.08 278 *e*PKPbc PKPbc 07 39 05.9 +0.3
S05C Merced 147.12 260 ⇑P PKPdf 07 39 04.4 +0.6
baz=147
BMN Battle Mountai 147.17 267 *e*PKP2 PKPab 07 39 06.3 -1.4
BMN MLR MLR
comp=Z,391nm,19.0s,MS5.2
S06C San Francisco 147.18 261 ⇑P PKPdf 07 39 04.3 +0.5
baz=147,SNR=22
HAST Hastings Reser 147.22 257 ⇑P PKPdf 07 39 04.4 +0.4
baz=147,SNR=9.6
Q07A Schurz 147.22 263 ⇑P PKPdf 07 39 04.0 +0.1
baz=147
HLID Hailey 147.24 274 ⇓P PKPdf 07 39 03.5 -0.2
baz=147,SNR=22
HLID Hailey 147.24 274 *e*PKPbc PKPbc 07 39 06.7 +0.6
HLID LR LR
comp=Z,433nm,19.0s,MS5.3
P08A Dixie Valley 147.25 265 ⇑P PKPdf 07 39 02.3 -1.6
baz=147
I13A Wildhorse Cree 147.25 274 ⇓P PKPdf 07 39 02.4 -1.3
baz=147,SNR=52
F15A Butte 147.26 279 ⇑P PKPdf 07 39 03.2 -0.5
baz=147,SNR=20
L11A Cat Creek Ranc 147.28 271 ⇑P PKPdf 07 39 03.4 -0.5
baz=147,SNR=33
HRY Holter Researc 147.29 280 *e*PKPab PKPab 07 39 08.1 +0.2
R06C Coleville 147.35 262 ⇑P PKPdf 07 39 03.2 -0.9
baz=147
M10A I.L. Ranch, Tu 147.40 269 ⇑P PKPdf 07 39 04.5 +0.4
baz=148,SNR=15
SAO San Andreas Ge 147.41 258 PFAKE 07 39 20.0 +16
SAO LR LR
comp=Z,307nm,19.0s,MS5.1
PACP Pacheco Peak 147.47 258 ⇓P PKPdf 07 39 04.0 -0.4
baz=148
G14A Jackson 147.55 277 ⇑P PKPdf 07 39 04.2 0.0
baz=148
CMB Columbia Colle 147.60 260 ⇓P PKPdf 07 39 04.5 -0.1
baz=148,SNR=12
CMB Columbia Colle 147.60 260 *e*PKPbc PKPbc 07 39 07.7 +0.5
CMB LR LR
comp=Z,413nm,22.0s,MS5.2
N09A Rock Creek Ran 147.60 267 ⇑P PKPdf 07 39 04.6 +0.2
baz=148,SNR=17
E15A Deer Lodge 147.64 279 ⇓P PKPdf 07 39 04.1 -0.1
baz=148
P07A Fallon 147.65 264 ⇓P PKPdf 07 39 04.0 -0.6
baz=148
L10A Juniper Basin 147.67 270 ⇑P PKPdf 07 39 04.9 +0.4
baz=148,SNR=6.5
H13A Challis 147.68 275 ⇑P PKPdf 07 39 03.3 -1.1
baz=148,SNR=44
F14A Wisdom 147.78 278 ⇓P PKPdf 07 39 04.6 0.0
baz=148,SNR=8.3
K11A Parker Ranch, 147.79 271 ⇑P PKPdf 07 39 03.7 -1.0
baz=148,SNR=34
S04C Ingram Canyon, 147.83 259 ⇑P PKPdf 07 39 06.3 +1.3
baz=148
R05C Kirkwood Meado 147.84 262 ⇑P PKPdf 07 39 03.6 -1.3
baz=148
D15A Lincoln 147.87 281 ⇓P PKPdf 07 39 05.1 +0.4
baz=148,SNR=54
M09A Marrel Ranch, 147.90 268 ⇓P PKPdf 07 39 05.1 +0.2
baz=148,SNR=18
N08A GE Springer Mi 147.94 267 ⇓P PKPdf 07 39 05.0 0.0
baz=148,SNR=15
G13A Cobalt 147.94 276 ⇓P PKPdf 07 39 05.2 +0.3
baz=148,SNR=20
O07A Toulon 148.02 265 ⇓P PKPdf 07 39 05.1 0.0
baz=148,SNR=18
MFID Camas Ranch 148.02 272 ⇓P PKPdf 07 39 04.8 -0.3
baz=148
WCN Washoe City 148.03 263 ⇑P PKPdf 07 39 04.7 -0.5
baz=148,SNR=8.9
H12A Diamond D Ranc 148.04 275 ⇓P PKPdf 07 39 04.8 -0.2
baz=148,SNR=14
PAHR Pah Rah Range 148.05 264 *e*PKPab PKPab 07 39 11.2 0.0
BNLO Ben Lomond (Sa 148.09 257 ⇑P PKPdf 07 39 05.1 -0.3
baz=148
E14A Clinton 148.15 279 ⇑P PKPdf 07 39 03.3 -1.9
baz=148
WENL Wente Brothers 148.16 259 ⇑P PKPdf 07 39 03.1 -2.4
baz=148
CHMT Chamberlain Mo 148.25 280 *e*PKPbc PKPbc 07 39 08.5 -0.1
LAVA Lava Cap Winer 148.28 261 ⇓P PKPdf 07 39 03.5 -2.1
baz=148,SNR=8.9
JRSC Jasper Ridge 148.31 258 ⇓P PKPdf 07 39 03.7 -2.0
baz=148,SNR=5.2
K10A MacKenzie Ranc 148.31 271 ⇑P PKPdf 07 39 04.7 -0.8
baz=148,SNR=9.6
P06A Stead Airport, 148.34 263 ⇑P PKPdf 07 39 04.0 -1.7
baz=148
L09A Wilkinson Ranc 148.37 269 ⇑P PKPdf 07 39 03.8 -1.8
baz=148,SNR=19
I11A Placerville 148.37 273 ⇓P PKPdf 07 39 04.2 -1.4
baz=148,SNR=23
BDM Black Diamond 148.44 259 ⇑P PKPdf 07 39 03.9 -2.0
baz=148
N07B Gerlach 148.45 266 ⇓P PKPdf 07 39 03.1 -2.7
baz=148,SNR=19
D14A Greenough 148.48 280 ⇑P PKPdf 07 39 04.2 -1.5
baz=149,SNR=12
M08A Happy Creek Ra 148.48 267 ⇑P PKPdf 07 39 04.6 -1.2
baz=149,SNR=27
P05C Yuba Gap, Truc 148.54 262 ⇓P PKPdf 07 39 04.3 -1.7
baz=149,SNR=12
E13A Victor 148.58 279 ⇑P PKPdf 07 39 04.6 -1.3
baz=149,SNR=29
J10A Berg Farm, Mel 148.60 272 ⇓P PKPdf 07 39 03.2 -2.8
baz=149
MSO Missoula 148.62 279 *e*PKPbc PKPbc 07 39 09.9 +0.3
Q04C Lincoln 148.72 261 ⇑P PKPdf 07 39 04.6 -1.8
baz=149
BEKR Beckwourth 148.74 263 ⇓P PKPdf 07 39 05.0 -1.3
baz=149,SNR=12
K09A Rome 148.79 270 ⇑P PKPdf 07 39 04.5 -1.8
baz=149,SNR=20
H11A Donnelly 148.82 274 ⇑P PKPdf 07 39 04.5 -1.8
baz=149,SNR=21
L08A Fields 148.88 269 ⇓P PKPdf 07 39 05.0 -1.4
baz=149,SNR=21
F12A Elk City 148.89 277 ⇑P PKPdf 07 39 05.1 -1.3
baz=149
M07A Soldier Meadow 148.93 267 ⇓P PKPdf 07 39 05.5 -1.1
baz=149,SNR=22
C14A Swan Lake 148.94 281 ⇓P PKPdf 07 39 05.5 -0.9
baz=149
N06A Buffalo Meadow 148.95 265 ⇑P PKPdf 07 39 05.8 -0.9
baz=149,SNR=14
FARB Farallon Islan 148.96 257 ⇓P PKPdf 07 39 06.8 +0.1
baz=149
Q03C Winters 148.97 260 ⇓P PKPdf 07 39 06.8 +0.1
baz=149
I10A Payette 148.98 273 ⇓P PKPdf 07 39 07.0 +0.5
baz=149,SNR=7.4
CVS Carmenet Viney 149.05 259 ⇓P PKPdf 07 39 06.8 -0.1
baz=149
D13A Huson 149.06 279 ⇑P PKPdf 07 39 05.2 -1.4
baz=149,SNR=15
OHCM Honcut 149.09 261 *e*PKPbc PKPbc 07 39 12.0 +0.9
O05C Quincy 149.14 263 ⇓P PKPdf 07 39 05.8 -1.2
baz=149,SNR=5.1
J09A Fry Pan Ranch, 149.16 271 ⇑P PKPdf 07 39 07.1 +0.3
baz=149,SNR=18
MCCM Marconi Confer 149.17 258 ⇑P PKPdf 07 39 07.2 +0.1
baz=149
MCCM Marconi Confer 149.17 258 PFAKE 07 39 20.0 +13
MCCM LR LR
comp=Z,373nm,19.0s,MS5.2
WVOR Wild Horse Val 149.20 269 *e*PKP2 PKPbc 07 39 12.2 +1.0
SUTB Sutter Butte 149.21 261 ⇑P PKPdf 07 39 06.7 -0.4
baz=149
H10A Noah's Angus R 149.21 274 ⇓P PKPdf 07 39 06.3 -0.6
baz=149,SNR=9.9
ORV Oroville 149.24 262 ⇑P PKPdf 07 39 06.9 -0.2
baz=149,SNR=11
NSHM Saint Helena R 149.25 259 *e*PKPbc PKPbc 07 39 12.0 +0.5
K08A Mann Creek Ran 149.27 269 ⇓P PKPdf 07 39 07.0 -0.1
baz=149,SNR=22
G11A Walters Elk Ra 149.33 275 ⇓P PKPdf 07 39 07.2 +0.1
baz=149,SNR=12
MNRC McLaughlin Nat 149.38 260 ⇑P PKPdf 07 39 07.5 +0.1
baz=150
L07A Adell 149.39 267 ⇑P PKPdf 07 39 07.9 +0.6
baz=150,SNR=15
C13A Hot Springs 149.40 280 ⇑P PKPdf 07 39 07.7 +0.6
baz=150,SNR=6.5
ELFS Eagle Lake Fie 149.42 264 ⇑P PKPdf 07 39 07.2 -0.2
baz=150
O04C Chester 149.46 263 ⇑P PKPdf 07 39 07.6 +0.1
baz=150,SNR=18
I09A Lost Marbles R 149.49 272 ⇓P PKPdf 07 39 07.1 -0.3
baz=150,SNR=9.7
F11A Grangeville 149.51 276 ⇑P PKPdf 07 39 07.1 -0.2
baz=150
D12A Red Ives Fores 149.58 279 ⇓P PKPdf 07 39 06.5 -0.9
baz=150
WALA Waterton Lakes 149.61 283 *e*PKPbc PKPbc 07 39 12.3 +0.3
J08A Circle Bar Ran 149.61 270 ⇑P PKPdf 07 39 08.0 +0.4
baz=150,SNR=13
M06C Likely Place G 149.62 265 ⇑P PKPdf 07 39 06.8 -0.9
baz=150
B13A Whitefish 149.65 282 ⇑P PKPdf 07 39 07.3 -0.2
baz=150,SNR=8.5
BMO Blue Mountains 149.69 274 *e*PKP2 PKPdf 07 39 07.7 0.0
BMO MLR MLR
comp=Z,341nm,20.0s,MS5.1
K07A Rock Creek Ran 149.72 269 ⇑P PKPdf 07 39 07.9 +0.1
baz=150,SNR=14
E11A Bogner Ranch, 149.77 277 ⇓P PKPdf 07 39 08.3 +0.5
baz=150,SNR=8.4
G10A Bishop Farm, J 149.80 275 ⇓P PKPdf 07 39 08.0 +0.1
baz=150,SNR=16
H09A Durkee 149.81 273 ⇓P PKPdf 07 39 07.6 -0.3
baz=150,SNR=15
O03C Acorn Hollow, 149.83 262 ⇓P PKPdf 07 39 07.5 -0.6
baz=150
HOPS Hopland 149.84 259 ⇑P PKPdf 07 39 08.4 +0.3
baz=150
HOPS Hopland 149.84 259 PFAKE 07 39 20.0 +12
HOPS LR LR
comp=Z,600nm,21.0s,MS5.4
A13A Flathead Natio 149.85 283 ⇓P PKPdf 07 39 07.9 +0.1
baz=150,SNR=8.7
MOD Modoc 149.92 266 ⇑P PKPdf 07 39 05.6 -2.5
baz=150,SNR=9.2
MOD Modoc 149.92 266 *e*PKPbc PKPbc 07 39 13.2 +0.2
MOD LR LR
comp=Z,531nm,22.0s,MS5.3
I08A Drewsey 149.97 271 ⇓P PKPdf 07 39 07.9 -0.3
baz=150
HATC Hat Creek Radi 149.99 264 ⇑P PKPdf 07 39 07.9 -0.4
baz=150
GASB Alder Springs 150.04 261 ⇑P PKPdf 07 39 08.3 -0.1
baz=150
M05C Lookout 150.11 265 ⇑P PKPdf 07 39 08.6 +0.2
baz=150
J07A Hines 150.13 270 ⇓P PKPdf 07 39 06.4 -2.0
baz=150,SNR=7.0
D11A Klaveano Farm, 150.17 278 ⇓P PKPdf 07 39 06.1 -2.3
baz=150,SNR=9.4
G09A Cove 150.19 274 ⇓P PKPdf 07 39 05.9 -2.6
baz=150
F10A Beach Ranch, E 150.20 276 ⇓P PKPdf 07 39 06.1 -2.3
baz=150,SNR=19
P01C Double 8 Ranch 150.29 260 ⇑P PKPdf 07 39 07.1 -1.7
baz=150
L05A Lakeview 150.32 266 ⇑P PKPdf 07 39 06.5 -2.3
baz=150,SNR=7.9
H08A Prairie City 150.35 272 ⇓P PKPdf 07 39 06.8 -2.0
baz=150
B12A Libby 150.36 281 ⇓P PKPdf 07 39 06.5 -2.1
baz=150
E10A Myers Farm, Un 150.38 277 ⇓P PKPdf 07 39 06.4 -2.3
baz=150,SNR=7.8
K06A Valley Falls 150.39 268 ⇑P PKPdf 07 39 05.6 -3.3
baz=150,SNR=8.2
O02C Red Bluff 150.40 261 ⇓P PKPdf 07 39 05.0 -4.0
baz=150
F09A S2 Ranch, Elgi 150.49 275 ⇑P PKPdf 07 39 03.4 -5.5
baz=151
WDC Whiskeytown Da 150.50 262 *e*PKIKP PKPbc 07 39 14.6 +0.1
WDC Whiskeytown Da 150.50 262 ⇑P PKPdf 07 39 03.9 -5.2
baz=151,SNR=6.0
KCPM Cahto Peak 150.58 260 *e*PKPbc PKPbc 07 39 16.5 +1.8
J06A Christmas Vall 150.58 269 ⇓P PKPdf 07 39 04.0 -5.1
baz=151
KIPM Iron Peak 150.59 260 *e*PKPbc PKPbc 07 39 16.2 +1.5
A12A Yaak River Ran 150.59 282 ⇓P PKPdf 07 39 06.3 -2.7
baz=151
I07A Izee 150.63 271 ⇑P PKPdf 07 39 06.2 -3.0
baz=151,SNR=5.7
M03C McCloud 150.66 264 ⇓P PKPdf 07 39 07.0 -2.3
baz=151
K05A Summer Lake 150.74 267 ⇓P PKPdf 07 39 07.6 -1.8
baz=151,SNR=6.9
D10A Wagner Farm, O 150.74 278 ⇓P PKPdf 07 39 06.9 -2.3
baz=151,SNR=6.7
M04C Macdoel 150.78 265 ⇓P PKPdf 07 39 07.6 -1.9
baz=151,SNR=7.9
B11A Sandpoint 150.81 281 ⇓P PKPdf 07 39 07.0 -2.3
baz=151,SNR=14
EDM Edmonton 150.83 291 *e*PKIKP PKPdf 07 39 09.9 +0.7
G08A Pilot Rock 150.92 273 ⇑P PKPdf 07 39 07.4 -2.2
baz=151,SNR=42
H07A Lands Inn, Kim 150.93 272 ⇑P PKPdf 07 39 06.8 -2.8
baz=151,SNR=8.8
I06A Prineville 150.99 270 ⇑P PKPdf 07 39 07.1 -2.6
baz=151
O01C Eel River Cons 151.00 260 ⇓P PKPdf 07 39 06.9 -3.0
baz=151
E09A Wood Farm, Sta 151.02 276 ⇓P PKPdf 07 39 07.6 -2.1
baz=151,SNR=9.1
A11A Hall Mountain, 151.03 282 ⇑P PKPdf 07 39 07.0 -2.7
baz=151,SNR=5.1
L04A Klamath Falls 151.04 266 ⇓P PKPdf 07 39 07.4 -2.5
baz=151
F08A Pendleton 151.06 274 ⇓P PKPdf 07 39 07.6 -2.2
baz=151
N02C Big Bar 151.11 262 ⇑P PKPdf 07 39 07.1 -2.9
baz=151
C10A Spilker Farm, 151.11 279 ⇓P PKPdf 07 39 07.9 -1.9
baz=151,SNR=6.0
NEW Newport 151.19 280 *e*PKIKP PKPbc 07 39 14.8 -1.0
NEW MLR MLR
comp=Z,584nm,22.0s
J05A Fort Rock 151.26 268 ⇓P PKPdf 07 39 09.0 -1.2
baz=151,SNR=6.2
YBH Yreka Blue Hor 151.28 264 *e*PKIKP PKPbc 07 39 16.8 +0.5
G07A Ruggs Ranch, H 151.34 273 ⇓P PKPdf 07 39 07.0 -3.2
baz=151
D09A Jones Farm, Ri 151.37 277 ⇓P PKPdf 07 39 06.9 -3.4
baz=152
H06A Lindquist Farm 151.48 271 ⇓P PKPdf 07 39 07.4 -3.0
baz=152
JCC Jacoby Creek 151.54 261 ⇑P PKPdf 07 39 08.0 -2.7
baz=152
E08A Dider Farm, El 151.56 275 ⇓P PKPdf 07 39 06.7 -3.8
baz=152
C09A Chrisman Ranch 151.69 278 ⇑P PKPdf 07 39 06.1 -4.6
baz=152
D08A Wollman Farm, 151.74 277 ⇓P PKPdf 07 39 06.6 -4.2
baz=152,SNR=8.0
HAWA Hanford 151.81 275 *e*PKPab PKPab 07 39 28.2 +1.7
HAWA LR LR
comp=Z,372nm,21.0s,MS5.2
RSW Rattlesnake Hi 151.84 275 *e*PKPbc PKPbc 07 39 18.3 +0.9
B09A Rice 151.88 280 ⇑P PKPdf 07 39 07.7 -3.2
baz=152,SNR=9.0
HUMO Hull Mountain 151.94 265 *e*PKPbc PKPbc 07 39 19.4 +1.6
HUMO LR LR
comp=Z,458nm,21.0s,MS5.3
CROR Criterion Ridg 152.00 271 P PKPdf 07 39 12.0 +0.7
A09A Danville 152.37 280 ⇑P PKPdf 07 39 06.6 -5.1
baz=152,SNR=10
B08A Colville Reser 152.57 279 ⇓P PKPdf 07 39 07.8 -4.2
baz=153,SNR=7.4
C07A Waterville 152.72 277 ⇑P PKPdf 07 39 07.6 -4.6
baz=153
F05A White Salmon 152.74 273 ⇑P PKPdf 07 39 08.5 -3.8
baz=153
E06A Yakima 152.76 274 ⇓P PKPdf 07 39 07.6 -4.7
baz=153
A08A Turner Farm, O 152.78 280 ⇑P PKPdf 07 39 07.2 -5.1
baz=153,SNR=7.5
ETW Entiat 152.85 277 *e*PKPab PKPab 07 39 31.7 +0.9
D06A Cle Elum 152.98 276 ⇑P PKPdf 07 39 07.9 -4.7
baz=153
YKA Yellowknife Ar 153.06 311 PKP PKPdf 07 39 08.8 -3.4
comp=Z,1.3nm,0.9s,baz=76,slow=2.2,SNR=4.0
YKA PKPbc PKPbc 07 39 18.5 -1.1
comp=Z,4.1nm,0.7s,baz=89,slow=2.1,SNR=18
COR Corvallis 153.22 269 PFAKE 07 39 20.0 +7.0
COR LR LR
comp=Z,485nm,19.0s,MS5.3
MIDW Midway 153.33 149 PFAKE 07 39 20.0 +6.2
MIDW LR LR
comp=Z,563nm,20.0s,MS5.4
MA2 Magadan 153.36 56 PFAKE 07 39 20.0 +7.2
MA2 LR LR
comp=Z,350nm,22.0s,MS5.1
A07A Ashnola River, 153.49 280 ⇑P PKPdf 07 39 08.7 -4.6
baz=154
JCW Jim Creek 154.07 277 *e*PKPbc PKPbc 07 39 21.3 -0.9
BMW Boistfort Moun 154.10 272 *e*PKP2 PKPab 07 39 37.0 +0.9
NLWA Neilton Lookou 154.91 274 PFAKE 07 39 30.0 +15
NLWA LR LR
comp=Z,471nm,20.0s,MS5.3
PETK Petropavlovsk- 156.06 72 PKPab PKPab 07 39 44.8 +0.5
comp=Z,4.8nm,1.0s,baz=202,slow=1.6,SNR=6.5
BILL Bilibino 158.35 32 PFAKE 07 39 30.0 +11
BILL LR LR
comp=Z,513nm,20.0s,MS5.4
BBB Bella Bella 159.16 283 PKPab PKPab 07 39 58.2 +0.4
comp=Z,8.7nm,1.2s,baz=160,slow=6.0,SNR=3.0
DAWY Dawson 163.35 323 *e*PKPab PKPab 07 40 17.0 +1.3
EGAK Eagle 163.55 327 PFAKE 07 39 40.0 +15
EGAK LR LR
comp=Z,533nm,19.0s
SIT Sitka 163.78 297 PFAKE 07 39 40.0 +15
SIT LR LR
comp=Z,726nm,20.0s
COLA College 165.50 335 PFAKE 07 39 40.0 +13
COLA LR LR
comp=Z,363nm,19.0s
SMY Shemya 165.72 80 PFAKE 07 39 40.0 +13
SMY LR LR
comp=Z,395nm,20.0s
PMR Palmer 168.37 327 PFAKE 07 39 40.0 +11
PMR LR LR
comp=Z,602nm,19.0s
KDAK Kodiak Island 172.26 317 PFAKE 07 39 40.0 +8.9
KDAK LR LR
comp=Z,871nm,21.0s

ISCJB ***02*** *07:25:14.8±3.8, 126N±0.1×4729E±007, h16km±28km, mb3.8/4, Error ellipse: s-maj=21.8km s-min=10.1km az=20.8*
IDC ***02*** *07:25:14.4±1.6, 1250N×4750E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.8/4, Error ellipse: s-maj=57.5km s-min=31.0km az=162.0*
CSEM ***02*** *07:25:17.6, 1267N×4698E, h7km, ML3.6, After DHMR*
DHMR ***02*** *07:25:17.6±0.7, 1267N×4698E, h8km±10km, ML3.6*
ISC 02 07:25:15.4±3.9, 125N±01×4724E±007, h10km±25km, n10, σ1§02/15, mb3.8/4, 1C-2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**2.17**	**312**	⇓*i*P			**Pn**	**07 25 51.7**	**+0.1**
BDHA				*i* S			**Sn**	**07 26 17.2**	**-1.3**
354nm,0.5s									
BDHA	**Al Bayda'**	**2.17**	**312**	⇓*i*P			**Pn**	**07 25 51.7**	**+0.1**
BDHA				*i* S			**Sn**	**07 26 17.2**	**-1.3**
BDHA					AML		AML	07 26 25.2	
comp=E,707nm,0.5s									
ADEN	**Aden**	**2.22**	**276**	*i* P			**Pn**	**07 25 51.7**	**-0.5**
ADEN				*i* S			**Sn**	**07 26 18.9**	**-0.8**
comp=E,328nm,0.3s									
ADEN	**Aden**	**2.22**	**276**	*i* P			**Pn**	**07 25 51.7**	**-0.5**
ADEN				*i* S			**Sn**	**07 26 18.9**	**-0.7**
ADEN					AML		AML	07 26 19.8	
comp=N,656nm,0.3s									
LBOS		**2.35**	**305**	⇑*i*P			**Pn**	**07 25 54.0**	**-0.1**
LBOS				*i* S			**Sn**	**07 26 22.8**	**-0.2**
DHBB	**Dhamar BB**	**3.43**	**306**	*i* S			**Sn**	**07 26 51.7**	**+2.0**
TORD	**Torodi Ar. Bea**	**44.36**	**276**	P			**P**	**07 33 28.9**	**+2.6**
comp=N,0.6nm,0.6s,mb3.5,baz=89,slow=6.3,SNR=6.8									
MKAR	**Makanchi Array**	**45.10**	**34**	P			**P**	**07 33 31.1**	**-0.6**
comp=N,1.6nm,0.8s,mb3.9,baz=214,slow=7.3,SNR=9.8									
SONM	**Songino Array**	**60.22**	**42**	P			**P**	**07 35 24.0**	**+0.3**
comp=N,0.4nm,0.4s,mb3.9,baz=235,slow=5.1,SNR=4.3									
WRA	**Warramunga Arr**	**91.53**	**110**	P			**P**	**07 38 22.4**	**-0.5**
comp=N,0.5nm,0.7s,mb4.0,baz=298,slow=3.7,SNR=6.7									

JMA 02 07:28:09.3±0.3, 4677N×14164E, h8km, M3.6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.47**	**173**	P			Pn	07 28 36.2	+0.2
JWK2				*e*S			Sn	07 28 55.2	-0.1
JRR	**Rishiri**	**1.65**	**188**	P			Pn	07 28 39.2	+0.7
JRR				*e*S			Sn	07 29 00.7	+0.9
JSE	**Soyaes**	**1.93**	**160**	P			Pn	07 28 42.6	+0.3
JSE				*e*S			Sn	07 29 07.2	+0.5
JYG	**Yagishiri**	**2.35**	**184**	*e*S			Sn	07 29 18.0	+0.9
JSS	**Shosan**	**2.38**	**176**	P			Pn	07 28 49.3	+0.8
JSS				*e*S			Sn	07 29 19.2	+1.4
JTKR	**Abashiri--Toko**	**3.22**	**149**	P			Pn	07 28 59.5	-0.7

ISCJB ***02*** *07:47:24.5±0.5, 1770N±003×10121W±003, h33km, Error*

ellipse: s-maj=5.0km s-min=3.9km az=28.7
MEX ***02*** *07:47:24.8±0.6, 1765N×10135W, h59km±5km, MD4.4*
NEIC ***02*** *07:47:24.9, 1767N×10134W, h58km, MD4.5(MEX), After MEX.*
IDC ***02*** *07:47:38.4±6.6, 1782N×10452W, h0km, mb3.6/2, mb1 4.1/3, mb1mx3.7/20, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=150.0km s-min=49.2km az=108.0*
ISC 02 07:47:25.5±0.5, 1768N±003×10124W±003, h35km, n31, σ0§87/55, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.22**	**250**	*i* P	**Pn**	**07 47 32.4**	**-0.2**
ZIIG				*i* S	**Sn**	**07 47 38.4**	**+1.0**
CAIG	**El Cayaco**	**1.13**	**124**	*i* P	**Pn**	**07 47 43.9**	**-0.9**
CAIG				*i* S	**Sn**	**07 47 58.2**	**-0.9**
ACX	**Acapulco**	**1.50**	**122**	*i* P	**Pn**	**07 47 49.5**	**-0.5**
ACX				*i* S	**Sn**	**07 48 07.5**	**-0.9**
MEIG	**Mezcala**	**1.57**	**81**	*i* P	**Pn**	**07 47 50.3**	**-0.6**
MEIG				*i* S	**Sn**	**07 48 11.6**	**+1.7**
PLIG	**Platanillo**	**1.80**	**67**	*i* P	**Pn**	**07 47 53.6**	**-0.5**
PLIG				*i* S	**Sn**	**07 48 15.6**	**-0.1**
MOIG	**Morelia**	**1.99**	**2**	*i* P	**Pn**	**07 47 55.3**	**-1.4**
MOIG				*i* S	**Sn**	**07 48 19.1**	**-1.2**
YAIG	**Yautepec**	**2.38**	**60**	*i* P	**Pn**	**07 48 01.4**	**-0.7**
YAIG				*i* S	**Sn**	**07 48 31.1**	**+1.1**
YAIG	**Yautepec**	**2.38**	**60**	*i* P	**Pn**	**07 48 01.4**	**-0.7**
YAIG				*i* S	**Sn**	**07 48 26.2**	**-3.8**
UNM	**Universidad Na**	**2.56**	**50**	*i* P	**Pn**	**07 48 04.2**	**-0.3**
UNM				*e*P		07 48 09.0	
UNM				*i* S	**Sn**	**07 48 37.3**	**+3.0**
UNM	**Universidad Na**	**2.56**	**50**	*e*P	**Pn**	**07 48 09.0**	**+4.5**
UNM				*i* S	**Sn**	**07 48 39.6**	**+5.3**
PBVM	**Pinon**	**2.69**	**49**	*i* P	**Pn**	**07 48 05.1**	**-1.3**
PBVM				*i* S	**Sn**	**07 48 38.1**	**+0.3**
PTVM	**Pico Tres Padr**	**2.77**	**46**	*i* P	**Pn**	**07 48 06.8**	**-0.7**
PTVM				*i* S	**Sn**	**07 48 38.8**	**-1.0**
PPM	**Popocatepetl**	**2.84**	**61**	*i* P	**Pn**	**07 48 08.2**	**-0.2**
PPM				*i* P		07 48 12.6	
PPM				*i* S	**Sn**	**07 48 42.3**	**+0.9**
PPM				*i* S	**Sn**	**07 48 46.7**	**+5.3**
PPM	**Popocatepetl**	**2.84**	**61**	*i* P	**Pn**	**07 48 08.2**	**-0.2**
PPM				*i* S	**Sn**	**07 48 44.3**	**+2.9**
PPM				*i* S	**Sn**	**07 48 50.4**	**+9.0**
IIO	**Organos**	**3.05**	**51**	*i* P	**Pn**	**07 48 10.8**	**-0.5**
IIO				*i* S	**Sn**	**07 48 46.9**	**+0.3**
PNIG	**Pinotepa**	**3.25**	**113**	*i* P	**Pn**	**07 48 14.2**	**+0.2**
PNIG				*e*S	**Sn**	**07 48 50.9**	**-0.5**
UTMO	**Huajuapan**	**3.28**	**87**	*i* P	**Pn**	**07 48 13.9**	**-0.5**
UTMO				*i* S	**Sn**	**07 48 51.9**	**-0.4**
TPIG	**Tehuac#an**	**3.77**	**78**	*i* P	**Pn**	**07 48 20.5**	**-0.6**
TPIG				*i* S	**Sn**	**07 49 05.7**	**+1.5**
VHO	**Vista Hermosa**	**4.35**	**97**	*i* P	**Pn**	**07 48 30.2**	**+1.0**
VHO				*i* S	**Sn**	**07 49 23.4**	**+4.7**
OXX	**Oaxaca**	**4.36**	**97**	*i* P	**Pn**	**07 48 29.5**	**+0.3**
OXX				*i* S	**Sn**	**07 49 20.0**	**+1.1**
ANIG	**Ahuacatlan**	**4.56**	**318**	*i* P	**Pn**	**07 48 32.9**	**+0.8**
HUIG	**Huatulco**	**5.28**	**110**	*i* P	**Pn**	**07 48 41.8**	**-0.1**
HUIG				*i* S	**Sn**	**07 49 42.2**	**+0.7**
HUIG	**Huatulco**	**5.28**	**110**	*i* P	**Pn**	**07 48 41.8**	**-0.1**
HUIG				*i* S	**Sn**	**07 49 35.0**	**-6.6**
CMIG	**Matias Romero**	**6.10**	**95**	*i* P	**Pn**	**07 48 53.8**	**+0.6**
CMIG				*i* S	**Sn**	**07 50 01.9**	**0.0**
LNIG	**Linares**	**7.37**	**13**	*i* P	**Pn**	**07 49 11.4**	**+0.7**
TGIG		**7.81**	**95**	*i* P	**Pn**	**07 49 16.9**	**+0.2**
TGIG				*i* S	**Sn**	**07 50 44.5**	**+0.5**
CCIG	**Comitan**	**8.82**	**98**	*i* S	**Sn**	**07 51 15.1**	**+6.1**
HPIG		**10.07**	**337**	*i* P	**Pn**	**07 49 47.8**	**+0.1**
TXAR	**Lajitas Array**	**11.81**	**350**	Pn		07 50 23.8	
	0.0nm,0.3s,baz=173,slow=11,SNR=7.6						
TXAR				Lg		07 53 43.0	
	0.0nm,0.3s,baz=246,slow=9.2,SNR=2.5						
NVAR	**Mina Array Bea**	**25.49**	**328**	P	**P**	**07 52 52.6**	**+2.2**
	1.7nm,0.7s,baz=149,slow=12,SNR=18						
PDAR	**Pinedale Array**	**25.99**	**346**	P	pP	07 53 07.5	+2.5
	0.4nm,0.4s,baz=153,slow=10.0,SNR=5.3						

IDC ***02*** *07:50:34.8±2.5, 5411N×8753E, h0km, mb1 3.5/2, mb1mx3.2/24, mbtmp3.5/2, ML3.4/2, Error ellipse: s-maj=21.2km s-min=4.3km az=84.0*
NNC ***02*** *07:50:37.2±2.0, 5377N×8750E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=14.9km s-min=12.7km az=49.0*
ISC 02 07:50:36.3±2.1, 5420N±009×874E±02, h10km, n6, σ0§77/11, 8C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.52**	**261**	Pg	**Pn**	**07 51 02.7**	**-0.8**
	19nm,0.3s,baz=80,slow=14,SNR=64						
ZALV				Lg		07 51 25.2	
	8.9nm,0.3s,baz=82,slow=27,SNR=11						
KURK	**Kurchatov**	**6.38**	**240**	⇑Pn	**Pn**	**07 52 11.0**	**+0.8**
	4.1nm,1.7s						
KURK				⇑Sn	**Sn**	**07 53 24.2**	**+1.1**
	1.6nm,0.5s						
KURK				⇑Lg		07 53 55.9	
	4.4nm,0.6s						
KURBB	**Kurchatov Arra**	**6.48**	**240**	⇑Pn	**Pn**	**07 52 12.0**	**+0.3**
	0.2nm,0.3s,baz=58,slow=12						
KURBB				⇑Sn	**Sn**	**07 53 25.8**	**+0.2**
	1.4nm,0.6s,baz=50,slow=17						
KURBB				⇑Lg		07 53 59.7	
	1.4nm,0.6s,baz=57,slow=33						
MK31	**Makanchi Array**	**8.09**	**206**	Pn	**Pn**	**07 52 33.6**	**-0.2**
	0.1nm,0.2s,baz=55,slow=5.2,SNR=5.8						
MK31				⇑Sn	**Sn**	**07 54 05.7**	**+0.5**
	0.6nm,0.5s,baz=17,slow=25,SNR=4.3						
MK31				⇑Lg		07 54 40.6	
	1.0nm,0.5s,baz=9.1,slow=32,SNR=4.2						
MKAR	**Makanchi Array**	**8.09**	**206**	Pn	**Pn**	**07 52 33.7**	**0.0**
	0.4nm,0.3s,baz=26,slow=14,SNR=6.8						
MKAR				Sn	**Sn**	**07 54 03.8**	**-1.4**
	0.5nm,0.3s,baz=25,slow=21,SNR=5.9						
MKAR				Lg		07 54 49.8	
	0.3nm,0.3s,baz=41,slow=29,SNR=3.2						
BVAR	**Borovoye Array**	**10.16**	**270**	Pn	**Pn**	**07 53 02.6**	**+0.6**
	0.5nm,0.3s,baz=71,slow=15,SNR=6.6						
BVAR				Sn	**Sn**	**07 54 54.7**	**-1.1**
	0.3nm,0.3s,baz=227,slow=43,SNR=2.8						

NIED ***02*** *08:06:00, 4690N×14170E, h5km, Mw5.0 Best double couple: M0 3.69000×10^16 NP1:φs188.00000°, δ53.00000°, λ96.00000°. NP2:φs358.00000°, δ37.00000°, λ82.00000°.*
ISCJB ***02*** *08:06:26.7±0.5, 4679N±001×14175E±002, h5km±3km, mb5.2/283, MS4.8/53, Error ellipse: s-maj=2.4km s-min=2.0km az=157.6*
BJI ***02*** *08:06:26.8, 4688N×14183E, h18km, mB5.2, mb5.0, ML5.4, Ms5.3, Msz5.2*
SKHL ***02*** *08:06:26.3±0.5, 4670N×14160E, h10km, mb5.0/11, mbh5.2/1, mbv5.4/4, ms5.3/4, msh5.5/4*
JMA ***02*** *08:06:26.8±0.3, 4689N×14171E, h16km, M5.3*
JMA Felt I J1.
MOS ***02*** *08:06:27.1±0.8, 4679N×14171E, h9km, mb5.4/126, MS4.8/37, Error ellipse: s-maj=6.2km s-min=3.5km az=104.4*
MOS Felt (V-VI) at Nevel'sk; (IV) at Kholmsk, Yuzhno-Sakhalinsk.
IDC ***02*** *08:06:27.1±0.4, 4675N×14173E, h0km, mb4.9/28, mb1 5.0/30, mb1mx5.0/31, mbtmp4.9/30, ML4.6/1, MS4.6/25, Ms1 4.6/25, ms1mx4.3/51, Error ellipse: s-maj=12.6km s-min=9.6km az=89.0*
GCMT ***02*** *08:06:28.8±0.3, 4671N×14178E, h18km±1km, MW5.2/74, Moment Tensor Solution. s22,c28; s74,c116; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.89±.06; Mθθ-0.11±.03; Mφφ-0.78±.04; Mrθ0.14±.07; Mθφ0.04±.02; Mφr-0.09±.07; Best double couple: M0 0.85600×10^17 NP1:φs4.00000°, δ42.00000°, λ101.00000°. NP2: φs169.00000°, δ49.00000°, λ80.00000°. Principal axes: T 0.9170, Plg82.0000°, Azm21.0000°; N -0.1210, Plg7.0000°, Azm176.0000°; P -0.7960, Plg3.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *08:06:28.8±0.1, 4674N×14173E, h10km, mb5.3/184 Error ellipse: s-maj=3.9km s-min=2.4km az=168.0*
NEIC Felt at Yuzhno-Sakhalinsk. Recorded [1 JMA] in northern Hokkaido.
DJA ***02*** *08:06:30, 4689N×14179E, h10km, mb5.2/11*
SZGRF ***02*** *08:06:40.4, 4767N×14096E, h33km, mb5.4, Primorye, Russia*
ISC 02 08:06:28.7±0.6, 4678N±001×14173E±002, h7km±3km, h13km±1.0km: pP-P, n1070, σ0§73/1064, mb5.2/283, MS4.8/53, 182C-148D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.73**	**76**	κ *i*PN	**Pg**	**08 06 41.7**	**-0.9**
YSS				*i*		08 06 52.7	
YSS				smax			
	comp=E,3μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.73**	**76**	⇓*i*Pg	**Pg**	**08 06 41.7**	**-0.9**
YSS				⇓*i*Pg	**Pg**	**08 06 41.7**	**-0.9**
YSS				⇓*i*Pg	**Pg**	**08 06 41.7**	**-0.9**
YSS				A		08 06 55.9	
	comp=E,34μm,0.5s						
YSS				AMS	AMS	08 07 18.0	
	comp=E,156μm,5.0s						
YSS				AMS	AMS	08 07 18.0	
	comp=E,289μm,5.0s						
YSS				AMS	AMS	08 07 18.0	
	comp=E,159μm,5.0s						
YSS				AMS	AMS	08 07 21.0	
	comp=E,195μm,6.0s						
YSS				AMS	AMS	08 07 21.0	
	comp=E,240μm,6.0s						
YSS				AMS	AMS	08 07 21.0	
	comp=E,173μm,6.0s						
YSS	**Yuzh-Sakhalins**	**0.73**	**76**	*e*Pg	**Pg**	**08 06 42.4**	**-0.2**
YSS				*e*Sg	**Sg**	**08 06 52.2**	**+0.2**
JWK2	**Keihoku**	**1.47**	**175**	⇑P	**Pn**	**08 06 54.6**	**-0.9**
JWK2				*e*S	**Sn**	**08 07 14.9**	**-0.1**
JRR	**Rishiri**	**1.67**	**190**	P	**Pn**	**08 06 57.9**	**-0.3**
JRR				*e*S	**Sn**	**08 07 20.7**	**+0.8**
JSE	**Soyaes**	**1.92**	**162**	⇑P	**Pn**	**08 07 00.6**	**-1.1**
JSE				*e*S	**Sn**	**08 07 25.1**	**-0.9**
UGL	**Uglegorsk**	**2.31**	**6**	⇑*i*PN	**Pn**	**08 07 06.0**	**-1.0**
UGL				S	**Sn**	**08 07 38.0**	**+2.4**
UGL				pmax	pmax		
	comp=Z,200nm,0.6s						
UGL				pmax	pmax		
	comp=N,120nm,0.8s						
UGL				pmax	pmax		
	comp=E,190nm,0.8s						
UGL				pmax	pmax		
	comp=N,2μm,4.0s						
UGL				pmax	pmax		
	comp=Z,2μm,4.0s						
UGL				smax			
	comp=N,6μm,0.7s						
UGL				smax			
	comp=E,11μm,0.7s						
UGL	**Uglegorsk**	**2.31**	**6**	⇑*i*P	**Pn**	**08 07 06.0**	**-1.0**
UGL				⇑*i*P		08 07 06.0	
UGL				AMB	AMB	08 07 07.0	
	comp=E,2μm,4.0s						
UGL				AMB	AMB	08 07 07.0	
	comp=E,2μm,4.0s						
UGL				AMB	AMB	08 07 07.0	
	comp=E,120nm,0.7s						
UGL				AMB	AMB	08 07 07.0	
	comp=E,190nm,0.7s						
UGL				AMB	AMB	08 07 07.0	
	comp=E,200nm,0.7s						
UGL				*e*Pg	**Pg**	**08 07 14.0**	**+1.1**
UGL				*e*S	**Sn**	**08 07 35.0**	**-0.6**
UGL				A		08 07 43.5	
	comp=E,6μm,0.7s						
UGL				A		08 07 43.5	
	comp=E,11μm,0.7s						
UGL				*e*Sg	**Sg**	**08 07 47.0**	**+4.2**
JYG	**Yagishiri**	**2.37**	**185**	P	**Pn**	**08 07 07.5**	**-0.3**
JYG				*e*S	**Sn**	**08 07 36.4**	**-0.6**
JSS	**Shosan**	**2.38**	**178**	P	**Pn**	**08 07 07.4**	**-0.7**
ASAJ	**Asahikawa**	**2.73**	**167**	P	**Pn**	**08 07 12.7**	**-0.2**
ASAJ				*e*S	**Sn**	**08 07 45.3**	**-0.8**
ASAJ	**Asahikawa**	**2.73**	**167**	Pn	**Pn**	**08 07 12.2**	**-0.7**
	comp=E,72nm,0.3s,baz=346,slow=14,SNR=126						
ASAJ				Sn	**Sn**	**08 07 47.0**	**+0.9**
	comp=E,113nm,0.3s,baz=332,slow=33,SNR=6.6						
ASAJ				Lg		08 07 55.2	
	comp=E,196nm,0.3s,baz=76,slow=26,SNR=12						
ASAJ	**Asahikawa**	**2.73**	**167**	PN	**Pn**	**08 07 12.2**	**-0.7**
ASAJ						08 07 47.1	
ASAJ				pmax	pmax		
	comp=Z,72nm,0.3s						
ASAJ				smax			
	comp=N,113nm,0.3s						
JKK2	**Kamakawa 2**	**3.00**	**166**	⇑P	**Pn**	**08 07 16.4**	**-0.1**
JMP	**Maruseppu**	**3.00**	**157**	⇑P	**Pn**	**08 07 15.1**	**-1.5**
JHR	**Hokuryu**	**3.04**	**180**	P	**Pn**	**08 07 17.3**	**+0.2**
JTKR	**Abashiri--Toko**	**3.20**	**151**	⇑P	**Pn**	**08 07 17.9**	**-1.4**
JAB	**Ashibetsu**	**3.30**	**174**	P	**Pn**	**08 07 21.1**	**+0.5**
JSK	**Shakotan**	**3.54**	**195**	P	**Pn**	**08 07 24.3**	**+0.3**
TEY	**Ternei**	**3.98**	**246**	*e*P	**Pn**	**08 07 28.8**	**-1.2**
TEY				AMB	AMB	08 07 30.0	
	comp=N,220nm,1.0s						
TEY				*e*Pg	**Pg**	**08 07 45.0**	**+0.1**
TEY				*e*S	**Sn**	**08 08 13.5**	**-3.4**
TEY				A		08 08 18.0	
	comp=N,333nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.00**	**132**	*e*PN	**Pn**	**08 07 30.4**	**+0.1**
YUK				pmax	pmax		
	comp=N,2μm,1.5s						
YUK				pmax	pmax		
	comp=E,2μm,1.5s						
YUK				pmax	pmax		
	comp=Z,3μm,1.5s						
YUK				pmax	pmax		
	comp=N,220nm,0.5s						
YUK				pmax	pmax		
	comp=E,220nm,0.5s						
YUK				pmax	pmax		
	comp=Z,440nm,0.5s						
YUK				MLR	MLR		
	comp=E,34μm,11.0s						
YUK				MLR	MLR		
	comp=Z,26μm,11.0s						
YUK				MLR	MLR		
	comp=N,23μm,10.0s						
YUK	**Yuzh-Kuril'sk**	**4.00**	**132**	*e*P	**Pn**	**08 07 30.0**	**-0.3**
YUK				AMB	AMB	08 07 33.5	
	comp=N,2μm,1.5s						
YUK				AMB	AMB	08 07 33.5	
	comp=N,2μm,1.5s						
YUK				AMB	AMB	08 07 33.5	
	comp=N,3μm,1.5s						
YUK				AMB	AMB	08 07 34.0	
	comp=N,220nm,0.5s						
YUK				AMB	AMB	08 07 34.0	
	comp=N,440nm,0.5s						
YUK				*e*S	**Sn**	**08 08 15.0**	**-2.4**
YUK				A		08 08 17.5	
	comp=N,2μm,0.6s						
YUK				AMS	AMS	08 09 35.0	
	comp=N,23μm,11.0s						
YUK				AMS	AMS	08 09 35.0	
	comp=N,34μm,11.0s						
YUK				AMS	AMS	08 09 35.0	
	comp=N,26μm,11.0s						
TYV	**Tymovskoe**	**4.13**	**8**	*e*P	**Pn**	**08 07 32.0**	**-0.1**
TYV				AMB	AMB	08 07 43.8	
	comp=N,172nm,0.9s						
TYV				AMB	AMB	08 07 43.8	
	comp=N,99nm,0.9s						
TYV				AMB	AMB	08 07 43.8	
	comp=N,174nm,0.9s						
TYV				*e*Pg	**Pg**	**08 07 48.0**	**+0.2**
KUR	**Kuril'sk**	**4.55**	**108**	*e*PN	**Pn**	**08 07 33.7**	**-4.1**
KUR				pmax	pmax		
	comp=Z,2μm,1.6s						
KUR				pmax	pmax		
	comp=N,110nm,0.8s						
KUR				pmax	pmax		
	comp=E,220nm,0.8s						
KUR				pmax	pmax		
	comp=Z,490nm,0.8s						
KUR				MLR	MLR		
	comp=N,16μm,15.0s						
KUR				MLR	MLR		
	comp=E,16μm,15.0s						
KUR				MLR	MLR		
	comp=Z,13μm,15.0s						
KUR	**Kuril'sk**	**4.55**	**108**	*e*P	**Pn**	**08 07 34.7**	**-3.1**
KUR				AMB	AMB	08 07 38.0	
	comp=Z,2μm,1.6s						
KUR				AMB	AMB	08 07 48.4	
	comp=Z,110nm,0.8s						
KUR				AMB	AMB	08 07 48.4	
	comp=Z,220nm,0.8s						
KUR				AMB	AMB	08 07 48.4	
	comp=Z,490nm,0.8s						
KUR				*e*S	**Sn**	**08 08 27.5**	**-3.4**
KUR				A		08 08 30.8	
	comp=Z,2μm,0.9s						
KUR				A		08 08 30.8	
	comp=Z,430nm,0.9s						
KUR				A		08 08 44.0	
	comp=Z,8μm,3.0s						
KUR				A		08 08 44.0	
	comp=Z,5μm,3.0s						
KUR				AMS	AMS	08 09 40.0	
	comp=Z,13μm,15.0s						
KUR				AMS	AMS	08 09 40.0	
	comp=Z,16μm,15.0s						
KUR				AMS	AMS	08 09 40.0	
	comp=Z,16μm,15.0s						
HABR	**Khabarovsk**	**4.82**	**293**	*e*PN	**Pn**	**08 07 40.5**	**-1.0**
GRNR	**Gornyy**	**5.31**	**321**	*e*P	**Pn**	**08 07 43.0**	**-5.3**
GRNR				AMB	AMB	08 07 44.0	
	comp=Z,170nm,1.0s						
GRNR				AMB	AMB	08 07 44.0	
	comp=Z,220nm,1.0s						
GRNR				AMB	AMB	08 07 44.0	
	comp=Z,130nm,1.0s						
GRNR				*e*Sg	**Sg**	**08 09 17.5**	**-1.6**
GRNR				A		08 09 27.0	
	comp=Z,935nm,1.0s						
JIW	**Iwasaki**	**6.31**	**192**	P	**Pn**	**08 08 06.4**	**+4.4**
NKL	**Nikolayevsk**	**6.41**	**354**	*e*P	**Pn**	**08 08 02.0**	**-1.4**
NKL				*e*S	**Sn**	**08 09 13.0**	**-3.7**
NKL				A		08 09 15.0	
	comp=Z,1μm,2.0s						
NKL				AMS	AMS	08 11 12.0	
	comp=Z,7μm,6.0s						
NKL				AMS	AMS	08 11 12.0	
	comp=Z,8μm,12.0s						
NKL				AMS	AMS	08 11 12.0	
	comp=Z,11μm,12.0s						
JKZ	**Kuzumaki**	**6.80**	**183**	P	**Pn**	**08 08 10.1**	**+1.3**
OKH	**Okha**	**6.82**	**6**	*e*P	**Pn**	**08 08 11.7**	**+2.7**
OKH				AMB	AMB	08 08 22.6	
	comp=Z,2μm,9.0s						
OKH				*e*S	**Sn**	**08 09 29.4**	**+2.7**
OKH				A		08 09 30.0	
	comp=Z,3μm,9.0s						
OKH				AMS	AMS	08 12 17.8	
	comp=Z,10μm,15.0s						
OKH				AMS	AMS	08 12 17.8	
	comp=Z,12μm,15.0s						
OKH				AMS	AMS	08 12 17.8	
	comp=Z,7μm,9.0s						
KLR	**Kul'dur**	**7.13**	**294**	*e*PN	**Pn**	**08 08 08.8**	**-4.4**
KLR				MLR	MLR		
	comp=E,11μm,12.0s						
KLR				MLR	MLR		
	comp=Z,15μm,12.0s						
KLR	**Kul'dur**	**7.13**	**294**	*e*P	**Pn**	**08 08 08.8**	**-4.4**
KLR				*e*P		08 08 09.0	
JRG	**Rokugo**	**7.42**	**187**	P	**Pn**	**08 08 19.4**	**+2.1**
VLA	**Vladivostok**	**7.88**	**246**	*e*PN	**Pn**	**08 08 25.9**	**+2.4**
VLA				pmax	pmax		
	comp=Z,34nm,0.7s						
VLA				MLR	MLR		
	comp=Z,5μm,8.8s						
JOU	**Okura**	**8.45**	**186**	P	**Pn**	**08 08 32.2**	**+0.8**
EKMR	**Ekimchan**	**8.46**	**321**	*e*P	**Pn**	**08 08 28.5**	**-3.0**
EKMR				AMB	AMB	08 08 42.5	
	comp=Z,6.0nm,0.5s						
EKMR				AMB	AMB	08 08 42.5	
	comp=Z,5.0nm,0.5s						
EKMR				AMB	AMB	08 08 42.5	
	comp=Z,22nm,0.5s						
EKMR				*e*S	**Sn**	**08 10 11.5**	**+4.4**
EKMR				*e*Sg	Sn	08 11 07.5	+60
EKMR				A		08 11 15.1	
	comp=Z,1μm,1.0s						
EKMR				A		08 11 15.1	
	comp=Z,860nm,1.0s						
EKMR				A		08 11 15.1	
	comp=Z,470nm,1.0s						
JYS	**Shirataka**	**8.64**	**189**	P	**Pn**	**08 08 35.6**	**+1.6**
MDJ	**Mudanjiang**	**8.77**	**260**	P	**Pn**	**08 08 35.9**	**+0.2**
MDJ				S	**Sn**	**08 10 20.2**	**+5.5**
MDJ				PCS	PcS	08 18 35.0	-0.3
MDJ				SCS	ScS	08 22 08.0	-0.4
MDJ				AMB	AMB		
	comp=Z,17nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,644nm,10.5s						
MDJ				LR	LR		
	comp=N,6μm,11.7s						
MDJ				LR	LR		
	comp=E,9μm,14.6s						
MDJ				LR	LR		
	comp=Z,13μm,14.4s						
MDJ	**Mudanjiang**	**8.77**	**260**	*e*Pn	**Pn**	**08 08 37.2**	**+1.5**
	comp=Z,49nm,1.1s						
MDJ				Sn	**Sn**	**08 10 14.6**	**0.0**
JSD	**Sado**	**9.11**	**198**	P	**Pn**	**08 08 43.3**	**+2.9**
JJN	**Nakama**	**10.03**	**197**	P	**Pn**	**08 08 55.7**	**+2.7**
SKR	**Severo-Kuril's**	**10.28**	**62**	*e*P	**Pn**	**08 08 57.0**	**+0.7**
SKR				AMB	AMB	08 09 04.5	
	comp=Z,60nm,0.6s						
SKR				*e*S	Sn	08 11 12.0	+20
SKR				A		08 11 19.0	
	comp=Z,3μm,8.0s						
SKR				A		08 11 19.0	
	comp=Z,3μm,8.0s						
SKR				A		08 11 19.0	
	comp=Z,2μm,8.0s						
SKR				AMS	AMS	08 13 18.0	
	comp=Z,6μm,14.0s						
SKR				AMS	AMS	08 13 18.0	
	comp=Z,4μm,14.0s						
SKR				AMS	AMS	08 13 18.0	
	comp=Z,12μm,14.0s						
SKR				AMS	AMS	08 13 18.0	
	comp=Z,5μm,14.0s						
SKR				AMS	AMS	08 13 18.0	
	comp=Z,5μm,14.0s						
SKR				AMS	AMS	08 13 18.0	
	comp=Z,11μm,14.0s						
MAJO	**Matsushiro**	**10.56**	**196**	*e*PN	**Pn**	**08 09 02.2**	**+1.9**
MAT	**Matsushiro**	**10.56**	**196**	P	**Pn**	**08 09 01.3**	**+1.0**
MAT				S	**Sn**	**08 11 00.0**	**+1.2**
MJAR	**Matsushiro Arr**	**10.56**	**196**	Pn	**Pn**	**08 09 01.4**	**+1.1**
	comp=Z,1.7nm,0.3s,baz=7.5,slow=14,SNR=21						
MJAR				LR	LR	08 13 12.3	
	comp=Z,2μm,18.7s,baz=15,slow=38						
MJAR	**Matsushiro Arr**	**10.56**	**196**	PN	**Pn**	**08 09 01.4**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,2μm,18.7s						
BMKR	**Bomnak**	**11.37**	**319**	*e*P	**Pn**	**08 09 08.5**	**-2.8**
BMKR				AMB	AMB	08 09 09.4	
	comp=Z,38nm,1.0s						
BMKR				*e*Sg		08 12 34.0	
BMKR				A		08 12 53.3	
	comp=Z,1μm,1.4s						
ZEA	**Zeya**	**11.58**	**312**	*e*P	**Pn**	**08 09 12.0**	**-2.1**
ZEA				AMB	AMB	08 09 24.0	
	comp=Z,600nm,12.0s						
CN2	**Changchun**	**11.85**	**261**	*e*P	**Pn**	**08 09 20.6**	**+2.7**
CN2				*e*XP		08 09 26.8	
CN2				*e*S	**Sn**	**08 11 33.2**	**+3.0**
CN2				*e*SS		08 11 47.3	
CN2				AMB	AMB		
	comp=Z,30nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,10μm,11.0s						
CN2				LR	LR		
	comp=E,12μm,11.0s						
CN2				LR	LR		
	com

comp=Z,0.5nm,0.3s,baz=217,slow=9.7,SNR=26
PETK LR LR 08 13 57.2
comp=Z,2μm,21.3s,baz=239,slow=37
KROS Kirovskiy 12.09 315 *e*P **Pn 08 09 18.8 -2.3**
KROS AMB AMB 08 09 22.3
comp=Z,20nm,1.0s
KROS *e*Sg 08 12 50.3
KROS A 08 13 07.9
comp=Z,5μm,2.5s
PET Petropavlovsk 12.56 54 *e*PN **Pn 08 09 28.7 +1.2**
PET pmax pmax
comp=Z,500nm,9.5s
PET pmax pmax
comp=Z,400nm,10.3s
PET pmax pmax
comp=Z,50nm,1.8s
PET MLR MLR
comp=Z,5μm,16.0s
PET MLR MLR
comp=Z,4μm,17.0s
PET Petropavlovsk 12.56 54 *e*P **Pn 08 09 33.1 +5.6**
PET AMB AMB 08 09 37.2
comp=Z,94nm,1.4s
PET AMB AMB 08 09 37.2
comp=Z,596nm,11.0s
PET *e*S **Sn 08 11 52.2 +4.7**
PET AMS AMS 08 15 37.4
comp=Z,5μm,12.0s
PET Petropavlovsk 12.56 54 *i* P **Pn 08 09 28.9 +1.4**
JHJ Hachijo jima 2 13.73 187 LR LR 08 16 17.5
comp=Z,754nm,18.2s,baz=15,slow=43
KSRS Korea Array 13.83 233 Pn **Pn 08 09 47.9 +2.9**
comp=Z,0.4nm,0.3s,baz=45,slow=12,SNR=27
KSRS LR LR 08 14 13.3
comp=Z,2μm,21.0s,baz=50,slow=34
KSRS PcP PcP 08 15 08.1 +0.1
comp=Z,0.0nm,0.3s,baz=73,slow=1.0,SNR=4.6
MA2 Magadan 13.89 19⇑ *i*P **Pn 08 09 55.4 +10**
MA2 pmax pmax
comp=Z,90nm,0.9s
MA2 MLR MLR
comp=Z,7μm,13.3s
SNY Shenyang 13.90 256 P **Pn 08 09 50.0 +4.1**
SNY AMB AMB
comp=Z,53nm,1.5s
SNY AMB AMB
comp=Z,1μm,6.3s
SNY LR LR
comp=N,7μm,12.9s
SNY LR LR
comp=E,10μm,13.7s
SNY LR LR
comp=Z,12μm,12.0s
CLNS Chul'man 14.44 320 *e*P **Pn 08 09 53.9 +0.7**
CLNS *e*S **Sn 08 12 35.6 +2.2**
CLNS pmax pmax
comp=Z,41nm,1.3s
CLNS pmax pmax
comp=E,20nm,1.1s
CLNS pmax pmax
comp=N,35nm,1.2s
CLNS smax
comp=N,157nm,14.0s
CLNS smax
comp=E,61nm,12.4s
CLNS MLR MLR
comp=Z,3μm,12.0s
CLNS MLR MLR
comp=E,1μm,9.0s
CLNS MLR MLR
comp=N,1μm,12.0s
HIA Hailar 14.91 288 *e*P **Pn 08 10 01.6 +1.9**
HIA pmax pmax
comp=Z,50nm,0.9s
HIA Hailar 14.91 288 *e*Pn **Pn 08 10 01.6 +2.0**
comp=Z,50nm,0.9s
DL2 Dalian 16.68 249 *i* P **Pn 08 10 27.0 +4.3**
DL2 S **Sn 08 13 36.8 +8.8**
DL2 LG1 08 15 27.0
DL2 LG2 08 15 51.9
DL2 AMB AMB
comp=Z,20nm,1.0s
DL2 AMB AMB
comp=Z,700nm,6.7s
DL2 LR LR
comp=N,3μm,12.8s
DL2 LR LR
comp=E,3μm,10.2s
DL2 LR LR
comp=Z,4μm,13.3s
YAK Yakutsk 16.76 340 *e*P **Pn 08 10 22.3 -1.3**
YAK *e*S **Sn 08 13 27.0 -2.7**
YAK pmax pmax
comp=Z,93nm,1.0s
YAK pmax pmax
comp=N,95nm,1.2s
YAK pmax pmax
comp=E,40nm,1.0s
YAK pmax pmax
comp=Z,153nm,1.5s
YAK pmax pmax
comp=E,102nm,1.8s
YAK pmax pmax
comp=N,206nm,1.6s
YAK smax
comp=N,130nm,11.2s
YAK smax
comp=E,250nm,11.3s
YAK MLR MLR
comp=Z,2μm,13.0s
YAK MLR MLR
comp=N,2μm,14.0s
YAK MLR MLR
comp=E,2μm,15.0s
SEY Seymchan 17.27 17⇑ *e*P **Pn 08 10 30.9 +1.0**
CIT Chita 19.00 296 *e*P **Pn 08 10 50.8 -0.5**
CIT pmax pmax
comp=Z,345nm,2.5s
BJT Baijiatuau 19.71 259 *e*P **Pn 08 10 59.1 -0.8**
BJT pmax pmax
comp=Z,60nm,1.2s
BJT Baijiatuau 19.71 259 *e*P **Pn 08 10 59.0 -0.9**
comp=Z,60nm,1.2s
BOD Bodaibo 20.08 314 *e*P **P 08 11 02.7 +0.4**
BOD pmax pmax
comp=Z,42nm,1.9s
TIA Tai'an 21.16 249 *e*P **P 08 11 13.3 -0.9**
TIA AP 08 11 23.0
TIA S **S 08 15 02.0 -7.6**
TIA AMB AMB
comp=Z,47nm,1.2s,mb4.7
TIA LR LR
comp=N,2μm,10.0s,MS4.9
TIA LR LR
comp=E,2μm,11.0s,MS4.9
SMY Shemya 21.62 62 *e*P **P 08 11 20.8 +1.8**
SMY pmax pmax
comp=Z,501nm,1.8s,mb5.6
SMY Shemya 21.62 62 *e*P **P 08 11 20.8 +1.8**
comp=Z,501nm,1.8s,mb5.6
SSE Sheshan 22.27 233 P **P 08 11 26.7 +0.5**
SSE AP 08 11 29.6
SSE S **S 08 15 31.6 +0.1**
SSE XS sS 08 15 36.3 +1.4
SSE AMB AMB
comp=Z,28nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,273nm,7.6s
SSE LR LR
comp=N,940nm,11.4s,MS4.7
SSE LR LR
comp=E,1μm,11.4s,MS4.7
SSE LR LR
comp=Z,1μm,13.6s,MS4.5
HHC Hu-ho-hao-te 22.47 266 *e*P **P 08 11 28.6 +0.4**
HHC XP sP 08 11 34.9 +3.6
HHC PP 08 11 56.2
HHC PCP PcP 08 15 23.2 +0.9
HHC S **S 08 15 30.3 -4.9**
HHC SS 08 16 10.8
HHC PCS PcS 08 19 00.8 -0.2
HHC AMB AMB
comp=Z,21nm,0.6s,mb4.7
HHC AMB AMB
comp=Z,493nm,4.8s
HHC LR LR
comp=N,4μm,13.7s,MS5.2
HHC LR LR
comp=E,5μm,14.3s,MS5.2
HHC LR LR
comp=Z,5μm,14.9s,MS5.1
JOW Kunigami 22.58 213 P **P 08 11 26.8 -2.6**
comp=Z,20nm,0.8s,mb4.6,baz=111,slow=21,SNR=5.5
JOW LR LR 08 20 37.2
comp=Z,852nm,18.1s,MS4.2,baz=133,slow=38
NJ2 Nanjing 22.88 238 *e*P **P 08 11 32.7 +0.1**
NJ2 AP 08 11 36.3
NJ2 XP sP 08 11 38.8 +3.1
NJ2 PP 08 12 03.0
NJ2 S **S 08 15 39.0 -3.6**
NJ2 XS sS 08 15 47.0 +0.7
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,290nm,7.1s
NJ2 LR LR
comp=N,2μm,14.6s,MS4.8
NJ2 LR LR
comp=E,2μm,12.5s,MS4.8
NJ2 LR LR
comp=Z,2μm,12.5s,MS4.6
TIY Taiyuan 23.39 258 P **P 08 11 37.5 -0.5**
TIY PPP 08 12 03.9
TIY S **S 08 15 51.7 +0.8**
TIY LR LR
comp=N,2μm,8.5s
TIY LR LR
comp=E,2μm,6.9s
TIY LR LR
comp=Z,1μm,9.2s
BTO Baotou 23.64 266 *e*P **P 08 11 39.3 -1.1**
SONM Songino Array 23.86 286 P **P 08 11 41.5 -0.8**
comp=Z,23nm,1.0s,mb4.6,baz=78,slow=5.9,SNR=55
SONM PcP PcP 08 15 25.2 +0.1
comp=Z,4.8nm,0.8s,baz=150,slow=2.9,SNR=5.8
SONM LR LR 08 22 05.9
comp=Z,2μm,19.0s,MS4.7,baz=137,slow=39
SONM Songino Array 23.86 286 P **P 08 11 41.5 -0.9**
SONM 08 15 25.2
SONM pmax pmax
comp=Z,23nm,1.0s
SONM MLR MLR
comp=Z,2μm,19.0s
IRK Irkutsk 24.73 297 *e*P **P 08 11 48.8 -1.4**
IRK *e* 08 15 27.4
IRK *e* 08 16 17.7
IRK pmax pmax
comp=Z,278nm,1.1s,mb5.7
BILL Bilibino 24.74 22⇓ *e*P **P 08 11 50.5 +0.3**
BILL *e* 08 12 20.7
BILL *e*S **S 08 16 17.4 +5.3**
BILL pmax pmax
comp=Z,74nm,1.2s,mb5.1
BILL MLR MLR
comp=Z,1μm,14.0s,MS4.6
BILL Bilibino 24.74 22 *e*P **P 08 11 50.5 +0.3**
comp=Z,124nm,1.1s,mb5.3
AMKA Amchitka 24.85 65 *e*P **P 08 11 51.7 +0.3**
TLY Talaya 25.14 295 P **P 08 11 54.8 +0.8**
comp=Z,148nm,1.4s,mb5.3,SNR=12
TLY Talaya 25.14 295 P **P 08 11 55.0 +1.0**
SNR=30
TLY Talaya 25.14 295*c* *i*P **P 08 11 53.4 -0.6**
TLY *e*SS 08 17 22.0
TLY pmax pmax
comp=Z,46nm,1.3s,mb4.8
TLY MLR MLR
comp=Z,3μm,14.0s,MS5.0
TLY Talaya 25.14 295 *e*P **P 08 11 54.8 +0.7**
comp=Z,70nm,1.5s,mb5.0
TIXI Tiksi 25.68 351 *e*P **P 08 11 57.4 -1.3**
TIXI pmax pmax
comp=Z,81nm,2.0s,mb4.9
TIXI MLR MLR
comp=Z,2μm,11.0s,MS5.0
TIXI Tiksi 25.68 351 *e*P **P 08 11 57.5 -1.2**
comp=Z,133nm,1.9s,mb5.2
WHN Wuhan 26.64 242 P **P 08 12 07.0 -0.8**
WHN S **S 08 16 44.2 +1.2**
WHN AMB AMB
comp=Z,711nm,14.7s
WHN LR LR
comp=N,3μm,12.6s,MS5.4
WHN LR LR
comp=E,5μm,10.5s,MS5.4
WHN LR LR
comp=Z,6μm,11.8s,MS5.3
MOY Mondy 26.79 296 *e*P **P 08 12 09.7 +0.8**
MOY pmax pmax
comp=Z,119nm,2.4s,mb5.0
YHNB Yeheng 27.41 223 *e*P **P 08 12 16.3 +1.6**
comp=Z,54nm,1.4s,mb4.9
XAN Xi'an 27.82 255 P **P 08 12 17.9 -0.5**
XAN XP sP 08 12 28.3 +6.7
XAN PP 08 13 05.8
XAN PPP 08 13 19.4
XAN PCP PcP 08 15 34.5 +0.1
XAN S **S 08 16 57.9 -3.6**
XAN SS 08 18 18.8
XAN SCP ScP 08 19 13.5 -1.8
XAN PCS PcS 08 19 16.1 -0.2
XAN SCS ScS 08 23 04.2 -3.2
XAN AMB AMB
comp=Z,19nm,1.5s,mb4.5
XAN AMB AMB
comp=Z,214nm,11.5s
XAN LR LR
comp=N,2μm,16.7s,MS5.0
XAN LR LR
comp=E,3μm,16.5s,MS5.0
XAN LR LR
comp=Z,5μm,16.5s,MS5.2
QZH Quanzhou 28.55 228⇑ *i*P **P 08 12 25.3 +0.3**
QZH S **S 08 17 12.0 -1.2**
QZH AMB AMB
comp=Z,50nm,1.0s,mb5.2
QZH AMB AMB
comp=Z,990nm,6.5s
QZH LR LR
comp=N,2μm,11.0s
QZH LR LR
comp=E,2μm,9.8s
QZH LR LR
comp=Z,2μm,11.7s,MS5.0
LZH Lanzhou 30.08 263 *e*P **P 08 12 38.2 -0.2**
LZH AP pP 08 12 42.3 +1.6
LZH XP sP 08 12 46.2 +4.6
LZH S **S 08 17 39.0 +2.0**
LZH SS SS 08 19 11.0 -34
LZH AMB AMB
comp=Z,33nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,269nm,6.9s
LZH LR LR
comp=E,4μm,14.9s
LZH LR LR
comp=Z,5μm,15.3s,MS5.3
GTA Gaotai 31.18 272 *e*P **P 08 12 48.3 +0.2**
GTA AP pP 08 12 52.4 +2.0
GTA XP sP 08 12 55.8 +4.5
GTA PCP PcP 08 15 43.4 +0.6
GTA S **S 08 17 55.4 +1.2**
GTA XS sS 08 18 03.4 +5.4
GTA PCS PcS 08 19 27.4 +0.5
GTA SS SS 08 19 40.5 -27
GTA SCS ScS 08 23 21.1 -2.0
GTA AMB AMB
comp=Z,6.0nm,1.6s,mb4.2
GTA AMB AMB
comp=Z,227nm,5.7s
GTA LR LR
comp=N,3μm,11.8s,MS5.3
GTA LR LR
comp=E,3μm,12.6s,MS5.3
GTA LR LR
comp=Z,6μm,12.6s,MS5.4
HVS Khovu-Aksy 31.38 296*d* *i*P **P 08 12 50.3 +0.5**
HVS pmax pmax
comp=Z,66nm,1.6s,mb5.2
CD2 Chengdu 33.18 255 P **P 08 13 05.2 -0.5**
CD2 AP pP 08 13 09.6 +1.6
CD2 XP sP 08 13 12.8 +3.9
CD2 PP PP 08 14 16.5 -4.1
CD2 PCP PcP 08 15 47.9 -0.5
CD2 S **S 08 18 22.6 -2.9**
CD2 PCS PcS 08 19 32.0 -2.0
CD2 SS SS 08 20 23.9 -24
CD2 SCS ScS 08 23 29.6 -3.8
CD2 AMB AMB
comp=Z,50nm,1.2s,mb5.3
CD2 AMB AMB
comp=Z,620nm,6.9s
CD2 LR LR
comp=N,3μm,12.0s,MS5.3
CD2 LR LR
comp=E,2μm,13.2s,MS5.3
CD2 LR LR
comp=Z,3μm,16.2s,MS5.1
GUMO Guam 33.19 174 LR LR 08 26 16.4
comp=Z,538nm,18.6s,MS4.3,baz=296,slow=36
GYA Guiyang 34.29 246⇑ *i*P **P 08 13 16.8 +1.4**
GYA PP PP 08 14 32.4 -0.6
GYA S **S 08 18 43.6 +0.8**
GYA SCP ScP 08 19 38.2 +1.4
GYA SS SS 08 20 52.4 -19
GYA SCS ScS 08 23 38.7 -0.7
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,160nm,5.2s
GYA LR LR
comp=N,7μm,12.8s,MS5.7
GYA LR LR
comp=E,5μm,11.6s,MS5.7
GYA LR LR
comp=Z,7μm,13.5s,MS5.6
ZALV Zalesovo Beam 36.12 303 P **P 08 13 30.9 0.0**
comp=Z,13nm,0.9s,mb4.9,baz=86,slow=8.8,SNR=40
ZALV PcP PcP 08 15 56.1 -0.4
comp=Z,6.2nm,0.8s,baz=71,slow=2.6,SNR=5.8
ZALV LR LR 08 28 36.3
comp=Z,358nm,19.8s,MS4.1,baz=294,slow=37
ZAL Zalesovo 36.14 303 P **P 08 13 31.0 -0.1**
ZAL 08 15 56.2
ZAL pmax pmax
comp=Z,13nm,0.9s
ZAL MLR MLR
comp=Z,358nm,19.8s
NVS Novosibirsk 36.84 305 *i* P **P 08 13 36.8 -0.2**
NVS *e*S **S 08 19 12.2 -9.1**
NVS pmax pmax
comp=N,23nm,1.4s
NVS pmax pmax
comp=Z,57nm,1.4s,mb5.2
NVS pmax pmax
comp=E,51nm,1.2s
NVS smax
comp=N,32nm,1.6s
NVS smax
comp=E,26nm,1.6s
WMQ Urumqi 37.50 286 P **P 08 13 44.0 +1.3**
WMQ AP pP 08 13 48.4 +3.4
WMQ XP sP 08 13 51.0 +5.0
WMQ PP PP 08 15 12.5 +4.4
WMQ PCP PcP 08 16 02.1 +1.2
WMQ *e*S **S 08 19 32.0 +0.4**
WMQ SS SS 08 22 06.2 -9.4
WMQ SCS ScS 08 23 54.8 -1.7
WMQ AMB AMB
comp=Z,29nm,0.9s,mb5.1
WMQ AMB AMB
comp=Z,286nm,9.5s
WMQ LR LR
comp=N,2μm,19.2s,MS5.0
WMQ LR LR
comp=E,2μm,15.6s,MS5.0
WMQ LR LR
comp=Z,2μm,16.2s,MS5.1
TTA Tatalina 37.60 42 *e*P **P 08 13 43.8 +0.4**
TTA pmax pmax
comp=Z,79nm,1.4s,mb5.2
TTA Tatalina 37.60 42 *e*P **P 08 13 43.8 +0.5**
comp=Z,79nm,1.4s,mb5.2
KMI Kunming 37.73 249 P **P 08 13 44.9 0.0**
KMI AP pP 08 13 49.3 +2.1
KMI XP sP 08 13 51.0 +2.9
KMI PP PP 08 15 14.9 +4.0
KMI PPP 08 15 36.5
KMI S **S 08 19 36.0 +0.6**
KMI XS sS 08 19 42.3 +3.1
KMI SS SS 08 22 09.6 -11
KMI AMB AMB
comp=Z,65nm,1.5s,mb5.1
KMI AMB AMB
comp=Z,373nm,3.1s
KMI LR LR
comp=N,2μm,12.8s,MS5.1
KMI LR LR
comp=E,1μm,15.4s,MS5.1
KMI LR LR
comp=Z,842nm,26.6s
SVW2 Sparrevohn 37.99 45 *e*P **P 08 13 47.3 +0.6**
IMA2 Indian Mountai 38.41 36 *e*P **P 08 13 50.2 0.0**
CHUM Lake Minchumin 39.16 40 *e*P **P 08 13 57.2 +0.7**
comp=Z,66nm,1.3s,mb5.2
PPLA Purkeypile 39.34 41 *e*P **P 08 13 59.5 +1.4**
comp=Z,325nm,1.6s,mb5.8
BPAW Bear Paw Mtn. 39.72 39 *e*P **P 08 14 01.2 +0.1**
comp=Z,118nm,1.7s,mb5.3
COLD Coldfoot 39.73 34 *e*P **P 08 14 01.1 -0.1**
comp=Z,22nm,1.0s,mb4.8
KTH Kantishna Hill 39.82 40 *e*P **P 08 14 03.0 +1.0**
comp=Z,234nm,1.5s,mb5.7
MK31 Makanchi Array 39.83 293 *i* P **P 08 14 01.9 -0.4**
MK31 pmax pmax
comp=Z,29nm,0.7s,mb5.1
MKAR Makanchi Array 39.83 293 P **P 08 14 01.7 -0.6**
comp=Z,19nm,0.8s,mb4.9,baz=76,slow=9.0,SNR=142
MKAR PcP PcP 08 16 07.7 -0.4
comp=Z,2.8nm,0.8s,baz=58,slow=6.1,SNR=3.1
MKAR LR LR 08 31 35.8
comp=Z,3μm,19.9s,MS5.2,baz=60,slow=38
MKAR Makanchi Array 39.83 293 P **P 08 14 01.7 -0.6**
MKAR 08 16 07.7
MKAR pmax pmax
comp=Z,19nm,0.8s
MKAR MLR MLR
comp=Z,3μm,19.9s
KDAK Kodiak Island 40.09 49 P **P 08 14 04.0 -0.3**
comp=Z,197nm,0.7s,mb6.0,SNR=9.7
TRF Thorofare Moun 40.12 40 *e*P **P 08 14 05.3 +0.8**
comp=Z,86nm,1.3s,mb5.3
SLKM Skilak Lake 40.68 45 *e*P **P 08 14 08.6 -0.5**
KURK Kurchatov 40.68 300 P **P 08 14 09.4 +0.1**
comp=Z,191nm,0.7s,mb5.8,SNR=30
KURK Kurchatov 40.68 300 P **P 08 14 09.4 +0.1**
SNR=24
KURK Kurchatov 40.68 300 P **P 08 14 08.5 -0.8**
KURK pmax pmax
comp=Z,21nm,1.0s,mb4.7
RC01 Rabbit Creek A 40.79 44 *e*P **P 08 14 10.6 +0.6**
comp=Z,14nm,0.5s,mb4.8
COLA College 40.95 38⇑ *i*P **P 08 14 11.7 +0.3**
COLA College 40.95 38 *e*P **P 08 14 11.7 +0.3**
comp=Z,66nm,1.0s,mb5.2
SEW Seward 41.14 45 *e*P **P 08 14 12.0 -1.0**
LSA Lhasa 42.46 265 P **P 08 14 25.3 +1.2**
LSA Lhasa 42.46 265 *e*P **P 08 14 25.1 +1.0**
LSA *e* 08 16 19.5
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
LSA Lhasa 42.46 265 *e*P **P 08 14 25.1 +1.0**
comp=Z,9.8nm,0.6s,mb4.6
LSA *e*PcP PcP 08 16 19.5 +2.5
DIV Divide 42.66 43 *e*P **P 08 14 25.5 +0.2**
comp=Z,83nm,1.1s,mb5.4
BMRM Bremner River 43.25 43 *e*P **P 08 14 30.7 +0.6**
RAGM Ragged Mountai 43.37 44 *e*P **P 08 14 32.0 +0.9**
RAGM *e*PcP PcP 08 16 21.9 +2.4
SHL Shillong 44.60 259 *e*x x 08 14 43.0
SHL *e*S **S 08 21 20.0 +2.5**
SHL *i* S **S 08 21 23.0 +5.5**
BVA0 Borovoye Array 44.62 305 *i* P **P 08 14 40.7 -0.6**
BVA0 pmax pmax
comp=Z,20nm,1.4s,mb4.8
BVAR Borovoye Array 44.62 305 P **P 08 14 41.3 +0.1**

comp=Z,6.1nm,0.6s,mb4.6,baz=86,slow=6.5,SNR=37
BVAR LR LR 08 34 45.0
comp=Z,2µm,18.9s,MS5.0,baz=169,slow=38
BVAR Borovoye Array 44.62 305 P **P 08 14 41.3 0.0**
BVAR pmax pmax
comp=Z,6.0nm,0.6s
BVAR MLR MLR
comp=Z,2µm,18.9s
BRVK Borovoye 44.67 306 P **P 08 14 41.3 -0.3**
comp=Z,210nm,1.5s,mb5.8,SNR=11
BRVK Borovoye 44.67 306 P **P 08 14 42.0 +0.4**
SNR=22
CMAR Chiang Mai Arr 44.98 246 P **P 08 14 43.8 -0.8**
comp=Z,1.8nm,0.3s,mb4.3,baz=36,slow=7.4,SNR=12
CMAR PcP PcP 08 16 26.2 +0.6
comp=Z,2.9nm,0.6s,baz=9.5,slow=3.0,SNR=6.3
CMAR LR LR 08 36 34.6
comp=Z,944nm,18.3s,MS4.8,baz=221,slow=40
CMAR Chiang Mai Arr 44.98 246 P **P 08 14 43.8 -0.7**
CMAR 08 16 26.3
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR MLR MLR
comp=Z,945nm,18.3s
ULHL Ulahol 45.71 289 P **P 08 14 50.5 +0.5**
SNR=15
INK Inuvik 45.75 31 P **P 08 14 49.9 -0.2**
comp=Z,18nm,0.8s,mb5.0,baz=298,slow=6.8,SNR=18
INK Inuvik 45.75 31 P **P 08 14 49.9 -0.2**
INK pmax pmax
comp=Z,18nm,0.8s
TKM2 Tokmak 2 45.80 290 *e*P **P 08 14 51.4 +0.7**
TKM2 pmax pmax
comp=Z,57nm,1.2s,mb5.4
TKM2 Tokmak 2 45.80 290 P **P 08 14 51.4 +0.7**
SNR=36
TKM2 Tokmak 2 45.80 290 *e*P **P 08 14 51.4 +0.6**
comp=Z,57nm,1.2s,mb5.4
TAPN Taplejung 46.28 265 *e*P **P 08 14 55.0 +0.3**
comp=Z,32nm,0.7s,mb5.4
USP Ospenovka 46.34 291 P **P 08 14 55.3 +0.3**
SNR=24
KBK Karagaybulak 46.34 290 P **P 08 14 55.9 +0.8**
SNR=7.0
KZA Kyzart 46.43 290 P **P 08 14 57.5 +1.7**
SNR=11
FRU Bishkek 46.47 291 *e*P **P 08 14 58.0 +2.0**
HYT Haines Junctio 46.59 42 *e*P **P 08 14 58.3 +1.6**
AAK Ala-Archa 46.65 291 P **P 08 14 57.3 -0.2**
SNR=5.4
ODAN Odare 46.81 265 *e*P **P 08 14 59.1 +0.2**
UCH Uchtor 46.84 290 *e*P **P 08 14 60.0 +1.1**
comp=Z,14nm,1.7s,mb4.6
EKS2 Erkin-Say 47.09 291 P **P 08 15 01.3 +0.4**
SNR=12
EKS2 Erkin-Say 47.09 291 *e*P **P 08 15 01.0 +0.1**
comp=Z,24nm,1.1s,mb5.0
JIRN Jiri 47.13 266 *e*P **P 08 15 01.3 -0.1**
comp=Z,46nm,0.8s,mb5.4
GUN Gumba 47.18 267 *e*P **P 08 15 02.2 +0.4**
KSH Kashi 47.26 286 *e*P **P 08 15 03.9 +1.6**
KSH *e*AP pP 08 15 07.5 +2.9
KSH *e*XP sP 08 15 10.6 +5.1
KSH PCP PcP 08 16 34.0 +0.7
KSH PP PP 08 16 53.5 +0.4
KSH PPP 08 17 40.7
KSH SCP ScP 08 20 26.3 -1.2
KSH PCS PcS 08 20 28.6 +0.1
KSH S **S 08 21 54.3 -1.2**
KSH XS sS 08 22 02.3 +2.9
KSH SCS ScS 08 24 54.7 -1.9
KSH SS SS 08 25 14.7 -7.8
KSH LR LR
comp=N,4µm,10.8s
KSH LR LR
comp=E,5µm,8.3s
KSH LR LR
comp=Z,5µm,19.4s
RAMN Ramite 47.30 265 *e*P **P 08 15 02.7 0.0**
comp=Z,55nm,0.7s,mb5.6
AML Almayashu 47.41 290 P **P 08 15 03.9 +0.5**
SNR=8.5
AML Almayashu 47.41 290 *e*P **P 08 15 04.1 +0.7**
comp=Z,154nm,0.8s,mb6.0
KKN Kakani 47.67 267 *e*P **P 08 15 05.7 +0.1**
PKI Pulchoki 47.72 267 *e*P **P 08 15 05.9 -0.1**
DMN Daman 47.90 267 *e*P **P 08 15 07.3 -0.1**
comp=Z,46nm,1.1s,mb5.4
SVE Sverdlovsk 48.29 313⇑ *e*P **P 08 15 11.0 +1.0**
SVE *e*S **S 08 22 15.1 +5.4**
SVE *e*SSS 08 26 47.3
SVE pmax pmax
comp=Z,105nm,1.3s,mb5.7
SVE MLR MLR
comp=Z,1µm,13.0s,MS5.0
DANN Dangsing 48.36 269 *e*P **P 08 15 11.3 +0.4**
comp=Z,91nm,0.6s,mb6.0
KOLN Koldanda 48.84 268 *e*P **P 08 15 14.7 +0.1**
comp=Z,76nm,1.1s,mb5.6
KK31 Karatay Array 48.95 293 *i* P **P 08 15 14.8 -0.5**
KK31 pmax pmax
comp=Z,16nm,0.6s,mb5.2
SOKR Solikamsk 48.99 318 *c i*P **P 08 15 15.4 0.0**
SOKR pmax pmax
comp=Z,60nm,1.2s,mb5.5
SOKR MLR MLR
comp=Z,720nm,12.0s,MS4.9
ARU Arti 49.50 313 P **P 08 15 19.9 +0.6**
comp=Z,324nm,1.3s,mb6.2,SNR=12
ARU Arti 49.50 313 *c i*P **P 08 15 19.2 -0.1**
ARU *e* 08 16 37.2
ARU *e* 08 17 12.7
ARU *e*S **S 08 22 28.4 +1.7**
ARU pmax pmax
comp=Z,101nm,1.2s,mb5.7
ARU Arti 49.50 313 *e*P **P 08 15 19.3 0.0**
comp=Z,130nm,1.4s,mb5.8
JOSI Joshimath 49.89 274 *e*P **P 08 15 23.1 +0.4**
JOSI AMb AMB 08 15 28.2
comp=Z,243nm,0.7s,mb6.3
WRAK Wrangell Islan 50.87 46 *e*P **P 08 15 31.0 +1.3**
comp=Z,26nm,1.2s,mb5.0
DDI Dehra Dun 51.06 275 *e*P **P 08 15 29.3 -2.2**
KBS Kingsbay 51.12 349⇑ *e*P **P 08 15 31.6 +0.3**
SMLA Simla 51.18 276 *e*P **P 08 15 31.0 -1.4**
SMLA AMb AMB 08 15 34.2
comp=Z,84nm,1.2s,mb5.5
AB31 Akbulak array 52.18 305 *i* P **P 08 15 39.5 -0.1**
AB31 pmax pmax
comp=Z,12nm,0.6s,mb5.0
AB31 Akbulak array 52.18 305⇑ *e*P **P 08 15 39.6 0.0**
NDI New Delhi 52.65 274 *e*P **P 08 15 42.0 -1.3**
AKTK Aktyubinsk 52.65 307 P **P 08 15 42.9 -0.2**
AKTO Aktyubinsk 52.65 307 P **P 08 15 42.9 -0.2**
comp=Z,13nm,0.8s,mb4.9,baz=64,slow=7.4,SNR=31
AKTO Aktyubinsk 52.65 307 P **P 08 15 42.9 -0.2**
AKTO pmax pmax
comp=Z,13nm,0.8s,mb4.9
AYAN Aya Nagar 52.84 274 *e*P **P 08 15 43.8 -0.9**
AYAN AMb AMB 08 15 45.6
comp=Z,34nm,1.3s,mb5.1
SONA Sohna 53.01 274 *e*P **P 08 15 44.5 -1.5**
SONA AMb AMB 08 15 47.0
comp=Z,24nm,0.6s,mb5.3
KEV Kevo 54.48 337 *e*p **P 08 15 55.5 -0.7**
comp=Z,16nm,0.6s,mb5.1
KEV Kevo 54.48 337 *e*P **P 08 15 55.5 -0.7**
KEV pmax pmax
comp=Z,16nm,0.6s,mb5.1
KBL Kabul 54.63 285 *e*P **P 08 15 56.7 -1.1**
comp=Z,48nm,1.2s,mb5.4
ARCES ARCESS Array B 55.02 337 P **P 08 16 00.5 +0.3**
comp=Z,4.6nm,0.6s,mb4.7,baz=49,slow=8.6,SNR=20
ARCES ARCESS Array B 55.02 337 P **P 08 16 00.5 +0.4**
ARCES pmax pmax
comp=Z,5.0nm,0.6s
KAPI Kappang 55.12 207 P **P 08 15 59.6 -1.9**
comp=Z,27nm,0.9s,mb5.3,baz=5.6,slow=5.0,SNR=6.5
YKA Yellowknife Ar 55.39 33 P **P 08 16 02.4 -0.5**
comp=Z,4.2nm,0.5s,mb4.8,baz=304,slow=6.7,SNR=23
YKA Yellowknife Ar 55.39 33 *i* P **P 08 16 02.4 -0.5**
YKA pmax pmax
comp=Z,4.0nm,0.5s
YKA Yellowknife Ar 55.39 33 P **P 08 16 02.4 -0.5**
KLMR Klimovskoe 55.78 325 *e*P **P 08 16 05.6 -0.1**
KLMR pmax pmax
comp=Z,90nm,1.9s,mb5.5
DAG Danmarks Havn 56.09 355⇓ *i*P **P 08 16 07.3 -0.5**
DAG pmax pmax
comp=Z,28nm,0.9s,mb5.3
DAG Danmarks Havn 56.09 355⇓ *i*P **P 08 16 07.3 -0.5**
comp=Z,28nm,0.9s,mb5.3
NGP Nagpur 56.29 266 *e*x x 08 16 00.3
NGP AMb AMB 08 16 07.3
comp=Z,52nm,0.9s,mb5.6
TRO Tromso 56.62 339 *e*P **P 08 16 11.8 +0.2**
TRO AMb AMB 08 16 14.1
comp=Z,76nm,1.7s,mb5.4
TRO Tromso 56.62 339 *e*P **P 08 16 11.8 +0.2**
comp=Z,76nm,1.7s,mb5.5
PSI Prapat 57.39 234 P **P 08 16 17.9 +0.1**
comp=Z,15nm,0.9s,mb5.0,baz=346,slow=4.1,SNR=12
PSI Prapat 57.39 234 P **P 08 16 17.9 +0.1**
PSI pmax pmax
comp=Z,15nm,0.9s,mb5.0
JOF Joensuu 57.58 329 *e*p **P 08 16 17.1 -1.3**
comp=Z,14nm,0.6s,mb5.2
JOF Joensuu 57.58 329 *e*P **P 08 16 17.1 -1.3**
JOF pmax pmax
comp=Z,15nm,0.6s,mb5.2
AKL Akola 57.98 267 *e*P **P 08 16 20.0 -1.9**
AKL AMb AMB 08 16 24.9
comp=Z,56nm,2.4s,mb5.2
JASL Jaisalmer 58.08 277 *e*P **P 08 16 20.3 -2.2**
HNR Honiara 58.28 159 LR LR 08 38 50.8
comp=Z,231nm,19.1s,MS4.3,baz=359,slow=33
HYB Hyderabad 59.19 263 *i* P **P 08 16 31.0 +0.7**
HYB Hyderabad 59.19 263 *e*P **P 08 16 29.0 -1.3**
MOS Moscow 59.71 321 *e*P **P 08 16 31.6 -1.8**
MOS *e* 08 17 15.9
MOS *e* 08 18 42.9
MOS pmax pmax
comp=Z,200nm,1.9s,mb5.8
MOS pmax pmax
comp=Z,86nm,1.3s,mb5.6
KAKA Kakadu 59.80 190 *e*P **P 08 16 32.9 -1.5**
comp=Z,32nm,0.9s,mb5.4
KAF Kangasniemi 59.84 331 *e*p **P 08 16 33.0 -1.2**
comp=Z,9.5nm,0.5s,mb5.1,baz=45,slow=6.5
KAF Kangasniemi 59.84 331 *e*P **P 08 16 33.0 -1.2**
KAF pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
LATR Latur 59.86 265 *e*P **P 08 16 34.5 -0.5**
LATR AMb AMB 08 16 37.3
comp=Z,71nm,1.3s,mb5.5
A05A Maple Falls 60.14 49 ⇓P **P 08 16 35.6 -0.9**
baz=60
NLWA Neilton Lookou 60.19 51 ⇑P **P 08 16 36.7 -0.1**
baz=60
D03A Wishkah Elem. 60.41 52 ⇓P **P 08 16 38.5 +0.1**
baz=60
C04A Brinnon 60.47 51 ⇑P **P 08 16 38.7 0.0**
baz=60
OBN Obninsk 60.57 320⇑ *i*P **P 08 16 38.9 -0.4**
OBN *e*S **S 08 24 45.8 -9.3**
OBN pmax pmax
comp=Z,95nm,1.3s,mb5.8
OBN MLR MLR
comp=Z,500nm,14.0s,MS4.8
B05A Bryant 60.59 50 ⇑P **P 08 16 39.5 0.0**
baz=60
JCW Jim Creek 60.72 50 *e*P **P 08 16 40.7 +0.2**
B06A Marblemount 60.75 49 ⇑P **P 08 16 40.5 -0.1**
baz=60
RPW Rockport 60.78 49 *e*P **P 08 16 40.9 +0.1**
VRHR Novokhopersk 60.80 315 *e*P **P 08 16 40.2 -0.8**
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.7
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,40nm,0.8s
E03A Lebam 60.88 52 ⇑P **P 08 16 41.4 -0.1**
baz=61
SUMG Summit 60.95 0 *e*P **P 08 16 43.0 +1.4**
comp=E,40nm,1.1s,mb5.5
A07A Ashnola River, 60.99 48 ⇓P **P 08 16 41.8 -0.4**
baz=61
C05A Tolt Reservoir 61.16 50 ⇑P **P 08 16 42.9 -0.5**
baz=61
F03A Seaside 61.26 52 ⇑P **P 08 16 43.9 -0.2**
baz=61
D05A Enumclaw 61.32 51 ⇓P **P 08 16 44.8 +0.2**
baz=61
B07A Winthrop 61.49 49 ⇑P **P 08 16 45.3 -0.4**
baz=61
A08A Turner Farm, O 61.61 48 P **P 08 16 46.4 -0.1**
baz=61,SNR=11
NLW Nelson Butte 61.62 49 P **P 08 16 47.0 +0.4**
TDL Tradedollar La 61.72 51 P **P 08 16 48.2 +0.9**
E05A Randle 61.84 51 ⇑P **P 08 16 47.9 -0.1**
baz=62
F04A Amboy 61.88 52 ⇑P **P 08 16 47.9 -0.4**
baz=62
VRSR Storozhevoye 61.91 316 *e*P **P 08 16 48.0 -0.4**
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRSR pmax pmax
comp=E,8.0nm,0.8s
D06A Cle Elum 61.92 50 ⇓P **P 08 16 48.3 -0.3**
baz=62
ETW Entiat 61.93 49 P **P 08 16 48.8 +0.1**
A09A Danville 61.95 47 ⇑P **P 08 16 48.5 -0.3**
baz=62,SNR=11
B08A Colville Reser 61.96 48 P **P 08 16 48.2 -0.6**
baz=62,SNR=9.0
C07A Waterville 62.01 49 ⇓P **P 08 16 48.6 -0.6**
baz=62
H03A Soap Creek Ran 62.20 53 ⇓P **P 08 16 50.5 0.0**
baz=62
EBG Ellensburg 62.25 50 P **P 08 16 51.4 +0.6**
E06A Yakima 62.26 51 ⇓P **P 08 16 50.5 -0.4**
baz=62,SNR=6.4
F05A White Salmon 62.43 51 ⇑P **P 08 16 52.0 0.0**
baz=62
A10A Northport 62.46 47 P **P 08 16 52.1 -0.1**
baz=62,SNR=5.2
C08A Higginbotham F 62.48 49 ⇑P **P 08 16 51.5 -0.8**
baz=62
B09A Rice 62.53 48 ⇓P **P 08 16 52.2 -0.4**
baz=62
I03A Eugene 62.65 54 ⇑P **P 08 16 53.8 +0.3**
baz=62
K01A Sixes 62.72 56 ⇑P **P 08 16 54.1 +0.1**
baz=62
H04A Detroit Lake 62.80 53 ⇑P **P 08 16 54.5 0.0**
baz=63,SNR=8.3
E07A Sunnyside 62.85 50 ⇑P **P 08 16 54.9 +0.1**
baz=63
MAK Makhachkala 62.86 305 *e*P **P 08 16 55.1 +0.2**
MAK *e*S **S 08 25 36.5 +12**
MAK pmax pmax
comp=Z,200nm,1.8s,mb6.0
C09A Chrisman Ranch 62.87 48 ⇓P **P 08 16 55.0 +0.1**
baz=63
J02A Umpqua 62.87 55 ⇑P **P 08 16 55.2 +0.2**
baz=63
OD2 Odessa Site #2 62.91 49 P **P 08 16 55.0 -0.2**
G05A Wamic 62.91 52 ⇑P **P 08 16 55.5 +0.3**
baz=63
D08A Wollman Farm, 63.02 49 ⇑P **P 08 16 55.3 -0.6**
baz=63
A11A Hall Mountain, 63.08 46 ⇓P **P 08 16 55.8 -0.4**
baz=63,SNR=14
RSW Rattlesnake Hi 63.09 50 *e*P **P 08 16 57.1 +0.7**
NEW Newport 63.15 47 *e*P **P 08 16 56.5 -0.3**
NEW pmax pmax
comp=Z,20nm,1.3s
NEW Newport 63.15 47 *e*P **P 08 16 56.5 -0.2**
comp=Z,20nm,1.3s,mb5.1
I04A Tendick Farm, 63.25 54 ⇑P **P 08 16 57.6 +0.2**
baz=63,SNR=5.4
CROR Criterion Ridg 63.26 52 P **P 08 16 58.3 +0.8**
E08A Dider Farm, El 63.31 50 ⇓P **P 08 16 57.5 -0.4**
baz=63
C10A Spilker Farm, 63.35 48 ⇓P **P 08 16 57.6 -0.5**
baz=63
B11A Sandpoint 63.42 47 ⇑P **P 08 16 58.1 -0.4**
baz=63
HUMO Hull Mountain 63.71 55 ⇓P **P 08 17 00.4 -0.2**
baz=64
VIPM Ingram Point 63.77 52 P **P 08 17 01.7 +0.8**
J04A Umpqua Nationa 63.77 54 ⇑P **P 08 17 00.9 -0.1**
baz=64
E09A Wood Farm, Sta 63.77 49 P **P 08 17 00.9 0.0**
baz=64,SNR=8.7
H06A Lindquist Farm 63.77 52 ⇓P **P 08 17 00.9 -0.1**
baz=64
G07A Ruggs Ranch, H 63.79 51 ⇑P **P 08 17 00.7 -0.4**
baz=64
D10A Wagner Farm, O 63.87 48 ⇓P **P 08 17 00.6 -0.9**
baz=64,SNR=8.7
F08A Pendleton 63.91 50 ⇓P **P 08 17 01.5 -0.4**
baz=64
GOF Gofitskoye 63.97 309⇑ *i*P **P 08 17 01.0 -1.2**
GOF pmax pmax
comp=Z,163nm,1.3s,mb5.9
A13A Flathead Natio 64.05 45 ⇑P **P 08 17 02.3 -0.4**
baz=64
LNOR Lincoln Mounta 64.12 50 *e*P **P 08 17 02.8 -0.4**
G08A Pilot Rock 64.15 51 ⇑P **P 08 17 02.9 -0.5**
baz=64
J05A Fort Rock 64.23 54 ⇓P **P 08 17 03.8 -0.2**
baz=64,SNR=11
JCC Jacoby Creek 64.25 57 ⇓P **P 08 17 04.8 +0.6**
baz=64
H07A Lands Inn, Kim 64.28 52 ⇓P **P 08 17 04.2 -0.1**
baz=64
E10A Myers Farm, Un 64.33 49 ⇓P **P 08 17 04.4 -0.1**
baz=64
D11A Klaveano Farm, 64.35 48 ⇑P **P 08 17 04.3 -0.4**
baz=64
I06A Prineville 64.36 52 ⇓P **P 08 17 04.2 -0.6**
baz=64
B13A Whitefish 64.40 46 ⇑P **P 08 17 04.9 -0.2**
baz=64
YBH Yreka Blue Hor 64.41 56 ⇑P **P 08 17 04.9 -0.3**
baz=64
F09A S2 Ranch, Elgi 64.43 50 ⇓P **P 08 17 05.2 0.0**
baz=64
M02C Callahan 64.55 56 ⇑P **P 08 17 05.7 -0.4**
baz=64
L04A Klamath Falls 64.59 55 ⇑P **P 08 17 06.1 -0.2**
baz=64
F10A Beach Ranch, E 64.61 49 ⇓P **P 08 17 06.0 -0.4**
baz=64,SNR=10
I07A Izee 64.65 52 ⇑P **P 08 17 06.6 -0.1**
baz=64
MNK Minsk 64.68 324⇓ *e*P **P 08 17 05.0 -1.7**
MNK pmax pmax
comp=Z,140nm,1.0s,mb6.0
MNK MLR MLR
comp=Z,3µm,14.0s,MS5.7
G09A Cove 64.78 50 ⇑P **P 08 17 07.2 -0.4**
baz=64
K05A Summer Lake 64.78 54 ⇓P **P 08 17 07.4 -0.2**
baz=64,SNR=13
H08A Prairie City 64.81 51 ⇓P **P 08 17 07.7 -0.1**
baz=65,SNR=9.7
C13A Hot Springs 64.82 47 ⇑P **P 08 17 07.5 -0.3**
baz=65
J06A Christmas Vall 64.85 53 ⇑P **P 08 17 08.3 +0.3**
baz=65
D12A Red Ives Fores 64.85 47 ⇑P **P 08 17 07.8 -0.2**
baz=65
M04C Macdoel 64.87 55 ⇑P **P 08 17 08.3 +0.1**
baz=65,SNR=9.5
E11A Bogner Ranch, 64.88 48 P **P 08 17 08.0 -0.2**
baz=65,SNR=12
KIV Kislovodsk 64.88 308 P **P 08 17 09.0 +0.8**
comp=Z,475nm,0.7s,mb6.6,SNR=18
KIV Kislovodsk 64.88 308 P **P 08 17 09.1 +0.9**
SNR=38
KIV Kislovodsk 64.88 308 *c i*P **P 08 17 08.9 +0.7**
KIV *e*S **S 08 25 51.3 +1.7**
KIV pmax pmax
comp=Z,84nm,1.0s,mb5.7
KIV pmax pmax
comp=Z,162nm,4.6s
KIV MLR MLR
comp=Z,676nm,17.0s,MS4.9
KIV Kislovodsk 64.88 308⇑ *i*P **P 08 17 09.0 +0.8**
M03C McCloud 65.05 56 ⇓P **P 08 17 09.3 -0.1**
baz=65
K06A Valley Falls 65.09 53 P **P 08 17 10.3 +0.7**
baz=65,SNR=13
G10A Bishop Farm, J 65.12 50 P **P 08 17 10.2 +0.5**
baz=65,SNR=13
LASM Arnica Sink 65.14 55 P **P 08 17 10.9 +0.9**
C14A Swan Lake 65.17 46 ⇓P **P 08 17 10.0 0.0**
baz=65
F11A Grangeville 65.22 49 ⇓P **P 08 17 10.1 -0.3**
baz=65
J07A Hines 65.23 52 P **P 08 17 11.2 +0.8**
baz=65,SNR=18
FCC Fort Churchill 65.24 28 *e*P **P 08 17 10.1 -0.2**
FCC pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
FCC Fort Churchill 65.24 28 *e*P **P 08 17 10.1 -0.2**
comp=Z,7.9nm,0.5s,mb5.0
L05A Lakeview 65.26 54 ⇓P **P 08 17 10.9 +0.2**
baz=65
WDC Whiskeytown Da 65.26 57 ⇑P **P 08 17 10.6 -0.2**
baz=65
WDC Whiskeytown Da 65.26 57 *e*PP PP 08 19 32.3 -1.6
comp=Z,8.9nm,0.9s
D13A Huson 65.27 47 P **P 08 17 10.7 0.0**
baz=65,SNR=11
I08A Drewsey 65.27 52 ⇑P **P 08 17 11.2 +0.4**
baz=65,SNR=12
NB2 NORSAR Subarra 65.33 336 P **P 08 17 09.9 -1.0**
comp=Z,97nm,1.7s,mb5.6,baz=34,slow=6.5
NOA NORSAR Array B 65.33 336 P **P 08 17 10.7 -0.2**
comp=Z,8.3nm,0.7s,mb4.9,baz=35,slow=6.3,SNR=34
NOA LR LR 08 50 57.2
comp=Z,269nm,18.1s,MS4.5,baz=30,slow=41
NOA NORSAR Array B 65.33 336 P **P 08 17 10.7 -0.2**
NOA pmax pmax
comp=Z,8.0nm,0.7s
NOA MLR MLR
comp=Z,269nm,18.1s
O02C Red Bluff 65.39 57 ⇑P **P 08 17 11.9 +0.3**
baz=65
LTIM Timbered Crate 65.47 55 P **P 08 17 12.9 +0.8**
G11A Walters Elk Ra 65.49 49 P **P 08 17 12.1 -0.1**
baz=65,SNR=23
P01C Double 8 Ranch 65.53 58 ⇑P **P 08 17 12.1 -0.4**
baz=65
M05C Lookout 65.54 55 ⇑P **P 08 17 12.3 -0.3**
baz=65
NAO01 NORSAR Array S 65.59 336 *e*P **P 08 17 12.3 -0.2**
comp=Z,6.4nm,0.7s,mb4.8
MOD Modoc 65.66 54 P **P 08 17 13.7 +0.4**
baz=65,SNR=11
I09A Lost Marbles R 65.67 51 ⇑P **P 08 17 13.0 -0.4**
baz=65
J08A Circle Bar Ran 65.69 52 P **P 08 17 14.1 +0.6**
baz=65,SNR=13
K07A Rock Creek Ran 65.72 53 P **P 08 17 14.4 +0.7**
baz=66,SNR=15
HATC Hat Creek Radi 65.72 56 ⇓P **P 08 17 13.3 -0.4**
baz=66
D14A Greenough 65.76 46 P **P 08 17 13.9 +0.1**
baz=66,SNR=14
GASB Alder Springs 65.77 57 ⇑P **P 08 17 14.3 +0.2**
baz=66
F12A Elk City 65.78 48 P **P 08 17 14.2 +0.3**
baz=66,SNR=20
H10A Noah's Angus R 65.79 50 P **P 08 17 14.1 0.0**
baz=66,SNR=37
E13A Victor 65.85 47 ⇑P **P 08 17 14.2 -0.3**
baz=66
CHMT Chamberlain Mo 66.00 46 *e*P **P 08 17 15.5 +0.1**
J09A Fry Pan Ranch, 66.09 52 ⇑P **P 08 17 16.1 0.0**
baz=66,SNR=11
H11A Donnelly 66.10 50 P **P 08 17 15.6 -0.5**
baz=66,SNR=13
I10A Payette 66.10 51 ⇑P **P 08 17 16.2 +0.1**
baz=66
K08A Mann Creek Ran 66.11 53 P **P 08 17 16.6 +0.4**
baz=66,SNR=16
L07A Adell 66.11 54 ⇓P **P 08 17 16.9 +0.7**
baz=66,SNR=28
SFJD Kangerlussuaq 66.16 5⇑ *i*P **P 08 17 15.8 -0.3**
SFJD pmax pmax
comp=Z,58nm,1.0s,mb5.6
SFJD MLR MLR
comp=Z,450nm,18.0s,MS4.7
SFJD Kangerlussuaq 66.16 5⇑ *i*P **P 08 17 15.8 -0.3**

comp=Z,58nm,1.0s,mb5.6
SFJD
comp=Z,450nm,18.0s
FITZ Fitzroy Crossi 66.19 197 *e*P **P** 08 17 15.0 -1.8
comp=Z,12nm,0.9s,mb4.9
FITZ Fitzroy Crossi 66.19 197 LR LR 08 41 35.6
comp=Z,138nm,20.7s,MS4.2,baz=173,slow=32
E14A Clinton 66.22 47 ⇓P **P** 08 17 16.6 -0.3
baz=66
WVOR Wild Horse Val 66.22 53 *e*P **P** 08 17 17.6 +0.7
WVOR pmax pmax
comp=Z,36nm,1.4s,mb5.2
WVOR Wild Horse Val 66.22 53 *e*P **P** 08 17 17.6 +0.7
comp=Z,36nm,1.4s,mb5.2
GNI Garni 66.27 304 P **P** 08 17 18.9 +1.7
SNR=12
GNI Garni 66.27 304 *e*P **P** 08 17 18.6 +1.4
GNI pmax pmax
comp=Z,63nm,1.3s
GNI Garni 66.27 304 *e*P **P** 08 17 18.6 +1.4
comp=Z,64nm,1.3s,mb5.5
O04C Chester 66.27 56 ⇓P **P** 08 17 17.7 +0.5
baz=66,SNR=9.0
ELFS Eagle Lake Fie 66.27 56 ⇑P **P** 08 17 17.1 -0.2
baz=66
D15A Lincoln 66.27 46 ⇑P **P** 08 17 17.0 -0.2
baz=66,SNR=6.5
MNRC McLaughlin Nat 66.45 58 ⇑P **P** 08 17 18.5 +0.1
baz=66,SNR=10
K09A Rome 66.54 52 P **P** 08 17 19.3 +0.4
baz=66,SNR=8.5
ORV Oroville 66.54 57 ⇑P **P** 08 17 18.5 -0.5
baz=66
L08A Fields 66.55 53 ⇓P **P** 08 17 19.3 +0.3
baz=66
NSHM Saint Helena R 66.59 58 *e*P **P** 08 17 19.3 0.0
SUTB Sutter Butte 66.59 57 ⇑P **P** 08 17 18.7 -0.6
baz=66
O05C Quincy 66.60 56 ⇓P **P** 08 17 19.1 -0.3
baz=66
M07A Soldier Meadow 66.63 54 ⇓P **P** 08 17 19.6 +0.1
baz=66,SNR=46
E15A Deer Lodge 66.64 47 ⇓P **P** 08 17 19.1 -0.4
baz=66
I11A Placerville 66.66 50 P **P** 08 17 19.4 -0.3
baz=66,SNR=7.9
N06A Buffalo Meadow 66.69 55 ⇑P **P** 08 17 20.0 +0.1
baz=66,SNR=19
F14A Wisdom 66.70 47 ⇑P **P** 08 17 19.6 -0.3
baz=66
SOC Sochi 66.73 309 *e*P **P** 08 17 20.9 +0.8
SOC MLR MLR
comp=Z,690nm,14.0s,MS5.0
SOC Sochi 66.73 309 *i*P **P** 08 17 22.0 +1.9
WRAB Tennant Creek 66.73 188 *i*P **P** 08 17 20.6 +0.3
WB2 Warramunga Arr 66.74 188 *e*P **P** 08 17 15.5 -4.8
WRA Warramunga Arr 66.74 188 P **P** 08 17 18.8 -1.5
comp=Z,5.2nm,0.7s,mb4.7,baz=3.8,slow=6.9,SNR=34
WRA Warramunga Arr 66.74 188 P **P** 08 17 18.8 -1.5
WRA pmax pmax
comp=Z,5.0nm,0.7s
G13A Cobalt 66.75 48 ⇑P **P** 08 17 19.9 -0.4
baz=66
CVS Carmenet Viney 66.79 58 ⇓P **P** 08 17 20.5 -0.1
baz=67
H12A Diamond D Ranc 66.81 49 ⇑P **P** 08 17 20.4 -0.3
baz=67,SNR=25
AKASG Malin Array Be 66.83 320 P **P** 08 17 20.1 -0.6
comp=Z,20nm,0.7s,mb5.3,baz=42,slow=6.5,SNR=86
AKASG Malin Array Be 66.83 320 *i*P **P** 08 17 20.1 -0.6
AKASG pmax pmax
comp=Z,20nm,0.7s
AKBB Malin Array Si 66.83 320 *e*P **P** 08 17 20.1 -0.6
KIEV Kiev 66.85 320 *e*P **P** 08 17 20.0 -0.8
KIEV pmax pmax
comp=Z,23nm,0.9s,mb5.2
KIEV Kiev 66.85 320 *e*P **P** 08 17 20.0 -0.8
comp=Z,23nm,0.9s,mb5.2
SUW Suwalki 66.88 326 *e*P **P** 08 17 20.6 -0.4
SUW Suwalki 66.88 326 *e*P **P** 08 17 20.6 -0.3
EGMT Eagleton 66.93 44 P **P** 08 17 21.3 0.0
baz=67,SNR=8.6
K10A MacKenzie Ranc 66.95 52 ⇑P **P** 08 17 21.7 +0.1
baz=67,SNR=21
BEKR Beckwourth 66.98 56 P **P** 08 17 21.9 +0.1
baz=67,SNR=21
M08A Happy Creek Ra 67.03 54 ⇑P **P** 08 17 22.5 +0.4
baz=67,SNR=6.1
L09A Wilkinson Ranc 67.03 53 ⇑P **P** 08 17 22.4 +0.3
baz=67,SNR=10
G14A Jackson 67.05 48 ⇑P **P** 08 17 21.6 -0.5
baz=67
MFID Camas Ranch 67.07 51 P **P** 08 17 22.6 +0.3
baz=67,SNR=22
O06A Flanigan 67.08 55 ⇓P **P** 08 17 22.3 -0.2
baz=67,SNR=20
ANN Anapa 67.09 311 *d i*P **P** 08 17 21.6 -0.8
ANN *e* 08 17 49.4
ANN *e*S S 08 26 17.5 +1.1
ANN *e*SS SS 08 30 38.6 +4.2
ANN pmax pmax
comp=Z,48nm,1.6s,mb5.3
H13A Challis 67.11 49 ⇓P **P** 08 17 22.0 -0.5
baz=67
F15A Butte 67.12 47 P **P** 08 17 22.8 +0.2
baz=67,SNR=11
N07B Gerlach 67.15 54 ⇑P **P** 08 17 23.2 +0.3
baz=67
P05C Yuba Gap, Truc 67.22 57 ⇓P **P** 08 17 23.0 -0.4
baz=67
P06A Stead Airport, 67.37 56 ⇓P **P** 08 17 24.1 -0.2
baz=67
K11A Parker Ranch, 67.40 51 ⇓P **P** 08 17 24.2 -0.2
baz=67
LAVA Lava Cap Winer 67.52 57 P **P** 08 17 25.1 -0.1
baz=67,SNR=12
JRSC Jasper Ridge 67.55 59 ⇓P **P** 08 17 25.2 -0.2
baz=67
M09A Marrel Ranch, 67.56 53 ⇓P **P** 08 17 25.9 +0.4
baz=67
G15A Dillon 67.59 47 ⇑P **P** 08 17 25.6 0.0
baz=67,SNR=38
N08A GE Springer Mi 67.62 54 ⇓P **P** 08 17 25.9 +0.1
baz=67,SNR=10
O07A Toulon 67.62 55 ⇓P **P** 08 17 26.0 +0.1
baz=67,SNR=18
I13A Wildhorse Cree 67.63 49 P **P** 08 17 26.2 +0.4
baz=67,SNR=42
L10A Juniper Basin 67.64 52 ⇓P **P** 08 17 26.0 0.0
baz=67,SNR=13
MCMT McKenzie Canyo 67.65 48 *e*P **P** 08 17 26.0 +0.1
WENL Wente Brothers 67.69 59 ⇓P **P** 08 17 26.7 +0.4
baz=68
BOZ Bozeman (W) 67.69 47 *e*P **P** 08 17 26.5 +0.3
BOZ pmax pmax
comp=Z,27nm,1.6s,mb5.0
BOZ Bozeman (W) 67.69 47 ⇓P **P** 08 17 26.2 0.0
baz=67
BOZ Bozeman (W) 67.69 47 *e*P **P** 08 17 26.5 +0.3
comp=Z,27nm,1.6s,mb5.0
WCN Washoe City 67.71 56 P **P** 08 17 26.8 +0.4
baz=68,SNR=5.1
HLID Hailey 67.72 50 ⇑P **P** 08 17 26.5 +0.1
baz=68,SNR=9.8
HLID Hailey 67.72 50 *e*P **P** 08 17 26.9 +0.5
comp=Z,5.5nm,1.0s,mb4.5
BNLO Ben Lomond (Sa 67.77 59 ⇑P **P** 08 17 27.1 +0.3
baz=68
TUTA Tutak 67.87 304 *i*P **P** 08 17 28.9 +1.4
N09A Rock Creek Ran 67.91 54 P **P** 08 17 28.1 +0.5
baz=68,SNR=8.3
R05C Kirkwood Meado 67.93 57 ⇓P **P** 08 17 27.8 0.0
baz=68
J13A Cove Ranch, Pi 67.96 50 P **P** 08 17 28.5 +0.5
baz=68,SNR=10
L11A Cat Creek Ranc 67.97 52 P **P** 08 17 28.6 +0.6
baz=68,SNR=21
M10A I.L. Ranch, Tu 67.99 52 ⇑P **P** 08 17 28.6 +0.4
baz=68,SNR=10
K12A Draper Farm, C 68.10 51 P **P** 08 17 29.2 +0.4
baz=68,SNR=13
CMB Columbia Colle 68.21 57 P **P** 08 17 30.0 +0.4
baz=68,SNR=16
BMN Battle Mountai 68.36 54 *e*P **P** 08 17 31.4 +0.9
BMN pmax pmax
comp=Z,12nm,0.8s,mb5.0
BMN Battle Mountai 68.36 54 *e*P **P** 08 17 31.4 +0.8
comp=Z,12nm,0.8s,mb5.0
PACP Pacheco Peak 68.38 59 ⇓P **P** 08 17 30.3 -0.4
baz=68
L12A House Creek Ra 68.38 51 ⇓P **P** 08 17 30.4 -0.2
baz=68
R06C Coleville 68.41 56 ⇓P **P** 08 17 31.0 +0.1
baz=68
M11A Holland Ranch, 68.46 52 ⇓P **P** 08 17 31.6 +0.5
baz=68,SNR=16
K13A Stover Farm, H 68.53 50 ⇑P **P** 08 17 31.5 0.0
baz=68
GCMT Greycliff 68.56 45 *e*P **P** 08 17 31.4 -0.2
O09A Fish Creek Ran 68.56 54 ⇓P **P** 08 17 31.7 -0.1
baz=68,SNR=11
HAKT HAKKARI 68.61 302 *i*P **P** 08 17 32.2 0.0
S06C San Francisco 68.62 57 P **P** 08 17 32.2 0.0
baz=68,SNR=19
HAST Hastings Reser 68.64 59 ⇑P **P** 08 17 31.6 -0.7
baz=68
SIM Simferopol' 68.66 313 P **P** 08 17 32.0 -0.3
SIM pmax pmax
comp=Z,27nm,1.2s,mb5.0
SIM MLR MLR
comp=Z,480nm,16.6s,MS4.8
S05C Merced 68.71 58 ⇓P **P** 08 17 32.1 -0.6
baz=68
KOPT Kop Dagi 68.75 306 *i*P **P** 08 17 35.0 +2.1
O10A Cortez Mining, 68.86 53 ⇓P **P** 08 17 33.9 +0.3
baz=69
YFT Old Faithful 68.93 47 *e*P **P** 08 17 36.0 +2.0
R07C Lee Vining 68.94 57 ⇑P **P** 08 17 34.5 +0.4
baz=69,SNR=9.3
M12A Wells 68.94 52 ⇓P **P** 08 17 34.3 +0.2
baz=69
L13A Double Diamond 68.99 51 ⇑P **P** 08 17 34.8 +0.4
baz=69,SNR=6.8
BSD Bornholm Skovb 69.02 330 *i*P **P** 08 17 32.4 -2.0
BSD pmax pmax
comp=Z,35nm,1.0s,mb5.2
BSD Bornholm Skovb 69.02 330 *i*P **P** 08 17 32.4 -2.0
comp=Z,35nm,1.0s,mb5.2
Q08A Gabbs 69.05 55 ⇓P **P** 08 17 34.7 -0.2
baz=69
LKWY Lake 69.07 47 *e*P **P** 08 17 36.9 +2.0
LKWY pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LKWY Lake 69.07 47 *e*P **P** 08 17 36.9 +2.0
comp=Z,7.7nm,0.9s,mb4.6
K14A Jones Ranch, D 69.08 50 P **P** 08 17 35.8 +0.8
baz=69,SNR=14
V03C Hunter Liggett 69.08 59 ⇓P **P** 08 17 34.4 -0.7
baz=69
U04C Hernandez Rese 69.11 59 ⇓P **P** 08 17 35.1 -0.2
baz=69
NVAR Mina Array Bea 69.13 56 P **P** 08 17 35.8 +0.5
comp=Z,8.4nm,0.7s,mb4.8,baz=292,slow=5.8,SNR=55
DGMT Dagmar 69.17 41 *e*P **P** 08 17 35.4 0.0
comp=Z,17nm,0.8s,mb5.0
RLMT Red Lodge 69.23 46 *e*P **P** 08 17 36.7 +0.8
comp=Z,44nm,1.5s,mb5.2
ELK Elko 69.23 52 *e*P **P** 08 17 36.8 +0.8
ELK pmax pmax
comp=Z,10.0nm,1.0s
ELK Elko 69.23 52 *e*P **P** 08 17 36.8 +0.9
comp=Z,9.8nm,1.0s,mb4.7
N12A Clover Valley, 69.27 52 ⇓P **P** 08 17 36.1 -0.1
baz=69,SNR=12
T06C Millerton Lake 69.30 58 ⇑P **P** 08 17 36.3 -0.1
baz=69
KCC Kaiser Creek 69.31 57 ⇑P **P** 08 17 36.6 +0.1
baz=69
P10A Eureka 69.34 54 ⇓P **P** 08 17 36.6 -0.1
baz=69,SNR=12
COP Copenhagen 69.38 332 *e*P **P** 08 17 38.9 +2.3
COP pmax pmax
comp=Z,42nm,0.9s,mb5.4
COP Copenhagen 69.38 332 *i*P **P** 08 17 38.9 +2.3
comp=Z,42nm,0.9s,mb5.4
COP Copenhagen 69.38 332 *e*P **P** 08 17 38.9 +2.3
comp=Z,42nm,0.9s,mb5.4
MLAC Mammoth Lakes 69.38 57 ⇓P **P** 08 17 37.0 +0.1
baz=69
L14A Malta 69.40 50 ⇓P **P** 08 17 37.2 +0.3
baz=69,SNR=15
O11A Cowboy Ranch, 69.43 53 ⇓P **P** 08 17 37.6 +0.4
baz=69
HATD Hatta, Dubai 69.44 285 P **P** 08 17 36.8 -0.6
SNR=10
HOQ Hoqain 69.49 283 P **P** 08 17 38.0 +0.2
SNR=5.4
PKD Parkfield 69.54 59 ⇑P **P** 08 17 37.3 -0.6
baz=69
LAO LASA Array 69.56 43 *e*P **P** 08 17 37.4 -0.4
comp=Z,21nm,1.1s,mb5.0
V04C Ramage Ranch, 69.56 60 ⇑P **P** 08 17 37.8 -0.2
baz=69
ASHO Ashiyiah 69.58 285 P **P** 08 17 38.5 +0.1
SNR=6.8
SNOW Snow King Moun 69.68 48 *e*P **P** 08 17 39.8 +1.2
comp=Z,17nm,1.3s,mb4.8
REDW Red Top Meadow 69.70 48 *e*P **P** 08 17 39.7 +1.0
comp=Z,54nm,1.9s,mb5.2
N13A Wendover, West 69.72 52 ⇓P **P** 08 17 38.9 -0.1
baz=70
M14A Sheep Mountain 69.72 51 ⇑P **P** 08 17 39.0 0.0
baz=70
MTUM Tungsten Hills 69.72 57 *e*P **P** 08 17 39.6 +0.5
KIS Kishinev 69.73 318 *e*P **P** 08 17 36.0 -2.9
KIS MLR MLR
comp=Z,2μm,14.0s,MS5.4
KIS MLR MLR
comp=Z,2μm,14.0s
P11A Circle Ranch, 69.78 54 ⇓P **P** 08 17 39.6 +0.2
baz=70
O12A Currie 69.84 52 ⇓P **P** 08 17 39.9 +0.2
baz=70,SNR=12
S08C White Mtn Res 69.85 57 ⇑P **P** 08 17 40.2 +0.4
baz=70,SNR=12
L15A Malad City 69.87 50 ⇓P **P** 08 17 40.0 +0.1
baz=70
HELL Mitchell Peak 69.92 58 P **P** 08 17 39.9 -0.4
baz=70,SNR=32
PTRM Twissleman Ran 69.94 59 *e*P **P** 08 17 40.9 +0.5
R09A Tonopah 69.96 55 P **P** 08 17 40.5 0.0
baz=70,SNR=19
TPH Tonopah 69.99 56 *e*P **P** 08 17 41.3 +0.6
TPH pmax pmax
comp=Z,21nm,1.0s,mb5.0
TPH Tonopah 69.99 56 *e*P **P** 08 17 41.3 +0.6
comp=Z,21nm,1.0s,mb5.0
M15A Larsen Ranch, 70.22 50 ⇑P **P** 08 17 41.7 -0.3
baz=70
S09A Goldfield 70.23 56 P **P** 08 17 42.4 +0.2
baz=70,SNR=14
N14A Grayback Hills 70.27 51 ⇑P **P** 08 17 42.5 +0.2
baz=70
SMMC Simmler 70.30 59 ⇓P **P** 08 17 42.8 +0.2
baz=70
P12A McGill 70.31 53 ⇑P **P** 08 17 42.5 -0.1
baz=70,SNR=12
Q11A Duckwater 70.33 54 ⇓P **P** 08 17 42.7 0.0
baz=70
O13A Hicks Ranch, I 70.35 52 ⇓P **P** 08 17 43.0 +0.2
baz=70
R10A Warm Springs 70.36 55 ⇑P **P** 08 17 43.2 +0.2
baz=70
L16A Fish Haven 70.36 49 ⇑P **P** 08 17 43.4 +0.5
baz=70
KWP Kalwaria 70.42 323 *e*P **P** 08 17 43.7 +0.6
KWP Kalwaria 70.42 323 ⇓*i*P **P** 08 17 43.4 +0.3
KWP Kalwaria 70.42 323 *e*P **P** 08 17 43.7 +0.6
S10A Tonopah Range, 70.45 55 P **P** 08 17 43.6 +0.2
baz=70,SNR=12
ASAR Alice Springs 70.47 188 P **P** 08 17 43.1 -0.4
comp=Z,9.9nm,0.7s,mb4.8,baz=14,slow=4.7,SNR=68
ASAR Alice Springs 70.47 188 P **P** 08 17 43.1 -0.4
ASAR pmax pmax
comp=Z,10.0nm,0.7s
VES Vestal, Richgr 70.47 58 P **P** 08 17 43.2 -0.5
baz=70,SNR=5.0
N15A Stansbury Isla 70.59 51 ⇓P **P** 08 17 44.2 -0.1
baz=70
CWC Cottonwood Cre 70.64 57 ⇑P **P** 08 17 44.4 -0.2
baz=70
Q12A Willow Creek R 70.65 53 ⇓P **P** 08 17 44.5 -0.2
baz=70,SNR=16
GRAC Grapevine Rang 70.66 56 ⇓P **P** 08 17 45.0 +0.3
baz=70
PKM Peak Mountain 70.69 59 ⇓P **P** 08 17 45.2 +0.2
baz=70
R11A Troy Canyon, C 70.72 54 P **P** 08 17 45.2 +0.1
baz=70,SNR=14
M16A Huntsville 70.76 50 ⇓P **P** 08 17 45.1 -0.2
baz=70
PDAR Pinedale Array 70.79 48 P **P** 08 17 45.2 -0.2
comp=Z,8.6nm,0.8s,mb4.7,baz=346,slow=1.7,SNR=38
PDAR LR LR 08 51 53.3
comp=Z,272nm,20.2s,MS4.5,baz=238,slow=38
P13A Bates Ranch, G 70.81 53 ⇓P **P** 08 17 45.5 -0.2
baz=71,SNR=12
BURAR Bucovina Array 70.89 320 ⇑*i*P **P** 08 17 46.0 0.0
BURAR Bucovina Array 70.89 320 ⇑P **P** 08 17 46.0 0.0
DUG Dugway 70.93 51 *e*P **P** 08 17 46.2 -0.2
DUG pmax pmax
comp=Z,15nm,1.0s,mb4.9
DUG Dugway 70.93 51 ⇓P **P** 08 17 46.3 -0.1
baz=71
DUG Dugway 70.93 51 *e*P **P** 08 17 46.2 -0.2
comp=Z,15nm,1.0s,mb4.9
ISA Isabella 70.95 58 ⇑P **P** 08 17 46.5 -0.1
baz=71,SNR=5.4
MALT Malatya 71.09 306 *e*P **P** 08 17 48.5 +1.1
MALT pmax pmax
comp=Z,20nm,1.2s,mb4.9
MALT Malatya 71.09 306 ⇑*i*P **P** 08 17 48.1 +0.7
MALT Malatya 71.09 306 *e*P **P** 08 17 48.5 +1.1
comp=Z,20nm,1.2s,mb4.9
ARVC Arvin 71.11 59 ⇓P **P** 08 17 47.0 -0.6
baz=71
S11A Rachel 71.12 55 ⇑P **P** 08 17 47.3 -0.3
baz=71,SNR=14
KOLS Kolonicke sedl 71.14 323 *i*P **P** 08 17 47.6 +0.1
KOLS Kolonicke sedl 71.14 323 *i*P **P** 08 17 47.7 +0.2
OJC Ojcow 71.14 325 *i*P **P** 08 17 47.5 0.0
OJC Ojcow 71.14 325 *e*P **P** 08 17 47.5 0.0
Q13A Wheeler Ranch, 71.16 53 ⇓P **P** 08 17 47.6 -0.2
baz=71,SNR=19
N16A Rees Ranch, Co 71.17 50 ⇑P **P** 08 17 47.8 0.0
baz=71
P14A Drum Mountains 71.23 52 ⇓P **P** 08 17 47.7 -0.4
baz=71,SNR=12
MPMC Manual Prospec 71.24 57 P **P** 08 17 48.4 +0.1
baz=71,SNR=16
R12A Pony Springs, 71.28 54 ⇓P **P** 08 17 48.2 -0.3
baz=71
ULM Lac du Bonnet 71.30 35 P **P** 08 17 47.5 -0.9
comp=Z,4.9nm,0.5s,mb4.7,baz=325,slow=6.8,SNR=9.4
ULM LR LR 08 51 28.4
comp=Z,363nm,19.1s,MS4.7,baz=225,slow=38
ULM Lac du Bonnet 71.30 35 *e*P **P** 08 17 47.4 -1.0
comp=Z,5.1nm,0.6s,mb4.6
FURC Furnace Creek, 71.32 57 P **P** 08 17 48.8 0.0
baz=71,SNR=31
TPNV Topopah Spring 71.33 56 *e*P **P** 08 17 48.7 -0.2
TPNV pmax pmax
comp=Z,29nm,1.0s,mb5.2
TPNV Topopah Spring 71.33 56 ⇓P **P** 08 17 48.6 -0.3
baz=71
TPNV Topopah Spring 71.33 56 *e*P **P** 08 17 48.7 -0.2
comp=Z,29nm,1.0s,mb5.2
UZH Uzhgorod 71.37 322 *e*P **P** 08 17 44.3 -4.6
UZH *i* 08 17 48.5
UZH *i* 08 18 11.0
N17A Moffit Pass 71.45 50 ⇓P **P** 08 17 48.9 -0.6
baz=71,SNR=11
CRVS Cervenica-Dubn 71.50 323 *i*P **P** 08 17 49.9 +0.2
BSEG Bad Segeberg 71.51 332 *e*P **P** 08 17 50.2 +0.5
comp=Z,23nm,1.0s,mb5.1
VRI Vrincioaia 71.53 318 ⇓*i*P **P** 08 17 50.8 +0.9
VRI Vrincioaia 71.53 318 ⇓P **P** 08 17 50.8 +0.9
LRMC Laurel Mountai 71.54 58 ⇓P **P** 08 17 49.8 -0.3
baz=71
Q14A Sevier Lake (B 71.54 53 P **P** 08 17 50.2 +0.1
baz=71,SNR=19
RUE Ruedersdorf 71.56 329 *e*P **P** 08 17 50.7 +0.7
comp=Z,30nm,1.0s,mb5.2
NIE Niedzica 71.56 324 *e*P **P** 08 17 51.0 +1.0
O16A Springville 71.62 51 ⇑P **P** 08 17 50.4 -0.2
baz=71
S12A Delamar Landin 71.66 54 ⇑P **P** 08 17 51.0 +0.2
baz=71,SNR=7.6
U10A Ash Meadows, A 71.66 56 ⇑P **P** 08 17 51.0 +0.1
baz=71
UMR Umm Al-Rimmam 71.67 294 *e*P **P** 08 17 49.5 -1.5
baz=294
UMR AMb AMB 08 17 53.4
comp=Z,57nm,1.3s,mb5.3,baz=294
P15A Leamington 71.67 52 ⇓P **P** 08 17 50.8 -0.1
baz=71,SNR=11
T11A Corn Creek, Al 71.71 55 P **P** 08 17 51.4 +0.3
baz=72,SNR=28
MIB Mutribah 71.73 294 *e*P **P** 08 17 50.1 -1.3
baz=294
MIB AMb AMB 08 17 52.1
comp=Z,55nm,1.1s,mb5.4,baz=294
R13A O'Grain Ranch, 71.74 54 ⇑P **P** 08 17 51.4 +0.1
baz=72
EDW2 Edwards Air Fo 71.78 58 ⇑P **P** 08 17 51.2 -0.3
baz=72,SNR=15
PINB Pinarbasi 71.94 307 *i*P **P** 08 17 53.2 +0.7
P16A Fountain Green 71.97 51 ⇑P **P** 08 17 53.0 +0.3
baz=72
KSP Ksiaz 71.99 327 *e*P **P** 08 17 52.6 0.0
SHOC Shoshone 72.05 57 ⇑P **P** 08 17 53.2 0.0
baz=72
OKC Ostrava-Krasne 72.09 325 *e*P **P** 08 17 53.4 +0.2
OKC AMS AMS 08 53 20.0
comp=Z,1μm,13.0s
GSC Goldstone 72.17 57 P **P** 08 17 53.8 -0.1
baz=72,SNR=10
NAY Al-Naaiem 72.17 294 *e*P **P** 08 17 52.2 -1.9
baz=294
NAY AMb AMB 08 17 58.6
comp=Z,18nm,1.1s,mb4.9,baz=294
MLR Muntele Rosu 72.18 318 ⇑*i*P **P** 08 17 54.0 +0.2
MLR Muntele Rosu 72.18 318 ⇑P **P** 08 17 54.0 +0.2
MWC Mount Wilson 72.20 59 *e*P **P** 08 17 54.2 +0.1
MWC pmax pmax
comp=Z,11nm,0.8s,mb4.8
MWC Mount Wilson 72.20 59 *e*P **P** 08 17 54.2 +0.1
comp=Z,11nm,0.8s,mb4.8
RDF Al-Radifah 72.20 293 *e*P **P** 08 17 52.1 -2.1
baz=293
RDF AMb AMB 08 17 55.7
comp=Z,75nm,1.5s,mb5.4,baz=293
S13A Holt Ranch, En 72.22 54 ⇓P **P** 08 17 54.6 +0.3
baz=72,SNR=11
KECS Kecovo 72.23 323 *i*P **P** 08 17 54.0 -0.1
KECS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KECS Kecovo 72.23 323 *i*P **P** 08 17 54.0 -0.1
comp=Z,4.6nm,0.7s,mb4.5
GZT Gaziantep 72.25 306 *i*P **P** 08 17 55.3 +1.0
ARUT Antelope Range 72.31 54 *e*P **P** 08 17 54.9 +0.2
T12A Moapa 72.36 55 ⇑P **P** 08 17 55.5 +0.5
baz=72
UPC Upice 72.37 327 *e*P **P** 08 17 55.2 +0.4
MORC Moravsky Berou 72.38 326 P **P** 08 17 55.5 +0.6
MORC Moravsky Berou 72.38 326 ⇑*i*P **P** 08 17 55.3 +0.4
MORC Moravsky Berou 72.38 326 *e*P **P** 08 17 55.4 +0.5
comp=Z,23nm,0.8s,mb5.2
DPC Dobruska-Polom 72.38 327 *e*P **P** 08 17 55.7 +0.8
DPC AMS AMS 08 54 30.0
comp=Z,900nm,12.3s
BFSC Mount Baldy St 72.42 59 P **P** 08 17 55.5 0.0
baz=72,SNR=12
TMUT Trail Mountain 72.44 51 *e*P **P** 08 17 56.0 +0.5
TMUT *e*PcP PcP 08 18 12.8 -0.5
S14A Cedar City 72.48 53 ⇓P **P** 08 17 56.1 +0.3
baz=72
RSSD Black Hills 72.50 44 *e*P **P** 08 17 55.2 -0.5
RSSD *e* 08 20 39.7
RSSD pmax pmax
comp=Z,45nm,1.6s,mb5.2
RSSD Black Hills 72.50 44 *e*P **P** 08 17 55.2 -0.5
comp=Z,45nm,1.6s,mb5.2
RSSD *e*PP PP 08 20 39.7 +3.5
CCUT Cedar City 72.52 54 *e*P **P** 08 18 00.3 +4.3
V11A Goodsprings 72.58 56 ⇑P **P** 08 17 56.4 0.0
baz=72
TUQ Turquoise Mtn. 72.58 57 ⇓P **P** 08 17 55.9 -0.5
baz=72,SNR=8.9
T13A Saint George 72.60 54 P **P** 08 17 57.1 +0.6
baz=72,SNR=16

DRGR 72.62 321 P P 08 17 57.0 +0.6
DRGR 72.62 321 ⇓iP P 08 17 56.4 0.0
DRGR 72.62 321 ⇓P P 08 17 56.4 0.0
VOIR 72.63 319 ⇑iP P 08 17 56.9 +0.4
VOIR 72.63 319 ⇑P P 08 17 56.9 +0.4
R15A **Junction** 72.64 53 ⇓P P 08 17 57.3 +0.6
baz=72
U12A **Valley of Fire** 72.67 55 ⇓P P 08 17 57.2 +0.4
baz=72
AVNT **Avonos** 72.71 308 *i* P P 08 17 56.6 -0.5
Q16A **Castle Valley** 72.73 51 ⇑P P 08 17 57.7 +0.4
baz=72
RWWY **Rawlins** 72.76 47 *e*P P 08 17 57.3 -0.1
comp=Z,9.2nm,0.8s,mb4.8
HEC **Hector,Ludlow** 72.78 57 P P 08 17 58.0 +0.4
baz=72,SNR=12
CLL **Collm** 72.80 329 ⇑*i*P P 08 17 57.2 -0.2
CLL *i* pP 08 18 00.1 +0.2
CLL *i* 08 18 03.1
CLL pmax pmax
comp=Z,38nm,0.9s,mb5.3
CLL MLR MLR
comp=Z,600nm,17.5s,MS4.9
CLL **Collm** 72.80 329 *e*P P 08 17 57.3 -0.1
comp=Z,38nm,0.9s,mb5.3
CLL **Collm** 72.80 329 ⇑*i*P P 08 17 57.2 -0.2
comp=Z,38nm,0.9s,mb5.3
CLL *i* pP pP 08 18 00.1 +0.2
CLL *i* x x 08 18 03.1
CLL *i* PcP PcP 08 18 14.6 0.0
CLL **Collm** 72.80 329 ⇑*i*P P 08 17 57.2 -0.2
comp=Z,38nm,0.9s,mb5.3
CLL *i* pP 08 18 00.1 +0.2
CLL *i* 08 18 03.1
CLL LR LR
comp=Z,600nm,17.5s,MS4.9
BRG **Berggiesshubel** 72.83 328 *e*P P 08 17 57.7 +0.1
comp=Z,99nm,2.2s,mb5.3
BRG **Berggiesshubel** 72.83 328 *e* P 08 17 57.3 -0.3
comp=Z,16nm,0.9s,mb4.9
BRG
comp=N,428nm,20.6s
BRG
comp=E,326nm,18.6s
BRG
comp=Z,518nm,20.9s
BBRC **Big Bear Sol-O** 72.84 58 P P 08 17 58.2 +0.3
baz=73,SNR=12
PVCC **Panska Ves** 72.88 328 *e*P P 08 17 58.2 +0.3
PVCC AMS AMS 08 50 50.0
comp=Z,700nm,16.4s
VYHS **Vyhne** 72.89 324 *i* P P 08 17 57.7 -0.3
VYHS pmax pmax
comp=Z,63nm,2.2s,mb5.2
VYHS **Vyhne** 72.89 324 *i* P P 08 17 57.7 -0.3
comp=Z,63nm,2.2s,mb5.2
PSZ **Piszkesteto** 72.92 323 *e*P P 08 17 58.8 +0.6
PSZ pmax pmax
comp=Z,18nm,1.1s,mb4.9
PSZ **Piszkesteto** 72.92 323 ⇓*i*P P 08 17 58.7 +0.5
PSZ **Piszkesteto** 72.92 323 *e*P P 08 17 58.8 +0.6
comp=Z,18nm,1.1s,mb4.9
SRU **San Rafael** 72.94 51 *e*P P 08 17 58.7 +0.3
SRU pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SRU **San Rafael** 72.94 51 P P 08 17 58.8 +0.4
baz=73,SNR=18
SRU **San Rafael** 72.94 51 *e*P P 08 17 58.7 +0.3
comp=Z,8.4nm,0.8s,mb4.7
S15A **Panguitch** 72.98 53 ⇓P P 08 17 59.4 +0.7
baz=73
V12A **Nelson** 72.99 56 P P 08 17 59.2 +0.4
baz=73,SNR=9.0
U13A **Pakoon Wash** 73.00 55 ⇑P P 08 17 59.2 +0.4
baz=73,SNR=23
T14A **Hurricane** 73.03 54 ⇑P P 08 17 59.4 +0.3
baz=73
VRAC **Vranov** 73.12 326 LR LR 08 52 55.4
comp=Z,577nm,19.1s,MS4.9,baz=32,slow=38
VRAC **Vranov** 73.12 326 P P 08 18 00.2 +0.9
VRAC **Vranov** 73.12 326 ⇑*i*P P 08 18 00.0 +0.7
MURC **Murrieta** 73.14 59 ⇓P P 08 17 59.6 -0.2
baz=73
Q18A **Rafter H Ranch** 73.15 51 ⇓P P 08 17 59.1 -0.6
baz=73
GMRC **Granite Mounta** 73.20 57 P P 08 18 00.6 +0.5
baz=73,SNR=8.2
CLZ **Clausthal** 73.26 331 *e*P P 08 18 00.8 +0.7
CLZ pmax pmax
comp=Z,41nm,0.9s,mb5.4
CLZ **Clausthal** 73.26 331 *e*P P 08 18 00.8 +0.7
comp=Z,41nm,0.9s,mb5.4
W12A **Cal Nev Ari** 73.28 56 ⇑P P 08 18 00.7 +0.1
baz=73
LDFC **Landfair** 73.31 56 *e*P P 08 18 00.5 -0.2
comp=Z,46nm,1.3s,mb5.2
PRU **Pruhonice** 73.34 328 *e*P P 08 18 01.2 +0.6
PRU AMS AMS 08 52 30.0
comp=Z,600nm,19.1s
R17A **Hanksville Air** 73.34 51 P P 08 18 00.8 -0.1
baz=73,SNR=16
V13A **Grand Canyon W** 73.39 55 P P 08 18 01.5 +0.3
baz=73,SNR=7.9
U14A **Mt Trumbull** 73.44 54 ⇓P P 08 18 01.8 +0.4
baz=73,SNR=12
T15A **Red Dirt Ranch** 73.45 53 ⇑P P 08 18 01.6 +0.1
baz=73,SNR=14
TREC **Trest** 73.55 327 *e*P P 08 18 02.4 +0.5
TREC AMS AMS 08 54 20.0
comp=Z,700nm,15.0s
BELC **Belle Mtn.** 73.56 58 P P 08 18 02.1 -0.1
baz=73,SNR=11
PFO **Pinyon Flat Ob** 73.57 58 *e*P P 08 18 02.2 -0.1
PFO pmax pmax
comp=Z,11nm,1.0s,mb4.7
PFO **Pinyon Flat Ob** 73.57 58 ⇑P P 08 18 02.1 -0.2
baz=73
PFO **Pinyon Flat Ob** 73.57 58 *e*P P 08 18 02.2 -0.1
comp=Z,11nm,1.0s,mb4.8
MODS **Modra-Piesok** 73.61 325 *i* P P 08 18 03.2 +1.0
MODS pmax pmax
comp=Z,13nm,1.1s,mb4.8
MODS **Modra-Piesok** 73.61 325 *i* P P 08 18 03.1 +0.9
MODS **Modra-Piesok** 73.61 325 *i* P P 08 18 03.2 +1.0
comp=Z,13nm,1.1s,mb4.8
BUD **Budapest** 73.62 323 *e*P P 08 18 06.3 +4.0
GZR **Gura Zlata** 73.68 320 P P 08 18 03.4 +0.7
IBBN **Ibbenburen** 73.72 333 *e*P P 08 18 02.9 +0.1
comp=Z,69nm,1.4s,mb5.4
Q19A **Hogan Spring (** 73.72 50 P P 08 18 02.6 -0.4
baz=74,SNR=17
TANN **Tannenbergstha** 73.74 329 *e*P P 08 18 03.2 +0.3
comp=Z,21nm,1.4s,mb4.9
R18A **Canyonlands Na** 73.80 51 P P 08 18 03.2 -0.4
baz=74,SNR=17
ZST **Bratislava** 73.82 325 *i* P P 08 18 01.1 -2.4
ZST pmax pmax
comp=Z,70nm,1.8s,mb5.3
ZST **Bratislava** 73.82 325 *i* P P 08 18 01.1 -2.4
comp=Z,70nm,1.8s,mb5.3
MOX **Moxa** 73.84 330 *e*P P 08 18 03.6 0.0
comp=Z,48nm,1.6s,mb5.2
MOX
comp=Z,600nm,18.0s
MOX **Moxa** 73.84 330 *e*P P 08 18 03.6 0.0
MOX pmax pmax
comp=Z,48nm,1.6s,mb5.2
MOX MLR MLR
comp=Z,600nm,18.0s,MS4.9
MOX **Moxa** 73.84 330 *e*P P 08 18 03.9 +0.3
comp=Z,71nm,1.8s,mb5.3
NKC **Novy Kostel** 73.89 329 *e*P P 08 18 04.3 +0.4
NKC AMS AMS 08 55 10.0
comp=Z,600nm,11.9s
U15A **North Rim** 73.92 54 P P 08 18 05.0 +0.7
baz=74,SNR=15
IRM **Iron Mountain** 73.94 57 P P 08 18 04.6 +0.2
baz=74,SNR=14
T16A **Glen Canyon Da** 73.95 53 ⇑P P 08 18 03.8 -0.7
baz=74
W13A **Hualapai Mount** 73.99 56 ⇓P P 08 18 04.7 0.0
baz=74,SNR=7.0
BZS **Buzias** 74.01 321 P P 08 18 04.8 +0.2
BZS **Buzias** 74.01 321 ⇓*i*P P 08 18 04.4 -0.2
BZS **Buzias** 74.01 321 ⇓P P 08 18 04.4 -0.2
V14A **Boquillas Ranc** 74.05 55 ⇓P P 08 18 05.5 +0.5
baz=74,SNR=14
MONP **Monument Peak** 74.11 59 ⇓P P 08 18 05.4 -0.1
baz=74
BAR **Barrett** 74.11 59 *e*P P 08 18 05.2 -0.2
comp=Z,11nm,0.9s,mb4.8
BC3 **Big Chuckw Mtn** 74.13 58 P P 08 18 05.3 -0.2
baz=74,SNR=12
R19A **Cuney Farm, L** 74.21 51 ⇑P P 08 18 05.7 -0.2
baz=74
UBBA **Unterbreizbach** 74.25 331 *e*P P 08 18 06.2 +0.3
comp=Z,16nm,0.9s,mb5.0
S18A **Hurst Farm, Bl** 74.26 52 P P 08 18 06.1 -0.1
baz=74,SNR=15
WTSB **Winterswijk** 74.31 333 *e*P P 08 18 06.2 -0.1
comp=Z,42nm,1.4s,mb5.2
KDHN **Kadinhani** 74.36 310 *i* P P 08 18 06.3 -0.5
W14A **Seligman** 74.36 55 ⇑P P 08 18 06.6 -0.2
baz=74,SNR=17
ROTZ **Rotzenmuhle** 74.37 329 *e*P P 08 18 07.2 +0.6
comp=Z,26nm,1.2s,mb5.0
X13A **Yucca** 74.39 56 P P 08 18 06.8 -0.3
baz=74,SNR=12
KHC **Kasperske Hory** 74.40 328 *e*P P 08 18 07.6 +0.8
KHC AMS AMS 08 53 30.0
comp=Z,600nm,19.1s
PDMCI **Parker Dam,Lak** 74.42 56 ⇓P P 08 18 06.6 -0.6
baz=74
V15A **Kaibab Nationa** 74.43 54 P P 08 18 08.1 +0.8
baz=74,SNR=8.6
SWSC **Sam W. Stewart** 74.44 58 ⇓P P 08 18 07.2 -0.2
baz=74
SOP **Soproni** 74.45 325 ⇑*e*P P 08 18 08.4 +1.2
DVTC **Desert V Tower** 74.46 59 ⇑P P 08 18 07.6 +0.1
baz=74
CONA **Conrad Observa** 74.53 326 ⇑*i*P P 08 18 08.6 +1.0
comp=Z,54nm,1.5s,mb5.2,SNR=15
CONA **Conrad Observa** 74.53 326 ⇑*i*pP pP 08 18 08.6 -1.4
comp=Z,54nm,1.5s,SNR=15
GEC2 **GERESS Array S** 74.59 327 *e*P P 08 18 08.3 +0.3
GEC2 pmax pmax
comp=Z,14nm,0.8s,mb4.9
GEC2 **GERESS Array S** 74.59 327 *e*P P 08 18 08.3 +0.3
comp=Z,14nm,0.8s,mb4.9
GERES **GERESS Array B** 74.59 327 P P 08 18 08.1 +0.1
comp=Z,6.1nm,0.6s,mb4.7,baz=36,slow=5.6,SNR=43
GERES LR LR 08 54 31.9
comp=Z,654nm,18.2s,MS5.0,baz=211,slow=39
GERES **GERESS Array B** 74.59 327 P P 08 18 08.1 +0.1
GERES pmax pmax
comp=Z,6.0nm,0.6s
GERES MLR MLR
comp=Z,654nm,18.2s
Y12C **Blythe** 74.60 57 P P 08 18 08.7 +0.5
baz=74,SNR=10
BUG **Bochum--Univer** 74.61 332 *e*P P 08 18 08.2 +0.2
comp=Z,154nm,2.0s,mb5.6
WET **Wettzell** 74.65 328 *e*P P 08 18 09.1 +0.8
WET pmax pmax
comp=Z,27nm,0.9s,mb5.2
WET **Wettzell** 74.65 328 *e*P P 08 18 09.1 +0.8
comp=Z,27nm,0.9s,mb5.2
S19A **Harvey Farm, M** 74.68 51 P P 08 18 08.6 0.0
baz=74,SNR=12
U17A **Shonto** 74.70 53 ⇑P P 08 18 08.5 -0.3
baz=74,SNR=11
T18A **Mexican Hat** 74.73 52 P P 08 18 08.6 -0.4
baz=74,SNR=16
U16A **Tuba City** 74.78 53 ⇑P P 08 18 08.9 -0.4
baz=74
GRA1 **Grafenberg Arr** 74.78 329 *e*P P 08 18 09.8 +0.8
comp=Z,51nm,0.8s,mb5.5
GRF **Grafenberg Arr** 74.78 329 *e*P P 08 18 09.8 +0.8
GRF pmax pmax
comp=Z,51nm,0.8s,mb5.5
GRF **Grafenberg Arr** 74.78 329 *e*P P 08 18 09.8 +0.8
GRF pmax pmax
comp=Z,51nm,0.8s,mb5.5
GRF **Grafenberg Arr** 74.78 329 *e*P P 08 18 09.8 +0.8
comp=Z,51nm,0.8s,mb5.5
PKSM **Moragy** 74.80 323 P P 08 18 09.4 +0.2
PKSM **Moragy** 74.80 323 ⇓*i*P P 08 18 08.6 -0.6
PKSM **Moragy** 74.80 323 ⇓P P 08 18 08.6 -0.7
W15A **Williams** 74.85 55 ⇓P P 08 18 09.7 0.0
baz=75
EYMN **Ely** 74.86 34 *e*P P 08 18 08.6 -0.9
comp=Z,24nm,1.1s,mb5.0
GLA **Glamis** 74.92 58 *e*P P 08 18 10.5 +0.3
GLA pmax pmax
comp=Z,16nm,0.9s,mb5.0
GLA **Glamis** 74.92 58 ⇓P P 08 18 10.0 -0.2
baz=75
GLA **Glamis** 74.92 58 *e*P P 08 18 10.5 +0.4
comp=Z,16nm,0.9s,mb5.0
Y13A **Salome** 74.95 57 ⇑P P 08 18 10.2 -0.1
baz=75
ISCO **Idaho Springs** 74.98 47 *e*P P 08 18 10.9 +0.5
ISCO pmax pmax
comp=Z,36nm,1.8s,mb5.0
ISCO **Idaho Springs** 74.98 47 *e*P P 08 18 10.9 +0.5
comp=Z,36nm,1.8s,mb5.0
X14A **Yava** 75.01 56 ⇓P P 08 18 10.7 0.0
baz=75
WUAZ **Wupatki** 75.10 54 ⇑P P 08 18 11.4 +0.2
baz=75
WUAZ **Wupatki** 75.10 54 *e*P P 08 18 11.9 +0.8
comp=Z,19nm,1.4s,mb4.8
MOA **Molln** 75.20 326 ⇑*i*P P 08 18 12.0 +0.5
comp=Z,12nm,0.8s,mb4.8,SNR=8.2
MOA **Molln** 75.20 326 ⇑*i*pP pP 08 18 12.0 -2.0
comp=Z,12nm,0.8s,SNR=8.2
ARSA **Arzberg** 75.21 325 ⇑*i*P P 08 18 12.4 +0.8
comp=Z,36nm,1.7s,mb5.0,SNR=11
ARSA **Arzberg** 75.21 325 ⇑*i*pP pP 08 18 12.4 -1.6
comp=Z,36nm,1.7s,SNR=11
U18A **Rough Rock, Ch** 75.26 52 ⇓P P 08 18 12.0 0.0
baz=75
TNS **Taunus Mts** 75.28 331 *e*P P 08 18 12.4 +0.5
TNS pmax pmax
comp=Z,37nm,1.4s,mb5.1
TNS **Taunus Mts** 75.28 331 *e*P P 08 18 12.4 +0.5
comp=Z,37nm,1.4s,mb5.1
W16A **Flagstaff** 75.32 54 ⇑P P 08 18 12.8 +0.4
baz=75
Y14A **Wickenburg** 75.33 56 ⇓P P 08 18 12.0 -0.5
baz=75
X15A **Humboldt** 75.37 55 P P 08 18 13.3 +0.6
baz=75,SNR=12
MVCO **Mesa Verde** 75.42 51 ⇓P P 08 18 12.9 0.0
baz=75
MVCO **Mesa Verde** 75.42 51 *e*P P 08 18 12.5 -0.4
comp=Z,11nm,0.7s,mb4.9
112A **Yuma** 75.44 58 ⇑P P 08 18 13.0 -0.2
baz=75
HGN **Heimansgroeve** 75.62 333 *e*P P 08 18 13.8 -0.1
comp=Z,38nm,1.8s,mb5.0
VTS **Vitosha** 75.67 318 ⇑*i*P P 08 18 14.9 +0.6
BEBN **Eben Emael** 75.68 333 P P 08 18 14.3 +0.1
comp=Z,12nm,1.3s,mb4.7
TOD **Tromm** 75.69 331 *e*P P 08 18 14.3 0.0
Y15A **Casa Rosa Ranc** 75.70 56 P P 08 18 15.0 +0.3
baz=76,SNR=11
MEM **Membach** 75.73 333 P P 08 18 14.4 -0.1
comp=Z,24nm,1.9s,mb4.8
113A **Mohawk Valley,** 75.74 57 ⇑P P 08 18 14.8 -0.1
baz=76
V18A **Ganado** 75.75 53 ⇑P P 08 18 14.9 0.0
baz=76,SNR=11
Z14A **Wintersburg** 75.78 56 ⇑P P 08 18 14.5 -0.6
baz=76
W17A **Winslow** 75.79 54 ⇓P P 08 18 15.7 +0.6
baz=76
KHAL **Karahalli** 75.84 311 *i* P P 08 18 16.2 +0.8
X16A **Lo Mia Camp, P** 75.86 55 ⇑P P 08 18 15.7 +0.1
baz=76,SNR=14
SOKA **Soboth** 75.87 325 ⇑*i*P P 08 18 15.9 +0.5
comp=Z,40nm,1.3s,mb5.2
SOKA **Soboth** 75.87 325 ⇑*i*pP pP 08 18 15.9 -1.9
comp=Z,40nm,1.3s
PERS **Pernice** 75.88 325 *i* P P 08 18 15.7 +0.3
SCHQ **Schefferville** 75.92 17 P P 08 18 14.6 -0.9
comp=Z,15nm,0.8s,mb5.0,baz=5.6,slow=5.3,SNR=13
SCHQ **Schefferville** 75.92 17 *e*P P 08 18 15.1 -0.4
comp=Z,41nm,1.1s,mb5.3
FUR **Furstenfeldbru** 76.05 328 *e*P P 08 18 17.0 +0.7
FUR pmax pmax
comp=Z,128nm,1.7s,mb5.6
FUR **Furstenfeldbru** 76.05 328 *e*P P 08 18 17.0 +0.7
comp=Z,128nm,1.7s,mb5.6
BCLA **Clavier** 76.12 333 P P 08 18 16.8 +0.1
comp=Z,19nm,1.8s,mb4.7
ECSD **EROS,Sioux Fal** 76.17 39 *e*P P 08 18 16.1 -1.1
comp=Z,30nm,1.4s,mb5.0
KBA **Koelnbreinsper** 76.19 327 *i* P P 08 18 18.0 +0.8
comp=Z,45nm,0.8s,mb5.4,SNR=23
KBA **Koelnbreinsper** 76.19 327 *i* pP pP 08 18 18.0 -1.6
comp=Z,45nm,0.8s,SNR=23
KBA **Koelnbreinsper** 76.19 327 *i* P P 08 18 18.0 +0.8
KBA pmax pmax
comp=Z,45nm,0.8s,mb5.5
OBKA **Obir** 76.20 325 ⇑*i*P P 08 18 17.6 +0.4
comp=Z,14nm,0.8s,mb4.9,SNR=7.2
OBKA **Obir** 76.20 325 ⇑*i*pP pP 08 18 17.6 -2.1
comp=Z,14nm,0.8s,SNR=7.2
V19A **Window Rock** 76.23 52 ⇓P P 08 18 18.0 +0.4
baz=76
Y16A **Circle Bar Ran** 76.24 55 ⇓P P 08 18 17.7 0.0
baz=76
STU **Stuttgart** 76.27 330 *e*P P 08 18 17.9 +0.3
comp=Z,48nm,1.2s,mb5.3
X17A **Forest Lakes** 76.28 54 ⇓P P 08 18 18.1 +0.1
baz=76
W18A **Petrified Fore** 76.30 53 ⇑P P 08 18 17.9 -0.1
baz=76
MYKA **Terra Mystica** 76.45 326 ⇑*i*P P 08 18 18.7 0.0
comp=Z,26nm,0.7s,mb5.3
W19A **Sanders** 76.49 53 ⇓P P 08 18 19.4 +0.2
baz=76
WLF **Walferdange** 76.51 332 P P 08 18 19.1 +0.1
comp=Z,29nm,2.1s,mb4.8
WLF **Walferdange** 76.51 332 *e*P P 08 18 19.8 +0.9
comp=Z,67nm,1.7s,mb5.3
GIVF **Givet** 76.55 333 *e*P P 08 18 18.6 -0.6
LANF **Langenberg** 76.56 331 *e*P P 08 18 19.1 -0.1
LJU **Ljubljana** 76.59 325 *i* P P 08 18 19.3 -0.2
LJU *i* pP 08 18 22.4 +0.4
MMAI **Mount Meron Ar** 76.61 304 P P 08 18 20.6 +0.8
comp=Z,8.3nm,0.7s,mb4.8,baz=51,slow=6.6,SNR=9.0
MMAI LR LR 08 56 08.6
comp=Z,650nm,18.8s,MS5.0,baz=65,slow=39
X18A **Snowflake** 76.61 54 ⇑P P 08 18 19.4 -0.4
baz=76
DOU **Dourbes** 76.62 333 P P 08 18 19.4 -0.1
comp=Z,16nm,1.8s,mb4.7
WATA **Walderalm** 76.64 328 ⇑*i*P P 08 18 20.4 +0.7
comp=Z,17nm,0.7s,mb5.1
WATA **Walderalm** 76.64 328 ⇑*i*pP pP 08 18 20.4 -1.8
comp=Z,17nm,0.7s
WATA **Walderalm** 76.64 328 ⇑*i*P P 08 18 20.4 +0.7
WATA pmax pmax
comp=Z,17nm,0.7s,mb5.1
WTTA **Wattenberg** 76.67 328 ⇑*i*P P 08 18 20.8 +0.9
comp=Z,50nm,0.9s,mb5.4,SNR=13
WTTA **Wattenberg** 76.67 328 ⇑*i*pP pP 08 18 20.8 -1.5
comp=Z,50nm,0.9s,SNR=13
WTTA **Wattenberg** 76.67 328 ⇑*i*P P 08 18 20.8 +0.9
WTTA pmax pmax
comp=Z,50nm,0.9s,mb5.4
Y17A **Roosevelt** 76.73 55 ⇓P P 08 18 21.0 +0.5
baz=76
BOJS **Bojanci** 76.75 324 *i* P P 08 18 20.3 -0.1
BAIF **Baives** 76.78 333 *e*P P 08 18 19.8 -0.6
ABTA **Abfaltersbach** 76.78 327 ⇑*i*P P 08 18 20.3 -0.3
comp=Z,20nm,1.2s,mb4.9
MOTA **Moosalm** 76.80 328 ⇑*i*P P 08 18 21.3 +0.7
comp=Z,69nm,1.1s,mb5.5,SNR=21
MOTA **Moosalm** 76.80 328 ⇑*i*pP pP 08 18 21.3 -1.8
comp=Z,69nm,1.1s,SNR=21
MOTA **Moosalm** 76.80 328 ⇑*i*P P 08 18 21.3 +0.7
MOTA pmax pmax
comp=Z,69nm,1.1s,mb5.5
RETA **Reutte** 76.81 328 ⇑*i*P P 08 18 21.2 +0.5
comp=Z,39nm,1.1s,mb5.3,SNR=13
RETA **Reutte** 76.81 328 ⇑*i*pP pP 08 18 21.2 -1.9
comp=Z,39nm,1.1s,SNR=13
STIP **Stip** 76.84 318 ⇓*e*Pdi 08 18 19.5
SQTA **Sankt Quirin** 76.87 328 ⇑*i*P P 08 18 21.9 +0.9
SQTA **Sankt Quirin** 76.87 328 ⇑*i*pP pP 08 18 21.9 -1.5
214A **Organ Pipe Nat** 76.89 57 ⇓P P 08 18 21.5 +0.1
baz=77
JAVS **Javornik** 76.90 325 *i* P P 08 18 20.5 -0.7
BFO **Black Forest** 76.94 330 P P 08 18 21.3 -0.1
comp=Z,139nm,1.0s,mb5.8,SNR=10
BFO **Black Forest** 76.94 330 *e*P P 08 18 21.7 +0.3
BFO pmax pmax
comp=Z,104nm,1.8s,mb5.5
BFO **Black Forest** 76.94 330 *e*P P 08 18 21.7 +0.3
comp=Z,104nm,1.8s,mb5.5
VAY **Valandovo** 76.96 318 ⇓*e*Pdi 08 18 20.1
SKO **Skopje** 76.97 319 ⇓*e*Pdi 08 18 21.9
SPAK **Spaichingen-Ko** 76.98 330 *e*P P 08 18 21.9 +0.3
X19A **St. Johns** 77.05 53 P P 08 18 22.9 +0.6
baz=77,SNR=13
116A **Eloy** 77.08 56 ⇑P P 08 18 22.3 -0.2
baz=77
Y18A **Canyon Day Jun** 77.12 54 P P 08 18 23.4 +0.7
baz=77,SNR=8.0
FETA **Feichten** 77.21 328 ⇓*i*P P 08 18 23.6 +0.6
comp=Z,42nm,1.2s,mb5.3,SNR=21
FETA **Feichten** 77.21 328 ⇓*i*pP pP 08 18 23.6 -1.8
comp=Z,42nm,1.2s,SNR=21
CDF **Champ du Feu** 77.23 331 *e*P P 08 18 22.7 -0.3
comp=Z,149nm,1.6s,mb5.4
CDF **Champ du Feu** 77.23 331 *e*P P 08 18 22.7 -0.3
CDF pmax pmax
comp=Z,74nm,1.6s,mb5.4
CDF **Champ du Feu** 77.23 331 *e*P P 08 18 22.7 -0.3
comp=Z,74nm,1.6s,mb5.4
DAVA **Damuels** 77.29 329 *i* P P 08 18 24.1 +0.7
comp=Z,31nm,0.7s,mb5.4,SNR=10
DAVA **Damuels** 77.29 329 *i* pP pP 08 18 24.1 -1.8
comp=Z,31nm,0.7s,SNR=10
COWI **Conover** 77.30 34 *e*P P 08 18 23.9 +0.4
comp=Z,69nm,1.8s,mb5.3
Y19A **Nutrioso** 77.42 54 ⇑P P 08 18 24.8 +0.4
baz=77
ECH **Echery** 77.44 331 *e*P P 08 18 24.1 -0.1
ECH **Echery** 77.44 331 *e*P P 08 18 24.3 +0.1
FELD **Feldberg im Sc** 77.44 330 *e*P P 08 18 24.3 +0.1
KRUS **Krusevo** 77.53 318 ⇓*e*Pdi 08 18 25.0
117A **Oracle** 77.62 56 P P 08 18 25.7 +0.2
baz=77,SNR=6.5
216A **Three Points,** 77.63 56 P P 08 18 26.1 +0.5
baz=77,SNR=8.1
DAVOX **Davos/Dischmat** 77.72 328 LR LR 08 53 46.7
comp=Z,506nm,18.7s,MS4.9,baz=252,slow=36
TUC **Tucson** 77.79 56 *e*P P 08 18 26.8 +0.4
TUC pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
TUC **Tucson** 77.79 56 *e*P P 08 18 26.8 +0.4
comp=Z,6.4nm,1.2s,mb4.4
THEF **They Montfort** 77.82 331 *e*P P 08 18 26.0 -0.3
MEZF **Maizieres J'vi** 77.88 332 *e*P P 08 18 26.5 -0.2
HINF **Hinteralfeld** 77.89 331 *e*P P 08 18 25.9 -0.8
comp=Z,16nm,0.6s,mb4.8
HINF **Hinteralfeld** 77.89 331 *e*P P 08 18 25.9 -0.8
HINF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
HINF **Hinteralfeld** 77.89 331 *e*P P 08 18 25.9 -0.8
comp=Z,8.1nm,0.6s,mb4.8
HAU **Haudompre** 77.89 331 *e*P P 08 18 26.2 -0.5
comp=Z,59nm,1.2s,mb5.1
HAU *e*MLR MLR
comp=Z,402nm,18.5s,MS4.5
HAU **Haudompre** 77.89 331 *e*P P 08 18 26.2 -0.5
HAU pmax pmax
comp=Z,30nm,1.2s,mb5.1
HAU MLR MLR
comp=Z,400nm,18.5s,MS4.8
HAU **Haudompre** 77.89 331 *e*P P 08 18 26.2 -0.5
comp=Z,30nm,1.2s,mb5.1
HAU LR LR
comp=Z,400nm,18.5s,MS4.8
Z19A **T-Link Ranch,** 77.91 54 ⇑P P 08 18 27.4 +0.3
baz=78
OHR **Ohrid** 77.94 318 ⇓*e*Pdi 08 18 24.8
BBS **Basel-Blauen** 77.97 330 *e*P P 08 18 27.3 +0.1
118A **Homack Ranch,** 78.00 55 ⇓P P 08 18 27.7 0.0
baz=78
217A **Green Valley** 78.17 56 P P 08 18 29.2 +0.7
baz=78,SNR=9.9
TUE **Stuetta** 78.18 329 *e*P P 08 18 28.8 +0.4
comp=Z,17nm,0.8s,mb5.0
ANMO **Albuquerque** 78.20 51 *e*P P 08 18 29.0 +0.3
ANMO pmax pmax

comp=Z,24nm,1.6s
ANMO Albuquerque 78.20 51 eP **P 08 18 29.0 +0.3**
comp=Z,24nm,1.6s,mb4.9
LAZ Ladron 78.25 52 eP **P 08 18 29.8 +0.8**
119A Ashpeak Ranch, 78.28 54 ⇓P **P 08 18 29.6 +0.4**
baz=78
STKA Stephens Creek 78.29 180 eP **P 08 18 28.3 -0.6**
comp=Z,5.6nm,0.9s,mb4.5
STKA Stephens Creek 78.29 180 P **P 08 18 28.7 -0.2**
comp=Z,6.9nm,1.0s,mb4.6,baz=317,slow=3.8,SNR=5.6
LOMF Lomont 78.30 331 eP **P 08 18 29.1 +0.1**
218A Dragoon 78.45 55 ⇓P **P 08 18 30.2 +0.1**
baz=78
LPM Los Pinos Moun 78.59 52 eP **P 08 18 31.5 +0.6**
BNM Barren Site 78.71 52 eP **P 08 18 32.2 +0.7**
219A White Tail Can 78.88 55 P **P 08 18 32.6 +0.2**
baz=79,SNR=15
318A Bisbee 78.89 56 P **P 08 18 32.8 +0.2**
baz=79,SNR=9.6
SCIA State Center 79.12 38 eP **P 08 18 33.0 -0.7**
comp=Z,106nm,1.8s,mb5.5
CABF La Chapelle 79.19 331 eP **P 08 18 33.3 -0.6**
FLN La Foliniere 79.32 336 eP **P 08 18 33.9 -0.7**
comp=Z,138nm,1.4s,mb5.4
FLN eMLR MLR
comp=Z,387nm,21.0s,MS4.4
FLN La Foliniere 79.32 336 eP **P 08 18 33.9 -0.7**
FLN pmax pmax
comp=Z,69nm,1.4s,mb5.4
FLN MLR MLR
comp=Z,390nm,21.0s,MS4.7
FLN La Foliniere 79.32 336 eP **P 08 18 33.9 -0.7**
comp=Z,69nm,1.4s,mb5.4
FLN LR LR
comp=Z,390nm,21.0s,MS4.7
EIL Elat 79.33 302 P **P 08 18 35.1 +0.2**
comp=Z,12nm,0.9s,mb4.8,baz=1.6,slow=4.5,SNR=18
EIL LR LR 08 57 42.2
comp=Z,367nm,18.2s,MS4.8,baz=276,slow=39
319A Douglas 79.33 55 P **P 08 18 35.3 +0.3**
baz=79,SNR=14
LOR Lormes 79.35 332 eP **P 08 18 34.2 -0.6**
comp=Z,221nm,1.4s,mb5.6
LOR eMLR MLR
comp=Z,510nm,22.0s,MS4.5
LOR Lormes 79.35 332 eP **P 08 18 34.2 -0.6**
LOR pmax pmax
comp=Z,111nm,1.4s,mb5.6
LOR MLR MLR
comp=Z,510nm,22.0s,MS4.8
LOR Lormes 79.35 332 eP **P 08 18 34.2 -0.6**
comp=Z,110nm,1.4s,mb5.6
LOR LR LR
comp=Z,510nm,22.0s,MS4.8
LDF La Druitiere 79.37 335 eP **P 08 18 34.2 -0.7**
comp=Z,173nm,1.4s,mb5.5
LDF La Druitiere 79.37 335 eP **P 08 18 34.2 -0.7**
LDF pmax pmax
comp=Z,87nm,1.4s,mb5.5
LDF La Druitiere 79.37 335 eP **P 08 18 34.2 -0.7**
comp=Z,87nm,1.4s,mb5.5
SSF Saint Saulge 79.64 332 eP **P 08 18 35.4 -1.0**
comp=Z,48nm,1.1s,mb5.0
SSF Saint Saulge 79.64 332 eP **P 08 18 35.4 -1.0**
SSF pmax pmax
comp=Z,24nm,1.1s,mb5.0
SSF Saint Saulge 79.64 332 eP **P 08 18 35.4 -1.0**
comp=Z,24nm,1.1s,mb5.0
GRR Gorron 79.77 336 eP **P 08 18 36.3 -0.7**
comp=Z,138nm,1.2s,mb5.5
GRR Gorron 79.77 336 eP **P 08 18 36.3 -0.7**
GRR pmax pmax
comp=Z,69nm,1.2s,mb5.5
GRR Gorron 79.77 336 eP **P 08 18 36.3 -0.7**
comp=Z,69nm,1.2s,mb5.5
SMF Signal de Mont 79.90 332 eP **P 08 18 37.3 -0.5**
comp=Z,248nm,1.4s,mb5.7
SMF Signal de Mont 79.90 332 eP **P 08 18 37.3 -0.5**
SMF pmax pmax
comp=Z,124nm,1.4s,mb5.7
SMF Signal de Mont 79.90 332 eP **P 08 18 37.3 -0.5**
comp=Z,124nm,1.4s,mb5.7
LPL La Plagne 79.93 330 eP **P 08 18 37.5 -0.4**
AVF Avril sur Loir 79.93 332 eP **P 08 18 37.6 -0.4**
comp=Z,259nm,1.5s,mb5.7
AVF Avril sur Loir 79.93 332 eP **P 08 18 37.6 -0.4**
AVF pmax pmax
comp=Z,130nm,1.5s,mb5.6
AVF Avril sur Loir 79.93 332 eP **P 08 18 37.6 -0.4**
comp=Z,130nm,1.5s,mb5.6
LPG La Plagne 79.94 330 eP **P 08 18 37.6 -0.4**
comp=Z,53nm,0.8s,mb5.2
LPG La Plagne 79.94 330 eP **P 08 18 37.6 -0.4**
LPG pmax pmax
comp=Z,27nm,0.8s,mb5.2
LPG La Plagne 79.94 330 eP **P 08 18 37.6 -0.4**
comp=Z,27nm,0.8s,mb5.2
GLMI Grayling 80.05 32 eP **P 08 18 38.3 -0.4**
comp=Z,44nm,1.4s,mb5.2
AQU L'Aquila 80.11 324 eP **P 08 18 39.3 +0.3**
AQU pmax pmax
comp=Z,62nm,1.1s,mb5.5
AQU L'Aquila 80.11 324 ⇑iP **P 08 18 39.5 +0.5**
AQU L'Aquila 80.11 324 eP **P 08 18 39.3 +0.3**
comp=Z,62nm,1.1s,mb5.5
BGF Bois d'Agland 80.30 333 eP **P 08 18 39.6 -0.3**
comp=Z,44nm,0.9s,mb5.1
BGF Bois d'Agland 80.30 333 eP **P 08 18 39.6 -0.3**
BGF pmax pmax
comp=Z,22nm,0.9s,mb5.1
BGF Bois d'Agland 80.30 333 eP **P 08 18 39.6 -0.3**
comp=Z,22nm,0.9s,mb5.1
BNI Bardonecchia 80.35 329 eP **P 08 18 41.0 +0.8**
BNI pmax pmax
comp=Z,28nm,1.0s,mb5.2
BNI Bardonecchia 80.35 329 eP **P 08 18 41.0 +0.7**
comp=Z,28nm,1.0s,mb5.1
SGMF Saint Gilles 80.36 337 eP **P 08 18 40.2 0.0**
ROSF Rostrenen 80.48 337 eP **P 08 18 40.6 -0.3**
comp=Z,166nm,1.3s,mb5.5
ROSF Rostrenen 80.48 337 eP **P 08 18 40.6 -0.3**
ROSF pmax pmax
comp=Z,83nm,1.3s,mb5.5
ROSF Rostrenen 80.48 337 eP **P 08 18 40.6 -0.3**
comp=Z,83nm,1.3s,mb5.5
IDI Anoyia 80.56 312 P **P 08 18 41.6 +0.1**
comp=Z,9.3nm,0.6s,mb4.9,baz=38,slow=8.0,SNR=5.2
MBDF Montbardon 80.60 329 eP **P 08 18 41.4 -0.2**
comp=Z,19nm,0.8s,mb4.8
MBDF Montbardon 80.60 329 eP **P 08 18 41.4 -0.2**
MBDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MBDF Montbardon 80.60 329 eP **P 08 18 41.4 -0.2**
comp=Z,9.3nm,0.8s,mb4.8
AGO Saint Agoulin 80.66 332 eP **P 08 18 42.0 +0.1**
TCF Toulx Ste Croi 80.74 333 eP **P 08 18 41.7 -0.6**
comp=Z,87nm,1.2s,mb5.2
TCF Toulx Ste Croi 80.74 333 eP **P 08 18 41.7 -0.6**
TCF pmax pmax
comp=Z,44nm,1.2s,mb5.3
TCF Toulx Ste Croi 80.74 333 eP **P 08 18 41.7 -0.6**
comp=Z,44nm,1.2s,mb5.3
ORIF Oris-en-Rattie 80.74 330 eP **P 08 18 42.5 +0.1**
comp=Z,34nm,0.8s,mb5.0
ORIF eMLR MLR
comp=Z,588nm,22.2s,MS4.6
ORIF Oris-en-Rattie 80.74 330 eP **P 08 18 42.5 +0.1**
ORIF pmax pmax
comp=Z,17nm,0.8s,mb5.0
ORIF Oris-en-Rattie 80.74 330 eP **P 08 18 42.5 +0.1**
comp=Z,17nm,0.8s,mb5.0
AMTX Amarillo 80.75 48 eP **P 08 18 42.6 0.0**
comp=Z,47nm,1.5s,mb5.2
QUIF Quistinic 80.83 337 eP **P 08 18 42.3 -0.5**
SSB Saint Sauveur 80.88 331 eP **P 08 18 43.1 0.0**
COLF Collangettes 80.95 332 eP **P 08 18 43.8 +0.4**
KLBR Kellerberrin 80.96 201 eP **P 08 18 42.6 -0.8**
comp=Z,97nm,1.8s,mb5.4
SAOF Saorge 80.96 328 eP **P 08 18 42.8 -0.8**
PYM Petit Puy Mans 80.97 332 eP **P 08 18 43.6 +0.1**
AUTN L'Aution 81.00 328 eP **P 08 18 43.0 -0.8**
TOUF Mont Tournerai 81.05 329 eP **P 08 18 43.5 -0.5**
SBF Sospel 81.11 328 eP **P 08 18 43.4 -1.0**
LUCF Luceram 81.12 328 eP **P 08 18 43.8 -0.6**
MFF Saint Martin d 81.18 334 eP **P 08 18 44.0 -0.6**
MVIF Mont Vial 81.19 329 eP **P 08 18 43.9 -0.8**

VIVF Saint-Julien-l 81.21 331 eP **P 08 18 44.0 -0.8**
comp=Z,51nm,1.0s,mb5.1
VIVF Saint-Julien-l 81.21 331 eP **P 08 18 44.0 -0.8**
VIVF pmax pmax
comp=Z,26nm,1.0s,mb5.1
VIVF Saint-Julien-l 81.21 331 eP **P 08 18 44.0 -0.8**
comp=Z,26nm,1.0s,mb5.1
OCF Saint Nazaire 81.24 330 eP **P 08 18 45.6 +0.6**
OG26 St.-Nazaire-De 81.24 330 eP **P 08 18 45.6 +0.6**
REVF Revere 81.24 328 eP **P 08 18 44.4 -0.7**
TIP Timpagrande 81.32 320 eP **P 08 18 45.0 -0.5**
comp=Z,33nm,1.4s,mb5.1
LBL Lubilhac 81.35 332 eP **P 08 18 46.1 +0.5**
CALN Calern 81.41 329 eP **P 08 18 45.3 -0.6**
FRF La Foret Royal 81.66 329 eP **P 08 18 46.4 -0.9**
PGF Pioggiola 81.67 327 eP **P 08 18 46.5 -0.8**
comp=Z,106nm,1.7s,mb5.2
PGF Pioggiola 81.67 327 eP **P 08 18 46.5 -0.8**
PGF pmax pmax
comp=Z,53nm,1.7s,mb5.2
PGF Pioggiola 81.67 327 eP **P 08 18 46.5 -0.8**
comp=Z,53nm,1.7s,mb5.2
SMRF Simiane la Rot 81.67 330 eP **P 08 18 47.0 -0.3**
comp=Z,85nm,1.5s,mb5.2
SMRF Simiane la Rot 81.67 330 eP **P 08 18 47.0 -0.3**
comp=Z,85nm,1.5s,mb5.5
RJF Les Rejaudoux 81.84 333 eP **P 08 18 47.5 -0.7**
RJF eMLR MLR
comp=Z,617nm,20.8s,MS4.7
RJF Les Rejaudoux 81.84 333 eP **P 08 18 47.5 -0.7**
RJF LR LR
comp=Z,620nm,20.8s,MS5.0
HDIL Hopedale 81.89 37 eP **P 08 18 47.6 -0.9**
comp=Z,71nm,1.4s,mb5.4
LMR La Mourre 81.91 329 eP **P 08 18 47.7 -0.9**
comp=Z,94nm,1.3s,mb5.3
LMR La Mourre 81.91 329 eP **P 08 18 47.7 -0.9**
LMR pmax pmax
comp=Z,47nm,1.3s,mb5.3
LMR La Mourre 81.91 329 eP **P 08 18 47.7 -0.9**
comp=Z,47nm,1.3s,mb5.3
CAF Calviac 82.00 332 eP **P 08 18 49.6 +0.6**
comp=Z,137nm,1.5s,mb5.4
CAF Calviac 82.00 332 eP **P 08 18 49.6 +0.6**
CAF pmax pmax
comp=Z,69nm,1.5s,mb5.4
CAF Calviac 82.00 332 eP **P 08 18 49.6 +0.6**
comp=Z,69nm,1.5s,mb5.4
LASF Ste Croix 82.17 331 eP **P 08 18 49.0 -0.9**
WMOK Wichita Mounta 82.33 46 eP **P 08 18 50.3 -0.7**
WMOK pmax pmax
comp=Z,29nm,1.5s,mb5.0
WMOK Wichita Mounta 82.33 46 eP **P 08 18 50.3 -0.7**
comp=Z,29nm,1.5s,mb5.0
LFF La Frestale 82.41 333 eP **P 08 18 51.4 +0.2**
CEL Celeste 82.46 320 eP **P 08 18 52.4 +0.9**
comp=Z,29nm,1.1s,mb5.1
SLM Saint Louis 83.10 38 eP **P 08 18 53.6 -1.3**
SLM pmax pmax
comp=Z,52nm,1.7s,mb5.3
SLM Saint Louis 83.10 38 eP **P 08 18 53.6 -1.3**
comp=Z,52nm,1.7s,mb5.3
CCM Cathedral Cave 83.15 39 eP **P 08 18 54.4 -0.8**
CCM pmax pmax
comp=Z,27nm,1.4s,mb5.1
CCM Cathedral Cave 83.15 39 eP **P 08 18 54.4 -0.8**
comp=Z,27nm,1.4s,mb5.1
MTLF Montolieu 83.37 332 eP **P 08 18 55.1 -1.1**
comp=Z,16nm,0.8s,mb4.8
MTLF Montolieu 83.37 332 eP **P 08 18 55.1 -1.1**
MTLF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
MTLF Montolieu 83.37 332 eP **P 08 18 55.1 -1.1**
comp=Z,8.0nm,0.8s,mb4.8
FVM French Village 83.57 39 eP **P 08 18 56.0 -1.3**
FVM e pP 08 18 59.8 0.0
FVM pmax pmax
comp=Z,21nm,1.4s,mb5.1
FVM French Village 83.57 39 eP **P 08 18 56.0 -1.3**
comp=Z,20nm,1.4s,mb5.1
FVM ePcP PcP 08 18 59.8 -1.8
OLIL Olney 83.92 37 eP **P 08 18 59.1 0.0**
comp=Z,30nm,1.2s,mb5.3
TXAR Lajitas Array 84.02 53 P **P 08 18 59.6 -0.2**
comp=Z,11nm,0.8s,mb5.1,baz=291,slow=3.7,SNR=68
TXAR Lajitas Array 84.02 53 P **P 08 18 59.6 -0.2**
TXAR pmax pmax
comp=Z,11nm,0.8s
MLS Moulis 84.08 332 eP **P 08 19 00.3 +0.5**
BLO Bloomington 84.19 36 eP **P 08 19 00.4 -0.1**
BLO pmax pmax
comp=Z,4.0nm,0.4s,mb4.9
BLO Bloomington 84.19 36 eP **P 08 19 00.4 0.0**
comp=Z,4.2nm,0.4s,mb4.9
NCB Newcomb 84.21 25 eP **P 08 18 59.6 -0.9**
comp=Z,23nm,1.3s,mb5.1
EPF Esparros 84.25 333 eP **P 08 19 00.1 -0.6**
comp=Z,26nm,0.7s,mb5.1
EPF Esparros 84.25 333 eP **P 08 19 00.1 -0.6**
EPF pmax pmax
comp=Z,13nm,0.7s,mb5.2
EPF Esparros 84.25 333 eP **P 08 19 00.1 -0.6**
comp=Z,13nm,0.7s,mb5.2
SIUC Southern Illin 84.31 38 eP **P 08 19 00.4 -0.7**
comp=Z,25nm,0.8s,mb5.4
PKME Peaks-Kenny Pk 84.35 21 eP **P 08 19 00.7 -0.5**
comp=Z,37nm,1.4s,mb5.3
RESF Ens 84.45 333 eP **P 08 19 03.1 +1.4**
MDV Middlebury 84.48 25 eP **P 08 19 00.5 -1.3**
LBNH Lisbon 84.61 24 eP **P 08 19 03.7 +1.2**
LBNH pmax pmax
comp=Z,105nm,2.3s,mb5.6
LBNH Lisbon 84.61 24 eP **P 08 19 03.6 +1.1**
comp=Z,105nm,2.3s,mb5.6
EBIE Bielsa 84.62 333 P **P 08 19 03.5 +0.9**
comp=Z,24nm,1.0s,mb5.3
ACSO Alum Creek Sta 84.64 33 eP **P 08 19 01.7 -1.1**
comp=Z,32nm,1.0s,mb5.4
EALK Alkurruntz 84.65 334 P **P 08 19 02.6 -0.1**
comp=Z,66nm,1.6s,mb5.5
ETSF Etsaut 84.65 333 eP **P 08 19 02.3 -0.4**
comp=Z,127nm,1.4s,mb5.6
ETSF Etsaut 84.65 333 eP **P 08 19 02.3 -0.4**
ETSF pmax pmax
comp=Z,63nm,1.4s,mb5.5
ETSF Etsaut 84.65 333 eP **P 08 19 02.3 -0.4**
comp=Z,63nm,1.4s,mb5.6
SJPF Ste Jean 84.66 334 eP **P 08 19 02.1 -0.7**
ELIZ Elizondo 84.71 334 P **P 08 19 03.2 +0.2**
ELIZ pmax pmax
comp=Z,15nm,0.9s,mb5.1
ELIZ Elizondo 84.71 334 P **P 08 19 03.2 +0.2**
comp=Z,15nm,0.9s,mb5.1
USIN University of 84.75 37 eP **P 08 19 02.7 -0.7**
comp=Z,29nm,1.2s,mb5.3
EMIR Miracle 84.87 331 P **P 08 19 03.0 -0.9**
comp=Z,119nm,1.8s,mb5.7
ACCN Adirondack Com 84.91 25 eP **P 08 19 03.1 -0.9**
comp=Z,27nm,1.3s,mb5.2
PARMO Parma 84.97 39 eP **P 08 19 04.2 -0.3**
MIAR Mount Ida 85.00 43 eP **P 08 19 04.5 -0.2**
MIAR pmax pmax
comp=Z,63nm,1.6s,mb5.5
MIAR Mount Ida 85.00 43 eP **P 08 19 04.5 -0.2**
comp=Z,63nm,1.6s,mb5.5
WCI Wyandotte Cave 85.09 36 eP **P 08 19 04.3 -0.7**
WCI pmax pmax
comp=Z,15nm,0.9s,mb5.1
WCI Wyandotte Cave 85.09 36 eP **P 08 19 04.3 -0.7**
comp=Z,15nm,0.9s,mb5.1
JCT Junction City 85.19 50 eP **P 08 19 04.9 -0.8**
JCT pmax pmax
comp=Z,5.0nm,0.3s,mb5.1
JCT Junction City 85.19 50 eP **P 08 19 04.9 -0.8**
comp=Z,5.2nm,0.3s,mb5.1
ELAN Lanestosa 85.21 335 P **P 08 19 05.7 +0.1**
comp=Z,27nm,1.0s,mb5.3
BINY Binghamton 85.29 27 eP **P 08 19 04.9 -1.1**
comp=Z,15nm,1.1s,mb5.0
FFD Franklin Falls 85.40 24 eP **P 08 19 06.0 -0.5**
comp=Z,13nm,0.7s,mb5.2
HBAR Harrisburg 85.50 40 eP **P 08 19 07.4 +0.2**
ECRI Cripan 85.51 334 P **P 08 19 07.9 +0.9**
ECRI pmax pmax
comp=Z,48nm,1.3s,mb5.6
ECRI Cripan 85.51 334 P **P 08 19 07.9 +0.8**

comp=Z,48nm,1.3s,mb5.6
EPOB Poblet 85.52 331 P **P 08 19 07.7 +0.6**
comp=Z,26nm,0.9s,mb5.5
EARI Arriondas 85.64 336 P **P 08 19 07.5 -0.2**
comp=Z,45nm,1.1s,mb5.6
ESAC San Caprasio 85.69 333 P **P 08 19 08.5 +0.6**
comp=Z,52nm,0.6s,mb5.9
ERTA Horta de San J 86.12 332 P **P 08 19 11.8 +1.7**
comp=Z,143nm,1.5s,mb6.0
EPON Pontenova 86.14 338 P **P 08 19 09.4 -0.8**
comp=Z,130nm,1.7s,mb5.9
ETOS Mallorca 86.35 329 P **P 08 19 11.7 +0.4**
comp=Z,26nm,0.8s,mb5.5
WES Weston 86.50 24 eP **P 08 19 11.3 -0.6**
WES pmax pmax
comp=Z,37nm,1.0s,mb5.6
WES Weston 86.50 24 eP **P 08 19 11.3 -0.6**
comp=Z,37nm,1.0s,mb5.6
EMOS Mosqueruela 86.92 332 P **P 08 19 13.9 -0.2**
comp=Z,86nm,1.6s,mb5.7
OXF Oxford 86.93 40 eP **P 08 19 13.4 -0.8**
OXF pmax pmax
comp=Z,29nm,1.0s,mb5.5
OXF Oxford 86.93 40 eP **P 08 19 13.4 -0.8**
comp=Z,29nm,1.0s,mb5.5
ETOR Torete 87.01 333 P **P 08 19 14.3 -0.2**
ETOR pmax pmax
comp=Z,16nm,0.7s,mb5.4
ETOR Torete 87.01 333 P **P 08 19 14.3 -0.1**
comp=Z,16nm,0.7s,mb5.3
ERUA La Rua 87.01 337 P **P 08 19 14.1 -0.3**
ERUA pmax pmax
comp=Z,15nm,1.2s,mb5.1
ERUA La Rua 87.01 337 P **P 08 19 14.1 -0.4**
comp=Z,15nm,1.2s,mb5.1
PAL Palisades 87.01 26 eP **P 08 19 13.6 -0.9**
PAL pmax pmax
comp=Z,57nm,1.9s,mb5.5
PAL Palisades 87.01 26 eP **P 08 19 13.6 -0.9**
comp=Z,57nm,1.9s,mb5.5
PLAL Pickwick Lake 87.11 39 eP **P 08 19 14.0 -1.1**
comp=Z,20nm,1.1s,mb5.3
KEST Kesra 87.39 323 P **P 08 19 16.1 -0.4**
comp=Z,2.4nm,0.6s,mb4.6,baz=331,slow=2.3,SNR=10
KEST LR LR 08 59 32.8
comp=Z,129nm,18.5s,MS4.4,baz=356,slow=36
TZTN Tazewell 87.64 35 eP **P 08 19 17.2 -0.4**
comp=Z,30nm,1.3s,mb5.4
SWET Sewanee 87.82 37 eP **P 08 19 17.7 -0.8**
ELN Prospectdale 88.11 33 eP **P 08 19 19.0 -0.8**
MVO Moncorvo 88.12 337 eP **P 08 19 19.3 -0.5**
comp=Z,41nm,1.2s,mb5.5
MVO Moncorvo 88.12 337 eLQ 08 55 58.0
MVO eLR LR 08 58 53.5
comp=Z,258nm,16.0s
CPCT Cooper Cave 88.20 36 eP **P 08 19 19.7 -0.6**
BLA Blacksburg 88.24 32 eP **P 08 19 19.9 -0.6**
BLA pmax pmax
comp=Z,75nm,1.8s,mb5.6
BLA Blacksburg 88.24 32 eP **P 08 19 19.9 -0.6**
comp=Z,75nm,1.8s,mb5.6
TKL Tuckaleechee C 88.32 36 eP **P 08 19 20.2 -0.6**
VBMS Vicksburg 88.35 42 eP **P 08 19 21.1 0.0**
comp=Z,42nm,1.1s,mb5.6
ESDC Sonseca Array 88.64 334 P **P 08 19 22.3 0.0**
comp=Z,7.4nm,0.6s,mb5.2,baz=15,slow=4.3,SNR=12
ESDC LR LR 09 01 18.9
comp=Z,371nm,18.2s,MS4.8,baz=15,slow=37
ETOB Tobarra 88.83 332 P **P 08 19 25.3 +2.1**
comp=Z,5.6nm,0.8s,mb5.0
PPT Papeete 88.84 117 eLQ 08 43 23.5
comp=Z,264nm,27.8s
PPT eLR LR 08 47 04.7
comp=Z,747nm,25.0s,baz=322
PPT Papeete 88.84 117 LR LR 08 57 50.6
comp=Z,226nm,19.4s,MS4.6,baz=144,slow=35
PAB San Pablo 88.87 334 eP **P 08 19 23.3 -0.1**
PAB pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
PAB San Pablo 88.87 334 eP **P 08 19 23.3 -0.1**
comp=Z,9.9nm,0.8s,mb5.2
MTE Manteigas 88.98 337 eP **P 08 19 23.6 -0.3**
comp=Z,37nm,1.4s,mb5.5
MTE Manteigas 88.98 337 eLQ 08 55 52.3
MTE eLR LR 08 59 17.7
comp=Z,251nm,18.0s
EVIA Vianos 89.14 333 P **P 08 19 24.9 +0.3**
EVIA pmax pmax
comp=Z,12nm,0.6s,mb5.4
EVIA Vianos 89.14 333 P **P 08 19 24.9 +0.3**
comp=Z,12nm,0.6s,mb5.4
PMRV Marv??o 89.84 337 eP **P 08 19 27.5 -0.4**
comp=Z,22nm,1.4s,mb5.3
PMRV Marv??o 89.84 337 eLQ 08 57 07.6
EBAN Banos Encina 89.97 333 P **P 08 19 30.9 +2.3**
EBAN pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
EBAN Banos Encina 89.97 333 P **P 08 19 30.9 +2.3**
comp=Z,5.7nm,0.7s,mb5.0
EQES Quesada 90.08 333 P **P 08 19 30.9 +1.8**
comp=Z,6.2nm,0.6s,mb5.1
EADA Adamuz 90.21 334 P **P 08 19 28.6 -1.0**
comp=Z,14nm,1.0s,mb5.2
EBAD Badajoz 90.37 336 P **P 08 19 29.4 -1.0**
comp=Z,5.5nm,1.0s,mb4.8
GOGA Godfrey 90.40 36 eP **P 08 19 30.4 -0.2**
GOGA e 08 23 05.2
GOGA pmax pmax
comp=Z,33nm,1.4s,mb5.5
GOGA Godfrey 90.40 36 eP **P 08 19 30.4 -0.3**
comp=Z,33nm,1.4s,mb5.5
GOGA ePP PP 08 23 05.2 +1.2
PESTR Estremoz 90.42 337 eLQ 08 56 16.1
PBAR Barrancos 90.92 336 eP **P 08 19 32.1 -0.9**
comp=Z,34nm,1.8s,mb5.4
PBAR Barrancos 90.92 336 eLQ 08 55 33.8
PBAR eLR LR 08 57 31.8
comp=Z,323nm,18.0s
EMIN Mina Concepcio 91.19 335 P **P 08 19 32.5 -1.8**
comp=Z,5.8nm,0.8s,mb5.0
ESPR Espera 91.79 335 P **P 08 19 37.0 -0.1**
comp=Z,18nm,1.0s,mb5.3
PVAQ Vaqueiros 91.83 336 eLQ 08 56 04.0
PVAQ eLR LR 08 58 29.3
comp=Z,420nm,20.0s
PBDV Barranco-do-Ve 92.04 336 eLQ 08 56 21.8
PBDV eLR LR 08 56 56.6
comp=Z,383nm,20.0s
TBI Tubuai 93.33 121 eLR LR 08 49 11.0
comp=Z,543nm,24.2s,baz=321
MDT Midelt 95.16 332 LR LR 09 03 32.3
comp=Z,252nm,18.1s,MS4.7,baz=217,slow=36
SDV Santo Domingo 117.53 37 ePKPdf PKPdf 08 25 14.0 -1.5
VNDA Vanda 124.66 175 PKP PKPdf 08 25 25.3 -1.9
comp=Z,1.7nm,0.9s,baz=309,slow=3.9,SNR=9.7
LBTB Lobatse 125.46 270 ePKIKP PKPdf 08 25 29.9 -0.4
TSUM Tsumeb 127.02 282 ePKPdf PKPdf 08 25 33.3 -0.2
MAW Mawson 128.32 209 PKP PKPdf 08 25 35.3 +0.9
comp=Z,2.4nm,0.8s,baz=347,slow=4.4,SNR=6.2
MAW Mawson 128.32 209 PKIKP PKPdf 08 25 35.3 +0.9
MAW pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 140.79 49 PKP PKPdf 08 25 59.2 0.0
comp=Z,2.8nm,0.9s,baz=38,slow=6.1,SNR=12
LPAZ La Paz 140.79 49 PKIKP PKPdf 08 25 59.3 0.0
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
LPAZ La Paz 140.79 49 ePKPdf PKPdf 08 25 59.9 +0.6
LVC Limon Verde 145.50 56 PKPbc PKPbc 08 26 07.5 +0.1
comp=Z,12nm,0.8s,baz=267,slow=1.5,SNR=7.6
LVC Limon Verde 145.50 56 ePKPdf PKPdf 08 26 08.1 +0.7
NVL N'lazarevskaya 146.25 207 ePKP2 PKPdf 08 26 07.0 -0.2
NVL pmax pmax
comp=Z,64nm,1.3s
MAIT Maitri 146.28 207 ePKPdif PKPdf 08 26 06.4 -0.8
BDFB Brasilia 147.91 18 PKPbc PKPbc 08 26 14.4 -0.2
comp=Z,4.5nm,0.8s,baz=12,slow=2.0,SNR=13
BDFB Brasilia 147.91 18 PKP2 PKPbc 08 26 14.4 -0.2
BDFB pmax pmax
comp=Z,5.0nm,0.8s
SNAA Sanae 150.03 202 ePKPdf PKPbc 08 26 16.5 -1.9
SNAA e 08 26 20.3
SNAA e 08 26 23.8
SNAA e 08 26 26.7
SNAA Sanae 150.03 202 ePKPbc PKPbc 08 26 16.9 -1.5
VNA2 Neumayer--Watz 151.64 201 ePKPdf PKPbc 08 26 20.9 -1.3

VNA2				e			08 26 24.9	
VNA2				e			08 26 30.8	
VNA2				e			08 26 34.0	
VNA1	**Neumayer--Stat**	**152.04**	**201**	ePKPdf	PKPbc		08 26 22.7	-0.4
VNA1				e			08 26 26.1	
VNA1				e			08 26 32.3	
VNA1				e			08 26 35.8	
CPUP	**Villa Florida**	**154.61**	**43**	PKPbc	PKPbc		08 26 29.1	-1.0
	comp=Z,0.7nm,0.6s,baz=319,slow=11,SNR=3.2							
CPUP	**Villa Florida**	**154.61**	**43**	PKIKP	PKPbc		08 26 29.1	-1.0
CPUP				pmax	pmax			
	comp=Z,1.0nm,0.6s							
PLCA	**Paso Flores**	**156.03**	**87**	PKPbc	PKPdf		08 26 31.8	+8.7
	comp=Z,2.4nm,0.8s,baz=225,slow=4.4,SNR=5.2							
PLCA				PKPab	PKPab		08 26 50.6	+0.1
	comp=Z,5.6nm,0.9s,baz=264,slow=1.1,SNR=7.5							

*IDC **02** 08:09:09.1±1.9, 1497S×16771E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=50.0km s-min=31.9km az=29.0*
*ISCJB **02** 08:09:11.6±2.4, 144S±0.1×1680E±0.1, h61km±23km, mb4.2/6, Error ellipse: s-maj=27.2km s-min=18.0km az=144.1*
*NEIC **02** 08:09:14.0±1.6, 1447S×16804E, h68km±20km, mb4.3/1, Error ellipse: s-maj=22.0km s-min=14.8km az=136.0*
ISC 02 08:09:14.1±1.8, 145S±01×1680E±01, h70km±18km, n12, σ0§80/13, mb4.1/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.73**	**191**	eP	**Pn**	**08 11 04.2**	**+0.3**
DZM				eS	**Sn**	**08 12 19.6**	**-10**
DZM	**Mont Dzumac**	**7.73**	**191**	ePn	**Pn**	**08 11 03.8**	**-0.2**
DZM				eSn	**Sn**	**08 12 13.5**	**-16**
FUNA	**Funafuti**	**12.43**	**63**	ePn	**Pn**	**08 12 08.0**	**-0.1**
URZ	**Urewera**	**25.05**	**163**	P	**P**	**08 14 32.3**	**+0.5**
	4.9nm,0.5s,mb4.2,baz=331,slow=13,SNR=6.0						
WRA	**Warramunga Arr**	**32.60**	**256**	P	**P**	**08 15 38.9**	**-0.3**
	0.6nm,0.6s,mb3.6,baz=84,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**33.45**	**249**	P	**P**	**08 15 46.4**	**-0.3**
	1.0nm,0.5s,mb3.9,baz=82,slow=9.4,SNR=28						
FITZ	**Fitzroy Crossi**	**40.79**	**259**	eP	**P**	**08 16 50.3**	**+1.5**
	8.2nm,1.5s,mb4.3						
NWAO	**Narrogin (SRO)**	**49.52**	**239**	eP	**P**	**08 17 54.5**	**-3.3**
	34nm,1.4s,mb5.1						
VNDA	**Vanda**	**63.16**	**182**	P	**P**	**08 19 33.5**	**-0.6**
	0.5nm,0.5s,mb3.7,baz=14,slow=4.2,SNR=3.7						
SNAA	**Sanae**	**93.87**	**183**	e	**P**	**08 22 23.2**	**-0.2**
VNA2	**Neumayer--Watz**	**94.78**	**182**	e	**P**	**08 22 28.1**	**+0.5**
ARCES	**ARCESS Array B**	**120.16**	**346**	PKP	PKPdf	08 28 02.5	+6.2
	0.9nm,0.5s,baz=70,slow=3.0,SNR=8.0						

*NEIC **02** 08:10:38.4, 1556N×9340W, h71km, MD4.2(MEX), After MEX.*
MEX 02 08:10:38.9±1.3, 1552N×9346W, h15km±16km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.29**	**15**	i P	Pn	08 10 59.2	-3.2
TGIG				i S	Sb	08 11 15.1	-4.2
THIG		**1.31**	**118**	i P	Pn	08 10 59.4	-3.3
THIG				i S	Sb	08 11 14.8	-5.0
SCX	**San Cristobal**	**1.45**	**33**	i P	Pn	08 10 59.0	-5.5
SCX				i S	Sn	08 11 18.7	-4.5
CCIG	**Comitan**	**1.48**	**59**	i P	Pn	08 11 02.1	-2.9
CCIG				i S	Sn	08 11 18.4	-5.7
CCIG	**Comitan**	**1.48**	**59**	i P	Pn	08 11 02.1	-2.9
CCIG				i S	Sn	08 11 17.6	-6.6
CMIG	**Matias Romero**	**2.07**	**319**	i P	Pn	08 11 09.9	-3.2
CMIG				i S	Sn	08 11 33.6	-5.1
CMIG	**Matias Romero**	**2.07**	**319**	i P	Pn	08 11 09.9	-3.2
CMIG				i S	Sn	08 11 33.3	-5.4
VHO	**Vista Hermosa**	**3.50**	**297**	i P	Pn	08 11 31.0	-1.8
VHO				i S	Sn	08 12 10.4	-3.5
VHO	**Vista Hermosa**	**3.50**	**297**	i P	Pn	08 11 31.0	-1.8
VHO				i S	Sn	08 12 09.5	-4.4
PNIG	**Pinotepa**	**4.57**	**282**	i P	Pn	08 11 44.7	-2.8
PNIG				i S	Sn	08 12 37.0	-3.4
PNIG	**Pinotepa**	**4.57**	**282**	i P	Pn	08 11 39.7	-7.8
PNIG				i S	Sn	08 12 29.9	-10
UTMO	**Huajuapan**	**4.75**	**299**	i P	Pn	08 11 47.4	-2.6
UTMO				i S	Sn	08 12 41.9	-2.9

BJI 02 08:17:30.3, 3707N×11962E, h19km, ML3.8, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**2.18**	**248**	PG	Pg	08 18 09.1	-3.1
TIA				SG	Sg	08 18 36.8	-3.8
TIA				Smax			
	comp=N,504nm,0.3s						
TIA				Smax			
	comp=E,402nm,0.3s						
DL2	**Dalian**	**2.42**	**40**	P	Pn	08 18 11.5	+2.6
DL2				PG	Pg	08 18 14.5	-2.3
DL2				S	Sn	08 18 40.3	+2.3
DL2				SG	Sg	08 18 45.6	-2.7
DL2				Smax			
	comp=N,220nm,0.5s						
DL2				Smax			
	comp=E,350nm,0.5s						
NJ2	**Nanjing**	**5.05**	**187**	ePG	Pg	08 19 02.0	-4.9
NJ2				SG	Sg	08 20 06.5	-5.8
NJ2				Smax			
	comp=N,140nm,0.8s						
NJ2				Smax			
	comp=E,60nm,0.6s						

*IDC **02** 08:18:47.4±6.9, 5164N×17981E, h0km, mb3.6/4, mb1 4.1/5, mb1mx3.7/24, mbtmp3.7/5, ML4.5/1, Error ellipse: s-maj=133.0km s-min=74.4km az=96.0*
*ISCJB **02** 08:18:49.9±1.7, 513N±02×17963W±008, h16km±14km, mb3.8/6, Error ellipse: s-maj=30.1km s-min=8.1km az=2.7*
*NEIC **02** 08:18:51.8±2.4, 5124N×17975W, h23km±19km, mb4.1/3, ML4.1(AEIC), Error ellipse: s-maj=36.3km s-min=11.6km az=179.0*
ISC 02 08:18:50.0±1.6, 513N±02×17962W±007, h3km±12km, n17, σ1§09/19, mb3.8/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.68**	**275**	P	**Pg**	**08 19 02.8**	**-0.2**
AMKA				S	**Sg**	**08 19 11.7**	**-0.1**
SMY	**Shemya**	**4.13**	**292**	P	**Pn**	**08 19 53.4**	**-0.4**
SMY				S	**Sn**	**08 20 43.4**	**+0.9**
FX1	**Attu Island--F**	**4.71**	**292**	P	**Pn**	**08 20 01.9**	**+0.1**
NIKO	**Nikolski**	**6.83**	**72**	ePn	**Pn**	**08 20 33.5**	**+2.6**
UNV	**Unalaska Valle**	**8.38**	**67**	ePn	**Pn**	**08 20 54.6**	**+2.5**
KDAK	**Kodiak Island**	**16.89**	**57**	Pn	**Pn**	**08 22 45.4**	**-1.5**
	1.6nm,0.3s,baz=236,slow=6.5,SNR=9.0						
PPLA	**Purkeypile**	**18.70**	**41**	eP	**Pn**	**08 23 11.0**	**+1.7**
	16nm,1.2s						
SEW	**Seward**	**18.98**	**51**	eP	**Pn**	**08 23 11.8**	**-0.9**
IMA2	**Indian Mountai**	**19.76**	**32**	eP	**Pn**	**08 23 21.9**	**-0.2**
EGAK	**Eagle**	**23.93**	**41**	eP	**P**	**08 24 04.0**	**-0.7**
	2.0nm,0.8s,mb3.6						
YKA	**Yellowknife Ar**	**35.64**	**46**	P	**P**	**08 25 46.9**	**-1.6**
	0.5nm,0.5s,mb3.7,baz=286,slow=7.3,SNR=5.2						
YKA	**Yellowknife Ar**	**35.64**	**46**	P	**P**	**08 25 46.9**	**-1.6**
MCMT	**McKenzie Canyo**	**43.68**	**71**	eP	**P**	**08 26 54.9**	**-0.8**
NVAR	**Mina Array Bea**	**44.07**	**82**	P	**P**	**08 26 59.7**	**+0.8**
	0.5nm,0.8s,mb3.3,baz=304,slow=7.3,SNR=2.5						
RLMT	**Red Lodge**	**45.63**	**69**	eP	**P**	**08 27 11.1**	**-0.2**
	9.5nm,1.4s,mb4.5						
PDAR	**Pinedale Array**	**46.81**	**72**	P	**P**	**08 27 19.9**	**-0.6**
	1.7nm,0.5s,mb4.2,baz=338,slow=4.2,SNR=16						
TXAR	**Lajitas Array**	**59.17**	**81**	P	**P**	**08 28 52.5**	**+0.6**
	0.1nm,0.4s,mb3.2,baz=310,slow=5.4,SNR=4.9						

*ISCJB **02** 08:23:14.6±1.1, 524S±006×1295E±0.1, h235km±14km, mb3.8/2, Error ellipse: s-maj=20.1km s-min=9.8km az=169.7*
*NEIC **02** 08:23:18.2±2.2, 536S×12935E, h255km±25km, mb4.4/4, Error ellipse: s-maj=24.8km s-min=14.9km az=57.0*
*IDC **02** 08:23:22.4±4.2, 554S×129.19E, h300km±43km, mb3.6/2, mb1 3.6/5, mb1mx3.1/16, mbtmp3.3/5, Error ellipse: s-maj=58.5km s-min=12.8km az=68.0*
ISC 02 08:23:17.6±1.0, 538S±008×1296E±01, h256km±12km, n11, σ1§21/18, mb3.8/2, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.14**	**95**	⇓eP	**Pn**	**08 24 11.0**	**-0.9**
TLE				eS	**S**	**08 24 51.5**	**-3.5**
KAKA	**Kakadu**	**7.81**	**159**	eP	**Pn**	**08 25 10.6**	**+2.1**
	28nm,0.2s						
KAKA				eS	**S**	**08 26 36.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**13.22**	**197**	eP	**Pn**	**08 26 16.0**	**-0.1**
	4.5nm,0.8s						
FITZ				eS	**S**	**08 28 35.3**	**-7.6**
FITZ	**Fitzroy Crossi**	**13.22**	**197**	P	**Pn**	**08 26 15.8**	**-0.3**
	0.4nm,0.3s,baz=31,slow=14,SNR=7.3						
FITZ				S	**S**	**08 28 39.2**	**-3.8**
	0.5nm,0.3s,baz=95,slow=18,SNR=4.6						
WRAB	**Tennant Creek**	**15.19**	**163**	eP	**Pn**	**08 26 40.5**	**+0.7**
	6.9nm,1.0s						
WRAB				eS	**S**	**08 29 27.3**	**+0.6**
WRA	**Warramunga Arr**	**15.19**	**163**	P	**Pn**	**08 26 41.1**	**+1.2**
	0.8nm,0.3s,baz=344,slow=12,SNR=28						
WRA				S	**S**	**08 29 24.8**	**-2.0**
	0.3nm,0.3s,baz=340,slow=20,SNR=4.9						
WB2	**Warramunga Arr**	**15.20**	**163**	eP	**Pn**	**08 26 40.8**	**+0.8**
MBWA	**Marble Bar**	**18.37**	**210**	eP	**P**	**08 27 13.5**	**-0.4**
	40nm,1.6s						
ASAR	**Alice Springs**	**18.65**	**168**	P	**P**	**08 27 19.1**	**+2.2**
	0.7nm,0.3s,baz=354,slow=11,SNR=40						
ASAR				S	**S**	**08 30 35.2**	**-0.4**
	0.2nm,0.3s,baz=351,slow=21,SNR=7.6						
CMAR	**Chiang Mai Arr**	**38.40**	**309**	P	**P**	**08 30 14.1**	**-0.8**
	1.2nm,0.3s,mb3.8,baz=138,slow=7.4,SNR=4.5						
MKAR	**Makanchi Array**	**66.66**	**327**	P	**P**	**08 33 40.6**	**-0.3**
	0.9nm,0.5s,mb3.8,baz=126,slow=8.2,SNR=3.8						

*SKHL **02** 08:35:29.2±0.4, 4660N×14160E, h10km, mb4.0/3*
*ISCJB **02** 08:35:30.9±1.0, 4671N±003×14143E±006, h14km±8km, Error ellipse: s-maj=7.3km s-min=5.0km az=3.4*
*JMA **02** 08:35:30.1±0.5, 4681N×14166E, h10km, M3.6*
ISC 02 08:35:31.7±0.9, 4670N±003×14167E±006, h7km±8km, n11, σ1§15/24, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.79**	**71**	⇓iPg	**Pg**	**08 35 45.1**	**-1.7**
YSS				eSg	**Sg**	**08 35 56.4**	**-0.6**
YSS				A		08 35 58.5	
	2μm,0.5s						
YSS				AMS	AMS	08 36 27.0	
	3μm,5.0s						
YSS				AMS	AMS	08 36 27.0	
	4μm,5.0s						
YSS				AMS	AMS	08 36 27.0	
	2μm,5.0s						
JWK2	**Keihoku**	**1.39**	**173**	P	**Pn**	**08 35 57.1**	**-0.3**
JWK2				eS	**Sb**	**08 36 16.4**	**+0.6**
JRR	**Rishiri**	**1.58**	**189**	P	**Pn**	**08 36 00.6**	**+0.6**
JRR				eS	**Sn**	**08 36 22.6**	**+1.9**
JSE	**Soyaes**	**1.85**	**160**	P	**Pn**	**08 36 03.3**	**-0.5**
JSE				eS	**Sn**	**08 36 27.8**	**+0.4**
UGL	**Uglegorsk**	**2.40**	**6**	eP	**Pn**	**08 36 11.5**	**+0.2**
UGL				ePg	**Pg**	**08 36 19.3**	**+1.7**
UGL				AMB	AMB	08 36 20.0	
	170nm,1.0s						
UGL				Sb	**Sb**	**08 36 44.5**	**-0.4**
UGL				eSg	**Sg**	**08 36 54.5**	**+5.9**
UGL				A		08 36 57.0	
	339nm,0.5s						
JKK2	**Kamakawa 2**	**2.92**	**165**	P	**Pn**	**08 36 19.2**	**+0.7**
JTKR	**Abashiri--Toko**	**3.15**	**149**	P	**Pn**	**08 36 20.7**	**-0.9**
TEY	**Ternei**	**3.91**	**247**	eS	**Sn**	**08 37 14.0**	**-4.2**
TEY				eSg	**Sg**	**08 37 36.0**	**-1.2**
TEY				A		08 37 37.8	
	19nm,0.3s						
TYV	**Tymovskoe**	**4.22**	**9**	eP	**Pn**	**08 36 36.0**	**-0.3**
TYV				ePg	**Pg**	**08 36 54.0**	**+1.5**
TYV				AMB	AMB	08 36 55.0	
	18nm,0.9s						
TYV				AMB	AMB	08 36 55.0	
	11nm,0.9s						
TYV				AMB	AMB	08 36 55.0	
	13nm,0.9s						
TYV				eSg	**Sg**	**08 37 58.0**	**+11**
TYV				A		08 38 04.0	
	21nm,0.8s						
TYV				A		08 38 04.0	
	22nm,0.8s						
GRNR	**Gornyy**	**5.35**	**321**	eP	**Pn**	**08 36 48.0**	**-3.9**
GRNR				AMB	AMB	08 36 50.0	
	6.0nm,0.6s						
GRNR				eS	**Sn**	**08 37 49.0**	**-4.8**
GRNR				eSg	**Sg**	**08 38 27.0**	**+3.6**
GRNR				A		08 38 31.0	
	21nm,0.6s						
EKMR	**Ekimchan**	**8.51**	**322**	eP	**Pn**	**08 37 33.0**	**-2.1**
EKMR				eS	**Sn**	**08 39 19.0**	**+7.7**
EKMR				eSg	Sn	08 40 04.8	+54
EKMR				A		08 40 06.9	
	13nm,0.9s						
EKMR				A		08 40 06.9	
	2.0nm,0.9s						
EKMR				A		08 40 06.9	
	10.0nm,0.9s						

*ISCJB **02** 08:39:45.7±0.8, 2992N±008×1385E±02, h509km±10km, mb3.6/3, Error ellipse: s-maj=21.2km s-min=12.0km az=173.7*
*JMA **02** 08:39:45.6±0.2, 2983N×13869E, h496km, M3.8*
*IDC **02** 08:39:47.0±1.4, 2997N×13838E, h503km±19km, mb3.0/3, mb1 3.2/7, mb1mx2.9/23, mbtmp3.2/7, Error ellipse: s-maj=38.1km s-min=22.7km az=82.0*
ISC 02 08:39:47.3±0.8, 3002N±008×1385E±02, h507km±10km, n15, σ1§01/24, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.27**	**19**	P	**P**	**08 41 00.8**	**+0.3**
	48nm,0.3s,baz=161,slow=3.6,SNR=12						
JHJ				S	**S**	**08 42 00.8**	**+0.5**
	20nm,0.3s,baz=86,slow=24,SNR=4.4						
JHJ2	**Mitsune**	**3.27**	**19**	P	**P**	**08 41 00.2**	**-0.3**
JHJ2				eS	**S**	**08 41 57.9**	**-2.5**
CBIJ	**Chichi jima**	**4.35**	**131**	P	**P**	**08 41 09.3**	**+0.2**
	12nm,0.3s,baz=268,slow=22,SNR=6.5						
CBIJ				S	**S**	**08 42 09.3**	**-6.4**
	13nm,0.3s,baz=231,slow=22,SNR=7.2						
BSO1	**Boso 1**	**5.07**	**24**	P	**P**	**08 41 14.8**	**-0.3**
BSO1				S	**S**	**08 42 26.4**	**-0.5**
JOD2	**Odawara 2**	**5.25**	**5**	P	**P**	**08 41 17.6**	**+0.9**
JOD2				S	**S**	**08 42 28.5**	**-1.4**
JNY	**Yasuok**	**5.35**	**354**	P	**P**	**08 41 19.3**	**+1.7**
JNY				eS	**S**	**08 42 32.8**	**+1.2**
JRY	**Ryogami san**	**5.99**	**3**	P	**P**	**08 41 24.5**	**+0.9**
JRY				S	**S**	**08 42 41.3**	**-1.2**
JAG	**Ashikaga**	**6.43**	**7**	P	**P**	**08 41 27.3**	**-0.6**
MJAR	**Matsushiro Arr**	**6.51**	**358**	P	**P**	**08 41 28.2**	**-0.4**
	0.9nm,0.3s,baz=181,slow=10,SNR=11						
MJAR				S	**S**	**08 42 52.8**	**+1.1**
	0.4nm,0.3s,baz=161,slow=17,SNR=3.8						
JHS	**Saijyo**	**6.74**	**319**	P	**P**	**08 41 31.5**	**+0.6**
JMK	**Ichinoseki**	**9.18**	**13**	P	**P**	**08 41 58.3**	**+2.4**
JMK				S	**S**	**08 43 41.1**	**-0.6**
KSRS	**Korea Array**	**11.51**	**313**	P	**P**	**08 42 19.8**	**-0.8**
	0.7nm,0.3s,baz=127,slow=10,SNR=19						
SONM	**Songino Array**	**30.37**	**315**	P	**P**	**08 45 17.1**	**-0.1**
	0.4nm,0.4s,mb3.2,baz=134,slow=8.3,SNR=2.9						
CMAR	**Chiang Mai Arr**	**37.70**	**261**	P	**P**	**08 46 17.9**	**-1.3**
	2.3nm,0.5s,mb3.9,baz=71,slow=5.3,SNR=5.7						
ARCES	**ARCESS Array B**	**69.71**	**340**	P	**P**	**08 50 05.2**	**-0.1**
	2.1nm,0.9s,mb3.7,baz=64,slow=8.5,SNR=3.7						

*ISCJB **02** 08:42:31.7±0.8, 1334N±009×9071W±005, h70km±17km, Error ellipse: s-maj=16.6km s-min=4.8km az=25.4*
*CASC **02** 08:42:32.2±2.1, 1342N×9062W, h23km±5km, mb4.7, MD4.0*
*NEIC **02** 08:42:37.3, 1323N×9119W, h20km, MD4.5(MEX), After MEX.*
*MEX **02** 08:42:39.1±0.8, 1340N×9114W, h28km±999km, MD4.6*
ISC 02 08:42:33.2±0.8, 1335N±009×9071W±005, h48km±40km, n35, σ1§23/39, 2C-9D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**1.04**	**5**	⇓eP	**Pn**	**08 42 50.8**	**-0.6**
FUG	**Fuego 3**	**1.10**	**353**	⇓iP	**Pn**	**08 42 51.6**	**-0.7**
FG6		**1.22**	**352**	⇓eP	**Pn**	**08 42 53.2**	**-0.6**
FG6				eS	**Sn**	**08 43 09.1**	**-0.1**
RBDL	**Robledal**	**1.25**	**52**	⇓iP	x	08 42 52.6	
RBDL				eS	x	08 43 11.6	
NBG	**Las Nubes**	**1.28**	**16**	⇓iP	**Pn**	**08 42 55.1**	**+0.4**
NBG				eS	**Sn**	**08 43 10.7**	**-0.1**
JAT	**Jato**	**1.32**	**317**	⇓eP	**Pn**	**08 42 56.0**	**+0.7**
JAT				eS	**Sn**	**08 43 11.2**	**-0.5**
BOQS	**Boqueron**	**1.44**	**74**	⇑eP	x	08 42 55.2	
BOQS				eS	x	08 43 13.9	
LFU	**La Fuente**	**1.60**	**75**	eP	x	08 42 57.7	
LFU				eS	x	08 43 17.1	
LFRS	**El Faro**	**1.62**	**80**	eP	x	08 42 57.5	
LBRS	**Las Brisas**	**1.66**	**76**	⇑eP	x	08 42 58.8	
MTO2	**Montecristo 2**	**1.67**	**51**	⇓eP	x	08 42 58.9	
MTO2				eS	x	08 43 19.5	
LCBS	**La Ceiba**	**1.71**	**80**	eP	x	08 42 58.9	
LCBS				eS	x	08 43 18.7	
SNVI	**San Vicente**	**1.83**	**82**	⇓eP	x	08 43 01.5	
SNVI				eS	x	08 43 23.8	
THIG		**2.17**	**316**	i P	**Pn**	**08 43 06.5**	**-0.3**
THIG				i S	**Sn**	**08 43 29.0**	**-3.5**
VSM	**San Miguel**	**2.37**	**88**	eP	x	08 43 09.3	
VSM				eS	x	08 43 38.9	
BLLM	**Bellamira**	**2.40**	**87**	eP	x	08 43 09.4	
BLLM				eS	x	08 43 38.2	
CAHU	**Cacacuatique**	**2.46**	**80**	⇓eP	x	08 43 09.7	
CNCH	**Conchagua**	**2.80**	**91**	eP	x	08 43 14.3	
CNCH				eS	x	08 43 47.3	
CCIG	**Comitan**	**3.23**	**335**	i P	**Pn**	**08 43 23.5**	**+2.1**
CCIG				i S	**Sn**	**08 43 58.1**	**-0.6**
CCIG	**Comitan**	**3.23**	**335**	i P	**Pn**	**08 43 23.5**	**+2.1**
CCIG				i S	**Sn**	**08 44 06.2**	**+7.6**
TGUH	**Tegucigalpa,Un**	**3.41**	**78**	eP	**Pn**	**08 43 22.4**	**-1.5**
TGUH				eS	**Sn**	**08 44 03.2**	**+0.2**
CRIN	**San Cristobal**	**3.62**	**100**	eP	**Pn**	**08 43 27.1**	**+0.3**
	comp=Z,136nm,0.6s						
CRIN				eS	**Sn**	**08 44 08.6**	**+0.3**
SCX	**San Cristobal**	**3.85**	**331**	i P	**Pn**	**08 43 32.0**	**+2.1**
SCX				i S	**Sn**	**08 44 14.9**	**+1.0**
SCX	**San Cristobal**	**3.85**	**331**	i P	**Pn**	**08 43 32.0**	**+2.1**
SCX				i S	**Sn**	**08 44 16.0**	**+2.1**
CNGN	**Cerro Negro**	**4.00**	**102**	eP	**Pn**	**08 43 30.8**	**-1.1**
	comp=Z,15nm,1.0s						
TGIG		**4.13**	**326**	i P	**Pn**	**08 43 36.4**	**+2.6**
TGIG				i S	**Sn**	**08 44 16.9**	**-3.9**
COPN	**Copaltepe**	**4.18**	**106**	eP	**Pn**	**08 43 34.2**	**-0.2**
CMIG	**Matias Romero**	**5.49**	**313**	i P	**Pn**	**08 43 53.7**	**+1.3**
CMIG				i S	**Sn**	**08 44 51.8**	**-2.5**
CMIG	**Matias Romero**	**5.49**	**313**	i P	**Pn**	**08 43 53.7**	**+1.3**
CMIG				i S	**Sn**	**08 44 45.8**	**-8.5**
VHO	**Vista Hermosa**	**6.90**	**303**	eP	**Pn**	**08 44 12.2**	**+0.4**
VHO				i S	**Sn**	**08 45 25.3**	**-3.6**
VHO	**Vista Hermosa**	**6.90**	**303**	eP	**Pn**	**08 44 12.2**	**+0.4**
VHO				i S	**Sn**	**08 45 31.3**	**+2.4**
UTMO	**Huajuapan**	**8.16**	**304**	i P	**Pn**	**08 44 29.6**	**+0.5**
UTMO				i S	**Sn**	**08 45 56.8**	**-3.2**
PPM	**Popocatepetl**	**9.50**	**308**	i P	**Pn**	**08 44 48.2**	**+0.8**
PPM				i S	**Sn**	**08 46 30.8**	**-2.0**
PPM	**Popocatepetl**	**9.50**	**308**	i P	**Pn**	**08 44 46.2**	**-1.2**
CHI2		**18.84**	**116**	eP	Px	08 43 26.8	

*BJI **02** 08:43:06.3, 550S×13070E, h31km, mB5.1, mb4.7*
*ISCJB **02** 08:43:09.0±1.2, 563S±004×13079E±007, h54km±13km, mb4.7/27, Error ellipse: s-maj=12.0km s-min=7.2km az=178.0*
*NEIC **02** 08:43:11.4±1.5, 555S×13071E, h51km±15km, mb4.6/5, Error ellipse: s-maj=17.4km s-min=9.5km az=60.0*
*IDC **02** 08:43:13.2±3.5, 552S×13064E, h65km±33km, mb4.1/13, mb1 4.3/16, mb1mx4.3/18, mbtmp4.2/16, ML4.6/3, Error ellipse: s-maj=25.1km s-min=12.5km az=73.0*
*DJA **02** 08:43:16, 563S×13085E, h100km, mb4.6/3*
ISC 02 08:43:09.9±1.0, 554S±005×13080E±006, h39km±12km, h17km±5.4km: pP-P, n46, σ0§86/58, mb4.7/27, 2C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.93**	**93**	⇑eP	**Pn**	**08 43 42.0**	**+1.8**
TLE				eS	**Sn**	**08 44 02.0**	**-1.2**
KAKA	**Kakadu**	**7.30**	**167**	⇓iP	**Pn**	**08 44 58.9**	**+4.8**
	73nm,0.4s						
KAKA				eS	**Sn**	**08 46 14.1**	**-1.7**
KDI	**Kendari**	**8.31**	**281**	⇑eP	**Pn**	**08 45 15.9**	**+8.1**
KDI				eS	**Sn**	**08 46 51.3**	**+11**
KAPI	**Kappang**	**11.02**	**272**	P	**Pn**	**08 45 45.7**	**+0.7**
	2.1nm,0.3s,baz=241,slow=18,SNR=4.1						
FITZ	**Fitzroy Crossi**	**13.46**	**202**	eP	**Pn**	**08 46 18.7**	**+0.3**
	18nm,0.4s						
FITZ				eS	**Sn**	**08 48 37.0**	**-10**
FITZ	**Fitzroy Crossi**	**13.46**	**202**	P	**Pn**	**08 46 19.6**	**+1.1**
	1.5nm,0.3s,baz=29,slow=13,SNR=27						
FITZ				S	**Sn**	**08 48 37.7**	**-9.1**
	2.3nm,0.3s,baz=192,slow=17,SNR=4.7						
WRAB	**Tennant Creek**	**14.71**	**167**	ePn	**Pn**	**08 46 34.2**	**-1.3**
	16nm,0.5s						
WRAB				eSn	**Sn**	**08 49 09.3**	**-8.0**
WRA	**Warramunga Arr**	**14.72**	**167**	P	**Pn**	**08 46 34.5**	**-1.1**
	2.2nm,0.3s,baz=346,slow=13,SNR=71						
WRA				S	**Sn**	**08 49 09.3**	**-8.2**
	7.3nm,0.3s,baz=342,slow=20,SNR=9.4						
WB2	**Warramunga Arr**	**14.72**	**167**	eP	**Pn**	**08 46 34.4**	**-1.2**
WB2				eS	**Sn**	**08 49 01.6**	**-16**
WB2	**Warramunga Arr**	**14.72**	**167**	ePn	**Pn**	**08 46 34.9**	**-0.7**
WB2				eS	**Sn**	**08 49 01.6**	**-16**
WB2				eSn	**Sn**	**08 49 09.6**	**-8.0**
COEN	**Coen**	**14.78**	**125**	ePn	**Pn**	**08 46 39.9**	**+3.6**
	5.8nm,0.6s						
COEN				eSn	**Sn**	**08 49 11.8**	**-7.1**
ASAR	**Alice Springs**	**18.27**	**171**	P	**Pn**	**08 47 22.1**	**+1.7**
	7.2nm,0.3s,baz=353,slow=11,SNR=203						

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GTA                                    AP    pP      08 52 28.3  -6.6
GTA                                    AMB   AMB
     comp=Z,6.0nm,1.2s,mb4.4
RAMN Ramite          53.58 309 eP     P       08 52 27.0  -0.3
     comp=Z,45nm,0.6s,mb5.6
JIRN Jiri            54.25 310 eP     P       08 52 31.8  -0.4
     comp=Z,13nm,0.4s,mb5.2
GUN  Gumba           54.62 310 eP     P       08 52 34.5  -0.3
     comp=Z,34nm,0.7s,mb5.5
PKI  Pulchoki        54.81 309 eP     P       08 52 35.5  -0.7
KKN  Kakani          55.01 310 eP     P       08 52 37.0  -0.7
     comp=Z,22nm,0.7s,mb5.3
DMN  Daman           55.06 309 eP     P       08 52 37.6  -0.4
     comp=Z,24nm,0.7s,mb5.4
DANN Dangsing        56.46 309 eP     P       08 52 47.5  -0.6
     comp=Z,22nm,0.5s,mb5.4
SONM Songino Array   57.33 341 P      P       08 52 54.9  +1.0
     comp=Z,2.1nm,0.7s,mb4.3,baz=157,slow=6.2,SNR=9.9
PETK Petropavlovsk-  62.70  18 P      P       08 53 31.7  +1.1
     comp=Z,2.3nm,0.8s,mb4.4,baz=160,slow=4.7,SNR=7.6
MK31 Makanchi Array  67.46 326 eP     P       08 54 01.8  +0.2
MKAR Makanchi Array  67.46 326 P      P       08 54 01.9  +0.3
     comp=Z,6.9nm,0.4s,mb5.0,baz=123,slow=7.8,SNR=72
ZAA0 Zalesovo Array  70.64 333 eP     P       08 54 20.3  -0.9
ZALV Zalesovo Beam   70.64 333 P      P       08 54 20.6  -0.6
     comp=Z,3.6nm,0.6s,mb4.5,baz=124,slow=5.9,SNR=12
KURK Kurchatov       71.70 328 eP     P       08 54 27.5  -0.2
     comp=Z,3.6nm,0.6s,mb4.5
VNDA Vanda           73.79 173 P      P       08 54 40.1  +0.4
     comp=Z,1.1nm,0.7s,mb3.9,baz=323,slow=6.8,SNR=8.3
MAW  Mawson          76.59 201 P      P       08 54 56.5  +0.5
     comp=Z,1.3nm,0.5s,mb4.2,baz=84,slow=6.9,SNR=10
BVAR Borovoye Array  77.27 327 P      P       08 54 59.6  -0.4
     comp=Z,2.2nm,0.6s,mb4.3,baz=142,slow=7.4,SNR=12
AKTK Aktyubinsk      83.42 322 P      P       08 55 32.8  -0.4
AKTO Aktyubinsk      83.42 322 P      P       08 55 32.8  -0.4
     comp=Z,1.1nm,0.6s,mb4.1,baz=102,slow=6.4,SNR=6.1
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BJI ***02*** *08:48:31.4, 6960N×14480W, h10km, mB4.8, mb4.6, Ms4.4, Msz4.2*
ISCJB ***02*** *08:48:35.8±2.1, 6959N±005×1447W±0.1, h15km±17km, mb4.2/13, MS4.3/2, Error ellipse: s-maj=8.4km s-min=6.4km az=0.8*
NEIC ***02*** *08:48:37.7, 6963N×14484W, h15km, mb4.2/5, ML4.3(AEIC), After AEIC.*
IDC ***02*** *08:48:38.8±1.7, 6966N×14438W, h0km, mb4.1/6, mb1 4.3/8, mb1mx3.9/25, mbtmp4.1/8, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/36, Error ellipse: s-maj=44.8km s-min=17.4km az=58.0*
PGC ***02*** *08:48:45.2±102.0, 6960N×14365W, h35km, ML4.2/1, 193km east of Prudhoe Bay, Ak Alaska*
ISC 02 08:48:38.1±2.3, 6961N±004×1449W±01, h8km±15km, h20km±.7km:pP-P, n64, σ1°23/74, mb4.2/13, MS4.3/2, 2D, Northern Alaska

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Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
BM3  Burnt Mountain    2.20 177     P     Pn          08 49 14.7  -0.2
BM3                                 S     Sn          08 49 45.1  +3.0
COLD Coldfoot          3.09 222     P     Pn          08 49 27.0  -0.1
COLD                                S     Sn          08 50 05.6  +1.4
INK  Inuvik            4.30 102     Pn    Pn          08 49 42.8  -0.9
     2.2nm,0.3s,baz=296,slow=14,SNR=101
INK                                 Sn    Sn          08 50 29.7  -4.2
     9.1nm,0.3s,baz=303,slow=18,SNR=5.6
INK                                 LR    LR          08 51 37.6
     comp=Z,472nm,18.0s,baz=85,slow=43
INK  Inuvik            4.30 102     ⇑Pn   Pn          08 49 43.0  -0.7
INK  Inuvik            4.30 102     ePn   Pn          08 49 42.9  -0.8
INK                                 eSn   Sn          08 50 28.4  -5.5
IMA2 Indian Mountai    4.87 227     eP    Pn          08 49 50.2  -1.3
COLA College           4.89 195     P     Pn          08 49 51.3  -0.5
IL1  Eielson Array     4.92 190     P     Pn          08 49 51.6  -0.6
IM3  Indian Mountai    4.95 227     P     Pn          08 49 51.9  -0.7
EGAK Eagle             5.06 162     P     Pn          08 49 53.8  -0.4
DAWY Dawson            5.97 156     Pn    Pn          08 50 06.3  -0.3
DAWY                                ⇑Sn   Sn          08 51 11.9  -3.1
DAWY Dawson            5.97 156     P     Pn          08 50 06.4  -0.2
BPAW Bear Paw Mtn.     6.03 206     P     Pn          08 50 06.8  -0.6
MCK  McKinley          6.11 197     P     Pn          08 50 08.2  -0.4
CHUM Lake Minchumin    6.45 211     eP    Pn          08 50 12.7  -0.5
CHUM                                P                 08 50 12.8
TRF  Thorofare Moun    6.54 202     P     Pn          08 50 14.4  -0.1
BCA3 Beaver Creek A    6.69 168     P     Pn          08 50 15.8  -0.7
MENT Mentasta          6.71 175     eP    Pn          08 50 16.8   0.0
HARP HAARP             7.23 181     P     Pn          08 50 23.7  -0.2
PPLA Purkeypile        7.35 207     P     Pn          08 50 25.3  -0.2
TTA  Tatalina          8.05 219     ePn   Pn          08 50 35.9  +0.8
PMR  Palmer            8.23 194     eP    Pn          08 50 39.0  +1.3
DIV  Divide            8.52 183     ePn   Pn          08 50 44.5  +2.9
RC01 Rabbit Creek A    8.79 196     ePn   Pn          08 50 45.0  -0.2
     27nm,0.7s
EYAK Cordova Ski Ar    9.10 183     P     Pn          08 50 52.2  +2.6
     64nm,1.0s
RAGM Ragged Mountai    9.26 179     ePn   Pn          08 50 53.9  +2.2
HYT  Haines Junctio    9.33 157     ⇑Pn   Pn          08 50 53.2  +0.5
HYT  Haines Junctio    9.33 157     ePn   Pn          08 50 52.7   0.0
HYT                                 eSn   Sn          08 52 33.7  -4.0
SVW2 Sparrevohn        9.62 213     eP    Pn          08 50 56.4  -0.2
TNA  Tin City          9.65 256     ePn   Pn          08 50 56.4  -0.7
WHY  Whitehorse        9.90 150     ⇑Pn   Pn          08 51 00.0  -0.4
PLBC Pleasant Camp    10.81 156     ⇓Pn   Pn          08 51 13.7  +0.7
SKAG Skagway          10.96 154     eP    Pn          08 51 15.5  +0.5
     8.4nm,0.6s
DLBC Dease Lake       12.90 143     ⇑Pn   Pn          08 51 40.5  -1.0
DLBC Dease Lake       12.90 143     ePn   Pn          08 51 41.0  -0.6
YKW3 Yellowknife Ar   14.01 105     ⇑Pn   Pn          08 51 51.5  -5.1
YKW3                                ⇓Sn   Sn          08 54 14.9  -17
YKW3 Yellowknife Ar   14.01 105     ePn   Pn          08 51 51.8  -4.7
YKA  Yellowknife Ar   14.06 106     Pn    Pn          08 51 52.0  -5.3
     0.9nm,0.3s,baz=310,slow=13,SNR=30
YKA                                 Sn    Sn          08 54 20.1  -13
     1.1nm,0.3s,baz=314,slow=22,SNR=8.5
YKA  Yellowknife Ar   14.06 106     Pn    Pn          08 51 52.0  -5.3
YKA                                 Sn    Sn          08 54 20.1  -13
WRAK Wrangell Islan   14.35 151     ePn   Pn          08 52 02.8  +1.5
     2.5nm,0.4s
RES  Resolute Bay     15.68  49     ⇑Pn   Pn          08 52 16.6  -2.4
EDM  Edmonton         21.88 122     eP    P           08 53 30.8  -0.1
MSO  Missoula         27.46 130     P     P           08 54 24.0  -0.2
     6.8nm,1.4s,mb4.0
IMW  Indian Meadow    30.98 128     eP    P           08 54 57.3  +1.9
     3.6nm,0.9s,mb4.2
LOHW Long Hollow      31.34 128     P     P           08 54 58.5   0.0
     2.0nm,0.8s,mb4.0
SNOW Snow King Moun   31.43 128     eP    P           08 54 59.7  +0.3
     2.1nm,0.6s,mb4.1
PDAR Pinedale Array   32.41 127     P     P           08 55 09.2  +1.2
     1.5nm,0.7s,mb4.0,baz=16,slow=6.1,SNR=13
NVAR Mina Array Bea   34.32 141     P     P           08 55 26.5  +1.9
     0.6nm,0.5s,mb3.8,baz=330,slow=7.0,SNR=12
NVAR Mina Array Bea   34.32 141     P     P           08 55 26.5  +1.9
TPNV Topopah Spring   36.19 139     eP    P           08 55 37.1  -3.7
     3.0nm,1.0s,mb4.2
ARCES ARCESS Array B  40.96   5     P     P           08 56 21.9  +1.4
     4.1nm,0.9s,mb4.0,baz=3.7,slow=8.0,SNR=9.5
ARCES ARCESS Array B  40.96   5     P     P           08 56 21.9  +1.4
HFS  Hagfors          49.65  14     P     P           08 57 31.3  +1.9
     2.5nm,0.5s,mb4.5,baz=0.0,slow=4.4,SNR=24
CN2  Changchun        49.65 288     eP    P           08 57 26.0  -3.7
EKA  Eskdalemuir Ar   52.31  27     P     P           08 57 51.2  +1.7
     1.3nm,0.6s,mb4.0,baz=330,slow=7.7,SNR=4.5
KURK Kurchatov        55.86 328     eP    P           08 58 16.9  +1.4
HHC  Hu-ho-hao-te     56.78 298     eP    P           08 58 18.4  -3.8
HHC                                 AP    pP          08 58 24.2  -0.5
HHC                                 XP    sP          08 58 27.2  +1.5
HHC                                 PP    PP          09 00 25.5  -2.4
HHC                                 S     S           09 06 06.8  -8.1
HHC                                 XS    sS          09 06 18.7  -0.5
HHC                                 SCS   ScS         09 08 02.2  -9.0
HHC                                 SS    SS          09 09 53.8  -8.3
HHC                                 AMB   AMB
     comp=Z,126nm,8.3s
HHC                                 LR    LR
     comp=N,247nm,14.3s,MS4.7
HHC                                 LR    LR
     comp=E,380nm,16.7s,MS4.5
HHC                                 LR    LR
     comp=Z,299nm,16.0s,MS4.5
AKASG Malin Array Be  59.93   4     P     P           08 58 44.0  -0.1
     comp=Z,0.8nm,0.4s,mb4.1,baz=356,slow=7.0,SNR=8.2
AKASG Malin Array Be  59.93   4     P     P           08 58 44.0  -0.1
WMQ  Urumqi           60.53 319     eP    P           08 58 45.7  -2.5
WMQ                                 AP    pP          08 58 51.8  +1.0
WMQ                                 XP    sP          08 58 54.6  +2.8
WMQ                                 AMB   AMB
     comp=Z,8.0nm,1.0s,mb4.8
WMQ                                 LR    LR
     comp=E,203nm,26.2s
WMQ                                 LR    LR
     comp=Z,137nm,21.8s,MS4.1
CD2  Chengdu          68.35 301     eP    P           08 59 38.2  -1.4
CD2                                 AMB   AMB
     comp=Z,30nm,4.8s
KMI  Kunming          74.07 299     P     P           09 00 12.8  -1.5
KMI                                 AP    pP          09 00 18.1  +1.2
KMI                                 XP    sP          09 00 19.7  +1.8
KMI                                 AMB   AMB
     comp=Z,7.0nm,1.0s,mb4.5
HYB  Hyderabad        87.96 319     i P   P           09 01 30.5  +2.2
HYB  Hyderabad        87.96 319     eP    P           09 01 30.5  +2.2
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BJI ***02*** *08:54:10.9, 135N×96.11E, h10km, mB4.9, mb4.8, Ms4.1, Msz4.0*
IDC ***02*** *08:54:17.6±1.1, 2.11N×96.08E, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.2/24, mbtmp4.3/14, ML4.1/2, MS4.0/5, Ms1 4.0/5, ms1mx3.6/29, Error ellipse: s-maj=36.8km s-min=14.0km az=52.0*
DJA ***02*** *08:54:20, 2.15N×95.94E, h53km, ML4.7/6*
NEIC ***02*** *08:54:22.1±0.5, 2.11N×96.14E, h30km, mb4.7/2, Error ellipse: s-maj=15.6km s-min=6.5km az=52.0*
ISCJB ***02*** *08:54:23.7±2.0, 2.13N±009×963E±01, h57km±16km, mb4.6/24, MS4.2/4, Error ellipse: s-maj=26.1km s-min=8.7km az=149.4*
ISC 02 08:54:26.2±1.7, 219N±009×964E±01, h59km±14km, h25km±3.6km:pP-P, n39, σ0°83/38, mb4.6/24, MS4.2/4, Northern Sumatera

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Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
TSI  Tuntungan         2.55  59     eP    Pn          08 55 06.0  +0.9
TRSI Tarutung          2.59  93     P     Pn          08 55 05.2  -0.4
     0.0nm,0.0s
PSI  Prapat            2.62  76     Pn    Pn          08 55 05.3  -0.7
     6.4nm,0.3s,baz=279,slow=7.7,SNR=38
PSI                                 LR    LR          08 56 18.5
     comp=Z,654nm,18.4s,baz=243,slow=42
PSI  Prapat            2.62  76     Pn    Pn          08 55 05.3  -0.7
PSI                                 LR    LR          08 56 18.5
BSI  Banda Aceh        3.46 342     P     Pn          08 55 11.1  -6.5
     0.0nm,0.0s
PPI  Padang Panjang    4.80 123     P     Pn          08 55 36.9  +0.9
     0.0nm,0.0s
KSI  Kapahiang         8.50 133     P     Pn          08 56 25.3  -1.4
     0.0nm,0.0s
CMAR Chiang Mai Arr   16.36   9     Pn    Pn          08 58 12.1  -0.1
     0.6nm,0.3s,baz=198,slow=11,SNR=16
CMAR                                LR    LR          09 05 21.7
     comp=Z,629nm,18.4s,baz=205,slow=40
KMI  Kunming          23.61  15     P     P           08 59 32.5  +0.5
KMI                                 AMB   AMB
     comp=Z,11nm,1.4s,mb4.1
KAPI Kappang          24.42 107     P     P           08 59 40.3  +0.8
     comp=Z,7.9nm,0.7s,mb4.2,baz=155,slow=11,SNR=3.9
ODAN Odare            26.00 341     eP    P           08 59 54.2  +0.5
GYA  Guiyang          26.08  21     P     P           08 59 58.2  +3.8
GYA                                 AMB   AMB
     comp=Z,10.0nm,1.0s,mb4.3
RAMN Ramite           26.35 340     eP    P           08 59 57.7  +0.9
     comp=Z,27nm,0.5s,mb5.0
TAPN Taplejung        26.36 342     eP    P           08 59 57.8  +0.8
     comp=Z,56nm,0.9s,mb5.1
JIRN Jiri             27.14 340     eP    P           09 00 05.1  +1.1
     comp=Z,50nm,0.7s,mb5.2
PKI  Pulchoki         27.34 338     eP    P           09 00 06.4  +0.7
     comp=Z,23nm,0.7s,mb4.8
GUN  Gumba            27.48 340     eP    P           09 00 08.1  +1.1
     comp=Z,52nm,0.7s,mb5.2
DMN  Daman            27.48 338     eP    P           09 00 07.6  +0.6
LSA  Lhasa            27.81 350     P     P           09 00 10.7  +0.8
LSA  Lhasa            27.81 350     eP    P           09 00 10.3  +0.3
     comp=Z,11nm,0.8s,mb4.5
XAN  Xi'an            33.79  19     P     P           09 01 01.4  -1.2
XAN                                 AP    pP          09 01 10.3  -6.9
XAN                                 XP    sP          09 01 14.9  -9.2
XAN                                 AMB   AMB
     comp=Z,30nm,0.7s,mb5.3
XAN                                 AMB   AMB
     comp=Z,126nm,8.4s
XAN                                 LR    LR
     comp=N,82nm,14.1s,MS4.1
XAN                                 LR    LR
     comp=E,271nm,16.2s,MS4.1
XAN                                 LR    LR
     comp=Z,351nm,15.4s,MS4.2
LZH  Lanzhou          34.43  11     eP    P           09 01 07.5  -0.6
LZH                                 AP    pP          09 01 14.9  -7.9
LZH                                 XP    sP          09 01 19.0  -11
LZH                                 AMB   AMB
     comp=Z,17nm,1.4s,mb4.8
LZH                                 AMB   AMB
     comp=Z,68nm,4.3s
FITZ Fitzroy Crossi   35.17 126     P     P           09 01 14.8   0.0
     comp=Z,3.1nm,0.8s,mb4.3,baz=206,slow=13,SNR=5.6
GTA  Gaotai           37.18   4     eP    P           09 01 31.4  -0.2
GTA                                 AP    pP          09 01 38.1  -8.3
GTA                                 XP    sP          09 01 42.1  -11
GTA                                 AMB   AMB
     comp=Z,9.0nm,1.0s,mb4.5
KAKA Kakadu           38.74 113     eP    P           09 01 44.5  -0.7
     comp=Z,14nm,0.6s,mb4.9
WRA  Warramunga Arr   43.25 122     P     P           09 02 22.5  +0.3
     comp=Z,1.9nm,0.6s,mb4.0,baz=301,slow=9.0,SNR=22
WRA                                 LR    LR          09 20 04.3
     comp=Z,236nm,20.2s,MS4.1,baz=235,slow=36
ASAR Alice Springs    44.64 127     P     P           09 02 34.1  +0.9
     comp=Z,1.1nm,0.6s,mb3.9,baz=301,slow=7.2,SNR=21
KSRS Korea Array      45.52  36     P     P           09 02 40.5  +0.5
     comp=Z,0.9nm,0.6s,mb3.9,baz=234,slow=11,SNR=4.4
KSRS                                LR    LR          09 24 44.3
     comp=Z,181nm,18.1s,MS4.0,baz=68,slow=40
MK31 Makanchi Array   46.09 347     eP    P           09 02 42.8  -1.6
MKAR Makanchi Array   46.09 347     P     P           09 02 43.5  -0.8
     comp=Z,11nm,0.8s,mb4.8,baz=160,slow=8.0,SNR=52
SONM Songino Array    46.29   9     P     P           09 02 45.6  -0.3
     comp=Z,3.4nm,0.4s,mb4.6,baz=190,slow=9.3,SNR=28
ZAA0 Zalesovo Array   52.46 351     eP    P           09 03 31.9  -0.9
ZALV Zalesovo Beam    52.46 351     P     P           09 03 32.1  -0.7
     comp=Z,18nm,0.6s,mb5.2,baz=179,slow=6.7,SNR=57
STKA Stephens Creek   54.62 132     P     P           09 03 49.9  +0.7
     comp=Z,2.3nm,0.6s,mb4.4,baz=137,slow=23,SNR=5.0
BVAR Borovoye Array   55.05 341     P     P           09 03 50.7  -1.1
     comp=Z,4.0nm,0.7s,mb4.6,baz=140,slow=8.1,SNR=21
AKASG Malin Array Be  73.98 322     P     P           09 05 54.0  -1.4
     comp=Z,0.4nm,0.3s,mb3.8,baz=87,slow=5.5,SNR=4.3
ARCES ARCESS Array B  81.33 340     P     P           09 06 35.9  -0.1
     comp=Z,2.5nm,0.5s,mb4.4,baz=95,slow=5.0,SNR=21
ARCES ARCESS Array B  81.33 340     P     P           09 06 35.9  -0.1
URZ  Urewera          84.07 129     LR    LR          09 45 06.7
     comp=Z,120nm,18.4s,MS4.3,baz=45,slow=36
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ISCJB ***02*** *08:55:24.5±1.4, 1099S±007×78.1W±0.1, h68km±11km, mb3.9/11, Error ellipse: s-maj=25.4km s-min=6.4km az=158.9*
NEIC ***02*** *08:55:26.5±1.4, 1100S×77.98W, h60km±13km, MG4.3(LIM), Error ellipse: s-maj=24.1km s-min=8.1km az=75.0*
NEIC Felt [III] at Huacho.
IDC ***02*** *08:55:26.2±1.7, 1104S×77.98W, h69km±14km, mb3.8/10, mb1 3.9/13, mb1mx3.8/23, mbtmp3.8/13, MS3.0/1, Ms1 3.0/1, ms1mx2.4/26, Error ellipse: s-maj=30.0km s-min=8.1km az=67.0*
ISC 02 08:55:26.3±1.3, 1100S±007×780W±01, h66km±10km, n21, σ0°88/23, mb3.9/11, Off coast of Peru

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Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
NNA  Nana             1.51 131     P     Pn          08 55 50.3  -1.0
     baz=321,slow=13
NNA                                 S     Sn          08 56 08.5  -1.6
     658nm,0.3s,baz=3.4,slow=23,SNR=18
NNA  Nana             1.51 131     P     Pn          08 55 50.3  -1.0
NNA                                 S     Sn          08 56 08.4  -1.6
ATAH Atahualpa        3.99 355     P     Pn          08 56 24.8  -0.3
     57nm,0.3s,baz=163,slow=4.9,SNR=255
ATAH                                S     Sn          08 57 10.5  -0.2
     43nm,0.3s,baz=344,slow=22,SNR=8.8
ARE  Arequipa         8.34 131     eP    Pn          08 57 33.0  +8.4
ARE                                 eS    Sn          08 59 20.0  +23
LPAZ La Paz          10.95 120     P     Pn          08 58 01.4  +1.2
     0.5nm,0.3s,baz=311,slow=16,SNR=5.5
OTAV Otavalo         11.18 358     ePn   Pn          08 58 04.3  +1.0
     8.9nm,0.6s
OTAV                                eSn   Sn          09 00 07.2  +0.6
LVC  Limon Verde     14.46 144     P     Pn          08 58 48.7  +1.2
     0.4nm,0.3s,baz=235,slow=16,SNR=2.8
LVC                                 LR    LR          09 04 13.7
     comp=Z,53nm,19.6s,baz=286,slow=37
SIV  San Ignacio     17.20 109     P     Pn          08 59 22.1  -0.2
     0.2nm,0.3s,baz=296,slow=12,SNR=9.0
SDV  Santo Domingo   21.08  21     P     P           09 00 05.4  +0.1
     16nm,0.6s,mb4.5,baz=266,slow=18,SNR=30
CFAA Coronel Fontan  22.41 158     P     P           09 00 19.9  +0.6
     0.4nm,0.7s,mb2.9,baz=333,slow=10,SNR=7.7
CPUP Villa Florida   24.77 131     P     P           09 00 42.8  +0.9
     1.7nm,0.9s,mb3.5,baz=339,slow=8.1,SNR=2.9
PCRV Puerto La Cruz  24.89  33     P     P           09 00 44.3  +1.2
     3.8nm,0.5s,mb4.1,baz=210,slow=8.2,SNR=6.3
PLCA Paso Flores     30.34 169     P     P           09 01 32.3  +0.7
     0.8nm,0.6s,mb3.5,baz=351,slow=12,SNR=3.8
PDAR Pinedale Array  60.80 334     P     P           09 05 31.1  -0.3
     0.4nm,0.6s,mb3.6,baz=114,slow=9.7,SNR=4.6
NVAR Mina Array Bea  61.91 325     P     P           09 05 39.0   0.0
     0.5nm,0.7s,mb3.6,baz=149,slow=4.7,SNR=5.4
ULM  Lac du Bonnet   62.96 347     P     P           09 05 44.9  -0.9
     5.6nm,0.5s,mb4.7,baz=163,slow=5.8,SNR=6.7
SCHQ Schefferville   66.26   7     P     P           09 06 06.0  -1.2
     2.8nm,0.7s,mb4.2,baz=222,slow=13,SNR=3.7
YKA  Yellowknife Ar  78.58 344     P     P           09 07 19.1  -1.2
     0.8nm,0.6s,mb3.7,baz=145,slow=6.3,SNR=5.0
TORD Torodi Ar. Bea  82.64  75     P     P           09 07 42.3  -0.9
     1.9nm,0.9s,mb3.9,baz=270,slow=5.1,SNR=6.5
WRA  Warramunga Arr 135.73 226     PKP   PKPdf       09 14 39.1  -1.1
     0.6nm,0.9s,baz=124,slow=1.9,SNR=5.1
KSRS Korea Array    144.84 323     PKP   PKPdf       09 14 55.5  -0.6
     2.5nm,0.7s,baz=54,slow=3.1,SNR=8.1
```

ISCJB ***02*** *08:56:28.0±1.1, 34N±01×9706E±009, h81km±10km, mb4.4/13, Error ellipse: s-maj=21.6km s-min=7.8km az=42.9*
IDC ***02*** *08:56:29.2±2.8, 342N×97.17E, h75km±22km, mb4.0/11, mb1 4.1/12, mb1mx3.8/24, mbtmp4.0/12, Error ellipse: s-maj=39.5km s-min=12.0km az=52.0*
NEIC ***02*** *08:56:30.3±1.2, 341N×97.17E, h88km±10km, Error ellipse: s-maj=15.1km s-min=6.7km az=62.0*
ISC 02 08:56:31.3±1.6, 34N±01×973E±01, h94km±14km, n23, σ0°60/25, mb4.3/13, 1D, Northern Sumatera

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Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
TSI  Tuntungan         1.31  87     eP    Pn          08 56 55.0   0.0
PSI  Prapat            1.79 111     P     Pn          08 57 01.1  +0.2
     27nm,0.3s,baz=298,slow=9.5,SNR=32
PSI                                 S     Sn          08 57 23.0  -0.4
     88nm,0.3s,baz=61,slow=16,SNR=12
BSI  Banda Aceh        2.83 317     ||eP  Pn          08 57 06.0  -8.6
BSI                                 eS    Sn          08 57 40.0  -8.0
CMAR Chiang Mai Arr   15.02   6     P     Pn          08 59 58.7  +0.1
     0.4nm,0.3s,baz=197,slow=11,SNR=3.2
KAPI Kappang          24.00 110     P     P           09 01 37.3  -0.1
     8.5nm,0.4s,mb4.4,baz=330,slow=10,SNR=7.1
NWAO Narrogin (SRO)   40.82 154     P     P           09 04 03.7   0.0
     12nm,1.1s,mb4.6,baz=260,slow=6.1,SNR=4.5
NWAO Narrogin (SRO)   40.82 154     P     P           09 04 03.7   0.0
WRA  Warramunga Arr   43.20 124     P     P           09 04 23.7  +0.4
     1.1nm,0.5s,mb3.8,baz=304,slow=9.2,SNR=8.8
WRA                                 ScP   ScP         09 09 56.6  +2.5
     1.1nm,1.0s,baz=303,slow=3.3,SNR=4.5
WB2  Warramunga Arr   43.21 124     eP    P           09 04 23.4   0.0
ASAR Alice Springs    44.72 129     P     P           09 04 35.5  +0.1
     0.5nm,0.7s,mb3.3,baz=307,slow=6.4,SNR=3.7
SONM Songino Array    44.93   9     P     P           09 04 37.0  +0.4
     0.9nm,0.3s,mb4.0,baz=192,slow=9.9,SNR=6.3
MKAR Makanchi Array   45.10 346     P     P           09 04 37.2  -0.8
     1.6nm,0.4s,mb4.1,baz=158,slow=8.4,SNR=7.0
RER  Riviere de l'E   47.43 237     eP    P           09 04 55.9  -0.8
ZALV Zalesovo Beam    51.37 351     P     P           09 05 25.9  -0.2
     3.1nm,0.4s,mb4.7,baz=158,slow=6.2,SNR=6.0
ZALV Zalesovo Beam    51.37 351     P     P           09 05 25.9  -0.2
RDF  Al-Radifah       53.52 304     eP    P           09 05 44.2  +1.8
RDF                                 AMb   AMB         09 05 47.5
     comp=Z,36nm,1.1s,mb5.3
NAY  Al-Naaiem        53.87 304     eP    P           09 05 46.0  +1.0
NAY                                 AMb   AMB         09 05 46.8
     comp=Z,9.0nm,0.5s,mb5.1
BVAR Borovoye Array   54.17 340     P     P           09 05 46.4  -0.4
     comp=Z,3.9nm,0.8s,mb4.5,baz=148,slow=8.7,SNR=8.1
AKTK Aktyubinsk       57.30 331     P     P           09 06 08.8  -0.4
AKTO Aktyubinsk       57.30 331     P     P           09 06 08.8  -0.4
     comp=Z,2.0nm,0.4s,mb4.5,baz=133,slow=6.6,SNR=7.1
AKASG Malin Array Be  73.53 322     P     P           09 07 53.1  -0.8
     comp=Z,1.1nm,0.4s,mb4.0,baz=87,slow=5.0,SNR=7.9
ARCES ARCESS Array B  80.46 340     P     P           09 08 32.9  +0.6
     comp=Z,1.4nm,0.4s,mb4.1,baz=97,slow=5.8,SNR=16
ARCES ARCESS Array B  80.46 340     P     P           09 08 32.9  +0.5
```

ISCJB ***02*** *09:04:08.2±0.5, 3131N±004×858W±004, h10km, Error ellipse: s-maj=6.2km s-min=4.0km az=147.8*
CNRM ***02*** *09:04:11.7, 3108N×845W, h12km, MD3.9*
MDD ***02*** *09:04:11.4±0.6, 3109N×846W, h17km±5km, mb4.0/4, Error ellipse: s-maj=5.7km s-min=4.3km az=175.0, PRIMO*
CSEM ***02*** *09:04:11.2±0.2, 3133N×862W, h50km±2km, MD3.9, Error ellipse: s-maj=4.3km s-min=3.5km az=132.0*
NEIC ***02*** *09:04:15.4, 3148N×907W, h34km, MG4.0(MDD), After MDD.*
INMG ***02*** *09:04:17.1±0.9, 3163N×938W, h62km±15km, ML2.8, Error ellipse: s-maj=31.2km s-min=3.4km az=124.0*
ISC 02 09:04:09.6±0.5, 3121N±004×853W±004, h10km, n37, σ1°28/64, Morocco

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Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
CIA  Chichaoua        0.41 331     i P   Pg          09 04 21.5  +3.9
CIA                                 i S   Sg          09 04 30.0  +7.0
OUK  Oukaimeden       0.56  90     P     Pg          09 04 20.5   0.0
OUK                                 S     Sg          09 04 29.0  +1.1
JHA  Jbel Lahdid      0.95 304     P     Pg          09 04 30.0  +2.1
JHA                                 S     Sg          09 04 45.0  +4.7
JHA  Jbel Lahdid      0.95 304     i P   Pg          09 04 30.0  +2.1
AFS  Agadir Fac de    1.15 227     i P   Pb          09 04 32.0  +0.5
AFS                                 i S   Sb          09 04 46.0  -0.5
YBT  Youssef Ben Ta   1.68 216     P     Pn          09 04 36.0  -3.0
YBT                                 S     Sn          09 04 56.0  -4.5
TZC  Tazercounte      1.97  61     i P   Pn          09 04 45.0  +2.0
TZC                                 i S   Sn          09 05 08.0  +0.2
CZD  Col de Zad       3.47  57     P     Pn          09 05 04.0  +0.4
CZD                                 S     Sn          09 05 43.0  -1.8
CZD  Col de Zad       3.47  57     i P   Pn          09 05 04.0  +0.4
MIF  Mishlifen        3.55  51     eP    Pn          09 05 07.0  +2.3
MIF                                 i S   Sn          09 05 46.0  -0.8
ZFT  Errachidia       3.65  76     P     Pn          09 05 08.0  +1.8
ZFT                                 S     Sn          09 05 48.0  -1.3
ZFT  Errachidia       3.65  76     eP    Pn          09 05 08.0  +1.8
TGT  Taghat           4.09  45     eP    Pn          09 05 13.0  +0.9
TGT                                 i S   Sn          09 05 59.0  -1.0
TZK  Tazeka           4.65  51     P     Pn          09 05 21.0  +1.1
TZK                                 S     Sn          09 06 12.0  -2.0
TZK  Tazeka           4.65  51     eP    Pn          09 05 21.0  +1.1
EFAM Famara           4.80 246     P     Pn          09 05 20.9  -1.0
     1.4nm,0.1s,SNR=7.9
EFAM                                S     Sn          09 06 11.1  -6.6
     3.6nm,0.2s,SNR=7.9
EFAM Famara           4.80 246     P     Pn          09 05 20.9  -1.1
EFAM Famara           4.80 246     P     Pn          09 05 20.9  -1.0
EFAM                                S     Sn          09 06 08.4  -9.3
CFTV Fuerteventura    5.58 241     S     Sn          09 06 28.0  -8.7
     1.0nm,0.2s,SNR=7.9
PFVI Vila Bisbo       5.91 358     eP    Pn          09 05 37.8  +0.6
PFVI                                eS    Sn          09 06 40.9  -4.1
PFVI                                A                 09 06 49.5
     6.9nm,0.3s
PFVI Vila Bisbo       5.91 358     eP    Pn          09 05 37.8  +0.6
PFVI                                eS    Sn          09 06 40.9  -4.1
     6.9nm,0.3s
MORF Marmelete        6.08 359     eP    Pn          09 05 39.0  -0.5
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MORF				*e*S	Sn	09 06 45.8	-3.4
MORF				A		09 06 50.6	
	5.7nm,0.1s						
MORF	**Marmelete**	**6.08**	**359**	*e*P	Pn	09 05 39.0	-0.5
MORF				*e*S	Sn	09 06 45.8	-3.4
	5.7nm,0.1s						
PVAQ	**Vaqueiros**	**6.21**	**6**	*e*P	Pn	09 05 41.1	-0.2
PVAQ				S	Sn	09 06 47.8	-4.6
PVAQ				A		09 06 54.7	
	6.2nm,0.3s						
PVAQ	**Vaqueiros**	**6.21**	**6**	P	Pn	09 05 41.1	-0.2
PVAQ				S	Sn	09 06 47.8	-4.6
	6.2nm,0.3s						
EGRO	**El Granado**	**6.37**	**7**	P	Pn	09 05 43.7	+0.2
	2.3nm,0.3s,SNR=6.8						
EGRO				S	Sn	09 06 52.2	-4.0
	0.7nm,0.2s,SNR=4.5						
EGRO	**El Granado**	**6.37**	**7**	P	Pn	09 05 43.7	+0.3
EGRO	**El Granado**	**6.37**	**7**	P	Pn	09 05 43.7	+0.2
EGRO				S	Sn	09 06 48.6	-7.6
EMIN	**Mina Concepcio**	**6.72**	**13**	P	Pn	09 05 48.9	+0.6
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	09 06 59.8	-5.1
	1.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.72**	**13**	P	Pn	09 05 48.9	+0.6
EMIN	**Mina Concepcio**	**6.72**	**13**	P	Pn	09 05 48.9	+0.6
EMIN				S	Sn	09 06 57.9	-6.9
PBAR	**Barrancos**	**7.05**	**10**	*e*P	Pn	09 05 54.3	+1.4
PBAR				S	Sn	09 07 09.1	-4.0
PBAR				A		09 07 15.3	
	3.8nm,0.5s						
PBAR	**Barrancos**	**7.05**	**10**	P	Pn	09 05 54.3	+1.4
PBAR				S	Sn	09 07 09.1	-4.0
	3.8nm,0.5s						
EBAD	**Badajoz**	**7.63**	**9**	P	Pn	09 06 01.0	+0.2
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	09 07 23.1	-4.1
	1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**7.63**	**9**	P	Pn	09 06 01.0	+0.2
EBAD	**Badajoz**	**7.63**	**9**	P	Pn	09 06 01.0	+0.2
EBAD				S	Sn	09 07 18.1	-9.2
PMRV	**Marv??o**	**8.25**	**6**	*e*P	Pn	09 06 08.0	-1.3

*IDC **02** 09:11:55.7±0.9, 3995N×7840E, h0km, mb4.0/8, mb1 4.2/12, mb1mx4.0/25, mbtmp4.0/12, ML3.8/4, MS3.3/2, Ms1 3.3/2, ms1mx3.0/27, Error ellipse: s-maj=19.9km s-min=17.1km az=78.0*
*ISCJB **02** 09:11:55.5±0.3, 3991N±002×7868E±004, h10km, mb4.0/9, Error ellipse: s-maj=4.9km s-min=2.6km az=160.4*
*BJI **02** 09:11:57.4, 4008N×7851E, h23km, mB4.4, mb4.4, ML4.1*
*NNC **02** 09:11:57.4±2.6, 3999N×7944E, h0km, mb4.4, mpv4.4, Error ellipse: s-maj=25.5km s-min=14.1km az=2.0*
*MOS **02** 09:11:58.9±2.4, 3998N×7839E, h33km, mb4.2/6, Error ellipse: s-maj=20.2km s-min=7.7km az=97.3*
*NEIC **02** 09:12:06.1±2.8, 4045N×7839E, h59km±16km, Error ellipse: s-maj=34.6km s-min=11.1km az=166.0*

ISC 02 09:11:57.5±0.3, 3995N±002×7862E±004, h10km, n72, σ1§22/85, mb4.0/9, 10C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.09**	**259**	PG	Pn	09 12 33.4	+0.9
KSH				SG	Sn	09 12 59.2	+0.7
KSH				Smax			
	comp=N,5μm,0.5s						
KSH				Smax			
	comp=E,6μm,0.5s						
ULHL	**Ulahol**	**2.91**	**323**	P	Pn	09 12 45.3	+1.4
	SNR=27						
KZA	**Kyzart**	**3.32**	**311**	P	Pn	09 12 50.2	+0.7
	SNR=11						
KNDC	**Almaty**	**3.49**	**340**	⇓Pn	Pn	09 12 53.6	+1.8
	comp=E,293nm,0.7s						
KNDC				⇓Sn	Sb	09 13 43.6	+1.7
	comp=E,887nm,1.0s						
AAA	**Alma-Ata**	**3.55**	**340**	*i* PN	Pb	09 12 58.3	-2.1
AAA				*i* S	Sb	09 13 43.6	+0.1
AAA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AAA				smax			
	comp=E,1.0nm,1.0s						
TKM2	**Tokmak 2**	**3.74**	**324**	⇑Pn	Pb	09 13 02.0	-1.6
	comp=E,88nm,0.6s						
TKM2				⇑Sn	Sb	09 13 50.3	+1.3
	comp=E,165nm,0.6s						
TKM2	**Tokmak 2**	**3.74**	**324**	P	Pn	09 12 56.7	+1.5
	SNR=6.4						
TKM2	**Tokmak 2**	**3.74**	**324**	*e*Pn	Pn	09 12 52.4	-2.9
UCH	**Uchtor**	**3.85**	**308**	P	Pb	09 13 03.2	-2.2
	SNR=30						
UCH	**Uchtor**	**3.85**	**308**	*e*Pn	Pn	09 12 57.5	+0.7
KBK	**Karagaybulak**	**3.87**	**316**	P	Pb	09 13 05.8	-0.1
	SNR=23						
CHMS	**Chumysh**	**4.21**	**318**	P	Pn	09 13 02.9	+1.1
	SNR=9.3						
AML	**Almayashu**	**4.32**	**302**	P	Pn	09 13 03.9	+0.8
	SNR=38						
AML	**Almayashu**	**4.32**	**302**	*e*Pn	Pn	09 13 03.9	+0.7
USP	**Ospenovka**	**4.53**	**318**	P	Pg	09 13 15.7	-8.5
	SNR=113						
EKS2	**Erkin-Say**	**4.54**	**308**	P	Pn	09 13 08.0	+1.7
	SNR=17						
EKS2	**Erkin-Say**	**4.54**	**308**	*e*Pn	Pn	09 13 07.9	+1.6
KK31	**Karatay Array**	**6.85**	**300**	⇑Pn	Pb	09 13 49.9	-6.7
	comp=E,11nm,0.7s,baz=134,slow=16,SNR=39						
KK31				⇑Sn	Sb	09 15 18.3	-0.1
	comp=E,38nm,0.8s,baz=99,slow=25,SNR=6.7						
MK31	**Makanchi Array**	**7.34**	**20**	⇑Pn	Pn	09 13 45.7	+1.0
	comp=E,1.2nm,0.3s,baz=201,slow=11,SNR=31						
MK31				⇑Lg		09 15 40.0	
	comp=E,18nm,0.7s,baz=205,slow=29,SNR=5.2						
MK31	**Makanchi Array**	**7.34**	**20**	*e*Pn	Pn	09 13 45.9	+1.1
MKAR	**Makanchi Array**	**7.34**	**20**	Pn	Pn	09 13 45.9	+1.2
	comp=E,3.0nm,0.3s,baz=200,slow=13,SNR=41						
MKAR				Lg		09 15 49.0	
	comp=E,2.3nm,0.3s,baz=202,slow=30,SNR=3.4						
MKAR				LR	LR	09 17 01.5	
	comp=E,136nm,21.5s,baz=175,slow=41						
DLH	**Dalhousie**	**7.70**	**197**	*e*P	Pn	09 13 51.0	+1.4
DLH				*e*x	Sn	09 15 21.0	+4.1
THN	**Thein Dam**	**7.86**	**198**	*e*P	Pn	09 13 53.1	+1.2
THN				*e*x	Sn	09 15 21.3	+0.5
KLP	**Kalpa**	**8.40**	**182**	*e*P	Pn	09 13 59.2	-0.1
KLP				*e*S	Sn	09 15 30.1	-4.2
KLP				AML	AML	09 15 44.5	
	comp=N,114nm,0.7s						
KLP				AML	AML	09 15 45.9	
	comp=E,185nm,0.7s						
SDNR	**Sundarnagar**	**8.54**	**190**	*e*x	Pn	09 13 56.4	-4.8
SDNR				*e*x	Sn	09 15 41.0	+3.5
SMLA	**Simla**	**8.88**	**188**	*i* P	Pn	09 14 06.2	+0.4
SMLA				*i* S	Sn	09 15 41.5	-4.5
SMLA				*e*x	x	09 15 47.4	
	comp=N,522nm,0.4s						
SMLA				*e*x	x	09 15 47.5	
	comp=E,370nm,0.3s						
JOSI	**Joshimath**	**9.40**	**175**	*e*x	x	09 13 53.0	
JOSI				*e*S	Sn	09 15 57.9	-1.0
JOSI				AML	AML	09 16 15.7	
	comp=N,93nm,0.8s						
JOSI				AML	AML	09 16 16.3	
	comp=E,54nm,0.4s						
DDI	**Dehra Dun**	**9.62**	**183**	*e*x	Pn	09 14 15.0	-1.0
KURBB	**Kurchatov Arra**	**10.67**	**360**	⇑Pn	Pn	09 14 30.6	+0.3
	comp=E,0.7nm,0.9s						
KURBB				⇑Lg		09 17 35.6	
	comp=E,25nm,1.6s						
KURK	**Kurchatov**	**10.77**	**0**	⇓Pn	Pn	09 14 31.1	-0.5
	comp=E,4.9nm,0.7s						
KURK				⇑Lg		09 17 36.3	
	comp=E,96nm,1.3s						
KURK	**Kurchatov**	**10.77**	**0**	*e*P	Pn	09 14 31.5	-0.1
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KURK	**Kurchatov**	**10.77**	**0**	*e*Pn	Pn	09 14 31.5	-0.1
	comp=Z,5.7nm,0.6s						
SONA	**Sohna**	**11.74**	**187**	*e*P	Pn	09 14 45.6	+0.6
SONA				*e*S	Sn	09 16 48.9	-7.3
SONA				AML	AML	09 16 53.9	
	comp=E,32nm,0.3s						
SONA				AML	AML	09 16 56.1	
	comp=N,20nm,0.6s						
KUDL	**Kundal**	**11.91**	**189**	*e*P	Pn	09 14 46.5	-0.8
KUDL				*e*x	Sn	09 16 47.7	-13
KUDL				AML	AML	09 16 59.2	
	comp=N,18nm,0.5s						
DANN	**Dangsing**	**12.32**	**158**	*e*P	Pn	09 14 53.6	+0.6
	comp=N,23nm,0.4s						
KOLN	**Koldanda**	**12.83**	**160**	*e*P	Pn	09 15 00.4	+0.4
GKN	**Gorkha**	**12.91**	**155**	*e*P	Pn	09 15 01.2	+0.1
KKN	**Kakani**	**13.32**	**154**	*e*P	Pn	09 15 06.3	-0.4
	comp=N,26nm,0.5s						
GUN	**Gumba**	**13.43**	**151**	*e*P	Pn	09 15 08.3	+0.2
DMN	**Daman**	**13.43**	**154**	*e*P	Pn	09 15 07.7	-0.5
PKI	**Pulchoki**	**13.57**	**153**	*e*P	Pn	09 15 09.7	-0.4
	comp=N,34nm,0.5s						
JIRN	**Jiri**	**13.77**	**151**	*e*P	Pn	09 15 12.8	0.0
	comp=N,38nm,0.6s						
BVA0	**Borovoye Array**	**14.24**	**339**	⇑Pn	Pn	09 15 24.9	+5.9
	comp=N,2.9nm,0.8s,baz=149,slow=11,SNR=23						
BVAR	**Borovoye Array**	**14.24**	**339**	Pn	Pn	09 15 16.5	-2.6
	comp=N,0.3nm,0.3s,baz=151,slow=13,SNR=14						
BVAR				Lg		09 19 19.4	
	comp=N,0.3nm,0.3s,baz=159,slow=29,SNR=3.5						
BVAR				LR	LR	09 20 55.3	
	comp=N,201nm,21.1s,baz=51,slow=38						
BRVK	**Borovoye**	**14.30**	**339**	P	Pn	09 15 19.9	+0.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**14.30**	**339**	Pn	Pn	09 15 19.9	0.0
	comp=Z,4.7nm,0.7s						
RAMN	**Ramite**	**14.57**	**150**	*e*P	Pn	09 15 22.5	-1.1
	comp=Z,62nm,0.7s						
ZAL	**Zalesovo**	**14.61**	**15**	P	Pn	09 15 22.3	-1.7
ZALV	**Zalesovo Beam**	**14.62**	**15**	Pn	Pn	09 15 22.2	-2.0
	comp=Z,0.4nm,0.3s,baz=203,slow=11,SNR=5.4						
ZALV				Lg		09 19 43.5	
	baz=195,slow=22,SNR=2.9						
ODAN	**Odare**	**14.96**	**148**	*e*P	Pn	09 15 28.7	-0.3
	comp=Z,24nm,0.6s						
NVS	**Novosibirsk**	**15.22**	**10**	*e*P	Pn	09 15 36.1	+3.8
NVS				*e*S	Sn	09 18 24.6	+3.9
NVS				pmax	pmax		
	comp=Z,13nm,1.1s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
GTA	**Gaotai**	**16.33**	**85**	*e*P	Pn	09 15 46.4	-0.4
GTA				AP	pP	09 15 50.6	-1.9
GTA				XP	sP	09 15 54.1	+0.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.8s						
AKTK	**Aktyubinsk**	**17.85**	**313**	P	Pn	09 16 03.7	-2.1
AKTO	**Aktyubinsk**	**17.85**	**313**	P	Pn	09 16 03.7	-2.1
	comp=Z,0.2nm,0.3s,baz=93,slow=12,SNR=4.1						
LZH	**Lanzhou**	**20.22**	**93**	*e*P	P	09 16 32.7	+0.1
LZH				AP		09 16 38.8	
LZH				XP	sP	09 16 42.0	+5.3
LZH				AMB	AMB		
	comp=Z,19nm,1.5s						
LZH				AMB	AMB		
	comp=E,81nm,4.6s						
ARU	**Arti**	**21.10**	**328**	P	P	09 16 40.0	-1.9
SONM	**Songino Array**	**21.43**	**59**	P	P	09 16 47.7	+2.1
	comp=Z,3.1nm,0.7s,mb3.8,baz=258,slow=11,SNR=21						
SONM	**Songino Array**	**21.43**	**59**	P	P	09 16 47.7	+2.2
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CD2	**Chengdu**	**22.32**	**106**	*e*P	P	09 16 57.7	+2.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
ARCES	**ARCESS Array B**	**40.45**	**334**	P	P	09 19 34.6	-1.1
	comp=Z,1.6nm,0.6s,mb3.9,baz=104,slow=8.1,SNR=13						
ARCES	**ARCESS Array B**	**40.45**	**334**	P	P	09 19 34.6	-1.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**45.38**	**321**	P	P	09 20 13.6	-2.1
	comp=Z,1.0nm,0.7s,mb3.8,baz=87,slow=7.9						
NOA	**NORSAR Array B**	**45.38**	**321**	P	P	09 20 14.3	-1.4
	comp=Z,1.1nm,0.7s,mb3.8,baz=87,slow=7.8,SNR=3.9						
NOA	**NORSAR Array B**	**45.38**	**321**	P	P	09 20 14.3	-1.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**45.94**	**304**	P	P	09 20 20.0	-0.3
	comp=Z,0.4nm,0.3s,mb3.9,baz=69,slow=7.3,SNR=6.9						
TORD	**Torodi Ar. Bea**	**71.70**	**272**	P	P	09 23 18.1	-1.9
	comp=Z,4.7nm,0.6s,mb4.6,baz=47,slow=5.6,SNR=51						
YKA	**Yellowknife Ar**	**77.35**	**6**	P	P	09 23 51.1	-0.9
	comp=Z,1.0nm,0.5s,mb4.0,baz=344,slow=6.0,SNR=5.9						
YKA	**Yellowknife Ar**	**77.35**	**6**	P	P	09 23 51.1	-0.9
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**79.02**	**128**	P	P	09 24 02.7	+1.0
	comp=Z,2.2nm,1.1s,mb4.0,baz=327,slow=5.0,SNR=6.9						
WRA	**Warramunga Arr**	**79.02**	**128**	P	P	09 24 02.7	+0.9
WRA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ASAR	**Alice Springs**	**81.60**	**130**	P	P	09 24 16.4	+0.8
	comp=Z,0.6nm,0.8s,mb3.6,baz=320,slow=4.8,SNR=7.7						
ASAR	**Alice Springs**	**81.60**	**130**	P	P	09 24 16.4	+0.8
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*IDC **02** 09:50:55.2±1.2, 4007N×7817E, h0km, mb4.0/4, mb1 4.0/6, mb1mx3.7/23, mbtmp3.9/6, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/32, Error ellipse: s-maj=25.9km s-min=20.5km az=118.0*
*BJI **02** 09:50:57.5, 4004N×7867E, h19km, mB4.2, mb4.4, ML3.7*
*MOS **02** 09:50:59.7±2.3, 4013N×7851E, h33km, mb4.1/3, Error ellipse: s-maj=28.8km s-min=10.5km az=89.2*
*ISCJB **02** 09:51:00.4±0.6, 3979N±003×7856E±007, h64km±11km, mb4.1/6, Error ellipse: s-maj=8.8km s-min=4.6km az=169.7*
*NNC **02** 09:51:05.0±3.9, 4056N×7972E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=38.0km s-min=19.3km az=176.0*
*NEIC **02** 09:51:04.5±1.6, 4033N×7841E, h76km±15km, Error ellipse: s-maj=18.8km s-min=10.3km az=165.0*

ISC 02 09:51:00.8±0.4, 3989N±003×7863E±005, h49km±10km, n61, σ1§50/69, mb4.1/6, 10C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.08**	**261**	P	Pn	09 51 32.4	-0.8
KSH				S	Sn	09 51 59.7	+1.8
KSH				Smax			
	comp=N,3μm,0.5s						
KSH				Smax			
	comp=E,3μm,0.6s						
ULHL	**Ulahol**	**2.97**	**323**	P	Pn	09 51 46.2	+0.9
	SNR=59						
KZA	**Kyzart**	**3.37**	**312**	P	Pn	09 51 53.2	+2.4
	SNR=34						
KNDC	**Almaty**	**3.55**	**340**	⇑Pn	Pn	09 51 57.9	+4.5
	comp=E,188nm,0.8s						
KNDC				⇑Sn	Sn	09 52 43.1	+9.0
	comp=E,218nm,0.6s						
AAA	**Alma-Ata**	**3.61**	**340**	*i* PN	Pn	09 51 57.1	+2.9
AAA				*i* S	Sn	09 52 42.1	+6.6
AAA				smax			
	comp=E,1.0nm,1.0s						
TKM2	**Tokmak 2**	**3.79**	**324**	⇑Pn	Pn	09 52 02.0	+5.3
	comp=E,55nm,0.6s						
TKM2				⇑Sn	Sn	09 52 49.3	+9.3
	comp=E,157nm,0.8s						
TKM2	**Tokmak 2**	**3.79**	**324**	PN	Pn	09 51 56.2	-0.5
TKM2						09 52 49.5	
TKM2				pmax	pmax		
	comp=Z,33nm,0.6s						
TKM2				smax			
	comp=Z,125nm,0.8s						
TKM2	**Tokmak 2**	**3.79**	**324**	P	Pn	09 51 55.6	-1.0
	SNR=28						
TKM2	**Tokmak 2**	**3.79**	**324**	*e*Pn	Pn	09 51 55.6	-1.1
UCH	**Uchtor**	**3.89**	**308**	P	Pn	09 52 02.7	+4.7
	SNR=15						
UCH	**Uchtor**	**3.89**	**308**	*e*Pn	Pn	09 51 56.5	-1.6
UCH				*e*Sn	Sn	09 52 38.0	-4.5
KBK	**Karagaybulak**	**3.92**	**316**	P	Pn	09 52 03.4	+5.0
	SNR=11						
AAK	**Ala-Archa**	**4.15**	**313**	P	Pn	09 52 03.5	+1.9
	SNR=14						
CHMS	**Chumysh**	**4.26**	**318**	P	Pn	09 52 10.1	+7.0
	SNR=14						
AML	**Almayashu**	**4.36**	**303**	P	Pn	09 52 03.3	-1.1
	SNR=22						
AML	**Almayashu**	**4.36**	**303**	*e*Pn	Pn	09 52 03.1	-1.2
USP	**Ospenovka**	**4.58**	**319**	P	Pn	09 52 14.7	+7.2
	SNR=82						
EKS2	**Erkin-Say**	**4.59**	**309**	P	Pn	09 52 06.8	-0.8
	SNR=5.6						
EKS2	**Erkin-Say**	**4.59**	**309**	*e*Pn	Pn	09 52 07.0	-0.6
MK31	**Makanchi Array**	**7.40**	**20**	⇑Pn	Pn	09 52 44.8	-1.4
	comp=Z,0.8nm,0.4s,baz=199,slow=12,SNR=21						
MK31				⇑Lg		09 54 30.6	
	comp=Z,12nm,0.8s,baz=201,slow=28,SNR=4.5						
MK31	**Makanchi Array**	**7.40**	**20**	*e*Pn	Pn	09 52 44.8	-1.3
MK31				*e*Sn	Sn	09 54 09.4	+0.8
MKAR	**Makanchi Array**	**7.40**	**20**	Pn	Pn	09 52 45.0	-1.1
	comp=Z,1.2nm,0.3s,baz=200,slow=12,SNR=18						
MKAR				Pg	Pn	09 53 10.9	+25
	comp=Z,0.7nm,0.3s,baz=201,slow=16,SNR=6.2						
MKAR				Lg		09 54 51.0	
	comp=Z,0.7nm,0.3s,baz=201,slow=28,SNR=3.9						
MKAR	**Makanchi Array**	**7.40**	**20**	PN	Pn	09 52 45.0	-1.1
MKAR						09 53 11.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DLH	**Dalhousie**	**7.64**	**197**	*e*S	Sn	09 54 15.0	+0.3
THN	**Thein Dam**	**7.80**	**198**	*e*S	Sn	09 54 19.8	+1.2
KLP	**Kalpa**	**8.34**	**182**	*e*P	Pn	09 53 01.3	+2.2
KLP				*e*S	Sn	09 54 32.8	+0.9
KLP				AML	AML	09 54 45.0	
	comp=E,100nm,0.7s						
KLP				AML	AML	09 54 45.8	
	comp=N,68nm,0.4s						
SMLA	**Simla**	**8.82**	**188**	*i* P	Pn	09 53 05.3	-0.3
SMLA				*i* S	Sn	09 54 41.0	-2.7
SMLA				*e*x	x	09 54 43.2	
	comp=N,269nm,0.3s						
SMLA				*e*x	x	09 54 46.4	
	comp=E,230nm,0.3s						
KBL	**Kabul**	**9.32**	**238**	*e*Pn	Pn	09 53 09.5	-3.0
JOSI	**Joshimath**	**9.34**	**175**	*e*x	x	09 53 01.6	
JOSI				*e*S	Sn	09 54 59.1	+2.7
JOSI				AML	AML	09 55 35.1	
	comp=N,82nm,0.5s						
JOSI				AML	AML	09 55 35.9	
	comp=E,44nm,0.3s						
KURBB	**Kurchatov Arra**	**10.74**	**360**	⇓Pn	Pn	09 53 28.9	-2.9
	comp=E,0.9nm,1.6s						
KURBB				⇑Lg		09 56 25.9	
	comp=E,12nm,1.3s						
KURK	**Kurchatov**	**10.83**	**360**	⇑Pn	Pn	09 53 29.9	-3.1
	comp=E,2.2nm,0.6s						
KURK				⇓Lg		09 56 29.4	
	comp=E,76nm,1.7s						
KURK	**Kurchatov**	**10.83**	**360**	*e*P	Pn	09 53 30.8	-2.2
KURK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KURK	**Kurchatov**	**10.83**	**360**	*e*Pn	Pn	09 53 30.8	-2.2
	comp=Z,8.6nm,1.2s						
SONA	**Sohna**	**11.68**	**187**	*e*S	Sn	09 55 50.8	-2.9
SONA				AML	AML	09 55 52.6	
	comp=E,20nm,0.2s						
SONA				AML	AML	09 55 53.2	
	comp=N,12nm,0.2s						
KOLN	**Koldanda**	**12.77**	**160**	*e*P	Pn	09 53 58.5	-1.1
GKN	**Gorkha**	**12.86**	**155**	*e*P	Pn	09 54 00.3	-0.5
	comp=N,1.9nm,0.3s						
KKN	**Kakani**	**13.27**	**153**	*e*P	Pn	09 54 05.4	-1.0
	comp=N,15nm,0.5s						
GUN	**Gumba**	**13.37**	**151**	*e*P	Pn	09 54 08.5	+0.7
DMN	**Daman**	**13.37**	**154**	*e*P	Pn	09 54 07.1	-0.8
PKI	**Pulchoki**	**13.51**	**153**	*e*P	Pn	09 54 08.8	-1.0
JIRN	**Jiri**	**13.71**	**151**	*e*P	Pn	09 54 12.5	0.0
	comp=N,27nm,0.6s						
BVA0	**Borovoye Array**	**14.30**	**339**	⇑Pn	Pn	09 54 24.1	+3.8
	comp=N,0.9nm,0.8s,baz=146,slow=11,SNR=14						
BVA0				⇑Lg		09 58 27.2	
	comp=N,5.5nm,2.6s,baz=146,slow=30,SNR=5.2						
BVAR	**Borovoye Array**	**14.30**	**339**	Pn	Pn	09 54 15.5	-4.8
	comp=N,0.2nm,0.3s,baz=143,slow=18,SNR=3.6						
BVAR				Lg		09 58 19.5	
	comp=N,0.4nm,0.3s,baz=145,slow=33,SNR=3.8						
RAMN	**Ramite**	**14.51**	**150**	*e*P	Pn	09 54 21.9	-1.3
	comp=N,35nm,0.8s						
ZAL	**Zalesovo**	**14.66**	**15**	P	Pn	09 54 21.3	-3.8
ZALV	**Zalesovo Beam**	**14.68**	**15**	Pn	Pn	09 54 21.3	-4.0
	comp=N,0.1nm,0.3s,baz=200,slow=12,SNR=4.6						
ZALV	**Zalesovo Beam**	**14.68**	**15**	Pn	Pn	09 54 21.3	-4.0
ODAN	**Odare**	**14.90**	**148**	*e*P	Pn	09 54 28.7	+0.4
NVS	**Novosibirsk**	**15.28**	**10**	*i* P	Pn	09 54 35.9	+2.8
GTA	**Gaotai**	**16.33**	**85**	*e*P	Pn	09 54 47.7	+1.1
GTA				AP	pP	09 54 51.0	-9.0
GTA				XP	sP	09 54 54.0	-12
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s						
LZH	**Lanzhou**	**20.21**	**93**	*e*P	P	09 55 37.5	+5.9
LZH				AP		09 55 41.5	
LZH				XP	sP	09 55 45.0	-4.0
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
LZH				AMB	AMB		
	comp=Z,52nm,4.3s						
SONM	**Songino Array**	**21.45**	**59**	P	P	09 55 46.8	+2.0
	comp=Z,3.6nm,0.8s,mb3.8,baz=261,slow=11,SNR=15						
SONM	**Songino Array**	**21.45**	**59**	P	P	09 55 46.8	+2.0
SONM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CD2	**Chengdu**	**22.30**	**106**	*e*P	P	09 55 55.9	+1.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,20nm,4.0s						
KMI	**Kunming**	**25.00**	**119**	P	P	09 56 24.9	+4.9
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.3						
CMAR	**Chiang Mai Arr**	**27.64**	**135**	P	P	09 56 48.5	+4.6
	comp=Z,1.2nm,0.3s,mb3.9,baz=311,slow=8.2,SNR=3.1						
CMAR	**Chiang Mai Arr**	**27.64**	**135**	P	P	09 56 48.5	+4.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**40.51**	**334

ZALV	**Zalesovo Beam**	**82.58**	**326**	P	**P**	**10 10 20.7**	**-0.4**
	0.4nm,0.4s,mb3.5,baz=134,slow=4.2,SNR=2.6						
MAW	**Mawson**	**85.32**	**203**	P	**P**	**10 10 35.1**	**+0.4**
	0.4nm,0.3s,mb3.6,baz=84,slow=6.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**151.83**	**287**	PKPbc	PKPbc	10 17 53.6	+1.0
	0.5nm,0.8s,baz=70,slow=3.7,SNR=2.7						
TORD				PKPab	PKPab	10 18 01.9	-0.5
	0.3nm,0.7s,baz=48,slow=5.4,SNR=2.8						
TORD				pPKPbc	pPKPbc	10 18 36.5	-10
	0.6nm,0.7s,baz=43,slow=2.3,SNR=3.8						

NIED ***02*** *10:03:00,47.10N×14170E,h5km,Mw4.3 Best double couple: M₀3.44000×10¹⁵ NP1:φ₀200.00000°,δ58.00000°, λ80.00000°. NP2:φ₀38.00000°,δ33.00000°,λ105.00000°.*
JMA ***02*** *10:03:33.3±0.4,4705N×14173E,h4km,M4.8*
ISCJB ***02*** *10:03:35.8±0.3,4698N±002×14172E±005,h10km, mb4.1/21,MS3.7/4,Error ellipse: s-maj=4.6km s-min=3.3km az=162.5*
MOS ***02*** *10:03:35.8±1.4,4708N×14172E,h10km,mb4.2/11,Error ellipse: s-maj=13.7km s-min=9.6km az=116.9*
IDC ***02*** *10:03:35.1±0.6,4689N×14180E,h0km,mb3.9/13, mb1 4.1/15,mb1mx4.0/24,mbtmp3.9/15,ML3.7/1,MS3.5/4, Ms1 3.5/4,ms1mx3.1/32,Error ellipse: s-maj=17.3km s-min=12.0km az=79.0*
NEIC ***02*** *10:03:38.1±0.5,4706N×14180E,h10km,mb4.5/3,Error ellipse: s-maj=10.9km s-min=7.8km az=167.0*
ISC 02 10:03:37.3±0.3,4694N±002×14174E±005,h10km,n61, σ1°09/73,mb4.1/21,MS3.7/4,3C-1D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.70**	**88**	*i* PN	**Pg**	**10 03 49.7**	**-1.1**
YSS				*e*	**Sg**	**10 03 59.9**	**0.0**
YSS				smax			
	comp=N,5μm,0.3s						
YSS	**Yuzh-Sakhalins**	**0.70**	**88**	*e*Pg	**Pg**	**10 03 49.7**	**-1.0**
YSS				*e*Sg	**Sg**	**10 04 01.7**	**+1.8**
JWK2	**Keihoku**	**1.63**	**176**	P	**Pn**	**10 04 04.5**	**-1.5**
JWK2				*e*S	**Sn**	**10 04 27.0**	**0.0**
JRR	**Rishiri**	**1.83**	**190**	P	**Pn**	**10 04 07.9**	**-0.8**
JRR				*e*S	**Sn**	**10 04 32.5**	**+0.6**
JSE	**Soyaes**	**2.07**	**163**	P	**Pn**	**10 04 10.3**	**-1.7**
JSE				*e*S	**Sn**	**10 04 39.4**	**+1.6**
UGL	**Uglegorsk**	**2.15**	**6**	PN	**Pn**	**10 04 15.5**	**+2.3**
UGL				*e*		10 04 44.5	
UGL				pmax	pmax		
	comp=Z,73nm,0.4s						
UGL				smax			
	comp=E,650nm,0.4s						
UGL				smax			
	comp=N,180nm,0.3s						
JYG	**Yagishiri**	**2.52**	**185**	P	**Pn**	**10 04 17.6**	**-0.7**
JYG				*e*S	**Sn**	**10 04 50.0**	**+0.9**
JSS	**Shosan**	**2.54**	**178**	P	**Pn**	**10 04 17.5**	**-1.1**
JSS				*e*S	**Sn**	**10 04 51.3**	**+1.8**
ASAJ	**Asahikawa**	**2.89**	**168**	P	**Pn**	**10 04 22.0**	**-1.3**
ASAJ	**Asahikawa**	**2.89**	**168**	Pn	**Pn**	**10 04 22.1**	**-1.2**
	comp=N,7.8nm,0.3s,baz=21,slow=10.0,SNR=49						
ASAJ				Pg	**Pn**	**10 04 27.5**	**+4.2**
	comp=N,27nm,0.3s,baz=14,slow=11,SNR=33						
ASAJ				Sn	**Sn**	**10 04 59.4**	**+1.3**
	comp=N,18nm,0.3s,baz=41,slow=31,SNR=4.1						
ASAJ				Lg		10 05 05.5	
	comp=N,28nm,0.3s,baz=302,slow=33,SNR=10						
ASAJ				LR	LR	10 05 38.0	
	comp=N,614nm,18.1s,baz=6.5,slow=43						
ASAJ	**Asahikawa**	**2.89**	**168**	PN	**Pn**	**10 04 27.5**	**+4.2**
ASAJ				pmax	pmax		
	comp=Z,27nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,614nm,18.1s						
JMP	**Maruseppu**	**3.15**	**158**	P	**Pn**	**10 04 24.7**	**-2.2**
JKK2	**Kamakawa 2**	**3.15**	**167**	P	**Pn**	**10 04 26.0**	**-0.9**
JHR	**Hokuryu**	**3.20**	**180**	P	**Pn**	**10 04 27.6**	**0.0**
JTKR	**Abashiri--Toko**	**3.34**	**152**	P	**Pn**	**10 04 27.3**	**-2.2**
YUK	**Yuzh-Kuril'sk**	**4.10**	**134**	PN	**Pn**	**10 04 33.4**	**-6.6**
YUK				S	**Sn**	**10 05 32.0**	**+3.9**
YUK				smax			
	comp=E,450nm,0.8s						
HABR	**Khabarovsk**	**4.77**	**291**	*e*PN	**Pn**	**10 04 48.7**	**-0.4**
HABR				*e*S	**Sn**	**10 05 45.0**	**+0.6**
KLR	**Kul'dur**	**7.07**	**293**	*e*PN	**Pn**	**10 05 18.3**	**-2.5**
KLR				MLR	MLR		
	comp=E,1μm,11.0s						
KLR				MLR	MLR		
	comp=Z,1μm,11.0s						
MJAR	**Matsushiro Arr**	**10.72**	**195**	Pn	**Pn**	**10 06 12.6**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=1.6,slow=14,SNR=10.0						
PETK	**Petropavlovsk-**	**11.97**	**53**	Pn	**Pn**	**10 06 28.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=222,slow=14,SNR=3.5						
PETK				LR	LR	10 11 04.5	
	comp=Z,100nm,21.3s,baz=85,slow=38						
KSRS	**Korea Array**	**13.94**	**232**	Pn	**Pn**	**10 06 58.6**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=237,slow=36,SNR=3.0						
BOD	**Bodaibo**	**19.98**	**313**	*e*P	**Pn**	**10 08 08.9**	**-2.3**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.9s						
JOW	**Kunigami**	**22.71**	**213**	P	**P**	**10 08 43.5**	**+4.4**
	comp=Z,16nm,0.6s,mb4.7,baz=137,slow=18,SNR=5.8						
SONM	**Songino Array**	**23.82**	**285**	P	**P**	**10 08 50.6**	**+0.3**
	comp=Z,2.9nm,1.1s,mb3.6,baz=91,slow=8.9,SNR=8.0						
SONM				LR	LR	10 18 50.0	
	comp=Z,338nm,18.8s,MS3.8,baz=64,slow=38						
SONM	**Songino Array**	**23.82**	**285**	P	**P**	**10 08 50.6**	**+0.3**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM				MLR	MLR		
	comp=Z,338nm,18.8s						
BILL	**Bilibino**	**24.59**	**22⇓**	*e*P	**P**	**10 08 57.2**	**+0.1**
BILL				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.5						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.5						
TLY	**Talaya**	**25.08**	**295**	*e*P	**P**	**10 09 02.1**	**+0.4**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.0						
TLY				MLR	MLR		
	comp=Z,309nm,15.0s,MS3.9						
TLY	**Talaya**	**25.08**	**295**	*e*P	**P**	**10 09 02.6**	**+0.9**
	comp=Z,8.7nm,1.2s,mb4.2						
HVS	**Khovu-Aksy**	**31.32**	**296**	*i* P	**P**	**10 09 58.9**	**+1.4**
HVS				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
ZALV	**Zalesovo Beam**	**36.05**	**303**	P	**P**	**10 10 38.3**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=72,slow=11,SNR=3.1						
ZAL	**Zalesovo**	**36.06**	**303**	P	**P**	**10 10 38.3**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
IMA2	**Indian Mountai**	**38.28**	**36**	*e*P	**P**	**10 10 57.6**	**+0.3**
KTH	**Kantishna Hill**	**39.70**	**40**	*e*P	**P**	**10 11 10.5**	**+1.3**
	comp=Z,2μm,0.6s						
MK31	**Makanchi Array**	**39.78**	**292**	*e*P	**P**	**10 11 10.6**	**+0.5**
MKAR	**Makanchi Array**	**39.78**	**292**	P	**P**	**10 11 10.6**	**+0.5**
	comp=Z,2.2nm,0.8s,mb3.9,baz=70,slow=10,SNR=13						
MKAR	**Makanchi Array**	**39.78**	**292**	*e*P	**P**	**10 11 10.5**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**39.78**	**292**	P	**P**	**10 11 10.6**	**+0.5**
KURK	**Kurchatov**	**40.61**	**299**	*i* P	**P**	**10 11 17.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
DIV	**Divide**	**42.53**	**43**	*e*P	**P**	**10 11 33.2**	**+0.6**
	comp=Z,20nm,1.2s,mb4.7						
BMRM	**Bremner River**	**43.13**	**43**	*e*P	**P**	**10 11 37.9**	**+0.5**
EGAK	**Eagle**	**43.65**	**37**	*e*P	**P**	**10 11 41.0**	**-0.5**
	comp=Z,8.6nm,1.0s,mb4.4						
BVAR	**Borovoye Array**	**44.54**	**305**	P	**P**	**10 11 49.4**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.6,baz=81,slow=9.3,SNR=5.2						
BVAR				LR	LR	10 30 42.8	
	comp=Z,90nm,21.3s,MS3.7,baz=323,slow=36						
BVAR	**Borovoye Array**	**44.54**	**305**	P	**P**	**10 11 49.4**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,90nm,21.3s						
INK	**Inuvik**	**45.62**	**31**	P	**P**	**10 11 57.1**	**-0.1**
	comp=Z,1.9nm,0.9s,mb4.0,baz=301,slow=4.3,SNR=7.7						
INK	**Inuvik**	**45.62**	**31**	P	**P**	**10 11 57.1**	**-0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HYT	**Haines Junctio**	**46.46**	**42**	*e*P	**P**	**10 11 59.4**	**-4.6**
ARU	**Arti**	**49.40**	**313**	*c i*P	**P**	**10 12 26.8**	**+0.1**
ARU				*e*		10 13 45.3	
ARU				*e*		10 14 15.6	
ARU				*e*S	**S**	**10 19 34.5**	**+1.3**
ARU				*e*SS	SS	10 23 04.0	-0.3
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
YKA	**Yellowknife Ar**	**55.25**	**33**	P	**P**	**10 13 09.5**	**-0.6**
	comp=Z,1.6nm,0.8s,mb4.1,baz=305,slow=7.5,SNR=5.0						
YKA	**Yellowknife Ar**	**55.25**	**33**	*e*P	**P**	**10 13 09.5**	**-0.6**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**65.19**	**336**	P	**P**	**10 14 17.6**	**-0.6**
	comp=Z,1.2nm,0.9s,mb3.9,baz=274,slow=7.1,SNR=2.5						
NOA	**NORSAR Array B**	**65.19**	**336**	P	**P**	**10 14 17.6**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**66.72**	**320**	P	**P**	**10 14 27.3**	**-0.9**
	comp=Z,0.3nm,0.3s,mb3.7,baz=43,slow=6.5,SNR=7.2						
AKASG	**Malin Array Be**	**66.72**	**320**	*e*P	**P**	**10 14 28.7**	**+0.5**
WRA	**Warramunga Arr**	**66.90**	**188**	P	**P**	**10 14 27.3**	**-2.2**
	comp=Z,1.6nm,1.1s,mb4.0,baz=7.4,slow=6.8,SNR=5.6						
WRA	**Warramunga Arr**	**66.90**	**188**	*e*P	**P**	**10 14 30.4**	**+0.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NVAR	**Mina Array Bea**	**69.04**	**56**	P	**P**	**10 14 43.0**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=290,slow=5.8,SNR=8.9						
ASAR	**Alice Springs**	**70.63**	**188**	P	**P**	**10 14 52.3**	**-0.4**
	comp=Z,2.5nm,0.9s,mb4.2,baz=26,slow=4.0,SNR=7.2						
ASAR	**Alice Springs**	**70.63**	**188**	P	**P**	**10 14 52.3**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PDAR	**Pinedale Array**	**70.67**	**48**	P	**P**	**10 14 52.0**	**-1.0**
	comp=Z,1.7nm,1.1s,mb3.9,baz=341,slow=3.1,SNR=7.8						
TXAR	**Lajitas Array**	**83.92**	**53**	P	**P**	**10 16 07.3**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.9,baz=286,slow=3.7,SNR=12						
TXAR	**Lajitas Array**	**83.92**	**53**	P	**P**	**10 16 07.3**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

NIED ***02*** *10:11:00,4700N×14160E,h5km,Mw4.3 Best double couple: M₀2.98000×10¹⁵ NP1:φ₀186.00000°,δ73.00000°, λ56.00000°. NP2:φ₀71.00000°,δ37.00000°,λ150.00000°.*
MOS ***02*** *10:11:06.9±1.3,4692N×14169E,h10km,mb4.4/17,Error ellipse: s-maj=11.0km s-min=8.3km az=118.2*
JMA ***02*** *10:11:06.3±0.7,4712N×14176E,h31km*
IDC ***02*** *10:11:07.0±0.7,4699N×14170E,h0km,mb4.1/17, mb1 4.3/19,mb1mx4.3/25,mbtmp4.1/19,ML3.3/2,MS2.9/1, Ms1 2.9/1,ms1mx2.5/31,Error ellipse: s-maj=21.0km s-min=14.7km az=159.0*
ISCJB ***02*** *10:11:07.1±1.3,4692N±004×14172E±006,h10km±9km, mb4.2/27,MS3.9/3,Error ellipse: s-maj=7.3km s-min=5.7km az=20.6*
BJI ***02*** *10:11:08.2,4736N×14189E,h17km,mB4.6,mb4.6,ML4.5, Ms4.4,Ms2.4.1*
NEIC ***02*** *10:11:08.8±0.4,4692N×14174E,h10km,mb4.3/3,Error ellipse: s-maj=11.0km s-min=6.6km az=165.0*
ISC 02 10:11:08.0±1.4,4689N±004×14174E±006,h5km±9km,n74, σ0°97/80,mb4.2/27,MS3.9/3,4C-6D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.70**	**84**	*i*⇓PN	**Pg**	**10 11 21.4**	**0.0**
YSS				*i*	**Sg**	**10 11 31.8**	**+1.3**
YSS				smax			
	comp=E,19μm,0.3s						
YSS	**Yuzh-Sakhalins**	**0.70**	**84**	*e*Pg	**Pg**	**10 11 21.5**	**+0.1**
YSS				*e*Sg	**Sg**	**10 11 29.3**	**-1.2**
JWK2	**Keihoku**	**1.58**	**176**	P	**Pn**	**10 11 36.2**	**-0.3**
JRR	**Rishiri**	**1.78**	**190**	P	**Pn**	**10 11 39.4**	**+0.1**
JSE	**Soyaes**	**2.02**	**163**	P	**Pn**	**10 11 42.0**	**-0.6**
UGL	**Uglegorsk**	**2.20**	**6**	*e*PN	**Pn**	**10 11 44.5**	**-0.6**
UGL				S	**Sn**	**10 12 16.5**	**+3.8**
UGL				pmax	pmax		
	comp=Z,150nm,0.6s						
UGL				smax			
	comp=N,930nm,0.6s						
UGL				smax			
	comp=E,1μm,0.6s						
UGL				smax			
	comp=Z,650nm,0.7s						
JYG	**Yagishiri**	**2.47**	**185**	P	**Pn**	**10 11 49.7**	**+0.8**
JSS	**Shosan**	**2.49**	**178**	P	**Pn**	**10 11 49.5**	**+0.4**
ASAJ	**Asahikawa**	**2.84**	**167**	P	**Pn**	**10 11 53.9**	**0.0**
JKK2	**Kamakawa 2**	**3.10**	**166**	P	**Pn**	**10 11 57.4**	**-0.1**
JMP	**Maruseppu**	**3.10**	**158**	P	**Pn**	**10 11 56.4**	**-1.1**
JHR	**Hokuryu**	**3.15**	**180**	P	**Pn**	**10 11 59.3**	**+1.2**
JTKR	**Abashiri--Toko**	**3.29**	**152**	P	**Pn**	**10 11 58.9**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**4.07**	**133**	*i*⇓PN	**Pn**	**10 12 14.4**	**+3.6**
YUK				S	**Sn**	**10 13 04.6**	**+5.8**
YUK				pmax	pmax		
	comp=Z,220nm,0.5s						
YUK				smax			
	comp=E,280nm,0.6s						
YUK				smax			
	comp=N,180nm,0.5s						
KUR	**Kuril'sk**	**4.58**	**109**	PN	**Pn**	**10 12 16.5**	**-1.3**
HABR	**Khabarovsk**	**4.79**	**292**	*e*PN	**Pn**	**10 12 23.3**	**+2.6**
KLR	**Kul'dur**	**7.09**	**293**	*e*PN	**Pn**	**10 12 51.4**	**-0.9**
KLR				MLR	MLR		
	comp=E,1μm,11.0s						
KLR				MLR	MLR		
	comp=Z,1μm,11.0s						
MDJ	**Mudanjiang**	**8.79**	**259**	P	**Pn**	**10 13 21.9**	**+6.3**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,83nm,3.8s						
MDJ				LR	LR		
	comp=Z,939nm,15.1s						
MJAR	**Matsushiro Arr**	**10.67**	**196**	Pn	**Pn**	**10 13 42.2**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=4.3,slow=14,SNR=16						
MJAR	**Matsushiro Arr**	**10.67**	**196**	Pn	**Pn**	**10 13 42.2**	**+0.8**
PETK	**Petropavlovsk-**	**11.99**	**53**	Pn	**Pn**	**10 14 02.1**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=238,slow=7.9,SNR=8.4						
KSRS	**Korea Array**	**13.90**	**232**	Pn	**Pn**	**10 14 25.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=75,slow=29,SNR=3.5						
KSRS				LR	LR	10 19 40.4	
	comp=Z,46nm,20.0s,baz=45,slow=37						
SEY	**Seymchan**	**17.16**	**17**	⇑*i*P	**Pn**	**10 15 12.2**	**+4.0**
BOD	**Bodaibo**	**20.01**	**313**	*e*P	**P**	**10 15 39.6**	**-1.6**
SONM	**Songino Array**	**23.84**	**285**	P	**P**	**10 16 21.2**	**-0.6**
	comp=Z,1.6nm,0.8s,mb3.5,baz=83,slow=9.2,SNR=7.5						
SONM	**Songino Array**	**23.84**	**285**	P	**P**	**10 16 21.2**	**-0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL	**Bilibino**	**24.64**	**22**	⇓*e*P	**P**	**10 16 29.7**	**+0.8**
BILL				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.4						
IRK	**Irkutsk**	**24.68**	**296**	⇑*i*P	**P**	**10 16 30.1**	**+0.6**
IRK				*e*		10 17 01.3	
IRK				*e*S	**S**	**10 20 39.7**	**-12**
IRK				*e*		10 21 44.9	
IRK				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.5						
TLY	**Talaya**	**25.11**	**295**	*e*P	**P**	**10 16 32.2**	**-1.1**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
TLY				MLR	MLR		
	comp=Z,399nm,15.0s,MS4.0						
HVS	**Khovu-Aksy**	**31.34**	**296**	*i* P	**P**	**10 17 30.1**	**+1.0**
HVS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
ZALV	**Zalesovo Beam**	**36.07**	**303**	P	**P**	**10 18 09.7**	**-0.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=99,slow=7.7,SNR=5.8						
ZAL	**Zalesovo**	**36.09**	**303**	P	**P**	**10 18 09.7**	**-0.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
IMA2	**Indian Mountai**	**38.32**	**36**	*e*P	**P**	**10 18 29.4**	**+0.3**
COLD	**Coldfoot**	**39.64**	**34**	*e*P	**P**	**10 18 40.9**	**+0.8**
	comp=Z,6.4nm,0.9s,mb4.3						
MK31	**Makanchi Array**	**39.80**	**292**	*e*P	**P**	**10 18 42.4**	**+0.7**
MKAR	**Makanchi Array**	**39.80**	**292**	P	**P**	**10 18 40.6**	**-1.1**
	comp=Z,4.0nm,0.7s,mb4.2,baz=76,slow=8.8,SNR=28						
MKAR	**Makanchi Array**	**39.80**	**292**	P	**P**	**10 18 40.6**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KDAK	**Kodiak Island**	**40.02**	**49**	P	**P**	**10 18 42.9**	**-0.5**
	comp=Z,4.9nm,0.6s,mb4.4,baz=236,slow=3.6,SNR=3.8						
TRF	**Thorofare Moun**	**40.03**	**40**	*e*P	**P**	**10 18 43.6**	**+0.2**
	comp=Z,8.4nm,1.0s,mb4.4						
KURK	**Kurchatov**	**40.63**	**299**	⇑Pn	**P**	**10 18 48.1**	**-0.4**
	comp=Z,4.4nm,0.7s,mb4.2						
KURK				⇓Lg		10 19 57.2	
	comp=Z,12nm,1.1s						
KURK	**Kurchatov**	**40.63**	**299**	*e*P	**P**	**10 18 48.6**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
KURK	**Kurchatov**	**40.63**	**299**	*e*P	**P**	**10 18 48.6**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.0						
KURBB	**Kurchatov Arra**	**40.72**	**299**	⇓Pn	**P**	**10 18 49.3**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.4,baz=67,slow=8.8						
KURBB				⇑Lg		10 19 55.6	
	comp=Z,3.3nm,0.8s,baz=310,slow=34						
EGAK	**Eagle**	**43.69**	**37**	*e*P	**P**	**10 19 13.0**	**-0.3**
	comp=Z,161nm,1.1s						
BVAR	**Borovoye Array**	**44.57**	**305**	P	**P**	**10 19 19.7**	**-0.8**
	comp=Z,0.7nm,0.5s,mb3.7,baz=74,slow=11,SNR=6.0						
BVAR				PcP	PcP	10 21 02.6	-0.8
	comp=Z,2.4nm,0.6s,baz=46,slow=4.3,SNR=6.1						
BVAR	**Borovoye Array**	**44.57**	**305**	P	**P**	**10 19 19.7**	**-0.8**
BVAR						10 21 02.6	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**45.03**	**246**	P	**P**	**10 19 25.7**	**+1.1**
	comp=Z,0.5nm,0.4s,mb3.7,baz=7.4,slow=6.4,SNR=3.2						
CMAR	**Chiang Mai Arr**	**45.03**	**246**	P	**P**	**10 19 25.7**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**45.66**	**31**	P	**P**	**10 19 28.2**	**-0.8**
	comp=Z,12nm,1.2s,mb4.7,baz=287,slow=10,SNR=22						
INK	**Inuvik**	**45.66**	**31**	P	**P**	**10 19 28.2**	**-0.8**
INK				pmax	pmax		
	comp=Z,12nm,1.2s						
INK	**Inuvik**	**45.66**	**31**	P	**P**	**10 19 28.2**	**-0.8**
HYT	**Haines Junctio**	**46.50**	**42**	*e*P	**P**	**10 19 37.1**	**+1.4**
ARU	**Arti**	**49.43**	**313**	*d i*P	**P**	**10 19 59.0**	**+0.6**
ARU				*e*		10 21 51.1	
ARU				*e*S	**S**	**10 27 09.1**	**+3.4**
ARU				*e*SS	SS	10 30 32.9	-3.9
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
ARCES	**ARCESS Array B**	**54.93**	**337**	P	**P**	**10 20 39.7**	**+0.6**
	comp=Z,1.3nm,0.7s,mb4.1,baz=46,slow=8.8,SNR=4.5						
ARCES	**ARCESS Array B**	**54.93**	**337**	P	**P**	**10 20 39.7**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**55.30**	**33**	P	**P**	**10 20 41.7**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.4,baz=304,slow=6.7,SNR=8.8						
YKA	**Yellowknife Ar**	**55.30**	**33**	*i* P	**P**	**10 20 41.7**	**-0.1**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	**Yellowknife Ar**	**55.30**	**33**	P	**P**	**10 20 41.7**	**-0.1**
KIV	**Kislovodsk**	**64.82**	**308**	*e*P	**P**	**10 21 49.4**	**+1.9**
KIV				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
KIV				MLR	MLR		
	comp=Z,147nm,17.0s,MS4.2						
NB2	**NORSAR Subarra**	**65.24**	**336**	P	**P**	**10 21 49.9**	**0.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=37,slow=6.5						
NOA	**NORSAR Array B**	**65.24**	**336**	P	**P**	**10 21 49.5**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.1,baz=36,slow=6.4,SNR=4.3						
NOA	**NORSAR Array B**	**65.24**	**336**	P	**P**	**10 21 49.5**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**66.76**	**320**	P	**P**	**10 21 58.7**	**-1.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=38,slow=6.3,SNR=8.2						
AKASG	**Malin Array Be**	**66.76**	**320**	P	**P**	**10 21 58.7**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRAB	**Tennant Creek**	**66.84**	**188**	*i* P	**P**	**10 21 56.7**	**-3.9**
NVAR	**Mina Array Bea**	**69.06**	**56**	P	**P**	**10 22 15.5**	**+0.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=298,slow=5.7,SNR=13						
ASAR	**Alice Springs**	**70.58**	**188**	P	**P**	**10 22 24.5**	**+0.6**
	comp=Z,2.1nm,0.7s,mb4.2,baz=6.7,slow=3.3,SNR=7.6						
ASAR	**Alice Springs**	**70.58**	**188**	P	**P**	**10 22 24.5**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	**70.71**	**48**	P	**P**	**10 22 23.4**	**-1.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=351,slow=1.6,SNR=9.5						
ULM	**Lac du Bonnet**	**71.21**	**35**	P	**P**	**10 22 26.6**	**-1.0**
	comp=Z,5.3nm,1.0s,mb4.4,baz=314,slow=7.9,SNR=2.6						
GERES	**GERESS Array B**	**74.51**	**327**	P	**P**	**10 22 46.0**	**-1.2**
	comp=Z,0.7nm,0.5s,mb3.9,baz=37,slow=5.5,SNR=5.7						
GERES	**GERESS Array B**	**74.51**	**327**	P	**P**	**10 22 46.0**	**-1.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**83.95**	**53**	P	**P**	**10 23 39.0**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.2,baz=297,slow=4.0,SNR=19						
TXAR	**Lajitas Array**	**83.95**	**53**	P	**P**	**10 23 39.0**	**-0.1**
TX

JMA 02 10:11:23.1±0.6, 4697N×14156E, h0km, M4.8, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.67**	**172**	P	Pn	10 11 53.3	-0.3
JWK2				eS	Sn	10 12 15.9	+0.2
JRR	**Rishiri**	**1.84**	**185**	P	Pn	10 11 57.5	+1.6
JRR				eS	Sn	10 12 21.1	+1.2

IDC 02 10:13:25.3±16.0, 2402S×17520W, h0km, mb5.0/5, mb1 5.1/5, mb1mx4.1/18, mbtmp5.0/5, 3D, Error ellipse: s-maj=293.9km s-min=121.7km az=84.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.01**	**273**	eP	Pn	10 17 36.4	+12
CTA	**Charters Tower**	**35.87**	**269**	⇓iP	P	10 20 28.8	+1.6
	21nm,0.9s						
CTA	**Charters Tower**	**35.87**	**269**	P	P	10 20 28.3	+1.1
	14nm,0.4s,baz=99,slow=9.5,SNR=24						
STKA	**Stephens Creek**	**38.76**	**248**	eP	P	10 20 50.1	-1.5
	7.0nm,0.6s						
STKA	**Stephens Creek**	**38.76**	**248**	P	P	10 20 50.2	-1.4
	6.9nm,0.5s,baz=96,slow=11,SNR=33						
ASAR	**Alice Springs**	**46.34**	**260**	P	P	10 21 52.8	-0.6
	10nm,0.4s,baz=96,slow=8.6,SNR=326						
WB2	**Warramunga Arr**	**46.77**	**265**	⇓iP	P	10 21 56.4	-0.3
WRA	**Warramunga Arr**	**46.78**	**265**	P	P	10 21 56.5	-0.3
	10nm,0.3s,baz=100,slow=7.5,SNR=397						
FORT	**Forrest**	**50.38**	**249**	eP	P	10 22 22.4	-2.1
	25nm,0.5s						
KAKA	**Kakadu**	**50.70**	**273**	⇓iP	P	10 22 28.5	+1.4
	12nm,0.3s						
FITZ	**Fitzroy Crossi**	**55.20**	**264**	eP	P	10 23 00.5	+0.2
	10nm,0.5s						
FITZ	**Fitzroy Crossi**	**55.20**	**264**	P	P	10 23 01.1	+0.8
	6.0nm,0.5s,baz=135,slow=7.6,SNR=30						
KLBR	**Kellerberrin**	**58.98**	**246**	eP	P	10 23 25.7	-1.2
	33nm,1.2s						
MUN	**Mundaring**	**60.20**	**246**	eP	P	10 23 34.7	-0.7

KRSC 02 10:13:44.8±0.6, 5635N×16241E, h5km±5km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.27**	**122**	iP	Pg	10 13 51.3	+1.3
KBTR				iS	Sg	10 13 55.9	+2.4
SRKR	**Sorokina**	**0.75**	**294**	iP	Pg	10 14 00.4	+1.2
SRKR				iS	Sg	10 14 11.7	+2.7
ZLN	**Zelenaya**	**0.96**	**250**	iP	Pg	10 14 04.8	+1.7
ZLN				iS	Sg	10 14 19.4	+3.9
KLY	**Klyuchi**	**0.98**	**269**	iP	Pg	10 14 02.4	-1.2
KLY				iS	Sg	10 14 14.8	-1.5
KRSR	**Krestovskiy**	**1.04**	**263**	iP	Pg	10 14 05.1	+0.4
KRSR				iS	Sg	10 14 20.1	+2.0
BZMR	**Bezymyannaya**	**1.15**	**250**	iP	Pg	10 14 07.8	+0.9
BZMR				iS	Sg	10 14 24.3	+2.5
KPT	**Kopyto**	**1.28**	**253**	iP	Pn	10 14 09.8	+0.5
KPT				iS	Sg	10 14 27.9	+1.9
KMNR	**Kamenistaya**	**1.36**	**245**	iP	Pn	10 14 11.2	+0.9
KMNR				iS	Sb	10 14 31.0	+2.8
KOZ	**Kozyrevsk**	**1.45**	**259**	iP	Pn	10 14 12.8	+1.2
KOZ				iS	Sb	10 14 33.6	+2.7
SRDR	**Sredinnyy**	**1.50**	**270**	iP	Pn	10 14 13.2	+0.9
SRDR				iS	Sn	10 14 33.4	+1.2
TUMR	**Tumrok**	**1.67**	**231**	iP	Pn	10 14 16.4	+1.8
TUMR				iS	Sn	10 14 39.7	+3.4
MKZ	**Mys Kozlova**	**1.84**	**192**	P	Pn	10 14 18.7	+1.7
MKZ				iS	Sn	10 14 43.1	+2.5
SPN	**Mys Shipunski**	**3.54**	**204**	P	Pn	10 14 41.6	+1.3
SPN				iS	Sn	10 15 24.0	+1.5
NLC	**Nalytchevo**	**3.65**	**210**	P	Pn	10 14 43.8	+2.0
NLC				iS	Sn	10 15 25.8	+0.7
GNL	**Ganaly**	**3.70**	**226**	P	Pn	10 14 46.4	+3.9
RUS	**Russkaya**	**4.54**	**212**	P	Pn	10 14 56.0	+2.0

ISCJB ***02*** *10:22:48.6±0.9, 125N±0.1×4731E±005, h10km, mb3.9/5, MS3.1/2, Error ellipse: s-maj=15.1km s-min=7.0km az=9.8*
IDC ***02*** *10:22:48.9±1.5, 1240N×4759E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/22, mbtmp3.9/5, MS3.3/2, Ms1 3.3/2, ms1mx3.0/28, Error ellipse: s-maj=52.1km s-min=29.8km az=158.0*
CSEM ***02*** *10:22:53.4, 1265N×4694E, h7km, ML3.7, After DHMR*
DHMR ***02*** *10:22:53.4±1.6, 1265N×4694E, h8km±19km, ML3.7*

ISC 02 10:22:52.5±3.3, 125N±01×4727E±006, h29km±25km, n15, σ1§11/19, mb3.9/5, MS3.1/2, 2C-3D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**2.25**	**313**	⇓iP	**Pn**	**10 23 27.2**	**-0.6**
BDHA				iS	**Sn**	**10 23 53.0**	**-1.6**
	358nm,0.7s						
BDHA	**Al Bayda'**	**2.25**	**313**	⇓iP	**Pn**	**10 23 27.2**	**-0.6**
BDHA				iS	**Sn**	**10 23 53.0**	**-1.5**
BDHA				AML	AML	10 23 55.1	
	comp=Z,716nm,0.7s						
ADEN	**Aden**	**2.26**	**279**	⇑iP	**Pn**	**10 23 26.7**	**-1.2**
ADEN				iS	**Sn**	**10 23 54.2**	**-0.6**
	comp=Z,698nm,0.3s						
ADEN	**Aden**	**2.26**	**279**	⇑iP	**Pn**	**10 23 26.7**	**-1.2**
ADEN				iS	**Sn**	**10 23 54.2**	**-0.6**
ADEN				AML	AML	10 23 55.1	
	comp=N,1μm,0.3s						
DHBB	**Dhamar BB**	**3.51**	**307**	iP	**Pn**	**10 23 45.9**	**+0.8**
DHBB				iS	**Sn**	**10 24 27.8**	**+2.2**
UDYN	**Al 'Udayn**	**3.56**	**295**	⇓iP	**Pn**	**10 23 46.9**	**+1.2**
UDYN				iS	**Sn**	**10 24 26.6**	**-0.2**
UDYN				AML	AML	10 24 48.8	
	comp=Z,235nm,0.7s						
NAY	**Al-Naaiem**	**16.72**	**360**	eP	**Pn**	**10 26 45.6**	**+0.9**
NAY				AMb	AMB	10 26 52.0	
	comp=Z,10.0nm,1.1s						
MIB	**Mutribah**	**17.27**	**0**	eP	**Pn**	**10 26 50.3**	**-1.3**
MIB				AMb	AMB	10 26 55.9	
	comp=Z,22nm,0.7s						
EIL	**Elat**	**20.61**	**328**	LR	LR	10 34 50.0	
	comp=Z,98nm,18.7s,MS3.2,baz=93,slow=35						
MMAI	**Mount Meron Ar**	**23.18**	**334**	LR	LR	10 36 08.5	
	comp=Z,54nm,19.8s,MS3.0,baz=60,slow=34						
TORD	**Torodi Ar. Bea**	**44.41**	**276**	P	**P**	**10 31 04.2**	**+3.1**
	comp=Z,1.8nm,0.9s,mb3.8,baz=87,slow=7.8,SNR=7.3						
MKAR	**Makanchi Array**	**45.15**	**34**	P	**P**	**10 31 05.9**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.0,baz=224,slow=6.8,SNR=10						
ZALV	**Zalesovo Beam**	**50.91**	**28**	P	**P**	**10 31 51.8**	**+0.9**
	comp=Z,0.4nm,0.3s,mb3.9,baz=226,slow=7.6,SNR=3.7						
SONM	**Songino Array**	**60.26**	**42**	P	**P**	**10 32 57.8**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.9,baz=228,slow=3.7,SNR=4.8						
WRA	**Warramunga Arr**	**91.47**	**110**	P	**P**	**10 35 56.5**	**-0.2**
	comp=Z,0.5nm,0.8s,mb3.9,baz=296,slow=4.1,SNR=3.7						

DHMR 02 10:37:29.3±1.6, 1258N×4726E, h7km±17km, ML3.8, 2C-3D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**2.15**	**310**	⇓iP	Pn	10 38 07.4	+1.8
BDHA				iS	Sn	10 38 36.9	+4.4
	655nm,0.5s						
BDHA	**Al Bayda'**	**2.15**	**310**	⇓iP	Pn	10 38 07.4	+1.8
BDHA				iS	Sn	10 38 36.9	+4.4
BDHA				AML	AML	10 38 38.8	
	comp=Z,1μm,0.5s						
ADEN	**Aden**	**2.23**	**275**	⇑iP	Pn	10 38 07.4	+0.8
ADEN				iS	Sn	10 38 38.9	+4.5
	comp=Z,464nm,0.4s						
ADEN	**Aden**	**2.23**	**275**	⇑iP	Pn	10 38 07.4	+0.8
ADEN				iS	Sn	10 38 38.9	+4.6
ADEN				AML	AML	10 38 41.1	
	comp=N,929nm,0.4s						
DHBB	**Dhamar BB**	**3.42**	**306**	iP	Pn	10 38 25.7	+2.7
DHBB				iS	Sn	10 39 09.4	+5.6
UDYN	**Al 'Udayn**	**3.48**	**294**	⇓iP	Pn	10 38 27.2	+3.3
UDYN				iS	Sn	10 39 10.7	+5.2
UDYN				AML	AML	10 39 12.4	
	comp=N,386nm,0.3s						
HAJJ	**Hajjah**	**4.71**	**312**	iS	Sn	10 39 41.1	+5.4

NIED ***02*** *10:37:00, 4690N×14170E, h5km, Mw5.3 Best double couple: M0 1.19000×10^17 NP1:φ0=244.00000°, δ62.00000°, λ128.00000°. NP2:φ0=5.00000°, δ46.00000°, λ41.00000°.*
JMA ***02*** *10:37:25.4±0.3, 4693N×14171E, h4km, M5.6*
JMA Felt II J1.
BJI ***02*** *10:37:28.6, 4666N×14193E, h12km, mB5.4, mb4.9, ML5.3, Ms5.8, Msz5.6*
ISCJB ***02*** *10:37:29.7±0.5, 4663N±002×14185E±002, h9km±3km, mb5.2/319, MS5.2/223, Error ellipse: s-maj=2.7km s-min=1.9km az=166.1*
IDC ***02*** *10:37:29.5±0.4, 4664N×14185E, h0km, mb4.9/24, mb1 5.1/26, mb1mx5.1/27, mbtmp5.0/26, ML4.8/2, MS5.1/12, Ms1 5.1/12, ms1mx4.7/25, Error ellipse: s-maj=12.2km s-min=9.8km az=83.0*
SKHL ***02*** *10:37:30.6±0.2, 4664N×14180E, h10km, mb5.8/7, mbh5.7/7, Ms5.6/6, msh5.7/6*
SKHL Felt (V-VI) at Nevel'sk, (III) at Kril'on.
MOS ***02*** *10:37:30.1±0.8, 4666N×14178E, h10km, mb5.5/142, MS5.2/90, Error ellipse: s-maj=5.9km s-min=3.4km az=104.5*
MOS Felt (V-VI) at Nevel'sk; (III) at Gornozavodsk, Korsakov, cape Kril'on.
NEIC ***02*** *10:37:31.6±0.1, 4663N×14177E, h10km, mb5.3/234, MS5.1/186, MW5.5, Error ellipse: s-maj=3.9km s-min=2.3km az=171.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^17 Nm; Mrr 1.05; Mθθ 0.39; Mφφ -1.44; Mrθ -0.71; Mθφ -0.65; Mφr 1.45; Best double couple: M0 2.20000×10^17 NP1:φ0=346.00000°, δ73.00000°, λ61.00000°. NP2:φ0=229.00000°, δ33.00000°, λ148.00000°. Principal axes: T 2.1900, Plg53.0000°, Azm221.0000°; N -0.0500, Plg28.0000°, Azm355.0000°; P -2.1500, Plg23.0000°, Azm98.0000°;*
NEIC Felt at Yuzhno-Sakhalinsk. Recorded [2 JMA] in northern Hokkaido.
GCMT ***02*** *10:37:31.6±0.1, 4673N×14163E, h12km, MW5.4/89, Moment Tensor Solution. s64,c103; s89,c191; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr 1.41±.02; Mθθ -0.01±.02; Mφφ -1.40±.02; Mrθ -0.26±.06; Mθφ -0.45±.02; Mφr -0.70±.06; Best double couple: M0 1.64800×10^17 NP1:φ0=14.00000°, δ32.00000°, λ86.00000°. NP2:φ0=198.00000°, δ58.00000°, λ92.00000°. Principal axes: T 1.5890, Plg76.0000°, Azm115.0000°; N 0.1200, Plg2.0000°, Azm17.0000°; P -1.7080, Plg13.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA ***02*** *10:37:32, 4678N×14201E, h10km, mb5.4/22*
SZGRF ***02*** *10:37:38.6, 4737N×14169E, h33km, mb5.8, MS5.6, Sakhalin Island, Russia*

ISC 02 10:37:31.7±0.6, 4662N±002×14182E±002, h11km±3km, h13km±1.3km: pP-P, n1301, σ0§75/1239, mb5.2/319, MS5.2/223, 215C-180D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.73**	**62**	κ iPN	**Pg**	**10 37 45.0**	**-0.7**
YSS				i		10 37 56.0	
YSS				pmax	pmax		
	comp=Z,1μm,0.5s						
YSS				pmax	pmax		
	comp=N,750nm,0.3s						
YSS				pmax	pmax		
	comp=E,950nm,0.3s						
YSS				smax			
	comp=N,5μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.73**	**62**	⇓iPg	**Pg**	**10 37 45.0**	**-0.7**
YSS				⇓iPg	**Pg**	**10 37 45.0**	**-0.7**
YSS				⇓iPg	**Pg**	**10 37 45.0**	**-0.7**
YSS				AMB	AMB	10 37 46.5	
	comp=N,750nm,0.4s						
YSS				AMB	AMB	10 37 46.5	
	comp=N,950nm,0.4s						
YSS				AMB	AMB	10 37 46.5	
	comp=N,1μm,0.4s						
YSS				iSg	**Sg**	**10 37 56.0**	**+0.8**
YSS				A		10 38 01.8	
	comp=N,53μm,0.5s						
YSS				A		10 38 03.0	
	comp=N,432μm,4.0s						
YSS				AMS	AMS	10 38 38.0	
	comp=N,161μm,4.0s						
YSS	**Yuzh-Sakhalins**	**0.73**	**62**	ePg	**Pg**	**10 37 45.0**	**-0.7**
JWK2	**Keihoku**	**1.30**	**177**	⇑P	**Pn**	**10 37 54.9**	**-0.9**
JWK2				eS	**Sb**	**10 38 15.5**	**+2.6**
JRR	**Rishiri**	**1.52**	**194**	P	**Pn**	**10 37 57.8**	**-1.0**
JRR				eS	**Sn**	**10 38 22.1**	**+3.5**
JSE	**Soyaes**	**1.74**	**162**	⇑P	**Pn**	**10 38 01.2**	**-0.7**
JSE				eS	**Sn**	**10 38 26.3**	**+2.2**
JYG	**Yagishiri**	**2.21**	**187**	P	**Pn**	**10 38 07.2**	**-1.1**
JYG				eS	**Sn**	**10 38 38.0**	**+2.4**
JSS	**Shosan**	**2.22**	**179**	P	**Pn**	**10 38 07.8**	**-0.6**
JSS				eS	**Sn**	**10 38 39.9**	**+4.1**
UGL	**Uglegorsk**	**2.47**	**4**	⇑iPN	**Pn**	**10 38 10.5**	**-1.3**
UGL				S	**Sn**	**10 38 46.0**	**+4.0**
UGL				pmax	pmax		
	comp=Z,1μm,0.7s						
UGL				pmax	pmax		
	comp=N,480nm,0.6s						
UGL				pmax	pmax		
	comp=E,1μm,0.8s						
UGL				pmax	pmax		
	comp=N,10μm,4.0s						
UGL				pmax	pmax		
	comp=E,6μm,4.0s						
UGL				pmax	pmax		
	comp=Z,11μm,4.0s						
UGL				smax			
	comp=E,10μm,0.6s						
UGL				smax			
	comp=N,2μm,0.7s						
UGL				smax			
	comp=Z,3μm,0.7s						
UGL	**Uglegorsk**	**2.47**	**4**	⇑iP	**Pn**	**10 38 11.0**	**-0.8**
UGL				⇑iP		10 38 11.0	
UGL				AMB	AMB	10 38 16.0	
	comp=Z,10μm,4.0s						
UGL				AMB	AMB	10 38 16.0	
	comp=Z,6μm,4.0s						
UGL				AMB	AMB	10 38 16.0	
	comp=Z,11μm,4.0s						
UGL				AMB	AMB	10 38 16.0	
	comp=Z,480nm,0.7s						
UGL				AMB	AMB	10 38 16.0	
	comp=Z,1μm,0.7s						
UGL				AMB	AMB	10 38 16.0	
	comp=Z,1μm,0.7s						
UGL				ePg	**Pg**	**10 38 18.5**	**-0.4**
UGL				eS	**Sn**	**10 38 40.5**	**-1.5**
UGL				A		10 38 49.0	
	comp=Z,2μm,0.7s						
UGL				A		10 38 49.0	
	comp=Z,10μm,0.7s						
UGL				A		10 38 49.0	
	comp=Z,3μm,0.7s						
ASAJ	**Asahikawa**	**2.56**	**167**	⇑P	**Pn**	**10 38 12.8**	**-0.3**
ASAJ	**Asahikawa**	**2.56**	**167**	Pn	**Pn**	**10 38 12.7**	**-0.5**
	comp=Z,66nm,0.3s,baz=320,slow=16,SNR=157						
ASAJ				Pg	**Pg**	**10 38 15.8**	**-4.9**
	comp=Z,91nm,0.3s,baz=0.9,slow=11,SNR=148						
ASAJ				Lg		10 38 51.1	
	comp=Z,128nm,0.3s,baz=335,slow=29,SNR=8.5						
JKK2	**Kamakawa 2**	**2.82**	**166**	⇑P	**Pn**	**10 38 16.6**	**-0.1**
JKK2				eS	**Sn**	**10 38 57.0**	**+6.3**
JMP	**Maruseppu**	**2.83**	**157**	⇑P	**Pn**	**10 38 15.8**	**-1.0**
JHR	**Hokuryu**	**2.88**	**181**	P	**Pn**	**10 38 17.1**	**-0.3**
JTKR	**Abashiri--Toko**	**3.03**	**150**	⇑P	**Pn**	**10 38 18.6**	**-1.0**
JAB	**Ashibetsu**	**3.13**	**175**	P	**Pn**	**10 38 27.0**	**+6.1**
JSK	**Shakotan**	**3.40**	**197**	P	**Pn**	**10 38 24.7**	**0.0**
YUK	**Yuzh-Kuril'sk**	**3.85**	**131**	ePN	**Pn**	**10 38 30.9**	**+0.1**
YUK				pmax	pmax		
	comp=Z,4μm,1.5s						
YUK				pmax	pmax		
	comp=N,4μm,2.0s						
YUK				pmax	pmax		
	comp=E,3μm,2.0s						
YUK				pmax	pmax		
	comp=N,570nm,0.5s						
YUK				pmax	pmax		
	comp=E,380nm,0.5s						
YUK				pmax	pmax		
	comp=Z,570nm,0.5s						
YUK				MLR	MLR		
	comp=E,34μm,10.0s						
YUK				MLR	MLR		
	comp=Z,26μm,10.0s						
YUK				MLR	MLR		
	comp=N,24μm,8.0s						
YUK	**Yuzh-Kuril'sk**	**3.85**	**131**	ePN	**Pn**	**10 38 30.9**	**+0.1**
YUK				AMB	AMB	10 38 35.0	
	comp=N,4μm,1.5s						
YUK				AMB	AMB	10 38 36.0	
	comp=N,4μm,2.0s						
YUK				AMB	AMB	10 38 36.0	
	comp=N,3μm,2.0s						
YUK				AMB	AMB	10 38 36.0	
	comp=N,380nm,0.5s						
YUK				AMB	AMB	10 38 36.0	
	comp=N,570nm,0.5s						
YUK				iS	**Sn**	**10 39 15.5**	**-0.5**
YUK				A		10 39 21.3	
	comp=N,3μm,0.3s						
YUK				AMS	AMS	10 41 31.0	
	comp=N,24μm,9.0s						
YUK				AMS	AMS	10 41 31.0	
	comp=N,34μm,9.0s						
YUK				AMS	AMS	10 41 31.0	
	comp=N,26μm,9.0s						
TEY	**Ternei**	**3.97**	**248**	iP	**Pn**	**10 38 32.0**	**-0.5**
TEY				AMB	AMB	10 38 33.0	
	comp=N,130nm,1.0s						
TEY				ePg	**Pg**	**10 38 48.5**	**+0.8**
TEY				AMB	AMB	10 38 50.0	
	comp=N,254nm,0.4s						
TEY				eS	**Sn**	**10 39 19.0**	**-0.1**
TEY				A		10 39 38.0	
	comp=N,53μm,8.0s						
TEY				eSg	**Sg**	**10 39 44.3**	**+5.1**
TEY				A		10 39 50.0	
	comp=N,675nm,0.3s						
TYV	**Tymovskoe**	**4.29**	**7**	eP	**Pn**	**10 38 37.0**	**+0.2**
TYV				ePg	**Pg**	**10 38 54.7**	**+1.0**
TYV				AMB	AMB	10 39 00.5	
	comp=N,1900μm,1.2s						
TYV				AMB	AMB	10 39 00.5	
	comp=N,814nm,0.8s						
TYV				AMB	AMB	10 39 00.5	
	comp=N,451nm,0.8s						
TYV				AMB	AMB	10 39 12.0	
	comp=N,6μm,12.0s						
TYV				AMB	AMB	10 39 12.0	
	comp=N,5μm,8.0s						
TYV				AMB	AMB	10 39 12.0	
	comp=N,6μm,8.0s						
TYV				eS	**Sn**	**10 39 26.0**	**-0.8**
TYV				eSg	**Sg**	**10 39 55.0**	**+5.8**
TYV				A		10 40 29.8	
	comp=N,1646μm,1.0s						
TYV				A		10 40 29.8	
	comp=N,1430μm,1.0s						
TYV				A		10 40 54.0	
	comp=N,30μm,11.0s						
TYV				A		10 40 54.0	
	comp=N,30μm,11.0s						
KUR	**Kuril'sk**	**4.44**	**106**	eP	**Pn**	**10 38 37.0**	**-2.0**
KUR				AMB	AMB	10 38 52.5	
	comp=N,220nm,0.7s						
KUR				AMB	AMB	10 38 52.5	
	comp=N,100nm,0.7s						
KUR				AMB	AMB	10 38 52.5	
	comp=N,710nm,0.7s						
KUR				AMB	AMB	10 38 56.8	
	comp=N,3μm,1.6s						
KUR				eS	**Sn**	**10 39 30.5**	**-0.2**
KUR				A		10 39 40.0	
	comp=N,2μm,0.9s						
KUR				A		10 39 40.0	
	comp=N,940nm,0.9s						
KUR				A		10 39 42.0	
	comp=N,10μm,5.0s						
KUR				A		10 39 42.0	
	comp=N,18μm,5.0s						
KUR				AMS	AMS	10 40 41.0	
	comp=N,39μm,16.0s						
KUR				AMS	AMS	10 40 41.0	
	comp=N,39μm,16.0s						
KUR				AMS	AMS	10 40 41.0	
	comp=N,50μm,16.0s						
HABR	**Khabarovsk**	**4.94**	**295**	ePN	**Pn**	**10 38 44.4**	**-1.4**
HABR				pmax	pmax		
	comp=Z,156nm,1.8s						
NKL	**Nikolayevsk**	**6.58**	**354**	iP	**Pn**	**10 39 03.3**	**-5.0**
NKL				AMB	AMB	10 39 05.5	
	comp=Z,70nm,0.6s						
NKL				AMB	AMB	10 39 05.5	
	comp=Z,110nm,0.6s						
NKL				AMB	AMB	10 39 05.5	
	comp=Z,230nm,0.6s						
NKL				AMB	AMB	10 39 09.0	
	comp=Z,1μm,5.0s						
NKL				AMB	AMB	10 39 09.0	
	comp=Z,1μm,5.0s						
NKL				eS	**Sn**	**10 40 18.5**	**-4.8**
NKL				AMS	AMS	10 44 29.0	
	comp=Z,15μm,14.0s						
NKL				AMS	AMS	10 44 29.0	
	comp=Z,18μm,14.0s						
NKL				AMS	AMS	10 44 29.0	
	comp=Z,9μm,10.0s						
OKH	**Okha**	**6.98**	**5**	eP	**Pn**	**10 39 16.0**	**+2.2**
OKH				AMB	AMB	10 39 18.2	
	comp=Z,600nm,0.9s						
OKH				AMB	AMB	10 39 19.8	
	comp=Z,2μm,9.0s						
OKH				AMB	AMB	10 39 19.8	
	comp=Z,3μm,9.0s						
OKH				eS	**Sn**	**10 40 35.0**	**+2.0**
OKH				AMS	AMS	10 44 01.0	
	comp=Z,25μm,11.0s						
OKH				AMS	AMS	10 44 01.0	
	comp=Z,24μm,11.0s						
OKH				AMS	AMS	10 44 01.0	
	comp=Z,18μm,11.0s						
KLR	**Kul'dur**	**7.25**	**295**	ePN	**Pn**	**10 39 12.0**	**-5.5**
KLR				MLR	MLR		
	comp=Z,82μm,12.0s						
KLR	**Kul'dur**	**7.25**	**295**	eP	**Pn**	**10 39 12.0**	**-5.5**
KLR				eS	**Sb**	**10 41 00.0**	**-3.9**
VLA	**Vladivostok**	**7.87**	**247**	ePN	**Pn**	**10 39 25.7**	**-0.3**
VLA				pmax	pmax		
	comp=Z,18nm,1.0s						
VLA				MLR	MLR		
	comp=Z,18μm,11.7s						
EKMR	**Ekimchan**	**8.63**	**322**	eP	**Pn**	**10 39 33.1**	**-3.3**
EKMR				AMB	AMB	10 39 47.0	
	comp=Z,3.0nm,0.5s						
EKMR				eS	**Sn**	**10 41 16.0**	**+2.4**
EKMR				eSg	Sn	10 42 01.5	+48
EKMR				A		10 42 19.0	
	comp=Z,490nm,1.0s						
EKMR				A		10 42 19.0	
	comp=Z,380nm,1.0s						
EKMR				A		10 42 19.0	
	comp=Z,480nm,1.0s						
MDJ	**Mudanjiang**	**8.80**	**261**	P	**Pn**	**10 39 38.7**	**-0.1**
MDJ				S	**Sn**	**10 41 24.4**	**+6.5**
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,1μm,11.0s						
MDJ				LR	LR		
	comp=E,35μm,13.9s						
MDJ				LR	LR		
	comp=Z,52μm,13.6s						
MDJ	**Mudanjiang**	**8.80**	**261**	ePn	**Pn**	**10 39 40.8**	**+2.0**
	comp=Z,35nm,0.8s						
SKR	**Severo-Kuril's**	**10.30**	**62**	eP	**Pn**	**10 40 02.8**	**+3.5**
SKR				AMB	AMB	10 40 04.3	
	comp=Z,180nm,1.0s						
SKR				AMB	AMB	10 40 06.0	
	comp=Z,1μm,6.0s						
SKR				AMB	AMB	10 40 06.0	
	comp=Z,1μm,6.0s						
SKR				eS	**Sn**	**10 42 07.0**	**+12**
SKR				A		10 42 23.0	
	comp=Z,6μm,10.0s						

SKR				A		10 42 23.0
	comp=Z,6μm,10.0s					
SKR				A		10 42 23.0
	comp=Z,8μm,10.0s					
SKR				AMS	AMS	10 45 10.0
	comp=Z,11μm,14.0s					
SKR				AMS	AMS	10 45 10.0
	comp=Z,6μm,14.0s					
SKR				AMS	AMS	10 45 10.0
	comp=Z,15μm,14.0s					
SKR				AMS	AMS	10 45 10.0
	comp=Z,10μm,14.0s					
SKR				AMS	AMS	10 45 10.0
	comp=Z,8μm,14.0s					
SKR				AMS	AMS	10 45 10.0
	comp=Z,16μm,14.0s					
MAJO	**Matsushiro**	**10.42 196**		*e*Sn	**Pn**	**10 40 03.9 +2.9**
MAT	**Matsushiro**	**10.42 196**		P	**Pn**	**10 40 03.2 +2.2**
MAT				S	**Sn**	**10 42 06.0 +8.2**
MJAR	**Matsushiro Arr**	**10.42 196**		Pn	**Pn**	**10 40 03.3 +2.2**
	comp=Z,0.7nm,0.3s,baz=7.7,slow=12,SNR=13					
MJAR	**Matsushiro Arr**	**10.42 196**		PN	**Pn**	**10 40 03.3 +2.3**
MJAR				pmax	pmax	
	comp=Z,1.0nm,0.3s					
BMKR	**Bomnak**	**11.54 319**		*e*P	**Pn**	**10 40 12.3 -3.9**
BMKR				AMB	AMB	10 40 16.8
	comp=Z,28nm,0.9s					
BMKR				*e*S	**Sn**	**10 42 26.0 +1.1**
ZEA	**Zeya**	**11.73 313**		*e*P	**Pn**	**10 40 15.0 -3.9**
ZEA				AMB	AMB	10 40 27.0
	comp=Z,900nm,12.0s					
ZEA				AMB	AMB	10 40 27.0
	comp=Z,1μm,12.0s					
ZEA				*e*S	**Sn**	**10 42 40.0 +10**
ZEA				A		10 42 48.0
	comp=Z,600nm,12.0s					
ZEA				AMS	AMS	10 45 07.0
	comp=Z,11μm,12.0s					
ZEA				AMS	AMS	10 45 07.0
	comp=Z,29μm,12.0s					
ZEA				AMS	AMS	10 45 07.0
	comp=Z,33μm,12.0s					
CN2	**Changchun**	**11.88 262**		*e*P	**Pn**	**10 40 23.9 +2.9**
CN2				*e*XP		10 40 30.2
CN2				*e*PP		10 40 33.5
CN2				*e*S	**Sn**	**10 42 36.8 +3.2**
CN2				*e*SS		10 42 50.6
CN2				AMB	AMB	
	comp=Z,20nm,0.9s					
CN2				AMB	AMB	
	comp=Z,200nm,10.0s					
CN2				LR	LR	
	comp=N,26μm,12.0s					
CN2				LR	LR	
	comp=E,51μm,12.0s					
PETK	**Petropavlovsk-**	**12.12 52**		Pn	**Pn**	**10 40 26.9 +2.7**
	comp=E,0.7nm,0.3s,baz=226,slow=9.8,SNR=31					
PETK				Sn	**Sn**	**10 42 40.7 +1.5**
	comp=E,0.4nm,0.3s,baz=213,slow=4.0,SNR=6.3					
PETK				LR	LR	10 45 02.7
	comp=E,5μm,21.2s,baz=90,slow=38					
PETK	**Petropavlovsk-**	**12.12 52**		*e*Pn	**Pn**	**10 40 26.9 +2.8**
KROS	**Kirovskiy**	**12.25 315**		*e*P	**Pn**	**10 40 22.3 -3.6**
KROS				AMB	AMB	10 40 26.3
	comp=E,4.0nm,0.6s					
KROS				*e*Sg	Sn	10 43 49.6 +67
KROS				A		10 44 10.1
	comp=E,330nm,1.3s					
PET	**Petropavlovsk**	**12.61 53**		*e*PN	**Pn**	**10 40 34.9 +4.1**
PET				pmax	pmax	
	comp=Z,1μm,5.9s					
PET				pmax	pmax	
	comp=Z,800nm,8.0s					
PET				pmax	pmax	
	comp=Z,81nm,1.1s					
PET				MLR	MLR	
	comp=Z,7μm,18.0s					
PET	**Petropavlovsk**	**12.61 53**	⇓	*i*P	**Pn**	**10 40 35.4 +4.6**
PET				AMB	AMB	10 40 39.6
	comp=Z,843nm,8.0s					
PET				AMB	AMB	10 40 41.2
	comp=Z,27nm,0.9s					
PET				*e*S	**Sn**	**10 42 56.4 +5.3**
PET				A		10 43 03.5
	comp=Z,11nm,0.6s					
PET				A		10 43 14.0
	comp=Z,5μm,12.0s					
PET				AMS	AMS	10 45 43.4
	comp=Z,10μm,17.0s					
PET	**Petropavlovsk**	**12.61 53**		*e*Pn	**Pn**	**10 40 31.2 +0.4**
KSRS	**Korea Array**	**13.78 233**		Pn	**Pn**	**10 40 49.4 +2.4**
	comp=Z,0.4nm,0.3s,baz=46,slow=12,SNR=21					
KSRS				LR	LR	10 45 03.3
	comp=Z,4μm,20.7s,baz=49,slow=33					
KS15	**Wonju Array Si**	**13.81 233**		*e*Pn	**Pn**	**10 40 52.0 +4.7**
SNY	**Shenyang**	**13.92 256**		P	**Pn**	**10 40 53.4 +4.6**
SNY				S	**Sn**	**10 43 31.6 +8.3**
SNY				AMB	AMB	
	comp=Z,2μm,4.3s					
SNY				LR	LR	
	comp=N,22μm,12.6s					
SNY				LR	LR	
	comp=E,27μm,11.6s					
SNY				LR	LR	
	comp=Z,35μm,11.8s					
MA2	**Magadan**	**14.03 19**	⇑	*i*P	**Pn**	**10 40 49.9 -0.3**
MA2				pmax	pmax	
	comp=Z,180nm,1.7s					
MA2	**Magadan**	**14.03 19**		*e*Pn	**Pn**	**10 40 51.5 +1.3**
CLNS	**Chul'man**	**14.61 321**		*e*P	**Pn**	**10 40 57.8 -0.3**
CLNS				pmax	pmax	
	comp=Z,18nm,1.0s					
CLNS				pmax	pmax	
	comp=E,13nm,0.8s					
CLNS				pmax	pmax	
	comp=N,19nm,1.3s					
CLNS				MLR	MLR	
	comp=Z,8μm,10.0s					
CLNS				MLR	MLR	
	comp=N,3μm,11.0s					
CLNS				MLR	MLR	
	comp=E,5μm,10.0s					
HIA	**Hailar**	**15.02 288**		*e*P	**Pn**	**10 41 05.8 +2.0**
HIA				pmax	pmax	
	comp=Z,47nm,0.9s					
HIA	**Hailar**	**15.02 288**		*e*P	**Pn**	**10 41 05.8 +2.1**
	comp=Z,47nm,0.9s					
DL2	**Dalian**	**16.68 250**	⇑	*i*P	**Pn**	**10 41 26.9 +1.6**
DL2				S	**Sn**	**10 44 34.9 +4.5**
DL2				LG1		10 46 24.5
DL2				LG2		10 46 53.8
DL2				AMB	AMB	
	comp=Z,40nm,1.1s					
DL2				AMB	AMB	
	comp=Z,1μm,7.1s					
DL2				LR	LR	
	comp=N,13μm,12.5s					
DL2				LR	LR	
	comp=E,9μm,11.9s					
DL2				LR	LR	
	comp=Z,12μm,11.2s					
YAK	**Yakutsk**	**16.94 340**		*e*P	**Pn**	**10 41 27.2 -1.2**
YAK				*e*S	**Sn**	**10 44 36.5 +0.1**
YAK				pmax	pmax	
	comp=Z,26nm,1.0s					
YAK				pmax	pmax	
	comp=N,27nm,1.3s					
YAK				pmax	pmax	
	comp=E,17nm,1.7s					
YAK				pmax	pmax	
	comp=Z,185nm,2.5s					
YAK				smax		
	comp=N,78nm,2.2s					
YAK				smax		
	comp=E,131nm,2.3s					
YAK				MLR	MLR	
	comp=Z,7μm,16.0s					
YAK				MLR	MLR	
	comp=N,7μm,17.0s					
YAK				MLR	MLR	
	comp=E,3μm,13.0s					
YAK	**Yakutsk**	**16.94 340**		*e*Pn	**Pn**	**10 41 27.7 -0.7**
SEY	**Seymchan**	**17.41 16**		*d*P	**Pn**	**10 41 36.7 +2.5**
SEY	**Seymchan**	**17.41 16**		*i*P	**Pn**	**10 41 36.8 +2.6**
CIT	**Chita**	**19.13 297**		*e*P	**Pn**	**10 41 56.6 +1.1**
CIT				pmax	pmax	
	comp=Z,693nm,2.7s					
CBIJ	**Chichi jima**	**19.49 179**		P	**Pn**	**10 41 58.7 -1.2**
	comp=Z,16nm,0.3s,baz=337,slow=14,SNR=5.2					
CBIJ				LR	LR	10 49 29.7
	comp=Z,3μm,19.6s,baz=356,slow=37					
BJI	**Beijing**	**19.73 260**		P	**Pn**	**10 42 01.2 -1.5**
BJI				AMB	AMB	
	comp=Z,43nm,1.1s					
BJI				AMB	AMB	
	comp=Z,2μm,10.3s					
BJI				LR	LR	
	comp=N,13μm,13.1s					
BJI				LR	LR	
	comp=E,27μm,12.1s					
BJI				LR	LR	
	comp=Z,14μm,14.9s					
BJT	**Baijiatuau**	**19.74 260**		*e*P	**Pn**	**10 42 01.7 -1.1**
BJT				*e*S	**Sn**	**10 45 44.1 -0.4**
BJT				pmax	pmax	
	comp=Z,56nm,1.1s					
BJT	**Baijiatuau**	**19.74 260**		*e*P	**Pn**	**10 42 01.7 -1.2**
	comp=Z,56nm,1.1s					
BJT				*e*S	**Sn**	**10 45 44.1 -0.4**
BOD	**Bodaibo**	**20.24 314**		*e*P	**P**	**10 42 07.2 +0.6**
BOD				pmax	pmax	
	comp=Z,82nm,1.7s					
TIA	**Tai'an**	**21.16 249**		*e*P	**P**	**10 42 14.6 -2.1**
TIA				S	**S**	**10 46 15.0 +3.2**
TIA				LR	LR	
	comp=N,4μm,10.0s,MS5.8					
TIA				LR	LR	
	comp=E,22μm,11.0s,MS5.8					
SMY	**Shemya**	**21.64 62**		*e*P	**P**	**10 42 24.4 +2.6**
SMY				MLR	MLR	
	comp=Z,4μm,21.0s,MS4.8					
SSE	**Sheshan**	**22.22 233**		P	**P**	**10 42 27.6 -0.6**
SSE				AP		10 42 30.4
SSE				S	**S**	**10 46 32.6 -0.2**
SSE				XS	sS	10 46 37.8 +0.2
SSE				AMB	AMB	
	comp=Z,35nm,0.7s,mb4.9					
SSE				AMB	AMB	
	comp=Z,386nm,9.7s					
SSE				LR	LR	
	comp=N,4μm,11.3s,MS5.2					
SSE				LR	LR	
	comp=E,4μm,11.2s,MS5.2					
SSE				LR	LR	
	comp=Z,5μm,11.9s,MS5.2					
JOW	**Kunigami**	**22.47 213**		P	**P**	**10 42 34.2 +3.4**
	comp=Z,68nm,0.9s,mb5.1,baz=56,slow=10.0,SNR=8.6					
HHC	**Hu-ho-hao-te**	**22.52 266**		*e*P	**P**	**10 42 33.3 +2.0**
HHC				XP	sP	10 42 39.2 +3.5
HHC				PP		10 43 00.6
HHC				PCP	PcP	10 46 27.6 +2.7
HHC				S	**S**	**10 46 34.1 -4.4**
HHC				XS	sS	10 46 41.3 -2.0
HHC				SS		10 47 15.2
HHC				PCS	PcS	10 50 06.7 +3.1
HHC				AMB	AMB	
	comp=Z,24nm,1.0s,mb4.6					
HHC				AMB	AMB	
	comp=Z,916nm,4.3s					
NJ2	**Nanjing**	**22.84 239**		*e*P	**P**	**10 42 34.6 -0.2**
NJ2				AP		10 42 37.6
NJ2				XP	sP	10 42 39.8 +0.6
NJ2				PP		10 43 05.0
NJ2				S	**S**	**10 46 37.0 -7.3**
NJ2				XS	sS	10 46 44.5 -5.0
NJ2				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.3					
NJ2				AMB	AMB	
	comp=Z,350nm,10.4s					
NJ2				LR	LR	
	comp=N,4μm,14.1s,MS5.2					
NJ2				LR	LR	
	comp=E,4μm,12.8s,MS5.2					
NJ2				LR	LR	
	comp=Z,4μm,12.8s,MS5.1					
TIY	**Taiyuan**	**23.42 258**		*i*P	**P**	**10 42 40.0 -0.8**
TIY				S	**S**	**10 46 54.3 +0.8**
TIY				LR	LR	
	comp=N,6μm,8.8s					
TIY				LR	LR	
	comp=E,6μm,10.4s					
TIY				LR	LR	
	comp=Z,7μm,10.9s,MS5.4					
BTO	**Baotou**	**23.69 267**		*e*P	**P**	**10 42 44.3 +0.9**
SONM	**Songino Array**	**23.96 286**		P	**P**	**10 42 45.5 -0.3**
	comp=Z,18nm,1.0s,mb4.5,baz=81,slow=9.5,SNR=66					
SONM				PcP	PcP	10 46 27.5 -0.2
	comp=Z,9.0nm,0.9s,baz=114,slow=2.2,SNR=9.6					
SONM				ScP	ScP	10 50 06.4 +0.5
	comp=Z,1.9nm,0.9s,baz=131,slow=4.1,SNR=4.7					
IRK	**Irkutsk**	**24.85 297**		*e*P	**P**	**10 42 54.3 +0.4**
IRK				*e*		10 43 24.9
IRK				*e*S	**S**	**10 47 22.9 +6.4**
IRK				pmax	pmax	
	comp=Z,371nm,2.3s,mb5.5					
AMKA	**Amchitka**	**24.86 65**		*e*P	**P**	**10 42 55.1 +1.1**
BILL	**Bilibino**	**24.87 22**	⇓	*e*P	**P**	**10 42 54.9 +1.0**
BILL				*e*		10 43 25.3
BILL				*i*S	**S**	**10 47 20.4 +4.0**
BILL				pmax	pmax	
	comp=Z,86nm,1.1s,mb5.2					
BILL				MLR	MLR	
	comp=Z,5μm,16.0s,MS5.1					
BILL	**Bilibino**	**24.87 22**		*e*P	**P**	**10 42 55.0 +1.1**
	comp=Z,47nm,0.8s,mb5.1					
BILL				LR	LR	
	comp=Z,3μm,20.0s,MS4.8					
TLY	**Talaya**	**25.27 296**		P	**P**	**10 42 59.0 +1.3**
SNR=20						
TLY	**Talaya**	**25.27 296**		*e*P	**P**	**10 42 57.1 -0.6**
TLY				*e*PPP		10 43 39.2
TLY				*e*S	**S**	**10 47 20.4 -2.8**
TLY				*e*SS		10 48 21.8
TLY				pmax	pmax	
	comp=Z,42nm,1.4s,mb4.8					
TLY				MLR	MLR	
	comp=Z,16μm,15.0s,MS5.7					
TLY	**Talaya**	**25.27 296**		*e*P	**P**	**10 42 58.6 +0.9**
	comp=Z,66nm,1.3s,mb5.0					
TLY				LR	LR	
	comp=Z,9μm,22.0s,MS5.2					
TIXI	**Tiksi**	**25.85 351**		*e*P	**P**	**10 43 01.4 -1.4**
TIXI				pmax	pmax	
	comp=Z,123nm,1.8s,mb5.1					
TIXI				MLR	MLR	
	comp=Z,5μm,15.0s,MS5.1					
TIXI	**Tiksi**	**25.85 351**		*e*P	**P**	**10 43 02.2 -0.5**
	comp=Z,35nm,0.9s,mb4.9					
TIXI				LR	LR	
	comp=Z,3μm,19.0s,MS4.9					
WHN	**Wuhan**	**26.62 243**		P	**P**	**10 43 09.5 -0.6**
WHN				S	**S**	**10 47 45.7 +0.8**
WHN				AMB	AMB	
	comp=Z,1μm,11.1s					
TATO	**Taipei**	**27.02 224**		PFAKE		10 43 30.0 +16
TATO				LR	LR	
	comp=Z,2μm,21.0s,MS4.7					
YHNB	**Yeheng**	**27.34 224**		*e*P	**P**	**10 43 18.9 +2.3**
	comp=Z,36nm,0.9s,mb4.9					
YHNB				LR	LR	
	comp=Z,2μm,22.0s,MS4.6					
XAN	**Xi'an**	**27.84 255**		P	**P**	**10 43 21.1 +0.1**
XAN				XP	sP	10 43 27.5 +1.9
XAN				PP		10 44 09.7
XAN				PPP		10 44 22.8
XAN				PCP	PcP	10 46 37.5 +0.6
XAN				S	**S**	**10 48 01.4 -2.6**
XAN				SS		10 49 21.1
XAN				SCP	ScP	10 50 15.1 -2.3
XAN				SCS	ScS	10 54 05.6 -4.0
XAN				AMB	AMB	
	comp=Z,11nm,1.4s,mb4.3					
XAN				AMB	AMB	
	comp=Z,437nm,13.1s					
XAN				LR	LR	
	comp=N,6μm,15.7s,MS5.6					
XAN				LR	LR	
	comp=E,11μm,14.7s,MS5.6					
XAN				LR	LR	
	comp=Z,15μm,15.0s,MS5.7					
QZH	**Quanzhou**	**28.49 229**	⇑	*i*P	**P**	**10 43 24.0 -2.9**
QZH				S	**S**	**10 48 15.3 +0.9**
QZH				AMB	AMB	
	comp=Z,50nm,0.8s,mb5.2					
QZH				AMB	AMB	
	comp=Z,1μm,3.7s					
QZH				LR	LR	
	comp=N,6μm,12.0s,MS5.7					
QZH				LR	LR	
	comp=E,9μm,11.7s,MS5.7					
QZH				LR	LR	
	comp=Z,10μm,12.0s,MS5.6					
LZH	**Lanzhou**	**30.12 263**		*e*P	**P**	**10 43 42.0 +0.7**
LZH				AP	pP	10 43 51.3 +6.8
LZH				XP	sP	10 43 55.1 +9.3
LZH				PP	PP	10 44 40.0 -9.2
LZH				S	**S**	**10 48 35.0 -4.8**
LZH				XS	sS	10 48 52.0 +6.9
LZH				SS	SS	10 50 13.1 -35
LZH				AMB	AMB	
	comp=Z,36nm,1.1s,mb5.0					
LZH				AMB	AMB	
	comp=Z,151nm,4.3s					
LZH				LR	LR	
	comp=N,12μm,14.5s					
LZH				LR	LR	
	comp=Z,17μm,15.6s,MS5.8					
GTA	**Gaotai**	**31.25 272**		P	**P**	**10 43 52.2 +1.0**
GTA				AP	pP	10 43 56.6 +2.2
GTA				XP	sP	10 43 59.8 +4.0
GTA				PP	PP	10 44 55.0 -6.6
GTA				PCP	PcP	10 46 46.7 +1.2
GTA				S	**S**	**10 48 58.4 +0.9**
GTA				XS	sS	10 49 05.2 +2.4
GTA				SCP	ScP	10 50 30.1 +1.8
GTA				PCS	PcS	10 50 32.1 +2.5
GTA				SS	SS	10 50 47.9 -23
GTA				SCS	ScS	10 54 25.2 -0.3
GTA				AMB	AMB	
	comp=Z,7.0nm,1.2s,mb4.4					
GTA				AMB	AMB	
	comp=Z,438nm,6.5s					
GTA				LR	LR	
	comp=N,9μm,13.3s,MS5.8					
GTA				LR	LR	
	comp=E,12μm,14.4s,MS5.8					
KRAR	**Krasnoyarsk**	**31.39 306**		*i*P	**P**	**10 43 52.6 +0.4**
KRAR				pmax	pmax	
	comp=Z,164nm,1.4s,mb5.7					
HVS	**Khovu-Aksy**	**31.51 296**	⇑	*i*P	**P**	**10 43 53.8 +0.4**
HVS				pmax	pmax	
	comp=Z,44nm,1.5s,mb5.1					
TNA	**Tin City**	**32.63 36**		*e*P	**P**	**10 44 03.4 +0.2**
	comp=Z,37nm,1.0s,mb5.3					
GZH	**Guangzhou**	**32.81 234**		P	**P**	**10 44 00.8 -4.3**
GZH				S	**S**	**10 49 12.8 -9.3**
GZH				LR	LR	
	comp=N,5μm,13.6s,MS5.5					
GZH				LR	LR	
	comp=E,5μm,12.6s,MS5.5					
GZH				LR	LR	
	comp=Z,7μm,12.3s,MS5.6					
GUMO	**Guam**	**33.02 175**		LR	LR	10 57 18.7
	comp=Z,2μm,18.7s,MS4.8,baz=23,slow=36					
GUMO	**Guam**	**33.02 175**		PFAKE		10 44 20.0 +13
GUMO				LR	LR	
	comp=Z,1μm,20.0s,MS4.5					
CD2	**Chengdu**	**33.20 255**		P	**P**	**10 44 08.0 -0.4**
CD2				AP	pP	10 44 12.8 +1.2
CD2				XP	sP	10 44 15.1 +2.2
CD2				PP	PP	10 45 17.1 -6.3
CD2				PCP	PcP	10 46 51.8 +0.8
CD2				S	**S**	**10 49 23.8 -4.2**
CD2				SS	SS	10 51 24.4 -26
CD2				SCS	ScS	10 54 33.1 -2.6
CD2				AMB	AMB	
	comp=Z,50nm,1.1s,mb5.4					
CD2				AMB	AMB	
	comp=Z,500nm,6.9s					
CD2				LR	LR	
	comp=Z,10μm,16.8s,MS5.6					
GYA	**Guiyang**	**34.28 246**	⇑	*i*P	**P**	**10 44 18.0 +0.1**
GYA				PP	PP	10 45 35.2 -0.3
GYA				PCP	PcP	10 46 56.9 +2.8
GYA				S	**S**	**10 49 45.0 +0.1**
GYA				SCP	ScP	10 50 40.3 +1.4
GYA				SS	SS	10 51 54.0 -19
GYA				SCS	ScS	10 54 41.8 +0.4
GYA				AMB	AMB	
	comp=Z,60nm,0.8s,mb5.6					
GYA				AMB	AMB	
	comp=Z,160nm,4.8s					
GYA				LR	LR	
	comp=N,9μm,12.4s,MS5.8					
GYA				LR	LR	
	comp=E,7μm,11.9s,MS5.8					
GYA				LR	LR	
	comp=Z,9μm,12.7s,MS5.7					
ZAA0	**Zalesovo Array**	**36.27 303**		*e*P	**P**	**10 44 33.8 -0.9**
ZALV	**Zalesovo Beam**	**36.27 303**		P	**P**	**10 44 33.5 -1.2**
	comp=Z,18nm,0.9s,mb5.0,baz=80,slow=8.3,SNR=48					
ZALV				PcP	PcP	10 46 58.8 -0.7
	comp=Z,12nm,0.8s,baz=101,slow=3.0,SNR=10					
ZALV				ScP	ScP	10 50 45.0 -0.7
	comp=Z,0.9nm,0.5s,baz=67,slow=3.9,SNR=5.2					
ZALV	**Zalesovo Beam**	**36.27 303**		P	**P**	**10 44 33.5 -1.2**
ZALV				PcP	PcP	10 46 58.8 -0.6
ZALV				ScP	ScP	10 50 45.0 -0.7
ZAL	**Zalesovo**	**36.28 303**		P	**P**	**10 44 33.5 -1.3**
ZAL						10 46 58.8
ZAL				pmax	pmax	
	comp=Z,18nm,0.9s					
MIDW	**Midway**	**36.76 105**		PFAKE		10 44 50.0 +11
MIDW				LR	LR	
	comp=Z,2μm,20.0s,MS4.9					
NVS	**Novosibirsk**	**36.98 305**		*i*P	**P**	**10 44 38.9 -1.9**
NVS				*e*S	**S**	**10 50 31.9 +6.2**
NVS				pmax	pmax	
	comp=Z,145nm,2.8s,mb5.3					
NVS				pmax	pmax	
	comp=N,62nm,2.3s					
NVS				pmax	pmax	
	comp=E,140nm,2.3s					
NVS				smax		
	comp=N,43nm,1.9s					
NVS				smax		
	comp=E,21nm,0.9s					
WMQ	**Urumqi**	**37.60 286**		P	**P**	**10 44 46.0 -0.1**
WMQ				AP	pP	10 44 50.4 +1.0
WMQ				XP	sP	10 44 53.0 +2.3
WMQ				PP	PP	10 46 14.0 +2.2
WMQ				PCP	PcP	10 47 05.0 +1.3
WMQ				S	**S**	**10 50 34.1 -1.3**
WMQ				SCP	ScP	10 50 49.7 -1.1
WMQ				SS	SS	10 53 08.2 -12
WMQ				SCS	ScS	10 54 56.8 -2.4
WMQ				AMB	AMB	
	comp=Z,27nm,0.7s,mb5.1					
WMQ				AMB	AMB	
	comp=Z,131nm,7.4s					
WMQ				LR	LR	
	comp=N,7μm,19.6s,MS5.6					
WMQ				LR	LR	
	comp=E,4μm,15.6s,MS5.6					
WMQ				LR	LR	
	comp=Z,9μm,16.2s,MS5.7					
TTA	**Tatalina**	**37.68 41**		*e*P	**P**	**10 44 46.5 -0.1**
KMI	**Kunming**	**37.73 249**		P	**P**	**10 44 47.2 -0.2**
KMI				AP	pP	10 44 52.4 +1.8
KMI				XP	sP	10 44 54.7 +2.8
KMI				PP	PP	10 46 15.7 +2.3
KMI				PPP		10 46 37.2
KMI				S	**S**	**10 50 35.9 -1.7**
KMI				XS	sS	10 50 45.0 +2.0
KMI				SS	SS	10 53 10.5 -13
KMI				SSS		10 53 41.2
KMI				AMB	AMB	
	comp=Z,37nm,1.1s,mb5.0					
KMI				AMB	AMB	
	comp=Z,966nm,3.1s					
KMI				LR	LR	
	comp=N,9μm,12.3s,MS5.9					
KMI				LR	LR	
	comp=E,7μm,13.2s,MS5.9					
KMI				LR	LR	
	comp=Z,4μm,13.2s,MS5.4					

SVW2 **Sparrevohn** 38.06 44 eP P 10 44 50.9 +1.1
IMA2 **Indian Mountai** 38.51 36 eP P 10 44 53.2 -0.3
CHUM **Lake Minchumin** 39.25 40 eP P 10 45 00.4 +0.7
comp=Z,134nm,1.2s,mb5.5
PPLA **Purkeypile** 39.43 41 eP P 10 45 02.3 +1.0
comp=Z,394nm,1.3s,mb6.0
BPAW **Bear Paw Mtn.** 39.81 39 eP P 10 45 04.5 0.0
comp=Z,58nm,1.0s,mb5.3
COLD **Coldfoot** 39.83 34 eP P 10 45 04.2 -0.4
comp=Z,39nm,0.9s,mb5.1
KTH **Kantishna Hill** 39.91 40 eP P 10 45 05.8 +0.6
comp=Z,142nm,0.9s,mb5.7
OHAK **Old Harbor** 39.92 50 eP P 10 45 05.1 -0.3
comp=Z,78nm,1.0s,mb5.4
MK31 **Makanchi Array** 39.95 293 i P P 10 45 05.6 -0.2
MK31 pmax pmax
comp=Z,38nm,0.8s,mb5.2
MK31 **Makanchi Array** 39.95 293 eP P 10 45 05.9 +0.1
MKAR **Makanchi Array** 39.95 293 P P 10 45 05.5 -0.3
comp=Z,33nm,0.9s,mb5.0,baz=74,slow=8.9,SNR=123
MKAR PcP PcP 10 47 10.7 -0.3
comp=Z,5.2nm,0.8s,baz=56,slow=4.5,SNR=4.1
MKAR ScP ScP 10 50 58.8 -1.0
comp=Z,0.4nm,0.5s,baz=57,slow=4.5,SNR=4.6
MKAR LR LR 11 02 41.6
comp=Z,14μm,19.6s,MS5.8,baz=67,slow=38
KDAK **Kodiak Island** 40.16 49 P P 10 45 06.7 -0.6
comp=Z,27nm,0.6s,mb5.2,baz=300,slow=2.9,SNR=25
KDAK **Kodiak Island** 40.16 49 eP P 10 45 07.2 -0.1
comp=Z,67nm,1.1s,mb5.3
KDAK LR LR
comp=Z,943nm,22.0s,MS4.6
TRF **Thorofare Moun** 40.20 40 eP P 10 45 07.9 +0.2
comp=Z,111nm,1.1s,mb5.5
SLKM **Skilak Lake** 40.75 45 eP P 10 45 12.0 -0.3
MCK **McKinley** 40.76 40 eP P 10 45 11.9 -0.4
MCK pmax pmax
comp=Z,75nm,0.9s,mb5.3
MCK **McKinley** 40.76 40 eP P 10 45 11.9 -0.4
comp=Z,75nm,0.9s,mb5.3
KURK **Kurchatov** 40.81 300 P P 10 45 12.2 -0.7
SNR=30
KURK **Kurchatov** 40.81 300c iP P 10 45 11.9 -1.0
KURK pmax pmax
comp=Z,54nm,1.3s,mb5.0
KURK **Kurchatov** 40.81 300 eP P 10 45 11.8 -1.1
comp=Z,23nm,0.7s,mb4.9
KURK LR LR
comp=Z,8μm,20.0s,MS5.6
RC01 **Rabbit Creek A** 40.87 44 eP P 10 45 13.5 +0.3
comp=Z,42nm,0.9s,mb5.1
COLA **College** 41.05 38 eP P 10 45 14.6 0.0
COLA pmax pmax
comp=Z,121nm,1.1s,mb5.4
COLA MLR MLR
comp=Z,1μm,21.0s,MS4.8
COLA **College** 41.05 38 eP P 10 45 14.6 -0.1
comp=Z,121nm,1.1s,mb5.4
COLA LR LR
comp=Z,1μm,21.0s,MS4.8
PMR **Palmer** 41.05 43 eP P 10 45 14.5 -0.2
PMR pmax pmax
comp=Z,119nm,1.4s,mb5.3
PMR MLR MLR
comp=Z,2μm,20.0s,MS5.0
PMR **Palmer** 41.05 43 eP P 10 45 14.5 -0.2
comp=Z,119nm,1.4s,mb5.3
PMR LR LR
comp=Z,2μm,20.0s,MS5.0
SEW **Seward** 41.21 45 eP P 10 45 15.2 -0.9
DAV **Davao City (W)** 41.80 205 PFAKE 10 45 30.0 +8.6
DAV LR LR
comp=Z,957nm,20.0s,MS4.7
LSA **Lhasa** 42.50 265 P P 10 45 28.1 +1.1
LSA LR LR
comp=N,3μm,7.3s
LSA LR LR
comp=E,5μm,8.5s
LSA **Lhasa** 42.50 265 eP P 10 45 28.1 +1.1
LSA pmax pmax
comp=Z,80nm,1.5s,mb5.2
LSA MLR MLR
comp=Z,8μm,19.0s,MS5.6
LSA **Lhasa** 42.50 265 eP P 10 45 28.1 +1.1
comp=Z,80nm,1.5s,mb5.2
LSA LR LR
comp=Z,8μm,19.0s,MS5.6
DIV **Divide** 42.73 43 eP P 10 45 29.4 +0.9
comp=Z,35nm,0.6s,mb5.3
MENT **Mentasta** 43.22 40 eP P 10 45 32.9 +0.5
BMRM **Bremner River** 43.33 43 eP P 10 45 33.3 0.0
RAGM **Ragged Mountai** 43.45 44 eP P 10 45 34.9 +0.6
EGAK **Eagle** 43.87 37 eP P 10 45 36.6 -1.0
comp=Z,74nm,0.7s,mb5.5
EGAK LR LR
comp=Z,1μm,19.0s,MS4.8
SHL **Shillong** 44.63 260 i P P 10 45 45.0 +0.8
SHL i S S 10 52 22.0 +1.8
CHTO **Chiang Mai** 44.70 246 eP P 10 45 44.6 -0.2
CHTO pmax pmax
comp=Z,19nm,1.0s,mb4.9
CHTO MLR MLR
comp=Z,3μm,19.0s,MS5.2
CHTO **Chiang Mai** 44.70 246 eP P 10 45 44.6 -0.2
comp=Z,19nm,1.0s,mb4.9
CHTO LR LR
comp=Z,3μm,19.0s,MS5.2
BVAR **Borovoye Array** 44.77 306 P P 10 45 44.2 -0.7
comp=Z,16nm,0.9s,mb4.8,baz=72,slow=9.5,SNR=44
BVAR PcP PcP 10 47 26.2 -0.7
comp=Z,6.7nm,0.8s,baz=62,slow=3.5,SNR=4.7
BVAR **Borovoye Array** 44.77 306 P P 10 45 44.2 -0.7
BVAR 10 47 26.2
BVAR pmax pmax
comp=Z,16nm,0.9s
DAWY **Dawson** 44.80 38 eP P 10 45 44.8 -0.2
BRVK **Borovoye** 44.81 306 P P 10 45 45.0 -0.3
SNR=36
BRVK **Borovoye** 44.81 306 eP P 10 45 45.5 +0.2
BRVK pmax pmax
comp=Z,18nm,0.9s,mb4.9
BRVK MLR MLR
comp=Z,6μm,19.0s,MS5.6
BRVK **Borovoye** 44.81 306 eP P 10 45 45.5 +0.2
comp=Z,18nm,0.9s,mb4.9
BRVK LR LR
comp=Z,6μm,19.0s,MS5.6
CM31 **Chiang Mai Arr** 44.97 246 PFAKE 10 46 00.0 +13
CM31 LR LR
comp=Z,2μm,19.0s,MS5.1
CMAR **Chiang Mai Arr** 44.97 246 P P 10 45 46.9 0.0
comp=Z,8.6nm,1.0s,mb4.5,baz=30,slow=7.4,SNR=27
CMAR PcP PcP 10 47 28.1 +0.1
comp=Z,5.9nm,0.9s,baz=7.9,slow=3.2,SNR=7.1
CMAR LR LR 11 07 11.1
comp=Z,2μm,18.3s,MS5.2,baz=220,slow=40
CMAR **Chiang Mai Arr** 44.97 246 P P 10 45 46.9 0.0
CMAR 10 47 28.2
CMAR pmax pmax
comp=Z,9.0nm,1.0s
CMAR MLR MLR
comp=Z,2μm,18.3s
ULHL **Ulahol** 45.82 289 P P 10 45 53.9 +0.5
SNR=6.1
INK **Inuvik** 45.86 31 P P 10 45 52.8 -0.7
comp=Z,22nm,0.9s,mb5.1,baz=293,slow=7.8,SNR=36
INK **Inuvik** 45.86 31 P P 10 45 52.8 -0.6
INK pmax pmax
comp=Z,22nm,0.9s
INK **Inuvik** 45.86 31 eP P 10 45 53.0 -0.4
comp=Z,818nm,0.8s,mb6.7
TKM2 **Tokmak 2** 45.91 291 eP P 10 45 54.9 +0.7
TKM2 pmax pmax
comp=Z,56nm,1.1s,mb5.4
TKM2 MLR MLR
comp=Z,5μm,19.0s,MS5.5
TKM2 **Tokmak 2** 45.91 291 P P 10 45 54.6 +0.5
SNR=27
TKM2 **Tokmak 2** 45.91 291 eP P 10 45 54.9 +0.7
comp=Z,56nm,1.1s,mb5.4
TKM2 LR LR
comp=Z,5μm,19.0s,MS5.5
KKM **Kota Kinabalu** 46.05 217 PFAKE 10 46 10.0 +14
KKM LR LR
comp=Z,2μm,22.0s,MS4.9
TAPN **Taplejung** 46.33 265 eP P 10 45 58.4 +0.8
USP **Ospenovka** 46.45 292 P P 10 45 58.7 +0.2
SNR=8.6
KBK **Karagaybulak** 46.46 291 P P 10 45 59.4 +1.0
SNR=11
KZA **Kyzart** 46.55 290 P P 10 45 59.9 +0.7
SNR=24
HYT **Haines Junctio** 46.67 42 eP P 10 46 00.9 +1.1
AAK **Ala-Archa** 46.76 291 P P 10 46 01.2 +0.3
SNR=5.8
ODAN **Odare** 46.86 265 eP P 10 46 01.2 -0.6
UCH **Uchtor** 46.95 290 PFAKE 10 46 10.0 +7.7
UCH LR LR
comp=Z,1μm,22.0s,MS4.8
JIRN **Jiri** 47.18 267 eP P 10 46 04.7 +0.4
EKS2 **Erkin-Say** 47.21 291 P P 10 46 04.7 +0.3
SNR=18
EKS2 **Erkin-Say** 47.21 291 eP P 10 46 04.4 +0.1
comp=Z,19nm,1.0s,mb5.0
EKS2 LR LR
comp=Z,3μm,21.0s,MS5.2
GUN **Gumba** 47.23 267 eP P 10 46 05.7 +1.0
RAMN **Ramite** 47.34 265 eP P 10 46 05.0 -0.6
KSH **Kashi** 47.37 286 P P 10 46 07.0 +1.4
KSH AP pP 10 46 11.6 +2.7
KSH XP sP 10 46 14.1 +3.9
KSH PCP PcP 10 47 38.4 +2.2
KSH PP PP 10 47 57.4 +0.8
KSH PPP 10 48 46.9
KSH SCP ScP 10 51 30.4 +0.4
KSH PCS PcS 10 51 32.8 +1.4
KSH S S 10 53 00.9 +1.7
KSH XS sS 10 53 07.1 +2.4
KSH SCS ScS 10 55 58.3 -1.1
KSH SS SS 10 56 21.0 -5.4
KSH AMB AMB
comp=Z,1μm,3.9s
AML **Almayashu** 47.53 291 eP P 10 46 07.6 +0.8
comp=Z,261nm,1.2s,mb6.1
AML LR LR
comp=Z,4μm,20.0s,MS5.3
KKN **Kakani** 47.72 267 eP P 10 46 08.4 -0.1
PKI **Pulchoki** 47.77 267 eP P 10 46 08.8 -0.1
comp=Z,477nm,2.2s,mb6.1
DMN **Daman** 47.96 267 eP P 10 46 09.9 -0.4
comp=Z,771nm,2.1s,mb6.4
GKN **Gorkha** 48.03 268 eP P 10 46 11.1 +0.2
SKAG **Skagway** 48.19 43 eP P 10 46 12.6 +0.9
comp=Z,36nm,1.1s,mb5.3
DANN **Dangsing** 48.42 269 eP P 10 46 14.7 +0.8
SVE **Sverdlovsk** 48.45 313⇓eP P 10 46 14.4 +0.7
SVE e 10 48 07.6
SVE eS S 10 53 20.6 +6.4
SVE pmax pmax
comp=Z,108nm,1.0s,mb5.8
SVE MLR MLR
comp=Z,6μm,15.0s,MS5.7
KOLN **Koldanda** 48.89 269 eP P 10 46 16.5 -1.0
comp=Z,636nm,2.0s,mb6.3
KK31 **Karatay Array** 49.07 293 i P P 10 46 18.2 -0.5
KK31 pmax pmax
comp=Z,26nm,0.8s,mb5.3
KK31 **Karatay Array** 49.07 293 i P P 10 46 18.3 -0.4
SOKR **Solikamsk** 49.16 318c iP P 10 46 19.6 +0.5
SOKR 10 48 15.5
SOKR S S 10 53 31.3 +7.3
SOKR pmax pmax
comp=Z,60nm,0.9s,mb5.6
SOKR MLR MLR
comp=Z,4μm,17.0s,MS5.5
SIT **Sitka** 49.19 46 eP P 10 46 20.9 +1.5
SIT pmax pmax
comp=Z,77nm,1.6s,mb5.5
SIT MLR MLR
comp=Z,1μm,20.0s,MS5.0
SIT **Sitka** 49.19 46 eP P 10 46 20.9 +1.5
comp=Z,77nm,1.6s,mb5.5
SIT LR LR
comp=Z,1μm,20.0s,MS5.0
ARU **Arti** 49.66 314d iP P 10 46 22.9 -0.1
ARU e 10 47 43.3
ARU e 10 48 15.2
ARU ePPP 10 49 08.7
ARU eS S 10 53 31.1 0.0
ARU eSS SS 10 57 02.1 -0.7
ARU pmax pmax
comp=Z,143nm,1.7s,mb5.7
ARU MLR MLR
comp=Z,4μm,15.0s,MS5.6
ARU **Arti** 49.66 314 eP P 10 46 22.6 -0.4
comp=Z,73nm,1.1s,mb5.6
ARU ePcP PcP 10 47 45.5 +1.3
ARU LR LR
comp=Z,3μm,20.0s,MS5.2
WRAK **Wrangell Islan** 50.94 46 eP P 10 46 34.2 +1.5
comp=Z,39nm,1.3s,mb5.2
WRAK LR LR
comp=Z,908nm,19.0s,MS4.8
CRAG **Craig** 51.00 47 eP P 10 46 34.2 +1.0
DLBC **Dease Lake** 51.11 42 P P 10 46 34.0 0.0
baz=307,slow=8.6
DLBC **Dease Lake** 51.11 42 eP P 10 46 35.2 +1.2
SPB4 **Spitsbergen Ar** 51.21 348 eP P 10 46 35.3 +0.8
KBS **Kingsbay** 51.29 349 eP P 10 46 35.1 0.0
KBS AMS AMS 11 10 51.9
comp=Z,2μm,21.4s,MS5.0
KBS **Kingsbay** 51.29 349⇑eP P 10 46 34.9 -0.2
KBS e 10 46 35.1
KBS LR LR
comp=Z,2μm,21.4s,MS5.0
AB31 **Akbulak array** 52.33 305 i P P 10 46 42.7 -0.5
AB31 pmax pmax
comp=Z,18nm,0.7s,mb5.1
AB31 **Akbulak array** 52.33 305 i P P 10 46 42.8 -0.4
KSM **Kuching** 52.70 221 eP P 10 46 46.6 +0.3
NDI **New Delhi** 52.72 274 eP P 10 46 44.0 -2.4
AKTK **Aktyubinsk** 52.80 307 i P P 10 46 46.1 -0.6
AKTO **Aktyubinsk** 52.80 307 LR LR 11 11 00.1
comp=Z,5μm,18.6s,MS5.5,baz=351,slow=38
AKTO **Aktyubinsk** 52.80 307 i P P 10 46 46.1 -0.6
AKTO pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
KDI **Kendari** 53.15 204⇓eP P 10 46 48.5 -1.1
KDI eS S 10 54 20.7 +0.6
BJO **Bjornoya** 53.28 344 AMS AMS 11 13 09.5
comp=Z,2μm,17.9s,MS5.3
RES **Resolute Bay** 53.28 16 eP P 10 46 49.4 -0.5
LVZ **Lovozero** 53.59 333 PFAKE 10 47 00.0 +7.8
LVZ LR LR
comp=Z,1μm,19.0s,MS5.0
KIP **Kipapa** 54.37 96 PFAKE 10 47 10.0 +11
KIP LR LR
comp=Z,2μm,21.0s,MS5.0
KEV **Kevo** 54.66 337 eP P 10 46 59.7 -0.3
comp=Z,17nm,0.7s,mb5.2
KEV LR LR
comp=Z,2μm,19.0s,MS5.3
KBL **Kabul** 54.73 285 eP P 10 47 00.1 -0.9
comp=Z,43nm,1.0s,mb5.4
KAPI **Kappang** 55.01 207 eP P 10 47 01.8 -1.4
comp=Z,27nm,0.8s,mb5.3
KAPI LR LR
comp=Z,296nm,20.0s,MS4.4
ARCES **ARCESS Array B** 55.20 337 P P 10 47 04.3 +0.4
comp=Z,10nm,0.8s,mb4.9,baz=48,slow=9.0,SNR=18
ARCES PcP PcP 10 48 04.3 -0.5
comp=Z,13nm,0.9s,baz=40,slow=7.9,SNR=5.3
ARCES PP PP 10 49 07.8 +1.0
comp=Z,4.6nm,1.0s,baz=37,slow=4.6,SNR=2.4
ARCES **ARCESS Array B** 55.20 337 P P 10 47 04.3 +0.4
ARCES 10 48 04.3
ARCES 10 49 07.8
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARCES pmax pmax
comp=Z,5.0nm,1.0s
YKW3 **Yellowknife Ar** 55.45 33 eP P 10 47 04.7 -1.1
YKA **Yellowknife Ar** 55.49 33 P P 10 47 05.0 -1.1
comp=Z,16nm,0.8s,mb5.1,baz=305,slow=6.9,SNR=36
YKA PP PP 10 49 12.2 +2.6
comp=Z,0.8nm,0.7s,baz=294,slow=7.9,SNR=2.5
YKA **Yellowknife Ar** 55.49 33 P P 10 47 05.0 -1.1
YKA 10 49 12.3
YKA pmax pmax
comp=Z,16nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.7s
KLMR **Klimovskoe** 55.95 325 eP P 10 47 08.6 -0.9
KLMR eS S 10 54 53.0 -3.9
KLMR eSS SS 10 58 36.9 -5.2
KLMR pmax pmax
comp=Z,133nm,1.8s,mb5.7
KLMR MLR MLR
comp=Z,3μm,16.0s,MS5.4
PMG **Port Moresby** 55.97 174 PFAKE 10 47 20.0 +10
PMG LR LR
comp=Z,504nm,21.0s,MS4.6
DAG **Danmarks Havn** 56.26 355⇑iP P 10 47 11.1 -0.4
DAG pmax pmax
comp=Z,30nm,0.8s,mb5.4
DAG **Danmarks Havn** 56.26 355⇑iP P 10 47 11.1 -0.4
comp=Z,30nm,0.8s,mb5.4
TRO **Tromso** 56.80 339 eP P 10 47 16.0 +0.6
TRO eS S 10 55 12.4 +4.5
TRO AMS AMS 11 17 07.3
comp=Z,1μm,19.5s,MS5.0
TRO **Tromso** 56.80 339 eP P 10 47 16.0 +0.6
TRO e 10 55 15.0
TRO LR LR
comp=Z,1μm,19.5s,MS5.0
POHA **Pohakuloa** 57.20 96 PFAKE 10 47 30.0 +11
POHA LR LR
comp=Z,2μm,22.0s,MS5.1
PSI **Prapat** 57.34 234 LR LR 11 12 53.1
comp=Z,1μm,18.5s,MS5.1,baz=11,slow=37
JOF **Joensuu** 57.75 330 ep P 10 47 21.4 -0.7
comp=Z,21nm,0.7s,mb5.3
JOF **Joensuu** 57.75 330 eP P 10 47 21.4 -0.7
JOF pmax pmax
comp=Z,21nm,0.7s,mb5.3
HNR **Honiara** 58.10 159 PFAKE 10 47 40.0 +15
HNR LR LR
comp=Z,1μm,22.0s,MS4.9
HYB **Hyderabad** 59.23 263 eP P 10 47 33.0 -0.1
HYB eS S 10 55 44.0 +3.0
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.5
HYB **Hyderabad** 59.23 263 i P P 10 47 33.0 -0.1
comp=Z,50nm,1.0s,mb5.5
HYB eS S 10 55 40.0 -1.0
HYB LR LR 11 14 56.0
comp=Z,2.5nm,14.0s
HYB **Hyderabad** 59.23 263 eP P 10 47 33.0 -0.1
comp=Z,50nm,1.0s,mb5.5
HYB eS S 10 55 44.0 +3.0
HYB e 11 14 56.0
KAKA **Kakadu** 59.65 191 eP P 10 47 35.0 -0.9
comp=Z,32nm,0.8s,mb5.4
MOS **Moscow** 59.88 321 eP P 10 47 36.7 -0.3
MOS e 10 48 20.2
MOS e 10 49 48.9
MOS ePPP 10 51 12.7
MOS eS S 10 55 50.0 +1.6
MOS pmax pmax
comp=Z,800nm,2.7s,mb6.3
MOS pmax pmax
comp=Z,212nm,1.8s,mb5.9
MOS MLR MLR
comp=Z,4μm,14.0s,MS5.7
MOS **Moscow** 59.88 321 eP P 10 47 36.8 -0.2
KAF **Kangasniemi** 60.01 331 ep P 10 47 37.0 -0.9
comp=Z,12nm,0.7s,mb5.0,baz=43,slow=6.4
KAF **Kangasniemi** 60.01 331 eP P 10 47 37.0 -0.9
KAF pmax pmax
comp=Z,12nm,0.7s,mb5.0
A05A **Maple Falls** 60.20 49 ⇑P P 10 47 38.9 -0.5
baz=60
NLWA **Neilton Lookou** 60.24 51 ⇑P P 10 47 39.8 +0.1
baz=60,SNR=8.0
NLWA **Neilton Lookou** 60.24 51 eP P 10 47 41.0 +1.3
comp=Z,34nm,1.0s,mb5.3
NLWA LR LR
comp=Z,769nm,19.0s,MS4.9
COEN **Coen** 60.30 178 eP P 10 47 40.2 -0.2
comp=Z,18nm,1.0s,mb5.1
D03A **Wishkah Elem.** 60.46 52 ⇑P P 10 47 40.9 -0.3
baz=60
B05A **Bryant** 60.65 50 ⇓P P 10 47 42.2 -0.2
baz=60,SNR=7.7
GNW **Green Mountain** 60.70 51 eP P 10 47 44.9 +2.1
OBN **Obninsk** 60.74 321⇑eP P 10 47 42.8 -0.1
OBN i S S 10 56 05.2 +5.7
OBN pmax pmax
comp=Z,87nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,4μm,16.0s,MS5.7
OBN **Obninsk** 60.74 321 eP P 10 47 42.8 -0.1
comp=Z,236nm,1.8s,mb6.0
OBN LR LR
comp=Z,2μm,19.0s,MS5.2
JCW **Jim Creek** 60.78 50 eP P 10 47 43.9 +0.6
JCW ePcP PcP 10 48 27.6 +0.5
JMIC **Jan Mayen** 60.78 349 e P 10 47 47.6 +4.6
JMIC AMS AMS 11 15 41.9
comp=Z,566nm,19.9s,MS4.7
B06A **Marblemount** 60.81 49 ⇓P P 10 47 43.7 +0.2
baz=61
RPW **Rockport** 60.84 49 eP P 10 47 42.8 -0.9
E03A **Lebam** 60.93 52 ⇑P P 10 47 44.7 +0.3
baz=61,SNR=5.7
VRHR **Novokhopersk** 60.96 315 eP P 10 47 44.5 0.0
VRHR pmax pmax
comp=E,10.0nm,0.4s
VRHR pmax pmax
comp=Z,10.0nm,0.4s,mb5.3
VRHR pmax pmax
comp=N,40nm,0.9s
VRHR MLR MLR
comp=E,4μm,13.0s,MS5.9
VRHR MLR MLR
comp=Z,6μm,13.0s,MS5.9
VRHR MLR MLR
comp=N,4μm,14.0s,MS5.9
A07A **Ashnola River,** 61.05 48 ⇓P P 10 47 45.1 -0.1
baz=61,SNR=7.5
SUMG **Summit** 61.11 0 eP P 10 47 45.8 +0.6
comp=N,35nm,1.0s,mb5.4
D05A **Enumclaw** 61.38 51 ⇑P P 10 47 47.2 -0.2
baz=61,SNR=7.0
B07A **Winthrop** 61.56 49 ⇑P P 10 47 48.3 -0.3
baz=61,SNR=9.4
HEBO **Mount Hebo** 61.65 53 eP P 10 47 50.9 +1.6
A08A **Turner Farm, O** 61.68 48 P P 10 47 49.2 -0.2
baz=61,SNR=16
VOR **Voronezh** 61.73 316 eP P 10 47 48.0 -1.7
VOR pmax pmax
comp=Z,200nm,2.0s,mb5.9
RCM **Mount Rainier-** 61.73 51 P P 10 47 51.4 +1.5
LON **Longmire** 61.74 51 eP P 10 47 50.7 +0.8
TDL **Tradedollar La** 61.78 51 P P 10 47 51.3 +1.2
EDM **Edmonton** 61.79 41 eP P 10 47 49.8 -0.3
G03A **Yamhill** 61.85 53 ⇓P P 10 47 50.5 -0.2
baz=62
E05A **Randle** 61.89 51 ⇓P P 10 47 51.1 +0.2
baz=62
F04A **Amboy** 61.93 52 ⇓P P 10 47 51.0 -0.2
baz=62,SNR=6.4
D06A **Cle Elum** 61.98 50 ⇑P P 10 47 51.5 +0.1
baz=62
MTMW **Mount Mitchell** 61.98 52 P P 10 47 52.9 +1.4
ETW **Entiat** 61.99 49 eP P 10 47 52.1 +0.5
A09A **Danville** 62.02 47 ⇑P P 10 47 51.6 -0.1
baz=62,SNR=22
B08A **Colville Reser** 62.03 48 P P 10 47 51.6 -0.2
baz=62,SNR=12
VRSR **Storozhevoye** 62.07 316 eP P 10 47 51.8 -0.2
VRSR pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
VRSR pmax pmax
comp=N,9.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR MLR MLR
comp=E,520nm,12.0s,MS5.0
VRSR MLR MLR
comp=Z,650nm,12.0s,MS5.0
VRSR MLR MLR
comp=N,390nm,13.0s,MS5.0
C07A **Waterville** 62.08 49 ⇓P P 10 47 51.9 -0.2
baz=62,SNR=7.4
H03A **Soap Creek Ran** 62.24 53 ⇓P P 10 47 53.0 -0.3
baz=62
COR **Corvallis** 62.30 54 eP P 10 47 55.8 +2.2

COR MLR MLR
comp=Z,1µm,22.0s,MS5.0
EBG Ellensburg 62.30 50 P **P 10 47 54.5 +0.8**
E06A Yakima 62.32 51 ⇓P **P 10 47 53.5 -0.3**
baz=62,SNR=5.7
NSS Namsos 62.47 338 *e* **P 10 47 52.2 -2.3**
NSS AMS AMS 11 19 47.0
comp=Z,3µm,20.0s,MS5.4
A10A Northport 62.53 47 ⇓P **P 10 47 54.6 -0.5**
baz=62,SNR=9.6
C08A Higginbotham F 62.54 49 ⇑P **P 10 47 54.4 -0.8**
baz=62,SNR=6.8
B09A Rice 62.59 48 P **P 10 47 55.1 -0.5**
baz=62,SNR=9.7
VLL Laurance Lake 62.63 52 P **P 10 47 57.4 +1.5**
I03A Eugene 62.70 54 ⇓P **P 10 47 56.2 -0.1**
baz=62
HOOD Mount Hood Mea 62.73 52 *e*P **P 10 47 57.5 +0.9**
comp=Z,67nm,0.8s,mb5.8
H04A Detroit Lake 62.85 53 ⇓P **P 10 47 56.8 -0.5**
baz=63,SNR=13
E07A Sunnyside 62.91 50 ⇓P **P 10 47 57.2 -0.4**
baz=63
J02A Umpqua 62.92 55 ⇓P **P 10 47 58.1 +0.3**
baz=63
F06A Goldendale 62.92 51 ⇓P **P 10 47 57.7 -0.1**
baz=63
C09A Chrisman Ranch 62.93 48 ⇑P **P 10 47 57.3 -0.5**
baz=63,SNR=8.8
G05A Wamic 62.97 52 ⇓P **P 10 47 58.4 +0.3**
baz=63,SNR=8.5
OD2 Odessa Site #2 62.97 49 P **P 10 47 58.3 +0.2**
MAK Makhachkala 63.01 305 *e*P **P 10 47 57.7 -0.7**
MAK *e* 10 50 18.8
MAK *i* PPP 10 51 51.2
MAK *i* S **S 10 56 30.2 +1.7**
MAK *i* 10 57 46.3
MAK *e*SS SS 11 00 28.2 -5.1
MAK pmax pmax
comp=Z,232nm,1.5s,mb6.1
D08A Wollman Farm, 63.08 49 P **P 10 47 58.6 -0.2**
baz=63,SNR=5.5
A11A Hall Mountain, 63.14 46 P **P 10 47 59.4 +0.2**
baz=63,SNR=23
RSW Rattlesnake Hi 63.15 50 *e*P **P 10 47 59.8 +0.5**
HAWA Hanford 63.18 50 *e*P **P 10 48 00.3 +0.8**
comp=Z,17nm,1.0s,mb5.1
HAWA LR LR
comp=Z,688nm,20.0s,MS4.8
NEW Newport 63.22 47 *e*P **P 10 47 59.5 -0.2**
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW MLR MLR
comp=Z,1µm,20.0s
NEW Newport 63.22 47 *e*P **P 10 47 59.5 -0.2**
comp=Z,10.0nm,0.9s,mb5.0
NEW LR LR
comp=Z,1µm,20.0s,MS5.0
IRO Indian Ridge 63.25 53 P **P 10 48 00.6 +0.7**
I04A Tendick Farm, 63.29 54 ⇓P **P 10 48 00.3 0.0**
baz=63,SNR=8.6
F07A Phinny Hill Vi 63.30 51 ⇑P **P 10 48 00.5 +0.2**
baz=63,SNR=12
K02A Glendale 63.35 55 ⇑P **P 10 48 00.7 0.0**
baz=63
E08A Dider Farm, El 63.37 50 ⇑P **P 10 48 00.4 -0.3**
baz=63
D09A Jones Farm, Ri 63.39 49 ⇓P **P 10 48 00.4 -0.5**
baz=63,SNR=6.4
C10A Spilker Farm, 63.41 48 ⇑P **P 10 48 00.7 -0.4**
baz=63
B11A Sandpoint 63.48 47 ⇑P **P 10 48 01.1 -0.4**
baz=63,SNR=13
A12A Yaak River Ran 63.51 46 ⇑P **P 10 48 01.4 -0.3**
baz=63
L02A Cave Junction 63.67 56 ⇑P **P 10 48 02.7 -0.1**
baz=63
I05A Bend 63.69 53 ⇓P **P 10 48 03.1 +0.2**
baz=63,SNR=8.7
HUMO Hull Mountain 63.75 55 *e*P **P 10 48 03.9 +0.5**
comp=Z,45nm,1.7s,mb5.2
HUMO LR LR
comp=Z,795nm,22.0s,MS4.8
J04A Umpqua Nationa 63.82 54 ⇑P **P 10 48 04.0 +0.2**
baz=64
H06A Lindquist Farm 63.83 52 ⇑P **P 10 48 03.5 -0.3**
baz=64,SNR=9.9
E09A Wood Farm, Sta 63.83 49 ⇓P **P 10 48 03.5 -0.3**
baz=64
G07A Ruggs Ranch, H 63.84 51 ⇓P **P 10 48 03.6 -0.3**
baz=64,SNR=9.3
B12A Libby 63.85 46 ⇓P **P 10 48 03.8 -0.1**
baz=64
D10A Wagner Farm, O 63.93 48 ⇓P **P 10 48 04.0 -0.5**
baz=64,SNR=13
F08A Pendleton 63.97 50 ⇑P **P 10 48 04.3 -0.4**
baz=64,SNR=6.6
A13A Flathead Natio 64.12 45 ⇓P **P 10 48 05.6 -0.1**
baz=64
LNOR Lincton Mounta 64.18 50 *e*P **P 10 48 07.2 +1.1**
G08A Pilot Rock 64.20 51 P **P 10 48 06.8 +0.5**
baz=64,SNR=8.8
FUNA Funafuti 64.21 138 PFAKE 10 48 20.0 +13
FUNA LR LR
comp=Z,3µm,19.0s,MS5.5
J05A Fort Rock 64.28 54 ⇓P **P 10 48 06.9 +0.1**
baz=64
WALA Waterton Lakes 64.29 45 *e*P **P 10 48 06.4 -0.3**
comp=Z,16nm,0.9s,mb5.0
JCC Jacoby Creek 64.29 57 ⇓P **P 10 48 07.8 +0.9**
baz=64
H07A Lands Inn, Kim 64.34 52 ⇑P **P 10 48 07.5 +0.3**
baz=64,SNR=9.7
E10A Myers Farm, Un 64.39 49 ⇓P **P 10 48 07.0 -0.5**
baz=64,SNR=11
I06A Prineville 64.41 52 ⇓P **P 10 48 07.6 0.0**
baz=64,SNR=11
D11A Klaveano Farm, 64.42 48 ⇑P **P 10 48 07.4 -0.2**
baz=64,SNR=12
KHMM Horse Mountain 64.42 57 *e*P **P 10 48 10.1 +2.3**
K04A Chilquin 64.44 54 ⇓P **P 10 48 08.1 +0.3**
baz=64
YBH Yreka Blue Hor 64.45 56 *e*P **P 10 48 09.6 +1.6**
YBH pmax pmax
comp=Z,16nm,0.9s
YBH MLR MLR
comp=Z,765nm,22.0s
YBH Yreka Blue Hor 64.45 56 ⇑P **P 10 48 07.9 -0.1**
baz=64,SNR=7.9
YBH Yreka Blue Hor 64.45 56 *e*P **P 10 48 09.6 +1.6**
comp=Z,16nm,0.9s,mb5.0
YBH LR LR
comp=Z,765nm,22.0s,MS4.8
B13A Whitefish 64.47 46 ⇑P **P 10 48 07.9 -0.1**
baz=64,SNR=10
F09A S2 Ranch, Elgi 64.49 50 ⇓P **P 10 48 08.2 +0.1**
baz=64,SNR=13
M02C Callahan 64.59 56 ⇓P **P 10 48 09.4 +0.5**
baz=64,SNR=6.7
L04A Klamath Falls 64.63 55 ⇓P **P 10 48 09.8 +0.6**
baz=64,SNR=9.0
F10A Beach Ranch, E 64.67 49 ⇑P **P 10 48 09.0 -0.3**
baz=64,SNR=18
I07A Izee 64.70 52 ⇓P **P 10 48 09.7 +0.1**
baz=64,SNR=13
N02C Big Bar 64.70 57 ⇓P **P 10 48 10.1 +0.4**
baz=64
K05A Summer Lake 64.83 54 ⇑P **P 10 48 10.5 +0.1**
baz=65,SNR=23
G09A Cove 64.84 50 ⇓P **P 10 48 10.0 -0.4**
baz=65
MNK Minsk 64.85 324⇑*e*P **P 10 48 09.0 -1.3**
MNK pmax pmax
comp=Z,170nm,1.0s,mb6.0
MNK MLR MLR
comp=Z,6µm,12.0s,MS6.0
MNK MLR MLR
comp=E,5µm,12.0s,MS6.1
MNK MLR MLR
comp=N,5µm,12.0s,MS6.1
O01C Eel River Cons 64.85 58 ⇓P **P 10 48 11.2 +0.6**
baz=65
H08A Prairie City 64.87 51 ⇑P **P 10 48 10.7 +0.1**
baz=65,SNR=14
C13A Hot Springs 64.89 46 ⇓P **P 10 48 10.9 +0.3**
baz=65,SNR=5.4
J06A Christmas Vall 64.90 53 ⇑P **P 10 48 10.8 0.0**
baz=65,SNR=13
D12A Red Ives Fores 64.92 47 ⇓P **P 10 48 11.5 +0.6**
baz=65
M04C Macdoel 64.92 55 ⇑P **P 10 48 11.1 +0.1**
baz=65,SNR=15
E11A Bogner Ranch, 64.94 48 P **P 10 48 10.8 -0.3**
baz=65,SNR=13
KIV Kislovodsk 65.03 308 P **P 10 48 12.5 +0.7**
SNR=35
KIV Kislovodsk 65.03 308 *e*P **P 10 48 11.9 +0.2**
KIV *e* 10 48 43.9
KIV *e* 10 50 36.7
KIV *e*S S 10 56 52.6 -1.0
KIV *e*SS SS 11 01 05.8 +1.0
KIV pmax pmax
comp=Z,85nm,1.0s,mb5.7
KIV pmax pmax
comp=Z,277nm,5.7s
KIV MLR MLR
comp=Z,4µm,19.0s,MS5.6
KIV Kislovodsk 65.03 308⇑*i*P **P 10 48 12.2 +0.5**
KIV Kislovodsk 65.03 308 *e*P **P 10 48 12.4 +0.7**
comp=Z,46nm,0.7s,mb5.6
KIV LR LR
comp=Z,5µm,20.0s,MS5.7
PALK Pallekele 65.08 253 PFAKE 10 48 20.0 +7.6
PALK LR LR
comp=Z,1µm,20.0s,MS5.0
M03C McCloud 65.09 56 ⇑P **P 10 48 12.3 +0.2**
baz=65
K06A Valley Falls 65.14 53 ⇓P **P 10 48 12.5 +0.1**
baz=65,SNR=17
G10A Bishop Farm, J 65.18 50 ⇑P **P 10 48 12.7 +0.1**
baz=65,SNR=25
MOL Molde 65.21 339 AMS AMS 11 20 54.9
comp=Z,2µm,24.4s,MS5.2
C14A Swan Lake 65.24 46 ⇑P **P 10 48 12.6 -0.4**
baz=65
J07A Hines 65.28 52 ⇑P **P 10 48 13.4 +0.1**
baz=65,SNR=31
F11A Grangeville 65.28 49 ⇓P **P 10 48 12.7 -0.6**
baz=65,SNR=10
WDC Whiskeytown Da 65.30 57 *e*P **P 10 48 14.5 +1.0**
WDC pmax pmax
comp=Z,17nm,1.0s,mb5.0
WDC MLR MLR
comp=Z,581nm,20.0s,MS4.8
WDC Whiskeytown Da 65.30 57 ⇓P **P 10 48 13.4 -0.1**
baz=65,SNR=10.0
WDC Whiskeytown Da 65.30 57 *e*P **P 10 48 14.5 +1.0**
comp=Z,17nm,1.0s,mb5.0
WDC LR LR
comp=Z,581nm,20.0s,MS4.8
H09A Durkee 65.31 51 ⇓P **P 10 48 13.1 -0.4**
baz=65
L05A Lakeview 65.31 54 ⇓P **P 10 48 13.2 -0.4**
baz=65,SNR=10
I08A Drewsey 65.33 52 ⇑P **P 10 48 13.3 -0.3**
baz=65,SNR=18
D13A Huson 65.34 47 P **P 10 48 13.4 -0.3**
baz=65,SNR=12
BMO Blue Mountains 65.37 50 *e*P **P 10 48 14.2 +0.2**
comp=Z,12nm,1.0s,mb4.9
BMO LR LR
comp=Z,780nm,20.0s,MS4.9
O02C Red Bluff 65.42 57 ⇑P **P 10 48 14.4 +0.1**
baz=65,SNR=9.8
NB2 NORSAR Subarra 65.51 336 P **P 10 48 14.3 -0.2**
comp=Z,594nm,2.5s,mb6.2,baz=34,slow=6.5
NOA NORSAR Array B 65.51 336 P **P 10 48 14.2 -0.3**
comp=Z,9.5nm,0.5s,mb5.0,baz=35,slow=6.4,SNR=39
NOA NORSAR Array B 65.51 336 P **P 10 48 14.2 -0.3**
NOA pmax pmax
comp=Z,10.0nm,0.5s
LTIM Timbered Crate 65.51 55 P **P 10 48 16.1 +1.2**
G11A Walters Elk Ra 65.55 49 ⇑P **P 10 48 14.7 -0.3**
baz=65,SNR=30
P01C Double 8 Ranch 65.57 58 ⇓P **P 10 48 15.7 +0.5**
baz=65
M05C Lookout 65.59 55 ⇑P **P 10 48 15.4 0.0**
baz=65,SNR=12
MOD Modoc 65.70 54 ⇓P **P 10 48 16.3 +0.3**
baz=66,SNR=17
MOD Modoc 65.70 54 *e*P **P 10 48 16.7 +0.6**
comp=Z,11nm,0.9s,mb4.9
MOD LR LR
comp=Z,806nm,21.0s,MS4.9
I09A Lost Marbles R 65.73 51 ⇓P **P 10 48 16.2 0.0**
baz=66,SNR=6.1
J08A Circle Bar Ran 65.74 52 ⇑P **P 10 48 16.3 0.0**
baz=66,SNR=21
NAO01 NORSAR Array S 65.76 336 PFAKE 10 48 30.0 +14
NAO01 LR LR
comp=Z,2µm,19.0s,MS5.4
K07A Rock Creek Ran 65.77 53 ⇑P **P 10 48 16.5 0.0**
baz=66
HATC Hat Creek Radi 65.77 56 ⇓P **P 10 48 16.6 0.0**
baz=66,SNR=6.9
MSO Missoula 65.78 47 *e*P **P 10 48 16.6 +0.1**
comp=Z,12nm,1.1s,mb4.8
MSO LR LR
comp=Z,624nm,21.0s,MS4.8
GASB Alder Springs 65.81 57 ⇓P **P 10 48 17.0 +0.2**
baz=66,SNR=8.1
D14A Greenough 65.83 46 ⇓P **P 10 48 16.8 0.0**
baz=66,SNR=16
F12A Elk City 65.84 48 ⇑P **P 10 48 16.9 0.0**
baz=66,SNR=28
H10A Noah's Angus R 65.85 50 ⇑P **P 10 48 16.5 -0.4**
baz=66,SNR=46
E13A Victor 65.92 47 ⇑P **P 10 48 16.3 -1.1**
baz=66,SNR=7.1
O03C Acorn Hollow, 65.98 57 ⇑P **P 10 48 18.0 +0.1**
baz=66
HOPS Hopland 66.04 58 ⇑P **P 10 48 18.7 +0.5**
baz=66
HOPS Hopland 66.04 58 PFAKE 10 48 30.0 +12
HOPS LR LR
comp=Z,1µm,20.0s,MS5.1
FITZ Fitzroy Crossi 66.05 197 *e*P **P 10 48 18.1 -0.3**
comp=Z,21nm,0.9s,mb5.2
CHMT Chamberlain Mo 66.07 46 *e*P **P 10 48 18.0 -0.3**
M06C Likely Place G 66.07 55 ⇑P **P 10 48 18.2 -0.2**
baz=66
J09A Fry Pan Ranch, 66.14 52 ⇓P **P 10 48 19.0 +0.1**
baz=66,SNR=27
I10A Payette 66.16 51 ⇑P **P 10 48 18.9 -0.1**
baz=66,SNR=6.2
H11A Donnelly 66.16 50 ⇑P **P 10 48 18.8 -0.2**
baz=66,SNR=21
K08A Mann Creek Ran 66.16 53 ⇑P **P 10 48 18.8 -0.1**
baz=66,SNR=18
L07A Adell 66.16 54 ⇑P **P 10 48 19.3 +0.2**
baz=66,SNR=23
WVOR Wild Horse Val 66.27 53 *e*P **P 10 48 20.0 +0.3**
WVOR pmax pmax
comp=Z,15nm,1.0s,mb5.0
WVOR MLR MLR
comp=Z,718nm,20.0s,MS4.9
WVOR Wild Horse Val 66.27 53 *e*P **P 10 48 19.9 +0.2**
comp=Z,15nm,1.0s,mb5.0
WVOR LR LR
comp=Z,718nm,20.0s,MS4.9
O04C Chester 66.31 56 ⇑P **P 10 48 19.9 -0.1**
baz=66,SNR=21
ELFS Eagle Lake Fie 66.31 56 ⇓P **P 10 48 20.2 +0.2**
baz=66
SFJD Kangerlussuaq 66.32 5 *i*P **P 10 48 19.3 -0.3**
SFJD *i* 10 57 10.1
SFJD pmax pmax
comp=Z,39nm,0.8s,mb5.5
SFJD MLR MLR
comp=Z,1µm,18.0s,MS5.1
SFJD Kangerlussuaq 66.32 5 *i*P **P 10 48 19.3 -0.3**
comp=Z,39nm,0.8s,mb5.5
SFJD *i* 10 57 10.1
SFJD
comp=Z,1µm,18.0s
D15A Lincoln 66.34 46 ⇑P **P 10 48 19.9 -0.2**
baz=66,SNR=8.0
GNI Garni 66.41 304 P **P 10 48 21.4 +0.8**
comp=Z,5.7nm,0.3s,mb5.0,baz=123,slow=11,SNR=8.1
GNI Garni 66.41 304 P **P 10 48 21.4 +0.7**
GNI pmax pmax
comp=Z,6.0nm,0.3s
GNI Garni 66.41 304 *e*P **P 10 48 23.8 +3.1**
GNI LR LR
comp=Z,2µm,20.0s,MS5.4
MNRC McLaughlin Nat 66.48 58 ⇑P **P 10 48 21.1 0.0**
baz=66,SNR=9.5
CTA Charters Tower 66.51 175 LR LR 11 15 18.9
comp=Z,322nm,18.6s,MS4.6,baz=2.5,slow=34
WRAB Tennant Creek 66.58 188 *e*P **P 10 48 20.9 -0.9**
WRAB pmax pmax
comp=Z,23nm,1.2s,mb5.1
WRAB Tennant Creek 66.58 188 *e*P **P 10 48 20.9 -0.8**
comp=Z,24nm,1.2s,mb5.1
ORV Oroville 66.58 57 P **P 10 48 22.0 +0.2**
baz=66,SNR=11
WB2 Warramunga Arr 66.59 188 *e*P **P 10 48 20.2 -1.6**
WRA Warramunga Arr 66.59 188 P **P 10 48 20.0 -1.8**
comp=Z,8.3nm,1.0s,mb4.7,baz=2.7,slow=6.9,SNR=23
WRA LR LR 11 16 56.8
comp=Z,313nm,20.5s,MS4.5,baz=30,slow=36
K09A Rome 66.59 52 P **P 10 48 22.1 +0.3**
baz=66,SNR=10
L08A Fields 66.60 53 ⇓P **P 10 48 21.4 -0.4**
baz=66,SNR=6.8
J10A Berg Farm, Mel 66.62 51 ⇑P **P 10 48 21.5 -0.4**
baz=66
NSHM Saint Helena R 66.62 58 *e*P **P 10 48 22.7 +0.7**
SUTB Sutter Butte 66.63 57 ⇑P **P 10 48 21.2 -0.9**
baz=66
O05C Quincy 66.64 56 ⇓P **P 10 48 22.0 -0.2**
baz=66,SNR=7.7
M07A Soldier Meadow 66.68 54 ⇑P **P 10 48 22.0 -0.4**
baz=66,SNR=50
E15A Deer Lodge 66.71 47 ⇓P **P 10 48 22.2 -0.2**
baz=66,SNR=8.3
MCCM Marconi Confer 66.71 59 ⇑P **P 10 48 22.1 -0.5**
baz=66
MCCM Marconi Confer 66.71 59 PFAKE 10 48 30.0 +7.4
MCCM LR LR
comp=Z,764nm,20.0s,MS4.9
I11A Placerville 66.72 50 P **P 10 48 23.1 +0.5**
baz=66,SNR=19
N06A Buffalo Meadow 66.73 55 ⇑P **P 10 48 22.7 0.0**
baz=66,SNR=29
OHCM Honcut 66.73 57 *e*P **P 10 48 22.8 0.0**
F14A Wisdom 66.76 47 ⇓P **P 10 48 22.4 -0.5**
baz=66,SNR=6.9
G13A Cobalt 66.82 48 P **P 10 48 22.8 -0.4**
baz=66,SNR=16
CVS Carmenet Viney 66.83 58 ⇑P **P 10 48 22.4 -0.9**
baz=67
H12A Diamond D Ranc 66.87 49 ⇑P **P 10 48 22.8 -0.7**
baz=67,SNR=37
SOC Sochi 66.88 309 *e*P **P 10 48 24.3 +0.7**
SOC *e**PP pP 10 48 26.4 -0.6
SOC *e*PPP 10 52 27.5
SOC *e*S S 10 57 15.2 -0.9
SOC *e*SS SS 11 01 29.2 -4.3
SOC pmax pmax
comp=Z,133nm,2.3s,mb5.6
SOC MLR MLR
comp=Z,4µm,16.0s,MS5.7
SOC Sochi 66.88 309 *i*P **P 10 48 26.4 +2.8**
Q03C Winters 66.89 58 ⇑P **P 10 48 23.4 -0.4**
baz=67
HRY Holter Researc 66.91 46 *e*P **P 10 48 24.7 +1.0**
FARB Farallon Islan 66.94 59 ⇑P **P 10 48 23.4 -0.6**
baz=67
AKASG Malin Array Be 67.00 320 P **P 10 48 23.0 -1.3**
comp=Z,29nm,0.9s,mb5.3,baz=40,slow=6.7,SNR=78
AKASG Malin Array Be 67.00 320 P **P 10 48 23.0 -1.3**
AKASG pmax pmax
comp=Z,29nm,0.9s
AKBB Malin Array Si 67.00 320 *e*P **P 10 48 23.8 -0.5**
EGMT Eagleton 67.00 44 ⇓P **P 10 48 23.8 -0.5**
baz=67,SNR=11
EGMT Eagleton 67.00 44 *e*P **P 10 48 24.8 +0.5**
comp=Z,37nm,1.0s,mb5.4
EGMT LR LR
comp=Z,1µm,20.0s,MS5.2
K10A MacKenzie Ranc 67.00 52 ⇓P **P 10 48 24.0 -0.4**
baz=67,SNR=27
KIEV Kiev 67.01 320 *e*P **P 10 48 23.6 -0.7**
KIEV pmax pmax
comp=Z,31nm,0.9s,mb5.3
KIEV MLR MLR
comp=Z,2µm,19.0s,MS5.4
KIEV Kiev 67.01 320 *e*P **P 10 48 23.6 -0.7**
comp=Z,31nm,0.9s,mb5.3
KIEV LR LR
comp=Z,2µm,19.0s,MS5.4
BEKR Beckwourth 67.03 56 ⇑P **P 10 48 24.1 -0.5**
baz=67,SNR=30
M08A Happy Creek Ra 67.08 54 ⇑P **P 10 48 24.9 0.0**
baz=67,SNR=11
L09A Wilkinson Ranc 67.08 53 ⇓P **P 10 48 24.7 -0.3**
baz=67,SNR=11
G14A Jackson 67.11 48 ⇑P **P 10 48 24.8 -0.2**
baz=67
KONO Kongsberg 67.12 336 *e*P **P 10 48 25.1 +0.3**
KONO AMS AMS 11 21 58.8
comp=Z,2µm,18.7s,MS5.4
KONO Kongsberg 67.12 336 *e*P **P 10 48 25.3 +0.5**
KONO LR LR
comp=Z,2µm,18.7s,MS5.4
O06A Flanigan 67.13 55 ⇓P **P 10 48 24.8 -0.5**
baz=67,SNR=19
Q04C Lincoln 67.13 57 ⇓P **P 10 48 25.1 -0.2**
baz=67
MFID Camas Ranch 67.13 51 ⇑P **P 10 48 24.5 -0.7**
baz=67,SNR=23
H13A Challis 67.17 49 ⇑P **P 10 48 25.5 0.0**
baz=67
F15A Butte 67.19 47 P **P 10 48 25.9 +0.4**
baz=67,SNR=20
N07B Gerlach 67.20 54 ⇓P **P 10 48 26.3 +0.6**
baz=67,SNR=7.9
LRM Limekiln Ridge 67.22 47 *e*P **P 10 48 25.5 -0.2**
ANN Anapa 67.24 312*d*/*i*P **P 10 48 26.1 +0.2**
ANN *e**PP pP 10 48 29.5 +0.2
ANN *e* 10 48 53.0
ANN *e*S S 10 57 23.8 +3.3
ANN pmax pmax
comp=Z,91nm,1.8s,mb5.5
ANN MLR MLR
comp=E,5µm,23.0s
ANN MLR MLR
comp=Z,6µm,23.0s,MS5.8
ANN MLR MLR
comp=N,3µm,12.0s
ANN Anapa 67.24 312 *e*P **P 10 48 26.0 +0.1**
P05C Yuba Gap, Truc 67.26 57 ⇑P **P 10 48 26.2 +0.1**
baz=67
P06A Stead Airport, 67.42 56 ⇓P **P 10 48 26.7 -0.3**
baz=67
K11A Parker Ranch, 67.46 51 ⇑P **P 10 48 27.0 -0.3**
baz=67,SNR=12
DLMT Dillon 67.47 47 *e*P **P 10 48 27.0 -0.3**
comp=N,35nm,1.0s,mb5.3
LAVA Lava Cap Winer 67.55 57 ⇑P **P 10 48 27.5 -0.4**
baz=67,SNR=19
JRSC Jasper Ridge 67.58 59 ⇑P **P 10 48 28.3 +0.1**
baz=67
M09A Marrel Ranch, 67.61 53 ⇓P **P 10 48 28.3 0.0**
baz=67
G15A Dillon 67.66 47 ⇑P **P 10 48 27.7 -0.8**
baz=67,SNR=47
N08A GE Springer Mi 67.67 54 ⇑P **P 10 48 28.0 -0.6**
baz=67,SNR=11
O07A Toulon 67.67 55 ⇑P **P 10 48 28.3 -0.3**
baz=67,SNR=22
I13A Wildhorse Cree 67.69 49 ⇑P **P 10 48 28.0 -0.7**
baz=67,SNR=82
PAHR Pah Rah Range 67.69 55 *e*P **P 10 48 29.3 +0.5**
comp=N,25nm,0.9s,mb5.2
PAHR *e*PcP PcP 10 48 55.0 -0.7
L10A Juniper Basin 67.70 52 ⇑P **P 10 48 28.8 0.0**
baz=67,SNR=18
MCMT McKenzie Canyo 67.71 48 *e*P **P 10 48 29.4 +0.6**
WENL Wente Brothers 67.72 59 ⇑P **P 10 48 29.1 +0.1**
baz=68
WCN Washoe City 67.75 56 ⇑P **P 10 48 28.5 -0.7**
baz=68,SNR=10
BOZ Bozeman (W) 67.76 47 *e*P **P 10 48 29.7 +0.6**
BOZ pmax pmax
comp=Z,18nm,1.3s,mb4.9
BOZ MLR MLR
comp=Z,674nm,20.0s,MS4.9
BOZ Bozeman (W) 67.76 47 ⇑P **P 10 48 28.5 -0.6**
baz=68

BOZ Bozeman (W) 67.76 47 *eP* **P 10 48 29.7 +0.6**
comp=Z,18nm,1.3s,mb4.9
BOZ LR LR
comp=Z,674nm,20.0s,MS4.9
HLID Hailey 67.78 50 ⇓P **P 10 48 29.1 -0.2**
baz=68,SNR=14
HLID Hailey 67.78 50 *eP* **P 10 48 30.0 +0.7**
comp=Z,5.2nm,0.8s,mb4.6
HLID LR LR
comp=Z,774nm,19.0s,MS5.0
BNLO Ben Lomond (Sa 67.81 59 ⇑P **P 10 48 29.4 -0.1**
baz=68
N09A Rock Creek Ran 67.95 54 ⇑P **P 10 48 30.0 -0.5**
baz=68
R05C Kirkwood Meado 67.97 57 ⇓P **P 10 48 30.7 +0.1**
baz=68
J13A Cove Ranch, Pi 68.02 50 ⇑P **P 10 48 30.6 -0.2**
baz=68,SNR=24
L11A Cat Creek Ranc 68.02 52 ⇑P **P 10 48 30.8 0.0**
baz=68,SNR=32
M10A I.L. Ranch, Tu 68.04 52 ⇑P **P 10 48 30.8 -0.1**
baz=68,SNR=18
S04C Ingram Canyon, 68.05 58 ⇓P **P 10 48 31.1 0.0**
baz=68
P07A Fallon 68.08 55 ⇑P **P 10 48 31.7 +0.4**
baz=68
K12A Draper Farm, C 68.16 51 ⇑P **P 10 48 31.9 +0.2**
baz=68,SNR=17
CMB Columbia Colle 68.24 57 *eP* **P 10 48 32.0 -0.3**
CMB pmax pmax
comp=Z,18nm,1.0s,mb5.1
CMB MLR MLR
comp=Z,756nm,21.0s,MS4.9
CMB Columbia Colle 68.24 57 ⇑P **P 10 48 32.2 -0.2**
baz=68,SNR=18
CMB Columbia Colle 68.24 57 *eP* **P 10 48 32.0 -0.3**
comp=Z,18nm,1.0s,mb5.0
CMB LR LR
comp=Z,756nm,21.0s,MS4.9
BMN Battle Mountai 68.41 54 *eP* **P 10 48 34.1 +0.8**
BMN pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BMN MLR MLR
comp=Z,790nm,21.0s,MS4.9
BMN Battle Mountai 68.41 54 *eP* **P 10 48 34.1 +0.8**
comp=Z,9.0nm,0.8s,mb4.8
BMN LR LR
comp=Z,790nm,21.0s,MS4.9
PACP Pacheco Peak 68.41 59 ⇑P **P 10 48 34.0 +0.6**
baz=68
QLMT Earthquake Lak 68.43 47 *eP* **P 10 48 34.4 +1.0**
P08A Dixie Valley 68.43 55 ⇓P **P 10 48 33.6 +0.2**
baz=68
L12A House Creek Ra 68.44 51 ⇑P **P 10 48 33.3 -0.2**
baz=68,SNR=19
R06C Coleville 68.45 56 ⇓P **P 10 48 33.6 -0.1**
baz=68,SNR=24
SAO San Andreas Ge 68.48 59 *eP* **P 10 48 34.2 +0.4**
SAO pmax pmax
comp=Z,11nm,1.0s,mb4.8
SAO MLR MLR
comp=Z,523nm,20.0s,MS4.8
SAO San Andreas Ge 68.48 59 *eP* **P 10 48 34.2 +0.3**
comp=Z,11nm,1.0s,mb4.8
SAO LR LR
comp=Z,523nm,20.0s,MS4.8
M11A Holland Ranch, 68.51 52 ⇓P **P 10 48 34.3 +0.4**
baz=68,SNR=19
Q07A Schurz 68.54 56 ⇑P **P 10 48 34.9 +0.8**
baz=68
K13A Stover Farm, H 68.58 50 ⇑P **P 10 48 34.3 -0.1**
baz=68
O09A Fish Creek Ran 68.61 54 ⇓P **P 10 48 34.6 0.0**
baz=68,SNR=9.8
GCMT Greycliff 68.63 45 *eP* **P 10 48 35.4 +0.8**
S06C San Francisco 68.66 57 ⇑P **P 10 48 34.0 -0.9**
baz=68,SNR=22
HAST Hastings Reser 68.67 59 ⇓P **P 10 48 34.5 -0.5**
baz=68,SNR=11
S05C Merced 68.74 58 P **P 10 48 35.5 +0.1**
baz=68,SNR=13
XMAS Kiritimati 68.75 111 PFAKE 10 48 50.0 +14
XMAS LR LR
comp=Z,2μm,22.0s,MS5.3
YMR Madison River 68.78 47 *eP* **P 10 48 36.4 +0.8**
comp=Z,13nm,0.9s,mb4.8
SIM Simferopol' 68.82 313 *eP* **P 10 48 36.5 +0.7**
SIM *eS* S 10 57 39.4 +0.1
SIM pmax pmax
comp=Z,21nm,0.8s,mb5.1
SIM MLR MLR
comp=Z,3μm,14.7s,MS5.6
T05C Eagle Field, D 68.85 58 ⇓P **P 10 48 36.0 -0.1**
baz=69
O10A Cortez Mining, 68.91 53 ⇓P **P 10 48 36.7 +0.3**
baz=69
N11A Elko Archery C 68.96 53 ⇑P **P 10 48 36.8 0.0**
baz=69
R07C Lee Vining 68.98 57 ⇑P **P 10 48 37.1 +0.2**
baz=69,SNR=19
M12A Wells 69.00 52 ⇑P **P 10 48 37.1 +0.1**
baz=69,SNR=13
YFT Old Faithful 69.00 47 *eP* **P 10 48 39.4 +2.5**
L13A Double Diamond 69.05 51 ⇓P **P 10 48 37.3 +0.1**
baz=69,SNR=19
P09A Austin 69.06 54 ⇑P **P 10 48 37.4 0.0**
baz=69,SNR=5.3
Q08A Gabbs 69.09 55 ⇓P **P 10 48 37.5 -0.1**
baz=69
V03C Hunter Liggett 69.11 59 ⇓P **P 10 48 37.8 0.0**
baz=69
K14A Jones Ranch, D 69.14 50 ⇑P **P 10 48 38.1 +0.3**
baz=69,SNR=8.3
LKWY Lake 69.14 47 *eP* **P 10 48 39.9 +2.1**
LKWY pmax pmax
comp=Z,22nm,1.4s,mb4.9
LKWY MLR MLR
comp=Z,1μm,20.0s,MS5.2
LKWY Lake 69.14 47 *eP* **P 10 48 39.9 +2.1**
comp=Z,22nm,1.4s,mb4.9
LKWY LR LR
comp=Z,1μm,20.0s,MS5.2
U04C Hernandez Rese 69.15 59 P **P 10 48 38.6 +0.6**
baz=69,SNR=6.5
NVAR Mina Array Bea 69.17 56 P **P 10 48 38.2 +0.1**
comp=Z,9.5nm,0.8s,mb4.8,baz=293,slow=5.8,SNR=70
NVAR Mina Array Bea 69.17 56 P **P 10 48 38.2 +0.1**
BSD Bornholm Skovb 69.20 331 *i* P **P 10 48 37.5 -0.5**
BSD *i* 10 51 20.4
BSD pmax pmax
comp=Z,50nm,0.8s,mb5.5
BSD MLR MLR
comp=Z,2μm,18.0s,MS5.5
BSD Bornholm Skovb 69.20 331 *i* P **P 10 48 37.5 -0.5**
comp=Z,50nm,0.8s,mb5.5
BSD *i* 10 51 20.4
BSD *e* 10 53 09.1
BSD
comp=Z,2μm,18.0s
BSD Bornholm Skovb 69.20 331 *i* P **P 10 48 37.5 -0.5**
comp=Z,50nm,0.8s,mb5.5
BSD *i* 10 51 20.4
BSD *e* 10 53 09.1
DGMT Dagmar 69.25 41 *eP* **P 10 48 38.7 +0.3**
comp=Z,28nm,1.0s,mb5.2
DGMT LR LR
comp=Z,1μm,20.0s,MS5.1
ELK Elko 69.29 52 *eP* **P 10 48 38.9 +0.1**
ELK pmax pmax
comp=Z,7.0nm,0.8s
ELK MLR MLR
comp=Z,707nm,22.0s
ELK Elko 69.29 52 *eP* **P 10 48 38.9 +0.2**
comp=Z,7.5nm,0.8s,mb4.7
ELK LR LR
comp=Z,707nm,22.0s,MS4.9
RLMT Red Lodge 69.30 46 *eP* **P 10 48 39.5 +0.8**
comp=Z,18nm,1.1s,mb4.9
RLMT LR LR
comp=Z,690nm,22.0s,MS4.8
N12A Clover Valley, 69.32 52 ⇑P **P 10 48 38.7 -0.3**
baz=69,SNR=20
FLWY Flagg Ranch 69.33 47 *eP* **P 10 48 40.6 +1.6**
T06C Millerton Lake 69.34 58 ⇑P **P 10 48 38.6 -0.5**
baz=69
IMW Indian Meadow 69.34 48 *eP* **P 10 48 40.2 +1.2**
comp=Z,8.5nm,0.9s,mb4.7

R08A Mina 69.34 56 ⇑P **P 10 48 39.5 +0.3**
baz=69,SNR=8.4
KCC Kaiser Creek 69.35 57 ⇓P **P 10 48 39.3 +0.1**
baz=69,SNR=11
P10A Eureka 69.39 54 ⇑P **P 10 48 39.5 0.0**
baz=69,SNR=12
DCID1 Drake Creek 69.43 48 *eP* **P 10 48 40.8 +1.1**
L14A Malta 69.46 50 ⇑P **P 10 48 39.9 +0.1**
baz=69,SNR=24
O11A Cowboy Ranch, 69.48 53 ⇓P **P 10 48 40.1 +0.1**
baz=69,SNR=8.5
Q09A Carvers 69.53 55 ⇑P **P 10 48 40.2 -0.1**
baz=69
RRI2 Red Ridge 69.53 48 *eP* **P 10 48 41.1 +0.8**
comp=Z,22nm,0.8s,mb5.1
HATD Hatta, Dubai 69.54 285 P **P 10 48 40.3 -0.2**
SNR=7.4
MOOW Moose Ponds 69.54 48 *eP* **P 10 48 40.7 +0.4**
comp=Z,30nm,1.3s,mb5.1
COP Copenhagen 69.55 332 *i* P **P 10 48 44.3 +4.2**
COP
comp=Z,2μm,18.0s
U05C Westside ANR, 69.56 59 ⇓P **P 10 48 40.5 0.0**
baz=69
PKD Parkfield 69.57 59 P **P 10 48 41.2 +0.6**
baz=69,SNR=6.1
V04C Ramage Ranch, 69.59 60 ⇓P **P 10 48 40.0 -0.7**
baz=69
TPAW Teton Pass 69.62 48 *eP* **P 10 48 42.0 +1.2**
comp=Z,35nm,1.1s,mb5.2
LAO LASA Array 69.63 43 *eP* **P 10 48 41.1 +0.3**
comp=Z,7.8nm,0.7s,mb4.8
LAO LR LR
comp=Z,1μm,19.0s,MS5.2
ASHO Ashiyiah 69.68 285 ⇓P **P 10 48 41.7 +0.2**
SNR=6.1
LOHW Long Hollow 69.71 48 *eP* **P 10 48 42.1 +0.8**
comp=Z,32nm,1.3s,mb5.1
SNOW Snow King Moun 69.74 48 *eP* **P 10 48 43.2 +1.6**
comp=Z,73nm,1.8s,mb5.3
K16A Soda Springs 69.76 49 ⇑P **P 10 48 41.2 -0.4**
baz=70,SNR=11
MTUM Tungsten Hills 69.76 57 *eP* **P 10 48 43.0 +1.2**
REDW Red Top Meadow 69.76 48 *eP* **P 10 48 43.0 +1.3**
comp=Z,34nm,1.3s,mb5.1
N13A Wendover, West 69.77 52 ⇓P **P 10 48 41.2 -0.5**
baz=70,SNR=11
M14A Sheep Mountain 69.78 51 ⇓P **P 10 48 41.9 +0.1**
baz=70,SNR=10
P11A Circle Ranch, 69.83 54 ⇑P **P 10 48 42.1 -0.1**
baz=70
HVU Hansel Valley 69.89 50 *eP* **P 10 48 42.0 -0.4**
O12A Currie 69.89 52 ⇓P **P 10 48 42.1 -0.4**
baz=70,SNR=18
S08C White Mtn Res 69.89 57 ⇓P **P 10 48 42.7 +0.2**
baz=70,SNR=13
KIS Kishinev 69.89 318 *eP* **P 10 48 42.0 -0.4**
KIS *e* 10 53 04.0
KIS MLR MLR
comp=Z,5μm,14.0s,MS5.9
KIS MLR MLR
comp=N,3μm,13.0s,MS5.8
KIS MLR MLR
comp=E,2μm,13.0s,MS5.8
KIS MLR MLR
comp=Z,4μm,14.0s
LVV L'vov 69.89 322 *eP* **P 10 48 42.6 +0.3**
LVV *eS* S 10 57 50.5 -1.3
LVV MLR MLR
comp=E,2μm,15.0s,MS5.7
LVV MLR MLR
comp=Z,3μm,15.0s,MS5.7
LVV MLR MLR
comp=N,2μm,14.0s,MS5.7
MUD Monsted U'grnd 69.92 334 *i* P **P 10 48 29.9 -13**
L15A Malad City 69.93 50 ⇑P **P 10 48 42.3 -0.4**
baz=70,SNR=9.6
HELL Mitchell Peak 69.96 58 P **P 10 48 43.0 0.0**
baz=70,SNR=34
PTRM Twissleman Ran 69.97 59 *eP* **P 10 48 43.8 +0.7**
Q10A Clear Creek Ra 69.98 54 ⇑P **P 10 48 43.0 -0.1**
baz=70,SNR=16
V05C Boulder Hill, 70.00 59 ⇑P **P 10 48 43.8 +0.5**
baz=70
R09A Tonopah 70.00 55 P **P 10 48 43.4 +0.1**
baz=70,SNR=20
TPH Tonopah 70.03 56 *eP* **P 10 48 44.4 +1.0**
TPH pmax pmax
comp=Z,37nm,1.3s,mb5.2
TPH MLR MLR
comp=Z,810nm,22.0s,MS4.9
TPH Tonopah 70.03 56 *eP* **P 10 48 44.4 +1.0**
comp=Z,37nm,1.3s,mb5.2
TPH LR LR
comp=Z,810nm,22.0s,MS4.9
AHID Auburn Hatcher 70.06 48 PFAKE 10 49 00.0 +16
AHID LR LR
comp=Z,610nm,21.0s,MS4.8
S09A Goldfield 70.28 56 ⇓P **P 10 48 44.6 -0.3**
baz=70,SNR=20
M15A Larsen Ranch, 70.28 50 ⇓P **P 10 48 44.2 -0.7**
baz=70,SNR=6.0
ASAR Alice Springs 70.32 188 P **P 10 48 45.5 +0.4**
comp=Z,16nm,0.9s,mb4.9,baz=20,slow=3.9,SNR=67
ASAR Alice Springs 70.32 188 P **P 10 48 45.5 +0.4**
ASAR pmax pmax
comp=Z,16nm,1.0s
N14A Grayback Hills 70.32 51 ⇑P **P 10 48 44.9 -0.3**
baz=70,SNR=9.1
SMMC Simmler 70.33 59 ⇑P **P 10 48 45.2 -0.1**
baz=70
BGU Big Grassy Mou 70.35 51 *eP* **P 10 48 45.8 +0.4**
MBWA Marble Bar 70.35 202 *eP* **P 10 48 45.5 +0.2**
comp=Z,25nm,0.9s,mb5.2
P12A McGill 70.36 53 ⇓P **P 10 48 45.3 -0.1**
baz=70,SNR=19
Q11A Duckwater 70.38 54 ⇓P **P 10 48 45.4 -0.1**
baz=70
O13A Hicks Ranch, I 70.40 52 ⇑P **P 10 48 45.5 -0.1**
baz=70
R10A Warm Springs 70.41 55 ⇓P **P 10 48 45.5 -0.2**
baz=70,SNR=6.4
L16A Fish Haven 70.42 49 ⇑P **P 10 48 45.4 -0.3**
baz=70,SNR=7.7
S10A Tonopah Range, 70.50 55 ⇑P **P 10 48 46.1 -0.2**
baz=70,SNR=12
VES Vestal, Richgr 70.51 58 P **P 10 48 45.9 -0.5**
baz=70,SNR=7.5
KWP Kalwaria 70.59 323 *eP* **P 10 48 47.1 +0.5**
KWP Kalwaria 70.59 323 ⇑*i*P **P 10 48 46.9 +0.3**
KWP Kalwaria 70.59 323 *eP* **P 10 48 47.1 +0.5**
KWP LR LR
comp=Z,2μm,21.0s,MS5.3
N15A Stansbury Isla 70.65 51 ⇓P **P 10 48 46.5 -0.7**
baz=70
CWC Cottonwood Cre 70.67 57 ⇑P **P 10 48 47.2 -0.2**
baz=70
GRAC Grapevine Rang 70.69 56 ⇑P **P 10 48 47.5 0.0**
baz=70,SNR=6.5
Q12A Willow Creek R 70.70 53 ⇓P **P 10 48 47.5 0.0**
baz=70,SNR=24
PKM Peak Mountain 70.72 59 ⇑P **P 10 48 48.0 +0.3**
baz=70
R11A Troy Canyon, C 70.77 54 P **P 10 48 48.2 +0.3**
baz=70,SNR=19
M16A Huntsville 70.82 50 ⇓P **P 10 48 47.9 -0.3**
baz=71
BW06 Boulder Array 70.85 48 PFAKE 10 49 00.0 +12
BW06 LR LR
comp=Z,580nm,22.0s,MS4.8
PDAR Pinedale Array 70.85 48 P **P 10 48 48.5 +0.1**
comp=Z,12nm,0.9s,mb4.8,baz=333,slow=1.7,SNR=61
P13A Bates Ranch, G 70.86 53 ⇓P **P 10 48 48.6 +0.1**
baz=71
ISA Isabella 70.98 58 *eP* **P 10 48 49.0 -0.3**
ISA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ISA MLR MLR
comp=Z,565nm,20.0s,MS4.8
ISA Isabella 70.98 58 P **P 10 48 49.1 -0.2**
baz=71,SNR=13
ISA Isabella 70.98 58 *eP* **P 10 48 49.0 -0.3**
comp=Z,5.4nm,0.8s,mb4.5
ISA LR LR
comp=Z,565nm,20.0s,MS4.8
DUG Dugway 70.99 51 *eP* **P 10 48 49.6 +0.4**
DUG pmax pmax
comp=Z,22nm,1.0s,mb5.0
DUG MLR MLR
comp=Z,562nm,22.0s,MS4.8
DUG Dugway 70.99 51 ⇓P **P 10 48 49.2 0.0**
baz=71,SNR=20
DUG Dugway 70.99 51 *eP* **P 10 48 49.6 +0.4**
comp=Z,22nm,1.0s,mb5.0
DUG LR LR
comp=Z,562nm,22.0s,MS4.8
NOQ North Oquirrh 71.03 51 *eP* **P 10 48 51.1 +1.6**
comp=Z,16nm,0.7s,mb5.0
BURAR Bucovina Array 71.06 320 ⇑*i*P **P 10 48 49.3 -0.2**
BURAR Bucovina Array 71.06 320 ⇑P **P 10 48 49.4 -0.1**
DAC Darwin (Calif) 71.07 57 PFAKE 10 49 00.0 +10
DAC LR LR
comp=Z,666nm,22.0s,MS4.8
O15A The Old Anders 71.11 51 ⇑P **P 10 48 50.1 +0.1**
baz=71
S11A Rachel 71.17 55 ⇓P **P 10 48 49.9 -0.4**
baz=71,SNR=17
Q13A Wheeler Ranch, 71.21 53 ⇑P **P 10 48 50.5 -0.1**
baz=71,SNR=13
N16A Rees Ranch, Co 71.23 50 P **P 10 48 51.5 +0.8**
baz=71,SNR=5.1
MALT Malatya 71.23 306 *eP* **P 10 48 51.6 +0.9**
MALT *e* 10 51 29.7
MALT pmax pmax
comp=Z,90nm,1.8s,mb5.4
MALT MLR MLR
comp=Z,2μm,19.0s,MS5.4
MALT Malatya 71.23 306 ⇑*i*P **P 10 48 51.0 +0.3**
MALT Malatya 71.23 306 *eP* **P 10 48 51.5 +0.8**
comp=Z,90nm,1.8s,mb5.4
MALT *e*PP PP 10 51 29.7 +1.5
MALT LR LR
comp=Z,2μm,19.0s,MS5.4
P14A Drum Mountains 71.28 52 ⇓P **P 10 48 50.9 -0.1**
baz=71,SNR=13
MPMC Manual Prospec 71.28 57 P **P 10 48 51.4 +0.3**
baz=71,SNR=20
KOLS Kolonicke sedl 71.31 323 *i* P **P 10 48 51.2 +0.2**
OJC Ojcow 71.31 325 *eP* **P 10 48 51.2 +0.2**
OJC *e*S S 10 58 12.3 +4.0
OJC L 11 22 29.3
comp=Z,2.3nm,20.7s
R12A Pony Springs, 71.33 54 ⇑P **P 10 48 51.1 -0.2**
baz=71,SNR=17
FURC Furnace Creek, 71.36 57 ⇑P **P 10 48 51.4 -0.2**
baz=71,SNR=38
TPNV Topopah Spring 71.37 56 *eP* **P 10 48 51.7 +0.1**
TPNV pmax pmax
comp=Z,17nm,0.9s,mb5.0
TPNV MLR MLR
comp=Z,812nm,20.0s,MS5.0
TPNV Topopah Spring 71.37 56 ⇓P **P 10 48 51.3 -0.3**
baz=71
TPNV Topopah Spring 71.37 56 *eP* **P 10 48 51.7 +0.1**
comp=Z,17nm,0.9s,mb5.0
TPNV LR LR
comp=Z,812nm,20.0s,MS5.0
ULM Lac du Bonnet 71.40 35 P **P 10 48 49.9 -1.7**
comp=Z,8.5nm,0.9s,mb4.7,baz=323,slow=7.5,SNR=7.8
ULM Lac du Bonnet 71.40 35 *eP* **P 10 48 50.5 -1.1**
comp=Z,7.8nm,0.8s,mb4.7
ULM LR LR
comp=Z,1μm,20.0s,MS5.2
JLU Jordanelle 71.43 50 *eP* **P 10 48 52.9 +1.1**
BSC Santa Cruz Isl 71.46 60 ⇓P **P 10 48 52.6 +0.4**
baz=71
N17A Moffit Pass 71.51 50 ⇓P **P 10 48 51.9 -0.4**
baz=71,SNR=16
UZH Uzhgorod 71.53 323 *eP* **P 10 48 53.0 +0.6**
UZH *e*S S 10 58 15.0 +4.1
UZH MLR MLR
comp=Z,2μm,14.0s,MS5.6
NLU North Lily Min 71.56 51 *eP* **P 10 48 53.7 +1.0**
OSI Osito Adit 71.57 59 ⇓P **P 10 48 52.5 -0.4**
baz=71
LRMC Laurel Mountai 71.57 58 P **P 10 48 53.5 +0.6**
baz=71,SNR=7.6
Q14A Sevier Lake (B 71.59 53 P **P 10 48 53.3 +0.4**
baz=71,SNR=20
DAU Daniels Canyon 71.66 50 *eP* **P 10 48 54.1 +0.8**
CRVS Cervenica-Dubn 71.67 323 *i* P **P 10 48 53.4 +0.2**
O16A Springville 71.68 51 ⇓P **P 10 48 53.5 +0.1**
baz=71,SNR=11
BSEG Bad Segeberg 71.69 332 *eP* **P 10 48 53.6 +0.4**
comp=Z,441nm,2.6s,mb5.9
U10A Ash Meadows, A 71.70 56 ⇓P **P 10 48 53.3 -0.3**
baz=72,SNR=9.5
VRI Vrincioaia 71.70 318 P **P 10 48 55.9 +2.5**
S12A Delamar Landin 71.70 54 ⇑P **P 10 48 53.5 -0.1**
baz=72,SNR=24
P15A Leamington 71.72 52 ⇑P **P 10 48 53.4 -0.3**
baz=72
MPU Maple Canyon 71.75 51 *eP* **P 10 48 54.1 +0.3**
comp=Z,10nm,0.8s,mb4.8
MPU LR LR
comp=Z,1μm,22.0s,MS5.1
T11A Corn Creek, Al 71.75 55 ⇓P **P 10 48 53.4 -0.4**
baz=72,SNR=24
R13A O'Grain Ranch, 71.79 54 ⇓P **P 10 48 53.9 -0.2**
baz=72,SNR=8.4
UMR Umm Al-Rimmam 71.79 294 *eP* **P 10 48 52.7 -1.5**
baz=294
UMR AMb AMB 10 48 54.2
comp=Z,69nm,0.8s,mb5.6,baz=294
EDW2 Edwards Air Fo 71.81 58 ⇓P **P 10 48 53.9 -0.4**
baz=72,SNR=17
MIB Mutribah 71.85 294 *eP* **P 10 48 53.3 -1.3**
baz=294
MIB AMb AMB 10 48 54.7
comp=Z,98nm,0.9s,mb5.7,baz=294
TIRR Tirgusor 71.97 316 ⇑*i*P **P 10 48 55.4 +0.4**
TIRR Tirgusor 71.97 316 ⇑P **P 10 48 55.4 +0.3**
P16A Fountain Green 72.03 51 ⇑P **P 10 48 55.2 -0.3**
baz=72
SNCC San Nicolas Is 72.04 61 ⇓P **P 10 48 55.5 -0.2**
baz=72
SNCC San Nicolas Is 72.04 61 PFAKE 10 49 10.0 +14
SNCC LR LR
comp=Z,747nm,19.0s,MS5.0
Q15A Fillmore 72.08 52 ⇑P **P 10 48 55.7 -0.1**
baz=72,SNR=11
SHOC Shoshone 72.09 57 ⇓P **P 10 48 56.1 +0.1**
baz=72,SNR=6.2
KSP Ksiaz 72.16 327 *eP* **P 10 48 56.6 +0.5**
KSP Ksiaz 72.16 327 *eP* **P 10 48 56.1 0.0**
KSP *e*pP pP 10 48 58.0 -1.5
KSP *e*S S 10 58 18.0 -0.1
KSP LR LR
comp=Z,7μm,19.7s,MS6.0
GSC Goldstone 72.21 57 *eP* **P 10 48 56.8 +0.1**
GSC pmax pmax
comp=Z,25nm,1.6s,mb4.9
GSC MLR MLR
comp=Z,439nm,20.0s,MS4.7
GSC Goldstone 72.21 57 ⇑P **P 10 48 56.4 -0.3**
baz=72,SNR=11
GSC Goldstone 72.21 57 *eP* **P 10 48 56.8 +0.2**
comp=Z,25nm,1.6s,mb4.9
GSC LR LR
comp=Z,439nm,20.0s,MS4.7
R14A James Farms, M 72.22 53 ⇓P **P 10 48 56.3 -0.4**
baz=72
MWC Mount Wilson 72.23 59 *eP* **P 10 48 57.2 +0.4**
MWC pmax pmax
comp=Z,13nm,1.0s,mb4.8
MWC MLR MLR
comp=Z,743nm,22.0s,MS4.9
MWC Mount Wilson 72.23 59 *eP* **P 10 48 57.2 +0.4**
comp=Z,13nm,1.0s,mb4.8
MWC LR LR
comp=Z,743nm,22.0s,MS4.9
U11A Corn Creek 72.24 56 ⇓P **P 10 48 56.6 -0.2**
baz=72,SNR=5.5
OKC Ostrava-Krasne 72.26 326 *eP* **P 10 48 56.5 -0.2**
OKC AMS AMS 11 24 00.0
comp=Z,3μm,13.4s
S13A Holt Ranch, En 72.27 54 ⇓P **P 10 48 56.9 -0.1**
baz=72,SNR=15
NAY Al-Naaiem 72.30 294 *eP* **P 10 48 55.9 -1.4**
baz=294
NAY AMb AMB 10 48 57.2
comp=Z,30nm,0.8s,mb5.3,baz=294
SHPR Sheep Range 72.31 55 *eP* **P 10 48 57.3 +0.1**
RDF Al-Radifah 72.32 293 *eP* **P 10 48 56.7 -0.7**

baz=293
RDF AMb AMB 10 48 58.2
comp=Z,81nm,0.9s,mb5.7,baz=293
MLR Muntele Rosu 72.34 318⇑iP P 10 48 57.9 +0.6
MLR Muntele Rosu 72.34 318 P P 10 48 58.9 +1.7
ARUT Antelope Range 72.36 54 eP P 10 48 58.3 +0.8
KECS Kecovo 72.40 323 eP P 10 48 53.4 -4.2
KECS pmax pmax
comp=Z,20nm,1.9s,mb4.7
KECS Kecovo 72.40 323 eP P 10 48 53.4 -4.2
comp=Z,20nm,1.9s,mb4.7
FMP Fort Macarthur 72.45 59⇑P P 10 48 57.7 -0.5
baz=72
BFSC Mount Baldy St 72.46 59⇑P P 10 48 57.7 -0.5
baz=72,SNR=10
TMUT Trail Mountain 72.49 51 eP P 10 48 59.3 +1.0
MVU Marysvale 72.52 52 PFAKE 10 49 10.0 +12
MVU LR LR
comp=Z,833nm,22.0s,MS5.0
S14A Cedar City 72.53 53⇓P P 10 48 58.1 -0.5
baz=72,SNR=6.7
MSU Marysvale 72.53 52 eP P 10 48 59.5 +1.0
UPC Upice 72.54 327 eP P 10 48 58.8 +0.4
MORC Moravsky Berou 72.55 326 eP P 10 48 58.3 -0.1
MORC pmax pmax
comp=Z,21nm,0.8s,mb5.1
MORC Moravsky Berou 72.55 326⇓iP P 10 48 58.0 -0.4
MORC Moravsky Berou 72.55 326 eP P 10 48 58.3 -0.1
comp=Z,21nm,0.8s,mb5.1
DPC Dobruska-Polom 72.55 327 eP P 10 48 58.9 +0.5
DPC eS S 10 58 28.5 +5.9
DPC AMS AMS 11 24 10.0
comp=Z,4µm,15.4s
CCUT Cedar City 72.57 54 eP P 10 49 02.7 +3.9
RSSD Black Hills 72.57 44 eP P 10 48 57.9 -0.8
RSSD pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
RSSD MLR MLR
comp=Z,1µm,20.0s,MS5.2
RSSD Black Hills 72.57 44 eP P 10 48 57.9 -0.8
comp=Z,8.6nm,0.9s,mb4.7
RSSD LR LR
comp=Z,1µm,20.0s,MS5.2
CIS Catalina Islan 72.60 60⇑P P 10 48 58.8 -0.2
baz=72
P17A Butcher Ranch, 72.62 51 P P 10 49 00.1 +1.1
baz=72,SNR=5.9
V11A Goodsprings 72.62 56⇓P P 10 48 58.7 -0.4
baz=72,SNR=6.9
TUQ Turquoise Mtn. 72.62 57⇑P P 10 48 58.7 -0.4
baz=72,SNR=11
T13A Saint George 72.65 54⇓P P 10 48 59.2 -0.1
baz=72,SNR=18
R15A Junction 72.70 53⇓P P 10 48 59.3 -0.2
baz=72,SNR=16
U12A Valley of Fire 72.71 55⇑P P 10 48 59.2 -0.4
baz=72
DRGR 72.78 321⇑iP P 10 49 00.7 +0.8
DRGR 72.78 321 P P 10 49 00.3 +0.5
Q16A Castle Valley 72.79 51⇑P P 10 48 59.9 -0.1
baz=72
VOIR 72.79 319⇑iP P 10 49 00.9 +1.0
VOIR 72.79 319 P P 10 49 01.0 +1.0
HEC Hector,Ludlow 72.82 57⇑P P 10 49 00.0 -0.3
baz=73,SNR=8.4
RWWY Rawlins 72.83 47 eP P 10 49 00.5 +0.3
comp=Z,44nm,1.4s,mb5.2
BBRC Big Bear Sol-O 72.87 58 P P 10 49 01.0 +0.4
baz=73,SNR=8.9
AGMN Agassiz Refuge 72.95 36 eP P 10 48 59.8 -1.1
AGMN LR LR
comp=Z,906nm,20.0s,MS5.0
CLL Collm 72.98 329⇓iP P 10 49 00.8 -0.1
CLL i pP 10 49 04.2 -0.2
CLL eS S 10 58 31.0 +3.6
CLL pmax pmax
comp=Z,35nm,0.8s,mb5.3
CLL MLR MLR
comp=Z,3µm,18.0s,MS5.7
CLL Collm 72.98 329 eP P 10 49 00.6 -0.3
comp=Z,311nm,2.4s,mb5.8
CLL Collm 72.98 329⇓iP P 10 49 00.8 -0.1
comp=Z,35nm,0.8s,mb5.3
CLL i pP pP 10 49 04.2 -0.2
CLL ePcP PcP 10 49 17.0 -0.8
CLL eS S 10 58 31.0 +3.6
CLL eScS ScS 10 59 15.0 +6.4
CLL eSS SS 11 03 09.0 +2.3
CLL ex x 11 03 58.0
CLL eSSS 11 06 21.0
CLL LmV 11 24 00.0
comp=Z,3µm,18.0s
CLL Collm 72.98 329⇓iP P 10 49 00.8 -0.1
comp=Z,35nm,0.8s,mb5.3
CLL i pP 10 49 04.2 -0.2
CLL eS S 10 58 31.0 +3.6
CLL LR LR
comp=Z,3µm,18.0s,MS5.7
SRU San Rafael 72.99 51 eP P 10 49 02.1 +0.8
SRU pmax pmax
comp=Z,12nm,0.7s,mb4.9
SRU San Rafael 72.99 51⇓P P 10 49 01.4 +0.1
baz=73,SNR=13
SRU San Rafael 72.99 51 eP P 10 49 02.0 +0.8
comp=Z,12nm,0.7s,mb4.9
BRG Berggiesshubel 73.00 328 eP P 10 49 01.1 0.0
BRG S S 10 58 34.0 +6.3
BRG pmax pmax
comp=Z,82nm,2.0s,mb5.3
BRG MLR MLR
comp=N,2µm,16.7s,MS5.6
BRG MLR MLR
comp=E,1µm,15.1s,MS5.6
BRG MLR MLR
comp=Z,3µm,15.5s,MS5.7
BRG Berggiesshubel 73.00 328 eP P 10 49 01.1 0.0
comp=Z,137nm,2.0s,mb5.5
BRG S S 10 58 34.0 +6.3
BRG
comp=N,3µm,16.7s
BRG
comp=E,2µm,15.1s
BRG
comp=Z,5µm,15.5s
V12A Nelson 73.03 56⇓P P 10 49 01.5 0.0
baz=73,SNR=7.9
S15A Panguitch 73.03 53⇑P P 10 49 01.8 +0.3
baz=73,SNR=13
U13A Pakoon Wash 73.05 55⇓P P 10 49 01.7 +0.1
baz=73,SNR=19
PVCC Panska Ves 73.06 328 eP P 10 49 01.9 +0.5
PVCC AMS AMS 11 23 40.0
comp=Z,5µm,17.7s
VYHS Vyhne 73.06 324 iP P 10 49 01.7 +0.2
VYHS pmax pmax
comp=Z,107nm,2.3s,mb5.4
VYHS Vyhne 73.06 324 iP P 10 49 01.7 +0.2
VYHS e 10 59 01.6
VYHS Vyhne 73.06 324 iP P 10 49 01.7 +0.2
VYHS eS S 10 59 01.6 +33
T14A Hurricane 73.08 54⇓P P 10 49 01.6 -0.2
baz=73,SNR=5.5
PSZ Piszkesteto 73.09 323 eP P 10 49 02.4 +0.7
PSZ pmax pmax
comp=Z,75nm,1.5s,mb5.4
PSZ MLR MLR
comp=Z,2µm,19.0s,MS5.3
PSZ Piszkesteto 73.09 323⇑eP P 10 49 02.8 +1.1
PSZ Piszkesteto 73.09 323⇑iP P 10 49 02.1 +0.4
PSZ Piszkesteto 73.09 323 eP P 10 49 02.4 +0.8
comp=Z,75nm,1.5s,mb5.4
PSZ LR LR
comp=Z,2µm,19.0s,MS5.3
ANTO Ankara 73.16 311⇑P P 10 49 04.2 +1.9
SNR=6.2
ANTO Ankara 73.16 311 eP P 10 49 02.4 +0.1
ANTO pP pP 10 49 05.6 -0.1
ANTO pmax pmax
comp=Z,20nm,0.8s,mb5.1
ANTO MLR MLR
comp=Z,2µm,19.0s,MS5.5
ANTO Ankara 73.16 311 eP P 10 49 02.4 +0.1
comp=Z,20nm,0.8s,mb5.1
ANTO P pP 10 49 05.6 -0.1
ANTO LR LR
comp=Z,2µm,19.0s,MS5.5
MURC Murrieta 73.18 59⇑P P 10 49 02.0 -0.5
baz=73
Q18A Rafter H Ranch 73.21 51⇑P P 10 49 02.4 -0.1
baz=73
AFI Afiamalu 73.23 133 PFAKE 10 49 10.0 +7.2
AFI LR LR
comp=Z,637nm,19.0s,MS4.9
GMRC Granite Mounta 73.24 57 P P 10 49 03.2 +0.4
baz=73,SNR=16
VRAC Vranov 73.29 326⇑iP P 10 49 03.1 +0.3
VRAC Vranov 73.29 326 P P 10 49 03.7 +0.8
W12A Cal Nev Ari 73.33 56⇓P P 10 49 03.3 0.0
baz=73
LDFC Landfair 73.35 57 eP P 10 49 03.7 +0.3
comp=Z,11nm,0.8s,mb4.8
R17A Hanksville Air 73.40 51⇓P P 10 49 03.0 -0.6
baz=73,SNR=15
CLZ Clausthal 73.43 331 eP P 10 49 04.1 +0.5
CLZ pmax pmax
comp=Z,233nm,2.0s,mb5.8
CLZ Clausthal 73.43 331 eP P 10 49 04.1 +0.5
comp=Z,233nm,2.0s,mb5.8
V13A Grand Canyon W 73.44 55 P P 10 49 04.2 +0.2
baz=73,SNR=13
U14A Mt Trumbull 73.48 54⇑P P 10 49 04.1 -0.1
baz=73,SNR=16
T15A Red Dirt Ranch 73.50 53⇑P P 10 49 03.8 -0.5
baz=73,SNR=14
PRU Pruhonice 73.51 328 eP P 10 49 04.4 +0.3
PRU eS S 10 58 33.8 +0.3
PRU AMS AMS 11 23 40.0
comp=Z,4µm,18.3s
BELC Belle Mtn. 73.60 58⇑P P 10 49 04.3 -0.6
baz=73,SNR=12
PFO Pinyon Flat Ob 73.61 58 eP P 10 49 05.0 0.0
PFO pmax pmax
comp=Z,13nm,1.0s,mb4.8
PFO MLR MLR
comp=Z,686nm,21.0s,MS4.9
PFO Pinyon Flat Ob 73.61 58⇓P P 10 49 04.4 -0.6
baz=73,SNR=8.2
PFO Pinyon Flat Ob 73.61 58 eP P 10 49 05.0 0.0
comp=Z,14nm,1.0s,mb4.8
PFO LR LR
comp=Z,686nm,21.0s,MS4.9
TREC Trest 73.72 327 eP P 10 49 05.9 +0.5
TREC AMS AMS 11 24 40.0
comp=Z,5µm,14.4s
109C Camp Elliot, M 73.73 59⇓P P 10 49 05.9 +0.2
baz=74
Q19A Hogan Spring (73.78 50 P P 10 49 05.5 -0.4
baz=74,SNR=22
MODS Modra-Piesok 73.78 325 iP P 10 49 06.9 +1.2
MODS pmax pmax
comp=Z,125nm,2.3s,mb5.4
MODS Modra-Piesok 73.78 325 iP P 10 49 06.9 +1.2
comp=Z,125nm,2.3s,mb5.4
MODS eS S 10 58 41.3 +4.7
BUD Budapest 73.79 324 eP P 10 49 07.7 +1.9
GZR Gura Zlata 73.84 320 P P 10 49 07.0 +0.9
R18A Canyonlands Na 73.86 51 P P 10 49 06.1 -0.3
baz=74,SNR=14
IBBN Ibbenburen 73.89 333 eP P 10 49 06.3 0.0
comp=Z,247nm,2.2s,mb5.8
U15A North Rim 73.97 54⇓P P 10 49 06.8 -0.3
baz=74,SNR=21
IRM Iron Mountain 73.98 57⇑P P 10 49 06.8 -0.3
baz=74,SNR=19
ZST Bratislava 73.99 325 iP P 10 49 08.3 +1.3
ZST pmax pmax
comp=Z,322nm,2.6s,mb5.8
ZST Bratislava 73.99 325 iP P 10 49 08.3 +1.3
comp=Z,322nm,2.6s,mb5.8
T16A Glen Canyon Da 74.00 53⇓P P 10 49 07.4 +0.2
baz=74
MOX Moxa 74.02 330 eP P 10 49 07.3 +0.2
comp=Z,170nm,2.0s,mb5.6
MOX
comp=Z,3µm,18.0s
MOX Moxa 74.02 330 eP P 10 49 07.3 +0.2
MOX pmax pmax
comp=Z,170nm,2.0s,mb5.6
MOX MLR MLR
comp=Z,3µm,18.0s,MS5.6
MOX Moxa 74.02 330 eP P 10 49 07.2 +0.1
comp=Z,188nm,2.1s,mb5.7
W13A Hualapai Mount 74.03 56⇓P P 10 49 07.7 +0.2
baz=74
SZH Strazhica 74.04 317 P P 10 49 07.6 +0.3
NKC Novy Kostel 74.07 329 eP P 10 49 07.7 +0.3
NKC eS S 10 58 47.5 +7.8
NKC AMS AMS 11 24 20.0
comp=Z,2µm,17.8s
NKC Novy Kostel 74.07 329 eP P 10 49 07.7 +0.3
NKC eS S 10 58 47.5 +7.8
V14A Boquillas Ranc 74.09 55⇑P P 10 49 07.5 -0.3
baz=74,SNR=12
BAR Barrett 74.14 59 eP P 10 49 08.3 +0.2
comp=Z,6.8nm,1.0s,mb4.5
BAR LR LR
comp=Z,628nm,19.0s,MS4.9
MONP Monument Peak 74.14 59⇑P P 10 49 08.0 -0.1
baz=74,SNR=8.0
BC3 Big Chuckw Mtn 74.16 58⇓P P 10 49 07.7 -0.5
baz=74,SNR=13
BZS Buzias 74.18 321 P P 10 49 08.5 +0.4
ESK Eskdalemuir 74.24 340 PFAKE 10 49 20.0 +12
ESK LR LR
comp=Z,936nm,20.0s,MS5.1
R19A Curley Farm, L 74.27 51⇑P P 10 49 08.6 -0.1
baz=74
S18A Hurst Farm, Bl 74.31 52⇓P P 10 49 08.6 -0.5
baz=74,SNR=17
W14A Seligman 74.41 55⇓P P 10 49 09.7 +0.1
baz=74,SNR=13
UBBA Unterbreizbach 74.42 331 eP P 10 49 09.4 0.0
comp=Z,167nm,2.2s,mb5.6
X13A Yucca 74.43 56⇑P P 10 49 09.0 -0.8
baz=74,SNR=17
PDMCI Parker Dam,Lak 74.46 56⇓P P 10 49 09.1 -0.9
baz=74
SWSC Sam W. Stewart 74.47 58⇓P P 10 49 09.1 -1.0
baz=74,SNR=5.2
V15A Kaibab Nationa 74.48 54⇑P P 10 49 09.5 -0.6
baz=74,SNR=15
WTSB Winterswijk 74.48 333 eP P 10 49 09.6 -0.2
comp=Z,53nm,1.6s,mb5.2
ROTZ Rotzenmuhle 74.54 329 eP P 10 49 10.8 +0.7
comp=Z,181nm,2.1s,mb5.6
KHC Kasperske Hory 74.57 328 eP P 10 49 10.8 +0.5
KHC eS S 10 58 48.2 +2.7
KHC AMS AMS 11 24 40.0
comp=Z,5µm,17.4s
SOP Sopron 74.62 325⇑eP P 10 49 13.2 +2.5
Y12C Blythe 74.63 57⇑P P 10 49 10.8 -0.1
baz=74,SNR=9.7
CONA Conrad Observa 74.70 326⇑iP P 10 49 11.9 +0.8
comp=Z,64nm,1.5s,mb5.3,SNR=14
CONA Conrad Observa 74.70 326⇑ipP pP 10 49 11.9 -2.6
comp=Z,64nm,1.5s,SNR=14
S19A Harvey Farm, M 74.73 51 P P 10 49 10.9 -0.6
baz=74,SNR=21
U17A Shonto 74.75 53⇓P P 10 49 11.0 -0.6
baz=74,SNR=5.2
GEC2 GERESS Array S 74.76 327 eP P 10 49 11.7 +0.3
comp=Z,113nm,2.0s,mb5.5
GEC2 GERESS Array S 74.76 327 eP P 10 49 12.1 +0.6
GERES GERESS Array B 74.76 327 P P 10 49 11.0 -0.5
comp=Z,5.7nm,0.7s,mb4.6,baz=33,slow=5.1,SNR=43
GERES LR LR 11 24 56.2
comp=Z,4µm,19.2s,MS5.7,baz=30,slow=38
GERES GERESS Array B 74.76 327 P P 10 49 11.0 -0.4
GERES pmax pmax
comp=Z,6.0nm,0.7s
GERES MLR MLR
comp=Z,4µm,19.2s
GERES GERESS Array B 74.76 327 P P 10 49 11.0 -0.5
GERES LR LR 11 24 56.2
T18A Mexican Hat 74.78 52 P P 10 49 11.8 0.0
baz=74,SNR=22
BUG Bochum--Univer 74.79 332 eP P 10 49 11.6 +0.1
comp=Z,234nm,1.8s,mb5.8
SMCO Snowmass 74.81 49 eP P 10 49 11.1 -0.8
WET Wettzell 74.82 328 eP P 10 49 12.4 +0.6
WET pmax pmax
comp=Z,221nm,2.1s,mb5.7
WET Wettzell 74.82 328 eP P 10 49 12.4 +0.6
comp=Z,221nm,2.1s,mb5.7
U16A Tuba City 74.82 53⇓P P 10 49 11.6 -0.5
baz=75,SNR=6.5
W15A Williams 74.89 55⇓P P 10 49 12.4 0.0
baz=75
GRA1 Grafenberg Arr 74.95 329 eP P 10 49 13.1 +0.6
comp=Z,128nm,1.4s,mb5.7
GRA1 LR LR
comp=Z,3µm,18.7s,MS5.6
GRF Grafenberg Arr 74.95 329 eP P 10 49 13.1 +0.6
GRF pmax pmax
comp=Z,128nm,1.4s,mb5.7
GRF MLR MLR
comp=Z,3µm,18.7s,MS5.6
GRF Grafenberg Arr 74.95 329 eP P 10 49 13.1 +0.6
GRF pmax pmax
comp=Z,128nm,1.4s,mb5.7
GRF MLR MLR
comp=Z,3µm,18.7s,MS5.6
GRF Grafenberg Arr 74.95 329 eP P 10 49 13.1 +0.6
comp=Z,128nm,1.4s,mb5.7
GRF eL 11 25 07.2
comp=Z,3µm,18.7s
GLA Glamis 74.96 58 eP P 10 49 13.0 +0.1
GLA pmax pmax
comp=Z,21nm,1.0s,mb5.0
GLA MLR MLR
comp=Z,615nm,20.0s,MS4.9
GLA Glamis 74.96 58⇑P P 10 49 12.6 -0.2
baz=75,SNR=12
GLA Glamis 74.96 58 eP P 10 49 13.0 +0.2
comp=Z,21nm,1.0s,mb5.0
GLA LR LR
comp=Z,615nm,20.0s,MS4.9
EYMN Ely 74.97 34 eP P 10 49 10.9 -1.8
comp=Z,20nm,0.9s,mb5.0
EYMN LR LR
comp=Z,880nm,20.0s,MS5.1
PKSM Moragy 74.97 323⇑iP P 10 49 12.0 -0.7
PKSM Moragy 74.97 323 P P 10 49 12.8 +0.1
Y13A Salome 74.99 57⇑P P 10 49 12.8 -0.3
baz=75,SNR=9.2
ISCO Idaho Springs 75.05 47 eP P 10 49 13.6 +0.4
ISCO pmax pmax
comp=Z,19nm,1.4s,mb4.8
ISCO MLR MLR
comp=Z,786nm,21.0s,MS5.0
ISCO Idaho Springs 75.05 47 eP P 10 49 13.6 +0.3
comp=Z,19nm,1.4s,mb4.8
ISCO LR LR
comp=Z,786nm,21.0s,MS5.0
X14A Yava 75.05 56⇓P P 10 49 13.4 0.0
baz=75,SNR=16
WUAZ Wupatki 75.14 54⇑P P 10 49 14.1 +0.2
baz=75
WUAZ Wupatki 75.14 54 eP P 10 49 14.6 +0.7
comp=Z,10nm,1.0s,mb4.7
WUAZ LR LR
comp=Z,582nm,20.0s,MS4.9
U18A Rough Rock, Ch 75.31 52⇓P P 10 49 14.9 0.0
baz=75,SNR=10
W16A Flagstaff 75.36 54⇓P P 10 49 15.4 +0.2
baz=75
Y14A Wickenburg 75.37 56⇓P P 10 49 15.1 -0.1
baz=75,SNR=11
MOA Molln 75.37 327 iP P 10 49 15.1 +0.1
comp=Z,39nm,1.9s,mb5.0,SNR=15
MOA Molln 75.37 327 ipP pP 10 49 15.1 -3.4
comp=Z,39nm,1.9s,SNR=15
ARSA Arzberg 75.38 325⇓iP P 10 49 15.6 +0.6
comp=Z,49nm,1.6s,mb5.2,SNR=16
ARSA Arzberg 75.38 325⇓ipP pP 10 49 15.6 -2.9
comp=Z,49nm,1.6s,SNR=16
X15A Humboldt 75.41 55 P P 10 49 15.8 +0.3
baz=75,SNR=16
TNS Taunus Mts 75.45 331 eP P 10 49 15.7 +0.3
TNS pmax pmax
comp=Z,124nm,1.8s,mb5.5
TNS Taunus Mts 75.45 331 eP P 10 49 15.7 +0.3
comp=Z,124nm,1.8s,mb5.5
MVCO Mesa Verde 75.47 51⇓P P 10 49 15.5 -0.2
baz=75,SNR=16
MVCO Mesa Verde 75.47 51 eP P 10 49 15.5 -0.2
comp=Z,21nm,0.9s,mb5.1
Y15A Casa Rosa Ranc 75.74 56⇑P P 10 49 17.1 -0.3
baz=76,SNR=16
113A Mohawk Valley, 75.78 57 P P 10 49 17.4 -0.1
baz=76,SNR=14
HGN Heimansgroeve 75.80 333 eP P 10 49 16.6 -0.8
comp=Z,39nm,2.2s,mb4.9
HGN Heimansgroeve 75.80 333 ePP PP 10 52 01.5 -5.1
HGN Heimansgroeve 75.80 333 eS S 10 59 10.5 +11
HGN Heimansgroeve 75.80 333 eSS SS 11 04 37.0 +47
HGN Heimansgroeve 75.80 333 ePKKP PKKPbc 11 07 36.4 -57
V18A Ganado 75.80 53⇑P P 10 49 17.2 -0.5
baz=76,SNR=13
Z14A Wintersburg 75.82 56⇑P P 10 49 17.7 -0.1
baz=76
VTS Vitosha 75.83 318 P P 10 49 18.6 +0.9
W17A Winslow 75.83 54⇓P P 10 49 17.8 -0.1
baz=76
BEBN Eben Emael 75.85 333 P P 10 49 18.5 +0.8
ISP Isparta 75.86 310 eP P 10 49 17.4 -0.6
ISP MLR MLR
comp=Z,3µm,19.0s,MS5.6
TOD Tromm 75.86 331 eP P 10 49 16.3 -1.4
MEM Membach 75.91 333 P P 10 49 18.2 +0.2
comp=Z,42nm,2.3s,mb5.0
X16A Lo Mia Camp, P 75.91 55⇑P P 10 49 18.1 -0.2
baz=76,SNR=21
SOKA Soboth 76.04 325⇑iP P 10 49 18.5 -0.4
comp=Z,62nm,1.3s,mb5.4
PERS Pernice 76.05 325 iP P 10 49 18.6 -0.2
SCHQ Schefferville 76.06 17 P P 10 49 17.8 -1.0
comp=Z,24nm,1.0s,mb5.1,baz=358,slow=6.6,SNR=16
SCHQ Schefferville 76.06 17 eP P 10 49 18.4 -0.4
comp=Z,36nm,1.0s,mb5.2
FUR Furstenfeldbru 76.22 328 eP P 10 49 20.3 +0.5
FUR pmax pmax
comp=Z,383nm,2.0s,mb6.0
FUR Furstenfeldbru 76.22 328 eP P 10 49 20.3 +0.5
comp=Z,383nm,2.0s,mb6.0
UCC Uccle 76.25 334 P P 10 49 19.5 -0.5
comp=Z,87nm,2.5s,mb5.2
ECSD EROS,Sioux Fal 76.26 39 eP P 10 49 18.8 -1.3
comp=Z,5.3nm,0.6s,mb4.7
ECSD LR LR
comp=Z,1µm,21.0s,MS5.2
Y16A Circle Bar Ran 76.28 55⇓P P 10 49 20.3 -0.2
baz=76,SNR=11
V19A Window Rock 76.28 52⇑P P 10 49 20.3 -0.1
baz=76
BCLA Clavier 76.30 333 P P 10 49 20.7 +0.5
comp=Z,29nm,1.9s,mb4.9
X17A Forest Lakes 76.33 54⇑P P 10 49 20.8 +0.1
baz=76,SNR=13
W18A Petrified Fore 76.35 53⇓P P 10 49 20.7 -0.1
baz=76
RUP Ruppelstein 76.36 332 eP P 10 49 20.4 -0.2
KBA Koelnbreinsper 76.36 327⇑iP P 10 49 20.9 +0.2
comp=Z,121nm,1.2s,mb5.7,SNR=59
KBA Koelnbreinsper 76.36 327⇑ipP pP 10 49 20.9 -3.2
comp=Z,121nm,1.2s,SNR=59
KBA Koelnbreinsper 76.36 327⇑iP P 10 49 20.9 +0.2
KBA pmax pmax
comp=Z,121nm,1.2s,mb5.7
OBKA Obir 76.37 326⇑iP P 10 49 20.6 -0.1
comp=Z,29nm,1.6s,mb5.0,SNR=8.7
STU Stuttgart 76.44 330 eP P 10 49 21.2 +0.1
STU pmax pmax
comp=Z,65nm,1.1s,mb5.5
STU Stuttgart 76.44 330 eP P 10 49 21.1 0.0
comp=Z,58nm,1.0s,mb5.5
STU Stuttgart 76.44 330 eP P 10 49 21.2 +0.1
comp=Z,65nm,1.1s,mb5.5
KKB Krupnik 76.46 318 P P 10 49 25.5 +4.2
CSS Prodhromos 76.48 307 PFAKE 10 49 30.0 +8.5
CSS LR LR
comp=Z,2µm,22.0s,MS5.3
ASF Jabal al Asfar 76.50 303 P P 10 49 22.0 +0.2
comp=Z,14nm,0.8s,mb4.9,baz=279,slow=4.4,SNR=15
ASF Jabal al Asfar 76.50 303 P P 10 49 22.0 +0.3
ASF pmax pmax
comp=Z,14nm,0.8s
W19A Sanders 76.54 53⇓P P 10 49 21.8 -0.1
baz=76,SNR=5.3
MYKA Terra Mystica 76.62 326⇑iP P 10 49 21.6 -0.6

comp=Z,148nm,1.5s,mb5.7
SDCO Great Sand Dun 76.65 49 *e*P **P 10 49 23.2 +0.8**
comp=Z,7.1nm,0.9s,mb4.6
SDCO LR LR
comp=Z,674nm,20.0s,MS5.0
X18A Snowflake 76.66 54 ⇓P **P 10 49 22.4 -0.2**
baz=76,SNR=7.8
WLF Walferdange 76.69 332 P **P 10 49 22.4 -0.1**
comp=Z,57nm,2.3s,mb5.1
WLF AP pP 10 49 25.6 -0.3
WLF Walferdange 76.69 332 *e*P **P 10 49 23.0 +0.6**
WLF pmax pmax
comp=Z,210nm,2.0s,mb5.7
WLF MLR MLR
comp=Z,2µm,20.0s,MS5.4
WLF Walferdange 76.69 332 *e*P **P 10 49 22.9 +0.5**
comp=Z,244nm,2.2s,mb5.7
WLF Walferdange 76.69 332 *e*P **P 10 49 23.0 +0.6**
comp=Z,210nm,2.0s,mb5.7
WLF LR LR
comp=Z,2µm,20.0s,MS5.4
Z16A Peralta Trail, 76.71 55 ⇓P **P 10 49 22.5 -0.4**
baz=76
GIVF Givet 76.72 333 *e*P **P 10 49 22.0 -0.6**
MMAI Mount Meron Ar 76.75 304 P **P 10 49 23.2 +0.1**
baz=51,slow=7.6
MMAI LR LR 11 27 23.5
comp=Z,3µm,18.5s,MS5.6,baz=60,slow=39
LJU Ljubljana 76.77 325 *i* P **P 10 49 23.2 +0.3**
LJU *i* pP 10 49 26.4 0.0
Y17A Roosevelt 76.78 55 ⇑P **P 10 49 22.8 -0.4**
baz=76,SNR=10
DOU Dourbes 76.80 333 P **P 10 49 23.0 -0.1**
comp=Z,30nm,2.0s,mb4.9
WATA Walderalm 76.81 328 ⇓*i*P **P 10 49 24.0 +0.8**
comp=Z,69nm,1.2s,mb5.5,SNR=8.3
WATA Walderalm 76.81 328 ⇓*i*pP pP 10 49 24.0 -2.6
comp=Z,69nm,1.2s,SNR=8.3
WATA Walderalm 76.81 328 ⇓*i*P **P 10 49 24.0 +0.8**
WATA pmax pmax
comp=Z,69nm,1.2s,mb5.5
WTTA Wattenberg 76.85 328 ⇑*i*P **P 10 49 23.7 +0.3**
comp=Z,69nm,1.1s,mb5.5,SNR=23
WTTA Wattenberg 76.85 328 ⇑*i*pP pP 10 49 23.7 -3.2
comp=Z,69nm,1.1s,SNR=23
WTTA Wattenberg 76.85 328 ⇑*i*P **P 10 49 23.7 +0.3**
WTTA pmax pmax
comp=Z,69nm,1.1s,mb5.5
DSB Dublin 76.88 341 *e*P **P 10 49 24.0 +0.5**
comp=Z,20nm,1.0s,mb5.0
214A Organ Pipe Nat 76.92 57 ⇑P **P 10 49 24.1 0.0**
baz=77,SNR=9.3
BOJS Bojanci 76.92 325 *i* P **P 10 49 23.5 -0.4**
BAIF Baives 76.95 334 *e*P **P 10 49 23.3 -0.6**
ABTA Abfaltersbach 76.95 327 ⇑*i*P **P 10 49 23.4 -0.6**
comp=Z,26nm,1.4s,mb5.0,SNR=9.3
MOTA Moosalm 76.97 328 ⇓*i*P **P 10 49 24.6 +0.5**
comp=Z,66nm,0.9s,mb5.6,SNR=34
MOTA Moosalm 76.97 328 ⇓*i*pP pP 10 49 24.6 -2.9
comp=Z,66nm,0.9s,SNR=34
MOTA Moosalm 76.97 328 ⇓*i*P **P 10 49 24.6 +0.5**
MOTA pmax pmax
comp=Z,66nm,0.9s,mb5.6
RETA Reutte 76.98 328 ⇓*i*P **P 10 49 24.3 +0.2**
comp=Z,69nm,1.5s,mb5.3,SNR=17
RETA Reutte 76.98 328 ⇓*i*pP pP 10 49 24.3 -3.3
comp=Z,69nm,1.5s,SNR=17
JAVS Javornik 77.07 325 *i* P **P 10 49 23.7 -1.0**
X19A St. Johns 77.10 53 ⇑P **P 10 49 25.1 +0.1**
baz=77,SNR=21
BFO Black Forest 77.12 330 *e*P **P 10 49 24.6 -0.3**
BFO pmax pmax
comp=Z,35nm,1.0s,mb5.2
BFO MLR MLR
comp=Z,1µm,19.0s,MS5.3
BFO Black Forest 77.12 330 *e*P **P 10 49 25.0 +0.1**
comp=Z,137nm,1.8s,mb5.6
BFO Black Forest 77.12 330 *e*P **P 10 49 24.6 -0.2**
comp=Z,35nm,1.0s,mb5.2
BFO LR LR
comp=Z,1µm,19.0s,MS5.3
116A Eloy 77.12 56 ⇑P **P 10 49 24.8 -0.4**
baz=77,SNR=5.9
VAY Valandovo 77.12 318 ⇓*e*Pdi **P 10 49 24.8 -0.2**
SPAK Spaichingen-Ko 77.15 330 *e*P **P 10 49 25.2 +0.1**
Y18A Canyon Day Jun 77.17 54 ⇓P **P 10 49 25.7 +0.2**
baz=77,SNR=14
Z17A San Carlos Hig 77.28 55 ⇑P **P 10 49 26.3 +0.2**
baz=77,SNR=5.5
FETA Feichten 77.39 328 ⇑*i*P **P 10 49 26.6 +0.2**
comp=Z,46nm,1.1s,mb5.3,SNR=27
FETA Feichten 77.39 328 ⇑*i*pP pP 10 49 26.6 -3.3
comp=Z,46nm,1.1s,SNR=27
COWI Conover 77.40 34 *e*P **P 10 49 25.3 -1.2**
comp=Z,32nm,1.5s,mb5.0
COWI LR LR
comp=Z,632nm,20.0s,MS4.9
CDF Champ du Feu 77.40 331 *e*P **P 10 49 25.9 -0.6**
comp=Z,229nm,1.6s,mb5.6
CDF Champ du Feu 77.40 331 *e*P **P 10 49 25.9 -0.6**
CDF pmax pmax
comp=Z,115nm,1.6s,mb5.6
CDF Champ du Feu 77.40 331 *e*P **P 10 49 25.9 -0.6**
comp=Z,115nm,1.6s,mb5.6
DAVA Damuels 77.47 329 ⇑*i*P **P 10 49 26.7 -0.1**
comp=Z,53nm,0.9s,mb5.5,SNR=20
Y19A Nutrioso 77.47 54 ⇑P **P 10 49 27.3 +0.2**
baz=77,SNR=6.9
LIBD Limburg 77.52 331 *e*P **P 10 49 27.3 +0.2**
ECH Echery 77.61 331 *e*P **P 10 49 27.8 +0.1**
ECH Echery 77.61 331 *e*P **P 10 49 27.2 -0.5**
FELD Feldberg im Sc 77.62 330 *e*P **P 10 49 27.5 -0.2**
117A Oracle 77.66 56 ⇓P **P 10 49 28.3 +0.1**
baz=77,SNR=7.6
216A Three Points, 77.67 56 ⇑P **P 10 49 28.2 -0.1**
baz=77,SNR=8.5
KRUS Krusevo 77.69 318 ⇓*e*Pdi **P 10 49 28.9 +0.7**
TUC Tucson 77.83 56 *e*P **P 10 49 29.3 +0.1**
TUC pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
TUC MLR MLR
comp=Z,423nm,20.0s,MS4.8
TUC Tucson 77.83 56 *e*P **P 10 49 29.3 +0.1**
comp=Z,6.2nm,1.1s,mb4.5
TUC LR LR
comp=Z,423nm,20.0s,MS4.8
Z19A T-Link Ranch, 77.96 54 ⇑P **P 10 49 29.7 -0.2**
baz=78
THEF They Montfort 77.99 332 *e*P **P 10 49 29.7 -0.1**
FORT Forrest 78.03 192 *e*P **P 10 49 30.0 0.0**
comp=Z,20nm,0.9s,mb5.0
118A Homack Ranch, 78.05 55 ⇓P **P 10 49 30.5 +0.1**
baz=78,SNR=14
MEZF Maizieres J'vi 78.05 332 *e*P **P 10 49 29.7 -0.4**
comp=Z,100nm,1.1s,mb5.3
MEZF Maizieres J'vi 78.05 332 *e*P **P 10 49 29.7 -0.4**
comp=Z,100nm,1.1s,mb5.7
HINF Hinteralfeld 78.06 331 *e*P **P 10 49 29.7 -0.5**
HAU Haudompre 78.06 331 *e*P **P 10 49 29.6 -0.6**
comp=Z,64nm,1.1s,mb5.2
HAU *e*MLR MLR
comp=Z,2µm,19.2s,MS5.2
HAU Haudompre 78.06 331 *e*P **P 10 49 29.6 -0.6**
HAU pmax pmax
comp=Z,32nm,1.1s,mb5.2
HAU MLR MLR
comp=Z,2µm,19.3s,MS5.5
HAU Haudompre 78.06 331 *e*P **P 10 49 29.6 -0.6**
comp=Z,32nm,1.1s,mb5.2
HAU LR LR
comp=Z,2µm,19.3s,MS5.5
STKA Stephens Creek 78.13 180 *e*P **P 10 49 31.2 +0.7**
comp=Z,4.2nm,0.9s,mb4.4
STKA Stephens Creek 78.13 180 P **P 10 49 31.6 +1.1**
comp=Z,4.3nm,0.8s,mb4.4,baz=347,slow=14,SNR=5.1
BBS Basel-Blauen 78.14 330 *e*P **P 10 49 29.7 -0.9**
217A Green Valley 78.21 56 ⇑P **P 10 49 31.1 -0.1**
baz=78,SNR=15
ANMO Albuquerque 78.25 51 *e*P **P 10 49 32.1 +0.6**
ANMO pmax pmax
comp=Z,7.0nm,0.9s
ANMO MLR MLR
comp=Z,417nm,19.0s
ANMO Albuquerque 78.25 51 *e*P **P 10 49 32.1 +0.6**
comp=Z,6.8nm,0.9s,mb4.6
ANMO LR LR
comp=Z,417nm,19.0s,MS4.8

LAZ Ladron 78.30 52 *e*P **P 10 49 32.6 +0.9**
119A Ashpeak Ranch, 78.33 54 ⇓P **P 10 49 31.5 -0.4**
baz=78,SNR=6.1
TIR Tirane 78.34 319 PFAKE 10 49 40.0 +8.2
TIR LR LR
comp=Z,2µm,20.0s,MS5.4
TUE Stuetta 78.35 329 *e*P **P 10 49 31.9 +0.1**
comp=Z,28nm,0.9s,mb5.2
LOMF Lomont 78.47 331 *e*P **P 10 49 32.7 +0.2**
218A Dragon 78.50 56 ⇑P **P 10 49 32.4 -0.5**
baz=78,SNR=9.8
LPM Los Pinos Moun 78.64 52 *e*P **P 10 49 34.4 +0.8**
Y22C IRIS PASSCAL I 78.67 52 ⇓P **P 10 49 33.8 0.0**
baz=78
CBKS Cedar Bluff 78.71 44 *e*P **P 10 49 31.8 -2.1**
CBKS pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CBKS MLR MLR
comp=Z,586nm,19.0s,MS4.9
CBKS Cedar Bluff 78.71 44 *e*P **P 10 49 31.8 -2.2**
comp=Z,9.0nm,0.7s,mb4.8
CBKS LR LR
comp=Z,586nm,19.0s,MS4.9
BNM Barren Site 78.77 52 *e*P **P 10 49 35.0 +0.7**
219A White Tail Can 78.92 55 ⇑P **P 10 49 34.6 -0.6**
baz=79,SNR=23
318A Bisbee 78.93 56 ⇓P **P 10 49 34.6 -0.6**
baz=79,SNR=17
SCIA State Center 79.21 39 PFAKE 10 49 50.0 +13
SCIA LR LR
comp=Z,1µm,20.0s,MS5.2
CABF La Chapelle 79.37 331 *e*P **P 10 49 36.7 -0.7**
comp=Z,112nm,1.5s,mb5.3
CABF La Chapelle 79.37 331 *e*P **P 10 49 36.7 -0.7**
CABF pmax pmax
comp=Z,56nm,1.5s,mb5.3
CABF La Chapelle 79.37 331 *e*P **P 10 49 36.7 -0.7**
comp=Z,56nm,1.5s,mb5.3
319A Douglas 79.38 55 ⇓P **P 10 49 36.7 -1.0**
baz=79,SNR=17
FLN La Foliniere 79.50 336 *e*P **P 10 49 37.5 -0.5**
comp=Z,128nm,1.2s,mb5.4
FLN *e*MLR MLR
comp=Z,2µm,17.8s,MS5.2
FLN La Foliniere 79.50 336 *e*P **P 10 49 37.5 -0.5**
FLN pmax pmax
comp=Z,64nm,1.2s,mb5.4
FLN MLR MLR
comp=Z,2µm,17.8s,MS5.5
FLN La Foliniere 79.50 336 *e*P **P 10 49 37.5 -0.5**
comp=Z,64nm,1.2s,mb5.4
FLN LR LR
comp=Z,2µm,17.8s,MS5.5
LOR Lormes 79.52 332 *e*P **P 10 49 37.5 -0.7**
comp=Z,102nm,0.9s,mb5.5
LOR *e*MLR MLR
comp=Z,2µm,21.0s,MS5.2
LOR Lormes 79.52 332 *e*P **P 10 49 37.5 -0.7**
LOR pmax pmax
comp=Z,51nm,0.9s,mb5.5
LOR MLR MLR
comp=Z,2µm,21.0s,MS5.5
LOR Lormes 79.52 332 *e*P **P 10 49 37.5 -0.7**
comp=Z,51nm,0.9s,mb5.5
LOR LR LR
comp=Z,2µm,21.0s,MS5.5
LDF La Druitiere 79.55 335 *e*P **P 10 49 37.7 -0.6**
comp=Z,130nm,1.2s,mb5.4
LDF La Druitiere 79.55 335 *e*P **P 10 49 37.7 -0.6**
LDF pmax pmax
comp=Z,65nm,1.2s,mb5.4
LDF La Druitiere 79.55 335 *e*P **P 10 49 37.7 -0.6**
comp=Z,65nm,1.2s,mb5.4
JFWS Jewell Farm 79.62 36 *e*P **P 10 49 38.2 -0.6**
JFWS pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
JFWS MLR MLR
comp=Z,916nm,20.0s,MS5.1
JFWS Jewell Farm 79.62 36 *e*P **P 10 49 38.2 -0.6**
comp=Z,5.0nm,0.5s,mb4.7
JFWS LR LR
comp=Z,916nm,20.0s,MS5.1
GRAM Graiana 79.78 327 P **P 10 49 40.4 +0.8**
SSF Saint Saulge 79.82 332 *e*P **P 10 49 38.9 -0.9**
comp=Z,47nm,0.8s,mb5.2
SSF Saint Saulge 79.82 332 *e*P **P 10 49 38.9 -0.9**
SSF pmax pmax
comp=Z,23nm,0.8s,mb5.2
SSF Saint Saulge 79.82 332 *e*P **P 10 49 38.9 -0.9**
comp=Z,24nm,0.8s,mb5.2
VALM Valbona 79.83 327 P **P 10 49 40.9 +1.0**
HYF Humbligny 79.91 333 *e*P **P 10 49 39.8 -0.5**
SARO Sassorosso 79.91 327 P **P 10 49 41.5 +1.2**
GRR Gorron 79.94 336 *e*P **P 10 49 39.7 -0.8**
comp=Z,107nm,0.9s,mb5.5
GRR Gorron 79.94 336 *e*P **P 10 49 39.7 -0.8**
GRR pmax pmax
comp=Z,53nm,0.9s,mb5.5
GRR Gorron 79.94 336 *e*P **P 10 49 39.7 -0.8**
comp=Z,53nm,0.9s,mb5.5
VLC Villacollemand 79.94 327 *e*P **P 10 49 40.6 0.0**
comp=Z,60nm,0.9s,mb5.5
VLC LR LR
comp=Z,3µm,19.0s,MS5.7
CODM Codolo 79.94 327 P **P 10 49 40.0 -0.6**
BACM Baccana 79.96 327 P **P 10 49 41.3 +0.7**
KSU1 Kansas State U 79.97 42 *e*P **P 10 49 39.8 -1.0**
comp=Z,14nm,0.8s,mb4.9
KSU1 LR LR
comp=Z,1µm,20.0s,MS5.2
RSL Roselend 79.99 330 *e*P **P 10 49 40.9 +0.1**
VINC Vinca 80.05 327 P **P 10 49 40.0 -1.1**
SC2M Scurtabo 80.05 327 P **P 10 49 40.3 -0.9**
SMF Signal de Mont 80.08 332 *e*P **P 10 49 40.5 -0.7**
comp=Z,131nm,0.9s,mb5.6
SMF Signal de Mont 80.08 332 *e*P **P 10 49 40.5 -0.7**
SMF pmax pmax
comp=Z,65nm,0.9s,mb5.6
SMF Signal de Mont 80.08 332 *e*P **P 10 49 40.5 -0.7**
comp=Z,65nm,0.9s,mb5.6
LPL La Plagne 80.10 330 *e*P **P 10 49 40.9 -0.5**
comp=Z,84nm,1.0s,mb5.3
LPL La Plagne 80.10 330 *e*P **P 10 49 40.9 -0.5**
LPL pmax pmax
comp=Z,42nm,1.0s,mb5.3
LPL La Plagne 80.10 330 *e*P **P 10 49 40.9 -0.5**
comp=Z,42nm,1.0s,mb5.3
AVF Avril sur Loir 80.11 332 *e*P **P 10 49 40.7 -0.7**
comp=Z,622nm,1.8s,mb5.9
AVF Avril sur Loir 80.11 332 *e*P **P 10 49 40.7 -0.7**
AVF pmax pmax
comp=Z,311nm,1.8s,mb5.9
AVF Avril sur Loir 80.11 332 *e*P **P 10 49 40.7 -0.7**
comp=Z,311nm,1.8s,mb5.9
LPG La Plagne 80.11 330 *e*P **P 10 49 41.2 -0.2**
comp=Z,128nm,1.0s,mb5.5
LPG La Plagne 80.11 330 *e*P **P 10 49 41.2 -0.2**
LPG pmax pmax
comp=Z,64nm,1.0s,mb5.5
LPG La Plagne 80.11 330 *e*P **P 10 49 41.2 -0.2**
comp=Z,64nm,1.0s,mb5.5
MAIM Mastiano 80.11 327 P **P 10 49 39.8 -1.7**
GLMI Grayling 80.16 32 PFAKE 10 49 50.0 +8.3
GLMI LR LR
comp=Z,773nm,20.0s,MS5.0
RSP Reno Superiore 80.23 329 P **P 10 49 42.3 +0.2**
GENL Genova Univers 80.26 328 P **P 10 49 41.4 -0.9**
AQU L'Aquila 80.28 324 *e*P **P 10 49 43.2 +0.8**
AQU pmax pmax
comp=Z,39nm,0.8s,mb5.4
AQU MLR MLR
comp=Z,3µm,19.0s,MS5.6
AQU L'Aquila 80.28 324 ⇑*i*P **P 10 49 42.9 +0.5**
AQU L'Aquila 80.28 324 *e*P **P 10 49 43.1 +0.7**
comp=Z,39nm,0.8s,mb5.4
AQU LR LR
comp=Z,3µm,19.0s,MS5.6
PCP Piancastagn 80.30 328 P **P 10 49 42.1 -0.4**
BGF Bois d'Agland 80.47 333 *e*P **P 10 49 42.6 -0.8**
BNI Bardonecchia 80.52 330 *e*P **P 10 49 44.3 +0.6**
BNI pmax pmax
comp=Z,46nm,1.0s,mb5.4
BNI MLR MLR
comp=Z,2µm,20.0s,MS5.5
BNI Bardonecchia 80.52 330 *e*P **P 10 49 44.3 +0.6**
comp=Z,46nm,1.0s,mb5.4

BNI LR LR
comp=Z,2µm,20.0s,MS5.5
SGMF Saint Gilles 80.53 337 *e*P **P 10 49 42.8 -0.9**
comp=Z,62nm,0.9s,mb5.2
SGMF Saint Gilles 80.53 337 *e*P **P 10 49 42.8 -0.9**
SGMF pmax pmax
comp=Z,31nm,0.9s,mb5.2
SGMF Saint Gilles 80.53 337 *e*P **P 10 49 42.8 -0.9**
comp=Z,31nm,0.9s,mb5.2
ROSF Rostrenen 80.65 337 *e*P **P 10 49 43.7 -0.6**
comp=Z,112nm,0.9s,mb5.5
ROSF Rostrenen 80.65 337 *e*P **P 10 49 43.7 -0.6**
ROSF pmax pmax
comp=Z,56nm,0.9s,mb5.5
ROSF Rostrenen 80.65 337 *e*P **P 10 49 43.7 -0.6**
comp=Z,56nm,0.9s,mb5.5
FIN Finale Ligure 80.71 328 P **P 10 49 43.0 -1.7**
PLDF La Plantade 80.75 332 *e*P **P 10 49 45.0 +0.2**
ROB Robourent 80.75 328 P **P 10 49 43.1 -1.8**
MBDF Montbardon 80.77 329 *e*P **P 10 49 44.3 -0.7**
AMTX Amarillo 80.82 48 *e*P **P 10 49 45.4 0.0**
comp=Z,13nm,1.0s,mb4.8
AMTX LR LR
comp=Z,533nm,19.0s,MS4.9
AGO Saint Agoulin 80.83 332 *e*P **P 10 49 45.7 +0.4**
RORO Rocca Rossa 80.84 328 P **P 10 49 44.4 -1.0**
TCF Toulx Ste Croi 80.91 333 *e*P **P 10 49 45.1 -0.6**
comp=Z,58nm,0.9s,mb5.2
TCF Toulx Ste Croi 80.91 333 *e*P **P 10 49 45.1 -0.6**
TCF pmax pmax
comp=Z,29nm,0.9s,mb5.2
TCF Toulx Ste Croi 80.91 333 *e*P **P 10 49 45.1 -0.6**
comp=Z,29nm,0.9s,mb5.2
ORIF Oris-en-Rattie 80.92 330 *e*P **P 10 49 45.1 -0.7**
comp=Z,48nm,0.8s,mb5.2
ORIF *e*MLR MLR
comp=Z,2µm,18.2s,MS5.3
ORIF Oris-en-Rattie 80.92 330 *e*P **P 10 49 45.1 -0.7**
ORIF pmax pmax
comp=Z,24nm,0.8s,mb5.2
ORIF Oris-en-Rattie 80.92 330 *e*P **P 10 49 45.1 -0.7**
comp=Z,24nm,0.8s,mb5.2
ENR Entracque 80.98 329 P **P 10 49 44.6 -1.5**
STV Sant Anna di V 81.00 329 P **P 10 49 44.1 -2.1**
QUIF Quistinic 81.01 337 *e*P **P 10 49 45.5 -0.7**
comp=Z,60nm,0.9s,mb5.2
QUIF Quistinic 81.01 337 *e*P **P 10 49 45.5 -0.7**
QUIF pmax pmax
comp=Z,30nm,0.9s,mb5.2
QUIF Quistinic 81.01 337 *e*P **P 10 49 45.5 -0.7**
comp=Z,30nm,0.9s,mb5.2
SSB Saint Sauveur 81.05 331 *e*P **P 10 49 46.9 +0.4**
SSB Saint Sauveur 81.05 331 *e*P **P 10 49 47.1 +0.6**
COLF Collangettes 81.12 332 *e*P **P 10 49 47.2 +0.3**
SAOF Saorge 81.14 328 *e*P **P 10 49 46.8 -0.2**
PYM Petit Puy Mans 81.14 332 *e*P **P 10 49 47.3 +0.4**
AUTN L'Aution 81.17 329 *e*P **P 10 49 46.8 -0.4**
NEGI Seborga 81.20 328 P **P 10 49 45.5 -1.8**
TOUF Mont Tournerai 81.22 329 *e*P **P 10 49 47.2 -0.2**
CUC Castrocucco 81.23 321 *e*P **P 10 49 46.5 -1.0**
comp=Z,22nm,1.0s,mb5.0
CUC LR LR
comp=Z,1µm,19.0s,MS5.3
SBF Sospel 81.28 328 *e*P **P 10 49 46.5 -1.3**
comp=Z,143nm,1.2s,mb5.5
SBF Sospel 81.28 328 *e*P **P 10 49 46.5 -1.3**
SBF pmax pmax
comp=Z,72nm,1.2s,mb5.5
SBF Sospel 81.28 328 *e*P **P 10 49 46.5 -1.3**
comp=Z,72nm,1.2s,mb5.5
LUCF Luceram 81.29 329 *e*P **P 10 49 48.0 +0.2**
MFF Saint Martin d 81.35 335 *e*P **P 10 49 47.5 -0.6**
comp=Z,95nm,0.9s,mb5.4
MFF Saint Martin d 81.35 335 *e*P **P 10 49 47.5 -0.6**
MFF pmax pmax
comp=Z,48nm,0.9s,mb5.4
MFF Saint Martin d 81.35 335 *e*P **P 10 49 47.5 -0.6**
comp=Z,48nm,0.9s,mb5.4
VIVF Saint-Julien-l 81.38 331 *e*P **P 10 49 47.7 -0.6**
comp=Z,52nm,0.9s,mb5.2
VIVF Saint-Julien-l 81.38 331 *e*P **P 10 49 47.7 -0.6**
VIVF pmax pmax
comp=Z,26nm,0.9s,mb5.2
VIVF Saint-Julien-l 81.38 331 *e*P **P 10 49 47.7 -0.6**
comp=Z,26nm,0.9s,mb5.2
OCF Saint Nazaire 81.41 330 *e*P **P 10 49 49.2 +0.8**
OG26 St.-Nazaire-De 81.41 330 *e*P **P 10 49 49.2 +0.8**
REVF Revere 81.42 328 *e*P **P 10 49 48.3 -0.2**
GDL2 Guadalupe Moun 81.48 52 *e*P **P 10 49 49.3 +0.3**
TIP Timpagrande 81.48 320 *e*P **P 10 49 48.9 0.0**
comp=Z,39nm,1.3s,mb5.2
TIP LR LR
comp=Z,2µm,19.0s,MS5.4
LBL Lubilhac 81.52 332 *e*P **P 10 49 49.6 +0.6**
CALN Calern 81.58 329 *e*P **P 10 49 49.1 -0.2**
FRNF Fournols 81.61 332 *e*P **P 10 49 50.0 +0.6**
FRF La Foret Royal 81.83 329 *e*P **P 10 49 49.7 -0.9**
PGF Pioggiola 81.84 327 *e*P **P 10 49 49.8 -0.9**
comp=Z,62nm,1.2s,mb5.1
PGF Pioggiola 81.84 327 *e*P **P 10 49 49.8 -0.9**
PGF pmax pmax
comp=Z,31nm,1.2s,mb5.1
PGF Pioggiola 81.84 327 *e*P **P 10 49 49.8 -0.9**
comp=Z,31nm,1.2s,mb5.1
SMRF Simiane la Rot 81.85 330 *e*P **P 10 49 49.4 -1.3**
HDIL Hopedale 81.98 37 *e*P **P 10 51.0 -0.5**
comp=Z,13nm,0.5s,mb5.1
HDIL LR LR
comp=Z,1µm,19.0s,MS5.3
TAVF Tavernes 81.99 329 *e*P **P 10 51.4 -0.1**
CORF Corte 82.00 327 *e*P **P 10 50.8 -0.8**
RJF Les Rejaudoux 82.01 333 *e*P **P 10 50.7 -0.9**
comp=Z,60nm,1.0s,mb5.2
RJF *e*MLR MLR
comp=Z,3µm,22.0s,MS5.3
RJF Les Rejaudoux 82.01 333 *e*P **P 10 50.7 -0.9**
RJF pmax pmax
comp=Z,30nm,1.0s,mb5.2
RJF MLR MLR
comp=Z,3µm,22.0s,MS5.6
RJF Les Rejaudoux 82.01 333 *e*P **P 10 50.7 -0.9**
comp=Z,30nm,1.0s,mb5.2
RJF LR LR
comp=Z,3µm,22.0s,MS5.6
LMR La Mourre 82.08 329 *e*P **P 10 50.7 -1.3**
comp=Z,81nm,1.1s,mb5.3
LMR La Mourre 82.08 329 *e*P **P 10 50.7 -1.3**
LMR pmax pmax
comp=Z,40nm,1.1s,mb5.3
LMR La Mourre 82.08 329 *e*P **P 10 50.7 -1.3**
comp=Z,40nm,1.1s,mb5.3
CAF Calviac 82.18 332 *e*P **P 10 51.8 -0.6**
comp=Z,74nm,0.9s,mb5.3
CAF Calviac 82.18 332 *e*P **P 10 51.8 -0.6**
CAF pmax pmax
comp=Z,37nm,0.9s,mb5.3
CAF Calviac 82.18 332 *e*P **P 10 51.8 -0.6**
comp=Z,37nm,0.9s,mb5.3
PUYF Puyloubier 82.19 329 *e*P **P 10 51.8 -0.7**
TREF Trevaresse 82.22 330 *e*P **P 10 53.1 +0.4**
NWAO Narrogin (SRO) 82.23 201 *e*P **P 10 53.1 +0.5**
NWAO *e* 10 52 59.0
NWAO pmax pmax
comp=Z,26nm,0.9s
NWAO Narrogin (SRO) 82.23 201 *e*P **P 10 53.0 +0.5**
comp=Z,26nm,0.9s,mb5.2
NWAO *e*PP PP 10 52 59.0 -2.5
LASF Ste Croix 82.34 331 *e*P **P 10 52.3 -1.0**
comp=Z,65nm,1.1s,mb5.2
WMOK Wichita Mounta 82.40 46 *e*P **P 10 53.2 -0.6**
WMOK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
WMOK MLR MLR
comp=Z,606nm,19.0s,MS5.0
WMOK Wichita Mounta 82.40 46 *e*P **P 10 53.2 -0.6**
comp=Z,8.2nm,1.0s,mb4.6
WMOK LR LR
comp=Z,606nm,19.0s,MS5.0
LFF La Frestale 82.58 333 *e*P **P 10 53.5 -1.1**
comp=Z,107nm,1.0s,mb5.5
LFF La Frestale 82.58 333 *e*P **P 10 53.5 -1.1**
LFF pmax pmax
comp=Z,54nm,1.0s,mb5.5
LFF La Frestale 82.58 333 *e*P **P 10 53.5 -1.1**
comp=Z,54nm,1.0s,mb5.5
CEL Celeste 82.62 320 *e*P **P 10 54.1 -0.8**

comp=Z,66nm,1.1s,mb5.6
AAM Ann Arbor 82.69 32 PFAKE 10 50 10.0 +15
AAM LR LR
comp=Z,582nm,20.0s,MS5.0
CCM Cathedral Cave 83.24 39 *e*P **P 10 49 57.0 -1.1**
CCM pmax pmax
comp=Z,14nm,1.0s,mb5.0
CCM MLR MLR
comp=Z,1µm,20.0s,MS5.2
CCM Cathedral Cave 83.24 39 *e*P **P 10 49 57.0 -1.1**
comp=Z,14nm,1.0s,mb5.0
CCM LR LR
comp=Z,1µm,20.0s,MS5.2
MTLF Montolieu 83.54 332 *e*P **P 10 49 58.8 -0.8**
comp=Z,56nm,1.1s,mb5.3
MTLF Montolieu 83.54 332 *e*P **P 10 49 58.8 -0.8**
MTLF pmax pmax
comp=Z,28nm,1.1s,mb5.3
MTLF Montolieu 83.54 332 *e*P **P 10 49 58.8 -0.8**
comp=Z,28nm,1.1s,mb5.3
LONY Lake Ozonia 83.63 25 PFAKE 10 50 10.0 +10
LONY LR LR
comp=Z,947nm,19.0s,MS5.2
OLIL Olney 84.01 37 *e*P **P 10 50 01.5 -0.5**
comp=Z,73nm,1.5s,mb5.6
TXAR Lajitas Array 84.07 53 P **P 10 50 01.9 -0.6**
comp=Z,16nm,0.9s,mb5.2,baz=296,slow=3.1,SNR=101
TXAR Lajitas Array 84.07 53 P **P 10 50 01.9 -0.6**
TXAR pmax pmax
comp=Z,16nm,0.9s
MLS Moulis 84.25 332 *e*P **P 10 50 03.7 +0.5**
NCB Newcomb 84.33 25 *e*P **P 10 50 01.4 -2.2**
comp=Z,8.1nm,0.9s,mb4.8
NCB LR LR
comp=Z,1µm,20.0s,MS5.2
SIUC Southern Illin 84.40 38 *e*P **P 10 50 03.7 -0.3**
comp=Z,26nm,0.8s,mb5.4
EPF Esparros 84.43 333 *e*P **P 10 50 03.1 -1.0**
comp=Z,33nm,0.8s,mb5.2
EPF Esparros 84.43 333 *e*P **P 10 50 03.1 -1.0**
EPF pmax pmax
comp=Z,17nm,0.8s,mb5.2
EPF Esparros 84.43 333 *e*P **P 10 50 03.1 -1.0**
comp=Z,17nm,0.8s,mb5.2
PKME Peaks-Kenny Pk 84.48 22 *e*P **P 10 50 03.6 -0.7**
comp=Z,15nm,1.0s,mb5.1
PKME LR LR
comp=Z,799nm,20.0s,MS5.1
ALLY Alegheny Colle 84.52 30 *e*P **P 10 50 04.7 +0.1**
comp=Z,43nm,1.5s,mb5.3
MDV Middlebury 84.61 25 *e*P **P 10 50 04.2 -0.7**
LBNH Lisbon 84.74 24 PFAKE 10 50 20.0 +14
LBNH LR LR
comp=Z,519nm,21.0s,MS4.9
ACSO Alum Creek Sta 84.74 33 *e*P **P 10 50 04.2 -1.5**
comp=Z,25nm,0.8s,mb5.4
EBIE Bielsa 84.80 333 P **P 10 50 07.4 +1.4**
comp=Z,29nm,0.9s,mb5.4
EALK Alkurruntz 84.83 334 P **P 10 50 07.7 +1.6**
comp=Z,26nm,0.9s,mb5.4
ETSF Etsaut 84.83 333 *e*P **P 10 50 05.5 -0.6**
comp=Z,152nm,1.2s,mb5.7
ETSF Etsaut 84.83 333 *e*P **P 10 50 05.5 -0.6**
ETSF pmax pmax
comp=Z,76nm,1.2s,mb5.7
ETSF Etsaut 84.83 333 *e*P **P 10 50 05.5 -0.6**
comp=Z,76nm,1.2s,mb5.7
LARF Larrau 84.83 334 *e*P **P 10 50 06.8 +0.7**
SJPF Ste Jean 84.84 334 *e*P **P 10 50 05.3 -0.8**
comp=Z,50nm,1.1s,mb5.2
SJPF Ste Jean 84.84 334 *e*P **P 10 50 05.3 -0.8**
SJPF pmax pmax
comp=Z,25nm,1.1s,mb5.3
SJPF Ste Jean 84.84 334 *e*P **P 10 50 05.3 -0.8**
comp=Z,25nm,1.1s,mb5.2
ELIZ Elizondo 84.88 334 P **P 10 50 07.2 +0.8**
ELIZ pmax pmax
comp=Z,27nm,1.0s,mb5.3
ELIZ Elizondo 84.88 334 P **P 10 50 07.2 +0.8**
comp=Z,27nm,1.0s,mb5.3
ACCN Adirondack Com 85.03 25 *e*P **P 10 50 06.4 -0.8**
comp=Z,9.2nm,0.9s,mb4.9
EMIR Miracle 85.05 331 P **P 10 50 09.2 +2.0**
comp=Z,7.5nm,0.5s,mb5.1
MIAR Mount Ida 85.08 43 *e*P **P 10 50 06.8 -0.7**
MIAR pmax pmax
comp=Z,13nm,0.9s,mb5.1
MIAR MLR MLR
comp=Z,723nm,20.0s,MS5.1
MIAR Mount Ida 85.08 43 *e*P **P 10 50 06.8 -0.7**
comp=Z,13nm,0.9s,mb5.1
MIAR LR LR
comp=Z,723nm,20.0s,MS5.1
WCI Wyandotte Cave 85.18 36 PFAKE 10 50 20.0 +12
WCI LR LR
comp=Z,1µm,20.0s,MS5.3
JCT Junction City 85.25 50 *e*P **P 10 50 08.5 0.0**
JCT pmax pmax
comp=Z,61nm,1.7s,mb5.5
JCT MLR MLR
comp=Z,717nm,21.0s,MS5.0
JCT Junction City 85.25 50 *e*P **P 10 50 08.4 0.0**
comp=Z,61nm,1.7s,mb5.5
JCT LR LR
comp=Z,717nm,21.0s,MS5.0
ELAN Lanestosa 85.38 335 P **P 10 50 09.4 +0.5**
comp=Z,54nm,0.9s,mb5.7
BINY Binghamton 85.40 27 *e*P **P 10 50 08.3 -0.7**
comp=Z,7.7nm,0.7s,mb4.9
BINY LR LR
comp=Z,677nm,19.0s,MS5.1
ECRI Cripan 85.68 334 P **P 10 50 11.2 +0.8**
ECRI pmax pmax
comp=Z,72nm,1.3s,mb5.7
ECRI Cripan 85.68 334 P **P 10 50 11.2 +0.8**
comp=Z,72nm,1.3s,mb5.7
EPOB Poblet 85.70 331 P **P 10 50 11.4 +0.9**
comp=Z,52nm,0.9s,mb5.8
EARI Arriondas 85.82 337 P **P 10 50 11.2 +0.1**
comp=Z,44nm,1.0s,mb5.6
ESAC San Caprasio 85.86 333 P **P 10 50 12.7 +1.4**
comp=Z,119nm,0.9s,mb6.1
ERTA Horta de San J 86.30 332 P **P 10 50 14.3 +0.9**
comp=Z,36nm,1.0s,mb5.5
EPON Pontenova 86.31 338 P **P 10 50 14.6 +1.1**
comp=Z,17nm,0.6s,mb5.5
MCWV Mont Chateau 86.39 31 PFAKE 10 50 30.0 +16
MCWV LR LR
comp=Z,842nm,20.0s,MS5.1
HRV Adam Dziewonsk 86.44 24 PFAKE 10 50 30.0 +16
HRV LR LR
comp=Z,589nm,20.0s,MS5.0
ETOS Mallorca 86.53 330 P **P 10 50 14.9 +0.3**
comp=Z,42nm,0.8s,mb5.7
WES Weston 86.62 24 *e*P **P 10 50 14.9 -0.1**
WES pmax pmax
comp=Z,22nm,0.9s,mb5.4
WES MLR MLR
comp=Z,1µm,22.0s,MS5.3
WES Weston 86.62 24 *e*P **P 10 50 14.9 -0.1**
comp=Z,22nm,0.9s,mb5.4
WES LR LR
comp=Z,1µm,22.0s,MS5.3
OXF Oxford 87.01 40 *e*P **P 10 50 16.7 -0.4**
OXF pmax pmax
comp=Z,49nm,1.1s,mb5.7
OXF MLR MLR
comp=Z,470nm,19.0s,MS4.9
OXF Oxford 87.01 40 *e*P **P 10 50 16.7 -0.4**
comp=Z,49nm,1.1s,mb5.7
OXF LR LR
comp=Z,470nm,19.0s,MS4.9
STS Santiago 87.08 339 P **P 10 50 17.4 +0.1**
STS pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
STS Santiago 87.08 339 P **P 10 50 17.4 +0.1**
comp=Z,9.0nm,0.6s,mb5.2
EMOS Mosqueruela 87.09 332 P **P 10 50 18.7 +1.3**
comp=Z,29nm,0.9s,mb5.5
EMAZ Mazaricos 87.13 339 P **P 10 50 17.0 -0.5**
comp=Z,36nm,1.1s,mb5.5
PAL Palisades 87.13 26 *e*P **P 10 50 16.4 -1.2**
ETOR Torete 87.18 333 P **P 10 50 18.7 +0.9**
ETOR pmax pmax
comp=Z,30nm,1.0s,mb5.5
ETOR Torete 87.18 333 P **P 10 50 18.7 +1.0**
comp=Z,30nm,1.0s,mb5.5

PLAL Pickwick Lake 87.20 39 PFAKE 10 50 30.0 +12
PLAL LR LR
comp=Z,1µm,20.0s,MS5.3
ECAL Calabor 87.50 337 P **P 10 50 19.4 +0.1**
comp=Z,5.7nm,0.8s,mb4.8
KEST Kesra 87.56 323 P **P 10 50 19.3 -0.4**
comp=Z,6.2nm,0.9s,mb4.8,baz=12,slow=0.5,SNR=21
HKT Hockley 87.72 47 PFAKE 10 50 30.0 +9.4
HKT LR LR
comp=Z,675nm,20.0s,MS5.0
TZTN Tazewell 87.74 35 *e*P **P 10 50 19.8 -0.7**
TZTN LR LR
comp=Z,765nm,20.0s,MS5.1
SWET Sewanee 87.91 37 *e*P **P 10 50 20.6 -0.8**
ELOB Lobios 87.92 338 P **P 10 50 21.8 +0.5**
comp=Z,18nm,0.9s,mb5.3
ECHE Chera 87.96 332 P **P 10 50 23.1 +1.6**
ECHE pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
ECHE Chera 87.96 332 P **P 10 50 23.1 +1.5**
comp=Z,7.5nm,0.8s,mb5.0
GUD Guadarrama 87.97 335 P **P 10 50 21.8 +0.2**
GUD pmax pmax
comp=Z,11nm,1.0s,mb5.0
GUD Guadarrama 87.97 335 P **P 10 50 21.8 +0.2**
comp=Z,11nm,1.0s,mb5.0
ELN Prospectdale 88.21 33 *e*P **P 10 50 22.2 -0.6**
CPCT Cooper Cave 88.30 36 *e*P **P 10 50 22.8 -0.5**
MVO Moncorvo 88.30 337 *e*P **P 10 50 23.3 +0.2**
comp=Z,46nm,0.9s,mb5.7
MVO Moncorvo 88.30 337 *e*S S 11 01 12.0 +4.1
MVO Moncorvo 88.30 337 *e*LQ 11 25 39.2
MVO *e*LR LR 11 29 58.4
comp=Z,1µm,15.9s
BLA Blacksburg 88.35 32 *e*P **P 10 50 21.5 -1.9**
BLA MLR MLR
comp=Z,961nm,19.0s,MS5.2
TKL Tuckaleechee C 88.42 36 *e*P **P 10 50 23.0 -0.8**
VBMS Vicksburg 88.43 42 *e*P **P 10 50 24.5 +0.6**
comp=Z,37nm,1.1s,mb5.5
VBMS LR LR
comp=Z,860nm,19.0s,MS5.2
PPT Papeete 88.71 117 *e*SS SS 11 07 03.1 -1.0
comp=Z,298nm,27.0s
PPT *e*LQ 11 14 34.8
comp=Z,391nm,25.8s
PPT *e*LR LR 11 18 40.0
comp=Z,3µm,25.5s,baz=322
ESDC Sonseca Array 88.81 334 P **P 10 50 24.8 -0.8**
comp=Z,15nm,0.8s,mb5.4,baz=16,slow=4.0,SNR=35
ESDC Sonseca Array 88.81 334 P **P 10 50 25.7 +0.1**
comp=Z,12nm,0.7s,mb5.3
ESLA Sonseca Array 88.81 334 *e*P **P 10 50 25.2 -0.4**
comp=Z,3.1nm,0.8s,mb4.7
ESLA LR LR
comp=Z,9µm,19.0s,MS6.2
PVIS Viseu 88.95 337 *e*P **P 10 50 26.3 +0.1**
comp=Z,23nm,1.9s,mb5.2
PAB San Pablo 89.04 334 *e*P **P 10 50 26.5 -0.2**
PAB pmax pmax
comp=Z,19nm,0.9s,mb5.4
PAB MLR MLR
comp=Z,1µm,19.0s,MS5.4
PAB San Pablo 89.04 334 *e*P **P 10 50 26.5 -0.2**
comp=Z,19nm,0.9s,mb5.4
PAB LR LR
comp=Z,1µm,19.0s,MS5.4
MTE Manteigas 89.15 337 *e*P **P 10 50 27.4 +0.2**
comp=Z,38nm,1.0s,mb5.7
MTE Manteigas 89.15 337 *e*S S 11 01 20.0 +4.0
MTE Manteigas 89.15 337 *e*LQ 11 25 54.3
MTE *e*LR LR 11 30 33.7
comp=Z,1µm,17.3s
MTE Manteigas 89.15 337 *e*P **P 10 50 27.2 0.0**
comp=Z,29nm,1.0s,mb5.6
MTE LR LR
comp=Z,1µm,19.0s,MS5.3
EVIA Vianos 89.31 333 P **P 10 50 29.1 +1.2**
EVIA pmax pmax
comp=Z,16nm,0.7s,mb5.5
EVIA Vianos 89.31 333 P **P 10 50 29.1 +1.1**
comp=Z,16nm,0.7s,mb5.5
PCBR Castelo Branco 89.66 337 *e*P **P 10 50 29.8 +0.3**
comp=Z,24nm,1.4s,mb5.3
PMRV Marv??o 90.02 337 *e*P **P 10 50 31.5 +0.3**
comp=Z,31nm,1.9s,mb5.3
PMRV Marv??o 90.02 337 *e*S S 11 01 30.5 +6.4
PMRV Marv??o 90.02 337 *e*LR LR 11 27 20.0
comp=Z,866nm,15.5s
EHUE Huescar 90.09 333 P **P 10 50 31.9 +0.3**
EHUE pmax pmax
comp=Z,30nm,1.6s,mb5.4
EHUE Huescar 90.09 333 P **P 10 50 31.9 +0.3**
comp=Z,30nm,1.6s,mb5.4
EBAN Banos Encina 90.15 334 P **P 10 50 32.6 +0.7**
EBAN pmax pmax
comp=Z,36nm,1.1s,mb5.6
EBAN Banos Encina 90.15 334 P **P 10 50 32.6 +0.8**
comp=Z,36nm,1.1s,mb5.6
EQES Quesada 90.26 333 P **P 10 50 32.9 +0.5**
comp=Z,7.0nm,0.5s,mb5.2
EADA Adamuz 90.38 334 P **P 10 50 33.7 +0.7**
comp=Z,27nm,1.0s,mb5.5
GOGA Godfrey 90.49 36 *e*P **P 10 50 32.6 -1.0**
GOGA pmax pmax
comp=Z,30nm,1.5s,mb5.4
GOGA Godfrey 90.49 36 *e*P **P 10 50 32.6 -0.9**
comp=Z,30nm,1.5s,mb5.4
EBAD Badajoz 90.54 336 P **P 10 50 34.6 +0.9**
comp=Z,9.1nm,0.8s,mb5.2
PESTR Estremoz 90.60 337 *e*S S 11 01 37.2 +7.8
PESTR Estremoz 90.60 337 *e*LR LR 11 27 43.6
comp=Z,970nm,16.3s
MSEY Mahe Island 90.84 264 PFAKE 10 50 50.0 +15
MSEY LR LR
comp=Z,836nm,20.0s,MS5.2
ELUQ Luque 90.85 334 P **P 10 50 34.9 -0.2**
ELUQ pmax pmax
comp=Z,15nm,0.8s,mb5.4
ELUQ Luque 90.85 334 P **P 10 50 34.9 -0.3**
comp=Z,15nm,0.8s,mb5.4
PMAFR Mafra 90.97 338 *e*P **P 10 50 36.2 +0.5**
comp=Z,124nm,2.0s,mb5.9
PMAFR Mafra 90.97 338 *e*LQ 11 26 18.6
PMAFR *e*LR LR 11 28 51.8
comp=Z,1µm,17.7s
BRAL Brewton 91.02 40 PFAKE 10 50 50.0 +14
BRAL LR LR
comp=Z,627nm,21.0s,MS5.0
EVO Evora 91.03 337 *e*P **P 10 50 34.9 -1.1**
comp=Z,30nm,1.1s,mb5.2
EVO *e*MLR MLR
comp=Z,2µm,20.2s,MS5.2
EVO Evora 91.03 337 *e*P **P 10 50 35.8 -0.2**
comp=Z,33nm,2.2s,mb5.3
CNNC Cliffs of the 91.03 32 PFAKE 10 50 50.0 +14
CNNC LR LR
comp=Z,533nm,19.0s,MS5.0
PBAR Barrancos 91.09 336 *e*P **P 10 50 36.2 -0.1**
comp=Z,30nm,1.3s,mb5.5
PBAR Barrancos 91.09 336 *e*S S 11 01 37.6 +3.6
PBAR Barrancos 91.09 336 *e*LR LR 11 28 13.6
comp=Z,2µm,17.4s
ELOJ Sierra Loja 91.19 333 P **P 10 50 36.9 +0.1**
ELOJ pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
ELOJ Sierra Loja 91.19 333 P **P 10 50 36.9 +0.2**
comp=Z,7.3nm,0.6s,mb5.2
ERON Agron 91.21 333 P **P 10 50 36.0 -0.8**
comp=Z,29nm,1.3s,mb5.5
EGUA Guajares 91.30 333 P **P 10 50 36.3 -1.0**
comp=Z,66nm,1.0s,mb5.9
EMIN Mina Concepcio 91.37 336 P **P 10 50 37.8 +0.2**
comp=Z,17nm,1.0s,mb5.3
PBEJ Beja 91.46 336 *e*P **P 10 50 38.1 +0.1**
comp=Z,42nm,1.9s,mb5.5
EGRO El Granado 91.82 336 P **P 10 50 39.2 -0.4**
comp=Z,13nm,0.9s,mb5.3
ESPR Espera 91.97 335 P **P 10 50 40.3 0.0**
comp=Z,21nm,0.9s,mb5.5
PVAQ Vaqueiros 92.00 336 *e*P **P 10 50 40.8 +0.3**
comp=Z,34nm,1.5s,mb5.5
PVAQ Vaqueiros 92.00 336 *e*S S 11 01 51.4 +9.2
PVAQ Vaqueiros 92.00 336 *e*LQ 11 23 17.2
PVAQ *e*LR LR 11 28 44.3
comp=Z,2µm,17.5s
NHSC New Hope 92.07 34 PFAKE 10 50 50.0 +9.1

NHSC LR LR
comp=Z,1µm,19.0s,MS5.3
PBDV Barranco-do-Ve 92.21 336 *e*S S 11 01 49.0 +4.9
PBDV Barranco-do-Ve 92.21 336 *e*LQ 11 25 25.7
PBDV *e*LR LR 11 28 23.9
comp=Z,2µm,17.1s
SNZO South Karori 92.31 156 PFAKE 10 50 50.0 +8.6
SNZO LR LR
comp=Z,812nm,20.0s,MS5.2
MORF Marmelete 92.35 337 *e*P **P 10 50 42.6 +0.5**
comp=Z,76nm,1.9s,mb5.7
MORF Marmelete 92.35 337 *e*LR LR 11 28 45.8
comp=Z,1µm,17.2s
SFS San Fernando 92.44 335 PFAKE 10 50 50.0 +7.5
SFS LR LR
comp=Z,4µm,19.0s,MS5.8
PFVI Vila Bisbo 92.56 337 *e*LR LR 11 28 37.8
comp=Z,1µm,19.7s
TBI Tubuai 93.19 121 *e*SP SP 11 03 04.5 -1.0
comp=Z,156nm,27.5s
TBI *e*SS SS 11 08 12.7 +3.9
comp=Z,181nm,27.5s
TBI Tubuai 93.19 121 *e*LR LR 11 20 31.9
comp=Z,2µm,24.5s,baz=322
RTC Rabat Centre 94.94 334 PFAKE 10 51 10.0 +16
RTC LR LR
comp=Z,1µm,22.0s,MS5.3
CMLA Cha da Macela 95.23 350 PFAKE 10 51 10.0 +15
CMLA LR LR
comp=Z,472nm,19.0s,MS5.0
DWPF Disney 95.97 37 PFAKE 10 51 10.0 +11
DWPF LR LR
comp=Z,595nm,21.0s,MS5.0
BBSR BB Station 97.81 22 PFAKE 10 51 20.0 +13
BBSR LR LR
comp=Z,697nm,20.0s,MS5.2
RKT Rikitea 101.99 111 *e*SS SS 11 10 18.6 +5.7
comp=Z,378nm,30.0s
RKT Rikitea 101.99 111 *e*LR LR 11 24 43.5
comp=Z,1µm,34.8s,baz=316
TGUH Tegucigalpa,Un 105.26 49 PFAKE 10 56 10.0 +15
TGUH LR LR
comp=Z,586nm,22.0s,MS5.1
ABPO Ambohimpanom 106.67 260 PFAKE 10 56 10.0 +13
ABPO LR LR
comp=Z,810nm,20.0s,MS5.3
SDDR Presa de Saban 108.19 33 PFAKE 10 56 10.0 +10
SDDR LR LR
comp=Z,765nm,19.0s,MS5.3
TORD Torodi Ar. Bea 110.58 318 PP PP 10 56 36.9 -3.0
comp=Z,6.6nm,1.0s,baz=11,slow=6.2,SNR=17
SJG San Juan 110.80 28 PFAKE 10 56 20.0 +15
SJG LR LR
comp=Z,372nm,20.0s,MS5.0
BCIP Isla Barro Col 113.20 46 PFAKE 10 56 20.0 +10
BCIP LR LR
comp=Z,426nm,21.0s,MS5.0
CASY Casey 115.10 193 PFAKE 10 56 20.0 +8.5
CASY LR LR
comp=Z,523nm,22.0s,MS5.1
LSZ Lusaka 117.15 276 *e*PKIKP PKPdf 10 56 17.2 +0.2
LSZ MLR MLR
comp=Z,1µm,20.0s,MS5.5
BBGH Gun Hill 117.49 24 PFAKE 10 56 30.0 +12
BBGH LR LR
comp=Z,1µm,22.0s,MS5.4
SDV Santo Domingo 117.62 37 *e*PKPdf PKPdf 10 56 17.6 -0.5
SDV LR LR
comp=Z,145nm,21.0s,MS4.6
GRGR Grenville 117.84 26 PFAKE 10 56 30.0 +11
GRGR LR LR
comp=Z,567nm,20.0s,MS5.2
DBIC Dimbokro 119.24 321 PKP PKPdf 10 56 19.9 -1.4
comp=Z,8.6nm,0.9s,baz=358,slow=2.9,SNR=5.3
DBIC Dimbokro 119.24 321 PKP PKPdf 10 56 19.9 -1.4
DBIC LR LR
comp=Z,920nm,20.0s,MS5.4
OTAV Otavalo 121.53 49 PFAKE 10 56 40.0 +14
OTAV LR LR
comp=Z,212nm,19.0s,MS4.8
CAMI Rancho Maria 122.28 50 S Sdif 11 05 55.5 -1.9
VC1 Cotopaxi 1 122.30 50 S Sdif 11 05 55.6 -2.0
TAMB Tambo 122.36 50 S Sdif 11 05 53.4 -4.8
VNDA Vanda 124.49 175 PKP PKPdf 10 56 28.5 -0.8
comp=Z,1.4nm,0.8s,baz=307,slow=3.3,SNR=7.7
VNDA Vanda 124.49 175 PKP PKPdf 10 56 28.5 -0.8
VNDA LR LR
comp=Z,475nm,20.0s,MS5.2
LBTB Lobatse 125.52 270 *e*PKIKP PKPdf 10 56 33.4 +0.5
LBTB MLR MLR
comp=Z,508nm,21.0s,MS5.2
TSUM Tsumeb 127.11 282 *e*PKPdf PKPdf 10 56 36.2 +0.1
TSUM LR LR
comp=Z,939nm,20.0s,MS5.5
BOSA Boshof 128.03 267 PFAKE 10 56 50.0 +12
BOSA LR LR
comp=Z,701nm,19.0s,MS5.4
MAW Mawson 128.21 209 PKP PKPdf 10 56 37.9 +1.3
comp=Z,1.8nm,0.9s,baz=275,slow=7.8,SNR=5.2
NNA Nana 132.55 56 PFAKE 10 57 00.0 +13
NNA LR LR
comp=Z,401nm,20.0s,MS5.1
SUR Sutherland 133.36 266 PFAKE 10 57 00.0 +12
SUR LR LR
comp=Z,438nm,19.0s,MS5.2
LPAZ La Paz 140.85 49 PKP PKPdf 10 57 02.9 +1.0
comp=Z,2.7nm,0.9s,baz=26,slow=8.8,SNR=12
LPAZ La Paz 140.85 49 *e*PKPdf PKPdf 10 57 03.1 +1.3
LPAZ LR LR
comp=Z,276nm,19.0s,MS5.0
LVC Limon Verde 145.54 57 *e*PKPdf PKPdf 10 57 10.5 +0.5
LVC LR LR
comp=Z,220nm,20.0s,MS4.9
NVL N'lazarevskaya 146.13 207 *e*PKP2 PKPab 10 57 09.9 -1.3
NVL pmax pmax
comp=Z,84nm,1.1s
MAIT Maitri 146.16 207 *e*PKPdif 10 57 09.0
BDFB Brasilia 148.04 18 PKPbc PKPbc 10 57 15.6 -1.9
comp=Z,8.1nm,0.8s,baz=16,slow=4.6,SNR=12
BDFB Brasilia 148.04 18 PKP2 PKPbc 10 57 15.6 -1.9
BDFB pmax pmax
comp=Z,8.0nm,0.8s
BDFB Brasilia 148.04 18 PFAKE 10 57 30.0 +16
BDFB LR LR
comp=Z,318nm,20.0s,MS5.1
LCO Las Campanas 149.17 67 PFAKE 10 57 30.0 +14
LCO LR LR
comp=Z,508nm,21.0s,MS5.3
SNAA Sanae 149.90 201 *e*PKPdf PKPbc 10 57 19.5 -1.0
SNAA *e* 10 57 23.6
SNAA *e* 10 57 27.5
SNAA *e* 10 57 29.9
SNAA *e* 10 57 40.0
SNAA Sanae 149.90 201 *e*PKPbc PKPbc 10 57 20.0 -0.6
SNAA *e*PKPab PKPab 10 57 26.5 +0.3
VNA1 Neumayer--Stat 151.91 201 *e*PKPdf PKPbc 10 57 25.4 +0.2
VNA1 *e* 10 57 29.0
VNA1 *e* 10 57 34.1
VNA1 *e* 10 57 36.9
VNA1 *e* 10 57 46.1
CPUP Villa Florida 154.69 44 PKP PKPdf 10 57 24.2 +0.1
comp=Z,0.3nm,0.3s,baz=38,slow=4.9,SNR=3.0
CPUP PKPab PKPab 10 57 46.5 -1.0
comp=Z,5.0nm,0.9s,baz=337,slow=5.0,SNR=6.6
CPUP Villa Florida 154.69 44 PKIKP PKPdf 10 57 24.3 +0.1
CPUP 10 57 46.5
CPUP pmax pmax
comp=Z,5.0nm,0.9s
CPUP Villa Florida 154.69 44 PKP PKPdf 10 57 24.2 +0.1
CPUP PKPab PKPab 10 57 46.5 -1.1
CPUP *e*PKPab PKPab 10 57 47.1 -0.4
PLCA Paso Flores 155.97 88 PKP PKPdf 10 57 23.9 -1.5
comp=Z,2.5nm,0.9s,baz=65,slow=13,SNR=3.3
PLCA PKPab PKPab 10 57 52.0 -0.7
comp=Z,7.9nm,1.1s,baz=280,slow=7.4,SNR=5.5
PLCA Paso Flores 155.97 88 PKIKP PKPdf 10 57 23.9 -1.5
PLCA 10 57 52.0
PLCA pmax pmax
comp=Z,3.0nm,0.9s
PLCA pmax pmax
comp=Z,8.0nm,1.1s
TRQA Tornquist 160.50 73 PFAKE 10 57 40.0 +9.0
TRQA LR LR
comp=Z,559nm,21.0s
EFI East Falkland 166.05 119 PFAKE 10 57 50.0 +14

EFI				LR	LR			
	comp=Z,907nm,20.0s							
HOPE	**Hope Point**	**172.25**	**187**	PFAKE			10 57 50.0	+10
HOPE				LR	LR			
	comp=Z,5.0nm,22.0s							

IDC ***02*** *10:37:17.0±5.4, 4337N×14026E, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/21, mbtmp4.0/3, ML3.6/1, MS5.1/1, Ms1 5.0/1, ms1mx3.8/22, Error ellipse: s-maj=253.9km s-min=91.2km az=111.0*
ISCJB ***02*** *10:37:57.2±0.8, 4055N±006×1397E±0.1, h197km±6km, mb3.7/2, Error ellipse: s-maj=17.6km s-min=7.8km az=17.5*
JMA ***02*** *10:37:58.3±0.1, 4055N×13967E, h192km±1km, M3.5*
ISC 02 10:37:58.3±0.8, 4055N±005×1397E±01, h191km±5km, n17, σ0°46/24, mb3.9/2, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.27**	**79**	P	**Pn**	**10 38 23.9**	**+0.3**
JIW				S	**Sn**	**10 38 42.6**	**-0.6**
JOG2	**Oga 2**	**0.64**	**171**	P	**Pn**	**10 38 25.4**	**+0.4**
JOG2				S	**Sn**	**10 38 45.3**	**-0.2**
JOT	**Ohata**	**1.34**	**51**	P	**Pn**	**10 38 30.1**	**+0.4**
JANG	**Nango**	**1.42**	**96**	P	**Pn**	**10 38 30.6**	**+0.1**
JOSM	**Okushiri--Mats**	**1.54**	**355**	P	**Pn**	**10 38 31.2**	**-0.3**
JOM	**Ohasama**	**1.65**	**130**	P	**Pn**	**10 38 32.6**	**0.0**
JKB	**Kayabe**	**1.69**	**37**	P	**Pn**	**10 38 33.1**	**+0.2**
JYK	**Kaneyama**	**1.71**	**162**	P	**Pn**	**10 38 33.6**	**+0.4**
JYK				*e*S	**Sn**	**10 39 00.7**	**+0.5**
JMK	**Ichinoseki**	**1.99**	**143**	P	**Pn**	**10 38 36.0**	**-0.1**
JAW	**Awa shima**	**2.11**	**189**	P	**Pn**	**10 38 37.5**	**+0.2**
JAW				*e*S	**Sn**	**10 39 07.5**	**-0.1**
JSD	**Sado**	**2.73**	**204**	P	**Pn**	**10 38 44.7**	**+0.4**
JSD				*e*S	**Sn**	**10 39 19.3**	**-0.8**
JNS	**Sasagawa**	**2.74**	**186**	P	**Pn**	**10 38 44.5**	**+0.1**
JMM	**Marumori**	**2.81**	**162**	P	**Pn**	**10 38 44.7**	**-0.6**
JMM				*e*S	**Sn**	**10 39 21.3**	**-0.6**
MAT	**Matsushiro**	**4.16**	**196**	P	**Pn**	**10 39 02.4**	**+0.7**
MAT				*e*S	**Sn**	**10 39 52.5**	**+1.1**
MJAR	**Matsushiro Arr**	**4.16**	**196**	Pn	**Pn**	**10 39 00.9**	**-0.8**
	1.1nm,0.3s,baz=9.2,slow=13,SNR=14						
WRA	**Warramunga Arr**	**60.38**	**186**	P	**P**	**10 47 46.9**	**-0.3**
	2.6nm,0.4s,mb4.4,baz=4.2,slow=6.8,SNR=138						
ASAR	**Alice Springs**	**64.10**	**186**	P	**P**	**10 48 11.7**	**-0.2**
	0.4nm,0.7s,mb3.4,baz=16,slow=9.2,SNR=6.0						

ISCJB ***02*** *10:43:41.0±0.4, 4679N±003×1419E±0.1, h10km, mb3.8/13, Error ellipse: s-maj=10.5km s-min=4.8km az=4.3*
IDC ***02*** *10:43:40.8±0.7, 4673N×14182E, h0km, mb3.8/10, mb1 4.0/12, mb1mx4.0/21, mbtmp3.8/12, ML3.6/1, Error ellipse: s-maj=27.8km s-min=13.0km az=80.0*
MOS ***02*** *10:43:40.2±1.1, 4677N×14164E, h12km, mb3.9/5, Error ellipse: s-maj=24.5km s-min=14.1km az=76.7*
JMA ***02*** *10:43:41.0±0.5, 4684N×14168E, h16km, M4.5*
NEIC ***02*** *10:43:42.4±0.6, 4672N×14224E, h10km, mb4.5/2, Error ellipse: s-maj=18.3km s-min=12.9km az=128.0*
ISC 02 10:43:41.3±1.4, 4674N±004×1419E±01, h2km±9km, n31, σ1°17/35, mb3.8/13, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.65**	**70**	⇓*i*PN	**Pg**	**10 43 55.5**	**+1.7**
YSS				*e*		10 44 07.0	
YSS				pmax	pmax		
	comp=Z,970nm,1.0s						
YSS				smax			
	comp=E,4.0nm,0.5s						
JWK2	**Keihoku**	**1.42**	**179**	P	**Pn**	**10 44 08.0**	**-0.2**
JWK2				*e*S	**Sg**	**10 44 27.0**	**0.0**
JRR	**Rishiri**	**1.65**	**194**	P	**Pn**	**10 44 11.4**	**+0.2**
JRR				*e*S	**Sn**	**10 44 33.2**	**+0.3**
JSE	**Soyaes**	**1.85**	**164**	P	**Pn**	**10 44 14.3**	**+0.3**
JSE				*e*S	**Sn**	**10 44 39.0**	**+1.0**
ASAJ	**Asahikawa**	**2.67**	**169**	Pn	**Pn**	**10 44 25.6**	**+0.3**
	comp=E,7.5nm,0.3s,baz=135,slow=25,SNR=8.0						
ASAJ				Pg	**Pg**	**10 44 30.4**	**-2.2**
	comp=E,23nm,0.3s,baz=0.3,slow=18,SNR=21						
ASAJ				Lg		10 45 05.0	
	comp=E,17nm,0.3s,baz=360,slow=24,SNR=4.2						
JMP	**Maruseppu**	**2.93**	**158**	P	**Pn**	**10 44 28.3**	**-0.6**
JTKR	**Abashiri--Toko**	**3.12**	**152**	P	**Pn**	**10 44 31.4**	**-0.1**
MJAR	**Matsushiro Arr**	**10.55**	**196**	Pn	**Pn**	**10 46 14.6**	**+1.2**
	baz=2.4,slow=12,SNR=2.6						
PETK	**Petropavlovsk-**	**12.02**	**52**	Pn	**Pn**	**10 46 37.5**	**+4.0**
	comp=E,0.1nm,0.3s,baz=275,slow=5.6,SNR=5.0						
SONM	**Songino Array**	**23.96**	**286**	P	**P**	**10 49 01.2**	**+4.5**
	comp=E,1.0nm,0.7s,mb3.4,baz=96,slow=9.1,SNR=3.6						
SONM	**Songino Array**	**23.96**	**286**	P	**P**	**10 49 01.2**	**+4.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAA0	**Zalesovo Array**	**36.22**	**303**	*e*P	**P**	**10 50 46.9**	**+1.7**
BPAW	**Bear Paw Mtn.**	**39.70**	**39**	*e*P	**P**	**10 51 17.0**	**+2.5**
	comp=Z,8.6nm,1.5s,mb4.3						
MKAR	**Makanchi Array**	**39.93**	**293**	P	**P**	**10 51 16.3**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=78,slow=9.0,SNR=3.0						
MKAR	**Makanchi Array**	**39.93**	**293**	P	**P**	**10 51 16.3**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TRF	**Thorofare Moun**	**40.09**	**40**	*e*P	**P**	**10 51 16.5**	**-1.2**
	comp=Z,34nm,1.7s,mb4.8						
COLA	**College**	**40.93**	**38**	*e*P	**P**	**10 51 22.3**	**-2.4**
BMRM	**Bremner River**	**43.22**	**43**	*e*P	**P**	**10 51 42.1**	**-1.3**
DHAK	**Deception Hill**	**46.86**	**44**	*e*P	**P**	**10 52 09.2**	**-3.2**
NOA	**NORSAR Array B**	**65.41**	**336**	P	**P**	**10 54 26.5**	**+1.6**
	comp=Z,0.7nm,0.6s,mb3.9,baz=34,slow=6.4,SNR=2.5						
NOA	**NORSAR Array B**	**65.41**	**336**	P	**P**	**10 54 26.5**	**+1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**66.71**	**188**	P	**P**	**10 54 32.3**	**-1.3**
	comp=Z,0.3nm,0.8s,mb3.4,baz=12,slow=6.7,SNR=4.1						
AKASG	**Malin Array Be**	**66.92**	**320**	P	**P**	**10 54 33.1**	**-1.7**
	comp=Z,0.2nm,0.3s,mb3.7,baz=41,slow=6.6,SNR=4.5						
NVAR	**Mina Array Bea**	**69.08**	**56**	P	**P**	**10 54 49.4**	**+0.8**
	comp=Z,0.5nm,0.9s,mb3.4,baz=322,slow=5.1,SNR=4.4						
ASAR	**Alice Springs**	**70.44**	**188**	P	**P**	**10 54 57.0**	**+0.1**
	comp=Z,0.9nm,0.9s,mb3.7,baz=12,slow=6.4,SNR=8.5						
ASAR	**Alice Springs**	**70.44**	**188**	P	**P**	**10 54 57.0**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**70.75**	**48**	P	**P**	**10 54 58.8**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.4,baz=8.5,slow=3.0,SNR=3.7						
TXAR	**Lajitas Array**	**83.97**	**53**	P	**P**	**10 56 12.7**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.8,baz=291,slow=3.1,SNR=5.1						
TXAR	**Lajitas Array**	**83.97**	**53**	P	**P**	**10 56 12.7**	**-0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KEST	**Kesra**	**87.48**	**323**	P	**P**	**10 56 30.4**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.5,baz=190,slow=3.5,SNR=7.4						
ESDC	**Sonseca Array**	**88.71**	**334**	P	**P**	**10 56 36.7**	**+0.5**
	comp=Z,0.2nm,0.3s,mb3.9,baz=23,slow=7.0,SNR=3.3						

JMA 02 10:53:56.6±0.3, 4675N×14162E, h0km, M3.5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.45**	**172**	P	Pn	10 54 24.0	0.0
JWK2				*e*S	Sg	10 54 43.1	0.0
JRR	**Rishiri**	**1.63**	**188**	P	Pn	10 54 27.2	+0.7
JRR				*e*S	Sn	10 54 48.8	+0.7
JTKR	**Abashiri--Toko**	**3.21**	**149**	P	Pn	10 54 47.8	-0.5

TRN 02 10:58:37.3, 1737N×6048W, h3km, M3.0(FDF), M3.9(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**1.19**	**208**	*e*P	Pg	10 59 02.3	+2.2
LZG	**Guadaloupe-1**	**1.74**	**226**	*e*P	Pn	10 59 11.4	+2.9
TBG	**Guadaloupe-3**	**1.88**	**217**	*e*P	Pn	10 59 12.9	+2.6
FDF	**Fort de France**	**2.70**	**194**	*e*P	Pn	10 59 23.6	+2.0
FDF				*e*S	Sn	10 59 58.6	+3.8
MVM	**Montagne Vaucl**	**2.83**	**188**	*e*P	Pn	10 59 26.9	+3.4

ISCJB ***02*** *11:04:10.3±0.5, 3877N±002×2565E±002, h2km±3km, Error ellipse: s-maj=3.2km s-min=2.5km az=34.8*

ISK ***02*** *11:04:10.4, 3877N×2568E, h11km, MD3.1*
ATH ***02*** *11:04:11.0, 3877N×2569E, h27km±1km, MD3.5/11, ML3.4*
NEIC ***02*** *11:04:11.0, 3877N×2569E, h27km, MD3.1(ISK), ML3.4(ATH), After ATH.*
CSEM ***02*** *11:04:12.0±0.1, 3874N×2573E, h20km, ML4.2, Error ellipse: s-maj=2.2km s-min=1.8km az=25.0*
THE ***02*** *11:04:12.1, 3876N×2571E, h9km, ML4.2*
DDA ***02*** *11:04:12.1, 3881N×2571E, h8km±3km, Md3.3*
ISC 02 11:04:11.3±0.4, 3877N±002×2566E±002, h6km±3km, n51, σ1°07/87, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.49**	**141**	*e*Pg	**Pg**	**11 04 21.1**	**+0.3**
CHOS				*e*Sg	**Sg**	**11 04 27.8**	**+0.6**
CHOS	**Chios island**	**0.49**	**141**	*e*Pg	**Pg**	**11 04 21.1**	**+0.3**
CHOS				*e*Sg	**Sg**	**11 04 27.8**	**+0.6**
PRK	**Paraskevi**	**0.68**	**45**	*e*Pg	**Pg**	**11 04 24.3**	**0.0**
PRK				*e*Sg	**Sg**	**11 04 34.3**	**+1.2**
PRK	**Paraskevi**	**0.68**	**45**	*e*PN	**Pg**	**11 04 24.5**	**+0.2**
PRK				*e*SN	**Sg**	**11 04 33.5**	**+0.4**
PRK	**Paraskevi**	**0.68**	**45**	*e*Pn	**Pg**	**11 04 24.5**	**+0.2**
PRK				*e*Sn	**Sg**	**11 04 33.5**	**+0.4**
PRK				*e*Sg	**Sg**	**11 04 34.3**	**+1.2**
URLA	**Izmir**	**0.84**	**119**	*i* P	**Pg**	**11 04 27.5**	**0.0**
URLA				*i* S	**Sg**	**11 04 40.1**	**+1.8**
AYVA	**Ayvalik**	**0.97**	**56**	*i* P	**Pg**	**11 04 29.8**	**-0.1**
AYVA				*i* S	**Sg**	**11 04 42.5**	**0.0**
BOZC	**Bozcaada**	**1.11**	**16**	*i* P	**Pg**	**11 04 32.3**	**-0.5**
BOZC				*i* S	**Sg**	**11 04 47.9**	**+0.6**
BLCB	**Balcova**	**1.15**	**109**	*e*PN	**Pn**	**11 04 33.0**	**-0.9**
BLCB				*e*SN	**Sn**	**11 04 48.4**	**-1.5**
BLCB	**Balcova**	**1.15**	**109**	*e*Pg	**Pg**	**11 04 33.0**	**-0.4**
BLCB				*e*Sg	**Sg**	**11 04 48.5**	**+0.2**
EZN	**Ezine**	**1.18**	**26**	*e*PN	**Pn**	**11 04 33.2**	**-0.7**
EZN				*e*SN	**Sn**	**11 04 50.5**	**-0.1**
LIA	**Limnos Island**	**1.19**	**342**	*e*Pg	**Pg**	**11 04 33.9**	**-0.2**
LIA				*e*Sg	**Sg**	**11 04 50.5**	**+1.0**
LIA	**Limnos Island**	**1.19**	**342**	*e*PN	**Pn**	**11 04 33.9**	**-0.5**
LIA				*e*SN	**Sn**	**11 04 49.9**	**-0.9**
LOS	**Limnos**	**1.25**	**339**	*e*Pg	**Pg**	**11 04 35.4**	**+0.2**
LOS				*e*Sg	**Sg**	**11 04 53.1**	**+1.6**
IZM	**Izmir**	**1.31**	**106**	*e*PN	**Pn**	**11 04 35.4**	**-0.7**
IZM				*e*SN	**Sn**	**11 04 53.2**	**-0.7**
SMG	**Samos**	**1.41**	**138**	*e*PN	**Pn**	**11 04 36.6**	**-0.8**
SMG				*e*SN	**Sn**	**11 04 55.4**	**-0.9**
GADA	**Gvkgeada**	**1.43**	**7**	*e*PN	**Pn**	**11 04 37.1**	**-0.7**
AOS	**Alonnisos**	**1.44**	**287**	*e*Pg	**Pg**	**11 04 38.0**	**-1.1**
AOS				*e*Sg	**Sg**	**11 04 57.4**	**-0.3**
PTL	**Penteli**	**1.58**	**244**	*e*PN	**Pn**	**11 04 39.1**	**-0.7**
GCAM	**G?zelcaml?**	**1.64**	**130**	*i* P	**Pn**	**11 04 42.3**	**+1.7**
GCAM				*i* S	**Sn**	**11 05 03.9**	**+2.0**
GCAM	**G?zelcaml?**	**1.64**	**130**	*i* P	**Pn**	**11 04 42.3**	**+1.7**
GCAM				*i* S	**Sn**	**11 05 03.8**	**+1.9**
AKHS	**Akhisar**	**1.69**	**86**	*i* P	**Pn**	**11 04 43.5**	**+2.2**
AKHS				*i* S	**Sn**	**11 05 06.0**	**+2.8**
AKS	**Akhisar**	**1.69**	**86**	*e*PN	**Pn**	**11 04 39.5**	**-1.8**
APE	**Apeiranthos**	**1.70**	**183**	*e*Pb	**Pb**	**11 04 39.7**	**-3.2**
APE				*e*Sb	**Sb**	**11 05 03.2**	**-1.4**
APE	**Apeiranthos**	**1.70**	**183**	*e*PN	**Pn**	**11 04 41.0**	**-0.5**
APE	**Apeiranthos**	**1.70**	**183**	*e*Pb	**Pb**	**11 04 39.8**	**-3.1**
APE				*e*Sb	**Sb**	**11 05 03.2**	**-1.3**
ATH	**Athens Observa**	**1.72**	**243**	*e*PN	**Pn**	**11 04 42.0**	**+0.2**
BALY	**Balya**	**1.81**	**57**	*i* P	**Pn**	**11 04 45.6**	**+2.6**
BALY				*i* S	**Sn**	**11 05 09.2**	**+3.1**
LPK	**Lapseki**	**1.81**	**28**	*e*PN	**Pn**	**11 04 41.9**	**-1.2**
BALB	**Balikesir**	**1.93**	**63**	*e*PN	**Pn**	**11 04 43.6**	**-1.1**
NAIG	**Nisos Aigina**	**1.98**	**240**	*e*PN	**Pn**	**11 04 45.0**	**-0.4**
XOR	**Xorichti**	**2.01**	**288**	*e*Pn	**Pn**	**11 04 45.4**	**-0.4**
XOR				*e*Sn	**Sn**	**11 05 12.0**	**+0.8**
OUR	**Ouranopolis**	**2.03**	**321**	*e*Pn	**Pn**	**11 04 46.0**	**0.0**
OUR				*e*Sn	**Sn**	**11 05 12.5**	**+0.8**
AYDN	**Tasoluk**	**2.07**	**122**	*i* P	**Pn**	**11 04 50.4**	**+3.9**
AYDN				*i* S	**Sn**	**11 05 18.4**	**+5.8**
LKR	**Lokris**	**2.08**	**268**	*e*Pn	**Pn**	**11 04 46.2**	**-0.5**
LKR				*e*Sn	**Sn**	**11 05 14.1**	**+1.1**
LKR	**Lokris**	**2.08**	**268**	*e*Pn	**Pn**	**11 04 46.4**	**-0.3**
LKR				*e*Sn	**Sn**	**11 05 14.1**	**+1.1**
ALN	**Alexandroupoli**	**2.15**	**8**	*e*Pn	**Pn**	**11 04 47.0**	**-0.7**
ALN				*e*Sn	**Sn**	**11 05 14.3**	**-0.3**
BDRM	**Kayabasi**	**2.21**	**140**	*i* P	**Pn**	**11 04 49.1**	**+0.6**
BDRM				*i* S	**Sn**	**11 05 23.9**	**+7.8**
LTK	**Loutraki**	**2.24**	**251**	*e*Pn	**Pn**	**11 04 49.7**	**+0.8**
LTK				*e*Sn	**Sn**	**11 05 18.2**	**+1.3**
SART	**Tekirdag**	**2.25**	**31**	*i* P	**Pn**	**11 04 50.3**	**+1.3**
SART				*i* S	**Sn**	**11 05 21.8**	**+4.8**
MANT	**Manisa**	**2.29**	**96**	*i* P	**Pn**	**11 04 55.2**	**+5.7**
MANT				*i* S	**Sn**	**11 05 23.2**	**+5.3**
EDC	**Edincik**	**2.32**	**47**	*e*PN	**Pn**	**11 04 48.8**	**-1.3**
BNT	**Bandirma**	**2.36**	**47**	*e*PN	**Pn**	**11 04 49.8**	**-0.8**
KULA	**Kula-Manisa**	**2.37**	**95**	*e*PN	**Pn**	**11 04 50.5**	**-0.1**
RDO	**Rodhopi**	**2.38**	**358**	*e*PN	**Pn**	**11 04 50.4**	**-0.4**
KCT	**Karacabey**	**2.57**	**54**	*e*PN	**Pn**	**11 04 52.9**	**-0.5**
NVR	**Nevrokopi**	**2.92**	**332**	*e*PN	**Pn**	**11 04 58.5**	**+0.2**
THL	**Klokotos Trika**	**2.94**	**287**	*e*PN	**Pn**	**11 04 58.4**	**-0.1**
GDZ	**Gediz**	**3.00**	**83**	*i* P	**Pg**	**11 05 08.6**	**-0.2**
GDZ				*i* S	**Sg**	**11 05 48.8**	**+1.1**
ULDT	**Uludag**	**3.02**	**62**	*i* P	**Pg**	**11 05 07.6**	**-1.6**
ULDT				*i* S	**Sg**	**11 05 46.1**	**-2.3**
ARG	**Arkhangelos**	**3.22**	**142**	P	**Pn**	**11 05 04.8**	**+2.5**

ISCJB ***02*** *11:04:21.1±1.3, 125N±0.1×4733E±006, h10km, mb3.8/6, Error ellipse: s-maj=19.1km s-min=8.2km az=12.8*
DHMR ***02*** *11:04:25.5±0.5, 1260N×4701E, h9km±6km, ML3.5*
CSEM ***02*** *11:04:25.5, 1260N×4701E, h8km, ML3.5, After DHMR*
IDC ***02*** *11:04:26.2±1.6, 1320N×4735E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=41.4km s-min=28.7km az=172.0*
ISC 02 11:04:22.3±1.3, 124N±01×4729E±007, h10km, n12, σ0°91/16, mb3.8/6, 2C-2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**2.28**	**280**	⇓*i*P	**Pn**	**11 05 00.2**	**+0.2**
ADEN				*i* S	**Sn**	**11 05 27.8**	**-0.4**
ADEN	**Aden**	**2.28**	**280**	⇓*i*P	**Pn**	**11 05 00.2**	**+0.2**
ADEN				*i* S	**Sn**	**11 05 27.8**	**-0.4**
ADEN				AML	AML	11 05 28.5	
	comp=N,623nm,0.2s						
BDHA	**Al Bayda'**	**2.29**	**313**	⇑*i*P	**Pn**	**11 05 00.5**	**+0.3**
BDHA				*i* S	**Sn**	**11 05 27.4**	**-1.1**
BDHA	**Al Bayda'**	**2.29**	**313**	⇑*i*P	**Pn**	**11 05 00.5**	**+0.3**
BDHA				*i* S	**Sn**	**11 05 27.4**	**-1.1**
BDHA				AML	AML	11 05 29.1	
	comp=Z,337nm,0.5s						
DHBB	**Dhamar BB**	**3.55**	**308**	*i* S	**Sn**	**11 06 01.1**	**+1.6**
HAJJ	**Hajjah**	**4.85**	**313**	*i* S	**Sn**	**11 06 32.1**	**+0.4**
MMAI	**Mount Meron Ar**	**23.22**	**334**	P	**P**	**11 09 28.2**	**-1.6**
	comp=Z,1.8nm,0.3s,mb4.0,baz=148,slow=17,SNR=6.8						
TORD	**Torodi Ar. Bea**	**44.42**	**276**	P	**P**	**11 12 38.9**	**+5.1**
	comp=Z,0.6nm,0.5s,mb3.5,baz=92,slow=7.3,SNR=5.9						
MKAR	**Makanchi Array**	**45.18**	**34**	P	**P**	**11 12 39.7**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.8,baz=214,slow=7.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**50.95**	**28**	P	**P**	**11 13 23.1**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=220,slow=9.1,SNR=3.6						
SONM	**Songino Array**	**60.29**	**42**	P	**P**	**11 14 32.3**	**+1.1**
	comp=Z,0.3nm,0.4s,mb3.7,baz=231,slow=9.1,SNR=2.7						
WRA	**Warramunga Arr**	**91.44**	**110**	P	**P**	**11 17 36.1**	**+6.6**
	comp=Z,0.6nm,0.8s,mb4.0,baz=305,slow=3.3,SNR=5.2						

IGQ 02 11:04:49.5, 255S×7786W, h12km±3km, Mb4.0, Ms3.8, 4C-7D, Error ellipse: s-maj=7.3km s-min=1.4km az=144.8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.19**	**331**	⇓P	Pn	11 05 12.3	+0.4
PATA	**Patacocha**	**1.19**	**331**	⇓S	Sb	11 05 28.3	+0.9
ARRY	**Arrayan**	**1.20**	**330**	⇓P	Pn	11 05 12.1	0.0
ARRY	**Arrayan**	**1.20**	**330**	⇓S	Sb	11 05 27.9	+0.4
ULBA	**Ulba**	**1.22**	**333**	P	Pn	11 05 13.0	+0.5
ULBA	**Ulba**	**1.22**	**333**	S	Sb	11 05 29.4	+1.1
RETU	**Refugio**	**1.24**	**332**	P	Pn	11 05 13.1	+0.4
RUN5	**Runtun**	**1.26**	**333**	P	Pn	11 05 13.4	+0.5
RUN5	**Runtun**	**1.26**	**333**	S	Sb	11 05 31.1	+1.7
JUI6	**Juive**	**1.27**	**331**	P	Pn	11 05 13.5	+0.4
JUI6	**Juive**	**1.27**	**331**	S	Sb	11 05 31.8	+2.0
BILB	**Tungurahua vol**	**1.28**	**330**	P	Pn	11 05 13.7	+0.6
IGUA	**Igualata**	**1.31**	**323**	P	Pn	11 05 15.2	+1.5
IGUA	**Igualata**	**1.31**	**323**	S	Sb	11 05 33.9	+3.0
PISA	**Pisayambo**	**1.57**	**340**	⇑P	Pn	11 05 19.2	+2.0
PISA	**Pisayambo**	**1.57**	**340**	⇑S	Sn	11 05 41.4	+3.8
TAMB	**Tambo**	**1.91**	**345**	P	Pn	11 05 24.9	+3.0
CAMI	**Rancho Maria**	**1.97**	**341**	P	Pn	11 05 26.5	+3.8
VC1	**Cotopaxi 1**	**1.97**	**344**	P	Pn	11 05 26.2	+3.5
ANTI	**Antisana**	**2.11**	**352**	⇓P	Pn	11 05 27.6	+3.0
ANTI	**Antisana**	**2.11**	**352**	⇓S	Sn	11 05 56.6	+5.8
JUA2	**San Juan 2**	**2.44**	**342**	P	Pn	11 05 35.1	+6.0
LAV3	**Lava3-Reventad**	**2.45**	**5**	⇑P	Pn	11 05 34.2	+4.9
GGP	**Refugio Guagua**	**2.47**	**343**	⇓P	Pn	11 05 35.4	+5.8
CONE	**Cono NE Rev Vo**	**2.47**	**5**	P	Pn	11 05 33.9	+4.3
CONE	**Cono NE Rev Vo**	**2.47**	**5**	S	Sn	11 06 08.7	+8.9
TERV	**Terraza Guagua**	**2.48**	**342**	P	Pn	11 05 36.1	+6.5
PINO	**Pino**	**2.49**	**343**	⇑P	Pn	11 05 36.3	+6.4
YANA	**Yana**	**2.52**	**344**	P	Pn	11 05 36.0	+5.7
YANA	**Yana**	**2.52**	**344**	S	Sn	11 06 11.7	+11
CAYA	**Cayambe**	**2.61**	**357**	P	Pn	11 05 36.5	+5.0
CAYA	**Cayambe**	**2.61**	**357**	S	Sn	11 06 12.7	+10

IDC ***02*** *11:10:44.1±0.5, 5171N×17341W, h0km, mb4.3/23, mb1 4.5/24, mb1mx4.4/28, mbtmp4.3/24, ML3.6/1, MS4.1/7, Ms1 4.1/7, ms1mx3.7/43, Error ellipse: s-maj=19.1km s-min=11.7km az=170.0*
SZGRF ***02*** *11:10:44.0, 5031N×17474W, h33km, mb4.6, Andreanof Islands, Aleutian Islands, United States*
BJI ***02*** *11:10:45.2, 5241N×17362W, h10km, mB5.0, mb4.7, Ms4.8, Msz4.5*
ISCJB ***02*** *11:10:48.0±0.9, 5172N±005×17346W±004, h33km±7km, mb4.6/84, MS4.3/8, Error ellipse: s-maj=8.0km s-min=3.6km az=12.9*
NEIC ***02*** *11:10:48.7±1.5, 5167N×17352W, h28km±10km, mb4.7/55, ML4.5(AEIC), Error ellipse: s-maj=6.7km s-min=3.8km az=194.0*
MOS ***02*** *11:10:49.1±1.0, 5172N×17342W, h43km, mb4.8/42, Error ellipse: s-maj=9.9km s-min=7.1km az=53.8*
ISC 02 11:10:50.1±0.8, 5171N±005×17347W±004, h35km±6km, h10km±4.9km: pP-P, n571, σ0°64/565, mb4.6/84, MS4.3/8, 127C-112D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**3.10**	**64**	P	**Pn**	**11 11 35.2**	**-1.2**
NIKO				S	**Sn**	**11 12 11.8**	**-0.5**
AMKA	**Amchitka**	**4.53**	**269**	P	**Pn**	**11 11 54.1**	**-2.0**
UNV	**Unalaska Valle**	**4.74**	**60**	P	**Pn**	**11 11 58.8**	**-0.2**
AKUT	**Akutan**	**5.25**	**59**	P	**Pn**	**11 12 06.8**	**+0.7**
SPIA	**Saint Paul Isl**	**5.79**	**18**	P	**Pn**	**11 12 13.6**	**+0.1**
FALS	**False Pass**	**6.80**	**58**	*e*Pn	**Pn**	**11 12 26.6**	**-0.6**
FALS				*e*Sn	**Sn**	**11 13 42.8**	**-0.6**
SDPT	**Sand Point**	**8.55**	**60**	*e*P	**Pn**	**11 12 52.1**	**+0.8**
CHGN	**Chignik**	**9.98**	**57**	*e*P	**Pn**	**11 13 10.4**	**-0.4**
KDAK	**Kodiak Island**	**13.48**	**55**	Pn	**Pn**	**11 13 56.0**	**-2.6**
	1.2nm,0.3s,baz=161,slow=3.9,SNR=6.5						
KDAK				LR	LR	11 19 27.4	
	comp=Z,687nm,20.0s,baz=247,slow=39						
KDAK	**Kodiak Island**	**13.48**	**55**	*e*Pn	**Pn**	**11 13 55.8**	**-2.8**
SVW2	**Sparrevohn**	**13.61**	**39**	*e*Pn	**Pn**	**11 14 03.7**	**+3.3**
TTA	**Tatalina**	**14.61**	**33**	*e*Pn	**Pn**	**11 14 14.6**	**+0.6**
TTA				*e*P		11 14 18.0	
SLKM	**Skilak Lake**	**15.60**	**47**	*e*P	**Pn**	**11 14 27.3**	**+0.3**
SEW	**Seward**	**15.80**	**49**	*e*Pn	**Pn**	**11 14 27.6**	**-2.0**
RC01	**Rabbit Creek A**	**16.06**	**45

J02A	Umpqua	34.11	84	⇑P	P	11 17 31.4	+0.3
	baz=34						
B08A	Colville Reser	34.27	74	P	P	11 17 32.8	+0.3
	baz=34,SNR=5.9						
H04A	Detroit Lake	34.28	81	⇑P	P	11 17 32.4	-0.2
	baz=34						
A09A	Danville	34.44	72	⇓P	P	11 17 34.3	+0.3
	baz=34,SNR=5.8						
K02A	Glendale	34.48	85	⇓P	P	11 17 34.7	+0.2
	baz=34						
G05A	Wamic	34.54	80	⇑P	P	11 17 35.0	+0.1
	baz=34						
I04A	Tendick Farm,	34.60	83	⇓P	P	11 17 35.6	+0.1
	baz=35						
C08A	Higginbotham F	34.70	74	⇓P	P	11 17 36.5	+0.3
	baz=35						
L02A	Cave Junction	34.75	86	⇓P	P	11 17 36.7	0.0
	baz=35						
HUMO	Hull Mountain	34.90	85	⇓P	P	11 17 38.1	+0.1
	baz=35						
B09A	Rice	34.95	73	⇓P	P	11 17 38.5	+0.1
	baz=35						
HAWA	Hanford	35.06	77	eP	P	11 17 40.0	+0.7
	comp=Z,11nm,0.9s,mb4.8						
J04A	Umpqua Nationa	35.08	83	⇑P	P	11 17 39.6	0.0
	baz=35						
D08A	Wollman Farm,	35.11	76	⇑P	P	11 17 39.7	-0.1
	baz=35						
I05A	Bend	35.12	81	⇓P	P	11 17 40.2	+0.4
	baz=35						
E08A	Dider Farm, El	35.30	76	⇓P	P	11 17 41.6	+0.2
	baz=35						
H06A	Lindquist Farm	35.40	80	⇓P	P	11 17 42.2	0.0
	baz=35						
D09A	Jones Farm, Ri	35.48	75	⇑P	P	11 17 43.1	+0.1
	baz=35						
G07A	Ruggs Ranch, H	35.53	79	⇑P	P	11 17 43.5	+0.1
	baz=36						
YBH	Yreka Blue Hor	35.53	86	eP	P	11 17 45.0	+1.5
YBH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YBH	Yreka Blue Hor	35.53	86	⇑P	P	11 17 44.3	+0.8
	baz=36,SNR=6.3						
YBH	Yreka Blue Hor	35.53	86	eP	P	11 17 45.0	+1.5
	comp=Z,10nm,1.0s,mb4.7						
J05A	Fort Rock	35.60	83	⇑P	P	11 17 44.5	+0.5
	baz=36						
NEW	Newport	35.63	73	eP	P	11 17 44.3	+0.1
NEW				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NEW	Newport	35.63	73	eP	P	11 17 44.3	+0.1
	comp=Z,8.1nm,0.7s,mb4.8						
M02C	Callahan	35.64	86	⇑P	P	11 17 45.0	+0.6
	baz=36						
K04A	Chilquin	35.66	84	⇑P	P	11 17 45.4	+0.8
	baz=36						
N02C	Big Bar	35.68	88	⇓P	P	11 17 45.0	+0.2
	baz=36,SNR=5.0						
EDM	Edmonton	35.72	63	eP	P	11 17 45.5	+0.6
O01C	Eel River Cons	35.76	89	⇓P	P	11 17 46.2	+0.8
	baz=36						
A11A	Hall Mountain,	35.76	71	⇑P	P	11 17 45.6	+0.2
	baz=36,SNR=8.5						
L04A	Klamath Falls	35.80	85	⇑P	P	11 17 46.2	+0.5
	baz=36						
F08A	Pendleton	35.81	77	⇑P	P	11 17 46.0	+0.2
	baz=36						
E09A	Wood Farm, Sta	35.84	76	⇑P	P	11 17 45.5	-0.5
	baz=36						
I06A	Prineville	35.88	81	⇑P	P	11 17 46.5	+0.1
	baz=36						
G08A	Pilot Rock	35.95	78	⇑P	P	11 17 46.9	-0.1
	baz=36						
B11A	Sandpoint	36.00	72	⇑P	P	11 17 47.5	+0.1
	baz=36						
M04C	Macdoel	36.05	85	⇓P	P	11 17 48.1	+0.2
	baz=36,SNR=7.4						
LNOR	Lincton Mounta	36.07	77	eP	P	11 17 48.2	+0.2
D10A	Wagner Farm, O	36.10	75	P	P	11 17 48.2	0.0
	baz=36,SNR=5.3						
K05A	Summer Lake	36.11	83	⇑P	P	11 17 48.9	+0.5
	baz=36,SNR=6.8						
M03C	McCloud	36.16	86	⇓P	P	11 17 49.4	+0.6
	baz=36						
A12A	Yaak River Ran	36.19	71	⇓P	P	11 17 49.1	+0.1
	baz=36						
I07A	Izee	36.24	80	⇑P	P	11 17 49.5	0.0
	baz=36,SNR=6.5						
J06A	Christmas Vall	36.28	82	⇓P	P	11 17 50.3	+0.5
	baz=36,SNR=7.9						
WDC	Whiskeytown Da	36.30	87	eP	P	11 17 51.0	+1.0
WDC				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
WDC	Whiskeytown Da	36.30	87	⇓P	P	11 17 50.3	+0.3
	baz=36,SNR=5.6						
WDC	Whiskeytown Da	36.30	87	eP	P	11 17 51.0	+1.0
	comp=Z,13nm,1.0s,mb4.8						
O02C	Red Bluff	36.38	88	⇑P	P	11 17 51.2	+0.5
	baz=36,SNR=9.7						
F09A	S2 Ranch, Elgi	36.38	77	⇑P	P	11 17 51.0	+0.3
	baz=36						
P01C	Double 8 Ranch	36.45	89	⇓P	P	11 17 51.8	+0.5
	baz=36						
K06A	Valley Falls	36.47	83	⇑P	P	11 17 52.0	+0.6
	baz=36,SNR=5.0						
E10A	Myers Farm, Un	36.48	75	⇓P	P	11 17 51.3	-0.2
	baz=36						
L05A	Lakeview	36.52	84	⇑P	P	11 17 52.5	+0.6
	baz=36,SNR=7.5						
H08A	Prairie City	36.52	79	⇓P	P	11 17 51.9	0.0
	baz=36						
F10A	Beach Ranch, E	36.66	76	⇓P	P	11 17 52.9	-0.2
	baz=37						
D11A	Klaveano Farm,	36.67	74	⇓P	P	11 17 52.7	-0.4
	baz=37						
G09A	Cove	36.68	78	⇑P	P	11 17 53.2	0.0
	baz=37						
M05C	Lookout	36.72	85	⇑P	P	11 17 54.0	+0.5
	baz=37,SNR=11						
GASB	Alder Springs	36.73	89	⇓P	P	11 17 54.4	+0.7
	baz=37						
J07A	Hines	36.74	81	⇑P	P	11 17 54.2	+0.5
	baz=37						
HATC	Hat Creek Radi	36.83	86	⇑P	P	11 17 55.0	+0.5
	baz=37,SNR=6.1						
I08A	Drewsey	36.91	80	⇓P	P	11 17 55.5	+0.3
	baz=37,SNR=10						
A13A	Flathead Natio	36.92	70	⇑P	P	11 17 55.7	+0.5
	baz=37						
MOD	Modoc	36.93	84	⇑P	P	11 17 55.5	+0.1
	baz=37,SNR=8.5						
MOD	Modoc	36.93	84	eP	P	11 17 56.4	+0.9
O03C	Acorn Hollow,	36.95	88	⇑P	P	11 17 55.9	+0.3
	baz=37						
H09A	Durkee	37.06	78	⇑P	P	11 17 56.3	-0.2
	baz=37						
G10A	Bishop Farm, J	37.07	77	⇑P	P	11 17 56.1	-0.4
	baz=37,SNR=12						
E11A	Bogner Ranch,	37.08	75	⇓P	P	11 17 56.5	-0.2
	baz=37						
MJAR	Matsushiro Arr	37.13	265	P	P	11 17 56.0	-1.1
	comp=Z,0.6nm,0.3s,mb3.9,baz=349,slow=13,SNR=4.2						
MJAR	Matsushiro Arr	37.13	265	P	P	11 17 56.0	-1.1
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
B13A	Whitefish	37.15	71	⇑P	P	11 17 57.2	+0.1
	baz=37						
K07A	Rock Creek Ran	37.15	82	⇑P	P	11 17 57.6	+0.3
	baz=37						
WALA	Waterton Lakes	37.15	70	eP	P	11 17 58.2	+1.0
	comp=Z,9.1nm,1.1s,mb4.5						
BMO	Blue Mountains	37.18	78	eP	P	11 17 58.0	+0.4
M06C	Likely Place G	37.22	85	⇓P	P	11 17 58.3	+0.4
	baz=37,SNR=5.1						
D12A	Red Ives Fores	37.25	74	⇑P	P	11 17 58.2	+0.1
	baz=37						
J08A	Circle Bar Ran	37.26	81	⇑P	P	11 17 58.2	+0.1
	baz=37,SNR=7.9						
O04C	Chester	37.35	87	⇓P	P	11 17 59.0	+0.1
	baz=37,SNR=8.5						
F11A	Grangeville	37.35	76	⇑P	P	11 17 58.6	-0.3
	baz=37						
MNRC	McLaughlin Nat	37.36	90	⇓P	P	11 17 59.3	+0.2
	baz=37						
I09A	Lost Marbles R	37.38	79	⇓P	P	11 17 58.9	-0.3
	baz=37						
ELFS	Eagle Lake Fie	37.40	86	⇓P	P	11 18 00.3	+0.9
	baz=37,SNR=6.6						
C13A	Hot Springs	37.41	72	⇓P	P	11 17 59.0	-0.4
	baz=37						
L07A	Adell	37.46	83	⇑P	P	11 17 59.9	-0.1
	baz=37						
G11A	Walters Elk Ra	37.53	76	⇓P	P	11 18 00.1	-0.3
	baz=38						
MCCM	Marconi Confer	37.53	91	⇓P	P	11 17 59.8	-0.8
	baz=38						
ORV	Oroville	37.54	88	P	P	11 18 00.4	-0.3
	baz=38,SNR=6.2						
SUTB	Sutter Butte	37.56	89	⇑P	P	11 18 00.3	-0.4
	baz=38						
K08A	Mann Creek Ran	37.59	82	⇓P	P	11 18 01.2	+0.2
	baz=38,SNR=8.0						
H10A	Noah's Angus R	37.66	78	⇑P	P	11 18 01.6	+0.1
	baz=38,SNR=15						
O05C	Quincy	37.66	87	⇓P	P	11 18 01.6	-0.1
	baz=38						
WVOR	Wild Horse Val	37.66	82	eP	P	11 18 01.8	+0.2
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
WVOR	Wild Horse Val	37.66	82	eP	P	11 18 01.8	+0.2
	comp=Z,8.9nm,1.0s,mb4.5						
CVS	Carmenet Viney	37.67	90	⇓P	P	11 18 02.1	+0.3
	baz=38						
OHCM	Honcut	37.68	88	eP	P	11 18 01.5	-0.3
J09A	Fry Pan Ranch,	37.71	80	⇓P	P	11 18 01.9	-0.1
	baz=38,SNR=7.0						
D13A	Huson	37.77	73	⇓P	P	11 18 01.7	-0.7
	baz=38						
N06A	Buffalo Meadow	37.88	85	⇑P	P	11 18 03.7	+0.3
	baz=38,SNR=14						
M07A	Soldier Meadow	37.92	84	P	P	11 18 04.6	+0.8
	baz=38,SNR=17						
F12A	Elk City	37.96	75	P	P	11 18 04.0	-0.1
	baz=38,SNR=11						
L08A	Fields	37.98	82	⇑P	P	11 18 04.6	+0.3
	baz=38,SNR=6.9						
H11A	Donnelly	38.05	77	P	P	11 18 05.1	+0.3
	baz=38,SNR=5.3						
Q04C	Lincoln	38.05	89	⇓P	P	11 18 05.0	+0.1
	baz=38						
BEKR	Beckwourth	38.07	87	⇓P	P	11 18 04.9	-0.2
	baz=38,SNR=5.8						
K09A	Rome	38.08	81	⇑P	P	11 18 04.7	-0.4
	baz=38						
MSO	Missoula	38.21	73	eP	P	11 18 06.2	0.0
O06A	Flanigan	38.22	86	⇑P	P	11 18 06.5	+0.2
	baz=38,SNR=5.4						
P05C	Yuba Gap, Truc	38.25	88	P	P	11 18 06.7	+0.2
	baz=38,SNR=9.4						
D14A	Greenough	38.34	73	P	P	11 18 07.2	0.0
	baz=38,SNR=8.9						
M08A	Happy Creek Ra	38.38	83	⇓P	P	11 18 07.9	+0.3
	baz=38,SNR=5.2						
JRSC	Jasper Ridge	38.39	91	⇑P	P	11 18 07.8	-0.1
	baz=38						
N07B	Gerlach	38.40	84	P	P	11 18 08.3	+0.5
	baz=38,SNR=12						
P06A	Stead Airport,	38.47	87	⇑P	P	11 18 08.7	+0.3
	baz=38						
L09A	Wilkinson Ranc	38.49	82	⇓P	P	11 18 08.5	-0.1
	baz=38						
LAVA	Lava Cap Winer	38.49	88	P	P	11 18 08.7	0.0
	baz=38,SNR=6.9						
I11A	Placerville	38.50	78	P	P	11 18 08.5	-0.1
	baz=38,SNR=9.0						
WENL	Wente Brothers	38.56	91	⇓P	P	11 18 09.5	+0.3
	baz=38						
K10A	MacKenzie Ranc	38.56	80	P	P	11 18 09.6	+0.5
	baz=38,SNR=7.0						
CHMT	Chamberlain Mo	38.57	73	eP	P	11 18 09.1	-0.1
PAHR	Pah Rah Range	38.77	86	eP	P	11 18 11.4	+0.5
	comp=Z,26nm,1.1s,mb4.9						
WCN	Washoe City	38.78	87	P	P	11 18 11.7	+0.7
	baz=39,SNR=13						
O07A	Toulon	38.81	85	P	P	11 18 12.0	+0.7
	baz=39,SNR=15						
H12A	Diamond D Ranc	38.83	77	P	P	11 18 11.4	0.0
	baz=39,SNR=5.5						
MFID	Camas Ranch	38.85	79	⇓P	P	11 18 11.6	0.0
	baz=39						
S04C	Ingram Canyon,	38.90	90	⇑P	P	11 18 12.2	+0.2
	baz=39						
N08A	GE Springer Mi	38.91	84	P	P	11 18 12.4	+0.3
	baz=39,SNR=8.3						
G13A	Cobalt	38.92	76	P	P	11 18 12.3	+0.2
	baz=39,SNR=7.6						
R05C	Kirkwood Meado	38.94	88	⇑P	P	11 18 12.6	+0.2
	baz=39						
D15A	Lincoln	38.94	72	P	P	11 18 12.5	+0.2
	baz=39,SNR=6.4						
F14A	Wisdom	39.06	74	⇑P	P	11 18 13.1	-0.2
	baz=39,SNR=6.9						
K11A	Parker Ranch,	39.08	80	⇓P	P	11 18 13.2	-0.3
	baz=39						
CMB	Columbia Colle	39.15	89	⇓P	P	11 18 14.1	-0.1
	baz=39,SNR=7.0						
CMB	Columbia Colle	39.15	89	eP	P	11 18 14.8	+0.6
E15A	Deer Lodge	39.18	73	P	P	11 18 14.4	+0.1
	baz=39,SNR=6.0						
H13A	Challis	39.19	76	⇑P	P	11 18 14.3	-0.1
	baz=39						
L10A	Juniper Basin	39.20	81	⇑P	P	11 18 14.3	-0.2
	baz=39						
PACP	Pacheco Peak	39.23	91	⇑P	P	11 18 14.8	-0.1
	baz=39						
N09A	Rock Creek Ran	39.25	83	⇓P	P	11 18 15.0	0.0
	baz=39						
SAO	San Andreas Ge	39.28	91	eP	P	11 18 15.3	0.0
G14A	Jackson	39.31	75	⇓P	P	11 18 15.4	0.0
	baz=39						
R06C	Coleville	39.44	88	⇑P	P	11 18 17.2	+0.7
	baz=39,SNR=15						
HAST	Hastings Reser	39.46	92	P	P	11 18 17.0	+0.2
	baz=39,SNR=9.5						
M10A	I.L. Ranch, Tu	39.47	82	⇓P	P	11 18 17.1	+0.3
	baz=39						
HRY	Holter Researc	39.52	72	eP	P	11 18 17.8	+0.7
F15A	Butte	39.57	74	⇓P	P	11 18 17.7	+0.2
	baz=40						
S06C	San Francisco	39.58	89	P	P	11 18 18.0	+0.3
	baz=40,SNR=30						
P08A	Dixie Valley	39.58	85	⇓P	P	11 18 18.4	+0.7
	baz=40						
Q07A	Schurz	39.59	87	⇑P	P	11 18 18.3	+0.5
	baz=40						
L11A	Cat Creek Ranc	39.59	80	P	P	11 18 18.1	+0.4
	baz=40,SNR=10						
LRM	Limekiln Ridge	39.61	74	eP	P	11 18 18.1	+0.2
S05C	Merced	39.62	90	P	P	11 18 18.1	0.0
	baz=40,SNR=8.1						
I13A	Wildhorse Cree	39.62	77	⇓P	P	11 18 17.9	-0.1
	baz=40						
HLID	Hailey	39.63	78	P	P	11 18 18.2	+0.2
	baz=40,SNR=11						
HLID	Hailey	39.63	78	eP	P	11 18 18.2	+0.1
DLMT	Dillon	39.76	74	eP	P	11 18 19.6	+0.4
K12A	Draper Farm, C	39.85	79	P	P	11 18 20.5	+0.6
	baz=40,SNR=6.8						
O09A	Fish Creek Ran	39.85	84	⇑P	P	11 18 20.3	+0.3
	baz=40,SNR=7.1						
J13A	Cove Ranch, Pi	39.87	78	⇓P	P	11 18 20.2	+0.2
	baz=40,SNR=15						
V03C	Hunter Liggett	39.89	92	⇓P	P	11 18 20.5	+0.2
	baz=40,SNR=7.6						
MCMT	McKenzie Canyo	39.89	75	eP	P	11 18 19.9	-0.4
G15A	Dillon	39.93	75	P	P	11 18 20.5	0.0
	baz=40,SNR=7.9						
U04C	Hernandez Rese	39.95	91	⇑P	P	11 18 21.2	+0.3
	baz=40,SNR=13						
R07C	Lee Vining	39.95	88	⇑P	P	11 18 21.1	+0.3
	baz=40						
M11A	Holland Ranch,	39.98	81	⇓P	P	11 18 21.2	+0.2
	baz=40						
L12A	House Creek Ra	40.05	80	P	P	11 18 22.2	+0.6
	baz=40,SNR=12						
EGMT	Eagleton	40.08	69	P	P	11 18 22.0	+0.3
	baz=40,SNR=7.5						
EGMT	Eagleton	40.08	69	eP	P	11 18 22.0	+0.3
	comp=Z,14nm,0.9s,mb4.7						
Q08A	Gabbs	40.18	86	⇓P	P	11 18 22.8	+0.2
	baz=40						
BOZ	Bozeman (W)	40.19	73	P	P	11 18 22.7	0.0
	baz=40,SNR=12						
BOZ	Bozeman (W)	40.19	73	eP	P	11 18 22.6	0.0
NVAR	Mina Array Bea	40.21	87	P	P	11 18 23.3	+0.3
	comp=Z,6.2nm,0.9s,mb4.4,baz=293,slow=8.5,SNR=51						
NVAR				PcP	PcP	11 20 26.2	-0.2
	comp=Z,0.6nm,0.8s,baz=270,slow=1.8,SNR=2.9						
NVAR	Mina Array Bea	40.21	87	P	P	11 18 23.3	+0.3
NVAR				PcP	PcP	11 20 26.2	-0.2
O10A	Cortez Mining,	40.21	83	⇑P	P	11 18 22.8	-0.1
	baz=40						
T06C	Milleton Lake	40.21	90	P	P	11 18 23.0	0.0
	baz=40,SNR=12						
P09A	Austin	40.25	85	⇓P	P	11 18 23.5	+0.2
	baz=40,SNR=5.4						
KCC	Kaiser Creek	40.26	89	⇑P	P	11 18 23.6	+0.2
	baz=40,SNR=15						
K13A	Stover Farm, H	40.34	79	⇑P	P	11 18 24.1	+0.1
	baz=40						
V04C	Ramage Ranch,	40.36	92	⇓P	P	11 18 24.0	-0.3
	baz=40						
PKD	Parkfield	40.37	92	⇓P	P	11 18 24.0	-0.3
	baz=40,SNR=6.7						
BOD	Bodaibo	40.42	308	eP	P	11 18 17.2	-7.3
M12A	Wells	40.53	81	⇓P	P	11 18 25.6	0.0
	baz=40						
P10A	Eureka	40.63	84	⇑P	P	11 18 26.4	0.0
	baz=41						
Q09A	Carvers	40.66	86	⇓P	P	11 18 27.2	+0.5
	baz=41						
MTUM	Tungsten Hills	40.71	88	eP	P	11 18 27.8	+0.7
MTUM				eScP	ScP	11 24 15.5	+0.9
ELK	Elko	40.72	82	eP	P	11 18 27.7	+0.5
CN2	Changchun	40.73	284	eP	P	11 18 24.8	-2.4
L13A	Double Diamond	40.74	79	⇓P	P	11 18 27.6	+0.3
	baz=41,SNR=10.0						
N12A	Clover Valley,	40.78	82	⇓P	P	11 18 27.7	0.0
	baz=41,SNR=11						
V05C	Boulder Hill,	40.82	91	⇑P	P	11 18 28.1	+0.1
	baz=41						
O11A	Cowboy Ranch,	40.82	83	⇓P	P	11 18 28.0	0.0
	baz=41,SNR=5.6						
HELL	Mitchell Peak	40.85	90	P	P	11 18 28.0	-0.3
	baz=41,SNR=35						
S08C	White Mtn Res	40.86	88	⇑P	P	11 18 28.7	+0.3
	baz=41,SNR=16						
RCTC	Rector, Farmer	40.95	90	⇑P	P	11 18 29.3	+0.2
	baz=41						
R09A	Tonopah	41.09	86	P	P	11 18 30.4	+0.1
	baz=41,SNR=23						
TPH	Tonopah	41.10	87	eP	P	11 18 30.4	+0.1
TPH				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
TPH	Tonopah	41.10	87	eP	P	11 18 30.4	+0.1
	comp=Z,14nm,1.0s,mb4.5						
TIN	Tinemaha	41.10	89	⇓P	P	11 18 31.0	+0.7
	baz=41						
P11A	Circle Ranch,	41.11	84	⇓P	P	11 18 30.1	-0.2
	baz=41						
SMMC	Simmler	41.12	92	⇓P	P	11 18 30.8	+0.3
	baz=41						
Q10A	Clear Creek Ra	41.15	85	P	P	11 18 31.6	+1.0
	baz=41,SNR=6.5						
L14A	Malta	41.20	79	⇑P	P	11 18 31.4	+0.3
	baz=41,SNR=9.8						
O12A	Currie	41.31	82	P	P	11 18 32.1	+0.1
	baz=41,SNR=21						
S09A	Goldfield	41.31	87	⇑P	P	11 18 31.8	-0.2
	baz=41,SNR=15						
VES	Vestal, Richgr	41.35	91	P	P	11 18 32.2	-0.1
	baz=41,SNR=6.1						
M14A	Sheep Mountain	41.44	80	⇑P	P	11 18 33.1	0.0
	baz=41,SNR=6.2						
PKM	Peak Mountain	41.50	92	⇑P	P	11 18 33.5	-0.1
	baz=42						
R10A	Warm Springs	41.54	86	⇑P	P	11 18 34.0	+0.2
	baz=42,SNR=16						
IMW	Indian Meadow	41.55	75	eP	P	11 18 34.7	+0.8
S10A	Tonopah Range,	41.58	86	⇓P	P	11 18 33.8	-0.5
	baz=42,SNR=28						
CWC	Cottonwood Cre	41.59	89	P	P	11 18 34.5	+0.2
	baz=42,SNR=8.8						
Q11A	Duckwater	41.60	85	P	P	11 18 34.5	+0.1
	baz=42,SNR=15						
RRI2	Red Ridge	41.63	76	eP	P	11 18 35.5	+1.0
	comp=Z,14nm,1.0s,mb4.5						
GRAC	Grapevine Rang	41.67	88	⇑P	P	11 18 35.2	+0.2
	baz=42,SNR=6.3						
P12A	McGill	41.68	83	⇓P	P	11 18 35.2	+0.1
	baz=42,SNR=15						
L15A	Malad City	41.74	79	⇓P	P	11 18 35.6	+0.1
	baz=42						
MOOW	Moose Ponds	41.75	75	eP	P	11 18 36.5	+0.9
	comp=Z,40nm,2.6s,mb4.6						
K16A	Soda Springs	41.75	77	⇑P	P	11 18 36.0	+0.4
	baz=42,SNR=19						
TPAW	Teton Pass	41.77	76	eP	P	11 18 36.7	+1.0
ISA	Isabella	41.84	90	eP	P	11 18 35.8	-0.6
ISA				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
ISA	Isabella	41.84	90	P	P	11 18 35.8	-0.5
	baz=42,SNR=23						
ISA	Isabella	41.84	90	eP	P	11 18 35.8	-0.6
	comp=Z,14nm,1.0s,mb4.6						
RLMT	Red Lodge	41.88	73	eP	P	11 18 37.2	+0.7
	comp=Z,14nm,1.0s,mb4.5						
REDW	Red Top Meadow	41.90	76	eP	P	11 18 37.5	+0.7
LOHW	Long Hollow	41.91	75	eP	P	11 18 37.3	+0.5
N14A	Grayback Hills	41.92	80	⇓P	P	11 18 36.8	-0.2
	baz=42,SNR=7.7						
R11A	Troy Canyon, C	41.94	85	P	P	11 18 37.2	0.0
	baz=42,SNR=23						
ARVC	Arvin	41.96	91	⇑P	P	11 18 37.2	-0.2
	baz=42						
Q12A	Willow Creek R	41.99	84	P	P	11 18 38.2	+0.7
	baz=42,SNR=10						
M15A	Larsen Ranch,	42.02	79	⇑P	P	11 18 37.6	-0.1
	baz=42						
MPMC	Manual Prospec	42.20	89	⇓P	P	11 18 39.2	-0.1
	baz=42,SNR=10.0						
P13A	Bates Ranch, G	42.24	83	P	P	11 18 39.6	0.0
	baz=42,SNR=15						
S11A	Rachel	42.28	86	⇑P	P	11 18 40.0	0.0
	baz=42,SNR=8.7						
N15A	Stansbury Isla	42.31	80	⇑P	P	11 18 40.3	+0.1
	baz=42						
L16A	Fish Haven	42.32	78	⇑P	P	11 18 40.5	+0.3
	baz=42						
FURC	Furnace Creek,	42.33	88	P	P	11 18 40.5	+0.1
	baz=42,SNR=24						
TPNV	Topopah Spring	42.40	87	eP	P	11 18 41.0	0.0
TPNV				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.8						
TPNV	Topopah Spring	42.40	87	P	P	11 18 41.1	+0.2
	baz=42,SNR=37						
TPNV	Topopah Spring	42.40	87	eP	P	11 18 41.0	0.0
	comp=Z,19nm,0.8s,mb4.8						
LRMC	Laurel Mountai	42.45	90	⇓P	P	11 18 40.9	-0.4
	baz=42						
BLG	Laguna Peak	42.48	93	⇓P	P	11 18 41.1	-0.

PDAR **Pinedale Array** 43.02 76 P P 11 18 45.4 -0.5
comp=Z,10nm,1.0s,mb4.5,baz=305,slow=3.9,SNR=52
MWC **Mount Wilson** 43.03 92 eP P 11 18 46.2 +0.1
MWC pmax pmax
comp=Z,28nm,1.2s,mb4.9
MWC **Mount Wilson** 43.03 92 eP P 11 18 46.2 +0.1
comp=Z,28nm,1.2s,mb4.9
R13A **O'Grain Ranch,** 43.05 84 ⇓P P 11 18 46.1 -0.1
baz=43,SNR=8.6
SHOC **Shoshone** 43.05 88 P P 11 18 46.2 0.0
baz=43,SNR=13
GSC **Goldstone** 43.11 89 ⇓P P 11 18 46.3 -0.4
baz=43,SNR=35
GSC **Goldstone** 43.11 89 eP P 11 18 46.5 -0.2
JLU **Jordanelle** 43.13 80 eP P 11 18 47.3 +0.5
NLU **North Lily Min** 43.14 81 eP P 11 18 47.4 +0.5
BFSC **Mount Baldy St** 43.27 91 ⇑P P 11 18 47.7 -0.3
baz=43,SNR=18
N17A **Moffit Pass** 43.31 79 ⇓P P 11 18 48.1 -0.1
baz=43
O16A **Springville** 43.34 80 ⇓P P 11 18 48.6 +0.1
baz=43,SNR=8.6
SHPR **Sheep Range** 43.36 87 eP P 11 18 48.8 +0.1
CIS **Catalina Islan** 43.36 93 ⇑P P 11 18 48.0 -0.8
baz=43
DAU **Daniels Canyon** 43.36 80 eP P 11 18 49.6 +0.9
MPU **Maple Canyon** 43.37 80 eP P 11 18 49.2 +0.5
S13A **Holt Ranch, En** 43.49 85 ⇓P P 11 18 49.4 -0.3
baz=43,SNR=32
T12A **Moapa** 43.50 86 ⇑P P 11 18 49.5 -0.3
baz=43
Q15A **Fillmore** 43.53 82 P P 11 18 50.1 0.0
baz=44,SNR=9.2
SCI **San Clemente I** 43.56 93 ⇓P P 11 18 50.3 0.0
baz=44
TUQ **Turquoise Mtn.** 43.57 89 ⇑P P 11 18 50.0 -0.4
baz=44,SNR=7.9
V11A **Goodsprings** 43.62 88 ⇑P P 11 18 50.7 -0.1
baz=44,SNR=8.0
ARUT **Antelope Range** 43.62 84 eP P 11 18 50.7 -0.1
HEC **Hector,Ludlow** 43.71 90 ⇑P P 11 18 51.2 -0.3
baz=44
BBRC **Big Bear Sol-O** 43.72 91 ⇑P P 11 18 51.4 -0.2
baz=44,SNR=7.9
U12A **Valley of Fire** 43.79 87 ⇑P P 11 18 52.2 0.0
baz=44
S14A **Cedar City** 43.80 84 ⇓P P 11 18 52.2 -0.1
baz=44
T13A **Saint George** 43.81 85 ⇓P P 11 18 52.3 -0.1
baz=44,SNR=12
CCUT **Cedar City** 43.82 84 eP P 11 18 56.3 +3.9
MSU **Marysvale** 43.95 82 eP P 11 18 54.1 +0.6
MURC **Murrieta** 43.98 92 ⇑P P 11 18 53.6 -0.1
baz=44
V12A **Nelson** 44.05 88 ⇓P P 11 18 54.2 -0.1
baz=44,SNR=9.5
TMUT **Trail Mountain** 44.07 81 eP P 11 18 55.2 +0.8
R15A **Junction** 44.08 83 ⇑P P 11 18 54.9 +0.4
baz=44,SNR=8.6
U13A **Pakoon Wash** 44.16 86 P P 11 18 55.5 +0.3
baz=44,SNR=32
GMRC **Granite Mounta** 44.16 89 P P 11 18 55.0 -0.2
baz=44,SNR=10
T14A **Hurricane** 44.30 85 ⇓P P 11 18 56.1 -0.1
baz=44,SNR=16
LDFC **Landfair** 44.31 88 eP P 11 18 56.1 -0.2
W12A **Cal Nev Ari** 44.31 88 ⇑P P 11 18 56.1 -0.3
baz=44
Q16A **Castle Valley** 44.32 81 ⇑P P 11 18 56.4 0.0
baz=44,SNR=7.5
PFO **Pinyon Flat Ob** 44.44 91 eP P 11 18 56.6 -0.8
PFO pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
PFO **Pinyon Flat Ob** 44.44 91 P P 11 18 56.9 -0.6
baz=44,SNR=8.2
PFO **Pinyon Flat Ob** 44.44 91 eP P 11 18 56.6 -0.8
comp=Z,9.2nm,1.0s,mb4.5
BELC **Belle Mtn.** 44.46 90 P P 11 18 57.0 -0.6
baz=44,SNR=10.0
V13A **Grand Canyon W** 44.51 87 ⇑P P 11 18 57.7 -0.2
baz=44
109C **Camp Elliot, M** 44.52 92 ⇓P P 11 18 57.9 -0.2
baz=44
SRU **San Rafael** 44.60 81 P P 11 18 58.7 +0.1
baz=44,SNR=13
SRU **San Rafael** 44.60 81 eP P 11 18 58.9 +0.3
U14A **Mt Trumbull** 44.64 86 P P 11 18 59.4 +0.4
baz=45,SNR=11
T15A **Red Dirt Ranch** 44.76 84 ⇓P P 11 18 59.9 0.0
baz=45,SNR=10
Q18A **Rafter H Ranch** 44.85 80 P P 11 19 00.4 -0.2
baz=45,SNR=14
IRM **Iron Mountain** 44.88 89 P P 11 19 00.5 -0.4
baz=45,SNR=10
R17A **Hanksville Air** 44.91 82 ⇑P P 11 19 01.0 -0.1
baz=45,SNR=11
BAR **Barrett** 44.92 92 eP P 11 19 00.8 -0.5
MONP **Monument Peak** 44.94 92 P P 11 19 01.3 -0.1
baz=45,SNR=12
BC3 **Big Chuckw Mtn** 45.03 90 P P 11 19 01.6 -0.5
baz=45,SNR=6.0
W13A **Hualapai Mount** 45.06 87 P P 11 19 02.1 -0.2
baz=45,SNR=12
U15A **North Rim** 45.19 85 ⇑P P 11 19 03.4 0.0
baz=45,SNR=26
V14A **Boquillas Ranc** 45.19 86 P P 11 19 03.6 +0.2
baz=45,SNR=13
DVTC **Desert V Tower** 45.29 92 P P 11 19 04.3 0.0
baz=45,SNR=6.6
SWSC **Sam W. Stewart** 45.29 91 ⇑P P 11 19 03.6 -0.7
baz=45
PDMCI **Parker Dam,Lak** 45.42 89 P P 11 19 05.0 -0.2
baz=45,SNR=5.8
X13A **Yucca** 45.42 88 ⇑P P 11 19 04.3 -0.9
baz=45,SNR=8.4
R18A **Canyonlands Na** 45.44 81 P P 11 19 04.7 -0.6
baz=45,SNR=5.3
Q19A **Hogan Spring (** 45.47 80 ⇑P P 11 19 04.4 -1.1
baz=45
W14A **Seligman** 45.48 87 P P 11 19 05.5 -0.2
baz=45,SNR=13
RSSD **Black Hills** 45.53 71 eP P 11 19 05.9 -0.1
Y12C **Blythe** 45.55 89 ⇑P P 11 19 05.5 -0.7
baz=46,SNR=8.3
V15A **Kaibab Nationa** 45.65 85 ⇓P P 11 19 06.7 -0.3
baz=46,SNR=20
S18A **Hurst Farm, Bl** 45.81 82 ⇓P P 11 19 07.3 -1.0
baz=46,SNR=13
GLA **Glamis** 45.82 90 eP P 11 19 07.9 -0.5
GLA pmax pmax
comp=Z,14nm,0.9s,mb4.9
GLA **Glamis** 45.82 90 ⇑P P 11 19 07.6 -0.8
baz=46,SNR=11
GLA **Glamis** 45.82 90 eP P 11 19 07.9 -0.5
comp=Z,14nm,0.9s,mb4.9
R19A **Curley Farm, L** 45.88 81 ⇑P P 11 19 08.0 -0.9
baz=46
Y13A **Salome** 45.94 89 P P 11 19 09.2 -0.1
baz=46,SNR=6.7
W15A **Williams** 46.01 86 ⇑P P 11 19 09.5 -0.3
baz=46,SNR=9.1
X14A **Yava** 46.09 87 ⇑P P 11 19 10.0 -0.4
baz=46,SNR=11
U17A **Shonto** 46.09 84 ⇑P P 11 19 09.6 -0.8
baz=46
U16A **Tuba City** 46.09 84 ⇓P P 11 19 09.8 -0.7
baz=46
T18A **Mexican Hat** 46.23 82 ⇑P P 11 19 10.2 -1.4
baz=46,SNR=16
S19A **Harvey Farm, M** 46.30 81 ⇑P P 11 19 11.0 -1.1
baz=46,SNR=13
WUAZ **Wupatki** 46.34 85 ⇓P P 11 19 12.4 -0.1
baz=46,SNR=11
WUAZ **Wupatki** 46.34 85 eP P 11 19 12.9 +0.4
Y14A **Wickenburg** 46.37 88 ⇑P P 11 19 11.9 -0.8
baz=46,SNR=12
X15A **Humboldt** 46.48 87 ⇓P P 11 19 13.3 -0.3
baz=46,SNR=12
W16A **Flagstaff** 46.52 86 ⇑P P 11 19 13.8 -0.1
baz=46,SNR=9.1
113A **Mohawk Valley,** 46.67 90 ⇑P P 11 19 13.8 -1.3
baz=47
ULM **Lac du Bonnet** 46.68 60 P P 11 19 13.3 -1.6
comp=Z,6.0nm,0.7s,mb4.6,baz=292,slow=9.1,SNR=4.4
U18A **Rough Rock, Ch** 46.69 83 ⇓P P 11 19 15.1 -0.1
baz=47
Y15A **Casa Rosa Ranc** 46.77 87 P P 11 19 15.6 -0.3
baz=47,SNR=12
Z14A **Wintersburg** 46.78 89 ⇓P P 11 19 15.3 -0.7
baz=47
X16A **Lo Mia Camp, P** 47.02 86 ⇓P P 11 19 17.6 -0.2
baz=47,SNR=9.3
MVCO **Mesa Verde** 47.03 81 ⇑P P 11 19 17.2 -0.6
baz=47
MVCO **Mesa Verde** 47.03 81 eP P 11 19 17.7 -0.2
comp=Z,17nm,1.5s,mb4.8
V18A **Ganado** 47.11 84 ⇑P P 11 19 18.0 -0.5
baz=47,SNR=6.7
ISCO **Idaho Springs** 47.17 77 eP P 11 19 18.8 -0.1
ISCO pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
ISCO **Idaho Springs** 47.17 77 eP P 11 19 18.8 -0.1
comp=Z,4.9nm,1.2s,mb4.3
Y16A **Circle Bar Ran** 47.35 87 ⇓P P 11 19 20.3 -0.1
baz=47
X17A **Forest Lakes** 47.47 86 ⇓P P 11 19 21.5 +0.2
baz=47
W18A **Petrified Fore** 47.62 84 ⇑P P 11 19 22.2 -0.2
baz=48
AGMN **Agassiz Refuge** 47.79 62 eP P 11 19 23.1 -0.5
comp=Z,8.4nm,0.9s,mb4.8
214A **Organ Pipe Nat** 47.82 90 ⇓P P 11 19 23.2 -0.8
baz=48,SNR=7.6
W19A **Sanders** 47.84 84 ⇓P P 11 19 23.9 -0.2
baz=48
Y17A **Roosevelt** 47.87 87 P P 11 19 24.3 -0.1
baz=48,SNR=12
X18A **Snowflake** 47.87 85 ⇓P P 11 19 24.2 -0.2
baz=48
116A **Eloy** 48.09 88 ⇓P P 11 19 25.7 -0.4
baz=48
Y18A **Canyon Day Jun** 48.32 86 ⇑P P 11 19 27.5 -0.3
baz=48,SNR=8.0
X19A **St. Johns** 48.35 85 ⇑P P 11 19 27.6 -0.5
baz=48,SNR=5.4
Z17A **San Carlos Hig** 48.37 87 ⇑P P 11 19 27.9 -0.3
baz=48
SDCO **Great Sand Dun** 48.53 79 eP P 11 19 29.5 +0.1
comp=Z,8.6nm,1.0s,mb4.7
BJI **Beijing** 48.53 285 P P 11 19 27.9 -1.5
BJI AMB AMB
comp=Z,5.0nm,0.6s,mb4.7
Y19A **Nutrioso** 48.68 85 ⇑P P 11 19 30.7 +0.1
baz=49
117A **Oracle** 48.69 88 ⇑P P 11 19 30.1 -0.7
baz=49,SNR=8.2
Z18A **Geronimo** 48.78 87 ⇑P P 11 19 31.6 +0.2
baz=49
TUC **Tucson** 48.84 88 eP P 11 19 31.5 -0.4
TUC pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TUC **Tucson** 48.84 88 eP P 11 19 31.5 -0.3
comp=Z,9.1nm,1.0s,mb4.8
118A **Homack Ranch,** 49.12 87 ⇓P P 11 19 33.4 -0.7
baz=49
217A **Green Valley** 49.18 89 ⇓P P 11 19 34.1 -0.4
baz=49
SONM **Songino Array** 49.44 299 P P 11 19 36.7 +0.5
comp=Z,1.0nm,0.5s,mb4.1,baz=53,slow=6.9,SNR=5.6
SONM **Songino Array** 49.44 299 P P 11 19 36.7 +0.5
SONM pmax pmax
comp=Z,1.0nm,0.5s
119A **Ashpeak Ranch,** 49.45 86 ⇓P P 11 19 36.1 -0.4
baz=49,SNR=8.9
218A **Dragoon** 49.52 88 P P 11 19 36.9 -0.3
baz=50,SNR=14
LAZ **Ladron** 49.70 83 eP P 11 19 38.9 +0.5
ANMO **Albuquerque** 49.75 82 eP P 11 19 38.4 -0.4
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO **Albuquerque** 49.75 82 eP P 11 19 38.4 -0.5
comp=Z,6.2nm,1.3s,mb4.5
318A **Bisbee** 49.92 88 P P 11 19 39.7 -0.4
baz=50,SNR=9.0
219A **White Tail Can** 50.00 87 P P 11 19 40.5 -0.2
baz=50,SNR=8.0
ECSD **EROS,Sioux Fal** 50.07 67 eP P 11 19 40.1 -1.1
comp=Z,6.8nm,1.0s,mb4.6
BNM **Barren Site** 50.18 83 eP P 11 19 42.0 -0.1
EYMN **Ely** 50.36 60 eP P 11 19 43.4 +0.1
comp=Z,1.8nm,0.4s,mb4.5
319A **Douglas** 50.41 88 ⇓P P 11 19 43.2 -0.6
baz=50
HHC **Hu-ho-hao-te** 50.77 289 eP P 11 19 44.5 -1.9
HHC XP sP 11 19 49.9 -11
HHC PCP PcP 11 21 03.0 0.0
HHC PP PP 11 21 41.1 -1.4
HHC S S 11 26 57.4 -2.0
HHC PS 11 27 09.3
HHC SCS ScS 11 29 30.8 -3.3
HHC SS SS 11 30 29.1 -4.6
HHC AMB AMB
comp=Z,18nm,0.4s,mb5.3
HHC LR LR
comp=N,563nm,17.8s,MS4.7
HHC LR LR
comp=E,377nm,15.5s,MS4.7
HHC LR LR
comp=Z,433nm,16.6s,MS4.5
NJ2 **Nanjing** 52.11 276 eP P 11 19 58.6 +2.0
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
AMTX **Amarillo** 52.73 79 eP P 11 20 01.0 -0.1
comp=Z,12nm,1.0s,mb4.8
GDL2 **Guadalupe Moun** 52.89 83 eP P 11 20 02.2 -0.2
HVS **Khovu-Aksy** 53.95 309 ⇓eP P 11 20 11.0 +1.2
HVS pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
SFJD **Kangerlussuaq** 54.04 24 LR LR 11 46 59.7
comp=Z,271nm,18.6s,MS4.3,baz=341,slow=40
WMOK **Wichita Mounta** 54.59 77 eP P 11 20 13.9 -0.9
TXAR **Lajitas Array** 55.31 85 P P 11 20 18.6 -1.4
comp=Z,8.4nm,0.8s,mb4.8,baz=295,slow=5.1,SNR=93
TXAR **Lajitas Array** 55.31 85 P P 11 20 18.7 -1.3
TXAR pmax pmax
comp=Z,8.0nm,0.8s
CCM **Cathedral Cave** 56.84 69 eP P 11 20 28.8 -2.0
CCM pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
CCM **Cathedral Cave** 56.84 69 eP P 11 20 28.8 -2.1
comp=Z,8.8nm,1.0s,mb4.7
JCT **Junction City** 56.90 81 eP P 11 20 30.0 -1.4
JCT pmax pmax
comp=Z,14nm,1.3s,mb4.8
JCT **Junction City** 56.90 81 eP P 11 20 30.0 -1.4
comp=Z,14nm,1.3s,mb4.8
FVM **French Village** 57.36 69 eP P 11 20 33.1 -1.5
SCHQ **Schefferville** 57.63 41 P P 11 20 35.2 -0.9
comp=Z,3.0nm,0.8s,mb4.4,baz=299,slow=7.4,SNR=3.7
MIAR **Mount Ida** 57.86 74 eP P 11 20 37.5 -0.6
ARCES **ARCESS Array B** 58.27 352 P P 11 20 39.9 -0.6
comp=Z,2.2nm,0.9s,mb4.2,baz=22,slow=7.8,SNR=11
ARCES PcP PcP 11 21 30.9 -0.4
comp=Z,5.4nm,0.9s,baz=354,slow=3.7,SNR=7.5
ARCES LR LR 11 44 30.8
comp=Z,360nm,19.9s,MS4.5,baz=18,slow=35
ARCES **ARCESS Array B** 58.27 352 P P 11 20 39.9 -0.6
ARCES 11 21 30.9
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES **ARCESS Array B** 58.27 352 P P 11 20 39.9 -0.6
ARCES PcP PcP 11 21 30.9 -0.4
ARCES LR LR 11 44 30.8
LZH **Lanzhou** 58.45 289 eP P 11 20 41.5 -0.7
LZH AP pP 11 20 47.0 -5.9
LZH XP sP 11 20 48.5 -8.5
LZH AMB AMB
comp=Z,15nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,62nm,4.3s
OXF **Oxford** 60.35 71 eP P 11 20 54.3 -1.1
OXF pmax pmax
comp=Z,56nm,0.9s,mb5.6
OXF **Oxford** 60.35 71 eP P 11 20 54.3 -1.0
comp=Z,56nm,0.9s,mb5.6
PLAL **Pickwick Lake** 60.80 70 eP P 11 20 57.0 -1.5
KURK **Kurchatov** 61.14 316 eP P 11 21 00.7 +0.2
KURK pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
KURK **Kurchatov** 61.14 316 eP P 11 21 00.7 +0.2
comp=Z,3.0nm,0.7s,mb4.5
LONY **Lake Ozonia** 61.36 54 eP P 11 21 01.1 -1.0
comp=Z,6.6nm,0.8s,mb4.8
WMQ **Urumqi** 61.91 306 eP P 11 21 06.3 +0.6
NCB **Newcomb** 62.00 54 eP P 11 21 05.9 -0.5
comp=Z,11nm,1.1s,mb4.9
CD2 **Chengdu** 62.13 285 eP P 11 21 06.6 -0.9
CD2 AP pP 11 21 10.8 -7.4
CD2 XP sP 11 21 13.8 -8.5
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,30nm,6.2s
TZTN **Tazewell** 62.30 65 eP P 11 21 08.6 0.0
BINY **Binghamton** 62.38 56 eP P 11 21 09.5 +0.6
MKAR **Makanchi Array** 62.38 311 P P 11 21 08.1 -0.8
comp=Z,0.6nm,0.5s,mb4.0,baz=57,slow=7.4,SNR=6.7
MKAR **Makanchi Array** 62.38 311 P P 11 21 08.1 -0.8
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR **Makanchi Array** 62.38 311 P P 11 21 08.1 -0.8
ACCN **Adirondack Com** 62.70 54 eP P 11 21 10.9 -0.2
BVAR **Borovoye Array** 62.73 322 P P 11 21 10.5 -0.6
comp=Z,4.8nm,0.5s,mb4.9,baz=54,slow=8.8,SNR=18
BVAR **Borovoye Array** 62.73 322 P P 11 21 10.5 -0.6
BVAR pmax pmax
comp=Z,5.0nm,0.5s
TKL **Tuckaleechee C** 62.80 66 eP P 11 21 10.7 -1.2
ELN **Prospectdale** 63.38 63 eP P 11 21 14.9 -0.7
PKME **Peaks-Kenny Pk** 63.47 50 eP P 11 21 16.3 +0.1
GYA **Guiyang** 63.58 280 P P 11 21 17.5 +0.4
GYA PCP PcP 11 21 54.0 +0.6
GYA PP PP 11 23 39.4 +2.5
GYA SCP 11 25 55.8
GYA S S 11 29 48.5 +0.2
GYA PS 11 30 08.0
GYA SKS 11 31 07.4
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,80nm,5.7s
GYA LR LR
comp=N,460nm,20.4s,MS4.8
GYA LR LR
comp=E,440nm,21.9s,MS4.8
GYA LR LR
comp=Z,420nm,20.7s,MS4.6
BLA **Blacksburg** 63.58 63 eP P 11 21 17.1 +0.1
BLA pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
BLA **Blacksburg** 63.58 63 eP P 11 21 17.1 +0.1
comp=Z,9.4nm,0.7s,mb4.9
ARU **Arti** 64.01 331 d iP P 11 21 20.3 +0.8
ARU e*PP pP 11 21 42.6 +12
ARU eS S 11 29 49.8 -3.0
ARU eSS SS 11 34 08.4 +7.6
ARU pmax pmax
comp=Z,11nm,1.7s,mb4.6
GOGA **Godfrey** 64.59 68 eP P 11 21 22.5 -1.2
EMMW **East Machias** 64.75 49 eP P 11 21 24.3 -0.3
HNR **Honiara** 65.06 209 LR LR 11 44 02.5
comp=Z,166nm,21.2s,MS4.2,baz=181,slow=31
KMI **Kunming** 66.95 282 P P 11 21 39.8 +0.8
KMI AP pP 11 21 43.6 -6.2
KMI XP sP 11 21 45.4 -8.5
KMI PP PP 11 24 09.8 +3.4
KMI PPP 11 25 43.1
KMI S S 11 30 29.1 -0.6
KMI SS SS 11 34 46.9 -1.2
KMI AMB AMB
comp=Z,5.0nm,1.3s,mb4.4
KMI AMB AMB
comp=Z,72nm,4.1s
KMI LR LR
comp=N,114nm,19.2s,MS4.4
KMI LR LR
comp=E,183nm,17.1s,MS4.4
KMI LR LR
comp=Z,173nm,19.2s,MS4.3
NOA **NORSAR Array B** 67.54 358 P P 11 21 41.3 -0.8
comp=Z,0.6nm,0.5s,mb3.9,baz=2.8,slow=6.4,SNR=3.4
NOA **NORSAR Array B** 67.54 358 P P 11 21 41.3 -0.9
NOA pmax pmax
comp=Z,1.0nm,0.5s
AKTK **Aktyubinsk** 69.27 328 P P 11 21 53.0 -0.2
AKTO **Aktyubinsk** 69.27 328 P P 11 21 53.0 -0.2
comp=Z,4.5nm,0.6s,mb4.6,baz=52,slow=7.0,SNR=18
AKTO **Aktyubinsk** 69.27 328 P P 11 21 53.0 -0.1
AKTO pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
TAPN **Taplejung** 74.17 294 eP P 11 22 24.1 +1.1
CMAR **Chiang Mai Arr** 74.27 280 P P 11 22 23.9 +0.3
comp=Z,2.3nm,0.9s,mb4.1,baz=24,slow=7.9,SNR=7.0
CMAR **Chiang Mai Arr** 74.27 280 P P 11 22 23.9 +0.3
CMAR pmax pmax
comp=Z,2.0nm,0.9s
ODAN **Odare** 74.72 294 eP P 11 22 27.6 +1.4
comp=Z,18nm,0.8s,mb5.0
GUN **Gumba** 74.77 296 eP P 11 22 27.7 +1.2
JIRN **Jiri** 74.79 295 eP P 11 22 28.0 +1.4
RAMN **Ramite** 75.10 295 eP P 11 22 29.2 +0.8
comp=Z,25nm,0.7s,mb5.2
KKN **Kakani** 75.20 296 eP P 11 22 30.0 +1.1
PKI **Pulchoki** 75.30 296 eP P 11 22 30.9 +1.4
GKN **Gorkha** 75.39 297 eP P 11 22 30.8 +0.8
DANN **Dangsing** 75.61 297 eP P 11 22 32.1 +0.8
KOLN **Koldanda** 76.15 297 eP P 11 22 35.0 +0.6
comp=Z,28nm,1.1s,mb5.1
AKASG **Malin Array Be** 76.17 345 P P 11 22 33.2 -0.9
comp=Z,1.9nm,0.4s,mb4.3,baz=17,slow=5.6,SNR=11
AKASG **Malin Array Be** 76.17 345 P P 11 22 33.2 -0.9
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG **Malin Array Be** 76.17 345 P P 11 22 33.2 -0.9
BRG **Berggiesshubel** 77.60 355 eP P 11 22 42.5 +0.3
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRG **Berggiesshubel** 77.60 355 eP P 11 22 42.5 +0.3
comp=Z,5.3nm,0.8s,mb4.5
GRA1 **Grafenberg Arr** 78.90 357 eP P 11 22 49.8 +0.4
comp=Z,6.0nm,0.7s,mb4.6
GRF **Grafenberg Arr** 78.90 357 eP P 11 22 49.8 +0.4
GRF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
GRF **Grafenberg Arr** 78.90 357 eP P 11 22 49.8 +0.4
GRF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
GRF **Grafenberg Arr** 78.90 357 eP P 11 22 49.8 +0.4
comp=Z,6.0nm,0.7s,mb4.6
WLF **Walferdange** 79.01 0 P P 11 22 50.7 +0.8
comp=Z,12nm,1.4s,mb4.6
WLF **Walferdange** 79.01 0 eP P 11 22 41.4 -8.5
GERES **GERESS Array B** 79.64 355 P P 11 22 53.3 -0.1
comp=Z,1.9nm,0.7s,mb4.1,baz=25,slow=3.5,SNR=13
GERES **GERESS Array B** 79.64 355 P P 11 22 53.3 -0.1
GERES pmax pmax
comp=Z,2.0nm,0.7s
CDF **Champ du Feu** 80.26 359 eP P 11 22 56.9 +0.1
comp=Z,10nm,1.0s,mb4.4
CDF **Champ du Feu** 80.26 359 eP P 11 22 56.9 +0.1
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CDF **Champ du Feu** 80.26 359 eP P 11 22 56.9 +0.1
comp=Z,5.2nm,1.0s,mb4.4
ECH **Echery** 80.45 360 eP P 11 22 58.2 +0.4
HAU **Haudompre** 80.67 0 eP P 11 22 59.0 0.0
HINF **Hinteralfeld** 80.86 360 eP P 11 22 59.9 -0.1
comp=Z,5.0nm,0.5s,mb4.4
HINF **Hinteralfeld** 80.86 360 eP P 11 22 59.9 -0.1
HINF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
HINF **Hinteralfeld** 80.86 360 eP P 11 22 59.9 -0.1
comp=Z,2.5nm,0.5s,mb4.4
LOR **Lormes** 81.38 2 eP P 11 23 02.7 -0.1
comp=Z,4.4nm,0.6s,mb4.3
LOR **Lormes** 81.38 2 eP P 11 23 02.7 -0.1
LOR pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LOR **Lormes** 81.38 2 eP P 11 23 02.7 -0.1
comp=Z,2.2nm,0.6s,mb4.3
SSF **Saint Saulge** 81.58 2 eP P 11 23 03.9 +0.1
comp=Z,5.5nm,0.6s,mb4.3
SSF **Saint Saulge** 81.58 2 eP P 11 23 03.9 +0.1
SSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SSF **Saint Saulge** 81.58 2 eP P 11 23 03.9 +0.1

comp=Z,2.8nm,0.6s,mb4.4
AVF Avril sur Loir 81.84 2 *e*P P 11 23 05.2 0.0
MFF Saint Martin d 81.90 5 *e*P P 11 23 05.7 +0.2
comp=Z,16nm,1.0s,mb4.6
MFF Saint Martin d 81.90 5 *e*P P 11 23 05.7 +0.2
MFF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MFF Saint Martin d 81.90 5 *e*P P 11 23 05.7 +0.2
comp=Z,8.1nm,1.0s,mb4.6
SMF Signal de Mont 82.00 2 *e*P P 11 23 06.0 -0.1
comp=Z,13nm,0.9s,mb4.6
SMF Signal de Mont 82.00 2 *e*P P 11 23 06.0 -0.1
SMF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
SMF Signal de Mont 82.00 2 *e*P P 11 23 06.0 -0.1
comp=Z,6.3nm,0.9s,mb4.5
CABF La Chapelle 82.06 0 *e*P P 11 23 07.0 +0.6
comp=Z,30nm,1.0s,mb4.9
CABF La Chapelle 82.06 0 *e*P P 11 23 07.0 +0.6
CABF pmax pmax
comp=Z,15nm,1.0s,mb4.9
CABF La Chapelle 82.06 0 *e*P P 11 23 07.0 +0.6
comp=Z,15nm,1.0s,mb4.9
TCF Toulx Ste Croi 82.31 3 *e*P P 11 23 07.6 -0.1
MBDF Montbardon 83.95 360 *e*P P 11 23 17.3 +1.1
comp=Z,5.8nm,0.6s,mb4.6
MBDF Montbardon 83.95 360 *e*P P 11 23 17.3 +1.1
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
MBDF Montbardon 83.95 360 *e*P P 11 23 17.3 +1.1
comp=Z,2.9nm,0.6s,mb4.6
WRA Warramunga Arr 84.64 228 P P 11 23 18.3 -1.5
comp=Z,2.1nm,0.9s,mb4.3,baz=37,slow=6.4,SNR=10.0
WRA Warramunga Arr 84.64 228 P P 11 23 18.3 -1.5
WRA pmax pmax
comp=Z,2.0nm,0.9s
HYB Hyderabad 87.16 295 *i*P P 11 23 32.0 -0.6
ASAR Alice Springs 88.06 227 P P 11 23 36.2 -0.3
comp=Z,3.6nm,0.9s,mb4.6,baz=56,slow=4.0,SNR=20
ASAR Alice Springs 88.06 227 P P 11 23 36.3 -0.3
ASAR pmax pmax
comp=Z,4.0nm,1.0s
ESDC Sonseca Array 88.53 8 P P 11 23 37.1 -1.7
comp=Z,0.5nm,0.4s,mb4.2,baz=2.8,slow=6.3,SNR=5.4
STKA Stephens Creek 92.10 217 P P 11 23 54.7 -0.5
comp=Z,4.1nm,0.8s,mb4.8,baz=102,slow=18,SNR=4.5
STKA Stephens Creek 92.10 217 P P 11 23 54.7 -0.5
PLCA Paso Flores 127.92 110 PKP PKPdf 11 29 51.0 -0.4
comp=Z,4.5nm,1.1s,baz=238,slow=1.7,SNR=3.9
PLCA Paso Flores 127.92 110 PKIKP PKPdf 11 29 51.0 -0.3
PLCA pmax pmax
comp=Z,5.0nm,1.1s
TSUM Tsumeb 146.42 341 *e*PKPbc PKPbc 11 30 27.6 +0.4
MAW Mawson 148.79 218 PKPbc PKPbc 11 30 31.3 -0.9
comp=Z,5.0nm,0.8s,baz=40,slow=0.3,SNR=14
MAW Mawson 148.79 218 PKP2 PKPbc 11 30 31.3 -0.9
MAW pmax pmax
comp=Z,5.0nm,0.8s
BOSA Boshof 153.01 322 PKPbc PKPbc 11 30 42.7 -0.7
comp=Z,1.8nm,0.7s,baz=259,slow=8.9,SNR=3.9
BOSA Boshof 153.01 322 PKIKP PKPbc 11 30 42.7 -0.7
BOSA pmax pmax
comp=Z,2.0nm,0.7s
SNAA Sanae 159.53 172 *e*PKPdf PKPab 11 31 20.0 -1.7
SNAA *e* 11 31 28.1
VNA2 Neumayer--Watz 159.70 167 *e*PKPdf PKPab 11 31 20.8 -1.6

CSEM ***02*** *11:19:07.2, 3899N×2524E, h36km, MD3.6/3, After ATH*
ATH 02 11:19:07.2, 3899N×2524E, h36km, MD3.6/3, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.84**	**72**	*e*PN	Pn	11 19 24.0	+1.5
PRK				*e*SN	Sn	11 19 35.5	+1.8
SMG	**Samos**	**1.79**	**135**	*e*PB	Pn	11 19 38.0	+2.4
APE	**Apeiranthos**	**1.93**	**173**	*e*PN	Pn	11 19 39.3	+1.8

NIED ***02*** *11:33:00, 4700N×14170E, h5km, Mw4.2 Best double couple: M0=2.19000×10^15 NP1:φs=8.00000°, δ=62.00000°, λ=60.00000°. NP2:φs=238.00000°, δ=40.00000°, λ=133.00000°.*
JMA ***02*** *11:33:40.1±0.5, 4705N×14171E, h8km, M4.6*
BJI ***02*** *11:33:41.9, 4704N×14196E, h25km, mB5.0, mb4.4, ML4.5, Ms4.2, Msz4.0*
IDC ***02*** *11:33:41.3±0.6, 4686N×14180E, h0km, mb4.1/15, mb1 4.3/17, mb1mx4.2/23, mbtmp4.1/17, ML3.3/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/34, Error ellipse: s-maj=17.4km s-min=15.8km az=103.0*
MOS ***02*** *11:33:41.8±1.3, 4693N×14178E, h9km, mb4.6/15, Error ellipse: s-maj=10.9km s-min=7.1km az=108.1*
ISCJB ***02*** *11:33:42.0±0.3, 4695N±002×14183E±006, h10km, mb4.3/28, MS4.0/2, Error ellipse: s-maj=5.5km s-min=3.2km az=165.2*
NEIC ***02*** *11:33:44.8±0.6, 4708N×14171E, h10km, mb4.3/3, Error ellipse: s-maj=12.9km s-min=9.6km az=114.0*
ISC 02 11:33:42.2±1.3, 4692N±002×14182E±006, h0km±8km, n83, σ0°93/85, mb4.5/28, MS4.0/2, 5C-5D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.64**	**87κ**	*i*PN	**Pg**	**11 33 56.0**	**+1.5**
YSS				*i*		11 34 07.0	
YSS				pmax	pmax		
comp=Z,730nm,0.9s
YSS pmax pmax
comp=Z,3μm,4.0s
YSS smax
comp=E,1μm,0.3s
YSS smax
comp=N,3μm,0.4s
JWK2 Keihoku 1.60 178 P **Pn 11 34 11.0 -0.7**
JWK2 *e*S **Sn 11 34 32.4 -0.7**
JRR Rishiri 1.82 191 P **Pn 11 34 14.3 -0.4**
JRR *e*S **Sn 11 34 38.9 +0.6**
JSE Soyaes 2.03 164 P **Pn 11 34 16.6 -1.0**
JSE *e*S **Sn 11 34 44.7 +1.1**
UGL Uglegorsk 2.17 4 *e*PN **Pn 11 34 19.0 -0.5**
UGL *e* 11 34 47.0
UGL pmax pmax
comp=Z,92nm,0.7s
UGL smax
comp=N,431nm,0.5s
UGL smax
comp=E,1μm,0.5s
UGL smax
comp=Z,354nm,0.5s
JYG Yagishiri 2.51 186 P **Pn 11 34 23.5 -0.7**
JYG *e*S **Sn 11 34 55.8 +0.4**
JSS Shosan 2.52 179 P **Pn 11 34 24.8 +0.5**
ASAJ Asahikawa 2.85 169 P **Pn 11 34 28.4 -0.6**
ASAJ Asahikawa 2.85 169 Pn **Pn 11 34 28.4 -0.5**
comp=Z,5.0nm,0.3s,baz=4.4,slow=9.1,SNR=27
ASAJ Sn **Sn 11 35 05.5 +1.6**
comp=Z,12nm,0.3s,baz=70,slow=19,SNR=5.8
ASAJ LR LR 11 35 35.2
comp=Z,310nm,21.9s,baz=2.2,slow=41
ASAJ Asahikawa 2.85 169 PN **Pn 11 34 28.5 -0.5**
ASAJ 11 35 05.6
ASAJ pmax pmax
comp=Z,5.0nm,0.3s
ASAJ smax
comp=N,12nm,0.3s
ASAJ MLR MLR
comp=Z,310nm,21.9s
JMP Maruseppu 3.11 159 P **Pn 11 34 31.5 -0.9**
JKK2 Kamakawa 2 3.12 168 P **Pn 11 34 32.1 -0.4**
JHR Hokuryu 3.18 181 P **Pn 11 34 33.7 +0.3**
JTKR Abashiri--Toko 3.29 153 P **Pn 11 34 34.1 -0.9**
YUK Yuzh-Kuril'sk 4.05 134 PN **Pn 11 34 48.5 +3.1**
KUR Kuril'sk 4.53 110 *e*PN **Pn 11 34 51.0 -1.0**
HABR Khabarovsk 4.83 291 *e*PN **Pn 11 34 55.2 -0.8**
HABR *e*S **Sn 11 35 53.7 +1.1**
HABR pmax pmax
comp=Z,21nm,1.1s
KLR Kul'dur 7.13 293 *e*PN **Pn 11 35 24.0 -3.7**
KLR MLR MLR
comp=E,900nm,11.0s
KLR MLR MLR
comp=Z,2μm,11.0s
MAJO Matsushiro 10.71 196 *e*PN **Pn 11 36 21.2 +4.4**
MAJO pmax pmax
comp=Z,16nm,0.9s
MAJO Matsushiro 10.71 196 *e*Pn **Pn 11 36 21.2 +4.4**
comp=Z,16nm,0.9s
MAT Matsushiro 10.71 196 P **Pn 11 36 17.3 +0.5**
MJAR Matsushiro Arr 10.71 196 Pn **Pn 11 36 19.2 +2.4**
comp=Z,0.4nm,0.3s,baz=2.8,slow=15,SNR=14
KSRS Korea Array 13.97 232 Pn **Pn 11 37 02.1 +0.9**
comp=Z,0.1nm,0.3s,baz=44,slow=12,SNR=7.6
KSRS LR LR 11 41 07.8
comp=Z,185nm,19.8s,baz=20,slow=32
HIA Hailar 14.93 287 *i*P **Pn 11 37 15.1 +0.8**
YAK Yakutsk 16.66 340 *e*P **Pn 11 37 38.0 +1.3**
YAK pmax pmax
comp=Z,10.0nm,1.1s
SEY Seymchan 17.12 17⇑ *e*P **Pn 11 37 47.5 +5.0**
BOD Bodaibo 20.03 313 *e*P **P 11 38 16.0 -0.4**
BOD pmax pmax
comp=Z,6.0nm,1.7s
SONM Songino Array 23.88 285 P **P 11 38 56.4 -0.8**
comp=Z,1.5nm,0.6s,mb3.7,baz=82,slow=9.2,SNR=11
SONM Songino Array 23.88 285 P **P 11 38 56.4 -0.8**
SONM pmax pmax
comp=Z,2.0nm,0.6s
BILL Bilibino 24.59 22⇓ *e*P **P 11 39 05.5 +2.0**
BILL pmax pmax
comp=Z,15nm,0.9s,mb4.7
IRK Irkutsk 24.72 296⇑ *i*P **P 11 39 04.8 0.0**
IRK *e* 11 42 43.4
IRK pmax pmax
comp=Z,50nm,0.9s,mb5.2
TLY Talaya 25.14 295 *e*P **P 11 39 09.7 +1.0**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
TLY Talaya 25.14 295 *e*P **P 11 39 09.7 +1.0**
comp=Z,7.0nm,0.9s,mb4.4
HVS Khovu-Aksy 31.38 296⇓ *i*P **P 11 40 04.7 +0.3**
HVS pmax pmax
comp=Z,16nm,1.0s,mb4.9
ZAA0 Zalesovo Array 36.10 303 *e*P **P 11 40 45.6 +0.2**
ZALV Zalesovo Beam 36.10 303 P **P 11 40 44.6 -0.8**
comp=Z,3.1nm,0.8s,mb4.2,baz=91,slow=7.9,SNR=11
ZAL Zalesovo 36.12 303 P **P 11 40 44.6 -0.9**
ZAL pmax pmax
comp=Z,3.0nm,0.8s
NVS Novosibirsk 36.81 305 *e*P **P 11 40 56.1 +4.6**
KMI Kunming 37.83 249 P **P 11 40 59.4 -1.0**
KMI AP 11 41 09.5
KMI XP sP 11 41 15.4 +15
KMI AMB AMB
comp=Z,5.0nm,1.2s,mb4.1
KMI AMB AMB
comp=Z,183nm,5.1s
IMA2 Indian Mountai 38.27 36 *e*P **P 11 41 04.0 +0.4**
COLD Coldfoot 39.58 34 *e*P **P 11 41 15.8 +1.1**
comp=Z,4.9nm,0.9s,mb4.1
MK31 Makanchi Array 39.84 292 *e*P **P 11 41 16.7 -0.3**
MKAR Makanchi Array 39.84 292 P **P 11 41 16.1 -0.9**
comp=Z,6.3nm,0.7s,mb4.3,baz=77,slow=8.8,SNR=44
MKAR LR LR 11 58 59.5
comp=Z,203nm,20.1s,MS4.0,baz=268,slow=38
MKAR Makanchi Array 39.84 292 P **P 11 41 16.1 -0.9**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR MLR MLR
comp=Z,203nm,20.1s
KURK Kurchatov 40.67 299⇑ *e*P **P 11 41 23.8 0.0**
KURK pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
COLA College 40.81 38 *i*P **P 11 41 25.0 +0.2**
INK Inuvik 45.60 31 P **P 11 42 03.6 +0.1**
comp=Z,2.9nm,0.6s,mb4.5,baz=300,slow=4.9,SNR=8.3
INK Inuvik 45.60 31 P **P 11 42 03.6 +0.1**
INK pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 45.81 290 *e*P **P 11 42 06.3 +0.8**
TKM2 pmax pmax
comp=Z,79nm,1.1s,mb5.7
TKM2 Tokmak 2 45.81 290 *e*P **P 11 42 06.2 +0.7**
comp=Z,80nm,1.1s,mb5.7
EKS2 Erkin-Say 47.10 291 *e*P **P 11 42 15.9 +0.2**
comp=Z,3.1nm,0.8s,mb4.5
SVE Sverdlovsk 48.24 313 *e*P **P 11 42 24.8 +0.5**
SVE pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ARU Arti 49.45 313 *d*P **P 11 42 33.3 -0.3**
ARU *e* 11 43 52.2
ARU *e* 11 44 21.1
ARU *e*PPP 11 45 18.9
ARU *e*S **S 11 49 43.8 +2.4**
ARU *e*SS SS 11 53 03.4 -9.1
ARU pmax pmax
comp=Z,12nm,1.7s,mb4.7
AKTO Aktyubinsk 52.62 307 LR LR 12 07 06.3
comp=Z,137nm,18.8s,MS4.0,baz=312,slow=38
ARCES ARCESS Array B 54.92 337 P **P 11 43 15.3 +1.2**
comp=Z,0.5nm,0.6s,mb3.7,baz=160,slow=36,SNR=5.0
ARCES ARCESS Array B 54.92 337 P **P 11 43 15.3 +1.2**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 55.24 33 P **P 11 43 15.6 -0.8**
comp=Z,2.6nm,0.8s,mb4.3,baz=304,slow=6.9,SNR=7.1
YKA Yellowknife Ar 55.24 33 P **P 11 43 15.6 -0.9**
YKA pmax pmax
comp=Z,3.0nm,0.8s
MOS Moscow 59.64 321 *e*P **P 11 43 42.7 -4.9**
KIV Kislovodsk 64.85 308 *ce*P **P 11 44 23.2 +0.5**
KIV pmax pmax
comp=Z,26nm,1.0s,mb5.4
NB2 NORSAR Subarra 65.24 336 P **P 11 44 24.7 -0.2**
comp=Z,1.4nm,0.7s,mb4.3,baz=35,slow=6.5
NOA NORSAR Array B 65.24 336 P **P 11 44 24.4 -0.5**
comp=Z,2.2nm,0.8s,mb4.4,baz=35,slow=6.6,SNR=5.3
NOA NORSAR Array B 65.24 336 P **P 11 44 24.4 -0.5**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 65.24 336 P **P 11 44 24.4 -0.5**
AKASG Malin Array Be 66.77 320 P **P 11 44 34.1 -0.9**
comp=Z,5.2nm,0.8s,mb4.8,baz=39,slow=6.5,SNR=15
AKASG Malin Array Be 66.77 320 P **P 11 44 34.1 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 66.89 188 P **P 11 44 34.5 -1.4**
comp=Z,0.6nm,0.7s,mb4.0,baz=3.8,slow=6.8,SNR=7.0
WRA Warramunga Arr 66.89 188 P **P 11 44 34.5 -1.4**
WRA pmax pmax
comp=Z,1.0nm,0.7s
NVAR Mina Array Bea 69.00 56 P **P 11 44 49.6 +0.3**
comp=Z,1.1nm,0.7s,mb4.2,baz=293,slow=6.1,SNR=8.2
ASAR Alice Springs 70.61 188 P **P 11 44 57.4 -1.7**
comp=Z,1.3nm,0.9s,mb4.1,baz=10,slow=6.4,SNR=8.3
ASAR Alice Springs 70.61 188 P **P 11 44 57.4 -1.7**
ASAR pmax pmax
comp=Z,1.0nm,0.9s
PDAR Pinedale Array 70.65 48 P **P 11 44 58.9 -0.4**
comp=Z,1.3nm,0.8s,mb4.1,baz=337,slow=3.0,SNR=8.8
CLL Collm 72.72 329 *i*P **P 11 45 11.4 -0.2**
comp=Z,5.0nm,0.9s,mb4.6
GERES GERESS Array B 74.51 327 P **P 11 45 21.2 -1.0**
comp=Z,0.5nm,0.3s,mb4.1,baz=48,slow=4.2,SNR=6.9
GERES GERESS Array B 74.51 327 P **P 11 45 21.2 -1.0**
GERES pmax pmax
comp=Z,1.0nm,0.3s
SCHQ Schefferville 75.77 17 P **P 11 45 28.0 -1.4**
comp=Z,1.6nm,0.7s,mb4.3,baz=0.0,slow=7.1,SNR=2.9
ANMO Albuquerque 78.06 51⇑ *e*P **P 11 45 43.3 +0.6**
TXAR Lajitas Array 83.89 53 P **P 11 46 13.3 -0.5**
comp=Z,1.2nm,0.8s,mb4.2,baz=271,slow=3.6,SNR=6.1
TXAR Lajitas Array 83.89 53 P **P 11 46 13.3 -0.5**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 150.18 202 *e* PKPab 11 53 39.2 -0.4
SNAA *e* 11 53 43.1
SNAA *e* 11 53 53.7
SNAA Sanae 150.18 202 PKPab PKPab 11 53 38.4 -1.2
comp=Z,0.8nm,0.8s,baz=128,slow=3.5,SNR=10
SNAA Sanae 150.18 202 PKIKP PKPab 11 53 38.4 -1.2
SNAA pmax pmax
comp=Z,1.0nm,0.8s
VNA2 Neumayer--Watz 151.79 201 *e* PKPbc 11 53 36.2 -1.1
VNA2 *e* 11 53 40.5
VNA2 *e* 11 53 50.8

BJI ***02*** *11:56:28.7, 4689N×15403E, h5km, mB4.6, mb4.4*
IDC ***02*** *11:56:33.5±0.6, 4643N×15303E, h0km, mb4.1/18, mb1 4.3/20, mb1mx4.2/27, mbtmp4.1/20, ML3.4/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/36, Error ellipse: s-maj=18.8km s-min=14.2km az=151.0*
NEIC ***02*** *11:56:35.2±0.4, 4640N×15296E, h10km, mb4.3/4, Error ellipse: s-maj=11.5km s-min=7.0km az=143.0*
ISCJB ***02*** *11:56:37.0±1.0, 4647N±006×15302E±008, h33km±9km, mb4.2/25, MS3.1/2, Error ellipse: s-maj=12.6km s-min=5.2km az=141.4*
MOS ***02*** *11:56:38.5±0.8, 4649N×15288E, h45km, mb4.4/11, Error ellipse: s-maj=13.9km s-min=9.9km az=61.5*
ISC 02 11:56:40.2±0.9, 4646N±006×15304E±008, h44km±7km, n68, σ1°13/70, mb4.2/25, MS3.1/2, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.82**	**253**	*e*PN	**Pn**	**11 57 33.4**	**-3.0**
KUR				*e*S	**Sn**	**11 58 19.0**	**-0.9**
KUR pmax pmax
comp=N,120nm,0.5s
KUR pmax pmax
comp=E,40nm,0.5s
KUR pmax pmax
comp=Z,300nm,0.5s
KUR smax
comp=N,190nm,0.8s
KUR smax
comp=E,340nm,0.8s
SKR Severo-Kuril's 4.70 25 *e*PN **Pn 11 57 47.7 -0.7**
SKR pmax pmax
comp=Z,80nm,0.6s
YUK Yuzh-Kuril'sk 5.62 247 PN **Pn 11 58 01.7 +0.6**
YUK S **Sn 11 59 11.4 +7.1**
YUK smax
comp=N,230nm,0.5s
YUK smax
comp=E,230nm,0.5s
YSS Yuzh-Sakhalins 7.09 278 *i*PN **Pn 11 58 26.6 +5.3**
PETK Petropavlovsk- 7.31 23 Pn **Pn 11 58 23.1 -1.0**
comp=E,0.7nm,0.3s,baz=180,slow=13,SNR=15
PETK Sn **Sn 11 59 47.8 +2.1**
baz=172,slow=12,SNR=2.5
PETK Petropavlovsk- 7.31 23 *e*Pn **Pn 11 58 23.9 -0.3**
PET Petropavlovsk 7.51 27 *e*PN **Pn 11 58 30.1 +3.1**
PET pmax pmax
comp=Z,11nm,0.7s
PET Petropavlovsk 7.51 27 *e*Pn **Pn 11 58 25.8 -1.2**
comp=Z,6.9nm,0.6s
PET *e*Sn **Sn 11 59 49.1 -1.6**
ASAJ Asahikawa 7.73 256 Pn **Pn 11 58 30.1 +0.1**
comp=Z,1.3nm,0.3s,baz=103,slow=15,SNR=8.1
ASAJ LR LR 12 01 09.2
comp=Z,139nm,19.6s,baz=11,slow=36
ASAJ Asahikawa 7.73 256 PN **Pn 11 58 30.2 +0.2**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,139nm,19.6s
HABR Khabarovsk 12.34 286 *e*PN **Pn 11 59 36.4 +3.3**
HABR *e*S **Sn 12 01 50.3 +1.2**
HABR pmax pmax
comp=Z,29nm,2.1s
MAJO Matsushiro 14.86 233 *e*P **Pn 12 00 10.3 +3.0**
MAT Matsushiro 14.86 233 P **Pn 12 00 12.2 +4.9**
MJAR Matsushiro Arr 14.86 233 Pn **Pn 12 00 04.7 -2.7**
comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=3.6
MJAR Sn **Sn 12 02 50.4 -0.3**
baz=148,slow=14,SNR=3.1
KSRS Korea Array 20.66 253 P **P 12 01 16.7 +0.6**
comp=Z,2.5nm,0.8s,baz=58,slow=11,SNR=8.6
KSRS LR LR 12 09 58.4
comp=Z,47nm,18.8s,MS2.9,baz=40,slow=39
KSRS Korea Array 20.66 253 P **P 12 01 16.7 +0.6**
KSRS pmax pmax
comp=Z,3.0nm,0.8s
KSRS MLR MLR
comp=Z,47nm,18.8s,MS2.9
BILL Bilibino 22.69 13⇓ *e*P **P 12 01 40.4 +2.9**
BILL *e*S **S 12 05 32.1 -11**
BILL pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
BILL MLR MLR
comp=Z,100nm,16.0s,MS3.4
SONM Songino Array 31.38 290 P **P 12 02 56.3 -0.3**
comp=Z,0.6nm,0.7s,mb3.5,baz=74,slow=16,SNR=3.3
SONM Songino Array 31.38 290 P **P 12 02 56.3 -0.3**
SONM pmax pmax
comp=Z,1.0nm,0.7s
COLA College 36.40 38 *e*P **P 12 03 40.6 +0.7**
COLA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
COLA College 36.40 38 *e*P **P 12 03 40.6 +0.7**
comp=Z,2.9nm,0.8s,mb4.3
HVS Khovu-Aksy 38.44 299 *i*P **P 12 03 57.1 -0.2**
GTA Gaotai 38.97 279 *e*P **P 12 04 03.5 +1.6**
GTA AP pP 12 04 08.0 -5.8
GTA XP sP 12 04 11.5 -7.5
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.3
EGAK Eagle 39.26 38 *e*P **P 12 04 04.0 0.0**
comp=Z,2.5nm,0.9s,mb3.9
INK Inuvik 41.93 32 P **P 12 04 25.6 -0.4**
comp=Z,2.5nm,0.7s,mb3.9,baz=269,slow=5.6,SNR=6.8
INK Inuvik 41.93 32 P **P 12 04 25.6 -0.3**
INK pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 42.74 306 P **P 12 04 31.6 -1.2**
comp=Z,0.7nm,0.5s,mb3.7,baz=58,slow=5.9,SNR=3.6
ZAL Zalesovo 42.76 306 P **P 12 04 31.6 -1.3**
ZAL pmax pmax
comp=Z,1.0nm,0.5s
KMI Kunming 45.14 260 P **P 12 04 53.0 +0.7**
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.3
MK31 Makanchi Array 47.03 298 *e*P **P 12 05 06.7 -0.2**
MKAR Makanchi Array 47.03 298 P **P 12 05 05.9 -1.1**
comp=Z,4.3nm,1.0s,mb4.3,baz=67,slow=9.3,SNR=17
MKAR Makanchi Array 47.03 298 *e*P **P 12 05 06.8 -0.1**
MKAR pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 47.48 304⇓ *i*P **P 12 05 09.8 -0.6**
KURK pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
KURK Kurchatov 47.48 304 *e*P **P 12 05 09.3 -1.1**
comp=Z,4.3nm,0.9s,mb4.4
CMAR Chiang Mai Arr 52.25 256 P **P 12 05 47.3 +0.3**
comp=Z,1.1nm,0.4s,mb4.1,baz=35,slow=7.9,SNR=5.1
CMAR Chiang Mai Arr 52.25 256 P **P 12 05 47.3 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 58.11 341 P **P 12 06 27.1 -1.5**
comp=Z,2.6nm,0.9s,mb4.3,baz=36,slow=6.7,SNR=10
ARCES ARCESS Array B 58.11 341 P **P 12 06 27.1 -1.5**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
AKTK Aktyubinsk 58.88 312 P **P 12 06 33.7 -0.5**
AKTO Aktyubinsk 58.88 312 P **P 12 06 33.7 -0.5**
comp=Z,1.1nm,0.5s,mb4.2,baz=76,slow=12,SNR=3.6
AKTO Aktyubinsk 58.88 312 P **P 12 06 33.7 -0.5**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
NVAR Mina Array Bea 62.62 62 P **P 12 07 00.1 +0.3**
comp=Z,1.1nm,0.7s,mb4.1,baz=288,slow=6.8,SNR=14
RRI2 Red Ridge 63.60 54 *e*P **P 12 07 07.9 +1.7**
comp=Z,3.9nm,0.7s,mb4.5
PDAR Pinedale Array 64.96 54 P **P 12 07 14.9 -0.2**
comp=Z,1.2nm,0.7s,mb4.0,baz=300,slow=1.6,SNR=12
WRA Warramunga Arr 68.22 199 P **P 12 07 34.1 -1.9**
comp=Z,0.3nm,0.5s,mb3.5,baz=16,slow=6.6,SNR=5.2
WRA Warramunga Arr 68.22 199 *e*P **P 12 07 36.2 +0.2**
NB2 NORSAR Subarra 68.49 341 P **P 12 07 37.3 0.0**
comp=Z,2.3nm,0.5s,mb4.5,baz=28,slow=6.5
NOA NORSAR Array B 68.49 341 P **P 12 07 37.8 +0.5**
comp=Z,2.8nm,0.5s,mb4.6,baz=28,slow=6.4,SNR=11
NOA NORSAR Array B 68.49 341 P **P 12 07 37.8 +0.5**
NOA pmax pmax
comp=Z,3.0nm,0.5s
HFS Hagfors 68.71 340 P **P 12 07 38.1 -0.6**
comp=Z,3.6nm,0.5s,mb4.6,baz=74,slow=6.2,SNR=22
HFS Hagfors 68.71 340 P **P 12 07 38.1 -0.6**
HFS pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 71.76 326 P **P 12 07 56.8 -0.7**
comp=Z,4.6nm,0.5s,mb4.7,baz=34,slow=6.2,SNR=14
AKASG Malin Array Be 71.76 326 P **P 12 07 56.8 -0.7**
AKASG pmax pmax

comp=Z,5.0nm,0.5s
ASAR Alice Springs 71.91 198 P **P 12 07 58.1 -0.5**
comp=Z,0.2nm,0.6s,mb3.2,baz=24,slow=4.7,SNR=5.2
ASAR Alice Springs 71.91 198 *e*P **P 12 07 59.7 +1.1**
CLL Collm 76.71 336 *e*P **P 12 08 27.0 +0.7**
comp=Z,5.0nm,0.5s,mb4.7
TXAR Lajitas Array 77.68 60 P **P 12 08 31.9 -0.2**
comp=Z,2.5nm,0.6s,mb4.3,baz=301,slow=4.0,SNR=30
TXAR Lajitas Array 77.68 60 P **P 12 08 31.9 -0.3**
TXAR pmax pmax
comp=Z,3.0nm,0.6s
TXAR Lajitas Array 77.68 60 P **P 12 08 31.9 -0.2**
GERES GERESS Array B 78.70 334 P **P 12 08 37.3 -0.1**
comp=Z,0.7nm,0.4s,mb3.9,baz=26,slow=6.9,SNR=5.2
GERES GERESS Array B 78.70 334 P **P 12 08 37.3 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.4s
EIL Elat 85.84 310 P **P 12 09 16.8 +1.7**
comp=Z,3.7nm,0.6s,mb4.8,baz=7.2,slow=9.9,SNR=4.1
EIL Elat 85.84 310 P **P 12 09 16.8 +1.7**
PLCA Paso Flores 148.23 96 PKPbc PKPbc 12 16 20.5 -0.3
comp=Z,1.1nm,0.7s,baz=264,slow=5.4,SNR=4.0
PLCA Paso Flores 148.23 96 PKP2 PKPbc 12 16 20.5 -0.3
PLCA pmax pmax
comp=Z,1.0nm,0.7s
PLCA Paso Flores 148.23 96 PKPbc PKPbc 12 16 20.5 -0.3
CPUP Villa Florida 148.65 61 PKPbc PKPbc 12 16 24.0 +1.6
comp=Z,0.5nm,0.5s,baz=27,slow=3.3,SNR=3.2
CPUP Villa Florida 148.65 61 PKP2 PKPbc 12 16 24.0 +1.6
CPUP pmax pmax
comp=Z,1.0nm,0.5s

IDC 02 11:58:11.8±2.8, 423N×9313E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.6/22, mbtmp3.8/5, ML3.9/2, 1C, Error ellipse: s-maj=84.1km s-min=26.0km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.50**	**60**	⇑*e*P	Pn	11 58 45.0	-8.7
PSI	**Prapat**	**5.96**	**104**	Pn	Pn	11 59 42.8	+1.5
3.2nm,0.3s,baz=296,slow=8.8,SNR=17							
PSI				Sn	Sn	12 00 44.9	-5.4
2.4nm,0.3s,baz=164,slow=14,SNR=5.3							
CMAR	**Chiang Mai Arr**	**15.24**	**21**	Pn	Pn	12 01 47.1	-1.3
0.2nm,0.3s,baz=226,slow=7.3,SNR=2.8							
MKAR	**Makanchi Array**	**43.43**	**349**	P	P	12 06 16.6	+0.3
0.5nm,0.5s,baz=177,slow=8.7,SNR=3.2							
WRA	**Warramunga Arr**	**47.08**	**122**	P	P	12 06 45.3	-0.4
0.7nm,0.7s,baz=300,slow=9.1,SNR=5.2							
ZALV	**Zalesovo Beam**	**50.03**	**354**	P	P	12 07 07.7	-0.2
0.8nm,0.4s,baz=184,slow=4.5,SNR=3.9							

*NEIC **02** 12:45:41.1, 4227N×1921E, h0km, ML3.7(TIR), After TIR.*
*PDG **02** 12:45:42.5±0.1, 4254N×1911E, h19km, MD3.1/10, ML3.3/7, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
*TIR **02** 12:45:42.3±2.0, 4255N×1914E, h8km±6km, ML3.0*
*CSEM **02** 12:45:42.4±0.1, 4258N×1914E, h15km, ML3.3/7, Error ellipse: s-maj=1.4km s-min=1.3km az=100.0*
*ISCJB **02** 12:45:42.9±0.3, 4256N±001×1906E±002, h20km±3km, Error ellipse: s-maj=2.6km s-min=2.4km az=137.7*
*ROM **02** 12:45:43.2±0.6, 4254N×1894E, h10km, Md3.2/17, Ml3.2/12, Error ellipse: s-maj=10.5km s-min=2.8km az=29.0*
*BEO **02** 12:45:46.6±1.1, 4256N×1944E, ML2.8/2*
ISC 02 12:45:43.2±0.3, 4255N±001×1910E±002, h12km±2km, n92, σ1§09/149, 10C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.17**	**135**	*i*PN	**Pg**	**12 45 46.7**	**-0.3**
PDG				*i*SN	**Sg**	**12 45 50.1**	**+0.5**
PDG	**Podgorica**	**0.17**	**135**	⇑*i*Pg	**Pg**	**12 45 46.7**	**-0.3**
PDG				*e*Sg	**Sg**	**12 45 50.1**	**+0.5**
TTG	**Podgorica**	**0.17**	**135**	⇑*i*Pg	**Pg**	**12 45 46.7**	**-0.3**
TTG				*e*Sg	**Sg**	**12 45 50.1**	**+0.5**
NKY	**Niksic**	**0.28**	**344**	⇑*i*Pg	**Pg**	**12 45 48.7**	**-0.2**
NKY				*e*Sg	**Sg**	**12 45 53.8**	**+1.1**
NKY	**Niksic**	**0.28**	**344**	*i*PG	**Pg**	**12 45 48.7**	**-0.2**
NKY				*i*SG	**Sg**	**12 45 53.8**	**+1.1**
BUM	**Brajici-Budva**	**0.29**	**212**	⇓*i*Pg	**Pg**	**12 45 48.8**	**-0.3**
BUM				*e*Sg	**Sg**	**12 45 53.9**	**+0.9**
BUM	**Brajici-Budva**	**0.29**	**212**	*i*PG	**Pg**	**12 45 48.8**	**-0.3**
BUM				*i*SG	**Sg**	**12 45 53.9**	**+0.9**
HCY	**Herceg Novi**	**0.46**	**258**	⇓*i*Pg	**Pg**	**12 45 51.6**	**-0.6**
HCY				*e*Sg	**Sg**	**12 45 59.4**	**+1.1**
HCY	**Herceg Novi**	**0.46**	**258**	*i*PG	**Pg**	**12 45 51.6**	**-0.6**
HCY				*i*SG	**Sg**	**12 45 59.4**	**+1.1**
BRY	**Bratogost**	**0.54**	**311**	⇓*i*Pg	**Pg**	**12 45 53.1**	**-0.7**
BRY				*e*Sg	**Sg**	**12 46 02.3**	**+1.3**
BRY	**Bratogost**	**0.54**	**311**	*i*PG	**Pg**	**12 45 53.1**	**-0.7**
BRY				*i*SG	**Sg**	**12 46 02.3**	**+1.3**
TREB	**Trebinje**	**0.58**	**287**	*e*Pg	**Pg**	**12 45 54.1**	**-0.4**
ULC	**Ulcinj**	**0.59**	**169**	⇑*i*Pg	**Pg**	**12 45 53.6**	**-1.1**
ULC				*e*Sg	**Sg**	**12 46 03.3**	**+0.8**
ULC	**Ulcinj**	**0.59**	**169**	*i*PG	**Pg**	**12 45 53.6**	**-1.1**
ULC				*i*SG	**Sg**	**12 46 03.3**	**+0.8**
PVY	**Plav**	**0.65**	**85**	⇑*i*Pg	**Pg**	**12 45 54.6**	**-1.1**
PVY				*e*Sg	**Sg**	**12 46 04.9**	**+0.7**
BEY	**Berane**	**0.67**	**61**	⇓*i*Pg	**Pg**	**12 45 55.4**	**-0.8**
IVA	**Berane**	**0.67**	**61**	⇓*i*Pg	**Pg**	**12 45 55.4**	**-0.8**
IVA				*e*Sg	**Sg**	**12 46 05.9**	**+0.9**
UPM	**Unac-Piva**	**0.67**	**348**	⇓*i*Pg	**Pg**	**12 45 55.3**	**-0.9**
UPM				*e*Sg	**Sg**	**12 46 06.4**	**+1.4**
BCI	**Bajram Curri**	**0.74**	**104**	*e*PG	**Pg**	**12 45 55.6**	**-1.8**
BCI				*i*SG	**Sg**	**12 46 06.5**	**-0.6**
PUK	**Puka**	**0.77**	**130**	*e*PG	**Pg**	**12 45 57.1**	**-1.0**
PUK				*i*SG	**Sg**	**12 46 09.6**	**+1.4**
PLE	**Pljevlja**	**0.81**	**15**	⇓*i*Pg	**Pg**	**12 45 58.0**	**-0.9**
PLE				*e*Sg	**Sg**	**12 46 11.0**	**+1.5**
SJES	**Sjenica**	**0.96**	**42**	*e*Pg	**Pg**	**12 46 02.2**	**+0.5**
SJES				*e*Sg	**Sg**	**12 46 13.1**	**-1.1**
SJES	**Sjenica**	**0.96**	**42**	*e*Pg	**Pg**	**12 46 00.1**	**-1.6**
LACI	**Lac**	**1.02**	**153**	*e*PN	**Pn**	**12 46 00.9**	**-2.2**
LACI				*i*SN	**Sn**	**12 46 17.2**	**-0.1**
STON	**Ston**	**1.08**	**288**	*e*Pg	**Pg**	**12 46 02.5**	**-1.5**
STON				Sg	**Sg**	**12 46 19.9**	**+1.8**
STON	**Ston**	**1.08**	**288**	*e*Pg	**Pg**	**12 46 02.4**	**-1.6**
STON				Sg	**Sg**	**12 46 19.9**	**+1.8**
QSH	**Qafa e Shtames**	**1.19**	**149**	*e*PN	**Pn**	**12 46 05.0**	**-0.5**
QSH				*i*SN	**Sn**	**12 46 23.5**	**+2.0**
PHP	**Peshkopia**	**1.32**	**130**	*e*PN	**Pn**	**12 46 07.2**	**-0.1**
PHP				*i*SN	**Sn**	**12 46 25.2**	**+0.5**
TIR	**Tirane**	**1.33**	**154**	*e*PN	**Pn**	**12 46 07.8**	**+0.4**
TIR				*i*SN	**Sn**	**12 46 28.1**	**+3.2**
TIR	**Tirane**	**1.33**	**154**	*e*Pg	**Pg**	**12 46 06.7**	**-1.9**
TIR	**Tirane**	**1.33**	**154**	Pn	**Pn**	**12 46 08.1**	**+0.7**
TIR				Sn	**Sn**	**12 46 27.6**	**+2.7**
TIR	**Tirane**	**1.33**	**154**	*e*Pg	**Pg**	**12 46 06.7**	**-2.0**
TIR				*e*Sn	**Sn**	**12 46 26.3**	**+1.4**
DIVS	**Divibare**	**1.68**	**22**	*e*Pn	**Pn**	**12 46 11.7**	**-0.6**
DIVS				*e*Sg	**Sg**	**12 46 37.9**	**+0.7**
DIVS	**Divibare**	**1.68**	**22**	*e*Pn	**Pn**	**12 46 11.6**	**-0.7**
GRUS	**Gruza**	**1.79**	**41**	*e*Pn	**Pn**	**12 46 14.6**	**+0.9**
GRUS				*e*Sg	**Sg**	**12 46 39.6**	**-1.0**
SKO	**Skopje**	**1.83**	**108**	*e*Pn	**Pn**	**12 46 16.2**	**+1.9**
SKO				*e*Sn	**Sn**	**12 46 40.8**	**+3.5**
SKO	**Skopje**	**1.83**	**108**	*e*Pn	**Pn**	**12 46 16.1**	**+1.8**
SKO				*e*Sn	**Sn**	**12 46 40.8**	**+3.5**
OHR	**Ohrid**	**1.91**	**138**	*e*Pn	**Pn**	**12 46 18.6**	**+3.1**
OHR				*e*Sn	**Sn**	**12 46 43.5**	**+4.1**
OHR	**Ohrid**	**1.91**	**138**	*e*Pn	**Pn**	**12 46 18.5**	**+3.0**
OHR				*e*Sn	**Sn**	**12 46 43.5**	**+4.0**
KRUS	**Krusevo**	**1.99**	**126**	*e*Pn	**Pn**	**12 46 19.9**	**+3.4**
KRUS				*e*Sn	**Sn**	**12 46 45.2**	**+3.9**
BARS	**Barje**	**2.02**	**81**	*e*Pn	**Pn**	**12 46 16.9**	**0.0**
BARS				*e*Sg	**Sg**	**12 46 41.8**	**-6.2**
PE1	**Pezze di Greco**	**2.15**	**216**	*e*Pn	**Pn**	**12 46 17.3**	**-1.4**
BIA	**Bitola**	**2.26**	**132**	*e*Pn	**Pn**	**12 46 24.8**	**+4.6**
NOCI	**Noci**	**2.33**	**222**	Pn	**Pn**	**12 46 20.3**	**-0.9**
191nm,0.3s							
STIP	**Stip**	**2.45**	**109**	*e*Pn	**Pn**	**12 46 22.7**	**-0.1**
STIP				*e*Sn	**Sn**	**12 46 54.1**	**+1.5**
STIP	**Stip**	**2.45**	**109**	*e*Pn	**Pn**	**12 46 22.6**	**-0.2**
STIP				*e*Sn	**Sn**	**12 46 54.1**	**+1.5**
FGMS	**Monte Sant'Ang**	**2.49**	**251**	Pn	**Pn**	**12 46 23.2**	**-0.2**
34nm,0.4s							
SG1	**Sgolgore (BA)**	**2.49**	**228**	*e*Pn	**Pn**	**12 46 19.5**	**-3.9**
MS1	**Monte Sant'Ang**	**2.50**	**251**	*e*Pn	**Pn**	**12 46 23.5**	**0.0**
MSAG	**Monte S. Angel**	**2.52**	**252**	Pn	**Pn**	**12 46 23.4**	**-0.4**
BLY	**Banja Luka**	**2.60**	**328**	*e*Pn	**Pn**	**12 46 25.9**	**+0.9**
FGSL	**Fruska Gora**	**2.66**	**11**	*e*Pn	**Pn**	**12 46 25.8**	**+0.1**
FGSL				*e*Sn	**Sn**	**12 46 57.2**	**-0.6**
ZAPS	**Zavoj**	**2.69**	**73**	⇑*i*Pn	**Pn**	**12 46 25.6**	**-0.6**
ZAPS				*e*Sg	**Sg**	**12 47 04.2**	**-5.5**
RGNG	**Rignano Grg**	**2.76**	**253**	Pn	**Pn**	**12 46 26.6**	**-0.5**
VAY	**Valandovo**	**2.86**	**114**	*e*Pn	**Pn**	**12 46 28.7**	**+0.2**
VAY	**Valandovo**	**2.86**	**114**	*e*Pn	**Pn**	**12 46 30.1**	**+1.6**
VAY				*e*Sn	**Sn**	**12 47 03.9**	**+1.0**
VAY	**Valandovo**	**2.86**	**114**	*e*Pn	**Pn**	**12 46 30.1**	**+1.6**
MRLC	**Muro Lucano**	**3.25**	**238**	Pn	**Pn**	**12 46 33.4**	**-0.4**
17nm,0.5s							
SIRI	**Monte Sirino -**	**3.39**	**227**	Pn	**Pn**	**12 46 36.5**	**+0.7**
42nm,0.3s							
MTSN	**Montesano sull**	**3.40**	**229**	Pn	**Pn**	**12 46 35.6**	**-0.3**
MCRV	**Calabrutti - M**	**3.43**	**240**	Pn	**Pn**	**12 46 35.1**	**-1.3**
347nm,0.8s							
CDRU	**Civita di Ruta**	**3.52**	**235**	Pn	**Pn**	**12 46 36.3**	**-1.2**
20nm,0.3s							
CUC	**Castrocucco**	**3.56**	**225**	*e*Pn	**Pn**	**12 46 38.8**	**+0.7**
CUC				*e*Sn	**Sn**	**12 47 16.7**	**-3.3**
CUC	**Castrocucco**	**3.56**	**225**	*e*Pn	**Pn**	**12 46 38.9**	**+0.8**
CUC				*e*Sn	**Sn**	**12 47 16.7**	**-3.3**
BZS	**Buzias**	**3.56**	**30**	*e*Pn	**Pn**	**12 46 37.9**	**-0.3**
BZS	**Buzias**	**3.56**	**30**	⇓*i*P	**Pn**	**12 46 37.9**	**-0.3**
BZS				S	**Sn**	**12 47 20.7**	**+0.6**
MGR	**Morigerati**	**3.60**	**229**	Pn	**Pn**	**12 46 38.1**	**-0.5**
65nm,0.3s							
CMPR	**Campora**	**3.62**	**233**	Pn	**Pn**	**12 46 38.0**	**-1.0**
23nm,0.4s							
NVLJ	**Novalja**	**3.68**	**305**	*e*Pn	**Pn**	**12 46 40.3**	**+0.6**
NVLJ				Sn	**Sn**	**12 47 23.7**	**+0.7**
NVLJ	**Novalja**	**3.68**	**305**	*e*Pn	**Pn**	**12 46 40.2**	**+0.5**
NVLJ				Sn	**Sn**	**12 47 23.6**	**+0.7**
PKSM	**Moragy**	**3.68**	**355**	⇑*i*P	**Pn**	**12 46 39.4**	**-0.3**
PKSM	**Moragy**	**3.68**	**355**	S	**Sn**	**12 47 21.5**	**-1.5**
PKSM	**Moragy**	**3.68**	**355**	⇓*e*Pn	**Pn**	**12 46 39.5**	**-0.2**
PKSM				*e*Sn	**Sn**	**12 47 21.7**	**-1.3**
SGG	**Gregorio Mates**	**3.71**	**253**	Pn	**Pn**	**12 46 39.6**	**-0.5**
40nm,0.4s							
BULG	**Bulgheria - Ca**	**3.73**	**230**	Pn	**Pn**	**12 46 40.2**	**-0.3**
BULG				Sn	**Sn**	**12 47 22.3**	**-2.1**
52nm,0.3s							
VAGA	**Valle Agricola**	**3.80**	**254**	Pn	**Pn**	**12 46 41.7**	**+0.3**
55nm,0.3s							
TIP	**Timpagrande**	**3.81**	**209**	Pn	**Pn**	**12 46 42.3**	**+0.8**
24nm,1.2s							
TIP	**Timpagrande**	**3.81**	**209**	*e*Pn	**Pn**	**12 46 42.7**	**+1.2**
GZR	**Gura Zlata**	**3.89**	**42**	S	**Sn**	**12 47 26.9**	**-1.3**
INTR	**Introdacqua**	**3.89**	**264**	Pn	**Pn**	**12 46 42.8**	**+0.1**
57nm,0.7s							
JAVS	**Javornik**	**4.93**	**314**	*e*Pn	**Pn**	**12 46 58.0**	**+1.0**
JAVS				*e*Sn	**Sn**	**12 47 55.1**	**+1.3**
DRGR		**4.96**	**30**	S	**Sn**	**12 47 52.1**	**-2.5**
PERS	**Pernice**	**4.98**	**327**	*e*Pn	**Pn**	**12 46 59.0**	**+1.4**
PERS				*e*Sn	**Sn**	**12 47 54.2**	**-0.9**
VOY	**Vojsko**	**5.11**	**315**	*e*Pn	**Pn**	**12 47 00.3**	**+0.9**
VOY				*e*Sn	**Sn**	**12 47 58.6**	**+0.3**
OBKA	**Obir**	**5.13**	**322**	⇑*i*Pn	**Pn**	**12 47 00.5**	**+0.9**
OBKA				⇓*i*Sn	**Sn**	**12 47 60.0**	**+1.3**
OBKA	**Obir**	**5.13**	**322**	⇑*i*Pn	**Pn**	**12 47 00.5**	**+0.9**
OBKA				*i*Sn	**Sn**	**12 47 60.0**	**+1.3**
ARSA	**Arzberg**	**5.35**	**333**	⇓*i*Pn	**Pn**	**12 47 02.6**	**0.0**
ARSA				⇑*i*Sn	**Sn**	**12 48 05.3**	**+1.2**
PSZ	**Piszkesteto**	**5.40**	**6**	⇓*e*Pn	**Pn**	**12 47 03.8**	**+0.4**
PSZ				*e*Sn	**Sn**	**12 47 59.5**	**-5.9**
CONA	**Conrad Observa**	**5.85**	**338**	⇓*i*Pn	**Pn**	**12 47 10.0**	**+0.4**
CONA				⇓*i*Sn	**Sn**	**12 48 15.0**	**-1.4**
VYHS	**Vyhne**	**5.95**	**358**	*e*PN	**Pn**	**12 47 16.1**	**+5.2**
VYHS				*e*SN	**Sn**	**12 48 11.1**	**-7.8**
KECS	**Kecovo**	**6.02**	**9**	*e*SN	**Sn**	**12 48 12.0**	**-8.5**
KOLL	**Kolacno**	**6.05**	**356**	*e*SN	**Sn**	**12 48 19.2**	**-2.2**

*ISCJB **02** 12:51:42.7±1.4, 3185S±007×712W±0.1, h74km±13km, mb3.6/4, Error ellipse: s-maj=21.2km s-min=10.8km az=174.7*
*IDC **02** 12:51:42.3±0.8, 3182S×7114W, h54km±4km, mb3.6/4, mb1 3.8/9, mb1mx3.7/19, mbtmp3.6/9, MS2.9/1, Ms1 2.9/1, ms1mx2.3/32, Error ellipse: s-maj=23.4km s-min=22.6km az=109.0*
*NEIC **02** 12:51:43.3±1.3, 3178S×7120W, h64km±11km, Error ellipse: s-maj=18.9km s-min=10.7km az=85.0*
ISC 02 12:51:44.0±1.2, 3180S±006×711W±01, h68km±12km, n24, σ1§06/24, mb3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**2.48**	**86**	P	**Pn**	**12 52 24.1**	**+1.9**
7.7nm,0.3s,baz=246,slow=11,SNR=120							
CFAA				S	**Sn**	**12 52 56.4**	**+4.9**
6.2nm,0.3s,baz=44,slow=18,SNR=5.7							
LCO	**Las Campanas**	**2.81**	**8**	*e*Pn	**Pn**	**12 52 26.9**	**+0.3**
PLCA	**Paso Flores**	**8.93**	**177**	P	**Pn**	**12 53 48.9**	**-1.2**
0.1nm,0.3s,baz=339,slow=13,SNR=2.4							
PLCA	**Paso Flores**	**8.93**	**177**	P	**Pn**	**12 53 48.9**	**-1.2**
LVC	**Limon Verde**	**9.36**	**13**	P	**Pn**	**12 53 53.2**	**-3.1**
0.2nm,0.3s,baz=210,slow=8.1,SNR=3.3							
LVC				S	**Sn**	**12 55 53.9**	**+14**
1.0nm,0.3s,baz=210,slow=20,SNR=3.6							
LVC				LR	LR	12 57 54.8	
comp=Z,66nm,18.4s,baz=158,slow=40							
TRQA	**Tornquist**	**9.77**	**132**	*e*Pn	**Pn**	**12 54 02.7**	**+1.0**
5.6nm,0.6s							
CPUP	**Villa Florida**	**13.25**	**69**	P	**Pn**	**12 54 47.0**	**-2.2**
0.6nm,0.3s,baz=180,slow=6.1,SNR=3.8							
CPUP				S	**Sn**	**12 57 08.8**	**-6.0**
1.8nm,0.3s,baz=285,slow=2.2,SNR=3.1							
CPUP	**Villa Florida**	**13.25**	**69**	P	**Pn**	**12 54 47.0**	**-2.2**
CPUP				S	**Sn**	**12 57 08.8**	**-6.0**
LPAZ	**La Paz**	**15.68**	**11**	P	**Pn**	**12 55 21.8**	**+0.8**
0.1nm,0.3s,baz=194,slow=8.8,SNR=8.3							
LPAZ	**La Paz**	**15.68**	**11**	P	**Pn**	**12 55 21.8**	**+0.8**
SIV	**San Ignacio**	**18.21**	**33**	P	**Pn**	**12 55 51.3**	**-0.9**
0.4nm,0.3s,baz=220,slow=9.5,SNR=18							
BDFB	**Brasilia**	**26.50**	**58**	P	**P**	**12 57 14.9**	**-0.3**
5.8nm,1.1s,mb4.0,baz=213,slow=14,SNR=5.8							
VNA3	**Neumayer Olymp**	**51.12**	**159**	*e*	**P**	**13 00 39.4**	**0.0**
VNA3				*e*		13 00 42.2	
VNA2	**Neumayer--Watz**	**51.75**	**158**	*e*	**P**	**13 00 44.1**	**0.0**
VNA2				*e*		13 00 48.1	
SNAA	**Sanae**	**53.34**	**159**	*e*	**P**	**13 00 55.7**	**-0.1**
SNAA				*e*		13 00 59.3	
TXAR	**Lajitas Array**	**68.20**	**330**	P	**P**	**13 02 38.0**	**+0.7**
0.3nm,0.6s,mb3.3,baz=162,slow=9.0,SNR=5.9							
TXAR				pP	pP	13 02 52.4	-2.9
0.3nm,0.8s,baz=159,slow=11,SNR=2.8							
TXAR				sP	sP	13 02 58.0	-4.9
0.3nm,0.6s,baz=173,slow=11,SNR=3.7							
TXAR	**Lajitas Array**	**68.20**	**330**	P	**P**	**13 02 38.0**	**+0.7**
TXAR				pP	pP	13 02 52.4	-2.9
TXAR				sP	sP	13 02 58.0	-4.9
NVAR	**Mina Array Bea**	**82.52**	**324**	P	**P**	**13 03 59.6**	**+0.4**
0.3nm,0.7s,mb3.3,baz=140,slow=5.7,SNR=3.2							
TORD	**Torodi Ar. Bea**	**82.75**	**70**	P	**P**	**13 04 01.0**	**+0.1**
1.8nm,0.8s,mb3.9,baz=281,slow=7.4,SNR=11							
TORD				pP	pP	13 04 16.5	-3.0
0.7nm,0.7s,baz=261,slow=4.6,SNR=3.2							
TORD				sP	sP	13 04 22.0	-4.9
0.9nm,0.6s,baz=275,slow=5.9,SNR=3.9							
TORD	**Torodi Ar. Bea**	**82.75**	**70**	P	**P**	**13 04 01.0**	**+0.1**
TORD				pP	pP	13 04 16.5	-3.0
TORD				sP	sP	13 04 22.0	-4.9
WRA	**Warramunga Arr**	**123.05**	**209**	PKP	PKPdf	13 10 32.2	-1.0
0.6nm,0.4s,baz=160,slow=1.7,SNR=26							
WRA				pPKP	pPKPdf	13 10 48.4	-4.5
0.6nm,0.6s,baz=168,slow=1.6,SNR=3.6							
BVAR	**Borovoye Array**	**145.15**	**41**	PKPbc	PKPbc	13 11 12.3	-0.6
1.3nm,0.8s,baz=294,slow=0.9,SNR=5.5							
BVAR				pPKPbc	pPKPbc	13 11 29.8	-2.4
0.8nm,0.5s,baz=291,slow=4.6,SNR=3.2							
ZALV	**Zalesovo Beam**	**151.96**	**31**	PKPbc	PKPbc	13 11 30.4	-0.3
1.7nm,0.4s,baz=314,slow=3.8,SNR=8.1							
ZALV				pPKPbc	pPKPbc	13 11 46.4	-3.9
1.2nm,0.5s,baz=308,slow=4.0,SNR=4.0							
MKAR	**Makanchi Array**	**154.73**	**46**	PKPab	PKPab	13 11 52.3	0.0
0.5nm,0.5s,baz=288,slow=4.8,SNR=3.5							

IDC 02 12:52:44.1±4.5, 636S×12892E, h380km±51km, mb2.8/1, mb1 2.7/4, mb1mx2.6/15, mbtmp2.6/4, Error ellipse:
s-maj=68.1km s-min=17.1km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.10**	**195**	P	P	12 55 25.6	-0.1
0.1nm,0.3s,baz=10,slow=14,SNR=8.7							
FITZ				S	S	12 57 38.8	-0.5
0.1nm,0.3s,baz=225,slow=19,SNR=2.1							
WRA	**Warramunga Arr**	**14.49**	**159**	P	P	12 55 51.6	-0.3
0.1nm,0.3s,baz=333,slow=12,SNR=16							
WRA				S	S	12 58 27.6	+0.1
0.0nm,0.3s,baz=336,slow=19,SNR=3.1							
ASAR	**Alice Springs**	**17.86**	**165**	P	P	12 56 28.3	+0.2
0.1nm,0.3s,baz=345,slow=11,SNR=12							
ASAR				S	S	12 59 34.9	+1.2
0.1nm,0.3s,baz=354,slow=23,SNR=4.5							
MKAR	**Makanchi Array**	**67.11**	**327**	P	P	13 02 58.1	+0.1
0.2nm,0.4s,baz=124,slow=6.2,SNR=3.2							

*ISCJB **02** 12:56:07.5±0.3, 3716N±002×387W±002, h8km±2km, Error ellipse: s-maj=3.3km s-min=2.3km az=172.1*
*SFS **02** 12:56:08.0, 3708N×382W, h0km, ML2.9*
*MDD **02** 12:56:08.5±0.1, 3709N×382W, h0km, mbLg2.9/21, Error ellipse: s-maj=1.8km s-min=1.0km az=172.0, PRIMO*
MDD EMS: III ZONA EPICENTRAL.
*INMG **02** 12:56:08.5±1.0, 3708N×382W, h0km, ML2.9, Error ellipse: s-maj=1.7km s-min=1.3km az=165.0*
*CSEM **02** 12:56:08.7±0.1, 3709N×382W, h2km, ML3.5/15, Error ellipse: s-maj=2.0km s-min=1.5km az=167.0*
*LDG **02** 12:56:08.8±0.2, 3702N×386W, h5km, Ml3.5/4, Error ellipse: s-maj=3.7km s-min=2.7km az=174.0*
*NEIC **02** 12:56:08.4, 3709N×382W, h0km, MN2.9(MDD), After MDD.*
NEIC Felt [II] at Ventas de Huelma.
ISC 02 12:56:08.2±0.3, 3713N±002×384W±002, h6km±2km, n117, σ1§10/184, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERON	**Agron**	**0.11**	**168**	Pg	**Pg**	**12 56 10.7**	**+0.1**
SNR=7.9							
ELOJ	**Sierra Loja**	**0.25**	**275**	Pg	**Pg**	**12 56 13.3**	**+0.1**
47nm,0.1s,SNR=81							
ELOJ				Lg		12 56 17.6	
159nm,0.1s,SNR=7.9							
ECOG	**Cogollos-Vega**	**0.26**	**55**	Pg	**Pg**	**12 56 13.4**	**0.0**
130nm,0.1s,SNR=115							
ECOG				Lg		12 56 17.7	
256nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**0.33**	**76**	Pg	**Pg**	**12 56 14.3**	**-0.3**
285nm,0.1s,SNR=1817							
EQUE				Lg		12 56 18.7	
524nm,0.1s,SNR=7.9							
EGUA	**Guajares**	**0.36**	**144**	Pg	**Pg**	**12 56 14.6**	**-0.7**
169nm,0.2s,SNR=7.9							
EGUA				Lg		12 56 19.4	
178nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**0.55**	**322**	Pg	**Pg**	**12 56 19.1**	**+0.2**
28nm,0.3s,SNR=24							
ELUQ				Lg		12 56 28.8	
219nm,0.3s,SNR=17							
EMAL	**Malaga-Limoner**	**0.60**	**233**	Pg	**Pg**	**12 56 22.8**	**+3.0**
17nm,0.1s,SNR=7.9							
EMAL				Lg		12 56 28.6	
94nm,0.3s,SNR=7.9							
EBER	**Berja**	**0.79**	**107**	Pg	**Pg**	**12 56 22.9**	**-0.6**
48nm,0.2s,SNR=65							
EBER				Lg		12 56 33.0	
202nm,0.4s,SNR=7.9							
EBER	**Berja**	**0.79**	**107**	Pg	**Pg**	**12 56 22.9**	**-0.5**
48nm,0.2s,SNR=65							
EQES	**Quesada**	**0.91**	**42**	Pg	**Pg**	**12 56 26.4**	**+0.8**
43nm,0.4s,SNR=95							
EQES				Lg		12 56 40.1	
116nm,0.3s,SNR=26							
EQES	**

PAB eSg **Sg** **12 57 27.9 +1.0**
PAB San Pablo 2.45 351 ePn **Pn** **12 56 50.1 +1.4**
PAB eSg **Sg** **12 57 27.9 +1.0**
ESDC Sonseca Array 2.54 358 Pn **Pn** **12 56 51.0 +1.0**
2.3nm,0.3s,baz=181,slow=12,SNR=16
ESDC Sonseca Array 2.54 358 Pn **Pn** **12 56 51.0 +0.9**
2.3nm,0.3s,SNR=16
ESLA Sonseca Array 2.54 358 ePn **Pn** **12 56 51.4 +1.3**
ESLA eSg **Sg** **12 57 33.8 +3.8**
ESLA Sonseca Array 2.54 358 ePn **Pn** **12 56 51.4 +1.3**
ESLA eSg **Sg** **12 57 33.9 +3.9**
PBAR Barrancos 2.75 293 ePn **Pn** **12 56 52.6 -0.3**
PBAR eSn **Sn** **12 57 25.7 -0.7**
PBAR A 12 57 51.0
32nm,0.5s
PBAR Barrancos 2.75 293 ePn **Pn** **12 56 52.6 -0.3**
PBAR eSn **Sn** **12 57 25.7 -0.7**
32nm,0.5s
EGRO El Granado 2.94 279 Pn **Pn** **12 56 54.9 -0.6**
1.8nm,0.2s,SNR=14
EGRO Sn **Sn** **12 57 30.3 -0.7**
SNR=7.9
EGRO Lg 12 57 42.8
24nm,0.3s,SNR=7.9
EGRO El Granado 2.94 279 Pn **Pn** **12 56 54.9 -0.5**
1.8nm,0.2s,SNR=14
EGRO Sn **Sn** **12 57 30.3 -0.7**
SNR=7.9
EGRO El Granado 2.94 279 Pn **Pn** **12 56 54.9 -0.6**
EGRO Sn **Sn** **12 57 30.3 -0.8**
EGRO Lg 12 57 42.8
EBAD Badajoz 2.99 304 Pn **Pn** **12 56 57.0 +0.8**
0.7nm,0.1s,SNR=6.9
EBAD Pg **Pg** **12 57 04.4 -1.2**
SNR=7.9
EBAD Sn **Sn** **12 57 31.2 -1.2**
SNR=7.9
EBAD Lg 12 57 45.3
17nm,0.3s,SNR=7.9
EBAD Badajoz 2.99 304 Pn **Pn** **12 56 57.0 +0.8**
0.7nm,0.1s,SNR=6.9
EBAD Sn **Sn** **12 57 31.2 -1.2**
SNR=7.9
TZK Tazeka 3.05 185 *i* P **Pn** **12 56 58.0 +1.0**
TZK *i* S **Sn** **12 57 34.5 +0.8**
PVAQ Vaqueiros 3.11 276 ePn **Pn** **12 56 57.1 -0.7**
PVAQ eSn **Sn** **12 57 34.6 -0.7**
PVAQ A 12 57 52.8
27nm,0.6s
PVAQ Vaqueiros 3.11 276 ePn **Pn** **12 56 57.1 -0.7**
PVAQ eSn **Sn** **12 57 34.6 -0.7**
27nm,0.6s
EBEN Beniarda 3.26 60 Pn **Pn** **12 57 00.5 +0.6**
3.4nm,0.1s,SNR=19
EBEN Sn **Sn** **12 57 39.6 +0.6**
SNR=7.9
EBEN Beniarda 3.26 60 Pn **Pn** **12 57 00.5 +0.6**
3.4nm,0.1s,SNR=19
EBEN Sn **Sn** **12 57 39.6 +0.6**
SNR=7.9
PBDV Barranco-do-Ve 3.27 273 ePn **Pn** **12 56 59.8 -0.3**
PBDV eSn **Sn** **12 57 38.5 -0.8**
PBDV A 12 58 01.4
28nm,0.7s
PBDV Barranco-do-Ve 3.27 273 ePn **Pn** **12 56 59.8 -0.3**
PBDV eSn **Sn** **12 57 38.5 -0.8**
28nm,0.7s
PBEJ Beja 3.33 287 ePn **Pn** **12 57 01.1 +0.3**
PBEJ eSn **Sn** **12 57 40.1 -0.5**
PBEJ A 12 58 01.2
19nm,0.5s
PBEJ Beja 3.33 287 ePn **Pn** **12 57 01.1 +0.3**
PBEJ eSn **Sn** **12 57 40.1 -0.5**
19nm,0.5s
ECHE Chera 3.34 42 Pn **Pn** **12 57 01.4 +0.4**
1.6nm,0.2s,SNR=8.2
ECHE Pg **Pg** **12 57 10.0 -2.1**
SNR=7.9
ECHE Lg 12 57 55.0
12nm,0.4s,SNR=7.9
PESTR Estremoz 3.44 301 ePn **Pn** **12 57 02.3 0.0**
PESTR eSg **Sg** **12 57 59.6 +1.0**
PESTR A 12 58 09.3
30nm,0.6s
PESTR Estremoz 3.44 301 ePn **Pn** **12 57 02.3 0.0**
PESTR eSg **Sg** **12 57 59.6 +1.0**
30nm,0.6s
GUD Guadarrama 3.52 356 Pn **Pn** **12 57 04.2 +0.8**
2.0nm,0.3s,SNR=5.0
GUD Pg **Pg** **12 57 13.7 -1.9**
SNR=7.9
GUD Lg 12 58 01.8
36nm,0.4s,SNR=7.0
EVO Evora 3.59 294 ePn **Pn** **12 57 06.3 +1.8**
EVO eSn **Sn** **12 57 46.6 -0.6**
EVO eSg **Sg** **12 58 07.2 +3.6**
49nm,0.4s
EVO Evora 3.59 294 ePn **Pn** **12 57 04.8 +0.3**
EVO eSn **Sn** **12 57 46.9 -0.3**
EVO A 12 58 09.4
24nm,0.4s
EVO Evora 3.59 294 ePn **Pn** **12 57 04.8 +0.3**
EVO eSn **Sn** **12 57 46.9 -0.3**
24nm,0.4s
PMRV Marv??o 3.62 310 ePn **Pn** **12 57 06.5 +1.6**
PMRV eSg **Sg** **12 58 04.4 -0.1**
PMRV A 12 58 14.0
28nm,0.4s
PMRV Marv??o 3.62 310 ePn **Pn** **12 57 06.5 +1.6**
PMRV eSg **Sg** **12 58 04.4 -0.1**
28nm,0.4s
EVOP Sao Brissos 3.67 294 ePn **Pn** **12 57 06.3 +0.7**
EVOP eSn **Sn** **12 57 46.6 -2.6**
EVOP eSg **Sg** **12 58 07.2 +1.0**
24nm,0.4s
MOE Montemor 3.84 293 ePn **Pn** **12 57 08.6 +0.8**
MOE eSn **Sn** **12 57 52.5 -0.7**
MORF Marmelete 3.85 274 ePn **Pn** **12 57 08.6 +0.6**
MORF eSn **Sn** **12 57 52.8 -0.7**
MORF A 12 58 16.1
13nm,0.5s
MORF Marmelete 3.85 274 ePn **Pn** **12 57 08.6 +0.6**
MORF eSn **Sn** **12 57 52.8 -0.7**
13nm,0.5s
PTEO Sao Teotonio 3.92 278 eSn **Sn** **12 57 54.4 -0.9**
PTEO A 12 58 20.1
31nm,0.6s
PTEO Sao Teotonio 3.92 278 eSn **Sn** **12 57 54.4 -0.9**
31nm,0.6s
PCBR Castelo Branco 3.94 315 ePn **Pn** **12 57 09.7 +0.5**
PCBR eSn **Sn** **12 57 54.8 -0.9**
PCBR eSg **Sg** **12 58 15.9 +1.2**
PCBR A 12 58 21.5
20nm,0.5s
PCBR Castelo Branco 3.94 315 ePn **Pn** **12 57 09.7 +0.5**
PCBR eSn **Sn** **12 57 54.8 -0.9**
PCBR eSg **Sg** **12 58 15.9 +1.2**
20nm,0.5s
ETOR Torete 3.94 20 Pn **Pn** **12 57 09.2 0.0**
7.6nm,0.2s,SNR=14
ETOR Pg **Pg** **12 57 21.5 -2.2**
SNR=7.9
ETOR Lg 12 58 14.2
39nm,0.3s,SNR=8.5
PFVI Vila Bisbo 3.99 272 ePn **Pn** **12 57 09.6 -0.3**
PFVI eSn **Sn** **12 57 55.5 -1.5**
PFVI A 12 58 28.5
14nm,0.4s
PFVI Vila Bisbo 3.99 272 ePn **Pn** **12 57 09.6 -0.3**
PFVI eSn **Sn** **12 57 55.5 -1.5**
14nm,0.4s
EMOS Mosqueruela 4.17 38 Pn **Pn** **12 57 12.8 +0.5**
0.4nm,0.1s,SNR=7.9
EMOS Pg **Pg** **12 57 24.7 -3.4**
SNR=7.9
EMOS Lg 12 58 19.8
5.4nm,0.3s,SNR=7.9
EMOS Mosqueruela 4.17 38 Pn **Pn** **12 57 12.8 +0.5**
0.4nm,0.1s,SNR=7.9
MTE Manteigas 4.37 320 A 12 58 37.8
27nm,0.6s
EIBI Ibiza 4.50 64 Pn **Pn** **12 57 17.2 +0.2**
2.9nm,0.1s,SNR=5.6
EIBI Sn **Sn** **12 58 09.3 -0.4**
SNR=7.9
EIBI Ibiza 4.50 64 Pn **Pn** **12 57 17.2 +0.2**
2.9nm,0.1s,SNR=5.6
EIBI Sn **Sn** **12 58 09.3 -0.4**
SNR=7.9
MVO Moncorvo 4.73 329 ePn **Pn** **12 57 21.1 +1.0**
MVO eSn **Sn** **12 58 14.9 -0.4**
MVO A 12 58 50.4
24nm,0.5s
MVO Moncorvo 4.73 329 ePn **Pn** **12 57 21.1 +1.0**
MVO eSn **Sn** **12 58 14.9 -0.4**
24nm,0.5s
ERTA Horta de San J 5.01 39 Pn **Pn** **12 57 24.6 +0.6**
SNR=7.9
ERTA Lg 12 58 47.6
5.3nm,0.4s,SNR=7.9
ERTA Horta de San J 5.01 39 Pn **Pn** **12 57 24.6 +0.6**
SNR=7.9
ESAC San Caprasio 5.28 29 Pn **Pn** **12 57 28.9 +1.3**
SNR=7.9
ESAC Lg 12 58 56.7
33nm,0.4s,SNR=7.9
ESAC San Caprasio 5.28 29 Pn **Pn** **12 57 28.9 +1.3**
SNR=7.9
ECAL Calabor 5.30 336 Pn **Pn** **12 57 29.1 +1.1**
SNR=7.9
ECAL Lg 12 58 58.0
4.7nm,0.3s,SNR=7.9
ECAL Calabor 5.30 336 Pn **Pn** **12 57 29.1 +1.1**
SNR=7.9
PCAB Cabril 5.61 326 eSg **Sg** **12 59 09.2 +0.9**
PCAB A 12 59 27.1
13nm,0.6s
PCAB Cabril 5.61 326 eSg **Sg** **12 59 09.2 +0.9**
13nm,0.6s
EPOB Poblet 5.69 41 Pn **Pn** **12 57 33.6 +0.4**
6.6nm,0.5s,SNR=5.7
EPOB Poblet 5.69 41 Pn **Pn** **12 57 33.6 +0.4**
6.6nm,0.5s,SNR=5.7
ELOB Lobios 5.75 327 Pn **Pn** **12 57 35.8 +1.7**
SNR=7.9
ELOB Sn **Sn** **12 58 38.2 -2.2**
SNR=7.9
ELOB Lobios 5.75 327 Pn **Pn** **12 57 35.8 +1.6**
ELOB Sn **Sn** **12 58 38.2 -2.2**
ELOB Lg 12 59 12.2
ETOS Mallorca 5.85 61 Pn **Pn** **12 57 36.4 +0.9**
8.1nm,0.8s,SNR=4.9
ETOS Sn **Sn** **12 58 40.4 -2.4**
SNR=7.9
ETOS Mallorca 5.85 61 Pn **Pn** **12 57 36.4 +1.0**
8.1nm,0.8s,SNR=4.9
ETOS Sn **Sn** **12 58 40.4 -2.4**
SNR=7.9
IZUN Zunzarren 6.01 17 Pn **Pn** **12 57 38.2 +0.5**
SNR=7.9
IZUN Zunzarren 6.01 17 Pn **Pn** **12 57 38.2 +0.5**
SNR=7.9
EORO Oroz-Betelu 6.08 18 Pn **Pn** **12 57 40.1 +1.6**
3.5nm,0.4s,SNR=7.0
EORO Oroz-Betelu 6.08 18 Pn **Pn** **12 57 40.1 +1.5**
3.5nm,0.4s,SNR=7.0
EARI Arriondas 6.25 351 Pn **Pn** **12 57 41.6 +0.6**
SNR=7.9
EARI Arriondas 6.25 351 Pn **Pn** **12 57 41.6 +0.6**
EARI Lg 12 59 30.8
ELIZ Elizondo 6.28 16 Pn **Pn** **12 57 43.0 +1.5**
5.2nm,0.3s,SNR=8.1
ETSF Etsaut 6.29 23 ePn **Pn** **12 57 42.5 +1.0**
ETSF eSn **Sn** **12 58 51.0 -2.6**
ETSF eSg **Sg** **12 59 28.3 -1.8**
20nm,0.9s
ETSF Etsaut 6.29 23 ePn **Pn** **12 57 42.5 +1.0**
ETSF eSn **Sn** **12 58 51.0 -2.6**
SJPF Ste Jean 6.30 18 ePn **Pn** **12 57 42.7 +1.0**
SJPF eSg **Sg** **12 59 28.8 -1.8**
18nm,0.8s
SJPF Ste Jean 6.30 18 Pn **Pn** **12 57 42.7 +1.0**
SJPF Lg 12 59 28.8
8.9nm,0.8s
EBIE Bielsa 6.34 28 Pn **Pn** **12 57 43.5 +1.4**
2.0nm,0.4s,SNR=7.8
EBIE Sn **Sn** **12 58 54.8 0.0**
SNR=7.9
EBIE Bielsa 6.34 28 Pn **Pn** **12 57 43.5 +1.3**
EBIE Sn **Sn** **12 58 54.8 0.0**
EALK Alkurruntz 6.34 16 Pn **Pn** **12 57 43.5 +1.3**
11nm,0.5s,SNR=12
EALK Sn **Sn** **12 58 53.1 -1.8**
SNR=7.9
EPF Esparros 6.71 27 ePn **Pn** **12 57 47.4 +0.1**
EPF eSg **Sg** **12 59 41.3 -2.2**
9.4nm,0.6s
EPF Esparros 6.71 27 Pn **Pn** **12 57 47.4 +0.1**
EPF Lg 12 59 41.3
4.7nm,0.6s

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*ISCJB **02** 12:56:39.2±0.7, 073S±008×10048E±007, h10km, mb4.1/12, MS3.9/3, Error ellipse: s-maj=12.6km s-min=8.1km az=38.6*
*IDC **02** 12:56:39.6±1.1, 063S×10049E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/20, mbtmp3.9/11, ML3.5/2, MS3.7/5, Ms1 3.7/5, ms1mx3.1/39, Error ellipse: s-maj=43.2km s-min=13.4km az=54.0*
*NEIC **02** 12:56:43.9±1.0, 076S×10042E, h30km, mb4.6/3, Error ellipse: s-maj=37.8km s-min=11.2km az=49.0*
NEIC Felt [IV] at Batusangkar, Bukittinggi, Padangpanjang and Solok; [II] at Padang.
*DJA **02** 12:56:46, 040S×10041E, h0km, ML4.9/8*
ISC 02 12:56:41.0±0.7, 073S±008×10044E±007, h10km, n31, σ0°97/30, mb4.1/12, MS3.9/3, 7C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.82**	**337**	Pn	**Pn**	**12 57 38.4**	**-1.6**
	2.3nm,0.3s,baz=130,slow=14,SNR=8.9						
PSI				Pg	**Pb**	**12 57 47.1**	**-1.5**
	34nm,0.3s,baz=126,slow=8.9,SNR=56						
PSI				Lg		12 58 33.9	
	17nm,0.3s,baz=93,slow=14,SNR=5.4						
PSI				LR	LR	12 58 48.6	
	comp=Z,280nm,18.0s,baz=157,slow=35						
KGM	**Kluang**	**3.97**	**47**	↑P	**Pn**	**12 57 42.8**	**+0.8**
FRIM	**Kepong**	**4.12**	**17**	↑P	**Pn**	**12 57 43.4**	**-0.6**
MYKOM	**Kota Tinggi**	**4.23**	**54**	↓P	**Pn**	**12 57 45.8**	**+0.3**
TSI	**Tuntungan**	**4.60**	**336**	*eP*	**Pb**	**12 58 05.5**	**+3.6**
IPM	**Ipoh**	**5.21**	**6**	↑P	**Pn**	**12 57 59.7**	**+0.7**
KULM	**Kulim**	**5.99**	**2**	↓P	**Pn**	**12 58 09.3**	**-0.4**
KTGM	**Kuala Trenggan**	**6.60**	**24**	↑P	**Pn**	**12 58 17.9**	**-0.2**
KSM	**Kuching**	**10.11**	**77**	↑P	**Pn**	**12 59 06.0**	**-0.3**
SBUM	**Sibu**	**12.20**	**75**	↑P	**Pn**	**12 59 34.8**	**-0.2**
KKM	**Kota Kinabalu**	**17.13**	**67**	↓P	**Pn**	**13 00 45.0**	**+4.3**
SDKM	**Sandakan**	**17.89**	**69**	↑P	**Pn**	**13 00 53.6**	**+3.5**
CMAR	**Chiang Mai Arr**	**19.13**	**356**	P	**Pn**	**13 01 06.3**	**+1.1**
	0.2nm,0.3s,baz=184,slow=8.1,SNR=4.0						
CMAR				LR	LR	13 09 45.6	
	comp=Z,126nm,18.9s,baz=195,slow=41						
KAPI	**Kappang**	**19.75**	**103**	P	**Pn**	**13 01 12.2**	**-0.6**
	0.2nm,0.3s,baz=347,slow=21,SNR=2.3						
KAPI	**Kappang**	**19.75**	**103**	P	**Pn**	**13 01 12.2**	**-0.6**
NWAO	**Narrogin (SRO)**	**35.71**	**155**	LR	LR	13 19 08.7	
	comp=Z,186nm,18.3s,MS3.9,baz=285,slow=38						
WRA	**Warramunga Arr**	**38.27**	**122**	P	**P**	**13 04 01.4**	**-0.4**
	0.8nm,0.5s,mb3.7,baz=302,slow=9.0,SNR=10						
WRA				PcP	PcP	13 06 16.6	+0.5
	0.6nm,0.7s,baz=309,slow=2.5,SNR=6.8						
ASAR	**Alice Springs**	**39.66**	**128**	P	**P**	**13 04 12.8**	**-0.6**
	1.0nm,0.8s,mb3.6,baz=305,slow=7.2,SNR=9.9						
ASAR				PcP	PcP	13 06 20.9	+0.6
	0.5nm,0.6s,baz=295,slow=2.0,SNR=8.5						
KSRS	**Korea Array**	**45.72**	**31**	P	**P**	**13 05 01.8**	**-0.6**
	1.9nm,0.9s,mb4.0,baz=229,slow=8.8,SNR=7.3						
SONM	**Songino Array**	**48.65**	**5**	P	**P**	**13 05 25.5**	**+0.4**
	0.4nm,0.5s,mb3.7,baz=191,slow=6.8,SNR=2.9						
SONM				PcP	PcP	13 06 51.4	+1.0
	0.8nm,0.7s,baz=182,slow=3.4,SNR=3.8						
SONM				LR	LR	13 30 00.9	
	comp=Z,70nm,18.1s,MS3.7,baz=60,slow=41						
CTA	**Charters Tower**	**48.75**	**116**	LR	LR	13 29 51.9	
	comp=Z,161nm,20.3s,MS4.0,baz=249,slow=41						
TKM2	**Tokmak 2**	**48.86**	**336**	*eP*	**P**	**13 05 27.2**	**+0.4**
	6.2nm,0.8s,mb4.7						
EKS2	**Erkin-Say**	**49.41**	**334**	*eP*	**P**	**13 05 31.7**	**+0.7**
	9.7nm,0.8s,mb4.9						
MK31	**Makanchi Array**	**49.94**	**344**	*eP*	**P**	**13 05 35.5**	**+0.5**
MKAR	**Makanchi Array**	**49.94**	**344**	P	**P**	**13 05 33.7**	**-1.2**
	1.4nm,0.7s,mb4.1,baz=151,slow=7.9,SNR=10						
KURK	**Kurchatov**	**54.53**	**343**	*eP*	**P**	**13 06 08.9**	**0.0**
	2.2nm,0.8s,mb4.2						
ZAA0	**Zalesovo Array**	**56.02**	**349**	*eP*	**P**	**13 06 21.7**	**+2.1**
ZALV	**Zalesovo Beam**	**56.02**	**349**	P	**P**	**13 06 17.5**	**-2.2**
	1.9nm,0.7s,mb4.2,baz=165,slow=6.0,SNR=5.2						
AKASG	**Malin Array Be**	**78.76**	**322**	P	**P**	**13 08 44.3**	**+0.5**
	0.3nm,0.3s,mb3.6,baz=86,slow=5.3,SNR=4.9						
ARCES	**ARCESS Array B**	**85.44**	**340**	P	**P**	**13 09 18.8**	**+0.3**
	1.5nm,0.9s,mb4.1,baz=103,slow=3.9,SNR=3.8						
GERES	**GERESS Array B**	**88.39**	**319**	P	**P**	**13 09 34.4**	**+1.1**
	0.6nm,0.2s,mb4.4,baz=101,slow=4.1,SNR=4.3						

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*IDC **02** 13:04:15.2±1.4, 4773N×15636E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/24, mbtmp3.8/9, ML3.5/2, Error ellipse: s-maj=36.7km s-min=20.9km az=159.0*
*ISCJB **02** 13:04:17.4±1.0, 4772N±008×1562E±02, h33km, mb3.8/7, Error ellipse: s-maj=18.0km s-min=9.1km az=21.9*
*MOS **02** 13:04:20.9±2.2, 4805N×15550E, h33km, mb4.1/4, Error ellipse: s-maj=27.3km s-min=16.0km az=73.5*
ISC 02 13:04:20.5±0.9, 4778N±008×1562E±02, h35km, n15, σ1°32/17, mb3.8/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.91**	**359**	*e*PN	**Pn**	**13 05 02.1**	**-2.1**
SKR				*e*S	**Sn**	**13 05 37.5**	**-0.4**
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR				smax			
	comp=N,310nm,0.2s						
SKR				smax			
	comp=E,470nm,0.2s						
PETK	**Petropavlovsk-**	**5.42**	**10**	**Pn**	**Pn**	**13 05 37.4**	**-1.3**
	comp=E,1.7nm,0.3s,baz=180,slow=13,SNR=33						
PETK				Sn	**Sn**	**13 06 42.9**	**+3.1**
	comp=E,0.7nm,0.3s,baz=254,slow=25,SNR=3.7						
KUR	**Kuril'sk**	**6.30**	**249**	*e*PN	**Pn**	**13 05 45.0**	**-5.7**
ASAJ	**Asahikawa**	**10.16**	**254**	Pn	**Pn**	**13 06 42.1**	**-1.6**
	comp=E,0.4nm,0.3s,baz=78,slow=9.3,SNR=5.3						
KSRS	**Korea Array**	**23.11**	**254**	P	**P**	**13 09 24.9**	**+1.7**
	comp=E,0.9nm,0.8s,mb3.3,baz=59,slow=10,SNR=4.0						
KSRS	**Korea Array**	**23.11**	**254**	P	**P**	**13 09 24.9**	**+1.7**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.3						
MKAR	**Makanchi Array**	**48.34**	**298**	P	**P**	**13 12 58.5**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.2,baz=71,slow=8.1,SNR=9.3						
MKAR	**Makanchi Array**	**48.34**	**298**	P	**P**	**13 12 58.6**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**51.83**	**310**	P	**P**	**13 13 24.5**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=56,slow=9.7,SNR=4.3						
ARCES	**ARCESS Array B**	**57.56**	**342**	P	**P**	**13 14 06.2**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=29,slow=8.3,SNR=3.9						
ARCES	**ARCESS Array B**	**57.56**	**342**	P	**P**	**13 14 06.2**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**60.09**	**65**	P	**P**	**13 14 23.4**	**-0.5**
	comp=Z,0.2nm,0.5s,mb3.4,baz=300,slow=7.1,SNR=3.6						
PDAR	**Pinedale Array**	**62.43**	**56**	P	**P**	**13 14 39.7**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.5,baz=6.6,slow=2.4,SNR=2.8						
NOA	**NORSAR Array B**	**67.91**	**342**	P	**P**	**13 15 17.4**	**+2.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=25,slow=6.5,SNR=3.6						
NOA	**NORSAR Array B**	**67.91**	**342**	P	**P**	**13 15 17.4**	**+2.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

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*NEIC **02** 13:08:57.2±1.8, 1538S×16739E, h116km±17km, mb4.6/11, Error ellipse: s-maj=15.0km s-min=11.1km az=200.0*
*IDC **02** 13:08:59.5±2.1, 1550S×16744E, h136km±17km, mb4.1/14, mb1 4.1/15, mb1mx3.9/24, mbtmp4.1/15, Error ellipse: s-maj=19.2km s-min=14.5km az=39.0*
*ISCJB **02** 13:09:01.4±1.5, 1563S±007×16734E±009, h167km±12km, mb4.4/18, Error ellipse: s-maj=15.7km s-min=8.2km az=145.1*
ISC 02 13:09:01.9±1.3, 1560S±007×16737E±008, h158km±10km, n38, σ0°75/40, mb4.4/18, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.50**	**188**	*eP*	**Pn**	**13 10 35.3**	**+0.1**
DZM				*eS*	**Sn**	**13 11 47.8**	**-0.6**
HNR	**Honiara**	**9.49**	**309**	P	**Pn**	**13 11 14.5**	**-0.6**
	8.2nm,0.3s,baz=100,slow=6.1,SNR=3.6						
HNR				S	**Sn**	**13 13 01.2**	**+0.7**
	5.4nm,0.3s,baz=94,slow=18,SNR=3.4						
HNR	**Honiara**	**9.49**	**309**	Pn	**Pn**	**13 11 07.4**	**-7.7**
HNR				S	**Sn**	**13 13 01.2**	**+0.7**
AFI	**Afiamalu**	**20.24**	**88**	P	**P**	**13 13 25.1**	**+0.1**
	7.7nm,0.5s,baz=218,slow=23,SNR=4.3						
CTA	**Charters Tower**	**20.59**	**254**	*eP*	**P**	**13 13 30.1**	**+1.4**
	6.4nm,0.6s						
CTA	**Charters Tower**	**20.59**	**254**	P	**P**	**13 13 30.3**	**+1.7**
	7.6nm,0.6s,baz=79,slow=12,SNR=9.6						
CTAO	**Charters Tower**	**20.59**	**254**	*eP*	**P**	**13 13 29.8**	**+1.1**
	17nm,1.0s						
PMG	**Port Moresby**	**20.66**	**285**	P	**P**	**13 13 29.4**	**-0.1**
	19nm,1.1s						
URZ	**Urewera**	**24.15**	**161**	P	**P**	**13 14 02.7**	**-0.7**
	12nm,0.9s,mb4.4,baz=1.0,slow=2.3,SNR=3.7						
RPZ	**Rata Peaks**	**28.20**	**174**	P	**P**	**13 14 41.0**	**+1.4**
	3.3nm,0.6s,mb4.2,baz=21,slow=22,SNR=2.5						
STKA	**Stephens Creek**	**28.51**	**231**	P	**P**	**13 14 43.9**	**+1.3**
	3.6nm,0.4s,mb4.5,baz=41,slow=3.4,SNR=5.2						
STKA	**Stephens Creek**	**28.51**	**231**	P	**P**	**13 14 43.4**	**+0.8**
	4.2nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**31.71**	**257**	*eP*	**P**	**13 15 10.0**	**-0.9**
WB2	**Warramunga Arr**	**31.71**	**257**	*eP*	**P**	**13 15 09.9**	**-1.0**
WRAB	**Tennant Creek**	**31.71**	**257**	*eP*	**P**	**13 15 10.0**	**-0.9**
	6.9nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**31.72**	**257**	P	**P**	**13 15 10.1**	**-0.9**
	5.3nm,0.6s,mb4.5,baz=85,slow=8.5,SNR=91						
WRA				ScP	ScP	13 21 31.9	+4.2
	1.0nm,0.9s,baz=83,slow=3.1,SNR=6.5						
ASAR	**Alice Springs**	**32.46**	**250**	P	**P**	**13 15 17.4**	**-0.1**
	14nm,0.6s,mb4.9,baz=82,slow=9.5,SNR=188						
ASAR				ScP	ScP	13 21 34.7	+4.5
	1.1nm,0.8s,baz=95,slow=4.1,SNR=8.2						
KAKA	**Kakadu**	**33.97**	**270**	*eP*	**P**	**13 15 30.0**	**-0.6**
	3.9nm,0.6s,mb4.3						
KAKA	**Kakadu**	**33.97**	**270**	*eP*	**P**	**13 15 29.5**	**-1.2**
	14nm,0.8s,mb4.8						
FORT	**Forrest**	**38.94**	**240**	*eP*	**P**	**13 16 12.9**	**+0.2**
	35nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**39.96**	**260**	↓*iP*	**P**	**13 16 21.2**	**0.0**
	30nm,0.4s,mb5.3						
FITZ	**Fitzroy Crossi**	**39.96**	**260**	P	**P**	**13 16 21.2**	**0.0**
	15nm,0.4s,mb5.0,baz=90,slow=9.6,SNR=122						
MBWA	**Marble Bar**	**45.42**	**256**	*eP*	**P**	**13 17 05.1**	**-0.1**
	13nm,0.8s,mb4.6						
KLBR	**Kellerberrin**	**47.77**	**241**	*eP*	**P**	**13 17 23.4**	**0.0**
	58nm,1.5s,mb5.0						
NWAO	**Narrogin (SRO)**	**48.39**	**240**	P	**P**	**13 17 28.1**	**0.0**
	12nm,0.9s,mb4.5,baz=98,slow=7.2,SNR=4.2						
NWAO	**Narrogin (SRO)**	**48.39**	**240**	P	**P**	**13 17 28.1**	**0.0**
NWAO				*eP*		13 17 28.3	
KSM	**Kuching**	**58.87**	**281**	*eP*	**P**	**13 18 44.5**	**-0.2**
VNDA	**Vanda**	**62.00**	**181**	*eP*	**P**	**13 19 05.5**	**+0.7**
	0.9nm,0.7s,mb3.7,baz=18,slow=5.4,SNR=5.8						
SBA	**Scott Base**	**62.27**	**180**	*eP*	**P**	**13 19 07.7**	**+1.1**
	2.2nm,0.7s,mb4.1						
CMAR	**Chiang Mai Arr**	**75.39**	**294**	P	**P**	**13 20 29.7**	**+1.0**
	1.0nm,0.7s,mb3.5,baz=138,slow=5.0,SNR=6.1						
MAW	**Mawson**	**81.12**	**202**	P	**P**	**13 21 00.8**	**+1.5**
	0.9nm,0.7s,mb3.5,baz=124,slow=7.3,SNR=3.8						
SONM	**Songino Array**	**83.25**	**324**	P	**P**	**13 21 10.0**	**-0.6**
	0.9nm,0.5s,mb3.8,baz=132,slow=5.9,SNR=6.7						
SNAA	**Sanae**	**92.69**	**183**	*e*	**P**	**13 21 54.8**	**-0.8**
SNAA				*e*		13 21 57.0	
VNA3	**Neumayer Olymp**	**93.35**	**181**	*e*	**P**	**13 21 57.9**	**-0.7**
VNA3				*e*		13 22 00.4	
VNA3				*e*		13 22 05.4	
VNA2	**Neumayer--Watz**	**93.62**	**182**	*e*	**P**	**13 21 59.4**	**-0.5**
VNA2				*e*		13 22 02.5	
VNA2				*e*		13 22 08.5	
VNA1	**Neumayer--Stat**	**93.92**	**181**	*e*	**P**	**13 22 01.4**	**+0.2**
VNA1				*e*		13 22 03.8	
ZALV	**Zalesovo Beam**	**98.15**	**324**	P	**P**	**13 22 19.7**	**-0.9**
	0.4nm,0.4s,mb4.2,baz=104,slow=6.1,SNR=2.6						
ARCES	**ARCESS Array B**	**121.11**	**345**	PKP	PKPdf	13 27 33.6	-1.6

1.4nm,0.5s,baz=75,slow=1.7,SNR=18

*ISCJB **02** 13:15:58.9±2.1, 178S±0.1×1755W±02, h229km±31km, mb3.9/12, Error ellipse: s-maj=28.4km s-min=21.8km az=163.0*
*IDC **02** 13:16:00.7±2.5, 1801S×17530W, h234km±36km, mb3.7/8, mb1 3.8/9, mb1mx3.5/21, mbtmp3.7/9, Error ellipse: s-maj=34.3km s-min=19.7km az=88.0*
*NEIC **02** 13:16:08.9±1.4, 1646S×17460W, h418km±22km, mb3.8/6, Error ellipse: s-maj=36.0km s-min=25.3km az=182.0*
ISC 02 13:15:57.8±2.2, 179S±01×1755W±02, h196km±33km, n19, σ0§96/21, mb3.9/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.34**	**43**	P	**Pn**	**13 17 19.8**	**+3.3**
	4.6nm,0.3s,baz=12,slow=21,SNR=24						
AFI				S	**Sn**	**13 18 17.9**	**-0.6**
	27nm,0.3s,baz=193,slow=24,SNR=14						
AFI	**Afiamalu**	**5.34**	**43**	P	**Pn**	**13 17 19.8**	**+3.3**
AFI				S	**Sn**	**13 18 17.9**	**-0.6**
URZ	**Urewera**	**21.31**	**196**	P	**P**	**13 20 28.6**	**-0.7**
	7.1nm,0.4s,mb4.5,baz=48,slow=3.8,SNR=18						
HNR	**Honiara**	**25.24**	**286**	P	**P**	**13 21 04.4**	**-1.6**
	60nm,0.9s						
CTA	**Charters Tower**	**36.16**	**260**	P	**P**	**13 22 42.9**	**+1.2**
	2.0nm,0.6s,mb3.9,baz=98,slow=13,SNR=4.1						
CTAO	**Charters Tower**	**36.16**	**260**	P	**P**	**13 22 42.3**	**+0.7**
	2.9nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**41.06**	**242**	P	**P**	**13 23 23.1**	**+0.8**
	1.9nm,0.4s,mb3.8,baz=91,slow=7.1,SNR=3.6						
WB2	**Warramunga Arr**	**47.32**	**259**	*e*P	**P**	**13 24 11.9**	**-0.2**
WRAB	**Tennant Creek**	**47.33**	**259**	*e*P	**P**	**13 24 11.9**	**-0.3**
	2.0nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**47.34**	**259**	P	**P**	**13 24 12.5**	**+0.3**
	2.5nm,0.4s,mb3.9,baz=98,slow=6.8,SNR=166						
ASAR	**Alice Springs**	**47.44**	**254**	P	**P**	**13 24 13.4**	**+0.4**
	13nm,0.7s,mb4.4,baz=92,slow=8.3,SNR=200						
KAKA	**Kakadu**	**50.33**	**268**	*e*P	**P**	**13 24 35.2**	**+0.1**
	6.4nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**55.74**	**260**	*e*P	**P**	**13 25 14.9**	**+0.4**
	5.7nm,1.6s,mb3.9						
FITZ	**Fitzroy Crossi**	**55.74**	**260**	P	**P**	**13 25 14.9**	**+0.4**
	0.7nm,0.3s,mb3.7,baz=119,slow=6.2,SNR=11						
SBA	**Scott Base**	**60.64**	**184**	*e*P	**P**	**13 25 49.1**	**+1.6**
	0.9nm,0.6s,mb3.6						
VNDA	**Vanda**	**60.73**	**186**	P	**P**	**13 25 46.5**	**-1.7**
	0.8nm,1.0s,mb3.3,baz=48,slow=4.9,SNR=3.4						
VNDA	**Vanda**	**60.73**	**186**	P	**P**	**13 25 46.5**	**-1.7**
MBWA	**Marble Bar**	**60.74**	**255**	*e*P	**P**	**13 25 48.4**	**-0.8**
	8.5nm,0.8s,mb4.4						
MJAR	**Matsushiro Arr**	**69.55**	**322**	P	**P**	**13 26 45.7**	**+0.3**
	1.9nm,0.8s,mb3.8,baz=165,slow=8.3,SNR=4.7						

*SZGRF **02** 13:24:08.7, 3517N×610E, h33km, Northern Algeria*
*CSEM **02** 13:24:10.9±0.1, 3517N×679E, h10km, mb4.4/10, ML3.7/3, Error ellipse: s-maj=2.8km s-min=1.9km az=4.0*
*MOS **02** 13:24:13.1±1.4, 3532N×680E, h21km, mb4.2/12, Error ellipse: s-maj=9.3km s-min=5.6km az=94.2*
*NEIC **02** 13:24:13.3±0.4, 3523N×691E, h10km, mb4.4/7, Error ellipse: s-maj=6.2km s-min=5.4km az=200.0*
*CRAAG **02** 13:24:13.3, 3524N×670E, Ml4.0*
*MDD **02** 13:24:13.2±1.6, 3521N×688E, h0km, mb4.7/19, Error ellipse: s-maj=15.9km s-min=7.4km az=148.0*
*ISCJB **02** 13:24:13.2±0.3, 3546N±003×668E±003, h10km, mb4.1/22, Error ellipse: s-maj=4.7km s-min=2.7km az=18.7*
*LDG **02** 13:24:14.9±0.3, 3524N×657E, h25km, Ml3.9/7, Error ellipse: s-maj=8.0km s-min=4.8km az=10.0*
*STR **02** 13:24:14.8±0.0, 3524N×657E, h20km, Ml3.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **02** 13:24:15.4±3.0, 3524N×679E, h23km±19km, mb3.9/14, mb1 4.0/18, mb1mx3.9/29, mbtmp3.9/18, ML4.1/3, MS3.1/3, Ms1 3.1/3, ms1mx2.5/35, Error ellipse: s-maj=17.4km s-min=13.8km az=124.0*
*TUN **02** 13:24:18.5, 3540N×698E, h3km, MD4.1*
ISC 02 13:24:14.8±0.3, 3541N±003×673E±002, h10km, n186, σ1§55/227, mb4.1/23, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTEI	**Djebel Teioual**	**0.71**	**339**	P	**Pg**	**13 24 30.0**	**+1.5**
CMER	**Merouana**	**0.71**	**288**	P	**Pg**	**13 24 28.0**	**-0.5**
CASM	**Ain Smara**	**0.88**	**347**	P	**Pg**	**13 24 32.0**	**+0.3**
CKFL	**Kef-Lekhel**	**0.99**	**360**	P	**Pg**	**13 24 36.0**	**+2.0**
ABSA	**Djebel Ababsia**	**1.06**	**35**	P	**Pg**	**13 24 35.5**	**+0.3**
CABS	**Djebel Ababsia**	**1.06**	**35**	P	**Pg**	**13 24 35.5**	**+0.3**
CKHR	**Kef el Ahmar**	**1.16**	**302**	P	**Pb**	**13 24 41.5**	**+4.5**
DFRA	**Djebel Bou Aff**	**1.33**	**329**	P	**Pn**	**13 24 40.0**	**+0.6**
SET	**Setif**	**1.34**	**307**	P	**Pn**	**13 24 40.0**	**+0.4**
CMAH	**Djebel Manchou**	**1.34**	**25**	P	**Pn**	**13 24 38.5**	**-1.1**
CAEH	**'Ain El Ouahch**	**1.38**	**4**	P	**Pn**	**13 24 38.0**	**-2.1**
OAR	**Oum El Arais**	**1.63**	**122**	*i* P	**Pn**	**13 24 45.4**	**+1.9**
GHAT	**Ghardimaou**	**1.68**	**49**	*i* P	**Pn**	**13 24 45.9**	**+1.6**
SYA	**Sidi Yaiche**	**1.83**	**111**	*i* P	**Pn**	**13 24 48.7**	**+2.4**
KRIT	**Krib**	**2.12**	**63**	*i* P	**Pn**	**13 24 51.8**	**+1.4**
KEST	**Kesra**	**2.16**	**81**	Pn	**Pn**	**13 24 50.0**	**-0.9**
	4.1nm,0.3s,baz=169,slow=10,SNR=47						
KEST				Pg	**Pg**	**13 24 55.1**	**-1.1**
	14nm,0.3s,baz=195,slow=13,SNR=73						
KEST				Lg		13 25 23.1	
	14nm,0.3s,baz=290,slow=22,SNR=8.6						
BERT	**Berda**	**2.21**	**121**	*i* P	**Pn**	**13 24 53.3**	**+1.7**
BLIT	**Baltah**	**2.23**	**53**	*i* P	**Pn**	**13 24 53.2**	**+1.4**
ZGN	**Zaghouan**	**2.91**	**70**	*i* P	**Pn**	**13 25 04.8**	**+3.7**
SGNT	**Sidi Gnaou**	**3.12**	**123**	*i* P	**Pn**	**13 25 05.3**	**+1.2**
EMHD	**Djebel Mahouad**	**3.17**	**286**	P	**Pn**	**13 25 06.4**	**+1.7**
MART	**Mareth**	**3.44**	**121**	*i* P	**Pn**	**13 25 10.3**	**+1.9**
MBZ	**Menzel Bouzelf**	**3.44**	**67**	*i* P	**Pn**	**13 25 11.7**	**+3.2**
EBNR	**Beni Rached**	**4.31**	**283**	P	**Pn**	**13 25 19.2**	**-1.2**
ECHA	**Ech Chlef**	**4.42**	**281**	P	**Pn**	**13 25 21.0**	**-0.9**
ETRT	**Tiaret**	**4.43**	**271**	P	**Pn**	**13 25 23.2**	**+1.1**
ECHF	**Ech Chlef**	**4.44**	**281**	P	**Pn**	**13 25 21.0**	**-1.2**
EANR	**'Ain N'Sour**	**4.61**	**278**	P	**Pn**	**13 25 25.4**	**+0.8**
ALAS	**Alassa**	**4.79**	**121**	*i* P	**Pn**	**13 25 25.0**	**-2.1**
	SNR=36						
ETOS	**Mallorca**	**5.35**	**326**	P	**Pn**	**13 25 36.2**	**+1.5**
	12nm,0.2s,SNR=44						
ETOS				S	**Sn**	**13 26 39.3**	**+3.0**
	15nm,0.4s						
ETOS	**Mallorca**	**5.35**	**326**	P	**Pn**	**13 25 36.2**	**+1.5**
	12nm,0.2s,SNR=44						
ETOS				S	**Sn**	**13 26 39.3**	**+3.0**
	15nm,0.4s						
ETOS	**Mallorca**	**5.35**	**326**	P	**Pn**	**13 25 36.1**	**+1.5**
ETOS				S	**Sn**	**13 26 39.3**	**+3.0**
EIBI	**Ibiza**	**5.61**	**312**	P	**Pn**	**13 25 39.2**	**+0.9**
	13nm,0.4s,SNR=13						
EIBI				S	**Sn**	**13 26 39.8**	**-3.1**
	17nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**5.61**	**312**	P	**Pn**	**13 25 39.2**	**+0.9**
	13nm,0.4s,SNR=13						
EBEN	**Beniarda**	**6.46**	**303**	P	**Pn**	**13 25 52.1**	**+2.1**
	11nm,0.5s,SNR=9.6						
EBEN				S	**Sn**	**13 27 00.3**	**-3.3**
	5.9nm,0.5s						
EBEN	**Beniarda**	**6.46**	**303**	P	**Pn**	**13 25 52.1**	**+2.2**
	11nm,0.5s,SNR=9.6						
CART	**Cartagena**	**6.59**	**292**	*e*Pn	**Pn**	**13 25 49.4**	**-2.4**
CART				*e*Sn	**Sn**	**13 27 03.0**	**-4.0**
CART	**Cartagena**	**6.59**	**292**	*e*Pn	**Pn**	**13 25 49.4**	**-2.4**
CART				*e*Sn	**Sn**	**13 27 03.0**	**-4.0**
EMUR	**La Murta**	**6.85**	**293**	P	**Pn**	**13 25 56.1**	**+0.8**
	7.0nm,0.4s,SNR=5.9						
EMUR				S	**Sn**	**13 27 10.3**	**-3.0**
	5.3nm,0.6s						
EMUR	**La Murta**	**6.85**	**293**	P	**Pn**	**13 25 56.1**	**+0.8**
	7.0nm,0.4s,SNR=5.9						
PGF	**Pioggiola**	**7.35**	**13**	*e*Pn	**Pn**	**13 26 00.5**	**-1.6**
PGF				*e*Sn	**Sn**	**13 27 21.2**	**-4.4**
	19nm,0.6s						
PGF	**Pioggiola**	**7.35**	**13**	*e*Pn	**Pn**	**13 26 00.5**	**-1.6**
PGF				*e*Sn	**Sn**	**13 27 21.2**	**-4.4**
	9.3nm,0.6s						
ETOB	**Tobarra**	**7.37**	**298**	P	**Pn**	**13 26 04.6**	**+2.2**
	5.0nm,0.3s,SNR=6.7						
ETOB				S	**Sn**	**13 27 24.0**	**-2.0**
	5.4nm,0.4s						
ETOB	**Tobarra**	**7.37**	**298**	P	**Pn**	**13 26 04.6**	**+2.2**
	5.0nm,0.3s,SNR=6.7						
ETOB				S	**Sn**	**13 27 24.0**	**-2.0**
	5.4nm,0.4s						
ENIJ	**Nijar**	**7.39**	**285**	P	**Pn**	**13 26 04.6**	**+1.9**
	16nm,0.4s,SNR=6.2						
ECHE	**Chera**	**7.41**	**307**	P	**Pn**	**13 26 04.6**	**+1.6**
	7.5nm,0.4s,SNR=9.3						
ECHE				S	**Sn**	**13 27 24.6**	**-2.4**
	3.9nm,0.5s						
EPOB	**Poblet**	**7.41**	**325**	P	**Pn**	**13 26 05.3**	**+2.4**
	3.9nm,0.2s,SNR=9.7						
EPOB				S	**Sn**	**13 27 26.0**	**-1.0**
	5.6nm,0.3s						
EPOB	**Poblet**	**7.41**	**325**	P	**Pn**	**13 26 05.3**	**+2.3**
	3.9nm,0.2s,SNR=9.7						
EPOB				S	**Sn**	**13 27 26.0**	**-1.1**
	5.6nm,0.3s						
ERTA	**Horta de San J**	**7.49**	**320**	P	**Pn**	**13 26 06.6**	**+2.6**
	5.9nm,0.4s,SNR=7.9						
ERTA				S	**Sn**	**13 27 29.2**	**+0.3**
	3.9nm,0.5s,SNR=7.9						
ERTA	**Horta de San J**	**7.49**	**320**	P	**Pn**	**13 26 06.6**	**+2.6**
	5.9nm,0.4s,SNR=7.9						
ERTA				S	**Sn**	**13 27 29.2**	**+0.3**
	3.9nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**7.54**	**313**	P	**Pn**	**13 26 05.9**	**+1.1**
	4.1nm,0.4s,SNR=8.5						
EMOS				S	**Sn**	**13 27 29.9**	**-0.4**
	14nm,0.6s						
EMOS	**Mosqueruela**	**7.54**	**313**	P	**Pn**	**13 26 05.9**	**+1.1**
	4.1nm,0.4s,SNR=8.5						
EMOS				S	**Sn**	**13 27 30.0**	**-0.3**
EJON	**La Jonquera**	**7.64**	**338**	P	**Pn**	**13 26 07.1**	**+0.9**
	3.3nm,0.3s,SNR=7.9						
EJON				S	**Sn**	**13 27 28.7**	**-4.0**
	3.6nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**7.64**	**338**	P	**Pn**	**13 26 07.1**	**+0.9**
	3.3nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**7.67**	**330**	P	**Pn**	**13 26 09.7**	**+3.2**
	17nm,0.3s,SNR=6.6						
EMIR				S	**Sn**	**13 27 32.3**	**-1.0**
	19nm,0.4s						
EMIR	**Miracle**	**7.67**	**330**	P	**Pn**	**13 26 09.7**	**+3.2**
	17nm,0.3s,SNR=6.6						
EMIR				S	**Sn**	**13 27 32.3**	**-1.1**
	19nm,0.4s						
FILF	**Fillols**	**7.85**	**337**	P	**Pn**	**13 26 09.8**	**+0.8**
EHUE	**Huescar**	**7.87**	**291**	P	**Pn**	**13 26 10.2**	**+0.9**
	2.9nm,0.3s,SNR=7.9						
EHUE				S	**Sn**	**13 27 38.2**	**-0.2**
	1.5nm,0.4s,SNR=7.9						
EBER	**Berja**	**7.92**	**284**	P	**Pn**	**13 26 09.9**	**-0.1**
	5.7nm,0.5s,SNR=5.6						
EBER				S	**Sn**	**13 27 35.6**	**-4.0**
	4.8nm,0.4s						
EBER	**Berja**	**7.92**	**284**	P	**Pn**	**13 26 09.9**	**-0.1**
	5.7nm,0.5s,SNR=5.6						
LMR	**La Mourre**	**7.92**	**359**	*e*Pn	**Pn**	**13 26 07.7**	**-2.3**
LMR				*e*Sn	**Sn**	**13 27 31.4**	**-8.2**
	8.8nm,0.4s						
EALB	**Alboran**	**7.96**	**277**	P	**Pn**	**13 26 09.6**	**-1.0**
	7.2nm,0.4s,SNR=7.9						
EALB				S	**Sn**	**13 27 35.6**	**-5.1**
	5.4nm,0.2s,SNR=7.9						
EALB	**Alboran**	**7.96**	**277**	P	**Pn**	**13 26 09.6**	**-1.0**
	7.2nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**8.05**	**296**	P	**Pn**	**13 26 14.4**	**+2.6**
	6.4nm,0.5s,SNR=4.5						
CARF	**Carcanieres**	**8.13**	**335**	P	**Pn**	**13 26 12.9**	**0.0**
FRF	**La Foret Royal**	**8.15**	**360**	*e*Sn	**Sn**	**13 27 38.9**	**-6.2**
	9.0nm,0.4s						
EQES	**Quesada**	**8.23**	**290**	P	**Pn**	**13 26 16.6**	**+2.3**
	12nm,0.4s,SNR=19						
EQES				S	**Sn**	**13 27 45.9**	**-1.5**
	13nm,0.7s						
EQES	**Quesada**	**8.23**	**290**	P	**Pn**	**13 26 16.6**	**+2.3**
	12nm,0.4s,SNR=19						
EQES				S	**Sn**	**13 27 45.9**	**-1.5**
	13nm,0.7s						
EQUE	**Quentar**	**8.40**	**285**	P	**Pn**	**13 26 16.8**	**+0.2**
	10nm,0.6s,SNR=15						
EQUE				S	**Sn**	**13 27 47.1**	**-4.4**
	2.7nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**8.46**	**320**	P	**Pn**	**13 26 19.2**	**+1.9**
	26nm,0.3s,SNR=14						
ESAC				S	**Sn**	**13 27 50.6**	**-2.2**
	38nm,0.5s						
ESAC	**San Caprasio**	**8.46**	**320**	P	**Pn**	**13 26 19.2**	**+1.9**
	26nm,0.3s,SNR=14						
SBF	**Sospel**	**8.46**	**3**	*e*Pn	**Pn**	**13 26 16.1**	**-1.3**
MTLF	**Montolieu**	**8.66**	**338**	*e*Pn	**Pn**	**13 26 18.9**	**-1.2**
MTLF				*e*Sn	**Sn**	**13 27 49.6**	**-8.2**
	5.4nm,0.5s						
MTLF	**Montolieu**	**8.66**	**338**	*e*Pn	**Pn**	**13 26 18.9**	**-1.2**
MTLF				*e*Sn	**Sn**	**13 27 49.6**	**-8.2**
	2.7nm,0.5s						
MLS	**Moulis**	**8.71**	**332**	P	**Pn**	**13 26 21.4**	**+0.5**
ETOR	**Torete**	**8.78**	**311**	P	**Pn**	**13 26 28.4**	**+6.7**
	7.5nm,0.5s,SNR=5.6						
ETOR				S	**Sn**	**13 27 58.4**	**-2.4**
	4.7nm,0.4s						
MELF	**Melles**	**8.78**	**330**	P	**Pn**	**13 26 23.6**	**+1.9**
TIP	**Timpagrande**	**8.84**	**62**	Pn	**Pn**	**13 26 22.7**	**+0.1**
	39nm,1.5s						
TIP	**Timpagrande**	**8.84**	**62**	Pn	**Pn**	**13 26 22.7**	**+0.1**
	39nm,1.5s						
EBAN	**Banos Encina**	**8.87**	**291**	P	**Pn**	**13 26 25.2**	**+2.2**
	1.9nm,0.2s,SNR=5.8						
EBIE	**Bielsa**	**8.89**	**327**	P	**Pn**	**13 26 27.2**	**+3.9**
	3.3nm,0.4s,SNR=10						
EBIE				S	**Sn**	**13 28 02.6**	**-0.9**
	2.0nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**8.89**	**327**	P	**Pn**	**13 26 27.2**	**+3.9**
	3.3nm,0.4s,SNR=10						
EBIE				S	**Sn**	**13 28 02.6**	**-0.8**
	2.0nm,0.4s,SNR=7.9						
RESF	**Ens**	**8.90**	**328**	P	**Pn**	**13 26 23.3**	**-0.1**
LASF	**Ste Croix**	**8.94**	**347**	*e*Pn	**Pn**	**13 26 22.0**	**-1.9**
LASF				*e*Sn	**Sn**	**13 27 56.8**	**-7.8**
	11nm,0.6s						
LASF	**Ste Croix**	**8.94**	**347**	*e*Pn	**Pn**	**13 26 22.0**	**-1.9**
LASF				*e*Sn	**Sn**	**13 27 56.8**	**-7.8**
	5.3nm,0.6s						
EPF	**Esparros**	**9.08**	**329**	*e*P	**Pn**	**13 26 28.9**	**+3.0**
EPF				*e*Sn	**Sn**	**13 27 58.9**	**-9.3**
	14nm,0.5s						
VIEF	**Viey**	**9.10**	**327**	P	**Pn**	**13 26 27.2**	**+1.0**
LABF	**Labassere**	**9.21**	**328**	P	**Pn**	**13 26 29.3**	**+1.6**
ETSF	**Etsaut**	**9.38**	**325**	*e*Pn	**Pn**	**13 26 26.9**	**-3.1**
ETSF	**Etsaut**	**9.38**	**325**	*e*P	**Pn**	**13 26 33.2**	**+3.2**
ETSF				*e*Sn	**Sn**	**13 28 06.7**	**-8.7**
	11nm,0.7s						
ETSF	**Etsaut**	**9.38**	**325**	*e*P	**Pn**	**13 26 33.2**	**+3.2**
REYF	**Montagne du Re**	**9.43**	**326**	P	**Pn**	**13 26 30.8**	**+0.1**
EADA	**Adamuz**	**9.48**	**290**	P	**Pn**	**13 26 32.0**	**+0.7**
	1.0nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**13 28 14.6**	**-3.2**
	0.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**9.48**	**290**	P	**Pn**	**13 26 32.0**	**+0.7**
ESDC	**Sonseca Array**	**9.50**	**300**	Pn	**Pn**	**13 26 33.9**	**+2.3**
	1.1nm,0.3s,baz=112,slow=14,SNR=7.9						
ESLA	**Sonseca Array**	**9.50**	**300**	*e*Pn	**Pn**	**13 26 33.0**	**+1.4**
	3.4nm,1.0s						
ESLA	**Sonseca Array**	**9.50**	**300**	*e*Pn	**Pn**	**13 26 33.0**	**+1.4**
	3.4nm,1.0s						
VIVF	**Saint-Julien-l**	**9.57**	**351**	*e*Pn	**Pn**	**13 26 32.0**	**-0.6**
ATE	**Arette**	**9.59**	**325**	P	**Pn**	**13 26 35.3**	**+2.5**
LARF	**Larrau**	**9.69**	**324**	P	**Pn**	**13 26 35.5**	**+1.3**
PAB	**San Pablo**	**9.72**	**298**	*e*P	**Pn**	**13 26 35.6**	**+0.9**
PAB				*e*		13 28 33.9	
PAB				pmax	pmax		
	comp=Z,11nm,1.0s						
PAB	**San Pablo**	**9.72**	**298**	*e*Pn	**Pn**	**13 26 35.6**	**+0.9**
	comp=Z,11nm,1.0s						
PAB	**San Pablo**	**9.72**	**298**	*e*Pn	**Pn**	**13 26 35.6**	**+0.9**
	comp=Z,11nm,1.0s						
PAB				*e*Sn	**Sn**	**13 28 33.9**	**+10**
IUNC	**Unciti**	**9.73**	**321**	P	**Pn**	**13 26 39.5**	**+4.8**
	comp=Z,1.4nm,0.1s,SNR=7.9						
MDT	**Midelt**	**9.75**	**258**	Pn	**Pn**	**13 26 35.3**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=75,slow=15,SNR=29						
MDT				LR	LR	13 31 12.6	
	comp=Z,176nm,18.5s,baz=112,slow=43						
IZUN	**Zunzarren**	**9.78**	**322**	P	**Pn**	**13 26 39.7**	**+4.1**
	comp=Z,2.5nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**9.86**	**324**	*e*Pn	**Pn**	**13 26 32.9**	**-3.6**
SJPF	**Ste Jean**	**9.86**	**324**	*e*P	**Pn**	**13 26 39.9**	**+3.4**
SJPF	**Ste Jean**	**9.86**	**324**	*e*P	**Pn**	**13 26 39.9**	**+3.4**
OSSF	**Osses**	**9.98**	**324**	P	**Pn**	**13 26 38.3**	**+0.1**
ELIZ	**Elizondo**	**10.04**	**323**	P	**Pn**	**13 26 42.8**	**+3.7**
ELIZ				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ELIZ	**Elizondo**	**10.04**	**323**	P	**Pn**	**13 26 42.8**	**+3.7**
	comp=Z,8.2nm,0.4s,SNR=9.0						
EALK	**Alkurruntz**	**10.07**	**323**	P	**Pn**	**13 26 42.9**	**+3.4**
	comp=Z,6.1nm,0.3s,SNR=16						
EALK				S	**Sn**	**13 28 31.5**	**-1.0**
	comp=Z,22nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**11.08**	**318**	P	**Pn**	**13 26 57.5**	**+4.2**
	comp=Z,3.9nm,0.3s,SNR=9.9						
DAVOX	**Davos/Dischmat**	**11.61**	**11**	Pn	**Pn**	**13 27 06.1**	**+5.6**
	comp=Z,0.3nm,0.3s,baz=192,slow=17,SNR=3.3						
DAVOS	**Davos**	**11.65**	**10**	P	**Pn**	**13 27 06.1**	**+5.0**
TAM	**Tamanrasset**	**12.61**	**185**	*e*P	**Pn**	**13 27 10.9**	**-3.4**
WLF	**Walferdange**	**14.26**	**358**	*e*P	**Pn**	**13 27 46.0**	**+9.4**
WLF				pmax	pmax		
	comp=Z,30nm,1.0s						
WLF	**Walferdange**	**14.26**	**358**	*e*Pn	**Pn**	**13 27 46.0**	**+9.4**
	comp=Z,30nm,1.0s						
WLF				*e*Sn	**Sn**	**13 30 00.6**	**-14**
GERES	**GERESS Array B**	**14.38**	**19**	Pn	**Pn**	**13 27 39.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=200,slow=15,SNR=5.2						
GERES				LR	LR	13 33 42.6	
	comp=Z,41nm,19.9s,baz=285,slow=39						
GRA1	**Grafenberg Arr**	**14.65**	**12**	*e*P	**Pn**	**13 27 43.9**	**+1.9**
	comp=Z,7.0nm,1.0s						
GRF	**Grafenberg Arr**	**14.65**	**12**	*e*P	**Pn**	**13 27 43.9**	**+1.9**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GRF	**Grafenberg Arr**	**14.65**	**12**	*e*P	**Pn**	**13 27 43.9**	**+1.9**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GRF	**Grafenberg Arr**	**14.65**	**12**	*e*P	**Pn**	**13 27 43.9**	**+1.9**
	comp=Z,7.0nm,1.0s						
MORC	**Moravsky Berou**	**16.40**	**26**	*e*P	**Pn**	**13 28 05.1**	**+0.2**
MORC				pmax	pmax		
	comp=Z,14nm,1.4s						
MORC	**Moravsky Berou**	**16.40**	**26**	*e*P	**Pn**	**13 28 05.1**	**+0.2**
	comp=Z,14nm,1.4s						
MORC	**Moravsky Berou**	**16.40**	**26**	*e*Pn	**Pn**	**13 28 05.1**	**+0.2**
	comp=Z,14nm,1.4s						
EKA	**Eskdalemuir Ar**	**21.06**	**344**	P	**P**	**13 29 06.9**	**+8.0**
	comp=Z,3.2nm,0.9s,mb3.6,baz=153,slow=9.4,SNR=6.4						
EKA	**Eskdalemuir Ar**	**21.06**	**344**	P	**P**	**13 29 06.9**	**+8.0**
EKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**22.32**	**40**	P	**P**	**13 29 11.5**	**-0.9**
	comp=Z,2.4nm,0.6s,mb3.8,baz=235,slow=10.0,SNR=7.4						
AKASG	**Malin Array Be**	**22.32**	**40**	P	**P**	**13 29 11.5**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKBB	**Malin Array Si**	**22.32**	**40**	P	**P**	**13 29 11.1**	**-1.3**
TOA0	**Torodi Ar. Sit**	**22.62**	**193**	*e*P	**P**	**13 29 11.5**	**-4.3**
TOA0	**Torodi Ar. Sit**	**22.62**	**193**	*e*P	**P**	**13 29 11.5**	**-4.3**
TORD	**Torodi Ar. Bea**	**22.62**	**193**	P	**P**	**13 29 11.5**	**-4.4**
	comp=Z,4.2nm,0.5s,mb4.1,baz=1.5,slow=11,SNR=24						
TORD				PcP	PcP	13 33 06.6	-2.3
	comp=Z,0.4nm,0.6s,baz=358,slow=2.2,SNR=5.3						
MMAI	**Mount Meron Ar**	**23.80**	**87**	P	**P**	**13 29 26.4**	**-1.4**
	comp=Z,3.1nm,0.6s,mb3.9,baz=261,slow=8.3,SNR=2.5						
HFS	**Hagfors**	**25.15**	**8**	P	**P**	**13 29 40.3**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.7,baz=178,slow=8.4,SNR=3.5						
HFS	**Hagfors**	**25.15**	**8**	P	**P**	**13 29 40.3**	**+0.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MALT	**Malatya**	**25.47**	**74**	P	**P**	**13 29 40.6**	**-2.4**
MALT				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.3						
MALT	**Malatya**	**25.47**	**74**	P	**P**	**13 29 40.6**	**-2.4**
	comp=Z,12nm,1.3s,mb4.2						
MALT	**Malatya**	**25.47**	**74**	P	**P**	**13 29 40.6**	**-2.4**
	comp=Z,12nm,1.3s,mb4.2						
NOA	**NORSAR Array B**	**25.81**	**5**	P	**P**	**13 29 47.0**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.4,baz=188,slow=9.0,SNR

comp=Z,1.0nm,0.5s
PDAR Pinedale Array 82.89 318 P **P** **13 36 38.7 -0.9**
comp=Z,0.5nm,0.7s,mb3.7,baz=81,slow=5.6,SNR=5.0
WRA Warramunga Arr 131.65 86 PKP PKPdf 13 43 26.3 -2.0
comp=Z,0.3nm,0.7s,baz=318,slow=2.1,SNR=3.5
ASAR Alice Springs 133.07 91 PKP PKPdf 13 43 29.9 -1.0
comp=Z,0.3nm,0.8s,baz=315,slow=0.8,SNR=3.8

BJI ***02*** *13:37:23.6, 12.18N×47.16E, h10km, mB5.8, mb5.2, Ms5.4, Msz5.1*
ISCJB ***02*** *13:37:27.3±0.2, 1245N±003×4746E±002, h10km, mb5.4/297, MS5.2/163, Error ellipse: s-maj=3.7km s-min=2.2km az=10.0*
STR ***02*** *13:37:27.8±0.0, 1267N×4760E, Mb5.5, Ms5.3, Error ellipse: s-maj=0.0km s-min=0.0km az=118.0*
MOS ***02*** *13:37:27.6±0.9, 1256N×4745E, h10km, mb5.6/127, MS5.1/70, Error ellipse: s-maj=6.2km s-min=2.5km az=117.3*
IDC ***02*** *13:37:28.1±0.4, 1256N×4757E, h0km, mb5.0/29, mb1 5.0/29, mb1mx5.0/32, mbtmp5.0/29, MS5.1/25, Ms1 5.1/25, ms1mx5.0/32, Error ellipse: s-maj=13.1km s-min=11.0km az=100.0*
PDA ***02*** *13:37:29.4, 1253N×4745E, h10km, mb5.5*
GCMT ***02*** *13:37:29.2±0.1, 1262N×4751E, h16km, MW5.7/98, Moment Tensor Solution. s90,c180; s98,c256; Duration: 1s7 Moment tensor: Scale 1017Nm; Mrr=2.10±.06; Mθθ4.96±.05; Mφφ-2.86±.05; Mrθ-1.68±.15; Mθφ0.09±.04; Mrφ0.45±.15; Best double couple: Ms4.25500×1017 NP1:φs226.00000°, δ57.00000°, λ-164.00000°. NP2:φs127.00000°, δ77.00000°, λ-34.00000°. Principal axes: T 5.3390, Plg13.0000°, Azm180.0000°; N -2.1690, Plg54.0000°, Azm288.0000°; P -3.1710, Plg33.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***02*** *13:37:29.2±0.2, 1251N×4746E, h10km, mb5.4/159, MS5.3/87, MW5.7 Error ellipse: s-maj=4.7km s-min=3.2km az=45.0, Moment Tensor Solution. s22 Moment tensor: Scale 1017Nm; Mrr0.40; Mθθ4.76; Mφφ-5.17; Mrθ0.45; Mθφ0.51; Mrφ0.80; Best double couple: Ms5.10000×1017 NP1:φs222.00000°, δ89.00000°, λ-170.00000°. NP2: φs132.00000°, δ80.00000°, λ-1.00000°. Principal axes: T 4.8400, Plg6.0000°, Azm357.0000°; N 0.4600, Plg80.0000°, Azm227.0000°; P -5.3000, Plg8.0000°, Azm87.0000°;*
CSEM ***02*** *13:37:30.0±0.1, 1260N×4745E, h23km, mb5.4/99, Ms5.3, Mw6.3 Error ellipse: s-maj=2.0km s-min=1.8km az=43.0*
DHMR ***02*** *13:37:32.7±1.6, 1263N×4689E, h9km±21km, ML5.6*
SZGRF ***02*** *13:37:36.3, 13.16N×47.12E, h25km, mb5.5, MS4.8, Western Arabian Peninsula*
DJA ***02*** *13:37:43, 1284N×4720E, h111km, mb5.3/37*
ISC 02 13:37:28.0±0.6, 1247N±003×4748E±002, h2km±3km, h20km±1.6km: pP-P, n1101, σ1508/1109, mb5.4/297, MS5.2/163, 119C-57D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**2.39**	**309**	⇑*i* P	**Pn**	**13 38 05.7**	**-2.5**
BDHA				*i* S	**Sn**	**13 38 31.8**	**-6.3**
BDHA	**Al Bayda'**	**2.39**	**309**	⇑*i* P	**Pn**	**13 38 05.7**	**-2.5**
BDHA				*i* S	**Sn**	**13 38 31.8**	**-6.3**
BDHA				AML	AML	13 38 33.9	
	comp=N,195μm,0.6s						
ADEN	**Aden**	**2.46**	**277**	⇓*e* P	**Pn**	**13 38 05.0**	**-4.1**
ADEN				*e* S	**Sn**	**13 38 32.2**	**-7.5**
	comp=N,27μm,0.4s						
ADEN	**Aden**	**2.46**	**277**	⇓*e* P	**Pn**	**13 38 05.0**	**-4.1**
ADEN				*e* S	**Sn**	**13 38 32.2**	**-7.5**
ADEN				AML	AML	13 38 33.6	
	comp=N,53μm,0.4s						
LBOS		**2.58**	**303**	⇑*e* P	**Pn**	**13 38 08.3**	**-2.5**
DHBB	**Dhamar BB**	**3.66**	**305**	⇑*i* P	**Pn**	**13 38 24.9**	**-0.8**
UDYN	**Al 'Udayn**	**3.73**	**294**	⇑*i* P	**Pn**	**13 38 25.1**	**-1.5**
UDYN				*i* S	**Sn**	**13 39 05.0**	**-6.2**
UDYN				AML	AML	13 39 23.6	
	comp=Z,27μm,0.7s						
HAJJ	**Hajjah**	**4.95**	**311**	*e* P	**Pn**	**13 38 43.1**	**-0.3**
	comp=Z,20μm,0.7s						
HAJJ	**Hajjah**	**4.95**	**311**	*e* P	**Pn**	**13 38 43.1**	**-0.3**
HAJJ				AML	AML	13 40 16.7	
	comp=Z,41μm,0.7s						
ABTO	**Aybut**	**7.43**	**48**	⇓P	**Pn**	**13 39 15.9**	**-1.6**
	SNR=23						
WHFO	**Wadi Hawf**	**8.14**	**47**	⇑P	**Pn**	**13 39 26.0**	**-1.3**
	SNR=14						
RBK	**Rabkut**	**8.20**	**52**	⇓P	**Pn**	**13 39 27.9**	**-0.2**
	SNR=9.1						
FURI	**Furi**	**9.35**	**249**	*e* P	**Pn**	**13 39 49.0**	**+5.1**
FURI				S	**Sn**	**13 41 40.1**	**+10**
BSY	**Bisya**	**13.79**	**41**	⇓P	**Pn**	**13 40 44.8**	**+0.2**
	SNR=30						
BSYO	**Bisya**	**13.80**	**41**	P	**Pn**	**13 40 44.8**	**0.0**
	SNR=30						
JMDO	**Jabal Madar**	**14.12**	**44**	⇑P	**Pn**	**13 40 47.7**	**-1.5**
	SNR=16						
ASUD	**Al Ashush, Dub**	**14.19**	**30**	Pn	**Pn**	**13 40 47.3**	**-2.8**
	SNR=28						
ASUD	**Al Ashush, Dub**	**14.19**	**30**	P	**Pn**	**13 40 48.6**	**-1.5**
	SNR=28						
FAQ	**Al Faqa, Dubai**	**14.42**	**31**	Pn	**Pn**	**13 40 50.0**	**-3.3**
	SNR=22						
FAQ	**Al Faqa, Dubai**	**14.42**	**31**	P	**Pn**	**13 40 50.3**	**-3.0**
	SNR=35						
HOQ	**Hoqain**	**14.47**	**39**	P	**Pn**	**13 40 54.3**	**+0.4**
	SNR=54						
SMDO	**Samad**	**14.56**	**42**	P	**Pn**	**13 40 57.3**	**+2.1**
	SNR=74						
ASHO	**Ashiyiah**	**14.61**	**33**	⇓P	**Pn**	**13 40 55.5**	**-0.4**
	SNR=34						
ASHO	**Ashiyiah**	**14.61**	**33**	Pn	**Pn**	**13 40 52.6**	**-3.3**
	SNR=52						
ASHO	**Ashiyiah**	**14.61**	**33**	P	**Pn**	**13 40 55.5**	**-0.4**
	SNR=34						
NAZ	**Nazwa, Dubai**	**14.66**	**31**	Pn	**Pn**	**13 40 53.0**	**-3.5**
	SNR=11						
NAZ	**Nazwa, Dubai**	**14.66**	**31**	P	**Pn**	**13 40 56.5**	**0.0**
	SNR=68						
SLAT	**Slait**	**14.73**	**285**	*i* P	**Pn**	**13 40 59.6**	**+2.0**
HATD	**Hatta, Dubai**	**14.77**	**32**	⇓P	**Pn**	**13 40 57.7**	**-0.3**
	SNR=68						
HATD	**Hatta, Dubai**	**14.77**	**32**	Pn	**Pn**	**13 40 54.5**	**-3.5**
	SNR=14						
HATD	**Hatta, Dubai**	**14.77**	**32**	P	**Pn**	**13 40 57.7**	**-0.3**
	SNR=68						
JAWL	**J.Aulia**	**14.82**	**282**	*i* P	**Pn**	**13 40 55.8**	**-2.9**
JAWL				AMb	AMB	13 41 04.6	
	comp=Z,330nm,2.2s						
WBK	**Wadi Bani Khal**	**14.88**	**46**	P	**Pn**	**13 40 60.0**	**+0.4**
	SNR=23						
BIDO	**Bidbid**	**14.94**	**41**	P	**Pn**	**13 41 00.4**	**+0.1**
	SNR=75						
MRKH	**Merkhyat**	**15.01**	**284**	*i* P	**Pn**	**13 41 03.3**	**+2.0**
BANOM	**Banah**	**15.76**	**31**	⇑P	**Pn**	**13 41 08.2**	**-2.9**
	SNR=42						
BANOM	**Banah**	**15.76**	**31**	Pn	**Pn**	**13 41 07.7**	**-3.4**
	SNR=9.5						
BANOM	**Banah**	**15.76**	**31**	P	**Pn**	**13 41 08.2**	**-2.9**
	SNR=42						
RDF	**Al-Radifah**	**16.38**	**0**	*e* P	**Pn**	**13 41 18.5**	**-0.6**
RDF				AMb	AMB	13 41 27.5	
	comp=Z,2μm,1.5s						
NAY	**Al-Naaiem**	**16.70**	**359**	*e* P	**Pn**	**13 41 22.6**	**-0.6**
	baz=360						
NAY				AMb	AMB	13 41 30.2	
	comp=Z,1μm,1.5s,baz=360						
UMR	**Umm Al-Rimmam**	**17.00**	**1**	*e* P	**Pn**	**13 41 26.6**	**-0.4**
	baz=1.0						
MIB	**Mutribah**	**17.25**	**360**	*e* P	**Pn**	**13 41 29.3**	**-0.9**
	baz=360						
MIB				AMb	AMB	13 41 34.5	
	comp=Z,1μm,1.9s,baz=360						
MSEY	**Mahe Island**	**18.79**	**154**	*e* P	**Pn**	**13 41 50.0**	**+0.7**
	comp=Z,275nm,1.3s						
EIL	**Elat**	**20.70**	**328**	P	**P**	**13 42 10.8**	**+1.2**
	comp=Z,169nm,1.1s,baz=160,slow=5.1,SNR=108						
EIL				S	**S**	**13 46 07.7**	**+6.2**
	comp=Z,3.3nm,0.8s,baz=144,slow=19,SNR=2.0						
EIL				LR	LR	13 49 02.2	
	comp=Z,12μm,20.3s,MS5.3,baz=150,slow=34						
EIL	**Elat**	**20.70**	**328**	P	**P**	**13 42 10.8**	**+1.2**
EIL				S	**S**	**13 46 07.7**	**+6.2**
EIL	**Elat**	**20.70**	**328**	P	**P**	**13 42 10.8**	**+1.2**
EIL				S	**S**	**13 46 07.7**	**+6.2**
EIL				LR	LR	13 49 02.2	
BHD	**Baghdad**	**20.90**	**353**	*i* x	x	13 42 12.0	
BHD				*i* x	x	13 42 34.0	
BHD				*i* x	x	13 42 53.0	
BHD				*i* x	x	13 46 04.0	
BHD				*i* x	x	13 46 46.0	
BHD				*i* x	x	13 47 14.0	
BHD				*i* x	x	13 49 39.0	
BHD				*i* x	x	13 50 38.0	
HRFI	**Mount Harif**	**20.95**	**328**	Pn	**P**	**13 42 13.6**	**+1.3**
PRNI	**Paran**	**21.22**	**329**	Pn	**P**	**13 42 16.8**	**+1.6**
ZFRI	**Zfri**	**21.30**	**330**	Pn	**P**	**13 42 17.7**	**+1.7**
RMNI	**Mount Ramon**	**21.54**	**329**	Pn	**P**	**13 42 20.8**	**+2.2**
ASF	**Jabal al Asfar**	**21.89**	**335**	P	**P**	**13 42 23.9**	**+1.5**
	comp=Z,172nm,1.2s,mb5.4,baz=23,slow=4.4,SNR=114						
ASF				S	**S**	**13 46 32.4**	**+7.5**
	comp=Z,5.4nm,0.9s,baz=216,slow=19,SNR=2.4						
ASF				LR	LR	13 51 35.4	
	comp=Z,7μm,18.4s,MS5.1,baz=165,slow=39						
RTMI	**Retamim**	**21.94**	**329**	Pn	**P**	**13 42 24.1**	**+1.1**
KZIT	**Kziot**	**21.97**	**329**	Pn	**P**	**13 42 24.7**	**+1.4**
YTIR	**Yattir**	**21.99**	**331**	Pn	**P**	**13 42 24.8**	**+1.3**
DSI	**Dead Sea**	**22.04**	**332**	Pn	**P**	**13 42 25.1**	**+1.1**
MMLI	**Mount Malkishu**	**22.75**	**333**	Pn	**P**	**13 42 32.4**	**+0.8**
SLTI	**Sal'it**	**22.76**	**332**	Pn	**P**	**13 42 32.4**	**+0.8**
KSHT	**Keshet**	**23.04**	**334**	Pn	**P**	**13 42 35.7**	**+1.0**
MMAI	**Mount Meron Ar**	**23.25**	**334**	P	**P**	**13 42 38.0**	**+1.2**
	comp=Z,53nm,1.0s,mb4.9,baz=150,slow=6.8,SNR=20						
HRI	**Mount Hermon**	**23.32**	**334**	Pn	**P**	**13 42 38.8**	**+1.2**
RCY	**Rachaya**	**23.48**	**335**	*e* P	**P**	**13 42 40.6**	**+1.4**
BHJ	**Bhuj**	**23.64**	**60**	*e* P	**P**	**13 42 41.6**	**+0.6**
BHJ				AMb	AMB	13 42 47.5	
	comp=Z,346nm,1.2s,mb5.7						
BHJ				*ex*	x	13 47 01.2	
BHL	**Bhannes**	**23.91**	**335**	*e* P	**P**	**13 42 44.4**	**+1.1**
MSL	**Mosul**	**24.05**	**351**	*i* x	x	13 42 50.0	
MSL				*i* x	x	13 47 14.0	
HWQ	**Hawqa**	**24.11**	**336**	*e* P	**P**	**13 42 46.5**	**+1.3**
BOM	**Bombay**	**25.20**	**72**	*e* P	**P**	**13 42 55.0**	**-0.2**
BOM				AMb	AMB	13 42 59.6	
	comp=Z,145nm,1.3s,mb5.3						
BOM				*e* S	**S**	**13 47 21.9**	**+0.4**
GOA	**Goa**	**25.73**	**80**	*ex*	**P**	**13 42 55.0**	**-5.2**
GOA				AMb	AMB	13 43 06.0	
	comp=Z,598nm,1.4s,mb5.9						
LKFR	**Kufra**	**25.76**	**300**	*i* P	**P**	**13 43 01.3**	**+1.0**
	comp=Z,691nm,1.6s,mb5.9,SNR=28						
CSS	**Prodhromos**	**25.81**	**333**	⇑*i* P	**P**	**13 43 00.6**	**0.0**
	comp=Z,187nm,1.4s,mb5.4						
CSS				*e* S	**S**	**13 47 49.7**	**+19**
CSS	**Prodhromos**	**25.81**	**333**	⇑*i* P	**P**	**13 43 00.6**	**0.0**
	comp=Z,187nm,1.4s,mb5.4						
CSS				*e* S	**S**	**13 47 49.6**	**+19**
CSS				LR	LR		
	comp=Z,9μm,21.0s,MS5.2						
LFK	**Lefkose**	**25.98**	**333**	*e* P	**P**	**13 43 05.2**	**+3.0**
URFA	**Urfa**	**26.05**	**344**	*e* P	**P**	**13 43 04.6**	**+1.9**
URFA	**Urfa**	**26.05**	**344**	P	**P**	**13 43 03.9**	**+1.1**
POO	**Poona**	**26.10**	**73**	⇓*i* P	**P**	**13 43 04.3**	**+0.9**
POO				AMb	AMB	13 43 10.0	
	comp=Z,158nm,1.5s,mb5.3						
LEF	**Lefka**	**26.14**	**332**	*e* P	**P**	**13 43 05.2**	**+1.6**
LEF	**Lefka**	**26.14**	**332**	P	**P**	**13 43 03.3**	**-0.3**
KAD	**Karad**	**26.24**	**76**	*ex*	**P**	**13 43 08.6**	**+3.8**
KAD				AMb	AMB	13 43 19.6	
	comp=Z,105nm,1.8s,mb5.1						
JASL	**Jaisalmer**	**26.26**	**53**	*e* P	**P**	**13 43 06.6**	**+1.8**
VANB	**Van**	**26.27**	**353**	*e* P	**P**	**13 43 06.6**	**+1.8**
VANB	**Van**	**26.27**	**353**	P	**P**	**13 43 04.5**	**-0.3**
KMRS	**Kahramanmaras**	**26.67**	**341**	*e* P	**P**	**13 43 08.8**	**+0.5**
CLDR	**Caldiran**	**26.75**	**354**	*e* P	**P**	**13 43 12.0**	**+2.9**
CLDR	**Caldiran**	**26.75**	**354**	P	**P**	**13 43 11.9**	**+2.8**
SVRC	**Sivrice-ELAZID**	**26.81**	**346**	*e* P	**P**	**13 43 11.3**	**+1.7**
MERS	**Mersin**	**26.94**	**337**	*e* P	**P**	**13 43 10.5**	**-0.3**
MALT	**Malatya**	**26.97**	**344**	*e* P	**P**	**13 43 12.9**	**+1.8**
MALT	**Malatya**	**26.97**	**344**	⇑*i* P	**P**	**13 43 13.3**	**+2.2**
MALT	**Malatya**	**26.97**	**344**	⇑*i* P	**P**	**13 43 12.8**	**+1.7**
	comp=Z,228nm,1.3s,mb5.5						
MALT				*e* S	**S**	**13 47 58.5**	**+9.3**
MALT				LR	LR		
	comp=Z,9μm,19.0s,MS5.3						
MYA	**Malataya**	**26.99**	**344**	*e* P	**P**	**13 43 13.8**	**+2.6**
MYA	**Malataya**	**26.99**	**344**	P	**P**	**13 43 12.8**	**+1.6**
KOZT	**Kozan**	**27.00**	**339**	*e* P	**P**	**13 43 14.5**	**+3.1**
BINT	**Bingol**	**27.02**	**348**	*e* P	**P**	**13 43 14.4**	**+2.9**
BINT	**Bingol**	**27.02**	**348**	P	**P**	**13 43 14.8**	**+3.3**
PTK	**Pertek**	**27.28**	**346**	*e* P	**P**	**13 43 15.9**	**+2.1**
PTK	**Pertek**	**27.28**	**346**	P	**P**	**13 43 14.6**	**+0.8**
AGRB	**Hanur-Agry**	**27.29**	**352**	*e* P	**P**	**13 43 16.4**	**+2.5**
GNI	**Garni**	**27.68**	**355**	P	**P**	**13 43 19.9**	**+2.5**
	comp=Z,100nm,0.9s,mb5.4,baz=170,slow=1.8,SNR=26						
GNI				S	**S**	**13 48 06.8**	**+6.6**
	comp=Z,8.7nm,0.3s,baz=163,slow=13,SNR=1.7						
GNI				LR	LR	13 55 41.8	
	comp=Z,14μm,18.2s,MS5.6,baz=161,slow=40						
GNI	**Garni**	**27.68**	**355**	P	**P**	**13 43 20.3**	**+2.9**
	SNR=34						
GNI	**Garni**	**27.68**	**355**	⇑*i* P	**P**	**13 43 19.4**	**+2.0**
	comp=Z,255nm,1.0s,mb5.8						
GNI				LR	LR		
	comp=Z,14μm,19.0s,MS5.6						
HDMB	**Hadim**	**27.86**	**334**	*e* P	**P**	**13 43 20.4**	**+1.3**
HDMB	**Hadim**	**27.86**	**334**	P	**P**	**13 43 20.6**	**+1.5**
EZC	**Erzincan**	**28.00**	**347**	*e* P	**P**	**13 43 23.5**	**+3.2**
EZC	**Erzincan**	**28.00**	**347**	P	**P**	**13 43 24.3**	**+4.0**
BNN	**Bunyan**	**28.24**	**341**	*e* P	**P**	**13 43 23.7**	**+1.3**
BNN	**Bunyan**	**28.24**	**341**	P	**P**	**13 43 22.4**	**0.0**
LATR	**Latur**	**28.62**	**74**	*ex*	x	13 43 09.7	
LATR				AMb	AMB	13 43 33.8	
	comp=Z,55nm,2.0s,mb4.9						
KONT	**Konya--Tatoy**	**28.74**	**335**	*e* P	**P**	**13 43 28.5**	**+1.6**
KONT	**Konya--Tatoy**	**28.74**	**335**	P	**P**	**13 43 29.0**	**+2.1**
GUMT	**Gumushane**	**28.76**	**347**	*e* P	**P**	**13 43 29.5**	**+2.4**
GUMT	**Gumushane**	**28.76**	**347**	P	**P**	**13 43 30.2**	**+3.2**
SVSK	**Karacayir**	**28.86**	**343**	*e* P	**P**	**13 43 29.7**	**+1.7**
SVSK	**Karacayir**	**28.86**	**343**	P	**P**	**13 43 30.1**	**+2.1**
ELL	**Elmali**	**28.87**	**330**	*e* P	**P**	**13 43 29.4**	**+1.3**
ELL	**Elmali**	**28.87**	**330**	P	**P**	**13 43 29.0**	**+0.9**
LADK	**Ladik-KONYA**	**28.95**	**335**	*e* P	**P**	**13 43 29.8**	**+1.0**
LADK	**Ladik-KONYA**	**28.95**	**335**	P	**P**	**13 43 30.3**	**+1.5**
AKH	**Akhalkalaki**	**29.04**	**354**	P	**P**	**13 43 31.4**	**+1.8**
AJM	**Ajmer**	**29.07**	**57**	*i* P	**P**	**13 43 31.0**	**+1.0**
LTBQ	**Tobruq**	**29.13**	**316**	*i* P	**P**	**13 43 31.5**	**+1.1**
	comp=Z,325nm,1.5s,mb5.8,SNR=27						
MTA	**Mtatsminda**	**29.21**	**356**	P	**P**	**13 43 32.7**	**+1.7**
TRD	**Trivandrum**	**29.24**	**95**	⇑*e* P	**P**	**13 43 38.0**	**+6.3**
TRD				*e* S	**S**	**13 48 34.0**	**+8.5**
TBLG	**Delisi**	**29.25**	**356**	P	**P**	**13 43 33.0**	**+1.6**
BCA	**Borcka**	**29.32**	**351**	*e* P	**P**	**13 43 30.8**	**-1.2**
BCA	**Borcka**	**29.32**	**351**	P	**P**	**13 43 30.8**	**-1.2**
ESPY	**Espiye-Giresun**	**29.36**	**346**	*e* P	**P**	**13 43 33.4**	**+1.0**
ARG	**Arkhangelos**	**29.38**	**327**	P	**P**	**13 43 35.4**	**+2.8**
KBL	**Kabul**	**29.43**	**38**	*e* P	**P**	**13 43 35.0**	**+1.9**
	comp=Z,75nm,1.4s,mb5.2						
KBL	**Kabul**	**29.43**	**38**	*e* P	**P**	**13 43 35.0**	**+1.9**
	comp=Z,75nm,1.4s,mb5.2						
KAMT	**Kaman**	**29.44**	**338**	*e* P	**P**	**13 43 34.1**	**+1.1**
KAMT	**Kaman**	**29.44**	**338**	P	**P**	**13 43 34.9**	**+1.8**
ISP	**Isparta**	**29.47**	**332**	⇑*i* P	**P**	**13 43 32.4**	**-0.9**
	comp=Z,63nm,1.1s,mb5.3						
ISP				LR	LR		
	comp=Z,6μm,19.0s,MS5.2						
KOD	**Kodaikanal**	**29.48**	**91**	*e* P	**P**	**13 43 36.0**	**+2.3**
KOD				AMb	AMB	13 43 37.9	
	comp=Z,60nm,1.9s,mb5.0						
GOR	**Gori**	**29.55**	**355**	P	**P**	**13 43 36.8**	**+2.7**
KIZT	**Kizilcal**	**29.73**	**335**	*e* P	**P**	**13 43 36.9**	**+1.2**
KIZT	**Kizilcal**	**29.73**	**335**	P	**P**	**13 43 33.2**	**-2.5**
CORM	**Corum**	**29.84**	**340**	*e* P	**P**	**13 43 37.9**	**+1.2**
YER	**Yerkesik**	**29.99**	**328**	*e* P	**P**	**13 43 37.3**	**-0.7**
THW	**Thamme Wali**	**30.05**	**44**	P	**P**	**13 43 40.4**	**+1.8**
KVT	**Kavak**	**30.21**	**343**	*e* P	**P**	**13 43 40.7**	**+0.8**
KVT	**Kavak**	**30.21**	**343**	P	**P**	**13 43 39.1**	**-0.8**
ANTO	**Ankara**	**30.22**	**337**	*e* P	**P**	**13 43 41.6**	**+1.6**
ANTO	**Ankara**	**30.22**	**337**	P	**P**	**13 43 41.9**	**+1.9**
	SNR=14						
ANTO	**Ankara**	**30.22**	**337**	⇑*i* P	**P**	**13 43 41.0**	**+1.0**
ANTO				pmax	pmax		
	comp=Z,170nm,1.2s,mb5.7						
ANTO	**Ankara**	**30.22**	**337**	⇑*i* P	**P**	**13 43 41.3**	**+1.3**
ANTO	**Ankara**	**30.22**	**337**	⇑P	**P**	**13 43 41.3**	**+1.4**
MLSB	**Milas**	**30.37**	**328**	*e* P	**P**	**13 43 42.1**	**+0.7**
MLSB	**Milas**	**30.37**	**328**	P	**P**	**13 43 39.7**	**-1.7**
MAK	**Makhachkala**	**30.38**	**0**	*c i* P	**P**	**13 43 43.6**	**+2.2**
MAK				*i*		13 44 40.1	
MAK				*i* PPP		13 44 50.5	
MAK				*e*		13 46 36.2	
MAK				*i* S	**S**	**13 48 48.4**	**+5.7**
MAK				*e*SSS		13 50 39.2	
MAK				pmax	pmax		
	comp=Z,680nm,1.9s,mb6.0						
MAK				MLR	MLR		
	comp=Z,16μm,17.0s,MS5.7						
HYB	**Hyderabad**	**30.40**	**77**	*i* P	**P**	**13 43 42.5**	**+0.6**
HYB				*e* S	**S**	**13 48 44.0**	**+0.4**
HYB				LR	LR	13 52 48.0	
	comp=Z,5.6nm,20.0s						
HYB	**Hyderabad**	**30.40**	**77**	*e* P	**P**	**13 43 42.5**	**+0.6**
HYB				*e* S	**S**	**13 48 44.0**	**+0.4**
HYB	**Hyderabad**	**30.40**	**77**	*e* P	**P**	**13 43 42.5**	**+0.6**
HYB				*e* S	**S**	**13 48 44.0**	**+0.4**
HYB				*e*		13 52 48.0	
BODT	**Bodrum**	**30.44**	**327**	*e* P	**P**	**13 43 41.0**	**-1.0**
BODT	**Bodrum**	**30.44**	**327**	P	**P**	**13 43 39.7**	**-2.3**
CANT	**Cankiri**	**30.56**	**339**	*e* P	**P**	**13 43 42.8**	**-0.3**
CANT	**Cankiri**	**30.56**	**339**	P	**P**	**13 43 42.7**	**-0.3**
ALT	**Altintas**	**30.64**	**333**	*e* P	**P**	**13 43 43.2**	**-0.5**
ALT	**Altintas**	**30.64**	**333**	P	**P**	**13 43 42.1**	**-1.6**
CEP	**Cherat**	**30.78**	**42**	P	**P**	**13 43 46.5**	**+1.5**
OPO	**Ambohidratompo**	**30.84**	**181**	P	**P**	**13 43 47.3**	**+1.7**
	comp=Z,20nm,1.1s,mb4.9,baz=3.2,slow=8.7,SNR=9.4						
KULA	**Kula-Manisa**	**30.87**	**330**	*e* P	**P**	**13 43 46.2**	**+0.4**
DIKM	**Dikmen**	**30.97**	**342**	*e* P	**P**	**13 43 45.4**	**-1.2**
ABPO	**Ambohimpanom**	**31.29**	**180**	*e* P	**P**	**13 43 51.5**	**+1.9**
	comp=Z,32nm,1.1s,mb5.1						
ABPO	**Ambohimpanom**	**31.29**	**180**	*e* P	**P**	**13 43 51.5**	**+1.9**
	comp=Z,32nm,1.1s,mb5.1						
ABPO				LR	LR		
	comp=Z,6μm,21.0s,MS5.3						
NGP	**Nagpur**	**31.38**	**70**	*e* P	**P**	**13 43 49.0**	**-1.6**
NGP				AMb	AMB	13 43 52.7	
	comp=Z,40nm,1.4s,mb5.0						
NGP				*e* S	**S**	**13 48 57.2**	**-1.7**
APE	**Apeiranthos**	**31.42**	**325**	P	**P**	**13 43 53.4**	**+2.7**
AKS	**Akhisar**	**31.57**	**330**	*e* P	**P**	**13 43 50.5**	**-1.4**
AKS	**Akhisar**	**31.57**	**330**	P	**P**	**13 43 50.5**	**-1.5**
BLCB	**Balcova**	**31.58**	**328**	*e* P	**P**	**13 43 52.3**	**+0.3**
BLCB	**Balcova**	**31.58**	**328**	*e* P	**P**	**13 43 52.9**	**+0.9**
CHCP	**Chirah Chowk**	**31.58**	**44**	P	**P**	**13 43 53.1**	**+1.0**
KIV	**Kislovodsk**	**31.65**	**353**	P	**P**	**13 43 54.7**	**+2.2**
	comp=Z,801nm,1.3s,mb6.4,SNR=26						
KIV	**Kislovodsk**	**31.65**	**353**	*e* P	**P**	**13 43 54.0**	**+1.5**
KIV				*e*		13 44 56.4	
KIV				*e* S	**S**	**13 49 02.6**	**+0.1**
KIV				pmax	pmax		
	comp=Z,182nm,1.2s,mb5.8						
KIV				pmax	pmax		
	comp=Z,476nm,6.9s						
KIV				MLR	MLR		
	comp=Z,6μm,16.0s,MS5.3						
KIV	**Kislovodsk**	**31.65**	**353**	⇑*i* P	**P**	**13 43 54.2**	**+1.7**
KIV	**Kislovodsk**	**31.65**	**353**	P	**P**	**13 43 54.4**	**+1.9**
	SNR=54						
KIV	**Kislovodsk**	**31.65**	**353**	⇑P	**P**	**13 43 54.2**	**+1.6**
SOC	**Sochi**	**31.72**	**349**	*e* P	**P**	**13 43 53.3**	**+0.1**
SOC				*e*PP	pP	13 43 55.6	+1.8
SOC				*e*SP	sP	13 43 58.3	+4.2
SOC				*e*		13 44 53.9	
SOC				*e*PPP		13 45 08.3	
SOC				*e*S	**S**	**13 49 06.0**	**+2.4**
SOC				*e*SS	sS	13 49 13.5	+8.8
SOC				pmax	pmax		
	comp=Z,85nm,2.0s,mb5.2						
SOC				MLR	MLR		
	comp=Z,5μm,15.0s,MS5.3						
DGAR	**Diego Garcia**	**31.72**	**127**	PFAKE		13 44 10.0	+16
DGAR				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
SONA	**Sohna**	**31.77**	**56**	*e* P	**P**	**13 43 54.2**	**+0.4**
SONA				AMb	AMB	13 43 57.7	
	comp=Z,62nm,0.8s,mb5.5						
AYAN	**Aya Nagar**	**31.90**	**56**	*e* P	**P**	**13 43 55.9**	**+0.9**
AYAN				AMb	AMB	13

PAIG	Paliouri	34.48	327	eP	P	13 44 18.2 +0.8
AGG	Agios Georgios	34.59	324	eP	P	13 44 16.7 -1.6
JOSI	Joshimath	34.67	54	eP	P	13 44 20.4 +1.2
PTH	Pithoragarh	34.80	56	eP	P	13 44 21.5 +1.2
KDZ	Kurdzhali	34.87	331	P	P	13 44 21.7 +0.9
PLG	Polygyros	34.92	327	eP	P	13 44 20.1 -1.1
VIS	Vishakhapatnam	34.97	77	eP	P	13 44 21.5 -0.4
VIS				AMb	AMB	13 44 26.8
	comp=Z,51nm,0.9s,mb5.5					
JMB	Yambol	34.97	333	P	P	13 44 24.3 +2.7
VLS	Valsamata	35.06	322	eP	P	13 44 22.0 -0.4
THL	Klokotos Trika	35.14	325	eP	P	13 44 22.2 -0.9
RZN	Rozhen	35.24	330	P	P	13 44 25.0 +1.1
LIT	Litokhoron	35.24	326	eP	P	13 44 21.2 -2.8
SOH	Sokhos	35.29	328	eP	P	13 44 24.5 +0.1
LKD	Levkas	35.36	322	eP	P	13 44 25.3 +0.3
LSHF	Shwairf	35.36	305	i P	P	13 44 26.4 +1.2
	comp=Z,299nm,1.5s,mb6.0,SNR=26					
LSHF				eS	S	13 50 10.1 +10
	SNR=27					
THE	Thessaloniki	35.36	327	eP	P	13 44 24.5 -0.5
PLD	Plovdiv	35.56	330	eP	P	13 44 27.8 +1.1
PLD	Plovdiv	35.56	330	P	P	13 44 27.3 +0.6
MMB	Musomiste	35.66	329	P	P	13 44 37.3 +10
LMSR	Misrath	35.72	309	i P	P	13 44 29.0 +0.8
	comp=Z,178nm,1.4s,mb5.8,SNR=26					
MEV	Metsovon	35.73	324	eP	P	13 44 29.7 +1.5
TIRR	Tirgusor	35.83	336⇑	eP	P	13 44 28.3 -0.6
TIRR				e		13 45 52.2
TIRR				pmax	pmax	
	comp=Z,130nm,1.1s,mb5.8					
TIRR	Tirgusor	35.83	336⇓	iP	P	13 44 29.0 +0.1
TIRR	Tirgusor	35.83	336	⇓P	P	13 44 29.0 +0.1
SZH	Strazhica	35.89	333	P	P	13 44 29.9 +0.4
GRG	Griva	35.90	327	eP	P	13 44 29.2 -0.4
VAY	Valandovo	36.06	327	eP	P	13 44 30.3 -0.7
VAY	Valandovo	36.06	327	eP	P	13 44 29.3 -1.7
IGT	Igoumenitsa	36.09	323	eP	P	13 44 31.7 +0.5
KKB	Krupnik	36.19	329	P	P	13 44 31.4 -0.7
FNA	Florina	36.33	326	eP	P	13 44 32.4 -0.9
ZIMR		36.45	333	P	P	13 44 35.0 +0.7
KEK	Kerkira	36.52	323	P	P	13 44 37.2 +2.3
BIA	Bitola	36.52	326	eP	P	13 44 34.5 -0.5
BIA	Bitola	36.52	326	eP	P	13 44 34.1 -0.8
BIA	Bitola	36.52	326	eP	P	13 44 34.0 -0.9
STIP	Stip	36.53	327	eP	P	13 44 34.4 -0.6
STIP	Stip	36.53	327	eP	P	13 44 34.2 -0.8
VTS	Vitosha	36.66	329	P	P	13 44 37.0 +0.9
VTS	Vitosha	36.66	329	⇓iP	P	13 44 36.7 +0.6
VTS	Vitosha	36.66	329	⇓P	P	13 44 36.7 +0.6
KRUS	Krusevo	36.80	326	eP	P	13 44 37.6 +0.3
KSH	Kashi	36.87	38	P	P	13 44 38.1 +0.1
KSH				AP	pP	13 44 42.1 +3.5
KSH				XP	sP	13 44 44.9 +6.0
KSH				PP	PP	13 46 03.9 +2.0
KSH				PPP		13 46 22.6
KSH				PCP	PcP	13 47 00.9 +1.1
KSH				S	S	13 50 21.2 -2.2
KSH				PCS	PcS	13 50 46.1 -1.7
KSH				SS	SS	13 52 49.0 -16
KSH				SCS	ScS	13 54 51.3 -3.5
KSH				AMB	AMB	
	comp=Z,2μm,4.3s					
KSH				LR	LR	
	comp=Z,10μm,13.7s,MS5.7					
KSH				LR	LR	
	comp=N,10μm,9.4s					
KSH				LR	LR	
	comp=E,10μm,9.5s					
OHR	Ohrid	36.87	326	eP	P	13 44 37.2 -0.8
OHR	Ohrid	36.87	326	eP	P	13 44 35.8 -2.1
KOLN	Koldanda	37.01	60	eP	P	13 44 39.4 +0.1
	comp=E,727nm,1.2s,mb6.4					
GHAR	Gharyan	37.12	307	i P	P	13 44 41.0 +0.9
	comp=E,412nm,1.6s,mb6.0,SNR=26					
GHAR				eS	S	13 50 35.0 +7.7
	SNR=27					
SKO	Skopje	37.12	327	eP	P	13 44 40.1 +0.1
SKO	Skopje	37.12	327	eP	P	13 44 39.5 -0.5
DANN	Dangsing	37.32	59	eP	P	13 44 42.0 +0.1
	comp=E,467nm,1.0s,mb6.2					
AML	Almayashu	37.33	33	P	P	13 44 43.8 +2.0
	SNR=22					
AML	Almayashu	37.33	33	P	P	13 44 41.6 -0.2
	SNR=40					
AML	Almayashu	37.33	33	eP	P	13 44 43.4 +1.6
	comp=E,178nm,1.3s,mb5.7					
AML				eS	S	13 50 35.5 +5.2
PHP	Peshkopia	37.46	326	ePN	P	13 44 42.6 -0.3
TIR	Tirane	37.55	325	eP	P	13 44 43.8 +0.1
TIR	Tirane	37.55	325	eP	P	13 44 43.6 -0.1
TIR				pmax	pmax	
	comp=Z,140nm,1.0s,mb5.7					
QSH	Qafa e Shtames	37.65	325	ePN	P	13 44 45.0 +0.5
VRI	Vrincioaia	37.66	336⇑	iP	P	13 44 45.2 +0.7
VRI	Vrincioaia	37.66	336	⇑P	P	13 44 45.2 +0.6
MLR	Muntele Rosu	37.67	335⇑	iP	P	13 44 45.8 +1.2
MLR	Muntele Rosu	37.67	335	⇑P	P	13 44 45.8 +1.2
PLOR	Plostina	37.68	336	P	P	13 44 46.4 +1.7
EKS2	Erkin-Say	37.75	32	P	P	13 44 47.1 +1.8
	SNR=29					
EKS2	Erkin-Say	37.75	32	eP	P	13 44 46.9 +1.6
	comp=Z,85nm,1.3s,mb5.3					
EKS2	Erkin-Say	37.75	32	eP	P	13 44 46.9 +1.6
	comp=Z,85nm,1.3s,mb5.3					
EKS2				LR	LR	
	comp=Z,2μm,19.0s,MS5.0					
UCH	Uchtor	37.83	33⇑	eP	P	13 44 48.9 +2.9
	comp=Z,40nm,1.3s,mb5.0					
UCH	Uchtor	37.83	33⇑	eP	P	13 44 48.9 +2.8
	comp=Z,40nm,1.3s,mb5.0					
UCH				LR	LR	
	comp=Z,2μm,21.0s,MS4.8					
KIS	Kishinev	37.84	339α	iP	P	13 44 45.0 -1.0
KIS				e		13 46 15.0
KIS				i S	S	13 50 41.0 +3.2
KIS				i		13 50 45.0
KIS				i		13 53 40.0
KIS				pmax	pmax	
	comp=Z,500nm,1.6s,mb6.0					
KIS				pmax	pmax	
	comp=Z,900nm,2.0s,mb6.2					
KIS				MLR	MLR	
	comp=N,3μm,15.0s					
KIS				MLR	MLR	
	comp=Z,5μm,15.0s,MS5.4					
KIS				MLR	MLR	
	comp=Z,5μm,14.0s					
KIS	Kishinev	37.84	339⇑	iP	P	13 44 45.0 -1.0
	comp=Z,500nm,1.6s,mb6.0					
KIS	Kishinev	37.84	339	ePP	PP	13 46 15.0 +2.7
KIS				i S	S	13 50 41.0 +3.2
KIS				i ScP	ScP	13 50 45.0 -6.3
KIS				i ScS	SS	13 53 40.0 +16
KIS				LRM		14 03 24.0
	comp=Z,5μm,14.0s					
GKN	Gorkha	37.96	60	eP	P	13 44 46.9 -0.4
VOIR		38.00	334	⇓iP	P	13 44 48.1 +0.7
VOIR		38.00	334	⇓P	P	13 44 48.1 +0.7
PUK	Puka	38.01	326	ePN	P	13 44 47.8 +0.3
TIP	Timpagrande	38.04	320⇑	eP	P	13 44 47.9 +0.1
	comp=Z,63nm,1.1s,mb5.3					
TIP	Timpagrande	38.04	320⇑	eP	P	13 44 47.9 +0.1
	comp=Z,63nm,1.1s,mb5.3					
TIP				LR	LR	
	comp=Z,3μm,21.0s,MS5.1					
CEL	Celeste	38.07	318⇑	iP	P	13 44 48.2 +0.1
	comp=Z,65nm,1.1s,mb5.3					
CEL				ePcP	PcP	13 47 04.5 +1.1
BOK	Bokaro	38.08	67	⇓iP	P	13 44 48.6 +0.2
AAK	Ala-Archa	38.10	33	P	P	13 44 50.8 +2.4
	SNR=13					
KZA	Kyzart	38.13	34	P	P	13 44 51.8 +3.2
	SNR=19					
BCI	Bajram Curri	38.13	326	ePN	P	13 44 51.7 +3.1
DMN	Daman	38.25	61	eP	P	13 44 49.4 -0.4
FRU	Bishkek	38.31	33κ	eP	P	13 44 51.0 +1.0
FRU				e		13 46 19.0
FRU				i S	S	13 50 50.5 +5.4
FRU				pmax	pmax	
	comp=Z,2μm,4.0s					
FRU				pmax	pmax	
	comp=Z,2μm,5.5s					
KBK	Karagaybulak	38.36	33	P	P	13 44 53.0 +2.5
	SNR=23					
KKN	Kakani	38.44	61	eP	P	13 44 51.1 -0.3
	comp=Z,502nm,1.3s,mb6.1					
CHMS	Chumysh	38.49	33	P	P	13 44 53.1 +1.5
	SNR=13					
PKI	Pulchoki	38.50	61	eP	P	13 44 51.2 -0.7
	comp=Z,340nm,1.2s,mb5.9					
ALAS	Alassa	38.55	308	i P	P	13 44 53.1 +0.9
	comp=Z,335nm,1.5s,mb5.8,SNR=26					
ALAS				eS	S	13 50 57.3 +8.3
	SNR=27					
USP	Ospenovka	38.55	32	P	P	13 44 53.5 +1.4
	SNR=18					
ULHL	Ulahol	38.79	35	P	P	13 44 57.2 +3.0
	SNR=17					
VRHR	Novokhopersk	38.81	354	eP	P	13 44 54.3 +0.1
VRHR				e*SP	sP	13 45 03.3 +8.2
VRHR				e		13 46 21.7
VRHR				eS	S	13 50 54.2 +1.7
VRHR				pmax	pmax	
	comp=Z,170nm,1.7s,mb5.5					
VRHR				pmax	pmax	
	comp=N,190nm,1.3s					
VRHR				pmax	pmax	
	comp=E,10.0nm,0.4s					
VRHR				pmax	pmax	
	comp=Z,190nm,1.6s,mb5.6					
VRHR				pmax	pmax	
	comp=N,360nm,1.2s					
VRHR				pmax	pmax	
	comp=E,50nm,1.3s					
VRHR				smax		
	comp=E,1μm,4.6s					
VRHR				smax		
	comp=Z,960nm,4.9s					
VRHR				smax		
	comp=N,1μm,3.8s					
VRHR				MLR	MLR	
	comp=Z,2μm,13.0s,MS5.2					
VRHR				MLR	MLR	
	comp=N,9μm,27.0s					
VRHR				MLR	MLR	
	comp=E,2μm,18.0s					
TKM2	Tokmak 2	38.89	33	eP	P	13 44 56.0 +1.1
TKM2				pmax	pmax	
	comp=Z,30nm,1.0s,mb5.0					
TKM2				MLR	MLR	
	comp=Z,2μm,19.0s,MS5.0					
TKM2	Tokmak 2	38.89	33	P	P	13 44 56.5 +1.5
	SNR=12					
TKM2	Tokmak 2	38.89	33	eP	P	13 44 56.0 +1.1
	comp=Z,30nm,1.0s,mb5.0					
TKM2	Tokmak 2	38.89	33	eP	P	13 44 56.0 +1.0
	comp=Z,30nm,1.0s,mb5.0					
TKM2				LR	LR	
	comp=Z,2μm,19.0s,MS5.0					
GZR	Gura Zlata	38.97	332	P	P	13 44 56.4 +0.8
GZR	Gura Zlata	38.97	332	⇑iP	P	13 44 55.9 +0.3
GZR	Gura Zlata	38.97	332	⇑P	P	13 44 55.9 +0.3
GUN	Gumba	38.99	61	eP	P	13 44 55.8 -0.2
	comp=Z,763nm,1.2s,mb6.3					
CUC	Castrocucco	39.10	320⇑	iP	P	13 44 56.3 -0.5
	comp=Z,78nm,1.1s,mb5.3					
CUC	Castrocucco	39.10	320⇑	iP	P	13 44 56.4 -0.4
	comp=Z,78nm,1.1s,mb5.3					
JIRN	Jiri	39.19	61	eP	P	13 44 57.2 -0.5
	comp=Z,457nm,1.4s,mb6.0					
VRSR	Storozhevoye	39.23	352	eP	P	13 44 57.2 -0.4
VRSR				e*PP	pP	13 45 02.7 +4.4
VRSR				e		13 46 27.1
VRSR				eS	S	13 51 00.0 +1.3
VRSR				eSS	SS	13 53 41.2 -10
VRSR				pmax	pmax	
	comp=Z,20nm,1.1s,mb4.8					
VRSR				pmax	pmax	
	comp=N,30nm,1.2s					
VRSR				pmax	pmax	
	comp=E,2.0nm,0.5s					
VRSR				pmax	pmax	
	comp=N,200nm,2.9s					
VRSR				pmax	pmax	
	comp=Z,180nm,2.9s,mb5.3					
VRSR				pmax	pmax	
	comp=E,70nm,2.7s					
VRSR				smax		
	comp=E,130nm,3.1s					
VRSR				smax		
	comp=N,80nm,3.0s					
VRSR				smax		
	comp=Z,60nm,3.0s					
VRSR				MLR	MLR	
	comp=Z,550nm,17.0s,MS4.5					
VRSR				MLR	MLR	
	comp=N,520nm,19.0s,MS4.5					
VRSR				MLR	MLR	
	comp=E,460nm,20.0s,MS4.5					
LGHD	Ghdames	39.29	302	i P	P	13 44 59.4 +0.9
	comp=E,219nm,1.3s,mb5.7,SNR=26					
RAMN	Ramite	39.37	63	eP	P	13 44 58.4 -0.8
	comp=E,155nm,0.9s,mb5.8					
DIVS	Divibare	39.37	328	eP	P	13 44 58.6 -0.4
BZS	Buzias	39.68	331	⇑iP	P	13 45 00.7 -0.8
BZS	Buzias	39.68	331	⇑P	P	13 45 00.7 -0.7
BURAR	Bucovina Array	39.69	336	⇓iP	P	13 45 02.4 +0.9
BURAR	Bucovina Array	39.69	336	⇓P	P	13 45 02.4 +0.9
VOR	Voronezh	39.73	352	⇓iP	P	13 45 02.0 +0.2
VOR				pmax	pmax	
	comp=Z,340nm,2.4s,mb5.7					
STON	Ston	39.77	325	P	P	13 45 02.2 -0.1
AAA	Alma-Ata	39.86	34	i P	P	13 45 03.7 +0.7
AAA				i S	S	13 51 12.6 +4.1
AAA				pmax	pmax	
	comp=Z,2μm,5.0s					
AAA				smax		
	comp=N,11μm,21.6s					
AAA				MLR	MLR	
	comp=Z,4μm,15.8s,MS5.3					
KMPD	K-Podol'skiy	40.00	338	P	P	13 45 04.0 -0.1
ODAN	Odare	40.03	63	eP	P	13 45 04.0 -0.7
	comp=Z,71nm,0.9s,mb5.4					
DRGR		40.07	333	⇓iP	P	13 45 05.3 +0.6
DRGR		40.07	333	⇓P	P	13 45 05.3 +0.5
CAL	Calcutta	40.11	70	ex	x	13 44 44.0
CAL				ex	x	13 51 27.0
TAPN	Taplejung	40.42	62	eP	P	13 45 07.2 -0.8
KIEV	Kiev	40.94	342⇑	iP	P	13 45 11.3 -0.5
KIEV				e		13 51 25.5
KIEV				pmax	pmax	
	comp=Z,120nm,1.2s,mb5.4					
KIEV	Kiev	40.94	342⇑	iP	P	13 45 11.3 -0.5
	comp=Z,122nm,1.2s,mb5.4					
KIEV				eScP	ScP	13 51 25.4 +22
AKASG	Malin Array Be	40.94	342	P	P	13 45 11.6 -0.3
	comp=Z,27nm,1.0s,mb4.8,baz=156,slow=7.4,SNR=98					
AKASG				PP	PP	13 46 47.8 +1.6
	comp=Z,8.9nm,0.9s,baz=154,slow=9.1,SNR=6.7					
AKASG				PcP	PcP	13 47 12.6 +0.3
	comp=Z,9.0nm,1.0s,baz=158,slow=2.5,SNR=3.7					
AKASG				LR	LR	14 03 37.4
	comp=Z,3μm,18.4s,MS5.2,baz=150,slow=38					
AKASG	Malin Array Be	40.94	342	P	P	13 45 11.6 -0.3
AKASG						13 46 47.8
AKASG						13 47 12.6
AKASG				pmax	pmax	
	comp=Z,27nm,1.0s					
AKASG				pmax	pmax	
	comp=Z,9.0nm,0.9s					
AKASG				pmax	pmax	
	comp=Z,9.0nm,1.0s					
AKASG				MLR	MLR	
	comp=Z,3μm,18.4s					
AKASG	Malin Array Be	40.94	342	PP	PP	13 46 47.8 +1.6
AKBB	Malin Array Si	40.94	342⇑	iP	P	13 45 11.2 -0.7
AKBB				e		13 46 44.6
AKBB				eS	S	13 51 25.3 +0.9
AKBB	Malin Array Si	40.94	342	ePP	PP	13 46 44.6 -1.6
TAM	Tamanrasset	41.16	290⇑	iP	P	13 45 14.9 +0.8
TAM	Tamanrasset	41.16	290⇑	iP	P	13 45 14.9 +0.9
KEST	Kesra	41.43	311	P	P	13 45 17.4 +1.3
	comp=Z,12nm,1.0s,mb4.5,baz=85,slow=3.7,SNR=26					
KEST				LR	LR	14 03 01.3
	comp=Z,2μm,18.6s,MS5.0,baz=256,slow=37					
PKSM	Moragy	41.54	330⇑	iP	P	13 45 16.8 -0.1
PKSM	Moragy	41.54	330	⇑P	P	13 45 16.8 -0.1
UZH	Uzhgorod	41.68	335c	iP	P	13 45 18.0 0.0
UZH				eS	S	13 51 29.0 -6.4
UZH				MLR	MLR	
	comp=Z,1μm,14.0s,MS5.0					
UZH	Uzhgorod	41.68	335	i P	P	13 45 18.0 0.0
KOLS	Kolonicke sedl	41.92	335	i P	P	13 45 20.2 +0.2
KOLS				i		13 46 58.5
KOLS				i S	S	13 51 40.2 +1.2
KOLS				pmax	pmax	
	comp=Z,79nm,1.5s,mb5.1					
KOLS	Kolonicke sedl	41.92	335	i P	P	13 45 20.2 +0.2
	comp=Z,79nm,1.5s,mb5.1					
KOLS				i PP	PP	13 46 58.5 +1.6
KOLS				i S	S	13 51 40.2 +1.2
LVV	L'vov	41.94	337d	iP	P	13 45 19.2 -0.9
LVV				e		13 47 01.2
LVV				eS	S	13 51 38.8 -0.5
LVV				MLR	MLR	
	comp=Z,1μm,14.0s,MS4.9					
LVV				MLR	MLR	
	comp=N,1μm,15.0s,MS5.2					
LVV				MLR	MLR	
	comp=E,2μm,14.0s,MS5.2					
LVV	L'vov	41.94	337	i P	P	13 45 19.6 -0.5
AQU	L'Aquila	41.96	322⇑	iP	P	13 45 20.1 -0.2
AQU				e		13 46 59.8
AQU				pmax	pmax	
	comp=Z,83nm,1.4s,mb5.2					
AQU				MLR	MLR	
	comp=Z,2μm,21.0s,MS4.9					
AQU	L'Aquila	41.96	322⇑	iP	P	13 45 20.1 -0.2
	comp=Z,83nm,1.4s,mb5.2					
AQU	L'Aquila	41.96	322	ePP	PP	13 46 59.8 +2.5
AQU	L'Aquila	41.96	322⇑	iP	P	13 45 20.1 -0.3
	comp=Z,83nm,1.4s,mb5.2					
AQU				ePP	PP	13 46 59.8 +2.5
AQU				LR	LR	
	comp=Z,2μm,21.0s,MS4.9					
PSZ	Piszkesteto	42.18	332	P	P	13 45 21.9 -0.2
PSZ				pmax	pmax	
	comp=Z,140nm,1.3s,mb5.4					
PSZ	Piszkesteto	42.18	332⇑	eP	P	13 45 22.1 0.0
PSZ	Piszkesteto	42.18	332⇑	iP	P	13 45 22.0 -0.1
PSZ	Piszkesteto	42.18	332	⇑P	P	13 45 22.0 -0.1
CRVS	Cervenica-Dubn	42.24	334	i P	P	13 45 22.7 +0.2
CRVS				i S	S	13 51 44.3 +0.6
CRVS				i SS	SS	13 55 02.0 +10
CRVS	Cervenica-Dubn	42.24	334	i P	P	13 45 22.7 +0.2
CRVS				i S	S	13 51 44.3 +0.6
CRVS	Cervenica-Dubn	42.24	334	i P	P	13 45 22.7 +0.2
CRVS				i S	S	13 51 44.3 +0.6
CRVS				i SS	SS	13 55 02.1 +10
BUD	Budapest	42.26	331	eP	P	13 45 23.1 +0.3
KWP	Kalwaria	42.30	336	eP	P	13 45 23.4 +0.4
KWP				eS	S	13 51 48.8 +4.2
KWP	Kalwaria	42.30	336	⇓iP	P	13 45 23.0 0.0
KWP	Kalwaria	42.30	336	⇓P	P	13 45 23.0 -0.1
KWP				⇑eP	pP	13 45 23.4 -0.3
KWP				eS	S	13 51 48.8 +4.2
KECS	Kecovo	42.34	333	i P	P	13 45 23.4 0.0
KECS				pmax	pmax	
	comp=Z,15nm,1.3s,mb4.5					
KECS	Kecovo	42.34	333	i P	P	13 45 23.4 0.0
	comp=Z,15nm,1.3s,mb4.5					
NVLJ	Novalja	42.43	325	P	P	13 45 24.0 -0.1
BOJS	Bojanci	42.81	327	i P	P	13 45 27.3 0.0
KOGS	Kog	42.91	328	P	P	13 45 29.2 +1.2
CRES	Cresnjev	42.91	327	P	P	13 45 29.1 +1.0
LBTB	Lobatse	42.94	210	P	P	13 45 29.8 +1.3
	comp=Z,10.0nm,0.7s,mb4.7,baz=42,slow=8.3,SNR=8.9					
LBTB	Lobatse	42.94	210⇑	eP	P	13 45 29.7 +1.2
LBTB				pmax	pmax	
	comp=Z,81nm,1.4s,mb5.3					
LBTB				MLR	MLR	
	comp=Z,3μm,19.0s,MS5.2					
LBTB	Lobatse	42.94	210⇑	eP	P	13 45 29.7 +1.2
	comp=Z,81nm,1.4s,mb5.3					
LBTB	Lobatse	42.94	210⇑	eP	P	13 45 29.7 +1.2
	comp=Z,81nm,1.4s,mb5.3					
LBTB				LR	LR	
	comp=Z,3μm,19.0s,MS5.2					
ABSA	Djebel Ababsia	43.03	310	P	P	13 45 31.0 +1.8
VYHS	Vyhne	43.08	332	i P	P	13 45 28.8 -0.6
VYHS				pmax	pmax	
	comp=Z,31nm,1.4s,mb4.8					
VYHS	Vyhne	43.08	332	i P	P	13 45 28.8 -0.6
	comp=Z,31nm,1.4s,mb4.8					
VYHS				i PP	PP	13 47 11.7 +2.3
VYHS				i S	S	13 51 55.4 -0.7
VYHS				i SS	SS	13 55 11.6 +3.3
TSUM	Tsumeb	43.10	224	P	P	13 45 30.8 +0.9
	comp=Z,6.7nm,1.0s,mb4.3,baz=20,slow=6.7,SNR=9.3					
TSUM	Tsumeb	43.10	224⇑	eP	P	13 45 30.7 +0.8
	comp=Z,49nm,1.4s,mb5.0					
TSUM				LR	LR	
	comp=Z,8μm,20.0s,MS5.6					
NIE	Niedzica	43.12	334	eP	P	13 45 30.1 +0.4
CMAH	Djebel Manchou	43.21	311	P	P	13 45 32.0 +1.3
VISS	Visnje	43.23	327	eP	P	13 45 30.4 -0.3
KOLL	Kolacno	43.34	332	eP	P	13 45 31.5 0.0
OBN	Obninsk	43.40	351	P	P	13 45 32.1 +0.2
	comp=Z,615nm,1.1s,mb6.2,SNR=12					
OBN	Obninsk	43.40	351⇑	eP	P	13 45 31.9 +0.1
OBN				e		13 47 09.1
OBN				i S	S	13 51 59.6 -1.0
OBN				i SS	SS	13 55 22.0 +7.7
OBN				pmax	pmax	
	comp=Z,159nm,1.4s,mb5.6					
OBN				MLR	MLR	
	comp=Z,2μm,15.0s,MS5.2					
OBN	Obninsk	43.40	351⇑	iP	P	13 45 31.7 -0.1
	comp=Z,284nm,1.4s,mb5.8					
OBN				ePP	PP	13 47 07.6 -5.0
OBN				LR	LR	
	comp=Z,2μm,19.0s,MS5.0					
CEY	Cerknica	43.41	326	P	P	13 45 33.1 +1.0
LJU	Ljubljana	43.55	327	i P	P	13 45 33.2 0.0
SOP	Sopron	43.59	330⇑	eP	P	13 45 33.8 +0.3
CKFL	Kef-Lekhel	43.65	310	P	P	13 45 36.5 +2.3
ZST	Bratislava	43.68	331	i P	P	13 45 34.1 -0.1
ZST				pmax	pmax	
	comp=Z,46nm,1.6s,mb5.0					
ZST	Bratislava	43.68	331	i P	P	13 45 34.1 -0.1
	comp=Z,46nm,1.6s,mb5.0					
ZST				i PP	PP	13 47 25.7 +10
ZST				i S	S	13 52 04.5 -0.4
ZST				i SS	SS	13 55 30.9 +11
SOKA	Soboth	43.69	328⇑	iP	P	13 45 34.9 +0.5
	comp=Z,125nm,1.4s,mb5.5					
CAEH	`Ain El Ouahch	43.70	311	P	P	13 45 36.0 +1.4
JAVS	Javornik	43.70	326	i P	P	13 45 34.3 -0.2
MODS	Modra-Piesok	43.72	331	i P	P	13 45 33.9 -0.7
MODS				pmax	pmax	
	comp=Z,52nm,1.8s,mb5.0					
MODS	Modra-Piesok	43.72	331	i P	P	13 45 33.9 -0.7
	comp=Z,52nm,1.8s,mb5.0					
MODS				i PP	PP	13 47 18.8 +2.6
MODS				i S	S	13 52 03.0 -2.5
MODS				i SS	SS	13 55 30.3 +9.5
SHL	Shillong	43.75	66	i P	P	13 45 36.0 +0.8
SHL				i x	x	13 52 17.0
CASM	Ain Smara	43.76	310	P	P	13 45 37.0 +1.9
ARSA	Arzberg	43.81	329	i P	P	13 45 35.6 +0.3
	comp=Z,76nm,2.0s,mb5.1,SNR=16					
OBKA	Obir	43.84	327	i P	P	13 45 36.2 +0.6
	comp=Z,92nm,1.4s,mb5.3,SNR=18					
OBKA	Obir	43.84	327	i P	P	13 45 36.1 +0.6
	comp=Z,92nm,1.4s,mb5.3					
MOS	Moscow	43.85	352α	iP	P	13 45 35.7 +0.2
MOS				e		13 47 15.6
MOS				eS	S	13 52 08.9 +1.7
MOS				eSS	SS	13 55 35.1 +12
MOS				pmax	pmax	
	comp=Z,185nm,1.4s,mb5.6					
MOS				pmax	pmax	
	comp=Z,600nm,2.0s,mb6.0					
MOS				MLR	MLR	
	comp=Z,3μm,17.0s,MS5.3					
VOY	Vojsko	43.88	326	eP	P	13 45 35.9 0.0
VOY				e		13 45 42

LSA LR LR
comp=E,2µm,13.5s
LSA LR LR
comp=Z,2µm,9.6s
LSA Lhasa 43.91 60⇓ *i*P P 13 45 35.9 -0.5
LSA pmax pmax
comp=Z,23nm,0.9s,mb4.9
LSA MLR MLR
comp=Z,2µm,21.0s,MS4.9
LSA Lhasa 43.91 60⇓ *i*P P 13 45 35.9 -0.5
comp=Z,23nm,0.9s,mb4.9
LSA Lhasa 43.91 60⇓ *i*P P 13 45 35.9 -0.5
comp=Z,23nm,0.9s,mb4.9
LSA LR LR
comp=Z,2µm,21.0s,MS4.9
OJC Ojcow 43.94 335 *e*P **P 13 45 35.4 -0.9**
OJC *e*PP PP 13 47 17.9 -0.7
OJC *e*S **S 13 52 09.7 +1.0**
OJC L 14 09 06.4
comp=Z,2.5nm,16.5s
OJC Ojcow 43.94 335 *e*P **P 13 45 35.4 -0.9**
OJC *e* 13 47 17.9
OJC *e*S **S 13 52 09.7 +1.0**
CMER Merouana 43.97 309 P **P 13 45 39.0 +2.2**
CONA Conrad Observa 44.10 330 *i* P **P 13 45 38.0 +0.3**
comp=Z,164nm,1.6s,mb5.5,SNR=51
OSPF L'Ospedale 44.23 318 *e*P **P 13 45 38.6 -0.2**
DFRA Djebel Bou Aff 44.33 310 P **P 13 45 41.0 +1.3**
OKC Ostrava-Krasne 44.37 333 *e*P **P 13 45 39.9 +0.1**
OKC *e**PP pP 13 45 47.7 +7.3
OKC *e*S **S 13 52 18.2 +3.3**
OKC MLR MLR
comp=Z,2µm,13.9s,MS5.2
OKC Ostrava-Krasne 44.37 333 *e*P **P 13 45 39.9 +0.1**
OKC *e*x x 13 45 47.7
OKC *e*S **S 13 52 18.2 +3.3**
OKC *e*SS SS 13 55 49.5 +16
OKC AMS AMS 14 07 40.0
comp=Z,2µm,13.9s
OKC Ostrava-Krasne 44.37 333 *e*P **P 13 45 39.9 +0.1**
OKC *e*pP pP 13 45 47.7 +7.3
OKC *e*S **S 13 52 18.2 +3.3**
OKC *e*SS SS 13 55 49.5 +16
MYKA Terra Mystica 44.40 327⇑ *i*P **P 13 45 40.2 +0.2**
comp=Z,342nm,1.7s,mb5.8
BRVK Borovoye 44.40 20 P **P 13 45 40.7 +0.8**
comp=Z,222nm,1.6s,mb5.6,SNR=13
BRVK Borovoye 44.40 20 *e*P **P 13 45 40.0 +0.1**
BRVK *e* 13 47 25.3
BRVK pmax pmax
comp=Z,34nm,0.9s,mb5.1
BRVK MLR MLR
comp=Z,13µm,19.0s,MS5.9
BRVK Borovoye 44.40 20 P **P 13 45 40.5 +0.6**
SNR=42
BRVK Borovoye 44.40 20 *e*PP PP 13 47 25.3 +1.9
BRVK Borovoye 44.40 20 *e*P **P 13 45 40.0 0.0**
comp=Z,34nm,0.9s,mb5.1
BRVK *e*PP PP 13 47 25.3 +1.9
BRVK LR LR
comp=Z,13µm,19.0s,MS5.9
RAC Raciborz 44.53 333 *e*P **P 13 45 41.0 0.0**
RAC *e*S **S 13 52 20.7 +3.4**
RAC Raciborz 44.53 333 *e*P **P 13 45 41.0 0.0**
RAC *e*S **S 13 52 20.7 +3.4**
RAC LR LR
comp=Z,3µm,15.0s,MS5.3
SET Setif 44.56 309 P **P 13 45 42.0 +0.5**
CORF Corte 44.58 319 *e*P **P 13 45 41.0 -0.6**
MORC Moravsky Berou 44.60 333⇑ *i*P **P 13 45 41.2 -0.4**
MORC Moravsky Berou 44.60 333⇑ P **P 13 45 41.2 -0.4**
TOA0 Torodi Ar. Sit 44.60 276 *e*P **P 13 45 42.2 +0.1**
TOA0 Torodi Ar. Sit 44.60 276 *e*P **P 13 45 42.1 0.0**
TORD Torodi Ar. Bea 44.60 276 P **P 13 45 42.5 +0.3**
comp=Z,48nm,1.0s,mb5.3,baz=90,slow=7.1,SNR=133
TORD PcP PcP 13 47 28.2 +3.0
comp=Z,12nm,1.1s,baz=79,slow=4.2,SNR=3.5
TORD LR LR 14 04 26.0
comp=Z,2µm,18.8s,MS5.1,baz=75,slow=36
TORD Torodi Ar. Bea 44.60 276 PcP PcP 13 47 28.2 +3.0
TORD Torodi Ar. Bea 44.60 276 P **P 13 45 42.5 +0.3**
TORD PcP PcP 13 47 28.2 +3.0
TORD LR LR 14 04 26.0
ARU Arti 44.70 9*d* *i*P **P 13 45 42.1 -0.1**
ARU *e* 13 47 23.5
ARU *e*PPP 13 48 09.0
ARU *e*S **S 13 52 20.1 +0.6**
ARU *e*SS SS 13 55 40.3 +0.8
ARU *e*SSS 13 56 21.0
ARU pmax pmax
comp=Z,108nm,2.5s,mb5.2
ARU MLR MLR
comp=Z,5µm,18.0s,MS5.5
ARU Arti 44.70 9⇑ *e*P **P 13 45 42.2 0.0**
comp=Z,59nm,0.8s,mb5.5
ARU Arti 44.70 9 *e*PP PP 13 47 25.2 -1.3
ARU Arti 44.70 9⇑ *e*P **P 13 45 42.2 -0.1**
comp=Z,59nm,0.8s,mb5.5
ARU *e*PP PP 13 47 25.2 -1.3
ARU *e*S **S 13 52 21.1 +1.6**
ARU LR LR
comp=Z,6µm,20.0s,MS5.5
VRAC Vranov 44.70 331⇑ *i*P **P 13 45 42.1 -0.3**
VRAC Vranov 44.70 331⇑ P **P 13 45 42.1 -0.3**
MNK Minsk 44.70 344⇓ *e*P **P 13 45 40.0 -2.3**
MNK *e* 13 47 32.0
MNK *e*PPP 13 48 12.0
MNK *e*S **S 13 52 20.0 +0.4**
MNK pmax pmax
comp=Z,170nm,1.5s,mb5.7
MNK pmax pmax
comp=N,210nm,1.5s
MNK pmax pmax
comp=E,150nm,1.5s
MNK MLR MLR
comp=Z,8µm,16.0s,MS5.8
MNK MLR MLR
comp=E,5µm,16.0s,MS5.6
MNK MLR MLR
comp=N,2µm,16.0s,MS5.6
PGF Pioggiola 44.80 319 *e*P **P 13 45 42.8 -0.5**
comp=N,107nm,1.4s,mb5.2
PGF Pioggiola 44.80 319 *e*P **P 13 45 42.8 -0.5**
PGF pmax pmax
comp=Z,54nm,1.4s,mb5.2
PGF Pioggiola 44.80 319 *e*P **P 13 45 42.8 -0.5**
comp=Z,54nm,1.4s,mb5.2
KBA Koelnbreinsper 44.84 327 *i* P **P 13 45 43.6 0.0**
comp=Z,52nm,1.4s,mb5.2,SNR=17
KBA Koelnbreinsper 44.84 327 *i* P **P 13 45 43.6 +0.1**
KBA pmax pmax
comp=Z,52nm,1.4s,mb5.2
MOA Molln 44.85 328 *i* P **P 13 45 43.7 0.0**
comp=Z,72nm,1.1s,mb5.4,SNR=11
MK31 Makanchi Array 45.02 34⇓ *e*P **P 13 45 44.8 -0.2**
MK31 Makanchi Array 45.02 34⇓ *e*P **P 13 45 44.8 -0.2**
MKAR Makanchi Array 45.02 34 P **P 13 45 45.1 +0.1**
comp=Z,48nm,0.9s,mb5.3,baz=220,slow=7.7,SNR=80
MKAR LR LR 14 07 51.9
comp=Z,1µm,18.3s,MS4.8,baz=53,slow=41
MKAR Makanchi Array 45.02 34 P **P 13 45 45.1 +0.1**
MKAR pmax pmax
comp=Z,48nm,0.9s
MKAR MLR MLR
comp=Z,1µm,18.3s
ABTA Abfaltersbach 45.08 326⇑ *i*P **P 13 45 45.5 0.0**
comp=Z,26nm,1.4s,mb4.9,SNR=7.2
GRAM Graiana 45.17 322 P **P 13 45 48.8 +2.6**
TREC Trest 45.21 331 *e*P **P 13 45 45.9 -0.6**
TREC *e**PP pP 13 45 53.1 +5.9
TREC *e*S **S 13 52 28.2 +1.0**
TREC MLR MLR
comp=Z,2µm,19.9s,MS5.1
TREC Trest 45.21 331 *e*P **P 13 45 45.9 -0.6**
TREC *e*pP pP 13 45 53.1 +5.9
TREC *e*x x 13 47 46.2
TREC *e*S **S 13 52 28.2 +1.0**
TREC *e*SS SS 13 56 03.7 +14
TREC AMS AMS 14 05 20.0
comp=Z,2µm,19.9s
SVE Sverdlovsk 45.41 10⇑ *e*P **P 13 45 48.6 +0.7**
SVE *e*S **S 13 52 31.6 +1.8**
SVE *e* 13 55 46.8
SVE pmax pmax
comp=Z,127nm,1.3s,mb5.6
SVE MLR MLR
comp=Z,6µm,16.0s,MS5.6
SC2M Scurtabo 45.44 322 P **P 13 45 52.3 +3.9**
DPC Dobruska-Polom 45.56 332 *e*P **P 13 45 48.9 -0.3**
DPC *e**PP pP 13 45 56.1 +6.2
DPC *e* 13 47 40.1
DPC *e*S **S 13 52 31.2 -0.9**
DPC MLR MLR
comp=Z,2µm,26.5s,MS5.0
DPC Dobruska-Polom 45.56 332 *e*P **P 13 45 48.9 -0.3**
DPC pP pP 13 45 56.1 +6.2
DPC *e*SS SS 13 55 51.8 -4.3
DPC Dobruska-Polom 45.56 332 *e*P **P 13 45 48.9 -0.3**
DPC *e*pP pP 13 45 56.1 +6.2
DPC *e*PP PP 13 47 40.1 +4.3
DPC *e*S **S 13 52 31.2 -0.9**
DPC *e*SS SS 13 55 51.8 -4.3
DPC AMS AMS 14 05 10.0
comp=Z,2µm,26.5s
SUW Suwalki 45.69 340 *e*P **P 13 45 50.0 -0.1**
SUW *e*S **S 13 52 37.4 +3.5**
SUW Suwalki 45.69 340⇑ *e*P **P 13 45 50.0 -0.2**
SUW *e*S **S 13 52 37.4 +3.5**
GEC2 GERESS Array S 45.78 329 *e*P **P 13 45 50.1 -0.9**
GEC2 pmax pmax
comp=Z,112nm,1.4s,mb5.6
GEC2 GERESS Array S 45.78 329 *e*P **P 13 45 50.1 -0.9**
comp=Z,112nm,1.4s,mb5.6
GERES GERESS Array B 45.78 329 P **P 13 45 50.3 -0.7**
comp=Z,26nm,1.0s,mb5.1,baz=126,slow=6.8,SNR=68
GERES LR LR 14 06 43.2
comp=Z,1µm,18.3s,MS4.9,baz=130,slow=38
GERES GERESS Array B 45.78 329 P **P 13 45 50.3 -0.7**
GERES pmax pmax
comp=Z,26nm,1.0s
GERES MLR MLR
comp=Z,1µm,18.3s
UPC Upice 45.81 332 *e*P **P 13 45 51.2 0.0**
UPC *e*pP pP 13 45 58.1 +6.2
KURK Kurchatov 45.81 27 P **P 13 45 51.5 +0.3**
comp=Z,421nm,1.0s,mb6.3,SNR=27
KURK Kurchatov 45.81 27 *e*P **P 13 45 51.5 +0.3**
KURK *e* 13 47 43.0
KURK *e*S **S 13 52 29.6 -6.2**
KURK pmax pmax
comp=Z,83nm,1.0s,mb5.6
KURK MLR MLR
comp=Z,3µm,19.0s,MS5.3
KURK Kurchatov 45.81 27 P **P 13 45 52.3 +1.1**
SNR=46
KURK Kurchatov 45.81 27 *e*P **P 13 45 51.5 +0.3**
comp=Z,83nm,1.0s,mb5.6
KURK *e*PP PP 13 47 43.0 +4.5
KURK *e*S **S 13 52 29.6 -6.2**
KURK LR LR
comp=Z,3µm,19.0s,MS5.3
WTTA Wattenberg 45.87 326⇑ *i*P **P 13 45 51.2 -0.5**
comp=Z,85nm,1.8s,mb5.4,SNR=11
WTTA Wattenberg 45.87 326⇑ *i*P **P 13 45 51.2 -0.5**
WTTA pmax pmax
comp=Z,85nm,1.8s,mb5.4
KSP Ksiaz 45.92 333 *e*P **P 13 45 51.9 -0.2**
KSP *e*S **S 13 52 40.1 +2.7**
KSP Ksiaz 45.92 333⇑ *e*P **P 13 45 51.8 -0.3**
KSP *e**PP pP 13 45 57.2 +4.5
KSP *e* 13 47 42.6
KSP *e*S **S 13 52 35.8 -1.5**
KSP Ksiaz 45.92 333⇑ *e*P **P 13 45 51.8 -0.3**
KSP *e*pP pP 13 45 57.2 +4.5
KSP Ksiaz 45.92 333⇑ *e*P **P 13 45 51.8 -0.3**
KSP *e*pP pP 13 45 57.2 +4.5
KSP *e*PP PP 13 47 42.6 +3.0
KSP *e*S **S 13 52 35.8 -1.5**
KSP LR LR
comp=Z,10µm,51.9s,MS5.3
KHC Kasperske Hory 46.03 329 *e*P **P 13 45 51.9 -1.1**
KHC *e**PP pP 13 45 59.7 +6.0
KHC *e* 13 47 44.2
KHC *e*S **S 13 52 39.3 +0.3**
KHC MLR MLR
comp=Z,2µm,15.5s,MS5.1
KHC Kasperske Hory 46.03 329 P **P 13 45 51.9 -1.1**
KHC pP pP 13 45 59.7 +6.0
KHC Kasperske Hory 46.03 329 *e*P **P 13 45 51.9 -1.1**
KHC *e*pP pP 13 45 59.7 +6.0
KHC *e*PP PP 13 47 44.2 +3.4
KHC *e*S **S 13 52 39.3 +0.3**
KHC *e*SS SS 13 56 04.9 +1.0
KHC AMS AMS 14 07 00.0
comp=Z,2µm,15.5s
PRU Pruhonice 46.13 331 *e*P **P 13 45 53.5 -0.3**
PRU *e**PP pP 13 46 00.4 +6.0
PRU *e* 13 47 41.8
PRU *e*S **S 13 52 41.0 +0.5**
PRU MLR MLR
comp=Z,2µm,20.0s,MS5.1
PRU Pruhonice 46.13 331 P **P 13 45 53.5 -0.3**
PRU pP pP 13 46 00.4 +6.0
PRU Pruhonice 46.13 331 *e*P **P 13 45 53.5 -0.3**
PRU *e*pP pP 13 46 00.4 +6.0
PRU *e*PP PP 13 47 41.8 -0.1
PRU *e*S **S 13 52 41.0 +0.5**
PRU *e*SS SS 13 56 17.0 +11
PRU AMS AMS 14 06 00.0
comp=Z,2µm,20.0s
BOSA Boshof 46.15 207 P **P 13 45 55.0 +0.8**
comp=Z,12nm,0.6s,mb5.0,baz=36,slow=6.2,SNR=22
BOSA LR LR 14 04 24.2
comp=Z,6µm,19.9s,MS5.5,baz=37,slow=35
BOSA Boshof 46.15 207 *e*P **P 13 45 54.8 +0.7**
BOSA *e* 13 47 45.1
BOSA pmax pmax
comp=Z,128nm,1.6s,mb5.6
BOSA MLR MLR
comp=Z,6µm,20.0s,MS5.5
BOSA Boshof 46.15 207 *e*P **P 13 45 54.8 +0.7**
comp=Z,128nm,1.6s,mb5.6
BOSA *e*PP PP 13 47 45.1 +2.6
BOSA LR LR
comp=Z,6µm,20.0s,MS5.5
RORO Rocca Rossa 46.18 321 P **P 13 45 54.0 -0.3**
RORO Rocca Rossa 46.18 321 P **P 13 45 54.0 -0.3**
MOTA Moosalm 46.21 326⇑ *i*P **P 13 45 54.1 -0.3**
comp=Z,22nm,1.0s,mb5.1,SNR=6,3
MOTA Moosalm 46.21 326⇑ *i*P **P 13 45 54.1 -0.3**
MOTA pmax pmax
comp=Z,22nm,1.0s,mb5.0
FETA Feichten 46.22 325 *i* P **P 13 45 54.2 -0.3**
comp=Z,27nm,1.2s,mb5.0,SNR=8.9
PRA Prague 46.24 331 P **P 13 45 54.0 -0.6**
NEGI Seborga 46.27 320 P **P 13 45 54.3 -0.7**
NEGI Seborga 46.27 320 P **P 13 45 54.3 -0.7**
WET Wettzell 46.39 329 *e*P **P 13 45 54.2 -1.6**
WET pmax pmax
comp=Z,59nm,1.5s,mb5.3
WET Wettzell 46.39 329 *e*P **P 13 45 54.2 -1.6**
comp=Z,59nm,1.5s,mb5.3
ROB Robourent 46.40 321 P **P 13 45 55.9 0.0**
ROB Robourent 46.40 321 P **P 13 45 55.9 0.0**
REVF Revere 46.43 320 *e*P **P 13 45 55.9 -0.3**
REVF Revere 46.43 320 *e*P **P 13 45 56.5 +0.3**
SAOF Saorge 46.44 320 *e*P **P 13 45 55.6 -0.7**
SBF Sospel 46.45 320 *e*P **P 13 45 56.0 -0.4**
comp=Z,228nm,1.2s,mb5.7
SBF Sospel 46.45 320 *e*P **P 13 45 56.0 -0.4**
SBF pmax pmax
comp=Z,114nm,1.2s,mb5.7
SBF Sospel 46.45 320 *e*P **P 13 45 56.0 -0.4**
comp=Z,114nm,1.2s,mb5.7
RETA Reutte 46.48 326⇑ *i*P **P 13 45 55.5 -1.0**
comp=Z,49nm,1.5s,mb5.2
PVCC Panska Ves 46.49 331 *e*P **P 13 45 56.5 -0.1**
PVCC *e**PP pP 13 46 03.1 +5.9
PVCC *e* 13 47 45.1
PVCC *e*S **S 13 52 45.2 -0.3**
PVCC MLR MLR
comp=Z,2µm,14.9s,MS5.2
PVCC Panska Ves 46.49 331 P **P 13 45 56.5 -0.1**
PVCC pP pP 13 46 03.1 +5.9
PVCC Panska Ves 46.49 331 *e*P **P 13 45 56.5 -0.1**
PVCC *e*pP pP 13 46 03.1 +5.9
PVCC *e*PP PP 13 47 45.1 -0.5
PVCC *e*S **S 13 52 45.2 -0.3**
PVCC *e*SS SS 13 56 17.4 +6.1
PVCC AMS AMS 14 07 40.0
comp=Z,2µm,14.9s
PVCC Panska Ves 46.49 331 *e*P **P 13 45 56.5 -0.1**
PVCC *e*pP pP 13 46 03.1 +5.9
PVCC *e*PP PP 13 47 45.1 -0.5
PVCC *e*S **S 13 52 45.2 -0.3**
PVCC *e*SS SS 13 56 17.4 +6.1
AUTN L'Aution 46.52 320 *e*P **P 13 45 57.2 +0.3**
WMQ Urumqi 46.54 40 P **P 13 45 57.6 +0.5**
WMQ AP pP 13 46 02.1 +4.4
WMQ XP sP 13 46 04.6 +6.6
WMQ PCP PcP 13 47 32.6 +1.2
WMQ PP PP 13 47 46.6 +0.3
WMQ SCP ScP 13 51 24.4 -1.7
WMQ S **S 13 52 44.6 -1.8**
WMQ SCS ScS 13 55 49.6 -3.8
WMQ SS SS 13 56 02.0 -10
WMQ LR LR
comp=Z,4µm,56.8s,MS5.0
WMQ AMB AMB
comp=Z,301nm,0.8s,mb6.3
WMQ LR LR
comp=N,3µm,30.8s
WMQ LR LR
comp=E,2µm,26.4s
WMQ LR LR
comp=Z,2µm,30.2s
FUR Furstenfeldbru 46.61 327 *e*P **P 13 45 56.1 -1.4**
ENR Entracque 46.64 320 P **P 13 45 58.2 +0.3**
ENR Entracque 46.64 320 P **P 13 45 58.2 +0.3**
TOUF Mont Tournerai 46.64 320 *e*P **P 13 45 58.0 +0.1**
MVIF Mont Vial 46.65 320 *e*P **P 13 45 57.7 -0.2**
MVIF Mont Vial 46.65 320 *e*P **P 13 45 58.6 +0.7**
TUE Stuetta 46.68 324⇑ *e*P **P 13 45 56.9 -1.2**
comp=Z,14nm,0.8s,mb4.9
STV Sant Anna di V 46.71 320 P **P 13 45 56.9 -1.5**
STV Sant Anna di V 46.71 320 P **P 13 45 59.0 +0.6**
CALN Calern 46.74 320 *e*P **P 13 45 58.5 -0.1**
LMR La Mourre 46.78 319 *e*P **P 13 45 58.3 -0.7**
comp=Z,115nm,1.4s,mb5.3
LMR La Mourre 46.78 319 *e*P **P 13 45 58.3 -0.7**
LMR pmax pmax
comp=Z,58nm,1.4s,mb5.3
LMR La Mourre 46.78 319 *e*P **P 13 45 58.3 -0.7**
comp=Z,58nm,1.4s,mb5.3
FRF La Foret Royal 46.80 319 *e*P **P 13 45 58.7 -0.4**
comp=Z,185nm,1.2s,mb5.6
FRF La Foret Royal 46.80 319 *e*P **P 13 45 58.7 -0.4**
FRF pmax pmax
comp=Z,92nm,1.2s,mb5.6
FRF La Foret Royal 46.80 319 *e*P **P 13 45 58.7 -0.4**
comp=Z,92nm,1.2s,mb5.6
DAVA Damuels 46.85 325 *i* P **P 13 45 58.7 -0.7**
comp=Z,101nm,2.1s,mb5.4,SNR=9.2
UBR Ueberruh 46.95 326 P **P 13 46 00.2 0.0**
BRG Berggiesshubel 47.02 331 *e*P **P 13 45 59.9 -0.8**
BRG 13 47 53.0
BRG S **S 13 52 54.0 +0.9**
BRG pmax pmax
comp=Z,26nm,1.2s,mb5.0
BRG MLR MLR
comp=N,1µm,16.3s,MS5.0
BRG MLR MLR
comp=E,459nm,13.7s,MS5.0
BRG MLR MLR
comp=Z,895nm,17.1s,MS4.8
BRG Berggiesshubel 47.02 331 *e*P **P 13 45 59.5 -1.2**
comp=Z,70nm,1.6s,mb5.3
BRG Berggiesshubel 47.02 331 *e*P **P 13 45 59.9 -0.8**
comp=Z,43nm,1.2s,mb5.3
BRG PP PP 13 47 53.0 +1.9
BRG S **S 13 52 54.0 +0.9**
BRG SS SS 13 56 29.0 +9.1
BRG
comp=N,2µm,16.3s
BRG
comp=E,767nm,13.7s
BRG
comp=Z,2µm,17.1s
BRG Berggiesshubel 47.02 331 *e*P **P 13 45 59.9 -0.8**
comp=Z,26nm,1.2s,mb5.0
BRG PP PP 13 47 53.0 +1.9
BRG S **S 13 52 54.0 +0.9**
BRG SS SS 13 56 29.0 +9.1
BRG LR LR
comp=Z,900nm,17.1s,MS4.8
BHB Bricherasio 47.05 321 P **P 13 46 00.5 -0.6**
LLS Linth-Limmern 47.09 324⇑ P **P 13 46 00.6 -0.7**
ROTZ Rotzenmuhle 47.13 329 *e*P **P 13 46 00.2 -1.4**
comp=Z,72nm,1.5s,mb5.4
SURF Saint Ours 47.15 320 *e*P **P 13 46 02.0 +0.2**
RSP Reno Superiore 47.21 321 P **P 13 46 01.2 -1.1**
RSP Reno Superiore 47.21 321 P **P 13 46 01.2 -1.1**
BERN Bernov 47.28 330⇑ P **P 13 45 55.4 -7.3**
GKP Gorka Klasztor 47.29 336 *e*P **P 13 46 02.7 0.0**
MBDF Montbardon 47.30 321 *e*P **P 13 46 02.7 -0.3**
comp=Z,43nm,0.8s,mb5.2
MBDF Montbardon 47.30 321 *e*P **P 13 46 02.7 -0.3**
MBDF pmax pmax
comp=Z,22nm,0.8s,mb5.1
MBDF Montbardon 47.30 321 *e*P **P 13 46 02.7 -0.3**
comp=Z,22nm,0.8s,mb5.2
NKC Novy Kostel 47.31 330 P **P 13 46 02.4 -0.6**
NKC pP pP 13 46 09.4 +5.8
NKC Novy Kostel 47.31 330 *e*P **P 13 46 02.4 -0.6**
NKC *e*pP pP 13 46 09.4 +5.8
NKC *e*S **S 13 52 57.2 0.0**
NKC AMS AMS 14 06 30.0
comp=Z,2µm,25.1s
NKC Novy Kostel 47.31 330 *e*P **P 13 46 02.4 -0.6**
NKC *e*pP pP 13 46 09.4 +5.8
NKC *e*S **S 13 52 57.2 0.0**
MUO Muotathal 47.37 324⇑ P **P 13 46 02.7 -0.8**
TANN Tannenbergstha 47.42 330 *e*P **P 13 46 03.0 -0.8**
comp=Z,84nm,1.5s,mb5.5
HDH Heidenheim-Cha 47.43 327 P **P 13 46 03.7 -0.2**
LSD Lago del Serru 47.43 322 P **P 13 46 03.0 -1.0**
LSD Lago del Serru 47.43 322 P **P 13 46 03.6 -0.4**
WILA Wila 47.46 325⇑ P **P 13 46 03.3 -0.9**
BNI Bardonecchia 47.51 321 P **P 13 46 04.1 -0.6**
BNI pmax pmax
comp=Z,57nm,1.4s,mb5.4
BNI Bardonecchia 47.51 321 *e*P **P 13 46 03.4 -1.3**
comp=Z,57nm,1.4s,mb5.4
SOKR Solikamsk 47.52 6*c* *i*P **P 13 46 05.2 +0.7**
SOKR 13 47 58.6
SOKR S **S 13 53 03.4 +3.4**
SOKR pmax pmax
comp=Z,150nm,1.2s,mb5.9
SOKR MLR MLR
comp=Z,6µm,25.0s,MS5.5
GRA1 Grafenberg Arr 47.58 329 *e*P **P 13 46 03.5 -1.6**
comp=Z,92nm,1.4s,mb5.6
GRA1 *e*pP pP 13 46 10.3 +4.6
GRA1 *e*S **S 13 53 06.7 +5.6**
GRA1 LR LR
comp=Z,2µm,43.5s,MS4.8
GRF Grafenberg Arr 47.58 329 *e*P **P 13 46 03.5 -1.6**
GRF *e**PP pP 13 46 10.3 +4.6
GRF *e*S **S 13 53 06.7 +5.6**
GRF pmax pmax
comp=Z,92nm,1.4s,mb5.6
GRF MLR MLR
comp=Z,2µm,43.5s,MS4.8
GRF Grafenberg Arr 47.58 329 *e*P **P 13 46 03.5 -1.6**
comp=Z,92nm,1.4s,mb5.6
GRF *e*pP pP 13 46 10.3 +4.6
GRF *e*S **S 13 53 06.7 +5.6**
GRF *e*L 14 01 46.5
comp=Z,2µm,43.5s
DIX Grande Dixence 47.60 323⇑ P **P 13 46 04.9 -0.4**
LKBD Leukerbad 47.63 323⇑ P **P 13 46 05.2 -0.4**
SMRF Simiane la Rot 47.68 319 *e*P **P 13 46 05.7 -0.3**
comp=Z,250nm,1.6s,mb5.7
SMRF Simiane la Rot 47.68 319 *e*P **P 13 46 05.7 -0.3**

comp=Z,125nm,1.6s,mb5.7
LPG La Plagne 47.70 322 *e*P **P 13 46 06.3 +0.2**
LPL La Plagne 47.72 322 *e*P **P 13 46 06.1 -0.1**
GUT Gutenstein 47.72 326 P **P 13 46 06.2 0.0**
CLL Collm 47.75 331⇑*i*P **P 13 46 05.3 -1.1**
CLL *i* 13 46 12.1
CLL *e*S **S 13 53 04.0 +0.5**
CLL pmax pmax
comp=Z,80nm,1.5s,mb5.5
CLL Collm 47.75 331 *e*P **P 13 46 05.2 -1.2**
comp=Z,102nm,1.5s,mb5.6
CLL Collm 47.75 331⇑*i*P **P 13 46 05.3 -1.1**
comp=Z,80nm,1.5s,mb5.5
CLL *i* (pP) pP 13 46 12.1 +5.1
comp=Z,100nm,1.5s
CLL *i* x x 13 46 19.3
CLL *i* PP PP 13 48 03.3 +5.3
comp=Z,369nm,3.3s
CLL *e*PPPP 13 48 56.0
CLL *e*S **S 13 53 04.0 +0.5**
comp=N,800nm,23.1s
CLL *e*S **S 13 53 04.0 +0.5**
comp=E,2µm,27.3s
CLL *e*x x 13 53 40.0
CLL *e*SS SS 13 56 45.0 +13
CLL *e*(SSSS) 13 58 24.0
CLL Collm 47.75 331⇑*i*P **P 13 46 05.3 -1.1**
comp=E,80nm,1.5s,mb5.5
CLL *i* 13 46 12.1
CLL *i* 13 46 19.3
CLL *e*S **S 13 53 04.0 +0.5**
ETOS Mallorca 47.77 313 P **P 13 46 07.3 +0.6**
comp=E,32nm,0.9s,mb5.4
BUCH Bad Urach 47.81 326 P **P 13 46 07.1 +0.2**
RSL Roselend 47.87 322 *e*P **P 13 46 05.8 -1.6**
SLE Schleitheim 47.89 325⇑P **P 13 46 06.7 -0.8**
EMV Vieux Emosson 47.90 322⇑P **P 13 46 06.6 -1.0**
SPAK Spaichingen-Ko 47.92 326 *e*P **P 13 46 07.2 -0.6**
SPAK Spaichingen-Ko 47.92 326 *e*P **P 13 46 07.9 +0.1**
ORIF Oris-en-Rattie 47.94 321 *e*P **P 13 46 07.1 -0.9**
comp=E,159nm,1.3s,mb5.6
ORIF *e*MLR MLR
comp=Z,2µm,20.8s,MS4.8
ORIF Oris-en-Rattie 47.94 321 *e*P **P 13 46 07.1 -0.9**
ORIF pmax pmax
comp=Z,80nm,1.3s,mb5.6
ORIF Oris-en-Rattie 47.94 321 *e*P **P 13 46 07.1 -0.9**
comp=Z,80nm,1.3s,mb5.6
SULZ Cheisacher 47.97 325⇑P **P 13 46 07.4 -0.8**
MOX Moxa 47.98 330 *e*P **P 13 46 07.1 -1.1**
comp=Z,88nm,1.7s,mb5.5
MOX *e* 13 46 14.3
comp=Z,119nm,1.6s
MOX *e* 13 48 04.0
MOX
comp=Z,2µm,22.0s
MOX Moxa 47.98 330 *e*P **P 13 46 07.1 -1.1**
MOX *e* 13 46 14.3
MOX *e* 13 48 04.0
MOX pmax pmax
comp=Z,88nm,1.7s,mb5.5
MOX pmax pmax
comp=Z,119nm,1.6s,mb5.7
MOX MLR MLR
comp=Z,2µm,22.0s,MS5.0
MOX Moxa 47.98 330 *e*P **P 13 46 07.0 -1.2**
comp=Z,112nm,1.7s,mb5.6
STU Stuttgart 48.08 327 *e*P **P 13 46 07.6 -1.4**
comp=Z,49nm,1.4s,mb5.3
STU Stuttgart 48.08 327 *e*P **P 13 46 07.1 -1.9**
GRN Grenoble 48.18 321 *e*P **P 13 46 09.6 -0.2**
RUE Ruedersdorf 48.19 333 *e*P **P 13 46 08.0 -1.7**
comp=Z,108nm,1.3s,mb5.7
RUE *e* 13 46 16.6
FELD Feldberg im Sc 48.23 325 *e*P **P 13 46 08.9 -1.2**
FELD Feldberg im Sc 48.23 325 P **P 13 46 10.2 +0.1**
BBS Basel-Blauen 48.28 324 *e*P **P 13 46 09.4 -1.2**
BBS Basel-Blauen 48.28 324 P **P 13 46 10.8 +0.2**
BFO Black Forest 48.30 326 P **P 13 46 10.0 -0.7**
comp=Z,189nm,1.6s,mb5.9,SNR=9.6
BFO Black Forest 48.30 326 *e*P **P 13 46 09.9 -0.8**
BFO pmax pmax
comp=Z,101nm,1.6s,mb5.6
BFO Black Forest 48.30 326 *e*P **P 13 46 09.9 -0.8**
comp=Z,101nm,1.6s,mb5.6
KIZ Kirchzarten 48.32 325 P **P 13 46 10.9 0.0**
EIBI Ibiza 48.57 311 P **P 13 46 11.9 -1.0**
comp=Z,75nm,1.0s,mb5.7
LOMF Lomont 48.61 324 *e*P **P 13 46 12.4 -0.7**
LOMF Lomont 48.61 324 *e*P **P 13 46 13.1 0.0**
KLMR Klimovskoe 48.66 355*c i*P **P 13 46 12.7 -0.5**
KLMR *e* 13 48 05.9
KLMR *i*S **S 13 53 17.1 +1.1**
KLMR pmax pmax
comp=Z,163nm,1.3s,mb5.9
KLMR pmax pmax
comp=Z,164µm,4.1s
CABF La Chapelle 48.66 323 *e*P **P 13 46 12.7 -0.8**
comp=Z,130nm,1.1s,mb5.6
CABF La Chapelle 48.66 323 *e*P **P 13 46 12.7 -0.8**
CABF pmax pmax
comp=Z,65nm,1.1s,mb5.6
CABF La Chapelle 48.66 323 *e*P **P 13 46 12.7 -0.8**
comp=Z,65nm,1.1s,mb5.6
VIVF Saint-Julien-l 48.66 320 *e*P **P 13 46 12.3 -1.3**
comp=Z,96nm,1.4s,mb5.3
VIVF Saint-Julien-l 48.66 320 *e*P **P 13 46 12.3 -1.3**
VIVF pmax pmax
comp=Z,48nm,1.4s,mb5.3
VIVF Saint-Julien-l 48.66 320 *e*P **P 13 46 12.3 -1.3**
comp=Z,48nm,1.4s,mb5.3
EJON La Jonquera 48.77 316 P **P 13 46 15.1 +0.7**
comp=Z,64nm,1.3s,mb5.5
TOD Tromm 48.78 327 *e*P **P 13 46 12.8 -1.6**
TOD Tromm 48.78 327 P **P 13 46 14.3 -0.1**
LASF Ste Croix 48.83 319 *e*P **P 13 46 14.4 -0.5**
comp=Z,261nm,1.6s,mb5.7
LASF Ste Croix 48.83 319 *e*P **P 13 46 14.4 -0.5**
comp=Z,130nm,1.6s,mb5.7
HINF Hinteralfeld 48.84 324 *e*P **P 13 46 13.6 -1.3**
comp=Z,70nm,1.1s,mb5.3
HINF Hinteralfeld 48.84 324 *e*P **P 13 46 13.6 -1.3**
HINF pmax pmax
comp=Z,35nm,1.1s,mb5.3
HINF Hinteralfeld 48.84 324 *e*P **P 13 46 13.6 -1.3**
comp=Z,35nm,1.1s,mb5.3
ECH Echery 48.89 325 *e*P **P 13 46 14.1 -1.1**
ECH Echery 48.89 325⇑*i*P **P 13 46 14.0 -1.2**
UBBA Unterbreizbach 48.89 329 *e*P **P 13 46 13.6 -1.6**
comp=Z,32nm,1.8s,mb5.0
CDF Champ du Feu 48.93 325 *e*P **P 13 46 14.6 -0.9**
comp=Z,68nm,1.0s,mb5.3
CDF Champ du Feu 48.93 325 *e*P **P 13 46 14.6 -0.9**
CDF pmax pmax
comp=Z,34nm,1.0s,mb5.3
CDF Champ du Feu 48.93 325 *e*P **P 13 46 14.6 -0.9**
comp=Z,34nm,1.0s,mb5.3
SSB Saint Sauveur 48.95 320 *e*P **P 13 46 14.5 -1.2**
SSB Saint Sauveur 48.95 320⇑*i*P **P 13 46 14.8 -1.0**
LANF Langenberg 48.95 326 *e*P **P 13 46 14.6 -1.1**
LANF Langenberg 48.95 326 P **P 13 46 16.1 +0.4**
KTD Kalmit 49.00 327 *e*P **P 13 46 15.2 -0.8**
HAU Haudompre 49.23 324 *e*P **P 13 46 16.8 -1.1**
comp=Z,43nm,0.9s,mb5.2
HAU *e*MLR MLR
comp=Z,2µm,19.8s,MS4.9
HAU Haudompre 49.23 324 *e*P **P 13 46 16.8 -1.1**
HAU pmax pmax
comp=Z,22nm,0.9s,mb5.2
HAU MLR MLR
comp=Z,2µm,19.8s,MS5.2
HAU Haudompre 49.23 324 *e*P **P 13 46 16.8 -1.1**
comp=Z,22nm,0.9s,mb5.2
HAU LR LR
comp=Z,2µm,19.8s,MS5.2
TNS Taunus Mts 49.33 328 *e*P **P 13 46 17.2 -1.3**
TNS pmax pmax
comp=Z,141nm,2.6s,mb5.5
TNS Taunus Mts 49.33 328 *e*P **P 13 46 17.2 -1.3**
comp=Z,141nm,2.6s,mb5.5
CLZ Clausthal 49.34 330 *e*P **P 13 46 17.6 -1.1**
CLZ pmax pmax
comp=Z,70nm,1.3s,mb5.5
CLZ Clausthal 49.34 330 *e*P **P 13 46 17.6 -1.1**
comp=Z,70nm,1.3s,mb5.5
EMIR Miracle 49.49 315 P **P 13 46 20.8 +0.8**
comp=Z,84nm,1.0s,mb5.7
THEF They Montfort 49.56 324 *e*P **P 13 46 18.9 -1.4**
THEF They Montfort 49.56 324 *e*P **P 13 46 19.7 -0.6**
BSD Bornholm Skovb 49.57 336 *e*P **P 13 46 20.4 +0.1**
BSD *i* 13 48 18.3
BSD *i*S **S 13 53 32.3 +3.3**
BSD MLR MLR
comp=Z,2µm,19.0s,MS5.2
BSD Bornholm Skovb 49.57 336 *i*P **P 13 46 20.4 +0.1**
BSD *i* 13 48 18.3
BSD *e* 13 49 19.8
BSD *i*S **S 13 53 32.3 +3.3**
BSD
comp=Z,2µm,19.0s
BSD Bornholm Skovb 49.57 336 *e*P **P 13 46 20.4 +0.1**
BSD *i* 13 48 18.3
BSD *e* 13 49 19.8
BSD *i*S **S 13 53 32.3 +3.3**
EPOB Poblet 49.59 314 P **P 13 46 19.0 -1.7**
comp=Z,196nm,1.8s,mb5.8
MTLF Montolieu 49.59 317 *e*P **P 13 46 19.7 -1.0**
comp=Z,100nm,1.6s,mb5.3
MTLF Montolieu 49.59 317 *e*P **P 13 46 19.7 -1.0**
MTLF pmax pmax
comp=Z,50nm,1.6s,mb5.3
MTLF Montolieu 49.59 317 *e*P **P 13 46 19.7 -1.0**
comp=Z,50nm,1.6s,mb5.3
EBEN Beniarda 49.62 311 P **P 13 46 20.2 -0.8**
comp=Z,99nm,1.2s,mb5.7
LBL Lubilhac 49.74 320 *e*P **P 13 46 21.7 -0.1**
RUP Ruppelstein 49.76 327 *e*P **P 13 46 20.4 -1.5**
RUP Ruppelstein 49.76 327 P **P 13 46 22.2 +0.3**
CHTO Chiang Mai 49.82 76⇓*e*P **P 13 46 21.3 -1.6**
CHTO pmax pmax
comp=Z,18nm,1.3s,mb4.9
CHTO MLR MLR
comp=Z,1µm,19.0s,MS4.8
CHTO Chiang Mai 49.82 76‖*e*P **P 13 46 21.3 -1.5**
comp=Z,18nm,1.3s,mb5.0
CHTO LR LR
comp=Z,1µm,19.0s,MS4.8
CMAR Chiang Mai Arr 49.83 76 P **P 13 46 22.2 -0.6**
comp=Z,20nm,1.0s,mb5.1,baz=275,slow=8.1,SNR=39
CMAR LR LR 14 10 37.4
comp=Z,759nm,18.0s,MS4.7,baz=85,slow=40
CMAR Chiang Mai Arr 49.83 76 P **P 13 46 22.3 -0.6**
CMAR pmax pmax
comp=Z,20nm,1.0s
CMAR MLR MLR
comp=Z,759nm,18.0s
PLDF La Plantade 49.84 321 *e*P **P 13 46 21.5 -1.1**
PLDF La Plantade 49.84 321 *e*P **P 13 46 22.1 -0.5**
CART Cartagena 49.86 309 *e*P **P 13 46 21.6 -1.2**
comp=Z,72nm,0.9s,mb5.7
ERTA Horta de San J 49.97 314 P **P 13 46 23.4 -0.2**
comp=Z,234nm,1.8s,mb5.9
SMF Signal de Mont 50.02 322 *e*P **P 13 46 22.7 -1.2**
comp=Z,68nm,1.2s,mb5.2
SMF Signal de Mont 50.02 322 *e*P **P 13 46 22.7 -1.2**
SMF pmax pmax
comp=Z,34nm,1.2s,mb5.2
SMF Signal de Mont 50.02 322 *e*P **P 13 46 22.7 -1.2**
comp=Z,34nm,1.2s,mb5.2
EMUR La Murta 50.12 309 P **P 13 46 23.5 -1.3**
comp=Z,145nm,1.4s,mb5.8
PYM Petit Puy Mans 50.12 320 *e*P **P 13 46 24.1 -0.6**
PYM Petit Puy Mans 50.12 320 *e*P **P 13 46 24.3 -0.4**
AGO Saint Agoulin 50.18 321 *e*P **P 13 46 24.3 -0.8**
AGO Saint Agoulin 50.18 321 *e*P **P 13 46 24.8 -0.3**
MEZF Maizieres J'vi 50.23 324 *e*P **P 13 46 25.2 -0.3**
comp=Z,177nm,1.1s,mb5.7
MEZF Maizieres J'vi 50.23 324 *e*P **P 13 46 25.2 -0.3**
comp=Z,88nm,1.1s,mb5.7
WLF Walferdange 50.23 326 P **P 13 46 25.3 -0.2**
comp=Z,52nm,1.7s,mb5.3
WLF Walferdange 50.23 326 P **P 13 46 25.4 -0.1**
WLF pmax pmax
comp=Z,35nm,0.9s,mb5.4
WLF Walferdange 50.23 326 *e*P **P 13 46 24.6 -0.9**
comp=Z,63nm,1.0s,mb5.6
WLF Walferdange 50.23 326 P **P 13 46 25.2 -0.3**
comp=Z,52nm,1.7s,mb5.3
WLF Walferdange 50.23 326⇑*i*P **P 13 46 24.3 -1.2**
comp=Z,35nm,0.8s,mb5.4
LOR Lormes 50.31 322 *e*P **P 13 46 25.1 -1.0**
comp=Z,130nm,1.2s,mb5.5
LOR *e*MLR MLR
comp=Z,2µm,21.0s,MS4.7
LOR Lormes 50.31 322 *e*P **P 13 46 25.1 -1.0**
LOR pmax pmax
comp=Z,65nm,1.2s,mb5.5
LOR MLR MLR
comp=Z,2µm,21.0s,MS5.0
LOR Lormes 50.31 322 *e*P **P 13 46 25.1 -1.0**
comp=Z,65nm,1.2s,mb5.5
LOR LR LR
comp=Z,2µm,21.0s,MS5.0
EMOS Mosqueruela 50.34 313 P **P 13 46 23.7 -2.7**
comp=Z,42nm,1.1s,mb5.4
CAF Calviac 50.35 319 *e*P **P 13 46 25.6 -0.9**
AVF Avril sur Loir 50.39 322 *e*P **P 13 46 25.2 -1.5**
comp=Z,51nm,1.1s,mb5.2
AVF Avril sur Loir 50.39 322 *e*P **P 13 46 25.2 -1.5**
AVF pmax pmax
comp=Z,25nm,1.1s,mb5.2
AVF Avril sur Loir 50.39 322 *e*P **P 13 46 25.2 -1.5**
comp=Z,25nm,1.1s,mb5.2
SSF Saint Saulge 50.42 322 *e*P **P 13 46 25.6 -1.4**
comp=Z,86nm,1.0s,mb5.4
SSF Saint Saulge 50.42 322 *e*P **P 13 46 25.6 -1.4**
SSF pmax pmax
comp=Z,43nm,1.0s,mb5.4
SSF Saint Saulge 50.42 322 *e*P **P 13 46 25.6 -1.4**
comp=Z,43nm,1.0s,mb5.4
ECHE Chera 50.45 311 P **P 13 46 28.2 +0.9**
ECHE pmax pmax
comp=Z,48nm,1.1s,mb5.4
ECHE Chera 50.45 311 P **P 13 46 28.2 +1.0**
comp=Z,48nm,1.1s,mb5.4
ETOB Tobarra 50.59 310 P **P 13 46 27.6 -0.7**
comp=Z,76nm,1.6s,mb5.4
BGF Bois d'Agland 50.59 321 *e*P **P 13 46 27.4 -0.8**
comp=Z,195nm,1.2s,mb5.6
BGF Bois d'Agland 50.59 321 *e*P **P 13 46 27.4 -0.8**
BGF pmax pmax
comp=Z,97nm,1.2s,mb5.6
BGF Bois d'Agland 50.59 321 *e*P **P 13 46 27.4 -0.8**
comp=Z,97nm,1.2s,mb5.6
ENIJ Nijar 50.61 308 P **P 13 46 28.2 -0.4**
ENIJ pmax pmax
comp=Z,45nm,1.0s,mb5.3
ENIJ Nijar 50.61 308 P **P 13 46 28.2 -0.4**
comp=Z,45nm,1.0s,mb5.3
BUG Bochum-Univer 50.64 328 *e*P **P 13 46 27.8 -0.7**
comp=Z,56nm,1.6s,mb5.2
NVS Novosibirsk 50.69 26 *i*P **P 13 46 28.3 -0.6**
NVS *i*S **S 13 53 43.7 -1.0**
NVS pmax pmax
comp=N,108nm,1.6s
NVS pmax pmax
comp=Z,130nm,1.6s,mb5.6
NVS pmax pmax
comp=E,31nm,1.8s
NVS smax
comp=N,109nm,2.5s
NVS smax
comp=E,34nm,1.6s
BSEG Bad Segeberg 50.71 333 *e*P **P 13 46 27.9 -1.1**
comp=Z,85nm,1.6s,mb5.4
EPF Esparros 50.73 316 *e*P **P 13 46 29.2 -0.1**
EBIE Bielsa 50.73 316 P **P 13 46 28.7 -0.7**
comp=Z,114nm,1.6s,mb5.5
ZAL Zalesovo 50.78 28 P **P 13 46 28.6 -0.9**
ZAL pmax pmax
comp=Z,18nm,0.7s
ZAA0 Zalesovo Array 50.80 28‖*e*P **P 13 46 28.2 -1.4**
ZALV Zalesovo Beam 50.80 28 P **P 13 46 28.6 -1.1**
comp=Z,18nm,0.7s,mb5.1,baz=232,slow=7.0,SNR=45
ESAC San Caprasio 50.80 314 P **P 13 46 28.9 -1.0**
comp=Z,41nm,0.7s,mb5.5
MEM Membach 50.83 327 P **P 13 46 29.4 -0.5**
comp=Z,28nm,1.7s,mb4.9
TCF Toulx Ste Croi 50.86 321 *e*P **P 13 46 29.6 -0.7**
comp=Z,58nm,1.3s,mb5.0
TCF Toulx Ste Croi 50.86 321 *e*P **P 13 46 29.6 -0.7**
TCF pmax pmax
comp=Z,29nm,1.3s,mb5.0
TCF Toulx Ste Croi 50.86 321 *e*P **P 13 46 29.6 -0.7**
comp=Z,29nm,1.3s,mb5.0
RJF Les Rejaudoux 50.87 319 *e*P **P 13 46 29.6 -0.7**
comp=Z,153nm,1.6s,mb5.4
RJF *e*MLR MLR
comp=Z,2µm,20.5s,MS4.7
RJF Les Rejaudoux 50.87 319 *e*P **P 13 46 29.6 -0.7**
RJF pmax pmax
comp=Z,76nm,1.6s,mb5.4
RJF MLR MLR
comp=Z,2µm,20.5s,MS5.0
RJF Les Rejaudoux 50.87 319 *e*P **P 13 46 29.6 -0.7**
comp=Z,76nm,1.6s,mb5.4
RJF LR LR
comp=Z,2µm,20.5s,MS5.0
IBBN Ibbenburen 50.91 330 *e*P **P 13 46 30.0 -0.5**
comp=Z,157nm,1.9s,mb5.6
HGN Heimansgroeve 50.95 327⇑*i*P **P 13 46 30.6 -0.3**
comp=Z,48nm,1.7s,mb5.1
HGN Heimansgroeve 50.95 327 *e*PcP PcP 13 47 59.6 +12
HGN Heimansgroeve 50.95 327 *e*PP PP 13 48 39.4 +12
HGN Heimansgroeve 50.95 327 *e*PcS PcS 13 51 38.6 -5.9
HGN Heimansgroeve 50.95 327 *e*S **S 13 53 51.2 +2.7**
comp=Z,46nm,4.1s
HGN Heimansgroeve 50.95 327 *e*SS SS 13 57 18.5 -4.8
COP Copenhagen 50.98 335 *i*P **P 13 46 32.1 +1.1**
COP *i* 13 48 32.0
COP MLR MLR
comp=Z,820nm,19.0s,MS4.8
COP Copenhagen 50.98 335 *i*P **P 13 46 32.1 +1.1**
COP *i* 13 48 32.0
COP *e* 13 57 34.8
COP
comp=Z,820nm,19.0s
EALB Alboran 51.00 306 P **P 13 46 30.8 -0.7**
comp=Z,155nm,0.9s,mb5.9
BCLA Clavier 51.10 327 P **P 13 46 32.2 +0.2**
comp=Z,44nm,1.7s,mb5.1
BEBN Eben Emael 51.11 327 P **P 13 46 31.6 -0.5**
EBER Berja 51.12 308 P **P 13 46 32.9 +0.4**
comp=Z,152nm,1.4s,mb5.7
EHUE Huescar 51.14 309 P **P 13 46 32.8 +0.3**
EHUE pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
EHUE Huescar 51.14 309 P **P 13 46 32.8 +0.3**
comp=Z,7.5nm,0.8s,mb4.7
WTSB Winterswijk 51.19 329⇑*i*P **P 13 46 32.3 -0.3**
WTSB Winterswijk 51.19 329 *e*PcP PcP 13 48 02.5 +14
WTSB Winterswijk 51.19 329 *e*S **S 13 53 52.7 +1.0**
comp=Z,43nm,3.4s
GIVF Givet 51.19 326 *e*P **P 13 46 32.1 -0.6**
comp=Z,231nm,1.6s,mb5.6
GIVF Givet 51.19 326 *e*P **P 13 46 32.1 -0.6**
GIVF pmax pmax
comp=Z,115nm,1.6s,mb5.6
GIVF Givet 51.19 326 *e*P **P 13 46 32.1 -0.6**
comp=Z,115nm,1.6s,mb5.6
LFF La Frestale 51.21 318 *e*P **P 13 46 32.3 -0.7**
REYF Montagne du Re 51.24 316 *e*P **P 13 46 33.0 -0.2**
ETSF Etsaut 51.29 316 *e*P **P 13 46 33.2 -0.4**
comp=Z,391nm,1.6s,mb5.8
ETSF Etsaut 51.29 316 *e*P **P 13 46 33.2 -0.4**
ETSF pmax pmax
comp=Z,196nm,1.6s,mb5.8
ETSF Etsaut 51.29 316 *e*P **P 13 46 33.2 -0.4**
comp=Z,196nm,1.6s,mb5.8
EVIA Vianos 51.30 310 P **P 13 46 33.7 0.0**
EVIA pmax pmax
comp=Z,16nm,0.9s,mb5.0
EVIA Vianos 51.30 310 P **P 13 46 33.7 0.0**
comp=Z,16nm,0.9s,mb4.9
DOU Dourbes 51.32 326 P **P 13 46 33.0 -0.6**
comp=Z,30nm,1.5s,mb5.0
SUR Sutherland 51.38 209 *e*P **P 13 46 33.9 -0.4**
SUR LR LR
comp=Z,4µm,20.0s,MS5.4
ATE Arette 51.45 316 *e*P **P 13 46 34.7 -0.1**
EQES Quesada 51.50 309 P **P 13 46 33.8 -1.5**
comp=Z,45nm,1.1s,mb5.3
BAIF Baives 51.51 326 *e*P **P 13 46 34.1 -1.0**
ETOR Torete 51.63 313 P **P 13 46 35.9 -0.2**
ETOR pmax pmax
comp=Z,25nm,0.9s,mb5.1
ETOR Torete 51.63 313 P **P 13 46 35.9 -0.2**
comp=Z,25nm,0.9s,mb5.1
EGUA Guajares 51.63 307 P **P 13 46 36.7 +0.5**
EGUA pmax pmax
comp=Z,109nm,0.9s,mb5.8
EGUA Guajares 51.63 307 P **P 13 46 36.7 +0.5**
comp=Z,109nm,0.9s,mb5.8
LARF Larrau 51.63 316 *e*P **P 13 46 36.3 +0.2**
JOF Joensuu 51.68 351 *e*p **P 13 46 35.2 -0.9**
comp=Z,25nm,0.9s,mb5.1
JOF Joensuu 51.68 351 *e*P **P 13 46 35.2 -0.9**
JOF pmax pmax
comp=Z,25nm,0.9s,mb5.1
ECOG Cogollos-Vega 51.74 308 P **P 13 46 36.7 -0.4**
ECOG pmax pmax
comp=Z,16nm,1.2s,mb4.8
ECOG Cogollos-Vega 51.74 308 P **P 13 46 36.7 -0.3**
comp=Z,16nm,1.2s,mb4.8
KIC Kosan Boka 51.80 268 *e*P **P 13 46 38.7 +0.8**
comp=Z,630nm,1.6s,mb6.3
UCC Uccle 51.81 327 P **P 13 46 36.6 -0.8**
comp=Z,40nm,2.2s,mb5.0
SJPF Ste Jean 51.82 316 *e*P **P 13 46 37.4 -0.2**
comp=Z,244nm,1.3s,mb5.7
SJPF Ste Jean 51.82 316 *e*P **P 13 46 37.4 -0.2**
SJPF pmax pmax
comp=Z,122nm,1.3s,mb5.7
SJPF Ste Jean 51.82 316 *e*P **P 13 46 37.4 -0.2**
comp=Z,122nm,1.3s,mb5.7
DBIC Dimbokro 51.86 269 P **P 13 46 40.2 +1.9**
comp=Z,33nm,1.1s,mb5.2,baz=65,slow=11,SNR=7.4
DBIC LR LR 14 07 06.9
comp=Z,2µm,20.2s,MS5.2,baz=60,slow=34
DBIC Dimbokro 51.86 269⇑*e*P **P 13 46 40.1 +1.8**
DBIC pmax pmax
comp=Z,95nm,1.4s
DBIC MLR MLR
comp=Z,2µm,20.0s
DBIC Dimbokro 51.86 269⇑*e*P **P 13 46 40.1 +1.8**
comp=Z,95nm,1.4s,mb5.5
DBIC LR LR
comp=Z,2µm,20.0s,MS5.2
KAF Kangasniemi 51.86 348 *e*p **P 13 46 37.0 -0.5**
comp=Z,10nm,0.8s,mb4.8
KAF Kangasniemi 51.86 348 *e*P **P 13 46 37.0 -0.5**
KAF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ERON Agron 51.86 307 P **P 13 46 38.3 +0.3**
TIC Toumodi 52.02 269 *e*P **P 13 46 40.6 +1.1**
comp=Z,724nm,1.7s,mb6.3
TIC Toumodi 52.02 269 *e*P **P 13 46 40.6 +1.1**
TIC pmax pmax
comp=Z,724nm,1.7s,mb6.3
ELIZ Elizondo 52.05 316 P **P 13 46 38.9 -0.3**
ELIZ pmax pmax
comp=Z,23nm,0.7s,mb5.2
ELIZ Elizondo 52.05 316 P **P 13 46 38.9 -0.3**
comp=Z,23nm,0.7s,mb5.2
EALK Alkurruntz 52.05 316 P **P 13 46 38.2 -1.1**
comp=Z,225nm,2.0s,mb5.8
LIC Lamto 52.11 268⇑*i*P **P 13 46 42.2 +2.0**
comp=Z,310nm,1.5s,mb5.7
LIC Lamto 52.11 268 *e*P **P 13 46 41.6 +1.4**
comp=Z,256nm,1.5s,mb5.9
LIC Lamto 52.11 268⇑*i*P **P 13 46 42.2 +2.0**
comp=Z,155nm,1.5s,mb5.7
EBAN Banos Encina 52.14 309 P **P 13 46 39.9 -0.1**
EBAN pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
EBAN Banos Encina 52.14 309 P **P 13 46 39.9 -0.1**
comp=Z,3.7nm,0.5s,mb4.6
ELOJ Sierra Loja 52.16 308 P **P 13 46 39.4 -0.8**
ELOJ pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ELOJ Sierra Loja 52.16 308 P **P 13 46 39.4 -0.8**
comp=Z,9.0nm,0.7s,mb4.8
ELUQ Luque 52.35 308 P **P 13 46 40.9 -0.7**
ELUQ pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ELUQ Luque 52.35 308 P **P 13 46 40.9 -0.7**
comp=Z,3.1nm,0.6s,mb4.4

MFF	**Saint Martin d**	**52.46 320**	*e*P	**P**	**13 46 40.8**	**-1.5**
	comp=Z,109nm,1.4s,mb5.3					
MFF	**Saint Martin d**	**52.46 320**	*e*P	**P**	**13 46 40.8**	**-1.5**
MFF			pmax	pmax		
	comp=Z,55nm,1.4s,mb5.3					
MFF	**Saint Martin d**	**52.46 320**	*e*P	**P**	**13 46 40.8**	**-1.5**
	comp=Z,55nm,1.4s,mb5.3					
EMIJ	**Mijas**	**52.51 307**	P	**P**	**13 46 41.7**	**-1.1**
	comp=Z,183nm,1.2s,mb5.9					
ESDC	**Sonseca Array**	**52.68 311**	P	**P**	**13 46 43.8**	**-0.2**
	comp=Z,8.6nm,1.0s,mb4.7,baz=93,slow=7.2,SNR=24					
ESDC			PcP	PcP	13 47 54.6	+0.7
	comp=Z,0.4nm,0.3s,baz=93,slow=5.5,SNR=2.0					
ESDC	**Sonseca Array**	**52.68 311**	P	**P**	**13 46 42.4**	**-1.6**
	comp=Z,46nm,1.4s,mb5.2					
ESLA	**Sonseca Array**	**52.68 311⇑**	*i*P	**P**	**13 46 43.7**	**-0.3**
	comp=Z,14nm,1.2s,mb4.8					
ESLA			LR	LR		
	comp=Z,7μm,19.0s,MS5.7					
EADA	**Adamuz**	**52.74 309**	P	**P**	**13 46 42.9**	**-1.6**
	comp=Z,34nm,1.0s,mb5.2					
MUD	**Monsted U'grnd**	**52.85 334**	*e*P	**P**	**13 46 47.8**	**+2.9**
MUD			*i*S	**S**	**13 54 18.5**	**+4.2**
MUD			MLR	MLR		
	comp=Z,8μm,18.0s,MS5.8					
MUD	**Monsted U'grnd**	**52.85 334**	*i*P	**P**	**13 46 47.8**	**+2.9**
MUD			*i*S	**S**	**13 54 18.5**	**+4.2**
MUD						
	comp=Z,8μm,18.0s					
MUD	**Monsted U'grnd**	**52.85 334**	*e*P	**P**	**13 46 47.8**	**+2.9**
MUD			*i*S	**S**	**13 54 18.5**	**+4.2**
PAB	**San Pablo**	**52.93 310⇑**	*e*P	**P**	**13 46 45.6**	**-0.3**
PAB			pmax	pmax		
	comp=Z,122nm,1.7s,mb5.6					
PAB	**San Pablo**	**52.93 310⇑**	*e*P	**P**	**13 46 45.6**	**-0.3**
	comp=Z,122nm,1.7s,mb5.5					
EJIF	**Jimena Fronter**	**53.03 306**	P	**P**	**13 46 46.5**	**-0.1**
EJIF			pmax	pmax		
	comp=Z,83nm,1.3s,mb5.5					
EJIF	**Jimena Fronter**	**53.03 306**	P	**P**	**13 46 46.5**	**-0.1**
	comp=Z,83nm,1.3s,mb5.5					
GUD	**Guadarrama**	**53.09 312**	P	**P**	**13 46 46.4**	**-0.6**
GUD			pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1					
GUD	**Guadarrama**	**53.09 312**	P	**P**	**13 46 46.4**	**-0.6**
	comp=Z,28nm,1.1s,mb5.1					
GTA	**Gaotai**	**53.27 50**	P	**P**	**13 46 48.4**	**0.0**
GTA			AP	pP	13 46 52.8	+3.7
GTA			XP	sP	13 46 56.3	+7.0
GTA			PP	PP	13 48 51.2	+2.7
GTA			S	**S**	**13 54 20.1**	**-0.6**
GTA			XS	sS	13 54 27.7	+5.9
GTA			SS	SS	13 58 00.0	-0.4
GTA			AMB	AMB		
	comp=Z,38nm,1.8s,mb5.0					
GTA			AMB	AMB		
	comp=Z,807nm,5.3s					
GTA			LR	LR		
	comp=N,1μm,20.2s,MS5.0					
GTA			LR	LR		
	comp=E,1μm,19.9s,MS5.0					
GTA			LR	LR		
	comp=Z,1μm,18.4s,MS4.9					
LDF	**La Druitiere**	**53.30 322**	*e*P	**P**	**13 46 46.9**	**-1.5**
	comp=Z,95nm,1.1s,mb5.3					
LDF	**La Druitiere**	**53.30 322**	*e*P	**P**	**13 46 46.9**	**-1.5**
LDF			pmax	pmax		
	comp=Z,47nm,1.1s,mb5.3					
LDF	**La Druitiere**	**53.30 322**	*e*P	**P**	**13 46 46.9**	**-1.5**
	comp=Z,47nm,1.1s,mb5.3					
ELAN	**Lanestosa**	**53.38 315**	P	**P**	**13 46 48.5**	**-0.6**
	comp=Z,54nm,1.1s,mb5.4					
ESPR	**Espera**	**53.42 307**	P	**P**	**13 46 49.0**	**-0.6**
	comp=Z,98nm,1.3s,mb5.6					
KMI	**Kunming**	**53.48 68**	P	**P**	**13 46 49.8**	**-0.4**
KMI			AP	pP	13 46 56.6	+5.8
KMI			XP	sP	13 47 00.4	+9.3
KMI			PP	PP	13 48 52.3	+1.7
KMI			PPP		13 50 00.3	
KMI			S	**S**	**13 54 22.7**	**-1.3**
KMI			XS	sS	13 54 34.9	+10
KMI			SS	SS	13 58 06.1	+1.9
KMI			SSS		13 59 58.0	
KMI			AMB	AMB		
	comp=Z,28nm,2.0s,mb4.8					
KMI			AMB	AMB		
	comp=Z,828nm,4.9s					
KMI			LR	LR		
	comp=N,1μm,18.2s,MS5.2					
KMI			LR	LR		
	comp=E,1μm,18.2s,MS5.2					
KMI			LR	LR		
	comp=Z,2μm,18.2s,MS5.2					
FLN	**La Foliniere**	**53.59 322**	*e*P	**P**	**13 46 48.4**	**-2.1**
	comp=Z,134nm,1.2s,mb5.5					
FLN			*e*MLR	MLR		
	comp=Z,2μm,21.5s,MS4.8					
FLN	**La Foliniere**	**53.59 322**	*e*P	**P**	**13 46 48.4**	**-2.1**
FLN			pmax	pmax		
	comp=Z,67nm,1.2s,mb5.5					
FLN			MLR	MLR		
	comp=Z,2μm,21.5s,MS5.1					
FLN	**La Foliniere**	**53.59 322**	*e*P	**P**	**13 46 48.4**	**-2.1**
	comp=Z,67nm,1.2s,mb5.5					
FLN			LR	LR		
	comp=Z,2μm,21.5s,MS5.1					
SFS	**San Fernando**	**53.61 306**	*e*P	**P**	**13 46 52.4**	**+1.5**
SFS	**San Fernando**	**53.61 306**	PFAKE		13 47 00.0	+9.1
SFS			LR	LR		
	comp=Z,6μm,19.0s,MS5.7					
GRR	**Gorron**	**53.65 322**	*e*P	**P**	**13 46 48.8**	**-2.2**
	comp=Z,80nm,1.1s,mb5.3					
GRR	**Gorron**	**53.65 322**	*e*P	**P**	**13 46 48.8**	**-2.2**
GRR			pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3					
GRR	**Gorron**	**53.65 322**	*e*P	**P**	**13 46 48.8**	**-2.2**
	comp=Z,40nm,1.1s,mb5.3					
HVS	**Khovu-Aksy**	**53.68 34⇓**	*i*P	**P**	**13 46 51.2**	**+0.1**
HVS			pmax	pmax		
	comp=Z,99nm,1.9s,mb5.4					
HFS	**Hagfors**	**53.70 340**	P	**P**	**13 46 50.5**	**-0.7**
	comp=Z,28nm,1.1s,mb5.1,baz=161,slow=6.3,SNR=13					
HFS	**Hagfors**	**53.70 340**	P	**P**	**13 46 50.5**	**-0.6**
HFS			pmax	pmax		
	comp=Z,28nm,1.1s					
EMIN	**Mina Concepcio**	**54.26 308**	P	**P**	**13 46 55.0**	**-0.7**
	comp=Z,122nm,1.4s,mb5.6					
PBAR	**Barrancos**	**54.63 308**	*e*P	**P**	**13 46 57.7**	**-0.6**
	comp=Z,74nm,1.6s,mb5.5					
PBAR			*e*S	**S**	**13 54 37.3**	**-1.8**
PBAR			*e*LQ		14 00 45.2	
PBAR			*e*LR	LR	14 03 49.0	
	comp=Z,1μm,16.1s					
PBAR	**Barrancos**	**54.63 308**	*e*P	**P**	**13 46 57.7**	**-0.6**
	comp=Z,74nm,1.6s,mb5.5					
PBAR			*e*S	**S**	**13 54 37.3**	**-1.8**
SGMF	**Saint Gilles**	**54.63 321**	*e*P	**P**	**13 46 55.6**	**-2.5**
	comp=Z,106nm,1.1s,mb5.5					
SGMF	**Saint Gilles**	**54.63 321**	*e*P	**P**	**13 46 55.6**	**-2.5**
SGMF			pmax	pmax		
	comp=Z,53nm,1.1s,mb5.5					
SGMF	**Saint Gilles**	**54.63 321**	*e*P	**P**	**13 46 55.6**	**-2.5**
	comp=Z,53nm,1.1s,mb5.5					
EARI	**Arriondas**	**54.63 315**	P	**P**	**13 46 58.8**	**+0.5**
	comp=Z,237nm,2.5s,mb5.8					
EBAD	**Badajoz**	**54.74 309**	P	**P**	**13 46 58.5**	**-0.6**
	comp=Z,68nm,1.3s,mb5.5					
COCO	**West Island**	**54.76 115**	PFAKE		13 47 10.0	+10
COCO			LR	LR		
	comp=Z,1μm,21.0s,MS4.9					
KONO	**Kongsberg**	**54.81 338**	*e*	**P**	**13 46 56.8**	**-2.5**
KONO			*e*S	**S**	**13 54 37.9**	**-2.9**
KONO			AMS	AMS	14 11 47.0	
	comp=Z,2μm,16.7s,MS5.2					
EGRO	**El Granado**	**54.84 307**	P	**P**	**13 46 58.2**	**-1.7**
	comp=Z,122nm,1.5s,mb5.7					
CD2	**Chengdu**	**54.85 61**	P	**P**	**13 46 59.4**	**-0.7**
CD2			AP	pP	13 47 04.4	+3.6
CD2			XP	sP	13 47 07.2	+6.2
CD2			PCP	PcP	13 48 01.8	-0.6
CD2			PP	PP	13 49 04.1	+1.2
CD2			S	**S**	**13 54 38.5**	**-3.8**
CD2			SCS	ScS	13 56 45.1	-5.8
CD2			SS	SS	13 58 21.3	-4.3
CD2			AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0					
CD2			AMB	AMB		
	comp=Z,190nm,9.2s					
CD2			LR	LR		
	comp=N,1μm,15.6s,MS5.3					
CD2			LR	LR		
	comp=E,1μm,16.2s,MS5.3					
CD2			LR	LR		
	comp=Z,1μm,26.4s					
PVAQ	**Vaqueiros**	**54.99 307**	*e*P	**P**	**13 47 00.4**	**-0.6**
	comp=Z,104nm,1.6s,mb5.6					
PVAQ			*e*S	**S**	**13 54 42.6**	**-1.4**
PVAQ			*e*LQ		14 00 54.7	
PVAQ			*e*LR	LR	14 03 34.9	
	comp=Z,2μm,19.2s					
PVAQ	**Vaqueiros**	**54.99 307**	*e*P	**P**	**13 47 00.4**	**-0.6**
	comp=Z,104nm,1.6s,mb5.6					
PVAQ			*e*S	**S**	**13 54 42.6**	**-1.4**
ROSF	**Rostrenen**	**55.10 321**	*e*P	**P**	**13 47 00.0**	**-1.6**
	comp=Z,122nm,1.4s,mb5.4					
ROSF	**Rostrenen**	**55.10 321**	*e*P	**P**	**13 47 00.0**	**-1.6**
ROSF			pmax	pmax		
	comp=Z,61nm,1.4s,mb5.4					
ROSF	**Rostrenen**	**55.10 321**	*e*P	**P**	**13 47 00.0**	**-1.6**
	comp=Z,61nm,1.4s,mb5.4					
PBDV	**Barranco-do-Ve**	**55.13 307**	*e*P	**P**	**13 47 01.8**	**-0.2**
	comp=Z,67nm,1.8s,mb5.4					
PBDV			*e*S	**S**	**13 54 48.3**	**+2.5**
PBDV			*e*LQ		14 00 59.1	
PBDV			*e*LR	LR	14 01 46.0	
	comp=Z,2μm,20.2s					
PBDV	**Barranco-do-Ve**	**55.13 307**	*e*P	**P**	**13 47 01.8**	**-0.2**
	comp=Z,67nm,1.8s,mb5.4					
PBDV			*e*S	**S**	**13 54 48.3**	**+2.5**
NAO01	**NORSAR Array S**	**55.18 339**	*e*P	**P**	**13 47 00.7**	**-1.2**
	comp=Z,71nm,1.1s,mb5.6					
NAO01			*e*		13 47 09.0	
NAO01			LR	LR		
	comp=Z,3μm,20.0s,MS5.3					
PMRV	**Marv??o**	**55.18 310**	*e*P	**P**	**13 47 01.7**	**-0.6**
	comp=Z,81nm,1.6s,mb5.5					
PMRV			*e*S	**S**	**13 54 42.4**	**-4.1**
PMRV			*e*LQ		14 01 35.3	
PMRV			*e*LR	LR	14 04 02.5	
	comp=Z,2μm,18.2s					
PMRV	**Marv??o**	**55.18 310**	*e*P	**P**	**13 47 01.6**	**-0.7**
NB2	**NORSAR Subarra**	**55.20 339**	P	**P**	**13 47 00.9**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=128,slow=7.9					
NOA	**NORSAR Array B**	**55.20 339**	P	**P**	**13 47 00.8**	**-1.2**
	comp=Z,14nm,1.0s,mb5.0,baz=134,slow=7.2,SNR=13					
NOA			LR	LR	14 15 33.4	
	comp=Z,2μm,19.1s,MS5.1,baz=150,slow=41					
NOA	**NORSAR Array B**	**55.20 339**	P	**P**	**13 47 00.8**	**-1.3**
NOA			pmax	pmax		
	comp=Z,14nm,1.0s					
NOA			MLR	MLR		
	comp=Z,2μm,19.1s					
NOA	**NORSAR Array B**	**55.20 339**	P	**P**	**13 47 00.8**	**-1.2**
NOA			LR	LR	14 15 33.4	
PESTR	**Estremoz**	**55.20 309**	*e*P	**P**	**13 47 02.2**	**-0.3**
	comp=Z,52nm,1.7s,mb5.3					
PESTR			*e*S	**S**	**13 54 49.1**	**+2.3**
PESTR			*e*LQ		14 01 08.0	
PESTR			*e*LR	LR	14 03 15.2	
	comp=Z,2μm,15.5s					
PESTR	**Estremoz**	**55.20 309**	*e*P	**P**	**13 47 02.2**	**-0.3**
	comp=Z,52nm,1.7s,mb5.3					
PESTR			*e*S	**S**	**13 54 49.1**	**+2.3**
PBEJ	**Beja**	**55.23 308**	*e*P	**P**	**13 47 02.8**	**+0.1**
	comp=Z,80nm,1.7s,mb5.5					
ECAL	**Calabor**	**55.32 313**	P	**P**	**13 47 01.7**	**-1.6**
	comp=Z,106nm,1.5s,mb5.7					
MVO	**Moncorvo**	**55.33 312**	*e*P	**P**	**13 47 03.1**	**-0.3**
	comp=Z,37nm,1.6s,mb5.2					
MVO			*e*S	**S**	**13 54 54.1**	**+5.6**
MVO			*e*LQ		14 00 57.2	
MVO			*e*LR	LR	14 04 54.7	
	comp=Z,1μm,16.8s					
MVO	**Moncorvo**	**55.33 312**	*e*P	**P**	**13 47 03.1**	**-0.3**
	comp=Z,37nm,1.6s,mb5.2					
MVO			*e*S	**S**	**13 54 54.1**	**+5.6**
PCBR	**Castelo Branco**	**55.34 310**	*e*P	**P**	**13 47 03.4**	**-0.1**
	comp=Z,70nm,1.8s,mb5.4					
PCBR	**Castelo Branco**	**55.34 310**	*e*P	**P**	**13 47 02.6**	**-0.9**
EVO	**Evora**	**55.45 308**	*e*P	**P**	**13 47 04.5**	**+0.2**
	comp=Z,74nm,1.0s,mb5.4					
EVO			*e*MLR	MLR		
	comp=Z,2μm,20.0s,MS4.9					
EVO	**Evora**	**55.45 308**	*e*P	**P**	**13 47 04.2**	**-0.1**
	comp=Z,95nm,1.9s,mb5.5					
MTE	**Manteigas**	**55.52 311**	*e*P	**P**	**13 47 04.3**	**-0.5**
	comp=Z,50nm,1.6s,mb5.3					
MTE			*e*S	**S**	**13 54 55.1**	**+4.1**
MTE			*e*LQ		14 04 04.4	
MTE			*e*LR	LR	14 04 41.8	
	comp=Z,1μm,15.5s					
MTE	**Manteigas**	**55.52 311**	*e*P	**P**	**13 47 04.3**	**-0.5**
	comp=Z,50nm,1.6s,mb5.3					
MTE			*e*S	**S**	**13 54 55.1**	**+4.1**
EVOP	**Sao Brissos**	**55.54 308**	*e*P	**P**	**13 47 04.5**	**-0.4**
	comp=Z,37nm,1.0s,mb5.4					
LZH	**Lanzhou**	**55.67 55**	*e*P	**P**	**13 47 05.8**	**-0.1**
LZH			AP	pP	13 47 11.0	+4.4
LZH			XP	sP	13 47 13.2	+6.4
LZH			PP	PP	13 49 12.7	+2.6
LZH			S	**S**	**13 54 53.0**	**-0.1**
LZH			AMB	AMB		
	comp=Z,65nm,1.4s,mb5.5					
LZH			AMB	AMB		
	comp=Z,324nm,5.2s					
LZH			LR	LR		
	comp=N,2μm,15.4s					
LZH			LR	LR		
	comp=Z,3μm,16.4s,MS5.4					
MORF	**Marmelete**	**55.70 307**	*e*P	**P**	**13 47 08.1**	**+2.0**
	comp=Z,68nm,1.7s,mb5.4					
MORF			*e*S	**S**	**13 54 56.0**	**+2.5**
MORF			*e*LQ		14 02 51.9	
MORF			*e*LR	LR	14 04 44.8	
	comp=Z,1μm,21.0s					
MORF	**Marmelete**	**55.70 307**	*e*P	**P**	**13 47 08.1**	**+2.0**
	comp=Z,68nm,1.7s,mb5.4					
MORF			*e*S	**S**	**13 54 56.0**	**+2.5**
ERUA	**La Rua**	**55.73 313**	P	**P**	**13 47 05.7**	**-0.5**
ERUA			pmax	pmax		
	comp=Z,38nm,1.2s,mb5.3					
ERUA	**La Rua**	**55.73 313**	P	**P**	**13 47 05.7**	**-0.5**
	comp=Z,38nm,1.2s,mb5.3					
KRAR	**Krasnoyarsk**	**55.76 29⇑**	*e*P	**P**	**13 47 06.8**	**+0.7**
KRAR			pmax	pmax		
	comp=Z,102nm,1.8s,mb5.5					
KRAR			MLR	MLR		
	comp=Z,1μm,17.0s,MS5.1					
PTEO	**Sao Teotonio**	**55.80 307**	*e*P	**P**	**13 47 07.3**	**+0.5**
	comp=Z,122nm,1.8s,mb5.6					
PTEO	**Sao Teotonio**	**55.80 307**	*e*P	**P**	**13 47 07.2**	**+0.4**
PFVI	**Vila Bisbo**	**55.81 306**	*e*P	**P**	**13 47 07.0**	**+0.1**
	comp=Z,128nm,1.6s,mb5.7					
PFVI			*e*S	**S**	**13 54 53.8**	**-1.1**
PFVI			*e*LQ		14 01 07.5	
PFVI			*e*LR	LR	14 02 04.2	
	comp=Z,1μm,18.1s					
PFVI	**Vila Bisbo**	**55.81 306**	*e*P	**P**	**13 47 07.0**	**+0.1**
	comp=Z,128nm,1.6s,mb5.7					
PFVI			*e*S	**S**	**13 54 53.8**	**-1.1**
PFVI	**Vila Bisbo**	**55.81 306**	*e*P	**P**	**13 47 07.5**	**+0.6**
PVIS	**Viseu**	**55.86 311**	*e*P	**P**	**13 47 07.4**	**+0.2**
	comp=Z,81nm,1.3s,mb5.6					
EPON	**Pontenova**	**55.99 314**	P	**P**	**13 47 07.4**	**-0.7**
	comp=Z,140nm,1.6s,mb5.7					
LVZ	**Lovozero**	**56.02 354⇑**	*e*P	**P**	**13 47 07.8**	**0.0**
LVZ			pmax	pmax		
	comp=Z,83nm,2.1s,mb5.4					
LVZ			MLR	MLR		
	comp=Z,2μm,17.0s,MS5.4					
PCAB	**Cabril**	**56.20 312**	*e*P	**P**	**13 47 09.9**	**+0.3**
	comp=Z,68nm,1.3s,mb5.5					
ELOB	**Lobios**	**56.26 312**	P	**P**	**13 47 10.1**	**0.0**
	comp=Z,50nm,1.0s,mb5.5					
PMAFR	**Mafra**	**56.51 309**	*e*S	**S**	**13 55 05.5**	**+1.2**
PMAFR			*e*LQ		14 01 23.1	
PMAFR			*e*LR	LR	14 04 32.2	
	comp=Z,1μm,17.5s					
GYA	**Guiyang**	**57.07 67⇓**	*i*P	**P**	**13 47 16.8**	**+0.7**
GYA			PCP	PcP	13 48 12.6	+1.5
GYA			PP	PP	13 49 26.0	+3.2
GYA			SCP	ScP	13 52 10.9	-1.1
GYA			S	**S**	**13 55 10.0**	**-2.0**
GYA			PS		13 55 23.5	
GYA			SCS	ScS	13 57 03.2	-3.8
GYA			SS	SS	13 59 01.4	+0.6
GYA			AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4					
GYA			AMB	AMB		
	comp=Z,170nm,5.0s					
GYA			LR	LR		
	comp=N,3μm,20.6s,MS5.5					
GYA			LR	LR		
	comp=E,3μm,19.9s,MS5.5					
GYA			LR	LR		
	comp=Z,2μm,20.0s,MS5.1					
NSS	**Namsos**	**57.51 343**	*e*P	**P**	**13 47 15.7**	**-2.8**
NSS			*e*S	**S**	**13 55 14.8**	**-1.7**
NSS			*e*SS	SS	13 59 09.1	+3.0
NSS			AMS	AMS	14 16 50.8	
	comp=Z,2μm,15.4s,MS5.3					
NSS	**Namsos**	**57.51 343**	*e*P	**P**	**13 47 15.7**	**-2.7**
	SNR=22					
NSS			*e*S	**S**	**13 55 14.9**	**-1.6**
	SNR=23					
NSS			*e*SS	SS	13 59 09.1	+3.0
	SNR=28					
EKA	**Eskdalemuir Ar**	**57.99 329**	P	**P**	**13 47 20.4**	**-1.7**
	comp=Z,4.8nm,0.6s,mb4.7,baz=126,slow=6.6,SNR=20					
EKA	**Eskdalemuir Ar**	**57.99 329**	P	**P**	**13 47 20.4**	**-1.6**
EKA			pmax	pmax		
	comp=Z,5.0nm,0.6s					
ESK	**Eskdalemuir**	**58.01 329**	*e*P	**P**	**13 47 21.0**	**-1.1**
ESK			pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3					
ESK	**Eskdalemuir**	**58.01 329**	*e*P	**P**	**13 47 20.5**	**-1.6**
	comp=Z,32nm,1.1s,mb5.3					
MOY	**Mondy**	**58.03 36**	*e*P	**P**	**13 47 21.9**	**-0.4**
MOY			pmax	pmax		
	comp=Z,142nm,2.9s,mb5.5					
KEV	**Kevo**	**58.69 352**	*e*p	**P**	**13 47 25.7**	**-1.0**
	comp=Z,21nm,0.8s,mb5.2					
KEV	**Kevo**	**58.69 352**	P	**P**	**13 47 26.5**	**-0.2**
KEV			pmax	pmax		
	comp=Z,160nm,1.5s,mb5.8					
ARCES	**ARCESS Array B**	**58.71 351**	P	**P**	**13 47 26.3**	**-0.5**
	comp=Z,16nm,0.8s,mb5.1,baz=162,slow=6.0,SNR=31					
ARCES			LR	LR	14 17 26.6	
	comp=Z,1μm,18.2s,MS5.1,baz=147,slow=41					
ARCES	**ARCESS Array B**	**58.71 351**	P	**P**	**13 47 26.3**	**-0.5**
ARCES			pmax	pmax		
	comp=Z,16nm,0.8s					
ARCES			MLR	MLR		
	comp=Z,1μm,18.2s					
ARE0	**ARCESS Array S**	**58.71 351**	*e*P	**P**	**13 47 26.0**	**-0.8**
DSB	**Dublin**	**58.82 325**	*e*P	**P**	**13 47 25.1**	**-2.8**
	comp=Z,48nm,1.4s,mb5.3					
ZAK	**Zakamensk**	**58.92 38**	*e*P	**P**	**13 47 27.5**	**-1.1**
ZAK			pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6					
XAN	**Xi'an**	**59.52 58**	P	**P**	**13 47 32.1**	**-1.0**
XAN			XP	sP	13 47 39.8	+5.8
XAN			PCP	PcP	13 48 18.7	-1.9
XAN			PP	PP	13 49 45.0	+0.6
XAN			PPP		13 51 11.0	
XAN			SCP	ScP	13 52 18.0	-4.7
XAN			PCS	PcS	13 52 20.1	-2.6
XAN			S	**S**	**13 55 40.5**	**-3.3**
XAN			PS		13 55 56.6	
XAN			SCS	ScS	13 57 20.5	-4.3
XAN			SS	SS	13 59 37.2	-1.8
XAN			AMB	AMB		
	comp=Z,44nm,1.5s,mb5.3					
XAN			AMB	AMB		
	comp=Z,423nm,6.3s					
XAN			LR	LR		
	comp=N,289nm,20.5s,MS4.8					
XAN			LR	LR		
	comp=E,694nm,20.8s,MS4.8					
XAN			LR	LR		
	comp=Z,1μm,21.4s,MS5.0					
TLY	**Talaya**	**59.57 37**	P	**P**	**13 47 33.2**	**+0.1**
	comp=Z,48nm,1.5s,mb5.3,SNR=8.6					
TLY	**Talaya**	**59.57 37**	*e*P	**P**	**13 47 32.1**	**-1.0**
TLY			*e*		13 49 47.8	
TLY			*e*PPP		13 51 16.4	
TLY			*e*S	**S**	**13 55 44.6**	**+0.8**
TLY			*e*		13 59 43.2	
TLY			pmax	pmax		
	comp=Z,24nm,1.8s,mb4.9					
TLY			MLR	MLR		
	comp=Z,2μm,12.0s,MS5.5					
TLY	**Talaya**	**59.57 37**	P	**P**	**13 47 33.4**	**+0.3**
	SNR=12					
TLY	**Talaya**	**59.57 37**	*e*P	**P**	**13 47 33.4**	**+0.3**
	comp=Z,20nm,1.4s,mb5.0					
TLY			LR	LR		
	comp=Z,2μm,19.0s,MS5.2					
SHEL	**Horse Pasture**	**59.74 243**	PFAKE		13 47 50.0	+15
SHEL			LR	LR		
	comp=Z,2μm,19.0s,MS5.3					
TRO	**Tromso**	**59.91 349**	*e*P	**P**	**13 47 33.6**	**-1.5**
TRO			*e*S	**S**	**13 55 46.9**	**-0.8**
TRO			*e*SS	SS	13 59 44.4	+0.6
TRO			AMS	AMS	14 17 57.4	
	comp=Z,2μm,17.8s,MS5.2					
TRO	**Tromso**	**59.91 349**	*e*P	**P**	**13 47 33.6**	**-1.5**
	SNR=21					
TRO			*e*S	**S**	**13 55 46.9**	**-0.8**
	SNR=23					
TRO			*e*SS	SS	13 59 44.4	+0.6
	SNR=28					
SONM	**Songino Array**	**60.12 42**	P	**P**	**13 47 37.3**	**+0.4**
	comp=Z,56nm,1.2s,mb5.5,baz=246,slow=6.1,SNR=61					
SONM			LR	LR	14 15 49.9	
	comp=Z,2μm,21.7s,MS5.1,baz=269,slow=38					
SONM	**Songino Array**	**60.12 42**	P	**P**	**13 47 37.3**	**+0.4**
SONM			pmax	pmax		
	comp=Z,56nm,1.2s					
SONM			MLR	MLR		
	comp=Z,2μm,21.7s					
IRK	**Irkutsk**	**60.13 36⇑**	*i*P	**P**	**13 47 36.8**	**-0.1**
IRK			*e*		13 49 44.9	
IRK			pmax	pmax		
	comp=Z,99nm,2.9s,mb5.3					
BTO	**Baotou**	**61.19 50**	*e*P	**P**	**13 47 44.3**	**-0.1**
BBTS	**Babate**	**62.08 280**	P	**P**	**13 47 52.7**	**+1.9**
	comp=Z,60nm,1.0s,mb5.7,baz=86,slow=15,SNR=5.1					
HHC	**Hu-ho-hao-te**	**62.38 50**	*e*P	**P**	**13 47 53.2**	**+0.8**
HHC			XP	sP	13 47 59.2	+5.8
HHC			PP	PP	13 50 13.6	+4.1
HHC			PCS	PcS	13 52 33.9	-1.3
HHC			S	**S**	**13 56 18.7**	**-1.4**
HHC			SCS	ScS	13 57 40.8	-5.2
HHC			SS	SS	14 00 23.7	+0.1
HHC			AMB	AMB		
	comp=Z,73nm,1.3s,mb5.7					
HHC			AMB	AMB		
	comp=Z,1μm,5.0s					
HHC			LR	LR		
	comp=N,2μm,29.7s,MS5.2					
HHC			LR	LR		
	comp=E,796nm,26.2s,MS5.2					
HHC			LR	LR		
	comp=Z,1μm,25.0s,MS4.9					
TIY	**Taiyuan**	**62.70 54**	*i*P	**P**	**13 47 54.2**	**-0.4**
TIY			SP		13 48 07.5	
TIY			S	**S**	**13 56 20.3**	**-4.0**
TIY			AMB	AMB		
	comp=Z,621nm,5.6s					
TIY			LR	LR		
	comp=N,944nm,13.1s,MS5.2					
TIY			LR	LR		
	comp=E,898nm,15.8s,M

WHN	**Wuhan**	**63.93**	**62**	⇓P	**P**	**13 48 02.1**	**-0.8**
WHN				S	**S**	**13 56 39.5**	**-0.3**
WHN				AMB	AMB		
	comp=Z,1μm,6.3s						
WHN				LR	LR		
	comp=N,2μm,17.6s						
WHN				LR	LR		
	comp=E,2μm,29.4s						
WHN				LR	LR		
	comp=Z,2μm,22.3s,MS5.3						
BJO	**Bjornoya**	**64.04**	**352**	AMS	AMS	14 21 44.9	
	comp=Z,2μm,19.9s,MS5.3						
CIT	**Chita**	**65.58**	**38**	*e*P	**P**	**13 48 12.5**	**-0.7**
CIT				*e*		13 48 41.9	
CIT				pmax	pmax		
	comp=Z,155nm,3.0s						
BJT	**Baijiatuau**	**65.80**	**52**	*e*P	**P**	**13 48 14.4**	**-0.5**
BJT				pmax	pmax		
	comp=Z,122nm,1.5s						
BJT				MLR	MLR		
	comp=Z,2μm,19.0s						
BJT	**Baijiatuau**	**65.80**	**52**	*e*P	**P**	**13 48 14.4**	**-0.5**
	comp=Z,122nm,1.5s,mb5.7						
BJT				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
BJI	**Beijing**	**65.80**	**52**	P	**P**	**13 48 14.8**	**-0.1**
BJI				PP	PP	13 50 38.6	-1.0
BJI				S	S	13 57 02.1	-0.5
BJI				SS	SS	14 01 16.5	-0.5
BJI				AMB	AMB		
	comp=Z,30nm,1.8s,mb5.0						
BJI				AMB	AMB		
	comp=Z,637nm,5.2s						
BJI				LR	LR		
	comp=N,2μm,17.0s,MS5.4						
BJI				LR	LR		
	comp=E,2μm,17.0s,MS5.4						
BJI				LR	LR		
	comp=Z,1μm,18.7s,MS5.1						
TIA	**Tai'an**	**66.36**	**56**	⇓P	**P**	**13 48 18.0**	**-0.6**
TIA				AMB	AMB		
	comp=Z,29nm,1.5s,mb5.1						
BOD	**Bodaibo**	**67.08**	**32**	*e*P	**P**	**13 48 21.0**	**-1.7**
BOD				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
SPB4	**Spitsbergen Ar**	**67.53**	**353**	*e*P	**P**	**13 48 25.6**	**+0.3**
JMIC	**Jan Mayen**	**67.56**	**343**	*e*	**P**	**13 48 26.7**	**+1.1**
JMIC				AMS	AMS	14 20 54.8	
	comp=Z,844nm,21.1s,MS4.9						
NJ2	**Nanjing**	**67.78**	**60**	*e*P	**P**	**13 48 29.1**	**+1.4**
NJ2				AP	pP	13 48 32.9	+4.5
NJ2				XP	sP	13 48 36.0	+7.4
NJ2				PP	PP	13 50 59.4	+2.3
NJ2				S	S	13 57 24.5	-2.3
NJ2				AMB	AMB		
	comp=Z,140nm,1.0s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,620nm,5.3s						
NJ2				LR	LR		
	comp=N,2μm,20.9s,MS5.4						
NJ2				LR	LR		
	comp=E,1μm,19.0s,MS5.4						
NJ2				LR	LR		
	comp=Z,1μm,23.0s,MS5.0						
QZH	**Quanzhou**	**67.85**	**68**	⇓*i*P	**P**	**13 48 28.0**	**-0.3**
QZH				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.7						
QZH				AMB	AMB		
	comp=Z,990nm,5.2s						
QZH				LR	LR		
	comp=N,2μm,20.6s,MS5.4						
QZH				LR	LR		
	comp=E,1μm,17.7s,MS5.4						
QZH				LR	LR		
	comp=Z,480nm,19.6s,MS4.7						
KBS	**Kingsbay**	**68.65**	**353**	*e*	**P**	**13 48 34.5**	**+2.2**
KBS				*e*S	S	13 57 34.0	-1.6
KBS				AMS	AMS	14 22 21.5	
	comp=Z,3μm,17.0s,MS5.6						
CMLA	**Cha da Macela**	**69.08**	**306**	*e*S	S	13 57 32.7	-9.4
CMLA				*e*LQ		14 05 41.9	
CMLA				*e*LR	LR	14 09 06.2	
HIA	**Hailar**	**69.08**	**42**	*e*P	**P**	**13 48 35.6**	**+0.1**
HIA				pmax	pmax		
	comp=Z,112nm,1.5s						
HIA				MLR	MLR		
	comp=Z,2μm,19.0s						
HIA	**Hailar**	**69.08**	**42**	*e*P	**P**	**13 48 35.6**	**+0.1**
	comp=Z,112nm,1.5s,mb5.6						
HIA				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
SSE	**Sheshan**	**69.80**	**61**	P	**P**	**13 48 39.7**	**-0.6**
SSE				XP	sP	13 48 44.2	+2.9
SSE				S	S	13 57 49.3	-1.5
SSE				SS	SS	14 02 18.3	-1.0
SSE				AMB	AMB		
	comp=Z,56nm,1.0s,mb5.5						
SSE				AMB	AMB		
	comp=Z,379nm,4.6s						
SSE				LR	LR		
	comp=N,484nm,21.8s,MS4.9						
SSE				LR	LR		
	comp=E,518nm,21.8s,MS4.9						
SSE				LR	LR		
	comp=Z,970nm,19.5s,MS5.1						
BORG	**Borgarnes**	**69.80**	**335**	*e*P	**P**	**13 48 40.9**	**+1.2**
	comp=Z,56nm,1.0s,mb5.5						
BORG				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
DL2	**Dalian**	**69.98**	**53**	*i* P	**P**	**13 48 40.7**	**-0.6**
DL2				S	S	13 57 50.2	-2.5
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
DL2				AMB	AMB		
	comp=Z,350nm,4.0s						
DL2				LR	LR		
	comp=N,330nm,19.0s,MS4.8						
DL2				LR	LR		
	comp=E,390nm,17.4s,MS4.8						
DL2				LR	LR		
	comp=Z,550nm,19.0s,MS4.8						
YHNB	**Yeheng**	**70.40**	**68**	*e*P	**P**	**13 48 43.0**	**-1.1**
YHNB				LR	LR		
	comp=Z,809nm,20.0s,MS5.0						
NACB	**Ninganchiao**	**70.64**	**69**	*e*P	**P**	**13 48 47.6**	**+2.0**
	comp=Z,23nm,1.0s,mb5.1						
SNY	**Shenyang**	**71.47**	**50**	⇓P	**P**	**13 48 49.3**	**-1.0**
SNY				S	S	13 58 09.6	-0.2
SNY				AMB	AMB		
	comp=Z,26nm,1.9s,mb4.8						
SNY				AMB	AMB		
	comp=Z,439nm,5.9s						
SNY				LR	LR		
	comp=N,647nm,19.8s						
SNY				LR	LR		
	comp=E,1μm,14.4s						
SNY				LR	LR		
	comp=Z,768nm,23.4s,MS4.9						
DAG	**Danmarks Havn**	**72.56**	**347**	⇓*i*P	**P**	**13 48 55.2**	**-1.0**
DAG				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
DAG	**Danmarks Havn**	**72.56**	**347**	⇓*i*P	**P**	**13 48 55.2**	**-1.0**
	comp=Z,6.3nm,1.2s,mb4.4						
CLNS	**Chul'man**	**72.77**	**34**	*e*P	**P**	**13 48 57.7**	**-0.1**
CLNS				*e*		13 49 12.7	
CLNS				*e*		13 51 41.6	
CLNS				*e*PPP		13 53 22.5	
CLNS				*e*S	S	13 58 18.7	-5.6
CLNS				*e*SSS		14 06 19.9	
CLNS				pmax	pmax		
	comp=Z,49nm,1.6s,mb5.2						
CLNS				pmax	pmax		
	comp=N,17nm,1.3s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,19nm,1.9s,mb4.7						
CLNS				pmax	pmax		
	comp=N,8.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,17nm,1.6s						
CLNS				smax			
	comp=N,257nm,13.1s						
CLNS				smax			
	comp=E,132nm,11.2s						
CLNS				MLR	MLR		
	comp=Z,763nm,11.0s,MS5.2						
CLNS				MLR	MLR		
	comp=N,782nm,11.0s						
CN2	**Changchun**	**72.82**	**48**	*e*P	**P**	**13 48 56.6**	**-1.7**
CN2				*e*PP	PP	13 51 40.5	+0.3
CN2				*e*S	S	13 58 20.3	-5.0
CN2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,18.0s,MS5.2						
CN2				LR	LR		
	comp=E,500nm,18.0s,MS5.2						
CN2				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
KAPI	**Kappang**	**73.88**	**99**	P	**P**	**13 49 03.9**	**-1.2**
	comp=Z,316nm,1.7s,mb6.0,SNR=6.8						
KAPI	**Kappang**	**73.88**	**99**	P	**P**	**13 49 04.4**	**-0.7**
	SNR=6.5						
KAPI	**Kappang**	**73.88**	**99**	*e*P	**P**	**13 49 02.0**	**-3.2**
	comp=Z,66nm,1.1s,mb5.5						
INCN	**Inchon**	**73.97**	**54**	*e*P	**P**	**13 49 04.3**	**-0.9**
	comp=Z,53nm,1.0s,mb5.4						
INCN	**Inchon**	**73.97**	**54**	*e*P	**P**	**13 49 04.3**	**-1.0**
	comp=Z,53nm,1.0s,mb5.4						
KSRS	**Korea Array**	**74.99**	**54**	P	**P**	**13 49 10.2**	**-1.1**
	comp=Z,11nm,1.0s,mb4.7,baz=271,slow=6.7,SNR=17						
KSRS	**Korea Array**	**74.99**	**54**	P	**P**	**13 49 10.2**	**-1.0**
KSRS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
YAK	**Yakutsk**	**75.42**	**29**	*d i*P	**P**	**13 49 11.9**	**-1.3**
YAK				*e*		13 49 23.7	
YAK				*e*		13 52 00.4	
YAK				*e*PPP		13 53 51.8	
YAK				*e*S	S	13 58 47.8	-6.1
YAK				*e*		13 59 22.2	
YAK				*e*SS	SS	14 03 36.7	-7.1
YAK				*e*SSS		14 07 03.6	
YAK				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,289nm,6.2s						
YAK				smax			
	comp=N,295nm,3.7s						
YAK				smax			
	comp=E,226nm,3.3s						
YAK				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.5						
YAK				MLR	MLR		
	comp=N,854nm,13.0s,MS5.5						
YAK				MLR	MLR		
	comp=E,1μm,14.0s,MS5.5						
YAK	**Yakutsk**	**75.42**	**29**	*e*P	**P**	**13 49 12.0**	**-1.2**
	comp=E,49nm,0.9s,mb5.4						
YAK	**Yakutsk**	**75.42**	**29**	*e*P	**P**	**13 49 12.0**	**-1.1**
	comp=E,49nm,0.9s,mb5.4						
YAK				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
TIXI	**Tiksi**	**75.53**	**19**	*d i*P	**P**	**13 49 12.9**	**-0.8**
TIXI				*e*		13 52 03.7	
TIXI				*e*PPP		13 53 49.3	
TIXI				*e*S	S	13 58 52.0	-2.9
TIXI				*i*		13 59 23.7	
TIXI				*e*SS	SS	14 03 42.3	-2.8
TIXI				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,167nm,16.0s,MS4.4						
TIXI	**Tiksi**	**75.53**	**19**	⇓*i*P	**P**	**13 49 12.8**	**-0.9**
	comp=Z,79nm,1.5s,mb5.4						
TIXI	**Tiksi**	**75.53**	**19**	*e*PP	PP	13 52 03.1	+0.5
TIXI	**Tiksi**	**75.53**	**19**	⇓*i*P	**P**	**13 49 12.8**	**-0.8**
	comp=Z,79nm,1.5s,mb5.4						
TIXI				*e*PP	PP	13 52 03.1	+0.5
MDJ	**Mudanjiang**	**75.77**	**47**	P	**P**	**13 49 15.2**	**-0.3**
MDJ				AP	pP	13 49 18.9	+2.7
MDJ				XP	sP	13 49 20.3	+3.8
MDJ				PP	PP	13 52 04.9	-0.3
MDJ				S	S	13 58 57.4	-1.0
MDJ				XS	sS	13 59 03.1	+3.5
MDJ				SS	SS	14 03 48.5	-1.3
MDJ				AMB	AMB		
	comp=Z,22nm,1.6s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,290nm,5.6s						
MDJ				LR	LR		
	comp=N,2μm,33.0s,MS5.2						
MDJ				LR	LR		
	comp=E,927nm,33.0s,MS5.2						
MDJ				LR	LR		
	comp=Z,942nm,28.2s,MS4.9						
MDJ	**Mudanjiang**	**75.77**	**47**	PFAKE		13 49 30.0	+14
MDJ				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
KDI	**Kendari**	**76.40**	**97**	⇓*e*P	**P**	**13 49 19.7**	**0.0**
KDI				*e*S	S	13 58 49.7	-17
DAV	**Davao City (W)**	**76.93**	**86**	⇑*e*P	**P**	**13 49 22.0**	**-0.7**
KLR	**Kul'dur**	**76.94**	**42**	*e*P	**P**	**13 49 16.7**	**-5.4**
KLR				*e*		13 52 09.5	
KLR				*e*S	S	13 59 04.5	-6.6
KLR				*e*SS	SS	14 04 11.0	+3.6
KLR				pmax	pmax		
	comp=E,53nm,1.8s						
KLR				pmax	pmax		
	comp=Z,100nm,1.8s,mb5.4						
SUMG	**Summit**	**76.97**	**342**	⇑*e*P	**P**	**13 49 21.8**	**0.0**
	comp=Z,18nm,1.1s,mb4.9						
SUMG	**Summit**	**76.97**	**342**	⇑*e*P	**P**	**13 49 21.8**	**0.0**
	comp=Z,18nm,1.1s,mb4.9						
VLA	**Vladivostok**	**77.54**	**48**	P	**P**	**13 49 25.0**	**-0.6**
VLA				pmax	pmax		
	comp=Z,45nm,1.8s,mb5.1						
MBWA	**Marble Bar**	**78.41**	**115**	P	**P**	**13 49 30.4**	**-0.4**
	comp=Z,43nm,1.3s,mb5.2						
MBWA	**Marble Bar**	**78.41**	**115**	P	**P**	**13 49 30.4**	**-0.4**
	comp=Z,43nm,1.3s,mb5.2						
MBWA				LR	LR		
	comp=Z,679nm,19.0s,MS5.0						
BATI	**Baumata**	**78.94**	**103**	LR	LR	14 19 51.5	
	comp=Z,865nm,21.8s,MS5.0,baz=133,slow=32						
HABR	**Khabarovsk**	**79.19**	**43**	⇓*i*P	**P**	**13 49 32.9**	**-1.7**
HABR				*e*		13 52 29.0	
HABR				*e*S	S	13 59 34.7	-0.6
HABR				*e*SS	SS	14 04 41.7	+0.6
HABR				pmax	pmax		
	comp=Z,73nm,1.7s,mb5.3						
HABR				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.3						
NWAO	**Narrogin (SRO)**	**80.32**	**127**	LR	LR	14 22 01.4	
	comp=Z,2μm,18.0s,MS5.4,baz=292,slow=33						
NWAO	**Narrogin (SRO)**	**80.32**	**127**	P	**P**	**13 49 40.6**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,24nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,2μm,19.0s						
NWAO	**Narrogin (SRO)**	**80.32**	**127**	P	**P**	**13 49 40.6**	**-0.3**
	comp=Z,24nm,1.0s,mb5.1						
NWAO	**Narrogin (SRO)**	**80.32**	**127**	P	**P**	**13 49 40.6**	**-0.3**
	comp=Z,24nm,1.0s,mb5.1						
NWAO				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
MAW	**Mawson**	**80.63**	**174**	P	**P**	**13 49 43.5**	**+1.7**
	comp=Z,6.7nm,0.9s,mb4.6,baz=342,slow=6.4,SNR=2.7						
MAW				LR	LR	14 22 20.1	
	comp=Z,3μm,19.2s,MS5.7,baz=335,slow=33						
SYO	**Syowa Base**	**81.46**	**183**	⇓*e*P	**P**	**13 49 47.2**	**+1.0**
SYO	**Syowa Base**	**81.46**	**183**	⇓*e*pP	pP	13 49 50.0	+3.1
SFJD	**Kangerlussuaq**	**81.77**	**337**	⇓*i*P	**P**	**13 49 47.9**	**-0.2**
SFJD				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.4						
SFJD				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.2						
SFJD	**Kangerlussuaq**	**81.77**	**337**	⇓*i*P	**P**	**13 49 47.9**	**-0.2**
	comp=Z,46nm,1.0s,mb5.4						
SFJD	**Kangerlussuaq**	**81.77**	**337**	⇓*i*P	**P**	**13 49 47.9**	**-0.1**
	comp=Z,46nm,1.0s,mb5.4						
SFJD				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
FITZ	**Fitzroy Crossi**	**82.86**	**110**	*e*P	**P**	**13 49 54.3**	**-0.4**
	comp=Z,17nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**82.86**	**110**	LR	LR	14 21 09.6	
	comp=Z,315nm,21.1s,MS4.7,baz=99,slow=32						
MAJO	**Matsushiro**	**83.27**	**54**	*e*P	**P**	**13 49 55.7**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,118nm,2.0s,mb5.6						
MAJO				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.3						
MAJO	**Matsushiro**	**83.27**	**54**	*e*P	**P**	**13 49 55.7**	**-0.9**
	comp=Z,118nm,2.0s,mb5.6						
MAJO	**Matsushiro**	**83.27**	**54**	*e*P	**P**	**13 49 55.7**	**-0.9**
	comp=Z,118nm,2.0s,mb5.6						
MAJO				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
MAT	**Matsushiro**	**83.27**	**54**	P	**P**	**13 49 54.0**	**-2.6**
MAT				*e*S	S	14 00 17.0	-1.3
MJAR	**Matsushiro Arr**	**83.27**	**54**	P	**P**	**13 49 56.4**	**-0.2**
	comp=Z,5.4nm,1.0s,mb4.5,baz=283,slow=4.8,SNR=13						
MJAR				LR	LR	14 30 23.7	
	comp=Z,696nm,21.3s,MS5.0,baz=325,slow=38						
MJAR	**Matsushiro Arr**	**83.27**	**54**	P	**P**	**13 49 56.4**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MJAR				MLR	MLR		
	comp=Z,696nm,21.3s						
YSS	**Yuzh-Sakhalins**	**84.56**	**43**	*d i*P	**P**	**13 50 02.3**	**-0.6**
YSS				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.5						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**84.56**	**43**	*e*P	**P**	**13 50 02.9**	**0.0**
	comp=Z,90nm,1.6s,mb5.7						
YSS	**Yuzh-Sakhalins**	**84.56**	**43**	*e*P	**P**	**13 50 02.9**	**-0.1**
	comp=Z,90nm,1.6s,mb5.7						
YSS				LR	LR		
	comp=Z,451nm,20.0s,MS4.8						
ASAJ	**Asahikawa**	**85.06**	**46**	LR	LR	14 30 08.2	
	comp=Z,983nm,20.0s,MS5.2,baz=96,slow=37						
SEY	**Seymchan**	**85.65**	**26**	⇑*i*P	**P**	**13 50 08.9**	**+0.9**
MA2	**Magadan**	**85.96**	**30**	*e*P	**P**	**13 50 08.9**	**-0.8**
MA2				*e*S	S	14 00 37.9	-6.3
MA2				*e*SS	SS	14 06 16.8	-4.3
MA2				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.8						
MA2				MLR	MLR		
	comp=Z,4μm,20.1s,MS5.8						
NVL	**N'lazarevskaya**	**86.52**	**191**	*e*P	**P**	**13 50 15.0**	**+3.0**
NVL				S	S	14 00 51.9	+2.9
NVL				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.3						
KAKA	**Kakadu**	**87.89**	**103**	⇓*i*P	**P**	**13 50 19.7**	**-0.2**
	comp=Z,59nm,1.5s,mb5.6						
BILL	**Bilibino**	**88.75**	**19**	⇑*e*P	**P**	**13 50 24.0**	**+1.0**
BILL				*e*		13 53 54.2	
BILL				*e*S	S	14 00 59.4	-11
BILL				*e*PS		14 02 09.9	
BILL				*e*SS	SS	14 07 06.8	+5.5
BILL				pmax	pmax		
	comp=Z,25nm,2.2s,mb5.2						
SNAA	**Sanae**	**90.35**	**194**	*e*P	**P**	**13 50 32.1**	**+1.9**
SNAA				*e*		13 50 35.3	
SNAA				*e*		13 50 38.6	
SNAA				*e*		13 50 41.0	
SNAA	**Sanae**	**90.35**	**194**	LR	LR	14 27 07.9	
	comp=Z,779nm,18.6s,MS5.2,baz=24,slow=33						
SNAA	**Sanae**	**90.35**	**194**	*e*P	**P**	**13 50 31.4**	**+1.2**
SNAA				pmax	pmax		
	comp=Z,52nm,1.3s						
SNAA	**Sanae**	**90.35**	**194**	*e*P	**P**	**13 50 31.4**	**+1.2**
	comp=Z,52nm,1.3s,mb5.7						
SNAA	**Sanae**	**90.35**	**194**	*e*P	**P**	**13 50 31.4**	**+1.2**
	comp=Z,52nm,1.3s,mb5.7						
CASY	**Casey**	**90.98**	**159**	*e*P	**P**	**13 50 32.7**	**-0.5**
	comp=Z,37nm,1.5s,mb5.5						
CASY	**Casey**	**90.98**	**159**	*e*P	**P**	**13 50 32.7**	**-0.6**
	comp=Z,37nm,1.5s,mb5.5						
CASY				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
VNA2	**Neumayer--Watz**	**91.02**	**196**	*e*P	**P**	**13 50 35.3**	**+2.0**
VNA2				*e*		13 50 38.3	
VNA2				*e*		13 50 41.7	
VNA2				*e*		13 50 44.1	
VNA1	**Neumayer--Stat**	**91.09**	**196**	*e*P	**P**	**13 50 36.0**	**+2.3**
VNA1				*e*		13 50 39.0	
VNA1				*e*		13 50 42.3	
VNA1				*e*		13 50 44.6	
WRA	**Warramunga Arr**	**91.28**	**110**	P	**P**	**13 50 35.7**	**0.0**
	comp=Z,9.8nm,1.0s,mb5.1,baz=294,slow=3.7,SNR=31						
WRA				PP	PP	13 54 17.2	+4.1
	comp=Z,5.7nm,1.3s,baz=283,slow=8.5,SNR=6.8						
WRA	**Warramunga Arr**	**91.28**	**110**	P	**P**	**13 50 35.7**	**0.0**
WRA						13 54 17.2	
WRA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WRA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
WRA	**Warramunga Arr**	**91.28**	**110**	PP	PP	13 54 17.2	+4.1
WRAB	**Tennant Creek**	**91.29**	**110**	P	**P**	**13 50 36.6**	**+0.8**
	comp=Z,160nm,0.9s,mb6.3,SNR=9.3						
WRAB	**Tennant Creek**	**91.29**	**110**	*e*P	**P**	**13 50 35.4**	**-0.4**
WRAB				*e*		13 54 12.4	
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.5						
WRAB				MLR	MLR		
	comp=Z,600nm,19.0s,MS5.0						
WRAB	**Tennant Creek**	**91.29**	**110**	*e*P	**P**	**13 50 35.4**	**-0.4**
	comp=Z,21nm,0.8s,mb5.5						
WRAB	**Tennant Creek**	**91.29**	**110**	*e*PP	PP	13 54 12.4	-0.8
WRAB	**Tennant Creek**	**91.29**	**110**	*e*P	**P**	**13 50 35.4**	**-0.3**
	comp=Z,21nm,0.8s,mb5.5						
WRAB				*e*PP	PP	13 54 12.4	-0.7
WRAB				LR	LR		
	comp=Z,600nm,19.0s,MS5.0						
WB2	**Warramunga Arr**	**91.30**	**110**	⇓*i*P	**P**	**13 50 35.7**	**-0.1**
ASAR	**Alice Springs**	**91.71**	**114**	P	**P**	**13 50 37.5**	**-0.1**
	comp=Z,5.3nm,1.1s,mb4.8,baz=260,slow=2.3,SNR=14						
ASAR				PKKPbc	PKKPbc	14 08 03.5	+6.5
	comp=Z,0.5nm,0.8s,baz=99,slow=3.6,SNR=4.9						
ASAR	**Alice Springs**	**91.71**	**114**	P	**P**	**13 50 37.6**	**0.0**
ASAR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**91.71**	**114**	P	**P**	**13 50 37.5**	**-0.1**
PETK	**Petropavlovsk-**	**91.86**	**34**	P	**P**	**13 50 37.8**	**+0.1**
	comp=Z,1.9nm,0.9s,mb4.4,baz=339,slow=6.8,SNR=4.3						
PETK				LR	LR	14 38 31.6	
	comp=Z,1μm,18.5s,MS5.3,baz=162,slow=40						
PET	**Petropavlovsk**	**92.42**	**34**	*i* P	**P**	**13 50 38.4**	**-1.9**
PET				pmax	pmax		
	comp=Z,38nm,2.5s,mb5.3						
GUMO	**Guam**	**94.13**	**75**	LR	LR	14 35 29.4	
	comp=Z,200nm,20.6s,MS4.6,baz=43,slow=37						
INK	**Inuvik**	**99.44**	**0**	LR	LR	14 45 02.6	
	comp=Z,837nm,19.7s,MS5.2,baz=166,slow=41						
INK	**Inuvik**	**99.44**	**0**	P	**P**	**13 51 12.3**	**+0.4**
INK				pmax	pmax		
	comp=Z,257nm,1.4s						
INK	**Inuvik**	**99.44**	**0**	P	**P**	**13 51 12.3**	**+0.4**
	comp=Z,257nm,1.4s,mb6.6						
INK	**Inuvik**	**99.44**	**0**	P	**P**	**13 51 12.3**	**+0.3**
	comp=Z,257nm,1.4s,mb6.6						
COLD	**Coldfoot**	**99.48**	**7**	P	**P**	**13 51 15.5**	**+3.4**
	comp=Z,3.5nm,1.1s,mb4.8						
COLD	**Coldfoot**	**99.48**	**7**	P	**P**	**13 51 15.5**	**+3.4**
	comp=Z,3.6nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**99.93**	**121**	LR	LR	14 30 44.0	
	comp=Z,2μm,19.7s,MS5.6,baz=268,slow=32						
IMA2	**Indian Mountai**	**100.12**	**9**	*e*Pdif	Pdif	13 51 15.9	+0.7
PMG	**Port Moresby**	**101.36**	**97**	PFAKE		13 51 30.0	+9.3
PMG				LR	LR		
	comp=Z,394nm,19.0s,MS5.0						
COLA	**College**	**102.02**	**7**	PFAKE		13 51 30.0	+6.3
COLA				LR	LR		
	comp=Z,1μm,21.0s,MS5.4						
CTAO	**Charters Tower

CPUP LR LR
comp=Z,255nm,20.0s,MS4.8
EFI East Falkland 109.32 219 PFAKE 13 56 10.0 +10
EFI LR LR
comp=Z,2μm,22.0s,MS5.7
PMSA Palmer Station 110.33 205 PFAKE 13 56 10.0 +8.7
PMSA LR LR
comp=Z,3μm,21.0s,MS5.8
TRQA Tornquist 112.86 234 PFAKE 13 56 20.0 +13
TRQA LR LR
comp=Z,2μm,20.0s,MS5.6
SDV Santo Domingo 114.95 286 PFAKE 13 56 20.0 +8.4
SDV LR LR
comp=Z,188nm,21.0s,MS4.7
LPAZ La Paz 117.72 258 PKIKP PKPdf 13 56 17.9 +1.1
LPAZ MLR MLR
comp=Z,537nm,20.0s
NEW Newport 118.01 348 PFAKE 13 56 30.0 +13
NEW LR LR
comp=Z,941nm,22.0s,MS5.4
CHMT Chamberlain Mo 118.42 345 *e*PKIKP PKPdf 13 56 17.7 +0.3
CHMT Chamberlain Mo 118.42 345 *e*PKPdf PKPdf 13 56 17.7 +0.3
GCMT Greycliff 118.46 342 *e*PKIKP PKPdf 13 56 23.3 +5.8
GCMT Greycliff 118.46 342 *e*PKP PKPdf 13 56 23.3 +5.8
MSO Missoula 118.67 346 PFAKE 13 56 30.0 +12
MSO LR LR
comp=Z,609nm,20.0s,MS5.2
LVC Limon Verde 118.89 251 PFAKE 13 56 30.0 +11
LVC LR LR
comp=Z,853nm,19.0s,MS5.4
BOZ Bozeman (W) 119.16 343 *e*PKIKP PKPdf 13 56 19.5 +0.6
BOZ Bozeman (W) 119.16 343 *e*PKPdf PKPdf 13 56 19.5 +0.6
PLCA Paso Flores 119.22 230 PFAKE 13 56 30.0 +11
PLCA LR LR
comp=Z,2μm,21.0s,MS5.6
DLMT Dillon 119.69 344 *e*PKIKP PKPdf 13 56 19.2 -0.7
DLMT Dillon 119.69 344 *e*PKPdf PKPdf 13 56 19.2 -0.7
NLWA Neilton Lookou 119.91 353 PFAKE 13 56 30.0 +10
NLWA LR LR
comp=Z,987nm,20.0s,MS5.4
MCMT McKenzie Canyo 120.25 344 *e*PKIKP PKPdf 13 56 22.9 +1.9
MCMT McKenzie Canyo 120.25 344 *e*PKPdf PKPdf 13 56 22.9 +1.9
MIAR Mount Ida 120.39 323 *e*PKIKP PKPdf 13 56 27.4 +5.8
MIAR Mount Ida 120.39 323 *e*PKP PKPdf 13 56 27.4 +5.8
CBKS Cedar Bluff 120.50 331 PFAKE 13 56 30.0 +8.3
CBKS LR LR
comp=Z,1μm,20.0s,MS5.5
IMW Indian Meadow 120.56 342 PKIKP PKPdf 13 56 24.1 +2.5
IMW Indian Meadow 120.56 342 PKPdf PKPdf 13 56 24.1 +2.5
MOOW Moose Ponds 120.63 342 *e*PKIKP PKPdf 13 56 20.8 -1.0
MOOW Moose Ponds 120.63 342 *e*PKPdf PKPdf 13 56 20.8 -0.9
TPAW Teton Pass 120.93 342 *e*PKIKP PKPdf 13 56 24.1 +1.7
TPAW Teton Pass 120.93 342 *e*PKPdf PKPdf 13 56 24.1 +1.8
PDAR Pinedale Array 121.14 340 PKP PKPdf 13 56 23.9 +1.2
comp=Z,2.6nm,0.8s,baz=48,slow=2.2,SNR=7.2
RRI2 Red Ridge 121.17 342 *e*PKPdf PKPdf 13 56 23.7 +0.9
BMO Blue Mountains 121.31 347 PFAKE 13 56 30.0 +7.0
BMO LR LR
comp=Z,1μm,21.0s,MS5.4
AHID Auburn Hatcher 121.63 342 PFAKE 13 56 40.0 +16
AHID LR LR
comp=Z,992nm,21.0s,MS5.4
HLID Hailey 121.84 345 *e*PKIKP PKPdf 13 56 29.5 +5.4
HLID Hailey 121.84 345 *e*PKPdf PKPdf 13 56 29.5 +5.4
HLID LR LR
comp=Z,798nm,19.0s,MS5.4
ISCO Idaho Springs 122.29 336 PFAKE 13 56 40.0 +15
ISCO LR LR
comp=Z,1μm,20.0s,MS5.5
COR Corvallis 122.61 352 PFAKE 13 56 40.0 +14
COR LR LR
comp=Z,1μm,21.0s,MS5.6
WMOK Wichita Mounta 123.18 327 *e*PKIKP PKPdf 13 56 27.5 +0.6
WMOK MLR MLR
comp=Z,1μm,20.0s,MS5.6
JLU Jordanelle 123.70 341 *e*PKIKP PKPdf 13 56 30.1 +2.3
JLU Jordanelle 123.70 341 *e*PKPdf PKPdf 13 56 30.1 +2.3
DAU Daniels Canyon 123.81 341 *e*PKIKP PKPdf 13 56 30.4 +2.4
DAU Daniels Canyon 123.81 341 *e*PKPdf PKPdf 13 56 30.4 +2.4
WVOR Wild Horse Val 123.90 348 *e*PKIKP PKPdf 13 56 25.8 -2.3
WVOR Wild Horse Val 123.90 348 *e*PKPdf PKPdf 13 56 25.8 -2.4
SDCO Great Sand Dun 123.99 334 *e*PKIKP PKPdf 13 56 29.6 +1.2
SDCO Great Sand Dun 123.99 334 *e*PKPdf PKPdf 13 56 29.6 +1.2
SDCO LR LR
comp=Z,1μm,19.0s,MS5.6
HUMO Hull Mountain 124.50 351 PFAKE 13 56 40.0 +11
HUMO LR LR
comp=Z,1μm,21.0s,MS5.6
DUG Dugway 124.50 342 *e*PKIKP PKPdf 13 56 29.9 +0.6
DUG Dugway 124.50 342 *e*PKPdf PKPdf 13 56 29.9 +0.6
AMTX Amarillo 124.56 329 PFAKE 13 56 40.0 +10
AMTX LR LR
comp=Z,1μm,21.0s,MS5.5
SRU San Rafael 124.74 339 *e*PKIKP PKPdf 13 56 30.8 +1.0
SRU San Rafael 124.74 339 *e*PKPdf PKPdf 13 56 30.8 +1.0
MOD Modoc 124.74 349 *e*PKIKP PKPdf 13 56 28.9 -0.8
MOD Modoc 124.74 349 *e*PKPdf PKPdf 13 56 28.9 -0.9
OTAV Otavalo 124.91 279 *e*PKIKP PKPdf 13 56 30.2 -0.6
OTAV Otavalo 124.91 279 *e*PKPdf PKPdf 13 56 30.2 -0.6
OTAV LR LR
comp=Z,570nm,20.0s,MS5.2
BMN Battle Mountai 125.49 346 PFAKE 13 56 40.0 +8.8
BMN LR LR
comp=Z,1μm,21.0s,MS5.5
MVCO Mesa Verde 125.67 336 PFAKE 13 56 40.0 +8.4
MVCO LR LR
comp=Z,1μm,22.0s,MS5.5
NNA Nana 125.67 264 PFAKE 13 56 40.0 +7.8
NNA LR LR
comp=Z,846nm,19.0s,MS5.4
MSU Marysvale 125.83 340 *e*PKIKP PKPdf 13 56 32.8 +0.9
MVU Marysvale 125.85 340 PFAKE 13 56 40.0 +8.0
MVU LR LR
comp=Z,903nm,22.0s,MS5.4
ANMO Albuquerque 126.76 333 *e*PKIKP PKPdf 13 56 35.7 +1.9
ANMO MLR MLR
comp=Z,706nm,20.0s
JCT Junction City 126.95 324 *e*PKIKP PKPdf 13 56 34.1 -0.2
JCT MLR MLR
comp=Z,885nm,22.0s,MS5.4
BNM Barren Site 127.51 333 *e*PKPdf PKPdf 13 56 36.5 +1.2
BNM *e*PP PP 13 58 25.5 -8.9
LAZ Ladron 127.52 333 *e*PKPdf PKPdf 13 56 36.1 +0.9
NVAR Mina Array Bea 127.65 346 PKP PKPdf 13 56 37.1 +1.7
comp=Z,3.3nm,0.9s,baz=333,slow=0.2,SNR=16
TGUH Tegucigalpa,Un 127.99 299 *e*PKPdf PKPdf 13 56 36.6 0.0
WUAZ Wupatki 128.25 338 *e*PKPdf PKPdf 13 56 33.7 -2.9
WUAZ LR LR
comp=Z,774nm,20.0s,MS5.4
MTUM Tungsten Hills 128.74 346 *e*PKPdf PKPdf 13 56 39.7 +2.2
LDFC Landfair 129.92 341 *e*PKPdf PKPdf 13 56 39.0 -0.9
TXAR Lajitas Array 129.97 327 PKP PKPdf 13 56 41.6 +1.5
comp=Z,6.0nm,1.0s,baz=112,slow=1.3,SNR=12
TXAR Lajitas Array 129.97 327 PKIKP PKPdf 13 56 41.6 +1.5
TXAR pmax pmax
comp=Z,6.0nm,1.0s
GSC Goldstone 130.21 343 *e*PKIKP PKPdf 13 56 41.7 +1.3
PTRM Twissleman Ran 130.74 347 *e*PKPdf PKPdf 13 56 43.6 +2.2
TUC Tucson 130.86 336 *e*PKIKP PKPdf 13 56 40.4 -1.3
TUC MLR MLR
comp=Z,672nm,20.0s,MS5.3
GLA Glamis 131.69 340 *e*PKIKP PKPdf 13 56 44.4 +1.2
PFO Pinyon Flat Ob 131.69 342 *e*PKIKP PKPdf 13 56 44.7 +1.5
TBI Tubuai 160.61 126 *e*SS SS 14 22 03.7 -4.1
comp=Z,422nm,31.8s
TBI Tubuai 160.61 126 *e*LR LR 14 51 56.3
comp=Z,2μm,23.0s
PPT Papeete 162.77 109 *e*PP PP 14 01 51.8 -14
comp=Z,68nm,25.8s
PPT Papeete 162.77 109 *e*SS SS 14 22 30.8 -0.7
comp=Z,355nm,25.2s
PPT Papeete 162.77 109 *e*LR LR 14 53 03.6
comp=Z,1μm,24.5s
RKT Rikitea 169.15 168 *e*SS SS 14 23 32.7 +0.2
comp=Z,392nm,25.8s
RKT Rikitea 169.15 168 *e*LR LR 14 55 48.5
comp=Z,1μm,26.5s
RKT Rikitea 169.15 168 *e*SS SS 14 23 32.7 +0.2

ISCJB ***02*** *14:05:44.0±0.6,3827N±003×2181E±003,h4km±8km, Error ellipse: s-maj=5.2km s-min=3.8km az=169.0*
NEIC ***02*** *14:05:44.0,3830N×2180E,h5km,MD3.3(ATH),After ATH.*
THE ***02*** *14:05:44.6,3825N×2181E,h0km,ML2.8*
ATH ***02*** *14:05:44.0,3830N×2180E,h5km,MD3.3/7*
CSEM ***02*** *14:05:45.0±0.1,3829N×2181E,h2km,MD3.3,Error ellipse: s-maj=3.3km s-min=2.3km az=159.0*
ISC 02 14:05:44.9±0.5,3827N±003×2181E±003,h12km±7km,n17, σ1§14/30,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.35**	**232**	*e*PB	**Pg**	**14 05 50.9**	**-0.9**
RLS				*e*SB	**Sg**	**14 05 56.6**	**+0.2**
EVR	**Evrytania**	**0.64**	**360**	*e*PB	**Pb**	**14 05 56.3**	**-1.8**
KFL	**Anninata**	**0.82**	**259**	*e*Pg	**Pg**	**14 06 00.1**	**-0.6**
KFL				*e*Sg	**Sg**	**14 06 11.9**	**+0.4**
AGG	**Agios Georgios**	**0.85**	**28**	*e*Pg	**Pg**	**14 06 00.0**	**-1.3**
AGG				*e*Sg	**Sg**	**14 06 14.1**	**+1.6**
LTK	**Loutraki**	**0.94**	**105**	*e*Pg	**Pg**	**14 06 03.0**	**-0.1**
LTK				*e*Sg	**Sg**	**14 06 15.5**	**+0.1**
VLS	**Valsamata**	**0.97**	**265**	*e*Pg	**Pg**	**14 06 01.6**	**-1.9**
VLS				*e*Sg	**Sg**	**14 06 17.2**	**+1.1**
VLS	**Valsamata**	**0.97**	**265**	*e*PG	**Pg**	**14 06 02.0**	**-1.5**
VLS				*e*SB	**Sb**	**14 06 16.3**	**0.0**
VLS	**Valsamata**	**0.97**	**265**	*e*Pg	**Pg**	**14 06 02.0**	**-1.5**
VLS				*e*Sb	**Sb**	**14 06 16.3**	**0.0**
VLS				*e*Sg	**Sg**	**14 06 17.2**	**+1.1**
LKR	**Lokris**	**1.01**	**68**	*e*Pg	**Pg**	**14 06 03.5**	**-0.8**
LKR				*e*Sg	**Sg**	**14 06 18.4**	**+1.0**
LKR	**Lokris**	**1.01**	**68**	*e*PG	**Pg**	**14 06 02.8**	**-1.5**
LKD	**Levkas**	**1.01**	**296**	*e*Pg	**Pg**	**14 06 03.7**	**-0.6**
LKD				*e*Sg	**Sg**	**14 06 19.6**	**+2.1**
ITM	**Ithomi**	**1.09**	**175**	*e*PN	**Pn**	**14 06 05.3**	**-0.7**
ITM				*e*SB	**Sb**	**14 06 21.7**	**+1.7**
THL	**Klokotos Trika**	**1.30**	**7**	*e*Pg	**Pg**	**14 06 09.0**	**-0.8**
THL				*e*Sg	**Sg**	**14 06 28.7**	**+1.9**
THL	**Klokotos Trika**	**1.30**	**7**	*e*PB	**Pb**	**14 06 09.1**	**-0.2**
MEV	**Metsovon**	**1.58**	**343**	*e*Pg	**Pg**	**14 06 13.8**	**-1.3**
MEV				*e*Sg	**Sg**	**14 06 36.0**	**+0.4**
VLI	**Veliai**	**1.79**	**150**	*e*PN	**Pn**	**14 06 19.0**	**+3.4**
VLI	**Veliai**	**1.79**	**150**	*e*Pn	**Pn**	**14 06 19.5**	**+3.9**

ISCJB ***02*** *14:14:00.1±0.4,6056S±007×268W±0.1,h10km,mb5.0/23, MS4.6/2,Error ellipse: s-maj=13.1km s-min=6.9km az=43.0*
IDC ***02*** *14:14:01.1±0.5,6027S×2677W,h0km,mb4.8/12, mb1 4.8/12,mb1mx4.8/16,mbtmp4.8/12,MS4.6/2, Ms1 4.5/2,ms1mx3.9/22,Error ellipse: s-maj=19.0km s-min=14.8km az=54.0*
NEIC ***02*** *14:14:03.9±3.2,6037S×2663W,h22km±21km,mb5.1/17, Error ellipse: s-maj=12.3km s-min=8.1km az=209.0*
MOS ***02*** *14:14:05.1±1.6,6017S×2669W,h33km,mb5.2/8,Error ellipse: s-maj=30.9km s-min=13.3km az=105.7*
ISC 02 14:14:02.2±0.4,6053S±007×267W±01,h10km, (h4km±.6km:pP-P),n101,σ1§21/61,mb5.0/23,MS4.6/2,3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.63**	**151**	*e*	**Pn**	**14 17 00.4**	**-1.3**
VNA1				*e*		14 17 02.0	
VNA1				*e*		14 17 05.2	
VNA1				*e*		14 17 09.1	
VNA1				*e*S	**Sn**	**14 19 11.2**	**-11**
VNA2	**Neumayer--Watz**	**13.03**	**151**	*e*	**Pn**	**14 17 05.4**	**-1.7**
VNA2				*e*		14 17 07.2	
VNA2				*e*		14 17 10.5	
VNA2				*e*		14 17 15.4	
VNA2				*e*S	**Sn**	**14 19 19.2**	**-13**
SNAA	**Sanae**	**14.64**	**150**	*e*	**Pn**	**14 17 27.4**	**-1.5**
SNAA				*e*		14 17 29.5	
SNAA				*e*		14 17 32.2	
SNAA				*e*		14 17 37.3	
SNAA				*e*S	**Sn**	**14 20 03.2**	**-7.8**
SNAA	**Sanae**	**14.64**	**150**	Pn	**Pn**	**14 17 27.5**	**-1.4**
4.8nm,0.3s,baz=316,slow=13,SNR=127							
SNAA				Sn	**Sn**	**14 19 58.7**	**-12**
0.1nm,0.3s,baz=271,slow=6.2,SNR=2.3							
SNAA				T		14 31 28.6	
0.3nm,0.3s,baz=323,slow=13,SNR=4.5							
SNAA	**Sanae**	**14.64**	**150**	*e*Pn	**Pn**	**14 17 27.1**	**-1.8**
SNAA				Pn	**Pn**	**14 17 27.5**	**-1.4**
SNAA				*e*Sn	**Sn**	**14 19 55.4**	**-16**
SNAA				Sn	**Sn**	**14 19 58.7**	**-12**
PMSA	**Palmer Station**	**17.47**	**240**	P	**Pn**	**14 18 12.0**	**+6.4**
4.0nm,0.3s,baz=81,slow=9.6,SNR=22							
PMSA	**Palmer Station**	**17.47**	**240**	*e*Pn	**Pn**	**14 18 07.9**	**+2.4**
94nm,1.3s							
PMSA				P		14 18 12.0	
MAIT	**Maitri**	**18.50**	**139**	*e*P	**Pn**	**14 18 17.9**	**-0.3**
MAIT				*e*S	**Sn**	**14 21 26.8**	**-18**
NVL	**N'lazarevskaya**	**18.53**	**139**	*e*P	**Pn**	**14 18 20.5**	**+2.0**
NVL				pmax	pmax		
comp=Z,104nm,1.1s							
EFI	**East Falkland**	**19.41**	**283**	*e*P	**Pn**	**14 18 30.1**	**+0.8**
EFI				pmax	pmax		
comp=Z,55nm,0.9s							
EFI	**East Falkland**	**19.41**	**283**	*e*P	**Pn**	**14 18 30.1**	**+0.8**
comp=Z,54nm,0.9s							
USHA	**Ushuaia**	**22.69**	**266**	P	**P**	**14 19 05.7**	**+2.2**
comp=Z,19nm,1.1s,mb4.4,baz=117,slow=14,SNR=3.6							
SYO	**Syowa Base**	**28.08**	**135**	*e*P	**P**	**14 19 53.0**	**-0.4**
QSPA	**South Pole Qui**	**29.71**	**180**	P	**P**	**14 20 11.3**	**+3.5**
comp=Z,40nm,0.9s,mb5.1,baz=198,slow=4.1,SNR=31							
TRQA	**Tornquist**	**31.52**	**299**	*e*P	**P**	**14 20 23.7**	**-0.4**
comp=Z,15nm,0.6s,mb5.0							
TRQA				*e*PcP	PcP	14 23 15.9	-0.7
PLCA	**Paso Flores**	**33.26**	**286**	P	**P**	**14 20 38.3**	**-1.0**
comp=Z,4.1nm,0.7s,mb4.5,baz=139,slow=4.8,SNR=12							
PLCA	**Paso Flores**	**33.26**	**286**	P	**P**	**14 20 38.3**	**-1.0**
PLCA				*e*P		14 20 38.6	
MAW	**Mawson**	**36.48**	**140**	P	**P**	**14 21 09.0**	**+2.2**
comp=Z,18nm,1.0s,mb4.9,baz=242,slow=7.9,SNR=12							
MAW				LR	LR	14 34 10.8	
comp=Z,539nm,19.0s,MS4.3,baz=272,slow=33							
MAW	**Mawson**	**36.48**	**140**	*e*P	**P**	**14 21 08.6**	**+1.8**
MAW				pmax	pmax		
comp=Z,27nm,1.1s							
MAW	**Mawson**	**36.48**	**140**	*e*P	**P**	**14 21 08.6**	**+1.8**
comp=Z,27nm,1.1s,mb5.1							
MAW				P		14 21 09.0	
MAW				LR	LR	14 34 10.8	
CPUP	**Villa Florida**	**40.05**	**315**	P	**P**	**14 21 36.3**	**-0.9**
comp=Z,20nm,0.5s,mb5.1,baz=140,slow=6.8,SNR=78							
CPUP	**Villa Florida**	**40.05**	**315**	*e*P	**P**	**14 21 36.0**	**-1.3**
CPUP				pmax	pmax		
comp=Z,156nm,0.6s							
CPUP	**Villa Florida**	**40.05**	**315**	*e*P	**P**	**14 21 36.0**	**-1.3**
comp=Z,156nm,0.6s,mb5.9							
CPUP				P		14 21 36.3	
SBA	**Scott Base**	**41.62**	**184**	*e*P	**P**	**14 21 57.2**	**+7.5**
SBA				pmax	pmax		
comp=Z,18nm,1.0s,mb4.7							
SBA	**Scott Base**	**41.62**	**184**	*e*P	**P**	**14 21 57.1**	**+7.4**
comp=Z,18nm,1.0s,mb4.7							
SUR	**Sutherland**	**41.79**	**70**	P	**P**	**14 21 54.1**	**+2.5**
comp=Z,5.2nm,0.8s,mb4.2,baz=163,slow=14,SNR=2.5							
SUR	**Sutherland**	**41.79**	**70**	P	**P**	**14 21 54.1**	**+2.5**
SUR				P		14 21 54.3	
VNDA	**Vanda**	**42.10**	**183**	P	**P**	**14 21 57.3**	**+3.6**
comp=Z,13nm,0.9s,mb4.5,baz=186,slow=6.9,SNR=44							
VNDA	**Vanda**	**42.10**	**183**	*e*P	**P**	**14 21 56.4**	**+2.8**
VNDA				pmax	pmax		
comp=Z,16nm,0.9s							
VNDA	**Vanda**	**42.10**	**183**	*e*P	**P**	**14 21 56.4**	**+2.8**
comp=Z,16nm,0.9s,mb4.6							
VNDA				P	pP	14 21 57.3	+0.5
MIR	**Mirnyy**	**45.71**	**151**	*e*P	**P**	**14 22 29.0**	**+6.3**
MIR				pmax	pmax		
comp=Z,200nm,1.0s,mb6.0							
BOSA	**Boshof**	**47.02**	**71**	P	**P**	**14 22 34.5**	**+1.1**
comp=Z,7.0nm,0.7s,mb4.7,baz=202,slow=5.6,SNR=14							
BOSA	**Boshof**	**47.02**	**71**	*e*P	**P**	**14 22 33.7**	**+0.3**
BOSA				pmax	pmax		
comp=Z,16nm,1.0s,mb4.9							
BOSA	**Boshof**	**47.02**	**71**	*e*P	**P**	**14 22 33.6**	**+0.2**
comp=Z,16nm,1.0s,mb4.9							
BOSA				P	pP	14 22 34.5	-2.0
BDFB	**Brasilia**	**47.40**	**332**	P	**P**	**14 22 36.5**	**0.0**
comp=Z,3.5nm,1.0s,mb4.3,baz=150,slow=16,SNR=4.8							
LVC	**Limon Verde**	**47.86**	**303**	*e*P	**P**	**14 22 39.9**	**-0.1**
comp=Z,39nm,0.8s,mb5.5							
CASY	**Casey**	**49.62**	**159**	*e*P	**P**	**14 22 59.2**	**+6.2**
comp=Z,21nm,1.2s,mb5.0							
LBTB	**Lobatse**	**50.24**	**69**	*e*P	**P**	**14 22 58.7**	**+0.5**
LBTB				pmax	pmax		
comp=Z,19nm,1.1s,mb5.0							
LBTB	**Lobatse**	**50.24**	**69**	*e*P	**P**	**14 22 58.7**	**+0.5**
comp=Z,19nm,1.1s,mb5.0							
TSUM	**Tsumeb**	**51.79**	**57**	*e*P	**P**	**14 23 10.1**	**+0.2**
comp=Z,7.8nm,0.9s,mb4.6							
LPAZ	**La Paz**	**53.23**	**308**	P	**P**	**14 23 20.9**	**+0.2**
comp=Z,25nm,0.6s,mb5.3,baz=148,slow=6.1,SNR=136							
LPAZ	**La Paz**	**53.23**	**308**	*e*P	**P**	**14 23 20.6**	**0.0**
LPAZ				pmax	pmax		
comp=Z,28nm,0.6s							
LPAZ	**La Paz**	**53.23**	**308**	*e*P	**P**	**14 23 20.6**	**0.0**
comp=Z,28nm,0.6s,mb5.4							
LPAZ				P		14 23 20.9	
ARE	**Arequipa**	**54.42**	**304**	*e*P	**P**	**14 23 29.0**	**-0.3**
NNA	**Nana**	**60.67**	**301**	*e*P	**P**	**14 24 12.4**	**-1.0**
comp=Z,21nm,0.8s,mb5.3							
DBIC	**Dimbokro**	**69.17**	**23**	P	**P**	**14 25 07.9**	**-0.7**
comp=Z,3.0nm,0.5s,mb4.5,baz=170,slow=6.4,SNR=8.4							
DBIC	**Dimbokro**	**69.17**	**23**	*e*P	**P**	**14 25 06.4**	**-2.2**
DBIC				pmax	pmax		
comp=Z,12nm,0.9s							
DBIC	**Dimbokro**	**69.17**	**23**	*e*P	**P**	**14 25 06.4**	**-2.3**
comp=Z,12nm,0.9s,mb4.8							
DBIC				P	pP	14 25 07.9	-4.0
OTAV	**Otavalo**	**72.37**	**305**	*e*P	**P**	**14 25 28.6**	**+0.4**
comp=Z,112nm,0.8s,mb5.8							
PCRV	**Puerto La Cruz**	**76.60**	**322**	LR	LR	14 55 18.3	
comp=Z,583nm,21.9s,MS4.8,baz=126,slow=32							
TOA0	**Torodi Ar. Sit**	**76.87**	**28**	*e*P	**P**	**14 25 54.2**	**+0.1**
TOA0				*e*PcP	PcP	14 26 03.9	-1.4
TORD	**Torodi Ar. Bea**	**76.87**	**28**	P	**P**	**14 25 54.5**	**+0.4**
comp=Z,15nm,0.7s,mb5.0,baz=200,slow=6.3,SNR=134							
SDV	**Santo Domingo**	**77.36**	**315**	*e*P	**P**	**14 25 55.5**	**-1.5**
comp=Z,31nm,0.8s,mb5.3							
ASAR	**Alice Springs**	**94.64**	**162**	P	**P**	**14 27 23.5**	**+0.3**
comp=Z,0.6nm,0.6s,mb4.2,baz=174,slow=3.3,SNR=5.1							
SCHQ	**Schefferville**	**119.34**	**335**	PKP	PKPdf	14 32 48.9	-1.3
comp=Z,1.7nm,0.7s,baz=196,slow=10,SNR=3.9							
AKASG	**Malin Array Be**	**119.65**	**37**	PKP	PKPdf	14 32 50.3	-0.7
comp=Z,0.5nm,0.4s,baz=214,slow=1.3,SNR=4.5							
MSU	**Marysvale**	**120.53**	**295**	*e*PKIKP	PKPdf	14 32 52.8	-0.3
PDAR	**Pinedale Array**	**122.85**	**300**	PKP	PKPdf	14 32 57.0	-0.4
comp=Z,0.6nm,0.5s,baz=113,slow=5.1,SNR=5.3							
CMAR	**Chiang Mai Arr**	**123.19**	**113**	PKP	PKPdf	14 32 59.9	+1.1
comp=Z,1.8nm,0.9s,baz=242,slow=1.9,SNR=4.9							
NVAR	**Mina Array Bea**	**123.27**	**290**	PKP	PKPdf	14 32 59.5	+1.2
comp=Z,1.0nm,0.6s,baz=143,slow=3.2,SNR=10							
LOHW	**Long Hollow**	**123.98**	**299**	*e*PKPdf	PKPdf	14 32 59.4	-0.1
MOOW	**Moose Ponds**	**124.16**	**299**	*e*PKPdf	PKPdf	14 32 59.6	-0.2
NB2	**NORSAR Subarra**	**124.71**	**21**	PKPdf	PKPdf	14 33 00.0	-0.3
comp=Z,2.4nm,0.8s,baz=202,slow=2.0							
NOA	**NORSAR Array B**	**124.71**	**21**	PKP	PKPdf	14 33 00.5	+0.1
comp=Z,2.4nm,0.9s,baz=196,slow=1.5,SNR=5.5							
EKS2	**Erkin-Say**	**130.80**	**73**	PKPdf	PKPdf	14 33 13.1	+0.6
ARCES	**ARCESS Array B**	**135.00**	**23**	PKP	PKPdf	14 33 20.3	+0.7
comp=Z,3.0nm,0.6s,baz=193,slow=0.9,SNR=19							
ARCES				SKPbc	SKPbc	14 36 48.4	-1.4
comp=Z,5.4nm,0.8s,baz=222,slow=1.6,SNR=12							
BVAR	**Borovoye Array**	**136.87**	**61**	PKP	PKPdf	14 33 23.8	+0.3
comp=Z,2.4nm,0.8s,baz=223,slow=3.5,SNR=8.5							
BVAR				SKPbc	SKPbc	14 36 54.6	-1.4
comp=Z,1.6nm,0.9s,baz=209,slow=2.6,SNR=4.6							
MKAR	**Makanchi Array**	**137.93**	**76**	PKhKP		14 33 19.2	
comp=Z,0.3nm,0.3s,baz=248,slow=1.5,SNR=2.9							
MKAR				PKP	PKPdf	14 33 27.6	+1.9
comp=Z,0.3nm,0.3s,baz=268,slow=3.6,SNR=4.5							
YKA	**Yellowknife Ar**	**139.57**	**314**	PKP	PKPdf	14 33 28.0	-0.3
comp=Z,3.8nm,0.7s,baz=128,slow=2.4,SNR=14							
SPITS	**Spitsbergen Ar**	**140.90**	**13**	PKhKP		14 33 23.0	
comp=Z,2.9nm,0.5s,baz=318,slow=2.6,SNR=4.8							
DLBC	**Dease Lake**	**143.03**	**302**	PKhKP		14 33 31.2	
baz=153,slow=6.8							
NVS	**Novosibirsk**	**143.78**	**67**	*e*PKIKP	PKPdf	14 33 34.4	-1.6
NVS				pmax	pmax		
comp=Z,22nm,1.0s							
NVS				pmax	pmax		
comp=N,8.0nm,1.2s							
NVS				pmax	pmax		
comp=E,8.0nm,1.2s							
ZAL	**Zalesovo**	**143.93**	**69**	PKIKP	PKPdf	14 33 33.6	-2.7
ZAA0	**Zalesovo Array**	**143.95**	**69**	*e*PKPdf	PKPdf	14 33 33.5	-2.9
ZALV	**Zalesovo Beam**	**143.95**	**69**	PKhKP		14 33 33.6	
comp=E,2.1nm,0.4s,baz=223,slow=4.0,SNR=9.6							
SKAG	**Skagway**	**145.87**	**300**	*e*PKPdf	PKPdf	14 33 39.5	0.0
HYT	**Haines Junctio**	**147.52**	**301**	*e*PKPbc	PKPbc	14 33 44.7	-0.2
PNL	**Peninsula**	**147.73**	**299**	*e*PKPbc	PKPbc	14 33 45.1	-0.4
INK	**Inuvik**	**149.31**	**316**	PKPbc	PKPbc	14 33 48.3	-1.0
comp=E,23nm,0.7s,baz=97,slow=3.1,SNR=61							
INK	**Inuvik**	**149.31**	**316**	*e*PKPbc	PKPbc	14 33 48.0	-1.3
DAWY	**Dawson**	**149.81**	**306**	*e*PKPbc	PKPbc	14 33 49.5	-1.1
DAWY				*e*PKPab	PKPab	14 33 54.9	-1.4
RAGM	**Ragged Mountai**	**150.39**	**297**	*e*PKPdf	PKPdf	14 33 45.7	-1.2
RAGM				*e*PKPbc	PKPbc	14 33 52.5	+0.3
SONM	**Songino Array**	**150.47**	**94**	PKPbc	PKPbc	14 33 53.5	+0.7
comp=E,8.0nm,0.8s,baz=210,slow=2.5,SNR=19							
ZAK	**Zakamensk**	**150.61**	**87**	*e*PKIKP	PKPbc	14 33 53.8	+0.8
ZAK				*e*		14 41 04.1	
ZAK				pmax	pmax		
comp=Z,9.0nm,1.1s							
ZAK				pmax	pmax		
comp=Z,1.0nm,1.2s							
BMRM	**Bremner River**	**150.63**	**298**	*e*PKPbc	PKPbc	14 33 52.5	-0.3
EYAK	**Cordova Ski Ar**	**150.94**	**297**	*e*PKPbc	PKPbc	14 33 53.6	+0.1
DIV	**Divide**	**151.21**	**298**	*e*PKPbc	PKPbc	14 33 53.8	-0.3
DIV				*e*PKPab	PKPab	14 34 01.1	-1.0
TLY	**Talaya**	**151.60**	**86**	*e*PKIKP	PKPbc	14 33 55.7	+0.4
TLY				pmax	pmax		
comp=Z,

1.3nm,0.3s,baz=330,slow=22,SNR=9.6
WB2 Warramunga Arr 13.21 159 *e*P **Pn 14 19 35.0 +0.2**
WB2 *e*S **Sn 14 21 59.9 -0.3**
ASAR Alice Springs 16.59 166 P **Pn 14 20 19.6 +1.9**
2.5nm,0.3s,baz=344,slow=9.5,SNR=203
STKA Stephens Creek 26.73 157 P **P 14 21 59.4 -1.5**
3.0nm,0.8s,baz=319,slow=11,SNR=3.9

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*IDC **02** 14:16:28.0±0.7, 16.10S×17255W, h0km, mb4.0/10, mb1 4.3/11, mb1mx4.2/19, mbtmp4.1/11, MS3.3/2, Ms1 3.3/2, ms1mx3.1/26, Error ellipse: s-maj=29.3km s-min=18.2km az=144.0*
*ISCJB **02** 14:16:30.8±0.4, 1601S±007×17252W±008, h30km, mb4.4/23, MS4.4/3, Error ellipse: s-maj=12.2km s-min=7.9km az=34.9*
*BJI **02** 14:16:30.1, 1604S×17259W, h28km, mB5.3, mb5.0, Ms5.2, Msz5.0*
*NEIC **02** 14:16:33.1±0.3, 1602S×17258W, h35km, mb4.7/8, Error ellipse: s-maj=13.6km s-min=10.0km az=141.0*
ISC 02 14:16:32.8±0.4, 1598S±007×17256W±008, h32km, h32km±1.0km; pP-P, n48, σ0:90/41, mb4.4/23, MS4.4/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.19**	**20**		Pn		**Pn**	**14 17 01.9**	**-5.2**
	31nm,0.3s,baz=250,slow=6.3,SNR=37								
AFI				LR			LR	14 17 28.1	
	comp=Z,280nm,18.7s,baz=198,slow=26								
AFI				Sn			**Sn**	**14 17 31.6**	**-1.5**
	118nm,0.3s,baz=254,slow=23,SNR=10								
AFI	**Afiamalu**	**2.19**	**20**	*e*Pn			**Pn**	**14 17 01.5**	**-5.6**
RAR	**Rarotonga**	**13.19**	**115**	Pn			**Pn**	**14 19 37.9**	**0.0**
	2.2nm,0.3s,baz=253,slow=7.8,SNR=6.5								
PPT	**Papeete**	**22.06**	**97**	*e*LR			LR	14 26 31.2	
	303nm,25.5s								
PPT	**Papeete**	**22.06**	**97**	LR			LR	14 27 12.2	
	comp=Z,202nm,19.8s,MS3.5,baz=48,slow=29								
TBI	**Tubuai**	**22.93**	**112**	*e*LR			LR	14 26 50.2	
	376nm,29.0s								
URZ	**Urewera**	**23.99**	**200**	P			**P**	**14 21 42.7**	**-1.7**
	6.8nm,0.6s,mb4.3,baz=111,slow=2.4,SNR=5.2								
STKA	**Stephens Creek**	**44.45**	**241**	*e*P			**P**	**14 24 40.6**	**-0.5**
	8.5nm,0.8s,mb4.5,baz=70,slow=7.8,SNR=8.2								
STKA	**Stephens Creek**	**44.45**	**241**	*e*P			**P**	**14 24 40.3**	**-0.8**
	17nm,1.0s,mb4.7								
STKA				*e*				14 24 47.1	
WRA	**Warramunga Arr**	**50.50**	**257**	P			**P**	**14 25 28.9**	**+0.6**
	1.3nm,0.9s,mb3.9,baz=93,slow=6.2,SNR=2.7								
ASAR	**Alice Springs**	**50.70**	**252**	P			**P**	**14 25 28.1**	**-1.6**
	4.8nm,0.8s,mb4.5,baz=96,slow=9.3,SNR=14								
VNDA	**Vanda**	**62.88**	**186**	P			**P**	**14 26 54.9**	**-0.4**
	0.7nm,0.8s,mb3.8,baz=348,slow=6.2,SNR=2.0								
VNDA	**Vanda**	**62.88**	**186**	P			**P**	**14 26 54.9**	**-0.4**
ISA	**Isabella**	**72.51**	**44**	*e*P			**P**	**14 27 57.5**	**+0.9**
	6.7nm,1.4s,mb4.4								
ISA				*e*			pP	14 28 05.9	-0.7
NVAR	**Mina Array Bea**	**74.22**	**41**	P			**P**	**14 28 07.5**	**+0.9**
	0.7nm,0.7s,mb3.7,baz=227,slow=10,SNR=7.1								
LDFC	**Landfair**	**74.46**	**46**	*e*P			**P**	**14 28 07.6**	**-0.5**
	33nm,1.6s,mb5.0								
LDFC				*e*			pP	14 28 17.3	-0.8
TPH	**Tonopah**	**74.71**	**42**	P			**P**	**14 28 10.0**	**+0.5**
TPH				*e*			pP	14 28 18.6	-0.9
MOD	**Modoc**	**75.08**	**38**	P			**P**	**14 28 11.0**	**-0.5**
	12nm,1.4s,mb4.6								
KSRS	**Korea Array**	**77.14**	**315**	P			**P**	**14 28 28.3**	**+5.0**
	1.3nm,1.0s,mb3.8,baz=134,slow=5.2,SNR=3.7								
MSU	**Marysvale**	**78.27**	**44**	*e*P			**P**	**14 28 30.6**	**+1.0**
MSU				*e*			pP	14 28 39.7	-0.1
SRU	**San Rafael**	**79.69**	**44**	*e*P			**P**	**14 28 38.3**	**+0.9**
	7.5nm,1.4s,mb4.4								
DIV	**Divide**	**79.78**	**13**	*e*P			**P**	**14 28 36.8**	**-0.5**
	5.3nm,0.9s,mb4.5								
DIV				*e*			pP	14 28 45.7	-1.8
BMRM	**Bremner River**	**79.89**	**13**	*e*P			**P**	**14 28 36.7**	**-1.2**
MDJ	**Mudanjiang**	**79.98**	**322**	P			**P**	**14 28 38.3**	**-0.5**
MDJ				PP			PP	14 31 37.6	-3.5
MDJ				AMB			AMB		
	comp=Z,6.0nm,2.2s,mb4.1								
MDJ				AMB			AMB		
	comp=Z,482nm,10.6s								
BNM	**Barren Site**	**80.07**	**50**	*e*P			**P**	**14 28 37.4**	**-2.2**
TXAR	**Lajitas Array**	**80.27**	**56**	P			**P**	**14 28 42.1**	**+1.4**
	comp=Z,0.4nm,0.9s,mb3.4,baz=212,slow=4.4,SNR=5.0								
ANMO	**Albuquerque**	**80.56**	**50**	P			**P**	**14 28 42.9**	**+0.7**
TRF	**Thorofare Moun**	**81.05**	**10**	*e*P			**P**	**14 28 43.6**	**-0.5**
	comp=Z,4.7nm,0.7s,mb4.5								
NJ2	**Nanjing**	**81.16**	**307**	*e*P			**P**	**14 28 44.6**	**-0.9**
NJ2				AMB			AMB		
	comp=Z,20nm,0.6s,mb5.2								
MCMT	**McKenzie Canyo**	**81.20**	**38**	*e*P			**P**	**14 28 45.5**	**+0.2**
MCK	**McKinley**	**81.54**	**10**	*e*P			**P**	**14 28 46.8**	**+0.1**
	comp=Z,7.2nm,0.9s,mb4.6								
CN2	**Changchun**	**82.05**	**320**	*e*P			**P**	**14 28 51.3**	**+1.4**
CN2				*e*XP			sP	14 29 05.6	+1.9
PDAR	**Pinedale Array**	**82.16**	**41**	P			**P**	**14 28 49.8**	**-0.7**
	comp=Z,0.7nm,0.8s,mb3.6,baz=259,slow=1.5,SNR=4.3								
DAWY	**Dawson**	**83.78**	**14**	*e*P			**P**	**14 28 59.2**	**+0.8**
EDM	**Edmonton**	**85.56**	**31**	P			**P**	**14 29 07.5**	**-0.1**
BJI	**Beijing**	**86.45**	**313**	P			**P**	**14 29 13.1**	**+0.8**
MAW	**Mawson**	**87.50**	**198**	P			**P**	**14 29 16.9**	**-0.1**
	comp=Z,0.7nm,0.6s,mb4.1,baz=162,slow=9.6,SNR=2.6								
GYA	**Guiyang**	**89.03**	**298**	P			**P**	**14 29 25.0**	**0.0**
GYA				XP			sP	14 29 40.7	+1.8
GYA				PP			PP	14 32 55.6	+0.3
GYA				SKS				14 39 49.0	
GYA				S			S	14 40 07.6	-4.0
GYA				AMB			AMB		
	comp=Z,10.0nm,0.8s,mb5.2								
GYA				LR			LR		
	comp=N,470nm,22.4s,MS5.0								
GYA				LR			LR		
	comp=E,480nm,22.9s,MS5.0								
GYA				LR			LR		
	comp=Z,460nm,21.7s,MS4.9								
HHC	**Hu-ho-hao-te**	**90.01**	**313**	*e*P			**P**	**14 29 29.2**	**-0.1**
HHC				AP			pP	14 29 39.0	-0.5
HHC				XP			sP	14 29 43.8	+0.6
HHC				PP			PP	14 33 03.6	+0.7
HHC				SKS				14 39 55.1	
HHC				S			S	14 40 15.3	-4.9
HHC				PS			PS	14 41 29.0	-1.4
HHC				SS			SS	14 46 15.8	-3.5
HHC				AMB			AMB		
	comp=Z,370nm,10.3s								
HHC				LR			LR		
	comp=N,173nm,21.4s,MS4.9								
HHC				LR			LR		
	comp=E,445nm,21.4s,MS4.9								
HHC				LR			LR		
	comp=Z,256nm,21.4s,MS4.6								
KMI	**Kunming**	**92.00**	**295**	P			**P**	**14 29 39.7**	**+0.8**
KMI				AP			pP	14 29 49.5	+0.3
KMI				XP			sP	14 29 53.5	+0.7
KMI				AMB			AMB		
	comp=Z,3.0nm,1.0s,mb4.6								
CD2	**Chengdu**	**92.80**	**301**	*e*P			**P**	**14 29 42.2**	**-0.3**
CD2				AP			pP	14 29 52.8	+0.1
CD2				XP			sP	14 29 58.0	+1.6
CD2				AMB			AMB		
	comp=Z,20nm,0.8s								
CD2				AMB			AMB		
	comp=Z,30nm,5.8s								
CMAR	**Chiang Mai Arr**	**93.56**	**288**	P			**P**	**14 29 47.5**	**+1.3**
	comp=Z,0.4nm,0.3s,mb4.3,baz=123,slow=2.2,SNR=4.1								
LZH	**Lanzhou**	**94.22**	**306**	*e*P			**P**	**14 29 50.0**	**+1.1**
LZH				AP			pP	14 30 01.5	+2.4
LZH				XP			sP	14 30 06.5	+3.7
LZH				AMB			AMB		
	comp=Z,13nm,1.0s,mb5.3								
LZH				AMB			AMB		
	comp=Z,54nm,4.6s								
MALT	**Malatya**	**144.84**	**315**	*e*PKPdf			PKPdf	14 36 08.5	+1.7
MOX	**Moxa**	**145.26**	**355**	*e*PKP			PKPbc	14 36 16.3	+9.4
	comp=Z,12nm,1.6s								
MORC	**Moravsky Berou**	**145.31**	**348**	*e*PKPdf			PKPdf	14 36 07.3	0.0
GERES	**GERESS Array B**	**146.83**	**352**	PKPbc			PKPbc	14 36 13.6	+2.0
	comp=Z,0.3nm,0.3s,baz=39,slow=5.1,SNR=4.1								
TORD	**Torodi Ar. Bea**	**173.76**	**116**	PKPab			PKPab	14 38 08.9	-1.1
	comp=Z,0.5nm,0.8s,baz=244,slow=5.9,SNR=3.0								

KRSC 02 14:25:42.8±0.5, 5552N×16258E, h56km±64km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.70**	**11**		*i*	P	Pn	14 25 56.3	-0.5
KBTR					*i*	S	Sn	14 26 06.6	-0.4
MKZ	**Mys Kozlova**	**1.08**	**207**		*i*	P	Pn	14 26 02.4	+0.7
MKZ					*i*	S	Sn	14 26 17.2	+1.4
ZLN	**Zelenaya**	**1.12**	**297**		*i*	P	Pn	14 26 04.1	+1.9
ZLN					*i*	S	Sn	14 26 19.5	+2.8
BZMR	**Bezymyannaya**	**1.25**	**290**		*i*	P	Pn	14 26 05.8	+1.8
BZMR					*i*	S	Sn	14 26 23.3	+3.4
KRSR	**Krestovskiy**	**1.33**	**302**		*i*	P	Pn	14 26 06.0	+0.9
KRSR					*i*	S	Sn	14 26 22.4	+0.6
KLY	**Klyuchi**	**1.34**	**307**		*i*	P	Pn	14 26 05.1	-0.1
KLY					*i*	S	Sn	14 26 21.4	-0.7
KMNR	**Kamenistaya**	**1.35**	**281**		*i*	P	Pn	14 26 07.8	+2.5
KMNR					*i*	S	Sn	14 26 26.4	+4.2
SRKR	**Sorokina**	**1.39**	**326**		*i*	P	Pn	14 26 07.6	+1.8
SRKR					*i*	S	Sn	14 26 25.0	+2.0
KPT	**Kopyto**	**1.41**	**290**		*i*	P	Pn	14 26 08.3	+2.2
KPT					*i*	S	Sn	14 26 27.4	+3.9
TUMR	**Tumrok**	**1.41**	**261**		*i*	P	Pn	14 26 08.5	+2.4
TUMR					*i*	S	Sn	14 26 27.6	+4.0
KOZ	**Kozyrevsk**	**1.62**	**291**		*i*	P	Pn	14 26 11.5	+2.5
KOZ					*i*	S	Sn	14 26 33.0	+4.3
SRDR	**Sredinnyy**	**1.80**	**298**		*e*P		Pn	14 26 13.4	+2.0
SRDR					*i*	S	Sn	14 26 35.8	+2.7
SPN	**Mys Shipunski**	**2.85**	**213**		*e*P		Pn	14 26 26.7	+0.9
SPN					*i*	S	Sn	14 26 58.4	-0.4
NLC	**Nalytchevo**	**3.02**	**220**		*e*P		Pn	14 26 30.0	+1.9
NLC					*i*	S	Sn	14 27 04.8	+1.8
AVH	**Avacha**	**3.19**	**226**		P		Pn	14 26 33.2	+2.9
AVH					*i*	S	Sn	14 27 09.3	+2.3
GNL	**Ganaly**	**3.26**	**238**		*e*P		Pn	14 26 34.3	+3.0
PET	**Petropavlovsk**	**3.40**	**224**		*e*P		Pn	14 26 34.7	+1.4
PET					*i*	S	Sn	14 27 13.4	+1.1
RUS	**Russkaya**	**3.92**	**219**		*e*P		Pn	14 26 42.4	+2.1
RUS					*i*	S	Sn	14 27 25.9	+1.0
MIPR	**Malaya Ipel'ka**	**4.73**	**229**		P		Pn	14 26 53.8	+2.3

IDC 02 14:28:44.2±10.0, 1261S×16610E, h56km±73km, mb3.7/4, mb1 3.9/5, mb1mx3.5/18, mbtmp3.9/5, ML4.7/1, Error ellipse: s-maj=69.3km s-min=39.6km az=102.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.82**	**297**		P		Pn	14 30 21.6	-0.1
	14nm,0.3s,baz=119,slow=1.8,SNR=8.0								
HNR					S		Sn	14 31 39.1	+1.1
	14nm,0.3s,baz=267,slow=18,SNR=4.0								
ASAR	**Alice Springs**	**32.44**	**246**		P		P	14 35 09.2	-0.1
	0.7nm,0.8s,baz=73,slow=9.7,SNR=6.4								
MJAR	**Matsushiro Arr**	**55.51**	**333**		P		P	14 38 13.6	0.0
	1.0nm,0.6s,baz=161,slow=7.7,SNR=4.4								
SONM	**Songino Array**	**80.12**	**324**		P		P	14 40 48.3	+0.1
	0.7nm,0.8s,baz=134,slow=4.3,SNR=4.4								
ZALV	**Zalesovo Beam**	**95.02**	**324**		P		P	14 41 58.9	-1.8
	0.8nm,0.6s,baz=98,slow=4.5,SNR=3.8								
KEST	**Kesra**	**148.86**	**322**	PKPbc			PKPbc	14 48 27.2	+1.1
	1.4nm,0.8s,baz=79,slow=5.2,SNR=5.0								

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*JMA **02** 14:29:01.0±0.3, 4684N×14169E, h18km, M4.6*
*MOS **02** 14:29:01.8±0.8, 4662N×14170E, h12km, mb4.6/15, Error ellipse: s-maj=13.3km s-min=7.3km az=87.0*
*IDC **02** 14:29:01.9±0.5, 4663N×14180E, h0km, mb4.1/15, mb1 4.4/17, mb1mx4.3/22, mbtmp4.1/17, ML3.9/1, Error ellipse: s-maj=19.8km s-min=14.4km az=91.0*
*ISCJB **02** 14:29:02.2±1.2, 4671N±002×14174E±006, h10km±8km, mb4.3/31, Error ellipse: s-maj=6.9km s-min=3.9km az=4.1*
*NEIC **02** 14:29:03.8±1.4, 4667N×14177E, h12km±9km, mb4.6/13, Error ellipse: s-maj=9.4km s-min=5.6km az=135.0*
ISC 02 14:29:03.1±1.3, 4667N±002×14176E±006, h6km±8km, n99, σ0:93/101, mb4.3/31, 3C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.74**	**67**		*i*	PN	**Pn**	**14 29 17.2**	**-2.9**
YSS					*i*			14 29 29.0	
YSS					smax				
	comp=N,3670μm,0.3s								
YSS					smax				
	comp=E,4220μm,0.4s								
YSS	**Yuzh-Sakhalins**	**0.74**	**67**	*e*Pg			**Pg**	**14 29 17.3**	**0.0**
JWK2	**Keihoku**	**1.36**	**176**	P			**Pn**	**14 29 28.0**	**-0.6**
JWK2				*e*S			**Sb**	**14 29 47.3**	**+0.7**
JRR	**Rishiri**	**1.57**	**192**	P			**Pn**	**14 29 31.1**	**-0.4**
JRR				*e*S			**Sn**	**14 29 53.0**	**+0.9**
JSE	**Soyaes**	**1.81**	**161**	P			**Pn**	**14 29 34.0**	**-0.8**
JYG	**Yagishiri**	**2.26**	**186**	P			**Pn**	**14 29 40.3**	**-0.7**
JYG				*e*S			**Sn**	**14 30 10.0**	**+0.8**
JSS	**Shosan**	**2.28**	**178**	P			**Pn**	**14 29 41.0**	**-0.2**
UGL	**Uglegorsk**	**2.41**	**5**	*e*PN			**Pn**	**14 29 44.0**	**+0.9**
UGL				*e*S			**Sn**	**14 30 16.5**	**+3.5**
UGL				pmax			pmax		
	comp=Z,42nm,0.5s								
UGL				smax					
	comp=N,1μm,0.8s								
UGL				smax					
	comp=E,3μm,0.8s								
UGL				smax					
	comp=Z,460nm,0.7s								
UGL				smax					
	comp=N,2μm,1.0s								
UGL				smax					
	comp=E,3μm,1.0s								
ASAJ	**Asahikawa**	**2.62**	**167**	P			**Pn**	**14 29 45.9**	**-0.1**
ASAJ	**Asahikawa**	**2.62**	**167**	Pn			**Pn**	**14 29 45.5**	**-0.5**
	comp=E,17nm,0.3s,baz=6.4,slow=11,SNR=87								
ASAJ				Sn			**Sn**	**14 30 21.5**	**+3.3**
	comp=E,31nm,0.3s,baz=344,slow=33,SNR=6.9								
ASAJ	**Asahikawa**	**2.62**	**167**	PN			**Pn**	**14 29 45.6**	**-0.4**
ASAJ								14 30 21.5	
ASAJ				pmax			pmax		
	comp=Z,17nm,0.3s								
ASAJ				smax					
	comp=N,31nm,0.3s								
JKK2	**Kamakawa 2**	**2.89**	**166**	P			**Pn**	**14 29 50.3**	**+0.7**
JMP	**Maruseppu**	**2.90**	**157**	P			**Pn**	**14 29 48.8**	**-0.9**
JTKR	**Abashiri--Toko**	**3.10**	**150**	P			**Pn**	**14 29 51.4**	**-1.1**
JAB	**Ashibetsu**	**3.19**	**174**	P			**Pn**	**14 29 54.8**	**+1.1**
JSK	**Shakotan**	**3.44**	**196**	P			**Pn**	**14 29 56.9**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**3.91**	**131**	*e*PN			**Pn**	**14 30 03.4**	**-0.3**
YUK				S			**Sn**	**14 30 50.0**	**+0.1**
YUK				smax					
	comp=N,260nm,0.5s								
YUK				smax					
	comp=E,450nm,0.8s								
YUK				MLR			MLR		
	comp=Z,4μm,15.0s								
YUK				MLR			MLR		
	comp=N,3μm,12.0s								
YUK				MLR			MLR		
	comp=E,3μm,15.0s								
HABR	**Khabarovsk**	**4.89**	**294**	*e*PN			**Pn**	**14 30 23.5**	**+6.4**
KLR	**Kul'dur**	**7.19**	**294**	*e*PN			**Pn**	**14 30 58.0**	**+9.2**
MAJO	**Matsushiro**	**10.47**	**196**	*e*PN			**Pn**	**14 31 34.9**	**+1.3**
MAT	**Matsushiro**	**10.47**	**196**	P			**Pn**	**14 31 37.0**	**+3.4**
MAT				*e*S			**Sn**	**14 33 40.2**	**+9.0**
MJAR	**Matsushiro Arr**	**10.47**	**196**	Pn			**Pn**	**14 31 34.0**	**+0.3**
	baz=14,slow=14,SNR=4.5								
PETK	**Petropavlovsk-**	**12.11**	**52**	Pn			**Pn**	**14 31 58.9**	**+2.8**
	comp=E,0.3nm,0.3s,baz=101,slow=14,SNR=8.2								
PET	**Petropavlovsk**	**12.60**	**54**	*e*PN			**Pn**	**14 32 04.9**	**+2.1**
PET				pmax			pmax		
	comp=Z,11nm,1.2s								
PET	**Petropavlovsk**	**12.60**	**54**	*e*Pn			**Pn**	**14 32 04.9**	**+2.2**
	comp=Z,11nm,1.2s								
KSRS	**Korea Array**	**13.79**	**233**	*e*P			**Pn**	**14 32 27.8**	**+8.8**
SEY	**Seymchan**	**17.36**	**16**	*i* P			**Pn**	**14 33 07.6**	**+1.8**
BOD	**Bodaibo**	**20.17**	**314**	*e*P			**P**	**14 33 38.7**	**+0.7**
BOD				pmax			pmax		
	comp=Z,3.0nm,1.8s								
SONM	**Songino Array**	**23.91**	**286**	PcP			PcP	14 38 00.3	+0.4
	comp=Z,1.1nm,0.7s,baz=144,slow=3.2,SNR=4.9								
BILL	**Bilibino**	**24.83**	**22**	*e*P			**P**	**14 34 25.8**	**+0.1**
BILL				*e*S			**S**	**14 38 48.8**	**+0.3**
BILL				pmax			pmax		
	comp=Z,13nm,1.1s,mb4.4								
BILL	**Bilibino**	**24.83**	**22**	P			**P**	**14 34 25.7**	**0.0**
	comp=Z,13nm,0.9s,mb4.5								
ZALV	**Zalesovo Beam**	**36.20**	**303**	P			**P**	**14 36 06.2**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.8,baz=105,slow=11,SNR=3.7								
ZALV				PcP			PcP	14 38 31.1	-0.4
	comp=Z,0.8nm,0.4s,baz=72,slow=4.8,SNR=4.1								
ZAL	**Zalesovo**	**36.22**	**303**	P			**P**	**14 36 06.2**	**-0.2**
ZAL								14 38 31.1	
ZAL				pmax			pmax		
	comp=Z,1.0nm,0.4s								
ZAL				pmax			pmax		
	comp=Z,1.0nm,0.4s								
SVW2	**Sparrevohn**	**38.05**	**44**	*e*P			**P**	**14 36 19.3**	**-2.6**
IMA2	**Indian Mountai**	**38.48**	**36**	*e*P			**P**	**14 36 25.1**	**-0.3**
PPLA	**Purkeypile**	**39.41**	**41**	*e*P			**P**	**14 36 34.1**	**+0.8**
	comp=Z,32nm,1.5s,mb4.8								
BPAW	**Bear Paw Mtn.**	**39.79**	**39**	*e*P			**P**	**14 36 36.4**	**-0.1**
	comp=Z,4.8nm,1.0s,mb4.2								
MK31	**Makanchi Array**	**39.90**	**293**	*e*P			**P**	**14 36 36.6**	**-0.9**
MKAR	**Makanchi Array**	**39.90**	**293**	P			**P**	**14 36 37.5**	**0.0**
	comp=Z,2.1nm,0.7s,mb4.0,baz=75,slow=9.4,SNR=10								
MKAR				PcP			PcP	14 38 43.6	+0.6
	comp=Z,0.7nm,0.5s,baz=59,slow=0.8,SNR=3.7								
MKAR	**Makanchi Array**	**39.90**	**293**	*e*P			**P**	**14 36 37.5**	**0.0**
MKAR				pmax			pmax		
	comp=Z,2.0nm,0.7s								
TRF	**Thorofare Moun**	**40.18**	**40**	*e*P			**P**	**14 36 39.7**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.3								
MCK	**McKinley**	**40.74**	**40**	*e*P			**P**	**14 36 44.2**	**-0.1**
KURK	**Kurchatov**	**40.76**	**300**	*i* P			**P**	**14 36 42.8**	**-1.8**
KURK				pmax			pmax		
	comp=Z,5.0nm,0.9s,mb4.1								
KURK	**Kurchatov**	**40.76**	**300**	P			**P**	**14 36 42.8**	**-1.8**
COLA	**College**	**41.02**	**38**	*e*P			**P**	**14 36 46.1**	**-0.5**
COLA				pmax			pmax		
	comp=Z,14nm,0.9s,mb4.6								
COLA	**College**	**41.02**	**38**	*e*P			**P**	**14 36 46.1**	**-0.5**
	comp=Z,14nm,0.9s,mb4.6								
PMR	**Palmer**	**41.04**	**43**	*e*P			**P**	**14 36 46.6**	**-0.2**
PMR				pmax			pmax		
	comp=Z,11nm,1.1s,mb4.4								
PMR	**Palmer**	**41.04**	**43**	*e*P			**P**	**14 36 46.6**	**-0.2**
	comp=Z,11nm,1.1s,mb4.4								
SEW	**Seward**	**41.20**	**45**	*e*P			**P**	**14 36 47.4**	**-0.8**
DIV	**Divide**	**42.72**	**43**	*e*P			**P**	**14 37 00.6**	**0.0**
	comp=Z,20μm,0.9s								
EGAK	**Eagle**	**43.85**	**37**	*e*P			**P**	**14 37 09.0**	**-0.6**
	comp=Z,17nm,0.8s,mb4.8								
BVAR	**Borovoye Array**	**44.70**	**306**	PcP			PcP	14 38 58.2	-0.7
	comp=Z,0.8nm,0.5s,baz=103,slow=3.3,SNR=3.8								
INK	**Inuvik**	**45.83**	**31**	P			**P**	**14 37 25.2**	**-0.2**
	comp=Z,2.2nm,0.5s,mb4.3,baz=294,slow=5.2,SNR=5.5								
INK	**Inuvik**	**45.83**	**31**	P			**P**	**14 37 25.2**	**-0.2**
INK				pmax			pmax		
	comp=Z,2.0nm,0.5s								
INK	**Inuvik**	**45.83**	**31**	*e*P			**P**	**14 37 24.4**	**-0.9**
	comp=Z,145nm,0.8s								
TKM2	**Tokmak 2**	**45.86**	**291**	*e*P			**P**	**14 37 26.5**	**+0.6**
TKM2				pmax			pmax		
	comp=Z,6.0nm,1.3s,mb4.4								
TKM2	**Tokmak 2**	**45.86**	**291**	*e*P			**P**	**14 37 26.5**	**+0.6**
	comp=Z,5.7nm,1.3s,mb4.3								
HYT	**Haines Junctio**	**46.65**	**42**	*e*P			**P**	**14 37 32.6**	**+0.8**
ARU	**Arti**	**49.59**	**314**	*e*P			**P**	**14 37 53.9**	**-0.8**
ARU				pmax			pmax		
	comp=Z,9.0nm,1.1s,mb4.7								
ARU	**Arti**	**49.59**	**314**	*e*P			**P**	**14 37 53.9**	**-0.8**
	comp=Z,9.0nm,1.1s,mb4.7								
KBL	**Kabul**	**54.68**	**285**	*e*P			**P**	**14 38 31.7**	**-1.2**
	comp=Z,8.3nm,1.1s,mb4.7								
ARCES	**ARCESS Array B**	**55.13**	**337**	P			**P**	**14 38 36.6**	**+1.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=42,slow=7.4,SNR=5.3								
ARCES	**ARCESS Array B**	**55.13**	**337**	P			**P**	**14 38 36.6**	**+1.0**
ARCES				pmax			pmax		
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**55.47**	**33**	P			**P**	**14 38 37.9**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.3,baz=306,slow=7.3,SNR=4.9								
YKA	**Yellowknife Ar**	**55.47**	**33**	*e*P			**P**	**14 38 37.9**	**-0.2**
YKA				pmax			pmax		
	comp=Z,2.0nm,0.6s								
YKA	**Yellowknife Ar**	**55.47**	**33**	P			**P**	**14 38 37.9**	**-0.2**
KIV	**Kislovodsk**	**64.97**	**308**	*e*P			**P**	**14 39

ISCJB ***02*** *15:11:42.2±0.1,2159S×002×17941W±002,h616km, mb5.3/170, Error ellipse: s-maj=3.6km s-min=2.2km az=137.7*
SZGRF ***02*** *15:11:43.6,2161S×17878W,h626km, Fiji Islands region*
NEIC ***02*** *15:11:43.0±0.1,2156S×17936W, mb5.4/132, Error ellipse: s-maj=4.1km s-min=2.4km az=121.0*
GCMT ***02*** *15:11:43.0±0.5,2161S×17903W,h622km±3km, MW5.6/55, Moment Tensor Solution. s55,c75; s10,c10; Duration: 1s6 Moment tensor: Scale 10^17^Nm; M_rr_0.75±.09; M_θθ_-0.66±.16; M_φφ_-0.08±.14; M_rθ_0.53±.16; M_θφ_-1.07±.13; M_rφ_-3.36±.13; Best double couple: M_0_3.56300×10^17^ NP1:φ_s_77.00000°,δ18.00000°,λ168.00000°. NP2: φ_s_178.00000°,δ86.00000°,λ72.00000°. Principal axes: T 3.9820, Plg46.0000°, Azm70.0000°; N -0.8390, Plg18.0000°, Azm179.0000°; P -3.1430, Plg39.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
BGS ***02*** *15:11:43.0±5.8,2156S×17936W,h618km, mb5.4(NEIC)*
IDC ***02*** *15:11:44.1±0.5,2143S×17940W,h620km±5km, mb4.7/29, mb1 4.8/30, mb1mx4.8/30, mbtmp4.7/30, Error ellipse: s-maj=7.9km s-min=7.1km az=161.0*

ISC 02 15:11:43.6±0.1,2158S±002×17939W±002,h617km, h617km±1.0km;pP-P,n1122,σ0.70/834,mb5.3/168, 317C-190D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.76**	**170**	P			**P**	**15 13 40.5**	**-0.6**
	1μm,0.3s,baz=289,slow=5.2,SNR=75								
RAO				S			**S**	**15 15 15.9**	**-1.5**
	327nm,0.3s,baz=80,slow=23,SNR=21								
RAO	**Raoul Island**	**7.76**	**170**	*eP*			**P**	**15 13 40.0**	**-1.1**
	2μm,0.3s								
RAO				*eS*			**S**	**15 15 04.4**	**-13**
AFI	**Afiamalu**	**10.52**	**45**	P			**P**	**15 14 02.9**	**-5.0**
	102nm,0.3s,baz=28,slow=1.3,SNR=113								
AFI				S			**S**	**15 15 54.0**	**-12**
	7.4nm,0.3s,baz=5.2,slow=22,SNR=9.8								
AFI					ScP		ScP	15 21 45.7	+1.1
	0.8nm,0.3s,baz=6.1,slow=4.1,SNR=4.5								
AFI	**Afiamalu**	**10.52**	**45**	*ip*			**P**	**15 14 02.4**	**-5.5**
AFI				*eS*			**S**	**15 15 54.2**	**-12**
AFI					pmax		pmax		
	comp=Z,400nm,0.6s								
AFI	**Afiamalu**	**10.52**	**45**	*ip*			**P**	**15 14 02.4**	**-5.5**
	comp=Z,401nm,0.6s								
AFI				*eS*			**S**	**15 15 54.2**	**-12**
FUNA	**Funafuti**	**13.05**	**354**	*eP*			**P**	**15 14 29.8**	**-3.3**
	comp=Z,112nm,0.8s								
DZM	**Mont Dzumac**	**13.17**	**265**	*eP*			**P**	**15 14 34.5**	**+0.3**
DZM				*eS*			**S**	**15 16 50.5**	**-3.2**
OUZ	**Omahuta**	**14.92**	**203**	P			**P**	**15 14 53.1**	**+2.9**
WCZ	**Waipu Caves**	**15.32**	**200**	P			**P**	**15 14 56.8**	**+2.9**
KUZ	**Kuaotunu**	**15.70**	**195**	P			**P**	**15 14 59.4**	**+2.1**
MXZ	**Matakaoa Point**	**16.06**	**187**	P			**P**	**15 14 59.8**	**-0.7**
PUZ	**Puketiti**	**16.57**	**187**	P			**P**	**15 15 04.0**	**-1.2**
URZ	**Urewera**	**16.90**	**190**	P			**P**	**15 15 06.0**	**-2.3**
	comp=Z,38nm,0.3s,baz=252,slow=2.4,SNR=120								
URZ				S			**S**	**15 17 49.2**	**-5.4**
	comp=Z,6.6nm,0.3s,baz=113,slow=20,SNR=8.7								
URZ					ScP		ScP	15 21 54.4	-0.7
	comp=Z,3.2nm,0.3s,baz=293,slow=2.5,SNR=5.9								
URZ					ScS		ScS	15 25 29.3	-5.9
	comp=Z,2.1nm,0.3s,baz=198,slow=22,SNR=18								
URZ	**Urewera**	**16.90**	**190**	P			**P**	**15 15 05.9**	**-2.3**
MWZ	**Matawai**	**16.91**	**188**	P			**P**	**15 15 06.9**	**-1.5**
KNZ	**Kokohu**	**17.57**	**188**	P			**P**	**15 15 14.2**	**-0.1**
BKZ	**Black Stump Fm**	**17.89**	**190**	P			**P**	**15 15 15.2**	**-2.0**
FWVZ	**Far West T-bar**	**18.15**	**193**	P			**P**	**15 15 19.8**	**+0.2**
MOVZ	**Moawhango**	**18.25**	**192**	P			**P**	**15 15 19.3**	**-1.3**
RAR	**Rarotonga**	**18.27**	**92**	P			**P**	**15 15 20.1**	**-0.9**
	comp=Z,6.2nm,0.3s,baz=243,slow=7.0,SNR=37								
TSZ	**Takapari Road**	**18.85**	**191**	P			**P**	**15 15 24.8**	**-1.1**
MRZ	**Mangataiokoa R**	**19.50**	**192**	P			**P**	**15 15 30.3**	**-1.5**
KIW	**Kapiti Island**	**19.82**	**193**	P			**P**	**15 15 33.7**	**-1.1**
MTW	**Mount Morrison**	**20.00**	**191**	P			**P**	**15 15 34.9**	**-1.4**
CAW	**Cannon Point**	**20.03**	**192**	P			**P**	**15 15 35.5**	**-1.1**
MRW	**Makara Radio**	**20.22**	**193**	P			**P**	**15 15 37.5**	**-0.8**
WEL	**Wellington**	**20.26**	**193**	P			**P**	**15 15 38.0**	**-0.7**
TCW	**Tory Channel**	**20.30**	**194**	P			**P**	**15 15 38.2**	**-0.8**
SNZO	**South Karori**	**20.30**	**193**	P			**P**	**15 15 37.8**	**-1.2**
QRZ	**Quartz Range**	**20.38**	**198**	P			**P**	**15 15 40.5**	**+0.7**
NNZ	**Nelson**	**20.52**	**196**	P			**P**	**15 15 40.5**	**-0.5**
BSWZ	**Blackbirch Sta**	**20.87**	**194**	P			**P**	**15 15 43.6**	**-0.5**
THZ	**Tophouse**	**21.15**	**196**	P			**P**	**15 15 45.9**	**-0.7**
DSZ	**Denniston Nort**	**21.44**	**198**	P			**P**	**15 15 49.2**	**0.0**
KHZ	**Kahutara**	**21.61**	**194**	P			**P**	**15 15 49.7**	**-1.0**
LTZ	**Lake Taylor**	**22.27**	**196**	P			**P**	**15 15 55.4**	**-1.2**
CRLZ	**Canterbury Las**	**22.93**	**195**	P			**P**	**15 16 01.2**	**-1.2**
WVZ	**Waitaha Valley**	**22.97**	**199**	P			**P**	**15 16 02.6**	**-0.2**
MQZ	**McQueen's Vall**	**23.04**	**195**	P			**P**	**15 16 02.6**	**-0.8**
HNR	**Honiara**	**23.25**	**298**	P			**P**	**15 16 05.1**	**-0.7**
	comp=Z,186nm,0.4s,mb6.0,baz=124,slow=2.2,SNR=33								
HNR	**Honiara**	**23.25**	**298**	⇑*ip*			**P**	**15 16 04.9**	**-0.8**
HNR					pmax		pmax		
	comp=Z,370nm,1.0s,mb6.0								
HNR	**Honiara**	**23.25**	**298**	⇑*ip*			**P**	**15 16 04.9**	**-0.9**
	comp=Z,366nm,0.9s,mb6.0								
RPZ	**Rata Peaks**	**23.46**	**198**	P			**P**	**15 16 07.2**	**0.0**
	comp=Z,26nm,0.5s,mb5.2,baz=9.8,slow=4.3,SNR=41								
RPZ					ScP		ScP	15 22 10.9	0.0
	comp=Z,24nm,0.5s,baz=0.6,slow=2.1,SNR=15								
RPZ	**Rata Peaks**	**23.46**	**198**	P			**P**	**15 16 06.8**	**-0.4**
FOZ	**Fox Glacier**	**23.74**	**200**	P			**P**	**15 16 08.5**	**-1.1**
LBZ	**Lake Benmore**	**24.33**	**198**	P			**P**	**15 16 13.8**	**-1.0**
JCZ	**Jackson Bay**	**24.50**	**201**	P			**P**	**15 16 17.0**	**+0.7**
ODZ	**Otahua Downs**	**24.80**	**197**	P			**P**	**15 16 18.3**	**-0.7**
WKZ	**Wanaka**	**25.08**	**200**	P			**P**	**15 16 20.7**	**-0.8**
EAZ	**Earnscleugh**	**25.36**	**199**	P			**P**	**15 16 23.6**	**-0.3**
MLZ	**Mavora Lakes**	**25.82**	**200**	P			**P**	**15 16 29.0**	**+1.1**
TUZ	**Tuapeka**	**25.92**	**198**	P			**P**	**15 16 28.9**	**+0.1**
WHZ	**Wether Hill Ro**	**26.38**	**200**	P			**P**	**15 16 33.1**	**+0.3**
ARMA	**Armidale**	**27.44**	**245**	*ip*			**P**	**15 16 44.6**	**+2.3**
ARMA				*ePCP*			PcP	15 19 41.1	+1.4
ARMA				*eSCP*			ScP	15 22 26.1	+3.3
TBI	**Tubuai**	**27.69**	**99**	*eP*			**P**	**15 16 44.6**	**0.0**
	comp=Z,337nm,1.0s,mb6.0								
PAE	**Paea**	**28.32**	**87**	*eP*			**P**	**15 16 49.2**	**-0.9**
	comp=Z,1μm,1.2s,mb6.4								
PAE				*epP*				15 18 16.8	
	comp=Z,1μm,1.4s								
PAE				*eScP*			ScP	15 22 25.0	-0.8
	comp=Z,376nm,1.1s								
PPT	**Papeete**	**28.35**	**87**	*eP*			**P**	**15 16 49.6**	**-0.8**
	comp=Z,175nm,1.2s,mb5.6								
PPT				*epP*				15 18 17.2	
	comp=Z,154nm,1.4s								
PPT				*eScP*			ScP	15 22 25.4	-0.5
	comp=Z,59nm,1.2s								
PPT	**Papeete**	**28.35**	**87**	P			**P**	**15 16 49.6**	**-0.7**
	comp=Z,69nm,0.6s,mb5.5,baz=203,slow=4.1,SNR=15								
PPT					ScP		ScP	15 22 26.7	+0.9
	comp=Z,41nm,1.0s,baz=7.7,slow=1.6,SNR=4.0								
TIAR	**Tiarei**	**28.56**	**87**	*eP*			**P**	**15 16 51.6**	**-0.6**
	comp=Z,1μm,0.8s,mb6.6								
TIAR				*epP*				15 18 19.0	
	comp=Z,2μm,1.5s								
TIAR				*eScP*			ScP	15 22 25.9	-0.7
	comp=Z,406nm,1.0s								
TVO	**Taravao**	**28.60**	**88**	*eP*			**P**	**15 16 51.8**	**-0.8**
	comp=Z,1μm,0.8s,mb6.6								
TVO				*epP*				15 18 19.6	
	comp=Z,2μm,1.4s								
RIV	**Riverview**	**28.69**	**239**	*ip*			**P**	**15 16 55.1**	**+2.0**
MEH	**Mehetia**	**29.68**	**88**	*eP*			**P**	**15 17 00.9**	**-1.0**
	comp=Z,8μm,1.1s								
MEH				*epP*				15 18 29.5	
	comp=Z,2μm,1.2s								
MEH				*eScP*			ScP	15 22 29.3	-0.9
	comp=Z,2μm,1.1s								
PMOR	**Pomariorio Ree**	**30.57**	**83**	*eP*			**P**	**15 17 08.6**	**-0.9**
	comp=Z,650nm,1.2s,mb6.1								
PMOR				*eScP*			ScP	15 22 32.9	-0.3
	comp=Z,170nm,1.0s								
CAN	**Canberra**	**30.84**	**237**	*ip*			**P**	**15 17 13.3**	**+1.8**
CAN				*e*				15 18 51.2	
XMAS	**Kiritimati**	**31.80**	**45**	⇑*ip*			**P**	**15 17 18.4**	**-1.6**
	comp=Z,475nm,1.0s,mb6.1								
CTA	**Charters Tower**	**32.11**	**266**	*ip*			**P**	**15 17 23.3**	**+0.8**
	comp=Z,216nm,0.4s,mb6.1								
CTA				*ePCP*			PcP	15 19 52.8	+0.5
CTA				*eSCP*			ScP	15 22 40.9	+2.5
CTA				*ePCS*			ScS	15 26 42.0	+2.8
CTA	**Charters Tower**	**32.11**	**266**	P			**P**	**15 17 23.3**	**+0.8**
	comp=Z,217nm,0.4s,mb6.2,baz=94,slow=11,SNR=35								
CTA					PcP		PcP	15 19 53.2	+0.9
	comp=Z,17nm,0.5s,baz=112,slow=5.2,SNR=4.3								
CTA					ScP		ScP	15 22 41.3	+2.9
	comp=Z,34nm,0.8s,baz=135,slow=2.1,SNR=11								
CTA					P3KPbc			15 48 37.6	
	comp=Z,5.9nm,1.0s,baz=272,slow=6.0,SNR=3.8								
CTA	**Charters Tower**	**32.11**	**266**	*ip*			**P**	**15 17 23.3**	**+0.8**
CTA				*e*				15 19 52.8	
CTA				*e*				15 26 42.0	
CTA					pmax		pmax		
	comp=Z,216nm,0.4s								
CTAO	**Charters Tower**	**32.11**	**266**	*ip*			**P**	**15 17 23.3**	**+0.8**
CTAO				*e*				15 19 52.2	
CTAO					pmax		pmax		
	comp=Z,600nm,1.0s,mb6.2								
CTAO	**Charters Tower**	**32.11**	**266**	*ip*			**P**	**15 17 23.2**	**+0.7**
	comp=Z,601nm,0.9s,mb6.2								
CTAO				*ePcP*			PcP	15 19 52.2	-0.2
CTAO				*eScP*			ScP	15 22 40.8	+2.4
TOO	**Toolangi**	**34.22**	**234**	*ip*			**P**	**15 17 41.5**	**+1.6**
TOO				*eSCP*			ScP	15 22 48.3	+2.8
PMG	**Port Moresby**	**34.35**	**285**	*ip*			**P**	**15 17 41.6**	**+0.3**
PMG				*e*				15 19 22.8	
PMG				*e*				15 19 59.0	
PMG					pmax		pmax		
	comp=Z,460nm,0.8s								
PMG	**Port Moresby**	**34.35**	**285**	*ip*			**P**	**15 17 41.6**	**+0.3**
	comp=Z,459nm,0.8s,mb6.2								
PMG				*e*				15 19 22.8	
PMG				*ePcP*			PcP	15 19 59.0	+0.1
PMG				*eScP*			ScP	15 22 46.1	-0.3
TAU	**Tasmania Unive**	**34.95**	**225**	*eP*			**P**	**15 17 47.0**	**+1.1**
TAU					pmax		pmax		
	comp=Z,110nm,1.2s,mb5.4								
TAU	**Tasmania Unive**	**34.95**	**225**	*eP*			**P**	**15 17 47.0**	**+1.1**
	comp=Z,110nm,1.2s,mb5.4								
STKA	**Stephens Creek**	**36.16**	**245**	*ip*			**P**	**15 17 57.5**	**+1.5**
	comp=Z,371nm,1.4s,mb5.7								
STKA				*ePCP*			PcP	15 19 48.6	-15
STKA				*eSCP*			ScP	15 22 55.2	+2.4
STKA	**Stephens Creek**	**36.16**	**245**	P			**P**	**15 17 57.6**	**+1.6**
	comp=Z,255nm,0.8s,mb5.8,baz=90,slow=9.5,SNR=376								
STKA					ScP		ScP	15 22 55.3	+2.5
	comp=Z,41nm,0.9s,baz=84,slow=3.0,SNR=11								
STKA					P3KPbc			15 48 18.2	
	comp=Z,5.0nm,0.8s,baz=290,slow=12,SNR=7.9								
COEN	**Coen**	**36.38**	**276**	*ip*			**P**	**15 17 58.9**	**+0.8**
	comp=Z,171nm,0.8s,mb5.6								
COEN				*e*				15 19 40.9	
MCQ	**Macquarie Isla**	**36.72**	**201**	*eP*			**P**	**15 18 01.4**	**+1.2**
MCQ	**Macquarie Isla**	**36.72**	**201**	*eP*			**P**	**15 18 00.8**	**+0.6**
TAOE	**Nuku Hiva Isla**	**39.80**	**78**	*eP*			**P**	**15 18 25.0**	**-0.6**
	comp=Z,3μm,1.0s,mb6.7								
ASAR	**Alice Springs**	**43.02**	**258**	P			**P**	**15 18 51.5**	**+0.6**
	comp=Z,339nm,0.7s,mb6.0,baz=93,slow=8.7,SNR=4716								
ASAR					PcP		PcP	15 20 27.1	+0.5
	comp=Z,31nm,0.6s,baz=108,slow=4.8,SNR=6.4								
ASAR					ScP		ScP	15 23 22.8	+2.9
	comp=Z,43nm,0.8s,baz=120,slow=5.8,SNR=21								
ASAR					S		**S**	**15 24 32.8**	**-0.6**
	comp=Z,11nm,0.9s,baz=99,slow=17,SNR=8.2								
ASAR					ScS		ScS	15 27 40.2	-2.5
	comp=Z,4.8nm,0.9s,baz=81,slow=7.3,SNR=9.0								
ASAR					P3KPbc			15 47 48.0	
	comp=Z,0.5nm,0.7s,baz=283,slow=3.2,SNR=8.0								
ASAR	**Alice Springs**	**43.02**	**258**	P			**P**	**15 18 51.5**	**+0.7**
ASAR								15 20 27.1	
ASAR					S		**S**	**15 24 32.8**	**-0.6**
ASAR								15 27 40.2	
ASAR	**Alice Springs**	**43.02**	**258**	P			**P**	**15 18 51.5**	**+0.6**
ASAR					PcP		PcP	15 20 27.1	+0.5
ASAR					ScP		ScP	15 23 22.8	+2.9
ASAR					S		**S**	**15 24 32.8**	**-0.6**
ASAR					ScS		ScS	15 27 40.2	-2.5
ASAR				*e*				15 47 48.0	
WB2	**Warramunga Arr**	**43.17**	**263**	*ip*			**P**	**15 18 51.9**	**-0.1**
WB2				*eSCP*			ScP	15 23 23.2	+2.7
WB2				*eS*			**S**	**15 24 32.8**	**-2.8**
WB2				*eSCS*			ScS	15 27 46.4	+2.7
WRAB	**Tennant Creek**	**43.17**	**263**	*ip*			**P**	**15 18 51.7**	**-0.4**
WRAB				*eS*			**S**	**15 24 32.6**	**-3.0**
WRAB					pmax		pmax		
	comp=Z,450nm,0.9s,mb6.0								
WRAB	**Tennant Creek**	**43.17**	**263**	*ip*			**P**	**15 18 51.7**	**-0.3**
	comp=Z,450nm,0.9s,mb6.0								
WRAB				*eScP*			ScP	15 23 22.8	+2.3
WRAB				*eS*			**S**	**15 24 32.6**	**-3.0**
WRA	**Warramunga Arr**	**43.18**	**263**	P			**P**	**15 18 52.0**	**-0.1**
	comp=Z,144nm,0.3s,mb6.0,baz=96,slow=8.7,SNR=2446								
WRA					PcP		PcP	15 20 27.8	+0.6
	comp=Z,22nm,0.8s,baz=99,slow=3.9,SNR=4.9								
WRA					ScP		ScP	15 23 23.3	+2.7
	comp=Z,29nm,0.9s,baz=94,slow=4.1,SNR=17								
WRA					S		**S**	**15 24 33.2**	**-2.6**
	comp=Z,8.1nm,0.8s,baz=99,slow=11,SNR=5.1								
WRA					ScS		ScS	15 27 45.2	+1.4
	comp=Z,4.8nm,1.0s,baz=94,slow=7.6,SNR=8.2								
WRA					P3KPbc			15 47 47.7	
	comp=Z,0.6nm,0.5s,baz=294,slow=2.8,SNR=17								
WRA	**Warramunga Arr**	**43.18**	**263**	P			**P**	**15 18 52.0**	**-0.1**
WRA								15 20 27.8	
WRA					S		**S**	**15 24 33.2**	**-2.5**
WRA								15 27 45.2	
WRA	**Warramunga Arr**	**43.18**	**263**	P			**P**	**15 18 52.0**	**-0.1**
WRA					PcP		PcP	15 20 27.8	+0.6
WRA					ScP		ScP	15 23 23.3	+2.7
WRA					S		**S**	**15 24 33.2**	**-2.6**
WRA					ScS		ScS	15 27 45.2	+1.4
WRA				*e*				15 47 47.7	
KAKA	**Kakadu**	**46.72**	**273**	*eP*			**P**	**15 19 18.8**	**-0.3**
	comp=Z,422nm,0.6s,mb6.2								
KAKA				*eSCP*			ScP	15 23 36.9	+1.5
STCH	**Steam Cracks**	**47.12**	**32**	⇑*eP*			**P**	**15 19 20.6**	**-1.4**
POHA	**Pohakuloa**	**47.24**	**31**	*eP*			**P**	**15 19 21.7**	**-1.1**
	comp=Z,231nm,1.0s,mb5.7								
POHA				*e*				15 19 28.8	
HON	**Honolulu**	**47.48**	**27**	P			**P**	**15 19 23.9**	**-0.7**
HON	**Honolulu**	**47.48**	**27**	⇑*ip*			**P**	**15 19 22.6**	**-2.0**
HON				*e*				15 19 32.7	
KIP	**Kipapa**	**47.56**	**27**	P			**P**	**15 19 24.2**	**-1.0**
KIP					pmax		pmax		
	comp=Z,230nm,1.0s,mb5.7								
KIP	**Kipapa**	**47.56**	**27**	*eP*			**P**	**15 19 23.6**	**-1.6**
	comp=Z,228nm,0.9s,mb5.7								
FORT	**Forrest**	**47.68**	**248**	*ip*			**P**	**15 19 26.1**	**0.0**
	comp=Z,375nm,0.5s,mb6.2								
FORT				*ePCP*			PcP	15 20 43.2	+0.2
FORT				*eSCP*			ScP	15 23 42.2	+3.0
FORT				*eS*			**S**	**15 25 37.1**	**-1.1**
TLE	**Tual**	**48.93**	**282**	*ep*			**P**	**15 19 32.0**	**-3.6**
GUMO	**Guam**	**49.52**	**312**	P			**P**	**15 19 40.0**	**+0.3**
	comp=Z,167nm,0.5s,mb5.7,baz=182,slow=13,SNR=7.2								
GUMO	**Guam**	**49.52**	**312**	P			**P**	**15 19 39.9**	**+0.1**
GUMO					pmax		pmax		
	comp=Z,150nm,0.8s,mb5.5								
GUMO	**Guam**	**49.52**	**312**	*eP*			**P**	**15 19 39.4**	**-0.4**
	comp=Z,148nm,0.8s,mb5.5								
MIDW	**Midway**	**49.54**	**2**	⇑*ip*			**P**	**15 19 37.7**	**-2.0**
	comp=Z,172nm,1.5s,mb5.3								
FITZ	**Fitzroy Crossi**	**51.61**	**264**	*ip*			**P**	**15 19 55.3**	**+0.3**
	comp=Z,755nm,1.5s,mb5.8								
FITZ				*eSCP*			ScP	15 23 59.1	+2.8
FITZ				*ePCS*			**S**	**15 26 32.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**51.61**	**264**	ScP			ScP	15 23 59.2	+2.8
	comp=Z,13nm,0.7s,baz=231,slow=3.3,SNR=3.4								
MBWA	**Marble Bar**	**56.36**	**258**	*ip*			**P**	**15 20 28.0**	**-0.1**
	comp=Z,354nm,0.6s,mb5.8								
MBWA				*ePcP*			PcP	15 21 16.6	+0.4
MBWA				*epP*			pP	15 22 20.3	-3.9
MBWA				*eScP*			ScP	15 24 18.8	+1.7
KLBR	**Kellerberrin**	**56.43**	**246**	*eP*			**P**	**15 20 28.7**	**+0.2**
	comp=Z,554nm,1.0s,mb5.7								
SBA	**Scott Base**	**56.72**	**183**	*ip*			**P**	**15 20 32.8**	**+3.1**
SBA				*e*				15 24 19.2	
SBA					pmax		pmax		
	comp=Z,45nm,0.9s,mb4.7								
SBA	**Scott Base**	**56.72**	**183**	*ip*			**P**	**15 20 32.8**	**+3.2**
	comp=Z,45nm,0.9s,mb4.7								
SBA				*eScP*			ScP	15 24 19.2	+1.5
VNDA	**Vanda**	**56.73**	**185**	P			**P**	**15 20 32.1**	**+2.4**
	comp=Z,9.6nm,0.6s,mb4.2,baz=355,slow=7.2,SNR=68								
VNDA					ScP		ScP	15 24 19.1	+1.4
	comp=Z,4.8nm,0.7s,baz=335,slow=4.3,SNR=5.9								
VNDA	**Vanda**	**56.73**	**185**	*ip*			**P**	**15 20 31.9**	**+2.2**
VNDA				*e*				15 24 18.2	
VNDA					pmax		pmax		
	comp=Z,13nm,0.8s								
VNDA	**Vanda**	**56.73**	**185**	*ip*			**P**	**15 20 31.9**	**+2.2**
	comp=Z,13nm,0.8s,mb4.2								
VNDA				*eScP*			ScP	15 24 18.1	+0.5
NWAO	**Narrogin (SRO)**	**56.73**	**244**	*ip*			**P**	**15 20 31.0**	**+0.5**
NWAO					pmax		pmax		
	comp=Z,129nm,1.0s								
NWAO	**Narrogin (SRO)**	**56.73**	**244**	*ip*			**P**	**15 20 31.0**	**+0.4**
	comp=Z,129nm,1.0s,mb5.1								
MUN	**Mundaring**	**57.70**	**245**	*eP*			**P**	**15 20 37.7**	**+0.6**
KDI	**Kendari**	**58.85**	**279**	*eP*			**P**	**15 20 44.8**	**-0.3**
WSI	**Waingapu**	**58.97**	**272**	*eP*			**P**	**15 20 46.5**	**+0.6**
DAV	**Davao City (W)**	**61.01**	**292**	*eP*			**P**	**15 20 59.4**	**+0.1**
	comp=Z,167nm,0.4s,mb5.6								
CBIJ	**Chichi jima**	**61.03**	**321**	P			**P**	**15 20 58.9**	**-0.3**
	comp=Z,133nm,0.5s,mb5.5,baz=276,slow=3.0,SNR=16								
KAPI	**Kappang**	**61.10**	**276**	*ip*			**P**	**15 20 58.8**	**-1.2**
	comp=Z,148nm,1.3s,mb5.1								
BUKP	**Musuan**	**61.85**	**292**	*eP*			**P**	**15 21 05.3**	**+0.5**
BUTP	**Butuan**	**61.91**	**293**	*eP*			**P**	**15 21 05.1**	**0.0**
SCPH	**Surigao**	**62.43**	**294**	⇑*eP*			**P**	**15 21 07.9**	**-0.6**
CASY	**Casey**	**62.44**	**205**	*ip*			**P**	**15 21 08.7**	**+1.0**
CASY				*eS*			**S**	**15 28 48.7**	**+0.9**
MSLP	**Maasin**	**63.14**	**294**	*eP*			**P**	**15 21 13.0**	**0.0**
PAGZ	**Pagadian**	**63.29**	**291**	*eP*			**P**	**15 21 14.6**	**+0.6**
BESP	**Borongan**	**63.40**	**296**	*eP*			**P**	**15 21 15.2**	**+0.6**
KHKI	**Kahang-Kahang**	**63.77**	**271**	*ep*			**P**	**15 21 16.6**	**-0.5**
KHKI				*eS*			PcP	15 21 40.3	-6.1
OCLP	**Ormoc**	**63.82**	**295**	*eP*			**P**	**15 21 17.3**	**0.0**
CNP	**Cataman**	**64.52**	**296**	*eP*			**P**	**15 21 21.4**	**-0.3**
PVCP	**Virac**	**65.50**	**297**	*eP*			**P**	**15 21 28.4**	**+0.5**
MYLDM	**Lahad Datu**	**66.37**	**286**	⇓P			**P**	**15 21 36.1**	**+2.7**
TSM	**Tawau**	**66.55**	**285**	⇓P			**P**	**15 21 35.8**	**+1.4**
OTRP	**Odiongan**	**66.66**	**295**	*eP*			**P**	**15 21 34.4**	**-0.7**
TRT	**Tretes**	**66.76**	**271**	*ep*			**P**	**15 21 34.0**	**-1.8**
CUYO	**Cuyo Island**	**66.77**	**293**	*eP*			**P**	**15 21 35.8**	**0.0**
SJMP	**San Jose**	**67.47**	**294**	*eP*			**P**	**15 21 40.3**	**+0.3**
SDKM	**Sandakan**	**67.74**	**286**	⇓P			**P**	**15 21 36.1**	**-5.6**
POLP	**Polilio Island**	**67.92**	**297**	*eP*			**P**	**15 21 42.5**	**-0.3**
BUSP	**Coron**	**68.03**	**293**	*eP*			**P**	**15 21 43.5**	**+0.1**
QSPA	**South Pole Qui**	**68.50**	**180**	P			**P**	**15 21 47.0**	**+1.9**
	comp=Z,54nm,0.8s,mb5.0,baz=39,slow=2.8								
QSPA					pP		pP	15 23 51.1	+2.9
	comp=Z,8.4nm,1.1s,baz=32,slow=7.6,SNR=2.0								
QSPA				S			S	15 30 02.6	+3.6
	comp=Z,3.3nm,1.0s,baz=166,slow=22,SNR=24								
BATP	**Bataraza**	**68.61**	**289**	*eP*			**P**	**15 21 47.4**	**+0.5**
KDM	**Kudat**	**68.62**	**287**	⇑P			**P**

SAO pmax pmax
comp=Z,96nm,1.1s,mb5.0
SAO San Andreas Ge 79.70 44⇑iP P 15 22 48.6 -0.1
comp=Z,96nm,1.1s,mb5.0
SAO epP pP 15 24 57.8 +0.5
SAO esP sP 15 25 53.8 -5.8
BLG Laguna Peak 79.73 47 ⇑P P 15 22 48.5 -0.4
baz=80
CIS Catalina Islan 79.79 48 ⇓P P 15 22 48.8 -0.5
baz=80,SNR=8.9
SMMC Simmler 79.79 46 ⇓P P 15 22 49.5 +0.3
baz=80,SNR=14
PKD Parkfield 79.80 45 P P 15 22 49.4 +0.1
baz=80,SNR=24
PTRM Twissleman Ran 79.85 45 eP P 15 22 49.3 -0.2
U04C Hernandez Rese 79.89 44 P P 15 22 50.4 +0.7
baz=80,SNR=48
COCO West Island 79.90 261 P P 15 22 50.2 -0.1
comp=Z,79nm,0.8s,mb5.1
PACP Pacheco Peak 79.94 44 ⇑P P 15 22 50.5 +0.5
baz=80,SNR=40
CVS Carmenet Viney 80.01 42 P P 15 22 50.4 +0.1
baz=80,SNR=20
WENL Wente Brothers 80.01 43 ⇓P P 15 22 50.5 +0.2
baz=80
NSHM Saint Helena R 80.02 42 eP P 15 22 50.2 -0.1
HOPS Hopland 80.03 41 ⇓P P 15 22 50.7 +0.3
baz=80,SNR=28
HOPS Hopland 80.03 41⇑iP P 15 22 50.1 -0.3
comp=Z,188nm,1.1s,mb5.3
FMP Fort Macarthur 80.03 48 ⇑P P 15 22 50.5 0.0
baz=80
MAW Mawson 80.11 200 eP P 15 22 51.2 +0.8
comp=Z,19nm,0.8s,mb4.5
MAW eS S 15 32 06.2 +1.1
MAW Mawson 80.11 200 P P 15 22 51.4 +1.1
comp=Z,20nm,0.6s,mb4.6,baz=125,slow=6.7,SNR=74
MAW Mawson 80.11 200 eP P 15 22 51.2 +0.8
MAW eS S 15 32 06.2 +1.1
MAW pmax pmax
comp=Z,19nm,0.8s
QIZ Qiongzhong 80.12 295 P P 15 22 50.9 -0.4
QIZ Qiongzhong 80.12 295⇓iP P 15 22 51.5 +0.3
comp=Z,43nm,1.5s,mb4.6
BDM Black Diamond 80.14 43 ⇓P P 15 22 51.3 +0.4
baz=80
KCPM Cahto Peak 80.15 40⇑iP P 15 22 51.5 +0.5
P01C Double 8 Ranch 80.16 41 ⇑P P 15 22 51.3 +0.3
baz=80,SNR=18
V05C Boulder Hill, 80.18 45 ⇓P P 15 22 51.7 +0.5
baz=80
S04C Ingram Canyon, 80.21 43 P P 15 22 51.8 +0.4
baz=80,SNR=33
OSI Osito Adit 80.25 47 ⇓P P 15 22 51.6 0.0
baz=80
OSI Osito Adit 80.25 47⇑iP P 15 22 51.4 -0.2
comp=Z,85nm,1.2s,mb5.0
T05C Eagle Field, D 80.27 44 ⇓P P 15 22 52.3 +0.7
baz=80
KIPM Iron Peak 80.28 40 eP P 15 22 52.5 +0.8
O01C Eel River Cons 80.29 40 P P 15 22 52.6 +1.0
baz=80,SNR=37
U05C Westside ANR, 80.31 45 ⇓P P 15 22 52.4 +0.5
baz=80
DECC Green Verdugo 80.31 47 ⇓P P 15 22 51.7 -0.2
baz=80
MNRC McLaughlin Nat 80.34 42 P P 15 22 52.8 +0.8
baz=80,SNR=55
KTGM Kuala Trenggan 80.38 280 ⇓P P 15 22 54.1 +1.3
109C Camp Elliot, M 80.41 49 ⇓P P 15 22 52.2 -0.3
baz=80
Q03C Winters 80.46 42 ⇓P P 15 22 53.6 +1.0
baz=80,SNR=5.8
ARVC Arvin 80.47 46 ⇑P P 15 22 52.6 -0.1
baz=80,SNR=11
MWC Mount Wilson 80.48 47 P P 15 22 52.8 0.0
MWC pmax pmax
comp=Z,87nm,1.0s,mb5.0
MWC Mount Wilson 80.48 47⇑iP P 15 22 52.5 -0.3
comp=Z,87nm,1.0s,mb5.0
JCC Jacoby Creek 80.59 39 ⇓P P 15 22 53.8 +0.6
baz=81,SNR=7.5
BAR Barrett 80.60 49⇑iP P 15 22 52.9 -0.6
comp=Z,113nm,1.5s,mb5.1
GASB Alder Springs 80.65 41 ⇓P P 15 22 54.9 +1.3
baz=81,SNR=67
MDJ Mudanjiang 80.66 326 P P 15 22 54.1 +0.6
MDJ AP pP 15 25 01.1 -1.5
MDJ PP PP 15 26 10.2 +0.6
MDJ S S 15 32 14.0 +2.7
MDJ SS SS 15 37 43.6 -0.1
MDJ AMB AMB
comp=Z,21nm,1.2s,mb4.4
MDJ AMB AMB
comp=Z,125nm,5.0s
MDJ Mudanjiang 80.66 326⇓iP P 15 22 54.0 +0.5
comp=Z,63nm,1.8s,mb4.8
VES Vestal, Richgr 80.71 46 ⇑P P 15 22 53.5 -0.4
baz=81,SNR=26
MURC Murrieta 80.73 48 ⇓P P 15 22 54.0 -0.1
baz=81,SNR=10
HABR Khabarovsk 80.75 331 eP P 15 22 53.0 -0.8
HABR e 15 26 06.2
HABR eS S 15 32 12.5 +0.6
HABR pmax pmax
comp=Z,72nm,1.7s,mb4.8
S05C Merced 80.76 44 ⇓P P 15 22 54.0 -0.2
baz=81,SNR=19
BFSC Mount Baldy St 80.77 48 P P 15 22 54.2 -0.1
baz=81,SNR=15
PMSA Palmer Station 80.81 157 P P 15 22 55.3 +1.3
comp=Z,20nm,0.6s,mb4.7,baz=24,slow=12,SNR=8.7
PMSA Palmer Station 80.81 157 eP P 15 22 54.6 +0.6
comp=Z,20nm,0.6s,mb4.7
RCTC Rector, Farmer 80.87 45 ⇑P P 15 22 54.1 -0.7
baz=81
MONP Monument Peak 80.89 49 P P 15 22 55.5 +0.5
baz=81,SNR=77
EDW2 Edwards Air Fo 80.90 47 P P 15 22 54.9 0.0
baz=81,SNR=82
O02C Red Bluff 80.93 40 ⇓P P 15 22 56.0 +1.0
baz=81,SNR=72
SUTB Sutter Butte 80.96 42 ⇑P P 15 22 54.9 -0.3
baz=81,SNR=10
T06C Milleton Lake 80.96 44 P P 15 22 55.1 -0.1
baz=81,SNR=46
FRIM Kepong 80.97 277 ⇓P P 15 22 56.4 +0.6
Q04C Lincoln 80.98 42 ⇑P P 15 22 55.2 -0.1
baz=81
DVTC Desert V Tower 80.99 50 ⇓P P 15 22 55.9 +0.4
baz=81,SNR=24
ISA Isabella 81.01 46⇑iP P 15 22 55.4 -0.1
ISA e*PP pP 15 25 04.8 +0.1
ISA pmax pmax
comp=Z,113nm,0.9s,mb5.3
ISA Isabella 81.01 46 P P 15 22 55.6 +0.1
baz=81,SNR=117
ISA Isabella 81.01 46⇑iP P 15 22 55.4 -0.1
comp=Z,113nm,0.9s,mb5.3
ISA epP pP 15 25 04.8 +0.1
N02C Big Bar 81.02 40 ⇓P P 15 22 55.9 +0.4
baz=81,SNR=43
LPIG La Paz 81.07 60 P P 15 22 56.2 +0.2
comp=Z,34nm,0.4s,mb5.1,baz=95,slow=1.7,SNR=9.1
KRMB Red Mountain 81.11 39⇑iP P 15 22 56.5 +0.6
KRMB epP pP 15 25 02.1 -3.0
CMB Columbia Colle 81.13 43⇑iP P 15 22 55.6 -0.5
CMB pmax pmax
comp=Z,96nm,1.0s,mb5.2
CMB Columbia Colle 81.13 43 P P 15 22 56.1 0.0
baz=81,SNR=42
CMB Columbia Colle 81.13 43⇑iP P 15 22 55.6 -0.4
comp=Z,96nm,1.0s,mb5.2
CMB epP pP 15 25 06.3 +1.0
M01C Crescent City 81.19 38 ⇑P P 15 22 57.0 +0.8
baz=81,SNR=11
OHCM Honcut 81.21 42 eP P 15 22 55.9 -0.6
OHCM epP pP 15 25 05.7 0.0
HELL Mitchell Peak 81.22 45 ⇓P P 15 22 56.1 -0.5
baz=81,SNR=86
PFO Pinyon Flat Ob 81.25 49 P P 15 22 56.8 0.0
comp=Z,27nm,0.9s,mb4.7,baz=270,slow=2.7,SNR=35
PFO Pinyon Flat Ob 81.25 49⇑iP P 15 22 56.5 -0.3
PFO e 15 26 10.4
PFO pmax pmax
comp=Z,75nm,1.3s,mb5.0
PFO Pinyon Flat Ob 81.25 49 P P 15 22 56.9 +0.1
baz=81,SNR=17
PFO Pinyon Flat Ob 81.25 49⇑iP P 15 22 56.5 -0.3
comp=Z,75nm,1.3s,mb5.0
PFO e 15 26 10.4
O03C Acorn Hollow, 81.28 41 ⇑P P 15 22 56.9 +0.1
baz=81,SNR=17
BBRC Big Bear Sol-O 81.29 48 ⇑P P 15 22 56.9 -0.1
baz=81
WDC Whiskeytown Da 81.33 40 P P 15 22 57.4 +0.4
WDC pmax pmax
comp=Z,150nm,1.0s,mb5.4
WDC Whiskeytown Da 81.33 40 P P 15 22 57.4 +0.4
baz=81,SNR=72
WDC Whiskeytown Da 81.33 40⇑iP P 15 22 57.0 0.0
comp=Z,153nm,1.1s,mb5.3
LAVA Lava Cap Winer 81.33 42 ⇓P P 15 22 56.9 -0.2
baz=81,SNR=26
ORV Oroville 81.34 41 P P 15 22 57.1 0.0
baz=81,SNR=56
KBO Bosley Butte 81.36 38 eP P 15 22 57.6 +0.5
SWSC Sam W. Stewart 81.36 50 P P 15 22 57.5 +0.2
baz=81,SNR=35
S06C San Francisco 81.38 44 P P 15 22 57.2 -0.1
baz=81,SNR=82
KCC Kaiser Creek 81.40 44 P P 15 22 57.6 +0.1
baz=81,SNR=114
LRMC Laurel Mountai 81.43 47 P P 15 22 57.8 +0.2
baz=81,SNR=55
OHAK Old Harbor 81.50 14 eP P 15 22 56.9 -0.5
comp=Z,142nm,1.5s,mb5.2
RRX Edison Barstow 81.57 47 ⇓P P 15 22 58.2 -0.2
baz=82
K01A Sixes 81.60 37 ⇑P P 15 22 58.4 +0.1
baz=82
M02C Callahan 81.64 39 P P 15 22 59.7 +1.1
baz=82,SNR=80
L02A Cave Junction 81.68 38 ⇑P P 15 22 59.3 +0.5
baz=82,SNR=17
CWC Cottonwood Cre 81.71 46 P P 15 22 59.2 +0.1
baz=82,SNR=80
KEBM Edson Butte 81.71 38⇑iP P 15 22 59.4 +0.5
R05C Kirkwood Meado 81.72 43 P P 15 22 59.3 +0.2
baz=82,SNR=114
P05C Yuba Gap, Truc 81.74 42 P P 15 22 59.5 +0.4
baz=82,SNR=69
BELC Belle Mtn. 81.79 49 P P 15 22 59.9 +0.4
baz=82,SNR=53
MLAC Mammoth Lakes 81.89 44 ⇑P P 15 23 00.3 +0.4
baz=82
MPMC Manual Prospec 81.89 46 P P 15 23 00.2 +0.2
baz=82,SNR=136
MTUM Tungsten Hills 81.91 45 eP P 15 23 00.3 +0.2
MTUM epP pP 15 25 08.9 -0.8
YBH Yreka Blue Hor 81.94 39 P P 15 23 00.7 +0.6
comp=Z,87nm,0.8s,mb5.3,baz=186,slow=1.8,SNR=143
YBH pP pP 15 25 10.2 +0.5
comp=Z,7.6nm,1.2s,baz=196,slow=7.7,SNR=2.3
YBH Yreka Blue Hor 81.94 39⇑iP P 15 23 00.4 +0.3
YBH e*PP pP 15 25 10.1 +0.4
YBH pmax pmax
comp=Z,118nm,1.0s
YBH Yreka Blue Hor 81.94 39 ⇑P P 15 23 00.7 +0.7
baz=82,SNR=58
YBH Yreka Blue Hor 81.94 39⇑iP P 15 23 00.4 +0.3
comp=Z,118nm,1.0s,mb5.4
YBH epP pP 15 25 10.1 +0.5
GSC Goldstone 81.94 47⇓iP P 15 22 59.9 -0.3
GSC e*PP pP 15 25 09.8 0.0
GSC pmax pmax
comp=Z,92nm,1.0s,mb5.3
GSC Goldstone 81.94 47 P P 15 23 00.2 0.0
baz=82,SNR=55
GSC Goldstone 81.94 47⇓iP P 15 22 59.9 -0.4
comp=Z,92nm,1.0s,mb5.3
GSC epP pP 15 25 09.8 0.0
O05C Quincy 81.94 41 ⇓P P 15 23 00.3 +0.2
baz=82,SNR=14
TIN Tinemaha 81.96 45 ⇓P P 15 23 00.6 +0.3
baz=82,SNR=21
BC3 Big Chuckw Mtn 81.98 49 P P 15 23 01.0 +0.5
baz=82,SNR=53
IPM Ipoh 81.99 278 ⇓P P 15 23 02.2 +1.2
M03C McCloud 82.00 40 ⇑P P 15 23 00.9 +0.5
baz=82,SNR=32
HEC Hector,Ludlow 82.00 48 ⇓P P 15 23 00.5 -0.1
baz=82,SNR=98
112A Yuma 82.01 51 ⇓P P 15 23 01.0 +0.3
baz=82
R06C Coleville 82.01 43 P P 15 23 01.1 +0.5
baz=82,SNR=95
R07C Lee Vining 82.02 44 ⇓P P 15 23 01.0 +0.4
baz=82,SNR=18
WHN Wuhan 82.05 307 ⇑P P 15 23 00.7 -0.2
WHN XP sP 15 26 07.3 -5.3
WHN S S 15 32 21.9 -3.8
WHN AMB AMB
comp=Z,311nm,1.7s,mb5.6
O04C Chester 82.05 41 P P 15 23 00.9 +0.3
baz=82,SNR=44
GLA Glamis 82.11 50 P P 15 23 01.7 +0.6
GLA pmax pmax
comp=Z,150nm,0.9s,mb5.5
GLA Glamis 82.11 50 P P 15 23 01.9 +0.7
baz=82,SNR=47
GLA Glamis 82.11 50⇑iP P 15 23 01.6 +0.5
comp=Z,151nm,0.9s,mb5.5
HATC Hat Creek Radi 82.12 40 ⇑P P 15 23 01.6 +0.5
baz=82,SNR=28
K02A Glendale 82.13 38 ⇑P P 15 23 01.3 +0.2
baz=82
KDAK Kodiak Island 82.17 14 P P 15 23 00.1 -0.7
comp=Z,48nm,1.1s,mb4.9,baz=175,slow=3.0,SNR=9.8
BEKR Beckwourth 82.23 42 P P 15 23 01.8 +0.2
baz=82,SNR=61
S08C White Mtn Res 82.25 45 P P 15 23 02.4 +0.6
baz=82,SNR=212
WCN Washoe City 82.27 42 ⇑P P 15 23 02.2 +0.4
baz=82,SNR=38
LTIM Timbered Crate 82.32 40 P P 15 23 02.4 +0.4
HUMO Hull Mountain 82.33 38 ⇓P P 15 23 02.8 +0.7
baz=82,SNR=57
HUMO Hull Mountain 82.33 38⇑iP P 15 23 02.4 +0.3
comp=Z,170nm,1.1s,mb5.5
HUMO epP pP 15 25 12.6 +0.8
CN2 Changchun 82.37 323 eP P 15 23 02.5 +0.3
CN2 ePP PP 15 26 24.8 +1.4
CN2 eS S 15 32 30.3 +2.0
CN2 eSS SS 15 38 13.9 +5.1
CN2 AMB AMB
comp=Z,40nm,1.1s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
P06A Stead Airport, 82.40 42 ⇑P P 15 23 02.9 +0.5
baz=82,SNR=5.3
GMRC Granite Mounta 82.44 48 P P 15 23 02.9 +0.1
baz=82,SNR=57
ELFS Eagle Lake Fie 82.45 41 P P 15 23 03.2 +0.5
baz=82,SNR=23
J02A Umpqua 82.46 37 P P 15 23 03.2 +0.6
baz=82,SNR=17
IRM Iron Mountain 82.47 49 P P 15 23 03.2 +0.3
baz=82,SNR=95
M04C Macdoel 82.48 40 P P 15 23 03.4 +0.6
baz=82,SNR=42
GRAC Grapevine Rang 82.50 45 P P 15 23 03.3 +0.3
baz=82,SNR=102
FURC Furnace Creek, 82.54 46 ⇑P P 15 23 03.0 -0.3
baz=82,SNR=40
TUQ Turquoise Mtn. 82.61 47 P P 15 23 03.8 +0.2
baz=83,SNR=69
SHOC Shoshone 82.62 47 ⇑P P 15 23 03.4 -0.2
baz=83,SNR=8.8
M05C Lookout 82.64 40 P P 15 23 04.0 +0.4
baz=83,SNR=56
KULM Kulim 82.64 279 ⇓P P 15 23 05.6 +1.3
Q07A Schurz 82.66 43 ⇑P P 15 23 04.0 +0.2
baz=83
Y12C Blythe 82.69 50 ⇓P P 15 23 04.4 +0.3
baz=83,SNR=17
L04A Klamath Falls 82.69 39 P P 15 23 04.3 +0.4
baz=83,SNR=34
NVAR Mina Array Bea 82.69 44 P P 15 23 04.1 +0.1
comp=Z,56nm,0.9s,mb5.1,baz=225,slow=8.3,SNR=346
NVAR pP pP 15 25 14.2 +0.3
comp=Z,3.1nm,1.0s,baz=230,slow=5.6,SNR=4.6
NVAR PP PP 15 26 23.4 -2.7
comp=Z,2.2nm,0.9s,baz=230,slow=9.5,SNR=3.8
NVAR PKKPbc PKKPbc 15 41 25.2 +0.8
comp=Z,0.6nm,0.6s,baz=77,slow=2.8,SNR=4.6
NVAR Mina Array Bea 82.69 44 P P 15 23 04.1 +0.1
NVAR pP pP 15 25 14.2 +0.3
NVAR PP PP 15 26 23.4 -2.7
NVAR PKKPbc PKKPbc 15 41 25.2 +0.8
I02A Mapleton 82.72 37 P P 15 23 04.6 +0.7
baz=83,SNR=13
113A Mohawk Valley, 82.72 51 P P 15 23 04.6 +0.4
baz=83,SNR=26
O06A Flanigan 82.73 42 P P 15 23 04.3 +0.2
baz=83,SNR=85
PAHR Pah Rah Range 82.74 42⇑iP P 15 23 03.9 -0.2
comp=Z,130nm,1.0s,mb5.4
PAHR epP pP 15 25 14.5 +0.4
R08A Mina 82.78 44 ⇑P P 15 23 04.4 0.0
baz=83,SNR=11
KLR Kul'dur 82.80 330 eP P 15 23 00.0 -4.2
HOG Hogback Mounta 82.84 39 P P 15 23 05.2 +0.6
U10A Ash Meadows, A 82.87 46 P P 15 23 05.3 +0.4
baz=83,SNR=53
M06C Likely Place G 82.95 41 P P 15 23 05.6 +0.4
baz=83,SNR=44
P07A Fallon 82.96 43 ⇓P P 15 23 05.4 +0.1
baz=83
LDFC Landfair 82.98 48⇑iP P 15 23 05.8 +0.3
comp=Z,222nm,0.9s,mb5.7
LDFC epP pP 15 25 16.2 +0.6
LDFC esP sP 15 26 21.6 +4.1
214A Organ Pipe Nat 82.99 52 P P 15 23 06.2 +0.6
baz=83,SNR=39
S09A Goldfield 83.00 45 P P 15 23 05.2 -0.3
baz=83,SNR=44
I03A Eugene 83.01 37 P P 15 23 05.8 +0.5
baz=83,SNR=10.0
H02A Toledo 83.05 36 ⇑P P 15 23 06.4 +0.8
baz=83
K04A Chilquin 83.05 39 ⇑P P 15 23 06.0 +0.4
baz=83
TIA Tai'an 83.05 313 ⇑P P 15 23 06.2 +0.4
TIA AMB AMB
comp=Z,85nm,1.2s,mb5.2
N06A Buffalo Meadow 83.07 41 P P 15 23 06.0 +0.2
baz=83,SNR=40
NEE2 Needles Airpor 83.16 49 ⇑P P 15 23 06.2 -0.2
baz=83
V11A Goodsprings 83.17 47 ⇑P P 15 23 06.5 +0.1
baz=83,SNR=8.1
Q08A Gabbs 83.18 44 P P 15 23 06.3 0.0
baz=83,SNR=29
TPH Tonopah 83.20 45⇑iP P 15 23 06.3 -0.2
TPH pmax pmax
comp=Z,111nm,1.0s,mb5.3
TPH Tonopah 83.20 45⇑iP P 15 23 06.3 -0.2
comp=Z,111nm,1.0s,mb5.3
TPH epP pP 15 25 18.4 +1.8
J04A Umpqua Nationa 83.22 38 ⇑P P 15 23 07.1 +0.7
baz=83
Y13A Salome 83.22 50 P P 15 23 07.3 +0.7
baz=83,SNR=90
TPNV Topopah Spring 83.22 46 ⇑P P 15 23 06.6 0.0
baz=83
L05A Lakeview 83.24 40 P P 15 23 07.3 +0.8
baz=83,SNR=59
PDMCI Parker Dam,Lak 83.25 49 ⇓P P 15 23 07.0 +0.1
baz=83,SNR=29
W12A Cal Nev Ari 83.27 48 ⇓P P 15 23 07.0 +0.1
baz=83,SNR=11
O07A Toulon 83.32 42 ⇑P P 15 23 07.0 0.0
baz=83,SNR=86
COR Corvallis 83.38 37 P P 15 23 07.7 +0.5
COR pmax pmax
comp=Z,46nm,0.8s,mb5.1
COR Corvallis 83.38 37⇑eP P 15 23 07.6 +0.4
comp=Z,46nm,0.8s,mb5.1
I04A Tendick Farm, 83.39 38 P P 15 23 07.3 0.0
baz=83,SNR=26
R09A Tonopah 83.39 45 ⇑P P 15 23 07.3 -0.1
baz=83,SNR=81
H03A Soap Creek Ran 83.44 37 ⇑P P 15 23 07.9 +0.4
baz=84,SNR=18
MOD Modoc 83.47 40 P P 15 23 08.0 +0.3
baz=84,SNR=43
MOD Modoc 83.47 40⇓iP P 15 23 07.7 0.0
comp=Z,130nm,1.1s,mb5.4
MOD epP pP 15 25 16.6 -1.4
V12A Nelson 83.51 48 ⇓P P 15 23 08.1 0.0
baz=84,SNR=24
U11A Corn Creek 83.52 47 ⇓P P 15 23 08.2 +0.1
baz=84,SNR=6.4
S10A Tonopah Range, 83.52 45 P P 15 23 08.1 0.0
baz=84,SNR=214
HEBO Mount Hebo 83.53 36⇑eP P 15 23 08.3 +0.4
comp=Z,272nm,1.4s,mb5.6
P08A Dixie Valley 83.56 43 ⇑P P 15 23 08.5 +0.3
baz=84,SNR=7.3
K05A Summer Lake 83.61 39 P P 15 23 09.1 +0.7
baz=84,SNR=80
Z14A Wintersburg 83.61 51 ⇓P P 15 23 09.1 +0.4
baz=84,SNR=14
X13A Yucca 83.62 49 P P 15 23 08.9 +0.3
baz=84,SNR=79
N07B Gerlach 83.62 42 ⇑P P 15 23 08.4 -0.1
baz=84
Q09A Carvers 83.65 44 ⇓P P 15 23 08.6 -0.1
baz=84,SNR=31
J05A Fort Rock 83.75 39 P P 15 23 09.7 +0.6
baz=84,SNR=140
W13A Hualapai Mount 83.84 49 P P 15 23 10.1 +0.4
baz=84,SNR=60
G03A Yamhill 83.85 36 ⇑P P 15 23 09.7 +0.2
baz=84,SNR=6.0
O08A Rochester Mine 83.85 42 ⇑P P 15 23 09.7 0.0
baz=84
M07A Soldier Meadow 83.85 41 P P 15 23 10.0 +0.4
baz=84,SNR=43
Y14A Wickenburg 83.87 50 P P 15 23 10.1 +0.2
baz=84,SNR=44
R10A Warm Springs 83.92 45 P P 15 23 10.4 +0.4
baz=84,SNR=38
S11A Rachel 83.93 46 P P 15 23 10.1 0.0
baz=84,SNR=14
USHA Ushuaia 83.94 147 P P 15 23 11.5 +1.6
comp=Z,10nm,0.8s,mb4.4,baz=271,slow=8.2,SNR=5.1
216A Three Points, 84.01 52 P P 15 23 11.5 +0.9
baz=84,SNR=38
K06A Valley Falls 84.03 39 P P 15 23 10.9 +0.4
baz=84,SNR=106
H04A Detroit Lake 84.06 37 P P 15 23 10.3 -0.2
baz=84,SNR=33
T11A Corn Creek, Al 84.07 46 P P 15 23 11.1 +0.3
baz=84,SNR=76
P09A Austin 84.08 43 ⇑P P 15 23 10.6 -0.1
baz=84
F03A Seaside 84.08 35 ⇓P P 15 23 10.8 +0.2
baz=84,SNR=6.6
U12A Valley of Fire 84.10 47 P P 15 23 11.3 +0.4
baz=84,SNR=29
116A Eloy 84.11 52 P P 15 23 11.7 +0.6
baz=84,SNR=34
L07A Adell 84.12 40 P P 15 23 11.4 +0.5
baz=84,SNR=85
T12A Moapa 84.13 47 ⇑P P 15 23 11.1 0.0
baz=84,SNR=6.0
N08A GE Springer Mi 84.14 42 ⇓P P 15 23 11.1 0.0
baz=84,SNR=34
Z15A Gila River Ind 84.14 51 ⇓P P 15 23 11.2 0.0
baz=84
Q10A Clear Creek Ra 84.15 44 P P 15 23 11.1 -0.1
baz=84,SNR=21
V13A Grand Canyon W 84.17 48 P P 15 23 11.4 +0.1
baz=84,SNR=64
X14A Yava 84.22 50 P P 15 23 12.1 +0.5
baz=84,SNR=34
I05A Bend 84.26 38 ⇓P P 15 23 11.9 +0.4
baz=84,SNR=9.3
Y15A Casa Rosa Ranc 84.35 50 ⇓P P 15 23 12.5 +0.3
baz=84,SNR=65
J06A Christmas Vall 84.36 39 ⇓P P 15 23 11.9 -0.1
baz=84,SNR=81
217A Green Valley 84.37 53 P P 15 23 13.3 +0.9
baz=84,SNR=115
M08A Happy Creek Ra 84.37 41 P P 15 23 12.6 +0.5
baz=84,SNR=45
O09A Fish Creek Ran 84.39 43 P P 15 23 12.3 0.0
baz=84,SNR=35
R11A Troy Canyon, C 84.42 45 P P 15 23 12.1 -0.4
baz=84,SNR=30

W14A	Seligman	84.47	49	P	P	15 23 13.5 +0.7
	baz=84,SNR=63					
E03A	Lebam	84.47	35	⇓P	P	15 23 12.8 +0.3
	baz=84,SNR=17					
U13A	Pakoon Wash	84.48	47	P	P	15 23 13.2 +0.4
	baz=84,SNR=81					
MA2	Magadan	84.48	345	⇑iP	P	15 23 10.7 -1.5
MA2				eS	S	15 32 43.8 -4.4
MA2				pmax	pmax	
	comp=Z,66nm,1.4s,mb5.0					
MA2	Magadan	84.48	345	⇑eP	P	15 23 10.2 -2.1
	comp=Z,48nm,1.3s,mb4.9					
S12A	Delamar Landin	84.51	46	⇓P	P	15 23 13.3 +0.3
	baz=84,SNR=18					
BMN	Battle Mountai	84.52	43	⇑iP	P	15 23 12.6 -0.3
BMN				e*PP	pP	15 25 22.6 -1.0
BMN				pmax	pmax	
	comp=Z,55nm,0.8s,mb5.2					
BMN	Battle Mountai	84.52	43	⇑iP	P	15 23 12.6 -0.3
	comp=Z,55nm,0.8s,mb5.2					
BMN				epP	pP	15 25 22.6 -1.0
P10A	Eureka	84.55	44	⇓P	P	15 23 13.0 -0.1
	baz=85,SNR=9.5					
N09A	Rock Creek Ran	84.56	42	P	P	15 23 13.3 +0.2
	baz=85,SNR=24					
K07A	Rock Creek Ran	84.57	40	P	P	15 23 13.5 +0.4
	baz=85,SNR=73					
SVW2	Sparrevohn	84.60	11	eP	P	15 23 11.3 -1.5
BMW	Boistfort Moun	84.61	35	P	P	15 23 13.3 +0.1
BMW	Boistfort Moun	84.61	35	⇑eP	P	15 23 13.0 -0.2
Q11A	Duckwater	84.65	45	P	P	15 23 13.4 -0.2
	baz=85,SNR=67					
TUC	Tucson	84.66	52	⇑iP	P	15 23 14.2 +0.4
TUC				e*PP	pP	15 25 23.5 -1.1
TUC				pmax	pmax	
	comp=Z,75nm,1.0s,mb5.3					
TUC	Tucson	84.66	52	⇑iP	P	15 23 14.2 +0.4
	comp=Z,75nm,1.0s,mb5.3					
TUC				epP	pP	15 25 23.5 -1.0
V14A	Boquillas Ranc	84.67	49	P	P	15 23 14.3 +0.5
	baz=85,SNR=96					
X15A	Humboldt	84.69	50	P	P	15 23 14.5 +0.6
	baz=85,SNR=34					
Z16A	Peralta Trail,	84.70	51	⇑P	P	15 23 14.2 +0.3
	baz=85					
F04A	Amboy	84.71	36	P	P	15 23 13.4 -0.2
	baz=85,SNR=17					
D03A	Wishkah Elem.	84.72	34	P	P	15 23 14.5 +0.8
	baz=85,SNR=6.7					
I06A	Prineville	84.74	39	P	P	15 23 14.6 +0.7
	baz=85,SNR=97					
HOOD	Mount Hood Mea	84.75	37	eP	P	15 23 13.6 -0.3
	comp=Z,192nm,1.6s,mb5.5					
WVOR	Wild Horse Val	84.78	40	⇑iP	P	15 23 14.0 -0.1
WVOR				e*PP	pP	15 25 23.9 -1.1
WVOR				e		15 26 37.9
WVOR				pmax	pmax	
	comp=Z,89nm,1.1s,mb5.3					
WVOR	Wild Horse Val	84.78	40	⇑iP	P	15 23 14.0 -0.2
	comp=Z,89nm,1.1s,mb5.3					
WVOR				epP	pP	15 25 23.9 -1.1
WVOR				ePP	PP	15 26 37.9 -4.9
117A	Oracle	84.82	52	P	P	15 23 15.3 +0.8
	baz=85,SNR=56					
L08A	Fields	84.82	41	P	P	15 23 14.7 +0.3
	baz=85,SNR=123					
318A	Bisbee	84.82	53	P	P	15 23 15.6 +0.9
	baz=85,SNR=133					
T13A	Saint George	84.84	47	P	P	15 23 14.8 +0.3
	baz=85,SNR=10					
VIPM	Ingram Point	84.84	38	P	P	15 23 14.7 +0.3
C03A	Quillayute Air	84.84	33	P	P	15 23 15.2 +0.9
	baz=85,SNR=6.7					
NLWA	Neilton Lookou	84.85	34	⇑P	P	15 23 14.7 +0.4
	baz=85					
NLWA	Neilton Lookou	84.85	34	⇑iP	P	15 23 14.4 +0.1
	comp=Z,86nm,1.0s,mb5.3					
G05A	Wamic	84.89	37	P	P	15 23 14.7 +0.1
	baz=85,SNR=8.1					
O10A	Cortez Mining,	84.90	43	P	P	15 23 14.9 +0.1
	baz=85,SNR=15					
OOW	Octopus West	84.90	34	P	P	15 23 15.4 +0.8
J07A	Hines	84.93	39	⇓P	P	15 23 15.1 +0.3
	baz=85,SNR=16					
Y16A	Circle Bar Ran	84.93	51	P	P	15 23 15.7 +0.6
	baz=85,SNR=71					
M09A	Marrel Ranch,	84.93	42	⇓P	P	15 23 15.3 +0.4
	baz=85,SNR=17					
E04A	Onalaska	84.95	35	⇑P	P	15 23 15.1 +0.3
	baz=85					
P11A	Circle Ranch,	84.97	44	⇑P	P	15 23 15.1 0.0
	baz=85,SNR=15					
SEW	Seward	84.97	15	eP	P	15 23 13.0 -1.6
U14A	Mt Trumbull	85.02	48	P	P	15 23 16.1 +0.6
	baz=85,SNR=110					
W15A	Williams	85.02	49	P	P	15 23 16.2 +0.7
	baz=85,SNR=8.3					
218A	Dragoon	85.04	53	P	P	15 23 16.6 +0.9
	baz=85,SNR=142					
K08A	Mann Creek Ran	85.05	40	P	P	15 23 15.8 +0.4
	baz=85,SNR=116					
R12A	Pony Springs,	85.06	46	⇓P	P	15 23 15.8 +0.2
	baz=85,SNR=5.7					
N10A	Dunphy	85.13	43	⇓P	P	15 23 15.9 +0.1
	baz=85					
L09A	Wilkinson Ranc	85.14	41	⇑P	P	15 23 15.9 +0.1
	baz=85					
H06A	Lindquist Farm	85.14	38	P	P	15 23 15.9 +0.1
	baz=85,SNR=104					
SLKM	Skilak Lake	85.16	14	eP	P	15 23 14.2 -1.3
SLKM				epP	pP	15 25 26.9 +0.4
S13A	Holt Ranch, En	85.16	47	P	P	15 23 16.5 +0.4
	baz=85,SNR=22					
F05A	White Salmon	85.20	36	P	P	15 23 16.1 +0.1
	baz=85,SNR=9.9					
X16A	Lo Mia Camp, P	85.23	50	P	P	15 23 17.0 +0.5
	baz=85,SNR=38					
I07A	Izee	85.23	39	P	P	15 23 16.7 +0.4
	baz=85,SNR=65					
D04A	Dobbs Creek Ra	85.23	35	⇓P	P	15 23 16.7 +0.5
	baz=85					
Q12A	Willow Creek R	85.29	45	P	P	15 23 16.7 0.0
	baz=85,SNR=30					
Y17A	Roosevelt	85.30	51	P	P	15 23 17.2 +0.4
	baz=85,SNR=23					
319A	Douglas	85.33	54	P	P	15 23 18.1 +1.0
	baz=85,SNR=76					
O11A	Cowboy Ranch,	85.35	44	P	P	15 23 17.1 +0.2
	baz=85,SNR=21					
Z17A	San Carlos Hig	85.37	52	⇑P	P	15 23 17.7 +0.5
	baz=85					
SYO	Syowa Base	85.39	193	⇑iP	P	15 23 15.1 -1.6
R13A	O'Grain Ranch,	85.41	46	P	P	15 23 17.7 +0.4
	baz=85,SNR=21					
V15A	Kaibab Nationa	85.41	49	P	P	15 23 18.1 +0.7
	baz=85,SNR=60					
J08A	Circle Bar Ran	85.42	40	P	P	15 23 17.4 +0.2
	baz=85,SNR=24					
T14A	Hurricane	85.42	47	P	P	15 23 17.7 +0.4
	baz=85,SNR=13					
118A	Homack Ranch,	85.42	52	P	P	15 23 18.2 +0.8
	baz=85,SNR=80					
E05A	Randle	85.45	36	⇑P	P	15 23 17.0 -0.2
	baz=86,SNR=11					
B04A	Port Angeles	85.46	34	⇓P	P	15 23 17.6 +0.3
	baz=86,SNR=6.6					
P12A	McGill	85.47	44	⇑P	P	15 23 17.6 0.0
	baz=86,SNR=30					
CCUT	Cedar City	85.48	47	⇑iP	P	15 23 21.7 +4.0
CCUT				epP	pP	15 25 33.1 +4.3
K09A	Rome	85.49	41	P	P	15 23 17.8 +0.2
	baz=86,SNR=110					
H07A	Lands Inn, Kim	85.50	38	⇓P	P	15 23 17.6 +0.1
	baz=86,SNR=104					
W16A	Flagstaff	85.50	50	⇓P	P	15 23 18.2 +0.4
	baz=86,SNR=22					
GNW	Green Mountain	85.51	35	P	P	15 23 17.5 0.0
F06A	Goldendale	85.51	37	⇑P	P	15 23 17.6 +0.1
	baz=86,SNR=11					
C04A	Brinnon	85.53	34	P	P	15 23 17.9 +0.3
	baz=86,SNR=16					
M10A	I.L. Ranch, Tu	85.55	42	P	P	15 23 18.4 +0.5
	baz=86,SNR=49					
ARUT	Antelope Range	85.56	47	eP	P	15 23 17.9 -0.1
ARUT				e*PP	pP	15 25 30.0 +0.9
Z18A	Geronimo	85.59	52	⇓P	P	15 23 18.7 +0.5
	baz=86					
219A	White Tail Can	85.64	53	P	P	15 23 19.2 +0.7
	baz=86,SNR=73					
U15A	North Rim	85.64	48	⇑P	P	15 23 19.1 +0.7
	baz=86,SNR=194					
X17A	Forest Lakes	85.64	51	P	P	15 23 19.3 +0.8
	baz=86,SNR=22					
N11A	Elko Archery C	85.67	43	⇓P	P	15 23 18.4 0.0
	baz=86					
I08A	Drewsey	85.68	39	P	P	15 23 18.6 +0.2
	baz=86,SNR=71					
D05A	Enumclaw	85.72	35	⇑P	P	15 23 18.8 +0.3
	baz=86,SNR=25					
S14A	Cedar City	85.72	47	⇓P	P	15 23 19.0 +0.3
	baz=86					
BJT	Baijiatuau	85.75	316	eP	P	15 23 18.9 +0.1
BJT				pmax	pmax	
	comp=Z,12nm,0.6s					
BJT	Baijiatuau	85.75	316	eP	P	15 23 18.9 +0.1
	comp=Z,12nm,0.6s,mb4.7					
BJI	Beijing	85.75	316	P	P	15 23 19.2 +0.4
BJI				AP	pP	15 25 29.1 -1.0
BJI				XP	sP	15 26 30.6 -1.2
BJI				PP	PP	15 26 50.0 -0.5
BJI				S	S	15 33 04.4 +3.1
BJI				XS	sS	15 36 53.6 -1.5
BJI				SS	SS	15 38 58.6 +0.5
BJI				AMB	AMB	
	comp=Z,39nm,1.4s,mb4.8					
BJI				AMB	AMB	
	comp=Z,304nm,4.6s					
Q13A	Wheeler Ranch,	85.78	45	⇑P	P	15 23 18.8 -0.2
	baz=86,SNR=7.0					
RC01	Rabbit Creek A	85.78	14	⇑iP	P	15 23 17.1 -1.3
	comp=Z,128nm,1.2s,mb5.4					
WUAZ	Wupatki	85.82	49	⇑P	P	15 23 19.6 +0.3
	baz=86					
WUAZ	Wupatki	85.82	49	⇑iP	P	15 23 19.2 -0.1
	comp=Z,59nm,1.0s,mb5.2					
WUAZ				epP	pP	15 25 29.7 -0.9
G07A	Ruggs Ranch, H	85.84	38	P	P	15 23 19.1 0.0
	baz=86,SNR=51					
J09A	Fry Pan Ranch,	85.84	40	P	P	15 23 19.5 +0.3
	baz=86,SNR=53					
PGC	Sidney	85.87	33	⇑iP	P	15 23 18.8 -0.3
	comp=Z,324nm,1.4s,mb5.8					
E06A	Yakima	85.87	36	P	P	15 23 19.4 +0.2
	baz=86,SNR=44					
T15A	Red Dirt Ranch	85.88	48	P	P	15 23 20.1 +0.5
	baz=86,SNR=23					
L10A	Juniper Basin	85.91	42	⇑P	P	15 23 19.7 +0.2
	baz=86,SNR=45					
Y18A	Canyon Day Jun	85.93	51	P	P	15 23 20.7 +0.9
	baz=86,SNR=28					
ELK	Elko	85.95	43	⇑iP	P	15 23 19.3 -0.4
ELK				e*PP	pP	15 25 31.6 +0.5
ELK				e		15 26 47.1
ELK				pmax	pmax	
	comp=Z,41nm,1.0s					
ELK	Elko	85.95	43	⇑iP	P	15 23 19.3 -0.4
	comp=Z,41nm,1.0s,mb5.0					
ELK				epP	pP	15 25 31.6 +0.5
ELK				ePP	PP	15 26 47.1 -4.9
M11A	Holland Ranch,	85.97	42	⇑P	P	15 23 20.2 +0.4
	baz=86,SNR=18					
H08A	Prairie City	85.97	39	P	P	15 23 19.8 0.0
	baz=86,SNR=40					
119A	Ashpeak Ranch,	85.97	53	⇓P	P	15 23 20.7 +0.6
	baz=86,SNR=37					
O12A	Currie	86.01	44	⇓P	P	15 23 19.9 -0.1
	baz=86,SNR=35					
P13A	Bates Ranch, G	86.05	45	⇓P	P	15 23 20.3 0.0
	baz=86,SNR=44					
K10A	MacKenzie Ranc	86.05	41	⇑P	P	15 23 20.4 +0.2
	baz=86					
GYA	Guiyang	86.06	300	⇑iP	P	15 23 21.2 +0.6
GYA				AP	pP	15 25 32.6 +0.6
GYA				XP	sP	15 26 33.0 -0.7
GYA				PP	PP	15 26 55.8 +2.6
GYA				SKS		15 32 47.6
GYA				S	S	15 33 04.8 0.0
GYA				PS		15 35 31.4
GYA				XS	sS	15 36 56.2 -2.6
GYA				AMB	AMB	
	comp=Z,40nm,1.0s,mb5.0					
GYA				AMB	AMB	
	comp=Z,160nm,6.0s					
F07A	Phinny Hill Vi	86.06	37	⇓P	P	15 23 20.1 0.0
	baz=86,SNR=6.9					
W17A	Winslow	86.07	50	⇑P	P	15 23 20.9 +0.4
	baz=86,SNR=5.2					
R14A	James Farms, M	86.10	46	⇑P	P	15 23 20.7 +0.2
	baz=86					
N12A	Clover Valley,	86.13	43	⇓P	P	15 23 20.6 0.0
	baz=86,SNR=29					
C05A	Tolt Reservoir	86.19	35	⇑P	P	15 23 20.6 -0.1
	baz=86,SNR=26					
I09A	Lost Marbles R	86.20	40	P	P	15 23 20.8 0.0
	baz=86,SNR=39					
CRAG	Craig	86.22	24	eP	P	15 23 21.3 +0.6
	comp=Z,71nm,1.0s,mb5.2					
TTA	Tatalina	86.23	10	eP	P	15 23 20.0 -0.5
S15A	Panguitch	86.23	47	P	P	15 23 22.4 +1.2
	baz=86,SNR=14					
Z19A	T-Link Ranch,	86.25	52	⇑P	P	15 23 21.9 +0.5
	baz=86,SNR=9.1					
G08A	Pilot Rock	86.26	38	P	P	15 23 21.3 +0.2
	baz=86,SNR=151					
EYAK	Cordova Ski Ar	86.27	16	⇑iP	P	15 23 19.6 -1.2
	comp=Z,75nm,0.9s,mb5.3					
Q14A	Sevier Lake (B	86.29	46	P	P	15 23 21.7 +0.3
	baz=86,SNR=93					
A04A	Legoe Bay, Lum	86.29	34	⇓P	P	15 23 21.5 +0.3
	baz=86,SNR=44					
U16A	Tuba City	86.31	49	⇑P	P	15 23 22.0 +0.4
	baz=86,SNR=21					
B05A	Bryant	86.33	34	⇓P	P	15 23 21.4 0.0
	baz=86,SNR=16					
D06A	Cle Elum	86.34	36	P	P	15 23 21.7 +0.3
	baz=86,SNR=25					
X18A	Snowflake	86.35	51	⇓P	P	15 23 22.2 +0.4
	baz=86,SNR=18					
PMR	Palmer	86.37	14	eP	P	15 23 19.9 -1.3
PMR				pmax	pmax	
	comp=Z,42nm,0.7s,mb5.2					
PMR	Palmer	86.37	14	eP	P	15 23 19.9 -1.3
	comp=Z,42nm,0.7s,mb5.2					
JCW	Jim Creek	86.37	34	eP	P	15 23 21.3 -0.2
JCW				epP	pP	15 25 33.0 -0.1
JCW				ePP	PP	15 26 50.5 -4.6
L11A	Cat Creek Ranc	86.40	42	P	P	15 23 22.2 +0.4
	baz=86,SNR=63					
RAGM	Ragged Mountai	86.41	16	⇑iP	P	15 23 20.5 -0.9
O13A	Hicks Ranch, I	86.43	44	⇓P	P	15 23 22.1 +0.1
	baz=86,SNR=8.0					
T16A	Glen Canyon Da	86.47	48	P	P	15 23 22.9 +0.6
	baz=86,SNR=22					
J10A	Berg Farm, Mel	86.48	40	⇑P	P	15 23 22.1 -0.1
	baz=86,SNR=11					
E07A	Sunnyside	86.50	37	⇑P	P	15 23 22.5 +0.3
	baz=86,SNR=19					
M12A	Wells	86.52	43	P	P	15 23 22.7 +0.3
	baz=86,SNR=24					
RSW	Rattlesnake Hi	86.55	37	eP	P	15 23 22.5 0.0
RSW				epP	pP	15 25 28.8 -5.2
K11A	Parker Ranch,	86.56	41	P	P	15 23 22.9 +0.3
	baz=87,SNR=44					
R15A	Junction	86.56	47	⇓P	P	15 23 23.4 +0.7
	baz=87					
HAWA	Hanford	86.58	37	⇑iP	P	15 23 22.4 -0.2
	comp=Z,143nm,0.9s,mb5.7					
HAWA				epP	pP	15 25 32.6 -1.6
Y19A	Nutrioso	86.58	52	P	P	15 23 23.9 +1.0
	baz=87,SNR=48					
SIT	Sitka	86.60	22	P	P	15 23 22.7 +0.3
SIT				pmax	pmax	
	comp=Z,100nm,1.4s,mb5.3					
SIT	Sitka	86.60	22	eP	P	15 23 22.5 +0.1
	comp=Z,79nm,1.3s,mb5.3					
H09A	Durkee	86.64	39	P	P	15 23 23.1 +0.2
	baz=87,SNR=43					
F08A	Pendleton	86.66	38	⇑P	P	15 23 22.9 0.0
	baz=87,SNR=25					
N13A	Wendover, West	86.67	44	⇓P	P	15 23 23.2 +0.1
	baz=87,SNR=8.5					
P14A	Drum Mountains	86.74	45	P	P	15 23 23.5 0.0
	baz=87,SNR=13					
RPW	Rockport	86.75	34	eP	P	15 23 22.7 -0.6
C06A	Tall Timber Ra	86.75	35	⇓P	P	15 23 23.0 -0.4
	baz=87,SNR=5.2					
DIV	Divide	86.76	16	⇑iP	P	15 23 21.8 -1.3
	comp=Z,81nm,0.9s,mb5.5					
DIV				epP	pP	15 25 34.2 -0.6
X19A	St. Johns	86.78	51	⇑P	P	15 23 24.2 +0.3
	baz=87,SNR=18					
MSU	Marysvale	86.78	46	eP	P	15 23 23.8 +0.1
MSU				epP	pP	15 25 36.5 +1.1
MSU				ePP	PP	15 26 55.4 -3.2
A05A	Maple Falls	86.79	34	⇑P	P	15 23 22.9 -0.6
	baz=87,SNR=8.8					
W18A	Petrified Fore	86.79	50	⇑P	P	15 23 24.0 +0.1
	baz=87,SNR=14					
B06A	Marblemount	86.80	34	⇑P	P	15 23 23.0 -0.6
	baz=87,SNR=15					
I10A	Payette	86.83	40	⇓P	P	15 23 24.3 +0.5
	baz=87,SNR=9.8					
L12A	House Creek Ra	86.85	42	P	P	15 23 24.4 +0.4
	baz=87,SNR=34					
U17A	Shonto	86.86	49	⇑P	P	15 23 24.6 +0.4
	baz=87,SNR=29					
ETW	Entiat	86.86	36	eP	P	15 23 23.8 -0.1
ETW				epP	pP	15 25 34.6 -1.1
ETW				ePP	PP	15 26 54.2 -4.9
PPLA	Purkeypile	86.89	12	⇑eP	P	15 23 20.8 -2.9
	comp=Z,23nm,1.1s,mb4.8					
PPLA				e		15 23 49.9
Q15A	Fillmore	86.90	46	⇑P	P	15 23 24.4 +0.1
	baz=87,SNR=17					
E08A	Dider Farm, El	86.90	37	⇓P	P	15 23 24.1 +0.1
	baz=87,SNR=19					
BMRM	Bremner River	86.92	16	⇑iP	P	15 23 22.7 -1.1
G09A	Cove	86.93	38	⇑P	P	15 23 24.2 0.0
	baz=87					
V18A	Ganado	86.94	50	⇓P	P	15 23 24.7 +0.1
	baz=87,SNR=19					
T17A	Navajo Res., N	86.96	48	⇑P	P	15 23 25.2 +0.6
	baz=87					
BMO	Blue Mountains	86.96	39	⇑iP	P	15 23 23.7 -0.7
BMO				e*PP	pP	15 25 34.9 -1.3
BMO				pmax	pmax	
	comp=Z,72nm,1.0s,mb5.4					
BMO	Blue Mountains	86.96	39	⇑iP	P	15 23 23.7 -0.7
	comp=Z,72nm,1.0s,mb5.3					
BMO				epP	pP	15 25 34.9 -1.3
BMO				ePP	PP	15 26 56.2 -3.7
SNAA	Sanae	86.97	179	eP	P	15 23 23.5 -0.6
SNAA				e		15 23 24.9
SNAA				e	pP	15 25 38.1 +2.4
SNAA				e		15 25 42.2
SNAA	Sanae	86.97	179	eP	P	15 23 23.6 -0.5
SNAA				e*PP	pP	15 25 35.5 -0.2
SNAA				pmax	pmax	
	comp=Z,4.0nm,0.4s					
SNAA	Sanae	86.97	179	eP	P	15 23 23.6 -0.5
	comp=Z,4.0nm,0.4s,mb4.5					
SNAA				epP	pP	15 25 35.5 -0.2
LNOR	Lincton Mounta	86.98	38	P	P	15 23 24.2 -0.3
LNOR	Lincton Mounta	86.98	38	eP	P	15 23 23.8 -0.7
W19A	Sanders	87.04	50	⇑P	P	15 23 25.3 +0.3
	baz=87,SNR=29					
MFID	Camas Ranch	87.04	41	⇑P	P	15 23 25.0 +0.2
	baz=87,SNR=74					
C07A	Waterville	87.06	36	⇓P	P	15 23 24.5 -0.3
	baz=87,SNR=21					
F09A	S2 Ranch, Elgi	87.10	38	⇓P	P	15 23 25.1 0.0
	baz=87,SNR=30					
WTV	Waterville	87.12	36	P	P	15 23 24.9 -0.2
SEY	Seymchan	87.13	347	⇑eP	P	15 23 24.3 -0.5
H10A	Noah's Angus R	87.14	39	⇑P	P	15 23 24.9 -0.3
	baz=87,SNR=97					
A06A	Chilliwack	87.16	34	⇓P	P	15 23 25.0 -0.2
	baz=87,SNR=14					
K12A	Draper Farm, C	87.18	42	P	P	15 23 25.8 +0.2
	baz=87,SNR=42					
DHAK	Deception Hill	87.22	20	⇑eP	P	15 23 24.1 -1.1
WRAK	Wrangell Islan	87.22	24	⇑iP	P	15 23 25.1 -0.2
	comp=Z,108nm,1.1s,mb5.5					
DUG	Dugway	87.22	45	⇑iP	P	15 23 24.8 -1.0
DUG				e		15 26 56.6
DUG				pmax	pmax	
	comp=Z,83nm,1.8s,mb5.2					
DUG	Dugway	87.22	45	⇓P	P	15 23 25.4 -0.3
	baz=87					
DUG	Dugway	87.22	45	⇑iP	P	15 23 24.8 -1.0
	comp=Z,83nm,1.8s,mb5.2					
DUG				epP	pP	15 25 37.8 +0.1
DUG				ePP	PP	15 26 56.6 -5.5
I11A	Placerville	87.24	40	P	P	15 23 25.9 +0.2
	baz=87,SNR=51					
P15A	Leamington	87.25	45	P	P	15 23 25.9 0.0
	baz=87,SNR=14					
S17A	Black Ridge (B	87.28	48	⇓P	P	15 23 25.7 -0.4
	baz=87					
PNL	Peninsula	87.31	19	⇑iP	P	15 23 24.9 -0.7
	comp=Z,133nm,1.0s,mb5.6					
D08A	Wollman Farm,	87.31	37	P	P	15 23 26.2 +0.2
	baz=87,SNR=65					
G10A	Bishop Farm, J	87.32	39	P	P	15 23 25.9 -0.1
	baz=87,SNR=80					
N14A	Grayback Hills	87.32	44	⇑P	P	15 23 25.9 -0.3
	baz=87					
U18A	Rough Rock, Ch	87.33	49	⇓P	P	15 23 26.4 +0.1
	baz=87,SNR=26					
E09A	Wood Farm, Sta	87.43	37	P	P	15 23 26.3 -0.3
	baz=87,SNR=45					
BGU	Big Grassy Mou	87.46	44	⇑iP	P	15 23 25.8 -1.0
L13A	Double Diamond	87.49	43	P	P	15 23 27.3 +0.4
	baz=88,SNR=26					
B07A	Winthrop	87.49	35	P	P	15 23 26.7 -0.1
	baz=88,SNR=83					
O15A	The Old Anders	87.49	45	⇑P	P	15 23 27.2 +0.1
	baz=88					
M14A	Sheep Mountain	87.56	43	P	P	15 23 27.4 +0.1
	baz=88,SNR=68					
V19A	Window Rock	87.57	50	⇓P	P	15 23 27.6 +0.1
	baz=88,SNR=5.3					
VNA2	Neumayer--Watz	87.58	177	eP	P	15 23 26.7 -0.2
VNA2				e		15 23 28.5
VNA2				e	pP	15 25 41.1 +2.3
VNA2				e		15 25 45.4
VNA2				e		15 41 09.7
VNA2				e		15 41 11.8
NLU	North Lily Min	87.59	45	⇑iP	P	15 23 27.4 -0.1
OD2	Odessa Site #2	87.62	36	P	P	15 23 27.3 -0.1
H11A	Donnelly	87.64	40	⇑P	P	15 23 27.5 -0.1
	baz=88,SNR=21					
F10A	Beach Ranch, E	87.64	38	P	P	15 23 27.1 -0.5
	baz=88,SNR=106					
D09A	Jones Farm, Ri	87.65	37	P	P	15 23 27.6 +0.1
	baz=88,SNR=88					
Q16A	Castle Valley	87.67	46	P	P	15 23 28.5 +0.7
	baz=88,SNR=51					
C08A	Higginbotham F	87.67	36	P	P	15 23 27.2 -0.5
	baz=88,SNR=41					
T18A	Mexican Hat	87.67	49	P	P	15 23 28.2 +0.3
	baz=88,SNR=153					
P16A	Fountain Green	87.69	46	⇑P	P	15 23 28.8 +0.8
	baz=88					
K13A	Stover Farm, H	87.70	42	P	P	15 23 28.5 +0.6
	baz=88,SNR=41					
A07A	Ashnola River,	87.70	34	P	P	15 23 27.9 +0.1
	baz=88,SNR=64					
R17A	Hanksville Air	87.73	47	P	P	15 23 28.2 0.0
	baz=88,SNR=47					
KTH	Kantishna Hill	87.74	12	⇑iP	P	15 23 25.4 -2.2
	comp=Z,70nm,0.9s,mb5.4					
XAN	Xi'an	87.76	308	P	P	15 23 29.4 +1.0
XAN				AP	pP	15 25 39.4 -1.1
XAN				XP	sP	15 26 37.9

VNA1 **Neumayer--Stat 87.81 177** *eP* **P 15 23 29.0 +1.0**
VNA1 *e* 15 23 30.4
VNA1 *e* pP 15 25 42.5 +2.5
VNA1 *e* 15 25 46.7
TMUT Trail Mountain 87.83 46⇑*iP* **P 15 23 29.2 +0.6**
TMUT *e*pP pP 15 25 41.5 +0.8
B08A Colville Reser 87.85 35 ⇓P P 15 23 27.9 -0.6
baz=88,SNR=74
S18A Hurst Farm, Bl 87.86 48 P P 15 23 28.8 -0.1
baz=88,SNR=16
G11A Walters Elk Ra 87.88 39 P P 15 23 28.4 -0.2
baz=88,SNR=218
L14A Malta 87.91 43 ⇓P P 15 23 29.0 +0.1
baz=88,SNR=28
MPU Maple Canyon 87.91 45⇑*eP* **P 15 23 28.9 -0.1**
comp=Z,111nm,1.5s,mb5.4
NOQ North Oquirrh 87.91 45⇑*eP* **P 15 23 28.5 -0.4**
comp=Z,35nm,0.8s,mb5.1
HLID Hailey 87.98 41 ⇓P P 15 23 29.8 +0.5
baz=88
HLID Hailey 87.98 41⇑*iP* **P 15 23 29.3 0.0**
comp=Z,75nm,0.9s,mb5.4
HLID *e*pP pP 15 25 40.8 -0.6
HLID *e*PP PP 15 27 02.6 -5.4
E10A Myers Farm, Un 88.00 38 ⇓P P 15 23 28.6 -0.6
baz=88,SNR=17
SPUT South Promonto 88.04 44⇑*iP* **P 15 23 29.0 -0.5**
J13A Cove Ranch, Pi 88.04 41 P P 15 23 30.2 +0.7
baz=88,SNR=57
HVU Hansel Valley 88.07 43⇑*iP* **P 15 23 29.4 -0.3**
HVU *e**PP pP 15 25 42.3 +0.4
HVU pmax pmax
comp=Z,74nm,0.9s,mb5.4
HVU Hansel Valley 88.07 43⇑*iP* **P 15 23 29.4 -0.3**
comp=Z,74nm,0.9s,mb5.4
HVU *e*pP pP 15 25 42.3 +0.5
HVU *e*PP PP 15 27 01.1 -7.7
O16A Springville 88.09 45 ⇓P P 15 23 29.9 +0.1
baz=88
C09A Chrisman Ranch 88.10 36 P P 15 23 29.5 -0.2
baz=88,SNR=24
M15A Larsen Ranch, 88.12 44 ⇑P P 15 23 29.8 -0.1
baz=88,SNR=14
T19A Beclabito 88.12 49 ⇓P P 15 23 29.8 -0.2
baz=88
CTU Camp Tracy 88.18 45⇑*eP* **P 15 23 29.8 -0.4**
comp=Z,81nm,1.1s,mb5.4
SRU San Rafael 88.20 47⇑*iP* **P 15 23 30.2 -0.1**
SRU *e**PP pP 15 25 41.6 -1.0
SRU pmax pmax
comp=Z,89nm,1.1s,mb5.4
SRU San Rafael 88.20 47 ⇓P P 15 23 30.4 0.0
baz=88
SRU San Rafael 88.20 47⇑*iP* **P 15 23 30.2 -0.1**
comp=Z,90nm,1.1s,mb5.4
SRU *e*pP pP 15 25 41.6 -1.0
F11A Grangeville 88.21 39 P P 15 23 28.9 -1.4
baz=88,SNR=29
K14A Jones Ranch, D 88.22 43 ⇓P P 15 23 30.6 +0.3
baz=88,SNR=30
BPAW Bear Paw Mtn. 88.22 12⇑*iP* **P 15 23 27.0 -2.8**
comp=Z,8.2nm,0.7s,mb4.6
D10A Wagner Farm, O 88.23 37 P P 15 23 29.9 -0.4
baz=88,SNR=61
P17A Butcher Ranch, 88.23 46 ⇓P P 15 23 30.6 +0.1
baz=88,SNR=21
A08A Turner Farm, O 88.24 35 P P 15 23 30.3 0.0
baz=88,SNR=98
H12A Diamond D Ranc 88.25 40 P P 15 23 30.5 +0.1
baz=88,SNR=222
R18A Canyonlands Na 88.27 47 P P 15 23 30.7 0.0
baz=88,SNR=97
MCK McKinley 88.30 13⇑*iP* **P 15 23 28.4 -1.8**
MCK comp=Z,18µm,1.2s *e*pP pP 15 25 41.9 -0.6
JLU Jordanelle 88.33 45⇑*iP* **P 15 23 30.5 -0.4**
JLU *e*pP pP 15 25 43.3 +0.2
LAZ Ladron 88.34 52 *eP* **P 15 23 31.2 +0.1**
Y22C IRIS PASSCAL I 88.34 52 ⇑P P 15 23 31.8 +0.7
baz=88
LENM Lemitar 88.35 52 *eP* **P 15 23 31.3 +0.1**
I13A Wildhorse Cree 88.35 41 P P 15 23 31.3 +0.4
baz=88,SNR=45
DAU Daniels Canyon 88.36 45 *eP* **P 15 23 31.3 +0.2**
DAU *e**PP pP 15 25 43.4 +0.1
DAU *e* 15 27 05.8
L15A Malad City 88.44 43 P P 15 23 31.4 0.0
baz=88,SNR=65
SKAG Skagway 88.44 21 *eP* **P 15 23 31.3 +0.4**
comp=Z,71nm,1.1s,mb5.3
E11A Bogner Ranch, 88.44 38 P P 15 23 30.0 -1.3
baz=88,SNR=31
Q18A Rafter H Ranch 88.46 47 P P 15 23 31.4 -0.1
baz=88,SNR=68
N16A Rees Ranch, Co 88.48 45 P P 15 23 32.1 +0.5
baz=88,SNR=24
S19A Harvey Farm, M 88.48 48 P P 15 23 31.7 0.0
baz=88,SNR=19
B09A Rice 88.53 36 P P 15 23 31.3 -0.3
baz=89,SNR=51
M16A Huntsville 88.57 44 P P 15 23 31.9 -0.1
baz=89,SNR=32
BNM Barren Site 88.60 52 *eP* **P 15 23 32.3 0.0**
BNM *e*pP pP 15 25 45.4 +0.8
BNM *e*PP PP 15 27 07.5 -5.5
A09A Danville 88.62 35 ⇓P P 15 23 31.8 -0.3
baz=89,SNR=25
H13A Challis 88.62 40 ⇓P P 15 23 32.3 +0.2
baz=89,SNR=25
P18A Preston Nutter 88.64 46 ⇑P P 15 23 32.6 +0.2
baz=89
C10A Spilker Farm, 88.65 37 ⇑P P 15 23 31.6 -0.6
baz=89
R19A Curley Farm, L 88.66 48 ⇑P P 15 23 32.2 -0.4
baz=89,SNR=8.3
F12A Elk City 88.67 39 P P 15 23 32.1 -0.3
baz=89,SNR=143
LPM Los Pinos Moun 88.67 52 *eP* **P 15 23 32.8 +0.2**
LPM *e*pP pP 15 25 46.2 +1.2
MVCO Mesa Verde 88.67 49 ⇑P P 15 23 32.3 -0.3
baz=89
MVCO Mesa Verde 88.67 49 *eP* **P 15 23 31.9 -0.6**
comp=Z,7.5nm,0.5s,mb4.8
KMI Kunming 88.69 298 P P 15 23 34.5 +1.5
KMI XP sP 15 26 46.2 -0.5
KMI PP PP 15 27 15.5 +1.6
KMI PPP 15 29 17.9
KMI S S 15 33 28.1 -1.0
KMI XS sS 15 37 24.7 -0.4
KMI SS SS 15 39 42.9 +2.1
KMI AMB AMB
comp=Z,44nm,1.3s,mb5.1
KMI AMB AMB
comp=Z,240nm,5.0s
TXAR Lajitas Array 88.72 58 P P 15 23 33.5 +0.4
comp=Z,58nm,0.8s,mb5.4,baz=222,slow=5.0,SNR=358
TXAR pP pP 15 25 47.2 +1.8
comp=Z,7.4nm,1.0s,baz=212,slow=4.4,SNR=12
TXAR PP PP 15 27 19.5 +5.4
comp=Z,3.5nm,1.1s,baz=221,slow=9.3,SNR=3.6
TXAR PKKPbc PKKPbc 15 41 10.8 +1.1
comp=Z,1.7nm,0.5s,baz=106,slow=2.5,SNR=20
TXAR Lajitas Array 88.72 58 P P 15 23 33.5 +0.5
TXAR 15 27 19.5
TXAR Lajitas Array 88.72 58 P P 15 23 33.5 +0.4
TXAR pP pP 15 25 47.2 +1.8
TXAR PP PP 15 27 19.5 +5.4
TXAR PKKPbc PKKPbc 15 41 10.8 +1.1
D11A Klaveano Farm, 88.76 38 ⇓P P 15 23 31.9 -0.8
baz=89,SNR=5.6
HYT Haines Junctio 88.81 19⇑*iP* **P 15 23 32.0 -0.6**
HYT *e*pP pP 15 25 44.7 -0.3
HYT *e*PP PP 15 27 11.1 -3.0
MENT Mentasta 88.81 15 *eP* **P 15 23 32.1 -0.5**
HIA Hailar 88.82 325 *eP* **P 15 23 32.4 -0.6**
N17A Moffit Pass 88.90 45 P P 15 23 34.0 +0.4
baz=89,SNR=14
G13A Cobalt 88.91 40 P P 15 23 33.5 -0.1
baz=89,SNR=57
B10A Chitwood Farm, 88.97 36 ⇓P P 15 23 33.2 -0.5
baz=89
Q19A Hogan Spring (88.98 47 P P 15 23 33.9 -0.1
baz=89,SNR=47
NEW Newport 89.00 36 P P 15 23 33.1 -0.7
NEW pmax pmax
comp=Z,18nm,1.0s

NEW Newport 89.00 36 *eP* **P 15 23 32.6 -1.2**
comp=Z,18nm,1.0s,mb4.8
L16A Fish Haven 89.05 44 P P 15 23 34.2 0.0
baz=89,SNR=60
ANMO Albuquerque 89.08 52⇑*iP* **P 15 23 34.3 -0.3**
ANMO *e**PP pP 15 25 47.8 +0.8
ANMO pmax pmax
comp=Z,57nm,1.0s
ANMO Albuquerque 89.08 52⇑*iP* **P 15 23 34.3 -0.3**
comp=Z,58nm,1.0s,mb5.4
ANMO *e*pP pP 15 25 47.8 +0.7
O18A Roosevelt 89.11 46 ⇓P P 15 23 34.8 +0.3
baz=89
A10A Northport 89.17 36 P P 15 23 34.3 -0.3
baz=89,SNR=16
HHC Hu-ho-hao-te 89.18 315 *eP* **P 15 23 35.7 +0.8**
HHC AP pP 15 25 47.0 -0.4
HHC XP sP 15 26 44.7 -4.0
HHC PP PP 15 27 19.2 +1.8
HHC SKS 15 33 07.6
HHC S S 15 33 36.2 +3.3
HHC XS sS 15 37 23.3 -6.0
HHC SS SS 15 39 49.0 +1.7
HHC AMB AMB
comp=Z,42nm,0.9s,mb5.3
HHC AMB AMB
comp=Z,140nm,5.4s
CMAR Chiang Mai Arr 89.26 290 P P 15 23 37.5 +1.8
comp=Z,62nm,0.8s,mb5.5,baz=131,slow=3.2,SNR=241
CMAR pP pP 15 25 50.0 +1.8
comp=Z,1.4nm,1.0s,baz=108,slow=2.9,SNR=3.0
CMAR PP PP 15 27 14.1 -4.3
comp=Z,4.5nm,0.9s,baz=132,slow=5.9,SNR=4.4
CMAR PKKP PKKPbc 15 41 07.6 -0.4
comp=Z,1.4nm,0.5s,baz=278,slow=4.2,SNR=6.5
CMAR Chiang Mai Arr 89.26 290 P P 15 23 37.5 +1.8
CMAR *PP pP 15 25 50.0 +1.8
CMAR 15 27 14.1
D12A Red Ives Fores 89.32 38 ⇑P P 15 23 34.7 -0.7
baz=89
K16A Soda Springs 89.37 43 P P 15 23 36.2 +0.6
baz=89,SNR=33
CHTO Chiang Mai 89.40 290 P P 15 23 37.7 +1.3
CHTO pmax pmax
comp=Z,110nm,0.9s,mb5.7
CHTO Chiang Mai 89.40 290⇓*iP* **P 15 23 37.7 +1.4**
comp=Z,108nm,0.9s,mb5.7
CHTO *e*PP PP 15 27 19.2 -0.3
G14A Jackson 89.46 40 P P 15 23 36.2 +0.2
baz=90,SNR=34
PLCA Paso Flores 89.47 134 P P 15 23 37.4 +1.0
comp=Z,18nm,0.8s,mb4.9,baz=232,slow=4.5,SNR=39
PLCA Paso Flores 89.47 134 P P 15 23 37.5 +1.1
PLCA pmax pmax
comp=Z,29nm,1.2s
PLCA Paso Flores 89.47 134 *eP* **P 15 23 37.1 +0.8**
comp=Z,28nm,1.3s,mb4.9
B11A Sandpoint 89.51 36 ⇓P P 15 23 35.9 -0.3
baz=90,SNR=8.5
IMA2 Indian Mountai 89.52 10 *eP* **P 15 23 35.0 -0.8**
COLA College 89.54 13*c iP* **P 15 23 33.9 -2.0**
COLA College 89.54 13⇑*iP* **P 15 23 33.9 -2.0**
comp=Z,83nm,1.0s,mb5.5
COLA *e*pP pP 15 25 48.4 -0.2
DLBC Dease Lake 89.55 24⇑*iP* **P 15 23 35.8 -0.3**
DLBC *e*pP pP 15 25 50.9 +2.1
DLBC *e*PP PP 15 27 16.9 -2.9
MCMT McKenzie Canyo 89.61 41 *eP* **P 15 23 36.7 0.0**
MCMT *e*pP pP 15 25 49.5 +0.1
MCMT *e*PP PP 15 27 16.7 -4.0
AHID Auburn Hatcher 89.64 43⇑*iP* **P 15 23 36.8 -0.1**
comp=Z,81nm,0.9s,mb5.6
AHID *e*pP pP 15 25 49.9 +0.3
E13A Victor 89.66 39 ⇑P P 15 23 36.1 -0.8
baz=90
N18A Larsen Ranch, 89.68 45 ⇑P P 15 23 36.9 -0.3
baz=90
RRI2 Red Ridge 89.80 43⇑*iP* **P 15 23 37.9 +0.3**
comp=Z,122nm,0.8s,mb5.8
RRI2 *e*pP pP 15 25 50.5 +0.2
RRI2 *e*PP PP 15 27 17.5 -4.7
A11A Hall Mountain, 89.81 36 ⇓P P 15 23 37.5 -0.1
baz=90,SNR=28
F14A Wisdom 89.81 40 ⇑P P 15 23 37.3 -0.4
baz=90,SNR=11
D13A Huson 89.86 38 P P 15 23 36.5 -1.3
baz=90,SNR=14
B12A Libby 89.96 37 ⇓P P 15 23 37.9 -0.4
baz=90,SNR=7.4
BILL Bilibino 89.97 355⇑*eP* **P 15 23 37.1 -0.8**
BILL *e*S S 15 33 17.5 -21
BILL pmax pmax
comp=Z,41nm,1.3s,mb5.1
BILL Bilibino 89.97 355 *eP* **P 15 23 37.0 -0.8**
comp=Z,14nm,0.8s,mb4.8
G15A Dillon 90.00 41 P P 15 23 38.6 +0.1
baz=90,SNR=30
DCID1 Drake Creek 90.01 42 *eP* **P 15 23 38.5 -0.1**
MSO Missoula 90.01 39⇑*iP* **P 15 23 37.2 -1.4**
comp=Z,4.3nm,0.7s,mb4.4
DLMT Dillon 90.04 40⇑*iP* **P 15 23 38.6 -0.1**
comp=Z,47nm,1.0s,mb5.3
DLMT *e*pP pP 15 25 50.9 -0.6
E14A Clinton 90.06 39 ⇑P P 15 23 38.1 -0.6
baz=90
REDW Red Top Meadow 90.10 43⇑*iP* **P 15 23 38.9 -0.2**
comp=Z,102nm,1.0s,mb5.6
REDW *e*pP pP 15 25 51.4 -0.4
REDW *e*PP PP 15 27 18.6 -6.0
TPAW Teton Pass 90.10 43⇑*iP* **P 15 23 38.9 -0.1**
comp=Z,66nm,1.0s,mb5.4
TPAW *e*pP pP 15 25 52.4 +0.6
TPAW *e*PP PP 15 27 21.0 -3.5
C13A Hot Springs 90.11 38 ⇓P P 15 23 37.9 -1.1
baz=90,SNR=9.5
A12A Yaak River Ran 90.19 36 P P 15 23 39.2 -0.1
baz=90,SNR=27
SNOW Snow King Moun 90.21 43⇑*iP* **P 15 23 39.7 +0.2**
comp=Z,117nm,0.9s,mb5.7
SNOW *e*pP pP 15 25 51.8 -0.5
CD2 Chengdu 90.28 303 P P 15 23 39.3 -0.9
CD2 AP pP 15 25 50.5 -2.5
CD2 XP sP 15 26 48.9 -5.2
CD2 PP PP 15 27 27.3 +1.1
CD2 SKS 15 33 11.2
CD2 S S 15 33 42.9 -0.3
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,250nm,5.5s
IMW Indian Meadow 90.31 42⇑*iP* **P 15 23 39.9 -0.1**
comp=Z,95nm,1.1s,mb5.5
IMW *e*pP pP 15 25 53.6 +0.9
IMW *e*PP PP 15 27 18.8 -7.4
IMW *e* 15 27 30.6
F15A Butte 90.35 40 P P 15 23 40.0 -0.2
baz=90,SNR=24
MOOW Moose Ponds 90.36 42⇑*iP* **P 15 23 39.9 -0.3**
comp=Z,44nm,1.3s,mb5.1
MOOW *e*pP pP 15 25 53.6 +0.6
MOOW *e*PP PP 15 27 21.3 -5.2
LOHW Long Hollow 90.38 43⇑*iP* **P 15 23 40.1 -0.2**
comp=Z,70nm,1.1s,mb5.4
D14A Greenough 90.40 39 P P 15 23 39.4 -0.9
baz=90,SNR=17
CHMT Chamberlain Mo 90.46 39 *eP* **P 15 23 39.7 -0.9**
CHMT *e*pP pP 15 25 52.6 -0.8
CHMT *e*PP PP 15 27 23.7 -3.5
QLMT Earthquake Lak 90.48 41 *eP* **P 15 23 41.2 +0.4**
QLMT *e*pP pP 15 25 53.5 -0.1
QLMT *e*PP PP 15 27 20.7 -6.7
B13A Whitefish 90.54 37 P P 15 23 40.1 -0.8
baz=90,SNR=7.4
FLWY Flagg Ranch 90.55 42⇑*iP* **P 15 23 41.1 0.0**
comp=Z,72nm,1.1s,mb5.5
FLWY *e*pP pP 15 25 54.0 0.0
FLWY *e*PP PP 15 27 20.8 -7.3
E15A Deer Lodge 90.56 39 P P 15 23 40.6 -0.5
baz=91,SNR=10
C14A Swan Lake 90.62 38 ⇓P P 15 23 40.1 -1.2
baz=91
PDAR Pinedale Array 90.63 44 P P 15 23 40.9 -0.6
comp=Z,48nm,1.0s,mb5.4,baz=202,slow=3.2,SNR=179
PDAR pP pP 15 25 53.4 -0.9
comp=Z,1.0nm,0.9s,baz=187,slow=4.2,SNR=2.1

PDAR PP PP 15 27 24.9 -3.8
comp=Z,2.9nm,1.0s,baz=224,slow=6.2,SNR=5.5
PDAR PKKP PKKPbc 15 41 05.2 -0.3
comp=Z,0.8nm,0.7s,baz=85,slow=3.4,SNR=4.9
YFT Old Faithful 90.65 42⇑*iP* **P 15 23 42.3 +0.7**
YMR Madison River 90.68 42 *eP* **P 15 23 42.1 +0.4**
comp=Z,25nm,0.8s,mb5.2
BOZ Bozeman (W) 90.77 40⇑*iP* **P 15 23 41.7 -0.4**
BOZ *e**PP pP 15 25 54.4 -0.5
BOZ *e* 15 27 23.1
BOZ pmax pmax
comp=Z,25nm,0.9s,mb5.1
BOZ Bozeman (W) 90.77 40 ⇑P P 15 23 42.0 -0.1
baz=91
BOZ Bozeman (W) 90.77 40⇑*iP* **P 15 23 41.7 -0.4**
comp=Z,25nm,0.9s,mb5.1
BOZ *e*pP pP 15 25 54.4 -0.5
BOZ *e*PP PP 15 27 23.1 -6.6
DAWY Dawson 90.85 16⇑*iP* **P 15 23 41.1 -0.9**
A13A Flathead Natio 90.87 37 ⇓P P 15 23 42.1 -0.3
baz=91
EFI East Falkland 90.87 148 *eP* **P 15 23 43.0 +0.4**
EFI pmax pmax
comp=Z,26nm,0.8s,mb5.2
EFI East Falkland 90.87 148 *eP* **P 15 23 43.0 +0.4**
comp=Z,26nm,0.8s,mb5.2
YNR Norris Junctio 90.88 42 *eP* **P 15 23 43.9 +1.3**
D15A Lincoln 90.95 39 ⇓P P 15 23 42.5 -0.4
baz=91,SNR=18
EGAK Eagle 90.98 15⇑*iP* **P 15 23 41.5 -1.1**
comp=Z,34nm,0.8s,mb5.3
LKWY Lake 90.98 42 P P 15 23 44.5 +1.4
LKWY pmax pmax
comp=Z,12nm,0.7s,mb4.9
LKWY Lake 90.98 42 *eP* **P 15 23 44.0 +0.9**
comp=Z,12nm,0.7s,mb4.9
SDCO Great Sand Dun 91.03 50⇑*iP* **P 15 23 42.7 -0.8**
comp=Z,60nm,1.3s,mb5.4
SDCO *e*pP pP 15 25 56.2 -0.1
SDCO *e*PP PP 15 27 25.9 -6.1
HRY Holter Researc 91.19 40 *eP* **P 15 23 43.4 -0.6**
HRY *e*pP pP 15 25 52.5 -4.4
WALA Waterton Lakes 91.22 37⇑*iP* **P 15 23 43.2 -0.8**
comp=Z,13nm,0.7s,mb5.0
WALA *e*pP pP 15 25 53.8 -3.1
WALA *e*PP PP 15 27 25.6 -7.5
CMIG Matias Romero 91.23 72 P P 15 23 44.7 -0.1
comp=Z,18nm,0.7s,mb5.1,baz=268,slow=4.2,SNR=22
CMIG Matias Romero 91.23 72 P P 15 23 44.7 -0.1
RWWY Rawlins 91.65 46⇑*iP* **P 15 23 45.6 -0.6**
comp=Z,66nm,1.0s,mb5.6
ISCO Idaho Springs 91.88 48⇑*iP* **P 15 23 46.9 -0.4**
ISCO pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ISCO Idaho Springs 91.88 48⇑*iP* **P 15 23 46.9 -0.4**
comp=Z,8.7nm,0.7s,mb4.9
ISCO *e*pP pP 15 26 01.0 +0.7
RLMT Red Lodge 91.95 42⇑*iP* **P 15 23 47.4 -0.2**
comp=Z,17nm,0.9s,mb5.1
GCMT Greycliff 92.03 41 *eP* **P 15 23 47.7 -0.2**
GCMT *e*pP pP 15 26 01.2 +0.3
GCMT *e*PP PP 15 27 36.0 -3.4
JCT Junction City 92.25 58 *eP* **P 15 23 48.8 -0.5**
JCT pmax pmax
comp=Z,23nm,0.9s,mb5.2
JCT Junction City 92.25 58⇑*iP* **P 15 23 48.0 -1.2**
comp=Z,23nm,0.9s,mb5.2
LZH Lanzhou 92.40 308 *eP* **P 15 23 50.8 +1.0**
LZH PP PP 15 27 46.2 +3.7
LZH *e*SKS 15 33 24.2
LZH S S 15 34 07.3 +5.7
LZH AMB AMB
comp=Z,40nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,121nm,4.0s
AMTX Amarillo 92.59 54⇑*iP* **P 15 23 49.5 -1.2**
comp=Z,14nm,0.9s,mb5.0
AMTX *e*pP pP 15 26 03.7 0.0
YAK Yakutsk 92.63 339⇑*eP* **P 15 23 49.2 -1.0**
YAK pmax pmax
comp=Z,21nm,1.2s,mb5.0
PHWY Pilot Hill 92.65 46⇑*iP* **P 15 23 49.9 -1.0**
PHWY *e*PP PP 15 27 39.5 -4.9
EGMT Eagleton 93.07 39 ⇑P P 15 23 51.9 -0.7
baz=93
EDM Edmonton 93.72 33⇑*iP* **P 15 23 53.7 -1.7**
EDM *e*pP pP 15 26 09.1 +0.6
WMOK Wichita Mounta 94.72 55 P P 15 23 59.2 -1.2
WMOK pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
WMOK Wichita Mounta 94.72 55 *eP* **P 15 23 58.0 -2.4**
comp=Z,6.7nm,1.2s,mb4.7
RSSD Black Hills 94.83 44⇑*iP* **P 15 23 59.6 -1.1**
RSSD *e**PP pP 15 26 12.5 -1.4
RSSD pmax pmax
comp=Z,23nm,0.9s,mb5.3
RSSD Black Hills 94.83 44⇑*iP* **P 15 23 59.6 -1.0**
comp=Z,23nm,0.9s,mb5.3
RSSD *e*pP pP 15 26 12.5 -1.4
HKT Hockley 95.22 60 P P 15 24 02.5 -0.3
HKT pmax pmax
comp=Z,38nm,1.6s,mb5.3
HKT Hockley 95.22 60⇑*eP* **P 15 24 02.2 -0.6**
comp=Z,38nm,1.6s,mb5.3
CBKS Cedar Bluff 95.60 51 P P 15 24 04.2 -0.1
CBKS pmax pmax
comp=Z,45nm,1.2s,mb5.6
CBKS Cedar Bluff 95.60 51⇑*eP* **P 15 24 03.0 -1.3**
comp=Z,46nm,1.2s,mb5.6
INK Inuvik 95.65 16⇑*iP* **P 15 24 02.0 -1.8**
INK pmax pmax
comp=Z,617nm,1.3s
INK Inuvik 95.65 16⇑*iP* **P 15 24 02.0 -1.8**
comp=Z,616nm,1.3s,mb6.7
INK *e*pP pP 15 26 17.7 +0.6
SONM Songino Array 95.72 319 P P 15 24 04.1 -0.5
comp=Z,1.5nm,0.6s,mb4.4,baz=100,slow=3.2,SNR=9.4
SONM PP PP 15 28 04.0 -3.6
comp=Z,1.6nm,1.0s,baz=125,slow=7.8,SNR=4.4
TRQA Tornquist 96.53 135 *eP* **P 15 24 08.9 +0.2**
comp=Z,9.1nm,1.2s,mb4.9
GTA Gaotai 96.66 310 *eP* **P 15 24 09.6 +0.6**
GTA AP pP 15 26 20.1 -2.3
GTA XP sP 15 27 17.8 -5.6
GTA AMB AMB
comp=Z,7.0nm,1.1s,mb4.8
YKA Yellowknife Ar 98.03 25 P Pdif 15 24 13.3 -1.7
comp=Z,3.8nm,0.7s,baz=245,slow=4.6,SNR=9.5
YKA PP pP 15 26 29.4 +1.3
comp=Z,1.7nm,0.8s,baz=241,slow=4.1,SNR=3.8
YKA PP PP 15 28 19.1 -5.5
comp=Z,3.6nm,1.0s,baz=240,slow=6.9,SNR=5.5
YKA PKKPbc PKKPbc 15 40 44.2 -2.6
comp=Z,1.2nm,0.7s,baz=30,slow=2.6,SNR=4.9
YKA Yellowknife Ar 98.03 25 P Pdif 15 24 13.4 -1.7
YKA 15 28 19.2
YKA Yellowknife Ar 98.03 25 P Pdif 15 24 13.3 -1.7
YKA pP pP 15 26 29.4 +1.3
YKA PP PP 15 28 19.1 -5.5
YKA PKKPbc PKKPbc 15 40 44.2 -2.6
ZAK Zakamensk 98.64 321 *eP* **Pdif 15 24 16.9 -0.9**
ZAK *e* 15 33 54.7
ZAK pmax pmax
comp=Z,2.0nm,2.1s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.7s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.2
LVC Limon Verde 99.27 119 PKKP PKKPbc 15 40 43.0 +0.7
comp=Z,2.8nm,0.5s,baz=332,slow=4.0,SNR=5.6
ECSD EROS,Sioux Fal 99.61 47⇑*iP* **Pdif 15 24 20.2 -1.9**
comp=Z,12nm,1.0s
ECSD *e*pP pP 15 26 35.0 -0.8
ULM Lac du Bonnet 102.29 41 PKiKP PKiKP 15 28 52.2 +0.7
comp=Z,4.4nm,0.6s,baz=333,slow=4.5,SNR=4.2
LPAZ La Paz 102.83 113 P Pdif 15 24 39.7 +3.3
comp=Z,1.7nm,0.7s,baz=298,slow=5.3,SNR=8.2
LPAZ PP PP 15 28 59.0 -1.8
comp=Z,1.1nm,0.6s,baz=268,slow=11,SNR=5.2
LPAZ PKKPbc PKKPbc 15 40 32.6 +0.5
comp=Z,1.0nm,0.5s,baz=210,slow=2.6,SNR=5.3
LPAZ La Paz 102.83 113 *eP* Pdif 15 24 39.6 +3.2
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 102.83 113 *ePdif* Pdif 15 24 39.5 +3.1

comp=Z,2.2nm,0.9s
CPCT Cooper Cave 105.99 58 *e*PKP PP 15 29 18.7 -5.2
CPUP Villa Florida 106.38 128 PKiKP PKiKP 15 28 58.2 -1.7
comp=Z,0.4nm,0.4s,baz=243,slow=2.3,SNR=2.9
CPUP Villa Florida 106.38 128 *e*PKPdf PKiKP 15 28 58.6 -1.4
SIV San Ignacio 108.94 116 PKiKP PKiKP 15 29 03.8 -1.1
comp=Z,0.5nm,0.4s,baz=324,slow=14,SNR=4.2
SIV PKKPbc PKKPbc 15 40 13.4 -0.4
comp=Z,1.6nm,0.4s,baz=120,slow=1.5,SNR=9.0
ZAA0 Zalesovo Array 110.52 321 *e*PKPdf PKiKP 15 29 04.7 -2.0
ZALV Zalesovo Beam 110.52 321 PKiKP PKiKP 15 29 05.0 -1.7
comp=Z,2.6nm,0.4s,baz=173,slow=1.4,SNR=13
ZAL Zalesovo 110.53 321 PKIKP PKiKP 15 29 05.1 -1.6
MK31 Makanchi Array 110.99 313 *e*PKIKP PKiKP 15 29 06.4 -1.4
MK31 *p*max *p*max
comp=Z,1.0nm,0.3s
MK31 Makanchi Array 110.99 313 *e*PKPdf PKiKP 15 29 06.2 -1.7
MKAR Makanchi Array 110.99 313 Pdiff Pdif 15 25 15.4 +2.7
comp=Z,0.7nm,0.4s,baz=98,slow=6.2,SNR=5.4
MKAR PKiKP PKiKP 15 29 06.5 -1.3
comp=Z,2.5nm,0.4s,baz=200,slow=1.2,SNR=9.9
MKAR PP PP 15 29 50.3 -8.9
comp=Z,0.3nm,0.4s,baz=92,slow=5.9,SNR=4.4
MKAR PKKPbc PKKPbc 15 40 06.8 -0.8
comp=Z,2.9nm,0.7s,baz=275,slow=3.3,SNR=9.3
MKAR PKKPab PKKPab 15 40 19.2 +0.9
comp=Z,0.8nm,0.4s,baz=208,slow=2.3,SNR=4.6
MKAR SKKPbc 15 42 50.7
comp=Z,1.5nm,0.7s,baz=304,slow=0.5,SNR=5.6
MKAR Makanchi Array 110.99 313 P Pdif 15 25 15.4 +2.7
MKAR 15 29 06.6
MKAR Makanchi Array 110.99 313 Pdif Pdif 15 25 15.4 +2.7
MKAR PKPdf PKiKP 15 29 06.5 -1.3
MKAR PP PP 15 29 50.3 -8.9
MKAR PKKPbc PKKPbc 15 40 06.8 -0.8
MKAR PKKPab PKKPab 15 40 19.2 +0.9
MKAR SKKPbc 15 42 50.7
DDI Dehra Dun 111.02 295 *e*x x 15 29 54.8
NVS Novosibirsk 111.56 322 *e*PKIKP PKiKP 15 29 06.8 -1.9
KURK Kurchatov 113.90 317 *e*PKPdf PKiKP 15 29 11.6 -1.7
KURK *e*PP PP 15 30 11.3 -8.1
TKM2 Tokmak 2 115.17 308 *e*PKIKP PKPdf 15 29 14.6 -1.4
TKM2 *e* 15 30 26.7
KK31 Karatay Array 118.90 308 *i*PKIKP PKPdf 15 29 21.8 -1.4
KK31 *p*max *p*max
comp=Z,2.0nm,0.5s
BVA0 Borovoye Array 119.06 320 *i*PKIKP PKPdf 15 29 21.9 -1.2
BVA0 *p*max *p*max
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 119.06 320 PKKPbc PKKPbc 15 39 39.5 -1.0
comp=Z,0.7nm,0.5s,baz=320,slow=2.6,SNR=4.1
BRVK Borovoye 119.12 320 *e*PKIKP PKPdf 15 29 22.0 -1.3
KBL Kabul 119.26 298 *e*PKPdf PKPdf 15 29 23.9 -0.2
KBL *e*SKP 15 32 01.8
BDFB Brasilia 119.65 124 PKP PKPdf 15 29 24.3 -1.2
comp=Z,1.0nm,0.5s,baz=301,slow=26,SNR=4.0
BDFB PKKPbc PKKPbc 15 39 36.8 -1.4
comp=Z,0.8nm,0.4s,baz=180,slow=20,SNR=2.8
SCHQ Schefferville 120.31 38 PKP PKPdf 15 29 24.0 -1.5
comp=Z,7.3nm,0.9s,baz=20,slow=1.6,SNR=6.9
SUMG Summit 124.50 13 *e*PKPdf PKPdf 15 29 31.9 -1.1
SUMG *e*PP PP 15 31 23.8 -6.3
BOSA Boshof 124.72 206 PKP PKPdf 15 29 35.6 +0.7
comp=Z,4.5nm,0.6s,baz=150,slow=1.9,SNR=7.5
BOSA PKKPbc PKKPbc 15 39 17.6 -2.3
comp=Z,6.6nm,0.9s,baz=313,slow=4.4,SNR=12
ARU Arti 125.34 325 *i*PKIKP PKPdf 15 29 34.5 -0.6
ARU 15 31 34.0
ARU Arti 125.34 325 *e*PKPdf PKPdf 15 29 34.3 -0.8
SOKR Solikamsk 125.34 329 *e*PKIKP PKPdf 15 29 34.5 -0.5
SOKR *p*max *p*max
comp=Z,10.0nm,0.8s
AB31 Akbulak array 125.97 316 *i*PKIKP PKPdf 15 29 35.8 -0.7
AKTO Aktyubinsk 127.00 318 PKIKP PKPdf 15 29 37.9 -0.5
AKTO *p*max *p*max
comp=Z,1.0nm,0.7s
LVZ Lovozero 129.07 344⇑*i*PKIKP PKPdf 15 29 39.6 -2.3
ARCES ARCESS Array B 129.73 349 PKhKP 15 29 31.3
comp=Z,1.9nm,0.8s,baz=50,slow=1.9,SNR=6.5
ARCES PKP PKPdf 15 29 42.1 -1.0
comp=Z,14nm,0.7s,baz=49,slow=0.9,SNR=7.7
ARCES SKPbc SKPbc 15 32 09.4 +0.6
comp=Z,58nm,0.8s,baz=35,slow=4.4,SNR=55
ARCES PKKP 15 39 45.5
comp=Z,1.4nm,0.9s,baz=224,slow=2.5,SNR=6.9
ARCES SKKPbc 15 41 50.6
comp=Z,1.6nm,0.8s,baz=197,slow=2.8,SNR=7.2
ARCES ARCESS Array B 129.73 349 PKhKP 15 29 31.3
ARCES 15 29 42.1
ARCES 15 32 09.4
KLMR Klimovskoe 132.33 335 *e*PKIKP PKPdf 15 29 47.5 -0.7
KLMR *e* 15 32 16.2
LSZ Lusaka 134.47 219 SKPbc SKPbc 15 32 28.4 +1.6
comp=Z,23nm,0.8s,baz=156,slow=3.0,SNR=25
LSZ Lusaka 134.47 219 *e*PKPpre 15 29 45.1
LSZ *e*SKP 15 32 27.8
LSZ *e*PP PP 15 32 33.8 -0.4
TSUM Tsumeb 136.20 203 SKPbc SKPbc 15 32 32.5 +0.5
comp=Z,33nm,1.0s,baz=144,slow=4.1,SNR=15
TSUM Tsumeb 136.20 203 *e*PKPpre 15 29 47.6
TSUM *e*SKP 15 32 32.1
OBN Obninsk 137.06 330⇑*i*PKIKP PKPdf 15 29 58.7 +0.8
OBN *e* 15 32 46.7
OBN *e* 15 36 17.5
OBN *p*max *p*max
comp=Z,10.0nm,0.8s
VRSR Storozhevoye 137.90 324 *i*PKIKP PKPdf 15 30 00.1 +1.2
VRSR *p*max *p*max
comp=Z,2.0nm,0.4s
VRSR *p*max *p*max
comp=N,2.0nm,0.7s
VRSR *p*max *p*max
comp=E,3.0nm,1.1s
GNI Garni 138.32 307 SKPbc SKPbc 15 32 39.1 +1.7
comp=E,6.5nm,0.5s,baz=208,slow=4.5,SNR=6.8
GNI Garni 138.32 307⇑*i*PKIKP PKPdf 15 30 02.0 +2.0
KIV Kislovodsk 138.75 313 *i*PKIKP PKPdf 15 29 57.0 -3.7
KIV *p*max *p*max
comp=Z,7.0nm,0.8s
KIV MLR MLR
comp=Z,58nm,19.0s
KIV Kislovodsk 138.75 313 *e*SKP SKPbc 15 32 38.9 +0.5
NB2 NORSAR Subarra139.88 352 PKPdf 15 29 54.0
comp=Z,3.0nm,0.6s,baz=16,slow=1.9
NOA NORSAR Array B 139.88 352 PKhKP 15 29 54.3
comp=Z,8.5nm,0.9s,baz=16,slow=4.5,SNR=14
NOA PKP PKPdf 15 30 01.6 -0.6
comp=Z,3.3nm,0.5s,baz=14,slow=3.8,SNR=6.1
NOA SKPbc SKPbc 15 32 41.2 +0.3
comp=Z,10nm,0.9s,baz=14,slow=4.4,SNR=12
NOA SKPab 15 32 53.7
comp=Z,3.8nm,0.7s,baz=15,slow=3.2,SNR=5.4
NOA NORSAR Array B 139.88 352 PKP PKPdf 15 30 01.6 -0.6
NOA SKPbc SKPbc 15 32 41.2 +0.3
NOA SKPab 15 32 53.7
ANN Anapa 141.93 316 *i*PKHKP PKPdf 15 30 02.7 -3.7
ANN *p*max *p*max
comp=Z,47nm,1.2s
ELZG Elazig 143.06 306 *i*P PKPdf 15 30 08.1 -0.5
MLA1 Latheron 143.20 4⇑*e*P PKPdf 15 30 04.6 -3.6
AKASG Malin Array Be 143.30 329 PKP PKPdf 15 30 05.9 -2.7
comp=Z,35nm,0.5s,baz=42,slow=4.2,SNR=131
AKASG SKP 15 32 43.6
comp=Z,0.6nm,0.4s,baz=44,slow=3.2,SNR=4.4
AKASG SKPbc SKPbc 15 32 49.8 0.0
comp=Z,13nm,0.8s,baz=46,slow=2.6,SNR=17
AKASG SKKPbc 15 41 01.1
comp=Z,0.4nm,0.4s,baz=234,slow=4.2,SNR=6.1
AKBB Malin Array Si 143.30 329 *e*PKPdf PKPdf 15 30 05.5 -3.0
AKBB *e*SKP 15 32 48.2
KIEV Kiev 143.31 329 *e*PKPdf PKPdf 15 30 05.6 -3.0
KIEV *e*SKP 15 32 48.8
SUW Suwalki 143.36 338 *e*PKP PKPdf 15 30 06.5 -2.1
SUW Suwalki 143.36 338 *e*PKP PKPdf 15 30 06.5 -2.1
MVH1 Achvaich 143.53 4⇑*e*P PKPdf 15 30 06.2 -2.6
MALT Malatya 143.53 306 PKIKP PKPdf 15 30 09.2 -0.2
MALT Malatya 143.53 306⇑*i*P PKPdf 15 30 09.0 -0.4
MALT Malatya 143.53 306⇑⇑P PKPdf 15 30 09.0 -0.4
KSK Scoval 143.76 7⇑*e*P PKPdf 15 30 07.7 -1.4
KAC Achnashellach 143.86 5⇑*e*P PKPdf 15 30 07.8 -1.6
MCD Coleburn Disti 143.93 4⇑*e*P PKPdf 15 30 07.6 -1.9
SIM Simferopol' 143.96 318 *i*PKIKP PKPdf 15 30 09.7 -0.2
SIM *p*max *p*max
comp=Z,72nm,0.7s

KPL Plockton 143.99 6⇑*e*P PKPdf 15 30 08.1 -1.5
MDO Dochfour 144.00 5⇑*e*P PKPdf 15 30 07.2 -2.4
KSB Sheil Bridge 144.14 6⇑*e*P PKPdf 15 30 08.5 -1.4
MME1 Meikle Cairn 144.21 3⇑*e*P PKPdf 15 30 07.5 -2.5
KAR1 Arisaig 144.38 6⇑*e*P PKPdf 15 30 09.0 -1.3
GZT Gaziantep 144.45 305 *i*P PKPdf 15 30 11.3 +0.3
COP Copenhagen 144.81 348 *i*P PKPdf 15 30 18.5 +7.5
COP
comp=Z,90nm,20.0s
BSD Bornholm Skovb 144.83 346⇑*i*PKIKP PKPdf 15 30 10.7 -0.4
BSD *p*max *p*max
comp=Z,76nm,1.0s
BSD Bornholm Skovb 144.83 346⇑⇑P PKPdf 15 30 10.7 -0.4
comp=Z,76nm,1.0s
BOYT Boyabat 145.02 312 *i*P PKPdf 15 30 11.8 0.0
ANDN Andirin 145.32 305 *i*P PKPdf 15 30 14.3 +1.8
CTKT Corum 145.41 311 *i*P PKPdf 15 30 14.0 +1.4
EDI Edinburgh 145.59 4⇑*e*P PKPdf 15 30 12.8 +0.4
ESY Stoneypath 145.62 3⇑*e*P PKPdf 15 30 12.8 +0.4
EBL Broad Law 145.74 4⇑*e*P PKPdf 15 30 13.1 +0.5
KIS Kishinev 145.89 325 *e*PKP PKPdf 15 30 14.0 +0.8
GKP Gorka Klasztor 145.90 342 *e*PKP PKPdf 15 30 14.7 +1.7
GKP Gorka Klasztor 145.90 342 *e*PKP PKPdf 15 30 14.6 +1.6
BALT Daday 146.00 313 *i*P PKPdf 15 30 12.9 -0.6
AVNT Avonos 146.04 308 *i*P PKPdf 15 30 12.6 -1.1
XSO Sourhope Farm 146.07 3⇑*e*P PKPdf 15 30 14.5 +1.3
CDAG Cicekdag 146.09 310 *i*P PKPdf 15 30 15.1 +1.3
ASF Jabal al Asfar 146.10 296 PKPbc PKPbc 15 30 16.8 +0.6
comp=Z,25nm,0.8s,baz=348,slow=3.2,SNR=40
ESK Eskdalemuir 146.19 4⇑*e*P PKPdf 15 30 14.3 +1.0
ESK Eskdalemuir 146.19 4 *e*PKPdf PKPdf 15 30 13.4 0.0
LVV L'vov 146.28 332 *d*/PKIKP PKPdf 15 30 15.2 +1.5
ECK Cauldkaine Hil 146.33 4⇑*e*P PKPdf 15 30 14.9 +1.2
GAL1 Galloway 146.52 6⇑*e*P PKPdf 15 30 15.6 +1.6
XAL Allendale 146.70 3⇑*e*P PKPdf 15 30 16.0 +1.7
BSEG Bad Segeberg 146.86 349 *e*PKPbc PKPbc 15 30 17.1 -0.4
BSEG *e*PKPab PKPab 15 30 20.5 -0.4
ANTO Ankara 147.11 311 PKP2 PKPbc 15 30 19.0 +0.3
ANTO Ankara 147.11 311⇑⇑*i*P PKPbc 15 30 18.9 +0.2
ANTO Ankara 147.11 311⇑⇑P PKPbc 15 30 18.9 +0.2
BURAR Bucovina Array 147.33 329⇓⇓*i*P PKPbc 15 30 19.1 +0.1
BURAR Bucovina Array 147.33 329⇓⇓P PKPbc 15 30 19.1 +0.1
RUE Ruedersdorf 147.52 345 *e*PKPbc PKPbc 15 30 18.4 -0.9
TIRR Tirgusor 147.65 321⇓⇓*i*P PKPbc 15 30 20.0 +0.1
TIRR Tirgusor 147.65 321⇓⇓P PKPbc 15 30 19.9 0.0
OJC Ojcow 147.66 337 *e*PKP PKPbc 15 30 19.4 -0.3
KOLS Kolonicke sedl 147.71 333 *i*PKP PKPbc 15 30 20.1 +0.2
KOLS *e* 15 32 39.1
VRI Vrincioaia 147.73 325⇑⇑P PKPbc 15 30 19.6 -0.5
VRI Vrincioaia 147.73 325⇑⇑P PKPbc 15 30 19.6 -0.5
PLOR Plostina 147.78 325⇓⇓P PKPbc 15 30 18.9 -1.3
HARR Harsova 147.79 322⇑⇑*i*P PKPbc 15 30 20.1 -0.2
HARR Harsova 147.79 322⇑⇑P PKPbc 15 30 20.1 -0.1
UZH Uzhgorod 147.93 333 *e*PKIKP PKPdf 15 30 17.7 +1.2
UZH *e* 15 30 26.5
DSB Dublin 147.93 8 *e*PKPbc PKPbc 15 30 18.4 -1.9
HENT Hendek 148.00 314 *i*P PKPbc 15 30 19.3 -1.6
CRVS Cervenica-Dubn 148.07 334 *i*PKP PKPbc 15 30 20.8 0.0
CRVS *i* 15 32 42.9
CRVS *e* 16 03 55.9
CRVS Cervenica-Dubn 148.07 334 *i*PKP PKPbc 15 30 20.8 0.0
CRVS *i* 15 32 42.9
NIE Niedzica 148.12 335 *e*PKP PKPbc 15 30 21.3 +0.4
KDHN Kadinhani 148.13 309 *i*P PKPbc 15 30 20.6 -0.7
ERMK Ermenek 148.22 305 *i*P PKPbc 15 30 22.1 +0.6
KSP Ksiaz 148.31 341 *e*PKP PKPbc 15 30 21.5 +0.2
KSP *e* 15 32 46.3
KSP Ksiaz 148.31 341 *e*PKPbc PKPbc 15 30 21.1 -0.2
KSP *e*PKPab PKPab 15 30 26.6 -0.3
KSP *e*pPKP pPKPdf 15 32 46.1 +6.6
KBI1 Birley Grange 148.33 2⇑*e*P PKPbc 15 30 20.1 -1.2
MLR Muntele Rosu 148.39 325 PKHKP PKPbc 15 30 21.2 -0.5
MLR Muntele Rosu 148.39 325⇑⇑*i*P PKPbc 15 30 21.0 -0.7
MLR Muntele Rosu 148.39 325⇑⇑P PKPbc 15 30 21.0 -0.7
CSS Prodhromos 148.40 302 *e*PKPbc PKPbc 15 30 21.4 -0.7
CSS *e*PKPab PKPab 15 30 28.1 +0.1
KWE Weaver Farm 148.56 3⇑*e*P PKPbc 15 30 21.0 -0.9
OKC Ostrava-Krasne 148.57 338⇑*e*PKP PKPbc 15 30 22.1 +0.1
OKC *e*PKPAB PKPab 15 30 29.1 +1.0
SBD1 Bryn Du 148.58 5⇑*e*P PKPbc 15 30 20.8 -1.2
ESKT Eskisehir 148.62 312 *i*P PKPbc 15 30 21.8 -0.7
UPC Upice 148.69 341⇑*e*PKP PKPbc 15 30 22.4 +0.1
UPC *e*PKPAB PKPab 15 30 28.9 +0.4
SNX Sinaia 148.71 325⇑⇑*i*P PKPbc 15 30 22.6 +0.1
SNX Sinaia 148.71 325⇑⇑P PKPbc 15 30 22.6 +0.1
DPC Dobruska-Polom 148.73 340 *e*PKPDF PKPdf 15 30 17.5 -0.2
DPC ⇑*e*PKP PKPbc 15 30 22.6 +0.2
DPC *e*PKPAB PKPab 15 30 29.3 +0.6
CLL Collm 148.79 345⇑⇑*i*PKHKP PKPbc 15 30 22.1 -0.4
CLL *i* 15 30 28.2
CLL *p*max *p*max
comp=Z,89nm,1.3s
CLL *p*max *p*max
comp=Z,25nm,1.0s
CLL Collm 148.79 345 *e*PKPbc PKPbc 15 30 21.9 -0.6
CLL *e*pPKPbc pPKPbc 15 32 42.3 -0.8
CLL Collm 148.79 345⇑⇑*i*PKPbc PKPbc 15 30 22.1 -0.4
comp=Z,89nm,1.3s
CLL ⇓⇓*i*PKPab PKPab 15 30 28.2 -0.7
comp=Z,25nm,1.0s
CLL *e*x x 15 30 33.0
CLL *e*pPKPbc pPKPbc 15 32 42.0 -1.1
CLL *e*(pPKPab) 15 32 47.0
CLL *e*(SKPdf) 15 32 56.0
CLL *e*x x 15 33 17.0
comp=Z,21nm,1.3s
KECS Kecovo 148.80 334 *i*PKP PKPbc 15 30 23.0 +0.4
IBBN Ibbenburen 148.83 352 *e*PKPbc PKPbc 15 30 22.1 -0.5
MORC Moravsky Berou 148.83 339⇓⇓*i*P PKPbc 15 30 22.3 -0.4
CLZ Clausthal 148.85 348 *e*PKPbc PKPbc 15 30 22.4 -0.2
VOIR 148.90 326⇑⇑*i*P PKPbc 15 30 23.0 0.0
VOIR 148.90 326⇑⇑P PKPbc 15 30 23.0 +0.1
BRG Berggiesshubel 148.95 344 *i*PKHKP PKPbc 15 30 22.6 -0.3
BRG *p*max *p*max
comp=Z,24nm,1.0s
BRG *p*max *p*max
comp=Z,9.0nm,1.5s
BRG Berggiesshubel 148.95 344 *e*PKPbc PKPbc 15 30 22.6 -0.3
BRG Berggiesshubel 148.95 344 *i*PKP PKPbc 15 30 22.6 -0.3
comp=Z,40nm,1.0s
BRG *i*pPKP pPKPdf 15 32 46.6 +6.1
comp=Z,15nm,1.5s
BRG Berggiesshubel 148.95 344 *i*PKP PKPbc 15 30 22.6 -0.3
BRG *i*pPKP pPKPdf 15 32 46.6 +6.1
HLM1 Long Mynd 149.00 4⇑*e*P PKPbc 15 30 21.8 -1.2
PVCC Panska Ves 149.09 343⇑*e*PKP PKPbc 15 30 23.3 0.0
PVCC *e*PKPAB PKPab 15 30 30.6 +0.4
DRGR 149.12 330 PKHKP PKPbc 15 30 23.3 -0.1
DRGR 149.12 330⇑⇑*i*P PKPbc 15 30 23.2 -0.2
DRGR 149.12 330⇑⇑P PKPbc 15 30 23.2 -0.3
WTSB Winterswijk 149.29 352 *e*PKiKP PKPbc 15 30 23.1 -0.5
HTR Trewern Hill 149.41 5⇑*e*P PKPbc 15 30 22.8 -1.2
VYHS Vyhne 149.44 336 *i*PKP PKPbc 15 30 23.7 -0.5
VYHS *i* 15 32 48.2
PSZ Piszkesteto 149.49 334⇑*e*PKP PKPbc 15 30 23.8 -0.5
PSZ Piszkesteto 149.49 334⇓⇓*i*P PKPbc 15 30 23.6 -0.7
PSZ Piszkesteto 149.49 334⇓⇓P PKPbc 15 30 23.6 -0.7
HAE Alders End 149.50 4⇑*e*P PKPbc 15 30 23.0 -1.1
ULDT Uludag 149.51 314 *i*P PKPbc 15 30 24.3 -0.3
KOLL Kolacno 149.53 336 *i*PKP PKPbc 15 30 24.4 0.0
KOLL *i* 15 32 49.4
VRAC Vranov 149.55 339⇓⇓*i*P PKPbc 15 30 23.7 -0.7
VRAC Vranov 149.55 339⇓⇓P PKPbc 15 30 23.7 -0.7
PRU Pruhonice 149.59 342⇑*e*PKP PKPbc 15 30 24.3 -0.1
PRU *e*PKPAB PKPab 15 30 31.1 -1.2
TKTP Tekketepe 149.62 309 *i*P PKPbc 15 30 23.8 -1.1
CALA Caldeira 149.67 49 *e*PKP PKPbc 15 30 25.5 +0.5
MOX Moxa 149.73 346 *e*PKP PKPbc 15 30 24.4 -0.4
comp=Z,45nm,1.3s
MOX *e* 15 30 32.6
MOX Moxa 149.73 346 *e*PKHKP PKPbc 15 30 24.4 -0.4
MOX *e* 15 30 32.6
MOX *p*max *p*max
comp=Z,45nm,1.3s
MOX Moxa 149.73 346 *e*PKPbc PKPbc 15 30 24.3 -0.5
MOX *e*PKPab PKPab 15 30 32.3 -0.5
BUG Bochum--Univer 149.74 352 *e*PKPbc PKPbc 15 30 24.2 -0.6
BUG *e*pPKPbc pPKPbc 15 32 47.7 +2.1
TANN Tannenbergstha 149.75 345 *e*PKPbc PKPbc 15 30 24.2 -0.6
TANN *e*pPKPbc pPKPbc 15 32 46.2 +0.5
GDZ Gediz 149.76 312 *i*P PKPbc 15 30 24.4 -0.8

HGH Gray Hill 149.88 4⇑*e*P PKPbc 15 30 23.8 -1.3
UBBA Unterbreizbach 149.90 348 *e*PKPbc PKPbc 15 30 24.3 -0.9
PICO Pico 149.90 49 *e*PKP PKPbc 15 30 25.6 0.0
NKC Novy Kostel 149.92 345⇑*e*PKP PKPbc 15 30 25.1 -0.1
NKC *e*PKPAB PKPab 15 30 33.3 -0.3
TREC Trest 149.92 340 *e*PKHKP PKPbc 15 30 24.9 -0.4
TREC Trest 149.92 340⇑*e*PKP PKPbc 15 30 24.9 -0.4
SRBC Serra Branca 149.93 48 *e*PKP PKPbc 15 30 25.7 +0.1
ROSA Rosais 149.94 49 *e*PKP PKPbc 15 30 25.7 0.0
KHAL Karahalli 150.07 310 *i*P PKPbc 15 30 25.2 -0.8
PMAN Manadas 150.08 49 *e*PKP PKPbc 15 30 26.1 +0.1
GZR Gura Zlata 150.09 328 PKIKP PKPbc 15 30 25.3 -0.5
GZR Gura Zlata 150.09 328⇓⇓*i*P PKPbc 15 30 25.2 -0.6
GZR Gura Zlata 150.09 328⇓⇓P PKPbc 15 30 25.2 -0.6
MODS Modra-Piesok 150.12 337 *i*PKP PKPbc 15 30 25.8 +0.1
MODS *i* 15 32 52.3
WOL Wolverton 150.29 2 *e*P PKPbc 15 30 24.8 -1.2
ZST Bratislava 150.33 337 *i*PKP PKPbc 15 30 26.4 +0.2
ZST *i* 15 32 53.0
HEX Exmoor 150.37 6⇑*e*P PKPbc 15 30 25.1 -1.1
ROTZ Rotzenmuhle 150.41 345 *e*PKPbc PKPbc 15 30 26.0 -0.4
ROTZ *e*pPKPbc pPKPbc 15 32 49.8 +2.4
BTOK Tokmak 150.43 314 *i*P PKPbc 15 30 25.7 -1.1
BZS Buzias 150.49 329 PKIKP PKPbc 15 30 26.2 -0.5
BZS Buzias 150.49 329⇓⇓*i*P PKPbc 15 30 26.1 -0.6
BZS Buzias 150.49 329⇓⇓P PKPbc 15 30 26.1 -0.7
GOLH Golhisar 150.50 308 *i*P PKPbc 15 30 25.7 -1.3
BEBN Eben Emael 150.57 353 PKPbc PKPbc 15 30 26.1 -0.7
BEBN PKPab PKPab 15 30 35.5 -0.8
HGN Heimansgroeve 150.57 353⇑*e*PKiKP PKPbc 15 30 26.1 -0.6
comp=Z,31nm,1.1s
HGN Heimansgroeve 150.57 353 *e*x PKPab 15 30 35.5 -0.9
comp=Z,32nm,0.9s
KHC Kasperske Hory 150.63 343 *e*PKPDF PKPdf 15 30 20.6 -0.1
KHC ⇑*e*PKP PKPbc 15 30 26.8 -0.1
KHC *e*PKPAB PKPab 15 30 36.7 0.0
KHC *e*pPKP pPKPdf 15 32 51.0 +7.7
KHC Kasperske Hory 150.63 343 *e*PKP PKPdf 15 30 20.6 -0.1
KHC *e* 15 30 26.8
KHC *e* 15 30 36.7
UCC Uccle 150.69 355 PKPbc PKPbc 15 30 26.4 -0.6
UCC PKPab PKPab 15 30 35.7 -1.1
GRA1 Grafenberg Arr 150.71 346 *e*PKPbc PKPbc 15 30 26.6 -0.5
GRA1 *e*PKPab PKPab 15 30 37.0 0.0
GRF Grafenberg Arr 150.71 346 *e*PKPbc PKPbc 15 30 26.6 -0.5
GRF *e*PKPab PKPab 15 30 37.0 0.0
MEM Membach 150.72 353 PKPbc PKPbc 15 30 26.6 -0.5
MEM PKPab PKPab 15 30 35.4 -1.5
MEM APKPab 15 32 50.6
BALY Balya 150.72 314 *i*P PKPbc 15 30 25.6 -1.8
TNS Taunus Mts 150.75 350 *e*PKPbc PKPbc 15 30 26.7 -0.4
WET Wettzell 150.81 343 *e*PKPbc PKPbc 15 30 26.7 -0.6
WET *e*PKPab PKPab 15 30 37.6 +0.2
GEC2 GERESS Array S 150.85 342 *e*PKIKP PKPdf 15 30 20.3 -0.8
GEC2 *e* 15 30 37.1
GEC2 GERESS Array S 150.85 342 *e*PKPbc PKPbc 15 30 26.9 -0.5
GEC2 *e*pPKPbc pPKPbc 15 32 50.5 +2.0
GEC2 GERESS Array S 150.85 342 *e*PKPdf PKPdf 15 30 20.3 -0.8
GEC2 *e*PKPbc PKPbc 15 30 26.7 -0.8
GEC2 *e*PKPbc PKPbc 15 30 26.9 -0.5
GEC2 *e*PKPab PKPab 15 30 37.1 -0.5
GEC2 *e*pPKPbc pPKPbc 15 32 50.5 +2.0
GEC2 *e*SKP 15 32 50.7
GERES GERESS Array B 150.85 342 PKP PKPdf 15 30 19.9 -1.2
comp=Z,0.6nm,0.7s,baz=53,slow=0.7,SNR=6.2
GERES PKPbc PKPbc 15 30 27.0 -0.4
comp=Z,14nm,0.7s,baz=48,slow=2.0,SNR=70
GERES SKP 15 32 51.4
comp=Z,4.2nm,1.0s,baz=2.9,slow=2.7,SNR=8.0
SOP Sopron 150.96 338⇑*e*PKP PKPbc 15 30 27.3 -0.4
BCLA Clavier 150.98 354 PKPbc PKPbc 15 30 27.1 -0.5
BCLA PKPab PKPab 15 30 37.1 -1.0
BCLA APKP 15 32 49.4
CONA Conrad Observa 150.99 339⇑⇑*i*P PKPbc 15 30 27.8 0.0
comp=Z,38nm,1.2s
CONA Conrad Observa 150.99 339⇓⇓*i*P PKPab 15 30 38.6 +0.4
comp=Z,11nm,0.7s
CONA Conrad Observa 150.99 339⇓⇓*i*PKPdf PKPdf 15 30 20.7 -0.6
comp=Z,2.9nm,0.9s,SNR=17
CONA ⇑⇑*i*PKiKP PKPbc 15 30 27.8 0.0
comp=Z,38nm,1.2s
CONA ⇓⇓*i*PKPab PKPab 15 30 38.6 +0.4
comp=Z,11nm,0.7s
AKHS Akhisar 151.01 313 *i*P PKPbc 15 30 26.5 -1.6
GIVF Givet 151.34 354⇑⇑*i*PKP1 PKPbc 15 30 28.0 -0.5
comp=Z,104nm,0.8s
PKSM Moragy 151.37 333 PKIKP PKPbc 15 30 27.8 -0.9
PKSM Moragy 151.37 333⇓⇓*i*P PKPbc 15 30 27.7 -1.0
PKSM Moragy 151.37 333⇓⇓P PKPbc 15 30 27.7 -1.0
DOU Dourbes 151.37 355 PKPbc PKPbc 15 30 27.9 -0.6
DOU PKPab PKPab 15 30 38.7 -1.0
DOU APKP 15 32 51.5
BAIF Baives 151.44 355⇑⇑*i*PKP1 PKPbc 15 30 28.3 -0.4
comp=Z,82nm,1.1s
KDAG Bornova 151.61 312 *i*P PKPbc 15 30 28.1 -1.3
WLF Walferdange 151.63 352 PKPbc PKPbc 15 30 29.3 +0.2
WLF PKPab PKPab 15 30 38.5 -2.3
WLF APKP 15 32 51.9
WLF Walferdange 151.63 352 *e*PKIKP PKPbc 15 30 28.7 -0.4
WLF *e* 15 30 39.5
WLF Walferdange 151.63 352 *e*PKPbc PKPbc 15 30 29.1 0.0
WLF *e*PKPab PKPab 15 30 40.6 -0.3
WLF *e*pPKPbc pPKPbc 15 32 51.8 +1.5
WLF Walferdange 151.63 352 *e*PKPbc PKPbc 15 30 28.7 -0.4
WLF *e*PKPab PKPab 15 30 39.5 -1.3
WLF *e*SKP 15 32 50.7
VTS Vitosha 151.78 323⇓⇓*i*P PKPbc 15 30 29.3 -0.4
STU Stuttgart 152.01 348 *e*PKPbc PKPbc 15 30 29.4 -0.6
FUR Furstenfeldbru 152.12 345 *e*PKPbc PKPbc 15 30 29.6 -0.7
FUR *e*PKPab PKPab 15 30 42.8 -0.2
KBA Koelnbreinsper 152.55 341⇓⇓*i*P PKPbc 15 30 30.3 -1.0
comp=Z,16nm,1.1s
KBA Koelnbreinsper 152.55 341⇑⇑*i*PKPdf PKPdf 15 30 20.8 -2.8
comp=Z,1.7nm,1.1s,SNR=6.7
KBA ⇓⇓*i*PKPbc PKPbc 15 30 30.3 -1.0
comp=Z,16nm,1.1s
BFO Black Forest 152.60 349 *e*PKIKP PKPdf 15 30 23.9 +0.2
BFO *e* 15 30 30.1
BFO *e* 15 30 43.5
BFO Black Forest 152.60 349 *e*PKPbc PKPbc 15 30 30.5 -0.8
BFO *e*PKPab PKPab 15 30 43.9 -1.1
BFO Black Forest 152.60 349 *e*PKPdf PKPdf 15 30 23.9 +0.2
BFO *e*PKPbc PKPbc 15 30 30.1 -1.2
BFO *e*PKPbc PKPbc 15 30 30.5 -0.8
BFO *e*PKPab PKPab 15 30 43.5 -1.5
BFO *e*PKPab PKPab 15 30 43.9 -1.1
BFO *e*SKP 15 32 53.8
CDF Champ du Feu 152.70 350⇑⇑*i*PKP1 PKPbc 15 30 30.9 -0.6
comp=Z,36nm,1.0s
FLN La Foliniere 152.86 2⇑⇑*i*PKP1 PKPbc 15 30 30.9 -1.0
comp=Z,36nm,0.6s
WTTA Wattenberg 152.87 343⇑⇑*i*P PKPbc 15 30 31.5 -0.4
comp=Z,12nm,0.4s
WTTA Wattenberg 152.87 343⇓⇓*i*P PKPab 15 30 46.4 +0.2
comp=Z,24nm,1.1s
WTTA Wattenberg 152.87 343⇑⇑*i*PKPdf PKPdf 15 30 21.0 -3.0
comp=Z,2.9nm,0.5s
WTTA ⇑⇑*i*PKiKP PKPbc 15 30 31.5 -0.4
comp=Z,12nm,0.4s
WTTA ⇓⇓*i*PKPab PKPab 15 30 46.4 +0.2
comp=Z,24nm,1.1s
MEZF Maizieres J'vi 152.90 354⇑⇑*i*PKP1 PKPbc 15 30 31.8 -0.2
ECH Echery 152.91 350 *e*PKIKP PKPbc 15 30 30.5 -1.5
ECH *e* PKPab 15 30 45.4 -0.9
LDF La Druitiere 153.04 1⇑⇑*i*PKP1 PKPbc 15 30 31.2 -1.0
comp=Z,20nm,0.6s
ABTA Abfaltersbach 153.09 342⇑⇑*i*P PKPbc 15 30 31.3 -1.2
comp=Z,23nm,1.3s
ABTA Abfaltersbach 153.09 342⇑⇑*i*P PKPab 15 30 46.6 -0.6
comp=Z,8.0nm,0.6s
ABTA Abfaltersbach 153.09 342⇑⇑*i*PKPdf PKPdf 15 30 21.7 -2.8
comp=Z,4.6nm,0.8s,SNR=6.4
ABTA ⇑⇑*i*PKPbc PKPbc 15 30 31.3 -1.2
comp=Z,23nm,1.3s
ABT

BOJS	**Bojanci**	**153.28**	**337**	*i* PKPdf	PKPbc	15 30 32.3	-0.5
BOJS				*i*	PKPab	15 30 47.2	-0.8
HINF	**Hinteralfeld**	**153.34**	**351**	⇑*i* PKP1	PKPbc	15 30 32.0	-0.9
	comp=Z,23nm,1.1s						
JAVS	**Javornik**	**153.37**	**339**	*i* PKPdf	PKPbc	15 30 31.7	-1.4
JAVS				*i*	PKPab	15 30 47.2	-1.2
QUIF	**Quistinic**	**153.55**	**6**	⇑*i* PKP1	PKPbc	15 30 32.3	-1.0
TUE	**Stuetta**	**154.17**	**346**	*e*PKPdf	PKPdf	15 30 22.4	-3.5
TUE				*e*PKPbc	PKPbc	15 30 34.2	-0.5
TUE				*e*PKPab	PKPab	15 30 51.7	-0.1
TUE				*e*SKP		15 32 54.9	
LOR	**Lormes**	**154.24**	**355**	⇑*i* PKP1	PKPbc	15 30 34.2	-0.6
	comp=Z,14nm,0.8s						
SSF	**Saint Saulge**	**154.47**	**355**	⇑*i* PKP1	PKPbc	15 30 34.7	-0.6
CABF	**La Chapelle**	**154.63**	**351**	*e*PKP1	PKPdf	15 30 35.6	+9.0
	comp=Z,16nm,0.9s						
AVF	**Avril sur Loir**	**154.75**	**356**	*e*PKP1	PKPdf	15 30 35.2	+8.5
SMF	**Signal de Mont**	**154.86**	**355**	*e*PKP1	PKPdf	15 30 35.5	+8.6
MFF	**Saint Martin d**	**155.03**	**1**	⇑*i* PKP1	PKPdf	15 30 35.7	+8.6
	comp=Z,14nm,0.7s						
TCF	**Toulx Ste Croi**	**155.32**	**357**	⇑*i* PKP1	PKPdf	15 30 36.4	+8.9
BNI	**Bardonecchia**	**156.06**	**349**	*e*PKIKP	PKPdf	15 30 27.6	-0.9
BNI				*e*		15 30 38.5	
BNI				*e*		15 30 58.9	
MVO	**Moncorvo**	**159.43**	**17**	*e*PKPdf	PKPdf	15 30 32.7	0.0
MVO	**Moncorvo**	**159.43**	**17**	*e*PKPab	PKPab	15 31 14.2	-0.6
PCBR	**Castelo Branco**	**160.53**	**19**	*e*PKPdf	PKPdf	15 30 33.6	-0.4
PCBR	**Castelo Branco**	**160.53**	**19**	*e*PKPab	PKPab	15 31 19.1	-0.5
PMAFR	**Mafra**	**160.71**	**24**	*e*PKPab	PKPab	15 31 19.1	-1.4
PMRV	**Marv??o**	**160.93**	**19**	*e*PKPdf	PKPdf	15 30 33.9	-0.5
PMRV	**Marv??o**	**160.93**	**19**	*e*PKPab	PKPab	15 31 20.6	-0.8
PESTR	**Estremoz**	**161.38**	**20**	*e*PKPdf	PKPdf	15 30 34.2	-0.7
PESTR	**Estremoz**	**161.38**	**20**	*e*PKPab	PKPab	15 31 22.5	-0.9
ESDC	**Sonseca Array**	**161.54**	**11**	PKPab	PKPab	15 31 23.2	-0.9
	comp=Z,12nm,0.9s,baz=346,slow=4.2,SNR=31						
EVO	**Evora**	**161.54**	**22**	*e*PKIKP	PKPdf	15 30 33.2	-1.9
	comp=Z,30nm,1.0s						
EVO	**Evora**	**161.54**	**22**	*e*PKPab	PKPab	15 31 22.8	-1.3
PBEJ	**Beja**	**162.05**	**22**	*e*PKPdf	PKPdf	15 30 36.0	+0.4
PBEJ	**Beja**	**162.05**	**22**	*e*PKPab	PKPab	15 31 25.6	-0.7
PTEO	**Sao Teotonio**	**162.15**	**25**	*e*PKPab	PKPab	15 31 25.9	-0.9
PBAR	**Barrancos**	**162.19**	**20**	*e*PKPdf	PKPdf	15 30 35.7	0.0
PBAR	**Barrancos**	**162.19**	**20**	*e*PKPab	PKPab	15 31 26.4	-0.6
MORF	**Marmelete**	**162.39**	**25**	*e*PKPdf	PKPdf	15 30 36.3	+0.3
MORF	**Marmelete**	**162.39**	**25**	*e*PKPab	PKPab	15 31 26.9	-1.0
PFVI	**Vila Bisbo**	**162.47**	**26**	*e*PKPab	PKPab	15 31 27.5	-0.7
PVAQ	**Vaqueiros**	**162.66**	**23**	*e*PKPab	PKPab	15 31 28.1	-0.9
PBDV	**Barranco-do-Ve**	**162.72**	**24**	*e*PKPab	PKPab	15 31 29.2	-0.1
LIC	**Lamto**	**163.79**	**160**	*e*PKIKP	PKPdf	15 30 36.7	-1.3
	comp=Z,18nm,0.7s						
LIC	**Lamto**	**163.79**	**160**	*e*PKIKP	PKPdf	15 30 36.7	-1.3
	comp=Z,51nm,1.3s						
LIC	**Lamto**	**163.79**	**160**	*e*P	PKPab	15 31 34.3	-0.2
	comp=Z,40nm,0.8s						
KEST	**Kesra**	**163.96**	**333**	PKPab	PKPab	15 31 34.8	-0.1
	comp=Z,1.0nm,0.4s,baz=77,slow=1.6,SNR=8.6						
KIC	**Kosan Boka**	**164.01**	**160**	*e*PKIKP	PKPdf	15 30 37.1	-1.1
	comp=Z,73nm,0.9s						
KIC	**Kosan Boka**	**164.01**	**160**	*e*P	PKPab	15 31 35.8	+0.3
	comp=Z,65nm,0.6s						
TIC	**Toumodi**	**164.19**	**159**	*e*PKIKP	PKPdf	15 30 37.1	-1.2
	comp=Z,18nm,0.2s						
TIC	**Toumodi**	**164.19**	**159**	*e*P	PKPab	15 31 36.6	+0.3
	comp=Z,18nm,0.2s						
DBIC	**Dimbokro**	**164.26**	**160**	PKP	PKPdf	15 30 37.4	-1.0
	comp=Z,6.7nm,0.6s,baz=138,slow=1.6,SNR=13						
DBIC				PKPab	PKPab	15 31 37.6	+1.0
	comp=Z,6.0nm,0.5s,baz=191,slow=6.2,SNR=11						
DBIC	**Dimbokro**	**164.26**	**160**	PKP	PKPdf	15 30 37.4	-1.0
DBIC				PKPab	PKPab	15 31 37.6	+1.0
TORD	**Torodi Ar. Bea**	**171.55**	**187**	PKP	PKPdf	15 30 42.1	-1.1
	comp=Z,3.3nm,0.7s,baz=348,slow=0.6,SNR=24						
TORD				PKPab	PKPab	15 32 08.8	0.0
	comp=Z,4.8nm,0.7s,baz=157,slow=3.2,SNR=16						
TORD				PP	PP	15 35 59.5	+0.3
	comp=Z,2.0nm,0.8s,baz=163,slow=4.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**171.55**	**187**	PKP	PKPdf	15 30 42.1	-1.1
TORD				PKPab	PKPab	15 32 08.8	0.0
TORD				PP	PP	15 35 59.5	+0.3
TAM	**Tamanrasset**	**175.29**	**286**	*e*PKIKP	PKPdf	15 30 44.5	+0.1

IDC 02 15:25:27.7±30.0, 1660S×17779W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=567.1km s-min=146.4km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.78**	**240**	P	P	15 33 03.2	+0.7
	1.9nm,0.8s,baz=96,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**45.46**	**258**	P	P	15 33 49.1	+0.2
	0.6nm,0.6s,baz=94,slow=7.7,SNR=23						
ASAR	**Alice Springs**	**45.72**	**253**	P	P	15 33 50.7	-0.2
	5.0nm,0.5s,baz=90,slow=8.5,SNR=197						
FITZ	**Fitzroy Crossi**	**53.84**	**259**	P	P	15 34 52.1	-0.7
	0.5nm,0.5s,baz=67,slow=7.7,SNR=3.4						

*ISCJB **02** 15:35:28.3±0.4, 3779N±004×10132E±006, h10km, mb3.7/10, Error ellipse: s-maj=8.5km s-min=3.9km az=139.0*
*BJI **02** 15:35:29.3, 3792N×10128E, h14km, mB4.7, mb4.2, ML4.2, Ms4.0, Msz3.6*
*IDC **02** 15:35:29.2±0.8, 3782N×10130E, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.8/24, mbtmp3.8/11, ML3.9/3, MS3.3/2, Ms1 3.4/2, ms1mx2.9/35, Error ellipse: s-maj=24.2km s-min=16.5km az=60.0*
*NEIC **02** 15:35:30.5±0.6, 3785N×10131E, h10km, mb4.1/3, Error ellipse: s-maj=15.8km s-min=9.6km az=61.0*
*MOS **02** 15:35:31.5±1.6, 3788N×10131E, h33km, mb4.1/6, Error ellipse: s-maj=17.2km s-min=9.4km az=108.1*

ISC 02 15:35:30.2±0.4, 3773N±004×10125E±005, h10km, n38, σ1§33/45, mb3.7/10, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.02**	**327**	PG	**Pn**	**15 36 03.3**	**-1.0**
GTA				SG	**Sn**	**15 36 29.2**	**-0.3**
GTA				Smax			
	comp=N,2μm,0.6s						
GTA				Smax			
	comp=E,2μm,0.7s						
LZH	**Lanzhou**	**2.65**	**127**	P	**Pb**	**15 36 16.1**	**-1.7**
LZH				PG	**Pg**	**15 36 18.4**	**-2.6**
LZH				SG	**Sg**	**15 36 55.0**	**-0.4**
LZH				Smax			
	comp=N,2μm,0.6s						
LZH				Smax			
	comp=E,2μm,0.9s						
CD2	**Chengdu**	**7.12**	**162**	*e*P	**Pn**	**15 37 16.4**	**+2.1**
CD2				S	**Sn**	**15 38 38.8**	**+3.6**
CD2				SG	**Sg**	**15 39 17.8**	**-0.8**
CD2				Smax			
	comp=N,40nm,1.2s						
CD2				Smax			
	comp=E,30nm,1.4s						
CD2				LR	LR		
	comp=N,370nm,7.2s						
CD2				LR	LR		
	comp=E,1μm,8.4s						
CD2				LR	LR		
	comp=Z,690nm,6.0s						
XAN	**Xi'an**	**7.24**	**118**	P	**Pn**	**15 37 13.9**	**-2.1**
XAN				SG	**Sg**	**15 39 22.0**	**-0.5**
XAN				Smax			
	comp=N,99nm,0.9s						
XAN				Smax			
	comp=E,52nm,0.9s						
BTO	**Baotou**	**7.40**	**64**	P	**Pn**	**15 37 20.3**	**+2.1**
BTO				SG	**Sb**	**15 39 08.8**	**+2.0**
BTO				Smax			
	comp=N,23nm,0.7s						
BTO				Smax			
	comp=E,9.0nm,0.6s						
SONM	**Songino Array**	**10.78**	**19**	Pn	**Pn**	**15 38 03.6**	**-0.9**
	comp=E,0.7nm,0.3s,baz=201,slow=15,SNR=23						
SONM				Lg		15 41 04.6	
	comp=E,2.1nm,0.3s,baz=204,slow=28,SNR=7.0						
WMQ	**Urumqi**	**11.93**	**305**	P	**Pn**	**15 38 20.1**	**-0.2**
WMQ				AP		15 38 24.8	
WMQ				XP		15 38 28.1	
WMQ				AMB	AMB		
	comp=Z,11nm,0.5s						
ZAK	**Zakamensk**	**12.73**	**6**	*e*P	**Pn**	**15 38 30.2**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**16.66**	**309**	P	**Pn**	**15 39 23.0**	**-0.7**
MKAR	**Makanchi Array**	**16.66**	**309**	Pn	**Pn**	**15 39 23.1**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=114,slow=12,SNR=8.9						
MKAR				LR	LR	15 46 16.9	
	comp=Z,150nm,20.1s,baz=242,slow=39						
CN2	**Changchun**	**19.27**	**64**	*e*P	**Pn**	**15 39 56.4**	**+0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.31**	**187**	P	**Pn**	**15 39 57.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=358,slow=8.9,SNR=4.7						
CMAR				LR	LR	15 48 35.5	
	comp=Z,75nm,21.4s,baz=180,slow=40						
ZAA0	**Zalesovo Array**	**19.77**	**330**	*e*P	**Pn**	**15 39 58.1**	**-3.5**
ZAL	**Zalesovo**	**19.77**	**330**	P	**Pn**	**15 39 58.9**	**-2.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**19.77**	**330**	P	**Pn**	**15 39 58.9**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=137,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**19.77**	**330**	P	**Pn**	**15 39 58.9**	**-2.8**
TKM2	**Tokmak 2**	**20.20**	**293**	P	**P**	**15 40 06.5**	**+1.6**
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TKM2	**Tokmak 2**	**20.20**	**293**	P	**P**	**15 40 06.5**	**+1.5**
	comp=Z,9.9nm,0.8s						
KURK	**Kurchatov**	**20.67**	**316**	*e*P	**P**	**15 40 11.2**	**+1.2**
KURK				pmax	pmax		
	comp=Z,12nm,0.9s						
KURK	**Kurchatov**	**20.67**	**316**	*e*P	**P**	**15 40 11.2**	**+1.2**
	comp=Z,12nm,0.9s						
UCH	**Uchtor**	**20.93**	**291**	P	**P**	**15 40 18.1**	**+5.1**
NVS	**Novosibirsk**	**21.05**	**330**	*i* P	**P**	**15 40 13.2**	**-0.9**
KSRS	**Korea Array**	**21.12**	**83**	P	**P**	**15 40 15.6**	**+0.6**
	comp=Z,7.0nm,0.8s,mb4.1,baz=276,slow=8.8,SNR=24						
KSRS	**Korea Array**	**21.12**	**83**	P	**P**	**15 40 15.6**	**+0.6**
KSRS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
EKS2	**Erkin-Say**	**21.51**	**292**	*e*P	**P**	**15 40 20.1**	**+0.9**
	comp=Z,3.1nm,0.8s,mb3.8						
AML	**Almayashu**	**21.54**	**290**	P	**P**	**15 40 23.5**	**+4.0**
BOD	**Bodaibo**	**21.78**	**19**	*e*P	**P**	**15 40 22.9**	**+1.0**
BOD				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.3						
KLR	**Kul'dur**	**24.77**	**53**	*e*P	**P**	**15 40 47.6**	**-4.3**
BVAR	**Borovoye Array**	**26.26**	**316**	P	**P**	**15 41 05.5**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.5,baz=98,slow=8.9,SNR=3.8						
BVAR	**Borovoye Array**	**26.26**	**316**	P	**P**	**15 41 05.5**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PETK	**Petropavlovsk-**	**41.38**	**49**	P	**P**	**15 43 16.1**	**-0.1**
	comp=Z,1.3nm,0.8s,mb3.6,baz=221,slow=5.9,SNR=4.2						
ARCES	**ARCESS Array B**	**50.27**	**334**	P	**P**	**15 44 27.5**	**+1.3**
	comp=Z,2.0nm,0.9s,mb4.2,baz=65,slow=5.8,SNR=5.6						
ARCES	**ARCESS Array B**	**50.27**	**334**	P	**P**	**15 44 27.5**	**+1.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**51.25**	**309**	P	**P**	**15 44 32.8**	**-1.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=62,slow=7.2,SNR=4.0						
GERES	**GERESS Array B**	**61.32**	**311**	P	**P**	**15 45 48.2**	**+2.4**
	comp=Z,0.4nm,0.5s,mb3.8,baz=57,slow=7.2,SNR=3.6						
WRA	**Warramunga Arr**	**65.27**	**146**	P	**P**	**15 46 12.7**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.8,baz=345,slow=6.8,SNR=6.5						
WRA	**Warramunga Arr**	**65.27**	**146**	P	**P**	**15 46 12.7**	**+0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**68.36**	**148**	P	**P**	**15 46 32.6**	**+0.8**
	comp=Z,0.3nm,0.6s,mb3.5,baz=344,slow=6.8,SNR=6.3						

*KRSC **02** 15:43:39.2±1.8, 5296N×15488E, h534km±54km, ML4.2*
*MOS **02** 15:43:42.9±0.9, 5333N×154.14E, h461km, mb3.7/6, Error ellipse: s-maj=30.5km s-min=16.2km az=64.4*
*ISCJB **02** 15:43:43.4±0.6, 5328N±009×1542E±02, h464km±5km, mb3.5/9, Error ellipse: s-maj=19.2km s-min=10.7km az=33.6*
*NEIC **02** 15:43:44.0±0.7, 5329N×15398E, h461km±8km, mb4.0/4, Error ellipse: s-maj=22.7km s-min=11.1km az=128.0*
*IDC **02** 15:43:44.2±1.7, 5327N×15402E, h464km±17km, mb3.0/8, mb1 3.3/9, mb1mx2.9/24, mbtmp2.9/9, Error ellipse: s-maj=61.3km s-min=12.1km az=128.0*

ISC 02 15:43:44.3±0.6, 5323N±009×1542E±02, h460km±5km, n38, σ1§03/49, mb3.5/9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.82**	**121**	*e*P	**P**	**15 44 45.7**	**+0.9**
PETK	**Petropavlovsk-**	**2.11**	**92**	*e*P	**P**	**15 44 46.9**	**+0.7**
	1.1nm,0.3s,baz=285,slow=18,SNR=51						
PETK				S	**S**	**15 45 42.6**	**+6.0**
	0.1nm,0.3s,baz=238,slow=32,SNR=2.8						
PETK	**Petropavlovsk-**	**2.11**	**92**	*e*P	**P**	**15 44 46.7**	**+0.5**
GNL	**Ganaly**	**2.28**	**77**	*i* P	**P**	**15 44 48.1**	**+0.9**
GNL				*i* S	**S**	**15 45 37.8**	**-0.6**
GRL	**Gorelyy**	**2.44**	**105**	P	**P**	**15 44 49.9**	**+1.7**
PET	**Petropavlovsk**	**2.69**	**93**	*i* P	**P**	**15 44 50.5**	**+0.7**
PET				*i* S	**S**	**15 45 42.8**	**-0.4**
PET	**Petropavlovsk**	**2.69**	**93**	*e*P	**P**	**15 44 50.4**	**+0.5**
PET				*e*S	**S**	**15 45 43.0**	**-0.2**
AVH	**Avacha**	**2.72**	**88**	*e*P	**P**	**15 44 51.4**	**+1.4**
AVH				*i* S	**S**	**15 45 43.3**	**-0.3**
RUS	**Russkaya**	**2.73**	**105**	*e*P	**P**	**15 44 50.1**	**0.0**
RUS				*i* S	**S**	**15 45 41.9**	**-1.8**
NLC	**Nalytchevo**	**3.09**	**89**	*e*P	**P**	**15 44 53.4**	**+0.7**
NLC				*i* S	**S**	**15 45 48.0**	**-0.4**
SPN	**Mys Shipunski**	**3.50**	**90**	*e*P	**P**	**15 44 55.3**	**-0.5**
SPN				*i* S	**S**	**15 45 50.3**	**-3.9**
TUMR	**Tumrok**	**4.04**	**57**	*e*P	**P**	**15 45 01.9**	**+1.6**
TUMR				*i* S	**S**	**15 46 01.5**	**-0.8**
KPT	**Kopyto**	**4.44**	**50**	*e*P	**P**	**15 45 04.6**	**+0.8**
MKZ	**Mys Kozlova**	**4.64**	**70**	*i* P	**P**	**15 45 04.6**	**-1.0**
MKZ				*i* S	**S**	**15 46 05.7**	**-6.4**
ZLN	**Zelenaya**	**4.74**	**51**	P	**P**	**15 45 06.9**	**+0.4**
KRSR	**Krestovskiy**	**4.75**	**48**	*e*P	**P**	**15 45 07.3**	**+0.8**
SRKR	**Sorokina**	**5.28**	**47**	P	**P**	**15 45 11.4**	**-0.2**
KBTR	**Krutoberegovo**	**5.81**	**56**	*e*P	**P**	**15 45 14.5**	**-2.4**
KBTR				*i* S	**S**	**15 46 25.6**	**-7.1**
MA2	**Magadan**	**6.64**	**345**	*e*Pn	**P**	**15 45 24.0**	**-1.2**
MA2				pmax	pmax		
	comp=Z,15nm,0.6s						
MA2	**Magadan**	**6.64**	**345**	*e*P	**P**	**15 45 24.0**	**-1.2**
	comp=Z,15nm,0.6s						
MAJO	**Matsushiro**	**20.10**	**220**	P	**P**	**15 47 44.7**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAJO	**Matsushiro**	**20.10**	**220**	P	**P**	**15 47 44.7**	**-1.2**
	comp=Z,4.7nm,0.6s						
MJAR	**Matsushiro Arr**	**20.10**	**220**	P	**P**	**15 47 46.2**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=15,slow=9.8,SNR=6.2						
MJAR	**Matsushiro Arr**	**20.10**	**220**	P	**P**	**15 47 46.2**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BPAW	**Bear Paw Mtn.**	**29.53**	**47**	P	**P**	**15 49 12.0**	**+2.6**
	comp=Z,3.1nm,1.0s,mb3.7						
EGAK	**Eagle**	**33.65**	**44**	*e*P	**P**	**15 49 43.2**	**-1.6**
	comp=Z,2.8nm,0.9s,mb3.7						
INK	**Inuvik**	**35.91**	**37**	P	**P**	**15 50 03.3**	**-0.4**
	comp=Z,1.7nm,0.3s,mb3.9,baz=299,slow=4.8,SNR=14						
INK	**Inuvik**	**35.91**	**37**	P	**P**	**15 50 03.3**	**-0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
INK	**Inuvik**	**35.91**	**37**	*e*P	**P**	**15 50 03.2**	**-0.6**
	comp=Z,63nm,0.4s,mb5.4						
YKA	**Yellowknife Ar**	**45.41**	**41**	P	**P**	**15 51 19.8**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.2,baz=304,slow=6.6,SNR=2.9						
YKA	**Yellowknife Ar**	**45.41**	**41**	P	**P**	**15 51 19.8**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**58.98**	**66**	P	**P**	**15 52 59.4**	**+1.2**
	comp=Z,0.4nm,0.5s,mb3.0,baz=313,slow=5.7,SNR=2.6						
PDAR	**Pinedale Array**	**60.49**	**57**	P	**P**	**15 53 08.4**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.2,baz=325,slow=2.3,SNR=4.3						
TXAR	**Lajitas Array**	**73.79**	**63**	P	**P**	**15 54 30.9**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.1,baz=293,slow=4.6,SNR=5.0						
WRA	**Warramunga Arr**	**74.87**	**199**	P	**P**	**15 54 35.6**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.4,baz=17,slow=6.0,SNR=12						
WRA	**Warramunga Arr**	**74.87**	**199**	P	**P**	**15 54 35.6**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**78.58**	**199**	P	**P**	**15 54 56.8**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.5,baz=23,slow=4.8,SNR=33						
ASAR	**Alice Springs**	**78.58**	**199**	P	**P**	**15 54 56.8**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*PRU **02** 16:03:20.2, 5043N×1880E, h0km*

WAR 02 16:03:20.7, 5036N×1891E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.59**	**104**	*e*Pg	Pg	16 03 32.2	+0.3
OJC				*e*Sg	Sg	16 03 41.9	+2.4
OKC	**Ostrava-Krasne**	**0.72**	**223**	*e*PG	Pg	16 03 34.2	-0.3
OKC				*e*SG	Sg	16 03 44.5	+0.7
	comp=Z,14nm,0.3s						
NIE	**Niedzica**	**1.31**	**136**	*e*Pg	Pg	16 03 46.2	+0.4
NIE				*e*Sg	Sg	16 04 04.2	+1.5
DPC	**Dobruska-Polom**	**1.66**	**271**	*e*PG	Pg	16 03 50.1	-2.4
DPC				*e*SG	Sg	16 04 12.3	-1.7
	comp=Z,8.8nm,0.4s						
VYHS	**Vyhne**	**1.87**	**182**	*e*PN	Pn	16 03 52.9	-1.0
VYHS				*e*SN	Sn	16 04 19.2	+1.0
CRVS	**Cervenica-Dubn**	**2.21**	**130**	*e*SN	Sn	16 04 31.8	+5.2
KOLS	**Kolonicke sedl**	**2.61**	**122**	*e*PG	Pg	16 04 11.6	+0.9
PRU	**Pruhonice**	**2.83**	**264**	*e*PG	Pg	16 04 10.8	-4.2
PRU				*e*SG	Sg	16 04 48.5	-3.2
	comp=Z,8.6nm,1.1s						
BRG	**Berggiesshubel**	**3.21**	**281**	SG	Sg	16 04 59.0	-4.6
	comp=Z,2.3nm,0.5s						
KHC	**Kasperske Hory**	**3.67**	**252**	*e*PG	Pg	16 04 25.7	-5.3
KHC				*e*SG	Sg	16 05 16.9	-1.7
	comp=Z,4.0nm,0.5s						
NKC	**Novy Kostel**	**4.15**	**271**	*e*SG	Sg	16 05 31.1	-2.7
	comp=Z,4.0nm,0.4s						

DJA 02 16:21:40.8±14S×10780E, h148km, ML3.5/2, 1C, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**1.32**	**352**	⇑*i* P	Pn	16 22 12.8	+5.2
LEM				*i* S	Sn	16 22 35.1	+6.5

*NIED **02** 16:35:00, 4680N×14170E, h8km, Mw3.6 Best double couple: M0 2.73000×10^14 NP1:φs=43.00000°, δ70.00000°, λ-137.00000°. NP2:φs=295.00000°, δ50.00000°, λ-27.00000°.*

JMA 02 16:35:17.9±0.5, 4679N×14167E, h0km, M4.0, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.48**	**174**	P	Pn	16 35 45.5	-0.3
JWK2				*e*S	Sg	16 36 05.3	-0.2
JRR	**Rishiri**	**1.67**	**189**	P	Pn	16 35 48.6	+0.2
JRR				*e*S	Sn	16 36 11.3	+0.8

*MOS **02** 17:00:18.9±1.1, 5255N×168.18W, h37km, mb4.7/34, Error ellipse: s-maj=12.9km s-min=7.9km az=105.8*
*NEIC **02** 17:00:18.9±1.5, 5240N×16822W, h27km±9km, mb4.4/24, ML3.8(AEIC), Error ellipse: s-maj=8.6km s-min=5.1km az=181.0*
*ISCJB **02** 17:00:18.4±0.8, 5240N±005×168.17W±005, h36km±6km, mb4.5/62, MS3.6/10, Error ellipse: s-maj=8.9km s-min=5.1km az=0.4*
*IDC **02** 17:00:20.1±7.3, 5259N×168.17W, h33km±55km, mb4.1/22, mb1 4.3/22, mb1mx4.2/28, mbtmp4.1/22, MS3.6/6, Ms1 3.5/6, ms1mx3.3/36, Error ellipse: s-maj=21.1km s-min=12.2km az=179.0*
*BJI **02** 17:00:21.5, 5327N×16891W, h27km, mB4.9, mb4.8*
*SZGRF **02** 17:00:33.2, 5285N×16976E, h33km, mb4.8, South of Aleutian Islands*

ISC 02 17:00:20.3±0.7, 5243N±005×16815W±005, h36km±5km, h34km±3.1km: pP-P, n165, σ1§13/169, mb4.5/62, MS3.6/10, 7C-1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.69**	**322**	P	**Pn**	**17 00 32.2**	**-1.4**
NIKO				S	**Sn**	**17 00 45.0**	**+2.0**
OKCE	**Okmok Cone E**	**1.00**	**360**	P	**Pn**	**17 00 37.6**	**-0.1**
OKCE				S	**Sn**	**17 00 53.5**	**+2.9**
OKCD	**Okmok Cone D**	**1.00**	**1**	P	**Pn**	**17 00 37.7**	**-0.1**
UNV	**Unalaska Valle**	**1.73**	**34**	P	**Pn**	**17 00 46.4**	**-1.5**
UNV				S	**Sn**	**17 01 10.9**	**+2.2**
AKLV	**Akutan Long Va**	**2.18**	**36**	P	**Pn**	**17 00 53.2**	**-0.8**
AKGG	**Akutan Green G**	**2.19**	**35**	P	**Pn**	**17 00 53.9**	**-0.3**
AKUT	**Akutan**	**2.23**	**39**	*e*P	**Pn**	**17 00 55.5**	**+0.9**
FALS	**False Pass**	**3.72**	**47**	*e*P	**Pn**	**17 01 16.0**	**+0.8**
SDPT	**Sand Point**	**5.40**	**54**	*e*P	**Pn**	**17 01 37.3**	**-0.9**
CHGN	**Chignik**	**6.88**	**52**	*e*P	**

INK Inuvik 22.89 33 *e*P **P 17 05 17.7 -2.6**
comp=Z,509nm,1.0s,mb5.9
SEY Seymchan 23.18 312 *i* P **P 17 05 22.9 -0.5**
MA2 Magadan 23.73 304 *e*P **P 17 05 32.1 +3.4**
YKA Yellowknife Ar 29.64 49 P **P 17 06 22.1 +0.3**
comp=Z,1.6nm,0.8s,mb3.8,baz=270,slow=7.8,SNR=3.1
YKA LR LR 17 20 17.5
comp=Z,53nm,18.5s,MS3.2,baz=225,slow=40
YKA Yellowknife Ar 29.64 49 P **P 17 06 22.2 +0.4**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA MLR MLR
comp=Z,53nm,18.5s
YBH Yreka Blue Hor 32.23 91 P **P 17 06 46.4 +1.5**
comp=Z,1.9nm,0.6s,mb4.1,baz=316,slow=7.2,SNR=4.1
YBH LR LR 17 16 18.0
comp=Z,74nm,21.2s,MS3.4,baz=284,slow=30
YBH Yreka Blue Hor 32.23 91 P **P 17 06 46.4 +1.5**
YBH pmax pmax
comp=Z,2.0nm,0.6s
YBH MLR MLR
comp=Z,74nm,21.2s
YAK Yakutsk 33.69 311⇑ *e*P **P 17 06 55.6 -1.8**
YAK pmax pmax
comp=Z,16nm,1.1s,mb4.9
POHA Pohakuloa 34.06 158 *e*P **P 17 06 59.8 -1.2**
WVOR Wild Horse Val 34.33 87 *e*P **P 17 07 04.0 +0.8**
WVOR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WVOR Wild Horse Val 34.33 87 *e*P **P 17 07 04.0 +0.8**
comp=Z,6.4nm,0.9s,mb4.5
CHMT Chamberlain Mo 35.22 77 P **P 17 07 09.9 -0.8**
HABR Khabarovsk 35.58 287 *e*P **P 17 07 13.1 -0.8**
HABR *e* 17 08 32.4
HABR *e*S **S 17 12 47.5 +0.4**
HABR *e*SS SS 17 15 08.2 -14
MCMT McKenzie Canyo 36.53 79 *e*P **P 17 07 21.7 -0.4**
NVAR Mina Array Bea 36.92 92 P **P 17 07 26.4 +1.0**
comp=Z,2.1nm,0.8s,mb4.0,baz=294,slow=8.0,SNR=17
NVAR Mina Array Bea 36.92 92 P **P 17 07 26.4 +1.0**
KLR Kul'dur 37.14 290 *e*P **P 17 07 19.2 -8.0**
MTUM Tungsten Hills 37.44 94 *e*P **P 17 07 31.2 +1.4**
RLMT Red Lodge 38.52 77 *e*P **P 17 07 39.3 +0.4**
comp=Z,4.7nm,1.0s,mb4.2
ISA Isabella 38.60 96 *e*P **P 17 07 39.9 +0.3**
ISA pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ISA Isabella 38.60 96 *e*P **P 17 07 39.9 +0.2**
comp=Z,3.9nm,0.8s,mb4.2
TPNV Topopah Spring 39.12 92 *e*P **P 17 07 44.6 +0.6**
TPNV pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
TPNV Topopah Spring 39.12 92 *e*P **P 17 07 44.6 +0.6**
comp=Z,6.1nm,0.8s,mb4.4
DUG Dugway 39.20 86 *e*P **P 17 07 45.8 +1.2**
DUG pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
DUG Dugway 39.20 86 *e*P **P 17 07 45.8 +1.3**
comp=Z,8.1nm,1.3s,mb4.3
PDAR Pinedale Array 39.66 80 P **P 17 07 48.4 0.0**
comp=Z,1.6nm,0.8s,mb3.8,baz=316,slow=5.4,SNR=10.0
GSC Goldstone 39.85 95 *e*P **P 17 07 50.3 +0.2**
GSC pmax pmax
comp=Z,33nm,0.6s,mb5.2
GSC Goldstone 39.85 95 *e*P **P 17 07 50.3 +0.1**
comp=Z,33nm,0.6s,mb5.2
MJAR Matsushiro Arr 40.44 269 P **P 17 07 54.7 -0.2**
comp=Z,2.6nm,0.7s,mb4.0,baz=44,slow=7.5,SNR=8.3
MJAR Matsushiro Arr 40.44 269 P **P 17 07 54.7 -0.3**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MDJ Mudanjiang 40.80 285 P **P 17 07 57.3 -0.5**
MDJ AP pP 17 08 06.2 -2.1
MDJ XP sP 17 08 10.1 -2.4
MDJ PP PP 17 09 30.8 -1.3
MDJ S **S 17 14 05.5 -0.6**
MDJ XS sS 17 14 19.8 -3.5
MDJ AMB AMB
comp=Z,7.0nm,1.3s,mb4.1
MDJ AMB AMB
comp=Z,53nm,3.2s
BOD Bodaibo 42.53 309 *e*P **P 17 08 09.6 -2.2**
BOD *e* pP 17 08 20.7 -1.6
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
ULM Lac du Bonnet 43.46 63 LR LR 17 28 13.1
comp=Z,88nm,19.4s,MS3.7,baz=273,slow=38
CN2 Changchun 43.71 286 *e*P **P 17 08 21.0 -0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
SDCO Great Sand Dun 45.17 83 *e*P **P 17 08 33.9 +0.6**
comp=Z,7.9nm,1.3s,mb4.4
KSRS Korea Array 46.14 278 P **P 17 08 42.1 +1.2**
comp=Z,12nm,1.0s,mb4.8,baz=56,slow=7.3,SNR=26
KSRS LR LR 17 28 42.8
comp=Z,48nm,18.5s,MS3.5,baz=215,slow=37
KSRS Korea Array 46.14 278 P **P 17 08 42.1 +1.2**
KSRS pmax pmax
comp=Z,12nm,1.0s,mb4.8
KSRS MLR MLR
comp=Z,48nm,18.5s,MS3.5
SUMG Summit 50.50 17 *e*P **P 17 09 14.3 +0.2**
comp=Z,3.4nm,0.9s,mb4.3
TLY Talaya 50.90 307 *e*P **P 17 09 16.8 -0.6**
TLY pmax pmax
comp=Z,11nm,1.5s,mb4.6
TLY MLR MLR
comp=Z,123nm,18.0s,MS4.0
TLY Talaya 50.90 307 *e*P **P 17 09 16.7 -0.7**
comp=Z,2.7nm,0.7s,mb4.3
WMOK Wichita Mounta 51.23 81 *e*P **P 17 09 19.2 -0.9**
WMOK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
WMOK Wichita Mounta 51.23 81 *e*P **P 17 09 19.2 -0.9**
comp=Z,5.7nm,1.0s,mb4.5
ZAK Zakamensk 51.89 306 *e*P **P 17 09 24.6 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
SONM Songino Array 51.91 301 P **P 17 09 25.4 +0.5**
comp=Z,2.6nm,0.6s,mb4.3,baz=57,slow=6.4,SNR=24
SONM Songino Array 51.91 301 P **P 17 09 25.4 +0.5**
SONM pmax pmax
comp=Z,3.0nm,0.6s
TXAR Lajitas Array 52.00 90 P **P 17 09 25.5 -0.4**
comp=Z,3.1nm,0.8s,mb4.3,baz=299,slow=5.6,SNR=28
TXAR Lajitas Array 52.00 90 P **P 17 09 25.5 -0.4**
TXAR pmax pmax
comp=Z,3.0nm,0.8s
MOY Mondy 52.20 308 *e*P **P 17 09 27.5 +0.4**
HVS Khovu-Aksy 55.99 311 *c i*P **P 17 09 54.8 +0.1**
HVS pmax pmax
comp=Z,24nm,1.1s,mb5.1
KEV Kevo 57.63 354 *e*p **P 17 10 05.6 -0.4**
comp=Z,0.8nm,0.4s,mb4.1
KEV Kevo 57.63 354 *e*P **P 17 10 05.6 -0.4**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ZALV Zalesovo Beam 57.88 318 P **P 17 10 07.4 -0.6**
comp=Z,0.8nm,0.5s,mb4.0,baz=60,slow=5.8,SNR=3.8
ZAL Zalesovo 57.90 318 P **P 17 10 07.4 -0.7**
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 57.94 354 P **P 17 10 05.9 -2.3**
comp=Z,1.4nm,0.5s,mb4.3,baz=351,slow=4.9,SNR=9.9
ARCES ARCESS Array B 57.94 354 P **P 17 10 05.9 -2.3**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
XAN Xi'an 59.79 288 P **P 17 10 21.5 -0.1**
XAN AP pP 17 10 32.1 -0.3
XAN XP sP 17 10 37.1 +0.5
XAN AMB AMB
comp=Z,12nm,1.3s,mb4.8
XAN AMB AMB
comp=Z,66nm,7.1s
GTA Gaotai 61.11 298 *e*P **P 17 10 30.4 -0.1**
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.8
LZH Lanzhou 61.26 293 *e*P **P 17 10 32.5 +1.0**
LZH AP pP 17 10 40.7 -1.7
LZH XP sP 17 10 44.0 -2.6
LZH AMB AMB
comp=Z,39nm,1.1s,mb5.5
LZH AMB AMB
comp=Z,96nm,4.7s
KURK Kurchatov 62.82 319⇑ *e*P **P 17 10 41.5 -0.3**
KURK pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
JOF Joensuu 63.98 350 *e*p **P 17 10 48.8 -0.5**
comp=Z,1.2nm,0.4s,mb4.3
SVE Sverdlovsk 63.98 333⇑ *e*P **P 17 10 49.8 +0.4**
SVE *e*PPP 17 14 42.6
SVE *e*S **S 17 19 22.5 0.0**
SVE *e* 17 20 38.2
SVE pmax pmax
comp=Z,11nm,1.0s,mb4.8
MKAR Makanchi Array 64.30 314 P **P 17 10 49.9 -1.8**
comp=Z,0.8nm,0.6s,mb4.0,baz=231,slow=41,SNR=6.8
MKAR Makanchi Array 64.30 314 P **P 17 10 49.9 -1.8**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
ARU Arti 64.90 333 *d i*P **P 17 10 54.5 -0.9**
ARU *e* 17 11 25.4
ARU *e*S **S 17 19 32.4 -1.4**
ARU *e*SS SS 17 23 39.5 -5.2
ARU SSS 17 26 38.5
ARU pmax pmax
comp=Z,14nm,1.2s,mb4.9
ARU Arti 64.90 333 *e*P **P 17 10 54.2 -1.2**
comp=Z,11nm,0.9s,mb4.9
CD2 Chengdu 65.06 289 P **P 17 10 58.0 +1.2**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
KAF Kangasniemi 65.23 353 *e*p **P 17 10 56.1 -1.3**
comp=Z,1.7nm,0.4s,mb4.4
KAF Kangasniemi 65.23 353 *e*P **P 17 10 56.1 -1.3**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
GYA Guiyang 66.64 283 P **P 17 11 08.6 +1.5**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
NB2 NORSAR Subarra 66.88 0 P **P 17 11 07.3 -0.7**
comp=Z,0.2nm,0.6s,mb3.3,baz=3.9,slow=6.5
NOA NORSAR Array B 66.88 0 P **P 17 11 07.5 -0.5**
comp=Z,1.5nm,0.6s,mb4.2,baz=0.2,slow=6.3,SNR=4.8
NOA NORSAR Array B 66.88 0 P **P 17 11 07.5 -0.5**
NOA pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 70.88 345⇑ *e*P **P 17 11 32.0 -1.0**
OBN pmax pmax
comp=Z,17nm,1.3s,mb4.8
PPT Papeete 71.55 161 LR LR 17 37 51.5
comp=Z,52nm,20.9s,MS3.8,baz=258,slow=31
LSA Lhasa 73.09 297 P **P 17 11 48.2 +1.5**
LSA Lhasa 73.09 297 *e*P **P 17 11 48.4 +1.7**
LSA pmax pmax
comp=Z,16nm,1.0s,mb4.9
LSA Lhasa 73.09 297 *e*P **P 17 11 48.4 +1.7**
comp=Z,16nm,1.0s,mb4.9
AKASG Malin Array Be 76.20 349 P **P 17 12 02.8 -1.5**
comp=Z,1.7nm,0.6s,mb4.2,baz=11,slow=5.7,SNR=6.0
AKASG Malin Array Be 76.20 349 P **P 17 12 02.8 -1.5**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 77.33 284 P **P 17 12 12.2 +1.1**
comp=Z,5.1nm,0.9s,mb4.4,baz=27,slow=5.4,SNR=22
CMAR Chiang Mai Arr 77.33 284 P **P 17 12 12.3 +1.1**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
DPC Dobruska-Polom 77.53 357 *e*P **P 17 12 12.8 +1.0**
OKC Ostrava-Krasne 77.97 356 *e*P **P 17 12 15.4 +1.1**
GRA1 Grafenberg Arr 78.25 0 *e*P **P 17 12 16.7 +0.8**
comp=Z,10.0nm,1.4s,mb4.5
GRF Grafenberg Arr 78.25 0 *e*P **P 17 12 16.7 +0.8**
GRF pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
GRF Grafenberg Arr 78.25 0 *e*P **P 17 12 16.7 +0.8**
GRF pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
GRF Grafenberg Arr 78.25 0 *e*P **P 17 12 16.7 +0.8**
comp=Z,10.0nm,1.4s,mb4.5
KHC Kasperske Hory 78.81 359 *e*P **P 17 12 20.3 +1.4**
GERES GERESS Array B 79.09 359 P **P 17 12 20.9 +0.5**
comp=Z,0.9nm,0.8s,mb3.7,baz=3.8,slow=4.0,SNR=6.2
GERES GERESS Array B 79.09 359 P **P 17 12 20.9 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.8s
KECS Kecovo 79.20 354 *e*P **P 17 12 21.4 +0.3**
GOF Gofitskoye 79.25 338 *e*P sP 17 12 35.8 -0.9
GOF pmax pmax
comp=Z,46nm,1.3s,mb5.2
VYHS Vyhne 79.28 355 *i* P **P 17 12 22.4 +0.9**
VYHS Vyhne 79.28 355 *e*P **P 17 12 22.4 +0.9**
HAU Haudompre 79.83 4 *e*P **P 17 12 24.8 +0.3**
HAU *e*MLR MLR
comp=Z,63nm,21.0s,MS3.6
KBL Kabul 80.08 315 *e*P **P 17 12 25.6 -0.5**
KBL pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KBL Kabul 80.08 315 *e*P **P 17 12 25.6 -0.5**
comp=Z,9.3nm,0.9s,mb4.7
KIV Kislovodsk 80.38 338 *e*P **P 17 12 28.8 +1.3**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,96nm,20.0s,MS4.1
LOR Lormes 80.45 6 *e*P **P 17 12 28.1 +0.3**
comp=Z,12nm,1.1s,mb4.5
LOR *e*MLR MLR
comp=Z,79nm,19.2s,MS3.8
SSF Saint Saulge 80.63 6 *e*P **P 17 12 29.0 +0.2**
ANN Anapa 80.68 342 *e*P pP 17 12 40.5 +0.2
ANN *e**PP sP 17 12 50.3 +5.9
ANN pmax pmax
comp=Z,20nm,1.0s,mb5.0
MFF Saint Martin d 80.81 8 *e*P **P 17 12 29.9 +0.1**
comp=Z,25nm,1.1s,mb4.8
AVF Avril sur Loir 80.89 6 *e*P **P 17 12 30.2 0.0**
comp=Z,11nm,0.9s,mb4.5
AVF Avril sur Loir 80.89 6 *e*P **P 17 12 30.2 0.0**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AVF Avril sur Loir 80.89 6 *e*P **P 17 12 30.2 0.0**
comp=Z,5.5nm,0.9s,mb4.5
CABF La Chapelle 81.22 4 *e*P **P 17 12 31.0 -1.0**
comp=Z,32nm,1.3s,mb4.8
TCF Toulx Ste Croi 81.31 7 *e*P **P 17 12 32.7 +0.2**
VIVF Saint-Julien-l 82.90 5 *e*P **P 17 12 40.7 -0.1**
MBDF Montbardon 83.12 4 *e*P **P 17 12 43.4 +1.4**
comp=Z,12nm,0.8s,mb4.7
KAPI Kappang 83.17 253 P **P 17 12 42.8 +0.2**
comp=Z,4.1nm,0.3s,mb4.9,baz=144,slow=19,SNR=2.6
LMR La Mourre 84.50 4 *e*P **P 17 12 49.0 -0.1**
comp=Z,67nm,1.5s,mb5.3
PGF Pioggiola 85.37 2 *e*P **P 17 12 53.3 -0.1**
comp=Z,43nm,1.1s,mb5.2
ESDC Sonseca Array 87.25 12 P **P 17 13 02.7 0.0**
comp=Z,0.2nm,0.3s,mb3.8,baz=348,slow=2.8,SNR=5.1
WRA Warramunga Arr 87.63 233 P **P 17 13 03.9 -0.7**
comp=Z,1.8nm,1.0s,mb4.2,baz=41,slow=5.5,SNR=7.5
WRA Warramunga Arr 87.63 233 P **P 17 13 03.9 -0.7**
WRA pmax pmax
comp=Z,2.0nm,1.0s
PSI Prapat 89.59 274 P **P 17 13 14.7 +0.5**
comp=Z,2.5nm,0.4s,mb4.9,baz=158,slow=15,SNR=3.3
PSI Prapat 89.59 274 P **P 17 13 14.7 +0.5**
PSI pmax pmax
comp=Z,3.0nm,0.4s,mb5.0
ASAR Alice Springs 91.01 231 P **P 17 13 20.4 0.0**
comp=Z,1.4nm,0.9s,mb4.3,baz=47,slow=4.6,SNR=11
ASAR Alice Springs 91.01 231 P **P 17 13 20.4 0.0**
ASAR pmax pmax
comp=Z,1.0nm,0.9s
MAW Mawson 151.38 218 PKPbc PKPbc 17 20 08.3 -0.2
comp=Z,1.4nm,0.7s,baz=75,slow=5.5,SNR=5.7
MAW Mawson 151.38 218 PKIKP PKPbc 17 20 08.3 -0.2
MAW pmax pmax
comp=Z,1.0nm,0.7s

NIED ***02*** *17:36:00,4680N×14180E,h5km,Mw3.8 Best double couple: M₀5.42000×10¹⁴ NP1:φ₀193.00000°,δ57.00000°, λ87.00000°. NP2:φ₀18.00000°,δ33.00000°,λ94.00000°.*
JMA ***02*** *17:36:31.6±0.3,4685N×14176E,h14km,M3.8*
ISCJB ***02*** *17:36:31.7±1.7,4679N±004×1419E±01,h5km±12km, mb3.5/7,Error ellipse: s-maj=12.1km s-min=5.9km az=1.1*
MOS ***02*** *17:36:31.9±1.1,4676N×14176E,h10km,mb3.7/2,Error ellipse: s-maj=28.6km s-min=16.1km az=84.1*
NEIC ***02*** *17:36:34.0±2.4,4684N×14181E,h11km±16km,mb4.2/1, Error ellipse: s-maj=22.0km s-min=14.0km az=132.0*
IDC ***02*** *17:36:38.7±3.3,4665N×14168E,h46km±34km,mb3.2/5, mb1 3.6/7,mb1mx3.4/22,mbtmp3.3/7,ML3.2/2,MS2.7/1, Ms1 2.7/1,ms1mx1.8/23,Error ellipse: s-maj=30.2km s-min=21.7km az=30.0*
ISC 02 17:36:33.3±1.5,4677N±004×1419E±01,h8km±11km,n27, σ0993/35,mb3.5/7,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.64**	**73**	*e*PN	**Pg**	**17 36 46.6**	**+1.0**
JWK2	**Keihoku**	**1.45**	**179**	P	**Pn**	**17 36 58.8**	**-1.0**
JWK2				*e*S	**Sn**	**17 37 18.2**	**-0.8**
JRR	**Rishiri**	**1.67**	**194**	P	**Pn**	**17 37 02.5**	**-0.4**
JRR				*e*S	**Sn**	**17 37 24.5**	**0.0**
JSE	**Soyaes**	**1.88**	**164**	P	**Pn**	**17 37 04.9**	**-0.7**
JSE				*e*S	**Sn**	**17 37 29.8**	**+0.3**
UGL	**Uglegorsk**	**2.32**	**3**	PN	**Pn**	**17 37 11.5**	**-0.2**
UGL				*e*S	**Sn**	**17 37 46.5**	**+6.1**
UGL				pmax	pmax		
	comp=N,195nm,0.7s						
JYG	**Yagishiri**	**2.36**	**188**	P	**Pn**	**17 37 12.2**	**-0.1**
JYG				*e*S	**Sn**	**17 37 41.7**	**+0.3**
JSS	**Shosan**	**2.37**	**180**	P	**Pn**	**17 37 12.0**	**-0.4**
JSS				*e*S	**Sn**	**17 37 43.0**	**+1.4**
ASAJ	**Asahikawa**	**2.70**	**169**	P	**Pn**	**17 37 16.9**	**-0.1**
ASAJ				*e*S	**Sn**	**17 37 50.1**	**+0.3**
ASAJ	**Asahikawa**	**2.70**	**169**	P	**Pn**	**17 37 16.9**	**-0.1**
	comp=N,3.7nm,0.3s,baz=25,slow=13,SNR=26						
ASAJ				S	**Sn**	**17 37 49.9**	**+0.1**
	comp=N,12nm,0.3s,baz=57,slow=22,SNR=5.4						
ASAJ	**Asahikawa**	**2.70**	**169**	PN	**Pn**	**17 37 16.9**	**-0.1**
ASAJ				S	**Sn**	**17 37 49.9**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,12nm,0.3s						
JMP	**Maruseppu**	**2.95**	**159**	P	**Pn**	**17 37 19.0**	**-1.5**
JKK2	**Kamakawa 2**	**2.96**	**168**	P	**Pn**	**17 37 20.6**	**+0.1**
JKK2				*e*S	**Sn**	**17 37 58.1**	**+1.9**
JHR	**Hokuryu**	**3.02**	**182**	P	**Pn**	**17 37 22.1**	**+0.7**
JTKR	**Abashiri--Toko**	**3.14**	**152**	P	**Pn**	**17 37 22.0**	**-1.1**
JTKR				*e*S	**Sn**	**17 37 59.2**	**-1.5**
MJAR	**Matsushiro Arr**	**10.57**	**196**	P	**Pn**	**17 39 07.1**	**+2.0**
	comp=N,0.2nm,0.3s,baz=12,slow=12,SNR=4.9						
PETK	**Petropavlovsk-**	**12.00**	**52**	LR	LR	17 44 01.5	
	comp=N,40nm,20.0s,baz=191,slow=36						
SONM	**Songino Array**	**23.95**	**286**	P	**P**	**17 41 47.9**	**+0.1**
	comp=N,0.5nm,0.8s,mb3.0,baz=74,slow=11,SNR=3.2						
ZAK	**Zakamensk**	**25.59**	**292**	*e*P	**P**	**17 41 55.9**	**-6.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.3						
MKAR	**Makanchi Array**	**39.93**	**293**	P	**P**	**17 44 07.2**	**-0.4**
	comp=Z,0.2nm,0.2s,mb3.4,baz=65,slow=6.8,SNR=4.2						
EGAK	**Eagle**	**43.73**	**37**	*e*P	**P**	**17 44 37.8**	**-0.7**
	comp=Z,3.7nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**69.06**	**56**	P	**P**	**17 47 41.3**	**+1.8**
	comp=Z,0.1nm,0.3s,mb3.2,baz=304,slow=6.4,SNR=3.0						
ASAR	**Alice Springs**	**70.47**	**188**	P	**P**	**17 47 47.1**	**-0.9**
	comp=Z,0.4nm,0.6s,mb3.5,baz=14,slow=6.3,SNR=8.5						
TXAR	**Lajitas Array**	**83.95**	**53**	P	**P**	**17 49 04.5**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.7,baz=300,slow=5.7,SNR=5.5						
TXAR	**Lajitas Array**	**83.95**	**53**	P	**P**	**17 49 04.5**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**83.95**	**53**	P	**P**	**17 49 04.5**	**+0.5**
SNAA	**Sanae**	**150.05**	**201**	*e*	PKPab	17 56 28.4	-0.5
SNAA				*e*		18 38 00.5	
VNA2	**Neumayer--Watz**	**151.66**	**201**	*e*	PKPbc	17 56 26.4	-0.3
VNA2				*e*	PKPab	17 56 35.3	-0.3
VNA2				*e*		18 38 05.5	

ISCJB ***02*** *17:40:08.9±0.4,1261N±006×4734E±003,h10km, mb4.2/27,MS3.8/10,Error ellipse: s-maj=9.2km s-min=4.3km az=15.4*
IDC ***02*** *17:40:09.4±0.7,1247N×4761E,h0km,mb4.0/17, mb1 4.1/17,mb1mx4.0/27,mbtmp4.0/17,MS3.5/8, Ms1 3.5/8,ms1mx3.2/43,Error ellipse: s-maj=18.9km s-min=15.2km az=116.0*
CSEM ***02*** *17:40:10.8±0.1,1267N×4734E,h20km,mb4.2/4,Error ellipse: s-maj=4.5km s-min=3.5km az=10.0*
NEIC ***02*** *17:40:11.0±0.4,1247N×4760E,h10km,mb4.2/5,Error ellipse: s-maj=11.8km s-min=8.8km az=123.0*
DHMR ***02*** *17:40:13.7±1.1,1267N×4690E,h10km±10km,ML4.0*
ISC 02 17:40:10.6±0.4,1263N±006×4733E±004,h10km,n56, σ1923/59,mb4.2/27,MS3.8/10,4C-1D,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**2.18**	**308⇑**	*i*P	**Pn**	**17 40 46.6**	**-0.4**
BDHA				*i* S	**Sn**	**17 41 12.0**	**-2.0**
	1μm,0.5s						
BDHA	**Al Bayda'**	**2.18**	**308⇑**	*i*P	**Pn**	**17 40 46.6**	**-0.3**
BDHA				*i* S	**Sn**	**17 41 12.0**	**-2.0**
BDHA				AML	AML	17 41 14.6	
	comp=Z,2μm,0.5s						
ADEN	**Aden**	**2.30**	**274⇓**	*i*P	**Pn**	**17 40 46.2**	**-2.3**
ADEN				*i* S	**Sn**	**17 41 13.2**	**-3.7**
ADEN				AML	AML	17 41 14.7	
	comp=N,2μm,0.3s						
LBOS		**2.38**	**302⇑**	*i*P	**Pn**	**17 40 49.1**	**-0.6**
LBOS				*i* S	**Sn**	**17 41 17.1**	**-1.8**
DHBB	**Dhamar BB**	**3.45**	**304**	*i* P	**Pn**	**17 41 06.2**	**+1.7**
DHBB				*i* S	**Sn**	**17 41 46.4**	**+0.9**
UDYN	**Al 'Udayn**	**3.54**	**293⇑**	*i*P	**Pn**	**17 41 06.0**	**+0.4**
UDYN				*i* S	**Sn**	**17 41 45.7**	**-1.8**
UDYN				AML	AML	17 41 48.4	
	comp=E,577nm,0.4s						
HAJJ	**Hajjah**	**4.74**	**311**	*i* S	**Sn**	**17 42 17.3**	**+0.1**
RDF	**Al-Radifah**	**16.22**	**1**	*e*P	**Pn**	**17 43 58.3**	**-0.4**
	comp=E,54nm,1.2s						
RDF	**Al-Radifah**	**16.22**	**1**	*e*P	**Pn**	**17 43 58.3**	**-0.4**
	baz=313						
RDF				AMb	AMB	17 44 07.3	
	comp=Z,54nm,1.2s,baz=313						
NAY	**Al-Naaiem**	**16.54**	**360**	*e*P	**Pn**	**17 43 58.1**	**-4.7**
	baz=314						
NAY				AMb	AMB	17 44 10.1	
	comp=Z,30nm,1.2s,baz=314						
EIL	**Elat**	**20.49**	**328**	P	**P**	**17 44 52.0**	**+3.2**
	comp=Z,5.4nm,0.8s,baz=134,slow=7.9,SNR=4.1						
EIL				LR	LR	17 51 41.9	
	comp=Z,197nm,19.0s,MS3.5,baz=129,slow=33						
EIL	**Elat**	**20.49**	**328**	P	**P**	**17 44 52.0**	**+3.2**
EIL				LR	LR	17 51 41.9	
ASF	**Jabal al Asfar**	**21.69**	**335**	P	**P**	**17 45 04.7**	**+3.0**
	comp=Z,3.8nm,0.9s,mb3.8,baz=336,slow=6.4,SNR=3.8						
ASF				LR	LR	17 54 15.6	
	comp=Z,78nm,18.7s,MS3.1,baz=73,slow=39						
MMAI	**Mount Meron Ar**	**23.04**	**334**	LR	LR	17 54 23.8	
	comp=Z,81nm,20.4s,MS3.2,baz=135,slow=37						
MALT	**Malatya**	**26.78**	**344**	*e*P	**P**	**17 45 55.6**	**+4.8**
	comp=Z,3.6nm,0.9s,mb3.9						
GNI	**Garni**	**27.51**	**356**	P	**P**	**17 46 00.4**	**+3.1**
	comp=Z,4.3nm,0.6s,mb4.2,baz=44,slow=18,SNR=3.8						
GNI				LR	LR	17 58 13.7	
	comp=Z,83nm,19.6s,MS3.3,baz=310,slow=39						
LSZ	**Lusaka**	**33.58**	**215**	P	**P**	**17 46 51.4**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=40,slow=10,SNR=4.6						
KOLN	**Koldanda**	**37.06**	**60**	*e*P	**P**	**17 47 20.8**	**-0.3**
	comp=Z,49nm,1.0s,mb5.3						
AML	**Almayashu**	**37.27**	**33**	*e*P	**P**	**17 47 24.8**	**+2.1**
	comp=Z,2.4nm,0.6s,mb4.2						
AML	**Almayashu**	**37.27**	**33**	*e*P	**P**	**17 47 24.8**	**+2.1**
	comp=Z,2.4nm,0.6s,mb4.2						
DANN	**Dangsing**	**37.36**	**60**	*e*P	**P**	**17 47 23.4**	**-0.2**
	comp=Z,36nm,0.8s,mb5.3						
EKS2	**Erkin-Say**	**37.69**	**33**	*e*P	**P**	**17 47 26.9**	**+0.7**
	comp=Z,2.7nm,0.8s,mb4.0						
EKS2	**Erkin-Say**	**37.69**	**33**	*e*P	**P**	**17 47 26.9**	**+0.7**
	comp=Z,2.7nm,0.8s,mb4.0						
GKN	**Gorkha**	**38.00**	**61**	*e*P	**P**	**17 47 28.7**	**-0.4**
DMN	**Daman**	**38.30**	**61**	*e*P	**P**	**17 47 31.0**	**-0.6**
	comp=Z,27nm,1.0s,mb5.0						
KKN	**Kakani**	**38.49**	**61**	*e*P	**P**	**17 47 32.6**	**-0.6**
	comp=Z,27nm,0.8s,mb5.0						
PKI	**Pulchoki**	**38.55**	**61**	*e*P	**P**	**17 47 32.9**	**-0.8**
GUN	**Gumba**	**39.04**	**61**	*e*P	**P**	**17 47 36.9**	**-0.9**
RAMN	**Ramite**	**39.42**	**63**	*e*P	**P**	**17 47 40.2**	**-0.8**

ODAN Odare 40.09 63 *eP* **P 17 47 45.5 -1.1**
comp=Z,6.5nm,0.6s,mb4.5
TAPN Taplejung 40.48 63 *eP* **P 17 47 49.1 -0.7**
comp=Z,21nm,0.8s,mb4.9
AKASG Malin Array Be 40.75 342 P **P 17 47 54.8 +3.2**
comp=Z,1.3nm,0.7s,mb3.7,baz=159,slow=7.7,SNR=5.0
TAM Tamanrasset 40.97 290 *eP* **P 17 47 58.6 +4.7**
KEST Kesra 41.22 311 P **P 17 47 59.7 +3.9**
comp=Z,0.4nm,0.5s,mb3.3,baz=0.8,slow=12,SNR=3.7
KEST LR LR 18 07 26.2
comp=Z,36nm,18.2s,MS3.3,baz=90,slow=39
LBTB Lobatse 43.00 210 P **P 17 48 11.3 +0.9**
comp=Z,4.2nm,1.1s,mb4.1,baz=358,slow=14,SNR=2.7
TORD Torodi Ar. Bea 44.44 276 P **P 17 48 24.4 +2.1**
comp=Z,2.5nm,1.0s,mb3.9,baz=90,slow=6.7,SNR=11
TORD LR LR 18 07 17.4
comp=Z,92nm,18.7s,MS3.7,baz=155,slow=36
ARU Arti 44.56 9 *eP* **P 17 48 24.8 +2.2**
comp=Z,2.6nm,0.7s,mb4.2
MK31 Makanchi Array 44.97 34 *eP* **P 17 48 26.5 +0.5**
MK31 Makanchi Array 44.97 34 *eP* **P 17 48 26.5 +0.5**
MKAR Makanchi Array 44.97 34 P **P 17 48 26.5 +0.5**
comp=Z,3.4nm,0.8s,mb4.2,baz=216,slow=7.6,SNR=16
GERES GERESS Array B 45.58 329 P **P 17 48 31.9 +1.2**
comp=Z,0.4nm,0.2s,mb3.9,baz=133,slow=6.9,SNR=4.7
KURK Kurchatov 45.74 27 *eP* **P 17 48 31.7 -0.3**
comp=Z,4.8nm,1.0s,mb4.4
KURK Kurchatov 45.74 27 *eP* **P 17 48 31.7 -0.3**
comp=Z,4.9nm,1.0s,mb4.4
BOSA Boshof 46.22 207 P **P 17 48 36.6 +0.6**
comp=Z,2.5nm,0.7s,mb4.3,baz=4.8,slow=2.4,SNR=5.9
BOSA LR LR 18 09 20.5
comp=Z,88nm,18.6s,MS3.7,baz=162,slow=38
DAVOX Davos/Dischmat 46.34 325 LR LR 18 12 29.5
comp=Z,47nm,18.4s,MS3.5,baz=145,slow=42
CMAR Chiang Mai Arr 49.93 76 P **P 17 49 03.7 -1.3**
comp=Z,1.8nm,0.9s,mb4.1,baz=271,slow=8.0,SNR=8.6
ZAA0 Zalesovo Array 50.73 28 *eP* **P 17 49 09.7 -0.8**
ZAA0 Zalesovo Array 50.73 28 *eP* **P 17 49 09.7 -0.8**
ZALV Zalesovo Beam 50.73 28 P **P 17 49 09.8 -0.7**
comp=Z,1.8nm,0.7s,mb4.1,baz=216,slow=7.3,SNR=7.5
ZALV Zalesovo Beam 50.73 28 P **P 17 49 09.8 -0.7**
ARCES ARCESS Array B 58.53 351 P **P 17 50 08.0 +1.1**
comp=Z,1.5nm,0.8s,mb4.1,baz=167,slow=8.3,SNR=3.8
ARCES ARCESS Array B 58.53 351 P **P 17 50 07.9 +1.0**
SONM Songino Array 60.09 42 P **P 17 50 18.5 +0.4**
comp=Z,1.7nm,0.8s,mb4.1,baz=248,slow=7.2,SNR=7.5
KSRS Korea Array 75.02 54 P **P 17 51 51.5 -1.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=271,slow=6.5,SNR=5.0
KSRS LR LR 18 23 00.9
comp=Z,1μm,21.2s,MS5.1,baz=28,slow=34
ASAJ Asahikawa 85.06 46 LR LR 18 32 13.9
comp=Z,988nm,21.7s,MS5.2,baz=208,slow=37
WRA Warramunga Arr 91.47 110 P **P 17 53 17.1 -0.7**
comp=Z,0.7nm,0.7s,mb4.1,baz=297,slow=3.9,SNR=3.0

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*BJI **02** 17:50:14.4, 51.00N×179.70W, h42km, mB4.9, mb4.6, Ms4.7, Msz4.4*
*NEIC **02** 17:50:16.4, 51.05N×179.73W, h12km, mb4.1/4, ML3.8(AEIC), After AEIC.*
*ISCJB **02** 17:50:18.1±0.8, 513N±0.1×1797.8W±006, h53km±5km, mb4.1/29, MS4.7/2, Error ellipse: s-maj=17.6km s-min=5.8km az=169.4*
*MOS **02** 17:50:18.6±0.8, 51.38N×179.71W, h52km, mb4.2/15, Error ellipse: s-maj=17.9km s-min=13.7km az=100.6*
*IDC **02** 17:50:24.2±4.9, 51.33N×179.70W, h90km±43km, mb3.6/18, mb1 3.8/20, mb1mx3.7/28, mbtmp3.6/20, MS3.0/1, Ms1 3.0/1, ms1mx2.2/40, Error ellipse: s-maj=20.0km s-min=13.6km az=161.0*
ISC 02 17:50:19.8±0.8, 513N±01×17982W±006, h49km±5km, h50km±1.8km:pP-P,n67,σ1§10/67, mb4.1/29, MS4.7/2, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.56**	**276**	P	**Pn**	**17 50 29.9**	**-1.7**
AMKA				S	**Sn**	**17 50 39.2**	**-0.9**
SMY	**Shemya**	**4.01**	**293**	P	**Pn**	**17 51 20.7**	**+2.1**
FX1	**Attu Island--F**	**4.60**	**293**	P	**Pn**	**17 51 28.1**	**+1.4**
NIKO	**Nikolski**	**6.95**	**72**	P	**Pn**	**17 51 59.8**	**+1.0**
OKCE	**Okmok Cone E**	**7.44**	**69**	P	**Pn**	**17 52 07.1**	**+1.5**
SPIA	**Saint Paul Isl**	**8.11**	**40**	P	**Pn**	**17 52 18.3**	**+3.7**
UNV	**Unalaska Valle**	**8.49**	**68**	*eP*	**Pn**	**17 52 20.5**	**+0.5**
PETK	**Petropavlovsk-**	**13.89**	**286**	P	**Pn**	**17 53 38.7**	**+5.0**
	0.2nm,0.3s,baz=92,slow=16,SNR=5.9						
PETK				LR	LR	17 58 58.6	
	comp=Z,58nm,20.1s,baz=282,slow=37						
PETK	**Petropavlovsk-**	**13.89**	**286**	P	**Pn**	**17 53 29.4**	**-4.3**
OHAK	**Old Harbor**	**16.51**	**59**	*eP*	**Pn**	**17 54 05.4**	**-2.3**
KDAK	**Kodiak Island**	**16.99**	**57**	P	**Pn**	**17 54 14.9**	**+1.3**
	1.2nm,0.3s,baz=243,slow=12,SNR=3.8						
SLKM	**Skilak Lake**	**18.81**	**49**	*eP*	**Pn**	**17 54 35.5**	**-0.3**
KTH	**Kantishna Hill**	**19.57**	**40**	*eP*	**Pn**	**17 54 44.0**	**-1.0**
	10nm,0.8s						
BPAW	**Bear Paw Mtn.**	**19.79**	**39**	*eP*	**Pn**	**17 54 46.5**	**-0.9**
	5.0nm,0.6s						
IMA2	**Indian Mountai**	**19.83**	**32**	P	**Pn**	**17 54 45.6**	**-2.3**
EGAK	**Eagle**	**24.01**	**41**	*eP*	**P**	**17 55 28.6**	**-0.9**
	164nm,1.2s,mb5.3						
INK	**Inuvik**	**27.87**	**35**	P	**P**	**17 56 04.3**	**0.0**
	0.5nm,0.6s,mb3.4,baz=250,slow=11,SNR=2.5						
INK	**Inuvik**	**27.87**	**35**	P	**P**	**17 56 04.3**	**0.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**27.87**	**35**	P	**P**	**17 56 04.3**	**0.0**
MDJ	**Mudanjiang**	**33.95**	**279**	P	**P**	**17 56 54.1**	**-4.0**
MDJ				AP	pP	17 57 07.1	-3.8
MDJ				XP	sP	17 57 13.0	-3.7
MDJ				AMB	AMB		
	comp=Z,4.0nm,2.3s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,38nm,3.4s						
YKA	**Yellowknife Ar**	**35.73**	**46**	P	**P**	**17 57 12.9**	**-0.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=283,slow=9.1,SNR=3.7						
YKA	**Yellowknife Ar**	**35.73**	**46**	P	**P**	**17 57 12.9**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CN2	**Changchun**	**36.93**	**280**	*eP*	**P**	**17 57 21.7**	**-2.0**
CN2				*e*XP	sP	17 57 39.0	-3.3
BOD	**Bodaibo**	**37.50**	**306**	*eP*	**P**	**17 57 27.9**	**-0.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
KSRS	**Korea Array**	**39.00**	**270**	P	**P**	**17 57 42.9**	**+1.6**
	comp=Z,0.9nm,0.7s,mb3.6,baz=55,slow=7.5,SNR=4.6						
KSRS	**Korea Array**	**39.00**	**270**	P	**P**	**17 57 42.9**	**+1.7**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
BOZ	**Bozeman (W)**	**44.07**	**69**	*eP*	**P**	**17 58 23.0**	**+0.4**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
BOZ	**Bozeman (W)**	**44.07**	**69**	*eP*	**P**	**17 58 23.0**	**+0.4**
	comp=Z,1.2nm,0.5s,mb3.9						
NVAR	**Mina Array Bea**	**44.19**	**82**	P	**P**	**17 58 27.4**	**+3.8**
	comp=Z,0.3nm,0.5s,mb3.2,baz=316,slow=8.7,SNR=4.1						
SONM	**Songino Array**	**46.10**	**296**	P	**P**	**17 58 40.0**	**+1.3**
	comp=Z,1.6nm,0.5s,mb4.2,baz=65,slow=8.3,SNR=9.5						
SONM				PcP	PcP	18 00 14.9	+0.8
	comp=Z,0.6nm,0.7s,baz=80,slow=4.4,SNR=3.3						
SONM	**Songino Array**	**46.10**	**296**	P	**P**	**17 58 40.0**	**+1.4**
SONM						18 00 14.9	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TPNV	**Topopah Spring**	**46.39**	**82**	P	**P**	**17 58 37.3**	**-3.8**
PDAR	**Pinedale Array**	**46.93**	**72**	P	**P**	**17 58 45.6**	**+0.4**
	comp=Z,1.4nm,0.5s,mb4.2,baz=335,slow=3.8,SNR=12						
HHC	**Hu-ho-hao-te**	**47.09**	**285**	*eP*	**P**	**17 58 46.3**	**-0.2**
HHC				AP	pP	17 59 00.1	+0.4
HHC				XP	sP	17 59 05.4	0.0
HHC				PCP	PcP	18 00 18.5	+0.8
HHC				PP	PP	18 00 38.2	+0.8
HHC				PCS	PcS	18 04 10.5	-2.2
HHC				S	**S**	**18 05 33.7**	**-1.2**
HHC				XS	sS	18 05 53.9	-3.2
HHC				SS	SS	18 08 54.7	-7.2
HHC				AMB	AMB		
	comp=Z,88nm,4.6s						
HHC				LR	LR		
	comp=N,1μm,25.0s,MS4.9						
HHC				LR	LR		
	comp=E,666nm,21.4s,MS4.9						
HHC				LR	LR		
	comp=Z,3μm,25.0s,MS5.1						
ZALV	**Zalesovo Beam**	**53.60**	**313**	PcP	PcP	18 00 42.5	+1.1
	comp=Z,0.6nm,0.6s,baz=62,slow=3.4,SNR=3.0						
LZH	**Lanzhou**	**54.78**	**286**	*eP*	**P**	**17 59 48.0**	**+3.6**
LZH				AMB	AMB		
	comp=Z,15nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,78nm,5.3s						
GTA	**Gaotai**	**54.99**	**291**	*eP*	**P**	**17 59 46.2**	**+0.4**
GTA				AP	pP	17 59 58.3	-1.0
GTA				XP	sP	18 00 03.3	-1.6
GTA				S	**S**	**18 07 25.9**	**+1.8**
GTA				XS	sS	18 07 49.6	+2.9
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.3						
GTA				AMB	AMB		
	comp=Z,126nm,7.6s						
GTA				LR	LR		
	comp=N,252nm,14.5s,MS4.5						
GTA				LR	LR		
	comp=E,181nm,15.7s,MS4.5						
GTA				LR	LR		
	comp=Z,222nm,18.7s,MS4.3						
ARCES	**ARCESS Array B**	**58.03**	**350**	P	**P**	**18 00 06.7**	**-0.3**
	comp=Z,1.1nm,0.8s,mb4.0,baz=23,slow=6.6,SNR=4.3						
ARCES	**ARCESS Array B**	**58.03**	**350**	P	**P**	**18 00 06.7**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CD2	**Chengdu**	**58.36**	**281**	*eP*	**P**	**18 00 08.9**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
WMQ	**Urumqi**	**58.83**	**302**	*eP*	**P**	**18 00 14.8**	**+1.9**
TXAR	**Lajitas Array**	**59.29**	**80**	P	**P**	**18 00 16.3**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.4,baz=316,slow=5.2,SNR=4.1						
MK31	**Makanchi Array**	**59.56**	**308**	*eP*	**P**	**18 00 18.3**	**+0.4**
MKAR	**Makanchi Array**	**59.56**	**308**	P	**P**	**18 00 18.4**	**+0.4**
	comp=Z,2.0nm,0.4s,mb4.5,baz=50,slow=6.3,SNR=33						
MKAR	**Makanchi Array**	**59.56**	**308**	P	**P**	**18 00 18.4**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GYA	**Guiyang**	**59.69**	**275**	P	**P**	**18 00 19.4**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KMI	**Kunming**	**63.10**	**277**	P	**P**	**18 00 40.4**	**-1.7**
KMI				AP	pP	18 00 53.9	-2.0
KMI				XP	sP	18 01 00.4	-1.1
KMI				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.3						
AKTO	**Aktyubinsk**	**67.36**	**324**	P	**P**	**18 01 08.8**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.9,baz=58,slow=9.6,SNR=2.3						
AKTO	**Aktyubinsk**	**67.36**	**324**	P	**P**	**18 01 08.8**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
NOA	**NORSAR Array B**	**67.64**	**354**	P	**P**	**18 01 11.2**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=347,slow=5.0,SNR=19						
NOA	**NORSAR Array B**	**67.64**	**354**	P	**P**	**18 01 11.2**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**68.36**	**353**	P	**P**	**18 01 15.5**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.3,baz=25,slow=4.9,SNR=5.7						
HFS	**Hagfors**	**68.36**	**353**	P	**P**	**18 01 15.5**	**0.0**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**70.38**	**275**	P	**P**	**18 01 29.2**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=26,slow=8.3,SNR=4.2						
EKA	**Eskdalemuir Ar**	**73.67**	**2**	P	**P**	**18 01 47.8**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=0.0,slow=3.8,SNR=4.6						
EKA	**Eskdalemuir Ar**	**73.67**	**2**	P	**P**	**18 01 47.8**	**+0.1**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBL	**Kabul**	**75.36**	**307**	*eP*	**P**	**18 01 58.6**	**+0.8**
	comp=Z,4.4nm,0.9s,mb4.4						
AKASG	**Malin Array Be**	**75.40**	**341**	P	**P**	**18 01 57.1**	**-0.7**
	comp=Z,0.8nm,0.5s,mb4.0,baz=20,slow=6.3,SNR=4.5						
AKASG	**Malin Array Be**	**75.40**	**341**	P	**P**	**18 01 57.1**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**79.54**	**351**	P	**P**	**18 02 21.2**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=26,slow=4.7,SNR=3.3						
GERES	**GERESS Array B**	**79.54**	**351**	P	**P**	**18 02 21.2**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**81.54**	**223**	P	**P**	**18 02 30.8**	**-1.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=41,slow=6.4,SNR=4.5						
FITZ	**Fitzroy Crossi**	**83.93**	**231**	P	**P**	**18 02 44.4**	**0.0**
	comp=Z,1.5nm,0.9s,mb4.1,baz=49,slow=6.0,SNR=12						
ASAR	**Alice Springs**	**85.02**	**222**	P	**P**	**18 02 49.4**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.8,baz=35,slow=5.8,SNR=8.8						
ASAR	**Alice Springs**	**85.02**	**222**	P	**P**	**18 02 49.4**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAW	**Mawson**	**146.05**	**218**	PKPbc	PKPbc	18 09 52.1	-0.6
	comp=Z,0.6nm,0.4s,baz=63,slow=4.5,SNR=5.0						
MAW	**Mawson**	**146.05**	**218**	PKP2	PKPbc	18 09 52.1	-0.6
MAW				pmax	pmax		
	comp=Z,1.0nm,0.4s						

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*NIED **02** 17:52:00, 47.00N×141.70E, h8km, Mw3.7 Best double couple: M0:4.66000×10^14 NP1:φs261.00000°, δ64.00000°, λ137.00000°. NP2:φs13.00000°, δ52.00000°, λ34.00000°.*
*MOS **02** 17:52:23.7±1.0, 46.78N×141.73E, h10km, mb4.0/4, Error ellipse: s-maj=22.5km s-min=16.3km az=103.4*
*JMA **02** 17:52:23.4±0.5, 46.96N×141.69E, h20km, M3.8*
*IDC **02** 17:52:23.3±0.8, 46.83N×141.89E, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.6/21, mbtmp3.5/8, ML3.4/1, Error ellipse: s-maj=24.9km s-min=21.2km az=13.0*
*NEIC **02** 17:52:26.0±2.1, 46.80N×141.85E, h18km±13km, mb4.1/1, Error ellipse: s-maj=27.9km s-min=14.4km az=183.0*
*ISCJB **02** 17:52:26.2±1.5, 46.84N±005×141.9E±0.1, h28km±13km, mb3.5/9, Error ellipse: s-maj=15.7km s-min=7.7km az=178.6*
ISC 02 17:52:24.5±1.6, 4677N±005×1417E±01, h3km±11km, n22, σ0§79/24, mb3.5/9, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.72**	**75**	*e*PN	**Pg**	**17 52 38.6**	**+0.2**
JWK2	**Keihoku**	**1.46**	**176**	P	**Pn**	**17 52 51.7**	**0.0**
JWK2				*e*S	**Sg**	**17 53 12.2**	**+0.9**
JRR	**Rishiri**	**1.66**	**190**	P	**Pg**	**17 52 55.1**	**-1.2**
JSE	**Soyaes**	**1.91**	**162**	P	**Pn**	**17 52 57.7**	**-0.1**
UGL	**Uglegorsk**	**2.32**	**5**	*e*PN	**Pn**	**17 53 03.0**	**-0.6**
UGL				*e*S	**Sn**	**17 53 34.0**	**+1.4**
UGL				smax			
	comp=N,241nm,0.8s						
UGL				smax			
	comp=E,282nm,0.8s						
JYG	**Yagishiri**	**2.35**	**185**	P	**Pn**	**17 53 04.9**	**+0.9**
ASAJ	**Asahikawa**	**2.72**	**167**	Pn	**Pn**	**17 53 09.6**	**+0.6**
	comp=E,4.7nm,0.3s,baz=360,slow=3.8,SNR=34						
ASAJ	**Asahikawa**	**2.72**	**167**	PN	**Pn**	**17 53 09.6**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
SONM	**Songino Array**	**23.87**	**286**	P	**P**	**17 57 39.3**	**+0.4**
	comp=Z,0.8nm,0.9s,mb3.1,baz=72,slow=9.3,SNR=3.3						
SONM	**Songino Array**	**23.87**	**286**	P	**P**	**17 57 39.3**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ZAK	**Zakamensk**	**25.50**	**292**	*eP*	**P**	**17 57 54.4**	**+0.6**
ZAK				*e*		17 58 41.8	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.5						
ZALV	**Zalesovo Beam**	**36.14**	**303**	P	**P**	**17 59 27.8**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=84,slow=7.4,SNR=3.3						
ZAL	**Zalesovo**	**36.15**	**303**	P	**P**	**17 59 27.8**	**+0.1**
MKAR	**Makanchi Array**	**39.84**	**293**	P	**P**	**17 59 58.6**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.6,baz=61,slow=7.6,SNR=7.6						
MKAR	**Makanchi Array**	**39.84**	**293**	P	**P**	**17 59 58.6**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**40.69**	**300**	*eP*	**P**	**18 00 05.3**	**-0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
KURK	**Kurchatov**	**40.69**	**300**	*eP*	**P**	**18 00 05.3**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**69.13**	**56**	P	**P**	**18 03 32.0**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=319,slow=3.3,SNR=3.6						
ASAR	**Alice Springs**	**70.46**	**188**	P	**P**	**18 03 39.4**	**-0.6**
	comp=Z,0.4nm,0.8s,mb3.4,baz=11,slow=6.7,SNR=3.3						
PDAR	**Pinedale Array**	**70.79**	**48**	P	**P**	**18 03 39.5**	**-2.5**
	comp=Z,0.3nm,0.7s,mb3.3,baz=358,slow=2.7,SNR=2.7						
TXAR	**Lajitas Array**	**84.02**	**53**	P	**P**	**18 04 55.8**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.8,baz=292,slow=3.7,SNR=4.4						
TXAR	**Lajitas Array**	**84.02**	**53**	P	**P**	**18 04 55.8**	**-0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

JMA 02 17:54:48.5±0.4, 4676N×14159E, h0km, M3.1, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.46**	**171**	P	Pn	17 55 15.9	-0.2
JWK2				*e*S	Sg	17 55 35.5	+0.1
JRR	**Rishiri**	**1.63**	**187**	P	Pn	17 55 18.8	+0.3
JSE	**Soyaes**	**1.93**	**159**	P	Pn	17 55 22.2	-0.3

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*BJI **02** 18:01:52.3, 172N×127.17E, h15km, mB5.2, mb5.3, Ms4.9, Msz4.8*
*ISCJB **02** 18:02:00.9±0.1, 248N±002×126.99E±003, h26km, mb5.5/148, MS4.9/191, Error ellipse: s-maj=3.8km s-min=2.5km az=171.7*
*NEIC **02** 18:02:00.0±0.1, 251N×126.95E, h10km, mb5.5/67, MS4.9/162, Error ellipse: s-maj=5.9km s-min=3.8km az=77.0*
*GCMT **02** 18:02:00.0±0.2, 245N×127.40E, h15km, MW5.6/67, Moment Tensor Solution. s63,c97; s67,c107; Duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr0.84±.04; Mθθ0.38±.03; Mφφ-1.22±.03; Mrθ0.62±.09; Mφφ-0.71±.03; Mφr3.29±.09; Best double couple: M0:3.55300×10^17 NP1:φs224.00000°, δ11.00000°, λ123.00000°. NP2: φs10.00000°, δ81.00000°, λ84.00000°. Principal axes: T 3.2590, Plg54.0000°, Azm273.0000°; N 0.5870, Plg6.0000°, Azm11.0000°; P -3.8480, Plg35.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **02** 18:02:02.9±1.5, 255N×126.87E, h27km±9km, mb5.1/30, mb1 5.0/31, mb1mx5.0/32, mbtmp5.1/31, ML4.3/1, MS4.6/8, Ms1 4.6/8, ms1mx4.2/23 Error ellipse: s-maj=11.9km s-min=8.3km az=83.0*
*MOS **02** 18:02:02.3±1.2, 253N×126.87E, h33km, mb5.7/51, MS4.7/44, Error ellipse: s-maj=10.1km s-min=5.0km az=112.1*
*DJA **02** 18:02:11, 253N×126.91E, h36km, ML5.5/6*
ISC 02 18:02:02.7±0.1, 247N±002×12703E±003, h28km, h28km±1.4km:pP-P,n588,σ1§21/423, mb5.5/148, MS4.9/191, 42C-30D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.71**	**169**	⇓*e*P	**Pn**	**18 02 28.5**	**-2.1**
TNE				*e*S	**Sn**	**18 02 51.0**	**-0.5**
MNI	**Manado**	**2.42**	**245**	P	**Pn**	**18 02 42.4**	**+2.0**
	0.0nm,0.0s						
LBMI	**Labuha**	**3.12**	**171**	P	**Pn**	**18 02 52.7**	**+2.6**
	0.0nm,0.0s						
GSPH	**General Santos**	**4.15**	**330**	⇑*e*P	**Pn**	**18 03 04.0**	**-0.2**
DAV	**Davao City (W)**	**4.79**	**342**	*eP*	**Pn**	**18 03 15.0**	**+1.9**
CTBH	**Cotabato--PC H**	**5.48**	**330**	*eP*	**Pn**	**18 03 22.9**	**+0.4**
CTBH				*i* S	**Sn**	**18 04 23.8**	**-0.8**
BIPH	**Bislig**	**5.72**	**353**	⇑*e*P	**Pn**	**18 03 26.6**	**+0.8**
BUKP	**Musuan**	**5.72**	**340**	*eP*	**Pn**	**18 03 27.5**	**+1.7**
AAI	**Ambon**	**6.22**	**169**	P	**Pn**	**18 03 38.2**	**+5.4**
	0.0nm,0.0s						
AAI	**Ambon**	**6.22**	**169**	P	**Pn**	**18 03 38.1**	**+5.3**
	0.0nm,0.0s						
PAGZ	**Pagadian**	**6.46**	**326**	*eP*	**Pn**	**18 03 36.6**	**+0.5**
BUTP	**Butuan**	**6.61**	**348**	*eP*	**Pn**	**18 03 40.6**	**+2.6**
IPIL	**Ipil**	**6.90**	**320**	*eP*	**Pn**	**18 03 42.2**	**+0.1**
SCPH	**Surigao**	**7.43**	**348**	⇓*e*P	**Pn**	**18 03 53.2**	**+4.0**
KDI	**Kendari**	**7.76**	**215**	P	**Pn**	**18 03 54.6**	**+0.8**
	0.0nm,0.0s						
KDI	**Kendari**	**7.76**	**215**	⇓*e*P	**Pn**	**18 03 54.5**	**+0.7**
KDI				*e*S	**Sn**	**18 05 22.6**	**+1.8**
TBP	**Tagbilaran**	**7.84**	**336**	*eP*	**Pn**	**18 03 55.1**	**+0.2**
PCI	**Palu**	**7.94**	**245**	P	**Pn**	**18 03 58.9**	**+2.6**
	0.0nm,0.0s						
LLP	**Lapu-Lapu**	**8.37**	**339**	*eP*	**Pn**	**18 04 03.2**	**+1.0**
OCLP	**Ormoc**	**8.86**	**344**	*eP*	**Pn**	**18 04 11.9**	**+3.0**
MYLDM	**Lahad Datu**	**8.93**	**288**	⇓P	**Pn**	**18 04 14.5**	**+4.6**
BESP	**Borongan**	**9.21**	**350**	*eP*	**Pn**	**18 04 18.1**	**+4.3**
TSM	**Tawau**	**9.32**	**281**	⇑P	**Pn**	**18 04 17.1**	**+1.8**
TLE	**Tual**	**9.86**	**145**	⇑*e*P	**Pn**	**18 04 26.0**	**+3.2**
RCP	**Roxas**	**9.98**	**335**	*eP*	**Pn**	**18 04 26.7**	**+2.4**
SMKI	**Samarinda**	**10.24**	**254**	P	**Pn**	**18 04 32.7**	**+4.8**
	0.0nm,0.0s						
CUYO	**Cuyo Island**	**10.24**	**325**	*eP*	**Pn**	**18 04 30.0**	**+2.0**
CNP	**Catarman**	**10.25**	**347**	*eP*	**Pn**	**18 04 32.4**	**+4.4**
SDKM	**Sandakan**	**10.30**	**288**	⇑P	**Pn**	**18 04 31.6**	**+2.8**
KAPI	**Kappang**	**10.40**	**224**	Pn	**Pn**	**18 04 31.0**	**+0.9**
	2.6nm,0.3s,baz=52,slow=5.7,SNR=11						
KAPI				Sn	**Sn**	**18 06 20.6**	**-5.1**
	baz=27,slow=23,SNR=1.9						
KAPI	**Kappang**	**10.40**	**224**	*eP*	**Pn**	**18 04 31.4**	**+1.3**
	112nm,1.1s						
OTRP	**Odiongan**	**11.01**	**333**	*eP*	**Pn**	**18 04 45.8**	**+7.3**
BATP	**Bataraza**	**11.13**	**305**	*eP*	**Pn**	**18 04 47.0**	**+6.9**
KKM	**Kota Kinabalu**	**11.36**	**289**	⇑P	**Pn**	**18 04 46.2**	**+3.0**
PVCP	**Virac**

LEM	**Lembang**	**21.46 244**	⇑*i*P	**P**	**18 06 54.5 +5.3**
DBJI	**Dramaga**	**22.14 246**	P	**P**	**18 07 00.3 +3.8**
	comp=Z,0.0nm,0.0s				
NACB	**Ninganchiao**	**22.21 347**	*e*P	**P**	**18 06 55.6 -1.4**
	comp=Z,34nm,0.8s,mb4.8				
NACB			LR	LR	
SBJI	**Serang**	**22.55 248**	P	**P**	**18 07 03.5 +2.7**
	comp=Z,0.0nm,0.0s				
TPRI	**Tanjung Pinang**	**22.55 266**	P	**P**	**18 06 59.1 -1.7**
	comp=Z,0.0nm,0.0s				
DSRI	**Dabo**	**22.64 263**	P	**P**	**18 07 00.7 -1.0**
	comp=Z,0.0nm,0.0s				
YHNB	**Yeheng**	**22.74 347**	*e*P	**P**	**18 07 00.6 -2.0**
	comp=Z,78nm,0.8s,mb5.2				
COEN	**Coen**	**22.86 136**	*e*P	**P**	**18 07 02.8 -1.2**
	comp=Z,70nm,1.3s,mb4.9				
TATO	**Taipei**	**23.01 347**	*e*P	**P**	**18 07 05.1 -0.4**
	comp=Z,51nm,0.8s,mb5.0				
MYKOM	**Kota Tinggi**	**23.18 269**	⇑P	**P**	**18 07 06.3 -1.1**
PMG	**Port Moresby**	**23.27 121**	*e*P	**P**	**18 07 09.8 +1.4**
PMG			pmax	pmax	
	comp=Z,44nm,1.3s				
PMG			MLR	MLR	
	comp=Z,3μm,22.0s				
PMG	**Port Moresby**	**23.27 121**	*e*P	**P**	**18 07 09.8 +1.4**
	comp=Z,44nm,1.3s,mb4.7				
PMG			LR	LR	
	comp=Z,3μm,22.0s,MS4.8				
KLI	**Kotabumi**	**23.32 252**	P	**P**	**18 07 10.7 +1.7**
	comp=Z,339nm,1.2s,mb5.7				
WRAB	**Tennant Creek**	**23.39 162**	P	**P**	**18 07 08.0 -1.6**
	comp=Z,1μm,0.8s,mb6.3,SNR=93				
WRAB	**Tennant Creek**	**23.39 162**	*e*P	**P**	**18 07 08.6 -1.0**
WRAB			pmax	pmax	
	comp=Z,121nm,0.8s,mb5.4				
WRAB			MLR	MLR	
	comp=Z,2μm,22.0s,MS4.6				
WRAB	**Tennant Creek**	**23.39 162**	*e*P	**P**	**18 07 08.6 -1.0**
	comp=Z,121nm,0.8s,mb5.4				
WRAB			LR	LR	
	comp=Z,2μm,22.0s,MS4.6				
WRA	**Warramunga Arr**	**23.40 162**	P	**P**	**18 07 08.7 -1.0**
	comp=Z,102nm,0.8s,mb5.3,baz=344,slow=10,SNR=438				
WRA			S	**S**	**18 11 17.9 -2.9**
	comp=Z,12nm,1.1s,baz=334,slow=15,SNR=5.6				
WB2	**Warramunga Arr**	**23.40 162**	⇓*i*P	**P**	**18 07 08.7 -1.0**
WB2			*e*S	**S**	**18 11 17.4 -3.5**
WB2			*e*SCS	ScS	18 18 16.6 -2.0
QIZ	**Qiongzhong**	**23.54 316**	PFAKE		18 07 20.0 +9.0
QIZ			LR	LR	
	comp=Z,2μm,20.0s,MS4.5				
KGM	**Kluang**	**23.70 269**	⇑P	**P**	**18 07 12.3 -0.3**
KTGM	**Kuala Trenggan**	**24.01 278**	⇓P	**P**	**18 07 17.6 +2.2**
JOW	**Kunigami**	**24.25 3**	P	**P**	**18 07 16.6 -0.9**
	comp=Z,82nm,1.0s,mb5.1,baz=176,slow=8.2,SNR=11				
JOW			S	**S**	**18 11 35.7 +1.1**
	comp=Z,10nm,0.9s,baz=168,slow=21,SNR=2.7				
GZH	**Guangzhou**	**24.42 328**	P	**P**	**18 07 21.4 +2.4**
GZH			S	**S**	**18 11 41.7 +4.4**
GZH			AMB	AMB	
	comp=Z,232nm,1.8s,mb5.3				
GZH			LR	LR	
	comp=N,1μm,22.8s,MS4.5				
GZH			LR	LR	
	comp=E,792nm,21.3s,MS4.5				
GZH			LR	LR	
	comp=Z,2μm,22.8s,MS4.5				
MBWA	**Marble Bar**	**24.55 197**	*e*P	**P**	**18 07 20.8 +0.6**
	comp=Z,102nm,1.0s,mb5.3				
MBWA			LR	LR	
	comp=Z,879nm,19.0s,MS4.3				
KSI	**Kapahiang**	**25.17 256**	P	**P**	**18 07 28.2 +2.2**
	comp=Z,0.0nm,0.0s				
FRIM	**Kepong**	**25.39 272**	⇑P	**P**	**18 07 27.1 -0.8**
IPM	**Ipoh**	**26.03 275**	⇓P	**P**	**18 07 33.0 -0.8**
KULM	**Kulim**	**26.47 277**	⇑P	**P**	**18 07 39.1 +1.3**
ASAR	**Alice Springs**	**26.82 166**	P	**P**	**18 07 40.4 -0.5**
	comp=Z,24nm,0.7s,mb4.9,baz=360,slow=7.7,SNR=508				
ASAR			PcP	PcP	18 11 04.6 +1.3
	comp=Z,8.8nm,0.9s,baz=329,slow=0.8,SNR=4.7				
ASAR			S	**S**	**18 12 13.2 -2.3**
	comp=Z,3.0nm,1.0s,baz=338,slow=27,SNR=2.4				
ASAR	**Alice Springs**	**26.82 166**	P	**P**	**18 07 40.4 -0.5**
ASAR			PcP	PcP	18 11 04.6 +1.3
ASAR			S	**S**	**18 12 13.2 -2.3**
PSI	**Prapat**	**28.08 271**	P	**P**	**18 07 50.6 -1.6**
	comp=Z,20nm,0.9s,mb4.8,baz=118,slow=3.0,SNR=14				
PSI			S	**S**	**18 12 33.1 -2.5**
	comp=Z,3.9nm,0.4s,baz=318,slow=5.9,SNR=5.6				
CBIJ	**Chichi jima**	**28.47 29**	P	**P**	**18 07 54.4 -1.1**
	comp=Z,88nm,0.9s,mb5.4,baz=286,slow=20,SNR=3.1				
CBIJ			LR	LR	18 17 17.5
	comp=Z,1μm,20.9s,MS4.5,baz=210,slow=32				
SSE	**Sheshan**	**29.00 350**	P	**P**	**18 08 01.8 +1.6**
SSE			AP	pP	18 08 10.4 +1.9
SSE			XP	sP	18 08 14.4 +2.5
SSE			S	**S**	**18 12 53.2 +3.4**
SSE			XS	sS	18 13 08.9 +5.6
SSE			PCS	PcS	18 14 51.2 -0.1
SSE			AMB	AMB	
	comp=Z,62nm,1.0s,mb5.3				
SSE			AMB	AMB	
	comp=Z,376nm,8.9s				
SSE			LR	LR	
	comp=N,646nm,25.0s,MS4.5				
SSE			LR	LR	
	comp=E,1μm,25.0s,MS4.5				
SSE			LR	LR	
	comp=Z,921nm,23.5s,MS4.3				
CTA	**Charters Tower**	**29.30 141**	⇑*i*P	**P**	**18 08 03.7 +0.7**
	comp=Z,27nm,1.5s,mb4.8				
CTA			*e*PCP	PcP	18 11 11.0 +1.6
CTA	**Charters Tower**	**29.30 141**	P	**P**	**18 08 03.6 +0.7**
	comp=Z,14nm,0.9s,mb4.7,baz=327,slow=10,SNR=7.3				
CTA			PcP	PcP	18 11 09.6 +0.1
	comp=Z,11nm,0.9s,baz=51,slow=9.8,SNR=3.7				
CTA			ScP	ScP	18 14 50.8 +1.3
	comp=Z,7.2nm,1.0s,baz=296,slow=7.6,SNR=3.2				
CTA	**Charters Tower**	**29.30 141**	⇑*i*P	**P**	**18 08 03.7 +0.7**
CTA			*e*		18 11 11.0
CTA			pmax	pmax	
	comp=Z,27nm,1.5s				
CTAO	**Charters Tower**	**29.30 141**	*e*P	**P**	**18 08 02.3 -0.7**
CTAO			pmax	pmax	
	comp=Z,58nm,1.3s,mb5.2				
CTAO			MLR	MLR	
	comp=Z,2μm,22.0s,MS4.8				
CTAO	**Charters Tower**	**29.30 141**	*e*P	**P**	**18 08 02.2 -0.7**
	comp=Z,58nm,1.3s,mb5.2				
CTAO			LR	LR	
	comp=Z,2μm,22.0s,MS4.8				
WHN	**Wuhan**	**30.40 338**	⇑P	**P**	**18 08 12.5 -0.1**
WHN			AMB	AMB	
	comp=Z,60nm,1.4s,mb5.1				
WHN			LR	LR	
	comp=N,6μm,26.1s,MS5.3				
WHN			LR	LR	
	comp=E,6μm,25.1s,MS5.3				
WHN			LR	LR	
	comp=Z,10μm,23.8s,MS5.4				
NJ2	**Nanjing**	**30.42 346**	*e*P	**P**	**18 08 13.9 +1.2**
NJ2			AP	pP	18 08 20.8 -0.2
NJ2			XP	sP	18 08 24.7 +0.3
NJ2			PP	PP	18 09 12.8 -9.0
NJ2			S	**S**	**18 13 11.5 -0.4**
NJ2			AMB	AMB	
	comp=Z,30nm,0.8s,mb5.1				
NJ2			AMB	AMB	
	comp=Z,40nm,10.0s				
NJ2			LR	LR	
	comp=N,480nm,22.4s,MS4.6				
NJ2			LR	LR	
	comp=E,1μm,21.2s,MS4.6				
NJ2			LR	LR	
	comp=Z,1μm,21.2s,MS4.5				
GYA	**Guiyang**	**30.84 323**	⇑*i*P	**P**	**18 08 19.2 +2.6**
GYA			AP	pP	18 08 26.4 +1.6
GYA			PP	PP	18 09 20.6 -5.9
GYA			S	**S**	**18 13 20.7 +2.0**
GYA			XS	sS	18 13 32.6 +0.3
GYA			SCP	ScP	18 14 55.0 +0.6
GYA			SCS	ScS	18 18 50.8 -0.4
GYA			AMB	AMB	
	comp=Z,40nm,0.8s,mb5.3				
GYA			AMB	AMB	
	comp=Z,140nm,5.3s				
GYA			LR	LR	
	comp=N,9μm,12.8s,MS5.8				
GYA			LR	LR	
	comp=E,8μm,11.6s,MS5.8				
GYA			LR	LR	
	comp=Z,10μm,12.3s,MS5.7				
CM31	**Chiang Mai Arr**	**31.78 302**	PFAKE		18 08 40.0 +15
CM31			LR	LR	
	comp=Z,916nm,19.0s,MS4.5				
CMAR	**Chiang Mai Arr**	**31.78 302**	P	**P**	**18 08 23.8 -1.2**
	comp=Z,25nm,0.9s,mb5.0,baz=118,slow=6.9,SNR=60				
CMAR	**Chiang Mai Arr**	**31.78 302**	*i* P	**P**	**18 08 17.7 -7.2**
CMAR			pmax	pmax	
	comp=Z,1.0nm,0.4s				
CHTO	**Chiang Mai**	**31.94 303**	*e*P	**P**	**18 08 24.5 -1.8**
CHTO			pmax	pmax	
	comp=Z,50nm,1.1s,mb5.3				
CHTO			MLR	MLR	
	comp=Z,800nm,20.0s,MS4.4				
CHTO	**Chiang Mai**	**31.94 303**	*e*P	**P**	**18 08 24.5 -1.9**
	comp=Z,50nm,1.1s,mb5.2				
CHTO			LR	LR	
	comp=Z,800nm,20.0s,MS4.4				
KMI	**Kunming**	**32.48 316**	P	**P**	**18 08 30.3 -0.8**
KMI			AP	pP	18 08 41.5 +2.2
KMI			PP	PP	18 09 40.0 -4.8
KMI			PPP		18 09 56.2
KMI			S	**S**	**18 13 42.4 -2.1**
KMI			XS	sS	18 14 00.1 +2.0
KMI			SSS		18 16 02.2
KMI			AMB	AMB	
	comp=Z,53nm,1.5s,mb5.2				
KMI			AMB	AMB	
	comp=Z,229nm,3.1s				
KMI			LR	LR	
	comp=N,850nm,21.0s				
KMI			LR	LR	
	comp=E,922nm,26.5s				
KMI			LR	LR	
	comp=Z,2μm,26.9s				
FORT	**Forrest**	**33.08 178**	⇑*i*P	**P**	**18 08 35.9 -0.2**
	comp=Z,89nm,0.6s,mb5.9				
COCO	**West Island**	**33.35 243**	PFAKE		18 08 50.0 +11
COCO			LR	LR	
	comp=Z,623nm,20.0s,MS4.3				
TIA	**Tai'an**	**34.80 346**	*e*P	**P**	**18 08 51.2 +0.1**
TIA			AMB	AMB	
	comp=Z,29nm,1.0s,mb5.2				
KSRS	**Korea Array**	**34.83 1**	P	**P**	**18 08 51.6 +0.3**
	comp=Z,26nm,0.9s,mb5.2,baz=179,slow=9.5,SNR=48				
KSRS			PcP	PcP	18 11 25.4 +1.3
	comp=Z,9.4nm,1.0s,baz=193,slow=3.1,SNR=7.2				
INCN	**Inchon**	**34.85 359**	*e*P	**P**	**18 08 52.1 +0.7**
	comp=Z,21nm,0.8s,mb5.1				
INCN			LR	LR	
	comp=Z,1μm,22.0s,MS4.6				
HNR	**Honiara**	**34.86 110**	LR	LR	18 23 08.7
	comp=Z,1μm,20.0s,MS4.6,baz=356,slow=36				
HNR	**Honiara**	**34.86 110**	PFAKE		18 09 00.0 +8.1
HNR			LR	LR	
	comp=Z,2μm,22.0s,MS4.7				
KLBR	**Kellerberrin**	**35.00 194**	*e*P	**P**	**18 08 53.3 +0.5**
	comp=Z,35nm,0.6s,mb5.5				
MAJO	**Matsushiro**	**35.44 16**	*e*P	**P**	**18 08 54.9 -1.7**
MAJO			pmax	pmax	
	comp=Z,179nm,1.8s,mb5.7				
MAJO			MLR	MLR	
	comp=Z,1μm,19.0s,MS4.7				
MAJO	**Matsushiro**	**35.44 16**	*e*P	**P**	**18 08 54.9 -1.7**
	comp=Z,178nm,1.8s,mb5.7				
MAJO			LR	LR	
	comp=Z,1μm,19.0s,MS4.7				
MAT	**Matsushiro**	**35.44 16**	P	**P**	**18 08 54.9 -1.7**
MAT			S	**S**	**18 14 22.6 -7.3**
MJAR	**Matsushiro Arr**	**35.44 16**	P	**P**	**18 08 55.0 -1.6**
	comp=Z,12nm,0.9s,mb4.8,baz=180,slow=9.2,SNR=18				
MJAR			PcP	PcP	18 11 27.1 +1.1
	comp=Z,6.6nm,1.0s,baz=168,slow=2.3,SNR=4.9				
MJAR			ScP	ScP	18 15 10.2 +0.1
	comp=Z,4.6nm,1.1s,baz=187,slow=3.6,SNR=5.4				
MJAR	**Matsushiro Arr**	**35.44 16**	P	**P**	**18 08 55.0 -1.6**
MJAR					18 11 27.1
XAN	**Xi'an**	**35.67 334**	P	**P**	**18 08 56.5 -2.1**
XAN			AP	pP	18 09 03.5 -3.4
XAN			XP	sP	18 09 08.8 -1.5
XAN			PP	PP	18 10 16.1 -3.9
XAN			PPP		18 10 34.7
XAN			PCP	PcP	18 11 27.6 +0.9
XAN			SCP	ScP	18 15 09.5 -1.5
XAN			PCS	PcS	18 15 12.9 -1.1
XAN			SCS	ScS	18 19 12.0 -3.9
XAN			AMB	AMB	
	comp=Z,36nm,0.9s,mb5.3				
XAN			AMB	AMB	
	comp=Z,92nm,9.0s				
XAN			LR	LR	
	comp=N,580nm,38.7s				
XAN			LR	LR	
	comp=E,1μm,45.0s				
XAN			LR	LR	
	comp=Z,2μm,25.6s				
MUN	**Mundaring**	**35.77 196**	*e*P	**P**	**18 08 59.6 +0.2**
CD2	**Chengdu**	**35.84 325**	P	**P**	**18 08 59.2 -0.9**
CD2			AP	pP	18 09 06.5 -1.9
CD2			XP	sP	18 09 10.6 -1.2
CD2			PCP	PcP	18 11 24.8 -2.5
CD2			S	**S**	**18 14 35.4 -0.7**
CD2			XS	sS	18 14 47.9 -1.9
CD2			AMB	AMB	
	comp=Z,70nm,1.3s,mb5.4				
CD2			AMB	AMB	
	comp=Z,180nm,5.2s				
CD2			LR	LR	
	comp=N,1μm,19.2s,MS4.8				
CD2			LR	LR	
	comp=E,1μm,19.2s,MS4.8				
CD2			LR	LR	
	comp=Z,2μm,24.0s,MS4.8				
NWAO	**Narrogin (SRO)**	**36.40 194**	P	**P**	**18 09 05.2 +0.3**
	comp=Z,63nm,1.1s,mb5.5,baz=20,slow=7.7,SNR=23				
NWAO	**Narrogin (SRO)**	**36.40 194**	*e*P	**P**	**18 09 05.3 +0.5**
NWAO			pmax	pmax	
	comp=Z,67nm,1.1s				
NWAO	**Narrogin (SRO)**	**36.40 194**	*e*P	**P**	**18 09 05.3 +0.4**
	comp=Z,67nm,1.1s,mb5.5				
DL2	**Dalian**	**36.60 353**	⇑*i*P	**P**	**18 09 07.3 +0.8**
DL2			XP	sP	18 09 20.5 +2.3
DL2			S	**S**	**18 14 47.1 -0.5**
DL2			AMB	AMB	
	comp=Z,80nm,0.8s,mb5.6				
DL2			AMB	AMB	
	comp=Z,120nm,5.0s				
DL2			LR	LR	
	comp=N,390nm,15.7s,MS4.4				
DL2			LR	LR	
	comp=E,400nm,18.7s,MS4.4				
DL2			LR	LR	
	comp=Z,590nm,19.9s,MS4.4				
STKA	**Stephens Creek**	**36.85 159**	⇓*i*P	**P**	**18 09 08.6 -0.1**
	comp=Z,120nm,0.7s,mb5.8				
STKA			*e*PCP	PcP	18 11 30.2 -0.1
STKA			*e*S	**S**	**18 14 48.5 -3.1**
STKA			*e*SCS	ScS	18 19 18.2 -4.3
STKA	**Stephens Creek**	**36.85 159**	P	**P**	**18 09 08.7 0.0**
	comp=Z,144nm,0.7s,mb5.9,baz=331,slow=8.5,SNR=230				
STKA			PcP	PcP	18 11 30.4 +0.1
	comp=Z,20nm,0.8s,baz=270,slow=4.2,SNR=4.0				
STKA			S	**S**	**18 14 49.2 -2.4**
	comp=Z,12nm,1.0s,baz=138,slow=16,SNR=4.6				
TIY	**Taiyuan**	**37.55 341**	P	**P**	**18 09 14.5 -0.1**
TIY			XP	sP	18 09 28.4 +2.1
TIY			PP	PP	18 10 43.5 +2.9
TIY			S	**S**	**18 15 02.6 +0.5**
TIY			LR	LR	
	comp=N,1μm,25.5s				
TIY			LR	LR	
	comp=E,418nm,14.1s				
TIY			LR	LR	
	comp=Z,774nm,26.8s,MS4.4				
BJT	**Baijiatuau**	**38.66 347**	*e*P	**P**	**18 09 24.3 +0.5**
BJT			pmax	pmax	
	comp=Z,337nm,1.1s				
BJT			MLR	MLR	
	comp=Z,1μm,22.0s				
BJT	**Baijiatuau**	**38.66 347**	*e*P	**P**	**18 09 24.3 +0.5**
	comp=Z,337nm,1.1s,mb6.0				
BJT			LR	LR	
	comp=Z,1μm,22.0s,MS4.6				
BJI	**Beijing**	**38.67 347**	P	**P**	**18 09 24.1 +0.1**
BJI			XP	sP	18 09 34.2 -1.6
BJI			SS	SS	18 18 08.6 -1.6
BJI			AMB	AMB	
	comp=Z,118nm,1.2s,mb5.5				
BJI			LR	LR	
	comp=N,487nm,27.8s,MS4.3				
BJI			LR	LR	
	comp=E,366nm,26.1s,MS4.3				
BJI			LR	LR	
	comp=Z,1μm,29.4s,MS4.5				
SNY	**Shenyang**	**39.31 356**	⇑P	**P**	**18 09 29.9 +0.6**
SNY			AP	pP	18 09 39.0 +1.4
SNY			XP	sP	18 09 44.1 +3.1
SNY			S	**S**	**18 15 30.2 +1.7**
SNY			XS	sS	18 15 43.8 +1.5
SNY			AMB	AMB	
	comp=Z,42nm,1.4s,mb5.0				
SNY			AMB	AMB	
	comp=Z,233nm,3.5s				
SNY			LR	LR	
	comp=N,525nm,21.6s,MS4.6				
SNY			LR	LR	
	comp=E,761nm,23.4s,MS4.6				
SNY			LR	LR	
	comp=Z,852nm,26.4s,MS4.5				
LZH	**Lanzhou**	**39.74 330**	*e*P	**P**	**18 09 33.2 +0.2**
LZH			AP	pP	18 09 39.3 -2.0
LZH			XP	sP	18 09 43.0 -1.7
LZH			PP	PP	18 11 10.3 +5.7
LZH			S	**S**	**18 15 32.0 -3.2**
LZH			AMB	AMB	
	comp=Z,42nm,1.0s,mb5.1				
LZH			LR	LR	
	comp=E,2μm,14.8s				
LZH			LR	LR	
	comp=Z,3μm,16.0s,MS5.2				
ARMA	**Armidale**	**40.26 146**	⇑*i*P	**P**	**18 09 38.0 +0.7**
HHC	**Hu-ho-hao-te**	**40.68 342**	*e*P	**P**	**18 09 41.6 +0.9**
HHC			AP	pP	18 09 49.3 +0.2
HHC			XP	sP	18 09 51.6 -0.9
HHC			PP	PP	18 11 19.7 +4.9
HHC			PCP	PcP	18 11 43.4 +1.3
HHC			S	**S**	**18 15 52.0 +2.9**
HHC			XS	sS	18 16 02.7 -0.2
HHC			SCS	ScS	18 19 42.7 -1.7
HHC			AMB	AMB	
	comp=Z,41nm,1.1s,mb5.0				
HHC			AMB	AMB	
	comp=Z,125nm,3.8s				
HHC			LR	LR	
	comp=N,1μm,27.3s,MS4.7				
HHC			LR	LR	
	comp=E,670nm,26.2s,MS4.7				
HHC			LR	LR	
	comp=Z,3μm,22.6s,MS5.0				
VLA	**Vladivostok**	**40.71 5**	*e*P	**P**	**18 09 40.2 -0.7**
VLA			*e**SP	sP	18 09 54.4 +1.8
VLA			*e*S	**S**	**18 15 48.9 -0.5**
VLA			pmax	pmax	
	comp=Z,82nm,1.8s,mb5.1				
VLA			MLR	MLR	
	comp=Z,600nm,18.0s,MS4.5				
SHL	**Shillong**	**40.87 307**	*e*P	**P**	**18 09 42.0 -0.5**
SHL			*e*x	x	18 15 35.0
BTO	**Baotou**	**40.96 340**	*e*P	**P**	**18 09 43.7 +0.7**
CN2	**Changchun**	**41.18 358**	*e*P	**P**	**18 09 45.5 +0.7**
CN2			*e*XP	sP	18 09 55.3 -1.2
CN2			*e*PP	PP	18 11 24.2 +4.0
CN2			*e*S	**S**	**18 15 58.0 +1.5**
CN2			*e*SS	SS	18 18 59.2 -0.9
CN2			AMB	AMB	
	comp=Z,30nm,0.8s,mb5.0				
CN2			LR	LR	
	comp=N,300nm,24.0s,MS4.5				
CN2			LR	LR	
	comp=E,800nm,24.0s,MS4.5				
CN2			LR	LR	
	comp=Z,700nm,24.0s,MS4.5				
MDJ	**Mudanjiang**	**42.03 3**	P	**P**	**18 09 52.6 +0.9**
MDJ			AP	pP	18 09 58.8 -1.3
MDJ			XP	sP	18 10 01.4 -2.1
MDJ			PCP	PcP	18 11 47.1 +0.7
MDJ			SCP	ScP	18 15 33.3 -1.9
MDJ			PCS	PcS	18 15 35.8 -2.1
MDJ			S	**S**	**18 16 10.4 +1.3**
MDJ			XS	sS	18 16 23.6 +0.7
MDJ			AMB	AMB	
	comp=Z,67nm,1.1s,mb5.2				
MDJ			AMB	AMB	
	comp=Z,313nm,8.9s				
MDJ			LR	LR	
	comp=E,952nm,35.0s				
MDJ			LR	LR	
	comp=Z,1μm,29.6s				
MDJ	**Mudanjiang**	**42.03 3**	*e*P	**P**	**18 09 52.4 +0.7**
	comp=Z,95nm,1.1s,mb5.3				
MDJ			*e*PcP	PcP	18 11 46.8 +0.3
MDJ			LR	LR	
	comp=Z,1μm,22.0s,MS4.7				
CAN	**Canberra**	**42.85 153**	*e*P	**P**	**18 09 59.8 +1.2**
CAN			*e*		18 10 14.0
TOO	**Toolangi**	**43.36 159**	*e*P	**P**	**18 10 03.9 +1.3**
LSA	**Lhasa**	**43.50 312**	P	**P**	**18 10 04.3 +0.4**
LSA			S	**S**	**18 16 27.7 -3.4**
LSA			LR	LR	
	comp=N,670nm,15.2s,MS4.9				
LSA			LR	LR	
	comp=E,1μm,18.2s,MS4.9				
LSA			LR	LR	
	comp=Z,2μm,19.2s,MS5.0				
LSA	**Lhasa**	**43.50 312**	*e*P	**P**	**18 10 03.8 -0.1**
LSA			*e*		18 11 54.9
LSA			pmax	pmax	
	comp=Z,189nm,1.4s,mb5.6				
LSA			MLR	MLR	
	comp=Z,438nm,22.0s,MS4.3				
LSA	**Lhasa**	**43.50 312**	*e*P	**P**	**18 10 03.8 -0.1**
	comp=Z,189nm,1.4s,mb5.6				
LSA			*e*PcP	PcP	18 11 54.9 +3.2
LSA			LR	LR	
	comp=Z,438nm,22.0s,MS4.3				
ASAJ	**Asahikawa**	**43.71 16**	P	**P**	**18 10 05.6 +0.3**
	comp=Z,43nm,0.9s,mb5.2,baz=229,slow=12,SNR=27				
ASAJ			S	**S**	**18 16 30.6 -3.1**
	comp=Z,2.1nm,0.5s,baz=14,slow=25,SNR=2.3				
GTA	**Gaotai**	**44.33 330**	P	**P**	**18 10 09.2 -1.2**
GTA			AP	pP	18 10 16.3 -2.5
GTA			XP	sP	18 10 19.9 -2.3
GTA			PP	PP	18 11 54.8 +0.7
GTA			SCP	ScP	18 15 43.6 -1.0
GTA			S	**S**	**18 16 42.2 -0.7**
GTA			XS	sS	18 16 57.1 +0.3
GTA			SS	SS	18 19 56.8 -5.3
GTA			SCS	ScS	18 20 06.0 -0.9
GTA			AMB	AMB	
	comp=Z,10.0nm,1.0s,mb4.5				
GTA			AMB	AMB	
	comp=Z,170nm,4.6s				
GTA			LR	LR	
	comp=N,1μm,23.7s,MS4.8				
GTA			LR	LR	
	comp=E,669nm,23.3s,MS4.8				
GTA			LR	LR	
	comp=Z,2μm,24.8s,MS5.0				
TAPN	**Taplejung**	**45.01 307**	*e*P	**P**	**18 10 14.9 -1.1**
	comp=Z,273nm,1.4s,mb5.9				
ODAN	**Odare**	**45.05 306**	*e*P	**P**	**18 10 15.2 -1.2**
	comp=Z,239nm,1.0s,mb6.0				
VIS	**Vishakhapatnam**	**45.46 292**	*e*x	x	18 15 19.1
RAMN	**Ramite**	**45.72 306**	*e*P	**P**	**18 10 20.6 -1.1**
	comp=Z,457nm,1.3s,mb6.2				
HABR	**Khabarovsk**	**46.35 7**	*e*P	**P**	**18 10 25.7 -0.5**
HABR			*e*S	**S**	**18 17 12.5 +0.7**
HABR			pmax	pmax	
	comp=Z,125nm,1.2s,mb5.7				
JIRN	**Jiri**	**46.36 307**	*e*P	**P**	**18 10 25.8 -0.9**
	comp=Z,345nm,1.2s,mb6.2				
YSS	**Yuzh-Sakhalins**	**46.37 15**	⇑*e*P	**P**	**18 10 26.9 +0.4**
YSS			pmax	pmax	
	comp=Z,37nm,1.1s,mb5.2				
YSS	**Yuzh-Sakhalins**	**46.37 15**	*e*P	**P**	**18 10 26.3 -0.2**
	comp=Z,41nm,0.8s,mb5.4				

PALK Pallekele 46.39 278 PFAKE 18 10 40.0 +13
PALK LR LR
comp=Z,721nm,21.0s,MS4.6
GUN Gumba 46.71 307 *e*P **P** **18 10 28.7 -0.8**
comp=Z,370nm,1.0s,mb6.3
KLR Kul'dur 46.76 4 *e*P **P** **18 10 24.8 -4.7**
KLR *e*S **S** **18 17 13.0 -4.7**
KLR pmax pmax
comp=Z,88nm,1.4s,mb5.5
PKI Pulchoki 46.95 306 *e*P **P** **18 10 29.8 -1.5**
comp=Z,258nm,1.3s,mb6.0
HIA Hailar 47.04 353 *e*P **P** **18 10 32.8 +1.2**
HIA pmax pmax
comp=Z,73nm,1.3s
HIA MLR MLR
comp=Z,1μm,22.0s
HIA Hailar 47.04 353 *e*P **P** **18 10 32.8 +1.1**
comp=Z,73nm,1.3s,mb5.5
HIA LR LR
comp=Z,1μm,22.0s,MS4.8
KKN Kakani 47.14 306 *e*P **P** **18 10 31.5 -1.3**
comp=Z,228nm,1.2s,mb6.0
DMN Daman 47.21 306 *e*P **P** **18 10 31.8 -1.5**
comp=Z,233nm,1.1s,mb6.0
GKN Gorkha 47.75 306 *e*P **P** **18 10 35.7 -1.8**
BLSP Bilaspur 47.76 298 *e*P **P** **18 10 35.8 -1.9**
BLSP AMb AMB 18 10 41.7
comp=Z,128nm,0.9s,mb6.0
BLSP *ex* x 18 16 25.5
KOLN Koldanda 48.49 306 *e*P **P** **18 10 42.1 -1.2**
comp=Z,583nm,1.2s,mb6.5
SONM Songino Array 48.58 342 P **P** **18 10 43.9 +0.3**
comp=Z,21nm,0.7s,mb5.2,baz=161,slow=8.9,SNR=48
SONM PcP PcP 18 12 09.8 +0.7
comp=Z,13nm,1.0s,baz=93,slow=1.7,SNR=4.0
DANN Dangsing 48.59 306 *e*P **P** **18 10 42.8 -1.3**
comp=Z,261nm,0.9s,mb6.3
HYB Hyderabad 49.83 291 *i*P **P** **18 10 52.0 -1.7**
comp=Z,80nm,1.0s,mb5.7
HYB *e*S sS 18 18 28.0 +12
HYB Hyderabad 49.83 291 *e*P **P** **18 10 52.0 -1.7**
HYB *e*S sS 18 18 28.0 +12
TRD Trivandrum 50.17 279⇓ *ex* x 18 11 04.0
TRD *ex* x 18 18 36.0
CIT Chita 50.65 349 *e*P **P** **18 11 00.6 +1.3**
CIT pmax pmax
comp=Z,227nm,1.9s,mb5.8
ZAK Zakamensk 51.81 341⇑ *i*P **P** **18 11 07.7 -0.3**
ZAK *e* 18 12 21.9
ZAK pmax pmax
comp=Z,14nm,1.5s,mb4.7
ZAK pmax pmax
comp=Z,16nm,1.1s,mb4.9
ZAK pmax pmax
comp=Z,16nm,1.0s,mb4.9
TLY Talaya 52.81 342 P **P** **18 11 16.7 +1.2**
comp=Z,278nm,1.2s,mb6.1,SNR=35
TLY Talaya 52.81 342*c* *i*P **P** **18 11 15.8 +0.3**
TLY *e*S **S** **18 18 40.1 -2.1**
TLY pmax pmax
comp=Z,82nm,1.3s,mb5.5
TLY MLR MLR
comp=Z,2μm,25.0s,MS5.0
TLY Talaya 52.81 342 *e*P **P** **18 11 15.9 +0.4**
comp=Z,44nm,0.9s,mb5.4
TLY LR LR
comp=Z,991nm,21.0s,MS4.8
IRK Irkutsk 53.11 343 *e*P **P** **18 11 18.5 +0.8**
IRK *e* 18 12 29.6
IRK *e* 18 18 38.7
IRK pmax pmax
comp=Z,157nm,1.9s,mb5.6
MOY Mondy 53.66 340 *e*P **P** **18 11 22.7 +1.0**
MOY pmax pmax
comp=Z,171nm,1.6s,mb5.7
KAD Karad 53.91 290 *e*P **P** **18 11 23.3 -0.8**
KAD AMb AMB 18 11 35.6
comp=Z,81nm,2.2s,mb5.3
WMQ Urumqi 53.92 325 P **P** **18 11 25.5 +1.7**
WMQ AP pP 18 11 33.1 +0.7
WMQ XP sP 18 11 36.4 +0.7
WMQ PP PP 18 13 28.3 +3.0
WMQ SCP ScP 18 16 25.9 +0.6
WMQ S **S** **18 18 57.7 +0.1**
WMQ SCS ScS 18 21 09.8 -1.6
WMQ SS SS 18 22 37.4 -1.7
WMQ AMB AMB
comp=Z,51nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,114nm,10.0s
WMQ LR LR
comp=N,2μm,25.2s,MS5.0
WMQ LR LR
comp=E,1μm,24.8s,MS5.0
WMQ LR LR
comp=Z,2μm,24.2s,MS5.0
DDI Dehra Dun 53.95 306 *e*P **P** **18 11 23.2 -1.0**
NDI New Delhi 54.06 304 *e*P **P** **18 11 23.0 -2.1**
POO Poona 54.44 291 *e*P **P** **18 11 26.4 -1.5**
POO AMb AMB 18 11 31.1
comp=Z,62nm,0.6s,mb5.7
SMLA Simla 54.95 307 *i*P **P** **18 11 30.2 -1.3**
SMLA *ex* x 18 11 38.9
comp=Z,117nm,0.8s
SMLA *i*x x 18 19 05.8
DGAR Diego Garcia 55.33 259 PFAKE 18 11 50.0 +15
DGAR LR LR
comp=Z,1μm,19.0s,MS5.0
AJM Ajmer 55.56 301 *e*P **P** **18 11 35.0 -1.0**
HVS Khovu-Aksy 56.00 335*c* *i*P **P** **18 11 39.0 +0.3**
HVS pmax pmax
comp=Z,112nm,0.9s,mb5.9
BOD Bodaibo 56.15 352 *e*P **P** **18 11 40.1 +0.5**
BOD pmax pmax
comp=Z,44nm,1.7s,mb5.2
PETK Petropavlovsk- 56.48 22 P **P** **18 11 41.9 -0.1**
comp=Z,18nm,0.9s,mb5.1,baz=193,slow=4.8,SNR=38
PETK Petropavlovsk- 56.48 22 *e*P **P** **18 11 41.9 -0.2**
THN Thein Dam 56.57 308 *ex* x 18 11 39.8
PET Petropavlovsk 56.77 22 *e*P **P** **18 11 47.5 +3.4**
PET *e* 18 13 51.5
PET *e*S **S** **18 19 29.5 -5.8**
PET pmax pmax
comp=Z,44nm,1.4s,mb5.3
PET pmax pmax
comp=Z,200nm,2.9s,mb5.6
PET pmax pmax
comp=Z,200nm,8.6s
PET pmax pmax
comp=Z,100nm,7.3s
PET MLR MLR
comp=Z,300nm,17.0s,MS4.5
PET Petropavlovsk 56.77 22 *e*P **P** **18 11 44.6 +0.5**
comp=Z,48nm,1.1s,mb5.4
PET LR LR
comp=Z,443nm,22.0s,MS4.5
MK31 Makanchi Array 58.76 326 *i*P **P** **18 11 57.1 -1.1**
MK31 pmax pmax
comp=Z,37nm,0.8s,mb5.5
MK31 Makanchi Array 58.76 326 *e*P **P** **18 11 57.1 -1.1**
MK31 *e* 18 12 19.0
MK31 *e* 18 12 34.3
MKAR Makanchi Array 58.76 326 P **P** **18 11 57.2 -1.0**
comp=Z,24nm,0.7s,mb5.3,baz=121,slow=7.9,SNR=124
MKAR ScP ScP 18 16 46.5 -0.1
comp=Z,1.8nm,1.0s,baz=127,slow=6.3,SNR=4.3
MKAR S **S** **18 19 58.9 -2.7**
comp=Z,0.6nm,0.9s,baz=306,slow=31,SNR=2.4
MKAR PKP2bc 18 41 40.2
comp=Z,1.9nm,1.0s,baz=277,slow=2.1,SNR=6.1
MKAR PKP2ab 18 41 55.5
comp=Z,3.0nm,1.0s,baz=285,slow=2.4,SNR=6.2
MKAR Makanchi Array 58.76 326 *i*P **P** **18 11 57.2 -1.0**
MKAR pmax pmax
comp=Z,24nm,0.7s
MKAR Makanchi Array 58.76 326 P **P** **18 11 57.2 -1.0**
MKAR ScP ScP 18 16 46.5 -0.1
MKAR S **S** **18 19 58.9 -2.7**
MKAR ⇑*e* 18 41 40.2
MKAR P'P'ab 18 41 55.5
MIDW Midway 58.78 58 PFAKE 18 12 10.0 +11
MIDW LR LR
comp=Z,505nm,21.0s,MS4.6
YAK Yakutsk 59.45 1*d* *i*P **P** **18 12 02.5 -0.2**
YAK *e**PP pP 18 12 13.2 +1.8
YAK *e* 18 12 49.0
YAK *e* 18 14 13.7
YAK *e*S **S** **18 20 07.7 -2.3**
YAK *e**SS sS 18 20 26.1 +1.8
YAK *e* 18 21 46.6
YAK *e*SS SS 18 24 04.6 -0.8
YAK pmax pmax
comp=Z,121nm,1.0s,mb5.9
YAK pmax pmax
comp=N,23nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,56nm,3.0s
YAK smax
comp=N,138nm,3.0s
YAK smax
comp=E,234nm,3.8s
YAK Yakutsk 59.45 1 *i*P **P** **18 12 02.6 -0.1**
MA2 Magadan 59.85 14 *e*P **P** **18 12 08.3 +2.8**
MA2 *e* 18 12 50.1
MA2 *e* 18 14 17.9
MA2 *e*PPP 18 15 41.7
MA2 *e*S **S** **18 20 16.2 +1.0**
MA2 pmax pmax
comp=Z,60nm,1.3s,mb5.5
MA2 pmax pmax
comp=N,40nm,1.2s
MA2 MLR MLR
comp=Z,500nm,22.8s,MS4.6
MA2 Magadan 59.85 14 *e*P **P** **18 12 07.5 +2.1**
comp=Z,26nm,0.8s,mb5.3
MA2 LR LR
comp=Z,496nm,22.0s,MS4.6
RPZ Rata Peaks 60.56 145 LR LR 18 36 35.2
comp=Z,728nm,21.1s,MS4.8,baz=298,slow=34
TKM2 Tokmak 2 60.89 319 P **P** **18 12 12.3 -0.6**
SNR=22
TKM2 Tokmak 2 60.89 319 *e*P **P** **18 12 12.2 -0.8**
TKM2 LR LR
comp=Z,484nm,22.0s,MS4.6
KBK Karagaybulak 61.20 318 P **P** **18 12 15.1 0.0**
SNR=11
UCH Uchtor 61.30 318 P **P** **18 12 17.5 +1.7**
SNR=5.8
UCH Uchtor 61.30 318 *e*P **P** **18 12 14.9 -0.8**
comp=Z,30nm,1.1s,mb5.3
UCH LR LR
comp=Z,444nm,22.0s,MS4.6
SNZO South Karori 61.40 141 PFAKE 18 12 30.0 +14
SNZO LR LR
comp=Z,1μm,20.0s,MS5.0
CHMS Chumysh 61.48 319 P **P** **18 12 19.1 +2.1**
SNR=5.8
AAK Ala-Archa 61.49 318 P **P** **18 12 17.7 +0.6**
SNR=6.2
FRU Bishkek 61.49 318 *e*P **P** **18 12 17.0 -0.1**
FRU MLR MLR
comp=Z,500nm,22.0s,MS4.6
USP Ospenovka 61.76 319 P **P** **18 12 18.1 -0.8**
SNR=32
AML Almayashu 61.81 317 P **P** **18 12 19.7 +0.4**
SNR=31
AML Almayashu 61.81 317 *e*P **P** **18 12 18.9 -0.3**
comp=Z,68nm,1.1s,mb5.7
AML LR LR
comp=Z,767nm,22.0s,MS4.8
ZAA0 Zalesovo Array 61.84 333 *e*P **P** **18 12 17.7 -1.5**
ZALV Zalesovo Beam 61.84 333 P **P** **18 12 17.7 -1.5**
comp=Z,15nm,0.8s,mb5.2,baz=126,slow=7.5,SNR=46
ZALV S **S** **18 20 39.3 -1.5**
comp=Z,0.4nm,0.2s,baz=52,slow=2.4,SNR=2.6
ZALV PKPPKP 18 41 29.6
comp=Z,0.5nm,0.6s,baz=209,slow=32,SNR=2.9
ZALV PKP2bc 18 41 38.1
comp=Z,2.6nm,0.8s,baz=289,slow=4.5,SNR=6.7
ZALV PKP2ab 18 41 46.8
comp=Z,3.4nm,0.9s,baz=227,slow=3.7,SNR=5.0
ZALV Zalesovo Beam 61.84 333 P **P** **18 12 17.7 -1.5**
ZALV S **S** **18 20 39.3 -1.5**
ZALV P'P' 18 41 29.6
ZALV ⇑*e* 18 41 38.1
ZALV P'P'ab 18 41 46.8
ZAL Zalesovo 61.84 333 P **P** **18 12 17.7 -1.5**
ZAL S **S** **18 20 39.3 -1.6**
EKS2 Erkin-Say 61.98 318 P **P** **18 12 19.8 -0.5**
SNR=30
EKS2 Erkin-Say 61.98 318 *e*P **P** **18 12 19.6 -0.7**
comp=Z,47nm,1.2s,mb5.5
EKS2 LR LR
comp=Z,598nm,19.0s,MS4.8
KBL Kabul 62.53 308 *e*P **P** **18 12 22.8 -1.4**
comp=Z,20nm,0.6s,mb5.4
AFI Afiamalu 62.79 107 LR LR 18 37 16.1
comp=Z,359nm,20.9s,MS4.5,baz=34,slow=34
KURK Kurchatov 62.96 328 P **P** **18 12 25.7 -1.0**
comp=Z,634nm,0.7s,SNR=90
KURK Kurchatov 62.96 328 *e*P **P** **18 12 25.6 -1.1**
KURK pmax pmax
comp=Z,79nm,0.8s,mb5.9
KURK MLR MLR
comp=Z,364nm,21.0s,MS4.5
KURK Kurchatov 62.96 328 *e*P **P** **18 12 25.6 -1.1**
comp=Z,79nm,0.8s,mb5.9
KURK LR LR
comp=Z,364nm,21.0s,MS4.5
NVS Novosibirsk 63.13 333 *i*P **P** **18 12 26.3 -1.4**
NVS *i*S **S** **18 20 51.3 -5.7**
NVS pmax pmax
comp=Z,68nm,1.0s,mb5.7
NVS pmax pmax
comp=N,86nm,1.8s
NVS pmax pmax
comp=E,58nm,1.4s
NVS smax
comp=N,23nm,1.8s
NVS smax
comp=E,27nm,1.8s
SEY Seymchan 63.19 13*d* *i*P **P** **18 12 28.9 +0.9**
SEY Seymchan 63.19 13 *i*P **P** **18 12 28.0 0.0**
SMY Shemya 63.40 30 PFAKE 18 12 40.0 +10
SMY LR LR
comp=Z,991nm,22.0s,MS5.0
KK31 Karatay Array 64.36 317 *i*P **P** **18 12 34.9 -1.2**
KK31 pmax pmax
comp=Z,23nm,0.8s,mb5.3
AMKA Amchitka 65.39 33 *e*P **P** **18 12 40.8 -1.9**
BVA0 Borovoye Array 68.53 327 *i*P **P** **18 13 01.9 -0.7**
BVA0 pmax pmax
comp=Z,30nm,1.3s,mb5.1
BVAR Borovoye Array 68.53 327 P **P** **18 13 01.7 -1.0**
comp=Z,39nm,0.9s,mb5.3,baz=132,slow=8.2,SNR=104
BVAR S S 18 21 59.6 -3.4
comp=Z,0.3nm,0.4s,baz=274,slow=38,SNR=2.7
BRVK Borovoye 68.61 327 P **P** **18 13 02.0 -1.1**
comp=Z,348nm,1.0s,mb6.2,SNR=28
BRVK Borovoye 68.61 327 *e*P **P** **18 13 02.4 -0.7**
BRVK pmax pmax
comp=Z,99nm,1.2s,mb5.6
BRVK MLR MLR
comp=Z,571nm,21.0s,MS4.8
BRVK Borovoye 68.61 327 *e*P **P** **18 13 02.4 -0.7**
comp=Z,99nm,1.2s,mb5.6
BRVK LR LR
comp=Z,571nm,21.0s,MS4.8
TIXI Tiksi 69.09 1*d* *i*P **P** **18 13 04.3 -1.5**
TIXI *e*S S 18 22 07.6 -1.4
TIXI pmax pmax
comp=Z,70nm,1.1s,mb5.5
TIXI MLR MLR
comp=Z,727nm,21.0s,MS4.9
TIXI Tiksi 69.09 1 *e*P **P** **18 13 05.5 -0.3**
comp=Z,58nm,1.1s,mb5.4
CASY Casey 69.61 187⇓ *i*P **P** **18 13 09.5 +0.5**
CASY LR LR
comp=Z,556nm,20.0s,MS4.8
BILL Bilibino 70.69 15⇑ *e*P **P** **18 13 16.9 +1.3**
BILL *e* 18 15 51.5
BILL pmax pmax
comp=Z,26nm,1.5s,mb4.9
BILL MLR MLR
comp=Z,700nm,22.0s,MS4.9
BILL Bilibino 70.69 15 PFAKE 18 13 30.0 +14
BILL LR LR
comp=Z,652nm,22.0s,MS4.8
MSEY Mahe Island 71.84 264 PFAKE 18 13 40.0 +16
MSEY LR LR
comp=Z,703nm,22.0s,MS4.9
MIR Mirnyy 73.01 194⇓ *i*P **P** **18 13 32.0 +2.5**
MIR *i* 18 13 45.0
MIR pmax pmax
comp=Z,100nm,0.8s,mb5.8
UNV Unalaska Valle 74.29 34 *e*P **P** **18 13 37.8 +0.5**
comp=Z,25nm,0.7s,mb5.2
AKTK Aktyubinsk 74.83 322 P **P** **18 13 40.1 -0.5**
AKTK S S 18 23 13.9 -1.7
AKTO Aktyubinsk 74.83 322 P **P** **18 13 40.1 -0.5**
comp=Z,43nm,0.7s,mb5.5,baz=103,slow=7.4,SNR=106
AKTO S S 18 23 13.9 -1.7
comp=Z,0.3nm,0.3s,baz=262,slow=20,SNR=7.3
KIP Kipapa 75.10 69 PFAKE 18 13 50.0 +7.3
KIP LR LR
comp=Z,697nm,19.0s,MS5.0
SVE Sverdlovsk 75.19 329⇑ *e*P **P** **18 13 42.5 0.0**
SVE *e* 18 13 54.7
SVE *e*S S 18 23 15.8 -3.6
SVE *e*SS SS 18 28 05.5 -3.6
SVE pmax pmax
comp=Z,184nm,0.9s,mb6.0
RAR Rarotonga 75.28 113 LR LR 18 43 38.7
comp=Z,353nm,21.6s,MS4.6,baz=344,slow=33
XMAS Kiritimati 75.46 89 PFAKE 18 14 00.0 +15
XMAS LR LR
comp=Z,1μm,21.0s,MS5.2
ARU Arti 76.16 328 P **P** **18 13 47.5 -0.5**
comp=Z,708nm,0.9s,SNR=52
ARU Arti 76.16 328*c* *i*P **P** **18 13 47.3 -0.7**
ARU *e* 18 13 58.8
ARU *e*PPP 18 18 22.3
ARU *e*S S 18 23 28.6 -1.5
ARU *e*SS SS 18 28 16.6 -7.2
ARU pmax pmax
comp=Z,219nm,1.7s,mb5.8
ARU Arti 76.16 328 *e*P **P** **18 13 46.9 -1.2**
comp=Z,114nm,0.9s,mb5.8
ARU LR LR
comp=Z,315nm,21.0s,MS4.6
POHA Pohakuloa 77.35 70 *e*P **P** **18 13 56.4 +0.8**
comp=Z,221nm,1.2s,mb6.0
POHA LR LR
comp=Z,933nm,19.0s,MS5.1
STCH Steam Cracks 77.72 71 *e*P **P** **18 13 57.5 -0.1**
SOKR Solikamsk 77.95 331*c* *i*P **P** **18 13 58.4 +0.3**
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.3
SOKR MLR MLR
comp=Z,740nm,35.0s,MS4.8
UMR Umm Al-Rimmam 79.49 299 *e*P **P** **18 14 05.2 -2.0**
baz=299
UMR AMb AMB 18 14 12.8
comp=Z,76nm,1.0s,mb5.6,baz=299
RDF Al-Radifah 79.60 299 *e*P **P** **18 14 06.2 -1.7**
baz=299
RDF AMb AMB 18 14 10.4
comp=Z,54nm,1.1s,mb5.4,baz=299
MIB Mutribah 79.83 300 *e*P **P** **18 14 07.4 -1.7**
baz=300
MIB AMb AMB 18 14 13.7
comp=Z,92nm,1.4s,mb5.5,baz=300
NAY Al-Naaiem 79.89 299 *e*P **P** **18 14 07.4 -2.0**
baz=299
NAY AMb AMB 18 14 12.8
comp=Z,37nm,0.7s,mb5.4,baz=299
MAK Makhachkala 80.66 313 *e*P **P** **18 14 10.3 -2.9**
MAK *i* 18 14 27.6
MAK *i*S S 18 24 16.1 -2.9
MAK pmax pmax
comp=Z,363nm,1.6s,mb6.1
MAK MLR MLR
comp=Z,391nm,22.0s,MS4.7
ABPO Ambohimpanom 81.17 250 P **P** **18 14 16.3 -0.1**
comp=Z,215nm,0.9s,mb6.1,SNR=6.3
ABPO Ambohimpanom 81.17 250 *e*P **P** **18 14 16.4 -0.1**
comp=Z,32nm,0.9s,mb5.2
ABPO LR LR
comp=Z,577nm,21.0s,MS4.9
SVW2 Sparrevohn 81.76 29 *e*P **P** **18 14 21.7 +3.0**
TTA Tatalina 81.88 27 *e*P **P** **18 14 20.7 +1.4**
DGRG David-gareji 82.12 311 P **P** **18 14 21.9 +0.9**
VNDA Vanda 82.14 173 P **P** **18 14 20.6 +0.2**
comp=Z,16nm,0.8s,mb5.0,baz=323,slow=5.8,SNR=41
VNDA PKKPbc PKKPbc 18 32 51.2 -1.5
comp=Z,1.2nm,1.1s,baz=262,slow=3.6,SNR=4.3
VNDA Vanda 82.14 173 *e*P **P** **18 14 20.1 -0.3**
VNDA pmax pmax
comp=Z,19nm,0.9s
VNDA MLR MLR
comp=Z,466nm,20.0s
VNDA Vanda 82.14 173 *e*P **P** **18 14 20.1 -0.3**
comp=Z,19nm,0.9s,mb5.0
VNDA LR LR
comp=Z,466nm,20.0s,MS4.8
OHAK Old Harbor 82.34 33 *e*P **P** **18 14 22.6 +0.8**
GNI Garni 82.52 310 P **P** **18 14 24.2 +1.1**
comp=Z,17nm,0.8s,mb5.1,baz=173,slow=3.8,SNR=16
GNI S S 18 24 39.0 +0.7
comp=Z,2.1nm,0.4s,baz=162,slow=16,SNR=2.0
GNI Garni 82.52 310⇓ *i*P **P** **18 14 23.5 +0.4**
GNI pmax pmax
comp=Z,195nm,1.8s
GNI Garni 82.52 310 *e*P **P** **18 14 24.5 +1.4**
comp=Z,98nm,1.0s,mb5.8
GNI LR LR
comp=Z,244nm,22.0s,MS4.5
MTA Mtatsminda 82.56 312 P **P** **18 14 23.3 0.0**
TBLG Delisi 82.61 312 P **P** **18 14 24.0 +0.4**
MAW Mawson 82.68 200 P **P** **18 14 24.9 +1.6**
comp=Z,17nm,0.9s,mb5.1,baz=53,slow=6.3,SNR=34
MAW Mawson 82.68 200 *e*P **P** **18 14 24.8 +1.5**
MAW pmax pmax
comp=Z,23nm,0.9s
MAW MLR MLR
comp=Z,545nm,21.0s
MAW Mawson 82.68 200 *e*P **P** **18 14 24.8 +1.5**
comp=Z,23nm,0.9s,mb5.2
MAW LR LR
comp=Z,545nm,21.0s,MS4.9
KDAK Kodiak Island 82.79 32 *e*P **P** **18 14 23.9 -0.2**
comp=Z,57nm,1.0s,mb5.6
KDAK LR LR
comp=Z,861nm,22.0s,MS5.1
SBA Scott Base 83.05 172 *e*P **P** **18 14 25.9 +0.8**
SBA pmax pmax
comp=Z,16nm,1.0s,mb5.0
SBA MLR MLR
comp=Z,403nm,21.0s,MS4.8
SBA Scott Base 83.05 172 *e*P **P** **18 14 25.9 +0.8**
comp=Z,16nm,1.0s,mb5.0
SBA LR LR
comp=Z,403nm,21.0s,MS4.8
GOR Gori 83.09 312 P **P** **18 14 26.9 +0.9**
HAKT HAKKARI 83.21 307 *i*P **P** **18 14 25.7 -1.0**
DYDN Diyadin 83.30 309 *i*P **P** **18 14 27.9 +0.7**
IMA2 Indian Mountai 83.41 24 *e*P **P** **18 14 28.3 +1.2**
AKH Akhalkalaki 83.53 311 P **P** **18 14 29.8 +1.5**
ONI Oni 83.61 312 P **P** **18 14 29.3 +0.6**
PPLA Purkeypile 83.61 27 *e*P **P** **18 14 29.1 +0.8**
comp=Z,56nm,1.1s,mb5.6
MSL Mosul 83.66 306 *ex* x 18 14 33.5
MSL Mosul 83.66 306 *ex* x 18 24 51.0
CHUM Lake Minchumin 83.67 26 *e*P **P** **18 14 29.8 +1.2**
comp=Z,61nm,1.3s,mb5.6
TUTA Tutak 83.97 309 *i*P **P** **18 14 32.9 +2.2**
KIV Kislovodsk 84.22 314 P **P** **18 14 31.5 -0.3**
comp=Z,300nm,1.0s,mb6.4,SNR=9.8
KIV Kislovodsk 84.22 314 *e*P **P** **18 14 31.9 +0.1**
KIV *e* 18 24 51.2
KIV pmax pmax
comp=Z,68nm,1.2s,mb5.7
KIV pmax pmax
comp=Z,59nm,4.9s
KIV MLR MLR
comp=Z,250nm,21.0s,MS4.6
KIV Kislovodsk 84.22 314⇑ *i*P **P** **18 14 31.8 0.0**
KIV Kislovodsk 84.22 314 *e*P **P** **18 14 31.6 -0.2**
comp=Z,116nm,1.4s,mb5.8
KIV LR LR
comp=Z,296nm,21.0s,MS4.7
KTH Kantishna Hill 84.25 26 *e*P **P** **18 14 31.7 +0.2**
comp=Z,55nm,1.2s,mb5.6
BPAW Bear Paw Mtn. 84.28 26 *e*P **P** **18 14 32.1 +0.4**
comp=Z,24nm,1.1s,mb5.2

SLKM Skilak Lake 84.28 30 *eP* **P 18 14 31.7 -0.1**
PPT Papeete 84.44 108 *eS* S 18 24 57.1 -1.5
comp=Z,252nm,26.2s
PPT *eSS* SS 18 30 28.4 -1.2
comp=Z,437nm,32.8s
PPT Papeete 84.44 108 *e*LR LR 18 41 14.7
comp=Z,2μm,28.2s
PPT Papeete 84.44 108 LR LR 18 45 54.7
comp=Z,320nm,21.1s,MS4.7.baz=88,slow=31
TRF Thorofare Moun 84.53 27 *eP* **P 18 14 32.3 -0.6**
comp=Z,54nm,1.2s,mb5.5
RC01 Rabbit Creek A 84.57 29 *eP* **P 18 14 33.2 0.0**
comp=Z,3μm,0.9s
SEW Seward 84.64 30 *eP* **P 18 14 31.8 -1.7**
HOMI Horasan 84.69 310 *i* P **P 18 14 35.8 +1.6**
PMR Palmer 84.90 29 *eP* **P 18 14 35.3 +0.4**
PMR pmax pmax
comp=Z,54nm,1.2s,mb5.5
PMR MLR MLR
comp=Z,300nm,21.0s,MS4.7
PMR Palmer 84.90 29 *eP* **P 18 14 35.3 +0.4**
comp=Z,54nm,1.2s,mb5.5
PMR LR LR
comp=Z,300nm,21.0s,MS4.7
COLD Coldfoot 84.93 23 *eP* **P 18 14 36.0 +1.1**
comp=Z,39nm,1.0s,mb5.5
TBI Tubuai 85.01 114 *e*S S 18 25 02.1 -2.0
comp=Z,170nm,24.0s
TBI *eSS* SS 18 30 37.6 -0.1
comp=Z,269nm,37.8s
TBI Tubuai 85.01 114 *e*LR LR 18 41 21.1
comp=Z,1μm,31.0s
ERZM Erzurum 85.10 310 *i* P **P 18 14 37.2 +0.9**
MCK McKinley 85.15 26 *eP* **P 18 14 36.1 0.0**
MCK pmax pmax
comp=Z,75nm,1.3s,mb5.7
MCK McKinley 85.15 26 *eP* **P 18 14 36.1 +0.1**
comp=Z,75nm,1.3s,mb5.7
VRHR Novokhopersk 85.20 321 *eP* **P 18 14 36.0 -0.6**
VRHR pmax pmax
comp=Z,120nm,0.8s,mb6.1
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,80nm,0.9s
BNGL BINGOL 85.25 309 *i* P **P 18 14 38.3 +1.1**
MARD Mardin 85.53 307 *i* P **P 18 14 38.2 -0.4**
COLA College 85.70 25 PFAKE 18 14 50.0 +11
COLA LR LR
comp=Z,171nm,19.0s,MS4.5
KOPT Kop Dagi 85.77 310 *i* P **P 18 14 41.6 +1.9**
SOC Sochi 86.36 313 *eP* **P 18 14 42.3 -0.2**
SOC *e* 18 14 54.7
SOC *eS* S 18 25 03.0 -14
SOC pmax pmax
comp=Z,66nm,0.9s,mb5.9
SOC Sochi 86.36 313 *i* P **P 18 14 43.0 +0.5**
EYAK Cordova Ski Ar 86.50 30 *eP* **P 18 14 43.2 +0.4**
comp=Z,20nm,0.7s,mb5.5
DIV Divide 86.50 29 *eP* **P 18 14 43.5 +0.7**
comp=Z,103nm,1.1s,mb6.0
KLMR Klimovskoe 86.64 331 *eP* **P 18 14 42.4 -1.1**
KLMR pmax pmax
comp=Z,88nm,1.6s,mb5.7
VOR Voronezh 86.73 322 *eP* **P 18 14 44.0 -0.1**
VOR pmax pmax
comp=Z,160nm,1.8s,mb6.0
VRSR Storozhevoye 86.74 321 *eP* **P 18 14 44.6 +0.4**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,2.0nm,1.2s
VRSR pmax pmax
comp=E,8.0nm,0.8s
RAGM Ragged Mountai 87.03 30 *eP* **P 18 14 47.4 +2.0**
BMRM Bremner River 87.06 29 *eP* **P 18 14 45.2 -0.3**
MALT Malatya 87.39 308 *eP* **P 18 14 48.3 +0.6**
MALT pmax pmax
comp=Z,56nm,1.1s,mb5.7
MALT MLR MLR
comp=Z,295nm,20.0s,MS4.7
MALT Malatya 87.39 308⇓ *iP* **P 18 14 48.4 +0.7**
MALT Malatya 87.39 308 *eP* **P 18 14 48.3 +0.6**
comp=Z,56nm,1.1s,mb5.7
MALT LR LR
comp=Z,295nm,20.0s,MS4.7
ATAB Bozova 87.51 307 *i* P **P 18 14 48.8 +0.5**
MOS Moscow 87.64 326 *eP* **P 18 14 47.3 -1.2**
MOS *e* 18 25 23.2
MOS pmax pmax
comp=Z,70nm,1.0s,mb5.8
ANN Anapa 87.99 315*c* *iP* **P 18 14 49.8 -0.6**
ANN *e**PP pP 18 14 59.0 -0.4
ANN *e* 18 18 17.5
ANN *eS* S 18 25 15.3 -17
ANN pmax pmax
comp=Z,129nm,0.9s,mb6.2
GZT Gaziantep 88.09 307 *i* P **P 18 14 50.8 -0.2**
OBN Obninsk 88.26 325⇑ *eP* **P 18 14 50.9 -0.5**
OBN *e* 18 18 14.0
OBN *eS* S 18 25 24.1 -10
OBN *e*PS 18 26 31.6
OBN pmax pmax
comp=Z,170nm,1.6s,mb6.0
OBN MLR MLR
comp=Z,400nm,21.0s,MS4.8
OBN Obninsk 88.26 325 *eP* **P 18 14 50.9 -0.6**
comp=Z,265nm,1.5s,mb6.2
OBN LR LR
comp=Z,498nm,22.0s,MS4.9
EGAK Eagle 88.56 25 *eP* **P 18 14 52.2 -0.4**
comp=Z,5.0nm,0.7s,mb5.0
EGAK LR LR
comp=Z,192nm,20.0s,MS4.5
LVZ Lovozero 88.63 338⇑ *eP* **P 18 14 53.5 +0.6**
LVZ pmax pmax
comp=Z,71nm,1.8s,mb5.7
ASF Jabal al Asfar 88.81 302 P **P 18 14 55.7 +1.1**
comp=Z,26nm,1.0s,mb5.5,baz=307,slow=1.0,SNR=22
ASF S S 18 25 21.5 -19
comp=Z,0.5nm,0.3s,baz=248,slow=21,SNR=2.1
PINB Pinarbasi 88.97 308 *i* P **P 18 14 56.0 +0.9**
ANDN Andirin 89.06 307 *i* P **P 18 14 55.5 -0.1**
DAWY Dawson 89.37 26 *eP* **P 18 14 56.9 +0.5**
PNL Peninsula 89.70 30 *eP* **P 18 14 59.0 +0.9**
comp=Z,11nm,1.0s,mb5.1
MMAI Mount Meron Ar 90.04 303 P **P 18 15 00.5 +0.2**
comp=Z,10nm,0.7s,mb5.2,baz=79,slow=8.6,SNR=12
AVNT Avonos 90.17 309 *i* P **P 18 15 00.2 -0.5**
SIM Simferopol' 90.34 315 *eP* **P 18 14 59.8 -1.6**
SIM *e* 18 18 41.0
SIM *e* 18 25 32.0
SIM *eS* S 18 25 49.0 -5.3
SIM pmax pmax
comp=Z,26nm,0.7s,mb5.7
SIM MLR MLR
comp=Z,990nm,27.5s,MS5.1
JOF Joensuu 90.43 333 *ep* **P 18 15 00.1 -1.3**
comp=Z,9.7nm,0.8s,mb5.2
JOF Joensuu 90.43 333 *eP* **P 18 15 00.1 -1.3**
JOF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
HYT Haines Junctio 90.53 29 *eP* **P 18 15 02.5 +0.5**
EIL Elat 90.60 300 P **P 18 15 02.6 -0.4**
comp=Z,11nm,0.8s,mb5.2,baz=10,slow=3.9,SNR=10
KEV Kevo 91.17 340 *eP* **P 18 15 03.7 -1.0**
comp=Z,8.8nm,0.8s,mb5.1
KEV LR LR
comp=Z,594nm,20.0s,MS5.0
INK Inuvik 91.22 22 P **P 18 15 04.5 -0.5**
comp=Z,14nm,1.2s,mb5.2,baz=258,slow=5.4,SNR=8.1
INK PKKP PKKPbc 18 32 26.9 -3.4
comp=Z,1.7nm,0.9s,baz=124,slow=8.5,SNR=3.4
INK Inuvik 91.22 22 *eP* **P 18 15 04.4 -0.6**
INK pmax pmax
comp=Z,581nm,1.3s
INK Inuvik 91.22 22 *eP* **P 18 15 04.4 -0.6**
comp=Z,581nm,1.3s
SYO Syowa Base 91.36 201⇓ *eP* **P 18 15 05.6 0.0**
SYO Syowa Base 91.36 201⇓ *eP*cP PcP 18 15 07.0 +0.5
CSS Prodhromos 91.64 305 *eP* **P 18 15 07.4 -0.3**
comp=Z,36nm,0.8s,mb5.8
ANTO Ankara 91.69 310 PFAKE 18 15 20.0 +12
ANTO LR LR
comp=Z,239nm,21.0s,MS4.6
ARCES ARCESS Array B 91.73 340 P **P 18 15 06.6 -0.8**
comp=Z,22nm,0.7s,mb5.6,baz=77,slow=5.5,SNR=59
ARCES LR LR 19 02 37.2
comp=Z,355nm,20.9s,MS4.8,baz=75,slow=40
ARE0 ARCESS Array S 91.73 340 *eP* **P 18 15 06.7 -0.7**
ARE0 *e* 18 15 17.4
SPITS Spitsbergen Ar 91.77 349 P **P 18 15 07.3 -0.1**
comp=Z,8.0nm,0.7s,mb5.2,baz=330,slow=17,SNR=4.0
SKAG Skagway 91.78 30 *eP* **P 18 15 08.8 +1.0**
comp=Z,13nm,1.0s,mb5.2
SIT Sitka 92.11 33 PFAKE 18 15 20.0 +11
SIT LR LR
comp=Z,1μm,22.0s,MS5.2
KBS Kingsbay 92.29 350 PFAKE 18 15 20.0 +10
KBS LR LR
comp=Z,906nm,22.0s,MS5.2
KDHN Kadinhani 92.33 309 *i* P **P 18 15 08.1 -2.7**
QSPA South Pole Qui 92.38 180 PKKP PKKPbc 18 32 22.9 -4.8
comp=Z,1.9nm,0.9s,baz=275,slow=3.8,SNR=4.8
KAF Kangasniemi 92.85 332 *ep* **P 18 15 11.1 -1.5**
comp=Z,5.9nm,0.8s,mb5.1
KAF Kangasniemi 92.85 332 *eP* **P 18 15 11.1 -1.5**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
AKASG Malin Array Be 93.06 321 P **P 18 15 12.2 -1.7**
comp=Z,3.9nm,0.9s,mb4.8,baz=69,slow=4.1,SNR=25
AKBB Malin Array Si 93.06 321 *eP* **P 18 15 12.8 -1.1**
KIEV Kiev 93.07 321 *eP* **P 18 15 12.9 -1.0**
KIEV pmax pmax
comp=Z,24nm,1.4s,mb5.4
KIEV MLR MLR
comp=Z,329nm,21.0s,MS4.8
KIEV Kiev 93.07 321 *eP* **P 18 15 12.9 -1.0**
comp=Z,24nm,1.4s,mb5.4
KIEV LR LR
comp=Z,329nm,21.0s,MS4.8
ISP Isparta 93.65 308 PFAKE 18 15 30.0 +13
ISP LR LR
comp=Z,246nm,21.0s,MS4.6
WRAK Wrangell Islan 93.83 33 *eP* **P 18 15 18.1 +0.8**
DLBC Dease Lake 94.66 31 P **P 18 15 21.0 -0.1**
baz=256,slow=4.0
DLBC Dease Lake 94.66 31 *eP* **P 18 15 19.4 -1.7**
VRI Vrincioaia 95.41 316⇓ *iP* **P 18 15 25.2 +0.4**
VRI Vrincioaia 95.41 316 ⇓P **P 18 15 25.2 +0.4**
PLOR Plostina 95.47 316⇑ *iP* **P 18 15 25.7 +0.7**
MLR Muntele Rosu 96.01 316⇑ *iP* **P 18 15 27.5 0.0**
MLR Muntele Rosu 96.01 316 ⇑P **P 18 15 27.5 0.0**
BURAR Bucovina Array 96.14 318⇓ *iP* **P 18 15 28.1 0.0**
BURAR Bucovina Array 96.14 318 ⇓P **P 18 15 28.1 +0.1**
LVV L'vov 96.49 321 *eP* **P 18 15 28.0 -1.6**
LVV MLR MLR
comp=Z,400nm,24.0s,MS4.8
LVV MLR MLR
comp=N,40nm,22.0s,MS4.7
LVV MLR MLR
comp=E,300nm,24.0s,MS4.7
KWP Kalwaria 97.37 321 PFAKE 18 15 40.0 +6.4
KWP LR LR
comp=Z,455nm,21.0s,MS4.9
KOLS Kolonicke sedl 97.80 320 *i* P **P 18 15 38.3 +2.8**
UZH Uzhgorod 97.85 320⇓ *iP* **P 18 15 36.0 +0.2**
UZH *i* 18 15 50.5
DRGR 97.97 318⇑ *iP* **P 18 15 37.1 +0.7**
DRGR 97.97 318 ⇑P **P 18 15 37.1 +0.7**
RKT Rikitea 98.32 113 *e*LR LR 18 47 39.4
comp=Z,1μm,37.5s
CRVS Cervenica-Dubn 98.33 320 *i* P **P 18 15 38.6 +0.7**
BZS Buzias 98.97 317⇓ *iP* **P 18 15 39.9 -1.0**
BZS Buzias 98.97 317 ⇓P **P 18 15 39.9 -1.0**
KECS Kecovo 99.05 320 *eP* **P 18 15 41.4 +0.2**
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.9
KECS Kecovo 99.05 320 PDIF P **18 15 41.4 +0.2**
KECS Kecovo 99.05 320 *eP* **P 18 15 41.4 +0.2**
comp=Z,4.4nm,1.0s,mb4.9
OJC Ojcow 99.05 322 *e*Pdiff **P 18 15 42.9 +1.8**
LSZ Lusaka 99.17 255 *eP* **P 18 15 42.0 -0.4**
LSZ pmax pmax
comp=Z,7.0nm,0.8s,mb5.2
LSZ MLR MLR
comp=Z,451nm,21.0s,MS5.0
LSZ Lusaka 99.17 255 *eP* **P 18 15 42.0 -0.4**
comp=Z,6.9nm,0.8s,mb5.2
LSZ LR LR
comp=Z,451nm,21.0s,MS5.0
PSZ Piszkesteto 99.58 319 PFAKE 18 15 50.0 +6.5
PSZ LR LR
comp=Z,364nm,22.0s,MS4.8
NOA NORSAR Array B 100.04 334 P Pdif 18 15 43.5 -1.9
comp=Z,4.8nm,0.8s,baz=66,slow=4.6,SNR=13
NOA LR LR 19 06 36.2
comp=Z,220nm,19.7s,MS4.7,baz=65,slow=39
NOA NORSAR Array B 100.04 334 P Pdif 18 15 43.5 -1.9
NOA LR LR 19 06 36.2
VYHS Vyhne 100.11 320 *eP* Pdif 18 15 46.7 +1.0
VYHS pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 100.11 320 PDIF Pdif 18 15 46.7 +1.0
VYHS Vyhne 100.11 320 *eP* Pdif 18 15 46.7 +1.0
comp=Z,3.4nm,1.3s
YKA Yellowknife Ar 100.52 25 P Pdif 18 15 44.8 -2.7
comp=Z,0.7nm,0.6s,baz=215,slow=43,SNR=2.9
YKA Yellowknife Ar 100.52 25 *i* P Pdif 18 15 49.7 +2.2
YKA pmax pmax
comp=Z,2.0nm,0.8s
MORC Moravsky Berou 100.58 322⇓ *iP* Pdif 18 15 48.1 +0.3
MORC Moravsky Berou 100.58 322 ⇓P Pdif 18 15 48.1 +0.3
PKSM Moragy 100.84 318⇑ *iP* Pdif 18 15 49.6 +0.6
PKSM Moragy 100.84 318 ⇑P Pdif 18 15 49.6 +0.6
NLWA Neilton Lookou 101.00 41 PFAKE 18 16 00.0 +10
NLWA LR LR
comp=Z,546nm,22.0s,MS5.0
MODS Modra-Piesok 101.14 320 PDIF Pdif 18 15 51.2 +0.9
MODS Modra-Piesok 101.14 320 *eP* Pdif 18 15 51.2 +0.9
DPC Dobruska-Polom 101.16 322 *e*PDIF Pdif 18 16 00.1 +10
LBTB Lobatse 101.40 245 PFAKE 18 16 00.0 +8.6
LBTB LR LR
comp=Z,384nm,20.0s,MS4.9
BOSA Boshof 101.52 241 PFAKE 18 16 00.0 +8.0
BOSA LR LR
comp=Z,469nm,19.0s,MS5.0
COR Corvallis 102.14 43 PFAKE 18 16 10.0 +15
COR LR LR
comp=Z,454nm,22.0s,MS5.0
PRU Pruhonice 102.36 322 *e*PDIF Pdif 18 15 58.3 +2.6
BRG Berggiesshubel 102.42 323 *eP* Pdif 18 15 56.3 +0.3
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=N,173nm,22.3s,MS4.8
BRG MLR MLR
comp=E,286nm,26.7s,MS4.8
BRG MLR MLR
comp=Z,269nm,22.5s,MS4.7
BRG Berggiesshubel 102.42 323 *e*PP PP 18 20 19.9 +11
BRG Berggiesshubel 102.42 323 *e*PKP Pdif 18 15 56.3 +0.3
comp=Z,8.0nm,1.0s
BRG
comp=N,289nm,22.3s
BRG
comp=E,478nm,26.7s
BRG
comp=Z,449nm,22.5s
CLL Collm 102.83 324 *eP* Pdif 18 15 58.0 +0.2
CLL pmax pmax
comp=Z,11nm,1.7s
CLL MLR MLR
comp=Z,500nm,25.7s,MS4.9
CLL Collm 102.83 324 *e*PP PP 18 20 23.4 +12
CLL Collm 102.83 324 *e*Pdif Pdif 18 15 58.0 +0.2
comp=Z,11nm,1.7s
CLL *ex* x 18 16 11.0
CLL *ex* x 18 19 16.0
CLL *e*(PP) 18 20 29.0
CLL *e*PPS 18 30 15.0
CLL *ex* x 18 30 59.0
CLL *e*(SSS) 18 39 38.0
CLL *ex* x 18 41 23.0
CLL Collm 102.83 324 *e*Pdif Pdif 18 15 58.0 +0.2
comp=Z,11nm,1.7s
CLL *e* 18 16 11.0
CLL *e* 18 16 19.0
CLL *e*PP PP 18 20 29.0 +17
CLL LR LR
comp=Z,500nm,25.7s,MS4.9
HUMO Hull Mountain 102.92 45 PFAKE 18 16 10.0 +12
HUMO LR LR
comp=Z,468nm,22.0s,MS5.0
KHC Kasperske Hory 103.23 322 *e*PDIF Pdif 18 16 02.7 +3.1
GEC2 GERESS Array S 103.25 321 *e*Pdiff Pdif 18 15 59.5 -0.2
GEC2 *e*PP PP 18 20 24.7 +10
GERES GERESS Array B 103.25 321 Pdiff Pdif 18 15 57.7 -2.0
comp=Z,0.1nm,0.3s,baz=203,slow=33,SNR=6.0
GERES PP PP 18 20 14.3 -0.6
comp=Z,0.1nm,0.3s,baz=14,slow=36,SNR=3.2
YBH Yreka Blue Hor 103.33 46 PFAKE 18 16 10.0 +10
YBH LR LR
comp=Z,373nm,22.0s,MS4.9
BSEG Bad Segeberg 103.36 327 *e*PP PP 18 20 26.8 +11
TANN Tannenbergstha 103.47 323 *e*PP PP 18 20 26.1 +10
WET Wettzell 103.66 322 *e*PP PP 18 20 28.9 +11
WDC Whiskeytown Da 103.76 47 PFAKE 18 16 10.0 +8.1
WDC LR LR
comp=Z,545nm,20.0s,MS5.1
HOPS Hopland 103.78 49 PFAKE 18 16 10.0 +8.0
HOPS LR LR
comp=Z,476nm,21.0s,MS5.0
ROTZ Rotzenmuhle 103.85 323 *e*PP PP 18 20 31.0 +12
MOX Moxa 103.89 324 *e*PP PP 18 20 31.7 +12
SNAA Sanae 104.08 194 PKKPbc PKKPbc 18 31 51.4 -3.4
comp=Z,0.6nm,0.8s,baz=286,slow=3.2,SNR=6.1
HAWA Hanford 104.13 41 PFAKE 18 16 20.0 +16
HAWA LR LR
comp=Z,518nm,22.0s,MS5.0
MCCM Marconi Confer 104.14 50 PFAKE 18 16 20.0 +16
MCCM LR LR
comp=Z,363nm,19.0s,MS4.9
CLZ Clausthal 104.16 325 *e*PP PP 18 20 33.1 +12
GRF Grafenberg Arr 104.47 323 *e*PP PP 18 20 35.1 +11
GRF *e*L 19 17 50.8
comp=Z,206nm,21.8s
UBBA Unterbreizbach 104.77 324 *e*PP PP 18 20 35.8 +10
FUR Furstenfeldbru 105.00 321 *e*PP PP 18 20 37.2 +9.2
MOD Modoc 105.01 45 PFAKE 18 20 30.0 +7.4
MOD LR LR
comp=Z,352nm,22.0s,MS4.9
NEW Newport 105.02 39 PFAKE 18 20 30.0 +7.6
NEW LR LR
comp=Z,354nm,20.0s,MS4.9
IBBN Ibbenburen 105.44 326 *e*PP PP 18 20 42.7 +12
AQU L'Aquila 105.55 315 PFAKE 18 20 40.0 +16
AQU LR LR
comp=Z,274nm,20.0s,MS4.8
SAO San Andreas Ge 105.59 51 PFAKE 18 20 40.0 +16
SAO LR LR
comp=Z,348nm,21.0s,MS4.9
TNS Taunus Mts 105.92 324 *e*PP PP 18 20 44.1 +9.5
STU Stuttgart 106.06 322 *e*PP PP 18 20 45.5 +10
CMB Columbia Colle 106.06 49 PFAKE 18 20 40.0 +15
CMB LR LR
comp=Z,348nm,21.0s,MS4.9
BUG Bochum--Univer 106.08 326 *e*PP PP 18 20 49.0 +13
BMO Blue Mountains 106.12 42 PFAKE 18 20 40.0 +15
BMO LR LR
comp=Z,321nm,22.0s,MS4.8
BFO Black Forest 106.76 322 *e*PP PP 18 20 51.1 +10
BFO Black Forest 106.76 322 PFAKE 18 20 40.0 +14
BFO LR LR
comp=Z,344nm,22.0s,MS4.9
WLF Walferdange 107.50 324 *e*PP PP 18 20 56.6 +10
NVAR Mina Array Bea 107.52 48 Pdiff Pdif 18 16 18.7 0.0
comp=Z,0.1nm,0.5s,baz=102,slow=41,SNR=2.3
NVAR PP PP 18 20 43.7 -3.1
comp=Z,1.5nm,1.0s,baz=286,slow=3.6,SNR=5.2
NVAR PKKPbc PKKPbc 18 31 44.4 +1.2
comp=Z,0.4nm,0.8s,baz=68,slow=39,SNR=4.5
NVAR PKKP PKKPdf 18 31 58.0 +1.6
comp=Z,1.1nm,0.8s,baz=134,slow=5.2,SNR=6.1
NVAR Mina Array Bea 107.52 48 Pdif Pdif 18 16 18.7 0.0
NVAR PP PP 18 20 43.7 -3.1
NVAR PKKPbc PKKPbc 18 31 44.4 +1.2
NVAR PKKP PKKPdf 18 31 58.0 +1.6
MSO Missoula 107.56 39 PFAKE 18 20 40.0 +13
MSO LR LR
comp=Z,207nm,22.0s,MS4.7
BMN Battle Mountai 107.68 46 PFAKE 18 20 40.0 +12
BMN LR LR
comp=Z,374nm,22.0s,MS4.9
SNCC San Nicolas Is 108.05 54 PFAKE 18 20 40.0 +11
SNCC LR LR
comp=Z,687nm,21.0s,MS5.2
ISA Isabella 108.21 51 PFAKE 18 20 40.0 +11
ISA LR LR
comp=Z,435nm,21.0s,MS5.0
TPH Tonopah 108.44 49 PFAKE 18 20 40.0 +11
TPH LR LR
comp=Z,287nm,20.0s,MS4.8
HLID Hailey 108.53 42 PFAKE 18 20 40.0 +11
HLID LR LR
comp=Z,479nm,22.0s,MS5.0
DAC Darwin (Calif) 108.71 50 PFAKE 18 20 40.0 +10
DAC LR LR
comp=Z,355nm,20.0s,MS4.9
MWC Mount Wilson 108.95 53 PFAKE 18 20 40.0 +10
MWC LR LR
comp=Z,495nm,21.0s,MS5.0
ELK Elko 108.99 45 *e*PKiKP PKiKP 18 20 31.1 +1.1
ELK LR LR
comp=Z,366nm,21.0s,MS4.9
BNI Bardonecchia 109.13 320 PFAKE 18 20 40.0 +10
BNI LR LR
comp=Z,409nm,21.0s,MS5.0
TSUM Tsumeb 109.17 251 PFAKE 18 20 40.0 +9.1
TSUM LR LR
comp=Z,823nm,22.0s,MS5.3
ESK Eskdalemuir 109.50 332 PFAKE 18 20 40.0 +9.5
ESK LR LR
comp=Z,567nm,22.0s,MS5.1
BOZ Bozeman (W) 109.51 39 PFAKE 18 20 40.0 +9.1
BOZ LR LR
comp=Z,280nm,22.0s,MS4.8
TPNV Topopah Spring 109.53 49 PFAKE 18 20 40.0 +8.8
TPNV LR LR
comp=Z,300nm,20.0s,MS4.9
EGMT Eagleton 109.61 37 PFAKE 18 20 40.0 +9.0
EGMT LR LR
comp=Z,356nm,21.0s,MS4.9
GSC Goldstone 109.62 51 PFAKE 18 20 40.0 +8.6
GSC LR LR
comp=Z,439nm,20.0s,MS5.0
PFO Pinyon Flat Ob 110.41 53 PFAKE 18 20 50.0 +17
PFO LR LR
comp=Z,339nm,21.0s,MS4.9
BAR Barrett 110.50 54 PFAKE 18 20 50.0 +17
BAR LR LR
comp=Z,570nm,22.0s,MS5.1
SFJD Kangerlussuaq 110.67 359 PFAKE 18 20 40.0 +7.6
SFJD LR LR
comp=Z,389nm,22.0s,MS4.9
LKWY Lake 110.77 40 PFAKE 18 20 50.0 +17
LKWY LR LR
comp=Z,535nm,22.0s,MS5.1
DUG Dugway 110.91 45 PFAKE 18 20 50.0 +16
DUG LR LR
comp=Z,278nm,22.0s,MS4.8
AHID Auburn Hatcher 111.07 42 PFAKE 18 20 50.0 +16
AHID LR LR
comp=Z,414nm,22.0s,MS5.0
RLMT Red Lodge 111.24 39 PFAKE 18 20 50.0 +16
RLMT LR LR
comp=Z,363nm,21.0s,MS4.9
GLA Glamis 111.87 53 PFAKE 18 20 50.0 +14
GLA LR LR
comp=Z,337nm,21.0s,MS4.9
MVU Marysvale 111.98 47 PFAKE 18 20 50.0 +14
MVU LR LR
comp=Z,500nm,22.0s,MS5.1
MSU Marysvale 112.01 47 *e*PKIKP PKiKP 18 20 38.6 +2.8
BW06 Boulder Array 112.10 42 PFAKE 18 20 50.0 +14
BW06 LR LR
comp=Z,351nm,21.0s,MS4.9
PDAR Pinedale Array 112.10 42 PKKPbc PKKPbc 18 31 28.4 -0.3
comp=Z,1.1nm,0.8s,baz=108,slow=4.8,SNR=6.4
PDAR PKKPab PKKPab 18 31 36.7 -0.2
comp=Z,2.5nm,0.9s,baz=118,slow=5.7,SNR=11
PDAR PKKP PKKPdf 18 31 45.6 -2.2
comp=Z,1.0nm,0.9s,baz=111,slow=8.1,SNR=3.6
LAO LASA Array 112.36 37 PFAKE 18 20 50.0 +14
LAO LR LR
comp=Z,512nm,22.0s,MS5.1

DGMT	**Dagmar**	**112.61**	**34**	PFAKE		18 20 50.0	+13
DGMT				LR	LR		
comp=Z,478nm,21.0s,MS5.1							
MVCO	**Mesa Verde**	**115.19**	**47**	PFAKE		18 20 50.0	+8.0
MVCO				LR	LR		
comp=Z,223nm,20.0s,MS4.8							
ULM	**Lac du Bonnet**	**115.91**	**29**	PFAKE		18 20 50.0	+7.1
ULM				LR	LR		
comp=Z,321nm,20.0s,MS4.9							
ISCO	**Idaho Springs**	**116.09**	**43**	PFAKE		18 21 00.0	+16
ISCO				LR	LR		
comp=Z,436nm,21.0s,MS5.0							
SDCO	**Great Sand Dun**	**117.11**	**45**	*e*PKPdf	PKPdf	18 20 48.4	+2.8
SDCO				LR	LR		
comp=Z,322nm,22.0s,MS4.9							
AGMN	**Agassiz Refuge**	**117.19**	**31**	PFAKE		18 21 00.0	+15
AGMN				LR	LR		
comp=Z,440nm,22.0s,MS5.0							
ANMO	**Albuquerque**	**117.64**	**48**	*e*PKIKP	PKPdf	18 20 49.0	+2.3
ANMO				MLR	MLR		
comp=Z,278nm,21.0s							
BNM	**Barren Site**	**117.85**	**49**	*e*PKPdf	PKPdf	18 20 48.4	+1.3
ESDC	**Sonseca Array**	**118.60**	**318**	PKP	PKPdf	18 20 48.8	+0.4
comp=Z,0.9nm,0.7s,baz=275,slow=36,SNR=3.9							
ESLA	**Sonseca Array**	**118.60**	**318**	PFAKE		18 21 00.0	+12
ESLA				LR	LR		
comp=Z,2μm,21.0s,MS5.7							
PAB	**San Pablo**	**118.92**	**318**	PFAKE		18 21 00.0	+11
PAB				LR	LR		
comp=Z,214nm,21.0s,MS4.8							
EYMN	**Ely**	**119.59**	**29**	PFAKE		18 21 00.0	+10
EYMN				LR	LR		
comp=Z,288nm,20.0s,MS4.9							
ECSD	**EROS,Sioux Fal**	**119.64**	**35**	*e*PKPdf	PKPdf	18 20 50.9	+0.6
ECSD				LR	LR		
comp=Z,448nm,22.0s,MS5.1							
MTE	**Manteigas**	**120.52**	**321**	PFAKE		18 21 00.0	+7.9
MTE				LR	LR		
comp=Z,330nm,22.0s,MS4.9							
CBKS	**Cedar Bluff**	**120.53**	**41**	PFAKE		18 21 00.0	+7.8
CBKS				LR	LR		
comp=Z,337nm,20.0s,MS5.0							
AMTX	**Amarillo**	**121.17**	**46**	PFAKE		18 21 10.0	+16
AMTX				LR	LR		
comp=Z,415nm,22.0s,MS5.0							
SCHQ	**Schefferville**	**121.76**	**9**	PKP	PKPdf	18 20 54.0	-0.1
comp=Z,4.2nm,0.7s,baz=200,slow=1.3,SNR=4.7							
SCHQ	**Schefferville**	**121.76**	**9**	PKP	PKPdf	18 20 54.0	-0.1
SCHQ				LR	LR		
comp=Z,485nm,22.0s,MS5.1							
SFS	**San Fernando**	**121.76**	**316**	PFAKE		18 21 10.0	+15
SFS				LR	LR		
comp=Z,550nm,22.0s,MS5.2							
COWI	**Conover**	**122.04**	**29**	PFAKE		18 21 10.0	+15
COWI				LR	LR		
comp=Z,340nm,22.0s,MS5.0							
TXAR	**Lajitas Array**	**122.12**	**53**	PKP	PKPdf	18 20 56.6	+1.0
comp=Z,1.7nm,0.9s,baz=156,slow=1.8,SNR=14							
KSU1	**Kansas State U**	**122.39**	**39**	*e*PKPdf	PKPdf	18 20 55.9	+0.2
KSU1				LR	LR		
comp=Z,401nm,22.0s,MS5.0							
MDT	**Midelt**	**122.41**	**312**	PKP	PKPdf	18 20 56.3	+0.3
comp=Z,2.2nm,0.9s,baz=1.5,slow=5.5,SNR=3.8							
SCIA	**State Center**	**122.74**	**35**	PFAKE		18 21 10.0	+14
SCIA				LR	LR		
comp=Z,334nm,22.0s,MS5.0							
WMOK	**Wichita Mounta**	**123.31**	**45**	*e*PKIKP	PKPdf	18 20 58.6	+0.9
TOA0	**Torodi Ar. Sit**	**123.59**	**287**	*e*PKPdf	PKPdf	18 20 59.0	+0.3
TORD	**Torodi Ar. Bea**	**123.59**	**287**	PKP	PKPdf	18 20 58.9	+0.2
comp=Z,6.6nm,0.8s,baz=52,slow=1.7,SNR=26							
JFWS	**Jewell Farm**	**123.71**	**32**	*e*PKIKP	PKPdf	18 20 58.4	+0.2
JFWS				MLR	MLR		
comp=Z,345nm,21.0s,MS5.0							
JCT	**Junction City**	**124.64**	**50**	*e*PKIKP	PKPdf	18 21 01.1	+0.8
JCT				MLR	MLR		
comp=Z,534nm,22.0s,MS5.2							
GLMI	**Grayling**	**125.11**	**27**	PFAKE		18 21 10.0	+9.2
GLMI				LR	LR		
comp=Z,392nm,19.0s,MS5.1							
HDIL	**Hopedale**	**125.84**	**34**	PFAKE		18 21 10.0	+7.7
HDIL				LR	LR		
comp=Z,385nm,22.0s,MS5.0							
CCM	**Cathedral Cave**	**126.36**	**37**	*e*PKIKP	PKPdf	18 21 02.3	-1.1
CCM				MLR	MLR		
comp=Z,242nm,22.0s,MS4.8							
MIAR	**Mount Ida**	**127.01**	**42**	PFAKE		18 21 20.0	+15
MIAR				LR	LR		
comp=Z,521nm,21.0s,MS5.2							
AAM	**Ann Arbor**	**127.50**	**29**	PFAKE		18 21 20.0	+15
AAM				LR	LR		
comp=Z,328nm,22.0s,MS5.0							
HKT	**Hockley**	**127.90**	**48**	*e*PKIKP	PKPdf	18 21 08.2	+1.6
HKT				MLR	MLR		
comp=Z,299nm,19.0s,MS5.0							
LONY	**Lake Ozonia**	**129.30**	**20**	PFAKE		18 21 20.0	+11
LONY				LR	LR		
comp=Z,340nm,21.0s,MS5.0							
ACSO	**Alum Creek Sta**	**129.41**	**30**	PFAKE		18 21 20.0	+11
ACSO				LR	LR		
comp=Z,299nm,20.0s,MS5.0							
OXF	**Oxford**	**129.76**	**40**	PFAKE		18 21 20.0	+10
OXF				LR	LR		
comp=Z,533nm,22.0s,MS5.2							
NCB	**Newcomb**	**129.99**	**20**	PFAKE		18 21 20.0	+10
NCB				LR	LR		
comp=Z,422nm,22.0s,MS5.1							
PLAL	**Pickwick Lake**	**130.30**	**38**	PFAKE		18 21 20.0	+9.0
PLAL				LR	LR		
comp=Z,309nm,22.0s,MS5.0							
PKME	**Peaks-Kenny Pk**	**130.31**	**15**	PFAKE		18 21 20.0	+9.3
PKME				LR	LR		
comp=Z,361nm,21.0s,MS5.0							
VBMS	**Vicksburg**	**130.45**	**43**	PFAKE		18 21 20.0	+8.6
VBMS				LR	LR		
comp=Z,638nm,22.0s,MS5.3							
LBNH	**Lisbon**	**130.50**	**18**	PFAKE		18 21 20.0	+8.9
LBNH				LR	LR		
comp=Z,527nm,22.0s,MS5.2							
BINY	**Binghamton**	**130.89**	**23**	PFAKE		18 21 20.0	+8.1
BINY				LR	LR		
comp=Z,564nm,22.0s,MS5.2							
DBIC	**Dimbokro**	**131.12**	**281**	PKP	PKPdf	18 21 14.2	+1.1
comp=Z,2.0nm,0.7s,baz=79,slow=9.8,SNR=2.7							
DBIC	**Dimbokro**	**131.12**	**281**	PKP	PKPdf	18 21 14.2	+1.1
DBIC				LR	LR		
comp=Z,506nm,21.0s,MS5.2							
MCWV	**Mont Chateau**	**131.36**	**28**	PFAKE		18 21 20.0	+7.1
MCWV				LR	LR		
comp=Z,569nm,21.0s,MS5.2							
SHEL	**Horse Pasture**	**131.64**	**251**	PFAKE		18 21 30.0	+16
SHEL				LR	LR		
comp=Z,770nm,21.0s,MS5.4							
TZTN	**Tazewell**	**131.86**	**33**	PFAKE		18 21 30.0	+16
TZTN				LR	LR		
comp=Z,393nm,22.0s,MS5.1							
HRV	**Adam Dziewonsk**	**132.18**	**19**	PFAKE		18 21 30.0	+16
HRV				LR	LR		
comp=Z,474nm,22.0s,MS5.2							
WES	**Weston**	**132.36**	**18**	PFAKE		18 21 30.0	+15
WES				LR	LR		
comp=Z,1μm,19.0s,MS5.7							
TKL	**Tuckaleechee C**	**132.38**	**34**	*e*PKIKP	PKPdf	18 21 15.2	+0.3
CMLA	**Cha da Macela**	**132.58**	**330**	PFAKE		18 21 30.0	+15
CMLA				LR	LR		
comp=Z,249nm,19.0s,MS4.9							
BLA	**Blacksburg**	**133.00**	**30**	PFAKE		18 21 30.0	+14
BLA				LR	LR		
comp=Z,335nm,21.0s,MS5.0							
BRAL	**Brewton**	**133.51**	**42**	PFAKE		18 21 30.0	+13
BRAL				LR	LR		
comp=Z,546nm,22.0s,MS5.2							
GOGA	**Godfrey**	**134.16**	**36**	*e*PKIKP	PKPdf	18 21 18.5	+0.2
GOGA				MLR	MLR		
comp=Z,306nm,21.0s,MS5.0							
CNNC	**Cliffs of the**	**135.82**	**30**	PFAKE		18 21 30.0	+8.6
CNNC				LR	LR		
comp=Z,351nm,21.0s,MS5.1							
NHSC	**New Hope**	**136.26**	**34**	PFAKE		18 21 30.0	+7.7
NHSC				LR	LR		
comp=Z,355nm,21.0s,MS5.1							
PLCA	**Paso Flores**	**138.73**	**160**	PKhKP		18 21 19.9	
comp=Z,1.1nm,0.8s,baz=303,slow=2.7,SNR=3.9							
DWPF	**Disney**	**139.10**	**40**	PFAKE		18 21 40.0	+12
DWPF				LR	LR		
comp=Z,314nm,21.0s,MS5.0							
TGUH	**Tegucigalpa,Un**	**142.24**	**63**	PFAKE		18 21 50.0	+16
TGUH				LR	LR		
comp=Z,323nm,22.0s,MS5.0							
PAYG	**Puerto Ayora**	**142.66**	**88**	PFAKE		18 21 50.0	+16
PAYG				LR	LR		
comp=Z,824nm,22.0s,MS5.5							
TRQA	**Tornquist**	**143.63**	**168**	*e*PKPpre		18 21 32.6	
TRQA				LR	LR		
comp=Z,351nm,21.0s,MS5.1							
CFAA	**Coronel Fontan**	**147.64**	**155**	PKPbc	PKPbc	18 21 43.7	-1.5
LCO	**Las Campanas**	**148.67**	**149**	*e*PKPbc	PKPbc	18 21 49.2	+1.2
BCIP	**Isla Barro Col**	**150.84**	**66**	*e*PKPbc	PKPbc	18 21 53.8	+0.1
BCIP				LR	LR		
comp=Z,494nm,22.0s,MS5.3							
SDDR	**Presa de Saban**	**152.09**	**39**	*e*PKPbc	PKPbc	18 21 56.6	+0.1
SDDR				LR	LR		
comp=Z,466nm,21.0s,MS5.3							
ATAH	**Atahualpa**	**154.27**	**101**	PKP	PKPdf	18 21 54.4	+1.2
comp=Z,8.1nm,0.9s,baz=72,slow=16,SNR=4.6							
ATAH				PKPbc	PKPbc	18 22 04.2	+2.8
comp=Z,28nm,0.9s,baz=243,slow=0.6,SNR=12							
OTAV	**Otavalo**	**154.38**	**84**	*e*PKPbc	PKPbc	18 22 04.1	+2.4
OTAV				LR	LR		
comp=Z,352nm,22.0s,MS5.1							
NNA	**Nana**	**154.52**	**113**	PKP	PKPdf	18 21 56.6	+3.1
comp=Z,5.9nm,0.6s,baz=63,slow=20,SNR=3.8							
NNA				PKPbc	PKPbc	18 22 04.1	+2.2
comp=Z,20nm,0.9s,baz=262,slow=5.2,SNR=6.8							
NNA	**Nana**	**154.52**	**113**	*e*PKPdf	PKPdf	18 21 53.1	-0.4
NNA				PKP	PKPdf	18 21 56.6	+3.1
NNA				PKPbc	PKPbc	18 22 04.1	+2.2
NNA				LR	LR		
comp=Z,359nm,20.0s,MS5.2							
LVC	**Limon Verde**	**154.69**	**144**	PKP	PKPdf	18 21 55.9	+2.4
comp=Z,3.8nm,0.8s,baz=352,slow=9.4,SNR=2.4							
LVC				PKPbc	PKPbc	18 22 03.9	+1.8
comp=Z,7.5nm,0.8s,baz=176,slow=4.3,SNR=6.6							
LVC	**Limon Verde**	**154.69**	**144**	PKP	PKPdf	18 21 55.9	+2.3
LVC				PKPbc	PKPbc	18 22 03.9	+1.8
SJG	**San Juan**	**155.78**	**32**	PFAKE		18 22 10.0	+15
SJG				LR	LR		
comp=Z,415nm,20.0s,MS5.3							
ROSC	**El Rosal**	**157.45**	**71**	PKPab	PKPab	18 22 31.3	+2.2
comp=Z,23nm,0.9s,baz=82,slow=18,SNR=9.0							
SDV	**Santo Domingo**	**159.09**	**57**	PKP	PKPdf	18 21 59.4	0.0
comp=Z,3.0nm,0.7s,baz=44,slow=4.4,SNR=6.8							
SDV				PKPab	PKPab	18 22 36.8	+0.7
comp=Z,10nm,0.7s,baz=332,slow=5.9,SNR=5.6							
SDV	**Santo Domingo**	**159.09**	**57**	*e*PKPdf	PKPdf	18 21 59.1	-0.3
SDV				LR	LR		
comp=Z,90nm,21.0s,MS4.6							
LPAZ	**La Paz**	**159.72**	**134**	PKP	PKPdf	18 22 01.8	+1.8
comp=Z,3.2nm,0.9s,baz=62,slow=2.0,SNR=11							
LPAZ				PKPab	PKPab	18 22 39.8	+1.2
comp=Z,5.9nm,1.1s,baz=338,slow=8.8,SNR=3.6							
LPAZ	**La Paz**	**159.72**	**134**	*e*PKPdf	PKPdf	18 22 02.1	+2.1
LPAZ				LR	LR		
comp=Z,323nm,22.0s,MS5.1							
GRGR	**Grenville**	**163.12**	**31**	PFAKE		18 22 10.0	+6.3
GRGR				LR	LR		
comp=Z,380nm,21.0s							
BBGH	**Gun Hill**	**163.17**	**23**	PFAKE		18 22 10.0	+6.3
BBGH				LR	LR		
comp=Z,675nm,20.0s							
SIV	**San Ignacio**	**164.37**	**150**	PKP	PKPdf	18 22 06.0	+1.3
comp=Z,1.3nm,0.6s,baz=238,slow=0.4,SNR=7.4							
SIV				PKPab	PKPab	18 22 59.7	+0.8
comp=Z,7.0nm,0.9s,baz=220,slow=4.9,SNR=10							
BDFB	**Brasilia**	**166.03**	**200**	PKP	PKPdf	18 22 07.3	+1.2
comp=Z,1.4nm,0.8s,baz=176,slow=18,SNR=3.5							
BDFB				PKPab	PKPab	18 23 08.0	+2.0
comp=Z,1.4nm,0.5s,baz=101,slow=7.1,SNR=4.5							
BDFB	**Brasilia**	**166.03**	**200**	PKP	PKPdf	18 22 07.3	+1.2
BDFB				PKPab	PKPab	18 23 08.0	+2.0
BDFB				LR	LR		
comp=Z,462nm,19.0s							

IDC 02 18:11:07.7±1.6, 1218N×9231E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=54.6km s-min=20.6km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.94**	**45**	P	Pn	Pn	18 13 17.7	-0.5
0.2nm,0.3s,baz=236,slow=16,SNR=9.9								
MKAR	**Makanchi Array**	**35.53**	**348**	P		P	18 18 06.7	+0.3
1.4nm,0.7s,baz=173,slow=9.5,SNR=5.5								
SONM	**Songino Array**	**37.45**	**16**	P		P	18 18 23.6	+0.8
0.7nm,0.6s,baz=203,slow=8.6,SNR=3.5								
ZALV	**Zalesovo Beam**	**42.09**	**353**	P		P	18 18 60.0	-1.3
1.3nm,0.4s,baz=165,slow=12,SNR=4.1								
WRA	**Warramunga Arr**	**52.25**	**127**	P		P	18 20 20.9	-0.1
0.8nm,0.5s,baz=301,slow=9.7,SNR=8.2								
ASAR	**Alice Springs**	**54.07**	**131**	P		P	18 20 34.5	+0.1
0.3nm,0.4s,baz=312,slow=6.3,SNR=11								
ARCES	**ARCESS Array B**	**70.63**	**340**	P		P	18 22 25.0	+0.3
0.7nm,0.7s,baz=90,slow=8.1,SNR=3.8								

IDC 02 18:11:36.4±2.2, 230N×12649E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=187.8km s-min=26.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.41**	**161**	P		P	18 16 47.2	-0.2
0.6nm,0.4s,baz=340,slow=11,SNR=6.5								
ASAR	**Alice Springs**	**26.80**	**165**	P		P	18 17 18.9	+0.4
0.4nm,0.6s,baz=352,slow=8.1,SNR=4.8								
MKAR	**Makanchi Array**	**58.59**	**326**	P		P	18 21 34.9	-0.2
0.4nm,0.5s,baz=117,slow=8.2,SNR=4.6								

*CSEM **02** 18:16:47.9±0.1, 3908N×2906E, h5km, MD3.1, Error ellipse: s-maj=1.2km s-min=1.1km az=19.0*
*DDA **02** 18:16:47.5, 39.18N×2904E, h8km±5km, Md3.1*
*ISCJB **02** 18:16:48.4±0.5, 39.10N±003×2903E±002, h4km±5km, Error ellipse: s-maj=5.0km s-min=3.0km az=174.9*
*ISK **02** 18:16:48.1, 3909N×2905E, h5km, MD3.1*
ISC 02 18:16:48.8±0.4, 3912N±003×2904E±002, h2km±5km, n38, σ0.78/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**253**	*i* P		**Pg**	**18 16 54.1**	**+0.4**
DEMI				*i* S		**Sg**	**18 16 57.8**	**+0.7**
GDZ	**Gediz**	**0.35**	**95**	*i* P		**Pg**	**18 16 55.4**	**-0.1**
GDZ				*i* S		**Sg**	**18 17 00.3**	**+0.4**
DST	**Dursunbey**	**0.58**	**327**	*e*PG		**Pg**	**18 17 00.1**	**+0.2**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*PG		**Pg**	**18 17 01.5**	**-0.2**
KULA				*e*SG		**Sg**	**18 17 10.4**	**+0.1**
ALT	**Altintas**	**0.84**	**94**	*e*PG		**Pg**	**18 17 04.2**	**-0.7**
ALT				*e*SG		**Sg**	**18 17 16.1**	**+0.4**
KHL	**Karahalli**	**0.88**	**154**	*e*PG		**Pg**	**18 17 05.1**	**-0.6**
AKHS	**Akhisar**	**0.98**	**256**	*i* P		**Pg**	**18 17 07.6**	**0.0**
AKHS				*i* S		**Sg**	**18 17 20.7**	**+0.4**
AKS	**Akhisar**	**0.98**	**256**	*e*PG		**Pg**	**18 17 07.0**	**-0.6**
BTOK	**Tokmak**	**1.01**	**310**	*i* P		**Pg**	**18 17 08.0**	**-0.1**
BTOK				*i* S		**Sg**	**18 17 18.8**	**-2.3**
BALB	**Balikesir**	**1.03**	**300**	*e*PG		**Pg**	**18 17 09.1**	**+0.4**
KCT	**Karacabey**	**1.26**	**336**	*e*PN		**Pn**	**18 17 12.5**	**-0.9**
BALY	**Balya**	**1.26**	**300**	*i* P		**Pg**	**18 17 12.1**	**-0.8**
BALY				*i* S		**Sg**	**18 17 28.2**	**-1.1**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*PN		**Pn**	**18 17 13.4**	**-0.7**
GEMT	**Gemlik**	**1.32**	**5**	*e*PN		**Pn**	**18 17 13.9**	**-0.2**
ADVT	**Abdulvahap**	**1.42**	**22**	*e*PN		**Pn**	**18 17 15.4**	**-0.1**
ESKT	**Eskisehir**	**1.46**	**74**	*i* P		**Pn**	**18 17 15.4**	**-0.7**
ESKT				*i* S		**Sb**	**18 17 34.0**	**-1.7**
SEYT	**Eskypehyr**	**1.46**	**74**	*i* P		**Pn**	**18 17 15.4**	**-0.7**
SEYT				*i* S		**Sb**	**18 17 34.0**	**-1.7**
YLV	**Yalova**	**1.47**	**10**	*e*PN		**Pn**	**18 17 16.1**	**-0.1**
TKTP	**Tekketepe**	**1.48**	**137**	*i* P		**Pn**	**18 17 15.0**	**-1.3**
TKTP				*i* S		**Sg**	**18 17 38.1**	**+1.9**
EDC	**Edincik**	**1.52**	**324**	*e*PN		**Pn**	**18 17 17.0**	**+0.1**
GPA	**Golpazari**	**1.52**	**40**	*e*PN		**Pn**	**18 17 16.9**	**-0.1**
KDAG	**Bornova**	**1.56**	**243**	*i* P		**Pb**	**18 17 17.8**	**-0.5**
KDAG				*i* S		**Sg**	**18 17 39.0**	**+0.2**
IZM	**Izmir**	**1.56**	**243**	*e*PN		**Pn**	**18 17 16.9**	**-0.6**
BLCB	**Balcova**	**1.72**	**245**	*e*PN		**Pn**	**18 17 19.4**	**-0.3**
BADT	**Buyukada**	**1.73**	**2**	*e*PN		**Pn**	**18 17 20.2**	**+0.3**
HRT	**Hereke**	**1.77**	**16**	*e*PN		**Pn**	**18 17 20.7**	**+0.4**
ISK	**Istanbul-Kandi**	**1.94**	**1**	*e*PN		**Pn**	**18 17 23.2**	**+0.5**
CTT	**Catalca**	**2.08**	**347**	*e*PN		**Pn**	**18 17 25.1**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*PN		**Pn**	**18 17 25.8**	**+0.6**
MFT	**Murefte**	**2.14**	**322**	*e*PN		**Pn**	**18 17 26.3**	**+0.8**
MDU	**Mudurnu**	**2.15**	**51**	*e*PN		**Pn**	**18 17 25.7**	**+0.2**
TKR	**Tekirdag**	**2.19**	**329**	*e*PN		**Pn**	**18 17 26.4**	**+0.2**
HENT	**Hendek**	**2.22**	**40**	*i* P		**Pb**	**18 17 30.2**	**+0.6**
HENT				*i* S		**Sb**	**18 17 57.8**	**+0.3**
KDHN	**Kadinhani**	**2.48**	**103**	*i* P		**Pn**	**18 17 29.1**	**-1.0**
GADA	**Gvkgeada**	**2.65**	**295**	*e*PN		**Pn**	**18 17 32.9**	**+0.5**
SGKT	**Sivrigoynuk**	**2.74**	**57**	*i* P		**Pn**	**18 17 36.6**	**+2.9**
ENEZ	**Enez**	**2.74**	**307**	*e*PN		**Pn**	**18 17 34.7**	**+1.0**
EDRB	**Edirne**	**3.24**	**328**	*e*PN		**Pn**	**18 17 41.8**	**+1.3**

*MOS **02** 18:16:49.9±0.9, 2875N×13931E, h438km, mb4.4/31, Error ellipse: s-maj=13.6km s-min=5.9km az=110.5*
*JMA **02** 18:16:50.0±0.3, 2890N×14002E, h466km±5km, M4.8*
*NEIC **02** 18:16:50.9±0.7, 2878N×13932E, h434km±8km, mb4.4/21, Error ellipse: s-maj=8.7km s-min=5.6km az=82.0*
*IDC **02** 18:16:50.3±0.5, 2878N×13941E, h430km±6km, mb3.7/22, mb1 3.9/27, mb1mx3.8/31, mbtmp3.8/27, Error ellipse: s-maj=10.7km s-min=6.6km az=74.0*
*ISCJB **02** 18:16:50.0±0.3, 2880N±003×13945E±005, h441km±3km, mb4.3/72, Error ellipse: s-maj=7.1km s-min=4.5km az=170.2*
*BJI **02** 18:16:51.3, 2885N×139.17E, h438km, mB4.7, mb4.5*
ISC 02 18:16:50.9±0.3, 2881N±003×13952E±005, h438km±3km, h438km±5.3km; pP-P, n193, σ1.01/210, mb4.3/72, 7C-4D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.91**	**125**	P		**P**	**18 17 56.2**	**-0.2**
CBIJ	**Chichi jima**	**2.91**	**125**	P		**P**	**18 17 56.0**	**-0.3**
734nm,0.3s,baz=101,slow=3.2,SNR=306								
CBIJ				S		**S**	**18 18 47.5**	**-1.9**
2μm,0.3s,baz=273,slow=23,SNR=37								
JHHJ	**Haha-jima-NKT**	**3.20**	**132**	P		**P**	**18 17 58.4**	**-0.2**
JHHJ				S		**S**	**18 18 52.7**	**-0.8**
JHJ2	**Mitsune**	**4.29**	**3**	P		**P**	**18 18 08.9**	**+1.1**
JHJ2				S		**S**	**18 19 09.7**	**-0.8**
JHJ	**Hachijo jima 2**	**4.30**	**3**	P		**P**	**18 18 09.1**	**+1.2**
171nm,0.3s,baz=250,slow=23,SNR=65								
JHJ				S		**S**	**18 19 08.6**	**-2.0**
183nm,0.3s,baz=63,slow=23,SNR=13								
BSO1	**Boso 1**	**5.95**	**12**	P		**P**	**18 18 24.6**	**+0.5**
BSO1				S		**S**	**18 19 38.8**	**-1.6**
BSO3	**Boso 3**	**6.03**	**8**	P		**P**	**18 18 25.1**	**+0.2**
BSO3				S		**S**	**18 19 39.9**	**-1.9**
JIE	**Ise**	**6.06**	**337**	P		**P**	**18 18 27.8**	**+2.6**
JKN2	**Miekihoku**	**6.08**	**334**	P		**P**	**18 18 27.6**	**+2.2**
JHMK	**Hamakita**	**6.17**	**346**	P		**P**	**18 18 28.0**	**+1.6**
HMMJ	**Hamamatsu 2**	**6.22**	**346**	P		**P**	**18 18 28.7**	**+1.8**
JOD2	**Odawara 2**	**6.44**	**357**	P		**P**	**18 18 29.4**	**+0.2**
JOD2				S		**S**	**18 19 48.3**	**-1.4**
JNY	**Yasuok**	**6.68**	**348**	P		**P**	**18 18 33.6**	**+1.9**
JAO	**Obara**	**6.71**	**344**	P		**P**	**18 18 34.3**	**+2.2**
JEG	**Eigenji**	**6.84**	**338**	P		**P**	**18 18 36.5**	**+3.0**
JMN	**Mominobe**	**6.88**	**317**	P		**P**	**18 18 36.5**	**+2.6**
JHU	**Hanno**	**7.02**	**358**	P		**P**	**18 18 35.0**	**-0.4**
JHU				S		**S**	**18 19 57.2**	**-3.8**
JRY	**Ryogami san**	**7.20**	**356**	P		**P**	**18 18 37.8**	**+0.5**
JRY				S		**S**	**18 20 02.9**	**-1.7**
JWT	**Wachi**	**7.34**	**333**	P		**P**	**18 18 40.9**	**+2.1**
JYT	**Yasato**	**7.42**	**4**	P		**P**	**18 18 38.7**	**-0.9**
JYT				S		**S**	**18 20 04.2**	**-4.6**
JAG	**Ashikaga**	**7.59**	**360**	P		**P**	**18 18 40.7**	**-0.8**
MJAR	**Matsushiro Arr**	**7.79**	**352**	P		**P**	**18 18 42.9**	**-0.7**
36nm,0.3s,baz=173,slow=11,SNR=264								
MJAR				S		**S**	**18 20 13.2**	**-2.9**
1.7nm,0.3s,baz=295,slow=30,SNR=2.8								
MJAR	**Matsushiro Arr**	**7.79**	**352**	P		**P**	**18 18 42.9**	**-0.7**
MJAR				S		**S**	**18 20 13.3**	**-2.9**
MJAR				pmax	pmax			
comp=Z,36nm,0.3s								
MJAR				smax				
comp=N,2.0nm,0.3s								
MJAR	**Matsushiro Arr**	**7.79**	**352**	P		**P**	**18 18 42.9**	**-0.7**
MJAR				S		**S**	**18 20 13.2**	**-2.9**
MAJO	**Matsushiro**	**7.79**	**352**	*e*P		**P**	**18 18 43.8**	**+0.1**
MAJO				pmax	pmax			
comp=Z,219nm,0.4s								
MAJO	**Matsushiro**	**7.79**	**352**	*e*P		**P**	**18 18 43.8**	**+0.1**
comp=Z,219nm,0.4s								
MAT	**Matsushiro**	**7.79**	**352**	P		**P**	**18 18 43.8**	**+0.1**
MAT				S		**S**

GYA SCS ScS 18 32 02.2 -1.8
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.2
LZH Lanzhou 30.84 293 *e*P **P 18 22 29.0 -0.3**
LZH AP pP 18 23 50.5 +3.1
LZH XP sP 18 24 40.2 +1.9
LZH AMB AMB
comp=Z,41nm,1.3s,mb4.6
LZH AMB AMB
comp=Z,187nm,5.7s
CD2 Chengdu 31.01 283 *e*P **P 18 22 29.7 -1.1**
CD2 AP pP 18 23 46.2 -2.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.2
CD2 AMB AMB
comp=Z,30nm,4.2s
SONM Songino Array 31.85 316 P **P 18 22 38.4 +0.6**
comp=Z,7.3nm,0.4s,mb4.3,baz=127,slow=8.1,SNR=79
SONM PcP PcP 18 25 16.2 +0.1
comp=Z,1.3nm,0.4s,baz=139,slow=2.7,SNR=9.4
SONM S **S 18 27 15.4 -0.6**
comp=Z,0.3nm,0.4s,baz=138,slow=16,SNR=2.9
SONM Songino Array 31.85 316 P **P 18 22 38.4 +0.6**
SONM 18 25 16.2
SONM S **S 18 27 15.4 -0.6**
SONM pmax pmax
comp=Z,7.0nm,0.4s
SONM pmax pmax
comp=Z,1.0nm,0.4s
KMI Kunming 32.91 272 P **P 18 22 47.5 +0.3**
KMI AP pP 18 24 05.7 -0.3
KMI XP sP 18 24 56.0 -0.7
KMI AMB AMB
comp=Z,20nm,1.0s,mb4.4
YAK Yakutsk 33.85 352 *e*P **P 18 22 53.9 -0.8**
YAK *e* 18 24 25.2
YAK *e* 18 25 19.5
YAK *e*S **S 18 27 47.8 +1.5**
YAK *e* 18 32 30.9
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
YAK pmax pmax
comp=Z,25nm,2.3s,mb4.1
YAK smax
comp=N,73nm,2.8s
YAK smax
comp=E,21nm,1.5s
GTA Gaotai 34.29 299 P **P 18 22 58.3 -0.5**
GTA AP pP 18 24 20.0 +1.9
GTA XP sP 18 25 12.9 +4.2
GTA PCP PcP 18 25 23.9 +0.7
GTA S **S 18 27 49.8 -3.8**
GTA XS sS 18 30 21.0 +1.6
GTA SS SS 18 30 35.9 -10
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.2
GTA AMB AMB
comp=Z,107nm,6.9s
ZAK Zakamensk 34.77 318 ⇓ *i*P **P 18 23 02.0 -0.6**
ZAK *e* 18 27 56.9
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb3.8
TLY Talaya 35.12 321 *e*P **P 18 23 06.4 +0.8**
TLY pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
SEY Seymchan 35.14 10 ⇑ *e*P **P 18 23 07.0 +1.4**
CMAR Chiang Mai Arr 38.41 264 P **P 18 23 33.3 -0.1**
comp=Z,3.7nm,0.9s,mb3.7,baz=47,slow=9.0,SNR=15
CMAR PcP PcP 18 25 36.3 +0.2
comp=Z,1.1nm,0.7s,baz=49,slow=1.8,SNR=5.1
CMAR Chiang Mai Arr 38.41 264 P **P 18 23 33.3 -0.1**
CMAR 18 25 36.3
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CMAR pmax pmax
comp=Z,1.0nm,0.7s
HVS Khovu-Aksy 40.74 316 *c i*P **P 18 23 52.3 +0.5**
HVS pmax pmax
comp=Z,38nm,0.7s,mb4.8
LSA Lhasa 41.97 283 *e*P **P 18 24 03.0 +1.1**
BILL Bilibino 42.35 15 ⇓ *e*P **P 18 24 05.9 +1.6**
BILL *e*S **S 18 29 51.3 -0.9**
BILL pmax pmax
comp=Z,6.0nm,0.5s,mb4.2
WMQ Urumqi 43.66 304 *e*P **P 18 24 14.8 -0.3**
TAPN Taplejung 45.44 281 *e*P **P 18 24 29.1 0.0**
ODAN Odare 45.84 281 *e*P **P 18 24 32.3 +0.1**
comp=Z,12nm,0.4s,mb4.6
PSI Prapat 46.46 244 P **P 18 24 36.7 -0.4**
comp=Z,9.3nm,0.7s,mb4.3,baz=30,slow=3.0,SNR=8.9
PSI PcP PcP 18 26 02.8 -0.5
comp=Z,6.5nm,0.7s,baz=30,slow=7.2,SNR=6.0
PSI Prapat 46.46 244 P **P 18 24 36.7 -0.4**
PSI pP 18 26 02.8 +0.7
PSI pmax pmax
comp=Z,9.0nm,0.7s,mb4.2
PSI pmax pmax
comp=Z,7.0nm,0.7s,mb4.1
RAMN Ramite 46.50 281 *e*P **P 18 24 37.4 +0.2**
ZALV Zalesovo Beam 46.65 318 P **P 18 24 37.6 -0.4**
comp=Z,3.2nm,0.5s,mb3.9,baz=110,slow=8.5,SNR=13
ZALV PcP PcP 18 26 02.8 -0.5
comp=Z,4.3nm,0.5s,baz=129,slow=4.7,SNR=10
ZAL Zalesovo 46.66 318 P **P 18 24 37.6 -0.4**
ZAL pP 18 26 02.8 -0.2
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAL pmax pmax
comp=Z,4.0nm,0.5s
JIRN Jiri 46.67 282 *e*P **P 18 24 39.4 +0.9**
comp=Z,30nm,0.4s,mb5.0
GUN Gumba 46.87 282 *e*P **P 18 24 40.7 +0.6**
comp=Z,89nm,0.9s,mb5.1
KKN Kakani 47.41 282 *e*P **P 18 24 44.2 0.0**
MK31 Makanchi Array 47.57 308 *i*P **P 18 24 44.6 -0.5**
MK31 pmax pmax
comp=Z,2.0nm,0.4s,mb3.8
MK31 Makanchi Array 47.57 308 *e*P **P 18 24 44.7 -0.4**
MKAR Makanchi Array 47.57 308 P **P 18 24 44.9 -0.2**
comp=Z,9.5nm,0.6s,mb4.3,baz=89,slow=9.1,SNR=86
MKAR PcP PcP 18 26 06.5 -0.3
comp=Z,1.6nm,0.3s,baz=74,slow=5.3,SNR=9.8
MKAR ScP ScP 18 29 16.8 -1.7
comp=Z,1.3nm,0.5s,baz=86,slow=5.2,SNR=8.6
MKAR Makanchi Array 47.57 308 ⇑ *e*P **P 18 24 44.9 -0.2**
DMN Daman 47.61 282 *e*P **P 18 24 45.8 +0.1**
comp=Z,14nm,0.4s,mb4.6
NVS Novosibirsk 47.71 319 *i*P **P 18 24 45.5 -0.5**
GKN Gorkha 47.91 283 *e*P **P 18 24 48.3 +0.3**
FITZ Fitzroy Crossi 48.53 198 P **P 18 24 52.4 -0.2**
comp=Z,1.2nm,0.7s,mb3.3,baz=17,slow=14,SNR=3.9
DANN Dangsing 48.57 284 *e*P **P 18 24 53.9 +1.0**
WRAB Tennant Creek 48.72 186 *e*P **P 18 24 53.1 -0.9**
WRAB pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
WRAB Tennant Creek 48.72 186 *e*P **P 18 24 53.0 -0.9**
comp=Z,7.1nm,1.0s,mb4.0
WB2 Warramunga Arr 48.73 186 *e*P **P 18 24 53.3 -0.7**
WRA Warramunga Arr 48.73 186 P **P 18 24 53.4 -0.7**
comp=Z,2.7nm,0.3s,mb4.1,baz=2.7,slow=7.7,SNR=91
WRA PcP PcP 18 26 11.8 +0.6
comp=Z,1.5nm,0.4s,baz=359,slow=3.9,SNR=7.8
WRA ScP ScP 18 29 22.3 -1.3
comp=Z,2.9nm,0.9s,baz=1.3,slow=4.6,SNR=9.0
WRA Warramunga Arr 48.73 186 P **P 18 24 53.4 -0.6**
WRA 18 26 11.8
WRA pmax pmax
comp=Z,3.0nm,0.3s
WRA pmax pmax
comp=Z,2.0nm,0.4s
WRA pmax pmax
comp=N,3.0nm,0.9s
KOLN Koldanda 48.86 283 *e*P **P 18 24 55.3 +0.2**
comp=N,41nm,0.8s,mb4.8
CTA Charters Tower 49.05 172 *e*P **P 18 24 57.0 +0.6**
comp=N,5.2nm,0.9s,mb3.9
CTA Charters Tower 49.05 172 P **P 18 24 57.0 +0.6**
comp=N,4.9nm,0.5s,mb4.1,baz=359,slow=7.6,SNR=8.4
CTA Charters Tower 49.05 172 P **P 18 24 57.0 +0.6**
CTA pmax pmax
comp=Z,5.0nm,0.5s
CTAO Charters Tower 49.05 172 *e*P **P 18 24 56.9 +0.5**
KURK Kurchatov 50.10 314 *d i*P **P 18 25 03.3 -0.6**
KURK pmax pmax
comp=Z,22nm,0.9s,mb4.5

KURK Kurchatov 50.10 314 *e*P **P 18 25 02.8 -1.1**
comp=Z,19nm,0.6s,mb4.6
ULHL Ulahol 52.11 303 P **P 18 25 19.5 +0.7**
SNR=7.0
ASAR Alice Springs 52.45 187 P **P 18 25 20.9 -0.5**
comp=Z,1.0nm,0.4s,mb3.4,baz=6.3,slow=5.6,SNR=50
ASAR PcP PcP 18 26 26.1 +1.1
comp=Z,0.8nm,0.8s,baz=33,slow=1.8,SNR=5.0
ASAR ScP ScP 18 29 38.5 -1.1
comp=Z,1.1nm,0.9s,baz=20,slow=3.1,SNR=5.6
ASAR Alice Springs 52.45 187 P **P 18 25 20.9 -0.5**
ASAR 18 26 26.2
ASAR pmax pmax
comp=Z,1.0nm,0.4s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR pmax pmax
comp=N,1.0nm,0.9s
TKM2 Tokmak 2 52.51 304 *e*P **P 18 25 22.0 +0.4**
TKM2 pmax pmax
comp=Z,4.0nm,0.4s,mb4.0
TKM2 Tokmak 2 52.51 304 P **P 18 25 22.3 +0.7**
SNR=13
TKM2 Tokmak 2 52.51 304 *e*P **P 18 25 22.0 +0.4**
comp=Z,4.4nm,0.4s,mb4.0
KZA Kyzart 52.86 303 P **P 18 25 25.8 +1.6**
SNR=5.8
KBK Karagaybulak 53.01 303 P **P 18 25 25.9 +0.6**
SNR=10
AAK Ala-Archa 53.35 304 P **P 18 25 28.0 +0.3**
SNR=5.3
EKS2 Erkin-Say 53.87 304 P **P 18 25 31.0 -0.4**
SNR=5.9
EKS2 Erkin-Say 53.87 304 *e*P **P 18 25 31.2 -0.2**
comp=Z,5.0nm,0.8s,mb3.8
AML Almayashu 54.00 303 P **P 18 25 33.7 +1.4**
SNR=12
AML Almayashu 54.00 303 *e*P **P 18 25 28.4 -3.9**
comp=Z,16nm,0.5s,mb4.5
BVA0 Borovoye Array 55.19 317 *i*P **P 18 25 40.1 -0.4**
BVAR Borovoye Array 55.19 317 P **P 18 25 40.5 0.0**
comp=Z,18nm,0.6s,mb4.5,baz=94,slow=7.8,SNR=60
BVAR PcP PcP 18 26 35.3 0.0
comp=Z,4.6nm,0.6s,baz=80,slow=3.9,SNR=7.9
BVAR Borovoye Array 55.19 317 P **P 18 25 40.5 0.0**
BVAR 18 26 35.3
BVAR pmax pmax
comp=Z,18nm,0.6s
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 55.25 317 *e*P **P 18 25 40.8 -0.1**
BRVK *e* 18 26 35.5
BRVK pmax pmax
comp=Z,5.0nm,0.4s,mb4.1
BRVK Borovoye 55.25 317 *e*P **P 18 25 40.8 -0.1**
comp=Z,5.3nm,0.4s,mb4.1
BRVK *e*PcP PcP 18 26 35.5 -0.1
KK31 Karatay Array 56.17 305 *e*P **P 18 25 47.5 -0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.1
KBL Kabul 59.16 295 *e*P **P 18 26 07.8 -0.4**
comp=Z,5.5nm,0.6s,mb4.1
STKA Stephens Creek 60.39 178 *e*P **P 18 26 16.3 0.0**
comp=Z,5.4nm,1.8s,mb3.7
STKA Stephens Creek 60.39 178 P **P 18 26 16.0 -0.3**
comp=Z,3.3nm,0.6s,mb3.9,baz=343,slow=11,SNR=7.7
SVE Sverdlovsk 60.43 322 *e*P **P 18 26 16.6 +0.3**
SVE pmax pmax
comp=Z,21nm,0.6s,mb4.7
ARU Arti 61.62 321 *d i*P **P 18 26 24.0 -0.2**
ARU *e* 18 26 59.5
ARU *e* 18 28 39.0
ARU *e*S **S 18 34 12.3 +1.1**
ARU pmax pmax
comp=Z,34nm,1.0s,mb4.8
ARU Arti 61.62 321 *e*P **P 18 26 23.9 -0.3**
comp=Z,28nm,0.5s,mb5.0
AB31 Akbulak array 62.21 313 P **P 18 26 27.6 -0.6**
AB31 pmax pmax
comp=Z,7.0nm,0.4s,mb4.5
INK Inuvik 62.46 25 P **P 18 26 30.2 +0.7**
comp=Z,0.4nm,0.4s,mb3.3,baz=302,slow=9.5,SNR=2.0
AKTK Aktyubinsk 63.16 315 P **P 18 26 33.8 -0.6**
AKTO Aktyubinsk 63.16 315 P **P 18 26 33.8 -0.6**
comp=Z,14nm,0.6s,mb4.7,baz=89,slow=7.8,SNR=58
AKTO Aktyubinsk 63.16 315 P **P 18 26 33.8 -0.6**
AKTO pmax pmax
comp=Z,14nm,0.6s,mb4.7
KEV Kevo 70.58 340 *e*p **P 18 27 20.4 +0.3**
comp=Z,4.0nm,0.5s,mb4.2
KEV Kevo 70.58 340 *e*P **P 18 27 20.4 +0.3**
KEV pmax pmax
comp=Z,4.0nm,0.5s,mb4.2
ARCES ARCESS Array B 71.14 340 P **P 18 27 24.0 +0.6**
comp=Z,4.7nm,0.5s,mb4.3,baz=70,slow=8.2,SNR=63
ARCES ARCESS Array B 71.14 340 P **P 18 27 24.0 +0.6**
ARCES pmax pmax
comp=Z,5.0nm,0.5s
YKA Yellowknife Ar 71.75 28 P **P 18 27 27.6 +0.6**
comp=Z,1.1nm,0.4s,mb3.7,baz=299,slow=5.9,SNR=6.2
YKA Yellowknife Ar 71.75 28 P **P 18 27 27.6 +0.5**
YKA pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 72.50 333 *e*p **P 18 27 31.2 -0.3**
comp=Z,12nm,0.5s,mb4.7
JOF Joensuu 72.50 333 *e*P **P 18 27 31.2 -0.3**
JOF pmax pmax
comp=Z,12nm,0.5s,mb4.7
VRHR Novokhopersk 72.78 319 *e*P **P 18 27 32.8 -0.5**
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.0
VRHR pmax pmax
comp=E,10.0nm,0.5s
OBN Obninsk 73.78 324 ⇑ *i*P **P 18 27 39.1 +0.1**
OBN *e* 18 30 28.9
OBN *i*S S 18 36 30.5 -3.2
OBN pmax pmax
comp=Z,21nm,0.8s,mb4.8
VRSR Storozhevoye 74.11 320 *e*P **P 18 27 40.7 -0.3**
VRSR pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
VRSR pmax pmax
comp=N,5.0nm,1.2s
VRSR pmax pmax
comp=E,3.0nm,0.7s
KAF Kangasniemi 74.90 333 *e*p **P 18 27 44.8 -0.4**
comp=E,5.8nm,0.5s,mb4.5,baz=54,slow=5.2
KAF Kangasniemi 74.90 333 *e*P **P 18 27 44.8 -0.4**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
KIV Kislovodsk 75.16 312 *e*P **P 18 27 48.2 +1.2**
KIV pmax pmax
comp=Z,20nm,1.0s,mb4.7
KIV Kislovodsk 75.16 312 *e*P **P 18 27 47.4 +0.3**
comp=Z,16nm,0.7s,mb4.8
GNI Garni 75.41 308 P **P 18 27 49.5 +0.9**
comp=Z,3.2nm,0.5s,mb4.2,baz=56,slow=7.3,SNR=4.2
GNI Garni 75.41 308 ⇑ *e*P **P 18 27 49.8 +1.2**
GNI pmax pmax
comp=Z,17nm,1.6s
UMR Umm Al-Rimmam 77.81 297 *i*P **P 18 28 01.2 -0.8**
baz=297
UMR AMb AMB 18 28 02.0
comp=Z,66nm,0.4s,baz=297
MIB Mutribah 77.99 297 *i*P **P 18 28 02.3 -0.7**
baz=297
MIB AMb AMB 18 28 03.0
comp=Z,89nm,0.5s,baz=297
RDF Al-Radifah 78.22 296 *i*P **P 18 28 04.0 -0.2**
baz=296
RDF AMb AMB 18 28 04.8
comp=Z,61nm,0.6s,mb5.4,baz=296
NAY Al-Naaiem 78.31 297 *i*P **P 18 28 03.9 -0.8**
baz=297
NAY AMb AMB 18 28 04.8
comp=Z,43nm,0.5s,mb5.3,baz=297
AKASG Malin Array Be 79.84 323 P **P 18 28 11.9 -0.6**
comp=Z,5.3nm,0.5s,mb4.4,baz=50,slow=5.4,SNR=25
AKASG Malin Array Be 79.84 323 P **P 18 28 11.9 -0.5**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 79.84 323 *e*P **P 18 28 11.6 -0.8**
KIEV Kiev 79.85 323 *e*P **P 18 28 11.4 -1.1**
KIEV pmax pmax
comp=Z,9.0nm,0.8s,mb4.5

KIEV Kiev 79.85 323 *e*P **P 18 28 11.4 -1.1**
comp=Z,8.8nm,0.8s,mb4.4
SIM Simferopol' 80.09 316 P **P 18 28 14.3 +0.4**
SIM pmax pmax
comp=Z,18nm,0.7s,mb4.8
MALT Malatya 80.61 309 *e*P **P 18 28 17.1 +0.3**
MALT pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
MALT Malatya 80.61 309 *e*P **P 18 28 17.1 +0.3**
comp=Z,5.5nm,0.7s,mb4.4
NB2 NORSAR Subarra 81.14 337 P **P 18 28 18.3 -0.7**
comp=Z,3.2nm,0.5s,mb4.3,baz=45,slow=5.3
NOA NORSAR Array B 81.14 337 P **P 18 28 18.3 -0.7**
comp=Z,3.8nm,0.6s,mb4.3,baz=47,slow=4.8,SNR=13
NOA NORSAR Array B 81.14 337 P **P 18 28 18.3 -0.7**
NOA pmax pmax
comp=Z,4.0nm,0.6s
NVAR Mina Array Bea 81.29 51 P **P 18 28 22.1 +1.8**
comp=Z,2.2nm,0.6s,mb4.0,baz=56,slow=28,SNR=22
EGMT Eagleton 81.55 39 *e*P **P 18 28 21.5 +0.1**
comp=Z,8.5nm,0.5s,mb4.7
TPNV Topopah Spring 83.44 51 *e*P **P 18 28 32.4 +1.1**
TPNV pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
TPNV Topopah Spring 83.44 51 *e*P **P 18 28 32.4 +1.1**
comp=Z,4.4nm,0.9s,mb4.2
DUG Dugway 84.02 47 *e*P **P 18 28 35.8 +1.7**
DUG pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
DUG Dugway 84.02 47 *e*P **P 18 28 35.8 +1.7**
comp=Z,1.5nm,0.8s,mb3.8
KOLS Kolonicke sedl 84.52 324 *e*P **P 18 28 36.3 -0.1**
PDAR Pinedale Array 84.63 44 P **P 18 28 38.8 +1.7**
comp=Z,0.7nm,0.6s,mb3.6,baz=327,slow=2.0,SNR=6.6
CRVS Cervenica-Dubn 84.96 324 *e*P **P 18 28 39.4 +0.8**
MMAI Mount Meron Ar 85.40 305 P **P 18 28 40.9 -0.1**
comp=Z,5.2nm,0.6s,mb4.4,baz=59,slow=6.9,SNR=7.3
DPC Dobruska-Polom 86.54 328 *e*P **P 18 28 46.2 0.0**
VYHS Vyhne 86.56 325 *i*P **P 18 28 46.1 -0.2**
CLL Collm 87.40 330 *e*P **P 18 28 49.0 -1.2**
NKC Novy Kostel 88.41 329 *e*P **P 18 28 54.7 -0.2**
KHC Kasperske Hory 88.67 328 *e*P **P 18 28 55.8 -0.4**
GERES GERESS Array B 88.82 328 P **P 18 28 56.0 -0.8**
comp=Z,1.8nm,0.6s,mb4.0,baz=38,slow=5.0,SNR=16
GERES GERESS Array B 88.82 328 P **P 18 28 56.0 -0.9**
GERES pmax pmax
comp=Z,2.0nm,0.6s
CDF Champ du Feu 92.04 330 *e*P **P 18 29 10.2 -1.6**
comp=Z,5.5nm,0.6s,mb4.4
LOR Lormes 94.38 331 *e*P **P 18 29 21.3 -1.2**
comp=Z,6.2nm,0.8s,mb4.4
LPL La Plagne 94.49 329 *e*P **P 18 29 21.9 -1.2**
comp=Z,6.2nm,0.7s,mb4.5
LPG La Plagne 94.49 329 *e*P **P 18 29 22.1 -1.0**
comp=Z,7.5nm,0.6s,mb4.6
SMF Signal de Mont 94.88 331 *e*P **P 18 29 23.6 -1.2**
comp=Z,11nm,0.8s,mb4.6
AVF Avril sur Loir 94.97 331 *e*P **P 18 29 24.1 -1.1**
comp=Z,15nm,1.1s,mb4.7
SBF Sospel 95.42 327 *e*P **P 18 29 25.7 -1.6**
QSPA South Pole Qui 118.58 180 PKP PKPdf 18 34 46.5 -0.2
comp=Z,0.7nm,0.6s,baz=356,slow=2.6,SNR=5.3
TORD Torodi Ar. Bea 121.68 310 PKP PKPdf 18 34 53.9 -0.7
comp=Z,2.0nm,0.5s,baz=75,slow=1.1,SNR=42
DBIC Dimbokro 130.79 310 PKP PKPdf 18 35 11.7 -0.4
comp=Z,2.5nm,0.6s,baz=351,slow=21,SNR=5.2
DBIC SKPbc SKPbc 18 37 52.8 -1.9
comp=Z,3.2nm,0.6s,baz=54,slow=7.0,SNR=4.1
DBIC Dimbokro 130.79 310 PKIKP PKPdf 18 35 11.7 -0.4
DBIC pmax pmax
comp=Z,3.0nm,0.6s
DBIC pmax pmax
comp=N,3.0nm,0.6s
SNAA Sanae 132.43 195 SKPbc SKPbc 18 37 56.7 -1.9
comp=N,1.5nm,0.7s,baz=170,slow=1.5,SNR=13
SDV Santo Domingo 132.55 42 PKP PKPdf 18 35 15.7 +0.3
comp=N,1.6nm,0.4s,baz=336,slow=13,SNR=3.0
LPAZ La Paz 151.66 70 PKPbc PKPbc 18 35 57.0 +1.7
comp=N,1.8nm,0.6s,baz=298,slow=2.1,SNR=9.7
LPAZ PKPab PKPab 18 36 07.8 +1.7
comp=N,0.9nm,0.5s,baz=326,slow=7.7,SNR=3.7
LPAZ La Paz 151.66 70 PKIKP PKPbc 18 35 57.1 +1.8
LPAZ 18 36 07.8
LPAZ pmax pmax
comp=Z,2.0nm,0.6s
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
PLCA Paso Flores 152.72 124 PKPbc PKPbc 18 35 57.9 +0.9
comp=Z,2.0nm,0.7s,baz=238,slow=3.9,SNR=9.1
PLCA Paso Flores 152.72 124 PKIKP PKPbc 18 35 57.9 +0.9
PLCA pmax pmax
comp=Z,2.0nm,0.7s
SIV San Ignacio 157.13 61 PKPab PKPab 18 36 29.4 0.0
comp=Z,0.6nm,0.5s,baz=316,slow=7.7,SNR=4.3

NEIC ***02*** *18:32:40.6, 4054N×24.10E, h24km, MD2.9(ATH), After ATH.*
ATH ***02*** *18:32:40.5, 4054N×24.10E, h24km, MD2.9/4*
ISCJB ***02*** *18:32:41.7±0.5, 4052N±004×2404E±004, h27km±5km, Error ellipse: s-maj=7.7km s-min=4.5km az=29.2*
THE ***02*** *18:32:41.1, 4057N×2409E, h2km, ML2.3*
CSEM ***02*** *18:32:41.1±0.1, 4057N×24.11E, h12km, ML2.3, Error ellipse: s-maj=2.8km s-min=1.8km az=39.0*
ISC 02 18:32:40.9±0.6, 4056N±005×2409E±005, h17km±10km, n15, σ0=71/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.24**	**200**	*e*Pg	**Pg**	**18 32 46.6**	**+0.3**
OUR				*e*Sg	**Sg**	18 32 49.5	-0.5
PLG	**Polygyros**	**0.53**	**249**	*e*Pg	**Pg**	18 32 51.2	-0.1
PLG				*e*Sg	**Sg**	18 32 58.6	+0.2
PLG	**Polygyros**	**0.53**	**249**	*e*PN	**Pg**	18 32 51.2	-0.2
PLG				*e*SN	**Sg**	18 32 58.7	+0.3
SOH	**Sokhos**	**0.62**	**295**	*e*Pg	**Pg**	18 32 53.0	-0.1
SOH				*e*Sg	**Sg**	18 33 01.8	+0.5
PAIG	**Paliouri**	**0.71**	**207**	*e*Pg	**Pg**	18 32 54.7	0.0
PAIG				*e*Sg	**Sg**	18 33 04.9	+0.8
HORT	**Hortiatis**	**0.76**	**273**	*e*Pg	**Pg**	18 32 55.1	-0.6
HORT				*e*Sg	**Sg**	18 33 05.8	+0.2
NVR	**Nevrokopi**	**0.81**	**348**	*e*PB	**Pb**	18 32 56.1	-0.4
LOS	**Limnos**	**0.98**	**129**	*e*Pg	**Pg**	18 32 59.0	-1.0
LOS				*e*Sg	**Sg**	18 33 13.0	+0.2
LIA	**Limnos Island**	**1.07**	**128**	*e*Pg	**Pg**	18 33 00.6	-0.9
LIA				*e*Sg	**Sg**	18 33 16.9	+1.4
LIA	**Limnos Island**	**1.07**	**128**	*e*Pn	**Pn**	18 33 00.1	-1.0
LIA	**Limnos Island**	**1.07**	**128**	*e*Pg	**Pg**	18 33 00.6	-0.9
LIA				*e*Sg	**Sg**	18 33 16.9	+1.4
KNT	**Kendrikon**	**1.08**	**304**	*e*Pg	**Pg**	18 33 01.7	-0.2
KNT				*e*Sg	**Sg**	18 33 16.7	+0.6
RDO	**Rodhopi**	**1.24**	**61**	*e*PN	**Pn**	18 33 05.0	+1.5
RDO	**Rodhopi**	**1.24**	**61**	*e*Pn	**Pn**	18 33 05.4	+1.9
GRG	**Griva**	**1.34**	**288**	*e*Pg	**Pg**	18 33 05.9	-0.9

IDC ***02*** *18:33:37.7±2.1, 2326S×17984W, h520km±22km, mb3.6/11, mb1 3.8/12, mb1mx3.5/21, mbtmp3.6/12, Error ellipse: s-maj=21.5km s-min=15.8km az=158.0*
ISCJB ***02*** *18:33:40.4±4.1, 234S±02×1800E±0.1, h566km±55km, mb4.1/14, Error ellipse: s-maj=36.2km s-min=18.3km az=178.1*
NEIC ***02*** *18:33:40.2±2.3, 2337S×17989W, h554km±28km, mb4.5/6, Error ellipse: s-maj=22.6km s-min=11.6km az=182.0*
ISC 02 18:33:38.7±3.9, 233S±02×1799W±01, h530km±50km, n30, σ0=55/23, mb4.1/14, 4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.13**	**189**	P	**P**	**18 36 49.2**	**-0.4**
1.6nm,0.3s,baz=47,slow=4.4,SNR=10							
RPZ	**Rata Peaks**	**21.69**	**198**	P	**P**	**18 37 50.5**	**-0.3**
4.1nm,0.7s,mb4.2,baz=48,slow=14,SNR=3.4							
CTA	**Charters Tower**	**31.55**	**269**	*i*P	**P**	**18 39 18.6**	**+0.9**
15nm,0.3s,mb5.0							
CTA	**Charters Tower**	**31.55**	**269**	P	**P**	**18 39 18.8**	**+1.1**
25nm,0.5s,mb5.0,baz=96,slow=11,SNR=54							
CTAO	**Charters Tower**	**31.55**	**269**	*e*P	**P**	**18 39 18.4**	**+0.7**
TOO	**Toolangi**	**32.84**	**236**	*e*P	**P**	**18 39 29.6**	**+1.2**
STKA	**Stephens Creek**	**35.02**	**247**	⇓ *i*P	**P**	**18 39 47.7**	**+0.9**
5.1nm,0.5s,mb4.3							
STKA	**Stephens Creek**	**35.02**	**247**	P	**P**	**18 39 47.7**	**+0.9**
6.5nm,0.5s,mb4.4,baz=96,slow=9.9,SNR=28							

ASAR	**Alice Springs**	**42.21 260**	P	**P**		**18 40 45.5**	**+0.3**
	7.6nm,0.7s,mb4.3,baz=100,slow=8.9,SNR=64						
ASAR			ScP	ScP		18 45 28.7	+1.4
	0.8nm,0.8s,baz=124,slow=6.0,SNR=5.5						
WB2	**Warramunga Arr**	**42.51 265**	⇓*i*P	**P**		**18 40 47.1**	**-0.6**
WRA	**Warramunga Arr**	**42.52 265**	P	**P**		**18 40 47.4**	**-0.4**
	6.7nm,0.4s,mb4.5,baz=92,slow=8.4,SNR=47						
WRA			ScP	ScP		18 45 30.0	+1.4
	2.0nm,1.0s,baz=98,slow=3.7,SNR=6.1						
KAKA	**Kakadu**	**46.33 275**	*e*P	**P**		**18 41 16.5**	**-0.7**
	4.0nm,0.3s,mb4.4						
FORT	**Forrest**	**46.59 249**	*e*P	**P**		**18 41 18.7**	**-0.3**
	25nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**50.95 265**	*e*P	**P**		**18 41 51.7**	**+0.2**
	6.0nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**50.95 265**	P	**P**		**18 41 51.8**	**+0.4**
	4.6nm,0.6s,mb4.0,baz=102,slow=10,SNR=28						
KLBR	**Kellerberrin**	**55.29 247**	*e*P	**P**		**18 42 21.9**	**-0.3**
	20nm,1.1s,mb4.3						
MBWA	**Marble Bar**	**55.55 260**	*e*P	**P**		**18 42 23.3**	**-0.8**
NWAO	**Narrogin (SRO)**	**55.55 245**	P	**P**		**18 42 23.9**	**-0.1**
	2.2nm,0.3s,mb3.8,baz=156,slow=17,SNR=5.8						
MUN	**Mundaring**	**56.54 246**	*e*P	**P**		**18 42 30.9**	**+0.1**
PETK	**Petropavlovsk-**	**78.53 346**	P	**P**		**18 44 44.3**	**-0.4**
	1.4nm,0.7s,mb3.4,baz=125,slow=7.6,SNR=5.2						
NVAR	**Mina Array Bea**	**84.27 44**	P	**P**		**18 45 14.6**	**0.0**
	0.3nm,0.6s,mb3.0,baz=220,slow=6.7,SNR=4.4						
TXAR	**Lajitas Array**	**90.05 58**	P	**P**		**18 45 42.8**	**+0.8**
	0.9nm,0.7s,mb3.7,baz=214,slow=6.7,SNR=14						
PDAR	**Pinedale Array**	**92.21 44**	P	**P**		**18 45 51.5**	**-0.2**
	0.6nm,0.8s,mb3.7,baz=225,slow=4.0,SNR=3.6						
ARCES	**ARCESS Array B 131.31 348**		PKP	PKPdf		18 51 48.5	-1.3
	1.9nm,0.9s,baz=54,slow=2.3,SNR=6.3						
ARCES	**ARCESS Array B 131.31 348**		PKP	PKPdf		18 51 48.5	-1.3
NOA	**NORSAR Array B 141.50 351**		PKhKP			18 52 03.2	
	1.3nm,0.8s,baz=16,slow=4.6,SNR=3.7						
AKASG	**Malin Array Be**	**144.50 328**	PKP	PKPdf		18 52 13.0	-1.4
	1.7nm,0.5s,baz=44,slow=4.1,SNR=12						
CLL	**Collm**	**150.30 344**	⇓*i*PKPbc	PKPbc		18 52 29.2	-0.5
	comp=Z,4.0nm,0.9s						
CLL			*e*PKPab	PKPab		18 52 38.0	-0.3
GERES	**GERESS Array B 152.31 340**		PKPbc	PKPbc		18 52 33.1	-1.2
	comp=Z,0.2nm,0.6s,baz=32,slow=5.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**169.79 189**	PKPab	PKPab		18 54 03.9	-0.1
	comp=Z,0.5nm,0.9s,baz=190,slow=5.6,SNR=2.3						

SOF ***02*** *18:39:20.9, 4052N×24.10E, h2km, MD2.8*
NEIC ***02*** *18:39:23.6, 4060N×24.13E, h30km, MD3.2(ATH), After ATH.*
ATH ***02*** *18:39:23.6, 4060N×24.13E, h30km±3km, MD3.2/6*
ISCJB ***02*** *18:39:24.7±0.4, 4058N±002×2409E±003, h21km±4km, Error ellipse: s-maj=3.8km s-min=3.4km az=20.1*
THE ***02*** *18:39:24.4, 4058N×2410E, h9km, ML3.2*
CSEM ***02*** *18:39:24.1±0.1, 4060N×2415E, h20km, ML3.2, Error ellipse: s-maj=2.0km s-min=1.7km az=131.0*

ISC 02 18:39:23.4±0.3, 4060N±002×2413E±002, h15km±3km, n32, σ1§01/53, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.28**	**202**		*e*Pg		**Pg**	**18 39 30.3**	**+0.9**
OUR					*e*Sg		**Sg**	**18 39 33.9**	**+0.4**
PLG	**Polygyros**	**0.56**	**247**		*e*Pg		**Pg**	**18 39 35.0**	**+0.5**
PLG					*e*Sg		**Sg**	**18 39 42.5**	**+0.5**
PLG	**Polygyros**	**0.56**	**247**	⇑*i*PN			**Pg**	**18 39 35.0**	**+0.5**
PLG					*e*SN		**Sg**	**18 39 43.0**	**+1.0**
SOH	**Sokhos**	**0.63**	**291**		*e*Pg		**Pg**	**18 39 36.1**	**+0.5**
SOH					*e*Sg		**Sg**	**18 39 45.3**	**+1.3**
PAIG	**Paliouri**	**0.75**	**207**		*e*Pg		**Pg**	**18 39 38.4**	**+0.3**
PAIG					*e*Sg		**Sg**	**18 39 48.7**	**+0.8**
NVR	**Nevrokopi**	**0.78**	**345**		*e*PN		**Pn**	**18 39 38.5**	**-1.4**
NVR					*e*SN		**Sn**	**18 39 51.1**	**-0.2**
HORT	**Hortiatis**	**0.78**	**270**		*e*Pg		**Pg**	**18 39 38.7**	**+0.1**
HORT					*e*Sg		**Sg**	**18 39 49.2**	**+0.4**
LOS	**Limnos**	**0.99**	**132**		*e*Pg		**Pg**	**18 39 42.5**	**0.0**
LOS					*e*Sg		**Sg**	**18 39 56.3**	**+0.8**
MMB	**Musomiste**	**1.03**	**343**		Pg		**Pg**	**18 39 43.5**	**+0.1**
LIA	**Limnos Island**	**1.07**	**130**		*e*Pg		**Pg**	**18 39 44.1**	**0.0**
LIA					*e*Sg		**Sg**	**18 40 00.6**	**+2.6**
LIA	**Limnos Island**	**1.07**	**130**		*e*Pn		**Pn**	**18 39 44.5**	**+0.6**
LIA					*e*Sn		**Sn**	**18 39 59.0**	**+0.5**
KNT	**Kendrikon**	**1.09**	**302**		*e*Pg		**Pg**	**18 39 44.6**	**+0.2**
KNT					*e*Sg		**Sg**	**18 39 59.6**	**+1.0**
RZN	**Rozhen**	**1.18**	**22**		Pg		**Pg**	**18 39 46.6**	**+0.5**
RDO	**Rodhopi**	**1.20**	**62**		*e*PN		**Pn**	**18 39 46.3**	**+0.6**
RDO					*e*SN		**Sn**	**18 40 01.6**	**-0.2**
LIT	**Litokhoron**	**1.34**	**249**		*e*Pg		**Pg**	**18 39 48.0**	**-1.2**
LIT					*e*Sg		**Sg**	**18 40 07.3**	**+0.5**
LIT	**Litokhoron**	**1.34**	**249**		*e*Pg		**Pg**	**18 39 48.0**	**-1.3**
LIT					*e*Sg		**Sg**	**18 40 07.3**	**+0.5**
GRG	**Griva**	**1.36**	**286**		*e*Pg		**Pg**	**18 39 48.7**	**-0.8**
GRG					*e*Sg		**Sg**	**18 40 07.8**	**+0.6**
VAY	**Valandovo**	**1.38**	**302**		*e*Pg		**Pg**	**18 39 48.5**	**-1.5**
XOR	**Xorichti**	**1.42**	**211**		*e*Pg		**Pg**	**18 39 49.3**	**-1.5**
XOR					*e*Sg		**Sg**	**18 40 08.8**	**-0.6**
KDZ	**Kurdzhali**	**1.43**	**42**		Pg		**Pg**	**18 39 49.9**	**-1.1**
AOS	**Alonnisos**	**1.44**	**188**		*e*Pg		**Pg**	**18 39 49.1**	**-2.0**
AOS					*e*Sg		**Sg**	**18 40 08.2**	**-1.6**
NEO	**Neokhori**	**1.46**	**209**		*e*PN		**Pn**	**18 39 49.6**	**+0.3**
ALN	**Alexandroupoli**	**1.49**	**78**		*e*Pg		**Pg**	**18 39 50.1**	**-2.0**
ALN					*e*Sg		**Sg**	**18 40 12.0**	**+0.6**
KKB	**Krupnik**	**1.49**	**329**		Pg		**Pg**	**18 39 50.3**	**-1.8**
PLD	**Plovdiv**	**1.57**	**16**		*e*Pg		**Pg**	**18 39 52.2**	**-1.3**
PLD					*e*Sg		**Sg**	**18 40 13.8**	**-0.2**
PLD	**Plovdiv**	**1.57**	**16**		Pg		**Pg**	**18 39 54.5**	**+1.0**
DIM	**Dimitrovgrad**	**1.80**	**36**		Pg		**Pg**	**18 39 58.1**	**+0.2**
KZN	**Kozani**	**1.82**	**262**		*e*PN		**Pn**	**18 39 55.5**	**+1.3**
THL	**Klokotos Trika**	**1.92**	**238**		*e*Pb		**Pb**	**18 39 56.2**	**-1.9**
THL					*e*Sb		**Sb**	**18 40 20.8**	**-1.1**
THL	**Klokotos Trika**	**1.92**	**238**		*e*Pn		**Pn**	**18 39 56.4**	**+0.8**
THL					*e*Sb		**Sb**	**18 40 20.8**	**-1.1**
FNA	**Florina**	**2.10**	**276**		*e*Pn		**Pn**	**18 39 58.5**	**+0.4**
VTS	**Vitosha**	**2.11**	**341**	P			**Pn**	**18 40 00.2**	**+2.0**

MAN 02 19:11:37, 940N×12570E, h131km, mb3.6, ML2.4, MS1.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.43**	**331**	⇓*e*P			Pn	19 11 58.7	+2.9
SCPH					*e*S		Sn	19 12 12.7	+2.6
BUTP	**Butuan**	**0.43**	**190**	*e*P			Pn	19 11 56.4	+0.5
BUTP					*e*S		Sn	19 12 08.3	-1.8
MSLP	**Maasin**	**1.10**	**311**	*e*P			Pn	19 12 00.9	-0.1
BUKP	**Musuan**	**1.64**	**203**	*e*P			Pn	19 12 08.1	+1.3
BUKP					*e*S		Sn	19 12 31.0	+1.5

MAN 02 19:17:47, 933N×12553E, h0km, mb4.5, ML3.3, MS3.2, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.37**	**166**	*e*P			Pg	19 17 54.7	+0.6
BUTP					*e*S		Sg	19 18 01.7	+2.8
SCPH	**Surigao**	**0.45**	**355**	⇑*e*P			Pg	19 17 57.3	+1.6
SCPH					*e*S		Sg	19 18 05.8	+4.3
MSLP	**Maasin**	**1.04**	**321**	*e*P			Pg	19 18 07.6	+0.7
MSLP					*e*S		Sg	19 18 23.7	+3.3
BUKP	**Musuan**	**1.51**	**198**	*e*P			Pn	19 18 15.2	-0.1
BUKP					*e*S		Sg	19 18 37.2	+1.5
TBP	**Tagbilaran**	**1.68**	**282**	*e*P			Pn	19 18 17.6	-0.1
TBP					*e*S		Sn	19 18 40.3	+0.3
LLP	**Lapu-Lapu**	**1.83**	**303**	*e*P			Pn	19 18 19.5	-0.2
LLP					*e*S		Sn	19 18 42.8	-0.7
PLP	**Palo**	**1.90**	**344**	⇓*i*P			Pn	19 18 22.1	+1.4
PLP					*e*S		Sn	19 18 50.2	+4.7
BESP	**Borongan**	**2.26**	**358**	*e*P			Pn	19 18 25.1	-0.5
PAGZ	**Pagadian**	**2.58**	**235**	*e*P			Pn	19 18 31.1	+1.0
CNP	**Cataman**	**3.27**	**345**	*e*P			Pn	19 18 43.0	+3.4

NIED ***02*** *20:01:00, 43.10N×14700E, h29km, Mw3.8 Best double couple: M0:5.61000×10^14 NP1:φs.56.00000°, δ70.00000°, λ93.00000°. NP2:φs.228.00000°, δ20.00000°, λ82.00000°.*
JMA ***02*** *20:01:42.6±0.2, 4312N×14696E, h45km±3km, M3.8*
ISCJB ***02*** *20:01:43.1±0.8, 4326N±007×14697E±006, h33km, mb3.7/4, Error ellipse: s-maj=10.0km s-min=5.8km az=155.3*

MOS ***02*** *20:01:43.1±1.9, 4328N×14691E, h33km, mb4.2/2, Error ellipse: s-maj=25.5km s-min=18.3km az=102.9*
IDC ***02*** *20:01:49.7±5.8, 4339N×14684E, h77km±32km, mb3.5/4, mb1 3.6/6, mb1mx3.3/21, mbtmp3.5/6, Error ellipse: s-maj=95.2km s-min=21.5km az=174.0*

ISC 02 20:01:45.0±0.8, 4329N±007×14689E±007, h35km, n24, σ1§12/31, mb3.7/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.84**	**275**		P		**Pn**	**20 01 59.3**	**-0.9**
NEM2					*e*S		**Sn**	**20 02 11.5**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**1.05**	**315**		*e*PN		**Pn**	**20 02 02.8**	**-0.4**
YUK					S		**Sn**	**20 02 15.0**	**-1.6**
YUK					pmax		pmax		
	comp=Z,2μm,0.3s								
YUK					pmax		pmax		
	comp=N,530nm,0.4s								
YUK					pmax		pmax		
	comp=E,250nm,0.3s								
YUK					smax				
	comp=E,10μm,0.6s								
YUK					smax				
	comp=N,8μm,0.8s								
JRA	**Rausu**	**1.44**	**297**		P		**Pn**	**20 02 08.6**	**+0.1**
JRA					*e*S		**Sn**	**20 02 27.9**	**+1.8**
JNK	**Nakash**	**1.61**	**281**		P		**Pn**	**20 02 10.0**	**-0.8**
JNK					*e*S		**Sn**	**20 02 30.3**	**0.0**
JAK	**Akkeshi**	**1.63**	**260**		P		**Pn**	**20 02 09.8**	**-1.3**
KUR	**Kuril'sk**	**2.06**	**20**		*e*PN		**Pn**	**20 02 15.0**	**-2.1**
KUR					*i* S		**Sn**	**20 02 41.4**	**-0.2**
KUR					pmax		pmax		
	comp=Z,60nm,0.5s								
KUR					smax				
	comp=N,240nm,0.4s								
KUR					smax				
	comp=E,260nm,0.4s								
JTKR	**Abashiri--Toko**	**2.27**	**288**		P		**Pn**	**20 02 20.6**	**+0.7**
JAR	**Ashorobuto**	**2.28**	**271**		P		**Pn**	**20 02 19.5**	**-0.5**
JMP	**Maruseppu**	**2.66**	**287**		P		**Pn**	**20 02 26.2**	**+0.9**
JCH	**Churui**	**2.67**	**257**		P		**Pn**	**20 02 24.7**	**-0.8**
JEM	**Erimo**	**3.03**	**246**		P		**Pn**	**20 02 30.2**	**-0.2**
JKK2	**Kamakawa 2**	**3.06**	**282**		P		**Pn**	**20 02 32.6**	**+1.8**
JFR	**Furan**	**3.14**	**269**		P		**Pn**	**20 02 32.2**	**+0.3**
ASAJ	**Asahikawa**	**3.22**	**286**		P		**Pn**	**20 02 34.6**	**+1.6**
ASAJ	**Asahikawa**	**3.22**	**286**		P		**Pn**	**20 02 35.1**	**+2.1**
	comp=E,8.9nm,0.3s,baz=102,slow=11,SNR=36								
ASAJ					S		**Sn**	**20 03 15.2**	**+5.2**
	comp=E,1.1nm,0.3s,baz=18,slow=29,SNR=3.0								
ASAJ	**Asahikawa**	**3.22**	**286**		PN		**Pn**	**20 02 35.1**	**+2.1**
ASAJ					S		**Sn**	**20 03 15.2**	**+5.2**
ASAJ					pmax		pmax		
	comp=Z,9.0nm,0.3s								
ASAJ					smax				
	comp=N,1.0nm,0.3s								
PETK	**Petropavlovsk-**	**12.17**	**32**		P		**Pn**	**20 04 38.0**	**+2.3**
	comp=N,0.1nm,0.3s,baz=211,slow=10,SNR=3.7								
PETK	**Petropavlovsk-**	**12.17**	**32**		PN		**Pn**	**20 04 37.9**	**+2.3**
SONM	**Songino Array**	**28.47**	**293**		P		**P**	**20 07 35.4**	**-1.1**
	comp=N,0.8nm,0.7s,mb3.5,baz=81,slow=7.7,SNR=7.5								
SONM	**Songino Array**	**28.47**	**293**		P		**P**	**20 07 35.4**	**-1.1**
SONM					pmax		pmax		
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**44.63**	**298**		P		**P**	**20 09 53.6**	**-0.1**
	comp=Z,1.5nm,0.5s,mb4.1,baz=82,slow=9.7,SNR=13								
MKAR	**Makanchi Array**	**44.63**	**298**		P		**P**	**20 09 53.6**	**-0.1**
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.5s								
AKASG	**Malin Array Be**	**71.84**	**324**		P		**P**	**20 13 03.0**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.5,baz=38,slow=5.9,SNR=7.0								
TXAR	**Lajitas Array**	**83.06**	**56**		P		**P**	**20 14 08.5**	**+1.5**
	comp=Z,0.3nm,0.5s,mb3.6,baz=291,slow=3.8,SNR=4.8								

NIED ***02*** *20:25:00, 4700N×14180E, h5km, Mw3.7 Best double couple: M0:4.65000×10^14 NP1:φs.179.00000°, δ61.00000°, λ87.00000°. NP2:φs.5.00000°, δ30.00000°, λ95.00000°.*
JMA ***02*** *20:25:12.8±0.5, 4696N×14177E, h21km, M3.9*
MOS ***02*** *20:25:13.9±2.2, 4686N×14177E, h10km, mb3.9/3, Error ellipse: s-maj=26.6km s-min=18.3km az=65.0*
NEIC ***02*** *20:25:14.1±3.0, 4670N×14171E, h4km±18km, MG3.9(JMA), Error ellipse: s-maj=25.1km s-min=18.6km az=128.0*
ISCJB ***02*** *20:25:14.0±1.9, 4682N±004×1417E±0.1, h12km±12km, mb3.5/8, Error ellipse: s-maj=13.8km s-min=6.4km az=7.5*
IDC ***02*** *20:25:28.2±8.5, 4674N×14155E, h122km±80km, mb3.3/7, mb1 3.6/8, mb1mx3.3/21, mbtmp3.3/8, Error ellipse: s-maj=34.7km s-min=20.3km az=114.0*

ISC 02 20:25:14.0±2.2, 4678N±004×1416E±01, h2km±14km, n25, σ0§68/29, mb3.5/8, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.78**	**77**	⇓*i*PN			**Pg**	**20 25 28.9**	**-0.1**
YSS					*i*		**Sg**	**20 25 40.0**	**+0.9**
YSS					smax				
	comp=E,6μm,0.3s								
YSS	**Yuzh-Sakhalins**	**0.78**	**77**	*e*P			**Pg**	**20 25 28.7**	**-0.3**
JWK2	**Keihoku**	**1.48**	**173**	P			**Pn**	**20 25 41.3**	**-0.3**
JWK2					*e*S		**Sb**	**20 26 01.4**	**+0.1**
JRR	**Rishiri**	**1.66**	**188**	P			**Pn**	**20 25 44.6**	**+0.5**
JRR					*e*S		**Sn**	**20 26 07.2**	**+1.2**
JSE	**Soyaes**	**1.94**	**160**	P			**Pn**	**20 25 47.1**	**-0.8**
UGL	**Uglegorsk**	**2.32**	**7**	PN			**Pn**	**20 25 53.0**	**-0.2**
UGL					S		**Sg**	**20 26 24.5**	**-3.9**
UGL					smax				
	comp=E,279nm,0.7s								
UGL					smax				
	comp=N,151nm,0.6s								
JYG	**Yagishiri**	**2.36**	**184**		P		**Pn**	**20 25 54.0**	**+0.3**
JSS	**Shosan**	**2.39**	**176**		P		**Pn**	**20 25 54.2**	**+0.1**
ASAJ	**Asahikawa**	**2.75**	**166**		P		**Pn**	**20 25 59.2**	**+0.1**
JKK2	**Kamakawa 2**	**3.01**	**165**		P		**Pn**	**20 26 02.9**	**+0.2**
JMP	**Maruseppu**	**3.02**	**156**		P		**Pn**	**20 26 01.7**	**-1.2**
JHR	**Hokuryu**	**3.04**	**179**		P		**Pn**	**20 26 03.8**	**+0.7**
JTKR	**Abashiri--Toko**	**3.23**	**150**		P		**Pn**	**20 26 04.3**	**-1.4**
KSRS	**Korea Array**	**13.79**	**232**		P		**Pn**	**20 28 38.0**	**+7.5**
	comp=N,0.2nm,0.3s,baz=46,slow=12,SNR=4.8								
ZAK	**Zakamensk**	**25.44**	**292**	*e*P			**P**	**20 30 43.0**	**+0.1**
ZAK					pmax		pmax		
	comp=Z,1.0nm,1.5s,mb3.1								
MKAR	**Makanchi Array**	**39.78**	**293**		P		**P**	**20 32 48.5**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.5,baz=61,slow=9.9,SNR=8.1								
YKA	**Yellowknife Ar**	**55.42**	**33**		P		**P**	**20 34 49.9**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.9,baz=62,slow=10,SNR=4.2								
YKA	**Yellowknife Ar**	**55.42**	**33**		P		**P**	**20 34 49.9**	**+0.6**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**55.42**	**33**		P		**P**	**20 34 49.9**	**+0.6**
WRA	**Warramunga Arr**	**66.73**	**187**		P		**P**	**20 36 05.2**	**-1.3**
	comp=Z,0.3nm,0.9s,mb3.3,baz=5.1,slow=6.6,SNR=3.5								
NVAR	**Mina Array Bea**	**69.18**	**56**		P		**P**	**20 36 22.4**	**+0.5**
	comp=Z,0.6nm,0.9s,mb3.5,baz=291,slow=5.4,SNR=3.8								
ASAR	**Alice Springs**	**70.46**	**188**		P		**P**	**20 36 29.8**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=3.7,slow=5.1,SNR=6.1								
PDAR	**Pinedale Array**	**70.83**	**48**		P		**P**	**20 36 31.9**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=336,slow=4.2,SNR=4.1								
TXAR	**Lajitas Array**	**84.06**	**53**		P		**P**	**20 37 45.9**	**-0.4**
	comp=Z,0.7nm,0.7s,mb3.9,baz=286,slow=3.3,SNR=5.4								
TXAR	**Lajitas Array**	**84.06**	**53**		P		**P**	**20 37 45.9**	**-0.4**
TXAR					pmax		pmax		
	comp=Z,1.0nm,0.7s								

ISCJB ***02*** *20:39:35.5±1.0, 4477N±004×15.1E±0.1, h21km±9km, Error ellipse: s-maj=12.7km s-min=7.0km az=1.6*
CSEM ***02*** *20:39:35.4±0.7, 4483N×1498E, h25km, ML2.9/5, Error ellipse: s-maj=9.3km s-min=7.6km az=166.0*
VIE ***02*** *20:39:37.8±0.7, 4499N×1487E, h8km, mb2.0/2, ML2.6/1, Error ellipse: s-maj=3.9km s-min=2.9km az=174.0*

ISC 02 20:39:35.5±1.0, 4480N±004×1511E±010, h15km±6km, n12, σ0§71/24, 3C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.29**	**216**	⇓*i*Pg			**Pg**	**20 39 42.1**	**+0.3**
NVLJ					Sg		**Sg**	**20 39 46.7**	**+0.8**
BOJS	**Bojanci**	**0.71**	**8**	*i* Pg			**Pg**	**20 39 49.5**	**+0.1**
BOJS					*i* Sg		**Sg**	**20 39 59.7**	**+0.8**
BOJS									
	comp=Z,18nm,0.1s								
BOJS	**Bojanci**	**0.71**	**8**	Pg			**Pn**	**20 39 49.5**	**-1.5**
BOJS					*i* Sg		**Sg**	**20 39 59.7**	**+0.8**
	comp=Z,18nm,0.1s								
KNDS	**Knezji Dol**	**0.90**	**325**	*i* Pg			**Pg**	**20 39 51.9**	**-1.0**
KNDS					*i* Sg		**Sg**	**20 40 03.5**	**-1.1**
VISS	**Visnje**	**1.02**	**349**	*i* Pg			**Pg**	**20 39 54.5**	**-0.9**
VISS					*i* Sg		**Sg**	**20 40 08.2**	**-0.5**
VISS									
	comp=Z,8.0nm,0.1s								
VISS	**Visnje**	**1.02**	**349**	*i* Pg			**Pg**	**20 39 54.5**	**-0.8**
VISS					*i* Sg		**Sg**	**20 40 08.2**	**-0.5**
	comp=Z,8.0nm,0.1s								
PDKS	**Podkum**	**1.27**	**356**	*i* Pg			**Pg**	**20 40 00.4**	**+0.5**
PDKS					*i* Sg		**Sg**	**20 40 17.3**	**+0.9**
PDKS									
	comp=Z,10.0nm,0.1s								
VOY	**Vojsko**	**1.50**	**326**	*e*Pg			**Pb**	**20 40 02.9**	**-0.2**
VOY					*e*Sg		**Sb**	**20 40 22.6**	**+0.7**
DRE	**Drenchia**	**1.72**	**324**	⇓*i*Pg			**Pb**	**20 40 06.2**	**-0.6**
DRE					*e*Sg		**Sb**	**20 40 28.7**	**+0.6**
OBKA	**Obir**	**1.76**	**347**	⇓*i*Pg			**Pb**	**20 40 07.2**	**-0.2**
OBKA					⇑*i*Sg		**Sb**	**20 40 29.2**	**0.0**
	comp=Z,15nm,0.3s								
SOKA	**Soboth**	**1.88**	**358**	⇑*i*Pg			**Pb**	**20 40 09.2**	**-0.3**
SOKA					⇓*i*Sg		**Sb**	**20 40 34.0**	**+1.2**
	comp=Z,2.2nm,0.3s								
MYKA	**Terra Mystica**	**2.10**	**331**	⇑*i*Pg			**Pb**	**20 40 13.2**	**-0.1**
MYKA					⇓*i*Sg		**Sb**	**20 40 39.6**	**+0.5**
	comp=Z,8.3nm,0.3s								

ISCJB ***02*** *20:43:44.6±0.3, 4060N±001×24.11E±002, h6km±2km, mb3.4/3, Error ellipse: s-maj=2.2km s-min=2.0km az=18.0*
SOF ***02*** *20:43:44.4, 4060N×2407E, h0km, MD3.3*
ATH ***02*** *20:43:45.4, 4059N×24.17E, h29km±2km, MD3.7/13, ML3.8*
NEIC ***02*** *20:43:46.5, 4058N×2409E, h10km, ML3.4(ATH), ML4.0(THE), After THE.*
CSEM ***02*** *20:43:46.5±0.1, 4059N×24.11E, h25km, ML4.0, Error ellipse: s-maj=1.3km s-min=1.2km az=124.0*
IDC ***02*** *20:43:46.9±1.6, 4059N×2363E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.6/3, MS2.4/1, Ms1 2.5/1, ms1mx1.9/23, Error ellipse: s-maj=50.9km s-min=28.7km az=127.0*
THE ***02*** *20:43:46.5, 4058N×2409E, h10km, ML4.0*

ISC 02 20:43:45.7±0.3, 4059N±001×2411E±002, h5km±2km, n135, σ1§14/190, mb3.4/3, 16C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.27**	**200**	*e*Pg			**Pg**	**20 43 52.3**	**+1.4**
OUR					*e*Sg		**Sg**	**20 43 56.0**	**+1.5**
PLG	**Polygyros**	**0.55**	**247**	*e*Pg			**Pg**	**20 43 57.0**	**+0.8**
PLG					*e*Sg		**Sg**	**20 44 04.5**	**+1.2**
PLG	**Polygyros**	**0.55**	**247**	⇑*i*PN			**Pg**	**20 43 57.0**	**+0.8**
PLG					*e*SN		**Sg**	**20 44 05.5**	**+2.2**
PLG	**Polygyros**	**0.55**	**247**	⇑*i*Pn			**Pg**	**20 43 57.0**	**+0.8**
PLG					*e*Sn		**Sg**	**20 44 04.5**	**+1.2**
SOH	**Sokhos**	**0.62**	**292**	*e*Pg			**Pg**	**20 43 58.1**	**+0.6**
SOH					*e*Sg		**Sg**	**20 44 06.7**	**+1.2**
PAIG	**Paliouri**	**0.74**	**206**	*e*Pg			**Pg**	**20 44 00.3**	**+0.5**
PAIG					*e*Sg		**Sg**	**20 44 10.4**	**+1.0**
HORT	**Hortiatis**	**0.77**	**271**	*e*Pg			**Pg**	**20 44 00.7**	**+0.3**
HORT					*e*Sg		**Sg**	**20 44 11.7**	**+1.4**
NVR	**Nevrokopi**	**0.78**	**346**	⇑*i*PB			**Pb**	**20 44 00.5**	**-1.2**
NVR					*e*SN		**Sg**	**20 44 13.1**	**+2.3**
THE	**Thessaloniki**	**0.87**	**273**	*e*Pg			**Pg**	**20 44 02.4**	**

SKO				*e*Sn	**Sn**	**20 44 52.7**	**-3.6**
PTL	**Penteli**	**2.54**	**184**	*e*PN	**Pn**	**20 44 27.0**	**-0.6**
ATH	**Athens Observa**	**2.63**	**187**	*e*PN	**Pn**	**20 44 28.0**	**-0.8**
ATH	**Athens Observa**	**2.63**	**187**	*e*Pb	**Pb**	**20 44 29.8**	**-3.5**
TKR	**Tekirdag**	**2.63**	**80**	*e*P	**Pn**	**20 44 35.6**	**+6.8**
JMB	**Yambol**	**2.64**	**44**	*e*Pn	**Pn**	**20 44 29.5**	**+0.6**
JMB	**Yambol**	**2.64**	**44**	Pg	**Pg**	**20 44 36.0**	**-0.3**
MRMT	**Marmara Adasi**	**2.66**	**89**	*e*P	**Pn**	**20 44 36.2**	**+7.1**
JAN	**Janina**	**2.66**	**251**	*e*PN	**Pn**	**20 44 29.4**	**+0.2**
CHOS	**Chios island**	**2.67**	**145**	*e*Pn	**Pn**	**20 44 29.1**	**-0.2**
CHOS				*e*Sn	**Sn**	**20 45 01.9**	**-0.1**
CHOS	**Chios island**	**2.67**	**145**	*e*Pn	**Pn**	**20 44 29.0**	**-0.3**
LTK	**Loutraki**	**2.71**	**199**	*e*Pn	**Pn**	**20 44 29.2**	**-0.6**
LTK				*e*Sn	**Sn**	**20 45 03.2**	**+0.1**
CRLT	**Corlu**	**2.81**	**78**	*e*P	**Pn**	**20 44 38.1**	**+6.9**
BARS	**Barje**	**2.81**	**323**	*e*Pn	**Pn**	**20 44 31.1**	**-0.1**
BALY	**Balya**	**2.82**	**106**	*i* P	**Pn**	**20 44 30.9**	**-0.5**
EDC	**Edincik**	**2.88**	**94**	*e*P	**Pn**	**20 44 33.1**	**+1.0**
BNT	**Bandirma**	**2.92**	**93**	*e*P	**Pn**	**20 44 40.8**	**+8.1**
PHP	**Peshkopia**	**2.98**	**293**	*e*PN	**Pn**	**20 44 35.9**	**+2.4**
PHP				*e*SN	**Sn**	**20 45 14.8**	**+5.2**
SZH	**Strazhica**	**3.00**	**26**	P	**Pn**	**20 44 34.2**	**+0.3**
SZH				Pg	**Pg**	**20 44 42.4**	**-0.8**
BALB	**Balikesir**	**3.05**	**107**	*e*P	**Pn**	**20 44 39.9**	**+5.4**
DID	**Didima**	**3.15**	**193**	*e*Pn	**Pn**	**20 44 35.2**	**-0.7**
DID				*e*Sn	**Sn**	**20 45 14.0**	**+0.1**
RLS	**Riolos of Patr**	**3.25**	**220**	*e*PN	**Pn**	**20 44 39.0**	**+1.7**
RLS	**Riolos of Patr**	**3.25**	**220**	*e*Pb	**Pb**	**20 44 39.6**	**-4.3**
KDAG	**Bornova**	**3.28**	**131**	*i* P	**Pn**	**20 44 37.1**	**-0.6**
IZM	**Izmir**	**3.28**	**131**	*e*P	**Pn**	**20 44 38.2**	**+0.5**
TIR	**Tirane**	**3.30**	**285**	*e*Pn	**Pn**	**20 44 38.2**	**+0.3**
TIR				*e*Sn	**Sn**	**20 45 18.2**	**+0.7**
QSH	**Qafa e Shtames**	**3.31**	**288**	*e*PN	**Pn**	**20 44 44.0**	**+5.9**
CTT	**Catalca**	**3.33**	**79**	*e*P	**Pn**	**20 44 45.5**	**+7.2**
AKS	**Akhisar**	**3.33**	**120**	*e*P	**Pn**	**20 44 42.0**	**+3.6**
KEK	**Kerkira**	**3.42**	**257**	*e*PN	**Pn**	**20 44 40.5**	**+1.0**
VLX	**Vlachokerasia**	**3.48**	**203**	*e*Pn	**Pn**	**20 44 40.0**	**-0.5**
PUK	**Puka**	**3.49**	**296**	*e*PN	**Pn**	**20 44 44.9**	**+4.3**
BCI	**Bajram Curri**	**3.52**	**302**	*e*PN	**Pn**	**20 44 41.9**	**+1.0**
SMG	**Samos**	**3.58**	**143**	P	**Pn**	**20 44 41.9**	**+0.1**
DST	**Dursunbey**	**3.60**	**104**	*e*P	**Pn**	**20 44 45.0**	**+2.9**
VLS	**Valsamata**	**3.64**	**230**	*e*PN	**Pn**	**20 44 44.0**	**+1.4**
ISK	**Istanbul-Kandi**	**3.79**	**81**	*e*P	**Pn**	**20 44 52.1**	**+7.5**
KLYT	**Kilyos**	**3.80**	**78**	*e*P	**Pn**	**20 44 52.1**	**+7.3**
ITM	**Ithomi**	**3.81**	**207**	*e*PN	**Pn**	**20 44 46.3**	**+1.4**
BADT	**Buyukada**	**3.82**	**84**	*e*P	**Pn**	**20 44 52.5**	**+7.4**
DEMI	**Demirci**	**3.87**	**112**	*i* P	**Pn**	**20 44 45.0**	**-0.9**
GEMT	**Gemlik**	**3.88**	**91**	*e*P	**Pn**	**20 44 53.1**	**+7.2**
YLV	**Yalova**	**4.01**	**89**	*e*P	**Pn**	**20 44 55.6**	**+7.9**
KULA	**Kula-Manisa**	**4.09**	**119**	*e*P	**Pn**	**20 44 49.0**	**+0.2**
GRUS	**Gruza**	**4.15**	**324**	*e*Pn	**Pn**	**20 44 48.9**	**-0.7**
GRUS				*e*Sg	**Sg**	**20 45 57.5**	**-1.3**
HRT	**Hereke**	**4.23**	**85**	*e*P	**Pn**	**20 44 59.1**	**+8.3**
ADVT	**Abdulvahap**	**4.30**	**90**	*e*P	**Pn**	**20 44 59.1**	**+7.5**
DIVS	**Divibare**	**4.64**	**320**	*e*Pn	**Pn**	**20 44 55.9**	**-0.5**
DIVS				*e*Sn	**Sn**	**20 45 51.8**	**+1.0**
DIVS	**Divibare**	**4.64**	**320**	*i* Pn	**Pn**	**20 44 55.8**	**-0.6**
DIVS				*i* Sg	**Sg**	**20 46 13.2**	**-1.6**
TREB	**Trebinje**	**4.81**	**298**	*e*Pn	**Pn**	**20 44 59.4**	**+0.7**
VOIR		**4.89**	**8**	⇑*i*P	**Pn**	**20 45 00.5**	**+0.7**
GZR	**Gura Zlata**	**4.90**	**349**	⇑*i*P	**Pn**	**20 44 59.1**	**-0.8**
GZR	**Gura Zlata**	**4.90**	**349**	⇑P	**Pn**	**20 44 59.1**	**-0.8**
TIRR	**Tirgusor**	**5.01**	**38**	⇓*i*P	**Pn**	**20 45 02.7**	**+1.3**
TIRR	**Tirgusor**	**5.01**	**38**	⇓P	**Pn**	**20 45 02.7**	**+1.3**
MLR	**Muntele Rosu**	**5.08**	**15**	⇑*i*P	**Pn**	**20 45 03.5**	**+1.1**
MLR	**Muntele Rosu**	**5.08**	**15**	⇑P	**Pn**	**20 45 03.5**	**+1.1**
BZS	**Buzias**	**5.34**	**341**	⇓*i*P	**Pn**	**20 45 05.1**	**-0.9**
BZS	**Buzias**	**5.34**	**341**	⇓P	**Pn**	**20 45 05.1**	**-1.0**
PLOR	**Plostina**	**5.58**	**19**	⇑*i*P	**Pn**	**20 45 10.6**	**+1.4**
VRI	**Vrincioaia**	**5.61**	**19**	⇑*i*P	**Pn**	**20 45 11.7**	**+2.0**
VRI	**Vrincioaia**	**5.61**	**19**	⇑P	**Pn**	**20 45 11.7**	**+2.0**
CUC	**Castrocucco**	**6.37**	**267**	*e*P	**Pn**	**20 45 20.1**	**0.0**
	6.8nm,0.6s						
PKSM	**Moragy**	**6.88**	**327**	⇑*i*P	**Pn**	**20 45 26.0**	**-1.2**
PKSM	**Moragy**	**6.88**	**327**	⇑P	**Pn**	**20 45 26.0**	**-1.2**
BURAR	**Bucovina Array**	**7.07**	**6**	⇓*i*P	**Pn**	**20 45 30.8**	**+1.1**
BURAR	**Bucovina Array**	**7.07**	**6**	⇓P	**Pn**	**20 45 30.8**	**+1.1**
NOA	**NORSAR Array B**	**21.95**	**343**	P	**P**	**20 48 40.9**	**+1.0**
	0.8nm,0.7s,mb3.2,baz=150,slow=9.8,SNR=3.3						
NOA				LR	LR	20 57 51.4	
	comp=Z,11nm,20.5s,baz=135,slow=39						
TORD	**Torodi Ar. Bea**	**33.66**	**222**	P	**P**	**20 50 27.3**	**-0.2**
	1.0nm,0.7s,mb3.9,baz=31,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**41.69**	**61**	P	**P**	**20 51 39.6**	**+4.5**
	0.2nm,0.3s,mb3.2,baz=282,slow=8.7,SNR=4.5						

*ISCJB **02** 20:47:20.3±0.7, 1061N±006×6229W±003, h60km±8km, Error ellipse: s-maj=10.1km s-min=4.9km az=166.0*
*TRN **02** 20:47:21.4, 1069N×6230W, h48km, MD2.6*
*FUNV **02** 20:47:22.4, 1057N×6228W, h43km, MW2.4*
*NEIC **02** 20:47:22.0, 1071N×6224W, h54km, MD2.6(TRN), After TRN.*

ISC 02 20:47:21.3±0.6,**1062N**±006×**6229W**±003,**h52**km±8km,**n16,** σ0**71**/26,**2C-2D,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.07**	**70**	⇓*e*P	**Pn**	**20 47 29.1**	**-0.2**
GUIV				*e*S	**Sn**	**20 47 34.7**	**-0.3**
TCE	**Chacachacare**	**0.53**	**82**	*e*P	**Pn**	**20 47 33.5**	**+0.5**
TCE				*e*S	**Sn**	**20 47 41.7**	**+0.2**
GUNV	**Guanoco**	**0.79**	**235**	*e*P	**Pn**	**20 47 36.0**	**-0.3**
GUNV				*e*S	**Sn**	**20 47 47.6**	**+0.4**
TRN	**Trinidad (W)**	**0.87**	**88**	⇑*e*P	**Pn**	**20 47 38.2**	**+0.8**
TRN				*e*S	**Sn**	**20 47 48.7**	**-0.4**
CRUV	**Carupano**	**0.93**	**273**	⇑*i*P	**Pn**	**20 47 37.7**	**-0.5**
CRUV				*e*S	**Sn**	**20 47 49.9**	**-0.7**
ITEV	**Isla Los Testi**	**1.10**	**311**	⇓*i*P	**Pn**	**20 47 41.5**	**+1.0**
ITEV				*e*S	**Sn**	**20 47 56.4**	**+1.7**
TBH	**Brigand Hill**	**1.21**	**96**	*e*P	**Pn**	**20 47 42.1**	**+0.2**
TPR	**Prospect**	**1.59**	**69**	*e*P	**Pn**	**20 47 47.4**	**+0.4**
TPR				*e*S	**Sn**	**20 48 06.6**	**+0.1**
TPR	**Prospect**	**1.59**	**69**	*e*P	**Pn**	**20 47 47.4**	**+0.4**
TPR				*e*S	**Sn**	**20 48 07.3**	**+0.9**
GRW	**Mount Saint Ca**	**1.65**	**22**	*e*P	**Pn**	**20 47 46.9**	**-1.0**
GRW				*e*S	**Sn**	**20 48 06.5**	**-1.4**
GRW	**Mount Saint Ca**	**1.65**	**22**	*e*P	**Pn**	**20 47 46.9**	**-1.0**
GRW				*e*S	**Sn**	**20 48 06.5**	**-1.4**
PCRV	**Puerto La Cruz**	**2.35**	**259**	*e*P	**Pn**	**20 47 57.8**	**+0.3**
CUPV	**Cœpira**	**3.49**	**261**	*e*P	**Pn**	**20 48 13.4**	**+0.3**
BIRV	**Birongo**	**3.92**	**268**	*e*P	**Pn**	**20 48 19.2**	**+0.2**
CAOV	**Caicara del Or**	**5.16**	**231**	*e*P	**Pn**	**20 48 35.7**	**-0.3**
BAUV	**El Baul**	**5.91**	**254**	*e*P	**Pn**	**20 48 45.2**	**-1.1**

*NIED **02** 20:48:00, 4670N×14160E, h5km, Mw3.7 Best double couple: M=4.41000×10^14 NP1:φs=53.00000°, δ52.00000°, λ116.00000°. NP2:φs196.00000°, δ45.00000°, λ61.00000°.*
*JMA **02** 20:48:29.7±0.4, 4674N×14162E, h0km, M3.9*
*ISCJB **02** 20:48:31.0±0.4, 4673N±003×14173E±006, h10km, mb3.6/9, MS3.5/3, Error ellipse: s-maj=5.8km s-min=3.9km az=7.0*
*MOS **02** 20:48:30.4±1.4, 4668N×14167E, h10km, mb3.8/5, Error ellipse: s-maj=20.0km s-min=12.3km az=82.1*
*NEIC **02** 20:48:31.1±2.1, 4675N×14174E, h1km±15km, mb4.3/1, Error ellipse: s-maj=16.9km s-min=10.5km az=125.0*
*IDC **02** 20:48:31.5±0.9, 4663N×14153E, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.7/23, mbtmp3.6/10, ML3.5/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/35, Error ellipse: s-maj=22.4km s-min=18.2km az=74.0*

ISC 02 20:48:32.3±0.4,**4670N**±003×**14177E**±006,**h10**km,**n34,** σ0**89**/40,**mb3.6**/9,**MS3.5**/3,**1D,Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.72**	**69**	⇓*i*PN	**Pg**	**20 48 44.9**	**-1.3**
YSS				*e*	**Sg**	**20 48 55.7**	**+0.1**
YSS				smax			
	comp=N,2μm,0.6s						
YSS	**Yuzh-Sakhalins**	**0.72**	**69**	*e*P	**Pg**	**20 48 45.0**	**-1.3**
JWK2	**Keihoku**	**1.39**	**176**	P	**Pn**	**20 48 56.7**	**-1.0**
JWK2				*e*S	**Sb**	**20 49 16.0**	**0.0**
JRR	**Rishiri**	**1.60**	**192**	P	**Pn**	**20 49 00.0**	**-0.5**
JRR				*e*S	**Sn**	**20 49 21.2**	**0.0**
JSE	**Soyaes**	**1.83**	**162**	P	**Pn**	**20 49 02.9**	**-0.9**
JSE				*e*S	**Sn**	**20 49 27.3**	**+0.3**
JYG	**Yagishiri**	**2.29**	**186**	P	**Pn**	**20 49 09.9**	**-0.1**
JSS	**Shosan**	**2.30**	**179**	P	**Pn**	**20 49 10.3**	**+0.1**
UGL	**Uglegorsk**	**2.39**	**5**	*e*PN	**Pn**	**20 49 12.0**	**+0.6**
UGL				*e*S	**Sn**	**20 49 44.5**	**+3.8**
UGL				pmax	pmax		
	comp=Z,37nm,0.7s						
UGL				smax			
	comp=N,186nm,0.7s						
UGL				smax			
	comp=E,233nm,0.7s						
ASAJ	**Asahikawa**	**2.65**	**167**	P	**Pn**	**20 49 15.0**	**0.0**
ASAJ	**Asahikawa**	**2.65**	**167**	Pn	**Pn**	**20 49 14.8**	**-0.2**
	comp=E,6.7nm,0.3s,baz=2.9,slow=11,SNR=56						
ASAJ				Sn	**Sn**	**20 49 46.9**	**-0.3**
	comp=E,7.9nm,0.3s,baz=124,slow=22,SNR=5.5						
ASAJ	**Asahikawa**	**2.65**	**167**	PN	**Pn**	**20 49 14.9**	**-0.1**
ASAJ						20 49 46.9	
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				smax			
	comp=N,8.0nm,0.3s						
JKK2	**Kamakawa 2**	**2.91**	**166**	P	**Pn**	**20 49 18.6**	**0.0**
JMP	**Maruseppu**	**2.92**	**157**	P	**Pn**	**20 49 17.4**	**-1.3**
JHR	**Hokuryu**	**2.96**	**181**	P	**Pn**	**20 49 20.0**	**+0.7**
JTKR	**Abashiri--Toko**	**3.12**	**150**	P	**Pn**	**20 49 20.0**	**-1.5**
JTKR				*e*S	**Sn**	**20 50 00.6**	**+1.9**
JAB	**Ashibetsu**	**3.21**	**174**	P	**Pn**	**20 49 24.6**	**+1.8**
MJAR	**Matsushiro Arr**	**10.49**	**196**	Pn	**Pn**	**20 51 03.5**	**+0.9**
	comp=N,0.4nm,0.3s,baz=306,slow=11,SNR=5.1						
PETK	**Petropavlovsk-**	**12.09**	**52**	Pn	**Pn**	**20 51 28.4**	**+4.0**
	comp=N,0.2nm,0.3s,baz=230,slow=13,SNR=3.5						
PETK				LR	LR	20 55 59.9	
	comp=N,62nm,20.9s,baz=336,slow=37						
SONM	**Songino Array**	**23.91**	**286**	P	**P**	**20 53 46.0**	**-0.1**
	comp=N,0.8nm,0.9s,mb3.1,baz=80,slow=7.8,SNR=6.6						
SONM				LR	LR	21 04 34.8	
	comp=N,59nm,19.6s,MS3.1,baz=270,slow=40						
SONM	**Songino Array**	**23.91**	**286**	P	**P**	**20 53 46.0**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,59nm,19.6s						
ZAK	**Zakamensk**	**25.55**	**293**	*e*P	**P**	**20 54 00.7**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.5						
ZALV	**Zalesovo Beam**	**36.19**	**303**	P	**P**	**20 55 34.1**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.6,baz=88,slow=7.4,SNR=3.4						
ZAL	**Zalesovo**	**36.21**	**303**	P	**P**	**20 55 34.1**	**-0.8**
IMA2	**Indian Mountai**	**38.46**	**36**	*e*P	**P**	**20 55 54.0**	**+0.2**
MKAR	**Makanchi Array**	**39.89**	**293**	P	**P**	**20 56 05.8**	**-0.3**
	comp=Z,0.3nm,0.3s,mb3.5,baz=65,slow=6.8,SNR=7.6						
MKAR				LR	LR	21 13 40.5	
	comp=Z,67nm,20.6s,MS3.5,baz=250,slow=38						
EGAK	**Eagle**	**43.82**	**37**	*e*P	**P**	**20 56 36.9**	**-1.0**
	comp=Z,4.5nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**55.44**	**33**	P	**P**	**20 58 07.2**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.9,baz=300,slow=7.5,SNR=3.5						
YKA	**Yellowknife Ar**	**55.44**	**33**	P	**P**	**20 58 07.2**	**+0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**65.42**	**336**	P	**P**	**20 59 15.7**	**+1.1**
	comp=Z,0.6nm,0.8s,mb3.7,baz=25,slow=3.4,SNR=2.8						
NOA	**NORSAR Array B**	**65.42**	**336**	P	**P**	**20 59 15.7**	**+1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**70.39**	**188**	P	**P**	**20 59 46.5**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=12,slow=5.9,SNR=4.8						
ASAR	**Alice Springs**	**70.39**	**188**	P	**P**	**20 59 46.5**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**70.82**	**48**	P	**P**	**20 59 52.1**	**+3.3**
	comp=Z,0.4nm,0.9s,mb3.4,baz=344,slow=3.2,SNR=3.8						
TKL	**Tuckaleechee C**	**88.37**	**36**	LR	LR	21 43 32.0	
	comp=Z,39nm,19.7s,MS3.8,baz=35,slow=37						

*ISCJB **02** 20:59:51.6±0.4, 4061N±002×24.13E±002, h12km±4km, Error ellipse: s-maj=3.7km s-min=2.9km az=19.2*
*ATH **02** 20:59:52.2, 4060N×24.11E, h37km±2km, MD3.2/5*
*NEIC **02** 20:59:52.2, 4060N×24.11E, h37km, MD3.2(ATH), After ATH.*
*CSEM **02** 20:59:53.0±0.1, 4059N×24.12E, h15km, ML2.8, Error ellipse: s-maj=1.3km s-min=1.1km az=11.0*
*THE **02** 20:59:53.3, 4058N×24.10E, h5km, ML2.8*

ISC 02 20:59:52.5±0.3,**4060N**±002×**2413E**±002,**h16**km±4km,**n29,** σ0**73**/56,**1C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.29**	**203**	*e*Pg	**Pg**	**20 59 59.2**	**+0.5**
OUR				*e*Sg	**Sg**	**21 00 02.9**	**0.0**
OUR	**Ouranopolis**	**0.29**	**203**	*e*Pg	**Pg**	**20 59 59.2**	**+0.5**
OUR				*e*Sg	**Sg**	**21 00 02.8**	**-0.1**
PLG	**Polygyros**	**0.57**	**247**	*e*Pg	**Pg**	**21 00 03.8**	**0.0**
PLG				*e*Sg	**Sg**	**21 00 11.2**	**-0.2**
PLG	**Polygyros**	**0.57**	**247**	⇑*i*PN	**Pg**	**21 00 03.8**	**0.0**
PLG				*e*SN	**Sg**	**21 00 11.2**	**-0.2**
SOH	**Sokhos**	**0.63**	**291**	*e*Pg	**Pg**	**21 00 05.0**	**+0.1**
SOH				*e*Sg	**Sg**	**21 00 13.7**	**+0.4**
PAIG	**Paliouri**	**0.76**	**207**	*e*Pg	**Pg**	**21 00 07.1**	**-0.2**
PAIG				*e*Sg	**Sg**	**21 00 17.4**	**+0.2**
NVR	**Nevrokopi**	**0.78**	**345**	*e*PN	**Pn**	**21 00 07.4**	**-1.4**
NVR				*e*SN	**Sn**	**21 00 19.0**	**-1.2**
HORT	**Hortiatis**	**0.79**	**270**	*e*Pg	**Pg**	**21 00 07.5**	**-0.3**
HORT				*e*Sg	**Sg**	**21 00 18.2**	**0.0**
THE	**Thessaloniki**	**0.89**	**272**	*e*Pg	**Pg**	**21 00 10.2**	**+0.4**
THE				*e*Sg	**Sg**	**21 00 21.5**	**0.0**
LOS	**Limnos**	**0.98**	**132**	*e*Pg	**Pg**	**21 00 11.3**	**-0.3**
LOS				*e*Sg	**Sg**	**21 00 25.2**	**+0.7**
LIA	**Limnos Island**	**1.07**	**131**	*e*Pg	**Pg**	**21 00 12.9**	**-0.3**
LIA				*e*Sg	**Sg**	**21 00 28.7**	**+1.6**
LIA	**Limnos Island**	**1.07**	**131**	*e*PN	**Pn**	**21 00 13.1**	**+0.3**
LIA				*e*SN	**Sn**	**21 00 27.1**	**-0.2**
LIA	**Limnos Island**	**1.07**	**131**	*e*Pn	**Pn**	**21 00 13.1**	**+0.3**
LIA				*e*Sn	**Sn**	**21 00 27.1**	**-0.2**
LIA				*e*Sg	**Sg**	**21 00 28.7**	**+1.6**
KNT	**Kendrikon**	**1.09**	**301**	*e*Pg	**Pg**	**21 00 13.5**	**-0.1**
KNT				*e*Sg	**Sg**	**21 00 28.6**	**+0.7**
RDO	**Rodhopi**	**1.20**	**62**	*e*PN	**Pn**	**21 00 14.1**	**-0.5**
RDO				*e*SN	**Sn**	**21 00 30.5**	**0.0**
LIT	**Litokhoron**	**1.35**	**249**	*e*Pg	**Pg**	**21 00 17.4**	**-1.2**
LIT				*e*Sg	**Sg**	**21 00 36.7**	**+0.5**
VAY	**Valandovo**	**1.38**	**302**	*e*Pg	**Pg**	**21 00 19.0**	**-0.2**
VAY				*e*Sg	**Sg**	**21 00 37.4**	**+0.1**
VAY	**Valandovo**	**1.38**	**302**	*e*Pn	**Pn**	**21 00 18.2**	**+1.0**
VAY				*e*Sn	**Sn**	**21 00 36.7**	**+1.5**
VAY	**Valandovo**	**1.38**	**302**	*e*Pn	**Pn**	**21 00 18.1**	**+0.9**
VAY	**Valandovo**	**1.38**	**302**	*e*Pg	**Pg**	**21 00 19.0**	**-0.2**
VAY				*e*Sn	**Sn**	**21 00 36.6**	**+1.5**
XOR	**Xorichti**	**1.43**	**211**	*e*Pg	**Pg**	**21 00 18.0**	**-2.0**
XOR				*e*Sg	**Sg**	**21 00 37.8**	**-0.8**
NEO	**Neokhori**	**1.47**	**209**	*e*PN	**Pn**	**21 00 18.3**	**0.0**
ALN	**Alexandroupoli**	**1.48**	**78**	*e*Pg	**Pg**	**21 00 21.1**	**0.0**
ALN				*e*Sg	**Sg**	**21 00 40.8**	**+0.4**
PLD	**Plovdiv**	**1.56**	**16**	*e*Pg	**Pg**	**21 00 22.3**	**-0.3**
PLD				*e*Sg	**Sg**	**21 00 42.7**	**-0.3**
STIP	**Stip**	**1.83**	**307**	*e*Pn	**Pn**	**21 00 27.2**	**+3.8**
STIP				*e*Sn	**Sn**	**21 00 51.0**	**+4.8**
STIP	**Stip**	**1.83**	**307**	*e*Pn	**Pn**	**21 00 27.1**	**+3.8**
STIP				*e*Sn	**Sn**	**21 00 50.9**	**+4.7**
THL	**Klokotos Trika**	**1.93**	**238**	*e*PN	**Pn**	**21 00 24.3**	**-0.3**
KRUS	**Krusevo**	**2.31**	**290**	*e*Pn	**Pn**	**21 00 31.4**	**+1.4**
KRUS				*e*Sn	**Sn**	**21 00 53.7**	**-4.4**
KRUS	**Krusevo**	**2.31**	**290**	*e*Pn	**Pn**	**21 00 31.4**	**+1.4**
KRUS				*e*Sn	**Sn**	**21 00 53.6**	**-4.5**

*BJI **02** 21:00:03.7, 3605×10200E, h41km, mB4.9, mb4.8*
*ISCJB **02** 21:00:08.4±1.1, 3615±005×10203E±005, h84km±9km, mb4.6/50, Error ellipse: s-maj=9.9km s-min=6.2km az=145.4*
*DJA **02** 21:00:08, 3915×10172E, h30km, ML4.8/16*
*NEIC **02** 21:00:09.7±0.8, 3625×10203E, h81km±7km, mb4.6/18, Error ellipse: s-maj=7.1km s-min=4.7km az=64.0*
NEIC Felt [III] at Bengkulu and Kapahiang.
*MOS **02** 21:00:09.1±0.9, 3565×10213E, h90km, mb4.6/24, Error ellipse: s-maj=13.3km s-min=6.9km az=109.0*
*IDC **02** 21:00:10.9±2.6, 3605×10204E, h89km±23km, mb4.1/18, mb1 4.2/19, mb1mx4.1/21, mbtmp4.1/19, MS3.6/3, Ms1 3.6/3, ms1mx3.1/30, Error ellipse: s-maj=19.0km s-min=10.1km az=60.0*

ISC 02 21:00:10.0±0.8,**362S**±004×**10204E**±005,**h81**km±8km,

h80km±1.3km:**pP-P,n126,** σ0**84**/121,**mb4.6**/50,**9C-3D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPI	**Tanjungpandan**	**5.68**	**81**	⇑*e*P	**Pn**	**21 01 32.0**	**+0.2**
LEM	**Lembang**	**6.41**	**120**	⇑*i*P	**Pn**	**21 01 43.5**	**+1.7**
PSI	**Prapat**	**7.10**	**334**	P	**Pn**	**21 01 50.5**	**-0.7**
	5.6nm,0.3s,baz=160,slow=10,SNR=31						
PSI				S	**Sn**	**21 03 08.0**	**-2.6**
	1.3nm,0.3s,baz=149,slow=8.3,SNR=1.7						
PSI				LR	LR	21 04 51.4	
	comp=Z,296nm,20.8s,baz=176,slow=40						
PSI	**Prapat**	**7.10**	**334**	⇓*e*P	**Pn**	**21 01 50.4**	**-0.9**
PSI	**Prapat**	**7.10**	**334**	P	**Pn**	**21 01 50.6**	**-0.7**
PSI				S	**Sn**	**21 03 08.0**	**-2.5**
PSI				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PSI				smax			
	comp=N,1.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,296nm,20.8s						
KSM	**Kuching**	**9.70**	**59**	*e*Pn	**Pn**	**21 02 27.4**	**+0.6**
COCO	**West Island**	**9.95**	**211**	*e*P	**Pn**	**21 02 28.6**	**-1.5**
KKM	**Kota Kinabalu**	**17.11**	**56**	Pn	**Pn**	**21 04 03.9**	**-0.2**
CM31	**Chiang Mai Arr**	**22.15**	**352**	P	**P**	**21 04 56.0**	**-3.2**
CMAR	**Chiang Mai Arr**	**22.15**	**352**	P	**P**	**21 05 00.5**	**+1.2**
	comp=Z,2.4nm,0.6s,mb3.7,baz=183,slow=8.5,SNR=15						
CMAR				PcP	PcP	21 08 53.2	-0.5
	comp=Z,1.5nm,0.5s,baz=211,slow=2.9,SNR=7.8						
CMAR	**Chiang Mai Arr**	**22.15**	**352**	P	**P**	**21 05 00.5**	**+1.2**
CMAR						21 08 53.2	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CHTO	**Chiang Mai**	**22.50**	**352**	*e*P	**P**	**21 05 01.9**	**-1.1**
QIZ	**Qiongzhong**	**23.79**	**19**	*e*P	**P**	**21 05 15.7**	**+0.4**
	comp=Z,17nm,1.3s,mb4.2						
MBWA	**Marble Bar**	**24.49**	**137**	P	**P**	**21 05 22.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**27.23**	**124**	*e*P	**P**	**21 05 47.9**	**+1.3**
	comp=Z,7.1nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.23**	**124**	P	**P**	**21 05 48.2**	**+1.6**
	comp=Z,1.7nm,0.5s,mb3.8,baz=244,slow=11,SNR=11						
KMI	**Kunming**	**28.58**	**1**	P	**P**	**21 06 00.2**	**+1.7**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
NWAO	**Narrogin (SRO)**	**32.44**	**156**	P	**P**	**21 06 31.5**	**-1.0**
ODAN	**Odare**	**33.45**	**336**	*e*P	**P**	**21 06 42.6**	**+1.2**
	comp=Z,17nm,0.6s,mb5.0						
TAPN	**Taplejung**	**33.75**	**337**	*e*P	**P**	**21 06 45.3**	**+1.3**
	comp=Z,31nm,0.8s,mb5.2						
YHNB	**Yeheng**	**33.83**	**33**	*e*P	**P**	**21 06 44.8**	**0.0**
RAMN	**Ramite**	**33.86**	**335**	*e*P	**P**	**21 06 45.9**	**+1.0**
JIRN	**Jiri**	**34.65**	**335**	*e*P	**P**	**21 06

comp=Z,9.8nm,0.5s,mb5.1,baz=152,slow=9.0,SNR=155
MKAR Makanchi Array 53.15 343 P **P 21 09 19.4 0.0**
MKAR pmax pmax
comp=Z,10.0nm,0.5s
ZAK Zakamensk 53.80 1 *e*P **P 21 09 24.0 -0.2**
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
KK31 Karatay Array 54.52 332 P **P 21 09 29.3 -0.3**
KK31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
TLY Talaya 55.11 1 *e*P **P 21 09 32.5 -1.1**
KURK Kurchatov 57.74 343 *c i*P **P 21 09 51.9 -0.4**
KURK pmax pmax
comp=Z,13nm,0.9s,mb5.0
KURK Kurchatov 57.74 343 *e*P **P 21 09 51.7 -0.6**
comp=Z,9.9nm,0.7s,mb5.0
ZAL Zalesovo 59.14 348 P **P 21 10 01.6 -0.4**
ZAL pmax pmax
comp=Z,8.0nm,0.5s
ZAA0 Zalesovo Array 59.14 348 *e*P **P 21 10 01.4 -0.7**
ZALV Zalesovo Beam 59.14 348 P **P 21 10 01.6 -0.5**
comp=Z,7.9nm,0.5s,mb5.0,baz=165,slow=6.2,SNR=49
RDF Al-Radifah 61.44 306 *e*P **P 21 10 18.6 +0.3**
baz=298
RDF AMb AMB 21 10 20.7
comp=Z,15nm,0.9s,mb5.0,baz=298
UMR Umm Al-Rimmam 61.55 306 *e*P **P 21 10 18.7 -0.3**
baz=300
UMR AMb AMB 21 10 20.3
comp=Z,15nm,0.5s,mb5.3,baz=300
YSS Yuzh-Sakhalins 61.81 30⇑ *e*P **P 21 10 19.6 -0.7**
YSS pmax pmax
comp=Z,29nm,1.3s,mb5.2
NAY Al-Naaiem 61.81 306 *e*P **P 21 10 21.2 +0.5**
baz=299
NAY AMb AMB 21 10 21.8
comp=Z,10.0nm,0.5s,mb5.1,baz=299
MIB Mutribah 61.95 307 *e*P **P 21 10 22.3 +0.7**
baz=300
MIB AMb AMB 21 10 22.9
comp=Z,16nm,0.6s,mb5.2,baz=300
BOD Bodaibo 62.00 7 *e*P **P 21 10 21.0 -0.4**
BOD pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BRVK Borovoye 62.47 339 *e*P **P 21 10 23.8 -0.9**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BRVK Borovoye 62.47 339 *e*P **P 21 10 23.8 -0.8**
comp=Z,5.4nm,0.6s,mb4.8
AB31 Akbulak array 64.03 331 P **P 21 10 34.1 -1.0**
AKTO Aktyubinsk 65.75 331 P **P 21 10 44.9 -1.3**
GNI Garni 68.10 316 *e*P **P 21 11 01.0 -0.3**
YAK Yakutsk 68.81 14⇑ *i*P **P 21 11 04.0 -1.3**
YAK pmax pmax
comp=Z,25nm,0.8s,mb5.1
YAK Yakutsk 68.81 14 *e*P **P 21 11 04.1 -1.2**
SVE Sverdlovsk 68.95 337⇑ *e*P **P 21 11 06.0 -0.3**
SVE *e* 21 20 48.1
SVE pmax pmax
comp=Z,12nm,0.9s,mb4.7
MAW Mawson 69.24 195 P **P 21 11 08.9 +1.1**
comp=Z,2.0nm,0.8s,mb4.0,baz=20,slow=12,SNR=6.3
MAW PcP PcP 21 11 30.6 -0.4
comp=Z,1.8nm,0.8s,baz=356,slow=8.7,SNR=4.4
MAW Mawson 69.24 195 P **P 21 11 08.9 +1.0**
MAW pP 21 11 30.6 +1.6
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW pmax pmax
comp=Z,2.0nm,0.8s
ARU Arti 69.50 336 *c i*P **P 21 11 09.0 -0.7**
ARU *e*S S 21 20 15.7 +4.9
ARU *e*SS SS 21 24 35.4 -4.6
ARU pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
ARU Arti 69.50 336 *e*P **P 21 11 08.6 -1.1**
comp=Z,8.6nm,1.1s,mb4.5
KIV Kislovodsk 71.09 319 *e*P **P 21 11 20.6 +0.9**
KIV Kislovodsk 71.09 319 *e*P **P 21 11 20.6 +0.9**
MALT Malatya 71.93 312 *e*P **P 21 11 24.4 -0.4**
PETK Petropavlovsk- 73.18 31 P **P 21 11 30.9 -1.0**
comp=Z,4.0nm,0.6s,mb4.4,baz=197,slow=3.8,SNR=13
PETK Petropavlovsk- 73.18 31 P **P 21 11 30.9 -1.0**
PETK pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
LSZ Lusaka 73.48 255 *e*P **P 21 11 34.9 +0.5**
PET Petropavlovsk 73.64 32⇓ *i*P **P 21 11 32.6 -2.0**
PET pmax pmax
comp=Z,17nm,0.6s,mb5.0
PET Petropavlovsk 73.64 32 *e*P **P 21 11 33.9 -0.7**
comp=Z,7.7nm,0.3s,mb4.9
MA2 Magadan 73.68 23 P **P 21 11 34.8 +0.1**
SEY Seymchan 76.38 21⇓ *i*P **P 21 11 49.6 -0.6**
BOSA Boshof 76.67 242 P **P 21 11 53.1 +0.5**
comp=Z,2.7nm,1.0s,mb3.9,baz=1.2,slow=13,SNR=6.5
BOSA Boshof 76.67 242 *e*P **P 21 11 53.4 +0.8**
BOSA pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
BOSA Boshof 76.67 242 *e*P **P 21 11 53.4 +0.8**
comp=Z,1.6nm,0.4s,mb4.1
OBN Obninsk 79.24 328⇑ *i*P **P 21 12 06.1 -0.1**
OBN *e**PP pP 21 12 36.0 +8.2
OBN *i* S S 21 22 10.7 +11
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
OBN Obninsk 79.24 328 *e*P **P 21 12 06.0 -0.2**
VNDA Vanda 80.19 169 P **P 21 12 10.0 -1.1**
comp=Z,1.4nm,0.9s,mb3.8,baz=300,slow=6.3,SNR=6.4
VNDA Vanda 80.19 169 *e*P **P 21 12 10.9 -0.1**
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA Vanda 80.19 169 *e*P **P 21 12 10.9 -0.1**
comp=Z,2.1nm,1.0s,mb3.9
AKASG Malin Array Be 82.00 322 P **P 21 12 20.4 -0.8**
comp=Z,1.1nm,0.5s,mb4.0,baz=90,slow=4.8,SNR=7.8
AKASG Malin Array Be 82.00 322 P **P 21 12 20.4 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
BILL Bilibino 83.97 20⇑ *e*P **P 21 12 30.7 -0.2**
BILL *e**PP pP 21 13 02.4 +10
BILL *e* 21 15 40.6
BILL *e*S S 21 22 34.5 -14
BILL pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
JOF Joensuu 84.55 334 *e*p **P 21 12 33.5 -0.4**
comp=Z,0.6nm,0.3s,mb4.0
KOLS Kolonicke sedl 86.00 319 *e*P **P 21 12 42.7 +1.2**
KOLS Kolonicke sedl 86.00 319 *i* **P 21 12 42.7 +1.2**
KAF Kangasniemi 86.54 333 *e*p **P 21 12 43.5 -0.3**
comp=Z,1.7nm,0.4s,mb4.3
KAF Kangasniemi 86.54 333 *e*P **P 21 12 43.5 -0.3**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
ARCES ARCESS Array B 88.68 340 P **P 21 12 53.9 0.0**
comp=Z,3.6nm,0.8s,mb4.5,baz=103,slow=5.1,SNR=14
ARCES ARCESS Array B 88.68 340 P **P 21 12 53.9 0.0**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
SNAA Sanae 91.23 198 *e*P **P 21 13 05.5 -0.4**
SNAA pmax pmax
comp=Z,2.0nm,1.0s
SNAA Sanae 91.23 198 *e*P **P 21 13 05.5 -0.3**
comp=Z,1.6nm,1.0s,mb4.1
NOA NORSAR Array B 93.54 331 P **P 21 13 16.4 -0.3**
comp=Z,1.0nm,0.8s,mb4.2,baz=242,slow=18,SNR=3.4
NOA NORSAR Array B 93.54 331 P **P 21 13 16.4 -0.3**
NOA pmax pmax
comp=Z,1.0nm,0.9s
PDAR Pinedale Array 131.95 31 PKP PKPdf 21 19 14.0 -0.4
comp=Z,0.3nm,0.4s,baz=89,slow=2.9,SNR=5.6
PLCA Paso Flores 135.34 188 PKP PKPdf 21 19 22.1 +1.2
comp=Z,0.7nm,0.7s,baz=217,slow=17,SNR=3.0
PLCA Paso Flores 135.34 188 PKIKP PKPdf 21 19 22.1 +1.2
PLCA pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 144.67 41 PKP PKPdf 21 19 37.1 -0.9
comp=Z,4.9nm,0.4s,baz=261,slow=0.7,SNR=123
TXAR Lajitas Array 144.67 41 PKIKP PKPdf 21 19 37.1 -1.0
TXAR pmax pmax
comp=Z,5.0nm,0.4s
BDFB Brasilia 144.72 236 PKP PKPdf 21 19 38.6 +0.2
comp=Z,4.4nm,0.5s,baz=110,slow=7.6,SNR=10.0
BDFB Brasilia 144.72 236 PKIKP PKPdf 21 19 38.6 +0.1
BDFB pmax pmax
comp=Z,4.0nm,0.5s

CSEM ***02*** *21:08:50.4±1.0, 3726N×2461W, h5km, ML2.4, Error ellipse: s-maj=7.3km s-min=3.4km az=85.0, After PDA*
PDA 02 21:08:50.4±1.0, 3726N×2461W, h5km, MD3.6, ML2.4, Error ellipse: s-maj=7.3km s-min=3.4km az=85.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.44**	**235**	*e*P	Pg	21 08 58.1	-0.8
PSMN				*e*S	Sg	21 09 03.9	-0.7
CMLA	**Cha da Macela**	**0.88**	**305**	*i* P	Pg	21 09 04.5	-2.8
CMLA				*e*S	Sg	21 09 15.2	-3.6
CMLA				A		21 09 18.7	
	89nm,0.2s						
PDA	**Ponta Delgada**	**0.97**	**301**	*e*S	Sg	21 09 16.8	-4.7
PSET	**Sete Cidades**	**1.05**	**303**	*e*P	Pg	21 09 07.1	-3.4
PSET				*e*S	Sg	21 09 19.4	-4.6
PSET				A		21 09 27.4	
	23nm,0.2s						
PSET	**Sete Cidades**	**1.05**	**303**	*e*P	Pg	21 09 07.1	-3.4
PSET				*e*S	Sg	21 09 19.4	-4.6
PSCM	**Serra do Cume**	**2.45**	**307**	*e*P	Pn	21 09 26.5	-4.5
PSCM				*e*S	Sn	21 09 53.5	-7.8
PSCM				A		21 09 59.3	
	9.8nm,0.2s						
PSCM	**Serra do Cume**	**2.45**	**307**	*e*P	Pn	21 09 26.5	-4.5
PSCM				*e*S	Sn	21 09 53.5	-7.8
PMAN	**Manadas**	**3.07**	**298**	*e*P	Pn	21 09 35.3	-4.3
ROSA	**Rosais**	**3.22**	**298**	*e*P	Pn	21 09 38.2	-3.3
ROSA				*e*S	Sn	21 10 12.7	-7.5
PICO	**Pico**	**3.26**	**294**	*e*P	Pn	21 09 37.5	-4.7
PICO				*e*S	Sn	21 10 13.6	-7.7
CALA	**Caldeira**	**3.49**	**293**	*e*P	Pn	21 09 41.9	-3.4
CALA				*e*S	Sn	21 10 19.5	-7.5

ATH ***02*** *21:11:32.1, 4056N×2389E, h64km±31km*
ISCJB ***02*** *21:11:33.1±0.4, 4058N±004×24.10E±003, h11km±9km, Error ellipse: s-maj=6.6km s-min=3.5km az=24.9*
NEIC ***02*** *21:11:34.5, 4055N×2407E, h1km, MD2.7(ATH), ML2.1(THE), After THE.*
THE ***02*** *21:11:34.5, 4055N×2407E, h1km, ML2.1*
CSEM ***02*** *21:11:34.2±0.1, 4055N×2407E, h15km, ML2.1, Error ellipse: s-maj=3.0km s-min=2.1km az=21.0*
ISC 02 21:11:33.7±0.5, 4058N±003×2409E±003, h13km±10km, n16, σ0§67/30, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.26**	**199**	*e*Pg	**Pg**	**21 11 39.3**	**+0.1**
OUR				*e*Sg	**Sg**	**21 11 41.7**	**-1.2**
PLG	**Polygyros**	**0.54**	**247**	*e*Pg	**Pg**	**21 11 44.0**	**-0.2**
PLG				*e*Sg	**Sg**	**21 11 51.5**	**+0.2**
PLG	**Polygyros**	**0.54**	**247⇑**	*i*P	**Pg**	**21 11 44.0**	**-0.2**
PLG				*e*S	**Sg**	**21 11 51.8**	**+0.5**
SOH	**Sokhos**	**0.61**	**293**	*e*Pg	**Pg**	**21 11 46.3**	**+0.7**
SOH				*e*Sg	**Sg**	**21 11 54.4**	**+0.7**
PAIG	**Paliouri**	**0.73**	**206**	*e*Pg	**Pg**	**21 11 47.2**	**-0.6**
PAIG				*e*Sg	**Sg**	**21 11 57.4**	**0.0**
PAIG	**Paliouri**	**0.73**	**206**	*e*Pg	**Pg**	**21 11 47.2**	**-0.6**
PAIG				*e*Sg	**Sg**	**21 11 57.4**	**0.0**
HORT	**Hortiatis**	**0.76**	**271**	*e*Pg	**Pg**	**21 11 47.8**	**-0.6**
HORT				*e*Sg	**Sg**	**21 11 59.2**	**+0.9**
NVR	**Nevrokopi**	**0.79**	**347**	*e*P	**Pg**	**21 11 48.0**	**-1.0**
NVR				*e*S	**Sg**	**21 11 58.2**	**-1.1**
LOS	**Limnos**	**1.00**	**130**	*e*Pg	**Pg**	**21 11 52.8**	**-0.1**
LOS				*e*Sg	**Sg**	**21 12 06.1**	**+0.1**
KNT	**Kendrikon**	**1.07**	**303**	*e*Pg	**Pg**	**21 11 53.9**	**-0.6**
KNT				*e*Sg	**Sg**	**21 12 09.4**	**+0.9**
LIA	**Limnos Island**	**1.08**	**129**	*e*Pg	**Pg**	**21 11 54.9**	**+0.4**
LIA				*e*Sg	**Sg**	**21 12 09.7**	**+1.1**
LIA	**Limnos Island**	**1.08**	**129**	*e*P	**Pb**	**21 11 53.4**	**-0.9**
LIA				S	**Sg**	**21 12 09.7**	**+1.1**
RDO	**Rodhopi**	**1.23**	**62**	*e*P	**Pn**	**21 11 56.9**	**+0.2**
GRG	**Griva**	**1.34**	**287**	*e*Pg	**Pg**	**21 11 59.3**	**-0.1**
ALN	**Alexandroupoli**	**1.52**	**77**	*e*Pg	**Pg**	**21 12 02.9**	**0.0**
ALN				*e*Sg	**Sg**	**21 12 23.4**	**+0.8**
ALN	**Alexandroupoli**	**1.52**	**77**	*e*Pg	**Pg**	**21 12 02.8**	**-0.1**
ALN				*e*Sg	**Sg**	**21 12 23.4**	**+0.8**

ISCJB ***02*** *21:13:51.5±0.3, 4062N±002×24.10E±002, h14km±3km, Error ellipse: s-maj=3.6km s-min=2.9km az=29.7*
CSEM ***02*** *21:13:52.8±0.1, 4061N×24.12E, h12km, ML3.0, Error ellipse: s-maj=1.5km s-min=1.3km az=25.0*
ATH ***02*** *21:13:52.0, 4063N×24.10E, h33km±4km, MD3.3/7*
THE ***02*** *21:13:53.1, 4059N×2408E, h7km, ML3.0*
NEIC ***02*** *21:13:53.1, 4059N×2408E, h7km, MD3.3(ATH), ML3.0(THE), After THE.*
ISC 02 21:13:52.4±0.3, 4062N±002×2410E±003, h17km±4km, n27, σ0§74/51, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.29**	**198**	*e*Pg	**Pg**	**21 13 59.0**	**+0.2**
OUR				*e*Sg	**Sg**	**21 14 02.8**	**-0.2**
PLG	**Polygyros**	**0.56**	**245**	*e*Pg	**Pg**	**21 14 03.7**	**+0.3**
PLG				*e*Sg	**Sg**	**21 14 11.0**	**+0.1**
PLG	**Polygyros**	**0.56**	**245**	*e*PN	**Pg**	**21 14 04.0**	**+0.6**
PLG				*e*SN	**Sg**	**21 14 11.1**	**+0.2**
SOH	**Sokhos**	**0.61**	**290**	*e*Pg	**Pg**	**21 14 05.0**	**+0.7**
SOH				*e*Sg	**Sg**	**21 14 12.8**	**+0.3**
NVR	**Nevrokopi**	**0.76**	**346**	*e*PN	**Pn**	**21 14 07.4**	**-0.9**
NVR				*e*SN	**Sn**	**21 14 17.3**	**-2.1**
PAIG	**Paliouri**	**0.76**	**205**	*e*Pg	**Pg**	**21 14 06.9**	**-0.3**
PAIG				*e*Sg	**Sg**	**21 14 17.1**	**-0.2**
HORT	**Hortiatis**	**0.76**	**269**	*e*Pg	**Pg**	**21 14 07.3**	**0.0**
HORT				*e*Sg	**Sg**	**21 14 17.3**	**-0.1**
LOS	**Limnos**	**1.01**	**132**	*e*Pg	**Pg**	**21 14 11.1**	**-0.9**
LOS				*e*Sg	**Sg**	**21 14 25.6**	**+0.4**
KNT	**Kendrikon**	**1.06**	**301**	*e*Pg	**Pg**	**21 14 13.6**	**+0.6**
KNT				*e*Sg	**Sg**	**21 14 27.8**	**+0.9**
LIA	**Limnos Island**	**1.09**	**131**	*e*Pg	**Pg**	**21 14 12.8**	**-0.8**
LIA				*e*Sg	**Sg**	**21 14 29.1**	**+1.2**
LIA	**Limnos Island**	**1.09**	**131**	*e*PN	**Pn**	**21 14 13.0**	**+0.1**
LIA				*e*SN	**Sn**	**21 14 27.2**	**-0.5**
LIA	**Limnos Island**	**1.09**	**131**	*e*Pg	**Pg**	**21 14 12.8**	**-0.7**
LIA				*e*Sn	**Sn**	**21 14 27.2**	**-0.5**
LIA				*e*Sg	**Sg**	**21 14 29.1**	**+1.3**
RDO	**Rodhopi**	**1.21**	**64**	*e*PN	**Pn**	**21 14 15.1**	**+0.5**
RDO				*e*SN	**Sn**	**21 14 30.2**	**-0.4**
LIT	**Litokhoron**	**1.33**	**248**	*e*Pg	**Pg**	**21 14 16.3**	**-1.8**
LIT				*e*Sg	**Sg**	**21 14 35.8**	**+0.3**
GRG	**Griva**	**1.34**	**285**	*e*Pg	**Pg**	**21 14 17.6**	**-0.6**
GRG				*e*Sg	**Sg**	**21 14 35.7**	**+0.1**
VAY	**Valandovo**	**1.36**	**302**	*e*Pg	**Pn**	**21 14 17.4**	**+0.8**
VAY				*e*Sg	**Sg**	**21 14 36.3**	**0.0**
VAY	**Valandovo**	**1.36**	**302**	*e*Pg	**Pg**	**21 14 17.9**	**-0.7**
VAY				*e*Sg	**Sg**	**21 14 36.7**	**+0.4**
VAY	**Valandovo**	**1.36**	**302**	*e*Pg	**Pn**	**21 14 17.4**	**+0.8**
VAY				*e*Sg	**Sg**	**21 14 36.6**	**+0.3**
XOR	**Xorichti**	**1.43**	**210**	*e*Pg	**Pn**	**21 14 17.8**	**+0.2**
XOR				*e*Sg	**Sg**	**21 14 37.5**	**-1.0**
NEO	**Neokhori**	**1.47**	**208**	*e*PN	**Pn**	**21 14 18.4**	**+0.3**
ALN	**Alexandroupoli**	**1.50**	**79**	*e*Pg	**Pn**	**21 14 19.7**	**+1.1**
ALN				*e*Sg	**Sg**	**21 14 40.9**	**0.0**
PLD	**Plovdiv**	**1.56**	**17**	*e*Pg	**Pg**	**21 14 21.1**	**-1.2**
PLD				*e*Sg	**Sg**	**21 14 42.9**	**+0.3**
STIP	**Stip**	**1.81**	**307**	*e*Pg	**Pg**	**21 14 27.1**	**0.0**
STIP				*e*Sg	**Sg**	**21 14 50.7**	**+0.2**
STIP	**Stip**	**1.81**	**307**	*e*Pg	**Pg**	**21 14 27.0**	**-0.1**
STIP				*e*Sg	**Sg**	**21 14 50.7**	**+0.2**
THL	**Klokotos Trika**	**1.92**	**237**	*e*PN	**Pn**	**21 14 24.0**	**-0.2**
PRK	**Paraskevi**	**2.16**	**129**	*e*PN	**Pn**	**21 14 28.5**	**+0.9**
KRUS	**Krusevo**	**2.29**	**290**	*e*Pg	**Pn**	**21 14 31.0**	**+1.6**

IDC 02 21:27:51.9±4.6, 726S×15552E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/17, mbtmp3.6/6, MS3.4/1, Ms1 3.4/1, ms1mx2.5/24, Error ellipse: s-maj=121.2km s-min=28.5km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.60**	**214**	LR	LR	21 36 40.5	
	comp=Z,136nm,19.2s,baz=207,slow=34						
WRA	**Warramunga Arr**	**24.10**	**236**	P	P	21 33 09.4	-0.1
	1.7nm,0.7s,baz=58,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**26.40**	**229**	P	P	21 33 30.4	+0.1
	0.1nm,0.4s,baz=64,slow=9.8,SNR=4.8						
FITZ	**Fitzroy Crossi**	**31.03**	**247**	P	P	21 34 11.3	-0.3
	2.0nm,0.6s,baz=94,slow=8.0,SNR=7.2						
CMAR	**Chiang Mai Arr**	**61.37**	**295**	P	P	21 38 11.2	+1.0
	0.6nm,0.5s,baz=127,slow=6.2,SNR=5.0						
SONM	**Songino Array**	**69.84**	**327**	P	P	21 39 04.9	+0.5
	0.3nm,0.7s,baz=118,slow=4.9,SNR=3.1						
MKAR	**Makanchi Array**	**83.94**	**319**	P	P	21 40 23.1	-0.8
	0.2nm,0.5s,baz=103,slow=7.1,SNR=5.6						

IDC 02 21:35:14.9±4.0, 433S×15385E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.5/2, Error ellipse: s-maj=186.7km s-min=49.6km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.54**	**229**	P	P	21 40 37.4	+0.9
	1.1nm,0.7s,baz=54,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**27.20**	**223**	P	P	21 40 59.9	-0.7
	0.3nm,0.7s,baz=58,slow=9.2,SNR=6.1						
TORD	**Torodi Ar. Bea**	**151.15**	**289**	PKPbc	PKPbc	21 55 10.9	-0.4
	0.1nm,0.4s,baz=82,slow=2.5,SNR=3.8						

BJI ***02*** *21:37:05.7, 1.10S×9990E, h25km, mB5.1, mb4.9*
NEIC ***02*** *21:37:07.8±0.4, 1.11S×9992E, h30km, mb4.8/12, Error ellipse: s-maj=14.4km s-min=7.1km az=58.0*
NEIC Felt [III] at Padang.
MOS ***02*** *21:37:09.9±0.9, 103S×9998E, h59km, mb5.0/16, Error ellipse: s-maj=14.2km s-min=7.1km az=99.6*
IDC ***02*** *21:37:10.1±3.5, 122S×9985E, h50km±30km, mb4.3/15, mb1 4.4/17, mb1mx4.2/23, mbtmp4.3/17, ML4.4/2, MS3.4/2, Ms1 3.5/2, ms1mx2.8/32, Error ellipse: s-maj=31.9km s-min=11.7km az=54.0*
ISCJB ***02*** *21:37:12.8±1.0, 1.10S±005×9995E±006, h89km±9km, mb4.7/40, Error ellipse: s-maj=10.9km s-min=6.5km az=148.1*
DJA ***02*** *21:37:16, 085S×9990E, h40km, ML5.0/6*
ISC 02 21:37:14.3±0.8, 113S±005×9993E±005, h86km±7km, n115, σ1§08/108, mb4.7/40, 12C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.03**	**346**	P	**Pn**	**21 38 09.9**	**-3.9**
	5.3nm,0.3s,baz=179,slow=2.6,SNR=27						
PSI				S	**Sn**	**21 39 06.6**	**+6.8**
	7.1nm,0.3s,baz=46,slow=22,SNR=2.4						
PSI				LR	LR	21 40 05.7	
	comp=Z,563nm,18.9s,baz=154,slow=44						
PSI	**Prapat**	**4.03**	**346⇑**	*e*P	**Pn**	**21 38 09.8**	**-4.0**
PSI	**Prapat**	**4.03**	**346**	P	**Pn**	**21 38 09.9**	**-3.9**
PSI				S	**Sn**	**21 39 06.6**	**+6.8**
PSI				LR	LR	21 40 05.7	
KGM	**Kluang**	**4.61**	**47**	⇑P	**Pn**	**21 38 21.5**	**-0.1**
FRIM	**Kepong**	**4.65**	**21**	⇓P	**Pn**	**21 38 21.3**	**-1.0**
MYKOM	**Kota Tinggi**	**4.87**	**54**	⇓P	**Pn**	**21 38 25.3**	**+0.1**
IPM	**Ipoh**	**5.67**	**11**	⇑P	**Pn**	**21 38 36.9**	**+0.7**
KULM	**Kulim**	**6.41**	**6**	⇓P	**Pn**	**21 38 45.9**	**-0.3**
KTGM	**Kuala Trenggan**	**7.16**	**26**	⇓P	**Pn**	**21 38 57.4**	**+0.9**
TPI	**Tanjungpandan**	**7.89**	**102⇑**	*e*P	**Pn**	**21 39 05.0**	**-1.3**
KSM	**Kuching**	**10.69**	**76**	⇑P	**Pn**	**21 39 44.4**	**-0.3**
COCO	**West Island**	**11.41**	**195**	P	**Pn**	**21 39 54.5**	**+0.1**
SBUM	**Sibu**	**12.79**	**74**	⇓P	**Pn**	**21 40 15.9**	**+2.9**
SDKM	**Sandakan**	**18.50**	**69**	⇓P	**Pn**	**21 41 27.8**	**+2.7**
TSM	**Tawau**	**18.72**	**73**	⇑P	**Pn**	**21 41 29.7**	**+2.0**
CM31	**Chiang Mai Arr**	**19.48**	**357**	*e*P	**Pn**	**21 41 30.5**	**-6.1**
CMAR	**Chiang Mai Arr**	**19.48**	**357**	P	**Pn**	**21 41 34.2**	**-2.4**
	1.4nm,0.3s,baz=186,slow=10.0,SNR=32						
CMAR				PcP	PcP	21 45 53.2	+0.8
	baz=212,slow=2.7,SNR=4.2						
CMAR				LR	LR	21 49 32.4	
	comp=Z,67nm,18.2s,baz=195,slow=38						
CMAR	**Chiang Mai Arr**	**19.48**	**357**	P	**Pn**	**21 41 34.2**	**-2.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,67nm,18.2s						
MYLDM	**Lahad Datu**	**19.58**	**71**	⇓P	**Pn**	**21 41 39.3**	**+1.5**
CHTO	**Chiang Mai**	**19.84**	**357**	*e*P	**Pn**	**21 41 37.9**	**-2.8**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**19.84**	**357**	*e*P	**Pn**	**21 41 37.9**	**-2.8**
	comp=Z,7.2nm,0.9s						
KAPI	**Kappang**	**20.16**	**101**	P	**P**	**21 41 41.7**	**-0.3**
	comp=Z,6.5nm,0.5s,baz=20,slow=7.2,SNR=3.8						
PALK	**Pallekele**	**20.92**	**294**	*e*P	**P**	**21 41 49.3**	**-0.9**
QIZ	**Qiongzhong**	**22.27**	**25**	*e*P	**P**	**21 42 04.2**	**-0.2**
	comp=Z,7.5nm,1.0s,mb4.0						
SHL	**Shillong**	**27.65**	**344**	*e*P	**P**	**21 42 56.0**	**+1.9**
ODAN	**Odare**	**30.33**	**337**	*e*P	**P**	**21 43 19.0**	**+1.1**
	comp=Z,45nm,0.5s,mb5.3						
FITZ	**Fitzroy Crossi**	**30.36**	**125**	P	**P**	**21 43 16.4**	**-1.9**
	comp=Z,1.4nm,0.5s,mb3.8,baz=133,slow=22,SNR=6.7						
TAPN	**Taplejung**	**30.66**	**338**	*e*P	**P**	**21 43 22.2**	**+1.5**
	comp=Z,51nm,0.8s,mb5.3						
RAMN	**Ramite**	**30.73**	**336**	*e*P	**P**	**21 43 22.6**	**+1.2**
	comp=Z,26nm,0.6s,mb5.1						
JIRN	**Jiri**	**31.52**	**336**	*e*P	**P**	**21 43 29.2**	**+0.8**
	comp=Z,52nm,0.7s,mb5.4						
LSA	**Lhasa**	**31.78**	**345**	P	**P**	**21 43 32.1**	**+1.5**
LSA	**Lhasa**	**31.78**	**345**	*e*P	**P**	**21 43 31.3**	**+0.7**
LSA						21 44 40.6	
LSA				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.8						
LSA	**Lhasa**	**31.78**	**345**	*e*P	**P**	**21 43 31.3**	**+0.7**
	comp=Z,6.0nm,0.3s,mb4.8						
LSA				PP	PP	21 44 40.6	-3.4
GUN	**Gumba**	**31.87**	**336**	*e*P	**P**	**21 43 32.0**	**+0.6**
	comp=Z,76nm,0.6s,mb5.6						
DMN	**Daman**	**31.93**	**335**	*e*P	**P**	**21 43 32.1**	**+0.2**
KKN	**Kakani**	**32.01**	**335**	*e*P	**P**	**21 43 33.1**	**+0.4**
	comp=Z,28nm,0.7s,mb5.1						
GKN	**Gorkha**	**32.47**	**334**	*e*P	**P**	**21 43 36.8**	**+0.1**
ENH	**Enshi**	**32.52**	**15**	P	**P**	**21 43 33.4**	**-3.7**
KOLN	**Koldanda**	**32.74**	**333**	*e*P	**P**	**21 43 39.4**	**+0.4**
	comp=Z,34nm,0.8s,mb5.2						
DANN	**Dangsing**	**33.16**	**333**	*e*P	**P**	**21 43 43.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**35.57**	**155**	*e*P	**P**	**21 44 04.9**	**+1.4**
NWAO				pmax	pmax		
	comp=Z,80nm,1.8s						
NWAO	**Narrogin (SRO)**	**35.57**	**155**	*e*P	**P**	**21 44 04.9**	**+1.4**
	comp=Z,80nm,1.8s,mb5.3						
WRA	**Warramunga Arr**	**38.50**	**121**	P	**P**	**21 44 27.1**	**-1.4**
	comp=Z,5.9nm,0.3s,mb4.9,baz=308,slow=9.4,SNR=145						
WRA				PcP	PcP	21 46 40.8	+0.8
	comp=Z,1.2nm,0.5s,baz=311,slow=2.6,SNR=8.1						

comp=Z,3.5nm,0.7s,mb4.2,baz=221,slow=8.1,SNR=11
KSRS Korea Array 46.31 31 P **P 21 45 31.7 +0.1**
KSRS pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
SONM Songino Array 49.09 6 P **P 21 45 53.3 +0.4**
comp=Z,5.7nm,0.7s,mb4.6,baz=187,slow=9.7,SNR=53
SONM PcP PcP 21 47 15.9 +0.6
comp=Z,1.1nm,0.6s,baz=190,slow=2.8,SNR=3.7
SONM Songino Array 49.09 6 P **P 21 45 53.3 +0.5**
SONM 21 47 15.9
SONM pmax pmax
comp=Z,6.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 49.78 132 *e*P **P 21 45 58.3 -0.2**
comp=Z,4.5nm,0.7s,mb4.5
STKA Stephens Creek 49.78 132 P **P 21 45 58.5 +0.1**
comp=Z,4.6nm,0.5s,mb4.7,baz=294,slow=8.2,SNR=16
MKAR Makanchi Array 50.17 344 P **P 21 46 00.8 -0.4**
comp=Z,7.5nm,0.3s,mb5.1,baz=157,slow=8.2,SNR=220
MKAR Makanchi Array 50.17 344 P **P 21 46 00.8 -0.3**
MKAR pmax pmax
comp=Z,8.0nm,0.3s
ZAK Zakamensk 51.39 3 *e*P **P 21 46 09.0 -1.2**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
HVS Khovu-Aksy 52.33 355 *i*P **P 21 46 16.6 -0.6**
HVS pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
KURK Kurchatov 54.75 344*c i*P **P 21 46 35.0 +0.1**
KURK pmax pmax
comp=Z,11nm,0.7s,mb5.0
KURK Kurchatov 54.75 344 *e*P **P 21 46 34.9 0.0**
comp=Z,11nm,0.8s,mb4.9
ZAL Zalesovo 56.29 349 P **P 21 46 46.0 +0.1**
ZAL pmax pmax
comp=Z,25nm,0.5s
ZAA0 Zalesovo Array 56.30 349 *e*P **P 21 46 45.8 -0.2**
ZALV Zalesovo Beam 56.30 349 P **P 21 46 46.0 0.0**
comp=Z,25nm,0.5s,mb5.5,baz=177,slow=7.4,SNR=162
NVS Novosibirsk 57.45 349⇑*i*P **P 21 46 53.3 -0.7**
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=E,4.0nm,0.7s
HABR Khabarovsk 58.02 27 *e*P **P 21 46 56.3 -1.9**
HABR *e* 21 49 05.7
HABR *e*S **S 21 54 56.2 +4.1**
HABR *e*SS SS 21 58 50.3 +5.5
TAU Tasmania Unive 59.30 141 *e*P **P 21 47 08.6 +1.4**
BVAR Borovoye Array 59.34 340 P **P 21 47 06.5 -0.7**
comp=E,5.6nm,0.5s,mb4.8,baz=141,slow=9.4,SNR=36
BVAR Borovoye Array 59.34 340 P **P 21 47 06.5 -0.8**
BVAR pmax pmax
comp=Z,6.0nm,0.5s
BRVK Borovoye 59.41 340 *e*P **P 21 47 06.7 -1.0**
BRVK pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
BRVK Borovoye 59.41 340 *e*P **P 21 47 06.7 -1.0**
comp=Z,4.3nm,0.5s,mb4.7
BOD Bodaibo 59.83 9 *e*P **P 21 47 08.7 -1.8**
BOD pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
YSS Yuzh-Sakhalins 60.78 32 *e*P **P 21 47 17.8 +0.6**
SVE Sverdlovsk 65.85 338 *e*P **P 21 47 50.6 +0.1**
SVE pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
ARU Arti 66.38 336*c i*P **P 21 47 53.2 -0.7**
ARU *e* 21 48 21.0
ARU *e* 21 50 16.5
ARU *e*S S 21 56 41.2 +4.2
ARU *e*SS SS 22 01 02.5 +7.3
ARU pmax pmax
comp=Z,11nm,1.7s,mb4.4
ARU Arti 66.38 336 *e*P **P 21 47 52.3 -1.6**
comp=Z,3.9nm,0.5s,mb4.5
KIV Kislovodsk 67.84 319 P **P 21 48 01.0 -2.4**
MALT Malatya 68.70 312 *e*P **P 21 48 07.3 -1.6**
PETK Petropavlovsk- 72.19 32 P **P 21 48 29.5 -0.3**
comp=Z,0.9nm,0.6s,mb3.8,baz=180,slow=3.0,SNR=3.8
PETK Petropavlovsk- 72.19 32 P **P 21 48 29.5 -0.3**
PETK pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
SEY Seymchan 74.85 22⇑*e*P **P 21 48 45.6 +0.4**
BOSA Boshof 76.02 241 P **P 21 48 53.9 +1.2**
OBN Obninsk 76.02 328⇓*e*P **P 21 48 51.5 -0.6**
OBN *e*S S 21 58 33.9 +5.5
OBN pmax pmax
comp=Z,17nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 76.02 328 *e*P **P 21 48 50.9 -1.2**
AKASG Malin Array Be 78.75 322 P **P 21 49 07.0 -0.4**
comp=Z,0.4nm,0.4s,mb3.6,baz=86,slow=5.2,SNR=5.2
VRI Vrincioaia 79.17 317⇓*i*P **P 21 49 10.4 +0.6**
MLR Muntele Rosu 79.62 317⇑*i*P **P 21 49 13.2 +0.9**
BURAR Bucovina Array 80.56 319⇓*i*P **P 21 49 18.2 +0.9**
VTS Vitosha 81.00 313⇑*i*P **P 21 49 19.6 -0.2**
JOF Joensuu 81.40 334 *e*p **P 21 49 21.5 +0.1**
comp=Z,3.6nm,0.6s,mb4.4
VNDA Vanda 83.03 169 *e*P **P 21 49 30.6 +0.9**
VNDA pmax pmax
comp=Z,1.0nm,0.6s
VNDA Vanda 83.03 169 *e*P **P 21 49 30.6 +0.9**
comp=Z,0.8nm,0.6s,mb3.7
KAF Kangasniemi 83.38 333 *e*p **P 21 49 31.9 +0.1**
comp=Z,9.9nm,0.5s,mb4.9
KAF Kangasniemi 83.38 333 *e*P **P 21 49 31.9 +0.1**
KAF pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
SBA Scott Base 84.12 169 P **P 21 49 36.6 +1.3**
ARCES ARCESS Array B 85.63 340 P **P 21 49 43.4 +0.4**
comp=Z,2.4nm,0.5s,mb4.4,baz=101,slow=5.2,SNR=54
ARCES ARCESS Array B 85.63 340 P **P 21 49 43.4 +0.4**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
GERES GERESS Array B 88.35 319 P **P 21 49 57.2 +0.6**
comp=Z,0.7nm,0.7s,mb3.8,baz=88,slow=4.4,SNR=7.2
GERES GERESS Array B 88.35 319 P **P 21 49 57.2 +0.6**
GERES pmax pmax
comp=Z,1.0nm,0.7s
CLL Collm 88.94 321 *e*P **P 21 49 59.0 -0.3**
comp=Z,4.0nm,1.0s,mb4.4
KEST Kesra 91.12 306 P **P 21 50 10.2 +0.3**
comp=Z,1.6nm,0.9s,mb4.2,baz=28,slow=1.6,SNR=6.1
TXAR Lajitas Array 144.05 37 PKP PKPdf 21 56 40.0 -0.7
comp=Z,3.5nm,0.6s,baz=244,slow=1.1,SNR=50
TXAR Lajitas Array 144.05 37 PKIKP PKPdf 21 56 40.0 -0.7
TXAR pmax pmax
comp=Z,4.0nm,0.6s
TXAR Lajitas Array 144.05 37 PKP PKPdf 21 56 40.0 -0.7
MIAR Mount Ida 144.44 19 *e*PKIKP PKPdf 21 56 40.3 -0.9
JCT Junction City 145.31 31 *e*PKIKP PKPdf 21 56 42.2 -0.7
TKL Tuckaleechee C 145.47 5 PKPbc PKPbc 21 56 42.9 -0.2
comp=Z,5.9nm,0.6s,baz=141,slow=3.7,SNR=11
TKL Tuckaleechee C 145.47 5 PKIKP PKPdf 21 56 42.9 -0.1
TKL pmax pmax
comp=Z,6.0nm,0.6s
PLAL Pickwick Lake 145.50 12 *e*PKP PKPdf 21 56 42.8 -0.3
CPCT Cooper Cave 145.60 6 *e*PKP PKPdf 21 56 43.3 +0.1
SWET Sewanee 145.65 9 *e*PKPdf PKPdf 21 56 42.5 -0.8

IDC 02 21:47:25.2±6.1,**3622S**×**17802E**,**h186**km±37km,**mb3.3**/2, **mb1 3.6**/3,**mb1mx3.3**/15,**mbtmp3.4**/3,**Error ellipse: s-maj=86.0km s-min=32.7km az=44.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**2.16**	**199**	P	Pn	21 48 05.2	+0.9
	48nm,0.3s,baz=26,slow=3.3,SNR=295						
URZ				S	Sn	21 48 35.1	+0.2
	39nm,0.3s,baz=287,slow=21,SNR=9.3						
ASAR	**Alice Springs**	**39.90**	**276**	P	P	21 54 41.4	+0.2
	1.0nm,0.6s,baz=117,slow=8.5,SNR=13						
WRA	**Warramunga Arr**	**41.44**	**281**	P	P	21 54 53.5	-0.3
	0.9nm,0.5s,baz=120,slow=7.6,SNR=18						
TORD	**Torodi Ar. Bea**	**156.79**	**189**	PKPab	PKPab	22 07 28.5	-0.5
	0.3nm,0.5s,baz=159,slow=3.6,SNR=6.7						

DJA ***02*** *21:50:31, 151N×9862E, h50km, ML3.8/2*
IDC 02 21:50:28.9±5.6,**149N**×**9824E**,**h62**km±44km,**mb3.4**/6, **mb1 3.5**/6,**mb1mx3.3**/19,**mbtmp3.4**/6,**2D**,**Error ellipse: s-maj=55.3km s-min=18.6km az=62.0**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.48**	**28**	P	Pn	21 50 52.0	-1.3
	21nm,0.3s,baz=193,slow=8.2,SNR=74						
PSI				S	Sn	21 51 09.7	-2.1
	15nm,0.3s,baz=266,slow=23,SNR=24						
PSI	**Prapat**	**1.48**	**28**⇓	*e*P	Pn	21 50 52.5	-0.9
BSI	**Banda Aceh**	**4.95**	**324**⇓	*e*P	Pn	21 51 35.0	-5.8
BSI				*e*S	Sn	21 52 28.5	-8.2
WRA	**Warramunga Arr**	**41.31**	**123**	P	P	21 58 08.6	-0.1
	0.7nm,0.5s,baz=303,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**42.74**	**128**	P	P	21 58 20.4	0.0
	0.2nm,0.4s,baz=300,slow=7.3,SNR=4.1						
SONM	**Songino Array**	**46.71**	**8**	P	P	21 58 52.0	+0.5
	0.2nm,0.4s,baz=198,slow=9.0,SNR=4.0						
MKAR	**Makanchi Array**	**47.23**	**345**	P	P	21 58 56.0	+0.4
	0.6nm,0.5s,baz=156,slow=8.5,SNR=16						
ZALV	**Zalesovo Beam**	**53.45**	**350**	P	P	21 59 41.8	-0.7
	0.9nm,0.4s,baz=169,slow=8.2,SNR=3.6						
ARCES	**ARCESS Array B**	**82.62**	**340**	P	P	22 02 44.7	-0.3
	1.5nm,0.9s,baz=92,slow=5.4,SNR=5.3						

ATH ***02*** *22:00:51.6, 4059N×2390E, h65km±9km*
NEIC ***02*** *22:00:52.2, 4058N×2392E, h55km, MD3.0(ATH), After ATH.*
ISCJB ***02*** *22:00:53.7±0.5, 4056N±003×2408E±004, h22km±6km, Error ellipse: s-maj=5.1km s-min=4.5km az=42.5*
THE ***02*** *22:00:53.8, 4056N×2406E, h17km, ML2.4*
CSEM ***02*** *22:00:53.9±0.1, 4055N×2407E, h20km, ML2.4, Error ellipse: s-maj=2.4km s-min=1.8km az=22.0*
ISC 02 22:00:53.3±0.5,**4057N**±003×**2408E**±004,**h18**km±5km,**n15**, σ0**66**/30,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.25**	**198**	*e*Pg	**Pg**	**22 00 59.1**	**+0.1**
OUR				*e*Sg	**Sg**	**22 01 03.0**	**+0.2**
PLG	**Polygyros**	**0.52**	**248**	*e*Pg	**Pg**	**22 01 03.8**	**0.0**
PLG				*e*Sg	**Sg**	**22 01 11.2**	**+0.4**
PLG	**Polygyros**	**0.52**	**248**	*e*P	**Pg**	**22 01 03.9**	**+0.1**
PLG				*e*S	**Sg**	**22 01 11.6**	**+0.8**
PLG	**Polygyros**	**0.52**	**248**	*e*P	**Pg**	**22 01 03.9**	**+0.1**
PLG				*e*S	**Sg**	**22 01 10.6**	**-0.2**
SOH	**Sokhos**	**0.61**	**295**	*e*Pg	**Pg**	**22 01 05.1**	**-0.2**
SOH				*e*Sg	**Sg**	**22 01 14.7**	**+1.2**
PAIG	**Paliouri**	**0.71**	**206**	*e*Pg	**Pg**	**22 01 07.2**	**-0.1**
PAIG				*e*Sg	**Sg**	**22 01 17.4**	**+0.6**
HORT	**Hortiatis**	**0.75**	**272**	*e*Pg	**Pg**	**22 01 07.6**	**-0.3**
HORT				*e*Sg	**Sg**	**22 01 18.2**	**+0.3**
NVR	**Nevrokopi**	**0.80**	**348**	*e*P	**Pb**	**22 01 07.6**	**-1.0**
NVR				*e*S	**Sb**	**22 01 18.9**	**-0.1**
LOS	**Limnos**	**0.99**	**129**	*e*Pg	**Pg**	**22 01 11.1**	**-1.5**
LOS				*e*Sg	**Sg**	**22 01 25.6**	**-0.1**
KNT	**Kendrikon**	**1.07**	**304**	*e*Pg	**Pg**	**22 01 13.5**	**-0.6**
KNT				*e*Sg	**Sg**	**22 01 27.8**	**-0.4**
LIA	**Limnos Island**	**1.08**	**128**	*e*Pg	**Pn**	**22 01 12.9**	**-0.6**
LIA				*e*Sg	**Sn**	**22 01 28.5**	**+0.6**
LIA	**Limnos Island**	**1.08**	**128**	*e*P	**Pn**	**22 01 13.0**	**-0.5**
LIA				S	**Sn**	**22 01 28.5**	**+0.6**
RDO	**Rodhopi**	**1.25**	**62**	*e*P	**Pn**	**22 01 15.8**	**0.0**
RDO				*e*S	**Sb**	**22 01 33.4**	**+1.4**
RDO	**Rodhopi**	**1.25**	**62**	*e*P	**Pn**	**22 01 16.8**	**+1.0**
RDO				*e*S	**Sb**	**22 01 33.4**	**+1.4**
XOR	**Xorichti**	**1.38**	**210**	*e*Pg	**Pn**	**22 01 17.9**	**+0.2**
XOR				*e*Sg	**Sn**	**22 01 34.9**	**-0.6**

NIED ***02*** *22:02:00, 2730N×12670E, h5km, Mw4.0 Best double couple: M0 1.20000×10^15 NP1:φ0=46.00000°, δ66.00000°, λ-106.00000°. NP2:φ0=260.00000°, δ29.00000°, λ-59.00000°.*
JMA ***02*** *22:02:11.9±0.4, 2731N×12668E, h12km±4km, M3.8*
ISCJB ***02*** *22:02:12.6±0.5, 2730N±004×12673E±005, h10km, mb4.0/9, MS3.2/4, Error ellipse: s-maj=7.3km s-min=4.4km az=135.4*
IDC ***02*** *22:02:13.3±1.1, 2781N×12732E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, MS3.2/5, Ms1 3.3/5, ms1mx2.9/42, Error ellipse: s-maj=70.2km s-min=14.3km az=55.0*
NEIC ***02*** *22:02:14.6±0.5, 2779N×12725E, h10km, mb4.2/4, Error ellipse: s-maj=10.5km s-min=8.7km az=57.0*
ISC 02 22:02:13.2±1.1,**2727N**±005×**12677E**±005,**h7**km±7km,**n26**, σ0**68**/30,**mb4.0**/9,**MS3.2**/4,**Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.80**	**148**	P	**Pg**	**22 02 28.4**	**-0.1**
JAGN				*e*S	**Sg**	**22 02 39.9**	**+0.9**
JKE	**Kume jima 2**	**0.94**	**179**	P	**Pg**	**22 02 30.3**	**-0.9**
JKE				*e*S	**Sg**	**22 02 43.8**	**+0.3**
JIH	**Iheya**	**1.09**	**102**	P	**Pg**	**22 02 33.8**	**-0.4**
JIH				S	**Sg**	**22 02 48.7**	**+0.3**
NAH1	**Naha**	**1.34**	**142**	P	**Pn**	**22 02 37.1**	**-1.2**
NAH1				*e*S	**Sb**	**22 02 56.4**	**+0.3**
JOW	**Kunigami**	**1.41**	**108**	P	**Pn**	**22 02 38.2**	**-1.1**
JOW				*e*S	**Sb**	**22 02 58.3**	**+0.3**
JOW	**Kunigami**	**1.41**	**108**	Pn	**Pn**	**22 02 38.2**	**-1.1**
	73nm,0.3s,baz=285,slow=8.6,SNR=174						
JOW				Sn	**Sn**	**22 02 57.2**	**-0.9**
	125nm,0.3s,baz=157,slow=28,SNR=34						
JJT2	**Tamagusuku 2**	**1.43**	**142**	P	**Pn**	**22 02 38.9**	**-0.6**
JJT2				*e*S	**Sn**	**22 02 59.4**	**+0.9**
JTK	**Tokunoshima**	**2.00**	**75**	P	**Pn**	**22 02 48.4**	**+1.0**
TATO	**Taipei**	**5.27**	**245**	Pn	**Pn**	**22 03 40.2**	**+7.9**
KSRS	**Korea Array**	**10.20**	**5**	LR	LR	22 08 55.0	
	comp=Z,88nm,18.1s,baz=167,slow=42						
MAJO	**Matsushiro**	**13.40**	**44**	*e*Pn	**Pn**	**22 05 14.5**	**-9.2**
QIZ	**Qiongzhong**	**17.58**	**246**	Pn	**Pn**	**22 06 26.4**	**+7.7**
GUMO	**Guam**	**21.71**	**125**	LR	LR	22 14 09.0	
	comp=Z,21nm,19.8s,MS2.5,baz=128,slow=33						
SONM	**Songino Array**	**25.98**	**328**	P	**P**	**22 07 47.3**	**+1.0**
	3.6nm,1.0s,mb3.9,baz=141,slow=10.0,SNR=14						
SONM				LR	LR	22 19 10.1	
	comp=Z,74nm,18.1s,MS3.3,baz=173,slow=39						
CM31	**Chiang Mai Arr**	**27.05**	**257**	P	**P**	**22 08 01.9**	**+5.6**
LSA	**Lhasa**	**31.33**	**283**	*e*P	**P**	**22 08 39.3**	**+5.1**
	1.0nm,0.5s,mb3.9						
MKAR	**Makanchi Array**	**39.87**	**311**	P	**P**	**22 09 47.4**	**0.0**
	1.3nm,0.5s,mb3.9,baz=100,slow=10,SNR=22						
ZAA0	**Zalesovo Array**	**40.63**	**323**	*e*P	**P**	**22 09 53.4**	**-0.2**
ZALV	**Zalesovo Beam**	**40.63**	**323**	P	**P**	**22 09 53.7**	**+0.1**
	2.0nm,0.5s,mb4.0,baz=115,slow=10.0,SNR=9.3						
ZALV				LR	LR	22 27 11.1	
	comp=Z,22nm,19.2s,MS3.0,baz=205,slow=37						
KURK	**Kurchatov**	**43.17**	**316**	*e*P	**P**	**22 10 14.6**	**+0.2**
	1.5nm,0.6s,mb3.9						
WRAB	**Tennant Creek**	**47.49**	**170**	*e*P	**P**	**22 10 54.2**	**+5.2**
	6.6nm,1.3s,mb4.4						
WRA	**Warramunga Arr**	**47.50**	**170**	P	**P**	**22 10 53.8**	**+4.8**
	0.9nm,0.8s,mb3.9,baz=352,slow=8.4,SNR=7.6						
WB2	**Warramunga Arr**	**47.51**	**170**	P	**P**	**22 10 53.5**	**+4.4**
BRVK	**Borovoye**	**48.70**	**318**	*e*P	**P**	**22 10 58.1**	**+0.1**
	3.2nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**51.11**	**172**	P	**P**	**22 11 22.2**	**+5.7**
	0.5nm,0.5s,mb3.7,baz=360,slow=14,SNR=8.4						
ESDC	**Sonseca Array**	**99.12**	**324**	LR	LR	23 05 30.6	
	comp=Z,54nm,18.6s,MS4.1,baz=135,slow=38						

NEIC ***02*** *22:03:58.0, 4055N×2425E, h35km, MD2.7(ATH), ML2.0(THE), After ATH.*
ATH ***02*** *22:03:58.1, 4056N×2427E, h32km, MD2.7/4*
ISCJB ***02*** *22:03:59.6±0.8, 4055N±005×2425E±006, h29km±6km, Error ellipse: s-maj=8.6km s-min=8.2km az=11.4*
CSEM ***02*** *22:03:59.6±0.2, 4050N×2431E, h30km, ML2.0, Error ellipse: s-maj=7.1km s-min=4.9km az=2.0*
THE ***02*** *22:04:03.2, 4051N×2403E, h16km, ML2.0*
ISC 02 22:03:59.7±0.8,**4055N**±005×**2424E**±006,**h30**km±6km,**n13**, σ1**14**/21,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.29**	**223**	*e*Pg	**Pb**	**22 04 07.6**	**+0.6**
OUR				*e*Sg	**Sb**	**22 04 11.0**	**-0.9**
PLG	**Polygyros**	**0.63**	**254**	*e*Pg	**Pb**	**22 04 12.2**	**0.0**
PLG				*e*Sg	**Sb**	**22 04 19.9**	**-0.8**
PLG	**Polygyros**	**0.63**	**254**	*e*PN	**Pn**	**22 04 11.5**	**-1.0**
PLG	**Polygyros**	**0.63**	**254**	*e*Pn	**Pn**	**22 04 12.0**	**-0.5**
PLG				*e*Sn	**Sn**	**22 04 19.9**	**-1.6**
SOH	**Sokhos**	**0.73**	**293**	*e*Pg	**Pb**	**22 04 14.7**	**+0.8**
SOH				*e*Sg	**Sb**	**22 04 24.3**	**+0.8**
SOH	**Sokhos**	**0.73**	**293**	*e*Pg	**Pb**	**22 04 14.6**	**+0.7**
SOH				*e*Sg	**Sb**	**22 04 24.3**	**+0.8**
PAIG	**Paliouri**	**0.75**	**215**	*e*Pg	**Pn**	**22 04 15.9**	**+1.6**
PAIG				*e*Sg	**Sb**	**22 04 25.1**	**+0.9**
PAIG	**Paliouri**	**0.75**	**215**	*e*Pg	**Pn**	**22 04 15.9**	**+1.7**
PAIG				*e*Sg	**Sb**	**22 04 25.0**	**+0.9**
NVR	**Nevrokopi**	**0.85**	**341**	*e*PB	**Pb**	**22 04 14.1**	**-1.9**
HORT	**Hortiatis**	**0.87**	**274**	*e*Pg	**Pn**	**22 04 17.2**	**+1.3**
HORT				*e*Sg	**Sn**	**22 04 26.6**	**-0.9**
LIA	**Limnos Island**	**0.97**	**131**	*e*PN	**Pn**	**22 04 16.1**	**-1.2**
RDO	**Rodhopi**	**1.16**	**58**	*e*PN	**Pn**	**22 04 19.9**	**+0.1**
KNT	**Kendrikon**	**1.19**	**302**	*e*Pg	**Pn**	**22 04 22.4**	**+2.1**

ISCJB ***02*** *22:11:33.3±0.6, 3829N±002×22.11E±003, h11km±4km, Error ellipse: s-maj=4.3km s-min=3.9km az=142.4*
NEIC ***02*** *22:11:33.5, 3828N×2209E, h23km, MD3.0(ATH), ML2.7(THE), After ATH.*
ATH ***02*** *22:11:33.5, 3828N×2209E, h23km±6km, MD3.0/4*
THE ***02*** *22:11:34.2, 3831N×2209E, h0km, ML2.7*
CSEM ***02*** *22:11:34.4±0.2, 3830N×2208E, h12km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.7km az=162.0*
ISC 02 22:11:34.3±0.6,**3830N**±003×**2210E**±003,**h20**km±4km,**n16**, σ1**13**/32,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.55**	**245**	*e*PN	**Pb**	**22 11 44.7**	**-0.6**
RLS				*e*SN	**Sb**	**22 11 52.4**	**-0.4**
EVR	**Evrytania**	**0.66**	**340**	*e*PN	**Pb**	**22 11 46.4**	**-0.8**
EVR				*e*SN	**Sb**	**22 11 56.8**	**+0.9**
LTK	**Loutraki**	**0.73**	**111**	*e*Pg	**Pn**	**22 11 48.3**	**-1.2**
LTK				*e*Sg	**Sn**	**22 12 00.1**	**0.0**
AGG	**Agios Georgios**	**0.75**	**14**	*e*Pg	**Pn**	**22 11 47.3**	**-2.4**
AGG				*e*Sg	**Sn**	**22 11 59.1**	**-1.3**
LKR	**Lokris**	**0.79**	**63**	*e*Pg	**Pn**	**22 11 48.5**	**-1.8**
LKR				*e*Sg	**Sn**	**22 12 01.4**	**-0.1**
LKR	**Lokris**	**0.79**	**63**	*e*PB	**Pn**	**22 11 48.7**	**-1.6**
LKR				*e*SN	**Sb**	**22 12 00.8**	**+1.2**
LKR	**Lokris**	**0.79**	**63**	*e*Pb	**Pn**	**22 11 48.7**	**-1.6**
LKR				*e*Sn	**Sb**	**22 12 00.8**	**+1.2**
LKR				*e*Sg	**Sn**	**22 12 01.4**	**-0.1**
VLX	**Vlachokerasia**	**0.95**	**167**	*e*Pg	**Pn**	**22 11 51.5**	**-1.0**
VLX				*e*Sg	**Sn**	**22 12 06.7**	**+1.3**
KFL	**Anninata**	**1.05**	**260**	*e*Pg	**Pn**	**22 11 54.0**	**+0.1**
KFL				*e*Sg	**Sn**	**22 12 09.4**	**+1.5**
ITM	**Ithomi**	**1.12**	**187**	*e*PN	**Pn**	**22 11 54.8**	**-0.1**
DID	**Didima**	**1.19**	**131**	*e*Pg	**Pg**	**22 11 57.4**	**0.0**
DID				*e*Sg	**Sg**	**22 12 14.8**	**+1.7**
VLS	**Valsamata**	**1.20**	**265**	*e*Pg	**Pg**	**22 11 55.6**	**-1.9**
VLS				*e*Sg	**Sg**	**22 12 14.4**	**+1.2**
VLS	**Valsamata**	**1.20**	**265**	*e*Pn	**Pn**	**22 11 55.7**	**-0.2**
VLS				S	**Sg**	**22 12 14.4**	**+1.2**
THL	**Klokotos Trika**	**1.27**	**357**	*e*Pg	**Pg**	**22 11 58.0**	**-0.9**
THL				*e*Sg	**Sg**	**22 12 16.4**	**+1.0**
THL	**Klokotos Trika**	**1.27**	**357**	*e*PN	**Pn**	**22 11 58.0**	**+1.1**
THL				*e*SN	**Sn**	**22 12 16.2**	**+2.8**
XOR	**Xorichti**	**1.37**	**38**	*e*Pg	**Pg**	**22 12 00.3**	**-0.4**
XOR				*e*Sg	**Sg**	**22 12 19.1**	**+0.5**

ISCJB ***02*** *22:12:15.8±0.2, 2353S±003×6894W±004, h87km, mb4.6/52, Error ellipse: s-maj=5.0km s-min=4.4km az=151.7*
GUC ***02*** *22:12:16.1±0.8, 2354S×69.12W, h90km, ML4.9*
NEIC ***02*** *22:12:16.1, 2354S×69.12W, h90km, mb4.7/40, After GUC.*
NEIC Felt [IV] at Sierra Gorda, [III] at Maria Elena and [II] at Antofagasta and Mejillones.
IDC ***02*** *22:12:17.7±0.3, 2341S×6899W, h89km±2km, mb4.3/14, mb1 4.5/17, mb1mx4.4/20, mbtmp4.3/17, MS3.8/7, Ms1 3.7/7, ms1mx3.4/26, Error ellipse: s-maj=14.2km s-min=8.4km az=84.0*
BJI ***02*** *22:12:19.6, 2435S×6899W, h90km, mB4.9, Ms4.9, Msz4.8*
LDG ***02*** *22:12:19.0±0.4, 2250S×6927W, h88km, Mb5.2/3, Ms3.8/7, Error ellipse: s-maj=40.4km s-min=14.6km az=163.0*
ISC 02 22:12:17.6±0.2,**2356S**±003×**6893W**±004,**h89**km, **h89**km±.4km:**pP-P**,**n444**, σ0**72**/414,**mb4.6**/52,**113C-125D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.94**	**1**	P	**Pn**	**22 12 35.6**	**-1.0**
	889nm,0.3s,baz=199,slow=8.0,SNR=6660						
LVC				S	**Sn**	**22 12 49.8**	**-1.0**
	9μm,0.3s,baz=316,slow=22,SNR=181						
LVC	**Limon Verde**	**0.94**	**1**	*e*P	**Pn**	**22 12 35.9**	**-0.7**
LVC				*e*S	**Sn**	**22 12 50.2**	**-0.6**
CEN1	**Los Morros**	**1.18**	**278**⇓	*i*P	**Pn**	**22 12 37.9**	**-1.4**
CEN1				*i* S	**Sn**	**22 12 53.8**	**-2.0**
CEN1				AML	AML	22 12 54.9	
	comp=N,45μm,0.6s						
ANCH	**Antofagasta**	**1.37**	**265**⇑	*i*P	**Pn**	**22 12 38.9**	**-2.7**
ANCH				*i* S	**Sn**	**22 12 55.0**	**-4.7**
CPN1	**Cerro Paranal**	**1.72**	**232**⇓	*i*P	**Pn**	**22 12 44.1**	**-2.0**
CPN1				*i* S	**Sn**	**22 13 05.4**	**-2.3**
CPN1				AML	AML	22 13 09.4	
	comp=E,14μm,0.9s						
LCO	**Las Campanas**	**5.66**	**196**	*e*Pn	**Pn**	**22 13 35.8**	**-3.3**
	comp=E,288nm,0.6s						
LCO				*e*Sn	**Sn**	**22 14 39.4**	**-3.3**
LPAZ	**La Paz**	**7.27**	**6**	P	**Pn**	**22 14 00.3**	**-0.9**
	comp=E,3.0nm,0.3s,baz=178,slow=7.8,SNR=107						
LPAZ	**La Paz**	**7.27**	**6**	P	**Pn**	**22 14 00.3**	**-0.9**
ARE	**Arequipa**	**7.46**	**341**	*e*P	**Pn**	**22 13 58.0**	**-5.8**
ARE				*e*S	**Sn**	**22 15 42.0**	**+15**
CFAA	**Coronel Fontan**	**8.04**	**176**	P	**Pn**	**22 14 10.3**	**-1.2**
	comp=E,1.1nm,0.3s,baz=353,slow=13,SNR=112						
CFAA				LR	LR	22 17 38.1	
	comp=E,51nm,21.0s,baz=345,slow=39						
SIV	**San Ignacio**	**10.55**	**46**	P	**Pn**	**22 14 43.3**	**-2.5**
	comp=E,21nm,0.3s,baz=251,slow=12,SNR=214						
NNA	**Nana**	**13.75**	**325**	*e*Pn	**Pn**	**22 15 29.3**	**+0.6**
NNA				*e*Sn	**Sn**	**22 17 54.7**	**-5.4**
TRQA	**Tornquist**	**15.62**	**159**	*e*Pn	**Pn**	**22 15 52.1**	**-0.5**
	comp=E,47nm,1.0s						
TRQA				*e*S	**S**	**22 18 53.5**	**-1.2

SNAA e 22 22 18.9
SNAA e 22 22 22.4
SNAA e 22 22 50.0
SNAA Sanae 60.35 161 P **P 22 22 17.6 +0.9**
comp=E,7.6nm,0.9s,mb4.7,baz=292,slow=5.7,SNR=60
SNAA pP pP 22 22 40.8 +1.7
comp=E,2.9nm,0.9s,baz=288,slow=8.0,SNR=4.1
SNAA sP sP 22 22 49.8 +0.8
comp=E,3.4nm,0.8s,baz=282,slow=8.8,SNR=4.6
CPCT Cooper Cave 60.52 345 eP **P 22 22 17.3 -1.0**
TKL Tuckaleechee C 60.55 346 eP **P 22 22 14.5 -3.9**
SWET Sewanee 60.64 344 eP **P 22 22 17.0 -2.0**
SWET epP pP 22 22 39.9 -1.7
OXF Oxford 60.94 341 eP **P 22 22 18.8 -2.3**
comp=E,26nm,1.0s,mb5.2
PLAL Pickwick Lake 60.99 342 eP **P 22 22 19.5 -2.0**
JCT Junction City 61.36 330 eP **P 22 22 23.2 -0.9**
TXAR Lajitas Array 62.31 326 P **P 22 22 29.5 -0.9**
comp=E,2.8nm,0.8s,mb4.4,baz=147,slow=8.4,SNR=33
TXAR sP sP 22 23 01.6 -1.3
comp=E,2.2nm,0.9s,baz=150,slow=7.7,SNR=4.7
TXAR Lajitas Array 62.31 326 P **P 22 22 29.5 -0.9**
TXAR sP sP 22 23 01.6 -1.3
MIAR Mount Ida 62.35 337 eP **P 22 22 29.2 -1.4**
comp=E,12nm,1.1s,mb4.9
MIAR epP pP 22 22 51.6 -1.6
WCI Wyandotte Cave 63.59 345 eP **P 22 22 36.4 -2.3**
FVM French Village 64.47 341 eP **P 22 22 42.9 -1.6**
FVM epP pP 22 23 04.4 -2.8
WMOK Wichita Mounta 64.53 333 eP **P 22 22 42.7 -2.3**
comp=E,4.1nm,1.2s,mb4.1
CCM Cathedral Cave 64.78 341 eP **P 22 22 45.0 -1.5**
comp=E,11nm,0.9s,mb4.7
ACSO Alum Creek Sta 64.80 348 eP **P 22 22 46.1 -0.5**
GDL2 Guadalupe Moun 64.97 327 eP **P 22 22 47.5 -0.4**
GDL2 epP pP 22 23 10.5 -0.2
BINY Binghamton 65.75 354 eP **P 22 22 50.1 -2.6**
comp=E,8.5nm,1.0s,mb4.5
QSPA South Pole Qui 66.64 180 LR LR 22 50 04.1
comp=E,70nm,19.6s,baz=221,slow=34
319A Douglas 66.91 323 ⇓P **P 22 23 00.5 +0.1**
baz=66
318A Bisbee 67.35 323 ⇓P **P 22 23 03.5 +0.3**
baz=67,SNR=12
219A White Tail Can 67.37 323 P **P 22 23 03.5 +0.3**
baz=67,SNR=7.8
BNM Barren Site 67.67 327 eP **P 22 23 04.8 -0.2**
218A Dragoon 67.79 323 ⇑P **P 22 23 06.1 +0.2**
baz=67
LPM Los Pinos Moun 67.80 327 eP **P 22 23 06.4 +0.5**
LPM epP pP 22 23 28.9 +0.1
119A Ashpeak Ranch, 67.98 324 ⇑P **P 22 23 07.4 +0.3**
baz=67
217A Green Valley 68.07 322 P **P 22 23 08.0 +0.4**
baz=68,SNR=15
LAZ Ladron 68.12 327 eP **P 22 23 07.2 -0.8**
ANMO Albuquerque 68.22 327 eP **P 22 23 08.7 +0.2**
comp=E,9.4nm,0.8s,mb4.7
ANMO epP pP 22 23 31.7 +0.3
118A Homack Ranch, 68.25 323 ⇓P **P 22 23 09.0 +0.2**
baz=68,SNR=11
Z19A T-Link Ranch, 68.36 324 ⇓P **P 22 23 10.1 +0.6**
baz=68
CBKS Cedar Bluff 68.43 335 eP **P 22 23 09.5 -0.2**
CBKS epP pP 22 23 32.2 -0.5
TUC Tucson 68.45 323 eP **P 22 23 10.2 +0.1**
comp=E,12nm,1.1s,mb4.6
216A Three Points, 68.60 322 ⇓P **P 22 23 11.2 +0.2**
baz=68,SNR=5.6
117A Oracle 68.62 323 P **P 22 23 11.4 +0.3**
baz=68,SNR=14
Z18A Geronimo 68.62 324 ⇓P **P 22 23 11.4 +0.3**
baz=68
Y19A Nutrioso 68.87 325 ⇑P **P 22 23 13.5 +0.9**
baz=68,SNR=18
SCIA State Center 68.91 341 eP **P 22 23 11.3 -1.4**
LIC Lamto 68.99 73 eP **P 22 23 13.7 -0.1**
comp=E,109nm,1.8s,mb5.4
JFWS Jewell Farm 69.00 343 eP **P 22 23 11.7 -1.5**
comp=E,14nm,0.8s,mb4.8
Z17A San Carlos Hig 69.02 323 ⇓P **P 22 23 14.0 +0.4**
baz=68
Y18A Canyon Day Jun 69.15 324 ⇑P **P 22 23 14.7 +0.4**
baz=68
116A Eloy 69.15 322 ⇓P **P 22 23 14.6 +0.2**
baz=69
TIC Toumodi 69.19 73 eP **P 22 23 15.1 0.0**
comp=E,177nm,1.4s,mb5.7
X19A St. Johns 69.25 325 ⇓P **P 22 23 15.2 +0.2**
baz=69
KIC Kosan Boka 69.30 73 eP **P 22 23 15.4 -0.4**
comp=E,86nm,0.9s,mb5.6
214A Organ Pipe Nat 69.34 321 P **P 22 23 16.1 +0.5**
baz=69,SNR=8.9
DBIC Dimbokro 69.35 73 P **P 22 23 16.4 +0.3**
comp=E,15nm,0.8s,mb4.9,baz=218,slow=7.2,SNR=14
DBIC sP sP 22 23 49.6 +0.9
comp=E,17nm,0.8s,baz=192,slow=6.9,SNR=5.1
Y17A Roosevelt 69.53 324 P **P 22 23 17.2 +0.6**
baz=69,SNR=15
X18A Snowflake 69.68 325 ⇑P **P 22 23 18.1 +0.5**
baz=69
X17A Forest Lakes 69.99 324 ⇓P **P 22 23 20.4 +0.9**
baz=69,SNR=6.2
SDCO Great Sand Dun 70.01 330 eP **P 22 23 19.7 +0.1**
comp=E,15nm,1.1s,mb4.7
Y16A Circle Bar Ran 70.01 323 P **P 22 23 20.4 +0.7**
baz=69,SNR=9.0
W18A Petrified Fore 70.02 325 ⇑P **P 22 23 19.8 +0.1**
baz=69
V19A Window Rock 70.12 326 ⇓P **P 22 23 20.7 +0.4**
baz=70,SNR=6.0
X16A Lo Mia Camp, P 70.39 324 ⇑P **P 22 23 22.5 +0.5**
baz=70,SNR=8.5
Z14A Wintersburg 70.45 322 ⇑P **P 22 23 22.6 +0.3**
baz=70
Y15A Casa Rosa Ranc 70.54 323 P **P 22 23 23.2 +0.3**
baz=70,SNR=10
V18A Ganado 70.57 326 ⇓P **P 22 23 23.2 +0.2**
baz=70
X15A Humboldt 70.88 323 ⇑P **P 22 23 25.4 +0.5**
baz=70,SNR=10
Y14A Wickenburg 70.90 322 ⇓P **P 22 23 25.3 +0.2**
baz=70
W16A Flagstaff 70.95 324 ⇑P **P 22 23 26.0 +0.7**
baz=70,SNR=7.8
T19A Beclabito 70.98 327 ⇓P **P 22 23 25.6 +0.1**
baz=70,SNR=8.3
MVCO Mesa Verde 71.01 327 ⇑P **P 22 23 25.8 +0.1**
baz=70
MVCO Mesa Verde 71.01 327 eP **P 22 23 26.3 +0.6**
comp=E,13nm,0.8s,mb4.8
U18A Rough Rock, Ch 71.09 326 ⇑P **P 22 23 26.5 +0.3**
baz=70,SNR=7.5
WUAZ Wupatki 71.19 324 ⇓P **P 22 23 27.2 +0.5**
baz=71
WUAZ Wupatki 71.19 324 eP **P 22 23 27.8 +1.0**
comp=E,18nm,0.8s,mb4.9
WUAZ epP pP 22 23 50.3 +0.5
X14A Yava 71.23 323 ⇓P **P 22 23 27.5 +0.4**
baz=71
Y13A Salome 71.28 322 ⇓P **P 22 23 27.6 +0.2**
baz=71
GLA Glamis 71.30 320 ⇓P **P 22 23 27.7 +0.2**
baz=71
W15A Williams 71.41 324 ⇑P **P 22 23 29.0 +0.9**
baz=71
U16A Tuba City 71.53 325 ⇑P **P 22 23 29.3 +0.5**
baz=71,SNR=5.0
ECSD EROS,Sioux Fal 71.63 339 eP **P 22 23 27.8 -1.4**
comp=E,14nm,1.3s,mb4.6
Y12C Blythe 71.63 321 ⇓P **P 22 23 29.7 +0.2**
baz=71
U17A Shonto 71.63 326 ⇑P **P 22 23 30.0 +0.5**
baz=71,SNR=5.3
T18A Mexican Hat 71.64 327 P **P 22 23 29.5 +0.1**
baz=71,SNR=11
ISCO Idaho Springs 71.73 331 eP **P 22 23 30.4 +0.5**
ISCO epP pP 22 23 53.1 +0.1
S19A Harvey Farm, M 71.75 327 ⇓P **P 22 23 30.2 +0.1**
baz=71,SNR=5.6
DVTC Desert V Tower 71.78 319 ⇑P **P 22 23 30.8 +0.4**
baz=71
PDMCI Parker Dam,Lak 71.81 322 ⇑P **P 22 23 30.8 +0.2**
baz=71
V15A Kaibab Nationa 71.84 324 ⇑P **P 22 23 31.4 +0.7**
baz=71,SNR=8.5
X13A Yucca 71.85 322 P **P 22 23 31.1 +0.4**
baz=71,SNR=6.6
W14A Seligman 71.89 323 ⇓P **P 22 23 31.4 +0.4**
baz=71,SNR=7.2
T17A Navajo Res., N 72.01 326 ⇓P **P 22 23 32.6 +0.9**
baz=71
BC3 Big Chuckw Mtn 72.10 320 ⇓P **P 22 23 32.5 +0.2**
baz=72,SNR=8.7
MONP Moument Peak 72.13 319 ⇑P **P 22 23 32.8 +0.3**
baz=72
S18A Hurst Farm, Bl 72.13 327 ⇓P **P 22 23 32.9 +0.5**
baz=72,SNR=12
BAR Barrett 72.13 319 eP **P 22 23 33.1 +0.6**
V14A Boquillas Ranc 72.21 323 P **P 22 23 33.9 +0.9**
baz=72,SNR=12
R19A Curley Farm, L 72.23 328 ⇓P **P 22 23 32.9 -0.1**
baz=72
W13A Hualapai Mount 72.25 323 ⇑P **P 22 23 33.7 +0.6**
baz=72
IRM Iron Mountain 72.28 321 ⇑P **P 22 23 33.5 +0.1**
baz=72,SNR=5.2
U15A North Rim 72.36 324 ⇓P **P 22 23 34.6 +0.9**
baz=72,SNR=9.3
T16A Glen Canyon Da 72.36 325 ⇓P **P 22 23 34.3 +0.5**
baz=72
S17A Black Ridge (B 72.50 326 ⇑P **P 22 23 34.9 +0.3**
baz=72
R18A Canyonlands Na 72.62 327 ⇑P **P 22 23 35.1 -0.2**
baz=72
PFO Pinyon Flat Ob 72.66 320 ⇑P **P 22 23 35.8 +0.2**
baz=72
PFO Pinyon Flat Ob 72.66 320 eP **P 22 23 36.0 +0.4**
BELC Belle Mtn. 72.66 320 ⇓P **P 22 23 36.0 +0.3**
baz=72
Q19A Hogan Spring (72.75 328 ⇑P **P 22 23 36.1 0.0**
baz=72
U14A Mt Trumbull 72.83 324 ⇓P **P 22 23 37.3 +0.7**
baz=72,SNR=12
V13A Grand Canyon W 72.85 323 ⇑P **P 22 23 37.1 +0.3**
baz=72,SNR=9.2
LDFC Landfair 72.92 322 eP **P 22 23 35.4 -1.8**
GMRC Granite Mounta 73.02 321 ⇓P **P 22 23 38.3 +0.6**
baz=72,SNR=12
R17A Hanksville Air 73.05 327 P **P 22 23 38.1 +0.2**
baz=72,SNR=7.8
V12A Nelson 73.24 322 ⇑P **P 22 23 39.1 +0.1**
baz=73
U13A Pakoon Wash 73.25 323 ⇓P **P 22 23 39.6 +0.5**
baz=73
T14A Hurricane 73.25 324 ⇓P **P 22 23 39.8 +0.8**
baz=73
Q18A Rafter H Ranch 73.29 328 ⇑P **P 22 23 39.4 +0.2**
baz=73
HEC Hector,Ludlow 73.44 321 P **P 22 23 41.0 +0.8**
baz=73,SNR=7.0
SRU San Rafael 73.49 327 ⇑P **P 22 23 40.3 -0.1**
baz=73,SNR=7.5
SRU San Rafael 73.49 327 eP **P 22 23 40.8 +0.4**
SRU epP pP 22 24 03.6 +0.1
U12A Valley of Fire 73.58 323 ⇓P **P 22 23 41.3 +0.3**
baz=73
TUQ Turquoise Mtn. 73.64 322 ⇓P **P 22 23 41.7 +0.3**
baz=73
V11A Goodsprings 73.65 322 ⇑P **P 22 23 41.8 +0.4**
baz=73
T13A Saint George 73.67 324 ⇓P **P 22 23 42.1 +0.6**
baz=73
CIS Catalina Islan 73.68 319 ⇑P **P 22 23 42.5 +0.8**
baz=73
P18A Preston Nutter 73.75 328 ⇓P **P 22 23 42.4 +0.5**
baz=73,SNR=8.7
SBA Scott Base 73.81 190 eP **P 22 23 43.5 +1.6**
comp=E,16nm,1.1s,mb4.7
MSU Marysvale 73.87 326 eP **P 22 23 43.6 +1.0**
RWWY Rawlins 73.97 331 eP **P 22 23 43.5 +0.3**
comp=E,10nm,0.9s,mb4.5
SHPR Sheep Range 73.98 323 eP **P 22 23 44.2 +0.9**
GSC Goldstone 74.05 321 ⇑P **P 22 23 44.0 +0.2**
baz=74,SNR=5.6
GSC Goldstone 74.05 321 eP **P 22 23 44.3 +0.5**
comp=E,34nm,1.8s,mb4.8
GSC epP pP 22 24 08.0 +1.0
S13A Holt Ranch, En 74.06 324 ⇑P **P 22 23 44.6 +0.9**
baz=73
R14A James Farms, M 74.14 325 ⇑P **P 22 23 45.0 +0.8**
baz=74
EDW2 Edwards Air Fo 74.45 320 ⇑P **P 22 23 46.0 -0.1**
baz=74
N18A Larsen Ranch, 74.53 329 ⇑P **P 22 23 47.6 +1.2**
baz=74
T11A Corn Creek, Al 74.54 323 P **P 22 23 47.5 +0.9**
baz=74,SNR=11
R13A O'Grain Ranch, 74.56 325 ⇑P **P 22 23 47.4 +0.8**
baz=74
U10A Ash Meadows, A 74.57 322 ⇑P **P 22 23 47.6 +0.8**
baz=74
SYO Syowa Base 74.59 159 eP **P 22 23 45.9 -0.6**
S12A Delamar Landin 74.61 324 ⇑P **P 22 23 47.7 +0.7**
baz=74
RSSD Black Hills 74.64 335 eP **P 22 23 47.2 +0.3**
comp=E,7.8nm,0.8s,mb4.5
RSSD epP pP 22 24 09.9 -0.3
LRMC Laurel Mountai 74.69 320 ⇓P **P 22 23 47.7 +0.2**
baz=74
P15A Leamington 74.72 327 ⇓P **P 22 23 47.6 +0.1**
baz=74
Q14A Sevier Lake (B 74.79 326 P **P 22 23 48.9 +0.9**
baz=74,SNR=8.4
O16A Springville 74.81 328 ⇑P **P 22 23 48.2 +0.1**
baz=74
VNDA Vanda 74.83 190 P **P 22 23 49.4 +1.7**
comp=E,5.7nm,0.9s,mb4.3,baz=127,slow=5.1,SNR=25
BSC Santa Cruz Isl 74.83 318 ⇑P **P 22 23 48.5 +0.2**
baz=74
PPT Papeete 74.84 257 LR LR 22 48 24.3
comp=E,107nm,19.4s,baz=142,slow=29
TPNV Topopah Spring 74.90 322 ⇓P **P 22 23 49.4 +0.7**
baz=74
TPNV Topopah Spring 74.90 322 eP **P 22 23 49.1 +0.4**
comp=E,5.9nm,0.6s,mb4.5
FURC Furnace Creek, 74.91 322 P **P 22 23 49.3 +0.6**
baz=74,SNR=8.4
MPMC Manual Prospec 74.98 321 P **P 22 23 49.3 +0.2**
baz=74,SNR=6.6
R12A Pony Springs, 75.00 324 ⇓P **P 22 23 50.0 +0.8**
baz=74,SNR=9.4
N17A Moffit Pass 75.06 328 ⇑P **P 22 23 49.9 +0.5**
baz=74
P14A Drum Mountains 75.13 326 ⇑P **P 22 23 50.6 +0.6**
baz=74,SNR=13
Q13A Wheeler Ranch, 75.15 325 ⇑P **P 22 23 50.5 +0.4**
baz=74
ISA Isabella 75.28 320 ⇑P **P 22 23 51.3 +0.4**
baz=75,SNR=7.2
N16A Rees Ranch, Co 75.30 328 ⇓P **P 22 23 51.3 +0.4**
baz=75
DUG Dugway 75.46 327 ⇓P **P 22 23 52.0 +0.3**
baz=75
DUG Dugway 75.46 327 eP **P 22 23 52.1 +0.3**
AGMN Agassiz Refuge 75.50 342 eP **P 22 23 50.5 -1.3**
comp=E,4.5nm,0.8s,mb4.2
P13A Bates Ranch, G 75.52 326 ⇓P **P 22 23 52.6 +0.4**
baz=75,SNR=8.9
R11A Troy Canyon, C 75.55 324 ⇓P **P 22 23 52.8 +0.5**
baz=75,SNR=9.3
PKM Peak Mountain 75.56 319 ⇑P **P 22 23 52.7 +0.2**
baz=75,SNR=8.3
CWC Cottonwood Cre 75.59 321 ⇓P **P 22 23 53.0 +0.4**
baz=75
Q12A Willow Creek R 75.64 325 ⇓P **P 22 23 53.1 +0.3**
baz=75
M16A Huntsville 75.72 328 ⇓P **P 22 23 53.1 -0.2**
baz=75
VES Vestal, Richgr 75.76 320 ⇑P **P 22 23 53.8 +0.2**
baz=75
S10A Tonopah Range, 75.79 323 ⇓P **P 22 23 54.1 +0.4**
baz=75,SNR=16
N15A Stansbury Isla 75.84 327 ⇓P **P 22 23 53.7 -0.2**
baz=75
PDAR Pinedale Array 75.88 330 P **P 22 23 53.8 -0.3**
comp=E,1.0nm,0.6s,mb3.7,baz=149,slow=6.9,SNR=9.8
PDAR pP pP 22 24 16.2 -1.2
comp=E,1.1nm,0.7s,baz=152,slow=6.7,SNR=3.9
PDAR sP sP 22 24 25.2 -1.8
comp=E,3.3nm,1.0s,baz=152,slow=6.6,SNR=5.4
BW06 Boulder Array 75.88 330 eP **P 22 23 53.8 -0.3**
R10A Warm Springs 75.89 323 P **P 22 23 55.4 +1.1**
baz=75,SNR=13
Q11A Duckwater 75.94 324 ⇑P **P 22 23 54.8 +0.2**
baz=75,SNR=9.3
SMMC Simmler 75.94 319 ⇓P **P 22 23 55.2 +0.5**
baz=75
P12A McGill 76.00 325 ⇑P **P 22 23 55.4 +0.5**
baz=75
S09A Goldfield 76.00 322 P **P 22 23 55.2 +0.3**
baz=75,SNR=6.9
O13A Hicks Ranch, I 76.00 326 ⇓P **P 22 23 55.1 +0.2**
baz=75
N14A Grayback Hills 76.14 327 ⇓P **P 22 23 55.5 -0.1**
baz=76
M15A Larsen Ranch, 76.24 328 ⇓P **P 22 23 56.1 -0.1**
baz=76
R09A Tonopah 76.28 323 P **P 22 23 56.9 +0.4**
baz=76,SNR=7.2
HELL Mitchell Peak 76.30 321 ⇑P **P 22 23 56.5 -0.1**
baz=76,SNR=12
Q10A Clear Creek Ra 76.33 324 ⇓P **P 22 23 57.4 +0.7**
baz=76
S08C White Mtn Res 76.38 322 ⇑P **P 22 23 57.4 +0.4**
baz=76,SNR=6.8
MTUM Tungsten Hills 76.50 321 eP **P 22 23 58.5 +0.7**
L15A Malad City 76.62 328 ⇓P **P 22 23 57.9 -0.4**
baz=76
HVU Hansel Valley 76.64 328 eP **P 22 23 57.5 -0.9**
comp=E,5.2nm,0.8s,mb4.3
N13A Wendover, West 76.66 326 ⇓P **P 22 23 58.4 -0.1**
baz=76
V04C Ramage Ranch, 76.69 319 ⇓P **P 22 23 59.2 +0.3**
baz=76
PKD Parkfield 76.70 319 ⇑P **P 22 23 58.9 0.0**
baz=76
M14A Sheep Mountain 76.71 327 P **P 22 23 58.8 0.0**
baz=76,SNR=9.9
Q09A Carvers 76.76 323 ⇓P **P 22 23 59.6 +0.4**
baz=76
K16A Soda Springs 76.87 329 ⇑P **P 22 23 59.9 +0.2**
baz=76
O11A Cowboy Ranch, 76.88 325 ⇓P **P 22 24 00.1 +0.3**
baz=76,SNR=5.1
KCC Kaiser Creek 76.91 321 ⇑P **P 22 23 59.9 -0.2**
baz=76
P10A Eureka 76.94 324 ⇑P **P 22 24 00.9 +0.7**
baz=76
REDW Red Top Meadow 76.94 330 eP **P 22 24 00.2 +0.1**
comp=E,8.5nm,0.8s,mb4.5
L14A Malta 77.06 328 P **P 22 24 00.5 -0.2**
baz=76,SNR=11
TPAW Teton Pass 77.08 330 eP **P 22 24 01.5 +0.6**
comp=E,12nm,0.8s,mb4.7
NVAR Mina Array Bea 77.10 322 P **P 22 24 01.4 +0.2**
comp=E,1.9nm,0.8s,mb3.9,baz=158,slow=7.1,SNR=13
NVAR pP pP 22 24 24.9 +0.4
comp=E,1.5nm,0.8s,baz=162,slow=7.4,SNR=4.2
NVAR sP sP 22 24 35.0 +0.8
comp=E,1.9nm,0.8s,baz=148,slow=6.6,SNR=4.9
U04C Hernandez Rese 77.12 319 ⇓P **P 22 24 01.5 +0.2**
baz=77,SNR=5.8
RRI2 Red Ridge 77.14 330 eP **P 22 24 01.8 +0.6**
comp=E,16nm,1.0s,mb4.7
RRI2 epP pP 22 24 25.1 +0.5
V03C Hunter Liggett 77.17 319 ⇓P **P 22 24 02.1 +0.6**
baz=77
MOOW Moose Ponds 77.19 330 eP **P 22 24 01.3 -0.1**
ULM Lac du Bonnet 77.27 343 P **P 22 24 00.4 -1.4**
comp=E,8.5nm,0.7s,mb4.6,baz=160,slow=6.5,SNR=6.2
ULM pP pP 22 24 22.8 -2.3
comp=E,6.8nm,0.6s,baz=143,slow=6.1,SNR=4.8
ULM Lac du Bonnet 77.27 343 P **P 22 24 00.4 -1.4**
ULM pP pP 22 24 22.8 -2.3
R07C Lee Vining 77.29 322 ⇑P **P 22 24 02.7 +0.6**
baz=77
IMW Indian Meadow 77.39 330 eP **P 22 24 03.3 +0.7**
comp=E,9.5nm,0.9s,mb4.5
IMW epP pP 22 24 26.2 +0.2
K14A Jones Ranch, D 77.41 328 ⇑P **P 22 24 02.4 -0.4**
baz=77
T05C Eagle Field, D 77.42 320 ⇓P **P 22 24 03.4 +0.5**
baz=77
FLWY Flagg Ranch 77.43 331 eP **P 22 24 03.9 +1.1**
M12A Wells 77.43 326 ⇓P **P 22 24 02.8 -0.1**
baz=77
O10A Cortez Mining, 77.44 325 ⇓P **P 22 24 03.0 0.0**
baz=77
L13A Double Diamond 77.44 327 ⇓P **P 22 24 03.1 +0.1**
baz=77,SNR=7.6
S05C Merced 77.52 320 ⇑P **P 22 24 03.5 0.0**
baz=77
HAST Hastings Reser 77.60 319 ⇑P **P 22 24 04.0 0.0**
baz=77,SNR=6.1
S06C San Francisco 77.60 321 P **P 22 24 04.2 +0.2**
baz=77,SNR=8.7
RLMT Red Lodge 77.61 332 eP **P 22 24 03.4 -0.4**
comp=E,2.8nm,0.6s,mb4.2
O09A Fish Creek Ran 77.72 324 ⇓P **P 22 24 04.7 +0.2**
baz=77
R06C Coleville 77.81 322 ⇓P **P 22 24 05.6 +0.5**
baz=77
PACP Pacheco Peak 77.86 320 ⇑P **P 22 24 06.0 +0.6**
baz=77
M11A Holland Ranch, 77.89 326 P **P 22 24 05.9 +0.5**
baz=77,SNR=12
K13A Stover Farm, H 77.93 328 ⇓P **P 22 24 05.8 +0.2**
baz=77
CMB Columbia Colle 78.02 321 eP **P 22 24 05.1 -1.1**
L12A House Creek Ra 78.02 327 P **P 22 24 06.8 +0.7**
baz=77,SNR=5.1
TOA0 Torodi Ar. Sit 78.07 70 eP **P 22 24 07.1 0.0**
TORD Torodi Ar. Bea 78.07 70 P **P 22 24 07.2 +0.1**
comp=E,7.6nm,0.4s,mb4.8,baz=256,slow=5.3,SNR=181
TORD pP pP 22 24 30.9 +0.5
comp=E,43nm,0.7s,baz=252,slow=5.2,SNR=20
SCHQ Schefferville 78.09 1 P **P 22 24 05.5 -0.7**
comp=E,2.6nm,0.8s,mb4.0,baz=180,slow=3.0,SNR=3.3
SCHQ pP pP 22 24 27.8 -1.8
comp=E,4.2nm,0.6s,baz=235,slow=3.1,SNR=4.9
SCHQ Schefferville 78.09 1 P **P 22 24 05.5 -0.7**
SCHQ pP pP 22 24 27.8 -1.8
S04C Ingram Canyon, 78.21 320 ⇑P **P 22 24 07.5 +0.2**
baz=78
R05C Kirkwood Meado 78.29 322 ⇑P **P 22 24 08.1 +0.4**
baz=78
K12A Draper Farm, C 78.33 327 ⇑P **P 22 24 08.4 +0.6**
baz=78,SNR=11
M10A I.L. Ranch, Tu 78.34 326 ⇓P **P 22 24 08.1 +0.2**
baz=78
DGMT Dagmar 78.35 337 eP **P 22 24 08.2 +0.4**
L11A Cat Creek Ranc 78.41 326 P **P 22 24 08.6 +0.3**
baz=78,SNR=12
J13A Cove Ranch, Pi 78.53 328 ⇑P **P 22 24 09.3 +0.4**
baz=78,SNR=5.9
WENL Wente Brothers 78.54 320 ⇑P **P 22 24 09.6 +0.4**
baz=78
PAHR Pah Rah Range 78.59 323 eP **P 22 24 10.3 +0.9**
PAHR epP pP 22 24 33.4 +0.6
O07A Toulon 78.63 323 ⇓P **P 22 24 09.6 +0.1**
baz=78
N08A GE Springer Mi 78.66 324 ⇑P **P 22 24 09.9 +0.1**
baz=78
L10A Juniper Basin 78.71 326 P **P 22 24 10.4 +0.5**
baz=78,SNR=22
LAVA Lava Cap Winer 78.71 321 ⇑P **P 22 24 09.9 -0.1**
baz=78
M09A Marrel Ranch, 78.75 325 ⇑P **P 22 24 10.3 +0.1**
baz=78,SNR=7.6
HLID Hailey 78.77 328 ⇓P **P 22 24 10.9 +0.7**
baz=78
HLID Hailey 78.77 328 eP **P 22 24 10.9 +0.7**
comp=E,16nm,0.9s,mb4.8
HLID epP pP 22 24 34.2 +0.6
I13A Wildhorse Cree 78.89 328 ⇑P **P 22 24 11.4 +0.5**
baz=78,SNR=13
MCMT McKenzie Canyo 78.98 330 P **P 22 24 12.3 +0.9**
K11A Parker Ranch, 78.99 327 ⇓P **P 22 24 11.6 +0.1**
baz=78,SNR=8.8
P05C Yuba Gap, Truc 79.01 322 ⇑P **P 22 24 12.1 +0.4**
baz=78
BOZ Bozeman (W) 79.06 331 ⇑P **P 22 24 11.6 -0.2**
baz=78
BOZ Bozeman (W) 79.06 331 eP **P 22 24 11.8 0.0**
G15A Dillon 79.08 330 ⇓P **P 22 24 12.0 +0.1**
baz=78
N07B Gerlach 79.11 324 ⇓P **P 22 24 12.1 -0.1**
baz=78,SNR=10
Q04C Lincoln 79.13 321 ⇑P **P 22 24 12.6 +0.2**
baz=78

BEKR **Beckwourth** 79.25 322 ⇓P P 22 24 13.2 +0.3
baz=79
DLMT **Dillon** 79.28 330 *e*P P 22 24 13.6 +0.6
comp=E,13nm,1.1s,mb4.7
DLMT *e*pP pP 22 24 36.5 +0.1
L09A **Wilkinson Ranc** 79.29 325 ⇓P P 22 24 12.9 -0.2
baz=79,SNR=7.4
MFID **Camas Ranch** 79.36 327 ⇓P P 22 24 13.7 +0.3
baz=79,SNR=6.0
K10A **MacKenzie Ranc** 79.42 326 ⇓P P 22 24 13.6 -0.2
baz=79,SNR=10
CVS **Carmenet Viney** 79.44 320 ⇓P P 22 24 13.8 -0.2
baz=79
TSUM **Tsumeb** 79.47 106 *e*P P 22 24 15.9 +1.2
comp=E,14nm,0.8s,mb4.9
MCCM **Marconi Confer** 79.56 320 ⇑P P 22 24 14.5 -0.2
baz=79
LRM **Limekiln Ridge** 79.56 331 *e*P P 22 24 15.1 +0.6
LRM *e*pP pP 22 24 38.1 +0.1
N06A **Buffalo Meadow** 79.56 323 ⇓P P 22 24 14.7 0.0
baz=79,SNR=10
F15A **Butte** 79.60 331 ⇑P P 22 24 14.6 -0.1
baz=79,SNR=7.2
M07A **Soldier Meadow** 79.64 324 ⇓P P 22 24 15.0 -0.1
baz=79,SNR=7.1
ORV **Oroville** 79.69 321 P P 22 24 15.5 +0.2
baz=79,SNR=9.8
H12A **Diamond D Ranc** 79.72 329 ⇓P P 22 24 15.5 +0.1
baz=79,SNR=10.0
L08A **Fields** 79.77 325 ⇑P P 22 24 15.8 +0.1
baz=79
K09A **Rome** 79.80 326 ⇑P P 22 24 15.9 0.0
baz=79,SNR=8.3
G13A **Cobalt** 79.83 329 ⇑P P 22 24 16.3 +0.4
baz=79,SNR=43
O04C **Chester** 79.97 322 ⇑P P 22 24 16.6 -0.2
baz=79
ELFS **Eagle Lake Fie** 79.97 323 ⇑P P 22 24 17.0 +0.2
baz=79
F14A **Wisdom** 79.97 330 ⇓P P 22 24 17.1 +0.4
baz=79,SNR=5.3
HRY **Holter Researc** 79.97 332 *e*P P 22 24 16.7 0.0
WVOR **Wild Horse Val** 80.09 325 *e*P P 22 24 15.2 -2.2
comp=E,4.4nm,1.1s,mb4.2
E15A **Deer Lodge** 80.11 331 ⇑P P 22 24 17.4 0.0
baz=79
L07A **Adell** 80.17 324 ⇓P P 22 24 18.1 +0.2
baz=80
K08A **Mann Creek Ran** 80.22 325 ⇓P P 22 24 18.0 -0.2
baz=80
HOPS **Hopland** 80.22 320 ⇑P P 22 24 18.4 +0.2
baz=80
M06C **Likely Place G** 80.23 323 ⇑P P 22 24 18.3 +0.1
baz=80
GASB **Alder Springs** 80.45 321 ⇑P P 22 24 20.1 +0.6
baz=80
E14A **Clinton** 80.48 331 ⇓P P 22 24 19.8 +0.3
baz=80
HATC **Hat Creek Radi** 80.51 322 ⇓P P 22 24 19.3 -0.4
baz=80
D15A **Lincoln** 80.53 331 ⇓P P 22 24 19.9 +0.3
baz=80,SNR=5.2
K07A **Rock Creek Ran** 80.59 325 ⇑P P 22 24 20.3 +0.2
baz=80,SNR=9.7
MOD **Modoc** 80.61 324 P P 22 24 20.8 +0.5
baz=80,SNR=8.5
MOD **Modoc** 80.61 324 *e*P P 22 24 20.7 +0.4
J08A **Circle Bar Ran** 80.66 326 ⇑P P 22 24 20.5 0.0
baz=80,SNR=7.0
H10A **Noah's Angus R** 80.67 328 ⇓P P 22 24 20.0 -0.5
baz=80,SNR=5.6
P01C **Double 8 Ranch** 80.69 320 ⇑P P 22 24 20.3 -0.5
baz=80
M05C **Lookout** 80.70 323 ⇑P P 22 24 20.3 -0.4
baz=80
I09A **Lost Marbles R** 80.72 327 ⇓P P 22 24 20.6 -0.2
baz=80,SNR=5.7
F12A **Elk City** 80.80 329 ⇓P P 22 24 21.1 -0.1
baz=80,SNR=5.0
E13A **Victor** 80.82 330 ⇓P P 22 24 21.3 +0.1
baz=80,SNR=7.6
O02C **Red Bluff** 80.84 321 ⇑P P 22 24 20.9 -0.6
baz=80
D14A **Greenough** 81.00 331 ⇓P P 22 24 22.0 -0.1
baz=80
L05A **Lakeview** 81.00 324 ⇑P P 22 24 22.7 +0.4
baz=80,SNR=5.4
G11A **Walters Elk Ra** 81.02 328 P P 22 24 22.5 +0.1
baz=80,SNR=17
I08A **Drewsey** 81.10 326 ⇑P P 22 24 23.1 +0.3
baz=80,SNR=14
J07A **Hines** 81.10 325 ⇓P P 22 24 23.1 +0.2
baz=80
BMO **Blue Mountains** 81.13 327 *e*P P 22 24 23.0 +0.1
comp=E,9.8nm,1.0s,mb4.6
K06A **Valley Falls** 81.20 324 ⇓P P 22 24 23.6 +0.3
baz=81,SNR=10
F11A **Grangeville** 81.33 329 P P 22 24 23.6 -0.4
baz=81,SNR=5.9
G10A **Bishop Farm, J** 81.36 328 ⇓P P 22 24 24.1 0.0
baz=81,SNR=8.7
M04C **Macdoel** 81.37 323 ⇓P P 22 24 24.2 -0.1
baz=81
D13A **Huson** 81.43 330 ⇓P P 22 24 24.2 -0.3
baz=81,SNR=5.2
J06A **Christmas Vall** 81.46 325 ⇑P P 22 24 24.7 -0.1
baz=81,SNR=11
K05A **Summer Lake** 81.49 324 ⇑P P 22 24 25.3 +0.4
baz=81,SNR=6.5
N02C **Big Bar** 81.56 321 ⇓P P 22 24 25.4 +0.1
baz=81
H08A **Prairie City** 81.58 327 ⇓P P 22 24 25.3 0.0
baz=81
L04A **Klamath Falls** 81.66 323 ⇑P P 22 24 25.4 -0.4
baz=81
G09A **Cove** 81.67 327 ⇑P P 22 24 25.8 0.0
baz=81,SNR=14
M02C **Callahan** 81.68 322 ⇓P P 22 24 25.2 -0.7
baz=81
E11A **Bogner Ranch,** 81.69 329 ⇑P P 22 24 25.2 -0.7
baz=81
I07A **Izee** 81.70 326 ⇓P P 22 24 25.8 -0.1
baz=81,SNR=8.4
YBH **Yreka Blue Hor** 81.82 322 ⇓P P 22 24 26.0 -0.7
baz=81
F10A **Beach Ranch, E** 81.90 328 ⇑P P 22 24 26.7 -0.3
baz=81
C13A **Hot Springs** 81.92 331 P P 22 24 27.2 +0.2
baz=81,SNR=9.4
I06A **Prineville** 81.97 325 ⇑P P 22 24 27.7 +0.3
baz=81
F09A **S2 Ranch, Elgi** 82.04 328 ⇓P P 22 24 27.4 -0.4
baz=81
J05A **Fort Rock** 82.06 324 ⇓P P 22 24 27.8 -0.1
baz=81
H07A **Lands Inn, Kim** 82.08 326 ⇑P P 22 24 28.1 +0.2
baz=81
E10A **Myers Farm, Un** 82.22 329 ⇑P P 22 24 28.4 -0.2
baz=82,SNR=5.5
G08A **Pilot Rock** 82.27 327 ⇑P P 22 24 28.6 -0.3
baz=82
KTRM **Thompson Ridge** 82.31 322 P P 22 24 29.6 +0.3
MAW **Mawson** 82.37 163 ⇓*i*P P 22 24 30.1 +0.8
comp=E,13nm,1.0s,mb4.7
MAW *e*pP pP 22 24 53.7 +0.9
MAW **Mawson** 82.37 163 P P 22 24 30.2 +1.0
comp=E,17nm,0.9s,mb4.9,baz=213,slow=6.3,SNR=36
MAW pP pP 22 24 54.3 +1.5
comp=E,10nm,0.9s,baz=241,slow=11,SNR=5.6
B13A **Whitefish** 82.40 331 P P 22 24 29.4 -0.1
baz=82,SNR=5.7
J04A **Umpqua Nationa** 82.50 324 ⇑P P 22 24 30.0 -0.1
baz=82
BOSA **Boshof** 82.50 118 P P 22 24 31.7 +1.0
comp=E,2.8nm,0.7s,mb4.2,baz=246,slow=2.2,SNR=5.5
BOSA pP pP 22 24 55.4 +1.1
comp=E,3.6nm,0.7s,baz=202,slow=3.2,SNR=3.4
VIPM **Ingram Point** 82.57 326 P P 22 24 31.0 +0.5
H06A **Lindquist Farm** 82.58 326 ⇓P P 22 24 30.7 +0.2
baz=82,SNR=6.4
WALA **Waterton Lakes** 82.67 332 *e*P P 22 24 30.9 0.0
comp=E,9.6nm,0.8s,mb4.7
WALA *e*pP pP 22 24 54.0 -0.5
I05A **Bend** 82.67 325 ⇓P P 22 24 30.9 -0.1
baz=82
D10A **Wagner Farm, O** 82.71 329 ⇑P P 22 24 30.2 -0.9
baz=82
B12A **Libby** 82.97 331 ⇓P P 22 24 32.3 -0.1
baz=82
I04A **Tendick Farm,** 83.03 324 ⇓P P 22 24 32.9 -0.1
baz=82
PTEO **Sao Teotonio** 83.03 44 *e*pP pP 22 24 57.6 +0.9
F07A **Phinny Hill Vi** 83.18 327 ⇓P P 22 24 33.0 -0.6
baz=82
D09A **Jones Farm, Ri** 83.20 328 ⇑P P 22 24 32.8 -0.9
baz=82
C10A **Spilker Farm,** 83.27 330 ⇓P P 22 24 33.8 -0.2
baz=83
B11A **Sandpoint** 83.29 330 ⇑P P 22 24 33.4 -0.7
baz=83
HAWA **Hanford** 83.33 327 *e*P P 22 24 33.3 -1.1
comp=E,4.9nm,0.8s,mb4.4
A12A **Yaak River Ran** 83.34 331 ⇓P P 22 24 34.0 -0.4
baz=83
PBDV **Barranco-do-Ve** 83.36 45 *e*pP pP 22 24 59.4 +1.0
J02A **Umpqua** 83.38 323 ⇓P P 22 24 34.8 +0.1
baz=83
D08A **Wollman Farm,** 83.50 328 ⇓P P 22 24 34.9 -0.4
baz=83
PVAQ **Vaqueiros** 83.60 45 *e*pP pP 22 25 00.5 +0.9
OD2 **Odessa Site #2** 83.63 329 P P 22 24 35.1 -0.8
A11A **Hall Mountain,** 83.67 331 ⇓P P 22 24 35.6 -0.4
baz=83,SNR=9.0
E06A **Yakima** 84.15 327 ⇓P P 22 24 38.0 -0.6
baz=84
PBAR **Barrancos** 84.48 44 *e*pP pP 22 25 05.0 +0.9
C07A **Waterville** 84.49 328 ⇓P P 22 24 39.5 -0.8
baz=84
E05A **Randle** 84.56 326 ⇓P P 22 24 39.8 -0.8
baz=84
ETW **Entiat** 84.56 328 *e*P P 22 24 38.7 -1.9
B08A **Colville Reser** 84.61 329 ⇑P P 22 24 39.7 -1.2
baz=84
FCC **Fort Churchill** 84.63 347 P P 22 24 38.3 -2.4
A09A **Danville** 84.70 330 ⇑P P 22 24 40.3 -0.9
baz=84
A08A **Turner Farm, O** 85.00 329 ⇓P P 22 24 42.3 -0.5
baz=84
B07A **Winthrop** 85.06 329 ⇑P P 22 24 42.0 -1.0
baz=84,SNR=6.2
D05A **Enumclaw** 85.10 327 ⇑P P 22 24 42.0 -1.3
baz=84
E03A **Lebam** 85.47 326 ⇓P P 22 24 44.5 -0.7
baz=85
A07A **Ashnola River,** 85.59 329 ⇑P P 22 24 45.0 -0.7
baz=85,SNR=10.0
EDM **Edmonton** 85.61 335 P P 22 24 42.7 -3.0
C04A **Brinnon** 85.95 327 ⇓P P 22 24 47.3 -0.3
baz=85
CMW **Cultus Mountai** 86.00 328 P P 22 24 47.0 -0.8
NLWA **Neilton Lookou** 86.19 326 ⇑P P 22 24 48.0 -0.7
baz=86
MVO **Moncorvo** 86.23 42 *e*pP pP 22 25 13.1 +0.3
A04A **Legoe Bay, Lum** 86.49 328 ⇓P P 22 24 49.5 -0.7
baz=86
ESDC **Sonseca Array** 87.31 44 P P 22 24 55.0 +0.6
comp=E,0.5nm,0.7s,mb3.6,baz=204,slow=2.8,SNR=2.7
ESDC pP pP 22 25 18.9 +0.7
comp=E,7.4nm,1.0s,baz=244,slow=4.4,SNR=11
ESDC **Sonseca Array** 87.31 44 P P 22 24 55.0 +0.6
ESDC pP pP 22 25 18.9 +0.7
LSZ **Lusaka** 90.32 107 P P 22 25 08.5 -0.7
CASY **Casey** 90.44 180 *e*P P 22 25 10.2 +1.4
CASY *e*pP pP 22 25 34.1 +1.4
SJPF **Ste Jean** 90.90 43 *e*P P 22 25 11.3 +0.1
comp=E,3.8nm,0.8s,mb4.3
SJPF *e*pP pP 22 25 35.3 +0.2
SJPF **Ste Jean** 90.90 43 *e*P P 22 25 11.3 +0.1
comp=E,1.9nm,0.8s,mb4.3
SJPF *e*pP pP 22 25 35.3 +0.2
LFF **La Frestale** 93.06 42 *e*P P 22 25 20.6 -0.5
LFF *e*pP pP 22 25 44.7 -0.3
YKA **Yellowknife Ar** 93.11 341 P P 22 25 20.2 -0.7
comp=E,4.0nm,0.7s,mb4.8,baz=138,slow=4.5,SNR=16
YKA pP pP 22 25 43.5 -1.3
comp=E,6.0nm,0.7s,baz=137,slow=4.5,SNR=14
YKA **Yellowknife Ar** 93.11 341 P P 22 25 20.2 -0.7
YKA pP pP 22 25 43.5 -1.3
MFF **Saint Martin d** 93.38 40 *e*P P 22 25 21.9 -0.6
comp=E,30nm,1.6s,mb5.1
MFF *e*pP pP 22 25 45.9 -0.5
MFF **Saint Martin d** 93.38 40 *e*P P 22 25 21.9 -0.6
comp=E,15nm,1.6s,mb5.1
MFF *e*pP pP 22 25 45.9 -0.5
RJF **Les Rejaudoux** 93.72 42 *e*P P 22 25 24.4 +0.3
RJF *e*MLR MLR
comp=Z,86nm,17.8s
RJF **Les Rejaudoux** 93.72 42 *e*P P 22 25 24.4 +0.3
RJF LR LR
comp=Z,90nm,17.8s
KEST **Kesra** 94.55 53 LR LR 23 09 25.9
comp=Z,42nm,18.5s,baz=280,slow=36
TCF **Toulx Ste Croi** 94.62 41 *e*P P 22 25 27.3 -1.0
BGF **Bois d'Agland** 95.14 41 *e*P P 22 25 30.9 +0.3
AVF **Avril sur Loir** 95.56 41 *e*P P 22 25 31.5 -1.0
SSF **Saint Saulge** 95.78 41 *e*P P 22 25 32.2 -1.3
SMF **Signal de Mont** 95.78 41 *e*P P 22 25 32.8 -0.8
SMF *e*pP pP 22 25 56.9 -0.6
DLBC **Dease Lake** 96.01 332 *e*P P 22 25 32.9 -1.4
FRF **La Foret Royal** 96.13 45 *e*P P 22 25 35.0 -0.2
FRF *e*pP pP 22 25 59.2 +0.1
ORIF **Oris-en-Rattie** 96.25 44 *e*P P 22 25 36.0 +0.3
ORIF *e*MLR MLR
comp=Z,145nm,19.2s
LPL **La Plagne** 97.06 43 *e*P P 22 25 39.9 +0.5
LPL *e*pP pP 22 26 03.9 +0.6
LPG **La Plagne** 97.06 43 *e*P P 22 25 40.0 +0.6
GERES **GERESS Array B** 102.74 42 pP 22 26 29.1
comp=Z,0.4nm,0.7s,baz=248,slow=5.6,SNR=2.5
ASAR **Alice Springs** 128.08 207 PKP PKPdf 22 31 13.5 -0.4
comp=Z,3.6nm,0.8s,baz=147,slow=4.1,SNR=23
ASAR pPKP pPKPdf 22 31 38.5 -0.3
comp=Z,1.6nm,0.8s,baz=132,slow=2.5,SNR=5.1
WB2 **Warramunga Arr** 131.17 210 *e*P PKPdf 22 31 19.5 -0.3
WRA **Warramunga Arr** 131.17 210 PKP PKPdf 22 31 19.7 -0.2
comp=Z,4.3nm,0.9s,baz=159,slow=1.7,SNR=27
WRA pPKP pPKPdf 22 31 44.5 -0.2
comp=Z,3.1nm,0.9s,baz=161,slow=1.6,SNR=6.6
PETK **Petropavlovsk-** 134.19 322 PKP PKPdf 22 31 24.1 -0.3
comp=Z,0.8nm,0.5s,baz=106,slow=3.2,SNR=3.6
ZAA0 **Zalesovo Array** 143.81 26 *e*PKPdf PKPdf 22 31 40.2 -1.7
ZALV **Zalesovo Beam** 143.81 26 PKP PKPdf 22 31 40.8 -1.1
comp=Z,7.6nm,0.8s,baz=282,slow=2.9,SNR=23
ZALV pPKP pPKPdf 22 32 05.5 -1.4
comp=Z,5.3nm,0.8s,baz=277,slow=2.5,SNR=6.1
AAK **Ala-Archa** 144.29 49 P pPKPdf 22 32 07.8 -0.3
SNR=6.6
CHMS **Chumysh** 144.34 48 P pPKPdf 22 32 07.3 -0.8
SNR=6.9
KBK **Karagaybulak** 144.60 49 P pPKPdf 22 32 08.6 0.0
SNR=7.9
TKM2 **Tokmak 2** 144.95 48 P pPKPdf 22 32 09.3 +0.1
SNR=9.9
ULHL **Ulahol** 145.64 49 P pPKPdf 22 32 12.5 +2.1
SNR=8.9
MK31 **Makanchi Array** 147.28 38 *e*PKP PKPdf 22 31 48.1 0.0
MKAR **Makanchi Array** 147.28 38 PKPbc PKPbc 22 31 48.8 -1.8
comp=Z,7.0nm,0.8s,baz=330,slow=1.5,SNR=26
MKAR pPKPbc pPKPbc 22 32 15.7 +0.4
comp=Z,9.4nm,0.7s,baz=321,slow=3.1,SNR=10
KAPI **Kappang** 150.36 198 PKPbc PKPbc 22 31 59.0 -0.4
comp=Z,16nm,0.9s,baz=223,slow=4.2,SNR=5.2
KAPI PKPab PKPab 22 32 05.6 -0.3
comp=Z,18nm,0.8s,baz=277,slow=3.7,SNR=5.8
WMQ **Urumqi** 152.12 38 *e*PKP PKPdf 22 31 57.5 +1.6
WMQ LR LR
comp=N,49nm,24.2s
WMQ LR LR
comp=E,63nm,22.1s
WMQ LR LR
comp=Z,49nm,25.6s
MJAR **Matsushiro Arr** 153.29 305 PKPbc PKPbc 22 32 05.4 0.0
comp=Z,2.6nm,0.7s,baz=101,slow=1.6,SNR=7.5
MJAR PKPab PKPab 22 32 17.4 -0.3
comp=Z,4.3nm,0.8s,baz=85,slow=2.3,SNR=9.7
MJAR pPKPbc pPKPbc 22 32 30.3 +0.1
comp=Z,2.3nm,0.8s,baz=177,slow=0.5,SNR=3.3
MAT **Matsushiro** 153.29 305 PKP PKPbc 22 32 04.7 -0.7
MDJ **Mudanjiang** 154.11 329 PKP PKPbc 22 32 03.2 -3.7
MDJ APKP 22 32 25.8
MDJ PP PP 22 35 59.0 +3.5
MDJ PP PP
comp=Z,98nm,8.5s
SONM **Songino Array** 155.49 8 PKP PKPdf 22 32 01.8 +1.3
comp=Z,1.1nm,0.9s,baz=212,slow=1.6,SNR=7.2
SONM PKPab PKPab 22 32 26.3 -0.2
comp=Z,1.4nm,0.7s,baz=332,slow=2.7,SNR=6.8
SONM pPKPab pPKPab 22 32 50.7 +0.1
comp=Z,1.9nm,0.9s,baz=342,slow=3.5,SNR=4.1
CN2 **Changchun** 156.60 333 *e*PKP PKPdf 22 32 02.4 +0.3
KSRS **Korea Array** 159.98 318 PKP PKPdf 22 32 06.7 +0.3
comp=Z,1.1nm,0.7s,baz=130,slow=2.0,SNR=6.0
KSRS PKPab PKPab 22 32 46.1 -0.2
comp=Z,2.2nm,0.8s,baz=65,slow=3.1,SNR=6.1
GTA **Gaotai** 161.54 29 *e*PKP PKPdf 22 32 09.3 +1.2
GTA APKP 22 32 34.0
GTA XPKP 22 32 47.1
HHC **Hu-ho-hao-te** 162.76 359 *e*PKP PKPdf 22 32 10.2 +1.0
HHC APKP 22 32 37.0
HHC XPKP 22 32 47.7
HHC PKS 22 35 42.5
HHC SKS SKSdf 22 39 01.1 -4.8
HHC LR LR
comp=N,116nm,26.2s
HHC LR LR
comp=E,165nm,29.7s
HHC LR LR
comp=Z,98nm,26.2s
LZH **Lanzhou** 166.04 25 *e*PKP PKPdf 22 32 13.8 +1.5
LZH APKP 22 32 38.0
LZH XPKP 22 32 48.0
CD2 **Chengdu** 170.21 40 *e*PKP PKPdf 22 32 16.9 +1.6
CD2 APKP 22 32 42.1
CD2 XPKP 22 32 52.4
CD2 SKS SKSdf 22 39 09.8 -1.1
CD2 PP PP
comp=Z,120nm,10.2s
CD2 LR LR
comp=N,180nm,24.2s
CD2 LR LR
comp=Z,260nm,22.4s
KMI **Kunming** 172.24 77 PKP PKPdf 22 32 20.6 +4.1
KMI APKP 22 32 42.8
KMI XPKP 22 32 54.0
GYA **Guiyang** 175.07 53 *e*PKP PKPdf 22 32 21.9 +4.4
GYA APKP 22 32 47.6
GYA XPKP 22 32 56.8
GYA PKP2 PKPab 22 33 55.4 +2.1
GYA PKS 22 35 52.0
GYA PP PP 22 37 48.6 +2.8
GYA PP PP
comp=Z,110nm,8.9s

NIED ***02*** *22:17:00, 46.90N×141.60E, h5km, Mw3.5 Best double couple: M0 1.88000×10^14 NP1:φs 206.00000°, δ50.00000°, λ80.00000°. NP2:φs 41.00000°, δ41.00000°, λ101.00000°.*

JMA 02 22:17:29.4±0.5, 46.87N×141.63E, h0km, M3.7, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.56**	**173**	P		Pn		22 17 58.6	+0.2
JWK2				eS		Sn		22 18 19.3	-0.1
JSE	**Soyaes**	**2.02**	**160**	P		Pn		22 18 04.4	-0.3
JYG	**Yagishiri**	**2.45**	**183**	P		Pn		22 18 11.8	+1.3
JTKR	**Abashiri--Toko**	**3.31**	**150**	P		Pn		22 18 21.5	-1.0

DJA ***02*** *22:40:27, 8.44S×118.17E, h145km, ML4.3/1*
ISCJB ***02*** *22:40:29.4±1.9, 8.12S±004×118.03E±004, h19km±14km, mb4.2/19, Error ellipse: s-maj=7.2km s-min=5.4km az=148.8*
IDC ***02*** *22:40:32.5±0.6, 8.13S×118.09E, h27km±4km, mb4.0/11, mb1 4.1/14, mb1mx4.0/21, mbtmp4.0/14, ML3.8/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/21, Error ellipse: s-maj=20.3km s-min=10.2km az=61.0*
NEIC ***02*** *22:40:33.7±0.8, 8.12S×118.06E, h36km±8km, mb4.4/11, Error ellipse: s-maj=8.8km s-min=4.7km az=63.0*

ISC 02 22:40:32.6±2.0, 8.13S±003×118.05E±004, h29km±15km, h30km±1.0km: pP-P, n52, σ0 99/58, mb4.2/19, 2C-2D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHKI	**Kahang-Kahang**	**2.43**	**264**	⇓*e*P		Pn		22 41 08.2	-2.3
KHKI				*e*S		Sn		22 41 39.9	+0.6
WSI	**Waingapu**	**2.69**	**125**	⇑*e*P		Pn		22 41 16.5	+2.4
MKS	**Makassar**	**3.22**	**26**	⇑*e*P		Pn		22 41 22.0	+0.7
KAPI	**Kappang**	**3.53**	**29**	Pn		Pn		22 41 25.3	-0.3
	26nm,0.3s,baz=200,slow=7.1,SNR=189								
KAPI				Sn		Sn		22 42 05.4	-0.9
	23nm,0.3s,baz=145,slow=7.1,SNR=6.7								
KAPI				LR		LR		22 43 05.3	
	comp=Z,547nm,20.0s,baz=344,slow=44								
TRT	**Tretes**	**5.38**	**274**	⇓*e*P		Pn		22 41 47.5	-3.6
TRT				*e*S		Sn		22 42 47.5	-4.7
KSM	**Kuching**	**12.28**	**321**	*e*Pn		Pn		22 43 25.6	0.0
FITZ	**Fitzroy Crossi**	**12.36**	**144**	*e*P		Pn		22 43 27.0	+0.3
	10nm,0.7s								
FITZ	**Fitzroy Crossi**	**12.36**	**144**	Pn		Pn		22 43 26.3	-0.5
	0.2nm,0.3s,baz=352,slow=13,SNR=5.3								
FITZ				Sn		Sn		22 45 44.6	+1.1
	0.7nm,0.3s,baz=194,slow=20,SNR=5.8								
FITZ				LR		LR		22 49 29.8	
	comp=Z,149nm,18.9s,baz=333,slow=44								
MBWA	**Marble Bar**	**13.05**	**173**	*e*Pn		Pn		22 43 36.3	+0.1
KAKA	**Kakadu**	**14.86**	**109**	*e*P		Pn		22 44 01.4	+0.4
	11nm,0.7s								
DAV	**Davao City (W)**	**16.86**	**27**	Pn		Pn		22 44 26.5	-0.3
WRA	**Warramunga Arr**	**19.66**	**128**	P		Pn		22 44 59.4	-1.6
	0.2nm,0.3s,baz=304,slow=12,SNR=19								
WRA				S		Sn		22 48 38.4	-2.7
	0.1nm,0.3s,baz=304,slow=24,SNR=4.5								
WRAB	**Tennant Creek**	**19.66**	**128**	*e*P		Pn		22 45 00.3	-0.7
	15nm,0.9s								
WRAB				*e*				22 45 06.2	
WRAB				*e*S		Sn		22 48 41.5	+0.3
WB2	**Warramunga Arr**	**19.67**	**128**	*e*P		Pn		22 45 00.6	-0.5
ASAR	**Alice Springs**	**21.66**	**137**	P		P		22 45 22.4	+1.3
	4.8nm,0.7s,mb4.1,baz=327,slow=11,SNR=37								
PSI	**Prapat**	**21.95**	**299**	P		P		22 45 26.9	+2.6
	2.6nm,0.5s,mb3.9,baz=149,slow=14,SNR=13								
KLBR	**Kellerberrin**	**23.34**	**181**	*e*P		P		22 45 37.6	-1.2
	8.6nm,0.4s,mb4.5								
FORT	**Forrest**	**24.40**	**159**	*e*P		P		22 45 49.7	+1.1
	31nm,0.7s,mb4.8								
NWAO	**Narrogin (SRO)**	**24.68**	**182**	P		P		22 45 50.5	-0.7
	12nm,0.8s,mb4.5,baz=42,slow=10,SNR=8.0								
NWAO	**Narrogin (SRO)**	**24.68**	**182**	*e*P		P		22 45 50.8	-0.4
	9.4nm,0.9s,mb4.3								
QIZ	**Qiongzhong**	**28.18**	**343**	*e*P		P		22 46 22.8	0.0
	7.7nm,1.0s,mb4.3								
PMG	**Port Moresby**	**28.79**	**95**	*e*P		P		22 46 27.7	-0.7
CTA	**Charters Tower**	**29.76**	**117**	P		P		22 46 38.0	+1.0
	5.3nm,0.8s,mb4.3,baz=292,slow=13,SNR=4.3								
CTA				LR		LR		23 00 28.5	
	comp=Z,153nm,18.4s,baz=45,slow=40								
CTA	**Charters Tower**	**29.76**	**117**	P		P		22 46 38.0	+1.0
CTA				LR		LR		23 00 28.4	
CTAO	**Charters Tower**	**29.76**	**117**	*e*P		P		22 46 38.0	+1.0
STKA	**Stephens Creek**	**32.21**	**140**	*e*P		P		22 46 59.7	+1.2
	2.0nm,0.6s,mb4.1								
STKA	**Stephens Creek**	**32.21**	**140**	P		P		22 46 59.9	+1.5
	2.5nm,0.6s,mb4.2,baz=329,slow=13,SNR=6.9								
STKA	**Stephens Creek**	**32.21**	**140**	*e*P		P		22 46 59.9	+1.4
	2.4nm,0.5s,mb4.3								
CMAR	**Chiang Mai Arr**	**32.46**	**325**	P		P		22 47 02.8	+2.1
	0.7nm,0.3s,mb3.9,baz=144,slow=7.7,SNR=4.0								
CHTO	**Chiang Mai**	**32.74**	**325**	P		P		22 47 03.5	+0.3
	1.9nm,1.1s,mb3.9								
GUMO	**Guam**	**34.27**	**51**	*e*P		P		22 47 16.3	-0.3
TAU	**Tasmania Unive**	**43.12**	**148**	P		P		22 48 29.5	-1.0
LSA	**Lhasa**	**45.66**	**327**	*e*P		P		22 48 51.6	+0.7
	11nm,1.9s,mb4.5								
KSRS	**Korea Array**	**46.28**	**11**	P		P		22 48 56.8	+1.1
	1.6nm,0.9s,mb4.0,baz=183,slow=8.3,SNR=4.9								
MAJO	**Matsushiro**	**48.30**	**22**	*e*P		P		22 49 11.6	+0.1
MDJ	**Mudanjiang**	**53.53**	**10**	P		P		22 49 50.5	-0.2
SONM	**Songino Array**	**56.67**	**351**	P		P		22 50 13.5	+0.2
	1.5nm,0.8s,mb4.1,baz=167,slow=11,SNR=9.6								
SONM				pP		pP		22 50 22.5	+0.4
	2.5nm,0.7s,baz=167,slow=8.3,SNR=8.8								
TLY	**Talaya**	**60.85**	**350**	*e*P		P		22 50 42.2	-0.1
KBL	**Kabul**	**62.82**	**316**	P		P		22 50 56.0	+0.1
MK31	**Makanchi Array**	**63.26**	**333**	*e*P		P		22 50 57.9	-0.7
MK31				*e*		pP		22 51 06.9	-0.6

MK31 *e*PcP PcP 22 51 36.1 +0.5
MKAR Makanchi Array 63.26 333 P P 22 50 58.0 -0.6
1.0nm,0.7s,mb4.1,baz=146,slow=7.4,SNR=12
MKAR pP pP 22 51 07.1 -0.4
2.2nm,0.7s,baz=141,slow=7.6,SNR=14
MKAR Makanchi Array 63.26 333 P P 22 50 58.0 -0.6
MKAR pP pP 22 51 07.1 -0.4
TKM2 Tokmak 2 63.82 326 *e*P **P 22 51 02.2 -0.1**
1.1nm,0.6s,mb4.1
TKM2 *e* pP 22 51 11.0 -0.3
EKS2 Erkin-Say 64.66 325 P **P 22 51 08.7 +0.9**
EKS2 *e* pP 22 51 15.9 -0.9
ZALV Zalesovo Beam 67.90 340 P **P 22 51 27.1 -1.3**
1.2nm,0.5s,mb4.2,baz=148,slow=8.6,SNR=4.8
ZALV pP pP 22 51 35.7 -1.6
2.6nm,0.7s,baz=127,slow=4.7,SNR=6.8
ZALV Zalesovo Beam 67.90 340 P **P 22 51 27.1 -1.3**
ZALV pP pP 22 51 35.7 -1.6
MAW Mawson 69.73 200 P **P 22 51 39.9 +0.2**
2.7nm,0.7s,mb4.3,baz=77,slow=5.5,SNR=9.2
MAW pP pP 22 51 49.2 +0.6
1.4nm,0.7s,baz=53,slow=6.1,SNR=2.8
MAW Mawson 69.73 200 *e*P **P 22 51 39.7 +0.1**
2.6nm,0.6s,mb4.3
MAW pP pP 22 51 49.2 +0.6
SBA Scott Base 73.99 170 P **P 22 52 05.3 +0.2**
QSPA South Pole Qui 81.86 180 P **P 22 52 48.5 -0.3**
1.1nm,0.9s,mb3.8,baz=319,slow=1.7,SNR=6.2
KIV Kislovodsk 85.21 315 P **P 22 53 06.5 -0.1**
LSZ Lusaka 87.76 255 *e*P **P 22 53 18.4 -1.4**
1.2nm,0.6s,mb4.3

IDC ***02*** *22:46:53.0±0.8, 7188N×122W, h0km, mb3.7/9, mb1 3.9/14, mb1mx3.8/28, mbtmp3.8/14, ML3.6/5, MS3.6/24, Ms1 3.6/24, ms1mx3.5/40, Error ellipse: s-maj=20.5km s-min=14.7km az=50.0*
ISCJB ***02*** *22:46:54.3±0.4, 7191N±003×0.1W±0.1, h10km, mb4.1/31, MS3.5/25, Error ellipse: s-maj=6.0km s-min=4.1km az=16.1*
CSEM ***02*** *22:46:55.5±0.1, 7172N×006E, h10km, mb4.4/21, Ms3.1, Error ellipse: s-maj=3.3km s-min=1.5km az=152.0*
BER ***02*** *22:46:55.6±3.3, 7197N×107W, h10km, MD2.9, ML3.0, ML2.9(NAO)*
NAO ***02*** *22:46:56.1±3.7, 7170N×008W, ML2.9*
MOS ***02*** *22:46:56.0±1.4, 7204N×087W, h33km, mb4.3/26, Error ellipse: s-maj=23.1km s-min=4.6km az=94.6*
NEIC ***02*** *22:46:58.0±0.3, 7195N×091W, h35km, mb4.3/25, Error ellipse: s-maj=6.9km s-min=5.0km az=96.0*
SZGRF ***02*** *22:47:10.9, 7025N×431W, h33km, mb3.8, Jan Mayen Island region*
ISC 02 22:46:56.8±2.0, 7188N±003×05W±01, h17km±13km, n188, σ1°17/192, mb4.1/31, MS3.5/25, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LOF	**Lofoten**	**6.09**	**121**	*e*P		**Pn**	**22 48 29.0**	**+3.2**
LOF				*e*S		**Sn**	**22 49 33.6**	**-1.4**
LOF				AML		AML	22 49 37.7	
	comp=Z,7.4nm,0.5s							
LOF	**Lofoten**	**6.09**	**121**	*e*P		**Pn**	**22 48 29.0**	**+3.1**
LOF				*e*S		**Sn**	**22 49 33.6**	**-1.4**
	comp=Z,7.4nm,0.5s,SNR=47							
LOF	**Lofoten**	**6.09**	**121**	*e*P		**Pn**	**22 48 29.0**	**+3.2**
LOF				*e*S		**Sn**	**22 49 33.6**	**-1.4**
STEI	**Steigen**	**6.69**	**119**	*e*P		**Pn**	**22 48 34.2**	**+0.1**
STEI				*e*S		**Sn**	**22 49 47.5**	**-2.2**
STEI	**Steigen**	**6.69**	**119**	*e*P		**Pn**	**22 48 34.2**	**+0.1**
	SNR=47							
STEI				*e*S		**Sn**	**22 49 47.5**	**-2.3**
	SNR=47							
TRO	**Tromso**	**6.78**	**100**	*e*P		**Pn**	**22 48 34.3**	**-1.0**
TRO				*e*S		**Sn**	**22 49 46.3**	**-5.6**
KONS	**Konsvik**	**7.24**	**132**	*e*P		**Pn**	**22 48 40.9**	**-0.6**
KONS				*e*S		**Sn**	**22 49 58.8**	**-4.3**
STOK	**Stokkvaagen**	**7.35**	**133**	*e*P		**Pn**	**22 48 41.6**	**-1.5**
STOK				AML		AML	22 50 04.9	
	comp=Z,15nm,0.7s							
FLOS	**Flostrand**	**7.43**	**132**	*e*P		**Pn**	**22 48 44.0**	**-0.2**
FLOS				*e*S		**Sn**	**22 50 01.6**	**-6.2**
FLOS				AML		AML	22 50 12.7	
	comp=Z,27nm,0.5s							
SPB4	**Spitsbergen Ar**	**7.63**	**27**	*e*Pn		**Pn**	**22 48 47.5**	**+0.6**
SPB4				Sn		**Sn**	**22 50 12.4**	**-0.3**
SPB4	**Spitsbergen Ar**	**7.63**	**27**	*e*Pn		**Pn**	**22 48 47.5**	**+0.6**
SPB4				Sn		**Sn**	**22 50 12.4**	**-0.4**
SPA0	**Spitsbergen Ar**	**7.63**	**27**	Pn		**Pn**	**22 48 47.4**	**+0.5**
	baz=219,slow=14							
SPITS	**Spitsbergen Ar**	**7.63**	**27**	Pn		**Pn**	**22 48 46.2**	**-0.8**
	baz=229,slow=14,SNR=42							
KBS	**Kingsbay**	**7.71**	**18**	*e*P		**Pn**	**22 48 41.2**	**-6.8**
KBS	**Kingsbay**	**7.71**	**18**	*e*Pn		**Pn**	**22 48 46.1**	**-1.9**
KBS				*e*Sn		**Sn**	**22 50 17.0**	**+2.3**
KBS	**Kingsbay**	**7.71**	**18**	*e*Pn		**Pn**	**22 48 46.1**	**-1.9**
KBS				*e*Sn		**Sn**	**22 50 17.0**	**+2.2**
MOR8	**Moi Rana**	**7.82**	**130**	*e*P		**Pn**	**22 48 50.0**	**+0.5**
MOR8				*e*S		**Sn**	**22 50 12.8**	**-4.5**
MOR8				AML		AML	22 50 17.3	
	comp=Z,22nm,0.6s							
MOR8	**Moi Rana**	**7.82**	**130**	*e*P		**Pn**	**22 48 50.0**	**+0.5**
	SNR=47							
MOR8				*e*S		**Sn**	**22 50 12.8**	**-4.6**
	comp=Z,22nm,0.6s,SNR=47							
MOR8	**Moi Rana**	**7.82**	**130**	*e*P		**Pn**	**22 48 50.0**	**+0.5**
MOR8				*e*S		**Sn**	**22 50 12.8**	**-4.5**
KTK1	**Kautokeino**	**8.42**	**98**	*e*P		**Pn**	**22 48 58.1**	**+0.4**
NSS	**Namsos**	**8.69**	**142**	*e*P		**Pn**	**22 49 00.5**	**-0.9**
NSS				*e*S		**Sn**	**22 50 31.4**	**-7.4**
NSS				AML		AML	22 50 36.7	
	comp=Z,20nm,0.7s							
NSS	**Namsos**	**8.69**	**142**	*e*P		**Pn**	**22 49 00.5**	**-0.9**
	SNR=47							
NSS				*e*S		**Sn**	**22 50 31.4**	**-7.4**
NSS	**Namsos**	**8.69**	**142**	*e*P		**Pn**	**22 49 00.5**	**-0.9**
NSS				*e*S		**Sn**	**22 50 31.4**	**-7.4**
ARA0	**ARCESS Array S**	**8.87**	**93**	Pn		**Pn**	**22 49 04.3**	**+0.4**
	baz=308,slow=16							
ARA0				Sn		**Sn**	**22 50 40.6**	**-2.5**
	baz=300,slow=22							
ARCES	**ARCESS Array B**	**8.87**	**93**	Pn		**Pn**	**22 49 04.2**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=294,slow=11,SNR=28							
ARCES				LR		LR	22 52 13.9	
	comp=Z,300nm,18.2s,baz=136,slow=35							
ARCES	**ARCESS Array B**	**8.87**	**93**	P		**Pn**	**22 49 04.3**	**+0.4**
ARCES				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ARCES				MLR		MLR		
	comp=Z,300nm,18.3s							
KEV	**Kevo**	**9.24**	**90**	*e*P		**Pn**	**22 49 08.1**	**-0.8**
KEV	**Kevo**	**9.24**	**90**	Pn		**Pn**	**22 49 08.1**	**-0.8**
BORG	**Borgarnes**	**10.46**	**237**	LR		LR	22 52 31.2	
	comp=Z,166nm,19.6s,baz=178,slow=33							
SUMG	**Summit**	**11.49**	**291**	*e*Pn		**Pn**	**22 49 33.7**	**-6.0**
	comp=Z,6.8nm,0.9s							
SUMG	**Summit**	**11.49**	**291**	*e*Pn		**Pn**	**22 49 33.7**	**-6.1**
	comp=Z,6.8nm,0.9s							
NB2	**NORSAR Subarra**	**11.81**	**151**	Pn		**Pn**	**22 49 43.4**	**-0.8**
	baz=333,slow=14							
NOA	**NORSAR Array B**	**11.81**	**151**	Pn		**Pn**	**22 49 43.2**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=332,slow=14,SNR=5.7							
NOA				LR		LR	22 54 05.3	
	comp=Z,322nm,20.4s,baz=340,slow=36							
APA0	**Apatity Array**	**12.22**	**94**	Pn		**Pn**	**22 49 49.5**	**-0.3**
	baz=304,slow=16							
HFS	**Hagfors**	**13.07**	**147**	Pn		**Pn**	**22 50 00.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=356,slow=10,SNR=4.5							
HFS				LR		LR	22 54 54.4	
	comp=Z,352nm,20.2s,baz=286,slow=36							
HFS	**Hagfors**	**13.07**	**147**	Pn		**Pn**	**22 50 00.4**	**-0.9**
	baz=339,slow=22							
HFS				Sn		**Sn**	**22 52 18.0**	**-8.0**
	baz=348,slow=28							
FIA0	**FINESS Array S**	**14.66**	**122**	Pn		**Pn**	**22 50 20.9**	**-2.0**
	baz=339,slow=12							
EKA	**Eskdalemuir Ar**	**16.66**	**185**	Pn		**Pn**	**22 50 48.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=2.2,slow=11,SNR=5.8							
ESK	**Eskdalemuir**	**16.68**	**185**	*e*P		**Pn**	**22 50 46.8**	**-2.4**
ESK	**Eskdalemuir**	**16.68**	**185**	*e*Pn		**Pn**	**22 50 46.8**	**-2.5**
SFJD	**Kangerlussuaq**	**17.80**	**279**	LR		LR	22 56 55.3	
	comp=Z,247nm,18.7s,baz=208,slow=34							
SFJD	**Kangerlussuaq**	**17.80**	**279**	Pn		**Pn**	**22 50 58.0**	**-5.2**
SFJD	**Kangerlussuaq**	**17.80**	**279**	Pn		**Pn**	**22 50 58.0**	**-5.2**
RGN	**Rugen**	**18.38**	**154**	P		**Pn**	**22 51 10.1**	**-0.3**
RGN	**Rugen**	**18.38**	**154**	P		**Pn**	**22 51 10.1**	**-0.3**
DSB	**Dublin**	**18.89**	**191**	P		**Pn**	**22 51 12.4**	**-4.2**
DSB	**Dublin**	**18.89**	**191**	P		**Pn**	**22 51 12.4**	**-4.1**
RUE	**Ruedersdorf**	**20.46**	**155**	*e*P		**P**	**22 51 33.7**	**+0.6**
	comp=Z,42nm,1.6s							
RUE	**Ruedersdorf**	**20.46**	**155**	*e*P		**P**	**22 51 33.7**	**+0.6**
	comp=Z,42nm,1.6s							
SUW	**Suwalki**	**20.63**	**138**	*e*P		**P**	**22 51 35.8**	**+0.9**
SUW				pmax		pmax		
	comp=Z,41nm,1.2s							
SUW	**Suwalki**	**20.63**	**138**	*e*P		**P**	**22 51 35.8**	**+0.9**
	comp=Z,41nm,1.2s							
SUW	**Suwalki**	**20.63**	**138**	*e*P		**P**	**22 51 35.8**	**+0.9**
	comp=Z,41nm,1.2s							
CLL	**Collm**	**21.51**	**157**	*e*P		**P**	**22 51 46.0**	**+1.6**
CLL				*ex*		x	22 51 59.0	
CLL				Lm			22 59 00.0	
	comp=Z,200nm,21.5s							
MOX	**Moxa**	**22.00**	**159**	*e*P		**P**	**22 51 51.4**	**+1.8**
	comp=Z,18nm,1.6s,mb4.2							
MOX	**Moxa**	**22.00**	**159**	*e*P		**P**	**22 51 51.4**	**+1.8**
MOX				pmax		pmax		
	comp=Z,18nm,1.6s,mb4.2							
BAIF	**Baives**	**22.00**	**172**	*e*P		**P**	**22 51 50.1**	**+0.4**
	comp=Z,21nm,1.2s,mb4.2							
BAIF	**Baives**	**22.00**	**172**	*e*P		**P**	**22 51 50.1**	**+0.4**
BAIF				pmax		pmax		
	comp=Z,11nm,1.2s,mb4.2							
BAIF	**Baives**	**22.00**	**172**	*e*P		**P**	**22 51 50.1**	**+0.4**
	comp=Z,11nm,1.2s,mb4.2							
BRG	**Berggiesshubel**	**22.06**	**155**	*e*P		**P**	**22 51 51.3**	**+1.1**
BRG				*e*			22 51 57.8	
BRG				pmax		pmax		
	comp=Z,9.0nm,1.5s,mb4.0							
BRG				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb3.9							
BRG				MLR		MLR		
	comp=N,159nm,17.9s,MS3.5							
BRG				MLR		MLR		
	comp=E,82nm,22.9s,MS3.5							
BRG				MLR		MLR		
	comp=Z,152nm,26.5s,MS3.3							
BRG	**Berggiesshubel**	**22.06**	**155**	*e*P		**P**	**22 51 51.3**	**+1.1**
	comp=Z,14nm,1.4s,mb4.2							
BRG				*e*			22 51 57.8	
	comp=Z,10nm,1.2s							
BRG								
	comp=N,266nm,17.9s							
BRG								
	comp=E,137nm,22.9s							
BRG								
	comp=Z,254nm,26.5s							
BRG	**Berggiesshubel**	**22.06**	**155**	*e*P		**P**	**22 51 51.3**	**+1.1**
	comp=Z,8.5nm,1.4s,mb4.0							
BRG				*e*			22 51 57.8	
BRG				LR		LR		
	comp=Z,150nm,26.5s,MS3.3							
PVCC	**Panska Ves**	**22.48**	**154**	*e*P		**P**	**22 51 55.2**	**+0.5**
PVCC				AMS		AMS	23 01 30.0	
	comp=Z,200nm,16.6s							
NKC	**Novy Kostel**	**22.50**	**158**	*e*P		**P**	**22 51 54.8**	**-0.1**
NKC				AMS		AMS	22 59 40.0	
UPC	**Upice**	**22.70**	**152**	*e*P		**P**	**22 51 58.5**	**+1.4**
GRA1	**Grafenberg Arr**	**22.90**	**160**	*e*P		**P**	**22 52 00.8**	**+1.6**
	comp=Z,6.0nm,1.4s,mb3.8							
GRF	**Grafenberg Arr**	**22.90**	**160**	*e*P		**P**	**22 52 00.8**	**+1.6**
GRF				pmax		pmax		
	comp=Z,6.0nm,1.4s,mb3.8							
GRF	**Grafenberg Arr**	**22.90**	**160**	*e*P		**P**	**22 52 00.8**	**+1.6**
GRF				pmax		pmax		
	comp=Z,6.0nm,1.4s,mb3.8							
GRF	**Grafenberg Arr**	**22.90**	**160**	*e*P		**P**	**22 52 00.8**	**+1.6**
	comp=Z,6.0nm,1.4s,mb3.8							
DPC	**Dobruska-Polom**	**22.90**	**152**	*e*P		**P**	**22 52 00.0**	**+0.8**
DPC				AMS		AMS	23 00 10.0	
	comp=Z,200nm,16.1s							
PRU	**Pruhonice**	**23.00**	**155**	*e*P		**P**	**22 52 00.9**	**+0.6**
PRU				AMS		AMS	23 00 00.0	
	comp=Z,200nm,17.5s							
FLN	**La Foliniere**	**23.20**	**180**	*e*P		**P**	**22 52 01.9**	**-0.5**
	comp=Z,15nm,0.8s,mb4.2							
FLN				*e*MLR		MLR		
	comp=Z,126nm,18.8s,MS3.1							
FLN	**La Foliniere**	**23.20**	**180**	*e*P		**P**	**22 52 01.9**	**-0.5**
FLN				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.2							
FLN				MLR		MLR		
	comp=Z,130nm,18.8s,MS3.4							
FLN	**La Foliniere**	**23.20**	**180**	*e*P		**P**	**22 52 01.9**	**-0.5**
	comp=Z,7.5nm,0.8s,mb4.2							
FLN				LR		LR		
	comp=Z,130nm,18.8s,MS3.4							
LDF	**La Druitiere**	**23.37**	**179**	*e*P		**P**	**22 52 03.5**	**-0.6**
	comp=Z,19nm,0.9s,mb4.2							
LDF	**La Druitiere**	**23.37**	**179**	*e*P		**P**	**22 52 03.5**	**-0.6**
LDF				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.2							
LDF	**La Druitiere**	**23.37**	**179**	*e*P		**P**	**22 52 03.5**	**-0.6**
	comp=Z,9.6nm,0.9s,mb4.2							
GRR	**Gorron**	**23.57**	**181**	*e*P		**P**	**22 52 05.7**	**-0.5**
	comp=Z,81nm,1.6s,mb4.6							
GRR	**Gorron**	**23.57**	**181**	*e*P		**P**	**22 52 05.7**	**-0.5**
GRR				pmax		pmax		
	comp=Z,41nm,1.6s,mb4.6							
GRR	**Gorron**	**23.57**	**181**	*e*P		**P**	**22 52 05.7**	**-0.5**
	comp=Z,41nm,1.6s,mb4.6							
OJC	**Ojcow**	**23.59**	**146**	*e*P		**P**	**22 52 08.2**	**+1.9**
STU	**Stuttgart**	**23.61**	**164**	P		**P**	**22 52 04.4**	**-2.1**
STU	**Stuttgart**	**23.61**	**164**	P		**P**	**22 52 04.4**	**-2.2**
MORC	**Moravsky Berou**	**23.64**	**150**	*e*P		**P**	**22 52 09.1**	**+2.3**
MORC				pmax		pmax		
	comp=Z,8.0nm,1.3s,mb4.0							
MORC	**Moravsky Berou**	**23.64**	**150**	*e*P		**P**	**22 52 09.1**	**+2.3**
	comp=Z,7.8nm,1.3s,mb4.0							
MORC	**Moravsky Berou**	**23.64**	**150**	*e*P		**P**	**22 52 09.1**	**+2.3**
	comp=Z,7.8nm,1.3s,mb4.0							
ROSF	**Rostrenen**	**23.66**	**185**	*e*P		**P**	**22 52 06.3**	**-0.7**
	comp=Z,63nm,1.2s,mb4.6							
ROSF	**Rostrenen**	**23.66**	**185**	*e*P		**P**	**22 52 06.3**	**-0.7**
ROSF				pmax		pmax		
	comp=Z,31nm,1.2s,mb4.6							
ROSF	**Rostrenen**	**23.66**	**185**	*e*P		**P**	**22 52 06.3**	**-0.7**
	comp=Z,31nm,1.2s,mb4.6							
OKC	**Ostrava-Krasne**	**23.68**	**149**	*e*P		**P**	**22 52 09.5**	**+2.3**
OKC				AMS		AMS	23 01 40.0	
	comp=Z,200nm,18.3s							
KHC	**Kasperske Hory**	**23.72**	**157**	*e*P		**P**	**22 52 09.3**	**+1.8**
KHC				LR		LR		
	comp=Z,200nm,20.3s,MS3.6							
SGMF	**Saint Gilles**	**23.73**	**183**	*e*P		**P**	**22 52 07.1**	**-0.5**
	comp=Z,32nm,1.1s,mb4.4							
SGMF	**Saint Gilles**	**23.73**	**183**	*e*P		**P**	**22 52 07.1**	**-0.5**
SGMF				pmax		pmax		
	comp=Z,16nm,1.1s,mb4.4							
SGMF	**Saint Gilles**	**23.73**	**183**	*e*P		**P**	**22 52 07.1**	**-0.5**
	comp=Z,16nm,1.1s,mb4.4							
TREC	**Trest**	**23.81**	**154**	AMS		AMS	23 02 20.0	
	comp=Z,200nm,15.9s							
VRAC	**Vranov**	**23.96**	**152**	P		**P**	**22 52 10.5**	**+0.8**
	comp=Z,1.7nm,0.4s,mb3.8,baz=35,slow=8.1,SNR=6.8							
VRAC				LR		LR	23 01 59.5	
	comp=Z,189nm,19.4s,MS3.6,baz=351,slow=38							
VRAC	**Vranov**	**23.96**	**152**	P		**P**	**22 52 10.5**	**+0.8**
VRAC				pmax		pmax		
	comp=Z,2.0nm,0.4s							
VRAC				MLR		MLR		
	comp=Z,189nm,19.4s							
VRAC	**Vranov**	**23.96**	**152**	P		**P**	**22 52 10.4**	**+0.7**
GERES	**GERESS Array B**	**24.02**	**157**	P		**P**	**22 52 11.1**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.2,baz=352,slow=8.1,SNR=5.9							
GERES				LR		LR	23 01 17.6	
	comp=Z,176nm,21.3s,MS3.5,baz=290,slow=36							
GERES	**GERESS Array B**	**24.02**	**157**	P		**P**	**22 52 11.1**	**+0.9**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
GERES				MLR		MLR		
	comp=Z,176nm,21.3s							
NIE	**Niedzica**	**24.45**	**146**	*e*P		**P**	**22 52 15.0**	**+0.8**
KWP	**Kalwaria**	**24.68**	**142**	*e*P		**P**	**22 52 17.2**	**+0.9**
KWP	**Kalwaria**	**24.68**	**142**	*e*P		**P**	**22 52 17.2**	**+0.9**
LOR	**Lormes**	**24.78**	**173**	*e*P		**P**	**22 52 16.9**	**-0.3**
	comp=Z,7.9nm,0.8s,mb4.0							
LOR				*e*MLR		MLR		
	comp=Z,63nm,20.2s,MS2.8							
LOR	**Lormes**	**24.78**	**173**	*e*P		**P**	**22 52 16.9**	**-0.3**
LOR				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.0							
LOR				MLR		MLR		
	comp=Z,60nm,20.3s,MS3.1							
LOR	**Lormes**	**24.78**	**173**	*e*P		**P**	**22 52 16.9**	**-0.3**
	comp=Z,4.0nm,0.8s,mb4.0							
LOR				LR		LR		
	comp=Z,60nm,20.3s,MS3.1							
SSF	**Saint Saulge**	**24.97**	**174**	*e*P		**P**	**22 52 18.9**	**0.0**
	comp=Z,8.8nm,1.0s,mb4.0							
SSF	**Saint Saulge**	**24.97**	**174**	*e*P		**P**	**22 52 18.9**	**0.0**
SSF				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb3.9							
SSF	**Saint Saulge**	**24.97**	**174**	*e*P		**P**	**22 52 18.9**	**0.0**
	comp=Z,4.4nm,1.0s,mb3.9							
AKASG	**Malin Array Be**	**25.06**	**132**	P		**P**	**22 52 19.8**	**+0.1**
	comp=Z,0.9nm,0.4s,mb3.6,baz=337,slow=9.9,SNR=12							
AKASG	**Malin Array Be**	**25.06**	**132**	P		**P**	**22 52 19.8**	**+0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKBB	**Malin Array Si**	**25.06**	**132**	*e*P		**P**	**22 52 17.2**	**-2.5**
AKBB	**Malin Array Si**	**25.06**	**132**	*e*P		**P**	**22 52 17.2**	**-2.5**
AVF	**Avril sur Loir**	**25.24**	**174**	*e*P		**P**	**22 52 21.3**	**0.0**
	comp=Z,13nm,1.1s,mb4.1							
AVF	**Avril sur Loir**	**25.24**	**174**	*e*P		**P**	**22 52 21.3**	**0.0**
AVF				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.0							
AVF	**Avril sur Loir**	**25.24**	**174**	*e*P		**P**	**22 52 21.3**	**0.0**
	comp=Z,6.3nm,1.1s,mb4.1							
MFF	**Saint Martin d**	**25.36**	**179**	*e*P		**P**	**22 52 22.8**	**+0.3**
	comp=Z,16nm,1.1s,mb4.2							
MFF	**Saint Martin d**	**25.36**	**179**	*e*P		**P**	**22 52 22.8**	**+0.3**
MFF				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.2							
MFF	**Saint Martin d**	**25.36**	**179**	*e*P		**P**	**22 52 22.8**	**+0.3**
	comp=Z,8.1nm,1.1s,mb4.2							
SMF	**Signal de Mont**	**25.40**	**173**	*e*P		**P**	**22 52 23.1**	**+0.3**
BGF	**Bois d'Agland**	**25.45**	**175**	*e*P		**P**	**22 52 23.5**	**+0.2**
	comp=Z,7.4nm,0.7s,mb4.0							
BGF	**Bois d'Agland**	**25.45**	**175**	*e*P		**P**	**22 52 23.5**	**+0.2**
BGF				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.1							
BGF	**Bois d'Agland**	**25.45**	**175**	*e*P		**P**	**22 52 23.5**	**+0.2**
	comp=Z,3.7nm,0.7s,mb4.0							
UZH	**Uzhgorod**	**25.57**	**144**	*e*P		**P**	**22 52 26.3**	**+2.0**
UZH				*e*			22 52 40.7	
UZH				*i*			22 53 04.3	
UZH				*i*			22 53 16.5	
DAVOX	**Davos/Dischmat**	**25.65**	**163**	LR		LR	23 02 45.9	
	comp=Z,82nm,19.9s,MS3.3,baz=271,slow=37							
TCF	**Toulx Ste Croi**	**25.71**	**176**	*e*P		**P**	**22 52 25.7**	**+0.1**
	comp=Z,17nm,1.1s,mb4.2							
TCF	**Toulx Ste Croi**	**25.71**	**176**	*e*P		**P**	**22 52 25.7**	**+0.1**
TCF				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.2							
TCF	**Toulx Ste Croi**	**25.71**	**176**	*e*P		**P**	**22 52 25.7**	**+0.1**
	comp=Z,8.4nm,1.1s,mb4.2							
PSZ	**Piszkesteto**	**25.83**	**148**	*e*P		**P**	**22 52 26.5**	**-0.2**
PSZ	**Piszkesteto**	**25.83**	**148**	*e*P		**P**	**22 52 26.5**	**-0.2**
RJF	**Les Rejaudoux**	**26.68**	**177**	*e*P		**P**	**22 52 34.9**	**+0.5**
	comp=Z,28nm,1.4s,mb4.3							
RJF				*e*MLR		MLR		
	comp=Z,135nm,22.2s,MS3.1							
RJF	**Les Rejaudoux**	**26.68**	**177**	*e*P		**P**	**22 52 34.9**	**+0.5**
RJF				pmax		pmax		
	comp=Z,14nm,1.4s,mb4.3							
RJF				MLR		MLR		
	comp=Z,130nm,22.3s,MS3.4							
RJF	**Les Rejaudoux**	**26.68**	**177**	*e*P		**P**	**22 52 34.9**	**+0.5**
	comp=Z,14nm,1.4s,mb4.3							
RJF				LR		LR		
	comp=Z,130nm,22.3s,MS3.4							
ORIF	**Oris-en-Rattie**	**27.21**	**170**	*e*P		**P**	**22 52 39.8**	**+0.6**
ORIF				*e*MLR		MLR		
	comp=Z,145nm,19.2s,MS3.3							
MBDF	**Montbardon**	**27.46**	**169**	*e*P		**P**	**22 52 42.0**	**+0.6**
	comp=Z,9.7nm,1.1s,mb4.0							
MBDF	**Montbardon**	**27.46**	**169**	*e*P		**P**	**22 52 42.0**	**+0.6**
MBDF				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.0							
MBDF	**Montbardon**	**27.46**	**169**	*e*P		**P**	**22 52 42.0**	**+0.6**
	comp=Z,4.8nm,1.0s,mb4.0							
FRF	**La Foret Royal**	**28.61**	**169**	*e*P		**P**	**22 52 52.0**	**+0.3**
LMR	**La Mourre**	**28.83**	**169**	*e*P		**P**	**22 52 54.2**	**+0.6**
	comp=Z,44nm,1.6s,mb4.6							
LMR	**La Mourre**	**28.83**	**169**	*e*P		**P**	**22 52 54.2**	**+0.6**
LMR				pmax		pmax		
	comp=Z,22nm,1.6s,mb4.6							
LMR	**La Mourre**	**28.83**	**169**	*e*P		**P**	**22 52 54.2**	**+0.6**
	comp=Z,22nm,1.6s,mb4.6							
SCHQ	**Schefferville**	**32.09**	**274**	LR		LR	23 05 07.4	
	comp=Z,99nm,19.1s,MS3.5,baz=105,slow=34							
ESDC	**Sonseca Array**	**32.33**	**185**	P		**P**	**22 53 24.1**	**-0.5**

TOA0	**Torodi Ar. Sit**	**58.72**	**178**	*e*P		**P**	**22 56 51.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**58.72**	**178**	P		**P**	**22 56 51.8**	**-1.4**
	comp=Z,1.9nm,1.0s,mb4.1,baz=355,slow=6.6,SNR=6.6							
TORD				LR		LR	23 24 40.4	
	comp=Z,62nm,18.4s,MS3.8,baz=150,slow=39							
KSRS	**Korea Array**	**65.13**	**43**	LR		LR	23 29 54.6	
	comp=Z,22nm,19.1s,MS3.4,baz=215,slow=40							
DBIC	**Dimbokro**	**65.20**	**185**	LR		LR	23 24 01.6	
	comp=Z,73nm,19.2s,MS3.9,baz=91,slow=34							
TXAR	**Lajitas Array**	**66.39**	**292**	P		**P**	**22 57 40.7**	**-3.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=39,slow=5.8,SNR=5.9							
TXAR	**Lajitas Array**	**66.39**	**292**	P		**P**	**22 57 40.7**	**-3.6**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**66.39**	**292**	P		**P**	**22 57 40.7**	**-3.6**
CHTO	**Chiang Mai**	**75.16**	**75**	*e*P		**P**	**22 58 36.9**	**-0.9**
CHTO	**Chiang Mai**	**75.16**	**75**	*e*P		**P**	**22 58 36.9**	**-0.9**
PSI	**Prapat**	**90.28**	**80**	LR		LR	23 43 02.9	
	comp=Z,175nm,21.7s,MS4.5,baz=201,slow=37							

CSEM ***02*** *23:16:39.2, 35.11N×23.11E, h34km, MD3.5/8, After ATH*
NEIC ***02*** *23:16:39.2, 35.11N×23.11E, h34km, MD3.6(ATH), After ATH.*

ATH 02 23:16:38.0, 3509N×2307E, h25km±3km, MD3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.87**	**106**	P	Pb	23 16 56.0	+1.5
VAM	**Vamos**	**0.98**	**71**	*e*PN	Pn	23 16 57.0	+0.9
VAM				*e*SN	Sn	23 17 10.5	+1.4
KYTH	**Kithira**	**1.19**	**359**	*e*PN	Pn	23 17 01.0	+2.0
KYTH	**Kithira**	**1.19**	**359**	*e*Pn	Pn	23 17 02.6	+3.6
IDI	**Anoyia**	**1.50**	**82**	P	Pn	23 17 05.7	+2.4
NPS	**Neapolis**	**2.09**	**85**	*e*PN	Pn	23 17 13.2	+1.8
ITM	**Ithomi**	**2.28**	**336**	*e*PN	Pn	23 17 16.1	+2.1
RLS	**Riolos of Patr**	**3.23**	**337**	*e*PN	Pn	23 17 29.3	+2.2
LKR	**Lokris**	**3.55**	**359**	*e*PN	Pn	23 17 34.4	+2.9
VLS	**Valsamata**	**3.67**	**328**	*e*PN	Pn	23 17 36.0	+2.9
EVR	**Evrytania**	**3.95**	**346**	*e*Pn	Pn	23 17 42.0	+5.0
EVR				*e*Sn	Sn	23 18 23.5	+1.0
NEO	**Neokhori**	**4.21**	**2**	P	Pn	23 17 44.1	+3.5
THL	**Klokotos Trika**	**4.54**	**350**	*e*Pn	Pn	23 17 48.4	+3.2
THL				*e*Sn	Sn	23 18 38.7	+1.5
LIA	**Limnos Island**	**5.08**	**19**	P	Pn	23 17 55.4	+2.8
KEK	**Kerkira**	**5.30**	**332**	*e*Pn	Pn	23 17 58.0	+2.5
NVR	**Nevrokopi**	**6.28**	**5**	P	Pn	23 18 12.3	+3.3

CSEM ***02*** *23:18:57.1±0.7, 3449N×2556E, h5km, MD3.5, Error ellipse: s-maj=19.6km s-min=6.1km az=166.0*
NEIC ***02*** *23:19:05.3, 3551N×2534E, h24km, MD3.5(ATH), After ATH.*
ATH ***02*** *23:19:05.3, 3553N×2534E, h22km, MD3.5/4*

ISC 02 23:18:52.6±2.4, 342N±02×2573E±010, h10km, n13, σ1§14/16, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.99**	**348**	P	**Pg**	**23 19 11.3**	**-0.3**
ZKR	**Zakros**	**1.00**	**24**	P	**Pg**	**23 19 14.1**	**+2.2**
NPS	**Neapolis**	**1.07**	**355**	*e*PB	**Pg**	**23 19 12.5**	**-0.7**
SIVA	**Sivas**	**1.12**	**318**	P	**Pg**	**23 19 14.4**	**+0.4**
IDI	**Anoyia**	**1.29**	**328**	P	**Pg**	**23 19 16.9**	**-0.5**
GVD	**Gavdhos**	**1.50**	**296**	*e*Pn	**Pn**	**23 19 21.4**	**+1.9**
GVD				*e*Sn	**Sg**	**23 19 41.6**	**+0.8**
GVD	**Gavdhos**	**1.50**	**296**	*e*Pn	**Pn**	**23 19 21.4**	**+1.9**
GVD				*e*Sn	**Sg**	**23 19 41.6**	**+0.8**
VAM	**Vamos**	**1.75**	**314**	*e*PN	**Pn**	**23 19 23.5**	**+0.6**
KYTH	**Kithira**	**3.03**	**314**	*e*PN	**Pn**	**23 19 40.4**	**-0.2**
VLI	**Veliai**	**3.40**	**319**	*e*PN	**Pn**	**23 19 43.7**	**-1.9**
ITM	**Ithomi**	**4.29**	**315**	P	**Pn**	**23 19 57.6**	**-0.3**
CUC	**Castrocucco** 6.8nm,0.6s	**9.80**	**309**	*e*Pn	**Pn**	**23 21 11.8**	**-1.7**
CUC	**Castrocucco** 6.8nm,0.6s	**9.80**	**309**	*e*Pn	**Pn**	**23 21 11.8**	**-1.7**
CUC				*e*Sn	**Sn**	**23 22 48.5**	**-15**

JMA 02 23:26:19.3±0.5, 4692N×14171E, h0km, M3.8, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.61**	**175**	P	Pn	23 26 49.0	+0.1
JWK2				*e*S	Sn	23 27 09.9	-0.5
JRR	**Rishiri**	**1.80**	**189**	*e*S	Sn	23 27 15.3	+0.1
JSE	**Soyaes**	**2.05**	**162**	P	Pn	23 26 54.8	-0.2
JSS	**Shosan**	**2.52**	**178**	P	Pn	23 27 02.1	+0.6

ISCJB ***02*** *23:31:55.8±4.2, 5532S±008×285W±02, h79km±39km, mb4.0/7, Error ellipse: s-maj=16.1km s-min=12.9km az=176.8*
NEIC ***02*** *23:31:58.8±2.6, 5537S×2841W, h93km±25km, mb4.2/8, Error ellipse: s-maj=11.6km s-min=9.1km az=157.0*
IDC ***02*** *23:31:59.5±11.0, 5530S×2843W, h98km±100km, mb3.9/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, MS3.5/2, Ms1 3.4/2, ms1mx3.1/17, Error ellipse: s-maj=29.6km s-min=25.9km az=80.0*

ISC 02 23:31:56.0±3.1, 5546S±007×284W±02, h67km±30km, n20, σ0§93/18, mb4.0/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland** 40nm,1.1s	**17.95**	**270**	*e*P	**Pn**	**23 36 00.9**	**+0.2**
SNAA	**Sanae** 6.2nm,0.6s	**19.57**	**156**	*e*Pn	**Pn**	**23 36 16.5**	**-3.4**
SNAA				S	**S**	**23 39 54.7**	**-0.2**
PMSA	**Palmer Station** 23nm,0.9s	**19.78**	**228**	*e*P	**Pn**	**23 36 21.4**	**-1.1**
TRIS	**Tristan da Cun**	**21.40**	**37**	P	**P**	**23 36 38.8**	**+0.8**
TRQA	**Tornquist** 1.8nm,0.6s,mb3.8	**28.46**	**294**	*e*P	**P**	**23 37 44.6**	**+0.2**
PLCA	**Paso Flores** comp=Z,78nm,19.8s,baz=60,slow=34	**31.22**	**280**	LR	LR	23 49 34.9	
BOSA	**Boshof** 3.9nm,1.0s,mb4.1,baz=239,slow=6.2,SNR=3.3	**46.50**	**78**	P	**P**	**23 40 18.1**	**+1.7**
BOSA				LR	LR	23 54 26.8	
	comp=Z,66nm,21.3s,baz=331,slow=29						
BOSA	**Boshof** 2.5nm,0.6s,mb4.1	**46.50**	**78**	P	**P**	**23 40 17.1**	**+0.8**
BOSA				LR	LR	23 54 26.9	
SBA	**Scott Base** 2.1nm,0.9s,mb3.9	**46.62**	**184**	*e*P	**P**	**23 40 17.8**	**+1.1**
VNDA	**Vanda** 2.3nm,0.7s,mb4.0,baz=202,slow=6.6,SNR=12	**47.13**	**183**	P	**P**	**23 40 21.8**	**+1.0**
LPAZ	**La Paz** 1.5nm,0.5s,mb4.2,baz=123,slow=6.8,SNR=12	**49.47**	**306**	P	**P**	**23 40 40.0**	**+0.6**
LPAZ	**La Paz** 1.7nm,0.5s,mb4.2	**49.47**	**306**	*e*P	**P**	**23 40 40.5**	**+1.1**
LBTB	**Lobatse**	**49.50**	**75**	P	**P**	**23 40 39.3**	**-0.3**
NNA	**Nana**	**57.36**	**300**	P	**P**	**23 41 37.0**	**-0.2**
OTAV	**Otavalo**	**68.75**	**305**	P	**P**	**23 42 53.0**	**+0.3**
TOA0	**Torodi Ar. Sit**	**72.88**	**31**	*e*P	**P**	**23 43 16.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**72.88**	**31**	P	**P**	**23 43 16.1**	**-1.5**
SDV	**Santo Domingo** 2.5nm,0.6s,mb4.2	**73.10**	**316**	*e*P	**P**	**23 43 18.4**	**-0.6**
INK	**Inuvik** 5.3nm,0.9s,baz=117,slow=5.9,SNR=10	**144.91**	**321**	PKP	PKPdf	23 51 23.3	-0.3
SONM	**Songino Array** 1.9nm,0.8s,baz=224,slow=3.1,SNR=14	**151.37**	**86**	PKPbc	PKPbc	23 51 40.8	-0.1

ISCJB ***02*** *23:32:34.8±0.3, 4060N±002×24.11E±002, h14km±3km, Error ellipse: s-maj=3.4km s-min=2.9km az=19.7*
NEIC ***02*** *23:32:35.6, 4062N×2408E, h34km, MD3.1(ATH), ML2.9(THE), After ATH.*
ATH ***02*** *23:32:35.6, 4062N×2408E, h34km±3km, MD3.1/5*
THE ***02*** *23:32:36.9, 4056N×2408E, h9km, ML2.9*
CSEM ***02*** *23:32:36.1±0.1, 4058N×24.13E, h15km, ML2.9, Error ellipse: s-maj=1.3km s-min=1.2km az=7.0*

ISC 02 23:32:35.7±0.3, 4059N±002×2411E±002, h16km±4km, n24, σ0§99/48, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.28**	**201**	*e*Pg	**Pg**	**23 32 41.3**	**-0.4**
OUR				*e*Sg	**Sg**	**23 32 45.8**	**+0.1**
PLG	**Polygyros**	**0.55**	**247**	*e*Pg	**Pg**	**23 32 47.1**	**+0.4**
PLG				*e*Sg	**Sg**	**23 32 54.9**	**+0.8**
PLG	**Polygyros**	**0.55**	**247**	*e*PN	**Pg**	**23 32 47.3**	**+0.6**
PLG				*e*SN	**Sg**	**23 32 54.6**	**+0.5**
PLG	**Polygyros**	**0.55**	**247**	*e*Pn	**Pg**	**23 32 47.3**	**+0.6**
PLG				*e*Sn	**Sg**	**23 32 54.6**	**+0.5**
PLG				*e*Sg	**Sg**	**23 32 54.8**	**+0.7**
SOH	**Sokhos**	**0.62**	**292**	*e*Pg	**Pg**	**23 32 48.3**	**+0.3**
SOH				*e*Sg	**Sg**	**23 32 56.6**	**+0.4**
PAIG	**Paliouri**	**0.74**	**207**	*e*Pg	**Pg**	**23 32 50.4**	**+0.2**
PAIG				*e*Sg	**Sg**	**23 33 00.6**	**+0.6**
HORT	**Hortiatis**	**0.77**	**271**	*e*Pg	**Pg**	**23 32 50.7**	**0.0**
HORT				*e*Sg	**Sg**	**23 33 01.5**	**+0.6**
NVR	**Nevrokopi**	**0.78**	**346**	*e*PN	**Pn**	**23 32 50.9**	**-1.2**
NVR				*e*SN	**Sn**	**23 33 01.0**	**-2.5**
THE	**Thessaloniki**	**0.87**	**273**	*e*Pg	**Pg**	**23 32 53.0**	**+0.3**
THE				*e*Sg	**Sg**	**23 33 05.9**	**+1.7**
LOS	**Limnos**	**0.99**	**131**	*e*Pg	**Pg**	**23 32 54.5**	**-0.5**
LOS				*e*Sg	**Sg**	**23 33 09.3**	**+1.4**
LIA	**Limnos Island**	**1.07**	**130**	*e*Pg	**Pg**	**23 32 56.1**	**-0.4**
LIA				*e*Sg	**Sg**	**23 33 12.3**	**+1.7**
LIA	**Limnos Island**	**1.07**	**130**	*e*Pn	**Pn**	**23 32 56.2**	**+0.1**
LIA				*e*Sn	**Sn**	**23 33 11.7**	**+1.0**
KNT	**Kendrikon**	**1.08**	**302**	*e*Pg	**Pg**	**23 32 56.7**	**0.0**
KNT				*e*Sg	**Sg**	**23 33 11.7**	**+0.9**
RDO	**Rodhopi**	**1.22**	**62**	*e*PN	**Pn**	**23 32 57.8**	**-0.3**
RDO				*e*SN	**Sn**	**23 33 14.7**	**+0.5**
LIT	**Litokhoron**	**1.33**	**249**	*e*Pg	**Pg**	**23 32 59.4**	**-2.0**
LIT				*e*Sg	**Sg**	**23 33 18.6**	**-0.2**
GRG	**Griva**	**1.35**	**286**	*e*Pg	**Pg**	**23 33 01.0**	**-0.7**
GRG				*e*Sg	**Sg**	**23 33 20.2**	**+0.9**
VAY	**Valandovo**	**1.38**	**302**	*e*Pg	**Pg**	**23 33 01.3**	**-1.0**
VAY				*e*Sg	**Sg**	**23 33 20.7**	**+0.5**
XOR	**Xorichti**	**1.41**	**210**	*e*Pg	**Pg**	**23 33 01.1**	**-1.8**
XOR				*e*Sg	**Sg**	**23 33 19.9**	**-1.5**
XOR	**Xorichti**	**1.41**	**210**	*e*Pg	**Pg**	**23 33 01.1**	**-1.9**
XOR				*e*Sg	**Sg**	**23 33 19.9**	**-1.4**
AOS	**Alonnisos**	**1.43**	**187**	*e*Pg	**Pg**	**23 33 01.1**	**-2.2**
AOS				*e*Sg	**Sg**	**23 33 20.6**	**-1.3**
NEO	**Neokhori**	**1.45**	**208**	*e*PN	**Pn**	**23 33 01.5**	**+0.2**
ALN	**Alexandroupoli**	**1.50**	**78**	*e*Pg	**Pg**	**23 33 03.7**	**-0.9**
ALN				*e*Sg	**Sg**	**23 33 25.0**	**+0.9**
PLD	**Plovdiv**	**1.58**	**16**	*e*Pg	**Pg**	**23 33 05.5**	**-0.6**
PLD				*e*Sg	**Sg**	**23 33 26.8**	**+0.3**
AGG	**Agios Georgios**	**2.08**	**222**	*e*Pn	**Pn**	**23 33 10.6**	**+0.6**
AGG				*e*Sn	**Sn**	**23 33 37.2**	**+1.6**

NEIC ***02*** *23:34:24.0, 4063N×2407E, h36km, MD3.0(ATH), ML2.4(THE), After ATH.*
ATH ***02*** *23:34:24.0, 4063N×2407E, h36km±7km, MD3.0/5*
CSEM ***02*** *23:34:25.8±0.1, 4058N×24.10E, h15km, ML2.4, Error ellipse: s-maj=2.4km s-min=1.3km az=15.0*
ISCJB ***02*** *23:34:26.4±0.5, 4055N±003×2407E±003, h21km±5km, Error ellipse: s-maj=5.9km s-min=3.6km az=24.4*
THE ***02*** *23:34:26.4, 4055N×2406E, h12km, ML2.4*

ISC 02 23:34:25.5±0.5, 4057N±003×2408E±003, h15km±5km, n22, σ1§02/39, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.25**	**198**	*e*Pg	**Pg**	**23 34 31.5**	**+0.6**
OUR				*e*Sg	**Sg**	**23 34 34.3**	**-0.3**
PLG	**Polygyros**	**0.52**	**248**	*e*Pg	**Pg**	**23 34 36.3**	**+0.4**
PLG				*e*Sg	**Sg**	**23 34 44.0**	**+1.1**
PLG	**Polygyros**	**0.52**	**248**	*e*PN	**Pg**	**23 34 35.6**	**-0.3**
PLG				*e*SN	**Sg**	**23 34 42.9**	**0.0**
PLG	**Polygyros**	**0.52**	**248**	*e*Pg	**Pg**	**23 34 36.3**	**+0.4**
PLG				*e*Sn	**Sg**	**23 34 42.9**	**0.0**
PLG				*e*Sg	**Sg**	**23 34 44.0**	**+1.1**
SOH	**Sokhos**	**0.61**	**295**	*e*Pg	**Pg**	**23 34 37.6**	**+0.2**
SOH				*e*Sg	**Sg**	**23 34 46.5**	**+0.9**
PAIG	**Paliouri**	**0.71**	**206**	*e*Pg	**Pg**	**23 34 39.5**	**+0.2**
PAIG				*e*Sg	**Sg**	**23 34 49.6**	**+0.8**
HORT	**Hortiatis**	**0.75**	**273**	*e*Pg	**Pg**	**23 34 39.9**	**-0.2**
HORT				*e*Sg	**Sg**	**23 34 51.4**	**+1.4**
NVR	**Nevrokopi**	**0.80**	**348**	*e*PN	**Pg**	**23 34 38.9**	**-2.1**
THE	**Thessaloniki**	**0.85**	**275**	*e*Pg	**Pg**	**23 34 42.6**	**+0.6**
THE				*e*Sg	**Sg**	**23 34 54.1**	**+0.8**
LOS	**Limnos**	**0.99**	**129**	*e*Pg	**Pg**	**23 34 44.7**	**-0.1**
LOS				*e*Sg	**Sg**	**23 34 58.4**	**+0.7**
KNT	**Kendrikon**	**1.08**	**304**	*e*Pg	**Pg**	**23 34 45.9**	**-0.4**
KNT				*e*Sg	**Sg**	**23 35 00.8**	**+0.4**
LIA	**Limnos Island**	**1.08**	**128**	*e*Pg	**Pg**	**23 34 45.4**	**-0.9**
LIA				*e*Sg	**Sg**	**23 35 01.5**	**+1.1**
LIA	**Limnos Island**	**1.08**	**128**	*e*PB	**Pb**	**23 34 44.5**	**-1.3**
LIA				*e*SN	**Sn**	**23 35 00.7**	**+0.1**
LIA	**Limnos Island**	**1.08**	**128**	*e*Pg	**Pg**	**23 34 45.4**	**-0.9**
LIA				*e*Sn	**Sn**	**23 35 00.7**	**+0.1**
RDO	**Rodhopi**	**1.25**	**62**	*e*PN	**Pn**	**23 34 46.2**	**-2.1**
GRG	**Griva**	**1.33**	**287**	*e*Pg	**Pg**	**23 34 50.0**	**-1.2**
GRG				*e*Sg	**Sg**	**23 35 08.1**	**-0.5**
XOR	**Xorichti**	**1.38**	**210**	*e*Pg	**Pg**	**23 34 50.5**	**-1.7**
XOR				*e*Sg	**Sg**	**23 35 08.6**	**-1.6**
NEO	**Neokhori**	**1.42**	**208**	*e*PN	**Pn**	**23 34 50.0**	**-0.7**
ALN	**Alexandroupoli**	**1.53**	**77**	*e*Pg	**Pn**	**23 34 53.7**	**+1.5**
ALN				*e*Sg	**Sn**	**23 35 14.1**	**+2.4**
THL	**Klokotos Trika**	**1.88**	**238**	*e*PB	**Pn**	**23 34 56.7**	**-0.3**
AGG	**Agios Georgios**	**2.05**	**222**	*e*Pn	**Pn**	**23 35 00.0**	**+0.6**
AGG	**Agios Georgios**	**2.05**	**222**	P	**Pn**	**23 35 00.0**	**+0.6**

ISCJB ***03*** *00:10:44.5±6.3, 209S±01×1686E±0.1, h31km±42km, mb4.0/7, MS3.3/2, Error ellipse: s-maj=22.6km s-min=17.9km az=43.8*
NEIC ***03*** *00:10:47.8±0.9, 2081S×16845E, h35km, mb4.3/3, Error ellipse: s-maj=20.8km s-min=14.9km az=127.0*
IDC ***03*** *00:10:48.4±2.1, 2075S×16842E, h38km±5km, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, MS3.3/3, Ms1 3.3/3, ms1mx2.8/32, Error ellipse: s-maj=76.4km s-min=22.7km az=143.0*

ISC 03 00:10:45.3±6.2, 209S±01×1685E±01, h20km±39km, h37km±1.0km: pP-P, n24, σ1§09/20, mb4.0/7, MS3.1/3, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.27**	**239**	*e*P	**Pn**	**00 11 20.6**	**-1.0**
DZM				*e*S	**Sn**	**00 11 47.6**	**-1.4**
DZM	**Mont Dzumac**	**2.27**	**239**	*e*Pn	**Pn**	**00 11 21.0**	**-0.6**
DZM				*e*Sn	**Sn**	**00 11 49.9**	**+0.9**
AFI	**Afiamalu**	**20.02**	**73**	LR	LR	00 21 44.9	
	comp=Z,42nm,20.0s,MS2.8,baz=68,slow=33						
CTA	**Charters Tower**	**20.89**	**268**	LR	LR	00 23 02.8	
	comp=Z,65nm,18.5s,MS3.0,baz=228,slow=35						
PMG	**Port Moresby**	**23.55**	**296**	P	**P**	**00 15 54.4**	**-0.4**
STKA	**Stephens Creek**	**26.42**	**240**	P	**P**	**00 16 22.5**	**+1.8**
	2.8nm,0.8s,mb3.9,baz=160,slow=0.9,SNR=3.3						
STKA				pP	pP	00 16 32.4	+5.7
	2.2nm,0.6s,baz=34,slow=10,SNR=2.2						
STKA				LR	LR	00 25 02.8	
	comp=Z,131nm,18.5s,MS3.5,baz=24,slow=32						
STKA	**Stephens Creek**	**26.42**	**240**	P	**P**	**00 16 22.5**	**+1.8**
STKA				pP	pP	00 16 32.4	+5.7
STKA				LR	LR	00 25 02.8	
WB2	**Warramunga Arr**	**32.02**	**266**	*e*P	**P**	**00 17 09.9**	**-0.7**
WRAB	**Tennant Creek**	**32.02**	**266**	*e*P	**P**	**00 17 10.6**	**0.0**
	2.2nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**32.03**	**266**	P	**P**	**00 17 10.6**	**-0.1**
	0.3nm,0.5s,mb3.4,baz=90,slow=8.3,SNR=5.4						
WRA				pP	pP	00 17 20.4	+3.6
	1.1nm,0.7s,baz=99,slow=8.0,SNR=6.9						
ASAR	**Alice Springs**	**32.12**	**259**	P	**P**	**00 17 11.6**	**+0.1**
	0.9nm,0.5s,mb3.9,baz=91,slow=9.8,SNR=12						
ASAR				pP	pP	00 17 21.9	+4.4
	3.6nm,0.7s,baz=92,slow=10,SNR=18						
FITZ	**Fitzroy Crossi**	**40.45**	**266**	*e*P	**P**	**00 18 23.1**	**+0.4**
	2.9nm,0.6s,mb4.2						
FITZ				*e*		00 18 34.1	
FITZ	**Fitzroy Crossi**	**40.45**	**266**	P	**P**	**00 18 23.0**	**+0.3**
	1.2nm,0.5s,mb3.9,baz=164,slow=14,SNR=6.8						
FITZ				pP	pP	00 18 33.4	+4.5
	5.1nm,0.7s,baz=153,slow=10,SNR=6.0						
NWAO	**Narrogin (SRO)**	**46.88**	**244**	*e*P	**P**	**00 19 15.6**	**+1.2**
	19nm,1.2s,mb4.9						
VNDA	**Vanda**	**56.75**	**182**	P	**P**	**00 20 28.8**	**+1.5**
KSM	**Kuching**	**61.11**	**284**	*e*P	**P**	**00 20 58.3**	**-0.3**
BJT	**Baijiatuau**	**77.81**	**322**	P	**P**	**00 22 41.6**	**+0.4**
SNAA	**Sanae**	**87.48**	**183**	*e*	**P**	**00 23 28.5**	**-2.6**
SNAA				*e*		00 23 32.4	
SONM	**Songino Array**	**88.15**	**323**	P	**P**	**00 23 34.5**	**0.0**
	1.4nm,0.8s,mb4.2,baz=139,slow=4.5,SNR=8.1						
SONM				pP	pP	00 23 47.0	+5.9
	2.2nm,0.8s,baz=146,slow=5.8,SNR=10						
VNA2	**Neumayer--Watz**	**88.37**	**181**	*e*	**P**	**00 23 32.5**	**-2.9**
VNA2				*e*		00 23 36.0	
ARCES	**ARCESS Array B**	**126.50**	**345**	PKP	PKPdf	00 29 45.0	-1.2
	1.3nm,0.9s,baz=22,slow=3.1,SNR=3.4						
NOA	**NORSAR Array B**	**136.87**	**344**	pPKP	pPKPdf	00 30 15.2	+2.5
	1.2nm,0.9s,baz=12,slow=4.3,SNR=3.1						
KHC	**Kasperske Hory**	**145.47**	**331**	*e*PKP	PKPdf	00 30 21.5	-0.3
KHC				*e*pPKP	pPKPdf	00 30 31.0	+2.4
GERES	**GERESS Array B**	**145.62**	**330**	PKPbc	PKPbc	00 30 21.6	-0.7
	1.5nm,0.7s,baz=44,slow=3.0,SNR=15						
GERES				pPKPbc	pPKPbc	00 30 33.6	+4.6
	2.4nm,0.7s,baz=58,slow=3.3,SNR=13						

ATH ***03*** *00:12:33.7, 4059N×24.13E, h21km±9km, MD2.8/4*
ISCJB ***03*** *00:12:34.5±0.5, 4057N±003×2408E±004, h24km±4km, Error ellipse: s-maj=5.1km s-min=3.9km az=40.5*
NEIC ***03*** *00:12:34.7, 4055N×2407E, h16km, MD2.8(ATH), ML2.3(THE), After THE.*
THE ***03*** *00:12:34.7, 4055N×2407E, h16km, ML2.3*
CSEM ***03*** *00:12:34.3±0.1, 4057N×24.11E, h20km, ML2.3, Error ellipse: s-maj=2.3km s-min=2.0km az=29.0*

ISC 03 00:12:33.9±0.5, 4058N±003×2411E±003, h18km±4km, n17, σ0§44/33, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.27**	**202**	*e*Pg	**Pg**	**00 12 40.2**	**+0.4**
OUR				*e*Sg	**Sg**	**00 12 43.4**	**-0.5**
OUR	**Ouranopolis**	**0.27**	**202**	*e*Pg	**Pg**	**00 12 40.2**	**+0.4**
OUR				*e*Sg	**Sg**	**00 12 43.3**	**-0.6**
PLG	**Polygyros**	**0.55**	**248**	*e*Pg	**Pg**	**00 12 44.9**	**0.0**
PLG				*e*Sg	**Sg**	**00 12 52.2**	**0.0**
PLG	**Polygyros**	**0.55**	**248**	⇑*i*PN	**Pg**	**00 12 44.8**	**0.0**
PLG				*e*SN	**Sg**	**00 12 52.4**	**+0.2**
PLG	**Polygyros**	**0.55**	**248**	*e*Pg	**Pg**	**00 12 44.8**	**0.0**
PLG				*e*Sg	**Sg**	**00 12 52.2**	**0.0**
SOH	**Sokhos**	**0.62**	**293**	*e*Pg	**Pg**	**00 12 46.0**	**-0.2**
SOH				*e*Sg	**Sg**	**00 12 55.7**	**+1.1**
PAIG	**Paliouri**	**0.73**	**207**	*e*Pg	**Pg**	**00 12 48.3**	**0.0**
PAIG				*e*Sg	**Sg**	**00 12 57.8**	**-0.2**
HORT	**Hortiatis**	**0.77**	**272**	*e*Pg	**Pg**	**00 12 48.6**	**-0.3**
HORT				*e*Sg	**Sg**	**00 12 59.4**	**+0.3**
NVR	**Nevrokopi**	**0.79**	**346**	*e*PN	**Pb**	**00 12 48.4**	**-0.7**
NVR				*e*SN	**Sg**	**00 13 00.1**	**+0.2**
NVR	**Nevrokopi**	**0.79**	**346**	*e*Pb	**Pb**	**00 12 48.4**	**-0.7**
NVR				*e*Sn	**Sn**	**00 13 01.1**	**-0.4**
LOS	**Limnos**	**0.99**	**131**	*e*Pg	**Pg**	**00 12 52.4**	**-0.7**
LOS				*e*Sg	**Sg**	**00 13 06.1**	**+0.1**
LIA	**Limnos Island**	**1.07**	**129**	*e*Pg	**Pg**	**00 12 54.1**	**-0.5**
LIA				*e*Sg	**Sg**	**00 13 09.2**	**+0.5**
LIA	**Limnos Island**	**1.07**	**129**	*e*Pn	**Pn**	**00 12 54.1**	**+0.2**
LIA				*e*Sn	**Sn**	**00 13 08.8**	**+0.5**
KNT	**Kendrikon**	**1.09**	**303**	*e*Pg	**Pg**	**00 12 54.7**	**-0.2**
KNT				*e*Sg	**Sg**	**00 13 09.3**	**+0.1**
RDO	**Rodhopi**	**1.22**	**62**	*e*PN	**Pn**	**00 12 56.6**	**+0.5**
LIT	**Litokhoron**	**1.33**	**249**	*e*Pg	**Pn**	**00 12 57.0**	**-0.5**
LIT				*e*Sg	**Sn**	**00 13 14.3**	**-0.4**
XOR	**Xorichti**	**1.40**	**210**	*e*Pg	**Pn**	**00 12 58.7**	**+0.1**
XOR				*e*Sg	**Sn**	**00 13 17.0**	**+0.5**

ATH ***03*** *00:14:30.8, 4058N×2407E, h38km±5km, MD2.9/4*
ISCJB ***03*** *00:14:31.8±0.5, 4056N±003×2408E±004, h24km±5km, Error ellipse: s-maj=5.9km s-min=4.6km az=7.8*
CSEM ***03*** *00:14:31.6±0.1, 4057N×24.11E, h19km, ML2.3, Error ellipse: s-maj=2.4km s-min=1.8km az=159.0*
NEIC ***03*** *00:14:32.0, 4055N×2407E, h16km, MD2.9(ATH), ML2.3(THE), After THE.*
THE ***03*** *00:14:32.0, 4055N×2407E, h16km, ML2.3*

ISC 03 00:14:31.4±0.6, 4058N±003×2410E±004, h17km±4km, n19, σ0§66/38, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.26**	**200**	*e*Pg	**Pg**	**00 14 37.3**	**+0.1**
OUR				*e*Sg	**Sg**	**00 14 40.6**	**-0.5**
PLG	**Pol

TKM2	**Tokmak 2**	**3.52 330**	P	**Pg**	**00 26 15.1**	**+0.4**
	SNR=5.8					
KBK	**Karagaybulak**	**3.60 321**	P	**Pg**	**00 26 16.3**	**+0.2**
	SNR=9.1					
AAK	**Ala-Archa**	**3.81 317**	P	**Pg**	**00 26 20.0**	**-0.2**
	SNR=8.0					
EKS2	**Erkin-Say**	**4.22 312**	P	**Pg**	**00 26 29.0**	**+0.9**
	SNR=6.1					
USP	**Ospenovka**	**4.28 323**	P	**Pg**	**00 26 27.9**	**-1.2**
	SNR=14					
KK31	**Karatay Array**	**6.49 302**	⇓Pg	**Pg**	**00 27 05.6**	**-5.8**
	comp=E,0.9nm,0.6s,baz=134,slow=16,SNR=6.9					
KK31			Lg		00 28 46.2	
	comp=E,3.5nm,0.9s,baz=132,slow=28,SNR=4.5					
MK31	**Makanchi Array**	**7.55 23**	⇓Pg	**Pn**	**00 27 02.5**	**+5.2**
	comp=E,0.2nm,0.3s,baz=197,slow=14,SNR=13					
MK31			⇑Lg		00 28 40.0	
	comp=E,2.7nm,0.8s					
MKAR	**Makanchi Array**	**7.55 23**	Pn	**Pn**	**00 26 57.2**	**-0.1**
	comp=E,0.3nm,0.3s,baz=201,slow=12,SNR=10					
MKAR			Lg		00 29 04.3	
	comp=E,0.2nm,0.3s,baz=200,slow=31,SNR=3.6					
SONM	**Songino Array**	**21.84 59**	P	**P**	**00 29 59.1**	**-0.5**
	comp=E,0.3nm,0.4s,mb3.1,baz=246,slow=11,SNR=3.6					
TORD	**Torodi Ar. Bea**	**71.25 272**	P	**P**	**00 36 30.1**	**+3.2**
	comp=E,0.1nm,0.4s,mb3.1,baz=46,slow=5.7,SNR=4.6					

ISCJB ***03*** *00:34:57.9±0.5, 4056N±004×2403E±004, h27km±6km, Error ellipse: s-maj=7.1km s-min=4.8km az=28.8*
NEIC ***03*** *00:34:57.8, 4057N×2406E, h13km, MD2.8(ATH), ML2.0(THE), After THE.*
CSEM ***03*** *00:34:57.8±0.1, 4058N×2408E, h12km, MD2.8, Error ellipse: s-maj=1.4km s-min=1.3km az=43.0*
ATH ***03*** *00:34:57.2, 4057N×24.12E, h23km±6km, MD2.8/4*
THE ***03*** *00:34:57.8, 4057N×2406E, h13km*
ISC 03 00:34:57.4±0.6, **4058N**±005×**2407E**±005, **h18**km±7km, **n13**, σ0°**61**/26, **1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.25**	**195**	*e*Pg	**Pg**	**00 35 03.2**	**+0.1**
OUR				*e*Sg	**Sg**	**00 35 06.2**	**-0.8**
PLG	**Polygyros**	**0.52**	**247**	*e*Pg	**Pg**	**00 35 07.8**	**0.0**
PLG				*e*Sg	**Sg**	**00 35 15.2**	**+0.5**
PLG	**Polygyros**	**0.52**	**247**	⇑*i*PN	**Pg**	**00 35 07.9**	**+0.1**
PLG				*e*SN	**Sg**	**00 35 15.8**	**+1.0**
SOH	**Sokhos**	**0.59**	**294**	*e*Pg	**Pg**	**00 35 08.9**	**-0.3**
SOH				*e*Sg	**Sg**	**00 35 17.6**	**+0.4**
SOH	**Sokhos**	**0.59**	**294**	*e*Pg	**Pg**	**00 35 08.9**	**-0.3**
SOH				*e*Sg	**Sg**	**00 35 17.6**	**+0.4**
PAIG	**Paliouri**	**0.72**	**205**	*e*Pg	**Pg**	**00 35 11.3**	**-0.1**
PAIG				*e*Sg	**Sg**	**00 35 21.4**	**+0.4**
HORT	**Hortiatis**	**0.74**	**272**	*e*Pg	**Pg**	**00 35 11.7**	**-0.2**
HORT				*e*Sg	**Sg**	**00 35 22.2**	**+0.5**
NVR	**Nevrokopi**	**0.79**	**349**	*e*PN	**Pn**	**00 35 12.6**	**-1.0**
NVR				*e*SN	**Sn**	**00 35 24.1**	**-0.8**
KNT	**Kendrikon**	**1.06**	**304**	*e*Pg	**Pg**	**00 35 17.8**	**-0.2**
LIA	**Limnos Island**	**1.09**	**128**	*e*Pg	**Pg**	**00 35 17.8**	**-0.7**
LIA				*e*Sg	**Sg**	**00 35 33.3**	**+0.4**
LIA	**Limnos Island**	**1.09**	**128**	*e*PN	**Pn**	**00 35 17.4**	**-0.4**
LIA				*e*SN	**Sn**	**00 35 32.0**	**-0.4**
LIA	**Limnos Island**	**1.09**	**128**	*e*Pg	**Pg**	**00 35 17.8**	**-0.7**
LIA				*e*Sn	**Sn**	**00 35 32.0**	**-0.4**
LIA				*e*Sg	**Sg**	**00 35 33.3**	**+0.5**
RDO	**Rodhopi**	**1.25**	**63**	*e*PN	**Pn**	**00 35 20.9**	**+1.0**
RDO				*e*SN	**Sn**	**00 35 37.6**	**+1.3**

BJI ***03*** *00:41:12.6, 6298S×14526E, h5km, mB6.0, mb5.8, Ms5.5, Msz5.4*
IDC ***03*** *00:41:13.6±0.4, 6288S×14547E, h0km, mb5.6/20, mb1 5.6/20, mb1mx5.6/21, mbtmp5.5/20, MS5.5/15, Ms1 5.5/15, ms1mx5.4/18, Error ellipse: s-maj=17.4km s-min=11.1km az=75.0*
ISCJB ***03*** *00:41:14.5±0.2, 6284S±003×14549E±0.10, h10km, mb5.8/61, MS5.7/223, Error ellipse: s-maj=6.7km s-min=4.5km az=14.1*
NEIC ***03*** *00:41:14.3±0.1, 6297S×14531E, h6km, mb6.0/31, ME5.8, MS5.8/185, MW5.7, Error ellipse: s-maj=4.8km s-min=3.9km az=119.0, Moment Tensor Solution. s21 Moment tensor: Scale 1017Nm; Mrr4.92; Mθθ-3.91; Mφφ-1.01; Mrθ1.80; Mθφ1.72; Mφr0.08; Best double couple: M0 5.10000×1017 NP1:φs106.00000°, δ55.00000°, λ80.00000°. NP2:φs303.00000°, δ36.00000°, λ104.00000°. Principal axes: T 5.3000, Plg78.0000°, Azm341.0000°; N -0.3300, Plg8.0000°, Azm112.0000°; P -4.9800, Plg9.0000°, Azm203.0000°; Broadband fault plane solution: P waves. NP1:φs145.00000°, δ25.00000°, λ90.00000°. NP2:φs325.00000°, δ65.00000°, λ90.00000°. Principal axes: T Plg70.0000°, Azm235.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm55.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
SZGRF ***03*** *00:41:15.2, 6250S×14743E, h33km, mb5.9, South of Australia*
IGIL ***03*** *00:41:15.5, 6287S×14546E, h11km, MS6.2*
GCMT ***03*** *00:41:15.0±0.1, 6281S×14551E, h12km, MW5.9/93, Moment Tensor Solution. s93,c198; s86,c273; Duration: ≧2 Moment tensor: Scale 1018Nm; Mrr0.72±.01; Mθθ-0.20±.01; Mφφ-0.52±.01; Mrθ0.17±.02; Mθφ0.55±.01; Mφr-0.24±.02; Best double couple: M0 0.87600×1018 NP1:φs322.00000°, δ35.00000°, λ88.00000°. NP2:φs144.00000°, δ55.00000°, λ91.00000°. Principal axes: T 0.7690, Plg80.0000°, Azm60.0000°; N 0.2120, Plg1.0000°, Azm324.0000°; P -0.9820, Plg10.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***03*** *00:41:16.0±0.7, 6278S×14550E, h19km, mb5.8/34, MS5.7/71 Error ellipse: s-maj=20.7km s-min=7.9km az=87.1*
DJA ***03*** *00:41:17, 6299S×14595E, h10km, mB6.7/12*
ISC 03 00:41:14.7±1.2, **6286S**±003×**14552E**±009, **h1**km±7km, **n986**, σ0°**92**/169, **mb5.8**/61, **MS5.7**/224, **115C-21D, South of Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**4.49**	**209**	P	**Pn**	**00 42 24.0**	**+0.3**
MCQ	**Macquarie Isla**	**10.89**	**46**	*e*P	**Pn**	**00 43 52.7**	**+1.2**
MCQ				*e*S	**Sn**	**00 45 51.4**	**-2.5**
MCQ	**Macquarie Isla**	**10.89**	**46**	⇓*i*P	**Pn**	**00 43 51.9**	**+0.4**
MCQ				*e*		00 45 53.2	
MCQ	**Macquarie Isla**	**10.89**	**46**	⇓*i*P	**Pn**	**00 43 51.9**	**+0.4**
MCQ				*e*Sn	**Sn**	**00 45 53.2**	**-0.6**
MCQ				*e*PcP	PcP	00 49 57.5	+6.5
MCQ				*e*ScP	ScP	00 53 23.9	-0.3
CASY	**Casey**	**15.27**	**242**	*e*P	**Pn**	**00 44 46.4**	**-4.7**
CASY				*e*S	**Sn**	**00 47 32.3**	**-8.3**
VNDA	**Vanda**	**15.61**	**167**	Pn	**Pn**	**00 44 49.0**	**-6.5**
	21nm,0.3s,baz=329,slow=12,SNR=292						
VNDA				Sn	**Sn**	**00 47 35.6**	**-13**
	26nm,0.3s,baz=202,slow=18,SNR=6.3						
SBA	**Scott Base**	**16.46**	**164**	*e*P	**Pn**	**00 44 59.9**	**-6.5**
SBA				pmax	pmax		
	comp=Z,4μm,2.5s						
SBA	**Scott Base**	**16.46**	**164**	*e*Pn	**Pn**	**00 44 59.9**	**-6.6**
	comp=Z,4μm,2.5s						
TAU	**Tasmania Unive**	**20.01**	**4**	*e*P	**P**	**00 45 49.4**	**+0.9**
	comp=Z,259nm,1.2s						
TAU				LR	LR		
	comp=Z,22μm,19.0s,MS5.5						
TUZ	**Tuapeka**	**21.77**	**50**	*e*P	**P**	**00 46 08.2**	**+0.7**
MIR	**Mirnyy**	**22.17**	**237**	κ*i*P	**P**	**00 46 13.0**	**+1.4**
MIR				*i*		00 46 41.0	
MIR				*i* S	**S**	**00 50 18.0**	**+1.8**
MIR				*i* SS		00 51 00.0	
MIR				pmax	pmax		
	comp=Z,2μm,2.0s,mb6.1						
MIR				pmax	pmax		
	comp=Z,9μm,6.0s						
MIR				MLR	MLR		
	comp=Z,47μm,20.0s,MS5.9						
JCZ	**Jackson Bay**	**23.12**	**46**	*e*P	**P**	**00 46 22.8**	**+1.0**
LBZ	**Lake Benmore**	**23.32**	**49**	*e*P	**P**	**00 46 24.7**	**+0.7**
RPZ	**Rata Peaks**	**24.21**	**50**	P	**P**	**00 46 32.7**	**+0.1**
	comp=Z,24nm,0.9s,mb4.7,baz=164,slow=8.4,SNR=11						
RPZ				LR	LR	00 54 07.5	
	comp=Z,33μm,19.8s,MS5.8,baz=160,slow=32						
TOO	**Toolangi**	**25.32**	**360**	*e*P	**P**	**00 46 42.9**	**+0.3**
TOO				*e*S	**S**	**00 51 14.4**	**+5.1**
QSPA	**South Pole Qui**	**27.22**	**180**	P	**P**	**00 46 59.3**	**-0.1**
	comp=Z,33nm,0.6s,mb5.2,baz=341,slow=2.3,SNR=160						
QSPA				LR	LR	00 58 23.8	
	comp=Z,18μm,18.7s,MS5.7,baz=181,slow=38						
QSPA	**South Pole Qui**	**27.22**	**180**	P	**P**	**00 46 59.3**	**-0.2**
QSPA				LR	LR	00 58 23.8	
SNZO	**South Karori**	**27.62**	**52**	⇓*e*P	**P**	**00 47 04.7**	**+1.3**
	comp=Z,92nm,1.3s,mb5.5						
SNZO				*e*PcP	PcP	00 50 15.4	-5.2
SNZO				*e*S	**S**	**00 51 42.2**	**-3.5**
SNZO				LR	LR		
	comp=Z,41μm,20.0s,MS6.0						
MRZ	**Mangatainoka R**	**28.51**	**53**	*e*P	**P**	**00 47 11.3**	**0.0**
STKA	**Stephens Creek**	**31.10**	**354**	*e*P	**P**	**00 47 34.3**	**0.0**
	comp=Z,7nm,0.9s,mb5.6						
STKA				*e*S	**S**	**00 52 44.0**	**+3.6**
STKA	**Stephens Creek**	**31.10**	**354**	P	**P**	**00 47 34.6**	**+0.3**
	comp=Z,87nm,0.8s,mb5.7,baz=164,slow=8.4,SNR=62						
STKA				LR	LR	00 57 00.4	
	comp=Z,6μm,20.4s,MS5.3,baz=289,slow=30						
URZ	**Urewera**	**31.18**	**53**	P	**P**	**00 47 35.6**	**+0.6**
	comp=Z,33nm,0.8s,mb5.3,baz=242,slow=6.3,SNR=16						
URZ				PcP	PcP	00 50 25.7	-4.0
	comp=Z,21nm,0.7s,baz=184,slow=1.7,SNR=7.8						
URZ				LR	LR	00 58 27.0	
	comp=Z,29μm,20.6s,MS5.9,baz=212,slow=33						
MAW	**Mawson**	**32.51**	**225**	⇑*i*P	**P**	**00 47 46.8**	**+0.4**
	comp=Z,65nm,0.9s,mb5.6						
MAW				*i* S	**S**	**00 53 03.6**	**+1.8**
MAW	**Mawson**	**32.51**	**225**	ScP	ScP	00 54 16.0	-1.4
	comp=Z,14nm,1.0s,baz=269,slow=9.1,SNR=4.0						
MAW				LR	LR	01 01 18.3	
	comp=Z,19μm,18.4s,MS5.8,baz=106,slow=37						
MAW	**Mawson**	**32.51**	**225**	⇑*e*P	**P**	**00 47 47.0**	**+0.6**
MAW				*e*		00 48 57.2	
MAW				*e*		00 50 31.6	
MAW				*e*S	**S**	**00 52 54.1**	**-7.7**
MAW				pmax	pmax		
	comp=Z,232nm,1.3s						
MAW				MLR	MLR		
	comp=Z,3μm,20.0s						
MAW	**Mawson**	**32.51**	**225**	⇑*e*P	**P**	**00 47 47.0**	**+0.6**
	comp=Z,45nm,1.3s,mb5.2						
MAW				*e*PP	PP	00 48 57.2	-2.2
MAW				*e*PcP	PcP	00 50 31.6	-1.2
MAW				*e*S	**S**	**00 52 54.1**	**-7.7**
MAW				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
ARMA	**Armidale**	**32.69**	**10**	*e*P	**P**	**00 47 48.6**	**+0.3**
ARMA				*e*S	**S**	**00 53 12.0**	**+6.7**
FORT	**Forrest**	**34.01**	**332**	*e*P	**P**	**00 47 59.6**	**-0.1**
	comp=Z,313nm,0.9s,mb6.2						
NWAO	**Narrogin (SRO)**	**34.88**	**316**	P	**P**	**00 48 07.0**	**-0.3**
	comp=Z,121nm,0.8s,mb5.9,baz=154,slow=8.0,SNR=53						
NWAO				PcP	PcP	00 50 37.0	-3.0
	comp=Z,20nm,0.9s,baz=182,slow=4.1,SNR=6.1						
NWAO				LR	LR	00 59 00.7	
	comp=Z,4μm,20.4s,MS5.2,baz=348,slow=31						
NWAO	**Narrogin (SRO)**	**34.88**	**316**	P	**P**	**00 48 07.0**	**-0.3**
NWAO						00 50 37.1	
NWAO				pmax	pmax		
	comp=Z,121nm,0.8s						
NWAO				pmax	pmax		
	comp=Z,20nm,0.9s						
NWAO	**Narrogin (SRO)**	**34.88**	**316**	*e*P	**P**	**00 48 06.8**	**-0.4**
	comp=Z,189nm,1.0s,mb6.0						
NWAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
KLBR	**Kellerberrin**	**35.95**	**317**	*e*P	**P**	**00 48 15.7**	**-0.8**
	comp=Z,228nm,1.0s,mb6.0						
KLBR				*e*PcP	PcP	00 50 42.3	-0.9
MUN	**Mundaring**	**36.08**	**315**	⇑*i*P	**P**	**00 48 17.7**	**+0.1**
MUN				*i* sP	sP	00 48 26.4	+8.5
MUN				*e*PCP	PcP	00 50 43.4	-0.2
MUN				*e*S	**S**	**00 53 59.9**	**+2.3**
MUN				*e*SS	SS	00 56 39.5	+5.1
SYO	**Syowa Base**	**38.41**	**214**	⇓*i*P	**P**	**00 48 35.2**	**-1.8**
SYO	**Syowa Base**	**38.41**	**214**	⇓*i*P	**P**	**00 48 43.2**	**+6.2**
ASAR	**Alice Springs**	**39.95**	**343**	P	**P**	**00 48 50.0**	**-0.4**
	comp=Z,99nm,0.8s,mb5.5,baz=163,slow=10,SNR=354						
ASAR				PcP	PcP	00 50 51.9	-3.8
	comp=Z,12nm,0.8s,baz=134,slow=4.0,SNR=2.5						
ASAR				S	**S**	**00 54 44.1**	**-12**
	comp=Z,1.2nm,0.9s,baz=172,slow=8.7,SNR=2.9						
ASAR				PKiKP	PKiKP	00 58 04.7	-1.7
	comp=Z,0.5nm,0.6s,baz=121,slow=1.5,SNR=4.9						
ASAR	**Alice Springs**	**39.95**	**343**	P	**P**	**00 48 50.0**	**-0.4**
ASAR						00 50 51.9	
ASAR				S	**S**	**00 54 44.1**	**-12**
ASAR				pmax	pmax		
	comp=Z,99nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,12nm,0.8s						
ASAR				smax			
	comp=N,1.0nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RAO	**Raoul Island**	**41.07**	**52**	LR	LR	01 04 54.1	
	comp=Z,22μm,18.2s,MS6.1,baz=202,slow=35						
RAO	**Raoul Island**	**41.07**	**52**	PFAKE		00 49 10.0	+10
RAO				LR	LR		
	comp=Z,22μm,19.0s,MS6.0						
CTA	**Charters Tower**	**42.74**	**1**	*e*P	**P**	**00 49 13.3**	**0.0**
	comp=Z,71nm,1.0s,mb5.3						
CTA				*es*P	sP	00 49 21.6	+8.0
CTA				*e*S	**S**	**00 55 36.8**	**-0.9**
CTA				*e*SS	SS	00 58 54.5	+6.5
CTA	**Charters Tower**	**42.74**	**1**	P	**P**	**00 49 12.9**	**-0.3**
	comp=Z,75nm,0.9s,mb5.4,baz=170,slow=8.2,SNR=59						
CTA				LR	LR	01 04 10.7	
	comp=Z,15μm,21.3s,MS5.8,baz=183,slow=32						
CTA	**Charters Tower**	**42.74**	**1**	*e*P	**P**	**00 49 13.3**	**0.0**
CTA				*e**SP	sP	00 49 21.6	+8.0
CTA				*e*S	**S**	**00 55 36.8**	**-0.9**
CTA				pmax	pmax		
	comp=Z,71nm,1.0s						
CTAO	**Charters Tower**	**42.74**	**1**	*e*P	**P**	**00 49 13.0**	**-0.3**
	comp=Z,200nm,1.2s,mb5.7						
CTAO				LR	LR		
	comp=Z,15μm,19.0s,MS5.9						
NVL	**N'lazarevskaya**	**42.82**	**201**	*c i*P	**P**	**00 49 14.1**	**+0.7**
NVL				*e**PP		00 49 21.7	
NVL				*e*		00 50 59.2	
NVL				*i* S	**S**	**00 55 39.7**	**+1.7**
NVL				*i* SS	SS	00 58 46.6	-1.5
NVL				pmax	pmax		
	comp=Z,379nm,1.2s,mb6.0						
NVL				MLR	MLR		
	comp=N,17μm,19.0s,MS6.1						
NVL				MLR	MLR		
	comp=E,15μm,19.0s,MS6.1						
NVL				MLR	MLR		
	comp=Z,25μm,19.0s,MS6.1						
MAIT	**Maitri**	**42.83**	**201**	⇑*i*P	**P**	**00 49 12.5**	**-1.0**
MAIT				*e*PP	PP	00 50 55.0	+2.7
MAIT				*e*S	**S**	**00 55 38.3**	**+0.2**
MAIT				*e*SS	SS	00 58 43.9	-4.3
DZM	**Mont Dzumac**	**43.17**	**29**	⇑*e*P	**P**	**00 49 17.0**	**+0.3**
	comp=Z,244nm,1.4s,mb5.7						
WB2	**Warramunga Arr**	**43.57**	**345**	⇑*i*P	**P**	**00 49 18.8**	**-1.2**
WB2				*e*S	**S**	**00 55 47.2**	**-2.6**
WB2				*e*SS	SS	00 59 01.5	-2.7
WRA	**Warramunga Arr**	**43.57**	**345**	P	**P**	**00 49 18.8**	**-1.2**
	comp=Z,223nm,0.8s,mb5.9,baz=171,slow=7.1,SNR=422						
WRA				PcP	PcP	00 51 04.9	-2.7
	comp=Z,25nm,0.9s,baz=179,slow=3.1,SNR=7.9						
WRA				S	**S**	**00 55 47.1**	**-2.7**
	comp=Z,1.4nm,1.0s,baz=176,slow=14,SNR=6.2						
WRA				LR	LR	01 04 53.6	
	comp=Z,3μm,21.1s,MS5.2,baz=150,slow=33						
WRA	**Warramunga Arr**	**43.57**	**345**	P	**P**	**00 49 18.8**	**-1.2**
WRA						00 51 04.9	
WRA				S	**S**	**00 55 47.1**	**-2.8**
WRA				pmax	pmax		
	comp=Z,223nm,0.8s						
WRA				pmax	pmax		
	comp=Z,25nm,0.9s						
WRA				smax			
	comp=N,1.0nm,1.0s						
WRAB	**Tennant Creek**	**43.58**	**345**	*e*P	**P**	**00 49 19.1**	**-0.9**
WRAB				LR	LR		
	comp=Z,4μm,20.0s,MS5.3						
SNAA	**Sanae**	**43.99**	**194**	*e*P	**P**	**00 49 22.7**	**-0.1**
SNAA				*e*		00 49 29.7	
SNAA				*e*		00 49 36.2	
SNAA				*e*		00 51 07.5	
SNAA	**Sanae**	**43.99**	**194**	⇑*i*P	**P**	**00 49 22.6**	**-0.2**
SNAA				*e*		00 51 06.5	
SNAA				*e*S	**S**	**00 55 53.6**	**-1.4**
SNAA				pmax	pmax		
	comp=Z,2μm,2.0s						
SNAA	**Sanae**	**43.99**	**194**	⇑*i*P	**P**	**00 49 22.6**	**-0.3**
	comp=Z,2μm,2.0s,mb6.5						
SNAA				*e*PcP	PcP	00 51 06.5	-1.8
SNAA				*e*S	**S**	**00 55 53.5**	**-1.5**
VNA2	**Neumayer--Watz**	**45.17**	**192**	*e*P	**P**	**00 49 31.7**	**-0.6**
VNA2				*e*		00 49 38.9	
VNA2				*e*		00 49 44.3	
VNA2				*e*		00 51 12.6	
VNA2				*e*		00 51 20.0	
MBWA	**Marble Bar**	**45.23**	**325**	*e*P	**P**	**00 49 33.0**	**-0.2**
	comp=Z,202nm,1.0s,mb6.0						
MBWA				LR	LR		
	comp=Z,4μm,19.0s,MS5.4						
VNA1	**Neumayer--Stat**	**45.52**	**192**	*e*P	**P**	**00 49 35.0**	**0.0**
VNA1				*e*		00 49 42.6	
VNA1				*e*		00 49 48.2	
VNA1				*e*		00 51 13.4	
VNA1				*e*		00 51 20.7	
FITZ	**Fitzroy Crossi**	**46.80**	**334**	⇑*i*P	**P**	**00 49 45.4**	**-0.2**
	comp=Z,88nm,0.6s,mb6.1						
FITZ				*e*PCP	PcP	00 51 18.8	0.0
FITZ				*e*S	**S**	**00 56 38.5**	**+2.0**
FITZ	**Fitzroy Crossi**	**46.80**	**334**	P	**P**	**00 49 44.6**	**-1.1**
	comp=Z,48nm,0.7s,mb5.7,baz=181,slow=9.8,SNR=88						
FITZ				PcP	PcP	00 51 17.6	-1.2
	comp=Z,13nm,1.0s,baz=135,slow=5.7,SNR=3.2						
FITZ				PP	PP	00 51 33.5	-1.9
	comp=Z,12nm,0.8s,baz=160,slow=12,SNR=3.8						
COEN	**Coen**	**48.86**	**357**	⇑*i*P	**P**	**00 50 01.4**	**-0.3**
	comp=Z,613nm,1.8s,mb6.3						
COEN				PcP	PcP	00 51 25.0	-1.2
COEN				*e*PP	PP	00 51 54.3	-0.6
PMSA	**Palmer Station**	**50.80**	**164**	*e*P	**P**	**00 50 16.1**	**+0.2**
PMSA				*e*PcP	PcP	00 51 31.3	-1.3
PMSA				*e*PP	PP	00 52 10.4	-1.1
KAKA	**Kakadu**	**50.94**	**343**	⇑*i*P	**P**	**00 50 16.5**	**-0.9**
	comp=Z,209nm,0.6s,mb6.2						
KAKA				*e*S	**S**	**00 57 34.4**	**-0.5**
PMG	**Port Moresby**	**53.37**	**2**	⇑*i*P	**P**	**00 50 35.6**	**0.0**
PMG						00 51 42.3	
PMG				*e*		00 52 36.5	
PMG				pmax	pmax		
	comp=Z,208nm,1.1s						
PMG				MLR	MLR		
	comp=Z,8μm,22.0s						
PMG	**Port Moresby**	**53.37**	**2**	⇑*i*P	**P**	**00 50 35.6**	**0.0**
	comp=Z,208nm,1.1s,mb6.0						
PMG				PcP	PcP	00 51 42.3	-0.6
PMG				*e*PP	PP	00 52 36.5	+0.7
PMG				ScP	ScP	00 55 42.1	+0.8
PMG				LR	LR		
	comp=Z,8μm,22.0s,MS5.7						
HNR	**Honiara**	**54.35**	**18**	P	**P**	**00 50 43.5**	**+0.8**
	comp=Z,315nm,0.7s,mb6.4,baz=251,slow=1.9,SNR=11						
HNR				LR	LR	01 08 59.1	
	comp=Z,4μm,20.4s,MS5.5,baz=178,slow=31						
HNR	**Honiara**	**54.35**	**18**	P	**P**	**00 50 43.5**	**+0.8**
HNR				LR	LR	01 08 59.1	
BATI	**Baumata**	**54.87**	**333**	P	**P**	**00 50 46.8**	**+0.3**
	comp=Z,224nm,0.8s,mb6.2,baz=225,slow=2.3,SNR=33						
AFI	**Afiamalu**	**57.35**	**51**	*e*P	**P**	**00 51 04.5**	**+0.3**
AFI						00 51 55.8	
AFI				*e*		00 53 11.4	
AFI				pmax	pmax		
	comp=Z,185nm,1.3s,mb6.0						
AFI				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.5						
AFI	**Afiamalu**	**57.35**	**51**	*e*P	**P**	**00 51 04.5**	**+0.3**
	comp=Z,185nm,1.3s,mb6.0						
AFI				PcP	PcP	00 51 55.8	-2.4
AFI				*e*PP	PP	00 53 11.4	0.0
AFI				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
TBI	**Tubuai**	**58.12**	**79**	*e*S	**S**	**00 59 12.5**	**+1.0**
	comp=Z,3μm,30.2s						
TBI				*e*SS	SS	01 03 04.0	+1.6
	comp=Z,2μm,29.4s						
TBI				*e*LQ		01 05 28.7	
	comp=Z,3μm,28.0s						
TBI				*e*LR	LR	01 08 08.1	
	comp=Z,15μm,27.5s,baz=207						
TRT	**Tretes**	**60.00**	**322**	⇓*e*P	**P**	**00 51 22.5**	**-0.2**
KAPI	**Kappang**	**60.75**	**330**	P	**P**	**00 51 26.8**	**-1.0**
	comp=Z,104nm,0.8s,mb6.0,baz=194,slow=5.4,SNR=42						
KAPI				LR	LR	01 14 39.1	
	comp=Z,780nm,19.1s,MS4.9,baz=3.0,slow=33						
COCO	**West Island**	**61.15**	**303**	*e*P	**P**	**00 51 28.9**	**-1.7**
COCO				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
KDI	**Kendari**	**61.16**	**334**	⇑*e*P	**P**	**00 51 30.0**	**-0.6**
KDI				*e*S	**S**	**00 59 50.0**	**-0.8**
PPT	**Papeete**	**63.12**	**76**	*e*S	**S**	**01 00 16.8**	**+1.2**
	comp=Z,9μm,28.8s						
PPT				*e*SS	SS	01 04 26.9	+5.9
	comp=Z,2μm,32.5s						
PPT				*e*LR	LR	01 10 23.6	
	comp=Z,15μm,25.0s,baz=207						
PPT	**Papeete**	**63.12**	**76**	LR	LR	01 12 33.0	
	comp=Z,6μm,20.5s,MS5.8,baz=225,slow=30						
EFI	**East Falkland**	**64.30**	**164**	*e*P	**P**	**00 51 50.4**	**-0.7**
EFI				*e*		00 52 24.3	
EFI				pmax	pmax		
	comp=Z,217nm,1.6s,mb6.1						
EFI				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.5						
EFI	**East Falkland**	**64.30**	**164**	*e*P	**P**	**00 51 50.4**	**-0.7**
	comp=Z,217nm,1.6s,mb6.1						
EFI				*e*PcP	PcP	00 52 24.3	-1.4
EFI				LR	LR		
	comp=Z,3μm,19.0s,MS5.5						
RKT	**Rikitea**	**64.92**	**92**	*e*S	**S**	**01 00 38.7**	**+0.8**
	comp

comp=Z,41nm,0.8s,mb5.5
PSI Prapat 74.24 311 P **P** **00 52 51.9 -1.2**
TAOE Nuku Hiva Isla 75.03 80 *e*S S 01 02 37.2 +0.6
comp=Z,8μm,29.6s
TAOE *e*SS SS 01 07 29.4 +4.5
comp=Z,3μm,29.6s
TAOE *e*LQ 01 12 09.9
comp=Z,9μm,26.4s
TAOE *e*LR LR 01 15 55.1
comp=Z,25μm,27.0s,baz=220
IPM Ipoh 75.10 314 ⇑P **P** **00 52 58.8 +0.7**
KTGM Kuala Trenggan 75.21 316 ⇑P **P** **00 52 59.2 +0.4**
SUR Sutherland 75.36 226 *e*P **P** **00 52 59.8 +0.3**
comp=Z,774nm,1.9s,mb6.4
SUR *e*PcP PcP 00 53 11.1 -1.7
SUR *e*PP PP 00 55 39.9 -7.7
SUR LR LR
comp=Z,9μm,20.0s,MS6.1
DGAR Diego Garcia 75.74 282 PFAKE 00 53 10.0 +8.2
DGAR LR LR
comp=Z,3μm,19.0s,MS5.6
KULM Kulim 75.98 314 ⇑P **P** **00 53 03.9 +0.8**
GUMO Guam 76.21 359 P **P** **00 53 04.5 +0.2**
comp=Z,42nm,0.3s,mb6.0,baz=340,slow=24,SNR=4.6
GUMO Guam 76.21 359 P **P** **00 53 04.5 +0.2**
GUMO LR LR
comp=Z,2μm,22.0s,MS5.4
ABPO Ambohimpanom 76.98 254⇑*e*P **P** **00 53 09.7 +0.9**
comp=Z,108nm,1.0s,mb5.9
ABPO *e*PcP PcP 00 53 17.1 -2.8
ABPO LR LR
comp=Z,5μm,20.0s,MS5.8
TRQA Tornquist 77.03 158⇑*i*P **P** **00 53 07.0 -1.9**
comp=Z,112nm,1.4s,mb5.8
TRQA LR LR
comp=Z,3μm,20.0s,MS5.6
BOSA Boshof 77.28 231 P **P** **00 53 10.8 +0.3**
comp=Z,78nm,1.1s,mb5.8,baz=143,slow=6.8,SNR=40
BOSA LR LR 01 24 15.1
comp=Z,5μm,19.4s,MS5.9,baz=148,slow=33
BOSA Boshof 77.28 231 P **P** **00 53 10.8 +0.3**
BOSA LR LR 01 24 15.1
XMAS Kiritimati 77.42 59 PFAKE 00 53 20.0 +8.7
XMAS LR LR
comp=Z,11μm,20.0s,MS6.2
TRIS Tristan da Cun 78.83 198 PFAKE 00 53 30.0 +11
TRIS LR LR
comp=Z,9μm,20.0s,MS6.1
LBTB Lobatse 80.44 233⇑*e*P **P** **00 53 27.8 0.0**
LBTB *e* 00 56 28.3
LBTB pmax pmax
comp=Z,103nm,1.2s,mb5.6
LBTB MLR MLR
comp=Z,7μm,21.0s,MS6.0
LBTB Lobatse 80.44 233⇑*e*P **P** **00 53 27.8 0.0**
comp=Z,103nm,1.2s,mb5.6
LBTB *e*PP PP 00 56 28.3 -1.9
LBTB LR LR
comp=Z,7μm,21.0s,MS6.0
LCO Las Campanas 83.99 149 *e*P **P** **00 53 45.5 -0.9**
comp=Z,131nm,1.4s,mb6.0
LCO LR LR
comp=Z,1μm,20.0s,MS5.2
PALK Pallekele 85.31 296 PFAKE 00 54 00.0 +6.9
PALK LR LR
comp=Z,2μm,21.0s,MS5.4
MSEY Mahe Island 85.89 268 PFAKE 00 54 00.0 +3.9
MSEY LR LR
comp=Z,5μm,19.0s,MS5.9
QIZ Qiongzhong 86.31 326 ⇑P **P** **00 53 57.9 0.0**
QIZ XP sP 00 54 05.4 +7.2
QIZ PP PP 00 57 17.7 -1.4
QIZ S S 01 04 37.9 +3.9
QIZ XS sS 01 04 43.9 +10
QIZ AMB AMB
comp=Z,109nm,2.1s,mb5.6
QIZ AMB AMB
comp=Z,1μm,5.1s
QIZ LR LR
comp=E,465nm,13.7s
QIZ Qiongzhong 86.31 326 *e*P **P** **00 53 58.2 +0.4**
comp=E,371nm,1.8s,mb6.2
QIZ *e*PP PP 00 57 17.8 -1.3
QIZ LR LR
comp=Z,439nm,21.0s,MS4.8
TRD Trivandrum 87.98 293 *e*P **P** **00 54 05.6 -0.6**
TRD AMb AMB 00 54 10.0
comp=Z,158nm,1.7s,mb6.1
TRD *e*x x 01 00 17.9
LSZ Lusaka 88.31 239 *e*P **P** **00 54 07.8 -0.1**
LSZ pmax pmax
comp=Z,214nm,1.6s,mb6.2
LSZ MLR MLR
comp=Z,7μm,20.0s,MS6.1
LSZ Lusaka 88.31 239 *e*P **P** **00 54 07.8 0.0**
comp=Z,214nm,1.6s,mb6.2
LSZ LR LR
comp=Z,7μm,20.0s,MS6.1
TSUM Tsumeb 88.62 228 *e*P **P** **00 54 09.0 -0.3**
comp=Z,56nm,0.9s,mb5.8
TSUM LR LR
comp=Z,10μm,22.0s,MS6.2
CM31 Chiang Mai Arr 88.88 316 PFAKE 00 54 20.0 +10
CM31 LR LR
comp=Z,549nm,19.0s,MS5.0
CMAR Chiang Mai Arr 88.88 316 P **P** **00 54 10.6 +0.3**
comp=Z,27nm,0.8s,mb5.5,baz=189,slow=4.4,SNR=81
CMAR PP PP 00 57 37.1 -2.7
comp=Z,0.9nm,0.4s,baz=179,slow=5.4,SNR=2.8
CMAR PKKPbc PKKPbc 01 11 51.9 +4.6
comp=Z,1.1nm,0.3s,baz=306,slow=3.6,SNR=7.7
CMAR LR LR 01 34 49.5
comp=Z,741nm,18.4s,MS5.1,baz=271,slow=36
CMAR Chiang Mai Arr 88.88 316⇑*e*P **P** **00 54 10.6 +0.3**
CHTO Chiang Mai 89.21 317⇑*i*P **P** **00 54 12.1 +0.3**
CHTO *e* 00 57 42.9
CHTO pmax pmax
comp=Z,98nm,0.9s,mb6.0
CHTO MLR MLR
comp=Z,825nm,19.0s,MS5.2
CHTO Chiang Mai 89.21 317⇑*i*P **P** **00 54 12.1 +0.3**
comp=Z,98nm,0.9s,mb6.0
CHTO *e*PP PP 00 57 42.9 +0.4
CHTO LR LR
comp=Z,825nm,19.0s,MS5.2
KOD Kodaikanal 89.32 294 *e*P **P** **00 54 12.3 -0.1**
KOD AMb AMB 00 54 15.8
comp=Z,135nm,1.7s,mb5.9
GZH Guangzhou 89.37 331 P **P** **00 54 15.3 +2.8**
GZH S S 01 05 08.8 +5.7
GZH LR LR
comp=N,601nm,15.7s
GZH LR LR
comp=E,640nm,21.1s
TATO Taipei 89.60 338 PFAKE 00 54 20.0 +6.5
TATO LR LR
comp=Z,821nm,20.0s,MS5.2
QZH Quanzhou 90.09 336⇑*i*P **P** **00 54 15.5 -0.3**
QZH PP PP 00 57 48.0 -1.4
QZH S S 01 05 09.0 -0.7
QZH AMB AMB
comp=Z,150nm,0.9s,mb6.2
JOW Kunigami 90.44 345 P **P** **00 54 16.8 -0.6**
comp=Z,23nm,0.7s,mb5.5,baz=190,slow=4.8,SNR=8.5
LVC Limon Verde 90.56 148⇑*e*P **P** **00 54 18.5 +0.1**
comp=Z,243nm,1.7s,mb6.2
LVC *e*PP PP 00 57 52.6 +0.3
LVC LR LR
comp=Z,985nm,19.0s,MS5.3
MDRS Chennai 90.73 298 *e*x x 00 53 26.5
VIS Vishakhapatnam 93.72 302 *e*P **P** **00 54 31.6 -1.1**
VIS AMb AMB 00 54 50.4
comp=Z,46nm,1.0s,mb5.8
KMI Kunming 94.02 322 P **P** **00 54 35.0 +1.0**
KMI AP 00 54 40.6
KMI XP sP 00 54 41.9 +7.6
KMI PP PP 00 58 22.1 +1.7
KMI PPP 01 00 29.7
KMI SKS 01 05 10.2
KMI S S 01 05 46.0 +1.0
KMI XS sS 01 05 50.5 +5.1
KMI PS PS 01 07 06.2 +6.8
KMI SS SS 01 12 10.3 +4.8
KMI SSS 01 15 51.4
KMI AMB AMB
comp=Z,27nm,1.7s,mb5.3
KMI AMB AMB
comp=Z,711nm,4.3s
KMI LR LR
comp=N,451nm,17.9s,MS5.2
KMI LR LR
comp=E,448nm,15.1s,MS5.2
KMI LR LR
comp=Z,646nm,16.5s,MS5.2
GYA Guiyang 94.22 326⇑*i*P **P** **00 54 36.7 +1.8**
GYA PP PP 00 58 27.6 +5.6
GYA PPP 01 00 31.0
GYA SKS 01 05 10.4
GYA S S 01 05 46.5 -0.3
GYA PS PS 01 07 08.7 +7.1
GYA AMB AMB
comp=Z,40nm,1.1s,mb5.7
GYA AMB AMB
comp=Z,170nm,6.2s
GYA LR LR
comp=N,5μm,22.8s,MS6.0
GYA LR LR
comp=E,4μm,21.6s,MS6.0
GYA LR LR
comp=Z,5μm,22.3s,MS5.9
POHA Pohakuloa 94.35 54 PFAKE 00 54 50.0 +14
POHA LR LR
comp=Z,3μm,21.0s,MS5.7
KIP Kipapa 94.97 51 PFAKE 00 54 50.0 +12
KIP LR LR
comp=Z,2μm,20.0s,MS5.7
HYB Hyderabad 95.34 298 *i*P **P** **00 54 40.0 -0.2**
HYB *e*SKS SKSac 01 05 20.0 +3.1
HYB Hyderabad 95.34 298 *e*P **P** **00 54 40.0 -0.2**
HYB *e*S SKSac 01 05 16.0 -0.9
MIDW Midway 95.46 32 PFAKE 00 54 50.0 +9.5
MIDW LR LR
comp=Z,3μm,21.0s,MS5.8
SSE Sheshan 95.64 339 P **P** **00 54 40.7 -0.5**
SSE PP PP 00 58 30.9 -2.1
SSE S S 01 05 55.8 -3.1
SSE SS SS 01 12 24.9 -3.5
SSE AMB AMB
comp=Z,43nm,0.7s,mb6.1
SSE AMB AMB
comp=Z,200nm,6.3s
SSE LR LR
comp=N,464nm,15.8s,MS5.1
SSE LR LR
comp=E,222nm,15.8s,MS5.1
SSE LR LR
comp=Z,638nm,15.8s,MS5.2
WHN Wuhan 96.36 333 ⇑P **P** **00 54 40.3 -4.3**
WHN XP sP 00 54 50.9 +6.0
WHN PP PP 00 58 37.6 -1.0
WHN S S 01 06 00.4 -4.8
WHN PS PS 01 07 21.8 -3.2
WHN AMB AMB
comp=Z,760nm,7.8s
WHN LR LR
comp=N,749nm,16.0s,MS5.4
WHN LR LR
comp=E,645nm,16.2s,MS5.4
WHN LR LR
comp=Z,1μm,17.2s,MS5.4
LPAZ La Paz 96.83 148 P **P** **00 54 46.8 -0.5**
comp=Z,3.3nm,0.9s,mb5.0,baz=200,slow=3.8,SNR=12
LPAZ PKKP PKKPbc 01 11 28.3 +2.5
comp=Z,1.4nm,0.7s,baz=332,slow=5.9,SNR=5.4
LPAZ La Paz 96.83 148 P **P** **00 54 46.8 -0.4**
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
NJ2 Nanjing 96.97 337 *e*P **P** **00 54 48.9 +1.6**
NJ2 AP 00 54 53.8
NJ2 XP sP 00 54 55.7 +8.1
NJ2 PP PP 00 58 45.8 +2.5
NJ2 S S 01 06 06.5 -3.8
NJ2 XS sS 01 06 14.5 +3.8
NJ2 AMB AMB
comp=Z,240nm,8.4s
NJ2 LR LR
comp=N,340nm,26.4s,MS5.4
NJ2 LR LR
comp=E,2μm,25.4s,MS5.4
NJ2 LR LR
comp=Z,1μm,24.7s,MS5.3
KAD Karad 97.04 294 *e*x x 00 55 37.5
KAD AMb AMB 00 55 40.7
comp=Z,51nm,1.8s,mb5.8
LATR Latur 97.05 297 *e*P **P** **00 54 47.2 -0.7**
LATR AMb AMB 00 54 50.3
comp=Z,50nm,2.3s,mb5.7
KMBO Kilima Mbogo 97.26 253 *e*P **P** **00 54 51.8 +2.6**
KMBO pmax pmax
comp=Z,8.0nm,1.0s
KMBO Kilima Mbogo 97.26 253 *e*P **P** **00 54 51.8 +2.6**
comp=Z,8.2nm,1.0s,mb5.3
SHL Shillong 97.81 313⇑*i*P **P** **00 54 51.0 -0.2**
comp=Z,65nm,0.6s,mb6.5
SHL *i*x x 01 05 32.0
BLSP Bilaspur 98.18 303 *e*P **P** **00 54 52.2 -0.8**
BLSP AMb AMB 00 54 55.4
comp=Z,32nm,1.2s,mb5.9
SHEL Horse Pasture 98.28 208 PFAKE 00 55 00.0 +6.2
SHEL LR LR
comp=Z,9μm,20.0s,MS6.3
BOK Bokaro 98.29 307 *e*P **P** **00 54 53.0 -0.4**
BOK AMb AMB 00 54 56.2
comp=Z,28nm,1.9s,mb5.7
NGP Nagpur 98.50 300 *e*P **P** **00 54 50.7 -3.8**
NGP AMb AMB 00 54 53.3
comp=Z,36nm,2.3s,mb5.7
NNA Nana 98.52 138 P **P** **00 54 53.1 -1.7**
NNA LR LR
comp=Z,682nm,19.0s,MS5.2
AKL Akola 98.92 298 *e*P **P** **00 54 55.2 -1.1**
AKL AMb AMB 00 54 59.1
comp=Z,55nm,2.1s,mb5.9
CD2 Chengdu 99.22 325⇓*i*P **P** **00 54 58.1 +0.7**
CD2 AP 00 55 02.9
CD2 XP sP 00 55 05.8 +8.1
CD2 PP PP 00 59 05.2 +4.6
CD2 SKS 01 05 34.9
CD2 S S 01 06 27.7 -1.8
CD2 XS sS 01 06 35.1 +5.2
CD2 PS PS 01 08 01.8 +5.8
CD2 AMB AMB
comp=Z,40nm,0.8s,mb6.2
CD2 AMB AMB
comp=Z,50nm,9.8s
CD2 LR LR
comp=N,3μm,18.0s,MS6.1
CD2 LR LR
comp=E,4μm,15.6s,MS6.1
CD2 LR LR
comp=Z,4μm,16.8s,MS6.0
MJAR Matsushiro Arr 99.23 354 P **P** **00 54 57.1 -0.3**
comp=Z,1.2nm,0.6s,mb4.8,baz=156,slow=17,SNR=2.9
MJAR PP PP 00 58 58.1 -2.5
comp=Z,4.1nm,0.9s,baz=176,slow=7.8,SNR=6.9
MJAR LR LR 01 39 07.0
comp=Z,672nm,21.6s,MS5.1,baz=160,slow=35
MJAR Matsushiro Arr 99.23 354 P **P** **00 54 57.1 -0.2**
MJAR 00 58 58.1
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MJAR pmax pmax
comp=Z,4.0nm,0.9s
MJAR MLR MLR
comp=Z,673nm,21.7s
MAJO Matsushiro 99.24 354 PFAKE 00 55 10.0 +13
MAJO LR LR
comp=Z,911nm,19.0s,MS5.3
XAN Xi'an 100.92 330 P Pdif 00 55 04.7 -1.0
XAN AP 00 55 11.8
XAN PP PP 00 59 12.1 -1.3
XAN PPP 01 01 28.1
XAN SKS 01 05 39.5
XAN S Sdif 01 06 33.3 -12
XAN PS PS 01 08 12.5 -1.7
XAN AMB AMB
comp=Z,19nm,2.2s
XAN AMB AMB
comp=Z,247nm,14.5s
XAN LR LR
comp=N,112nm,18.2s,MS4.9
XAN LR LR
comp=E,330nm,19.0s,MS4.9
KSRS Korea Array 100.97 346 P Pdif 00 55 04.5 -1.3
comp=E,1.3nm,0.7s,baz=312,slow=35,SNR=3.5
KSRS PP PP 00 59 11.1 -2.7
comp=E,2.8nm,0.8s,baz=177,slow=8.6,SNR=5.4
KSRS Korea Array 100.97 346 P Pdif 00 55 04.6 -1.3
KSRS 00 59 11.1
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS pmax pmax
comp=Z,3.0nm,0.8s
BDFB Brasilia 101.04 167 PFAKE 00 55 10.0 +3.8
BDFB LR LR
comp=Z,2μm,20.0s,MS5.5
INCN Inchon 101.14 345 PFAKE 00 55 10.0 +3.3
INCN LR LR
comp=Z,1μm,21.0s,MS5.4
LSA Lhasa 101.86 314 PFAKE 00 55 20.0 +10
LSA LR LR
comp=Z,639nm,21.0s,MS5.1
BHJ Bhuj 104.23 293 *e*P Pdif 00 55 16.8 -3.6
BHJ AMb AMB 00 55 19.3
comp=Z,117nm,1.8s
PAYG Puerto Ayora 104.32 121 PFAKE 00 55 30.0 +9.2
PAYG LR LR
comp=Z,823nm,22.0s,MS5.2
BJT Baijiatuau 105.20 337 PFAKE 00 59 50.0 +12
BJT LR LR
comp=Z,1μm,20.0s,MS5.4
BJI Beijing 105.22 337 PDIF Pdif 00 55 23.7 -1.1
BJI PP PP 00 59 43.5 -2.1
BJI SS SS 01 14 45.7 +3.9
BJI PP PP
comp=Z,592nm,12.8s
BJI LR LR
comp=N,731nm,19.9s,MS5.3
BJI LR LR
comp=E,531nm,19.9s,MS5.3
BJI LR LR
comp=Z,776nm,20.0s,MS5.2
HHC Hu-ho-hao-te 106.88 334 PDIF Pdif 00 55 28.5 -3.7
HHC PP PP 00 59 58.4 +0.6
HHC SS SS 01 15 06.5 +2.0
HHC LR LR
comp=N,522nm,22.6s,MS5.1
HHC LR LR
comp=E,328nm,23.8s,MS5.1
HHC LR LR
comp=Z,739nm,22.6s,MS5.2
CN2 Changchun 107.52 345 *e*PDIF Pdif 00 55 35.8 +0.8
CN2 PP PP 01 00 00.6 -1.9
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,700nm,22.0s,MS5.3
CN2 LR LR
comp=E,500nm,22.0s,MS5.3
ASCN Ascension 107.74 201 PFAKE 00 59 50.0 +6.5
ASCN LR LR
comp=Z,3μm,19.0s,MS5.9
MDJ Mudanjiang 107.88 348 PDIF Pdif 00 55 38.2 +1.6
MDJ PP PP 01 00 02.5 -2.6
MDJ PP PP
comp=Z,479nm,10.7s
MDJ LR LR
comp=N,751nm,40.4s
MDJ LR LR
comp=E,493nm,48.5s
MDJ LR LR
comp=Z,1μm,35.5s,MS5.2
MDJ Mudanjiang 107.88 348 PFAKE 00 59 50.0 +7.3
MDJ LR LR
comp=Z,742nm,19.0s,MS5.3
SMLA Simla 108.18 303 *e*P Pdif 00 55 36.9 -1.1
SMLA AMb AMB 00 55 57.0
comp=Z,17nm,5.1s
YSS Yuzh-Sakhalins 109.49 358 PFAKE 00 59 50.0 +4.4
YSS LR LR
comp=Z,394nm,20.0s,MS5.0
OTAV Otavalo 109.49 133 PFAKE 01 00 00.0 +13
OTAV LR LR
comp=Z,398nm,19.0s,MS5.0
KLR Kul'dur 112.28 350 *e*PKIKP PKiKP 00 59 44.2 -6.6
HIA Hailar 113.64 342 PFAKE 01 00 00.0 +6.6
HIA LR LR
comp=Z,1μm,20.0s,MS5.5
KBL Kabul 114.39 298 *e*PKiKP PKiKP 00 59 54.9 -0.4
KBL *e*PP PP 01 00 51.0 -1.1
SONM Songino Array 114.64 332 PKP PKiKP 00 59 53.9 -1.4
comp=Z,1.8nm,0.6s,baz=157,slow=1.3,SNR=8.3
SONM PP PP 01 00 47.3 -6.4
comp=Z,2.4nm,0.9s,baz=158,slow=5.1,SNR=4.8
SONM PKKPbc PKKPbc 01 10 34.3 +1.9
comp=Z,0.7nm,0.7s,baz=314,slow=1.5,SNR=4.2
SONM PKKPab PKKPab 01 10 40.1 +3.6
comp=Z,1.3nm,0.8s,baz=346,slow=4.2,SNR=6.0
SONM Songino Array 114.64 332 PKIKP PKiKP 00 59 53.9 -1.5
SONM 01 10 34.3
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.8s
ROSC El Rosal 115.19 135 PP PP 01 00 58.9 +1.8
comp=Z,2.5nm,0.4s,baz=100,slow=22,SNR=5.5
ROSC PKKPbc PKKPbc 01 10 32.8 +3.0
comp=Z,9.2nm,0.7s,baz=104,slow=15,SNR=8.8
ROSC El Rosal 115.19 135 *e*PKiKP PKiKP 00 59 55.9 -1.7
ROSC *e*PP PP 01 00 58.5 +1.3
WMQ Urumqi 115.87 317 PKP PKPdf 00 59 56.4 -1.5
WMQ PP PP 01 01 06.3 +3.9
WMQ PKS 01 03 31.8
WMQ SKS SKSdf 01 07 03.6 -6.9
WMQ SKKS SKKSac 01 07 54.8 -8.6
WMQ SS SS 01 17 01.8 -2.6
WMQ PP PP
comp=Z,107nm,8.0s
WMQ LR LR
comp=N,445nm,20.6s,MS5.2
WMQ LR LR
comp=E,465nm,20.8s,MS5.2
PET Petropavlovsk 116.00 9 PFAKE 01 00 10.0 +12
PET LR LR
comp=Z,1μm,20.0s,MS5.5
PETK Petropavlovsk- 116.02 8 PKP PKPdf 00 59 55.6 -2.2
comp=Z,1.8nm,0.7s,baz=126,slow=4.7,SNR=5.5
PETK PP PP 01 01 02.4 -0.9
comp=Z,3.4nm,1.0s,baz=96,slow=4.5,SNR=3.7
PETK PKKPab PKKPab 01 10 28.1 -1.9
comp=Z,1.6nm,0.7s,baz=60,slow=6.7,SNR=5.8
BCIP Isla Barro Col 117.31 128 PFAKE 01 00 10.0 +8.4
BCIP LR LR
comp=Z,554nm,19.0s,MS5.2
SMY Shemya 117.42 19 PFAKE 01 00 10.0 +9.4
SMY LR LR
comp=Z,2μm,21.0s,MS5.7
ZAK Zakamensk 117.73 331 *e*PKIKP PKPdf 00 59 58.7 -2.5
ZAK pmax pmax
comp=Z,8.0nm,1.5s
CMIG Matias Romero 118.44 109 PKKPbc PKKPbc 01 10 19.4 +1.0
comp=Z,3.4nm,0.9s,baz=177,slow=3.7,SNR=5.1
KZA Kyzart 118.56 307 P PKPdf 01 00 03.9 +0.7
SNR=7.4
QRN Al-Qurain 118.58 278 *e*P PKPdf 01 00 03.1 -0.5
baz=278
QRN AMb AMB 01 00 05.1
comp=Z,78nm,1.0s,baz=278
TLY Talaya 118.87 332 *i*PKIKP PKPdf 01 00 02.6 -0.8
TLY *e* 01 01 20.8
TLY *e* 01 11 16.7
TLY pmax pmax
comp=Z,16nm,0.9s
TLY Talaya 118.87 332 *e*PKPdf PKPdf 01 00 02.5 -0.9
TLY LR LR
comp=Z,613nm,19.0s,MS5.2
RDF Al-Radifah 118.90 277 *e*P PKPdf 01 00 03.6 -0.6
baz=277
RDF AMb AMB 01 00 06.1
comp=Z,46nm,1.3s,baz=277

TGUH	**Tegucigalpa,Un**	**118.92**	**118**	PFAKE		01 00 10.0	+5.3
TGUH				LR	LR		
comp=Z,706nm,22.0s,MS5.2							
TKM2	**Tokmak 2**	**119.17**	**308**	P	PKPdf	01 00 03.5	-0.7
SNR=9.2							
KBK	**Karagaybulak**	**119.17**	**307**	P	PKPdf	01 00 04.5	+0.3
SNR=7.5							
AML	**Almayashu**	**119.18**	**306**	P	PKPdf	01 00 04.8	+0.5
SNR=12							
NAY	**Al-Naaiem**	**119.32**	**277**	*e*P	PKPdf	01 00 04.0	-1.0
baz=277							
NAY				AMb	AMB	01 00 07.9	
comp=Z,18nm,1.8s,baz=277							
UMR	**Umm Al-Rimmam**	**119.36**	**278**	*e*P	PKPdf	01 00 04.2	-0.9
baz=278							
UMR				AMb	AMB	01 00 06.4	
comp=Z,51nm,0.9s,baz=278							
FRU	**Bishkek**	**119.45**	**307**	*e*PKIKP	PKPdf	01 00 03.0	-1.8
FRU				pmax	pmax		
comp=Z,70nm,2.0s							
MOY	**Mondy**	**119.45**	**330**	*e*PKIKP	PKPdf	01 00 04.5	0.0
MOY				pmax	pmax		
comp=Z,81nm,2.6s							
CHMS	**Chumysh**	**119.54**	**307**	P	PKPdf	01 00 05.7	+0.7
SNR=5.7							
EKS2	**Erkin-Say**	**119.61**	**306**	P	PKPdf	01 00 04.8	-0.3
SNR=14							
MIB	**Mutribah**	**119.75**	**278**	*e*P	PKPdf	01 00 05.3	-0.5
baz=278							
MIB				AMb	AMB	01 00 07.1	
comp=Z,60nm,0.8s,baz=278							
USP	**Ospenovka**	**119.86**	**307**	P	PKPdf	01 00 05.1	-0.5
SNR=5.1							
DBIC	**Dimbokro**	**119.90**	**214**	PKP	PKPdf	01 00 04.8	-1.9
comp=Z,4.2nm,0.7s,baz=178,slow=3.0,SNR=4.8							
DBIC	**Dimbokro**	**119.90**	**214**	PKP	PKPdf	01 00 04.8	-1.9
DBIC				LR	LR		
comp=Z,2μm,19.0s,MS5.8							
SDV	**Santo Domingo**	**120.15**	**138**	PKKPbc	PKKPbc	01 10 14.9	+2.8
comp=Z,14nm,0.8s,baz=52,slow=2.5,SNR=20							
SDV	**Santo Domingo**	**120.15**	**138**	*e*PKPdf	PKPdf	01 00 05.6	-1.5
SDV				*e*PP	PP	01 01 30.9	-0.7
SDV				LR	LR		
comp=Z,341nm,20.0s,MS5.0							
MK31	**Makanchi Array**	**120.25**	**315**	*i* PKIKP	PKPdf	01 00 04.4	-1.8
MK31				pmax	pmax		
comp=Z,5.0nm,0.6s							
MK31	**Makanchi Array**	**120.25**	**315**	*e*PKPdf	PKPdf	01 00 04.7	-1.5
MK31				*e*PP	PP	01 01 30.7	-2.0
MKAR	**Makanchi Array**	**120.25**	**315**	PKP	PKPdf	01 00 04.7	-1.5
comp=Z,5.1nm,0.5s,baz=187,slow=2.7,SNR=30							
MKAR				PKKPab	PKKPab	01 10 13.3	+0.7
comp=Z,0.6nm,0.7s,baz=320,slow=3.6,SNR=4.2							
MKAR	**Makanchi Array**	**120.25**	**315**	PKIKP	PKPdf	01 00 04.7	-1.5
MKAR				pmax	pmax		
comp=Z,5.0nm,0.5s							
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**120.25**	**315**	PKP	PKPdf	01 00 04.7	-1.5
MKAR				PKKPab	PKKPab	01 10 13.3	+0.7
CLNS	**Chul'man**	**120.43**	**347**	*e*PKIKP	PKPdf	01 00 05.6	-0.6
CLNS				pmax	pmax		
comp=Z,12nm,0.7s							
CLNS				pmax	pmax		
comp=N,9.0nm,0.8s							
CLNS				pmax	pmax		
comp=E,7.0nm,0.9s							
HVS	**Khovu-Aksy**	**120.76**	**325***c*	*i* PKIKP	PKPdf	01 00 06.2	-0.8
SNCC	**San Nicolas Is**	**121.21**	**77**	PFAKE		01 00 20.0	+11
SNCC				LR	LR		
comp=Z,4μm,19.0s,MS6.1							
KK31	**Karatay Array**	**121.21**	**304**	*i* PKIKP	PKPdf	01 00 06.9	-1.3
KK31				pmax	pmax		
comp=Z,22nm,0.8s							
BAR	**Barrett**	**122.01**	**80**	PFAKE		01 00 20.0	+10
BAR				LR	LR		
comp=Z,3μm,20.0s,MS5.9							
MA2	**Magadan**	**122.18**	**3**	PFAKE		01 00 20.0	+11
MA2				LR	LR		
comp=Z,802nm,21.0s,MS5.3							
MWC	**Mount Wilson**	**122.68**	**78**	PFAKE		01 00 20.0	+8.7
MWC				LR	LR		
comp=Z,4μm,19.0s,MS6.1							
BOD	**Bodaibo**	**122.78**	**341**	*e*PKIKP	PKPdf	01 00 08.1	-2.6
BOD				pmax	pmax		
comp=Z,17nm,1.6s							
PFO	**Pinyon Flat Ob**	**122.89**	**80**	*e*PKIKP	PKPdf	01 00 11.8	+0.1
PFO				MLR	MLR		
comp=Z,4μm,20.0s,MS6.1							
GLA	**Glamis**	**123.16**	**81**	PFAKE		01 00 20.0	+7.7
GLA				LR	LR		
comp=Z,2μm,19.0s,MS5.9							
SAO	**San Andreas Ge**	**123.30**	**74**	PFAKE		01 00 20.0	+7.6
SAO				LR	LR		
comp=Z,3μm,20.0s,MS6.0							
ISA	**Isabella**	**123.70**	**77**	*e*PKIKP	PKPdf	01 00 12.5	-0.7
ISA				*e*		01 00 13.8	
ISA				MLR	MLR		
comp=Z,5μm,20.0s,MS6.1							
MCCM	**Marconi Confer**	**123.83**	**72**	PFAKE		01 00 20.0	+6.6
MCCM				LR	LR		
comp=Z,4μm,20.0s,MS6.1							
GSC	**Goldstone**	**124.15**	**78**	*e*PKIKP	PKPdf	01 00 13.0	-1.1
GSC				MLR	MLR		
comp=Z,4μm,20.0s,MS6.1							
TOA0	**Torodi Ar. Sit**	**124.16**	**224**	*e*PKPdf	PKPdf	01 00 13.4	-1.4
TOA0				*e*PP	PP	01 01 56.2	-2.8
TORD	**Torodi Ar. Bea**	**124.16**	**224**	PKP	PKPdf	01 00 13.3	-1.5
comp=Z,8.8nm,0.8s,baz=135,slow=0.7,SNR=36							
TORD				PKKPab	PKKPab	01 09 58.6	-1.5
comp=Z,0.5nm,0.7s,baz=324,slow=5.5,SNR=5.0							
TORD	**Torodi Ar. Bea**	**124.16**	**224**	PKP	PKPdf	01 00 13.3	-1.5
TORD				PKKPab	PKKPab	01 09 58.6	-1.5
NSHM	**Saint Helena R**	**124.26**	**72**	*e*PKPdf	PKPdf	01 00 14.0	-0.2
NSHM				*e*PP	PP	01 01 59.1	-0.9
TUC	**Tucson**	**124.38**	**85**	*e*PKIKP	PKPdf	01 00 14.0	-0.6
TUC				*e*		01 02 01.1	
TUC				MLR	MLR		
comp=Z,1μm,20.0s,MS5.5							
HOPS	**Hopland**	**124.45**	**71**	PFAKE		01 00 20.0	+5.5
HOPS				LR	LR		
comp=Z,4μm,19.0s,MS6.1							
DAC	**Darwin (Calif)**	**124.61**	**77**	PFAKE		01 00 20.0	+5.1
DAC				LR	LR		
comp=Z,6μm,20.0s,MS6.2							
LDFC	**Landfair**	**124.72**	**80**	*e*PKPdf	PKPdf	01 00 15.1	-0.1
LDFC				*e*PP	PP	01 02 09.1	+5.9
CMB	**Columbia Colle**	**124.83**	**74**	*e*PKIKP	PKPdf	01 00 14.7	-0.6
CMB				*e*		01 02 06.4	
CMB				MLR	MLR		
comp=Z,3μm,20.0s,MS5.9							
KURK	**Kurchatov**	**124.86**	**315**	PKIKP	PKPdf	01 00 13.8	-1.1
KURK				pmax	pmax		
comp=Z,7.0nm,0.9s							
KURK	**Kurchatov**	**124.86**	**315**⇑	*e*PKP	PKPdf	01 00 13.0	-1.9
KURK				*e*PKPdf	PKPdf	01 00 13.8	-1.2
KURK				*e*PP	PP	01 02 01.6	-2.4
KURK				LR	LR		
comp=Z,616nm,20.0s,MS5.3							
MTUM	**Tungsten Hills**	**125.07**	**76**	*e*PKPdf	PKPdf	01 00 16.1	+0.3
MTUM				*e*PP	PP	01 02 05.6	+0.1
TXAR	**Lajitas Array**	**125.13**	**94**	PKP	PKPdf	01 00 14.8	-1.3
comp=Z,0.9nm,0.6s,baz=186,slow=5.1,SNR=5.9							
TXAR				PKKPbc		01 09 56.5	
comp=Z,1.0nm,0.6s,baz=5.0,slow=2.9,SNR=5.3							
TXAR	**Lajitas Array**	**125.13**	**94**	PKIKP	PKPdf	01 00 14.9	-1.3
TXAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
TXAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
TXAR	**Lajitas Array**	**125.13**	**94**	PKP	PKPdf	01 00 14.8	-1.3
TXAR				PKKPbc		01 09 56.5	
YAK	**Yakutsk**	**125.15**	**351**	*e*PKIKP	PKPdf	01 00 12.0	-3.1
YAK				*e*		01 02 09.2	
YAK				pmax	pmax		
comp=Z,20nm,0.9s							
YAK				pmax	pmax		
comp=N,5.0nm,1.4s							
YAK				pmax	pmax		
comp=E,3.0nm,1.6s							
YAK				MLR	MLR		
comp=Z,619nm,20.0s,MS5.3							
YAK	**Yakutsk**	**125.15**	**351**	PFAKE		01 00 20.0	+4.9
YAK				LR	LR		
comp=Z,699nm,20.0s,MS5.3							
OHCM	**Honcut**	**125.42**	**72**	*e*PKPdf	PKPdf	01 00 15.1	-1.4
SEY	**Seymchan**	**125.58**	**4**⇑	*i* PKIKP	PKPdf	01 00 15.7	-0.2
SEY	**Seymchan**	**125.58**	**4**⇑	*e*PKP	PKPdf	01 00 15.7	-0.2
ZAL	**Zalesovo**	**125.74**	**321**	PKIKP	PKPdf	01 00 13.9	-2.6
ZAL						01 02 08.4	
ZAL				pmax	pmax		
comp=Z,5.0nm,0.6s							
ZAL				pmax	pmax		
comp=Z,2.0nm,0.7s							
ZAA0	**Zalesovo Array**	**125.74**	**321**	*e*PKPdf	PKPdf	01 00 14.2	-2.3
ZALV	**Zalesovo Beam**	**125.74**	**321**	PKP	PKPdf	01 00 13.9	-2.6
comp=Z,4.6nm,0.6s,baz=172,slow=3.6,SNR=13							
ZALV				PP	PP	01 02 08.4	-1.4
comp=Z,2.3nm,0.7s,baz=136,slow=5.3,SNR=2.5							
ZALV				PKKP		01 10 37.1	
comp=Z,0.4nm,0.4s,baz=247,slow=3.1,SNR=3.8							
TPNV	**Topopah Spring**	**125.77**	**78**	*e*PKIKP	PKPdf	01 00 16.1	-1.0
TPNV				*e*		01 02 10.9	
TPNV				MLR	MLR		
comp=Z,4μm,19.0s,MS6.1							
GRGR	**Grenville**	**125.77**	**147**	PFAKE		01 00 30.0	+12
GRGR				LR	LR		
comp=Z,786nm,21.0s,MS5.4							
WDC	**Whiskeytown Da**	**125.99**	**70**	*e*PKIKP	PKPdf	01 00 17.3	-0.1
WDC				MLR	MLR		
comp=Z,3μm,22.0s,MS5.9							
NVAR	**Mina Array Bea**	**126.07**	**75**	PKP	PKPdf	01 00 17.5	-0.2
comp=Z,4.7nm,0.7s,baz=202,slow=4.1,SNR=38							
TPH	**Tonopah**	**126.26**	**76**	*e*PKIKP	PKPdf	01 00 17.1	-1.0
TPH				*e*		01 00 17.7	
TPH				MLR	MLR		
comp=Z,4μm,20.0s,MS6.1							
ASF	**Jabal al Asfar**	**126.52**	**270**	PKP	PKPdf	01 00 18.0	-0.8
comp=Z,4.5nm,0.7s,baz=6.4,slow=0.8,SNR=15							
ASF				PP	PP	01 02 13.8	-1.3
comp=Z,2.1nm,0.9s,baz=78,slow=6.0,SNR=3.3							
ASF	**Jabal al Asfar**	**126.52**	**270**	PKIKP	PKPdf	01 00 18.0	-0.7
ASF						01 02 13.8	
ASF				pmax	pmax		
comp=Z,5.0nm,0.7s							
ASF				pmax	pmax		
comp=Z,2.0nm,0.9s							
PAHR	**Pah Rah Range**	**126.65**	**73**	*e*PKPdf	PKPdf	01 00 18.5	-0.3
PAHR				*e*PP	PP	01 02 17.7	+1.8
LBCM	**Butte Creek Ri**	**126.72**	**71**	P	PKPdf	01 00 18.6	-0.2
WUAZ	**Wupatki**	**126.78**	**83**	*e*PKPdf	PKPdf	01 00 18.9	-0.2
WUAZ				*e*PP	PP	01 02 17.8	+1.0
WUAZ				LR	LR		
comp=Z,2μm,22.0s,MS5.8							
YBH	**Yreka Blue Hor**	**126.86**	**69**	PKP	PKPdf	01 00 18.0	-1.0
comp=Z,2.4nm,0.7s,baz=148,slow=5.8,SNR=5.1							
YBH	**Yreka Blue Hor**	**126.86**	**69**	PKIKP	PKPdf	01 00 18.0	-1.1
YBH				pmax	pmax		
comp=Z,2.0nm,0.7s							
LTIM	**Timbered Crate**	**126.93**	**71**	P	PKPdf	01 00 19.0	-0.3
NVS	**Novosibirsk**	**126.98**	**320**	*i* PKIKP	PKPdf	01 00 16.9	-1.9
NVS				pmax	pmax		
comp=N,26nm,2.0s							
NVS				pmax	pmax		
comp=E,33nm,2.0s							
NVS				pmax	pmax		
comp=Z,44nm,2.0s							
MSL	**Mosul**	**127.11**	**278**	*ex*	x	01 00 25.0	
MSL				*ex*	x	01 02 23.5	
MSL				*ex*	x	01 07 33.0	
MSL				*ex*	x	01 07 50.0	
BBGH	**Gun Hill**	**127.26**	**149**	PFAKE		01 00 30.0	+9.3
BBGH				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
HUMO	**Hull Mountain**	**127.47**	**68**	*e*PKPdf	PKPdf	01 00 19.9	-0.3
HUMO				LR	LR		
comp=Z,1μm,21.0s,MS5.6							
CCUT	**Cedar City**	**127.56**	**80**	*e*PKPdf	PKPdf	01 00 21.1	+0.6
CCUT				*e*PP	PP	01 02 22.7	+0.7
LENM	**Lemitar**	**127.67**	**87**	*e*PKPdf	PKPdf	01 00 20.5	-0.4
LAZ	**Ladron**	**127.79**	**87**	*e*PKPdf	PKPdf	01 00 20.4	-0.7
BNM	**Barren Site**	**127.82**	**88**	*e*PKPdf	PKPdf	01 00 20.1	-1.1
BNM				*e*PP	PP	01 02 24.0	+0.3
JCT	**Junction City**	**127.86**	**96**	*e*PKIKP	PKPdf	01 00 19.5	-1.9
JCT				*e*		01 02 24.3	
JCT				MLR	MLR		
comp=Z,1μm,19.0s,MS5.7							
HAKT	**HAKKARI**	**127.88**	**280**	*i* P	PKPdf	01 00 18.7	-2.5
MOD	**Modoc**	**128.04**	**71**	*e*PKPdf	PKPdf	01 00 20.3	-1.0
MOD				*e*PP	PP	01 02 23.7	-1.4
MOD				LR	LR		
comp=Z,3μm,20.0s,MS6.0							
BMN	**Battle Mountai**	**128.19**	**74**	*e*PKIKP	PKPdf	01 00 21.3	-0.4
BMN				MLR	MLR		
comp=Z,3μm,20.0s,MS5.9							
BHL	**Bhannes**	**128.54**	**270**	*e*P	PKPdf	01 00 22.6	+0.1
ANMO	**Albuquerque**	**128.56**	**87**	PKP	PKPdf	01 00 21.6	-1.0
comp=Z,1.2nm,0.7s,baz=328,slow=3.6,SNR=11							
ANMO				PP	PP	01 02 30.8	+2.2
comp=Z,0.7nm,0.6s,baz=141,slow=6.5,SNR=2.4							
ANMO	**Albuquerque**	**128.56**	**87**	PKIKP	PKPdf	01 00 21.6	-0.9
ANMO						01 02 30.8	
ANMO				pmax	pmax		
comp=Z,1.0nm,0.7s							
ANMO				pmax	pmax		
comp=Z,1.0nm,0.6s							
ANMO	**Albuquerque**	**128.56**	**87**	*e*PKPdf	PKPdf	01 00 21.2	-1.3
ANMO				*e*PP	PP	01 02 28.1	-0.5
ANMO				LR	LR		
comp=Z,1μm,19.0s,MS5.7							
TVAN	**Van**	**128.81**	**280**	*i* P	PKPdf	01 00 16.6	-6.3
MVU	**Marysvale**	**128.86**	**80**	PFAKE		01 00 30.0	+7.0
MVU				LR	LR		
comp=Z,4μm,20.0s,MS6.1							
MSU	**Marysvale**	**128.88**	**80**	*e*PKPdf	PKPdf	01 00 23.0	0.0
MSU				*e*PP	PP	01 02 23.2	-7.4
COR	**Corvallis**	**128.93**	**67**	PFAKE		01 00 30.0	+7.1
COR				LR	LR		
comp=Z,4μm,22.0s,MS6.0							
MARD	**Mardin**	**129.01**	**277**	*i* P	PKPdf	01 00 22.4	-0.9
WVOR	**Wild Horse Val**	**129.19**	**72**	*e*PKIKP	PKPdf	01 00 22.6	-0.9
WVOR				*e*		01 02 33.1	
WVOR				MLR	MLR		
comp=Z,2μm,20.0s,MS5.8							
HKT	**Hockley**	**129.21**	**101**	*e*PKIKP	PKPdf	01 00 22.9	-1.1
HKT				*e*		01 02 32.5	
HKT				MLR	MLR		
comp=Z,2μm,20.0s,MS5.8							
ELK	**Elko**	**129.32**	**76**	PKP	PKPdf	01 00 23.2	-0.6
comp=Z,2.9nm,0.8s,baz=192,slow=2.2,SNR=25							
ELK	**Elko**	**129.32**	**76**	PKIKP	PKPdf	01 00 23.2	-0.6
ELK				pmax	pmax		
comp=Z,3.0nm,0.8s							
KDAK	**Kodiak Island**	**129.39**	**38**	PFAKE		01 00 30.0	+6.7
KDAK				LR	LR		
comp=Z,3μm,21.0s,MS6.0							
SDDR	**Presa de Saban**	**129.40**	**133**	PFAKE		01 00 30.0	+5.4
SDDR				LR	LR		
comp=Z,672nm,20.0s,MS5.3							
MVCO	**Mesa Verde**	**129.49**	**84**	*e*PKPdf	PKPdf	01 00 23.7	-0.5
MVCO				LR	LR		
comp=Z,1μm,21.0s,MS5.5							
DYDN	**Diyadin**	**129.51**	**281**	*i* P	PKPdf	01 00 23.8	-0.4
GNI	**Garni**	**129.53**	**283**	PKP	PKPdf	01 00 23.9	-0.4
comp=Z,19nm,0.9s,baz=325,slow=2.9,SNR=26							
GNI	**Garni**	**129.53**	**283**	*e*PKPdf	PKPdf	01 00 22.9	-1.4
GNI				*e*PP	PP	01 02 30.8	-4.1
GNI				LR	LR		
comp=Z,3μm,20.0s,MS5.9							
BVA0	**Borovoye Array**	**129.58**	**311**	*i* PKIKP	PKPdf	01 00 21.5	-2.4
BVA0				pmax	pmax		
comp=Z,9.0nm,1.4s							
BRVK	**Borovoye**	**129.64**	**311**	*e*PKIKP	PKPdf	01 00 19.7	-4.3
BRVK				*e*		01 02 33.0	
BRVK				MLR	MLR		
comp=Z,687nm,20.0s,MS5.3							
TUTA	**Tutak**	**129.79**	**280**	*i* P	PKPdf	01 00 24.1	-0.7
TMUT	**Trail Mountain**	**129.96**	**80**	*e*PKPdf	PKPdf	01 00 25.0	-0.1
DUG	**Dugway**	**129.96**	**78**	*e*PKIKP	PKPdf	01 00 24.6	-0.4
DUG				*e*		01 02 38.5	
DUG				MLR	MLR		
comp=Z,3μm,22.0s,MS6.0							
DUG	**Dugway**	**129.96**	**78**	*e*PKPdf	PKPdf	01 00 24.6	-0.4
DUG				*e*PP	PP	01 02 38.5	+0.7
DUG				*e*SKPdf	SKPdf	01 03 46.6	-14
DUG				LR	LR		
comp=Z,3μm,22.0s,MS6.0							
NLU	**North Lily Min**	**130.10**	**79**	*e*PKPdf	PKPdf	01 00 24.4	-0.9
NLU				*e*PP	PP	01 02 38.4	-0.2
NLU				*e*SKP		01 03 46.9	
SRU	**San Rafael**	**130.12**	**81**	*e*PKIKP	PKPdf	01 00 24.8	-0.6
SRU				*e*		01 02 39.2	
SRU	**San Rafael**	**130.12**	**81**	*e*PKPdf	PKPdf	01 00 24.8	-0.5
SRU				*e*PP	PP	01 02 39.2	+0.5
SRU				*e*SKPbc		01 03 47.2	
BNGL	**BINGOL**	**130.18**	**279**	*i* P	PKPdf	01 00 25.5	0.0
SJG	**San Juan**	**130.22**	**139**	*e*PKIKP	PKPdf	01 00 24.3	-1.9
SJG				MLR	MLR		
comp=Z,1μm,20.0s							
CROR	**Criterion Ridg**	**130.23**	**68**	P	PKPdf	01 00 26.0	+0.6
ATAB	**Bozova**	**130.27**	**275**	*i* P	PKPdf	01 00 25.5	-0.2
DGRG	**David-gareji**	**130.30**	**284**	P	PKPdf	01 00 25.5	-0.1
DGRG				S		01 03 53.8	
HUMP	**Col San Antoni**	**130.34**	**139**	*e*PKPdf	PKPdf	01 00 25.4	-1.1
MPU	**Maple Canyon**	**130.35**	**79**	*e*PKPdf	PKPdf	01 00 24.8	-1.0
MPU				*e*PP	PP	01 02 39.6	-0.6
MPU				LR	LR		
comp=Z,5μm,19.0s,MS6.2							
AB31	**Akbulak array**	**130.40**	**301**	*i* PKIKP	PKPdf	01 00 24.5	-1.1
AB31				pmax	pmax		
comp=Z,18nm,1.0s							
BGU	**Big Grassy Mou**	**130.46**	**77**	*e*PKPdf	PKPdf	01 00 25.6	-0.4
CSS	**Prodhromos**	**130.48**	**269**	*e*PKPdf	PKPdf	01 00 25.1	-1.1
CSS				*e*PP	PP	01 02 39.4	-1.7
GZT	**Gaziantep**	**130.51**	**274**	*i* P	PKPdf	01 00 26.2	0.0
MAK	**Makhachkala**	**130.57**	**287**	*e*PKIKP	PKPdf	01 00 23.5	-2.6
MAK				*i*		01 00 26.9	
MAK				*e*		01 02 41.5	
MAK				*e*		01 07 31.2	
MAK				pmax	pmax		
comp=Z,204nm,1.8s							
MAK				MLR	MLR		
comp=Z,963nm,19.0s,MS5.5							
AMTX	**Amarillo**	**130.69**	**92**	*e*PKPdf	PKPdf	01 00 25.9	-0.7
AMTX				LR	LR		
comp=Z,3μm,20.0s,MS6.0							
HOMI	**Horasan**	**130.72**	**280**	*i* P	PKPdf	01 00 26.4	-0.1
HOMI				*i* P		01 00 26.7	
ELZG	**Elazig**	**130.79**	**277**	*i* P	PKPdf	01 00 26.7	0.0
DAU	**Daniels Canyon**	**130.84**	**79**	*e*PKIKP	PKPdf	01 00 26.1	-0.6
DAU				*e*		01 02 45.5	
ERZM	**Erzurum**	**130.85**	**280**	*i* P	PKPdf	01 00 27.6	+0.8
MALT	**Malatya**	**130.90**	**276**⇑	*i* P	PKPdf	01 00 26.5	-0.4
MALT	**Malatya**	**130.90**	**276**	*e*PKPdf	PKPdf	01 00 26.1	-0.7
MALT				*e*PP	PP	01 02 42.0	-1.7
MALT				LR	LR		
comp=Z,2μm,20.0s,MS5.7							
NLWA	**Neilton Lookou**	**130.94**	**64**	PFAKE		01 00 40.0	+13
NLWA				LR	LR		
comp=Z,5μm,20.0s,MS6.2							
SPUT	**South Promonto**	**131.03**	**78**	*e*PKPdf	PKPdf	01 00 26.6	-0.4
SPUT				*e*PP	PP	01 02 45.1	+0.5
SPUT				*e*SKP		01 03 50.5	
ANDN	**Andirin**	**131.25**	**274**	*i* P	PKPdf	01 00 25.4	-2.2
HVU	**Hansel Valley**	**131.26**	**77**	*e*PKIKP	PKPdf	01 00 27.3	-0.1
HVU				*e*		01 02 46.6	
HVU	**Hansel Valley**	**131.26**	**77**	*e*PKPdf	PKPdf	01 00 27.2	-0.2
HVU				*e*PP	PP	01 02 46.6	+0.5
HVU				*e*SKP		01 03 51.4	
NATX	**Nacogdoches**	**131.28**	**100**	PFAKE		01 00 40.0	+12
NATX				LR	LR		
comp=Z,2μm,21.0s,MS5.7							
LON	**Longmire**	**131.29**	**66**	*e*PKIKP	PKPdf	01 00 26.5	-0.8
SDCO	**Great Sand Dun**	**131.29**	**86**	*e*PKPdf	PKPdf	01 00 26.2	-1.5
SDCO				*e*PKPdf	PKPdf	01 00 26.3	-1.4
SDCO				*e*PP	PP	01 02 40.8	-5.6
SDCO				*e*SKP		01 03 51.4	
SDCO				LR	LR		
comp=Z,1μm,20.0s,MS5.7							
KOPT	**Kop Dagi**	**131.33**	**279**	*i* P	PKPdf	01 00 25.6	-2.1
OBC	**Olympics--Boni**	**131.37**	**63**	P	PKPdf	01 00 28.6	+1.2
BILL	**Bilibino**	**131.46**	**10**	*e*PKIKP	PKPdf	01 00 25.1	-1.9
BILL				pmax	pmax		
comp=Z,10.0nm,1.2s							
BILL	**Bilibino**	**131.46**	**10**	*e*PKPdf	PKPdf	01 00 25.7	-1.3
BILL				*e*PP	PP	01 02 46.3	-0.7
BILL				LR	LR		
comp=Z,925nm,21.0s,MS5.5							
BMO	**Blue Mountains**	**131.71**	**71**	PFAKE		01 00 40.0	+12
BMO				LR	LR		
comp=Z,3μm,19.0s,MS6.0							
WMOK	**Wichita Mounta**	**131.90**	**94**	*e*PKPdf	PKPdf	01 00 27.5	-1.4
WMOK				*e*SKP		01 03 49.1	
WMOK				LR	LR		
comp=Z,3μm,20.0s,MS6.0							
RSW	**Rattlesnake Hi**	**131.95**	**68**	P	PKPdf	01 00 29.8	+1.2
HLID	**Hailey**	**131.95**	**74**	*e*PKPdf	PKPdf	01 00 27.4	-1.3
HLID				*e*PP	PP	01 02 50.1	-0.5
HLID				*e*SKP		01 03 53.4	
HLID				LR	LR		
comp=Z,2μm,20.0s,MS5.9							
HAWA	**Hanford**	**131.97**	**68**	*e*PKPdf	PKPdf	01 00 28.0	-0.6
HAWA				*e*SKP		01 03 53.1	
HAWA				LR	LR		
comp=Z,3μm,21.0s,MS5.9							
ERMK	**Ermenek**	**132.06**	**270**	*i* P	PKPdf	01 00 31.8	+2.6
ONI	**Oni**	**132.06**	**283**	P	PKPdf	01 00 28.7	-0.2
ONI				S	PP	01 02 47.5	-3.7
LNOR	**Lincton Mounta**	**132.09**	**69**	*e*PKIKP	PKPdf	01 00 28.9	0.0
LNOR				*e*		01 02 51.2	
LNOR	**Lincton Mounta**	**132.09**	**69**	*e*PKPdf	PKPdf

CDAG	**Cicekdag**	**133.81**	**273**	*i* P	PKPdf	01 00 28.8	-3.5
DWPF	**Disney**	**133.87**	**116**	PFAKE		01 00 40.0	+7.2
DWPF				LR	LR		
	comp=Z,886nm,20.0s,MS5.5						
FLWY	**Flagg Ranch**	**134.01**	**77**	*e*PKPdf	PKPdf	01 00 32.8	+0.2
BRAL	**Brewton**	**134.01**	**109**	PFAKE		01 00 40.0	+7.0
BRAL				LR	LR		
	comp=Z,990nm,19.0s,MS5.5						
GOLH	**Golhisar**	**134.08**	**267**	*i* P	PKPdf	01 00 25.3	-7.7
MIAR	**Mount Ida**	**134.11**	**99**	*e*PKIKP	PKPdf	01 00 32.1	-1.0
MIAR				*e*		01 03 05.3	
MIAR				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.7						
MIAR	**Mount Ida**	**134.11**	**99**	*e*PKPdf	PKPdf	01 00 32.1	-1.0
MIAR				*e*PP	PP	01 03 05.3	+0.9
MIAR				*e*SKP		01 03 59.8	
MIAR				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
ISP	**Isparta**	**134.14**	**269**	PFAKE		01 00 40.0	+7.0
ISP				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
DLMT	**Dillon**	**134.17**	**74**	*e*PKPdf	PKPdf	01 00 32.2	-0.6
DLMT				*e*PP	PP	01 03 04.9	+0.1
SIT	**Sitka**	**134.20**	**48**	PFAKE		01 00 40.0	+7.6
SIT				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
TURN	**Turunc**	**134.22**	**266**	*i* P	PKPdf	01 00 31.6	-1.6
YMR	**Madison River**	**134.35**	**76**	PFAKE		01 00 40.0	+6.8
YMR				LR	LR		
	comp=Z,6μm,20.0s,MS6.3						
TKTP	**Tekketepe**	**134.38**	**269**	*i* P	PKPdf	01 00 29.4	-4.1
SIVA	**Sivas**	**134.41**	**261**	*e*P	PKPdf	01 00 25.1	-8.5
CTKT	**Corum**	**134.42**	**275**	*i* P	PKPdf	01 00 33.5	+0.1
NEW	**Newport**	**134.46**	**68**	*e*PKIKP	PKPdf	01 00 32.7	-0.5
NEW				*e*		01 00 32.9	
NEW				MLR	MLR		
	comp=Z,4μm,21.0s						
LKWY	**Lake**	**134.52**	**77**	PFAKE		01 00 40.0	+6.5
LKWY				LR	LR		
	comp=Z,9μm,21.0s,MS6.5						
GVD	**Gavdhos**	**134.59**	**260**	*e*P	PKPdf	01 00 33.8	-0.1
KTH	**Kantishna Hill**	**134.68**	**34**	*e*PKPdf	PKPdf	01 00 32.1	-1.0
KTH				*e*		01 00 38.4	
MSO	**Missoula**	**134.72**	**72**	*e*PKPdf	PKPdf	01 00 32.5	-1.3
MSO				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
TIXI	**Tiksi**	**134.73**	**353***d*	*i*PKIKP	PKPdf	01 00 30.7	-2.3
TIXI				pmax	pmax		
	comp=Z,71nm,2.4s						
TIXI				MLR	MLR		
	comp=Z,676nm,23.0s,MS5.3						
TIXI	**Tiksi**	**134.73**	**353**⇑	*i*PKP	PKPdf	01 00 31.4	-1.6
ANTO	**Ankara**	**134.73**	**272**	*e*PKIKP	PKPdf	01 00 32.7	-1.3
ANTO				*e*		01 03 07.0	
ANTO				MLR	MLR		
	comp=Z,984nm,21.0s,MS5.5						
ANTO	**Ankara**	**134.73**	**272**	*e*PKPdf	PKPdf	01 00 32.7	-1.3
ANTO				*e*PP	PP	01 03 07.0	-1.3
ANTO				*e*SKP		01 04 04.8	
ANTO				LR	LR		
	comp=Z,984nm,21.0s,MS5.5						
WRAK	**Wrangell Islan**	**134.74**	**51**	PFAKE		01 00 40.0	+6.5
WRAK				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
CBKS	**Cedar Bluff**	**134.80**	**90**	*e*PKIKP	PKPdf	01 00 33.3	-0.9
CBKS				MLR	MLR		
	comp=Z,3μm,19.0s,MS6.1						
BOZ	**Bozeman (W)**	**134.82**	**75**	*e*PKIKP	PKPdf	01 00 32.4	-1.6
BOZ				*e*		01 03 05.8	
BOZ				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.8						
UALR	**University of**	**134.86**	**100**	*e*PKPdf	PKPdf	01 00 33.6	-0.8
UALR				*e*SKP		01 04 03.5	
ELDT	**Eldivan**	**134.94**	**273**	*i* P	PKPdf	01 00 32.3	-2.1
KHAL	**Karahalli**	**135.03**	**268**	*i* P	PKPdf	01 00 25.0	-10
CHMT	**Chamberlain Mo**	**135.09**	**72**	*e*PKPdf	PKPdf	01 00 33.0	-1.5
AYDN	**Tasoluk**	**135.19**	**266**	*i* P	PKPdf	01 00 32.8	-2.2
ESKT	**Eskisehir**	**135.34**	**270**	*i* P	PKPdf	01 00 31.8	-3.4
RLMT	**Red Lodge**	**135.46**	**77**	*e*PKPdf	PKPdf	01 00 33.2	-2.0
RLMT				*e*PP	PP	01 03 11.6	-1.3
RLMT				LR	LR		
	comp=Z,5μm,20.0s,MS6.2						
GDZ	**Gediz**	**135.62**	**269**	*i* P	PKPdf	01 00 34.6	-1.1
GCMT	**Greycliff**	**135.80**	**76**	PKPdf	PKPdf	01 00 32.5	-3.3
GCMT				*e*PP	PP	01 03 14.6	-0.5
DEMI	**Demirci**	**135.93**	**268**	*i* P	PKPdf	01 00 29.4	-6.9
OXF	**Oxford**	**135.95**	**104**	PFAKE		01 00 50.0	+13
OXF				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
SVE	**Sverdlovsk**	**136.04**	**308**⇑	*i*PKIKP	PKPdf	01 00 34.2	-1.7
SVE				*e*SS	SS	01 21 16.9	+0.1
SVE				pmax	pmax		
	comp=Z,54nm,1.5s						
SVE				MLR	MLR		
	comp=Z,676nm,22.0s,MS5.3						
SKAG	**Skagway**	**136.05**	**46**	*e*PKPdf	PKPdf	01 00 34.5	-1.3
SKAG				*e*PP	PP	01 03 18.9	+2.5
SKAG				*e*SKP		01 04 09.1	
IMA2	**Indian Mountai**	**136.06**	**31**	*e*P	PKPdf	01 00 35.4	-0.3
HYT	**Haines Junctio**	**136.39**	**44**	*e*PKPdf	PKPdf	01 00 34.8	-1.6
WALA	**Waterton Lakes**	**136.44**	**70**	*e*PKPdf	PKPdf	01 00 36.7	-0.2
WALA				*e*PP	PP	01 03 15.0	-4.1
KSU1	**Kansas State U**	**136.47**	**93**	*e*PKPdf	PKPdf	01 00 36.1	-1.2
KSU1				*e*PP	PP	01 03 24.4	+5.2
KSU1				LR	LR		
	comp=Z,4μm,21.0s,MS6.1						
ARU	**Arti**	**136.50**	**306**	*i* PKIKP	PKPdf	01 00 35.4	-1.4
ARU				*e*		01 07 46.4	
ARU				MLR	MLR		
	comp=Z,801nm,20.0s,MS5.5						
ARU	**Arti**	**136.50**	**306**	*e*PKPdf	PKPdf	01 00 35.6	-1.2
ARU				*e*PP	PP	01 03 18.2	-1.1
ARU				LR	LR		
	comp=Z,849nm,20.0s,MS5.5						
ANN	**Anapa**	**136.50**	**281**	*i* PKIKP	PKPdf	01 00 35.7	-1.5
ANN				*e*		01 00 38.5	
ANN				*e*		01 03 16.9	
ANN				*e*SS	SS	01 21 15.8	-6.7
ANN				pmax	pmax		
	comp=Z,91nm,1.6s						
COLA	**College**	**136.54**	**35**	*e*PKIKP	PKPdf	01 00 34.5	-2.1
COLA				*e*		01 00 34.8	
COLA				*e*		01 03 16.8	
COLA				MLR	MLR		
	comp=Z,3μm,19.0s,MS6.0						
ULDT	**Uludag**	**136.62**	**269**	*i* P	PKPdf	01 00 35.7	-1.9
PLAL	**Pickwick Lake**	**136.94**	**105**	*e*PKPdf	PKPdf	01 00 35.7	-2.6
PLAL				PP	PP	01 03 23.1	+0.9
PLAL				*e*SKP		01 04 08.1	
PLAL				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
BALY	**Balya**	**137.00**	**268**	*i* P	PKPdf	01 00 36.5	-1.8
RSSD	**Black Hills**	**137.04**	**82**	*e*PKIKP	PKPdf	01 00 32.8	-5.4
RSSD				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.9						
DLBC	**Dease Lake**	**137.09**	**50**	*e*PKPdf	PKPdf	01 00 36.7	-1.1
DLBC				*e*PP	PP	01 03 20.8	-2.2
DID	**Didima**	**137.19**	**262**	*e*P	PKPdf	01 00 26.6	-12
PRK	**Paraskevi**	**137.22**	**266**	*e*P	PKPdf	01 00 37.5	-1.2
VLX	**Vlachokerasia**	**137.46**	**261**	*e*P	PKPdf	01 00 38.4	-0.8
EGMT	**Eagleton**	**137.47**	**74**	PFAKE		01 00 50.0	+11
EGMT				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
PARMO	**Parma**	**137.59**	**101**	*e*PKPdf	PKPdf	01 00 38.7	-0.7
PARMO				*e*PP	PP	01 03 24.9	-1.4
GOGA	**Godfrey**	**137.62**	**111**	*e*PKHKP		01 00 30.6	
GOGA				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.7						
LTK	**Loutraki**	**137.73**	**262**	*e*P	PKPdf	01 00 37.9	-1.8
SART	**Tekirdag**	**137.96**	**268**	*i* P	PKPdf	01 00 37.1	-2.9
LAO	**LASA Array**	**138.03**	**78**	PFAKE		01 00 50.0	+10
LAO				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
CCM	**Cathedral Cave**	**138.07**	**99**	*e*PKHKP		01 00 28.9	
CCM				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.7						
SIM	**Simferopol'**	**138.12**	**278**	*e*PKHKP		01 00 32.9	
SIM				pmax	pmax		
	comp=Z,20nm,1.2s						
LKR	**Lokris**	**138.23**	**262**	*e*P	PKPdf	01 00 36.6	-4.0
LIA	**Limnos Island**	**138.24**	**265**	*e*P	PKPdf	01 00 38.1	-2.5
DAWY	**Dawson**	**138.26**	**40**	*e*PKPdf	PKPdf	01 00 40.0	+0.2
EGAK	**Eagle**	**138.29**	**38**	*e*PKP	PKPdf	01 00 30.5	-9.3
EGAK				*e*PP	PP	01 03 26.8	-3.6
EGAK				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
FVM	**French Village**	**138.38**	**100**	PKIKP	PKPdf	01 00 34.2	-6.7
ALN	**Alexandroupoli**	**138.64**	**267**	*e*P	PKPdf	01 00 33.2	-8.0
SIUC	**Southern Illin**	**138.70**	**101**	PKP	PKPdf	01 00 35.9	-5.6
XOR	**Xorichti**	**138.72**	**263**	*e*P	PKPdf	01 00 39.0	-2.4
NHSC	**New Hope**	**138.76**	**114**	PFAKE		01 00 50.0	+8.3
NHSC				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
COW	**Cow Castle Cre**	**138.78**	**114**	*e*PKPdf	PKPdf	01 00 42.4	+0.6
AGG	**Agios Georgios**	**138.83**	**262**	*e*P	PKPdf	01 00 33.0	-8.7
CPCT	**Cooper Cave**	**138.90**	**108**	*e*PKP	PKPdf	01 00 32.7	-9.2
VLS	**Valsamata**	**138.93**	**260**	*e*P	PKPdf	01 00 44.0	+2.1
PAIG	**Paliouri**	**138.95**	**264**	*e*P	PKPdf	01 00 40.3	-1.5
LKD	**Levkas**	**139.34**	**260**	*e*P	PKPdf	01 00 34.6	-8.0
VRHR	**Novokhopersk**	**139.39**	**290**	*i* PKIKP	PKPdf	01 00 36.0	-6.3
VRHR				pmax	pmax		
	comp=Z,120nm,1.2s						
VRHR				pmax	pmax		
	comp=N,50nm,0.7s						
VRHR				pmax	pmax		
	comp=E,30nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,220nm,6.4s						
VRHR				pmax	pmax		
	comp=N,90nm,9.0s						
VRHR				pmax	pmax		
	comp=E,30nm,5.8s						
TKL	**Tuckaleechee C**	**139.40**	**108**	PKP	PKPdf	01 00 39.8	-3.1
	comp=E,4.3nm,0.7s,baz=186,slow=5.8,SNR=7.1						
TKL	**Tuckaleechee C**	**139.40**	**108**	PKIKP	PKPdf	01 00 39.8	-3.0
TKL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TKL	**Tuckaleechee C**	**139.40**	**108**	*e*PKPdf	PKPdf	01 00 41.6	-1.2
PLG	**Polygyros**	**139.41**	**264**	*e*P	PKPdf	01 00 35.5	-7.2
THL	**Klokotos Trika**	**139.41**	**262**	*e*P	PKPdf	01 00 33.8	-8.9
SOKR	**Solikamsk**	**139.44**	**308***c*	*i*PKIKP	PKPdf	01 00 41.2	-0.9
SOKR				pmax	pmax		
	comp=Z,40nm,0.9s						
SOKR				MLR	MLR		
	comp=Z,820nm,20.0s,MS5.5						
KDZ	**Kurdzhali**	**139.53**	**267**	P	PKPdf	01 00 41.4	-1.5
USIN	**University of**	**139.60**	**102**	*e*PKPdf	PKPdf	01 00 41.7	-1.4
USIN				*e*PP	PP	01 03 38.6	-0.1
LIT	**Litokhoron**	**139.63**	**263**	*e*P	PKPdf	01 00 34.1	-9.0
HORT	**Hortiatis**	**139.75**	**264**	*e*P	PKPdf	01 00 34.8	-8.5
EDM	**Edmonton**	**139.75**	**66**	*e*PKHKP	PKPdf	01 00 33.1	-10
SOH	**Sokhos**	**139.81**	**265**	*e*P	PKPdf	01 00 38.3	-5.1
THE	**Thessaloniki**	**139.84**	**264**	*e*P	PKPdf	01 00 40.9	-2.5
MEV	**Metsovon**	**139.95**	**262**	*e*P	PKPdf	01 00 35.7	-8.0
OLIL	**Olney**	**140.04**	**101**	*e*PKPdf	PKPdf	01 00 34.3	-10
OLIL				*e*PP	PP	01 03 39.6	-1.7
ECSD	**EROS,Sioux Fal**	**140.13**	**89**	PKP	PKPdf	01 00 35.8	-8.1
ECSD				*e*PP	PP	01 03 41.7	-0.3
ECSD				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
IGT	**Igoumenitsa**	**140.15**	**261**	*e*P	PKPdf	01 00 37.2	-6.9
PLD	**Plovdiv**	**140.22**	**267**	*e*P	PKPdf	01 00 36.6	-7.5
PLD	**Plovdiv**	**140.22**	**267**	P	PKPdf	01 00 46.0	+1.9
TZTN	**Tazewell**	**140.25**	**108**	PKP	PKPdf	01 00 35.7	-8.7
TZTN				*e*PP	PP	01 03 43.6	+1.0
TZTN				LR	LR		
	comp=Z,983nm,19.0s,MS5.6						
SCIA	**State Center**	**140.26**	**94**	*e*PKPdf	PKPdf	01 00 41.4	-2.7
SCIA				*e*PP	PP	01 03 42.6	-0.1
SCIA				LR	LR		
	comp=Z,5μm,19.0s,MS6.3						
DGMT	**Dagmar**	**140.27**	**78**	*e*PKPdf	PKPdf	01 00 41.4	-2.5
DGMT				*e*PP	PP	01 03 43.7	+0.9
DGMT				LR	LR		
	comp=Z,4μm,20.0s,MS6.2						
KNT	**Kendrikon**	**140.29**	**265**	*e*P	PKPdf	01 00 35.6	-8.7
TIRR	**Tirgusor**	**140.34**	**273**⇓	*i*P	PKPdf	01 00 38.3	-5.9
TIRR	**Tirgusor**	**140.34**	**273**⇓	*i*P	PKPdf	01 00 38.3	-5.9
TIRR				*e*PKPdf	PKPdf	01 00 39.6	-4.6
GRG	**Griva**	**140.36**	**264**	*e*P	PKPdf	01 00 35.3	-9.1
WCI	**Wyandotte Cave**	**140.43**	**104**	PKHKP	PKPdf	01 00 35.7	-8.9
WCI				*e*		01 03 44.9	
WCI				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.6						
VRSR	**Storozhevoye**	**140.53**	**288**	*i* PKHKP	PKPdf	01 00 34.8	-10
VRSR				pmax	pmax		
	comp=N,10.0nm,2.3s						
VRSR				pmax	pmax		
	comp=Z,50nm,2.3s						
VRSR				pmax	pmax		
	comp=E,9.0nm,2.0s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,5.2s						
VRSR				pmax	pmax		
	comp=N,30nm,15.5s						
VRSR				pmax	pmax		
	comp=E,10.0nm,4.8s						
VAY	**Valandovo**	**140.57**	**264**	*e*PKP	PKPdf	01 00 35.6	-9.2
FNA	**Florina**	**140.69**	**263**	*e*P	PKPdf	01 00 38.2	-6.7
HARR	**Harsova**	**140.74**	**273**⇑	*i*P	PKPdf	01 00 38.4	-6.6
HARR	**Harsova**	**140.74**	**273**⇑	*i*P	PKPdf	01 00 38.4	-6.6
BIA	**Bitola**	**140.90**	**263**	*e*PKP	PKPdf	01 00 39.7	-5.6
HDIL	**Hopedale**	**140.98**	**99**	*e*PKPdf	PKPdf	01 00 44.0	-1.6
HDIL				LR	LR		
	comp=Z,2μm,19.0s,MS6.0						
STIP	**Stip**	**141.04**	**264**	*e*PKP	PKPdf	01 00 38.1	-7.5
CEL	**Celeste**	**141.10**	**255**	PKP	PKPdf	01 00 38.8	-7.1
CEL				*e*PP	PP	01 03 46.2	-1.6
CEL				*e*SKP		01 04 19.6	
BLO	**Bloomington**	**141.10**	**103**	PKHKP		01 00 37.3	
KRUS	**Krusevo**	**141.21**	**263**	*e*PKP	PKPdf	01 00 39.1	-6.8
OHR	**Ohrid**	**141.21**	**262**	*e*PKP	PKPdf	01 00 38.2	-7.7
VTS	**Vitosha**	**141.28**	**266**	P	PKPdf	01 00 39.6	-6.4
VTS	**Vitosha**	**141.28**	**266**⇑	*i*P	PKPdf	01 00 39.9	-6.1
VTS	**Vitosha**	**141.28**	**266**⇑	*i*P	PKPdf	01 00 39.9	-6.1
TIP	**Timpagrande**	**141.47**	**257**	*e*PKPdf	PKPdf	01 00 43.4	-3.1
TIP				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
CNNC	**Cliffs of the**	**141.55**	**115**	*e*PKPdf	PKPdf	01 00 44.5	-2.3
CNNC				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
SKO	**Skopje**	**141.60**	**264**	*e*PKP	PKPdf	01 00 40.5	-6.1
KEST	**Kesra**	**141.80**	**246**	PKhKP	PKPdf	01 00 42.7	-4.4
	comp=Z,6.9nm,1.0s,baz=172,slow=2.6,SNR=19						
TIR	**Tirane**	**141.82**	**262**	*e*P	PKPdf	01 00 41.4	-5.6
TIR	**Tirane**	**141.82**	**262**	*e*PN	PKPdf	01 00 42.9	-4.1
TIR	**Tirane**	**141.82**	**262**	P	PKPdf	01 00 41.4	-5.6
TIR				*e*PKPdf	PKPdf	01 00 44.9	-2.1
PHP	**Peshkopia**	**141.83**	**263**	*e*PN	PKPdf	01 00 42.6	-4.4
ELN	**Prospectdale**	**142.03**	**110**	*e*PKPdf	PKPdf	01 00 41.6	-5.9
KIS	**Kishinev**	**142.08**	**276**	*e*PKHKP	PKPdf	01 00 42.0	-5.3
KIS				*e*		01 00 47.0	
KIS				*e*		01 00 55.0	
KIS				*e*		01 03 50.0	
KIS				MLR	MLR		
	comp=Z,600nm,20.0s,MS5.3						
KIS				MLR	MLR		
	comp=Z,600nm,19.0s						
KIS	**Kishinev**	**142.08**	**276**	*e*PP	PP	01 03 50.0	-3.9
BLA	**Blacksburg**	**142.16**	**111**	*e*PKHKP	PKPdf	01 00 42.2	-5.6
BLA				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.6						
VRI	**Vrincioaia**	**142.19**	**273**	PKIKP	PKPdf	01 00 43.1	-4.4
VRI	**Vrincioaia**	**142.19**	**273**⇓	*i*P	PKPdf	01 00 41.8	-5.7
VRI	**Vrincioaia**	**142.19**	**273**⇑	*i*P	PKPdf	01 00 41.8	-5.7
PLOR	**Plostina**	**142.21**	**273**⇓	*i*P	PKPdf	01 00 42.9	-4.7
MLR	**Muntele Rosu**	**142.26**	**272**⇑	*i*P	PKPdf	01 00 42.3	-5.4
MLR	**Muntele Rosu**	**142.26**	**272**⇑	*i*P	PKPdf	01 00 42.3	-5.3
PUK	**Puka**	**142.36**	**263**	*e*PN	PKPdf	01 00 42.4	-5.6
JFWS	**Jewell Farm**	**142.41**	**95**	*e*PKHKP	PKPdf	01 00 42.1	-5.9
JFWS				MLR	MLR		
	comp=Z,4μm,20.0s,MS6.2						
BCI	**Bajram Curri**	**142.54**	**263**	*e*PN	PKPdf	01 00 43.9	-4.4
CUC	**Castrocucco**	**142.56**	**256**	*e*PKPdf	PKPdf	01 00 42.7	-5.7
CUC				*e*PP	PP	01 03 55.5	-1.2
VOIR		**142.63**	**271**⇑	*i*P	PKPdf	01 00 42.8	-5.5
VOIR		**142.63**	**271**⇑	*i*P	PKPdf	01 00 42.9	-5.5
IAS	**Iasi**	**142.80**	**275**	PKIKP	PKPdf	01 00 44.9	-3.6
INK	**Inuvik**	**142.95**	**38**	PKhKP	PKPdf	01 00 42.2	-5.9
	comp=Z,4.6nm,0.7s						
INK	**Inuvik**	**142.95**	**38**	PKP	PKPdf	01 00 42.2	-5.9
ABSA	**Djebel Ababsia**	**143.04**	**244**	P	PKPdf	01 00 48.0	-1.4
CFTV	**Fuerteventura**	**143.06**	**211**	PKP	PKPdf	01 00 44.5	-5.1
EOSO	**Osorio**	**143.06**	**208**	PKP	PKPdf	01 00 46.5	-3.2
CTEI	**Djebel Teioual**	**143.30**	**243**	P	PKPdf	01 00 52.0	+2.2
CMAH	**Djebel Manchou**	**143.36**	**244**	P	PKPdf	01 00 47.0	-2.9
CASM	**Ain Smara**	**143.43**	**243**	P	PKPdf	01 00 49.0	-1.0
CCAN	**Las Canadas**	**143.44**	**207**	PKP	PKPdf	01 00 46.7	-3.6
CKFL	**Kef-Lekhel**	**143.46**	**243**	P	PKPdf	01 00 49.0	-1.1
EGOM	**La Gomera**	**143.50**	**206**	PKP	PKPdf	01 00 47.2	-3.3
ACSO	**Alum Creek Sta**	**143.55**	**105**	*e*PKPdf	PKPdf	01 00 45.3	-4.8
ACSO				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
EFAM	**Famara**	**143.61**	**212**	PKP	PKPdf	01 00 48.2	-2.4
GZR	**Gura Zlata**	**143.64**	**269**⇑	*i*P	PKPdf	01 00 47.1	-3.0
GZR	**Gura Zlata**	**143.64**	**269**⇑	P	PKPdf	01 00 47.1	-3.0
EBAJ	**Bajamar**	**143.69**	**208**	PKP	PKPdf	01 00 48.6	-2.2
URVA	**University of**	**143.69**	**114**	*e*PKPdf	PKPdf	01 00 45.9	-4.5
CAEH	**'Ain El Ouahch**	**143.73**	**244**	P	PKPdf	01 00 50.0	-0.6
SET	**Setif**	**143.82**	**241**	P	PKPdf	01 00 49.0	-1.7
AGMN	**Agassiz Refuge**	**143.92**	**84**	*e*PKPdf	PKPdf	01 00 46.1	-4.3
AGMN				*e*PP	PP	01 04 08.4	+3.5
AGMN				LR	LR		
	comp=Z,2μm,19.0s,MS6.0						
BBSR	**BB Station**	**143.98**	**134**	*e*PKPdf	PKPdf	01 00 48.1	-3.1
BBSR				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
EHIG	**Higuera**	**144.00**	**205**	PKP	PKPdf	01 00 50.4	-0.9
STON	**Ston**	**144.01**	**261**	P	PKPdf	01 00 46.0	-4.8
BURAR	**Bucovina Array**	**144.19**	**273**⇓	*i*P	PKPdf	01 00 48.2	-2.8
BURAR	**Bucovina Array**	**144.19**	**273**⇓	*i*P	PKPdf	01 00 48.2	-2.8
BZS	**Buzias**	**144.34**	**268**	PKIKP	PKPdf	01 00 48.9	-2.4
BZS	**Buzias**	**144.34**	**268**⇑	*i*P	PKPdf	01 00 48.5	-2.8
MOS	**Moscow**	**144.35**	**293**	*e*PKHKP		01 00 45.8	
MOS				*e*		01 04 03.1	
MOS				pmax	pmax		
	comp=Z,464nm,1.8s						
MOS				pmax	pmax		
	comp=Z,2μm,2.5s						
OBN	**Obninsk**	**144.38**	**291***c*	*i*PKIKP	PKPdf	01 00 48.7	-2.3
OBN				*e*		01 07 54.6	
OBN				*e*SS	SS	01 22 52.1	-2.5
OBN				pmax	pmax		
	comp=Z,260nm,1.2s						
OBN	**Obninsk**	**144.38**	**291**	*e*PKPdf	PKPdf	01 00 49.1	-2.0
OBN				LR	LR		
	comp=Z,980nm,21.0s,MS5.5						
MCWV	**Mont Chateau**	**144.45**	**109**	*e*PKPdf	PKPdf	01 00 48.3	-3.4
MCWV				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
AKASG	**Malin Array Be**	**144.59**	**280**	PKP	PKPdf	01 00 49.0	-2.6
	comp=Z,74nm,0.8s,baz=112,slow=2.3,SNR=246						
AKASG	**Malin Array Be**	**144.59**	**280**	PKIKP	PKPdf	01 00 49.0	-2.6
AKASG				pmax	pmax		
	comp=Z,74nm,0.8s						
AKASG	**Malin Array Be**	**144.59**	**280**	PKP	PKPdf	01 00 49.0	-2.6
AKBB	**Malin Array Si**	**144.59**	**280**	*e*PKIKP	PKPdf	01 00 49.0	-2.6
AKBB				*e*		01 04 07.6	
KIEV	**Kiev**	**144.59**	**280**	*e*PKIKP	PKPdf	01 00 49.4	-2.2
KIEV				MLR	MLR		
	comp=Z,882nm,20.0s,MS5.5						
TIM	**Timisoara**	**144.62**	**268**⇑	*i*P	PKPdf	01 00 50.3	-1.5
TIM	**Timisoara**	**144.62**	**268**⇑	P	PKPdf	01 00 50.3	-1.5
ETRT	**Tiaret**	**144.72**	**236**	P	PKPdf	01 00 51.0	-1.3
DRGR		**144.72**	**270**⇑	*i*P	PKPdf	01 00 50.0	-1.9
DRGR		**144.72**	**270**⇑	P	PKPdf	01 00 50.0	-1.9
EMHD	**Djebel Mahouad**	**144.79**	**239**	P	PKPdf	01 00 51.6	-0.8
AAM	**Ann Arbor**	**144.91**	**102**	*e*PKIKP	PKPdf	01 00 50.0	-2.4
AAM				*e*		01 00 56.5	
AAM				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.9						
ABA	**Alger-Bouzarea**	**145.29**	**239**	P	PKPbc	01 00 53.0	-0.1
EANR	**'Ain N'Sour**	**145.29**	**236**	P	PKPbc	01 00 53.5	+0.4
ULM	**Lac du Bonnet**	**145.31**	**82**	PKPbc	PKPbc	01 00 50.2	-2.5
	comp=Z,27nm,0.8s,baz=229,slow=3.2,SNR=22						
ECHA	**Ech Chlef**	**145.36**	**237**	P	PKPbc	01 00 54.0	+0.7
COWI	**Conover**	**145.37**	**93**	*e*PKPdf	PKPdf

BINY	**Binghamton**	**148.20 111**	*e*PKPdf	PKPdf	01 00 57.4	-0.5
BINY			*e*		01 01 07.5	
BINY			LR	LR		
comp=Z,2µm,20.0s,MS5.9						
SOP	**Sopron**	**148.21 266**⇑	*e*PKP	PKPbc	01 01 01.1	0.0
EBEN	**Beniarda**	**148.21 237**	PKP	PKPdf	01 00 57.1	-1.0
OBKA	**Obir**	**148.25 262**⇑	*i*P	PKPdf	01 00 57.1	-0.8
comp=Z,2µm,2.9s,SNR=48						
ELOJ	**Sierra Loja**	**148.28 230**	PKIKP	PKPdf	01 00 56.9	-1.4
VLC	**Villacollemand**	**148.31 255**	*e*PKPdf	PKPdf	01 00 58.6	+0.6
VLC			LR	LR		
comp=Z,2µm,21.0s,MS6.0						
EHUE	**Huescar**	**148.31 233**	PKIKP	PKPdf	01 00 57.0	-1.3
SARO	**Sassorosso**	**148.32 255**	P	PKPdf	01 00 55.4	-2.7
ZST	**Bratislava**	**148.33 267**	*i* PKP	PKPdf	01 01 00.5	+2.5
ARSA	**Arzberg**	**148.36 264**⇑	*i*P	PKPdf	01 00 56.6	-1.5
comp=Z,1µm,2.4s,SNR=109						
SFS	**San Fernando**	**148.37 227**	*e*PKIKP	PKPdf	01 00 57.7	-0.7
SFS			MLR	MLR		
comp=Z,15µm,21.0s,MS6.8						
MODS	**Modra-Piesok**	**148.38 267**	*e*PKP	PKPdf	01 00 56.0	-2.0
VINC	**Vinca**	**148.40 255**	P	PKPdf	01 00 56.9	-1.3
EQES	**Quesada**	**148.48 232**	PKP	PKPdf	01 00 56.6	-2.0
VALM	**Valbona**	**148.52 255**	P	PKPdf	01 00 56.7	-1.7
BACM	**Baccana**	**148.54 255**	P	PKPdf	01 00 56.0	-2.5
OJC	**Ojcow**	**148.54 272**	*e*PKPdf	PKPdf	01 00 57.3	-0.9
OJC			*e*PKPbc	PKPbc	01 00 59.7	-2.2
OJC			*e*PKiKP	PKiKP	01 01 01.4	-2.0
OJC			*e*PP	PP	01 04 28.9	-3.4
OJC			*e*SKSdf	SKSdf	01 08 02.3	-4.7
OJC			*e*SS	SS	01 23 38.4	-3.5
OJC			L		02 11 31.3	
comp=Z,1.1nm,23.8s						
OJC	**Ojcow**	**148.54 272**	*i* PKP2	PKPab	01 01 01.4	-4.0
OJC			*e*		01 04 28.9	
OJC			*e*		01 08 02.3	
OJC			*e*SS	SS	01 23 38.4	-3.5
ESPR	**Espera**	**148.62 228**	PKP	PKPdf	01 00 57.9	-0.9
ETOB	**Tobarra**	**148.66 235**	PKP	PKPdf	01 00 58.6	-0.2
ELUQ	**Luque**	**148.69 230**	PKIKP	PKPdf	01 00 58.5	-0.4
CONA	**Conrad Observa**	**148.70 265**⇑	*i*P	PKPdf	01 00 57.0	-1.6
comp=Z,681nm,2.7s,SNR=39						
CSNA	**Conrad Observa**	**148.70 265**⇑	*i*P	PKPdf	01 00 57.0	-1.6
comp=Z,682nm,2.7s						
GRAM	**Graiana**	**148.71 255**	P	PKPdf	01 00 56.6	-2.1
CODM	**Codolo**	**148.73 255**	P	PKPdf	01 00 56.6	-2.2
MYKA	**Terra Mystica**	**148.75 262**⇑	*i*P	PKPdf	01 00 57.6	-1.1
comp=Z,8µm,2.3s						
IDID	**Didziasalis**	**148.80 285**	*e*P	PKPdf	01 01 01.9	+3.5
IDID			AMb	AMB	01 01 06.4	
comp=Z,82nm,1.7s						
SADO	**Sadowa**	**148.88 104**	PKPbc	PKPdf	01 00 59.9	+0.9
baz=251,slow=4.5						
SADO	**Sadowa**	**148.88 104**	PKPbc	PKPdf	01 00 59.9	+0.9
SC2M	**Scurtabo**	**148.88 254**	P	PKPdf	01 00 56.6	-2.4
EVIA	**Vianos**	**149.01 234**	PKIKP	PKPdf	01 00 58.8	-0.6
OKC	**Ostrava-Krasne**	**149.03 270**	*e*PKIKP	PKPdf	01 00 58.4	-0.7
OKC			*e*		01 01 03.2	
OKC			MLR	MLR		
comp=Z,900nm,17.1s,MS5.6						
OKC	**Ostrava-Krasne**	**149.03 270**	*e*PKPDF	PKPdf	01 00 58.4	-0.7
OKC		⇑	*e*PKP	PKPbc	01 01 03.2	0.0
OKC			*e*PKPAB	PKPab	01 01 11.0	+3.6
OKC			AMS	AMS	02 24 20.0	
comp=Z,900nm,17.1s						
OKC	**Ostrava-Krasne**	**149.03 270**	*e*PKP	PKPdf	01 00 58.4	-0.7
OKC			*e*		01 01 03.2	
OKC			*e*		01 01 11.0	
IIGN	**Ignalina**	**149.05 284**	*e*P	PKPdf	01 01 01.6	+2.8
EBAN	**Banos Encina**	**149.06 231**	PKIKP	PKPdf	01 00 58.3	-1.2
GENL	**Genova Univers**	**149.13 254**	P	PKPdf	01 00 56.6	-2.8
RAC	**Raciborz**	**149.18 270**	*e*PKPdf	PKPdf	01 00 58.1	-1.2
RAC			LR	LR		
comp=Z,2µm,20.0s,MS5.8						
KBA	**Koelnbreinsper**	**149.22 262**⇑	*i*P	PKPdf	01 00 57.7	-1.8
comp=Z,767nm,2.4s,SNR=52						
NEGI	**Seborga**	**149.24 252**	P	PKPdf	01 00 57.5	-2.1
ECHE	**Chera**	**149.26 237**	PKIKP	PKPdf	01 00 59.7	-0.1
MORC	**Moravsky Berou**	**149.27 269**⇑	*i*P	PKPdf	01 00 57.8	-1.6
MORC	**Moravsky Berou**	**149.27 269**	⇑P	PKPdf	01 00 57.8	-1.6
IZAR	**Zarasai**	**149.29 285**	*e*P	PKPbc	01 01 03.1	-0.5
RORO	**Rocca Rossa**	**149.29 253**	P	PKPdf	01 00 58.0	-1.7
REVF	**Revere**	**149.30 251**	PKP	PKPdf	01 00 58.9	-0.8
FIN	**Finale Ligure**	**149.31 253**	PKHKP	PKPdf	01 00 57.4	-2.3
EADA	**Adamuz**	**149.34 230**	PKP	PKPdf	01 00 57.9	-2.1
LMR	**La Mourre**	**149.34 250**	*e*PKIKP	PKPdf	01 00 57.7	-2.1
ABTA	**Abfaltersbach**	**149.35 261**⇑	*i*P	PKPdf	01 00 58.0	-1.6
comp=Z,1µm,2.5s,SNR=46						
SBF	**Sospel**	**149.37 252**	*e*PKIKP	PKPdf	01 00 58.4	-1.4
VRAC	**Vranov**	**149.37 268**⇑	*i*P	PKPdf	01 00 58.4	-1.2
VRAC	**Vranov**	**149.37 268**	⇑P	PKPdf	01 00 58.4	-1.2
WAR	**Warsaw**	**149.37 276**	*e*PKP	PKPbc	01 01 04.3	+0.4
WAR			*e*PKiKP	PKiKP	01 01 05.2	+0.1
WAR			*e*PP	PP	01 04 36.0	-1.1
WAR			*e*SKS	SKSdf	01 08 15.2	+7.2
WAR			LMZ		02 03 07.9	
comp=Z,1µm,22.8s						
WAR	**Warsaw**	**149.37 276**	*i* PKP2	PKPbc	01 01 05.2	+1.3
WAR			*e*		01 04 35.9	
WAR	**Warsaw**	**149.37 276**	*e*PKP	PKPdf	01 01 04.3	+4.8
WAR			*e*PKPdf	PKPbc	01 01 05.2	+1.3
WAR			*e*PP	PP	01 04 35.9	-1.2
WAR			*e*SKS	SKSdf	01 08 15.2	+7.2
WAR			LR	LR		
comp=Z,1µm,22.8s,MS5.5						
MOA	**Molln**	**149.37 264**⇑	*i*P	PKPdf	01 00 56.9	-2.8
comp=Z,916nm,2.6s,SNR=18						
SAOF	**Saorge**	**149.41 252**	PKP	PKPdf	01 00 58.7	-1.2
PCP	**Piancastagn**	**149.42 254**	PKHKP		01 00 59.4	
LUCF	**Luceram**	**149.43 251**	PKP	PKPdf	01 00 58.9	-1.0
FRF	**La Foret Royal**	**149.47 250**	*e*PKIKP	PKPdf	01 00 59.0	-1.0
comp=Z,296nm,1.8s						
AUTN	**L'Aution**	**149.48 252**	PKP	PKPdf	01 00 58.5	-1.5
CALN	**Calern**	**149.52 251**	PKP	PKPdf	01 00 58.7	-1.3
MVIF	**Mont Vial**	**149.52 251**	PKP	PKPdf	01 00 58.7	-1.3
ROB	**Robourent**	**149.52 253**	PKIKP	PKPdf	01 00 57.9	-2.1
SUW	**Suwalki**	**149.56 280**	*e*PKP	PKPdf	01 00 57.8	-2.0
SUW			*ep*PKP	pPKPdf	01 01 03.9	+3.9
SUW			*e*PKiKP	PKiKP	01 01 09.5	+4.1
SUW			LMZ		02 09 28.4	
comp=Z,1µm,25.7s						
SUW	**Suwalki**	**149.56 280**	*e*PKIKP	PKPdf	01 00 57.8	-2.0
SUW			*e*		01 01 03.9	
SUW	**Suwalki**	**149.56 280**	*e*PKP	PKPdf	01 00 57.8	-2.0
SUW			*ep*PKP	pPKPdf	01 01 03.9	+3.9
SUW			*e*PKPdf	PKPab	01 01 09.5	0.0
TOUF	**Mont Tournerai**	**149.57 251**	PKP	PKPdf	01 00 59.3	-0.8
PBDV	**Barranco-de-Ve**	**149.64 225**	*e*PKPdf	PKPdf	01 01 01.1	+0.6
PBDV	**Barranco-de-Ve**	**149.64 225**	*e*PKPbc	PKPbc	01 01 04.9	-0.2
PBDV	**Barranco-de-Ve**	**149.64 225**	*e*LQ		01 43 18.3	
PBDV			*e*LR	LR	01 51 16.3	
comp=Z,3µm,20.0s						
ENR	**Entracque**	**149.66 252**	PKHKP	PKPdf	01 00 59.9	-0.4
EMIN	**Mina Concepcio**	**149.70 227**	PKP	PKPdf	01 00 59.9	-0.7
PVAQ	**Vaqueiros**	**149.72 225**	*e*PKPdf	PKPdf	01 01 00.9	+0.3
PVAQ	**Vaqueiros**	**149.72 225**	*e*PKPbc	PKPbc	01 01 04.9	-0.4
PVAQ	**Vaqueiros**	**149.72 225**	*e*PP	PP	01 04 40.4	+1.6
PVAQ	**Vaqueiros**	**149.72 225**	*e*LQ		01 43 48.7	
PVAQ			*e*LR	LR	01 51 29.6	
comp=Z,3µm,18.0s						
STV	**Sant Anna di V**	**149.72 252**	PKIKP	PKPdf	01 00 57.7	-2.7
EMOS	**Mosqueruela**	**149.74 238**	PKP	PKPdf	01 01 00.1	-0.4
EGRO	**El Granado**	**149.76 226**	PKP	PKPdf	01 00 59.9	-0.8
QUA2	**Belchertown**	**149.80 115**	*e*PKPdf	PKPdf	01 01 00.2	-0.3
QUA2			*e*PKPbc	PKPbc	01 01 04.4	-0.9
QUA2			*e*PKPab	PKPab	01 01 10.3	-0.5
PFVI	**Vila Bisbo**	**149.83 224**	*e*PKPdf	PKPdf	01 01 01.3	+0.5
PFVI	**Vila Bisbo**	**149.83 224**	*e*PKPbc	PKPbc	01 01 05.5	-0.1
PFVI	**Vila Bisbo**	**149.83 224**	*e*PKPab	PKPab	01 01 11.6	+0.6
PFVI	**Vila Bisbo**	**149.83 224**	*e*LQ		01 43 10.2	
PFVI			*e*LR	LR	01 51 18.5	
comp=Z,4µm,18.0s						
BRYW	**Bryant College**	**149.84 116**	*e*PKPdf	PKPdf	01 01 00.4	-0.2
BRYW			*e*PKPbc	PKPbc	01 01 05.0	-0.5
BRYW			*e*PKPab	PKPab	01 01 10.6	-0.3
TREC	**Trest**	**149.87 267**	*e*PKPDF	PKPdf	01 00 59.2	-1.2
TREC		⇑	*e*PKP	PKPbc	01 01 04.9	-0.3
TREC			*e*PKPAB	PKPab	01 01 13.1	+2.2
TREC			AMS	AMS	02 11 40.0	
comp=Z,1µm,21.7s						
PUL	**Pulkovo**	**149.91 294**	*e*PKP2	PKPbc	01 01 06.0	+1.0
ERTA	**Horta de San J**	**149.93 240**	PKP	PKPdf	01 01 00.2	-0.6
MORF	**Marmelete**	**149.93 224**	*e*LR	LR	01 55 24.0	
comp=Z,3µm,20.0s						
EPOB	**Poblet**	**149.97 241**	PKP	PKPdf	01 00 59.3	-1.6
SURF	**Saint Ours**	**150.13 252**	PKP	PKPdf	01 01 00.4	-0.6
WTTA	**Wattenberg**	**150.13 260**⇑	*i*P	PKPdf	01 00 59.7	-1.2
comp=Z,1µm,2.3s,SNR=34						
EJON	**La Jonquera**	**150.15 244**	PKP	PKPdf	01 01 00.1	-1.0
ACCN	**Adirondack Com**	**150.15 112**	*e*PKPdf	PKPdf	01 00 59.9	-1.1
ACCN			*e*PKPbc	PKPbc	01 01 05.1	-1.0
ACCN			*e*PKPab	PKPab	01 01 11.1	-1.1
PTEO	**Sao Teotonio**	**150.17 224**	*e*PKPdf	PKPdf	01 01 01.6	+0.3
PTEO	**Sao Teotonio**	**150.17 224**	*e*PKPbc	PKPbc	01 01 06.4	0.0
PTEO	**Sao Teotonio**	**150.17 224**	*e*PKPab	PKPab	01 01 12.4	-0.1
PTEO	**Sao Teotonio**	**150.17 224**	*e*PP	PP	01 04 43.7	+2.3
PBAR	**Barrancos**	**150.19 227**	*e*PKPdf	PKPdf	01 01 00.6	-0.7
PBAR	**Barrancos**	**150.19 227**	*e*PKPbc	PKPbc	01 01 05.9	-0.5
PBAR	**Barrancos**	**150.19 227**	*e*PKPab	PKPab	01 01 13.2	+0.7
PBAR	**Barrancos**	**150.19 227**	*e*LQ		01 43 20.8	
WATA	**Walderalm**	**150.21 260**⇑	*i*P	PKPdf	01 00 59.8	-1.2
comp=Z,232nm,1.3s,SNR=33						
BHB	**Bricherasio**	**150.22 252**	P	PKPdf	01 00 58.9	-2.2
DPC	**Dobruska-Polom**	**150.23 269**	*e*PKIKP	PKPdf	01 01 00.2	-0.7
DPC			*e*		01 01 05.9	
DPC			MLR	MLR		
comp=Z,900nm,22.3s,MS5.5						
DPC	**Dobruska-Polom**	**150.23 269**	*e*PKPDF	PKPdf	01 01 00.2	-0.7
DPC		⇑	*e*PKP	PKPbc	01 01 05.9	-0.2
DPC			*e*PKPAB	PKPab	01 01 13.5	+1.2
DPC			AMS	AMS	02 21 50.0	
comp=Z,900nm,22.3s						
SMRF	**Simiane la Rot**	**150.26 249**	*e*PKIKP	PKPdf	01 00 59.5	-1.7
comp=Z,162nm,1.7s						
EMIR	**Miracle**	**150.26 242**	PKP	PKPdf	01 01 00.1	-1.2
WES	**Weston**	**150.31 116**	*e*PKIKP	PKPdf	01 00 59.9	-1.5
WES			*e*		01 01 05.1	
WES			*e*		01 01 11.9	
WES			MLR	MLR		
comp=Z,2µm,20.0s,MS5.9						
HRV	**Adam Dziewonsk**	**150.32 116**	*e*PKIKP	PKPdf	01 01 00.4	-1.0
HRV			*e*		01 01 05.5	
HRV			*e*		01 01 12.3	
HRV			MLR	MLR		
comp=Z,1µm,19.0s,MS5.8						
PBEJ	**Beja**	**150.34 226**	*e*PKPdf	PKPdf	01 01 00.8	-0.7
PBEJ	**Beja**	**150.34 226**	*e*PKPbc	PKPbc	01 01 07.3	+0.5
MBDF	**Montbardon**	**150.34 252**	*e*PKIKP	PKPdf	01 01 00.4	-0.9
comp=Z,394nm,1.9s						
GEC2	**GERESS Array S**	**150.36 265**	*e*PKPdf	PKPdf	01 00 59.1	-2.1
GEC2			*e*PKPbc	PKPbc	01 01 05.0	-1.4
GERES	**GERESS Array B**	**150.36 265**	PKP	PKPdf	01 00 59.9	-1.3
comp=Z,4.6nm,0.8s,baz=180,slow=1.2,SNR=55						
GERES			PKPbc	PKPbc	01 01 05.5	-0.9
comp=Z,68nm,0.8s,baz=147,slow=2.7,SNR=170						
GERES	**GERESS Array B**	**150.36 265**	PKIKP	PKPdf	01 00 59.9	-1.3
GERES					01 01 05.5	
GERES			pmax	pmax		
comp=Z,5.0nm,0.8s						
GERES			pmax	pmax		
comp=Z,68nm,0.8s						
FETA	**Feichten**	**150.36 259**⇑	*i*P	PKPdf	01 00 60.0	-1.3
comp=Z,850nm,1.9s,SNR=29						
FILF	**Fillols**	**150.38 244**	PKP	PKPdf	01 01 00.1	-1.4
NCB	**Newcomb**	**150.39 111**	*e*PKPdf	PKPdf	01 00 60.0	-1.4
NCB			*e*PKPbc	PKPbc	01 01 06.5	-0.2
NCB			*e*PKPab	PKPab	01 01 11.8	-1.4
NCB			LR	LR		
comp=Z,2µm,20.0s,MS5.8						
MOTA	**Moosalm**	**150.43 260**⇓	*i*P	PKPdf	01 00 59.7	-1.7
comp=Z,182nm,1.1s,SNR=74						
ESDC	**Sonseca Array**	**150.46 233**	PKP	PKPdf	01 01 00.5	-1.2
comp=Z,14nm,0.8s,baz=92,slow=0.3,SNR=26						
ESDC			PKPbc	PKPbc	01 01 06.6	-0.4
comp=Z,85nm,0.7s,baz=145,slow=1.2,SNR=164						
ESDC	**Sonseca Array**	**150.46 233**	PKP	PKPdf	01 01 00.4	-1.3
ESLA	**Sonseca Array**	**150.46 233**	*e*PKPdf	PKPdf	01 01 01.4	-0.3
ESLA			*e*PKPbc	PKPbc	01 01 07.1	+0.1
ESLA			*e*PKPab	PKPab	01 01 12.4	-1.2
ESLA			LR	LR		
comp=Z,24µm,22.0s,MS7.0						
RSP	**Reno Superiore**	**150.47 253**	PKIKP	PKPdf	01 01 00.0	-1.5
VALF	**Valcebollere**	**150.47 243**	PKP	PKPdf	01 01 01.0	-0.6
UPC	**Upice**	**150.48 269**	*e*PKIKP	PKPdf	01 01 00.3	-1.0
UPC			*e*		01 01 06.9	
UPC	**Upice**	**150.48 269**	*e*PKPDF	PKPdf	01 01 00.3	-1.0
UPC		⇑	*e*PKP	PKPbc	01 01 06.9	+0.2
UPC			*e*PKPAB	PKPab	01 01 13.8	+0.4
PAB	**San Pablo**	**150.48 232**	*e*PKIKP	PKPdf	01 01 00.7	-1.0
PAB			*e*		01 01 07.2	
PAB			*e*		01 01 12.5	
PAB			MLR	MLR		
comp=Z,4µm,20.0s,MS6.2						
KSP	**Ksiaz**	**150.59 270**	*e*PKP	PKPdf	01 01 00.8	-0.7
KSP			*e*PKiKP	PKiKP	01 01 07.7	+0.1
KSP			LMZ		02 14 10.1	
comp=Z,2µm,22.4s						
KSP	**Ksiaz**	**150.59 270**	*e*PKPdf	PKPdf	01 01 00.4	-1.1
KSP			*e*PKPbc	PKPbc	01 01 07.7	+0.8
KSP			*e*		01 01 14.0	
KSP			*e*PP	PP	01 04 37.1	-7.0
KSP			*e*SKKSac	SKKSac	01 11 39.0	+4.2
KSP			*e*		01 14 53.6	
KSP			*e*SS	SS	01 23 41.2	-23
KSP			LR	LR		
comp=Z,5µm,44.0s,MS5.9						
KHC	**Kasperske Hory**	**150.62 265**	*e*PKIKP	PKPdf	01 00 59.6	-2.0
KHC			*e*		01 01 05.7	
KHC			MLR	MLR		
comp=Z,2µm,21.5s,MS5.9						
KHC	**Kasperske Hory**	**150.62 265**	*e*PKPDF	PKPdf	01 00 59.6	-2.0
KHC		⇑	*e*PKP	PKPbc	01 01 05.7	-1.4
KHC			*e*SKKS	SKKSac	01 11 33.1	-2.0
KHC			AMS	AMS	02 27 50.0	
comp=Z,2µm,21.5s						
BNI	**Bardonecchia**	**150.64 252**	*e*PKIKP	PKPdf	01 01 01.1	-0.7
BNI			*e*		01 01 08.5	
BNI			MLR	MLR		
comp=Z,2µm,20.0s,MS6.0						
CARF	**Carcanieres**	**150.69 244**	PKP	PKPdf	01 01 00.3	-1.6
RETA	**Reutte**	**150.69 260**⇑	*i*P	PKPdf	01 01 00.3	-1.4
comp=Z,844nm,2.0s,SNR=22						
LRDF	**Laroque-de-Fa**	**150.70 245**	PKP	PKPdf	01 01 00.6	-1.3
EBAD	**Badajoz**	**150.71 227**	PKP	PKPdf	01 01 01.0	-1.1
ETOR	**Torete**	**150.74 236**	PKIKP	PKPdf	01 01 01.1	-1.0
LSD	**Lago del Serru**	**150.75 253**	PKIKP	PKPdf	01 01 02.2	+0.3
LONY	**Lake Ozonia**	**150.76 110**	*e*PKPdf	PKPdf	01 01 00.4	-1.5
LONY			*e*PKPbc	PKPbc	01 01 06.0	-1.6
LONY			*e*PKPab	PKPab	01 01 13.5	-1.1
LONY			LR	LR		
comp=Z,2µm,20.0s,MS6.0						
PRU	**Pruhonice**	**150.79 267**	*e*PKIKP	PKPdf	01 00 59.9	-1.9
PRU			*e*		01 01 06.4	
PRU			*e*		01 01 14.3	
PRU			MLR	MLR		
comp=Z,1µm,20.5s,MS5.7						
PRU	**Pruhonice**	**150.79 267**	*e*PKPDF	PKPdf	01 00 59.9	-1.9
PRU		⇑	*e*PKP	PKPbc	01 01 06.4	-1.0
PRU			*e*PKPAB	PKPab	01 01 14.3	-0.4
PRU			*e*SKKS	SKKSac	01 11 34.8	-1.2
PRU			AMS	AMS	02 12 50.0	
comp=Z,1µm,20.5s						
EVO	**Evora**	**150.84 226**	*e*PKIKP	PKPdf	01 01 02.6	+0.3
comp=Z,217nm,1.5s						
EVO			*e*MLR	MLR		
comp=Z,3µm,22.2s,MS5.8						
EVO	**Evora**	**150.84 226**	*e*PKPdf	PKPdf	01 01 01.6	-0.7
EVO	**Evora**	**150.84 226**	*e*PKPbc	PKPbc	01 01 07.8	-0.1
EVO	**Evora**	**150.84 226**	*e*PKPab	PKPab	01 01 15.6	+0.4
EVO	**Evora**	**150.84 226**	*e*PP	PP	01 04 44.8	-0.5
MDV	**Middlebury**	**150.86 112**	*e*PKPdf	PKPdf	01 01 01.3	-0.8
MDV			*e*PKPbc	PKPbc	01 01 07.4	-0.4
MDV			*e*PKPab	PKPab	01 01 14.2	-0.9
ORIF	**Oris-en-Rattie**	**150.88 251**	*e*PKIKP	PKPdf	01 01 00.4	-1.7
ORIF			*e*MLR	MLR		
comp=Z,3µm,23.0s,MS5.8						
PRA	**Prague**	**150.90 267**	PKPDF	PKPdf	01 01 01.0	-1.0
PRA		⇑	PKP	PKPbc	01 01 07.0	-0.7
PRA			PKPAB	PKPab	01 01 15.0	-0.1
PRA			PP	PP	01 04 42.0	-3.9
ESAC	**San Caprasio**	**150.90 239**	PKP	PKPdf	01 01 00.8	-1.5
DAVA	**Damuels**	**150.94 259**⇑	*i*P	PKPdf	01 01 00.9	-1.2
comp=Z,904nm,2.0s,SNR=22						
WET	**Wettzell**	**150.95 264**	*e*PKPdf	PKPdf	01 01 00.3	-1.8
WET			*e*PKPbc	PKPbc	01 01 06.7	-1.1
WET			*e*PKPab	PKPab	01 01 15.0	-0.4
LPG	**La Plagne**	**150.96 253**	*e*PKIKP	PKPdf	01 01 01.6	-0.6
comp=Z,73nm,1.1s						
FUR	**Furstenfeldbru**	**150.97 261**	*e*PKPdf	PKPdf	01 01 00.9	-1.3
FUR			*e*PKPbc	PKPbc	01 01 07.0	-0.9
FUR			*e*PKPab	PKPab	01 01 15.3	-0.1
FUR			*e*PP	PP	01 04 43.9	-2.4
LPL	**La Plagne**	**150.98 253**	*e*PKIKP	PKPdf	01 01 01.5	-0.8
HNH	**Hanover**	**151.00 114**	*e*PKPdf	PKPdf	01 01 02.1	-0.3
HNH			*e*PKPbc	PKPbc	01 01 07.1	-1.0
HNH			*e*PKPab	PKPab	01 01 14.7	-1.0
PESTR	**Estremoz**	**151.00 227**	*e*PKPdf	PKPdf	01 01 01.2	-1.4
PESTR	**Estremoz**	**151.00 227**	*e*PKPbc	PKPbc	01 01 08.2	-0.1
PESTR	**Estremoz**	**151.00 227**	*e*PKPab	PKPab	01 01 15.7	-0.2
PESTR	**Estremoz**	**151.00 227**	*e*PP	PP	01 04 48.0	+1.8
PESTR	**Estremoz**	**151.00 227**	*e*LQ		01 43 17.8	
PESTR			*e*LR	LR	01 51 30.6	
comp=Z,3µm,20.0s						
GDM	**Grand'Maison**	**151.01 252**	PKP	PKPdf	01 01 01.2	-1.1
FFD	**Franklin Falls**	**151.07 115**	*e*PKPdf	PKPdf	01 01 01.8	-0.7
FFD			*e*PKPbc	PKPbc	01 01 07.6	-0.7
FFD			*e*PKPab	PKPab	01 01 15.0	-1.0
LASF	**Ste Croix**	**151.08 248**	*e*PKIKP	PKPdf	01 01 01.5	-1.0
comp=Z,307nm,1.8s						
SALF	**Salau**	**151.11 243**	PKP	PKPdf	01 01 01.3	-1.3
PVCC	**Panska Ves**	**151.16 268**	*e*PKPDF	PKPdf	01 01 01.3	-1.1
PVCC		⇑	*e*PKP	PKPbc	01 01 08.3	0.0
PVCC			*e*PKPAB	PKPab	01 01 15.7	-0.5
PVCC			AMS	AMS	02 06 50.0	
comp=Z,1µm,19.6s						
PVCC	**Panska Ves**	**151.16 268**	*e*PKP	PKPdf	01 01 01.3	-1.1
PVCC			*e*		01 01 08.3	
PVCC			*e*		01 01 15.7	
MTLF	**Montolieu**	**151.16 245**	*e*PKIKP	PKPdf	01 01 01.0	-1.6
comp=Z,178nm,1.8s						
JOF	**Joensuu**	**151.18 300**	*ep*	PKPbc	01 01 07.0	-0.9
comp=Z,71nm,0.8s						
JOF	**Joensuu**	**151.18 300**	*e*PKIKP	PKPbc	01 01 07.0	-0.9
JOF			pmax	pmax		
comp=Z,71nm,0.8s						
GRN	**Grenoble**	**151.20 251**	PKP	PKPdf	01 01 01.0	-1.6
MLS	**Moulis**	**151.31 243**	PKP	PKPdf	01 01 00.6	-2.3
VIVF	**Saint-Julien-l**	**151.35 250**	*e*PKIKP	PKPdf	01 01 01.4	-1.5
comp=Z,149nm,1.8s						
FRNY	**Flat Rock**	**151.36 111**	*e*PKPdf	PKPdf	01 01 01.5	-1.4
FRNY			*e*PKPbc	PKPbc	01 01 07.4	-1.5
FRNY			*e*PKPab	PKPab	01 01 14.6	-2.5
MELF	**Melles**	**151.38 242**	PKP	PKPdf	01 01 02.6	-0.4
GUD	**Guadarrama**	**151.38 233**	PKIKP	PKPdf	01 01 03.0	-0.1
LIS	**Lisbon**	**151.38 224**	*e*P	PKPdf	01 01 02.8	-0.4
LIS			*e*SS	SS	01 24 12.8	-0.1
PMRV	**Marv??o**	**151.44 228**	*e*PKPdf	PKPdf	01 01 02.0	-1.2
PMRV	**Marv??o**	**151.44 228**	*e*PKPbc	PKPbc	01 01 09.4	+0.1
PMRV	**Marv??o**	**151.44 228**	*e*PKPab	PKPab	01 01 18.6	+0.9
PMRV	**Marv??o**	**151.44 228**	*e*PP	PP	01 04 50.5	+1.8
PMRV	**Marv??o**	**151.44 228**	*e*LQ		01 43 27.5	
PMRV			*e*LR	LR	01 52 21.6	
comp=Z,3µm,22.0s						
EBIE	**Bielsa**	**151.47 241**	PKP	PKPdf	01 01 02.2	-0.9
RESF	**Ens**	**151.49 242**	PKP	PKPdf	01 01 01.8	-1.4
FCC	**Fort Churchill**	**151.56 71**	*e*PKIKP	PKPdf	01 01 00.3	-2.4
LBNH	**Lisbon**	**151.59 113**	*e*

GRA1			*e*PP	PP	01 04 50.6	-2.1
GRA1			*e*SS	SS	01 24 20.7	-0.6
GRA1			LR	LR		
	comp=Z,2μm,20.5s,MS5.9					
GRF	**Grafenberg Arr**	**152.10 263**	*e*PKIKP	PKPbc	01 01 09.7	-0.8
GRF			*e*		01 04 50.6	
GRF			*e*SS	SS	01 24 20.7	-0.6
GRF	**Grafenberg Arr**	**152.10 263**	*e*PKIKP	PKPdf	01 01 02.2	-1.6
GRF			*e*		01 01 09.7	
GRF			*e*		01 04 50.6	
GRF			*e*SS	SS	01 24 20.7	-0.6
GRF			MLR	MLR		
	comp=Z,2μm,20.5s,MS5.9					
GRF	**Grafenberg Arr**	**152.10 263**	*e*PKPdf	PKPdf	01 01 02.2	-1.6
GRF			*e*PKPbc	PKPbc	01 01 09.7	-0.8
GRF			*e*PP	PP	01 04 50.6	-2.1
GRF			*e*SS	SS	01 24 20.7	-0.6
GRF			*e*L		02 30 30.0	
	comp=Z,2μm,20.5s					
CABF	**La Chapelle**	**152.12 253**	*e*PKIKP	PKPdf	01 01 02.4	-1.6
	comp=Z,68nm,1.2s					
WERD	**Werda**	**152.14 266**	*e*PKPdf	PKPdf	01 01 02.5	-1.4
WERD			*e*PKPbc	PKPbc	01 01 09.7	-0.8
WERD			*e*PKPab	PKPab	01 01 20.4	+0.1
WERD			*e*PP	PP	01 04 48.6	-4.4
BBS	**Basel-Blauen**	**152.14 256**	PKIKP	PKPdf	01 01 02.2	-1.8
ATE	**Arette**	**152.14 241**	PKP	PKPdf	01 01 03.3	-0.8
LVZ	**Lovozero**	**152.18 311** ⇑	*i*PKIKP	PKPbc	01 01 09.5	-0.6
LVZ	**Lovozero**	**152.18 311**	PFAKE		01 01 10.0	+6.6
LVZ			LR	LR		
	comp=Z,2μm,21.0s,MS5.8					
LARF	**Larrau**	**152.22 240**	PKP	PKPdf	01 01 03.1	-1.1
FELD	**Feldberg im Sc**	**152.22 257**	PKP	PKPdf	01 01 02.0	-2.1
LBL	**Lubilhac**	**152.26 248**	PKP	PKPdf	01 01 03.2	-1.0
ORDF	**Ordiarp**	**152.34 240**	PKP	PKPdf	01 01 03.1	-1.3
STU	**Stuttgart**	**152.35 260**	*e*PKPdf	PKPdf	01 01 02.8	-1.4
STU			*e*PKPbc	PKPbc	01 01 09.7	-1.4
STU			*e*PKPab	PKPab	01 01 21.2	0.0
STU			*e*PP	PP	01 04 51.4	-2.8
STU	**Stuttgart**	**152.35 260**	*e*PKPdf	PKPdf	01 01 03.5	-0.8
MTE	**Manteigas**	**152.37 228**	*e*PKPdf	PKPdf	01 01 03.9	-0.7
MTE	**Manteigas**	**152.37 228**	*e*PKPbc	PKPbc	01 01 10.9	-0.5
MTE	**Manteigas**	**152.37 228**	*e*PKPab	PKPab	01 01 24.0	+2.5
MTE	**Manteigas**	**152.37 228**	*e*LQ		01 49 18.4	
MTE			*e*LR	LR	01 52 49.7	
	comp=Z,3μm,20.0s					
MTE	**Manteigas**	**152.37 228**	*e*PKPdf	PKPdf	01 01 04.2	-0.4
MTE			*e*		01 01 11.1	
MTE			*e*PKPab	PKPab	01 01 18.9	-2.7
MTE			LR	LR		
	comp=Z,3μm,20.0s,MS6.2					
SJPF	**Ste Jean**	**152.37 240**	*e*PKIKP	PKPdf	01 01 03.8	-0.7
	comp=Z,280nm,1.7s					
CLL	**Collm**	**152.41 268**	*i* PKIKP	PKPdf	01 01 02.3	-1.9
CLL			*i*		01 01 10.3	
CLL			pmax	pmax		
	comp=Z,125nm,1.8s					
CLL			pmax	pmax		
	comp=Z,219nm,1.6s					
CLL			pmax	pmax		
	comp=Z,573nm,2.5s					
CLL			MLR	MLR		
	comp=Z,2μm,21.1s,MS5.8					
CLL	**Collm**	**152.41 268**	*e*PKPdf	PKPdf	01 01 02.8	-1.4
CLL			*e*PKPbc	PKPbc	01 01 10.1	-1.0
CLL	**Collm**	**152.41 268**	*i* PKPdf	PKPdf	01 01 02.3	-1.9
	comp=Z,125nm,1.8s					
CLL			*i* PKPbc	PKPbc	01 01 10.3	-0.8
	comp=Z,219nm,1.6s					
CLL			*i* PKPab	PKPab	01 01 21.5	+0.1
	comp=Z,573nm,2.5s					
CLL			*e*x	x	01 01 28.0	
CLL			*e*PP	PP	01 05 01.0	+6.5
CLL			*e*PPP		01 08 23.0	
CLL			*e*SKKSac	SKKSac	01 11 40.0	-4.8
CLL			LmV		01 14 00.0	
	comp=Z,2μm,21.1s					
CLL			*e*x	x	01 14 34.0	
CLL			*e*PSKS		01 15 10.0	
CLL			*e*PPS		01 17 48.0	
CLL			*e*SS	SS	01 24 30.0	+5.2
CLL			*e*PSPS		01 25 47.0	
CLL			*e*SSS		01 29 56.0	
CLL			*e*SSSS		01 34 00.0	
CLL	**Collm**	**152.41 268**	*i* PKP	PKPdf	01 01 02.3	-1.9
CLL			*i* PKP	PKPbc	01 01 10.3	-0.8
CLL			*i* PKP	PKPab	01 01 21.5	+0.1
CLL			*e*SKKS	SKKSac	01 11 40.0	-4.8
CLL			LR	LR		
	comp=Z,2μm,21.1s,MS5.8					
BFO	**Black Forest**	**152.42 258**	*e*PKPdf	PKPdf	01 01 02.6	-1.7
BFO			*e*PKPbc	PKPbc	01 01 10.0	-1.2
BFO			*e*PP	PP	01 04 51.8	-2.7
ECRI	**Cripan**	**152.45 238**	PKIKP	PKPdf	01 01 04.5	-0.1
APA	**Apatity**	**152.48 310**	*i* PKIKP	PKPdf	01 01 02.0	-1.8
APA			pmax	pmax		
	comp=Z,400nm,2.5s					
OSSF	**Osses**	**152.51 240**	PKP	PKPdf	01 01 03.3	-1.4
CAF	**Calviac**	**152.52 246**	*e*PKIKP	PKPdf	01 01 03.4	-1.2
	comp=Z,197nm,1.9s					
ELIZ	**Elizondo**	**152.54 240**	PKIKP	PKPdf	01 01 03.4	-1.3
EALK	**Alkurruntz**	**152.57 240**	PKP	PKPdf	01 01 03.4	-1.3
MOX	**Moxa**	**152.59 265**	*ce*P	PKPdf	01 01 03.1	-1.4
	comp=Z,268nm,1.9s					
MOX			*e*		01 01 11.1	
MOX			*e*		01 01 23.5	
MOX			*e*		01 04 57.0	
MOX						
	comp=Z,800nm,20.0s					
MOX	**Moxa**	**152.59 265**	*ce*PKIKP	PKPdf	01 01 03.1	-1.4
MOX			*e*		01 01 11.1	
MOX			*e*		01 04 57.0	
MOX			pmax	pmax		
	comp=Z,268nm,1.9s					
MOX			MLR	MLR		
	comp=Z,800nm,20.0s,MS5.5					
MOX	**Moxa**	**152.59 265**	*e*PKPdf	PKPdf	01 01 02.8	-1.7
MOX			*e*PKPab	PKPab	01 01 22.6	+0.4
MOX			*e*PP	PP	01 04 52.8	-2.7
LIBD	**Limburg**	**152.61 257**	PKIKP	PKPdf	01 01 02.2	-2.4
PLDF	**La Plantade**	**152.69 250**	PKP	PKPdf	01 01 02.9	-1.9
HINF	**Hinteralfeld**	**152.69 256**	*e*PKIKP	PKPdf	01 01 02.7	-2.1
	comp=Z,60nm,1.3s					
PVIS	**Viseu**	**152.77 228**	*e*PKPdf	PKPdf	01 01 05.2	+0.1
PVIS	**Viseu**	**152.77 228**	*e*PKPbc	PKPbc	01 01 12.7	+0.4
PVIS	**Viseu**	**152.77 228**	*e*PKPab	PKPab	01 01 23.9	+0.7
PYM	**Petit Puy Mans**	**152.78 249**	PKP	PKPdf	01 01 03.9	-1.1
KAF	**Kangasniemi**	**152.81 296**	*ep*	PKPbc	01 01 10.6	-1.1
	comp=Z,104nm,0.8s					
KAF	**Kangasniemi**	**152.81 296**	*e*PKIKP	PKPbc	01 01 10.6	-1.1
KAF			pmax	pmax		
	comp=Z,104nm,0.8s					
RUE	**Ruedersdorf**	**152.85 270**	*e*PKPdf	PKPdf	01 01 03.8	-1.0
RUE			*e*PKPbc	PKPbc	01 01 10.8	-1.2
RUE			*e*PKPab	PKPab	01 01 23.7	+0.5
RUE	**Ruedersdorf**	**152.85 270**	*e*PKPdf	PKPdf	01 01 03.7	-1.2
ECH	**Echery**	**152.86 257**	PKP	PKPdf	01 01 02.7	-2.3
STR	**Strasbourg**	**152.86 258**	PKP	PKPdf	01 01 02.5	-2.5
MVO	**Moncorvo**	**152.87 230**	*e*PKPdf	PKPdf	01 01 04.8	-0.5
MVO	**Moncorvo**	**152.87 230**	*e*PKPab	PKPab	01 01 24.3	+0.7
MVO	**Moncorvo**	**152.87 230**	*e*PP	PP	01 04 58.3	+1.4
MVO	**Moncorvo**	**152.87 230**	*e*LQ		01 49 21.4	
MVO			*e*LR	LR	01 52 57.0	
	comp=Z,2μm,20.0s					
CDF	**Champ du Feu**	**152.95 257**	*e*PKIKP	PKPdf	01 01 03.1	-2.0
	comp=Z,116nm,1.7s					
AGO	**Saint Agoulin**	**152.96 249**	PKP	PKPdf	01 01 04.1	-1.1
RJF	**Les Rejaudoux**	**153.05 246**	*e*PKIKP	PKPdf	01 01 04.1	-1.3
	comp=Z,172nm,1.9s					
RJF			*e*MLR	MLR		
	comp=Z,3μm,22.8s,MS5.8					
RJF	**Les Rejaudoux**	**153.05 246**	*e*PKPdf	PKPdf	01 01 04.1	-1.3
RJF			LR	LR		
	comp=Z,3μm,22.8s,MS6.1					
HAU	**Haudompre**	**153.06 256**	*e*PKIKP	PKPdf	01 01 03.4	-1.9
HAU			*e*MLR	MLR		
	comp=Z,2μm,23.0s,MS5.6					
HAU	**Haudompre**	**153.06 256**	*e*PKPdf	PKPdf	01 01 03.4	-1.9
HAU			LR	LR		
	comp=Z,2μm,23.0s,MS6.0					
LFF	**La Frestale**	**153.08 245**	*e*PKIKP	PKPdf	01 01 04.1	-1.3
	comp=Z,305nm,1.9s					
SMF	**Signal de Mont**	**153.12 251**	*e*PKIKP	PKPdf	01 01 03.8	-1.6
LANF	**Langenberg**	**153.13 259**	PKP	PKPdf	01 01 03.3	-2.1
TOD	**Tromm**	**153.13 261**	PKIKP	PKPdf	01 01 03.3	-2.1
KTD	**Kalmit**	**153.25 260**	PKIKP	PKPdf	01 01 03.1	-2.4
ELAN	**Lanestosa**	**153.34 237**	PKP	PKPdf	01 01 04.4	-1.5
THEF	**They Montfort**	**153.39 256**	PKP	PKPdf	01 01 03.7	-2.1
AVF	**Avril sur Loir**	**153.45 251**	*e*PKIKP	PKPdf	01 01 04.1	-1.8
UBBA	**Unterbreizbach**	**153.45 264**	*e*PKPdf	PKPdf	01 01 04.1	-1.7
UBBA			*e*PKPbc	PKPbc	01 01 11.9	-1.5
UBBA			*e*PKPab	PKPab	01 01 26.3	+0.5
UBBA			*e*PP	PP	01 04 56.4	-4.0
ECAL	**Calabor**	**153.45 231**	PKP	PKPdf	01 01 04.2	-1.9
BGF	**Bois d'Agland**	**153.48 250**	*e*PKIKP	PKPdf	01 01 04.8	-1.2
	comp=Z,313nm,1.9s					
PKME	**Peaks-Kenny Pk**	**153.52 115**	*e*PKPdf	PKPdf	01 01 05.0	-1.1
PKME			LR	LR		
	comp=Z,2μm,19.0s,MS6.0					
TCF	**Toulx Ste Croi**	**153.54 248**	*e*PKIKP	PKPdf	01 01 04.3	-1.8
	comp=Z,104nm,1.7s					
SSF	**Saint Saulge**	**153.59 251**	*e*PKIKP	PKPdf	01 01 04.5	-1.6
	comp=Z,138nm,1.9s					
LOR	**Lormes**	**153.60 252**	*e*PKIKP	PKPdf	01 01 04.6	-1.5
	comp=Z,151nm,1.7s					
LOR			*e*MLR	MLR		
	comp=Z,3μm,21.0s,MS5.8					
LOR	**Lormes**	**153.60 252**	*e*PKPdf	PKPdf	01 01 04.6	-1.5
LOR			LR	LR		
	comp=Z,3μm,21.0s,MS6.2					
PCAB	**Cabril**	**153.70 229**	*e*PKPdf	PKPdf	01 01 05.7	-0.7
PCAB	**Cabril**	**153.70 229**	*e*PKPbc	PKPbc	01 01 13.6	-0.7
PCAB	**Cabril**	**153.70 229**	*e*PKPab	PKPab	01 01 27.5	+0.4
TNS	**Taunus Mts**	**153.74 261**	*e*PKPdf	PKPdf	01 01 05.1	-1.1
TNS			*e*PKPbc	PKPbc	01 01 13.4	-0.6
TNS			*e*PKPab	PKPab	01 01 27.6	+0.6
TNS			*e*PP	PP	01 04 59.3	-2.7
ELOB	**Lobios**	**153.85 229**	PKP	PKPdf	01 01 05.7	-1.0
CLZ	**Clausthal**	**153.98 266**	*e*PKPdf	PKPdf	01 01 05.1	-1.4
CLZ			*e*PKPbc	PKPbc	01 01 14.2	-0.3
CLZ			*e*PKPab	PKPab	01 01 29.0	+1.0
CLZ			*e*PP	PP	01 05 00.4	-3.0
ERUA	**La Rua**	**153.99 231**	PKIKP	PKPdf	01 01 05.6	-1.2
RUP	**Ruppelstein**	**153.99 259**	PKIKP	PKPdf	01 01 04.2	-2.4
BSD	**Bornholm Skovb**	**154.00 276** ⇑	*i*PKIKP	PKPdf	01 01 04.4	-2.0
BSD			pmax	pmax		
	comp=Z,120nm,1.2s					
BSD			MLR	MLR		
	comp=Z,1μm,20.0s,MS5.7					
BSD	**Bornholm Skovb**	**154.00 276** ⇑	*i*P	PKPdf	01 01 04.4	-2.0
	comp=Z,124nm,1.2s					
BSD			*e*		01 04 57.7	
BSD						
	comp=Z,1μm,20.0s					
BSD	**Bornholm Skovb**	**154.00 276** ⇑	*i*P	PKPdf	01 01 04.4	-2.0
BSD			*e*		01 04 57.7	
MEZF	**Maizieres J'vi**	**154.01 255**	*e*PKIKP	PKPdf	01 01 05.1	-1.5
	comp=Z,230nm,1.9s					
EARI	**Arriondas**	**154.07 235**	PKP	PKPdf	01 01 05.6	-1.4
CMLA	**Cha da Macela**	**154.28 197**	*e*PKP	PKPdf	01 01 05.9	-1.5
CMLA	**Cha da Macela**	**154.28 197**	*e*SS	SS	01 24 18.4	-26
CMLA	**Cha da Macela**	**154.28 197**	*e*PKPdf	PKPdf	01 01 07.8	+0.4
CMLA			*e*PKPbc	PKPbc	01 01 15.6	0.0
CMLA			LR	LR		
	comp=Z,3μm,20.0s,MS6.2					
PDA	**Ponta Delgada**	**154.28 196**	*e*PKP	PKPdf	01 01 08.0	+0.6
PDA	**Ponta Delgada**	**154.28 196**	*e*PP	PP	01 05 16.0	+11
PDA	**Ponta Delgada**	**154.28 196**	*e*LR	LR	01 53 37.0	
WLF	**Walferdange**	**154.37 258**	PKP	PKPdf	01 01 06.7	-0.4
WLF			PKPbc	PKPbc	01 01 15.8	+0.4
WLF			PKPab	PKPab	01 01 30.6	+0.9
WLF	**Walferdange**	**154.37 258**	*e*PKPdf	PKPdf	01 01 05.7	-1.4
WLF			LR	LR		
	comp=Z,3μm,20.0s,MS6.0					
MFF	**Saint Martin d**	**154.79 246**	*e*PKIKP	PKPdf	01 01 06.0	-1.8
EPON	**Pontenova**	**154.81 232**	PKP	PKPdf	01 01 06.1	-1.8
STS	**Santiago**	**154.92 229**	PKIKP	PKPdf	01 01 06.6	-1.5
MEM	**Membach**	**155.11 259**	PKP	PKPdf	01 01 06.7	-1.5
MEM			PKPbc	PKPdf	01 01 16.9	+8.8
MEM			PKPab	PKPab	01 01 32.2	-0.6
EMAZ	**Mazaricos**	**155.12 229**	PKP	PKPdf	01 01 06.0	-2.4
HGN	**Heimansgroeve**	**155.26 260** ⇑⇑	*e*PKiKP	PKPdf	01 01 06.2	-2.1
	comp=Z,36nm,2.2s					
HGN	**Heimansgroeve**	**155.26 260**	*e*PKPpre	PKPdf	01 01 16.8	+8.5
HGN	**Heimansgroeve**	**155.26 260**	*e*PKPab	PKPab	01 01 32.3	-1.2
HGN	**Heimansgroeve**	**155.26 260**	*e*PP	PP	01 05 06.9	-3.7
GIVF	**Givet**	**155.28 257**	*e*PKIKP	PKPdf	01 01 06.3	-2.1
BCLA	**Clavier**	**155.29 258**	PKP	PKPdf	01 01 07.5	-0.9
BCLA			PKPbc	PKPdf	01 01 14.0	+5.7
BCLA			PKPab	PKPab	01 01 34.9	+1.2
BSEG	**Bad Segeberg**	**155.38 270**	*e*PKPdf	PKPdf	01 01 07.2	-1.2
BSEG			*e*PKPbc	PKPdf	01 01 16.7	+8.3
BSEG			*e*PKPab	PKPab	01 01 34.6	+0.7
BSEG			*e*PP	PP	01 05 08.7	-2.5
BEBN	**Eben Emael**	**155.39 259**	PKP	PKPdf	01 01 06.5	-1.9
BEBN			PKPbc	PKPdf	01 01 17.9	+9.4
BEBN			PKPab	PKPab	01 01 34.3	+0.2
KEV	**Kevo**	**155.41 313**	*ep*	PKPdf	01 01 16.4	+8.5
	comp=Z,18nm,0.8s					
COP	**Copenhagen**	**155.48 275**	*i* PKIKP	PKPdf	01 01 06.6	-1.8
COP			*e*		01 05 10.6	
COP			*i*		01 25 03.3	
COP			pmax	pmax		
	comp=Z,45nm,1.3s					
COP			MLR	MLR		
	comp=Z,670nm,21.0s,MS5.4					
COP	**Copenhagen**	**155.48 275**	*i* P	PKPdf	01 01 06.6	-1.8
	comp=Z,45nm,1.3s					
COP			*i*		01 01 34.9	
COP			*e*		01 05 10.6	
COP			*i*		01 15 35.2	
COP			*i*		01 25 03.3	
COP						
	comp=Z,660nm,21.0s					
IBBN	**Ibbenburen**	**155.49 264**	*e*PKPdf	PKPdf	01 01 07.6	-1.0
IBBN			*e*PKPbc	PKPdf	01 01 17.5	+8.9
IBBN			*e*PKPab	PKPab	01 01 34.9	+0.4
IBBN			*e*PP	PP	01 05 10.5	-1.3
BAIF	**Baives**	**155.53 257**	*e*PKIKP	PKPdf	01 01 07.0	-1.7
	comp=Z,104nm,1.7s					
WTSB	**Winterswijk**	**155.70 263** ⇑⇑	*e*PKiKP	PKPdf	01 01 06.4	-2.4
	comp=Z,59nm,2.6s					
ARCES	**ARCESS Array B**	**155.86 312**	PKP	PKPdf	01 01 07.8	-0.8
	comp=Z,2.4nm,0.8s,baz=253,slow=1.3,SNR=5.5					
ARCES			PKPab	PKPab	01 01 35.0	-0.6
	comp=Z,55nm,0.8s,baz=113,slow=3.2,SNR=47					
ARCES	**ARCESS Array B**	**155.86 312**	PKIKP	PKPdf	01 01 07.8	-0.7
ARCES					01 01 35.0	
ARCES			pmax	pmax		
	comp=Z,2.0nm,0.8s					
ARCES			pmax	pmax		
	comp=Z,55nm,0.8s					
ARE0	**ARCESS Array S**	**155.86 312**	*e*PKPab	PKPab	01 01 35.1	-0.5
UCC	**Uccle**	**155.99 258**	PKP	PKPdf	01 01 07.5	-1.8
UCC			PKPab	PKPab	01 01 36.9	+0.3
LDF	**La Druitiere**	**156.33 249**	*e*PKIKP	PKPdf	01 01 07.7	-2.1
	comp=Z,201nm,1.8s					
GRR	**Gorron**	**156.49 248**	*e*PKIKP	PKPdf	01 01 07.9	-2.1
	comp=Z,198nm,1.8s					
FLN	**La Foliniere**	**156.62 249**	*e*PKIKP	PKPdf	01 01 08.0	-2.2
	comp=Z,294nm,1.9s					
FLN			*e*MLR	MLR		
	comp=Z,2μm,20.8s,MS5.7					
FLN	**La Foliniere**	**156.62 249**	*e*PKPdf	PKPdf	01 01 08.0	-2.2
FLN			LR	LR		
	comp=Z,2μm,20.8s,MS6.0					
QUIF	**Quistinic**	**157.09 244**	*e*PKIKP	PKPdf	01 01 08.8	-2.0
	comp=Z,211nm,1.7s					
SGMF	**Saint Gilles**	**157.10 245**	*e*PKIKP	PKPdf	01 01 08.4	-2.4
	comp=Z,98nm,1.5s					
ROSF	**Rostrenen**	**157.46 244**	*e*PKIKP	PKPdf	01 01 08.9	-2.4
TRO	**Tromso**	**158.14 311**	*e*P	PKPdf	01 01 11.4	-0.1
TRO			AMb	AMB	01 01 48.6	
	comp=Z,74nm,1.9s					
TRO			*e*PP	PP	01 05 20.9	-5.4
TRO			*e*SS	SS	01 25 24.6	-1.7
SPB4	**Spitsbergen Ar**	**158.32 334**	*e*PKPab	PKPab	01 01 45.0	-1.1
NB2	**NORSAR Subarra**	**158.78 286**	PKPdf	PKPdf	01 01 09.0	-3.4
	comp=Z,118nm,2.0s,baz=115,slow=1.3					
NB2	**NORSAR Subarra**	**158.78 286**	PKPdf	PKPdf	01 01 09.0	-3.4
	baz=115,slow=1.3					
NOA	**NORSAR Array B**	**158.78 286**	PKP	PKPdf	01 01 09.4	-3.0
	comp=Z,2.4nm,0.8s,baz=112,slow=1.9,SNR=8.0					
NOA			PKPab	PKPab	01 01 46.3	-2.1
	comp=Z,7.4nm,0.8s,baz=109,slow=4.3,SNR=12					
NOA	**NORSAR Array B**	**158.78 286**	PKIKP	PKPdf	01 01 09.4	-3.0
NOA					01 01 46.3	
NOA			pmax	pmax		
	comp=Z,2.0nm,0.8s					
NOA			pmax	pmax		
	comp=Z,7.0nm,0.9s					
NAO01	**NORSAR Array S**	**158.84 285**	PFAKE		01 01 20.0	+7.5
NAO01			LR	LR		
	comp=Z,2μm,20.0s,MS6.0					
KONO	**Kongsberg**	**158.88 281**	*e*P	PKPdf	01 01 08.3	-4.3
KONO			*e*PP	PP	01 05 29.5	-1.1
KONO			*e*SS	SS	01 25 35.9	+1.3
KBS	**Kingsbay**	**158.91 337**	*e*P	PKPdf	01 01 08.3	-3.9
KBS	**Kingsbay**	**158.91 337**	PFAKE		01 01 20.0	+7.8
KBS			LR	LR		
	comp=Z,1μm,22.0s,MS5.7					
BER	**Bergen**	**161.13 281**	*e*P	PKPdf	01 01 11.8	-3.3
SCHQ	**Schefferville**	**161.61 101**	PKP	PKPdf	01 01 12.8	-3.0
	comp=Z,6.6nm,0.8s,baz=260,slow=0.9,SNR=6.4					
SCHQ			PKPab	PKPab	01 02 00.5	-0.4
	comp=Z,7.7nm,0.7s,baz=334,slow=2.6,SNR=4.7					
SCHQ	**Schefferville**	**161.61 101**	PKP	PKPdf	01 01 12.8	-3.0
SCHQ			PKPab	PKPab	01 02 00.5	-0.4
ESK	**Eskdalemuir**	**162.40 259**	PFAKE		01 01 30.0	+13
ESK			LR	LR		
	comp=Z,2μm,19.0s					
DAG	**Danmarks Havn**	**165.10 346** ⇑	*i*P	PKPab	01 02 14.4	-1.3
	comp=Z,11nm,0.7s					
SFJD	**Kangerlussuaq**	**172.00 52**	*i* P	PKPdf	01 01 19.2	-4.1
SFJD			*e*		01 13 30.5	
SFJD	**Kangerlussuaq**	**172.00 52**	*e*P	PKPdf	01 01 19.2	-4.1
SFJD			*e*		01 13 30.5	
SFJD			LR	LR		
	comp=Z,5μm,22.0s					
BORG	**Borgarnes**	**173.88 294**	PFAKE		01 01 30.0	+5.9
BORG			LR	LR		
	comp=Z,4μm,21.0s					

NIED ***03*** *00:42:00,4670N×14170E,h5km,Mw4.3 Best double couple: M0 3.73000×10^15 NP1:φ0=180.00000°,δ76.00000°, λ85.00000° NP2:φ0=19.00000°,δ15.00000°,λ109.00000°.*
ISCJB ***03*** *00:42:19.9±1.1,4676N±002×14171E±005,h8km±7km, mb4.0/7,Error ellipse: s-maj=6.2km s-min=4.2km az=176.1*
JMA ***03*** *00:42:19.8±0.4,4671N×14167E,h0km,M4.3*
IDC ***03*** *00:42:20.1±1.0,4672N×14181E,h0km,mb3.7/6, mb1 4.0/7,mb1mx3.8/21,mbtmp3.7/7,ML3.7/1,MS3.3/3, Ms1 3.3/3,ms1mx2.7/35,Error ellipse: s-maj=25.3km s-min=16.7km az=69.0*
MOS ***03*** *00:42:21.5±1.3,4686N×14161E,h13km,mb4.3/10,Error ellipse: s-maj=11.4km s-min=8.6km az=113.8*
NEIC ***03*** *00:42:22.0±1.4,4684N×14173E,h9km±10km,mb4.4/6, Error ellipse: s-maj=11.6km s-min=6.5km az=150.0*

ISC 03 00:42:21.6±1.1,4672N±003×14178E±006,h11km±7km, n57,o0°97/67,mb4.0/17,7C-1D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.71**	**71α**	*i* PN			**Pn**	**00 42 35.7**	**-1.8**
YSS				*i* S			**Sg**	**00 42 46.7**	**+2.2**
YSS				smax					
	comp=E,6μm,0.7s								
YSS	**Yuzh-Sakhalins**	**0.71**	**71**	*e*P			**Pg**	**00 42 35.6**	**+0.4**
YSS				*e*S			**Sg**	**00 42 42.6**	**-1.9**
JWK2	**Keihoku**	**1.41**	**177**	P			**Pn**	**00 42 46.0**	**-1.2**
JWK2				*e*S			**Sn**	**00 43 05.0**	**-0.7**
JRR	**Rishiri**	**1.62**	**192**	P			**Pn**	**00 42 50.0**	**0.0**
JRR				*e*S			**Sn**	**00 43 11.4**	**+0.5**
JSE	**Soyaes**	**1.85**	**162**	P			**Pn**	**00 42 52.9**	**-0.3**
JSE				*e*S			**Sn**	**00 43 17.6**	**+1.0**
JYG	**Yagishiri**	**2.31**	**186**	P			**Pn**	**00 42 59.3**	**-0.2**
JYG				*e*S			**Sn**	**00 43 28.4**	**+0.5**
JSS	**Shosan**	**2.32**	**179**	P			**Pn**	**00 42 59.9**	**+0.2**
ASAJ	**Asahikawa**	**2.67**	**167**	P			**Pn**	**00 43 05.2**	**+0.7**
ASAJ	**Asahikawa**	**2.67**	**167**	Pn			**Pn**	**00 43 05.2**	**+0.8**
	comp=E,9.2nm,0.3s,baz=18,slow=10.0,SNR=13								
ASAJ				Sn			**Sn**	**00 43 34.2**	**-2.5**
	comp=E,14nm,0.3s,baz=327,slow=24,SNR=4.0								
ASAJ				Lg				00 43 44.0	
	comp=E,14nm,0.3s,baz=267,slow=32,SNR=7.9								
JKK2	**Kamakawa 2**	**2.93**	**166**	P			**Pn**	**00 43 08.8**	**+0.7**
JMP	**Maruseppu**	**2.94**	**157**	P			**Pn**	**00 43 07.3**	**-0.8**
JHR	**Hokuryu**	**2.98**	**181**	P			**Pn**	**00 43 08.9**	**+0.1**
JTKR	**Abashiri--Toko**	**3.13**	**151**	P			**Pn**	**00 43 09.8**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**3.94**	**132**	PN			**Pn**	**00 43 29.0**	**+7.1**
YUK				MLR			MLR		
	comp=E,1μm,11.0s								
YUK				MLR			MLR		
	comp=Z,2μm,11.0s								
HABR	**Khabarovsk**	**4.88**	**293**	*e*PN			**Pn**	**00 43 33.7**	**-1.1**
HABR				*e*S			**Sn**	**00 44 29.6**	**-1.6**
KLR	**Kul'dur**	**7.18**	**294**	*e*PN			**Pn**	**00 44 04.8**	**-1.7**
MJAR	**

EGAK	**Eagle**	**43.80**	**37**	*e*P		**P**	**00 50 27.4**	**+0.5**
	comp=Z,9.3nm,1.0s,mb4.5							
BRVK	**Borovoye**	**44.73**	**306**	*e*P		**P**	**00 50 35.4**	**+0.9**
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.4s,mb4.3							
BRVK	**Borovoye**	**44.73**	**306**	*e*P		**P**	**00 50 35.4**	**+0.9**
	comp=Z,7.0nm,1.4s,mb4.3							
INK	**Inuvik**	**45.79**	**31**	P		**P**	**00 50 43.1**	**+0.4**
HYT	**Haines Junctio**	**46.60**	**42**	P		**P**	**00 50 50.7**	**+1.5**
ARU	**Arti**	**49.56**	**314**	*c i*P		**P**	**00 51 12.4**	**+0.2**
ARU				*e*			00 53 02.6	
ARU				*e*PPP			00 53 54.6	
ARU				*e*S		**S**	**00 58 18.7**	**-1.0**
ARU				*e*SS		SS	01 01 45.8	-5.3
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.5							
ARU	**Arti**	**49.56**	**314**	*e*P		**P**	**00 51 12.1**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.3							
YKA	**Yellowknife Ar**	**55.42**	**33**	P		**P**	**00 51 55.7**	**+0.3**
	comp=Z,0.9nm,0.8s,mb3.9,baz=305,slow=7.1,SNR=3.5							
YKA	**Yellowknife Ar**	**55.42**	**33**	P		**P**	**00 51 55.7**	**+0.3**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**70.80**	**48**	P		**P**	**00 53 37.9**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.7,baz=22,slow=4.8,SNR=4.0							
MALT	**Malatya**	**71.15**	**306**	P		**P**	**00 53 39.7**	**-0.4**
TXAR	**Lajitas Array**	**84.03**	**53**	P		**P**	**00 54 53.0**	**+0.9**
	comp=Z,0.3nm,0.4s,mb3.8,baz=343,slow=3.9,SNR=3.5							

NEIC ***03*** *01:04:40.2, 3655S×7289W, h35km, ML3.1(GUC), After GUC.*
NEIC Felt [II] at Concepcion and Talcahuano.
GUC 03 01:04:40.2±0.6, 3655S×7289W, h35km±7km, MD3.9, ML3.1, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.42**	**11**	⇑*i*P	Pb	01 04 49.4	-0.4
COCH				*i* S	Sb	01 04 56.6	+0.3
CCHI	**Chillan**	**0.66**	**95**	⇑*i*P	Pn	01 04 52.7	-0.3
CCHI				*i* S	Sn	01 05 02.8	+0.6
CCHI				AML	AML	01 05 03.4	
	comp=E,1μm,0.4s						
CCHI	**Chillan**	**0.66**	**95**	⇑*i*P	Pn	01 04 52.7	-0.3
CCHI				*i* S	Sn	01 05 02.8	+0.6
CNCO	**Chanco**	**0.86**	**20**	⇑*i*P	Pn	01 04 54.9	-0.9
CNCO				*i* S	Sn	01 05 06.7	-0.4
LNCH	**Linares**	**1.25**	**57**	*i* P	Pn	01 05 02.2	+1.0
LNCH				*i* S	Sn	01 05 18.5	+1.6
LNCH				AML	AML	01 05 21.4	
	comp=N,918nm,0.5s						
LNCH	**Linares**	**1.25**	**57**	*i* P	Pn	01 05 02.2	+1.0
LNCH				*i* S	Sn	01 05 18.5	+1.6
TALC	**Talca**	**1.53**	**42**	*e*P	Pn	01 05 06.7	+1.6
TALC				*i* S	Sn	01 05 26.5	+2.8
SFDO	**San Fernando**	**2.46**	**39**	*e*P	Pn	01 05 17.1	-0.7

IDC ***03*** *01:10:33.0±3.9, 5137N×17982W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/23, mbtmp3.8/4, MS3.3/1, Ms1 3.3/1, ms1mx3.1/32, Error ellipse: s-maj=111.2km s-min=31.9km az=6.0*
NEIC ***03*** *01:10:34.7, 5105N×17983W, h3km, mb3.6/2, ML3.3(AEIC), After AEIC.*
ISCJB ***03*** *01:10:35.6±2.2, 512N±04×17974W±0.10, h33km, mb3.9/4, Error ellipse: s-maj=50.6km s-min=8.9km az=0.9*
ISC 03 01:10:37.8±2.1, 513N±03×1798W±01, h35km, n11, σ0§86/11, mb3.9/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.56**	**283**	P	**Pn**	**01 10 48.1**	**-1.2**
AMKA				S	**Sn**	**01 10 57.0**	**-0.3**
FX1	**Attu Island--F**	**4.62**	**293**	P	**Pn**	**01 11 47.6**	**+2.6**
PETK	**Petropavlovsk-**	**13.90**	**286**	LR	LR	01 17 42.2	
	comp=Z,118nm,20.9s,baz=277,slow=31						
KTH	**Kantishna Hill**	**19.63**	**40**	*e*P	**Pn**	**01 15 04.2**	**-0.3**
	3.0nm,0.6s						
BPAW	**Bear Paw Mtn.**	**19.85**	**39**	*e*P	**Pn**	**01 15 07.1**	**+0.1**
	1.3nm,0.5s						
YKA	**Yellowknife Ar**	**35.78**	**46**	P	**P**	**01 17 32.4**	**-0.6**
	0.6nm,0.4s,mb3.9,baz=283,slow=7.6,SNR=4.9						
YKA	**Yellowknife Ar**	**35.78**	**46**	P	**P**	**01 17 32.4**	**-0.6**
PDAR	**Pinedale Array**	**46.96**	**72**	P	**P**	**01 19 05.3**	**+0.5**
	0.8nm,0.6s,mb3.9,baz=328,slow=3.3,SNR=8.5						
MKAR	**Makanchi Array**	**59.60**	**308**	P	**P**	**01 20 37.8**	**+0.1**
	0.6nm,0.5s,mb3.9,baz=57,slow=6.9,SNR=5.4						
NOA	**NORSAR Array B**	**67.71**	**354**	P	**P**	**01 21 30.9**	**0.0**
	1.1nm,0.8s,mb3.9,baz=8.9,slow=6.7,SNR=3.1						
NOA	**NORSAR Array B**	**67.71**	**354**	P	**P**	**01 21 30.9**	**0.0**

ISCJB ***03*** *01:41:14.7±0.7, 3997N±005×2048E±007, h10km, Error ellipse: s-maj=7.8km s-min=6.2km az=25.8*
ATH ***03*** *01:41:14.6, 4007N×2056E, h21km±5km, MD3.2/4*
CSEM ***03*** *01:41:14.6±0.1, 4009N×2061E, h8km, MD3.2, Error ellipse: s-maj=3.7km s-min=2.5km az=147.0*
ISC 03 01:41:16.9±1.0, 3987N±010×206E±01, h33km±13km, n6, σ1§12/10, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.31**	**134**	*e*PB	**Pb**	**01 41 24.1**	**-0.6**
JAN				*e*SB	**Sb**	**01 41 30.7**	**+0.7**
KEK	**Kerkira**	**0.61**	**255**	*e*Pn	**Pn**	**01 41 27.9**	**-1.3**
KEK				*e*Sn	**Sn**	**01 41 38.7**	**+0.8**
KZN	**Kozani**	**1.02**	**64**	*e*PN	**Pn**	**01 41 33.1**	**-1.8**
THL	**Klokotos Trika**	**1.16**	**105**	*e*PN	**Pn**	**01 41 37.9**	**+1.1**
BIA	**Bitola**	**1.29**	**27**	*e*Pn	**Pn**	**01 41 37.6**	**-0.9**
BIA				*e*Sn	**Sn**	**01 41 54.0**	**-0.6**
KRUS	**Krusevo**	**1.59**	**19**	*e*Pn	**Pn**	**01 41 44.4**	**+1.7**
KRUS				*e*Sn	**Sn**	**01 42 03.0**	**+1.0**

NEIC ***03*** *01:49:40.2±2.1, 3346S×17935W, h22km±14km, mb5.1/25, Error ellipse: s-maj=11.0km s-min=8.0km az=123.0*
MOS ***03*** *01:49:41.4±1.1, 3324S×17938W, h33km, mb5.2/20, Error ellipse: s-maj=14.0km s-min=11.4km az=67.6*
BJI ***03*** *01:49:42.2, 3311S×17878W, h54km, mB5.7, mb5.2, Ms5.3, Msz4.9*
ISCJB ***03*** *01:49:42.5±1.1, 3344S±006×17948W±005, h43km±10km, mb5.0/43, MS4.6/19, Error ellipse: s-maj=10.7km s-min=6.9km az=156.5*
IDC ***03*** *01:49:43.6±1.9, 3319S×17949W, h44km±16km, mb4.5/12, mb1 4.7/13, mb1mx4.6/17, mbtmp4.5/13, ML5.0/2, MS4.4/12, Ms1 4.4/12, ms1mx4.2/23, Error ellipse: s-maj=15.6km s-min=12.3km az=131.0*
DJA ***03*** *01:50:16, 34.10S×179.25E, h279km, mb4.8/11*
ISC 03 01:49:43.9±0.9, 3341S±006×17944W±006, h42km±8km, h45km±2.6km: pP-P, n280, σ1§02/210, mb5.0/43, MS4.6/19, 43C-40D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.34**	**18**	P	**Pn**	**01 50 43.1**	**-4.3**
	159nm,0.3s,baz=115,slow=8.9,SNR=12						
RAO				S	**Sn**	**01 51 28.3**	**-8.5**
	157nm,0.3s,baz=44,slow=22,SNR=3.1						
RAO				LR	LR	01 52 15.2	
	comp=Z,2μm,19.8s,baz=189,slow=37						
RAO	**Raoul Island**	**4.34**	**18**	P	**Pn**	**01 50 43.1**	**-4.3**
RAO				S	**Sn**	**01 51 28.3**	**-8.5**
RAO				pmax	pmax		
	comp=Z,159nm,0.3s						
RAO				smax			
	comp=N,157nm,0.3s						
RAO				MLR	MLR		
	comp=Z,2μm,19.8s						
RAO	**Raoul Island**	**4.34**	**18**	*e*Pn	**Pn**	**01 50 42.5**	**-4.9**
RAO				*e*Sn	**Sn**	**01 51 32.1**	**-4.7**
MXZ	**Matakaoa Point**	**4.54**	**203**	P	**Pn**	**01 50 51.4**	**+1.4**
WIZ	**White Island**	**4.95**	**213**	P	**Pn**	**01 50 59.4**	**+3.7**
PUZ	**Puketiti**	**5.02**	**201**	P	**Pn**	**01 50 57.1**	**+0.4**
KUZ	**Kuaotunu**	**5.18**	**229**	P	**Pn**	**01 51 04.1**	**+5.2**
MWZ	**Matawai**	**5.50**	**206**	P	**Pn**	**01 51 03.8**	**+0.5**
URZ	**Urewera**	**5.59**	**209**	P	**Pn**	**01 51 05.2**	**+0.6**
	comp=Z,19nm,0.3s,baz=21,slow=1.8,SNR=74						
URZ				S	**Sn**	**01 52 09.5**	**+1.9**
	comp=Z,155nm,0.3s,baz=287,slow=22,SNR=7.6						
URZ	**Urewera**	**5.59**	**209**	P	**Pn**	**01 51 05.3**	**+0.7**

WCZ	**Waipu Caves**	**5.71**	**242**	P	**Pn**	**01 51 11.9**	**+5.7**
OUZ	**Omahuta**	**6.04**	**251**	P	**Pn**	**01 51 15.6**	**+4.9**
KNZ	**Kokohu**	**6.07**	**202**	P	**Pn**	**01 51 04.3**	**-6.8**
BKZ	**Black Stump Fm**	**6.62**	**209**	P	**Pn**	**01 51 18.1**	**-0.5**
HIZ	**Hauiti**	**6.88**	**221**	P	**Pn**	**01 51 27.0**	**+4.8**
TWVZ	**Taurewa**	**7.00**	**215**	P	**Pn**	**01 51 26.2**	**+2.3**
NGZ	**Ngauruhoe**	**7.01**	**213**	P	**Pn**	**01 51 26.2**	**+2.2**
TUVZ	**Tukino**	**7.06**	**213**	P	**Pn**	**01 51 26.2**	**+1.5**
FWVZ	**Far West T-bar**	**7.10**	**213**	P	**Pn**	**01 51 27.1**	**+1.9**
MOVZ	**Moawhango**	**7.13**	**212**	P	**Pn**	**01 51 26.1**	**+0.4**
WNVZ	**Wahianoa**	**7.13**	**213**	P	**Pn**	**01 51 27.8**	**+2.1**
TSZ	**Takapari Road**	**7.59**	**208**	P	**Pn**	**01 51 30.8**	**-1.2**
WAZ	**Wanganui**	**7.76**	**214**	P	**Pn**	**01 51 35.7**	**+1.4**
MRZ	**Mangatainoka R**	**8.26**	**207**	P	**Pn**	**01 51 38.6**	**-2.6**
KIW	**Kapiti Island**	**8.70**	**210**	P	**Pn**	**01 51 44.1**	**-3.0**
MTW	**Mount Morrison**	**8.72**	**206**	P	**Pn**	**01 51 44.4**	**-3.1**
CAW	**Cannon Point**	**8.84**	**208**	P	**Pn**	**01 51 46.2**	**-2.9**
PAWZ	**Paruwai Farm**	**8.94**	**206**	P	**Pn**	**01 51 48.1**	**-2.4**
MRW	**Makara Radio**	**9.09**	**209**	P	**Pn**	**01 51 49.8**	**-2.7**
SNZO	**South Karori**	**9.16**	**209**	P	**Pn**	**01 51 49.9**	**-3.5**
BHW	**Baring Head**	**9.18**	**208**	P	**Pn**	**01 51 50.5**	**-3.2**
TCW	**Tory Channel**	**9.26**	**211**	P	**Pn**	**01 51 51.8**	**-3.0**
NNZ	**Nelson**	**9.66**	**214**	P	**Pn**	**01 51 58.5**	**-1.9**
QRZ	**Quartz Range**	**9.79**	**219**	P	**Pn**	**01 52 00.2**	**-1.9**
BSWZ	**Blackbirch Sta**	**9.84**	**211**	P	**Pn**	**01 52 00.8**	**-2.0**
THZ	**Tophouse**	**10.31**	**214**	P	**Pn**	**01 52 06.1**	**-3.1**
KHZ	**Kahutara**	**10.56**	**210**	P	**Pn**	**01 52 09.0**	**-3.6**
LTZ	**Lake Taylor**	**11.41**	**212**	P	**Pn**	**01 52 19.6**	**-4.6**
MQZ	**McQueen's Vall**	**11.99**	**209**	P	**Pn**	**01 52 26.7**	**-5.5**
RPZ	**Rata Peaks**	**12.69**	**213**	P	**Pn**	**01 52 37.9**	**-3.8**
	comp=Z,3.6nm,0.3s,baz=35,slow=4.4,SNR=4.8						
RPZ				S	**Sn**	**01 54 52.8**	**-8.8**
	comp=Z,4.7nm,0.3s,baz=347,slow=18,SNR=7.7						
ODZ	**Otahua Downs**	**13.92**	**210**	P	**Pn**	**01 52 53.3**	**-5.2**
JCZ	**Jackson Bay**	**14.06**	**217**	P	**Pn**	**01 52 54.6**	**-5.8**
DZM	**Mont Dzumac**	**16.82**	**309**	*e*P	**Pn**	**01 53 40.1**	**+3.7**
RAR	**Rarotonga**	**21.24**	**60**	P	**P**	**01 54 26.3**	**-0.1**
	comp=Z,44nm,0.9s,mb4.8,baz=225,slow=6.0,SNR=5.7						
RAR				LR	LR	02 00 19.1	
	comp=Z,582nm,20.6s,MS4.0,baz=45,slow=30						
TAU	**Tasmania Unive**	**27.65**	**240**	*e*P	**P**	**01 55 29.6**	**+1.9**
TAU				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.0						
TAU	**Tasmania Unive**	**27.65**	**240**	*e*P	**P**	**01 55 29.6**	**+1.9**
	comp=Z,33nm,0.9s,mb5.0						
TBI	**Tubuai**	**28.13**	**77**	*e*LQ		02 01 03.6	
	comp=Z,899nm,29.2s						
TBI				*e*LR	LR	02 02 26.8	
	comp=Z,1μm,28.2s,baz=237						
PPT	**Papeete**	**31.09**	**67**	*e*LR	LR	02 03 59.3	
	comp=Z,1μm,27.0s,baz=232						
PPT	**Papeete**	**31.09**	**67**	LR	LR	02 05 25.3	
	comp=Z,412nm,19.4s,MS4.1,baz=272,slow=30						
STKA	**Stephens Creek**	**32.72**	**262**	*e*P	**P**	**01 56 14.3**	**+1.7**
	comp=Z,5.2nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**32.72**	**262**	P	**P**	**01 56 13.6**	**+1.0**
	comp=Z,5.4nm,0.9s,mb4.5,baz=114,slow=11,SNR=5.0						
STKA				LR	LR	02 08 26.6	
	comp=Z,1μm,18.8s,MS4.7,baz=50,slow=34						
CTA	**Charters Tower**	**33.22**	**285**	*e*P	**P**	**01 56 19.1**	**+2.0**
	comp=Z,12nm,0.6s,mb5.0						
CTA	**Charters Tower**	**33.22**	**285**	P	**P**	**01 56 19.4**	**+2.3**
	comp=Z,16nm,0.6s,mb5.2,baz=116,slow=10,SNR=15						
CTA				LR	LR	02 07 09.6	
	comp=Z,735nm,20.9s,MS4.4,baz=149,slow=32						
CTAO	**Charters Tower**	**33.22**	**285**	*e*P	**P**	**01 56 18.8**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
CTAO	**Charters Tower**	**33.22**	**285**	*e*P	**P**	**01 56 18.8**	**+1.7**
	comp=Z,30nm,1.1s,mb5.1						
PMG	**Port Moresby**	**38.92**	**300**	*e*P	**P**	**01 57 06.8**	**+1.0**
PMG				pmax	pmax		
	comp=Z,12nm,0.6s						
PMG	**Port Moresby**	**38.92**	**300**	*e*P	**P**	**01 57 06.8**	**+1.0**
	comp=Z,12nm,0.6s,mb4.8						
COEN	**Coen**	**39.05**	**291**	*e*P	**P**	**01 57 07.8**	**+0.9**
	comp=Z,5.8nm,0.7s,mb4.4						
RKT	**Rikitea**	**40.22**	**87**	*e*LR	LR	02 08 04.8	
	comp=Z,1μm,30.8s						
ASAR	**Alice Springs**	**41.83**	**271**	P	**P**	**01 57 30.4**	**+0.6**
	comp=Z,9.1nm,0.4s,mb4.8,baz=110,slow=7.9,SNR=73						
ASAR				S	**S**	**02 03 43.1**	**-1.6**
	comp=Z,1.6nm,0.9s,baz=123,slow=17,SNR=6.4						
ASAR	**Alice Springs**	**41.83**	**271**	P	**P**	**01 57 30.4**	**+0.6**
ASAR				S	**S**	**02 03 43.2**	**-1.6**
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ASAR				smax			
	comp=N,2.0nm,0.9s						
WB2	**Warramunga Arr**	**43.08**	**276**	⇑*i*P	**P**	**01 57 40.0**	**-0.1**
WB2				*e*S	**S**	**02 03 59.3**	**-4.0**
WRAB	**Tennant Creek**	**43.09**	**276**	P	**P**	**01 57 40.6**	**+0.5**
	comp=N,254nm,0.6s,mb6.1,SNR=11						
WRAB	**Tennant Creek**	**43.09**	**276**	*e*P	**P**	**01 57 40.2**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.1						
WRAB	**Tennant Creek**	**43.09**	**276**	*e*P	**P**	**01 57 40.2**	**+0.1**
	comp=Z,30nm,0.7s,mb5.1						
WRA	**Warramunga Arr**	**43.09**	**276**	P	**P**	**01 57 40.2**	**0.0**
	comp=Z,30nm,0.7s,mb5.1,baz=119,slow=7.5,SNR=72						
WRA				ScP	ScP	02 03 10.7	-6.7
	comp=Z,0.5nm,0.4s,baz=124,slow=3.1,SNR=6.2						
WRA				LR	LR	02 14 40.1	
	comp=Z,352nm,20.9s,MS4.2,baz=30,slow=35						
WRA	**Warramunga Arr**	**43.09**	**276**	P	**P**	**01 57 40.2**	**+0.1**
WRA				pmax	pmax		
	comp=Z,30nm,0.7s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.4s						
WRA				MLR	MLR		
	comp=Z,353nm,20.9s						
TAOE	**Nuku Hiva Isla**	**43.65**	**65**	*e*LR	LR	02 09 30.3	
	comp=Z,2μm,30.6s						
FORT	**Forrest**	**44.17**	**259**	*e*P	**P**	**01 57 48.4**	**-0.3**
	comp=Z,47nm,0.7s,mb5.3						
SBA	**Scott Base**	**44.96**	**184**	*e*P	**P**	**01 57 57.8**	**+3.4**
SBA				pmax	pmax		
	comp=Z,87nm,2.1s,mb5.2						
SBA	**Scott Base**	**44.96**	**184**	*e*P	**P**	**01 57 57.8**	**+3.4**
	comp=Z,87nm,2.1s,mb5.2						
VNDA	**Vanda**	**44.99**	**186**	P	**P**	**01 57 56.8**	**+2.2**
	comp=Z,2.5nm,0.6s,mb4.2,baz=2.1,slow=6.2,SNR=14						
VNDA				PcP	PcP	01 59 35.7	+0.7
	comp=Z,3.1nm,0.8s,baz=352,slow=5.4,SNR=5.0						
VNDA	**Vanda**	**44.99**	**186**	P	**P**	**01 57 56.8**	**+2.2**
VNDA						01 59 35.7	
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**44.99**	**186**	*e*P	**P**	**01 57 57.0**	**+2.4**
	comp=Z,3.0nm,0.7s,mb4.2						
KAKA	**Kakadu**	**48.34**	**283**	⇑*i*P	**P**	**01 58 21.2**	**-0.4**
	comp=Z,6.6nm,0.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.21**	**273**	*e*P	**P**	**01 58 43.2**	**-0.2**
	comp=Z,29nm,1.0s,mb5.2						
FITZ	**Fitzroy Crossi**	**51.21**	**273**	LR	LR	02 19 46.9	
	comp=Z,494nm,19.4s,MS4.5,baz=302,slow=35						
CASY	**Casey**	**51.92**	**209**	*e*P	**P**	**01 58 47.7**	**-0.4**
	comp=Z,10.0nm,0.4s,mb5.1						
NWAO	**Narrogin (SRO)**	**52.24**	**252**	LR	LR	02 20 12.4	
	comp=Z,448nm,18.5s,MS4.5,baz=113,slow=35						
KLBR	**Kellerberrin**	**52.27**	**254**	*e*P	**P**	**01 58 48.6**	**-2.6**
	comp=Z,20nm,0.9s,mb5.1						
MBWA	**Marble Bar**	**54.74**	**266**	*e*P	**P**	**01 59 08.7**	**-0.8**
	comp=Z,13nm,0.8s,mb5.0						
QSPA	**South Pole Qui**	**56.71**	**180**	P	**P**	**01 59 25.2**	**+2.4**
	comp=Z,15nm,0.6s,mb5.2,baz=16,slow=1.0,SNR=106						
GUMO	**Guam**	**57.81**	**318**	LR	LR	02 20 17.4	
	comp=Z,201nm,18.6s,MS4.3,baz=90,slow=32						
GUMO	**Guam**	**57.81**	**318**	*e*P	**P**	**01 59 32.1**	**+0.8**
GUMO				pmax	pmax		
	comp=Z,153nm,1.1s,mb5.9						
GUMO	**Guam**	**57.81**	**318**	*e*P	**P**	**01 59 32.1**	**+0.8**
	comp=Z,153nm,1.1s,mb5.9						
MIR	**Mirnyy**	**58.90**	**208**	⇑*i*P	**P**	**01 59 38.0**	**-0.2**
MIR				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.9						
KAPI	**Kappang**	**63.00**	**283**	LR	LR	02 27 30.4	
	comp=Z,312nm,19.9s,MS4.5,baz=62,slow=36						
MAW	**Mawson**	**69.07**	**201**	⇑*i*P	**P**	**02 00 44.7**	**-0.3**
	comp=Z,5.6nm,0.5s,mb4.8						
MAW	**Mawson**	**69.07**	**201**	P	**P**	**02 00 44.7**	**-0.3**
	comp=Z,11nm,0.8s,mb4.8,baz=131,slow=7.0,SNR=26						
MAW				LR	LR	02 29 47.5	
	comp=Z,259nm,19.2s,MS4.5,baz=307,slow=35						

SYO	**Syowa Base**	**73.92**	**194**	⇓*e*P		**P**	**02 01 11.9**	**-2.3**
SYO	**Syowa Base**	**73.92**	**194**	⇓*e*X			02 01 24.6	
SNAA	**Sanae**	**75.19**	**179**	*e*P		**P**	**02 01 21.4**	**-0.1**
SNAA				*e*			02 01 26.6	
SNAA				*e*		pP	02 01 31.5	-2.4
SNAA	**Sanae**	**75.19**	**179**	*e*P		**P**	**02 01 21.4**	**-0.1**
SNAA				pmax	pmax			
	comp=Z,35nm,1.3s							
SNAA	**Sanae**	**75.19**	**179**	*e*P		**P**	**02 01 21.4**	**-0.1**
	comp=Z,35nm,1.3s,mb5.1							
MAIT	**Maitri**	**75.80**	**184**	*e*P		**P**	**02 01 23.6**	**-1.5**
NVL	**N'lazarevskaya**	**75.81**	**184**	P		**P**	**02 01 25.5**	**+0.4**
NVL				*e*		pP	02 01 39.1	+1.6
NVL				pmax	pmax			
	comp=Z,26nm,1.5s,mb4.9							
VNA2	**Neumayer--Watz**	**75.81**	**177**	*e*P		**P**	**02 01 25.2**	**+0.1**
VNA2				*e*			02 01 30.3	
VNA2				*e*		pP	02 01 35.7	-1.8
VNA1	**Neumayer--Stat**	**76.05**	**177**	*e*P		**P**	**02 01 26.9**	**+0.5**
VNA1				*e*			02 01 31.7	
VNA1				*e*		pP	02 01 37.1	-1.8
PLCA	**Paso Flores**	**81.35**	**133**	P		**P**	**02 01 56.6**	**+0.4**
	comp=Z,4.6nm,0.6s,mb4.6,baz=220,slow=5.9,SNR=29							
PLCA				LR	LR	02 33 47.1		
	comp=Z,238nm,18.1s,MS4.6,baz=5.4,slow=32							
PLCA	**Paso Flores**	**81.35**	**133**	*e*P		**P**	**02 01 56.6**	**+0.5**
	comp=Z,27nm,1.5s,mb5.0							
PLCA				*e*pP		pP	02 02 09.9	+1.2
KSRS	**Korea Array**	**85.86**	**321**	P		**P**	**02 02 17.5**	**-1.6**
	comp=Z,3.9nm,0.7s,mb4.7,baz=122,slow=39,SNR=7.5							
KSRS	**Korea Array**	**85.86**	**321**	P		**P**	**02 02 17.5**	**-1.6**
KSRS				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.8							
SNCC	**San Nicolas Is**	**87.00**	**47**	⇑P		**P**	**02 02 27.1**	**+2.4**
	baz=87							
NJ2	**Nanjing**	**87.29**	**312**	*e*P		**P**	**02 02 26.9**	**+0.7**
NJ2				AP		pP	02 02 40.8	+2.0
NJ2				XP		sP	02 02 44.7	+1.2
NJ2				PP		PP	02 05 52.8	+1.7
NJ2				S		S	02 13 00.5	-2.7
NJ2				AMB		AMB		
	comp=Z,760nm,7.4s							
NJ2				LR		LR		
	comp=N,250nm,24.5s,MS5.4							
NJ2				LR		LR		
	comp=E,2μm,22.3s,MS5.4							
NJ2				LR		LR		
	comp=Z,1μm,21.7s,MS5.3							
PKM	**Peak Mountain**	**87.96**	**45**	⇓P		**P**	**02 02 29.4**	**+0.1**
	baz=88							
HAST	**Hastings Reser**	**87.99**	**43**	⇓P		**P**	**02 02 29.2**	**-0.3**
	baz=88							
TRQA	**Tornquist**	**88.17**	**136**	*e*P		**P**	**02 02 30.7**	**+0.1**
	comp=Z,6.7nm,1.2s,mb4.8							
PKD	**Parkfield**	**88.26**	**44**	⇑P		**P**	**02 02 30.6**	**-0.2**
	baz=88							
U04C	**Hernandez Rese**	**88.41**	**44**	⇓P		**P**	**02 02 31.8**	**+0.3**
	baz=88							
PETK	**Petropavlovsk-**	**88.42**	**346**	P		**P**	**02 02 29.1**	**-1.9**
	comp=Z,5.5nm,0.7s,mb4.9,baz=118,slow=6.8,SNR=14							
PACP	**Pacheco Peak**	**88.58**	**43**	⇓P		**P**	**02 02 32.1**	**0.0**
	baz=89							
MURC	**Murrieta**	**88.66**	**48**	⇓P		**P**	**02 02 32.5**	**-0.2**
	baz=89							
MONP	**Monument Peak**	**88.67**	**49**	⇓P		**P**	**02 02 32.5**	**-0.3**
	baz=89							
ARVC	**Arvin**	**88.71**	**46**	⇓P		**P**	**02 02 32.6**	**-0.2**
	baz=89							
DVTC	**Desert V Tower**	**88.72**	**49**	⇓P		**P**	**02 02 33.1**	**+0.1**
	baz=89							
BFSC	**Mount Baldy St**	**88.81**	**47**	P		**P**	**02 02 33.1**	**-0.3**
	baz=89,SNR=5.8							
CVS	**Carmenet Viney**	**88.86**	**41**	⇑P		**P**	**02 02 33.6**	**+0.1**
	baz=89							
S04C	**Ingram Canyon,**	**88.90**	**42**	⇑P		**P**	**02 02 33.4**	**-0.3**
	baz=89							
EDW2	**Edwards Air Fo**	**89.04**	**46**	⇑P		**P**	**02 02 33.8**	**-0.6**
	baz=89,SNR=5.4							
VES	**Vestal, Richgr**	**89.05**	**45**	⇑P		**P**	**02 02 34.0**	**-0.5**
	baz=89							
SWSC	**Sam W. Stewart

baz=91
S08C White Mtn Res 90.71 44 ⇓P P 02 02 42.2 0.0
baz=91
Y13A Salome 90.92 49 ⇓P P 02 02 43.6 +0.4
baz=91,SNR=5.1
LDFC Landfair 90.94 48 *eP* **P 02 02 43.8 +0.5**
PDMCI Parker Dam,Lak 91.03 49 ⇑P **P 02 02 43.8 +0.1**
baz=91
U10A Ash Meadows, A 91.08 46 ⇑P **P 02 02 44.2 +0.3**
baz=91
M03C McCloud 91.13 39 ⇓P **P 02 02 44.2 +0.2**
baz=91
YBH Yreka Blue Hor 91.14 39 ⇑P **P 02 02 44.6 +0.6**
baz=91
HATC Hat Creek Radi 91.16 40 ⇓P **P 02 02 44.3 +0.2**
baz=91
NVAR Mina Array Bea 91.27 43 P **P 02 02 44.4 -0.3**
comp=Z,1.9nm,1.0s,mb4.4,baz=220,slow=7.7,SNR=9.2
X13A Yucca 91.42 49 P **P 02 02 46.3 +0.8**
baz=91,SNR=8.7
TPNV Topopah Spring 91.48 46 *eP* **P 02 02 45.9 +0.2**
TPNV pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
TPNV Topopah Spring 91.48 46 ⇑P **P 02 02 45.7 0.0**
baz=92
TPNV Topopah Spring 91.48 46 *eP* **P 02 02 45.9 +0.2**
comp=Z,2.2nm,0.7s,mb4.6
V12A Nelson 91.52 47 ⇑P **P 02 02 46.0 +0.1**
baz=92
Y14A Wickenburg 91.52 50 ⇓P **P 02 02 46.3 +0.3**
baz=92
217A Green Valley 91.58 53 P **P 02 02 46.9 +0.6**
baz=92,SNR=8.6
O06A Flanigan 91.59 41 ⇑P **P 02 02 45.7 -0.5**
baz=92
W13A Hualapai Mount 91.71 48 ⇑P **P 02 02 47.0 +0.2**
baz=92,SNR=5.6
CN2 Changchun 91.81 324 *eP* **P 02 02 44.5 -2.6**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CN2 LR LR
comp=N,1μm,24.0s,MS5.3
CN2 LR LR
comp=E,500nm,24.0s,MS5.3
CN2 LR LR
comp=Z,600nm,24.0s,MS5.0
318A Bisbee 91.92 53 ⇑P **P 02 02 48.5 +0.6**
baz=92,SNR=7.7
S10A Tonopah Range, 91.92 45 ⇑P **P 02 02 47.9 +0.1**
baz=92
TUC Tucson 91.93 52 *eP* **P 02 02 48.3 +0.3**
TUC pmax pmax
comp=Z,14nm,1.6s,mb5.0
TUC Tucson 91.93 52 *eP* **P 02 02 48.3 +0.4**
comp=Z,14nm,1.6s,mb5.0
X14A Yava 91.93 49 ⇑P **P 02 02 48.3 +0.4**
baz=92,SNR=6.1
Y15A Casa Rosa Ranc 91.96 50 ⇓P **P 02 02 48.4 +0.4**
baz=92
M06C Likely Place G 91.96 40 ⇑P **P 02 02 47.8 -0.1**
baz=92
N06A Buffalo Meadow 91.99 41 ⇓P **P 02 02 47.6 -0.5**
baz=92
GYA Guiyang 92.00 300 P **P 02 02 48.0 -0.4**
GYA AP pP 02 03 04.7 +3.6
GYA XP sP 02 03 10.8 +5.0
GYA PP PP 02 06 32.4 +3.6
GYA SKS 02 13 16.6
GYA S S 02 13 45.0 -2.3
GYA PS PS 02 15 06.0 +3.4
GYA SS SS 02 19 59.2 +1.8
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,110nm,5.4s
GYA LR LR
comp=N,610nm,23.8s,MS5.2
GYA LR LR
comp=E,790nm,22.6s,MS5.2
GYA LR LR
comp=Z,770nm,23.3s,MS5.1
O07A Toulon 92.12 42 ⇑P **P 02 02 48.3 -0.4**
baz=92
218A Dragoon 92.21 53 P **P 02 02 49.9 +0.6**
baz=92,SNR=6.6
T11A Corn Creek, Al 92.29 46 ⇓P **P 02 02 50.0 +0.6**
baz=92
W14A Seligman 92.29 49 ⇑P **P 02 02 50.2 +0.6**
baz=92
L05A Lakeview 92.36 40 ⇑P **P 02 02 49.3 -0.3**
baz=92
X15A Humboldt 92.36 50 ⇓P **P 02 02 50.0 +0.1**
baz=92
Y16A Circle Bar Ran 92.46 51 P **P 02 02 51.0 +0.7**
baz=92,SNR=9.8
R11A Troy Canyon, C 92.80 45 ⇑P **P 02 02 51.8 0.0**
baz=93
M07A Soldier Meadow 92.80 41 ⇓P **P 02 02 52.1 +0.4**
baz=93
K05A Summer Lake 92.80 39 ⇓P **P 02 02 51.6 -0.1**
baz=93
U14A Mt Trumbull 93.00 48 ⇑P **P 02 02 52.9 +0.1**
baz=93
K07A Rock Creek Ran 93.65 40 ⇑P **P 02 02 54.9 -0.7**
baz=94
K08A Mann Creek Ran 94.09 40 ⇓P **P 02 02 57.3 -0.3**
baz=94
KMI Kunming 94.09 297 P **P 02 02 56.8 -1.3**
KMI AMB AMB
comp=Z,6.0nm,0.6s,mb5.2
BJI Beijing 94.22 316 P **P 02 02 54.2 -4.1**
BJI PP PP 02 06 48.4 +2.5
BJI AMB AMB
comp=Z,6.0nm,0.5s,mb5.3
P13A Bates Ranch, G 94.45 45 ⇓P **P 02 02 58.9 -0.4**
baz=94
I07A Izee 94.47 39 ⇓P **P 02 02 58.8 -0.6**
baz=94
K09A Rome 94.48 41 ⇑P **P 02 02 58.8 -0.6**
baz=94
J08A Circle Bar Ran 94.52 40 ⇓P **P 02 02 59.2 -0.4**
baz=95
Q14A Sevier Lake (B 94.58 46 ⇓P **P 02 02 59.8 -0.2**
baz=95
L10A Juniper Basin 94.75 42 ⇓P **P 02 03 00.1 -0.6**
baz=95
K10A MacKenzie Ranc 95.00 41 ⇓P **P 02 03 01.4 -0.4**
baz=95
TXAR Lajitas Array 95.03 58 P **P 02 03 01.6 -0.7**
comp=Z,1.3nm,1.1s,mb4.3,baz=204,slow=5.3,SNR=7.1
TXAR Lajitas Array 95.03 58 P **P 02 03 01.6 -0.7**
TXAR pmax pmax
comp=Z,1.0nm,1.1s
L11A Cat Creek Ranc 95.21 42 ⇑P **P 02 03 02.1 -0.7**
baz=95
G08A Pilot Rock 95.58 38 ⇑P **P 02 03 04.4 0.0**
baz=96
CD2 Chengdu 96.66 303 *eP* **P 02 03 09.2 -0.5**
CD2 AP pP 02 03 24.3 +1.9
CD2 XP sP 02 03 29.5 +2.4
CD2 PP PP 02 07 08.7 +3.6
CD2 SKS 02 13 42.6
CD2 S S 02 14 25.7 -2.2
CD2 XS sS 02 14 48.6 -0.7
CD2 SS SS 02 21 05.6 +1.8
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,30nm,8.4s
CD2 LR LR
comp=N,240nm,16.8s
CD2 LR LR
comp=Z,210nm,18.2s,MS4.7
HHC Hu-ho-hao-te 97.45 314 *eP* **P 02 03 15.0 +2.0**
HHC AP pP 02 03 28.3 +2.6
HHC XP sP 02 03 33.1 +2.7
HHC PP PP 02 07 15.4 +4.5
HHC SKS 02 13 47.3
HHC S S 02 14 34.3 +0.1
HHC XS sS 02 14 56.9 +1.3
HHC PS PS 02 16 07.6 +5.5
HHC AMB AMB
comp=Z,14nm,0.5s,mb5.7
HHC AMB AMB
comp=Z,239nm,7.0s
HHC LR LR
comp=N,178nm,27.4s,MS4.7
HHC LR LR
comp=E,270nm,27.4s,MS4.7
HHC LR LR
comp=Z,288nm,27.4s,MS4.6
PDAR Pinedale Array 99.14 44 P **P 02 03 23.6 +3.1**
comp=Z,0.4nm,0.7s,mb4.0,baz=201,slow=4.6,SNR=3.2
LZH Lanzhou 99.53 307 *eP* 02 03 25.0
LZH AP pP 02 03 38.6 +3.4
LZH XP sP 02 03 43.9 +4.0
LZH PP PP 02 07 32.5 +5.5
LZH *e*SKS 02 13 58.5
LZH *e*S S 02 14 51.5 -0.6
LZH AMB AMB
comp=Z,19nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,86nm,5.3s
LZH LR LR
comp=N,356nm,17.6s
LZH LR LR
comp=Z,488nm,18.3s,MS5.0
YKA Yellowknife Ar 108.68 26 PKiKP PKiKP 02 08 05.5 -1.9
comp=Z,0.7nm,0.8s,baz=237,slow=1.2,SNR=4.1
YKA PKKPbc PKKPbc 02 19 18.8 +0.7
comp=Z,0.3nm,0.7s,baz=44,slow=3.4,SNR=5.3
YKA Yellowknife Ar 108.68 26 PKPdf PKiKP 02 08 05.5 -1.9
YKA PKKPbc PKKPbc 02 19 18.8 +0.7
BOSA Boshof 114.02 204 PKP PKiKP 02 08 19.4 +0.6
comp=Z,5.0nm,1.2s,baz=211,slow=6.1,SNR=4.4
BOSA Boshof 114.02 204 PKIKP PKiKP 02 08 19.4 +0.6
BOSA pmax pmax
comp=Z,5.0nm,1.2s
BOSA Boshof 114.02 204 PKP PKiKP 02 08 19.4 +0.6
WMQ Urumqi 114.10 308 *e*PKP PKiKP 02 08 17.6 -0.7
WMQ LR LR
comp=N,393nm,20.6s,MS5.1
WMQ LR LR
comp=E,263nm,19.6s,MS5.1
WMQ LR LR
comp=Z,294nm,19.6s,MS4.9
LBTB Lobatse 117.20 206 *e*PKIKP PKPdf 02 08 24.4 -0.6
MK31 Makanchi Array 118.74 309 *e*PKIKP PKPdf 02 08 24.4 -2.7
MKAR Makanchi Array 118.74 309 PKP PKPdf 02 08 24.8 -2.3
comp=Z,0.8nm,0.5s,baz=66,slow=3.0,SNR=12
MKAR Makanchi Array 118.74 309 PKIKP PKPdf 02 08 24.8 -2.3
MKAR pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 119.44 318 PKP PKPdf 02 08 25.9 -2.4
comp=Z,1.0nm,0.5s,baz=146,slow=2.9,SNR=6.0
ZAL Zalesovo 119.44 318 PKIKP PKPdf 02 08 25.9 -2.3
ZAL pmax pmax
comp=Z,1.0nm,0.5s
TKM2 Tokmak 2 122.04 303 *e*PKIKP PKPdf 02 08 31.3 -2.3
KURK Kurchatov 122.21 313 *e*PKIKP PKPdf 02 08 30.9 -2.8
AML Almayashu 123.14 302 *e*PKPdf PKPdf 02 08 34.0 -1.8
EKS2 Erkin-Say 123.24 302 *e*PKPdf PKPdf 02 08 34.6 -1.3
KBL Kabul 124.23 292 *e*PKPdf PKPdf 02 08 37.2 -0.9
LSZ Lusaka 124.87 213 *e*PKIKP PKPdf 02 08 39.1 -0.8
TSUM Tsumeb 125.22 200 *e*PKPdf PKPdf 02 08 39.7 -0.8
BRVK Borovoye 127.73 314 *e*PKIKP PKPdf 02 08 42.9 -1.3
ARCES ARCESS Array B 141.24 346 PKhKP 02 08 59.0
comp=Z,0.5nm,0.3s,baz=29,slow=2.8,SNR=14
ARCES PKP PKPdf 02 09 05.3 -3.6
comp=Z,5.1nm,0.7s,baz=73,slow=1.9,SNR=21
ARCES ARCESS Array B 141.24 346 PKP 02 08 59.0
ARCES PKP PKPdf 02 09 05.3 -3.6
JOF Joensuu 144.71 336 *e*pkp PKPdf 02 09 12.5 -2.7
comp=Z,2.9nm,0.4s
JOF Joensuu 144.71 336 *e*PKIKP PKPdf 02 09 12.5 -2.7
JOF pmax pmax
comp=Z,3.0nm,0.4s
HAKT HAKKARI 144.85 289 *i* P PKPdf 02 09 13.4 -2.9
DYDN Diyadin 145.04 293 *i* P PKPbc 02 09 12.8 -3.3
VRHR Novokhopersk 145.39 313 *e*PKP2 PKPab 02 09 14.5 -2.4
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.7s
KIV Kislovodsk 145.80 300 *e*PKIKP PKPdf 02 09 16.2 -1.5
KIV Kislovodsk 145.80 300 *e*PKPbc PKPbc 02 09 16.2 -2.1
VRSR Storozhevoye 146.83 314 *e*PKIKP PKPdf 02 09 18.8 -0.4
VRSR pmax pmax
comp=N,2.0nm,1.0s
VRSR pmax pmax
comp=Z,5.0nm,1.0s
VRSR pmax pmax
comp=E,3.0nm,1.2s
KAF Kangasniemi 146.92 338 *e*pkp PKPdf 02 09 18.6 -0.4
comp=E,10nm,0.5s,baz=43,slow=2.7
KAF Kangasniemi 146.92 338 *e*PKIKP PKPdf 02 09 18.6 -0.4
KAF pmax pmax
comp=Z,10.0nm,0.5s
KOPT Kop Dagi 147.51 293 *i* P PKPbc 02 09 22.1 -1.3
MALT Malatya 149.07 290 *e*PKPdf PKPdf 02 09 22.5 -0.8
MALT *e*PKPbc PKPbc 02 09 26.6 -0.9
GZT Gaziantep 149.70 288 *i* P PKPdf 02 09 25.4 +1.1
NB2 NORSAR Subarra151.50 349 PKP PKPbc 02 09 29.9 -2.7
comp=Z,14nm,0.8s,baz=17,slow=2.5
NOA NORSAR Array B 151.50 349 PKP PKPdf 02 09 23.2 -3.2
comp=Z,1.7nm,0.6s,baz=213,slow=18,SNR=3.1
NOA PKPbc PKPbc 02 09 30.4 -2.2
comp=Z,5.4nm,0.7s,baz=20,slow=4.7,SNR=46
NOA NORSAR Array B 151.50 349 PKIKP PKPdf 02 09 23.2 -3.2
NOA 02 09 30.4
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA NORSAR Array B 151.50 349 PKP PKPdf 02 09 23.2 -3.2
NOA PKPbc PKPbc 02 09 30.4 -2.2
AVNT Avonos 151.88 291 *i* P PKPbc 02 09 31.2 -2.9
LIC Lamto 152.46 168 *e*PKP1 PKPbc 02 09 35.0 -1.2
comp=Z,69nm,0.7s
KIC Kosan Boka 152.64 168 *e*PKP1 PKPbc 02 09 35.7 -0.9
comp=Z,89nm,0.8s
AKASG Malin Array Be 152.83 318 PKP PKPdf 02 09 19.9 -8.8
comp=Z,0.9nm,0.5s,baz=55,slow=2.1,SNR=5.8
AKASG PKPbc PKPbc 02 09 34.0 -1.9
comp=Z,4.4nm,0.6s,baz=65,slow=2.2,SNR=27
AKASG Malin Array Be 152.83 318 PKIKP PKPdf 02 09 19.9 -8.8
AKASG 02 09 34.0
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 152.83 318 *e*PKIKP PKPbc 02 09 34.9 -1.0
TIC Toumodi 152.87 168 *e*PKP1 PKPbc 02 09 35.7 -1.4
comp=Z,64nm,0.8s
CSS Prodhromos 152.91 283 *e*PKPdf PKPdf 02 09 29.1 -0.3
DBIC Dimbokro 152.93 168 PKPbc PKPbc 02 09 36.9 -0.4
comp=Z,9.4nm,0.6s,baz=152,slow=1.2,SNR=11
DBIC Dimbokro 152.93 168 *e*PKPdf PKPdf 02 09 30.2 +0.2
DBIC *e*PKPbc PKPbc 02 09 36.6 -0.6
DBIC PKPbc PKPbc 02 09 36.9 -0.4
TOA0 Torodi Ar. Sit 159.81 183 *e*PKPdf PKPdf 02 09 38.2 -0.7
TOA0 *e*PKPab PKPab 02 10 17.1 -0.6
TORD Torodi Ar. Bea 159.81 183 PKP PKPdf 02 09 38.0 -0.9
comp=Z,2.8nm,0.8s,baz=170,slow=0.5,SNR=12
TORD PKPab PKPab 02 10 17.7 -0.1
comp=Z,11nm,0.6s,baz=172,slow=3.6,SNR=24
TORD Torodi Ar. Bea 159.81 183 PKP PKPdf 02 09 38.0 -0.9
TORD PKPab PKPab 02 10 17.7 -0.1
CLL Collm 159.94 337 *e*PKP2 PKPab 02 10 16.0 -1.5
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 159.94 337 *e*PKPab PKPab 02 10 16.0 -1.5
comp=Z,5.0nm,0.8s
CLL *es*PKPab 02 10 26.0
BRG Berggiesshubel 159.98 335 *e* PKPab 02 10 15.7 -2.0
comp=Z,5.3nm,1.1s
FBE Freiberg 160.15 336 *e*PKPab PKPab 02 10 19.9 +1.5
KHC Kasperske Hory 161.54 332 *e*PKP PKPdf 02 09 39.5 -0.2
GERES GERESS Array B 161.72 331 PKP PKPdf 02 09 37.7 -2.2
comp=Z,0.6nm,0.6s,baz=170,slow=2.3,SNR=8.3
GERES PKPab PKPab 02 10 23.5 -1.9
comp=Z,0.7nm,0.8s,baz=29,slow=6.1,SNR=4.7
GERES GERESS Array B 161.72 331 PKIKP PKPdf 02 09 37.7 -2.2
GERES 02 10 23.5
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.8s
GRA1 Grafenberg Arr 161.91 337 *e*PKPab PKPab 02 10 24.8 -1.3
GRF Grafenberg Arr 161.91 337 *e*PKPab PKPab 02 10 24.8 -1.3
WTTA Wattenberg 163.81 332 ⇑*i*P PKPdf 02 09 40.1 -1.9
comp=Z,6.1nm,1.1s
FETA Feichten 164.36 333 ⇑*i*P PKPdf 02 09 39.9 -2.6
comp=Z,5.3nm,1.4s
BNI Bardonecchia 167.45 340 *e*PKIKP PKPdf 02 09 45.1 0.0
TAM Tamanrasset 168.56 204 *e*PKIKP PKPdf 02 09 45.6 -1.0
KEST Kesra 172.39 290 PKP PKPdf 02 09 46.8 -1.5
comp=Z,1.5nm,1.2s,baz=238,slow=4.9,SNR=3.5
ESDC Sonseca Array 172.76 29 PKP PKPdf 02 09 47.2 -1.1
comp=Z,1.3nm,0.8s,baz=320,slow=1.8,SNR=6.3

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*ISCJB **03** 01:50:37.9±0.5, 706S±008×15592E±006, h45km, mb4.6/15, Error ellipse: s-maj=12.4km s-min=8.1km az=25.2*
*IDC **03** 01:50:38.6±1.1, 733S×15608E, h48km±6km, mb4.2/7, mb1 4.3/7, mb1mx4.0/16, mbtmp4.2/7, MS3.1/1, Ms1 3.1/1, ms1mx2.9/25, Error ellipse: s-maj=30.7km s-min=20.3km az=108.0*
*NEIC **03** 01:50:45.7±1.4, 736S×156.13E, h113km±13km, mb4.7/9, Error ellipse: s-maj=17.1km s-min=10.9km az=159.0*
ISC 03 01:50:39.9±0.5, 707S±008×15590E±006, h47km, h47km±4.4km; pP-P, n26, σ0§98/23, mb4.6/15, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.64**	**121**	P		**Pn**		**01 51 48.5**	**+1.0**
	20nm,0.3s,baz=268,slow=5.2,SNR=3.0								
HNR				S		**Sn**		**01 52 39.8**	**-0.4**
	26nm,0.3s,baz=89,slow=20,SNR=3.6								
HNR				LR		LR		01 53 25.4	
	comp=Z,245nm,19.9s,baz=185,slow=38								
PMG	**Port Moresby**	**8.96**	**254**	*e*P		**Pn**		**01 52 55.2**	**+8.5**
	36nm,1.0s								
CTA	**Charters Tower**	**15.97**	**215**	P		**Pn**		**01 54 24.0**	**+2.6**
	0.6nm,0.3s,baz=57,slow=5.9,SNR=4.4								
KAKA	**Kakadu**	**23.77**	**255**	⇓*i*P		**P**		**01 55 48.5**	**+0.2**
	25nm,0.5s,mb4.9								
WRAB	**Tennant Creek**	**24.50**	**236**	*e*P		**P**		**01 55 55.0**	**0.0**
	10nm,0.6s,mb4.5								
WB2	**Warramunga Arr**	**24.51**	**236**	⇑*i*P		**P**		**01 55 55.2**	**+0.2**
WRA	**Warramunga Arr**	**24.52**	**236**	P		**P**		**01 55 55.4**	**+0.3**
	6.4nm,0.4s,mb4.5,baz=60,slow=9.5,SNR=67								
WRA				pP				01 56 05.2	
	3.2nm,0.5s,baz=60,slow=9.0,SNR=5.9								
ASAR	**Alice Springs**	**26.80**	**230**	P		**P**		**01 56 14.3**	**-1.4**
	0.8nm,0.5s,mb3.5,baz=64,slow=9.7,SNR=20								
ASAR				pP		pP		01 56 25.1	-3.0
	1.3nm,0.5s,baz=65,slow=10,SNR=7.7								
FITZ	**Fitzroy Crossi**	**31.45**	**247**	*e*P		**P**		**01 56 56.7**	**-0.4**
	11nm,0.6s,mb4.9								
MBWA	**Marble Bar**	**37.65**	**244**	*e*P		**P**		**01 57 49.9**	**-0.8**
	9.0nm,0.8s,mb4.5								
KLBR	**Kellerberrin**	**43.13**	**230**	*e*P		**P**		**01 58 34.6**	**-1.3**
	16nm,0.9s,mb4.8								
KSRS	**Korea Array**	**51.43**	**331**	P		**P**		**01 59 41.4**	**+1.0**
	1.8nm,0.7s,mb4.1,baz=149,slow=7.8,SNR=7.2								
CMAR	**Chiang Mai Arr**	**61.63**	**295**	P		**P**		**02 00 54.9**	**+1.6**
	2.3nm,0.3s,mb4.7,baz=118,slow=5.0,SNR=16								
CMAR				pP		pP		02 01 06.3	-0.2
	2.2nm,0.5s,baz=118,slow=5.2,SNR=2.7								
CHTO	**Chiang Mai**	**61.74**	**296**	*e*P		**P**		**02 00 55.3**	**+1.3**
	7.0nm,0.9s,mb4.8								
SONM	**Songino Array**	**69.89**	**327**	P		**P**		**02 01 46.8**	**+0.9**
	3.2nm,0.8s,mb4.3,baz=133,slow=6.4,SNR=14								
SONM	**Songino Array**	**69.89**	**327**	P		**P**		**02 01 46.8**	**+0.9**
MK31	**Makanchi Array**	**84.05**	**318**	*e*P		**P**		**02 03 05.7**	**+0.1**
MKAR	**Makanchi Array**	**84.05**	**318**	P		**P**		**02 03 05.5**	**-0.1**
	6.5nm,0.5s,mb5.0,baz=103,slow=5.9,SNR=55								
MKAR				pP		pP		02 03 21.1	+1.7
	4.2nm,0.7s,baz=108,slow=5.5,SNR=7.5								
ZAA0	**Zalesovo Array**	**84.75**	**326**	*e*P		**P**		**02 03 08.1**	**-0.8**
ZALV	**Zalesovo Beam**	**84.75**	**326**	P		**P**		**02 03 07.7**	**-1.2**
	5.1nm,0.5s,mb4.9,baz=115,slow=5.7,SNR=18								
KURK	**Kurchatov**	**87.45**	**322**	*e*P		**P**		**02 03 21.3**	**-1.0**
	1.9nm,0.7s,mb4.4								
BRVK	**Borovoye**	**92.96**	**323**	*e*P		**P**		**02 03 47.0**	**-1.0**
	1.3nm,0.4s,mb4.7								
MOR8	**Moi Rana**	**115.29**	**344**	*e*P		PKiKP		02 09 15.7	-0.1
STOK	**Stokkvaagen**	**115.55**	**344**	*e*P		PKiKP		02 09 16.4	+0.1
NSS	**Namsos**	**117.20**	**343**	*e*P		PKPdf		02 09 20.6	+1.0
BDFB	**Brasilia**	**147.28**	**134**	PKPbc		PKPdf		02 10 15.8	-1.1
	3.9nm,0.6s,baz=189,slow=15,SNR=13								
BDFB				pPKPbc		pPKPbc		02 10 32.4	-1.2
	1.4nm,0.7s,baz=202,slow=25,SNR=2.9								

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*ISCJB **03** 01:54:14.0±0.9, 4024N±003×2067E±008, h10km±8km, Error ellipse: s-maj=10.0km s-min=5.7km az=8.9*
*CSEM **03** 01:54:13.5±0.2, 4028N×2068E, h10km, MD3.2, Error ellipse: s-maj=4.7km s-min=2.9km az=120.0*
*NEIC **03** 01:54:14.5, 4023N×2071E, h20km, MD3.2(ATH), After ATH.*
*ATH **03** 01:54:14.5, 4023N×2071E, h20km±4km, MD3.2/5*
*SKO **03** 01:54:16.4, 40.19N×2084E, h0km*
ISC 03 01:54:14.6±1.0, 4023N±004×2066E±008, h14km±7km, n9, σ0§76/16, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.59**	**165**	*e*PN		**Pg**		**01 54 25.3**	**-0.8**
JAN				*e*SN		**Sg**		**01 54 34.6**	**+0.8**
KEK	**Kerkira**	**0.84**	**232**	*e*PN		**Pn**		**01 54 31.5**	**-0.5**
KZN	**Kozani**	**0.85**	**84**	*e*PN		**Pg**		**01 54 30.3**	**-0.8**
KZN				*e*SN		**Sg**		**01 54 42.5**	**+0.2**
BIA	**Bitola**	**0.94**	**32**	*e*Pg		**Pg**		**01 54 32.1**	**-0.7**
BIA				*e*Sg		**Sg**		**01 54 44.5**	**-0.5**
BIA	**Bitola**	**0.94**	**32**	*e*Pg		**Pg**		**01 54 32.0**	**-0.7**
BIA				*e*Sg		**Sg**		**01 54 44.5**	**-0.5**
KRUS	**Krusevo**	**1.23**	**21**	*e*Pg		**Pg**		**01 54 39.4**	**+1.2**
KRUS				*e*Sg		**Sg**		**01 54 54.9**	**+0.7**
KRUS	**Krusevo**	**1.23**	**21**	*e*Pg		**Pg**		**01 54 39.3**	**+1.1**
KRUS				*e*Sg		**Sg**		**01 54 54.8**	**+0.7**
THL	**Klokotos Trika**	**1.23**	**122**	*e*PN		**Pn**		**01 54 36.6**	**-0.8**
THL				*e*SN		**Sn**		**01 54 54.0**	**+0.1**
EVR	**Evrytania**	**1.58**	**145**	*e*PN		**Pn**		**01 54 43.5**	**+1.3**

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*NIED **03** 02:01:00, 3740N×13850E, h8km, Mw4.0 Best double couple: $M_0$1.05000×10^15 NP1:ϕ_s59.00000°, δ48.00000°, λ99.00000°. NP2:ϕ_s226.00000°, δ43.00000°, λ80.00000°.*
*IDC **03** 02:01:14.2±0.8, 3741N×13846E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/21, mbtmp4.1/8, ML4.0/1, Error ellipse: s-maj=27.5km s-min=10.1km az=100.0*
*ISCJB **03** 02:01:16.1±0.3, 3736N±003×13852E±003, h26km±3km, mb4.1/10, Error ellipse: s-maj=4.9km s-min=4.2km az=142.5*
*NEIC **03** 02:01:16.8±1.7, 3732N×13833E, h18km±10km, mb4.3/3, Error ellipse: s-maj=16.4km s-min=10.1km az=87.0*
*JMA **03** 02:01:16.3, 3738N×13852E, h20km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕ_s243.00000°, δ44.00000°, λ93.00000°. NP2:ϕ_s59.00000°, δ46.00000°, λ87.00000°. Principal axes: T Plg88.0000°, Azm267.0000°; N Plg2.0000°, Azm61.0000°; P Plg1.0000°, Azm151.0000°;*
JMA Felt II J1.
ISC 03 02:01:16.3±0.4, 3735N±003×13852E±003, h18km±3km, n29, σ0§90/40, mb4.1/10, 7D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.23**	**39**	⇓P		**Pg**		**02 01 21.8**	**+0.1**
JIZZ				*e*S		**Sg**		**02 01 26.6**	**+1.2**
JJN	**Nakama**	**0.38**	**229**	⇓P		**Pg**		**02 01 24.5**	**+0.3**
JJN				*e*S		**Sg**		**02 01 30.7**	**+1.2**
JHK	**Hiroka**	**0.41**	**105**	⇓P		**Pg**		**02 01 24.3**	**-0.4**
JHK				S		**Sg**		**02 01 30.3**	**0.0**
JSD	**Sado**	**0.72**	**343**	⇓P		**Pb**		**02 01 29.0**	**-1.3**
JSD				S		**Sg**		**02 01 38.7**	**-1.2**
JNS	**Sasagawa**	**0.78**	**53**	⇓P		**Pb**		**02 01 31.0**	**-0.5**
JNS				*e*S		**Sb**		**02 01 41.5**	**-0.3**
JKT	**Katashina**	**0.82**	**135**	⇓P		**Pb**		**02 01 31.9**	**-0.2**
JKT				S		**Sb**		**02 01 43.0**	**+0.1**
MAJO	**Matsushiro**	**0.85**	**198**	*e*Pn		**Pn**		**02 01 32.0**	**-1.4**
MAJO				*e*Sn		**Sn**		**02 01 43.8**	**-1.6**
MAT	**Matsushiro**	**0.85**	**198**	P		**Pb**		**02 01 32.1**	**-0.4**
MAT				S		**Sb**		**02 01 43.7**	**+0.2**
MAT	**Matsushiro**	**0.85**	**198**	P		**Pb**		**02 01 32.2**	**-0.3**

MAT				*e*S	**Sb**	**02 01 43.8**	**+0.3**
MJAR	**Matsushiro Arr**	**0.85**	**197**	Pg	**Pg**	**02 01 32.2**	**-0.6**
	166nm,0.3s,baz=11,slow=17,SNR=657						
MJAR				Lg		02 01 43.9	
	604nm,0.3s,baz=13,slow=29,SNR=64						
MJAR	**Matsushiro Arr**	**0.85**	**197**	Pg	**Pg**	**02 01 32.2**	**-0.6**
MJAR				Lg		02 01 43.9	
JSZ	**Suzu**	**0.93**	**276**	⇓P	**Pb**	**02 01 33.1**	**-0.8**
JSZ				S	**Sb**	**02 01 45.7**	**-0.3**
JFY	**Yanaizu**	**0.94**	**86**	P	**Pb**	**02 01 33.4**	**-0.8**
JFY				S	**Sb**	**02 01 45.6**	**-0.7**
KSRS	**Korea Array**	**8.44**	**274**	Pn	**Pn**	**02 03 19.5**	**+1.8**
	2.0nm,0.3s,baz=87,slow=15,SNR=12						
PETK	**Petropavlovsk-**	**20.65**	**34**	P	**P**	**02 05 59.0**	**+4.2**
	1.9nm,0.8s,baz=216,slow=7.1,SNR=4.7						
SONM	**Songino Array**	**25.70**	**304**	P	**P**	**02 06 45.4**	**+0.1**
	1.1nm,0.6s,mb3.6,baz=109,slow=8.7,SNR=5.7						
MK31	**Makanchi Array**	**41.99**	**301**	*e*P	**P**	**02 09 05.7**	**-0.6**
WRAB	**Tennant Creek**	**57.11**	**185**	*e*P	**P**	**02 11 01.5**	**-0.3**
	6.9nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**57.12**	**185**	*e*P	**P**	**02 11 01.6**	**-0.2**
WRA	**Warramunga Arr**	**57.12**	**185**	P	**P**	**02 11 01.7**	**-0.1**
	5.4nm,0.7s,mb4.7,baz=1,9,slow=7.4,SNR=38						
ASAR	**Alice Springs**	**60.85**	**185**	P	**P**	**02 11 28.4**	**+0.8**
	0.7nm,0.6s,mb4.0,baz=17,slow=14,SNR=11						
STKA	**Stephens Creek**	**68.93**	**177**	P	**P**	**02 12 21.4**	**+1.3**
	2.9nm,0.7s,mb4.3,baz=338,slow=12,SNR=4.6						
NB2	**NORSAR Subarra**	**72.98**	**336**	P	**P**	**02 12 43.8**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=42,slow=6.2						
NOA	**NORSAR Array B**	**72.98**	**336**	P	**P**	**02 12 44.0**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=41,slow=5.9,SNR=4.2						
NOA	**NORSAR Array B**	**72.98**	**336**	P	**P**	**02 12 44.0**	**-0.5**
BOZ	**Bozeman (W)**	**76.07**	**43**	*e*P	**P**	**02 13 04.0**	**+1.3**
	comp=Z,3.7nm,1.4s,mb4.1						
NVAR	**Mina Array Bea**	**76.63**	**52**	P	**P**	**02 13 08.2**	**+2.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=286,slow=5.1,SNR=7.5						
BW06	**Boulder Array**	**79.07**	**44**	*e*P	**P**	**02 13 20.1**	**+0.6**
	comp=Z,1.2nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	**79.07**	**44**	P	**P**	**02 13 20.8**	**+1.3**
	comp=Z,1.3nm,0.9s,mb3.9,baz=324,slow=2.0,SNR=8.7						

*IDC **03** 02:08:04.0±2.2, 290N×9579E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=68.6km s-min=25.1km az=35.0*
*ISCJB **03** 02:08:05.1±7.7, 28N±03×957E±0.1, h20km±56km, mb3.8/3, Error ellipse: s-maj=52.1km s-min=18.9km az=15.2*

ISC 03 02:08:05.5±7.8, 29N±03×958E±01, h11km±51km, n5, σ1§07/6, mb3.8/3, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.17**	**91**	Pn	**Pn**	**02 08 55.9**	**+0.5**
	2.3nm,0.3s,baz=321,slow=14,SNR=9.4						
PSI				Sn	**Sn**	**02 09 33.3**	**0.0**
	4.7nm,0.3s,baz=17,slow=14,SNR=3.6						
PSI	**Prapat**	**3.17**	**91**	⇑P	**Pn**	**02 08 55.4**	**0.0**
WRA	**Warramunga Arr**	**44.14**	**123**	P	**P**	**02 16 14.2**	**-0.4**
	0.9nm,0.6s,mb3.7,baz=300,slow=9.3,SNR=5.7						
MKAR	**Makanchi Array**	**45.30**	**347**	P	**P**	**02 16 22.5**	**-0.8**
	0.4nm,0.4s,mb3.6,baz=169,slow=8.7,SNR=4.5						
ARCES	**ARCESS Array B**	**80.50**	**340**	P	**P**	**02 20 18.3**	**+1.0**
	2.1nm,0.9s,mb4.1,baz=108,slow=5.8,SNR=3.6						

IDC 03 02:13:55.4±11.0, 1045N×9299E, h92km±103km, mb3.5/5, mb1 3.6/6, mb1mx3.3/21, mbtmp3.5/6, ML4.3/1, Error ellipse: s-maj=100.1km s-min=20.8km az=50.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.83**	**35**	P	Pn	02 16 14.1	+0.2
	0.8nm,0.3s,baz=226,slow=15,SNR=5.9						
MKAR	**Makanchi Array**	**37.35**	**348**	P	P	02 20 58.8	0.0
	0.2nm,0.2s,baz=169,slow=8.4,SNR=2.5						
WRA	**Warramunga Arr**	**50.69**	**127**	P	P	02 22 45.3	-0.6
	0.5nm,0.5s,baz=305,slow=8.6,SNR=9.5						
ASAR	**Alice Springs**	**52.44**	**131**	P	P	02 22 58.9	+0.1
	0.9nm,0.4s,baz=307,slow=6.7,SNR=14						
STKA	**Stephens Creek**	**62.70**	**134**	P	P	02 24 11.5	+0.8
	1.3nm,0.6s,baz=326,slow=7.3,SNR=3.2						
GERES	**GERESS Array B**	**75.16**	**318**	pP	pP	02 25 49.6	-1.9
	0.4nm,0.6s,baz=77,slow=6.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**88.90**	**283**	P	P	02 26 40.1	-0.1
	0.3nm,0.5s,baz=73,slow=2.4,SNR=5.6						

JMA 03 02:14:47.8±0.4, 4682N×14167E, h8km, M3.5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.51**	**174**	P	Pn	02 15 15.1	0.0
JWK2				*e*S	Sn	02 15 34.5	-0.5
JRR	**Rishiri**	**1.70**	**189**	P	Pn	02 15 18.6	+0.9
JRR				*e*S	Sn	02 15 40.7	+1.1
JSE	**Soyaes**	**1.97**	**161**	P	Pn	02 15 21.6	+0.2
JYG	**Yagishiri**	**2.40**	**184**	P	Pn	02 15 28.2	+0.9
JSS	**Shosan**	**2.42**	**177**	P	Pn	02 15 28.3	+0.6
ASAJ	**Asahikawa**	**2.78**	**166**	P	Pn	02 15 33.3	+0.7
JKK2	**Kamakawa 2**	**3.04**	**165**	P	Pn	02 15 37.7	+1.5

*NEIC **03** 02:18:12.2, 1613N×9519W, h29km, MD4.2(MEX), After MEX.*

MEX 03 02:18:11.8±0.6, 1613N×9517W, h43km±16km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.97**	**249**	*i* P	Pn	02 18 27.2	-1.8
HUIG				*i* S	Sn	02 18 39.4	-2.1
CMIG	**Matias Romero**	**1.00**	**16**	*i* P	Pn	02 18 27.9	-1.5
CMIG				*i* S	Sn	02 18 40.0	-2.4
OXX	**Oaxaca**	**1.76**	**303**	*i* P	Pn	02 18 38.5	-1.4
OXX				*i* S	Sn	02 18 58.7	-2.4
OXX	**Oaxaca**	**1.76**	**303**	*i* P	Pn	02 18 40.5	+0.6
OXX				*i* S	Sn	02 19 00.7	-0.4
VHO	**Vista Hermosa**	**1.77**	**302**	*i* P	Pn	02 18 38.6	-1.3
VHO				*i* S	Sn	02 18 59.7	-1.5
SCX	**San Cristobal**	**2.51**	**76**	*i* P	Pn	02 18 47.9	-2.2
SCX				*i* S	Sn	02 19 18.3	-1.3
SCX	**San Cristobal**	**2.51**	**76**	*i* P	Pn	02 18 51.5	+1.3
SCX				*i* S	Sn	02 19 18.3	-1.3
PNIG	**Pinotepa**	**2.85**	**276**	*i* P	Pn	02 18 53.2	-1.6
PNIG				*i* S	Sn	02 19 23.6	-4.3
PNIG	**Pinotepa**	**2.85**	**276**	*i* P	Pn	02 18 53.3	-1.5
PNIG				*i* S	Sn	02 19 23.6	-4.3
CCIG	**Comitan**	**2.92**	**87**	*e*P	Pn	02 18 54.6	-1.2
CCIG				*i* S	Sn	02 19 30.1	+0.4
UTMO	**Huajuapan**	**3.03**	**304**	*i* P	Pn	02 18 56.7	-0.6
UTMO				*i* S	Sn	02 19 30.7	-1.7
TPIG	**Tehuac#an**	**3.09**	**318**	*e*P	Pn	02 18 57.8	-0.3
TPIG				*i* S	Sn	02 19 31.7	-2.2
PPM	**Popocatepetl**	**4.40**	**312**	*i* P	Pn	02 19 15.9	-0.2
PPM				*i* S	Sn	02 20 05.8	-0.3
PPM	**Popocatepetl**	**4.40**	**312**	*i* P	Pn	02 19 19.9	+3.8
PPM				*i* S	Sn	02 20 15.8	+10
IIO	**Organos**	**4.83**	**316**	*i* P	Pn	02 19 23.9	+2.0
IIO				*i* S	Sn	02 20 16.0	-0.6
IIO	**Organos**	**4.83**	**316**	*i* P	Pn	02 19 34.0	+12
IIO				*i* S	Sn	02 20 17.7	+1.1
MZVM		**4.92**	**309**	*i* P	Pn	02 19 23.5	+0.2
MZVM				*i* S	Sn	02 20 15.6	-3.3
ZIIG	**Zihuatanejo**	**6.20**	**285**	*i* P	Pn	02 19 39.5	-1.3
ZIIG				*i* S	Sn	02 20 51.2	+0.8

*BJI **03** 02:38:08.9, 2395N×10858E, h13km, mB4.3, mb4.4, ML3.9, Ms3.7, Msz3.6*
*ISCJB **03** 02:38:13.0±1.3, 2389N±003×1078E±02, h10km, Error ellipse: s-maj=20.1km s-min=4.0km az=4.1*
*PLV **03** 02:38:17.7±0.8, 2365N×10784E, h6km±5km, MD4.1*

ISC 03 02:38:14.3±1.3, 2392N±003×1080E±01, h10km, n10, σ1§25/25, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.78**	**335**	P	**Pn**	**02 38 57.4**	**-1.6**
GYA				PG	**Pg**	**02 39 05.5**	**-2.2**
GYA				S	**Sn**	**02 39 33.6**	**+1.0**
GYA				SG	**Sg**	**02 39 43.9**	**+0.1**
GYA				Smax			
	comp=N,1μm,0.7s						
GYA				Smax			
	comp=E,590nm,0.7s						
MTZV	**Met**	**2.79**	**213**	*e*Pg	**Pb**	**02 39 05.9**	**+1.6**
MTZV				*e*Sg	**Sb**	**02 39 38.7**	**+0.2**
BGV	**Bac-Giang**	**3.06**	**212**	*e*Pg	**Pb**	**02 39 10.9**	**+2.1**
BGV				*e*Sg	**Sb**	**02 39 46.9**	**+0.6**
PLV	**Phu-Lien**	**3.33**	**202**	*e*Pn	**Pn**	**02 39 06.4**	**-0.1**
PLV				*e*Pg	**Pg**	**02 39 16.2**	**-2.0**
PLV				*e*Sg	**Sg**	**02 39 56.4**	**-5.0**
HNV	**Hanoi**	**3.48**	**215**	*e*Pn	**Pn**	**02 39 10.3**	**+1.7**
HNV				*e*Pg	**Pg**	**02 39 21.9**	**+0.8**
HNV				*e*Sg	**Sg**	**02 40 05.6**	**-0.7**
BVV	**Ba Vi**	**3.68**	**221**	*e*Pn	**Pn**	**02 39 11.8**	**+0.5**
BVV				*e*Pg	**Pg**	**02 39 23.6**	**-1.3**
BVV				*e*Sg	**Sg**	**02 40 08.2**	**-4.5**
DSV	**Doi Son**	**3.79**	**209**	*e*Pn	**Pn**	**02 39 12.4**	**-0.4**
DSV				*e*Pg	**Pg**	**02 39 24.7**	**-2.3**
DSV				*e*Sg	**Sg**	**02 40 10.4**	**-5.7**
QIZ	**Qiongzhong**	**5.17**	**160**	P	**Pn**	**02 39 25.0**	**-6.8**
QIZ				S	**Sn**	**02 40 19.8**	**-12**
QIZ				Smax			
	comp=E,92nm,0.8s						
CD2	**Chengdu**	**7.90**	**333**	*e*P	**Pn**	**02 40 09.7**	**+0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
LZH	**Lanzhou**	**12.63**	**345**	*e*P	**Pn**	**02 41 15.0**	**+0.9**
LZH				AP		02 41 18.5	
LZH				XP		02 41 21.6	
LZH				PP		02 41 25.8	
LZH				*e*S	**Sn**	**02 43 39.3**	**+4.4**
LZH				XS		02 43 44.0	
LZH				AMB	AMB		
	comp=Z,19nm,1.5s						
LZH				AMB	AMB		
	comp=Z,86nm,4.3s						
LZH				LR	LR		
	comp=E,273nm,11.2s						
LZH				LR	LR		
	comp=Z,269nm,13.3s						

*MOS **03** 02:44:18.9±1.2, 4668N×14171E, h8km, mb4.1/4, Error ellipse: s-maj=20.4km s-min=14.6km az=84.8*
MOS Felt (III) at Nevel'sk.
*SKHL **03** 02:44:19.3±0.4, 4665N×14166E, h10km, mb4.0/4, msh4.8/1*
SKHL Felt (III) at Nevel'sk.
*IDC **03** 02:44:19.9±0.8, 4676N×14177E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.8/23, mbtmp3.7/12, ML3.5/3, Error ellipse: s-maj=19.2km s-min=14.7km az=84.0*
*JMA **03** 02:44:19.9±0.4, 4688N×14175E, h26km, M3.7*
*ISCJB **03** 02:44:19.2±0.6, 4677N±002×14159E±004, h7km±4km, mb3.7/13, Error ellipse: s-maj=4.7km s-min=3.6km az=2.4*
*NEIC **03** 02:44:20.9±0.4, 4670N×14177E, h10km, mb4.0/4, Error ellipse: s-maj=11.0km s-min=6.7km az=157.0*

ISC 03 02:44:21.6±0.7, 4672N±002×14170E±004, h12km±4km, n45, σ1§07/63, mb3.7/13, 3D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.76**	**71**	*e*PN	**Pg**	**02 44 34.6**	**-1.8**
YSS				*e*		02 44 45.7	
YSS				smax			
	comp=N,5μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.76**	**71**	⇓*i*Pg	**Pg**	**02 44 34.6**	**-1.8**
YSS				AMB	AMB	02 44 34.7	
	comp=N,50nm,0.6s						
YSS				AMB	AMB	02 44 34.7	
	comp=N,90nm,0.6s						
YSS				*i* Sg	**Sg**	**02 44 45.7**	**-0.7**
YSS				A		02 44 46.8	
	comp=N,5μm,0.5s						
YSS				AMS	AMS	02 45 16.0	
	comp=N,8μm,5.0s						
YSS				AMS	AMS	02 45 16.0	
	comp=N,7μm,5.0s						
YSS				AMS	AMS	02 45 16.0	
	comp=N,4μm,5.0s						
YSS	**Yuzh-Sakhalins**	**0.76**	**71**	*e*Pg	**Pg**	**02 44 34.4**	**-1.9**
JWK2	**Keihoku**	**1.41**	**174**	P	**Pn**	**02 44 46.4**	**-0.6**
JWK2				*e*S	**Sn**	**02 45 06.1**	**+0.7**
JRR	**Rishiri**	**1.60**	**190**	P	**Pn**	**02 44 50.4**	**+0.8**
JRR				*e*S	**Sn**	**02 45 12.2**	**+2.0**
JSE	**Soyaes**	**1.86**	**160**	P	**Pn**	**02 44 52.7**	**-0.5**
JSE				*e*S	**Sn**	**02 45 16.9**	**+0.3**
JYG	**Yagishiri**	**2.30**	**185**	P	**Pn**	**02 45 00.1**	**+0.9**
JYG				*e*S	**Sn**	**02 45 29.3**	**+2.0**
JSS	**Shosan**	**2.32**	**177**	P	**Pn**	**02 44 59.5**	**0.0**
UGL	**Uglegorsk**	**2.38**	**6**	*e*P	**Pn**	**02 44 58.8**	**-1.5**
UGL				*e*Pg	**Pg**	**02 45 08.0**	**+0.9**
UGL				AMB	AMB	02 45 09.0	
	comp=N,108nm,0.5s						
UGL				AMB	AMB	02 45 09.0	
	comp=N,500nm,1.2s						
UGL				*e*S	**Sn**	**02 45 29.0**	**-0.3**
UGL				A		02 45 40.0	
	comp=N,250nm,0.5s						
UGL				A		02 45 40.0	
	comp=N,490nm,0.5s						
UGL				A		02 45 40.0	
	comp=N,120nm,0.5s						
UGL				*e*Sg	**Sg**	**02 45 41.0**	**+3.1**
ASAJ	**Asahikawa**	**2.68**	**166**	P	**Pn**	**02 45 05.0**	**+0.6**
ASAJ	**Asahikawa**	**2.68**	**166**	Pn	**Pn**	**02 45 04.2**	**-0.2**
	comp=N,5.2nm,0.3s,baz=14,slow=13,SNR=9.9						
ASAJ				Lg		02 45 47.4	
	comp=N,7.9nm,0.3s,baz=152,slow=30,SNR=20						
JKK2	**Kamakawa 2**	**2.94**	**165**	P	**Pn**	**02 45 08.1**	**+0.1**
JMP	**Marusepu**	**2.95**	**156**	P	**Pn**	**02 45 07.0**	**-1.2**
JTKR	**Abashiri--Toko**	**3.16**	**150**	P	**Pn**	**02 45 09.9**	**-1.1**
TEY	**Ternei**	**3.94**	**247**	*e*P	**Pn**	**02 45 20.5**	**-1.2**
TEY				*e*Pg	**Pg**	**02 45 36.5**	**-0.4**
TEY				AMB	AMB	02 45 47.0	
	comp=N,18nm,0.5s						
TEY				*e*S	**Sn**	**02 46 05.0**	**-2.7**
TEY				*e*Sg	**Sg**	**02 46 28.0**	**+0.1**
TEY				A		02 46 38.0	
	comp=N,18nm,0.4s						
TYV	**Tymovskoe**	**4.20**	**8**	*e*P	**Pn**	**02 45 27.5**	**+2.2**
TYV				*e*Pg	**Pg**	**02 45 44.0**	**+2.0**
TYV				AMB	AMB	02 45 47.0	
	comp=N,39nm,0.9s						
TYV				AMB	AMB	02 45 47.0	
	comp=N,13nm,0.9s						
TYV				AMB	AMB	02 45 47.0	
	comp=N,24nm,0.9s						
TYV				*e*S	**Sn**	**02 46 15.0**	**+0.8**
TYV				*e*Sg	**Sg**	**02 46 43.0**	**+6.7**
TYV				A		02 46 47.0	
	comp=N,15nm,0.4s						
TYV				A		02 47 46.0	
	comp=N,2μm,6.0s						
TYV				A		02 47 46.0	
	comp=N,1μm,6.0s						
KUR	**Kuril'sk**	**4.55**	**107**	*e*S	**Sn**	**02 46 16.0**	**-6.9**
GRNR	**Gornyy**	**5.35**	**321**	*e*P	**Pn**	**02 45 34.5**	**-6.6**
GRNR				*e*Pg	**Pg**	**02 45 57.0**	**-7.0**
GRNR				*e*Sg	**Sg**	**02 47 14.0**	**+0.8**
GRNR				A		02 47 15.0	
	comp=N,32nm,0.3s						
NKL	**Nikolayevsk**	**6.47**	**355**	*e*P	**Pn**	**02 45 52.0**	**-4.5**
NKL				*e*S	**Sn**	**02 47 06.0**	**-4.2**
EKMR	**Ekimchan**	**8.50**	**322**	*e*P	**Pn**	**02 46 22.0**	**-2.3**
EKMR				*e*S	**Sn**	**02 47 59.0**	**-1.1**
EKMR				A		02 48 11.5	
	comp=N,4.0nm,0.4s						
MJAR	**Matsushiro Arr**	**10.49**	**196**	Pn	**Pn**	**02 46 50.8**	**-1.0**
	comp=N,0.8nm,0.3s,baz=242,slow=30,SNR=4.6						
MJAR	**Matsushiro Arr**	**10.49**	**196**	PN	**Pn**	**02 46 50.8**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**12.12**	**52**	Pn	**Pn**	**02 47 14.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=235,slow=47,SNR=5.9						
SONM	**Songino Array**	**23.86**	**286**	P	**P**	**02 49 35.7**	**+1.2**
	comp=Z,0.6nm,0.6s,mb3.2,baz=62,slow=6.8,SNR=6.8						
SONM	**Songino Array**	**23.86**	**286**	P	**P**	**02 49 35.7**	**+1.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**36.14**	**303**	P	**P**	**02 51 23.8**	**+0.6**
	comp=Z,0.7nm,0.4s,mb3.9,baz=74,slow=11,SNR=3.4						
ZAL	**Zalesovo**	**36.16**	**303**	P	**P**	**02 51 23.8**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
IMA2	**Indian Mountai**	**38.48**	**36**	*e*P	**P**	**02 51 42.7**	**-0.2**
MK31	**Makanchi Array**	**39.84**	**293**	*e*P	**P**	**02 51 54.5**	**0.0**
MKAR	**Makanchi Array**	**39.84**	**293**	P	**P**	**02 51 55.1**	**+0.6**
	comp=Z,0.4nm,0.3s,mb3.6,baz=72,slow=7.8,SNR=9.1						
KURK	**Kurchatov**	**40.69**	**300**	*e*P	**P**	**02 52 00.2**	**-1.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
KURK	**Kurchatov**	**40.69**	**300**	*e*P	**P**	**02 52 00.2**	**-1.3**
	comp=Z,1.4nm,0.8s,mb3.6						
COLA	**College**	**41.02**	**38**	*e*P	**P**	**02 52 03.3**	**-0.7**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
COLA	**College**	**41.02**	**38**	*e*P	**P**	**02 52 03.3**	**-0.8**
	comp=Z,1.7nm,0.4s,mb4.0						
EGAK	**Eagle**	**43.84**	**37**	*e*P	**P**	**02 52 26.4**	**-0.6**
	comp=Z,5.8nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**55.45**	**33**	P	**P**	**02 53 54.7**	**-0.8**
	comp=Z,0.7nm,0.7s,mb3.8,baz=306,slow=6.6,SNR=4.1						
YKA	**Yellowknife Ar**	**55.45**	**33**	P	**P**	**02 53 54.7**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**55.45**	**33**	P	**P**	**02 53 54.7**	**-0.8**
NVAR	**Mina Array Bea**	**69.19**	**56**	P	**P**	**02 55 28.6**	**+0.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=297,slow=6.8,SNR=3.4						
MOOW	**Moose Ponds**	**69.54**	**48**	*e*P	**P**	**02 55 30.1**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8						
ASAR	**Alice Springs**	**70.40**	**188**	P	**P**	**02 55 35.6**	**+0.4**
	comp=Z,0.3nm,0.7s,mb3.4,baz=7.7,slow=4.5,SNR=5.7						
PDAR	**Pinedale Array**	**70.85**	**48**	P	**P**	**02 55 37.9**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=336,slow=3.3,SNR=3.5						
ULM	**Lac du Bonnet**	**71.37**	**35**	P	**P**	**02 55 40.1**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.2,baz=103,slow=2.6,SNR=3.4						
TXAR	**Lajitas Array**	**84.07**	**53**	P	**P**	**02 56 52.5**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.6,baz=318,slow=1.7,SNR=3.6						
TXAR	**Lajitas Array**	**84.07**	**53**	P	**P**	**02 56 52.5**	**+0.3**

IDC 03 02:56:33.8±3.8, 1449S×16662E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.7/17, mbtmp3.8/3, MS3.5/2, Ms1 3.5/2, ms1mx3.1/27, Error ellipse: s-maj=162.5km s-min=44.6km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.24**	**307**	LR	LR	03 00 35.9	
	comp=Z,126nm,18.1s,baz=183,slow=29						
CTA	**Charters Tower**	**20.22**	**251**	P	P	03 01 16.4	+5.9
	5.7nm,0.8s,baz=72,slow=13,SNR=5.3						
CTA				LR	LR	03 07 39.4	
	comp=Z,281nm,19.7s,baz=35,slow=33						
WRA	**Warramunga Arr**	**31.28**	**255**	P	P	03 02 55.2	-0.5
	1.0nm,0.9s,baz=84,slow=8.0,SNR=4.5						
ASAR	**Alice Springs**	**32.17**	**249**	P	P	03 03 04.0	+0.4
	0.5nm,0.7s,baz=72,slow=10.0,SNR=4.1						
MKAR	**Makanchi Array**	**96.59**	**317**	P	P	03 10 06.2	+0.6
	0.2nm,0.2s,baz=106,slow=5.1,SNR=2.6						
ARCES	**ARCESS Array B**	**119.86**	**345**	PKP	PKPdf	03 15 24.9	-0.6
	0.7nm,0.7s,baz=64,slow=2.8,SNR=6.5						

*BJI **03** 02:58:02.6, 5040N×720E, h10km, mB5.1, mb4.8, Ms4.8, Msz4.5*
*MOS **03** 02:58:06.9±0.9, 5039N×724E, h10km, mb3.5/1, Error ellipse: s-maj=4.9km s-min=2.9km az=83.0*
*ISCJB **03** 02:58:06.8±0.1, 5034N±0010×7.19E±002, h10km, mb4.2/7, Error ellipse: s-maj=1.6km s-min=1.3km az=33.2*
*IDC **03** 02:58:08.8±1.2, 5038N×727E, h0km, mb3.3/2, mb1 3.7/9, mb1mx3.5/27, mbtmp3.6/9, ML3.8/7, Error ellipse: s-maj=15.3km s-min=9.9km az=56.0*
*NEIC **03** 02:58:08.7±0.3, 5040N×724E, h10km, ML3.9(SZGRF), ML4.2(FUR), ML4.2(STR), ML4.4(LDG), Error ellipse: s-maj=3.9km s-min=3.0km az=146.0*
NEIC Felt [III] at Bonn. Felt at Bendorf, Cologne, Erkrath, Giesen, Koblenz, Mayen, Neuwied and Wittlich.
*LEDBW **03** 02:58:09.2±1.8, 504N±0.1×733E±007, h10km, ML4.0, Error ellipse: s-maj=42.0km s-min=10.0km az=150.0*
*CSEM **03** 02:58:09.3±0.0, 5036N×742E, h12km, ML4.4/39, Error ellipse: s-maj=0.7km s-min=0.6km az=143.0*
*BGR **03** 02:58:09.7±0.3, 5037N×735E, h10km, ML4.1/14, Error ellipse: s-maj=3.3km s-min=2.2km az=82.0*
*UCC **03** 02:58:09.9±0.4, 5036N×738E, h12km±1km, ML3.7*
*BNS **03** 02:58:10.0±1.2, 5037N×739E, h10km±7km, ML3.9*
*LDG **03** 02:58:10.4±0.1, 5034N×732E, h5km, Md4.1/4, Ml4.4/44, Error ellipse: s-maj=1.2km s-min=1.1km az=34.0*
*PRU **03** 02:58:11.3, 5036N×765E, h0km*
*STR **03** 02:58:11.7±0.3, 5022N×737E, h10km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 03 02:58:08.9±0.2, 50328N±0008×730E±001, h12km±1km, n419, σ1§33/767, mb4.2/7, 26C-36D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.12**	**169**	⇑*i*Pg	**Pg**	**02 58 13.7**	**+1.7**
BGG				*e*Sg	**Sg**	**02 58 16.0**	**+1.8**
	1μm,0.5s						
FSH	**Hochheid**	**0.28**	**206**	⇑*e*Pg	**Pg**	**02 58 16.5**	**+1.9**
KOE	**Koeppel**	**0.29**	**70**	⇓*i*Pg	**Pg**	**02 58 14.9**	**0.0**
KOE				*e*Sg	**Sg**	**02 58 17.9**	**-1.0**
	9μm,0.7s						
STB	**Steinbach**	**0.40**	**312**	⇓*e*Pg	**Pg**	**02 58 18.3**	**+1.6**
STB				*e*Sg	**Sg**	**02 58 23.7**	**+1.6**
	4μm,0.4s						
HILG	**Hillesheim**	**0.40**	**265**	*e*Pg	**Pg**	**02 58 18.9**	**+2

BUG	**Bochum--Univer**	**1.11 359**	*e*Pg	**Pg**	**02 58 29.6**	**+0.6**
BUG			*e*Sg	**Sg**	**02 58 44.6**	**-0.2**
KTD	**Kalmit**	**1.13 153**	Pg	**Pg**	**02 58 31.4**	**+0.8**
KTD	**Kalmit**	**1.13 153**	Pg	**Pg**	**02 58 31.3**	**+0.7**
KTD			Sg	**Sg**	**02 58 45.7**	**+0.4**
BEBN	**Eben Emael**	**1.14 295**	⇓P	**Pb**	**02 58 31.4**	**+0.9**
BEBN			S	**Sb**	**02 58 47.0**	**+1.8**
	comp=E,1μm,0.3s					
BEBN	**Eben Emael**	**1.14 295**	P	**Pb**	**02 58 31.3**	**+0.8**
BEBN			S	**Sb**	**02 58 46.9**	**+1.7**
	comp=E,1μm,0.3s					
TOD	**Tromm**	**1.21 126**	⇓*i*Pn	**Pn**	**02 58 30.9**	**-0.8**
TOD			Pg	**Pg**	**02 58 32.2**	**0.0**
TOD	**Tromm**	**1.21 126**	P	**Pn**	**02 58 32.2**	**+0.6**
TOD	**Tromm**	**1.21 126**	Pg	**Pg**	**02 58 32.1**	**-0.1**
TOD			Sg	**Sg**	**02 58 47.7**	**-0.2**
SWS	**Schriesheim-Wi**	**1.24 132**	Pn	**Pn**	**02 58 32.1**	**0.0**
BCLA	**Clavier**	**1.28 275**	⇓P	**Pn**	**02 58 33.7**	**+1.1**
BCLA			S	**Sb**	**02 58 50.8**	**+1.4**
	comp=E,888nm,0.4s					
BCLA	**Clavier**	**1.28 275**	P	**Pn**	**02 58 33.7**	**+1.1**
BCLA			S	**Sb**	**02 58 50.7**	**+1.3**
	comp=E,888nm,0.4s					
HEI	**Heidelberg (Ko**	**1.31 135**	P	**Pn**	**02 58 34.4**	**+1.4**
LANF	**Langenberg**	**1.39 166**	Pg	**Pg**	**02 58 35.8**	**+0.2**
LANF			Sg	**Sg**	**02 58 53.6**	**0.0**
LANF	**Langenberg**	**1.39 166**	*e*Pn	**Pn**	**02 58 34.4**	**+0.3**
LANF	**Langenberg**	**1.39 166**	⇓*i*Pn	**Pn**	**02 58 34.4**	**+0.3**
LANF	**Langenberg**	**1.39 166**	Pg	**Pg**	**02 58 35.8**	**+0.2**
LANF			Sg	**Sg**	**02 58 53.6**	**0.0**
GIVF	**Givet**	**1.61 263**	*e*Pg	**Pg**	**02 58 40.8**	**+1.1**
GIVF			*e*Sn	**Sn**	**02 58 59.0**	**+1.3**
	SNR=1.0					
GIVF			*e*Sg	**Sg**	**02 59 03.1**	**+2.6**
	comp=E,2μm,0.2s,SNR=1.0					
GIVF	**Givet**	**1.61 263**	*e*P	**Pn**	**02 58 38.2**	**+1.1**
GIVF			*e*		02 58 59.0	
GIVF	**Givet**	**1.61 263**	*e*Pg	**Pg**	**02 58 40.8**	**+1.1**
GIVF			*e*Sn	**Sn**	**02 58 59.0**	**+1.3**
	SNR=1.0					
GIVF			*e*Sg	**Sg**	**02 59 03.1**	**+2.6**
	comp=E,777nm,0.2s,SNR=1.0					
GIVF	**Givet**	**1.61 263**	*e*Pn	**Pn**	**02 58 38.2**	**+1.1**
GIVF			*e*Pg	**Pg**	**02 58 40.8**	**+1.1**
GIVF			*e*Sn	**Sn**	**02 58 59.0**	**+1.3**
GIVF			*e*Sg	**Sg**	**02 59 03.1**	**+2.6**
WTSB	**Winterswijk**	**1.67 349**	*e*Pg	**Pg**	**02 58 39.5**	**-1.4**
WTSB			*e*Sg	**Sg**	**02 59 01.1**	**-1.5**
DOU	**Dourbes**	**1.75 263**	⇓*e*Pg	**Pg**	**02 58 40.4**	**-2.2**
DOU	**Dourbes**	**1.75 263**	⇓P	**Pn**	**02 58 40.3**	**+1.2**
DOU			S	**Sn**	**02 59 04.3**	**+3.0**
	comp=N,920nm,0.4s					
STR	**Strasbourg**	**1.77 170**	Pg	**Pg**	**02 58 43.5**	**+0.6**
SIND	**Sindeldorf**	**1.79 122**	⇓*e*Pn	**Pn**	**02 58 39.1**	**-0.5**
SIND	**Sindeldorf**	**1.79 122**	⇓*e*Pn	**Pn**	**02 58 39.1**	**-0.5**
UBBA	**Unterbreizbach**	**1.79 73**	*e*Pn	**Pn**	**02 58 37.8**	**-1.8**
	SNR=4.8					
UBBA			*e*Pg	**Pg**	**02 58 41.2**	**-2.1**
	SNR=7.2					
HROE	**Hohe Rhon--Fla**	**1.84 82**	⇑*i*Pn	**Pn**	**02 58 39.5**	**-0.8**
CDF	**Champ du Feu**	**1.92 180**	*e*Pg	**Pg**	**02 58 45.0**	**-0.7**
CDF			*e*Sn	**Sn**	**02 59 06.3**	**+0.9**
CDF			*e*Sg	**Sg**	**02 59 12.2**	**+1.7**
	comp=N,1μm,0.6s,SNR=1.0					
CDF	**Champ du Feu**	**1.92 180**	*e*P	**Pn**	**02 58 41.7**	**+0.3**
CDF			*e*		02 59 06.3	
CDF	**Champ du Feu**	**1.92 180**	*e*Pg	**Pg**	**02 58 45.0**	**-0.7**
CDF			*e*Sn	**Sn**	**02 59 06.3**	**+0.9**
CDF			*e*Sg	**Sg**	**02 59 12.2**	**+1.7**
	comp=N,560nm,0.6s,SNR=1.0					
CDF	**Champ du Feu**	**1.92 180**	*e*Pn	**Pn**	**02 58 41.7**	**+0.3**
CDF			*e*Pg	**Pg**	**02 58 45.0**	**-0.7**
CDF			*e*Sn	**Sn**	**02 59 06.3**	**+0.9**
CDF			*e*Sg	**Sg**	**02 59 12.2**	**+1.7**
LBG	**Lerchenberg**	**1.93 149**	P	**Pn**	**02 58 42.1**	**+0.5**
UCC	**Uccle**	**1.93 285**	P	**Pn**	**02 58 42.6**	**+1.1**
STU	**Stuttgart**	**1.99 141**	*e*Pn	**Pn**	**02 58 42.2**	**-0.1**
IBBN	**Ibbenburen**	**2.00 8**	⇑*e*Pn	**Pn**	**02 58 41.8**	**-0.7**
IBBN			*e*Sg	**Sg**	**02 59 11.6**	**-1.6**
IBBN	**Ibbenburen**	**2.00 8**	Pn	**Pn**	**02 58 41.8**	**-0.7**
IBBN			Sg	**Sg**	**02 59 11.6**	**-1.6**
IBBN	**Ibbenburen**	**2.00 8**	*e*Pn	**Pn**	**02 58 41.8**	**-0.7**
IBBN			*e*Sg	**Sg**	**02 59 11.6**	**-1.6**
BAIF	**Baives**	**2.00 263**	*e*Pg	**Pg**	**02 58 48.0**	**+0.7**
BAIF			*e*Sn	**Sn**	**02 59 07.7**	**+0.1**
	SNR=1.0					
BAIF			*e*Sg	**Sg**	**02 59 15.4**	**+2.1**
	comp=N,2μm,0.4s,SNR=1.0					
BAIF	**Baives**	**2.00 263**	*e*P	**Pn**	**02 58 43.9**	**+1.3**
BAIF			*e*		02 59 07.7	
BAIF	**Baives**	**2.00 263**	*e*Pg	**Pg**	**02 58 48.0**	**+0.7**
BAIF			*e*Sn	**Sn**	**02 59 07.7**	**+0.1**
	SNR=1.0					
BAIF			*e*Sg	**Sg**	**02 59 15.4**	**+2.1**
	comp=N,921nm,0.4s,SNR=1.0					
BAIF	**Baives**	**2.00 263**	*e*Pn	**Pn**	**02 58 43.9**	**+1.3**
BAIF			*e*Pg	**Pg**	**02 58 48.0**	**+0.7**
BAIF			*e*Sn	**Sn**	**02 59 07.7**	**+0.1**
BAIF			*e*Sg	**Sg**	**02 59 15.4**	**+2.1**
GTTG	**Gvttingen**	**2.08 53**	*e*Pn	**Pn**	**02 58 42.4**	**-1.2**
	SNR=9.3					
GTTG			*e*Sg	**Sg**	**02 59 13.3**	**-2.5**
	SNR=5.9					
BFO	**Black Forest**	**2.11 161**	*e*Pn	**Pn**	**02 58 44.3**	**+0.3**
BFO			*e*Sg	**Sg**	**02 59 16.7**	**0.0**
BFO	**Black Forest**	**2.11 161**	Pn	**Pn**	**02 58 44.0**	**0.0**
BFO	**Black Forest**	**2.11 161**	*e*Pn	**Pn**	**02 58 44.3**	**+0.3**
BFO			*e*Sg	**Sg**	**02 59 16.7**	**0.0**
ECH	**Echery**	**2.12 183**	Pg	**Pg**	**02 58 48.3**	**-1.2**
ECH			Sg	**Sg**	**02 59 17.0**	**+0.1**
ECH	**Echery**	**2.12 183**	*e*P	**Pn**	**02 58 44.1**	**0.0**
ECH					02 59 17.0	
ECH	**Echery**	**2.12 183**	Pn	**Pn**	**02 58 44.4**	**+0.3**
ECH	**Echery**	**2.12 183**	*e*Pn	**Pn**	**02 58 44.0**	**-0.1**
ECH	**Echery**	**2.12 183**	Pg	**Pg**	**02 58 48.3**	**-1.2**
ECH			*e*Sg	**Sg**	**02 59 17.3**	**+0.4**
ECH	**Echery**	**2.12 183**	*e*Pn	**Pn**	**02 58 44.0**	**0.0**
ECH			Pg	**Pg**	**02 58 48.3**	**-1.2**
ECH			*e*Pg	**Pg**	**02 58 48.5**	**-0.9**
ECH			Sg	**Sg**	**02 59 17.0**	**+0.1**
ECH			*e*Sg	**Sg**	**02 59 17.3**	**+0.4**
TUBL	**Tuebingen-Lenn**	**2.15 147**	P	**Pn**	**02 58 45.1**	**+0.5**
TUBL	**Tuebingen-Lenn**	**2.15 147**	Px	**Pn**	**02 58 45.1**	**+0.5**
LIBD	**Limburg**	**2.19 175**	Pg	**Pg**	**02 58 50.8**	**0.0**
LIBD			Sg	**Sg**	**02 59 20.6**	**+1.4**
THEF	**They Montfort**	**2.27 203**	Pg	**Pg**	**02 58 51.4**	**-1.0**
THEF			Sg	**Sg**	**02 59 22.8**	**+0.9**
THEF	**They Montfort**	**2.27 203**	P	**Pn**	**02 58 46.3**	**+0.1**
THEF			Pg	**Pg**	**02 58 51.5**	**-0.9**
THEF	**They Montfort**	**2.27 203**	P	**Pn**	**02 58 51.5**	**+5.3**
THEF	**They Montfort**	**2.27 203**	Pg	**Pg**	**02 58 51.5**	**-0.9**
THEF			Sg	**Sg**	**02 59 22.8**	**+0.9**
BUCH	**Bad Urach**	**2.31 144**	⇓*e*P	**Pn**	**02 58 47.5**	**+0.7**
BUCH	**Bad Urach**	**2.31 144**	⇓*e*P	**Pn**	**02 58 47.5**	**+0.7**
MEZF	**Maizieres J'vi**	**2.34 220**	*e*Pn	**Pn**	**02 58 48.2**	**+1.0**
	baz=40,SNR=1.0					
MEZF	**Maizieres J'vi**	**2.34 220**	*e*Pg	**Pg**	**02 58 54.2**	**+0.4**
	baz=33					
MEZF			*e*Sn	**Sn**	**02 59 16.7**	**+0.8**
MEZF			*e*Sg	**Sg**	**02 59 26.2**	**+2.0**
	comp=N,1μm,0.8s,SNR=1.0					
MEZF	**Maizieres J'vi**	**2.34 220**	*e*Pg	**Pg**	**02 58 54.2**	**+0.4**
MEZF			*e*Sn	**Sn**	**02 59 16.7**	**+0.8**
MEZF			*e*Sg	**Sg**	**02 59 26.2**	**+2.0**
	comp=N,718nm,0.8s,SNR=1.0					
MEZF	**Maizieres J'vi**	**2.34 220**	*e*Pn	**Pn**	**02 58 48.2**	**+1.0**
MEZF			*e*Pg	**Pg**	**02 58 54.2**	**+0.4**
MEZF			*e*Sn	**Sn**	**02 59 16.7**	**+0.8**
MEZF			*e*Sg	**Sg**	**02 59 26.2**	**+2.0**
FBB	**Freiburg im Br**	**2.36 171**	Pg	**Pg**	**02 58 54.2**	**+0.1**
FBB	**Freiburg im Br**	**2.36 171**	Px	**Pg**	**02 58 54.2**	**+0.1**
HAU	**Haudompre**	**2.41 195**	*e*P	**Pn**	**02 58 52.2**	**+4.1**
HAU	**Haudompre**	**2.41 195**	*e*Pg	**Pg**	**02 58 55.6**	**+0.6**
HAU			*e*Sn	**Sn**	**02 59 18.0**	**+0.5**
HAU			*e*Sg	**Sg**	**02 59 26.8**	**+0.6**
	comp=N,458nm,0.2s,SNR=1.0					
HAU	**Haudompre**	**2.41 195**	*e*P	**Pn**	**02 58 48.7**	**+0.6**
HAU			*e*		02 59 18.0	
HAU	**Haudompre**	**2.41 195**	*e*Pg	**Pg**	**02 58 55.6**	**+0.6**
HAU			*e*Sn	**Sn**	**02 59 18.0**	**+0.5**
HAU			*e*Sg	**Sg**	**02 59 26.8**	**+0.6**
	comp=N,229nm,0.2s,SNR=1.0					
HAU	**Haudompre**	**2.41 195**	*e*Pn	**Pn**	**02 58 48.7**	**+0.6**
HAU			*e*P		02 58 52.2	
HAU			*e*Pg	**Pg**	**02 58 55.6**	**+0.6**
HAU			*e*Sn	**Sn**	**02 59 18.0**	**+0.5**
HAU			*e*Sg	**Sg**	**02 59 26.8**	**+0.6**
KIZ	**Kirchzarten**	**2.41 170**	P	**Pn**	**02 58 48.4**	**+0.3**
MSS	**Messtetten**	**2.41 153**	Px	**Pn**	**02 58 48.6**	**+0.5**
SPAK	**Spaichingen-Ko**	**2.43 156**	P	**Pn**	**02 58 49.1**	**+0.6**
SPAK	**Spaichingen-Ko**	**2.43 156**	Px	**Pn**	**02 58 49.1**	**+0.6**
SPAK	**Spaichingen-Ko**	**2.43 156**	Pg	**Pg**	**02 58 54.8**	**-0.7**
SPAK			Sg	**Sg**	**02 59 28.5**	**+1.5**
CLZ	**Clausthal**	**2.46 51**	*e*Pn	**Pn**	**02 58 47.2**	**-1.6**
FELD	**Feldberg im Sc**	**2.50 169**	P	**Pn**	**02 58 49.6**	**+0.3**
FELD	**Feldberg im Sc**	**2.50 169**	Pg	**Pg**	**02 58 56.7**	**0.0**
FELD			Sg	**Sg**	**02 59 29.0**	**-0.1**
HINF	**Hinteralfeld**	**2.53 187**	*e*Pg	**Pg**	**02 58 56.8**	**-0.6**
HINF			*e*Sn	**Sn**	**02 59 21.0**	**+0.5**
HINF			*e*Sg	**Sg**	**02 59 31.4**	**+1.2**
	comp=N,716nm,0.5s					
HINF	**Hinteralfeld**	**2.53 187**	*e*P	**Pn**	**02 58 49.9**	**+0.1**
HINF			*e*		02 59 21.0	
HINF	**Hinteralfeld**	**2.53 187**	*e*Pg	**Pg**	**02 58 56.8**	**-0.6**
HINF			*e*Sn	**Sn**	**02 59 21.0**	**+0.5**
HINF			*e*Sg	**Sg**	**02 59 31.4**	**+1.2**
	comp=N,358nm,0.5s					
HINF	**Hinteralfeld**	**2.53 187**	*e*Pn	**Pn**	**02 58 49.9**	**+0.1**
HINF			*e*Pg	**Pg**	**02 58 56.8**	**-0.6**
HINF			*e*Sn	**Sn**	**02 59 21.0**	**+0.5**
HINF			*e*Sg	**Sg**	**02 59 31.4**	**+1.2**
GUT	**Gutenstein**	**2.55 152**	P	**Pn**	**02 58 50.5**	**+0.4**
HDH	**Heidenheim-Cha**	**2.58 132**	⇑*e*P	**Pn**	**02 58 51.1**	**+0.6**
HDH			S	**Sn**	**02 59 18.8**	**-2.9**
HDH	**Heidenheim-Cha**	**2.58 132**	⇑*e*P	**Pn**	**02 58 51.1**	**+0.6**
HDH			S	**Sn**	**02 59 18.8**	**-2.9**
GRA1	**Grafenberg Arr**	**2.61 103**	Pn	**Pn**	**02 58 50.0**	**-0.9**
GRA1			Sg	**Sg**	**02 59 31.5**	**-1.2**
GRA1	**Grafenberg Arr**	**2.61 103**	*e*Pn	**Pn**	**02 58 50.0**	**-0.9**
GRA1			*e*Sg	**Sg**	**02 59 31.5**	**-1.2**
GRF	**Grafenberg Arr**	**2.61 103**	*e*Pn	**Pn**	**02 58 50.0**	**-0.9**
GRF			*e*Sg	**Sg**	**02 59 31.5**	**-1.2**
ENDD	**Endenburg**	**2.63 174**	⇓*i*P	**Pn**	**02 58 51.5**	**+0.3**
NORI	**Noerdlinger Ri**	**2.70 125**	⇓*i*Pn	**Pn**	**02 58 52.6**	**+0.5**
MOX	**Moxa**	**2.77 82**	*e*Pn	**Pn**	**02 58 52.9**	**-0.2**
MOX			*e*Pg	**Pg**	**02 58 58.4**	**-3.7**
MOX			*i* Sn	**Sn**	**02 59 25.0**	**-1.6**
MOX			*e*Sg	**Sg**	**02 59 35.4**	**-2.6**
MOX	**Moxa**	**2.77 82**	*e*PN	**Pn**	**02 58 52.9**	**-0.3**
MOX			*e*PG	**Pg**	**02 58 58.4**	**-3.7**
MOX			*i* SN	**Sn**	**02 59 25.0**	**-1.6**
MOX			*i* SG	**Sg**	**02 59 34.5**	**-3.5**
	comp=N,202nm,0.4s					
MOX	**Moxa**	**2.77 82**	*e*P	**Pn**	**02 58 52.9**	**-0.3**
MOX			*i*		02 59 25.0	
MOX			smax			
	comp=N,202nm,0.4s					
MOX	**Moxa**	**2.77 82**	Pg	**Pg**	**02 58 58.4**	**-3.7**
MOX			Sg	**Sg**	**02 59 35.4**	**-2.6**
MOX	**Moxa**	**2.77 82**	*e*Pn	**Pn**	**02 58 52.9**	**-0.3**
MOX			*e*Pg	**Pg**	**02 58 58.4**	**-3.7**
MOX			*i* Sn	**Sn**	**02 59 25.0**	**-1.6**
MOX			*i* Sg	**Sg**	**02 59 34.5**	**-3.5**
SISB	**Singen-Schiene**	**2.86 157**	P	**Pn**	**02 58 55.3**	**+1.0**
BBS	**Basel-Blauen**	**2.87 177**	P	**Pn**	**02 58 54.9**	**+0.5**
BBS	**Basel-Blauen**	**2.87 177**	P	**Pn**	**02 58 54.9**	**+0.4**
BBS	**Basel-Blauen**	**2.87 177**	Pg	**Pg**	**02 59 03.3**	**-0.6**
BBS			Sg	**Sg**	**02 59 42.5**	**+1.5**
MGBB	**Grossbuechelbe**	**3.18 95**	⇑*i*Pn	**Pn**	**02 58 58.9**	**+0.2**
WERD	**Werda**	**3.21 86**	*e*Pn	**Pn**	**02 58 59.1**	**+0.1**
WERD			*e*Sg	**Sg**	**02 59 47.3**	**-4.5**
	SNR=3.9					
WERD	**Werda**	**3.21 86**	Pn	**Pn**	**02 58 59.1**	**0.0**
WERD			Sg	**Sg**	**02 59 47.3**	**-4.5**
	SNR=3.9					
GUNZ	**Gunzen**	**3.22 87**	*e*Pn	**Pn**	**02 58 59.5**	**+0.2**
	SNR=20					
UBR	**Ueberruh**	**3.23 144**	P	**Pn**	**02 59 00.7**	**+1.3**
WERN	**Wernitzgruen**	**3.25 89**	*e*Pn	**Pn**	**02 58 59.7**	**-0.1**
NKC	**Novy Kostel**	**3.30 90**	*e*P	**Pn**	**02 59 00.6**	**+0.2**
NKC			*e*		02 59 50.6	
NKC			smax			
	comp=N,282nm,0.6s					
NKC	**Novy Kostel**	**3.30 90**	*e*PN	**Pn**	**02 59 00.6**	**+0.2**
NKC			*e*PG	**Pg**	**02 59 09.9**	**-2.3**
NKC			*e*SG	**Sg**	**02 59 50.6**	**-4.4**
	comp=Z,282nm,0.6s					
FUR	**Furstenfeldbru**	**3.39 128**	*e*Pn	**Pn**	**02 59 02.0**	**+0.4**
FUR			*e*Sn	**Sn**	**02 59 39.0**	**-2.7**
FUR	**Furstenfeldbru**	**3.39 128**	*e*Pn	**Pn**	**02 59 02.0**	**+0.4**
FUR			*e*Sn	**Sn**	**02 59 39.0**	**-2.7**
DAVA	**Damuels**	**3.49 150**	*i* Pn	**Pn**	**02 59 04.6**	**+1.6**
	SNR=24					
DAVA			⇓*i*Sn	**Sn**	**02 59 47.6**	**+3.4**
DAVA			⇓*i*Sg	**Sg**	**03 00 08.9**	**+8.0**
	comp=Z,258nm,0.5s					
DAVA	**Damuels**	**3.49 150**	*i* Pn	**Pn**	**02 59 04.6**	**+1.6**
DAVA			*i* Sn	**Sn**	**02 59 47.6**	**+3.4**
RETA	**Reutte**	**3.65 140**	*i* Pn	**Pn**	**02 59 06.3**	**+1.2**
	SNR=23					
RETA	**Reutte**	**3.65 140**	Pn	**Pn**	**02 59 06.3**	**+1.2**
	SNR=23					
CLL	**Collm**	**3.75 73**	*e*Pn	**Pn**	**02 59 05.8**	**-0.7**
CLL			*i* Pg	**Pg**	**02 59 17.5**	**-3.2**
CLL			*i* Sn	**Sn**	**02 59 43.3**	**-7.2**
CLL			*e*Sg	**Sg**	**03 00 06.0**	**-3.2**
CLL	**Collm**	**3.75 73**	*e*P	**Pn**	**02 59 06.0**	**-0.5**
CLL			*i*		02 59 43.3	
CLL	**Collm**	**3.75 73**	*e*Pn	**Pn**	**02 59 06.0**	**-0.5**
CLL			*i* Pg	**Pg**	**02 59 17.5**	**-3.2**
CLL			*i* x	x	02 59 20.0	
CLL			*i* Sn	**Sn**	**02 59 43.3**	**-7.2**
CLL			*e*Sg	**Sg**	**03 00 06.0**	**-3.2**
	comp=Z,229nm,0.5s					
CLL	**Collm**	**3.75 73**	*e*Pn	**Pn**	**02 59 06.0**	**-0.5**
CLL			*i* Pg	**Pg**	**02 59 17.5**	**-3.2**
CLL			*i* Sn	**Sn**	**02 59 43.3**	**-7.2**
CLL			*e*Sg	**Sg**	**03 00 06.0**	**-3.2**
CABF	**La Chapelle**	**3.81 193**	*e*Pg	**Pg**	**02 59 20.3**	**-1.5**
CABF			*e*Sn	**Sn**	**02 59 51.3**	**-0.7**
CABF			*e*Sg	**Sg**	**03 00 11.2**	**+0.1**
	comp=Z,410nm,0.6s,SNR=1.0					
CABF	**La Chapelle**	**3.81 193**	*e*P	**Pn**	**02 59 07.6**	**+0.3**
CABF			*e*		02 59 51.3	
CABF	**La Chapelle**	**3.81 193**	*e*Pg	**Pg**	**02 59 20.3**	**-1.5**
CABF			*e*Sn	**Sn**	**02 59 51.3**	**-0.7**
CABF			*e*Sg	**Sg**	**03 00 11.2**	**+0.1**
	comp=Z,205nm,0.6s,SNR=1.0					
CABF	**La Chapelle**	**3.81 193**	*e*Pn	**Pn**	**02 59 07.6**	**+0.3**
CABF			*e*Pg	**Pg**	**02 59 20.3**	**-1.5**
CABF			*e*Sn	**Sn**	**02 59 51.3**	**-0.7**
CABF			*e*Sg	**Sg**	**03 00 11.2**	**+0.1**
WET	**Wettzell**	**3.81 106**	*e*Pn	**Pn**	**02 59 08.1**	**+0.8**
WET	**Wettzell**	**3.81 106**	*e*Pn	**Pn**	**02 59 08.1**	**+0.8**
LOR	**Lormes**	**3.81 218**	*e*Pn	**Pn**	**02 59 07.1**	**-0.3**
	baz=43,SNR=1.0					
LOR	**Lormes**	**3.81 218**	*e*Pg	**Pg**	**02 59 21.4**	**-0.5**
	baz=40					
LOR			*e*Sn	**Sn**	**02 59 50.4**	**-1.8**
LOR			*e*Sg	**Sg**	**03 00 11.8**	**+0.5**
	comp=Z,431nm,0.5s,SNR=1.0					
LOR	**Lormes**	**3.81 218**	*e*P	**Pn**	**02 59 07.1**	**-0.3**
LOR			*e*		02 59 50.4	
LOR	**Lormes**	**3.81 218**	*e*Pg	**Pg**	**02 59 21.4**	**-0.5**
LOR			*e*Sn	**Sn**	**02 59 50.4**	**-1.8**
LOR			*e*Sg	**Sg**	**03 00 11.8**	**+0.5**
	comp=Z,215nm,0.5s,SNR=1.0					
LOR	**Lormes**	**3.81 218**	*e*Pn	**Pn**	**02 59 07.1**	**-0.3**
LOR			*e*Pg	**Pg**	**02 59 21.4**	**-0.5**
LOR			*e*Sn	**Sn**	**02 59 50.4**	**-1.8**
LOR			*e*Sg	**Sg**	**03 00 11.8**	**+0.5**
DAVOS	**Davos**	**3.86 154**	P	**Pn**	**02 59 11.0**	**+2.9**
DAVOS			S	**Sn**	**02 59 53.0**	**-0.4**
HLG	**Helgoland**	**3.88 5**	*e*Pn	**Pn**	**02 59 07.7**	**-0.6**
	SNR=1.5					
HLG			*e*Sn	**Sn**	**02 59 50.1**	**-3.7**
	SNR=2.0					
MOTA	**Moosalm**	**3.90 138**	⇓*i*Pn	**Pn**	**02 59 09.8**	**+1.2**
	SNR=14					
MOTA			⇓*i*Sn	**Sn**	**02 59 56.8**	**+2.5**
DAVOX	**Davos/Dischmat**	**3.94 153**	Pn	**Pn**	**02 59 11.0**	**+1.8**
	comp=Z,6.3nm,0.3s,baz=329,slow=18,SNR=37					
DAVOX			Sn	**Sn**	**02 59 53.0**	**-2.3**
	comp=Z,6.6nm,0.3s,baz=164,slow=22,SNR=5.0					
DAVOX			Lg		03 00 15.9	
	comp=Z,16nm,0.3s,baz=167,slow=20,SNR=6.9					
DAVOX	**Davos/Dischmat**	**3.94 153**	Pn	**Pn**	**02 59 11.0**	**+1.8**
DAVOX			Sn	**Sn**	**02 59 53.0**	**-2.3**
FETA	**Feichten**	**4.01 144**	⇓*i*Pn	**Pn**	**02 59 12.0**	**+1.8**
	SNR=16					
BSEG	**Bad Segeberg**	**4.06 26**	*e*Pn	**Pn**	**02 59 09.4**	**-1.4**
BSEG	**Bad Segeberg**	**4.06 26**	*e*Pn	**Pn**	**02 59 09.4**	**-1.4**
WATA	**Walderalm**	**4.12 135**	⇑*i*Pn	**Pn**	**02 59 12.9**	**+1.4**
WATA	**Walderalm**	**4.12 135**	⇑*i*Pn	**Pn**	**02 59 12.9**	**+1.3**
SSF	**Saint Saulge**	**4.12 219**	*e*Pg	**Pg**	**02 59 27.4**	**-0.4**
SSF			*e*Sn	**Sn**	**02 59 57.9**	**-1.9**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**03 00 21.0**	**-0.2**
	comp=Z,595nm,0.8s					
SSF	**Saint Saulge**	**4.12 219**	*e*P	**Pn**	**02 59 11.3**	**-0.4**
SSF			*e*		02 59 57.9	
SSF	**Saint Saulge**	**4.12 219**	*e*Pn	**Pn**	**02 59 11.3**	**-0.4**
	SNR=1.0					
SSF			*e*Sn	**Sn**	**02 59 57.9**	**-1.9**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**03 00 21.0**	**-0.2**
	comp=Z,298nm,0.8s					
SSF	**Saint Saulge**	**4.12 219**	*e*Pn	**Pn**	**02 59 11.3**	**-0.4**
SSF			*e*Pg	**Pg**	**02 59 27.4**	**-0.4**
SSF			*e*Sn	**Sn**	**02 59 57.9**	**-1.9**
SSF			*e*Sg	**Sg**	**03 00 21.0**	**-0.2**
WTTA	**Wattenberg**	**4.20 135**	⇑*i*Pn	**Pn**	**02 59 14.2**	**+1.5**
WTTA			⇓*i*Sn	**Sn**	**03 00 04.5**	**+2.8**
WTTA	**Wattenberg**	**4.20 135**	⇑*i*Pn	**Pn**	**02 59 14.2**	**+1.5**
WTTA			*i* Sn	**Sn**	**03 00 04.5**	**+2.9**
KHC	**Kasperske Hory**	**4.25 104**	*e*PN	**Pn**	**02 59 14.0**	**+0.6**
KHC			*ex*	x	02 59 17.6	
KHC			*e*SN	**Sn**	**03 00 00.5**	**-2.3**
KHC			*e*SG	**Sg**	**03 00 20.7**	**-4.4**
	comp=Z,80nm,0.6s					
BRG	**Berggiesshubel**	**4.27 80**	*e*Pn	**Pn**	**02 59 13.9**	**+0.2**
BRG	**Berggiesshubel**	**4.27 80**	PN	**Pn**	**02 59 14.1**	**+0.4**
BRG			PG	**Pg**	**02 59 28.6**	**-2.0**
BRG			SG	**Sg**	**03 00 20.9**	**-4.9**
	comp=Z,139nm,0.9s					
HYF	**Humbligny**	**4.34 227**	*e*Pn	**Pn**	**02 59 15.4**	**+0.7**
HYF			*e*Pg	**Pg**	**02 59 29.9**	**-2.1**
HYF			*e*Sn	**Sn**	**03 00 04.3**	**-0.9**
HYF			*e*Sg	**Sg**	**03 00 28.0**	**-0.3**
SMF	**Signal de Mont**	**4.34 213**	*e*Pg	**Pg**	**02 59 29.7**	**-2.4**
SMF			*e*Sn	**Sn**	**03 00 03.9**	**-1.3**
SMF			*e*Sg	**Sg**	**03 00 26.5**	**-1.8**
	comp=Z,165nm,0.3s,SNR=1.0					
SMF	**Signal de Mont**	**4.34 213**	*e*P	**Pn**	**02 59 13.8**	**-0.9**
SMF			*e*		03 00 03.9	
SMF	**Signal de Mont**	**4.34 213**	*e*Pg	**Pg**	**02 59 29.7**	**-2.4**
SMF			*e*Sn	**Sn**	**03 00 03.9**	**-1.3**
SMF			*e*Sg	**Sg**	**03 00 26.5**	**-1.8**
	comp=Z,82nm,0.3s,SNR=1.0					
SMF	**Signal de Mont**	**4.34 213**	*e*Pn	**Pn**	**02 59 13.8**	**-0.9**
SMF			*e*Pg	**Pg**	**02 59 29.7**	**-2.4**
SMF			*e*Sn	**Sn**	**03 00 03.9**	**-1.3**
SMF			*e*Sg	**Sg**	**03 00 26.5**	**-1.8**
AVF	**Avril sur Loir**	**4.40 218**	*e*Pg	**Pg**	**02 59 31.9**	**-1.3**
AVF			*e*Sn	**Sn**	**03 00

LDF				eSn	Sn	03 00 23.4	-1.5
	comp=Z,30nm,0.4s,SNR=1.0						
LDF				eSg	Sg	03 00 52.4	-1.5
	comp=Z,225nm,0.8s						
LDF	**La Druitiere**	**5.14**	**253**	ePn	Pn	02 59 26.8	+1.1
LDF				ePg	Pg	02 59 45.2	-2.1
LDF				eSn	Sn	03 00 23.4	-1.5
LDF				eSg	Sg	03 00 52.4	-1.5
KBA	**Koelnbreinsper**	**5.16**	**127**	i Pn	Pn	02 59 28.2	+2.3
	SNR=40						
RSP	**Reno Superiore**	**5.18**	**180**	P	Pn	02 59 27.7	+1.5
RSP	**Reno Superiore**	**5.18**	**180**	P	Pn	02 59 27.7	+1.5
MOA	**Molln**	**5.21**	**116⇑**	iPn	Pn	02 59 27.9	+1.3
	SNR=31						
TCF	**Toulx Ste Croi**	**5.28**	**222**	ePg	Pg	02 59 48.4	-1.5
TCF				eSn	Sn	03 00 26.1	-2.2
TCF				eSg	Sg	03 00 57.1	-1.2
	comp=Z,216nm,0.7s						
TCF	**Toulx Ste Croi**	**5.28**	**222**	eP	Pn	02 59 27.2	-0.4
TCF				e		03 00 26.1	
TCF	**Toulx Ste Croi**	**5.28**	**222**	ePg	Pg	02 59 48.4	-1.5
TCF				eSn	Sn	03 00 26.1	-2.2
TCF				eSg	Sg	03 00 57.1	-1.2
	comp=Z,108nm,0.7s						
TCF	**Toulx Ste Croi**	**5.28**	**222**	ePn	Pn	02 59 27.2	-0.4
TCF				ePg	Pg	02 59 48.4	-1.5
TCF				eSn	Sn	03 00 26.1	-2.2
TCF				eSg	Sg	03 00 57.1	-1.2
BNI	**Bardonecchia**	**5.30**	**185**	ePn	Pn	02 59 26.0	-1.8
BNI	**Bardonecchia**	**5.30**	**185**	ePg	Pg	02 59 49.6	-0.7
BNI	**Bardonecchia**	**5.30**	**185**	ePn	Pn	02 59 26.0	-1.8
BNI				ePg	Pg	02 59 49.6	-0.7
FLN	**La Foliniere**	**5.30**	**256**	ePn	Pn	02 59 28.7	+0.8
	baz=71,SNR=1.0						
FLN	**La Foliniere**	**5.30**	**256**	ePg	Pg	02 59 49.1	-1.3
	baz=65,SNR=1.0						
FLN				eSn	Sn	03 00 26.1	-2.7
FLN				eSg	Sg	03 00 55.8	-3.2
	comp=Z,206nm,0.4s,SNR=1.0						
FLN	**La Foliniere**	**5.30**	**256**	eP	Pn	02 59 28.7	+0.8
FLN				e		03 00 26.1	
FLN	**La Foliniere**	**5.30**	**256**	ePg	Pg	02 59 49.1	-1.3
	SNR=1.0						
FLN				eSn	Sn	03 00 26.1	-2.7
FLN				eSg	Sg	03 00 55.8	-3.2
	comp=Z,103nm,0.4s,SNR=1.0						
FLN	**La Foliniere**	**5.30**	**256**	ePn	Pn	02 59 28.7	+0.8
FLN				ePg	Pg	02 59 49.1	-1.3
FLN				eSn	Sn	03 00 26.1	-2.7
FLN				eSg	Sg	03 00 55.8	-3.2
SSB	**Saint Sauveur**	**5.38**	**201**	Pn	Pn	02 59 28.8	-0.2
SSB	**Saint Sauveur**	**5.38**	**201**	ePn	Pn	02 59 28.4	-0.6
SSB	**Saint Sauveur**	**5.38**	**201**	ePg	Pg	02 59 50.7	-1.2
SSB	**Saint Sauveur**	**5.38**	**201**	ePn	Pn	02 59 28.4	-0.6
SSB				ePg	Pg	02 59 50.7	-1.2
SSB				eSg	Sg	03 01 01.1	-0.5
COLF	**Collangettes**	**5.39**	**208**	Pn	Pn	02 59 29.6	+0.5
TREC	**Trest**	**5.40**	**98**	ePN	Pn	02 59 31.1	+1.9
PYM	**Petit Puy Mans**	**5.41**	**214**	Pn	Pn	02 59 28.6	-0.7
BHB	**Bricherasio**	**5.49**	**180**	P	Pn	02 59 31.9	+1.4
BHB	**Bricherasio**	**5.49**	**180**	P	Pn	02 59 31.9	+1.4
ORIF	**Oris-en-Rattie**	**5.50**	**191**	ePg	Pg	02 59 50.9	-3.2
ORIF				eSg	Sg	03 01 04.2	-1.1
	comp=Z,103nm,0.7s						
ORIF	**Oris-en-Rattie**	**5.50**	**191**	ePg	Pg	02 59 50.9	-3.2
ORIF				eSg	Sg	03 01 04.2	-1.1
	comp=Z,52nm,0.7s						
ORIF	**Oris-en-Rattie**	**5.50**	**191**	ePn	Pn	02 59 30.9	+0.3
ORIF				ePg	Pg	02 59 50.9	-3.2
ORIF				eSg	Sg	03 01 04.2	-1.1
UPC	**Upice**	**5.57**	**85**	eP	Pn	02 59 32.9	+1.3
VERF	**Verneugheol**	**5.60**	**217**	Pn	Pn	02 59 32.1	+0.1
MYKA	**Terra Mystica**	**5.61**	**129⇑**	iPn	Pn	02 59 34.6	+2.6
MYKA				⇑iSn	Sn	03 00 38.7	+2.3
MBDF	**Montbardon**	**5.62**	**184**	ePg	Pg	02 59 54.3	-2.1
MBDF				eSg	Sg	03 01 05.7	-3.4
	comp=Z,72nm,0.9s						
MBDF	**Montbardon**	**5.62**	**184**	ePg	Pg	02 59 54.3	-2.1
MBDF				eSg	Sg	03 01 05.7	-3.4
	comp=Z,36nm,0.9s						
MBDF	**Montbardon**	**5.62**	**184**	ePn	Pn	02 59 33.3	+1.1
MBDF				ePg	Pg	02 59 54.3	-2.1
MBDF				eSg	Sg	03 01 05.7	-3.4
GRR	**Gorron**	**5.67**	**253**	ePg	Pg	02 59 55.5	-2.0
GRR				eSn	Sn	03 00 34.8	-3.2
GRR				eSg	Sg	03 01 09.3	-1.6
	comp=Z,254nm,0.6s						
GRR	**Gorron**	**5.67**	**253**	eP	Pn	02 59 33.5	+0.5
GRR				e		03 00 34.8	
GRR	**Gorron**	**5.67**	**253**	ePg	Pg	02 59 55.5	-2.0
GRR				eSn	Sn	03 00 34.8	-3.2
GRR				eSg	Sg	03 01 09.3	-1.6
	comp=Z,127nm,0.6s						
GRR	**Gorron**	**5.67**	**253**	ePn	Pn	02 59 33.5	+0.5
GRR				ePg	Pg	02 59 55.5	-2.0
GRR				eSn	Sn	03 00 34.8	-3.2
GRR				eSg	Sg	03 01 09.3	-1.6
KSP	**Ksiaz**	**5.75**	**81**	ePn	Pn	02 59 35.4	+1.4
KSP				eSg	Sg	03 01 06.3	-7.1
VIVF	**Saint-Julien-l**	**5.76**	**199**	ePg	Pg	02 59 56.9	-2.2
VIVF				eSn	Sn	03 00 38.1	-1.9
VIVF				eSg	Sg	03 01 11.2	-2.4
	comp=Z,70nm,0.7s,SNR=1.0						
VIVF	**Saint-Julien-l**	**5.76**	**199**	eP	Pn	02 59 33.7	-0.4
VIVF				e		03 00 38.1	
VIVF	**Saint-Julien-l**	**5.76**	**199**	ePg	Pg	02 59 56.9	-2.2
VIVF				eSg	Sg	03 01 11.2	-2.4
	comp=Z,35nm,0.7s,SNR=1.0						
VIVF	**Saint-Julien-l**	**5.76**	**199**	ePn	Pn	02 59 33.7	-0.4
VIVF				ePg	Pg	02 59 56.9	-2.2
VIVF				eSn	Sn	03 00 38.1	-1.9
VIVF				eSg	Sg	03 01 11.2	-2.4
DPC	**Dobruska-Polom**	**5.78**	**86**	ePN	Pn	02 59 36.0	+1.6
DPC				eSG	Sg	03 01 08.1	-6.2
	comp=Z,95nm,0.9s						
DPC	**Dobruska-Polom**	**5.78**	**86**	ePn	Pn	02 59 36.0	+1.6
	comp=Z,95nm,0.9s						
DPC				eSg	Sg	03 01 08.1	-6.2
LBL	**Lubilhac**	**5.78**	**210**	Pn	Pn	02 59 35.4	+0.9
PCP	**Piancastagn**	**5.85**	**171**	P	Pn	02 59 37.2	+1.8
PCP	**Piancastagn**	**5.85**	**171**	P	Pn	02 59 37.2	+1.8
ROB	**Robourent**	**6.05**	**176**	P	Pn	02 59 42.3	+4.2
ROB	**Robourent**	**6.05**	**176**	P	Pn	02 59 42.3	+4.2
VRAC	**Vranov**	**6.10**	**96**	Pn	Pn	02 59 39.7	+0.9
	comp=Z,0.4nm,0.3s,baz=151,slow=19,SNR=2.9						
VRAC				Sn	Sn	03 00 50.3	+1.7
	comp=Z,1.4nm,0.3s,baz=194,slow=10,SNR=3.7						
VRAC				Lg		03 01 20.4	
	comp=Z,3.7nm,0.3s,baz=358,slow=17,SNR=7.8						
ENR	**Entracque**	**6.11**	**179**	P	Pn	02 59 41.6	+2.7
SC2M	**Scurtabo**	**6.12**	**165**	P	Pn	02 59 42.1	+3.0
SC2M	**Scurtabo**	**6.12**	**165**	P	Pn	02 59 42.1	+3.0
GRAM	**Graiana**	**6.13**	**161**	P	Pn	02 59 45.8	+6.5
FIN	**Finale Ligure**	**6.15**	**174**	P	Pn	02 59 42.7	+3.1
OBKA	**Obir**	**6.15**	**126⇓**	iPn	Pn	02 59 41.0	+1.4
	SNR=31						
OBKA				⇑iSn	Sn	03 00 47.5	-2.4
VOY	**Vojsko**	**6.16**	**132**	ePn	Pn	02 59 41.7	+2.1
VOY				e		02 59 46.9	
VOY				eSn	Sn	03 00 45.7	-4.2
CODM	**Codolo**	**6.19**	**163**	P	Pn	02 59 44.7	+4.7
CODM	**Codolo**	**6.19**	**163**	P	Pn	02 59 44.7	+4.6
COP	**Copenhagen**	**6.20**	**28**	i P	Pn	02 59 43.1	+3.0
COP				i S	Sn	03 00 44.1	-6.7
MFF	**Saint Martin d**	**6.20**	**236**	ePg	Pg	03 00 04.1	-3.4
	SNR=1.0						
MFF				eSn	Sn	03 00 46.2	-4.7
	SNR=1.0						
MFF				eSg	Sg	03 01 25.9	-1.8
	comp=Z,233nm,0.9s						
MFF	**Saint Martin d**	**6.20**	**236**	ePg	Pg	03 00 04.1	-3.4
	SNR=1.0						
MFF				eSn	Sn	03 00 46.2	-4.7
	SNR=1.0						
MFF				eSg	Sg	03 01 25.9	-1.8
	comp=Z,116nm,0.9s						
MFF	**Saint Martin d**	**6.20**	**236**	ePn	Pn	02 59 40.0	-0.2
MFF				ePg	Pg	03 00 04.1	-3.4
MFF				eSn	Sn	03 00 46.2	-4.7
MFF				eSg	Sg	03 01 25.9	-1.8
MUD	**Monsted U'grnd**	**6.24**	**10**	i P	Pn	02 59 39.9	-0.8
MUD				i S	Sn	03 00 45.9	-6.0
RORO	**Rocca Rossa**	**6.24**	**175**	P	Pn	02 59 46.3	+5.5

RORO	**Rocca Rossa**	**6.24**	**175**	P	Pn	02 59 46.3	+5.5
ARSA	**Arzberg**	**6.25**	**116⇑**	iPn	Pn	02 59 42.7	+1.9
	SNR=18						
SOKA	**Soboth**	**6.30**	**122⇑**	iPn	Pn	02 59 42.5	+0.9
SOKA				⇓iSn	Sn	03 00 52.5	-1.0
BACM	**Baccana**	**6.34**	**162**	P	Pn	02 59 47.1	+5.0
BACM	**Baccana**	**6.34**	**162**	P	Pn	02 59 47.1	+4.9
JAVS	**Javornik**	**6.34**	**132**	i Pn	Pn	02 59 44.1	+1.9
JAVS				i Sn	Sn	03 00 52.2	-2.2
RJF	**Les Rejaudoux**	**6.36**	**220**	ePn	Pn	02 59 41.9	-0.5
	SNR=1.0						
RJF				eSn	Sn	03 00 51.4	-3.4
	SNR=1.0						
RJF				eSg	Sg	03 01 28.6	-4.2
	comp=Z,98nm,0.5s,SNR=1.0						
RJF	**Les Rejaudoux**	**6.36**	**220**	eP	Pn	02 59 41.9	-0.5
RJF				e		03 00 51.4	
RJF	**Les Rejaudoux**	**6.36**	**220**	ePn	Pn	02 59 41.9	-0.5
	SNR=1.0						
RJF				eSn	Sn	03 00 51.4	-3.4
	SNR=1.0						
RJF				eSg	Sg	03 01 28.6	-4.2
	comp=Z,49nm,0.5s,SNR=1.0						
PERS	**Pernice**	**6.38**	**122**	i Pn	Pn	02 59 44.4	+1.8
PERS				i Sn	Sn	03 00 51.9	-3.4
CAF	**Calviac**	**6.46**	**215**	ePn	Pn	02 59 42.6	-1.2
	SNR=1.0						
CAF				eSn	Sn	03 00 53.8	-3.5
	comp=Z,19nm,0.4s,SNR=1.0						
CAF				eSg	Sg	03 01 34.3	-1.8
	comp=Z,110nm,0.5s						
CAF	**Calviac**	**6.46**	**215**	eP	Pn	02 59 42.6	-1.2
CAF				e		03 00 53.8	
CAF	**Calviac**	**6.46**	**215**	ePn	Pn	02 59 42.6	-1.2
	SNR=1.0						
CAF				eSn	Sn	03 00 53.8	-3.5
	comp=Z,9.6nm,0.4s,SNR=1.0						
CAF				eSg	Sg	03 01 34.3	-1.8
	comp=Z,55nm,0.5s						
SMRF	**Simiane la Rot**	**6.46**	**191**	ePg	Pg	03 00 10.1	-2.5
SMRF				eSg	Sg	03 01 34.0	-2.2
	comp=Z,20nm,0.7s,SNR=1.0						
SMRF	**Simiane la Rot**	**6.46**	**191**	ePg	Pg	03 00 10.1	-2.5
SMRF				eSg	Sg	03 01 34.0	-2.2
	comp=Z,9.9nm,0.7s,SNR=1.0						
SMRF	**Simiane la Rot**	**6.46**	**191**	ePn	Pn	02 59 44.4	+0.6
SMRF				ePg	Pg	03 00 10.1	-2.5
SMRF				eSg	Sg	03 01 34.0	-2.2
SBF	**Sospel**	**6.47**	**179**	eP	Pn	02 59 49.9	+6.0
SBF				eSn	Sn	03 00 52.6	-5.0
	comp=Z,29nm,0.5s,SNR=1.0						
SBF	**Sospel**	**6.47**	**179**	ePn	Pn	02 59 44.8	+0.9
SBF				eP		02 59 49.9	
SBF				eSn	Sn	03 00 52.6	-5.0
NEGI	**Seborga**	**6.49**	**177**	P	Pn	02 59 48.7	+4.5
NEGI	**Seborga**	**6.49**	**177**	P	Pn	02 59 48.7	+4.5
SARO	**Sassorosso**	**6.50**	**160**	P	Pn	02 59 48.5	+4.2
SARO	**Sassorosso**	**6.50**	**160**	P	Pn	02 59 48.5	+4.2
SARO	**Sassorosso**	**6.50**	**160**	P	Pn	02 59 48.5	+4.2
VLC	**Villacollemand**	**6.52**	**160**	ePn	Pn	02 59 44.2	-0.4
VLC	**Villacollemand**	**6.52**	**160**	ePn	Pn	02 59 44.2	-0.4
MORC	**Moravsky Berou**	**6.62**	**91**	ePn	Pn	02 59 44.2	-1.8
MORC				eSg	Sg	03 01 35.9	-5.4
MORC	**Moravsky Berou**	**6.62**	**91**	ePn	Pn	02 59 44.2	-1.7
MORC				eSg	Sg	03 01 35.9	-5.4
SOP	**Sopron**	**6.64**	**110⇓**	ePn	Pn	02 59 50.2	+4.0
BSD	**Bornholm Skovb**	**6.66**	**41**	i P	Pn	02 59 44.1	-2.4
BSD				i S	Sn	03 00 55.7	-6.5
BSD	**Bornholm Skovb**	**6.66**	**41**	i P	Pn	02 59 44.1	-2.4
BSD				i S	Sn	03 00 55.7	-6.5
BSD				eLG		03 01 18.1	
LASF	**Ste Croix**	**6.68**	**202**	ePg	Pg	03 00 13.1	-3.6
	SNR=1.0						
LASF				eSn	Sn	03 01 01.3	-1.5
	SNR=1.0						
LASF				eSg	Sg	03 01 42.1	-1.1
	comp=Z,118nm,0.8s						
LASF	**Ste Croix**	**6.68**	**202**	ePg	Pg	03 00 13.1	-3.6
	SNR=1.0						
LASF				eSg	Sg	03 01 42.1	-1.1
	comp=Z,59nm,0.8s						
LASF	**Ste Croix**	**6.68**	**202**	ePn	Pn	02 59 46.3	-0.5
LASF				ePg	Pg	03 00 13.1	-3.6
LASF				eSn	Sn	03 01 01.3	-1.5
LASF				eSg	Sg	03 01 42.1	-1.1
ZST	**Bratislava**	**6.76**	**105**	ePn	Pn	02 59 49.7	+1.8
ZST				i Pn	Pn	02 59 51.5	+3.6
ZST				eSg	Sg	03 01 40.3	-5.5
SGMF	**Saint Gilles**	**6.77**	**256**	ePn	Pn	02 59 48.6	+0.5
	SNR=1.0						
SGMF				eSn	Sn	03 01 00.0	-5.1
	SNR=1.0						
SGMF				eSg	Sg	03 01 42.0	-4.1
	comp=Z,296nm,0.8s						
SGMF	**Saint Gilles**	**6.77**	**256**	eP	Pn	02 59 48.6	+0.5
SGMF				e		03 01 00.0	
SGMF	**Saint Gilles**	**6.77**	**256**	ePn	Pn	02 59 48.6	+0.5
	SNR=1.0						
SGMF				eSn	Sn	03 01 00.0	-5.1
	SNR=1.0						
SGMF				eSg	Sg	03 01 42.0	-4.1
	comp=Z,148nm,0.8s						
MAIM	**Mastiano**	**6.78**	**160**	P	Pn	02 59 51.7	+3.6
MAIM	**Mastiano**	**6.78**	**160**	P	Pn	02 59 51.7	+3.6
VISS	**Visnje**	**6.78**	**129**	i Pn	Pn	02 59 49.5	+1.3
VISS				i Sn	Sn	03 01 01.1	-4.2
FRF	**La Foret Royal**	**6.79**	**184**	ePg	Pg	03 00 16.5	-2.2
FRF				eSn	Sn	03 01 01.6	-3.8
FRF				eSg	Sg	03 01 41.3	-5.3
	comp=Z,12nm,0.6s,SNR=1.0						
FRF	**La Foret Royal**	**6.79**	**184**	ePn	Pn	02 59 49.7	+1.5
	SNR=1.0						
FRF				eSn	Sn	03 01 01.6	-3.8
FRF	**La Foret Royal**	**6.79**	**184**	ePn	Pn	02 59 49.7	+1.5
FRF				ePg	Pg	03 00 16.5	-2.2
FRF				eSn	Sn	03 01 01.6	-3.8
FRF				eSg	Sg	03 01 41.3	-5.3
MODS	**Modra-Piesok**	**6.81**	**103**	i PN	Pn	02 59 54.5	+6.0
MODS				eSB	Sb	03 01 38.2	+10
MODS	**Modra-Piesok**	**6.81**	**103**	eSg	Sg	03 01 38.3	-8.9
MODS	**Modra-Piesok**	**6.81**	**103**	i Pn	Pn	02 59 54.5	+6.0
MODS				eSg	Sg	03 01 38.3	-8.9
LFF	**La Frestale**	**6.98**	**222**	ePn	Pn	02 59 50.8	-0.1
	SNR=1.0						
LFF				eSn	Sn	03 01 05.7	-4.4
	comp=Z,32nm,0.4s,SNR=1.0						
LFF				eSg	Sg	03 01 51.6	-1.1
	comp=Z,164nm,0.5s						
LFF	**La Frestale**	**6.98**	**222**	eP	Pn	02 59 50.8	-0.1
LFF				e		03 01 05.7	
LFF	**La Frestale**	**6.98**	**222**	ePn	Pn	02 59 50.8	-0.1
	SNR=1.0						
LFF				eSn	Sn	03 01 05.7	-4.4
	comp=Z,16nm,0.4s,SNR=1.0						
LFF				eSg	Sg	03 01 51.6	-1.1
	comp=Z,82nm,0.5s						
LMR	**La Mourre**	**7.02**	**185**	ePn	Pn	02 59 52.4	+1.0
	SNR=1.0						
LMR				eSn	Sn	03 01 07.2	-3.9
	SNR=1.0						
LMR				eSg	Sg	03 01 51.6	-2.4
	comp=Z,26nm,0.8s						
LMR	**La Mourre**	**7.02**	**185**	eP	Pn	02 59 52.4	+1.0
LMR				e		03 01 07.2	
LMR	**La Mourre**	**7.02**	**185**	ePn	Pn	02 59 52.4	+1.0
	SNR=1.0						
LMR				eSn	Sn	03 01 07.2	-3.9
	SNR=1.0						
LMR				eSg	Sg	03 01 51.6	-2.4
	comp=Z,13nm,0.8s						
ROSF	**Rostrenen**	**7.19**	**258**	ePn	Pn	02 59 54.3	+0.5
	SNR=1.0						
ROSF				eSn	Sn	03 01 10.6	-4.7
	SNR=1.0						
ROSF				eSg	Sg	03 01 54.1	-5.4
	comp=Z,187nm,0.7s						
ROSF	**Rostrenen**	**7.19**	**258**	ePn	Pn	02 59 54.3	+0.5
	SNR=1.0						
ROSF				eSn	Sn	03 01 10.6	-4.7
	SNR=1.0						
BOJS	**Bojanci**	**7.20**	**129**	i Pn	Pn	02 59 55.4	+1.5
BOJS				i Sn	Sn	03 01 10.8	-4.7
QUIF	**Quistinic**	**7.28**	**255**	ePn	Pn	02 59 55.4	+0.4
	SNR=1.0						

QUIF				eSn	Sn	03 01 12.9	-4.6
QUIF				eSg	Sg	03 01 59.4	-2.9
	comp=Z,138nm,0.6s						
QUIF	**Quistinic**	**7.28**	**255**	eP	Pn	02 59 55.4	+0.4
QUIF				e		03 01 12.9	
QUIF	**Quistinic**	**7.28**	**255**	ePn	Pn	02 59 55.4	+0.4
	SNR=1.0						
QUIF				eSn	Sn	03 01 12.9	-4.6
QUIF				eSg	Sg	03 01 59.4	-2.9
	comp=Z,69nm,0.6s						
KOLL	**Kolacno**	**7.45**	**99**	ePN	Pn	02 59 59.7	+2.4
KOLL				eSB	Sb	03 01 55.1	+8.5
VYHS	**Vyhne**	**7.75**	**99**	ePN	Pn	03 00 02.9	+1.5
VYHS				eSB	Sb	03 02 11.2	+16
MTLF	**Montolieu**	**7.81**	**208**	ePg	Pn	03 00 33.2	+31
MTLF				eSn	Sn	03 01 25.3	-5.2
	SNR=1.0						
MTLF				eSg	Sn	03 02 14.6	+44
	comp=Z,35nm,0.7s						
MTLF	**Montolieu**	**7.81**	**208**	eP	Pn	03 00 02.1	-0.2
MTLF				e		03 01 25.3	
MTLF	**Montolieu**	**7.81**	**208**	ePg	Pn	03 00 33.2	+31
MTLF				eSn	Sn	03 01 25.3	-5.2
	SNR=1.0						
MTLF				eSg	Sn	03 02 14.6	+44
	comp=Z,18nm,0.7s						
MTLF	**Montolieu**	**7.81**	**208**	ePn	Pn	03 00 02.1	-0.2
MTLF				ePg	Pn	03 00 33.2	+31
MTLF				eSn	Sn	03 01 25.3	-5.2
MTLF				eSg	Sn	03 02 14.6	+44
PGF	**Pioggiola**	**7.87**	**171**	eP	Pn	03 00 07.7	+4.6
PGF				eSn	Sn	03 01 28.7	-3.4
	comp=Z,22nm,1.0s						
PGF	**Pioggiola**	**7.87**	**171**	ePn	Pn	03 00 02.7	-0.4
PGF				eP		03 00 07.7	
PGF				eSn	Sn	03 01 28.7	-3.4
OJC	**Ojcow**	**8.01**	**86**	ePn	Pb	03 00 18.1	-9.5
OJC				eSn	Sb	03 01 55.9	-7.0
OJC	**Ojcow**	**8.01**	**86**	ePn	Pb	03 00 18.1	-9.5
OJC				eSn	Sb	03 01 55.9	-7.0
OJC				eS	Sx	03 02 20.6	
SNART	**Snartemo**	**8.03**	**360**	eP	Pn	03 00 03.5	-1.7
SNART				eS	Sn	03 01 28.4	-7.5
SNART				AML	AML	03 01 52.5	
	comp=Z,13nm,0.5s						
EKA	**Eskdalemuir Ar**	**8.07**	**312**	Pn	Pn	03 00 06.2	+0.3
	comp=Z,2.1nm,0.3s,baz=126,slow=15,SNR=49						
EKA				Sn	Sn	03 01 36.9	-0.1
	comp=Z,1.9nm,0.3s,baz=123,slow=24,SNR=5.1						
EKA	**Eskdalemuir Ar**	**8.07**	**312**	P	Pn	03 00 06.2	+0.3
EKA						03 01 36.9	
EKA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
EKA				smax			
	comp=N,2.0nm,0.3s						
ESK	**Eskdalemuir**	**8.09**	**312**	ePn	Pn	03 00 06.0	0.0
ESK				eSn	Sn	03 01 31.8	-5.5
ESK	**Eskdalemuir**	**8.09**	**312**	ePn	Pn	03 00 06.0	0.0
ESK				eSn	Sn	03 01 31.8	-5.5
RHK3	**Tenkes**	**8.57**	**117**	eP	Pn	03 00 13.7	+1.0
PSZ	**Piszkesteto**	**8.61**	**101**	eP	Pn	03 00 12.5	-0.7
PSZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PSZ	**Piszkesteto**	**8.61**	**101**	ePn	Pn	03 00 12.5	-0.7
	comp=Z,8.0nm,0.8s						
PSZ	**Piszkesteto**	**8.61**	**101**	ePn	Pn	03 00 12.5	-0.7
	comp=Z,8.0nm,0.8s						
PKSM	**Moragy**	**8.61**	**114⇓**	eP	Pn	03 00 14.2	+0.9
EPF	**Esparros**	**8.72**	**216**	ePg	Pn	03 00 49.6	+35
	SNR=1.0						
EPF				eSn	Sn	03 01 47.6	-5.4
EPF				eSg	Sn	03 02 45.2	+52
	comp=Z,42nm,0.6s						
EPF	**Esparros**	**8.72**	**216**	eP	Pn	03 00 13.4	-1.4
EPF				e		03 01 47.6	
EPF	**Esparros**	**8.72**	**216**	ePn	Pn	03 00 13.4	-1.4
EPF				ePg	Pn	03 00 49.6	+35
EPF				eSn	Sn	03 01 47.6	-5.4
EPF				eSg	Sn	03 02 45.2	+52
KECS	**Kecovo**	**8.80**	**97**	eSG	Sx	03 02 29.4	
KMY	**Karmoy**	**8.98**	**353**	eP	Pn	03 00 16.8	-1.5
KMY				eS	Sn	03 01 51.0	-8.2
KMY				AML	AML	03 01 58.0	
	comp=Z,13nm,0.5s						
KMY	**Karmoy**	**8.98**	**353**	eP	Pn	03 00 16.8	-1.5
	SNR=47						
KMY				eS	Sn	03 01 51.0	-8.3
	comp=Z,13nm,0.5s,SNR=47						
KMY	**Karmoy**	**8.98**	**353**	eP	Pn	03 00 16.8	-1.5
KMY				eS	Sn	03 01 51.0	-8.2
EBIE	**Bielsa**	**9.09**	**216**	P	Pn	03 00 23.6	+3.7
EBIE	**Bielsa**	**9.09**	**216**	P	Pn	03 00 23.6	+3.7
BLS5	**Blasjo**	**9.13**	**357**	eP	Pn	03 00 20.0	-0.3
BLS5				eS	Sn	03 01 55.5	-7.3
BLS5	**Blasjo**	**9.13**	**357**	eP	Pn	03 00 19.9	-0.4
BLS5				eS	Sn	03 01 58.0	-4.8
ETSF	**Etsaut**	**9.19**	**219**	ePn	Pn	03 00 22.5	+1.3
	SNR=1.0						
ETSF				eSn	Sn	03 01 51.4	-13
ETSF				eSg	Sn	03 02 57.3	+53
	comp=Z,84nm,0.9s						
SJPF	**Ste Jean**

comp=Z,1.2nm,0.3s
AKASG Malin Array Be 13.95 80 Pn **Pn 03 01 25.1 -1.2**
comp=Z,0.4nm,0.3s,baz=276,slow=13,SNR=3.5
AKASG Sn **Sn 03 03 49.6 -11**
comp=Z,0.5nm,0.3s,baz=103,slow=30,SNR=6.6
AKASG Malin Array Be 13.95 80 Pn **Pn 03 01 25.0 -1.3**
AKASG Sn **Sn 03 03 49.6 -11**
EVO Evora 16.05 229 *e*Pn **Pn 03 01 54.6 +0.3**
ARCES ARCESS Array B 21.14 18 P **P 03 02 53.4 0.0**
comp=Z,1.2nm,0.8s,mb3.3,baz=203,slow=9.0,SNR=6.2
ARCES ARCESS Array B 21.14 18 P **P 03 02 53.4 +0.1**
ARCES pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 37.36 189 P **P 03 05 23.1 +1.8**
comp=Z,0.3nm,0.6s,mb3.3,baz=360,slow=8.8,SNR=6.0
WMQ Urumqi 52.63 64 *e*P **P 03 07 22.4 -0.1**
LZH Lanzhou 66.99 61 *e*P **P 03 09 00.2 -1.2**
LZH AP pP 03 09 05.0 -0.2
LZH XP sP 03 09 07.5 +0.9
LZH PP PP 03 11 29.5 +1.0
LZH AMB AMB
comp=Z,17nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,68nm,4.2s
CD2 Chengdu 70.71 65 *e*P **P 03 09 23.6 -1.0**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
MDJ Mudanjiang 72.98 39 P **P 03 09 33.6 -4.5**
MDJ AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
KMI Kunming 74.39 70 P **P 03 09 46.9 +0.2**
KMI AP pP 03 09 50.2 -0.3
KMI XP sP 03 09 51.8 -0.1
KMI PP PP 03 12 28.4 -4.1
KMI S S 03 19 17.6 -3.4
KMI SS SS 03 24 05.0 -1.5
KMI SSS 03 27 17.0
KMI AMB AMB
comp=Z,4.0nm,1.3s,mb4.2
KMI AMB AMB
comp=Z,113nm,5.7s
KMI LR LR
comp=N,197nm,15.1s
KMI LR LR
comp=E,132nm,15.1s
KMI LR LR
comp=Z,193nm,15.9s
GYA Guiyang 75.72 66 *e*P **P 03 09 53.4 -0.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8

*BJI **03** 03:32:02.9, 12.19S×73.90W, h83km, mB4.7, Ms4.8, Msz4.7*
*ISCJB **03** 03:32:03.4±0.7, 12.76S±0.05×74.64W±0.06, h91km±6km, mb4.4/46, Error ellipse: s-maj=11.8km s-min=4.8km az=135.8*
*NEIC **03** 03:32:04.4±0.5, 12.82S×74.72W, h88km±5km, mb4.4/38, Error ellipse: s-maj=7.6km s-min=3.8km az=53.0*
NEIC Felt [III] at Lircay.
*IDC **03** 03:32:04.8±1.3, 12.82S×74.69W, h88km±13km, mb4.2/11, mb1 4.3/16, mb1mx4.1/25, mbtmp4.2/16, MS3.4/4, Ms1 3.3/4, ms1mx3.0/30, Error ellipse: s-maj=16.4km s-min=10.1km az=46.0*
ISC 03 03:32:04.7±0.6, 12.79S±0.05×74.64W±0.05, h84km±5km, n192, σ0.66/188, mb4.4/46, 50C-43D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.29**	**290**	P	**Pn**	**03 32 38.8**	**-1.8**
	416nm,0.3s,baz=110,slow=11,SNR=257						
NNA				S	**Sn**	**03 33 08.7**	**+0.6**
	765nm,0.3s,baz=280,slow=14,SNR=20						
NNA				LR	LR	03 33 43.7	
	comp=Z,535nm,19.5s,baz=23,slow=44						
NNA	**Nana**	**2.29**	**290**	*e*Pn	**Pn**	**03 32 38.8**	**-1.8**
ARE	**Arequipa**	**4.75**	**140**	*e*P	**Pn**	**03 33 15.0**	**+1.0**
ARE				*e*S	**Sn**	**03 34 09.0**	**+1.1**
ATAH	**Atahualpa**	**6.84**	**327**	P	**Pn**	**03 33 41.7**	**-0.7**
	39nm,0.3s,baz=157,slow=6.3,SNR=149						
ATAH				S	**Sn**	**03 34 58.5**	**-0.3**
	12nm,0.3s,baz=179,slow=17,SNR=7.1						
LPAZ	**La Paz**	**7.20**	**120**	P	**Pn**	**03 33 49.0**	**+1.7**
	6.8nm,0.3s,baz=304,slow=12,SNR=153						
LPAZ	**La Paz**	**7.20**	**120**	*e*Pn	**Pn**	**03 33 48.9**	**+1.6**
	22nm,0.5s						
LVC	**Limon Verde**	**11.19**	**152**	P	**Pn**	**03 34 38.5**	**-3.2**
	1.2nm,0.3s,baz=334,slow=7.1,SNR=10						
LVC				S	**Sn**	**03 36 36.0**	**-8.9**
	1.1nm,0.3s,baz=82,slow=18,SNR=13						
LVC	**Limon Verde**	**11.19**	**152**	*e*Pn	**Pn**	**03 34 40.8**	**-0.9**
OTAV	**Otavalo**	**13.48**	**343**	*e*Pn	**Pn**	**03 35 13.2**	**+0.6**
SIV	**San Ignacio**	**13.53**	**105**	P	**Pn**	**03 35 11.8**	**-1.3**
	1.2nm,0.3s,baz=301,slow=12,SNR=29						
ROSC	**El Rosal**	**17.54**	**1**	P	**Pn**	**03 36 04.6**	**+0.8**
	1.8nm,0.3s,baz=134,slow=5.9,SNR=7.0						
ROSC				LR	LR	03 43 33.2	
	comp=Z,119nm,18.1s,baz=23,slow=39						
ROSC	**El Rosal**	**17.54**	**1**	*e*Pn	**Pn**	**03 36 05.9**	**+2.1**
CFAA	**Coronel Fontan**	**19.63**	**164**	P	**Pn**	**03 36 27.7**	**-1.0**
	0.1nm,0.3s,baz=332,slow=8.4,SNR=13						
SDV	**Santo Domingo**	**21.90**	**11**	P	**P**	**03 36 51.6**	**+0.5**
	31nm,0.7s,mb4.8,baz=212,slow=8.8,SNR=30						
SDV				S	**S**	**03 40 50.0**	**+1.6**
	2.0nm,0.5s,baz=100,slow=22,SNR=2.3						
SDV	**Santo Domingo**	**21.90**	**11**	*e*P	**P**	**03 36 51.9**	**+0.8**
	44nm,0.9s,mb4.8						
BDFB	**Brasilia**	**25.96**	**99**	P	**P**	**03 37 30.1**	**+0.5**
	1.6nm,0.7s,mb3.6,baz=270,slow=18,SNR=5.1						
BDFB				LR	LR	03 48 56.8	
	comp=Z,56nm,19.2s,baz=186,slow=39						
PLCA	**Paso Flores**	**28.06**	**173**	P	**P**	**03 37 47.3**	**-0.8**
	1.4nm,0.7s,mb3.6,baz=330,slow=8.8,SNR=5.1						
PLCA				LR	LR	03 49 18.9	
	comp=Z,94nm,18.6s,baz=127,slow=37						
PLCA	**Paso Flores**	**28.06**	**173**	*e*P	**P**	**03 37 47.2**	**-0.9**
	1.9nm,0.8s,mb3.7						
SJG	**San Juan**	**31.83**	**15**	P	**P**	**03 38 22.8**	**+1.1**
	11nm,0.6s,mb4.7,baz=164,slow=7.4,SNR=2.4						
SJG	**San Juan**	**31.83**	**15**	*e*P	**P**	**03 38 21.8**	**+0.2**
	19nm,0.9s,mb4.8						
HKT	**Hockley**	**47.15**	**335**	*e*P	**P**	**03 40 28.0**	**-0.7**
	1.4nm,0.7s,mb3.8						
SWET	**Sewanee**	**48.93**	**348**	*e*P	**P**	**03 40 41.4**	**-1.0**
OXF	**Oxford**	**49.09**	**344**	*e*P	**P**	**03 40 42.4**	**-1.2**
	6.8nm,0.5s,mb4.8						
PLAL	**Pickwick Lake**	**49.19**	**345**	*e*P	**P**	**03 40 42.7**	**-1.6**
	6.4nm,0.9s,mb4.5						
ELN	**Prospectdale**	**50.08**	**354**	*e*P	**P**	**03 40 50.8**	**-0.3**
UALR	**University of**	**50.20**	**341**	*e*P	**P**	**03 40 51.0**	**-1.0**
	11nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**50.39**	**327**	P	**P**	**03 40 52.9**	**-0.7**
	2.2nm,0.6s,mb4.3,baz=147,slow=9.5,SNR=18						
MIAR	**Mount Ida**	**50.40**	**340**	*e*P	**P**	**03 40 53.0**	**-0.5**
	15nm,0.8s,mb5.0						
WCI	**Wyandotte Cave**	**51.91**	**348**	*e*P	**P**	**03 41 03.0**	**-1.8**
	6.0nm,0.7s,mb4.7						
SIUC	**Southern Illin**	**52.07**	**345**	*e*P	**P**	**03 41 05.0**	**-1.0**
WMOK	**Wichita Mounta**	**52.53**	**335**	*e*P	**P**	**03 41 08.6**	**-0.8**
	1.2nm,0.7s,mb4.0						
FVM	**French Village**	**52.63**	**344**	*e*P	**P**	**03 41 09.1**	**-1.0**
	5.7nm,0.7s,mb4.7						
OLIL	**Olney**	**52.78**	**347**	*e*P	**P**	**03 41 10.1**	**-1.1**
	9.7nm,0.7s,mb4.9						
CCM	**Cathedral Cave**	**52.92**	**344**	*e*P	**P**	**03 41 10.9**	**-1.4**
	2.2nm,0.5s,mb4.4						
ACSO	**Alum Creek Sta**	**53.32**	**352**	*e*P	**P**	**03 41 14.5**	**-0.6**
	5.6nm,0.7s,mb4.7						
BINY	**Binghamton**	**54.73**	**359**	*e*P	**P**	**03 41 25.3**	**0.0**
319A	**Douglas**	**55.08**	**324**	⇓P	**P**	**03 41 27.8**	**-0.3**
	baz=55						
219A	**White Tail Can**	**55.52**	**324**	⇑P	**P**	**03 41 31.1**	**-0.2**
	baz=56						
318A	**Bisbee**	**55.53**	**323**	⇓P	**P**	**03 41 31.0**	**-0.4**
	baz=56						
218A	**Dragoon**	**55.96**	**324**	⇓P	**P**	**03 41 34.0**	**-0.4**
	baz=56						
ANMO	**Albuquerque**	**56.26**	**329**	*e*P	**P**	**03 41 36.5**	**0.0**
	1.1nm,0.7s,mb4.0						
217A	**Green Valley**	**56.26**	**323**	⇑P	**P**	**03 41 36.1**	**-0.4**
	baz=56						
118A	**Homack Ranch,**	**56.40**	**324**	⇑P	**P**	**03 41 37.2**	**-0.3**
	baz=57						
CBKS	**Cedar Bluff**	**56.44**	**337**	*e*P	**P**	**03 41 37.1**	**-0.6**
	6.3nm,0.8s,mb4.7						
TUC	**Tucson**	**56.63**	**323**	*e*P	**P**	**03 41 38.5**	**-0.7**
	0.7nm,0.8s,mb3.7						
117A	**Oracle**	**56.79**	**324**	⇓P	**P**	**03 41 39.8**	**-0.5**
	baz=57						
216A	**Three Points,**	**56.80**	**323**	⇓P	**P**	**03 41 40.2**	**-0.2**
	baz=57						
Y19A	**Nutrioso**	**56.97**	**326**	⇑P	**P**	**03 41 42.0**	**+0.4**
	baz=57						
Y18A	**Canyon Day Jun**	**57.27**	**325**	⇓P	**P**	**03 41 43.8**	**+0.1**
	baz=58						
116A	**Eloy**	**57.35**	**323**	⇓P	**P**	**03 41 44.2**	**-0.1**
	baz=58						
214A	**Organ Pipe Nat**	**57.58**	**322**	⇑P	**P**	**03 41 45.8**	**-0.2**
	baz=58						
Z16A	**Peralta Trail,**	**57.75**	**324**	⇓P	**P**	**03 41 47.0**	**0.0**
	baz=58						
SDCO	**Great Sand Dun**	**58.01**	**331**	P	**P**	**03 41 48.9**	**+0.1**
	4.5nm,1.0s,mb4.5						
X17A	**Forest Lakes**	**58.12**	**325**	⇓P	**P**	**03 41 50.6**	**+1.0**
	baz=58						
Y16A	**Circle Bar Ran**	**58.16**	**324**	⇑P	**P**	**03 41 50.2**	**+0.3**
	baz=58						
X16A	**Lo Mia Camp, P**	**58.53**	**325**	⇑P	**P**	**03 41 53.1**	**+0.6**
	baz=59						
Y15A	**Casa Rosa Ranc**	**58.71**	**324**	⇑P	**P**	**03 41 54.2**	**+0.5**
	baz=59						
X15A	**Humboldt**	**59.04**	**324**	⇑P	**P**	**03 41 56.8**	**+0.8**
	baz=59						
W16A	**Flagstaff**	**59.08**	**325**	⇑P	**P**	**03 41 56.6**	**+0.3**
	baz=59						
WUAZ	**Wupatki**	**59.30**	**325**	⇑P	**P**	**03 41 58.4**	**+0.6**
	baz=60						
WUAZ	**Wupatki**	**59.30**	**325**	*e*P	**P**	**03 41 57.6**	**-0.2**
	2.9nm,0.8s,mb4.4						
Y13A	**Salome**	**59.49**	**322**	⇓P	**P**	**03 41 59.1**	**-0.1**
	baz=60						
S19A	**Harvey Farm, M**	**59.78**	**329**	⇑P	**P**	**03 42 00.8**	**-0.3**
	baz=60						
V15A	**Kaibab Nationa**	**59.96**	**325**	⇓P	**P**	**03 42 03.2**	**+0.9**
	baz=60						
W13A	**Hualapai Mount**	**60.42**	**323**	⇓P	**P**	**03 42 05.1**	**-0.4**
	baz=61						
U15A	**North Rim**	**60.47**	**326**	⇓P	**P**	**03 42 06.4**	**+0.6**
	baz=61						
IRM	**Iron Mountain**	**60.52**	**322**	⇑P	**P**	**03 42 06.4**	**+0.2**
	baz=61						
Q19A	**Hogan Spring (**	**60.78**	**329**	⇑P	**P**	**03 42 08.2**	**+0.4**
	baz=61						
T15A	**Red Dirt Ranch**	**60.95**	**326**	⇑P	**P**	**03 42 09.8**	**+0.8**
	baz=61						
U14A	**Mt Trumbull**	**60.96**	**325**	⇓P	**P**	**03 42 10.1**	**+1.0**
	baz=61						
V13A	**Grand Canyon W**	**61.01**	**324**	⇑P	**P**	**03 42 09.3**	**-0.2**
	baz=61						
R17A	**Hanksville Air**	**61.10**	**328**	⇑P	**P**	**03 42 10.2**	**+0.2**
	baz=61						
S13A	**Holt Ranch, En**	**62.17**	**325**	⇓P	**P**	**03 42 17.4**	**+0.1**
	baz=62						
T11A	**Corn Creek, Al**	**62.70**	**324**	⇓P	**P**	**03 42 21.0**	**+0.3**
	baz=63						
Q14A	**Sevier Lake (B**	**62.87**	**327**	⇓P	**P**	**03 42 22.1**	**+0.2**
	baz=63						
DAU	**Daniels Canyon**	**62.88**	**329**	*e*P	**P**	**03 42 22.1**	**+0.2**
N17A	**Moffit Pass**	**63.08**	**330**	⇑P	**P**	**03 42 24.1**	**+0.9**
	baz=63						
TPNV	**Topopah Spring**	**63.09**	**323**	⇑P	**P**	**03 42 23.8**	**+0.5**
	baz=63						
R12A	**Pony Springs,**	**63.12**	**326**	⇓P	**P**	**03 42 24.4**	**+0.9**
	baz=63						
P14A	**Drum Mountains**	**63.20**	**327**	⇓P	**P**	**03 42 24.3**	**+0.3**
	baz=63						
MPMC	**Manual Prospec**	**63.22**	**322**	⇓P	**P**	**03 42 24.4**	**+0.1**
	baz=63						
DUG	**Dugway**	**63.51**	**328**	⇓P	**P**	**03 42 26.6**	**+0.6**
	baz=64						
DUG	**Dugway**	**63.51**	**328**	*e*P	**P**	**03 42 26.5**	**+0.4**
	3.6nm,0.8s,mb4.2						
ISA	**Isabella**	**63.55**	**321**	⇓P	**P**	**03 42 26.7**	**+0.2**
	baz=64						
P13A	**Bates Ranch, G**	**63.60**	**327**	⇑P	**P**	**03 42 27.2**	**+0.5**
	baz=64						
M16A	**Huntsville**	**63.75**	**330**	⇑P	**P**	**03 42 28.0**	**+0.4**
	baz=64						
PDAR	**Pinedale Array**	**63.88**	**332**	P	**P**	**03 42 28.3**	**-0.2**
	0.7nm,0.5s,mb3.8,baz=128,slow=8.7,SNR=11						
BW06	**Boulder Array**	**63.88**	**332**	*e*P	**P**	**03 42 27.7**	**-0.8**
	0.9nm,0.5s,mb3.9						
S10A	**Tonopah Range,**	**63.95**	**324**	⇑P	**P**	**03 42 29.3**	**+0.3**
	baz=64						
VES	**Vestal, Richgr**	**64.04**	**321**	⇓P	**P**	**03 42 29.5**	**-0.2**
	baz=64						
Q11A	**Duckwater**	**64.06**	**325**	⇑P	**P**	**03 42 29.9**	**+0.1**
	baz=64						
L16A	**Fish Haven**	**64.19**	**330**	⇑P	**P**	**03 42 30.9**	**+0.5**
	baz=64						
N14A	**Grayback Hills**	**64.19**	**328**	⇑P	**P**	**03 42 30.7**	**+0.2**
	baz=64						
HELL	**Mitchell Peak**	**64.56**	**321**	P	**P**	**03 42 32.7**	**-0.3**
	baz=65						
O12A	**Currie**	**64.58**	**327**	⇑P	**P**	**03 42 33.8**	**+0.7**
	baz=65						
L15A	**Malad City**	**64.64**	**330**	⇑P	**P**	**03 42 33.9**	**+0.4**
	baz=65						
M14A	**Sheep Mountain**	**64.75**	**329**	⇓P	**P**	**03 42 34.0**	**-0.1**
	baz=65						
O11A	**Cowboy Ranch,**	**64.97**	**326**	⇓P	**P**	**03 42 36.2**	**+0.6**
	baz=65						
LOHW	**Long Hollow**	**65.02**	**332**	*e*P	**P**	**03 42 35.3**	**-0.6**
	2.4nm,0.6s,mb4.2						
TPAW	**Teton Pass**	**65.09**	**332**	*e*P	**P**	**03 42 35.6**	**-0.7**
	1.7nm,0.6s,mb4.0						
RRI2	**Red Ridge**	**65.15**	**331**	*e*P	**P**	**03 42 37.0**	**+0.3**
	6.9nm,0.7s,mb4.6						
MOOW	**Moose Ponds**	**65.19**	**332**	*e*P	**P**	**03 42 36.4**	**-0.6**
	1.1nm,0.7s,mb3.8						
IMW	**Indian Meadow**	**65.39**	**332**	*e*P	**P**	**03 42 38.4**	**+0.1**
	1.4nm,0.5s,mb4.0						
ULM	**Lac du Bonnet**	**65.48**	**345**	P	**P**	**03 42 37.6**	**-1.1**
	1.9nm,0.3s,mb4.4,baz=134,slow=7.9,SNR=3.5						
ULM	**Lac du Bonnet**	**65.48**	**345**	*e*P	**P**	**03 42 37.2**	**-1.5**
	2.6nm,0.6s,mb4.2						
L13A	**Double Diamond**	**65.48**	**329**	⇑P	**P**	**03 42 39.2**	**+0.3**
	baz=66						
S06C	**San Francisco**	**65.84**	**322**	⇑P	**P**	**03 42 41.3**	**0.0**
	baz=66						
CMB	**Columbia Colle**	**66.26**	**322**	*e*P	**P**	**03 42 42.8**	**-1.2**
	1.6nm,1.0s,mb3.8						
GCMT	**Greycliff**	**66.31**	**334**	*e*P	**P**	**03 42 44.2**	**0.0**
K12A	**Draper Farm, C**	**66.37**	**329**	P	**P**	**03 42 45.5**	**+0.9**
	baz=67,SNR=5.3						
L11A	**Cat Creek Ranc**	**66.47**	**328**	⇑P	**P**	**03 42 45.6**	**+0.4**
	baz=67						
HLID	**Hailey**	**66.80**	**330**	⇑P	**P**	**03 42 47.6**	**+0.3**
	baz=67						
HLID	**Hailey**	**66.80**	**330**	*e*P	**P**	**03 42 47.8**	**+0.5**
	1.5nm,0.6s,mb4.0						
I13A	**Wildhorse Cree**	**66.91**	**330**	P	**P**	**03 42 49.0**	**+1.0**
	baz=67,SNR=7.4						
BOZ	**Bozeman (W)**	**67.06**	**333**	⇓P	**P**	**03 42 48.8**	**0.0**
	baz=67						
BOZ	**Bozeman (W)**	**67.06**	**333**	*e*P	**P**	**03 42 48.8**	**-0.1**
	1.7nm,0.6s,mb4.0						
L09A	**Wilkinson Ranc**	**67.38**	**327**	⇓P	**P**	**03 42 51.4**	**+0.4**
	baz=68						
MFID	**Camas Ranch**	**67.40**	**329**	⇓P	**P**	**03 42 51.5**	**+0.5**
	baz=68						
H13A	**Challis**	**67.46**	**330**	⇓P	**P**	**03 42 51.9**	**+0.4**
	baz=68						
K10A	**MacKenzie Ranc**	**67.48**	**328**	⇑P	**P**	**03 42 52.3**	**+0.6**
	baz=68						
SCHQ	**Schefferville**	**67.68**	**5**	*e*P	**P**	**03 42 52.2**	**-0.4**
	2.9nm,0.8s,mb4.2						
N06A	**Buffalo Meadow**	**67.71**	**324**	P	**P**	**03 42 53.5**	**+0.4**
	baz=68,SNR=5.1						
H12A	**Diamond D Ranc**	**67.74**	**330**	⇓P	**P**	**03 42 53.7**	**+0.5**
	baz=68						
I11A	**Placerville**	**67.82**	**329**	⇑P	**P**	**03 42 54.2**	**+0.5**
	baz=68						
G13A	**Cobalt**	**67.84**	**331**	P	**P**	**03 42 54.6**	**+0.8**
	baz=68,SNR=5.8						
L08A	**Fields**	**67.86**	**326**	⇓P	**P**	**03 42 53.9**	**-0.1**
	baz=68						
K09A	**Rome**	**67.88**	**327**	P	**P**	**03 42 54.8**	**+0.7**
	baz=68,SNR=7.7						
ORV	**Oroville**	**67.90**	**322**	⇓P	**P**	**03 42 54.8**	**+0.4**
	baz=68						
HRY	**Holter Researc**	**67.97**	**333**	*e*P	**P**	**03 42 54.6**	**0.0**
EGMT	**Eagleton**	**68.12**	**335**	⇑P	**P**	**03 42 55.5**	**0.0**
	baz=68						
WVOR	**Wild Horse Val**	**68.18**	**326**	*e*P	**P**	**03 42 55.2**	**-0.9**
	0.8nm,0.5s,mb3.8						
F12A	**Elk City**	**68.81**	**331**	⇑P	**P**	**03 43 00.1**	**+0.2**
	baz=69						
E13A	**Victor**	**68.82**	**332**	⇑P	**P**	**03 43 00.4**	**+0.5**
	baz=69						
D14A	**Greenough**	**68.99**	**333**	⇑P	**P**	**03 43 01.4**	**+0.4**
	baz=69						
G11A	**Walters Elk Ra**	**69.05**	**330**	⇓P	**P**	**03 43 01.4**	**0.0**
	baz=69						
K06A	**Valley Falls**	**69.31**	**326**	⇑P	**P**	**03 43 03.1**	**+0.1**
	baz=70						
F11A	**Grangeville**	**69.34**	**330**	P	**P**	**03 43 03.0**	**-0.2**
	baz=70,SNR=5.8						
G10A	**Bishop Farm, J**	**69.39**	**329**	⇑P	**P**	**03 43 03.7**	**+0.2**
	baz=70						
J06A	**Christmas Vall**	**69.56**	**326**	P	**P**	**03 43 05.0**	**+0.5**
	baz=70,SNR=5.1						
C14A	**Swan Lake**	**69.62**	**333**	⇓P	**P**	**03 43 05.2**	**+0.3**
	baz=70						
H08A	**Prairie City**	**69.63**	**328**	P	**P**	**03 43 05.7**	**+0.7**
	baz=70,SNR=6.1						
E11A	**Bogner Ranch,**	**69.71**	**331**	⇓P	**P**	**03 43 05.5**	**+0.1**
	baz=70						
G09A	**Cove**	**69.71**	**329**	⇑P	**P**	**03 43 06.0**	**+0.6**
	baz=70						
I07A	**Izee**	**69.77**	**327**	⇓P	**P**	**03 43 06.7**	**+0.8**
	baz=70						
C13A	**Hot Springs**	**69.92**	**332**	⇑P	**P**	**03 43 07.3**	**+0.7**
	baz=70						
F10A	**Beach Ranch, E**	**69.93**	**330**	⇓P	**P**	**03 43 07.1**	**+0.4**
	baz=70						
I06A	**Prineville**	**70.05**	**327**	⇑P	**P**	**03 43 08.0**	**+0.4**
	baz=70						
F09A	**S2 Ranch, Elgi**	**70.08**	**329**	⇓P	**P**	**03 43 08.3**	**+0.6**
	baz=70						
VNA1	**Neumayer--Stat**	**70.26**	**161**	*e*P	**P**	**03 43 09.2**	**+0.7**
G08A	**Pilot Rock**	**70.31**	**328**	⇑P	**P**	**03 43 09.3**	**+0.2**
	baz=70						
VNA2	**Neumayer--Watz**	**70.62**	**161**	*e*P	**P**	**03 43 10.7**	**0.0**
VNA2				*e*		03 43 14.8	
VNA2				*e*	pP	03 43 34.3	+1.8
H06A	**Lindquist Farm**	**70.65**	**327**	⇓P	**P**	**03 43 11.6**	**+0.5**
	baz=71						
WALA	**Waterton Lakes**	**70.67**	**334**	*e*P	**P**	**03 43 11.3**	**+0.1**
	2.7nm,0.6s,mb4.2						
D10A	**Wagner Farm, O**	**70.72**	**331**	⇑P	**P**	**03 43 11.6**	**0.0**
	baz=71						
E09A	**Wood Farm, Sta**	**70.76**	**330**	⇓P	**P**	**03 43 11.4**	**-0.4**
	baz=71						
A13A	**Flathead Natio**	**70.79**	**333**	⇑P	**P**	**03 43 12.6**	**+0.7**
	baz=71						
D09A	**Jones Farm, Ri**	**71.22**	**330**	⇓P	**P**	**03 43 14.6**	**0.0**
	baz=71						
NEW	**Newport**	**71.52**	**332**	*e*P	**P**	**03 43 15.7**	**-0.7**
	1.5nm,0.6s,mb4.0						
J02A	**Umpqua**	**71.53**	**325**	⇑P	**P**	**03 43 16.8**	**+0.3**
	baz=72						
OD2	**Odessa Site #2**	**71.65**	**330**	*e*P	**P**	**03 43 15.8**	**-1.3**
LIC	**Lamto**	**71.69**	**79**	*e*P	**P**	**03 43 17.5**	**-0.7**
	44nm,1.0s,mb5.2						
TIC	**Toumodi**	**71.81**	**79**	*e*P	**P**	**03 43 18.4**	**-0.5**
	167nm,1.4s,mb5.7						
DBIC	**Dimbokro**	**71.98**	**79**	P	**P**	**03 43 19.7**	**-0.2**
	13nm,0.7s,mb4.9,baz=231,slow=6.3,SNR=17						
DBIC	**Dimbokro**	**71.98**	**79**	*e*P	**P**	**03 43 19.6**	**-0.3**
	13nm,0.7s,mb4.9						
KIC	**Kosan Boka**	**72.00**	**79**	*e*P	**P**	**03 43 19.8**	**-0.3**
	98nm,0.8s,mb5.7						
B09A	**Rice**	**72.11**	**331**	⇑P	**P**	**03 43 19.9**	**+0.1**
	baz=72						
SNAA	**Sanae**	**72.24**	**162**	*e*P	**P**	**03 43 19.9**	**-0.5**
SNAA				*e*		03 43 24.2	
SNAA				*e*	pP	03 43 43.6	+1.3
SNAA	**Sanae**	**72.24**	**162**	*e*P	**P**	**03 43 20.3**	**-0.1**
	4.0nm,0.7s,mb4.4						
C07A	**Waterville**	**72.52**	**330**	⇑P	**P**	**03 43 22.8**	**+0.5**
	baz=73						
B08A	**Colville Reser**	**72.62**	**331**	⇑P	**P**	**03 43 22.9**	**-0.1**
	baz=73						
A08A	**Turner Farm, O**	**73.01**	**331**	⇑P	**P**	**03 43 25.4**	**+0.2**
	baz=73						
A07A	**Ashnola River,**	**73.61**	**331**	⇓P	**P**	**03 43 29.4**	**+0.6**
	baz=74						
EDM	**Edmonton**	**73.62**	**337**	*e*P	**P**	**03 43 27.6**	**-1.2**
NLWA	**Neilton Lookou**	**74.25**	**328**	⇑P	**P**	**03 43 33.3**	**+0.8**
	baz=74						
TOA0	**Torodi Ar. Sit**	**79.94**	**74**	*e*P	**P**	**03 44 05.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**79.94**	**74**	P	**P**	**03 44 05.1**	**-0.1**
	11nm,0.8s,mb4.8,baz=275,slow=5.7,SNR=76						
TORD	**Torodi Ar. Bea**	**79.94**	**74**	P	**P**	**03 44 05.1**	**-0.1**
YKA	**Yellowknife Ar**	**81.24**	**342**	P	**P**	**03 44 10.5**	**-0.5**
	1.3nm,0.6s,mb3.9,baz=144,slow=5.6,SNR=12						
YKA	**Yellowknife Ar**	**81.24**	**342**	P	**P**	**03 44 10.5**	**-0.5**
DLBC	**Dease Lake**	**84.01**	**334**	*e*P	**P**	**03 44 23.9**	**-1.6**
RES	**Resolute Bay**	**88.22**	**355**	*e*P	**P**	**03 44 44.4**	**-1.5**
	227nm,0.7s						
INK	**Inuvik**	**90.96**	**341**	*e*P	**P**	**03 44 57.9**	**-0.9**
	11nm,0.5s,mb5.2						
MAW	**Mawson**	**94.16**	**165**	P	**P**	**03 45 13.2**	**-0.6**
	1.3nm,0.8s,mb4.3,baz=241,slow=4.4,SNR=4.5						
ASAR	**Alice Springs**	**134.25**	**218**	PKP	PKPdf	03 51 12.9	-0.7
	0.3nm,0.6s,baz=127,slow=4.1,SNR=4.0						
WRA	**Warramunga Arr**	**136.74**	**222**	PKP	PKPdf	03 51 17.5	-0.7
	0.7nm,0.7s,baz=128,slow=1.9,SNR=7.3						
MDJ	**Mudanji

mb4.3(NEIC)
*NEIC **03** 03:50:52.6±1.7, 2720N×8693E, h64km±15km, mb4.3/15, Error ellipse: s-maj=14.7km s-min=7.1km az=213.0*
ISC 03 03:50:46.9±0.5, 2713N±003×8690E±003, h14km±3km, n112, σ1§28/137, mb4.2/27, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAMN	**Ramite**	**0.32**	**236**	*e*Pg	**Pg**	**03 50 54.7**	**+1.1**
ODAN	**Odare**	**0.52**	**122**	*e*Pg	**Pg**	**03 50 55.8**	**-1.3**
TAPN	**Taplejung**	**0.75**	**73**	*e*Pg	**Pg**	**03 50 57.6**	**-4.0**
JIRN	**Jiri**	**0.82**	**310**	*e*Pg	**Pg**	**03 51 01.7**	**-1.2**
JIRN				*e*Sg	**Sg**	**03 51 13.7**	**0.0**
	4μm,0.3s						
GUN	**Gumba**	**1.19**	**311**	*e*Pg	**Pg**	**03 51 09.0**	**-0.9**
GUN				*e*Sg	**Sg**	**03 51 25.1**	**-0.4**
PKI	**Pulchoki**	**1.40**	**289**	*e*Pg	**Pg**	**03 51 13.4**	**-0.4**
PKI				*e*Sg	**Sg**	**03 51 33.7**	**+1.8**
	2μm,0.2s						
SLGI	**Shiliguri**	**1.42**	**107**	*e*P	**Pn**	**03 51 12.0**	**-0.2**
SLGI				*e*S	**Sn**	**03 51 33.2**	**+2.5**
KKN	**Kakani**	**1.58**	**295**	*e*Pg	**Pg**	**03 51 16.4**	**-0.9**
KKN				*e*Sg	**Sg**	**03 51 38.3**	**+0.4**
	2μm,0.2s						
DMN	**Daman**	**1.66**	**287**	*e*Pg	**Pg**	**03 51 18.1**	**-0.8**
GKN	**Gorkha**	**2.19**	**294**	*e*Pg	**Pb**	**03 51 25.8**	**-0.4**
GKN				*e*Sg	**Sg**	**03 51 56.9**	**-0.4**
KOLN	**Koldanda**	**3.00**	**283**	*e*Pn	**Pn**	**03 51 36.4**	**+2.4**
KOLN				*e*Sn	**Sn**	**03 52 08.6**	**-1.1**
	458nm,0.3s						
DANN	**Dangsing**	**3.04**	**294**	*e*Pn	**Pn**	**03 51 36.5**	**+2.0**
DANN				*e*Sn	**Sn**	**03 52 09.9**	**-0.7**
	483nm,0.3s						
LSA	**Lhasa**	**4.53**	**55**	PG	**Pb**	**03 52 04.2**	**-2.0**
LSA	**Lhasa**	**4.53**	**55**	*e*Pn	**Pn**	**03 51 58.0**	**+2.9**
SHL	**Shillong**	**4.74**	**108**	*e*P	**Pn**	**03 51 58.0**	**+0.2**
SHL				*e*x	**Sb**	**03 53 06.0**	**-0.5**
CAL	**Calcutta**	**4.75**	**164**	*e*x	**Pg**	**03 52 19.3**	**+1.4**
CAL				*e*x	**Sb**	**03 53 00.4**	**-6.7**
PTH	**Pithoragarh**	**6.36**	**294**	*e*P	**Pn**	**03 52 22.8**	**+2.6**
PTH				*e*x	**Sg**	**03 54 07.9**	**-3.2**
BLSP	**Bilaspur**	**6.60**	**222**	*e*P	**Pn**	**03 52 25.3**	**+1.8**
BLSP				*e*S	**Sn**	**03 53 34.3**	**-4.3**
IMP	**Imphal**	**6.75**	**109**	*e*P	**Pn**	**03 52 26.0**	**+0.5**
IMP				*i*x	**Sn**	**03 53 42.0**	**-0.2**
BWNR	**Bhubaneshwar**	**6.88**	**189**	*e*x	**Pn**	**03 52 25.0**	**-2.3**
BWNR				*e*x	**Sb**	**03 54 13.0**	**+4.8**
JOSI	**Joshimath**	**7.29**	**300**	*e*P	**Pn**	**03 52 35.5**	**+2.7**
JOSI				*e*S	**Sn**	**03 53 52.6**	**-2.8**
JOSI				AML	AML	03 53 57.8	
	comp=E,326nm,0.9s						
JOSI				AML	AML	03 54 01.0	
	comp=N,300nm,0.8s						
JHNI	**Jhansi**	**7.68**	**259**	*e*x	**Sn**	**03 54 09.0**	**+3.8**
JHNI				*e*x	x	03 55 01.0	
ASOR	**Ausora**	**8.23**	**283**	*e*P	**Pn**	**03 52 46.5**	**+0.6**
KLP	**Kalpa**	**8.73**	**302**	*e*P	**Pn**	**03 52 53.5**	**+0.8**
KLP				*e*S	**Sn**	**03 54 25.2**	**-5.7**
KLP				AML	AML	03 54 33.3	
	comp=N,72nm,0.4s						
KLP				AML	AML	03 54 45.1	
	comp=E,158nm,0.8s						
SONA	**Sohna**	**8.77**	**280**	*e*P	**Pn**	**03 52 52.9**	**-0.3**
SONA				*e*S	**Sn**	**03 54 27.2**	**-4.8**
KUDL	**Kundal**	**9.29**	**279**	*e*P	**Pn**	**03 53 01.5**	**+1.1**
NGP	**Nagpur**	**9.32**	**232**	*e*x	**Pn**	**03 52 59.4**	**-1.3**
NGP				*e*S	**Sn**	**03 54 39.3**	**-6.0**
NGP				*e*S	**Sn**	**03 54 40.1**	**-5.2**
NGP				AML	AML	03 55 34.1	
	comp=N,67nm,0.7s						
NGP				AML	AML	03 55 34.1	
	comp=N,68nm,0.6s						
SMLA	**Simla**	**9.39**	**297**	*e*P	**Pn**	**03 53 03.3**	**+1.5**
SMLA				*e*S	**Sn**	**03 54 40.0**	**-7.2**
SMLA				AML	AML	03 54 51.3	
	comp=N,88nm,0.4s						
SMLA				AML	AML	03 54 51.4	
	comp=E,110nm,0.5s						
AJM	**Ajmer**	**10.97**	**269**	*e*P	**Pn**	**03 53 23.8**	**+0.4**
AJM				*e*S	**Sn**	**03 55 18.7**	**-7.3**
THN	**Thein Dam**	**11.05**	**301**	*e*P	**Pn**	**03 53 25.7**	**+1.1**
THN				*e*x	**Sn**	**03 55 26.3**	**-1.7**
AKL	**Akola**	**11.07**	**237**	*e*P	**Pn**	**03 53 25.4**	**+0.5**
AKL				*e*S	**Sn**	**03 55 20.2**	**-8.3**
AKL				AML	AML	03 55 54.8	
	comp=E,43nm,0.8s						
AKL				AML	AML	03 55 56.0	
	comp=N,44nm,0.5s						
HYB	**Hyderabad**	**12.37**	**220**	*i*P	**Pn**	**03 53 50.0**	**+7.4**
HYB				*e*S	**Sn**	**03 56 14.0**	**+14**
HYB	**Hyderabad**	**12.37**	**220**	*e*P	**Pn**	**03 53 41.5**	**-1.1**
HYB				*e*S	**Sn**	**03 55 58.0**	**-2.3**
CMAR	**Chiang Mai Arr**	**14.06**	**125**	Pn	**Pn**	**03 54 03.6**	**-2.0**
	baz=297,slow=13,SNR=7.0						
POO	**Poona**	**14.76**	**237**	*e*x	**Pn**	**03 54 14.0**	**-1.2**
BOM	**Bombay**	**15.33**	**241**	*e*x	x	03 54 47.4	
BOM				*e*S	**Sn**	**03 57 16.4**	**+3.9**
KBL	**Kabul**	**17.01**	**300**	*e*Pn	**Pn**	**03 54 44.9**	**+0.6**
	comp=N,11nm,0.7s						
GYA	**Guiyang**	**17.66**	**88**	P	**Pn**	**03 54 52.9**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
UCH	**Uchtor**	**18.15**	**329**	*e*P	**Pn**	**03 55 00.4**	**+2.0**
	comp=Z,26nm,1.4s						
TKM2	**Tokmak 2**	**18.24**	**333**	*e*P	**Pn**	**03 55 02.2**	**+2.7**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TKM2	**Tokmak 2**	**18.24**	**333**	*e*P	**Pn**	**03 55 02.2**	**+2.6**
	comp=Z,6.5nm,0.9s						
AML	**Almayashu**	**18.46**	**328**	*e*P	**Pn**	**03 55 04.9**	**+2.7**
	comp=Z,8.6nm,0.8s						
EKS2	**Erkin-Say**	**18.83**	**329**	*e*P	**Pn**	**03 55 07.2**	**+0.5**
	comp=Z,7.5nm,0.9s						
MK31	**Makanchi Array**	**19.96**	**351**	*i*P	**Pn**	**03 55 20.5**	**+0.3**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MK31	**Makanchi Array**	**19.96**	**351**	*e*P	**Pn**	**03 55 18.3**	**-1.8**
MKAR	**Makanchi Array**	**19.96**	**351**	P	**Pn**	**03 55 18.6**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=162,slow=12,SNR=26						
MKAR	**Makanchi Array**	**19.96**	**351**	P	**Pn**	**03 55 18.6**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KK31	**Karatay Array**	**20.76**	**324**	*i*P	**P**	**03 55 29.3**	**+2.1**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**24.38**	**347**	P	**P**	**03 56 05.9**	**+1.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**24.38**	**347**	*e*P	**P**	**03 56 04.5**	**+0.1**
	comp=Z,6.3nm,0.8s,mb4.1						
SONM	**Songino Array**	**25.68**	**31**	P	**P**	**03 56 15.6**	**-0.7**
	comp=Z,1.5nm,0.5s,mb3.8,baz=220,slow=9.7,SNR=8.1						
SONM	**Songino Array**	**25.68**	**31**	P	**P**	**03 56 15.6**	**-0.7**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	**Zalesovo**	**26.82**	**357**	P	**P**	**03 56 26.1**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZALV	**Zalesovo Beam**	**26.83**	**357**	P	**P**	**03 56 26.1**	**-0.5**
	comp=Z,5.4nm,0.8s,mb4.1,baz=177,slow=11,SNR=12						
VOSK	**Vostochnaya**	**28.20**	**339**	P	**P**	**03 56 37.9**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**28.64**	**339**	P	**P**	**03 56 43.7**	**+0.9**
	comp=Z,1.8nm,0.5s,mb4.1,baz=148,slow=12,SNR=8.3						
BVAR	**Borovoye Array**	**28.64**	**339**	P	**P**	**03 56 43.7**	**+0.9**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AB31	**Akbulak array**	**30.33**	**324**	*i*P	**P**	**03 56 59.9**	**+2.1**
AB31				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
KSRS	**Korea Array**	**35.93**	**63**	P	**P**	**03 57 47.6**	**+0.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=266,slow=8.2,SNR=3.9						
KSRS	**Korea Array**	**35.93**	**63**	P	**P**	**03 57 47.6**	**+0.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
MJAR	**Matsushiro Arr**	**44.15**	**64**	P	**P**	**03 58 53.8**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.6,baz=272,slow=10.0,SNR=3.2						
MJAR	**Matsushiro Arr**	**44.15**	**64**	P	**P**	**03 58 53.8**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**49.22**	**315**	P	**P**	**03 59 34.6**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=79,slow=6.9,SNR=4.0						
ARCES	**ARCESS Array B**	**54.92**	**338**	P	**P**	**04 00 17.1**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.3,baz=117,slow=9.8,SNR=9.1						
ARCES	**ARCESS Array B**	**54.92**	**338**	P	**P**	**04 00 17.1**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**59.29**	**313**	P	**P**	**04 00 47.7**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.8,baz=83,slow=5.6,SNR=6.2						
GERES	**GERESS Array B**	**59.29**	**313**	P	**P**	**04 00 47.7**	**-0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**59.77**	**327**	P	**P**	**04 00 50.0**	**-1.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=87,slow=6.9						
NOA	**NORSAR Array B**	**59.77**	**327**	P	**P**	**04 00 50.2**	**-0.9**
	comp=Z,2.2nm,0.8s,mb4.2,baz=88,slow=6.8,SNR=6.8						
NOA	**NORSAR Array B**	**59.77**	**327**	P	**P**	**04 00 50.2**	**-0.9**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CDF	**Champ du Feu**	**63.56**	**313**	*e*P	**P**	**04 01 16.0**	**-0.9**
HAU	**Haudompre**	**64.26**	**313**	*e*P	**P**	**04 01 20.3**	**-1.2**
LPG	**La Plagne**	**64.55**	**310**	*e*P	**P**	**04 01 23.0**	**-0.4**
LPL	**La Plagne**	**64.56**	**310**	*e*P	**P**	**04 01 23.1**	**-0.4**
	comp=Z,9.2nm,1.0s,mb4.5						
LPL	**La Plagne**	**64.56**	**310**	*e*P	**P**	**04 01 23.1**	**-0.4**
LPL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
LPL	**La Plagne**	**64.56**	**310**	*e*P	**P**	**04 01 23.1**	**-0.4**
	comp=Z,4.6nm,1.0s,mb4.5						
KEST	**Kesra**	**65.17**	**299**	P	**P**	**04 01 28.3**	**+0.7**
	comp=Z,3.8nm,0.8s,mb4.5,baz=323,slow=2.3,SNR=12						
WRA	**Warramunga Arr**	**65.59**	**130**	P	**P**	**04 01 30.9**	**+0.4**
	comp=Z,6.0nm,0.8s,mb4.7,baz=323,slow=6.5,SNR=38						
WRA	**Warramunga Arr**	**65.59**	**130**	P	**P**	**04 01 30.9**	**+0.5**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WRAB	**Tennant Creek**	**65.59**	**130**	*e*P	**P**	**04 01 30.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**65.59**	**130**	*e*P	**P**	**04 01 30.1**	**-0.4**
	comp=Z,8.1nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**65.60**	**130**	*e*P	**P**	**04 01 30.7**	**+0.2**
LOR	**Lormes**	**66.06**	**312**	*e*P	**P**	**04 01 31.7**	**-1.5**
	comp=Z,4.1nm,0.7s,mb4.3						
LOR	**Lormes**	**66.06**	**312**	*e*P	**P**	**04 01 31.7**	**-1.5**
LOR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
LOR	**Lormes**	**66.06**	**312**	*e*P	**P**	**04 01 31.7**	**-1.5**
	comp=Z,2.0nm,0.7s,mb4.3						
SMF	**Signal de Mont**	**66.23**	**312**	*e*P	**P**	**04 01 33.0**	**-1.3**
SSF	**Saint Saulge**	**66.35**	**312**	*e*P	**P**	**04 01 33.8**	**-1.3**
	comp=Z,9.0nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**66.35**	**312**	*e*P	**P**	**04 01 33.8**	**-1.3**
SSF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**66.35**	**312**	*e*P	**P**	**04 01 33.8**	**-1.3**
	comp=Z,4.5nm,0.9s,mb4.5						
AVF	**Avril sur Loir**	**66.52**	**312**	*e*P	**P**	**04 01 34.7**	**-1.5**
	comp=Z,12nm,1.1s,mb4.5						
AVF	**Avril sur Loir**	**66.52**	**312**	*e*P	**P**	**04 01 34.7**	**-1.5**
AVF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
AVF	**Avril sur Loir**	**66.52**	**312**	*e*P	**P**	**04 01 34.7**	**-1.5**
	comp=Z,5.8nm,1.1s,mb4.5						
TCF	**Toulx Ste Croi**	**67.42**	**312**	*e*P	**P**	**04 01 41.1**	**-0.8**
	comp=Z,19nm,1.2s,mb4.7						
TCF	**Toulx Ste Croi**	**67.42**	**312**	*e*P	**P**	**04 01 41.1**	**-0.8**
TCF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
TCF	**Toulx Ste Croi**	**67.42**	**312**	*e*P	**P**	**04 01 41.1**	**-0.8**
	comp=Z,9.4nm,1.2s,mb4.7						
CAF	**Calviac**	**67.90**	**310**	*e*P	**P**	**04 01 44.3**	**-0.6**
	comp=Z,7.6nm,0.9s,mb4.4						
CAF	**Calviac**	**67.90**	**310**	*e*P	**P**	**04 01 44.3**	**-0.6**
CAF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CAF	**Calviac**	**67.90**	**310**	*e*P	**P**	**04 01 44.3**	**-0.6**
	comp=Z,3.8nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**67.90**	**134**	P	**P**	**04 01 45.2**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.5,baz=322,slow=5.5,SNR=22						
ASAR	**Alice Springs**	**67.90**	**134**	P	**P**	**04 01 45.3**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RJF	**Les Rejaudoux**	**68.16**	**311**	*e*P	**P**	**04 01 46.0**	**-0.6**
	comp=Z,6.7nm,0.9s,mb4.4						
RJF	**Les Rejaudoux**	**68.16**	**311**	*e*P	**P**	**04 01 46.0**	**-0.6**
RJF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
RJF	**Les Rejaudoux**	**68.16**	**311**	*e*P	**P**	**04 01 46.0**	**-0.6**
	comp=Z,3.3nm,0.9s,mb4.4						
LDF	**La Druitiere**	**68.29**	**314**	*e*P	**P**	**04 01 46.0**	**-1.3**
	comp=Z,12nm,0.9s,mb4.6						
LDF	**La Druitiere**	**68.29**	**314**	*e*P	**P**	**04 01 46.0**	**-1.3**
LDF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
LDF	**La Druitiere**	**68.29**	**314**	*e*P	**P**	**04 01 46.0**	**-1.3**
	comp=Z,5.9nm,0.9s,mb4.6						
ESDC	**Sonseca Array**	**73.86**	**307**	P	**P**	**04 02 23.5**	**+2.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=60,slow=5.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**79.92**	**280**	P	**P**	**04 02 57.5**	**+1.7**
	comp=Z,1.4nm,0.8s,mb4.0,baz=80,slow=3.4,SNR=9.5						
TORD	**Torodi Ar. Bea**	**79.92**	**280**	P	**P**	**04 02 57.5**	**+1.7**
YKA	**Yellowknife Ar**	**89.04**	**10**	P	**P**	**04 03 43.3**	**+2.2**
	comp=Z,0.6nm,0.7s,mb4.0,baz=338,slow=4.8,SNR=3.6						
YKA	**Yellowknife Ar**	**89.04**	**10**	P	**P**	**04 03 43.3**	**+2.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**89.04**	**10**	P	**P**	**04 03 43.3**	**+2.2**

*NIED **03** 03:57:00, 4690N×14180E, h56km, Mw3.9 Best double couple: M07.69000×10^14 NP1:φs109.00000°, δ55.00000°, λ-92.00000°. NP2:φs292.00000°, δ35.00000°, λ-87.00000°.*
JMA 03 03:57:42.3±0.5, 4693N×14177E, h27km, M3.6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.62**	**177**	P	Pn	03 58 09.4	+0.4
JWK2				*e*S	Sn	03 58 31.2	+2.3

*ISCJB **03** 04:18:15.0±0.4, 4080N×0043×2754E×003, h5km±5km, Error ellipse: s-maj=5.1km s-min=3.3km az=149.8*
*CSEM **03** 04:18:14.4±0.1, 4078N×2752E, h5km, MD2.7, Error ellipse: s-maj=1.3km s-min=1.1km az=174.0*
*DDA **03** 04:18:14.6, 4080N×2751E, h7km±4km, Md2.8*
*ISK **03** 04:18:14.5, 4079N×2753E, h5km, MD2.7*
ISC 03 04:18:15.3±0.4, 4081N±003×2753E±003, h9km±4km, n20, σ0§73/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	**Tekirdag**	**0.18**	**2**	*e*PG	**Pg**	**04 18 19.3**	**+0.2**
TKR				*e*SG	**Sg**	**04 18 22.7**	**+0.9**
MFT	**Murefte**	**0.19**	**264**	PG	**Pg**	**04 18 18.9**	**-0.3**
MFT				*e*SG	**Sg**	**04 18 21.8**	**0.0**
SART	**Tekirdag**	**0.29**	**246**	*i*P	**Pg**	**04 18 20.7**	**-0.3**
SART				*i*S	**Sg**	**04 18 24.8**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.29**	**246**	*e*PG	**Pg**	**04 18 20.7**	**-0.4**
RKY				*e*SG	**Sg**	**04 18 25.1**	**+0.1**
CRLT	**Corlu**	**0.36**	**26**	*e*PG	**Pg**	**04 18 22.7**	**+0.3**
EDC	**Edincik**	**0.53**	**151**	*e*PG	**Pg**	**04 18 25.0**	**-0.6**
EDC				*e*SG	**Sg**	**04 18 32.2**	**-0.2**
CTT	**Catalca**	**0.76**	**63**	*e*PG	**Pg**	**04 18 29.7**	**-0.3**
CTT				*e*SG	**Sg**	**04 18 40.8**	**+0.8**
ELBA	**Catalca**	**0.77**	**63**	*i*P	**Pg**	**04 18 29.7**	**-0.3**
ELBA				*i*S	**Sg**	**04 18 40.5**	**+0.4**
KCT	**Karacabey**	**0.83**	**130**	*e*PG	**Pg**	**04 18 30.6**	**-0.7**
ENEZ	**Enez**	**1.04**	**267**	*e*PG	**Pg**	**04 18 34.4**	**-1.0**
BALY	**Balya**	**1.07**	**176**	*i*P	**Pg**	**04 18 35.7**	**-0.1**
BALY				*i*S	**Sg**	**04 18 50.1**	**+0.4**
BTOK	**Tokmak**	**1.11**	**160**	*i*P	**Pg**	**04 18 36.7**	**0.0**
BTOK				*i*S	**Sg**	**04 18 51.8**	**+0.6**
ISK	**Istanbul-Kandi**	**1.19**	**77**	*e*PN	**Pn**	**04 18 36.9**	**-1.3**
EDRB	**Edirne**	**1.19**	**331**	*e*PN	**Pn**	**04 18 37.6**	**-0.7**
BADT	**Buyukada**	**1.21**	**87**	*e*PN	**Pn**	**04 18 38.5**	**+0.1**
KLYT	**Kilyos**	**1.23**	**68**	*e*PN	**Pn**	**04 18 39.0**	**+0.2**
ULDT	**Uludag**	**1.40**	**118**	*i*P	**Pn**	**04 18 41.7**	**+0.7**
ULDT				*i*S	**Sn**	**04 18 57.2**	**-2.4**
YLV	**Yalova**	**1.43**	**99**	*e*PN	**Pn**	**04 18 41.9**	**+0.5**
BOZC	**Bozcaada**	**1.48**	**230**	*i*P	**Pn**	**04 18 41.6**	**-0.5**
BOZC				*i*S	**Sn**	**04 19 01.9**	**+0.3**
AYVA	**Ayvalik**	**1.63**	**203**	*i*P	**Pn**	**04 18 45.5**	**+1.3**
AYVA				*i*S	**Sn**	**04 19 07.2**	**+1.9**

*ISCJB **03** 04:24:18.9±0.8, 3761N×0064×4260E×004, h10km, Error ellipse: s-maj=9.3km s-min=5.0km az=3.9*
*DDA **03** 04:24:19.2, 3755N×4263E, h3km±3km, Md3.2*
*CSEM **03** 04:24:23.2±0.5, 3771N×4293E, h10km, MD3.2, Error ellipse: s-maj=16.9km s-min=14.5km az=33.0*
ISC 03 04:24:19.2±0.8, 3756N±007×4261E±004, h9km±15km, n9, σ1§35/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAKT	**HAKKARI**	**0.87**	**90**	*i*P	**Pg**	**04 24 35.9**	**0.0**
HAKT				*i*S	**Sg**	**04 24 47.7**	**+0.4**
TVAN	**Van**	**1.16**	**33**	*i*P	**Pg**	**04 24 41.8**	**+0.5**
MSL	**Mosul**	**1.32**	**163**	*e*x	x	04 24 49.5	
MSL				*i*x	x	04 25 07.0	
MSL				*i*x	x	04 25 08.5	
MARD	**Mardin**	**1.48**	**261**	*i*P	**Pg**	**04 24 47.8**	**+0.3**
MARD				*i*S	**Sg**	**04 25 08.8**	**+2.1**
BNGL	**BINGOL**	**1.81**	**321**	*i*P	**Pg**	**04 24 53.0**	**-0.8**
BNGL				*i*S	**Sg**	**04 25 19.2**	**+2.0**
TUTA	**Tutak**	**1.85**	**5**	*e*P	**Pn**	**04 24 48.4**	**-2.7**
TUTA				*i*S	**Sn**	**04 25 20.5**	**+6.0**
ERZM	**Erzurum**	**2.54**	**338**	*e*P	**Pg**	**04 25 06.4**	**-1.4**
ELZG	**Elazig**	**3.01**	**289**	*i*P	**Pn**	**04 25 08.3**	**+1.2**
GZT	**Gaziantep**	**4.02**	**269**	*e*P	**Pg**	**04 25 34.6**	**-1.6**
GZT				*i*S	**Sg**	**04 26 26.9**	**-1.4**

*NEIC **03** 04:25:21.8, 1567N×9489W, h78km, MD4.0(MEX), After MEX.*
MEX 03 04:25:22.0±0.3, 1566N×9489W, h75km±9km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.18**	**275**	*i*P	Pn	04 25 41.8	-1.1
HUIG				*i*S	Sn	04 25 56.8	-1.9
CMIG	**Matias Romero**	**1.42**	**0**	*i*P	Pn	04 25 44.8	-1.3
CMIG				*i*S	Sn	04 26 02.5	-1.7
VHO	**Vista Hermosa**	**2.26**	**309**	*i*P	Pn	04 25 56.4	-0.8
VHO				*i*S	Sn	04 26 22.5	-1.7
VHO	**Vista Hermosa**	**2.26**	**309**	*i*P	Pn	04 26 00.4	+3.2
VHO				*i*S	Sn	04 26 27.2	+3.1
TUIG	**Tuzandepetl**	**2.40**	**11**	*i*P	Pn	04 25 57.8	-1.4
TUIG				*i*S	Sn	04 26 26.5	-1.1
TUIG	**Tuzandepetl**	**2.40**	**11**	*i*P	Pn	04 25 54.8	-4.4
TUIG				*i*S	Sn	04 26 17.6	-10
SCX	**San Cristobal**	**2.42**	**63**	*i*P	Pn	04 25 58.0	-1.4
SCX				*i*S	Sn	04 26 26.9	-1.1
SCX	**San Cristobal**	**2.42**	**63**	*i*P	Pn	04 25 58.0	-1.4
SCX				*i*S	Sn	04 26 26.9	-1.1
SCX				*e*S	Sn	04 26 28.8	+0.8
CCIG	**Comitan**	**2.72**	**77**	*i*P	Pn	04 26 02.5	-1.0
CCIG				*i*S	Sn	04 26 34.0	-1.4
CCIG	**Comitan**	**2.72**	**77**	*i*P	Pn	04 26 01.5	-2.0
CCIG				*i*S	Sn	04 26 30.0	-5.4
PNIG	**Pinotepa**	**3.20**	**284**	*i*P	Pn	04 26 09.1	-0.8
PNIG				*i*S	Sn	04 26 45.5	-1.5
PNIG	**Pinotepa**	**3.20**	**284**	*i*P	Pn	04 25 44.1	-26
PNIG				*e*S	Sn	04 26 42.5	-4.4
PNIG				*i*S	Sn	04 26 45.5	-1.5
UTMO	**Huajuapan**	**3.53**	**308**	*e*P	Pn	04 26 13.9	-0.6
UTMO				*i*S	Sn	04 26 52.6	-2.4
PPM	**Popocatepetl**	**4.92**	**314**	*i*P	Pn	04 26 32.9	-0.5
PPM	**Popocatepetl**	**4.92**	**314**	*i*P	Pn	04 26 26.9	-6.5

*ISCJB **03** 05:19:34.9±1.0, 356S±02×1065W±02, h10km, mb4.2/11, MS3.6/4, Error ellipse: s-maj=30.2km s-min=16.0km az=142.6*
*IDC **03** 05:19:34.1±0.8, 3558S×10665W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/15, mbtmp4.0/6, MS3.6/4, Ms1 3.6/4, ms1mx3.3/15, Error ellipse: s-maj=23.6km s-min=12.6km az=30.0*
*NEIC **03** 05:19:36.3±0.9, 3546S×10649W, h10km, mb4.5/6, Error ellipse: s-maj=25.6km s-min=15.8km az=55.0*
ISC 03 05:19:37.1±1.0, 356S±02×1065W±02, h10km, n18, σ1§03/16, mb4.2/11, MS3.6/4, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**28.58**	**111**	P	**P**	**05 25 32.9**	**-0.

PLBC	Pleasant Camp	7.30 156	⇑Sg	Sg	05 37 05.9	-6.0

DDA ***03*** *06:02:09.8, 3837N×3936E, h8km±4km, Md2.8*
CSEM ***03*** *06:02:09.5±0.1, 3843N×3934E, h8km, MD2.7, Error ellipse: s-maj=1.8km s-min=1.4km az=122.0*
ISCJB ***03*** *06:02:10.2±0.6, 3843N±003×3935E±004, h8km±6km, Error ellipse: s-maj=5.8km s-min=5.7km az=142.9*
ISK ***03*** *06:02:10.0, 3844N×3933E, h6km, MD2.7*

ISC 03 06:02:10.6±0.5, 3844N±003×3936E±004, h8km±5km, n11, σ0°71/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.07	216	PG	Pg	06 02 12.1	-0.5
SVRC				eSG	Sg	06 02 13.5	-0.6
ELZG	Elazig	0.30	281	i P	Pg	06 02 16.3	-0.2
ELZG				i S	Sg	06 02 21.3	+0.7
PTK	Pertek	0.45	3	ePG	Pg	06 02 19.4	-0.1
PTK				eSG	Sg	06 02 26.2	+0.9
MYA	Malataya	0.74	262	ePG	Pg	06 02 24.1	-0.8
MYA				eSG	Sg	06 02 34.8	+0.1
MALT	Malatya	0.75	261	ePG	Pg	06 02 23.9	-1.1
MALT				eSG	Sg	06 02 35.2	+0.5
DIYA	Diyarbakir	0.79	131	i P	Pg	06 02 25.9	+0.1
DIYA				i S	Sg	06 02 37.2	+1.2
URFA	Urfa	1.08	203	ePG	Pg	06 02 30.6	-0.8
EZC	Erzincan	1.35	15	ePN	Pn	06 02 35.4	-0.3
MARD	Mardin	1.59	135	i P	Pn	06 02 38.6	-0.3
MARD				i S	Sn	06 02 59.9	+0.3
BTMT	Batman	1.69	98	ePN	Pn	06 02 39.7	-0.6
GZT	Gaziantep	1.79	233	i P	Pn	06 02 41.6	0.0
GZT				i S	Sg	06 03 09.8	+1.8

MEX 03 06:09:18.0±0.5, 1404N×9323W, h16km±112km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	2.47	25	i P	Pn	06 09 54.6	-2.9
CCIG				i S	Sn	06 10 23.4	-3.9
SCX	San Cristobal	2.74	12	eP	Pn	06 09 59.6	-1.7
SCX				i S	Sn	06 10 29.8	-4.3
CMIG	Matias Romero	3.42	333	i P	Pn	06 10 08.6	-2.1
CMIG				i S	Sn	06 10 47.3	-3.7
VHO	Vista Hermosa	4.52	312	eP	Pn	06 10 22.9	-2.9
VHO				i S	Sn	06 11 15.5	-2.6
UTMO	Huajuapan	5.79	311	eP	Pn	06 10 40.1	-3.1
UTMO				i S	Sn	06 11 46.9	-2.5

CSEM ***03*** *06:39:06.4±0.1, 4183N×2440E, h12km, MD2.7, Error ellipse: s-maj=2.8km s-min=2.0km az=145.0*
SOF ***03*** *06:39:06.3, 4182N×2447E, h18km, MD2.7*
ISCJB ***03*** *06:39:07.7±0.6, 4184N±004×2467E±006, h33km, Error ellipse: s-maj=7.1km s-min=4.4km az=27.0*
THE ***03*** *06:39:07.8, 4180N×2446E, h2km*
BEO ***03*** *06:39:11.6±1.4, 4482N×2119E*

ISC 03 06:39:06.7±0.5, 4183N±002×2446E±003, h16km±6km, n19, σ0°95/31, 2C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	Rozhen	0.24	126	Pg	Pg	06 39 12.1	+0.2
PLD	Plovdiv	0.33	33	ePg	Pg	06 39 14.4	+0.8
PLD				eSg	Sg	06 39 19.4	+1.2
MMB	Musomiste	0.60	247	Pg	Pg	06 39 18.4	0.0
KDZ	Kurdzhali	0.74	104	Pg	Pg	06 39 20.0	-1.0
PGB	Panagyurishte	0.75	343	P	Pg	06 39 20.6	-0.8
DIM	Dimitrovgrad	0.83	74	Pg	Pg	06 39 23.6	+0.8
KKB	Krupnik	1.03	273	P	Pb	06 39 25.7	-0.4
VTS	Vitosha	1.20	310	P	Pn	06 39 29.3	+0.5
SOH	Sokhos	1.30	220	ePg	Pg	06 39 31.9	+0.1
SOH				eSg	Sg	06 39 50.9	+2.1
KNT	Kendrikon	1.35	241	ePg	Pg	06 39 32.5	-0.1
KNT				eSg	Sg	06 39 51.3	+1.1
KNT	Kendrikon	1.35	241	ePg	Pg	06 39 32.5	-0.1
KNT				eSg	Sg	06 39 51.3	+1.1
VAY	Valandovo	1.50	251	ePg	Pg	06 39 34.8	-0.8
VAY				eSg	Sg	06 39 56.3	+1.2
ALN	Alexandroupoli	1.51	127	ePg	Pg	06 39 35.4	-0.3
ALN				eSg	Sg	06 39 55.8	+0.4
OUR	Ouranopolis	1.54	194	ePg	Pg	06 39 34.8	-1.3
OUR				eSg	Sg	06 39 55.8	-0.3
HORT	Hortiatis	1.60	220	ePg	Pg	06 39 35.6	-1.8
HORT				eSg	Sg	06 39 57.4	-0.8
PLG	Polygyros	1.64	208	ePb	Pb	06 39 36.9	+0.4
PLG				eSb	Sb	06 39 58.8	+1.9
ZAPS	Zavoj	1.98	318	⇑iPn	Pg	06 39 44.4	-0.2
ZAPS				eSg	Sg	06 40 10.9	+0.6
PAIG	Paliouri	1.99	198	ePb	Pb	06 39 41.0	-1.5
PAIG				eSb	Sb	06 40 07.4	+0.4
BARS	Barje	2.20	298	⇑iPn	Pg	06 39 47.3	-1.5
BARS				eSg	Sg	06 40 16.7	-0.6

ISCJB ***03*** *06:46:28.4±0.7, 2726N±008×8696E±005, h10km, Error ellipse: s-maj=12.4km s-min=4.4km az=21.3*
DMN ***03*** *06:46:28.8±0.2, 2720N×8704E, h26km, Ml4.5/4, Error ellipse: s-maj=7.6km s-min=3.3km az=20.0*

ISC 03 06:46:28.5±0.6, 2724N±008×8701E±004, h10km, n13, σ1°18/19, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAMN	Ramite	0.46	232	ePg	Pg	06 46 38.2	+0.7
ODAN	Odare	0.51	137	ePg	Pg	06 46 39.1	+0.7
TAPN	Taplejung	0.64	80	ePg	Pg	06 46 41.2	+0.3
JIRN	Jiri	0.84	300	ePg	Pg	06 46 45.3	+0.6
GUN	Gumba	1.20	304	ePg	Pg	06 46 52.2	+0.5
GUN				eSg	Sg	06 47 08.4	+1.1
	2μm,0.3s						
PKI	Pulchoki	1.46	284	ePg	Pg	06 46 57.0	+0.5
PKI				eSg	Sg	06 47 16.7	+1.2
	475nm,0.2s						
KKN	Kakani	1.63	290	ePg	Pg	06 47 00.0	+0.2
KKN				eSg	Sg	06 47 21.4	+0.5
	437nm,0.2s						
DMN	Daman	1.73	283	ePg	Pg	06 47 01.6	-0.1
DMN				eSg	Sg	06 47 23.3	-0.8
	782nm,0.4s						
GKN	Gorkha	2.24	291	ePg	Pg	06 47 09.4	-2.0
KOLN	Koldanda	3.07	281	ePg	Pg	06 47 24.8	-2.6
DANN	Dangsing	3.08	292	ePg	Pg	06 47 25.8	-1.8
SHL	Shillong	4.68	110	ex	Pn	06 47 43.0	+3.8
SHL				ex	Sg	06 48 58.0	-0.8
SMLA	Simla	9.43	297	i x	Pn	06 48 45.8	+1.4
SMLA				i x	Sn	06 50 27.5	-3.1
SMLA				ex	x	06 50 29.4	
	comp=N,179nm,0.3s						
SMLA				ex	x	06 50 30.9	
	comp=E,220nm,0.3s						

ISCJB ***03*** *06:47:59.5±1.2, 238S±02×178.1W±02, h450km, mb3.9/9, Error ellipse: s-maj=24.1km s-min=20.3km az=174.9*
NEIC ***03*** *06:48:00.7±1.2, 2378S×17808W, h450km, mb4.1/6, Error ellipse: s-maj=25.1km s-min=21.0km az=85.0*
IDC ***03*** *06:48:06.5±15.0, 2406S×17873W, h464km±110km, mb3.4/5, mb1 3.5/6, mb1mx3.2/18, mbtmp3.4/6, Error ellipse: s-maj=246.0km s-min=41.4km az=58.0*

ISC 03 06:48:00.7±1.2, 238S±01×1781W±02, h450km, n15, σ1°00/15, mb3.9/9, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	15.03	195	P	P	06 51 11.9	0.0
	3.2nm,0.3s,baz=46,slow=1.9,SNR=24						
RPZ	Rata Peaks	21.82	202	P	P	06 52 19.3	+0.9
	4.1nm,0.7s,mb4.1,baz=6.3,slow=9.2,SNR=3.7						
CTA	Charters Tower	33.23	269	⇓iP	P	06 53 59.9	+0.8
	3.5nm,0.3s,mb4.3						
CTA	Charters Tower	33.23	269	P	P	06 54 00.0	+0.9
	4.6nm,0.3s,mb4.3,baz=105,slow=10,SNR=8.9						
CTAO	Charters Tower	33.23	269	eP	P	06 53 59.7	+0.6
	4.9nm,0.4s,mb4.3						
STKA	Stephens Creek	36.40	248	P	P	06 54 23.3	-2.3
	0.6nm,0.3s,mb3.4,baz=95,slow=11,SNR=3.9						
STKA	Stephens Creek	36.40	248	P	P	06 54 23.3	-2.3
ASAR	Alice Springs	43.79	260	P	P	06 55 24.9	-0.4
	0.6nm,0.4s,mb3.4,baz=99,slow=8.1,SNR=22						
WB2	Warramunga Arr	44.16	265	⇓iP	P	06 55 27.9	-0.3
WRAB	Tennant Creek	44.16	265	eP	P	06 55 27.7	-0.5
	2.5nm,0.4s,mb4.0						
WRA	Warramunga Arr	44.17	265	P	P	06 55 28.2	-0.1
	2.5nm,0.3s,mb4.1,baz=100,slow=7.0,SNR=15						
KAKA	Kakadu	48.05	274	eP	P	06 55 58.4	+0.3
	1.1nm,0.6s,mb3.8						
FITZ	Fitzroy Crossi	52.59	265	eP	P	06 56 31.9	+0.4
	6.2nm,1.2s,mb3.8						
LON	Longmire	86.62	35	eP	P	06 59 54.1	-1.0
	3.6nm,0.6s,mb4.3						
ENH	Enshi	87.80	304	P	P	07 00 03.4	+2.3

NNC 03 07:17:23.0±2.6, 5441N×8629E, h16km±15km, mb3.7, mpv3.6, 7C-5D, Error ellipse: s-maj=18.2km s-min=15.1km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	5.96	235	⇑Pn	Pn	07 18 51.6	+1.1
	11nm,0.8s						
KURK				⇑Sn	Sn	07 19 59.2	+0.8
	5.4nm,0.8s						
KURK				⇑Lg		07 20 31.5	
	41nm,1.3s						
KURBB	Kurchatov Arra	6.07	234	⇑Pn	Pn	07 18 53.0	+1.0
	2.4nm,0.8s						
KURBB				⇓Sn	Sn	07 20 03.3	+2.3
	2.3nm,0.7s						
KURBB				⇑Lg		07 20 34.4	
	8.9nm,0.8s						
MK31	Makanchi Array	8.04	200	Pn	Pn	07 19 18.1	-0.8
	1.6nm,0.7s,baz=27,slow=12,SNR=16						
MK31				⇓Sn	Sn	07 20 48.8	-0.7
	2.0nm,0.6s,baz=20,slow=24,SNR=3.2						
MK31				⇓Lg		07 21 39.2	
	15nm,1.0s,baz=27,slow=33,SNR=5.7						
VOSK	Vostochnaya	9.27	266	⇓Pn	Pn	07 19 34.6	-1.2
	1.6nm,0.5s						
VOSK				⇓Sn	Sn	07 21 19.3	-0.3
	5.1nm,0.8s						
BVA0	Borovoye Array	9.53	268	⇑Pn	Pn	07 19 39.5	+0.1
	0.2nm,0.8s,baz=70,slow=15,SNR=9.5						
BVA0				⇑Sn	Sn	07 21 27.0	+0.9
	1.0nm,1.1s,baz=79,slow=20,SNR=9.4						

PGC ***03*** *07:38:16.4±1.6, 6619N×14205W, h5km, ML3.7/2, 267km northwest of Dawson, Yt Alaska*

NEIC 03 07:38:14.2, 6624N×14207W, h1km, ML3.3(AEIC), 5D, After AEIC., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGAK	Eagle	1.51	165	P	Pn	07 38 42.3	+0.1
EGAK				S	Sb	07 39 03.2	+0.6
BM3	Burnt Mountain	1.56	321	P	Pn	07 38 42.5	-0.4
DAWY	Dawson	2.46	151	⇓Pn	Pn	07 38 56.1	+0.8
DAWY				⇓Sn	Sn	07 39 25.1	-0.7
DAWY				⇑Sg	Sg	07 39 31.2	-1.7
DAWY	Dawson	2.46	151	P	Pn	07 38 55.0	-0.2
DAWY				eSn	Sn	07 39 24.4	-1.4
IL1	Eielson Array	2.49	236	P	Pn	07 38 55.5	-0.2
COLA	College	2.77	243	ePn	Pn	07 38 59.2	-0.3
COLA				Pg	Pg	07 39 06.0	-1.1
COLA				eSn	Sn	07 39 37.1	+3.6
BCA3	Beaver Creek A	3.19	178	P	Pn	07 39 06.0	+0.7
COLD	Coldfoot	3.38	291	P	Pn	07 39 08.7	+0.8
INK	Inuvik	3.92	54	⇑Pn	Pn	07 39 16.2	+0.9
INK				⇑Sn	Sn	07 40 01.8	0.0
INK				⇑Sg	Sg	07 40 18.5	-1.3
INK	Inuvik	3.92	54	ePn	Pn	07 39 15.8	+0.5
INK				eSn	Sn	07 40 00.5	-1.3
INK				eSg	Sg	07 40 21.0	+1.2
HARP	HAARP	4.07	201	P	Pn	07 39 17.9	+0.4
BPAW	Bear Paw Mtn.	4.33	244	P	Pn	07 39 20.0	-1.0
KTH	Kantishna Hill	4.63	239	P	Pn	07 39 25.6	+0.5
IMA2	Indian Mountai	4.72	273	ePn	Pn	07 39 26.0	-0.4
IM3	Indian Mountai	4.76	272	P	Pn	07 39 27.8	+1.0
PMR	Palmer	5.60	217	ePn	Pn	07 39 39.5	+1.0
	6.7nm,0.8s						
HYT	Haines Junctio	5.80	157	⇓Pn	Pn	07 39 41.3	+0.1
HYT				⇑Sg	Sg	07 41 14.9	-5.3
HYT	Haines Junctio	5.80	157	ePn	Pn	07 39 43.3	+2.1
EYAK	Cordova Ski Ar	5.94	198	ePn	Pn	07 39 45.3	+2.2
WHY	Whitehorse	6.45	147	⇓Pn	Pn	07 39 51.2	+1.1
WHY				⇓Sg	Sg	07 41 35.1	-6.1
PLBC	Pleasant Camp	7.28	156	⇑Sg	Sg	07 42 01.2	-6.6
SVW2	Sparrevohn	7.90	236	eP	Pn	07 40 13.5	+3.5

ISCJB ***03*** *07:51:28.1±0.5, 627N±008×9290E±007, h40km, mb3.9/12, Error ellipse: s-maj=11.4km s-min=9.1km az=31.8*
NEIC ***03*** *07:51:28.8±0.4, 629N×9291E, h30km, mb4.0/3, Error ellipse: s-maj=11.2km s-min=8.4km az=209.0*
IDC ***03*** *07:51:29.7±0.7, 636N×9295E, h39km±6km, mb3.7/10, mb1 3.9/12, mb1mx3.7/24, mbtmp3.7/12, ML3.7/1, Error ellipse: s-maj=23.4km s-min=13.8km az=55.0*

ISC 03 07:51:30.2±0.5, 627N±007×9290E±007, h42km, h42km±2.1km: pP-P, n24, σ0°94/24, mb3.9/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.92	120	Pn	Pn	07 53 08.1	-1.1
	1.4nm,0.3s,baz=326,slow=18,SNR=5.0						
PSI				Sn	Sn	07 54 20.7	-5.9
	0.9nm,0.3s,baz=5.3,slow=18,SNR=2.1						
PSI	Prapat	6.92	120	Pn	Pn	07 53 08.1	-1.1
PSI				Sn	Sn	07 54 20.7	-5.9
PALK	Pallekele	12.16	275	ePn	Pn	07 54 20.5	-0.4
PALK				eSn	Sn	07 56 21.7	-14
CMAR	Chiang Mai Arr	13.47	25	Pn	Pn	07 54 38.5	-0.3
	0.6nm,0.3s,baz=231,slow=14,SNR=20						
CHTO	Chiang Mai	13.79	25	ePn	Pn	07 54 45.1	+1.9
CHTO				e		07 54 56.3	
KSM	Kuching	18.00	105	ePn	Pn	07 55 37.8	+0.4
QIZ	Qiongzhong	20.81	51	P	P	07 56 08.2	0.0
	3.9nm,0.6s						
EKS2	Erkin-Say	40.00	338	P	P	07 59 01.5	+0.6
	1.5nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	40.37	127	P	P	07 59 04.5	+0.1
	2.3nm,1.1s,mb3.8,baz=357,slow=17,SNR=2.4						
MK31	Makanchi Array	41.40	349	eP	P	07 59 20.3	+8.0
MKAR	Makanchi Array	41.40	349	P	P	07 59 11.3	-1.0
	0.4nm,0.4s,mb3.4,baz=164,slow=8.5,SNR=4.7						
MKAR				pP	pP	07 59 22.0	-2.0
	1.1nm,0.5s,baz=170,slow=8.3,SNR=5.1						
MKAR	Makanchi Array	41.40	349	P	P	07 59 11.3	-1.1
MKAR				pP	pP	07 59 22.0	-2.1
SONM	Songino Array	42.99	13	P	P	07 59 23.3	-2.1
	0.4nm,0.4s,mb3.5,baz=193,slow=6.1,SNR=3.9						
SONM				pP	pP	07 59 35.9	-1.2
	0.9nm,0.7s,baz=193,slow=10,SNR=4.7						
ZALV	Zalesovo Beam	47.99	354	P	P	08 00 05.3	+0.6
	1.1nm,0.3s,mb4.4,baz=176,slow=5.8,SNR=1.8						
ZALV				pP	pP	08 00 15.2	-1.5
	2.8nm,0.3s,baz=179,slow=7.8,SNR=2.5						
WRA	Warramunga Arr	48.37	124	P	P	08 00 07.7	-0.6
	1.1nm,1.0s,mb3.9,baz=302,slow=9.0,SNR=11						
WRA				pP	pP	08 00 20.2	+0.1
	2.2nm,0.8s,baz=304,slow=8.6,SNR=7.5						
WRAB	Tennant Creek	48.37	124	P	P	08 00 09.8	+1.6
	3.2nm,0.7s,mb4.5						
ASAR	Alice Springs	49.86	128	P	P	08 00 19.2	-0.4
	0.8nm,0.7s,mb3.9,baz=298,slow=6.4,SNR=9.0						
ASAR				pP	pP	08 00 31.1	-0.4
	1.0nm,0.7s,baz=296,slow=7.1,SNR=4.1						
OPO	Ambohidratompo	51.38	240	P	P	08 00 32.7	+1.5
	1.2nm,0.6s,mb4.0,baz=90,slow=9.1,SNR=4.6						
BOSA	Boshof	73.70	238	P	P	08 02 60.0	-0.1
	2.9nm,0.8s,mb4.2,baz=45,slow=4.3,SNR=3.1						
ARCES	ARCESS Array B	76.36	340	pP	pP	08 03 24.8	-2.4
	1.4nm,0.7s,baz=90,slow=6.1,SNR=3.1						
GERES	GERESS Array B	78.20	318	P	P	08 03 24.9	-0.5
	0.3nm,0.2s,mb3.8,baz=101,slow=4.3,SNR=5.1						
GERES				pP	pP	08 03 36.3	-1.7
	1.0nm,0.6s,baz=88,slow=4.5,SNR=4.2						
TORD	Torodi Ar. Bea	89.77	283	P	P	08 04 24.9	-0.1
	0.6nm,0.9s,mb3.9,baz=211,slow=28,SNR=2.4						
PDAR	Pinedale Array	127.10	21	pPKP	pPKPdf	08 10 41.5	-2.0
	0.7nm,0.8s,baz=90,slow=1.5,SNR=6.1						
TXAR	Lajitas Array	141.18	23	pPKP	pPKPdf	08 11 10.8	+0.6
	0.3nm,0.6s,baz=265,slow=0.5,SNR=4.4						

NIED ***03*** *08:16:00, 2960N×13090E, h17km, Mw3.9 Best double couple: M0 8.17000×10^14 NP1:φ0=238.00000°, δ87.00000°, λ-104.00000°. NP2:φ0=135.00000°, δ14.00000°, λ-13.00000°.*
IDC ***03*** *08:16:29.4±1.3, 2947N×13094E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, ML3.4/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/38, Error ellipse: s-maj=33.0km s-min=22.0km az=87.0*
ISCJB ***03*** *08:16:32.1±0.9, 2954N±004×13096E±009, h33km±12km, mb3.6/4, MS3.4/4, Error ellipse: s-maj=14.3km s-min=5.4km az=16.6*
JMA ***03*** *08:16:32.5±0.1, 2958N×13089E, h55km±4km, M3.8*

ISC 03 08:16:31.9±1.8, 2958N±004×13088E±009, h17km±12km, n22, σ0°64/23, mb3.6/4, MS3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.91	287	P	Pb	08 16 49.7	+0.4
JKC	Kuchinoerabu	1.06	326	P	Pb	08 16 51.5	-0.3
JTN	Tanegashima 3	1.07	5	P	Pb	08 16 51.5	-0.5
JTN				S	Sb	08 17 06.1	+0.3
JTSR	Tashiro 2	1.58	1	P	Pn	08 16 59.0	-0.1
JTSR				eS	Sn	08 17 19.4	+0.2
JAM	Amami Oshima	1.61	224	P	Pn	08 16 59.3	-0.3
JSU	Suzuyama	1.95	349	P	Pn	08 17 03.6	-0.7
JSU				S	Sn	08 17 28.1	-0.3
JNAR	Kushima--Naru	1.97	10	P	Pn	08 17 04.6	+0.1
JSJ	Shimokoshiki	2.32	335	P	Pn	08 17 08.6	-0.7
JSJ				eS	Sn	08 17 36.8	-0.6
JTZ	Takazaki	2.32	4	P	Pn	08 17 09.7	+0.4
JTZ				eS	Sn	08 17 36.9	-0.5
JTK	Tokunoshima	2.46	224	P	Pn	08 17 11.6	+0.3
JZO	Okuchi	2.56	355	P	Pn	08 17 13.3	+0.7
JOW	Kunigami	3.57	221	Pn	Pn	08 17 25.8	-0.7
	5.6nm,0.3s,baz=79,slow=9.7,SNR=34						
JOW				Sn	Sn	08 18 08.7	+0.3
	7.5nm,0.3s,baz=132,slow=28,SNR=8.9						
MJAR	Matsushiro Arr	9.27	40	Pn	Pn	08 18 45.5	+0.7
	0.7nm,0.3s,baz=219,slow=15,SNR=5.5						
CBIJ	Chichi jima	10.26	101	LR	LR	08 21 45.0	
	comp=Z,97nm,21.6s,baz=68,slow=31						
ASAJ	Asahikawa	17.25	30	LR	LR	08 27 37.5	
	comp=Z,69nm,18.3s,baz=178,slow=39						
SONM	Songino Array	26.23	321	P	P	08 22 07.9	+2.2
	0.9nm,0.6s,mb3.5,baz=144,slow=13,SNR=4.7						
SONM				LR	LR	08 33 40.3	
	comp=Z,75nm,19.0s,MS3.2,baz=116,slow=39						
MKAR	Makanchi Array	41.17	308	P	P	08 24 15.8	+0.5
	0.3nm,0.3s,mb3.4,baz=90,slow=12,SNR=3.2						
WRA	Warramunga Arr	49.35	176	P	P	08 25 19.3	-1.0
	0.2nm,0.6s,mb3.3,baz=358,slow=8.2,SNR=4.6						
BVAR	Borovoye Array	49.41	316	LR	LR	08 47 32.5	
	comp=Z,22nm,20.0s,MS3.1,baz=301,slow=38						
AKTO	Aktyubinsk	57.20	313	LR	LR	08 52 48.1	
	comp=Z,74nm,18.8s,MS3.8,baz=267,slow=38						
STKA	Stephens Creek	61.96	170	P	P	08 26 50.6	-0.1
	2.4nm,1.0s,mb4.3,baz=352,slow=15,SNR=2.9						
NOA	NORSAR Array B	77.34	334	LR	LR	09 09 05.1	
	comp=Z,25nm,19.6s,MS3.5,baz=20,slow=41						

NEIC ***03*** *08:22:29.4±0.7, 1937S×17469W, h10km, mb4.8/5, Error ellipse: s-maj=19.3km s-min=13.8km az=151.0*
ISCJB ***03*** *08:22:31.3±5.7, 192S±01×1749W±01, h31km±44km, mb4.6/8, MS3.4/2, Error ellipse: s-maj=26.0km s-min=16.9km az=34.4*
IDC ***03*** *08:22:36.1±3.9, 1900S×17505W, h48km±46km, mb4.0/3, mb1 4.1/4, mb1mx3.6/19, mbtmp4.0/4, ML2.1/1, MS3.5/2, Ms1 3.4/2, ms1mx2.9/25, Error ellipse: s-maj=54.0km s-min=31.6km az=121.0*

ISC 03 08:22:34.6±2.3, 192S±01×1749W±02, h41km±25km, n18, σ1°09/13, mb4.6/8, MS3.4/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.04	30	P	Pn	08 24 01.8	+0.3
	2.6nm,0.3s,baz=52,slow=21,SNR=4.2						
AFI				S	Sn	08 25 03.4	-6.0
	10nm,0.3s,baz=102,slow=19,SNR=5.6						
RAR	Rarotonga	14.34	101	P	Pn	08 25 47.6	-7.6
	4.4nm,0.3s,baz=306,slow=7.1,SNR=5.0						
URZ	Urewera	20.24	198	P	P	08 27 04.3	-2.0
	2.9nm,0.3s,baz=330,slow=20,SNR=9.3						
TBI	Tubuai	24.05	104	eT		08 51 55.4	
	7.7nm,0.3s						
PAE	Paea	24.06	90	eT		08 51 52.6	
	59nm,0.3s						
PPT	Papeete	24.08	90	eLR	LR	08 33 26.9	
	78nm,26.2s						
PPT	Papeete	24.08	90	LR	LR	08 34 16.9	
	comp=Z,48nm,20.0s,MS3.0,baz=261,slow=29						
HNR	Honiara	26.20	288	P	P	08 28 04.5	-1.2
	81nm,1.0s,mb5.2						
RPZ	Rata Peaks	27.15	203	P	P	08 28 15.8	+1.8
	3.0nm,0.4s,mb4.2,baz=320,slow=5.6,SNR=7.5						
CTAO	Charters Tower	36.55	262	eP	P	08 29 36.8	+0.1
	6.5nm,0.5s,mb4.7						
STKA	Stephens Creek	40.99	243	LR	LR	08 45 56.0	
	comp=Z,111nm,18.5s,MS3.8,baz=32,slow=34						
ASAR	Alice Springs	47.67	255	P	P	08 31 08.0	+0.6
	2.2nm,0.6s,mb4.3,baz=94,slow=9.2,SNR=22						
WRAB	Tennant Creek	47.68	260	eP	P	08 31 08.4	+1.0
	5.4nm,1.0s,mb4.5						
WRA	Warramunga Arr	47.69	260	P	P	08 31 06.6	-0.9
	1.5nm,0.8s,mb4.1,baz=97,slow=8.7,SNR=14						
SBA	Scott Base	59.38	184	eP	P	08 32 32.6	+0.3
	1.9nm,0.8s,mb4.2						
NIKO	Nikolski	72.05	4	eP	P	08 33 55.0	+0.9
	27nm,0.7s,mb5.3						
ANMO	Albuquerque	84.31	50	P	P	08 35 01.1	-1.3
GERES	GERESS Array B	149.61	349	PKPbc	PKPbc	08 42 19.2	-0.4
	0.3nm,0.3s,baz=14,slow=8.5,SNR=4.8						

IDC ***03*** *08:25

ASAR			Sn	Sn	08 44 01.8	+3.6
	0.1nm,0.3s,baz=268,slow=21,SNR=3.4					
WRA	**Warramunga Arr**	**13.25**	**78**	Pn	08 41 54.5	-0.4
	0.1nm,0.3s,baz=256,slow=12,SNR=4.6					
WRA			Sn	Sn	08 44 22.7	-0.4
	0.0nm,0.3s,baz=262,slow=24,SNR=3.2					
STKA	**Stephens Creek**	**20.43**	**119**	P	08 43 23.6	-0.6
	0.9nm,0.6s,baz=297,slow=13,SNR=3.2					

ISK ***03*** *08:45:35.0, 3963N×3014E, h5km, MD2.6*
CSEM ***03*** *08:45:35.1±0.1, 3965N×3008E, h5km, MD2.6, Error ellipse: s-maj=2.4km s-min=1.6km az=63.0*
ISCJB ***03*** *08:45:36.6±0.5, 3961N±003×3010E±004, h10km, Error ellipse: s-maj=5.4km s-min=4.2km az=139.9*
DDA ***03*** *08:45:36.2, 3973N×3012E, h7km±4km, Md2.8*

ISC 03 08:45:36.8±0.7, 3962N±004×3009E±005, h10km±7km, n11, σ0°87/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALT	**Altintas**	**0.57**	**178**	*e*PG	**Pg**	**08 45 47.1**	**-0.7**
ALT				*e*SG	**Sg**	**08 45 55.9**	**+0.6**
ESKT	**Eskisehir**	**0.60**	**100**	*i* P	**Pg**	**08 45 48.1**	**-0.3**
ESKT				*i* S	**Sg**	**08 45 57.3**	**+1.1**
SEYT	**Eskypehyr**	**0.60**	**100**	*i* P	**Pg**	**08 45 48.1**	**-0.3**
SEYT				*i* S	**Sg**	**08 45 57.3**	**+1.1**
GDZ	**Gediz**	**0.71**	**222**	*i* P	**Pg**	**08 45 50.6**	**+0.1**
GDZ				*i* S	**Sg**	**08 45 59.2**	**-0.6**
GDZ	**Gediz**	**0.71**	**222**	*i* P	**Pg**	**08 45 50.7**	**+0.1**
GDZ				*i* S	**Sg**	**08 45 59.2**	**-0.7**
ULDT	**Uludag**	**0.90**	**305**	*i* P	**Pg**	**08 45 52.8**	**-1.3**
ULDT				*i* S	**Sg**	**08 46 07.3**	**+1.5**
GEMT	**Gemlik**	**1.06**	**320**	*e*PN	**Pn**	**08 45 56.8**	**-0.9**
GEMT				*e*SN	**Sn**	**08 46 13.1**	**+0.5**
YLV	**Yalova**	**1.09**	**330**	*e*PN	**Pn**	**08 45 57.2**	**-0.8**
YLV				*e*SN	**Sn**	**08 46 13.8**	**+0.6**
MDU	**Mudurnu**	**1.20**	**45**	*e*PN	**Pn**	**08 45 58.6**	**-1.1**
DEMI	**Demirci**	**1.21**	**242**	*i* P	**Pn**	**08 46 00.7**	**+1.0**
DEMI				*i* S	**Sb**	**08 46 19.7**	**+4.2**
KIZT	**Kizilcal**	**1.58**	**118**	*e*PN	**Pn**	**08 46 05.0**	**+0.3**

NEIC 03 08:56:29.9, 5383N×16417W, h26km, mb3.3/1, ML3.5(PMR), ML3.5(AEIC), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**0.99**	**289**	P	Pn	08 56 47.6	-0.5
AKA				S	Sb	08 57 01.3	+0.3
AKUT	**Akutan**	**0.99**	**289**	*e*P	Pn	08 56 47.1	-1.0
AKLV	**Akutan Long Va**	**1.10**	**288**	P	Pn	08 56 49.1	-0.6
FALS	**False Pass**	**1.12**	**23**	P	Pn	08 56 49.4	-0.5
FALS				S	Sn	08 57 04.1	-0.4
AKGG	**Akutan Green G**	**1.14**	**290**	P	Pn	08 56 49.8	-0.3
UNV	**Unalaska Valle**	**1.38**	**272**	P	Pn	08 56 52.7	-0.8
UNV				S	Sn	08 57 11.1	+0.3
OKCD	**Okmok Cone D**	**2.38**	**262**	P	Pn	08 57 08.5	+1.4
SDPT	**Sand Point**	**2.63**	**53**	*e*P	Pn	08 57 13.4	+2.7
NIKO	**Nikolski**	**2.93**	**255**	P	Pn	08 57 15.4	+0.6
OHAK	**Old Harbor**	**7.05**	**57**	*e*Pn	Pn	08 58 10.5	-0.8
SEW	**Seward**	**10.19**	**46**	*e*Pn	Pn	08 58 48.2	-6.1
HYT	**Haines Junctio**	**15.93**	**53**	*e*Pn	Pn	09 00 13.8	+1.9
EGAK	**Eagle**	**15.96**	**38**	*e*Pn	Pn	09 00 12.8	+0.6
	1.9nm,0.8s						
INK	**Inuvik**	**20.41**	**33**	*e*P	P	09 01 02.4	-2.1

ISCJB ***03*** *09:00:06.2±1.0, 2985N±003×3625E±005, h0km, Error ellipse: s-maj=6.6km s-min=4.7km az=4.8*
GII ***03*** *09:00:06.8±0.9, 2986N×3618E, h0km, ML2.7/9, EXPLOSION*
SGS ***03*** *09:00:07.2, 2997N×3619E, h2km*

ISC 03 09:00:06.2±1.0, 2984N±003×3630E±006, h0km, n15, σ0°77/24, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.11**	**281**	Pg	**Pg**	**09 00 26.5**	**-1.0**
HRFI				Sg	**Sg**	**09 00 42.4**	**+0.5**
EIL	**Elat**	**1.18**	**262**	Pg	**Pg**	**09 00 28.5**	**-0.3**
EIL				Sg	**Sg**	**09 00 44.4**	**+0.3**
HQLS		**1.20**	**244**	S	**Sg**	**09 00 45.1**	**+0.3**
HQLS		**1.20**	**244**	P	**Pg**	**09 00 28.8**	**-0.4**
MBRI	**Mt Berech**	**1.20**	**268**	Pg	**Pg**	**09 00 28.7**	**-0.5**
MBRI				Sg	**Sg**	**09 00 45.3**	**+0.5**
ZFRI	**Zfri**	**1.20**	**307**	Pg	**Pg**	**09 00 28.5**	**-0.7**
ZFRI				Sg	**Sg**	**09 00 45.6**	**+0.7**
PRNI	**Paran**	**1.23**	**295**	Pg	**Pg**	**09 00 28.7**	**-1.1**
PRNI				Sg	**Sg**	**09 00 46.2**	**+0.5**
JLOS		**1.30**	**213**	S	**Sg**	**09 00 49.6**	**+1.5**
JLOS		**1.30**	**213**	P	**Pg**	**09 00 31.6**	**+0.4**
KRMI	**Paran Flat**	**1.39**	**282**	Pg	**Pg**	**09 00 31.9**	**-1.0**
KRMI				Sg	**Sg**	**09 00 50.5**	**-0.5**
RTMI	**Retamim**	**1.84**	**312**	Pn	**Pn**	**09 00 38.4**	**-0.7**
RTMI				Sn	**Sn**	**09 01 02.1**	**-1.0**
DSI	**Dead Sea**	**1.90**	**336**	Pn	**Pn**	**09 00 40.3**	**+0.4**
DSI				Sn	**Sn**	**09 01 05.4**	**+1.0**
KZIT	**Kziot**	**1.96**	**303**	Pn	**Pn**	**09 00 40.8**	**+0.1**
KZIT				Sn	**Sn**	**09 01 05.8**	**-0.1**
RSHS		**2.02**	**221**	P	**Pn**	**09 00 40.9**	**-0.6**
HMDT	**Nahal Hemdat**	**2.50**	**345**	Sn	**Sn**	**09 01 21.1**	**+1.9**

DDA ***03*** *09:04:01.4, 4110N×3523E, h19km±1km, Md3.6*
ISCJB ***03*** *09:04:02.7±0.5, 4110N±002×3510E±003, h1km±4km, Error ellipse: s-maj=3.7km s-min=3.2km az=6.0*
CSEM ***03*** *09:04:02.3±0.1, 4109N×3510E, h5km, MD3.7, Error ellipse: s-maj=1.3km s-min=1.0km az=14.0*
ISK ***03*** *09:04:02.5, 4110N×3510E, h6km, MD3.7*

ISC 03 09:04:03.6±0.5, 4111N±002×3510E±003, h4km±4km, n43, σ0°90/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYBT	**Boyabat**	**0.44**	**325**	PG	**Pg**	**09 04 11.8**	**-0.3**
BYBT				*e*SG	**Sg**	**09 04 18.1**	**+0.4**
CTKT	**Corum**	**0.54**	**206**	*i* P	**Pg**	**09 04 13.2**	**-0.9**
CTKT				*i* S	**Sg**	**09 04 21.5**	**+0.4**
DIKM	**Dikmen**	**0.55**	**12**	PG	**Pg**	**09 04 13.9**	**-0.3**
DIKM				*e*SG	**Sg**	**09 04 22.4**	**+1.0**
KVT	**Kavak**	**0.71**	**92**	PG	**Pg**	**09 04 16.6**	**-0.7**
KVT				*e*SG	**Sg**	**09 04 27.0**	**+0.4**
TOS	**Tosya**	**0.82**	**265**	PG	**Pg**	**09 04 18.7**	**-0.7**
TOS				*e*SG	**Sg**	**09 04 30.5**	**+0.5**
CORM	**Corum**	**1.00**	**201**	PG	**Pg**	**09 04 21.9**	**-0.9**
CORM				*e*SG	**Sg**	**09 04 35.8**	**0.0**
ILGA	**Ilgaz**	**1.05**	**267**	*i* P	**Pg**	**09 04 22.7**	**-1.1**
ILGA				*i* S	**Sg**	**09 04 40.7**	**+3.3**
BZK	**Bozkurt**	**1.18**	**316**	*e*PN	**Pn**	**09 04 25.9**	**-1.0**
BZK				*e*SN	**Sn**	**09 04 42.7**	**-0.8**
CANT	**Cankiri**	**1.23**	**246**	*e*PN	**Pn**	**09 04 26.2**	**-1.4**
CANT				*e*SN	**Sn**	**09 04 43.6**	**-1.1**
TOKT	**Tokat**	**1.35**	**125**	*e*PN	**Pn**	**09 04 28.1**	**-1.1**
BALT	**Daday**	**1.36**	**289**	*i* P	**Pn**	**09 04 28.4**	**-0.9**
BALT				*i* S	**Sg**	**09 04 49.1**	**+1.8**
ELDT	**Eldivan**	**1.42**	**245**	*i* P	**Pn**	**09 04 29.4**	**-0.7**
ELDT				*i* P		09 04 29.4	
ELDT				*i* S	**Sb**	**09 04 50.6**	**+1.6**
YOZ	**Yozgat**	**1.48**	**174**	*e*PN	**Pn**	**09 04 29.7**	**-1.3**
YOZ				*e*SN	**Sn**	**09 04 50.2**	**-0.6**
CDAG	**Cicekdag**	**1.59**	**201**	*i* P	**Pn**	**09 04 31.8**	**-0.7**
CDAG				*i* S	**Sn**	**09 04 53.6**	**+0.1**
SAFT	**Safranbolu**	**1.83**	**275**	*e*PN	**Pn**	**09 04 35.3**	**-0.5**
RSDY	**Resadiye-TOKAT**	**1.83**	**112**	*e*PN	**Pn**	**09 04 35.3**	**-0.5**
SVSK	**Karacayir**	**1.87**	**129**	*e*PN	**Pn**	**09 04 35.9**	**-0.5**
KAMT	**Kaman**	**2.04**	**212**	*e*PN	**Pn**	**09 04 38.0**	**-0.7**
ANTO	**Ankara**	**2.16**	**236**	*e*PN	**Pn**	**09 04 40.0**	**-0.3**
BNN	**Bunyan**	**2.33**	**166**	*e*PN	**Pn**	**09 04 42.2**	**-0.5**
AVNT	**Avonos**	**2.34**	**185**	*i* P	**Pn**	**09 04 41.9**	**-0.9**
AVNT				*i* S	**Sn**	**09 05 13.3**	**+1.3**
SGKT	**Sivrigoynuk**	**2.37**	**258**	*i* P	**Pn**	**09 04 43.2**	**-0.1**
SGKT				*i* S	**Sg**	**09 05 20.4**	**+0.5**
GRSN	**GIRESUNGRSN**	**2.40**	**93**	*i* P	**Pn**	**09 04 44.5**	**+0.9**
PINB	**Pinarbasi**	**2.63**	**157**	*i* P	**Pn**	**09 04 49.1**	**+2.3**
ESPY	**Espiye-Giresun**	**2.75**	**93**	*e*PN	**Pn**	**09 04 48.3**	**-0.1**
DARE	**Darende-Malaty**	**2.99**	**135**	*e*PN	**Pn**	**09 04 54.3**	**+2.5**
MDU	**Mudurnu**	**3.02**	**259**	*e*PN	**Pn**	**09 04 52.5**	**+0.3**
NIG	**Nigde**	**3.02**	**187**	*e*PN	**Pn**	**09 04 52.5**	**+0.3**
HENT	**Hendek**	**3.20**	**266**	*i* P	**Pg**	**09 05 05.1**	**+0.2**
HENT				*i* S	**Sg**	**09 05 57.9**	**+12**
KIZT	**Kizilcal**	**3.33**	**229**	*e*PN	**Pn**	**09 04 56.3**	**-0.2**
GUMT	**Gumushane**	**3.39**	**100**	*e*PN	**Pn**	**09 04 58.0**	**+0.8**
KDHN	**Kadinhani**	**3.46**	**223**	*i* P	**Pn**	**09 04 58.1**	**-0.2**
KDHN				*i* S	**Sn**	**09 05 40.9**	**+1.2**
KDHN	**Kadinhani**	**3.46**	**223**	*i* P	**Pn**	**09 04 58.1**	**-0.2**
KDHN				*i* S	**Sn**	**09 05 40.8**	**+1.1**
KOZT	**Kozan**	**3.67**	**171**	*e*PN	**Pn**	**09 05 01.9**	**+0.8**
MALT	**Malatya**	**3.79**	**136**	*e*PN	**Pn**	**09 05 03.1**	**+0.3**
KONT	**Konya--Tatoy**	**3.81**	**215**	*e*PN	**Pn**	**09 05 03.3**	**+0.3**
EZC	**Erzincan**	**3.85**	**109**	*e*PN	**Pn**	**09 04 59.1**	**-4.4**
KARA	**Karaisali**	**3.85**	**181**	*e*PN	**Pn**	**09 05 03.8**	**+0.2**
KMRS	**Kahramanmaras**	**3.86**	**158**	*e*PN	**Pn**	**09 05 03.9**	**+0.2**
PTK	**Pertek**	**3.97**	**123**	*e*PN	**Pn**	**09 05 06.4**	**+1.1**
GZT	**Gaziantep**	**4.21**	**152**	*i* P	**Pg**	**09 05 21.0**	**-3.3**
SVRC	**Sivrice-ELAZID**	**4.24**	**129**	*e*PN	**Pn**	**09 05 09.5**	**+0.6**
HDMB	**Hadim**	**4.62**	**207**	*e*PN	**Pn**	**09 05 14.8**	**+0.6**

NIED ***03*** *09:08:00, 4160N×14190E, h65km, Mw3.7 Best double couple: M0:4.54000×10^14 NP1:φs20.00000°, δ76.00000°, λ85.00000°. NP2:φs219.00000°, δ15.00000°, λ109.00000°.*
ISCJB ***03*** *09:08:49.8±1.0, 4157N±004×14190E±005, h64km±16km, Error ellipse: s-maj=7.4km s-min=5.1km az=37.1*
JMA ***03*** *09:08:50.0±0.1, 4159N×14192E, h65km±2km, M3.5 Broadband fault plane solution: P waves. NP1: φs139.00000°, δ15.00000°, λ32.00000°. NP2:φs18.00000°, δ82.00000°, λ103.00000°. Principal axes: T Plg51.0000°, Azm302.0000°; N Plg12.0000°, Azm196.0000°; P Plg36.0000°, Azm97.0000°;*
JMA Felt I J1.

ISC 03 09:08:50.3±1.0, 4157N±004×14190E±005, h63km±16km, n14, σ0°42/24, 8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.67**	**254**	*i*P	**Pn**	**09 09 04.4**	**+0.1**
JOT				*e*S	**Sn**	**09 09 15.0**	**+0.4**
JKB	**Kayabe**	**0.73**	**296**	*i*P	**Pn**	**09 09 04.6**	**-0.4**
JKB				*e*S	**Sn**	**09 09 15.7**	**-0.1**
JNBK	**Urakawa-nobuka**	**0.95**	**41**	P	**Pn**	**09 09 06.9**	**-0.9**
JTM	**Tenmabayashi**	**1.00**	**219**	*i*P	**Pn**	**09 09 08.8**	**+0.4**
JTM				*e*S	**Sn**	**09 09 22.3**	**+0.4**
JEM	**Erimo**	**1.04**	**64**	P	**Pn**	**09 09 08.9**	**0.0**
JEM				*e*S	**Sn**	**09 09 22.6**	**-0.2**
JNB	**Noboribetsu**	**1.11**	**325**	*i*P	**Pn**	**09 09 09.3**	**-0.5**
JNB				*e*S	**Sn**	**09 09 23.6**	**-0.7**
JSR	**Shiriuchi**	**1.11**	**269**	*i*P	**Pn**	**09 09 10.0**	**+0.1**
JSR				*e*S	**Sn**	**09 09 24.8**	**+0.3**
JANG	**Nango**	**1.23**	**194**	P	**Pn**	**09 09 11.3**	**-0.1**
JANG				*e*S	**Sn**	**09 09 26.5**	**-0.7**
JBT2	**Biratori 2**	**1.26**	**16**	*i*P	**Pn**	**09 09 12.0**	**+0.2**
JBT2				*e*S	**Sn**	**09 09 28.5**	**+0.6**
JYM2	**Yakumo 2**	**1.27**	**296**	*i*P	**Pn**	**09 09 12.5**	**+0.6**
JEW	**Eniwo**	**1.31**	**345**	*i*P	**Pn**	**09 09 12.6**	**+0.1**
JEW				*e*S	**Sn**	**09 09 29.3**	**+0.1**
JCH	**Churui**	**1.51**	**46**	P	**Pn**	**09 09 15.5**	**+0.4**
JCH				*e*S	**Sn**	**09 09 34.4**	**+0.6**
JFR	**Furan**	**1.68**	**18**	*e*S	**Sn**	**09 09 37.5**	**-0.3**
JOSM	**Okushiri--Mats**	**1.89**	**287**	P	**Pn**	**09 09 20.0**	**-0.2**

PRU ***03*** *09:08:51.2, 5022N×1902E, h0km*

WAR 03 09:08:50.5, 5018N×1912E, ML2.8, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.44**	**85**	*e*Pg	Pg	09 08 59.1	+0.2
OJC				*e*Sg	Sg	09 09 05.5	+1.0
RAC	**Raciborz**	**0.60**	**261**	*e*Pg	Pg	09 09 02.5	+0.5
RAC				*e*Sg	Sg	09 09 11.2	+1.3
OKC	**Ostrava-Krasne**	**0.71**	**242**	*e*PG	Pg	09 09 03.4	-0.8
OKC				*e*SG	Sg	09 09 14.0	+0.6
	comp=Z,40nm,0.8s						
NIE	**Niedzica**	**1.08**	**134**	*e*Pg	Pg	09 09 11.7	+0.4
NIE				*e*Sg	Sg	09 09 27.1	+1.8
KOLL	**Kolacno**	**1.67**	**197**	*e*PN	Pn	09 09 23.1	+2.1
KOLL				*e*SN	Sn	09 09 43.8	+0.8
VYHS	**Vyhne**	**1.70**	**186**	*e*PG	Pg	09 09 20.8	-2.2
VYHS				*e*SN	Sn	09 09 43.5	-0.2
DPC	**Dobruska-Polom**	**1.80**	**276**	*e*PG	Pg	09 09 21.6	-3.4
DPC				*e*SG	Sg	09 09 45.8	-2.6
	comp=Z,20nm,0.8s						
KECS	**Kecovo**	**1.92**	**152**	*e*PG	Pg	09 09 27.1	-0.1
KECS				*e*SG	Sg	09 09 53.1	+1.0
CRVS	**Cervenica-Dubn**	**1.99**	**129**	*e*PN	Pn	09 09 28.5	+3.1
CRVS				*e*SN	Sn	09 09 55.7	+4.8
UPC	**Upice**	**2.02**	**281**	*e*SG	Sg	09 09 53.5	-1.8
KOLS	**Kolonicke sedl**	**2.40**	**120**	*e*PG	Pg	09 09 40.1	+3.6
PRU	**Pruhonice**	**2.96**	**268**	*e*PG	Pg	09 09 43.9	-3.2
PRU				*e*SG	Sg	09 10 21.8	-3.6
	comp=Z,5.0nm,0.4s						
BRG	**Berggiesshubel**	**3.38**	**284**	SG	Sg	09 10 36.7	-2.2
	comp=Z,5.8nm,0.6s						
KHC	**Kasperske Hory**	**3.75**	**256**	*e*PG	Pn	09 09 56.0	+6.5
KHC				*e*SG	Sg	09 10 47.4	-3.5
	comp=Z,6.1nm,0.6s						
CLL	**Collm**	**4.05**	**289**	*e*Sg	Sg	09 11 03.0	+2.6

GRAL ***03*** *09:18:48.2±0.5, 3331N×3530E, h7km±13km, MD2.8*
CSEM ***03*** *09:18:48.2, 3331N×3530E, h7km, ML2.8, After GRAL*
ISCJB ***03*** *09:18:49.0±0.7, 3341N±003×3533E±005, h0km, Error ellipse: s-maj=6.9km s-min=3.2km az=20.7*
GII ***03*** *09:18:49.2±0.9, 3336N×3539E, h0km, ML1.9/6, EXPLOSION*

ISC 03 09:18:49.6±0.7, 3342N±003×3533E±005, h0km, n11, σ0°74/19, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.07**	**358**	*e*Pg	**Pg**	**09 18 51.6**	**+0.6**
HNTI	**Hanita**	**0.36**	**202**	Pg	**Pg**	**09 18 56.8**	**+0.3**
HNTI				Sg	**Sg**	**09 19 02.6**	**+1.5**
HRI	**Mount Hermon**	**0.37**	**114**	Pg	**Pg**	**09 18 56.1**	**-0.6**
HRI				Sg	**Sg**	**09 19 02.1**	**+0.6**
MMA1	**Mount Meron ar**	**0.40**	**171**	Pg	**Pg**	**09 18 56.7**	**-0.6**
MMA1				Sg	**Sg**	**09 19 03.3**	**+0.8**
RCY	**Rachaya**	**0.41**	**80**	*e*Pg	**Pg**	**09 18 56.8**	**-0.8**
RCY				*e*Sg	**Sg**	**09 19 03.7**	**+0.8**
BHL	**Bhannes**	**0.56**	**29**	*e*Pg	**Pg**	**09 19 00.2**	**-0.1**
MMLI	**Mount Malkishu**	**0.98**	**176**	Pg	**Pg**	**09 19 07.5**	**-0.9**
MMLI				Sg	**Sg**	**09 19 20.9**	**-0.1**
HWQ	**Hawqa**	**1.00**	**31**	*e*Pg	**Pg**	**09 19 08.3**	**-0.6**
HWQ				*e*Sg	**Sg**	**09 19 22.7**	**+0.9**
HMDT	**Nahal Hemdat**	**1.17**	**172**	Pg	**Pg**	**09 19 10.8**	**-1.2**
HMDT				Sg	**Sg**	**09 19 27.4**	**+0.1**
SLTI	**Sal'it**	**1.20**	**192**	Sg	**Sg**	**09 19 28.7**	**+0.6**
DSI	**Dead Sea**	**1.84**	**179**	Pn	**Pn**	**09 19 21.5**	**-1.0**
DSI				Sn	**Sn**	**09 19 46.3**	**-0.1**

ISCJB ***03*** *09:58:32.6±0.9, 1761N±004×14580E±008, h209km±9km, mb4.3/32, Error ellipse: s-maj=13.2km s-min=5.8km az=178.2*
IDC ***03*** *09:58:32.6±0.5, 1765N×14581E, h190km±5km, mb3.9/19, mb1 4.0/24, mb1mx4.0/30, mbtmp4.0/24, MS3.0/2, Ms1 3.1/2, ms1mx2.6/43, Error ellipse: s-maj=13.1km s-min=6.5km az=99.0*
NEIC ***03*** *09:58:33.9±1.1, 1757N×14587E, h207km±10km, mb4.7/17, Error ellipse: s-maj=8.9km s-min=5.2km az=89.0*
DJA ***03*** *09:59:04, 1195N×14275E, h0km, mb5.2/7*

ISC 03 09:58:33.5±0.9, 1761N±004×14582E±008, h202km±9km, h190km±1.7km: pP-P, n59, σ0°89/58, mb4.3/32, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.11**	**193**	P	**Pn**	**09 59 37.0**	**+0.3**
	60nm,0.3s,baz=143,slow=3.1,SNR=66						
GUMO				S	**Sn**	**10 00 26.9**	**+0.5**
	80nm,0.3s,baz=198,slow=23,SNR=7.3						
CBIJ	**Chichi jima**	**10.02**	**341**	P	**Pn**	**10 00 51.0**	**-1.9**
	29nm,0.3s,baz=276,slow=24,SNR=6.7						
CBIJ				S	**Sn**	**10 02 39.0**	**-5.9**
	22nm,0.3s,baz=321,slow=24,SNR=5.7						
JHJ	**Hachijo jima 2**	**16.37**	**342**	P	**P**	**10 02 11.7**	**+0.4**
	10nm,0.3s,baz=69,slow=22,SNR=5.3						
JHJ				S	**S**	**10 05 09.0**	**-3.3**
	7.2nm,0.3s,baz=232,slow=23,SNR=3.1						
JOW	**Kunigami**	**18.64**	**303**	P	**P**	**10 02 37.1**	**+1.0**
	2.1nm,0.3s,baz=134,slow=7.5,SNR=13						
JOW				LR	LR	10 07 43.4	
	comp=Z,72nm,21.0s,baz=129,slow=30						
JOW	**Kunigami**	**18.64**	**303**	P	**P**	**10 02 37.1**	**+1.0**
JOW				LR	LR	10 07 43.4	
MJAR	**Matsushiro Arr**	**20.02**	**342**	P	**P**	**10 02 50.9**	**0.0**
	2.5nm,0.3s,baz=166,slow=10,SNR=16						
MAJO	**Matsushiro**	**20.02**	**342**	*e*P	**P**	**10 02 47.5**	**-3.4**
	24nm,0.6s						
MAT	**Matsushiro**	**20.02**	**342**	P	**P**	**10 02 50.6**	**-0.3**
YHNB	**Yeheng**	**23.83**	**291**	*e*P	**P**	**10 03 29.0**	**+0.7**
	29nm,0.7s,mb5.0						
KSRS	**Korea Array**	**25.26**	**325**	P	**P**	**10 03 40.1**	**-1.0**
	2.0nm,0.6s,mb4.0,baz=143,slow=8.6,SNR=9.7						
INCN	**Inchon**	**26.00**	**323**	*e*P	**P**	**10 03 48.7**	**+0.9**
	16nm,0.3s,mb5.1						
ASAJ	**Asahikawa**	**26.56**	**355**	P	**P**	**10 03 53.4**	**+0.7**
	7.1nm,0.8s,mb4.3,baz=212,slow=11,SNR=8.1						
PMG	**Port Moresby**	**26.88**	**177**	*e*P	**P**	**10 03 54.8**	**-1.0**
	40nm,0.9s,mb5.0						
COEN	**Coen**	**31.48**	**185**	*e*P	**P**	**10 04 35.0**	**-1.4**
	3.6nm,0.7s,mb4.1						
KAKA	**Kakadu**	**32.90**	**205**	*e*P	**P**	**10 04 47.8**	**-1.0**
	9.8nm,0.6s,mb4.5						
KAPI	**Kappang**	**34.17**	**231**	P	**P**	**10 05 00.2**	**+0.3**
	20nm,0.5s,mb4.9,baz=75,slow=3.5,SNR=18						
BATI	**Baumata**	**35.26**	**220**	P	**P**	**10 05 08.9**	**-0.3**
	70nm,0.5s,mb5.4,baz=27,slow=0.6,SNR=9.9						
PETK	**Petropavlovsk-**	**36.62**	**12**	P	**P**	**10 05 21.2**	**+1.0**
	1.5nm,0.6s,mb3.7,baz=179,slow=8.6,SNR=6.1						
PETK				pP	pP	10 06 01.1	-1.2
	3.0nm,0.9s,baz=207,slow=6.2,SNR=2.6						
CTA	**Charters Tower**	**37.47**	**179**	*e*P	**P**	**10 05 27.7**	**0.0**
	8.5nm,0.7s,mb4.4						
CTA	**Charters Tower**	**37.47**	**179**	P	**P**	**10 05 27.8**	**+0.1**
	12nm,0.8s,mb4.5,baz=5.1,slow=8.8,SNR=14						
CTAO	**Charters Tower**	**37.47**	**179**	*e*P	**P**	**10 05 27.2**	**-0.5**
	42nm,1.4s,mb4.8						
KSM	**Kuching**	**38.40**	**249**	*e*P	**P**	**10 05 36.1**	**+0.4**
WRAB	**Tennant Creek**	**38.98**	**197**	*e*P	**P**	**10 05 40.1**	**-0.2**
	34nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**38.98**	**197**	*e*P	**P**	**10 05 39.9**	**-0.5**
WRA	**Warramunga Arr**	**38.99**	**197**	P	**P**	**10 05 40.5**	**+0.1**
	18nm,0.9s,mb4.6,baz=19,slow=8.1,SNR=76						
WRA				ScP	ScP	10 11 14.0	-1.7
	0.9nm,0.6s,baz=20,slow=4.9,SNR=7.3						
FITZ	**Fitzroy Crossi**	**40.67**	**210**	⇑*i*P	**P**	**10 05 54.9**	**+0.6**
	36nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**40.67**	**210**	P	**P**	**10 05 55.0**	**+0.7**
	20nm,0.8s,mb4.6,baz=36,slow=11,SNR=44						
ASAR	**Alice Springs**	**42.65**	**196**	P	**P**	**10 06 10.2**	**0.0**
	2.8nm,0.5s,mb4.0,baz=26,slow=5.9,SNR=85						
SONM	**Songino Array**	**44.06**	**322**	P	**P**	**10 06 21.4**	**+0.1**
	1.4nm,0.6s,mb3.4,baz=142,slow=8.7,SNR=6.9						
CMAR	**Chiang Mai Arr**	**44.48**	**279**	P	**P**	**10 06 26.8**	**+1.7**
	2.1nm,0.7s,mb3.6,baz=71,slow=6.5,SNR=8.6						
CMAR				LR	LR	10 23 47.4	
	comp=Z,10nm,18.7s,baz=195,slow=34						
YAK	**Yakutsk**	**45.80**	**349**	*e*P	**P**	**10 06 34.2**	**-0.6**
	19nm,0.4s,mb4.8						
ARMA	**Armidale**	**48.08**	**173**	*e*P	**P**	**10 06 53.1**	**+0.3**
STKA	**Stephens Creek**	**49.37**	**185**	*e*P	**P**	**10 07 02.3**	**-0.3**
	4.5nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**49.37**	**185**	P	**P**	**10 07 02.4**	**-0.2**
	5.6nm,0.5s,mb4.2,baz=0.8,slow=11,SNR=20						
STKA	**Stephens Creek**	**49.37**	**185**	*e*P	**P**	**10 07 02.0**	**-0.6**
	7.1nm,0.6s,mb4.2						
KLBR	**Kellerberrin**	**55.85**	**209**	*e*P	**P**	**10 07 50.2**	**+0.1**
	6.8nm,0.5s,mb4.4						
MUN	**Mundaring**	**56.90**	**210**	*e*P	**P**	**10 07 58.0**	**+0.5**
ZAA0	**Zalesovo Array**	**58.94**	**323**	*e*P	**P**	**10 08 10.6**	**-0.8**
ZALV	**Zalesovo Beam**	**58.94**	**323**	P	**P**	**10 08 10.9**	**-0.6**
	1.2nm,0.4s,mb

ANTU			*i* S	Sn	10 06 09.8	+1.2
ANTU			AML	AML	10 06 11.6	
	comp=E,2μm,0.1s					
ANTU	**Antumapu**	**1.43 166**	⇑*i*P	Pn	10 05 51.2	+0.6
ANTU			*i* S	Sn	10 06 09.8	+1.2
TACH	**Talagante**	**1.48 177**	⇑*i*P	Pn	10 05 51.5	+0.4
TACH			*i* S	Sn	10 06 11.0	+1.3
PCH	**Pirque**	**1.51 163**	⇓*i*P	Pn	10 05 52.0	+0.4
PCH			*e*S	Sn	10 06 11.5	+1.0
SJCH	**San Jose de Ma**	**1.57 159**	*e*P	Pn	10 05 53.2	+0.8
SJCH			*i* S	Sn	10 06 13.3	+1.4
SJCH			AML	AML	10 06 18.1	
	comp=E,935nm,0.1s					
SJCH	**San Jose de Ma**	**1.57 159**	*e*P	Pn	10 05 53.2	+0.8
SJCH			*i* S	Sn	10 06 13.3	+1.4
CHCH	**Chadas Angostu**	**1.78 170**	*i* P	Pn	10 05 55.5	+0.3
CHCH			*i* S	Sn	10 06 17.5	+0.5
LNV	**Longovilo**	**1.80 190**	*i* P	Pn	10 05 55.0	-0.6
LNV			*i* S	Sn	10 06 17.4	-0.1
LMEL	**Las Melosas**	**1.81 157**	⇑*i*P	Pn	10 05 56.7	+1.1
LMEL			*e*S	Sn	10 06 18.7	+1.1
LMEL			AML	AML	10 06 24.4	
	comp=N,2μm,0.1s					
LMEL	**Las Melosas**	**1.81 157**	⇑*i*P	Pn	10 05 56.7	+1.1
LMEL			*e*S	Sn	10 06 18.7	+1.1
CACH	**El Canelo**	**1.97 169**	*i* P	Pn	10 05 58.7	+0.9
CACH			*i* S	Sn	10 06 23.4	+1.9
CICH	**Cipreses**	**2.20 167**	*i* P	Pn	10 06 01.8	+1.0
CICH			*i* S	Sn	10 06 27.7	+0.7
SFDO	**San Fernando**	**2.43 180**	⇑*i*P	Pn	10 06 04.5	+0.5
SFDO			*i* S	Sn	10 06 33.7	+1.0

SGS ***03*** *10:17:21.8, 3005N×3624E, h2km*
CSEM ***03*** *10:17:21.8, 3005N×3624E, h5km, ML2.5, After SNSN*
ISCJB ***03*** *10:17:22.1±1.0, 2986N±003×3623E±005, h0km, Error ellipse: s-maj=6.7km s-min=4.8km az=3.5*
GII ***03*** *10:17:23.3±1.0, 2988N×3613E, h0km, ML2.5/9, EXPLOSION*
ISC 03 10:17:22.2±1.1, 2985N±003×3627E±006, h0km, n13, σ0§76/23, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRFI	**Mount Harif**	**1.08**	**280**	Pg	**Pg**	**10 17 42.2**	**-0.8**
HRFI				Sg	**Sg**	**10 17 57.3**	**+0.2**
EIL	**Elat**	**1.16**	**262**	Pg	**Pg**	**10 17 44.3**	**-0.1**
EIL				Sg	**Sg**	**10 17 59.1**	**-0.4**
ZFRI	**Zfri**	**1.18**	**307**	Pg	**Pg**	**10 17 43.7**	**-1.1**
ZFRI				Sg	**Sg**	**10 18 00.0**	**0.0**
MBRI	**Mt Berech**	**1.18**	**268**	Pg	**Pg**	**10 17 44.5**	**-0.3**
MBRI				Sg	**Sg**	**10 18 00.8**	**+0.8**
HQLS		**1.18**	**243**	P	**Pg**	**10 17 44.1**	**-0.8**
HQLS				S	**Sg**	**10 18 01.1**	**+0.8**
PRNI	**Paran**	**1.21**	**295**	Pg	**Pg**	**10 17 44.3**	**-1.0**
PRNI				Sg	**Sg**	**10 18 01.0**	**+0.1**
JLOS		**1.30**	**212**	P	**Pg**	**10 17 47.1**	**-0.1**
JLOS		**1.30**	**212**	P	**Pg**	**10 17 47.1**	**0.0**
JLOS				S	**Sg**	**10 18 05.7**	**+1.7**
KRMI	**Paran Flat**	**1.37**	**282**	Pg	**Pg**	**10 17 47.4**	**-1.0**
KRMI				Sg	**Sg**	**10 18 06.1**	**0.0**
DSI	**Dead Sea**	**1.88**	**336**	Pn	**Pn**	**10 17 56.0**	**+0.4**
DSI				Sn	**Sn**	**10 18 20.6**	**+0.6**
KZIT	**Kziot**	**1.93**	**304**	Pn	**Pn**	**10 17 56.6**	**+0.3**
KZIT				Sn	**Sn**	**10 18 21.6**	**+0.4**
RSHS		**2.01**	**220**	P	**Pn**	**10 17 56.4**	**-1.0**
MMLI	**Mount Malkishu**	**2.68**	**345**	Sn	**Sn**	**10 18 41.4**	**+1.6**

IDC ***03*** *10:22:15.0±1.3, 2990N×12786E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/16, mbtmp3.8/5, Error ellipse: s-maj=132.4km s-min=18.4km az=69.0*
NEIC ***03*** *10:22:19.2±0.8, 3.13N×12871E, h35km, mb4.1/2, Error ellipse: s-maj=25.0km s-min=10.8km az=54.0*
ISCJB ***03*** *10:22:22.8±5.7, 3.1N±02×1285E±03, h86km±54km, mb3.7/6, Error ellipse: s-maj=49.3km s-min=15.3km az=150.2*
ISC 03 10:22:23.0±4.2, 31N±02×1285E±03, h71km±38km, n12, σ0§45/12, mb3.7/6, 1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNE	**Ternate**	**2.53**	**207**	⇓*e*P	**Pn**	**10 22 53.0**	**-8.9**
KKM	**Kota Kinabalu**	**12.62**	**284**	*e*P	**Pn**	**10 25 19.8**	**+0.1**
WRAB	**Tennant Creek**	**23.55**	**166**	*e*P	**P**	**10 27 26.3**	**-0.9**
	2.1nm,0.6s,mb3.6						
WRA	**Warramunga Arr**	**23.56**	**166**	P	**P**	**10 27 27.3**	**+0.1**
	1.0nm,0.3s,mb3.6,baz=343,slow=10,SNR=18						
WB2	**Warramunga Arr**	**23.56**	**166**	*e*P	**P**	**10 27 27.0**	**-0.3**
ASAR	**Alice Springs**	**27.07**	**169**	P	**P**	**10 27 59.3**	**+0.3**
	0.3nm,0.6s,mb3.0,baz=351,slow=9.1,SNR=8.1						
COCO	**West Island**	**34.94**	**244**	*e*P	**P**	**10 29 08.4**	**-0.1**
	161nm,1.3s						
STKA	**Stephens Creek**	**36.90**	**161**	*e*P	**P**	**10 29 25.7**	**+0.8**
	4.5nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**36.90**	**161**	P	**P**	**10 29 26.0**	**+1.0**
	1.8nm,0.4s,mb4.4,baz=331,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**36.90**	**161**	*e*P	**P**	**10 29 25.7**	**+0.7**
	4.7nm,0.8s,mb4.5						
SONM	**Songino Array**	**48.52**	**340**	P	**P**	**10 30 58.5**	**-0.3**
	0.4nm,0.5s,mb3.6,baz=129,slow=2.0,SNR=3.0						
MKAR	**Makanchi Array**	**59.13**	**325**	P	**P**	**10 32 16.6**	**+0.3**
	1.3nm,0.6s,mb4.2,baz=122,slow=8.3,SNR=11						

SZGRF ***03*** *10:54:05.4, 3760N×7207E, h33km, mb4.6, Tajikistan*
ISCJB ***03*** *10:54:12.2±0.3, 3742N±002×7210E±003, h126km±4km, mb4.6/101, Error ellipse: s-maj=4.4km s-min=3.0km az=165.6*
BJI ***03*** *10:54:12.6, 3763N×7196E, h108km, mB4.4, mb4.6*
NEIC ***03*** *10:54:13.1±0.8, 3755N×7198E, h110km±8km, mb4.6/19, Error ellipse: s-maj=7.3km s-min=6.2km az=184.0*
MOS ***03*** *10:54:13.2±1.0, 3763N×7199E, h121km, mb4.4/36, Error ellipse: s-maj=7.9km s-min=4.1km az=125.5*
IDC ***03*** *10:54:13.7±0.7, 3741N×7191E, h118km±5km, mb4.0/17, mb1 4.1/19, mb1mx4.0/26, mbtmp4.0/19, MS3.0/5, Ms1 3.1/5, ms1mx2.5/36, Error ellipse: s-maj=16.8km s-min=10.2km az=17.0*
NNC ***03*** *10:54:21.4±5.0, 3824N×7179E, h209km±35km, mb3.4, mpv4.5, Error ellipse: s-maj=55.9km s-min=22.1km az=29.0*
ISC 03 10:54:13.3±0.3, 3743N±002×7210E±003, h118km±4km, h127km±4.1km: pP-P, n258, σ1§02/297, mb4.6/101, 26C-39D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.60**	**183**	⇓P	**Pn**	**10 55 09.8**	**+2.3**
CEP				S	**Sn**	**10 55 54.0**	**+4.6**
KSH	**Kashi**	**3.68**	**54**	P	**Pn**	**10 55 12.0**	**+3.5**
KSH				S	**Sn**	**10 55 56.5**	**+5.3**
KSH				Smax			
	comp=N,3μm,0.7s						
KSH				Smax			
	comp=E,2μm,0.7s						
KBL	**Kabul**	**3.80**	**222**	⇓*i*Pn	**Pn**	**10 55 10.8**	**+0.6**
KBL				*e*Sn	**Sn**	**10 55 55.1**	**+1.0**
CHCP	**Chirah Chowk**	**3.88**	**166**	P	**Pn**	**10 55 14.5**	**+3.3**
THW	**Thamme Wali**	**4.63**	**184**	⇑P	**Pn**	**10 55 22.7**	**+1.4**
AML	**Almayashu**	**4.85**	**14**	P	**Pn**	**10 55 24.7**	**+0.6**
	SNR=6.2						
UCH	**Uchtor**	**5.14**	**20**	P	**Pn**	**10 55 29.5**	**+1.5**
	SNR=14						
UCH	**Uchtor**	**5.14**	**20**	*e*Pn	**Pn**	**10 55 27.8**	**-0.2**
	comp=E,279nm,0.5s						
UCH				*e*Sn	**Sn**	**10 56 23.6**	**-2.5**
JMU	**Jammu**	**5.23**	**153**	*ex*	**Pn**	**10 55 33.5**	**+4.2**
JMU				*e*S	**Sn**	**10 56 26.5**	**-2.0**
KZA	**Kyzart**	**5.24**	**27**	P	**Pn**	**10 55 29.9**	**+0.6**
	SNR=34						
EKS2	**Erkin-Say**	**5.38**	**13**	P	**Pn**	**10 55 31.5**	**+0.3**
	SNR=66						
SARP	**Sargodha**	**5.51**	**175**	P	**Pn**	**10 55 35.9**	**+2.8**
KBK	**Karagaybulak**	**5.66**	**22**	P	**Pn**	**10 55 36.0**	**+1.0**
	SNR=8.6						
FRU	**Bishkek**	**5.73**	**19**	⇑*i*PN	**Pn**	**10 55 36.5**	**+0.6**
FRU				*i* S	**Sn**	**10 56 39.5**	**-0.9**
FRU				pmax	pmax		
	comp=Z,70nm,1.6s						
FRU				smax			
	comp=N,400μm,1.2s						
ULHL	**Ulahol**	**5.77**	**32**	P	**Pn**	**10 55 37.5**	**+1.0**
	SNR=7.4						
KK31	**Karatay Array**	**5.80**	**348**	⇑P	**Pn**	**10 55 35.0**	**-1.8**
	comp=N,51nm,0.3s,baz=166,slow=9.1,SNR=939						
KK31				⇑S	**Sn**	**10 56 35.2**	**-6.8**
	comp=N,428nm,0.4s,baz=174,slow=20,SNR=23						
KK31	**Karatay Array**	**5.80**	**348**	*i* PN	**Pn**	**10 55 34.9**	**-1.9**
KK31				pmax	pmax		
	comp=Z,149nm,0.3s						
THN	**Thein Dam**	**5.80**	**148**	*e*P	**Pn**	**10 55 37.3**	**+0.3**
THN				*e*S	**Sn**	**10 56 42.2**	**-0.1**
DLH	**Dalhousie**	**5.82**	**146**	*e*P	**Pn**	**10 55 38.0**	**+0.8**
DLH				*e*S	**Sn**	**10 56 41.0**	**-1.6**
CHMS	**Chumysh**	**5.92**	**19**	P	**Pn**	**10 55 39.0**	**+0.5**
	SNR=29						
TKM2	**Tokmak 2**	**6.10**	**25**	⇑P	**Pn**	**10 55 41.6**	**+0.7**
	comp=Z,16nm,0.5s						
TKM2	**Tokmak 2**	**6.10**	**25**	P	**Pn**	**10 55 41.7**	**+0.8**
	SNR=37						
USP	**Ospenovka**	**6.11**	**17**	P	**Pn**	**10 55 40.9**	**-0.1**
	SNR=11						
BHK	**Bhakra**	**6.98**	**148**	*e*P	**Pn**	**10 55 53.8**	**+0.9**
BHK				*e*S	**Sn**	**10 57 09.5**	**-1.2**
SDNR	**Sundarnagar**	**7.15**	**144**	*e*P	**Pn**	**10 55 55.6**	**+0.4**
SDNR				*e*S	**Sn**	**10 57 10.0**	**-4.9**
SMLA	**Simla**	**7.55**	**145**	*i* P	**Pn**	**10 56 01.5**	**+0.8**
SMLA				*i* S	**Sn**	**10 57 20.4**	**-4.3**
SMLA				*e*S	**Sn**	**10 57 22.4**	**-2.3**
KLP	**Kalpa**	**7.77**	**137**	*e*P	**Pn**	**10 56 05.6**	**+2.0**
KLP				*e*S	**Sn**	**10 57 28.6**	**-1.3**
KLP				AML	AML	10 57 35.1	
	comp=N,1μm,0.6s						
KLP				AML	AML	10 57 36.8	
	comp=E,2μm,0.8s						
KKR	**Kurukshetra**	**8.42**	**151**	*e*P	**Pn**	**10 56 12.8**	**+0.3**
KKR				*e*S	**Sn**	**10 57 42.4**	**-3.4**
DDI	**Dehra Dun**	**8.64**	**143**	*e*P	**Pn**	**10 56 15.9**	**+0.4**
DDI				*ex*	**Sn**	**10 57 50.9**	**-0.3**
JOSI	**Joshimath**	**9.23**	**136**	*e*P	**Pn**	**10 56 25.8**	**+2.3**
JOSI				*e*S	**Sn**	**10 58 00.9**	**-4.6**
NDI	**New Delhi**	**9.72**	**152**	*e*P	**Pn**	**10 56 30.0**	**0.0**
ASOR	**Ausora**	**9.87**	**150**	*e*P	**Pn**	**10 56 32.2**	**+0.2**
AYAN	**Aya Nagar**	**9.87**	**153**	*e*P	**Pn**	**10 56 30.6**	**-1.5**
KUDL	**Kundal**	**9.97**	**157**	*e*P	**Pn**	**10 56 32.4**	**-0.9**
KUDL				*e*S	**Sn**	**10 58 18.9**	**-4.4**
KUDL				AML	AML	10 58 21.3	
	comp=N,93nm,0.4s						
SONA	**Sohna**	**10.06**	**154**	*e*P	**Pn**	**10 56 34.0**	**-0.7**
SONA				*e*S	**Sn**	**10 58 20.1**	**-5.6**
SONA				AML	AML	10 58 21.7	
	comp=N,90nm,0.4s						
SONA				AML	AML	10 58 22.6	
	comp=E,198nm,0.6s						
PTH	**Pithoragarh**	**10.37**	**137**	*e*P	**Pn**	**10 56 41.1**	**+2.3**
PTH				*ex*	**Sn**	**10 58 22.9**	**-10**
JASL	**Jaisalmer**	**10.52**	**186**	*e*P	**Pn**	**10 56 38.7**	**-2.1**
AJM	**Ajmer**	**11.13**	**168**	*i* P	**Pn**	**10 56 48.0**	**-0.9**
AJM				*i* S	**Sn**	**10 58 45.0**	**-6.4**
MK31	**Makanchi Array**	**12.02**	**36**	⇑P	**Pn**	**10 57 00.3**	**-0.2**
	comp=E,10nm,0.9s,baz=220,slow=16,SNR=27						
MK31	**Makanchi Array**	**12.02**	**36**	*i* P	**Pn**	**10 57 00.3**	**-0.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31	**Makanchi Array**	**12.02**	**36**	*e*Pn	**Pn**	**10 57 00.3**	**-0.3**
MKAR	**Makanchi Array**	**12.02**	**36**	P	**Pn**	**10 57 01.0**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=227,slow=14,SNR=28						
MKAR	**Makanchi Array**	**12.02**	**36**	*i* P	**Pn**	**10 57 01.2**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
DANN	**Dangsing**	**13.33**	**129**	*e*P	**Pn**	**10 57 16.1**	**-1.7**
	comp=Z,95nm,0.4s						
WMQ	**Urumqi**	**13.45**	**57**	*e*P	**Pn**	**10 57 20.0**	**+0.8**
KOLN	**Koldanda**	**13.65**	**132**	*e*P	**Pn**	**10 57 21.2**	**-0.8**
	comp=Z,105nm,0.7s						
KOLN				*e*S	**Sn**	**10 59 45.5**	**-7.0**
KURBB	**Kurchatov Arra**	**13.97**	**17**	⇑P	**Pn**	**10 57 22.1**	**-3.7**
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**14.07**	**17**	⇑P	**Pn**	**10 57 22.8**	**-4.4**
	comp=Z,8.0nm,0.9s						
KURK	**Kurchatov**	**14.07**	**17**	*e*P	**Pn**	**10 57 18.7**	**-8.5**
KURK				*e*		11 00 00.9	
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KURK	**Kurchatov**	**14.07**	**17**	*e*Pn	**Pn**	**10 57 18.7**	**-8.4**
	comp=Z,6.6nm,0.6s						
KURK				*e*Sn	**Sn**	**11 00 00.9**	**-1.4**
GKN	**Gorkha**	**14.12**	**128**	*e*P	**Pn**	**10 57 26.6**	**-1.3**
	comp=Z,100nm,1.1s						
KKN	**Kakani**	**14.67**	**127**	*e*P	**Pn**	**10 57 32.7**	**-2.3**
	comp=Z,96nm,0.8s						
DMN	**Daman**	**14.69**	**128**	*e*P	**Pn**	**10 57 33.3**	**-1.9**
	comp=Z,180nm,1.0s						
AB31	**Akbulak array**	**14.74**	**327**	⇑P	**Pn**	**10 57 30.5**	**-5.1**
	comp=Z,4.4nm,0.3s,baz=143,slow=11,SNR=463						
AB31				⇓S	**Sn**	**11 00 00.8**	**-18**
	comp=Z,66nm,0.7s,baz=157,slow=22,SNR=13						
AB31	**Akbulak array**	**14.74**	**327**	*e*P	**Pn**	**10 57 30.4**	**-5.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PKI	**Pulchoki**	**14.91**	**127**	*e*P	**Pn**	**10 57 36.8**	**-1.1**
	comp=Z,109nm,0.8s						
GUN	**Gumba**	**14.98**	**125**	*e*P	**Pn**	**10 57 37.1**	**-1.7**
	comp=Z,83nm,0.6s						
JIRN	**Jiri**	**15.35**	**125**	*e*P	**Pn**	**10 57 42.2**	**-1.2**
	comp=Z,150nm,0.7s						
JIRN				*e*S	**S**	**11 00 25.7**	**-16**
BVA0	**Borovoye Array**	**15.64**	**356**	⇓P	**Pn**	**10 57 42.8**	**-4.0**
	comp=Z,2.8nm,0.9s,baz=170,slow=14,SNR=51						
BVA0	**Borovoye Array**	**15.64**	**356**	*i* P	**Pn**	**10 57 43.5**	**-3.4**
BVA0				*i*		11 00 29.5	
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVA0				smax			
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**15.64**	**356**	P	**Pn**	**10 57 44.0**	**-2.9**
	comp=Z,1.5nm,0.3s,baz=160,slow=13,SNR=17						
BVAR				S	**S**	**11 00 28.4**	**-18**
	comp=Z,2.6nm,0.3s,baz=168,slow=22,SNR=8.7						
BVAR				LR	LR	11 04 31.4	
	comp=Z,24nm,20.1s,baz=346,slow=40						
BVAR	**Borovoye Array**	**15.64**	**356**	P	**Pn**	**10 57 44.0**	**-2.9**
BVAR				S	**S**	**11 00 28.4**	**-18**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				smax			
	comp=N,3.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,24nm,20.1s						
BRVK	**Borovoye**	**15.68**	**356**	*e*P	**Pn**	**10 57 44.0**	**-3.3**
BRVK				*e*		11 00 30.2	
BRVK				pmax	pmax		
	comp=Z,17nm,0.6s						
BRVK	**Borovoye**	**15.68**	**356**	*e*Pn	**Pn**	**10 57 44.0**	**-3.3**
	comp=Z,17nm,0.6s						
BRVK				*e*Sn	**Sn**	**11 00 30.2**	**-11**
RAMN	**Ramite**	**16.10**	**126**	*e*P	**Pn**	**10 57 51.0**	**-1.8**
	comp=Z,51nm,0.5s						
AKTK	**Aktyubinsk**	**16.45**	**327**	P	**Pn**	**10 57 53.5**	**-3.4**
AKTK				S	**S**	**11 00 43.0**	**-17**
AKTK				LR	LR	11 04 52.6	
AKTO	**Aktyubinsk**	**16.45**	**327**	⇑P	**Pn**	**10 57 53.4**	**-3.5**
	comp=Z,21nm,0.9s						
AKTO				⇓S	**S**	**11 00 43.6**	**-17**
	comp=Z,9.3nm,0.8s						
AKTO	**Aktyubinsk**	**16.45**	**327**	P	**Pn**	**10 57 53.5**	**-3.4**
	comp=Z,15nm,0.3s,baz=137,slow=13,SNR=117						
AKTO				S	**S**	**11 00 43.0**	**-17**
	comp=Z,2.1nm,0.3s,baz=169,slow=22,SNR=8.2						
AKTO				LR	LR	11 04 52.6	
	comp=Z,27nm,18.1s,baz=154,slow=39						
AKTO	**Aktyubinsk**	**16.45**	**327**	P	**Pn**	**10 57 53.5**	**-3.4**
AKTO				S	**S**	**11 00 43.0**	**-17**
AKTO				pmax	pmax		
	comp=Z,15nm,0.3s						
AKTO				smax			
	comp=N,2.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,27nm,18.1s						
TAPN	**Taplejung**	**16.56**	**123**	*e*P	**Pn**	**10 57 58.1**	**-0.3**
	comp=Z,47nm,0.4s						
ODAN	**Odare**	**16.67**	**125**	*e*P	**Pn**	**10 57 59.6**	**-0.2**
	comp=Z,81nm,0.6s						
BLSP	**Bilaspur**	**17.54**	**148**	*e*P	**Pn**	**10 58 11.1**	**+0.8**
BLSP				*ex*	**S**	**11 01 13.4**	**-12**
LSA	**Lhasa**	**17.63**	**110**	P	**Pn**	**10 58 14.6**	**+3.2**
LSA	**Lhasa**	**17.63**	**110**	*e*P	**Pn**	**10 58 13.5**	**+2.1**
LSA				pmax	pmax		
	comp=Z,27nm,0.8s						
LSA	**Lhasa**	**17.63**	**110**	*e*P	**Pn**	**10 58 13.5**	**+2.2**
	comp=Z,27nm,0.8s						
BOK	**Bokaro**	**18.01**	**135**	*e*P	**P**	**10 58 16.7**	**+1.8**
BOK				*ex*	**S**	**11 01 23.9**	**-11**
ZAL	**Zalesovo**	**18.69**	**24**	P	**P**	**10 58 22.8**	**+0.8**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAA0	**Zalesovo Array**	**18.71**	**24**	*e*P	**P**	**10 58 22.0**	**-0.2**
ZALV	**Zalesovo Beam**	**18.71**	**24**	P	**P**	**10 58 22.8**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=222,slow=11,SNR=36						
NVS	**Novosibirsk**	**19.00**	**20**	*e*P	**P**	**10 58 26.5**	**+1.1**
NVS				*e*S	**S**	**11 01 50.3**	**-4.4**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NVS				pmax	pmax		
	comp=N,9.0nm,0.9s						
NVS				smax			
	comp=N,26nm,1.8s						
NVS				smax			
	comp=E,14nm,1.8s						
SHL	**Shillong**	**20.55**	**119**	*ex*	**P**	**10 58 45.0**	**+2.5**
SHL				*ex*	x	11 02 04.0	
HVS	**Khovu-Aksy**	**20.56**	**41**	⇑*i*P	**P**	**10 58 43.5**	**+1.2**
HVS				pmax	pmax		
	comp=Z,15nm,0.7s						
HYB	**Hyderabad**	**20.73**	**162**	*i* P	**P**	**10 58 46.0**	**+1.6**
SVE	**Sverdlovsk**	**20.86**	**342**	⇓*e*P	**P**	**10 58 44.7**	**-0.7**
SVE				*e*S	**S**	**11 02 25.5**	**-5.7**
SVE				pmax	pmax		
	comp=Z,31nm,0.6s						
DGRG	**David-gareji**	**21.00**	**289**	P	**P**	**10 58 47.3**	**+0.2**
ARU	**Arti**	**21.06**	**339**	*d i*P	**P**	**10 58 46.9**	**-0.7**
ARU				*e*S	**S**	**11 02 33.1**	**-2.1**
ARU				*e*SS		11 02 53.2	
ARU				pmax	pmax		
	comp=Z,49nm,1.2s,mb4.7						
ARU	**Arti**	**21.06**	**339**	*e*P	**P**	**10 58 46.6**	**-1.0**
	comp=Z,44nm,1.0s,mb4.8						
ARU				*e*S	**S**	**11 02 31.7**	**-3.5**
MTA	**Mtatsminda**	**21.44**	**290**	P	**P**	**10 58 52.5**	**+0.6**
GNI	**Garni**	**21.47**	**286**	P	**P**	**10 58 52.2**	**+0.1**
	comp=Z,40nm,0.6s,mb4.9,baz=330,slow=1.0,SNR=19						
GNI	**Garni**	**21.47**	**286**	P	**P**	**10 58 52.2**	**+0.1**
GNI				pmax	pmax		
	comp=Z,40nm,0.6s						
GNI	**Garni**	**21.47**	**286**	*e*P	**P**	**10 58 53.2**	**+1.1**
	comp=Z,38nm,0.5s,mb5.0						
GTA	**Gaotai**	**21.77**	**76**	P	**P**	**10 59 00.1**	**+4.8**
GTA				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,91nm,5.0s						
GTA				LR	LR		
	comp=N,134nm,14.1s						
GTA				LR	LR		
	comp=E,143nm,15.7s						
GTA				LR	LR		
	comp=Z,105nm,14.5s						
KIV	**Kislovodsk**	**23.16**	**296**	*c i*P	**P**	**10 59 09.3**	**+0.2**
KIV				*e*		10 59 34.9	
KIV				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.6						
KIV	**Kislovodsk**	**23.16**	**296**	*e*P	**P**	**10 59 08.7**	**-0.4**
	comp=Z,39nm,0.7s,mb4.8						
SOKR	**Solikamsk**	**24.25**	**341**	*c i*P	**P**	**10 59 19.9**	**+1.1**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.2						
TLY	**Talaya**	**26.36**	**47**	⇓*i*P	**P**	**10 59 39.1**	**+1.0**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
MALT	**Malatya**	**26.52**	**282**	*e*P	**P**	**10 59 41.0**	**+1.4**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
MALT	**Malatya**	**26.52**	**282**	*e*P	**P**	**10 59 41.0**	**+1.4**
	comp=Z,9.3nm,1.1s,mb4.2						
VRSR	**Storozhevoye**	**27.02**	**311**	*e*P	**P**	**10 59 42.8**	**-1.2**
VRSR				*e*PP	pP	11 00 13.2	+3.7
VRSR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
VRSR				pmax	pmax		
	comp=N,1.0nm,0.5s						
VRSR				pmax	pmax		
	comp=E,5.0nm,0.7s						
SONM	**Songino Array**	**27.08**	**56**	P	**P**	**10 59 47.0**	**+2.4**
	comp=E,0.5nm,0.4s,mb3.4,baz=270,slow=12,SNR=3.4						
SONM	**Songino Array**	**27.08**	**56**	P	**P**	**10 59 47.0**	**+2.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OBN	**Obninsk**	**29.82**	**318**	*c i*P	**P**	**11 00 08.2**	**-0.6**
OBN				*e*PP	pP	11 00 36.0	+1.4
OBN				*e*S	**S**	**11 04 53.0**	**-3.7**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
OBN	**Obninsk**	**29.82**	**318**	P	**P**	**11 00 06.1**	**-2.7**
	comp=Z,68nm,0.4s,mb5.6						
CMAR	**Chiang Mai Arr**	**30.16**	**121**	P	**P**	**11 00 14.1**	**+2.0**
	comp=Z,0.8nm,0.4s,mb3.7,baz=300,slow=10.0,SNR=6.1						
CMAR	**Chiang Mai Arr**	**30.16**	**121**	*i* P	**P**	**11 00 17.6**	**+5.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KLMR	**Klimovskoe**	**31.12**	**329**	*e*P	**P**	**11 00 18.4**	**-1.7**
KLMR				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
EIL	**Elat**	**31.76**	**267**	P	**P**	**11 00 25.5**	**-0.7**
	comp=Z,9.2nm,1.0s,mb4.5,ba

MORC Moravsky Berou 40.53 306⇑ *i*P P 11 01 41.3 +0.8
MORC Moravsky Berou 40.53 306 *e*P P 11 01 40.5 0.0
comp=Z,4.0nm,0.8s,mb4.3
MORC ⇑P 11 01 41.3
ARCES ARCESS Array B 40.63 337 P P 11 01 41.2 +0.2
comp=Z,6.0nm,0.4s,mb4.8,baz=114,slow=8.3,SNR=81
ARCES LR LR 11 19 49.7
comp=Z,56nm,18.1s,baz=115,slow=38
ARCES ARCESS Array B 40.63 337 P P 11 01 41.2 +0.1
ARCES pmax pmax
comp=Z,6.0nm,0.4s
ARCES MLR MLR
comp=Z,56nm,18.1s
ARCES ARCESS Array B 40.63 337 P P 11 01 41.2 +0.2
ARCES LR LR 11 19 49.7
ARE0 ARCESS Array S 40.63 337 *e*P P 11 01 40.4 -0.6
KTK1 Kautokeino 41.13 336 *e*P P 11 01 45.0 -0.2
KTK1 AMb AMB 11 01 46.1
comp=Z,14nm,0.8s,mb4.8
VRAC Vranov 41.18 305⇑ *i*P P 11 01 47.1 +1.3
DPC Dobruska-Polom 41.28 307 *e*P P 11 01 47.3 +0.7
UPC Upice 41.47 307 *e*P P 11 01 48.6 +0.4
CONA Conrad Observa 41.80 303⇓ *i*P P 11 01 51.6 +0.6
comp=Z,18nm,0.9s,mb4.8
CSNA Conrad Observa 41.81 303⇑ *i*P P 11 01 51.4 +0.5
comp=Z,17nm,0.9s,mb4.8
PSI Prapat 42.36 138 P P 11 01 57.4 +1.6
comp=Z,4.3nm,0.4s,mb4.5,baz=285,slow=12,SNR=3.7
PSI Prapat 42.36 138 P P 11 01 57.4 +1.6
PSI pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
PVCC Panska Ves 42.38 307 *e*P P 11 01 56.1 +0.5
PRU Pruhonice 42.45 306 *e*P P 11 01 56.9 +0.8
SOKA Soboth 42.53 301⇓ *i*P P 11 01 57.4 +0.5
YAK Yakutsk 42.70 36⇓ *i*P P 11 01 57.9 -0.1
YAK pmax pmax
comp=Z,11nm,0.7s,mb4.7
RUE Ruedersdorf 42.73 310 *e*P P 11 01 58.8 +0.4
comp=Z,28nm,0.5s,mb5.2
BRG Berggiesshubel 42.75 308 *i*P P 11 01 59.0 +0.4
BRG pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
BRG MLR MLR
comp=N,52nm,16.1s
BRG MLR MLR
comp=E,74nm,16.6s
BRG MLR MLR
comp=Z,88nm,14.3s
BRG Berggiesshubel 42.75 308 *e*P P 11 01 59.0 +0.4
comp=Z,17nm,1.0s,mb4.7
BRG Berggiesshubel 42.75 308 *i*P P 11 01 59.0 +0.5
comp=Z,17nm,1.0s,mb4.8
BRG
comp=N,87nm,16.1s
BRG
comp=E,124nm,16.6s
BRG
comp=Z,147nm,14.3s
GEC2 GERESS Array S 43.12 305 *e*P P 11 02 02.0 +0.4
GEC2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
GEC2 GERESS Array S 43.12 305 *e*P P 11 02 02.0 +0.4
comp=Z,3.0nm,0.9s,mb4.0
GERES GERESS Array B 43.12 305 P P 11 02 01.4 -0.2
comp=Z,1.6nm,0.6s,mb3.9,baz=91,slow=5.3,SNR=10
GERES PP PP 11 03 42.1 -1.8
comp=Z,1.0nm,0.7s,baz=76,slow=12,SNR=3.4
GERES LR LR 11 21 27.5
comp=Z,26nm,19.9s,baz=274,slow=38
GERES GERESS Array B 43.12 305 P P 11 02 01.4 -0.2
GERES 11 03 42.1
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,26nm,19.9s
KHC Kasperske Hory 43.17 305 *e*P P 11 02 02.8 +0.9
KHC *ex* x 11 02 10.5
CLL Collm 43.30 308 *e*P P 11 02 02.8 -0.2
comp=Z,10.0nm,0.9s,mb4.5
CLL Collm 43.30 308⇓ *i*P P 11 02 02.8 -0.2
comp=Z,11nm,0.9s,mb4.6
CLL *e*(pP) pP 11 02 26.0 -4.0
CLL *es*P sP 11 02 41.0 -2.4
CLL *e*PP PP 11 03 46.0 +0.3
MOR8 Moi Rana 43.45 330 *e*P P 11 02 03.1 -0.9
MOR8 AMb AMB 11 02 03.7
comp=Z,27nm,0.5s,mb5.3
WET Wettzell 43.62 305 *e*P P 11 02 05.6 0.0
WET pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
WET Wettzell 43.62 305 *e*P P 11 02 05.6 0.0
comp=Z,4.0nm,0.9s,mb4.2
KSRS Korea Array 43.75 72 P P 11 02 09.7 +2.9
comp=Z,1.2nm,0.8s,mb3.6,baz=22,slow=34,SNR=6.2
KSRS Korea Array 43.75 72 P P 11 02 09.7 +2.9
KSRS pmax pmax
comp=Z,1.0nm,0.9s,mb3.5
GUNZ Gunzen 43.82 307 *e*P P 11 02 07.7 +0.5
comp=Z,8.0nm,0.9s,mb4.5
WERD Werda 43.83 307 *e*P P 11 02 07.2 0.0
comp=Z,5.0nm,0.7s,mb4.3
ROTZ Rotzenmuhle 43.98 306 *e*P P 11 02 09.6 +1.2
comp=Z,10.0nm,1.2s,mb4.4
NB2 NORSAR Subarra 44.18 322 P P 11 02 09.1 -0.8
comp=Z,11nm,0.5s,mb4.8,baz=92,slow=7.9
NOA NORSAR Array B 44.18 322 P P 11 02 09.3 -0.5
comp=Z,8.8nm,0.7s,mb4.6,baz=94,slow=8.5,SNR=50
NOA pP pP 11 02 37.1 +0.2
comp=Z,1.8nm,0.5s,baz=94,slow=7.9,SNR=2.8
NOA PP PP 11 03 50.1 -4.7
comp=Z,6.5nm,0.9s,baz=93,slow=10,SNR=4.9
NOA LR LR 11 23 27.8
comp=Z,18nm,18.6s,baz=95,slow=40
NOA NORSAR Array B 44.18 322 P P 11 02 09.4 -0.5
NOA *PP pP 11 02 37.2 +0.3
NOA 11 03 50.1
NOA pmax pmax
comp=Z,9.0nm,0.7s
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA pmax pmax
comp=Z,7.0nm,0.9s
NOA MLR MLR
comp=Z,18nm,18.6s
MOX Moxa 44.24 307 *e*P P 11 02 10.9 +0.4
comp=Z,7.0nm,0.8s,mb4.4
GRA1 Grafenberg Arr 44.62 306 *e*P P 11 02 14.7 +1.2
comp=Z,11nm,0.6s,mb4.8
GRF Grafenberg Arr 44.62 306 *e*P P 11 02 14.7 +1.2
GRF pmax pmax
comp=Z,11nm,0.6s,mb4.8
GRF Grafenberg Arr 44.62 306 *e*P P 11 02 14.7 +1.2
GRF pmax pmax
comp=Z,11nm,0.6s,mb4.8
GRF Grafenberg Arr 44.62 306 *e*P P 11 02 14.7 +1.2
comp=Z,11nm,0.6s,mb4.8
BSEG Bad Segeberg 44.72 312 *e*P P 11 02 14.7 +0.5
BSEG pmax pmax
comp=Z,14nm,1.0s,mb4.7
BSEG Bad Segeberg 44.72 312 *e*P P 11 02 14.7 +0.5
comp=Z,14nm,1.0s,mb4.7
CLZ Clausthal 44.88 309 *e*P P 11 02 16.1 +0.5
CLZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
CLZ Clausthal 44.88 309 *e*P P 11 02 16.1 +0.5
comp=Z,6.0nm,0.8s,mb4.4
KONO Kongsberg 44.93 320 *e*P P 11 02 15.0 -0.8
KONO pmax pmax
comp=Z,16nm,0.4s,mb5.1
KONO Kongsberg 44.93 320 *e*P P 11 02 15.0 -0.8
comp=Z,16nm,0.4s,mb5.1
MOTA Moosalm 45.07 303⇑ *i*P P 11 02 16.9 -0.3
comp=Z,6.6nm,0.8s,mb4.4
UBBA Unterbreizbach 45.24 308 *e*P P 11 02 18.4 0.0
comp=Z,3.0nm,0.5s,mb4.3
FETA Feichten 45.38 302⇑ *i*P P 11 02 18.9 -0.7
comp=Z,4.5nm,0.8s,mb4.2
DAVA Damuels 45.90 303⇓ *i*P P 11 02 23.5 -0.2
comp=Z,20nm,0.5s,mb5.1
IBBN Ibbenburen 46.42 310 *e*P P 11 02 28.1 +0.4
comp=Z,11nm,0.6s,mb4.8
BFO Black Forest 46.72 305 *e*P P 11 02 30.2 +0.1
BFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
BFO Black Forest 46.72 305 *e*P P 11 02 30.2 +0.1
comp=Z,5.0nm,0.9s,mb4.2
CDF Champ du Feu 47.40 305⇓ *i*P P 11 02 34.6 -0.7
comp=Z,7.9nm,0.7s,mb4.2
PGF Pioggiola 47.63 297 *e*P P 11 02 36.5 -0.7
comp=Z,12nm,0.6s,mb4.6
HINF Hinteralfeld 47.80 304⇓ *i*P P 11 02 37.8 -0.6
comp=Z,16nm,0.7s,mb4.7
WLF Walferdange 47.87 307 *e*P P 11 02 39.8 +0.9
comp=Z,13nm,0.8s,mb4.8
HAU Haudompre 48.09 305 *e*P P 11 02 40.2 -0.5
comp=Z,12nm,0.7s,mb4.5
JOW Kunigami 48.11 86 P P 11 02 43.6 +2.5
comp=Z,3.8nm,0.5s,mb4.5,baz=264,slow=10,SNR=4.7
SBF Sospel 48.37 299 *e*P P 11 02 42.8 -0.1
comp=Z,48nm,0.8s,mb5.1
LPG La Plagne 48.41 301 *e*P P 11 02 43.4 +0.2
LPL La Plagne 48.42 301 *e*P P 11 02 43.3 0.0
comp=Z,11nm,0.5s,mb4.6
BNI Bardonecchia 48.58 301 *e*P P 11 02 44.1 -0.4
BNI pmax pmax
comp=Z,21nm,1.4s,mb4.9
BNI Bardonecchia 48.58 301 *e*P P 11 02 44.1 -0.4
comp=Z,21nm,1.4s,mb4.9
CABF La Chapelle 48.59 303 *e*P P 11 02 44.1 -0.4
comp=Z,18nm,0.7s,mb4.8
MBDF Montbardon 48.60 300⇓ *i*P P 11 02 44.1 -0.6
comp=Z,15nm,0.8s,mb4.7
MEZF Maizieres J'vi 48.82 306 *e*P P 11 02 46.4 +0.1
comp=Z,14nm,0.6s,mb4.8
FRF La Foret Royal 49.01 299 *e*P P 11 02 47.2 -0.6
comp=Z,46nm,0.8s,mb5.1
BAIF Baives 49.02 308 *e*P P 11 02 47.9 +0.1
comp=Z,16nm,0.8s,mb4.7
LMR La Mourre 49.17 299 *e*P P 11 02 48.9 -0.1
comp=Z,12nm,0.6s,mb4.7
KEST Kesra 49.58 288 P P 11 02 52.9 +0.6
comp=Z,1.9nm,0.5s,mb4.3,baz=357,slow=1.0,SNR=13
SMRF Simiane la Rot 49.63 300 *e*P P 11 02 52.2 -0.3
LOR Lormes 49.90 304⇓ *i*P P 11 02 53.5 -1.0
comp=Z,7.1nm,0.6s,mb4.5
SSB Saint Sauveur 49.97 302 *e*P P 11 02 54.6 -0.5
VIVF Saint-Julien-l 50.00 301⇓ *i*P P 11 02 55.0 -0.3
comp=Z,16nm,0.8s,mb4.7
SMF Signal de Mont 50.07 303⇓ *i*P P 11 02 55.2 -0.6
comp=Z,25nm,0.8s,mb4.9
SSF Saint Saulge 50.19 304⇓ *i*P P 11 02 55.9 -0.8
comp=Z,14nm,0.9s,mb4.6
AVF Avril sur Loir 50.36 304⇓ *i*P P 11 02 57.4 -0.6
comp=Z,41nm,0.8s,mb5.1
HYF Humbligny 50.70 305 *e*P P 11 03 00.4 -0.1
BGF Bois d'Agland 50.76 304 *e*P P 11 03 00.3 -0.7
comp=Z,11nm,0.7s,mb4.7
LASF Ste Croix 50.79 300⇓ *i*P P 11 03 01.2 0.0
comp=Z,30nm,1.0s,mb5.0
TCF Toulx Ste Croi 51.26 303⇓ *i*P P 11 03 04.6 -0.1
comp=Z,16nm,0.6s,mb4.9
CAF Calviac 51.76 302 *e*P P 11 03 08.4 0.0
comp=Z,9.5nm,0.7s,mb4.6
RJF Les Rejaudoux 52.01 302⇓ *i*P P 11 03 10.4 +0.1
comp=Z,11nm,0.8s,mb4.6
LDF La Druitiere 52.12 307⇓ *i*P P 11 03 10.3 -0.8
comp=Z,31nm,1.0s,mb5.0
MTLF Montolieu 52.15 300⇓ *i*P P 11 03 11.2 -0.2
comp=Z,11nm,0.8s,mb4.6
FLN La Foliniere 52.31 307 *e*P P 11 03 11.6 -0.8
comp=Z,29nm,0.8s,mb5.0
LFF La Frestale 52.65 302 *e*P P 11 03 14.9 -0.1
comp=Z,14nm,0.5s,mb4.9
GRR Gorron 52.65 307⇓ *i*P P 11 03 14.1 -0.9
comp=Z,30nm,0.7s,mb5.2
MFF Saint Martin d 52.72 304⇓ *i*P P 11 03 14.6 -0.9
comp=Z,8.6nm,0.5s,mb4.7
SEY Seymchan 53.16 34⇑ *i*P P 11 03 18.7 +0.2
EPF Esparros 53.55 300 *e*P P 11 03 20.3 -1.3
comp=Z,5.9nm,0.6s,mb4.5
SGMF Saint Gilles 53.77 307⇓ *i*P P 11 03 22.6 -0.6
comp=Z,36nm,1.0s,mb5.1
ROSF Rostrenen 54.20 307⇓ *i*P P 11 03 25.6 -0.7
comp=Z,32nm,0.9s,mb5.1
ETSF Etsaut 54.21 300⇓ *i*P P 11 03 26.4 -0.1
comp=Z,12nm,0.6s,mb4.8
QUIF Quistinic 54.27 307 *e*P P 11 03 25.9 -0.9
comp=Z,19nm,0.6s,mb5.0
SJPF Ste Jean 54.59 301 *e*P P 11 03 29.1 -0.1
BILL Bilibino 57.38 26⇓ *i*P P 11 03 49.3 +0.6
BILL *e* 11 04 40.5
BILL pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
ESDC Sonseca Array 57.80 298 P P 11 03 52.0 -0.1
comp=Z,3.9nm,0.5s,mb4.7,baz=54,slow=7.7,SNR=14
TAM Tamanrasset 58.32 276 *e*P P 11 03 55.9 -0.1
PVIS Viseu 60.11 300 *e*P P 11 04 08.6 +0.6
comp=Z,27nm,1.9s,mb5.0
PMRV Marv??o 60.31 299 *e*P P 11 04 09.5 +0.1
comp=Z,19nm,1.2s,mb5.1
PBAR Barrancos 60.61 297 *e*P P 11 04 11.3 -0.2
comp=Z,18nm,2.3s,mb4.7
PBEJ Beja 61.26 298 *e*P P 11 04 16.6 +0.7
comp=Z,18nm,1.8s,mb4.8
PVAQ Vaqueiros 61.44 297 *e*P P 11 04 16.9 -0.2
comp=Z,23nm,1.5s,mb5.0
PBDV Barranco-do-Ve 61.66 297 *e*P P 11 04 18.9 +0.3
comp=Z,32nm,0.8s,mb5.4
TOA0 Torodi Ar. Sit 66.62 269 *e*P P 11 04 49.8 -1.5
TORD Torodi Ar. Bea 66.62 269 P P 11 04 50.1 -1.2
comp=Z,8.8nm,0.6s,mb4.8,baz=49,slow=5.9,SNR=127
TORD pP pP 11 05 20.3 0.0
comp=Z,3.1nm,0.6s,baz=43,slow=5.7,SNR=4.5
TORD sP sP 11 05 32.1 -1.0
comp=Z,2.4nm,0.9s,baz=44,slow=5.8,SNR=2.6
IMA2 Indian Mountai 70.97 18 *e*P P 11 05 17.8 +0.4
COLA College 73.34 17 *d i*P P 11 05 32.6 +1.1
COLA *i* *PP pP 11 06 04.7 +3.7
COLA College 73.34 17 *e*P P 11 05 32.1 +0.6
comp=Z,4.8nm,0.9s,mb4.3
YKA Yellowknife Ar 80.28 3 P P 11 06 11.2 +0.7
comp=Z,1.3nm,0.5s,mb4.0,baz=349,slow=5.5,SNR=12
YKA pP pP 11 06 40.4 0.0
comp=Z,1.1nm,0.6s,baz=346,slow=4.8,SNR=3.5
YKA Yellowknife Ar 80.28 3 P P 11 06 11.2 +0.8
YKA *PP pP 11 06 40.4 -0.1
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 80.28 3 P P 11 06 11.2 +0.7
YKA pP pP 11 06 40.4 0.0
WRA Warramunga Arr 81.74 123 P P 11 06 19.0 +0.2
comp=Z,0.8nm,0.6s,mb3.7,baz=320,slow=5.0,SNR=9.2
WRA pP pP 11 06 50.5 +1.6
comp=Z,0.6nm,0.6s,baz=323,slow=4.9,SNR=2.7
WRA Warramunga Arr 81.74 123 P P 11 06 19.0 +0.2
WRA *PP pP 11 06 50.5 +1.6
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 84.07 126 P P 11 06 32.0 +1.3
comp=Z,0.3nm,0.7s,baz=316,slow=4.7,SNR=4.1

*ISCJB **03** 11:19:13.9±1.6, 76S±0.1×1469E±0.1, h125km±14km, mb4.0/7, Error ellipse: s-maj=24.3km s-min=20.2km az=11.9*
*IDC **03** 11:19:14.1±4.0, 755S×14685E, h102km±40km, mb3.6/5, mb1 3.7/7, mb1mx3.5/16, mbtmp3.6/7, Error ellipse: s-maj=44.7km s-min=15.6km az=105.0*
*DJA **03** 11:19:15, 754S×14685E, h95km, ML4.0/2*
*NEIC **03** 11:19:15.2±1.4, 762S×14693E, h124km±12km, mb4.0/9, Error ellipse: s-maj=19.4km s-min=14.5km az=98.0*
ISC 03 11:19:14.3±1.5, 76S±01×1469E±01, h113km±13km, n21, σ1§00/22, mb4.0/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.85**	**173**	*e*Pn		**Pn**	**11 19 45.6**	**+0.1**
PMG				*e*Sn		**Sn**	**11 20 08.8**	**-0.5**
COEN	**Coen**	**7.35**	**210**	*e*P		**Pn**	**11 21 00.8**	**+1.9**
6.3nm,0.7s								
CTA	**Charters Tower**	**12.47**	**183**	*e*P		**Pn**	**11 22 12.6**	**+4.8**
4.3nm,1.0s								
CTA	**Charters Tower**	**12.47**	**183**	P		**Pn**	**11 22 10.0**	**+2.2**
0.3nm,0.3s,baz=360,slow=16,SNR=4.9								
KAKA	**Kakadu**	**15.15**	**249**	*e*P		**Pn**	**11 22 42.7**	**+0.3**
4.6nm,0.4s								
WRAB	**Tennant Creek**	**17.32**	**223**	*e*P		**Pn**	**11 23 08.0**	**-1.1**
3.0nm,0.7s								
WB2	**Warramunga Arr**	**17.33**	**223**	*e*P		**Pn**	**11 23 08.5**	**-0.7**
WRA	**Warramunga Arr**	**17.33**	**224**	P		**Pn**	**11 23 07.7**	**-1.6**
0.2nm,0.3s,baz=48,slow=11,SNR=6.8								
ASAR	**Alice Springs**	**20.31**	**217**	P		**P**	**11 23 41.6**	**+0.2**
1.7nm,0.4s,baz=56,slow=9.0,SNR=64								
ASAR				S		**S**	**11 27 25.0**	**+1.9**
1.7nm,0.9s,baz=37,slow=21,SNR=9.9								
FITZ	**Fitzroy Crossi**	**23.23**	**241**	*e*P		**P**	**11 24 10.7**	**-0.9**
3.4nm,0.4s,mb4.0								
FITZ	**Fitzroy Crossi**	**23.23**	**241**	P		**P**	**11 24 10.7**	**-0.8**
1.3nm,0.4s,mb3.6,baz=61,slow=12,SNR=15								
STKA	**Stephens Creek**	**24.70**	**191**	*e*P		**P**	**11 24 25.1**	**+0.2**
3.4nm,1.0s,mb3.7								
STKA	**Stephens Creek**	**24.70**	**191**	P		**P**	**11 24 25.6**	**+0.7**
2.6nm,0.8s,mb3.7,baz=315,slow=15,SNR=5.2								
STKA	**Stephens Creek**	**24.70**	**191**	*e*P		**P**	**11 24 25.0**	**+0.2**
2.7nm,0.8s,mb3.7								
QIZ	**Qiongzhong**	**45.10**	**306**	*e*P		**P**	**11 27 19.2**	**-0.3**
7.5nm,0.8s,mb4.5								
CMAR	**Chiang Mai Arr**	**53.94**	**299**	P		**P**	**11 28 28.2**	**+1.6**
2.3nm,0.4s,mb4.5,baz=127,slow=5.8,SNR=17								
CASY	**Casey**	**63.74**	**196**	*e*P		**P**	**11 29 32.9**	**-0.8**
1.9nm,0.7s,mb4.0								
MKAR	**Makanchi Array**	**78.65**	**321**	P		**P**	**11 31 04.2**	**+0.4**
1.4nm,0.8s,mb3.8,baz=114,slow=5.9,SNR=7.2								
MKAR	**Makanchi Array**	**78.65**	**321**	P		**P**	**11 31 04.2**	**+0.4**
KURK	**Kurchatov**	**82.41**	**323**	*e*P		**P**	**11 31 23.3**	**-0.5**
0.9nm,0.6s,mb3.8								
TORD	**Torodi Ar. Bea**	**145.38**	**282**	PKPbc		PKPbc	11 38 40.1	0.0
4.2nm,0.8s,baz=72,slow=4.2,SNR=36								

*NEIC **03** 11:25:05.8, 2769S×6934W, h88km, MG3.7(GUC), After GUC.*
GUC 03 11:25:05.8±0.6, 2769S×6934W, h88km±15km, ML3.7, 2C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.96**	**290**	*i*P		Pn	11 25 25.3	+0.4
CPCH				*i* S		Sn	11 25 39.8	+0.6
CPCH				AML		AML	11 25 43.8	
comp=E,5μm,0.1s								
CPCH	**Copiapo**	**0.96**	**290**	*i*P		Pn	11 25 25.3	+0.4
CPCH				*i* S		Sn	11 25 39.8	+0.6
CDCH	**Caldera**	**1.46**	**295**	*e*P		Pn	11 25 31.5	+0.5
CDCH				*i* S		Sn	11 25 50.3	+0.3
VACH	**Vallenar**	**1.53**	**235**	*i*P		Pn	11 25 32.5	+0.7
VACH				*i* S		Sn	11 25 52.6	+1.1
VACH				AML		AML	11 25 53.9	
comp=N,2μm,0.1s								
VACH	**Vallenar**	**1.53**	**235**	*i*P		Pn	11 25 32.5	+0.7
VACH				*i* S		Sn	11 25 52.6	+1.1
TLL	**Tololo Astrono**	**2.78**	**207**	*e*P		Pn	11 25 49.4	+1.0
TLL				*i* S		Sn	11 26 22.5	+1.5
CPN1	**Cerro Paranal**	**3.20**	**342**	*e*P		Pn	11 25 55.2	+1.2
CPN1				AML		AML	11 26 41.0	
comp=E,56nm,0.5s								

*ISCJB **03** 11:32:34.2±2.8, 163S±02×1737W±03, h56km±32km, mb4.1/5, Error ellipse: s-maj=52.4km s-min=21.5km az=40.5*
*NEIC **03** 11:32:34.5±0.7, 1646S×17379W, h35km, Error ellipse: s-maj=35.8km s-min=12.3km az=135.0*
*IDC **03** 11:32:35.6±3.5, 1649S×17364W, h53km±38km, mb3.9/5, mb1 4.2/6, mb1mx3.7/20, mbtmp4.0/6, ML2.9/1, Error ellipse: s-maj=49.9km s-min=23.3km az=131.0*
ISC 03 11:32:34.8±2.5, 164S±02×1736W±03, h47km±30km, n7, σ0§98/9, mb4.1/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.07**	**36**	P		**Pn**	**11 33 22.5**	**+1.6**
90nm,0.3s,baz=14,slow=1.1,SNR=137								
AFI				S		**Sn**	**11 33 55.0**	**-1.4**
158nm,0.3s,baz=56,slow=23,SNR=30								
AFI	**Afiamalu**	**3.07**	**36**	*e*Pn		**Pn**	**11 33 22.3**	**+1.5**
AFI				*e*Sn		**Sn**	**11 33 54.0**	**-2.4**
URZ	**Urewera**	**23.23**	**199**	P		**P**	**11 37 37.6**	**-0.4**
1.0nm,0.3s,mb4.7,baz=351,slow=2.0,SNR=22								
STKA	**Stephens Creek**	**43.34**	**241**	P		**P**	**11 40 31.7**	**-0.7**
4.0nm,0.9s,mb4.1,baz=101,slow=10,SNR=3.9								
WRA	**Warramunga Arr**	**49.39**	**258**	P		**P**	**11 41 20.3**	**+0.1**
0.2nm,0.4s,mb3.5,baz=95,slow=7.4,SNR=6.2								
ASAR	**Alice Springs**	**49.58**	**253**	P		**P**	**11 41 21.8**	**+0.2**
5.5nm,0.6s,mb4.8,baz=89,slow=8.8,SNR=155								
PDAR	**Pinedale Array**	**83.17**	**42**	P		**P**	**11 44 56.6**	**+0.7**
0.3nm,0.8s,mb3.4,baz=226,slow=4.9,SNR=4.9								

*ISCJB **03** 11:34:58.8±0.8, 52.1N±02×304W±0.1, h10km, mb4.0/10, MS3.3/12, Error ellipse: s-maj=25.3km s-min=11.3km az=174.5*
*IDC **03** 11:34:59.9±1.0, 52.12N×3033W, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.7/29, mbtmp3.9/10, ML3.8/1, MS3.4/11, Ms1 3.4/11, ms1mx3.1/36, Error ellipse: s-maj=33.4km s-min=17.9km az=174.0*
*NEIC **03** 11:35:00.8±0.9, 5208N×3038W, h10km, mb4.0/2, Error ellipse: s-maj=26.2km s-min=12.6km az=178.0*
*CSEM **03** 11:35:01.9±0.2, 52.11N×3041W, h33km, mb4.4/3, Error ellipse: s-maj=10.7km s-min=7.7km az=166.0*
ISC 03 11:35:00.8±0.8, 521N±02×304W±01, h10km, n31, σ0§75/19, mb4.0/10, MS3.3/12, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ESK	**Eskdalemuir**	**16.36**	**68**	*e*P		**Pn**	**11 38 51.3**	**+1.1**
4.5nm,0.6s								
ESK	**Eskdalemuir**	**16.36**	**68**	*e*P		**Pn**	**11 38 51.3**	**+1.1**
4.5nm,0.6s								
EKA	**Eskdalemuir Ar**	**16.38**	**68**	Pn		**Pn**	**11 38 49.4**	**-1.1**
0.2nm,0.3s,baz=268,slow=11,SNR=5.2								
SFJD	**Kangerlussuaq**	**18.00**	**334**	LR		LR	11 44 27.7	
comp=Z,177nm,19.1s,baz=133,slow=32								
JMIC	**Jan Mayen**	**21.39**	**20**	LR		LR	11 45 36.8	
comp=Z,113nm,19.4s,MS3.3,baz=82,slow=30								
SCHQ	**Schefferville**	**21.75**	**292**	P		**P**	**11 39 52.1**	**0.0**
5.9nm,0.7s,mb4.2,baz=78,slow=8.8,SNR=9.7								
SCHQ	**Schefferville**	**21.75**	**292**	*e*P		**P**	**11 39 50.3**	**-1.8**
4.4nm,0.5s,mb4.1								
SCHQ	**Schefferville**	**21.75**	**292**	*e*P		**P**	**11 39 50.3**	**-1.7**
4.4nm,0.5s,mb4.1								
NB2	**NORSAR Subarra**	**24.20**	**52**	P		**P**	**11 40 16.9**	**-0.2**
comp=Z,3.5nm,1.1s,mb3.7,baz=267,slow=9.3								
NOA	**NORSAR Array B**	**24.20**	**52**	P		**P**	**11 40 16.3**	**-0.8**
comp=Z,0.3nm,0.5s,mb3.0,baz=258,slow=10,SNR=2.9								
NOA				LR		LR	11 48 30.3	
comp=Z,52nm,18.8s,MS3.0,baz=285,slow=34								
STU	**Stuttgart**	**25.19**	**82**	P		**P**	**11 40 24.9**	**-1.3**
comp=Z,23nm,0.3s,mb5.2								
STU	**Stuttgart**	**25.19**	**82**	P		**P**	**11 40 24.9**	**-1.3**
comp=Z,23nm,0.3s,mb5.2								
HFS	**Hagfors**	**25.42**	**54**	LR		LR	11 48 45.6	
comp=Z,110nm,20.2s,MS3.4,baz=269,slow=32								
DAVOX	**Davos/Dischmat**	**26.44**	**85**	LR		LR	11 51 04.9	
comp=Z,47nm,18.9s,MS3.1,baz=267,slow=36								
GERES	**GERESS Array B**	**27.91**	**79**	LR		LR	11 51 05.1	
comp=Z,55nm,19.3s,MS3.1,baz=172,slow=35								
VRAC	**Vranov**	**29.46**	**76**	LR		LR	11 51 39.3	
comp=Z,49nm,18.9s,MS3.1,baz=78,slow=34								
ARCES	**ARCESS Array B**	**30.87**	**35**	P		**P**	**11 41 16.8**	**+0.1**
comp=Z,1.4nm,0.9s,mb3.8,baz=262,slow=8.3,SNR=4.4								
ARCES				LR		LR	11 50 27.1	
comp=Z,32nm,21.6s,MS2.9,baz=284,slow=30								
YKA	**Yellowknife Ar**	**43.49**	**318**	LR		LR	11 59 25.7	
comp=Z,3.9nm,18.3s,MS2.4,baz=125,slow=34								
TORD	**Torodi Ar. Bea**	**46.57**	**135**	P		**P**	**11 43 28.9**	**+0.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=337,slow=8.3,SNR=6.9								
TORD				LR		LR	12 03 01.5	
comp=Z,66nm,18.7s,MS3.6,baz=230,slow=36								
PDAR	**Pinedale Array**	**51.88**	**293**	P		**P**	**11 44 09.3**	**+0.3**
comp=Z,0.4nm,0.4s,mb3.7,baz=70,slow=6.9,SNR=11								
AKTK	**Aktyubinsk**	**51.97**	**54**	P		**P**	**11 44 10.0**	**+0.4**
AKTK	**Aktyubinsk**	**51.97**	**54**	P		**P**	**11 44 10.0**	**+0.4**
AKTO	**Aktyubinsk**	**51.97**	**54**	P		**P**	**11 44 10.0**	**+0.4**
comp=Z,1.9nm,0.7s,mb4.2,baz=312,slow=9.5,SNR=6.4								
BVAR	**Borovoye Array**	**56.11**	**46**	P		**P**	**11 44 40.4**	**+0.6**
comp=Z,2.0nm,0.8s,mb4.2,baz=328,slow=5.3,SNR=7.5								
TXAR	**Lajitas Array**	**57.44**	**277**	P		**P**	**11 44 50.1**	**+0.5**
comp=Z,0.6nm,0.7s,mb3.7,baz=56,slow=8.9,SNR=6.8								
MKAR	**Makanchi Array**	**65.89**	**44**	P		**P**	**11 45 46.6**	**+0.3**

comp=Z,0.3nm,0.4s,mb3.6,baz=359,slow=5.8,SNR=4.3
MKAR LR LR 12 13 19.4
comp=Z,28nm,18.5s,MS3.5,baz=183,slow=35
BDFB Brasilia 69.16 198 LR LR 12 10 32.0
comp=Z,24nm,18.6s,MS3.5,baz=183,slow=31
CMAR Chiang Mai Arr 97.09 48 LR LR 12 34 43.7
comp=Z,114nm,18.1s,MS4.4,baz=14,slow=37
WRA Warramunga Arr 145.77 26 PKPbc PKPbc 11 54 41.1 +1.2
comp=Z,0.8nm,0.8s,baz=340,slow=3.6,SNR=4.8
ASAR Alice Springs 149.17 29 PKPbc PKPbc 11 54 51.4 +2.1
comp=Z,0.2nm,0.4s,baz=19,slow=1.7,SNR=7.1
ASAR Alice Springs 149.17 29 PKPbc PKPbc 11 54 51.3 +2.1

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*NEIC **03** 12:20:14.9, 2857S×7069W, h52km, MG3.6(GUC), After GUC.*
GUC 03 12:20:14.9±0.5, 2857S×7069W, h52km±3km, ML3.6, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.06**	**267**	⇑*i*P	Pn	12 20 22.9	+0.1
VACH				*i* S	Sn	12 20 29.2	+0.7
VACH				AML	AML	12 20 29.6	
	comp=E,7μm,0.1s						
LCO	**Las Campanas**	**0.44**	**181**	*e*Pn	Pn	12 20 25.4	-0.2
LCO				*e*Sn	Sn	12 20 34.5	+1.4
CPCH	**Copiapo**	**1.25**	**14**	*e*P	Pn	12 20 36.4	+0.4
CPCH				*i* S	Sn	12 20 52.9	+1.2
CPCH				AML	AML	12 20 58.6	
	comp=E,3μm,0.1s						
CPCH	**Copiapo**	**1.25**	**14**	*e*P	Pn	12 20 36.4	+0.4
CPCH				*i* S	Sn	12 20 52.9	+1.2
CDCH	**Caldera**	**1.50**	**355**	*e*P	Pn	12 20 40.1	+0.7
CDCH				*i* S	Sn	12 20 58.5	+0.6
TLL	**Tololo Astrono**	**1.59**	**183**	*e*P	Pn	12 20 42.0	+1.3
TLL				*i* S	Sn	12 21 02.2	+2.1
LVC	**Limon Verde**	**6.15**	**16**	*e*Pn	Pn	12 21 39.8	-3.3
	comp=E,12nm,0.8s						

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*ISCJB **03** 12:21:15.9±0.9, 7.10S±004×12927E±005, h131km±10km, mb4.4/28, Error ellipse: s-maj=8.3km s-min=7.1km az=12.4*
*BJI **03** 12:21:15.7, 7.10S×12930E, h142km, mB4.8, mb4.6*
*MOS **03** 12:21:16.0±1.0, 7.09S×12922E, h129km, mb4.4/17, Error ellipse: s-maj=20.3km s-min=8.0km az=111.0*
*NEIC **03** 12:21:18.7±1.4, 7.14S×12926E, h142km±14km, mb4.6/13, Error ellipse: s-maj=14.3km s-min=8.7km az=52.0*
*IDC **03** 12:21:21.6±2.0, 7.17S×129.17E, h163km±18km, mb4.0/12, mb1 4.1/14, mb1mx4.1/16, mbtmp4.1/14, MS2.9/1, Ms1 2.9/1, ms1mx2.5/23, Error ellipse: s-maj=16.3km s-min=10.9km az=75.0*
*DJA **03** 12:21:23, 7.38S×129.16E, h138km, mb5.0/5*
ISC 03 12:21:17.6±0.8, 716S±004×12929E±005, h130km±9km, n84, σ1°08/83, mb4.4/28, 4C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.74**	**66**	⇓*e*P	Pn	12 22 18.0	+4.1
TLE				*e*S	Sn	12 22 57.0	-0.6
KAKA	**Kakadu**	**6.33**	**151**	*e*P	Pn	12 22 51.7	+3.1
	106nm,0.3s						
KAKA				*e*S	Sn	12 23 59.1	-0.6
BATI	**Baumata**	**6.34**	**241**	P	Pn	12 22 53.1	+4.5
	36nm,0.3s,baz=121,slow=2.5,SNR=36						
BATI				S	Sn	12 23 59.4	-0.4
	36nm,0.3s,baz=101,slow=18,SNR=12						
FITZ	**Fitzroy Crossi**	**11.45**	**198**	*e*P	Pn	12 23 56.9	-0.3
	28nm,0.6s						
FITZ				*e*S	Sn	12 25 53.9	-10
FITZ	**Fitzroy Crossi**	**11.45**	**198**	P	Pn	12 23 57.2	0.0
	2.4nm,0.3s,baz=28,slow=12,SNR=74						
FITZ				S	Sn	12 25 57.0	-6.5
	4.3nm,0.3s,baz=90,slow=21,SNR=7.5						
FITZ				LR	LR	12 28 35.1	
	comp=Z,59nm,18.4s,baz=252,slow=38						
WRAB	**Tennant Creek**	**13.62**	**159**	*e*P	Pn	12 24 24.3	-1.1
WRAB				*e*		12 26 46.9	
WRAB				pmax	pmax		
	comp=Z,79nm,0.9s						
WRAB	**Tennant Creek**	**13.62**	**159**	*e*Pn	Pn	12 24 24.3	-1.1
	comp=Z,79nm,0.9s						
WRAB				*e*Sn	Sn	12 26 46.9	-8.9
WRA	**Warramunga Arr**	**13.62**	**159**	P	Pn	12 24 25.6	+0.1
	comp=Z,2.3nm,0.3s,baz=333,slow=14,SNR=66						
WRA				S	Sn	12 26 50.2	-5.8
	comp=Z,3.6nm,0.3s,baz=324,slow=23,SNR=15						
WRA	**Warramunga Arr**	**13.62**	**159**	P	Pn	12 24 25.6	+0.1
WRA				S	Sn	12 26 50.2	-5.8
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WRA				smax			
	comp=N,4.0nm,0.3s						
WB2	**Warramunga Arr**	**13.63**	**159**	*e*P	Pn	12 24 24.1	-1.4
WB2				*e*pP		12 24 32.5	
WB2				*e*		12 24 39.5	
WB2				*e*S	Sn	12 26 48.3	-7.8
COEN	**Coen**	**15.22**	**117**	*e*Pn	Pn	12 24 48.0	+2.2
	comp=N,14nm,0.9s						
ASAR	**Alice Springs**	**17.00**	**165**	P	Pn	12 25 09.7	+2.1
	comp=N,5.4nm,0.3s,baz=347,slow=10,SNR=957						
ASAR				pP	pP	12 25 37.9	+7.6
	comp=N,1.2nm,0.3s,baz=351,slow=10,SNR=3.9						
ASAR				S	S	12 28 14.1	-3.0
	comp=N,1.3nm,0.3s,baz=348,slow=18,SNR=7.0						
ASAR				ScP	ScP	12 33 02.8	-6.1
	comp=N,0.1nm,0.3s,baz=42,slow=1.9,SNR=4.1						
ASAR	**Alice Springs**	**17.00**	**165**	P	Pn	12 25 09.7	+2.1
ASAR				S	S	12 28 14.1	-3.0
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR				smax			
	comp=N,1.0nm,0.3s						
KKM	**Kota Kinabalu**	**18.50**	**315**	*e*P	P	12 25 16.4	-7.4
KSM	**Kuching**	**20.79**	**294**	*e*P	P	12 25 48.7	+0.1
CTA	**Charters Tower**	**20.88**	**130**	P	P	12 25 51.9	+2.4
	comp=N,7.9nm,0.9s,baz=306,slow=11,SNR=5.6						
CTA	**Charters Tower**	**20.88**	**130**	P	P	12 25 51.9	+2.4
CTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CTAO	**Charters Tower**	**20.88**	**130**	*e*P	P	12 25 50.6	+1.1
CTAO				pmax	pmax		
	comp=Z,20nm,1.3s						
CTAO	**Charters Tower**	**20.88**	**130**	*e*P	P	12 25 50.6	+1.1
	comp=Z,20nm,1.3s						
FORT	**Forrest**	**23.53**	**183**	*e*P	P	12 26 17.0	+1.1
	comp=Z,17nm,0.8s,mb4.6						
KLBR	**Kellerberrin**	**26.59**	**202**	*e*P	P	12 26 45.2	+1.5
	comp=Z,36nm,1.5s,mb4.8						
STKA	**Stephens Creek**	**27.14**	**157**	*e*P	P	12 26 49.5	+0.9
	comp=Z,5.4nm,1.4s,mb4.0						
STKA	**Stephens Creek**	**27.14**	**157**	P	P	12 26 49.7	+1.1
	comp=Z,2.3nm,0.6s,mb4.0,baz=316,slow=12,SNR=5.2						
STKA	**Stephens Creek**	**27.14**	**157**	*e*P	P	12 26 48.7	+0.1
PSI	**Prapat**	**31.88**	**287**	P	P	12 27 31.5	+0.7
	comp=Z,23nm,0.8s,mb5.0,baz=151,slow=2.6,SNR=16						
PSI	**Prapat**	**31.88**	**287**	P	P	12 27 31.5	+0.7
PSI				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.0						
CM31	**Chiang Mai Arr**	**39.30**	**311**	P	P	12 28 33.5	-0.5
	comp=Z,3.2nm,0.6s,mb4.1						
CMAR	**Chiang Mai Arr**	**39.30**	**311**	P	P	12 28 34.6	+0.6
	comp=Z,7.7nm,0.9s,mb4.3,baz=141,slow=7.5,SNR=30						
CMAR				PcP	PcP	12 30 41.2	+0.9
	comp=Z,2.3nm,0.8s,baz=158,slow=2.6,SNR=11						
CMAR	**Chiang Mai Arr**	**39.30**	**311**	P	P	12 28 34.6	+0.6
CMAR						12 30 41.3	
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**44.26**	**10**	P	P	12 29 13.4	-0.7
	comp=Z,3.5nm,0.8s,mb4.0,baz=188,slow=9.4,SNR=9.7						
MJAR	**Matsushiro Arr**	**44.26**	**10**	P	P	12 29 13.5	-0.6
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSRS	**Korea Array**	**44.39**	**358**	P	P	12 29 16.0	+0.8
	comp=Z,2.3nm,0.6s,mb4.0,baz=175,slow=8.3,SNR=14						
KSRS	**Korea Array**	**44.39**	**358**	P	P	12 29 16.0	+0.8
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
LSA	**Lhasa**	**51.83**	**317**	P	P	12 30 14.0	+1.5
LSA	**Lhasa**	**51.83**	**317**	*e*P	P	12 30 13.4	+0.9
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**51.83**	**317**	*e*P	P	12 30 13.4	+0.9
	comp=Z,6.0nm,0.6s,mb4.4						
GTA	**Gaotai**	**53.77**	**332**	*e*P	P	12 30 26.9	+0.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
HABR	**Khabarovsk**	**55.62**	**5**	*e*P	P	12 30 38.5	-1.2
HABR				*e*S	S	12 38 22.0	+6.5
HABR				*e*SS	SS	12 42 06.8	+4.0
KLR	**Kul'dur**	**56.19**	**2**	*e*P	P	12 30 37.8	-5.9
SONM	**Songino Array**	**58.37**	**342**	P	P	12 31 00.9	+1.8
	comp=Z,2.7nm,0.6s,mb4.2,baz=155,slow=6.7,SNR=14						
SONM				PcP	PcP	12 31 48.7	+0.1
	comp=Z,0.9nm,0.6s,baz=158,slow=4.5,SNR=6.4						
SONM	**Songino Array**	**58.37**	**342**	P	P	12 31 00.9	+1.8
SONM						12 31 48.7	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAK	**Zakamensk**	**61.58**	**341**	*e*P	P	12 31 21.7	+0.7
ZAK				*e*		12 32 00.8	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.9s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
TLY	**Talaya**	**62.60**	**342**	*e*P	P	12 31 28.4	+0.6
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
PETK	**Petropavlovsk-**	**64.69**	**18**	P	P	12 31 42.5	+1.1
	comp=Z,5.8nm,0.7s,mb4.5,baz=167,slow=3.3,SNR=24						
PETK	**Petropavlovsk-**	**64.69**	**18**	P	P	12 31 42.6	+1.2
PETK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
HVS	**Khovu-Aksy**	**65.65**	**336**	⇓*i*P	P	12 31 47.8	+0.1
HVS				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.3						
BOD	**Bodaibo**	**65.94**	**351**	*e*P	P	12 31 48.7	-0.7
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
MK31	**Makanchi Array**	**67.97**	**327**	*e*P	P	12 32 02.3	-0.2
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	12 32 02.5	0.0
	comp=Z,4.3nm,0.6s,mb4.4,baz=124,slow=8.1,SNR=33						
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	12 32 02.5	0.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	12 32 02.5	0.0
YAK	**Yakutsk**	**68.98**	**0**	*e*P	P	12 32 08.1	-0.3
YAK				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK	**Yakutsk**	**68.98**	**0**	*e*P	P	12 32 08.2	-0.2
	comp=N,12nm,0.5s,mb4.9						
AML	**Almayashu**	**70.47**	**319**	*e*P	P	12 32 18.9	+0.9
	comp=N,8.7nm,1.0s,mb4.4						
EKS2	**Erkin-Say**	**70.68**	**320**	*e*P	P	12 32 19.3	+0.1
	comp=N,141nm,1.3s,mb5.5						
ZAA0	**Zalesovo Array**	**71.41**	**334**	*e*P	P	12 32 21.4	-2.1
ZALV	**Zalesovo Beam**	**71.41**	**334**	P	P	12 32 22.4	-1.0
	comp=N,3.9nm,0.5s,mb4.4,baz=126,slow=6.1,SNR=15						
ZAL	**Zalesovo**	**71.41**	**334**	P	P	12 32 22.4	-1.0
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SEY	**Seymchan**	**72.09**	**11**	⇑*e*P	P	12 32 27.7	+0.4
KURK	**Kurchatov**	**72.28**	**329**	⇑*e*P	P	12 32 28.0	-0.7
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
KURK	**Kurchatov**	**72.28**	**329**	*e*P	P	12 32 26.9	-1.8
	comp=Z,7.9nm,1.0s,mb4.4						
VNDA	**Vanda**	**72.38**	**173**	P	P	12 32 28.3	-0.6
	comp=Z,1.4nm,0.7s,mb3.8,baz=305,slow=6.5,SNR=4.0						
VNDA	**Vanda**	**72.38**	**173**	P	P	12 32 28.3	-0.6
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAW	**Mawson**	**74.55**	**201**	P	P	12 32 42.3	+0.6
	comp=Z,2.7nm,0.6s,mb4.0,baz=76,slow=8.5,SNR=14						
MAW	**Mawson**	**74.55**	**201**	P	P	12 32 42.3	+0.6
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TIXI	**Tiksi**	**78.64**	**360**	⇑⇑*e*P	P	12 33 04.2	-0.4
TIXI				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.6						
BILL	**Bilibino**	**79.42**	**13**	*e*P	P	12 33 09.4	+0.5
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
SVE	**Sverdlovsk**	**84.54**	**329**	*e*P	P	12 33 34.6	-1.2
SVE				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
ARU	**Arti**	**85.47**	**328**	*d*i P	P	12 33 39.1	-1.4
ARU				*e*		12 36 55.9	
ARU				*e*S	S	12 44 00.1	-0.7
ARU				*e*SS	SS	12 49 40.6	+1.3
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
ARU	**Arti**	**85.47**	**328**	*e*P	P	12 33 38.7	-1.8
	comp=Z,3.2nm,0.6s,mb4.2						
DAWY	**Dawson**	**96.96**	**26**	*e*P	P	12 34 32.6	-1.3
ARCES	**ARCESS Array B 101.48**	**340**		P	Pdif	12 34 52.6	-1.8
	comp=Z,2.9nm,0.7s,baz=79,slow=6.3,SNR=14						
ARCES	**ARCESS Array B 101.48**	**340**		P	Pdif	12 34 52.6	-1.8
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GCMT	**Greycliff**	**116.52**	**42**	*e*P	Pdif	12 36 04.5	+3.2
PDAR	**Pinedale Array**	**117.50**	**45**	PKP	PKPdf	12 39 48.4	+0.2
	comp=Z,0.3nm,0.7s,baz=197,slow=1.5,SNR=4.5						
ANMO	**Albuquerque**	**121.96**	**53**	⇑*i*PKIKP	PKPdf	12 39 57.9	+0.9
ULM	**Lac du Bonnet**	**122.96**	**33**	PKP	PKPdf	12 39 57.1	-1.4
	comp=Z,1.5nm,0.6s,baz=302,slow=1.7,SNR=2.7						
TXAR	**Lajitas Array**	**125.61**	**59**	PKP	PKPdf	12 40 04.2	0.0
	comp=Z,0.7nm,0.7s,baz=186,slow=3.5,SNR=5.0						
TXAR	**Lajitas Array**	**125.61**	**59**	PKIKP	PKPdf	12 40 04.2	0.0
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**128.15**	**281**	PKP	PKPdf	12 40 08.8	-0.6
	comp=Z,2.0nm,0.7s,baz=92,slow=1.8,SNR=12						
JSC	**Jenkinsville**	**140.99**	**42**	*e*PKIKP	PKPdf	12 40 32.2	-0.7
ATAH	**Atahualpa**	**149.01**	**116**	PKPbc	PKPbc	12 40 53.7	+2.3
	comp=Z,9.7nm,0.7s,baz=242,slow=2.6,SNR=6.5						
LPAZ	**La Paz**	**151.02**	**144**	PKPbc	PKPbc	12 40 57.6	+1.5
	comp=Z,1.1nm,0.5s,baz=216,slow=2.6,SNR=6.5						
LPAZ	**La Paz**	**151.02**	**144**	PKIKP	PKPdf	12 40 57.6	+7.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*CASC **03** 12:36:05.6±3.2, 1422N×9180W, h183km±24km, MD4.2, mb4.5(NEIC)*
*ISCJB **03** 12:36:06.5±0.7, 1502N±009×917W±0.1, h182km±5km, mb4.1/8, Error ellipse: s-maj=19.8km s-min=11.2km az=139.1*
*IDC **03** 12:36:06.6±2.6, 1499N×9149W, h156km±28km, mb3.6/5, mb1 3.8/7, mb1mx3.4/21, mbtmp3.5/7, MS3.9/1, Ms1 3.9/1, ms1mx2.3/25, Error ellipse: s-maj=42.1km s-min=15.5km az=49.0*
*NEIC **03** 12:36:07.5±1.2, 1505N×9154W, h169km±13km, mb4.5/6, Error ellipse: s-maj=18.7km s-min=10.7km az=48.0*
ISC 03 12:36:07.4±0.7, 1504N±009×917W±01, h177km±5km, n22, σ0°78/26, mb4.1/8, 2C-2D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.71**	**175**	⇓*e*P	Pn	12 36 32.2	-0.7
JAT				*e*S	Sn	12 36 47.2	-5.3
FG6		**0.92**	**121**	⇑*e*P	Pn	12 36 33.5	-0.6
FG6				*e*S	Sn	12 36 55.6	+0.9
FUG	**Fuego 3**	**1.01**	**125**	⇑*e*P	Pn	12 36 33.9	-1.0
FUG				*e*S	Sn	12 36 57.4	+1.4
NBG	**Las Nubes**	**1.38**	**109**	⇓*e*P	Pn	12 36 37.7	-0.2
CMIG	**Matias Romero**	**3.68**	**304**	P	Pn	12 37 04.4	0.0
	13nm,0.3s,baz=110,slow=7.8,SNR=152						
CMIG				S	Sn	12 37 44.1	-4.8
	28nm,0.3s,baz=126,slow=13,SNR=18						
TGUH	**Tegucigalpa,Un**	**4.39**	**102**	*e*Pn	Pn	12 37 12.3	-1.1
TXAR	**Lajitas Array**	**18.02**	**324**	P	P	12 40 09.0	+4.1
	0.2nm,0.3s,baz=150,slow=11,SNR=9.8						
TXAR	**Lajitas Array**	**18.02**	**324**	P	P	12 40 09.0	+4.1
MIAR	**Mount Ida**	**19.50**	**355**	*e*P	P	12 40 21.1	+0.2
	6.7nm,0.9s						
GOGA	**Godfrey**	**19.76**	**21**	*e*P	P	12 40 24.9	+1.2
	16nm,0.9s						
WMOK	**Wichita Mounta**	**20.63**	**343**	*e*P	P	12 40 29.2	-3.8
	5.7nm,1.0s						
SWET	**Sewanee**	**20.75**	**13**	*e*P	P	12 40 34.2	-0.1
SDV	**Santo Domingo**	**21.48**	**104**	P	P	12 40 42.3	0.0
	5.6nm,0.6s,mb4.1,baz=319,slow=5.5,SNR=7.0						
TKL	**Tuckaleechee C**	**21.73**	**18**	*e*P	P	12 40 44.9	+0.2
SIUC	**Southern Illin**	**22.70**	**5**	*e*P	P	12 40 53.9	+0.1
	34nm,0.8s,mb4.8						
CCM	**Cathedral Cave**	**22.93**	**1**	*e*P	P	12 40 55.6	-0.4
	37nm,1.3s,mb4.7						
BINY	**Binghamton**	**30.27**	**24**	*e*P	P	12 42 00.7	-1.0
	8.1nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**33.06**	**320**	P	P	12 42 30.2	+4.1
	1.6nm,0.7s,mb3.9,baz=131,slow=8.4,SNR=19						
NVAR				pP	pP	12 43 07.1	+3.9
	0.9nm,0.7s,baz=131,slow=8.5,SNR=6.8						
LPAZ	**La Paz**	**38.86**	**142**	P	P	12 43 15.9	+0.3
	1.0nm,0.7s,mb3.5,baz=304,slow=11,SNR=3.7						
YKA	**Yellowknife Ar**	**50.09**	**346**	P	P	12 44 44.3	+0.4
	1.6nm,0.7s,mb3.7,baz=146,slow=8.1,SNR=8.2						
YKA				pP	pP	12 45 23.7	+0.1
	1.3nm,0.9s,baz=145,slow=7.4,SNR=5.0						
PLCA	**Paso Flores**	**58.85**	**161**	P	P	12 45 47.9	+0.6
	2.2nm,1.0s,mb4.0,baz=316,slow=5.4,SNR=4.0						
PLCA				LR	LR	13 07 22.3	
	comp=Z,101nm,18.3s,baz=291,slow=32						
PLCA	**Paso Flores**	**58.85**	**161**	P	P	12 45 47.9	+0.6
PLCA				LR	LR	13 07 22.3	

MAN 03 13:07:44, 1800N×12055E, h26km, mb4.2, ML3.0, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.11**	**230**	⇓*i*P	Pb	13 07 50.7	+1.8
SIPP				*i* S	Sb	13 07 56.2	+4.1
ABRA	**Dolores**	**0.38**	**156**	*e*P	Pb	13 07 53.2	+0.9
ABRA				*e*S	Sb	13 08 01.7	+3.7
APYP	**Conner**	**0.67**	**101**	*e*P	Pb	13 07 57.2	+0.1
APYP				*e*S	Sb	13 08 08.3	+2.2
BALP	**Baler**	**2.45**	**156**	*e*P	Pn	13 08 23.7	+1.4

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*ISCJB **03** 13:47:17.9±0.5, 3837N±002×3937E±002, h2km±4km, Error ellipse: s-maj=3.8km s-min=3.0km az=167.7*
*CSEM **03** 13:47:17.5±0.1, 3840N×3935E, h5km, MD3.6, Error ellipse: s-maj=1.4km s-min=1.0km az=153.0*
*DDA **03** 13:47:17.1, 3837N×3938E, h1km±2km, Md3.6*
*ISK **03** 13:47:17.4, 3840N×3935E, h4km, MD3.8, ML3.9*
ISC 03 13:47:18.5±0.5, 3837N±002×3938E±002, h2km±4km, n47, σ0°96/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.33**	**292**	*i* P	Pg	13 47 24.3	-0.5
ELZG				*i* S	Sg	13 47 30.3	+1.1
PTK	**Pertek**	**0.52**	**1**	*e*PG	Pg	13 47 27.4	-1.0
PTK				*e*SG	Sg	13 47 35.1	-0.1
DIYA	**Diyarbakir**	**0.74**	**127**	*i* P	Pg	13 47 32.5	-0.1
DIYA				*i* S	Sg	13 47 43.7	+1.6
MALT	**Malatya**	**0.75**	**266**	*e*PG	Pg	13 47 32.0	-0.9
MALT				*e*SG	Sg	13 47 42.7	+0.2
MYA	**Malataya**	**0.75**	**267**	*e*PG	Pg	13 47 32.1	-0.8
DIY	**Diyarbakir**	**0.82**	**125**	*e*PG	Pg	13 47 34.3	+0.1
BINT	**Bingol**	**1.00**	**60**	*e*PG	Pg	13 47 37.5	-0.3
URFA	**Urfa**	**1.03**	**206**	*e*PG	Pg	13 47 38.2	0.0
URFA				*e*SG	Sg	13 47 53.2	+1.7
ATAB	**Bozova**	**1.24**	**224**	*i* P	Pg	13 47 42.0	-0.3
ATAB				*i* S	Sg	13 47 59.3	+0.9
EZC	**Erzincan**	**1.42**	**14**	*e*PN	Pn	13 47 43.6	-1.7
BNGL	**BINGOL**	**1.50**	**67**	*i* P	Pn	13 47 46.9	+0.4
BNGL				*i* S	Sb	13 48 07.8	+1.2
MARD	**Mardin**	**1.53**	**133**	*i* P	Pn	13 47 45.3	-1.5
MARD				*i* S	Sn	13 48 06.2	-1.1
BTMT	**Batman**	**1.67**	**96**	*e*PN	Pn	13 47 46.9	-1.9
GZT	**Gaziantep**	**1.76**	**235**	*i* P	Pn	13 47 49.3	-0.7
GZT				*i* S	Sn	13 48 12.8	-0.1
KOPT	**Kop Dagi**	**1.86**	**28**	*i* P	Pn	13 47 52.3	+1.0
KOPT				*i* S	Sg	13 48 22.4	+4.2
GUMT	**Gumushane**	**2.09**	**2**	*e*PN	Pn	13 47 53.9	-0.6
GAZ	**Gaziantep**	**2.09**	**236**	*e*PN	Pn	13 47 54.3	-0.3
KMRS	**Kahramanmaras**	**2.14**	**247**	*e*PN	Pn	13 47 54.3	-0.9
EZM	**Erzurum**	**2.17**	**45**	*e*PN	Pn	13 47 55.2	-0.4
ERZM	**Erzurum**	**2.17**	**45**	*e*P	Pn	13 47 57.9	+2.2
PINB	**Pinarbasi**	**2.35**	**278**	*i* P	Pn	13 47 58.8	+0.6
PINB				*i* S	Sn	13 48 30.0	+2.4
SVSK	**Karacayir**	**2.41**	**311**	*e*PN	Pn	13 47 58.9	0.0
ANDN	**Andirin**	**2.52**	**253**	*i* P	Pn	13 47 60.0	-0.5
ANDN				*i* S	Sg	13 48 38.3	-1.3
SIRT	**Sirnak**	**2.57**	**109**	*e*PN	Pn	13 48 01.7	+0.5
RSDY	**Resadiye-TOKAT**	**2.57**	**322**	*e*PN	Pn	13 48 00.6	-0.6
ESPY	**Espiye-Giresun**	**2.59**	**349**	*e*PN	Pn	13 48 01.2	-0.2
BNN	**Bunyan**	**2.81**	**281**	*e*PN	Pn	13 48 03.8	-0.6
TOKT	**Tokat**	**2.93**	**312**	*e*PN	Pn	13 48 06.3	+0.2
KOZT	**Kozan**	**2.95**	**254**	*e*PN	Pn	13 48 06.1	-0.2
AGRB	**Hanur-Agry**	**3.06**	**66**	*e*PN	Pn	13 48 08.6	+0.7
YOZ	**Yozgat**	**3.41**	**293**	*e*PN	Pn	13 48 13.4	+0.8

s-maj=42.4km s-min=15.6km az=85.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.25**	**322**	P	P	15 19 37.2	+0.2
	0.9nm,0.4s,baz=145,slow=8.4,SNR=6.4						
WRA	**Warramunga Arr**	**42.82**	**193**	P	P	15 22 54.2	0.0
	0.2nm,0.4s,baz=8.1,slow=8.9,SNR=3.2						
ASAR	**Alice Springs**	**46.53**	**192**	P	P	15 23 23.2	-0.1
	0.1nm,0.5s,baz=14,slow=7.0,SNR=6.4						
BVAR	**Borovoye Array**	**62.43**	**319**	P	P	15 25 17.2	+0.2
	1.2nm,0.4s,baz=84,slow=8.4,SNR=7.5						
YKA	**Yellowknife Ar**	**75.90**	**28**	P	P	15 26 39.0	-0.4
	0.4nm,0.3s,baz=294,slow=5.6,SNR=4.3						
YKA	**Yellowknife Ar**	**75.90**	**28**	P	P	15 26 39.0	-0.4
ARCES	**ARCESS Array B**	**78.51**	**342**	P	P	15 26 53.8	0.0
	2.0nm,0.9s,baz=50,slow=6.5,SNR=7.3						
NVAR	**Mina Array Bea**	**82.65**	**52**	P	P	15 27 17.0	+0.8
	0.2nm,0.5s,baz=267,slow=4.7,SNR=5.0						

*IDC **03** 15:16:19.9±1.3, 3743N×13858E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/22, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=19.1km s-min=12.3km az=111.0*
*ISCJB **03** 15:16:21.6±0.5, 3741N±003×13855E±004, h26km±5km, mb3.5/3, Error ellipse: s-maj=5.8km s-min=4.9km az=4.9*
*JMA **03** 15:16:21.9, 3742N×13854E, h18km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs40.00000°, δ36.00000°, λ82.00000°. NP2:φs230.00000°, δ54.00000°, λ96.00000°. Principal axes: T Plg80.0000°, Azm165.0000°; N Plg5.0000°, Azm47.0000°; P Plg9.0000°, Azm316.0000°;*
JMA Felt II J1.

ISC 03 15:16:21.7±0.5, 3741N±003×13855E±004, h16km±4km, n15, σ0°81/23, mb3.5/3, 1C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.18**	**46**	P	**Pg**	**15 16 26.7**	**+0.6**
JHK	**Hiroka**	**0.41**	**113**	⇓P	**Pg**	**15 16 29.9**	**-0.1**
JHK				S	**Sg**	**15 16 35.9**	**+0.4**
JJN	**Nakama**	**0.43**	**225**	P	**Pg**	**15 16 30.8**	**+0.3**
JJN				S	**Sg**	**15 16 37.7**	**+1.3**
JSD	**Sado**	**0.67**	**340**	⇓P	**Pg**	**15 16 34.2**	**-0.6**
JSD				S	**Sg**	**15 16 43.3**	**-0.4**
JNS	**Sasagawa**	**0.73**	**56**	⇑P	**Pb**	**15 16 36.0**	**-0.1**
JKT	**Katashina**	**0.85**	**139**	⇓P	**Pb**	**15 16 37.7**	**-0.4**
JKT				S	**Sb**	**15 16 49.3**	**+0.1**
MAT	**Matsushiro**	**0.91**	**198**	P	**Pb**	**15 16 38.2**	**-0.9**
MAT				S	**Sb**	**15 16 50.6**	**-0.3**
MAT	**Matsushiro**	**0.91**	**198**	P	**Pb**	**15 16 38.4**	**-0.7**
MAT				S	**Sb**	**15 16 50.5**	**-0.4**
MJAR	**Matsushiro Arr**	**0.91**	**198**	Pg	**Pg**	**15 16 37.9**	**-1.4**
	25nm,0.3s,baz=18,slow=16,SNR=210						
MJAR				Lg		15 16 51.6	
	40nm,0.3s,baz=14,slow=28,SNR=38						
JFY	**Yanaizu**	**0.92**	**90**	P	**Pb**	**15 16 39.0**	**-0.3**
JFY				S	**Sb**	**15 16 51.0**	**-0.3**
JSZ	**Suzu**	**0.95**	**273**	⇓P	**Pb**	**15 16 38.8**	**-0.9**
JSZ				S	**Sb**	**15 16 51.6**	**-0.4**
KSRS	**Korea Array**	**8.46**	**274**	Pn	**Pn**	**15 18 25.8**	**+2.3**
	0.2nm,0.3s,baz=91,slow=15,SNR=3.9						
WRA	**Warramunga Arr**	**57.18**	**185**	P	**P**	**15 26 07.9**	**0.0**
	0.6nm,0.6s,mb3.8,baz=3.4,slow=7.4,SNR=5.6						
ASAR	**Alice Springs**	**60.91**	**185**	P	**P**	**15 26 33.8**	**+0.2**
	0.2nm,0.6s,mb3.4,baz=18,slow=8.1,SNR=4.2						
PDAR	**Pinedale Array**	**79.01**	**44**	P	**P**	**15 28 26.5**	**+1.6**
	0.2nm,0.6s,mb3.2,baz=280,slow=5.4,SNR=2.5						

MAN 03 15:17:05, 1095N×12600E, h32km, mb4.0, ML2.8, MS2.5, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.03**	**282**	⇓eP	Pn	15 17 22.7	-0.5
PLP				eS	Sn	15 17 34.3	-2.2
SCPH	**Surigao**	**1.26**	**204**	⇓eP	Pn	15 17 26.6	+0.2
SCPH				eS	Sn	15 17 42.2	-0.1
OCLP	**Ormoc**	**1.37**	**274**	eP	Pn	15 17 28.9	+0.9
MSLP	**Maasin**	**1.39**	**234**	eP	Pn	15 17 28.8	+0.7
MSLP				eS	Sn	15 17 46.5	+1.2
CNP	**Cataram**	**2.03**	**320**	eP	Pn	15 17 38.1	+1.1
CNP				eS	Sn	15 18 01.7	+0.4

MAN 03 15:22:54, 649N×12536E, h0km, mb4.2, ML3.0, MS2.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.57**	**225**	⇓eP	Pg	15 23 01.8	-3.2
GSPH				eS	Sg	15 23 20.4	+8.1
BUKP	**Musuan**	**1.41**	**348**	eP	Pn	15 23 20.6	-0.4
PAGZ	**Pagadian**	**2.38**	**305**	eP	Pn	15 23 34.5	+0.3
BUTP	**Butuan**	**2.48**	**6**	eP	Pn	15 23 36.4	+0.8
IPIL	**Ipil**	**3.05**	**295**	eP	Pn	15 23 45.4	+1.8

*IDC **03** 15:29:21.8±7.6, 309N×12680E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=128.8km s-min=98.5km az=130.0*
*ISCJB **03** 15:29:28.5±1.1, 27N±01×12686E±009, h33km, mb4.0/6, Error ellipse: s-maj=15.5km s-min=12.4km az=161.2*
*NEIC **03** 15:29:30.3±0.8, 283N×12743E, h35km, mb4.3/4, Error ellipse: s-maj=42.3km s-min=12.5km az=77.0*

ISC 03 15:29:30.3±1.0, 27N±01×12684E±009, h35km, n13, σ0°54/13, mb4.0/6, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.35**	**238**	⇓eP	**Sn**	**15 30 34.0**	**-0.1**
KAKA	**Kakadu**	**16.28**	**160**	eP	**Pn**	**15 33 20.0**	**+3.7**
	3.1nm,0.4s						
KAKA	**Kakadu**	**16.28**	**160**	ePn	**Pn**	**15 33 15.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**20.69**	**183**	P	**P**	**15 34 07.9**	**+0.4**
	2.1nm,0.5s,baz=6.1,slow=7.2,SNR=14						
NACB	**Ninganchiao**	**21.95**	**347**	P	**P**	**15 34 21.0**	**0.0**
	12nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**23.66**	**162**	eP	**P**	**15 34 38.5**	**-0.2**
	2.1nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**23.66**	**162**	P	**P**	**15 34 38.8**	**+0.1**
	3.4nm,0.8s,mb3.8,baz=342,slow=10,SNR=10						
WB2	**Warramunga Arr**	**23.67**	**162**	eP	**P**	**15 34 39.2**	**+0.4**
WB2	**Warramunga Arr**	**23.67**	**162**	eP	**P**	**15 34 38.4**	**-0.4**
MBWA	**Marble Bar**	**24.70**	**196**	P	**P**	**15 34 52.2**	**+4.0**
	55nm,1.6s,mb4.8						
ASAR	**Alice Springs**	**27.08**	**166**	P	**P**	**15 35 09.8**	**0.0**
	0.3nm,0.5s,mb3.1,baz=347,slow=6.7,SNR=15						
STKA	**Stephens Creek**	**37.12**	**159**	P	**P**	**15 36 38.0**	**+0.4**
	2.2nm,0.7s,mb4.1,baz=333,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**37.12**	**159**	eP	**P**	**15 36 36.9**	**-0.8**
	3.3nm,0.7s,mb4.3						

IDC 03 16:14:03.0±16.0, 102N×12693E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/15, mbtmp3.6/3, Error ellipse: s-maj=255.0km s-min=189.9km az=160.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.70**	**158**	eP	Pn	16 17 43.6	+11
	3.1nm,0.7s						
WRA	**Warramunga Arr**	**22.06**	**161**	P	P	16 18 59.0	-0.5
	1.2nm,0.5s,baz=336,slow=11,SNR=9.8						
WB2	**Warramunga Arr**	**22.07**	**161**	eP	P	16 19 01.9	+2.3
ASAR	**Alice Springs**	**25.46**	**165**	P	P	16 19 34.6	+1.8
	0.2nm,0.5s,baz=350,slow=7.9,SNR=12						
STKA	**Stephens Creek**	**35.55**	**158**	eP	P	16 21 00.9	-1.0
	2.0nm,0.9s						
STKA	**Stephens Creek**	**35.55**	**158**	P	P	16 21 00.0	-1.9
	2.0nm,0.7s,baz=318,slow=13,SNR=3.2						

IDC 03 17:08:27.3±2.5, 252S×13959E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/15, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=79.2km s-min=25.9km az=93.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**17.56**	**244**	P	Pn	17 12 33.4	-0.3
	1.0nm,0.3s,baz=97,slow=8.0,SNR=3.9						
WRA	**Warramunga Arr**	**18.06**	**196**	P	Pn	17 12 39.3	-0.6
	0.1nm,0.3s,baz=16,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**21.73**	**194**	P	P	17 13 21.1	+0.8
	0.6nm,0.5s,baz=29,slow=10,SNR=7.4						
MKAR	**Makanchi Array**	**70.17**	**322**	P	P	17 19 41.6	-0.3
	0.4nm,0.5s,baz=124,slow=7.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**72.21**	**330**	P	P	17 19 54.3	+0.3
	0.4nm,0.5s,baz=119,slow=5.1,SNR=2.7						

*NIED **03** 17:13:00, 3690N×14120E, h50km, Mw4.4 Best double couple: M0:4.08000×10^15 NP1:φs43.00000°, δ90.00000°, λ95.00000°. NP2:φs140.00000°, δ5.00000°, λ6.00000°.*
*MOS **03** 17:13:00.5±1.2, 3696N×14132E, h33km, mb4.6/15, Error ellipse: s-maj=11.5km s-min=7.3km az=108.6*
*ISCJB **03** 17:13:02.4±0.6, 3691N±003×14133E±006, h50km±4km, mb4.2/26, MS3.6/11, Error ellipse: s-maj=8.0km s-min=4.7km az=25.3*
*NEIC **03** 17:13:04.5±1.3, 3689N×14122E, h49km±11km, mb4.7/7, MW4.3(NIED), Error ellipse: s-maj=11.8km s-min=9.3km az=103.0*
NEIC Recorded [3 JMA] in Fukushima; [2 JMA] in Ibaraki and Tochigi; [1 JMA] in Miyagi Prefectures.
*JMA **03** 17:13:04.3±0.1, 3692N×141.18E, h49km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs113.00000°, δ18.00000°, λ12.00000°. NP2:φs12.00000°, δ86.00000°, λ107.00000°. Principal axes: T Plg46.0000°, Azm299.0000°; N Plg17.0000°, Azm190.0000°; P Plg39.0000°, Azm86.0000°;*
JMA Felt III J1.
*IDC **03** 17:13:05.0±1.7, 3687N×14124E, h52km±16km, mb3.7/14, mb1 3.9/19, mb1mx3.8/26, mbtmp3.7/19, ML3.7/5, MS3.5/13, Ms1 3.6/13, ms1mx3.3/33 Error ellipse: s-maj=13.4km s-min=10.4km az=97.0*

ISC 03 17:13:03.8±0.6, 3691N±003×14128E±005, h43km±5km, n83, σ1°00/88, mb4.2/26, MS3.6/11, 5C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.43**	**296**	⇓P	**Pn**	**17 13 13.8**	**0.0**
ONAJ				S	**Sn**	**17 13 20.2**	**-0.7**
JFK	**Kawauchi**	**0.56**	**324**	⇓P	**Pn**	**17 13 15.4**	**0.0**
JFK				S	**Sn**	**17 13 23.0**	**-0.7**
JHO	**Hitachi**	**0.65**	**242**	⇓P	**Pn**	**17 13 16.2**	**-0.4**
JHO				S	**Sn**	**17 13 24.7**	**-1.1**
JFT	**Otama**	**0.97**	**309**	⇓P	**Pn**	**17 13 21.6**	**+0.7**
JFT				S	**Sn**	**17 13 33.5**	**0.0**
JMM	**Marumori**	**1.03**	**338**	⇓P	**Pn**	**17 13 21.8**	**0.0**
JMM				S	**Sn**	**17 13 34.6**	**-0.4**
JSB	**Shiboa**	**1.09**	**273**	⇓P	**Pn**	**17 13 23.1**	**+0.4**
JSB				eS	**Sn**	**17 13 36.5**	**-0.1**
JFY	**Yanaizu**	**1.35**	**292**	⇓P	**Pn**	**17 13 26.5**	**+0.3**
JOU	**Okura**	**1.53**	**341**	P	**Pn**	**17 13 29.2**	**+0.5**
JIO	**Ouri**	**1.54**	**2**	⇓P	**Pn**	**17 13 29.0**	**+0.2**
JAG	**Ashikaga**	**1.55**	**252**	⇓P	**Pn**	**17 13 28.8**	**-0.1**
JAG				eS	**Sn**	**17 13 47.5**	**-0.3**
MJAR	**Matsushiro Arr**	**2.50**	**262**	P	**Pn**	**17 13 42.9**	**+1.0**
	16nm,0.3s,baz=128,slow=6.8,SNR=98						
MJAR				S	**Sn**	**17 14 12.6**	**+1.5**
	32nm,0.3s,baz=89,slow=25,SNR=8.3						
MJAR	**Matsushiro Arr**	**2.50**	**262**	P	**Pn**	**17 13 42.9**	**+1.0**
MJAR				S	**Sn**	**17 14 12.6**	**+1.5**
MJAR				pmax	pmax		
	comp=Z,16nm,0.3s						
MJAR				smax			
	comp=N,32nm,0.3s						
MAJO	**Matsushiro**	**2.50**	**262**	eP	**Pn**	**17 13 43.1**	**+1.2**
MAT	**Matsushiro**	**2.50**	**262**	P	**Pn**	**17 13 43.2**	**+1.3**
MAT				S	**Sn**	**17 14 13.2**	**+2.0**
JHJ	**Hachijo jima 2**	**3.98**	**198**	P	**Pn**	**17 14 02.9**	**+0.5**
	comp=N,60nm,0.3s,baz=89,slow=23,SNR=56						
JHJ				S	**Sn**	**17 14 47.1**	**-0.6**
	comp=N,53nm,0.3s,baz=280,slow=23,SNR=8.4						
ASAJ	**Asahikawa**	**7.26**	**8**	P	**Pn**	**17 14 47.6**	**+0.3**
	comp=N,1.9nm,0.3s,baz=206,slow=13,SNR=23						
ASAJ				S	**Sn**	**17 16 10.2**	**+1.8**
	comp=N,2.1nm,0.3s,baz=191,slow=28,SNR=5.7						
ASAJ	**Asahikawa**	**7.26**	**8**	P	**Pn**	**17 14 47.7**	**+0.4**
ASAJ				S	**Sn**	**17 16 10.3**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**7.92**	**25**	eP	**Pn**	**17 14 56.4**	**+0.1**
YUK				eS	**Sn**	**17 16 19.5**	**-5.1**
YUK				smax			
	comp=E,290nm,0.5s						
YUK				smax			
	comp=N,510nm,0.6s						
VLA	**Vladivostok**	**9.50**	**314**	P	**Pn**	**17 15 17.0**	**-0.9**
VLA				pmax	pmax		
	comp=Z,50nm,1.3s						
CBIJ	**Chichi jima**	**9.82**	**175**	S	**Sn**	**17 17 04.0**	**-7.4**
	comp=Z,7.4nm,0.3s,baz=276,slow=23,SNR=5.2						
YSS	**Yuzh-Sakhalins**	**10.09**	**6**	eP	**Pn**	**17 15 25.4**	**-0.6**
YSS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**10.09**	**6**	ePn	**Pn**	**17 15 25.4**	**-0.6**
	comp=Z,7.7nm,0.6s						
YSS				eSn	Sn	17 16 56.1	-22
KSRS	**Korea Array**	**10.68**	**277**	P	**Pn**	**17 15 33.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=88,slow=15,SNR=2.7						
KSRS				LR	LR	17 19 17.4	
	comp=Z,270nm,21.9s,baz=258,slow=35						
MDJ	**Mudanjiang**	**11.73**	**315**	ePn	**Pn**	**17 15 53.6**	**+5.1**
	comp=Z,16nm,1.2s						
HABR	**Khabarovsk**	**12.42**	**340**	eP	**Pn**	**17 15 53.6**	**-4.3**
KLR	**Kul'dur**	**14.13**	**334**	eP	**Pn**	**17 16 17.8**	**-3.3**
KLR				MLR	MLR		
	comp=N,600nm,16.0s						
PETK	**Petropavlovsk-**	**19.84**	**30**	P	**Pn**	**17 17 30.6**	**-2.0**
	comp=N,0.2nm,0.3s,baz=234,slow=17,SNR=4.5						
PETK				LR	LR	17 26 52.4	
	comp=N,18nm,18.1s,baz=183,slow=42						
GUMO	**Guam**	**23.45**	**171**	LR	LR	17 26 04.8	
	comp=N,70nm,20.5s,MS3.1,baz=258,slow=33						
GUMO	**Guam**	**23.45**	**171**	P	**P**	**17 18 07.9**	**-1.5**
GUMO				pmax	pmax		
	comp=Z,83nm,1.0s,mb5.1						
GUMO	**Guam**	**23.45**	**171**	Pn	**P**	**17 18 07.9**	**-1.6**
	comp=Z,83nm,1.0s,mb5.1						
YAK	**Yakutsk**	**26.16**	**348**	eP	**P**	**17 18 32.6**	**-1.1**
YAK				e		17 21 55.5	
YAK				eS	**S**	**17 22 51.3**	**-11**
YAK				e		17 29 17.7	
YAK				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.7						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.4s						
YAK				smax			
	comp=N,15nm,3.0s						
YAK				smax			
	comp=E,36nm,3.5s						
YAK	**Yakutsk**	**26.16**	**348**	eP	**P**	**17 18 32.9**	**-0.8**
	comp=E,28nm,0.9s,mb4.8						
SEY	**Seymchan**	**26.93**	**11**	⇑iP	**P**	**17 18 39.6**	**-1.0**
BOD	**Bodaibo**	**27.57**	**328**	eP	**P**	**17 18 46.0**	**-0.5**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.1						
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**17 18 47.7**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.7,baz=104,slow=7.1,SNR=8.0						
SONM				LR	LR	17 30 05.5	
	comp=Z,80nm,18.1s,MS3.3,baz=244,slow=37						
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**17 18 47.7**	**-0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,80nm,18.1s						
HVS	**Khovu-Aksy**	**36.39**	**308**	⇑iP	**P**	**17 20 02.0**	**-1.7**
HVS				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
KRAR	**Krasnoyarsk**	**37.48**	**316**	⇑iP	**P**	**17 20 10.8**	**-2.1**
KRAR				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.9						
ZAA0	**Zalesovo Array**	**41.92**	**312**	eP	**P**	**17 20 49.8**	**0.0**
ZALV	**Zalesovo Beam**	**41.92**	**312**	P	**P**	**17 20 49.6**	**-0.3**
	comp=Z,4.2nm,0.7s,mb4.2,baz=100,slow=7.7,SNR=17						
ZALV				PcP	PcP	17 22 44.5	-0.2
	comp=Z,0.4nm,0.3s,baz=91,slow=5.8,SNR=3.2						
ZALV				LR	LR	17 38 58.2	
	comp=Z,52nm,18.9s,MS3.4,baz=79,slow=37						
ZAL	**Zalesovo**	**41.93**	**312**	P	**P**	**17 20 49.6**	**-0.4**
ZAL						17 22 44.5	
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,52nm,18.9s						
LSA	**Lhasa**	**42.12**	**275**	P	**P**	**17 20 53.1**	**+1.3**
LSA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
LSA	**Lhasa**	**42.12**	**275**	P	**P**	**17 20 53.1**	**+1.3**
	comp=Z,6.2nm,1.0s,mb4.2						
NVS	**Novosibirsk**	**42.85**	**314**	iP	**P**	**17 20 57.3**	**-0.1**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
NVS				pmax	pmax		
	comp=N,4.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.2s						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**17 21 07.3**	**-0.3**
	comp=E,1.7nm,0.8s,mb3.9,baz=83,slow=9.9,SNR=5.3						
MKAR				LR	LR	17 40 05.2	
	comp=E,40nm,18.2s,MS3.4,baz=265,slow=37						
MKAR	**Makanchi Array**	**44.09**	**302**	iP	**P**	**17 21 08.5**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**45.92**	**308**	⇑eP	**P**	**17 21 21.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.7						
KURK	**Kurchatov**	**45.92**	**308**	eP	**P**	**17 21 21.4**	**-0.7**
	comp=Z,11nm,1.0s,mb4.7						
HNR	**Honiara**	**49.32**	**155**	LR	LR	17 39 56.5	
	comp=Z,55nm,21.3s,MS3.5,baz=359,slow=33						
BVAR	**Borovoye Array**	**50.58**	**312**	LR	LR	17 44 35.6	
	comp=Z,64nm,19.6s,MS3.6,baz=137,slow=37						
BRVK	**Borovoye**	**50.63**	**312**	P	**P**	**17 21 55.6**	**-2.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**50.63**	**312**	P	**P**	**17 21 55.6**	**-2.6**
	comp=Z,3.7nm,0.8s,mb4.4						
SVE	**Sverdlovsk**	**55.17**	**319**	eP	**P**	**17 22 32.3**	**+0.6**
ARU	**Arti**	**56.38**	**319**	eiP	**P**	**17 22 40.2**	**-0.2**
ARU				e		17 23 34.8	
ARU				e		17 24 44.2	
ARU				eS	**S**	**17 30 18.3**	**-9.3**
ARU				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
ARU	**Arti**	**56.38**	**319**	eP	**P**	**17 22 40.3**	**-0.1**
	comp=Z,18nm,1.4s,mb4.9						
WRAB	**Tennant Creek**	**56.92**	**188**	eP	**P**	**17 22 44.4**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**56.92**	**188**	eP	**P**	**17 22 44.4**	**-0.1**
	comp=Z,6.3nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**56.93**	**188**	P	**P**	**17 22 43.2**	**-1.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=6.6,slow=7.6,SNR=6.2						
WRA	**Warramunga Arr**	**56.93**	**188**	P	**P**	**17 22 43.2**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**58.68**	**312**	LR	LR	17 49 34.7	
	comp=Z,50nm,19.1s,MS3.6,baz=10,slow=37						
ASAR	**Alice Springs**	**60.65**	**188**	P	**P**	**17 23 10.5**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.8,baz=9.2,slow=7.0,SNR=7.0						
ASAR	**Alice Springs**	**60.65**	**188**	P	**P**	**17 23 10.5**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BBB	**Bella Bella**	**62.22**	**44**	P	**P**	**17 23 22.2**	**+1.5**
	comp=Z,9.9nm,1.0s,mb4.9,baz=143,slow=11,SNR=2.5						
YKA	**Yellowknife Ar**	**63.97**	**30**	P	**P**	**17 23 33.3**	**+1.2**
	comp=Z,0.3nm,0.3s,mb3.8,baz=180,slow=13,SNR=9.0						
ARCES	**ARCESS Array B**	**64.07**	**339**	P	**P**	**17 23 33.5**	**+0.8**
	comp=Z,2.4nm,0.9s,mb4.2,baz=30,slow=8.4,SNR=5.0						
ARCES				LR	LR	17 51 54.4	
	comp=Z,54nm,20.8s,MS3.7,baz=56,slow=36						
ARCES	**ARCESS Array B**	**64.07**	**339**	P	**P**	**17 23 33.5**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,54nm,20.8s						
OBN	**Obninsk**	**68.13**	**323**	eP	**P**	**17 23 59.0**	**0.0**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
NB2	**NORSAR Subarra**	**74.26**	**337**	P	**P**	**17 24 35.2**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.26**	**337**	P	**P**	**17 24 36.6**	**+0.7**
	comp=Z,1.6nm,0.8s,mb4.0,baz=38,slow=5.9,SNR=5.4						
NOA				LR	LR	18 00 26.3	
	comp=Z,54nm,18.2s,MS3.9,baz=85,slow=38						
NOA	**NORSAR Array B**	**74.26**	**337**	P	**P**	**17 24 36.6**	**+0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,55nm,18.2s						
AKASG	**Malin Array Be**	**74.33**	**322**	P	**P**	**17 24 35.8**	**-0.7**
	comp=Z,0.4nm,0.3s,mb3.8,baz=47,slow=6.1,SNR=6.0						
AKASG				LR	LR	18 00 18.7	
	comp=Z,54nm,18.6s,MS3.9,baz=310,slow=38						
NVAR	**Mina Array Bea**	**75.14**	**53**	P	**P**	**17 24 43.6**	**+2.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=302,slow=5.2,SNR=5.0						
PDAR	**Pinedale Array**	**77.83**	**45**	P	**P**	**17 24 58.7**	**+2.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=262,slow=5.1,SNR=5.5						
CLL	**Collm**	**81.15**	**330**	eP	**P**	**17 25 16.0**	**+1.5**
GERES	**GERESS Array B**	**82.76**	**328**	P	**P**	**17 25 22.8**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.5,baz=46,slow=7.7,SNR=5.0						
PMOR	**Pomariorio Ree**	**84.23**	**113**	eT		18 58 15.0	
	comp=Z,4.4nm,0.2s						
PPT	**Papeete**	**84.67**	**116**	eLR	LR	17 52 14.7	
	comp=Z,74nm,29.0s						
PPT	**Papeete**	**84.67**	**116**	LR	LR	18 02 21.7	
	comp=Z,158nm,18.3s,MS4.4,baz=304,slow=35						
TBI	**Tubuai**	**88.55**	**121**	eLR	LR	17 54 02.8	
	comp=Z,72nm,24.8s						
TBI	**Tubuai**	**88.55**	**121**	e

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**295**	⇓P	**Pn**	**17 23 55.0**	**-0.2**
ONAJ				S	**Sn**	**17 24 01.5**	**-1.0**
JFK	**Kawauchi**	**0.59**	**322**	⇓P	**Pn**	**17 23 56.6**	**-0.2**
JFK				S	**Sn**	**17 24 04.2**	**-1.1**
JHO	**Hitachi**	**0.68**	**245**	⇓P	**Pn**	**17 23 57.5**	**-0.5**
JHO				S	**Sn**	**17 24 05.7**	**-1.7**
JFT	**Otama**	**1.00**	**308**	⇓P	**Pn**	**17 24 02.9**	**+0.5**
JFT				S	**Sn**	**17 24 14.9**	**-0.5**
JMM	**Marumori**	**1.05**	**336**	P	**Pn**	**17 24 03.1**	**0.0**
JMM				S	**Sn**	**17 24 15.6**	**-1.0**
JFY	**Yanaizu**	**1.39**	**292**	⇓P	**Pn**	**17 24 07.7**	**-0.1**
JIO	**Ouri**	**1.55**	**1**	⇑P	**Pn**	**17 24 10.2**	**+0.3**
JOU	**Okura**	**1.55**	**340**	P	**Pn**	**17 24 10.6**	**+0.6**
JOU				*e*S	**Sn**	**17 24 29.2**	**+0.3**
JAG	**Ashikaga**	**1.58**	**253**	⇓P	**Pn**	**17 24 10.1**	**-0.3**
JYS	**Shirataka**	**1.66**	**323**	P	**Pn**	**17 24 12.1**	**+0.7**
MJAR	**Matsushiro Arr**	**2.53**	**263**	P	**Pn**	**17 24 23.5**	**+0.1**
	13nm,0.3s,baz=88,slow=16,SNR=115						
MJAR				S	**Sn**	**17 24 55.6**	**+2.6**
	9.0nm,0.3s,baz=92,slow=22,SNR=6.0						
MAT	**Matsushiro**	**2.53**	**263**	P	**Pn**	**17 24 24.4**	**+0.9**
MAT				*e*S	**Sn**	**17 24 54.5**	**+1.4**
JHJ	**Hachijo jima 2**	**3.98**	**199**	P	**Pn**	**17 24 44.8**	**+1.4**
	17nm,0.3s,baz=45,slow=19,SNR=30						
JHJ				S	**Sn**	**17 25 28.9**	**0.0**
	32nm,0.3s,baz=242,slow=23,SNR=8.6						
ASAJ	**Asahikawa**	**7.27**	**7**	P	**Pn**	**17 25 28.7**	**+0.2**
	1.6nm,0.3s,baz=231,slow=11,SNR=16						
ASAJ				S	**Sn**	**17 26 50.6**	**+0.9**
	1.1nm,0.3s,baz=240,slow=23,SNR=4.0						
KSRS	**Korea Array**	**10.71**	**277**	LR	LR	17 30 17.8	
	comp=Z,28nm,18.0s,baz=60,slow=36						
SONM	**Songino Array**	**27.80**	**304**	P	**P**	**17 29 30.4**	**+0.5**
	0.7nm,0.6s,mb3.5,baz=112,slow=8.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**41.95**	**312**	P	**P**	**17 31 31.0**	**-0.5**
	0.6nm,0.5s,mb3.5,baz=87,slow=7.4,SNR=3.7						
WRA	**Warramunga Arr**	**56.92**	**188**	P	**P**	**17 33 23.6**	**-2.3**
	0.3nm,0.6s,mb3.5,baz=4.5,slow=7.5,SNR=4.1						
ASAR	**Alice Springs**	**60.65**	**188**	P	**P**	**17 33 51.0**	**-0.7**
	0.1nm,0.5s,mb3.2,baz=14,slow=7.8,SNR=2.7						

*CSEM **03** 18:17:56.5±0.4, 4342N×1754E, h5km, ML2.6/9, Error ellipse: s-maj=9.2km s-min=6.2km az=49.0*
*ISCJB **03** 18:17:57.0±0.4, 4338N±003×1755E±004, h10km, Error ellipse: s-maj=5.1km s-min=2.7km az=137.9*
*PDG **03** 18:17:57.3±0.2, 4327N×1747E, h1km, ML2.6/9, Error ellipse: s-maj=1.0km s-min=1.5km az=0.0*

ISC 03 18:17:57.1±0.7, 4341N±004×1752E±004, h3km±6km, n25, σ1°38/45, 5C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.56**	**166**	*e*Pg	**Pg**	**18 18 06.7**	**-1.1**
STON				Sg	**Sg**	**18 18 15.4**	**+0.4**
STON	**Ston**	**0.56**	**166**	*e*Pg	**Pg**	**18 18 06.6**	**-1.2**
BRY	**Bratogost**	**0.91**	**124**	*e*Pg	**Pg**	**18 18 13.8**	**-0.7**
BRY				*e*Sg	**Sg**	**18 18 27.0**	**+0.7**
TREB	**Trebinje**	**0.92**	**138**	*e*Pn	**Pg**	**18 18 13.3**	**-1.5**
TREB				*e*Sn	**Sg**	**18 18 27.5**	**+0.7**
UPM	**Unac-Piva**	**1.04**	**101**	⇑*i*Pg	**Pg**	**18 18 16.5**	**-0.5**
UPM				*e*Sg	**Sg**	**18 18 33.6**	**+3.2**
HCY	**Herceg Novi**	**1.20**	**143**	⇓*i*Pg	**Pg**	**18 18 18.0**	**-2.2**
HCY				*e*Sg	**Sg**	**18 18 35.6**	**-0.1**
NKY	**Niksic**	**1.24**	**118**	⇓*i*Pg	**Pg**	**18 18 19.8**	**-1.0**
NKY				*e*Sg	**Sg**	**18 18 39.0**	**+2.1**
BLY	**Banja Luka**	**1.36**	**350**	*e*Pn	**Pn**	**18 18 20.6**	**-2.3**
PLE	**Pljevlja**	**1.37**	**93**	⇑*i*Pg	**Pn**	**18 18 23.2**	**+0.1**
PLE				*e*Sg	**Sg**	**18 18 44.9**	**+3.8**
BUM	**Brajici-Budva**	**1.50**	**137**	⇓*i*Pg	**Pn**	**18 18 23.3**	**-1.6**
BUM				*e*Sg	**Sg**	**18 18 45.7**	**+0.3**
PDG	**Podgorica**	**1.61**	**127**	⇑*i*Pg	**Pn**	**18 18 26.1**	**-0.3**
PDG				*e*Sg	**Sg**	**18 18 49.7**	**+0.8**
TTG	**Podgorica**	**1.61**	**127**	⇑*i*Pg	**Pn**	**18 18 26.1**	**-0.3**
TTG				*e*Sg	**Sg**	**18 18 49.7**	**+0.8**
BEY	**Berane**	**1.82**	**106**	⇓*i*Pn	**Pn**	**18 18 31.4**	**+2.1**
BEY				*e*Sn	**Sg**	**18 18 57.2**	**+1.5**
IVA	**Berane**	**1.82**	**106**	⇓*i*Pn	**Pn**	**18 18 31.4**	**+2.1**
IVA				*e*Sn	**Sg**	**18 18 57.2**	**+1.5**
DIVS	**Divibare**	**1.92**	**68**	*e*Pn	**Pn**	**18 18 28.1**	**-2.5**
DIVS				*e*Sn	**Sn**	**18 18 54.2**	**-1.0**
ULC	**Ulcinj**	**1.93**	**138**	⇑*i*Pn	**Pn**	**18 18 31.0**	**+0.2**
ULC				*e*Sn	**Sg**	**18 18 57.8**	**-1.3**
PVY	**Plav**	**1.98**	**114**	⇓*i*Pn	**Pn**	**18 18 32.9**	**+1.5**
PVY				*e*Sn	**Sg**	**18 19 00.8**	**+0.2**
NVLJ	**Novalja**	**2.23**	**302**	*e*Pn	**Pn**	**18 18 36.9**	**+1.9**
NVLJ				Sn	**Sg**	**18 19 07.8**	**-1.0**
NVLJ	**Novalja**	**2.23**	**302**	*e*Pn	**Pn**	**18 18 36.8**	**+1.9**
FGSL	**Fruska Gora**	**2.40**	**43**	*e*Pn	**Pn**	**18 18 34.8**	**-2.4**
FGSL				*e*Sn	**Sn**	**18 19 05.5**	**-1.6**
SG1	**Sgolgore (BA)**	**2.65**	**194**	*e*Pn	**Pn**	**18 18 39.8**	**-0.8**
BOJS	**Bojanci**	**2.65**	**323**	*i* Pn	**Pn**	**18 18 42.3**	**+1.7**
BOJS				*i* Sn	**Sn**	**18 19 16.3**	**+3.1**
VISS	**Visnje**	**3.06**	**322**	*i* Pn	**Pn**	**18 18 47.9**	**+1.6**
JAVS	**Javornik**	**3.50**	**316**	*i* Pn	**Pn**	**18 18 53.9**	**+1.5**
JAVS				*i* Sn	**Sn**	**18 19 39.6**	**+5.4**
PERS	**Pernice**	**3.65**	**333**	*i* Pn	**Pn**	**18 18 55.3**	**+0.9**
PERS				*i* Sn	**Sn**	**18 19 37.1**	**-0.8**

IDC 03 18:25:06.5±3.0, 1474S×16758E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/17, mbtmp4.0/3, Error ellipse: s-maj=123.8km s-min=47.7km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.21**	**230**	P	P	18 31 10.1	0.0
	1.7nm,0.9s,baz=84,slow=9.2,SNR=2.8						
WRA	**Warramunga Arr**	**32.12**	**256**	P	P	18 31 35.6	-0.2
	0.4nm,0.3s,baz=86,slow=9.0,SNR=6.0						
ASAR	**Alice Springs**	**32.95**	**249**	P	P	18 31 43.3	+0.2
	1.5nm,0.6s,baz=84,slow=9.2,SNR=28						
ARCES	**ARCESS Array B**	**120.34**	**345**	PKP	PKPdf	18 43 59.0	-0.1
	1.5nm,1.0s,baz=73,slow=3.1,SNR=4.2						

KRSC 03 18:36:59.2±0.1, 5550N×16307E, h21km±21km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.72**	**349**	*e*P	Pb	18 37 13.8	+0.7
KBTR				*i* S	Sb	18 37 24.4	+1.8
MKZ	**Mys Kozlova**	**1.22**	**220**	*e*P	Pn	18 37 20.9	-0.1
MKZ				*i* S	Sb	18 37 36.2	-0.6
ZLN	**Zelenaya**	**1.38**	**293**	*e*P	Pn	18 37 24.0	+0.8
ZLN				*i* S	Sn	18 37 42.4	+1.6
SMKR	**Semkarok**	**1.41**	**321**	*e*P	Pn	18 37 24.6	+1.0
SMKR				*i* S	Sn	18 37 42.2	+0.7
CIRR	**Tsirk**	**1.45**	**296**	*e*P	Pn	18 37 25.1	+1.0
CIRR				*i* S	Sn	18 37 44.0	+1.5
BDR	**Baidarnaya**	**1.50**	**316**	*e*P	Pn	18 37 26.1	+1.3
BDR				*i* S	Sn	18 37 46.1	+2.5
BZMR	**Bezymyannaya**	**1.52**	**288**	*e*P	Pn	18 37 26.2	+1.1
BZMR				*i* S	Sn	18 37 45.3	+1.0
SRKR	**Sorokina**	**1.57**	**318**	*e*P	Pn	18 37 27.1	+1.3
KRSR	**Krestovskiy**	**1.58**	**298**	*e*P	Pn	18 37 26.5	+0.5
KRSR				*i* S	Sn	18 37 46.6	+0.8
KLY	**Klyuchi**	**1.59**	**302**	*e*P	Pn	18 37 26.0	0.0
KLY				*i* S	Sn	18 37 45.1	-0.8
KIRR	**Kirishev**	**1.61**	**288**	*e*P	Pn	18 37 27.9	+1.6
KIRR				*i* S	Sn	18 37 48.8	+2.4
KMNR	**Kamenistaya**	**1.63**	**280**	*e*P	Pn	18 37 27.9	+1.3
KMNR				*i* S	Sn	18 37 49.3	+2.5
KPT	**Kopyto**	**1.68**	**287**	*e*P	Pn	18 37 28.8	+1.5
KPT				*i* S	Sn	18 37 51.1	+3.0
TUMR	**Tumrok**	**1.68**	**264**	*e*P	Pn	18 37 28.7	+1.4
TUMR				*i* S	Sn	18 37 50.7	+2.5
KOZ	**Kozyrevsk**	**1.89**	**289**	*e*P	Pn	18 37 31.8	+1.6
KOZ				*i* S	Sn	18 37 55.4	+2.1
SRDR	**Sredinnyy**	**2.06**	**295**	*e*P	Pn	18 37 34.6	+2.1
SRDR				*i* S	Sn	18 38 00.3	+2.8
SPN	**Mys Shipunski**	**3.00**	**218**	*e*P	Pn	18 37 47.1	+1.7
SPN				*i* S	Sn	18 38 21.6	+1.0
NLC	**Nalytchevo**	**3.19**	**225**	*e*P	Pn	18 37 50.9	+2.8
NLC				*i* S	Sn	18 38 28.5	+3.0
AVH	**Avacha**	**3.38**	**230**	*e*P	Pn	18 37 53.4	+2.7
GNL	**Ganaly**	**3.49**	**241**	*e*P	Pn	18 37 54.8	+2.7
PET	**Petropavlovsk**	**3.59**	**228**	*e*P	Pn	18 37 55.5	+2.0
PET				*i* S	Sn	18 38 36.8	+1.6
RUS	**Russkaya**	**4.08**	**223**	*e*P	Pn	18 38 02.7	+2.4

IDC 03 18:41:55.9±2.6, 1511S×16753E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, MS4.0/1, Ms1 4.0/1, ms1mx2.9/21, Error ellipse: s-maj=103.9km s-min=41.5km az=146.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.00**	**188**	*e*P	Pn	18 43 44.2	+4.5
DZM				*e*S	Sn	18 44 55.1	-5.0
RAO	**Raoul Island**	**19.45**	**139**	LR	LR	18 52 22.6	
	comp=Z,524nm,21.6s,baz=275,slow=32						
STKA	**Stephens Creek**	**28.94**	**230**	P	P	18 47 56.9	-0.1
	1.0nm,0.4s,baz=53,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**31.98**	**257**	P	P	18 48 23.7	-0.3
	0.4nm,0.4s,baz=86,slow=9.0,SNR=3.0						
ASAR	**Alice Springs**	**32.78**	**250**	P	P	18 48 30.9	-0.1
	2.0nm,0.5s,baz=81,slow=9.3,SNR=48						
FITZ	**Fitzroy Crossi**	**40.20**	**260**	P	P	18 49 34.7	+0.4
	1.2nm,0.4s,baz=82,slow=14,SNR=14						
ARCES	**ARCESS Array B**	**120.68**	**345**	PKP	PKPdf	19 00 49.0	-0.2
	1.6nm,0.8s,baz=77,slow=2.0,SNR=11						
FLN	**La Foliniere**	**145.02**	**346**	*e*PKP1	PKPbc	19 01 35.2	+0.7
	5.1nm,0.5s						
LDF	**La Druitiere**	**145.10**	**346**	*e*PKP1	PKPbc	19 01 35.5	+0.8
	2.9nm,0.6s						
GRR	**Gorron**	**145.46**	**346**	*e*PKP1	PKPbc	19 01 36.0	+0.1
	7.5nm,0.6s						
SSF	**Saint Saulge**	**145.47**	**341**	*e*PKP1	PKPbc	19 01 37.4	+1.4
	4.5nm,0.8s						
AVF	**Avril sur Loir**	**145.76**	**341**	*e*PKP1	PKPbc	19 01 38.8	+1.9
	3.1nm,0.6s						
SGMF	**Saint Gilles**	**145.95**	**348**	*e*PKP1	PKPbc	19 01 38.5	+1.1
	4.2nm,0.4s						
TCF	**Toulx Ste Croi**	**146.57**	**341**	*e*PKP1	PKPbc	19 01 40.3	+0.9
	1.0nm,0.5s						
MFF	**Saint Martin d**	**146.96**	**344**	*e*PKP1	PKPbc	19 01 41.5	+1.1
	3.7nm,0.6s						

*ISCJB **03** 18:45:22.9±0.8, 5071N±003×8726E±005, h8km±5km, mb3.6/5, Error ellipse: s-maj=5.7km s-min=4.8km az=19.5*
*MOS **03** 18:45:23.3±2.3, 5058N×8740E, h15km, mb4.3/3, Error ellipse: s-maj=10.7km s-min=7.6km az=95.0*
*ASRS **03** 18:45:23.3±0.6, 5058N×8740E, h15km, Ms3.1*
*IDC **03** 18:45:24.5±1.1, 5064N×8741E, h0km, mb3.5/3, mb1 3.8/7, mb1mx3.5/26, mbtmp3.7/7, ML4.0/3, Error ellipse: s-maj=20.6km s-min=14.1km az=36.0*
*BJI **03** 18:45:25.0, 5035N×8767E, h10km, ML3.9*
*NEIC **03** 18:45:26.0±0.9, 5060N×8726E, h10km, mb3.8/2, Error ellipse: s-maj=17.0km s-min=12.2km az=47.0*
*NNC **03** 18:45:29.0±3.7, 5062N×8700E, h12km±18km, mb3.8, mpv3.9, Error ellipse: s-maj=24.7km s-min=13.5km az=91.0*

ISC 03 18:45:24.4±0.8, 5075N±003×8730E±004, h3km±5km, n45, σ1°36/63, mb3.6/5, 12C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.48**	**155**	*i* Pg	**Pg**	**18 45 28.2**	**-5.3**
AKAR				*e*Sg	**Sg**	**18 45 31.7**	**-8.0**
ARTR	**Artybash**	**1.05**	**359**	*e*Pg	**Pg**	**18 45 47.3**	**+2.8**
ARTR				*e*Sg	**Sn**	**18 45 59.2**	**-1.8**
KTNR	**Kaitanak**	**1.32**	**243**	*e*Pg	**Pg**	**18 45 49.3**	**-0.4**
KTNR				*e*Sg	**Sn**	**18 46 03.6**	**-4.1**
UKR	**Ust'-Kan**	**1.61**	**278**	*e*Pg	**Pg**	**18 45 55.3**	**0.0**
UKR				*e*Sg	**Sg**	**18 46 19.3**	**+3.1**
ELT	**Yel'tsovka**	**2.60**	**346**	*e*Pg	**Pg**	**18 46 12.5**	**-1.7**
ELT				*e*Sg	**Sg**	**18 46 48.2**	**+0.4**
CERR	**Cheremushki**	**3.31**	**49**	*i* Pg	**Pg**	**18 46 26.0**	**-1.8**
CERR				*i* Sg	**Sg**	**18 47 09.8**	**-0.8**
ZAL	**Zalesovo**	**3.54**	**335**	PN	**Pn**	**18 46 24.4**	**+4.3**
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ZAA0	**Zalesovo Array**	**3.55**	**336**	*e*Pn	**Pn**	**18 46 24.0**	**+3.8**
ZAA0				*e*Sn	**Sn**	**18 47 02.4**	**-0.1**
ZAA0				*e*Sg	**Sg**	**18 47 22.9**	**+4.6**
ZALV	**Zalesovo Beam**	**3.55**	**336**	Pn	**Pn**	**18 46 24.4**	**+4.1**
	comp=Z,5.5nm,0.3s,baz=158,slow=14,SNR=53						
ZALV				Lg		18 47 21.6	
	comp=Z,17nm,0.3s,baz=145,slow=25,SNR=7.8						
ABNR	**Abakan**	**3.92**	**39**	*i* PN	**Pn**	**18 46 20.2**	**-5.1**
BLRR	**Bol'shaya Rech**	**3.92**	**52**	*i* PN	**Pn**	**18 46 27.8**	**+2.5**
BLRR				*e*		18 46 35.2	
BLRR				*e*		18 47 21.5	
HVS	**Khovu-Aksy**	**4.07**	**82**	⇑*i*PN	**Pn**	**18 46 27.9**	**+0.6**
NVS	**Novosibirsk**	**4.78**	**331**	*e*PN	**Pn**	**18 46 37.8**	**+0.6**
NVS				*e*		18 46 51.6	
NVS				*e*		18 47 38.4	
NVS				*i*		18 47 56.9	
NVS	**Novosibirsk**	**4.78**	**331**	*e*Pn	**Pn**	**18 46 37.8**	**+0.6**
NVS				*e*Pg	**Pg**	**18 46 51.6**	**-4.3**
NVS				*e*Sn	**Sn**	**18 47 38.4**	**+5.4**
NVS				*e*Sg	**Sg**	**18 47 56.8**	**-1.1**
MK31	**Makanchi Array**	**5.16**	**222**	⇓Pn	**Pn**	**18 46 44.3**	**+1.9**
	comp=Z,40nm,0.8s,baz=45,slow=13,SNR=196						
MK31				⇓Sn	**Sn**	**18 47 40.1**	**-2.3**
	comp=Z,25nm,0.5s,baz=66,slow=27,SNR=4.5						
MK31				⇓Lg		18 48 04.8	
	comp=Z,83nm,0.7s,baz=65,slow=30,SNR=8.6						
MKAR	**Makanchi Array**	**5.16**	**222**	Pn	**Pn**	**18 46 44.0**	**+1.6**
	comp=Z,12nm,0.3s,baz=48,slow=13,SNR=90						
MKAR				Lg		18 48 02.1	
	comp=Z,19nm,0.3s,baz=42,slow=31,SNR=12						
KURK	**Kurchatov**	**5.51**	**273**	⇑Pn	**Pn**	**18 46 49.0**	**+1.7**
	comp=Z,17nm,1.0s						
KURK				⇓Lg		18 48 18.0	
	comp=Z,129nm,0.7s						
KURK	**Kurchatov**	**5.51**	**273**	*e*PN	**Pn**	**18 46 48.5**	**+1.3**
KURK				pmax	pmax		
	comp=Z,15nm,0.5s						
KURK	**Kurchatov**	**5.51**	**273**	*e*Pn	**Pn**	**18 46 48.5**	**+1.2**
	comp=Z,15nm,0.5s						
KURK				*e*Sn	**Sn**	**18 47 48.7**	**-2.4**
KURK				*e*Sg	**Sg**	**18 48 18.0**	**-3.3**
KURBB	**Kurchatov Arra**	**5.58**	**272**	⇑Pn	**Pn**	**18 46 49.9**	**+1.8**
	comp=Z,1.8nm,0.3s						
KURBB				⇑Lg		18 48 20.1	
	comp=Z,19nm,0.6s						
KRAR	**Krasnoyarsk**	**6.24**	**30**	⇑*i*PN	**Pn**	**18 46 56.7**	**-0.4**
WMQ	**Urumqi**	**6.94**	**178**	*e*PG	**Pb**	**18 47 19.1**	**-6.3**
WMQ				Smax			
	comp=N,54nm,0.8s						
WMQ				Smax			
	comp=E,70nm,1.0s						
BVA0	**Borovoye Array**	**10.70**	**289**	Pn	**Pn**	**18 47 58.8**	**+0.5**
	comp=E,0.5nm,0.8s,baz=107,slow=14,SNR=18						
BVA0				⇑Sn	**Sn**	**18 50 01.6**	**+3.1**
	comp=E,1.7nm,0.8s,baz=258,slow=22,SNR=4.5						
BVAR	**Borovoye Array**	**10.70**	**289**	Pn	**Pn**	**18 47 58.8**	**+0.5**
	comp=E,1.0nm,0.3s,baz=97,slow=14,SNR=18						
BVAR				Sn	**Sn**	**18 49 55.5**	**-2.9**
	comp=E,0.6nm,0.3s,baz=105,slow=21,SNR=6.3						
BVAR	**Borovoye Array**	**10.70**	**289**	P	**Pn**	**18 47 58.8**	**+0.5**
BVAR						18 49 55.5	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
BRVK	**Borovoye**	**10.77**	**289**	*e*P	**Pn**	**18 47 58.6**	**-0.6**
BRVK				*e*		18 49 59.6	
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**10.77**	**289**	*e*Pn	**Pn**	**18 47 58.6**	**-0.6**
	comp=Z,3.3nm,0.7s						
BRVK				*e*		18 48 12.2	
BRVK				*e*Sn	**Sn**	**18 49 59.6**	**-0.5**
TKM2	**Tokmak 2**	**11.20**	**230**	⇑Pn	**Pn**	**18 48 07.1**	**+2.0**
	comp=Z,5.1nm,1.2s						
TKM2				⇓Sn	**Sn**	**18 50 10.7**	**0.0**
	comp=Z,5.2nm,0.8s						
TKM2				⇑Lg		18 51 18.7	
	comp=Z,16nm,0.9s						
SONM	**Songino Array**	**12.80**	**96**	Lg		18 52 06.0	
	comp=Z,0.1nm,0.3s,baz=290,slow=30,SNR=7.6						
KK31	**Karatay Array**	**13.77**	**243**	Pn	**Pn**	**18 48 39.6**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=48,slow=14,SNR=8.3						
KK31				⇑Lg		18 52 38.5	
	comp=Z,12nm,1.1s,baz=43,slow=28,SNR=3.9						
AB31	**Akbulak array**	**17.62**	**276**	P	**Pn**	**18 49 29.7**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=77,slow=10,SNR=17						
ARU	**Arti**	**17.90**	**300**	*c* *i*P	**Pn**	**18 49 33.6**	**-0.4**
ARU				*e*S	**Sn**	**18 52 54.1**	**+0.3**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.7s						
ARU	**Arti**	**17.90**	**300**	Pn	**Pn**	**18 49 36.3**	**+2.3**
	comp=Z,1.6nm,0.7s						
AKTK	**Aktyubinsk**	**18.55**	**280**	Pn	**Pn**	**18 49 40.9**	**-1.1**
AKTO	**Aktyubinsk**	**18.55**	**280**	⇑P	**Pn**	**18 49 40.3**	**-1.7**
	comp=Z,0.7nm,1.2s						
AKTO	**Aktyubinsk**	**18.55**	**280**	Pn	**Pn**	**18 49 40.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=88,slow=13,SNR=7.6						
OBN	**Obninsk**	**30.33**	**298**	*e*P	**P**	**18 51 35.3**	**-1.4**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
MA2	**Magadan**	**35.98**	**51**	⇑*i*P	**P**	**18 52 25.9**	**0.0**
NOA	**NORSAR Array B**	**41.50**	**315**	P	**P**	**18 53 13.5**	**+1.4**
	comp=Z,0.4nm,0.6s,mb3.2,baz=66,slow=7.7,SNR=3.0						
SFS	**San Fernando**	**64.81**	**297**	P	**P**	**18 56 04.9**	**+0.8**
WRAB	**Tennant Creek**	**81.63**	**136**	P	**P**	**18 57 42.7**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
WRAB	**Tennant Creek**	**81.63**	**136**	P	**P**	**18 57 42.6**	**-0.9**
	comp=Z,3.4nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**81.64**	**136**	P	**P**	**18 57 43.5**	**0.0**
	comp=Z,0.5nm,1.0s,mb3.4,baz=345,slow=6.0,SNR=2.6						
WRA	**Warramunga Arr**	**81.64**	**136**	P	**P**	**18 57 43.5**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**84.72**	**138**	P	**P**	**18 57 59.2**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.5,baz=339,slow=5.0,SNR=3.4						

*ISCJB **03** 19:02:22.0±0.4, 4429N±002×735E±004, h13km±3km, Error ellipse: s-maj=4.6km s-min=3.3km az=158.9*
*NEIC **03** 19:02:22.9, 4428N×737E, h10km, ML1.9(STR), ML2.6(GEN), After GEN.*
*LDG **03** 19:02:22.6±0.1, 4429N×740E, h2km, Md1.7/1, Ml1.6/4, Error ellipse: s-maj=2.6km s-min=0.9km az=75.0*
*STR **03** 19:02:23.0±0.3, 4430N×742E, h2km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 03 19:02:22.7±0.6, 4429N±002×736E±004, h11km±6km, n17, σ0°31/30, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sant Anna di V**	**0.06**	**210**	P	**Pg**	**19 02 25.1**	**+0.2**
STV				S	**Sg**	**19 02 26.5**	**-0.1**
ENR	**Entracque**	**0.08**	**148**	P	**Pg**	**19 02 25.1**	**0.0**
ENR				S	**Sg**	**19 02 26.6**	**-0.4**
TOUF	**Mont Tournerai**	**0.29**	**197**	Pg	**Pg**	**19 02 28.6**	**0.0**
AUTN	**L'Aution**	**0.30**	**171**	Pg	**Pg**	**19 02 28.9**	**+0.2**
AUTN				Sg	**Sg**	**19 02 33.0**	**+0.2**
SAOF	**Saorge**	**0.34**	**156**	Pg	**Pg**	**19 02 29.2**	**-0.2**
SAOF				Sg	**Sg**	**19 02 33.8**	**-0.1**
ROB	**Robourent**	**0.36**	**89**	P	**Pg**	**19 02 30.3**	**+0.4**
ROB				S	**Sg**	**19 02 35.2**	**+0.4**
LUCF	**Luceram**	**0.40**	**182**	Pg	**Pg**	**19 02 31.0**	**+0.4**
LUCF				Sg	**Sg**	**19 02 36.5**	**+0.6**
MVIF	**Mont Vial**	**0.42**	**201**	Pg	**Pg**	**19 02 31.5**	**+0.5**
SBF	**Sospel**	**0.43**	**173**	*e*Pg	**Pg**	**19 02 31.0**	**-0.2**
SBF				*e*Sg	**Sg**	**19 02 36.7**	**-0.2**
	14nm,0.4s						
NEGI	**Seborga**	**0.51**	**151**	P	**Pg**	**19 02 32.6**	**0.0**
NEGI				S	**Sg**	**19 02 39.2**	**-0.1**
BHB	**Bricherasio**	**0.55**	**353**	P	**Pg**	**19 02 33.4**	**-0.1**
BHB				S	**Sg**	**19 02 40.5**	**-0.3**
MBDF	**Montbardon**	**0.61**	**316**	*e*Pg	**Pg**	**19 02 34.5**	**0.0**
MBDF				*e*Sg	**Sg**	**19 02 43.1**	**+0.6**
	4.2nm,0.4s						
FIN	**Finale Ligure**	**0.61**	**97**	P	**Pg**	**19 02 34.3**	**-0.3**
FIN				S	**Sg**	**19 02 42.4**	**-0.3**
FRF	**La Foret Royal**	**0.90**	**216**	*e*Pg	**Pg**	**19 02 39.7**	**-0.2**
FRF				*e*Sg	**Sg**	**19 02 51.7**	**+0.1**
	2.0n

LCR2	La Lucha 2	3.43	124	*e*P		Pn	19 16 23.4 +0.7
BUS	Buena Vista	3.73	124	*e*P		Pn	19 16 28.8 +1.9
CMIG	Matias Romero	9.43	306	Pn	Pn	Pn	19 17 44.5 -0.2
	comp=E,0.3nm,0.3s,baz=70,slow=17,SNR=2.6						
CHI2		14.77	117	*e*P		Px	19 15 48.5
ATAH	Atahualpa	20.40	155	LR		LR	19 26 49.3
	comp=E,66nm,21.7s,MS3.0,baz=354,slow=34						
TXAR	Lajitas Array	23.51	321	P		P	19 20 37.2 +0.8
	comp=E,1.7nm,0.6s,mb3.7,baz=144,slow=8.8,SNR=11						
TXAR	Lajitas Array	23.51	321	P		P	19 20 37.2 +0.8
TKL	Tuckaleechee C	24.02	6	LR		LR	19 30 04.5
	comp=E,31nm,18.2s,MS2.8,baz=297,slow=37						
PDAR	Pinedale Array	36.70	332	P		P	19 22 33.7 +0.8
	comp=E,1.2nm,0.6s,mb3.9,baz=129,slow=11,SNR=9.3						
NVAR	Mina Array Bea	38.63	319	P		P	19 22 51.3 +1.9
	comp=E,0.2nm,0.5s,mb3.1,baz=124,slow=9.1,SNR=3.1						
NVAR	Mina Array Bea	38.63	319	P		P	19 22 51.3 +1.9
ULM	Lac du Bonnet	39.15	351	P		P	19 22 51.3 -2.2
	comp=E,1.7nm,0.5s,mb4.0,baz=154,slow=6.7,SNR=3.7						
YKA	Yellowknife Ar	54.48	345	P		P	19 24 51.1 -1.9
	comp=E,0.9nm,0.7s,mb3.8,baz=139,slow=7.9,SNR=6.4						
ASAR	Alice Springs	139.50	247	PKP		PKPdf	19 34 52.2 -1.1
	comp=E,0.3nm,0.9s,baz=97,slow=3.8,SNR=2.6						
WRA	Warramunga Arr	139.59	253	PKP		PKPdf	19 34 53.6 0.0
	comp=E,0.3nm,0.7s,baz=92,slow=2.5,SNR=3.2						

*ISCJB **03** 19:32:39.9±0.3, 4155N±001×2359E±002, h3km±2km, Error ellipse: s-maj=2.4km s-min=2.2km az=154.9*
*SOF **03** 19:32:40.6, 4161N×2365E, h7km, MD3.4*
*ATH **03** 19:32:40.8, 4151N×2361E, h18km±1km, MD3.7/9*
*CSEM **03** 19:32:40.1±0.1, 4160N×2358E, h2km, MD3.4, Error ellipse: s-maj=1.2km s-min=1.0km az=179.0*
*SKO **03** 19:32:41.1, 4154N×2362E, h5km*
*NEIC **03** 19:32:41.0, 4154N×2360E, h4km, MD3.7(ATH), ML4.0(THE), After THE.*
*THE **03** 19:32:41.0, 4154N×2360E, h4km, ML1.0*

ISC 03 19:32:40.7±0.3, 4155N±001×2357E±002, h1km±2km, n114, σ1§26/166, 9C-4D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	Musomiste	0.12	74	Pg	Pg	19 32 43.3	+0.3
NVR	Nevrokopi	0.30	133	*e*PB	Pg	19 32 46.6	+0.2
NVR				*e*SB	Sg	19 32 50.3	0.0
KKB	Krupnik	0.48	311	Pg	Pg	19 32 49.7	-0.2
KNT	Kendrikon	0.64	232	*e*Pg	Pg	19 32 52.9	0.0
KNT				*e*Sg	Sg	19 33 02.0	+0.8
KNT	Kendrikon	0.64	232	*e*Pg	Pg	19 32 52.9	0.0
KNT				*e*Sg	Sg	19 33 02.0	+0.8
SOH	Sokhos	0.75	193	*e*Pg	Pg	19 32 54.6	-0.4
SOH				*e*Sg	Sg	19 33 05.8	+1.1
VAY	Valandovo	0.79	253	*e*Pg	Pg	19 32 55.7	-0.1
VAY				*e*Sg	Sg	19 33 08.6	+2.6
VAY	Valandovo	0.79	253	*e*Pg	Pg	19 32 55.8	0.0
VAY				*e*Sg	Sg	19 33 08.3	+2.3
RZN	Rozhen	0.87	81	Pg	Pg	19 32 56.9	-0.4
PLD	Plovdiv	1.01	57	*e*Pg	Pg	19 33 00.1	+0.1
PLD				*e*Sg	Sg	19 33 14.8	+1.7
PLD	Plovdiv	1.01	57	Pg	Pg	19 33 00.2	+0.2
HORT	Hortiatis	1.02	201	*e*Pg	Pg	19 32 59.7	-0.5
HORT				*e*Sg	Sg	19 33 14.6	+1.2
THE	Thessaloniki	1.03	207	*e*Pg	Pg	19 33 00.0	-0.4
THE				*e*Sg	Sg	19 33 14.5	+0.8
STIP	Stip	1.05	278	*e*Pg	Pg	19 33 00.5	-0.2
STIP				*e*Sg	Sg	19 33 16.5	+2.2
STIP	Stip	1.05	278	*e*Pg	Pg	19 33 00.7	-0.1
STIP				*e*Sg	Sg	19 33 16.0	+1.7
GRG	Griva	1.06	236	*e*Pg	Pg	19 33 00.8	-0.3
GRG				*e*Sg	Sg	19 33 16.4	+1.5
VTS	Vitosha	1.07	346	⇑*i*P	Pg	19 33 01.3	+0.1
VTS	Vitosha	1.07	346	Pg	Pg	19 33 01.1	-0.1
VTS	Vitosha	1.07	346	⇑P	Pg	19 33 01.3	+0.1
PGB	Panagyurishte	1.09	24	Pg	Pg	19 33 00.7	-0.9
PLG	Polygyros	1.18	185	*e*Pg	Pg	19 33 02.7	-0.6
PLG				*e*Sg	Sg	19 33 19.7	+1.1
PLG	Polygyros	1.18	185	*e*PN	Pn	19 33 02.5	-1.8
PLG	Polygyros	1.18	185	*e*Pn	Pn	19 33 03.0	-1.3
PLG				*e*Sn	Sn	19 33 19.2	-1.8
PLG				*e*Sg	Sg	19 33 19.7	+1.0
OUR	Ouranopolis	1.26	166	*e*Pg	Pg	19 33 04.0	-0.7
OUR				*e*Sg	Sg	19 33 22.0	+0.9
KDZ	Kurdzhali	1.39	85	Pg	Pg	19 33 05.2	-2.1
RDO	Rodhopi	1.54	105	*e*PN	Pn	19 33 08.8	-0.3
RDO				*e*SN	Sn	19 33 29.6	-0.1
DIM	Dimitrovgrad	1.55	71	Pg	Pg	19 33 10.5	+0.2
PAIG	Paliouri	1.63	177	*e*Pg	Pg	19 33 09.4	-2.4
PAIG				*e*Sg	Sg	19 33 30.1	-2.8
SKO	Skopje	1.65	285	*e*Pg	Pg	19 33 09.7	-2.5
SKO				*e*Sg	Sg	19 33 31.5	-2.1
SKO	Skopje	1.65	285	*e*Pn	Pn	19 33 11.5	+0.8
SKO	Skopje	1.65	285	*e*Pn	Pn	19 33 11.4	+0.7
SKO				*e*Sg	Sg	19 33 31.5	-2.1
LIT	Litokhoron	1.67	210	*e*Pb	Pb	19 33 10.5	-1.6
LIT				*e*Sb	Sb	19 33 33.5	0.0
LIT	Litokhoron	1.67	210	*e*Pb	Pb	19 33 10.5	-1.6
LIT				*e*Sb	Sb	19 33 33.5	-0.1
KRUS	Krusevo	1.75	265	*e*Pn	Pn	19 33 13.1	+1.0
KRUS				*e*Sn	Sn	19 33 34.7	-0.4
KRUS	Krusevo	1.75	265	*e*Pn	Pn	19 33 13.1	+0.9
KRUS				*e*Sn	Sn	19 33 34.6	-0.5
BIA	Bitola	1.77	253	*e*Pn	Pn	19 33 13.8	+1.4
BIA				*e*Sn	Sn	19 33 35.9	+0.3
BIA	Bitola	1.77	253	*e*Pn	Pn	19 33 13.8	+1.4
BIA				*e*Sn	Sn	19 33 35.8	+0.2
FNA	Florina	1.83	246	*e*Pb	Pb	19 33 13.1	-1.7
FNA				*e*Sb	Sb	19 33 37.4	-0.8
KZN	Kozani	1.85	228	*e*PN	Pn	19 33 13.6	+0.2
ALN	Alexandroupoli	1.98	109	*e*Pb	Pb	19 33 14.8	-2.6
ALN				*e*Sb	Sb	19 33 40.4	-2.2
LOS	Limnos	1.98	144	*e*Pb	Pb	19 33 13.9	-3.6
LOS				*e*Sb	Sb	19 33 38.8	-3.9
LIA	Limnos Island	2.06	143	*e*Pn	Pn	19 33 15.3	-1.1
LIA				*e*Sn	Sn	19 33 42.0	-0.6
LIA	Limnos Island	2.06	143	*e*PB	Pb	19 33 15.4	-3.4
ENEZ	Enez	2.12	112	*e*PN	Pn	19 33 17.6	+0.4
XOR	Xorichti	2.21	188	*e*Pn	Pn	19 33 17.4	-1.0
XOR				*e*Sn	Sn	19 33 45.3	-0.9
GADA	Gvkgeada	2.23	127	*e*PN	Pn	19 33 17.1	-1.6
NEO	Neokhori	2.26	187	*e*PB	Pb	19 33 18.6	-3.6
THL	Klokotos Trika	2.31	211	*e*Pn	Pn	19 33 19.8	-0.1
THL				*e*Sn	Sn	19 33 49.8	+0.9
THL	Klokotos Trika	2.31	211	*e*PN	Pn	19 33 20.1	+0.3
EDRB	Edirne	2.39	82	*e*PN	Pn	19 33 22.5	+1.6
JMB	Yambol	2.42	67	*e*Pn	Pn	19 33 20.4	-1.0
JMB				*e*Sn	Sn	19 33 51.2	-0.4
JMB	Yambol	2.42	67	P	Pn	19 33 20.9	-0.5
BOZC	Bozcaada	2.55	131	*i* P	Pn	19 33 22.7	-0.4
LPK	Lapseki	2.69	115	*e*PN	Pn	19 33 24.8	-0.2
AGG	Agios Georgios	2.70	201	*e*Pn	Pn	19 33 24.9	-0.2
AGG				*e*Sn	Sn	19 33 58.2	-0.2
EZN	Ezine	2.71	129	*e*PN	Pn	19 33 23.0	-2.4
TIR	Tirane	2.79	267	*e*Pn	Pn	19 33 28.3	+1.9
TIR				*e*Sn	Sn	19 34 00.8	+0.1
TIR	Tirane	2.79	267	*e*Pn	Pn	19 33 28.3	+1.8
TIR				*e*Sn	Sn	19 34 00.8	0.0
RKY	Sarkoy-Tekirda	2.86	106	*e*PN	Pn	19 33 28.4	+1.1
SART	Tekirdag	2.86	106	*i* P	Pn	19 33 28.6	+1.2
SART	Tekirdag	2.86	106	*i* P	Pn	19 33 28.6	+1.2
SART				*i* S	Sn	19 34 06.2	+3.8
MFT	Murefte	2.90	104	*e*PN	Pn	19 33 29.6	+1.7
EVR	Evrytania	2.96	208	*e*PN	Pn	19 33 29.3	+0.6
TKR	Tekirdag	3.04	99	*e*PN	Pn	19 33 30.7	+0.9
PRK	Paraskevi	3.09	137	*e*PN	Pn	19 33 30.8	+0.2
CRLT	Corlu	3.17	96	*e*PN	Pn	19 33 33.4	+1.9
AYVA	Ayvalik	3.27	132	*i* P	Pn	19 33 33.3	+0.3
AYVA	Ayvalik	3.27	132	*i* P	Pn	19 33 33.3	+0.3
AYVA				*i* S	Sn	19 34 12.1	-0.4
EDC	Edincik	3.47	109	*e*PN	Pn	19 33 36.0	+0.3
BALY	Balya	3.57	119	*i* P	Pn	19 33 38.6	+1.4
BALY	Balya	3.57	119	*i* P	Pn	19 33 38.6	+1.4
BALY				*i* S	Sn	19 34 21.6	+1.6
DIVS	Divibare	3.66	315	*e*Pn	Pn	19 33 38.3	0.0
DIVS				*e*Sn	Sn	19 34 21.9	-0.2
CTT	Catalca	3.68	95	*e*PN	Pn	19 33 40.2	+1.6
BALB	Balikesir	3.80	119	*e*PN	Pn	19 33 39.8	-0.5
VOIR		4.03	15	⇑*i*P	Pn	19 33 43.9	+0.5
VOIR		4.03	15	P	Pn	19 33 44.8	+1.4
VOIR		4.03	15	P	Pn	19 33 44.8	+1.4
KLYT	Kilyos	4.13	92	*e*PN	Pn	19 33 47.0	+2.3
ISK	Istanbul-Kandi	4.16	95	*e*PN	Pn	19 33 46.6	+1.3
IZM	Izmir	4.24	137	*e*PN	Pn	19 33 42.5	-3.8
MLR	Muntele Rosu	4.30	23	⇑*i*P	Pn	19 33 48.8	+1.7
MLR	Muntele Rosu	4.30	23	⇑P	Pn	19 33 48.8	+1.7
BZS	Buzias	4.30	341	⇑*i*P	Pn	19 33 46.6	-0.6
BZS	Buzias	4.30	341	P	Pn	19 33 47.4	+0.2
YLV	Yalova	4.50	101	*e*PN	Pn	19 33 51.9	+2.0
FGSL	Fruska Gora	4.53	324	*e*Pn	Pn	19 33 49.8	-0.4
FGSL				*e*Sn	Sn	19 34 40.3	-3.1
TIRR	Tirgusor	4.59	49	⇑*i*P	Pg	19 34 07.9	-0.6
TIRR	Tirgusor	4.59	49	*e*Pn	Pn	19 33 49.0	-2.1
TIRR	Tirgusor	4.59	49	*e*Pg	Pg	19 34 07.7	-0.8
TIRR	Tirgusor	4.59	49	*e*Pn	Pn	19 33 49.0	-2.1
TIRR				*e*Pg	Pg	19 34 07.7	-0.8
TIRR				*e*Sg	Sg	19 35 06.0	-1.9
HRT	Hereke	4.66	97	*e*PN	Pn	19 33 52.8	+0.8
DEMI	Demirci	4.67	121	*i* P	Pn	19 33 52.9	+0.7
DEMI	Demirci	4.67	121	*i* P	Pn	19 33 52.8	+0.6
PLOR	Plostina	4.84	26	⇑*i*P	Pn	19 33 56.9	+2.3
VRI	Vrincioaia	4.88	27	⇑*i*P	Pn	19 33 57.5	+2.4
KULA	Kula-Manisa	4.95	126	*e*P	Pn	19 33 54.3	-1.8
DRGR		5.27	354	⇓*i*P	Pb	19 34 11.8	-1.7
PKSM	Moragy	5.86	324	⇓*i*P	Pn	19 34 08.1	-0.5
PKSM	Moragy	5.86	324	P	Pn	19 34 08.2	-0.4
PKSM	Moragy	5.86	324	P	Pn	19 34 08.2	-0.4
CUC	Castrocucco	6.09	258	*e*Pn	Pn	19 34 14.0	+2.3
	8.1nm,0.6s						
CUC				*e*Sn	Sn	19 35 21.1	-0.9
BURAR	Bucovina Array	6.17	10	⇓*i*P	Pn	19 34 14.9	+2.1
BURAR	Bucovina Array	6.17	10	⇓P	Pn	19 34 14.9	+2.0
PSZ	Piszkesteto	6.88	339	*e*Pn	Pn	19 34 23.9	+1.3
PSZ				*e*Sn	Sn	19 35 38.0	-3.4
PSZ	Piszkesteto	6.88	339	*e*Pn	Pn	19 34 23.9	+1.4
PSZ				*e*Sn	Sn	19 35 38.0	-3.5
KIZT	Kizilcal	6.90	110	*e*P	Pn	19 34 22.9	+0.1
KECS	Kecovo	7.26	344	*e*PN	Pn	19 34 31.8	+4.0
KECS				*e*SN	Sn	19 35 39.1	-12
KECS	Kecovo	7.26	344	*e*SG	Sg	19 36 40.5	+6.7
KECS	Kecovo	7.26	344	*e*Pn	Pn	19 34 31.8	+4.0
KECS				*e*Sn	Sn	19 35 39.1	-12
KECS				*e*Sg	Sg	19 36 40.5	+6.7
CRVS	Cervenica-Dubn	7.50	349	*e*SG	Sg	19 36 54.5	+13
VYHS	Vyhne	7.71	336	*e*PN	Pn	19 34 33.4	-0.5
VYHS				*e*SN	Sn	19 36 00.2	-1.5
VYHS	Vyhne	7.71	336	*e*SG	Sg	19 37 01.6	+14
VYHS	Vyhne	7.71	336	*e*Pn	Pn	19 34 33.4	-0.5
VYHS				*e*Sn	Sn	19 36 00.2	-1.5
VYHS				*e*Sg	Sg	19 37 01.6	+14
MORC	Moravsky Berou	9.24	335	*e*Sn	Sn	19 36 37.6	-1.8

IDC 03 19:41:31.9±2.7, 1521S×16773E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=95.3km s-min=35.8km az=131.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.93	190	*e*P	Pn	19 43 23.8	+9.1
DZM				*e*S	Sn	19 44 38.8	+4.5
STKA	Stephens Creek	29.03	231	P	P	19 47 34.1	+0.4
	2.0nm,0.8s,baz=48,slow=12,SNR=5.2						
WRA	Warramunga Arr	32.15	257	P	P	19 48 00.8	-0.7
	0.3nm,0.7s,baz=84,slow=8.4,SNR=3.0						
ASAR	Alice Springs	32.92	250	P	P	19 48 08.2	0.0
	0.8nm,0.4s,baz=83,slow=9.5,SNR=24						
SONM	Songino Array	83.15	323	P	P	19 54 00.8	+1.1
	0.5nm,0.5s,baz=131,slow=5.9,SNR=4.7						
ARCES	ARCESS Array B	120.83	345	PKP	PKPdf	20 00 24.7	-0.7
	0.9nm,0.8s,baz=72,slow=2.9,SNR=8.7						

*PGC **03** 19:45:16.2, 6609N×14142W, h1km, ML2.9/2, 244km northwest of Dawson, Yt Alaska*

NEIC 03 19:45:12.1, 6622N×14219W, h1km, ML2.7(AEIC), 4D, After AEIC., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGAK	Eagle	1.51	163	P	Pn	19 45 40.0	-0.2
EGAK				S	Sb	19 46 00.8	+0.5
BM3	Burnt Mountain	1.54	323	P	Pn	19 45 39.7	-1.0
BM3				S	Sn	19 46 02.3	+1.0
IL1	Eielson Array	2.44	236	P	Pn	19 45 52.6	-0.4
DAWY	Dawson	2.46	150	⇓Pn	Pn	19 45 53.6	+0.3
DAWY				⇑Sg	Sg	19 46 24.3	-6.7
DAWY	Dawson	2.46	150	P	Pn	19 45 54.2	+0.9
DAWY				S	Sn	19 46 24.0	+0.1
COLA	College	2.71	243	P	Pn	19 45 56.6	-0.2
BCA3	Beaver Creek A	3.17	177	P	Pn	19 46 03.8	+0.8
COLD	Coldfoot	3.34	291	P	Pn	19 46 06.0	+0.7
INK	Inuvik	3.97	54	⇓Pn	Pn	19 46 13.7	-0.2
INK				⇓Sn	Sn	19 46 58.9	-2.1
INK				⇑Sg	Sg	19 47 13.5	-5.8
INK	Inuvik	3.97	54	*e*Pn	Pn	19 46 13.6	-0.3
INK				*e*Pg	Pg	19 46 27.1	-0.9
INK				*e*Sn	Sn	19 46 58.4	-2.6
INK				*e*Sg	Sg	19 47 15.0	-4.3
BPAW	Bear Paw Mtn.	4.28	244	*e*Pn	Pn	19 46 16.8	-1.4
BPAW				*e*Pg	Pg	19 46 32.2	-1.8
BPAW				*e*Sg	Sg	19 47 25.3	-4.0
IMA2	Indian Mountai	4.67	273	*e*Pn	Pn	19 46 19.2	-4.5
IMA2				*e*Pg	Pg	19 46 38.7	-2.9
IM3	Indian Mountai	4.71	272	P	Pn	19 46 24.9	+0.7
BMRM	Bremner River	5.38	193	Pn	Pn	19 46 32.3	-1.0
HYT	Haines Junctio	5.80	157	⇓Pn	Pn	19 46 40.3	+1.1

*ISCJB **03** 19:58:17.3±0.5, 1948N±007×6974W±003, h33km, Error ellipse: s-maj=10.5km s-min=3.6km az=14.1*
*RSPR **03** 19:58:21.2, 1947N×6960W, h38km±54km, MD4.1/18, MD4.1/18*
*NEIC **03** 19:58:21.2, 1947N×6960W, h38km, MD4.1(RSPR), After RSPR.*

ISC 03 19:58:19.2±0.4, 1940N±007×6974W±003, h35km, n28, σ1§10/39, 17C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDO	Santo Domingo	0.96	191	⇑*e*P	Pn	19 58 36.5	+0.4
STDO				*e*S	Sn	19 58 48.0	-0.5
SDDR	Presa de Saban	1.52	255	⇓*i*P	Pn	19 58 47.0	+3.1
SDDR				*e*S	Sn	19 59 07.3	+4.7
IMO	Isla Mona	2.15	126	⇑*e*P	Pn	19 58 53.8	+1.2
AGPR	Aguadilla, PR	2.65	110	⇑*e*P	Pn	19 59 00.5	+1.1
AGPR				*e*S	Sn	19 59 30.3	0.0
MPR	Mayaguez	2.73	115	⇑*e*P	Pn	19 59 01.6	+1.1
LSP	Las Mesas	2.79	115	⇑*e*P	Pn	19 59 02.6	+1.2
CRPR	Cabo Rojo, PR	2.85	119	⇓*e*P	Pn	19 59 03.2	+1.0
LRS	Lares	2.95	111	⇑*e*P	Pn	19 59 03.7	+0.1
AOPR	Arecibo Observ	3.01	110	*e*S	Sn	19 59 35.9	-3.3
AOPR	Arecibo Observ	3.01	110	⇑*e*P	Pn	19 59 04.5	+0.1
AOPR	Arecibo Observ	3.01	110	*e*Pn	Pn	19 59 04.2	-0.2
AOPR				⇑*e*P		19 59 04.5	
AOPR				*e*S	Sn	19 59 35.9	-3.3
GBPR	Guanica, Bosqu	3.05	117	⇓*e*P	Pn	19 59 06.5	+1.5
OBIP	Obispado Ponce	3.26	114	⇑*e*P	Pn	19 59 08.0	+0.2
OBIP				*e*S	Sn	19 59 44.5	-0.8
CELP	Cerrillos	3.27	113	⇑*e*P	Pn	19 59 08.3	+0.4
ICM	Isla Caja Muer	3.39	116	⇑*e*P	Pn	19 59 10.1	+0.5
SJG	San Juan	3.63	110	⇑*e*P	Pn	19 59 12.3	-0.6
CBYP	Canovanas	3.84	106	⇓*e*P	Pn	19 59 15.4	-0.4
CPD	Cerro la Pandu	3.86	110	⇑*e*P	Pn	19 59 15.7	-0.4
CPD				*e*S	Sn	19 59 55.9	-4.5
HUMP	Col San Antoni	3.89	108	⇑*e*P	Pn	19 59 15.9	-0.6
HUMP	Col San Antoni	3.89	108	*e*Pn	Pn	19 59 15.6	-0.9
HUMP				⇑*e*P		19 59 15.9	
HUMP				*e*Sn	Sn	19 59 57.7	-3.2
MTP	Monte Pirata	4.17	107	⇑*e*P	Pn	19 59 20.0	-0.4
MASC	Masc	4.30	281	*e*P	Pn	19 59 22.3	+0.1
MASC				*e*S	Sn	20 00 11.9	+0.7
	comp=N,3μm,0.1s						
MASC				*e*			
	comp=E,3μm,0.1s						
TBVI	Tortola	4.94	101	⇓*e*P	Pn	19 59 30.0	-1.0
MOAC	Moa	5.07	285	*e*P	Pn	19 59 33.6	+0.9
MOAC				*e*S	Sn	20 00 30.1	0.0
	comp=N,123nm,0.1s						
MOAC				*e*			
	comp=E,96nm,0.1s						
ABV	Anegada	5.15	97	⇑*e*P	Pn	19 59 34.8	+0.9
RCC	Rio Carpintero	5.65	277	*e*P	Pn	19 59 39.1	-1.6
RCC				*e*S	Sn	20 00 41.2	-3.1
	comp=N,27nm,0.3s						
RCC				*e*			
	comp=E,44nm,0.3s						
LMGC	Las Mercedes	6.88	277	*e*P	Pn	19 59 58.0	+0.4
LMGC				*e*S	Sn	20 01 12.8	-1.9
	comp=N,30nm,0.3s						
LMGC				*e*			
	comp=E,29nm,0.4s						
FDF	Fort de France	9.43	118	Pn	Pn	20 00 29.9	-2.6

NDI 03 20:44:07.0±3.0, 2731N×8837E, h10km, ML3.8, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	Gangtok	0.22	84	*ex*	x	20 47 08.0	
SLGI	Shiliguri	0.61	176	*e*P	Pg	20 44 17.2	-1.6
SLGI				*ex*	x	20 47 19.0	
SHL	Shillong	3.59	118	*e*P	Pn	20 45 04.0	+1.2
SHL				*ex*	x	20 46 02.0	
BOK	Bokaro	4.16	213	*e*P	Pn	20 45 10.7	+0.1
BOK				*e*S	Sn	20 45 57.1	-2.2
BOK				AML	AML	20 46 19.0	
	comp=N,101nm,0.3s						
BOK				AML	AML	20 46 19.3	
	comp=E,120nm,0.5s						
BLSP	Bilaspur	7.67	229	*e*P	Pn	20 45 57.1	-1.7
BLSP				*e*S	Sn	20 47 21.0	-4.8
BLSP				AML	AML	20 48 13.9	
	comp=N,31nm,0.9s						
BLSP				AML	AML	20 48 14.4	
	comp=E,28nm,0.5s						
SONA	Sohna	10.04	278	*e*S	Sn	20 48 15.5	-8.6
SMLA	Simla	10.50	294	*e*P	Pn	20 46 37.2	-0.4
SMLA				*i* S	Sn	20 48 26.6	-8.7
SMLA				*ex*	x	20 48 36.0	
	comp=E,113nm,0.3s						
SMLA				*ex*	x	20 48 37.7	
	comp=N,116nm,0.4s						
KUDL	Kundal	10.56	277	*e*S	Sn	20 48 26.6	-10

IDC 03 20:45:22.3±37.0, 240N×9498W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.7/19, mbtmp3.5/3, MS3.4/6, Ms1 3.4/6, ms1mx3.1/18, Error ellipse: s-maj=661.9km s-min=238.6km az=146.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	28.04	344	P	P	20 51 15.4	+0.1
	0.5nm,0.8s,baz=163,slow=10,SNR=5.7						
TXAR				LR	LR	21 01 10.6	
	comp=Z,66nm,19.6s,baz=165,slow=34						
LPAZ	La Paz	32.38	126	LR	LR	21 02 16.6	
	comp=Z,22nm,19.1s,baz=265,slow=31						
NVAR	Mina Array Bea	41.73	332	P	P	20 53 13.3	+0.2
	0.5nm,0.7s,baz=156,slow=9.8,SNR=3.9						
PDAR	Pinedale Array	42.25	344	P	P	20 53 17.6	+0.2
	0.8nm,0.9s,baz=144,slow=8.3,SNR=7.1						
PDAR				LR	LR	21 10 05.8	
	comp=Z,105nm,18.6s,baz=323,slow=35						
ULM	Lac du Bonnet	47.69	359	LR	LR	21 17 08.9	
	comp=Z,32nm,18.9s,baz=2.3,slow=40						
PLCA	Paso Flores	48.37	155	LR	LR	21 09 12.2	
	comp=Z,65nm,21.4s,baz=33,slow=30						
BDFB	Brasilia	49.77	113	LR	LR	21 14 57.8	
	comp=Z,30nm,19.5s,baz=194,slow=36						

IDC 03 20:52:55.6±36.0, 1272S×16661E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=620.8km s-min=93.1km az=66.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	20.85	247	P	P	20 57 45.0	+5.9
	3.1nm,0.8s,baz=74,slow=9.0,SNR=4.6						
STKA	Stephens Creek	29.86	226	P	P	20 59 05.0	+0.2
	1.8nm,0.8s,baz=63,slow=14,SNR=2.9						
WRA	Warramunga Arr	31.75	253	P	P	20 59 21.6	-0.1
	0.4nm,0.3s,baz=83,slow=8.6,SNR=5.3						
ASAR	Alice Springs	32.85	246	P	P	20 59 31.1	-0.1
	0.5nm,0.6s,baz=76,slow=9.8,SNR=12						
FITZ	Fitzroy Crossi	39.80	257	P	P	21 00 30.8

BJI **03** *21:08:13.3, 3585N×2259E, h33km, mB4.9, mb4.7, Ms4.7, Msz4.2*
NIC **03** *21:08:15.8±0.3, 3609N×2291E, h36km, mb4.9, ML4.4, MW3.7*
ISC 03 21:08:10.3±0.2,**3544N**±002×**2228E**±002,**h10**km, (**h37**km±1.5km:**pP-P**),**n608**,σ1⅜**35**/674,**mb4.5**/91,**MS3.9**/25, **41C-26D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
KYTH	**Kithira**	**1.04**	**36**	**ePN**	**Pn**	**21 08 30.0**	**-0.9**
KARN	**Karanos**	**1.34**	**91**	**ePg**	**Pg**	**21 08 36.1**	**+0.1**
KARN				eSg	Sg	21 08 54.2	+0.8
VLI	**Veliai**	**1.38**	**22**	**ePN**	**Pn**	**21 08 37.0**	**+1.4**
VAM	**Vamos**	**1.57**	**91**	**ePN**	**Pn**	**21 08 38.2**	**0.0**
VAM				eSN	Sn	21 08 59.0	+0.4
ITM	**Ithomi**	**1.76**	**351**	**ePN**	**Pn**	**21 08 42.2**	**+1.4**
ITM				eSN	Sn	21 09 06.0	+2.7
VLX	**Vlachokerasia**	**1.93**	**2**	**ePb**	**Pn**	**21 08 43.2**	**+0.1**
VLX				eSb	Sn	21 09 06.8	-0.7
SIVA	**Sivas**	**2.11**	**101**	**ePn**	**Pn**	**21 08 46.8**	**+1.1**
SIVA				eSn	Sn	21 09 13.4	+1.4
IDI	**Anoyia**	**2.14**	**93**	Pn	**Pn**	**21 08 47.2**	**+1.1**
	225nm,0.3s,baz=279,slow=15,SNR=1532						
IDI				LR	LR	21 09 40.9	
	comp=Z,707nm,19.3s,baz=270,slow=46						
IDI	**Anoyia**	**2.14**	**93**	Pn	**Pn**	**21 08 47.2**	**+1.1**
IDI				LR	LR	21 09 40.9	
DID	**Didima**	**2.20**	**20**	**ePn**	**Pn**	**21 08 46.9**	**0.0**
DID				eSn	Sn	21 09 14.3	+0.1
NAIG	**Nisos Aigina**	**2.51**	**22**	**ePN**	**Pn**	**21 08 52.5**	**+1.3**
LAST	**Lasithi**	**2.63**	**95**	**ePn**	**Pn**	**21 08 54.2**	**+1.4**
LAST				eSn	Sn	21 09 25.7	+0.9
LTK	**Loutraki**	**2.64**	**12**	**ePn**	**Pn**	**21 08 53.7**	**+0.8**
LTK				eSn	Sn	21 09 24.7	-0.2
KVR	**Kavouri**	**2.67**	**26**	**ePN**	**Pn**	**21 08 55.0**	**+1.7**
RLS	**Riolos of Patr**	**2.69**	**346**	**ePN**	**Pn**	**21 08 54.8**	**+1.1**
NPS	**Neapolis**	**2.73**	**93**	**ePB**	**Pn**	**21 08 55.0**	**+0.8**
NPS				eSN	Sn	21 09 26.0	-1.2
NPS	**Neapolis**	**2.73**	**93**	**ePb**	**Pn**	**21 08 55.5**	**+1.3**
ATH	**Athens Observa**	**2.78**	**24**	**ePB**	**Pn**	**21 08 57.0**	**+2.2**
PTL	**Penteli**	**2.90**	**26**	**ePN**	**Pn**	**21 08 58.0**	**+1.5**
KFL	**Anninata**	**2.92**	**336**	**ePn**	**Pn**	**21 08 58.3**	**+1.5**
KFL				eSn	Sn	21 09 31.8	-0.1
VLS	**Valsamata**	**3.05**	**334**	**ePn**	**Pn**	**21 09 00.0**	**+1.5**
VLS				eSn	Sn	21 09 34.4	-0.8
VLS	**Valsamata**	**3.05**	**334**	**ePN**	**Pn**	**21 09 00.5**	**+1.9**
VLS				eSN	Sn	21 09 38.0	+2.9
VLS	**Valsamata**	**3.05**	**334**	**ePn**	**Pn**	**21 08 58.4**	**-0.2**
VLS				eSn	Sn	21 09 34.4	-0.7
APE	**Apeiranthos**	**3.09**	**57**	**ePn**	**Pn**	**21 09 00.1**	**+0.9**
APE				eSn	Sn	21 09 36.2	+0.1
APE	**Apeiranthos**	**3.09**	**57**	**ePN**	**Pn**	**21 09 01.0**	**+1.9**
APE	**Apeiranthos**	**3.09**	**57**	*i* P	**Pn**	**21 08 58.7**	**-0.4**
ZKR	**Zakros**	**3.24**	**95**	**ePn**	**Pn**	**21 09 02.7**	**+1.5**
ZKR				eSn	Sn	21 09 39.8	+0.1
LKR	**Lokris**	**3.26**	**10**	**ePn**	**Pn**	**21 09 02.3**	**+0.9**
LKR				eSn	Sn	21 09 40.1	-0.1
LKR	**Lokris**	**3.26**	**10**	**ePN**	**Pn**	**21 09 03.0**	**+1.6**
EVR	**Evrytania**	**3.49**	**354**	**ePN**	**Pn**	**21 09 07.5**	**+2.9**
EVR	**Evrytania**	**3.49**	**354**	P	**Pn**	**21 09 08.6**	**+5.0**
NEO	**Neokhori**	**3.93**	**11**	**ePN**	**Pn**	**21 09 12.9**	**+2.2**
KARP	**Karpathos**	**3.98**	**87**	**ePN**	**Pn**	**21 09 12.5**	**+1.1**
THL	**Klokotos Trika**	**4.12**	**357**	**ePN**	**Pn**	**21 09 15.1**	**+1.8**
SMG	**Samos**	**4.31**	**57**	P	**Pn**	**21 09 18.2**	**+2.3**
JAN	**Janina**	**4.36**	**345**	**ePN**	**Pn**	**21 09 18.0**	**+1.4**
BODT	**Bodrum**	**4.38**	**67**	**eP**	**Pn**	**21 09 16.7**	**-0.1**
BDRM	**Kayabasi**	**4.48**	**67**	*i* P	**Pn**	**21 09 19.6**	**+1.4**
URLA	**Izmir**	**4.52**	**49**	*i* P	**Pn**	**21 09 19.7**	**+0.9**
URLA	**Izmir**	**4.52**	**49**	*i* S	**Sn**	**21 10 09.8**	**-1.6**
SLUM		**4.64**	**147⇓**	**eP**	**Pn**	**21 09 20.0**	**-0.4**
KEK	**Kerkira**	**4.70**	**336**	**ePN**	**Pn**	**21 09 22.5**	**+1.3**
KEK	**Kerkira**	**4.70**	**336**	**ePn**	**Pn**	**21 09 22.1**	**+0.9**
SRN	**Sarande**	**4.79**	**338**	**ePN**	**Pn**	**21 09 23.6**	**+1.2**
MLSB	**Milas**	**4.81**	**66**	**eP**	**Pn**	**21 09 19.5**	**-3.2**
ARG	**Arkhangelos**	**4.81**	**79**	**ePN**	**Pn**	**21 09 24.0**	**+1.2**
ARG	**Arkhangelos**	**4.81**	**79**	**ePn**	**Pn**	**21 09 22.7**	**-0.1**
BLCB	**Balcova**	**4.82**	**51**	**eP**	**Pn**	**21 09 25.2**	**+2.3**
KZN	**Kozani**	**4.88**	**355**	**ePN**	**Pn**	**21 09 25.9**	**+2.2**
PRK	**Paraskevi**	**4.95**	**39**	**ePN**	**Pn**	**21 09 26.7**	**+2.0**
IZM	**Izmir**	**4.96**	**52**	**eP**	**Pn**	**21 09 26.6**	**+1.7**
LIA	**Limnos Island**	**5.01**	**26**	**ePN**	**Pn**	**21 09 27.6**	**+2.1**
PLG	**Polygyros**	**5.01**	**10**	**ePN**	**Pn**	**21 09 26.4**	**+0.9**
AYDN	**Tasoluk**	**5.02**	**62**	*i* P	**Pn**	**21 09 27.7**	**+2.0**
YER	**Yerkesik**	**5.13**	**69**	**eP**	**Pn**	**21 09 28.1**	**+0.8**
AYVA	**Ayvalik**	**5.22**	**41**	*i* P	**Pn**	**21 09 29.0**	**+0.6**
TURN	**Turunc**	**5.31**	**73**	*i* P	**Pn**	**21 09 25.9**	**-3.8**
TURN				*i* S	**Sn**	**21 10 21.8**	**-9.1**
DALT	**Dalyan (Mudla)**	**5.32**	**74**	**eP**	**Pn**	**21 09 32.5**	**+2.7**
BOZC	**Bozcaada**	**5.32**	**33**	*i* P	**Pn**	**21 09 30.1**	**+0.4**
EZN	**Ezine**	**5.43**	**35**	**eP**	**Pn**	**21 09 28.8**	**-2.5**
GADA	**Gvkgeada**	**5.54**	**30**	**eP**	**Pn**	**21 09 33.0**	**+0.2**
AKHS	**Akhisar**	**5.59**	**51**	*i* P	**Pn**	**21 09 35.1**	**+1.6**
AKS	**Akhisar**	**5.59**	**51**	**eP**	**Pg**	**21 10 02.2**	**+4.8**
BIA	**Bitola**	**5.62**	**353**	**ePn**	**Pn**	**21 09 34.4**	**+0.5**
BIA				eSn	Sn	21 10 37.3	-1.2
BIA	**Bitola**	**5.62**	**353**	**ePn**	**Pn**	**21 09 34.4**	**+0.5**
BIA				eSn	Sn	21 10 37.2	-1.3
TIP	**Timpagrande**	**5.77**	**312**	**ePn**	**Pn**	**21 09 36.2**	**+0.3**
	75nm,0.8s						
TIP	**Timpagrande**	**5.77**	**312**	**ePn**	**Pn**	**21 09 36.1**	**+0.2**
	75nm,0.8s						
OHR	**Ohrid**	**5.78**	**349**	**ePn**	**Pn**	**21 09 36.5**	**+0.4**
OHR				eSn	Sn	21 10 39.6	-2.8
VAY	**Valandovo**	**5.88**	**2**	**ePn**	**Pn**	**21 09 37.8**	**+0.4**
VAY				eSn	Sn	21 10 40.4	-4.4
VAY	**Valandovo**	**5.88**	**2**	**ePn**	**Pn**	**21 09 37.8**	**+0.4**
VAY				eSn	Sn	21 10 40.3	-4.5
HMAT	**Matruh**	**5.92**	**136⇑**	**eP**	**Pn**	**21 09 36.0**	**-2.0**
HMAT				S	Sn	21 10 36.3	-10
KULA	**Kula-Manisa**	**5.96**	**57**	**eP**	Px	21 09 53.0	
KRUS	**Krusevo**	**5.97**	**353**	**ePn**	**Pn**	**21 09 39.9**	**+1.1**
KRUS				eSn	Sn	21 10 46.8	-0.4
KRUS	**Krusevo**	**5.97**	**353**	**ePn**	**Pn**	**21 09 39.8**	**+1.0**
KRUS				eSn	Sn	21 10 46.7	-0.5
AKAS	**Kas**	**6.00**	**80**	*i* P	**Pn**	**21 09 38.2**	**-0.9**
NVR	**Nevrokopi**	**6.03**	**11**	**ePn**	**Pn**	**21 09 40.6**	**+1.1**
BALY	**Balya**	**6.03**	**43**	*i* P	**Pn**	**21 09 40.9**	**+1.3**
LPK	**Lapseki**	**6.07**	**34**	**eP**	**Pn**	**21 09 40.7**	**+0.7**
ENEZ	**Enez**	**6.11**	**29**	**eP**	**Pn**	**21 09 43.5**	**+2.9**
BALB	**Balikesir**	**6.11**	**45**	**eP**	**Pn**	**21 09 43.7**	**+3.1**
GOLH	**Golhisar**	**6.14**	**71**	*i* P	**Pn**	**21 09 42.9**	**+1.8**
TIR	**Tirane**	**6.20**	**343**	**eP**	**Pn**	**21 09 42.7**	**+0.9**
TIR				pmax	pmax		
	comp=Z,124nm,0.6s						
TIR	**Tirane**	**6.20**	**343**	**ePn**	**Pn**	**21 09 42.7**	**+0.9**
	comp=Z,124nm,0.6s						
TIR	**Tirane**	**6.20**	**343**	**ePn**	**Pn**	**21 09 42.7**	**+0.9**
	comp=Z,124nm,0.6s						
MMB	**Musomiste**	**6.24**	**10**	P	**Pn**	**21 09 43.0**	**+0.6**
STIP	**Stip**	**6.25**	**359**	**ePn**	**Pn**	**21 09 43.2**	**+0.7**
STIP	**Stip**	**6.25**	**359**	**ePn**	**Pn**	**21 09 43.1**	**+0.6**
RDO	**Rodhopi**	**6.25**	**23**	**ePn**	**Pn**	**21 09 43.7**	**+1.2**
DEMI	**Demirci**	**6.27**	**53**	*i* P	**Pn**	**21 09 44.6**	**+1.8**
ELL	**Elmali**	**6.31**	**76**	**eP**	**Pn**	**21 09 43.0**	**-0.4**
QSH	**Qafa e Shtames**	**6.35**	**344**	**ePN**	**Pn**	**21 09 44.0**	**+0.1**
PHP	**Peshkopia**	**6.40**	**348**	**ePN**	**Pn**	**21 09 45.4**	**+0.8**
KKB	**Krupnik**	**6.45**	**5**	P	**Pn**	**21 09 48.5**	**+3.3**
KHAL	**Karahalli**	**6.48**	**61**	*i* P	**Pn**	**21 09 48.5**	**+2.8**
KHL	**Karahalli**	**6.48**	**62**	**eP**	**Pn**	**21 09 49.6**	**+3.9**
RZN	**Rozhen**	**6.52**	**16**	P	**Pn**	**21 09 48.1**	**+1.8**
SKO	**Skopje**	**6.55**	**355**	**ePn**	**Pn**	**21 09 47.5**	**+0.7**
SKO	**Skopje**	**6.55**	**355**	**ePn**	**Pn**	**21 09 47.4**	**+0.7**
VAE	**Valguarnera**	**6.66**	**290**	Pn	**Pn**	**21 09 50.3**	**+2.2**
	comp=Z,3.5nm,0.3s,baz=250,slow=0.5,SNR=13						
VAE				Sn	**Sn**	**21 11 02.7**	**-1.3**
	comp=Z,2.3nm,0.3s,baz=142,slow=4.3,SNR=2.3						
VAE	**Valguarnera**	**6.66**	**290**	Pn	**Pn**	**21 09 50.3**	**+2.1**
VAE				Sn	**Sn**	**21 11 02.8**	**-1.3**
KDZ	**Kurdzhali**	**6.67**	**21**	P	**Pn**	**21 09 49.1**	**+0.8**
SWA2		**6.74**	**156⇑**	**eP**	**Pn**	**21 09 50.4**	**+1.1**
SWA2				S	**Sn**	**21 11 00.9**	**-5.2**
GDZ	**Gediz**	**6.80**	**55**	*i* P	**Pn**	**21 09 52.7**	**+2.6**
CUC	**Castrocucco**	**6.85**	**313**	**ePn**	**Pn**	**21 09 52.1**	**+1.4**
	comp=Z,102nm,0.8s						
CUC	**Castrocucco**	**6.85**	**313**	**ePn**	**Pn**	**21 09 52.1**	**+1.3**
	comp=Z,102nm,0.8s						
PUK	**Puka**	**6.85**	**345**	**ePN**	**Pn**	**21 09 51.0**	**+0.2**
PLD	**Plovdiv**	**6.92**	**15**	P	**Pn**	**21 09 53.4**	**+1.7**
ANTB	**Antalya**	**6.93**	**75**	**eP**	**Pn**	**21 09 53.0**	**+1.1**
ULC	**Ulcinj**	**6.93**	**341⇓**	*i* Pn	**Pn**	**21 09 50.7**	**-1.2**
ULC				*e*Sn	**Sn**	**21 11 08.6**	**-2.1**
BCK	**Bucak**	**6.99**	**71**	*e*P	**Pn**	**21 09 53.7**	**+0.9**
ISP	**Isparta**	**7.04**	**68**	*e*P	**Pn**	**21 09 51.1**	**-2.3**
ISP	**Isparta**	**7.04**	**68⇓**	*i* P	**Pn**	**21 09 54.3**	**+0.9**
ISP	**Isparta**	**7.04**	**68**	*e*Pn	**Pn**	**21 09 54.3**	**+0.9**
ISP	**Isparta**	**7.04**	**68**	*e*Pn	**Pn**	**21 09 54.3**	**+0.9**
DIM	**Dimitrovgrad**	**7.07**	**20**	P	**Pn**	**21 09 55.2**	**+1.4**
BCI	**Bajram Curri**	**7.13**	**347**	*e*PN	**Pn**	**21 09 55.6**	**+1.0**
VTS	**Vitosha**	**7.18**	**5**	P	**Pn**	**21 09 57.1**	**+1.8**
VTS	**Vitosha**	**7.18**	**5⇑**	*i* P	**Pn**	**21 09 56.5**	**+1.2**
ALT	**Altintas**	**7.21**	**58**	*e*P	**Pn**	**21 09 52.2**	**-3.5**
EDRB	**Edirne**	**7.29**	**27**	*e*P	**Pn**	**21 09 58.0**	**+1.2**
SHUT	**Suhut-Afyon**	**7.31**	**62**	*e*P	**Pn**	**21 09 57.2**	**+0.1**
BUM	**Brajici-Budva**	**7.34**	**340⇑**	*i* Pn	**Pn**	**21 09 56.2**	**-1.3**
BUM				*e*Sn	**Sn**	**21 11 17.4**	**-3.4**
PDG	**Podgorica**	**7.37**	**342**	*e*Pn	**Pn**	**21 09 57.1**	**-0.7**
TTG	**Podgorica**	**7.37**	**342**	*e*Pn	**Pn**	**21 09 57.1**	**-0.7**
TTG				*e*Sn	**Sn**	**21 11 19.0**	**-2.4**
PVY	**Plav**	**7.37**	**347⇑**	*i* Pn	**Pn**	**21 09 58.8**	**+0.9**
PVY				*e*Sn	**Sn**	**21 11 21.1**	**-0.4**
CTT	**Catalca**	**7.47**	**38**	*e*P	**Pn**	**21 09 52.2**	**-7.1**
YLV	**Yalova**	**7.58**	**45**	*e*P	**Pn**	**21 09 54.6**	**-6.3**
HCY	**Herceg Novi**	**7.59**	**338⇓**	*i* Pn	**Pn**	**21 09 59.8**	**-1.1**
HCY				*e*Sn	**Sn**	**21 11 22.9**	**-4.1**
BEY	**Berane**	**7.65**	**347⇑**	*i* Pn	**Pn**	**21 10 02.3**	**+0.6**
IVA	**Berane**	**7.65**	**347⇑**	*i* Pn	**Pn**	**21 10 02.3**	**+0.6**
IVA				*e*Sn	**Sn**	**21 11 28.1**	**-0.3**
ADVT	**Abdulvahap**	**7.72**	**48**	*e*P	**Pn**	**21 10 00.8**	**-1.9**
ISK	**Istanbul-Kandi**	**7.74**	**41**	*e*P	**Pn**	**21 10 10.1**	**+7.0**
JMB	**Yambol**	**7.78**	**24**	P	**Pn**	**21 10 04.4**	**+0.9**
NKY	**Niksic**	**7.79**	**342⇑**	*i* Pn	**Pn**	**21 10 02.4**	**-1.3**
NKY				*e*Sn	**Sn**	**21 11 29.0**	**-2.9**
TREB	**Trebinje**	**7.88**	**338**	*e*Pn	**Pn**	**21 10 03.5**	**-1.4**
TREB				*e*Sn	**Sn**	**21 11 25.6**	**-8.5**
ESKT	**Eskisehir**	**7.94**	**57**	*i* P	**Pn**	**21 10 06.9**	**+1.2**
BRY	**Bratogost**	**7.99**	**340⇓**	*i* Pn	**Pn**	**21 10 05.2**	**-1.3**
BRY				*e*Sn	**Sn**	**21 11 33.3**	**-3.6**
UPM	**Unac-Piva**	**8.18**	**342⇓**	*i* Pn	**Pn**	**21 10 08.5**	**-0.5**
UPM				*e*Sn	**Sn**	**21 11 39.2**	**-2.3**
PLE	**Pljevlja**	**8.19**	**345⇓**	*i* Pn	**Pn**	**21 10 08.8**	**-0.3**
PLE				*e*Sn	**Sn**	**21 11 39.8**	**-1.9**
AKMC	**Akamas**	**8.23**	**90**	P	**Pn**	**21 10 06.1**	**-3.7**
PPCY	**Paphos**	**8.26**	**91**	P	**Pn**	**21 10 06.2**	**-4.0**
HDMB	**Hadim**	**8.39**	**77**	*e*P	**Pn**	**21 10 11.4**	**-0.5**
KIZT	**Kizilcal**	**8.40**	**63**	*e*P	**Pn**	**21 10 14.0**	**+2.0**
ALFC	**Alevga**	**8.44**	**89**	P	**Pn**	**21 10 08.5**	**-4.1**
	comp=Z,5.8nm,0.6s						
ALFC				S	**Sn**	**21 11 37.5**	**-10**
KONT	**Konya--Tatoy**	**8.47**	**70**	*e*P	**Pn**	**21 10 13.6**	**+0.5**
LADK	**Ladik-KONYA**	**8.54**	**68**	*e*P	**Pn**	**21 10 10.8**	**-3.3**
ERMK	**Ermenek**	**8.70**	**79**	*i* P	**Pn**	**21 10 17.3**	**+1.2**
PRD	**Provadia**	**8.70**	**26**	*e*P	**Pn**	**21 10 17.1**	**+0.9**
MAMC	**Mammari**	**8.95**	**89**	P	**Pn**	**21 10 17.1**	**-2.5**
AWBH		**9.06**	**140⇓**	P	**Pn**	**21 10 18.9**	**-2.2**
CSS	**Prodhromos**	**9.06**	**90**	P	**Pn**	**21 10 17.4**	**-3.7**
	comp=Z,2.4nm,0.5s						
CSS				S	**Sn**	**21 11 53.9**	**-9.2**
CSS	**Prodhromos**	**9.06**	**90**	*e*Pn	**Pn**	**21 10 17.6**	**-3.5**
	comp=Z,35nm,0.7s						
CSS	**Prodhromos**	**9.06**	**90**	*e*Pn	**Pn**	**21 10 17.6**	**-3.5**
	comp=Z,35nm,0.7s						
HNAT	**Natroun**	**9.11**	**127⇑**	*e*P	**Pn**	**21 10 20.0**	**-1.9**
HMYD	**Mayadein**	**9.12**	**126⇓**	*e*P	**Pn**	**21 10 19.5**	**-2.5**
LFK	**Lefkose**	**9.19**	**88**	*e*P	**Pn**	**21 10 15.7**	**-7.2**
ANTO	**Ankara**	**9.43**	**59**	*e*P	**Pn**	**21 10 25.8**	**-0.5**
ANTO	**Ankara**	**9.43**	**59**	*e*P	**Pn**	**21 10 26.3**	**+0.1**
ANTO				pmax	pmax		
	comp=Z,59nm,1.0s						
ANTO	**Ankara**	**9.43**	**59⇑**	*i* P	**Pn**	**21 10 26.9**	**+0.7**
ANTO	**Ankara**	**9.43**	**59**	*e*Pn	**Pn**	**21 10 26.3**	**+0.1**
	comp=Z,59nm,1.0s						
ANTO	**Ankara**	**9.43**	**59**	*e*Pn	**Pn**	**21 10 26.3**	**+0.1**
	comp=Z,59nm,1.0s						
ANTO				P		21 10 29.5	
HSAF	**As Saff**	**9.74**	**124⇓**	*e*P	**Pn**	**21 10 28.1**	**-2.4**
HSAF	**As Saff**	**9.74**	**124**	P	**Pn**	**21 10 28.1**	**-2.4**
	comp=Z,2μm,0.4s						
AQU	**L'Aquila**	**9.77**	**318⇑**	*i* P	**Pn**	**21 10 36.6**	**+5.8**
AQU	**L'Aquila**	**9.77**	**318**	*e*Pn	**Pn**	**21 10 32.7**	**+1.9**
AQU	**L'Aquila**	**9.77**	**318**	*e*Pn	**Pn**	**21 10 32.7**	**+1.9**
GZR	**Gura Zlata**	**9.95**	**2⇑**	*i* P	**Pn**	**21 10 33.3**	**0.0**
GZR	**Gura Zlata**	**9.95**	**2**	P	**Pn**	**21 10 33.5**	**+0.2**
GZR	**Gura Zlata**	**9.95**	**2**	P	**Pn**	**21 10 33.5**	**+0.2**
MERS	**Mersin**	**10.00**	**78**	*e*P	**Pn**	**21 10 28.6**	**-5.5**
BLY	**Banja Luka**	**10.08**	**339**	*e*Pn	**Pn**	**21 10 33.7**	**-1.4**
TIRR	**Tirgusor**	**10.16**	**26**	*e*P	**Pn**	**21 10 36.3**	**+0.2**
TIRR				pmax	pmax		
	comp=Z,26nm,0.8s						
TIRR	**Tirgusor**	**10.16**	**26⇓**	*i* P	**Pn**	**21 10 36.3**	**+0.2**
TIRR	**Tirgusor**	**10.16**	**26**	*e*Pn	**Pn**	**21 10 36.3**	**+0.2**
	comp=Z,26nm,0.8s						
BZS	**Buzias**	**10.18**	**357⇓**	*i* P	**Pn**	**21 10 35.3**	**-1.1**
BZS	**Buzias**	**10.18**	**357**	P	**Pn**	**21 10 35.2**	**-1.2**
HARR	**Harsova**	**10.20**	**23⇓**	*i* P	**Pn**	**21 10 37.6**	**+0.9**
HARR	**Harsova**	**10.20**	**23**	P	**Pn**	**21 10 37.7**	**+1.0**
HARR	**Harsova**	**10.20**	**23**	P	**Pn**	**21 10 37.7**	**+1.0**
VOIR		**10.21**	**11⇓**	*i* P	**Pn**	**21 10 37.0**	**+0.2**
VOIR		**10.21**	**11**	P	**Pn**	**21 10 37.9**	**+1.1**
VOIR		**10.21**	**11**	P	**Pn**	**21 10 37.9**	**+1.1**
NIG	**Nigde**	**10.24**	**71**	*e*P	**Pn**	**21 10 35.7**	**-1.7**
MLR	**Muntele Rosu**	**10.42**	**14⇓**	*i* P	**Pn**	**21 10 40.6**	**+0.9**
MLR	**Muntele Rosu**	**10.42**	**14**	P	**Pn**	**21 10 42.7**	**+3.0**
SUZ		**10.50**	**119⇓**	P	**Pn**	**21 10 37.3**	**-3.5**
KEST	**Kesra**	**10.54**	**275**	Pn	**Pn**	**21 10 41.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=305,slow=0.4,SNR=5.1						
KEST				Sn	**Sn**	**21 12 34.0**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=244,slow=20,SNR=2.1						
KEST				LR	LR	21 14 47.7	
	comp=Z,112nm,18.8s,baz=153,slow=38						
RSH		**10.57**	**112**	P	**Pn**	**21 10 38.1**	**-3.8**
ZNM		**10.80**	**121⇑**	*e*P	**Pn**	**21 10 42.4**	**-2.6**
PLOR	**Plostina**	**10.91**	**16**	P	**Pn**	**21 10 47.4**	**+0.9**
PLOR	**Plostina**	**10.91**	**16⇑**	*i* P	**Pn**	**21 10 49.5**	**+3.0**
VRI	**Vrincioaia**	**10.95**	**17⇑**	*i* P	**Pn**	**21 10 47.5**	**+0.6**
PKSM	**Moragy**	**11.11**	**347⇑**	*i* P	**Pn**	**21 10 46.7**	**-2.4**
PKSM	**Moragy**	**11.11**	**347**	P	**Pn**	**21 10 46.5**	**-2.6**
BHL	**Bhannes**	**11.12**	**94**	*e*Pn	**Pn**	**21 10 44.2**	**-5.2**
MMAI	**Mount Meron Ar**	**11.13**	**99**	Pn	**Pn**	**21 10 44.2**	**-5.3**
	comp=Z,7.1nm,0.3s,baz=294,slow=11,SNR=29						
MMAI				Sn	**Sn**	**21 12 44.6**	**-9.4**
	comp=Z,7.6nm,0.3s,baz=286,slow=19,SNR=6.8						
HNKL	**Nakhl**	**11.28**	**116⇑**	*e*P	**Pn**	**21 10 46.9**	**-4.7**
HNKL	**Nakhl**	**11.28**	**116**	P	**Pn**	**21 10 46.8**	**-4.8**
HWQ	**Hawqa**	**11.29**	**92**	*e*Pn	**Pn**	**21 10 47.9**	**-3.7**
DRGR		**11.35**	**2⇓**	*i* P	**Pn**	**21 10 52.7**	**+0.3**
DRGR		**11.35**	**2**	P	**Pn**	**21 10 53.0**	**+0.6**
RCY	**Rachaya**	**11.35**	**96**	*e*Pn	**Pn**	**21 10 47.9**	**-4.5**
BOJS	**Bojanci**	**11.38**	**334**	*e*Pn	**Pn**	**21 10 51.6**	**-1.2**
BOJS				*i* Sn	**Sn**	**21 12 53.7**	**-6.3**
PKSN	**Nyarlorinc**	**11.59**	**352⇑**	*e*P	**Pn**	**21 10 55.7**	**0.0**
FKH	**Fakeheh**	**11.67**	**92**	*e*Pn	**Pn**	**21 10 53.3**	**-3.5**
VISS	**Visnje**	**11.79**	**334**	*i* Pn	**Pn**	**21 10 57.6**	**-0.8**
VISS				*i* Sn	**Sn**	**21 13 02.9**	**-7.1**
SKDS	**Skadanscina**	**11.89**	**331**	*i* Pn	**Pn**	**21 10 58.6**	**-1.2**
SKDS				*e*Sn	**Sn**	**21 13 05.6**	**-6.8**
EIL	**Elat**	**12.14**	**115**	Pn	**Pn**	**21 10 59.5**	**-3.8**
	comp=Z,4.0nm,0.3s,baz=271,slow=7.8,SNR=42						
EIL				Sn	**Sn**	**21 13 02.9**	**-16**
	comp=Z,1.5nm,0.3s,baz=267,slow=6.5,SNR=3.3						
GROS	**Grobnik**	**12.14**	**337**	*i* Pn	**Pn**	**21 11 01.0**	**-2.2**
GROS				*i* Sn	**Sn**	**21 13 14.2**	**-4.3**
JAVS	**Javornik**	**12.15**	**332**	*i* Pn	**Pn**	**21 11 03.3**	**-0.1**
JAVS				*i* Sn	**Sn**	**21 13 11.0**	**-7.9**
VOY	**Vojsko**	**12.34**	**332**	*e*Pn	**Pn**	**21 11 05.9**	**0.0**
VOY				*e*		21 11 37.4	
VOY				*e*Sn	**Sn**	**21 13 17.3**	**-6.1**
BURAR	**Bucovina Array**	**12.36**	**9⇑**	*i* P	**Pn**	**21 11 07.3**	**+1.1**
PERS	**Pernice**	**12.42**	**336**	*i* Pn	**Pn**	**21 11 04.9**	**-2.1**
PERS				*i* Sn	**Sn**	**21 13 16.0**	**-9.3**
OBKA	**Obir**	**12.50**	**335⇑**	*i* Sn	**Sn**	**21 13 20.4**	**-6.9**
OBKA	**Obir**	**12.50**	**335⇓**	*i* Pn	**Pn**	**21 11 06.2**	**-1.9**
OBKA				⇑*i* Sn	**Sn**	**21 13 22.3**	**-5.0**
OBKA	**Obir**	**12.50**	**335⇓**	*i* Pn	**Pn**	**21 11 06.2**	**-1.9**
OBKA				*i* Sn	**Sn**	**21 13 20.4**	**-6.9**
GORS	**Gorjuse**	**12.54**	**333**	*i* Pn	**Pn**	**21 11 07.6**	**-1.1**
GORS				*i* Sn	**Sn**	**21 13 19.6**	**-8.7**
ASF	**Jabal al Asfar**	**12.59**	**101**	Pn	**Pn**	**21 11 05.9**	**-3.6**
	comp=Z,1.5nm,0.3s,baz=155,slow=6.6,SNR=12						
ASF				Sn	**Sn**	**21 13 16.6**	**-13**
	comp=Z,0.5nm,0.3s,baz=146,slow=18,SNR=2.3						
PSZ	**Piszkesteto**	**12.59**	**353⇓**	*e*P	**Pn**	**21 11 09.0**	**-0.4**
PSZ	**Piszkesteto**	**12.59**	**353⇑**	*i* P	**Pn**	**21 11 09.1**	**-0.3**
PSZ	**Piszkesteto**	**12.59**	**353**	*e*Pn	**Pn**	**21 11 08.7**	**-0.7**
PSZ	**Piszkesteto**	**12.59**	**353**	*e*Pn	**Pn**	**21 11 08.7**	**-0.7**
ARSA	**Arzberg**	**12.84**	**339⇓**	*i* Pn	**Pn**	**21 11 11.0**	**-1.7**
	SNR=8.8						
ARSA				⇑*i* Sn	**Sn**	**21 13 29.8**	**-5.8**
SOP	**Sopron**	**12.96**	**343**	*e*P	**Pn**	**21 11 10.9**	**-3.5**
KECS	**Kecovo**	**13.10**	**355**	*e*PN	**Pn**	**21 11 12.7**	**-3.6**
KECS				*i* pPN		21 11 16.3	
KECS	**Kecovo**	**13.10**	**355**	*i* P	**Pn**	**21 11 16.4**	**+0.1**
SIM	**Simferopol'**	**13.10**	**40**	*e*P	**Pn**	**21 11 17.8**	**+1.4**
SIM

BBS Basel-Blauen 16.30 322 *e*P **Pn 21 12 00.5 +1.3**
FELD Feldberg im Sc 16.34 324 *e*P **Pn 21 12 00.5 +0.8**
GRA1 Grafenberg Arr 16.38 334 *e*P **Pn 21 12 04.0 +3.8**
comp=Z,80nm,1.5s
GRF Grafenberg Arr 16.38 334 *e*P **Pn 21 12 04.0 +3.8**
GRF pmax pmax
comp=Z,80nm,1.5s
GRF MLR MLR
comp=Z,2µm,18.4s
GRF Grafenberg Arr 16.38 334 *e*P **Pn 21 12 04.0 +3.8**
comp=Z,80nm,1.5s
GRF *e*L 21 19 39.1
comp=Z,2µm,18.4s
NKC Novy Kostel 16.43 337 *e*P **Pn 21 12 00.7 -0.1**
NKC *e*pP pP 21 12 04.6 -1.7
NKC AMS AMS 21 19 20.0
comp=Z,2µm,16.8s
NKC Novy Kostel 16.43 337 *e*P **Pn 21 12 00.7 -0.1**
NKC *e* 21 12 04.6
WERN Wernitzgruen 16.50 337 *e*P **Pn 21 12 03.3 +1.6**
BFO Black Forest 16.51 326 *e*P **Pn 21 12 02.5 +0.6**
CABF La Chapelle 16.51 317 *e*P **Pn 21 12 00.9 -1.0**
comp=Z,10nm,0.8s
CABF La Chapelle 16.51 317 *e*P **Pn 21 12 00.9 -1.0**
CABF pmax pmax
comp=Z,5.0nm,0.8s
CABF La Chapelle 16.51 317 *e*P **Pn 21 12 00.9 -1.0**
comp=Z,5.3nm,0.8s
BRG Berggiesshubel 16.56 341 *e*P **Pn 21 12 02.5 0.0**
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG MLR MLR
comp=N,536nm,16.1s
BRG MLR MLR
comp=E,438nm,12.4s
BRG MLR MLR
comp=Z,850nm,13.7s
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 16.56 341 *e*P **Pn 21 12 06.2 +3.7**
BRG Berggiesshubel 16.56 341 *e*P **Pn 21 12 02.5 0.0**
comp=Z,6.0nm,1.2s
BRG
comp=N,895nm,16.1s
BRG
comp=E,731nm,12.4s
BRG
comp=Z,1µm,13.7s
BRG Berggiesshubel 16.56 341 *i* **Pn 21 12 06.6 +4.1**
comp=Z,11nm,1.1s
BRG *i* 21 12 31.2
comp=Z,10nm,0.9s
BRG Berggiesshubel 16.56 341 *e*P **Pn 21 12 02.5 0.0**
comp=Z,3.6nm,1.2s
BRG *i* 21 12 06.6
BRG *i* 21 12 31.2
GUNZ Gunzen 16.58 337 *e*P **Pn 21 12 03.7 +1.0**
WERD Werda 16.66 337 *e*P **Pn 21 12 06.7 +3.0**
HINF Hinteralfeld 16.87 322 *e*P **Pn 21 12 06.1 -0.3**
ECH Echery 16.99 323 *e*P **Pn 21 12 10.9 +3.0**
ECH pmax pmax
comp=Z,3.0nm,1.4s
ECH Echery 16.99 323 *e*P **Pn 21 12 10.9 +3.0**
comp=Z,3.3nm,1.4s
MOX Moxa 17.05 336 *e*(P) **Pn 21 12 11.3 +2.6**
comp=Z,42nm,2.0s
MOX *e* 21 15 21.0
MOX
comp=Z,1µm,18.0s
MOX Moxa 17.05 336 *e*P **Pn 21 12 11.3 +2.6**
MOX *e* 21 15 21.0
MOX pmax pmax
comp=Z,42nm,2.0s
MOX MLR MLR
comp=Z,1µm,18.0s
MOX Moxa 17.05 336 *e*P **Pn 21 12 10.5 +1.8**
MOX Moxa 17.05 336 P **Pn 21 12 11.3 +2.6**
comp=Z,42nm,2.0s
MOX *e* 21 15 21.0
CDF Champ du Feu 17.07 324 *e*P **Pn 21 12 07.9 -1.0**
CLL Collm 17.21 340⇑ *i*P **Pn 21 12 13.3 +2.6**
CLL pmax pmax
comp=Z,39nm,1.6s
CLL MLR MLR
comp=Z,1µm,17.4s
CLL Collm 17.21 340 *e*P **Pn 21 12 13.7 +3.0**
CLL Collm 17.21 340⇑ *i*P **Pn 21 12 13.3 +2.6**
comp=Z,39nm,1.6s
CLL *i* sP sP 21 12 20.2 +3.9
CLL *e*(PP) 21 12 27.0
CLL *es*PP 21 12 31.0
CLL *e*(S) **Sn 21 15 31.0 +9.0**
CLL Collm 17.21 340⇑ *i*P **Pn 21 12 13.3 +2.6**
comp=Z,39nm,1.6s
CLL *i* 21 12 20.2
CLL *e* 21 12 27.0
CLL S **Sn 21 15 31.0 +9.0**
LANF Langenberg 17.22 326 *e*P **Pn 21 12 14.3 +3.5**
HAU Haudompre 17.25 322 *e*P **Pn 21 12 11.2 0.0**
HAU *e*MLR MLR
comp=Z,444nm,18.0s
TOD Tromm 17.25 329 *e*P **Pn 21 12 12.0 +0.8**
KTD Kalmit 17.35 327 *e*P **Pn 21 12 14.3 +1.9**
LBL Lubilhac 17.46 310 *e*P **Pn 21 12 15.1 +1.3**
THEF They Montfort 17.58 322 *e*P **Pn 21 12 16.5 +1.2**
PLDF La Plantade 17.59 312 *e*P **Pn 21 12 15.9 +0.5**
SMF Signal de Mont 17.81 315 *e*P **Pn 21 12 18.2 +0.1**
comp=Z,20nm,1.0s
SMF Signal de Mont 17.81 315 *e*P **Pn 21 12 18.2 +0.1**
SMF pmax pmax
comp=Z,10.0nm,1.0s
SMF Signal de Mont 17.81 315 *e*P **Pn 21 12 18.2 +0.1**
comp=Z,9.9nm,1.0s
KIV Kislovodsk 17.82 55⇑ *i*P **Pn 21 12 18.9 +0.5**
KIV *i* S **Sn 21 15 36.6 -0.4**
KIV pmax pmax
comp=Z,8.0nm,0.7s
KIV MLR MLR
comp=Z,100nm,13.0s
PYM Petit Puy Mans 17.85 311 *e*P **Pn 21 12 18.5 -0.2**
TNS Taunus Mts 17.88 330 *e*P **Pn 21 12 21.0 +2.1**
RUE Ruedersdorf 18.08 343 *e*P **Pn 21 12 21.9 +0.5**
CAF Calviac 18.08 308 *e*P **Pn 21 12 22.0 +0.5**
RUP Ruppelstein 18.08 327 *e*P **Pn 21 12 23.4 +1.9**
LOR Lormes 18.14 316 *e*P **Pn 21 12 20.3 -1.9**
comp=Z,11nm,0.9s
LOR *e*MLR MLR
comp=Z,298nm,17.8s
LOR Lormes 18.14 316 *e*P **Pn 21 12 20.3 -1.9**
LOR pmax pmax
comp=Z,5.0nm,0.9s
LOR Lormes 18.14 316 *e*P **Pn 21 12 20.3 -1.9**
comp=Z,5.3nm,0.9s
AVF Avril sur Loir 18.17 314 *e*P **Pn 21 12 21.4 -1.2**
GKP Gorka Klasztor 18.18 350 *e*P **Pn 21 12 23.6 +1.0**
GKP LMZ 21 21 31.0
comp=Z,800nm,17.9s
SSF Saint Saulge 18.23 315 *e*P **Pn 21 12 23.2 0.0**
comp=Z,11nm,0.9s
SSF Saint Saulge 18.23 315 *e*P **Pn 21 12 23.2 0.0**
SSF pmax pmax
comp=Z,6.0nm,0.9s
SSF Saint Saulge 18.23 315 *e*P **Pn 21 12 23.2 0.0**
comp=Z,5.7nm,0.9s
MEZF Maizieres J'vi 18.23 321 *e*P **Pn 21 12 21.2 -2.1**
comp=Z,34nm,0.7s
MEZF Maizieres J'vi 18.23 321 *e*P **Pn 21 12 21.2 -2.1**
comp=Z,34nm,0.7s
BGF Bois d'Agland 18.35 313 *e*P **Pn 21 12 25.1 +0.4**
comp=Z,28nm,1.1s
BGF Bois d'Agland 18.35 313 *e*P **Pn 21 12 25.1 +0.4**
BGF pmax pmax
comp=Z,14nm,1.1s
BGF Bois d'Agland 18.35 313 *e*P **Pn 21 12 25.1 +0.4**
comp=Z,14nm,1.1s
GNI Garni 18.35 68 P **Pn 21 12 24.5 -0.3**
comp=Z,1.0nm,0.3s,baz=311,slow=17,SNR=12
GNI Garni 18.35 68 P **Pn 21 12 24.5 -0.3**
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI Garni 18.35 68 *e*P **Pn 21 12 23.2 -1.6**
comp=Z,22nm,0.9s
GNI Garni 18.35 68 *e*P **Pn 21 12 23.2 -1.7**
comp=Z,22nm,0.9s
WLF Walferdange 18.47 325 P **Pn 21 12 28.2 +2.0**
comp=Z,15nm,1.0s
WLF Walferdange 18.47 325 *e*P **Pn 21 12 27.9 +1.7**
WLF pmax pmax
comp=Z,28nm,1.0s
WLF Walferdange 18.47 325 *e*P **Pn 21 12 28.4 +2.2**
WLF Walferdange 18.47 325 *e*P **Pn 21 12 27.9 +1.7**
comp=Z,28nm,1.0s
CLZ Clausthal 18.48 336 *e*P **Pn 21 12 26.8 +0.5**
GOF Gofitskoye 18.48 52 *e*P **Pn 21 12 25.9 -0.5**
SUW Suwalki 18.58 2 *e*P **Pn 21 12 25.8 -1.8**
SUW LMZ 21 20 51.2
comp=Z,800nm,15.9s
SUW Suwalki 18.58 2 *e*P **Pn 21 12 25.8 -1.7**
comp=Z,800nm,15.9s
RJF Les Rejaudoux 18.59 308 *e*P **Pn 21 12 28.3 +0.6**
comp=Z,21nm,1.1s
RJF *e*MLR MLR
comp=Z,457nm,19.2s
RJF Les Rejaudoux 18.59 308 *e*P **Pn 21 12 28.3 +0.6**
RJF pmax pmax
comp=Z,11nm,1.1s
RJF Les Rejaudoux 18.59 308 *e*P **Pn 21 12 28.3 +0.6**
comp=Z,11nm,1.1s
TCF Toulx Ste Croi 18.60 312 *e*P **Pn 21 12 27.9 +0.1**
EBIE Bielsa 18.62 300 P **Pn 21 12 29.9 +1.8**
comp=Z,12nm,0.9s
EBIE Bielsa 18.62 300 P **Pn 21 12 29.9 +1.8**
comp=Z,12nm,0.9s
LFF La Frestale 18.95 307 *e*P **Pn 21 12 32.4 +0.3**
comp=Z,24nm,0.9s
LFF La Frestale 18.95 307 *e*P **Pn 21 12 32.4 +0.3**
LFF pmax pmax
comp=Z,12nm,0.9s
LFF La Frestale 18.95 307 *e*P **Pn 21 12 32.4 +0.3**
comp=Z,12nm,0.9s
ETSF Etsaut 19.18 300 *e*P **Pn 21 12 35.7 +0.9**
comp=Z,21nm,0.8s
ETSF Etsaut 19.18 300 *e*P **Pn 21 12 35.7 +0.9**
ETSF pmax pmax
comp=Z,11nm,0.8s
ETSF Etsaut 19.18 300 *e*P **Pn 21 12 35.7 +0.9**
comp=Z,10nm,0.8s
MEM Membach 19.20 327 P **Pn 21 12 36.0 +0.9**
comp=Z,14nm,0.9s
BUG Bochum--Univer 19.29 331 *e*P **Pn 21 12 37.5 +1.4**
BCLA Clavier 19.39 326 P **Pn 21 12 37.7 +0.4**
comp=Z,9.5nm,1.5s
GIVF Givet 19.39 324 *e*P **Pn 21 12 37.6 +0.2**
MNK Minsk 19.45 10 *e*P **Pn 21 12 32.0 -6.0**
DOU Dourbes 19.50 324 P **Pn 21 12 38.2 -0.4**
comp=Z,15nm,0.9s
BAIF Baives 19.66 324 *e*P **Pn 21 12 39.9 -0.7**
comp=Z,32nm,0.8s
BAIF Baives 19.66 324 *e*P **Pn 21 12 39.9 -0.7**
BAIF pmax pmax
comp=Z,16nm,0.8s
BAIF Baives 19.66 324 *e*P **Pn 21 12 39.9 -0.7**
comp=Z,16nm,0.8s
SJPF Ste Jean 19.70 300 *e*P **Pn 21 12 41.6 +0.5**
comp=Z,124nm,0.9s
SJPF Ste Jean 19.70 300 *e*P **Pn 21 12 41.6 +0.5**
SJPF pmax pmax
comp=Z,62nm,0.9s
SJPF Ste Jean 19.70 300 *e*P **Pn 21 12 41.6 +0.5**
comp=Z,62nm,0.9s
ETOR Torete 19.86 293 P **Pn 21 12 42.4 -0.6**
ETOR pmax pmax
comp=Z,7.0nm,0.8s
ETOR Torete 19.86 293 P **Pn 21 12 42.4 -0.6**
comp=Z,7.0nm,0.8s
VRSR Storozhevoye 19.92 32 *e*P **Pn 21 12 39.3 -4.4**
VRSR pmax pmax
comp=Z,6.0nm,0.6s
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,6.0nm,0.8s
VRSR Storozhevoye 19.92 32 *e*P **Pn 21 12 39.3 -4.4**
comp=E,8.0nm,0.9s
EALK Alkurruntz 19.93 300 P **Pn 21 12 44.2 +0.4**
comp=E,144nm,1.9s
ELIZ Elizondo 19.93 300 P **Pn 21 12 43.0 -0.8**
ELIZ pmax pmax
comp=Z,39nm,0.9s
ELIZ Elizondo 19.93 300 P **Pn 21 12 43.0 -0.8**
comp=Z,39nm,0.9s
ELIZ Elizondo 19.93 300 P **Pn 21 12 43.0 -0.9**
comp=Z,39nm,0.9s
UCC Uccle 20.09 325 P **P 21 12 45.5 +1.7**
EHUE Huescar 20.09 284 P **P 21 12 51.2 +7.2**
EHUE pmax pmax
comp=Z,14nm,1.3s
EHUE Huescar 20.09 284 P **P 21 12 51.2 +7.2**
comp=Z,14nm,1.3s
MFF Saint Martin d 20.19 310 *e*P **P 21 12 46.4 +1.4**
BSEG Bad Segeberg 20.30 339 *e*P **P 21 12 46.0 -0.1**
BSD Bornholm Skovb 20.32 348⇓ *i*P **P 21 12 44.7 -1.6**
BSD *i* 21 16 33.4
BSD
comp=Z,370nm,18.0s
BSD Bornholm Skovb 20.32 348⇓ *i*P **P 21 12 44.7 -1.6**
BSD *i* 21 16 33.4
EQES Quesada 20.47 284 P **P 21 12 55.0 +7.0**
comp=Z,17nm,0.7s
EGUA Guajares 20.91 281 P **P 21 12 59.9 +7.1**
comp=Z,1.3nm,0.5s
EGUA Guajares 20.91 281 P **P 21 12 59.9 +7.1**
EGUA pmax pmax
comp=Z,67nm,0.9s
EGUA Guajares 20.91 281 P **P 21 12 59.9 +7.1**
comp=Z,67nm,0.9s
VRHR Novokhopersk 20.95 36 *e*P **P 21 12 52.1 -1.1**
VRHR pmax pmax
comp=Z,60nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,50nm,1.6s
VRHR Novokhopersk 20.95 36 *e*P **P 21 12 52.1 -1.1**
comp=E,10.0nm,0.6s
LDF La Druitiere 21.11 315 *e*P **P 21 12 55.1 +0.2**
comp=E,26nm,0.9s,mb4.2
LDF La Druitiere 21.11 315 *e*P **P 21 12 55.1 +0.2**
LDF pmax pmax
comp=Z,13nm,0.9s,mb4.3
LDF La Druitiere 21.11 315 *e*P **P 21 12 55.1 +0.2**
comp=Z,13nm,0.9s,mb4.2
ESDC Sonseca Array 21.20 289 P **P 21 12 56.4 +0.4**
comp=Z,3.0nm,0.7s,mb3.8,baz=82,slow=9.0,SNR=13
ELAN Lanestosa 21.30 299 P **P 21 12 57.9 +0.9**
comp=Z,1.1nm,0.5s,mb3.4
ELAN Lanestosa 21.30 299 P **P 21 12 57.9 +0.9**
comp=Z,1.1nm,0.5s,mb3.4
COP Copenhagen 21.35 345 *e*P **P 21 12 57.4 0.0**
COP *i* 21 17 03.2
COP pmax pmax
comp=Z,29nm,0.9s,mb4.6
COP MLR MLR
comp=Z,140nm,17.0s,MS3.4
COP Copenhagen 21.35 345 *i*P **P 21 12 57.4 0.0**
comp=Z,29nm,0.9s,mb4.6
COP *i* 21 17 03.2
COP
comp=Z,130nm,17.0s
COP Copenhagen 21.35 345 *e*P **P 21 12 57.4 0.0**
comp=Z,29nm,0.9s,mb4.6
COP *i* 21 17 03.2
COP LR LR
comp=Z,140nm,17.0s,MS3.4
ELOJ Sierra Loja 21.35 282 P **P 21 13 04.1 +6.4**
ELOJ pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
ELOJ Sierra Loja 21.35 282 P **P 21 13 04.1 +6.5**
comp=Z,3.8nm,0.7s,mb3.8
FLN La Foliniere 21.40 315 *e*P **P 21 12 58.1 0.0**
comp=Z,43nm,0.8s,mb4.5
FLN *e*MLR MLR
comp=Z,221nm,17.5s,MS3.3
FLN La Foliniere 21.40 315 *e*P **P 21 12 58.1 0.0**
FLN pmax pmax
comp=Z,22nm,0.8s,mb4.5
FLN MLR MLR
comp=Z,220nm,17.5s,MS3.6
FLN La Foliniere 21.40 315 *e*P **P 21 12 58.1 0.0**
comp=Z,22nm,0.8s,mb4.5
FLN LR LR
comp=Z,220nm,17.5s,MS3.6
GUD Guadarrama 21.42 292 P **P 21 13 01.0 +2.7**
GUD pmax pmax
comp=Z,25nm,1.3s,mb4.4
GUD Guadarrama 21.42 292 P **P 21 13 01.0 +2.7**
comp=Z,25nm,1.3s,mb4.4
GUD Guadarrama 21.42 292 P **P 21 13 01.0 +2.6**
comp=Z,25nm,1.3s,mb4.4
ELUQ Luque 21.42 284 P **P 21 13 02.3 +3.9**
ELUQ pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
ELUQ Luque 21.42 284 P **P 21 13 02.3 +3.8**
comp=Z,4.5nm,0.7s,mb3.9
GRR Gorron 21.44 314 *e*P **P 21 12 58.4 0.0**
comp=Z,18nm,0.9s,mb4.1
GRR Gorron 21.44 314 *e*P **P 21 12 58.4 0.0**
GRR pmax pmax
comp=Z,9.0nm,0.9s,mb4.1
GRR Gorron 21.44 314 *e*P **P 21 12 58.4 0.0**
comp=Z,9.2nm,0.9s,mb4.1
PAB San Pablo 21.49 289 *e*P **P 21 13 01.2 +2.1**
PAB pmax pmax
comp=Z,21nm,1.2s,mb4.3
PAB San Pablo 21.49 289 *e*P **P 21 13 01.2 +2.1**
comp=Z,21nm,1.2s,mb4.3
PAB San Pablo 21.49 289 *e*P **P 21 13 01.2 +2.1**
comp=Z,21nm,1.2s,mb4.3
MIB Mutribah 21.82 98 *e*P **P 21 13 00.7 -2.0**
baz=99
MIB AMb AMB 21 13 14.6
comp=Z,115nm,0.6s,mb5.5,baz=99
EMIJ Mijas 21.89 281 P **P 21 13 06.9 +3.4**
comp=Z,22nm,1.4s,mb4.4
NAY Al-Naaiem 21.95 99 *e*P **P 21 13 02.5 -1.6**
baz=100
NAY AMb AMB 21 13 16.4
comp=Z,56nm,0.9s,mb5.0,baz=100
OBN Obninsk 22.01 22⇑ *e*P **P 21 13 01.6 -2.9**
OBN *e*S **S 21 16 53.9 -13**
OBN pmax pmax
comp=Z,92nm,2.0s,mb4.9
OBN MLR MLR
comp=Z,300nm,18.0s,MS3.8
OBN Obninsk 22.01 22 *e*P **P 21 13 01.8 -2.7**
comp=Z,37nm,0.5s,mb5.1
OBN Obninsk 22.01 22 *e*P **P 21 13 01.8 -2.7**
comp=Z,37nm,0.5s,mb5.1
UMR Umm Al-Rimmam 22.21 98 *e*P **P 21 13 04.8 -2.1**
baz=99
UMR AMb AMB 21 13 19.0
comp=Z,181nm,0.6s,baz=99
RDF Al-Radifah 22.32 100 *e*P **P 21 13 06.7 -1.4**
baz=101
RDF AMb AMB 21 13 21.2
comp=Z,65nm,0.9s,mb5.1,baz=101
SGMF Saint Gilles 22.38 313 *e*P **P 21 13 08.1 -0.5**
comp=Z,28nm,1.0s,mb4.3
SGMF Saint Gilles 22.38 313 *e*P **P 21 13 08.1 -0.5**
SGMF pmax pmax
comp=Z,14nm,1.0s,mb4.3
SGMF Saint Gilles 22.38 313 *e*P **P 21 13 08.1 -0.5**
comp=Z,14nm,1.0s,mb4.3
MDT Midelt 22.39 271 P **P 21 13 09.3 +0.4**
comp=Z,4.8nm,0.9s,mb3.9,baz=86,slow=9.8,SNR=10.0
MDT LR LR 21 23 30.4
comp=Z,383nm,21.8s,MS3.8,baz=182,slow=41
QUIF Quistinic 22.61 311 *e*P **P 21 13 10.8 -0.2**
comp=Z,33nm,0.9s,mb4.5
QUIF Quistinic 22.61 311 *e*P **P 21 13 10.8 -0.2**
QUIF pmax pmax
comp=Z,17nm,0.9s,mb4.5
QUIF Quistinic 22.61 311 *e*P **P 21 13 10.8 -0.2**
comp=Z,17nm,0.9s,mb4.5
ROSF Rostrenen 22.85 312 *e*P **P 21 13 13.1 -0.4**
comp=Z,50nm,1.4s,mb4.5
ROSF Rostrenen 22.85 312 *e*P **P 21 13 13.1 -0.4**
ROSF pmax pmax
comp=Z,25nm,1.4s,mb4.5
ROSF Rostrenen 22.85 312 *e*P **P 21 13 13.1 -0.4**
comp=Z,25nm,1.4s,mb4.5
MOS Moscow 22.86 23 *e*P **P 21 13 12.3 -1.3**
MOS *e* 21 13 23.5
MOS *e* 21 13 34.8
MOS *e*S **S 21 17 16.7 -6.5**
MOS *e* 21 17 35.4
MOS pmax pmax
comp=Z,57nm,0.7s,mb5.1
MOS pmax pmax
comp=Z,100nm,0.9s,mb5.2
MOS Moscow 22.86 23 *e*P **P 21 13 12.3 -1.3**
comp=Z,100nm,0.9s,mb5.2
VSU Vasula 23.22 6 *i*P **P 21 13 16.3 -1.0**
ECAL Calabor 23.49 295 P **P 21 13 19.1 -1.3**
comp=Z,1.3nm,0.5s,mb3.6
ECAL Calabor 23.49 295 P **P 21 13 19.1 -1.2**
comp=Z,1.3nm,0.5s,mb3.6
PBAR Barrancos 23.59 285 *e*P **P 21 13 23.4 +2.0**
comp=Z,33nm,1.7s,mb4.5
PBAR *e*S **S 21 17 38.2 +2.9**
MVO Moncorvo 23.64 293 *e*P **P 21 13 21.5 -0.2**
comp=Z,30nm,1.3s,mb4.6
PMRV Marv??o 23.84 288 *e*P **P 21 13 24.9 +1.2**
comp=Z,30nm,1.3s,mb4.6
MTE Manteigas 23.98 291 *e*P **P 21 13 27.9 +3.0**
comp=Z,22nm,2.0s,mb4.2
MTE *e*S **S 21 17 48.8 +7.2**
PESTR Estremoz 24.00 287 *e*P **P 21 13 28.0 +2.9**
comp=Z,32nm,1.3s,mb4.6
PVAQ Vaqueiros 24.17 284 *e*P **P 21 13 28.0 +1.3**
EVO Evora 24.34 286 *e*P **P 21 13 29.4 +1.2**
comp=Z,21nm,1.1s,mb4.2
EVO *e*MLR MLR
comp=Z,102nm,22.0s,MS3.0
PCAB Cabril 24.43 294 *e*P **P 21 13 29.7 +0.7**
comp=Z,30nm,1.3s,mb4.6
PTEO Sao Teotonio 24.96 284 *e*P **P 21 13 37.5 +3.6**
PFVI Vila Bisbo 25.08 283 *e*S **S 21 18 09.7 +10**
HFS Hagfors 25.33 350 P **P 21 13 35.2 -1.7**
comp=Z,20nm,0.7s,mb4.7,baz=155,slow=11,SNR=68
HFS Hagfors 25.33 350 P **P 21 13 35.2 -1.8**
HFS pmax pmax
comp=Z,20nm,0.7s
KONO Kongsberg 25.60 345⇑ *i*P **P 21 13 38.9 -0.5**
NAO01 NORSAR Array S 26.45 347 *e*P **P 21 13 45.9 -1.2**
comp=Z,10nm,0.8s,mb4.4
NAO01 NORSAR Array S 26.45 347 *e*P **P 21 13 45.9 -1.3**
comp=Z,10nm,0.8s,mb4.4
EKA Eskdalemuir Ar 26.48 327 P **P 21 13 46.8 -0.6**
comp=Z,11nm,0.8s,mb4.4,baz=128,slow=7.8,SNR=15
EKA Eskdalemuir Ar 26.48 327 P **P 21 13 46.8 -0.6**
EKA pmax pmax
comp=Z,11nm,0.9s
NB2 NORSAR Subarra 26.58 348 P **P 21 13 46.7 -1.6**
comp=Z,2.2nm,0.7s,mb3.8,baz=165,slow=11
NOA NORSAR Array B 26.58 348 P **P 21 13 47.2 -1.1**
comp=Z,3.4nm,0.7s,mb4.0,baz=157,slow=9.0,SNR=18
NOA NORSAR Array B 26.58 348 P **P 21 13 47.2 -1.1**
NOA pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 26.82 4 *e*p **P 21 13 49.3 -1.1**
comp=Z,2.2nm,0.5s,mb3.9
KAF Kangasniemi 26.82 4 *e*P **P 21 13 49.3 -1.1**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb3.9
KLMR Klimovskoe 27.73 18 *e*P **P 21 13 56.0 -2.6**
KLMR pmax pmax
comp=Z,36nm,1.9s,mb4.7
JOF Joensuu 28.07 9 *e*p **P 21 13 59.2 -2.5**
comp=Z,3.0nm,0.6s,mb4.1
JOF Joensuu 28.07 9 *e*P **P 21 13 59.2 -2.5**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
TOA0 Torodi Ar. Sit 28.94 225 *e*P **P 21 14 09.9 +0.1**
TOA0 Torodi Ar. Sit 28.94 225 *e*P **P 21 14 09.9 0.0**
TORD Torodi Ar. Bea 28.94 225 P **P 21 14 10.0 +0.2**
comp=Z,4.0nm,0.6s,mb4.3,baz=36,slow=9.3,SNR=55
AKTK Aktyubinsk 29.81 49 P **P 21 14 15.2 -2.1**
AKTK S **S 21 19 06.0 -7.7**
AKTK Aktyubinsk 29.81 49 P **P 21 14 15.2 -2.0**
AKTK S **S 21 19 06.0 -7.7**
AKTO Aktyubinsk 29.81 49 P **P 21 14 15.2 -2.0**
comp=Z,2.8nm,0.6s,mb4.2,baz=269,slow=10,SNR=11
AKTO S **S 21 19 06.0 -7.7**
comp=Z,1.3nm,0.7s,baz=38,slow=20,SNR=4.7
AKTO Aktyubinsk 29.81 49 P **P 21 14 15.2 -2.1**

AKTO S **S** **21 19 06.0 -7.7**
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
AKTO smax
comp=N,1.0nm,0.7s
AB31 Akbulak array 30.73 52 P **P** **21 14 23.3 -2.0**
AB31 pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
AB31 Akbulak array 30.73 52 P **P** **21 14 23.3 -2.0**
comp=Z,1.0nm,0.6s,mb3.8
MOR8 Moi Rana 31.12 354 *e*P **P** **21 14 28.2 -0.3**
MOR8 AMb AMB 21 14 29.5
comp=Z,15nm,0.7s,mb4.9
MOR8 Moi Rana 31.12 354 *e*P **P** **21 14 28.2 -0.4**
comp=Z,15nm,0.7s,mb4.9,SNR=27
MOR8 Moi Rana 31.12 354 *e*P **P** **21 14 28.2 -0.3**
comp=Z,15nm,0.7s,mb4.9
STOK Stokkvaagen 31.41 353 *e*P **P** **21 14 30.4 -0.7**
STOK AMb AMB 21 14 31.4
comp=Z,28nm,0.7s,mb5.2
STOK Stokkvaagen 31.41 353 *e*P **P** **21 14 30.7 -0.5**
comp=Z,28nm,0.7s,mb5.2
STOK Stokkvaagen 31.41 353 *e*P **P** **21 14 30.7 -0.5**
comp=Z,28nm,0.7s,mb5.2
ARU Arti 32.26 38*c i*P **P** **21 14 36.5 -2.2**
ARU *e* 21 15 39.0
ARU *e* 21 17 20.6
ARU *e*S **S** **21 19 43.4 -8.4**
ARU pmax pmax
comp=Z,16nm,1.7s,mb4.6
ARU Arti 32.26 38 *e*P **P** **21 14 36.9 -1.8**
comp=Z,9.8nm,0.9s,mb4.6
ARU Arti 32.26 38 *e*PcP PcP 21 17 20.6 -6.2
ARU Arti 32.26 38 *e*P **P** **21 14 36.9 -1.8**
comp=Z,9.8nm,0.9s,mb4.6
LVZ Lovozero 33.26 9⇑*i*P **P** **21 14 44.6 -2.8**
LVZ pmax pmax
comp=Z,27nm,2.5s,mb4.7
LVZ Lovozero 33.26 9 *i*P **P** **21 14 44.6 -2.8**
comp=Z,27nm,2.5s,mb4.7
SVE Sverdlovsk 33.47 38⇑*e*P **P** **21 14 48.0 -1.3**
SVE *e* 21 15 55.2
SVE *e*S **S** **21 20 04.0 -6.6**
SVE pmax pmax
comp=Z,14nm,0.6s,mb5.1
SVE MLR MLR
comp=Z,147nm,12.0s,MS3.9
SVE Sverdlovsk 33.47 38 *e*P **P** **21 14 48.0 -1.3**
comp=Z,14nm,0.6s,mb5.1
KTK1 Kautokeino 33.63 1 *e*P **P** **21 14 49.6 -0.9**
KTK1 AMb AMB 21 14 52.6
comp=Z,46nm,1.2s,mb5.3
KTK1 Kautokeino 33.63 1 *e*P **P** **21 14 49.6 -1.0**
comp=Z,46nm,1.2s,mb5.3,SNR=26
KTK1 Kautokeino 33.63 1 *e*P **P** **21 14 49.6 -0.9**
comp=Z,46nm,1.2s,mb5.3
ARCES ARCESS Array B 34.20 2 P **P** **21 14 54.1 -1.4**
comp=Z,14nm,0.7s,mb5.0,baz=182,slow=7.6,SNR=72
ARCES LR LR 21 30 29.1
comp=Z,232nm,18.6s,MS3.9,baz=184,slow=39
ARCES ARCESS Array B 34.20 2 P **P** **21 14 54.1 -1.4**
ARCES pmax pmax
comp=Z,14nm,0.7s
ARCES MLR MLR
comp=Z,232nm,18.6s
TRO Tromso 34.30 358 *e*P **P** **21 14 55.2 -1.2**
TRO AMb AMB 21 14 57.3
comp=Z,39nm,1.8s,mb5.0
TRO Tromso 34.30 358 *e*P **P** **21 14 55.2 -1.2**
comp=Z,39nm,1.8s,mb5.0,SNR=26
TRO Tromso 34.30 358 *e*P **P** **21 14 55.2 -1.2**
comp=Z,39nm,1.8s,mb5.0
KEV Kevo 34.47 3 *e*p **P** **21 14 56.5 -1.4**
comp=Z,6.6nm,0.7s,mb4.7
KEV Kevo 34.47 3 *e*P **P** **21 14 56.5 -1.4**
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
KK31 Karatay Array 37.68 63 *i*P **P** **21 15 24.7 -1.0**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
KK31 Karatay Array 37.68 63 *i*P **P** **21 15 24.7 -1.0**
comp=Z,2.0nm,0.5s,mb4.1
BVAR Borovoye Array 37.87 47 P **P** **21 15 27.2 0.0**
comp=Z,1.5nm,0.5s,mb4.0,baz=269,slow=5.9,SNR=9.3
BVAR LR LR 21 33 59.0
comp=Z,118nm,18.2s,MS3.7,baz=267,slow=41
BVAR Borovoye Array 37.87 47 P **P** **21 15 27.2 0.0**
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR MLR MLR
comp=Z,118nm,18.2s
DBIC Dimbokro 37.96 227 P **P** **21 15 28.1 -0.2**
comp=Z,3.1nm,0.6s,mb4.2,baz=360,slow=20,SNR=6.9
DBIC Dimbokro 37.96 227 P **P** **21 15 28.2 -0.1**
DBIC pmax pmax
comp=Z,3.0nm,0.6s
DBIC Dimbokro 37.96 227 P **P** **21 15 28.1 -0.2**
TIC Toumodi 38.08 228 *e*P **P** **21 15 26.0 -3.3**
comp=Z,338nm,1.9s
TIC Toumodi 38.08 228 *e*P **P** **21 15 26.0 -3.3**
TIC pmax pmax
comp=Z,339nm,1.9s
KIC Kosan Boka 38.14 227 *e*P **P** **21 15 23.5 -6.3**
comp=Z,288nm,1.9s
LIC Lamto 38.42 227 *e*P **P** **21 15 31.9 -0.3**
comp=Z,15nm,0.7s,mb4.5
LIC *e*MLR MLR
comp=Z,176nm,21.2s,MS3.5
LIC Lamto 38.42 227 *e*P **P** **21 15 31.9 -0.3**
comp=Z,7.7nm,0.7s,mb4.5
LIC Lamto 38.42 227 *e*P **P** **21 15 23.9 -8.3**
comp=Z,42nm,1.1s,mb5.1
LIC *e*P 21 15 31.9
LIC LR LR
comp=Z,90nm,21.3s,MS3.6
BORG Borgarnes 39.19 332 LR LR 21 33 59.5
comp=Z,216nm,18.3s,MS4.0,baz=294,slow=40
KURK Kurchatov 42.84 51 *e*P **P** **21 16 06.3 -2.0**
KURK pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
KURK Kurchatov 42.84 51 *e*P **P** **21 16 06.2 -2.1**
comp=Z,4.1nm,0.6s,mb4.3
KURK Kurchatov 42.84 51 *e*P **P** **21 16 06.2 -2.0**
comp=Z,4.1nm,0.6s,mb4.3
SPITS Spitsbergen Ar 42.92 358 P **P** **21 16 08.3 -0.3**
comp=Z,9.9nm,0.6s,mb4.7,baz=299,slow=10,SNR=17
SPITS Spitsbergen Ar 42.92 358 P **P** **21 16 08.3 -0.3**
SPITS pmax pmax
comp=Z,10.0nm,0.6s
NVS Novosibirsk 45.56 45 *i*P **P** **21 16 29.2 -0.8**
NVS *i*S **S** **21 23 06.2 -5.8**
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.0s
NVS pmax pmax
comp=Z,13nm,1.0s,mb4.8
NVS smax
comp=N,18nm,1.6s
NVS smax
comp=E,12nm,2.0s
NVS Novosibirsk 45.56 45 *i*P **P** **21 16 29.2 -0.8**
comp=E,18nm,1.6s,mb4.8
MK31 Makanchi Array 45.58 56 *i*P **P** **21 16 28.1 -2.3**
MK31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
MK31 Makanchi Array 45.58 56 *i*P **P** **21 16 28.1 -2.3**
comp=Z,3.0nm,0.3s,mb4.7
MKAR Makanchi Array 45.58 56 P **P** **21 16 28.5 -1.9**
comp=Z,9.0nm,0.7s,mb4.8,baz=282,slow=6.7,SNR=83
MKAR Makanchi Array 45.58 56 *i*P **P** **21 16 28.5 -1.9**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
ZAL Zalesovo 46.50 46 P **P** **21 16 35.1 -2.4**
ZAL pmax pmax
comp=Z,4.0nm,0.3s
ZAL Zalesovo 46.50 46 P **P** **21 16 35.1 -2.4**
comp=Z,4.0nm,0.3s,mb4.8
ZAA0 Zalesovo Array 46.51 46 *e*P **P** **21 16 35.3 -2.3**
ZAA0 Zalesovo Array 46.51 46 *e*P **P** **21 16 35.3 -2.3**
ZALV Zalesovo Beam 46.51 46 P **P** **21 16 35.1 -2.5**
comp=Z,4.2nm,0.3s,mb4.8,baz=258,slow=7.4,SNR=25
WMQ Urumqi 49.90 59 P **P** **21 17 04.7 +0.8**
WMQ AP pP 21 17 14.6 +7.6
WMQ XP sP 21 17 18.5 +10
WMQ PCP PcP 21 18 25.7 +1.5
WMQ PP PP 21 18 59.9 +1.4
WMQ S **S** **21 24 10.0 -3.9**
WMQ SCS ScS 21 26 50.7 -4.7
WMQ SS SS 21 27 38.7 -7.6
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
WMQ LR LR
comp=N,181nm,25.6s,MS4.0
WMQ LR LR
comp=E,91nm,22.3s,MS4.0
LSZ Lusaka 50.75 173 P **P** **21 17 10.5 +0.1**
comp=E,6.2nm,0.7s,mb4.6,baz=352,slow=6.5,SNR=4.7
LSZ Lusaka 50.75 173 P **P** **21 17 10.5 0.0**
LSZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KRAR Krasnoyarsk 50.95 43⇑*i*P **P** **21 17 11.3 -0.4**
KRAR pmax pmax
comp=Z,29nm,2.1s,mb4.8
KRAR Krasnoyarsk 50.95 43 *i*P **P** **21 17 11.3 -0.4**
comp=Z,29nm,2.1s,mb4.8
HVS Khovu-Aksy 52.25 49*d i*P **P** **21 17 20.1 -1.4**
comp=Z,2.0nm,0.7s,mb4.3,baz=354,slow=7.3,SNR=4.6
TSUM Tsumeb 54.52 185 P **P** **21 17 37.8 -0.5**
comp=Z,2.0nm,0.7s,mb4.3,baz=354,slow=7.3,SNR=4.6
TSUM Tsumeb 54.52 185 P **P** **21 17 37.8 -0.6**
TLY Talaya 58.12 46 *e*P **P** **21 18 04.0 +0.1**
TLY *e* 21 20 18.3
TLY *e*S **S** **21 26 00.4 -4.5**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
TLY MLR MLR
comp=Z,96nm,17.0s,MS4.0
ZAK Zakamensk 58.32 48 *e*P **P** **21 18 04.6 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
GTA Gaotai 59.90 61 *e*P **P** **21 18 15.3 -1.1**
GTA AP pP 21 18 25.4 +5.8
GTA XP sP 21 18 29.7 +8.9
GTA AMB AMB
comp=Z,5.0nm,0.9s,mb4.5
SONM Songino Array 61.12 50 P **P** **21 18 23.2 -1.4**
comp=Z,2.9nm,0.7s,mb4.5,baz=282,slow=8.4,SNR=22
SONM Songino Array 61.12 50 P **P** **21 18 23.2 -1.4**
SONM pmax pmax
comp=Z,3.0nm,0.7s
SCHQ Schefferville 61.44 319 P **P** **21 18 26.4 -0.2**
comp=Z,3.2nm,0.6s,mb4.7,baz=82,slow=7.4,SNR=8.3
SCHQ LR LR 21 44 45.8
comp=Z,81nm,19.6s,MS3.9,baz=103,slow=36
SCHQ Schefferville 61.44 319 P **P** **21 18 26.4 -0.2**
SCHQ LR LR 21 44 45.8
BOD Bodaibo 61.67 37 *e*P **P** **21 18 25.7 -2.4**
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BOSA Boshof 63.77 177 P **P** **21 18 42.3 0.0**
comp=Z,5.0nm,1.1s,mb4.5,baz=1.6,slow=9.3,SNR=3.9
BOSA LR LR 21 49 43.8
comp=Z,91nm,18.2s,MS4.0,baz=100,slow=39
BOSA Boshof 63.77 177 P **P** **21 18 42.3 0.0**
BOSA pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BOSA MLR MLR
comp=Z,91nm,18.2s,MS4.0
LZH Lanzhou 64.18 63 *e*P **P** **21 18 45.0 -0.2**
LZH AP pP 21 18 55.5 +7.1
LZH XP sP 21 18 59.2 +10
LZH PP PP 21 21 07.5 +1.4
LZH AMB AMB
comp=Z,14nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,68nm,4.6s
CD2 Chengdu 66.48 68 *e*P **P** **21 19 00.3 +0.1**
CD2 AP pP 21 19 11.2 +7.8
CD2 XP sP 21 19 15.6 +11
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,20nm,6.2s
YAK Yakutsk 66.80 29⇑*e*P **P** **21 19 01.6 -0.1**
YAK pmax pmax
comp=Z,11nm,0.7s,mb5.0
HHC Hu-ho-hao-te 67.43 55 *e*P **P** **21 19 06.1 0.0**
HHC AP pP 21 19 19.5 +10
HHC XP sP 21 19 24.3 +14
HHC PP PP 21 21 35.1 +0.8
HHC PCS 21 23 38.8
HHC S S 21 27 54.5 -7.5
HHC PS 21 28 23.0
HHC SCS ScS 21 28 53.9 -10
HHC SS SS 21 32 15.5 -6.0
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,57nm,4.3s
HHC LR LR
comp=N,152nm,20.2s,MS4.3
HHC LR LR
comp=E,136nm,23.8s,MS4.3
HHC LR LR
comp=Z,135nm,23.8s,MS4.1
KMI Kunming 68.51 74 P **P** **21 19 12.5 -0.6**
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
CMAR Chiang Mai Arr 68.87 82 P **P** **21 19 14.1 -1.3**
comp=Z,0.6nm,0.3s,mb4.0,baz=298,slow=7.6,SNR=4.0
CMAR Chiang Mai Arr 68.87 82 P **P** **21 19 14.1 -1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
GYA Guiyang 70.89 71 P **P** **21 19 28.0 +0.2**
GYA AP pP 21 19 39.8 +8.8
GYA XP sP 21 19 41.4 +9.2
GYA PP PP 21 22 07.2 +2.6
GYA S S 21 28 38.7 -4.6
GYA SKS 21 29 22.5
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
GYA AMB AMB
comp=Z,70nm,5.2s
BJI Beijing 70.89 54 P **P** **21 19 26.6 -1.0**
BJI AP pP 21 19 36.3 +5.5
BJI S S 21 28 37.9 -5.1
BJI SS SS 21 33 10.7 -4.2
BJI AMB AMB
comp=Z,5.0nm,0.4s,mb4.8
BJI LR LR
comp=N,178nm,18.9s,MS4.4
BJI LR LR
comp=E,88nm,18.6s,MS4.4
BJI LR LR
comp=Z,144nm,24.3s
BILL Bilibino 73.36 13 *e*P **P** **21 19 41.3 -0.5**
BILL *e* 21 19 55.2
BILL *e* 21 22 22.2
BILL *e*S S 21 29 01.6 -8.7
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.1
SDMD Soldier's Deli 74.65 308 *e*P **P** **21 19 50.0 +0.1**
comp=Z,9.6nm,0.8s,mb4.8
SDMD Soldier's Deli 74.65 308 *e*P **P** **21 19 50.0 +0.2**
comp=Z,9.6nm,0.8s,mb4.8
YKA Yellowknife Ar 76.44 341 P **P** **21 19 59.6 -0.1**
comp=Z,2.4nm,0.6s,mb4.3,baz=29,slow=5.4,SNR=15
YKA Yellowknife Ar 76.44 341 P **P** **21 19 59.6 -0.1**
YKA pmax pmax
comp=Z,2.0nm,0.6s
MDJ Mudanjiang 76.67 44 P **P** **21 19 59.7 -1.7**
MDJ AMB AMB
comp=Z,3.0nm,1.0s,mb4.2
MDJ AMB AMB
comp=Z,25nm,3.2s
NJ2 Nanjing 76.97 60 *e*P **P** **21 20 05.6 +2.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
ULM Lac du Bonnet 78.74 325 P **P** **21 20 12.4 -0.4**
comp=Z,2.6nm,0.9s,mb4.2,baz=78,slow=9.3,SNR=2.3
ULM LR LR 21 56 49.4
comp=Z,158nm,18.0s,MS4.4,baz=351,slow=37
IMA2 Indian Mountai 78.77 358 *e*P **P** **21 20 13.2 +0.5**
IMA2 Indian Mountai 78.77 358 *e*P **P** **21 20 13.2 +0.5**
EGAK Eagle 79.27 353 *e*P **P** **21 20 15.6 +0.2**
comp=Z,2.4nm,0.8s,mb4.2
KSRS Korea Array 79.96 51 P **P** **21 20 18.7 -1.0**
comp=Z,1.6nm,0.4s,mb4.3,baz=311,slow=4.7,SNR=7.9
KSRS LR LR 22 03 12.3
comp=Z,66nm,18.1s,MS4.0,baz=309,slow=41
KSRS Korea Array 79.96 51 P **P** **21 20 18.7 -1.0**
KSRS pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
KSRS MLR MLR
comp=Z,66nm,18.1s,MS4.0
TZTN Tazewell 80.63 308 P **P** **21 20 21.9 -1.4**
comp=Z,18nm,0.9s,mb5.0
TZTN Tazewell 80.63 308 P **P** **21 20 21.9 -1.5**
comp=Z,18nm,0.9s,mb5.0
CHUM Lake Minchumin 80.92 358 *e*P **P** **21 20 25.1 +0.7**
comp=Z,28nm,1.4s,mb5.0
CHUM Lake Minchumin 80.92 358 *e*P **P** **21 20 25.1 +0.7**
comp=Z,28nm,1.4s,mb5.0
TKL Tuckaleechee C 81.31 308 *e*P **P** **21 20 27.9 +0.9**
TKL Tuckaleechee C 81.31 308 *e*P **P** **21 20 27.9 +0.9**
CPCT Cooper Cave 81.92 308 *e*P **P** **21 20 31.0 +0.8**
HYT Haines Junctio 82.66 350 *e*P **P** **21 20 34.8 +1.2**
BDFB Brasilia 83.65 246 LR LR 22 00 13.9
comp=Z,88nm,18.1s,MS4.2,baz=182,slow=37
PETK Petropavlovsk- 83.69 25 LR LR 22 01 39.4
comp=Z,70nm,18.5s,MS4.1,baz=140,slow=38
SVW2 Sparrevohn 83.79 359 *e*P **P** **21 20 40.0 +0.6**
PET Petropavlovsk 84.09 25 *e*P **P** **21 20 47.6 +6.5**
PET *e*S S 21 31 03.1 -2.4
PET MLR MLR
comp=Z,100nm,16.0s,MS4.3
EGMT Eagleton 86.51 330 *e*P **P** **21 20 54.6 +1.3**
comp=Z,2.9nm,0.7s,mb4.6
MJAR Matsuhiro Arr 86.87 46 P **P** **21 20 55.3 0.0**
comp=Z,0.4nm,0.3s,mb4.1,baz=156,slow=6.2,SNR=3.0
OHAK Old Harbor 87.62 358 *e*P **P** **21 20 58.5 0.0**
comp=Z,5.1nm,0.6s,mb4.9
OHAK Old Harbor 87.62 358 *e*P **P** **21 20 58.5 0.0**
comp=Z,5.1nm,0.6s,mb4.9
PDAR Pinedale Array 90.61 327 P **P** **21 21 12.6 -0.3**
comp=Z,0.3nm,0.8s,mb3.7,baz=46,slow=3.9,SNR=3.2
PDAR LR LR 22 03 25.9
comp=Z,111nm,18.7s,MS4.3,baz=48,slow=37
TXAR Lajitas Array 97.89 314 LR LR 22 09 09.2
comp=Z,46nm,18.7s,MS4.0,baz=5.0,slow=37
LPAZ La Paz 99.58 257 LR LR 22 10 04.6
comp=Z,48nm,18.4s,MS4.0,baz=234,slow=37
WRA Warramunga Arr 118.96 95 PKP PKPdf 21 26 58.8 -0.7
comp=Z,1.0nm,1.0s,baz=305,slow=1.6,SNR=3.2
WRA Warramunga Arr 118.96 95 PKIKP PKPdf 21 26 58.8 -0.7
WRA pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 120.42 99 PKP PKPdf 21 27 01.8 -0.4
comp=Z,0.1nm,0.3s,baz=330,slow=0.6,SNR=4.2

IDC 03 21:27:47.9±4.1,409S×15338E,h0km,mb3.6/2,mb1 3.9/2, mb1mx3.4/16,mbtmp3.6/2,MS2.7/1,Ms1 2.7/1, ms1mx2.4/29,Error ellipse: s-maj=197.5km s-min=49.3km az=119.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.49**	**334**	LR	LR	21 38 25.5	
	comp=Z,23nm,21.1s,baz=94,slow=33						
WRA	**Warramunga Arr**	**24.34**	**228**	P	P	21 33 08.4	+0.7
	1.8nm,0.7s,baz=53,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**27.06**	**222**	P	P	21 33 32.0	-0.3
	0.4nm,0.5s,baz=57,slow=9.1,SNR=7.7						
TORD	**Torodi Ar. Bea**	**150.63**	**290**	PKPbc	PKPbc	21 47 42.6	-0.5
	0.5nm,1.0s,baz=66,slow=2.1,SNR=6.8						

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*SZGRF **03** 21:33:19.4,21.52S×178.19W,h33km,Fiji Islands region*
*ISCJB **03** 21:34:11.4±0.9,2031S±007×17766W±008,h460km±11km, mb4.2/26,Error ellipse: s-maj=13.3km s-min=7.9km az=41.8*
*NEIC **03** 21:34:12.7±1.3,2036S×17762W,h462km±15km,mb4.3/13, Error ellipse: s-maj=18.5km s-min=10.8km az=147.0*
*IDC **03** 21:34:12.7±1.4,2035S×17750W,h469km±17km,mb3.8/16, mb1 4.0/20,mb1mx3.9/25,mbtmp3.9/20,Error ellipse: s-maj=13.4km s-min=10.0km az=140.0*
ISC 03 21:34:13.2±1.0,2041S±008×17759W±008,h470km±13km, n97,σ0°74/42,mb4.2/26,5D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.52**	**42**	P	P	21 36 14.1	-0.5
	6.1nm,0.3s,baz=228,slow=20,SNR=5.0						
AFI				S	**S**	21 37 48.2	-6.0
	15nm,0.3s,baz=40,slow=18,SNR=10						
RAO	**Raoul Island**	**8.81**	**182**	P	P	21 36 18.8	+1.3
	72nm,0.3s,baz=97,slow=23,SNR=4.5						
RAO				S	**S**	21 37 59.0	-0.7
	27nm,0.3s,baz=274,slow=22,SNR=3.9						
RAO	**Raoul Island**	**8.81**	**182**	P	P	21 36 18.8	+1.3
RAO				S	**S**	21 37 59.0	-0.7
RAR	**Rarotonga**	**16.68**	**96**	P	P	21 37 41.6	0.0
	5.6nm,0.3s,baz=285,slow=22,SNR=8.0						
URZ	**Urewera**	**18.38**	**193**	P	P	21 37 57.2	-1.2
	3.4nm,0.3s,baz=309,slow=3.4,SNR=14						
RPZ	**Rata Peaks**	**25.11**	**200**	P	P	21 38 59.1	-0.1
	6.6nm,0.7s,mb4.2,baz=215,slow=12,SNR=4.6						
CTA	**Charters Tower**	**33.88**	**264**	⇓*i*P	P	21 40 16.6	+0.8
	19nm,0.6s,mb4.7						
CTA	**Charters Tower**	**33.88**	**264**	P	P	21 40 16.6	+0.9
	26nm,0.6s,mb4.8,baz=93,slow=11,SNR=37						
STKA	**Stephens Creek**	**38.17**	**244**	*e*P	P	21 40 52.1	+0.8
	3.3nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**38.17**	**244**	P	P	21 40 52.0	+0.7
	3.9nm,0.6s,mb4.0,baz=96,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**44.91**	**257**	P	P	21 41 45.7	+0.6
	32nm,0.5s,mb5.0,baz=94,slow=8.3,SNR=758						
ASAR				PcP	PcP	21 43 16.4	-0.6
	1.6nm,0.5s,baz=101,slow=5.9,SNR=5.0						
ASAR				S	**S**	21 47 44.5	-3.7
	3.6nm,0.9s,baz=99,slow=17,SNR=22						
WB2	**Warramunga Arr**	**44.98**	**262**	⇓*i*P	P	21 41 45.2	-0.5
WB2				*e*S	**S**	21 47 44.2	-5.0
WRAB	**Tennant Creek**	**44.98**	**262**	*e*P	P	21 41 45.4	-0.3
	37nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**44.99**	**262**	P	P	21 41 45.3	-0.4
	22nm,0.6s,mb4.8,baz=98,slow=7.9,SNR=237						
WRA				PcP	PcP	21 43 16.5	-0.8
	1.3nm,0.7s,baz=89,slow=4.0,SNR=3.0						
WRA				S	**S**	21 47 45.3	-4.0
	0.4nm,0.4s,baz=170,slow=28,SNR=5.9						
KAKA	**Kakadu**	**48.35**	**271**	⇓*i*P	P	21 42 11.0	-0.4
	26nm,0.7s,mb4.7						
FORT	**Forrest**	**49.68**	**247**	*e*P	P	21 42 20.9	-0.2
	16nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.42**	**262**	⇓*i*P	P	21 42 48.0	-0.4
	12nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.42**	**262**	P	P	21 42 48.6	+0.2
	6.2nm,0.5s,mb4.2,baz=126,slow=5.2,SNR=35						
BATI	**Baumata**	**57.31**	**271**	P	P	21 43 16.9	+1.2
	28nm,0.6s,mb4.8,baz=206,slow=2.1,SNR=6.8						
KLBR	**Kellerberrin**	**58.44**	**245**	*e*P	P	21 43 22.7	-0.5
	14nm,0.7s,mb4.4						
QSPA	**South Pole Qui**	**69.66**	**180**	P	P	21 44 35.2	+1.2
	0.8nm,0.6s,mb3.4,baz=22,slow=4.2						
MJAR	**Matsuhiro Arr**	**70.36**	**323**	P	P	21 44 37.6	-1.2
	5.1nm,0.7s,mb4.2,baz=156,slow=6.4,SNR=14						
PETK	**Petropavlovsk-**	**76.28**	**345**	P	P	21 45 11.7	-0.7
	3.8nm,0.8s,mb4.0,baz=124,slow=9.7,SNR=5.4						
KSRS	**Korea Array**	**77.07**	**318**	P	P	21 45 17.2	+0.1
	1.2nm,0.6s,mb3.6,baz=140,slow=6.9,SNR=5.5						
CMB	**Columbia Colle**	**79.13**	**43**	*e*P	P	21 45 28.5	+0.2
	5.2nm,0.9s,mb4.1						
NVAR	**Mina Array Bea**	**80.69**	**43**	P	P	21 45 37.1	+0.7
	3.2nm,0.9s,mb3.8,baz=224,slow=8.8,SNR=14						
TPNV	**Topopah Spring**	**81.20**	**45**	*e*P	P	21 45 39.2	+0.1
	1.3nm,0.7s,mb3.6						
MOD	**Modoc**	**81.50**	**39**	*e*P	P	21 45 41.0	+0.5
	4.4nm,0.9s,mb4.0						
MAW	**Mawson**	**81.78**	**200**	P	P	21 45 41.4	-0.2
	1.2nm,0.7s,mb3.5,baz=119,slow=2.3,SNR=6.3						
WVOR	**Wild Horse Val**	**82.81**	**40**	*e*P	P	21 45 47.7	+0.5
	6.4nm,1.1s,mb4.1						
SRU	**San Rafael**	**86.18**	**46**	*e*P	P	21 46 04.2	+0.4
	1.0nm,0.4s,mb3.8						
TRF	**Thorofare Moun**	**86.28**	**12**	*e*P	P	21 46 02.4	-1.3
	7.9nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**86.68**	**57**	P	P	21 46 07.1	+0.6
	2.3nm,0.7s,mb4.0,baz=217,slow=6.4,SNR=30						
PDAR	**Pinedale Array**	**88.63**	**43**	P	P	21 46 15.1	-0.2
	1.7nm,0.7s,mb4.0,baz=223,slow=3.3,SNR=17						
CMAR	**Chiang Mai Arr**	**90.44**	**289**	P	P	21 46 25.2	+1.0

3.3nm,1.0s,mb4.1,baz=113,slow=3.2,SNR=14
TRQA Tornquist 96.16 134 *e*P **P 21 46 48.8 -1.3**
ZALV Zalesovo Beam 110.66 321 PKiKP PKiKP 21 51 49.0 -2.4
0.9nm,0.6s,baz=126,slow=2.0,SNR=4.1
ZALV Zalesovo Beam 110.66 321 PKPdf PKiKP 21 51 49.0 -2.4
MKAR Makanchi Array 111.41 313 PKiKP PKiKP 21 51 51.0 -2.1
0.5nm,0.3s,baz=114,slow=0.2,SNR=5.9
MKAR Makanchi Array 111.41 313 PKPdf PKiKP 21 51 51.0 -2.1
ARCES ARCESS Array B 128.90 350 PKP PKPdf 21 52 24.4 -1.5
1.6nm,0.7s,baz=152,slow=1.9,SNR=11
ARCES ARCESS Array B 128.90 350 PKP PKPdf 21 52 24.4 -1.5
AKASG Malin Array Be 143.12 331 PKhKP 21 52 48.4
3.5nm,0.5s,baz=42,slow=4.3,SNR=23
KIEV Kiev 143.13 331 *e*PKPdf PKPdf 21 52 48.5 -4.2
BSEG Bad Segeberg 145.98 352 *e*PKPbc PKPbc 21 52 58.6 -0.7
KWP Kalwaria 146.66 336 *e*PKPdf PKPdf 21 53 00.1 +1.2
CRVS Cervenica-Dubn 147.72 336 *i* PKP PKPbc 21 53 03.7 -0.4
CRVS Cervenica-Dubn 147.72 336 *e*P PKPbc 21 53 03.7 -0.4
IBBN Ibbenburen 147.89 354 *e*PKPbc PKPbc 21 53 03.6 -0.9
CLZ Clausthal 148.01 351 *e*PKPbc PKPbc 21 53 03.9 -0.9
CLL Collm 148.06 347 *e*PKPbc PKPbc 21 53 03.7 -1.2
CLL Collm 148.06 347 ⇓*i*PKPbc PKPbc 21 53 03.8 -1.1
comp=Z,13nm,0.6s
OKC Ostrava-Krasne 148.07 341 *e*PKPbc PKPbc 21 53 04.1 -0.9
UPC Upice 148.09 343 *e*PKPbc PKPbc 21 53 04.1 -0.9
DPC Dobruska-Polom 148.15 343 *e*PKPbc PKPbc 21 53 04.6 -0.6
DPC *e*PKPab PKPab 21 53 09.2 -0.5
BRG Berggiesshubel 148.26 346 *e*PKPbc PKPbc 21 53 04.5 -0.9
BRG *e*PKPab PKPab 21 53 08.9 -1.3
BRG Berggiesshubel 148.26 346 *i* P PKPbc 21 53 04.5 -1.0
comp=Z,7.5nm,0.7s
BRG *e* 21 53 09.1
comp=Z,3.7nm,0.9s
KECS Kecovo 148.44 337 *e*PKP PKPbc 21 53 05.6 -0.4
PVCC Panska Ves 148.44 345 *e*PKPbc PKPbc 21 53 05.3 -0.6
PRU Pruhonice 148.94 345 *e*PKPbc PKPbc 21 53 05.9 -1.3
MOX Moxa 148.96 349 *e*PKPbc PKPbc 21 53 06.0 -1.2
WERD Werda 149.01 348 *e*PKPbc PKPbc 21 53 06.4 -0.9
UBBA Unterbreizbach 149.06 351 *e*PKPbc PKPbc 21 53 06.0 -1.4
KOLL Kolacno 149.09 339 *e*PKP PKPbc 21 53 07.0 -0.6
KOLL Kolacno 149.09 339 *e*P PKPbc 21 53 07.1 -0.5
GUNZ Gunzen 149.09 348 *e*PKPbc PKPbc 21 53 06.6 -0.9
WERN Wernitzgruen 149.15 347 *e*PKPbc PKPbc 21 53 06.8 -0.9
WERN *e*PKPab PKPab 21 53 12.8 -1.0
NKC Novy Kostel 149.19 347 *e*PKPbc PKPbc 21 53 07.0 -0.8
TREC Trest 149.34 343 *e*PKPbc PKPbc 21 53 07.3 -0.8
MODS Modra-Piesok 149.63 340 *e*PKP PKPbc 21 53 09.1 +0.2
ROTZ Rotzenmuhle 149.68 347 *e*PKPbc PKPbc 21 53 08.2 -0.7
MEM Membach 149.73 355 P PKPbc 21 53 08.2 -0.9
TNS Taunus Mts 149.86 352 *e*PKPbc PKPbc 21 53 08.6 -0.8
GRA1 Grafenberg Arr 149.94 349 *e*PKPbc PKPbc 21 53 08.5 -1.1
GRF Grafenberg Arr 149.94 349 *e*PKPbc PKPbc 21 53 08.5 -1.1
KHC Kasperske Hory 149.97 345 *e*PKPbc PKPbc 21 53 08.7 -1.0
KHC *e*PKPab PKPab 21 53 16.6 -0.7
KHC *ex* x 21 55 13.0
KHC Kasperske Hory 149.97 345 *e*PKP PKPbc 21 53 08.7 -1.0
KHC *e* 21 53 16.6
GEC2 GERESS Array S 150.21 345 *e*PKPbc PKPbc 21 53 09.3 -0.9
GERES GERESS Array B 150.21 345 PKPbc PKPbc 21 53 09.2 -1.1
comp=Z,2.8nm,0.8s,baz=38,slow=2.4,SNR=23
GIVF Givet 150.31 357 *e*PKP1 PKPbc 21 53 09.0 -1.4
comp=Z,26nm,0.8s
DOU Dourbes 150.32 357 P PKPbc 21 53 09.7 -0.8
BAIF Baives 150.38 358 *e*PKP1 PKPbc 21 53 09.3 -1.3
comp=Z,11nm,0.8s
WLF Walferdange 150.65 355 P PKPbc 21 53 10.9 -0.3
WLF Walferdange 150.65 355 *e*PKPbc PKPbc 21 53 10.9 -0.3
FLN La Foliniere 151.61 4 *e*PKP1 PKPbc 21 53 11.6 -1.8
comp=Z,14nm,0.8s
BFO Black Forest 151.74 352 *e*PKPbc PKPbc 21 53 12.5 -1.2
ROSF Rostrenen 151.76 8 *e*PKP1 PKPbc 21 53 11.6 -2.2
comp=Z,9.3nm,0.8s
CDF Champ du Feu 151.78 353 *e*PKP1 PKPbc 21 53 12.3 -1.5
comp=Z,3.7nm,0.6s
LDF La Druitiere 151.80 4 *e*PKP1 PKPbc 21 53 11.9 -2.0
comp=Z,5.1nm,0.6s
MEZF Maizieres J'vi 151.89 356 *e*PKP1 PKPbc 21 53 12.8 -1.3
comp=Z,17nm,1.0s
SGMF Saint Gilles 151.93 7 *e*PKP1 PKPbc 21 53 12.1 -2.1
GRR Gorron 151.96 5 *e*PKP1 PKPbc 21 53 12.5 -1.7
comp=Z,8.9nm,0.7s
HAU Haudompre 152.28 354 *e*PKP1 PKPbc 21 53 13.1 -1.9
comp=Z,3.6nm,0.6s
LOR Lormes 153.18 358 *e*PKP1 PKPbc 21 53 15.3 -1.6
comp=Z,4.1nm,0.8s
SSF Saint Saulge 153.40 358 *e*PKP1 PKPbc 21 53 15.9 -1.5
MFF Saint Martin d 153.79 4 *e*PKP1 PKPbc 21 53 16.5 -1.8
TORD Torodi Ar. Bea 172.75 174 PKP PKPdf 21 53 26.3 -2.1
comp=Z,1.5nm,0.9s,baz=250,slow=0.9,SNR=5.4
TORD PKPab PKPab 21 54 56.1 -1.2
comp=Z,1.5nm,1.3s,baz=178,slow=2.9,SNR=3.5

MAN 03 22:03:27,1773N×12046E,h30km,mb3.6,ML2.3,MS1.8,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.19**	**359**	⇓*e*P	Pb	22 03 34.4	+1.3
SIPP				*e*S	Sb	22 03 39.6	+2.4
ABRA	**Dolores**	**0.25**	**109**	*e*P	Pb	22 03 34.9	+1.0
ABRA				*e*S	Sb	22 03 41.9	+3.4
CAUP	**Cauayan**	**1.52**	**121**	*e*P	Pn	22 03 53.4	+1.3
BALP	**Baler**	**2.25**	**152**	*e*P	Pn	22 04 02.7	+0.5

*ISCJB **03** 22:08:38.8±0.7,4365N±004×10522W±007,h0km,Error ellipse: s-maj=7.1km s-min=5.0km az=12.1*
*IDC **03** 22:08:38.0±1.6,4384N×10557W,h0km,mb4.1/1,mb1 3.9/3,mb1mx3.5/23,mbtmp3.7/3,ML3.2/2,Error ellipse: s-maj=46.4km s-min=8.3km az=149.0*
*NEIC **03** 22:08:39.6±0.6,4369N×105.17W,h0km,ML2.9,Error ellipse: s-maj=8.2km s-min=6.1km az=137.0,Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 03 22:08:39.7±0.6,4367N±003×10518W±006,h0km,n23,σ1§14/34,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**61**	*e*Pg	**Pg**	**22 08 58.2**	**+0.5**
PHWY	**Pilot Hill**	**2.38**	**185**	*e*Pn	**Pn**	**22 09 20.5**	**+0.5**
PHWY				*e*S	**Sn**	**22 09 54.8**	**+5.0**
RWWY	**Rawlins**	**2.49**	**218**	*e*Pn	**Pn**	**22 09 22.0**	**+0.6**
RWWY				*e*Sn	**Sn**	**22 09 53.0**	**+0.6**
RWWY				*e*Sg	**Sg**	**22 09 59.5**	**-0.1**
LAO	**LASA Array**	**3.10**	**347**	*e*Pn	**Pn**	**22 09 31.5**	**+1.7**
LAO				*e*Sn	**Sn**	**22 10 11.8**	**+4.1**
RLMT	**Red Lodge**	**3.27**	**298**	*e*Pn	**Pn**	**22 09 31.2**	**-1.0**
RLMT				*e*Sn	**Sn**	**22 10 12.8**	**+1.1**
PDAR	**Pinedale Array**	**3.33**	**256**	Pn	**Pn**	**22 09 31.8**	**-1.2**
1.4nm,0.3s,baz=73,slow=17,SNR=33							
PDAR				Pg	**Pg**	**22 09 36.8**	**-6.7**
3.7nm,0.3s,baz=71,slow=19,SNR=52							
PDAR				Lg		22 10 15.7	
4.2nm,0.3s,baz=73,slow=33,SNR=8.2							
GCMT	**Greycliff**	**3.84**	**305**	*e*Pn	**Pn**	**22 09 39.4**	**-0.5**
GCMT				*e*Sn	**Sn**	**22 10 27.7**	**+2.0**
ISCO	**Idaho Springs**	**3.88**	**185**	*e*Pn	**Pn**	**22 09 41.4**	**+0.8**
ISCO				*e*S	**Sg**	**22 10 40.2**	**-4.3**
LOHW	**Long Hollow**	**3.94**	**271**	*e*Pn	**Pn**	**22 09 43.1**	**+1.7**
MOOW	**Moose Ponds**	**4.04**	**273**	*e*Pn	**Pn**	**22 09 42.4**	**-0.3**
SNOW	**Snow King Moun**	**4.06**	**269**	*e*Pn	**Pn**	**22 09 43.8**	**+0.8**
REDW	**Red Top Meadow**	**4.14**	**268**	Pn	**Pn**	**22 09 45.1**	**+1.0**
IMW	**Indian Meadow**	**4.18**	**275**	*e*Pn	**Pn**	**22 09 44.9**	**+0.3**
IMW				*e*S	**Sg**	**22 10 51.7**	**-2.2**
TPAW	**Teton Pass**	**4.20**	**269**	*e*Pn	**Pn**	**22 09 45.9**	**+1.0**
RRI2	**Red Ridge**	**4.48**	**268**	*e*Pn	**Pn**	**22 09 48.1**	**-0.7**
DGMT	**Dagmar**	**4.84**	**8**	Pn	**Pn**	**22 09 53.8**	**0.0**
DGMT				*e*Sg	**Sg**	**22 11 11.7**	**-3.6**
BOZ	**Bozeman (W)**	**5.01**	**295**	*e*Pn	**Pn**	**22 09 55.1**	**-1.0**
DAU	**Daniels Canyon**	**5.58**	**236**	*e*Pn	**Pn**	**22 10 03.3**	**-0.6**
SRU	**San Rafael**	**6.08**	**223**	*e*Pn	**Pn**	**22 10 11.3**	**+0.6**
SRU				*e*Sg	**Sg**	**22 11 53.5**	**-1.4**
DUG	**Dugway**	**6.67**	**241**	*e*Pn	**Pn**	**22 10 18.6**	**-0.2**
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**22 10 50.0**	**-2.8**
ULM				Lg		22 13 22.3	
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**22 10 50.0**	**-2.8**
1.1nm,0.3s,baz=231,slow=11,SNR=6.8							
ULM				Lg		22 13 22.3	
0.2nm,0.3s,baz=335,slow=18,SNR=1.6							
ARCES	**ARCESS Array B**	**61.46**	**18**	P	**P**	**22 18 55.2**	**-2.1**
2.2nm,1.1s,baz=339,slow=6.5,SNR=7.0							

*ISCJB **03** 22:29:45.5±2.1,3798N±006×201E±0.1,h3km±19km,Error ellipse: s-maj=16.9km s-min=9.0km az=160.3*
*THE **03** 22:29:45.6,3794N×2016E,h0km*
*NEIC **03** 22:29:47.3,38.16N×201.7E,h2km,MD3.3(ATH),After ATH.*
*ATH **03** 22:29:47.3,38.16N×201.7E,h2km,MD3.3/4*
*CSEM **03** 22:29:49.0±0.3,38.18N×2020E,h2km,MD3.3,Error ellipse: s-maj=6.5km s-min=2.6km az=48.0*
ISC 03 22:29:46.9±2.4,3799N±007×202E±02,h12km±19km,n8,σ0§85/13,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.39**	**61**	*e*Pg	**Pg**	**22 29 53.9**	**-0.8**
VLS				*e*Sg	**Sg**	**22 29 59.4**	**-0.5**
VLS	**Valsamata**	**0.39**	**61**	*e*Pg	**Pg**	**22 29 54.0**	**-0.6**
VLS				*e*Sg	**Sg**	**22 29 59.3**	**-0.6**
KFL	**Anninata**	**0.51**	**76**	*e*Pg	**Pg**	**22 29 56.2**	**-0.7**
KFL				*e*Sg	**Sg**	**22 30 03.6**	**-0.1**
LKD	**Levkas**	**0.82**	**28**	*e*Pg	**Pg**	**22 30 01.3**	**-1.4**
LKD				*e*Sg	**Sg**	**22 30 15.0**	**+1.6**
RLS	**Riolos of Patr**	**1.04**	**86**	*e*PG	**Pg**	**22 30 07.4**	**+0.5**
IGT	**Igoumenitsa**	**1.55**	**5**	*e*Pg	**Pn**	**22 30 14.1**	**-0.3**
IGT				*e*Sg	**Sg**	**22 30 37.2**	**+0.4**
ITM	**Ithomi**	**1.62**	**119**	*e*PB	**Pg**	**22 30 19.3**	**+1.3**
KEK	**Kerkira**	**1.75**	**351**	*e*PB	**Pn**	**22 30 17.0**	**0.0**

*NEIC **03** 22:47:28.4±1.9,3906N×7450E,h10km,Error ellipse: s-maj=32.4km s-min=16.0km az=131.0*
*IDC **03** 22:47:28.4±3.2,3929N×7438E,h0km,mb3.7/4,mb1 3.6/5,mb1mx3.4/24,mbtmp3.5/5,ML2.1/1,Error ellipse: s-maj=71.6km s-min=23.2km az=145.0*
*ISCJB **03** 22:47:31.3±1.6,3925N±007×745E±0.1,h33km±11km,mb3.6/4,Error ellipse: s-maj=14.5km s-min=11.8km az=15.6*
ISC 03 22:47:32.0±1.8,3924N±007×744E±01,h21km±12km,n20,σ1§26/26,mb3.6/4,3C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**2.90**	**12**	P	**Pn**	**22 48 18.8**	**+1.9**
SNR=28							
AML	**Almayashu**	**2.94**	**349**	P	**Pn**	**22 48 17.7**	**+0.2**
SNR=24							
AML	**Almayashu**	**2.94**	**349**	*e*Pn	**Pn**	**22 48 17.7**	**+0.3**
AML				*e*Sn	**Sn**	**22 48 52.1**	**0.0**
ULHL	**Ulahol**	**3.30**	**24**	P	**Pn**	**22 48 25.6**	**+3.2**
SNR=10.0							
KBK	**Karagaybulak**	**3.43**	**7**	P	**Pn**	**22 48 24.2**	**-0.1**
SNR=8.3							
EKS2	**Erkin-Say**	**3.45**	**352**	P	**Pn**	**22 48 26.7**	**+2.3**
SNR=7.4							
EKS2	**Erkin-Say**	**3.45**	**352**	*e*Pn	**Pn**	**22 48 25.1**	**+0.7**
EKS2				*e*Sn	**Sn**	**22 49 02.8**	**-1.8**
CHMS	**Chumysh**	**3.76**	**4**	P	**Pn**	**22 48 28.7**	**0.0**
SNR=7.5							
TKM2	**Tokmak 2**	**3.78**	**13**	⇑Pn	**Pn**	**22 48 28.3**	**-0.7**
8.5nm,0.3s							
TKM2				⇑Sn	**Sn**	**22 49 13.9**	**+1.1**
20nm,0.5s							
TKM2	**Tokmak 2**	**3.78**	**13**	P	**Pn**	**22 48 28.5**	**-0.5**
SNR=17							
TKM2	**Tokmak 2**	**3.78**	**13**	*e*Pn	**Pn**	**22 48 28.5**	**-0.5**
TKM2				*e*Sn	**Sn**	**22 49 10.4**	**-2.4**
USP	**Ospenovka**	**4.02**	**1**	P	**Pb**	**22 48 39.5**	**-2.6**
SNR=9.9							
KK31	**Karatay Array**	**4.85**	**324**	⇓Pn	**Pn**	**22 48 44.5**	**+0.7**
0.4nm,0.2s,baz=123,slow=14							
KK31				⇓Pg	**Pb**	**22 48 55.9**	**-0.4**
8.5nm,0.8s,baz=135,slow=17							
KK31				⇑Sn	**Sn**	**22 49 40.3**	**+1.0**
2.2nm,0.3s,baz=133,slow=23							
KK31				⇓Lg		22 50 00.0	
10nm,0.7s,baz=136,slow=28							
MKAR	**Makanchi Array**	**9.49**	**35**	Pn	**Pn**	**22 49 47.3**	**-0.1**
0.0nm,0.3s,baz=220,slow=14,SNR=2.7							
BVAR	**Borovoye Array**	**14.06**	**350**	Pn	**Pn**	**22 50 51.8**	**+2.0**
0.1nm,0.3s,baz=158,slow=14,SNR=2.9							
ARCES	**ARCESS Array B**	**39.71**	**335**	P	**P**	**22 55 00.8**	**-1.5**
0.5nm,0.5s,mb3.5,baz=107,slow=7.7,SNR=11							
ARCES	**ARCESS Array B**	**39.71**	**335**	P	**P**	**22 55 00.8**	**-1.5**
HFS	**Hagfors**	**42.65**	**320**	P	**P**	**22 55 25.1**	**-1.5**
6.3nm,1.2s,mb4.2,baz=110,slow=11,SNR=3.2							
GERES	**GERESS Array B**	**43.62**	**303**	P	**P**	**22 55 35.0**	**+0.4**
0.2nm,0.5s,mb3.1,baz=61,slow=8.1,SNR=3.2							
TORD	**Torodi Ar. Bea**	**68.47**	**270**	P	**P**	**22 58 32.2**	**-0.5**
0.3nm,0.6s,mb3.5,baz=53,slow=5.2,SNR=14							

*IDC **03** 22:58:52.8±6.2,3728N×7241E,h114km±54km,mb3.4/7,mb1 3.6/11,mb1mx3.4/25,mbtmp3.4/11,MS3.4/1,Ms1 3.4/1,ms1mx2.4/21,Error ellipse: s-maj=35.3km s-min=25.0km az=14.0*
*ISCJB **03** 22:58:55.4±0.4,3747N±003×7246E±005,h153km±6km,mb3.6/7,Error ellipse: s-maj=6.8km s-min=4.1km az=179.7*
*NEIC **03** 22:58:55.9±0.9,3744N×7246E,h139km±8km,mb4.1/1,Error ellipse: s-maj=14.1km s-min=8.2km az=124.0*
*BJI **03** 22:58:56.2,3740N×7253E,h120km*
ISC 03 22:58:56.4±0.4,3747N±002×7249E±005,h146km±6km,n52,σ1§05/63,mb3.6/7,3C,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.41**	**52**	P	**Pn**	**22 59 50.7**	**+1.9**
KSH				S	**Sn**	**23 00 31.9**	**+2.5**
KSH				Smax			
comp=N,393nm,0.6s							
KSH				Smax			
comp=E,266nm,0.5s							
CEP	**Cherat**	**3.67**	**188**	P	**Pn**	**22 59 54.0**	**+1.8**
CEP				S	**Sn**	**23 00 37.0**	**+1.6**
CHCP	**Chirah Chowk**	**3.85**	**170**	P	**Pn**	**22 59 56.8**	**+2.2**
KBL	**Kabul**	**4.04**	**225**	*e*Pn	**Pn**	**22 59 56.7**	**-0.4**
KBL				*e*Sn	**Sn**	**23 00 43.6**	**-0.5**
THW	**Thamme Wali**	**4.70**	**188**	P	**Pn**	**23 00 06.4**	**+0.6**
AML	**Almayashu**	**4.75**	**11**	P	**Pn**	**23 00 05.3**	**-0.9**
SNR=79							
UCH	**Uchtor**	**5.00**	**17**	P	**Sn**	**23 01 03.3**	**-3.5**
SNR=7.3							
EKS2	**Erkin-Say**	**5.28**	**10**	P	**Pn**	**23 00 12.7**	**-0.7**
SNR=46							
EKS2	**Erkin-Say**	**5.28**	**10**	*e*Pn	**Pn**	**23 00 12.5**	**-0.8**
comp=E,3.8nm,0.3s							
EKS2				*e*Sn	**Sn**	**23 01 09.3**	**-4.1**
KBK	**Karagaybulak**	**5.51**	**19**	P	**Pn**	**23 00 18.1**	**+1.7**
SNR=6.4							
SARP	**Sargodha**	**5.54**	**178**	P	**Pn**	**23 00 17.7**	**+0.9**
SARP				S	**Sn**	**23 01 18.0**	**-1.6**
ULHL	**Ulahol**	**5.58**	**30**	P	**Pn**	**23 00 17.8**	**+0.5**
SNR=7.5							
THN	**Thein Dam**	**5.68**	**151**	*e*P	**Pn**	**23 00 19.0**	**+0.3**
THN				*e*S	**Sn**	**23 01 20.3**	**-2.7**
DLH	**Dalhousie**	**5.68**	**149**	*e*P	**Pn**	**23 00 19.0**	**+0.2**
DLH				*ex*	**Sn**	**23 01 24.0**	**+0.9**
CHMS	**Chumysh**	**5.79**	**17**	P	**Pn**	**23 00 19.8**	**-0.3**
SNR=7.2							
KK31	**Karatay Array**	**5.83**	**346**	P	**Pn**	**23 00 17.7**	**-2.9**
comp=E,9.0nm,0.3s,baz=165,slow=12,SNR=576							
KK31				⇑S	**Sn**	**23 01 17.1**	**-9.4**
comp=E,9.9nm,0.3s,baz=170,slow=22,SNR=5.2							
TKM2	**Tokmak 2**	**5.94**	**23**	⇑P	**Pn**	**23 00 21.7**	**-0.4**
comp=E,1.8nm,0.5s							
TKM2				⇑S	**Sn**	**23 01 28.0**	**-1.2**
comp=E,6.5nm,0.8s							
TKM2	**Tokmak 2**	**5.94**	**23**	P	**Pn**	**23 00 22.7**	**+0.6**
SNR=6.6							
SDNR	**Sundarnagar**	**7.01**	**147**	*e*P	**Pn**	**23 00 36.4**	**-0.1**
SDNR				*e*S	**Sn**	**23 01 50.4**	**-4.5**
SMLA	**Simla**	**7.41**	**147**	*i* P	**Pn**	**23 00 41.0**	**-0.9**
SMLA				*i* S	**Sn**	**23 02 00.7**	**-4.0**
SMLA				*ex*	x	23 02 04.6	
comp=E,774nm,0.3s							
SMLA				*ex*	x	23 02 06.4	
comp=N,643nm,0.3s							
KLP	**Kalpa**	**7.59**	**140**	*e*P	**Pn**	**23 00 44.4**	**+0.1**
KLP				*e*S	**Sn**	**23 02 01.7**	**-7.3**
KLP				AML	AML	23 02 14.1	
comp=N,97nm,0.4s							
KLP				AML	AML	23 02 16.8	
comp=E,99nm,0.4s							
JOSI	**Joshimath**	**9.05**	**138**	*e*S	**Sn**	**23 02 35.2**	**-8.9**
JOSI				AML	AML	23 02 59.7	
comp=N,87nm,0.5s							
JOSI				AML	AML	23 03 01.2	
comp=E,66nm,0.6s							
KUDL	**Kundal**	**9.88**	**159**	*e*S	**Sn**	**23 02 58.4**	**-5.9**
KUDL				AML	AML	23 03 05.4	
comp=N,12nm,0.2s							
SONA	**Sohna**	**9.97**	**156**	*e*S	**Sn**	**23 02 58.4**	**-7.9**
SONA				AML	AML	23 03 01.4	
comp=N,8.6nm,0.1s							
MKAR	**Makanchi Array**	**11.81**	**35**	P	**Pn**	**23 01 40.3**	**+0.2**
comp=N,0.1nm,0.3s,baz=221,slow=16,SNR=4.8							
DANN	**Dangsing**	**13.12**	**131**	*e*P	**Pn**	**23 01 56.7**	**-0.5**
comp=N,14nm,0.2s							
KOLN	**Koldanda**	**13.45**	**133**	*e*P	**Pn**	**23 02 00.2**	**-1.2**
GKN	**Gorkha**	**13.90**	**129**	*e*P	**Pn**	**23 02 06.9**	**-0.3**
KKN	**Kakani**	**14.45**	**128**	*e*P	**Pn**	**23 02 12.8**	**-1.3**
DMN	**Daman**	**14.47**	**129**	*e*P	**Pn**	**23 02 13.7**	**-0.6**
comp=N,13nm,0.4s							
PKI	**Pulchoki**	**14.69**	**128**	*e*P	**Pn**	**23 02 17.0**	**0.0**
comp=N,7.5nm,0.2s							
JIRN	**Jiri**	**15.12**	**126**	*e*P	**Pn**	**23 02 22.0**	**-0.4**
comp=N,28nm,0.4s							
BVAR	**Borovoye Array**	**15.63**	**355**	P	**Pn**	**23 02 29.5**	**+1.0**
comp=N,0.9nm,0.3s,baz=185,slow=14,SNR=12							
RAMN	**Ramite**	**15.87**	**127**	*e*P	**Pn**	**23 02 31.5**	**-0.2**
comp=N,14nm,0.4s							
TAPN	**Taplejung**	**16.32**	**124**	*e*P	**Pn**	**23 02 37.5**	**+0.3**
comp=N,9.1nm,0.4s							
ODAN	**Odare**	**16.44**	**126**	*e*P	**Pn**	**23 02 39.6**	**+0.9**
comp=N,6.7nm,0.3s							
AKTK	**Aktyubinsk**	**16.59**	**326**	P	**Pn**	**23 02 39.5**	**-0.8**
AKTO	**Aktyubinsk**	**16.59**	**326**	P	**Pn**	**23 02 39.5**	**-0.8**
comp=N,0.8nm,0.3s,baz=131,slow=7.0,SNR=17							
ZAA0	**Zalesovo Array**	**18.55**	**23**	*e*P	**P**	**23 03 02.0**	**+0.4**
ZALV	**Zalesovo Beam**	**18.55**	**23**	P	**P**	**23 03 02.2**	**+0.6**
comp=N,0.5nm,0.3s,baz=206,slow=9.9,SNR=9.4							
ZALV	**Zalesovo Beam**	**18.55**	**23**	P	**P**	**23 03 02.2**	**+0.6**
ARCES	**ARCESS Array B**	**40.72**	**337**	P	**P**	**23 06 23.0**	**+0.8**
comp=N,0.8nm,0.5s,mb3.6,baz=114,slow=8.0,SNR=18							
ARCES	**ARCESS Array B**	**40.72**	**337**	P	**P**	**23 06 23.0**	**+0.8**
HFS	**Hagfors**	**43.05**	**321**	P	**P**	**23 06 41.5**	**+0.2**
comp=N,3.1nm,0.5s,mb4.2,baz=98,slow=11,SNR=27							
GERES	**GERESS Array B**	**43.36**	**305**	LR	LR	23 29 59.9	
comp=N,38nm,18.1s,baz=277,slow=43							
NB2	**NORSAR Subarra**	**44.34**	**322**	P	**P**	**23 06 51.3**	**-0.2**
comp=Z,0.9nm,0.4s,mb3.8,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**44.34**	**322**	P	**P**	**23 06 51.6**	**+0.1**
comp=Z,1.0nm,0.4s,mb3.8,baz=94,slow=7.6,SNR=5.7							
ESDC	**Sonseca Array**	**58.06**	**298**	P	**P**	**23 08 34.4**	**+0.3**
comp=Z,0.2nm,0.5s,mb3.2,baz=55,slow=7.5,SNR=3.0							
TORD	**Torodi Ar. Bea**	**66.93**	**269**	P	**P**	**23 09 32.9**	**-0.4**
comp=Z,0.2nm,0.4s,mb3.3,baz=51,slow=5.7,SNR=14							
YKA	**Yellowknife Ar**	**80.22**	**3**	P	**P**	**23 10 51.4**	**+1.3**
comp=Z,0.7nm,0.5s,mb3.6,baz=349,slow=5.4,SNR=6.2							
YKA	**Yellowknife Ar**	**80.22**	**3**	P	**P**	**23 10 51.4**	**+1.3**
WRA	**Warramunga Arr**	**81.50**	**123**	P	**P**	**23 10 57.3**	**-0.2**
comp=Z,0.2nm,0.3s,mb3.2,baz=312,slow=6.7,SNR=3.4							

*ISCJB **03** 23:09:49.5±1.2,3706N±006×21.15E±005,h10km,Error ellipse: s-maj=9.7km s-min=4.2km az=27.1*
*CSEM **03** 23:09:51.7±0.5,3712N×2117E,h8km,MD3.6,Error ellipse: s-maj=9.2km s-min=2.9km az=27.0*
*THE **03** 23:09:51.8,3716N×2124E,h0km*
*ATH **03** 23:09:52.4,3725N×2123E,h18km±2km,MD3.6/8*
*NEIC **03** 23:09:53.1,3731N×2128E,h18km,MD3.6(ATH),After ATH.*
ISC 03 23:09:50.7±1.2,3710N±006×2118E±005,h2km±5km,n22,σ1§11/35,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.60**	**83**	*e*Pn	**Pg**	**23 10 03.7**	**+1.4**
ITM				*e*Sn	**Sg**	**23 10 11.6**	**+1.5**
RLS	**Riolos of Patr**	**0.98**	**14**	*e*Pn	**Pn**	**23 10 08.2**	**-3.2**
VLX	**Vlachokerasia**	**1.00**	**74**	*e*Pg	**Pg**	**23 10 09.0**	**-0.8**
VLX				*e*Sg	**Sg**	**23 10 23.1**	**+0.5**
VLX	**Vlachokerasia**	**1.00**	**74**	*e*Pg	**Pg**	**23 10 09.0**	**-0.8**
VLX				*e*Sg	**Sg**	**23 10 23.1**	**+0.4**
KFL	**Anninata**	**1.05**	**343**	*e*Pg	**Pg**	**23 10 10.7**	**-0.1**
KFL				*e*Sg	**Sg**	**23 10 25.8**	**+1.3**
VLS	**Valsamata**	**1.17**	**337**	*e*Pg	**Pg**	**23 10 12.7**	**-0.4**
VLS				*e*Sg	**Sg**	**23 10 29.6**	**+1.4**
VLS	**Valsamata**	**1.17**	**337**	*e*PN	**Pn**	**23 10 12.6**	**-1.4**
VLI	**Veliai**	**1.46**	**105**	*e*PN	**Pn**	**23 10 20.0**	**+1.9**
LKD	**Levkas**	**1.65**	**346**	*e*Pg	**Pg**	**23 10 20.8**	**-1.6**
LKD				*e*Sg	**Sg**	**23 10 43.0**	**-0.9**
DID	**Didima**	**1.69**	**76**	*e*Pb	**Pb**	**23 10 21.1**	**-1.4**
DID				*e*Sb	**S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR				smax			
	comp=E,280nm,0.3s						
SKR				smax			
	comp=N,270nm,0.5s						
MKZ	**Mys Kozlova**	**2.77**	**23**	*e*P	**Pn**	**23 20 48.9**	**-0.2**
MKZ				*i* S	**Sn**	**23 21 20.7**	**-0.6**
ALID	**Alaid**	**2.95**	**249**	*e*P	**Pn**	**23 20 52.2**	**+0.7**
ALID				*i* S	**Sn**	**23 21 27.1**	**+1.5**
ZLN	**Zelenaya**	**4.04**	**7**	*e*P	**Pn**	**23 21 09.7**	**+3.2**
CIRR	**Tsirk**	**4.14**	**7**	*e*P	**Pn**	**23 21 11.6**	**+3.8**
KRSR	**Krestovskiy**	**4.23**	**5**	*e*P	**Pn**	**23 21 13.1**	**+4.1**
KBTR	**Krutoberegovo**	**4.54**	**21**	*e*P	**Pn**	**23 21 14.7**	**+1.4**
YSS	**Yuzh-Sakhalins**	**12.23**	**252**	⇑*i*PN	**Pn**	**23 22 58.4**	**-0.3**
BILL	**Bilibino**	**16.37**	**9**	⇓*i*P	**Pn**	**23 23 53.0**	**-0.6**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.4s						
YAK	**Yakutsk**	**19.07**	**313**	⇑*i*P	**Pn**	**23 24 24.2**	**-2.7**
KURK	**Kurchatov**	**48.20**	**303**	⇓*i*P	**P**	**23 28 43.7**	**+0.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**57.84**	**259**	*i* P	**P**	**23 30 01.1**	**+6.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**69.47**	**329**	*i* P	**P**	**23 31 11.1**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

ISCJB ***03*** *23:44:44.5±0.3, 4382N×003×10524W±003, h0km, mb3.8/3, Error ellipse: s-maj=4.2km s-min=3.6km az=13.4*
NEIC ***03*** *23:44:46.4±0.5, 4377N×10524W, h0km, ML3.2, Error ellipse: s-maj=6.0km s-min=5.1km az=164.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
IDC ***03*** *23:44:47.6±2.0, 4420N×10591W, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.6/23, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=78.3km s-min=8.5km az=144.0*
ISC 03 23:44:46.3±0.4, 4381N±003×10522W±003, h0km, n47, σ0§93/59, mb3.8/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**69**	*e*Pg	**Pg**	**23 45 03.5**	**-0.2**
PHWY	**Pilot Hill**	**2.51**	**184**	*e*Pn	**Pn**	**23 45 26.9**	**-1.4**
PHWY				*e*Sn	**Sn**	**23 45 59.4**	**-0.2**
RWWY	**Rawlins**	**2.58**	**215**	*e*Pn	**Pn**	**23 45 28.0**	**-1.2**
RWWY				*e*Sn	**Sn**	**23 46 01.4**	**+0.3**
LAO	**LASA Array**	**2.97**	**347**	*e*Pn	**Pn**	**23 45 35.2**	**+0.7**
RLMT	**Red Lodge**	**3.18**	**296**	*e*Pn	**Pn**	**23 45 37.6**	**+0.1**
PDAR	**Pinedale Array**	**3.33**	**253**	Pn	**Pn**	**23 45 39.9**	**+0.2**
	4.4nm,0.3s,baz=70,slow=17,SNR=50						
PDAR				Lg		23 46 22.1	
	4.1nm,0.3s,baz=72,slow=33,SNR=4.2						
BW06	**Boulder Array**	**3.33**	**253**	*e*Pn	**Pn**	**23 45 39.7**	**+0.1**
LKWY	**Lake**	**3.80**	**283**	*e*Pg	**Pg**	**23 45 57.7**	**-1.4**
LKWY				*e*Sg	**Sg**	**23 46 48.1**	**-0.3**
LOHW	**Long Hollow**	**3.91**	**269**	*e*Pn	**Pn**	**23 45 48.2**	**+0.7**
LOHW				*e*Sg	**Sg**	**23 46 50.4**	**-1.5**
FLWY	**Flagg Ranch**	**3.97**	**276**	*e*Pn	**Pn**	**23 45 48.3**	**0.0**
FLWY				*e*Sg	**Sg**	**23 46 53.3**	**-0.4**
MOOW	**Moose Ponds**	**4.00**	**271**	*e*Pn	**Pn**	**23 45 48.2**	**-0.6**
ISCO	**Idaho Springs**	**4.02**	**184**	*e*Pn	**Pn**	**23 45 49.4**	**+0.5**
YNR	**Norris Junctio**	**4.03**	**285**	*e*Pg	**Pg**	**23 46 04.5**	**+1.1**
SNOW	**Snow King Moun**	**4.03**	**267**	*e*Pg	**Pg**	**23 46 04.2**	**+0.7**
YFT	**Old Faithful**	**4.09**	**281**	*e*Pg	**Pg**	**23 46 03.1**	**-1.6**
REDW	**Red Top Meadow**	**4.12**	**266**	*e*Pn	**Pn**	**23 45 51.3**	**+0.9**
IMW	**Indian Meadow**	**4.14**	**273**	*e*Pn	**Pn**	**23 45 51.0**	**+0.3**
RRI2	**Red Ridge**	**4.46**	**266**	*e*Pn	**Pn**	**23 45 55.1**	**+0.1**
QLMT	**Earthquake Lak**	**4.57**	**285**	*e*Pb	**Pb**	**23 46 07.1**	**-0.2**
DGMT	**Dagmar**	**4.72**	**8**	*e*Pn	**Pn**	**23 46 00.5**	**+1.9**
SMCO	**Snowmass**	**4.81**	**196**	*e*Pn	**Pn**	**23 46 01.1**	**+1.2**
SMCO				*e*Pg	**Pg**	**23 46 26.0**	**+7.6**
SMCO				*e*Sb	**Sb**	**23 47 11.1**	**+1.3**
BOZ	**Bozeman (W)**	**4.92**	**294**	*e*Pn	**Pn**	**23 46 00.7**	**-0.7**
EGMT	**Eagleton**	**5.27**	**325**	*e*Pn	**Pn**	**23 46 06.5**	**+0.2**
LRM	**Limekiln Ridge**	**5.53**	**294**	*e*Pn	**Pn**	**23 46 10.6**	**+0.9**
DAU	**Daniels Canyon**	**5.63**	**235**	*e*Pn	**Pn**	**23 46 11.7**	**+0.6**
SPUT	**South Promonto**	**5.89**	**247**	*e*Pn	**Pn**	**23 46 15.8**	**+1.0**
SPUT				*e*Pb	**Pb**	**23 46 31.9**	**+2.1**
HVU	**Hansel Valley**	**5.92**	**253**	*e*Pb	**Pb**	**23 46 26.4**	**-3.8**
SDCO	**Great Sand Dun**	**6.06**	**182**	*e*Pb	**Pb**	**23 46 31.6**	**-1.0**
MPU	**Maple Canyon**	**6.10**	**234**	*e*Pg	**Pg**	**23 46 37.9**	**-5.3**
SRU	**San Rafael**	**6.16**	**222**	*e*Pn	**Pn**	**23 46 18.0**	**-0.4**
ECSD	**EROS,Sioux Fal**	**6.23**	**88**	*e*Pn	**Pn**	**23 46 20.6**	**+1.2**
ECSD				*e*Pb	**Pb**	**23 46 33.2**	**-2.4**
TMUT	**Trail Mountain**	**6.36**	**227**	*e*Pn	**Pn**	**23 46 21.8**	**+0.5**
CHMT	**Chamberlain Mo**	**6.46**	**302**	*e*Pn	**Pn**	**23 46 22.8**	**+0.3**
HLID	**Hailey**	**6.67**	**271**	*e*Pb	**Pb**	**23 46 42.5**	**-0.6**
DUG	**Dugway**	**6.71**	**240**	*e*Pn	**Pn**	**23 46 25.4**	**-0.6**
MVCO	**Mesa Verde**	**7.05**	**202**	*e*Pg	**Pg**	**23 46 57.2**	**-4.1**
MSU	**Marysvale**	**7.45**	**227**	*e*Pn	**Pn**	**23 46 36.1**	**-0.1**
MVU	**Marysvale**	**7.48**	**227**	*e*Pn	**Pn**	**23 46 28.6**	**-7.9**
AGMN	**Agassiz Refuge**	**7.91**	**52**	*e*Pg	**Pg**	**23 47 12.2**	**-5.5**
KSU1	**Kansas State U**	**7.99**	**123**	*e*Pg	**Pg**	**23 47 15.5**	**-3.9**
KSU1				*e*Sb	**Sg**	**23 49 09.1**	**+6.2**
SCIA	**State Center**	**9.02**	**98**	*e*Pn	**Pn**	**23 46 57.2**	**-0.5**
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**23 46 58.9**	**+0.7**
ULM				Pg	**Pg**	**23 47 27.6**	**-12**
ULM				Lg		23 49 27.5	
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**23 46 58.9**	**+0.7**
	0.8nm,0.3s,baz=240,slow=11,SNR=7.3						
ULM				Pg	**Pg**	**23 47 27.6**	**-12**
	0.4nm,0.3s,baz=222,slow=16,SNR=2.3						
ULM				Lg		23 49 27.5	
	0.9nm,0.3s,baz=305,slow=22,SNR=3.4						
LHS	**Liberty Hill**	**21.04**	**108**	*e*Pn	**P**	**23 49 40.8**	**+9.2**
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**23 55 02.3**	**-0.9**
	0.8nm,0.9s,mb3.9,baz=320,slow=5.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**82.24**	**354**	P	**P**	**23 57 08.3**	**-0.7**
	0.7nm,0.6s,mb4.0,baz=21,slow=8.4,SNR=2.6						
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**23 57 44.8**	**-0.5**
	0.3nm,0.6s,mb3.7,baz=357,slow=3.2,SNR=2.9						

IDC ***03*** *23:45:55.7±5.8, 3934N×7191E, h20km±37km, mb3.5/4, mb1 3.6/8, mb1mx3.4/26, mbtmp3.6/8, ML3.6/4, Error ellipse: s-maj=25.1km s-min=18.6km az=151.0*
NNC ***03*** *23:45:57.0±3.6, 3960N×7192E, h7km±12km, mb4.1, mpv4.0, Error ellipse: s-maj=29.6km s-min=13.6km az=174.0*
ISCJB ***03*** *23:45:59.1±0.8, 3969N±005×7153E±007, h34km±13km, mb3.3/3, Error ellipse: s-maj=10.1km s-min=6.5km az=29.8*
MOS ***03*** *23:45:59.0±1.4, 3973N×7155E, h33km, mb3.9/3, Error ellipse: s-maj=21.9km s-min=11.9km az=81.5*
NEIC ***03*** *23:46:00.7±0.9, 3970N×7160E, h39km±15km, Error ellipse: s-maj=17.0km s-min=9.6km az=126.0*
ISC 03 23:46:01.6±0.6, 3972N±005×7162E±007, h47km±12km, n40, σ1§09/55, mb3.3/3, 11C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.88**	**32**	P	**Pn**	**23 46 45.2**	**+0.3**
	SNR=62						
AML	**Almayashu**	**2.88**	**32**	*e*Pn	**Pn**	**23 46 45.2**	**+0.3**
UCH	**Uchtor**	**3.33**	**40**	P	**Pn**	**23 46 52.0**	**+0.9**
	SNR=14						
UCH	**Uchtor**	**3.33**	**40**	*e*Pn	**Pn**	**23 46 51.8**	**+0.7**
EKS2	**Erkin-Say**	**3.36**	**28**	P	**Pn**	**23 46 52.1**	**+0.6**
	SNR=15						
EKS2	**Erkin-Say**	**3.36**	**28**	*e*Pn	**Pn**	**23 46 52.0**	**+0.5**
EKS2				*e*S	**Sn**	**23 47 43.7**	**+14**
KK31	**Karatay Array**	**3.48**	**346**	⇑Pn	**Pn**	**23 46 55.2**	**+2.0**
	9.3nm,0.5s,baz=147,slow=11,SNR=358						
KK31				⇑Pg	**Pn**	**23 47 05.2**	**+12**
	48nm,0.6s,baz=170,slow=20,SNR=15						
KK31				⇑Lg		23 47 53.8	
	21nm,0.3s,baz=163,slow=30,SNR=3.9						
KZA	**Kyzart**	**3.62**	**48**	P	**Pn**	**23 46 55.7**	**+0.6**
	SNR=15						
FRU	**Bishkek**	**3.84**	**35**	*e*PN	**Pn**	**23 46 59.0**	**+0.8**
FRU				*i*		23 47 09.0	
FRU				*i* S	**Sn**	**23 47 48.0**	**+5.9**
FRU				*i*		23 47 58.0	
FRU				pmax	pmax		
	comp=E,880nm,1.2s						
CHMS	**Chumysh**	**4.04**	**35**	P	**Pn**	**23 47 01.3**	**+0.5**
	SNR=35						
USP	**Ospenovka**	**4.15**	**30**	P	**Pn**	**23 47 02.7**	**+0.3**
	SNR=45						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**4.31**	**53**	P	**Pn**	**23 47 03.6**	**-1.0**
	SNR=40						
TKM2	**Tokmak 2**	**4.38**	**42**	⇑Pn	**Pn**	**23 47 05.0**	**-0.5**
	comp=E,4.6nm,0.4s						
TKM2				⇓Pg	**Pn**	**23 47 15.0**	**+9.4**
	comp=E,16nm,0.4s						
TKM2				⇓Sn	**Sn**	**23 47 55.5**	**+0.2**
	comp=E,30nm,0.7s						
TKM2				⇑Lg		23 48 12.3	
TKM2	**Tokmak 2**	**4.38**	**42**	P	**Pn**	**23 47 05.1**	**-0.4**
	SNR=18						
TKM2	**Tokmak 2**	**4.38**	**42**	*e*Pn	**Pn**	**23 47 05.0**	**-0.5**
TKM2				*e*S	**Sn**	**23 48 10.8**	**+15**
KNDC	**Almaty**	**5.32**	**47**	⇓Pg	**Pn**	**23 47 31.9**	**+13**
	comp=E,29nm,0.5s						
KNDC				⇓Lg		23 48 41.1	
	comp=E,135nm,1.2s						
AAA	**Alma-Ata**	**5.35**	**47**	*e*PN	**Pn**	**23 47 32.1**	**+13**
AAA				*e*S	Sn	23 48 40.0	+21
KBL	**Kabul**	**5.56**	**203**	*e*Pn	**Pn**	**23 47 20.8**	**-1.0**
	comp=E,16nm,0.6s						
KBL				*e*Sn	**Sn**	**23 48 25.3**	**+0.9**
SMLA	**Simla**	**9.69**	**150**	*i* P	**Pn**	**23 48 09.8**	**-8.5**
SMLA				*i* S	**Sn**	**23 49 50.8**	**-15**
SMLA				*i* S	**Sn**	**23 49 51.0**	**-15**
SMLA				*ex*	x	23 49 57.2	
	comp=N,384nm,0.3s						
SMLA				*ex*	x	23 49 57.9	
	comp=E,281nm,0.3s						
MKAR	**Makanchi Array**	**10.51**	**44**	Pn	**Pn**	**23 48 28.6**	**-0.8**
	comp=E,0.1nm,0.3s,baz=225,slow=13,SNR=3.6						
MKAR				Lg		23 51 20.3	
	comp=E,0.1nm,0.3s,baz=232,slow=28,SNR=3.8						
MKAR	**Makanchi Array**	**10.51**	**44**	Pn	**Pn**	**23 48 28.6**	**-0.8**
MKAR				Lg		23 51 20.3	
KURBB	**Kurchatov Arra**	**11.94**	**22**	⇑Pn	**Pn**	**23 48 44.9**	**-4.1**
	comp=E,0.2nm,0.5s						
KURBB				⇑Lg		23 52 17.8	
	comp=E,3.7nm,0.8s						
KURK	**Kurchatov**	**12.05**	**22**	⇑Pn	**Pn**	**23 48 46.9**	**-3.5**
	comp=E,1.5nm,0.2s						
KURK				⇑Lg		23 52 18.5	
	comp=E,22nm,1.5s						
AB31	**Akbulak array**	**12.65**	**323**	Pn	**Pn**	**23 48 57.3**	**-1.5**
	comp=E,2.3nm,0.5s,baz=129,slow=15,SNR=66						
AB31				⇓Sn	**Sn**	**23 51 21.6**	**+3.5**
	comp=E,1.7nm,0.5s,baz=131,slow=25,SNR=6.4						
BVA0	**Borovoye Array**	**13.34**	**357**	⇓Pn	**Pn**	**23 49 09.1**	**+1.1**
	comp=E,1.0nm,1.7s,baz=156,slow=13,SNR=8.3						
BVAR	**Borovoye Array**	**13.34**	**357**	Pn	**Pn**	**23 49 05.8**	**-2.3**
	comp=E,0.2nm,0.3s,baz=170,slow=13,SNR=7.8						
BVAR				Lg		23 53 03.6	
	comp=E,0.1nm,0.3s,baz=146,slow=27,SNR=3.1						
AKTK	**Aktyubinsk**	**14.37**	**323**	Pn	**Pn**	**23 49 21.4**	**-0.7**
AKTK				Sn	**Sn**	**23 51 59.1**	**-0.8**
AKTK				Lg		23 53 44.9	
AKTO	**Aktyubinsk**	**14.37**	**323**	⇑Pn	**Pn**	**23 49 20.7**	**-1.4**
	comp=E,0.9nm,0.8s						
AKTO				⇑Sn	**Sn**	**23 52 06.5**	**+6.6**
	comp=E,1.4nm,1.8s						
AKTO	**Aktyubinsk**	**14.37**	**323**	Pn	**Pn**	**23 49 21.4**	**-0.7**
	comp=E,0.8nm,0.3s,baz=124,slow=13,SNR=12						
AKTO				Sn	**Sn**	**23 51 59.1**	**-0.8**
	comp=E,0.0nm,0.3s,baz=150,slow=22,SNR=3.0						
AKTO				Lg		23 53 44.9	
	comp=E,0.0nm,0.3s,baz=83,slow=20,SNR=2.1						
ZAL	**Zalesovo**	**16.80**	**28**	P	**Pn**	**23 49 52.6**	**-0.7**
ZAL				S	**S**	**23 53 02.0**	**-5.6**
ZALV	**Zalesovo Beam**	**16.82**	**28**	P	**Pn**	**23 49 52.6**	**-0.9**
	comp=E,0.4nm,0.3s,baz=217,slow=13,SNR=4.2						
ZALV				S	**S**	**23 53 02.0**	**-5.9**
	baz=284,slow=12,SNR=2.1						
ZALV				Lg		23 54 45.4	
	comp=E,0.2nm,0.3s,baz=355,slow=30,SNR=2.2						
ARU	**Arti**	**18.81**	**337**	*e*P	**Pn**	**23 50 19.9**	**+2.1**
GNI	**Garni**	**20.59**	**280**	P	**P**	**23 50 37.4**	**+0.8**
	comp=E,1.8nm,0.6s,baz=243,slow=15,SNR=3.6						
GNI	**Garni**	**20.59**	**280**	P	**P**	**23 50 37.4**	**+0.8**
GNI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**38.39**	**336**	P	**P**	**23 53 18.9**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.6,baz=106,slow=8.3,SNR=9.4						
ARCES	**ARCESS Array B**	**38.39**	**336**	P	**P**	**23 53 18.9**	**+1.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**42.15**	**321**	P	**P**	**23 53 50.1**	**+1.0**
	comp=Z,0.1nm,0.7s,mb2.5,baz=93,slow=8.6						
NOA	**NORSAR Array B**	**42.15**	**321**	P	**P**	**23 53 49.4**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.5,baz=91,slow=8.0,SNR=4.1						
NOA	**NORSAR Array B**	**42.15**	**321**	P	**P**	**23 53 49.4**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**66.31**	**268**	P	**P**	**23 56 44.1**	**-1.4**
	comp=Z,0.1nm,0.4s,mb3.2,baz=59,slow=5.3,SNR=6.1						

CSEM ***04*** *00:21:38.7±0.1, 3751N×2757E, h13km±1km, MD2.9, Error ellipse: s-maj=2.6km s-min=1.6km az=69.0*
ISCJB ***04*** *00:21:39.5±0.5, 3751N±003×2756E±004, h8km±6km, Error ellipse: s-maj=5.6km s-min=4.0km az=153.3*
ISK ***04*** *00:21:39.0, 3751N×2757E, h9km, MD2.9*
DDA ***04*** *00:21:39.5, 3750N×2756E, h7km±2km, Md2.9*
ISC 04 00:21:39.8±0.5, 3751N±002×2756E±004, h11km±6km, n11, σ0§37/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.27**	**140**	*e*PG	**Pg**	**00 21 45.5**	**+0.1**
MLSB				*e*SG	**Sg**	**00 21 49.3**	**+0.2**
AYDN	**Tasoluk**	**0.30**	**58**	*i* P	**Pg**	**00 21 46.0**	**+0.2**
AYDN				*i* S	**Sg**	**00 21 49.8**	**-0.1**
GCAM	**G?zelcaml?**	**0.32**	**307**	*i* P	**Pg**	**00 21 46.4**	**0.0**
GCAM				*i* S	**Sg**	**00 21 50.5**	**-0.2**
BDRM	**Kayabasi**	**0.45**	**192**	*i* P	**Pg**	**00 21 48.5**	**-0.2**
BDRM				*i* S	**Sg**	**00 21 54.7**	**+0.2**
BODT	**Bodrum**	**0.48**	**204**	*e*PG	**Pg**	**00 21 49.2**	**-0.1**
BODT				*e*SG	**Sg**	**00 21 56.2**	**+0.4**
YER	**Yerkesik**	**0.69**	**122**	*e*PG	**Pg**	**00 21 52.6**	**-0.5**
YER				*e*SG	**Sg**	**00 22 02.3**	**+0.2**
IZM	**Izmir**	**0.92**	**345**	*e*PG	**Pg**	**00 21 57.0**	**-0.6**
KDAG	**Bornova**	**0.93**	**346**	*i* P	**Pg**	**00 21 57.4**	**-0.3**
KDAG				*i* S	**Sg**	**00 22 10.1**	**+0.3**
BLCB	**Balcova**	**0.97**	**335**	*e*PG	**Pg**	**00 21 57.9**	**-0.6**
BLCB				*e*SG	**Sg**	**00 22 11.9**	**+0.7**
DALT	**Dalyan (Mudla)**	**1.13**	**130**	*e*PN	**Pn**	**00 22 00.9**	**-0.6**
KULA	**Kula-Manisa**	**1.33**	**40**	*e*PN	**Pn**	**00 22 04.8**	**+0.5**
KULA				*e*SN	**Sn**	**00 22 22.3**	**+0.3**

NIED ***04*** *00:22:00, 3590N×14090E, h41km, Mw4.2 Best double couple: M0 1.97000×10^15 NP1:φs346.00000°, δ86.00000°, λ69.00000°. NP2:φs246.00000°, δ22.00000°, λ169.00000°.*
MOS ***04*** *00:22:23.4±1.4, 3576N×14089E, h33km, mb4.4/3, Error ellipse: s-maj=16.2km s-min=10.3km az=126.1*
IDC ***04*** *00:22:25.0±7.2, 3574N×14074E, h28km±50km, mb3.7/12, mb1 3.9/15, mb1mx3.8/25, mbtmp3.8/15, ML4.3/2, MS2.9/4, Ms1 2.9/4, ms1mx2.7/28, Error ellipse: s-maj=23.5km s-min=16.4km az=85.0*
NEIC ***04*** *00:22:26.8, 3587N×14086E, h37km, mb4.3/2, After JMA.*
ISCJB ***04*** *00:22:26.1±0.5, 3585N±004×14081E±007, h50km±4km, mb3.9/14, Error ellipse: s-maj=10.3km s-min=6.7km az=157.9*
JMA ***04*** *00:22:26.8±0.1, 3587N×14086E, h37km±1km, M3.6*
JMA Felt I J1.
ISC 04 00:22:26.6±0.5, 3590N±004×14087E±007, h38km±5km, n38, σ0§92/42, mb3.9/14, 2C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.19**	**183**	⇑P	**Pn**	**00 22 33.3**	**-0.3**
CHOJ				S	**Sn**	**00 22 38.3**	**-0.1**
JYT	**Yasato**	**0.64**	**301**	⇓P	**Pn**	**00 22 39.3**	**+0.1**
JYT				*e*S	**Sn**	**00 22 48.1**	**-0.1**
JHO	**Hitachi**	**0.76**	**341**	⇑P	**Pn**	**00 22 41.2**	**+0.5**
BSO4	**Boso 4**	**1.00**	**206**	P	**Pn**	**00 22 44.9**	**+0.8**
BSO3	**Boso 3**	**1.13**	**195**	P	**Pn**	**00 22 45.8**	**-0.1**
JAG	**Ashikaga**	**1.26**	**295**	⇓P	**Pn**	**00 22 48.0**	**+0.3**
MJAR	**Matsushiro Arr**	**2.25**	**287**	Pn	**Pn**	**00 23 02.0**	**+0.7**
	21nm,0.3s,baz=151,slow=9.9,SNR=43						
MJAR				LR	LR	00 24 02.9	
	comp=Z,576nm,18.5s,baz=110,slow=45						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**2.25**	**287**	*e*P	**Pn**	**00 23 03.2**	**+1.9**
MAT	**Matsushiro**	**2.25**	**287**	P	**Pn**	**00 23 03.0**	**+1.7**
MAT				*e*S	**Sn**	**00 23 25.2**	**-2.6**
JHJ	**Hachijo jima 2**	**2.91**	**198**	Pn	**Pn**	**00 23 10.1**	**-0.3**
	53nm,0.3s,baz=70,slow=23,SNR=7.9						
JHJ				Sn	**Sn**	**00 23 44.0**	**-0.1**
	96nm,0.3s,baz=228,slow=23,SNR=13						
ASAJ	**Asahikawa**	**8.32**	**9**	Pn	**Pn**	**00 24 24.1**	**-0.5**
	2.0nm,0.3s,baz=293,slow=13,SNR=5.3						
ASAJ				Sn	**Sn**	**00 25 55.2**	**-2.0**
	1.4nm,0.3s,baz=285,slow=20,SNR=2.9						
ASAJ				LR	LR	00 28 23.0	
	comp=Z,39nm,20.0s,baz=168,slow=42						
ASAJ	**Asahikawa**	**8.32**	**9**	P	**Pn**	**00 24 24.1**	**-0.5**
ASAJ						00 25 55.2	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,39nm,20.0s						
CBIJ	**Chichi jima**	**8.84**	**172**	Pn	**Pn**	**00 24 28.0**	**-3.8**
	comp=Z,28nm,0.3s,baz=290,slow=20,SNR=8.5						
CBIJ				Sn	**Sn**	**00 26 01.6**	**-8.7**
	comp=Z,14nm,0.3s,baz=275,slow=18,SNR=4.2						
KSRS	**Korea Array**	**10.52**	**282**	Pn	**Pn**	**00 24 54.0**	**-0.7**
	baz=230,slow=32,SNR=2.5						
KSRS				LR	LR	00 29 02.1	
	comp=Z,72nm,21.3s,baz=176,slow=38						
PETK	**Petropavlovsk-**	**20.89**	**29**	P	**P**	**00 27 08.8**	**+3.5**
	comp=Z,2.5nm,0.9s,baz=201,slow=7.7,SNR=3.0						
PETK				LR	LR	00 34 18.7	
	comp=Z,35nm,20.4s,baz=124,slow=34						
SONM	**Songino Array**	**28.08**	**306**	P	**P**	**00 28 14.6**	**+0.3**
	comp=Z,1.1nm,0.7s,mb3.6,baz=98,slow=9.5,SNR=5.8						
BOD	**Bodaibo**	**28.27**	**329**	*e*P	**P**	**00 28 15.2**	**-0.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ZALV	**Zalesovo Beam**	**42.37**	**313**	P	**P**	**00 30 16.6**	**-0.2**
	comp=Z,0.8nm,0.4s,mb3.7,baz=84,slow=8.2,SNR=4.5						
ZAL	**Zalesovo**	**42.38**	**313**	P	**P**	**00 30 16.6**	**-0.3**
MK31	**Makanchi Array**	**44.36**	**303**	*e*P	**P**	**00 30 33.2**	**+0.2**
MKAR	**Makanchi Array**	**44.36**	**303**	P	**P**	**00 30 33.0**	**0.0**
	comp=Z,3.4nm,0.6s,mb4.2,baz=90,slow=9.9,SNR=22						
MKAR	**Makanchi Array**	**44.36**	**303**	P	**P**	**00 30 33.0**	**0.0**
KURK	**Kurchatov**	**46.30**	**309**	*e*P	**P**	**00 30 48.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KURK	**Kurchatov**	**46.30**	**309**	*e*P	**P**	**00 30 48.1**	**-0.1**
	comp=Z,4.7nm,0.7s,mb4.5						
TKM2	**Tokmak 2**	**49.80**	**299**	*e*P	**P**	**00 31 15.7**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
TKM2	**Tokmak 2**	**49.80**	**299**	*e*P	**P**	**00 31 15.7**	**+0.3**
	comp=Z,1.0nm,0.5s,mb4.1						
INK	**Inuvik**	**55.60**	**27**	P	**P**	**00 31 59.6**	**+1.7**
	comp=Z,0.7nm,0.5s,mb4.0,baz=359,slow=5.4,SNR=4.7						
WRA	**Warramunga Arr**	**55.87**	**187**	P	**P**	**00 31 59.2**	**-1.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=1.0,slow=7.6,SNR=6.6						
ARU	**Arti**	**56.93**	**319**	P	**P**	**00 32 06.8**	**-0.7**
ASAR	**Alice Springs**	**59.60**	**187**	P	**P**	**00 32 25.1**	**-1.4**
	comp=Z,0.7nm,0.6s,mb3.9,baz=21,slow=10.0,SNR=12						
ARCES	**ARCESS Array B**	**64.91**	**339**	P	**P**	**00 33 01.7**	**+0.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=67,slow=10.0,SNR=2.8						
OBN	**Obninsk**	**68.75**	**323**	P	pP	00 33 37.0	-0.7
NB2	**NORSAR Subarra**	**75.07**	**337**	P	**P**	**00 34 10.1**	**+6.1**
	comp=Z,3.0nm,0.9s,mb4.2,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.07**	**337**	P	**P**	**00 34 03.5**	**-0.4**

GORS	**Gorjuse**	**1.28**	**73**⇑	*i*Pg	**Pg**	**00 25 37.5**	**-0.4**
GORS				*i* Sg	**Sg**	**00 25 55.8**	**+1.2**
GORS	**Gorjuse**	**1.28**	**73**⇑	*i*Pg	**Pg**	**00 25 37.5**	**-0.5**
GORS				*i* Sg	**Sg**	**00 25 55.8**	**+1.2**
JAVS	**Javornik**	**1.28**	**92**	*i* Pg	**Pg**	**00 25 36.8**	**-1.1**
JAVS				*i* Sg	**Sg**	**00 25 55.3**	**+0.7**
KBA	**Koelnbreinsper**	**1.37**	**34**⇑	*i*Pg	**Pg**	**00 25 39.3**	**-0.3**
KBA				⇑*i*Sg	**Sg**	**00 25 58.6**	**+1.3**
	comp=Z,18nm,0.3s						
KBA	**Koelnbreinsper**	**1.37**	**34**⇑	*i*Pg	**Pg**	**00 25 39.3**	**-0.3**
KBA				*i* Sg	**Sg**	**00 25 58.6**	**+1.3**
WTTA	**Wattenberg**	**1.38**	**343**⇑	*i*Pg	**Pg**	**00 25 38.9**	**-0.8**
WTTA				⇑*i*Sg	**Sg**	**00 25 57.9**	**+0.3**
	comp=Z,52nm,0.4s						
BRMO	**Bormio**	**1.39**	**293**	Pg	**Pg**	**00 25 39.9**	**-0.1**
BRMO				Sg	**Sg**	**00 25 58.0**	**-0.1**
	comp=Z,29nm,0.4s						
WATA	**Walderalm**	**1.46**	**342**⇑	*i*Pg	**Pg**	**00 25 40.5**	**-0.8**
WATA				⇓*i*Sg	**Sg**	**00 26 00.8**	**+0.6**
	comp=Z,14nm,0.3s						
FETA	**Feichten**	**1.49**	**316**⇑	*e*Pg	**Pg**	**00 25 41.3**	**-0.7**
	SNR=26						
FETA				⇓*i*Sg	**Sg**	**00 26 01.5**	**+0.3**
	comp=Z,10nm,0.3s						
FUORN	**Ofenpass-Fuorn**	**1.52**	**297**	Pg	**Pg**	**00 25 42.1**	**-0.4**
FUORN				Sg	**Sg**	**00 26 01.6**	**-0.6**
MOTA	**Moosalm**	**1.60**	**331**⇓	*e*Pg	**Pg**	**00 25 43.2**	**-0.8**
	SNR=11						
MOTA				⇓*i*Sg	**Sg**	**00 26 05.4**	**+0.7**
	comp=Z,19nm,0.3s						
MOTA	**Moosalm**	**1.60**	**331**	Pg	**Pg**	**00 25 43.2**	**-0.7**
	comp=Z,11nm,4.0s						
MOTA				Sg	**Sg**	**00 26 05.4**	**+0.8**
	comp=Z,19nm,0.3s						
OBKA	**Obir**	**1.71**	**70**⇓	*i*Pg	**Pg**	**00 25 45.1**	**-0.9**
OBKA				⇑*i*Sg	**Sg**	**00 26 07.0**	**-1.1**
	comp=Z,31nm,0.4s						
MDI	**Monti di Nese**	**1.77**	**265**	Pg	**Pg**	**00 25 47.3**	**+0.1**
	comp=Z,39nm,0.7s						
DAVOX	**Davos/Dischmat**	**1.83**	**298**	Pg	**Pg**	**00 25 47.4**	**-0.9**
RETA	**Reutte**	**1.84**	**327**	*e*Pg	**Pg**	**00 25 48.0**	**-0.6**
	SNR=17						
RETA				⇑*i*Sg	**Sg**	**00 26 12.8**	**+0.4**
	comp=Z,27nm,0.5s						
DAVA	**Damuels**	**2.10**	**310**⇑	*e*Pg	**Pg**	**00 25 51.6**	**-2.0**
	SNR=12						
DAVA				⇑*i*Sg	**Sg**	**00 26 20.9**	**+0.1**
	comp=Z,16nm,0.5s						
DAVA	**Damuels**	**2.10**	**310**	Pg	**Pg**	**00 25 51.6**	**-2.0**
	comp=Z,12nm,3.0s						
DAVA				Sg	**Sg**	**00 26 20.9**	**+0.1**
	comp=Z,16nm,0.5s						
NVLJ	**Novalja**	**2.33**	**126**	*e*Pn	**Pn**	**00 25 51.9**	**+0.3**
NVLJ				Sn	**Sn**	**00 26 19.3**	**-0.8**
NVLJ	**Novalja**	**2.33**	**126**	*e*Pn	**Pn**	**00 25 51.8**	**+0.2**
NVLJ				Sn	**Sn**	**00 26 19.3**	**-0.9**
VAI	**Varese**	**2.42**	**269**	Pg	**Pg**	**00 25 53.6**	**-6.0**
	comp=Z,11nm,0.6s						
KHC	**Kasperske Hory**	**3.31**	**16**	*e*PN	**Pn**	**00 26 05.2**	**+0.1**
KHC				*e*PG	**Pg**	**00 26 14.4**	**-2.3**
KHC				*e*SN	**Sn**	**00 26 45.2**	**+0.7**
KHC				*e*SG	**Sg**	**00 27 02.4**	**+2.8**
	comp=Z,15nm,1.5s						
LPL	**La Plagne**	**3.87**	**266**	*e*P	**Pn**	**00 26 16.3**	**+3.4**
MBDF	**Montbardon**	**4.04**	**254**	*e*P	**Pn**	**00 26 16.7**	**+1.6**
MBDF				*e*Sn	**Sn**	**00 26 58.9**	**-3.5**
	comp=Z,1.0nm,0.3s						
MBDF	**Montbardon**	**4.04**	**254**	*e*P	**Pn**	**00 26 16.7**	**+1.6**
MBDF				*e*Sn	**Sn**	**00 26 58.9**	**-3.5**
	comp=Z,0.5nm,0.3s						
HINF	**Hinteralfeld**	**4.13**	**299**	*e*Pn	**Pn**	**00 26 16.6**	**+0.2**
HINF				*e*Sn	**Sn**	**00 27 01.8**	**-2.9**
	comp=Z,4.4nm,0.4s						
HINF	**Hinteralfeld**	**4.13**	**299**	*e*Pn	**Pn**	**00 26 16.6**	**+0.2**
HINF				*e*Sn	**Sn**	**00 27 01.8**	**-2.9**
	comp=Z,2.2nm,0.4s						
CDF	**Champ du Feu**	**4.18**	**308**	*e*Pn	**Pn**	**00 26 18.0**	**+0.9**
CDF				*e*Sn	**Sn**	**00 27 02.6**	**-3.3**
	comp=Z,1.2nm,0.3s						
CDF	**Champ du Feu**	**4.18**	**308**	*e*Pn	**Pn**	**00 26 18.0**	**+0.9**
CDF				*e*Sn	**Sn**	**00 27 02.6**	**-3.3**
	comp=Z,0.6nm,0.3s						
NKC	**Novy Kostel**	**4.29**	**2**	*e*SG	**Sg**	**00 27 31.9**	**+0.9**
CABF	**La Chapelle**	**4.31**	**281**	*e*Pn	**Pn**	**00 26 20.6**	**+1.8**
PRU	**Pruhonice**	**4.33**	**20**	*e*PN	**Pn**	**00 26 19.7**	**+0.6**
PRU				*e*SN	**Sn**	**00 27 08.8**	**-0.8**
PRU				*e*SG	**Sg**	**00 27 30.7**	**-1.6**
HAU	**Haudompre**	**4.52**	**299**	*e*Pn	**Pn**	**00 26 22.1**	**+0.4**
HAU				*e*Sn	**Sn**	**00 27 10.3**	**-4.0**
	comp=Z,6.3nm,0.5s						
HAU	**Haudompre**	**4.52**	**299**	*e*Pn	**Pn**	**00 26 22.1**	**+0.4**
HAU				*e*Sn	**Sn**	**00 27 10.3**	**-4.0**
	comp=Z,3.2nm,0.5s						
FRF	**La Foret Royal**	**4.64**	**241**	*e*P	**Pn**	**00 26 25.1**	**+1.7**
BRG	**Berggiesshubel**	**5.06**	**12**	SG	**Sg**	**00 27 59.5**	**+3.9**
	comp=Z,1.0nm,0.3s						
DPC	**Dobruska-Polom**	**5.18**	**30**	*e*SG	**Sg**	**00 27 57.1**	**-2.6**
CLL	**Collm**	**5.39**	**5**	*e*Sg	**Sg**	**00 28 10.0**	**+3.9**
VIVF	**Saint-Julien-I**	**5.43**	**261**	*e*Pn	**Pn**	**00 26 32.6**	**-1.7**
SMF	**Signal de Mont**	**5.85**	**280**	*e*Pn	**Pn**	**00 26 40.6**	**+0.5**

JMA 04 01:09:27.9±0.6, 3277N×14241E, h22km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.23**	**328**	P	Pn	01 10 04.2	+0.7
BSO1				*e*S	Sn	01 10 31.9	+1.6
BSO3	**Boso 3**	**2.57**	**323**	P	Pn	01 10 10.3	+2.1
BSO3				*e*S	Sn	01 10 43.3	+4.5
JYN	**Shimob**	**4.21**	**311**	P	Pn	01 10 34.3	+3.6
JYN				S	Sn	01 11 24.1	+5.0
JRY	**Ryogami san**	**4.35**	**319**	P	Pn	01 10 35.6	+3.0
JRY				*e*S	Sn	01 11 26.2	+3.6
JAG	**Ashikaga**	**4.39**	**327**	P	Pn	01 10 34.5	+1.3
JAG				*e*S	Sn	01 11 25.4	+1.8
JMM	**Marumori**	**5.25**	**346**	P	Pn	01 10 44.1	-1.0
JMM				S	Sn	01 11 40.6	-4.3
JMK	**Ichinoseki**	**6.24**	**351**	P	Pn	01 10 57.4	-1.3
JMK				*e*S	Sn	01 12 03.8	-5.5

*NEIC **04** 01:11:22.3, 3817N×2270E, h28km, MD3.1(ATH), After ATH.*
*ISCJB **04** 01:11:24.0±0.5, 3828N±003×2264E±006, h25km, Error ellipse: s-maj=6.3km s-min=3.9km az=175.3*
*CSEM **04** 01:11:23.7±0.1, 3826N×2256E, h12km, MD3.1, Error ellipse: s-maj=2.4km s-min=1.9km az=78.0*
*ATH **04** 01:11:23.0, 3821N×2267E, h25km±2km, MD3.1/4*
*THE **04** 01:11:23.6, 3827N×2258E, h0km*

ISC 04 01:11:23.7±0.6, 3826N±003×2257E±007, h16km±7km, n13, σ0°88/20, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.39**	**127**	*e*Pg	**Pg**	**01 11 31.6**	**-0.2**
LTK				*e*Sg	**Sg**	**01 11 37.4**	**+0.3**
LKR	**Lokris**	**0.51**	**41**	*e*Pg	**Pg**	**01 11 33.0**	**-1.0**
LKR				*e*Sg	**Sg**	**01 11 40.7**	**-0.2**
LKR	**Lokris**	**0.51**	**41**	*e*Pn	**Pg**	**01 11 33.2**	**-0.8**
LKR				*e*Sg	**Sg**	**01 11 40.7**	**-0.2**
LKR				*e*Sn	**Sg**	**01 11 41.4**	**+0.5**
AGG	**Agios Georgios**	**0.78**	**346**	*e*Pg	**Pg**	**01 11 38.1**	**-0.9**
AGG				*e*Sg	**Sg**	**01 11 49.9**	**+0.6**
EVR	**Evrytania**	**0.89**	**318**	*e*PN	**Pn**	**01 11 41.6**	**+0.1**
EVR	**Evrytania**	**0.89**	**318**	*e*Pb	**Pb**	**01 11 40.6**	**-0.1**
RLS	**Riolos of Patr**	**0.89**	**257**	*e*PN	**Pn**	**01 11 41.5**	**-0.1**
VLX	**Vlachokerasia**	**0.90**	**190**	*e*Pg	**Pg**	**01 11 40.5**	**-0.8**
VLX				*e*Sg	**Sg**	**01 11 54.3**	**+1.2**
DID	**Didima**	**0.92**	**145**	*e*Pg	**Pg**	**01 11 40.9**	**-0.7**
DID				*e*Sg	**Sg**	**01 11 54.7**	**+1.1**
NEO	**Neokhori**	**1.16**	**26**	*e*PN	**Pn**	**01 11 46.2**	**+0.9**
ITM	**Ithomi**	**1.19**	**206**	*e*PN	**Pn**	**01 11 45.5**	**-0.2**
THL	**Klokotos Trika**	**1.37**	**342**	*e*PN	**Pn**	**01 11 49.6**	**+1.4**
VLI	**Veliai**	**1.57**	**169**	*e*Pb	**Pn**	**01 11 48.3**	**-2.6**

*ISCJB **04** 01:24:10.0±0.8, 2302N×004×10165E±005, h10km, mb3.4/3, Error ellipse: s-maj=7.0km s-min=4.4km az=139.6*
*PLV **04** 01:24:11.7±1.0, 2346N×10177E, h1km±999km, ML3.5*
*BJI **04** 01:24:11.1, 2305N×10146E, h15km, ML3.9, Msz3.6*
*IDC **04** 01:24:13.9±1.4, 2345N×10154E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, ML4.1/1, Error ellipse: s-maj=41.4km s-min=22.6km az=86.0*

ISC 04 01:24:12.7±0.8, 2318N±004×10165E±005, h10km, n12, σ0°88/21, mb3.4/3, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.18**	**27**	PG	**Pg**	**01 24 53.8**	**-0.6**
KMI				SG	**Sg**	**01 25 22.1**	**-0.6**
KMI				Smax			
	comp=N,285nm,0.9s						
KMI				Smax			
	comp=E,408nm,1.0s						
HNV	**Hanoi**	**4.39**	**118**	*e*PG	**Pg**	**01 25 36.6**	**-0.3**
HNV				*e*SG	**Sg**	**01 26 33.4**	**-0.5**
HNV				AMP		01 26 42.8	
	comp=Z,217nm,0.8s						
MTZV	**Met**	**4.64**	**110**	*e*PG	**Pg**	**01 25 40.8**	**-0.8**
MTZV				⇑*e*SG	**Sg**	**01 26 41.3**	**-0.4**
DSV	**Doi Son**	**4.78**	**122**	*e*PG	**Pg**	**01 25 44.2**	**-0.1**
DSV				*e*SG	**Sg**	**01 26 48.1**	**+2.0**
PLV	**Phu-Lien**	**5.19**	**116**	*e*SG	**Sg**	**01 26 59.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**5.34**	**209**	Pn	**Pn**	**01 25 37.3**	**+4.8**
	comp=Z,1.4nm,0.3s,baz=26,slow=12,SNR=5.3						
CMAR				Pg	**Pg**	**01 25 54.0**	**-1.0**
	comp=Z,2.5nm,0.3s,baz=25,slow=17,SNR=13						
CMAR				Lg		01 27 01.2	
	comp=Z,1.2nm,0.3s,baz=254,slow=31,SNR=11						
GYA	**Guiyang**	**5.61**	**53**	P	**Pn**	**01 25 37.0**	**+0.9**
GYA				PG	**Pg**	**01 25 58.9**	**-1.2**
GYA				S	**Sn**	**01 26 50.3**	**+10**
GYA				SG	**Sg**	**01 27 21.0**	**+8.3**
GYA				Smax			
	comp=N,40nm,1.1s						
GYA				Smax			
	comp=E,30nm,1.0s						
CD2	**Chengdu**	**7.92**	**13**	*e*P	**Pn**	**01 26 12.2**	**+4.2**
CD2				S	**Sn**	**01 27 43.1**	**+5.4**
CD2				Smax			
	comp=N,30nm,1.4s						
CD2				Smax			
	comp=E,40nm,1.6s						
CD2				LR	LR		
	comp=Z,370nm,8.4s						
LZH	**Lanzhou**	**13.00**	**8**	*e*P	**Pn**	**01 27 19.0**	**+1.5**
LZH				AP		01 27 24.0	
LZH				XP		01 27 25.5	
SONM	**Songino Array**	**24.89**	**8**	P	**P**	**01 29 36.2**	**+0.7**
	comp=Z,0.3nm,0.4s,mb3.2,baz=188,slow=8.7,SNR=2.8						
MKAR	**Makanchi Array**	**28.25**	**331**	P	**P**	**01 30 05.9**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.4,baz=137,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**53.43**	**141**	P	**P**	**01 33 38.1**	**+5.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=328,slow=9.0,SNR=3.6						

*ISCJB **04** 01:26:35.0±0.6, 165N±0.1×465W±0.1, h10km, mb4.1/15, MS3.5/13, Error ellipse: s-maj=15.2km s-min=13.7km az=24.4*
*IDC **04** 01:26:35.6±0.9, 1644N×4656W, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.8/22, mbtmp3.8/8, MS3.5/13, Ms1 3.5/13, ms1mx3.2/33, Error ellipse: s-maj=25.8km s-min=22.2km az=146.0*
*NEIC **04** 01:26:36.7±0.5, 1647N×4654W, h10km, mb4.4/9, Error ellipse: s-maj=13.7km s-min=12.4km az=203.0*

ISC 04 01:26:36.8±0.6, 165N±01×465W±01, h10km, n27, σ0°87/21, mb4.1/15, MS3.5/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**24.69**	**255**	**P**	**P**	**01 31 59.2**	**+0.9**
	2.1nm,0.6s,mb3.9,baz=101,slow=6.6,SNR=4.8						
SDV				LR	LR	01 41 34.7	
	comp=Z,35nm,19.2s,MS2.9,baz=24,slow=36						
SDV	**Santo Domingo**	**24.69**	**255**	P	**P**	**01 31 59.2**	**+0.9**
SDV				LR	LR	01 41 34.7	
BBTS	**Babate**	**28.93**	**89**	LR	LR	01 41 10.5	
	comp=Z,99nm,20.8s,MS3.4,baz=220,slow=30						
BDFB	**Brasilia**	**31.96**	**183**	LR	LR	01 45 16.0	
	comp=Z,14nm,18.9s,MS2.7,baz=16,slow=35						
LPAZ	**La Paz**	**38.92**	**214**	P	**P**	**01 34 03.9**	**+0.8**
	0.9nm,0.8s,mb3.6,baz=12,slow=5.5,SNR=3.8						
LPAZ				LR	LR	01 49 27.1	
	comp=Z,39nm,18.1s,MS3.3,baz=242,slow=35						
DBIC	**Dimbokro**	**41.88**	**98**	LR	LR	01 47 28.2	
	comp=Z,74nm,20.0s,MS3.6,baz=191,slow=30						
CPUP	**Villa Florida**	**43.84**	**194**	**P**	**P**	**01 34 42.7**	**-0.6**
	1.3nm,0.7s,mb3.8,baz=338,slow=9.5,SNR=7.8						
CPUP				LR	LR	01 53 52.8	
	comp=Z,42nm,20.8s,MS3.3,baz=193,slow=37						
CPUP	**Villa Florida**	**43.84**	**194**	*e*P	**P**	**01 34 43.0**	**-0.3**
	13nm,0.9s,mb4.7						
CPUP				LR	LR	01 53 52.8	
LVC	**Limon Verde**	**44.62**	**210**	*e*P	**P**	**01 34 48.7**	**-0.9**
	9.3nm,1.1s,mb4.5						
TOA0	**Torodi Ar. Sit**	**46.64**	**87**	*e*P	**P**	**01 35 05.8**	**0.0**
TORD	**Torodi Ar. Bea**	**46.64**	**87**	P	**P**	**01 35 05.5**	**-0.4**
	1.9nm,1.1s,mb4.0,baz=297,slow=6.5,SNR=4.7						
TORD				LR	LR	01 51 25.2	
	comp=Z,106nm,21.3s,MS3.8,baz=195,slow=32						
WMOK	**Wichita Mounta**	**49.94**	**302**	*e*P	**P**	**01 35 30.0**	**-1.1**
	1.8nm,1.0s,mb4.1						
ULM	**Lac du Bonnet**	**51.87**	**322**	P	**P**	**01 35 44.8**	**-0.6**
	1.1nm,0.5s,mb4.0,baz=33,slow=8.0,SNR=3.7						
ULM				LR	LR	01 53 24.5	
	comp=Z,52nm,19.3s,MS3.6,baz=45,slow=31						
ULM	**Lac du Bonnet**	**51.87**	**322**	*e*P	**P**	**01 35 44.6**	**-0.7**
	4.6nm,1.0s,mb4.4						
TXAR	**Lajitas Array**	**53.71**	**294**	P	**P**	**01 36 00.8**	**+1.5**
	0.7nm,1.0s,mb3.5,baz=98,slow=9.0,SNR=5.2						
TXAR				LR	LR	01 57 03.9	
	comp=Z,43nm,20.7s,MS3.5,baz=0.0,slow=34						
TXAR	**Lajitas Array**	**53.71**	**294**	P	**P**	**01 36 00.8**	**+1.5**
TXAR				LR	LR	01 57 03.9	
GERES	**GERESS Array B**	**58.23**	**42**	P	**P**	**01 36 33.7**	**+2.4**
	0.2nm,0.5s,mb3.4,baz=297,slow=37,SNR=3.5						
PDAR	**Pinedale Array**	**59.26**	**310**	P	**P**	**01 36 38.1**	**-0.6**
	0.9nm,0.8s,mb3.8,baz=92,slow=7.6,SNR=6.8						
PDAR				LR	LR	01 59 31.9	
	comp=Z,52nm,19.6s,MS3.7,baz=308,slow=33						
LOHW	**Long Hollow**	**60.11**	**311**	*e*P	**P**	**01 36 44.5**	**+0.1**
	4.1nm,1.2s,mb4.3						
TPAW	**Teton Pass**	**60.35**	**311**	*e*P	**P**	**01 36 45.5**	**-0.6**
	3.5nm,0.9s,mb4.4						
RRI2	**Red Ridge**	**60.60**	**311**	*e*P	**P**	**01 36 48.7**	**+0.9**
	5.7nm,0.8s,mb4.8						
BGU	**Big Grassy Mou**	**61.72**	**308**	*e*P	**P**	**01 36 55.4**	**-0.1**
HLID	**Hailey**	**62.87**	**311**	*e*P	**P**	**01 37 02.3**	**-0.8**
	1.3nm,0.8s,mb4.1						
ELK	**Elko**	**63.39**	**308**	*e*P	**P**	**01 37 06.9**	**+0.2**
	1.4nm,0.7s,mb4.2						
BBB	**Bella Bella**	**72.03**	**320**	LR	LR	02 11 12.2	
	comp=Z,37nm,18.4s,MS3.7,baz=106,slow=37						
BOSA	**Boshof**	**82.56**	**123**	LR	LR	02 06 59.0	
	comp=Z,92nm,21.4s,MS4.1,baz=241,slow=29						
BVAR	**Borovoye Array**	**92.15**	**33**	LR	LR	02 19 21.3	
	comp=Z,42nm,18.0s,MS3.9,baz=60,slow=34						

MAN 04 01:28:24, 972N×12467E, h6km, mb4.2, ML3.0, MS2.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.45**	**24**	*e*P	Pg	01 28 34.4	+1.7
MSLP				*e*S	Sg	01 28 44.9	+6.3
SCPH	**Surigao**	**0.81**	**86**⇑	*e*P	Pg	01 28 39.7	+0.2
OCLP	**Ormoc**	**1.32**	**357**	*e*P	Pn	01 28 47.9	-1.1
OCLP				*e*S	Sb	01 29 08.2	+1.7
PLP	**Palo**	**1.47**	**12**⇓	*e*P	Pn	01 28 50.8	-0.2
PLP				*i* S	Sn	01 29 12.2	+1.7
BUKP	**Musuan**	**1.87**	**168**	*e*P	Pn	01 28 58.2	+1.6
BUKP				*e*S	Sn	01 29 25.5	+5.0
PAGZ	**Pagadian**	**2.26**	**215**	*e*P	Pn	01 29 02.4	+0.5
PAGZ				*e*S	Sn	01 29 31.5	+1.5

IDC 04 01:42:16.1±1.7, 887S×12412E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.5/16, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=58.2km s-min=23.5km az=76.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.40**	**199**	Pg	Pg	01 42 42.8	-0.2
	36nm,0.3s,baz=32,slow=6.0,SNR=6.9						
FITZ	**Fitzroy Crossi**	**9.29**	**171**	Pn	Pn	01 44 29.3	-2.1
	0.4nm,0.3s,baz=4.8,slow=13,SNR=14						
FITZ				Sn	Sn	01 46 09.0	-7.7
	0.5nm,0.3s,baz=144,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**14.79**	**139**	Pn	Pn	01 45 47.3	+0.6
	0.2nm,0.3s,baz=314,slow=14,SNR=2.8						
WRA				Sn	Sn	01 48 25.9	-5.5
	0.2nm,0.3s,baz=332,slow=36,SNR=3.4						
ASAR	**Alice Springs**	**17.44**	**149**	P	Pn	01 46 21.4	+0.6
	0.2nm,0.3s,baz=321,slow=11,SNR=23						
MKAR	**Makanchi Array**	**66.76**	**330**	P	P	01 53 09.3	+0.1
	0.3nm,0.4s,baz=126,slow=7.4,SNR=3.1						

*ISCJB **04** 01:57:48.6±0.7, 5222N±006×16776W±009, h33km, mb3.8/11, Error ellipse: s-maj=9.6km s-min=7.4km az=24.8*
*IDC **04** 01:57:48.4±1.4, 5281N×16773W, h0km, mb3.8/12, mb1 4.1/13, mb1mx3.9/27, mbtmp3.9/13, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/28, Error ellipse: s-maj=38.5km s-min=17.2km az=12.0*
*NEIC **04** 01:57:49.4, 5242N×16780W, h3km, mb3.8/2, ML3.3(AEIC), After AEIC.*

ISC 04 01:57:47.5±1.8, 5225N±006×16779W±009, h10km±10km, n30, σ0°95/33, mb3.8/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.97**	**319**	P	**Pg**	**01 58 06.4**	**+0.2**
NIKO				S	**Sg**	**01 58 18.9**	**+0.1**
OKCD	**Okmok Cone D**	**1.20**	**351**	P	**Pb**	**01 58 09.7**	**-0.5**
OKCD				S	**Sb**	**01 58 26.4**	**+0.5**
OKCE	**Okmok Cone E**	**1.20**	**349**	P	**Pb**	**01 58 09.9**	**-0.4**
OKCE				S	**Sb**	**01 58 27.0**	**+1.1**
UNV	**Unalaska Valle**	**1.78**	**25**	P	**Pn**	**01 58 17.6**	**-0.6**
AKGG	**Akutan Green G**	**2.23**	**28**	P	**Pn**	**01 58 24.5**	**0.0**
AKUT	**Akutan**	**2.25**	**32**	*e*P	**Pn**	**01 58 24.2**	**-0.5**
SDPT	**Sand Point**	**5.33**	**52**	*e*P	**Pn**	**01 59 07.5**	**+0.4**
KDAK	**Kodiak Island**	**10.33**	**52**	Pn	**Pn**	**02 00 14.7**	**-0.9**
	0.5nm,0.3s,baz=196,slow=23,SNR=3.1						
CHUM	**Lake Minchumin**	**14.19**	**29**	*e*Pn	**Pn**	**02 01 10.4**	**+2.1**
	27μm,1.2s						
RAGM	**Ragged Mountai**	**15.12**	**48**	*e*Pn	**Pn**	**02 01 21.2**	**+0.3**
RAGM				*e*P		02 01 28.3	
IMA2	**Indian Mountai**	**15.57**	**22**	*e*Pn	**Pn**	**02 01 25.0**	**-1.7**
IMA2				*e*P		02 01 31.5	
COLD	**Coldfoot**	**17.33**	**23**	*e*Pn	**Pn**	**02 01 50.1**	**+1.0**
	9.3nm,1.0s						
EGAK	**Eagle**	**18.54**	**37**	*e*P	**Pn**	**02 02 03.3**	**-0.7**
	3.7nm,0.8s						
HYT	**Haines Junctio**	**18.62**	**51**	*e*P	**Pn**	**02 02 09.4**	**+4.3**
DAWY	**Dawson**	**18.89**	**40**	*e*P	**Pn**	**02 02 08.6**	**+0.3**
PETK	**Petropavlovsk-**	**20.83**	**286**	P	**P**	**02 02 29.4**	**+0.5**
	2.3nm,0.7s,baz=81,slow=12,SNR=5.6						
INK	**Inuvik**	**22.92**	**33**	P	**P**	**02 02 48.8**	**-2.4**
	4.1nm,0.6s,mb4.0,baz=225,slow=8.7,SNR=11						
NVAR	**Mina Array Bea**	**36.69**	**92**	P	**P**	**02 04 57.8**	**+3.5**
	0.4nm,0.6s,mb3.4,baz=306,slow=6.3,SNR=2.9						
PDAR	**Pinedale Array**	**39.47**	**80**	P	**P**	**02 05 18.8**	**+1.0**
	0.8nm,0.8s,mb3.5,baz=301,slow=6.6,SNR=5.6						
TXAR	**Lajitas Array**	**51.78**	**90**	P	**P**	**02 06 57.0**	**+1.8**
	0.5nm,0.6s,mb3.6,baz=305,slow=5.2,SNR=9.4						
SONM	**Songino Array**	**52.19**	**302**	P	**P**	**02 06 58.7**	**+0.7**
	0.3nm,0.3s,mb3.7,baz=66,slow=7.1,SNR=3.5						
ARCES	**ARCESS Array B**	**58.14**	**355**	P	**P**	**02 07 39.2**	**-1.4**
	2.3nm,0.8s,mb4.3,baz=359,slow=6.1,SNR=7.7						
MKAR	**Makanchi Array**	**64.59**	**314**	P	**P**	**02 08 24.1**	**-0.5**
	0.2nm,0.2s,mb3.7,baz=40,slow=4.7,SNR=2.5						
NB2	**NORSAR Subarra**	**67.06**	**1**	P	**P**	**02 08 39.5**	**-0.8**
	comp=Z,1.2nm,0.8s,mb4.0,baz=1.9,slow=6.5						
NOA	**NORSAR Array B**	**67.06**	**1**	P	**P**	**02 08 40.1**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.1,baz=0.7,slow=6.4,SNR=5.7						
AKTK	**Aktyubinsk**	**70.59**	**331**	P	**P**	**02 09 02.2**	**-0.3**
AKTO	**Aktyubinsk**	**70.59**	**331**	P	**P**	**02 09 02.2**	**-0.3**
	comp=Z,4.3nm,1.2s,mb4.2,baz=22,slow=3.1,SNR=8.4						
AKASG	**Malin Array Be**	**76.42**	**349**	P	**P**	**02 09 36.2**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.2,baz=12,slow=5.5,SNR=6.6						
AKASG	**Malin Array Be**	**76.42**	**349**	P	**P**	**02 09 36.2**	**-0.5**
GERES	**GERESS Array B**	**79.28**	**359**	P	**P**	**02 09 52.7**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=15,slow=5.5,SNR=5.6						

**IDC 04 01:58:39.6±4.8,

STIP	**Stip**	**2.63**	**30**	*e*Pn	**Pn**	**02 11 01.3**	**+0.5**
STIP	**Stip**	**2.63**	**30**	*e*Pn	**Pn**	**02 11 01.2**	**+0.4**

SOF ***04*** *02:56:23.1,4156N×2360E,h11km,MD2.5*
CSEM ***04*** *02:56:23.2±0.1,4160N×2357E,h5km,MD2.5,Error ellipse: s-maj=1.6km s-min=1.2km az=149.0*
ISCJB ***04*** *02:56:23.0±0.4,4153N±002×2358E±003,h5km±5km, Error ellipse: s-maj=4.3km s-min=3.5km az=39.9*
THE ***04*** *02:56:24.1,4153N×2355E,h7km*
SKO ***04*** *02:56:24.4,4153N×2359E,h5km*
ATH ***04*** *02:56:24.3,4121N×2363E,h12km,MD3.3/3*
ISC 04 02:56:23.6±0.4,4155N±002×2359E±003,h6km±5km,n26,σ0°91/46,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomiste**	**0.11**	**67**	Pg	**Pg**	**02 56 26.0**	**0.0**
NVR	**Nevrokopi**	**0.28**	**134**	*e*PG	**Pg**	**02 56 29.2**	**+0.1**
KKB	**Krupnik**	**0.50**	**310**	Pg	**Pg**	**02 56 32.3**	**-0.9**
KNT	**Kendrikon**	**0.65**	**234**	*e*Pg	**Pg**	**02 56 35.6**	**-0.4**
KNT				*e*Sg	**Sg**	**02 56 44.7**	**+0.2**
SOH	**Sokhos**	**0.74**	**194**	*e*Pg	**Pg**	**02 56 37.5**	**-0.4**
SOH				*e*Sg	**Sg**	**02 56 48.9**	**+1.4**
VAY	**Valandovo**	**0.80**	**254**	*e*Pg	**Pg**	**02 56 38.4**	**-0.5**
VAY				*e*Sg	**Sg**	**02 56 50.2**	**+0.9**
VAY	**Valandovo**	**0.80**	**254**	*e*Pg	**Pg**	**02 56 38.3**	**-0.6**
VAY				*e*Sg	**Sg**	**02 56 51.2**	**+1.9**
VAY	**Valandovo**	**0.80**	**254**	*e*Pg	**Pg**	**02 56 38.4**	**-0.5**
VAY				*e*Sg	**Sg**	**02 56 51.2**	**+1.9**
PLD	**Plovdiv**	**1.00**	**56**	*e*Pg	**Pg**	**02 56 43.4**	**+0.6**
PLD				*e*Sg	**Sg**	**02 56 58.8**	**+3.0**
PLD	**Plovdiv**	**1.00**	**56**	Pg	**Pg**	**02 56 43.2**	**+0.4**
PLD				*e*Sg	**Sg**	**02 56 58.8**	**+3.0**
THE	**Thessaloniki**	**1.03**	**208**	*e*Pg	**Pg**	**02 56 42.3**	**-1.0**
THE				*e*Sg	**Sg**	**02 56 57.5**	**+0.8**
STIP	**Stip**	**1.06**	**278**	*e*Pg	**Pg**	**02 56 43.1**	**-0.9**
STIP				*e*Sg	**Sg**	**02 56 59.0**	**+1.2**
STIP	**Stip**	**1.06**	**278**	*e*Pg	**Pg**	**02 56 43.6**	**-0.4**
STIP				*e*Sg	**Sg**	**02 56 58.2**	**+0.4**
GRG	**Griva**	**1.07**	**237**	*e*Pg	**Pg**	**02 56 43.8**	**-0.4**
GRG				*e*Sg	**Sg**	**02 56 58.7**	**+0.7**
VTS	**Vitosha**	**1.08**	**345**	P	**Pg**	**02 56 44.0**	**-0.4**
VTS				Pg	**Pg**	**02 56 45.0**	**+0.6**
PGB	**Panagyurishte**	**1.09**	**23**	Pg	**Pg**	**02 56 44.5**	**0.0**
PLG	**Polygyros**	**1.18**	**185**	*e*Pg	**Pg**	**02 56 46.0**	**-0.1**
PLG				*e*Sg	**Sg**	**02 57 02.1**	**+0.8**
PLG	**Polygyros**	**1.18**	**185**	*e*PB	**Pb**	**02 56 40.0**	**-6.3**
OUR	**Ouranopolis**	**1.25**	**166**	*e*Pg	**Pg**	**02 56 46.9**	**-0.6**
OUR				*e*Sg	**Sg**	**02 57 04.5**	**+0.9**
KDZ	**Kurdzhali**	**1.37**	**85**	P	**Pn**	**02 56 48.5**	**-0.8**
RDO	**Rodhopi**	**1.52**	**105**	*e*PB	**Pb**	**02 56 51.4**	**-0.7**
RDO				*e*SB	**Sb**	**02 57 11.3**	**-0.3**
PAIG	**Paliouri**	**1.62**	**178**	*e*Pg	**Pg**	**02 56 52.4**	**-2.2**
PAIG				*e*Sg	**Sg**	**02 57 13.9**	**-1.6**
ALN	**Alexandroupoli**	**1.96**	**108**	*e*Pn	**Pn**	**02 56 57.4**	**0.0**
ALN				*e*Sn	**Sn**	**02 57 24.0**	**+1.7**
ALN	**Alexandroupoli**	**1.96**	**108**	*e*Pn	**Pn**	**02 56 57.3**	**-0.1**
ALN				*e*Sn	**Sn**	**02 57 24.0**	**+1.7**
LIA	**Limnos Island**	**2.04**	**143**	*e*Pn	**Pn**	**02 56 58.0**	**-0.4**
LIA				*e*Sn	**Sn**	**02 57 25.1**	**+0.9**
XOR	**Xorichti**	**2.20**	**188**	*e*Pn	**Pn**	**02 57 00.0**	**-0.6**
XOR				*e*Sn	**Sn**	**02 57 27.7**	**-0.4**

ISCJB ***04*** *03:19:47.7±0.7,2785±0.1×6460±0.2,h10km,mb4.0/11, Error ellipse: s-maj=24.0km s-min=17.2km az=9.2*
IDC ***04*** *03:19:48.4±0.8,2788S×6465E,h0km,mb4.0/10, mb1 4.1/10,mb1mx3.9/21,mbtmp4.0/10,MS3.6/1, Ms1 3.5/1,ms1mx3.0/23,Error ellipse: s-maj=27.9km s-min=20.2km az=98.0*
NEIC ***04*** *03:19:49.5±0.6,2781S×6460E,h10km,mb4.4/2,Error ellipse: s-maj=21.8km s-min=15.3km az=95.0*
ISC 04 03:19:49.8±0.7,2785±01×6460E±02,h10km,n13,σ0°82/12, mb4.0/11,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**39.81**	**181**	P	**P**	**03 27 23.0**	**+0.3**
	4.2nm,0.8s,mb4.2,baz=1.1,slow=9.7,SNR=12						
CMAR	**Chiang Mai Arr**	**56.76**	**40**	P	**P**	**03 29 34.2**	**+0.2**
	1.1nm,0.5s,mb4.2,baz=225,slow=8.9,SNR=5.3						
SNAA	**Sanae**	**56.78**	**200**	P	**P**	**03 29 33.3**	**-0.3**
	0.3nm,0.9s,mb3.3,baz=146,slow=3.6,SNR=3.7						
ASAR	**Alice Springs**	**61.79**	**103**	P	**P**	**03 30 08.8**	**-0.2**
	1.4nm,0.8s,mb4.2,baz=245,slow=5.9,SNR=13						
QSPA	**South Pole Qui**	**62.32**	**180**	P	**P**	**03 30 11.9**	**+0.2**
	2.8nm,1.0s,mb4.3,baz=253,slow=7.0,SNR=5.6						
QSPA	**South Pole Qui**	**62.32**	**180**	*e*P	**P**	**03 30 12.3**	**+0.6**
	7.1nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**63.49**	**100**	P	**P**	**03 30 20.8**	**+0.4**
	1.0nm,0.9s,mb4.0,baz=250,slow=5.6,SNR=4.8						
STKA	**Stephens Creek**	**65.55**	**114**	P	**P**	**03 30 33.0**	**-0.8**
	2.6nm,0.9s,mb4.2,baz=353,slow=8.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**73.28**	**295**	P	**P**	**03 31 21.5**	**-0.3**
	0.6nm,1.1s,mb3.4,baz=90,slow=3.2,SNR=2.3						
MKAR	**Makanchi Array**	**75.97**	**12**	P	**P**	**03 31 37.1**	**+0.5**
	0.8nm,0.9s,mb3.6,baz=187,slow=8.4,SNR=4.9						
KURK	**Kurchatov**	**79.17**	**9**	*e*P	**P**	**03 31 51.6**	**-2.8**
	1.2nm,0.8s,mb3.9						
ZALV	**Zalesovo Beam**	**83.29**	**12**	P	**P**	**03 32 17.5**	**+1.2**
	0.6nm,0.4s,mb3.9,baz=194,slow=5.5,SNR=3.2						
YKA	**Yellowknife Ar**	**145.33**	**359**	PKPbc	PKPbc	03 39 27.1	+0.1
	0.6nm,0.6s,baz=347,slow=3.8,SNR=6.5						

ISCJB ***04*** *03:28:58.7±0.2,2156S±003×6856W±005,h115km, mb4.5/55,Error ellipse: s-maj=6.5km s-min=4.1km az=178.7*
IDC ***04*** *03:29:00.5±0.4,2158S×6854W,h111km±3km,mb4.1/18, mb1 4.2/21,mb1mx4.2/23,mbtmp4.1/21,MS3.4/4, Ms1 3.4/4,ms1mx3.0/27,Error ellipse: s-maj=14.7km s-min=6.9km az=99.0*
NEIC ***04*** *03:29:00.7±0.2,2150S×6845W,mb4.6/45,Error ellipse: s-maj=7.3km s-min=4.5km az=67.0*
ISC 04 03:29:00.8±0.2,2157S±003×6850W±005,h117km, h117km±.8km;pP-P,n216,σ1°10/109,mb4.5/55,54C-54D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.11**	**200**	P	**Pn**	**03 29 22.9**	**-0.7**
	3µm,0.3s,baz=14,slow=8.7						
LVC				S	**Sn**	**03 29 39.8**	**-1.1**
	940nm,0.3s,baz=149,slow=19,SNR=30						
LVC	**Limon Verde**	**1.11**	**200**	⇑*i*Pn	**Pn**	**03 29 23.0**	**-0.6**
LVC				*e*Sn	**Sn**	**03 29 39.4**	**-1.5**
CEN1	**Los Morros**	**2.40**	**221**	*e*P	**Pn**	**03 29 39.5**	**+0.4**
CEN1				*i* S	**Sn**	**03 30 10.1**	**+1.5**
ANCH	**Antofagasta**	**2.75**	**220**	*e*P	**Pn**	**03 29 41.4**	**-2.2**
ANCH				*i* S	**Sn**	**03 30 12.4**	**-4.3**
CPN1	**Cerro Paranal**	**3.51**	**210**	*e*P	**Pn**	**03 29 51.1**	**-2.6**
CPN1				*i* S	**Sn**	**03 30 29.9**	**-4.9**
LPAZ	**La Paz**	**5.26**	**4**	P	**Pn**	**03 30 18.5**	**+1.2**
	15nm,0.3s,baz=205,slow=5.9,SNR=295						
LPAZ				S	**Sn**	**03 31 12.7**	**-4.1**
	3.3nm,0.3s,baz=195,slow=11,SNR=2.3						
LPAZ				LR	LR	03 32 45.2	
	comp=Z,338nm,20.2s,baz=132,slow=43						
LPAZ	**La Paz**	**5.26**	**4**	*e*Pn	**Pn**	**03 30 17.9**	**+0.7**
ARE	**Arequipa**	**5.81**	**330**	*e*P	**Pn**	**03 30 22.0**	**-2.7**
ARE				*i* S	**Sn**	**03 31 25.3**	**-4.8**
CDCH	**Caldera**	**5.88**	**201**	⇑*i*P	**Pn**	**03 30 20.1**	**-5.4**
CDCH				*i* S	**Sn**	**03 31 20.9**	**-11**
CPCH	**Copiapo**	**6.01**	**196**	⇑*i*P	**Pn**	**03 30 22.5**	**-4.8**
CPCH				*i* S	**Sn**	**03 31 25.1**	**-10**
LCO	**Las Campanas**	**7.67**	**195**	*e*Pn	**Pn**	**03 30 44.5**	**-5.4**
	66nm,0.6s						
LCO				*e*Sn	**Sn**	**03 32 07.7**	**-7.5**
SIV	**San Ignacio**	**8.96**	**53**	P	**Pn**	**03 31 05.0**	**-2.4**
	16nm,0.3s,baz=245,slow=12,SNR=469						
CFAA	**Coronel Fontan**	**10.00**	**179**	P	**Pn**	**03 31 17.8**	**-3.5**
	0.4nm,0.3s,baz=352,slow=12,SNR=12						
CFAA				S	**Sn**	**03 33 01.9**	**-10**
	0.8nm,0.3s,baz=229,slow=9.9,SNR=8.3						
CPUP	**Villa Florida**	**11.26**	**117**	P	**Pn**	**03 31 36.8**	**-1.4**
	1.0nm,0.3s,baz=287,slow=11,SNR=8.8						
CPUP	**Villa Florida**	**11.26**	**117**	*e*Pn	**Pn**	**03 31 36.5**	**-1.7**
NNA	**Nana**	**12.42**	**319**	S	**Sn**	**03 34 07.0**	**-3.6**
	2.0nm,0.3s,baz=258,slow=21,SNR=3.7						
TRQA	**Tornquist**	**17.37**	**163**	*e*P	**Pn**	**03 32 54.9**	**-1.0**
	26nm,0.8s						
PLCA	**Paso Flores**	**19.19**	**185**	P	**P**	**03 33 15.2**	**-0.1**
	0.7nm,0.3s,baz=0.3,slow=11,SNR=30						
PLCA	**Paso Flores**	**19.19**	**185**	*e*P	**P**	**03 33 15.0**	**-0.3**
	21nm,0.8s						
BDFB	**Brasilia**	**20.28**	**77**	P	**P**	**03 33 26.9**	**-0.5**
	6.6nm,0.5s,baz=248,slow=18,SNR=25						
BDFB				LR	LR	03 42 16.1	
	comp=Z,37nm,19.4s,baz=218,slow=39						
OTAV	**Otavalo**	**23.75**	**335**	*e*P	**P**	**03 34 03.6**	**+1.0**
	20nm,1.0s,mb4.4						
ROSC	**El Rosal**	**26.87**	**347**	P	**P**	**03 34 30.0**	**-0.8**
	3.4nm,0.4s,mb4.2,baz=284,slow=17,SNR=3.5						
ROSC				LR	LR	03 46 25.8	
	comp=Z,30nm,18.9s,baz=42,slow=39						
SDV	**Santo Domingo**	**30.33**	**356**	*e*P	**P**	**03 34 59.7**	**-1.8**
	8.5nm,0.6s,mb4.5						
USHA	**Ushuaia**	**33.22**	**180**	P	**P**	**03 35 26.9**	**+0.6**
	11nm,0.8s,mb4.7,baz=135,slow=1.9,SNR=6.4						
GRGR	**Grenville**	**34.16**	**12**	*e*P	**P**	**03 35 33.2**	**-1.7**
	64nm,0.8s,mb5.5						
SJG	**San Juan**	**39.50**	**4**	*e*P	**P**	**03 36 17.7**	**-2.4**
	21nm,0.6s,mb5.2						
PMSA	**Palmer Station**	**43.29**	**177**	P	**P**	**03 36 52.1**	**+1.5**
	19nm,0.7s,mb4.9,baz=352,slow=6.1,SNR=7.6						
PMSA	**Palmer Station**	**43.29**	**177**	*e*P	**P**	**03 36 51.6**	**+1.1**
	21nm,0.8s,mb4.9						
NHSC	**New Hope**	**55.50**	**348**	*e*P	**P**	**03 38 23.9**	**+0.3**
	85nm,1.0s						
CPCT	**Cooper Cave**	**58.70**	**345**	*e*P	**P**	**03 38 45.3**	**-0.8**
CPCT				*ep*P	pP	03 39 14.0	-0.2
TKL	**Tuckaleechee C**	**58.72**	**345**	*e*P	**P**	**03 38 45.2**	**-1.1**
SWET	**Sewanee**	**58.84**	**343**	*e*P	**P**	**03 38 46.2**	**-0.9**
SWET				*ep*P	pP	03 39 14.0	-1.3
SWET				*es*P	sP	03 39 27.0	-1.0
OXF	**Oxford**	**59.20**	**340**	*e*P	**P**	**03 38 48.4**	**-1.3**
	16nm,0.9s,mb5.0						
OXF				*ep*P	pP	03 39 16.8	-1.0
PLAL	**Pickwick Lake**	**59.23**	**341**	*e*P	**P**	**03 38 48.2**	**-1.6**
	7.2nm,1.0s,mb4.7						
PLAL				*ep*P	pP	03 39 15.6	-2.4
BLA	**Blacksburg**	**59.53**	**349**	*e*P	**P**	**03 38 52.0**	**+0.2**
	12nm,0.6s,mb5.1						
ELN	**Prospectdale**	**59.61**	**349**	*e*P	**P**	**03 38 52.8**	**+0.5**
ELN				*ep*P	pP	03 39 21.5	+0.9
JCT	**Junction City**	**59.85**	**329**	*e*P	**P**	**03 38 53.9**	**-0.3**
	6.6nm,1.0s,mb4.6						
JCT				*ep*P	pP	03 39 21.8	-0.6
VNA1	**Neumayer--Stat**	**60.10**	**160**	*e*	**P**	**03 38 56.9**	**+1.6**
VNA1				*e*		03 39 00.4	
MIAR	**Mount Ida**	**60.68**	**336**	*e*P	**P**	**03 38 59.1**	**-0.7**
	4.8nm,0.5s,mb4.8						
MIAR				*ep*P	pP	03 39 27.5	-0.5
TXAR	**Lajitas Array**	**60.90**	**325**	P	**P**	**03 39 00.9**	**-0.4**
	0.6nm,0.5s,mb3.9,baz=152,slow=8.8,SNR=15						
WCI	**Wyandotte Cave**	**61.78**	**344**	*e*P	**P**	**03 39 05.6**	**-1.4**
	4.5nm,0.6s,mb4.7						
MCWV	**Mont Chateau**	**61.82**	**350**	*e*P	**P**	**03 39 07.7**	**+0.4**
	32nm,0.7s,mb5.5						
MCWV				*ep*P	pP	03 39 36.6	+0.9
MCWV				*es*P	sP	03 39 49.1	+0.7
SNAA	**Sanae**	**62.09**	**161**	*e*	**P**	**03 39 09.5**	**+0.7**
SNAA				*e*		03 39 13.1	
SNAA	**Sanae**	**62.09**	**161**	P	**P**	**03 39 08.9**	**+0.2**
	7.4nm,0.7s,mb4.9,baz=282,slow=6.7,SNR=112						
SNAA	**Sanae**	**62.09**	**161**	*e*P	**P**	**03 39 09.3**	**+0.5**
	21nm,0.7s,mb5.3						
FVM	**French Village**	**62.72**	**341**	*e*P	**P**	**03 39 12.4**	**-1.0**
	14nm,0.7s,mb5.0						
FVM				*ep*P	pP	03 39 41.2	-0.5
FVM				*es*P	sP	03 39 54.6	+0.2
CCM	**Cathedral Cave**	**63.04**	**340**	*e*P	**P**	**03 39 14.1**	**-1.4**
	9.6nm,0.8s,mb4.8						
319A	**Douglas**	**65.57**	**322**	⇑P	pP	03 40 01.7	+0.9
	baz=65,SNR=7.7						
219A	**White Tail Can**	**66.02**	**323**	⇓P	pP	03 40 04.3	+0.6
	baz=65,SNR=5.7						
318A	**Bisbee**	**66.03**	**322**	⇑P	pP	03 40 04.2	+0.4
	baz=65,SNR=8.9						
BNM	**Barren Site**	**66.23**	**326**	P	**P**	**03 39 34.9**	**-1.4**
BNM				*ep*P	pP	03 40 05.2	+0.3
218A	**Dragoon**	**66.45**	**322**	⇓P	pP	03 40 07.8	+1.3
	baz=66						
LAZ	**Ladron**	**66.69**	**326**	*e*P	**P**	**03 39 39.9**	**+0.7**
LAZ				*ep*P	pP	03 40 07.3	-0.6
217A	**Green Valley**	**66.75**	**321**	⇑P	pP	03 40 09.5	+1.1
	baz=66						
ANMO	**Albuquerque**	**66.77**	**327**	*ep*P	pP	03 40 08.6	+0.2
	2.5nm,0.9s						
CBKS	**Cedar Bluff**	**66.82**	**334**	*e*P	**P**	**03 39 40.4**	**+0.5**
	5.8nm,0.5s,mb4.7						
Z19A	**T-Link Ranch,**	**66.99**	**324**	⇑P	pP	03 40 10.8	+0.9
	baz=66						
TUC	**Tucson**	**67.12**	**322**	*e*P	**P**	**03 39 40.4**	**-1.6**
	5.0nm,1.3s,mb4.2						
TUC				*ep*P	pP	03 40 10.7	0.0
117A	**Oracle**	**67.29**	**322**	⇓P	pP	03 40 12.9	+1.1
	baz=66,SNR=8.4						
216A	**Three Points,**	**67.29**	**321**	⇑P	pP	03 40 12.9	+1.1
	baz=66,SNR=6.3						
Y19A	**Nutrioso**	**67.48**	**324**	⇑P	pP	03 40 14.3	+1.3
	baz=67,SNR=11						
Z17A	**San Carlos Hig**	**67.67**	**323**	⇑P	pP	03 40 15.2	+0.9
	baz=67						
Y18A	**Canyon Day Jun**	**67.78**	**323**	⇑P	pP	03 40 15.5	+0.6
	baz=67,SNR=5.3						
X19A	**St. Johns**	**67.86**	**324**	⇓P	pP	03 40 16.3	+0.9
	baz=67						
LIC	**Lamto**	**68.04**	**74**	*e*P	**P**	**03 39 48.0**	**-0.2**
	59nm,1.6s,mb5.2						
Y17A	**Roosevelt**	**68.17**	**323**	⇓P	pP	03 40 18.7	+1.3
	baz=67,SNR=7.6						
TIC	**Toumodi**	**68.23**	**73**	*e*P	**P**	**03 39 49.7**	**+0.3**
	95nm,1.3s,mb5.5						
Z16A	**Peralta Trail,**	**68.24**	**322**	⇑P	pP	03 40 19.0	+1.2
	baz=67						
X18A	**Snowflake**	**68.29**	**324**	⇓P	pP	03 40 19.4	+1.3
	baz=67						
KIC	**Kosan Boka**	**68.36**	**74**	*e*P	**P**	**03 39 50.5**	**+0.3**
	28nm,0.4s,mb5.4						
DBIC	**Dimbokro**	**68.39**	**73**	P	**P**	**03 39 50.3**	**0.0**
	10nm,0.7s,mb4.8,baz=244,slow=4.8,SNR=16						
SDCO	**Great Sand Dun**	**68.50**	**329**	*e*P	**P**	**03 39 50.9**	**+0.4**
	6.1nm,1.4s,mb4.2						
SDCO				*e*	pP	03 40 15.0	-4.3
QSPA	**South Pole Qui**	**68.63**	**180**	P	**P**	**03 39 52.1**	**+1.3**
	9.5nm,0.5s,mb4.9,baz=159,slow=1.4,SNR=133						
QSPA	**South Pole Qui**	**68.63**	**180**	*e*P	**P**	**03 39 51.8**	**+1.1**
	24nm,0.9s,mb5.0						
QSPA				*ep*P	pP	03 40 20.0	+0.4
Y15A	**Casa Rosa Ranc**	**69.21**	**322**	⇑P	pP	03 40 25.2	+1.3
	baz=68,SNR=5.3						
MVCO	**Mesa Verde**	**69.56**	**327**	⇑P	pP	03 40 27.3	+1.3
	baz=69						
MVCO	**Mesa Verde**	**69.56**	**327**	*e*P	**P**	**03 39 56.9**	**-0.1**
	6.7nm,0.9s,mb4.5						
MVCO				*ep*P	pP	03 40 24.7	-1.3
Y14A	**Wickenburg**	**69.58**	**322**	⇓P	pP	03 40 27.4	+1.2
	baz=69						
W16A	**Flagstaff**	**69.58**	**323**	⇑P	pP	03 40 26.6	+0.4
	baz=69,SNR=8.9						
WUAZ	**Wupatki**	**69.81**	**324**	⇓P	pP	03 40 28.6	+1.0
	baz=69						
WUAZ	**Wupatki**	**69.81**	**324**	*e*P	**P**	**03 39 59.9**	**+1.2**
	10nm,0.9s,mb4.7						
WUAZ				*ep*P	pP	03 40 28.4	+0.8
X14A	**Yava**	**69.90**	**322**	⇑P	pP	03 40 29.6	+1.4
	baz=69,SNR=5.7						
ECSD	**EROS,Sioux Fal**	**69.92**	**339**	*e*P	**P**	**03 39 58.7**	**-0.4**
	2.8nm,0.8s,mb4.1						
ECSD				*ep*P	pP	03 40 26.9	-1.1
T18A	**Mexican Hat**	**70.21**	**326**	⇑P	pP	03 40 30.6	+0.5
	baz=69,SNR=7.0						
S19A	**Harvey Farm, M**	**70.29**	**327**	⇓P	pP	03 40 31.6	+1.1
	baz=69						
V15A	**Kaibab Nationa**	**70.47**	**323**	⇑P	pP	03 40 33.2	+1.5
	baz=70,SNR=7.0						
X13A	**Yucca**	**70.53**	**322**	⇑P	pP	03 40 33.6	+1.6
	baz=70						
W14A	**Seligman**	**70.54**	**322**	⇑P	pP	03 40 33.4	+1.2
	baz=70						
T17A	**Navajo Res., N**	**70.60**	**325**	⇓P	pP	03 40 33.4	+1.0
	baz=70,SNR=6.9						
S18A	**Hurst Farm, Bl**	**70.69**	**326**	⇑P	pP	03 40 34.0	+1.0
	baz=70,SNR=8.6						
R19A	**Curley Farm, L**	**70.77**	**327**	⇑P	pP	03 40 34.7	+1.2
	baz=70						
BC3	**Big Chuckw Mtn**	**70.83**	**320**	⇓P	pP	03 40 35.2	+1.2
	baz=70						
V14A	**Boquillas Ranc**	**70.86**	**323**	P	pP	03 40 35.9	+1.9
	baz=70,SNR=9.0						
W13A	**Hualapai Mount**	**70.92**	**322**	⇓P	pP	03 40 36.2	+1.7
	baz=70,SNR=5.2						
U15A	**North Rim**	**70.98**	**324**	⇓P	pP	03 40 36.3	+1.5
	baz=70,SNR=6.5						
IRM	**Iron Mountain**	**71.00**	**320**	⇓P	pP	03 40 36.5	+1.6
	baz=70						
R18A	**Canyonlands Na**	**71.17**	**327**	⇑P	pP	03 40 36.9	+1.1
	baz=70						
BELC	**Belle Mtn.**	**71.39**	**320**	⇑P	pP	03 40 38.9	+1.5
	baz=71						
PFO	**Pinyon Flat Ob**	**71.40**	**319**	⇓P	pP	03 40 39.1	+1.7
	baz=71						
T15A	**Red Dirt Ranch**	**71.46**	**324**	⇓P	pP	03 40 39.1	+1.4
	baz=71,SNR=6.6						
U14A	**Mt Trumbull**	**71.47**	**323**	⇓P	pP	03 40 39.2	+1.5
	baz=71,SNR=8.0						
V13A	**Grand Canyon W**	**71.51**	**322**	⇑P	pP	03 40 39.7	+1.6
	baz=71,SNR=7.7						
R17A	**Hanksville Air**	**71.61**	**326**	⇑P	pP	03 40 39.2	+0.6
	baz=71,SNR=9.2						
GMRC	**Granite Mounta**	**71.73**	**321**	⇑P	pP	03 40 40.7	+1.3
	baz=71						
T14A	**Hurricane**	**71.88**	**324**	⇑P	pP	03 40 41.4	+1.2
	baz=71,SNR=6.1						
V12A	**Nelson**	**71.92**	**322**	⇓P	pP	03 40 40.9	+0.4
	baz=71,SNR=5.4						
SRU	**San Rafael**	**72.04**	**327**	⇑P	pP	03 40 41.8	+0.6
	baz=71,SNR=7.7						
SRU	**San Rafael**	**72.04**	**327**	*e*P	**P**	**03 40 13.5**	**+1.5**
	1.2nm,0.5s,mb4.0						
SRU				*ep*P	pP	03 40 41.9	+0.8
EYMN	**Ely**	**72.21**	**344**	*e*P	**P**	**03 40 09.6**	**-3.3**
	6.9nm,1.2s,mb4.4						
EYMN				*ep*P	pP	03 40 41.1	-0.9
U12A	**Valley of Fire**	**72.24**	**322**	⇑P	pP	03 40 43.9	+1.4
	baz=71						
P18A	**Preston Nutter**	**72.29**	**327**	⇑P	pP	03 40 43.9	+1.3
	baz=71,SNR=6.3						
S13A	**Holt Ranch, En**	**72.68**	**324**	⇑P	pP	03 40 46.8	+1.8
	baz=72,SNR=7.8						
R14A	**James Farms, M**	**72.74**	**325**	⇓P	pP	03 40 47.1	+1.7
	baz=72						
R13A	**O'Grain Ranch,**	**73.17**	**324**	⇑P	pP	03 40 49.4	+1.5
	baz=72						
T11A	**Corn Creek, Al**	**73.20**	**323**	⇓P	pP	03 40 49.5	+1.4
	baz=72,SNR=5.9						
O16A	**Springville**	**73.36**	**327**	⇑P	pP	03 40 50.1	+1.1
	baz=72						
Q14A	**Sevier Lake (B**	**73.38**	**325**	⇓P	pP	03 40 50.6	+1.4
	baz=72,SNR=6.9						
DAU	**Daniels Canyon**	**73.39**	**327**	*e*P	**P**	**03 40 21.8**	**+1.9**
DAU				*ep*P	pP	03 40 49.1	-0.1
N17A	**Moffit Pass**	**73.58**	**328**	⇑P	pP	03 40 51.6	+1.3
	baz=73,SNR=8.5						
FURC	**Furnace Creek,**	**73.60**	**321**	⇓P	pP	03 40 51.6	+1.1
	baz=73,SNR=5.8						
R12A	**Pony Springs,**	**73.63**	**324**	⇓P	pP	03 40 52.9	+2.2
	baz=73,SNR=7.1						
P14A	**Drum Mountains**	**73.71**	**326**	⇓P	pP	03 40 53.0	+1.9
	baz=73,SNR=6.5						
AGMN	**Agassiz Refuge**	**73.74**	**341**	*e*P	**P**	**03 40 22.0**	**+0.1**
	8.9nm,0.9s,mb4.5						
AGMN				*ep*P	pP	03 40 51.0	-0.1
Q13A	**Wheeler Ranch,**	**73.76**	**325**	⇓P	pP	03 40 53.1	+1.7
	baz=73						
N16A	**Rees Ranch, Co**	**73.83**	**327**	⇑P	pP	03 40 53.4	+1.6
	baz=73						
ISA	**Isabella**	**74.01**	**320**	⇑P	pP	03 40 54.7	+1.7
	baz=73						
ISA	**Isabella**	**74.01**	**320**	*e*P	**P**	**03 40 24.1**	**+0.3**
	4.2nm,0.8s,mb4.2						
ISA				*ep*P	pP	03 40 53.5	+0.5
**D

GCMT *e*pP pP 03 41 09.4 +0.8
VNDA Vanda 76.85 190 P **P 03 40 40.8 +1.4**
3.7nm,0.9s,mb4.1,baz=127,slow=5.1,SNR=6.6
K12A Draper Farm, C 76.88 327 ⇓P pP 03 41 10.9 +1.5
baz=76,SNR=5.2
L11A Cat Creek Ranc 76.98 326 ⇑P pP 03 41 11.3 +1.3
baz=76
TOA0 Torodi Ar. Sit 77.02 70 *e*P **P 03 40 41.1 -0.3**
TOA0 *e*pP pP 03 41 11.1 +0.2
TORD Torodi Ar. Bea 77.02 70 P **P 03 40 41.6 +0.3**
2.7nm,0.3s,mb4.4,baz=254,slow=5.2,SNR=72
TORD pP pP 03 41 10.7 -0.1
6.9nm,0.8s,baz=250,slow=5.6,SNR=5.0
L10A Juniper Basin 77.29 325 ⇑P pP 03 41 13.1 +1.3
baz=76
HLID Hailey 77.30 328 ⇓P pP 03 41 12.7 +0.9
baz=76,SNR=8.2
HLID Hailey 77.30 328 *e*P **P 03 40 44.1 +1.8**
2.2nm,0.9s,mb3.9
HLID *e*pP pP 03 41 12.7 +1.0
I13A Wildhorse Cree 77.41 328 ⇑P pP 03 41 13.8 +1.4
baz=76
J12A Stokes Ranch, 77.42 327 ⇓P pP 03 41 13.8 +1.4
baz=76
MCMT McKenzie Canyo 77.47 329 *e*P **P 03 40 44.8 +1.6**
MCMT *e*pP pP 03 41 10.3 -2.4
BOZ Bozeman (W) 77.52 331 *e*P **P 03 40 44.5 +1.0**
3.7nm,1.4s,mb3.9
BOZ *e*pP pP 03 41 14.0 +1.0
K11A Parker Ranch, 77.55 326 ⇓P pP 03 41 14.0 +0.8
baz=77
DLMT Dillon 77.75 330 *e*P **P 03 40 45.5 +0.8**
11nm,1.4s,mb4.4
DLMT *e*pP pP 03 41 15.2 +0.9
H13A Challis 77.95 328 ⇓P pP 03 41 16.3 +0.9
baz=77,SNR=6.0
K10A MacKenzie Ranc 77.99 326 ⇓P pP 03 41 16.9 +1.2
baz=77
G13A Cobalt 78.33 329 ⇓P pP 03 41 18.5 +1.0
baz=77,SNR=12
M06C Likely Place G 78.88 323 ⇑P pP 03 41 22.2 +1.5
baz=78
H11A Donnelly 78.92 328 ⇑P pP 03 41 21.8 +1.0
baz=78
E13A Victor 79.30 330 ⇓P pP 03 41 24.2 +1.4
baz=78,SNR=5.8
G11A Walters Elk Ra 79.54 328 ⇓P pP 03 41 25.6 +1.4
baz=79
TSUM Tsumeb 79.66 107 *e*P **P 03 40 57.0 +1.1**
7.0nm,0.8s,mb4.5
I08A Drewsey 79.67 326 ⇑P pP 03 41 27.1 +2.1
baz=79
J07A Hines 79.70 325 ⇓P pP 03 41 26.6 +1.5
baz=79
K06A Valley Falls 79.82 324 ⇓P pP 03 41 27.4 +1.6
baz=79
G10A Bishop Farm, J 79.89 327 ⇓P pP 03 41 27.8 +1.7
baz=79,SNR=5.5
J06A Christmas Vall 80.07 324 ⇓P pP 03 41 28.5 +1.3
baz=79
G09A Cove 80.21 327 ⇓P pP 03 41 29.0 +1.2
baz=79
I06A Prineville 80.56 325 ⇑P pP 03 41 31.2 +1.4
baz=80
G07A Ruggs Ranch, H 81.17 326 ⇓P pP 03 41 34.3 +1.2
baz=80
BOSA Boshof 83.08 118 P **P 03 41 14.3 +0.4**
5.4nm,0.8s,mb4.5,baz=98,slow=19,SNR=8.3
A08A Turner Farm, O 83.50 329 ⇑P pP 03 41 46.3 +1.1
baz=83
A07A Ashnola River, 84.10 329 ⇑P pP 03 41 49.5 +1.2
baz=83
MAW Mawson 84.16 163 P **P 03 41 19.2 +0.7**
9.7nm,0.8s,mb4.7,baz=221,slow=6.2,SNR=30
TAM Tamanrasset 84.51 63 *e*P **P 03 41 21.2 +0.1**
TAM *e*pP pP 03 41 52.5 +1.5
ESDC Sonseca Array 85.61 44 P **P 03 41 26.8 +0.6**
0.2nm,0.4s,mb3.4,baz=249,slow=4.6,SNR=5.3
ESDC pP pP 03 41 57.1 +0.9
1.3nm,0.9s,baz=250,slow=4.8,SNR=3.6
YKA Yellowknife Ar 91.38 340 P **P 03 41 52.8 -0.1**
0.8nm,0.5s,mb4.1,baz=132,slow=4.4,SNR=18
BORG Borgarnes 93.36 18 LR LR 04 17 17.5
comp=Z,122nm,21.7s,baz=0.5,slow=31
STKA Stephens Creek 119.55 209 PKP PKPdf 03 47 36.2 -1.0
0.6nm,0.6s,baz=7.5,slow=7.9,SNR=3.0
FORT Forrest 125.58 198 *e*P PKPdf 03 47 48.9 0.0
4.7nm,0.5s
ASAR Alice Springs 130.03 207 PKP PKPdf 03 47 57.8 +0.3
1.7nm,0.4s,baz=125,slow=2.7,SNR=26
ASAR pPKP pPKPdf 03 48 27.1 -2.0
0.8nm,0.9s,baz=147,slow=2.2,SNR=2.2
WB2 Warramunga Arr 133.08 210 *e*P PKPdf 03 48 03.7 +0.3
WRA Warramunga Arr 133.09 210 PKP PKPdf 03 48 03.7 +0.3
2.8nm,0.5s,baz=160,slow=1.7,SNR=26
WRA pPKP pPKPdf 03 48 35.4 +0.4
0.7nm,0.5s,baz=160,slow=1.6,SNR=2.2
WRAB Tennant Creek 133.09 210 *e*PKPdf PKPdf 03 48 03.6 +0.1
FITZ Fitzroy Crossi 138.22 200 *e*P PKPdf 03 48 13.9 +0.9
5.8nm,0.8s
ZALV Zalesovo Beam 141.85 25 PKP PKPdf 03 48 18.6 +0.2
1.3nm,0.6s,baz=290,slow=2.1,SNR=4.7
MK31 Makanchi Array 145.46 36 *e*PKPdf PKPdf 03 48 26.0 +1.0
MKAR Makanchi Array 145.46 36 PKPbc PKPbc 03 48 25.9 +0.6
4.2nm,0.8s,baz=323,slow=4.4,SNR=26
MKAR pPKPbc pPKPbc 03 48 57.8 +1.5
5.1nm,0.7s,baz=325,slow=3.6,SNR=8.8
SONM Songino Array 153.47 8 PKP PKPdf 03 48 39.3 +1.7
0.4nm,0.6s,baz=4.1,slow=2.0,SNR=4.0
SONM PKPab PKPab 03 48 56.7 -1.3
0.6nm,0.6s,baz=351,slow=4.7,SNR=3.2
SONM pPKP pPKPdf 03 49 07.0 -2.4
2.5nm,0.5s,baz=299,slow=1.7,SNR=13

NEIC 04 03:32:27.4, 4439S×16986E, h2km, ML3.8(WEL)**, After WEL., South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.23**	**89**	P	Pg	03 32 32.5	+0.6
LBZ				S	Sg	03 32 35.9	+1.0
WKZ	**Wanaka**	**0.74**	**234**	P	Pg	03 32 42.2	+0.5
WKZ				S	Sg	03 32 52.0	+0.7
FOZ	**Fox Glacier**	**0.83**	**351**	P	Pg	03 32 43.6	+0.2
JCZ	**Jackson Bay**	**0.85**	**291**	P	Pg	03 32 43.8	+0.1
ODZ	**Otahua Downs**	**0.86**	**140**	P	Pg	03 32 44.0	+0.1
EAZ	**Earnscleugh**	**0.93**	**205**	P	Pg	03 32 45.4	+0.2
RPZ	**Rata Peaks**	**1.09**	**52**	P	Pg	03 32 48.1	-0.2
MSZ	**Milford Sound**	**1.41**	**258**	P	Pn	03 32 54.0	-0.1
WVZ	**Waitaha Valley**	**1.46**	**26**	P	Pn	03 32 54.3	-0.4
MLZ	**Mavora Lakes**	**1.54**	**231**	P	Pn	03 32 56.1	+0.3
TUZ	**Tuapeka**	**1.57**	**186**	P	Pn	03 32 55.4	-0.9
WHZ	**Wether Hill Ro**	**2.02**	**221**	P	Pn	03 33 01.7	-0.8
MQZ	**McQueen's Vall**	**2.13**	**72**	P	Pn	03 33 08.0	+4.1
DCZ	**Deep Cove**	**2.21**	**240**	P	Pn	03 33 04.4	-0.6
LTZ	**Lake Taylor**	**2.38**	**48**	P	Pn	03 33 06.7	-0.6
DSZ	**Denniston Nort**	**3.00**	**29**	P	Pn	03 33 15.4	-0.5
THZ	**Tophouse**	**3.44**	**41**	P	Pn	03 33 21.9	-0.1
QRZ	**Quartz Range**	**4.07**	**30**	P	Pn	03 33 32.3	+1.7

*NEIC **04** 03:45:11.5, 3225S×7172W, h11km, ML3.3(GUC), After GUC.*

GUC 04 03:45:11.5±0.6, 3225S×7172W, h11km±1km, MD3.7, ML3.3, 12C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.37**	**140**	*i* S	Sg	03 45 25.7	+1.9
CHNG	**Los Chungos**	**0.41**	**27**	*i* P	Pg	03 45 19.9	+0.3
CHNG				*i* S	Sg	03 45 26.3	+1.2
CHNG				AML	AML	03 45 26.8	
comp=E,5μm,0.3s							
PTCH	**Petorca**	**0.67**	**91**	⇓*i* P	Pg	03 45 24.5	+0.1
PTCH				*i* S	Sg	03 45 34.3	+1.1
IHA	**Instituto Hidr**	**0.78**	**175**	⇑*i* P	Pg	03 45 26.2	-0.3
IHA				*i* S	Sg	03 45 37.0	+0.4
ROCH	**El Roble**	**0.93**	**141**	⇑*i* P	Pg	03 45 28.8	-0.7
ROCH				*i* S	Sg	03 45 42.1	+0.4
JACH	**Jahuel**	**1.04**	**115**	⇑*i* P	Pb	03 45 30.3	-1.2
JACH				*i* S	Sg	03 45 44.8	-0.4
LCCH	**Las Cruces**	**1.23**	**174**	⇑*i* P	Pn	03 45 33.1	-1.4
LCCH				*i* S	Sb	03 45 49.7	-0.8
CMCH	**Combarbala**	**1.23**	**30**	AML	AML	03 45 54.0	
comp=E,3μm,0.8s							
PEL	**Peldehue**	**1.24**	**136**	⇑*i* P	Pn	03 45 33.6	-1.2
PEL				*i* S	Sb	03 45 50.2	-0.7
PEL				AML	AML	03 45 53.0	
comp=N,1μm,0.2s							
RCDM	**Rinconada Maip**	**1.45**	**148**	⇑*i* P	Pn	03 45 36.6	-1.0
RCDM				*i* S	Sn	03 45 55.9	-0.8
RCDM				AML	AML	03 45 57.6	
comp=E,559nm,0.1s							
RCDM	**Rinconada Maip**	**1.45**	**148**	⇑*i* P	Pn	03 45 36.6	-1.0
RCDM				*i* S	Sn	03 45 55.9	-0.8
CLCH	**Cerro Calan**	**1.51**	**139**	⇑*i* P	Pn	03 45 37.8	-0.7
CLCH				*i* S	Sn	03 45 57.9	-0.3
CLCH				AML	AML	03 46 09.9	
comp=N,408nm,0.4s							
TACH	**Talagante**	**1.54**	**155**	⇓*i* P	Pn	03 45 38.4	-0.5
TACH				*i* S	Sn	03 45 58.5	-0.4
ANTU	**Antumapu**	**1.60**	**146**	*i* P	Pn	03 45 39.6	-0.1
ANTU				*i* S	Sn	03 46 00.4	+0.2
ANTU				AML	AML	03 46 10.0	
comp=N,357nm,0.7s							
ANTU	**Antumapu**	**1.60**	**146**	*i* P	Pn	03 45 39.6	-0.1
ANTU				*i* S	Sn	03 46 00.4	+0.2
FCH	**Farellones**	**1.61**	**132**	⇑*i* P	Pn	03 45 39.3	-0.5
FCH				*i* S	Sn	03 46 00.7	+0.1
FCH				AML	AML	03 46 02.4	
comp=E,274nm,0.3s							
OVCH	**Ovalle**	**1.70**	**15**	*i* P	Pn	03 45 41.0	0.0
OVCH				*i* S	Sn	03 46 03.2	+0.5
OVCH				AML	AML	03 46 09.0	
comp=N,1μm,0.6s							
OVCH	**Ovalle**	**1.70**	**15**	*i* P	Pn	03 45 41.0	0.0
OVCH				*i* S	Sn	03 46 03.2	+0.5
PCH	**Pirque**	**1.70**	**144**	⇑*i* P	Pn	03 45 40.8	-0.2
PCH				*i* S	Sn	03 46 03.5	+0.8
LNV	**Longovilo**	**1.72**	**172**	*i* P	Pn	03 45 40.8	-0.5
LNV				*i* S	Sn	03 46 03.2	0.0
CHCH	**Chadas Angostu**	**1.90**	**152**	*i* P	Pn	03 45 43.8	0.0
CHCH				*i* S	Sn	03 46 08.6	+0.9
LMEL	**Las Melosas**	**2.04**	**142**	⇑*i* P	Pn	03 45 45.7	0.0
LMEL				*i* S	Sn	03 46 12.3	+1.2
LMEL				AML	AML	03 46 21.4	
comp=N,236nm,0.2s							
LMEL	**Las Melosas**	**2.04**	**142**	⇑*i* P	Pn	03 45 45.7	0.0
LMEL				*i* S	Sn	03 46 12.3	+1.2
TLL	**Tololo Astrono**	**2.22**	**21**	*i* P	Pn	03 45 49.4	+1.2
TLL				*i* S	Sn	03 46 18.2	+2.6
TLL				AML	AML	03 46 22.8	
comp=N,696nm,0.8s							
TLL	**Tololo Astrono**	**2.22**	**21**	*i* P	Pn	03 45 49.4	+1.2
TLL				*i* S	Sn	03 46 18.2	+2.6
CICH	**Cipreses**	**2.33**	**153**	*i* P	Pn	03 45 51.1	+1.3
CICH				*i* S	Sn	03 46 20.9	+2.5

*ISCJB **04** 04:01:26.3±1.3, 366S±0.1×1773E±02, h211km±10km, mb4.0/6, Error ellipse: s-maj=22.7km s-min=18.9km az=14.1*
*IDC **04** 04:01:27.9±1.8, 3680S×17742E, h220km±11km, mb3.9/3, mb1 4.1/4, mb1mx3.6/16, mbtmp3.9/4, Error ellipse: s-maj=33.6km s-min=19.4km az=29.0*
*NEIC **04** 04:01:28.1±1.6, 3689S×17733E, h222km±12km, mb4.0/3, Error ellipse: s-maj=28.0km s-min=17.3km az=215.0*
ISC 04 04:01:27.8±1.3, 367S±01×1773E±02, h210km±10km, n15, σ1900/10, mb4.0/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.56**	**184**	P	**Pn**	**04 02 02.8**	**0.0**
112nm,0.3s,baz=27,slow=2.3,SNR=1155							
URZ				S		04 02 31.0	
97nm,0.3s,baz=347,slow=5.4,SNR=44							
SNZO	**South Karori**	**5.01**	**203**	*e*Pn	**Pn**	**04 02 41.3**	**-1.1**
RPZ	**Rata Peaks**	**8.45**	**212**	P	**Pn**	**04 03 25.3**	**-1.4**
2.9nm,0.3s,baz=21,slow=3.5,SNR=17							
RPZ				S		04 05 02.3	
2.6nm,0.3s,baz=12,slow=16,SNR=12							
COEN	**Coen**	**37.92**	**298**	*e*P	**P**	**04 08 24.7**	**-0.3**
2.5nm,0.6s,mb3.9							
ASAR	**Alice Springs**	**39.34**	**277**	P	**P**	**04 08 37.7**	**+0.9**
6.2nm,0.5s,mb4.4,baz=118,slow=8.8,SNR=120							
WRAB	**Tennant Creek**	**40.93**	**282**	*e*P	**P**	**04 08 49.8**	**0.0**
4.6nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**40.93**	**282**	P	**P**	**04 08 50.0**	**+0.1**
5.3nm,0.5s,mb4.2,baz=120,slow=7.8,SNR=24							
WRA				PcP	PcP	04 10 45.1	-1.0
0.3nm,0.6s,baz=123,slow=3.2,SNR=3.5							
QSPA	**South Pole Qui**	**53.42**	**180**	P	**P**	**04 10 27.6**	**+2.3**
3.0nm,0.6s,mb3.9,baz=355,slow=1.0,SNR=23							
QSPA	**South Pole Qui**	**53.42**	**180**	*e*P	**P**	**04 10 27.4**	**+2.1**
3.1nm,0.7s,mb3.9							
PLCA	**Paso Flores**	**81.02**	**135**	P	**P**	**04 13 18.1**	**-1.0**
2.0nm,0.9s,mb3.7,baz=239,slow=2.0,SNR=4.5							
ARCES	**ARCESS Array B**	**143.72**	**344**	PKhKP		04 20 30.2	
0.5nm,0.5s,baz=63,slow=2.4,SNR=9.2							
ARCES	**ARCESS Array B**	**143.72**	**344**	PKP	PKPdf	04 20 30.2	-6.3
DBIC	**Dimbokro**	**150.04**	**176**	PKPbc	PKPbc	04 20 51.3	-2.6
4.2nm,1.0s,baz=180,slow=1.0,SNR=6.2							
TORD	**Torodi Ar. Bea**	**156.21**	**191**	PKPbc	PKPdf	04 21 05.8	+8.3
0.7nm,1.0s,baz=162,slow=3.0,SNR=11							
TORD				PKPab	PKPab	04 21 24.9	-1.4
0.8nm,0.5s,baz=171,slow=3.8,SNR=19							
TORD	**Torodi Ar. Bea**	**156.21**	**191**	PKPbc	PKPdf	04 21 05.8	+8.3
TORD				PKPab	PKPab	04 21 24.9	-1.4

*NIED **04** 04:33:00, 4690N×14170E, h5km, Mw3.9 Best double couple: M0:6.90000×10^14 NP1:φ0=215.00000°, δ59.00000°, λ76.00000°. NP2:φ0=61.00000°, δ34.00000°, λ112.00000°.*
*SKHL **04** 04:33:24.6±0.3, 4669N×14164E, h10km, mb4.1/5, msh4.5/1*
SKHL Felt (III-IV) at Nevel'sk, (III) at Kholmsk.
*MOS **04** 04:33:24.5±1.3, 4681N×14162E, h8km, mb4.3/5, Error ellipse: s-maj=17.6km s-min=10.0km az=92.3*
MOS Felt (III-IV) at Nevel'sk; (III) at Kholmsk.
*JMA **04** 04:33:24.5±0.4, 4690N×14174E, h8km, M4.2*
*IDC **04** 04:33:25.2±0.7, 4673N×14174E, h0km, mb3.7/11, mb1 4.0/12, mb1mx3.9/22, mbtmp3.7/12, ML3.3/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/39, Error ellipse: s-maj=22.7km s-min=18.6km az=114.0*
*ISCJB **04** 04:33:25.0±0.7, 4682N±002×14164E±004, h7km±4km, mb3.9/23, MS3.3/2, Error ellipse: s-maj=4.9km s-min=3.8km az=6.1*
*NEIC **04** 04:33:26.7±0.5, 4669N×14175E, h10km, mb4.3/8, Error ellipse: s-maj=13.1km s-min=7.6km az=158.0*
ISC 04 04:33:27.5±0.7, 4677N±002×14175E±004, h13km±4km, n53, σ0896/70, mb3.9/23, MS3.3/2, 7C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.71**	**75**	⇑*i* Pg	**Pg**	**04 33 40.7**	**-0.6**
YSS				*i* Sg	**Sg**	**04 33 51.8**	**+1.1**
YSS				A		04 33 54.4	
4μm,0.3s							
YSS				AMS	AMS	04 34 23.0	
5μm,5.0s							
YSS				AMS	AMS	04 34 23.0	
4μm,5.0s							
YSS				AMS	AMS	04 34 23.0	
2μm,5.0s							
YSS	**Yuzh-Sakhalins**	**0.71**	**75**	*e*Pg	**Pg**	**04 33 40.7**	**-0.6**
YSS				*e*Sg	**Sg**	**04 33 50.3**	**-0.4**
JWK2	**Keihoku**	**1.46**	**176**	P	**Pn**	**04 33 53.0**	**-0.5**
JWK2				*e*S	**Sn**	**04 34 13.1**	**+0.6**
JRR	**Rishiri**	**1.66**	**191**	P	**Pn**	**04 33 56.1**	**-0.2**
JRR				*e*S	**Sn**	**04 34 19.1**	**+1.6**
JSE	**Soyaes**	**1.91**	**162**	P	**Pn**	**04 33 59.3**	**-0.4**
UGL	**Uglegorsk**	**2.32**	**5**	PN	**Pn**	**04 34 02.5**	**-2.8**
UGL				S	**Sn**	**04 34 35.5**	**+1.8**
UGL				smax			
comp=N,370nm,0.7s							
UGL				smax			
comp=E,570nm,0.6s							
UGL	**Uglegorsk**	**2.32**	**5**	*e*P	**Pn**	**04 34 04.5**	**-0.8**
UGL				AMB	AMB	04 34 06.5	
comp=E,32nm,0.6s							
UGL				*e*Pg	**Pg**	**04 34 13.0**	**+1.1**
UGL				AMB	AMB	04 34 18.0	
comp=E,131nm,0.6s							
UGL				*e*S	**Sn**	**04 34 33.0**	**-0.7**
UGL				A		04 34 39.0	
comp=E,570nm,0.6s							
UGL				A		04 34 39.0	
comp=E,370nm,0.7s							
UGL				*e*Sg	**Sg**	**04 34 45.8**	**+3.9**
JYG Yagishiri 2.36 186 P **Pn 04 34 06.3 +0.4**							
JYG				*e*S	**Sn**	**04 34 36.1**	**+1.5**
JSS Shosan 2.37 178 P **Pn 04 34 06.0 -0.1**							
ASAJ Asahikawa 2.72 167 P **Pn 04 34 11.3 +0.4**							
ASAJ Asahikawa 2.72 167 Pn **Pn 04 34 11.0 +0.1**							
comp=E,3.8nm,0.3s,baz=25,slow=10,SNR=15							
ASAJ				Lg		04 34 54.8	
comp=E,17nm,0.3s,baz=145,slow=24,SNR=27							
JKK2 Kamakawa 2 2.98 166 P **Pn 04 34 14.7 +0.2**							
JMP Maruseppu 2.99 157 P **Pn 04 34 14.1 -0.5**							
JTKR Abashiri--Toko 3.19 151 P **Pn 04 34 16.3 -1.0**							
TEY Ternei 3.99 246 *e*P **Pn 04 34 26.5 -1.8**							
TEY				AMB	AMB	04 34 29.0	
comp=E,18nm,0.4s							
TEY				*e*Pg	**Pg**	**04 34 42.5**	**-1.4**
TEY				*e*Sg	**Sg**	**04 35 37.0**	**+1.4**
TEY				A		04 35 45.0	
comp=E,37nm,0.5s							
TYV Tymovskoe 4.14 8 *e*P **Pn 04 34 31.0 +0.7**							
TYV				*e*Pg	**Pg**	**04 34 48.3**	**+1.6**
TYV				AMB	AMB	04 34 50.0	
comp=E,13nm,0.8s							
TYV				AMB	AMB	04 34 50.0	
comp=E,31nm,0.8s							
TYV				*e*Sg	**Sg**	**04 35 47.3**	**+7.0**
TYV				A		04 35 53.0	
comp=E,48nm,1.0s							
TYV				A		04 35 53.0	
comp=E,66nm,1.0s							
TYV				A		04 36 21.0	
comp=E,600nm,5.0s							
KUR Kuril'sk 4.53 108 *e*P **Pn 04 34 35.0 -0.8**							
KUR				*e*S	**Sn**	**04 35 27.8**	**-0.5**
KUR				A		04 35 29.0	
comp=E,110nm,0.8s							
KUR				A		04 35 29.0	
comp=E,50nm,0.8s							
GRNR Gornyy 5.33 321 *e*P **Pn 04 34 42.8 -3.9**							
GRNR				AMB	AMB	04 34 43.1	
comp=E,18nm,0.7s							
GRNR				*e*Pg	**Pg**	**04 35 05.0**	**-4.5**
GRNR				*e*S	**Sn**	**04 35 43.5**	**-4.4**
GRNR				*e*Sg	**Sg**	**04 36 18.2**	**-0.2**
GRNR				A		04 36 19.4	
comp=E,67nm,0.8s							
KLR Kul'dur 7.14 294 *e*PN **Pn 04 35 18.7 +7.1**							
KLR				MLR	MLR		
comp=Z,600nm,12.0s							
EKMR Ekimchan 8.48 321 *e*P **Pn 04 35 24.5 -5.4**							
EKMR				AMB	AMB	04 35 27.4	
comp=Z,2.0nm,0.4s							
EKMR				*e*Sg	Sn	04 37 47.0	+42
EKMR				A		04 38 07.5	
comp=Z,16nm,0.9s							
EKMR				A		04 38 07.5	
comp=Z,96nm,0.9s							
EKMR				A		04 38 07.5	
comp=Z,5.0nm,0.9s							
PETK Petropavlovsk- 12.06 52 LR LR 04 40 47.2							
comp=Z,37nm,18.5s,baz=209,slow=36							
YAK Yakutsk 16.78 340 ⇑*i* P **Pn 04 37 20.1 -1.8**							
YAK				pmax	pmax		
comp=Z,10.0nm,0.5s							
SONM Songino Array 23.88 286 P **P 04 38 42.1 +1.6**							
comp=Z,0.4nm,0.5s,mb3.1,baz=64,slow=9.8,SNR=3.8							
SONM				LR	LR	04 47 51.1	
comp=Z,58nm,18.2s,MS3.1,baz=94,slow=36							
BILL Biiibino 24.74 22 ⇑*i* P **P 04 38 47.3 -0.9**							
BILL				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.2							
TLY Talaya 25.16 295 ⇑*i* P **P 04 38 50.7 -1.5**							
TLY				pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.8							
ZAK Zakamensk 25.51 292 *e*P **P 04 38 56.7 +1.3**							
ZAK				pmax	pmax		
comp=Z,2.0nm,2.0s,mb3.3							
TIXI Tiksi 25.69 351 ⇑*i* P **P 04 38 54.8 -2.0**							
TIXI Tiksi 25.69 351 *e*P **P 04 38 57.0 +0.2**							
comp=Z,11nm,0.8s,mb4.5							
SVW2 Sparrevohn 37.99 45 *e*P **P 04 40 45.7 +1.1**							
BPAW Bear Paw Mtn. 39.72 39 *e*P **P 04 40 59.9 +0.7**							
comp=Z,3.0nm,0.9s,mb4.0							
COLD Coldfoot 39.73 34 *e*P **P 04 40 59.1 -0.1**							
comp=Z,3.4nm,0.8s,mb4.1							
MKAR Makanchi Array 39.85 293 P **P 04 40 58.3 -2.2**							
comp=Z,0.2nm,0.2s,mb3.4,baz=66,slow=11,SNR=2.6							
MKAR				LR	LR	04 58 34.9	
comp=Z,63nm,18.1s,MS3.5,baz=178,slow=38							
KDAK Kodiak Island 40.09 49 P **P 04 41 02.0 -0.3**							
comp=Z,2.3nm,0.6s,mb4.1,baz=243,slow=9.0,SNR=3.8							
KURK Kurchatov 40.70 300 ⇑*i* P **P 04 41 06.8 -0.6**							
COLA College 40.95 38 *e*P **P 04 41 09.8 +0.4**							
COLA				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.2							
COLA College 40.95 38 *e*P **P 04 41 09.8 +0.4**							
comp=Z,4.0nm,0.6s,mb4.2							
DIV Divide 42.65 43 *e*P **P 04 41 23.3 0.0**							
comp=Z,11nm,0.9s,mb4.6							
EGAK Eagle 43.77 37 *e*P **P 04 41 32.3 -0.1**							
comp=Z,8.1nm,0.7s,mb4.6							
DAWY Dawson 44.71 38 *e*P **P 04 41 39.8 0.0**							
INK Inuvik 45.76 31 *e*P **P 04 41 47.7 -0.4**							
HYT Haines Junctio 46.58 42 *e*P **P 04 41 55.6 +0.9**							
ARU Arti 49.52 314 *c*P **P 04 42 17.8 +0.4**							
ARU				*e*		04 43 36.4	
ARU				*e*		04 44 05.8	
ARU				*e*S	**S**	**04 49 25.3**	**+0.9**
ARU				*e*SS	SS	04 52 50.1	-5.7
ARU				pmax	pmax		
comp=Z,7.0nm,1.8s,mb4.4							
YKA Yellowknife Ar 55.39 33 P **P 04 43 00.8 0.0**							
comp=Z,1.2nm,0.7s,mb4.1,baz=305,slow=6.7,SNR=9.2							
NOA NORSAR Array B 65.35 336 P **P 04 44 09.3 +0.3**							
comp=Z,0.8nm,0.7s,mb3.9,baz=41,slow=6.0,SNR=2.6							
WRA Warramunga Arr 66.73 188 P **P 04 44 16.6 -1.6**							
comp=Z,0.2nm,0.3s,mb3.7,baz=3.7,slow=7.1,SNR=5.4							
NVAR Mina Array Bea 69.12 56 P **P 04 44 33.3 0.0**							
comp=Z,0.7nm,0.7s,mb3.7,baz=302,slow=5.6,SNR=6.9							
ASAR Alice Springs 70.46 188 P **P 04 44 41.4 -0.1**							
comp=Z,0.6nm,0.8s,mb3.6,baz=358,slow=5.6,SNR=6.8							
BW06 Boulder Array 70.78 48 *e*P **P 04 44 43.3 -0.1**							
comp=Z,0.9nm,0.7s,mb3.8							
PDAR Pinedale Array 70.78 48 P **P 04 44 43.9 +0.5**							
comp=Z,0.5nm,0.6s,mb3.6,baz=355,slow=1.6,SNR=5.6							
RSSD Black Hills 72.49 44 *e*P **P 04 44 53.9 +0.2**							
RSSD				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
RSSD Black Hills 72.49 44 *e*P **P 04 44 53.9 +0.2**							
comp=Z,0.9nm,0.6s,mb3.9							
TXAR Lajitas Array 84.01 53 P **P 04 45 58.2 +0.6**							
comp=Z,0.7nm,0.6s,mb4.0,baz=288,slow=3.3,SNR=13							
ESDC Sonseca Array 88.65 334 P **P 04 46 20.9 +0.7**							
comp=Z,0.2nm,0.4s,mb3.8

UNV Unalaska Valle 8.48 67 ePn Pn 04 42 39.2 +0.5
AKUT Akutan 8.97 66 eP Pn 04 42 47.6 +2.3
7.8nm,0.3s
SDPT Sand Point 12.23 63 eP Pn 04 43 29.3 -0.5
59nm,0.7s
PETK Petropavlovsk- 13.94 286 Pn Pn 04 43 56.1 +2.9
0.3nm,0.3s,baz=102,slow=14,SNR=5.4
SVW2 Sparrevohn 16.58 44 eP Pn 04 44 32.1 +4.9
KDAK Kodiak Island 16.99 57 P Pn 04 44 31.0 -1.4
1.2nm,0.3s,baz=293,slow=8.2,SNR=12
KDAK S S 04 47 32.4 -15
0.1nm,0.3s,baz=328,slow=14,SNR=2.9
KDAK Kodiak Island 16.99 57 P Pn 04 44 31.0 -1.4
KDAK S S 04 47 32.4 -15
BILL Bilibino 18.17 343⇑eP Pn 04 44 49.2 +2.5
BILL S S 04 48 13.0 +1.4
BILL pmax pmax
comp=Z,9.0nm,0.4s
BILL MLR MLR
comp=Z,100nm,17.0s
PPLA Purkeypile 18.80 41 eP Pn 04 44 55.7 +1.3
comp=Z,11nm,0.7s
SLKM Skilak Lake 18.82 49 eP Pn 04 44 55.4 +0.7
SEW Seward 19.09 51 eP Pn 04 44 56.4 -1.5
CHUM Lake Minchumin 19.20 38 eP Pn 04 44 59.1 -0.1
comp=Z,7.6nm,0.7s
KTH Kantishna Hill 19.60 40 eP Pn 04 45 03.0 -1.0
comp=Z,26nm,0.8s
TRF Thorofare Moun 19.82 41 eP Pn 04 45 06.1 -0.4
comp=Z,11nm,0.8s
BPAW Bear Paw Mtn. 19.82 39 eP Pn 04 45 05.0 -1.5
comp=Z,13nm,0.6s
IMA2 Indian Mountai 19.86 32 eP Pn 04 45 06.1 -0.9
MCK McKinley 20.48 41 eP P 04 45 14.1 +2.3
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 20.48 41 eP P 04 45 14.1 +2.3
comp=Z,6.3nm,0.8s
DIV Divide 21.09 49 eP P 04 45 19.3 +0.9
comp=Z,12nm,0.5s,mb4.5
COLA College 21.38 38 eP P 04 45 22.6 +1.2
COLA pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
COLA College 21.38 38 eP P 04 45 22.6 +1.2
comp=Z,7.4nm,0.8s,mb4.1
RAGM Ragged Mountai 21.48 51 eP P 04 45 24.0 +1.5
BMRM Bremner River 21.61 50 eP P 04 45 24.6 +0.6
EGAK Eagle 24.03 41 eP P 04 45 47.3 -1.1
comp=Z,12nm,0.7s,mb4.4
DAWY Dawson 24.61 43 eP P 04 45 52.3 -1.4
YSS Yuzh-Sakhalins 24.73 275 eP P 04 45 55.0 +0.1
HYT Haines Junctio 25.04 51 eP P 04 45 56.8 -0.8
ASAJ Asahikawa 26.10 269 P P 04 46 06.2 -1.1
comp=Z,7.5nm,0.8s,mb4.3,baz=71,slow=18,SNR=4.1
ASAJ LR LR 04 55 45.7
comp=Z,54nm,18.7s,MS3.1,baz=166,slow=35
ASAJ Asahikawa 26.10 269 P P 04 46 06.3 -1.1
ASAJ pmax pmax
comp=Z,8.0nm,0.8s
ASAJ MLR MLR
comp=Z,54nm,18.7s
INK Inuvik 27.90 35 P P 04 46 23.0 -0.3
comp=Z,0.7nm,0.3s,mb3.7,baz=256,slow=11,SNR=11
INK LR LR 05 00 10.9
comp=Z,76nm,18.6s,MS3.3,baz=144,slow=42
INK Inuvik 27.90 35 P P 04 46 23.0 -0.3
INK pmax pmax
comp=Z,1.0nm,0.3s
INK MLR MLR
comp=Z,76nm,18.6s
INK Inuvik 27.90 35 eP P 04 46 22.6 -0.7
INK LR LR 05 00 10.9
KLR Kul'dur 30.63 286 eP P 04 46 43.2 -4.5
KLR pmax pmax
comp=E,23nm,1.2s
KLR pmax pmax
comp=Z,30nm,1.2s,mb5.0
YKA Yellowknife Ar 35.75 46 P P 04 47 31.0 -1.1
comp=Z,1.4nm,0.4s,mb4.3,baz=281,slow=9.4,SNR=40
YKA PcP PcP 04 49 59.0 +0.2
comp=Z,0.8nm,0.7s,baz=286,slow=2.3,SNR=4.7
YKA LR LR 05 02 54.3
comp=Z,44nm,19.2s,MS3.2,baz=300,slow=37
YKA Yellowknife Ar 35.75 46 P P 04 47 31.0 -1.1
YKA 04 49 59.0
YKA Yellowknife Ar 35.75 46 P P 04 47 31.0 -1.1
YKA PcP PcP 04 49 59.0 +0.2
YKA LR LR 05 02 54.4
BOD Bodaibo 37.57 307 eP P 04 47 45.8 -1.8
BOD pmax pmax
comp=Z,9.0nm,0.1s,mb5.5
RSW Rattlesnake Hi 38.94 73 eP P 04 47 59.5 +0.3
HAWA Hanford 38.97 73 eP P 04 47 59.6 +0.1
comp=Z,4.2nm,0.7s,mb4.3
KSRS Korea Array 39.04 270 P P 04 48 01.2 +1.1
comp=Z,2.5nm,0.7s,mb4.0,baz=61,slow=7.8,SNR=9.0
KSRS LR LR 05 01 23.6
comp=Z,29nm,21.9s,MS3.1,baz=225,slow=32
EDM Edmonton 39.40 60 eP P 04 48 01.7 -1.3
NEW Newport 39.49 69 eP P 04 48 03.3 -0.5
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 39.49 69 eP P 04 48 03.3 -0.5
comp=Z,4.5nm,0.9s,mb4.2
YBH Yreka Blue Hor 39.49 81 P P 04 48 05.9 +1.9
comp=Z,2.5nm,0.8s,mb4.0,baz=263,slow=6.9,SNR=4.2
YBH LR LR 05 00 26.7
comp=Z,84nm,21.9s,MS3.5,baz=329,slow=30
D10A Wagner Farm, O 39.99 71 ⇑P P 04 48 07.6 -0.4
baz=40
I07A Izee 40.18 76 ⇓P P 04 48 09.3 -0.3
baz=40
D11A Klaveano Farm, 40.55 70 ⇓P P 04 48 11.7 -0.9
baz=40
WALA Waterton Lakes 40.97 66 eP P 04 48 15.9 -0.2
comp=Z,1.7nm,0.5s,mb3.9
E11A Bogner Ranch, 40.98 71 ⇑P P 04 48 14.9 -1.2
baz=41
D12A Red Ives Fores 41.13 70 ⇓P P 04 48 16.5 -0.9
baz=41
J08A Circle Bar Ran 41.20 76 ⇑P P 04 48 17.3 -0.7
baz=41
L07A Adell 41.42 78 ⇑P P 04 48 19.1 -0.7
baz=41
G11A Walters Elk Ra 41.44 72 ⇑P P 04 48 19.5 -0.5
baz=41
WVOR Wild Horse Val 41.62 77 eP P 04 48 22.2 +0.8
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
WVOR Wild Horse Val 41.62 77 eP P 04 48 22.1 +0.7
comp=Z,4.7nm,0.8s,mb4.2
J09A Fry Pan Ranch, 41.65 76 ⇑P P 04 48 21.9 +0.2
baz=42
F12A Elk City 41.86 71 P P 04 48 23.5 +0.2
baz=42,SNR=9.9
M07A Soldier Meadow 41.88 79 ⇓P P 04 48 24.6 +1.0
baz=42
MSO Missoula 42.07 69 eP P 04 48 25.0 -0.1
comp=Z,2.3nm,0.8s,mb3.9
E13A Victor 42.13 70 ⇓P P 04 48 24.7 -0.9
baz=42
D14A Greenough 42.20 69 ⇑P P 04 48 25.7 -0.4
baz=42,SNR=14
K10A MacKenzie Ranc 42.50 76 ⇓P P 04 48 29.3 +0.6
baz=42,SNR=7.2
H12A Diamond D Ranc 42.74 73 ⇑P P 04 48 30.2 -0.4
baz=43
G13A Cobalt 42.82 72 ⇑P P 04 48 30.9 -0.3
baz=43,SNR=7.1
E15A Deer Lodge 43.05 69 ⇑P P 04 48 32.6 -0.4
baz=43,SNR=7.0
L11A Cat Creek Ranc 43.53 76 ⇓P P 04 48 36.7 -0.2
baz=43,SNR=8.3
I13A Wildhorse Cree 43.53 73 ⇑P P 04 48 36.9 0.0
baz=44,SNR=11
HLID Hailey 43.55 74 ⇓P P 04 48 37.3 +0.2
baz=44
HLID Hailey 43.55 74 eP P 04 48 37.6 +0.5
comp=Z,3.2nm,0.9s,mb4.0
K12A Draper Farm, C 43.78 75 ⇓P P 04 48 39.1 +0.1
baz=44,SNR=6.3
MCMT McKenzie Canyo 43.79 71 eP P 04 48 38.8 -0.2
J13A Cove Ranch, Pi 43.79 74 ⇓P P 04 48 39.2 +0.2
baz=44
G15A Dillon 43.82 70 ⇓P P 04 48 38.2 -1.0
baz=44,SNR=5.5
EGMT Eagleton 43.88 66 eP P 04 48 39.0 -0.6
comp=Z,6.6nm,0.9s,mb4.4
L12A House Creek Ra 43.99 76 ⇓P P 04 48 41.0 +0.4
baz=44,SNR=8.1
BOZ Bozeman (W) 44.06 69 ⇓P P 04 48 41.3 +0.2
baz=44,SNR=6.8
NVAR Mina Array Bea 44.16 82 P P 04 48 42.1 +0.1
comp=Z,1.1nm,0.7s,mb3.7,baz=310,slow=7.0,SNR=9.5
QLMT Earthquake Lak 44.63 70 eP P 04 48 46.0 +0.3
ELK Elko 44.67 77 eP P 04 48 46.5 +0.4
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK Elko 44.67 77 eP P 04 48 46.5 +0.4
comp=Z,2.0nm,0.7s,mb4.1
BJI Beijing 44.81 282 P P 04 48 47.7 +0.5
BJI AMB AMB
comp=Z,9.0nm,0.9s,mb4.6
R09A Tonopah 45.05 81 ⇑P P 04 48 49.5 +0.4
baz=45
L14A Malta 45.13 75 ⇑P P 04 48 50.2 +0.4
baz=45,SNR=5.3
O12A Currie 45.26 78 ⇓P P 04 48 50.6 -0.1
baz=45,SNR=5.1
IMW Indian Meadow 45.44 71 eP P 04 48 52.7 +0.5
comp=Z,4.0nm,0.9s,mb4.2
FLWY Flagg Ranch 45.48 71 eP P 04 48 53.3 +0.8
comp=Z,14nm,1.0s,mb4.8
RRI2 Red Ridge 45.53 72 eP P 04 48 54.2 +1.3
comp=Z,5.6nm,0.7s,mb4.6
S10A Tonopah Range, 45.54 81 ⇑P P 04 48 53.2 +0.1
baz=45
Q11A Duckwater 45.55 80 ⇑P P 04 48 53.4 +0.3
baz=46
TLY Talaya 45.62 302 eP P 04 48 53.8 +0.3
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TLY MLR MLR
comp=Z,87nm,22.0s,MS3.6
MOOW Moose Ponds 45.64 71 eP P 04 48 54.1 +0.4
comp=Z,0.9nm,0.6s,mb3.9
K16A Soda Springs 45.67 73 ⇑P P 04 48 54.8 +0.8
baz=46,SNR=5.4
TPAW Teton Pass 45.67 72 eP P 04 48 54.4 +0.4
RLMT Red Lodge 45.74 69 eP P 04 48 54.5 0.0
comp=Z,20nm,1.0s,mb5.0
LOHW Long Hollow 45.80 71 eP P 04 48 55.5 +0.5
comp=Z,2.1nm,0.6s,mb4.2
R11A Troy Canyon, C 45.90 80 ⇓P P 04 48 55.8 -0.1
baz=46
BGU Big Grassy Mou 45.91 76 eP P 04 48 55.6 -0.3
SONM Songino Array 46.16 296 P P 04 48 58.7 +0.9
comp=Z,3.3nm,0.5s,mb4.5,baz=67,slow=7.1,SNR=24
SONM PcP PcP 04 50 33.2 +0.3
comp=Z,1.3nm,0.7s,baz=98,slow=2.9,SNR=4.4
SONM LR LR 05 09 36.8
comp=Z,115nm,18.9s,MS3.9,baz=102,slow=38
SONM Songino Array 46.16 296 P P 04 48 58.7 +0.9
SONM 04 50 33.2
S11A Rachel 46.24 81 ⇓P P 04 48 58.1 -0.4
baz=46
N15A Stansbury Isla 46.24 75 ⇑P P 04 48 58.2 -0.3
baz=46
TPNV Topopah Spring 46.36 82 eP P 04 49 00.1 +0.6
TPNV pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TPNV Topopah Spring 46.36 82 ⇓P P 04 49 00.2 +0.7
baz=46,SNR=7.5
TPNV Topopah Spring 46.36 82 eP P 04 49 00.1 +0.6
comp=Z,4.1nm,0.8s,mb4.4
DUG Dugway 46.48 76 eP P 04 49 01.3 +0.9
DUG pmax pmax
comp=Z,11nm,1.1s,mb4.7
DUG Dugway 46.48 76 ⇓P P 04 49 00.4 0.0
baz=46,SNR=9.9
DUG Dugway 46.48 76 eP P 04 49 01.2 +0.8
comp=Z,11nm,1.1s,mb4.7
Q13A Wheeler Ranch, 46.50 79 ⇓P P 04 49 00.9 +0.3
baz=46
ZAK Zakamensk 46.50 301⇑iP P 04 49 01.1 +0.7
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
P14A Drum Mountains 46.69 77 ⇓P P 04 49 02.4 +0.3
baz=47
T11A Corn Creek, Al 46.82 81 ⇓P P 04 49 03.2 +0.2
baz=47
BW06 Boulder Array 46.92 72 eP P 04 49 03.4 -0.4
comp=Z,14nm,1.2s,mb4.8
PDAR Pinedale Array 46.92 72 P P 04 49 03.8 0.0
comp=Z,4.9nm,0.8s,mb4.5,baz=326,slow=3.2,SNR=35
Q14A Sevier Lake (B 46.93 78 ⇓P P 04 49 03.8 -0.1
baz=47
GSC Goldstone 47.06 84 eP P 04 49 06.0 +1.0
DAU Daniels Canyon 47.30 75 eP P 04 49 07.9 +1.1
S13A Holt Ranch, En 47.45 80 ⇓P P 04 49 08.5 +0.5
baz=47,SNR=5.6
TMUT Trail Mountain 48.01 76 eP P 04 49 14.1 +1.8
Q16A Castle Valley 48.27 77 ⇑P P 04 49 14.6 +0.3
baz=48
P18A Preston Nutter 48.39 75 ⇓P P 04 49 15.1 -0.2
baz=48
SRU San Rafael 48.54 76 eP P 04 49 17.4 +1.0
SRU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
SRU San Rafael 48.54 76 ⇑P P 04 49 17.2 +0.7
baz=48,SNR=6.4
SRU San Rafael 48.54 76 eP P 04 49 17.4 +0.9
comp=Z,3.3nm,0.6s,mb4.5
U14A Mt Trumbull 48.60 81 ⇑P P 04 49 16.6 -0.3
baz=48
T15A Red Dirt Ranch 48.71 79 ⇑P P 04 49 17.2 -0.6
baz=49
Q18A Rafter H Ranch 48.79 76 ⇓P P 04 49 18.2 -0.1
baz=49,SNR=5.6
U15A North Rim 49.15 80 ⇑P P 04 49 21.9 +0.8
baz=49,SNR=5.7
R18A Canyonlands Na 49.38 76 ⇓P P 04 49 22.9 0.0
baz=49
Q19A Hogan Spring (49.41 75 ⇓P P 04 49 22.3 -0.7
baz=49,SNR=5.9
V15A Kaibab Nationa 49.61 81 ⇓P P 04 49 25.4 +0.8
baz=50
S18A Hurst Farm, Bl 49.76 77 ⇑P P 04 49 25.9 +0.2
baz=50
T18A Mexican Hat 50.18 78 ⇓P P 04 49 28.5 -0.4
baz=50
S19A Harvey Farm, M 50.25 77 ⇓P P 04 49 29.5 +0.1
baz=50
ULM Lac du Bonnet 50.25 56 LR LR 05 08 55.0
comp=Z,63nm,20.7s,MS3.6,baz=1.6,slow=34
SPITS Spitsbergen Ar 50.45 356 P P 04 49 30.0 -0.5
comp=Z,1.3nm,0.3s,mb4.4,baz=49,slow=8.8,SNR=8.6
T19A Beclabito 50.90 77 ⇓P P 04 49 34.1 -0.3
baz=51,SNR=8.0
SDCO Great Sand Dun 52.46 74 eP P 04 49 46.6 +0.7
comp=Z,3.9nm,1.2s,mb4.2
TUC Tucson 52.79 83 eP P 04 49 47.3 -1.2
TUC pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
TUC Tucson 52.79 83 eP P 04 49 47.3 -1.2
comp=Z,3.3nm,1.2s,mb4.1
ZALV Zalesovo Beam 53.67 313 P P 04 49 53.9 -0.7
comp=Z,0.8nm,0.5s,mb3.9,baz=80,slow=10,SNR=2.8
ZALV LR LR 05 13 00.2
comp=Z,34nm,18.9s,MS3.4,baz=136,slow=36
ZAL Zalesovo 53.69 313 P P 04 49 53.9 -0.9
GTA Gaotai 55.05 291 eP P 04 50 05.8 +0.9
GTA AP pP 04 50 08.9 -10
GTA XP sP 04 50 11.4 -13
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
CBKS Cedar Bluff 55.20 70 eP P 04 50 05.9 -0.1
CBKS pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
CBKS Cedar Bluff 55.20 70 eP P 04 50 05.9 -0.1
comp=Z,7.7nm,0.8s,mb4.8
ARCES ARCESS Array B 58.11 350 P P 04 50 25.2 -1.0
comp=Z,2.3nm,0.9s,mb4.2,baz=31,slow=8.6,SNR=10
ARCES ARCESS Array B 58.11 350 P P 04 50 25.2 -1.0
WMOK Wichita Mounta 58.51 73 eP P 04 50 29.6 +0.1
WMOK pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
WMOK Wichita Mounta 58.51 73 eP P 04 50 29.6 +0.2
comp=Z,5.7nm,1.2s,mb4.5
KURK Kurchatov 58.67 313 eP P 04 50 29.6 -0.7
KURK pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
KURK Kurchatov 58.67 313 eP P 04 50 29.6 -0.7
comp=Z,4.1nm,0.4s,mb4.8
TXAR Lajitas Array 59.27 80 P P 04 50 35.0 +0.1
comp=Z,0.6nm,0.5s,mb3.9,baz=305,slow=5.3,SNR=12
MK31 Makanchi Array 59.63 308 eP P 04 50 36.6 -0.5
MKAR Makanchi Array 59.63 308 P P 04 50 36.7 -0.4
comp=Z,4.5nm,0.4s,mb4.9,baz=56,slow=7.4,SNR=35
MKAR LR LR 05 17 32.5
comp=Z,45nm,19.3s,MS3.6,baz=262,slow=37
MKAR Makanchi Array 59.63 308 P P 04 50 36.7 -0.4
MKAR LR LR 05 17 32.5
GYA Guiyang 59.74 275 P P 04 50 40.2 +2.1
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
SCHQ Schefferville 60.47 38 P P 04 50 41.2 -1.4
comp=Z,6.7nm,0.8s,mb4.7,baz=293,slow=2.5,SNR=5.4
SCHQ Schefferville 60.47 38 P P 04 50 41.2 -1.4
BVAR Borovoye Array 60.59 319 P P 04 50 42.0 -1.5
comp=Z,1.4nm,0.3s,mb4.5,baz=46,slow=8.5,SNR=12
BRVK Borovoye 60.61 319 eP P 04 50 44.6 +1.0
MIAR Mount Ida 61.73 69 eP P 04 50 51.4 -0.1
MIAR pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
MIAR Mount Ida 61.73 69 eP P 04 50 51.4 -0.1
comp=Z,8.4nm,1.3s,mb4.7
KMI Kunming 63.15 277 P P 04 51 03.4 +2.3
KMI S S 04 59 33.4 +4.9
KMI AMB AMB
comp=Z,7.0nm,0.6s,mb5.0
WCI Wyandotte Cave 63.29 62 eP P 04 51 01.3 -0.6
WCI pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
WCI Wyandotte Cave 63.29 62 eP P 04 51 01.3 -0.6
comp=Z,4.0nm,0.6s,mb4.7
OXF Oxford 64.18 67 eP P 04 51 07.2 -0.6
OXF pmax pmax
comp=Z,18nm,0.6s,mb5.3
OXF Oxford 64.18 67 eP P 04 51 07.2 -0.6
comp=Z,18nm,0.6s,mb5.3
PLAL Pickwick Lake 64.61 65 eP P 04 51 09.4 -1.1
comp=Z,18nm,1.0s,mb5.0
TKM2 Tokmak 2 65.72 309 eP P 04 51 18.6 +0.9
TKM2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TKM2 Tokmak 2 65.72 309 eP P 04 51 18.6 +0.9
comp=Z,7.9nm,0.9s,mb4.7
EKS2 Erkin-Say 66.80 310 eP P 04 51 25.3 +0.7
comp=Z,5.9nm,0.6s,mb4.8
AML Almayashu 67.25 309 eP P 04 51 28.8 +1.4
comp=Z,11nm,1.1s,mb4.8
AKTK Aktyubinsk 67.43 324 P P 04 51 27.7 -0.7
AKTO Aktyubinsk 67.43 324 P P 04 51 27.7 -0.7
comp=Z,1.7nm,0.5s,mb4.4,baz=51,slow=7.0,SNR=8.7
NB2 NORSAR Subarra 67.71 354 P P 04 51 29.1 -0.9
comp=Z,1.9nm,0.5s,mb4.4,baz=8.0,slow=6.5
NOA NORSAR Array B 67.71 354 P P 04 51 29.6 -0.4
comp=Z,2.2nm,0.6s,mb4.4,baz=7.5,slow=6.3,SNR=9.4
CMAR Chiang Mai Arr 70.42 275 P P 04 51 46.6 -0.8
comp=Z,0.9nm,0.3s,mb4.2,baz=33,slow=6.4,SNR=4.5
TAPN Taplejung 70.68 290 eP P 04 51 49.9 +0.9
ODAN Odare 71.24 290 eP P 04 51 53.1 +0.8
GUN Gumba 71.34 291 eP P 04 51 54.0 +1.1
comp=Z,60nm,0.8s,mb5.6
JIRN Jiri 71.35 291 eP P 04 51 54.2 +1.2
comp=Z,54nm,1.0s,mb5.4
RAMN Ramite 71.64 290 eP P 04 51 55.2 +0.5
comp=Z,43nm,0.9s,mb5.4
KKN Kakani 71.78 292 eP P 04 51 56.5 +0.9
PKI Pulchoki 71.87 291 eP P 04 51 57.2 +1.1
GKN Gorkha 72.00 292 eP P 04 51 57.7 +0.8
DMN Daman 72.02 292 eP P 04 51 58.0 +1.0
DANN Dangsing 72.24 293 eP P 04 51 59.2 +0.8
comp=Z,28nm,0.8s,mb5.2
KOLN Koldanda 72.77 293 eP P 04 52 01.4 -0.1
KBL Kabul 75.43 307 eP P 04 52 16.9 0.0
comp=Z,5.3nm,0.4s,mb4.8
AKASG Malin Array Be 75.47 341 P P 04 52 16.0 -0.9
comp=Z,0.9nm,0.3s,mb4.1,baz=21,slow=5.7,SNR=12
AKBB Malin Array Si 75.47 341 eP P 04 52 15.9 -1.0
MORC Moravsky Berou 78.27 349 eP P 04 52 32.2 -0.4
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MORC Moravsky Berou 78.27 349 eP P 04 52 32.2 -0.4
comp=Z,2.6nm,0.8s,mb4.2
MEM Membach 78.39 356 P P 04 52 33.6 +0.3
KOLS Kolonicke sedl 78.42 345 iP P 04 52 33.6 +0.1
KOLS Kolonicke sedl 78.42 345 eP P 04 52 33.6 +0.1
BCLA Clavier 78.61 357 P P 04 52 33.8 -0.7
DOU Dourbes 78.96 357 P P 04 52 36.2 -0.2
BAIF Baives 79.00 357 eP P 04 52 36.6 0.0
comp=Z,10nm,0.7s,mb4.5
BAIF Baives 79.00 357 eP P 04 52 36.6 0.0
BAIF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BAIF Baives 79.00 357 eP P 04 52 36.6 0.0
comp=Z,5.2nm,0.7s,mb4.6
KECS Kecovo 79.14 346 iP P 04 52 37.6 +0.2
KECS Kecovo 79.14 346 eP P 04 52 37.6 +0.2
WLF Walferdange 79.33 356 P P 04 52 37.7 -0.7
KHC Kasperske Hory 79.34 351 eP P 04 52 39.0 +0.5
KHC ex x 04 52 52.5
VYHS Vyhne 79.36 348 iP P 04 52 38.2 -0.4
VYHS Vyhne 79.36 348 eP P 04 52 38.2 -0.4
GERES GERESS Array B 79.61 351 P P 04 52 39.9 -0.1
comp=Z,1.2nm,0.5s,mb4.0,baz=23,slow=5.7,SNR=16
FLN La Foliniere 80.36 0 eP P 04 52 43.3 -0.7
comp=Z,26nm,1.2s,mb4.7
CDF Champ du Feu 80.53 355 eP P 04 52 44.4 -0.5
LDF La Druitiere 80.53 0 eP P 04 52 44.2 -0.7
comp=Z,15nm,0.8s,mb4.7
MEZF Maizieres J'vi 80.53 357 eP P 04 52 44.9 -0.1
GRR Gorron 80.73 1 eP P 04 52 45.6 -0.4
comp=Z,9.5nm,0.7s,mb4.5
ROSF Rostrenen 80.74 2 eP P 04 52 45.8 -0.3
SGMF Saint Gilles 80.84 2 eP P 04 52 46.3 -0.3
comp=Z,24nm,0.8s,mb4.9
HAU Haudompre 80.98 356 eP P 04 52 47.7 +0.4
HINF Hinteralfeld 81.14 355 eP P 04 52 47.5 -0.7
QUIF Quistinic 81.16 2 eP P 04 52 47.8 -0.5
comp=Z,10nm,0.9s,mb4.5
WRAB Tennant Creek 81.50 223 eP P 04 52 48.7 -1.6
WRAB pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WRAB Tennant Creek 81.50 223 eP P 04 52 48.7 -1.6
comp=Z,4.3nm,0.8s,mb4.4
WRA Warramunga Arr 81.51 223 P P 04 52 48.1 -2.3
comp=Z,1.7nm,0.8s,mb4.0,baz=32,slow=5.4,SNR=7.6
LOR Lormes 81.81 358 eP P 04 52 51.5 -0.2
SSF Saint Saulge 82.02 358 eP P 04 52 52.5 -0.4
comp=Z,2.2nm,0.5s,mb4.1
SSF Saint Saulge 82.02 358 eP P 04 52 52.5 -0.4
SSF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
SSF Saint Saulge 82.02 358 eP P 04 52 52.5 -0.4
comp=Z,1.1nm,0.4s,mb4.1
AVF Avril sur Loir 82.30 358 eP P 04 52 53.8 -0.5
CABF La Chapelle 82.38 356 eP P 04 52 54.7 -0.1
comp=Z,26nm,1.1s,mb4.8
SMF Signal de Mont 82.43 357 eP P 04 52 54.5 -0.5
comp=Z,7.8nm,0.8s,mb4.4
SMF Signal de Mont 82.43 357 eP P 04 52 54.5 -0.5
SMF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SMF Signal de Mont 82.43 357 eP P 04 52 54.5 -0.5
comp=Z,3.9nm,0.8s,mb4.4
MFF Saint Martin d 82.52 0 eP P 04 52 55.2 -0.3
BGF Bois d'Agland 82.54 358 eP P 04 52 55.2 -0.4
TCF Toulx Ste Croi 82.82 359 eP P 04 52 56.6 -0.4
comp=Z,5.0nm,0.8s,mb4.3
LPL La Plagne 83.44 355 eP P 04 53 01.0 +0.7
LPG La Plagne 83.46 355 eP P 04 53 01.1 +0.7
BNI Bardonecchia 83.91 355 eP P 04 53 03.4 +0.7
BNI pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BNI Bardonecchia 83.91 355 eP P 04 53 03.4 +0.7
comp=Z,4.4nm,0.9s,mb4.6
ORIF Oris-en-Rattie 84.08 356 eP P 04 53 03.8 +0.3
LFF La Frestale 84.18 360 eP P 04 53 03.8 -0.3
CAF Calviac 84.18 359 eP P 04 53 03.9 -0.2
VIVF Saint-Julien-l 84.19 357 eP P 04 53 04.1 0.0
MBDF Montbardon 84.23 355 eP P 04 53 04.7 +0.4
ASAR Alice Springs 84.99 222 P P 04 53 07.2 -1.0
comp=Z,1.6nm,0.8s,mb4.2,baz=39,slow=5.3,SNR=15
SMRF Simiane la Rot 85.03 356 eP P 04 53 09.0 +0.6
comp=Z,12nm,0.9s,mb4.7
SMRF Simiane la Rot 85.03 356 eP P 04 53 09.0 +0.6
comp=Z,12nm,0.9s,mb5.0

SBF	Sospel	85.05	355	eP	P	04 53 08.1	-0.4
FRF	La Foret Royal	85.40	355	eP	P	04 53 09.7	-0.5
	comp=Z,11nm,0.9s,mb4.7						
FRF	La Foret Royal	85.40	355	eP	P	04 53 09.7	-0.5
FRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
FRF	La Foret Royal	85.40	355	eP	P	04 53 09.7	-0.5
	comp=Z,5.4nm,0.9s,mb4.7						
LMR	La Mourre	85.63	355	eP	P	04 53 11.2	-0.2
SJPF	Ste Jean	86.00	1	eP	P	04 53 12.9	-0.3
	comp=Z,3.4nm,0.6s,mb4.5						
EPF	Esparros	86.09	360	eP	P	04 53 13.7	0.0
ETSF	Etsaut	86.22	1	eP	P	04 53 14.5	+0.2
CFAA	Coronel Fontan	127.04	96	PKP	PKPdf	04 59 35.9	-0.7
	comp=Z,0.2nm,0.7s,baz=298,slow=7.7,SNR=4.4						
PLCA	Paso Flores	131.51	107	PKP	PKPdf	04 59 44.5	-0.3
	comp=Z,1.3nm,0.6s,baz=254,slow=2.6,SNR=5.3						
PLCA	Paso Flores	131.51	107	PKP	PKPdf	04 59 44.5	-0.3
TSUM	Tsumeb	145.20	330	PKPbc	PKPbc	05 00 09.7	-0.4
	comp=Z,5.8nm,0.9s,baz=25,slow=4.9,SNR=3.6						
TSUM	Tsumeb	145.20	330	ePKPbc	PKPbc	05 00 10.5	+0.4
MAW	Mawson	146.02	218	PKPbc	PKPbc	05 00 10.7	-0.5
	comp=Z,2.4nm,0.6s,baz=67,slow=0.5,SNR=11						
LBTB	Lobatse	147.38	314	ePKP2	PKPab	05 00 16.9	-1.6

IDC ***04*** *04:45:59.2±0.8, 4984N×17820W, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/27, mbtmp3.9/13, ML3.9/1, Error ellipse: s-maj=24.4km s-min=19.4km az=166.0*
ISCJB ***04*** *04:46:03.0±0.7, 500N±0.1×1783W±0.1, h33km, mb3.9/12, Error ellipse: s-maj=16.2km s-min=9.3km az=20.6*
NEIC ***04*** *04:46:04.2, 4999N×17834W, h18km, ML3.5(AEIC), After AEIC.*

ISC 04 04:46:05.2±0.7, 500N±01×1784W±01, h35km, n21, σ1§06/20, mb3.9/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	2.02	313	P	Pn	04 46 35.2	-1.6
AMKA				S	Sn	04 46 59.6	-1.1
KDAK	Kodiak Island	16.98	53	P	Pn	04 49 56.8	-2.8
	0.4nm,0.3s,baz=258,slow=19,SNR=5.4						
IMA2	Indian Mountai	20.48	29	eP	P	04 50 40.1	+0.5
YKA	Yellowknife Ar	35.98	45	P	P	04 53 01.4	-0.8
	2.3nm,1.0s,mb4.1,baz=280,slow=8.6,SNR=7.2						
YKA	Yellowknife Ar	35.98	45	P	P	04 53 01.4	-0.8
PDAR	Pinedale Array	46.47	71	P	P	04 54 28.5	0.0
	0.7nm,0.8s,mb3.6,baz=312,slow=4.5,SNR=5.9						
SONM	Songino Array	47.52	298	P	P	04 54 37.4	+0.7
	0.5nm,0.5s,mb3.8,baz=57,slow=5.5,SNR=4.9						
SPITS	Spitsbergen Ar	51.76	356	P	P	04 55 09.6	+1.1
	3.4nm,0.7s,mb4.4,baz=15,slow=10,SNR=2.9						
TXAR	Lajitas Array	58.59	81	P	P	04 55 57.7	-0.7
	0.2nm,0.7s,mb3.3,baz=317,slow=7.1,SNR=4.6						
TXAR				PcP	PcP	04 56 46.1	-2.2
	0.6nm,0.7s,baz=290,slow=2.3,SNR=6.5						
TXAR	Lajitas Array	58.59	81	P	P	04 55 57.7	-0.7
TXAR				PcP	PcP	04 56 46.1	-2.2
ARCES	ARCESS Array B	59.49	350	P	P	04 56 05.2	+1.2
	1.7nm,0.9s,mb4.1,baz=19,slow=7.8,SNR=4.6						
MKAR	Makanchi Array	61.11	309	P	P	04 56 15.5	+0.1
	0.8nm,0.8s,mb3.9,baz=54,slow=6.3,SNR=4.1						
MKAR	Makanchi Array	61.11	309	P	P	04 56 15.5	+0.1
BVAR	Borovoye Array	62.12	320	P	P	04 56 22.4	+0.3
	0.6nm,0.5s,mb4.0,baz=53,slow=5.6,SNR=3.5						
AKTK	Aktyubinsk	68.97	325	P	P	04 57 07.7	+1.3
AKTO	Aktyubinsk	68.97	325	P	P	04 57 07.7	+1.3
	1.5nm,0.6s,mb4.1,baz=64,slow=8.6,SNR=7.6						
AKASG	Malin Array Be	76.94	342	P	P	04 57 54.3	+0.7
	1.2nm,0.6s,mb4.0,baz=20,slow=5.8,SNR=5.9						
WRA	Warramunga Arr	81.23	224	P	P	04 58 15.7	-1.6
	1.0nm,0.6s,mb3.9,baz=32,slow=6.0,SNR=5.6						
ASAR	Alice Springs	84.68	223	P	P	04 58 34.9	-0.2
	0.7nm,0.6s,mb3.9,baz=31,slow=5.7,SNR=8.7						
TORD	Torodi Ar. Bea	117.11	360	PKP	PKPdf	05 04 44.8	-1.9
	0.2nm,0.8s,baz=70,slow=1.7,SNR=3.3						
MAW	Mawson	145.56	216	PKPbc	PKPbc	05 05 38.3	-0.1
	4.0nm,1.0s,baz=56,slow=7.3,SNR=11						

ISCJB ***04*** *04:50:09.4±0.8, 2640S±003×2734E±005, h9km±5km, mb4.0/9, Error ellipse: s-maj=7.3km s-min=4.7km az=12.9*
PRE ***04*** *04:50:09.4±1.3, 2638S×2741E, h2km, ML3.9*
NEIC ***04*** *04:50:09.5, 2639S×2747E, h2km, mb4.0/2, ML3.5(PRE), After PRE.*
IDC ***04*** *04:50:10.1±0.8, 2641S×2738E, h0km, mb4.0/8, mb1 4.2/13, mb1mx4.0/27, mbtmp4.1/13, ML4.2/4, Error ellipse: s-maj=17.2km s-min=12.9km az=95.0*

ISC 04 04:50:09.9±0.7, 2640S±003×2738E±005, h1km±5km, n29, σ1§02/36, mb4.1/9, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.52	182	eP	Pg	04 50 19.9	0.0
PRYS				eS	Sg	04 50 28.1	+1.4
PRYS				AML	AML	04 50 33.0	
	comp=Z,3μm,0.6s						
KSR	Koster	0.70	321	eP	Pg	04 50 22.7	-0.6
KSR				eS	Sg	04 50 33.1	+0.8
KSR				AML	AML	04 50 40.3	
	comp=Z,1μm,1.0s						
SLR	Silverton	1.04	51	eP	Pg	04 50 27.9	-2.0
SLR				eS	Sg	04 50 43.6	+0.1
SLR				AML	AML	04 50 48.4	
	comp=Z,1μm,0.2s						
LBTB	Lobatse	2.12	310	Pn	Pn	04 50 48.5	+2.0
	comp=Z,149nm,0.3s,baz=144,slow=14,SNR=866						
LBTB				Lg		04 51 17.9	
	comp=Z,299nm,0.3s,baz=230,slow=21,SNR=60						
BOSA	Boshof	2.90	220	Pn	Pn	04 50 58.0	+0.7
	comp=Z,24nm,0.3s,baz=43,slow=13,SNR=871						
BOSA				Pg	Pg	04 51 04.0	-1.6
	comp=Z,21nm,0.3s,baz=44,slow=15,SNR=27						
BOSA				Lg		04 51 40.0	
	comp=Z,101nm,0.3s,baz=145,slow=8.7,SNR=23						
BOSA	Boshof	2.90	220	eP	Pn	04 50 57.8	+0.5
BOSA				eS	Sn	04 51 32.6	-0.3
BOSA				AML	AML	04 51 44.9	
	comp=Z,218nm,0.3s						
HVD	Gariep Dam	4.51	201	eP	Pn	04 51 18.8	-0.5
HVD				eS	Sn	04 52 10.9	-1.5
HVD				AML	AML	04 52 38.9	
	comp=Z,105nm,0.5s						
UPI	Upington	5.79	249	eP	Pn	04 51 37.8	+0.8
UPI				eS	Sn	04 52 41.6	-2.5
UPI				AML	AML	04 53 19.5	
	comp=Z,70nm,0.4s						
SUR	Sutherland	8.27	222	Pn	Pn	04 52 11.2	+0.2
	comp=Z,2.3nm,0.3s,baz=54,slow=15,SNR=47						
SUR				Sn	Sn	04 53 41.3	-3.7
	comp=Z,3.5nm,0.3s,baz=126,slow=18,SNR=6.3						
SUR				Lg		04 54 25.6	
	comp=Z,5.0nm,0.3s,baz=126,slow=22,SNR=5.5						
KOMG	Komaggas	9.37	247	eP	Pn	04 52 26.6	+0.4
KOMG				eS	Sn	04 54 07.5	-4.8
KOMG				AML	AML	04 55 01.6	
	comp=Z,18nm,0.5s						
ELIM	Elim	10.49	217	eP	Pn	04 52 43.4	+1.9
ELIM				eS	Sn	04 54 35.1	-4.6
ELIM				AML	AML	04 55 40.3	
	comp=Z,32nm,0.6s						
LSZ	Lusaka	11.09	4	Pn	Pn	04 52 48.2	-1.6
	comp=Z,1.6nm,0.3s,baz=183,slow=14,SNR=8.6						
LSZ				Sn	Sn	04 54 46.5	-8.1
	comp=Z,1.4nm,0.3s,baz=42,slow=22,SNR=6.1						
LSZ				Lg		04 55 53.0	
	comp=Z,1.1nm,0.3s,baz=91,slow=24,SNR=4.7						
TSUM	Tsumeb	11.53	306	Pn	Pn	04 52 55.7	0.0
	comp=Z,3.0nm,0.3s,baz=112,slow=10,SNR=34						
TSUM				Sn	Sn	04 55 10.9	+5.7
	comp=Z,0.4nm,0.3s,baz=90,slow=20,SNR=3.2						
TSUM				Lg		04 56 11.7	
	comp=Z,1.2nm,0.3s,baz=246,slow=23,SNR=7.0						
DBIC	Dimbokro	45.37	312	P	P	04 58 30.1	-0.1
	comp=Z,3.9nm,1.0s,mb4.3,baz=112,slow=4.3,SNR=3.2						
DBIC	Dimbokro	45.37	312	eP	P	04 58 29.8	-0.4
	comp=Z,2.2nm,1.0s,mb4.0						
TOA0	Torodi Ar. Sit	46.58	324	eP	P	04 58 39.2	-0.4
TORD	Torodi Ar. Bea	46.58	324	P	P	04 58 39.4	-0.2
	comp=Z,2.0nm,0.6s,mb4.4,baz=137,slow=6.1,SNR=37						
SNAA	Sanae	48.34	192	eP	P	04 58 53.3	+0.6
	comp=Z,0.9nm,0.9s,mb3.9						
QSPA	South Pole Qui	63.79	180	P	P	05 00 43.6	+0.5
	comp=Z,1.0nm,0.6s,mb4.2,baz=237,slow=4.6,SNR=3.4						
ESDC	Sonseca Array	71.94	335	P	P	05 01 35.5	+0.6
	comp=Z,0.8nm,0.5s,mb4.1,baz=145,slow=6.4,SNR=5.8						
GERES	GERESS Array B	75.89	351	P	P	05 01 58.5	+0.6
	comp=Z,0.6nm,0.8s,mb3.8,baz=131,slow=5.5,SNR=4.5						
BVAR	Borovoye Array	87.49	24	P	P	05 02 58.9	0.0
	comp=Z,0.5nm,0.4s,mb4.1,baz=211,slow=5.2,SNR=3.1						
LPAZ	La Paz	87.68	253	P	P	05 03 01.6	+0.7
	comp=Z,0.7nm,0.7s,mb4.1,baz=116,slow=4.8,SNR=4.2						
MKAR	Makanchi Array	88.11	34	P	P	05 03 02.3	+0.2
	comp=Z,0.3nm,0.4s,mb4.0,baz=239,slow=5.2,SNR=5.5						
PETK	Petropavlovsk-	134.64	40	PKP	PKPdf	05 09 31.1	+1.2
	comp=Z,0.7nm,0.3s,baz=248,slow=2.2,SNR=5.8						
PDAR	Pinedale Array	141.42	306	PKP	PKPdf	05 09 43.4	+0.8
	comp=Z,0.2nm,0.7s,baz=27,slow=6.2,SNR=2.5						
PDAR	Pinedale Array	141.42	306	PKP	PKPdf	05 09 43.4	+0.8
NVAR	Mina Array Bea	148.82	301	PKPbc	PKPbc	05 10 00.8	+1.4
	comp=Z,0.2nm,0.5s,baz=82,slow=2.5,SNR=2.5						
NVAR	Mina Array Bea	148.82	301	PKPbc	PKPbc	05 10 00.8	+1.4

ISCJB ***04*** *05:36:31.9±1.6, 235N±02×9263E±0.10, h121km±24km, mb3.6/3, Error ellipse: s-maj=37.4km s-min=6.6km az=21.7*
IDC ***04*** *05:36:32.1±5.5, 2344N×9350E, h65km±45km, mb3.4/3, mb1 3.6/4, mb1mx3.3/20, mbtmp3.4/4, ML4.1/1, Error ellipse: s-maj=120.0km s-min=24.6km az=60.0*

ISC 04 05:36:31.1±1.3, 232N±01×9259E±005, h75km±16km, n18, σ1§12/29, mb3.6/3, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	2.00	38	ePn	Pn	05 37 03.0	+0.3
IMP				eS	Sn	05 37 27.0	-0.2
SHL	Shillong	2.45	345	ex	Pn	05 37 07.5	-1.3
SHL				ex	Sn	05 37 34.7	-3.2
ODAN	Odare	5.96	309	ePn	Pn	05 37 57.6	+0.8
ODAN				eSn	Sn	05 39 05.2	+1.5
	96nm,0.3s						
TAPN	Taplejung	6.05	314	ePn	Pn	05 37 59.4	+1.4
TAPN				eSn	Sn	05 39 07.4	+1.5
	76nm,0.3s						
RAMN	Ramite	6.59	306	ePn	Pn	05 38 06.7	+1.3
RAMN				eSn	Sn	05 39 18.8	-0.3
	44nm,0.3s						
JIRN	Jiri	7.29	309	ePn	Pn	05 38 16.0	+1.0
JIRN				eSn	Sn	05 39 36.5	+0.2
	50nm,0.3s						
CMAR	Chiang Mai Arr	7.58	127	P	Pn	05 38 13.4	-5.6
	1.0nm,0.3s,baz=310,slow=12,SNR=10						
GUN	Gumba	7.66	309	ePn	Pn	05 38 20.6	+0.6
GUN				eSn	Sn	05 39 45.8	+0.4
	58nm,0.4s						
PKI	Pulchoki	7.82	305	ePn	Pn	05 38 22.7	+0.6
KKN	Kakani	8.03	306	ePn	Pn	05 38 24.8	-0.3
KKN				eSn	Sn	05 39 54.6	+0.2
	29nm,0.2s						
DMN	Daman	8.07	305	ePn	Pn	05 38 25.6	+0.1
DMN				eSn	Sn	05 39 54.4	-0.8
	30nm,0.4s						
GKN	Gorkha	8.63	305	ePn	Pn	05 38 32.7	-0.5
GKN				eSn	Sn	05 40 07.1	-1.8
	12nm,0.2s						
KOLN	Koldanda	9.31	301	ePn	Pn	05 38 42.1	-0.4
KOLN				eSn	Sn	05 40 22.7	-2.9
	51nm,0.4s						
DANN	Dangsing	9.47	305	ePn	Pn	05 38 44.4	-0.3
DANN				eSn	Sn	05 40 27.0	-2.5
	38nm,0.5s						
MKAR	Makanchi Array	24.97	343	P	P	05 41 49.6	+2.1
	0.7nm,0.7s,mb3.2,baz=160,slow=8.8,SNR=4.5						
WRA	Warramunga Arr	59.13	133	P	P	05 46 23.7	-0.6
	0.3nm,0.4s,mb3.7,baz=321,slow=7.4,SNR=5.5						
ARCES	ARCESS Array B	60.49	338	pP	pP	05 46 52.1	0.0
	0.9nm,0.9s,baz=98,slow=8.7,SNR=3.8						
ASAR	Alice Springs	61.49	136	P	P	05 46 39.3	-0.9
	0.8nm,0.5s,mb4.0,baz=321,slow=6.2,SNR=19						

ISCJB ***04*** *05:39:17.6±4.5, 1984N±006×1214E±0.1, h19km±33km, mb4.1/12, MS3.3/4, Error ellipse: s-maj=22.0km s-min=9.0km az=163.1*
IDC ***04*** *05:39:21.5±8.1, 1982N×12139E, h33km±64km, mb3.8/9, mb1 4.0/11, mb1mx3.8/21, mbtmp3.8/11, ML4.0/2, MS3.3/5, Ms1 3.4/5, ms1mx2.9/34, Error ellipse: s-maj=41.9km s-min=15.2km az=69.0*
NEIC ***04*** *05:39:22.0±0.4, 1984N×12142E, mb4.5/3, Error ellipse: s-maj=16.3km s-min=6.8km az=78.0*
BJI ***04*** *05:39:31.1, 2059N×12056E, h37km, mB4.6, mb4.4*

ISC 04 05:39:20.2±4.4, 1983N±006×1214E±01, h23km±33km, n28, σ0§66/24, mb4.1/12, MS3.3/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	Yeheng	4.82	360	ePn	Pn	05 40 31.5	+0.1
YHNB				eSn	Sn	05 41 25.9	-0.5
JOW	Kunigami	9.41	41	Pn	Pn	05 41 34.9	+0.4
	3.6nm,0.3s,baz=175,slow=13,SNR=11						
XAN	Xi'an	17.97	324	P	Pn	05 43 27.7	-0.8
XAN				AP	pP	05 43 35.6	+0.3
XAN				XP	sP	05 43 39.6	+1.3
XAN				AMB	AMB		
	comp=Z,5.0nm,1.4s						
KSRS	Korea Array	18.46	17	P	Pn	05 43 34.0	-0.6
	comp=Z,0.4nm,0.3s,baz=190,slow=11,SNR=6.5						
KSRS				LR	LR	05 51 00.4	
	comp=Z,34nm,18.3s,baz=185,slow=38						
BJT	Baijiatuan	20.61	349	eP	P	05 43 58.4	+0.5
	comp=Z,15nm,0.7s						
BJI	Beijing	20.63	349	P	P	05 43 58.3	+0.3
BJI				AMB	AMB		
	comp=Z,13nm,0.9s						
CMAR	Chiang Mai Arr	21.25	270	LR	LR	05 52 02.5	
	comp=Z,47nm,20.0s,MS2.9,baz=190,slow=36						
LZH	Lanzhou	22.35	320	eP	P	05 44 17.0	+0.4
LZH				AP		05 44 27.0	
LZH				XP	sP	05 44 32.5	+6.5
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,149nm,5.3s						
GUMO	Guam	23.32	102	LR	LR	05 53 23.9	
	comp=Z,71nm,19.0s,MS3.1,baz=270,slow=36						
SONM	Songino Array	30.47	340	P	P	05 45 32.0	+0.8
	comp=Z,0.8nm,0.5s,mb3.7,baz=156,slow=11,SNR=3.9						
SONM				LR	LR	05 58 14.3	
	comp=Z,73nm,20.2s,MS3.3,baz=266,slow=37						
WRAB	Tennant Creek	41.51	161	eP	P	05 47 05.1	-0.7
	comp=Z,5.2nm,0.8s,mb4.2						
WRA	Warramunga Arr	41.51	161	P	P	05 47 04.9	-1.0
	comp=Z,5.2nm,0.6s,mb4.3,baz=342,slow=9.1,SNR=27						
WB2	Warramunga Arr	41.52	161	eP	P	05 47 05.0	-0.9
MKAR	Makanchi Array	41.67	319	P	P	05 47 07.2	+0.3
	comp=Z,1.0nm,0.7s,mb3.5,baz=110,slow=11,SNR=6.3						
ZALV	Zalesovo Beam	44.03	330	P	P	05 47 25.5	-0.4
	comp=Z,1.0nm,0.4s,mb3.9,baz=110,slow=8.5,SNR=5.0						
ZALV	Zalesovo Beam	44.03	330	P	P	05 47 25.5	-0.4
ASAR	Alice Springs	44.92	164	P	P	05 47 33.8	+0.4
	comp=Z,1.6nm,0.3s,mb4.3,baz=349,slow=5.4,SNR=33						
FORT	Forrest	50.72	173	eP	P	05 48 18.6	+0.4
	comp=Z,13nm,0.7s,mb5.0						
BVAR	Borovoye Array	51.20	323	P	P	05 48 21.9	+0.3
	comp=Z,0.2nm,0.4s,mb3.4,baz=204,slow=1.4,SNR=2.0						
BVAR				pP	pP	05 48 32.6	+3.8
	comp=Z,0.6nm,0.5s,baz=106,slow=9.4,SNR=2.4						
STKA	Stephens Creek	54.94	159	P	P	05 48 49.2	-0.2
	comp=Z,1.9nm,0.8s,mb4.2,baz=318,slow=7.1,SNR=3.1						
STKA	Stephens Creek	54.94	159	P	P	05 48 49.2	-0.2
TOO	Toolangi	61.44	158	eP	P	05 49 36.6	+1.8
ARCES	ARCESS Array B	73.64	339	pP	pP	05 51 03.5	+4.6
	comp=Z,3.1nm,0.9s,baz=61,slow=9.9,SNR=4.4						
AKASG	Malin Array Be	76.25	319	P	P	05 51 06.3	-0.6
	comp=Z,0.2nm,0.4s,mb3.4,baz=66,slow=4.4,SNR=2.4						
AKASG				pP	pP	05 51 17.8	+3.4
	comp=Z,0.7nm,0.6s,baz=62,slow=5.6,SNR=3.1						
NOA	NORSAR Array B	82.15	333	LR	LR	06 32 03.5	
	comp=Z,48nm,20.5s,MS3.9,baz=285,slow=38						
YKA	Yellowknife Ar	86.89	23	P	P	05 52 02.9	0.0
	comp=Z,1.3nm,0.7s,mb4.3,baz=308,slow=4.7,SNR=11						
YKA	Yellowknife Ar	86.89	23	P	P	05 52 02.9	0.0
TXAR	Lajitas Array	114.61	43	PKP	PKiKP	05 57 58.9	-0.3
	comp=Z,0.1nm,0.6s,baz=323,slow=1.8,SNR=2.5						

NEIC 04 05:41:47.8, 4444S×16829E, h5km, ML3.7(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	Jackson Bay	0.50	43	P	Pg	05 41 57.7	+0.4
JCZ				S	Sg	05 42 04.3	+0.5
MLZ	Mavora Lakes	0.91	185	P	Pg	05 42 05.4	+0.1
MLZ				S	Sg	05 42 17.3	+0.2
EAZ	Earnscleugh	1.07	138	P	Pg	05 42 07.5	-0.9
EAZ				S	Sg	05 42 20.2	-2.1
DCZ	Deep Cove	1.31	217	P	Pn	05 42 11.8	-1.0
FOZ	Fox Glacier	1.34	50	P	Pn	05 42 13.7	+0.6
LBZ	Lake Benmore	1.36	88	P	Pn	05 42 13.4	0.0
WHZ	Wether Hill Ro	1.48	189	P	Pn	05 42 14.6	-0.4
ODZ	Otahua Downs	1.78	111	P	Pn	05 42 19.6	+0.4
TUZ	Tuapeka	1.79	148	P	Pn	05 42 19.6	+0.3
RPZ	Rata Peaks	2.12	71	P	Pn	05 42 24.5	+0.7
WVZ	Waitaha Valley	2.24	53	P	Pn	05 42 24.5	-0.9
LTZ	Lake Taylor	3.33	62	P	Pn	05 42 40.1	-0.4
DSZ	Denniston Nort	3.72	45	P	Pn	05 42 45.9	0.0

CNRM ***04*** *06:10:25.9, 3855N×1149W, h30km, MD3.8*
MDD ***04*** *06:10:26.7±0.9, 3897N×1054W, h0km, mb4.0/31, Error ellipse: s-maj=8.9km s-min=5.3km az=82.0, PRIMO*
NEIC ***04*** *06:10:27.1, 3891N×1050W, h0km, MG4.0(MDD), After MDD.*
IGIL ***04*** *06:10:28.0, 3892N×1073W, h55km, ML3.5*
INMG ***04*** *06:10:28.7±1.1, 3893N×1072W, h31km±12km, MD3.1, ML2.9, Error ellipse: s-maj=9.3km s-min=3.4km az=82.0*
CSEM ***04*** *06:10:28.7±0.3, 3896N×1052W, h10km, ML4.2/11, Error ellipse: s-maj=6.1km s-min=3.2km az=87.0*
ISCJB ***04*** *06:10:28.7±0.6, 3906N±002×10.14W±005, h10km, Error ellipse: s-maj=5.5km s-min=2.8km az=169.2*
LDG ***04*** *06:10:30.6±0.4, 3904N×1023W, h77km±7km, Ml3.3/4, Error ellipse: s-maj=8.4km s-min=4.5km az=76.0*

ISC 04 06:10:28.7±0.6, 3903N±002×1027W±004, h10km, n114, σ1§41/218, 2C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	Mafra	0.78	95	eP	Pg	06 10 47.1	+3.4
PMAFR				eS	Sg	06 11 01.0	+7.2
PMAFR				A		06 11 02.2	
	939nm,0.2s						
PMAFR	Mafra	0.78	95	P	Pg	06 10 47.1	+3.4
PMAFR				S	Sg	06 11 01.0	+7.2
	469nm,0.2s						
LIS	Lisbon	0.93	109	eP	Pg	06 10 48.5	+1.8
LIS				eS	Sg	06 11 03.3	+4.5
LIS				eS	Sg	06 11 03.3	+4.5
LIS				AML	AML	06 11 05.6	
	comp=E,450nm,0.2s						
LIS	Lisbon	0.93	109	eP	Pg	06 10 48.5	+1.9
LIS				eS	Sg	06 11 03.3	+4.5
ALMR	Almeirim	1.33	84	eP	Pn	06 10 54.4	+1.2
ALMR				eS	Sb	06 11 13.4	+2.7
ALMR				eS	Sb	06 11 13.4	+2.7
ALMR				AML	AML	06 11 15.4	
	comp=E,441nm,0.6s						
ALMR	Almeirim	1.33	84	eP	Pn	06 10 54.4	+1.1
ALMR				eS	Sb	06 11 13.4	+2.7
PTOM	Tomar	1.56	67	ePn	Pn	06 10 58.1	+1.6
PTOM				eSn	Sn	06 11 19.7	+3.0
PTOM				A		06 11 21.2	
	comp=E,92nm,0.1s						
PTOM	Tomar	1.56	67	ePn	Pn	06 10 58.1	+1.6
PTOM				eSn	Sn	06 11 19.7	+3.0
	comp=E,92nm,0.1s						
EVOP	Sao Brissos	1.75	106	ePn	Pn	06 10 59.4	+0.3
EVO	Evora	1.83	105	ePn	Pn	06 10 59.4	-0.9
EVO				eSn	Sn	06 11 19.3	-4.2
	comp=E,89nm,0.3s						
EVO	Evora	1.83	105	ePn	Pn	06 11 00.8	+0.5
EVO				eSn	Sn	06 11 25.2	+1.7
EVO				A		06 11 26.0	
	comp=E,68nm,0.1s						
EVO	Evora	1.83	105	||P	Pn	06 11 00.8	+0.5
EVO				S	Sn	06 11 25.2	+1.7
	comp=E,34nm,0.1s						
PTEO	Sao Teotonio	1.92	140	ePn	Pn	06 11 00.0	-1.4
PTEO				eSn	Sn	06 11 23.2	-2.4
PTEO				A		06 11 25.7	
	comp=E,64nm,0.2s						
PTEO	Sao Teotonio	1.92	140	P	Pn	06 11 00.0	-1.4
PTEO				S	Sn	06 11 23.2	-2.4
	comp=E,32nm,0.2s						
PESTR	Estremoz	2.10	94	ePn	Pn	06 11 04.8	+0.9
PESTR				eSn	Sn	06 11 32.0	+2.0
PESTR				A		06 11 34.7	
	comp=E,30nm,0.1s						
PESTR	Estremoz	2.10	94	ePn	Pn	06 11 04.8	+0.9
PESTR				eSn	Sn	06 11 32.0	+2.0
	comp=E,30nm,0.1s						
PBEJ	Beja	2.14	117	ePn	Pn	06 11 04.5	+0.1
PBEJ				eSn	Sn	06 11 31.2	+0.2
PBEJ				A		06 11 34.0	
	comp=E,30nm,0.1s						
PBEJ	Beja	2.14	117	ePn	Pn	06 11 04.5	+0.1
PBEJ				eSn	Sn	06 11 31.2	+0.2
	comp=E,30nm,0.1s						
PFVI	Vila Bisbo	2.21	149	ePn	Pn	06 11 03.3	-2.1
PFVI				eSn	Sn	06 11 28.3	-4.5
PFVI				A	

comp=E,12nm,0.1s,SNR=7.9
EGRO S Sn 06 11 44.1 +0.3
comp=E,20nm,0.1s,SNR=7.9
PBAR Barrancos 2.67 108 *e*Pn Pn 06 11 12.4 +0.6
PBAR *e*Sn Sn 06 11 44.5 +0.3
PBAR A 06 11 47.5
comp=E,19nm,0.2s
PBAR Barrancos 2.67 108 *e*Pn Pn 06 11 12.4 +0.6
PBAR *e*Sn Sn 06 11 44.5 +0.3
comp=E,19nm,0.2s
EMIN Mina Concepcio 3.10 113 P Pn 06 11 18.1 +0.5
comp=E,4.7nm,0.1s,SNR=142
EMIN S Sn 06 11 54.4 -0.3
comp=E,7.1nm,0.1s,SNR=7.9
EMIN Mina Concepcio 3.10 113 P Pn 06 11 18.1 +0.5
comp=E,4.7nm,0.1s,SNR=142
EMIN S Sn 06 11 54.4 -0.3
comp=E,7.1nm,0.1s,SNR=7.9
PCAB Cabril 3.18 32 *e*Pn Pn 06 11 18.5 -0.2
PCAB *e*Sn Sn 06 11 54.4 -2.3
PCAB A 06 11 58.1
comp=E,37nm,0.1s
PCAB Cabril 3.18 32 ⇑P Pn 06 11 18.5 -0.2
PCAB S Sn 06 11 54.4 -2.3
comp=E,19nm,0.1s
MVO Moncorvo 3.28 48 *e*Pn Pn 06 11 20.4 +0.3
MVO *e*Sn Sn 06 11 57.9 -1.2
MVO A 06 11 59.4
comp=E,33nm,0.1s
MVO Moncorvo 3.28 48 ⇑P Pn 06 11 20.4 +0.3
MVO S Sn 06 11 57.9 -1.2
comp=E,16nm,0.1s
ELOB Lobios 3.30 30 P Pn 06 11 20.0 -0.4
comp=E,3.0nm,0.3s,SNR=47
ELOB S Sn 06 11 57.5 -2.1
comp=E,30nm,0.1s,SNR=7.9
ELOB Lobios 3.30 30 P Pn 06 11 20.0 -0.4
comp=E,3.0nm,0.3s,SNR=47
ELOB S Sn 06 11 59.2 -0.4
comp=E,30nm,0.1s,SNR=7.9
ELOB Lobios 3.30 30 P Pn 06 11 20.0 -0.4
ELOB S Sn 06 11 59.2 -0.4
PBRG Braganca 3.87 43 *e*Pn Pn 06 11 28.5 +0.3
PBRG *e*Sn Sn 06 12 12.5 -1.1
PBRG A 06 12 14.8
comp=E,22nm,0.2s
PBRG Braganca 3.87 43 P Pn 06 11 28.5 +0.3
PBRG S Sn 06 12 12.5 -1.1
comp=E,11nm,0.2s
ECAL Calabor 3.96 42 P Pn 06 11 29.9 +0.3
comp=E,3.1nm,0.3s,SNR=17
ECAL S Sn 06 12 16.1 +0.1
comp=E,11nm,0.1s,SNR=7.9
ECAL Calabor 3.96 42 P Pn 06 11 29.9 +0.4
comp=E,3.1nm,0.3s,SNR=17
ECAL S Sn 06 12 16.1 0.0
comp=E,11nm,0.1s,SNR=7.9
EMAZ Mazaricos 4.04 14 P Pn 06 11 27.3 -3.2
comp=E,0.1nm,0.1s,SNR=7.9
EMAZ S Sn 06 12 11.7 -6.1
comp=E,32nm,0.2s,SNR=7.9
EMAZ Mazaricos 4.04 14 P Pn 06 11 27.8 -2.7
SNR=7.9
EMAZ S Sn 06 12 13.9 -3.9
SNR=7.9
EMAZ Mazaricos 4.04 14 P Pn 06 11 27.8 -2.7
EMAZ S Sn 06 12 13.9 -3.8
STS Santiago 4.07 18 P Pn 06 11 29.1 -1.9
comp=E,6.1nm,0.1s,SNR=7.9
STS S Sn 06 12 12.5 -6.0
comp=E,26nm,0.1s,SNR=7.9
STS Santiago 4.07 18 P Pn 06 11 29.1 -1.8
STS S Sn 06 12 12.5 -6.0
ESPR Espera 4.10 120 P Pn 06 11 32.4 +1.0
comp=E,5.3nm,0.1s,SNR=7.8
ESPR S Sn 06 12 20.1 +0.6
comp=E,1.3nm,0.1s,SNR=7.9
ESPR Espera 4.10 120 P Pn 06 11 32.4 +0.9
comp=E,5.3nm,0.1s,SNR=7.8
ESPR S Sn 06 12 20.1 +0.6
comp=E,1.3nm,0.1s,SNR=7.9
ERUA La Rua 4.12 34 P Pn 06 11 31.2 -0.4
comp=E,6.4nm,0.1s,SNR=7.9
ERUA S Sn 06 12 20.5 +0.8
comp=E,12nm,0.1s,SNR=7.9
LIJA Lijar 4.39 117 *e*S Sn 06 12 28.5 +1.9
EADA Adamuz 4.54 99 P Pn 06 11 38.1 +0.6
comp=E,1.5nm,0.1s,SNR=26
EADA S Sn 06 12 29.2 -1.2
comp=E,2.7nm,0.1s,SNR=7.9
EADA Adamuz 4.54 99 P Pn 06 11 38.1 +0.6
comp=E,1.5nm,0.1s,SNR=26
EADA S Sn 06 12 29.2 -1.2
comp=E,2.7nm,0.1s,SNR=7.9
EJIF Jimena Fronter 4.60 123 P Pn 06 11 38.2 -0.1
comp=E,1.1nm,0.2s,SNR=7.9
EJIF S Sn 06 12 29.9 -1.7
comp=E,3.1nm,0.3s,SNR=7.9
EJIF Jimena Fronter 4.60 123 P Pn 06 11 38.2 0.0
comp=E,1.1nm,0.2s,SNR=7.9
EJIF S Sn 06 12 31.2 -0.5
SNR=7.9
EJIF Jimena Fronter 4.60 123 P Pn 06 11 38.2 0.0
EJIF S Sn 06 12 31.2 -0.5
EPON Pontenova 4.90 28 P Pn 06 11 41.3 -1.0
comp=E,12nm,1.0s,SNR=20
EPON S Sn 06 12 35.4 -3.6
comp=E,7.0nm,0.1s,SNR=7.9
EPON Pontenova 4.90 28 P Pn 06 11 41.3 -1.0
comp=E,12nm,1.0s,SNR=20
EPON S Sn 06 12 37.8 -1.2
comp=E,7.0nm,0.1s,SNR=7.9
EPON Pontenova 4.90 28 P Pn 06 11 41.3 -1.0
EPON S Sn 06 12 37.8 -1.2
ESDC Sonseca Array 4.93 81 P Pn 06 11 44.0 +1.1
comp=E,2.7nm,0.1s,baz=260,slow=13,SNR=34
ESDC S Sn 06 12 39.4 -0.6
comp=E,6.9nm,0.2s,baz=266,slow=24,SNR=7.9
ESDC Sonseca Array 4.93 81 P Pn 06 11 44.2 +1.4
SNR=34
ESDC S Sn 06 12 39.7 -0.2
SNR=7.9
ESDC Sonseca Array 4.93 81 P Pn 06 11 44.2 +1.4
ESDC S Sn 06 12 39.8 -0.2
ELUQ Luque 4.95 105 P Pn 06 11 44.9 +1.8
comp=E,1.3nm,0.2s,SNR=7.9
ELUQ S Sn 06 12 41.6 +1.3
comp=E,1.6nm,0.1s,SNR=7.9
GUD Guadarrama 4.98 69 P Pn 06 11 45.0 +1.5
comp=E,0.3nm,0.1s,SNR=7.9
GUD S Sn 06 12 41.1 +0.1
comp=E,1.5nm,0.1s,SNR=7.9
EMIJ Mijas 5.00 118 P Pn 06 11 44.5 +0.7
comp=E,1.0nm,0.1s,SNR=5.9
EMIJ S Sn 06 12 41.1 -0.6
comp=E,0.7nm,0.1s,SNR=7.9
EBAN Banos Encina 5.16 98 P Pn 06 11 46.3 +0.4
comp=E,1.8nm,0.1s,SNR=7.9
EBAN S Sn 06 12 44.2 -1.2
comp=E,1.2nm,0.2s,SNR=7.9
EQUE Quentar 5.69 107 P Pn 06 11 55.1 +1.9
comp=E,1.1nm,0.1s,SNR=7.5
EQUE S Sn 06 12 59.0 +0.4
comp=E,0.7nm,0.3s,SNR=7.9
EQUE Quentar 5.69 107 S Sn 06 12 59.0 +0.4
comp=E,0.7nm,0.3s,SNR=7.9
EARI Arriondas 5.73 40 P Pn 06 11 54.5 +0.8
comp=E,0.4nm,0.1s,SNR=8.2
EARI S Sn 06 12 58.3 -1.1
comp=E,0.6nm,0.1s,SNR=7.9
EARI Arriondas 5.73 40 P Pn 06 11 54.5 +0.8
EARI S Sn 06 12 58.3 -1.1
EQES Quesada 5.79 100 P Pn 06 11 55.2 +0.7
comp=E,0.3nm,0.1s,SNR=7.9
EQES S Sn 06 12 60.0 -1.0
comp=E,0.4nm,0.1s,SNR=7.9
EQES Quesada 5.79 100 S Sn 06 13 00.0 -1.0
comp=E,0.4nm,0.1s,SNR=7.9
EVIA Vianos 6.08 91 P Pn 06 11 58.8 +0.2
comp=E,1.0nm,0.1s,SNR=7.9
EVIA S Sn 06 13 07.7 -0.5
comp=E,2.0nm,0.1s,SNR=7.9
EHUE Huescar 6.15 99 P Pn 06 12 00.8 +1.2
comp=E,0.2nm,0.1s,SNR=7.9
EHUE S Sn 06 13 09.0 -0.9
comp=E,0.3nm,0.1s,SNR=7.9
EHUE Huescar 6.15 99 P Pn 06 12 00.8 +1.2
EHUE S Sn 06 13 09.0 -0.9
EBER Berja 6.21 108 P Pn 06 12 02.6 +2.2
comp=E,0.5nm,0.1s,SNR=5.1
EBER S Sn 06 13 08.6 -2.8
comp=E,0.4nm,0.1s,SNR=7.9
ETOR Torete 6.56 72 P Pn 06 12 07.3 +2.1
comp=E,4.7nm,0.2s,SNR=7.9
ETOR S Sn 06 13 18.5 -1.6
comp=E,6.4nm,0.1s,SNR=7.9
ETOR Torete 6.56 72 S Sn 06 13 18.5 -1.6
ETOR S Sn 06 13 18.5 -1.6
comp=E,6.4nm,0.1s,SNR=7.9
ELAN Lanestosa 6.65 49 P Pn 06 12 08.7 +2.2
comp=E,0.3nm,0.1s,SNR=7.9
ELAN S Sn 06 13 20.2 -2.1
comp=E,0.3nm,0.2s,SNR=7.9
ETOB Tobarra 6.82 91 P Pn 06 12 10.1 +1.3
comp=E,0.3nm,0.1s,SNR=7.9
ETOB S Sn 06 13 25.2 -1.3
comp=E,0.4nm,0.1s,SNR=7.9
MIF Mishlifen 6.93 142 *i* P Pn 06 12 09.5 -0.8
MIF *i* S Sn 06 13 26.0 -3.3
KIB El Ksiba 7.30 151 P Pn 06 12 13.0 -2.4
KIB S Sn 06 13 32.0 -6.3
KIB El Ksiba 7.30 151 *e*P Pn 06 12 13.0 -2.4
CZD Col de Zad 7.33 143 *i* P Pn 06 12 14.0 -1.8
CZD *i* S Sn 06 13 34.0 -5.1
TZC Tazercounte 7.53 155 *i* P Pn 06 12 14.5 -4.0
CIA Chichaoua 7.55 170 P Pn 06 12 10.0 -8.8
CIA S Sn 06 13 28.0 -16
EMOS Mosqueruela 7.67 77 P Pn 06 12 23.6 +3.1
comp=E,0.2nm,0.1s,SNR=7.9
EMOS S Sn 06 13 45.5 -2.0
comp=E,0.3nm,0.1s,SNR=7.9
IZUN Zunzarren 7.69 57 S Sn 06 13 47.3 -0.6
comp=E,0.1nm,0.1s,SNR=7.9
IZUN Zunzarren 7.69 57 S Sn 06 13 47.3 -0.5
comp=E,0.1nm,0.1s,SNR=7.9
EORO Oroz-Betelu 7.80 58 P Pn 06 12 24.6 +2.4
comp=E,0.2nm,0.1s,SNR=7.9
EORO S Sn 06 13 47.9 -2.6
comp=E,0.1nm,0.1s,SNR=7.9
EALK Alkurruntz 7.83 55 P Pn 06 12 25.0 +2.4
comp=E,0.2nm,0.2s,SNR=7.9
EALK S Sn 06 13 48.9 -2.3
comp=E,0.5nm,0.1s,SNR=7.9
EALK Alkurruntz 7.83 55 P Pn 06 12 25.0 +2.4
EALK S Sn 06 13 48.9 -2.3
EBEN Beniarda 7.85 89 S Sn 06 13 51.0 -0.7
comp=E,0.2nm,0.1s,SNR=7.9
EBEN Beniarda 7.85 89 S Sn 06 13 51.0 -0.7
comp=E,0.2nm,0.1s,SNR=7.9
ESAC San Caprasio 7.95 67 P Pn 06 12 25.4 +1.1
comp=E,1.3nm,0.2s,SNR=7.9
ESAC S Sn 06 13 53.8 -0.5
comp=E,2.4nm,0.2s,SNR=7.9
SJPF Ste Jean 7.96 56 *e*Pn Pn 06 12 25.4 +1.0
SJPF *e*Sn Sn 06 13 48.3 -6.1
comp=E,3.3nm,0.4s
SJPF Ste Jean 7.96 56 P Pn 06 12 25.4 +1.0
SJPF S Sn 06 13 48.3 -6.1
comp=E,1.7nm,0.4s
ETSF Etsaut 8.30 59 *e*Pn Pn 06 12 27.3 -1.8
ETSF *e*Sn Sn 06 13 58.6 -4.3
comp=E,0.9nm,0.2s
ETSF Etsaut 8.30 59 *e*Pn Pn 06 12 27.3 -1.8
ETSF *e*Sn Sn 06 13 58.6 -4.3
comp=E,0.4nm,0.2s
ERTA Horta de San J 8.37 73 S Sn 06 14 01.6 -2.9
comp=E,0.2nm,0.1s,SNR=7.9
ZFT Errachidia 8.48 144 *i* P Pn 06 12 30.0 -1.6
ZFT *i* S Sn 06 14 02.0 -5.4
EBIE Bielsa 8.70 62 P Pn 06 12 36.4 +1.9
comp=E,0.4nm,0.1s,SNR=7.9
EBIE S Sn 06 14 09.8 -2.8
comp=E,0.2nm,0.2s,SNR=7.9
EPF Esparros 8.96 60 *e*Pn Pn 06 12 34.8 -3.3
EPF *e*Sn Sn 06 14 16.5 -2.5
comp=E,1.8nm,0.3s
EPF Esparros 8.96 60 *e*Pn Pn 06 12 34.8 -3.3
EPF *e*Sn Sn 06 14 16.5 -2.5
comp=E,0.9nm,0.3s
EPOB Poblet 8.99 71 S Sn 06 14 17.2 -2.6
comp=E,0.2nm,0.1s,SNR=7.9

BJI **04** *06:14:44.2, 9.18N×9321E, h65km, mB4.7, mb4.8, Ms4.3, Msz4.1*
MOS **04** *06:14:44.4±0.9, 968N×9339E, h33km, mb5.1/63, Error ellipse: s-maj=8.8km s-min=4.5km az=119.0*
ISCJB **04** *06:14:45.2±0.2, 943N±003×9336E±003, h48km, mb4.8/128, MS4.0/35, Error ellipse: s-maj=4.5km s-min=3.1km az=41.7*
SZGRF **04** *06:14:45.7, 9.17N×9336E, h46km, mb4.9, Nicobar Islands, India, region*
IDC **04** *06:14:46.2±0.6, 954N×9344E, h40km±4km, mb4.4/23, mb1 4.5/24, mb1mx4.4/26, mbtmp4.4/24, ML4.5/1, MS3.9/21, Ms1 3.9/21, ms1mx3.8/33, Error ellipse: s-maj=14.9km s-min=9.4km az=61.0*
NEIC **04** *06:14:46.8±0.2, 947N×9330E, mb4.9/64, Error ellipse: s-maj=5.7km s-min=4.1km az=43.0*
DJA **04** *06:14:56, 977N×9348E, h125km, mb5.1/7*
ISC 04 06:14:47.4±0.2, 947N±003×9336E±003, h51km, h51km±1.9km:pP-P, n388, σ1§00/355, mb4.8/128, MS4.0/35, 72C-15D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.25**	**345**	*e*P	x	06 15 46.4	
PBA				*e*S	x	06 16 10.9	
KULM	**Kulim**	**8.34**	**119**	⇓P	**Pn**	**06 16 44.2**	**-1.6**
PSI	**Prapat**	**8.63**	**140**	P	**Pn**	**06 16 51.0**	**+1.2**
	5.4nm,0.3s,baz=333,slow=13,SNR=71						
PSI				S	**Sn**	**06 18 27.3**	**+1.6**
	9.1nm,0.3s,baz=357,slow=18,SNR=7.1						
PSI				LR	LR	06 20 33.1	
	comp=Z,2μm,19.5s,baz=310,slow=40						
PSI	**Prapat**	**8.63**	**140**	P	**Pn**	**06 16 51.0**	**+1.2**
PSI				S	**Sn**	**06 18 27.3**	**+1.5**
IPM	**Ipoh**	**9.08**	**123**	⇑P	**Pn**	**06 16 54.5**	**-1.5**
FRIM	**Kepong**	**10.29**	**126**	⇓P	**Pn**	**06 17 11.8**	**-0.6**
CM31	**Chiang Mai Arr**	**10.45**	**31**	*e*Pn	**Pn**	**06 17 17.1**	**+2.5**
	40nm,0.9s						
CMAR	**Chiang Mai Arr**	**10.45**	**31**	P	**Pn**	**06 17 16.9**	**+2.3**
	4.4nm,0.3s,baz=218,slow=15,SNR=60						
CMAR				LR	LR	06 21 27.0	
	comp=Z,749nm,19.6s,baz=65,slow=39						
KTGM	**Kuala Trenggan**	**10.53**	**112**	⇓P	**Pn**	**06 17 15.6**	**-0.2**
CHTO	**Chiang Mai**	**10.75**	**30**	*e*P	**Pn**	**06 17 19.9**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,67nm,1.4s						
CHTO	**Chiang Mai**	**10.75**	**30**	*e*Pn	**Pn**	**06 17 19.9**	**+1.2**
	comp=Z,67nm,1.4s						
KGM	**Kluang**	**12.37**	**126**	⇑P	**Pn**	**06 17 42.1**	**+1.2**
PALK	**Pallekele**	**12.71**	**261**	*e*P	**Pn**	**06 17 46.8**	**+1.3**
PALK				pmax	pmax		
	comp=Z,23nm,0.7s						
PALK	**Pallekele**	**12.71**	**261**	*e*Pn	**Pn**	**06 17 46.8**	**+1.2**
	comp=Z,23nm,0.7s						
VIS	**Vishakhapatnam**	**12.73**	**311**	*e*P	**Pn**	**06 17 44.9**	**-1.0**
VIS				AMb	AMB	06 17 54.1	
	comp=Z,114nm,1.5s						
VIS				*e*S	**Sn**	**06 19 53.5**	**-13**
MYKOM	**Kota Tinggi**	**12.93**	**126**	⇑P	**Pn**	**06 17 48.7**	**+0.2**
BWNR	**Bhubaneshwar**	**13.00**	**327**	*e*P	**Pn**	**06 17 43.0**	**-6.4**
BWNR				*e*S	**Sn**	**06 19 55.0**	**-18**
MDRS	**Chennai**	**13.35**	**287**	⇑*e*P	**Pn**	**06 17 53.3**	**-0.9**
MDRS				*ex*	x	06 18 39.7	
MDRS				*e*S	**Sn**	**06 20 09.6**	**-12**
MDRS				*ex*	x	06 20 55.1	
MDRS				*ex*	x	06 21 20.4	
SALM	**Salem**	**15.06**	**280**	*e*P	**Pn**	**06 18 18.0**	**+0.9**
SALM				*ex*	x	06 20 51.0	
IMP	**Imphal**	**15.24**	**2**	*e*P	**Pn**	**06 18 20.0**	**+0.6**
IMP				*ex*	x	06 21 18.0	
KOD	**Kodaikanal**	**15.68**	**274**	*e*P	**Pn**	**06 18 27.6**	**+2.5**
KOD				AMb	AMB	06 18 32.7	
	comp=Z,103nm,1.8s						
BOK	**Bokaro**	**15.93**	**334**	*ex*	x	06 18 24.4	
BOK				AMb	AMB	06 18 34.1	
	comp=Z,144nm,1.2s						
BOK				*ex*	x	06 21 12.0	
SHL	**Shillong**	**16.07**	**355**	*e*P	**Pn**	**06 18 31.0**	**+1.0**
SHL				*ex*	x	06 21 19.5	
HYB	**Hyderabad**	**16.41**	**300**	*i* P	**Pn**	**06 18 34.5**	**+0.1**
HYB				*e*S	**S**	**06 21 35.5**	**-10**
HYB	**Hyderabad**	**16.41**	**300**	*e*P	**Pn**	**06 18 34.5**	**+0.1**
HYB				*e*S	**S**	**06 21 44.0**	**-1.7**
BLSP	**Bilaspur**	**16.57**	**321**	*e*P	**Pn**	**06 18 35.0**	**-1.4**
BLSP				AMb	AMB	06 18 41.6	
	comp=Z,99nm,1.7s						
BLSP				*ex*	x	06 21 31.0	
KMI	**Kunming**	**17.95**	**29**	P	**Pn**	**06 18 56.7**	**+3.4**
KMI				AP	pP	06 19 07.8	+2.9
KMI				PP		06 19 13.5	
KMI				XP	sP	06 19 16.8	+5.5
KMI				PPP		06 19 22.5	
KMI				S	**S**	**06 22 12.3**	**-4.5**
KMI				SS		06 22 36.1	
KMI				SSS		06 22 50.7	
KMI				AMB	AMB		
	comp=Z,35nm,0.7s						
KMI				AMB	AMB		
	comp=Z,71nm,3.1s						
KMI				LR	LR		
	comp=N,446nm,13.6s						
KMI				LR	LR		
	comp=E,404nm,14.1s						
KMI				LR	LR		
	comp=Z,484nm,15.8s						
NGP	**Nagpur**	**18.02**	**312**	*e*P	**Pn**	**06 18 53.4**	**-0.9**
NGP				*ex*	x	06 19 01.5	
	comp=Z,47nm,1.5s						
NGP				*ex*	x	06 22 05.7	
ODAN	**Odare**	**18.20**	**343**	*e*P	**Pn**	**06 18 57.1**	**+0.7**
	comp=Z,58nm,0.4s						
RAMN	**Ramite**	**18.52**	**341**	*e*P	**Pn**	**06 19 01.3**	**+0.9**
	comp=Z,182nm,0.7s						
LATR	**Latur**	**18.56**	**300**	*e*P	**Pn**	**06 19 02.1**	**+1.3**
LATR				AMb	AMB	06 19 04.5	
	comp=Z,130nm,1.3s						
TAPN	**Taplejung**	**18.57**	**344**	*e*P	**Pn**	**06 19 01.7**	**+0.8**
	comp=Z,218nm,0.7s						
QIZ	**Qiongzhong**	**18.57**	**57**	P	**Pn**	**06 19 01.1**	**+0.1**
QIZ				S	**S**	**06 22 28.4**	**-0.7**
QIZ				AMB	AMB		
	comp=Z,223nm,3.0s						
QIZ				LR	LR		
	comp=N,612nm,15.9s						
QIZ				LR	LR		
	comp=E,401nm,16.5s						
QIZ				LR	LR		
	comp=Z,474nm,15.7s						
QIZ	**Qiongzhong**	**18.57**	**57**	*e*P	**Pn**	**06 19 02.5**	**+1.4**
	comp=Z,4.3nm,0.6s						
KSM	**Kuching**	**18.64**	**114**	⇓P	**Pn**	**06 19 03.3**	**+1.4**
KSM	**Kuching**	**18.64**	**114**	*e*P	**Pn**	**06 19 03.4**	**+1.6**
AKL	**Akola**	**19.31**	**307**	*e*P	**Pn**	**06 19 10.1**	**+0.3**
AKL				AMb	AMB	06 19 11.5	
	comp=Z,59nm,0.6s						
JIRN	**Jiri**	**19.32**	**340**	*e*P	**Pn**	**06 19 10.2**	**+0.4**
	comp=Z,176nm,0.4s						
PKI	**Pulchoki**	**19.50**	**338**	*e*P	**Pn**	**06 19 11.6**	**-0.5**
	comp=Z,148nm,0.9s						
DMN	**Daman**	**19.65**	**338**	*e*P	**Pn**	**06 19 13.1**	**-0.7**
	comp=Z,123nm,0.8s						
GUN	**Gumba**	**19.65**	**340**	*e*P	**Pn**	**06 19 13.4**	**-0.4**
	comp=Z,231nm,0.4s						
KKN	**Kakani**	**19.75**	**338**	*e*P	**Pn**	**06 19 14.0**	**-1.0**
	comp=Z,66nm,0.6s						
GOA	**Goa**	**19.98**	**289**	*ex*	x	06 19 33.1	
SBUM	**Sibu**	**20.00**	**109**	⇑P	**P**	**06 19 17.3**	**+1.3**
GKN	**Gorkha**	**20.18**	**337**	*e*P	**P**	**06 19 18.8**	**+1.0**
KAD	**Karad**	**20.20**	**295**	*ex*	x	06 19 16.0	
KAD				AMb	AMB	06 19 35.8	
	comp=Z,136nm,1.6s						
LSA	**Lhasa**	**20.23**	**354**	P	**P**	**06 19 18.8**	**+0.4**
LSA				S	**S**	**06 22 55.5**	**-7.2**
LSA				LR	LR		
	comp=Z,230nm,12.6s,MS3.7						
LSA	**Lhasa**	**20.23**	**354**	*e*P	**P**	**06 19 18.7**	**+0.3**
LSA				pmax	pmax		
	comp=Z,63nm,0.5s						
LSA	**Lhasa**	**20.23**	**354**	*e*P	**P**	**06 19 18.7**	**+0.3**
	comp=Z,63nm,0.5s						
KOLN	**Koldanda**	**20.40**	**334**	*e*P	**P**	**06 19 21.4**	**+1.2**
	comp=Z,296nm,0.8s						
BTM	**Bintulu**	**20.56**	**106**	⇑P	**P**	**06 19 27.3**	**+5.2**
DANN	**Dangsing**	**20.84**	**336**	*e*P	**P**	**06 19 26.1**	**+1.2**
	comp=Z,598nm,0.9s						
POO	**Poona**	**20.94**	**298**	*e*P	**P**	**06 19 26.9**	**+0.8**
POO				AMb	AMB	06 19 31.1	
	comp=Z,82nm,1.1s						
GYA	**Guiyang**	**21.08**	**35**	P	**P**	**06 19 30.0**	**+2.4**
GYA				AP		06 19 44.8	
GYA				XP	sP	06 19 52.6	+7.0
GYA				PPP		06 20 04.7	
GYA				S	**S**	**06 23 15.6**	**-3.9**
GYA				PCP	PcP	06 23 34.2	+1.6
GYA				SS		06 23 52.6	
GYA				SCP	ScP	06 27 04.2	-1.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
GYA				AMB	AMB		
	comp=Z,120nm,4.5s						
GYA				LR	LR		
	comp=N,710nm,12.8s,MS4.4						
GYA				LR	LR		
	comp=E,690nm,13.6s,MS4.4						
GYA				LR	LR		
	comp=Z,570nm,12.3s,MS4.2						
KKM	**Kota Kinabalu**	**22.90**	**97**	⇑P	**P**	**06 19 45.1**	**-2.0**
CD2	**Chengdu**	**23.43**	**23**	⇓*i*P	**P**	**06 19 51.4**	**-0.8**
CD2				AP		06 20 05.9	
CD2				XP	sP	06 20 13.1	+2.4
CD2				PP		06 20 26.3	
CD2				PCP	PcP	06 23 38.1	+0.8
CD2				S	**S**	**06 23 56.7**	**-5.0**
CD2				XS	sS	06 24 20.7	-2.7
CD2				SS		06 24 47.1	
CD2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.1						
CD2				AMB	AMB		
	comp=Z,80nm,4.8s						
CD2				LR	LR		
	comp=N,420nm,13.2s,MS4.2						
CD2				LR	LR		
	comp=E,460nm,13.8s,MS4.2						
CD2				LR	LR		
	comp=Z,310nm,7.8s						
PTH	**Pithoragarh**	**23.46**	**330**	*e*P	**P**	**06 19 54.5**	**+2.0**
PTH				*ex*	x	06 23 58.1	
SDKM	**Sandakan**	**23.93**	**97**	⇑P	**P**	**06 19 59.8**	**+2.8**
NDI	**New Delhi**	**24.40**	**324**	*e*P	**P**	**06 20 02.0**	**+0.9**
NDI				*ex*	x	06 24 40.0	
AJM	**Ajmer**	**24.50**	**316**	*e*P	**P**	**06 20 04.3**	**+2.2**
AJM				AMb	AMB	06 20 05.3	
	comp=Z,22nm,0.7s,mb4.7						
TSM	**Tawau**	**24.87**	**100**	⇑P	**P**	**06 20 08.9**	**+3.3**
SMLA	**Simla**	**26.29**	**327**	*i* P	**P**	**06 20 18.6**	**+0.4**
SMLA				AMb	AMB	06 20 21.8	
	comp=Z,56nm,0.9s,mb5.1						
LZH	**Lanzhou**	**28.16**	**18**	*e*P	**P**	**06 20 34.5**	**-0.5**
LZH				AP	pP	06 20 50.0	+2.0
LZH				XP	sP	06 21 04.5	+11
LZH				*e*S	**S**	**06 25 16.1**	**-0.8**
LZH				SS	SS	06 26 41.0	-36
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,139nm,5.3s						
LZH				LR	LR		
	comp=N,285nm,14.3s						
LZH				LR	LR		
	comp=Z,526nm,15.2s,MS4.2						
XAN	**Xi'an**	**28.33**	**28**	P	**P**	**06 20 34.9**	**-1.6**
XAN				S	**S**	**06 25 26.3**	**+6.8**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.4						
XAN				AMB	AMB		
	comp=Z,81nm,8.0s						
XAN				LR	LR		
	comp=N,149nm,16.4s,MS4.0						
XAN				LR	LR		
	comp=E,287nm,16.4s,MS4.0						
XAN				LR	LR		
	comp=Z,496nm,19.1s,MS4.1						
KAPI	**Kappang**	**29.98**	**118**	*e*P	**P**	**06 20 52.8**	**+1.4**

comp=Z,3.8nm,0.4s,mb4.5
GTA Gaotai 30.37 10 ⇑P **P 06 20 54.8 +0.3**
GTA AP pP 06 21 11.1 +3.6
GTA XP sP 06 21 18.4 +4.8
GTA S **S 06 25 50.9 -0.6**
GTA XS sS 06 26 15.3 +1.8
GTA SS SS 06 27 33.6 -29
GTA AMB AMB
comp=Z,18nm,0.9s,mb4.8
GTA LR LR
comp=N,180nm,15.6s,MS3.9
GTA LR LR
comp=E,114nm,14.1s,MS3.9
GTA LR LR
comp=Z,162nm,14.8s,MS3.8
KBL Kabul 33.45 322 *e*P **P 06 21 22.3 +0.7**
KBL *e**PP pP 06 21 35.8 +1.1
KBL *e* 06 24 03.5
KBL pmax pmax
comp=Z,34nm,0.9s,mb5.3
KBL Kabul 33.45 322 *e*P **P 06 21 22.3 +0.8**
comp=Z,34nm,0.9s,mb5.3
KBL *e*pP pP 06 21 35.8 +1.1
KBL *e*PcP PcP 06 24 03.5 +1.4
KSH Kashi 33.71 335 P P 06 21 24.5 +0.7
KSH *e*AP pP 06 21 39.6 +2.7
KSH XP sP 06 21 46.1 +3.2
KSH PP PP 06 22 37.1 -3.8
KSH PPP 06 22 55.8
KSH PCP PcP 06 24 05.5 +2.9
KSH S **S 06 26 40.5 -3.1**
KSH XS sS 06 27 05.7 0.0
KSH SCP ScP 06 27 43.5 +0.2
KSH SCS ScS 06 31 42.5 -2.2
KSH AMB AMB
comp=Z,457nm,4.0s
KSH LR LR
comp=N,414nm,4.8s
KSH LR LR
comp=E,665nm,4.9s
WMQ Urumqi 34.57 353 P **P 06 21 33.2 +2.0**
WMQ AP pP 06 21 48.2 +3.8
WMQ XP sP 06 21 55.5 +5.1
WMQ PP PP 06 22 50.3 -0.1
WMQ PCP PcP 06 24 07.2 +2.2
WMQ S **S 06 26 56.6 -0.2**
WMQ SCP ScP 06 27 46.6 +0.3
WMQ SS SS 06 29 10.2 -18
WMQ SCS ScS 06 31 47.9 -1.2
WMQ AMB AMB
comp=Z,14nm,0.6s,mb5.1
WMQ AMB AMB
comp=Z,23nm,8.3s
WMQ LR LR
comp=N,83nm,22.1s,MS3.9
WMQ LR LR
comp=E,241nm,25.6s,MS3.9
WMQ LR LR
comp=Z,92nm,23.0s,MS3.5
HHC Hu-ho-hao-te 35.17 24 *e*P **P 06 21 39.5 +3.1**
HHC AP pP 06 21 54.9 +5.3
HHC XP sP 06 22 03.2 +7.6
HHC PP PP 06 23 00.3 +3.3
HHC S **S 06 27 07.7 +1.6**
HHC XS sS 06 27 33.9 +5.6
HHC SS SS 06 29 26.8 -14
HHC AMB AMB
comp=Z,19nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,123nm,3.6s
HHC LR LR
comp=N,207nm,19.0s,MS4.1
HHC LR LR
comp=E,260nm,19.0s,MS4.1
HHC LR LR
comp=Z,254nm,21.4s,MS3.9
BATI Baumata 35.94 122 LR LR 06 36 13.9
comp=Z,392nm,20.7s,MS4.2,baz=234,slow=36
ULHL Ulahol 35.95 338 P **P 06 21 43.6 +0.5**
SNR=13
KZA Kyzart 36.17 337 P **P 06 21 46.3 +1.3**
SNR=15
UCH Uchtor 36.59 336 *e*P **P 06 21 50.1 +1.5**
comp=Z,2.9nm,0.6s,mb4.3
BJI Beijing 36.60 30 P **P 06 21 49.2 +0.6**
BJI AP pP 06 22 04.0 +2.1
BJI XP sP 06 22 11.6 +3.7
BJI PP PP 06 23 13.5 +0.8
BJI S **S 06 27 28.4 +0.5**
BJI XS sS 06 27 54.7 +4.5
BJI AMB AMB
comp=Z,11nm,0.5s,mb4.9
BJI LR LR
comp=N,128nm,19.2s,MS4.2
BJI LR LR
comp=E,294nm,16.8s,MS4.2
BJI LR LR
comp=Z,228nm,19.3s,MS4.0
TKM2 Tokmak 2 36.77 338 *e*P **P 06 21 50.8 +0.7**
TKM2 pmax pmax
comp=Z,16nm,0.6s,mb5.0
TKM2 Tokmak 2 36.77 338 P **P 06 21 50.8 +0.7**
SNR=23
TKM2 Tokmak 2 36.77 338 *e*P **P 06 21 50.8 +0.7**
comp=Z,16nm,0.6s,mb5.0
KBK Karagaybulak 36.78 337 P **P 06 21 52.1 +1.9**
SNR=19
AML Almayashu 36.84 335 P **P 06 21 52.1 +1.4**
SNR=69
AML Almayashu 36.84 335 *e*P **P 06 21 52.4 +1.7**
comp=Z,74nm,2.0s,mb5.2
FRU Bishkek 37.06 337 *e*P **P 06 21 52.0 -0.6**
FRU pmax pmax
comp=Z,40nm,1.6s,mb5.0
CHMS Chumysh 37.15 337 P **P 06 21 54.2 +0.9**
SNR=14
JOW Kunigami 37.23 58 P **P 06 21 54.5 +0.3**
comp=Z,6.8nm,0.5s,mb4.8,baz=252,slow=7.4,SNR=6.4
JOW LR LR 06 38 49.7
comp=Z,166nm,20.5s,MS3.8,baz=137,slow=39
EKS2 Erkin-Say 37.25 336 P **P 06 21 55.3 +1.2**
SNR=52
EKS2 Erkin-Say 37.25 336⇑ *i*P **P 06 21 55.4 +1.3**
comp=Z,33nm,0.8s,mb5.2
USP Ospenovka 37.48 337 P **P 06 21 56.7 +0.6**
SNR=39
MK31 Makanchi Array 38.37 348⇑ *i*P **P 06 22 02.9 -0.7**
MK31 *e**PP pP 06 22 18.1 +1.2
MK31 Makanchi Array 38.37 348⇑ *i*P **P 06 22 02.9 -0.7**
MK31 *e*pP pP 06 22 18.1 +1.3
MK31 *e*sP sP 06 22 26.0 +3.2
MKAR Makanchi Array 38.37 348 P **P 06 22 02.9 -0.6**
comp=Z,8.6nm,0.6s,mb4.6,baz=169,slow=7.7,SNR=86
MKAR PcP PcP 06 24 16.8 +0.5
comp=Z,1.1nm,0.5s,baz=173,slow=2.0,SNR=3.5
MKAR ScP ScP 06 28 00.1 -0.1
comp=Z,0.4nm,0.7s,baz=165,slow=6.0,SNR=3.1
MKAR LR LR 06 41 44.4
comp=Z,106nm,19.2s,MS3.7,baz=166,slow=42
MKAR Makanchi Array 38.37 348 P **P 06 22 02.9 -0.7**
MKAR 06 24 16.8
MKAR 06 28 00.1
MKAR Makanchi Array 38.37 348 P **P 06 22 02.9 -0.6**
MKAR PcP PcP 06 24 16.8 +0.5
MKAR ScP ScP 06 28 00.1 -0.1
MKAR LR LR 06 41 44.4
KK31 Karatay Array 39.00 333 *i*P **P 06 22 09.2 +0.3**
KK31 pmax pmax
comp=Z,15nm,0.6s,mb4.9
SONM Songino Array 39.80 14 P **P 06 22 14.9 -0.6**
comp=Z,12nm,0.8s,mb4.7,baz=197,slow=8.4,SNR=43
SONM PcP PcP 06 24 21.4 +0.6
comp=Z,3.3nm,0.7s,baz=204,slow=3.9,SNR=5.2
SONM ScP ScP 06 28 05.4 -0.2
comp=Z,0.7nm,0.8s,baz=194,slow=3.1,SNR=4.1
SONM LR LR 06 40 17.7
comp=Z,188nm,18.7s,MS4.0,baz=264,slow=39
SONM Songino Array 39.80 14 P **P 06 22 14.9 -0.5**
SONM 06 24 21.4
SONM 06 28 05.4
HVS Khovu-Aksy 41.54 0*d i*P **P 06 22 29.8 0.0**
ZAK Zakamensk 41.61 10 *e*P **P 06 22 29.9 -0.4**
ZAK *e* 06 24 26.5
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb3.9
KSRS Korea Array 41.80 43 P **P 06 22 31.4 -0.7**
comp=Z,1.5nm,0.6s,mb3.8,baz=245,slow=8.9,SNR=8.6
KSRS PcP PcP 06 24 27.1 -0.5
comp=Z,1.4nm,0.6s,baz=201,slow=2.5,SNR=5.7
KSRS LR LR 06 42 26.3
comp=Z,79nm,18.9s,MS3.6,baz=47,slow=40
KSRS Korea Array 41.80 43 P **P 06 22 31.5 -0.6**
KSRS 06 24 27.1
KSRS pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
KSRS pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
KSRS MLR MLR
comp=Z,79nm,18.9s,MS3.6
FITZ Fitzroy Crossi 42.03 131 P **P 06 22 32.2 -2.0**
comp=Z,1.4nm,0.9s,mb3.6,baz=339,slow=10.0,SNR=3.0
FITZ PcP PcP 06 24 29.3 +0.6
comp=Z,1.7nm,0.3s,baz=309,slow=8.0,SNR=9.5
FITZ ScP ScP 06 28 14.1 -1.0
comp=Z,1.5nm,0.5s,baz=303,slow=4.7,SNR=9.2
KURK Kurchatov 42.88 346 P **P 06 22 40.5 -0.2**
comp=Z,83nm,0.7s,mb5.6,SNR=13
KURK Kurchatov 42.88 346 *e*P **P 06 22 40.3 -0.4**
KURK pmax pmax
comp=Z,26nm,1.3s,mb4.8
KURK Kurchatov 42.88 346 *e*P **P 06 22 40.3 -0.4**
comp=Z,26nm,1.3s,mb4.8
TLY Talaya 42.92 9 *e*P **P 06 22 41.3 +0.3**
TLY *e* 06 31 59.5
TLY pmax pmax
comp=Z,11nm,0.9s,mb4.6
TLY MLR MLR
comp=Z,71nm,20.0s,MS3.6
TLY Talaya 42.92 9 *e*P **P 06 22 41.7 +0.7**
comp=Z,13nm,1.0s,mb4.6
CN2 Changchun 44.12 34 *e*P **P 06 22 53.8 +3.0**
CN2 *e*AP pP 06 23 09.2 +4.9
CN2 *e*S **S 06 29 22.2 +2.2**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,20.0s,MS4.2
CN2 LR LR
comp=E,200nm,20.0s,MS4.2
CN2 LR LR
comp=Z,200nm,21.0s,MS4.0
ZAL Zalesovo 44.88 353 P **P 06 22 56.3 -0.3**
ZAL 06 24 36.3
ZAA0 Zalesovo Array 44.88 353 *e*P **P 06 22 56.2 -0.5**
ZAA0 *e*pP pP 06 23 12.0 +1.8
ZAA0 *e*ScP ScP 06 28 27.1 +1.2
ZALV Zalesovo Beam 44.88 353 P **P 06 22 56.3 -0.4**
comp=Z,14nm,0.6s,mb5.0,baz=173,slow=9.4,SNR=37
ZALV PcP PcP 06 24 36.3 -1.3
comp=Z,2.4nm,0.6s,baz=165,slow=2.9,SNR=2.6
ZALV LR LR 06 44 18.7
comp=Z,73nm,19.2s,MS3.6,baz=198,slow=40
HIA Hailar 45.38 24 *e*P **P 06 23 00.8 +0.1**
HIA pmax pmax
comp=Z,13nm,1.2s
HIA Hailar 45.38 24 *e*P **P 06 23 00.8 0.0**
comp=Z,13nm,1.2s,mb4.6
NVS Novosibirsk 45.96 352 *i*P **P 06 23 04.2 -1.0**
NVS pmax pmax
comp=N,9.0nm,1.1s
NVS pmax pmax
comp=E,5.0nm,1.1s
NVS pmax pmax
comp=Z,19nm,1.1s,mb4.9
KRAR Krasnoyarsk 46.43 360 *e*P **P 06 23 08.0 -0.9**
MUN Mundaring 46.65 153 *e*P **P 06 23 10.0 -0.9**
KLBR Kellerberrin 47.04 151 *e*P **P 06 23 12.6 -1.4**
comp=Z,129nm,2.0s,mb5.5
RDF Al-Radifah 47.04 301 *e*P **P 06 23 14.9 +0.8**
baz=301
RDF AMb AMB 06 23 16.2
comp=Z,139nm,1.2s,mb5.8,baz=301
BVA0 Borovoye Array 47.24 341 *i*P **P 06 23 14.4 -0.9**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BVAR Borovoye Array 47.24 341 P **P 06 23 14.6 -0.7**
comp=Z,8.5nm,0.7s,mb4.8,baz=141,slow=8.8,SNR=39
BVAR PcP PcP 06 24 46.3 +0.4
comp=Z,1.4nm,0.5s,baz=124,slow=4.4,SNR=3.0
BVAR S **S 06 30 05.0 +0.4**
comp=Z,0.5nm,0.5s,baz=148,slow=23,SNR=4.1
BVAR LR LR 06 46 34.3
comp=Z,92nm,19.2s,MS3.8,baz=347,slow=40
BVAR Borovoye Array 47.24 341 P **P 06 23 14.6 -0.7**
BVAR 06 24 46.3
BVAR S **S 06 30 05.0 +0.4**
BRVK Borovoye 47.30 341 P **P 06 23 15.3 -0.4**
comp=Z,115nm,0.6s,mb6.0,SNR=6.3
BRVK Borovoye 47.30 341 *e*P **P 06 23 15.0 -0.7**
BRVK *e* 06 24 47.1
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRVK Borovoye 47.30 341 *e*P **P 06 23 15.0 -0.7**
comp=Z,10nm,0.8s,mb4.8
BRVK *e*PcP PcP 06 24 47.0 +1.0
NAY Al-Naaiem 47.38 301 *e*P **P 06 23 16.9 +0.1**
baz=301
NAY AMb AMB 06 23 18.4
comp=Z,77nm,0.8s,mb5.7,baz=301
MIB Mutribah 47.45 302 *e*P **P 06 23 17.7 +0.4**
baz=302
MIB AMb AMB 06 23 19.0
comp=Z,128nm,0.6s,mb6.0,baz=302
AB31 Akbulak array 48.47 331 *i*P **P 06 23 25.0 +0.1**
AB31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
MAT Matsushiro 48.69 49 P **P 06 23 26.8 0.0**
MAT *e*S **S 06 30 19.0 -6.7**
MJAR Matsushiro Arr 48.69 49 P **P 06 23 26.0 -0.8**
comp=Z,2.2nm,0.4s,mb4.5,baz=246,slow=8.0,SNR=5.2
MJAR PcP PcP 06 24 51.7 +0.3
comp=Z,15nm,0.8s,baz=245,slow=4.1,SNR=26
MJAR LR LR 06 46 31.8
comp=Z,130nm,19.8s,MS3.9,baz=280,slow=39
MJAR Matsushiro Arr 48.69 49 P **P 06 23 26.0 -0.8**
MJAR 06 24 51.7
MJAR Matsushiro Arr 48.69 49 P **P 06 23 26.0 -0.7**
MJAR PcP PcP 06 24 51.7 +0.3
MJAR LR LR 06 46 31.8
WRA Warramunga Arr 49.82 126 P **P 06 23 34.1 -1.5**
comp=Z,5.5nm,0.5s,mb4.8,baz=306,slow=8.6,SNR=59
WRA PcP PcP 06 24 55.7 -0.2
comp=Z,1.3nm,0.4s,baz=317,slow=2.9,SNR=5.2
WRA ScP ScP 06 28 45.4 -2.0
comp=Z,2.7nm,0.8s,baz=316,slow=3.9,SNR=8.4
WRA Warramunga Arr 49.82 126 P **P 06 23 34.1 -1.5**
WRA 06 24 55.7
WRAB Tennant Creek 49.82 126 P **P 06 23 34.5 -1.1**
comp=Z,122nm,0.4s,mb6.3,SNR=11
WRAB Tennant Creek 49.82 126 *e*P **P 06 23 35.0 -0.6**
WRAB pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
WRAB Tennant Creek 49.82 126 *e*P **P 06 23 35.0 -0.6**
comp=Z,9.6nm,0.5s,mb5.1
WRAB *e*ScP ScP 06 28 46.3 -1.1
WB2 Warramunga Arr 49.83 126 *e*P **P 06 23 34.0 -1.7**
AKTO Aktyubinsk 50.19 331 LR LR 06 47 14.9
comp=Z,104nm,18.1s,MS3.9,baz=331,slow=39
ASAR Alice Springs 51.53 130 P **P 06 23 46.7 -1.7**
comp=Z,3.2nm,0.7s,mb4.4,baz=304,slow=6.3,SNR=26
ASAR PcP PcP 06 25 02.5 +0.4
comp=Z,2.7nm,0.8s,baz=289,slow=2.7,SNR=6.9
ASAR ScP ScP 06 28 53.2 -1.4
comp=Z,1.6nm,0.9s,baz=303,slow=3.0,SNR=6.1
ASAR Alice Springs 51.53 130 P **P 06 23 46.7 -1.7**
ASAR 06 25 02.5
FORT Forrest 52.06 142 P **P 06 23 52.4 +0.1**
comp=Z,0.7nm,0.7s,mb3.7
GNI Garni 52.78 314⇑ *e*P **P 06 23 58.2 +0.7**
GNI pmax pmax
comp=Z,16nm,1.2s
ABPO Ambohimpanom 53.56 238 *e*P **P 06 24 07.1 +3.5**
ABPO pmax pmax
comp=Z,22nm,1.0s,mb5.0
ABPO Ambohimpanom 53.56 238 *e*P **P 06 24 07.0 +3.5**
comp=Z,22nm,1.0s,mb5.0
SVE Sverdlovsk 53.64 338⇓ *e*P **P 06 24 03.5 -0.1**
SVE *e*S **S 06 31 26.0 -7.4**
SVE pmax pmax
comp=Z,31nm,0.8s,mb5.3
SVE MLR MLR
comp=Z,252nm,18.0s,MS4.3
ARU Arti 54.13 337*c i*P **P 06 24 06.5 -0.6**
ARU *e* 06 25 10.6
ARU *e* 06 26 13.1
ARU *e*S **S 06 31 43.1 +3.1**
ARU *e*SS SS 06 35 23.2 +1.0
ARU pmax pmax
comp=Z,27nm,1.7s,mb4.9
ARU MLR MLR
comp=Z,230nm,21.0s,MS4.2
ARU Arti 54.13 337 *e*P **P 06 24 06.6 -0.5**
comp=Z,13nm,0.9s,mb4.9
ASAJ Asahikawa 54.74 42 LR LR 06 47 53.2
comp=Z,58nm,18.2s,MS3.7,baz=341,slow=36
KIV Kislovodsk 55.62 317⇑ *i*P **P 06 24 18.9 +0.7**
KIV *i* pP 06 24 28.3 -3.8
KIV pmax pmax
comp=Z,50nm,1.0s,mb5.5
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.0
YSS Yuzh-Sakhalins 56.02 39⇑ *e*P **P 06 24 21.0 +0.1**
YSS pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MALT Malatya 56.85 310 *e*P **P 06 24 26.9 -0.1**
MALT pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
MALT Malatya 56.85 310 *e*P **P 06 24 26.9 -0.1**
comp=Z,5.7nm,1.1s,mb4.5
YAK Yakutsk 58.74 19⇑ *e*P **P 06 24 38.8 -1.0**
YAK pmax pmax
comp=Z,37nm,0.8s,mb5.5
VRHR Novokhopersk 59.19 325 *e*P **P 06 24 41.9 -1.3**
VRHR pmax pmax
comp=Z,30nm,0.9s,mb5.3
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,60nm,0.8s
ANN Anapa 59.45 317 *e*P **P 06 24 43.1 -2.0**
ANN *e* 06 25 35.5
ANN *e*S **S 06 32 55.3 +4.6**
ANN pmax pmax
comp=Z,64nm,1.6s,mb5.4
CTA Charters Tower 59.76 120 LR LR 06 51 24.5
comp=Z,149nm,18.8s,MS4.2,baz=233,slow=37
CTAO Charters Tower 59.76 120 *e*P **P 06 24 48.5 +0.9**
CTAO *e**PP pP 06 25 05.8 +4.1
CTAO *e* 06 25 34.7
CTAO pmax pmax
comp=Z,12nm,1.1s,mb4.8
CTAO Charters Tower 59.76 120 *e*P **P 06 24 48.5 +0.9**
comp=Z,12nm,1.1s,mb4.8
CTAO *e*pP pP 06 25 05.8 +4.2
CTAO *e*PcP PcP 06 25 34.7 +0.6
VRSR Storozhevoye 60.64 324 *e*P **P 06 24 51.7 -1.4**
VRSR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,2.0nm,0.6s
VRSR pmax pmax
comp=E,5.0nm,1.1s
STKA Stephens Creek 61.76 134 P **P 06 24 58.8 -2.2**
comp=E,2.5nm,0.5s,mb4.6,baz=297,slow=4.7,SNR=5.7
STKA Stephens Creek 61.76 134 *e*P **P 06 25 02.1 +1.1**
OBN Obninsk 63.62 328⇓ *e*P **P 06 25 12.7 -0.3**
OBN *e* pP 06 25 22.8 -4.4
OBN *e* pP 06 25 31.4 +4.2
OBN *e* 06 25 49.5
OBN 06 27 31.0
OBN *e* 06 34 16.1
OBN pmax pmax
comp=Z,16nm,0.8s,mb5.1
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.0
KLMR Klimovskoe 64.69 334 *e*P **P 06 25 16.1 -3.8**
KLMR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MA2 Magadan 65.72 28⇑ *e*P **P 06 25 25.6 -1.0**
MA2 pmax pmax
comp=Z,24nm,1.3s,mb5.1
TIXI Tiksi 65.83 12⇑ *e*P **P 06 25 25.7 -1.4**
TIXI pmax pmax
comp=Z,32nm,0.7s,mb5.5
TIXI Tiksi 65.83 12 *e*P **P 06 25 26.1 -1.0**
comp=Z,22nm,0.7s,mb5.3
TIXI *e*pP pP 06 25 44.4 +3.0
AKASG Malin Array Be 66.43 321 P **P 06 25 29.2 -2.1**
comp=Z,6.9nm,0.8s,mb4.7,baz=87,slow=5.0,SNR=28
AKASG pP pP 06 25 42.0 -3.5
comp=Z,4.7nm,0.8s,baz=86,slow=5.1,SNR=6.8
AKASG PP PP 06 27 58.5 +0.5
comp=Z,1.6nm,0.8s,baz=97,slow=7.8,SNR=5.1
AKASG Malin Array Be 66.43 321 P **P 06 25 29.2 -2.1**
AKASG pP pP 06 25 42.0 -3.5
AKASG PP PP 06 27 58.5 +0.4
AKBB Malin Array Si 66.43 321 *e*P **P 06 25 29.9 -1.4**
KIEV Kiev 66.44 321 *e*P **P 06 25 30.0 -1.4**
KIEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
KIEV Kiev 66.44 321 *e*P **P 06 25 30.0 -1.4**
comp=Z,7.3nm,0.8s,mb4.8
VRI Vrincioaia 67.02 316⇓ *i*P **P 06 25 35.7 +0.5**
PLOR Plostina 67.07 316⇓ *i*P **P 06 25 36.0 +0.5**
PETK Petropavlovsk- 67.17 36 LR LR 06 57 33.9
comp=Z,51nm,19.5s,MS3.8,baz=84,slow=38
MLR Muntele Rosu 67.50 315⇓ *i*P **P 06 25 38.8 +0.6**
MLR Muntele Rosu 67.50 315 ⇓P **P 06 25 38.8 +0.6**
SEY Seymchan 67.81 25⇑ *e*P **P 06 25 38.6 -1.3**
BURAR Bucovina Array 68.35 318⇓ *i*P **P 06 25 43.8 +0.2**
BURAR Bucovina Array 68.35 318 ⇓P **P 06 25 43.8 +0.2**
LSZ Lusaka 69.08 250 *e*P **P 06 25 50.8 +2.2**
LSZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LSZ Lusaka 69.08 250 *e*P **P 06 25 50.8 +2.2**
comp=Z,6.2nm,0.6s,mb4.7
JOF Joensuu 69.08 334 *e*p **P 06 25 46.1 -1.7**
comp=Z,7.0nm,0.8s,mb4.6
LVZ Lovozero 69.81 340⇑ *e*P **P 06 25 51.3 -0.9**
LVZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
APA Apatity 70.09 339⇑ *i*P **P 06 25 54.0 +0.1**
APA *i* pP 06 26 05.0 -3.3
APA pmax pmax
comp=Z,11nm,0.7s,mb4.9
APA MLR MLR
comp=Z,300nm,25.0s,MS4.4
KWP Kalwaria 70.32 319 *e*P **P 06 25 55.6 -0.1**
KWP Kalwaria 70.32 319 *e*P **P 06 25 55.6 -0.1**
KOLS Kolonicke sedl 70.50 319 *i*P **P 06 25 56.4 -0.4**
KOLS Kolonicke sedl 70.50 319 *i*P **P 06 25 56.5 -0.3**
SUW Suwalki 70.77 324 *e*P **P 06 25 57.5 -0.8**
SUW Suwalki 70.77 324 *e*P **P 06 25 57.5 -0.8**
KAF Kangasniemi 71.03 333 *e*p **P 06 25 58.0 -1.7**
comp=Z,2.8nm,0.7s,mb4.3
KAF Kangasniemi 71.03 333 *e*P **P 06 25 58.0 -1.7**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CRVS Cervenica-Dubn 71.03 318 *i*P **P 06 26 00.5 +0.5**
KECS Kecovo 71.62 318 *i*P **P 06 26 03.1 -0.5**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 71.62 318 *i*P **P 06 26 03.1 -0.5**
comp=Z,3.9nm,0.8s,mb4.4
NIE Niedzica 71.84 319 *e*P **P 06 26 05.4 +0.5**
PSZ Piszkesteto 71.95 317 *e*P **P 06 26 05.5 -0.1**
PSZ *e**PP pP 06 26 21.1 +1.1
PSZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PSZ Piszkesteto 71.95 317 *e*P **P 06 26 05.5 -0.1**
comp=Z,9.9nm,1.0s,mb4.7
PSZ *e*pP pP 06 26 21.1 +1.1
OJC Ojcow 72.26 320 *e*P **P 06 26 07.1 -0.3**
OJC *e*PcP PcP 06 26 23.9 -1.4
PKSM Moragy 72.65 315⇑ *i*P **P 06 26 09.0 -0.8**
PKSM Moragy 72.65 315 ⇑P **P 06 26 09.0 -0.8**
VYHS Vyhne 72.71 318 *i*P **P 06 26 09.7 -0.4**
VYHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VYHS Vyhne 72.71 318 *i*P **P 06 26 09.7 -0.4**
comp=Z,3.6nm,0.9s,mb4.3
KEV Kevo 73.08 341 *e*p **P 06 26 11.4 -0.5**

comp=Z,3.7nm,0.6s,mb4.5
KEV Kevo 73.08 341 *e*P **P 06 26 11.4 -0.5**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
OKC Ostrava-Krasne 73.28 319 *e*P **P 06 26 13.1 -0.4**
OKC *e*pP pP 06 26 26.7 -1.2
ARCES ARCESS Array B 73.51 340 P **P 06 26 13.9 -0.5**
comp=Z,3.0nm,0.6s,mb4.4,baz=94,slow=5.8,SNR=41
ARCES LR LR 07 01 18.4
comp=Z,219nm,20.8s,MS4.4,baz=295,slow=38
MORC Moravsky Berou 73.67 319 *e*P **P 06 26 15.8 +0.1**
MORC pmax pmax
comp=Z,11nm,0.9s,mb4.8
MORC Moravsky Berou 73.67 319 *e*P **P 06 26 15.8 0.0**
comp=Z,11nm,0.9s,mb4.8
ZST Bratislava 73.84 317 *i*P **P 06 26 16.9 +0.1**
ZST pmax pmax
comp=Z,14nm,0.8s,mb4.9
ZST Bratislava 73.84 317 *i*P **P 06 26 16.9 +0.1**
comp=Z,14nm,0.8s,mb5.0
LBTB Lobatse 74.33 241 *e*P **P 06 26 22.0 +1.9**
LBTB pmax pmax
comp=Z,26nm,1.2s,mb5.0
LBTB Lobatse 74.33 241 *e*P **P 06 26 22.0 +2.0**
comp=Z,26nm,1.2s,mb5.0
DPC Dobruska-Polom 74.50 320 *e*P **P 06 26 20.9 +0.4**
DPC *e*pP pP 06 26 33.6 -1.4
DPC Dobruska-Polom 74.50 320 *e*P **P 06 26 20.9 +0.4**
DPC *e*pP pP 06 26 33.6 -1.4
KSP Ksiaz 74.55 320 *e*P **P 06 26 21.1 +0.3**
KSP Ksiaz 74.55 320 *e*P **P 06 26 20.3 -0.5**
UPC Upice 74.70 320 *e*P **P 06 26 21.8 +0.1**
UPC *e*pP pP 06 26 34.5 -1.7
BILL Bilibino 74.90 22 *e*P **P 06 26 21.2 -1.3**
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BOJS Bojanci 74.98 315 *i*P **P 06 26 22.9 -0.5**
PERS Pernice 75.11 316 *i*P **P 06 26 23.8 -0.3**
VISS Visnje 75.28 315 *i*P **P 06 26 24.5 -0.7**
PRU Pruhonice 75.62 319 *e*P **P 06 26 27.1 +0.1**
PRU *e*pP pP 06 26 40.1 -1.4
BOSA Boshof 75.78 237 P **P 06 26 29.1 +0.7**
comp=Z,15nm,0.6s,mb5.1,baz=86,slow=5.0,SNR=29
BOSA LR LR 06 55 03.9
comp=Z,83nm,20.9s,MS4.0,baz=259,slow=32
BOSA Boshof 75.78 237 *e*P **P 06 26 30.2 +1.8**
JAVS Javornik 75.82 315 *i*P **P 06 26 24.9 -3.3**
BRG Berggiesshubel 76.04 320 *e*P **P 06 26 29.5 +0.1**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 76.04 320 *e*P **P 06 26 29.4 0.0**
comp=Z,9.0nm,0.9s,mb4.7
BRG Berggiesshubel 76.04 320 *e*P **P 06 26 29.5 +0.1**
comp=Z,9.4nm,0.9s,mb4.7
GEC2 GERESS Array S 76.13 318 *e*P **P 06 26 29.8 -0.2**
GEC2 *e**PP pP 06 26 42.5 -1.9
GEC2 pmax pmax
comp=Z,12nm,0.8s,mb4.9
GEC2 GERESS Array S 76.13 318 *e*P **P 06 26 29.8 -0.2**
comp=Z,12nm,0.8s,mb4.9
GEC2 *e*pP pP 06 26 42.5 -1.9
GERES GERESS Array B 76.13 318 P **P 06 26 30.0 0.0**
comp=Z,7.3nm,0.7s,mb4.7,baz=86,slow=5.5,SNR=67
GERES pP pP 06 26 41.7 -2.7
comp=Z,6.5nm,0.7s,baz=89,slow=5.9,SNR=12
RUE Ruedersdorf 76.20 322 *e*P **P 06 26 30.1 -0.2**
comp=Z,21nm,0.7s,mb5.2
KHC Kasperske Hory 76.22 318 *e*P **P 06 26 30.3 -0.2**
KHC *e*pP pP 06 26 42.2 -2.7
CLL Collm 76.64 321 ⇑*i*P **P 06 26 32.2 -0.6**
CLL *e* pP 06 26 45.0 -2.3
CLL pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CLL Collm 76.64 321 *e*P **P 06 26 32.1 -0.7**
comp=Z,5.0nm,1.0s,mb4.4
CLL Collm 76.64 321 ⇑*i*P **P 06 26 32.2 -0.6**
comp=Z,5.0nm,1.0s,mb4.4
CLL *e*pP pP 06 26 45.0 -2.3
CLL *e*(pPcP) 06 26 59.0
WET Wettzell 76.68 318 *e*P **P 06 26 32.9 -0.2**
WET *e**PP pP 06 26 46.0 -1.6
WET pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
WET Wettzell 76.68 318 *e*P **P 06 26 32.9 -0.2**
comp=Z,7.0nm,0.8s,mb4.6
WET *e*pP pP 06 26 46.0 -1.6
NKC Novy Kostel 76.97 319 *e*P **P 06 26 34.9 +0.2**
WERN Wernitzgruen 77.02 319 *e*P **P 06 26 34.9 -0.1**
comp=Z,4.0nm,0.8s,mb4.4
GUNZ Gunzen 77.05 320 *e*P **P 06 26 34.8 -0.3**
comp=Z,5.0nm,1.1s,mb4.4
WERD Werda 77.07 320 *e*P **P 06 26 34.9 -0.3**
comp=Z,4.0nm,0.8s,mb4.4
WERD *e*pP pP 06 26 47.8 -1.9
ROTZ Rotzenmuhle 77.12 319 *e*P **P 06 26 35.4 -0.2**
comp=Z,8.0nm,0.9s,mb4.7
ROTZ *e*pP pP 06 26 48.9 -1.2
WTTA Wattenberg 77.50 316 ⇑*i*P **P 06 26 36.9 -0.9**
comp=Z,15nm,0.8s,mb5.0
WTTA Wattenberg 77.50 316 ⇑*i*P **P 06 26 36.9 -0.8**
WTTA pmax pmax
comp=Z,15nm,0.8s,mb5.0
FUR Furstenfeldbru 77.74 317 *e*P **P 06 26 38.7 -0.3**
FUR pmax pmax
comp=Z,16nm,0.7s,mb5.1
FUR Furstenfeldbru 77.74 317 *e*P **P 06 26 38.7 -0.3**
comp=Z,16nm,0.7s,mb5.1
GRA1 Grafenberg Arr 77.76 319 *e*P **P 06 26 39.1 0.0**
comp=Z,12nm,0.7s,mb4.9
GRA1 *e*pP pP 06 26 52.3 -1.4
GRF Grafenberg Arr 77.76 319 *e*P **P 06 26 39.1 0.0**
GRF *e**PP pP 06 26 52.3 -1.4
GRF pmax pmax
comp=Z,12nm,0.7s,mb4.9
GRF Grafenberg Arr 77.76 319 *e*P **P 06 26 39.1 0.0**
GRF *e**PP pP 06 26 52.3 -1.4
GRF pmax pmax
comp=Z,12nm,0.7s,mb4.9
GRF Grafenberg Arr 77.76 319 *e*P **P 06 26 39.1 0.0**
comp=Z,12nm,0.7s,mb4.9
GRF *e*pP pP 06 26 52.3 -1.4
MOTA Moosalm 77.86 316 ⇑*i*P **P 06 26 38.8 -1.0**
comp=Z,8.3nm,0.7s,mb4.8
MOTA Moosalm 77.86 316 ⇑*i*P **P 06 26 38.8 -0.9**
MOTA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
NB2 NORSAR Subarra 77.97 330 P **P 06 26 38.9 -1.1**
comp=Z,6.1nm,0.9s,mb4.5,baz=91,slow=5.9
NOA NORSAR Array B 77.97 330 P **P 06 26 39.2 -0.8**
comp=Z,4.3nm,0.8s,mb4.4,baz=92,slow=5.7,SNR=11
NOA LR LR 07 02 23.7
comp=Z,61nm,18.8s,MS4.0,baz=10.0,slow=37
FETA Feichten 78.12 316 ⇑*i*P **P 06 26 40.7 -0.5**
comp=Z,12nm,1.0s,mb4.8
SPB4 Spitsbergen Ar 78.13 348 *e*P **P 06 26 40.8 +0.1**
SPB4 *e*PcP PcP 06 26 50.0 -0.1
CLZ Clausthal 78.29 321 *e*P **P 06 26 41.8 -0.2**
CLZ *e**PP pP 06 26 54.6 -2.0
CLZ pmax pmax
comp=Z,12nm,0.7s,mb4.9
CLZ Clausthal 78.29 321 *e*P **P 06 26 41.8 -0.2**
comp=Z,12nm,0.7s,mb4.9
CLZ *e*pP pP 06 26 54.6 -2.0
BSEG Bad Segeberg 78.32 323 *e*P **P 06 26 42.3 +0.2**
comp=Z,18nm,1.1s,mb4.9
BSEG *e*pP pP 06 26 55.5 -1.1
DAVA Damuels 78.69 316 ⇑*i*P **P 06 26 44.1 -0.2**
comp=Z,12nm,0.7s,mb4.9
STU Stuttgart 79.11 318 *e*P **P 06 26 46.5 -0.1**
comp=Z,8.0nm,0.6s,mb4.8
TNS Taunus Mts 79.54 319 *e*P **P 06 26 48.7 -0.2**
TNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
TNS Taunus Mts 79.54 319 *e*P **P 06 26 48.7 -0.2**
comp=Z,7.0nm,0.9s,mb4.6
BFO Black Forest 79.70 317 *e*P **P 06 26 49.3 -0.5**
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BFO Black Forest 79.70 317 *e*P **P 06 26 49.3 -0.5**
comp=Z,6.0nm,0.9s,mb4.5
KEST Kesra 79.70 305 P **P 06 26 50.2 +0.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=347,slow=4.5,SNR=5.9
IBBN Ibbenburen 79.89 322 *e*P **P 06 26 50.3 -0.5**
comp=Z,15nm,0.6s,mb5.1
MAW Mawson 79.93 191 P **P 06 26 52.4 +1.9**
comp=Z,4.3nm,0.6s,mb4.6,baz=9.2,slow=6.2,SNR=22
MAW LR LR 06 54 11.7
comp=Z,57nm,20.1s,MS3.9,baz=248,slow=30
MAW Mawson 79.93 191 *e*P **P 06 26 52.4 +1.9**
MAW pmax pmax
comp=Z,5.0nm,0.6s
MAW Mawson 79.93 191 *e*P **P 06 26 52.4 +1.9**
comp=Z,4.7nm,0.6s,mb4.6
BUG Bochum--Univer 80.23 321 *e*P **P 06 26 52.5 -0.1**
comp=Z,9.0nm,0.9s,mb4.7
CDF Champ du Feu 80.40 318 ⇑*i*P **P 06 26 52.8 -0.8**
comp=Z,9.4nm,0.9s,mb4.4
CDF Champ du Feu 80.40 318 ⇑*i*P **P 06 26 52.8 -0.8**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CDF Champ du Feu 80.40 318 ⇑*i*P **P 06 26 52.8 -0.8**
comp=Z,4.7nm,0.9s,mb4.4
SUR Sutherland 80.60 235 P **P 06 26 57.7 +2.8**
comp=Z,174nm,0.7s,mb6.1,SNR=8.4
SUR Sutherland 80.60 235 *e*P **P 06 26 58.1 +3.1**
comp=Z,15nm,0.7s,mb5.0
LPG La Plagne 80.95 315 ⇑*i*P **P 06 26 56.6 0.0**
comp=Z,31nm,0.8s,mb5.0
LPG La Plagne 80.95 315 ⇑*i*P **P 06 26 56.6 0.0**
LPG pmax pmax
comp=Z,15nm,0.8s,mb5.0
LPG La Plagne 80.95 315 ⇑*i*P **P 06 26 56.6 0.0**
comp=Z,15nm,0.8s,mb5.0
LPL La Plagne 80.96 315 ⇑*i*P **P 06 26 56.7 0.0**
comp=Z,34nm,0.7s,mb5.1
LPL La Plagne 80.96 315 ⇑*i*P **P 06 26 56.7 0.0**
LPL pmax pmax
comp=Z,17nm,0.7s,mb5.1
LPL La Plagne 80.96 315 ⇑*i*P **P 06 26 56.7 0.0**
comp=Z,17nm,0.7s,mb5.1
BNI Bardonecchia 81.04 314 *e*P **P 06 26 56.9 -0.2**
BNI *e**PP pP 06 27 12.5 +0.8
BNI pmax pmax
comp=Z,21nm,1.2s,mb4.9
BNI Bardonecchia 81.04 314 *e*P **P 06 26 56.9 -0.2**
comp=Z,22nm,1.2s,mb5.0
BNI *e*pP pP 06 27 12.5 +0.9
HAU Haudompre 81.04 317 ⇑*i*P **P 06 26 56.2 -0.8**
comp=Z,22nm,0.9s,mb4.8
HAU Haudompre 81.04 317 ⇑*i*P **P 06 26 56.2 -0.8**
HAU pmax pmax
comp=Z,11nm,0.9s,mb4.8
HAU Haudompre 81.04 317 ⇑*i*P **P 06 26 56.2 -0.8**
comp=Z,11nm,0.9s,mb4.8
WLF Walferdange 81.05 319 *e*P **P 06 26 57.3 +0.2**
comp=Z,11nm,1.1s,mb4.7
FRF La Foret Royal 81.18 313 ⇑*i*P **P 06 26 57.4 -0.4**
comp=Z,26nm,1.0s,mb4.8
FRF La Foret Royal 81.18 313 ⇑*i*P **P 06 26 57.4 -0.4**
FRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
FRF La Foret Royal 81.18 313 ⇑*i*P **P 06 26 57.4 -0.4**
comp=Z,13nm,1.0s,mb4.8
LMR La Mourre 81.30 313 ⇑*i*P **P 06 26 58.0 -0.5**
comp=Z,12nm,0.9s,mb4.5
LMR La Mourre 81.30 313 ⇑*i*P **P 06 26 58.0 -0.5**
LMR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LMR La Mourre 81.30 313 ⇑*i*P **P 06 26 58.0 -0.5**
comp=Z,6.3nm,0.9s,mb4.5
CABF La Chapelle 81.33 316 ⇑*i*P **P 06 26 58.4 -0.2**
comp=Z,19nm,0.9s,mb4.7
CABF La Chapelle 81.33 316 ⇑*i*P **P 06 26 58.4 -0.2**
CABF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CABF La Chapelle 81.33 316 ⇑*i*P **P 06 26 58.4 -0.2**
comp=Z,9.4nm,0.9s,mb4.7
ORIF Oris-en-Rattie 81.61 314 ⇑*i*P **P 06 26 59.4 -0.7**
comp=Z,12nm,0.9s,mb4.5
ORIF Oris-en-Rattie 81.61 314 ⇑*i*P **P 06 26 59.4 -0.7**
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 81.61 314 ⇑*i*P **P 06 26 59.4 -0.7**
comp=Z,5.8nm,0.9s,mb4.5
VIVF Saint-Julien-l 82.47 314 ⇑*i*P **P 06 27 04.2 -0.4**
comp=Z,16nm,1.1s,mb4.6
VIVF Saint-Julien-l 82.47 314 ⇑*i*P **P 06 27 04.2 -0.4**
VIVF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
VIVF Saint-Julien-l 82.47 314 ⇑*i*P **P 06 27 04.2 -0.4**
comp=Z,7.8nm,1.1s,mb4.5
LOR Lormes 82.79 317 ⇑*i*P **P 06 27 05.4 -0.8**
comp=Z,26nm,1.0s,mb4.9
LOR Lormes 82.79 317 ⇑*i*P **P 06 27 05.4 -0.8**
LOR pmax pmax
comp=Z,13nm,1.0s,mb4.9
LOR Lormes 82.79 317 ⇑*i*P **P 06 27 05.4 -0.8**
comp=Z,13nm,1.0s,mb4.9
SMF Signal de Mont 82.86 316 ⇑*i*P **P 06 27 05.8 -0.8**
comp=Z,17nm,0.9s,mb4.8
SMF Signal de Mont 82.86 316 ⇑*i*P **P 06 27 05.8 -0.8**
SMF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SMF Signal de Mont 82.86 316 ⇑*i*P **P 06 27 05.8 -0.8**
comp=Z,8.6nm,0.9s,mb4.8
AVF Avril sur Loir 83.18 316 ⇑*i*P **P 06 27 07.5 -0.8**
comp=Z,16nm,1.0s,mb4.7
AVF Avril sur Loir 83.18 316 ⇑*i*P **P 06 27 07.5 -0.8**
AVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
AVF Avril sur Loir 83.18 316 ⇑*i*P **P 06 27 07.5 -0.8**
comp=Z,8.1nm,1.0s,mb4.7
BGF Bois d'Agland 83.56 316 ⇑*i*P **P 06 27 09.8 -0.4**
comp=Z,15nm,0.9s,mb4.8
BGF Bois d'Agland 83.56 316 ⇑*i*P **P 06 27 09.8 -0.4**
BGF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BGF Bois d'Agland 83.56 316 ⇑*i*P **P 06 27 09.8 -0.4**
comp=Z,7.5nm,0.9s,mb4.8
TAM Tamanrasset 84.41 292 *e*P **P 06 27 16.6 +1.5**
TAM *e* 06 30 30.4
SYO Syowa Base 86.69 197 ⇓*e*P **P 06 27 25.6 +0.3**
NIKO Nikolski 87.17 37 *e*P **P 06 27 27.5 -0.6**
comp=Z,4.4nm,0.4s,mb5.0
RPZ Rata Peaks 87.72 135 LR LR 07 07 34.1
comp=Z,150nm,19.9s,MS4.4,baz=286,slow=36
TORD Torodi Ar. Bea 89.48 283 P **P 06 27 40.1 +0.3**
comp=Z,3.9nm,0.8s,mb4.8,baz=95,slow=3.7,SNR=18
TORD pP pP 06 27 53.4 -1.3
comp=Z,2.8nm,0.9s,baz=82,slow=4.6,SNR=7.5
TORD PP PP 06 31 13.3 +1.6
comp=Z,2.0nm,1.2s,baz=92,slow=8.9,SNR=4.7
TORD LR LR 07 06 12.4
comp=Z,58nm,18.1s,MS4.0,baz=135,slow=34
ESDC Sonseca Array 89.60 310 P **P 06 27 39.9 0.0**
comp=Z,0.5nm,0.5s,mb4.1,baz=47,slow=5.5,SNR=6.8
ESDC pP pP 06 27 53.0 -1.7
comp=Z,0.6nm,0.5s,baz=54,slow=5.3,SNR=4.3
IMA2 Indian Mountai 90.44 22 *e*P **P 06 27 43.8 +0.5**
SVW2 Sparrevohn 91.68 27 *e*P **P 06 27 50.1 +1.0**
CHUM Lake Minchumin 91.91 24 *e*P **P 06 27 51.4 +1.3**
comp=Z,22nm,1.0s,mb5.4
BPAW Bear Paw Mtn. 92.34 23 *e*P **P 06 27 52.5 +0.4**
comp=Z,11nm,0.8s,mb5.2
PPLA Purkeypile 92.39 25 *e*P **P 06 27 53.2 +0.9**
comp=Z,6.5nm,0.9s,mb5.0
TRF Thorofare Moun 92.91 24 *e*P **P 06 27 54.9 +0.2**
comp=Z,4.5nm,0.8s,mb5.0
MCK McKinley 93.31 23 *e*P **P 06 27 56.3 -0.3**
PMR Palmer 94.27 25 *e*P **P 06 28 00.9 -0.1**
PMR pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
PMR Palmer 94.27 25 *e*P **P 06 28 00.9 -0.1**
comp=Z,7.5nm,1.0s,mb5.1
KDAK Kodiak Island 94.44 29 P **P 06 28 01.3 -0.6**
comp=Z,4.9nm,0.6s,mb5.1,baz=301,slow=5.0,SNR=8.2
VNDA Vanda 94.64 168 P **P 06 28 02.8 +0.5**
comp=Z,1.2nm,0.5s,mb4.6,baz=316,slow=2.2,SNR=4.0
VNDA Vanda 94.64 168 P **P 06 28 04.1 +1.8**
VNDA pmax pmax
comp=Z,1.0nm,0.5s
VNDA Vanda 94.64 168 P **P 06 28 04.1 +1.8**
comp=Z,1.1nm,0.5s,mb4.5
INK Inuvik 95.68 16 P **P 06 28 06.7 -0.6**
comp=Z,6.5nm,0.9s,mb5.0,baz=302,slow=5.1,SNR=7.4
INK Inuvik 95.68 16 *e*P **P 06 28 07.2 -0.1**
INK pmax pmax
comp=Z,373nm,1.2s
INK Inuvik 95.68 16 *e*P **P 06 28 07.2 -0.1**
comp=Z,373nm,1.2s
DAWY Dawson 96.65 21 *e*P **P 06 28 11.4 -0.4**
DBIC Dimbokro 96.96 278 LR LR 07 13 09.8
comp=Z,48nm,18.1s,MS4.0,baz=258,slow=36
YKA Yellowknife Ar 105.06 13 PP PP 06 33 05.5 -4.1
comp=Z,1.0nm,0.8s,baz=332,slow=7.4,SNR=4.2
MSO Missoula 118.89 21 *e*PKPdf PKPdf 06 33 30.1 -0.3
EGMT Eagleton 119.21 18 *e*PKPdf PKPdf 06 33 31.4 +0.4
MOD Modoc 120.28 29 *e*PKPdf PKPdf 06 33 34.1 +0.8
DLMT Dillon 120.63 21 *e*PKPdf PKPdf 06 33 34.5 +0.7
DLMT *es*PKPdf 06 34 01.1
LAO LASA Array 121.42 16 *e*PKPdf PKPdf 06 33 36.2 +0.9
HLID Hailey 121.49 23 *e*PKPdf PKPdf 06 33 36.4 +0.8
MOOW Moose Ponds 122.68 21 *e*PKPdf PKPdf 06 33 38.5 +0.7
RRI2 Red Ridge 122.83 21 *e*PKPdf PKPdf 06 33 39.0 +0.9
TPAW Teton Pass 122.84 21 *e*PKPdf PKPdf 06 33 39.0 +0.9
TPAW *e*PP PP 06 35 15.8 +0.1
LOHW Long Hollow 122.85 21 *e*PKPdf PKPdf 06 33 38.8 +0.6
LOHW *ep*PKPdf pPKPdf 06 33 56.3 +2.8
SNOW Snow King Moun 122.93 21 *e*PKPdf PKPdf 06 33 39.4 +1.1
REDW Red Top Meadow 122.98 21 *e*PKPdf PKPdf 06 33 39.2 +0.7
ELK Elko 123.50 26 *e*PKIKP PKPdf 06 33 40.6 +1.1
NVAR Mina Array Bea 123.94 30 PKP PKPdf 06 33 41.6 +1.2
comp=Z,2.8nm,0.7s,baz=311,slow=1.6,SNR=20
BW06 Boulder Array 123.96 20 *e*PKPdf PKPdf 06 33 40.4 +0.1
PDAR Pinedale Array 123.96 20 PKP PKPdf 06 33 40.1 -0.2
comp=Z,2.9nm,0.7s,baz=80,slow=1.2,SNR=30
PDAR PKKPbc PKKPbc 06 43 25.6 -2.0
comp=Z,0.4nm,0.6s,baz=144,slow=6.5,SNR=6.1
PDAR Pinedale Array 123.96 20 PKP PKPdf 06 33 40.1 -0.2
PDAR PKKPbc PKKPbc 06 43 25.6 -2.0
RSSD Black Hills 124.38 15 *e*PKIKP PKPdf 06 33 41.2 +0.1
DUG Dugway 124.97 24 *e*PKIKP PKPdf 06 33 43.3 +1.0
DAU Daniels Canyon 125.40 23 *e*PKIKP PKPdf 06 33 44.0 +0.9
NLU North Lily Min 125.47 24 *e*PKPdf PKPdf 06 33 44.5 +1.2
MSU Marysvale 126.66 25 *e*PKIKP PKPdf 06 33 47.4 +1.8
SMCO Snowmass 128.04 20 *e*PKPdf PKPdf 06 33 45.9 -2.4
GLA Glamis 129.91 31 *e*PKIKP PKPdf 06 33 53.3 +1.3
ANMO Albuquerque 132.01 22 *e*PKPdf PKPdf 06 33 57.0 +1.1
ANMO *e*SKPbc SKPbc 06 37 17.8 -0.2
TUC Tucson 132.49 28 *e*PKIKP PKPdf 06 33 58.7 +1.8
BNM Barren Site 132.65 23 *e*PKPdf PKPdf 06 33 57.8 +0.6
TKL Tuckaleechee C 135.04 357 PKP PKPdf 06 34 02.0 +0.5
comp=Z,1.6nm,0.5s,baz=161,slow=4.4,SNR=4.3
TXAR Lajitas Array 138.08 22 PKhKP 06 34 01.0
comp=Z,0.4nm,0.6s,baz=0.3,slow=0.8,SNR=5.5
TXAR PKP PKPdf 06 34 07.8 +0.4
comp=Z,1.2nm,0.5s,baz=223,slow=0.9,SNR=26
TXAR PP PP 06 36 56.7 +2.1
comp=Z,0.8nm,1.1s,baz=18,slow=4.5,SNR=4.7
TXAR SKPbc SKPbc 06 37 37.1 -0.3
comp=Z,2.7nm,1.1s,baz=300,slow=2.5,SNR=11
TXAR Lajitas Array 138.08 22 PKIKP PKPdf 06 34 07.8 +0.4
TXAR 06 36 56.7
TXAR Lajitas Array 138.08 22 PKP PKPdf 06 34 07.8 +0.4
TXAR PP PP 06 36 56.7 +2.1
TXAR SKPbc SKPbc 06 37 37.1 -0.3
JCT Junction City 138.32 17 *e*PKIKP PKPdf 06 34 07.8 0.0
BDFB Brasilia 141.84 257 PKhKP 06 34 09.6
comp=Z,2.0nm,0.8s,baz=164,slow=26,SNR=6.9
BDFB Brasilia 141.84 257 PKHKP 06 34 09.6
BDFB pmax pmax
comp=Z,2.0nm,0.8s
MVM Montagne Vauci 145.05 313 *e*P PKPbc 06 34 19.7 +0.1
FDF Fort de France 145.11 313 *e*P PKPbc 06 34 20.1 +0.3
MTP Monte Pirata 145.59 323 *e*PKPdf PKPdf 06 34 21.3 +0.2
CBYP Canovanas 145.64 323 *e*PKPab PKPab 06 34 21.6 -0.1
HUMP Col San Antoni 145.73 323 *e*PKPdf PKPdf 06 34 22.1 +0.8
PLCA Paso Flores 145.75 202 PKPbc PKPbc 06 34 21.9 +0.8
comp=Z,14nm,0.8s,baz=172,slow=3.5,SNR=27
PLCA Paso Flores 145.75 202 *e*PKPdf PKPdf 06 34 22.1 +1.4
CPD Cerro la Pandu 145.85 323 *e*PKP2 PKPab 06 34 22.2 -0.3
CPUP Villa Florida 147.58 235 PKP PKPdf 06 34 24.6 +0.5
comp=Z,7.9nm,0.7s,baz=112,slow=3.5,SNR=25
CPUP PKPbc PKPbc 06 34 26.9 +0.1
comp=Z,7.9nm,0.7s,baz=94,slow=2.0,SNR=25
CPUP Villa Florida 147.58 235 PKIKP PKPdf 06 34 24.7 +0.5
CPUP 06 34 26.9
CPUP pmax pmax
comp=Z,8.0nm,0.7s
CPUP pmax pmax
comp=Z,8.0nm,0.7s
CPUP Villa Florida 147.58 235 *e*PKPbc PKPbc 06 34 27.1 +0.2
LPAZ La Paz 160.73 248 PKP PKPdf 06 34 44.0 +1.2
comp=Z,0.9nm,0.8s,baz=194,slow=4.2,SNR=4.7
LPAZ PKPab PKPab 06 35 26.2 +1.3
comp=Z,3.8nm,0.8s,baz=159,slow=3.4,SNR=11
OTAV Otavalo 167.37 319 *e*PKPab PKPab 06 35 55.5 +1.4

*IDC **04** 06:17:45.0±0.8, 26.72N×142.53E, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/21, mbtmp3.9.11, MS2.8/3, Ms1 2.8/3, ms1mx2.6/40, Error ellipse: s-maj=24.2km s-min=13.7km az=60.0*
*JMA **04** 06:17:50.1, 26.79N×142.48E, h57km±3km, M3.8*
*NEIC **04** 06:17:50.4±0.5, 26.79N×142.40E, h35km, MG3.8(JMA), Error ellipse: s-maj=22.7km s-min=11.1km az=88.0*
*ISCJB **04** 06:17:51.2±0.5, 26.88N±0.05×142.1E±0.2, h56km±4km, mb3.9/11, Error ellipse: s-maj=26.6km s-min=7.7km az=175.1*

ISC 04 06:17:51.8±0.8, 26.84N±0.05×142.4E±0.2, h48km±6km, n27, σ0.85/28, mb3.9/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.29**	**222**	P	**Pn**	**06 17 59.9**	**-0.7**
JHHJ				S	**Sn**	**06 18 07.0**	**+0.2**
CBIJ	**Chichi jima**	**0.31**	**323**	P	**Pn**	**06 18 00.9**	**0.0**
CBIJ				S	**Sn**	**06 18 08.6**	**+1.3**
CBIJ	**Chichi jima**	**0.31**	**323**	Pn	**Pn**	**06 18 00.8**	**-0.1**
	335nm,0.3s,baz=270,slow=20,SNR=85						
CBIJ				Sn	**Sn**	**06 18 08.8**	**+1.5**
	3μm,0.3s,baz=287,slow=20,SNR=135						
BSO1	**Boso 1**	**7.88**	**351**	P	**Pn**	**06 19 43.1**	**-0.7**
BSO1				*e*S	**Sn**	**06 21 07.6**	**-4.0**
BSO3	**Boso 3**	**8.10**	**349**	P	**Pn**	**06 19 47.0**	**+0.3**
JRY	**Ryogami san**	**9.62**	**343**	P	**Pn**	**06 20 08.1**	**+0.5**
JRY				*e*S	**Sn**	**06 21 53.4**	**-0.8**
JHO	**Hitachi**	**9.86**	**351**	P	**Pn**	**06 20 08.8**	**-2.1**
JHO				*e*S	**Sn**	**06 21 53.9**	**-6.3**
MJAR	**Matsushiro Arr**	**10.30**	**341**	LR	LR	06 24 01.1	
	comp=Z,36nm,20.2s,baz=250,slow=36						
KSRS	**Korea Array**	**16.17**	**314**	LR	LR	06 27 29.0	
	comp=Z,46nm,19.4s,baz=185,slow=36						
ASAJ	**Asahikawa**	**17.24**	**0**	LR	LR	06 28 34.9	
	comp=Z,40nm,18.9s,baz=190,slow=37						
WRAB	**Tennant Creek**	**47.15**	**190**	*e*P	**P**	**06 26 19.3**	**-0.3**
WB2	**Warramunga Arr**	**47.16**	**190**	*e*P	**P**	**06 26 19.5**	**-0.1**
WRA	**Warramunga Arr**	**47.16**	**190**	P	**P**	**06 26 19.3**	**-0.3**
	7.1nm,0.6s,mb4.8,baz=12,slow=8.7,SNR=17						
PSI	**Prapat**	**47.98**	**248**	P	**P**	**06 26 26.1**	**-0.1**
	1.9nm,0.4s,mb4.5,baz=104,slow=4.2,SNR=6.0						
MKAR	**Makanchi Array**	**50.78**	**310**	P	**P**	**06 26 49.0**	**+1.8**
	0.3nm,0.5s,mb3.5,baz=93,slow=7.7,SNR=3.0						
ASAR	**Alice Springs**	**50.88**	**190**	P	**P**	**06 26 47.1**	**-1.0**
	0.2nm,0.4s,mb3.4,baz=359,slow=5.4,SNR=4.3						
BVAR	**Borovoye Array**	**58.36**	**318**	P	**P**	**06 27 41.6**	**-0.3**
	0.9nm,0.4s,mb4.1,baz=98,slow=7.6,SNR=3.8						
YKA	**Yellowknife Ar**	**72.27**	**28**	P	**P**	**06 29 11.9**	**+0.1**
	0.4nm,0.4s,mb3.7,baz=296,slow=6.5,SNR=5.0						
YKA	**Yellowknife Ar**	**72.27**	**28**	P	**P**	**06 29 11.9**	**+0.1**
ARCES	**ARCESS Array B**	**73.84**	**341**	P	**P**	**06 29 21.6**	**+0.5**
	1.3nm,0.5s,mb4.1,baz=70,slow=7.6,SNR=6.5						
AKASG	**Malin Array Be**	**82.93**	**324**	P	**P**	**06 30 11.1**	**-0.5**
	0.2nm,0.4s,mb3.5,baz=49,slow=6.2,SNR=1.9						
NOA	**NORSAR Array B**	**83.91**	**338**	P	**P**	**06 30 16.8**	**+0.4**
	0.8nm,0.6s,mb4.0,baz=44,slow=5.1,SNR=3.3						
NOA	**NORSAR Array B**	**83.91**	**338**	P	**P**	**06 30 16.8**	**+0.4**
PDAR	**Pinedale Array**	**84.26**	**45**	P	**P**	**06 30 18.7**	**+0.2**
	0.3nm,0.7s,mb3.5,baz=300,slow=5.0,SNR=3.4						
TXAR	**Lajitas Array**	**95.60**	**53**	P	**P**	**06 31 14.1**	**+1.6**
	0.2nm,0.6s,mb3.7,baz=335,slow=4.0,SNR=2.5						
LPAZ	**La Paz**	**149.80**	**76**	PKPbc	PKPbc	06 37 38.7	+1.5
	0.7nm,0.5s,baz=265,slow=4.2,SNR=3.5						
LPAZ	**La Paz**	**149.80**	**76**	PKPbc	PKPbc	06 37 38.7	+1.5

MAN 04 06:22:40, 16.46N×120.16E, h10km, mb4.1, ML2.8, MS2.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.25**	**251**	*e*P	Pg	06 22 47.6	+2.6
BOLP				*e*S	Sg	06 22 53.3	+4.9
BCPH	**Baguio City Da**	**0.41**	**101**	⇓*i*P	Pg	06 22 50.2	+2.1
BCPH				*i* S	Sg	06 22 57.2	+3.6

SCZP	Santa Cruz	0.72	199	eP	Pg	06 22 53.5	-0.4
SCZP				eS	Sg	06 23 03.2	-0.2
BALP	Baler	1.54	117	eP	Pn	06 23 08.1	+0.6
BALP				eS	Sn	06 23 29.2	+1.6
CAUP	Cauayan	1.67	73	eP	Pn	06 23 12.3	+3.1
APYP	Conner	1.74	37	eP	Pn	06 23 10.7	+0.4
APYP				eS	Sn	06 23 33.7	+1.2

NIED **04** *06:25:00, 2560N×14340E, h5km, Mw4.2 Best double couple: M=2.66000×10^15 NP1:φs=305.00000°, δ74.00000°, λ90.00000°. NP2:φs=126.00000°, δ16.00000°, λ91.00000°.*
JMA **04** *06:25:42.5±0.5, 2559N×14336E, h4km, M4.5*
IDC **04** *06:25:44.8±0.6, 2562N×14268E, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.1/22, mbtmp4.0/15, MS3.6/2, Ms1 3.6/2, ms1mx2.8/36, Error ellipse: s-maj=24.8km s-min=14.7km az=78.0*
MOS **04** *06:25:47.9±1.0, 2562N×14261E, h33km, mb4.5/2, Error ellipse: s-maj=25.4km s-min=12.3km az=109.6*
ISCJB **04** *06:25:50.6±1.3, 2561N±007×1426E±02, h55km±11km, mb4.1/20, Error ellipse: s-maj=23.9km s-min=11.2km az=174.0*
NEIC **04** *06:25:52.1±1.6, 2564N×14262E, h53km±14km, mb4.7/5, MW4.2(NIED), Error ellipse: s-maj=14.1km s-min=7.0km az=87.0*

ISC 04 06:25:51.2±1.4, 2566N±007×1427E±02, h45km±12km, n40, σ0§75/39, mb4.1/20, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.06	336	P	Pn	06 26 10.0	+0.4
JHHJ				S	Sn	06 26 30.0	+6.8
CBIJ	Chichi jima	1.50	343	P	Pn	06 26 15.6	0.0
CBIJ				S	Sn	06 26 38.7	+4.8
CBIJ	Chichi jima	1.50	343	Pn	Pn	06 26 15.8	+0.2
	272nm,0.3s,baz=143,slow=6.5,SNR=106						
CBIJ				Sn	Sn	06 26 38.4	+4.5
	112nm,0.3s,baz=102,slow=23,SNR=7.8						
JHO	Hitachi	11.07	351	P	Pn	06 28 24.7	-2.1
MJAR	Matsushiro Arr	11.50	342	Pn	Pn	06 28 33.8	+1.1
	0.5nm,0.3s,baz=149,slow=12,SNR=2.5						
GUMO	Guam	12.18	170	LR	LR	06 32 07.2	
	comp=Z,64nm,18.9s,baz=277,slow=32						
KLR	Kul'dur	25.02	343	eP	P	06 31 03.6	-7.2
SONM	Songino Array	36.05	317	P	P	06 32 48.4	+0.2
	0.5nm,0.4s,mb3.8,baz=126,slow=9.1,SNR=3.7						
SONM				PcP	PcP	06 35 14.5	+0.8
	0.6nm,0.8s,baz=149,slow=3.4,SNR=2.7						
ZAK	Zakamensk	38.98	320	eP	P	06 33 12.6	-0.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
WRAB	Tennant Creek	46.03	191	eP	P	06 34 10.2	-0.2
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
WRAB	Tennant Creek	46.03	191	eP	P	06 34 10.2	-0.2
	comp=Z,5.9nm,0.6s,mb4.7						
WB2	Warramunga Arr	46.04	191	eP	P	06 34 10.4	-0.1
WRA	Warramunga Arr	46.04	191	P	P	06 34 10.5	-0.1
	comp=Z,4.0nm,0.5s,mb4.6,baz=11,slow=8.7,SNR=29						
FITZ	Fitzroy Crossi	46.54	203	eP	P	06 34 14.9	+0.4
	comp=Z,11nm,0.6s,mb5.0						
PSI	Prapat	47.76	249	P	P	06 34 24.7	+0.5
	comp=Z,3.3nm,0.6s,mb4.6,baz=47,slow=6.2,SNR=5.2						
ASAR	Alice Springs	49.76	191	P	P	06 34 38.8	-0.4
	comp=Z,0.8nm,0.6s,mb3.9,baz=17,slow=14,SNR=14						
ASAR	Alice Springs	49.76	191	P	P	06 34 38.8	-0.4
ZALV	Zalesovo Beam	50.86	320	P	P	06 34 46.0	-1.3
	comp=Z,0.5nm,0.5s,mb3.7,baz=92,slow=7.9,SNR=2.7						
ZALV				PcP	PcP	06 36 03.9	+0.5
	comp=Z,1.9nm,0.7s,baz=134,slow=4.2,SNR=5.4						
ZAL	Zalesovo	50.87	320	P	P	06 34 46.0	-1.3
ZAL						06 36 03.9	
MKAR	Makanchi Array	51.72	310	P	P	06 34 53.5	-0.4
	comp=Z,0.5nm,0.6s,mb3.6,baz=97,slow=9.9,SNR=4.3						
MKAR				PcP	PcP	06 36 07.2	+0.5
	comp=Z,0.7nm,0.7s,baz=99,slow=4.5,SNR=3.8						
MKAR	Makanchi Array	51.72	310	P	P	06 34 53.5	-0.4
MKAR				PcP	PcP	06 36 07.2	+0.5
STKA	Stephens Creek	57.22	181	eP	P	06 35 33.6	-0.2
	comp=Z,2.6nm,0.6s,mb4.4						
STKA	Stephens Creek	57.22	181	P	P	06 35 33.6	-0.2
	comp=Z,2.9nm,0.6s,mb4.5,baz=359,slow=10,SNR=7.3						
FORT	Forrest	57.83	195	eP	P	06 35 38.3	+0.2
	comp=Z,9.7nm,0.6s,mb5.0						
BVAR	Borovoye Array	59.39	318	P	P	06 35 49.3	+0.4
	comp=Z,1.9nm,0.6s,mb4.3,baz=93,slow=9.6,SNR=9.1						
ARU	Arti	65.82	323	P	P	06 36 32.1	+0.4
ARU	Arti	65.82	323	eP	P	06 36 32.1	+0.5
	comp=Z,2.6nm,0.4s,mb4.6						
AKTK	Aktyubinsk	67.36	316	P	P	06 36 42.0	+0.3
AKTO	Aktyubinsk	67.36	316	P	P	06 36 42.0	+0.3
	comp=Z,1.6nm,0.7s,mb4.2,baz=80,slow=13,SNR=5.3						
YKA	Yellowknife Ar	73.20	28	P	P	06 37 16.4	-0.6
	comp=Z,0.8nm,0.9s,mb3.7,baz=317,slow=4.1,SNR=3.9						
ARCES	ARCESS Array B	75.04	341	P	P	06 37 29.4	+1.7
	comp=Z,2.1nm,0.8s,mb4.1,baz=44,slow=7.4,SNR=6.9						
NVAR	Mina Array Bea	81.07	52	P	P	06 38 03.0	+1.2
	comp=Z,0.7nm,0.8s,mb3.6,baz=247,slow=6.0,SNR=3.9						
AKASG	Malin Array Be	84.03	324	P	P	06 38 16.8	-0.1
	comp=Z,0.1nm,0.3s,mb3.5,baz=50,slow=4.7,SNR=3.4						
AKASG	Malin Array Be	84.03	324	P	P	06 38 16.8	-0.1
NB2	NORSAR Subarra	85.10	339	P	P	06 38 22.0	-0.1
	comp=Z,1.4nm,0.8s,mb4.1,baz=43,slow=5.1						
NOA	NORSAR Array B	85.10	339	P	P	06 38 21.5	-0.5
	comp=Z,1.2nm,0.9s,mb4.0,baz=47,slow=5.4,SNR=4.0						
TXAR	Lajitas Array	96.12	54	P	P	06 39 14.2	-0.3
	comp=Z,0.4nm,0.9s,mb3.8,baz=325,slow=4.6,SNR=2.5						
TORD	Torodi Ar. Bea	125.85	311	PKP	PKPdf	06 44 48.8	-0.1
	comp=Z,0.8nm,1.1s,baz=45,slow=2.0,SNR=2.4						
PLCA	Paso Flores	148.62	127	PKPbc	PKPbc	06 45 34.5	+1.2
	comp=Z,2.3nm,0.9s,baz=244,slow=3.3,SNR=7.4						
LPAZ	La Paz	149.84	78	PKPbc	PKPbc	06 45 37.7	+0.6
	comp=Z,2.0nm,1.0s,baz=315,slow=4.3,SNR=5.3						

JMA 04 06:26:14.8±0.7, 4677N×15270E, h30km, M4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	5.99	238	P	Pn	06 27 40.4	-0.9
NEM2				eS	Sn	06 28 44.0	-4.8
JRA	Rausu	6.04	245	P	Pn	06 27 44.3	+2.2
JNK	Nakash	6.48	243	P	Pn	06 27 49.3	+1.3
JNK				eS	Sn	06 28 59.1	-1.7
JTKR	Abashiri--Toko	6.79	249	P	Pn	06 27 54.8	+2.4
JAK	Akkeshi	6.82	239	P	Pn	06 27 52.0	-0.7
JAK				eS	Sn	06 29 03.4	-5.9
JMP	Maruseppu	7.13	251	P	Pn	06 27 59.9	+2.9
JAR	Ashorobuto	7.22	244	P	Pn	06 27 59.7	+1.6
JOB	Onbets	7.39	242	P	Pn	06 28 01.0	+0.4
JOB				eS	Sn	06 29 19.5	-3.8
ASAJ	Asahikawa	7.58	253	P	Pn	06 28 06.8	+3.6
JKK2	Kamakawa 2	7.59	251	P	Pn	06 28 06.4	+3.1
JCH	Churui	7.84	241	P	Pn	06 28 06.5	-0.2
JCH				eS	Sn	06 29 28.3	-6.1
JNBK	Urakawa-nobuka	8.40	241	P	Pn	06 28 13.4	-1.0
JNBK				eS	Sn	06 29 41.2	-7.0
JNB	Noboribetsu	9.36	247	P	Pn	06 28 28.4	+0.9
JNB				eS	Sn	06 30 08.2	-3.5
JKB	Kayabe	9.68	244	P	Pn	06 28 31.0	-0.9
JYM2	Yakumo 2	9.97	247	P	Pn	06 28 35.6	-0.2
JANG	Nango	10.33	236	P	Pn	06 28 37.6	-3.2
JANG				eS	Sn	06 30 23.0	-12

ISCJB **04** *06:42:04.8±0.7, 4010S±004×1768E±008, h49km±9km, mb3.6/3, Error ellipse: s-maj=11.0km s-min=5.3km az=24.6*
NEIC **04** *06:42:06.7, 4006S×17675E, h47km, ML4.1(WEL), After WEL.*
NEIC Felt at Tikokino.
IDC **04** *06:42:06.7±1.4, 3997S×17665E, h36km±7km, mb3.6/3, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=32.7km s-min=21.5km az=125.0*

ISC 04 06:42:05.7±0.7, 4009S±004×17680E±008, h35km±12km, n42, σ0§64/45, mb3.6/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSZ	Takapari Road	0.64	272	P	Pn	06 42 18.4	+0.2
TSZ				S	Sn	06 42 26.8	-0.4
BKZ	Black Stump Fm	0.95	346	P	Pn	06 42 22.3	-0.2
MOVZ	Moawhango	1.05	310	P	Pn	06 42 23.9	0.0
MOVZ				S	Sn	06 42 35.6	-1.7
MRZ	Mangatainoka R	1.09	238	P	Pn	06 42 25.4	+1.0
WNVZ	Wahianoa	1.20	309	P	Pn	06 42 26.5	+0.6
TUVZ	Tukino	1.20	313	P	Pn	06 42 26.6	+0.6
DRZ	Dome Shelter	1.25	310	P	Pn	06 42 27.4	+0.8
KNZ	Kokohu	1.27	33	P	Pn	06 42 27.3	+0.5
FWVZ	Far West T-bar	1.27	311	P	Pn	06 42 27.1	+0.2
NGZ	Ngauruhoe	1.30	314	P	Pn	06 42 27.7	+0.4
WPVZ	Whakapapa	1.31	312	P	Pn	06 42 27.7	+0.3
HATZ	Hinemaiaia	1.31	335	P	Pn	06 42 27.5	0.0
WTVZ	West Tongariro	1.35	316	P	Pn	06 42 28.3	+0.4
KATZ	Kakaramea	1.40	322	P	Pn	06 42 29.3	+0.6
MTW	Mount Morrison	1.45	222	P	Pn	06 42 29.8	+0.4
RATZ	Rangitukua	1.46	327	P	Pn	06 42 29.5	+0.1
TWVZ	Taurewa	1.46	314	P	Pn	06 42 29.5	0.0
WHTZ	Whakaora	1.56	335	P	Pn	06 42 31.1	+0.2
WATZ	Wairara	1.60	329	P	Pn	06 42 31.3	-0.2
CAW	Cannon Point	1.66	232	P	Pn	06 42 32.6	+0.3
MWZ	Matawai	1.84	18	P	Pn	06 42 34.5	-0.3
URZ	Urewera	1.84	8	Pn	Pn	06 42 34.2	-0.6
	62nm,0.3s,baz=216,slow=6.4,SNR=534						
URZ				Sn	Sn	06 42 55.5	-1.3
	45nm,0.3s,baz=85,slow=20,SNR=25						
VRZ	Vera Road	1.84	301	P	Pn	06 42 35.0	+0.2
WEL	Wellington	1.95	232	P	Pn	06 42 36.5	+0.3
MRW	Makara Radio	1.96	234	P	Pn	06 42 36.4	0.0
BHW	Baring Head	1.97	227	P	Pn	06 42 36.3	-0.2
SNZO	South Karori	2.00	232	P	Pn	06 42 36.8	-0.2
RAEZ	Rainy Point	2.02	293	P	Pn	06 42 38.4	+1.2
HIZ	Hauiti	2.18	316	P	Pn	06 42 39.3	-0.1
BSWZ	Blackbirch Sta	2.74	233	P	Pn	06 42 46.5	-0.7
MXZ	Matakaoa Point	2.79	26	P	Pn	06 42 47.9	+0.2
NNZ	Nelson	2.83	245	P	Pn	06 42 48.1	-0.3
QRZ	Quartz Range	3.34	256	P	Pn	06 42 54.9	-0.4
OTAZ	Otara	3.46	334	P	Pn	06 42 57.2	+0.2
LTZ	Lake Taylor	4.34	230	P	Pn	06 43 07.3	-1.7
RPZ	Rata Peaks	5.61	228	Pn	Pn	06 43 25.7	-0.8
	0.5nm,0.3s,baz=56,slow=18,SNR=3.4						
RPZ				Sn	Sn	06 44 23.5	-6.2
	7.1nm,0.3s,baz=96,slow=18,SNR=34						
RPZ	Rata Peaks	5.61	228	Pn	Pn	06 43 25.7	-0.8
RPZ				Sn	Sn	06 44 23.5	-6.2
STKA	Stephens Creek	29.49	275	P	P	06 48 07.8	+1.4
	1.2nm,0.6s,mb3.8,baz=85,slow=11,SNR=2.8						
ASAR	Alice Springs	39.52	281	P	P	06 49 32.5	-0.6
	0.3nm,0.3s,mb3.5,baz=127,slow=7.5,SNR=9.7						
ASAR				pP	pP	06 49 43.4	0.0
	0.6nm,0.4s,baz=128,slow=7.6,SNR=5.6						
WRA	Warramunga Arr	41.41	286	P	P	06 49 48.1	-0.6
	0.5nm,0.3s,mb3.6,baz=124,slow=8.2,SNR=17						
WRA				pP	pP	06 49 59.4	+0.3
	0.7nm,0.5s,baz=124,slow=8.0,SNR=4.5						
ARCES	ARCESS Array B	146.84	342	PKPbc	PKPbc	07 01 43.0	+0.1
	1.0nm,0.9s,baz=38,slow=4.6,SNR=4.9						
TORD	Torodi Ar. Bea	152.82	190	PKPbc	PKPbc	07 02 00.3	+1.0
	0.4nm,0.9s,baz=158,slow=1.6,SNR=2.7						
TORD				pPKPbc	pPKPbc	07 02 12.2	+1.5
	0.2nm,0.5s,baz=171,slow=3.0,SNR=2.9						

NEIC **04** *06:45:16.4±2.7, 1556S×16783E, h162km±21km, mb4.5/6, Error ellipse: s-maj=20.4km s-min=12.6km az=210.0*
ISCJB **04** *06:45:27.6±2.0, 1559S±01×1675E±01, h270km±19km, mb4.2/16, Error ellipse: s-maj=18.9km s-min=14.8km az=36.2*
IDC **04** *06:45:28.7±2.3, 1587S×16749E, h263km±21km, mb3.9/13, mb1 4.0/14, mb1mx3.8/23, mbtmp4.0/14, Error ellipse: s-maj=17.7km s-min=13.2km az=22.0*

ISC 04 06:45:16.8±2.9, 156S±01×1678E±01, h162km±23km, n28, σ0§90/27, mb4.3/16, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.56	191	ePn	Pn	06 46 50.5	-0.5
HNR	Honiara	9.81	308	P	Pn	06 47 44.4	+10
	26nm,0.3s,baz=270,slow=4.0,SNR=3.9						
ARMA	Armidale	20.91	222	eP	P	06 49 49.4	+2.8
CTA	Charters Tower	20.98	255	eP	P	06 49 48.7	+1.2
	5.8nm,0.5s						
CTA	Charters Tower	20.98	255	P	P	06 49 48.6	+1.1
	8.6nm,0.6s,baz=82,slow=11,SNR=18						
URZ	Urewera	24.02	162	P	P	06 50 16.5	-0.3
	9.9nm,0.8s,mb4.4,baz=346,slow=17,SNR=5.8						
RPZ	Rata Peaks	28.16	175	P	P	06 50 53.7	-0.2
	25nm,1.1s,mb4.9,baz=19,slow=5.0,SNR=4.0						
RPZ	Rata Peaks	28.16	175	P	P	06 50 53.7	-0.2
STKA	Stephens Creek	28.83	231	eP	P	06 51 00.6	+0.6
	7.6nm,0.6s,mb4.6						
STKA	Stephens Creek	28.83	231	P	P	06 51 00.8	+0.9
	10nm,0.6s,mb4.7,baz=37,slow=6.6,SNR=25						
STKA				PcP	PcP	06 54 05.4	-0.2
	3.3nm,0.8s,baz=51,slow=2.6,SNR=5.8						
TOO	Toolangi	29.46	218	eP	P	06 51 06.1	+0.6
WB2	Warramunga Arr	32.10	257	eP	P	06 51 27.7	-1.3
WRA	Warramunga Arr	32.12	257	P	P	06 51 27.8	-1.3
	1.1nm,0.3s,mb4.0,baz=74,slow=6.0,SNR=19						
WRA				PcP	PcP	06 54 14.0	-0.5
	1.4nm,0.8s,baz=95,slow=2.4,SNR=6.5						
WRA				S	S	06 56 17.9	-12
	0.3nm,0.6s,baz=80,slow=11,SNR=5.3						
ASAR	Alice Springs	32.85	250	P	P	06 51 34.9	-0.5
	6.7nm,0.6s,mb4.6,baz=83,slow=9.1,SNR=136						
ASAR				PcP	PcP	06 54 16.3	-0.2
	0.5nm,0.5s,baz=99,slow=3.5,SNR=5.6						
KAKA	Kakadu	34.38	270	eP	P	06 51 48.2	-0.5
	3.2nm,0.5s,mb4.3						
FORT	Forrest	39.30	240	eP	P	06 52 30.4	+0.3
	14nm,0.5s,mb4.8						
FITZ	Fitzroy Crossi	40.36	260	↑iP	P	06 52 39.1	+0.1
	18nm,0.6s,mb4.9						
VNDA	Vanda	62.00	181	P	P	06 55 19.1	-0.3
	1.4nm,0.4s,mb4.1,baz=14,slow=5.3,SNR=3.8						
QSPA	South Pole Qui	74.43	180	P	P	06 56 36.5	-0.1
	11nm,0.7s,mb4.7,baz=2.8,slow=1.2,SNR=74						
MAW	Mawson	81.27	202	P	P	06 57 14.4	-0.1
	2.2nm,0.6s,mb4.0,baz=127,slow=6.5,SNR=10						
SONM	Songino Array	83.50	323	P	P	06 57 27.3	+0.9
	2.0nm,0.8s,mb3.9,baz=143,slow=6.1,SNR=8.4						
PMSA	Palmer Station	90.78	160	P	P	06 58 02.5	+1.2
	12nm,0.9s,mb4.9,baz=169,slow=5.2,SNR=4.5						
SNAA	Sanae	92.71	183	e	P	06 58 08.5	-1.6
SNAA				e		06 58 12.8	
SNAA	Sanae	92.71	183	eP	P	06 58 08.3	-1.8
	1.5nm,0.6s,mb4.3						
TXAR	Lajitas Array	96.25	61	P	P	06 58 27.7	+0.5
	0.1nm,0.4s,mb3.5,baz=245,slow=8.6,SNR=2.6						
ARCES	ARCESS Array B	121.22	345	PKP	PKPdf	07 03 49.1	-0.8
	0.5nm,0.4s,baz=68,slow=1.0,SNR=13						
TORD	Torodi Ar. Bea	166.31	262	PKP	PKPdf	07 05 02.6	-1.0
	0.3nm,0.7s,baz=116,slow=0.5,SNR=3.4						
TORD				PKPab	PKPab	07 06 05.0	-0.9
	1.0nm,0.8s,baz=89,slow=4.6,SNR=5.1						

ISCJB **04** *07:07:04.3±0.5, 5023N±003×1868E±003, h0km, Error ellipse: s-maj=4.3km s-min=2.4km az=17.7*
IPEC **04** *07:07:05.7±0.1, 5026N×1872E, h5km±1km, ML1.9/4, Error ellipse: s-maj=1.3km s-min=0.8km az=169.0*
WAR **04** *07:07:05.5, 5024N×1875E, ML2.7, Mining Induced*
CSEM **04** *07:07:06.0±0.1, 5028N×1872E, h0km, ML2.9/8, Error ellipse: s-maj=3.3km s-min=1.4km az=16.0*
NEIC **04** *07:07:06.7±0.9, 5017N×1877E, h5km, MG2.7(WAR), Error ellipse: s-maj=13.1km s-min=7.7km az=10.0*
PRU **04** *07:07:06.5, 5023N×1869E, h0km*

ISC 04 07:07:05.6±0.5, 5024N±003×1870E±003, h0km, n26, σ1§15/51, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.36	244	ePg	Pg	07 07 13.8	+1.2
RAC				eSg	Sg	07 07 19.7	+2.5
OKC	Ostrava-Krasne	0.54	221	ePG	Pg	07 07 16.7	+0.7
OKC				eSG	Sg	07 07 24.9	+2.0
	comp=Z,34nm,0.5s						
OJC	Ojcow	0.71	92	ePg	Pg	07 07 18.7	-0.5
OJC				eSg	Sg	07 07 28.3	0.0
OJC	Ojcow	0.71	92	ePg	Pg	07 07 18.8	-0.4
OJC				eSg	Sg	07 07 28.3	0.0
MORC	Moravsky Berou	0.88	238	ePg	Pg	07 07 22.6	+0.1
MORC				eSg	Sg	07 07 34.7	+0.8
	comp=Z,22nm,0.2s						
MORC	Moravsky Berou	0.88	238	ePg	Pg	07 07 22.5	0.0
MORC				eSg	Sg	07 07 34.9	+1.0
NIE	Niedzica	1.33	128	ePg	Pg	07 07 31.3	+0.1
NIE				eSg	Sg	07 07 49.3	+0.9
DPC	Dobruska-Polom	1.53	275	ePG	Pg	07 07 34.0	-0.9
DPC				eSG	Sg	07 07 54.8	+0.1
	comp=Z,19nm,0.6s						
JAVC	Velka Javorina	1.54	206	ePn	Pn	07 07 34.7	+0.4
JAVC				eSg	Sg	07 07 55.7	+0.7
	comp=Z,6.9nm,0.4s						
KSP	Ksiaz	1.65	292	ePn	Pn	07 07 37.0	+1.2
KSP				eSn	Sn	07 07 58.2	+0.5
KSP	Ksiaz	1.65	292	ePg	Pg	07 07 37.1	-0.1
KSP				eSg	Sg	07 07 59.0	+0.5
VRAC	Vranov	1.66	236	ePn	Pn	07 07 35.1	-0.8
VRAC				eSg	Sg	07 07 57.9	-0.9
	comp=Z,19nm,0.3s						
KOLL	Kolacno	1.68	187	ePg	Pg	07 07 37.7	-0.1
KOLL				eSg	Sg	07 07 59.6	+0.1
KOLL				eSG	Sg	07 07 59.6	+0.1
KOLL	Kolacno	1.68	187	ePG	Pg	07 07 37.7	-0.1
UPC	Upice	1.74	280	ePG	Pg	07 07 38.4	-0.6
VYHS	Vyhne	1.75	177	ePN	Pn	07 07 36.4	-0.8
VYHS				eSG	Sg	07 08 00.3	-1.6
VYHS	Vyhne	1.75	177	ePn	Pn	07 07 36.5	-0.7
VYHS				eSg	Sg	07 08 00.3	-1.6
KRUC	Moravsky	1.91	233	ePn	Pn	07 07 39.9	+0.5
KRUC				eSg	Sg	07 08 05.3	-1.6
	comp=Z,7.5nm,0.3s						
KECS	Kecovo	2.11	146	ePG	Pg	07 07 48.3	+2.2
KECS				eSN	Sn	07 08 06.1	-3.1
CRVS	Cervenica-Dubn	2.25	126	ePN	Pn	07 07 47.2	+3.2
CRVS				eSG	Sg	07 08 17.2	-0.5
KOLS	Kolonicke sedl	2.67	118	ePG	Pg	07 07 58.0	+1.2
KOLS				eSN	Sn	07 08 20.7	-2.2
PRU	Pruhonice	2.69	266	ePG	Pg	07 07 55.0	-2.1
PRU				eSG	Sg	07 08 30.3	-1.6
	comp=Z,6.3nm,0.6s						
BRG	Berggiesshubel	3.10	284	PG	Pg	07 08 05.5	+0.5
BRG				SG	Sg	07 08 44.3	-0.8
	comp=Z,6.7nm,0.6s						
KHC	Kasperske Hory	3.51	253	ePN	Pn	07 08 01.5	+0.2
KHC				ePG	Pg	07 08 09.9	-2.9
KHC				eSN	Sn	07 08 44.0	+0.5
KHC				eSG	Sg	07 08 57.8	-0.4
	comp=Z,9.8nm,0.6s						
CLL	Collm	3.77	289	eSg	Sg	07 09 08.0	+1.4
	comp=Z,7.0nm,0.6s						
NKC	Novy Kostel	4.01	272	eSG	Sg	07 09 13.5	-1.0
	comp=Z,8.5nm,0.6s						

ISCJB **04** *07:13:24.5±1.5, 1825S±03×1777W±02, h595km±42km, mb4.4/9, Error ellipse: s-maj=42.1km s-min=28.9km az=27.9*
NEIC **04** *07:13:24.8±1.1, 1825S×17772W, h576km±15km, mb4.6/7, Error ellipse: s-maj=24.4km s-min=15.1km az=152.0*
IDC **04** *07:13:25.2±1.9, 1847S×17762W, h578km±23km, mb3.7/5, mb1 3.9/6, mb1mx3.3/19, mbtmp3.8/6, Error ellipse: s-maj=52.1km s-min=19.5km az=152.0*

ISC 04 07:13:25.4±1.5, 184S±03×1776W±02, h593km±41km, n21, σ0§40/18, mb4.4/9, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.15	52	P	P	07 15 16.6	0.0
	20nm,0.3s,baz=93,slow=2.3,SNR=23						
FUNA	Funafuti	10.34	342	eP	P	07 15 42.5	-5.1
ARMA	Armidale	30.38	241	eP	P	07 18 50.9	+0.1
CTA	Charters Tower	34.16	261	eP	P	07 19 23.1	+0.3
	11nm,0.8s,mb4.5						
CTA	Charters Tower	34.16	261	P	P	07 19 22.9	+0.1
	13nm,0.6s,mb4.8,baz=90,slow=12						
CTAO	Charters Tower	34.16	261	eP	P	07 19 23.1	+0.3
	13nm,0.7s,mb4.7						
PMG	Port Moresby	35.34	280	eP	P	07 19 33.3	+0.6
	9.3nm,0.7s,mb4.5						
TOO	Toolangi	37.47	232	eP	P	07 19 49.9	+0.1
STKA	Stephens Creek	39.09	242	eP	P	07 20 03.3	+0.3
	4.7nm,0.3s,mb4.5						
STKA	Stephens Creek	39.09	242	P	P	07 20 03.4	+0.3
	6.4nm,0.3s,mb4.6,baz=84,slow=8.2,SNR=37						
WB2	Warramunga Arr	45.32	260	↓iP	P	07 20 51.6	-0.3
WRAB	Tennant Creek	45.32	260	eP	P	07 20 51.3	-0.6
	4.3nm,0.5s,mb4.2						
WRA	Warramunga Arr	45.33	260	P	P	07 20 52.0	0.0
	5.6nm,0.4s,mb4.5,baz=98,slow=6.9,SNR=86						
WRA				PcP	PcP	07 22 19.8	+1.0
	0.6nm,0.4s,baz=93,slow=3.5,SNR=3.3						
ASAR	Alice Springs	45.42	255	P	P	07 20 52.9	+0.2
	12nm,0.7s,mb4.5,baz=92,slow=8.1,SNR=169						
ASAR				PcP	PcP	07 22 20.4	+1.3
	1.0nm,0.6s,baz=102,slow=4.7,SNR=6.5	

KAPI Kappang 12.45 84 *e*Pn **Pn 07 20 03.0 -0.2**
KTGM Kuala Trenggan 12.47 340 ⇓P **Pn 07 20 07.3 +3.9**
PSI Prapat 12.47 318 P **Pn 07 20 01.0 -2.5**
8.0nm,0.3s,baz=151,slow=9.8,SNR=32
PSI S **Sn 07 22 16.0 -6.7**
2.0nm,0.3s,baz=213,slow=19,SNR=6.3
IPM Ipoh 12.59 330 ⇑P **Pn 07 20 06.9 +2.0**
KULM Kulim 13.47 330 ⇑P **Pn 07 20 17.1 +1.1**
KKM Kota Kinabalu 15.29 36 ⇓P **Pn 07 20 41.3 +2.9**
KKM Kota Kinabalu 15.29 36 *e*Pn **Pn 07 20 37.1 -1.4**
SDKM Sandakan 15.57 39 ⇑P **Pn 07 20 43.0 +1.3**
MYLDM Lahad Datu 16.09 44 ⇓P **Pn 07 20 49.6 +1.6**
KDM Kudat 16.36 36 ⇓P **Pn 07 20 52.8 +1.5**
BATI Baumata 16.58 104 P **Pn 07 20 54.6 +0.7**
28nm,0.3s,baz=266,slow=1.3,SNR=15
BATI S **S 07 23 54.6 -1.5**
9.1nm,0.3s,baz=180,slow=19,SNR=6.0
MBWA Marble Bar 18.89 142 *e*P **P 07 21 19.2 +1.2**
29nm,0.6s
MBWA *e*S **S 07 24 41.3 -0.8**
FITZ Fitzroy Crossi 21.26 124 *e*P **P 07 21 43.5 +0.1**
19nm,0.8s,mb4.7
FITZ *e*S **S 07 25 35.9 +8.7**
FITZ Fitzroy Crossi 21.26 124 P **P 07 21 43.9 +0.5**
9.4nm,0.7s,mb4.4,baz=290,slow=6.6,SNR=32
FITZ ScP ScP 07 28 59.6 +1.5
2.7nm,0.7s,baz=256,slow=4.2,SNR=4.2
KAKA Kakadu 25.51 106 *e*P **P 07 22 22.4 -0.4**
CMAR Chiang Mai Arr 26.14 342 P **P 07 22 28.7 +0.4**
22nm,0.6s,mb5.0,baz=179,slow=8.8,SNR=52
CMAR PcP PcP 07 25 51.3 +0.9
2.3nm,0.9s,baz=197,slow=2.7,SNR=4.4
CMAR ScP ScP 07 29 11.9 +0.6
3.7nm,0.7s,baz=196,slow=3.5,SNR=11
CMAR Chiang Mai Arr 26.14 342 P **P 07 22 28.7 +0.4**
CMAR 07 25 51.3
CHTO Chiang Mai 26.47 342 *e*P **P 07 22 31.2 -0.1**
CHTO pmax pmax
comp=Z,21nm,0.8s,mb4.8
CHTO Chiang Mai 26.47 342 *e*P **P 07 22 31.2 -0.1**
comp=Z,21nm,0.8s,mb4.8
MUN Mundaring 26.68 163 *e*P **P 07 22 34.2 +1.2**
KLBR Kellerberrin 26.81 160 *e*P **P 07 22 35.0 +0.8**
comp=Z,31nm,0.5s,mb5.2
NWAO Narrogin (SRO) 27.87 162 P **P 07 22 44.1 +0.5**
comp=Z,14nm,0.6s,mb4.8,baz=333,slow=8.3,SNR=22
WRA Warramunga Arr 29.44 120 P **P 07 22 58.0 +0.3**
comp=Z,7.5nm,0.5s,mb4.6,baz=303,slow=9.3,SNR=31
WRA pP pP 07 23 40.0 +1.6
comp=Z,11nm,0.9s,baz=290,slow=11,SNR=5.4
WRA PcP PcP 07 25 59.0 +0.5
comp=Z,2.9nm,0.4s,baz=306,slow=2.0,SNR=12
WRA S **S 07 27 35.4 -1.7**
comp=Z,3.3nm,0.9s,baz=293,slow=17,SNR=5.8
WRA ScP ScP 07 29 22.5 +1.0
comp=Z,3.0nm,0.6s,baz=309,slow=2.7,SNR=9.4
WRAB Tennant Creek 29.44 120 *e*P **P 07 22 58.2 +0.5**
WRAB pmax pmax
comp=Z,13nm,0.7s,mb4.7
WRAB Tennant Creek 29.44 120 *e*P **P 07 22 58.2 +0.4**
comp=Z,13nm,0.7s,mb4.7
WB2 Warramunga Arr 29.45 120 *e*P **P 07 22 57.9 +0.1**
WB2 *e*PCP PcP 07 25 58.5 0.0
WB2 *e*S **S 07 27 29.7 -7.5**
WB2 *e*SCS ScS 07 33 14.0 -2.7
ASAR Alice Springs 30.72 127 P **P 07 23 09.9 +1.0**
comp=Z,29nm,0.5s,mb5.2,baz=299,slow=7.2,SNR=246
ASAR S **S 07 27 55.8 -1.3**
comp=Z,8.7nm,0.8s,baz=295,slow=14,SNR=22
ASAR ScP ScP 07 29 27.0 +1.4
comp=Z,3.3nm,0.7s,baz=317,slow=1.9,SNR=11
ASAR Alice Springs 30.72 127 P **P 07 23 10.0 +1.0**
ASAR S **S 07 27 55.8 -1.3**
FORT Forrest 31.02 144 *e*P **P 07 23 12.3 +0.9**
comp=Z,23nm,0.5s,mb5.1
KMI Kunming 31.74 352 P **P 07 23 20.7 +2.9**
KMI AP pP 07 24 01.2 +2.4
KMI PP PP 07 24 35.4 +1.5
KMI S **S 07 28 16.1 +3.2**
KMI XS sS 07 29 27.3 +1.6
KMI AMB AMB
comp=Z,26nm,0.7s,mb4.9
KMI AMB AMB
comp=Z,94nm,3.1s
KMI LR LR
comp=N,155nm,12.5s
KMI LR LR
comp=E,123nm,12.5s
KMI LR LR
comp=Z,108nm,11.0s
GYA Guiyang 32.76 359 P **P 07 23 30.2 +3.5**
GYA AP pP 07 24 10.3 +2.5
GYA XP sP 07 24 31.9 +1.1
GYA PP PP 07 24 48.3 +3.1
GYA PPP 07 25 09.4
GYA PCP PcP 07 26 10.0 +2.8
GYA S **S 07 28 33.5 +4.8**
GYA SCP ScP 07 29 35.5 +3.1
GYA PCS PcS 07 29 54.7 +1.9
GYA SCS ScS 07 33 34.2 +1.4
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.6
GYA AMB AMB
comp=Z,120nm,4.2s
MDRS Chennai 33.19 306 *e*x x 07 23 37.0
TRD Trivandrum 33.74 296 *e*P **P 07 23 38.2 +2.8**
TRD AMb AMB 07 24 01.2
comp=Z,71nm,1.8s,mb4.9
VIS Vishakhapatnam 33.77 316 *e*P **P 07 23 34.5 -1.0**
VIS AMb AMB 07 23 35.5
comp=Z,36nm,0.9s,mb4.9
KOD Kodaikanal 34.06 299 *e*P **P 07 23 39.6 +1.4**
KOD AMb AMB 07 23 55.9
comp=Z,36nm,0.5s,mb5.2
SHL Shillong 35.23 335 *e*P **P 07 23 47.0 -0.9**
BOK Bokaro 36.66 326 *e*P **P 07 23 59.8 -0.4**
BOK AMb AMB 07 24 00.5
comp=Z,56nm,0.5s,mb5.4
HYB Hyderabad 37.05 310 *i* P **P 07 24 02.0 -1.5**
HYB Hyderabad 37.05 310 *e*P **P 07 24 02.0 -1.5**
CD2 Chengdu 37.35 355 P **P 07 24 06.5 +0.7**
CD2 AP pP 07 24 45.5 -2.2
CD2 XP sP 07 25 05.5 -5.0
CD2 PP PP 07 25 40.0 +4.4
CD2 S **S 07 29 41.1 +2.4**
CD2 XS sS 07 30 50.2 -2.5
CD2 AMB AMB
comp=Z,100nm,0.5s,mb5.6
CD2 AMB AMB
comp=Z,160nm,5.2s
BLSP Bilaspur 37.66 320 *e*P **P 07 24 07.5 -1.1**
BLSP AMb AMB 07 24 08.2
comp=Z,36nm,0.3s,mb5.3
ODAN Odare 38.37 331 *e*P **P 07 24 14.0 -0.5**
comp=Z,221nm,0.4s,mb6.0
TAPN Taplejung 38.63 331 *e*P **P 07 24 16.6 0.0**
comp=Z,107nm,0.5s,mb5.6
RAMN Ramite 38.84 330 *e*P **P 07 24 18.0 -0.3**
comp=Z,114nm,0.4s,mb5.8
JOW Kunigami 38.85 31 P **P 07 24 19.8 +1.3**
comp=Z,6.1nm,0.3s,mb4.5,baz=238,slow=5.3,SNR=6.0
NGP Nagpur 39.05 315 *e*P **P 07 24 18.3 -1.9**
NGP AMb AMB 07 24 21.2
comp=Z,28nm,2.1s,mb4.4
LATR Latur 39.16 310 *e*P **P 07 24 20.2 -0.9**
LATR AMb AMB 07 24 22.4
comp=Z,51nm,1.6s,mb4.8
LSA Lhasa 39.20 337 P **P 07 24 21.0 -0.3**
LSA AMB AMB
comp=Z,40nm,0.7s,mb5.1
LSA Lhasa 39.20 337 *e*P **P 07 24 21.2 -0.1**
LSA pmax pmax
comp=Z,36nm,0.6s,mb5.1
LSA Lhasa 39.20 337 *e*P **P 07 24 21.1 -0.1**
comp=Z,36nm,0.6s,mb5.1
LSA *e*pP pP 07 24 55.5 -8.0
PMG Port Moresby 39.54 97 *e*P **P 07 24 24.8 +0.4**
PMG pmax pmax
comp=Z,27nm,0.8s
PMG Port Moresby 39.54 97 *e*P **P 07 24 24.8 +0.3**
comp=Z,27nm,0.8s,mb4.7
JIRN Jiri 39.63 330 *e*P **P 07 24 24.6 -0.3**
comp=Z,174nm,0.4s,mb5.9
PKI Pulchoki 39.95 329 *e*P **P 07 24 26.7 -0.8**
comp=Z,34nm,0.4s,mb5.1

GUN Gumba 39.99 330 *e*P **P 07 24 27.5 -0.3**
comp=Z,202nm,0.5s,mb5.8
CTA Charters Tower 40.10 114 *e*P **P 07 24 30.2 +1.3**
comp=Z,5.9nm,0.7s,mb4.1
CTA Charters Tower 40.10 114 P **P 07 24 29.9 +0.9**
comp=Z,8.5nm,0.7s,mb4.3,baz=284,slow=11,SNR=14
CTA pP pP 07 25 11.8 +0.5
comp=Z,6.2nm,0.8s,baz=285,slow=15,SNR=3.3
CTA PcP PcP 07 26 31.1 +1.5
comp=Z,2.4nm,0.4s,baz=297,slow=4.5,SNR=4.6
CTA ScP ScP 07 30 00.3 +0.5
comp=Z,1.6nm,0.6s,baz=210,slow=4.0,SNR=4.3
CTA Charters Tower 40.10 114 P **P 07 24 29.9 +1.0**
CTA *PP pP 07 25 11.8 +0.5
CTA 07 26 31.1
CTA pmax pmax
comp=Z,9.0nm,0.7s
CTA pmax pmax
comp=Z,6.0nm,0.8s
CTA pmax pmax
comp=Z,2.0nm,0.4s
CTA pmax pmax
comp=N,2.0nm,0.6s
CTAO Charters Tower 40.10 114 *e*P **P 07 24 30.2 +1.3**
DMN Daman 40.14 329 *e*P **P 07 24 28.3 -0.8**
comp=N,68nm,0.6s,mb5.3
KKN Kakani 40.19 329 *e*P **P 07 24 28.6 -0.9**
comp=N,47nm,0.4s,mb5.3
AKL Akola 40.21 313 *e*x x 07 23 59.4
AKL AMb AMB 07 24 31.9
comp=Z,35nm,0.8s,mb4.8
XAN Xi'an 40.34 2 P **P 07 24 30.9 +0.3**
XAN AMB AMB
comp=Z,22nm,0.9s,mb4.6
GKN Gorkha 40.70 328 *e*P **P 07 24 32.7 -0.9**
comp=Z,22nm,0.3s,mb5.1
STKA Stephens Creek 40.74 133 *e*P **P 07 24 35.6 +1.6**
comp=Z,136nm,0.4s,mb5.7
STKA *e*SCP ScP 07 30 03.2 +1.1
STKA *e*S **S 07 30 29.2 -0.3**
STKA Stephens Creek 40.74 133 P **P 07 24 35.6 +1.6**
comp=Z,184nm,0.6s,mb5.7,baz=308,slow=8.0,SNR=468
STKA ScP ScP 07 30 03.3 +1.2
comp=Z,5.1nm,0.7s,baz=348,slow=4.2,SNR=6.5
KOLN Koldanda 41.06 327 *e*P **P 07 24 35.8 -0.8**
comp=Z,177nm,0.6s,mb5.7
DANN Dangsing 41.44 328 *e*P **P 07 24 38.9 -0.8**
comp=Z,151nm,0.4s,mb5.8
LZH Lanzhou 42.48 356 *e*P **P 07 24 49.5 +1.5**
LZH AP pP 07 25 31.8 +1.0
LZH XP sP 07 25 50.3 -3.0
LZH S **S 07 30 55.0 +0.2**
LZH XS sS 07 32 11.1 +1.0
LZH AMB AMB
comp=Z,30nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,170µm,3.4s
NDI New Delhi 45.44 322 *e*P **P 07 25 09.0 -2.7**
AJM Ajmer 45.59 317 *e*x x 07 24 04.2
AJM AMb AMB 07 24 05.7
comp=Z,6.4nm,0.7s,mb4.1
GTA Gaotai 46.20 352 ⇓P **P 07 25 18.9 +1.5**
GTA AP pP 07 26 02.7 +1.8
GTA XP sP 07 26 20.1 -3.1
GTA PCP PcP 07 26 50.6 +0.9
GTA S **S 07 31 50.1 +1.7**
GTA AMB AMB
comp=Z,39nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,116nm,4.9s
TOO Toolangi 46.45 137 *e*P **P 07 25 22.3 +2.8**
BJT Baijiatuau 47.00 9 *e*P **P 07 25 24.6 +1.0**
BJT *e*PP pP 07 26 09.3 +2.1
BJT pmax pmax
comp=Z,9.0nm,0.5s
BJT Baijiatuau 47.00 9 *e*P **P 07 25 24.6 +1.0**
comp=Z,8.6nm,0.5s,mb4.3
BJT *e*pP pP 07 26 09.3 +2.1
BJI Beijing 47.02 9 P **P 07 25 24.5 +0.8**
BJI AP pP 07 26 07.7 +0.3
BJI XP sP 07 26 24.3 -5.4
BJI S **S 07 32 06.6 +6.6**
BJI XS sS 07 33 14.9 -1.6
BJI AMB AMB
comp=Z,24nm,0.9s,mb4.5
SMLA Simla 47.24 324 *e*P **P 07 25 23.9 -1.7**
SMLA AMb AMB 07 25 24.5
comp=Z,144nm,0.4s,mb5.6
HHC Hu-ho-hao-te 47.27 4 *e*P **P 07 25 26.9 +1.2**
HHC AP pP 07 26 08.5 -0.8
HHC XP sP 07 26 29.9 -1.8
HHC PP PP 07 27 19.8 +1.0
HHC PCS PcS 07 30 47.9 -1.0
HHC S **S 07 32 06.4 +2.9**
HHC SCS ScS 07 34 57.7 -0.7
HHC AMB AMB
comp=Z,15nm,0.9s,mb4.3
HHC AMB AMB
comp=Z,55nm,3.6s
HHC LR LR
comp=N,126nm,25.0s
HHC LR LR
comp=E,148nm,22.6s
HHC LR LR
comp=Z,152nm,22.6s
KS15 Wonju Array Si 47.74 22 *e*P **P 07 25 30.4 +1.1**
KSRS Korea Array 47.77 22 P **P 07 25 29.9 +0.4**
comp=Z,7.1nm,0.6s,mb4.2,baz=207,slow=8.5,SNR=32
KSRS Korea Array 47.77 22 P **P 07 25 29.9 +0.4**
KSRS pmax pmax
comp=Z,7.0nm,0.6s,mb4.2
MAT Matsushiro 51.67 32 P **P 07 25 57.1 -1.9**
MJAR Matsushiro Arr 51.67 32 P **P 07 25 57.2 -1.9**
comp=Z,5.9nm,0.6s,mb4.2,baz=205,slow=8.0,SNR=12
CN2 Changchun 52.68 16 *e*P **P 07 26 05.5 -0.8**
CN2 *e*AP pP 07 26 48.3 -2.6
CN2 *e*S **S 07 33 17.4 -0.8**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,200nm,12.0s
CN2 LR LR
comp=E,200nm,12.0s
CN2 LR LR
comp=Z,200nm,11.0s
WMQ Urumqi 53.14 342 P **P 07 26 10.9 +1.3**
WMQ AP pP 07 26 52.4 -1.9
WMQ XP sP 07 27 14.8 -1.5
WMQ PP PP 07 28 14.6 +2.7
SONM Songino Array 54.10 359 P **P 07 26 17.5 +0.9**
comp=Z,18nm,0.8s,mb4.6,baz=176,slow=8.3,SNR=76
SONM pP pP 07 27 02.9 +1.5
comp=Z,5.8nm,1.0s,baz=180,slow=8.5,SNR=2.8
SONM PcP PcP 07 27 18.7 +0.1
comp=Z,1.4nm,0.3s,baz=195,slow=3.5,SNR=6.7
SONM ScP ScP 07 30 56.1 -1.6
comp=Z,1.2nm,0.7s,baz=172,slow=5.2,SNR=4.3
SONM Songino Array 54.10 359 P **P 07 26 17.5 +1.0**
SONM *PP pP 07 27 02.9 +1.5
SONM 07 27 18.7
KBL Kabul 54.52 321 *e*P **P 07 26 17.8 -2.0**
KBL pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
KBL Kabul 54.52 321 *e*P **P 07 26 17.8 -2.1**
comp=Z,9.3nm,0.6s,mb4.5
MDJ Mudanjiang 54.69 19 P **P 07 26 21.0 +0.2**
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.1
MDJ AMB AMB
comp=Z,45nm,3.8s
KZA Kyzart 56.51 332 P **P 07 26 33.3 -0.5**
SNR=23
HIA Hailar 56.58 10 *e*P **P 07 26 34.0 -0.2**
HIA pmax pmax
comp=Z,9.0nm,0.6s
HIA Hailar 56.58 10 *e*P **P 07 26 34.0 -0.2**
comp=Z,9.2nm,0.6s,mb4.6
ZAK Zakamensk 56.75 357 *e*P **P 07 26 35.4 0.0**
ZAK *e* pP 07 27 22.7 +2.0
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
ZAK pmax pmax
comp=Z,7.0nm,1.6s,mb4.0

TKM2 Tokmak 2 57.00 333 *e*P **P 07 26 36.4 -0.9**
TKM2 pmax pmax
comp=Z,34nm,0.5s,mb5.2
TKM2 Tokmak 2 57.00 333 P **P 07 26 36.5 -0.8**
SNR=68
TKM2 Tokmak 2 57.00 333 *e*P **P 07 26 36.4 -0.9**
comp=Z,34nm,0.5s,mb5.2
AML Almayashu 57.29 331 P **P 07 26 38.4 -0.9**
SNR=26
AML Almayashu 57.29 331 *e*P **P 07 26 38.3 -1.0**
comp=Z,16nm,0.7s,mb4.8
MK31 Makanchi Array 57.52 340 *i* P **P 07 26 40.0 -0.9**
MK31 pmax pmax
comp=Z,30nm,0.5s,mb5.2
MKAR Makanchi Array 57.52 340 P **P 07 26 40.1 -0.7**
comp=Z,40nm,0.5s,mb5.3,baz=143,slow=7.5,SNR=202
MKAR pP pP 07 27 26.2 -0.1
comp=Z,6.3nm,0.6s,baz=146,slow=6.7,SNR=2.6
EKS2 Erkin-Say 57.66 331 P **P 07 26 41.2 -0.7**
SNR=20
EKS2 Erkin-Say 57.66 331 *e*P **P 07 26 41.0 -0.8**
comp=Z,16nm,0.7s,mb4.8
USP Ospenovka 57.78 332 P **P 07 26 41.4 -1.3**
SNR=10
TLY Talaya 58.03 357 *e*P **P 07 26 44.9 +0.6**
TLY *e* pP 07 27 32.4 +2.6
TLY pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
TLY MLR MLR
comp=Z,39nm,13.0s
TLY Talaya 58.03 357 *e*P **P 07 26 45.5 +1.2**
comp=Z,22nm,1.6s,mb4.5
HVS Khovu-Aksy 58.59 350 *d* *i*P **P 07 26 48.1 -0.1**
KLR Kul'dur 59.45 18 *e*P **P 07 26 48.8 -5.3**
ASAJ Asahikawa 59.58 29 P **P 07 26 54.5 -0.7**
comp=Z,11nm,0.5s,mb4.8,baz=235,slow=7.2,SNR=12
ASAJ Asahikawa 59.58 29 P **P 07 26 54.5 -0.6**
ASAJ pmax pmax
comp=Z,11nm,0.5s
KK31 Karatay Array 59.59 329 *i* P **P 07 26 53.1 -2.1**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
OPO Ambohidratompo 59.67 252 P **P 07 26 59.5 +3.2**
comp=Z,3.8nm,0.6s,mb4.2,baz=33,slow=1.7,SNR=12
YSS Yuzh-Sakhalins 61.79 27⇑*e*P **P 07 27 09.3 -0.6**
YSS pmax pmax
comp=Z,21nm,0.9s,mb4.8
YSS Yuzh-Sakhalins 61.79 27 *e*P **P 07 27 09.8 -0.2**
KURK Kurchatov 62.14 340 *e*P **P 07 27 11.5 -0.7**
ZAL Zalesovo 63.12 345 P **P 07 27 17.5 -1.2**
ZAL *PP pP 07 28 04.1 -0.8
ZALV Zalesovo Beam 63.13 345 P **P 07 27 17.5 -1.2**
comp=Z,16nm,0.3s,mb5.1,baz=144,slow=5.4,SNR=66
ZALV pP pP 07 28 04.1 -0.8
comp=Z,4.2nm,0.7s,baz=145,slow=5.4,SNR=1.5
NVS Novosibirsk 64.34 345 *e*P **P 07 27 24.1 -2.5**
NVS pmax pmax
comp=Z,13nm,1.1s,mb4.5
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=E,6.0nm,1.2s
BDHA Al Bayda' **64.56 289**⇓*e*P **P 07 27 31.6 +2.7**
RPZ Rata Peaks 66.65 135 P **P 07 27 42.8 +1.1**
comp=E,17nm,0.9s,mb4.7,baz=350,slow=2.7,SNR=12
BVA0 Borovoye Array 67.03 337 *i* P **P 07 27 42.9 -0.9**
BVA0 pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BVAR Borovoye Array 67.03 337 P **P 07 27 43.1 -0.8**
comp=Z,37nm,0.5s,mb5.2,baz=142,slow=8.9,SNR=203
BRVK Borovoye 67.10 337 *e*P **P 07 27 43.6 -0.7**
RDF Al-Radifah 67.39 305 *e*P **P 07 27 46.7 +0.1**
baz=305
RDF AMb AMB 07 27 48.1
comp=Z,182nm,0.8s,mb5.8,baz=305
UMR Umm Al-Rimmam 67.49 306 *e*P **P 07 27 47.1 -0.1**
baz=306
UMR AMb AMB 07 27 48.4
comp=Z,244nm,0.5s,baz=306
NAY Al-Naaiem 67.76 305 *e*P **P 07 27 48.6 -0.4**
baz=305
NAY AMb AMB 07 27 49.8
comp=Z,91nm,0.6s,mb5.6,baz=305
MIB Mutribah 67.89 306 *e*P **P 07 27 49.5 -0.3**
baz=306
MIB AMb AMB 07 27 50.8
comp=Z,101nm,0.6s,mb5.6,baz=306
MAW Mawson 67.94 197 *e*P **P 07 27 52.0 +2.7**
comp=Z,12nm,0.6s,mb4.7
MAW Mawson 67.94 197 P **P 07 27 52.1 +2.8**
comp=Z,14nm,0.6s,mb4.8,baz=48,slow=6.0,SNR=78
MAW Mawson 67.94 197 P **P 07 27 52.1 +2.8**
MAW pmax pmax
comp=Z,14nm,0.6s
AB31 Akbulak array 69.15 329 *i* P **P 07 27 56.1 -1.0**
AB31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.5
URZ Urewera 70.15 128 P **P 07 28 05.2 +1.7**
comp=Z,5.6nm,0.5s,mb4.5,baz=337,slow=18,SNR=7.3
YAK Yakutsk 70.48 11⇑*e*P **P 07 28 03.6 -1.3**
YAK pmax pmax
comp=Z,49nm,1.3s,mb5.0
AKTK Aktyubinsk 70.86 329 P **P 07 28 06.5 -1.0**
AKTO Aktyubinsk 70.86 329 P **P 07 28 06.5 -1.0**
comp=Z,2.9nm,0.3s,mb4.4,baz=127,slow=3.9,SNR=20
AKTO Aktyubinsk 70.86 329 *i* P **P 07 28 06.4 -1.1**
AKTO pmax pmax
comp=Z,4.0nm,1.2s,mb3.9
PETK Petropavlovsk- 73.00 29 P **P 07 28 19.4 -0.7**
comp=Z,3.1nm,0.5s,mb4.2,baz=228,slow=5.2,SNR=14
PETK Petropavlovsk- 73.00 29 P **P 07 28 19.5 -0.6**
PETK pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
SVE Sverdlovsk 73.69 335 *e*P **P 07 28 23.9 -0.2**
SVE pmax pmax
comp=Z,42nm,0.8s,mb5.1
GNI Garni 73.83 315⇑*e*P **P 07 28 25.8 +0.5**
GNI pmax pmax
comp=Z,12nm,1.3s
ARU Arti 74.31 334 *c* *i*P **P 07 28 27.5 -0.2**
ARU *e* 07 31 13.9
ARU *e*S S 07 37 44.6 -0.4
ARU *e*SS SS 07 42 39.6 +4.1
ARU pmax pmax
comp=Z,37nm,1.2s,mb4.9
ARU Arti 74.31 334 *e*P **P 07 28 27.4 -0.3**
comp=Z,16nm,0.5s,mb4.9
SYO Syowa Base 76.08 200⇓*e*P **P 07 28 38.4 +0.8**
VNDA Vanda 76.40 169 P **P 07 28 41.2 +1.9**
comp=Z,4.6nm,0.4s,mb4.4,baz=314,slow=5.1,SNR=14
KIV Kislovodsk 76.72 318 *e*P **P 07 28 41.5 -0.2**
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
SEY Seymchan 77.22 19 *e*P **P 07 28 43.9 -0.1**
MALT Malatya 77.76 311 *e*P **P 07 28 48.0 +0.4**
MALT pmax pmax
comp=Z,15nm,1.3s,mb4.5
MALT Malatya 77.76 311 *e*P **P 07 28 48.0 +0.4**
comp=Z,16nm,1.3s,mb4.5
LSZ Lusaka 77.87 256 *e*P **P 07 28 51.2 +2.6**
TIXI Tiksi 79.27 7 *e*P **P 07 28 52.4 -2.7**
TIXI pmax pmax
comp=Z,18nm,1.3s,mb4.5
VRHR Novokhopersk 80.17 324 *e*P **P 07 29 00.0 -0.4**
VRHR pmax pmax
comp=Z,40nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRSR Storozhevoye 81.64 324 *e*P **P 07 29 07.4 -0.7**
VRSR pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
VRSR pmax pmax
comp=N,4.0nm,1.2s
VRSR pmax pmax
comp=E,5.0nm,0.9s
OBN Obninsk 84.48 327⇑*e*P **P 07 29 22.5 -0.1**
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
BILL Bilibino 84.91 19 *e*P **P 07 29 24.4 -0.1**
BILL pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
TIRR Tirgusor 86.65 315 *e*P **P 07 29 34.1 +0.5**
TIRR pmax pmax
comp=Z,12nm,1.0s,mb4.6

TIRR	**Tirgusor**	**86.65 315**	‖*iP*	**P**	**07 29 34.1 +0.5**	
TIRR	**Tirgusor**	**86.65 315**	*eP*	**P**	**07 29 34.1 +0.5**	
	comp=Z,12nm,1.0s,mb4.6					
AKASG	**Malin Array Be**	**87.50 321**	P	**P**	**07 29 36.6 -0.9**	
	comp=Z,3.0nm,0.5s,mb4.4,baz=87,slow=4.6,SNR=12					
VRI	**Vrincioaia**	**88.11 316**	⇑*iP*	**P**	**07 29 41.7 +1.2**	
VRI	**Vrincioaia**	**88.11 316**	⇑P	**P**	**07 29 41.7 +1.2**	
MLR	**Muntele Rosu**	**88.57 316**	⇑*iP*	**P**	**07 29 43.7 +1.0**	
MLR	**Muntele Rosu**	**88.57 316**	⇑P	**P**	**07 29 43.6 +1.0**	
JOF	**Joensuu**	**89.43 334**	*ep*	**P**	**07 29 45.9 -0.4**	
	comp=Z,4.3nm,0.7s,mb4.4					
BURAR	**Bucovina Array**	**89.45 318**	‖*iP*	**P**	**07 29 49.1 +2.4**	
BURAR	**Bucovina Array**	**89.45 318**	‖P	**P**	**07 29 49.1 +2.4**	
SNAA	**Sanae**	**90.10 197**	*eP*	**P**	**07 29 51.9 +2.6**	
SNAA			*e**PP	pP	07 30 39.7 +1.0	
SNAA			pmax	pmax		
	comp=Z,13nm,1.3s					
SNAA	**Sanae**	**90.10 197**	*eP*	**P**	**07 29 51.9 +2.5**	
	comp=Z,13nm,1.3s,mb4.6					
SNAA			*ep*P	pP	07 30 39.7 +1.0	
KOLS	**Kolonicke sedl**	**91.60 319**	*iP*	**P**	**07 29 57.5 +0.8**	
CRVS	**Cervenica-Dubn**	**92.13 319**	*eP*	**P**	**07 29 57.6 -1.5**	
CRVS			*e*		12 35 44.6	
ARCES	**ARCESS Array B**	**93.18 340**	P	**P**	**07 30 03.1 -0.4**	
	comp=Z,0.7nm,0.5s,mb3.9,baz=103,slow=5.5,SNR=16					
GERES	**GERESS Array B**	**97.23 318**	P	**P**	**07 30 23.1 +0.7**	
	comp=Z,0.4nm,0.5s,mb3.9,baz=108,slow=4.3,SNR=4.5					
TORD	**Torodi Ar. Bea**	**106.63 282**	PKiKP	PKiKP	07 35 15.2 +0.5	
	comp=Z,1.0nm,0.6s,baz=54,slow=2.1,SNR=12					
DBIC	**Dimbokro**	**112.68 275**	PKiKP	PKiKP	07 35 27.3 +1.0	
	comp=Z,2.0nm,0.7s,baz=76,slow=4.2,SNR=2.9					
YKA	**Yellowknife Ar**	**116.28 20**	PKP	PKPdf	07 35 31.2 -0.5	
	comp=Z,0.6nm,0.4s,baz=317,slow=3.0,SNR=11					
YKA	**Yellowknife Ar**	**116.28 20**	PKP	PKPdf	07 35 31.2 -0.5	
EDM	**Edmonton**	**122.89 28**	*e*PKIKP	PKPdf	07 35 45.2 +0.5	
NVAR	**Mina Array Bea**	**127.98 45**	PKP	PKPdf	07 35 57.3 +2.4	
	comp=Z,0.7nm,0.5s,baz=318,slow=1.2,SNR=7.5					
ELK	**Elko**	**128.99 41**	*e*PKIKP	PKPdf	07 35 58.0 +1.2	
TPAW	**Teton Pass**	**130.15 36**	*e*PKPdf	PKPdf	07 36 00.8 +1.9	
DUG	**Dugway**	**130.85 41**	*e*PKPdf	PKPdf	07 36 01.9 +1.5	
PDAR	**Pinedale Array**	**131.40 36**	PKP	PKPdf	07 36 02.5 +1.3	
	comp=Z,1.0nm,0.7s,baz=29,slow=0.8,SNR=7.0					
PDAR			SKPbc	SKPbc	07 39 06.4 -1.4	
	comp=Z,1.1nm,0.7s,baz=231,slow=1.7,SNR=8.5					
SCHQ	**Schefferville**	**131.57 355**	PKP	PKPdf	07 36 02.3 +1.0	
	comp=Z,1.8nm,0.3s,baz=134,slow=1.5,SNR=9.7					
SCHQ			SKPbc	SKPbc	07 39 06.8 -1.2	
	comp=Z,4.8nm,0.4s,baz=348,slow=5.5,SNR=16					
ULM	**Lac du Bonnet**	**132.26 20**	SKPbc	SKPbc	07 39 08.6 -1.9	
	comp=Z,7.7nm,0.8s,baz=334,slow=6.6,SNR=7.8					
PLCA	**Paso Flores**	**132.97 182**	SKPbc	SKPbc	07 39 14.6 +1.2	
	comp=Z,1.9nm,0.6s,baz=212,slow=3.1,SNR=12					
RSSD	**Black Hills**	**133.56 31**	*e*PKPdf	PKPdf	07 36 05.8 +0.5	
RSSD			*e*SKPbc	SKPbc	07 39 15.0 -0.2	
WUAZ	**Wupatki**	**134.24 45**	*e*PKPdf	PKPdf	07 36 08.7 +1.9	
ECSD	**EROS,Sioux Fal**	**137.37 26**	*e*PKPdf	PKPdf	07 36 12.2 -0.3	
TXAR	**Lajitas Array**	**143.00 48**	PKP	PKPdf	07 36 21.1 -1.9	
	comp=Z,0.8nm,0.4s,baz=248,slow=1.4,SNR=32					
TXAR			SKPbc	SKPbc	07 39 42.0 -0.5	
	comp=Z,1.1nm,0.8s,baz=256,slow=1.1,SNR=6.3					
TXAR	**Lajitas Array**	**143.00 48**	PKIKP	PKPdf	07 36 21.2 -1.9	
TXAR					07 39 42.0	
TXAR			pmax	pmax		
	comp=Z,1.0nm,0.4s					
TXAR			pmax	pmax		
	comp=N,1.0nm,0.8s					
WMOK	**Wichita Mounta**	**143.00 37**	*e*PKIKP	PKPdf	07 36 19.8 -3.1	
CPUP	**Villa Florida**	**144.13 204**	PKP	PKPdf	07 36 25.7 +0.5	
	comp=N,3.4nm,0.5s,baz=132,slow=1.2,SNR=27					
CPUP			SKPbc	SKPbc	07 39 46.0 +0.7	
	comp=N,2.1nm,0.6s,baz=161,slow=5.0,SNR=6.2					
BINY	**Binghamton**	**144.32 4**	*e*PKPdf	PKPdf	07 36 23.1 -1.9	
CCM	**Cathedral Cave**	**144.35 26**	*e*PKIKP	PKPdf	07 36 23.0 -2.2	
FVM	**French Village**	**144.75 25**	*e*PKIKP	PKPdf	07 36 24.0 -1.9	
OLIL	**Olney**	**145.01 21**	*e*PKPdf	PKPdf	07 36 25.7 -0.6	
JCT	**Junction City**	**145.10 43**	*e*PKIKP	PKPdf	07 36 27.1 +0.4	
BLO	**Bloomington**	**145.15 19**	*e*PKIKP	PKPdf	07 36 25.6 -0.9	
ACSO	**Alum Creek Sta**	**145.16 14**	*e*PKPdf	PKPdf	07 36 25.9 -0.6	
MIAR	**Mount Ida**	**146.07 32**	*e*PKP2	PKPab	07 36 29.3 -1.0	
WCI	**Wyandotte Cave**	**146.08 19**	*e*PKP2	PKPab	07 36 28.7 -1.5	
PARMO	**Parma**	**146.16 25**	*e*PKPbc	PKPbc	07 36 29.4 -0.2	
MCWV	**Mont Chateau**	**146.36 10**	*e*PKPbc	PKPbc	07 36 30.0 -0.1	
SDMD	**Soldier's Deli**	**147.02 6**	*e*PKPbc	PKPbc	07 36 31.6 -0.4	
BDFB	**Brasilia**	**147.13 228**	PKPbc	PKPab	07 36 35.4 +0.4	
	comp=N,1.3nm,0.5s,baz=146,slow=4.5,SNR=13					
BDFB			SKPbc	SKPbc	07 39 52.5 +0.2	
	comp=N,3.0nm,1.1s,baz=338,slow=26,SNR=5.1					
BDFB	**Brasilia**	**147.13 228**	PKP2	PKPab	07 36 35.4 +0.4	
BDFB			pmax	pmax		
	comp=Z,1.0nm,0.5s					
BDFB			pmax	pmax		
	comp=N,3.0nm,1.1s					
HKT	**Hockley**	**148.08 40**	*e*PKP2	PKPbc	07 36 35.5 +0.4	
OXF	**Oxford**	**148.12 27**	*e*PKPbc	PKPbc	07 36 34.5 -0.6	
OXF			*e*PKPab	PKPab	07 36 38.2 -0.2	
PLAL	**Pickwick Lake**	**148.30 25**	*e*PKPdf	PKPdf	07 36 31.7 -0.2	
PLAL			*e*PKPbc	PKPbc	07 36 34.5 -1.0	
TZTN	**Tazewell**	**148.48 17**	*e*PKPbc	PKPbc	07 36 35.4 -0.5	
ELN	**Prospectdale**	**148.54 12**	*e*PKPbc	PKPbc	07 36 34.4 -1.6	
SWET	**Sewanee**	**148.92 21**	*e*PKPbc	PKPbc	07 36 36.2 -0.9	
CPCT	**Cooper Cave**	**149.19 19**	*e*PKPbc	PKPbc	07 36 37.5 -0.3	
TKL	**Tuckaleechee C**	**149.24 18**	*e*PKP2	PKPbc	07 36 37.6 -0.3	
JSC	**Jenkinsville**	**151.23 15**	*e*PKIKP	PKPbc	07 36 42.8 +0.1	
JSC			*e*		07 36 51.3	
BRAL	**Brewton**	**152.13 27**	*e*PKPbc	PKPbc	07 36 45.2 +0.4	
BRAL			*e*PKPab	PKPab	07 36 55.0 0.0	
LPAZ	**La Paz**	**156.92 191**	PKPab	PKPab	07 37 18.9 +3.3	
	comp=N,2.1nm,0.7s,baz=199,slow=3.1,SNR=8.5					
LPAZ	**La Paz**	**156.92 191**	PKP2	PKPab	07 37 19.0 +3.3	
LPAZ			pmax	pmax		
	comp=Z,2.0nm,0.7s					
OTAV	**Otavalo**	**171.52 137**	*e*PKPdf	PKPdf	07 36 60.0 +1.8	

NIED ***04*** *07:37:00, 47.00N×14.180E, h8km, Mw3.6 Best double couple: M0=2.48000×10^14 NP1:φs=15.00000°, δ=88.00000°, λ=145.00000°. NP2:φs=107.00000°, δ=55.00000°, λ=3.00000°.*
MOS ***04*** *07:37:10.8±1.0, 46.96N×14.171E, h10km, mb4.2/3, Error ellipse: s-maj=18.7km s-min=12.1km az=87.9*
JMA ***04*** *07:37:10.5±0.4, 47.05N×14.179E, h11km, M4.1*
IDC ***04*** *07:37:11.2±1.2, 46.88N×14.167E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.7/19, mbtmp3.7/7, ML3.2/1, MS2.5/2, Ms1 2.5/2, ms1mx1.9/33, Error ellipse: s-maj=42.8km s-min=16.0km az=68.0*
ISCJB ***04*** *07:37:12.1±1.7, 46.98N±0.04×14.18E±0.1, h17km±14km, mb3.7/9, Error ellipse: s-maj=13.0km s-min=5.8km az=7.4*
NEIC ***04*** *07:37:13.2±0.7, 46.83N×14.176E, h10km, mb4.2/1, Error ellipse: s-maj=22.7km s-min=12.2km az=174.0*

ISC 04 07:37:11.5±1.9, 46.93N±0.03×14.17E±0.1, h0km±13km, n35, σ0=97/35, mb3.7/9, 3D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.72**	**88**	*k iP*N	**Pg**	**07 37 25.7**	**+0.4**
YSS				*e*		07 37 36.3	
YSS				smax			
	comp=E,2μm,0.3s						
YSS	**Yuzh-Sakhalins**	**0.72**	**88**	‖*iP*g	**Pg**	**07 37 25.8**	**+0.5**
JWK2	**Keihoku**	**1.62 175**		P	**Pn**	**07 37 40.8**	**-0.5**
JWK2				*e*S	**Sn**	**07 38 02.8**	**-0.1**
JRR	**Rishiri**	**1.82 189**		P	**Pn**	**07 37 43.9**	**0.0**
JRR				*e*S	**Sn**	**07 38 08.0**	**+0.4**
JSE	**Soyaes**	**2.07 162**		P	**Pn**	**07 37 46.6**	**-0.8**
UGL	**Uglegorsk**	**2.16**	**6**	PN	**Pn**	**07 37 48.0**	**-0.7**
UGL				*e*		07 38 15.0	
UGL				pmax	pmax		
	comp=Z,38nm,0.6s						
UGL				smax			
	comp=N,900nm,1.6s						
UGL				smax			
	comp=E,800nm,1.6s						
UGL				smax			
	comp=N,270nm,0.5s						
UGL				smax			
	comp=E,330nm,0.5s						
JYG	**Yagishiri**	**2.52 184**		P	**Pn**	**07 37 54.4**	**+0.9**
JSS	**Shosan**	**2.54 178**		P	**Pn**	**07 37 54.4**	**+0.6**
ASAJ	**Asahikawa**	**2.89 167**		P	**Pn**	**07 37 58.1**	**-0.6**
ASAJ	**Asahikawa**	**2.89 167**		Pn	**Pn**	**07 37 58.6**	**0.0**
	comp=E,2.8nm,0.3s,baz=5.8,slow=11,SNR=15						
ASAJ				Lg		07 38 40.0	
	comp=E,11nm,0.3s,baz=48,slow=28,SNR=3.6						

JKK2	**Kamakawa 2**	**3.15 166**		P	**Pn**	**07 38 02.2 -0.1**
JMP	**Maruseppu**	**3.15 158**		P	**Pn**	**07 38 01.5 -0.8**
JHR	**Hokuryu**	**3.19 180**		P	**Pn**	**07 38 03.8 +1.0**
JTKR	**Abashiri--Toko**	**3.35 152**		P	**Pn**	**07 38 03.8 -1.2**
KLR	**Kul'dur**	**7.05 293**		*e*PN	**Pn**	**07 39 07.0 +11**
MJAR	**Matsushiro Arr**	**10.71 195**		LR	LR	07 43 39.6
	comp=E,27nm,19.4s,baz=15,slow=36					
PETK	**Petropavlovsk-**	**11.99**	**53**	LR	LR	07 44 02.5
	comp=E,22nm,20.1s,baz=330,slow=34					
PET	**Petropavlovsk**	**12.48**	**55**	*e*PN	**Pn**	**07 40 11.4 +1.2**
SEY	**Seymchan**	**17.12**	**17**	*e*P	**Pn**	**07 41 09.5 -2.4**
SONM	**Songino Array**	**23.80 285**		P	**P**	**07 42 29.0 +3.3**
	comp=E,0.7nm,0.9s,mb3.2,baz=77,slow=6.5,SNR=4.2					
ZAK	**Zakamensk**	**25.42 292**		*e*P	**P**	**07 42 41.3 +0.8**
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.3s,mb3.9					
ZALV	**Zalesovo Beam**	**36.03 303**		P	**P**	**07 44 13.5 -0.5**
	comp=Z,0.5nm,0.3s,mb3.8,baz=96,slow=8.9,SNR=2.7					
ZAL	**Zalesovo**	**36.04 303**		P	**P**	**07 44 13.5 -0.6**
KTH	**Kantishna Hill**	**39.72**	**40**	P	**P**	**07 44 46.7 +1.7**
	comp=Z,7.1nm,1.3s,mb4.1					
MKAR	**Makanchi Array**	**39.76 292**		P	**P**	**07 44 45.7 +0.1**
	comp=Z,0.4nm,0.3s,mb3.5,baz=67,slow=9.5,SNR=6.4					
MKAR	**Makanchi Array**	**39.76 292**		P	**P**	**07 44 45.7 +0.1**
KURK	**Kurchatov**	**40.59 299**		*e*P	**P**	**07 44 52.3 -0.1**
COLA	**College**	**40.85**	**38**	*e*P	**P**	**07 44 52.9 -1.5**
CMAR	**Chiang Mai Arr**	**45.03 246**		*i* P	**P**	**07 45 25.0 -3.8**
CMAR				pmax	pmax	
	comp=Z,1.0nm,0.3s					
HYT	**Haines Junctio**	**46.48**	**42**	*e*P	**P**	**07 45 42.1 +2.2**
AKASG	**Malin Array Be**	**66.71 320**		P	**P**	**07 48 03.4 -0.4**
	comp=Z,1.0nm,0.8s,mb4.1,baz=35,slow=5.5,SNR=4.9					
AKASG	**Malin Array Be**	**66.71 320**		*i* P	**P**	**07 48 04.3 +0.5**
AKASG				pmax	pmax	
	comp=Z,1.0nm,0.8s					
WRA	**Warramunga Arr**	**66.89 188**		P	**P**	**07 48 04.5 -0.8**
	comp=Z,0.2nm,0.5s,mb3.6,baz=4.0,slow=6.9,SNR=2.7					
ASAR	**Alice Springs**	**70.62 188**		P	**P**	**07 48 28.4 0.0**
	comp=Z,0.7nm,0.8s,mb3.8,baz=14,slow=6.7,SNR=6.7					
TXAR	**Lajitas Array**	**83.94 53**		P	**P**	**07 49 43.6 +0.3**
	comp=Z,0.2nm,0.5s,mb3.6,baz=298,slow=3.8,SNR=3.5					

IDC ***04*** *07:53:20.9±8.4, 36.33N×71.15E, h194km±79km, mb3.1/5, mb1 3.2/8, mb1mx3.0/24, mbtmp3.1/8, Error ellipse: s-maj=45.6km s-min=25.6km az=180.0*
ISCJB ***04*** *07:53:25.0±0.8, 36.73N±0.07×71.2E±0.1, h229km±8km, mb3.2/4, Error ellipse: s-maj=18.1km s-min=7.7km az=30.7*
NNC ***04*** *07:53:26.9±4.8, 37.24N×70.74E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=41.2km s-min=36.4km az=90.0*
NEIC ***04*** *07:53:26.0±0.9, 36.62N×71.28E, h230km±11km, mb4.0/2, Error ellipse: s-maj=22.3km s-min=11.7km az=137.0*

ISC 04 07:53:26.2±0.8, 36.75N±0.06×71.23E±0.10, h213km±8km, n16, σ1=01/21, mb3.2/4, 5C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.83**	**220**	*e*Pn	**Pn**	**07 54 15.0**	**+0.4**
KBL				*e*Sn	**S**	**07 54 51.8**	**-0.7**
AML	**Almayashu**	**5.70**	**19**	*e*Pn	**Pn**	**07 54 51.4**	**+1.7**
AML	28nm,0.4s						
				*e*Sn	**S**	**07 55 55.3**	**-0.8**
KK31	**Karatay Array**	**6.37**	**355**	⇑Pn	**Pn**	**07 54 58.7**	**+0.4**
KK31	1.8nm,0.3s,baz=190,slow=13,SNR=15						
				Sn	**S**	**07 56 09.4**	**-2.1**
	8.0nm,0.5s,baz=186,slow=23,SNR=17						
TKM2	**Tokmak 2**	**7.02**	**27**	⇑Pn	**Pn**	**07 55 07.3**	**+0.7**
TKM2	3.6nm,0.8s						
				⇑Sn	**S**	**07 56 26.1**	**-0.6**
	8.9nm,0.8s						
TKM2	**Tokmak 2**	**7.02**	**27**	*e*Pn	**Pn**	**07 55 08.2**	**+1.6**
	1.9nm,0.5s						
MKAR	**Makanchi Array**	**12.98**	**36**	P	**Pn**	**07 56 22.4**	**-0.4**
	0.3nm,0.3s,baz=223,slow=12,SNR=5.8						
AB31	**Akbulak array**	**14.96**	**330**	Pn	**Pn**	**07 56 48.3**	**+1.2**
	0.4nm,0.5s,baz=137,slow=12,SNR=12						
AB31				⇑Sn	**S**	**07 59 32.7**	**-0.1**
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**16.29**	**358**	P	**P**	**07 57 03.9**	**+1.8**
	0.5nm,0.3s,baz=162,slow=12,SNR=6.8						
AKTK	**Aktyubinsk**	**16.66**	**329**	P	**P**	**07 57 06.7**	**+0.5**
AKTO	**Aktyubinsk**	**16.66**	**329**	⇑Pn	**Pn**	**07 57 08.0**	**+0.6**
	0.4nm,1.0s						
AKTO	**Aktyubinsk**	**16.66**	**329**	P	**P**	**07 57 06.7**	**+0.5**
	0.5nm,0.3s,baz=118,slow=9.8,SNR=10						
ZALV	**Zalesovo Beam**	**19.61**	**24**	P	**P**	**07 57 37.8**	**-0.4**
	1.5nm,0.3s,baz=223,slow=10,SNR=4.5						
SONM	**Songino Array**	**28.04**	**56**	P	**P**	**07 58 57.0**	**-0.5**
	0.3nm,0.7s,mb3.0,baz=262,slow=10.0,SNR=2.8						
ARCES	**ARCESS Array B**	**40.99**	**337**	P	**P**	**08 00 47.0**	**-0.7**
	0.4nm,0.4s,mb3.2,baz=114,slow=7.9,SNR=12						
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**08 01 12.9**	**-1.5**
	0.4nm,0.4s,mb3.1,baz=98,slow=7.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**65.91**	**269**	P	**P**	**08 03 45.7**	**-3.7**
	0.6nm,0.5s,mb3.5,baz=49,slow=6.3,SNR=10						

NIED ***04*** *08:03:00, 39.00N×141.70E, h68km, Mw4.0 Best double couple: M0=1.24000×10^15 NP1:φs=203.00000°, δ=59.00000°, λ=81.00000°. NP2:φs=40.00000°, δ=32.00000°, λ=105.00000°.*
ISCJB ***04*** *08:03:28.4±0.5, 38.96N±0.04×141.72E±0.08, h72km±3km, mb4.0/16, Error ellipse: s-maj=10.5km s-min=5.5km az=23.3*
IDC ***04*** *08:03:28.7±0.8, 38.91N×141.62E, h59km±6km, mb3.8/13, mb1 4.0/14, mb1mx3.9/22, mbtmp3.8/14, MS2.7/2, Ms1 2.7/2, ms1mx2.1/29, Error ellipse: s-maj=16.9km s-min=11.9km az=93.0*
MOS ***04*** *08:03:29.3±1.3, 38.99N×141.69E, h83km, mb4.2/3, Error ellipse: s-maj=14.3km s-min=11.0km az=103.8*
NEIC ***04*** *08:03:29.2±0.4, 39.01N×141.71E, mb4.5/2, MW4.0(NIED), Error ellipse: s-maj=11.2km s-min=8.3km az=139.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi; [1 JMA] in Akita Prefectures.
JMA ***04*** *08:03:29.2, 38.95N×141.68E, h69km±1km, M4.0*
JMA Felt II J1.

ISC 04 08:03:29.6±0.5, 38.95N±0.04×141.72E±0.08, h66km±3km, h63km±2.0km: pP-P, n47, σ0=89/50, mb4.0/16, 7C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.14**	**343**	⇑P	**Pn**	**08 03 39.4**	**0.0**
OFUJ				*e*S	**Sn**	**08 03 46.8**	**+0.2**
JMK	**Ichinoseki**	**0.39**	**271**	⇑P	**Pn**	**08 03 40.5**	**-0.5**
JMK				*e*S	**Sn**	**08 03 49.1**	**-0.2**
JIO	**Ouri**	**0.57**	**211**	⇑P	**Pn**	**08 03 42.4**	**+1.0**
JIO				*e*S	**Sn**	**08 03 51.9**	**-0.5**
JOM	**Ohasama**	**0.62**	**328**	⇑P	**Pn**	**08 03 43.1**	**+1.0**
JOM				*e*S	**Sn**	**08 03 53.3**	**-0.1**
JOU	**Okura**	**1.01**	**235**	⇑P	**Pn**	**08 03 47.6**	**+0.2**
JOU				*e*S	**Sn**	**08 04 01.5**	**-0.1**
JYK	**Kaneyama**	**1.06**	**269**	⇑P	**Pn**	**08 03 48.3**	**+0.2**
JYK				*e*S	**Sn**	**08 04 02.6**	**-0.2**
JMM	**Marumori**	**1.30**	**214**	⇑P	**Pn**	**08 03 50.9**	**-0.5**
JMM				*e*S	**Sn**	**08 04 07.4**	**-1.0**
MJAR	**Matsushiro Arr**	**3.67**	**230**	P	**Pn**	**08 04 25.3**	**+1.4**
	4.4nm,0.3s,baz=42,slow=12,SNR=42						
MAJO	**Matsushiro**	**3.68**	**230**	*e*P	**Pn**	**08 04 25.1**	**+1.2**
MAT	**Matsushiro**	**3.68**	**230**	P	**Pn**	**08 04 25.8**	**+1.9**
MAT				*e*S	**Sn**	**08 05 07.0**	**+1.0**
ASAJ	**Asahikawa**	**5.21**	**7**	P	**Pn**	**08 04 44.0**	**-0.8**
	4.4nm,0.3s,baz=230,slow=10,SNR=20						
ASAJ				S	**Sn**	**08 05 43.8**	**+0.3**
	2.9nm,0.3s,baz=151,slow=33,SNR=4.3						
ASAJ	**Asahikawa**	**5.21**	**7**	P	**Pn**	**08 04 44.1**	**-0.7**
ASAJ				S	**Sn**	**08 05 43.8**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.96**	**30**	*e*S	**Sn**	**08 05 56.9**	**-5.0**
YUK				smax			
	comp=E,490nm,0.7s						
YUK				smax			
	comp=N,370nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.04**	**5**	P	**Pn**	**08 05 29.8**	**+6.3**
KSRS	**Korea Array**	**10.96**	**266**	P	**Pn**	**08 06 06.2**	**+2.8**
	comp=N,0.3nm,0.3s,baz=74,slow=14,SNR=7.2						
KSRS				LR	LR	08 10 20.6	

	comp=N,42nm,18.6s,baz=167,slow=38					
KLR	**Kul'dur**	**12.52**	**328**	*e*P	**Pn**	**08 06 27.0**	**+2.4**
PETK	**Petropavlovsk-**	**17.93**	**33**	LR	LR	08 15 59.8
	comp=N,21nm,19.3s,baz=198,slow=42					
BOD	**Bodaibo**	**26.07**	**325**	*e*P	**P**	**08 08 53.9**	**-2.6**
BOD				pmax	pmax	
	comp=Z,3.0nm,2.0s,mb3.4					
SONM	**Songino Array**	**26.97 301**		P	**P**	**08 09 05.1**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.5,baz=94,slow=7.8,SNR=5.8					
ZALV	**Zalesovo Beam**	**40.83 311**		P	**P**	**08 11 04.0**	**-0.4**
	comp=Z,3.5nm,0.6s,mb4.3,baz=95,slow=9.2,SNR=11					
ZALV				pP	pP	08 11 18.4 -2.4
	comp=Z,1.2nm,0.3s,baz=42,slow=9.0,SNR=2.3					
ZALV	**Zalesovo Beam**	**40.83 311**		P	**P**	**08 11 04.0**	**-0.4**
ZALV				pP	pP	08 11 18.4 -2.4
ZAL	**Zalesovo**	**40.84 311**		P	**P**	**08 11 04.0**	**-0.5**
MK31	**Makanchi Array**	**43.34 300**		*e*P	**P**	**08 11 24.4**	**-0.5**
MKAR	**Makanchi Array**	**43.34 300**		P	**P**	**08 11 24.4**	**-0.4**
	comp=Z,4.0nm,0.7s,mb4.3,baz=85,slow=9.8,SNR=29					
KURK	**Kurchatov**	**44.97 307**		*e*P	**P**	**08 11 36.7**	**-1.1**
KURK				*e**PP	pP	08 11 52.7 -1.8
KURK				pmax	pmax	
	comp=Z,9.0nm,0.9s,mb4.5					
KURK	**Kurchatov**	**44.97 307**		*e*P	**P**	**08 11 36.7**	**-1.1**
	comp=Z,8.5nm,0.9s,mb4.5					
KURK				*ep*P	pP	08 11 52.7 -1.8
KDAK	**Kodiak Island**	**45.53**	**43**	P	**P**	**08 11 42.7**	**+0.5**
	comp=Z,1.8nm,0.6s,mb4.0,baz=192,slow=8.0,SNR=3.8					
KDAK	**Kodiak Island**	**45.53**	**43**	P	**P**	**08 11 42.7**	**+0.5**
TKM2	**Tokmak 2**	**48.96 297**		*e*P	**P**	**08 12 09.4**	**+0.3**
TKM2				*e**PP	pP	08 12 26.2 +0.3
TKM2				*e**SP	sP	08 12 34.4 +0.9
TKM2				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.3					
TKM2	**Tokmak 2**	**48.96 297**		*e*P	**P**	**08 12 09.4**	**+0.3**
	comp=Z,3.0nm,0.8s,mb4.3					
TKM2				*ep*P	pP	08 12 26.2 +0.3
TKM2				*es*P	sP	08 12 34.4 +1.0
BVAR	**Borovoye Array**	**49.48 311**		P	**P**	**08 12 12.2**	**-0.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=81,slow=8.9,SNR=3.0					
INK	**Inuvik**	**52.58**	**28**	P	**P**	**08 12 36.4**	**+0.5**
	comp=Z,2.3nm,0.6s,mb4.4,baz=305,slow=5.4,SNR=11					
AKTK	**Aktyubinsk**	**57.59 311**		P	**P**	**08 13 11.9**	**-0.4**
AKTO	**Aktyubinsk**	**57.59 311**		P	**P**	**08 13 11.9**	**-0.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=50,slow=12,SNR=4.7					
WRA	**Warramunga Arr**	**58.98 188**		P	**P**	**08 13 21.3**	**-1.0**
	comp=Z,3.2nm,0.7s,mb4.5,baz=6.3,slow=7.1,SNR=30					
WRA				pP	pP	08 13 38.2 -1.4
	comp=Z,0.6nm,0.5s,baz=5.0,slow=7.1,SNR=3.0					
ARCES	**ARCESS Array B**	**62.30 339**		P	**P**	**08 13 44.2**	**0.0**
	comp=Z,1.4nm,1.0s,mb4.0,baz=44,slow=8.8,SNR=4.3					
ARCES				pP	pP	08 14 00.3 -1.4
	comp=Z,1.9nm,0.9s,baz=52,slow=7.9,SNR=3.0					
ARCES	**ARCESS Array B**	**62.30 339**		P	**P**	**08 13 44.2**	**0.0**
ARCES				pP	pP	08 14 00.3 -1.4
ASAR	**Alice Springs**	**62.71 188**		P	**P**	**08 13 47.0**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=4.5,slow=5.0,SNR=12					
ASAR				pP	pP	08 14 03.2 -1.7
	comp=Z,0.2nm,0.7s,baz=173,slow=16,SNR=2.2					
NB2	**NORSAR Subarra**	**72.52 337**		P	pP	08 15 05.6 -1.1
	comp=Z,1.5nm,0.6s,baz=38,slow=6.2					
**NOA

PPM				*i* S	Sn	09 20 03.1	-1.4
MZVM		**2.53**	**5**	*e*P	Pn	09 19 31.7	-2.4
MZVM				*i* S	Sn	09 19 59.2	-5.4
VHO	**Vista Hermosa**	**2.64**	**81**	*e*P	Pn	09 19 32.6	-3.0
VHO				*i* S	Sn	09 20 02.9	-4.3
VHO	**Vista Hermosa**	**2.64**	**81**	*e*P	Pn	09 19 33.8	-1.8
VHO				*i* S	Sn	09 20 03.6	-3.6
IIO	**Organos**	**3.00**	**13**	*e*P	Pn	09 19 43.1	+2.5
IIO				*i* S	Sn	09 20 14.4	-1.9
IIO	**Organos**	**3.00**	**13**	*e*P	Pn	09 19 43.1	+2.5
IIO				*i* S	Sn	09 20 15.6	-0.7

ISCJB ***04*** *10:06:19.4±0.5, 3917S±005×17483E±009, h233km±5km, mb3.2/3, Error ellipse: s-maj=12.2km s-min=6.6km az=34.3*
IDC ***04*** *10:06:19.6±1.2, 3933S×17501E, h226km±20km, mb3.1/3, mb1 3.4/4, mb1mx3.2/16, mbtmp3.3/4, Error ellipse: s-maj=45.8km s-min=15.7km az=133.0*
NEIC ***04*** *10:06:22.3, 3918S×17489E, h218km, MG4.5(WEL), After WEL.*

ISC 04 10:06:20.3±0.5, 3917S±005×17484E±009, h229km±5km, n60, σ0§96/63, mb3.2/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.08**	**303**	P	**Pn**	**10 06 49.9**	**0.0**
VRZ				S	**S**	**10 07 11.7**	**-1.3**
RAEZ	**Rainy Point**	**0.37**	**251**	P	**Pn**	**10 06 51.0**	**+0.7**
TWVZ	**Taurewa**	**0.47**	**78**	P	**Pn**	**10 06 50.9**	**+0.3**
TWVZ				S	**S**	**10 07 12.8**	**-1.5**
WPVZ	**Whakapapa**	**0.55**	**94**	P	**Pn**	**10 06 51.4**	**+0.5**
FWVZ	**Far West T-bar**	**0.56**	**99**	P	**Pn**	**10 06 51.5**	**+0.6**
WTVZ	**West Tongariro**	**0.58**	**85**	P	**Pn**	**10 06 51.4**	**+0.4**
WTVZ				S	**S**	**10 07 13.3**	**-1.7**
NEZ	**North Egmont**	**0.59**	**260**	P	**Pn**	**10 06 52.1**	**+1.1**
WAZ	**Wanganui**	**0.60**	**169**	P	**Pn**	**10 06 52.2**	**+1.2**
WNVZ	**Wahianoa**	**0.61**	**105**	P	**Pn**	**10 06 51.8**	**+0.7**
TUVZ	**Tukino**	**0.64**	**99**	P	**Pn**	**10 06 52.0**	**+0.8**
HIZ	**Hauiti**	**0.65**	**1**	P	**Pn**	**10 06 51.0**	**-0.3**
PKE	**Pukeiti**	**0.67**	**268**	P	**Pn**	**10 06 52.1**	**+0.8**
MOVZ	**Moawhango**	**0.74**	**109**	P	**Pn**	**10 06 51.9**	**+0.3**
NWEZ	**Newall Road**	**0.77**	**262**	P	**Pn**	**10 06 52.6**	**+0.8**
TSZ	**Takapari Road**	**1.24**	**136**	P	**Pn**	**10 06 55.5**	**+0.9**
BKZ	**Black Stump Fm**	**1.28**	**90**	P	**Pn**	**10 06 54.7**	**-0.2**
MRZ	**Mangatainoka R**	**1.59**	**159**	P	**Pn**	**10 06 58.0**	**+0.7**
KIW	**Kapiti Island**	**1.69**	**178**	P	**Pn**	**10 06 58.9**	**+0.8**
CAW	**Cannon Point**	**1.94**	**175**	P	**Pn**	**10 07 01.2**	**+0.8**
URZ	**Urewera**	**1.99**	**64**	P	**Pn**	**10 06 59.6**	**-1.4**
URZ	63nm,0.3s,baz=252,slow=7.2,SNR=452			S	**S**	**10 07 27.4**	**-5.4**
URZ	**Urewera**	**1.99**	**64**	P	**Pn**	**10 06 59.3**	**-1.6**
MTW	**Mount Morrison**	**2.05**	**166**	P	**Pn**	**10 07 01.9**	**+0.5**
MRW	**Makara Radio**	**2.06**	**183**	P	**Pn**	**10 07 02.3**	**+0.8**
TCW	**Tory Channel**	**2.09**	**192**	P	**Pn**	**10 07 02.8**	**+1.0**
WEL	**Wellington**	**2.12**	**182**	P	**Pn**	**10 07 02.7**	**+0.7**
SNZO	**South Karori**	**2.14**	**183**	P	**Pn**	**10 07 02.9**	**+0.6**
KNZ	**Kokohu**	**2.21**	**87**	P	**Pn**	**10 07 02.7**	**-0.3**
BHW	**Baring Head**	**2.24**	**179**	P	**Pn**	**10 07 03.7**	**+0.5**
PAWZ	**Paruwai Farm**	**2.25**	**169**	P	**Pn**	**10 07 04.0**	**+0.6**
MWZ	**Matawai**	**2.26**	**69**	P	**Pn**	**10 07 02.4**	**-1.1**
MSWZ	**Moikau Station**	**2.27**	**172**	P	**Pn**	**10 07 04.1**	**+0.6**
NNZ	**Nelson**	**2.33**	**208**	P	**Pn**	**10 07 04.9**	**+0.7**
QRZ	**Quartz Range**	**2.43**	**226**	P	**Pn**	**10 07 05.1**	**-0.1**
CMWZ	**Cape Campbell**	**2.62**	**190**	P	**Pn**	**10 07 08.6**	**+1.4**
BSWZ	**Blackbirch Sta**	**2.65**	**196**	P	**Pn**	**10 07 08.5**	**+1.0**
PUZ	**Puketiti**	**2.89**	**69**	P	**Pn**	**10 07 08.7**	**-1.5**
THZ	**Tophouse**	**2.98**	**209**	P	**Pn**	**10 07 11.6**	**+0.4**
MXZ	**Matakaoa Point**	**3.16**	**61**	P	**Pn**	**10 07 11.8**	**-1.5**
KHZ	**Kahutara**	**3.39**	**197**	P	**Pn**	**10 07 16.4**	**+0.5**
DSZ	**Denniston Nort**	**3.46**	**221**	P	**Pn**	**10 07 16.6**	**-0.1**
LTZ	**Lake Taylor**	**4.10**	**208**	P	**Pn**	**10 07 24.4**	**+0.1**
CRLZ	**Canterbury Las**	**4.71**	**200**	P	**Pn**	**10 07 30.9**	**-0.8**
MQZ	**McQueen's Vall**	**4.82**	**199**	P	**Pn**	**10 07 32.1**	**-1.0**
WVZ	**Waitaha Valley**	**4.99**	**217**	P	**Pn**	**10 07 34.0**	**-1.1**
RPZ	**Rata Peaks**	**5.36**	**211**	P	**Pn**	**10 07 39.8**	**+0.1**
RPZ	22nm,0.3s,baz=0.7,slow=2.2,SNR=303			S	**S**	**10 08 40.2**	**-2.9**
FOZ	**Fox Glacier**	**5.86**	**220**	P	**Pn**	**10 07 43.6**	**-2.5**
LBZ	**Lake Benmore**	**6.27**	**212**	P	**Pn**	**10 07 50.1**	**-1.2**
ODZ	**Otahua Downs**	**6.65**	**207**	P	**Pn**	**10 07 56.1**	**0.0**
JCZ	**Jackson Bay**	**6.69**	**221**	P	**Pn**	**10 07 55.2**	**-1.5**
WKZ	**Wanaka**	**7.13**	**216**	P	**Pn**	**10 08 00.5**	**-1.7**
EAZ	**Earnscleugh**	**7.32**	**212**	P	**Pn**	**10 08 03.2**	**-1.4**
MSZ	**Milford Sound**	**7.54**	**221**	P	**Pn**	**10 08 06.6**	**-0.8**
TUZ	**Tuapeka**	**7.79**	**208**	P	**Pn**	**10 08 10.8**	**+0.1**
MLZ	**Mavora Lakes**	**7.91**	**217**	P	**Pn**	**10 08 12.2**	**0.0**
WHZ	**Wether Hill Ro**	**8.43**	**215**	P	**Pn**	**10 08 17.8**	**-1.0**
ASAR	**Alice Springs**	**37.86**	**282**	P	**P**	**10 13 16.6**	**+1.4**
	0.6nm,0.7s,mb3.3,baz=125,slow=9.5,SNR=11						
WRA	**Warramunga Arr**	**39.71**	**287**	P	**P**	**10 13 31.0**	**+0.5**
	0.6nm,0.5s,mb3.2,baz=124,slow=8.0,SNR=15						
FITZ	**Fitzroy Crossi**	**47.37**	**282**	P	**P**	**10 14 32.7**	**+1.2**
	0.4nm,0.3s,mb3.2,baz=129,slow=6.5,SNR=3.7						
PKME	**Peaks-Kenny Pk**	**133.22**	**61**	*e*PKPdf	PKPdf	10 25 12.1	+3.9
ARCES	**ARCESS Array B**	**145.49**	**342**	PKPbc	PKPbc	10 25 29.7	-0.6
	0.3nm,0.3s,baz=59,slow=2.5,SNR=8.4						

IDC ***04*** *10:08:36.6±1.1, 488S×10576W, h0km, mb3.7/10, mb1 4.0/10, mb1mx3.9/17, mbtmp3.7/10, MS3.9/18, Ms1 3.9/18, ms1mx3.8/25, Error ellipse: s-maj=40.5km s-min=18.6km az=59.0*
ISCJB ***04*** *10:08:37.2±0.7, 489S±009×1056W±0.1, h10km, mb4.0/15, MS3.9/18, Error ellipse: s-maj=17.6km s-min=12.3km az=151.9*
NEIC ***04*** *10:08:38.9±1.1, 488S×10561W, h10km, mb4.5/4, Error ellipse: s-maj=36.3km s-min=13.7km az=60.0*

ISC 04 10:08:38.9±0.7, 490S±010×1056W±01, h10km, n36, σ1§17/19, mb4.0/15, MS3.9/18, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**24.30**	**26**	P	**P**	**10 13 55.9**	**-0.7**
	2.9nm,1.0s,mb3.7,baz=207,slow=6.8,SNR=3.0						
CMIG				LR	LR	10 21 12.4	
	comp=Z,255nm,20.9s,MS3.7,baz=197,slow=31						
CMIG	**Matias Romero**	**24.30**	**26**	P	**P**	**10 13 55.9**	**-0.7**
CMIG				LR	LR	10 21 12.4	
ATAH	**Atahualpa**	**27.16**	**96**	LR	LR	10 22 22.7	
	comp=Z,155nm,18.6s,MS3.6,baz=95,slow=30						
LPIG	**La Paz**	**29.19**	**351**	LR	LR	10 23 13.3	
	comp=Z,354nm,19.8s,MS4.0,baz=24,slow=30						
ROSC	**El Rosal**	**32.73**	**73**	LR	LR	10 25 41.9	
	comp=Z,157nm,19.8s,MS3.7,baz=167,slow=31						
RKT	**Rikitea**	**33.62**	**235**	*e*LR	LR	10 24 40.1	
	530nm,27.5s						
RKT	**Rikitea**	**33.62**	**235**	*e*T		10 50 56.0	
	2.9nm,0.3s						
TXAR	**Lajitas Array**	**34.09**	**3**	P	**P**	**10 15 23.1**	**-0.6**
	0.1nm,0.3s,mb3.2,baz=132,slow=2.6,SNR=2.3						
TXAR				PcP	PcP	10 18 02.0	+0.8
	0.4nm,0.8s,baz=171,slow=6.4,SNR=4.2						
TXAR				LR	LR	10 26 44.1	
	comp=Z,168nm,20.1s,MS3.8,baz=210,slow=32						
TAOE	**Nuku Hiva Isla**	**34.49**	**262**	*e*LR	LR	10 24 33.7	
	1μm,25.4s						
SDV	**Santo Domingo**	**37.48**	**69**	P	**P**	**10 15 52.9**	**-0.1**
	4.4nm,1.1s,mb4.2,baz=359,slow=3.3,SNR=2.8						
LPAZ	**La Paz**	**38.48**	**110**	LR	LR	10 28 14.7	
	comp=Z,98nm,21.4s,MS3.6,baz=270,slow=30						
LVC	**Limon Verde**	**39.60**	**120**	LR	LR	10 26 57.3	
	comp=Z,44nm,19.2s,MS3.3,baz=189,slow=28						
PLAL	**Pickwick Lake**	**42.98**	**21**	*e*P	**P**	**10 16 39.0**	**+0.7**
	13nm,1.0s,mb4.6						
ARUT	**Antelope Range**	**43.09**	**351**	*e*P	**P**	**10 16 40.8**	**+1.6**
CFAA	**Coronel Fontan**	**43.96**	**132**	P	**P**	**10 16 48.0**	**+1.6**
	0.3nm,0.7s,mb3.1,baz=300,slow=7.1,SNR=5.0						
NVAR	**Mina Array Bea**	**44.69**	**346**	P	**P**	**10 16 53.0**	**+1.0**
	0.8nm,0.9s,mb3.5,baz=169,slow=8.6,SNR=6.4						
PPT	**Papeete**	**44.78**	**250**	*e*S	**S**	**10 23 30.6**	**-0.1**
	79nm,25.8s						
PPT				*e*LR	LR	10 29 29.7	
	415nm,26.2s,baz=74						
DUG	**Dugway**	**45.36**	**352**	*e*P	**P**	**10 16 59.2**	**+1.8**
	3.1nm,1.1s,mb4.0						
TBI	**Tubuai**	**46.05**	**242**	*e*LR	LR	10 30 16.6	
	307nm,27.0s						
TBI	**Tubuai**	**46.05**	**242**	*e*T		11 06 26.0	
	2.6nm,0.2s						

PLCA	**Paso Flores**	**47.55**	**144**	P	**P**	**10 17 14.8**	**+0.1**
	5.3nm,1.1s,mb4.5,baz=322,slow=9.4,SNR=4.0						
PLCA				LR	LR	10 32 03.4	
	comp=Z,336nm,20.0s,MS4.3,baz=13,slow=30						
PDAR	**Pinedale Array**	**47.58**	**356**	P	**P**	**10 17 13.1**	**-1.7**
	0.3nm,0.7s,mb3.5,baz=150,slow=15,SNR=2.8						
PDAR				LR	LR	10 34 46.6	
	comp=Z,165nm,18.8s,MS4.0,baz=184,slow=33						
MOD	**Modoc**	**48.47**	**345**	*e*P	**P**	**10 17 23.0**	**+1.3**
	13nm,1.1s,mb4.9						
HLID	**Hailey**	**48.89**	**352**	*e*P	**P**	**10 17 26.0**	**+1.1**
	4.4nm,1.3s,mb4.3						
YBH	**Yreka Blue Hor**	**48.96**	**343**	P	**P**	**10 17 23.4**	**-2.1**
	1.1nm,0.7s,mb4.0,baz=150,slow=14,SNR=2.3						
CPUP	**Villa Florida**	**50.78**	**120**	P	**P**	**10 17 38.4**	**-1.2**
	0.9nm,0.7s,mb3.8,baz=288,slow=6.4,SNR=2.0						
CPUP				LR	LR	10 35 43.0	
	comp=Z,130nm,19.2s,MS4.0,baz=54,slow=32						
ULM	**Lac du Bonnet**	**55.58**	**8**	LR	LR	10 40 26.6	
	comp=Z,158nm,20.1s,MS4.1,baz=226,slow=34						
BDFB	**Brasilia**	**57.52**	**105**	LR	LR	10 41 34.5	
	comp=Z,63nm,18.7s,MS3.8,baz=110,slow=34						
AFI	**Afiamalu**	**65.70**	**257**	LR	LR	10 43 19.4	
	comp=Z,132nm,18.5s,MS4.2,baz=176,slow=32						
YKA	**Yellowknife Ar**	**67.56**	**356**	P	**P**	**10 19 34.1**	**-1.0**
	1.9nm,1.1s,mb4.0,baz=167,slow=5.9,SNR=5.7						
YKA				LR	LR	10 47 11.2	
	comp=Z,26nm,19.5s,MS3.5,baz=170,slow=34						
SCHQ	**Schefferville**	**67.66**	**23**	LR	LR	10 48 45.5	
	comp=Z,101nm,18.5s,MS4.1,baz=113,slow=36						
KDAK	**Kodiak Island**	**72.98**	**336**	LR	LR	10 44 19.9	
	comp=Z,219nm,19.3s,MS4.5,baz=101,slow=29						
KTH	**Kantishna Hill**	**76.24**	**341**	*e*P	**P**	**10 20 26.1**	**-1.2**
	2μm,0.8s						
QSPA	**South Pole Qui**	**85.15**	**180**	LR	LR	10 51 58.1	
	comp=Z,91nm,18.8s,MS4.2,baz=47,slow=30						
PETK	**Petropavlovsk-**	**97.91**	**323**	P	**P**	**10 22 14.2**	**-0.6**
	2.9nm,0.9s,mb4.8,baz=108,slow=4.7,SNR=3.6						
PETK				LR	LR	10 58 39.4	
	comp=Z,59nm,19.2s,MS4.1,baz=252,slow=31						
CMAR	**Chiang Mai Arr**	**152.48**	**301**	PKPab	PKPab	10 28 43.3	-3.3
	0.8nm,0.3s,baz=14,slow=2.9,SNR=5.3						

CASC 04 10:13:25.1±2.4, 712N×8234W, h13km±22km, MD4.3, 8C-4D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**1.31**	**355⇑**	*e*P	Pn	10 13 46.8	-2.3
DVD				*e*S	Sb	10 14 03.1	-3.2
CTCR	**Cotoan**	**1.81**	**347⇑**	*i*P	Pn	10 13 53.5	-2.5
AZU	**Azuero**	**2.15**	**72⇓**	*e*P	Pn	10 13 59.1	-1.5
AZU				*e*S	Sn	10 14 22.9	-4.3
CNI	**Changuinola**	**2.29**	**355⇑**	*i*P	Pn	10 14 02.0	-0.5
CNI				*e*S	Sn	10 14 28.4	-2.2
BAR1		**2.32**	**335⇓**	*i*P	Pn	10 14 00.8	-2.2
BAR1				*e*S	Sn	10 14 28.3	-3.1
BUS	**Buena Vista**	**2.80**	**330⇑**	*e*P	Pn	10 14 08.0	-1.5
BUS				*e*S	Sn	10 14 41.4	-1.8
QCR	**Quepos**	**2.92**	**322⇑**	*i*P	Pn	10 14 08.5	-2.8
QCR				*e*S	Sn	10 14 42.8	-3.4
LIO	**Limon**	**2.94**	**346**	*e*P	Pn	10 14 10.8	-0.8
LIO				*e*S	Sn	10 14 46.9	+0.1
LCR2	**La Lucha 2**	**3.08**	**328⇑**	*e*P	Pn	10 14 11.9	-1.6
LCR2				*e*S	Sn	10 14 48.7	-1.5
BCIP	**Isla Barro Col**	**3.20**	**50**	*e*P	Pn	10 14 14.1	-1.0
PRS1	**Puriscal**	**3.45**	**326⇓**	*e*P	Pn	10 14 15.8	-2.8
CGA2	**Cerro Gallo 2**	**3.56**	**324⇑**	*e*P	Pn	10 14 18.2	-1.9
CGA2				*e*S	Sn	10 14 58.8	-3.4
JCR	**Jicaral**	**3.86**	**315⇓**	*i*P	Pn	10 14 22.6	-1.5
VCR	**Vista de Mar**	**4.42**	**313**	*e*P	Pn	10 14 30.0	-1.9
LAPE	**La Pedrera**	**10.68**	**87**	*i*P		10 14 35.4	
PTP	**Ponta Puerca**	**19.68**	**54⇑**	*i*P		10 13 44.3	
PTP				*e*S		10 14 01.5	

ISCJB ***04*** *10:31:26.0±0.6, 5141N±003×16.13E±004, h0km, Error ellipse: s-maj=4.6km s-min=2.6km az=31.1*
WAR ***04*** *10:31:27.4, 5153N×1614E, ML2.6, Mining Induced*
IPEC ***04*** *10:31:27.3±0.3, 5152N×1618E, h9km±1km, ML2.2/4, Error ellipse: s-maj=2.3km s-min=0.7km az=30.0*
CSEM ***04*** *10:31:27.6±0.2, 5149N×1615E, h1km, ML3.2/8, Error ellipse: s-maj=3.1km s-min=1.7km az=21.0*
NEIC ***04*** *10:31:27.4±1.3, 5146N×1611E, h5km, MG2.6(WAR), Error ellipse: s-maj=15.1km s-min=6.2km az=37.0*
VIE ***04*** *10:31:28.8±0.5, 5132N×1616E, h0km, mb2.0/4, ML2.9/4, Error ellipse: s-maj=3.1km s-min=2.9km az=171.0 64 km WNW of Wroclaw Suspected Mining induced.*

ISC 04 10:31:26.6±0.6, 5149N±003×1615E±004, h0km, n35, σ0§85/68, 3C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**172**	*e*Pg	**Pg**	**10 31 40.1**	**+1.0**
KSP				*e*Sg	**Sg**	**10 31 49.5**	**+1.9**
KSP	**Ksiaz**	**0.66**	**172**	*i*/*e*Pg	**Pg**	**10 31 40.1**	**+1.0**
KSP				*e*Sg	**Sg**	**10 31 49.1**	**+1.5**
KSP	**Ksiaz**	**0.66**	**172**	*i*/*e*Pg	**Pg**	**10 31 40.1**	**+1.0**
KSP				*e*Sg	**Sg**	**10 31 49.3**	**+1.7**
UPC	**Upice**	**0.99**	**185**	*e*Pg	**Pg**	**10 31 46.2**	**+0.7**
DPC	**Dobruska-Polom**	**1.15**	**175**	Pg	**Pg**	**10 31 48.9**	**+0.3**
DPC				*e*Sg	**Sg**	**10 32 04.3**	**+0.9**
DPC	**Dobruska-Polom**	**1.15**	**175**	*e*PG	**Pg**	**10 31 48.9**	**+0.3**
DPC				*e*SG	**Sg**	**10 32 04.5**	**+1.1**
	comp=Z,54nm,0.4s						
PVCC	**Panska Ves**	**1.39**	**227**	*e*PG	**Pg**	**10 31 53.8**	**+0.6**
BRG	**Berggiesshubel**	**1.52**	**247**	*e*Pn	**Pn**	**10 31 54.8**	**-0.2**
BRG	**Berggiesshubel**	**1.52**	**247**	PN	**Pn**	**10 31 54.3**	**-0.7**
BRG				PG	**Pg**	**10 31 55.4**	**-0.3**
BRG				SG	**Sg**	**10 32 16.1**	**+0.7**
	comp=Z,128nm,0.3s						
RUE	**Ruedersdorf**	**1.77**	**305**	*e*Pn	**Pn**	**10 32 00.2**	**+1.8**
RUE				*e*Sn	**Sn**	**10 32 22.9**	**+1.4**
RUE	**Ruedersdorf**	**1.77**	**305**	*e*Pn	**Pn**	**10 32 00.1**	**+1.8**
RUE				*e*Sn	**Sn**	**10 32 22.9**	**+1.3**
PRU	**Pruhonice**	**1.82**	**215**	*e*PN	**Pn**	**10 31 59.4**	**+0.3**
PRU				*e*PG	**Pg**	**10 32 00.9**	**-0.5**
PRU				*e*x	x	10 32 04.6	
PRU				*e*x	x	10 32 18.1	
PRU				*e*SG	**Sg**	**10 32 25.0**	**0.0**
	comp=Z,38nm,0.4s						
MORC	**Moravsky Berou**	**1.93**	**152**	*e*Pn	**Pn**	**10 32 00.2**	**-0.4**
MORC				*e*Sg	**Sg**	**10 32 28.0**	**-0.6**
	comp=Z,18nm,0.4s						
MORC	**Moravsky Berou**	**1.93**	**152**	*e*Pn	**Pn**	**10 32 00.5**	**-0.1**
MORC				*e*Sn	**Sn**	**10 32 27.4**	**+1.8**
CLL	**Collm**	**1.98**	**266**	*e*Pg	**Pg**	**10 32 03.0**	**-1.5**
CLL				*i* Sg	**Sg**	**10 32 29.6**	**-0.5**
	comp=Z,18nm,0.5s						
CLL	**Collm**	**1.98**	**266**	*e*Pn	**Pn**	**10 32 00.1**	**-1.2**
CLL	**Collm**	**1.98**	**266**	*e*Pg	**Pg**	**10 32 03.0**	**-1.5**
CLL				*i* Sg	**Sg**	**10 32 29.6**	**-0.5**
OKC	**Ostrava-Krasne**	**2.09**	**142**	*e*PG	**Pg**	**10 32 05.3**	**-1.2**
OKC				*e*SG	**Sg**	**10 32 32.8**	**-0.8**
	comp=Z,23nm,0.4s						
VRAC	**Vranov**	**2.21**	**172**	*e*Pn	**Pn**	**10 32 04.8**	**+0.4**
VRAC				*e*Sg	**Sg**	**10 32 36.3**	**-1.1**
	comp=Z,15nm,0.3s						
KRUC	**Moravsky**	**2.44**	**176**	*e*Sg	**Sg**	**10 32 43.9**	**-1.0**
	comp=Z,9.5nm,0.3s						
OJC	**Ojcow**	**2.64**	**117**	*e*Pg	**Pg**	**10 32 16.0**	**-1.1**
OJC				*e*Sg	**Sg**	**10 32 51.3**	**0.0**
NKC	**Novy Kostel**	**2.66**	**243**	*e*Pg	**Pg**	**10 32 18.0**	**+0.4**
NKC				*e*Sg	**Sg**	**10 32 52.5**	**+0.4**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**10 32 10.9**	**+0.2**
NKC				*e*PG	**Pg**	**10 32 17.2**	**-0.4**
NKC				*e*SG	**Sg**	**10 32 53.2**	**+1.1**
	comp=Z,57nm,0.3s						
JAVC	**Velka Javorina**	**2.81**	**159**	*e*Sg	**Sg**	**10 32 57.2**	**+0.4**
	comp=Z,5.9nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**216**	Pg	**Pg**	**10 32 20.0**	**-1.8**
KHC				Sn	**Sn**	**10 32 48.6**	**-0.4**
KHC				*e*Sg	**Sg**	**10 32 58.6**	**-0.5**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**10 32 13.6**	**-0.1**
KHC				*e*PG	**Pg**	**10 32 20.0**	**-1.8**
KHC				*e*SN	**Sn**	**10 32 48.6**	**-0.4**
KHC				*e*SG	**Sg**	**10 32 59.0**	**-0.1**
	comp=Z,11nm,0.3s						
KHC	**Kasperske Hory**	**2.88**	**216**	*e*Pn	**Pn**	**10 32 13.6**	**-0.1**
KHC				*e*Pg	**Pg**	**10 32 20.0**	**-1.8**
KHC				*e*Sn	**Sn**	**10 32 48.6**	**-0.4**

MOX	**Moxa**	**2.98**	**255**	*i* PG	**Pg**	**10 32 22.9**	**-0.8**
MOX				*i* SG	**Sg**	**10 33 02.2**	**-0.2**
GEC2	**GERESS Array S**	**3.08**	**212**	Pn	**Pn**	**10 32 16.5**	**+0.1**
GEC2	**GERESS Array S**	**3.08**	**212**	Pn	**Pn**	**10 32 16.5**	**0.0**
GEC2				*e*S	**Sn**	**10 33 03.9**	**+10**
WET	**Wettzell**	**3.15**	**223**	*e*Pn	**Pn**	**10 32 17.6**	**+0.2**
ZST	**Bratislava**	**3.36**	**169**	*e*PN	**Pn**	**10 32 23.8**	**+3.6**
ZST				*e*SG	**Sg**	**10 33 13.6**	**-0.8**
VYHS	**Vyhne**	**3.47**	**149**	*e*SG	**Sg**	**10 33 18.5**	**+0.7**
CONA	**Conrad Observa**	**3.57**	**183⇑**	*i*Pn	**Pn**	**10 32 23.4**	**+0.2**
CONA				⇑*i*Sg	**Sg**	**10 33 21.9**	**+0.6**
	comp=Z,20nm,0.4s						
MOA	**Molln**	**3.85**	**199⇑**	*i*Pn	**Pn**	**10 32 26.6**	**-0.3**
MOA				⇓*i*Sg	**Sg**	**10 33 30.2**	**+0.2**
	comp=Z,8.4nm,0.3s						

ISCJB ***04*** *10:36:01.5±1.3, 32S±0.1×1484E±02, h33km, mb3.9/7, MS3.9/6, Error ellipse: s-maj=30.3km s-min=12.4km az=29.8*
IDC ***04*** *10:36:01.0±3.3, 3.12S×14798E, h0km, mb3.9/7, mb1 4.1/7, mb1mx4.0/16, mbtmp3.9/7, MS3.8/8, Ms1 3.8/8, ms1mx3.5/23, Error ellipse: s-maj=99.4km s-min=21.4km az=101.0*
NEIC ***04*** *10:36:07.0±2.3, 3.18S×14782E, h35km, mb4.4/1, Error ellipse: s-maj=58.2km s-min=16.4km az=103.0*

ISC 04 10:36:07.3±1.4, 31S±01×1477E±02, h35km, n18, σ0§90/12, mb3.8/7, MS3.9/6, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.85**	**350**	LR	LR	10 44 45.7	
	comp=Z,211nm,18.2s,baz=271,slow=31						
CTA	**Charters Tower**	**16.92**	**185**	LR	LR	10 46 16.0	
	comp=Z,190nm,19.9s,baz=16,slow=36						
KAKA	**Kakadu**	**17.87**	**237**	*e*P	**Pn**	**10 40 13.5**	**+0.2**
	15nm,1.0s						
KAKA	**Kakadu**	**17.87**	**237**	*e*Pn	**Pn**	**10 40 13.5**	**+0.2**
KAKA				S	**S**	**10 43 37.0**	**-0.4**
WB2	**Warramunga Arr**	**21.21**	**217**	*e*P	**P**	**10 40 49.6**	**-0.5**
WRA	**Warramunga Arr**	**21.21**	**217**	P	**P**	**10 40 49.8**	**-0.3**
	8.1nm,0.8s,mb4.1,baz=42,slow=10,SNR=34						
WRA				LR	LR	10 49 25.1	
	comp=Z,145nm,20.9s,MS3.3,baz=20,slow=38						
ASAR	**Alice Springs**	**24.40**	**212**	P	**P**	**10 41 22.8**	**+0.2**
	1.2nm,0.5s,mb3.6,baz=46,slow=7.8,SNR=27						
FITZ	**Fitzroy Crossi**	**26.26**	**234**	*e*P	**P**	**10 41 39.8**	**+0.3**
	9.6nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**26.26**	**234**	P	**P**	**10 41 40.0**	**+0.5**
	7.3nm,1.0s,mb4.2,baz=53,slow=15,SNR=7.0						
FITZ				LR	LR	10 52 57.5	
	comp=Z,312nm,18.1s,MS3.9,baz=53,slow=38						
STKA	**Stephens Creek**	**29.17**	**191**	LR	LR	10 54 28.3	
	comp=Z,221nm,19.4s,MS3.8,baz=22,slow=38						
KSRS	**Korea Array**	**44.37**	**337**	P	**P**	**10 44 13.2**	**-1.2**
	1.3nm,0.9s,mb3.7,baz=134,slow=8.7,SNR=4.8						
CMAR	**Chiang Mai Arr**	**52.59**	**296**	P	**P**	**10 45 18.9**	**+0.9**
	0.9nm,0.3s,mb4.2,baz=121,slow=5.3,SNR=5.2						
SONM	**Songino Array**	**62.28**	**330**	P	**P**	**10 46 24.5**	**-1.2**
	0.5nm,0.6s,mb3.8,baz=151,slow=3.3,SNR=3.1						
PPT	**Papeete**	**63.05**	**108**	LR	LR	11 07 45.7	
	comp=Z,201nm,19.4s,MS4.3,baz=345,slow=30						
VNDA	**Vanda**

MZDA			Sn	Sn	11 26 03.6	+0.3
RTMI	**Retamim**	**1.86 312**	Pn	**Pn**	11 25 43.5	+0.4
RTMI			Sn	**Sn**	11 26 06.8	-0.7
DSI	**Dead Sea**	**1.92 336**	Pn	**Pn**	11 25 44.4	+0.4
KZIT	**Kziot**	**1.98 304**	Pn	**Pn**	11 25 45.5	+0.8
KZIT			Sn	**Sn**	11 26 10.3	+0.1
RSHS		**2.01 222**	P	**Pn**	11 25 44.8	-0.5
HMDT	**Nahal Hemdat**	**2.52 345**	Sn	**Sn**	11 26 24.6	+1.1

IDC 04 11:33:56.8±2.4, 369N×12786E, h0^{km}, mb3.4/3, mb1 3.5/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=188.3km s-min=25.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.33**	**165**	P	P	11 39 16.4	+0.1
	0.4nm,0.5s,baz=344,slow=9.4,SNR=14						
ASAR	**Alice Springs**	**27.82**	**168**	P	P	11 39 47.3	-0.6
	0.1nm,0.5s,baz=349,slow=7.0,SNR=4.8						
MKAR	**Makanchi Array**	**58.23**	**325**	P	P	11 43 53.5	+0.6
	0.4nm,0.4s,baz=120,slow=8.5,SNR=6.2						

IDC 04 12:35:31.9±18.0, 1738S×17889W, h546^{km}±222^{km}, mb3.2/7, mb1 3.4/7, mb1mx3.1/19, mbtmp3.2/7, Error ellipse: s-maj=100.3km s-min=59.1km az=167.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	**29.82**	**239**	*e*P	P	12 40 55.3	+0.3
CTA	**Charters Tower**	**33.09**	**260**	P	P	12 41 23.2	+0.2
	1.1nm,0.3s,baz=90,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**38.49**	**240**	*e*P	P	12 42 07.7	+0.1
	2.6nm,0.6s						
STKA	**Stephens Creek**	**38.49**	**240**	P	P	12 42 07.6	0.0
	2.8nm,0.4s,baz=81,slow=10.0,SNR=7.4						
WB2	**Warramunga Arr**	**44.27**	**259**	*e*P	P	12 42 52.7	-0.8
WRA	**Warramunga Arr**	**44.28**	**259**	P	P	12 42 53.0	-0.6
	1.7nm,0.5s,baz=96,slow=6.9,SNR=48						
ASAR	**Alice Springs**	**44.50**	**254**	P	P	12 42 55.2	0.0
	12nm,0.5s,baz=89,slow=8.7,SNR=250						
KAKA	**Kakadu**	**47.14**	**269**	*e*P	P	12 43 15.5	0.0
	2.5nm,0.2s						
FITZ	**Fitzroy Crossi**	**52.67**	**260**	P	P	12 43 56.3	+0.4
	1.9nm,0.8s,baz=83,slow=8.4,SNR=5.6						
TXAR	**Lajitas Array**	**86.10**	**58**	P	P	12 47 16.6	+1.2
	0.2nm,0.7s,baz=213,slow=7.7,SNR=4.0						
PDAR	**Pinedale Array**	**87.29**	**44**	P	P	12 47 20.2	-0.5
	0.3nm,0.7s,baz=272,slow=2.3,SNR=2.6						

*ISCJB **04** 12:37:58.7±1.3, 36S±02×683E±02, h10^{km}, mb4.0/10, MS3.7/4, Error ellipse: s-maj=37.4km s-min=19.5km az=148.3*
*IDC **04** 12:37:58.6±1.2, 356S×6829E, h0^{km}, mb4.0/8, mb1 4.1/8, mb1mx3.8/22, mbtmp4.0/8, MS3.7/4, Ms1 3.6/4, ms1mx3.1/33, Error ellipse: s-maj=39.0km s-min=23.4km az=51.0*
*NEIC **04** 12:38:00.8±0.8, 356S×6837E, h10^{km}, mb4.5/2, Error ellipse: s-maj=26.4km s-min=17.7km az=58.0*
ISC 04 12:38:00.4±1.3, 36S±02×683E±02, h10^{km}, n19, σ0^{s}98/10, mb4.0/10, MS3.7/4, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**31.26**	**79**	LR	LR	12 54 15.8	
	comp=Z,100nm,19.9s,MS3.5,baz=231,slow=31						
CMAR	**Chiang Mai Arr**	**37.31**	**53**	P	**P**	**12 45 13.9**	**+0.9**
	0.4nm,0.3s,mb3.7,baz=244,slow=10,SNR=5.2						
AML	**Almayashu**	**45.79**	**6**	*e*P	**P**	**12 46 24.2**	**+1.9**
	5.8nm,0.6s,mb4.7						
TKM2	**Tokmak 2**	**46.78**	**7**	*e*P	**P**	**12 46 30.2**	**+0.1**
	2.1nm,0.8s,mb4.1						
BOSA	**Boshof**	**47.85**	**234**	LR	LR	13 05 18.6	
	comp=Z,89nm,18.1s,MS3.8,baz=280,slow=34						
MKAR	**Makanchi Array**	**51.69**	**12**	P	**P**	**12 47 06.1**	**-1.5**
	0.3nm,0.5s,mb3.5,baz=202,slow=9.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**58.99**	**11**	P	**P**	**12 47 58.4**	**-1.7**
	1.5nm,0.6s,mb4.2,baz=202,slow=8.4,SNR=6.7						
ZALV				LR	LR	13 12 59.4	
	comp=Z,46nm,19.1s,MS3.6,baz=181,slow=36						
SONM	**Songino Array**	**61.12**	**28**	P	**P**	**12 48 14.9**	**+0.1**
	3.4nm,0.8s,mb4.5,baz=222,slow=7.1,SNR=12						
SONM				LR	LR	13 14 27.6	
	comp=Z,73nm,21.4s,MS3.8,baz=253,slow=36						
ASAR	**Alice Springs**	**66.23**	**114**	P	**P**	**12 48 48.8**	**-0.4**
	0.6nm,0.8s,mb3.7,baz=283,slow=6.8,SNR=6.9						
WRA	**Warramunga Arr**	**66.26**	**110**	P	**P**	**12 48 49.1**	**-0.2**
	1.8nm,0.8s,mb4.1,baz=284,slow=6.3,SNR=10						
CTA	**Charters Tower**	**77.45**	**110**	P	**P**	**12 49 57.1**	**+0.5**
	1.0nm,0.3s,mb4.2,baz=231,slow=6.5,SNR=3.8						
ESDC	**Sonseca Array**	**78.77**	**311**	P	**P**	**12 50 04.0**	**+0.4**
	0.6nm,0.5s,mb3.8,baz=84,slow=4.8,SNR=5.6						
BPAW	**Bear Paw Mtn.**	**113.29**	**18**	PKPdf	PKiKP	12 56 34.0	-4.1
FLWY	**Flagg Ranch**	**139.69**	**359**	*e*PKPdf	PKPdf	12 57 30.2	+1.3
NVAR	**Mina Array Bea**	**144.82**	**9**	PKP	PKPdf	12 57 37.9	-0.3
	0.7nm,1.0s,baz=299,slow=3.1,SNR=4.6						
NVAR	**Mina Array Bea**	**144.82**	**9**	PKP	PKPdf	12 57 37.9	-0.3
MSU	**Marysvale**	**145.26**	**1**	*e*PKPbc	PKPbc	12 57 39.9	+1.3
WMOK	**Wichita Mounta**	**146.79**	**340**	*e*PKP	PKPdf	12 57 43.3	+1.7
TXAR	**Lajitas Array**	**153.31**	**344**	PKPbc	PKPbc	12 57 59.4	-0.2
	0.3nm,0.8s,baz=149,slow=2.6,SNR=3.4						
TXAR				PKPab	PKPab	12 58 10.5	-0.8
	0.5nm,0.8s,baz=11,slow=1.9,SNR=5.5						

*NEIC **04** 12:42:18.0, 18.11N×10391W, h17^{km}, MD4.0(MEX), After MEX.*
MEX 04 12:42:18.0±0.8, 1811N×10393W, h22^{km}±26^{km}, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**1.06**	**357**	*i* P	Pn	12 42 34.7	-2.8
R15V				*i* S	Sb	12 42 47.8	-3.3
EZ5V		**1.40**	**13**	*i* P	Pn	12 42 38.8	-3.4
EZ5V				*i* S	Sn	12 42 55.6	-4.3
ZIIG	**Zihuatanejo**	**2.40**	**102**	*i* P	Pn	12 42 53.7	-2.3
ZIIG				*i* S	Sn	12 43 21.8	-2.9
ZIIG	**Zihuatanejo**	**2.40**	**102**	*i* P	Pn	12 42 53.3	-2.6
ZIIG				*i* S	Sn	12 43 21.5	-3.1
SFJM	**Santa Fe**	**2.51**	**19**	*i* P	Pn	12 42 54.9	-2.6
SFJM				*i* S	Sn	12 43 24.9	-2.5
SFJM	**Santa Fe**	**2.51**	**19**	*i* P	Pn	12 42 54.5	-3.0
SFJM				*i* S	Sn	12 43 24.0	-3.4
ANIG	**Ahuacatlan**	**2.98**	**349**	*e*P	Pn	12 43 01.7	-2.3
ANIG				*i* S	Sn	12 43 35.7	-3.4
CAIG	**El Cayaco**	**3.65**	**106**	*e*P	Pn	12 43 10.9	-2.3
CAIG				*i* S	Sn	12 43 52.9	-2.6
MEIG	**Mezcala**	**4.10**	**92**	*e*P	Pn	12 43 21.5	+2.1
MEIG				*i* S	Sn	12 44 04.0	-2.7
PLIG	**Platanillo**	**4.21**	**85**	*e*P	Pn	12 43 21.7	+0.8
PLIG				*i* S	Sn	12 44 06.7	-2.8
PLIG	**Platanillo**	**4.21**	**85**	*e*P	Pn	12 43 21.7	+0.8
PLIG				*i* S	Sn	12 44 10.1	+0.6
MZVM		**4.58**	**76**	*e*P	Pn	12 43 28.8	+2.8
MZVM				*i* S	Sn	12 44 19.7	+1.2
PPM	**Popocatepetl**	**5.12**	**78**	*e*P	Pn	12 43 31.7	-1.7
PPM				*i* S	Sn	12 44 31.8	+0.1
PPM	**Popocatepetl**	**5.12**	**78**	*e*P	Pn	12 43 31.7	-1.7
PPM				*i* S	Sn	12 44 27.3	-4.5
IIO	**Organos**	**5.14**	**73**	*e*P	Pn	12 43 30.0	-3.7
IIO				*i* S	Sn	12 44 28.8	-3.7
UTMO	**Huajuapan**	**5.83**	**92**	*e*P	Pn	12 43 48.1	+4.8
UTMO				*i* S	Sn	12 44 46.9	-2.6

*CRAAG **04** 12:46:19.6, 3602N×4.12E, Ml2.9*
*CSEM **04** 12:46:19.6, 3602N×4.12E, h0^{km}, ML2.9, After ALG*
*ISCJB **04** 12:46:20.5±0.5, 36.17N±006×402E±005, h10^{km}, Error ellipse: s-maj=8.4km s-min=5.1km az=12.6*
*MDD **04** 12:46:20.9±0.4, 3597N×407E, h0^{km}, mb3.9/7, mbLg2.3/2, Error ellipse: s-maj=10.8km s-min=3.5km az=19.0, PRIMO*
ISC 04 12:46:20.6±0.7, 3609N±007×408E±004, h8^{km}±7^{km}, n19, σ0^{s}98/21, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKET	**Djebel Ketaf**	**0.17**	**257**	P	**Pg**	**12 46 24.1**	**+0.1**
ATAF	**Djebel Tarf**	**0.26**	**143**	P	**Pg**	**12 46 23.8**	**-2.0**
ADJB	**Djebel Djouab**	**0.53**	**278**	P	**Pg**	**12 46 31.6**	**+0.8**
EMHD	**Djebel Mahouad**	**0.92**	**278**	P	**Pg**	**12 46 38.9**	**+0.6**
SET	**Setif**	**1.07**	**83**	P	**Pg**	**12 46 40.0**	**-1.2**
ABA	**Alger-Bouzarea**	**1.11**	**311**	P	**Pg**	**12 46 42.7**	**+0.9**
CKHR	**Kef el Ahmar**	**1.16**	**93**	P	**Pg**	**12 46 42.5**	**-0.4**
DFRA	**Djebel Bou Aff**	**1.52**	**72**	P	**Pn**	**12 46 50.5**	**+2.3**
CMER	**Merouana**	**1.55**	**107**	P	**Pn**	**12 46 50.0**	**+1.5**
CASM	**Ain Smara**	**1.96**	**84**	P	**Pn**	**12 46 55.0**	**+0.9**
ETRT	**Tiaret**	**2.37**	**254**	P	**Pn**	**12 46 58.8**	**-1.0**
EANR	**'Ain N'Sour**	**2.42**	**268**	P	**Pn**	**12 47 10.0**	**+9.5**
EIBI	**Ibiza**	**3.65**	**324**	P	**Pn**	**12 47 17.6**	**+0.1**
	1.1nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.81**	**345**	P	**Pn**	**12 47 19.4**	**-0.2**
	1.8nm,0.4s,SNR=7.9						
ETOS				S	**Sn**	**12 48 02.8**	**-1.8**
	33nm,4.7s,SNR=7.9						
EMUR	**La Murta**	**4.61**	**294**	P	**Pn**	**12 47 30.5**	**0.0**
	1.9nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.16**	**301**	P	**Pn**	**12 47 38.4**	**+0.2**
	0.2nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**12 48 37.2**	**-0.7**
	20nm,2.6s,SNR=7.9						
EMOS	**Mosqueruela**	**5.58**	**321**	P	**Pn**	**12 47 44.4**	**+0.5**
	3.8nm,0.4s,SNR=7.9						
EBER	**Berja**	**5.67**	**280**	P	**Pn**	**12 47 45.0**	**-0.2**
	2.3nm,0.3s,SNR=7.9						
EALB	**Alboran**	**5.77**	**271**	P	**Pn**	**12 47 46.4**	**-0.1**
	9.9nm,0.2s,SNR=7.9						

*MOS **04** 12:58:05.8±1.8, 5248N×10638E, h10^{km}, mb3.9/2, Error ellipse: s-maj=13.1km s-min=9.5km az=66.3*
MOS Felt (II) at Elantsi.
BYKL 04 12:58:06.4±0.2, 5251N×10636E, h14^{km}±4^{km}, 5C-5D, FELT I=II MSK at Yelantsy, Tyrgan, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRG	**Tyrgan**	**0.25**	**358**	⇓*i*PG	Pg	12 58 11.7	-0.1
TRG				*e*		12 58 15.7	
TRG				pmax	pmax		
	comp=Z,2μm,0.1s						
TRG				smax			
	comp=N,4μm,0.2s						
TRG	**Tyrgan**	**0.25**	**358**	⇓*i*Pg	Pg	12 58 11.6	-0.2
TRG				*i* Sg	Sg	12 58 15.7	+0.3
TRG				Pmax			
	comp=N,2μm,0.1s						
TRG				Smax			
	comp=N,4μm,0.2s						
STDB	**Stepnoy Dvoret**	**0.34**	**179**	*e*Pg	Pg	12 58 13.9	+0.6
STDB				*e*		12 58 18.7	
STDB				*e*Sg	Sg	12 58 20.4	+2.4
STDB				Pmax			
	comp=N,760nm,0.5s						
STDB				Smax			
	comp=N,11μm,0.7s						
ZRHB	**Zarechye**	**0.49**	**84**	*e*Pg	Pg	12 58 15.8	-0.2
ZRHB				*i* Sg	Sg	12 58 22.6	+0.1
ZRHB				Pmax			
	comp=N,160nm,0.3s						
ZRHB				Smax			
	comp=N,4μm,0.4s						
KAB	**Kabansk**	**0.49**	**158**	⇑*i*PG	Pg	12 58 15.4	-0.7
KAB				*i*		12 58 22.5	
KAB				pmax	pmax		
	comp=Z,2μm,0.3s						
KAB				smax			
	comp=N,9μm,0.4s						
KAB	**Kabansk**	**0.49**	**158**	⇑*i*Pg	Pg	12 58 15.5	-0.6
KAB				*i* Sg	Sg	12 58 22.5	-0.2
KAB				Pmax			
	comp=N,2μm,0.4s						
KAB				Smax			
	comp=N,10μm,0.4s						
FFNB	**Fofonovo**	**0.53**	**152**	*e*Pg	Pg	12 58 15.8	-0.9
FFNB				*i* Sg	Sg	12 58 22.7	-1.0
FFNB				Pmax			
	comp=N,2μm,0.3s						
FFNB				Smax			
	comp=N,10μm,0.3s						
HRMR	**Khuramsha**	**0.96**	**157**	⇑*i*Pg	Pg	12 58 23.3	-1.6
HRMR				*i* Sg	Sg	12 58 35.8	-1.5
LSTR	**Listvyanka**	**1.14**	**236**	*e*PG	Pg	12 58 26.8	-1.5
LSTR				*e*		12 58 41.6	
LSTR				pmax	pmax		
	comp=Z,218nm,0.5s						
LSTR				smax			
	comp=N,680nm,1.1s						
LSTR	**Listvyanka**	**1.14**	**236**	*e*Pg	Pg	12 58 26.8	-1.5
LSTR				*e*Pb	Pb	12 58 28.1	+0.3
LSTR				*i* Sg	Sg	12 58 41.6	-1.6
LSTR				max			
	comp=N,228nm,0.5s						
LSTR				Smax			
	comp=N,516nm,0.4s						
IRK	**Irkutsk**	**1.31**	**259**	*e*PG	Pg	12 58 30.4	-1.1
IRK				*e*		12 58 47.3	
IRK				pmax	pmax		
	comp=Z,470nm,0.2s						
IRK				smax			
	comp=N,4μm,0.6s						
IRK	**Irkutsk**	**1.31**	**259**	⇑*i*Pg	Pg	12 58 30.4	-1.1
IRK				*i* Sg	Sg	12 58 47.5	-1.0
IRK				Pmax			
	comp=N,524nm,0.3s						
IRK				Smax			
	comp=N,3μm,0.3s						
OGRR	**Ongureny**	**1.36**	**33**	*e*PG	Pg	12 58 30.2	-2.3
OGRR				*e*		12 58 48.5	
OGRR				pmax	pmax		
	comp=Z,98nm,0.8s						
OGRR				smax			
	comp=E,210nm,0.4s						
OGRR	**Ongureny**	**1.36**	**33**	⇓*i*Pg	Pg	12 58 30.2	-2.3
OGRR				*e*		12 58 32.5	
OGRR				*e*Sg	Sg	12 58 48.6	-1.6
OGRR				max			
	comp=E,64nm,0.3s						
OGRR				Smax			
	comp=E,206nm,0.4s						
MXMB	**Maximikha**	**1.63**	**61**	*e*Pg	Pg	12 58 35.7	-2.0
MXMB				*e*		12 58 40.8	
MXMB				*e*		12 58 53.7	
MXMB				*e*Sg	Sg	12 58 57.7	-1.1
MXMB				max			
	comp=E,128nm,0.7s						
MXMB				Smax			
	comp=E,867nm,0.7s						
TLY	**Talaya**	**1.87**	**245**	*e*PN	Pn	12 58 38.9	+1.0
TLY				*e*		12 59 03.9	
TLY				pmax	pmax		
	comp=Z,62nm,0.2s						
TLY				smax			
	comp=N,1μm,0.9s						
TLY	**Talaya**	**1.87**	**245**	*e*Pn	Pn	12 58 38.5	+0.6
TLY				*e*Pg	Pg	12 58 39.5	-2.8
TLY				*e*Sg	Sg	12 59 03.7	-2.8
TLY				Pmax			
	comp=N,62nm,0.3s						
TLY				Smax			
	comp=N,1μm,0.9s						
SYVR	**Suvo**	**2.48**	**61**	*e*Pn	Pn	12 58 46.3	0.0
SYVR				*e*Pg	Pg	12 58 50.8	-3.1
SYVR				*i* Sg	Sg	12 59 24.0	-2.0
SYVR				Pmax			
	comp=N,29nm,0.6s						
SYVR				Smax			
	comp=N,97nm,0.8s						
ARS	**Arshan**	**2.49**	**258**	*e*PN	Pn	12 58 49.8	+3.3
ARS	**Arshan**	**2.49**	**258**	*e* Pn	Pn	12 58 47.7	+1.2
ARS				*e*Pg	Pg	12 58 49.8	-4.3
ARS				*e*		12 59 20.0	
ARS				*i* Sg	Sg	12 59 23.3	-3.1
ARS				Pmax			
	comp=N,67nm,0.4s						
ARS				Smax			
	comp=N,813nm,0.5s						
ZAK	**Zakamensk**	**2.87**	**223**	*e*Pn	Pn	12 58 52.9	+1.2
ZAK				*e*Pg	Pg	12 58 58.1	-3.3
ZAK				*e*Sg	Sg	12 59 35.0	-3.6
ZAK				Pmax			
	comp=N,15nm,0.2s						
ZAK				Smax			
	comp=N,90nm,0.5s						
MOY	**Mondy**	**3.42**	**258**	*e*PN	Pn	12 59 08.6	+9.4
MOY				*e*		12 59 50.6	
MOY				pmax	pmax		
	comp=Z,56nm,0.6s						
MOY				smax			
	comp=N,277nm,0.5s						
MOY	**Mondy**	**3.42**	**258**	*e*Pn	Pn	12 59 01.8	+2.6
MOY				*e*Pg	Pg	12 59 07.2	-4.6
MOY				*i*		12 59 43.3	
MOY				*i* Sg	Sg	12 59 50.7	-5.3
MOY				*e*SgSg		12 59 57.8	
MOY				Pmax			
	comp=N,55nm,0.8s						
MOY				max			
	comp=N,361nm,1.3s						
YLYR	**Ulyunkhan**	**3.71**	**48**	*e*Pn	Pn	12 59 05.4	+2.2
YLYR				*e*		12 59 10.6	
YLYR				*e*		12 59 20.4	
YLYR				*e*Sg	Sg	12 59 59.8	-5.6
YLYR				max			
	comp=N,13nm,0.8s						
YLYR				Smax			
	comp=N,57nm,0.9s						
NIZ	**Nizh Angarsk**	**3.77**	**28**	*e*PN	Pg	12 59 13.3	-5.2
NIZ				*e*		13 00 02.1	
NIZ				pmax	pmax		
	comp=Z,12nm,0.3s						
NIZ				smax			
	comp=N,73nm,0.7s						
NIZ	**Nizh Angarsk**	**3.77**	**28**	*e*Pn	Pn	12 59 04.0	0.0
NIZ				*e*		12 59 11.7	
NIZ				*e*Sn	Sn	12 59 47.2	-0.9
NIZ				*e*Sg	Sg	13 00 02.0	-5.3
NIZ				max			
	comp=N,15nm,0.3s						
NIZ				Smax			
	comp=N,75nm,0.6s						
ORL	**Orlik**	**4.00**	**273**	*e*PN	Pg	12 59 18.9	-4.1
ORL				*e*		13 00 10.3	
ORL				pmax	pmax		
	comp=Z,11nm,0.5s						
ORL				smax			
	comp=N,127nm,1.0s						
ORL	**Orlik**	**4.00**	**273**	⇑*i*Pn	Pn	12 59 08.8	+1.6
ORL				*e*Pg	Pg	12 59 18.3	-4.7
ORL				*e*		12 59 56.6	
ORL				*e*Sg	Sg	13 00 10.5	-4.3
ORL				Pmax			
	comp=N,11nm,0.4s						
ORL				Smax			
	comp=N,128nm,1.2s						
KMO	**Kumora**	**4.42**	**38**	*e*PN	Pn	12 59 10.5	-2.4
KMO				*e*		12 59 22.3	
KMO				*e*S	Sn	13 00 00.9	-3.2
KMO	**Kumora**	**4.42**	**38**	*e*Pn	Pn	12 59 15.0	+2.1
KMO				*e*Pg	Pg	12 59 24.2	-6.7
KMO				*e*Sg	Sg	13 00 20.8	-7.3
KMO				Pmax			
	comp=N,13nm,0.5s						
KMO				Smax			
	comp=N,70nm,1.3s						
CIT	**Chita**	**4.45**	**93**	*e*Sg	Sg	13 00 23.7	-5.3
KPC	**Khapcheranga**	**4.72**	**124**	*e*PN	Pg	12 59 30.7	-6.0
KPC				*e*		13 00 32.3	
KPC				pmax	pmax		
	comp=Z,11nm,0.4s						
KPC				smax			
	comp=N,109nm,1.0s						
KPC	**Khapcheranga**	**4.72**	**124**	*e*Pn	Pn	12 59 15.5	-1.6
KPC				*e*Pg	Pg	12 59 30.5	-6.2
KPC				*e*Sg	Sg	13 00 32.3	-5.5
KPC				Pmax			
	comp=N,10.0nm,0.5s						
KPC				Smax			
	comp=N,109nm,0.9s						
YOA	**Uoyan**	**4.80**	**39**	*e*Sg	Sg	13 00 34.2	-6.1
YOA				Smax			
	comp=N,106nm,1.0s						
UKT	**Uakit**	**5.22**	**52**	*e*Pn	Pn	12 59 25.6	+1.6
UKT				*e*Pg	Pg	12 59 40.2	-6.1
UKT				*e*Sg	Sg	13 00 47.6	-6.3
UKT				Pmax			
	comp=N,3.0nm,0.8s						
UKT				Smax			
	comp=N,35nm,1.6s						
TDJR	**Todzha**	**6.27**	**273**	*e*Sg	Sg	13 01 20.7	-6.9
BOD	**Bodaibo**	**6.89**	**36**	*e*Sg	Sg	13 01 38.4	-8.8
BOD				Smax			
	comp=N,12nm,0.8s						
KZLR	**Kyzyl**	**7.38**	**268**	⇓*e*PN	Pn	12 59 48.0	-5.6
KZLR				*e*PG	Pn	13 00 18.0	+24
KZLR				*e*SG	Sn	13 01 52.5	+36
HVS	**Khovu-Aksy**	**7.96**	**265**	*e*PN	Pn	13 00 04.8	+3.2
CRS	**Chara**	**8.18**	**53**	*e*Sg	Sn	13 02 20.4	+44
CRS				Smax			
	comp=N,15nm,1.1s						
TUP	**Tupik**	**8.34**	**71**	*e*Sg	Sn	13 02 25.0	+45
TUP				Smax			
	comp=N,24nm,1.4s						
BLRR	**Bol'shaya Rech**	**8.47**	**279**	⇓*e*PN	Pn	13 00 15.1	+6.6
BLRR						13 00 39.7	
TIXI	**Tiksi**	**21.63**	**19**	*e*P	P	13 02 58.7	+3.0
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BRVK	**Borovoye**	**21.69**	**286**	*e*P	P	13 02 59.3	+2.8
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						

ISC 04 13:17:39.1±3.3, 51S±04×1333E±03, h49^{km}±52^{km}, n5, σ1^{s}59/8, 1C, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**0.84**	**225**	⇑*e*P	**Pn**	**13 17 54.0**	**-0.7**
KAKA	**Kakadu**	**7.67**	**187**	*e*P	**Pn**	**13 19 31.1**	**+2.8**
	24nm,0.5s						
KAKA				*e*S	**Sn**	**13 20 59.8**	**+6.0**
WB2	**Warramunga Arr**	**14.84**	**176**	*e*P	**Pn**	**13 21 04.8**	**-1.2**
WB2				*e*S	**Sn**	**13 23 43.3**	**-6.0**
FITZ	**Fitzroy Crossi**	**15.00**	**209**	*e*P	**Pn**	**13 21 09.0**	**+0.9**
	3.8nm,0.3s						
FITZ				*e*S	**Sn**	**13 23 52.9**	**-0.3**
CTA	**Charters Tower**	**19.53**	**141**	*e*P	**Pn**	**13 22 04.2**	**-0.1**
	4.9nm,0.8s						

*ISCJB **04** 13:28:21.4±0.6, 350S±010×6837E±009, h10^{km}, mb4.4/25, MS3.9/4, Error ellipse: s-maj=15.1km s-min=11.5km az=145.1*
*IDC **04** 13:28:21.7±0.6, 354S×6838E, h0^{km}, mb4.2/15, mb1 4.3/15, mb1mx4.1/23, mbtmp4.2/15, MS3.9/4, Ms1 3.9/4, ms1mx3.3/32, Error ellipse: s-maj=20.8km s-min=15.3km az=172.0*
*BJI **04** 13:28:21.1, 350S×6840E, h10^{km}, mB5.0, mb4.7*
*NEIC **04** 13:28:23.2±0.4, 353S×6836E, h10^{km}, mb4.7/7, Error ellipse: s-maj=11.9km s-min=10.0km az=140.0*
ISC 04 13:28:23.3±0.6, 354S±010×6836E±009, h10^{km}, (h22^{km}±3.4^{km}:pP-P), n39, σ0^{s}86/30, mb4.4/25, MS3.9/4, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRS	**Chennai**	**20.29**	**35**	*ex*	**P**	**13 33 00.1**	**+0.7**
PSI	**Prapat**	**31.19**	**79**	LR	LR	13 45 19.8	
	comp=Z,320nm,20.9s,MS4.0,baz=275,slow=33						
CMAR	**Chiang Mai Arr**	**37.22**	**53**	P	**P**	**13 35 36.5**	**+1.2**
	2.4nm,1.0s,mb4.0,baz=243,slow=10,SNR=8.2						
CMAR	

BOSA Boshof 47.93 234 P P 13 37 01.4 -0.8
3.1nm,0.7s,mb4.5,baz=69,slow=14,SNR=3.5
MALT Malatya 50.02 329 *eP* **P 13 37 18.9 +0.9**
2.9nm,0.7s,mb4.4
LZH Lanzhou 51.52 37 *eP* **P 13 37 28.5 -0.9**
LZH AP pP 13 37 35.9 +3.3
LZH XP sP 13 37 39.0 +5.2
LZH AMB AMB
comp=Z,18nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,93nm,5.0s
MK31 Makanchi Array 51.61 12 *eP* **P 13 37 28.8 -1.1**
MKAR Makanchi Array 51.61 12 P **P 13 37 29.1 -0.8**
comp=Z,1.0nm,0.7s,mb3.9,baz=199,slow=6.4,SNR=6.5
GTA Gaotai 51.63 31 *eP* **P 13 37 30.6 +0.5**
GTA AP pP 13 37 34.5 +1.2
GTA XP sP 13 37 37.6 +3.1
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.3
XAN Xi'an 53.46 42 P **P 13 37 43.1 -0.7**
XAN AP pP 13 37 50.3 +3.3
XAN AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
KURK Kurchatov 54.76 8 *eP* **P 13 37 52.2 -0.8**
comp=Z,16nm,1.5s,mb4.8
BVAR Borovoye Array 56.38 1 PcP PcP 13 39 02.2 +0.5
comp=Z,0.4nm,0.6s,baz=193,slow=5.9,SNR=2.6
ZAA0 Zalesovo Array 58.92 11 *eP* **P 13 38 21.2 -1.2**
ZALV Zalesovo Beam 58.92 11 P **P 13 38 21.6 -0.9**
comp=Z,3.7nm,0.6s,mb4.6,baz=205,slow=7.0,SNR=18
ARU Arti 60.31 354 *eP* **P 13 38 31.1 -0.9**
comp=Z,1.8nm,0.5s,mb4.4
SONM Songino Array 61.03 28 P **P 13 38 38.2 +1.0**
comp=Z,7.4nm,0.8s,mb4.9,baz=222,slow=6.9,SNR=27
TLY Talaya 62.66 24 *eP* **P 13 38 48.5 +0.5**
comp=Z,9.5nm,1.4s,mb4.7
AKASG Malin Array Be 63.58 333 P **P 13 38 52.6 -1.6**
comp=Z,0.5nm,0.4s,mb3.9,baz=131,slow=5.6,SNR=7.1
ASAR Alice Springs 66.21 114 P **P 13 39 11.8 -0.1**
comp=Z,1.1nm,0.8s,mb3.9,baz=286,slow=6.7,SNR=10.0
WRA Warramunga Arr 66.23 110 P **P 13 39 11.4 -0.7**
comp=Z,3.1nm,0.8s,mb4.4,baz=285,slow=6.2,SNR=19
TORD Torodi Ar. Bea 68.20 286 P **P 13 39 25.2 +0.6**
comp=Z,0.8nm,1.1s,mb3.7,baz=119,slow=8.4,SNR=2.3
KSRS Korea Array 68.58 47 P **P 13 39 25.9 -0.7**
comp=Z,1.3nm,0.7s,mb4.0,baz=255,slow=6.5,SNR=6.0
DBIC Dimbokro 73.78 278 P **P 13 39 58.9 +0.2**
comp=Z,5.3nm,1.1s,mb4.4,baz=75,slow=12,SNR=2.8
MJAR Matsushiro Arr 76.08 51 P **P 13 40 11.8 +0.4**
comp=Z,1.0nm,0.7s,mb3.8,baz=224,slow=3.4,SNR=4.5
MJAR Matsushiro Arr 76.08 51 P **P 13 40 11.8 +0.4**
CTA Charters Tower 77.43 110 P **P 13 40 19.6 +0.2**
comp=Z,2.6nm,0.7s,mb4.3,baz=192,slow=2.3,SNR=4.2
GUMO Guam 77.76 75 LR LR 14 12 04.8
comp=Z,29nm,21.0s,MS3.6,baz=90,slow=34
ESDC Sonseca Array 78.76 311 P **P 13 40 27.1 +0.7**
comp=Z,3.6nm,0.8s,mb4.3,baz=88,slow=4.6,SNR=16
PDAR Pinedale Array 140.90 358 PKP PKPdf 13 47 53.6 -0.4
comp=Z,0.5nm,0.7s,baz=32,slow=5.8,SNR=4.2
NVAR Mina Array Bea 144.75 9 PKP PKPdf 13 48 00.6 -0.4
comp=Z,1.0nm,0.8s,baz=3.1,slow=2.8,SNR=9.3
NVAR Mina Array Bea 144.75 9 PKP PKPdf 13 48 00.6 -0.4
TXAR Lajitas Array 153.26 344 PKPbc PKPbc 13 48 22.5 +0.2
comp=Z,0.6nm,0.8s,baz=130,slow=1.7,SNR=6.4
TXAR PKPab PKPab 13 48 34.7 +0.8
comp=Z,1.8nm,0.9s,baz=49,slow=2.4,SNR=10.0
TXAR Lajitas Array 153.26 344 PKPbc PKPbc 13 48 22.5 +0.2
TXAR PKPab PKPab 13 48 34.7 +0.7

*IDC **04** 13:38:21.7±1.4, 373S×1303E, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, ML4.0/2, Error ellipse: s-maj=66.5km s-min=23.3km az=72.0*
*ISCJB **04** 13:38:24.2±0.8, 392S±006×1339E±01, h33km, mb4.0/2, Error ellipse: s-maj=17.6km s-min=8.0km az=5.0*
*NEIC **04** 13:38:26.4±0.8, 389S×1304E, h35km, mb3.8/3, Error ellipse: s-maj=23.6km s-min=12.7km az=83.0*
ISC 04 13:38:26.3±0.8, 409S±005×1340E±01, h35km, n14, σ1§29/21, mb4.0/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.70**	**190**	*eP*	**Pn**	**13 40 34.8**	**+5.0**
	8.2nm,0.4s						
KAKA				*eS*	**Sn**	**13 42 11.7**	**+5.0**
KAKA	**Kakadu**	**8.70**	**190**	*ePn*	**Pn**	**13 40 34.0**	**+4.2**
KAKA				*eSn*	**Sn**	**13 42 11.9**	**+5.2**
WRAB	**Tennant Creek**	**15.76**	**179**	*ePn*	**Pn**	**13 42 07.9**	**+2.2**
	3.5nm,0.5s						
WB2	**Warramunga Arr**	**15.76**	**179**	*eP*	**Pn**	**13 42 06.9**	**+1.1**
WB2				*eS*	**Sn**	**13 44 57.4**	**-2.1**
WRA	**Warramunga Arr**	**15.76**	**179**	Pn	**Pn**	**13 42 05.6**	**-0.2**
	0.2nm,0.3s,baz=357,slow=13,SNR=11						
WRA				Sn	**Sn**	**13 44 58.1**	**-1.4**
	0.2nm,0.3s,baz=4.0,slow=23,SNR=4.5						
FITZ	**Fitzroy Crossi**	**16.14**	**210**	*eP*	**Pn**	**13 42 13.8**	**+3.2**
	17nm,1.8s						
FITZ				*eS*	**Sn**	**13 45 08.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**16.14**	**210**	Pn	**Pn**	**13 42 13.4**	**+2.8**
	0.6nm,0.3s,baz=35,slow=15,SNR=17						
FITZ				Sn	**Sn**	**13 45 08.5**	**-0.1**
	0.2nm,0.3s,baz=198,slow=20,SNR=4.1						
ASAR	**Alice Springs**	**19.46**	**180**	P	**Pn**	**13 42 54.8**	**+3.2**
	0.4nm,0.3s,baz=9.5,slow=11,SNR=51						
ASAR				S	**Sn**	**13 46 28.6**	**-0.5**
	0.1nm,0.3s,baz=2.9,slow=27,SNR=4.2						
CTA	**Charters Tower**	**19.91**	**144**	*eP*	**Pn**	**13 42 57.3**	**+0.4**
	2.0nm,0.6s						
CTA	**Charters Tower**	**19.91**	**144**	P	**Pn**	**13 42 57.5**	**+0.7**
	2.3nm,0.6s,baz=318,slow=13,SNR=8.2						
AFI	**Afiamalu**	**54.35**	**104**	*eP*	**P**	**13 47 49.7**	**-0.4**
MK31	**Makanchi Array**	**68.07**	**324**	*eP*	**P**	**13 49 21.7**	**-0.7**
MKAR	**Makanchi Array**	**68.07**	**324**	P	**P**	**13 49 21.3**	**-1.1**
	0.7nm,0.5s,mb4.0,baz=115,slow=8.1,SNR=6.8						
ZALV	**Zalesovo Beam**	**70.82**	**332**	P	**P**	**13 49 38.7**	**-0.5**
	0.7nm,0.4s,mb4.0,baz=125,slow=9.0,SNR=3.0						

IDC 04 13:41:14.1±2.0, 358N×12891E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=179.1km s-min=23.3km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.98**	**167**	P	P	13 46 29.0	-1.5
	0.8nm,0.5s,baz=344,slow=9.2,SNR=5.6						
ASAR	**Alice Springs**	**27.52**	**170**	P	P	13 47 02.5	0.0
	0.3nm,0.4s,baz=355,slow=12,SNR=5.3						
ASAR				PcP	PcP	13 50 21.6	+0.5
	0.2nm,0.4s,baz=22,slow=2.3,SNR=3.0						
STKA	**Stephens Creek**	**37.27**	**162**	P	P	13 48 27.6	-0.3
	2.2nm,0.8s,baz=322,slow=9.1,SNR=4.3						
MDRS	**Chennai**	**48.98**	**284**	*ex*	x	13 50 54.0	
MDRS				*ex*	x	13 51 00.0	
MKAR	**Makanchi Array**	**58.93**	**324**	P	P	13 51 15.7	+0.6
	0.3nm,0.3s,baz=116,slow=9.3,SNR=4.1						

*BJI **04** 13:43:26.5, 4.16S×6796E, h5km, mB5.2, mb5.0, Ms4.8, Msz4.5*
*ISCJB **04** 13:43:32.8±0.2, 351S±004×6829E±003, h10km, mb5.0/165, MS4.4/37, Error ellipse: s-maj=6.4km s-min=4.6km az=168.8*
*MOS **04** 13:43:33.3±0.9, 333S×6834E, h10km, mb5.3/70, MS4.4/9, Error ellipse: s-maj=8.0km s-min=4.5km az=116.6*
*IDC **04** 13:43:33.3±0.4, 344S×6839E, h0km, mb4.5/24, mb1 4.6/24, mb1mx4.5/27, mbtmp4.5/24, MS4.3/19, Ms1 4.3/19, ms1mx4.1/29, Error ellipse: s-maj=15.0km s-min=12.7km az=26.0*
*GCMT **04** 13:43:34.5±0.2, 359S×6842E, h12km, MW5.0/65, Moment Tensor Solution. s36,c44; s65,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.08±.10; $M_{\theta\theta}$2.21±.10; $M_{\phi\phi}$1.87±.10; $M_{r\theta}$1.29±.35; $M_{\phi\phi}$-1.87±.08; $M_{\phi r}$-0.10±.34; Best double couple: M_0=4.19800×10^{16} NP1:ϕ_s142.00000°, δ39.00000°, λ-74.00000°. NP2: ϕ_s302.00000°, δ53.00000°, λ-102.00000°. Principal axes: T 4.0490, Plg7.0000°, Azm41.0000°; N 0.2970, Plg10.0000°, Azm310.0000°; P -4.3460, Plg78.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **04** 13:43:34.5±0.2, 347S×6835E, h10km, mb5.1/86 Error ellipse: s-maj=7.0km s-min=4.8km az=25.0*
*SZGRF **04** 13:43:39.9, 348S×6703E, h23km, mb5.2, Carlsberg Ridge*
*DJA **04** 13:43:47, 355S×6837E, h100km, mb5.0/12*
ISC 04 13:43:34.6±0.2, 353S±004×6829E±003, h10km, (h19km±1.4km:pP-P), n456, σ0§99/366, mb5.0/165, MS4.4/37, 41C-55D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRD	**Trivandrum**	**14.75**	**36**	⇓*eP*	**Pn**	**13 47 06.0**	**+2.5**
TRD				*i S*	Sn	13 50 18.0	+31
PALK	**Pallekele**	**16.39**	**49**	*eP*	**Pn**	**13 47 31.7**	**+6.7**
	150nm,1.9s						
MDRS	**Chennai**	**20.32**	**36**	*ex*	**P**	**13 48 13.0**	**+1.9**
HYB	**Hyderabad**	**23.14**	**26**	*i* P	**P**	**13 48 42.0**	**+0.7**
HYB				*eS*	**S**	**13 52 48.5**	**-4.4**
HYB	**Hyderabad**	**23.14**	**26**	*eP*	**P**	**13 48 40.0**	**-1.3**
HYB				*eS*	**S**	**13 53 00.0**	**+7.1**
PSI	**Prapat**	**31.26**	**79**	P	**P**	**13 49 56.0**	**+1.0**
	1.6nm,0.4s,mb4.2,baz=326,slow=11,SNR=4.0						
PSI	**Prapat**	**31.26**	**79**	P	**P**	**13 49 56.0**	**+1.0**
PSI				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
NDI	**New Delhi**	**33.15**	**14**	*eP*	**P**	**13 50 11.0**	**-0.3**
KOLN	**Koldanda**	**34.44**	**24**	*eP*	**P**	**13 50 22.6**	**+0.1**
	comp=Z,147nm,1.4s,mb5.7						
DMN	**Daman**	**34.95**	**27**	*eP*	**P**	**13 50 27.8**	**+0.9**
	comp=Z,117nm,1.1s,mb5.7						
DANN	**Dangsing**	**35.01**	**24**	*eP*	**P**	**13 50 28.6**	**+1.1**
	comp=Z,99nm,1.2s,mb5.6						
PKI	**Pulchoki**	**35.05**	**27**	*eP*	**P**	**13 50 28.5**	**+0.7**
GKN	**Gorkha**	**35.08**	**26**	*eP*	**P**	**13 50 28.9**	**+0.8**
RAMN	**Ramite**	**35.08**	**29**	*eP*	**P**	**13 50 28.8**	**+0.6**
	comp=Z,269nm,1.8s,mb5.9						
KKN	**Kakani**	**35.18**	**27**	*eP*	**P**	**13 50 29.5**	**+0.5**
	comp=Z,60nm,1.0s,mb5.5						
ODAN	**Odare**	**35.40**	**30**	*eP*	**P**	**13 50 31.4**	**+0.5**
	comp=Z,506nm,2.0s,mb6.1						
JIRN	**Jiri**	**35.48**	**28**	*eP*	**P**	**13 50 32.6**	**+1.0**
	comp=Z,173nm,1.5s,mb5.8						
GUN	**Gumba**	**35.55**	**27**	*eP*	**P**	**13 50 33.1**	**+0.9**
	comp=Z,207nm,1.2s,mb6.0						
TAPN	**Taplejung**	**35.97**	**30**	*eP*	**P**	**13 50 37.1**	**+1.4**
SHL	**Shillong**	**36.88**	**37**	*eP*	**P**	**13 50 44.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**37.27**	**53**	P	**P**	**13 50 48.0**	**+1.0**
	comp=Z,5.2nm,1.0s,mb4.3,baz=242,slow=9.7,SNR=23						
CMAR				PcP	PcP	13 53 06.5	-0.1
	comp=Z,2.3nm,0.9s,baz=241,slow=5.2,SNR=5.1						
CMAR				LR	LR	14 03 52.5	
	comp=Z,432nm,21.9s,MS4.2,baz=223,slow=33						
CMAR	**Chiang Mai Arr**	**37.27**	**53**	P	**P**	**13 50 48.0**	**+1.0**
CMAR						13 53 06.6	
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CHTO	**Chiang Mai**	**37.46**	**53**	*eP*	**P**	**13 50 48.5**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.2						
CHTO	**Chiang Mai**	**37.46**	**53**	*eP*	**P**	**13 50 48.5**	**-0.1**
	comp=Z,48nm,1.2s,mb5.2						
KBL	**Kabul**	**37.87**	**1**	*eP*	**P**	**13 50 52.3**	**+0.5**
	comp=Z,42nm,1.4s,mb5.0						
LSA	**Lhasa**	**39.64**	**32**	P	**P**	**13 51 08.8**	**+2.0**
LSA				AP	pP	13 51 15.6	+5.7
LSA				XP	sP	13 51 21.1	+10
LSA				S	**S**	**13 57 10.7**	**+0.7**
LSA				LR	LR		
	comp=N,520nm,24.4s,MS4.5						
LSA				LR	LR		
	comp=E,610nm,20.3s,MS4.5						
LSA				LR	LR		
	comp=Z,2μm,21.7s,MS4.8						
LSA	**Lhasa**	**39.64**	**32**	*eP*	**P**	**13 51 07.6**	**+0.8**
LSA				pmax	pmax		
	comp=Z,105nm,1.4s,mb5.4						
LSA	**Lhasa**	**39.64**	**32**	*eP*	**P**	**13 51 07.6**	**+0.9**
	comp=Z,105nm,1.4s,mb5.4						
LSZ	**Lusaka**	**41.16**	**251**	P	**P**	**13 51 21.4**	**+1.8**
	comp=Z,5.3nm,0.9s,mb4.2,baz=73,slow=8.4,SNR=9.0						
LSZ	**Lusaka**	**41.16**	**251**	*eP*	**P**	**13 51 21.0**	**+1.4**
LSZ				pmax	pmax		
	comp=Z,38nm,1.3s,mb4.9						
LSZ	**Lusaka**	**41.16**	**251**	*eP*	**P**	**13 51 21.0**	**+1.4**
	comp=Z,38nm,1.3s,mb4.9						
KSH	**Kashi**	**43.41**	**9**	P	**P**	**13 51 38.3**	**+0.8**
KSH				AP	pP	13 51 42.4	+1.7
KSH				XP	sP	13 51 45.7	+3.8
KSH				PP	PP	13 53 21.4	+2.8
KSH				PCP	PcP	13 53 27.3	+1.4
KSH				PPP		13 53 56.0	
KSH				SCP	ScP	13 57 16.6	-1.0
KSH				PCS	PcS	13 57 18.6	+0.1
KSH				S	**S**	**13 58 05.5**	**-0.2**
KSH				SCS	ScS	14 01 35.6	-2.3
KSH				LR	LR		
	comp=N,786nm,7.1s						
KSH				LR	LR		
	comp=E,1μm,8.5s						
KSH				LR	LR		
	comp=Z,689nm,6.5s						
KMI	**Kunming**	**43.92**	**48**	P	**P**	**13 51 43.0**	**+1.1**
KMI				AP	pP	13 51 46.7	+1.6
KMI				XP	sP	13 51 47.9	+1.6
KMI				PP	PP	13 53 27.8	+3.5
KMI				PPP		13 54 04.9	
KMI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
KMI				AMB	AMB		
	comp=Z,78nm,3.5s						
KMI				LR	LR		
	comp=N,454nm,14.3s,MS4.6						
KMI				LR	LR		
	comp=E,275nm,16.2s,MS4.6						
KMI				LR	LR		
	comp=Z,452nm,19.3s,MS4.4						
AML	**Almayashu**	**45.71**	**6**	P	**P**	**13 51 57.1**	**+1.3**
	SNR=5.8						
AML	**Almayashu**	**45.71**	**6**	*eP*	**P**	**13 51 54.5**	**-1.4**
	comp=Z,6.9nm,0.9s,mb4.6						
KZA	**Kyzart**	**45.83**	**7**	P	**P**	**13 51 57.8**	**+1.0**
	SNR=39						
UCH	**Uchtor**	**45.89**	**6**	*eP*	**P**	**13 52 06.7**	**+9.4**
	comp=Z,17nm,1.3s,mb4.8						
MSL	**Mosul**	**46.08**	**331**	*ex*	x	13 52 06.0	
ULHL	**Ulahol**	**46.12**	**8**	P	**P**	**13 52 00.8**	**+1.6**
	SNR=7.1						
EKS2	**Erkin-Say**	**46.24**	**6**	P	**P**	**13 52 02.4**	**+2.4**
	SNR=16						
EKS2	**Erkin-Say**	**46.24**	**6**	*eP*	**P**	**13 51 59.1**	**-0.9**
	comp=Z,91nm,1.4s,mb5.5						
ASF	**Jabal al Asfar**	**46.35**	**322**	P	**P**	**13 52 04.2**	**+3.0**
	comp=Z,1.9nm,0.4s,mb4.4,baz=343,slow=6.7,SNR=3.5						
ASF				LR	LR	14 09 40.8	
	comp=Z,130nm,20.6s,MS3.9,baz=186,slow=34						
ASF	**Jabal al Asfar**	**46.35**	**322**	P	**P**	**13 52 04.2**	**+3.1**
ASF				LR	LR	14 09 40.8	
KBK	**Karagaybulak**	**46.36**	**7**	P	**P**	**13 52 01.8**	**+0.8**
	SNR=7.0						
FRU	**Bishkek**	**46.50**	**6**	*eP*	**P**	**13 52 02.0**	**-0.1**
FRU				*i*		13 52 08.0	
FRU				pmax	pmax		
	comp=Z,80nm,1.8s,mb5.3						
QIZ	**Qiongzhong**	**46.62**	**60**	P	**P**	**13 52 02.1**	**-1.4**
QIZ				S	**S**	**13 58 52.3**	**-0.6**
QIZ				AMB	AMB		
	comp=Z,23nm,1.9s,mb4.8						
QIZ				LR	LR		
	comp=E,550nm,16.3s						
QIZ				LR	LR		
	comp=Z,575nm,19.9s,MS4.5						
TKM2	**Tokmak 2**	**46.70**	**7**	*eP*	**P**	**13 52 02.6**	**-1.1**
TKM2				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.3						
TKM2	**Tokmak 2**	**46.70**	**7**	P	**P**	**13 52 04.9**	**+1.2**
	SNR=18						
TKM2	**Tokmak 2**	**46.70**	**7**	*eP*	**P**	**13 52 02.6**	**-1.1**
	comp=Z,52nm,1.2s,mb5.3						
GYA	**Guiyang**	**47.59**	**49**	P	**P**	**13 52 12.8**	**+1.8**
GYA				PCP	PcP	13 53 42.8	+2.0
GYA				PP	PP	13 54 03.6	+1.0
GYA				PPP		13 54 52.2	
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=N,760nm,19.8s,MS4.8						
GYA				LR	LR		
	comp=E,680nm,18.6s,MS4.8						
GYA				LR	LR		
	comp=Z,520nm,18.3s,MS4.5						
BOSA	**Boshof**	**47.89**	**234**	P	**P**	**13 52 14.8**	**+1.6**
	comp=Z,5.4nm,0.9s,mb4.6,baz=47,slow=6.8,SNR=4.7						
BOSA				LR	LR	14 10 20.4	
	comp=Z,636nm,18.4s,MS4.6,baz=90,slow=34						
CD2	**Chengdu**	**48.13**	**42**	P	**P**	**13 52 15.2**	**+0.2**
CD2				AP	pP	13 52 19.5	+1.3
CD2				XP	sP	13 52 22.8	+3.4
CD2				PCP	PcP	13 53 43.5	+0.9
CD2				PP	PP	13 54 07.6	+0.2
CD2				PCS	PcS	13 57 37.8	-0.6
CD2				S	**S**	**13 59 12.6**	**-1.4**
CD2				SCS	ScS	14 02 05.2	-3.5
CD2				AMB	AMB		
	comp=Z,40nm,1.5s,mb5.2						
CD2				AMB	AMB		
	comp=Z,240nm,4.8s						
CD2				LR	LR		
	comp=N,440nm,17.3s,MS4.7						
CD2				LR	LR		
	comp=E,520nm,18.2s,MS4.7						
CD2				LR	LR		
	comp=Z,400nm,25.0s						
GNI	**Garni**	**48.54**	**336**	P	**P**	**13 52 19.6**	**+1.6**
	comp=Z,4.2nm,0.4s,mb4.8,baz=164,slow=7.4,SNR=7.1						
GNI	**Garni**	**48.54**	**336**	⇑*eP*	**P**	**13 52 18.1**	**+0.1**
GNI				pmax	pmax		
	comp=Z,54nm,1.6s						
GNI	**Garni**	**48.54**	**336**	*eP*	**P**	**13 52 20.4**	**+2.4**
	comp=Z,62nm,1.3s,mb5.5						
MALT	**Malatya**	**49.97**	**329**	*eP*	**P**	**13 52 30.5**	**+1.5**
WMQ	**Urumqi**	**50.26**	**18**	P	**P**	**13 52 32.3**	**+1.2**
WMQ				AP	pP	13 52 36.8	+2.5
WMQ				XP	sP	13 52 39.3	+3.8
WMQ				PCP	PcP	13 53 51.6	+1.6
WMQ				PP	PP	13 54 28.5	+1.9
WMQ				SCP	ScP	13 57 45.5	-0.7
WMQ				S	**S**	**13 59 42.6**	**-0.9**
WMQ				SCS	ScS	14 02 20.0	-2.5
WMQ				AMB	AMB		
	comp=Z,39nm,1.4s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,47nm,6.6s						
WMQ				LR	LR		
	comp=N,715nm,20.4s,MS4.7						
WMQ				LR	LR		
	comp=E,398nm,22.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,662nm,20.4s,MS4.6						
LZH	**Lanzhou**	**51.54**	**37**	P	**P**	**13 52 41.0**	**+0.1**
LZH				AP	pP	13 52 52.0	+7.9
LZH				AMB	AMB		
	comp=Z,49nm,1.5s,mb5.2						
LZH				LR	LR		
	comp=E,202nm,14.5s						
LZH				LR	LR		
	comp=Z,542nm,15.3s,MS4.7						
MK31	**Makanchi Array**	**51.61**	**12**	*eP*	**P**	**13 52 40.8**	**-0.4**
MKAR	**Makanchi Array**	**51.61**	**12**	P	**P**	**13 52 40.6**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=189,slow=7.2,SNR=10						
MKAR				PcP	PcP	13 53 55.9	+0.9
	comp=Z,0.9nm,0.7s,baz=134,slow=4.2,SNR=2.5						
MKAR				LR	LR	14 15 54.0	
	comp=Z,290nm,19.9s,MS4.3,baz=189,slow=38						
MKAR	**Makanchi Array**	**51.61**	**12**	P	**P**	**13 52 40.7**	**-0.5**
MKAR						13 53 55.9	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,290nm,19.9s						
GTA	**Gaotai**	**51.65**	**31**	⇑P	**P**	**13 52 42.1**	**+0.5**
GTA				AP	pP	13 52 45.5	+0.7
GTA				XP	sP	13 52 47.9	+1.9
GTA				PP	PP	13 54 41.4	+2.1
GTA				AMB	AMB		
	comp=Z,15nm,1.6s,mb4.7						
GTA				AMB	AMB		
	comp=Z,182nm,3.8s						
GTA				LR	LR		
	comp=N,514nm,19.8s,MS4.7						
GTA				LR	LR		
	comp=E,475nm,21.3s,MS4.7						
GTA				LR	LR		
	comp=Z,815nm,19.8s,MS4.8						
KIV	**Kislovodsk**	**52.56**	**337**	*eP*	**P**	**13 52 47.8**	**-0.6**
KIV				*i*		13 52 55.4	
KIV				*i*		13 53 58.7	
KIV				*e*		13 54 46.6	
KIV				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
XAN	**Xi'an**	**53.49**	**42**	P	**P**	**13 52 54.8**	**-0.6**
XAN				AP	pP	13 53 01.3	+2.7
XAN				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.0						
KLBR	**Kellerberrin**	**54.17**	**127**	*eP*	**P**	**13 52 57.3**	**-3.2**
	comp=Z,45nm,1.4s,mb5.2						
NWAO	**Narrogin (SRO)**	**54.24**	**129**	P	**P**	**13 52 59.7**	**-1.3**
	comp=Z,8.8nm,1.0s,mb4.6,baz=264,slow=10,SNR=3.9						
NWAO				LR	LR	14 11 16.3	
	comp=Z,254nm,19.0s,MS4.3,baz=112,slow=31						
NWAO	**Narrogin (SRO)**	**54.24**	**129**	P	**P**	**13 52 59.7**	**-1.3**
NWAO				LR	LR	14 11 16.3	
KURK	**Kurchatov**	**54.75**	**8**	P	**P**	**13 53 04.4**	**+0.1**
	comp=Z,134nm,1.2s,mb5.8,SNR=9.3						
KURK	**Kurchatov**	**54.75**	**8**	*eP*	**P**	**13 53 02.9**	**-1.4**
KURK				*e*		13 53 10.7	
KURK				pmax	pmax		
	comp=Z,48nm,1.3s,mb5.4						
KURK	**Kurchatov**	**54.75**	**8**	*eP*	**P**	**13 53 02.9**	**-1.4**
	comp=Z,48nm,1.3s,mb5.4						
KURK				*e*		13 53 10.7	
BATI	**Baumata**	**55.32**	**100**	LR	LR	14 13 12.6	
	comp=Z,462nm,21.2s,MS4.5,baz=249,slow=32						
ANN	**Anapa**	**55.45**	**334**	*eP*	**P**	**13 53 07.7**	**-1.7**
ANN				*eS*	**S**	**14 00 51.5**	**-2.8**
ANN				pmax	pmax		
	comp=Z,75nm,1.8s,mb5.4						
WHN	**Wuhan**	**55.48**	**49**	*eP*	**P**	**13 53 09.9**	**-0.1**
BVAR	**Borovoye Array**	**56.37**	**2**	P	**P**	**13 53 15.5**	**-0.4**
	comp=Z,1.5nm,0.9s,mb4.0,baz=183,slow=5.8,SNR=7.5						
BVAR	**Borovoye Array**	**56.37**	**2**	P	**P**	**13 53 15.5**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**57.93**	**109**	*eP*	**P**	**13 53 27.4**	**-0.2**
	comp=Z,18nm,1.1s,mb5.0						
FITZ	**Fitzroy Crossi**	**57.93**	**109**	P	**P**	**13 53 27.4**	**-0.2**
	comp=Z,10nm,1.0s,mb4.8,baz=303,slow=4.6,SNR=6.7						
FITZ				LR	LR	14 13 31

HHC LR LR
comp=N,331nm,22.6s,MS4.5
HHC LR LR
comp=E,259nm,19.0s,MS4.5
HHC LR LR
comp=Z,310nm,22.6s,MS4.4
NVS Novosibirsk 59.47 10 *e*P **P 13 53 36.1 -1.5**
NVS pmax pmax
comp=Z,105nm,2.0s,mb5.5
NVS pmax pmax
comp=N,113nm,2.1s
TIRR Tirgusor 59.61 328 *e*P **P 13 53 38.5 -0.3**
TIRR pmax pmax
comp=Z,39nm,1.4s,mb5.2
TIRR Tirgusor 59.61 328 *e*P **P 13 53 38.5 -0.3**
comp=Z,39nm,1.4s,mb5.2
VRSR Storozhevoye 59.93 339 *e*P **P 13 53 40.0 -0.8**
VRSR pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
VRSR pmax pmax
comp=N,3.0nm,1.0s
VRSR pmax pmax
comp=E,5.0nm,1.1s
ARU Arti 60.28 354 *d i*P **P 13 53 42.4 -0.7**
ARU *e* 13 55 52.4
ARU *e*S **S 14 01 54.9 -2.3**
ARU *e*SS SS 14 05 47.1 -7.8
ARU pmax pmax
comp=Z,28nm,1.7s,mb5.0
ARU Arti 60.28 354 *e*P **P 13 53 42.4 -0.8**
comp=Z,33nm,1.3s,mb5.2
SVE Sverdlovsk 60.47 355⇑ *e*P **P 13 53 44.4 -0.1**
SVE pmax pmax
comp=Z,31nm,1.5s,mb5.1
SVE MLR MLR
comp=Z,161nm,8.0s
SSE Sheshan 60.98 51 P **P 13 53 50.1 +1.6**
SSE XP sP 13 53 54.5 +1.6
SSE S **S 14 02 06.8 -0.4**
SSE SS SS 14 06 06.6 -0.3
SSE AMB AMB
comp=Z,24nm,1.1s,mb5.2
SSE AMB AMB
comp=Z,61nm,5.5s
SSE LR LR
comp=N,107nm,14.8s,MS4.3
SSE LR LR
comp=E,116nm,14.8s,MS4.3
SSE LR LR
comp=Z,205nm,16.2s,MS4.4
SONM Songino Array 61.05 28 P **P 13 53 47.5 -1.1**
comp=Z,18nm,0.9s,mb5.2,baz=222,slow=6.4,SNR=54
SONM LR LR 14 20 03.1
comp=Z,1μm,20.7s,MS5.1,baz=252,slow=36
SONM Songino Array 61.05 28 P **P 13 53 47.5 -1.1**
SONM pmax pmax
comp=Z,18nm,0.9s
SONM MLR MLR
comp=Z,1μm,20.7s
KIS Kishinev 61.13 330 *e*P **P 13 53 49.0 -0.1**
VRI Vrincioaia 61.43 328 ⇓ *i*P **P 13 53 51.8 +0.6**
VRI Vrincioaia 61.43 328 P **P 13 53 52.1 +0.8**
PLOR Plostina 61.46 328⇑ *i*P **P 13 53 52.0 +0.6**
ZAK Zakamensk 61.54 25 *e*P **P 13 53 51.0 -0.8**
ZAK pmax pmax
comp=Z,12nm,1.7s,mb4.8
MLR Muntele Rosu 61.60 327⇑ *i*P **P 13 53 53.3 +0.9**
MLR Muntele Rosu 61.60 327 P **P 13 53 53.9 +1.5**
MOY Mondy 61.62 22 *e*P **P 13 53 53.0 +0.6**
MOY pmax pmax
comp=Z,48nm,2.8s,mb5.1
BJI Beijing 61.66 40 P **P 13 53 52.4 -0.5**
BJI AMB AMB
comp=Z,21nm,1.6s,mb5.0
BJI AMB AMB
comp=Z,166nm,3.5s
BJI LR LR
comp=N,124nm,19.6s,MS4.4
BJI LR LR
comp=E,240nm,18.7s,MS4.4
BJI LR LR
comp=Z,173nm,20.4s,MS4.2
VOIR 62.05 327 ⇓ *i*P **P 13 53 55.6 +0.2**
VOIR 62.05 327 ⇓ P **P 13 53 55.6 +0.2**
KRAR Krasnoyarsk 62.66 15 *e*P **P 13 53 59.3 0.0**
TLY Talaya 62.67 24 *e*P **P 13 53 59.7 +0.3**
TLY pmax pmax
comp=Z,12nm,1.2s,mb4.9
TLY MLR MLR
comp=Z,652nm,20.0s,MS4.8
GZR Gura Zlata 63.29 326 P **P 13 54 04.7 +1.1**
IRK Irkutsk 63.35 24 *e*P **P 13 54 03.6 -0.3**
IRK *e* 13 56 21.8
IRK pmax pmax
comp=Z,68nm,2.2s,mb5.4
BURAR Bucovina Array 63.36 329 ⇓ *i*P **P 13 54 05.3 +1.2**
BURAR Bucovina Array 63.36 329 ⇓ P **P 13 54 05.3 +1.2**
AKASG Malin Array Be 63.53 333 P **P 13 54 04.5 -0.7**
comp=Z,2.1nm,0.8s,mb4.2,baz=137,slow=5.5,SNR=19
AKASG Malin Array Be 63.53 333 P **P 13 54 04.5 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKBB Malin Array Si 63.53 333 *e*P **P 13 54 04.0 -1.1**
AKBB *e* 13 54 11.1
KIEV Kiev 63.53 333 *e*P **P 13 54 04.3 -0.9**
KIEV *e* 13 54 11.1
KIEV pmax pmax
comp=Z,68nm,1.8s,mb5.4
KIEV Kiev 63.53 333 *e*P **P 13 54 04.3 -0.9**
comp=Z,68nm,1.8s,mb5.4
KIEV *e* 13 54 11.1
SOKR Solikamsk 63.56 353 *c i*P **P 13 54 11.6 +6.5**
SOKR pmax pmax
comp=Z,30nm,1.5s,mb5.1
KAKA Kakadu 64.03 102 *e*P **P 13 54 08.3 -0.8**
comp=Z,13nm,0.9s,mb5.0
OBN Obninsk 64.03 340⇑ P **P 13 54 07.0 -1.4**
OBN *e* 13 54 15.0
OBN 13 54 40.0
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
BZS Buzias 64.07 325 ⇓ *i*P **P 13 54 08.7 -0.1**
BZS Buzias 64.07 325 P **P 13 54 08.9 0.0**
MAW Mawson 64.08 182 P **P 13 54 09.3 +0.9**
comp=Z,3.1nm,1.0s,mb4.3,baz=356,slow=7.9,SNR=4.3
MAW LR LR 14 15 26.1
comp=Z,376nm,20.0s,MS4.6,baz=47,slow=30
MOS Moscow 64.20 341 *e*P **P 13 54 07.4 -2.1**
LVV L'vov 65.38 330 *e*P **P 13 54 16.5 -0.8**
UZH Uzhgorod 65.52 328 *e*P **P 13 54 15.2 -3.0**
UZH *i* pP 13 54 18.0 -3.5
KOLS Kolonicke sedl 65.72 329 *e*P **P 13 54 20.0 +0.5**
KWP Kalwaria 65.93 329 *e*P **P 13 54 20.8 0.0**
KWP pmax pmax
comp=Z,44nm,1.4s,mb5.3
KWP Kalwaria 65.93 329 *e*P **P 13 54 20.8 0.0**
comp=Z,44nm,1.4s,mb5.3
PKSM Moragy 66.12 325⇑ *i*P **P 13 54 22.2 +0.1**
PKSM Moragy 66.12 325⇑ P **P 13 54 22.2 0.0**
ASAR Alice Springs 66.28 114 P **P 13 54 23.4 -0.3**
comp=Z,4.2nm,1.0s,mb4.4,baz=262,slow=4.9,SNR=17
ASAR Alice Springs 66.28 114 P **P 13 54 23.4 -0.3**
ASAR pmax pmax
comp=Z,4.0nm,1.0s
WRA Warramunga Arr 66.31 110 P **P 13 54 23.6 -0.3**
comp=Z,10nm,0.9s,mb4.8,baz=281,slow=6.3,SNR=29
WRA LR LR 14 20 06.7
comp=Z,62nm,21.0s,MS3.8,baz=290,slow=33
WRAB Tennant Creek 66.31 110 P **P 13 54 23.0 -0.9**
comp=Z,125nm,1.5s,mb5.7,SNR=6.0
WRAB Tennant Creek 66.31 110 *c i*P **P 13 54 23.8 -0.1**
WRAB Tennant Creek 66.31 110 *e*P **P 13 54 23.0 -1.0**
WB2 Warramunga Arr 66.32 110 *e*P **P 13 54 23.0 -0.9**
TAM Tamanrasset 66.54 297 *e*P **P 13 54 27.0 +1.7**
TAM *e* 13 54 34.3
MNK Minsk 66.83 336 *e*P **P 13 54 25.0 -1.5**
CIT Chita 67.29 28 *e*P **P 13 54 29.0 -0.5**
CIT *e* 13 54 36.6
CIT *e* 13 54 53.3
VYHS Vyhne 67.29 327 *e*P **P 13 54 28.8 -0.8**
VYHS pmax pmax
comp=Z,21nm,2.0s,mb4.8
VYHS Vyhne 67.29 327 *e*P **P 13 54 28.8 -0.8**
comp=Z,21nm,2.0s,mb4.8
KLMR Klimovskoe 67.97 345 *e*P **P 13 54 32.8 -0.8**
KLMR pmax pmax
comp=Z,59nm,1.8s,mb5.3
TORD Torodi Ar. Bea 68.13 286 P **P 13 54 37.4 +1.9**
comp=Z,5.0nm,1.2s,mb4.4,baz=89,slow=5.0,SNR=14
TORD LR LR 14 21 55.9
comp=Z,176nm,20.1s,MS4.3,baz=100,slow=34
OKC Ostrava-Krasne 68.43 328 *e*P **P 13 54 36.8 +0.1**
OKC *e*pP pP 13 54 42.9 +2.9
KSRS Korea Array 68.62 48 P **P 13 54 37.5 -0.7**
comp=Z,2.9nm,0.8s,mb4.2,baz=252,slow=7.5,SNR=9.6
KSRS LR LR 14 26 34.7
comp=Z,429nm,18.4s,MS4.7,baz=249,slow=38
KSRS Korea Array 68.62 48 P **P 13 54 37.5 -0.7**
KSRS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KSRS MLR MLR
comp=Z,429nm,18.4s,MS4.7
MORC Moravsky Berou 68.72 327 ⇓ *i*P **P 13 54 37.9 -0.6**
MORC Moravsky Berou 68.72 327 *e*P **P 13 54 38.1 -0.4**
HIA Hailar 68.82 33 *e*P **P 13 54 39.4 +0.2**
HIA *e* 13 54 45.9
HIA pmax pmax
comp=Z,29nm,1.3s
HIA Hailar 68.82 33 *e*P **P 13 54 39.4 +0.2**
comp=Z,29nm,1.3s,mb5.0
HIA *e* 13 54 45.9
CN2 Changchun 69.53 40 *e*P **P 13 54 43.6 -0.1**
CN2 *e*XP sP 13 54 50.6 +2.5
CN2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.6
CN2 LR LR
comp=E,200nm,15.0s,MS4.6
CN2 LR LR
comp=Z,200nm,16.0s,MS4.5
DPC Dobruska-Polom 69.69 327 *e*P **P 13 54 43.7 -0.8**
DPC *e*pP pP 13 54 50.7 +2.9
UPC Upice 69.94 327 *e*P **P 13 54 45.9 -0.2**
UPC *e*pP pP 13 54 53.0 +3.7
KSP Ksiaz 69.97 328 *e*P **P 13 54 46.9 +0.6**
GEC2 GERESS Array S 70.35 325 *e*P **P 13 54 48.9 +0.3**
GEC2 pmax pmax
comp=Z,21nm,2.2s,mb4.7
GEC2 GERESS Array S 70.35 325 *e*P **P 13 54 48.9 +0.3**
comp=Z,21nm,2.2s,mb4.7
PRU Pruhonice 70.47 326 *e*P **P 13 54 47.7 -1.6**
KHC Kasperske Hory 70.57 325 *e*P **P 13 54 48.9 -1.0**
KHC *e*pP pP 13 54 56.1 +2.9
WET Wettzell 70.97 325 *e*P **P 13 54 51.9 -0.5**
WET pmax pmax
comp=Z,32nm,2.3s,mb4.8
WET Wettzell 70.97 325 *e*P **P 13 54 51.9 -0.5**
comp=Z,32nm,2.3s,mb4.8
BRG Berggiesshubel 71.25 327 *e*P **P 13 54 54.2 +0.1**
BRG pmax pmax
comp=Z,12nm,1.8s,mb4.5
BRG Berggiesshubel 71.25 327 *e*P **P 13 54 54.1 0.0**
comp=Z,20nm,1.9s,mb4.7
BRG Berggiesshubel 71.25 327 *e*P **P 13 54 54.2 +0.1**
comp=Z,20nm,1.8s,mb4.7
BOD Bodaibo 71.25 24 *e*P **P 13 54 51.4 -2.5**
BOD pmax pmax
comp=Z,11nm,2.1s,mb4.4
FUR Furstenfeldbru 71.43 324 *e*P **P 13 54 55.2 0.0**
FUR pmax pmax
comp=Z,24nm,0.7s,mb5.2
FUR Furstenfeldbru 71.43 324 *e*P **P 13 54 55.2 0.0**
comp=Z,24nm,0.7s,mb5.2
ROTZ Rotzenmuhle 71.66 325 *e*P **P 13 54 56.2 -0.3**
comp=Z,12nm,1.5s,mb4.6
NKC Novy Kostel 71.75 326 *e*P **P 13 54 57.6 +0.5**
NKC *e*pP pP 13 55 04.4 +4.0
WERN Wernitzgruen 71.82 326 *e*P **P 13 54 57.8 +0.3**
comp=Z,46nm,1.6s,mb5.2
GUNZ Gunzen 71.88 326 *e*P **P 13 54 58.8 +0.9**
comp=Z,54nm,2.0s,mb5.1
JOF Joensuu 71.90 343 *e*p **P 13 54 56.6 -1.1**
comp=Z,3.9nm,0.8s,mb4.4
JOF Joensuu 71.90 343 *e*P **P 13 54 56.6 -1.1**
JOF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WERD Werda 71.94 326 *e*P **P 13 54 58.3 +0.1**
comp=Z,47nm,2.2s,mb5.0
SBF Sospel 71.97 318 *e*P **P 13 54 58.1 -0.5**
CLL Collm 71.98 327⇑ *i*P **P 13 54 58.8 +0.3**
CLL *i* 13 55 05.5
CLL pmax pmax
comp=Z,25nm,1.4s,mb5.0
CLL Collm 71.98 327 *e*P **P 13 54 58.8 +0.3**
comp=Z,26nm,1.4s,mb5.0
CLL Collm 71.98 327⇑ *i*P **P 13 54 58.8 +0.3**
comp=Z,25nm,1.4s,mb5.0
CLL *i* (pP) pP 13 55 05.5 +3.8
comp=Z,29nm,1.4s
RUE Ruedersdorf 72.17 328 *e*P **P 13 54 59.8 +0.2**
comp=Z,39nm,1.3s,mb5.2
GRA1 Grafenberg Arr 72.18 325 *e*P **P 13 54 59.6 -0.1**
comp=Z,50nm,1.5s,mb5.2
GRA1 *e*pP pP 13 55 06.0 +3.0
GRF Grafenberg Arr 72.18 325 *e*P **P 13 54 59.6 -0.1**
GRF *e**PP pP 13 55 06.0 +3.0
GRF pmax pmax
comp=Z,50nm,1.5s,mb5.2
GRF Grafenberg Arr 72.18 325 *e*P **P 13 54 59.6 -0.1**
GRF *e**PP pP 13 55 06.0 +3.0
GRF pmax pmax
comp=Z,50nm,1.5s,mb5.2
GRF Grafenberg Arr 72.18 325 *e*P **P 13 54 59.5 -0.2**
comp=Z,50nm,1.5s,mb5.2
GRF *e*pP pP 13 55 06.0 +3.0
GRF Grafenberg Arr 72.18 325 *e*P **P 13 54 59.6 -0.1**
comp=Z,50nm,1.5s,mb5.2
GRF *e*pP pP 13 55 06.0 +3.0
FRF La Foret Royal 72.38 318 *e*P **P 13 55 00.6 -0.4**
comp=Z,42nm,1.3s,mb4.9
FRF La Foret Royal 72.38 318 *e*P **P 13 55 00.6 -0.4**
FRF pmax pmax
comp=Z,21nm,1.3s,mb4.9
FRF La Foret Royal 72.38 318 *e*P **P 13 55 00.6 -0.4**
comp=Z,21nm,1.3s,mb4.9
MOX Moxa 72.42 326 *e*P **P 13 55 01.3 +0.2**
comp=Z,30nm,1.8s,mb4.9
MOX Moxa 72.42 326 *e*P **P 13 55 01.3 +0.2**
MOX pmax pmax
comp=Z,30nm,1.8s,mb4.9
MDJ Mudanjiang 72.57 41 P **P 13 55 02.4 +0.3**
MDJ AP pP 13 55 05.8 +0.4
MDJ XP sP 13 55 07.3 +0.7
MDJ AMB AMB
comp=Z,23nm,1.2s,mb5.0
MDJ AMB AMB
comp=Z,93nm,3.5s
MDJ LR LR
comp=N,136nm,21.1s,MS4.2
MDJ LR LR
comp=E,77nm,23.6s,MS4.2
MDJ LR LR
comp=Z,151nm,24.2s,MS4.2
MDJ Mudanjiang 72.57 41 *e*P **P 13 55 02.3 +0.2**
comp=Z,30nm,0.9s,mb5.2
MBDF Montbardon 72.75 319 *e*P **P 13 55 02.2 -1.0**
comp=Z,34nm,1.5s,mb4.8
MBDF Montbardon 72.75 319 *e*P **P 13 55 02.2 -1.0**
MBDF pmax pmax
comp=Z,17nm,1.5s,mb4.8
MBDF Montbardon 72.75 319 *e*P **P 13 55 02.2 -1.0**
comp=Z,17nm,1.5s,mb4.8
STU Stuttgart 72.94 324 *e*P **P 13 55 03.9 -0.3**
comp=Z,17nm,1.1s,mb4.9
LPG La Plagne 73.07 320 *e*P **P 13 55 04.1 -1.0**
LPL La Plagne 73.09 320 *e*P **P 13 55 04.3 -0.9**
SMRF Simiane la Rot 73.25 318 *e*P **P 13 55 06.6 +0.4**
BFO Black Forest 73.26 323 *e*P **P 13 55 06.2 +0.1**
BFO pmax pmax
comp=Z,58nm,2.1s,mb5.1
BFO Black Forest 73.26 323 *e*P **P 13 55 06.2 +0.1**
comp=Z,58nm,2.1s,mb5.1
UBBA Unterbreizbach 73.40 326 *e*P **P 13 55 07.1 +0.2**
comp=Z,26nm,1.5s,mb4.9
ORIF Oris-en-Rattie 73.41 319 *e*P **P 13 55 06.7 -0.4**
VLA Vladivostok 73.54 43 P **P 13 55 02.0 -5.9**
VLA pmax pmax
comp=Z,34nm,1.2s,mb5.2
KIC Kosan Boka 73.57 278 *e*P **P 13 55 09.3 +0.6**
comp=Z,244nm,1.4s,mb5.9
CLZ Clausthal 73.68 327 *e*P **P 13 55 09.0 +0.5**
CLZ pmax pmax
comp=Z,19nm,1.4s,mb4.8
CLZ Clausthal 73.68 327 *e*P **P 13 55 09.0 +0.5**
comp=Z,19nm,1.4s,mb4.8
DBIC Dimbokro 73.71 278 P **P 13 55 10.2 +0.7**
comp=Z,6.1nm,0.8s,mb4.6,baz=83,slow=7.6,SNR=5.4
DBIC LR LR 14 28 02.1
comp=Z,82nm,20.2s,MS4.0,baz=316,slow=36
DBIC Dimbokro 73.71 278 P **P 13 55 10.2 +0.7**
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC MLR MLR
comp=Z,82nm,20.2s
ETOS Mallorca 73.71 313 P **P 13 55 01.9 -7.1**
comp=Z,0.9nm,0.7s,mb3.8
LIC Lamto 73.84 277 *e*P **P 13 55 10.4 +0.1**
comp=Z,84nm,1.4s,mb5.2
LIC *e*MLR MLR
comp=Z,126nm,17.0s,MS4.0
LIC Lamto 73.84 277 *e*P **P 13 55 10.5 +0.2**
comp=Z,74nm,1.4s,mb5.4
LIC Lamto 73.84 277 *e*P **P 13 55 10.4 +0.1**
comp=Z,42nm,1.4s,mb5.2
LIC LR LR
comp=Z,60nm,17.0s,MS4.0
TIC Toumodi 73.87 278 *e*P **P 13 55 10.9 +0.4**
comp=Z,17nm,0.2s,mb5.7
TIC Toumodi 73.87 278 *e*P **P 13 55 10.9 +0.4**
TIC pmax pmax
comp=Z,17nm,0.2s,mb5.6
ECH Echery 73.92 322 *e*P **P 13 55 08.8 -1.2**
ECH *e* 13 55 16.2
CDF Champ du Feu 73.93 323 *e*P **P 13 55 09.4 -0.7**
comp=Z,64nm,1.5s,mb5.0
CDF Champ du Feu 73.93 323 *e*P **P 13 55 09.4 -0.7**
CDF pmax pmax
comp=Z,32nm,1.5s,mb5.0
CDF Champ du Feu 73.93 323 *e*P **P 13 55 09.4 -0.7**
comp=Z,32nm,1.5s,mb5.0
CABF La Chapelle 73.94 321 *e*P **P 13 55 10.1 -0.1**
comp=Z,135nm,1.8s,mb5.3
CABF La Chapelle 73.94 321 *e*P **P 13 55 10.1 -0.1**
CABF pmax pmax
comp=Z,68nm,1.8s,mb5.3
CABF La Chapelle 73.94 321 *e*P **P 13 55 10.1 -0.1**
comp=Z,68nm,1.8s,mb5.3
HINF Hinteralfeld 73.94 322 *e*P **P 13 55 09.0 -1.2**
STKA Stephens Creek 73.98 122 P **P 13 55 11.0 +0.2**
comp=Z,7.2nm,1.1s,mb4.5,baz=289,slow=11,SNR=3.1
STKA LR LR 14 24 00.4
comp=Z,131nm,19.6s,MS4.2,baz=206,slow=33
TNS Taunus Mts 74.02 325 *e*P **P 13 55 11.1 +0.6**
TNS pmax pmax
comp=Z,33nm,1.7s,mb5.0
TNS Taunus Mts 74.02 325 *e*P **P 13 55 11.1 +0.6**
comp=Z,33nm,1.7s,mb5.0
VIVF Saint-Julien-l 74.18 319 *e*P **P 13 55 11.4 -0.2**
comp=Z,72nm,1.7s,mb5.0
VIVF Saint-Julien-l 74.18 319 *e*P **P 13 55 11.4 -0.2**
VIVF pmax pmax
comp=Z,36nm,1.7s,mb5.0
VIVF Saint-Julien-l 74.18 319 *e*P **P 13 55 11.4 -0.2**
comp=Z,36nm,1.7s,mb5.0
HAU Haudompre 74.33 322 *e*P **P 13 55 11.4 -1.0**
SSB Saint Sauveur 74.42 319 *e*P **P 13 55 11.7 -1.3**
SSB *e* 13 55 20.1
LASF Ste Croix 74.44 318 *e*P **P 13 55 13.6 +0.4**
comp=Z,157nm,1.9s,mb5.3
EJON La Jonquera 74.55 316 P **P 13 55 09.3 -4.5**
comp=Z,8.6nm,3.8s
WLF Walferdange 75.12 324 P **P 13 55 23.8 +6.8**
comp=Z,15nm,2.0s,mb4.6
WLF Walferdange 75.12 324 *e*P **P 13 55 17.2 +0.2**
comp=Z,24nm,1.5s,mb4.9
BUG Bochum--Univer 75.22 326 *e*P **P 13 55 17.2 -0.3**
comp=Z,106nm,2.2s,mb5.4
MTLF Montolieu 75.31 316 *e*P **P 13 55 18.7 +0.5**
comp=Z,103nm,1.8s,mb5.2
MTLF Montolieu 75.31 316 *e*P **P 13 55 18.7 +0.5**
MTLF pmax pmax
comp=Z,52nm,1.8s,mb5.2
MTLF Montolieu 75.31 316 *e*P **P 13 55 18.7 +0.5**
comp=Z,52nm,1.8s,mb5.2
MEZF Maizieres J'vi 75.32 322 *e*P **P 13 55 17.7 -0.5**
EMIR Miracle 75.33 315 P **P 13 55 17.4 -0.9**
comp=Z,6.0nm,0.4s,mb4.9
IBBN Ibbenburen 75.33 326 *e*P **P 13 55 19.3 +1.2**
comp=Z,23nm,1.5s,mb4.9
SMF Signal de Mont 75.38 320 *e*P **P 13 55 17.8 -0.7**
comp=Z,59nm,1.6s,mb5.0
SMF Signal de Mont 75.38 320 *e*P **P 13 55 17.8 -0.7**
SMF pmax pmax
comp=Z,29nm,1.6s,mb5.0
SMF Signal de Mont 75.38 320 *e*P **P 13 55 17.8 -0.7**
comp=Z,29nm,1.6s,mb5.0
CLNS Chul'man 75.47 28 *e*P **P 13 55 24.6 +5.8**
CLNS pmax pmax
comp=Z,26nm,1.3s,mb5.0
CLNS pmax pmax
comp=N,11nm,1.2s
CLNS pmax pmax
comp=E,10.0nm,1.4s
EPOB Poblet 75.47 314 P **P 13 55 16.3 -2.9**
comp=E,42nm,2.1s,mb5.0
LOR Lormes 75.60 321 *e*P **P 13 55 19.1 -0.7**
comp=E,51nm,1.6s,mb4.9
LOR Lormes 75.60 321 *e*P **P 13 55 19.1 -0.7**
LOR pmax pmax
comp=Z,26nm,1.6s,mb4.9
LOR Lormes 75.60 321 *e*P **P 13 55 19.1 -0.7**
comp=Z,26nm,1.6s,mb4.9
KLR Kul'dur 75.75 37 *e*P **P 13 55 15.0 -5.6**
KLR pmax pmax
comp=Z,45nm,1.6s,mb5.2
AVF Avril sur Loir 75.75 320 *e*P **P 13 55 20.0 -0.6**
SSF Saint Saulge 75.75 320 *e*P **P 13 55 20.1 -0.5**
comp=Z,21nm,1.0s,mb4.7
SSF Saint Saulge 75.75 320 *e*P **P 13 55 20.1 -0.5**
SSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SSF Saint Saulge 75.75 320 *e*P **P 13 55 20.1 -0.5**
comp=Z,10nm,1.0s,mb4.7
ERTA Horta de San J 75.88 314 P **P 13 55 19.8 -1.8**
comp=Z,18nm,1.1s,mb4.9
CAF Calviac 75.94 318 *e*P **P 13 55 22.2 +0.4**
BGF Bois d'Agland 75.99 320 *e*P **P 13 55 22.0 0.0**
GIVF Givet 76.09 324 *e*P **P 13 55 22.3 -0.2**
MJAR Matsushiro Arr 76.13 51 P **P 13 55 23.2 +0.1**
comp=Z,3.2nm,0.8s,mb4.3,baz=253,slow=5.8,SNR=9.0
MJAR LR LR 14 29 10.2
comp=Z,198nm,19.3s,MS4.4,baz=265,slow=36
MJAR Matsushiro Arr 76.13 51 P **P 13 55 23.2 +0.2**
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR MLR MLR
comp=Z,198nm,19.3s
EMOS Mosqueruela 76.30 313 P **P 13 55 21.0 -2.9**
comp=Z,46nm,2.0s,mb5.1
TCF Toulx Ste Croi 76.31 319 *e*P **P 13 55 24.1 +0.3**
RJF Les Rejaudoux 76.43 318 *e*P **P 13 55 24.8 +0.2**
comp=Z,170nm,1.8s,mb5.4
RJF Les Rejaudoux 76.43 318 *e*P **P 13 55 24.8 +0.2**
RJF pmax pmax
comp=Z,85nm,1.8s,mb5.4
RJF Les Rejaudoux 76.43 318 *e*P **P 13 55 24.8 +0.2**
comp=Z,85nm,1.8s,mb5.4
BAIF Baives 76.44 323 *e*P **P 13 55 24.4 -0.1**
comp=Z,66nm,1.4s,mb5.1
BAIF Baives 76.44 323 *e*P **P 13 55 24.4 -0.1**
BAIF pmax pmax
comp=Z,33nm,1.4s,mb5.1
BAIF Baives 76.44 323 *e*P **P 13 55 24.4 -0.1**
comp=Z,33nm,1.4s,mb5.1
ECHE Chera 76.44 312 P **P 13 55 23.6 -1.2**
ECHE pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ECHE Chera 76.44 312 P **P 13 55 23.6 -1.2**
comp=Z,5.1nm,0.7s,mb4.6
EPF Esparros 76.51 316 *e*P **P 13 55 25.0 -0.1**
EBIE Bielsa 76.54 315 P **P 13 55 25.0 -0.3**
comp=Z,3.2nm,1.0s,mb4.2
ETOB Tobarra 76.62 311 P **P 13 55 24.4 -1.3**

comp=Z,42nm,2.0s,mb5.0
ESAC San Caprasio 76.69 314 P **P 13 55 27.8 +1.7**
comp=Z,14nm,0.7s,mb5.0
LFF La Frestale 76.83 318 *eP* **P 13 55 27.5 +0.6**
comp=Z,58nm,1.1s,mb5.1
LFF La Frestale 76.83 318 *eP* **P 13 55 27.5 +0.6**
LFF pmax pmax
comp=Z,29nm,1.1s,mb5.1
LFF La Frestale 76.83 318 *eP* **P 13 55 27.5 +0.6**
comp=Z,29nm,1.1s,mb5.1
ETSF Etsaut 77.10 315 *eP* **P 13 55 29.5 +1.1**
comp=Z,79nm,1.5s,mb5.1
ETSF Etsaut 77.10 315 *eP* **P 13 55 29.5 +1.1**
ETSF pmax pmax
comp=Z,39nm,1.5s,mb5.1
ETSF Etsaut 77.10 315 *eP* **P 13 55 29.5 +1.1**
comp=Z,39nm,1.5s,mb5.1
EBER Berja 77.19 309 P **P 13 55 27.1 -2.0**
comp=Z,18nm,0.9s,mb5.0
EHUE Huescar 77.19 310 P **P 13 55 29.8 +0.8**
EHUE pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
EHUE Huescar 77.19 310 P **P 13 55 29.8 +0.7**
comp=Z,6.7nm,1.4s,mb4.4
EVIA Vianos 77.34 311 P **P 13 55 29.8 0.0**
EVIA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
EVIA Vianos 77.34 311 P **P 13 55 29.8 -0.1**
comp=Z,9.5nm,0.8s,mb4.8
CTA Charters Tower 77.50 110 *eP* **P 13 55 30.8 -0.3**
comp=Z,11nm,1.1s,mb4.7
CTA Charters Tower 77.50 110 *eP* **P 13 55 31.2 0.0**
comp=Z,14nm,1.1s,mb4.8,baz=290,slow=4.2,SNR=11
CTA Charters Tower 77.50 110 *eP* **P 13 55 30.8 -0.3**
CTA pmax pmax
comp=Z,11nm,1.1s
CTAO Charters Tower 77.50 110 *eP* **P 13 55 30.6 -0.5**
CTAO pmax pmax
comp=Z,27nm,1.2s,mb5.0
CTAO Charters Tower 77.50 110 *eP* **P 13 55 30.6 -0.6**
comp=Z,27nm,1.2s,mb5.0
EQES Quesada 77.56 310 P **P 13 55 32.4 +1.4**
comp=Z,9.2nm,1.0s,mb4.7
ETOR Torete 77.58 313 P **P 13 55 32.5 +1.4**
ETOR pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ETOR Torete 77.58 313 P **P 13 55 32.5 +1.4**
comp=Z,8.8nm,0.7s,mb4.8
SJPF Ste Jean 77.63 315 *eP* **P 13 55 32.3 +0.9**
comp=Z,99nm,1.3s,mb5.3
SJPF Ste Jean 77.63 315 *eP* **P 13 55 32.3 +0.9**
SJPF pmax pmax
comp=Z,49nm,1.3s,mb5.3
SJPF Ste Jean 77.63 315 *eP* **P 13 55 32.3 +0.9**
comp=Z,50nm,1.3s,mb5.3
EGUA Guajares 77.70 309 P **P 13 55 31.7 -0.2**
EGUA pmax pmax
comp=Z,46nm,0.9s,mb5.4
EGUA Guajares 77.70 309 P **P 13 55 31.7 -0.2**
comp=Z,46nm,0.9s,mb5.4
ECOG Cogollos-Vega 77.81 309 P **P 13 55 33.6 +1.1**
ECOG pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ECOG Cogollos-Vega 77.81 309 P **P 13 55 33.6 +1.1**
comp=Z,3.5nm,0.6s,mb4.5
NOA NORSAR Array B 77.84 335 P **P 13 55 31.8 -0.3**
comp=Z,2.7nm,0.9s,mb4.2,baz=116,slow=5.4,SNR=3.7
NOA NORSAR Array B 77.84 335 P **P 13 55 31.8 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 77.84 335 P **P 13 55 31.8 -0.3**
ELIZ Elizondo 77.86 315 P **P 13 55 40.4 +7.8**
ELIZ pmax pmax
comp=Z,13nm,1.0s,mb4.8
ELIZ Elizondo 77.86 315 P **P 13 55 40.4 +7.8**
comp=Z,13nm,1.0s,mb4.8
EALK Alkurruntz 77.86 315 P **P 13 55 32.8 +0.2**
comp=Z,20nm,1.1s,mb5.0
MFF Saint Martin d 77.95 319 *eP* **P 13 55 33.1 0.0**
comp=Z,52nm,1.4s,mb5.0
MFF Saint Martin d 77.95 319 *eP* **P 13 55 33.1 0.0**
MFF pmax pmax
comp=Z,26nm,1.4s,mb5.0
MFF Saint Martin d 77.95 319 *eP* **P 13 55 33.1 0.0**
comp=Z,26nm,1.4s,mb5.0
ELOJ Sierra Loja 78.23 309 P **P 13 55 35.4 +0.5**
ELOJ pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ELOJ Sierra Loja 78.23 309 P **P 13 55 35.4 +0.6**
comp=Z,1.3nm,0.5s,mb4.1
ELUQ Luque 78.42 309 P **P 13 55 34.4 -1.5**
ELUQ pmax pmax
comp=Z,22nm,1.7s,mb4.8
ELUQ Luque 78.42 309 P **P 13 55 34.4 -1.4**
comp=Z,22nm,1.7s,mb4.8
ARCES ARCESS Array B 78.44 346 LR LR 14 30 03.8
comp=Z,181nm,21.7s,MS4.4,baz=231,slow=36
PMG Port Moresby 78.46 99⇑ *eP* **P 13 55 36.7 +0.1**
LDF La Druitiere 78.57 321 *eP* **P 13 55 36.2 -0.3**
comp=Z,32nm,1.3s,mb4.8
LDF La Druitiere 78.57 321 *eP* **P 13 55 36.2 -0.3**
LDF pmax pmax
comp=Z,16nm,1.3s,mb4.8
LDF La Druitiere 78.57 321 *eP* **P 13 55 36.2 -0.3**
comp=Z,16nm,1.3s,mb4.8
EMIJ Mijas 78.58 308 P **P 13 55 36.4 -0.4**
comp=Z,13nm,1.0s,mb4.8
ESDC Sonseca Array 78.70 311 P **P 13 55 38.1 +0.8**
comp=Z,5.5nm,0.8s,mb4.5,baz=89,slow=4.7,SNR=25
ESDC Sonseca Array 78.70 311 P **P 13 55 38.0 +0.7**
ESLA Sonseca Array 78.70 311 *eP* **P 13 55 38.0 +0.7**
comp=Z,12nm,1.3s,mb4.7
ESLA *e* 13 55 45.3
EADA Adamuz 78.80 310 P **P 13 55 37.1 -0.9**
comp=Z,6.2nm,0.9s,mb4.5
FLN La Foliniere 78.85 321 *eP* **P 13 55 37.8 -0.2**
PAB San Pablo 78.95 311 *eP* **P 13 55 39.5 +0.7**
PAB pmax pmax
comp=Z,53nm,1.4s,mb5.3
PAB San Pablo 78.95 311 *eP* **P 13 55 39.5 +0.7**
comp=Z,53nm,1.4s,mb5.3
GRR Gorron 78.97 321 *eP* **P 13 55 38.5 -0.2**
comp=Z,48nm,1.3s,mb5.0
GRR Gorron 78.97 321 *eP* **P 13 55 38.5 -0.2**
GRR pmax pmax
comp=Z,24nm,1.3s,mb5.0
GRR Gorron 78.97 321 *eP* **P 13 55 38.5 -0.2**
comp=Z,24nm,1.3s,mb5.0
GUD Guadarrama 79.08 312 P **P 13 55 41.7 +2.3**
GUD pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
GUD Guadarrama 79.08 312 P **P 13 55 41.7 +2.3**
comp=Z,2.6nm,0.6s,mb4.3
EJIF Jimena Fronter 79.11 308 P **P 13 55 40.5 +0.8**
ELAN Lanestosa 79.22 315 P **P 13 55 39.1 -1.0**
comp=Z,40nm,1.6s,mb5.1
ESPR Espera 79.50 308 P **P 13 55 46.6 +4.7**
comp=Z,6.8nm,0.8s,mb4.6
SGMF Saint Gilles 80.01 320 *eP* **P 13 55 44.2 -0.1**
comp=Z,55nm,1.3s,mb5.0
SGMF Saint Gilles 80.01 320 *eP* **P 13 55 44.2 -0.1**
SGMF pmax pmax
comp=Z,28nm,1.3s,mb5.0
SGMF Saint Gilles 80.01 320 *eP* **P 13 55 44.2 -0.1**
comp=Z,28nm,1.3s,mb5.0
YAK Yakutsk 80.13 25 *eP* **P 13 55 42.5 -2.2**
YAK pmax pmax
comp=Z,12nm,1.3s,mb4.7
YAK pmax pmax
comp=E,7.0nm,1.3s
EMIN Mina Concepcio 80.33 309 P **P 13 55 45.4 -0.9**
comp=E,56nm,2.5s,mb5.0
PBAR Barrancos 80.69 309 *eP* **P 13 55 49.4 +1.1**
comp=E,35nm,1.8s,mb5.0
SNAA Sanae 80.79 198 *eP* **P 13 55 48.4 +0.3**
SNAA *e* 13 55 55.0
SNAA *e* 13 55 56.4
SNAA Sanae 80.79 198 LR LR 14 22 50.0
comp=E,85nm,19.6s,MS4.1,baz=23,slow=29
EBAD Badajoz 80.80 310 P **P 13 55 47.2 -1.6**
comp=E,6.4nm,0.8s,mb4.6
EGRO El Granado 80.91 309 P **P 13 55 55.1 +5.7**
comp=E,67nm,2.4s,mb5.2
PMRV Marv??o 81.22 311 *eP* **P 13 55 52.5 +1.4**
comp=E,34nm,2.0s,mb4.9
PESTR Estremoz 81.26 310 *eP* **P 13 55 52.3 +1.0**
comp=E,32nm,1.5s,mb5.0
ECAL Calabor 81.27 313 P **P 13 55 53.9 +2.6**
comp=E,14nm,4.9s
PBEJ Beja 81.30 309 *eP* **P 13 55 52.5 +1.0**
comp=E,30nm,2.0s,mb4.9
PCBR Castelo Branco 81.37 311 *eP* **P 13 55 53.2 +1.4**
comp=E,29nm,1.6s,mb5.0
EVO Evora 81.52 310 *eP* **P 13 55 54.2 +1.6**
comp=E,29nm,1.3s,mb4.8
PVIS Viseu 81.86 312 *eP* **P 13 55 56.2 +1.8**
comp=E,32nm,2.0s,mb4.9
YSS Yuzh-Sakhalins 82.03 42⇑ *eP* **P 13 55 54.0 -1.2**
YSS *e* 13 56 01.6
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 82.03 42 *eP* **P 13 55 54.9 -0.2**
comp=Z,48nm,1.2s,mb5.3
ELOB Lobios 82.22 313 P **P 13 55 57.5 +1.2**
comp=Z,16nm,1.1s,mb4.9
VNA1 Neumayer--Stat 82.24 199 *eP* **P 13 55 53.3 -2.5**
VNA1 *e* 13 55 58.8
VNA1 *e* 13 56 00.4
TIXI Tiksi 84.41 16 *eP* **P 13 56 05.9 -1.0**
TIXI *e* 13 56 11.6
TIXI pmax pmax
comp=Z,37nm,1.5s,mb5.3
TIXI MLR MLR
comp=Z,249nm,18.0s,MS4.6
TIXI Tiksi 84.41 16 *eP* **P 13 56 06.7 -0.2**
QSPA South Pole Qui 86.48 180 LR LR 14 28 51.5
comp=Z,222nm,20.9s,MS4.5,baz=279,slow=31
VNDA Vanda 87.36 167 P **P 13 56 22.3 +0.8**
comp=Z,1.8nm,0.9s,mb4.3,baz=237,slow=4.6,SNR=3.5
VNDA Vanda 87.36 167 P **P 13 56 22.3 +0.8**
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA Vanda 87.36 167 P **P 13 56 22.3 +0.8**
SEY Seymchan 90.42 27⇑ *eP* **P 13 56 36.3 +0.2**
YKA Yellowknife Ar 121.13 2 PKP PKPdf 14 02 26.2 -1.2
comp=Z,1.0nm,0.8s,baz=343,slow=1.9,SNR=8.1
YKA PP PP 14 03 56.0 -0.5
comp=Z,1.6nm,1.1s,baz=352,slow=7.1,SNR=7.3
YKA Yellowknife Ar 121.13 2 PKIKP PKPdf 14 02 26.2 -1.2
YKA 14 03 56.0
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,1.1s
YKA Yellowknife Ar 121.13 2 PKP PKPdf 14 02 26.2 -1.3
YKA PP PP 14 03 56.0 -0.5
LPAZ La Paz 132.64 244 PKP PKPdf 14 02 52.0 +1.3
comp=Z,1.4nm,1.1s,baz=274,slow=3.3,SNR=4.5
LPAZ La Paz 132.64 244 PKIKP PKPdf 14 02 52.1 +1.4
LPAZ pmax pmax
comp=Z,1.0nm,1.1s
PDAR Pinedale Array 140.88 357 PKP PKPdf 14 03 04.7 -0.6
comp=Z,0.9nm,0.7s,baz=89,slow=2.6,SNR=7.3
Q18A Rafter H Ranch 144.56 358 ⇑P PKPdf 14 03 11.0 -0.9
baz=144,SNR=22
SRU San Rafael 144.56 358 ⇓P PKPdf 14 03 10.6 -1.3
baz=144,SNR=9.1
SRU San Rafael 144.56 358 *e*PKPdf PKPdf 14 03 10.4 -1.5
Q11A Duckwater 144.66 5 ⇓P PKPdf 14 03 11.1 -1.0
baz=144
Q19A Hogan Spring (144.66 357 ⇑P PKPdf 14 03 11.1 -1.0
baz=144,SNR=15
Q13A Wheeler Ranch, 144.67 3 ⇓P PKPdf 14 03 11.1 -1.0
baz=144
Q14A Sevier Lake (B 144.67 2 ⇓P PKPdf 14 03 11.1 -1.0
baz=144
NVAR Mina Array Bea 144.74 9 PKP PKPdf 14 03 12.1 -0.2
comp=Z,2.4nm,0.8s,baz=336,slow=2.0,SNR=14
CMB Columbia Colle 144.75 12 ⇑P PKPdf 14 03 11.5 -0.8
baz=144,SNR=8.1
CMB Columbia Colle 144.75 12 *e*PKPdf PKPdf 14 03 11.2 -1.1
CMB *e* 14 03 18.3
Q16A Castle Valley 144.77 359 ⇑P PKPdf 14 03 11.4 -0.9
baz=145,SNR=23
S06C San Francisco 145.00 11 ⇓P PKPab 14 03 12.5 +0.6
baz=145,SNR=18
R09A Tonopah 145.10 7 ⇑P PKPbc 14 03 12.7 +0.4
baz=145,SNR=20
R10A Warm Springs 145.15 6 ⇑P PKPbc 14 03 12.8 +0.3
baz=145,SNR=7.6
R11A Troy Canyon, C 145.16 5 ⇓P PKPbc 14 03 12.3 -0.2
baz=145,SNR=15
MSU Marysvale 145.18 1 *e*PKIKP PKPdf 14 03 12.6 -0.4
MSU *e* 14 03 20.9
TPH Tonopah 145.25 8 *e*PKIKP PKPdf 14 03 13.0 -0.1
R17A Hanksville Air 145.26 359 ⇓P PKPbc 14 03 12.7 -0.1
baz=145,SNR=18
R12A Pony Springs, 145.26 4 ⇓P PKPbc 14 03 13.0 +0.2
baz=145,SNR=16
R18A Canyonlands Na 145.26 357 ⇑P PKPbc 14 03 12.7 -0.1
baz=145,SNR=36
R19A Curley Farm, L 145.32 357 ⇑P PKPbc 14 03 13.5 +0.5
baz=145,SNR=13
R13A O'Grain Ranch, 145.45 3 ⇑P PKPbc 14 03 14.2 +0.8
baz=145,SNR=25
SDCO Great Sand Dun 145.47 351 *e*PKPdf PKPdf 14 03 13.7 +0.1
SDCO *e* 14 03 21.1
R15A Junction 145.47 1 ⇓P PKPbc 14 03 14.7 +1.2
baz=145,SNR=5.2
S10A Tonopah Range, 145.47 7 ⇓P PKPbc 14 03 13.8 +0.3
baz=145,SNR=40
PACP Pacheco Peak 145.54 14 ⇑P PKPdf 14 03 14.9 +1.2
baz=145,SNR=7.6
S09A Goldfield 145.59 8 ⇓P PKPdf 14 03 14.4 +0.6
baz=145,SNR=25
KCC Kaiser Creek 145.65 11 ⇓P PKPdf 14 03 14.8 +0.9
baz=145,SNR=14
S08C White Mtn Res 145.67 9 ⇓P PKPdf 14 03 15.3 +1.4
baz=145,SNR=24
S19A Harvey Farm, M 145.86 356 ⇓P PKPdf 14 03 14.0 -0.2
baz=146,SNR=9.1
T06C Millerton Lake 145.88 11 ⇑P PKPdf 14 03 14.8 +0.6
baz=146,SNR=22
S12A Delamar Landin 145.96 4 ⇓P PKPdf 14 03 15.8 +1.4
baz=146,SNR=6.7
S18A Hurst Farm, Bl 145.96 358 ⇓P PKPdf 14 03 14.9 +0.5
baz=146,SNR=15
S16A Weppner Ranch, 145.97 360 ⇓P PKPdf 14 03 15.5 +1.1
baz=146
S17A Black Ridge (B 146.04 359 ⇑P PKPdf 14 03 15.7 +1.2
baz=146,SNR=10
S13A Holt Ranch, En 146.05 3 ⇓P PKPdf 14 03 15.7 +1.1
baz=146,SNR=13
CCUT Cedar City 146.10 2 *e*PKPdf PKPab 14 03 20.3 +4.3
T11A Corn Creek, Al 146.29 5 ⇑P PKPdf 14 03 16.4 +1.5
baz=146
HELL Mitchell Peak 146.33 11 ⇓P PKPdf 14 03 15.5 +0.5
baz=146,SNR=16
TPNV Topopah Spring 146.48 7 *e*PKP2 PKPab 14 03 16.0 -1.5
T18A Mexican Hat 146.51 357 ⇑P PKPdf 14 03 16.4 +1.1
baz=146,SNR=18
T14A Hurricane 146.60 2 ⇑P PKPab 14 03 17.5 -0.4
baz=146,SNR=6.9
T13A Saint George 146.61 3 ⇓P PKPdf 14 03 17.3 +1.8
baz=146,SNR=12
T15A Red Dirt Ranch 146.66 1 ⇓P PKPdf 14 03 16.7 +1.1
baz=146,SNR=5.7
T17A Navajo Res., N 146.68 359 ⇓P PKPdf 14 03 17.1 +1.5
baz=146,SNR=7.0
T16A Glen Canyon Da 146.70 360 ⇓P PKPdf 14 03 16.8 +1.2
baz=146,SNR=5.0
CWC Cottonwood Cre 146.72 9 ⇑P PKPdf 14 03 16.8 +1.0
baz=146,SNR=6.1
T19A Beclabito 146.76 356 P PKPdf 14 03 17.1 +1.3
baz=147,SNR=15
FURC Furnace Creek, 146.88 8 ⇓P PKPab 14 03 18.1 -0.9
baz=147,SNR=5.2
U10A Ash Meadows, A 146.99 7 ⇓P PKPab 14 03 18.3 -1.2
baz=147,SNR=7.7
U17A Shonto 147.07 358 ⇑P PKPdf 14 03 15.7 -0.5
baz=147,SNR=13
MPMC Manual Prospec 147.19 9 ⇓P PKPbc 14 03 18.7 0.0
baz=147,SNR=15
U13A Pakoon Wash 147.21 3 ⇑P PKPab 14 03 19.1 -1.1
baz=147,SNR=8.9
U18A Rough Rock, Ch 147.22 357 ⇓P PKPdf 14 03 17.9 +1.4
baz=147
U14A Mt Trumbull 147.24 2 ⇑P PKPdf 14 03 18.2 +1.7
baz=147
U15A North Rim 147.25 1 ⇓P PKPdf 14 03 17.4 +0.8
baz=147,SNR=11
ISA Isabella 147.41 10 *e*PKIKP PKPdf 14 03 16.5 -0.4
LRMC Laurel Mountai 147.73 9 ⇓P PKPbc 14 03 19.7 -0.5
baz=148,SNR=6.1
V13A Grand Canyon W 147.76 3 ⇓P PKPdf 14 03 19.1 +1.6
baz=148,SNR=8.4
V12A Nelson 147.83 5 ⇑P PKPdf 14 03 19.3 +1.8
baz=148,SNR=5.2
V18A Ganado 147.93 357 ⇓P PKPbc 14 03 20.1 -0.6
baz=148
TUQ Turquoise Mtn. 148.01 6 ⇑P PKPbc 14 03 20.3 -0.6
baz=148
V14A Boquillas Ranc 148.03 2 ⇓P PKPbc 14 03 20.1 -0.8
baz=148,SNR=8.4
GSC Goldstone 148.03 8 ⇓P PKPdf 14 03 19.7 +1.8
baz=148
GSC Goldstone 148.03 8 *e*PKPbc PKPbc 14 03 20.4 -0.6
ANMO Albuquerque 148.35 352⇑ *i*PKP2 PKPbc 14 03 20.9 -1.0
W14A Seligman 148.44 2 ⇓P PKPbc 14 03 20.8 -1.3
baz=148
W19A Sanders 148.50 356 ⇓P PKPdf 14 03 19.8 +1.1
baz=148
W13A Hualapai Mount 148.52 3 ⇑P PKPbc 14 03 21.0 -1.3
baz=148
X13A Yucca 149.03 3 ⇓P PKPbc 14 03 21.7 -1.9
baz=149
X19A St. Johns 149.17 356 ⇑P PKPbc 14 03 22.1 -1.9
baz=149
X15A Humboldt 149.19 1 ⇓P PKPbc 14 03 21.7 -2.4
baz=149
X14A Yava 149.19 2 ⇓P PKPdf 14 03 21.6 +1.8
baz=149
X16A Lo Mia Camp, P 149.26 360 ⇓P PKPbc 14 03 22.1 -2.1
baz=149
Y19A Nutrioso 149.64 356 ⇓P PKPdf 14 03 21.7 +1.1
baz=149
HKT Hockley 149.72 332 *e*PKP2 PKPbc 14 03 24.4 -1.1
Y15A Casa Rosa Ranc 149.72 1 ⇓P PKPbc 14 03 23.1 -2.3
baz=150
PFO Pinyon Flat Ob 149.75 8 *e*PKP2 PKPbc 14 03 25.7 +0.3
GLA Glamis 150.48 5 *e*PKIKP PKPbc 14 03 27.5 +0.3
BAR Barrett 150.63 9 *e*PKPbc PKPbc 14 03 27.9 +0.3
118A Homack Ranch, 150.99 357 ⇓P PKPbc 14 03 29.0 +0.6
baz=151
117A Oracle 151.09 358 ⇓P PKPbc 14 03 29.3 +0.6
baz=151
219A White Tail Can 151.58 356 ⇑P PKPbc 14 03 29.8 0.0
baz=151
214A Organ Pipe Nat 151.70 2 ⇓P PKPbc 14 03 30.5 +0.4
baz=152
217A Green Valley 151.89 358 ⇓P PKPbc 14 03 30.8 +0.2
baz=152
318A Bisbee 152.19 357 ⇑P PKPbc 14 03 31.2 0.0
baz=152
TXAR Lajitas Array 153.22 344 PKP PKPdf 14 03 26.4 +0.3
comp=Z,0.4nm,0.8s,baz=215,slow=1.5,SNR=4.8
TXAR PKPbc PKPbc 14 03 34.0 +0.4
comp=Z,2.4nm,0.9s,baz=112,slow=1.3,SNR=16
TXAR PKPab PKPab 14 03 45.5 +0.4
comp=Z,5.3nm,1.0s,baz=72,slow=1.8,SNR=12
TXAR Lajitas Array 153.22 344 PKIKP PKPdf 14 03 26.4 +0.3
TXAR 14 03 34.0
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR pmax pmax
comp=Z,5.0nm,1.0s
TXAR Lajitas Array 153.22 344 PKP PKPdf 14 03 26.4 +0.3
TXAR PKPbc PKPbc 14 03 34.0 +0.4
TXAR PKPab PKPab 14 03 45.5 +0.4

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*SZGRF **04** 13:42:57.1, 22.18S×17779W, h33km, South of Fiji Islands*
*BJI **04** 13:43:35.1, 2030S×178.10W, h300km, mB4.6, mb4.6*
*NEIC **04** 13:43:38.1±2.5, 2033S×178.12W, h300km±24km, mb4.6/39, Error ellipse: s-maj=15.0km s-min=8.0km az=148.0*
*MOS **04** 13:43:42.8±1.5, 1969S×17840W, h333km, mb4.8/17, Error ellipse: s-maj=14.0km s-min=11.1km az=143.7*
*ISCJB **04** 13:43:57.8±1.0, 2073S±007×17849W±004, h534km±12km, mb4.5/68, Error ellipse: s-maj=11.3km s-min=5.6km az=162.3*
*IDC **04** 13:44:03.2±1.8, 2072S×17847W, h588km±20km, mb3.9/18, mb1 4.0/18, mb1mx4.0/21, mbtmp3.9/18, Error ellipse: s-maj=14.0km s-min=9.1km az=152.0*
*DJA **04** 13:44:11, 2132S×17934W, h622km, mb4.9/16*
ISC 04 13:43:58.4±0.9, 2076S±007×17844W±004, h532km±11km, n398, σ0°64/306, mb4.5/68, 84C-82D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.46**	**177**	S		**S**	**13 47 39.9**	**-0.3**
102nm,0.3s,baz=64,slow=22,SNR=11								
AFI	**Afiamalu**	**9.32**	**44**	P		**P**	**13 46 07.7**	**-1.6**
34nm,0.3s,baz=40,slow=3.4,SNR=66								
AFI	**Afiamalu**	**9.32**	**44**	*e*Pn		**P**	**13 46 08.1**	**-1.1**
URZ	**Urewera**	**17.86**	**191**	P		**P**	**13 47 33.3**	**-2.4**
6.3nm,0.3s,baz=358,slow=4.9,SNR=42								
SNZO	**South Karori**	**21.29**	**194**	*eP*		**P**	**13 48 04.8**	**-2.1**
52nm,0.8s,mb5.2								
RPZ	**Rata Peaks**	**24.51**	**199**	P		**P**	**13 48 34.3**	**-1.3**
18nm,0.6s,mb4.9,baz=149,slow=3.1,SNR=10								
ARMA	**Armidale**	**28.58**	**244**	*eP*		**P**	**13 49 13.8**	**+2.2**
CTA	**Charters Tower**	**33.05**	**265**	*eP*		**P**	**13 49 51.4**	**+1.2**
7.3nm,0.4s,mb4.6								
CTA	**Charters Tower**	**33.05**	**265**	P		**P**	**13 49 51.6**	**+1.5**
9.6nm,0.5s,mb4.6,baz=98,slow=11,SNR=38								
CTA	**Charters Tower**	**33.05**	**265**	*eP*		**P**	**13 49 51.4**	**+1.2**
CTA				pmax		pmax		
comp=Z,7.0nm,0.4s								
CTAO	**Charters Tower**	**33.05**	**265**	*eP*		**P**	**13 49 51.4**	**+1.2**
PMG	**Port Moresby**	**35.00**	**284⇑**	*eP*		**P**	**13 50 07.6**	**+1.0**
PMG	**Port Moresby**	**35.00**	**284**	*eP*		**P**	**13 50 07.9**	**+1.3**
TOO	**Toolangi**	**35.41**	**234**	*eP*		**P**	**13 50 10.8**	**+1.1**
COEN	**Coen**	**37.19**	**274⇓**	*iP*		**P**	**13 50 26.1**	**+1.4**
comp=Z,20nm,0.9s,mb4.7								
STKA	**Stephens Creek**	**37.30**	**244**	P		**P**	**13 50 26.7**	**+1.3**
comp=Z,12nm,0.7s,mb4.5,baz=88,slow=9.6,SNR=18								
STKA	**Stephens Creek**	**37.30**	**244**	*eP*		**P**	**13 50 26.1**	**+0.7**
comp=Z,12nm,0.9s,mb4.4								
ASAR	**Alice Springs**	**44.06**	**257**	P		**P**	**13 51 20.1**	**+0.7**
comp=Z,6.2nm,0.8s,mb4.2,baz=94,slow=8.8,SNR=101								
ASAR				S		**S**	**13 57 11.1**	**-2.1**
comp=Z,5.6nm,0.8s,baz=101,slow=17,SNR=27								
WB2	**Warramunga Arr**	**44.14**	**262**	*eP*		**P**	**13 51 20.1**	**0.0**
WB2				*e*S		**S**	**13 57 10.4**	**-4.1**
WRAB	**Tennant Creek**	**44.15**	**262**	*eP*		**P**	**13 51 19.6**	**-0.5**
WRAB				pmax		pmax		
comp=Z,7.0nm,0.7s,mb4.3								
WRAB	**Tennant Creek**	**44.15**	**262**	*eP*		**P**	**13 51 19.6**	**-0.5**
comp=Z,7.5nm,0.7s,mb4.3								
WRA	**Warramunga Arr**	**44.16**	**262**	P		**P**	**13 51 20.5**	**+0.4**
comp=Z,6.8nm,0.7s,mb4.3,baz=98,slow=7.2,SNR=70								
WRA				S		**S**	**13 57 12.0**	**-2.7**
comp=Z,4.0nm,0.7s,baz=97,slow=13,SNR=13								
KAKA	**Kakadu**	**47.57**	**272**	*eP*		**P**	**13 51 46.2**	**0.0**
comp=Z,21nm,0.9s,mb4.7								
KAKA	**Kakadu**	**47.57**	**272**	*eP*		**P**	**13 51 46.1**	**-0.1**
FORT	**Forrest**	**48.81**	**247**	*eP*		**P**	**13 51 55.1**	**-0.2**
comp=Z,19nm,0.6s,mb4.8								
GUMO	**Guam**	**49.65**	**310**	P		**P**	**13 52 02.2**	**+0.5**
comp=Z,37nm,0.8s,mb4.8,baz=184,slow=9.5,SNR=6.0								
FITZ	**Fitzroy Crossi**	**52.58**	**263**	*eP*		**P**	**13 52 23.2**	**+0.3**
comp=Z,7.9nm,0.5s,mb4.3								
FITZ				*e*S		**S**	**13 59 08.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**52.58**	**263**	P		**P**	**13 52 22.8**	**-0.2**
comp=Z,3.8nm,0.5s,mb4.0,baz=145,slow=7.2,SNR=36								
FITZ				S		**S**	**13 59 09.4**	**-1.0**
comp=Z,2.1nm,0.9s,baz=274,slow=23,SNR=6.2								
MBWA	**Marble Bar**	**57.39**	**258**	*eP*		**P**	**13 52 52.5**	**-4.0**
VNDA	**Vanda**	**57.61**	**185**	P		**P**	**13 52 58.1**	**+1.1**
comp=Z,4.5nm,0.6s,mb3.9,baz=353,slow=7.3,SNR=15								
VNDA	**Vanda**	**57.61**	**185**	*eP*		**P**	**13 52 57.9**	**+0.8**
VNDA				pmax		pmax		
comp=Z,6.0nm,0.7s								
VNDA	**Vanda**	**57.61**	**185**	*eP*		**P**	**13 52 57.9**	**+0.8**
comp=Z,5.5nm,0.7s,mb3.9								
JHJ	**Hachijo jima 2**	**66.79**	**323**	P		**P**	**13 53 56.9**	**-0.4**
comp=Z,55nm,0.5s,mb5.3,baz=232,slow=19,SNR=5.5								
JOW	**Kunigami**	**70.02**	**310**	P		**P**	**13 54 17.2**	**+0.3**
comp=Z,20nm,0.7s,mb4.8,baz=150,slow=6.2,SNR=8.5								
MJAR	**Matsushiro Arr**	**70.18**	**324**	P		**P**	**13 54 16.6**	**-1.1**
comp=Z,11nm,0.7s,mb4.5,baz=156,slow=5.9,SNR=41								
MAJO	**Matsushiro**	**70.18**	**324**	*eP*		**P**	**13 54 17.1**	**-0.6**
MAJO				pmax		pmax		
comp=Z,12nm,0.8s,mb4.5								
MAJO	**Matsushiro**	**70.18**	**324**	*eP*		**P**	**13 54 17.1**	**-0.6**
comp=Z,12nm,0.8s,mb4.5								
MAT	**Matsushiro**	**70.18**	**324**	P		**P**	**13 54 17.0**	**-0.7**
MAT				*e*S		S	14 02 43.0	-3.8
YHNB	**Yeheng**	**73.91**	**305**	*eP*		**P**	**13 54 37.8**	**-1.8**

comp=Z,16nm,0.8s,mb4.5
YSS Yuzh-Sakhalins 75.94 334⇓eP P 13 54 50.9 +0.4
YSS pmax pmax
comp=Z,40nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 75.94 334 eP P 13 54 50.6 +0.2
comp=Z,35nm,1.0s,mb4.7
PETK Petropavlovsk- 76.42 345 P P 13 54 52.4 -0.5
comp=Z,16nm,0.8s,mb4.5,baz=127,slow=7.7,SNR=21
KSRS Korea Array 76.81 319 P P 13 54 56.1 +0.7
comp=Z,6.6nm,0.7s,mb4.2,baz=128,slow=5.8,SNR=33
HAST Hastings Reser 78.21 44 ⇑P P 13 55 03.6 +0.5
baz=78
GASB Alder Springs 79.46 40 ⇑P P 13 55 10.3 +0.6
baz=80
MONP Monument Peak 79.69 49 ⇓P P 13 55 10.9 -0.1
baz=80
EDW2 Edwards Air Fo 79.70 47 ⇑P P 13 55 11.3 +0.3
baz=80
NJ2 Nanjing 79.73 310 eP P 13 55 11.6 +0.3
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb4.7
T06C Millerton Lake 79.77 44 ⇓P P 13 55 11.0 -0.4
baz=80
ISA Isabella 79.81 46 ⇑P P 13 55 12.0 +0.4
baz=80
ISA Isabella 79.81 46 eP P 13 55 12.1 +0.5
CMB Columbia Colle 79.94 43 ⇓P P 13 55 12.3 +0.1
baz=80
CMB Columbia Colle 79.94 43 eP P 13 55 12.4 +0.2
LAVA Lava Cap Winer 80.14 42 ⇓P P 13 55 13.3 0.0
baz=80
WDC Whiskeytown Da 80.14 40 eP P 13 55 13.2 0.0
WDC pmax pmax
comp=Z,13nm,1.3s,mb4.1
WDC Whiskeytown Da 80.14 40 eP P 13 55 13.2 0.0
comp=Z,13nm,1.3s,mb4.1
ORV Oroville 80.15 41 ⇑P P 13 55 13.4 +0.2
baz=80
S06C San Francisco 80.19 43 ⇑P P 13 55 13.6 +0.1
baz=80
KCC Kaiser Creek 80.21 44 ⇓P P 13 55 12.8 -0.8
baz=80
M02C Callahan 80.46 39 ⇓P P 13 55 15.8 +0.9
baz=80,SNR=6.0
MDJ Mudanjiang 80.50 325 P P 13 55 15.7 +0.7
MDJ AMB AMB
comp=Z,31nm,0.8s,mb4.7
MDJ AMB AMB
comp=Z,57nm,5.3s
CWC Cottonwood Cre 80.52 45 ⇓P P 13 55 15.7 +0.4
baz=81
P05C Yuba Gap, Truc 80.55 42 ⇓P P 13 55 15.6 +0.2
baz=81
MPMC Manual Prospec 80.70 46 ⇓P P 13 55 16.1 -0.1
baz=81,SNR=5.3
GSC Goldstone 80.74 47 eP P 13 55 16.8 +0.3
YBH Yreka Blue Hor 80.75 39 eP P 13 55 17.4 +1.0
YBH pmax pmax
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 80.75 39 ⇓P P 13 55 16.9 +0.6
baz=81,SNR=8.2
YBH Yreka Blue Hor 80.75 39 eP P 13 55 17.4 +1.0
comp=Z,12nm,0.8s,mb4.4
HEC Hector,Ludlow 80.81 47 ⇑P P 13 55 16.9 +0.1
baz=81
M03C McCloud 80.82 39 ⇑P P 13 55 17.2 +0.5
baz=81,SNR=5.1
R06C Coleville 80.82 43 ⇑P P 13 55 17.4 +0.6
baz=81
GLA Glamis 80.91 50 eP P 13 55 18.4 +1.0
GLA pmax pmax
comp=Z,13nm,1.0s,mb4.3
GLA Glamis 80.91 50 eP P 13 55 18.4 +1.0
comp=Z,13nm,1.0s,mb4.3
LBCM Butte Creek Ri 81.01 40 P P 13 55 18.2 +0.5
S08C White Mtn Res 81.06 44 ⇓P P 13 55 18.4 +0.3
baz=81,SNR=9.2
WCN Washoe City 81.08 42 ⇑P P 13 55 18.3 +0.2
baz=81
HUMO Hull Mountain 81.15 38 eP P 13 55 18.9 +0.5
MAW Mawson 81.18 200 P P 13 55 18.1 -0.1
comp=Z,4.0nm,1.1s,mb3.8,baz=120,slow=9.5,SNR=3.1
ELFS Eagle Lake Fie 81.26 41 ⇓P P 13 55 19.3 +0.3
baz=81
IRM Iron Mountain 81.27 49 P P 13 55 19.7 +0.5
baz=81,SNR=5.3
FURC Furnace Creek, 81.35 46 ⇑P P 13 55 19.5 0.0
baz=81
TUQ Turquoise Mtn. 81.42 47 ⇑P P 13 55 19.9 -0.1
baz=82
NVAR Mina Array Bea 81.50 44 P P 13 55 20.4 +0.2
comp=Z,3.6nm,0.8s,mb3.9,baz=222,slow=8.5,SNR=20
PAHR Pah Rah Range 81.55 42 eP P 13 55 21.0 +0.5
comp=Z,16nm,1.2s,mb4.3
HOG Hogback Mounta 81.66 39 P P 13 55 21.7 +0.7
U10A Ash Meadows, A 81.68 46 ⇑P P 13 55 21.5 +0.2
baz=82
M06C Likely Place G 81.76 40 ⇑P P 13 55 21.9 +0.4
baz=82
LDFC Landfair 81.79 48 eP P 13 55 22.4 +0.6
N06A Buffalo Meadow 81.88 41 ⇓P P 13 55 21.8 -0.4
baz=82,SNR=5.9
V11A Goodsprings 81.97 47 ⇑P P 13 55 23.0 +0.2
baz=82
Q08A Gabbs 81.98 43 ⇑P P 13 55 22.6 -0.1
baz=82,SNR=10
TPH Tonopah 82.00 44 eP P 13 55 23.4 +0.5
TPH pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
TPH Tonopah 82.00 44 eP P 13 55 23.4 +0.5
comp=Z,8.2nm,0.8s,mb4.2
Y13A Salome 82.02 49 ⇓P P 13 55 23.1 0.0
baz=82,SNR=8.0
TPNV Topopah Spring 82.02 46 eP P 13 55 22.7 -0.3
TPNV pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
TPNV Topopah Spring 82.02 46 ⇓P P 13 55 23.0 0.0
baz=82,SNR=13
TPNV Topopah Spring 82.02 46 eP P 13 55 22.7 -0.3
comp=Z,8.6nm,0.9s,mb4.2
J04A Umpqua Nationa 82.04 38 P P 13 55 23.8 +0.9
baz=82,SNR=6.5
L05A Lakeview 82.05 39 ⇑P P 13 55 23.5 +0.5
baz=82,SNR=7.9
PDMCI Parker Dam,Lak 82.05 49 ⇓P P 13 55 23.8 +0.6
baz=82
O07A Toulon 82.13 42 ⇑P P 13 55 23.3 -0.1
baz=82,SNR=14
R09A Tonopah 82.19 44 ⇑P P 13 55 23.6 -0.2
baz=82,SNR=8.8
I04A Tendick Farm, 82.21 37 ⇑P P 13 55 23.7 -0.1
baz=82
CN2 Changchun 82.26 323 eP P 13 55 24.3 +0.3
CN2 AMB AMB
comp=Z,80nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,200nm,16.0s
H03A Soap Creek Ran 82.27 36 ⇑P P 13 55 23.4 -0.7
baz=82
MOD Modoc 82.28 40 ⇓P P 13 55 24.1 -0.1
baz=82,SNR=6.8
MOD Modoc 82.28 40 eP P 13 55 24.0 -0.2
comp=Z,14nm,1.1s,mb4.3
S10A Tonopah Range, 82.33 45 ⇑P P 13 55 24.5 0.0
baz=82,SNR=28
X13A Yucca 82.42 49 ⇑P P 13 55 25.1 0.0
baz=82
K05A Summer Lake 82.43 39 ⇑P P 13 55 25.3 +0.4
baz=82,SNR=9.1
N07B Gerlach 82.43 41 ⇑P P 13 55 24.9 -0.1
baz=82,SNR=5.9
SHPR Sheep Range 82.52 47 eP P 13 55 25.8 +0.3
J05A Fort Rock 82.57 38 ⇑P P 13 55 26.1 +0.5
baz=83,SNR=16
M07A Soldier Meadow 82.66 41 ⇓P P 13 55 26.4 +0.3
baz=83
Y14A Wickenburg 82.67 50 ⇑P P 13 55 26.6 +0.2
baz=83,SNR=5.6
R10A Warm Springs 82.72 45 ⇓P P 13 55 27.0 +0.5
baz=83,SNR=12
S11A Rachel 82.74 45 ⇑P P 13 55 26.6 0.0
baz=83,SNR=6.0

K06A Valley Falls 82.85 39 ⇓P P 13 55 27.1 +0.1
baz=83,SNR=12
T11A Corn Creek, Al 82.87 46 ⇑P P 13 55 27.0 -0.3
baz=83,SNR=13
H04A Detroit Lake 82.89 37 ⇓P P 13 55 26.4 -0.7
baz=83,SNR=5.1
L07A Adell 82.93 40 P P 13 55 28.0 +0.6
baz=83,SNR=8.6
N08A GE Springer Mi 82.95 42 ⇑P P 13 55 27.4 -0.1
baz=83
V13A Grand Canyon W 82.97 48 P P 13 55 27.9 +0.1
baz=83,SNR=8.1
X14A Yava 83.02 49 ⇓P P 13 55 28.2 +0.1
baz=83,SNR=6.6
I05A Bend 83.08 38 ⇑P P 13 55 28.6 +0.5
baz=83
Y15A Casa Rosa Ranc 83.16 50 P P 13 55 29.5 +0.7
baz=83,SNR=7.9
J06A Christmas Vall 83.18 39 ⇑P P 13 55 28.4 -0.2
baz=83,SNR=6.2
217A Green Valley 83.18 52 ⇓P P 13 55 28.5 -0.5
baz=83,SNR=5.8
M08A Happy Creek Ra 83.18 41 ⇑P P 13 55 29.0 +0.2
baz=83,SNR=5.8
O09A Fish Creek Ran 83.20 43 ⇓P P 13 55 28.7 -0.1
baz=83,SNR=5.7
R11A Troy Canyon, C 83.23 45 ⇑P P 13 55 28.8 -0.2
baz=83
W14A Seligman 83.27 49 ⇑P P 13 55 29.7 +0.4
baz=83,SNR=8.2
U13A Pakoon Wash 83.28 47 ⇑P P 13 55 29.9 +0.5
baz=83,SNR=8.1
S12A Delamar Landin 83.32 46 ⇓P P 13 55 29.6 +0.1
baz=83,SNR=9.0
BMN Battle Mountai 83.32 42 eP P 13 55 29.5 0.0
BMN pmax pmax
comp=Z,11nm,1.0s,mb4.3
BMN Battle Mountai 83.32 42 eP P 13 55 29.5 0.0
comp=Z,11nm,1.0s,mb4.3
K07A Rock Creek Ran 83.38 40 ⇓P P 13 55 29.7 0.0
baz=83,SNR=7.5
H05A Madras 83.40 37 ⇑P P 13 55 29.6 -0.1
baz=84,SNR=5.1
Q11A Duckwater 83.45 44 ⇑P P 13 55 29.8 -0.3
baz=84,SNR=5.9
TUC Tucson 83.47 52 eP P 13 55 30.2 -0.2
TUC pmax pmax
comp=Z,8.0nm,1.2s,mb4.1
TUC Tucson 83.47 52 eP P 13 55 30.1 -0.2
comp=Z,8.4nm,1.2s,mb4.2
V14A Boquillas Ranc 83.47 48 ⇑P P 13 55 30.6 +0.2
baz=84,SNR=12
X15A Humboldt 83.50 50 ⇓P P 13 55 30.9 +0.4
baz=84,SNR=5.9
F04A Amboy 83.53 36 ⇓P P 13 55 29.5 -0.8
baz=84
I06A Prineville 83.56 38 ⇓P P 13 55 30.5 0.0
baz=84,SNR=10.0
WVOR Wild Horse Val 83.60 40 eP P 13 55 30.8 0.0
WVOR pmax pmax
comp=Z,8.0nm,1.1s,mb4.2
WVOR Wild Horse Val 83.60 40 eP P 13 55 30.8 0.0
comp=Z,8.1nm,1.1s,mb4.2
117A Oracle 83.63 52 ⇑P P 13 55 31.3 +0.1
baz=84
L08A Fields 83.63 40 ⇑P P 13 55 31.2 +0.2
baz=84,SNR=6.3
318A Bisbee 83.63 53 ⇓P P 13 55 31.4 +0.2
baz=84,SNR=7.5
T13A Saint George 83.64 47 ⇓P P 13 55 31.6 +0.4
baz=84
VIPM Ingram Point 83.66 38 P P 13 55 31.3 +0.3
FL2 Flat Top 2 83.74 35 P P 13 55 32.0 +0.6
Y16A Circle Bar Ran 83.74 50 ⇑P P 13 55 32.1 +0.4
baz=84,SNR=5.7
M09A Marrel Ranch, 83.74 41 ⇑P P 13 55 32.2 +0.7
baz=84
J07A Hines 83.75 39 ⇓P P 13 55 31.9 +0.4
baz=84,SNR=5.1
K08A Mann Creek Ran 83.86 40 ⇑P P 13 55 32.1 0.0
baz=84,SNR=10.0
TDL Tradedollar La 83.91 35 P P 13 55 32.8 +0.6
H06A Lindquist Farm 83.96 37 P P 13 55 32.5 0.0
baz=84,SNR=16
S13A Holt Ranch, En 83.97 46 ⇑P P 13 55 32.6 -0.1
baz=84
X16A Lo Mia Camp, P 84.03 50 ⇓P P 13 55 33.3 +0.2
baz=84,SNR=5.4
I07A Izee 84.05 38 ⇑P P 13 55 33.2 +0.2
baz=84,SNR=7.2
Q12A Willow Creek R 84.10 45 ⇑P P 13 55 33.4 +0.1
baz=84
PSI Prapat 84.10 275 P P 13 55 33.2 -0.8
comp=Z,11nm,0.8s,mb4.4,baz=138,slow=1.4,SNR=8.6
PSI Prapat 84.10 275 P P 13 55 33.2 -0.8
O11A Cowboy Ranch, 84.15 43 ⇓P P 13 55 33.3 -0.2
baz=84
V15A Kaibab Nationa 84.22 48 ⇓P P 13 55 34.5 +0.5
baz=84,SNR=5.8
118A Homack Ranch, 84.23 52 ⇓P P 13 55 34.4 +0.3
baz=84,SNR=6.4
P12A McGill 84.28 44 ⇓P P 13 55 34.3 +0.1
baz=84
K09A Rome 84.30 40 P P 13 55 34.4 +0.2
baz=84,SNR=9.8
H07A Lands Inn, Kim 84.32 38 P P 13 55 34.4 +0.2
baz=84,SNR=8.6
GNW Green Mountain 84.34 34 eP P 13 55 34.8 +0.5
C04A Brinnon 84.36 34 ⇓P P 13 55 34.9 +0.5
baz=84
U15A North Rim 84.44 48 ⇑P P 13 55 35.7 +0.6
baz=84,SNR=13
219A White Tail Can 84.45 53 ⇑P P 13 55 35.0 -0.3
baz=84
I08A Drewsey 84.50 39 ⇑P P 13 55 35.5 +0.3
baz=84
J09A Fry Pan Ranch, 84.65 40 P P 13 55 36.2 +0.2
baz=85,SNR=6.9
G07A Ruggs Ranch, H 84.66 37 ⇑P P 13 55 35.9 -0.1
baz=85,SNR=5.3
T15A Red Dirt Ranch 84.68 47 ⇓P P 13 55 36.4 +0.1
baz=85,SNR=5.7
E06A Yakima 84.70 36 ⇓P P 13 55 36.4 +0.3
baz=85
Y18A Canyon Day Jun 84.73 51 P P 13 55 37.4 +0.8
baz=85,SNR=6.7
H08A Prairie City 84.79 38 ⇓P P 13 55 36.5 -0.1
baz=85
P13A Bates Ranch, G 84.85 45 ⇑P P 13 55 36.5 -0.5
baz=85
N12A Clover Valley, 84.94 43 ⇓P P 13 55 36.9 -0.6
baz=85
C05A Tolt Reservoir 85.02 35 ⇑P P 13 55 37.2 -0.4
baz=85
G08A Pilot Rock 85.08 38 ⇓P P 13 55 37.8 -0.1
baz=85,SNR=10
Q14A Sevier Lake (B 85.10 45 ⇑P P 13 55 38.1 -0.1
baz=85,SNR=6.1
L11A Cat Creek Ranc 85.21 42 ⇓P P 13 55 39.1 +0.4
baz=85
T16A Glen Canyon Da 85.27 48 ⇓P P 13 55 39.4 +0.2
baz=85
PMR Palmer 85.37 14 eP P 13 55 37.1 -1.9
K11A Parker Ranch, 85.37 41 ⇓P P 13 55 39.7 +0.3
baz=85
RSW Rattlesnake Hi 85.37 36 eP P 13 55 38.8 -0.6
Y19A Nutrioso 85.39 51 ⇓P P 13 55 40.5 +0.7
baz=85,SNR=5.9
HAWA Hanford 85.41 36 eP P 13 55 39.6 +0.1
comp=Z,17nm,1.1s,mb4.5
MSU Marysvale 85.59 46 eP P 13 55 41.5 +0.9
ETW Entiat 85.69 35 eP P 13 55 40.6 -0.2
E08A Dider Farm, El 85.73 37 ⇑P P 13 55 41.2 +0.2
baz=86
V18A Ganado 85.74 49 ⇓P P 13 55 41.7 +0.2
baz=86
DIV Divide 85.75 15 eP P 13 55 39.5 -1.3
comp=Z,18nm,1.0s,mb4.7
G09A Cove 85.75 38 ⇓P P 13 55 40.9 -0.3
baz=86,SNR=6.2
T17A Navajo Res., N 85.76 48 ⇑P P 13 55 41.6 +0.2
baz=86,SNR=5.7
M13A Montello 85.77 43 ⇑P P 13 55 41.2 -0.2
baz=86
BMO Blue Mountains 85.78 39 eP P 13 55 40.1 -1.2
comp=Z,3.6nm,0.7s,mb4.1
BJI Beijing 85.79 316 P P 13 55 42.0 +0.5
BJI AMB AMB

comp=Z,10.0nm,0.5s,mb4.7
C07A Waterville 85.89 35 ⇓P P 13 55 41.6 -0.2
baz=86
BMRM Bremner River 85.90 16 eP P 13 55 40.1 -1.4
WTV Waterville 85.95 35 P P 13 55 41.9 -0.2
H10A Noah's Angus R 85.96 39 ⇓P P 13 55 41.7 -0.5
baz=86,SNR=9.9
I11A Placerville 86.05 40 ⇑P P 13 55 42.6 -0.1
baz=86,SNR=5.4
U18A Rough Rock, Ch 86.13 49 ⇑P P 13 55 43.5 +0.2
baz=86
D08A Wollman Farm, 86.14 36 ⇑P P 13 55 42.9 -0.1
baz=86,SNR=6.9
G10A Bishop Farm, J 86.14 38 ⇓P P 13 55 43.0 0.0
baz=86,SNR=5.8
J12A Stokes Ranch, 86.21 41 ⇑P P 13 55 44.1 +0.7
baz=86
E09A Wood Farm, Sta 86.25 37 ⇑P P 13 55 43.4 -0.2
baz=86,SNR=5.6
B07A Winthrop 86.32 35 ⇑P P 13 55 43.6 -0.2
baz=86,SNR=5.4
M14A Sheep Mountain 86.37 43 ⇓P P 13 55 43.8 -0.5
baz=86
SYO Syowa Base 86.38 193⇑eX 13 55 41.0
SYO Syowa Base 86.38 193⇑ePcP PcP 13 55 45.8 +0.2
GYA Guiyang 86.42 300 P P 13 55 45.2 +0.3
GYA PP PP 13 59 18.0 +1.7
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
H11A Donnelly 86.46 39 ⇑P P 13 55 44.2 -0.4
baz=86,SNR=14
F10A Beach Ranch, E 86.46 38 ⇓P P 13 55 44.0 -0.6
baz=86,SNR=23
D09A Jones Farm, Ri 86.48 36 ⇓P P 13 55 44.3 -0.3
baz=86,SNR=5.4
T18A Mexican Hat 86.48 48 ⇓P P 13 55 45.0 +0.1
baz=86,SNR=14
SEY Seymchan 86.54 347dⁱP P 13 55 43.6 -0.9
A07A Ashnola River, 86.54 34 ⇑P P 13 55 44.5 -0.3
baz=87
B08A Colville Reser 86.68 35 P P 13 55 45.0 -0.6
baz=87,SNR=6.9
G11A Walters Elk Ra 86.69 39 ⇑P P 13 55 45.3 -0.4
baz=87,SNR=33
KTH Kantishna Hill 86.76 12 eP P 13 55 43.5 -2.0
comp=Z,8.9nm,0.8s,mb4.5
HLID Hailey 86.80 41 ⇑P P 13 55 46.4 +0.2
baz=87,SNR=8.3
HLID Hailey 86.80 41 eP P 13 55 46.0 -0.2
comp=Z,4.7nm,1.0s,mb4.1
E10A Myers Farm, Un 86.82 37 ⇓P P 13 55 46.5 +0.3
baz=87
J13A Cove Ranch, Pi 86.85 41 P P 13 55 46.9 +0.4
baz=87,SNR=9.1
SRU San Rafael 87.00 46 ⇓P P 13 55 47.2 -0.1
baz=87,SNR=6.2
SRU San Rafael 87.00 46 eP P 13 55 47.4 +0.1
F11A Grangeville 87.03 38 ⇑P P 13 55 46.1 -1.1
baz=87
D10A Wagner Farm, O 87.05 37 ⇓P P 13 55 46.7 -0.6
baz=87,SNR=13
H12A Diamond D Ranc 87.06 40 ⇓P P 13 55 47.3 -0.1
baz=87,SNR=20
A08A Turner Farm, O 87.07 35 P P 13 55 47.3 -0.1
baz=87,SNR=9.7
R18A Canyonlands Na 87.08 47 ⇓P P 13 55 47.4 -0.3
baz=87,SNR=5.5
I13A Wildhorse Cree 87.17 41 ⇓P P 13 55 48.4 +0.5
baz=87
L15A Malad City 87.24 43 ⇑P P 13 55 48.0 -0.4
baz=87
BPAW Bear Paw Mtn. 87.24 12 eP P 13 55 45.0 -2.8
E11A Bogner Ranch, 87.26 38 ⇑P P 13 55 47.1 -1.3
baz=87,SNR=6.6
S19A Harvey Farm, M 87.29 48 ⇑P P 13 55 48.8 +0.1
baz=87
MCK McKinley 87.32 13 eP P 13 55 46.6 -1.6
MCK pmax pmax
comp=Z,13nm,0.9s,mb4.6
MCK McKinley 87.32 13 eP P 13 55 46.6 -1.6
comp=Z,14nm,0.9s,mb4.6
B09A Rice 87.36 35 ⇑P P 13 55 48.2 -0.5
baz=87,SNR=10
SKAG Skagway 87.37 20 eP P 13 55 48.2 -0.3
comp=Z,6.3nm,0.9s,mb4.2
H13A Challis 87.43 40 ⇓P P 13 55 49.0 -0.1
baz=88,SNR=7.9
A09A Danville 87.45 35 P P 13 55 49.1 0.0
baz=88,SNR=8.3
F12A Elk City 87.48 39 P P 13 55 49.2 -0.2
baz=88,SNR=23
TXAR Lajitas Array 87.55 57 P P 13 55 50.6 +0.5
comp=Z,3.3nm,0.9s,mb4.1,baz=220,slow=5.6,SNR=31
TXAR pP pP 13 57 54.6 +7.8
comp=Z,0.7nm,1.0s,baz=240,slow=5.1,SNR=3.8
D11A Klaveano Farm, 87.58 37 ⇑P P 13 55 48.8 -1.0
baz=88,SNR=5.8
G13A Cobalt 87.73 40 ⇓P P 13 55 50.0 -0.5
baz=88,SNR=9.0
HYT Haines Junctio 87.75 19 eP P 13 55 49.3 -0.9
ANMO Albuquerque 87.89 51 eP P 13 55 50.0 -1.6
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 87.89 51 eP P 13 55 50.0 -1.5
comp=Z,4.8nm,1.1s,mb4.1
XAN Xi'an 87.96 308 P P 13 55 52.5 +0.6
XAN AMB AMB
comp=Z,22nm,1.1s,mb4.8
A10A Northport 88.00 35 ⇑P P 13 55 51.8 +0.1
baz=88
D12A Red Ives Fores 88.14 38 ⇑P P 13 55 51.5 -0.9
baz=88
B11A Sandpoint 88.34 36 ⇓P P 13 55 52.7 -0.6
baz=88
J16A Bone 88.38 42 ⇓P P 13 55 54.3 +0.7
baz=88
MCMT McKenzie Canyo 88.42 40 P P 13 55 54.3 +0.5
DLBC Dease Lake 88.45 23 eP P 13 55 54.0 +0.4
N18A Larsen Ranch, 88.49 45 ⇑P P 13 55 54.2 0.0
baz=88,SNR=5.2
COLA College 88.55 13⇓eP P 13 55 52.2 -1.7
COLA pmax pmax
comp=Z,17nm,0.8s,mb4.9
COLA College 88.55 13⇓eP P 13 55 52.2 -1.7
comp=Z,17nm,0.8s,mb4.9
IMA2 Indian Mountai 88.57 10 eP P 13 55 53.1 -0.9
RRI2 Red Ridge 88.60 42 eP P 13 55 55.3 +0.6
comp=Z,12nm,0.9s,mb4.7
A11A Hall Mountain, 88.64 36 P P 13 55 55.0 +0.3
baz=89,SNR=7.3
HIA Hailar 88.67 325 eP P 13 55 54.3 -0.5
D13A Huson 88.67 38 ⇑P P 13 55 54.9 0.0
baz=89
B12A Libby 88.79 36 ⇓P P 13 55 55.6 +0.2
baz=89
G15A Dillon 88.81 40 ⇑P P 13 55 55.9 +0.3
baz=89,SNR=9.5
DLMT Dillon 88.85 40 eP P 13 55 56.1 +0.4
comp=Z,7.3nm,0.9s,mb4.5
E14A Clinton 88.87 39 ⇓P P 13 55 55.6 -0.2
baz=89
REDW Red Top Meadow 88.91 42 eP P 13 55 56.2 +0.1
comp=Z,14nm,1.1s,mb4.7
TPAW Teton Pass 88.91 42 eP P 13 55 56.6 +0.5
comp=Z,6.4nm,0.8s,mb4.5
A12A Yaak River Ran 89.01 36 ⇑P P 13 55 56.5 +0.1
baz=89
SNOW Snow King Moun 89.02 42 eP P 13 55 57.3 +0.7
comp=Z,10nm,0.8s,mb4.7
KMI Kunming 89.10 297 P P 13 55 58.8 +1.4
KMI AMB AMB
comp=Z,19nm,1.0s,mb4.9
IMW Indian Meadow 89.12 42 eP P 13 55 56.7 -0.3
comp=Z,12nm,1.1s,mb4.6
LRM Limekiln Ridge 89.18 40 eP P 13 55 57.5 +0.2
LOHW Long Hollow 89.19 42 eP P 13 55 57.0 -0.4
comp=Z,2.0nm,0.6s,mb4.1
HHC Hu-ho-hao-te 89.24 315 eP P 13 55 58.4 +0.7
HHC AMB AMB
comp=Z,15nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,107nm,4.2s
HHC LR LR
comp=N,331nm,17.8s
HHC LR LR
comp=E,259nm,20.2s
HHC LR LR

comp=Z,297nm,25.0s
BILL Bilibino 89.25 354 P **P** **13 55 57.0 -0.1**
BILL *e* pP 13 57 53.6 -0.7
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
QLMT Earthquake Lak 89.29 41 *e*P **P** **13 55 58.9 +1.1**
PDAR Pinedale Array 89.44 43 P **P** **13 55 58.2 -0.4**
comp=Z,4.8nm,0.7s,mb4.4,baz=215,slow=3.0,SNR=42
BOZ Bozeman (W) 89.58 40 *e*P **P** **13 55 58.9 -0.3**
BOZ pmax pmax
comp=Z,12nm,1.4s,mb4.5
BOZ Bozeman (W) 89.58 40 P **P** **13 55 59.1 0.0**
baz=90,SNR=7.5
BOZ Bozeman (W) 89.58 40 *e*P **P** **13 55 58.9 -0.2**
comp=Z,12nm,1.4s,mb4.5
A13A Flathead Natio 89.69 36 ⇓P **P** **13 55 59.5 -0.1**
baz=90
D15A Lincoln 89.77 39 ⇓P **P** **13 56 00.1 +0.1**
baz=90
CMAR Chiang Mai Arr 89.81 290 P **P** **13 56 02.2 +1.3**
comp=Z,11nm,0.9s,mb4.7,baz=123,slow=2.9,SNR=40
DAWY Dawson 89.83 16 *e*P **P** **13 55 59.3 -0.5**
EGAK Eagle 89.97 15 *e*P **P** **13 55 59.7 -0.8**
HRY Holter Researc 90.00 39 *e*P **P** **13 56 01.2 +0.1**
COLD Coldfoot 90.21 11 *e*P **P** **13 56 00.7 -0.9**
comp=Z,9.2nm,1.1s,mb4.5
YAK Yakutsk 92.20 338 *e*P **P** **13 56 06.2 -4.7**
YAK pmax pmax
comp=Z,12nm,1.0s,mb4.9
YAK pmax pmax
comp=E,5.0nm,1.3s
LZH Lanzhou 92.60 308 *e*P **P** **13 56 13.8 +0.5**
LZH PP PP 14 00 06.1 +1.5
LZH AMB AMB
comp=Z,14nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,59nm,4.3s
GTA Gaotai 96.82 309 *e*P **P** **13 56 32.8 +0.4**
GTA AMB AMB
comp=Z,2.0nm,1.2s,mb4.2
YKA Yellowknife Ar 96.92 25 P **P** **13 56 31.1 -1.2**
comp=Z,0.5nm,0.6s,mb3.9,baz=244,slow=4.6,SNR=4.1
YKA Yellowknife Ar 96.92 25 P **P** **13 56 31.1 -1.2**
MDRS Chennai 104.95 279 *ex* x 13 56 30.0
MDRS *ex* x 13 58 33.0
ZALV Zalesovo Beam 110.44 321 PKiKP PKiKP 14 01 27.5 -2.5
comp=Z,1.0nm,0.5s,baz=168,slow=0.5,SNR=6.6
MKAR Makanchi Array 111.08 313 PKiKP PKiKP 14 01 29.2 -2.2
comp=Z,1.2nm,0.3s,baz=66,slow=3.5,SNR=12
LONY Lake Ozonia 114.00 49 *e*PKPdf PKiKP 14 01 41.4 +4.3
BVAR Borovoye Array 119.01 320 PKP PKPdf 14 01 44.6 -1.8
comp=Z,2.4nm,0.4s,baz=95,slow=1.6,SNR=20
ARU Arti 125.18 325 *i* PKIKP PKPdf 14 01 56.7 -1.4
ARU 14 03 52.9
ARCES ARCESS Array B 129.10 349 PKP PKPdf 14 02 03.6 -1.7
comp=Z,3.0nm,0.6s,baz=27,slow=1.4,SNR=21
NB2 NORSAR Subarra139.19 353 PKPdf 14 02 13.4
comp=Z,1.4nm,0.8s,baz=14,slow=1.9
NOA NORSAR Array B139.19 353 PKhKP 14 02 15.2
comp=Z,1.0nm,0.7s,baz=1.6,slow=6.4,SNR=4.6
SUW Suwalki 142.94 339 *e*PKP PKPdf 14 02 28.2 -3.1
SUW Suwalki 142.94 339 *e*PKP PKPdf 14 02 28.2 -3.0
AKASG Malin Array Be 143.04 331 PKP PKPdf 14 02 27.7 -3.8
comp=Z,29nm,0.7s,baz=43,slow=4.3,SNR=131
SIM Simferopol' 143.93 320 *e*PKHKP PKPdf 14 02 31.7 -1.6
SIM pmax pmax
comp=Z,49nm,0.8s
KIS Kishinev 145.73 326 *e*PKP PKPdf 14 02 36.0 -0.3
LVV L'vov 145.96 334 *e*PKHKP PKPdf 14 02 36.9 +0.3
BSEG Bad Segeberg 146.21 351 *e*PKPbc PKPbc 14 02 38.1 -0.9
ASF Jabal al Asfar 146.53 297 PKPbc PKPbc 14 02 40.1 -0.5
comp=Z,7.8nm,0.9s,baz=290,slow=1.4,SNR=10
KWP Kalwaria 146.65 335 *e*PKP PKPdf 14 02 39.5 +1.8
KWP Kalwaria 146.65 335 *e*PKP PKPdf 14 02 39.5 +1.8
RUE Ruedersdorf 146.95 346 *e*PKPbc PKPbc 14 02 40.1 -1.0
OJC Ojcow 147.25 338 *e*PKPdf PKPdf 14 02 37.7 -1.0
OJC *e*PKPab PKPbc 14 02 41.3 -0.6
KOLS Kolonicke sedl 147.37 334 *i* PKP PKPbc 14 02 42.0 -0.3
KOLS *e* 15 19 26.9
UZH Uzhgorod 147.60 334 ⇓*i*PKHKP PKPbc 14 02 42.4 -0.5
CRVS Cervenica-Dubn 147.72 335 *i* PKP PKPbc 14 02 42.4 -0.8
KSP Ksiaz 147.82 342 *e*PKP PKPbc 14 02 43.0 -0.4
KSP Ksiaz 147.82 342 *e*PKP PKPbc 14 02 42.7 -0.7
KSP *e* 14 02 47.1
OKC Ostrava-Krasne 148.14 340 *e*PKPDF PKPbc 14 02 43.4 -0.8
OKC *e*PKPAB PKPab 14 02 48.6 -0.5
OKC AMS AMS 15 21 20.0
OKC Ostrava-Krasne 148.14 340 *e*PKP PKPbc 14 02 43.4 -0.8
OKC *e* 14 02 48.6
IBBN Ibbenburen 148.15 353 *e*PKPbc PKPbc 14 02 43.2 -1.0
IBBN *e*PKPab PKPab 14 02 48.2 -0.8
UPC Upice 148.20 342 *e*PKPDF PKPbc 14 02 43.5 -0.8
UPC *e*PKPAB PKPab 14 02 49.1 -0.2
CLL Collm 148.22 346 *e*PKPbc PKPbc 14 02 43.3 -1.1
CLL *e*PKPab PKPab 14 02 48.1 -1.3
CLL Collm 148.22 346 ⇓*i*PKPbc PKPbc 14 02 43.4 -1.0
comp=Z,31nm,0.9s
CLL ⇑*i*PKPab PKPab 14 02 48.4 -1.0
comp=Z,16nm,0.8s
CLZ Clausthal 148.23 350 *e*PKPbc PKPbc 14 02 43.7 -0.7
DPC Dobruska-Polom 148.25 342 *e*PKPDF PKPbc 14 02 44.0 -0.5
DPC *e*PKPAB PKPab 14 02 49.6 +0.1
DPC AMS AMS 15 19 00.0
comp=Z,800nm,24.8s
BRG Berggiesshubel 148.41 345 *e*PKPbc PKPbc 14 02 44.0 -0.8
BRG *e*PKPab PKPab 14 02 49.4 -0.7
BRG Berggiesshubel 148.41 345 *i* PKP PKPbc 14 02 44.1 -0.7
comp=Z,15nm,0.9s
BRG *i* 14 02 49.5
comp=Z,10nm,0.8s
BRG
comp=N,726nm,22.5s
BRG
comp=E,820nm,21.8s
BRG
comp=Z,2μm,23.3s
BRG Berggiesshubel 148.41 345 *i* PKP PKPbc 14 02 44.1 -0.7
BRG *i* 14 02 49.5
BRG LR LR
comp=Z,940nm,23.3s
KECS Kecovo 148.44 336 *i* PKP PKPbc 14 02 44.4 -0.6
KECS *e* 15 19 17.3
KECS *e* 00 13 18.6
PVCC Panska Ves 148.57 344 *e*PKPDF PKPbc 14 02 45.0 -0.3
PVCC *e*PKPAB PKPab 14 02 50.5 -0.3
PVCC AMS AMS 15 18 40.0
PVCC Panska Ves 148.57 344 *e*PKP PKPbc 14 02 45.0 -0.3
PVCC *e* 14 02 50.5
EIL Elat 148.60 293 PKPbc PKPbc 14 02 45.2 -0.8
comp=Z,6.5nm,0.7s,baz=36,slow=3.8,SNR=5.9
VYHS Vyhne 149.05 337 *i* PKP PKPbc 14 02 45.1 -1.4
VYHS *e* 15 19 31.0
BUG Bochum--Univer 149.06 353 *e*PKPbc PKPbc 14 02 45.3 -1.1
PRU Pruhonice 149.07 344 *e*PKPDF PKPbc 14 02 45.6 -0.9
PRU *e*PKPAB PKPab 14 02 52.6 -0.3
PRU AMS AMS 15 19 50.0
comp=Z,1μm,24.2s
KOLL Kolacno 149.13 338 *i* PKP PKPbc 14 02 46.2 -0.5
PSZ Piszkesteto 149.13 336 *e*PKHKP PKPbc 14 02 45.7 -1.0
MOX Moxa 149.14 347 *e*PKP PKPbc 14 02 45.5 -1.1
comp=Z,24nm,1.4s
MOX *e* 14 02 52.2
WERD Werda 149.18 347 *e*PKPbc PKPbc 14 02 45.8 -1.0
WERD *e*PKPab PKPab 14 02 52.6 -0.7
GUNZ Gunzen 149.26 346 *e*PKPbc PKPbc 14 02 46.2 -0.7
GUNZ *e*PKPab PKPab 14 02 53.0 -0.6
UBBA Unterbreizbach 149.28 349 *e*PKPbc PKPbc 14 02 46.1 -0.9
WERN Wernitzgruen 149.32 346 *e*PKPbc PKPbc 14 02 46.5 -0.6
WERN *e*PKPab PKPab 14 02 53.6 -0.3
NKC Novy Kostel 149.35 346 *e*PKPDF PKPbc 14 02 46.4 -0.8
NKC *e*PKPAB PKPab 14 02 53.5 -0.6
NKC AMS AMS 15 17 50.0
comp=Z,2μm,43.5s
NKC Novy Kostel 149.35 346 *e*PKP PKPbc 14 02 46.4 -0.8
NKC *e* 14 02 53.5
TREC Trest 149.44 342 AMS AMS 15 20 30.0
comp=Z,1μm,22.1s
ROTZ Rotzenmuhle 149.85 346 *e*PKPbc PKPbc 14 02 47.6 -0.8
ROTZ *e*PKPab PKPab 14 02 55.5 -0.6
MEM Membach 150.01 354 PKPbc PKPbc 14 02 47.8 -0.9
TNS Taunus Mts 150.10 351 *e*PKPbc PKPbc 14 02 48.0 -0.9
TNS *e*PKPab PKPab 14 02 56.1 -1.1
KHC Kasperske Hory 150.11 344 *e*PKPDF PKPbc 14 02 48.1 -0.9
KHC *e*PKPAB PKPab 14 02 57.1 -0.1
KHC AMS AMS 15 20 00.0
comp=Z,2μm,23.6s
KHC Kasperske Hory 150.11 344 *e*PKP PKPdf 14 02 42.7 -0.6
KHC *e* 14 02 48.1
KHC *e* 14 02 57.1
KHC LR LR
comp=Z,2μm,23.6s
GRA1 Grafenberg Arr 150.13 347 *e*PKPbc PKPbc 14 02 48.1 -0.9
GRA1 *e*PKPab PKPab 14 02 56.9 -0.4
GRF Grafenberg Arr 150.13 347 *e*PKPbc PKPbc 14 02 48.1 -0.9
GRF *e*PKPab PKPab 14 02 56.9 -0.4
BCLA Clavier 150.26 355 PKPab PKPab 14 02 56.2 -1.6
WET Wettzell 150.27 345 *e*PKPbc PKPbc 14 02 48.7 -0.7
WET *e*PKPab PKPab 14 02 57.4 -0.5
GEC2 GERESS Array S 150.34 344 *e*PKIKP PKPdf 14 02 47.7 +4.0
GEC2 *e* 14 02 48.5
GEC2 *e* 14 02 57.6
GEC2 GERESS Array S 150.34 344 *e*PKPbc PKPbc 14 02 48.5 -1.0
GEC2 *e*PKPab PKPab 14 02 57.5 -0.7
GEC2 GERESS Array S 150.34 344 *e*PKPdf PKPdf 14 02 47.6 +3.9
GEC2 *e*PKPbc PKPbc 14 02 48.5 -1.0
GEC2 *e*PKPab PKPab 14 02 57.5 -0.7
GEC2 *e*PKPab PKPab 14 02 57.5 -0.7
GERES GERESS Array B 150.34 344 PKPbc PKPbc 14 02 48.4 -1.2
comp=Z,5.1nm,0.7s,baz=45,slow=2.1,SNR=39
GERES PKPab PKPab 14 02 57.7 -0.5
comp=Z,1.7nm,0.6s,baz=22,slow=4.3,SNR=8.1
CONA Conrad Observa 150.54 340 ⇓*i*PKPdf PKPbc 14 02 49.3 -0.8
comp=Z,11nm,0.7s
CONA ⇓*i*PKPab PKPab 14 02 59.5 +0.4
CSNA Conrad Observa 150.54 340 ⇓*i*P PKPbc 14 02 49.3 -0.7
comp=Z,10.0nm,0.7s
GIVF Givet 150.61 356 *e*PKIKP PKPbc 14 02 48.8 -1.3
comp=Z,26nm,0.8s
DOU Dourbes 150.63 356 PKPbc PKPbc 14 02 49.0 -1.2
BAIF Baives 150.69 357 *e*PKIKP PKPbc 14 02 49.1 -1.2
comp=Z,18nm,0.8s
WLF Walferdange 150.93 354 PKPbc PKPbc 14 02 50.5 -0.3
WLF Walferdange 150.93 354 *e*PKPbc PKPbc 14 02 50.3 -0.6
WLF *e*PKPab PKPab 14 03 00.1 -0.5
STU Stuttgart 151.39 349 *e*PKPbc PKPbc 14 02 50.8 -1.1
FUR Furstenfeldbru 151.56 346 *e*PKPbc PKPbc 14 02 51.1 -1.2
FUR *e*PKPab PKPab 14 03 03.0 -0.4
BFO Black Forest 151.96 350 *e*PKPbc PKPbc 14 02 52.0 -1.2
BFO *e*PKPab PKPab 14 03 03.8 -1.2
FLN La Foliniere 152.02 3 *e*PKIKP PKPbc 14 02 51.5 -1.8
CDF Champ du Feu 152.03 352 *e*PKIKP PKPbc 14 02 51.8 -1.6
comp=Z,10nm,0.7s
MEZF Maizieres J'vi 152.18 355 *e*PKIKP PKPbc 14 02 52.4 -1.3
comp=Z,24nm,0.8s
LDF La Druitiere 152.20 2 *e*PKIKP PKPbc 14 02 51.7 -2.1
comp=Z,8.4nm,0.8s
ROSF Rostrenen 152.22 7 *e*PKIKP PKPbc 14 02 51.6 -2.2
comp=Z,8.9nm,0.8s
WTTA Wattenberg 152.33 345 ⇑*i*PKPdf PKPbc 14 02 52.7 -1.4
comp=Z,14nm,0.8s
WTTA ⇓*i*PKPab PKPab 14 03 06.6 -0.1
GRR Gorron 152.37 3 *e*PKIKP PKPbc 14 02 52.3 -1.8
SGMF Saint Gilles 152.37 6 *e*PKIKP PKPbc 14 02 52.0 -2.1
comp=Z,16nm,0.8s
MOTA Moosalm 152.38 346 ⇓*i*P PKPbc 14 02 52.8 -1.4
comp=Z,7.2nm,0.9s
HAU Haudompre 152.55 353 *e*PKIKP PKPbc 14 02 52.7 -1.8
QUIF Quistinic 152.64 7 *e*PKIKP PKPbc 14 02 52.7 -2.0
comp=Z,36nm,1.2s
HINF Hinteralfeld 152.67 352 *e*PKIKP PKPbc 14 02 52.9 -1.9
LOR Lormes 153.49 356 *e*PKIKP PKPbc 14 02 55.0 -1.6
MFF Saint Martin d 154.19 3 *e*PKIKP PKPbc 14 02 54.8 -3.3
comp=Z,8.9nm,0.8s
MBDF Montbardon 155.72 351 *e*PKIKP PKPdf 14 02 57.5 +6.0
comp=Z,8.1nm,1.0s
ESDC Sonseca Array 160.57 13 PKPab PKPab 14 03 42.1 -0.4
comp=Z,1.8nm,0.7s,baz=349,slow=3.8,SNR=11
TORD Torodi Ar. Bea 172.43 181 PKP PKPdf 14 03 05.0 -2.2
comp=Z,1.0nm,0.8s,baz=97,slow=0.9,SNR=5.6
TORD PKPab PKPab 14 04 34.4 -0.9
comp=Z,1.4nm,0.9s,baz=175,slow=3.0,SNR=5.2
TORD Torodi Ar. Bea 172.43 181 PKP PKPdf 14 03 05.0 -2.2
TORD PKPab PKPab 14 04 34.4 -0.9

*ISCJB **04** 14:16:46.2±0.4, 483S±006×10554W±008, h10km, mb4.5/42, MS5.0/3, Error ellipse: s-maj=12.9km s-min=7.3km az=152.3*
*IDC **04** 14:16:46.7±0.8, 457S×10535W, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.2/19, mbtmp4.1/13, Error ellipse: s-maj=37.5km s-min=15.5km az=65.0*
*NEIC **04** 14:16:48.4±0.5, 476S×10541W, h10km, mb4.9/28, Error ellipse: s-maj=17.6km s-min=8.2km az=63.0*
*BJI **04** 14:16:48.4, 480S×10540W, h10km, mbB.2, Ms5.3, Msz4.7*
ISC 04 14:16:48.4±0.5, 479S±007×1055W±01, h10km, n87, σ1§26/72, mb4.5/42, MS5.0/3, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**24.12**	**25**	P	**P**	**14 22 05.4**	**+0.8**
	5.2nm,0.6s,mb4.1,baz=197,slow=8.0,SNR=9.4						
OTAV	**Otavalo**	**27.44**	**80**	*e*P	**P**	**14 22 35.7**	**+0.9**
RKT	**Rikitea**	**33.82**	**235**	*e*S	**S**	**14 28 51.1**	**-4.1**
	190nm,26.8s						
RKT				*e*LR	LR	14 32 26.7	
	2μm,27.8s						
TXAR	**Lajitas Array**	**33.97**	**3**	P	**P**	**14 23 37.1**	**+4.9**
	0.5nm,0.8s,mb3.5,baz=182,slow=9.6,SNR=5.6						
JCT	**Junction City**	**35.48**	**8**	*e*P	**P**	**14 23 45.0**	**-0.3**
	16nm,1.2s,mb4.8						
SDV	**Santo Domingo**	**37.29**	**69**	*e*P	**P**	**14 24 00.5**	**-0.4**
	8.1nm,0.9s,mb4.5						
NATX	**Nacogdoches**	**37.77**	**15**	*e*P	**P**	**14 24 01.8**	**-3.0**
	14nm,0.5s,mb5.0						
LPAZ	**La Paz**	**38.36**	**110**	*e*P	**P**	**14 24 10.4**	**+0.3**
	5.6nm,0.9s,mb4.3						
BNM	**Barren Site**	**38.74**	**358**	*e*P	**P**	**14 24 13.0**	**0.0**
LAZ	**Ladron**	**39.01**	**358**	*e*P	**P**	**14 24 15.5**	**+0.3**
LVC	**Limon Verde**	**39.52**	**120**	P	**P**	**14 24 21.1**	**+1.4**
	5.9nm,0.9s,mb4.3,baz=354,slow=4.6,SNR=2.9						
LVC	**Limon Verde**	**39.52**	**120**	*e*P	**P**	**14 24 20.4**	**+0.7**
WMOK	**Wichita Mounta**	**39.81**	**9**	*e*P	**P**	**14 24 20.7**	**-1.2**
WUAZ	**Wupatki**	**40.47**	**353**	*e*P	**P**	**14 24 28.4**	**+1.0**
MIAR	**Mount Ida**	**40.70**	**15**	*e*P	**P**	**14 24 28.4**	**-0.9**
GSC	**Goldstone**	**41.28**	**346**	*e*P	**P**	**14 24 34.5**	**+0.5**
	81nm,2.6s,mb4.9						
MVCO	**Mesa Verde**	**41.88**	**356**	*e*P	**P**	**14 24 39.4**	**+0.5**
	4.2nm,1.1s,mb4.0						
ISA	**Isabella**	**42.05**	**344**	*e*pP	pP	14 24 51.9	+8.4
SHPR	**Sheep Range**	**42.07**	**348**	*e*P	**P**	**14 24 41.3**	**+0.8**
SDCO	**Great Sand Dun**	**42.31**	**360**	*e*P	**P**	**14 24 43.5**	**+1.1**
	64nm,2.8s,mb4.8						
TPNV	**Topopah Spring**	**42.73**	**347**	*e*P	**P**	**14 24 47.5**	**+1.7**
	86nm,2.7s,mb5.0						
PLAL	**Pickwick Lake**	**42.81**	**21**	*e*P	**P**	**14 24 45.1**	**-1.4**
	22nm,1.1s,mb4.8						
SMCO	**Snowmass**	**43.77**	**358**	*e*P	**P**	**14 24 51.2**	**-3.0**
SMCO				*e*pP	pP	14 25 11.2	+14
SWET	**Sewanee**	**43.83**	**23**	*e*P	**P**	**14 24 53.9**	**-0.9**
CFAA	**Coronel Fontan**	**43.92**	**132**	P	**P**	**14 24 55.9**	**+0.3**
	1.2nm,0.9s,mb3.6,baz=291,slow=7.3,SNR=5.4						
CFAA	**Coronel Fontan**	**43.92**	**132**	P	**P**	**14 24 55.9**	**+0.3**
NVAR	**Mina Array Bea**	**44.62**	**346**	P	**P**	**14 25 00.8**	**-0.3**
	1.4nm,1.0s,mb3.7,baz=176,slow=8.0,SNR=7.6						
CCM	**Cathedral Cave**	**44.63**	**16**	*e*P	**P**	**14 25 00.5**	**-0.6**
	18nm,1.3s,mb4.7						
CMB	**Columbia Colle**	**44.80**	**343**	*e*P	**P**	**14 25 03.5**	**+1.0**
	31nm,2.0s,mb4.8						
SIV	**San Ignacio**	**44.96**	**108**	P	**P**	**14 25 02.9**	**-1.2**
	0.6nm,0.8s,mb3.5,baz=258,slow=18,SNR=3.4						
PPT	**Papeete**	**44.97**	**250**	*e*S	**S**	**14 31 37.4**	**-5.6**
	195nm,25.8s						
PPT				*e*LR	LR	14 37 35.4	
	2μm,26.0s						
DUG	**Dugway**	**45.27**	**352**	*e*P	**P**	**14 25 07.3**	**+1.2**
	25nm,1.8s,mb4.8						
DAU	**Daniels Canyon**	**45.29**	**354**	*e*P	**P**	**14 25 11.5**	**+5.1**
TZTN	**Tazewell**	**45.94**	**25**	*e*P	**P**	**14 25 15.8**	**+4.2**
PAHR	**Pah Rah Range**	**46.10**	**345**	*e*P	**P**	**14 25 15.0**	**+2.2**
PAHR				*e*pP	pP	14 25 21.1	+5.3
ELK	**Elko**	**46.19**	**350**	*e*P	**P**	**14 25 14.6**	**+1.2**
OLIL	**Olney**	**46.19**	**19**	*e*P	**P**	**14 25 16.0**	**+2.5**
	6.5nm,0.4s,mb4.9						
TBI	**Tubuai**	**46.25**	**242**	*e*LR	LR	14 38 11.3	
	1μm,28.0s						
BW06	**Boulder Array**	**47.48**	**356**	*e*P	**P**	**14 25 28.9**	**+5.4**
	40nm,2.5s,mb4.9						
PDAR	**Pinedale Array**	**47.48**	**356**	P	**P**	**14 25 22.4**	**-1.1**
	0.5nm,0.6s,mb3.6,baz=186,slow=10,SNR=3.8						
CNNC	**Cliffs of the**	**47.51**	**31**	*e*P	**P**	**14 25 30.9**	**+7.0**
PLCA	**Paso Flores**	**47.55**	**144**	P	**P**	**14 25 25.1**	**+0.9**
	7.1nm,1.1s,mb4.6,baz=287,slow=8.1,SNR=5.3						
MOD	**Modoc**	**48.40**	**345**	*e*P	**P**	**14 25 31.3**	**+0.6**
LOHW	**Long Hollow**	**48.40**	**355**	*e*P	**P**	**14 25 33.4**	**+2.8**
WVOR	**Wild Horse Val**	**48.50**	**347**	*e*P	**P**	**14 25 31.9**	**+0.4**
	26nm,1.9s,mb4.9						
MOOW	**Moose Ponds**	**48.55**	**355**	*e*P	**P**	**14 25 34.3**	**+2.5**
	31nm,2.3s,mb4.9						
RSSD	**Black Hills**	**48.70**	**1**	*e*P	**P**	**14 25 35.0**	**+2.1**
IMW	**Indian Meadow**	**48.71**	**355**	*e*P	**P**	**14 25 37.6**	**+4.6**
	21nm,1.6s,mb4.9						
HLID	**Hailey**	**48.80**	**351**	*e*P	**P**	**14 25 34.6**	**+0.9**
	17nm,1.8s,mb4.8						
FLWY	**Flagg Ranch**	**48.87**	**355**	*e*pP	pP	14 25 44.6	+7.2
YBH	**Yreka Blue Hor**	**48.90**	**343**	P	**P**	**14 25 33.7**	**-0.9**
	1.9nm,0.8s,mb4.2,baz=143,slow=6.9,SNR=3.2						
ECSD	**EROS,Sioux Fal**	**48.95**	**9**	*e*pP	pP	14 25 43.4	+5.4
CPUP	**Villa Florida**	**50.70**	**120**	P	**P**	**14 25 48.5**	**0.0**
	3.3nm,0.9s,mb4.3,baz=290,slow=6.1,SNR=4.3						
CPUP	**Villa Florida**	**50.70**	**120**	*e*P	**P**	**14 25 47.9**	**-0.6**
	58nm,1.3s,mb5.3						
TRQA	**Tornquist**	**51.56**	**136**	*e*P	**P**	**14 25 53.9**	**-0.9**
	22nm,1.5s,mb4.9						
COWI	**Conover**	**52.71**	**14**	*e*P	**P**	**14 26 05.2**	**+2.1**
AGMN	**Agassiz Refuge**	**53.53**	**8**	*e*P	**P**	**14 26 08.0**	**-1.1**
	22nm,1.4s,mb4.9						
NEW	**Newport**	**53.81**	**350**	*e*P	**P**	**14 26 09.8**	**-1.4**
EYMN	**Ely**	**53.93**	**12**	*e*P	**P**	**14 26 11.2**	**-0.9**
	17nm,1.1s,mb4.9						
NLWA	**Neilton Lookou**	**54.43**	**345**	*e*pP	pP	14 26 26.6	+7.6
ULM	**Lac du Bonnet**	**55.44**	**7**	P	**P**	**14 26 21.4**	**-1.6**
	2.7nm,0.7s,mb4.4,baz=240,slow=8.1,SNR=2.6						
EDM	**Edmonton**	**58.18**	**354**	*e*pP	pP	14 26 50.1	+4.5
DLBC	**Dease Lake**	**66.03**	**346**	*e*P	**P**	**14 27 35.1**	**+0.1**
YKA	**Yellowknife Ar**	**67.46**	**355**	P	**P**	**14 27 41.9**	**-2.1**
	2.8nm,1.0s,mb4.2,baz=164,slow=6.0,SNR=13						
YKA	**Yellowknife Ar**	**67.46**	**355**	P	**P**	**14 27 41.9**	**-2.1**
HYT	**Haines Junctio**	**70.02**	**344**	*e*P	**P**	**14 28 00.0**	**-0.1**
DAWY	**Dawson**	**73.19**	**345**	*e*P	**P**	**14 28 19.3**	**+0.2**
PMR	**Palmer**	**74.22**	**340**	*e*P	**P**	**14 28 23.9**	**-1.3**
	11nm,1.1s,mb4.7						
EGAK	**Eagle**	**74.22**	**345**	*e*P	**P**	**14 28 23.9**	**-1.3**
	16nm,1.3s,mb4.8						
INK	**Inuvik**	**75.52**	**350**	*e*P	**P**	**14 28 31.5**	**-1.1**
	586nm,1.4s						
MCK	**McKinley**	**75.67**	**342**	*e*P	**P**	**14 28 31.6**	**-1.9**
	20nm,1.4s,mb4.8						
PPLA	**Purkeypile**	**76.16**	**340**	*e*P	**P**	**14 28 35.0**	**-1.4**
	9.0nm,0.5s,mb5.0						
KTH	**Kantishna Hill**	**76.18**	**341**	*e*P	**P**	**14 28 34.5**	**-2.0**
	14nm,1.0s,mb4.8						
COLD	**Coldfoot**	**78.51**	**344**	*e*P	**P**	**14 28 49.4**	**-0.1**
	27nm,1.4s,mb5.0						
QSPA	**South Pole Qui**	**85.27**	**180**	P	**P**	**14 29 26.3**	**+1.4**
	7.8nm,1.0s,mb4.8,baz=123,slow=3.7,SNR=11						
VNDA	**Vanda**	**85.94**	**193**	P	**P**	**14 29 31.4**	**+3.1**
	1.5nm,0.9s,mb4.2,baz=105,slow=2.2,SNR=2.9						
VNDA	**Vanda**	**85.94**	**193**	P	**P**	**14 29 31.4**	**+3.1**
SNAA	**Sanae**	**89.44**	**162**	P	**P**	**14 29 44.7**	**-0.6**
	0.4nm,1.0s,mb3.7,baz=308,slow=9.2,SNR=3.9						
SPB4	**Spitsbergen Ar**	**100.92**	**10**	*e*Pdif	Pdif	14 30 37.5	-0.4
CN2	**Changchun**	**120.81**	**319**	*e*PKP	PKPdf	14 35 40.5	-0.7
CN2				*e*PP	PP	14 37 12.2	+3.0
CN2				PP	PP		
	comp=Z,200nm,4.0s						
NJ2	**Nanjing**	**130.49**	**309**	*e*PKP	PKPdf	14 35 59.6	-0.4
HHC	**Hu-ho-hao-te**	**131.12**	**323**	*e*PKP	PKPdf	14 35 57.3	-3.7
HHC				PP	PP	14 38 19.0	+1.4
HHC				PKS		14 39 31.5	
HHC				PP	PP		
	comp=Z,67nm,15.5s						
HHC				LR	LR		
	comp=N,269nm,27.4s,MS5.1						
HHC				LR	LR		
	comp=E,409nm,23.8s,MS5.1						
HHC				LR	LR		
	comp=Z,243nm,27.4s,MS4.8						
WMQ	**Urumqi**	**139.43**	**345**	*e*PKP	PKPdf	14 36 15.0	-1.4
CD2	**Chengdu**	**142.18**	**317**	*e*PKP	PKPdf	14 36 19.4	-2.3
CD2				APKP		14 36 24.8	
CD2				PKS		14 39 53.7	
CD2				SKS	SKSdf	14 43 23.6	-8.5
CD2				PP	PP		
	comp=Z,90nm,10.2s						
GYA	**Guiyang**	**142.50**	**308**	*e*PKP	PKPdf	14 36 22.6	+0.2
GYA				PKS		14 39 56.8	
GYA				SKS	SKSdf	14 43 27.6	-5.2
GYA				PP	PP		
	comp=Z,110nm,7.8s						
GYA				LR	LR		
	comp=N,160nm,20.8s,MS5.0						
GYA				LR	LR		
	comp=E,280nm,22.6s,MS5.0						
GYA				LR	LR		
	comp=Z,120nm,23.3s,MS4.6						
KMI	**Kunming**	**146.22**	**310**	PKP	PKPdf	14 36 28.7	-0.2
KMI				PP	PP	14 39 56.8	+5.1
KMI				PP	PP		
	comp=Z,81nm,5.5s						
KMI				LR	LR		
	comp=N,480nm,27.4s,MS5.2						
KMI				LR	LR		
	comp=E,298nm,22.8s,MS5.2						
KMI				LR	LR		
	comp=Z,487nm,29.7s						
CMAR	**Chiang Mai Arr**	**152.56**	**302**	PKP	PKPdf	14 36 37.8	-1.4
	comp=Z,0.4nm,0.6s,baz=194,slow=35,SNR=3.6						
CMAR				PKPbc	PKPbc	14 36 45.2	-1.0
	comp=Z,1.0nm,0.6s,baz=42,slow=1.6,SNR=5.7						

*ISCJB **04** 14:18:30.2±0.8, 492S±01×307E±03, h10km, mb3.6/5, MS3.3/2, Error ellipse: s-maj=32.6km s-min=13.4km az=161.8*
*IDC **04** 14:18:30.3±1.1, 491.4S×3094E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/20, mbtmp3.9/7, ML3.8/1, MS3.4/3, Ms1 3.4/3, ms1mx3.2/25, Error ellipse: s-maj=40.0km s-min=22.5km az=79.0*
*NEIC **04** 14:18:32.1±0.9, 492.6S×3036E, h10km, mb3.5/1, Error ellipse: s-maj=43.6km s-min=12.1km az=76.0*
ISC 04 14:18:31.9±0.8, 492S±01×308E±03, h10km, n11, σ0§82/10, mb3.6/5, MS3.3/2, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.37**	**332**	P	**Pn**	**14 22 47.1**	**+0.4**
	0.3nm,0.3s,baz=114,slow=12,SNR=4.0						
SUR				LR	LR	14 28 58.0	
	comp=Z,134nm,18.6s,baz=36,slow=34						
BOSA

MS5.8/26, Error ellipse: s-maj=14.8km s-min=5.6km az=92.8

GCMT **04** 14:24:51.7±0.1, 460S×105.68W, h16km, MW6.1/107, Moment Tensor Solution. s105,c227; s107,c397; Duration: 2.6 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.03±.01; $M_{\theta\theta}$0.62±.01; $M_{\phi\phi}$-0.59±.01; $M_{r\theta}$0.08±.03; $M_{r\phi}$1.45±.01; $M_{\theta\phi}$0.22±.03; Best double couple: $M_0$1.58900×10^{18} NP1:ϕ_s101.00000°, δ82.00000°, λ1.00000°. NP2:ϕ_s11.00000°, δ89.00000°, λ172.00000°. Principal axes: T 1.6080, Plg6.0000°, Azm326.0000°; N -0.0370, Plg82.0000°, Azm186.0000°; P -1.5700, Plg5.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC **04** 14:24:51.7±0.4, 480S×105.41W, h10km, mb5.4/67, MS5.7/142, MW5.9 Error ellipse: s-maj=10.2km s-min=6.4km az=59.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{r\phi}$0.00; $M_{\theta\phi}$0.00; Best double couple: $M_0$1.00000×10^{18} NP1:ϕ_s1.00000°, δ88.00000°, λ158.00000°. NP2:ϕ_s92.00000°, δ68.00000°, λ2.00000°. Principal axes: T 1.0100, Plg17.0000°, Azm314.0000°; N 0.0000, Plg68.0000°, Azm176.0000°; P -1.0100, Plg14.0000°, Azm48.0000°;

BJI **04** 14:24:52.6, 480S×105.40W, h10km, mB5.6, Ms6.3, Msz6.1

DJA **04** 14:25:26, 402S×104.37W, h167km, mb4.4/1

ISC 04 14:24:52.1±0.4, **475S**±005×**105.41W**±005, **h10**km, **n612**, σ0.9**94**/462, **mb5.3**/78, **MS5.6**/176, **98C-112D, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora** 398nm,1.8s	**15.63**	**75**	*e*P	**Pn**	**14 28 37.6**	**+4.9**
HUIG	**Huatulco**	**22.37**	**24**	*e*P	**P**	**14 29 57.2**	**+6.7**
OXX	**Oaxaca**	**23.33**	**21**	*e*P	**P**	**14 29 58.0**	**-2.7**
PLIG	**Platanillo**	**23.72**	**14**	*e*P	**P**	**14 30 02.9**	**-1.7**
CMIG	**Matias Romero** 12nm,0.9s,mb4.3,baz=208,slow=7.7,SNR=15	**24.06**	**25**	P	**P**	**14 30 07.2**	**-0.5**
CMIG	comp=Z,2μm,19.7s,MS4.5,baz=198,slow=28			LR	LR	14 36 07.8	
CMIG	**Matias Romero**	**24.06**	**25**	P	**P**	**14 30 07.2**	**-0.5**
CMIG				*i* P		14 30 08.8	
CMIG				LR	LR	14 36 07.8	
PPM	**Popocatepetl**	**24.59**	**16**	*e*P	**P**	**14 30 15.0**	**+2.5**
CCIG	**Comitan**	**24.68**	**32**	*i* P	**P**	**14 30 16.9**	**+3.5**
SCX	**San Cristobal**	**24.80**	**30**	*e*P	**P**	**14 30 18.0**	**+3.5**
PTVM	**Pico Tres Padr**	**24.97**	**14**	*e*P	**P**	**14 30 21.4**	**+5.4**
IIO	**Organos**	**25.07**	**15**	*i* P	**P**	**14 30 19.7**	**+2.9**
SFJM	**Santa Fe**	**25.19**	**5**	*i* P	**P**	**14 30 13.0**	**-4.9**
TGUH	**Tegucigalpa,Un** 135nm,1.0s,mb5.4	**25.94**	**44**	*e*P	**P**	**14 30 26.1**	**+1.3**
ATAH	**Atahualpa** 3.6nm,0.7s,baz=289,slow=11,SNR=2.9	**26.96**	**96**	P	**P**	**14 30 35.9**	**+1.8**
ATAH				LR	LR	14 39 04.2	
	comp=Z,2μm,19.4s,MS4.8,baz=275,slow=32						
OTAV	**Otavalo**	**27.38**	**80**	*e*P	**P**	**14 30 44.0**	**+6.0**
OTAV				LR	LR		
	comp=Z,6μm,20.0s,MS5.2						
BCIP	**Isla Barro Col**	**29.00**	**62**	PFAKE		14 31 00.0	+7.7
BCIP				LR	LR		
	comp=Z,1μm,22.0s,MS4.4						
LPIG	**La Paz**	**29.07**	**351**	LR	LR	14 39 29.8	
	comp=Z,27μm,21.1s,MS5.8,baz=173,slow=30						
NNA	**Nana**	**29.14**	**106**	LR	LR	14 39 49.8	
	comp=Z,3μm,18.9s,MS5.0,baz=276,slow=31						
NNA	**Nana**	**29.14**	**106**	PFAKE		14 31 10.0	+16
NNA				LR	LR		
	comp=Z,3μm,21.0s,MS4.9						
ROSC	**El Rosal**	**32.47**	**73**	P	**P**	**14 31 25.2**	**+2.1**
	comp=Z,3.6nm,0.3s,mb4.6,baz=273,slow=23,SNR=2.0						
RKT	**Rikitea**	**33.88**	**235**	*e*PP	PP	14 32 47.3	-4.7
RKT	comp=Z,2μm,27.8s			*e*S	**S**	**14 37 14.4**	**+14**
	comp=Z,4μm,28.8s						
RKT				*e*LR	LR	14 40 55.0	
	comp=Z,58μm,27.8s,baz=55						
TXAR	**Lajitas Array**	**33.93**	**3**	P	**P**	**14 31 36.0**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=182,slow=25,SNR=4.2						
TXAR				PcP	PcP	14 34 13.3	-0.7
	comp=Z,0.9nm,0.7s,baz=186,slow=6.3,SNR=3.5						
TXAR				LR	LR	14 43 01.3	
	comp=Z,11μm,21.1s,MS5.6,baz=305,slow=32						
TXAR	**Lajitas Array**	**33.93**	**3**	P	**P**	**14 31 36.1**	**+0.6**
TXAR						14 34 13.3	
TAOE	**Nuku Hiva Isla**	**34.73**	**261**	*e*LR	LR	14 40 44.4	
	comp=Z,134μm,25.9s,baz=92						
SOR	**Soroa**	**35.05**	**38**	*e*P	**P**	**14 31 45.8**	**+0.4**
JCT	**Junction City**	**35.44**	**8**	*e*P	**P**	**14 31 48.6**	**+0.1**
JCT				pmax	pmax		
	comp=Z,52nm,1.1s,mb5.4						
JCT				MLR	MLR		
	comp=Z,10μm,19.0s,MS5.6						
JCT	**Junction City**	**35.44**	**8**	*e*P	**P**	**14 31 48.6**	**+0.1**
	comp=Z,52nm,1.1s,mb5.4						
JCT				LR	LR		
	comp=Z,10μm,19.0s,MS5.6						
HKT	**Hockley**	**35.70**	**14**	*e*P	**P**	**14 31 49.7**	**-1.1**
HKT				pmax	pmax		
	comp=Z,66nm,1.8s,mb5.3						
HKT				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.0						
HKT	**Hockley**	**35.70**	**14**	*e*P	**P**	**14 31 49.6**	**-1.2**
	comp=Z,66nm,1.8s,mb5.3						
HKT				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
318A	**Bisbee** baz=36	**36.25**	**353**	⇑P	**P**	**14 31 55.3**	**-0.2**
217A	**Green Valley** baz=37,SNR=18	**36.69**	**352**	P	**P**	**14 31 59.2**	**0.0**
219A	**White Tail Can** baz=37,SNR=18	**36.73**	**355**	⇑P	**P**	**14 31 59.8**	**+0.2**
GDL2	**Guadalupe Moun**	**36.76**	**1**	*e*P	**P**	**14 32 02.1**	**+2.3**
218A	**Dragoon** baz=37	**36.78**	**353**	⇑P	**P**	**14 32 00.4**	**+0.3**
214A	**Organ Pipe Nat** baz=37	**37.18**	**350**	⇓P	**P**	**14 32 03.1**	**-0.3**
TUC	**Tucson**	**37.21**	**352**	*e*P	**P**	**14 32 06.4**	**+2.7**
TUC				pmax	pmax		
	comp=Z,186nm,2.9s,mb5.4						
TUC	**Tucson**	**37.21**	**352**	*e*P	**P**	**14 32 06.4**	**+2.7**
	comp=Z,186nm,2.9s,mb5.4						
SDV	**Santo Domingo**	**37.22**	**69**	*e*P	**P**	**14 32 04.5**	**+0.4**
	comp=Z,55nm,1.0s,mb5.3						
118A	**Homack Ranch,** baz=37	**37.44**	**354**	⇑P	**P**	**14 32 05.6**	**+0.1**
117A	**Oracle** baz=37	**37.46**	**353**	⇓P	**P**	**14 32 05.9**	**+0.1**
119A	**Ashpeak Ranch,** baz=38	**37.49**	**355**	⇑P	**P**	**14 32 07.0**	**+1.0**
116A	**Eloy** baz=38	**37.59**	**351**	⇑P	**P**	**14 32 07.3**	**+0.4**
NATX	**Nacogdoches**	**37.72**	**15**	PFAKE		14 32 20.0	+12
NATX				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
115A	**Sonoran Desert** baz=38	**37.80**	**351**	⇓P	**P**	**14 32 08.3**	**-0.4**
LPAZ	**La Paz**	**38.32**	**110**	P	**P**	**14 32 15.5**	**+2.1**
	comp=Z,1.5nm,0.8s,baz=265,slow=3.8,SNR=4.2						
LPAZ				LR	LR	14 46 22.3	
	comp=Z,1μm,20.0s,MS4.8,baz=96,slow=34						
LPAZ	**La Paz**	**38.32**	**110**	*e*P	**P**	**14 32 14.8**	**+1.4**
LPAZ				pmax	pmax		
	comp=Z,27nm,1.4s						
LPAZ				MLR	MLR		
	comp=Z,1μm,20.0s						
LPAZ	**La Paz**	**38.32**	**110**	*e*P	**P**	**14 32 14.8**	**+1.5**
	comp=Z,27nm,1.4s,mb4.8						
LPAZ				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
Y17A	**Roosevelt** baz=39	**38.58**	**353**	⇑P	**P**	**14 32 15.3**	**0.0**
GLA	**Glamis**	**38.64**	**347**	*e*P	**P**	**14 32 15.2**	**-0.6**
GLA				pmax	pmax		
	comp=Z,107nm,1.5s,mb5.3						
GLA				MLR	MLR		
	comp=Z,34μm,21.0s,MS6.1						
GLA	**Glamis**	**38.64**	**347**	*e*P	**P**	**14 32 15.2**	**-0.6**
	comp=Z,107nm,1.5s,mb5.3						
GLA				LR	LR		
	comp=Z,34μm,21.0s,MS6.1						
Y19A	**Nutrioso** baz=39	**38.67**	**355**	⇓P	**P**	**14 32 17.4**	**+1.4**
BNM	**Barren Site**	**38.71**	**358**	*e*P	**P**	**14 32 18.7**	**+2.4**
BAR	**Barrett**	**38.73**	**345**	*e*P	**P**	**14 32 18.9**	**+2.4**
	comp=Z,79nm,1.4s,mb5.2						
BAR				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
Y16A	**Circle Bar Ran** baz=39	**38.85**	**352**	⇓P	**P**	**14 32 17.9**	**+0.4**
MONP	**Monument Peak** baz=39	**38.87**	**345**	⇓P	**P**	**14 32 17.0**	**-0.7**
LPM	**Los Pinos Moun**	**38.87**	**358**	*e*P	**P**	**14 32 23.5**	**+5.9**
LAZ	**Ladron**	**38.98**	**358**	*e*P	**P**	**14 32 19.1**	**+0.5**
Y15A	**Casa Rosa Ranc** baz=39,SNR=23	**39.05**	**351**	⇑P	**P**	**14 32 19.5**	**+0.4**
Y14A	**Wickenburg** baz=39,SNR=6.1	**39.14**	**350**	⇓P	**P**	**14 32 20.0**	**0.0**
Y13A	**Salome** baz=39	**39.17**	**349**	⇑P	**P**	**14 32 19.8**	**-0.4**
X18A	**Snowflake** baz=39	**39.30**	**354**	⇑P	**P**	**14 32 21.7**	**+0.4**
BC3	**Big Chuckw Mtn** baz=39	**39.36**	**347**	⇓P	**P**	**14 32 22.3**	**+0.5**
X16A	**Lo Mia Camp, P** baz=39	**39.37**	**352**	⇑P	**P**	**14 32 22.3**	**+0.5**
VBMS	**Vicksburg**	**39.40**	**20**	*e*P	**P**	**14 32 22.7**	**+0.6**
LVC	**Limon Verde**	**39.49**	**120**	P	**P**	**14 32 25.0**	**+1.9**
	comp=Z,24nm,1.2s,mb4.8,baz=282,slow=8.2,SNR=9.2						
LVC	**Limon Verde**	**39.49**	**120**	*e*P	**P**	**14 32 24.8**	**+1.7**
LVC	comp=Z,118nm,1.4s,mb5.4			LR	LR		
	comp=Z,4μm,22.0s,MS5.2						
ANMO	**Albuquerque**	**39.50**	**359**	*e*P	**P**	**14 32 24.5**	**+1.6**
ANMO				MLR	MLR		
	comp=Z,8μm,22.0s						
X15A	**Humboldt** baz=40	**39.55**	**351**	⇑P	**P**	**14 32 23.9**	**+0.5**
PFO	**Pinyon Flat Ob**	**39.56**	**345**	P	**P**	**14 32 23.6**	**+0.1**
	comp=Z,6.3nm,0.9s,mb4.3,baz=166,slow=5.8,SNR=9.3						
PFO	**Pinyon Flat Ob** baz=40	**39.56**	**345**	⇓P	**P**	**14 32 23.5**	**+0.1**
PFO	**Pinyon Flat Ob**	**39.56**	**345**	*e*P	**P**	**14 32 23.3**	**-0.1**
PFO				LR	LR		
	comp=Z,24μm,20.0s,MS6.0						
AMTX	**Amarillo**	**39.58**	**5**	*e*P	**P**	**14 32 23.3**	**-0.3**
	comp=Z,47nm,1.3s,mb5.1						
AMTX				LR	LR		
	comp=Z,13μm,22.0s,MS5.7						
X14A	**Yava** baz=40	**39.64**	**350**	⇑P	**P**	**14 32 23.8**	**-0.3**
BRAL	**Brewton**	**39.65**	**25**	*e*P	**P**	**14 32 21.5**	**-2.7**
	comp=Z,55nm,0.5s,mb5.5						
BRAL				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
PDMCI	**Parker Dam,Lak** baz=40	**39.70**	**349**	⇓P	**P**	**14 32 25.6**	**+0.9**
WMOK	**Wichita Mounta**	**39.77**	**9**	*e*P	**P**	**14 32 24.8**	**-0.4**
IRM	**Iron Mountain** baz=40	**39.78**	**347**	⇓P	**P**	**14 32 25.1**	**-0.1**
BELC	**Belle Mtn.** baz=40	**39.82**	**346**	⇓P	**P**	**14 32 25.2**	**-0.4**
W18A	**Petrified Fore** baz=40	**39.86**	**354**	⇓P	**P**	**14 32 27.0**	**+1.1**
X13A	**Yucca** baz=40	**39.93**	**349**	⇑P	**P**	**14 32 26.0**	**-0.5**
DWPF	**Disney**	**40.02**	**34**	PFAKE		14 32 40.0	+13
DWPF				LR	LR		
	comp=Z,5μm,22.0s,MS5.4						
W15A	**Williams** baz=40	**40.24**	**351**	⇑P	**P**	**14 32 28.5**	**-0.6**
W14A	**Seligman** baz=40,SNR=7.3	**40.40**	**350**	⇓P	**P**	**14 32 31.2**	**+0.8**
W13A	**Hualapai Mount** baz=40	**40.43**	**349**	⇓P	**P**	**14 32 31.3**	**+0.6**
WUAZ	**Wupatki** baz=40	**40.44**	**352**	⇑P	**P**	**14 32 30.9**	**+0.1**
WUAZ	**Wupatki**	**40.44**	**352**	*e*P	**P**	**14 32 30.7**	**0.0**
BFSC	**Mount Baldy St** baz=40,SNR=8.3	**40.47**	**344**	⇓P	**P**	**14 32 32.0**	**+1.1**
V18A	**Ganado** baz=40	**40.47**	**354**	⇑P	**P**	**14 32 31.3**	**+0.3**
GMRC	**Granite Mounta** baz=40,SNR=9.7	**40.49**	**347**	⇓P	**P**	**14 32 31.2**	**0.0**
MWC	**Mount Wilson**	**40.56**	**344**	*e*P	**P**	**14 32 32.7**	**+0.9**
MWC				MLR	MLR		
	comp=Z,16μm,20.0s,MS5.9						
MIAR	**Mount Ida**	**40.65**	**15**	*e*P	**P**	**14 32 31.5**	**-1.0**
MIAR				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.1						
LDFC	**Landfair**	**40.65**	**348**	*e*P	**P**	**14 32 33.1**	**+0.6**
HEC	**Hector,Ludlow** baz=41	**40.69**	**346**	⇑P	**P**	**14 32 32.8**	**-0.1**
LCO	**Las Campanas**	**40.77**	**130**	*e*P	**P**	**14 32 33.4**	**-0.3**
	comp=Z,80nm,1.3s,mb5.2						
LCO				LR	LR		
	comp=Z,6μm,21.0s,MS5.5						
V14A	**Boquillas Ranc** baz=41,SNR=18	**40.81**	**350**	⇑P	**P**	**14 32 33.9**	**+0.1**
V15A	**Kaibab Nationa** baz=41,SNR=26	**40.85**	**352**	⇓P	**P**	**14 32 34.1**	**0.0**
EDW2	**Edwards Air Fo** baz=41,SNR=10	**41.16**	**344**	⇑P	**P**	**14 32 36.1**	**-0.6**
U18A	**Rough Rock, Ch** baz=41,SNR=6.8	**41.17**	**355**	⇑P	**P**	**14 32 37.9**	**+1.2**
TUQ	**Turquoise Mtn.** baz=41	**41.18**	**347**	⇑P	**P**	**14 32 36.6**	**-0.2**
V13A	**Grand Canyon W** baz=41	**41.18**	**349**	⇑P	**P**	**14 32 37.0**	**+0.2**
UALR	**University of**	**41.20**	**16**	*e*P	**P**	**14 32 37.9**	**+0.9**
	comp=Z,316nm,2.7s,mb5.5						
V12A	**Nelson** baz=41	**41.23**	**348**	⇓P	**P**	**14 32 37.0**	**-0.2**
GSC	**Goldstone** baz=41	**41.26**	**346**	⇑P	**P**	**14 32 36.9**	**-0.5**
GSC	**Goldstone**	**41.26**	**346**	*e*P	**P**	**14 32 37.5**	**+0.1**
GSC				LR	LR		
	comp=Z,19μm,20.0s,MS6.0						
U17A	**Shonto** baz=41,SNR=5.5	**41.43**	**354**	P	**P**	**14 32 39.6**	**+0.8**
T19A	**Beclabito** baz=42	**41.50**	**356**	⇑P	**P**	**14 32 39.5**	**0.0**
U14A	**Mt Trumbull** baz=42,SNR=17	**41.59**	**351**	⇓P	**P**	**14 32 40.4**	**+0.2**
LRMC	**Laurel Mountai** baz=42,SNR=8.7	**41.65**	**345**	⇑P	**P**	**14 32 41.0**	**+0.4**
SHOC	**Shoshone** baz=42	**41.70**	**347**	⇑P	**P**	**14 32 40.8**	**-0.3**
U13A	**Pakoon Wash** baz=42	**41.73**	**350**	⇓P	**P**	**14 32 41.6**	**+0.3**
T17A	**Navajo Res., N** baz=42,SNR=11	**41.84**	**354**	⇓P	**P**	**14 32 42.2**	**0.0**
MVCO	**Mesa Verde** baz=42	**41.84**	**356**	⇓P	**P**	**14 32 42.6**	**+0.3**
MVCO	**Mesa Verde**	**41.84**	**356**	*e*P	**P**	**14 32 42.7**	**+0.5**
	comp=Z,110nm,1.7s,mb5.2						
MVCO				LR	LR		
	comp=Z,10μm,20.0s,MS5.7						
OXF	**Oxford**	**41.86**	**20**	*e*P	**P**	**14 32 40.5**	**-2.0**
OXF				pmax	pmax		
	comp=Z,74nm,1.3s,mb5.2						
OXF				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.0						
OXF	**Oxford**	**41.86**	**20**	*e*P	**P**	**14 32 40.5**	**-2.0**
	comp=Z,74nm,1.3s,mb5.2						
OXF				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
T18A	**Mexican Hat** baz=42,SNR=6.5	**41.88**	**355**	⇓P	**P**	**14 32 42.4**	**-0.1**
ISA	**Isabella** baz=42	**42.03**	**344**	⇑P	**P**	**14 32 43.6**	**-0.2**
ISA	**Isabella**	**42.03**	**344**	*e*P	**P**	**14 32 43.8**	**0.0**
ISA				LR	LR		
	comp=Z,18μm,19.0s,MS6.0						
SHPR	**Sheep Range**	**42.04**	**348**	*e*P	**P**	**14 32 43.8**	**-0.1**
T15A	**Red Dirt Ranch** baz=42,SNR=10	**42.06**	**352**	⇓P	**P**	**14 32 43.4**	**-0.6**
SMMC	**Simmler** baz=42	**42.14**	**342**	⇑P	**P**	**14 32 45.1**	**+0.3**
MPMC	**Manual Prospec** baz=42,SNR=36	**42.15**	**345**	⇓P	**P**	**14 32 44.2**	**-0.6**
T14A	**Hurricane** baz=42	**42.21**	**351**	⇑P	**P**	**14 32 45.3**	**+0.1**
U10A	**Ash Meadows, A** baz=42	**42.21**	**347**	⇓P	**P**	**14 32 45.3**	**0.0**
SDCO	**Great Sand Dun**	**42.28**	**360**	*e*P	**P**	**14 32 47.5**	**+1.7**
T13A	**Saint George** baz=42	**42.30**	**350**	⇓P	**P**	**14 32 45.3**	**-0.7**
DAC	**Darwin (Calif)**	**42.38**	**345**	PFAKE		14 33 00.0	+13
DAC				LR	LR		
	comp=Z,10μm,19.0s,MS5.7						
FURC	**Furnace Creek,** baz=42	**42.38**	**346**	⇑P	**P**	**14 32 47.0**	**+0.3**
S18A	**Hurst Farm, Bl** baz=42,SNR=12	**42.44**	**355**	⇓P	**P**	**14 32 47.3**	**+0.2**
S17A	**Black Ridge (B** baz=42	**42.47**	**354**	⇓P	**P**	**14 32 47.3**	**0.0**
S16A	**Weppner Ranch,** baz=43	**42.65**	**353**	⇓P	**P**	**14 32 48.4**	**-0.4**
CWC	**Cottonwood Cre** baz=43	**42.66**	**345**	⇑P	**P**	**14 32 48.6**	**-0.3**
TPNV	**Topopah Spring**	**42.70**	**347**	*e*P	**P**	**14 32 49.8**	**+0.6**
TPNV				pmax	pmax		
	comp=Z,112nm,1.4s,mb5.4						
TPNV	**Topopah Spring** baz=43	**42.70**	**347**	⇑P	**P**	**14 32 49.8**	**+0.6**
TPNV	**Topopah Spring**	**42.70**	**347**	*e*P	**P**	**14 32 49.8**	**+0.6**
	comp=Z,112nm,1.4s,mb5.4						
CCUT	**Cedar City**	**42.73**	**351**	*e*P	**P**	**14 32 52.6**	**+3.1**
PLAL	**Pickwick Lake**	**42.76**	**21**	*e*P	**P**	**14 32 48.6**	**-1.2**
	comp=Z,94nm,1.2s,mb5.4						
PLAL				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
T11A	**Corn Creek, Al** baz=43,SNR=32	**42.77**	**348**	⇓P	**P**	**14 32 49.9**	**+0.1**
S13A	**Holt Ranch, En** baz=43,SNR=19	**42.84**	**350**	⇑P	**P**	**14 32 50.5**	**+0.2**
PKD	**Parkfield** baz=43,SNR=9.0	**42.90**	**342**	⇑P	**P**	**14 32 50.3**	**-0.6**
ARUT	**Antelope Range**	**42.98**	**351**	*e*P	**P**	**14 32 51.9**	**+0.4**
GRAC	**Grapevine Rang** baz=43,SNR=18	**43.01**	**346**	⇓P	**P**	**14 32 51.9**	**+0.2**
S12A	**Delamar Landin** baz=43	**43.05**	**349**	⇓P	**P**	**14 32 52.2**	**+0.1**
R18A	**Canyonlands Na** baz=43,SNR=8.0	**43.12**	**355**	⇑P	**P**	**14 32 53.3**	**+0.7**
HELL	**Mitchell Peak** baz=43,SNR=18	**43.13**	**344**	⇑P	**P**	**14 32 52.3**	**-0.4**
PCRV	**Puerto La Cruz**	**43.23**	**70**	P	**P**	**14 32 54.9**	**+1.0**
	comp=Z,9.4nm,0.8s,mb4.6,baz=356,slow=12,SNR=4.7						
R17A	**Hanksville Air** baz=43,SNR=8.7	**43.23**	**354**	⇓P	**P**	**14 32 53.8**	**+0.3**
GOGA	**Godfrey**	**43.27**	**27**	*e*P	**P**	**14 32 53.6**	**-0.3**
GOGA				MLR	MLR		
	comp=Z,2μm,22.0s,MS5.1						
U04C	**Hernandez Rese** baz=43,SNR=8.3	**43.36**	**342**	⇓P	**P**	**14 32 55.2**	**+0.6**
R13A	**O'Grain Ranch,** baz=43	**43.45**	**350**	⇑P	**P**	**14 32 56.3**	**+1.0**
MVU	**Marysvale**	**43.49**	**352**	PFAKE		14 33 10.0	+14
MVU				LR	LR		
	comp=Z,11μm,21.0s,MS5.7						
MSU	**Marysvale**	**43.50**	**352**	*e*P	**P**	**14 32 57.8**	**+2.1**
T06C	**Milleton Lake** baz=44	**43.63**	**343**	⇑P	**P**	**14 32 55.7**	**-1.1**
MTUM	**Tungsten Hills**	**43.65**	**345**	*e*P	**P**	**14 32 57.7**	**+0.8**
CBKS	**Cedar Bluff**	**43.66**	**6**	PFAKE		14 33 10.0	+13
CBKS				LR	LR		
	comp=Z,20μm,20.0s,MS6.0						
S09A	**Goldfield** baz=44,SNR=12	**43.66**	**346**	⇓P	**P**	**14 32 56.7**	**-0.3**
LMEL	**Las Melosas**	**43.67**	**136**	⇑*i*P	**P**	**14 32 57.8**	**+0.6**
S08C	**White Mtn Res** baz=44	**43.68**	**345**	⇑P	**P**	**14 32 56.9**	**-0.2**
R12A	**Pony Springs,** baz=44,SNR=21	**43.70**	**350**	⇑P	**P**	**14 32 57.2**	**-0.1**
S10A	**Tonopah Range,** baz=44,SNR=18	**43.71**	**347**	⇑P	**P**	**14 32 56.6**	**-0.8**
SWET	**Sewanee**	**43.77**	**23**	*e*P	**P**	**14 32 57.2**	**-0.7**
Q16A	**Castle Valley** baz=44,SNR=7.6	**43.77**	**353**	⇓P	**P**	**14 32 57.8**	**-0.1**
Q18A	**Rafter H Ranch** baz=44	**43.85**	**355**	⇑P	**P**	**14 32 59.6**	**+1.1**
SRU	**San Rafael** baz=44,SNR=8.8	**43.90**	**354**	⇓P	**P**	**14 32 59.1**	**+0.2**
SRU	**San Rafael**	**43.90**	**354**	*e*P	**P**	**14 32 58.8**	**-0.1**
CFAA	**Coronel Fontan**	**43.90**	**132**	P	**P**	**14 32 59.1**	**0.0**
	comp=Z,1.8nm,0.9s,baz=289,slow=6.4,SNR=17						
R11A	**Troy Canyon, C** baz=44,SNR=23	**43.91**	**348**	⇓P	**P**	**14 32 58.9**	**-0.1**
SAO	**San Andreas Ge**	**43.93**	**341**	*e*P	**P**	**14 33 02.3**	**+3.1**
SAO				MLR	MLR		
	comp=Z,25μm,22.0s,MS6.1						
R10A	**Warm Springs** baz=44	**44.00**	**348**	⇑P	**P**	**14 33 00.0**	**+0.3**
TPH	**Tonopah**	**44.00**	**347**	*e*P	**P**	**14 33 00.2**	**+0.5**
TPH				pmax	pmax		
	comp=Z,91nm,1.4s,mb5.3						
TPH	**Tonopah**	**44.00**	**347**	*e*P	**P**	**14 33 00.2**	**+0.5**
	comp=Z,91nm,1.4s,mb5.3						
Q15A	**Fillmore** baz=44	**44.01**	**352**	⇓P	**P**	**14 33 00.8**	**+1.0**
R09A	**Tonopah** baz=44	**44.12**	**347**	⇑P	**P**	**14 33 00.5**	**-0.2**
Q14A	**Sevier Lake (B** baz=44,SNR=29	**44.12**	**351**	P	**P**	**14 33 01.3**	**+0.6**
TMUT	**Trail Mountain**	**44.15**	**354**	*e*P	**P**	**14 33 05.2**	**+4.3**
Q13A	**Wheeler Ranch,** baz=44,SNR=15	**44.21**	**350**	⇓P	**P**	**14 33 01.2**	**-0.2**
P17A	**Butcher Ranch,** baz=44	**44.28**	**354**	⇓P	**P**	**14 33 02.0**	**0.0**
ISCO	**Idaho Springs**	**44.33**	**360**	*e*P	**P**	**14 33 04.4**	**+2.1**
ISCO				MLR	MLR		
	comp=Z,9μm,20.0s,MS5.7						
P18A	**Preston Nutter** baz=44	**44.38**	**355**	⇓P	**P**	**14 33 03.0**	**+0.2**
KSU1	**Kansas State U**	**44.38**	**10**	*e*P	**P**	**14 33 02.4**	**-0.4**
KSU1				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
Q11A	**Duckwater** baz=44,SNR=21	**44.40**	**349**	P	**P**	**14 33 03.6**	**+0.7**
Q12A	**Willow Creek R** baz=44	**44.43**	**350**	⇓P	**P**	**14 33 03.8**	**+0.6**
R07C	**Lee Vining** baz=44	**44.47**	**345**	⇓P	**P**	**14 33 03.6**	**+0.1**
S06C	**San Francisco** baz=44	**44.49**	**344**	⇓P	**P**	**14 33 02.9**	**-0.8**
CCM	**Cathedral Cave**	**44.57**	**16**	*e*P	**P**	**14 33 03.8**	**-0.5**
CCM				pmax	pmax		
	comp=Z,63nm,1.2s,mb5.3						
CCM				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.1						
CCM	**Cathedral Cave**	**44.57**	**16**	*e*P	**P**	**14 33 03.8**	**-0.5**
	comp=Z,63nm,1.2s,mb5.3						
CCM				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
NVAR	**Mina Array Bea**	**44.59**	**346**	P	**P**	**14 33 03.8**	**-0.7**
	comp=Z,6.5nm,1.0s,mb4.4,baz=176,slow=9.9,SNR=15						
NHSC	**New Hope**	**44.60**	**31**	*e*pP	pP	14 33 16.4	+8.6
NHSC				LR	LR		
	comp=Z,7μm,22.0s,MS5.5						
P14A	**Drum Mountains**

PPT eLR LR 14 45 43.3
comp=Z,45µm,26.2s,baz=76
CPD Cerro la Pandu 45.05 59 eP **P 14 33 07.3 -1.2**
CPD pmax pmax
comp=Z,42nm,0.9s,mb5.3
CPD Cerro la Pandu 45.05 59 eP **P 14 33 07.3 -1.2**
comp=Z,42nm,0.9s,mb5.3
O16A Springville 45.09 353 ⇓P **P 14 33 09.7 +1.4**
baz=45
P11A Circle Ranch, 45.10 349 ⇑P **P 14 33 10.9 +2.4**
baz=45
DUG Dugway 45.24 352 eP **P 14 33 10.3 +0.7**
DUG pmax pmax
comp=Z,85nm,1.4s,mb5.4
DUG MLR MLR
comp=Z,19µm,20.0s,MS6.0
DUG Dugway 45.24 352 ⇓P **P 14 33 10.3 +0.7**
baz=45
DUG Dugway 45.24 352 eP **P 14 33 10.3 +0.7**
comp=Z,85nm,1.4s,mb5.4
DUG LR LR
comp=Z,19µm,20.0s,MS6.0
DAU Daniels Canyon 45.26 354 eP **P 14 33 11.4 +1.6**
P10A Eureka 45.31 348 ⇓P **P 14 33 09.9 -0.3**
baz=45
R05C Kirkwood Meado 45.32 344 ⇑P **P 14 33 10.8 +0.6**
baz=45,SNR=12
MTP Monte Pirata 45.39 59 epP pP 14 33 21.8 +7.5
P09A Austin 45.39 347 ⇓P **P 14 33 11.3 +0.5**
baz=45
LAVA Lava Cap Winer 45.56 343 ⇓P **P 14 33 11.8 -0.3**
baz=46
USIN University of 45.58 20 eP **P 14 33 12.2 -0.2**
comp=Z,42nm,0.9s,mb5.4
CTU Camp Tracy 45.59 353 eP **P 14 33 11.8 -0.6**
NOQ North Oquirrh 45.60 353 eP **P 14 33 12.0 -0.5**
O12A Currie 45.61 350 ⇓P **P 14 33 12.3 -0.3**
baz=46,SNR=20
O11A Cowboy Ranch, 45.65 349 ⇑P **P 14 33 12.8 0.0**
baz=46,SNR=7.4
MCCM Marconi Confer 45.66 341 PFAKE 14 33 20.0 +7.0
MCCM LR LR
comp=Z,17µm,20.0s,MS6.0
N18A Larsen Ranch, 45.67 355 ⇓P **P 14 33 13.5 +0.5**
baz=46,SNR=8.1
CVS Carmenet Viney 45.70 341 ⇑P **P 14 33 14.4 +1.1**
baz=46
N17A Moffit Pass 45.74 354 ⇓P **P 14 33 15.0 +1.4**
baz=46,SNR=6.9
N16A Rees Ranch, Co 45.75 354 ⇑P **P 14 33 15.2 +1.5**
baz=46
WCN Washoe City 45.79 344 ⇑P **P 14 33 14.6 +0.6**
baz=46,SNR=9.4
PHWY Pilot Hill 45.83 360 eP **P 14 33 14.6 +0.4**
TZTN Tazewell 45.88 25 eP **P 14 33 13.8 -1.0**
comp=Z,98nm,1.3s,mb5.6
O10A Cortez Mining, 45.97 348 ⇓P **P 14 33 15.7 +0.3**
baz=46
BGU Big Grassy Mou 45.99 352 eP **P 14 33 15.7 +0.2**
O09A Fish Creek Ran 45.99 347 ⇓P **P 14 33 15.1 -0.5**
baz=46
P05C Yuba Gap, Truc 46.03 344 P **P 14 33 16.1 +0.3**
baz=46,SNR=9.8
PAHR Pah Rah Range 46.08 345 eP **P 14 33 16.7 +0.5**
N13A Wendover, West 46.09 351 ⇑P **P 14 33 16.8 +0.5**
baz=46
OLIL Olney 46.14 19 eP **P 14 33 15.6 -1.1**
comp=Z,68nm,1.1s,mb5.5
ELK Elko 46.16 350 eP **P 14 33 17.1 +0.2**
ELK pmax pmax
comp=Z,94nm,1.5s
ELK MLR MLR
comp=Z,22µm,19.0s
ELK Elko 46.16 350 eP **P 14 33 17.1 +0.3**
comp=Z,94nm,1.5s,mb5.5
ELK LR LR
comp=Z,22µm,19.0s,MS6.1
P06A Stead Airport, 46.18 344 ⇑P **P 14 33 17.7 +0.6**
baz=46
MNRC McLaughlin Nat 46.18 342 ⇑P **P 14 33 17.8 +0.7**
baz=46
RWWY Rawlins 46.24 358 eP **P 14 33 21.0 +3.5**
BMN Battle Mountai 46.25 348 eP **P 14 33 16.6 -1.0**
BMN MLR MLR
comp=Z,22µm,22.0s,MS6.1
SPUT South Promonto 46.29 353 eP **P 14 33 17.2 -0.7**
WCI Wyandotte Cave 46.30 21 eP **P 14 33 16.9 -1.1**
OHCM Honcut 46.31 343 eP **P 14 33 18.8 +0.7**
TBI Tubuai 46.31 242 eS **S 14 40 17.4 +12**
comp=Z,4µm,30.8s
TBI eLQ 14 44 19.2
comp=Z,10µm,31.5s
TBI eLR LR 14 46 30.1
comp=Z,33µm,28.0s,baz=70
O07A Toulon 46.38 346 P **P 14 33 18.6 0.0**
baz=46,SNR=31
M15A Larsen Ranch, 46.44 353 ⇓P **P 14 33 19.1 0.0**
baz=46
BEKR Beckwourth 46.48 344 ⇑P **P 14 33 19.9 +0.5**
baz=46
HOPS Hopland 46.49 341 ⇓P **P 14 33 18.6 -0.9**
baz=46
HOPS Hopland 46.49 341 eP **P 14 33 23.8 +4.3**
HOPS LR LR
comp=Z,17µm,20.0s,MS6.0
ORV Oroville 46.52 343 ⇑P **P 14 33 19.5 -0.2**
baz=46,SNR=21
M13A Montello 46.58 351 ⇑P **P 14 33 19.6 -0.5**
baz=47
M14A Sheep Mountain 46.60 352 ⇑P **P 14 33 19.3 -1.0**
baz=47,SNR=7.6
GRGR Grenville 46.62 69 PFAKE 14 33 30.0 +9.1
GRGR LR LR
comp=Z,1µm,21.0s,MS4.8
O06A Flanigan 46.62 345 ⇓P **P 14 33 20.2 -0.3**
baz=47
N09A Rock Creek Ran 46.72 347 ⇑P **P 14 33 21.0 -0.3**
baz=47,SNR=15
O05C Quincy 46.73 344 ⇑P **P 14 33 22.0 +0.7**
baz=47
M12A Wells 46.76 350 ⇓P **P 14 33 21.7 +0.1**
baz=47,SNR=8.7
N08A GE Springer Mi 46.79 347 P **P 14 33 21.5 -0.3**
baz=47,SNR=15
HVU Hansel Valley 46.79 352 eP **P 14 33 24.4 +2.6**
M11A Holland Ranch, 46.93 349 ⇓P **P 14 33 23.1 +0.2**
baz=47
L15A Malad City 46.96 353 P **P 14 33 22.8 -0.4**
baz=47,SNR=8.5
GASB Alder Springs 46.98 342 ⇑P **P 14 33 24.0 +0.6**
baz=47,SNR=10
N07B Gerlach 46.98 346 P **P 14 33 23.8 +0.4**
baz=47,SNR=28
L14A Malta 47.10 352 ⇑P **P 14 33 24.0 -0.2**
baz=47,SNR=22
O04C Chester 47.11 344 ⇓P **P 14 33 24.3 0.0**
baz=47,SNR=20
N06A Buffalo Meadow 47.17 345 ⇓P **P 14 33 25.2 +0.4**
baz=47
M09A Marrel Ranch, 47.25 348 ⇓P **P 14 33 25.3 -0.1**
baz=47
L13A Double Diamond 47.26 351 ⇑P **P 14 33 26.1 +0.7**
baz=47
ELFS Eagle Lake Fie 47.29 344 P **P 14 33 26.3 +0.6**
baz=47,SNR=21
BW06 Boulder Array 47.44 356 eP **P 14 33 27.3 +0.4**
comp=Z,59nm,1.6s,mb5.3
BW06 LR LR
comp=Z,13µm,20.0s,MS5.9
PDAR Pinedale Array 47.44 356 P **P 14 33 25.9 -1.0**
comp=Z,2.4nm,1.0s,baz=184,slow=7.3,SNR=9.2
CNNC Cliffs of the 47.45 31 PFAKE 14 33 40.0 +13
CNNC LR LR
comp=Z,6µm,21.0s,MS5.5
HDIL Hopedale 47.45 17 eP **P 14 33 26.9 0.0**
comp=Z,91nm,1.4s,mb5.5
HDIL LR LR
comp=Z,4µm,19.0s,MS5.4
O02C Red Bluff 47.48 342 ⇓P **P 14 33 27.6 +0.4**
baz=48,SNR=7.3
M08A Happy Creek Ra 47.48 347 P **P 14 33 27.6 +0.4**
baz=48,SNR=11
L12A House Creek Ra 47.49 350 ⇓P **P 14 33 27.5 +0.3**
baz=48
PLCA Paso Flores 47.55 144 P **P 14 33 27.9 +0.1**
comp=Z,13nm,1.1s,mb4.9,baz=306,slow=8.4,SNR=8.5
PLCA LR LR 14 49 29.5
comp=Z,4µm,18.1s,MS5.4,baz=330,slow=31
AHID Auburn Hatcher 47.57 354 eP **P 14 33 32.4 +4.5**
comp=Z,156nm,2.3s,mb5.6
AHID LR LR
comp=Z,11µm,19.0s,MS5.8
K14A Jones Ranch, D 47.60 352 ⇓P **P 14 33 27.9 -0.2**
baz=48
M07A Soldier Meadow 47.61 346 ⇓P **P 14 33 28.0 -0.2**
baz=48,SNR=18
L11A Cat Creek Ranc 47.63 350 ⇓P **P 14 33 27.4 -0.9**
baz=48,SNR=29
LBCM Butte Creek Ri 47.66 344 P **P 14 33 28.5 -0.1**
ELN Prospectdale 47.67 27 eP **P 14 33 27.5 -1.3**
M06C Likely Place G 47.77 345 ⇓P **P 14 33 29.2 -0.2**
baz=48,SNR=26
BLA Blacksburg 47.80 27 eP **P 14 33 29.8 0.0**
BLA pmax pmax
comp=Z,37nm,1.1s,mb5.3
BLA MLR MLR
comp=Z,2µm,20.0s,MS5.0
BLA Blacksburg 47.80 27 eP **P 14 33 29.8 0.0**
comp=Z,37nm,1.1s,mb5.3
BLA LR LR
comp=Z,2µm,20.0s,MS5.0
K13A Stover Farm, H 47.83 351 ⇓P **P 14 33 30.4 +0.5**
baz=48
K12A Draper Farm, C 47.94 351 ⇓P **P 14 33 30.7 -0.1**
baz=48
LTIM Timbered Crate 48.02 344 P **P 14 33 31.1 -0.3**
M05C Lookout 48.09 344 ⇑P **P 14 33 31.6 -0.3**
baz=48
REDW Red Top Meadow 48.14 355 eP **P 14 33 33.5 +1.3**
comp=Z,96nm,1.6s,mb5.6
RRI2 Red Ridge 48.17 354 eP **P 14 33 32.2 -0.3**
comp=Z,49nm,1.3s,mb5.4
L08A Fields 48.18 347 P **P 14 33 32.6 0.0**
baz=48,SNR=23
N02C Big Bar 48.23 342 ⇓P **P 14 33 33.1 +0.1**
baz=48
SNOW Snow King Moun 48.23 355 eP **P 14 33 34.4 +1.5**
L07A Adell 48.25 346 ⇑P **P 14 33 33.2 +0.1**
baz=48,SNR=30
K11A Parker Ranch, 48.27 350 ⇑P **P 14 33 32.4 -0.9**
baz=48,SNR=23
TPAW Teton Pass 48.28 355 eP **P 14 33 36.1 +2.8**
M03C McCloud 48.29 343 ⇑P **P 14 33 32.4 -1.1**
baz=48,SNR=5.3
LOHW Long Hollow 48.37 355 eP **P 14 33 33.5 -0.6**
comp=Z,39nm,1.3s,mb5.3
MOD Modoc 48.38 345 ⇓P **P 14 33 33.8 -0.3**
baz=48,SNR=33
MOD Modoc 48.38 345 eP **P 14 33 34.3 +0.2**
MOD LR LR
comp=Z,9µm,21.0s,MS5.8
KHMM Horse Mountain 48.41 341 eP **P 14 33 37.1 +2.7**
K10A MacKenzie Ranc 48.44 349 P **P 14 33 34.3 -0.3**
baz=48,SNR=15
WVOR Wild Horse Val 48.48 347 eP **P 14 33 34.5 -0.4**
WVOR pmax pmax
comp=Z,90nm,1.5s,mb5.6
WVOR Wild Horse Val 48.48 347 eP **P 14 33 34.5 -0.4**
comp=Z,90nm,1.5s,mb5.6
MOOW Moose Ponds 48.51 355 eP **P 14 33 35.6 +0.4**
K09A Rome 48.53 348 ⇓P **P 14 33 34.8 -0.5**
baz=48,SNR=44
J12A Stokes Ranch, 48.58 351 ⇓P **P 14 33 34.5 -1.1**
baz=49
J13A Cove Ranch, Pi 48.58 351 ⇓P **P 14 33 34.9 -0.7**
baz=49,SNR=8.8
L05A Lakeview 48.65 345 ⇑P **P 14 33 35.9 -0.3**
baz=49
RSSD Black Hills 48.66 1 eP **P 14 33 35.5 -0.8**
M04C Macdoel 48.68 344 ⇑P **P 14 33 36.1 -0.4**
baz=49,SNR=26
IMW Indian Meadow 48.68 355 eP **P 14 33 35.4 -1.1**
comp=Z,80nm,1.4s,mb5.6
K08A Mann Creek Ran 48.73 347 ⇑P **P 14 33 36.5 -0.3**
baz=49,SNR=21
HLID Hailey 48.77 351 P **P 14 33 36.9 -0.2**
baz=49,SNR=15
HLID Hailey 48.77 351 eP **P 14 33 36.9 -0.2**
comp=Z,44nm,1.3s,mb5.3
HLID LR LR
comp=Z,12µm,20.0s,MS5.9
FLWY Flagg Ranch 48.84 355 eP **P 14 33 38.2 +0.6**
MFID Camas Ranch 48.86 350 P **P 14 33 37.5 -0.3**
baz=49,SNR=18
K07A Rock Creek Ran 48.86 346 ⇓P **P 14 33 37.8 0.0**
baz=49,SNR=7.9
BBGH Gun Hill 48.88 68 PFAKE 14 33 50.0 +12
BBGH LR LR
comp=Z,2µm,21.0s,MS5.1
YBH Yreka Blue Hor 48.88 343 P **P 14 33 36.9 -1.1**
comp=Z,26nm,1.1s,mb5.2,baz=131,slow=6.4,SNR=12
YBH Yreka Blue Hor 48.88 343 ⇑P **P 14 33 37.4 -0.6**
baz=49,SNR=18
ECSD EROS,Sioux Fal 48.91 8 eP **P 14 33 37.0 -1.2**
ECSD LR LR
comp=Z,12µm,19.0s,MS5.9
L04A Klamath Falls 49.05 344 ⇓P **P 14 33 39.2 -0.1**
baz=49
I13A Wildhorse Cree 49.07 352 ⇑P **P 14 33 39.5 0.0**
baz=49,SNR=7.5
J09A Fry Pan Ranch, 49.16 348 ⇑P **P 14 33 40.0 -0.2**
baz=49
K06A Valley Falls 49.20 346 P **P 14 33 40.7 +0.2**
baz=49,SNR=26
ACSO Alum Creek Sta 49.28 23 eP **P 14 33 40.0 -1.1**
ACSO LR LR
comp=Z,2µm,19.0s,MS5.1
LKWY Lake 49.30 355 epP pP 14 33 53.4 +9.1
LKWY LR LR
comp=Z,12µm,20.0s,MS5.9
K05A Summer Lake 49.30 345 ⇓P **P 14 33 41.4 +0.2**
baz=49,SNR=12
J08A Circle Bar Ran 49.32 347 ⇓P **P 14 33 41.4 +0.1**
baz=49
I11A Placerville 49.36 350 P **P 14 33 41.1 -0.5**
baz=49,SNR=20
JFWS Jewell Farm 49.39 15 eP **P 14 33 41.1 -0.8**
JFWS pmax pmax
comp=Z,37nm,1.1s,mb5.3
JFWS MLR MLR
comp=Z,1µm,19.0s,MS5.0
JFWS Jewell Farm 49.39 15 eP **P 14 33 41.1 -0.8**
comp=Z,37nm,1.1s,mb5.3
JFWS LR LR
comp=Z,1µm,19.0s,MS5.0
YMR Madison River 49.45 355 eP **P 14 33 42.9 +0.6**
comp=Z,116nm,1.5s,mb5.7
URVA University of 49.45 29 eP **P 14 33 41.8 -0.7**
YNR Norris Junctio 49.47 355 epP pP 14 33 56.8 +11
J07A Hines 49.52 347 P **P 14 33 43.2 +0.3**
baz=50,SNR=15
L02A Cave Junction 49.53 342 ⇓P **P 14 33 42.5 -0.6**
baz=50
J06A Christmas Vall 49.61 346 ⇓P **P 14 33 43.0 -0.6**
baz=50,SNR=32
QLMT Earthquake Lak 49.65 354 eP **P 14 33 46.8 +2.9**
H13A Challis 49.73 352 ⇓P **P 14 33 44.2 -0.2**
baz=50,SNR=12
HUMO Hull Mountain 49.76 343 eP **P 14 33 47.1 +2.4**
HUMO LR LR
comp=Z,25µm,22.0s,MS6.2
RLMT Red Lodge 49.77 356 eP **P 14 33 43.9 -0.9**
comp=Z,139nm,2.3s,mb5.6
RLMT LR LR
comp=Z,3µm,20.0s,MS5.3
H12A Diamond D Ranc 49.80 351 ⇓P **P 14 33 44.9 -0.1**
baz=50
I08A Drewsey 49.87 348 ⇓P **P 14 33 45.5 0.0**
baz=50
J05A Fort Rock 49.91 345 P **P 14 33 46.0 +0.2**
baz=50,SNR=17
K02A Glendale 50.06 343 ⇑P **P 14 33 46.9 -0.1**
baz=50
MCWV Mont Chateau 50.08 26 eP **P 14 33 45.8 -1.4**
comp=Z,68nm,1.1s,mb5.6
MCWV LR LR
comp=Z,2µm,20.0s,MS5.1
G15A Dillon 50.09 353 ⇑P **P 14 33 46.6 -0.7**
baz=50
H10A Noah's Angus R 50.16 349 ⇑P **P 14 33 46.2 -1.5**
baz=50
I07A Izee 50.24 347 ⇑P **P 14 33 48.1 -0.3**
baz=50,SNR=29
G13A Cobalt 50.24 352 ⇑P **P 14 33 47.4 -0.9**
baz=50,SNR=30
I06A Prineville 50.27 346 ⇓P **P 14 33 48.5 -0.1**
baz=50,SNR=12
DLMT Dillon 50.30 353 eP **P 14 33 50.0 +1.3**
comp=Z,49nm,1.3s,mb5.4
KEBM Edson Butte 50.41 342 eP **P 14 33 52.2 +2.5**
GCMT Greycliff 50.46 356 eP **P 14 33 50.4 +0.4**
H08A Prairie City 50.47 348 ⇓P **P 14 33 49.4 -0.7**
baz=50,SNR=37
BOZ Bozeman (W) 50.48 354 eP **P 14 33 54.2 +4.1**
BOZ MLR MLR
comp=Z,5µm,20.0s,MS5.6
BMO Blue Mountains 50.52 349 eP **P 14 33 51.7 +1.3**
BMO LR LR
comp=Z,21µm,21.0s,MS6.1
J02A Umpqua 50.63 343 ⇑P **P 14 33 51.2 -0.1**
baz=51,SNR=5.8
CPUP Villa Florida 50.66 120 P **P 14 33 52.0 0.0**
comp=Z,5.9nm,0.9s,mb4.5,baz=268,slow=9.2,SNR=8.8
CPUP LR LR 14 52 23.8
comp=Z,1µm,20.7s,MS5.0,baz=270,slow=32
I04A Tendick Farm, 50.70 344 ⇑P **P 14 33 50.8 -1.0**
baz=51
H07A Lands Inn, Kim 50.74 347 P **P 14 33 51.9 -0.2**
baz=51,SNR=23
LRM Limekiln Ridge 50.74 354 eP **P 14 33 53.1 +1.0**
AAM Ann Arbor 50.83 21 PFAKE 14 34 00.0 +7.1
AAM LR LR
comp=Z,2µm,20.0s,MS5.1
F14A Wisdom 50.84 353 ⇓P **P 14 33 53.0 +0.1**
baz=51
IRO Indian Ridge 50.85 344 P **P 14 33 53.2 +0.2**
G11A Walters Elk Ra 50.86 350 ⇓P **P 14 33 52.2 -0.8**
baz=51,SNR=9.6
G09A Cove 51.02 349 P **P 14 33 53.9 -0.3**
baz=51,SNR=19
F12A Elk City 51.04 351 ⇓P **P 14 33 53.6 -0.7**
baz=51
H06A Lindquist Farm 51.05 346 ⇑P **P 14 33 53.7 -0.7**
baz=51
I03A Eugene 51.10 343 ⇑P **P 14 33 55.5 +0.7**
baz=51
LAO LASA Array 51.22 359 epP pP 14 34 06.3 +7.5
LAO LR LR
comp=Z,8µm,20.0s,MS5.8
SDMD Soldier's Deli 51.24 28 eP **P 14 33 56.1 +0.1**
comp=Z,78nm,1.4s,mb5.4
G08A Pilot Rock 51.27 348 ⇑P **P 14 33 55.9 -0.2**
baz=51
E15A Deer Lodge 51.35 354 ⇑P **P 14 33 55.4 -1.3**
baz=51
G07A Ruggs Ranch, H 51.40 347 ⇓P **P 14 33 56.7 -0.4**
baz=51,SNR=25
E14A Clinton 51.45 353 ⇓P **P 14 33 56.3 -1.1**
baz=51
H04A Detroit Lake 51.46 345 ⇑P **P 14 33 56.5 -1.0**
baz=52
TRQA Tornquist 51.55 136 epP pP 14 34 13.9 +12
HRY Holter Researc 51.55 354 eP **P 14 33 58.0 -0.1**
F10A Beach Ranch, E 51.59 349 ⇓P **P 14 33 59.7 +1.2**
baz=52,SNR=9.8
G06A Carlson Farm, 51.59 346 ⇓P **P 14 33 58.3 -0.2**
baz=52
ALLY Alegheny Colle 51.61 24 eP **P 14 34 05.4 +6.7**
MPOR Mary's Peak 51.67 343 P **P 14 34 00.9 +1.8**
COR Corvallis 51.67 344 eP **P 14 34 01.0 +1.9**
COR MLR MLR
comp=Z,20µm,22.0s,MS6.1
LNOR Lincton Mounta 51.69 349 eP **P 14 34 00.6 +1.4**
H03A Soap Creek Ran 51.75 344 ⇑P **P 14 34 00.5 +0.8**
baz=52,SNR=5.9
E11A Bogner Ranch, 51.78 350 ⇓P **P 14 33 58.7 -1.2**
baz=52
CHMT Chamberlain Mo 51.91 353 eP **P 14 34 05.0 +4.2**
MSO Missoula 51.91 353 eP **P 14 34 05.0 +4.2**
MSO LR LR
comp=Z,4µm,20.0s,MS5.4
HOOD Mount Hood Mea 51.92 345 eP **P 14 34 02.8 +1.9**
D15A Lincoln 51.95 354 ⇑P **P 14 34 01.0 -0.1**
baz=52
E10A Myers Farm, Un 52.06 350 ⇓P **P 14 34 01.5 -0.4**
baz=52
D14A Greenough 52.10 353 ⇑P **P 14 34 01.1 -1.1**
baz=52
D12A Red Ives Fores 52.32 351 ⇓P **P 14 34 02.4 -1.5**
baz=52
HEBO Mount Hebo 52.38 344 eP **P 14 34 06.8 +2.4**
comp=Z,197nm,1.2s,mb5.9
HAWA Hanford 52.44 348 eP **P 14 34 04.8 0.0**
comp=Z,60nm,1.2s,mb5.4
HAWA LR LR
comp=Z,9µm,19.0s,MS5.8
RSW Rattlesnake Hi 52.46 348 eP **P 14 34 04.3 -0.7**
D11A Klaveano Farm, 52.47 351 ⇓P **P 14 34 03.8 -1.2**
baz=52,SNR=14
D10A Wagner Farm, O 52.64 350 ⇓P **P 14 34 05.2 -1.0**
baz=53
COWI Conover 52.66 14 eP **P 14 34 05.5 -0.9**
COWI LR LR
comp=Z,2µm,19.0s,MS5.2
EGMT Eagleton 52.69 356 PFAKE 14 34 20.0 +13
EGMT LR LR
comp=Z,8µm,20.0s,MS5.8
C14A Swan Lake 52.81 353 ⇑P **P 14 34 07.3 -0.2**
baz=53
C13A Hot Springs 52.83 352 ⇓P **P 14 34 08.0 +0.4**
baz=53
E06A Yakima 52.91 347 ⇑P **P 14 34 07.7 -0.6**
baz=53
D08A Wollman Farm, 52.95 348 ⇑P **P 14 34 07.9 -0.6**
baz=53
DGMT Dagmar 53.01 1 eP **P 14 34 08.3 -0.7**
comp=Z,38nm,1.2s,mb5.2
DGMT epP pP 14 34 18.9 +6.8
DGMT LR LR
comp=Z,11µm,21.0s,MS5.9
E05A Randle 53.11 346 ⇑P **P 14 34 08.2 -1.5**
baz=53
OD2 Odessa Site #2 53.23 349 P **P 14 34 10.3 -0.3**
BMW Boistfort Moun 53.40 345 eP **P 14 34 12.0 +0.1**
BBSR BB Station 53.45 43 eP **P 14 34 20.4 +7.8**
BBSR LR LR
comp=Z,2µm,22.0s,MS5.0
AGMN Agassiz Refuge 53.48 8 eP **P 14 34 12.0 -0.5**
AGMN LR LR
comp=Z,13µm,20.0s,MS6.0
C09A Chrisman Ranch 53.54 349 ⇓P **P 14 34 12.4 -0.5**
baz=54
D05A Enumclaw 53.75 346 ⇓P **P 14 34 13.9 -0.5**
baz=54
ETW Entiat 53.76 348 eP **P 14 34 14.0 -0.5**
NEW Newport 53.78 350 eP **P 14 34 14.4 -0.3**
NEW pmax pmax
comp=Z,66nm,1.3s
NEW MLR MLR
comp=Z,17µm,19.0s
NEW Newport 53.78 350 eP **P 14 34 14.4 -0.2**
comp=Z,66nm,1.3s,mb5.4
NEW LR LR
comp=Z,17µm,19.0s,MS6.1
C07A Waterville 53.79 348 ⇓P **P 14 34 13.3 -1.4**
baz=54
BINY Binghamton 53.84 27 eP **P 14 34 14.7 -0.5**
BINY LR LR
comp=Z,2µm,19.0s,MS5.2
EYMN Ely 53.88 12 eP **P 14 34 14.3 -1.1**
comp=Z,65nm,1.4s,mb5.4
EYMN LR LR
comp=Z,4µm,19.0s,MS5.5
PAL Palisades 53.89 29 epP pP 14 34 25.4 +6.7
WALA Waterton Lakes 54.10 353 eP **P 14 34 17.1 +0.2**
comp=Z,108nm,1.8s,mb5.5
B09A Rice 54.11 350 P **P 14 34 16.4 -0.7**
baz=54,SNR=11
B08A Colville Reser 54.28 349 ⇑P **P 14 34 18.2 0.0**
baz=54
GNW Green Mountain 54.30 346 eP **P 14 34 18.9 +0.4**
comp=Z,32nm,1.0s,mb5.2
NLWA Neilton Lookou 54.41 345 eP **P 14 34 22.9 +3.6**
NLWA LR LR
comp=Z,12µm,21.0s,MS5.9
B07A Winthrop 54.53 348 ⇑P **P 14 34 18.8 -1.4**
baz=54
JCW Jim Creek 54.68 347 eP **P 14 34 19.2 -2.0**
A09A Danville 54.73 349 ⇓P **P 14 34 20.4 -1.2**
baz=55
B05A Bryant 54.78 346 ⇑P **P 14 34 20.7 -1.3**

baz=55,SNR=8.8
RPW Rockport 54.82 347 *e*P **P 14 34 21.9 -0.3**
RAR Rarotonga 55.16 248 LR LR 14 49 39.6
comp=Z,1μm,20.9s,MS5.0,baz=88,slow=27
ULM Lac du Bonnet 55.40 7 P **P 14 34 24.9 -1.4**
comp=Z,12nm,1.1s,mb4.8,baz=182,slow=9.6,SNR=6.0
PGC Sidney 55.47 346 *e*P **P 14 34 28.9 +2.0**
ACCN Adirondack Com 55.83 28 *e*P **P 14 34 29.4 -0.2**
comp=Z,112nm,1.3s,mb5.7
NCB Newcomb 56.03 27 *e*P **P 14 34 35.3 +4.2**
comp=Z,123nm,2.0s,mb5.6
NCB LR LR
comp=Z,3μm,22.0s,MS5.3
HRV Adam Dziewonsk 56.17 30 PFAKE 14 34 40.0 +7.9
HRV LR LR
comp=Z,3μm,22.0s,MS5.4
LONY Lake Ozonia 56.38 26 *e*pP pP 14 34 43.5 +6.7
LONY LR LR
comp=Z,2μm,20.0s,MS5.2
MDV Middlebury 56.53 27 *e*pP pP 14 34 43.9 +6.1
HNH Hanover 56.72 28 *e*pP pP 14 34 47.3 +8.1
FRNY Flat Rock 56.99 27 *e*P **P 14 34 37.1 -0.8**
comp=Z,67nm,1.3s,mb5.5
LBNH Lisbon 57.30 28 PFAKE 14 34 50.0 +10
LBNH LR LR
comp=Z,3μm,21.0s,MS5.4
BDFB Brasilia 57.35 105 LR LR 14 57 31.2
comp=Z,1μm,18.9s,MS5.0,baz=263,slow=34
BDFB Brasilia 57.35 105 PFAKE 14 34 50.0 +9.0
BDFB LR LR
comp=Z,1μm,19.0s,MS5.1
KIP Kipapa 57.72 299 PFAKE 14 35 00.0 +17
KIP LR LR
comp=Z,7μm,19.0s,MS5.8
EDM Edmonton 58.14 354 *e*P **P 14 34 44.6 -1.2**
PKME Peaks-Kenny Pk 59.31 29 PFAKE 14 35 10.0 +16
PKME LR LR
comp=Z,3μm,22.0s,MS5.4
EFI East Falkland 61.00 148 PFAKE 14 35 20.0 +14
EFI LR LR
comp=Z,3μm,19.0s,MS5.4
WRAK Wrangell Islan 64.83 344 *e*P **P 14 35 30.4 -0.5**
comp=Z,40nm,1.2s,mb5.3
AFI Afiamalu 65.95 257 PFAKE 14 35 50.0 +11
AFI LR LR
comp=Z,6μm,21.0s,MS5.8
DLBC Dease Lake 66.01 346 *e*P **P 14 35 38.0 -0.6**
SIT Sitka 66.23 343 *e*P **P 14 35 42.3 +2.3**
SIT pmax pmax
comp=Z,67nm,1.3s,mb5.5
SIT MLR MLR
comp=Z,8μm,21.0s,MS5.9
SIT Sitka 66.23 343 *e*P **P 14 35 42.3 +2.3**
comp=Z,67nm,1.3s,mb5.5
SIT LR LR
comp=Z,8μm,21.0s,MS5.9
PMSA Palmer Station 66.74 162 PFAKE 14 35 50.0 +6.8
PMSA LR LR
comp=Z,2μm,21.0s,MS5.4
YKA Yellowknife Ar 67.42 355 P **P 14 35 45.5 -2.0**
comp=Z,6.6nm,1.0s,mb4.6,baz=165,slow=6.1,SNR=32
YKA LR LR 15 03 54.5
comp=Z,2μm,18.2s,MS5.3,baz=160,slow=35
YKA Yellowknife Ar 67.42 355 P **P 14 35 45.5 -2.0**
YKA LR LR 15 03 54.5
SCHQ Schefferville 67.44 23 LR LR 15 04 25.3
comp=Z,954nm,19.2s,MS5.0,baz=231,slow=35
SCHQ Schefferville 67.44 23 *e*P **P 14 35 44.7 -3.0**
comp=Z,30nm,1.3s,mb5.2
YKW3 Yellowknife Ar 67.49 355 *e*P **P 14 35 46.2 -1.7**
SKAG Skagway 68.26 344 *e*P **P 14 35 53.9 +1.1**
comp=Z,12nm,1.2s,mb4.8
SKAG LR LR
comp=Z,5μm,21.0s,MS5.8
HYT Haines Junctio 70.00 344 *e*P **P 14 36 03.5 -0.1**
RAGM Ragged Mountai 71.83 341 *e*P **P 14 36 13.6 -1.2**
BMRM Bremner River 72.25 341 *e*P **P 14 36 15.9 -1.3**
DIV Divide 72.75 341 *e*P **P 14 36 19.4 -0.8**
comp=Z,13nm,1.1s,mb4.8
OHAK Old Harbor 72.87 335 *e*P **P 14 36 20.6 -0.4**
comp=Z,81nm,1.3s,mb5.5
OHAK LR LR
comp=Z,19μm,20.0s,MS6.4
KDAK Kodiak Island 72.94 336 *e*P **P 14 36 23.1 +1.7**
comp=Z,33nm,1.0s,mb5.2
KDAK LR LR
comp=Z,20μm,21.0s,MS6.4
SEW Seward 73.28 339 *e*P **P 14 36 26.1 +2.7**
MENT Mentasta 73.47 343 *e*P **P 14 36 25.1 +0.6**
RC01 Rabbit Creek A 74.07 339 *e*P **P 14 36 24.7 -3.3**
comp=Z,9μm,1.4s
EGAK Eagle 74.20 345 *e*P **P 14 36 27.1 -1.6**
EGAK LR LR
comp=Z,6μm,21.0s,MS5.8
PMR Palmer 74.20 340 *e*P **P 14 36 27.4 -1.4**
PMR MLR MLR
comp=Z,5μm,21.0s,MS5.8
CHGN Chignik 74.58 332 *e*P **P 14 36 34.4 +3.3**
FUNA Funafuti 74.89 262 PFAKE 14 36 50.0 +16
FUNA LR LR
comp=Z,12μm,19.0s,MS6.2
INK Inuvik 75.50 350 *e*P **P 14 36 36.0 -0.1**
MCK McKinley 75.65 342 *e*P **P 14 36 34.8 -2.3**
MCK pmax pmax
comp=Z,10μm,0.6s
MCK McKinley 75.65 342 *e*P **P 14 36 34.8 -2.3**
comp=Z,10μm,0.6s
TRF Thorofare Moun 75.89 341 *e*P **P 14 36 36.7 -1.8**
comp=Z,62nm,1.0s,mb5.5
COLA College 76.14 343 *e*P **P 14 36 37.3 -2.6**
COLA pmax pmax
comp=Z,43nm,1.4s,mb5.2
COLA MLR MLR
comp=Z,5μm,21.0s,MS5.8
COLA College 76.14 343 *e*P **P 14 36 37.3 -2.5**
comp=Z,43nm,1.4s,mb5.2
COLA LR LR
comp=Z,5μm,21.0s,MS5.8
PPLA Purkeypile 76.14 340 *e*P **P 14 36 38.4 -1.5**
comp=Z,220nm,1.4s,mb5.9
KTH Kantishna Hill 76.16 341 *e*P **P 14 36 37.9 -2.1**
comp=Z,143nm,1.0s,mb5.9
SVW2 Sparrevohn 76.22 337 *e*P **P 14 36 39.3 -1.1**
MIDW Midway 76.49 300 PFAKE 14 36 50.0 +7.3
MIDW LR LR
comp=Z,5μm,19.0s,MS5.9
BPAW Bear Paw Mtn. 76.56 341 *e*P **P 14 36 39.2 -3.0**
comp=Z,6.5nm,0.6s,mb4.7
CHUM Lake Minchumin 76.84 341 *e*P **P 14 36 42.0 -1.9**
comp=Z,39nm,1.1s,mb5.2
IMA2 Indian Mountai 78.73 342 *e*P **P 14 36 53.8 -0.6**
CMLA Cha da Macela 84.92 52 PFAKE 14 37 40.0 +12
CMLA LR LR
comp=Z,1μm,21.0s,MS5.3
VNDA Vanda 85.99 193 P **P 14 37 32.4 +0.2**
comp=Z,3.2nm,1.1s,mb4.5,baz=75,slow=3.5,SNR=3.5
VNDA LR LR 15 08 47.7
comp=Z,855nm,19.0s,MS5.2,baz=94,slow=31
VNDA Vanda 85.99 193 *e*P **P 14 37 30.6 -1.6**
VNDA pmax pmax
comp=Z,19nm,1.8s
VNDA Vanda 85.99 193 *e*P **P 14 37 30.6 -1.7**
comp=Z,19nm,1.8s,mb5.0
SNAA Sanae 89.46 162 P **P 14 37 50.3 +1.4**
comp=Z,1.1nm,1.2s,baz=286,slow=7.4,SNR=3.2
ASCN Ascension 90.39 98 PFAKE 14 38 10.0 +15
ASCN LR LR
comp=Z,977nm,22.0s,MS5.2
BORG Borgarnes 91.73 25 PFAKE 14 38 10.0 +10
BORG LR LR
comp=Z,4μm,19.0s,MS5.8
BILL Bilibino 93.74 338|| *e*P **P 14 38 16.1 +7.3**
BILL *e*PS PS 14 50 36.4 +3.5
BILL *e*SS SS 14 55 38.0 +2.0
BILL pmax pmax
comp=Z,27nm,1.2s,mb5.5
BILL MLR MLR
comp=Z,3μm,16.0s,MS5.8
BILL Bilibino 93.74 338 PFAKE 14 38 20.0 +11
BILL LR LR
comp=Z,9μm,20.0s,MS6.2
HNR Honiara 93.80 260 LR LR 15 12 51.2
comp=Z,3μm,18.4s,MS5.8,baz=3.8,slow=31
HNR Honiara 93.80 260 PFAKE 14 38 20.0 +10
HNR LR LR
comp=Z,4μm,22.0s,MS5.8
DRV SS SS 14 55 52.0 -3.6
DRV L 15 05 00.0
DRV R 15 10 00.0
DRV Dumont d'Urvil 95.15 201 S S 14 49 27.0 -3.3
PET Petropavlovsk 97.35 323 *e*P **P 14 38 29.2 +3.6**
PET Petropavlovsk 97.35 323 PFAKE 14 38 40.0 +14
PET LR LR
comp=Z,7μm,21.0s,MS6.1
PETK Petropavlovsk- 97.92 323 P **P 14 38 27.2 -0.9**
comp=Z,2.7nm,0.9s,mb4.8,baz=57,slow=11,SNR=3.7
MTE Manteigas 99.05 50 PFAKE 14 38 40.0 +6.5
MTE LR LR
comp=Z,805nm,19.0s,MS5.2
RTC Rabat Centre 99.72 56 PFAKE 14 38 50.0 +14
RTC LR LR
comp=Z,841nm,22.0s,MS5.2
KBS Kingsbay 99.74 10 *e*SS SS 14 57 04.4 +4.1
KBS AMS AMS 15 22 53.1
comp=Z,4μm,21.5s,MS5.9
KBS Kingsbay 99.74 10 PFAKE 14 38 50.0 +14
KBS LR LR
comp=Z,4μm,22.0s,MS5.9
ESK Eskdalemuir 100.83 35 PFAKE 14 38 50.0 +8.9
ESK LR LR
comp=Z,1μm,20.0s,MS5.3
DBIC Dimbokro 101.00 84 PFAKE 14 38 50.0 +8.1
DBIC LR LR
comp=Z,507nm,20.0s,MS5.0
MA2 Magadan 101.07 330 PFAKE 14 38 50.0 +7.8
MA2 LR LR
comp=Z,4μm,19.0s,MS6.0
PAB San Pablo 101.53 51 PFAKE 14 39 00.0 +16
PAB LR LR
comp=Z,1μm,22.0s,MS5.4
ESLA Sonseca Array 101.82 51 PFAKE 14 39 00.0 +14
ESLA LR LR
comp=Z,8μm,22.0s,MS6.2
BJO Bjornoya 103.38 13 AMS AMS 15 26 18.8
comp=Z,4μm,18.3s,MS6.0
BER Bergen 104.28 29 *e*SS SS 14 58 06.8 +3.0
BER AMS AMS 15 30 03.4
comp=Z,1μm,19.9s,MS5.4
CASY Casey 104.55 194 PFAKE 14 39 10.0 +12
CASY LR LR
comp=Z,2μm,19.0s,MS5.8
MOL Molde 104.65 26 AMS AMS 15 31 23.4
comp=Z,1μm,20.7s,MS5.4
CTAO Charters Tower 105.47 248 PFAKE 14 43 30.0 +14
CTAO LR LR
comp=Z,2μm,20.0s,MS5.7
NSS Namsos 105.80 24 AMS AMS 15 28 31.7
comp=Z,2μm,20.3s,MS5.6
TRO Tromso 105.89 17 *e*SS SS 14 58 33.9 +8.6
TRO AMS AMS 15 25 20.3
comp=Z,1μm,23.8s,MS5.3
PMG Port Moresby 106.34 259 PFAKE 14 43 30.0 +12
PMG LR LR
comp=Z,4μm,20.0s,MS5.9
KONO Kongsberg 106.55 29 *e*SS SS 14 58 42.8 +8.1
KONO AMS AMS 15 32 54.1
comp=Z,1μm,19.2s,MS5.5
MAW Mawson 107.33 175 PFAKE 14 43 30.0 +12
MAW LR LR
comp=Z,2μm,21.0s,MS5.6
KEV Kevo 108.12 16 PFAKE 14 43 30.0 +10
KEV LR LR
comp=Z,4μm,21.0s,MS6.0
BNI Bardonecchia 108.88 44 PFAKE 14 43 30.0 +8.0
BNI LR LR
comp=Z,2μm,19.0s,MS5.6
BFO Black Forest 109.21 40 PFAKE 14 43 30.0 +7.5
BFO LR LR
comp=Z,1μm,19.0s,MS5.5
GUMO Guam 110.26 283 PFAKE 14 43 40.0 +15
GUMO LR LR
comp=Z,3μm,22.0s,MS5.8
GRF Grafenberg Arr 110.65 38 *e*SP SP 14 53 30.9 +0.8
GRF *e*SP SP 14 53 47.5 +17
GRF *e*L 15 18 09.5
comp=Z,2μm,41.6s
NKC Novy Kostel 111.23 38 *e*SS SS 15 00 07.2 +29
NKC AMS AMS 15 41 30.0
comp=Z,1μm,20.0s
LVZ Lovozero 111.43 15 PFAKE 14 43 40.0 +14
LVZ LR LR
comp=Z,3μm,20.0s,MS5.9
KHC Kasperske Hory 112.29 38 *e*PS PS 14 53 54.2 +7.1
KHC *e*SS SS 15 00 23.0 +31
KHC AMS AMS 15 36 30.0
comp=Z,1μm,22.9s
PVCC Panska Ves 112.40 37 AMS AMS 15 35 40.0
comp=Z,1μm,22.4s
PRU Pruhonice 112.58 37 *e*PS PS 14 54 01.9 +12
PRU *e*SS SS 15 00 10.2 +14
PRU AMS AMS 15 35 40.0
comp=Z,800nm,15.5s
TREC Trest 113.40 38 AMS AMS 15 36 30.0
comp=Z,1μm,19.8s
DPC Dobruska-Polom 113.51 36 AMS AMS 15 37 30.0
comp=Z,1μm,21.0s
MAJO Matsushiro 113.92 308 PFAKE 14 43 40.0 +8.2
MAJO LR LR
comp=Z,7μm,22.0s,MS6.2
AQU L'Aquila 114.28 45 PFAKE 14 43 40.0 +7.7
AQU LR LR
comp=Z,1μm,19.0s,MS5.5
OKC Ostrava-Krasne 114.79 36 AMS AMS 15 39 10.0
comp=Z,1μm,22.8s
ASAR Alice Springs 115.69 241 PKP PKPdf 14 43 33.6 -1.9
comp=Z,0.3nm,0.9s,baz=105,slow=2.2,SNR=2.9
WRA Warramunga Arr 116.39 245 PKP PKPdf 14 43 35.0 -2.0
comp=Z,1.0nm,0.9s,baz=96,slow=1.2,SNR=6.1
PSZ Piszkesteto 116.63 38 PFAKE 14 43 50.0 +13
PSZ LR LR
comp=Z,1μm,20.0s,MS5.6
KWP Kalwaria 117.55 35 PFAKE 14 43 50.0 +12
KWP LR LR
comp=Z,1μm,21.0s,MS5.6
MDJ Mudanjiang 117.77 319 PKP PKPdf 14 43 40.0 +1.1
MDJ PP PP 14 44 52.8 +0.9
MDJ PKS 14 47 15.9
MDJ SKS SKSdf 14 50 49.6 -1.6
MDJ PP PP
comp=Z,138nm,12.0s
MDJ LR LR
comp=N,2μm,20.9s,MS6.1
MDJ LR LR
comp=E,4μm,19.9s,MS6.1
MDJ LR LR
comp=Z,5μm,17.9s,MS6.2
MDJ Mudanjiang 117.77 319 PFAKE 14 43 50.0 +11
MDJ LR LR
comp=Z,5μm,20.0s,MS6.2
KIEV Kiev 120.58 32 PFAKE 14 44 00.0 +16
KIEV LR LR
comp=Z,2μm,19.0s,MS5.7
CN2 Changchun 120.82 319 *e*PKP PKPdf 14 43 45.5 +0.7
CN2 PP PP 14 45 17.2 +4.3
CN2 SS SS 15 01 41.8 -2.1
CN2 PP PP
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,16.0s,MS5.9
CN2 LR LR
comp=E,2μm,16.0s,MS5.9
CN2 LR LR
comp=Z,2μm,17.0s,MS5.8
OBN Obninsk 121.22 24 *i* PKIKP PKPdf 14 43 45.0 -0.2
OBN *e* 14 45 20.6
OBN 14 50 51.0
OBN PS PS 14 55 08.0 +0.2
OBN *e*SS SS 15 01 53.7 +5.6
OBN MLR MLR
comp=Z,2μm,18.0s,MS5.7
OBN Obninsk 121.22 24 PFAKE 14 44 00.0 +15
OBN LR LR
comp=Z,2μm,21.0s,MS5.7
HIA Hailar 121.51 327 PFAKE 14 44 00.0 +14
HIA LR LR
comp=Z,7μm,22.0s,MS6.2
KSRS Korea Array 121.56 311 PKP PKPdf 14 43 48.1 +1.6
comp=Z,0.6nm,0.8s,baz=212,slow=32,SNR=4.6
BOSA Boshof 122.12 128 PFAKE 14 44 00.0 +12
BOSA LR LR
comp=Z,969nm,20.0s,MS5.5
INCN Inchon 122.52 312 PFAKE 14 44 00.0 +12
INCN LR LR
comp=Z,7μm,22.0s,MS6.2
LBTB Lobatse 123.96 124 PKP PKPdf 14 43 54.5 +3.0
comp=Z,1.8nm,0.6s,baz=213,slow=4.8,SNR=4.2
LBTB Lobatse 123.96 124 PKP PKPdf 14 43 54.5 +3.0
LBTB LR LR
comp=Z,980nm,19.0s,MS5.5
NWAO Narrogin (SRO) 124.89 224 PFAKE 14 44 00.0 +7.0
NWAO LR LR
comp=Z,4μm,22.0s,MS6.0
DL2 Dalian 125.55 315 PKP PKPdf 14 43 53.6 -0.5
DL2 PP PP
comp=Z,100nm,7.8s
DL2 LR LR
comp=N,810nm,22.0s,MS5.6
DL2 LR LR
comp=E,1μm,21.9s,MS5.6
DL2 LR LR
comp=Z,2μm,22.6s,MS5.7
ARU Arti 126.91 11 *e*PKIKP PKPdf 14 43 55.2 -0.9
ARU MLR MLR
comp=Z,2μm,19.0s,MS5.9
ARU Arti 126.91 11 *e*PKPdf PKPdf 14 43 55.2 -0.9
ARU LR LR
comp=Z,2μm,19.0s,MS5.9
ISP Isparta 128.10 44 PFAKE 14 44 10.0 +11
ISP LR LR
comp=Z,1μm,20.0s,MS5.5
ZAK Zakamensk 128.53 337 *e*PKIKP PKPdf 14 43 58.4 -1.0
ZAK pmax pmax
comp=Z,6.0nm,1.3s
ANN Anapa 128.55 33 *i* PKIKP PKPdf 14 43 58.9 -0.7
ANN pmax pmax
comp=Z,37nm,1.1s
ANTO Ankara 128.63 41 PFAKE 14 44 10.0 +10
ANTO LR LR
comp=Z,1μm,21.0s,MS5.5
BJI Beijing 128.68 319 PKP PKPdf 14 44 01.1 +1.1
BJI PP PP 14 46 05.9 +0.4
BJI SKS SKSdf 14 51 10.2 -1.8
BJI PP PP
comp=Z,202nm,14.8s
BJI LR LR
comp=N,2μm,20.0s,MS6.2
BJI LR LR
comp=E,5μm,20.7s,MS6.2
BJI LR LR
comp=Z,8μm,22.6s,MS6.3
BJT Baijiatuau 128.70 319 PFAKE 14 44 10.0 +10
BJT LR LR
comp=Z,8μm,20.0s,MS6.4
MBWA Marble Bar 128.81 238 PFAKE 14 44 10.0 +9.2
MBWA LR LR
comp=Z,4μm,22.0s,MS6.1
SSE Sheshan 129.03 307 PKP PKPdf 14 44 01.6 +0.6
SSE PP PP 14 46 14.0 +5.6
SSE SS SS 15 03 28.1 -0.2
SSE PP PP
comp=Z,155nm,11.2s
SSE LR LR
comp=N,1μm,16.0s,MS6.2
SSE LR LR
comp=E,3μm,16.0s,MS6.2
SSE LR LR
comp=Z,5μm,17.0s,MS6.2
SONM Songino Array 129.16 333 PKP PKPdf 14 43 59.5 -1.2
comp=Z,2.0nm,1.2s,baz=11,slow=1.5,SNR=3.9
SONM PP PP 14 46 10.4 +2.3
comp=Z,1.1nm,1.1s,baz=35,slow=3.5,SNR=3.4
DAV Davao City (W) 129.25 275 PFAKE 14 44 10.0 +8.2
DAV LR LR
comp=Z,2μm,21.0s,MS5.7
NVS Novosibirsk 129.57 354 *e*PKIKP PKPdf 14 44 09.8 +8.6
NVS *e* 14 46 10.7
NVS pmax pmax
comp=Z,12nm,1.3s
LSZ Lusaka 129.92 114 PFAKE 14 44 10.0 +7.0
LSZ LR LR
comp=Z,959nm,21.0s,MS5.5
ZAA0 Zalesovo Array 130.25 352 *e*PKPdf PKPdf 14 44 04.6 +2.1
ZALV Zalesovo Beam 130.25 352 PKP PKPdf 14 44 04.3 +1.7
comp=Z,1.5nm,0.6s,baz=262,slow=3.0,SNR=4.5
ZALV PP PP 14 46 20.8 +6.0
comp=Z,0.5nm,0.3s,baz=354,slow=5.8,SNR=3.9
ZAL Zalesovo 130.26 352 PKIKP PKPdf 14 44 04.3 +1.7
ZAL 14 46 20.8
NJ2 Nanjing 130.51 309 *e*PKP PKPdf 14 44 05.6 +1.9
NJ2 PP PP 14 46 24.0 +6.1
NJ2 PKS 14 47 39.0
NJ2 PPP 14 49 14.5
NJ2 PP PP
comp=Z,470nm,7.4s
NJ2 LR LR
comp=N,250nm,19.4s,MS5.0
NJ2 LR LR
comp=E,270nm,24.1s,MS5.0
HHC Hu-ho-hao-te 131.12 323 *e*PKP PKPdf 14 44 05.0 +0.4
HHC PP PP 14 46 25.0 +3.7
HHC PKS 14 47 40.0
HHC SKS SKSdf 14 51 11.7 -4.7
HHC SKKS SKKSac 14 53 11.8 -6.8
HHC PP PP
comp=Z,260nm,11.9s
HHC LR LR
comp=N,1μm,20.2s,MS6.0
HHC LR LR
comp=E,3μm,19.0s,MS6.0
HHC LR LR
comp=Z,4μm,21.4s,MS6.1
GOF Gofitskoye 131.29 30 *e*PKHKP 14 43 49.0
BRVK Borovoye 131.72 3 *e*PKIKP PKPdf 14 44 00.9 -4.5
BRVK MLR MLR
comp=Z,4μm,19.0s,MS6.2
KIV Kislovodsk 131.91 31 *e*PKIKP PKPdf 14 44 08.2 +2.2
KIV *e* 14 46 32.7
KIV pmax pmax
comp=Z,8.0nm,1.3s
KIV MLR MLR
comp=Z,1μm,22.0s,MS5.5
MALT Malatya 133.13 40 PFAKE 14 44 20.0 +11
MALT LR LR
comp=Z,944nm,22.0s,MS5.5
KAPI Kappang 133.87 258 PFAKE 14 44 20.0 +9.4
KAPI LR LR
comp=Z,1μm,19.0s,MS5.6
KURK Kurchatov 134.07 356 PFAKE 14 44 20.0 +10
KURK LR LR
comp=Z,5μm,19.0s,MS6.3
GNI Garni 135.67 33 PFAKE 14 44 20.0 +6.8
GNI LR LR
comp=Z,1μm,21.0s,MS5.7
MSL Mosul 137.31 39 *ex* x 14 44 31.0
MKAR Makanchi Array 137.59 352 PKP PKPdf 14 44 15.7 -0.9
comp=Z,1.3nm,0.8s,baz=45,slow=3.6,SNR=7.0
MKAR PP PP 14 47 07.1 +5.6
comp=Z,2.6nm,1.0s,baz=29,slow=6.6,SNR=5.2
KKM Kota Kinabalu 138.55 274 PFAKE 14 44 30.0 +11
KKM LR LR
comp=Z,2μm,20.0s,MS5.8
GTA Gaotai 138.63 330 *e*PKP PKPdf 14 44 23.2 +4.5
GTA SKS SKSdf 14 51 28.6 -1.0
GTA PP PP
comp=Z,211nm,6.5s
GTA LR LR
comp=N,2μm,22.4s,MS6.0
GTA LR LR
comp=E,2μm,22.0s,MS6.0
GTA LR LR
comp=Z,5μm,23.6s,MS6.2
LZH Lanzhou 138.81 323 *e*PKP PKPdf 14 44 21.0 +1.9
LZH PP PP 14 47 19.0 +9.1
LZH SKKS SKKSac 14 54 05.0 -0.2
LZH SS SS 15 05 23.0 -2.2
LZH PP PP
comp=Z,129nm,4.5s
LZH LR LR
comp=E,3μm,17.8s
LZH LR LR
comp=Z,4μm,20.5s,MS6.2
WMQ Urumqi 139.41 345 PKP PKPdf 14 44 21.0 +1.0
WMQ PP PP 14 47 19.0 +6.1
WMQ PKS 14 47 55.6
WMQ SKS SKSdf 14 51 26.0 -4.7
WMQ SKKS SKKSac 14 54 05.0 -3.2

WMQ			SS	SS	15 05 30.5	-0.3
WMQ			PP	PP		
	comp=Z,112nm,10.6s					
WMQ			LR	LR		
	comp=N,5μm,21.8s,MS6.3					
WMQ			LR	LR		
	comp=E,3μm,21.2s,MS6.3					
WMQ			LR	LR		
	comp=Z,5μm,21.8s,MS6.2					
TKM2	**Tokmak 2**	**141.98 359**	*e*PKIKP	PKPdf	14 44 23.9	-0.8
CD2	**Chengdu**	**142.19 317**	*e*PKP	PKPdf	14 44 24.8	-0.6
CD2			APKP		14 44 30.2	
CD2			XPKP		14 44 34.2	
CD2			PP	PP	14 47 33.8	+2.9
CD2			PKS		14 47 59.0	
CD2			SKS	SKSdf	14 51 29.4	-6.4
CD2			SKKS	SKKSac	14 54 20.1	-5.0
CD2			SS	SS	15 06 02.2	-3.0
CD2			PP	PP		
	comp=Z,220nm,9.6s					
CD2			LR	LR		
	comp=N,2μm,20.4s,MS6.2					
CD2			LR	LR		
	comp=E,4μm,20.4s,MS6.2					
CD2			LR	LR		
	comp=Z,5μm,19.2s,MS6.3					
EKS2	**Erkin-Say**	**142.24 1**	*e*PKPdf	PKPdf	14 44 22.8	-2.4
EKS2			LR	LR		
	comp=Z,4μm,22.0s,MS6.2					
GYA	**Guiyang**	**142.52 309**	PKP	PKPdf	14 44 26.2	+0.1
GYA			PP	PP	14 47 37.4	+4.2
GYA			PKS		14 48 01.2	
GYA			SKS	SKSdf	14 51 30.6	-5.8
GYA			SKKS	SKKSac	14 54 22.0	-5.3
GYA			SS	SS	15 06 07.2	-2.4
GYA			SSS		15 11 28.6	
GYA			PP	PP		
	comp=Z,160nm,8.8s					
GYA			LR	LR		
	comp=N,560nm,21.8s,MS5.4					
GYA			LR	LR		
	comp=E,580nm,22.3s,MS5.4					
GYA			LR	LR		
	comp=Z,620nm,20.3s,MS5.4					
AML	**Almayashu**	**142.77 1**	*e*PKPdf	PKPdf	14 44 22.8	-3.3
AML			LR	LR		
	comp=Z,4μm,20.0s,MS6.2					
QIZ	**Qiongzhong**	**142.81 295**	PKP	PKPdf	14 44 26.9	+0.1
QIZ			PP	PP	14 47 40.7	+5.2
QIZ			SS	SS	15 06 08.4	-5.5
QIZ			PP	PP		
	comp=Z,195nm,3.2s					
QIZ			LR	LR		
	comp=E,1μm,23.1s					
QIZ			LR	LR		
	comp=Z,2μm,22.1s,MS5.9					
ABPO	**Ambohimpanom**	**144.17 132**	*e*PKPdf	PKPdf	14 44 29.5	+0.3
ABPO			LR	LR		
	comp=Z,1μm,20.0s,MS5.6					
KSM	**Kuching**	**144.20 266**	*e*PKPdf	PKPdf	14 44 27.6	-1.9
KSH	**Kashi**	**145.37 358**	PKP	PKPdf	14 44 30.9	+0.2
KSH			*e*PKP2	PKPab	14 44 32.6	+2.0
KSH			PP	PP	14 47 53.0	+4.2
KSH			PKS		14 48 05.1	
KSH			PPP		14 51 07.9	
KSH			SKS	SKSdf	14 51 34.6	-5.6
KSH			SKKS	SKKSac	14 54 37.6	-5.1
KSH			LR	LR		
	comp=N,9μm,17.0s,MS6.7					
KSH			LR	LR		
	comp=E,5μm,15.5s,MS6.7					
KMI	**Kunming**	**146.23 310**	PKP	PKPdf	14 44 32.8	+0.2
KMI			PP	PP	14 47 59.0	+3.5
KMI			PKS		14 48 08.7	
KMI			PPP		14 51 16.0	
KMI			SKKS	SKKSac	14 54 42.8	-5.7
KMI			SS	SS	15 06 50.3	-1.9
KMI			SSS		15 12 20.9	
KMI			PP	PP		
	comp=Z,125nm,5.1s					
KMI			LR	LR		
	comp=N,2μm,18.8s,MS6.1					
KMI			LR	LR		
	comp=E,2μm,21.4s,MS6.1					
KMI			LR	LR		
	comp=Z,4μm,21.4s,MS6.1					
KBL	**Kabul**	**149.91 9**	*e*PKPdf	PKPdf	14 44 38.6	+0.2
LSA	**Lhasa**	**150.66 330**	PFAKE		14 44 50.0	+10
LSA			LR	LR		
	comp=Z,5μm,20.0s,MS6.3					
COCO	**West Island**	**152.21 233**	PFAKE		14 44 50.0	+7.5
COCO			LR	LR		
	comp=Z,2μm,19.0s,MS5.9					
CHTO	**Chiang Mai**	**152.43 302**	PFAKE		14 44 50.0	+7.4
CHTO			LR	LR		
	comp=Z,3μm,22.0s,MS6.0					
CM31	**Chiang Mai Arr**	**152.59 302**	PFAKE		14 44 50.0	+7.1
CM31			LR	LR		
	comp=Z,2μm,20.0s,MS5.9					
CMAR	**Chiang Mai Arr**	**152.59 302**	PKP	PKPdf	14 44 42.4	-0.5
	comp=Z,0.7nm,0.3s,baz=300,slow=1.9,SNR=6.7					
CMAR			PKPbc	PKPbc	14 44 49.6	-0.3
	comp=Z,7.9nm,1.1s,baz=17,slow=0.8,SNR=12					
CMAR			PKPab	PKPab	14 44 59.1	-1.1
	comp=Z,14nm,1.0s,baz=23,slow=1.1,SNR=14					
MSEY	**Mahe Island**	**158.74 116**	PFAKE		14 45 00.0	+8.7
MSEY			LR	LR		
	comp=Z,2μm,20.0s,MS5.9					
DGAR	**Diego Garcia**	**167.73 170**	PFAKE		14 45 10.0	+10
DGAR			LR	LR		
	comp=Z,3μm,22.0s					
PALK	**Pallekele**	**173.43 293**	PFAKE		14 45 10.0	+7.1
PALK			LR	LR		
	comp=Z,3μm,22.0s					

MOS ***04*** *14:46:42.8±0.9, 55.39N×110.37E, h10km, mb4.2/1, Error ellipse: s-maj=49.4km s-min=20.6km az=58.2*

BYKL 04 14:46:42.9±0.2, 5537N×11038E, h7km±15km, 3C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.63**	**311**	*e*Pg	Pg	14 46 54.6	-0.3
NIZ				*e*Sg	Sg	14 47 03.2	+0.1
NIZ				*e*		14 47 22.5	
KMO	**Kumora**	**0.70**	**42**	*e*PG	Pg	14 46 54.9	-1.4
KMO				*e*		14 47 04.0	
KMO				pmax	pmax		
	comp=Z,400nm,0.4s						
KMO				smax			
	comp=N,493nm,1.0s						
KMO	**Kumora**	**0.70**	**42**	↑*i*Pg	Pg	14 46 54.9	-1.4
KMO				*i* Sg	Sg	14 47 04.9	-0.4
KMO				Pmax			
	comp=N,158nm,0.3s						
KMO				Smax			
	comp=N,491nm,1.0s						
YOA	**Uoyan**	**1.08**	**44**	*e*Pg	Pg	14 47 02.2	-1.4
YOA				*e*Sg	Sg	14 47 18.0	+0.5
YOA				Pmax			
	comp=N,175nm,0.4s						
YOA				Smax			
	comp=N,408nm,1.2s						
SYVR	**Suvo**	**1.73**	**188**	*e*PN	Pn	14 47 13.7	+0.4
SYVR				*e*		14 47 37.5	
SYVR				pmax	pmax		
	comp=Z,56nm,0.6s						
SYVR				smax			
	comp=E,304nm,0.7s						
SYVR	**Suvo**	**1.73**	**188**	↑*i*Pn	Pn	14 47 13.6	+0.3
SYVR				*e*Pg	Pg	14 47 14.6	-1.4
SYVR				*e*Sn	Sn	14 47 37.3	+1.7
SYVR				*e*Sg	Sg	14 47 38.0	-0.4
SYVR				Pmax			
	comp=E,39nm,0.3s						
SYVR				Smax			
	comp=E,291nm,0.7s						
UKT	**Uakit**	**1.85**	**85**	*e*PN	Pn	14 47 15.3	+0.3
UKT				*e*S	Sn	14 47 38.5	-0.2
UKT				*e*		14 47 40.1	
UKT				pmax	pmax		
	comp=Z,84nm,0.4s						
UKT				smax			
	comp=N,178nm,0.5s						
UKT	**Uakit**	**1.85**	**85**	*e*Pg	Pg	14 47 15.3	-3.1
UKT				*e*Sg	Sg	14 47 40.7	-1.7
UKT				Pmax			
	comp=N,92nm,0.8s						
UKT				Smax			
	comp=N,213nm,0.8s						
MXMB	**Maximikha**	**2.32**	**205**	*e*Pn	Pn	14 47 21.1	-0.3
MXMB				*e*Pg	Pg	14 47 24.1	-3.2
MXMB				*e*Sg	Sg	14 47 56.1	-1.2
MXMB				Pmax			
	comp=N,22nm,0.4s						
MXMB				Smax			
	comp=N,324nm,1.0s						
OGRR	**Ongureny**	**2.37**	**224**	*e*PN	Pn	14 47 23.2	+1.0
OGRR				*e*		14 47 26.4	
OGRR				*e*		14 47 56.7	
OGRR				pmax	pmax		
	comp=Z,46nm,0.5s						
OGRR				smax			
	comp=N,180nm,0.4s						
OGRR	**Ongureny**	**2.37**	**224**	*e*Pn	Pn	14 47 23.2	+1.0
OGRR				*e*Pg	Pg	14 47 24.7	-3.6
OGRR				*e*Sg	Sg	14 47 56.6	-2.4
OGRR				Pmax			
	comp=N,45nm,0.4s						
OGRR				Smax			
	comp=N,181nm,0.4s						
BOD	**Bodaibo**	**3.17**	**38**	*e*Pn	Pn	14 47 33.9	+0.8
BOD				*e*Pg	Pg	14 47 38.6	-5.0
BOD				*e*Sg	Sg	14 48 20.6	-4.0
BOD				Pmax			
	comp=N,16nm,0.4s						
BOD				Smax			
	comp=N,47nm,1.3s						
NLYR	**Nelyaty**	**3.20**	**67**	*e*Pn	Pn	14 47 34.1	+0.6
NLYR				*e*Pg	Pg	14 47 40.6	-3.5
NLYR				*e*Sn	Sn	14 48 11.4	-0.4
NLYR				*e*Sg	Sg	14 48 21.6	-3.9
NLYR				Pmax			
	comp=N,20nm,0.6s						
NLYR				Smax			
	comp=N,53nm,0.8s						
ZRHB	**Zarechye**	**3.41**	**215**	*e*Pg	Pg	14 47 44.4	-3.7
ZRHB				*e*Sg	Sg	14 48 29.1	-3.1
ZRHB				Pmax			
	comp=N,25nm,0.7s						
ZRHB				Smax			
	comp=N,153nm,1.1s						
TRG	**Tyrgan**	**3.53**	**224**	*e*Pn	Pn	14 47 39.0	+0.9
TRG				*e*Pg	Pg	14 47 45.1	-5.4
TRG				*e*		14 48 23.6	
TRG				*e*Sg	Sg	14 48 31.8	-4.5
TRG				Pmax			
	comp=N,7.0nm,0.3s						
TRG				Smax			
	comp=N,55nm,1.2s						
CIT	**Chita**	**3.85**	**149**	*e*Sg	Sg	14 48 41.2	-5.2
CIT				Smax			
	comp=N,89nm,0.3s						
FFNB	**Fofonovo**	**3.96**	**214**	*e*	Sn	14 48 24.0	-6.6
FFNB				*e*Sg	Sg	14 48 44.8	-5.2
FFNB				Smax			
	comp=N,121nm,1.0s						
HRMR	**Khuramsha**	**4.27**	**210**	*e*Pg	Pg	14 47 58.8	-5.8
HRMR				*e*Sg	Sg	14 48 54.2	-5.7
HRMR				Pmax			
	comp=N,13nm,0.4s						
HRMR				Smax			
	comp=N,154nm,0.7s						
CRS	**Chara**	**4.67**	**68**	*e*PN	Pg	14 48 06.6	-5.7
CRS				*e*		14 49 09.6	
CRS				pmax	pmax		
	comp=Z,19nm,1.2s						
CRS				smax			
	comp=N,51nm,2.0s						
CRS	**Chara**	**4.67**	**68**	*e*Pg	Pg	14 48 06.6	-5.7
CRS				*e*Sg	Sg	14 49 08.2	-4.6
CRS				Pmax			
	comp=N,10.0nm,0.8s						
CRS				Smax			
	comp=N,52nm,1.9s						
IRK	**Irkutsk**	**4.79**	**232**	*e*Sn	Sn	14 48 52.5	+1.5
IRK				*e*Sg	Sg	14 49 10.0	-6.5
IRK				Smax			
	comp=N,152nm,0.4s						
LSTR	**Listvyanka**	**4.82**	**226**	*e*Sg	Sg	14 49 10.7	-6.8
LSTR				Smax			
	comp=N,43nm,0.9s						
TLY	**Talaya**	**5.46**	**230**	*e*Sg	Sg	14 49 33.4	-4.6
TLY				Smax			
	comp=N,42nm,1.1s						
TUP	**Tupik**	**5.61**	**96**	*e*Pn	Pn	14 48 06.7	+0.1
TUP				*e*Pg	Pg	14 48 22.7	-7.5
TUP				*e*Sg	Sg	14 49 37.0	-5.7
TUP				Pmax			
	comp=N,6.0nm,0.6s						
TUP				Smax			
	comp=N,31nm,1.3s						
KPC	**Khapcheranga**	**5.80**	**167**	*e*Pn	Pn	14 48 08.6	-0.7
KPC				*e*Pg	Pg	14 48 27.5	-6.5
KPC				*e*Sn	Sn	14 49 12.3	-3.8
KPC				*e*Sg	Sg	14 49 43.0	-6.1
KPC				Pmax			
	comp=N,3.0nm,0.5s						
KPC				Smax			
	comp=N,33nm,1.0s						
ARS	**Arshan**	**5.86**	**237**	*e*Pn	Pn	14 48 09.9	-0.1
ARS				*e*Pg	Pg	14 48 29.0	-6.0
ARS				*e*Sn	Sn	14 49 16.6	-0.8
ARS				*e*Sg	Sg	14 49 44.5	-6.3
ARS				Pmax			
	comp=N,19nm,0.5s						
ARS				Smax			
	comp=N,108nm,1.0s						
ZAK	**Zakamensk**	**6.59**	**224**	*e*Sg	Sg	14 50 06.9	-7.3
ZAK				Smax			
	comp=N,20nm,1.1s						
MOY	**Mondy**	**6.71**	**240**	*e*PN	Pn	14 48 23.9	+2.1
MOY				*e*		14 48 45.0	
MOY				*e*		14 50 11.2	
MOY				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MOY				smax			
	comp=N,46nm,1.4s						
MOY	**Mondy**	**6.71**	**240**	*i* Pn	Pn	14 48 24.0	+2.2
MOY				*e*		14 49 39.2	
MOY				*e*Sg	Sg	14 50 11.2	-7.0
MOY				max			
	comp=N,8.0nm,0.4s						
MOY				Smax			
	comp=N,46nm,1.4s						
ORL	**Orlik**	**6.85**	**250**	*e*PG	Pg	14 48 46.7	-7.3
ORL				*e*		14 50 14.6	
ORL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ORL				smax			
	comp=N,45nm,1.3s						
ORL	**Orlik**	**6.85**	**250**	↑*i*Pn	Pn	14 48 25.1	+1.4
ORL				*e*		14 49 42.7	
ORL				*e*Sg	Sg	14 50 14.6	-8.1
ORL				max			
	comp=N,5.0nm,1.2s						
ORL				Smax			
	comp=N,48nm,1.3s						
TDJR	**Todzha**	**8.94**	**256**	*e*Sg	Sn	14 51 18.7	+46

IDC ***04*** *14:58:53.7±0.6, 656S×131.42E, h0km, mb4.3/11, mb1 4.4/15, mb1mx4.3/18, mbtmp4.3/15, ML4.0/2, MS5.3/4, Ms1 5.3/4, ms1mx4.0/29, Error ellipse: s-maj=28.8km s-min=14.1km az=72.0*

ISCJB ***04*** *14:58:54.1±2.2, 668S±004×131.63E±006, h24km±16km, mb4.5/28, MS5.2/6, Error ellipse: s-maj=9.4km s-min=6.4km az=1.8*

MOS ***04*** *14:58:55.8±1.1, 666S×131.54E, h33km, mb4.9/7, Error ellipse: s-maj=18.1km s-min=8.7km az=106.6*

BJI ***04*** *14:58:56.9, 6.18S×131.87E, h34km, mB5.3, mb4.8, Ms5.1, Msz4.9*

NEIC ***04*** *14:58:58.3±0.5, 668S×131.44E, h35km, mb4.5/11, Error ellipse: s-maj=17.9km s-min=7.6km az=75.0*

DJA ***04*** *14:59:00, 656S×131.53E, h100km, mb4.7/4*

ISC 04 14:58:58.1±1.1, 672S±006×13154E±006, h38km±12km, h29km±2.9km: pP-P, n72, σ1°20/76, mb4.5/28, MS5.2/6, 1C, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.60**	**48**	P	**Pn**	**14 59 26.0**	**+2.1**
	0.0nm,0.0s						
TLE	**Tual**	**1.60**	**48**	↑*e*P	**Pn**	**14 59 19.0**	**-4.9**
TLE				*e*S	**Sn**	**14 59 39.0**	**-4.4**
AAI	**Ambon**	**4.50**	**312**	P	**Pn**	**14 59 59.0**	**-4.7**
	0.0nm,0.0s						
KAKA	**Kakadu**	**6.02**	**172**	*e*P	**Pn**	**15 00 26.6**	**+2.0**
	20nm,0.3s						
KAKA				*e*S	**Sn**	**15 01 37.0**	**+4.7**
BATI	**Baumata**	**8.53**	**246**	Pn	**Pn**	**15 01 01.1**	**+2.0**
	9.9nm,0.3s,baz=116,slow=1.8,SNR=15						
BATI				Sn	**Sn**	**15 02 33.5**	**-0.6**
	2.8nm,0.3s,baz=116,slow=18,SNR=2.1						
KAPI	**Kappang**	**11.85**	**278**	Pn	**Pn**	**15 01 48.0**	**+3.3**
	1.0nm,0.3s,baz=78,slow=9.3,SNR=6.1						
FITZ	**Fitzroy Crossi**	**12.69**	**206**	*e*P	**Pn**	**15 01 54.1**	**-2.0**
	6.7nm,0.2s						
FITZ				*e*S	**Sn**	**15 04 09.5**	**-6.7**
FITZ	**Fitzroy Crossi**	**12.69**	**206**	Pn	**Pn**	**15 01 54.8**	**-1.4**
	1.7nm,0.3s,baz=41,slow=13,SNR=62						
FITZ				Sn	**Sn**	**15 04 10.5**	**-5.8**
	1.4nm,0.3s,baz=109,slow=18,SNR=6.3						
WRAB	**Tennant Creek**	**13.41**	**169**	*e*P	**Pn**	**15 02 04.9**	**-1.1**
WRAB				*e*		15 04 27.9	
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WRAB	**Tennant Creek**	**13.41**	**169**	*e*Pn	**Pn**	**15 02 04.9**	**-1.1**
	comp=Z,9.4nm,0.8s						
WRAB				*e*Sn	**Sn**	**15 04 27.9**	**-6.0**
WRA	**Warramunga Arr**	**13.42**	**169**	Pn	**Pn**	**15 02 06.0**	**0.0**
	comp=Z,0.9nm,0.3s,baz=347,slow=13,SNR=21						
WRA				Sn	**Sn**	**15 04 32.1**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=336,slow=21,SNR=6.8						
WB2	**Warramunga Arr**	**13.42**	**169**	*e*P	**Pn**	**15 02 05.2**	**-0.9**
WB2				*e*S	**Sn**	**15 04 27.5**	**-6.6**
ASAR	**Alice Springs**	**17.00**	**173**	P	**Pn**	**15 02 53.9**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=20,slow=12,SNR=58						
ASAR				S	**S**	**15 05 58.4**	**-12**
	comp=Z,0.3nm,0.3s,baz=358,slow=27,SNR=5.0						
ASAR				ScP	ScP	15 11 14.2	+4.3
	baz=25,slow=1.6,SNR=5.2						
ASAR	**Alice Springs**	**17.00**	**173**	P	**Pn**	**15 02 53.9**	**+0.8**
ASAR				S	**S**	**15 05 58.4**	**-12**
MBWA	**Marble Bar**	**18.35**	**217**	*e*P	**Pn**	**15 03 09.1**	**-0.6**
	comp=Z,16nm,1.1s						
CTA	**Charters Tower**	**19.50**	**134**	*e*P	**Pn**	**15 03 28.4**	**+4.8**
	comp=Z,5.3nm,0.7s						
CTA	**Charters Tower**	**19.50**	**134**	P	**Pn**	**15 03 25.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=333,slow=4.5,SNR=3.0						
CTAO	**Charters Tower**	**19.50**	**134**	*e*P	**Pn**	**15 03 27.8**	**+4.2**
CTAO				pmax	pmax		
	comp=Z,11nm,0.9s						
CTAO	**Charters Tower**	**19.50**	**134**	*e*P	**Pn**	**15 03 27.8**	**+4.2**
	comp=Z,11nm,0.9s						
KKM	**Kota Kinabalu**	**19.87**	**309**	*e*P	**Pn**	**15 03 25.6**	**-2.4**
FORT	**Forrest**	**24.16**	**187**	*e*P	**P**	**15 04 14.4**	**+3.7**
	comp=Z,30nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**26.73**	**161**	*e*P	**P**	**15 04 37.6**	**+3.5**
	comp=Z,2.1nm,0.9s,mb3.7						
STKA	**Stephens Creek**	**26.73**	**161**	P	**P**	**15 04 36.5**	**+2.4**
	comp=Z,0.8nm,0.3s,mb3.7,baz=335,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**26.73**	**161**	*e*P	**P**	**15 04 34.8**	**+0.7**
	comp=Z,2.3nm,0.6s,mb3.9						
NWAO	**Narrogin (SRO)**	**29.27**	**205**	*e*P	**P**	**15 04 59.3**	**+2.5**
NWAO				pmax	pmax		
	comp=Z,152nm,2.1s						
NWAO	**Narrogin (SRO)**	**29.27**	**205**	*e*P	**P**	**15 04 59.3**	**+2.5**
	comp=Z,152nm,2.1s,mb5.4						
PSI	**Prapat**	**33.91**	**285**	P	**P**	**15 05 38.4**	**+0.6**
	comp=Z,1.7nm,0.4s,mb4.3,baz=79,slow=16,SNR=3.6						
PSI	**Prapat**	**33.91**	**285**	P	**P**	**15 05 38.4**	**+0.6**
COCO	**West Island**	**34.64**	**258**	*e*P	**P**	**15 05 42.7**	**-1.5**
COCO				pmax	pmax		
	comp=Z,37nm,0.5s,mb5.6						
COCO	**West Island**	**34.64**	**258**	*e*P	**P**	**15 05 42.7**	**-1.5**
	comp=Z,37nm,0.5s,mb5.6						
CBIJ	**Chichi jima**	**35.16**	**17**	LR	LR	15 18 54.8	
	comp=Z,2μm,21.8s,MS4.7,baz=248,slow=34						
CMAR	**Chiang Mai Arr**	**40.74**	**308**	P	**P**	**15 06 34.9**	**-0.8**
	comp=Z,3.5nm,0.9s,mb4.0,baz=137,slow=7.9,SNR=15						
MJAR	**Matsushiro Arr**	**43.48**	**8**	P	**P**	**15 06 56.5**	**-1.3**
	comp=Z,5.9nm,0.9s,mb4.3,baz=189,slow=9.8,SNR=14						
MAJO	**Matsushiro**	**43.49**	**8**	*e*P	**P**	**15 06 56.2**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
MAJO	**Matsushiro**	**43.49**	**8**	*e*P	**P**	**15 06 56.2**	**-1.5**
	comp=Z,12nm,0.9s,mb4.6						
MAT	**Matsushiro**	**43.49**	**8**	P	**P**	**15 06 55.6**	**-2.1**
KSRS	**Korea Array**	**44.07**	**356**	LR	LR	15 25 44.8	
	comp=Z,5μm,20.7s,MS5.4,baz=87,slow=37						
XAN	**Xi'an**	**45.85**	**334**	P	**P**	**15 07 15.5**	**-1.1**
XAN				AP	pP	15 07 24.0	-3.6
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
XAN				LR	LR		
	comp=N,4μm,21.9s,MS5.4						
XAN				LR	LR		
	comp=E,3μm,20.8s,MS5.4						
XAN				LR	LR		
	comp=Z,4μm,21.9s,MS5.3						
LZH	**Lanzhou**	**49.90**	**331**	*e*P	**P**	**15 07 48.5**	**+0.5**
LZH				AP	pP	15 07 57.0	-2.0
LZH				XP	sP	15 08 02.1	-1.3
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,108nm,5.0s						
GTA	**Gaotai**	**54.48**	**330**	*e*P	**P**	**15 08 22.3**	**+0.3**
GTA				AP	pP	15 08 31.3	-1.8
GTA				XP	sP	15 08 35.5	-2.0
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
GTA				LR	LR		
	comp=N,346nm,20.5s,MS4.5						
GTA				LR	LR		
	comp=E,305nm,20.1s,MS4.5						
GTA				LR	LR		
	comp=Z,371nm,18.2s,MS4.5						
SONM	**Songino Array**	**58.68**	**340**	P	**P**	**15 08 51.8**	**+0.2**
	comp=Z,2.3nm,0.9s,mb4.2,baz=163,slow=6.6,SNR=8.4						
SONM				LR	LR	15 36 27.7	
	comp=Z,4μm,21.4s,MS5.5,baz=30,slow=38						
SONM	**Songino Array**	**58.68**	**340**	P	**P**	**15 08 51.8**	**+0.2**
SONM				LR	LR	15 36 27.7	
ZAK	**Zakamensk**	**61.92**	**340**	*e*P	**P**	**15 09 13.9**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb4.0						
PETK	**Petropavlovsk-**	**63.59**	**17**	P	**P**	**15 09 26.2**	**+1.3**
	comp=Z,3.3nm,0.9s,mb4.4,baz=172,slow=4.5,SNR=3.7						
PETK	**Petropavlovsk-**	**63.59**	**17**	P	**P**	**15 09 26.2**	**+1.3**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
WMQ	**Urumqi**	**64.01**	**326**	*e*P	**P**	**15 09 28.5**	**+0.7**
WMQ				AP	pP	15 09 35.5	-3.6
WMQ				XP	sP	15 09 37.5	-6.0
WMQ				AMB	AMB		
	comp=Z,17nm,1.1s,mb5.0						
YAK	**Yakutsk**	**68.56**	**359**	*e*P	**P**	**15 09 57.0**	**+0.4**
YAK				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
MK31	**Makanchi Array**	**68.84**	**326**	*i* P	**P**	**15 09 59.2**	**+0.6**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.1s,mb4.7						
MKAR	**Makanchi Array**	**68.84**	**326**	P	**P**	**15 09 59.2**	**+0.6**
	comp=Z,12nm,0.8s,mb4.9,baz=116,slow=8.2,SNR=57						
MKAR				LR	LR	15 43 30.2	
	comp=Z,3μm,20.2s,MS5.5,baz=4.4,slow=39						
MKAR	**Makanchi Array**	**68.84**	**326**	P	**P**	**15 09 59.2**	**+0.6**
MKAR				LR	LR	15 43 30.2	
TKM2	**Tokmak 2**	**70.75**	**320**	*i* P	**P**	**15 10 11.5**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
TKM2	**Tokmak 2**	**70.75**	**320**	*e*P	**P**	**15 10 08.9**	**-1.6**
	comp=Z,2.7nm,0.8s,mb4.2						
SEY	**Seymchan**	**71.26**	**10**	*e*P	**P**	**15 10 12.7**	**-0.4**
AML	**Almayashu**	**71.61**	**318**	*e*P	**P**	**15 10 16.8**	**+1.0**
	comp=Z,7.3nm,1.0s,mb4.6						
AML				*e*	pP	15 10 28.0	+0.8
EKS2	**Erkin-Say**	**71.80**	**319**	*e*P	**P**	**15 10 18.0**	**+1.1**
	comp=Z,2.7nm,0.9s,mb4.2						
ZAA0	**Zalesovo Array**	**72.02**	**333**	*e*P	**P**	**15 10 17.3**	**-0.6**
ZALV	**Zalesovo

comp=Z,5.0nm,0.6s,mb4.6,baz=120,slow=5.3,SNR=21
ZAL Zalesovo 72.02 333 P **P 15 10 17.5 -0.4**
KURK Kurchatov 73.09 328 *eP* **P 15 10 24.4 +0.1**
KURK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KURK Kurchatov 73.09 328 *eP* **P 15 10 24.4 0.0**
comp=Z,7.2nm,0.9s,mb4.6
NVS Novosibirsk 73.30 333 *eP* **P 15 10 24.5 -1.0**
NVS pmax pmax
comp=Z,32nm,2.6s,mb4.8
NVS pmax pmax
comp=N,9.0nm,1.7s
NVS pmax pmax
comp=E,12nm,1.8s
MAW Mawson 75.77 202 P **P 15 10 42.0 +2.3**
comp=E,1.1nm,0.9s,mb3.8,baz=30,slow=8.1,SNR=3.9
BVAR Borovoye Array 78.65 327 P **P 15 10 55.9 -0.1**
comp=E,4.6nm,0.8s,mb4.5,baz=123,slow=5.5,SNR=18
AKTK Aktyubinsk 84.79 322 P **P 15 11 29.1 +0.6**
AKTO Aktyubinsk 84.79 322 P **P 15 11 29.1 +0.6**
comp=E,1.4nm,0.8s,mb4.1,baz=96,slow=6.3,SNR=5.2
AKTO Aktyubinsk 84.79 322 P **P 15 11 29.1 +0.6**
AKTO pmax pmax
comp=Z,1.0nm,0.8s,mb4.0
ARU Arti 86.28 328 *eP* **P 15 11 35.3 -0.5**
ARU pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
ARU Arti 86.28 328 *eP* **P 15 11 34.8 -1.0**
comp=Z,2.3nm,0.7s,mb4.5
TORD Torodi Ar. Bea 130.26 281 PKP PKPdf 15 18 06.5 +1.1
comp=Z,0.4nm,0.7s,baz=69,slow=1.1,SNR=3.1
CPUP Villa Florida 146.04 166 PKPbc PKPbc 15 18 37.2 +2.5
comp=Z,0.4nm,0.3s,baz=146,slow=1.7,SNR=3.4
CPUP Villa Florida 146.04 166 PKPbc PKPbc 15 18 37.2 +2.5
LPAZ La Paz 149.97 140 PKPbc PKPbc 15 18 49.7 +4.2
comp=Z,1.3nm,0.8s,baz=156,slow=2.6,SNR=6.1

IDC 04 15:08:33.9±1.8, 3489S×10740W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/17, mbtmp3.8/4, Error ellipse: s-maj=53.1km s-min=45.2km az=14.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**39.65**	**72**	P	P	15 16 09.1	+1.4
	0.2nm,0.3s,baz=270,slow=4.0,SNR=4.1						
TXAR	**Lajitas Array**	**63.97**	**4**	P	P	15 19 09.2	+0.3
	0.4nm,0.9s,baz=192,slow=15,SNR=3.5						
NVAR	**Mina Array Bea**	**73.65**	**351**	P	P	15 20 09.5	+0.6
	0.8nm,1.0s,baz=177,slow=7.7,SNR=5.1						
PDAR	**Pinedale Array**	**77.31**	**358**	P	P	15 20 30.3	+0.4
	1.6nm,0.9s,baz=163,slow=5.6,SNR=9.9						
AKASG	**Malin Array Be**	**145.02**	**50**	PKPbc	PKPbc	15 28 09.1	-2.9
	0.2nm,0.3s,baz=274,slow=4.1,SNR=4.1						
CMAR	**Chiang Mai Arr**	**151.46**	**242**	PKPbc	PKPbc	15 28 30.6	+0.4
	1.6nm,1.0s,baz=154,slow=1.9,SNR=4.3						

KRSC 04 15:10:10.7±1.2, 5269N×16079E, h18km±17km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.62**	**312**	*eP*	Pg	15 10 23.6	+0.7
SPN				*i* S	Sg	15 10 32.7	+1.5
NLC	**Nalytchevo**	**1.00**	**299**	*eP*	Pb	15 10 29.3	-0.1
NLC				*i* S	Sb	15 10 42.8	+0.6
PET	**Petropavlovsk**	**1.34**	**285**	*eP*	Pn	15 10 34.7	+0.3
PET				*i* S	Sn	15 10 52.1	+0.4
AVH	**Avacha**	**1.37**	**296**	*eP*	Pn	15 10 35.5	+0.7
AVH				*i* S	Sn	15 10 53.4	+0.9
RUS	**Russkaya**	**1.41**	**260**	*eP*	Pn	15 10 35.7	+0.2
RUS				*i* S	Sn	15 10 53.8	+0.2
GRL	**Gorelyy**	**1.66**	**266**	*eP*	Pn	15 10 40.4	+1.5
GRL				*i* S	Sn	15 11 02.1	+2.4
MKZ	**Mys Kozlova**	**1.95**	**16**	*eP*	Pn	15 10 42.4	-0.5
MKZ				*i* S	Sn	15 11 05.7	-1.2
GNL	**Ganaly**	**1.99**	**302**	*eP*	Pn	15 10 45.3	+1.9
GNL				*i* S	Sn	15 11 10.8	+3.1
MIPR	**Malaya Ipel'ka**	**2.50**	**262**	*eP*	Pn	15 10 52.0	+1.6
TUMR	**Tumrok**	**2.63**	**352**	*eP*	Pn	15 10 54.2	+2.1
TUMR				*i* S	Sn	15 11 26.3	+2.8
KMNR	**Kamenistaya**	**3.09**	**354**	*eP*	Pn	15 11 01.6	+3.1
KMNR				*i* S	Sn	15 11 38.5	+3.6
KBTR	**Krutoberegovo**	**3.72**	**18**	*eP*	Pn	15 11 08.6	+1.5

*ISCJB **04** 15:27:29.1±0.7, 350S±0.1×1076W±02, h10km, mb4.3/16, Error ellipse: s-maj=20.4km s-min=13.6km az=151.0*
*IDC **04** 15:27:29.1±0.8, 3492S×10774W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.2/18, mbtmp4.3/10, Error ellipse: s-maj=24.6km s-min=21.7km az=42.0*
*NEIC **04** 15:27:30.6±0.5, 3492S×10760W, h10km, mb4.5/6, Error ellipse: s-maj=18.6km s-min=14.8km az=78.0*
ISC 04 15:27:31.2±0.7, 349S±01×1076W±02, h10km, n30, σ1°06/25, mb4.3/16, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**29.66**	**112**	P	P	15 33 37.8	+1.0
	7.5nm,0.8s,mb4.5,baz=270,slow=8.3,SNR=16						
TRQA	**Tornquist**	**36.51**	**109**	*eP*	P	15 34 35.8	-0.8
ATAH	**Atahualpa**	**38.62**	**51**	P	P	15 34 55.0	+0.3
	7.0nm,0.8s,mb4.4,baz=199,slow=5.7,SNR=4.0						
LPAZ	**La Paz**	**39.79**	**72**	P	P	15 35 05.4	+0.9
	3.7nm,0.8s,mb4.1,baz=242,slow=5.8,SNR=15						
LPAZ	**La Paz**	**39.79**	**72**	*eP*	P	15 35 04.8	+0.3
	3.8nm,0.8s,mb4.2						
CPUP	**Villa Florida**	**43.69**	**93**	P	P	15 35 36.4	0.0
	1.7nm,0.7s,mb3.9,baz=202,slow=8.4,SNR=4.0						
OTAV	**Otavalo**	**44.30**	**44**	*eP*	P	15 35 40.2	-1.2
	3.7nm,0.8s,mb4.2						
ROSC	**El Rosal**	**50.43**	**45**	P	P	15 36 31.0	+2.0
	7.0nm,0.5s,mb5.0,baz=88,slow=21,SNR=3.9						
QSPA	**South Pole Qui**	**55.29**	**180**	P	P	15 37 04.8	+0.6
	1.5nm,0.9s,mb4.0,baz=120,slow=3.7,SNR=4.7						
QSPA	**South Pole Qui**	**55.29**	**180**	P	P	15 37 04.8	+0.6
SDV	**Santo Domingo**	**55.83**	**46**	*eP*	P	15 37 06.5	-2.3
	6.8nm,1.0s,mb4.6						
SNAA	**Sanae**	**61.68**	**160**	*eP*	P	15 37 47.9	-1.0
	3.2nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**64.01**	**4**	P	P	15 38 05.5	+0.7
	1.2nm,0.9s,mb3.9,baz=194,slow=9.0,SNR=7.2						
LAZ	**Ladron**	**68.96**	**0**	*eP*	P	15 38 34.7	-1.6
NVAR	**Mina Array Bea**	**73.65**	**351**	P	P	15 39 04.8	+0.2
	2.7nm,1.0s,mb4.1,baz=186,slow=7.7,SNR=6.8						
NVAR	**Mina Array Bea**	**73.65**	**351**	P	P	15 39 04.8	+0.2
DAU	**Daniels Canyon**	**75.03**	**357**	*eP*	P	15 39 13.1	+0.4
ELN	**Prospectdale**	**75.98**	**22**	*eP*	P	15 39 18.9	+0.7
PDAR	**Pinedale Array**	**77.33**	**358**	P	P	15 39 25.0	-0.6
	2.6nm,0.9s,mb4.2,baz=158,slow=6.4,SNR=15						
TPAW	**Teton Pass**	**78.09**	**357**	*eP*	P	15 39 30.9	+1.0
	7.1nm,1.0s,mb4.5						
HLID	**Hailey**	**78.35**	**355**	*eP*	P	15 39 31.2	-0.2
	6.0nm,0.8s,mb4.6						
ULM	**Lac du Bonnet**	**85.42**	**7**	P	P	15 40 07.3	-1.0
	2.8nm,0.8s,mb4.4,baz=180,slow=2.0,SNR=3.2						
ULM	**Lac du Bonnet**	**85.42**	**7**	P	P	15 40 07.3	-1.0
DHAK	**Deception Hill**	**97.06**	**345**	*eP*	P	15 41 01.8	-0.9
YKA	**Yellowknife Ar**	**97.23**	**357**	P	P	15 41 05.5	+2.2
	0.6nm,0.8s,mb4.1,baz=170,slow=3.9,SNR=2.9						
COCO	**West Island**	**127.75**	**211**	PKPdf	PKPdf	15 46 36.9	-0.7
KKM	**Kota Kinabalu**	**130.52**	**245**	*e*PKPdf	PKPdf	15 46 42.4	-0.4
AKASG	**Malin Array Be**	**145.15**	**50**	PKPbc	PKPbc	15 47 06.0	-1.9
	1.4nm,0.6s,baz=275,slow=3.9,SNR=9.0						
CMAR	**Chiang Mai Arr**	**151.32**	**242**	PKPbc	PKPbc	15 47 24.8	-0.7
	1.7nm,0.7s,baz=208,slow=1.7,SNR=11						
SONM	**Songino Array**	**151.68**	**308**	PKPbc	PKPbc	15 47 23.2	-2.2
	0.6nm,0.5s,baz=116,slow=6.8,SNR=3.8						
SONM				PKPab	PKPab	15 47 33.6	-0.6
	2.0nm,0.7s,baz=103,slow=2.9,SNR=7.7						

MAN 04 15:45:15, 605N×12615E, h156km, mb4.4, ML3.3, MS3.1, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.19**	**272⇑**	*eP*	Pn	15 45 40.6	-1.4
GSPH				*e*S	Sn	15 45 59.8	-2.8
KCP	**Kidapawan**	**1.42**	**312⇓**	*iP*	Pn	15 45 44.4	+0.2
KCP				*i* S	Sn	15 46 05.9	-0.6
BUKP	**Musuan**	**2.11**	**329**	*eP*	Pn	15 45 52.3	+0.5
BUKP				*e*S	Sn	15 46 21.3	+1.1
PAGZ	**Pagadian**	**3.27**	**303**	*eP*	Pn	15 46 07.2	+1.1

*NEIC **04** 15:47:16.6, 1806N×6139W, h36km, MD3.7(TRN), After TRN.*
*TRN **04** 15:47:19.7, 1818N×6172W, h57km, MD3.7, M3.9(FDF), M3.8(FDF)*
ISC 04 15:47:21.2±1.3, 182N±01×6176W±008, h70km±25km, n17, σ0°77/30, 8C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**1.13**	**185**	*eP*	**Pn**	**15 47 37.1**	**-4.4**
BPA				*e*S	**Sn**	**15 47 52.0**	**-4.5**
SMRT	**St. Maarten**	**1.26**	**264⇑**	*eP*	**Pn**	**15 47 43.0**	**-0.1**
SMRT				*e*S	**Sn**	**15 47 58.2**	**-1.2**
SKI	**Saint Kitts**	**1.26**	**228**	*eP*	**Pn**	**15 47 42.8**	**-0.3**
SKI				*e*S	**Sn**	**15 47 59.2**	**-0.2**
STMA	**St. Maarten, A**	**1.29**	**264**	*eP*	**Pn**	**15 47 44.2**	**+0.7**
STMA				*e*S	**Sn**	**15 48 01.5**	**+1.4**
SEUS	**St. Eustatius**	**1.35**	**240⇑**	*eP*	**Pn**	**15 47 44.5**	**+0.2**
SEUS				*e*S	**Sn**	**15 48 02.4**	**+0.8**
DEG	**La Desirade**	**1.98**	**160**	*eP*	**Pn**	**15 47 51.5**	**-1.1**
DEG				*e*S	**Sn**	**15 48 15.6**	**-0.8**
LZG	**Guadaloupe-1**	**2.03**	**180**	*eP*	**Pn**	**15 47 53.0**	**-0.3**
LZG				*e*S	**Sn**	**15 48 18.3**	**+0.6**
SCG	**Saint Claude**	**2.14**	**178**	*eP*	**Pn**	**15 47 55.1**	**+0.3**
HMG	**Houelmont**	**2.19**	**179**	*eP*	**Pn**	**15 47 55.4**	**-0.1**
MGG	**Marie-Galante**	**2.29**	**169**	*eP*	**Pn**	**15 47 57.1**	**+0.2**
TBG	**Guadaloupe-3**	**2.32**	**177**	*eP*	**Pn**	**15 47 57.8**	**+0.6**
TBVI	**Tortola**	**2.73**	**275⇑**	*eP*	**Pn**	**15 48 02.6**	**-0.1**
TBVI				*e*S	**Sn**	**15 48 33.0**	**-1.6**
TBVI	**Tortola**	**2.73**	**275⇑**	*eP*	**Pn**	**15 48 02.1**	**-0.6**
TBVI				*e*S	**Sn**	**15 48 33.0**	**-1.6**
MTP	**Monte Pirata**	**3.61**	**269⇑**	*eP*	**Pn**	**15 48 14.9**	**+0.1**
MTP				*e*S	**Sn**	**15 48 55.5**	**-0.6**
CBYP	**Canovanas**	**3.90**	**272⇑**	*eP*	**Pn**	**15 48 19.5**	**+0.8**
CBYP				*e*S	**Sn**	**15 49 03.5**	**+0.3**
CBYP	**Canovanas**	**3.90**	**272⇑**	*eP*	**Pn**	**15 48 19.1**	**+0.4**
CBYP				*e*S	**Sn**	**15 49 03.5**	**+0.3**
CRPR	**Cabo Rojo, PR**	**5.09**	**269⇑**	*eP*	**Pn**	**15 48 36.6**	**+1.6**
CRPR				*e*S	**Sn**	**15 49 31.9**	**-0.6**

KRSC 04 16:03:13.8±1.3, 4906N×15646E, h5km±5km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.90**	**342**	*eP*	Pn	16 03 46.9	0.0
ALID				*i* S	Sn	16 04 11.0	-0.2
MIPR	**Malaya Ipel'ka**	**3.23**	**3**	*eP*	Pn	16 04 07.4	+2.4
RUS	**Russkaya**	**3.62**	**20**	*eP*	Pn	16 04 12.9	+2.4
RUS				*i* S	Sn	16 04 55.8	+2.3
GRL	**Gorelyy**	**3.64**	**16**	*eP*	Pn	16 04 13.4	+2.6
PET	**Petropavlovsk**	**4.20**	**18**	*eP*	Pn	16 04 22.1	+3.6
PET				*i* S	Sn	16 05 11.3	+3.4
AVH	**Avacha**	**4.45**	**18**	*eP*	Pn	16 04 26.4	+4.6
SPN	**Mys Shipunski**	**4.62**	**28**	*eP*	Pn	16 04 28.1	+3.9
SPN				*i* S	Sn	16 05 22.0	+3.7
GNL	**Ganaly**	**4.73**	**11**	*eP*	Pn	16 04 28.8	+3.1
MKZ	**Mys Kozlova**	**6.40**	**29**	*eP*	Pn	16 04 50.5	+1.9
MKZ				*i* S	Sn	16 06 02.9	+0.9
TUMR	**Tumrok**	**6.63**	**19**	*eP*	Pn	16 04 56.4	+4.6
KBTR	**Krutoberegovo**	**8.13**	**26**	*eP*	Pn	16 05 14.7	+2.3

*IDC **04** 16:04:42.7±3.0, 475S×13343E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.4/14, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=132.5km s-min=28.7km az=81.0*
NEIC 04 16:04:47.8±1.7, 486S×13342E, h35km, mb3.5/1, Error ellipse: s-maj=48.1km s-min=17.8km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**15.01**	**177**	*e*Pn	Pn	16 08 17.7	+0.2
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**15.02**	**177**	Pn	Pn	16 08 16.4	-1.2
	0.1nm,0.3s,baz=353,slow=13,SNR=7.5						
WRA				Sn	Sn	16 10 58.9	-3.9
	0.1nm,0.3s,baz=1.3,slow=24,SNR=4.2						
FITZ	**Fitzroy Crossi**	**15.21**	**209**	Pn	Pn	16 08 20.0	0.0
	0.1nm,0.3s,baz=40,slow=16,SNR=4.2						
FITZ				Sn	Sn	16 11 06.6	-0.8
	0.2nm,0.3s,baz=202,slow=21,SNR=4.6						
ASAR	**Alice Springs**	**18.71**	**179**	P	Pn	16 09 04.6	+0.7
	0.2nm,0.3s,baz=10,slow=11,SNR=17						
MKAR	**Makanchi Array**	**68.38**	**325**	P	P	16 15 45.7	0.0
	0.6nm,0.9s,baz=118,slow=7.9,SNR=2.8						

KRSC 04 16:55:34.1±0.7, 5265N×16267E, h45km±45km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.67**	**287**	*eP*	Pn	16 56 01.8	+1.0
SPN				*i* S	Sn	16 56 22.3	+1.4
MKZ	**Mys Kozlova**	**1.99**	**344**	*eP*	Pn	16 56 05.8	+0.6
MKZ				*i* S	Sn	16 56 28.6	-0.3
NLC	**Nalytchevo**	**2.08**	**286**	*eP*	Pn	16 56 08.2	+1.8
NLC				*i* S	Sn	16 56 32.7	+1.6
AVH	**Avacha**	**2.46**	**286**	*eP*	Pn	16 56 14.2	+2.6
PET	**Petropavlovsk**	**2.46**	**280**	*eP*	Pn	16 56 13.5	+1.8
PET				*i* S	Sn	16 56 42.1	+1.5
RUS	**Russkaya**	**2.55**	**267**	*eP*	Pn	16 56 14.8	+2.0
RUS				*i* S	Sn	16 56 43.9	+1.3
TUMR	**Tumrok**	**3.03**	**332**	*eP*	Pn	16 56 22.1	+2.6
TUMR				*i* S	Sn	16 56 57.3	+2.9
GNL	**Ganaly**	**3.03**	**292**	*eP*	Pn	16 56 22.5	+3.0
GNL				*i* S	Sn	16 56 58.0	+3.5
KMNR	**Kamenistaya**	**3.42**	**336**	*eP*	Pn	16 56 28.3	+3.4
KMNR				*i* S	Sn	16 57 08.5	+4.4
BZMR	**Bezymyannaya**	**3.53**	**340**	*eP*	Pn	16 56 29.8	+3.5
BZMR				*i* S	Sn	16 57 11.1	+4.3
ZLN	**Zelenaya**	**3.55**	**343**	*eP*	Pn	16 56 29.7	+3.2
ZLN				*i* S	Sn	16 57 10.1	+3.0
KBTR	**Krutoberegovo**	**3.57**	**1**	*eP*	Pn	16 56 28.9	+2.1
KBTR				*i* S	Sn	16 57 08.2	+0.6
KIRR	**Kirishev**	**3.58**	**339**	*eP*	Pn	16 56 30.9	+3.9
KIRR				*i* S	Sn	16 57 12.6	+4.6
KPT	**Kopyto**	**3.62**	**338**	*eP*	Pn	16 56 30.6	+3.1
KPT				*i* S	Sn	16 57 12.0	+3.1
MIPR	**Malaya Ipel'ka**	**3.64**	**266**	*eP*	Pn	16 56 31.5	+3.7
CIRR	**Tsirk**	**3.65**	**343**	*eP*	Pn	16 56 30.8	+2.8
CIRR				*i* S	Sn	16 57 12.9	+3.2
KRSR	**Krestovskiy**	**3.78**	**342**	*eP*	Pn	16 56 32.6	+2.9
KRSR				*i* S	Sn	16 57 14.7	+1.8
KOZ	**Kozyrevsk**	**3.79**	**336**	*eP*	Pn	16 56 32.9	+3.1
KLY	**Klyuchi**	**3.85**	**343**	*eP*	Pn	16 56 33.0	+2.2
BDR	**Baidarnaya**	**4.02**	**348**	*eP*	Pn	16 56 35.5	+2.5
SRDR	**Sredinnyy**	**4.06**	**336**	*eP*	Pn	16 56 36.3	+2.7
SRDR				*i* S	Sn	16 57 21.8	+2.1
SRKR	**Sorokina**	**4.11**	**348**	P	Pn	16 56 37.3	+3.1

*DJA **04** 16:57:15, 3.10N×97.11E, h59km, ML4.6/7*
*ISCJB **04** 16:57:17.3±1.0, 333N±005×9740E±008, h117km±9km, mb4.3/31, Error ellipse: s-maj=13.0km s-min=7.8km az=159.7*
*IDC **04** 16:57:17.6±1.4, 337N×9739E, h101km±13km, mb3.9/21, mb1 3.9/21, mb1mx3.9/26, mbtmp3.9/21, MS3.5/2, Ms1 3.6/2, ms1mx3.2/26, Error ellipse: s-maj=18.0km s-min=11.6km az=63.0*
*NEIC **04** 16:57:17.2±1.4, 331N×9740E, h102km±12km, mb4.4/9, Error ellipse: s-maj=13.5km s-min=7.8km az=63.0*
ISC 04 16:57:18.7±1.0, 331N±006×9742E±008, h114km±9km, n61, σ0°93/61, mb4.3/31, 7C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.58**	**109**	P	**Pn**	**16 57 44.3**	**-2.5**
	202nm,0.3s,baz=276,slow=8.6,SNR=471						
PSI				S	**Sn**	**16 58 08.3**	**+0.3**
	255nm,0.3s,baz=230,slow=20,SNR=25						
PSI				LR	LR	16 58 37.6	
	comp=Z,601nm,19.7s,baz=240,slow=48						
PSI	**Prapat**	**1.58**	**109**	P	**Pn**	**16 57 44.3**	**-2.5**
PSI				S	**Sn**	**16 58 08.3**	**+0.3**
PSI				LR	LR	16 58 37.6	
KULM	**Kulim**	**3.77**	**58**	⇓P	**Pn**	**16 58 15.0**	**-0.1**
IPM	**Ipoh**	**3.78**	**72**	⇑P	**Pn**	**16 58 15.1**	**-0.1**
FRIM	**Kepong**	**4.20**	**91**	⇓P	**Pn**	**16 58 20.0**	**-0.9**
KGM	**Kluang**	**6.03**	**102**	⇑P	**Pn**	**16 58 46.3**	**+0.8**
KTGM	**Kuala Trenggan**	**6.04**	**70**	⇓P	**Pn**	**16 58 46.3**	**+0.6**
MYKOM	**Kota Tinggi**	**6.60**	**103**	⇑P	**Pn**	**16 58 53.6**	**+0.3**
KSM	**Kuching**	**13.00**	**98**	⇑P	**Pn**	**17 00 24.9**	**+5.6**
KSM	**Kuching**	**13.00**	**98**	*e*Pn	**Pn**	**17 00 12.7**	**-6.7**
SBUM	**Sibu**	**14.80**	**93**	⇓P	**Pn**	**17 00 47.8**	**+5.3**
CM31	**Chiang Mai Arr**	**15.13**	**6**	*eP*	**Pn**	**17 00 49.4**	**+2.9**
	11nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.13**	**6**	P	**Pn**	**17 00 47.5**	**+1.1**
	0.5nm,0.3s,baz=197,slow=12,SNR=39						
CMAR				S	**S**	**17 03 29.6**	**-13**
	0.1nm,0.3s,baz=202,slow=31,SNR=2.9						
CMAR				LR	LR	17 07 24.2	
	comp=Z,131nm,18.8s,baz=40,slow=40						
CHTO	**Chiang Mai**	**15.48**	**5**	*eP*	**Pn**	**17 00 51.7**	**+0.9**
	4.5nm,0.6s						
BTM	**Bintulu**	**15.64**	**90**	⇑P	**Pn**	**17 00 59.1**	**+6.2**
KKM	**Kota Kinabalu**	**18.92**	**81**	⇓P	**P**	**17 01 35.5**	**+4.7**
KKM	**Kota Kinabalu**	**18.92**	**81**	*eP*	**P**	**17 01 29.2**	**-1.7**
KDM	**Kudat**	**19.66**	**79**	⇑P	**P**	**17 01 47.0**	**+8.1**
SDKM	**Sandakan**	**19.85**	**83**	⇓P	**P**	**17 01 48.1**	**+7.2**
TSM	**Tawau**	**20.43**	**87**	⇑P	**P**	**17 01 54.8**	**+7.6**
MYLDM	**Lahad Datu**	**21.10**	**84**	⇓P	**P**	**17 01 59.3**	**+4.9**
KAPI	**Kappang**	**23.79**	**110**	P	**P**	**17 02 22.0**	**+0.8**
	13nm,0.5s,mb4.5,baz=266,slow=9.2,SNR=14						
NACB	**Ninganchiao**	**31.21**	**46**	*eP*	**P**	**17 03 28.6**	**+1.2**
	17nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**40.63**	**154**	P	**P**	**17 04 48.5**	**+0.9**
	13nm,1.0s,mb4.7,baz=348,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**42.99**	**124**	P	**P**	**17 05 07.4**	**+0.3**
	2.9nm,0.5s,mb4.2,baz=305,slow=9.4,SNR=44						
WRAB	**Tennant Creek**	**42.99**	**124**	*eP*	**P**	**17 05 06.6**	**-0.5**
	3.2nm,0.5s,mb4.3						
WB2	**Warramunga Arr**	**43.00**	**124**	*eP*	**P**	**17 05 07.2**	**+0.1**
WB2	**Warramunga Arr**	**43.00**	**124**	*eP*	**P**	**17 05 07.0**	**-0.1**
JNU	**Nakatsue**	**43.10**	**43**	P	**P**	**17 05 06.6**	**-1.1**
TKM2	**Tokmak 2**	**43.97**	**337**	*eP*	**P**	**17 05 15.0**	**+0.4**
	3.4nm,0.6s,mb4.2						
KSRS	**Korea Array**	**44.00**	**36**	P	**P**	**17 05 15.9**	**+1.0**
	0.8nm,0.8s,mb3.5,baz=215,slow=8.1,SNR=2.8						
KSRS				LR	LR	17 25 06.5	
	comp=Z,80nm,18.6s,baz=77,slow=38						
AML	**Almayashu**	**44.09**	**335**	*eP*	**P**	**17 05 16.0**	**+0.5**
	4.8nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**44.51**	**129**	P	**P**	**17 05 18.5**	**-0.7**
	1.1nm,0.5s,mb3.9,baz=301,slow=7.0,SNR=39						
SONM	**Songino Array**	**45.02**	**9**	P	**P**	**17 05 22.5**	**-0.4**
	1.1nm,0.4s,mb4.0,baz=195,slow=8.8,SNR=10						
SONM				PcP	PcP	17 07 03.7	+1.8
	1.6nm,1.0s,baz=190,slow=4.4,SNR=3.2						
MKAR	**Makanchi Array**	**45.26**	**345**	P	**P**	**17 05 24.1**	**-0.6**
	1.3nm,0.3s,mb4.1,baz=142,slow=7.3,SNR=4.6						
KURK	**Kurchatov**	**49.83**	**344**	*eP*	**P**	**17 05 57.5**	**-2.5**
	1.8nm,0.6s,mb4.2						
ZAA0	**Zalesovo Array**	**51.52**	**351**	*eP*	**P**	**17 06 11.8**	**-0.8**
ZALV	**Zalesovo Beam**	**51.52**	**351**	P	**P**	**17 06 12.1**	**-0.5**
	1.8nm,0.3s,mb4.6,baz=169,slow=8.5,SNR=18						
QRN	**Al-Qurain**	**53.36**	**304**	*eP*	**P**	**17 06 26.6**	**-0.2**
	baz=305						
QRN				AMb	AMB	17 06 26.7	
	comp=Z,37nm,0.7s,mb5.5,baz=305						
RDF	**Al-Radifah**	**53.73**	**304**	*eP*	**P**	**17 06 29.6**	**+0.2**
	baz=305						
RDF				AMb	AMB	17 06 30.2	
	comp=Z,54nm,0.8s,mb5.6,baz=305						
OPO	**Ambohidratompo**	**54.01**	**244**	P	**P**	**17 06 32.1**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.9,baz=105,slow=11,SNR=2.7						
NAY	**Al-Naaiem**	**54.09**	**304**	*eP*	**P**	**17 06 31.7**	**-0.3**
	baz=305						
NAY				AMb	AMB	17 06 32.3	
	comp=Z,32nm,0.9s,mb5.3,baz=305						
MIB	**Mutribah**	**54.19**	**305**	*eP*	**P**	**17 06 32.7**	**0.0**
	baz=306						
MIB				AMb	AMB	17 06 33.6	
	comp=Z,62nm,1.0s,mb5.6,baz=306						
BVAR	**Borovoye Array**	**54.35**	**340**	P	**P**	**17 06 32.4**	**-1.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=140,slow=7.8,SNR=13						
BRVK	**Borovoye**	**54.41**	**340**	*eP*	**P**	**17 06 32.5**	**-1.4**
	comp=Z,2.2nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**54.62**	**133**	P	**P**	**17 06 36.2**	**+0.5**
	comp=Z,1.8nm,0.6s,mb4.3,baz=321,slow=10,SNR=4.4						
STKA	**Stephens Creek**	**54.62**	**133**	*eP*	**

comp=Z,66nm,18.3s,baz=278,slow=37
MKAR Makanchi Array 84.70 318 P **P 17 57 32.9 -0.3**
2.1nm,0.7s,mb4.4,baz=116,slow=5.9,SNR=12
ZALV Zalesovo Beam 85.39 326 P **P 17 57 35.7 -0.7**
1.0nm,0.3s,mb4.4,baz=131,slow=6.8,SNR=3.8
ZALV Zalesovo Beam 85.39 326 P **P 17 57 35.7 -0.7**

SKHL ***04*** *17:54:33.0±0.6,5274N×13446E,h19km±1km,mb4.6/5, Ms4.0/3*
MOS ***04*** *17:54:35.6±1.5,5271N×13456E,h10km,mb3.5/1,Error ellipse: s-maj=39.4km s-min=25.4km az=76.2*
IDC ***04*** *17:54:36.6±1.3,5261N×13450E,h0km,mb3.5/3, mb1 3.6/6,mb1mx3.5/22,mbtmp3.5/6,ML3.4/3,MS2.6/1, Ms1 2.6/1,ms1mx1.8/41,Error ellipse: s-maj=38.1km s-min=25.5km az=177.0*
ISC 04 17:54:31.4±0.5,5271N±005×13441E±005,h10km,n21, σ1§43/31,mb3.4/3,1C-2D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**0.96**	**293**	⇓*i*Pg	**Pg**	**17 54 50.4**	**+0.5**
EKMR				AMB	AMB	17 54 51.4	
	480nm,0.2s						
EKMR				AMB	AMB	17 54 51.4	
	370nm,0.2s						
EKMR				AMB	AMB	17 54 51.4	
	500nm,0.2s						
EKMR				*e*Sg	**Sg**	**17 55 02.9**	**+0.6**
GRNR	**Gornyy**	**2.31**	**146**	⇑*i*Pn	**Pn**	**17 55 11.0**	**+1.6**
GRNR				*e*Pg	**Pg**	**17 55 15.2**	**-0.4**
GRNR				AMB	AMB	17 55 17.0	
	174nm,0.5s						
GRNR				*e*Sg	**Sg**	**17 55 45.7**	**+0.2**
GRNR				A		17 55 51.0	
	1μm,0.8s						
NKL	**Nikolayevsk**	**3.82**	**81**	*e*Pn	**Pn**	**17 55 29.8**	**-0.4**
NKL				*e*Pg	**Pg**	**17 55 39.8**	**-4.7**
NKL				AMB	AMB	17 55 41.7	
	56nm,0.6s						
NKL				pPg		17 55 45.0	
NKL				*e*Sg	**Sg**	**17 56 29.0**	**-4.9**
NKL				A		17 56 33.9	
	220nm,0.6s						
NKL				A		17 56 33.9	
	22nm,0.6s						
NKL				AMS	AMS	17 56 57.0	
	500nm,5.0s						
NKL				AMS	AMS	17 56 57.0	
	800nm,5.0s						
KLR	**Kul'dur**	**3.87**	**207**	*e*P	**Pn**	**17 55 36.0**	**+5.1**
KLR				*e*		17 56 32.0	
KLR	**Kul'dur**	**3.87**	**207**	*e*rx	**Pn**	**17 55 36.0**	**+5.1**
KLR				*e*Pg	**Pg**	**17 55 44.0**	**-1.5**
KLR				*e*Sg	**Sg**	**17 56 32.0**	**-3.5**
BMKR	**Bomnak**	**3.87**	**303**	*e*Pn	**Pn**	**17 55 32.7**	**+1.8**
BMKR				*e*Pg	**Pg**	**17 55 44.0**	**-1.5**
BMKR				AMB	AMB	17 55 48.0	
	64nm,0.4s						
BMKR				sPg		17 55 52.0	
BMKR				*e*Sg	**Sg**	**17 56 35.2**	**-0.4**
BMKR				A		17 56 37.5	
	261nm,0.7s						
HABR	**Khabarovsk**	**4.26**	**174**	⇓*i*P	**Pg**	**17 55 56.8**	**+3.8**
HABR				pmax	pmax		
	comp=Z,82nm,0.8s						
ZEA	**Zeya**	**4.43**	**286**	*e*Sg	**Sg**	**17 56 51.2**	**-2.3**
ZEA				AMS	AMS	17 57 07.0	
	comp=Z,600nm,4.0s						
ZEA				AMS	AMS	17 57 07.0	
	comp=Z,400nm,4.0s						
KROS	**Kirovskiy**	**4.76**	**294**	*e*Pn	**Pn**	**17 55 45.4**	**+2.3**
KROS				*i* Pg	**Pg**	**17 55 59.1**	**-3.4**
KROS				AMB	AMB	17 56 01.3	
	comp=Z,31nm,0.6s						
KROS				AMB	AMB	17 56 01.3	
	comp=Z,53nm,0.6s						
KROS				AMB	AMB	17 56 01.3	
	comp=Z,40nm,0.6s						
KROS				*e*Sn	**Sn**	**17 56 38.1**	**-0.2**
KROS				*e*Sg	**Sg**	**17 57 00.4**	**-3.8**
KROS				A		17 57 06.9	
	comp=Z,100nm,0.5s						
KROS				A		17 57 06.9	
	comp=Z,220nm,0.5s						
KROS				A		17 57 06.9	
	comp=Z,120nm,0.5s						
OKH	**Okha**	**5.20**	**77**	*e*Sg	**Sg**	**17 57 18.0**	**-0.2**
OKH				A		17 57 29.0	
	comp=Z,420nm,0.9s						
UGL	**Uglegorsk**	**6.05**	**124**	*e*rx	**Pg**	**17 56 40.0**	**+13**
UGL				*e*Sg	**Sg**	**17 57 43.0**	**-2.6**
UGL				A		17 57 50.0	
	comp=Z,360nm,0.9s						
UGL				AMS	AMS	17 59 00.0	
	comp=Z,400nm,10.0s						
TEY	**Ternei**	**7.81**	**169**	*e*Sg	Sx	17 58 40.9	
YSS	**Yuzh-Sakhalins**	**7.89**	**134**	*e*rx	Px	17 57 14.7	
YSS				*e*Sg	Sx	17 58 38.4	
YAK	**Yakutsk**	**9.69**	**347**	*e*S	**Sn**	**17 58 46.3**	**+6.9**
ASAJ	**Asahikawa**	**10.17**	**144**	LR	LR	18 00 26.8	
	comp=Z,36nm,19.1s,baz=36,slow=35						
PETK	**Petropavlovsk-**	**14.05**	**79**	Pn	**Pn**	**17 57 55.6**	**+5.4**
	comp=Z,0.3nm,0.3s,baz=287,slow=11,SNR=6.5						
MJAR	**Matsushiro Arr**	**16.38**	**169**	Pn	**Pn**	**17 58 28.3**	**+7.0**
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=3.3						
SONM	**Songino Array**	**18.50**	**266**	Pn	**Pn**	**17 58 56.6**	**+9.0**
	comp=Z,0.1nm,0.3s,baz=74,slow=11,SNR=4.0						
SONM				Lg		18 04 22.9	
	comp=Z,0.1nm,0.3s,baz=74,slow=26,SNR=6.5						
MKAR	**Makanchi Array**	**33.56**	**281**	P	**P**	**18 01 18.4**	**+7.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=64,slow=8.0,SNR=5.3						
NVAR	**Mina Array Bea**	**69.56**	**53**	P	**P**	**18 05 47.7**	**+7.5**
	comp=Z,0.2nm,0.5s,mb3.3,baz=297,slow=6.0,SNR=2.4						
ASAR	**Alice Springs**	**76.05**	**180**	P	**P**	**18 06 24.6**	**+6.0**
	comp=Z,0.3nm,0.8s,mb3.3,baz=5.7,slow=4.8,SNR=7.2						

DJA ***04*** *17:56:53,2294S×6782W,h10km,mb5.1/5*
MOS ***04*** *17:56:59.5±1.3,2208S×6836W,h124km,mb5.1/48,Error ellipse: s-maj=11.0km s-min=5.8km az=110.1*
NEIC ***04*** *17:56:59.3±0.2,2227S×6835W,mb5.2/142,Error ellipse: s-maj=5.5km s-min=4.0km az=74.0*
NEIC Felt [II] at Calama and Tocopilla.
IDC ***04*** *17:56:59.1±0.5,2213S×6830W,h112km±4km,mb4.7/18, mb1 4.8/24,mb1mx4.7/25,mbtmp4.7/24,MS4.0/11, Ms1 4.0/11,ms1mx3.7/27,Error ellipse: s-maj=12.1km s-min=8.6km az=90.0*
ISCJB ***04*** *17:56:59.3±0.1,2225S±003×6834W±003,h127km, mb5.1/158,Error ellipse: s-maj=4.1km s-min=3.7km az=165.0*
GCMT ***04*** *17:56:59.3±0.2,2204S×6855W,h150km±1km,MW5.3/84, Moment Tensor Solution. s59,c84; s84,c146; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.64±.02; $M_{\theta\theta}$0.06±.02; $M_{\phi\phi}$0.57±.03; $M_{r\theta}$-0.14±.02; $M_{\theta\phi}$-0.52±.02; $M_{\phi r}$-0.75±.02; Best double couple: $M_0$1.10800×10^{17} NP1:ϕ_s120.00000°,δ34.00000°,λ-142.00000°. NP2: ϕ_s357.00000°,δ70.00000°,λ-62.00000°. Principal axes: T 1.1060, Plg20.0000°, Azm66.0000°; N 0.0040, Plg26.0000°, Azm166.0000°; P -1.1100, Plg56.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
GUC ***04*** *17:57:00.4±0.7,2263S×6829W,h123km±11km,ML5.5*
BJI ***04*** *17:57:00.7,2132S×69.14W,h121km,mB5.2*
ISC 04 17:57:01.4±0.1,2221S±003×6829W±003,h129km, h129km±1.4km:pP-P,n720,σ0§77/656,mb5.0/158, 144C-142D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.70**	**235**	P	**Pn**	**17 57 19.4**	**-2.3**
	5μm,0.3s,baz=40,slow=7.3						
LVC				S	**Sn**	**17 57 33.5**	**-3.6**
LVC	**Limon Verde**	**0.70**	**235**	*e*P	**Pn**	**17 57 18.8**	**-2.8**
LVC				*e*S	**Sn**	**17 57 33.7**	**-3.4**
CEN1	**Los Morros**	**2.12**	**236**	⇓*i*P	**Pn**	**17 57 36.3**	**-0.5**
CEN1				*i* S	**Sn**	**17 58 03.2**	**-0.7**
CEN1				AML	AML	17 58 08.4	
	comp=N,18μm,0.7s						
ANCH	**Antofagasta**	**2.44**	**233**	⇑*i*P	**Pn**	**17 57 37.6**	**-3.2**
ANCH				*i* S	**Sn**	**17 58 05.8**	**-5.4**
ANCH				AML	AML	17 58 08.0	
	comp=N,33μm,0.4s						
ANCH	**Antofagasta**	**2.44**	**233**	⇑*i*P	**Pn**	**17 57 37.6**	**-3.2**
ANCH				*i* S	**Sn**	**17 58 05.8**	**-5.4**
CPN1	**Cerro Paranal**	**3.09**	**219**	*e*P	**Pn**	**17 57 45.7**	**-3.4**
CPN1				*i* S	**Sn**	**17 58 20.5**	**-5.5**
CPN1				AML	AML	17 58 22.4	
	comp=N,15μm,0.6s						
CDCH	**Caldera**	**5.36**	**205**	*e*P	**Pn**	**17 58 13.6**	**-5.7**
CDCH				*i* S	**Sn**	**17 59 10.4**	**-10**
CPCH	**Copiapo**	**5.46**	**200**	*e*P	**Pn**	**17 58 16.5**	**-4.0**
LPAZ	**La Paz**	**5.90**	**1**	P	**Pn**	**17 58 25.0**	**-1.5**
	comp=N,54nm,0.3s,baz=188,slow=6.8,SNR=964						
LPAZ				S	**Sn**	**17 59 29.8**	**-3.2**
	comp=N,16nm,0.3s,baz=176,slow=6.0,SNR=4.8						
LPAZ	**La Paz**	**5.90**	**1**	*e*P	**Pn**	**17 58 25.8**	**-0.7**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	**La Paz**	**5.90**	**1**	*e*Pn	**Pn**	**17 58 25.8**	**-0.8**
	comp=Z,1.3nm,0.3s						
ARE	**Arequipa**	**6.47**	**332**	*e*P	**Pn**	**17 58 29.0**	**-5.3**
ARE				*e*S	**Sn**	**17 59 35.0**	**-12**
VACH	**Vallenar**	**6.72**	**199**	*e*P	**Pn**	**17 58 32.0**	**-5.5**
LCO	**Las Campanas**	**7.11**	**197**	*e*Pn	**Pn**	**17 58 37.5**	**-5.3**
	comp=Z,220nm,0.6s						
LCO				*e*Sn	**Sn**	**17 59 54.5**	**-7.7**
TLL	**Tololo Astrono**	**8.24**	**195**	*e*P	**Pn**	**17 58 52.5**	**-5.5**
SIV	**San Ignacio**	**9.21**	**49**	P	**Pn**	**17 59 07.0**	**-4.1**
	comp=Z,94nm,0.3s,baz=231,slow=13,SNR=1093						
SIV				S	**Sn**	**18 00 44.3**	**-8.7**
	comp=Z,10nm,0.3s,baz=172,slow=23,SNR=2.2						
CMCH	**Combarbala**	**9.25**	**195**	*e*P	**Pn**	**17 59 04.3**	**-7.3**
CFAA	**Coronel Fontan**	**9.35**	**180**	P	**Pn**	**17 59 09.0**	**-4.0**
	comp=Z,1.4nm,0.3s,baz=357,slow=13,SNR=116						
CFAA				S	**Sn**	**18 00 48.0**	**-8.4**
	comp=Z,1.9nm,0.3s,baz=223,slow=21,SNR=6.5						
CFAA	**Coronel Fontan**	**9.35**	**180**	P	**Pn**	**17 59 09.0**	**-4.0**
CFAA				S	**Sn**	**18 00 48.0**	**-8.4**
CPUP	**Villa Florida**	**10.80**	**114**	P	**Pn**	**17 59 31.4**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=272,slow=12,SNR=21						
CPUP				LR	LR	18 04 16.9	
	comp=Z,858nm,18.6s,baz=68,slow=40						
CPUP	**Villa Florida**	**10.80**	**114**	*e*P	**Pn**	**17 59 31.2**	**-1.2**
CPUP				pmax	pmax		
	comp=Z,97nm,0.6s						
CPUP	**Villa Florida**	**10.80**	**114**	*e*Pn	**Pn**	**17 59 31.2**	**-1.2**
	comp=Z,97nm,0.6s						
FCH	**Farellones**	**11.21**	**189**	*e*P	**Pn**	**17 59 34.1**	**-3.7**
NNA	**Nana**	**13.04**	**320**	P	**Pn**	**18 00 06.7**	**+4.8**
	comp=Z,1μm,0.9s,SNR=5.4						
NNA	**Nana**	**13.04**	**320**	P	**Pn**	**17 59 58.2**	**-3.7**
	comp=Z,2.4nm,0.3s,baz=183,slow=12,SNR=7.6						
NNA				S	**Sn**	**18 02 15.4**	**-11**
	comp=Z,3.8nm,0.3s,baz=205,slow=18,SNR=3.5						
NNA	**Nana**	**13.04**	**320**	*e*Pn	**Pn**	**17 59 59.2**	**-2.7**
	comp=Z,181nm,1.0s						
NNA				*e*P		18 00 06.7	
NNA				*e*Sn	**Sn**	**18 02 13.8**	**-12**
TRQA	**Tornquist**	**16.70**	**162**	*e*P	**Pn**	**18 00 46.1**	**-1.4**
	comp=Z,69nm,0.8s						
TRQA				*e*S	**S**	**18 03 53.7**	**0.0**
ATAH	**Atahualpa**	**18.00**	**326**	P	**P**	**18 01 00.0**	**-2.1**
	comp=Z,2.6nm,0.3s,baz=170,slow=11,SNR=14						
PLCA	**Paso Flores**	**18.56**	**185**	P	**P**	**18 01 07.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=12,slow=13,SNR=25						
PLCA				PcP	PcP	18 05 32.5	+0.6
	comp=Z,0.2nm,0.3s,baz=17,slow=23,SNR=4.8						
PLCA				LR	LR	18 09 45.7	
	comp=Z,633nm,19.1s,baz=13,slow=41						
PLCA	**Paso Flores**	**18.56**	**185**	*e*P	**P**	**18 01 07.7**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,17nm,0.8s						
PLCA	**Paso Flores**	**18.56**	**185**	*e*P	**P**	**18 01 07.7**	**-0.4**
	comp=Z,17nm,0.8s						
SPB	**Sao Paulo**	**19.26**	**98**	⇑*e*P	**P**	**18 01 15.3**	**-0.6**
BDFB	**Brasilia**	**20.25**	**75**	P	**P**	**18 01 26.2**	**-0.4**
	comp=Z,72nm,0.4s,baz=249,slow=16,SNR=137						
BDFB				LR	LR	18 09 54.7	
	comp=Z,387nm,20.7s,baz=84,slow=38						
BDFB	**Brasilia**	**20.25**	**75**	⇑*e*P	**P**	**18 01 25.4**	**-1.2**
BDFB				pmax	pmax		
	comp=Z,253nm,0.9s						
BDFB	**Brasilia**	**20.25**	**75**	⇑*e*P	**P**	**18 01 25.4**	**-1.2**
	comp=Z,253nm,0.9s						
OTAV	**Otavalo**	**24.42**	**335**	*e*P	**P**	**18 02 08.5**	**+0.5**
	comp=Z,32nm,0.8s,mb4.9						
OTAV				*e*PcP	PcP	18 05 45.0	+1.1
CAM3	**Guarapari**	**25.87**	**92**	⇓*i*P	**P**	**18 02 21.0**	**-0.1**
CAM3				*i*		18 02 21.5	
CAM3				*i*		18 02 25.3	
CAM3				*i*		18 02 41.5	
CAM3				*i*	pP	18 02 50.7	+2.0
CAM3				*i*	pP	18 02 52.8	+4.1
CAM3				*i*		18 03 00.1	
ROSC	**El Rosal**	**27.55**	**347**	P	**P**	**18 02 36.1**	**0.0**
	comp=Z,8.5nm,0.3s,mb5.0,baz=270,slow=22,SNR=5.8						
ROSC				LR	LR	18 15 32.2	
	comp=Z,282nm,18.7s,baz=211,slow=41						
ROSC	**El Rosal**	**27.55**	**347**	P	**P**	**18 02 34.9**	**-1.3**
PAYG	**Puerto Ayora**	**30.29**	**312**	*e*P	**P**	**18 03 00.7**	**+0.1**
	comp=Z,66nm,0.8s,mb5.4						
EFI	**East Falkland**	**30.46**	**167**	*e*P	**P**	**18 03 01.3**	**-0.3**
EFI				pmax	pmax		
	comp=Z,59nm,1.3s,mb5.2						
EFI	**East Falkland**	**30.46**	**167**	*e*P	**P**	**18 03 01.3**	**-0.3**
	comp=Z,59nm,1.3s,mb5.2						
SDV	**Santo Domingo**	**30.99**	**355**	⇓*i*P	**P**	**18 03 04.3**	**-2.4**
	comp=Z,33nm,0.9s,mb5.1						
PCRV	**Puerto La Cruz**	**32.39**	**7**	P	**P**	**18 03 18.1**	**-0.7**
	comp=Z,25nm,0.6s,mb5.1,baz=214,slow=1.4,SNR=15						
USHA	**Ushuaia**	**32.57**	**180**	P	**P**	**18 03 20.0**	**-0.1**
	comp=Z,8.6nm,0.8s,mb4.5,baz=13,slow=10.0,SNR=5.3						
GRGR	**Grenville**	**34.75**	**11**	*e*P	**P**	**18 03 38.7**	**-0.6**
	comp=Z,213nm,0.8s,mb5.8						
GRW	**Mount Saint Ca**	**34.77**	**11**	*e*	**P**	**18 03 43.2**	**+3.6**
GRIC	**Isle de Caille**	**34.91**	**11**	*e*	**P**	**18 03 44.0**	**+3.3**
GRSS	**Sisters**	**34.92**	**11**	*e*	**P**	**18 03 41.8**	**+1.0**
SSV	**Crater Summit**	**36.00**	**12**	*e*	**P**	**18 03 41.7**	**-8.3**
BBGH	**Gun Hill**	**36.16**	**15**	P	**P**	**18 03 52.2**	**+0.7**
	comp=Z,569nm,1.4s,mb6.0						
MVM	**Montagne Vauci**	**37.25**	**12**	*e*P	**P**	**18 04 01.5**	**+0.8**
FDF	**Fort de France**	**37.38**	**11**	*e*P	**P**	**18 04 01.8**	**+0.1**
FDF	**Fort de France**	**37.38**	**11**	*e*P	**P**	**18 04 01.5**	**-0.2**
SJG	**San Juan**	**40.13**	**3**	*e*P	**P**	**18 04 21.4**	**-3.2**
SJG				pmax	pmax		
	comp=Z,97nm,0.9s						
SJG	**San Juan**	**40.13**	**3**	*e*P	**P**	**18 04 21.4**	**-3.3**
	comp=Z,97nm,0.9s,mb5.4						
TGUH	**Tegucigalpa,Un**	**40.57**	**331**	P	**P**	**18 04 27.4**	**-0.9**
	comp=Z,34nm,0.9s,mb5.0						
SDDR	**Presa de Saban**	**41.05**	**356**	P	**P**	**18 04 30.5**	**-1.6**
	comp=Z,13nm,0.5s,mb4.8						
PMSA	**Palmer Station**	**42.64**	**177**	LR	LR	18 23 24.1	
	comp=Z,320nm,19.6s,baz=350,slow=37						
CMIG	**Matias Romero**	**46.95**	**324**	*i* P	**P**	**18 05 18.3**	**-1.0**
VHO	**Vista Hermosa**	**47.96**	**322**	*e*P	**P**	**18 05 27.8**	**+0.7**
CAIG	**El Cayaco**	**50.03**	**319**	*e*P	**P**	**18 05 41.5**	**-1.5**
PPM	**Popocatepetl**	**50.63**	**322**	*e*P	**P**	**18 05 48.1**	**+0.7**
IIO	**Organos**	**51.10**	**322**	*i* P	**P**	**18 05 52.6**	**+1.7**
ZIIG	**Zihuatanejo**	**51.19**	**318**	*e*P	**P**	**18 05 45.4**	**-6.3**
PTVM	**Pico Tres Padr**	**51.32**	**322**	*i* P	**P**	**18 05 52.4**	**-0.1**
DWPF	**Disney**	**51.62**	**345**	*e*P	**P**	**18 05 54.0**	**-0.6**
	comp=Z,73nm,0.9s,mb5.3						
SFJM	**Santa Fe**	**54.34**	**319**	*i* P	**P**	**18 06 15.0**	**+0.3**
BBSR	**BB Station**	**54.38**	**4**	*e*P	**P**	**18 06 13.4**	**-1.4**
	comp=Z,80nm,0.6s,mb5.6						
BBSR				*e*		18 06 23.8	
BRAL	**Brewton**	**55.90**	**341**	*e*P	**P**	**18 06 25.4**	**-0.4**
	comp=Z,67nm,1.1s,mb5.4						
NHSC	**New Hope**	**56.17**	**348**	*e*P	**P**	**18 06 27.0**	**-0.6**
	comp=Z,196nm,1.2s,mb5.8						
NHSC				*e*	pP	18 07 00.1	+1.9
COW	**Cow Castle Cre**	**56.54**	**348**	*e*P	**P**	**18 06 29.7**	**-0.5**
COW				*e*		18 06 47.0	
COW				*e*	pP	18 07 02.3	+1.5
GOGA	**Godfrey**	**57.18**	**345**	*e*P	**P**	**18 06 32.7**	**-2.0**
GOGA				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
GOGA	**Godfrey**	**57.18**	**345**	*e*P	**P**	**18 06 32.7**	**-2.0**
	comp=Z,27nm,1.2s,mb5.0						
GOGA				*e*		18 06 49.9	
VBMS	**Vicksburg**	**58.15**	**338**	P	**P**	**18 06 33.9**	**-7.7**
HKT	**Hockley**	**58.24**	**332**	*e*P	**P**	**18 06 41.5**	**-0.7**
HKT				pmax	pmax		
	comp=Z,88nm,1.5s,mb5.4						
HKT	**Hockley**	**58.24**	**332**	*e*P	**P**	**18 06 41.5**	**-0.7**
	comp=Z,88nm,1.5s,mb5.4						
NATX	**Nacogdoches**	**59.31**	**334**	*e*P	**P**	**18 06 49.1**	**-0.6**
	comp=Z,153nm,1.2s,mb5.7						
TKL	**Tuckaleechee C**	**59.40**	**345**	LR	LR	18 34 56.4	
	comp=Z,74nm,18.0s,baz=188,slow=38						
TKL	**Tuckaleechee C**	**59.40**	**345**	*e*P	**P**	**18 06 48.3**	**-1.8**
TKL				*e*		18 07 07.1	
TKL				*e*PP	PP	18 08 47.6	-15
VNA1	**Neumayer--Stat**	**59.42**	**160**	*e*P	**P**	**18 06 51.1**	**+1.2**
VNA1				*e*		18 06 54.5	
VNA1				*e*		18 07 02.7	
VNA1				*e*	pP	18 07 22.7	+1.9
SWET	**Sewanee**	**59.52**	**343**	*e*P	**P**	**18 06 49.1**	**-1.8**
SWET				*e*		18 07 08.3	
SWET				*e*	pP	18 07 21.1	-0.7
OXF	**Oxford**	**59.88**	**340**	*e*P	**P**	**18 06 51.5**	**-1.9**
OXF				pmax	pmax		
	comp=Z,67nm,1.0s,mb5.4						
OXF	**Oxford**	**59.88**	**340**	*e*P	**P**	**18 06 51.5**	**-2.0**
	comp=Z,67nm,1.0s,mb5.4						
PLAL	**Pickwick Lake**	**59.90**	**341**	*e*P	**P**	**18 06 50.6**	**-3.0**
	comp=Z,48nm,1.1s,mb5.2						
URVA	**University of**	**60.10**	**352**	*e*P	**P**	**18 06 54.0**	**-0.9**
URVA				*e*		18 07 08.6	
TZTN	**Tazewell**	**60.19**	**346**	*e*P	**P**	**18 06 53.9**	**-1.6**
	comp=Z,46nm,1.5s,mb5.1						
BLA	**Blacksburg**	**60.20**	**349**	*e*P	**P**	**18 06 54.8**	**-0.8**
BLA				pmax	pmax		
	comp=Z,51nm,0.6s,mb5.5						
BLA	**Blacksburg**	**60.20**	**349**	*e*P	**P**	**18 06 54.8**	**-0.7**
	comp=Z,51nm,0.6s,mb5.5						
ELN	**Prospectdale**	**60.28**	**349**	*e*P	**P**	**18 06 55.4**	**-0.7**
ELN				*e*	pP	18 07 28.8	+1.7
JCT	**Junction City**	**60.51**	**329**	*e*P	**P**	**18 06 56.9**	**-0.9**
JCT				pmax	pmax		
	comp=Z,94nm,0.7s,mb5.7						
JCT	**Junction City**	**60.51**	**329**	*e*P	**P**	**18 06 56.9**	**-1.0**
	comp=Z,94nm,0.7s,mb5.7						
RKT	**Rikitea**	**61.03**	**255**	*e*LR	LR	18 25 12.1	
	comp=Z,326nm,42.0s						
MIAR	**Mount Ida**	**61.35**	**336**	*e*P	**P**	**18 07 01.8**	**-1.6**
MIAR				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.3						
MIAR	**Mount Ida**	**61.35**	**336**	*e*P	**P**	**18 07 01.8**	**-1.6**
	comp=Z,43nm,0.9s,mb5.3						
MIAR				*e*		18 07 25.4	
GNAR	**Gosnell**	**61.41**	**340**	*e*P	**P**	**18 07 00.6**	**-3.2**
	comp=Z,650nm,0.8s						
SNAA	**Sanae**	**61.42**	**161**	*e*P	**P**	**18 07 03.8**	**+0.4**
SNAA				*e*		18 07 07.4	
SNAA				*e*		18 07 15.9	
SNAA				*e*	pP	18 07 35.0	+0.5
SNAA	**Sanae**	**61.42**	**161**	*e*P	**P**	**18 07 03.8**	**+0.4**
SNAA				*e*	pP	18 07 35.1	+0.6
SNAA				pmax	pmax		
	comp=Z,30nm,1.0s						
SNAA	**Sanae**	**61.42**	**161**	*e*P	**P**	**18 07 03.8**	**+0.3**
	comp=Z,30nm,1.0s,mb5.1						
SNAA				*e*	pP	18 07 35.1	+0.6
TXAR	**Lajitas Array**	**61.54**	**325**	P	**P**	**18 07 03.9**	**-0.9**
	comp=Z,7.3nm,0.5s,mb4.7,baz=149,slow=8.8,SNR=112						
TXAR	**Lajitas Array**	**61.54**	**325**	P	**P**	**18 07 03.9**	**-0.9**
SDMD	**Soldier's Deli**	**61.82**	**352**	*e*P	**P**	**18 07 05.4**	**-1.1**
	comp=Z,14nm,0.9s,mb4.8						
SDMD				*e*		18 07 21.5	
PARMO	**Parma**	**61.97**	**341**	*e*P	**P**	**18 07 06.1**	**-1.4**
PARMO				*e*		18 07 27.2	
WCI	**Wyandotte Cave**	**62.46**	**344**	*e*P	**P**	**18 07 08.5**	**-2.2**
WCI				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.1						
WCI	**Wyandotte Cave**	**62.46**	**344**	*e*P	**P**	**18 07 08.5**	**-2.2**
	comp=Z,18nm,0.6s,mb5.1						
MCWV	**Mont Chateau**	**62.49**	**350**	*e*P	**P**	**18 07 10.3**	**-0.6**
	comp=Z,70nm,0.8s,mb5.5						
MCWV				*e*		18 07 27.3	
USIN	**University of**	**62.57**	**343**	*e*P	**P**	**18 07 09.4**	**-2.1**
	comp=Z,51nm,1.0s,mb5.3						
BRNJ	**Basking Ridge**	**62.84**	**355**	*e*P	**P**	**18 07 12.6**	**-0.6**
	comp=Z,25nm,0.6s,mb5.2						
BRNJ				*e*		18 07 28.2	
FVM	**French Village**	**63.39**	**341**	*e*P	**P**	**18 07 15.1**	**-1.8**
FVM				pmax	pmax		
	comp=Z,42nm,0.8s,mb5.3						
FVM	**French Village**	**63.39**	**341**	*e*P	**P**	**18 07 15.1**	**-1.8**
	comp=Z,42nm,0.8s,mb5.3						
OLIL	**Olney**	**63.41**	**343**	*e*P	**P**	**18 07 14.1**	**-2.9**
	comp=Z,12nm,0.6s,mb4.9						
ACSO	**Alum Creek Sta**	**63.62**	**347**	*e*P	**P**	**18 07 16.7**	**-1.6**
	comp=Z,40nm,0.9s,mb5.2						
ACSO				*e*		18 07 35.6	
ACSO				*e*	pP	18 07 49.7	+0.1
WMOK	**Wichita Mounta**	**63.62**	**332**	*e*P	**P**	**18 07 16.5**	**-2.0**
WMOK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.8						
WMOK	**Wichita Mounta**	**63.62**	**332**	*e*P	**P**	**18 07 16.4**	**-2.

baz=68,SNR=17
TUC Tucson 67.75 322 *e*P **P 18 07 45.0 -0.1**
TUC *e* pP 18 08 16.8 +0.1
TUC pmax pmax
comp=Z,63nm,1.4s,mb5.2
TUC Tucson 67.75 322 *e*P **P 18 07 45.0 -0.1**
comp=Z,63nm,1.4s,mb5.2
TUC *e* pP 18 08 16.8 0.0
SCIA State Center 67.84 340 *e*P **P 18 07 43.9 -1.6**
comp=Z,26nm,0.7s,mb5.1
SCIA *e* 18 08 04.8
JFWS Jewell Farm 67.89 343 *e*P **P 18 07 43.4 -2.3**
JFWS pmax pmax
comp=Z,41nm,0.8s,mb5.2
JFWS Jewell Farm 67.89 343 *e*P **P 18 07 43.4 -2.3**
comp=Z,41nm,0.8s,mb5.2
JFWS *e* 18 08 03.5
Z18A Geronimo 67.90 323 ⇑P **P 18 07 46.5 +0.4**
baz=68,SNR=9.1
216A Three Points, 67.92 321 ⇓P **P 18 07 46.6 +0.5**
baz=68,SNR=22
117A Oracle 67.92 322 ⇑P **P 18 07 46.4 +0.2**
baz=68,SNR=52
QSPA South Pole Qui 67.98 180 P **P 18 07 47.2 +1.3**
comp=Z,13nm,0.4s,mb5.0,baz=191,slow=0.6,SNR=361
QSPA pP pP 18 08 17.1 -0.4
comp=Z,29nm,1.0s,baz=163,slow=4.7,SNR=11
LIC Lamto 68.03 73 ⇑*i*P **P 18 07 46.8 -0.5**
comp=Z,23nm,0.5s,mb4.9
LIC Lamto 68.03 73 *e*P **P 18 07 46.6 -0.7**
comp=Z,61nm,0.6s,mb5.5
LIC Lamto 68.03 73 ⇑*i*P **P 18 07 46.8 -0.5**
comp=Z,11nm,0.5s,mb4.9
Y19A Nutrioso 68.12 324 P **P 18 07 48.4 +1.0**
baz=68,SNR=112
TIC Toumodi 68.23 73 *e*P **P 18 07 48.1 -0.4**
comp=Z,156nm,1.0s,mb5.7
TIC Toumodi 68.23 73 *e*P **P 18 07 48.1 -0.4**
TIC pmax pmax
comp=Z,156nm,1.0s,mb5.7
Z17A San Carlos Hig 68.30 323 ⇑P **P 18 07 48.9 +0.3**
baz=68,SNR=8.7
KIC Kosan Boka 68.35 73 *e*P **P 18 07 48.6 -0.7**
comp=Z,100nm,0.5s,mb5.8
DBIC Dimbokro 68.38 73 P **P 18 07 49.4 -0.1**
comp=Z,35nm,0.6s,mb5.3,baz=223,slow=6.7,SNR=38
DBIC LR LR 18 35 03.2
comp=Z,157nm,21.3s,baz=308,slow=33
DBIC Dimbokro 68.38 73 *e*P **P 18 07 49.0 -0.5**
DBIC *e* pP 18 08 21.7 +0.6
DBIC pmax pmax
comp=Z,48nm,0.8s
DBIC Dimbokro 68.38 73 *e*P **P 18 07 49.0 -0.5**
comp=Z,48nm,0.8s,mb5.3
DBIC *e* pP 18 08 21.7 +0.5
Y18A Canyon Day Jun 68.42 323 ⇓P **P 18 07 49.5 +0.3**
baz=69,SNR=22
116A Eloy 68.47 321 ⇑P **P 18 07 49.9 +0.3**
baz=69,SNR=14
X19A St. Johns 68.50 324 ⇑P **P 18 07 50.1 +0.4**
baz=69,SNR=8.8
214A Organ Pipe Nat 68.68 320 ⇓P **P 18 07 51.4 +0.5**
baz=69,SNR=24
Y17A Roosevelt 68.81 323 P **P 18 07 52.3 +0.6**
baz=69,SNR=34
115A Sonoran Desert 68.87 321 ⇑P **P 18 07 52.1 0.0**
baz=69,SNR=9.4
Z16A Peralta Trail, 68.88 322 ⇓P **P 18 07 52.4 +0.3**
baz=69,SNR=6.7
X18A Snowflake 68.93 324 ⇓P **P 18 07 52.9 +0.5**
baz=69,SNR=11
W19A Sanders 69.07 325 ⇑P **P 18 07 53.6 +0.4**
baz=69,SNR=23
SDCO Great Sand Dun 69.15 329 *e*P **P 18 07 53.8 +0.1**
comp=Z,134nm,1.3s,mb5.5
SDCO *e* 18 08 39.0
Z15A Gila River Ind 69.26 322 ⇑P **P 18 07 54.9 +0.5**
baz=70,SNR=8.1
W18A Petrified Fore 69.26 325 ⇓P **P 18 07 54.8 +0.4**
baz=70
X17A Forest Lakes 69.26 323 ⇓P **P 18 07 55.4 +0.9**
baz=70,SNR=16
Y16A Circle Bar Ran 69.30 323 ⇑P **P 18 07 55.4 +0.7**
baz=70,SNR=23
V19A Window Rock 69.34 325 ⇓P **P 18 07 55.4 +0.5**
baz=70,SNR=39
X16A Lo Mia Camp, P 69.67 323 P **P 18 07 57.5 +0.6**
baz=70,SNR=44
W17A Winslow 69.76 324 ⇑P **P 18 07 58.1 +0.6**
baz=70
Z14A Wintersburg 69.77 321 ⇑P **P 18 07 57.6 +0.1**
baz=70
V18A Ganado 69.81 325 ⇓P **P 18 07 57.7 -0.1**
baz=70,SNR=11
113A Mohawk Valley, 69.82 320 ⇑P **P 18 07 58.0 0.0**
baz=70,SNR=8.3
Y15A Casa Rosa Ranc 69.84 322 ⇑P **P 18 07 58.4 +0.4**
baz=70,SNR=12
X15A Humboldt 70.17 322 P **P 18 08 00.8 +0.7**
baz=70,SNR=31
T19A Beclabito 70.18 326 ⇓P **P 18 08 00.1 +0.1**
baz=70,SNR=42
MVCO Mesa Verde 70.21 327 ⇑P **P 18 08 00.5 +0.3**
baz=70,SNR=35
MVCO Mesa Verde 70.21 327 *e*P **P 18 08 00.1 -0.1**
comp=Z,104nm,1.1s,mb5.5
MVCO *e* pP 18 08 29.8 -2.2
Y14A Wickenburg 70.21 322 ⇑P **P 18 08 00.5 +0.2**
baz=70,SNR=19
W16A Flagstaff 70.22 323 ⇓P **P 18 08 01.3 +1.0**
baz=70,SNR=22
WUAZ Wupatki 70.45 324 ⇓P **P 18 08 02.3 +0.6**
baz=71,SNR=41
WUAZ Wupatki 70.45 324 *e*P **P 18 08 01.9 +0.2**
comp=Z,82nm,1.0s,mb5.4
X14A Yava 70.53 322 ⇑P **P 18 08 02.8 +0.6**
baz=71,SNR=24
COWI Conover 70.57 345 *e*P **P 18 08 00.4 -1.8**
comp=Z,40nm,1.2s,mb5.0
ECSD EROS,Sioux Fal 70.59 339 *e*P **P 18 08 00.5 -1.8**
comp=Z,17nm,0.8s,mb4.8
Y13A Salome 70.60 321 ⇑P **P 18 08 02.8 +0.1**
baz=71,SNR=17
GLA Glamis 70.65 320 *e*P **P 18 08 03.5 +0.5**
GLA pmax pmax
comp=Z,15nm,0.8s,mb4.8
GLA Glamis 70.65 320 ⇑P **P 18 08 03.3 +0.3**
baz=71,SNR=9.0
GLA Glamis 70.65 320 *e*P **P 18 08 03.5 +0.5**
comp=Z,14nm,0.8s,mb4.8
W15A Williams 70.69 323 ⇓P **P 18 08 04.0 +0.8**
baz=71,SNR=9.1
ISCO Idaho Springs 70.85 330 *e*P **P 18 08 03.9 -0.1**
ISCO pmax pmax
comp=Z,26nm,0.8s,mb5.0
ISCO Idaho Springs 70.85 330 *e*P **P 18 08 03.9 -0.1**
comp=Z,26nm,0.8s,mb5.0
T18A Mexican Hat 70.86 326 ⇑P **P 18 08 04.2 +0.1**
baz=71,SNR=87
U17A Shonto 70.87 325 ⇑P **P 18 08 04.7 +0.5**
baz=71,SNR=43
S19A Harvey Farm, M 70.94 327 P **P 18 08 04.9 +0.3**
baz=71,SNR=52
Y12C Blythe 70.96 320 ⇓P **P 18 08 05.2 +0.3**
baz=71,SNR=8.7
V15A Kaibab Nationa 71.11 323 ⇓P **P 18 08 05.6 -0.1**
baz=71,SNR=50
DVTC Desert V Tower 71.15 319 ⇓P **P 18 08 06.6 +0.6**
baz=71,SNR=7.7
X13A Yucca 71.16 322 P **P 18 08 06.4 +0.4**
baz=71,SNR=34
SWSC Sam W. Stewart 71.16 319 ⇑P **P 18 08 06.3 +0.3**
baz=71
W14A Seligman 71.18 322 ⇑P **P 18 08 06.9 +0.8**
baz=71,SNR=18
T17A Navajo Res., N 71.24 325 ⇑P **P 18 08 07.4 +0.9**
baz=72,SNR=61
S18A Hurst Farm, Bl 71.34 326 P **P 18 08 07.7 +0.6**
baz=72,SNR=122
R19A Curley Farm, L 71.42 327 P **P 18 08 07.6 +0.1**
baz=72,SNR=17
BC3 Big Chucky Mtn 71.45 320 ⇓P **P 18 08 08.1 +0.3**
baz=72,SNR=24
V14A Boquillas Ranc 71.49 323 ⇑P **P 18 08 08.9 +1.0**
baz=72,SNR=46
MONP Monument Peak 71.51 319 ⇓P **P 18 08 08.6 +0.4**
baz=72,SNR=9.7
BAR Barrett 71.52 318 *e*P **P 18 08 08.5 +0.3**
comp=Z,27nm,1.1s,mb4.9
BAR *e* pP 18 08 40.9 +0.8
W13A Hualapai Mount 71.55 322 ⇑P **P 18 08 09.1 +0.8**
baz=72,SNR=23
T16A Glen Canyon Da 71.61 325 ⇑P **P 18 08 09.4 +0.8**
baz=72
U15A North Rim 71.62 324 P **P 18 08 09.8 +1.1**
baz=72,SNR=72
IRM Iron Mountain 71.62 320 ⇓P **P 18 08 09.1 +0.4**
baz=72,SNR=23
S17A Black Ridge (B 71.72 326 ⇑P **P 18 08 09.5 +0.2**
baz=72,SNR=8.4
NEE2 Needles Airpor 71.74 321 ⇑P **P 18 08 09.5 0.0**
baz=72
R18A Canyonlands Na 71.82 327 ⇓P **P 18 08 09.9 0.0**
baz=72,SNR=27
Q19A Hogan Spring (71.93 327 ⇑P **P 18 08 10.8 +0.2**
baz=72,SNR=40
PHWY Pilot Hill 71.99 331 *e*P **P 18 08 10.7 -0.1**
PHWY *e* pP 18 08 38.4 -4.4
BELC Belle Mtn. 72.02 320 ⇓P **P 18 08 11.6 +0.4**
baz=72,SNR=12
PFO Pinyon Flat Ob 72.02 319 P **P 18 08 11.4 +0.2**
comp=Z,95nm,0.8s,mb5.6,SNR=6.8
PFO Pinyon Flat Ob 72.02 319 *e*P **P 18 08 11.1 -0.1**
PFO pmax pmax
comp=Z,22nm,1.1s,mb4.8
PFO Pinyon Flat Ob 72.02 319 ⇓P **P 18 08 11.7 +0.5**
baz=72,SNR=12
PFO Pinyon Flat Ob 72.02 319 *e*P **P 18 08 11.1 -0.1**
comp=Z,22nm,1.1s,mb4.8
T15A Red Dirt Ranch 72.10 324 P **P 18 08 12.7 +1.1**
baz=72,SNR=36
U14A Mt Trumbull 72.10 323 ⇓P **P 18 08 12.7 +1.1**
baz=72,SNR=55
V13A Grand Canyon W 72.14 322 P **P 18 08 12.6 +0.7**
baz=72,SNR=32
S16A Weppner Ranch, 72.20 325 ⇑P **P 18 08 12.3 +0.1**
baz=72
R17A Hanksville Air 72.26 326 ⇑P **P 18 08 12.8 +0.3**
baz=72,SNR=64
W12A Cal Nev Ari 72.26 321 ⇑P **P 18 08 12.8 +0.2**
baz=72,SNR=5.2
GMRC Granite Mounta 72.36 321 ⇑P **P 18 08 13.8 +0.6**
baz=73,SNR=24
Q18A Rafter H Ranch 72.48 327 ⇑P **P 18 08 14.1 +0.3**
baz=73,SNR=25
T14A Hurrane 72.52 324 ⇑P **P 18 08 14.9 +0.8**
baz=73,SNR=24
U13A Pakoon Wash 72.54 323 ⇑P **P 18 08 14.8 +0.6**
baz=73,SNR=16
V12A Nelson 72.55 322 ⇑P **P 18 08 14.5 +0.2**
baz=73,SNR=10
S15A Panguitch 72.58 325 ⇓P **P 18 08 14.9 +0.5**
baz=73,SNR=5.3
SRU San Rafael 72.69 327 *e*P **P 18 08 15.1 +0.1**
SRU pmax pmax
comp=Z,46nm,1.0s,mb5.2
SRU San Rafael 72.69 327 ⇑P **P 18 08 15.3 +0.2**
baz=73,SNR=51
SRU San Rafael 72.69 327 *e*P **P 18 08 15.1 +0.1**
comp=Z,46nm,1.0s,mb5.2
HEC Hector,Ludlow 72.79 320 ⇓P **P 18 08 16.0 +0.3**
baz=73,SNR=5.8
Q16A Castle Valley 72.87 326 P **P 18 08 16.7 +0.6**
baz=73,SNR=26
U12A Valley of Fire 72.87 322 ⇓P **P 18 08 16.6 +0.4**
baz=73,SNR=11
EYMN Ely 72.88 344 *e*P **P 18 08 14.0 -1.9**
comp=Z,28nm,0.7s,mb5.1
R15A Junction 72.92 325 ⇓P **P 18 08 17.1 +0.6**
baz=73,SNR=5.6
P18A Preston Nutter 72.94 327 ⇑P **P 18 08 17.1 +0.6**
baz=73,SNR=49
T13A Saint George 72.94 323 ⇑P **P 18 08 17.3 +0.8**
baz=73,SNR=17
V11A Goodsprings 72.96 321 ⇑P **P 18 08 17.1 +0.4**
baz=73,SNR=9.5
TUQ Turquoise Mtn. 72.97 321 ⇓P **P 18 08 17.3 +0.5**
baz=73
CCUT Cedar City 73.02 324 *e*P **P 18 08 22.1 +5.0**
CCUT *e* pP 18 08 54.9 +5.8
CCUT *e* 18 09 08.7
P17A Butcher Ranch, 73.07 327 ⇓P **P 18 08 17.3 +0.1**
baz=73,SNR=26
S14A Cedar City 73.07 324 ⇑P **P 18 08 18.1 +0.8**
baz=73
RWWY Rawlins 73.09 331 *e*P **P 18 08 17.7 +0.3**
comp=Z,161nm,1.5s,mb5.5
MSU Marysvale 73.09 325 *e*P **P 18 08 18.0 +0.6**
MSU *e* pP 18 08 47.4 -2.1
TMUT Trail Mountain 73.17 326 *e*P **P 18 08 18.5 +0.7**
BFSC Mount Baldy St 73.18 319 ⇓P **P 18 08 18.2 +0.2**
baz=73,SNR=7.5
RRX Edison Barstow 73.22 320 ⇓P **P 18 08 18.3 +0.1**
baz=73
ARUT Antelope Range 73.24 324 *e*P **P 18 08 19.1 +0.8**
ARUT *e* pP 18 08 51.8 +1.4
O18A Roosevelt 73.31 328 ⇑P **P 18 08 19.0 +0.4**
baz=74,SNR=9.3
S13A Holt Ranch, En 73.32 324 P **P 18 08 19.9 +1.1**
baz=74,SNR=33
GSC Goldstone 73.39 320 *e*P **P 18 08 19.3 0.0**
GSC *e* pP 18 08 52.2 +0.9
GSC pmax pmax
comp=Z,33nm,1.2s,mb4.9
GSC Goldstone 73.39 320 ⇑P **P 18 08 19.4 +0.1**
baz=74,SNR=17
GSC Goldstone 73.39 320 *e*P **P 18 08 19.3 +0.1**
comp=Z,33nm,1.2s,mb4.9
GSC *e* pP 18 08 52.2 +0.8
MWC Mount Wilson 73.41 319 *e*P **P 18 08 19.2 -0.2**
MWC pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
MWC Mount Wilson 73.41 319 *e*P **P 18 08 19.2 -0.3**
comp=Z,8.3nm,0.5s,mb4.7
DECC Green Verdugo 73.60 319 ⇓P **P 18 08 20.6 +0.1**
baz=74
P16A Fountain Green 73.64 326 ⇓P **P 18 08 21.4 +0.8**
baz=74,SNR=6.2
N18A Larsen Ranch, 73.69 329 ⇓P **P 18 08 20.7 -0.2**
baz=74,SNR=13
RSSD Black Hills 73.69 334 *e*P **P 18 08 20.6 -0.2**
RSSD *e* 18 08 35.0
RSSD pmax pmax
comp=Z,27nm,0.9s,mb5.0
RSSD Black Hills 73.69 334 *e*P **P 18 08 20.6 -0.2**
comp=Z,27nm,0.9s,mb5.0
RSSD *e* 18 08 35.0
R13A O'Grain Ranch, 73.81 324 ⇓P **P 18 08 22.0 +0.3**
baz=74,SNR=27
EDW2 Edwards Air Fo 73.81 319 ⇓P **P 18 08 21.6 -0.1**
baz=74,SNR=7.4
T11A Corn Creek, Al 73.83 323 ⇓P **P 18 08 21.8 +0.1**
baz=74,SNR=41
S12A Delamar Landin 73.88 323 ⇑P **P 18 08 23.0 +0.9**
baz=74,SNR=9.3
U10A Ash Meadows, A 73.89 321 ⇑P **P 18 08 22.8 +0.7**
baz=74,SNR=14
MPU Maple Canyon 73.93 327 *e*P **P 18 08 22.9 +0.6**
comp=Z,64nm,1.2s,mb5.2
MPU *e* pP 18 08 55.1 +0.7
P15A Leamington 73.93 326 ⇑P **P 18 08 22.7 +0.4**
baz=74,SNR=11
BLG Laguna Peak 73.96 318 ⇑P **P 18 08 22.6 +0.1**
baz=74
O16A Springville 74.01 327 ⇓P **P 18 08 23.1 +0.3**
baz=74
Q14A Sevier Lake (B 74.03 325 ⇑P **P 18 08 23.7 +0.9**
baz=74,SNR=52
DAU Daniels Canyon 74.04 327 *e*P **P 18 08 23.3 +0.4**
DAU *e* pP 18 08 56.0 +1.0
LRMC Laurel Mountai 74.04 320 ⇑P **P 18 08 23.2 +0.2**
baz=74
NLU North Lily Min 74.11 326 *e*P **P 18 08 23.8 +0.5**
TPNV Topopah Spring 74.21 322 *e*P **P 18 08 24.3 +0.3**
TPNV *e* pP 18 08 57.9 +1.8
TPNV pmax pmax
comp=Z,53nm,1.3s,mb5.1
TPNV Topopah Spring 74.21 322 ⇑P **P 18 08 24.9 +0.9**
baz=74,SNR=33
TPNV Topopah Spring 74.21 322 *e*P **P 18 08 24.3 +0.4**
comp=Z,53nm,1.3s,mb5.1
TPNV *e* pP 18 08 57.9 +1.8
N17A Moffit Pass 74.23 328 ⇑P **P 18 08 24.7 +0.7**
baz=74,SNR=39
FURC Furnace Creek, 74.23 321 ⇓P **P 18 08 24.5 +0.4**
baz=74,SNR=14
BSC Santa Cruz Isl 74.24 318 ⇑P **P 18 08 24.2 0.0**
baz=74
R12A Pony Springs, 74.27 324 ⇓P **P 18 08 24.6 +0.4**
baz=74,SNR=28
MPMC Manual Prospec 74.32 320 P **P 18 08 24.9 +0.3**
baz=74,SNR=17
P14A Drum Mountains 74.36 326 ⇑P **P 18 08 25.7 +0.9**
baz=75,SNR=46
Q13A Wheeler Ranch, 74.40 325 ⇓P **P 18 08 25.6 +0.6**
baz=75,SNR=21
S11A Rachel 74.41 323 P **P 18 08 26.4 +1.2**
baz=75,SNR=7.4
N16A Rees Ranch, Co 74.49 327 ⇓P **P 18 08 26.0 +0.5**
baz=75,SNR=9.2
ARVC Arvin 74.49 319 ⇓P **P 18 08 26.1 +0.5**
baz=75
CTU Camp Tracy 74.50 327 *e*P **P 18 08 25.5 0.0**
comp=Z,25nm,1.2s,mb4.8
O15A The Old Anders 74.56 326 ⇓P **P 18 08 26.6 +0.6**
baz=75,SNR=6.0
ISA Isabella 74.64 320 *e*P **P 18 08 26.8 +0.3**
ISA *e* pP 18 08 59.5 +0.9
ISA pmax pmax
comp=Z,20nm,0.8s,mb4.8
ISA Isabella 74.64 320 ⇑P **P 18 08 27.0 +0.5**
baz=75,SNR=18
ISA Isabella 74.64 320 *e*P **P 18 08 26.8 +0.3**
comp=Z,20nm,0.8s,mb4.8
ISA *e* pP 18 08 59.5 +0.8
DUG Dugway 74.67 326 *e*P **P 18 08 26.7 +0.1**
DUG *e* pP 18 08 58.9 +0.2
DUG pmax pmax
comp=Z,49nm,1.3s,mb5.0
DUG Dugway 74.67 326 P **P 18 08 27.0 +0.5**
baz=75,SNR=37
DUG Dugway 74.67 326 *e*P **P 18 08 26.7 +0.1**
comp=Z,49nm,1.3s,mb5.0
DUG *e* pP 18 08 58.9 +0.2
P13A Bates Ranch, G 74.76 325 P **P 18 08 27.9 +0.9**
baz=75,SNR=33
R11A Troy Canyon, C 74.82 323 P **P 18 08 28.3 +0.8**
baz=75,SNR=33
GRAC Grapevine Rang 74.89 321 ⇑P **P 18 08 28.4 +0.5**
baz=75,SNR=7.2
Q12A Willow Creek R 74.90 324 ⇑P **P 18 08 28.4 +0.5**
baz=75
M16A Huntsville 74.90 328 ⇓P **P 18 08 27.8 -0.1**
baz=75,SNR=6.1
CWC Cottonwood Cre 74.92 320 ⇑P **P 18 08 28.6 +0.5**
baz=75
PKM Peak Mountain 74.94 318 ⇑P **P 18 08 28.1 -0.2**
baz=75,SNR=14
PDAR Pinedale Array 75.01 330 P **P 18 08 28.0 -0.5**
comp=Z,5.3nm,0.6s,mb4.3,baz=131,slow=7.0,SNR=43
PDAR pP pP 18 08 57.9 -2.8
comp=Z,5.5nm,0.6s,baz=120,slow=8.7,SNR=11
N15A Stansbury Isla 75.03 327 ⇑P **P 18 08 28.6 -0.1**
baz=75
S10A Tonopah Range, 75.09 322 P **P 18 08 29.6 +0.5**
baz=75,SNR=26
VES Vestal, Richgr 75.12 319 ⇑P **P 18 08 29.5 +0.3**
baz=75
R10A Warm Springs 75.18 323 ⇓P **P 18 08 30.6 +1.0**
baz=75,SNR=26
Q11A Duckwater 75.21 324 ⇓P **P 18 08 30.3 +0.6**
baz=75,SNR=26
O13A Hicks Ranch, I 75.23 325 ⇓P **P 18 08 30.6 +0.8**
baz=76
P12A McGill 75.25 324 ⇑P **P 18 08 30.4 +0.5**
baz=76,SNR=19
S09A Goldfield 75.31 322 ⇓P **P 18 08 30.2 -0.1**
baz=76,SNR=13
SPUT South Promonto 75.31 327 *e*P **P 18 08 30.3 +0.1**
SPUT *e* pP 18 09 00.8 -1.6
BGU Big Grassy Mou 75.32 327 *e*P **P 18 08 30.2 -0.1**
L16A Fish Haven 75.33 328 ⇑P **P 18 08 30.2 -0.1**
baz=76
N14A Grayback Hills 75.34 326 ⇓P **P 18 08 30.5 +0.1**
baz=76,SNR=23
M15A Larsen Ranch, 75.42 327 ⇓P **P 18 08 30.7 -0.2**
baz=76,SNR=14
TPH Tonopah 75.55 322 *e*P **P 18 08 31.9 +0.2**
TPH *e* pP 18 09 04.2 +0.3
TPH pmax pmax
comp=Z,12nm,1.1s,mb4.4
TPH Tonopah 75.55 322 *e*P **P 18 08 31.9 +0.3**
comp=Z,12nm,1.1s,mb4.5
TPH *e* pP 18 09 04.2 +0.3
R09A Tonopah 75.58 322 ⇑P **P 18 08 32.1 +0.3**
baz=76,SNR=20
Q10A Clear Creek Ra 75.61 323 ⇓P **P 18 08 32.8 +0.8**
baz=76,SNR=10.0
SYO Syowa Base 75.63 159⇑*e*P **P 18 08 31.0 -0.7**
SYO Syowa Base 75.63 159⇓*e*PcP PcP 18 08 42.0 -2.0
V05C Boulder Hill, 75.64 319 ⇓P **P 18 08 32.7 +0.5**
baz=76
HELL Mitchell Peak 75.65 320 ⇑P **P 18 08 32.2 0.0**
baz=76,SNR=43
S08C White Mtn Res 75.70 321 ⇓P **P 18 08 33.0 +0.5**
baz=76,SNR=14
PPT Papeete 75.72 257 *e*LR LR 18 31 58.1
comp=Z,451nm,38.2s
PPT Papeete 75.72 257 LR LR 18 35 28.4
comp=Z,137nm,21.6s,baz=344,slow=30
O12A Currie 75.73 325 ⇑P **P 18 08 32.7 +0.1**
baz=76,SNR=28
AHID Auburn Hatcher 75.74 329 *e*P **P 18 08 32.7 +0.1**
comp=Z,58nm,1.0s,mb5.2
P11A Circle Ranch, 75.76 324 ⇓P **P 18 08 33.4 +0.6**
baz=76
L15A Malad City 75.80 328 ⇓P **P 18 08 32.8 -0.2**
baz=76,SNR=31
HVU Hansel Valley 75.82 327 *e*P **P 18 08 33.6 +0.5**
HVU pmax pmax
comp=Z,12nm,0.8s,mb4.6
HVU Hansel Valley 75.82 327 *e*P **P 18 08 33.6 +0.5**
comp=Z,12nm,0.8s,mb4.6
N13A Wendover, West 75.87 326 ⇑P **P 18 08 33.4 0.0**
baz=76
Q09A Carvers 76.05 323 ⇓P **P 18 08 35.1 +0.6**
baz=76,SNR=6.0
REDW Red Top Meadow 76.08 329 *e*P **P 18 08 34.5 -0.1**
comp=Z,99nm,1.4s,mb5.2
SNOW Snow King Moun 76.11 330 *e*P **P 18 08 34.5 -0.2**
comp=Z,38nm,0.9s,mb5.0
LOHW Long Hollow 76.15 330 *e*P **P 18 08 34.6 -0.4**
comp=Z,36nm,1.0s,mb5.0
ULM Lac du Bonnet 76.17 342 P **P 18 08 33.2 -1.6**
comp=Z,27nm,0.6s,mb5.1,baz=155,slow=6.1,SNR=21
ULM Lac du Bonnet 76.17 342 *e*P **P 18 08 32.8 -2.1**
comp=Z,46nm,0.9s,mb5.1
ULM *e* 18 08 55.2
M13A Montello 76.22 326 ⇑P **P 18 08 35.2 -0.2**
baz=76
TPAW Teton Pass 76.22 329 *e*P **P 18 08 35.8 +0.5**
comp=Z,62nm,1.1s,mb5.2
L14A Malta 76.24 327 ⇓P **P 18 08 35.4 -0.1**
baz=76,SNR=19
VNDA Vanda 76.25 190 P **P 18 08 35.7 +0.6**
comp=Z,2.5nm,0.8s,mb3.9,baz=153,slow=3.3,SNR=9.2
VNDA LR LR 18 43 00.7
comp=Z,82nm,18.3s,baz=150,slow=36
VNDA Vanda 76.25 190 *e*P **P 18 08 36.3 +1.2**
VNDA pmax pmax
comp=Z,18nm,1.6s
VNDA Vanda 76.25 190 *e*P **P 18 08 36.3 +1.2**
comp=Z,18nm,1.6s,mb4.5
KCC Kaiser Creek 76.25 320 ⇓P **P 18 08 35.1 -0.6**
baz=76
RRI2 Red Ridge 76.29 329 *e*P **P 18 08 36.0 +0.3**
comp=Z,112nm,1.2s,mb5.4
RRI2 *e* pP 18 09 04.6 -3.4
N12A Clover Valley, 76.31 325 ⇑P **P 18 08 35.8 -0.1**
baz=76
MOOW Moose Ponds 76.32 330 *e*P **P 18 08 35.7 -0.2**
comp=Z,65nm,1.5s,mb5.0
MOOW *e* pP 18 09 03.4 -4.8
ELK Elko 76.34 325 *e*P **P 18 08 36.2 +0.1**
ELK *e* 18 11 28.9
ELK pmax pmax
comp=Z,26nm,1.1s
ELK Elko 76.34 325 *e*P **P 18 08 36.2 +0.1**
comp=Z,26nm,1.1s,mb4.8
ELK *e*PP PP 18 11 28.9 -0.8
J16A Bone 76.37 329 ⇓P **P 18 08 36.6 +0.4**
baz=77

K15A **Arbon** 76.38 328 ⇓P P 18 08 36.3 +0.1
baz=77
NVAR **Mina Array Bea** 76.41 322 P P 18 08 36.9 +0.3
comp=Z,4.4nm,0.8s,mb4.2,baz=154,slow=6.7,SNR=38
DCID1 **Drake Creek** 76.41 329 eP P 18 08 37.1 +0.7
U04C **Hernandez Rese** 76.50 319 ⇑P P 18 08 37.0 -0.1
baz=77,SNR=8.6
P09A **Austin** 76.53 323 ⇑P P 18 08 37.2 +0.1
baz=77,SNR=6.1
IMW **Indian Meadow** 76.53 330 eP P 18 08 37.2 +0.1
comp=Z,95nm,1.3s,mb5.3
IMW e pP 18 09 05.3 -4.0
V03C **Hunter Liggett** 76.55 318 ⇓P P 18 08 37.5 +0.1
baz=77
FLWY **Flagg Ranch** 76.56 330 eP P 18 08 38.3 +1.1
comp=Z,219nm,1.4s,mb5.6
K14A **Jones Ranch, D** 76.59 328 ⇓P P 18 08 37.4 -0.1
baz=77
R07C **Lee Vining** 76.61 321 ⇑P P 18 08 38.1 +0.4
baz=77,SNR=11
L13A **Double Diamond** 76.64 327 ⇑P P 18 08 38.1 +0.3
baz=77,SNR=21
M12A **Wells** 76.65 326 ⇓P P 18 08 37.9 0.0
baz=77,SNR=15
N11A **Elko Archery C** 76.65 325 ⇑P P 18 08 37.8 0.0
baz=77
LAO **LASA Array** 76.67 334 eP P 18 08 37.6 -0.2
comp=Z,77nm,1.2s,mb5.2
O10A **Cortez Mining,** 76.69 324 ⇑P P 18 08 38.2 +0.1
baz=77
RLMT **Red Lodge** 76.71 332 eP P 18 08 37.8 -0.3
comp=Z,88nm,1.3s,mb5.2
SCHQ **Schefferville** 76.74 1 P P 18 08 37.1 -0.9
comp=Z,25nm,0.8s,mb4.9,baz=180,slow=3.4,SNR=21
SCHQ **Schefferville** 76.74 1 eP P 18 08 37.2 -0.8
comp=Z,40nm,0.6s,mb5.2
SCHQ e 18 08 52.1
LKWY **Lake** 76.79 331 eP P 18 08 38.7 +0.2
LKWY pmax pmax
comp=Z,71nm,1.5s,mb5.1
LKWY **Lake** 76.79 331 eP P 18 08 38.7 +0.2
comp=Z,71nm,1.5s,mb5.1
S05C **Merced** 76.87 320 ⇓P P 18 08 39.3 +0.2
baz=77,SNR=6.0
YFT **Old Faithful** 76.90 330 eP P 18 08 40.8 +1.6
S06C **San Francisco** 76.94 320 ⇓P P 18 08 39.6 +0.1
baz=77,SNR=18
O09A **Fish Creek Ran** 76.98 324 ⇓P P 18 08 39.3 -0.4
baz=77,SNR=7.1
HAST **Hastings Reser** 76.98 318 ⇑P P 18 08 39.9 +0.1
baz=77,SNR=7.1
N10A **Dunphy** 77.00 324 ⇓P P 18 08 40.0 +0.2
baz=77
YNR **Norris Junctio** 77.03 330 eP P 18 08 40.6 +0.7
Q07A **Schurz** 77.04 322 ⇑P P 18 08 40.6 +0.5
baz=77
TOA0 **Torodi Ar. Sit** 77.05 70 eP P 18 08 40.0 -0.7
TOA0 e pP 18 09 13.1 +0.1
TORD **Torodi Ar. Bea** 77.05 70 P P 18 08 40.2 -0.4
comp=Z,44nm,0.5s,mb5.4,baz=259,slow=5.7,SNR=112
TORD S S 18 18 18.5 -0.7
comp=Z,4.0nm,1.1s,baz=246,slow=11,SNR=7.6
M11A **Holland Ranch,** 77.12 325 ⇑P P 18 08 40.9 +0.4
baz=77,SNR=28
K13A **Stover Farm, H** 77.12 327 ⇑P P 18 08 40.7 +0.3
baz=77
YMR **Madison River** 77.13 330 eP P 18 08 41.6 +1.2
comp=Z,154nm,1.4s,mb5.4
R06C **Coleville** 77.14 321 ⇑P P 18 08 40.5 -0.1
baz=77,SNR=7.3
P08A **Dixie Valley** 77.15 323 ⇑P P 18 08 41.1 +0.5
baz=77,SNR=5.0
L12A **House Creek Ra** 77.23 326 ⇑P P 18 08 41.1 +0.1
baz=78,SNR=18
DGMT **Dagmar** 77.35 336 eP P 18 08 41.7 +0.2
comp=Z,162nm,1.3s,mb5.5
CMB **Columbia Colle** 77.36 320 eP P 18 08 41.3 -0.6
CMB pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
CMB **Columbia Colle** 77.36 320 ⇓P P 18 08 41.5 -0.4
baz=78,SNR=6.2
CMB **Columbia Colle** 77.36 320 eP P 18 08 41.3 -0.6
comp=Z,7.0nm,1.0s,mb4.2
GCMT **Greycliff** 77.41 332 eP P 18 08 42.2 +0.3
QLMT **Earthquake Lak** 77.47 330 eP P 18 08 43.2 +1.0
P07A **Fallon** 77.50 322 ⇑P P 18 08 43.1 +0.5
baz=78
K12A **Draper Farm, C** 77.52 327 ⇑P P 18 08 43.3 +0.7
baz=78,SNR=28
M10A **I.L. Ranch, Tu** 77.58 325 ⇓P P 18 08 43.4 +0.4
baz=78,SNR=6.7
R05C **Kirkwood Meado** 77.62 321 ⇓P P 18 08 44.0 +0.7
baz=78,SNR=5.7
L11A **Cat Creek Ranc** 77.62 326 P P 18 08 43.7 +0.5
baz=78,SNR=27
J13A **Cove Ranch, Pi** 77.71 328 ⇑P P 18 08 44.3 +0.6
baz=78
SUR **Sutherland** 77.72 120 P P 18 08 45.3 +1.1
comp=Z,33nm,1.1s,mb4.9
R04C **Big Horse Ranc** 77.83 320 ⇓P P 18 08 45.0 +0.5
baz=78
PAHR **Pah Rah Range** 77.89 322 eP P 18 08 45.4 +0.6
comp=Z,90nm,1.1s,mb5.3
PAHR e pP 18 09 17.8 +0.6
O07A **Toulon** 77.91 323 ⇑P P 18 08 44.8 -0.1
baz=78,SNR=11
L10A **Juniper Basin** 77.94 325 ⇑P P 18 08 45.5 +0.5
baz=78,SNR=30
HLID **Hailey** 77.95 328 P P 18 08 45.9 +0.8
baz=78,SNR=78
HLID **Hailey** 77.95 328 eP P 18 08 45.6 +0.6
comp=Z,59nm,1.1s,mb5.1
HLID e pP 18 09 15.2 -2.3
M09A **Marrel Ranch,** 78.00 324 ⇑P P 18 08 45.3 0.0
baz=78,SNR=14
LAVA **Lava Cap Winer** 78.04 321 ⇓P P 18 08 45.4 -0.3
baz=78,SNR=6.2
I13A **Wildhorse Cree** 78.06 328 ⇓P P 18 08 46.5 +0.9
baz=78,SNR=29
J12A **Stokes Ranch,** 78.07 327 ⇓P P 18 08 46.1 +0.4
baz=78
MCMT **McKenzie Canyo** 78.13 329 eP P 18 08 46.7 +0.8
P06A **Stead Airport,** 78.17 322 ⇑P P 18 08 46.6 +0.3
baz=78
BOZ **Bozeman (W)** 78.18 331 eP P 18 08 46.1 -0.1
BOZ pmax pmax
comp=Z,40nm,1.6s,mb4.8
BOZ **Bozeman (W)** 78.18 331 ⇓P P 18 08 45.8 -0.4
baz=78,SNR=19
BOZ **Bozeman (W)** 78.18 331 eP P 18 08 46.1 -0.1
comp=Z,40nm,1.6s,mb4.8
K11A **Parker Ranch,** 78.20 326 ⇑P P 18 08 46.7 +0.3
baz=78,SNR=26
G15A **Dillon** 78.21 330 P P 18 08 46.9 +0.5
baz=78,SNR=25
P05C **Yuba Gap, Truc** 78.33 321 ⇑P P 18 08 47.8 +0.6
baz=78,SNR=8.4
N07B **Gerlach** 78.39 323 ⇑P P 18 08 47.5 0.0
baz=79,SNR=28
DLMT **Dillon** 78.41 330 eP P 18 08 47.8 +0.2
comp=Z,68nm,1.4s,mb5.1
Q04C **Lincoln** 78.47 320 ⇓P P 18 08 48.7 +0.7
baz=79
M08A **Happy Creek Ra** 78.52 324 ⇑P P 18 08 48.3 +0.1
baz=79,SNR=8.5
L09A **Wilkinson Ranc** 78.53 325 ⇑P P 18 08 48.4 +0.2
baz=79,SNR=15
MFID **Camas Ranch** 78.56 327 P P 18 08 48.8 +0.4
baz=79,SNR=25
BEKR **Beckwourth** 78.56 322 ⇓P P 18 08 48.8 +0.3
baz=79,SNR=9.0
H13A **Challis** 78.61 328 P P 18 08 49.4 +0.8
baz=79,SNR=57
K10A **MacKenzie Ranc** 78.64 326 P P 18 08 49.1 +0.3
baz=79,SNR=30
F15A **Butte** 78.72 330 ⇓P P 18 08 49.5 +0.3
baz=79,SNR=21
G14A **Jackson** 78.73 329 ⇓P P 18 08 49.0 -0.3
baz=79
N06A **Buffalo Meadow** 78.85 323 P P 18 08 50.3 +0.2
baz=79,SNR=33
H12A **Diamond D Ranc** 78.89 328 ⇓P P 18 08 50.6 +0.5
baz=79
M07A **Soldier Meadow** 78.91 323 ⇓P P 18 08 50.5 +0.2
baz=79,SNR=28
O05C **Quincy** 78.94 322 P P 18 08 51.0 +0.4
baz=79,SNR=11
I11A **Placerville** 78.98 327 ⇓P P 18 08 50.6 -0.1
baz=79
G13A **Cobalt** 78.98 329 ⇑P P 18 08 51.3 +0.6
baz=79,SNR=109
ORV **Oroville** 79.01 321 P P 18 08 51.2 +0.2
baz=79,SNR=33
HRY **Holter Researc** 79.08 331 eP P 18 08 51.5 +0.3
F14A **Wisdom** 79.11 330 ⇓P P 18 08 52.0 +0.7
baz=79,SNR=15
EGMT **Eagleton** 79.19 333 ⇓P P 18 08 51.5 -0.2
baz=79
EGMT **Eagleton** 79.19 333 eP P 18 08 51.0 -0.7
comp=Z,11nm,0.8s,mb4.5
E15A **Deer Lodge** 79.23 331 P P 18 08 52.2 +0.3
baz=80,SNR=16
ELFS **Eagle Lake Fie** 79.27 322 ⇑P P 18 08 52.8 +0.5
baz=80
O04C **Chester** 79.28 322 ⇓P P 18 08 52.2 -0.1
baz=80
TSUM **Tsumeb** 79.28 106 eP P 18 08 53.8 +0.8
comp=Z,27nm,0.9s,mb4.9
WVOR **Wild Horse Val** 79.34 325 eP P 18 08 52.0 -0.6
WVOR pmax pmax
comp=Z,13nm,1.3s,mb4.4
WVOR **Wild Horse Val** 79.34 325 eP P 18 08 52.0 -0.7
comp=Z,13nm,1.3s,mb4.4
L07A **Adell** 79.43 324 ⇑P P 18 08 53.7 +0.5
baz=80,SNR=17
K08A **Mann Creek Ran** 79.46 325 ⇓P P 18 08 53.2 -0.1
baz=80,SNR=7.7
J09A **Fry Pan Ranch,** 79.50 326 ⇓P P 18 08 53.2 -0.3
baz=80,SNR=11
M06C **Likely Place G** 79.52 323 ⇓P P 18 08 53.7 0.0
baz=80,SNR=14
I10A **Payette** 79.53 327 ⇑P P 18 08 53.5 -0.1
baz=80,SNR=5.7
F13A **Darby** 79.54 329 ⇑P P 18 08 54.0 +0.4
baz=80
H11A **Donnelly** 79.57 328 ⇓P P 18 08 53.4 -0.4
baz=80,SNR=12
E14A **Clinton** 79.61 330 ⇓P P 18 08 54.6 +0.5
baz=80,SNR=14
D15A **Lincoln** 79.64 331 ⇑P P 18 08 54.5 +0.4
baz=80,SNR=19
GASB **Alder Springs** 79.79 320 ⇓P P 18 08 54.2 -1.0
baz=80,SNR=12
HATC **Hat Creek Radi** 79.82 322 ⇓P P 18 08 54.4 -0.9
baz=80,SNR=6.4
K07A **Rock Creek Ran** 79.84 324 ⇑P P 18 08 55.9 +0.5
baz=80,SNR=23
H10A **Noah's Angus R** 79.86 327 ⇑P P 18 08 54.7 -0.7
baz=80,SNR=20
CHMT **Chamberlain Mo** 79.87 331 eP P 18 08 55.8 +0.4
MOD **Modoc** 79.89 323 ⇑P P 18 08 54.8 -0.8
baz=80,SNR=11
MOD **Modoc** 79.89 323 eP P 18 08 55.7 +0.1
comp=Z,36nm,1.1s,mb4.9
J08A **Circle Bar Ran** 79.89 325 ⇓P P 18 08 55.1 -0.5
baz=80,SNR=14
I09A **Lost Marbles R** 79.93 326 ⇑P P 18 08 55.2 -0.6
baz=80,SNR=8.1
F12A **Elk City** 79.96 329 ⇑P P 18 08 56.0 +0.1
baz=80,SNR=17
M05C **Lookout** 80.00 322 ⇑P P 18 08 56.1 -0.1
baz=80,SNR=9.2
D14A **Greenough** 80.11 330 ⇑P P 18 08 56.7 0.0
baz=80,SNR=12
G11A **Walters Elk Ra** 80.20 328 P P 18 08 57.4 +0.2
baz=80,SNR=35
L05A **Lakeview** 80.28 323 ⇓P P 18 08 58.2 +0.5
baz=80,SNR=17
WDC **Whiskeytown Da** 80.28 321 eP P 18 08 56.3 -1.5
WDC pmax pmax
comp=Z,16nm,0.7s,mb4.8
WDC **Whiskeytown Da** 80.28 321 ⇓P P 18 08 56.1 -1.7
baz=80,SNR=11
WDC **Whiskeytown Da** 80.28 321 eP P 18 08 56.3 -1.5
comp=Z,16nm,0.7s,mb4.8
I08A **Drewsey** 80.32 326 ⇓P P 18 08 58.0 +0.1
baz=80,SNR=42
BMO **Blue Mountains** 80.33 327 eP P 18 08 57.9 0.0
comp=Z,63nm,1.3s,mb5.1
BMO e pP 18 09 28.8 -1.7
J07A **Hines** 80.34 325 ⇑P P 18 08 58.3 +0.3
baz=81,SNR=25
H09A **Durkee** 80.38 327 ⇑P P 18 08 58.1 0.0
baz=81
K06A **Valley Falls** 80.46 324 ⇑P P 18 08 58.9 +0.3
baz=81,SNR=24
F11A **Grangeville** 80.49 328 ⇓P P 18 08 58.4 -0.4
baz=81,SNR=16
M03C **McCloud** 80.49 322 ⇑P P 18 08 58.4 -0.5
baz=81,SNR=7.0
G10A **Bishop Farm, J** 80.54 327 ⇓P P 18 08 59.5 +0.4
baz=81,SNR=23
D13A **Huson** 80.56 330 ⇑P P 18 08 59.2 +0.1
baz=81,SNR=16
M04C **Macdoel** 80.67 322 ⇑P P 18 08 59.7 -0.1
baz=81,SNR=8.4
J06A **Christmas Vall** 80.71 324 ⇓P P 18 08 60.0 0.0
baz=81,SNR=30
C14A **Swan Lake** 80.73 331 ⇑P P 18 09 00.3 +0.2
baz=81
O01C **Eel River Cons** 80.75 320 ⇓P P 18 09 00.1 -0.2
baz=81
K05A **Summer Lake** 80.76 324 ⇑P P 18 09 00.8 +0.5
baz=81,SNR=26
H08A **Prairie City** 80.79 326 ⇓P P 18 09 00.6 +0.2
baz=81,SNR=22
E11A **Bogner Ranch,** 80.85 329 ⇑P P 18 09 00.1 -0.6
baz=81,SNR=14
G09A **Cove** 80.86 327 ⇓P P 18 09 01.1 +0.3
baz=81,SNR=48
N02C **Big Bar** 80.89 321 ⇓P P 18 09 00.9 -0.1
baz=81,SNR=11
I07A **Izee** 80.93 325 P P 18 09 01.6 +0.5
baz=81,SNR=22
D12A **Red Ives Fores** 80.95 330 ⇑P P 18 09 01.2 0.0
baz=81
C13A **Hot Springs** 81.05 330 P P 18 09 02.0 +0.4
baz=81,SNR=17
F10A **Beach Ranch, E** 81.08 328 ⇑P P 18 09 01.8 -0.1
baz=81,SNR=7.0
YBH **Yreka Blue Hor** 81.13 322 eP P 18 09 00.3 -2.0
YBH pmax pmax
comp=Z,9.0nm,1.0s
YBH **Yreka Blue Hor** 81.13 322 ⇓P P 18 09 01.4 -0.8
baz=81,SNR=6.1
YBH **Yreka Blue Hor** 81.13 322 eP P 18 09 00.3 -2.0
comp=Z,9.1nm,1.0s,mb4.4
K04A **Chiloquin** 81.15 323 ⇓P P 18 09 02.4 0.0
baz=81
I06A **Prineville** 81.21 325 ⇑P P 18 09 02.7 +0.1
baz=81,SNR=25
F09A **S2 Ranch, Elgi** 81.23 327 ⇑P P 18 09 02.5 -0.2
baz=82,SNR=9.9
H07A **Lands Inn, Kim** 81.31 326 ⇓P P 18 09 02.8 -0.4
baz=82,SNR=8.5
J05A **Fort Rock** 81.32 324 ⇓P P 18 09 03.1 -0.2
baz=82,SNR=21
E10A **Myers Farm, Un** 81.38 328 ⇓P P 18 09 03.5 0.0
baz=82,SNR=9.3
D11A **Klaveano Farm,** 81.41 329 ⇓P P 18 09 03.2 -0.5
baz=82,SNR=10
G08A **Pilot Rock** 81.47 326 ⇓P P 18 09 04.0 0.0
baz=82,SNR=16
B13A **Whitefish** 81.51 331 ⇓P P 18 09 04.0 -0.1
baz=82,SNR=13
LNOR **Lincton Mounta** 81.53 327 eP P 18 09 03.4 -0.9
PTEO **Sao Teotonio** 81.66 44 eP P 18 09 07.0 +1.8
comp=Z,45nm,1.5s,mb4.9
WALA **Waterton Lakes** 81.77 332 eP P 18 09 04.8 -0.7
comp=Z,48nm,1.3s,mb5.0
J04A **Umpqua Nationa** 81.77 323 ⇑P P 18 09 05.6 0.0
baz=82,SNR=7.3
H06A **Lindquist Farm** 81.81 325 P P 18 09 06.3 +0.6
baz=82,SNR=20
G07A **Ruggs Ranch, H** 81.82 326 P P 18 09 06.4 +0.6
baz=82,SNR=19
HUMO **Hull Mountain** 81.83 323 eP P 18 09 04.5 -1.5
comp=Z,14nm,1.2s,mb4.5
D10A **Wagner Farm, O** 81.87 329 P P 18 09 05.3 -0.7
baz=82,SNR=9.6
A13A **Flathead Natio** 81.90 331 ⇑P P 18 09 06.2 +0.1
baz=82
E09A **Wood Farm, Sta** 81.91 328 ⇑P P 18 09 05.5 -0.7
baz=82
I05A **Bend** 81.92 325 ⇓P P 18 09 06.0 -0.3
baz=82,SNR=7.0
PBDV **Barranco-do-Ve** 81.99 44 eP P 18 09 07.5 +0.6
comp=Z,73nm,1.5s,mb5.1
B12A **Libby** 82.09 330 ⇑P P 18 09 07.2 +0.1
baz=82,SNR=7.4
H05A **Madras** 82.22 325 ⇓P P 18 09 08.1 +0.2
baz=82
PVAQ **Vaqueiros** 82.22 44 eP P 18 09 09.1 +1.0
comp=Z,46nm,1.7s,mb4.8
K02A **Glendale** 82.23 322 ⇓P P 18 09 07.5 -0.5
baz=82,SNR=6.5
D09A **Jones Farm, Ri** 82.37 328 ⇑P P 18 09 08.4 -0.3
baz=83,SNR=8.7
B11A **Sandpoint** 82.42 330 ⇓P P 18 09 08.1 -0.8
baz=83
C10A **Spilker Farm,** 82.42 329 ⇓P P 18 09 08.4 -0.5
baz=83
A12A **Yaak River Ran** 82.45 331 ⇓P P 18 09 08.7 -0.3
baz=83,SNR=12
HAWA **Hanford** 82.52 327 eP P 18 09 09.1 -0.3
comp=Z,35nm,1.0s,mb5.0
RSW **Rattlesnake Hi** 82.55 327 eP P 18 09 09.9 +0.3
RSW e pP 18 09 41.1 -1.2
BOSA **Boshof** 82.60 118 P P 18 09 10.2 -0.3
comp=Z,12nm,0.9s,mb4.7,baz=268,slow=2.7,SNR=15
BOSA **Boshof** 82.60 118 eP P 18 09 10.6 +0.1
BOSA pmax pmax
comp=Z,18nm,1.1s,mb4.7
BOSA **Boshof** 82.60 118 eP P 18 09 10.6 +0.1
comp=Z,18nm,1.1s,mb4.7
NEW **Newport** 82.65 330 eP P 18 09 09.5 -0.6
NEW pmax pmax
comp=Z,5.0nm,1.1s
NEW **Newport** 82.65 330 eP P 18 09 09.4 -0.6
comp=Z,5.2nm,1.1s,mb4.2
G05A **Wamic** 82.66 325 ⇑P P 18 09 10.5 +0.3
baz=83,SNR=5.1
D08A **Wollman Farm,** 82.67 328 ⇑P P 18 09 09.9 -0.3
baz=83,SNR=8.4
EVO **Evora** 82.69 43 eP P 18 09 09.5 -1.0
comp=Z,8.1nm,0.4s,mb4.5
EVO **Evora** 82.69 43 eP P 18 09 11.4 +0.9
comp=Z,17nm,1.5s,mb4.5
B10A **Chitwood Farm,** 82.72 329 ⇓P P 18 09 09.4 -1.0
baz=83
A11A **Hall Mountain,** 82.80 330 P P 18 09 10.6 -0.2
baz=83,SNR=26
OD2 **Odessa Site #2** 82.80 328 eP P 18 09 10.6 -0.2
C09A **Chrisman Ranch** 82.87 329 ⇓P P 18 09 11.1 -0.2
baz=83,SNR=21
HOOD **Mount Hood Mea** 82.89 325 eP P 18 09 09.6 -1.8
comp=Z,25nm,1.0s,mb4.9
PBAR **Barrancos** 83.11 44 eP P 18 09 13.3 +0.6
comp=Z,20nm,2.1s,mb4.5
EMIN **Mina Concepcio** 83.11 45 P P 18 09 13.0 +0.3
comp=Z,8.6nm,0.6s,mb4.7
PESTR **Estremoz** 83.16 43 eP P 18 09 14.4 +1.5
comp=Z,20nm,1.5s,mb4.6
B09A **Rice** 83.25 329 ⇓P P 18 09 12.4 -0.7
baz=84,SNR=13
E06A **Yakima** 83.36 326 ⇓P P 18 09 13.3 -0.5
baz=84,SNR=7.0
A10A **Northport** 83.36 330 ⇓P P 18 09 12.8 -0.9
baz=84,SNR=6.3
FCC **Fort Churchill** 83.45 347 eP P 18 09 13.3 -0.6
FCC e 18 09 34.0
EBAD **Badajoz** 83.46 44 P P 18 09 14.9 +0.4
comp=Z,5.1nm,0.8s,mb4.3
MAW **Mawson** 83.48 163 ⇓iP P 18 09 14.8 +0.6
comp=Z,5.3nm,0.4s,mb4.6
MAW i pP 18 09 48.1 +1.1
MAW **Mawson** 83.48 163 P P 18 09 14.9 +0.7
comp=Z,7.3nm,0.5s,mb4.7,baz=202,slow=5.8,SNR=44
MAW pP pP 18 09 46.9 -0.1
comp=Z,9.4nm,0.8s,baz=209,slow=6.0,SNR=7.2
MAW **Mawson** 83.48 163 ⇓iP P 18 09 14.8 +0.6
MAW i pP 18 09 48.1 +1.1
MAW pmax pmax
comp=Z,5.0nm,0.4s
PMRV **Marv??o** 83.61 43 eP P 18 09 15.5 +0.3
comp=Z,16nm,1.7s,mb4.5
C07A **Waterville** 83.67 328 ⇑P P 18 09 14.8 -0.5
baz=84,SNR=13
F04A **Amboy** 83.70 325 ⇑P P 18 09 15.0 -0.6
baz=84
D06A **Cle Elum** 83.72 327 ⇓P P 18 09 15.3 -0.3
baz=84
ETW **Entiat** 83.75 328 eP P 18 09 15.7 0.0
E05A **Randle** 83.77 326 ⇑P P 18 09 14.8 -1.0
baz=84
B08A **Colville Reser** 83.77 329 ⇓P P 18 09 14.8 -1.0
baz=84,SNR=8.0
PCBR **Castelo Branco** 83.79 43 eP P 18 09 16.4 +0.3
comp=Z,16nm,1.9s,mb4.4
A09A **Danville** 83.84 329 ⇓P P 18 09 15.0 -1.2
baz=84,SNR=8.9
MTE **Manteigas** 84.07 42 eP P 18 09 18.3 +0.7
comp=Z,25nm,1.3s,mb4.8
MTE **Manteigas** 84.07 42 eP P 18 09 18.1 +0.6
comp=Z,7.4nm,0.8s,mb4.5
MTE e pP 18 09 51.5 +1.1
A08A **Turner Farm, O** 84.15 329 ⇑P P 18 09 17.3 -0.4
baz=84,SNR=9.6
LBTB **Lobatse** 84.19 115 eP P 18 09 19.3 +0.6
LBTB e pP 18 09 51.3 -0.2
LBTB pmax pmax
comp=Z,25nm,1.0s,mb4.9
LBTB **Lobatse** 84.19 115 eP P 18 09 19.3 +0.7
comp=Z,25nm,1.0s,mb4.9
LBTB e pP 18 09 51.3 -0.2
B07A **Winthrop** 84.22 328 ⇓P P 18 09 17.2 -0.9
baz=84,SNR=19
ELOJ **Sierra Loja** 84.43 46 P P 18 09 20.5 +1.1
ELOJ pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ELOJ **Sierra Loja** 84.43 46 P P 18 09 20.5 +1.1
comp=Z,3.4nm,0.6s,mb4.2
ELUQ **Luque** 84.58 46 P P 18 09 21.7 +1.5
ELUQ pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
ELUQ **Luque** 84.58 46 P P 18 09 21.7 +1.6
comp=Z,9.5nm,0.8s,mb4.6
ERON **Agron** 84.59 47 P P 18 09 20.4 +0.1
ELOB **Lobios** 84.62 41 P P 18 09 19.4 -0.8
comp=Z,3.3nm,1.7s,mb3.8
TAM **Tamanrasset** 84.62 63 eP P 18 09 21.2 +0.5
TAM e pP 18 09 55.4 +1.8
EDM **Edmonton** 84.65 335 eP P 18 09 18.1 -2.0
EADA **Adamuz** 84.71 45 P P 18 09 21.3 +0.5
comp=Z,4.5nm,0.8s,mb4.2
EMAZ **Mazaricos** 84.72 39 P P 18 09 17.4 -3.3
comp=Z,2.6nm,0.7s,mb4.1
A07A **Ashnola River,** 84.75 329 ⇑P P 18 09 20.4 -0.4
baz=85,SNR=24
MVO **Moncorvo** 84.84 42 eP P 18 09 22.1 +0.7
comp=Z,30nm,1.3s,mb4.9
RPW **Rockport** 84.90 328 eP P 18 09 20.1 -1.4
B06A **Marblemount** 84.93 328 ⇓P P 18 09 20.4 -1.2
baz=85
JCW **Jim Creek** 84.94 327 eP P 18 09 20.3 -1.4
GNW **Green Mountain** 84.98 326 eP P 18 09 21.0 -0.9
comp=Z,5.9nm,0.7s,mb4.4
GNW epP pP 18 09 51.5 -3.3
B05A **Bryant** 85.07 327 ⇓P P 18 09 21.0 -1.3
baz=85,SNR=6.4
C04A **Brinnon** 85.15 326 ⇑P P 18 09 21.9 -0.9
baz=85,SNR=5.2
CMW **Cultus Mountai** 85.19 327 P P 18 09 22.1 -0.9
EBAN **Banos Encina** 85.23 46 P P 18 09 24.6 +1.2
EBAN pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
EBAN **Banos Encina** 85.23 46 P P 18 09 24.6 +1.2
comp=Z,9.1nm,0.6s,mb4.7
EQES **Quesada** 85.51 46 P P 18 09 25.1 +0.3
comp=Z,11nm,1.1s,mb4.5
A05A **Maple Falls** 85.55 328 ⇑P P 18 09 23.8 -1.0
baz=86
PAB **San Pablo** 85.61 44 eP P 18 09 25.6 +0.3
PAB e pP 18 09 58.7 +0.5
PAB pmax pmax
comp=Z,34nm,1.4s,mb4.9
PAB **San Pablo** 85.61 44 eP P 18 09 25.6 +0.3
comp=Z,34nm,1.4s,mb4.9
PAB e pP 18 09 58.7 +0.4
ENIJ **Nijar** 85.65 47 P P 18 09 28.6 +3.1
ENIJ pmax pmax
comp=Z,15nm,1.0s,mb4.7
ENIJ **Nijar** 85.65 47 P P 18 09 28.6 +3.0

comp=Z,15nm,1.0s,mb4.7
A04A Legoe Bay, Lum 85.67 327 ⇓P **P 18 09 24.9 -0.5**
baz=86
EHUE Huescar 85.83 46 P **P 18 09 26.0 -0.4**
EHUE pmax pmax
comp=Z,21nm,1.4s,mb4.7
EHUE Huescar 85.83 46 P **P 18 09 26.0 -0.4**
comp=Z,21nm,1.4s,mb4.7
ESDC Sonseca Array 85.93 44 P **P 18 09 27.2 +0.3**
comp=Z,11nm,1.1s,mb4.5,baz=241,slow=4.8,SNR=14
ESDC Sonseca Array 85.93 44 P **P 18 09 27.6 +0.7**
comp=Z,19nm,1.3s,mb4.7
ESLA Sonseca Array 85.93 44 *e*P **P 18 09 25.8 -1.1**
comp=Z,9.6nm,1.4s,mb4.3
EPON Pontenova 86.02 40 P **P 18 09 25.6 -1.6**
comp=Z,70nm,1.9s,mb5.1
GUD Guadarrama 86.34 43 P **P 18 09 29.5 +0.7**
GUD pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
GUD Guadarrama 86.34 43 P **P 18 09 29.5 +0.7**
comp=Z,3.4nm,0.7s,mb4.2
ETOB Tobarra 86.97 46 P **P 18 09 33.5 +1.5**
comp=Z,9.8nm,0.8s,mb4.7
ETOR Torete 87.78 44 P **P 18 09 35.7 -0.1**
ETOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ETOR Torete 87.78 44 P **P 18 09 35.7 0.0**
comp=Z,5.0nm,0.8s,mb4.4
ECHE Chera 87.85 46 P **P 18 09 38.0 +1.9**
ECHE pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ECHE Chera 87.85 46 P **P 18 09 38.0 +1.9**
comp=Z,7.7nm,0.9s,mb4.5
SJPF Ste Jean 89.51 42 *e*P **P 18 09 43.3 -0.6**
comp=Z,22nm,1.2s,mb4.7
SJPF Ste Jean 89.51 42 *e*P **P 18 09 43.3 -0.6**
SJPF pmax pmax
comp=Z,11nm,1.2s,mb4.7
SJPF Ste Jean 89.51 42 *e*P **P 18 09 43.3 -0.6**
comp=Z,11nm,1.2s,mb4.7
ETSF Etsaut 89.82 43 *e*P **P 18 09 46.2 +0.9**
LSZ Lusaka 90.14 106 *e*P **P 18 09 49.0 +1.5**
LSZ pmax pmax
comp=Z,33nm,1.4s,mb5.1
LSZ Lusaka 90.14 106 *e*P **P 18 09 49.0 +1.5**
comp=Z,33nm,1.4s,mb5.1
MTLF Montolieu 91.80 43 *e*P **P 18 09 54.1 -0.4**
comp=Z,14nm,1.2s,mb4.6
MTLF Montolieu 91.80 43 *e*P **P 18 09 54.1 -0.4**
MTLF pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
MTLF Montolieu 91.80 43 *e*P **P 18 09 54.1 -0.4**
comp=Z,7.0nm,1.2s,mb4.6
MFF Saint Martin d 91.97 40 *e*P **P 18 09 53.6 -1.6**
comp=Z,55nm,1.6s,mb5.0
MFF Saint Martin d 91.97 40 *e*P **P 18 09 53.6 -1.6**
MFF pmax pmax
comp=Z,27nm,1.6s,mb5.0
MFF Saint Martin d 91.97 40 *e*P **P 18 09 53.6 -1.6**
comp=Z,27nm,1.6s,mb5.0
YKA Yellowknife Ar 92.05 340 P **P 18 09 54.4 -0.8**
comp=Z,19nm,0.6s,mb5.3,baz=135,slow=4.5,SNR=151
GRR Gorron 92.47 38 *e*P **P 18 09 56.3 -1.1**
KEST Kesra 93.27 53 P **P 18 10 01.6 +0.1**
comp=Z,1.4nm,0.8s,mb4.1,baz=224,slow=5.3,SNR=4.7
KEST LR LR 18 52 12.4
comp=Z,66nm,19.4s,baz=299,slow=36
SMF Signal de Mont 94.39 41 *e*P **P 18 10 05.8 -0.5**
comp=Z,10nm,0.9s,mb4.7
SMF Signal de Mont 94.39 41 *e*P **P 18 10 05.8 -0.5**
SMF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
SMF Signal de Mont 94.39 41 *e*P **P 18 10 05.8 -0.5**
comp=Z,5.3nm,0.9s,mb4.7
DLBC Dease Lake 95.10 332 *e*P **P 18 10 09.0 -0.3**
INK Inuvik 101.81 340 P Pdif 18 10 38.5 -1.3
comp=Z,2.1nm,0.8s,baz=98,slow=8.4,SNR=4.5
INK Inuvik 101.81 340 *e*Pdif Pdif 18 10 36.2 -3.6
AKASG Malin Array Be 111.54 43 PKiKP PKiKP 18 15 18.2 -1.9
comp=Z,0.9nm,0.7s,baz=267,slow=2.6,SNR=6.2
AKASG PP PP 18 00.4 -3.2
comp=Z,0.1nm,0.2s,baz=256,slow=8.1,SNR=4.7
MALT Malatya 116.21 57 *e*PKIKP PKPdf 18 15 29.5 0.0
OBN Obninsk 116.37 38 *i* PKIKP PKPdf 18 15 28.0 -1.2
OBN pmax pmax
comp=Z,16nm,1.2s
OBN MLR MLR
comp=Z,100nm,15.0s
KLMR Klimovskoe 117.81 32 *e*PKIKP PKPdf 18 15 31.8 0.0
KIV Kislovodsk 119.97 51 *e*PKIKP PKPdf 18 15 35.1 -1.4
KIV pmax pmax
comp=Z,7.0nm,1.7s
GNI Garni 121.28 56 PKP PKPdf 18 15 39.2 0.0
comp=Z,2.2nm,0.5s,baz=55,slow=13,SNR=4.0
ARU Arti 128.41 35 *i* PKIKP PKPdf 18 15 51.0 -1.3
ARU 18 17 56.3
ASAR Alice Springs 129.55 207 PKP PKPdf 18 15 55.4 -0.2
comp=Z,6.7nm,0.8s,baz=121,slow=3.0,SNR=45
ASAR pPKP pPKPdf 18 16 28.6 -1.6
comp=Z,1.7nm,0.8s,baz=149,slow=3.7,SNR=4.3
SEY Seymchan 130.98 337 *i* PKIKP PKPdf 18 15 56.4 -0.6
WB2 Warramunga Arr 132.62 209 *e*PKPdf PKPdf 18 16 01.3 -0.2
WRA Warramunga Arr 132.63 209 PKP PKPdf 18 16 01.6 +0.1
comp=Z,14nm,1.1s,baz=160,slow=1.8,SNR=29
WRA SKPbc SKPbc 18 19 18.4 +1.5
comp=Z,0.7nm,0.6s,baz=144,slow=3.2,SNR=5.1
WRAB Tennant Creek 132.63 209 *i* PKIKP PKPdf 18 16 00.5 -1.0
WRAB Tennant Creek 132.63 209 *e*PKPdf PKPdf 18 16 00.3 -1.3
PETK Petropavlovsk- 133.48 323 PKhKP 18 15 50.2
comp=Z,2.1nm,0.7s,baz=107,slow=1.6,SNR=7.3
PETK PKP PKPdf 18 16 01.9 -0.1
comp=Z,2.2nm,0.6s,baz=75,slow=2.9,SNR=8.8
BVAR Borovoye Array 136.05 35 PKP PKPdf 18 16 05.8 -1.1
comp=Z,3.0nm,0.7s,baz=270,slow=3.0,SNR=18
FITZ Fitzroy Crossi 137.68 200 PKP PKPdf 18 16 10.8 -0.1
comp=Z,4.2nm,0.6s,baz=178,slow=9.2,SNR=7.6
YAK Yakutsk 138.34 347 *e*PKIKP PKPdf 18 16 10.7 -0.1
YAK pmax pmax
comp=Z,14nm,1.0s
NVS Novosibirsk 141.06 26 *e*PKIKP PKPdf 18 16 16.1 +0.2
NVS pmax pmax
comp=Z,27nm,1.5s
NVS pmax pmax
comp=E,15nm,1.6s
ZAA0 Zalesovo Array 142.34 26 *e*PKPpre PKPdf 18 16 15.0 -3.3
ZAA0 *e*PKPdf PKPdf 18 16 19.2 +0.9
ZAL Zalesovo 142.34 26 PKIKP PKPdf 18 16 15.4 -2.9
ZALV Zalesovo Beam 142.34 26 PKP PKPdf 18 16 15.4 -2.9
comp=E,18nm,0.7s,baz=270,slow=2.1,SNR=27
EKS2 Erkin-Say 142.46 48 *e*PKPpre PKPdf 18 16 16.3 -2.5
AML Almayashu 142.58 49 *e*PKPpre PKPdf 18 16 16.3 -2.7
TKM2 Tokmak 2 143.60 47 *e*PKIKP PKPdf 18 16 19.1 -1.8
YSS Yuzh-Sakhalins 144.86 322 *e*PKIKP PKPdf 18 16 21.6 -1.3
YSS pmax pmax
comp=Z,50nm,0.9s
YSS Yuzh-Sakhalins 144.86 322 *e*PKPdf PKPdf 18 16 21.9 -1.0
YSS *ep*PKPdf pPKPdf 18 16 50.1 -7.5
BATI Baumata 145.72 201 PKPbc PKPbc 18 16 25.9 0.0
comp=Z,41nm,1.0s,baz=218,slow=2.9,SNR=5.1
MKAR Makanchi Array 145.86 37 PKPbc PKPbc 18 16 24.4 -1.1
comp=Z,16nm,0.7s,baz=302,slow=2.3,SNR=110
MKAR pPKPbc pPKPbc 18 16 58.4 -1.3
comp=Z,9.0nm,0.9s,baz=336,slow=2.7,SNR=6.6
JMP Maruseppu 146.05 317 P PKPdf 18 16 25.6 +0.6
JWK2 Keihoku 146.26 320 P PKPdf 18 16 26.6 +1.2
ASAJ Asahikawa 146.47 318 P PKPdf 18 16 27.2 +1.4
JEM Erimo 147.12 314 P PKPab 18 16 31.0 -0.2
GUMO Guam 147.37 260 PKPbc PKPbc 18 16 29.0 -1.7
comp=Z,69nm,0.8s,baz=263,slow=3.5,SNR=4.4
HVS Khovu-Aksy 147.90 22 *d* PKIKP PKPdf 18 16 28.8 +0.9
HYB Hyderabad 148.48 93 *i* PKP PKPab 18 16 38.0 +0.7
KLR Kul'dur 148.71 334 *e*PKHKP PKPdf 18 16 24.8 -4.5
KLR pmax pmax
comp=Z,100nm,1.8s
MOY Mondy 149.44 13 *e*PKHKP PKPdf 18 16 32.4 +2.0
MOY pmax pmax
comp=Z,83nm,1.7s
TLY Talaya 149.93 10 *e*PKHKP PKPdf 18 16 32.9 +1.7
TLY pmax pmax
comp=Z,25nm,0.9s
CIT Chita 150.21 358 *e*PKIKP PKPdf 18 16 33.0 +1.4
CIT *e* 18 16 37.9
CIT pmax pmax
comp=Z,126nm,1.5s
WMQ Urumqi 150.69 37 *e*PKP PKPdf 18 16 33.0 +0.4
WMQ LR LR
comp=N,102nm,24.4s
WMQ LR LR
comp=E,95nm,20.8s
WMQ LR LR
comp=Z,135nm,22.1s
JYA Atsumi 151.01 311 P PKPbc 18 16 39.1 -0.1
ZAK Zakamensk 151.12 11 *e*PKIKP PKPdf 18 16 33.5 +0.5
ZAK pmax pmax
comp=Z,11nm,1.5s
ZAK pmax pmax
comp=Z,3.0nm,1.5s
JYT Yasato 151.62 306 P PKPbc 18 16 40.8 +0.2
KAPI Kappang 151.82 197 PKPbc PKPbc 18 16 40.5 -1.3
comp=Z,23nm,0.8s,baz=51,slow=2.0,SNR=7.7
KAPI Kappang 151.82 197 *e*PKPbc PKPbc 18 16 40.8 -1.0
HIA Hailar 152.26 349 *e*PKPdf PKPdf 18 16 34.9 +0.1
HIA *e*PKPbc PKPbc 18 16 41.0 -0.7
HIA *e*PKPab PKPab 18 16 51.9 0.0
JRY Ryogami san 152.66 306 P PKPbc 18 16 42.9 -0.1
JOD2 Odawara 2 152.81 305 P PKPbc 18 16 42.7 -0.6
MJAR Matsushiro Arr 152.97 308 PKPbc PKPbc 18 16 41.0 -2.6
comp=Z,5.9nm,0.8s,baz=110,slow=1.3,SNR=20
MJAR PKPab PKPab 18 16 55.4 0.0
comp=Z,8.3nm,0.9s,baz=104,slow=1.7,SNR=14
MAJO Matsushiro 152.97 308 *e*PKIKP PKPbc 18 16 42.8 -0.8
MAJO *e* 18 16 54.6
MAT Matsushiro 152.97 308 PKP PKPbc 18 16 42.8 -0.8
MAT Matsushiro 152.97 308 P PKPbc 18 16 42.9 -0.7
MDJ Mudanjiang 153.25 331 PKP PKPdf 18 16 35.3 -1.1
MDJ APKP 18 17 05.3
MDJ XPKP 18 17 17.2
MDJ PP PP 18 20 27.5 -2.4
MDJ SKS SKSdf 18 23 30.1 -1.3
MDJ LR LR
comp=N,32nm,21.7s
MDJ LR LR
comp=E,43nm,41.6s
MDJ LR LR
comp=Z,59nm,18.2s
MDJ Mudanjiang 153.25 331 *e*PKPdf PKPdf 18 16 36.0 -0.4
SONM Songino Array 154.08 8 PKP PKPdf 18 16 37.9 +0.4
comp=Z,4.2nm,0.7s,baz=310,slow=1.3,SNR=27
SONM PKPbc PKPbc 18 16 45.3 -0.4
comp=Z,4.7nm,0.8s,baz=312,slow=1.2,SNR=12
SONM PKPab PKPab 18 17 00.5 +0.9
comp=Z,4.3nm,0.8s,baz=324,slow=3.7,SNR=9.1
SONM pPKP pPKPdf 18 17 07.4 -4.9
comp=Z,5.0nm,0.5s,baz=302,slow=1.3,SNR=19
JWT Wachi 155.56 307 P PKPab 18 17 06.9 +0.4
CN2 Changchun 155.65 335 *e*PKP PKPdf 18 16 40.9 +1.1
PSI Prapat 157.05 145 PKP PKPdf 18 16 42.6 +0.1
comp=Z,1.5nm,0.3s,baz=308,slow=4.6,SNR=2.4
PSI PKPab PKPab 18 17 13.4 +0.1
comp=Z,2.2nm,0.4s,baz=321,slow=6.8,SNR=3.9
KSRS Korea Array 159.35 321 PKP PKPdf 18 16 45.2 +0.6
comp=Z,5.3nm,1.0s,baz=87,slow=0.4,SNR=20
KSRS PKPab PKPab 18 17 22.2 -0.5
comp=Z,4.7nm,0.9s,baz=57,slow=4.4,SNR=11
GTA Gaotai 160.08 28 *e*PKP PKPdf 18 16 45.9 +0.5
GTA APKP 18 17 17.8
GTA XPKP 18 17 26.7
GTA PP PP 18 21 08.0 +0.5
GTA SKS SKSdf 18 23 38.5 -0.2
GTA PP PP
comp=Z,74nm,10.3s
GTA LR LR
comp=N,97nm,14.4s
GTA LR LR
comp=E,104nm,14.4s
GTA LR LR
comp=Z,94nm,14.1s
LSA Lhasa 160.08 64 PKP PKPdf 18 16 47.5 +1.8
LSA Lhasa 160.08 64 *e*PKPdf PKPdf 18 16 46.6 +0.9
LSA *e*PKPab PKPab 18 17 25.9 -0.4
HHC Hu-ho-hao-te 161.42 0 *e*PKP PKPdf 18 16 47.2 +0.4
HHC APKP 18 17 14.6
HHC PKS 18 20 19.0
HHC PP PP 18 21 18.4 +4.2
HHC SKS SKSdf 18 23 41.1 +1.3
HHC PP PP
comp=Z,89nm,9.5s
HHC LR LR
comp=N,211nm,21.4s
HHC LR LR
comp=E,197nm,19.0s
HHC LR LR
comp=Z,157nm,16.7s
BJI Beijing 161.83 349 PKP PKPdf 18 16 48.3 +1.1
BJI APKP 18 17 15.4
BJI XPKP 18 17 28.0
BJI PP PP
comp=Z,168nm,4.8s
LZH Lanzhou 164.57 25 *e*PKP PKPdf 18 16 51.5 +1.6
LZH APKP 18 17 19.1
LZH PKP2 PKPab 18 17 47.1 +1.6
LZH PP PP 18 21 33.0 +1.8
LZH PP PP
comp=Z,103nm,4.8s
CMAR Chiang Mai Arr 167.45 105 PKP PKPdf 18 16 53.2 +0.5
comp=Z,1.8nm,0.9s,baz=277,slow=1.8,SNR=10
CMAR PKPab PKPab 18 17 59.5 +0.6
comp=Z,1.4nm,0.7s,baz=253,slow=6.2,SNR=7.9
CMAR pPKPab pPKPab 18 18 33.1 +0.8
comp=Z,1.8nm,0.9s,baz=246,slow=4.5,SNR=4.9
CMAR Chiang Mai Arr 167.45 105 PKIKP PKPdf 18 16 53.3 +0.6
CMAR 18 17 59.5
NJ2 Nanjing 168.32 329 *e*PKP PKPdf 18 16 53.6 +0.6
CD2 Chengdu 168.79 38 PKP PKPdf 18 16 54.8 +1.5
KMI Kunming 171.28 69 PKP PKPdf 18 16 53.4 -1.5
KMI XPKP 18 17 36.3
KMI PP PP 18 22 09.0 +2.0
KMI PP PP
comp=Z,125nm,5.9s
KMI LR LR
comp=Z,93nm,41.4s
GYA Guiyang 173.75 46 PKP PKPdf 18 16 54.2 -1.7
GYA APKP 18 17 25.6
GYA XPKP 18 17 37.4
GYA PKS 18 20 25.8
GYA PP PP 18 22 19.5 +1.2
GYA SKS SKSdf 18 23 44.8 -2.6
GYA SKKS SKKSac 18 28 53.0 0.0
GYA SS SS 18 43 24.7 -0.4
GYA PP PP
comp=Z,120nm,8.7s
GYA LR LR
comp=N,260nm,24.8s
GYA LR LR
comp=E,180nm,25.3s
GYA LR LR
comp=Z,120nm,24.3s

ISCJB ***04*** *18:01:37.7±0.4,3406S±005×178.16W±008,h86km, mb4.6/23, Error ellipse: s-maj=10.8km s-min=4.6km az=32.8*
NEIC ***04*** *18:01:39.3±0.4,3414S×17806W,mb4.9/15, Error ellipse: s-maj=12.1km s-min=5.3km az=123.0*
IDC ***04*** *18:01:40.1±0.6,3353S×17808W,h87km±4km,mb4.2/16, mb1 4.3/16,mb1mx4.2/22,mbtmp4.2/16,MS4.0/17, Ms1 4.0/17,ms1mx3.8/34, Error ellipse: s-maj=17.2km s-min=11.6km az=179.0*
ISC 04 18:01:39.2±0.4,3409S±005×17807W±008,h88km, h88km±1.9km:pP-P,n105,σ1§29/94,mb4.6/23,1D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
MXZ	**Matakaoa Point**	**4.55**	**219**	P	**Pn**	**18 02 47.8**	**+2.2**	
MXZ				S	**Sn**	**18 03 42.2**	**+5.0**	
RAO	**Raoul Island**	**4.82**	**2**	P	**Pn**	**18 02 34.0**	**-15**	
RAO				S	**Sn**	**18 03 21.0**	**-23**	
RAO				LR	LR	18 03 56.5		
RAO	**Raoul Island**	**4.82**	**2**	*e*Pn	**Pn**	**18 02 33.8**	**-16**	
RAO				*e*Sn	**Sn**	**18 03 20.2**	**-24**	
RAO				S	**Sn**	**18 03 21.0**	**-23**	
RAO				LR	LR	18 03 56.5		
PUZ	**Puketiti**	**4.97**	**216**	P	**Pn**	**18 02 52.6**	**+1.3**	
PUZ				S	**Sn**	**18 03 54.3**	**+6.9**	
MWZ	**Matawai**	**5.54**	**219**	P	**Pn**	**18 03 00.4**	**+1.4**	
URZ	**Urewera**	**5.70**	**222**	P	**Pn**	**18 03 02.4**	**+1.1**	
URZ				S	**Sn**	**18 04 11.0**	**+5.6**	
URZ	**Urewera**	**5.70**	**222**	P	**Pn**	**18 03 02.4**	**+1.1**	
KUZ	**Kuaotunu**	**5.72**	**241**	P	**Pn**	**18 03 04.4**	**+2.8**	
KNZ	**Kokohu**	**6.00**	**214**	P	**Pn**	**18 03 05.7**	**+0.4**	
WCZ	**Waipu Caves**	**6.49**	**251**	P	**Pn**	**18 03 15.0**	**+2.9**	
BKZ	**Black Stump Fm**	**6.69**	**219**	P	**Pn**	**18 03 15.9**	**+1.1**	
BKZ				S	**Sn**	**18 04 34.3**	**+4.8**	
OUZ	**Omahuta**	**6.96**	**258**	P	**Pn**	**18 03 20.7**	**+2.3**	
MOVZ	**Moawhango**	**7.26**	**221**	P	**Pn**	**18 03 23.3**	**+0.8**	
MOVZ				S	**Sn**	**18 04 46.6**	**+3.2**	
FWVZ	**Far West T-bar**	**7.27**	**223**	P	**Pn**	**18 03 24.0**	**+1.4**	
TSZ	**Takapari Road**	**7.63**	**217**	P	**Pn**	**18 03 26.7**	**-0.9**	
WAZ	**Wanganui**	**7.93**	**222**	P	**Pn**	**18 03 33.4**	**+1.8**	
MRZ	**Mangatainoka R**	**8.28**	**216**	P	**Pn**	**18 03 36.2**	**-0.2**	
MRZ				S	**Sn**	**18 05 09.0**	**+0.7**	
KIW	**Kapiti Island**	**8.77**	**217**	P	**Pn**	**18 03 42.6**	**-0.4**	
CAW	**Cannon Point**	**8.87**	**216**	P	**Pn**	**18 03 43.9**	**-0.6**	
SNZO	**South Karori**	**9.20**	**216**	*e*Pn	**Pn**	**18 03 48.7**	**-0.2**	
SNZO				*e*Sn	**Sn**	**18 05 30.7**	**0.0**	
TCW	**Tory Channel**	**9.35**	**218**	P	**Pn**	**18 03 49.6**	**-1.3**	
NNZ	**Nelson**	**9.83**	**221**	P	**Pn**	**18 03 56.7**	**-0.7**	
BSWZ	**Blackbirch Sta**	**9.92**	**218**	P	**Pn**	**18 03 58.3**	**-0.4**	
QRZ	**Quartz Range**	**10.05**	**225**	P	**Pn**	**18 03 59.0**	**-1.5**	
THZ	**Tophouse**	**10.46**	**220**	P	**Pn**	**18 04 03.9**	**-2.2**	
THZ				S	**Sn**	**18 05 59.5**	**-1.9**	
KHZ	**Kahutara**	**10.61**	**216**	P	**Pn**	**18 04 07.7**	**-0.4**	
DSZ	**Denniston Nort**	**11.06**	**223**	P	**Pn**	**18 04 14.9**	**+0.7**	
LTZ	**Lake Taylor**	**11.52**	**218**	P	**Pn**	**18 04 17.9**	**-2.5**	
CRLZ	**Canterbury Las**	**11.93**	**215**	P	**Pn**	**18 04 24.7**	**-1.3**	
MQZ	**McQueen's Vall**	**12.01**	**214**	P	**Pn**	**18 04 24.7**	**-2.5**	
WVZ	**Waitaha Valley**	**12.53**	**221**	P	**Pn**	**18 04 33.1**	**-1.0**	
RPZ	**Rata Peaks**	**12.80**	**218**	P	**Pn**	**18 04 38.2**	**+0.5**	
RPZ				S	**Sn**	**18 06 53.3**	**-4.9**	
RPZ	**Rata Peaks**	**12.80**	**218**	P	**Pn**	**18 04 35.4**	**-2.3**	
FOZ	**Fox Glacier**	**13.43**	**222**	P	**Pn**	**18 04 43.9**	**-2.0**	
LBZ	**Lake Benmore**	**13.72**	**218**	P	**Pn**	**18 04 49.4**	**-0.3**	
ODZ	**Otahua Downs**	**13.97**	**215**	P	**Pn**	**18 04 51.4**	**-1.6**	
JCZ	**Jackson Bay**	**14.27**	**222**	P	**Pn**	**18 04 55.6**	**-1.3**	
WKZ	**Wanaka**	**14.63**	**219**	P	**Pn**	**18 05 00.4**	**-1.1**	
EAZ	**Earnscleugh**	**14.76**	**217**	P	**Pn**	**18 05 02.8**	**-0.4**	
MSZ	**Milford Sound**	**15.11**	**221**	P	**Pn**	**18 05 07.4**	**-0.3**	
TUZ	**Tuapeka**	**15.12**	**215**	P	**Pn**	**18 05 08.2**	**+0.4**	
WHZ	**Wether Hill Ro**	**15.91**	**218**	P	**Pn**	**18 05 18.6**	**+0.9**	
DZM	**Mont Dzumac**	**18.14**	**307**	*e*P	**Pn**	**18 05 43.1**	**-2.1**	
RAR	**Rarotonga**	**20.63**	**56**	P	**P**	**18 06 10.0**	**-1.5**	
RAR				S	**S**	**18 09 37.0**	**-20**	
RAR				LR	LR	18 13 21.3		
AFI	**Afiamalu**	**20.88**	**17**	P	**P**	**18 06 07.7**	**-6.5**	
AFI				S	S	18 09 38.1	-24	
AFI	**Afiamalu**	**20.88**	**17**	*e*P	**P**	**18 06 07.4**	**-6.8**	
AFI				S	S	18 09 38.1	-24	
PPT	**Papeete**	**30.33**	**64**	LR	LR	18 18 22.0		
STKA	**Stephens Creek**	**33.76**	**262**	P	**P**	**18 08 14.7**	**+2.3**	
STKA				PcP	PcP	18 10 50.6	+0.7	
STKA				LR	LR	18 20 59.0		
STKA	**Stephens Creek**	**33.76**	**262**	P	**P**	**18 08 12.8**	**+0.4**	
STKA				PcP	PcP	18 10 50.6	+0.7	
STKA				LR	LR	18 20 59.0		
CTA	**Charters Tower**	**34.50**	**285**	*e*P	**P**	**18 08 19.4**	**+0.5**	
CTA				*e*	pP	18 08 40.7	+1.4	
CTA	**Charters Tower**	**34.50**	**285**	P	**P**	**18 08 18.7**	**-0.2**	
CTA				pP	pP	18 08 40.9	+1.6	
CTA				LR	LR	18 19 55.5		
CTAO	**Charters Tower**	**34.50**	**285**	*e*P	**P**	**18 08 18.7**	**-0.2**	
CTAO				*ep*P	pP	18 08 40.3	+1.0	
ASAR	**Alice Springs**	**42.98**	**271**	P	**P**	**18 09 29.6**	**-0.1**	
ASAR				pP	pP	18 09 51.3	+0.6	
ASAR				S	**S**	**18 15 50.5**	**+1.8**	
WB2	**Warramunga Arr**	**44.29**	**276**	⇓*i*P	**P**	**18 09 39.3**	**-1.0**	
WB2				*e*	pP	18 10 01.1	-0.2	
WRAB	**Tennant Creek**	**44.29**	**276**	*e*P	**P**	**18 09 39.7**	**-0.7**	
WRAB				*ep*P	pP	18 10 00.6	-0.7	
WRA	**Warramunga Arr**	**44.30**	**276**	P	**P**	**18 09 39.7**	**-0.6**	
WRA				pP	pP	18 10 01.1	-0.3	
VNDA	**Vanda**	**44.43**	**186**	LR	LR	18 24 09.4		
FORT	**Forrest**	**45.15**	**259**	*e*P	**P**	**18 09 48.5**	**+1.4**	
FITZ	**Fitzroy Crossi**	**52.38**	**273**	*e*P	**P**	**18 10 42.3**	**-0.2**	
FITZ				*e*	pP	18 11 04.3	+0.1	
FITZ	**Fitzroy Crossi**	**52.38**	**273**	P	**P**	**18 10 42.4**	**-0.2**	
FITZ				pP	pP	18 11 04.6	+0.4	
FITZ				LR	LR	18 33 53.3		
NWAO	**Narrogin (SRO)**	**53.12**	**252**	P	**P**	**18 10 48.0**	**+0.1**	
KLBR	**Kellerberrin**	**53.18**	**254**	*e*P	**P**	**18 10 48.7**	**+0.4**	
QSPA	**South Pole Qui**	**56.04**	**180**	P	**P**	**18 11 13.9**	**+5.7**	
KAPI	**Kappang**	**64.26**	**282**	LR	LR	18 40 43.5		
MAW	**Mawson**	**68.85**	**201**	*e*P	**P**	**18 12 38.8**	**+5.1**	
MAW				*e*		18 12 51.9		
MAW	**Mawson**	**68.85**	**201**	P	**P**	**18 12 38.3**	**+4.6**	
MAW				LR	LR	18 42 03.7		
MAW	**Mawson**	**68.85**	**201**	*e*P	**P**	**18 12 38.5**	**+4.8**	
MAW				*e*		18 12 51.8		
MAW				*e*		18 12 51.9		
SNAA	**Sanae**	**74.48**	**178**	*e*	**P**	**18 13 11.6**	**+4.2**	
SNAA				*e*		18 13 22.9		
SNAA				*e*	pP	18 13 32.0	+1.7	
SNAA	**Sanae**	**74.48**	**178**	*e*P	**P**	**18 13 11.5**	**+4.1**	
VNA1	**Neumayer--Stat**	**75.31**	**177**	*e*	**P**	**18 13 16.7**	**+4.5**	
VNA1				*e*		18 13 28.2		
VNA1				*e*	pP	18 13 38.1	+3.0	
PLCA	**Paso Flores**	**80.05**	**133**	P	**P**	**18 13 41.9**	**+2.8**	
PLCA				LR	LR	18 39 36.2		
PLCA	**Paso Flores**	**80.05**	**133**	P	**P**	**18 13 41.9**	**+2.8**	
PLCA				LR	LR	18 39 36.2		
MJAR	**Matsushiro Arr**	**81.23**	**326**	LR	LR	18 44 48.8		
ASAJ	**Asahikawa**	**85.67**	**333**	LR	LR	18 47 58.0		
CFAA	**Coronel Fontan**	**87.10**	**127**	P	**P**	**18 14 17.1**	**+1.8**	
YSS	**Yuzh-Sakhalins**	**88.03**	**334**	*e*P	**P**	**18 14 12.8**	**-6.3**	
YSS				*e*	pP	18 14 35.0	-7.6	
ISA	**Isabella**	**88.95**	**45**	*e*P	**P**	**18 14 24.1**	**+0.3**	
ISA				*e*		18 14 35.9		
PETK	**Petropavlovsk-**	**89.36**	**346**	P	**P**	**18 14 24.4**	**-0.8**	
PETK				pP	pP	18 14 47.2	-1.5	
CMB	**Columbia Colle**	**89.54**	**42**	*e*P	**P**	**18 14 25.1**	**-1.3**	

CMB e 18 14 37.5
NVAR Mina Array Bea 90.98 43 P **P 18 14 33.4 +0.2**
2.2nm,0.8s,mb4.4,baz=219,slow=8.0,SNR=17
TPNV Topopah Spring 91.14 45 *e*P **P 18 14 34.1 +0.2**
5.8nm,0.8s,mb4.8
CMIG Matias Romero 93.94 72 LR LR 18 45 38.5
comp=Z,62nm,21.5s,baz=198,slow=28
TXAR Lajitas Array 94.42 58 P **P 18 14 49.5 +0.2**
0.5nm,0.8s,mb3.9,baz=201,slow=8.3,SNR=5.2
TXAR LR LR 18 51 32.6
comp=Z,83nm,18.2s,baz=180,slow=32
CMAR Chiang Mai Arr 94.55 289 P **P 18 14 52.1 +2.0**
0.7nm,0.5s,mb4.4,baz=155,slow=3.5,SNR=4.2
LPAZ La Paz 96.68 115 P **P 18 15 02.2 +2.2**
0.9nm,0.7s,mb4.3,baz=270,slow=4.0,SNR=2.8
LPAZ LR LR 18 48 44.1
comp=Z,57nm,19.8s,baz=139,slow=29
LPAZ La Paz 96.68 115 P **P 18 15 02.2 +2.2**
LPAZ LR LR 18 48 44.1
CPUP Villa Florida 97.74 129 LR LR 18 50 00.6
comp=Z,152nm,20.6s,baz=188,slow=30
PDAR Pinedale Array 98.83 44 LR LR 18 49 39.5
comp=Z,57nm,19.9s,baz=337,slow=29
NDI New Delhi 116.84 288 *e*P Pdif 18 16 29.0 -0.3
MKAR Makanchi Array 120.05 309 PKP PKPdf 18 20 18.7 -0.5
0.6nm,0.6s,baz=128,slow=2.4,SNR=3.1
BVAR Borovoye Array 128.95 314 PKP PKPdf 18 20 37.0 +1.0
1.2nm,0.6s,baz=132,slow=2.2,SNR=4.7
ARCES ARCESS Array B 142.16 347 PKhKP 18 20 55.0
1.9nm,0.8s,baz=29,slow=2.8,SNR=5.2
ARCES ARCESS Array B 142.16 347 PKP 18 20 55.0
GNI Garni 145.58 293 PKPbc PKPbc 18 21 09.3 +2.0
1.8nm,0.4s,baz=153,slow=6.8,SNR=3.9
JOF Joensuu 145.79 336 *e*pkp PKPdf 18 21 05.0 -1.5
13nm,0.7s
KAF Kangasniemi 147.97 339 *e*pkp PKPdf 18 21 12.1 +1.9
8.3nm,0.7s,baz=37,slow=2.6
LIC Lamto 151.54 165 *e*PKP1 PKPbc 18 21 25.3 +1.6
112nm,1.8s
KIC Kosan Boka 151.73 166 *e*PKP1 PKPbc 18 21 25.8 +1.7
88nm,1.1s
TIC Toumodi 151.95 165 *e*PKP1 PKPbc 18 21 26.4 +1.8
163nm,1.6s
DBIC Dimbokro 152.01 166 PKPbc PKPbc 18 21 26.4 +1.6
5.8nm,0.7s,baz=182,slow=17,SNR=6.4
NB2 NORSAR Subarra152.37 350 PKP PKPbc 18 21 23.1 -0.9
comp=Z,5.7nm,0.6s,baz=17,slow=2.5
NOA NORSAR Array B 152.37 350 PKPbc PKPbc 18 21 23.4 -0.6
comp=Z,4.5nm,0.6s,baz=14,slow=4.1,SNR=19
NOA pPKPbc pPKPbc 18 21 47.6 -0.9
comp=Z,4.8nm,0.9s,baz=14,slow=4.1,SNR=5.6
TORD Torodi Ar. Bea 159.16 179 PKP PKPdf 18 21 29.3 +1.7
comp=Z,0.6nm,0.8s,baz=215,slow=0.6,SNR=3.0
TORD PKPab PKPab 18 22 07.7 +3.1
comp=Z,2.2nm,0.6s,baz=169,slow=3.8,SNR=13
CLL Collm 161.00 338 *i* PKPab PKPab 18 22 10.4 -1.4
comp=Z,6.0nm,1.0s
GERES GERESS Array B 162.85 333 PKPab PKPab 18 22 18.3 -1.7
comp=Z,0.8nm,0.8s,baz=57,slow=4.9,SNR=5.7

*IDC **04** 18:23:54.1±1.1,51.11N×17984W,h0km,mb3.6/8, mb1 3.9/8,mb1mx3.6/23,mbtmp3.6/8,MS3.5/2,Ms1 3.5/2, ms1mx2.8/38,Error ellipse: s-maj=37.0km s-min=20.5km az=1.0*
*ISCJB **04** 18:23:56.7±1.9,510N±0.1×17973W±009,h29km±11km, mb3.7/8,Error ellipse: s-maj=24.5km s-min=9.0km az=0.8*
*NEIC **04** 18:23:57.6,5097N×17986W,h9km,mb3.8/3, ML3.5(AEIC),After AEIC.*
ISC 04 18:23:56.0±2.2,510N±01×17974W±008,h10km±11km,n16, σ1°00/20,mb3.7/8,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.73**	**305**	P	**Pg**	**18 24 10.4**	**+0.4**
AMKA				*e*Pb	**Pb**	**18 24 11.5**	**+0.8**
AMKA				*e*Sg	**Sg**	**18 24 17.0**	**-2.5**
AMKA				S	**Sg**	**18 24 19.2**	**-0.4**
SMY	**Shemya**	**4.21**	**297**	*e*Pn	**Pn**	**18 25 01.3**	**+1.3**
SMY				*e*Sn	**Sn**	**18 25 50.5**	**+1.4**
SDPT	**Sand Point**	**12.36**	**62**	P	**Pn**	**18 26 53.5**	**+1.9**
69nm,1.0s							
TNA	**Tin City**	**15.85**	**18**	Pn	**Pn**	**18 27 38.8**	**0.0**
15nm,1.0s							
KDAK	**Kodiak Island**	**17.15**	**56**	Pn	**Pn**	**18 27 55.5**	**+0.1**
6.5nm,0.9s							
KTH	**Kantishna Hill**	**19.82**	**40**	*e*P	**Pn**	**18 28 26.7**	**-1.1**
2μm,0.6s							
BPAW	**Bear Paw Mtn.**	**20.04**	**38**	*e*P	**P**	**18 28 29.5**	**+0.8**
2.4nm,0.9s							
YKA	**Yellowknife Ar**	**35.95**	**46**	P	**P**	**18 30 55.5**	**-0.6**
0.5nm,0.4s,mb3.8,baz=282,slow=7.3,SNR=6.3							
YKA	**Yellowknife Ar**	**35.95**	**46**	P	**P**	**18 30 55.5**	**-0.6**
SONM	**Songino Array**	**46.30**	**296**	P	**P**	**18 32 20.5**	**-0.9**
0.3nm,0.5s,mb3.5,baz=62,slow=7.7,SNR=3.0							
PDAR	**Pinedale Array**	**47.00**	**71**	P	**P**	**18 32 27.3**	**+0.3**
0.8nm,0.5s,mb3.9,baz=326,slow=3.5,SNR=7.8							
ZALV	**Zalesovo Beam**	**53.88**	**313**	P	**P**	**18 33 17.1**	**-1.7**
0.7nm,0.4s,mb3.9,baz=36,slow=9.6,SNR=4.1							
TXAR	**Lajitas Array**	**59.31**	**80**	P	**P**	**18 33 57.6**	**-0.2**
0.2nm,0.6s,mb3.4,baz=303,slow=5.3,SNR=3.3							
MKAR	**Makanchi Array**	**59.82**	**308**	P	**P**	**18 33 60.0**	**-1.1**
0.5nm,0.5s,mb3.8,baz=52,slow=5.5,SNR=6.8							
NOA	**NORSAR Array B**	**68.00**	**354**	P	**P**	**18 34 53.9**	**-0.8**
1.6nm,0.8s,mb4.1,baz=7.7,slow=6.1,SNR=2.7							
ASAR	**Alice Springs**	**84.78**	**222**	P	**P**	**18 36 30.6**	**+0.5**
0.2nm,0.9s,mb3.2,baz=41,slow=6.1,SNR=3.1							

JMA 04 18:26:46.3±0.2,4363N×14730E,h27km,M3.6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.16**	**257**	P	Pn	18 27 07.2	+0.4
NEM2				*e*S	Sn	18 27 21.8	+0.1
JRA	**Rausu**	**1.61**	**282**	P	Pn	18 27 13.4	+0.5
JRA				*e*S	Sn	18 27 33.5	+0.8
JNK	**Nakash**	**1.88**	**270**	P	Pn	18 27 17.3	+0.7
JNK				*e*S	Sn	18 27 39.8	+0.5
JAK	**Akkeshi**	**2.00**	**252**	P	Pn	18 27 19.0	+0.7
JAK				*e*S	Sn	18 27 43.1	+0.6
JTKR	**Abashiri--Toko**	**2.48**	**279**	P	Pn	18 27 26.2	+1.3
JTKR				*e*S	Sn	18 27 57.5	+3.3
JAR	**Ashorobuto**	**2.59**	**264**	P	Pn	18 27 27.9	+1.5
JAR				*e*S	Sn	18 27 59.1	+2.1
JOB	**Onbets**	**2.63**	**255**	P	Pn	18 27 28.3	+1.3
JOB				*e*S	Sn	18 27 59.6	+1.6
JMP	**Maruseppu**	**2.88**	**279**	P	Pn	18 27 31.9	+1.6
JCH	**Churui**	**3.06**	**252**	*e*S	Sn	18 28 09.3	+0.9
JFR	**Furan**	**3.46**	**264**	P	Pn	18 27 40.8	+2.4
JFR				*e*S	Sn	18 28 21.0	+2.6

*BJI **04** 18:29:33.3,078N×97.13E,h15km,mB4.9,mb4.7,Ms4.4, Msz4.1*
*ISCJB **04** 18:29:39.3±0.6,130N±007×9723E±008,h23km,mb4.5/34, MS4.2/2,Error ellipse: s-maj=14.4km s-min=7.0km az=140.1*
*DJA **04** 18:29:40,137N×9699E,h15km,ML4.5/5*
*NEIC **04** 18:29:41.0±0.5,132N×97.13E,mb4.5/13,Error ellipse: s-maj=12.9km s-min=7.7km az=57.0*
*IDC **04** 18:29:41.0±0.6,127N×97.10E,h24km±3km,mb4.1/14, mb1 4.2/16,mb1mx4.0/24,mbtmp4.1/16,ML4.0/2,MS3.7/2, Ms1 3.7/2,ms1mx3.1/34,Error ellipse: s-maj=19.2km s-min=11.1km az=56.0*
ISC 04 18:29:41.7±0.6,132N±007×9726E±008,h24km, h24km±.9km:pP-P,n57,σ0°93/54,mb4.5/34,MS4.2/2,1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.22**	**48**	Pn	**Pn**	**18 30 18.2**	**+1.2**
11nm,0.3s,baz=254,slow=5.1,SNR=82							
PSI				Pg	**Pg**	**18 30 24.5**	**+7.5**
13nm,0.3s,baz=244,slow=11,SNR=30							
PSI				LR	LR	18 30 57.6	
comp=Z,451nm,21.4s,baz=283,slow=33							
PSI	**Prapat**	**2.22**	**48**	*e*P	**Pn**	**18 30 18.1**	**+1.1**
CM31	**Chiang Mai Arr**	**17.11**	**5**	P	**Pn**	**18 33 36.6**	**-2.7**
9.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**17.11**	**5**	P	**Pn**	**18 33 38.2**	**-1.2**
0.4nm,0.3s,baz=194,slow=12,SNR=16							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**17.46**	**5**	*e*Pn	**Pn**	**18 33 41.4**	**-2.4**
6.9nm,1.0s							
KKM	**Kota Kinabalu**	**19.48**	**76**	*e*P	**Pn**	**18 34 09.0**	**+0.5**
KMI	**Kunming**	**24.25**	**12**	⇓P	**P**	**18 34 58.3**	**+1.4**
KMI				AP		18 35 04.1	
KMI				AMB	AMB		
comp=Z,24nm,1.0s,mb4.6							
KMI				AMB	AMB		
comp=Z,60nm,3.1s							
KMI				LR	LR		
comp=N,430nm,9.7s							
KMI				LR	LR		
comp=E,235nm,11.6s							
KMI				LR	LR		
comp=Z,375nm,13.2s,MS4.0							
SHL	**Shillong**	**24.66**	**348**	*e*P	**P**	**18 35 02.0**	**+1.4**
ODAN	**Odare**	**27.11**	**340**	*e*P	**P**	**18 35 23.2**	**+0.4**
comp=Z,46nm,0.7s,mb5.1							
TAPN	**Taplejung**	**27.46**	**341**	*e*P	**P**	**18 35 27.0**	**+1.1**
comp=Z,80nm,0.9s,mb5.3							
RAMN	**Ramite**	**27.46**	**339**	*e*P	**P**	**18 35 27.0**	**+1.0**
JIRN	**Jiri**	**28.26**	**339**	*e*P	**P**	**18 35 34.0**	**+0.9**
comp=Z,52nm,1.0s,mb5.1							
PKI	**Pulchoki**	**28.47**	**338**	*e*P	**P**	**18 35 35.7**	**+0.7**
GUN	**Gumba**	**28.60**	**339**	*e*P	**P**	**18 35 36.7**	**+0.6**
comp=Z,49nm,0.7s,mb5.3							
DMN	**Daman**	**28.62**	**337**	*e*P	**P**	**18 35 37.4**	**+1.1**
BATI	**Baumata**	**28.66**	**114**	P	**P**	**18 35 35.8**	**-1.1**
comp=Z,5.4nm,0.4s,mb4.6,baz=292,slow=19,SNR=3.5							
KKN	**Kakani**	**28.71**	**337**	*e*P	**P**	**18 35 37.4**	**+0.2**
LSA	**Lhasa**	**28.82**	**349**	P	**P**	**18 35 39.7**	**+1.6**
LSA	**Lhasa**	**28.82**	**349**	*e*P	**P**	**18 35 39.1**	**+1.0**
comp=Z,7.1nm,0.6s,mb4.6							
GKN	**Gorkha**	**29.16**	**337**	*e*P	**P**	**18 35 41.6**	**+0.5**
KOLN	**Koldanda**	**29.38**	**335**	*e*P	**P**	**18 35 43.4**	**+0.3**
comp=Z,34nm,0.7s,mb5.2							
FITZ	**Fitzroy Crossi**	**33.95**	**126**	P	**P**	**18 36 22.8**	**-0.6**
comp=Z,1.4nm,0.8s,mb4.0,baz=280,slow=22,SNR=3.2							
XAN	**Xi'an**	**34.33**	**17**	P	**P**	**18 36 25.1**	**-1.4**
XAN				AP	pP	18 36 31.8	-1.9
XAN				AMB	AMB		
comp=Z,16nm,0.9s,mb5.0							
LZH	**Lanzhou**	**35.13**	**9**	*e*P	**P**	**18 36 32.7**	**-0.7**
LZH				AP	pP	18 36 38.0	-2.6
LZH				AMB	AMB		
comp=Z,18nm,1.4s,mb4.8							
LZH				AMB	AMB		
comp=Z,86nm,4.5s							
GTA	**Gaotai**	**37.98**	**3**	*e*P	**P**	**18 36 57.7**	**0.0**
GTA				AP	pP	18 37 02.7	-2.2
GTA				XP	sP	18 37 05.2	-2.7
GTA				AMB	AMB		
comp=Z,6.0nm,0.9s,mb4.3							
JOW	**Kunigami**	**39.12**	**47**	P	**P**	**18 37 08.0**	**+0.6**
comp=Z,18nm,0.6s,mb5.0,baz=244,slow=7.9,SNR=14							
WRA	**Warramunga Arr**	**42.05**	**122**	P	**P**	**18 37 32.1**	**+0.4**
comp=Z,2.4nm,0.6s,mb4.0,baz=303,slow=9.0,SNR=24							
WRA				pP	pP	18 37 38.9	-0.2
comp=Z,2.6nm,0.6s,baz=301,slow=9.1,SNR=9.2							
WRAB	**Tennant Creek**	**42.05**	**122**	*e*P	**P**	**18 37 31.6**	**-0.1**
comp=Z,16nm,1.2s,mb4.5							
WB2	**Warramunga Arr**	**42.05**	**122**	*e*P	**P**	**18 37 32.0**	**+0.2**
WB2	**Warramunga Arr**	**42.05**	**122**	P	**P**	**18 37 31.6**	**-0.2**
BJT	**Baijiatuau**	**42.19**	**22**	*e*P	**P**	**18 37 33.4**	**+0.9**
comp=Z,9.6nm,0.5s,mb4.7							
BJI	**Beijing**	**42.21**	**22**	P	**P**	**18 37 33.5**	**+0.8**
BJI				AMB	AMB		
comp=Z,18nm,0.6s,mb4.9							
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**18 37 43.4**	**+0.6**
comp=Z,0.8nm,0.6s,mb3.6,baz=301,slow=7.1,SNR=18							
ASAR				pP	pP	18 37 50.2	+0.1
comp=Z,0.7nm,0.5s,baz=297,slow=6.0,SNR=6.8							
ASAR				PcP	PcP	18 39 31.1	+0.1
comp=Z,0.6nm,0.8s,baz=295,slow=5.0,SNR=3.5							
KSRS	**Korea Array**	**45.72**	**35**	P	**P**	**18 38 00.4**	**-0.6**
comp=Z,6.8nm,0.8s,mb4.6,baz=221,slow=9.2,SNR=24							
TKM2	**Tokmak 2**	**45.73**	**338**	*e*P	**P**	**18 38 00.7**	**-0.3**
comp=Z,2.5nm,0.6s,mb4.3							
AML	**Almayashu**	**45.82**	**335**	*e*P	**P**	**18 38 01.8**	**+0.1**
comp=Z,3.0nm,0.6s,mb4.4							
EKS2	**Erkin-Say**	**46.23**	**336**	*e*P	**P**	**18 38 05.3**	**+0.4**
comp=Z,4.0nm,0.8s,mb4.4							
SONM	**Songino Array**	**47.01**	**8**	P	**P**	**18 38 11.2**	**+0.3**
comp=Z,5.8nm,0.8s,mb4.6,baz=190,slow=9.3,SNR=44							
SONM				pP	pP	18 38 18.4	+0.1
comp=Z,4.2nm,0.7s,baz=191,slow=7.6,SNR=14							
SONM				PcP	PcP	18 39 43.2	+0.3
comp=Z,0.7nm,0.6s,baz=210,slow=1.7,SNR=3.6							
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**18 38 11.8**	**-0.2**
comp=Z,3.5nm,0.7s,mb4.4,baz=159,slow=9.0,SNR=32							
MKAR				pP	pP	18 38 19.1	-0.3
comp=Z,2.6nm,0.5s,baz=155,slow=9.4,SNR=10.0							
MJAR	**Matsushiro Arr**	**51.56**	**42**	P	**P**	**18 38 45.9**	**0.0**
comp=Z,0.6nm,0.6s,mb3.7,baz=220,slow=7.9,SNR=5.6							
KURK	**Kurchatov**	**51.69**	**345**	*e*P	**P**	**18 38 46.2**	**-0.5**
comp=Z,4.2nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**53.39**	**132**	P	**P**	**18 39 00.5**	**+0.9**
comp=Z,1.3nm,0.6s,mb4.0,baz=268,slow=11,SNR=3.4							
STKA				pP	pP	18 39 07.8	+0.8
comp=Z,3.2nm,0.8s,baz=332,slow=12,SNR=3.3							
STKA	**Stephens Creek**	**53.39**	**132**	P	**P**	**18 38 59.5**	**0.0**
comp=Z,6.0nm,1.0s,mb4.5							
STKA				pP	pP	18 39 07.8	+0.8
ZAA0	**Zalesovo Array**	**53.45**	**351**	*e*P	**P**	**18 38 58.9**	**-0.8**
ZALV	**Zalesovo Beam**	**53.45**	**351**	P	**P**	**18 38 59.4**	**-0.2**
comp=Z,7.6nm,0.4s,mb5.0,baz=178,slow=7.9,SNR=48							
ZALV				pP	pP	18 39 06.8	-0.3
comp=Z,5.5nm,0.5s,baz=178,slow=6.6,SNR=7.9							
BRVK	**Borovoye**	**56.22**	**341**	P	**P**	**18 39 18.5**	**-1.2**
YSS	**Yuzh-Sakhalins**	**60.22**	**34**	P	**P**	**18 39 48.7**	**+0.9**
comp=Z,7.6nm,0.9s,mb4.7							
ARU	**Arti**	**63.10**	**337**	P	**P**	**18 40 05.0**	**-2.1**
comp=Z,3.5nm,0.8s,mb4.5							
YAK	**Yakutsk**	**65.29**	**16**	*e*P	**P**	**18 40 20.0**	**-1.3**
comp=Z,26nm,0.9s,mb5.2							
BOSA	**Boshof**	**74.89**	**240**	LR	LR	19 11 59.0	
comp=Z,151nm,19.4s,MS4.3,baz=250,slow=34							
AKASG	**Malin Array Be**	**75.20**	**322**	P	**P**	**18 41 20.6**	**-1.7**
comp=Z,0.8nm,0.5s,mb3.9,baz=92,slow=4.3,SNR=5.7							
AKASG				pP	pP	18 41 27.8	-2.2
comp=Z,1.0nm,0.5s,baz=90,slow=5.2,SNR=3.9							
AKASG	**Malin Array Be**	**75.20**	**322**	P	**P**	**18 41 20.6**	**-1.7**
AKASG				pP	pP	18 41 27.8	-2.2
ARCES	**ARCESS Array B**	**82.44**	**340**	P	**P**	**18 42 01.1**	**-0.6**
comp=Z,1.3nm,0.7s,mb4.0,baz=90,slow=5.0,SNR=9.2							
ARCES				pP	pP	18 42 08.4	-1.1
comp=Z,1.9nm,1.0s,baz=86,slow=6.2,SNR=1.8							
GERES	**GERESS Array B**	**84.77**	**319**	P	**P**	**18 42 13.7**	**-0.3**
comp=Z,0.6nm,0.7s,mb3.8,baz=94,slow=5.4,SNR=6.8							
GERES				pP	pP	18 42 21.4	-0.4
comp=Z,0.6nm,0.7s,baz=94,slow=4.0,SNR=3.5							
TXAR	**Lajitas Array**	**143.54**	**32**	PKP	PKPdf	18 49 12.4	-2.7
comp=Z,0.4nm,0.6s,baz=355,slow=0.7,SNR=5.7							
CPUP	**Villa Florida**	**145.13**	**222**	PKP	PKPdf	18 49 17.6	-0.4
comp=Z,0.3nm,0.3s,baz=130,slow=2.5,SNR=3.1							
CPUP				pPKP	pPKPdf	18 49 24.5	-1.6
comp=Z,4.6nm,0.8s,baz=81,slow=3.6,SNR=5.0							
CPUP	**Villa Florida**	**145.13**	**222**	PKP	PKPdf	18 49 17.6	-0.4
CPUP				pPKP	pPKPdf	18 49 24.5	-1.6

*IDC **04** 18:52:13.1±3.6,2173N×9468E,h119km±34km,mb3.4/10, mb1 3.5/11,mb1mx3.4/22,mbtmp3.3/11,Error ellipse: s-maj=34.6km s-min=14.2km az=60.0*
*NEIC **04** 18:52:13.6±1.1,2187N×9494E,h125km±12km,mb3.9/5, Error ellipse: s-maj=29.0km s-min=8.2km az=55.0*
*ISCJB **04** 18:52:16.9±0.9,2203N±008×9449E±007,h150km±9km, mb3.6/14,Error ellipse: s-maj=16.3km s-min=7.4km az=35.3*
ISC 04 18:52:17.5±0.9,2197N±008×9446E±008,h139km±8km, n31,σ0°87/40,mb3.6/14,1D,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.84**	**350**	*e*x	x	18 53 06.0	
IMP				*e*x	x	18 53 44.0	
SHL	**Shillong**	**4.28**	**327**	*i,i*x	**Pn**	**18 53 22.0**	**+0.8**
SHL				*e*x	**Sn**	**18 54 10.0**	**-0.7**
CHTO	**Chiang Mai**	**5.25**	**126**	*e*Pn	**Pn**	**18 53 24.0**	**-10**
CM31	**Chiang Mai Arr**	**5.47**	**129**	Pn	**Pn**	**18 53 36.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**5.47**	**129**	P	**Pn**	**18 53 28.0**	**-9.1**
0.3nm,0.3s,baz=309,slow=14,SNR=8.8							
ODAN	**Odare**	**8.07**	**308**	*e*Pn	**Pn**	**18 54 12.6**	**+0.8**
ODAN				*e*Sn	**Sn**	**18 55 41.1**	**-0.4**
105nm,0.4s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**8.14**	**312**	*e*Pn	**Pn**	**18 54 13.1**	**+0.3**
TAPN				*e*Sn	**Sn**	**18 55 43.0**	**-0.3**
48nm,0.2s							
LSA	**Lhasa**	**8.25**	**340**	*e*Pn	**Pn**	**18 54 14.2**	**0.0**
12nm,0.6s							
LSA				*e*Sn	**Sn**	**18 55 45.3**	**-0.6**
RAMN	**Ramite**	**8.70**	**306**	*e*Pn	**Pn**	**18 54 21.1**	**+0.8**
RAMN				*e*Sn	**Sn**	**18 55 56.0**	**-0.8**
36nm,0.3s							
JIRN	**Jiri**	**9.40**	**309**	*e*Pn	**Pn**	**18 54 30.1**	**+0.5**
JIRN				*e*Sn	**Sn**	**18 56 13.4**	**-0.3**
65nm,0.3s							
GUN	**Gumba**	**9.77**	**309**	*e*Pn	**Pn**	**18 54 35.3**	**+0.7**
GUN				*e*Sn	**Sn**	**18 56 22.6**	**0.0**
50nm,0.3s							
PKI	**Pulchoki**	**9.93**	**306**	*e*Sn	**Sn**	**18 56 25.5**	**-1.0**
23nm,0.3s							
KKN	**Kakani**	**10.14**	**307**	*e*Pn	**Pn**	**18 54 40.6**	**+1.1**
KKN				*e*Sn	**Sn**	**18 56 30.9**	**-0.7**
23nm,0.2s							
DMN	**Daman**	**10.18**	**305**	*e*Pn	**Pn**	**18 54 41.3**	**+1.3**
DMN				*e*Sn	**Sn**	**18 56 32.5**	**0.0**
47nm,0.6s							
GKN	**Gorkha**	**10.74**	**306**	*e*Pn	**Pn**	**18 54 47.4**	**0.0**
GKN				*e*Sn	**Sn**	**18 56 45.7**	**-0.3**
11nm,0.3s							
KOLN	**Koldanda**	**11.42**	**303**	*e*Pn	**Pn**	**18 54 56.2**	**-0.2**
KBL	**Kabul**	**25.57**	**305**	*e*P	**P**	**18 57 36.1**	**+2.6**
7.6nm,1.0s,mb4.3							
TKM2	**Tokmak 2**	**26.15**	**327**	*e*P	**P**	**18 57 40.5**	**+1.9**
1.1nm,0.6s,mb3.7							
MKAR	**Makanchi Array**	**26.65**	**341**	P	**P**	**18 57 44.0**	**+0.9**
0.5nm,0.4s,mb3.5,baz=143,slow=10,SNR=17							
EKS2	**Erkin-Say**	**26.91**	**325**	P	**P**	**18 57 46.7**	**+1.3**
1.4nm,0.8s,mb3.6							
SONM	**Songino Array**	**27.53**	**18**	P	**P**	**18 57 51.9**	**+1.0**
0.2nm,0.6s,mb3.0,baz=225,slow=10,SNR=1.9							
ZALV	**Zalesovo Beam**	**32.76**	**349**	P	**P**	**18 58 35.6**	**-1.2**
0.4nm,0.3s,mb3.6,baz=154,slow=7.9,SNR=2.4							
BRVK	**Borovoye**	**36.12**	**335**	P	**P**	**18 59 04.8**	**-1.1**
0.9nm,0.7s,mb3.5							
WRA	**Warramunga Arr**	**57.05**	**134**	P	**P**	**19 01 44.2**	**-4.9**
0.6nm,0.2s,mb4.0,baz=320,slow=8.5,SNR=52							
AKASG	**Malin Array Be**	**57.70**	**317**	P	**P**	**19 01 52.2**	**-1.1**
0.1nm,0.3s,mb3.2,baz=81,slow=6.2,SNR=5.3							
AKASG	**Malin Array Be**	**57.70**	**317**	P	**P**	**19 01 52.2**	**-1.1**
ASAR	**Alice Springs**	**59.42**	**137**	P	**P**	**19 02 01.4**	**-4.2**
0.2nm,0.4s,mb3.3,baz=324,slow=6.1,SNR=7.3							
ARCES	**ARCESS Array B**	**62.26**	**338**	P	**P**	**19 02 23.7**	**-0.4**
1.2nm,0.8s,mb3.8,baz=101,slow=6.5,SNR=7.2							
NOA	**NORSAR Array B**	**67.78**	**329**	P	**P**	**19 02 59.0**	**-0.9**
0.8nm,0.7s,mb3.5,baz=120,slow=4.1,SNR=2.5							
GERES	**GERESS Array B**	**67.80**	**315**	P	**P**	**19 03 00.5**	**+0.2**
0.3nm,0.6s,mb3.2,baz=96,slow=5.4,SNR=5.0							
LSZ	**Lusaka**	**74.74**	**246**	P	**P**	**19 03 42.2**	**-0.3**
1.3nm,0.4s,mb3.9,baz=62,slow=5.8,SNR=5.2							

IDC 04 18:56:55.1±2.6,292N×6649E,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.6/21,mbtmp3.7/5,Error ellipse: s-maj=88.6km s-min=30.4km az=69.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.81**	**15**	P	P	19 05 19.2	+0.5
0.8nm,1.0s,baz=197,slow=4.5,SNR=3.3							
ZALV	**Zalesovo Beam**	**53.05**	**13**	P	P	19 06 12.1	-1.8
1.0nm,0.6s,baz=210,slow=8.0,SNR=4.9							
SONM	**Songino Array**	**56.39**	**31**	P	P	19 06 39.3	+1.1
0.7nm,1.0s,baz=220,slow=5.8,SNR=4.4							
WRA	**Warramunga Arr**	**70.29**	**112**	P	P	19 08 10.6	-0.3
1.6nm,0.9s,baz=286,slow=6.2,SNR=5.0							
ASAR	**Alice Springs**	**70.63**	**116**	P	P	19 08 13.3	+0.3
0.8nm,0.9s,baz=285,slow=6.3,SNR=4.1							
TXAR	**Lajitas Array**	**146.58**	**344**	PKPbc	PKPbc	19 16 39.0	-0.2
0.4nm,0.7s,baz=20,slow=4.5,SNR=5.1							

*IDC **04** 19:31:44.0±0.7,5128N×17985W,h0km,mb4.0/18, mb1 4.2/19,mb1mx4.2/26,mbtmp4.0/19,ML4.7/1,MS3.0/2, Ms1 3.0/2,ms1mx2.5/31,Error ellipse: s-maj=22.9km s-min=14.2km az=165.0*
*BJI **04** 19:31:44.7,5108N×17982W,h13km,mb4.4/12,After AEIC.*
*ISCJB **04** 19:31:49.1±0.8,513N±0.1×17981W±006,h48km±6km, mb4.2/37,MS3.6/2,Error ellipse: s-maj=17.0km s-min=5.8km az=172.0*
*MOS **04** 19:31:50.2±1.0,5135N×17978W,h56km,mb4.3/7,Error ellipse: s-maj=16.5km s-min=13.0km az=123.2*
**ISC 04 19:31:50.8±0.8,513N±01×17986W±006,h47km±5km,n79, σ0°97/76,mb4.2/37,MS3.6/2,

comp=Z,3.9nm,1.0s,mb4.3
PDAR Pinedale Array 46.97 72 P **P 19 40 16.9 +0.1**
comp=Z,2.5nm,0.5s,mb4.4,baz=312,slow=3.8,SNR=32
SRU San Rafael 48.60 76 *eP* **P 19 40 31.2 +1.8**
SRU pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
SRU San Rafael 48.60 76 *eP* **P 19 40 31.2 +1.8**
comp=Z,1.6nm,0.4s,mb4.4
SPITS Spitsbergen Ar 50.41 356 P **P 19 40 42.7 -0.1**
comp=Z,2.1nm,0.4s,mb4.5,baz=72,slow=8.4,SNR=15
ZALV Zalesovo Beam 53.60 313 P **P 19 41 06.1 -0.7**
comp=Z,0.3nm,0.3s,mb3.7,baz=292,slow=43,SNR=2.0
ZALV PcP PcP 19 42 13.2 +0.6
comp=Z,0.6nm,0.3s,baz=90,slow=4.4,SNR=4.2
ZAL Zalesovo 53.62 313 P **P 19 41 06.1 -0.8**
ZAL 19 42 13.3
LZH Lanzhou 54.77 286 *eP* **P 19 41 16.5 +1.0**
LZH AP pP 19 41 27.0 -1.6
LZH XP sP 19 41 31.0 -3.0
LZH AMB AMB
comp=Z,14nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,68nm,4.3s
GTA Gaotai 54.98 291 *eP* **P 19 41 17.9 +0.9**
GTA AP pP 19 41 28.3 -1.8
GTA XP sP 19 41 31.9 -3.6
GTA PP PP 19 43 24.6 +4.6
GTA S **S 19 48 57.3 +2.0**
GTA XS sS 19 49 15.1 -2.1
GTA SS SS 19 52 41.6 +2.8
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.5
GTA AMB AMB
comp=Z,84nm,4.2s
GTA LR LR
comp=N,142nm,16.0s,MS4.2
GTA LR LR
comp=E,89nm,14.8s,MS4.2
GTA LR LR
comp=Z,140nm,17.1s,MS4.1
ARCES ARCESS Array B 58.05 350 P **P 19 41 37.4 -1.0**
comp=Z,1.9nm,0.8s,mb4.2,baz=26,slow=8.7,SNR=3.7
TXAR Lajitas Array 59.32 80 P **P 19 41 47.9 +0.1**
comp=Z,0.4nm,0.4s,mb3.8,baz=300,slow=6.0,SNR=9.6
MK31 Makanchi Array 59.56 308 *eP* **P 19 41 48.7 -0.5**
MKAR Makanchi Array 59.56 308 P **P 19 41 49.1 0.0**
comp=Z,3.4nm,0.4s,mb4.8,baz=46,slow=6.3,SNR=37
GYA Guiyang 59.67 275 P **P 19 41 55.2 +5.0**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
BRVK Borovoye 60.54 319 *eP* **P 19 41 55.8 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
BRVK Borovoye 60.54 319 *eP* **P 19 41 55.8 0.0**
comp=Z,2.7nm,0.6s,mb4.5
NB2 NORSAR Subarra 67.66 354 P **P 19 42 42.1 -0.2**
comp=Z,2.8nm,0.8s,mb4.3,baz=7.4,slow=6.5
NOA NORSAR Array B 67.66 354 P **P 19 42 41.7 -0.6**
comp=Z,1.3nm,0.6s,mb4.2,baz=344,slow=4.8,SNR=5.2
NOA NORSAR Array B 67.66 354 P **P 19 42 41.7 -0.6**
CMAR Chiang Mai Arr 70.36 275 P **P 19 42 59.6 -0.1**
comp=Z,0.5nm,0.7s,mb3.5,baz=229,slow=26,SNR=3.7
KBL Kabul 75.36 307 *eP* **P 19 43 28.9 -0.2**
comp=Z,2.9nm,0.6s,mb4.4
AKASG Malin Array Be 75.42 341 P **P 19 43 28.5 -0.7**
comp=Z,0.9nm,0.3s,mb4.2,baz=19,slow=5.2,SNR=7.1
BAIF Baives 78.96 357 *eP* **P 19 43 48.6 -0.4**
comp=Z,5.8nm,0.6s,mb4.4
GERES GERESS Array B 79.56 351 P **P 19 43 52.1 -0.2**
comp=Z,0.8nm,0.5s,mb3.9,baz=19,slow=5.9,SNR=13
FLN La Foliniere 80.32 0 *eP* **P 19 43 56.1 -0.3**
CDF Champ du Feu 80.48 355 *eP* **P 19 43 57.1 -0.2**
LDF La Druitiere 80.49 0 *eP* **P 19 43 56.8 -0.5**
comp=Z,8.5nm,0.6s,mb4.5
MEZF Maizieres J'vi 80.49 357 *eP* **P 19 43 57.5 +0.1**
comp=Z,5.2nm,0.6s,mb4.3
GRR Gorron 80.69 1 *eP* **P 19 43 58.3 -0.1**
comp=Z,14nm,0.9s,mb4.6
ROSF Rostrenen 80.70 2 *eP* **P 19 43 58.5 0.0**
SGMF Saint Gilles 80.80 2 *eP* **P 19 43 58.4 -0.6**
comp=Z,11nm,0.7s,mb4.6
HAU Haudompre 80.93 356 *eP* **P 19 43 59.5 -0.2**
WRA Warramunga Arr 81.50 223 P **P 19 44 01.7 -1.2**
comp=Z,0.9nm,0.9s,mb3.7,baz=32,slow=5.9,SNR=3.4
LOR Lormes 81.76 357 *eP* **P 19 44 04.1 0.0**
SSF Saint Saulge 81.98 358 *eP* **P 19 44 05.1 -0.2**
AVF Avril sur Loir 82.25 358 *eP* **P 19 44 06.5 -0.2**
SMF Signal de Mont 82.39 357 *eP* **P 19 44 07.3 -0.1**
TCF Toulx Ste Croi 82.78 359 *eP* **P 19 44 09.2 -0.3**
ASAR Alice Springs 84.98 222 P **P 19 44 20.0 -0.8**
comp=Z,0.6nm,0.9s,mb3.7,baz=36,slow=4.4,SNR=4.9
PGF Pioggiola 86.22 353 *eP* **P 19 44 26.8 -0.1**
TSUM Tsumeb 145.13 330 PKPbc PKPbc 19 51 23.2 +0.7
comp=Z,3.2nm,0.8s,baz=353,slow=5.9,SNR=9.5
MAW Mawson 146.01 218 PKPbc PKPbc 19 51 22.7 -1.2
comp=Z,1.3nm,0.6s,baz=58,slow=3.8,SNR=6.6
LBTB Lobatse 147.31 314 PKPbc PKPbc 19 51 29.3 +0.4
comp=Z,2.9nm,0.3s,baz=13,slow=3.6,SNR=11
BOSA Boshof 150.53 311 PKPbc PKPbc 19 51 37.5 +0.5
comp=Z,1.4nm,0.6s,baz=114,slow=17,SNR=5.4

IDC 04 19:40:16.3±2.8, 310N×6659E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/21, mbtmp3.9/3, MS3.9/8, Ms1 4.0/8, ms1mx3.6/28, Error ellipse: s-maj=109.1km s-min=35.8km az=60.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**35.16**	**62**	LR	LR	20 00 22.5	
	comp=Z,153nm,19.0s,baz=211,slow=34						
LSZ	**Lusaka**	**42.17**	**243**	LR	LR	20 02 33.1	
	comp=Z,226nm,19.4s,baz=195,slow=32						
MKAR	**Makanchi Array**	**45.61**	**15**	LR	LR	20 09 22.9	
	comp=Z,113nm,18.1s,baz=34,slow=38						
ZALV	**Zalesovo Beam**	**52.84**	**13**	P	P	19 49 33.5	-0.1
	1.9nm,0.7s,baz=201,slow=7.9,SNR=6.8						
ZALV				LR	LR	20 12 06.3	
	comp=Z,97nm,18.9s,baz=60,slow=36						
SONM	**Songino Array**	**56.18**	**31**	LR	LR	20 14 24.9	
	comp=Z,188nm,19.5s,baz=251,slow=36						
KSRS	**Korea Array**	**65.56**	**50**	LR	LR	20 22 34.7	
	comp=Z,76nm,18.8s,baz=79,slow=39						
WRA	**Warramunga Arr**	**70.28**	**112**	P	P	19 51 32.4	+0.3
	1.5nm,1.0s,baz=290,slow=5.7,SNR=5.1						
ASAR	**Alice Springs**	**70.64**	**116**	P	P	19 51 34.2	0.0
	0.9nm,0.9s,baz=283,slow=5.6,SNR=4.8						
ARCES	**ARCESS Array B**	**71.63**	**346**	LR	LR	20 21 38.0	
	comp=Z,82nm,20.5s,baz=132,slow=35						
PETK	**Petropavlovsk-**	**88.21**	**37**	LR	LR	20 35 26.5	
	comp=Z,62nm,18.4s,baz=163,slow=38						
TXAR	**Lajitas Array**	**146.42**	**344**	PKPbc	PKPbc	19 59 59.4	-0.7
	0.5nm,0.7s,baz=61,slow=6.3,SNR=2.8						

*ISCJB **04** 19:50:48.8±0.4, 299S×006×362E±0.1, h10km, mb4.2/16, MS4.2/11, Error ellipse: s-maj=18.5km s-min=7.5km az=17.0*
*NEIC **04** 19:50:49.2±0.6, 327S×36.19E, h10km, mb4.2/5, Error ellipse: s-maj=17.8km s-min=10.3km az=129.0*
*IDC **04** 19:50:49.3±0.9, 294S×3622E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/23, mbtmp4.0/10, MS4.1/11, Ms1 4.1/11, ms1mx3.9/26, Error ellipse: s-maj=28.3km s-min=20.1km az=135.0*
*SZGRF **04** 19:50:51.3, 319S×3608E, h33km, mb4.6, Tanzania*
ISC 04 19:50:51.1±0.4, 298S±005×3607E±008, h10km, n38, σ1°18/35, mb4.2/16, MS4.2/11, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FURI	**Furi**	**12.08**	**12**	*eP*	**Pn**	**19 53 45.6**	**+2.1**
LSZ	**Lusaka**	**14.47**	**212**	**Pn**	**Pn**	**19 54 16.4**	**+0.3**
	0.4nm,0.3s,baz=18,slow=15,SNR=4.9						
LSZ				Sn	**Sn**	**19 56 54.2**	**-2.6**
	0.7nm,0.3s,baz=207,slow=21,SNR=3.2						
LSZ				Lg		19 58 30.8	
	1.2nm,0.3s,baz=110,slow=7.8,SNR=5.8						
LSZ	**Lusaka**	**14.47**	**212**	*ePn*	**Pn**	**19 54 12.2**	**-3.9**
LSZ				*eSn*	**Sn**	**19 56 48.6**	**-8.2**
LSZ				Sn	**Sn**	**19 56 54.2**	**-2.6**
LSZ	**Lusaka**	**14.47**	**212**	*eP*	**Pn**	**19 54 15.9**	**-0.2**
LSZ				AMb	AMB	19 54 34.7	
	comp=Z,154nm,1.3s						
OPO	**Ambohidratompo**	**18.93**	**146**	P	**Pn**	**19 55 18.6**	**+5.6**
	comp=Z,0.2nm,0.3s,baz=314,slow=9.3,SNR=4.7						
OPO				S	**Sn**	**19 58 46.5**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=84,slow=19,SNR=2.5						
MSNA	**Messina**	**20.12**	**196**	*eP*	**P**	**19 55 25.7**	**+0.4**
MSNA				AMb	AMB	19 55 36.8	
	comp=Z,18nm,1.2s						
MOPA	**Mopani**	**20.91**	**192**	*eP*	**P**	**19 55 35.0**	**+1.2**
MOPA				AMb	AMB	19 55 44.3	
	comp=Z,21nm,2.0s						
SLR	**Silverton**	**23.83**	**198**	*eP*	**P**	**19 56 04.7**	**+0.2**
SLR				AMb	AMB	19 56 21.2	
	comp=Z,44nm,2.0s,mb4.5						
LBTB	**Lobatse**	**24.11**	**204**	P	**P**	**19 56 10.6**	**+3.4**
	comp=Z,4.6nm,1.0s,mb3.9,baz=32,slow=14,SNR=3.5						
LBTB				Lg		20 03 30.6	
	comp=Z,14nm,1.1s,baz=133,slow=16,SNR=3.8						
LBTB	**Lobatse**	**24.11**	**204**	*eP*	**P**	**19 56 08.7**	**+1.5**
LBTB				AMb	AMB	19 56 13.6	
	comp=Z,32nm,2.0s,mb4.4						
TSUM	**Tsumeb**	**24.22**	**227**	P	**P**	**19 56 09.3**	**+1.1**
	comp=Z,1.4nm,0.8s,mb3.4,baz=326,slow=16,SNR=2.3						
TSUM				Lg		20 03 43.8	
	comp=Z,3.8nm,0.8s,baz=300,slow=22,SNR=3.3						
TSUM				LR	LR	20 06 18.0	
	comp=Z,1μm,18.4s,MS4.5,baz=36,slow=38						
TSUM	**Tsumeb**	**24.22**	**227**	P	**P**	**19 56 05.0**	**-3.2**
	comp=Z,3.5nm,0.9s,mb3.8						
TSUM				P		19 56 09.3	
TSUM				Lg		20 03 43.8	
TSUM				LR	LR	20 06 18.0	
TSUM	**Tsumeb**	**24.22**	**227**	*eP*	**P**	**19 56 10.8**	**+2.6**
TSUM				AMb	AMB	19 56 27.7	
	comp=Z,86nm,1.7s,mb4.9						
ERPM	**east rand prop**	**24.32**	**197**	*eP*	**P**	**19 56 07.8**	**-1.1**
ERPM				AML	AML	19 56 24.6	
	comp=Z,30nm,1.8s						
KSR	**Koster**	**24.39**	**200**	*eP*	**P**	**19 56 08.3**	**-1.3**
KSR				AMb	AMB	19 56 54.9	
	comp=Z,31nm,1.6s,mb4.5						
PRYS	**Parys**	**25.23**	**198**	*eP*	**P**	**19 56 17.0**	**-0.3**
PRYS				AMb	AMB	19 56 28.7	
	comp=Z,33nm,2.1s,mb4.5						
BOSA	**Boshof**	**27.49**	**201**	P	**P**	**19 56 38.6**	**+0.9**
	comp=Z,3.4nm,0.8s,mb3.9,baz=34,slow=15,SNR=2.9						
BOSA				Lg		20 05 18.6	
	comp=Z,5.8nm,1.0s,baz=284,slow=16,SNR=3.2						
BOSA	**Boshof**	**27.49**	**201**	*eP*	**P**	**19 56 38.4**	**+0.7**
	comp=Z,5.6nm,0.9s,mb4.1						
BOSA				P		19 56 38.6	
BOSA				Lg		20 05 18.6	
BOSA	**Boshof**	**27.49**	**201**	*eP*	**P**	**19 56 36.1**	**-1.6**
BOSA				AMb	AMB	19 56 42.5	
	comp=Z,29nm,1.8s,mb4.5						
TORD	**Torodi Ar. Bea**	**37.70**	**296**	P	**P**	**19 58 07.2**	**+0.1**
	comp=Z,2.8nm,1.1s,mb3.9,baz=116,slow=5.2,SNR=6.8						
TORD				LR	LR	20 13 39.4	
	comp=Z,475nm,19.4s,MS4.3,baz=110,slow=36						
DBIC	**Dimbokro**	**41.96**	**283**	LR	LR	20 16 37.1	
	comp=Z,608nm,18.1s,MS4.5,baz=100,slow=37						
KEST	**Kesra**	**45.92**	**329**	LR	LR	20 19 11.1	
	comp=Z,107nm,18.1s,MS3.8,baz=153,slow=37						
GERES	**GERESS Array B**	**55.16**	**342**	P	**P**	**20 00 23.7**	**0.0**
	comp=Z,1.6nm,1.0s,mb4.0,baz=151,slow=5.8,SNR=12						
GERES				LR	LR	20 23 39.3	
	comp=Z,120nm,20.3s,MS4.0,baz=19,slow=36						
ESDC	**Sonseca Array**	**56.13**	**323**	P	**P**	**20 00 32.1**	**+1.2**
	comp=Z,1.6nm,0.9s,mb4.0,baz=126,slow=6.8,SNR=6.9						
ESLA	**Sonseca Array**	**56.13**	**323**	P	**P**	**20 00 32.7**	**+1.8**
	comp=Z,1.0nm,1.0s,mb3.8						
GRA1	**Grafenberg Arr**	**56.69**	**341**	*eP*	**P**	**20 00 34.6**	**0.0**
	comp=Z,11nm,1.7s,mb4.6						
GRF	**Grafenberg Arr**	**56.69**	**341**	*eP*	**P**	**20 00 34.6**	**0.0**
	comp=Z,11nm,1.7s,mb4.6						
TKM2	**Tokmak 2**	**57.94**	**33**	*eP*	**P**	**20 00 43.2**	**-0.5**
	comp=Z,3.4nm,1.1s,mb4.3						
MK31	**Makanchi Array**	**64.08**	**33**	*eP*	**P**	**20 01 23.9**	**-1.4**
MKAR	**Makanchi Array**	**64.08**	**33**	P	**P**	**20 01 24.1**	**-1.1**
	comp=Z,3.1nm,1.0s,mb4.3,baz=241,slow=5.0,SNR=13						
CMAR	**Chiang Mai Arr**	**65.42**	**68**	P	**P**	**20 01 34.0**	**-0.7**
	comp=Z,2.3nm,1.1s,mb4.1,baz=261,slow=9.2,SNR=7.3						
CMAR				LR	LR	20 31 26.8	
	comp=Z,58nm,18.4s,MS3.8,baz=330,slow=37						
MAW	**Mawson**	**67.09**	**169**	LR	LR	20 28 10.5	
	comp=Z,92nm,19.7s,MS4.0,baz=62,slow=33						
ZALV	**Zalesovo Beam**	**69.66**	**28**	P	**P**	**20 01 59.4**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=232,slow=7.3,SNR=4.2						
SONM	**Songino Array**	**79.14**	**40**	P	**P**	**20 02 55.5**	**-0.6**
	comp=Z,0.9nm,1.0s,mb3.6,baz=234,slow=6.6,SNR=5.2						
BDFB	**Brasilia**	**83.51**	**255**	LR	LR	20 36 31.7	
	comp=Z,64nm,21.4s,MS4.0,baz=8.0,slow=33						
QSPA	**South Pole Qui**	**87.06**	**180**	LR	LR	20 43 19.2	
	comp=Z,95nm,18.2s,MS4.2,baz=86,slow=36						
CPUP	**Villa Florida**	**91.74**	**244**	LR	LR	20 42 11.9	
	comp=Z,108nm,18.2s,MS4.3,baz=275,slow=34						
SCHQ	**Schefferville**	**99.86**	**325**	LR	LR	20 47 12.2	
	comp=Z,80nm,18.1s,MS4.3,baz=104,slow=34						

*ISCJB **04** 20:14:11.2±0.5, 283S±009×360E±02, h10km, mb4.2/13, MS3.5/3, Error ellipse: s-maj=23.2km s-min=9.2km az=23.0*
*IDC **04** 20:14:12.3±1.1, 273S×3595E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, MS3.6/3, Ms1 3.6/3, ms1mx3.1/27, Error ellipse: s-maj=34.7km s-min=26.1km az=127.0*
*NEIC **04** 20:14:13.2±0.7, 280S×3592E, h10km, mb4.1/1, Error ellipse: s-maj=27.7km s-min=13.6km az=121.0*
ISC 04 20:14:13.2±0.5, 284S±009×359E±02, h10km, n19, σ0°99/17, mb4.1/13, MS3.5/3, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**14.53**	**211**	*ePn*	**Pn**	**20 17 38.4**	**-0.7**
	3.4nm,0.7s						
LSZ	**Lusaka**	**14.53**	**211**	*eP*	**Pn**	**20 17 39.2**	**+0.2**
LSZ				AMb	AMB	20 18 04.4	
	comp=Z,134nm,1.9s						
MSNA	**Messina**	**20.22**	**196**	*eP*	**P**	**20 18 49.0**	**+0.4**
MSNA				AMb	AMB	20 18 59.8	
	comp=Z,18nm,1.7s						
MOPA	**Mopani**	**21.02**	**192**	*eP*	**P**	**20 18 57.6**	**+0.5**
MOPA				AMb	AMB	20 19 19.6	
	comp=Z,20nm,1.7s,mb4.2						
SLR	**Silverton**	**23.92**	**197**	*eP*	**P**	**20 19 28.2**	**+0.6**
SLR				AMb	AMB	20 19 29.0	
	comp=Z,48nm,1.6s,mb4.7						
LBTB	**Lobatse**	**24.19**	**203**	*eP*	**P**	**20 19 28.1**	**-1.9**
LBTB				AMb	AMB	20 19 50.4	
	comp=Z,16nm,1.6s,mb4.2						
TSUM	**Tsumeb**	**24.22**	**227**	*eP*	**P**	**20 19 30.8**	**+0.4**
TSUM				AMb	AMB	20 20 09.0	
	comp=Z,136nm,2.0s,mb5.0						
KSR	**Koster**	**24.47**	**200**	*eP*	**P**	**20 19 31.4**	**-1.2**
KSR				AMb	AMB	20 19 52.4	
	comp=Z,17nm,1.4s,mb4.3						
PRYS	**Parys**	**25.32**	**198**	*eP*	**P**	**20 19 39.7**	**-0.6**
PRYS				AMb	AMB	20 20 04.1	
	comp=Z,26nm,1.8s,mb4.4						
BOSA	**Boshof**	**27.58**	**201**	P	**P**	**20 20 02.3**	**+1.7**
	comp=Z,4.7nm,0.7s,mb4.2,baz=7.4,slow=14,SNR=7.1						
TORD	**Torodi Ar. Bea**	**37.52**	**296**	P	**P**	**20 21 27.9**	**+0.2**
	comp=Z,1.2nm,1.0s,mb3.6,baz=98,slow=8.9,SNR=3.6						
TORD				LR	LR	20 37 02.2	
	comp=Z,134nm,20.1s,MS3.7,baz=120,slow=37						
GNI	**Garni**	**43.54**	**10**	LR	LR	20 39 27.1	
	comp=Z,47nm,18.1s,MS3.4,baz=172,slow=35						
KEST	**Kesra**	**45.73**	**329**	LR	LR	20 42 43.3	
	comp=Z,46nm,18.9s,MS3.4,baz=131,slow=38						
GERES	**GERESS Array B**	**54.99**	**342**	P	**P**	**20 23 45.1**	**+0.5**
	comp=Z,0.6nm,0.9s,mb3.6,baz=134,slow=5.8,SNR=4.5						
TKM2	**Tokmak 2**	**57.90**	**34**	P	**P**	**20 24 06.5**	**+0.9**
	comp=Z,2.0nm,1.0s,mb4.1						
MK31	**Makanchi Array**	**64.03**	**34**	P	**P**	**20 24 44.8**	**-2.4**
MKAR	**Makanchi Array**	**64.03**	**34**	P	**P**	**20 24 47.0**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=236,slow=5.7,SNR=5.3						
CMAR	**Chiang Mai Arr**	**65.49**	**68**	P	**P**	**20 24 58.1**	**+0.9**
	comp=Z,1.5nm,0.8s,mb4.1,baz=256,slow=7.3,SNR=5.1						
ZALV	**Zalesovo Beam**	**69.60**	**28**	P	**P**	**20 25 22.0**	**-0.5**
	comp=Z,0.3nm,0.4s,mb3.6,baz=256,slow=5.8,SNR=3.3						

*ISCJB **04** 20:16:40.6±1.1, 246N×02×95.1E±02, h168km±14km, mb3.5/5, Error ellipse: s-maj=37.3km s-min=14.4km az=139.3*
*IDC **04** 20:16:44.1±3.1, 246S×9525E, h186km±32km, mb3.1/5, mb1 3.2/6, mb1mx3.0/23, mbtmp3.1/6, Error ellipse: s-maj=56.5km s-min=14.0km az=65.0*
ISC 04 20:16:41.8±1.0, 247N±02×951E±02, h160km±14km, n8, σ0°88/10, mb3.5/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.08**	**277**	*iP*	**Pn**	**20 17 07.0**	**-1.2**
IMP				*iS*	**Sn**	**20 17 28.0**	**-0.3**
SHL	**Shillong**	**3.07**	**288**	*iP*	**Pn**	**20 17 31.5**	**+1.1**
SHL				*eS*	**Sn**	**20 18 08.0**	**0.0**
CMAR	**Chiang Mai Arr**	**7.12**	**149**	P	**Pn**	**20 18 25.1**	**+1.6**
	0.2nm,0.3s,baz=325,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**24.36**	**338**	P	**P**	**20 21 45.7**	**+0.8**
	1.1nm,0.4s,mb3.7,baz=145,slow=11,SNR=9.2						
SONM	**Songino Array**	**24.81**	**18**	P	**P**	**20 21 48.6**	**-0.3**
	0.2nm,0.4s,mb3.0,baz=198,slow=9.1,SNR=5.4						
BVAR	**Borovoye Array**	**33.92**	**333**	P	**P**	**20 23 09.6**	**+0.2**
	0.5nm,0.4s,mb3.6,baz=129,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**58.50**	**136**	P	**P**	**20 26 20.3**	**-1.1**
	0.7nm,0.5s,mb3.8,baz=321,slow=7.5,SNR=18						
ASAR	**Alice Springs**	**61.00**	**139**	P	**P**	**20 26 37.8**	**-0.7**
	0.2nm,0.4s,mb3.3,baz=324,slow=5.4,SNR=16						

IDC 04 20:17:46.6±2.8, 276N×6612E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=91.7km s-min=33.7km az=68.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**53.29**	**14**	P	P	20 27 05.7	-1.5
	0.3nm,0.2s,baz=226,slow=5.6,SNR=3.1						
SONM	**Songino Array**	**56.72**	**31**	P	P	20 27 33.4	+1.3
	0.7nm,1.1s,baz=251,slow=4.4,SNR=2.7						
WRA	**Warramunga Arr**	**70.58**	**112**	P	P	20 29 04.7	+0.4
	1.0nm,0.8s,baz=289,slow=5.6,SNR=4.6						
ASAR	**Alice Springs**	**70.90**	**116**	P	P	20 29 05.5	-0.6
	0.2nm,0.7s,baz=276,slow=5.3,SNR=4.1						
TXAR	**Lajitas Array**	**146.62**	**344**	PKPbc	PKPbc	20 37 31.0	+0.1
	0.2nm,0.7s,baz=76,slow=2.4,SNR=3.6						

*BJI **04** 20:45:08.0, 1550S×16750E, h25km, mB5.1, mb4.8*
*ISCJB **04** 20:45:18.6±2.1, 1547S±007×1675E±0.1, h112km±17km, mb4.5/27, Error ellipse: s-maj=19.5km s-min=8.8km az=157.8*
*IDC **04** 20:45:19.4±2.8, 1539S×16749E, h102km±22km, mb4.1/14, mb1 4.1/14, mb1mx4.1/19, mbtmp4.1/14, MS2.7/1, Ms1 2.7/1, ms1mx2.1/29, Error ellipse: s-maj=23.0km s-min=14.9km az=88.0*
*NEIC **04** 20:45:21.7±1.4, 1553S×16748E, h126km±11km, mb4.6/16, Error ellipse: s-maj=12.9km s-min=8.2km az=74.0*
ISC 04 20:45:21.6±1.6, 1552S±006×1675E±01, h123km±12km, n93, σ0°96/44, mb4.5/27, 34C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.59**	**188**	*eP*	**Pn**	**20 46 57.5**	**+1.5**
DZM				*eS*	**Sn**	**20 48 08.2**	**-1.5**
DZM	**Mont Dzumac**	**6.59**	**188**	*ePn*	**Pn**	**20 46 54.5**	**-1.5**
HNR	**Honiara**	**9.51**	**309**	P	**Pn**	**20 47 38.2**	**+2.6**
	20nm,0.3s,baz=101,slow=6.7,SNR=5.2						
HNR				S	**Sn**	**20 49 20.0**	**-0.7**
	8.4nm,0.3s,baz=262,slow=4.4,SNR=1.9						
HNR				LR	LR	20 50 13.3	
	comp=Z,42nm,19.9s,baz=181,slow=31						
HNR	**Honiara**	**9.51**	**309**	*ePn*	**Pn**	**20 47 37.8**	**+2.3**
HNR				S	**Sn**	**20 49 20.0**	**-0.7**
HNR				*eSn*	**Sn**	**20 49 22.2**	**+1.6**
HNR				LR	LR	20 50 13.3	
CTA	**Charters Tower**	**20.69**	**254**	P	**P**	**20 49 52.2**	**+0.1**
	3.8nm,0.5s,baz=63,slow=14,SNR=3.8						
CTA				PcP	PcP	20 53 57.7	+0.5
	1.6nm,0.5s,baz=54,slow=3.3,SNR=2.8						
CTA	**Charters Tower**	**20.69**	**254**	P	**P**	**20 49 52.2**	**+0.1**
CTA				PcP	PcP	20 53 57.7	+0.5
CTAO	**Charters Tower**	**20.69**	**254**	*eP*	**P**	**20 49 52.1**	**+0.1**
	15nm,1.2s						
URZ	**Urewera**	**24.20**	**161**	P	**P**	**20 50 27.6**	**+1.0**
	13nm,0.8s,mb4.3,baz=345,slow=20,SNR=4.8						
STKA	**Stephens Creek**	**28.63**	**231**	P	**P**	**20 51 08.4**	**+1.8**
	2.0nm,0.5s,mb4.0,baz=76,slow=13,SNR=8.8						
STKA				PcP	PcP	20 54 14.8	+0.2
	3.7nm,0.7s,baz=345,slow=1.5,SNR=7.4						
STKA	**Stephens Creek**	**28.63**	**231**	*eP*	**P**	**20 51 07.4**	**+0.8**
	7.7nm,1.0s,mb4.3						
STKA				PcP	PcP	20 54 14.8	+0.2
WRAB	**Tennant Creek**	**31.81**	**257**	*eP*	**P**	**20 51 33.5**	**-1.2**
	11nm,1.3s,mb4.4						
WRA	**Warramunga Arr**	**31.82**	**257**	P	**P**	**20 51 34.3**	**-0.6**
	2.5nm,0.7s,mb4.0,baz=86,slow=8.5,SNR=28						
WRA				ScP	ScP	20 57 56.8	+1.6
	0.8nm,0.8s,baz=89,slow=3.6,SNR=4.6						
ASAR	**Alice Springs**	**32.57**	**250**	P	**P**	**20 51 41.5**	**+0.1**
	3.7nm,0.4s,mb4.5,baz=81,slow=9.5,SNR=81						
ASAR				ScP	ScP	20 58 00.6	+2.8
	0.8nm,0.7s,baz=93,slow=4.4,SNR=9.3						
FORT	**Forrest**	**39.06**	**240**	*eP*	**P**	**20 52 37.3**	**+0.7**
	16nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**40.06**	**260**	*eP*	**P**	**20 52 44.6**	**-0.4**
	7.7nm,0.4s,mb4.9						
MBWA	**Marble Bar**	**45.52**	**255**	P	**P**	**20 53 28.6**	**-0.5**
	34nm,1.5s,mb4.9						
MJAR	**Matsushiro Arr**	**58.69**	**333**	P	**P**	**20 55 04.5**	**-1.7**
	1.3nm,0.5s,mb4.2,baz=168,slow=7.3,SNR=14						
MAJO	**Matsushiro**	**58.69**	**333**	*eP*	**P**	**20 55 05.0**	**-1.2**
	3.3nm,0.4s,mb4.7						
**MA

NOA	NORSAR Array B	131.43	345	PKP	PKPdf	21 04 19.3	+0.2
AKASG	Malin Array Be	131.49	326	PKP	PKPdf	21 04 19.0	-0.5
	comp=Z,0.1nm,0.3s,baz=58,slow=2.2,SNR=4.4						
GERES	GERESS Array B	140.43	333	PKP	PKPdf	21 04 36.2	+0.1
	comp=Z,0.7nm,0.7s,baz=54,slow=2.3,SNR=7.8						
CDF	Champ du Feu	143.37	338	⇑iPKP1	PKPdf	21 04 38.5	-2.9
	comp=Z,8.5nm,0.7s						
HINF	Hinteralfeld	144.03	338	⇑iPKP1	PKPdf	21 04 40.3	-2.3
	comp=Z,6.1nm,0.5s						
HAU	Haudompre	144.05	338	⇑iPKP1	PKPdf	21 04 40.6	-2.0
	comp=Z,12nm,0.7s						
MEZF	Maizieres J'vi	144.07	340	⇑iPKP1	PKPdf	21 04 41.0	-1.6
	comp=Z,14nm,0.6s						
CABF	La Chapelle	145.32	337	⇑iPKP1	PKPbc	21 04 45.5	+0.6
	comp=Z,24nm,0.6s						
OG01	Vacheresse	145.33	336	PKP	PKPdf	21 04 45.1	+0.2
FLN	La Foliniere	145.40	346	⇑iPKP1	PKPbc	21 04 44.8	-0.3
	comp=Z,74nm,0.7s						
LDF	La Drutiiere	145.47	345	⇑iPKP1	PKPbc	21 04 45.0	-0.3
	comp=Z,39nm,0.7s						
LOR	Lormes	145.54	340	⇑iPKP1	PKPbc	21 04 45.7	+0.2
	comp=Z,25nm,0.7s						
SSF	Saint Saulge	145.84	340	⇑iPKP1	PKPbc	21 04 46.8	+0.3
	comp=Z,22nm,0.6s						
GRR	Gorron	145.84	346	⇑iPKP1	PKPbc	21 04 46.4	0.0
	comp=Z,32nm,0.6s						
HYF	Humbligny	145.93	341	⇑iPKP1	PKPbc	21 04 47.2	+0.5
LPL	La Plagne	145.99	335	⇑iPKP1	PKPbc	21 04 47.6	+0.6
	comp=Z,11nm,0.6s						
LPG	La Plagne	145.99	335	⇑iPKP1	PKPbc	21 04 47.7	+0.7
	comp=Z,16nm,0.7s						
SMF	Signal de Mont	146.09	340	⇑iPKP1	PKPbc	21 04 47.1	-0.1
	comp=Z,25nm,0.8s						
AVF	Avril sur Loir	146.12	340	⇑iPKP1	PKPbc	21 04 47.1	-0.2
	comp=Z,21nm,0.6s						
SGMF	Saint Gilles	146.34	348	⇑iPKP1	PKPbc	21 04 47.7	-0.2
	comp=Z,32nm,0.6s						
BNI	Bardonecchia	146.39	335	*e*PKPdf	PKPdf	21 04 47.2	+0.5
ROSF	Rostrenen	146.40	349	⇑iPKP1	PKPbc	21 04 47.8	-0.3
	comp=Z,38nm,1.0s						
BGF	Bois d'Agland	146.49	341	⇑iPKP1	PKPbc	21 04 48.5	+0.1
	comp=Z,31nm,0.6s						
MBDF	Montbardon	146.62	335	*e*PKP1	PKPbc	21 04 49.8	+1.0
	comp=Z,11nm,0.7s						
PLDF	La Plantade	146.75	339	PKP	PKPbc	21 04 50.0	+0.8
QUIF	Quistinic	146.78	348	⇑iPKP1	PKPbc	21 04 48.7	-0.5
	comp=Z,8.7nm,0.5s						
ORIF	Oris-en-Rattie	146.82	336	⇑iPKP1	PKPbc	21 04 49.7	+0.3
	comp=Z,8.5nm,0.6s						
AGO	Saint Agoulin	146.85	340	PKP	PKPbc	21 04 50.0	+0.6
TCF	Toulx Ste Croi	146.94	341	⇑iPKP1	PKPbc	21 04 49.7	0.0
	comp=Z,12nm,0.6s						
SBF	Sospel	147.03	333	⇑iPKP1	PKPbc	21 04 49.6	-0.4
	comp=Z,25nm,0.7s						
PYM	Petit Puy Mans	147.15	340	PKP	PKPbc	21 04 50.8	+0.5
PGF	Pioggiola	147.33	330	*e*PKP1	PKPbc	21 04 50.7	-0.2
	comp=Z,22nm,0.8s						
MFF	Saint Martin d	147.33	344	⇑iPKP1	PKPbc	21 04 50.7	-0.1
	comp=Z,40nm,0.7s						
VIVF	Saint-Julien-l	147.34	337	⇑iPKP1	PKPbc	21 04 50.9	+0.1
	comp=Z,5.4nm,0.6s						
LBL	Lubilhac	147.53	339	PKP	PKPbc	21 04 52.4	+1.0
FRF	La Foret Royal	147.61	334	⇑iPKP1	PKPbc	21 04 51.3	-0.3
	comp=Z,7.4nm,0.6s						
SMRF	Simiane la Rot	147.72	335	⇑iPKP1	PKPbc	21 04 52.3	+0.4
	comp=Z,8.4nm,0.7s						
LMR	La Mourre	147.86	333	⇑iPKP1	PKPbc	21 04 52.0	-0.3
	comp=Z,8.0nm,0.7s						
RJF	Les Rejaudoux	148.03	341	⇑iPKP1	PKPbc	21 04 52.9	+0.2
	comp=Z,17nm,0.8s						
CAF	Calviac	148.19	340	⇑iPKP1	PKPbc	21 04 53.4	+0.3
	comp=Z,12nm,0.8s						
LASF	Ste Croix	148.31	337	⇑iPKP1	PKPbc	21 04 53.7	+0.2
	comp=Z,16nm,1.0s						
LFF	La Frestale	148.60	342	⇑iPKP1	PKPbc	21 04 54.4	+0.2
	comp=Z,14nm,0.7s						
MTLF	Montolieu	149.54	338	⇑iPKP1	PKPbc	21 04 56.8	+0.2
	comp=Z,13nm,1.0s						
EPF	Esparros	150.45	341	⇑iPKP1	PKPbc	21 04 58.7	-0.1
	comp=Z,7.9nm,0.9s						
SJPF	Ste Jean	150.84	343	*e*PKP1	PKPbc	21 04 59.7	0.0
ETSF	Etsaut	150.84	342	⇑iPKP1	PKPbc	21 05 00.4	+0.7
	comp=Z,10.0nm,0.6s						
KEST	Kesra	151.93	320	PKPbc	PKPbc	21 05 03.0	+0.5
	comp=Z,1.8nm,0.7s,baz=103,slow=1.9,SNR=9.9						
ESDC	Sonseca Array	154.79	344	PKPab	PKPab	21 05 24.2	+0.3
	comp=Z,0.2nm,0.5s,baz=20,slow=4.7,SNR=5.0						
TORD	Torodi Ar. Bea	166.01	262	PKP	PKPdf	21 05 11.9	-1.0
	comp=Z,0.8nm,0.5s,baz=336,slow=3.2,SNR=6.5						
TORD				PKPab	PKPab	21 06 13.5	-0.3
	comp=Z,0.7nm,0.7s,baz=102,slow=5.1,SNR=2.6						

IDC 04 20:56:14.7±1.5, 308N×6662E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, MS3.8/2, Ms1 3.7/2, ms1mx2.9/28, Error ellipse: s-maj=48.3km s-min=31.9km az=46.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	47.75	353	P	P	21 04 55.2	+1.9
	2.1nm,0.9s,baz=180,slow=9.9,SNR=6.4						
BVAR	Borovoye Array	49.88	3	LR	LR	21 24 41.8	
	comp=Z,92nm,19.5s,baz=250,slow=34						
BOSA	Boshof	50.69	229	LR	LR	21 25 11.8	
	comp=Z,88nm,18.4s,baz=158,slow=34						
ZALV	Zalesovo Beam	52.86	13	P	P	21 05 32.5	+0.4
	0.6nm,0.5s,baz=212,slow=7.0,SNR=4.1						
SONM	Songino Array	56.19	31	P	P	21 05 54.6	-1.7
	0.2nm,0.6s,baz=212,slow=5.1,SNR=2.2						
ASAR	Alice Springs	70.59	116	P	P	21 07 32.7	+0.4
	0.4nm,0.7s,baz=294,slow=5.0,SNR=6.2						
ESDC	Sonseca Array	73.14	310	P	P	21 07 46.1	-1.2
	0.1nm,0.3s,baz=58,slow=5.3,SNR=3.5						
TXAR	Lajitas Array	146.46	345	PKPbc	PKPbc	21 15 59.1	+0.6
	1.1nm,0.9s,baz=54,slow=2.5,SNR=9.8						

*BJI **04** 21:03:39.2, 750S×12830E, h20km, mB5.1, mb4.6*
*ISCJB **04** 21:03:52.7±0.7, 750S±004×12836E±005, h138km±7km, mb4.3/26, Error ellipse: s-maj=7.9km s-min=6.3km az=165.3*
*IDC **04** 21:03:52.5±3.2, 751S×128.19E, h113km±29km, mb3.9/12, mb1 4.1/15, mb1mx4.0/18, mbtmp4.0/15, Error ellipse: s-maj=26.1km s-min=11.4km az=72.0*
*NEIC **04** 21:03:53.3±1.5, 749S×12833E, h125km±14km, mb4.4/7, Error ellipse: s-maj=16.0km s-min=9.4km az=59.0*
*DJA **04** 21:03:57, 784S×12823E, h170km, ML5.3/3*
ISC 04 21:03:53.8±0.6, 754S±004×12839E±005, h133km±7km, h13km±6.9km: pP-P, n54, σ1°01/58, mb4.3/26, 2C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	3.83	357	‖*e*P	Pn	21 04 52.5	+1.1
TLE	Tual	4.71	67	‖*e*P	Pn	21 05 04.0	+0.9
TLE				*e*S	Sn	21 05 55.0	-2.0
BATI	Baumata	5.37	240	P	Pn	21 05 14.1	+2.1
	187nm,0.3s,baz=140,slow=3.4,SNR=250						
BATI				S	Sn	21 06 11.5	-1.4
	107nm,0.3s,baz=108,slow=18,SNR=11						
KAKA	Kakadu	6.50	143	⇓*i*P	Pn	21 05 30.0	+2.9
	44nm,0.1s						
KAKA				*e*S	Sn	21 06 39.4	-0.7
FITZ	Fitzroy Crossi	10.84	194	⇓*i*P	Pn	21 06 23.6	-1.7
	37nm,0.3s						
FITZ				*e*S	Sn	21 08 15.7	-9.2
FITZ	Fitzroy Crossi	10.84	194	P	Pn	21 06 23.7	-1.5
	5.8nm,0.3s,baz=26,slow=12,SNR=107						
FITZ				S	Sn	21 08 19.0	-5.9
	9.9nm,0.3s,baz=79,slow=20,SNR=6.4						
WRAB	Tennant Creek	13.61	155	*e*Pn	Pn	21 07 01.8	+0.3
	12nm,0.6s						
WRAB				*e*Sn	Sn	21 09 24.2	-7.6
WRA	Warramunga Arr	13.61	156	P	Pn	21 07 00.8	-0.7
	1.5nm,0.3s,baz=342,slow=12,SNR=61						
WRA				S	Sn	21 09 24.9	-7.0
	11nm,0.3s,baz=327,slow=22,SNR=16						
WB2	Warramunga Arr	13.62	155	*e*P	Pn	21 07 00.9	-0.7
WB2				*e*S	Sn	21 09 23.1	-8.9
MBWA	Marble Bar	15.92	211	*e*Pn	Pn	21 07 30.7	+0.3
	11nm,0.4s						
ASAR	Alice Springs	16.89	162	P	Pn	21 07 43.3	+1.0
	2.4nm,0.3s,baz=348,slow=9.9,SNR=190						
ASAR				S	S	21 10 46.4	-4.1
	3.2nm,0.3s,baz=353,slow=22,SNR=6.2						
KSM	Kuching	20.14	296	*e*P	P	21 08 18.2	+0.4
FORT	Forrest	23.12	181	*e*P	P	21 08 49.8	+1.6
	11nm,0.6s,mb4.5						
FORT				*e*S	S	21 13 05.3	+16
STKA	Stephens Creek	27.16	155	*e*P	P	21 09 27.6	+2.8
	1.4nm,0.6s,mb3.8						
STKA	Stephens Creek	27.16	155	P	P	21 09 26.8	+2.0
	1.7nm,0.6s,mb3.8,baz=329,slow=9.1,SNR=6.0						
PSI	Prapat	31.15	288	P	P	21 09 58.6	-1.7
	5.3nm,0.6s,mb4.5,baz=79,slow=16,SNR=8.2						
CMAR	Chiang Mai Arr	38.88	312	P	P	21 11 07.4	+0.9
	2.0nm,0.7s,mb3.9,baz=141,slow=7.2,SNR=11						
WHN	Wuhan	40.19	341	⇑P	P	21 11 18.5	+1.3
KSRS	Korea Array	44.76	359	P	P	21 11 55.6	+1.6
	2.2nm,0.5s,mb4.0,baz=179,slow=9.3,SNR=11						
MJAR	Matsushiro Arr	44.80	11	P	P	21 11 53.8	-0.6
	3.4nm,0.9s,mb4.0,baz=194,slow=9.7,SNR=10						
XAN	Xi'an	45.28	337	P	P	21 11 57.2	-1.0
XAN				AP	pP	21 12 04.1	-24
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.5						
BJI	Beijing	48.67	348	P	P	21 12 24.2	-0.2
BJI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.4						
LZH	Lanzhou	49.15	334	*e*P	P	21 12 28.5	+0.3
LZH				AP	pP	21 12 34.5	-24
LZH				XP	sP	21 12 37.0	-37
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,54nm,4.3s						
ODAN	Odare	52.42	312	*e*P	P	21 12 52.9	0.0
	comp=Z,9.3nm,0.6s,mb4.6						
RAMN	Ramite	53.05	312	*e*P	P	21 12 57.6	+0.1
	comp=Z,34nm,0.8s,mb5.1						
GTA	Gaotai	53.69	333	*e*P	P	21 13 02.7	+0.7
GTA				AP	pP	21 13 07.6	-25
GTA				XP	sP	21 13 09.9	-38
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
JIRN	Jiri	53.75	312	*e*P	P	21 13 02.6	0.0
GUN	Gumba	54.12	312	*e*P	P	21 13 04.2	-1.1
	comp=Z,18nm,0.4s,mb5.1						
PKI	Pulchoki	54.28	312	*e*P	P	21 13 05.8	-0.6
KKN	Kakani	54.49	312	*e*P	P	21 13 07.8	-0.2
	comp=Z,6.4nm,0.4s,mb4.7						
DMN	Daman	54.52	312	*e*P	P	21 13 08.2	0.0
GKN	Gorkha	55.09	312	*e*P	P	21 13 12.0	-0.3
KOLN	Koldanda	55.73	311	*e*P	P	21 13 16.8	-0.1
	comp=Z,11nm,0.5s,mb4.9						
DANN	Dangsing	55.92	312	*e*P	P	21 13 17.4	-0.9
	comp=Z,16nm,0.8s,mb4.9						
SONM	Songino Array	58.46	343	P	P	21 13 36.7	+1.1
	comp=Z,4.6nm,0.9s,mb4.3,baz=164,slow=7.9,SNR=24						
SONM				PcP	PcP	21 14 25.0	+0.1
	comp=Z,0.5nm,0.6s,baz=154,slow=2.7,SNR=2.3						
MK31	Makanchi Array	67.81	328	*e*P	P	21 14 37.5	+0.1
MKAR	Makanchi Array	67.81	328	P	P	21 14 37.3	-0.1
	comp=Z,2.0nm,0.5s,mb4.1,baz=122,slow=8.4,SNR=31						
AML	Almayashu	70.18	320	*e*P	P	21 14 53.2	+1.1
	comp=Z,2.6nm,0.7s,mb4.1						
ZAA0	Zalesovo Array	71.37	335	*e*P	P	21 14 58.4	-0.7
ZALV	Zalesovo Beam	71.37	335	P	P	21 14 58.5	-0.5
	comp=Z,1.6nm,0.3s,mb4.2,baz=108,slow=4.8,SNR=15						
VNDA	Vanda	72.11	173	P	P	21 15 04.8	+1.5
	comp=Z,0.4nm,0.6s,mb3.3,baz=342,slow=3.2,SNR=2.3						
KURK	Kurchatov	72.15	329	*e*P	P	21 15 04.0	+0.1
	comp=Z,11nm,0.9s,mb4.6						
MAW	Mawson	73.87	201	P	P	21 15 13.6	-0.2
	comp=Z,0.9nm,0.7s,mb3.6,baz=80,slow=6.1,SNR=2.4						
BVAR	Borovoye Array	77.67	328	P	P	21 15 35.5	0.0
	comp=Z,3.3nm,0.6s,mb4.1,baz=128,slow=8.3,SNR=24						
AKTK	Aktyubinsk	83.53	323	P	P	21 16 06.7	-0.1
AKTO	Aktyubinsk	83.53	323	P	P	21 16 06.7	-0.1
	comp=Z,1.7nm,0.4s,mb4.1,baz=103,slow=4.5,SNR=7.6						
ARU	Arti	85.32	328	*e*P	P	21 16 14.7	-1.0
	comp=Z,2.5nm,0.4s,mb4.3						
RAGM	Ragged Mountai	94.98	30	*e*P	P	21 16 59.1	-1.8
SAO	San Andreas Ge	110.61	54	*e*Pdif	Pdif	21 18 09.8	-1.1
PDAR	Pinedale Array	118.40	45	PKP	PKPdf	21 22 26.7	+0.8
	comp=Z,0.5nm,0.7s,baz=321,slow=1.9,SNR=4.8						
TORD	Torodi Ar. Bea	127.35	281	PKP	PKPdf	21 22 43.8	0.0
	comp=Z,0.8nm,0.6s,baz=41,slow=1.8,SNR=9.1						
CPUP	Villa Florida	145.88	171	PKPbc	PKPbc	21 23 19.4	+1.0
	comp=Z,1.1nm,0.4s,baz=204,slow=5.3,SNR=5.6						
LPAZ	La Paz	151.23	145	PKPbc	PKPbc	21 23 35.0	+2.4
	comp=Z,2.4nm,0.4s,baz=38,slow=4.8,SNR=25						
LPAZ				PKPab	PKPab	21 23 43.7	+2.9
	comp=Z,1.6nm,0.6s,baz=259,slow=5.2,SNR=6.1						
LPAZ	La Paz	151.23	145	PKPbc	PKPbc	21 23 35.0	+2.4
LPAZ				PKPab	PKPab	21 23 43.7	+2.9

*ISCJB **04** 21:14:13.9±0.8, 3637N±007×714E±0.1, h144km±33km, Error ellipse: s-maj=18.2km s-min=12.1km az=179.9*
*NNC **04** 21:14:19.5±20.0, 3682N×7062E, h121km±408km, mb3.0, mpv3.6, Error ellipse: s-maj=164.5km s-min=110.0km az=13.0*
ISC 04 21:14:14.7±0.8, 3646N±006×710E±02, h85km±54km, n7, σ0°96/12, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.73	164	⇑P	Pn	21 14 57.2	+0.8
CEP				S	Sn	21 15 28.0	-0.5
CHCP	Chirah Chowk	3.34	146	P	Pn	21 15 05.3	+0.5
THW	Thamme Wali	3.70	171	P	Pn	21 15 09.8	+0.2
THW				S	Sn	21 15 51.0	-1.1
DLH	Dalhousie	5.65	132	*e*P	Sn	21 16 34.0	-5.6
KK31	Karatay Array	6.65	357	⇑P	Pn	21 15 51.2	+1.6
	2.5nm,0.3s,baz=175,slow=12						
KK31				⇑S	Sn	21 17 02.4	-1.4
	1.1nm,0.3s,baz=187,slow=26						
TKM2	Tokmak 2	7.35	27	⇑P	Pn	21 16 00.5	+1.2
	1.2nm,0.6s						
TKM2				⇑S	Sn	21 17 20.2	-0.9
	2.5nm,1.0s						
AB31	Akbulak array	15.13	331	⇓P	Pn	21 17 43.2	-0.3
	0.6nm,0.3s,baz=143,slow=14,SNR=32						
AB31				⇓S	Sn	21 20 18.9	-11
	0.9nm,0.7s,baz=157,slow=22,SNR=3.3						

*ISCJB **04** 21:37:05.0±0.8, 117N±0.1×576E±02, h10km, mb3.9/10, MS3.6/3, Error ellipse: s-maj=27.3km s-min=13.9km az=39.9*
*IDC **04** 21:37:05.1±1.1, 1172N×5767E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/24, mbtmp3.9/9, MS3.6/3, Ms1 3.6/3, ms1mx3.1/38, Error ellipse: s-maj=37.2km s-min=18.4km az=130.0*
*NEIC **04** 21:37:06.7±0.7, 1170N×5764E, h10km, mb4.0/1, Error ellipse: s-maj=22.4km s-min=11.2km az=132.0*
ISC 04 21:37:06.8±0.8, 117N±01×577E±02, h10km, n14, σ0°60/11, mb3.9/10, MS3.6/3, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMAI	Mount Meron Ar	29.43	320	LR	LR	21 54 25.7	
	comp=Z,72nm,18.1s,MS3.3,baz=95,slow=35						
EKS2	Erkin-Say	33.88	22	*e*P	P	21 43 51.3	+1.6
	1.2nm,0.7s,mb3.9						
AKTK	Aktyubinsk	38.62	0	P	P	21 44 30.1	-0.1
AKTO	Aktyubinsk	38.62	0	P	P	21 44 30.1	-0.1
	5.0nm,0.8s,mb4.3,baz=178,slow=6.2,SNR=9.1						
LSZ	Lusaka	39.62	228	P	P	21 44 39.0	0.0
	2.2nm,0.7s,mb4.0,baz=58,slow=8.2,SNR=6.1						
CMAR	Chiang Mai Arr	40.36	75	P	P	21 44 45.2	+0.1
	0.8nm,0.7s,mb3.6,baz=273,slow=8.7,SNR=3.1						
MKAR	Makanchi Array	40.70	26	P	P	21 44 47.3	-0.2
	0.3nm,0.2s,mb3.5,baz=210,slow=9.3,SNR=4.2						
BVAR	Borovoye Array	42.46	11	P	P	21 45 01.7	-0.2
	0.8nm,0.7s,mb3.5,baz=190,slow=7.5,SNR=7.6						
ZALV	Zalesovo Beam	47.34	22	P	P	21 45 39.5	-1.2
	2.6nm,0.6s,mb4.3,baz=216,slow=9.1,SNR=12						
LBTB	Lobatse	48.06	220	P	P	21 45 46.6	-0.1
	5.9nm,1.2s,mb4.5,baz=51,slow=9.1,SNR=5.3						
DAVOX	Davos/Dischmat	53.22	321	LR	LR	22 09 03.9	
	comp=Z,104nm,21.8s,MS3.9,baz=336,slow=36						
TORD	Torodi Ar. Bea	54.57	278	P	P	21 46 36.0	+0.2
	0.4nm,0.9s,mb3.5,baz=79,slow=7.8,SNR=2.9						
ESDC	Sonseca Array	60.82	309	P	P	21 47 19.4	0.0
	0.2nm,0.3s,mb3.7,baz=89,slow=6.7,SNR=4.0						
DBIC	Dimbokro	61.81	271	LR	LR	22 13 50.3	
	comp=Z,52nm,19.2s,MS3.7,baz=219,slow=36						

*ISCJB **04** 21:38:26.5±0.9, 125N±0.1×4720E±006, h10km, mb3.5/5, MS3.8/3, Error ellipse: s-maj=16.6km s-min=6.7km az=19.0*
*IDC **04** 21:38:27.5±2.4, 1277N×4722E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, MS3.8/3, Ms1 3.8/3, ms1mx3.1/35, Error ellipse: s-maj=58.4km s-min=42.0km az=49.0*
*DHMR **04** 21:38:31.6±1.2, 1262N×4681E, h9km±11km, ML3.7*
*CSEM **04** 21:38:31.6, 1262N×4681E, h8km, ML3.7, After DHMR*
ISC 04 21:38:30.4±3.1, 124N±01×4715E±007, h31km±25km, n16, σ1°09/20, mb3.5/5, MS3.8/3, 2C, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	Aden	2.15	279	*i*P	Pn	21 39 02.9	-1.2
ADEN				*i*S	Sn	21 39 29.0	-0.8
	501nm,0.5s						
ADEN	Aden	2.15	279	*i*P	Pn	21 39 02.9	-1.2
ADEN				*i*S	Sn	21 39 28.9	-0.8
ADEN				AML	AML	21 39 31.0	
	comp=N,1μm,0.5s						
BDHA	Al Bayda'	2.18	315	⇑*i*P	Pn	21 39 04.0	-0.6
BDHA				*i*S	Sn	21 39 29.7	-0.9
	comp=N,827nm,0.4s						
BDHA	Al Bayda'	2.18	315	⇑*i*P	Pn	21 39 04.0	-0.6
BDHA				*i*S	Sn	21 39 29.7	-0.8
BDHA				AML	AML	21 39 31.9	
	comp=N,2μm,0.4s						
LBOS		2.34	308	*i*P	Pn	21 39 06.5	-0.3
LBOS				*i*S	Sn	21 39 33.4	-1.3
DHBB	Dhamar BB	3.43	309	*i*P	Pn	21 39 23.6	+1.8
DHBB				*i*S	Sn	21 40 03.1	+1.6
UDYN	Al 'Udayn	3.46	297	*i*P	Pn	21 39 23.2	+1.0
UDYN				*i*S	Sn	21 40 02.5	+0.3
UDYN				AML	AML	21 40 20.7	
	comp=Z,165nm,0.7s						
HAJJ	Hajjah	4.74	314	*i*S	Sn	21 40 34.9	+1.1
AKTO	Aktyubinsk	38.93	11	LR	LR	22 04 39.3	
	comp=Z,48nm,18.0s,MS3.4,baz=312,slow=41						
MKAR	Makanchi Array	45.23	34	P	P	21 46 44.3	-0.5
	comp=Z,0.2nm,0.3s,mb3.4,baz=215,slow=9.1,SNR=4.6						
GERES	GERESS Array B	45.66	329	P	P	21 46 47.8	-0.3
	comp=Z,0.2nm,0.4s,mb3.4,baz=142,slow=6.8,SNR=4.2						
ZALV	Zalesovo Beam	50.98	28	P	P	21 47 28.0	-1.2
	comp=Z,0.5nm,0.6s,mb3.6,baz=234,slow=5.0,SNR=2.3						
MDT	Midelt	51.36	302	LR	LR	22 08 53.9	
	comp=Z,51nm,18.3s,MS3.6,baz=244,slow=36						
SONM	Songino Array	60.36	42	P	P	21 48 36.4	-0.2
	comp=Z,0.6nm,0.8s,mb3.7,baz=247,slow=5.9,SNR=3.7						
MJAR	Matsushiro Arr	83.55	54	LR	LR	22 28 26.2	
	comp=Z,193nm,18.4s,MS4.5,baz=75,slow=36						
ASAR	Alice Springs	91.98	114	P	P	21 51 39.1	+2.4
	comp=Z,0.2nm,0.6s,mb3.6,baz=316,slow=5.1,SNR=4.0						

*DJA **04** 21:41:52, 158S×9994E, h67km, ML3.6/1*
IDC 04 21:41:52.6±7.5, 171S×9993E, h54km±47km, mb3.3/5, mb1 3.4/6, mb1mx3.2/20, mbtmp3.3/6, ML2.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/17, Error ellipse: s-maj=171.8km s-min=20.0km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.59	347	P	Pn	21 42 58.1	-1.4
	0.6nm,0.3s,baz=148,slow=11,SNR=6.5						
PSI				LR	LR	21 45 05.5	
	comp=Z,177nm,20.5s,baz=151,slow=43						
WRA	Warramunga Arr	38.20	121	P	P	21 49 07.2	-0.2
	0.2nm,0.3s,baz=286,slow=9.8,SNR=6.8						
ASAR	Alice Springs	39.48	126	P	P	21 49 18.2	+0.2
	0.6nm,0.8s,baz=304,slow=8.0,SNR=7.0						
SONM	Songino Array	49.66	6	P	P	21 50 39.1	+0.2
	0.3nm,0.7s,baz=188,slow=9.5,SNR=3.0						
MKAR	Makanchi Array	50.73	344	P	P	21 50 47.4	+0.4
	0.3nm,0.4s,baz=155,slow=8.2,SNR=4.4						
ZALV	Zalesovo Beam	56.87	349	P	P	21 51 31.3	-0.4
	0.7nm,0.4s,baz=166,slow=7.6,SNR=5.9						
TXAR	Lajitas Array	144.51	37	PKP	PKPdf	22 01 23.1	-0.7
	0.1nm,0.4s,baz=294,slow=1.2,SNR=3.8						

*ISCJB **04** 21:50:35.0±0.8, 5034S±008×1387E±09, h10km, mb3.7/6, MS3.7/3, Error ellipse: s-maj=79.7km s-min=11.9km az=178.3*
*IDC **04** 21:50:35.4±1.2, 5033S×139.14E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/13, mbtmp3.8/6, ML3.

ISCJB ***04*** *22:08:11.6±1.3,514N±0.1×17791W±009,h60km±10km, mb4.0/14, Error ellipse: s-maj=24.2km s-min=7.8km az=166.3*
NEIC ***04*** *22:08:12.7±1.2,5126N×17793W,h58km±9km,mb3.9/5, Error ellipse: s-maj=20.7km s-min=7.4km az=167.0*
IDC ***04*** *22:08:15.1±7.7,5147N×17783W,h74km±65km,mb3.6/11, mb1 3.8/12,mb1mx3.6/28,mbtmp3.7/12,ML4.6/1, Error ellipse: s-maj=34.4km s-min=20.2km az=17.0*

ISC 04 22:08:13.1±1.2,513N±01×17792W±009,h58km±9km,n31, σ0s95/28,mb4.0/14,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.74**	**273**	P	**Pn**	**22 08 38.7**	**-2.2**
AMKA				S	**Sn**	**22 09 02.0**	**+0.1**
SMY	**Shemya**	**5.12**	**289**	P	**Pn**	**22 09 27.7**	**+0.6**
FX1	**Attu Island--F**	**5.71**	**289**	P	**Pn**	**22 09 35.5**	**+0.4**
SPIA	**Saint Paul Isl**	**7.38**	**34**	P	**Pn**	**22 09 59.0**	**+0.9**
CHGN	**Chignik**	**12.54**	**59**	*e*P	**Pn**	**22 11 07.9**	**-0.5**
OHAK	**Old Harbor**	**15.50**	**58**	*e*Pn	**Pn**	**22 11 47.6**	**-0.1**
	18nm,0.3s						
SVW2	**Sparrevohn**	**15.73**	**43**	*e*P	**Pn**	**22 11 52.9**	**+2.3**
KDAK	**Kodiak Island**	**15.99**	**56**	P	**Pn**	**22 11 53.0**	**-0.9**
	2.3nm,0.3s,baz=256,slow=4.5,SNR=9.4						
BPAW	**Bear Paw Mtn.**	**19.05**	**38**	*e*P	**Pn**	**22 12 31.3**	**-0.1**
	2.1nm,0.5s						
IMA2	**Indian Mountai**	**19.21**	**31**	*e*P	**Pn**	**22 12 34.0**	**+0.8**
EGAK	**Eagle**	**23.23**	**41**	*e*P	**P**	**22 13 13.6**	**-1.2**
	1.8nm,0.4s,mb3.9						
INK	**Inuvik**	**27.19**	**35**	P	**P**	**22 13 50.0**	**-0.6**
	0.8nm,0.4s,mb3.6,baz=262,slow=3.7,SNR=5.0						
INK				PcP	PcP	22 17 08.6	-0.7
	0.9nm,0.5s,baz=180,slow=1.0,SNR=3.5						
INK	**Inuvik**	**27.19**	**35**	P	**P**	**22 13 50.0**	**-0.6**
INK				PcP	PcP	22 17 08.6	-0.7
PDAR	**Pinedale Array**	**45.80**	**73**	P	**P**	**22 16 29.0**	**+0.3**
	1.1nm,0.5s,mb4.0,baz=333,slow=3.6,SNR=14						
SONM	**Songino Array**	**47.16**	**297**	P	**P**	**22 16 40.1**	**+0.8**
	0.4nm,0.5s,mb3.6,baz=71,slow=7.0,SNR=4.6						
SPITS	**Spitsbergen Ar**	**50.47**	**356**	P	**P**	**22 17 03.9**	**-0.3**
	6.4nm,0.8s,mb4.7,baz=81,slow=12,SNR=4.0						
ZALV	**Zalesovo Beam**	**54.46**	**314**	PcP	PcP	22 18 37.6	+0.7
	0.4nm,0.3s,baz=64,slow=3.4,SNR=3.6						
MNTX	**Cornudas Mount**	**55.42**	**81**	*e*P	**P**	**22 17 41.9**	**+0.6**
	1.6nm,1.1s,mb4.0						
TXAR	**Lajitas Array**	**58.12**	**82**	P	**P**	**22 18 00.3**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=319,slow=6.0,SNR=4.6						
TXAR	**Lajitas Array**	**58.12**	**82**	P	**P**	**22 18 00.3**	**-0.1**
ARCES	**ARCESS Array B**	**58.24**	**351**	P	**P**	**22 17 58.8**	**-1.9**
	1.6nm,0.8s,mb4.1,baz=33,slow=9.1,SNR=4.7						
BVAR	**Borovoye Array**	**61.28**	**320**	P	**P**	**22 18 22.2**	**+0.4**
	0.7nm,0.3s,mb4.2,baz=52,slow=7.0,SNR=7.2						
BVAR				PcP	PcP	22 19 04.0	+0.2
	0.8nm,0.6s,baz=46,slow=4.3,SNR=4.3						
LSA	**Lhasa**	**67.97**	**290**	*e*P	**P**	**22 19 08.5**	**+2.7**
	2.6nm,0.6s,mb4.4						
AKTK	**Aktyubinsk**	**68.04**	**325**	P	**P**	**22 19 05.8**	**-0.1**
AKTO	**Aktyubinsk**	**68.04**	**325**	P	**P**	**22 19 05.8**	**-0.1**
	1.9nm,0.5s,mb4.3,baz=54,slow=8.1,SNR=7.9						
HFS	**Hagfors**	**68.50**	**354**	P	**P**	**22 19 08.4**	**-0.2**
	0.9nm,0.4s,mb4.1,baz=350,slow=3.3,SNR=6.8						
AKASG	**Malin Array Be**	**75.77**	**343**	P	**P**	**22 19 51.2**	**-1.0**
	0.3nm,0.4s,mb3.6,baz=22,slow=5.5,SNR=4.0						
ASAR	**Alice Springs**	**85.82**	**223**	P	**P**	**22 20 46.4**	**+0.4**
	0.3nm,0.8s,mb3.5,baz=37,slow=6.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**115.80**	**0**	PKP	PKPdf	22 26 48.2	-0.8
	0.2nm,0.4s,baz=339,slow=2.0,SNR=8.6						
DBIC	**Dimbokro**	**121.93**	**8**	PKP	PKPdf	22 27 00.1	-0.8
	3.0nm,0.7s,baz=48,slow=0.9,SNR=3.9						
BOSA	**Boshof**	**151.41**	**314**	PKPbc	PKPbc	22 28 00.7	+0.7
	1.8nm,0.6s,baz=2.3,slow=3.1,SNR=7.2						

NIED ***04*** *22:21:00,4690N×14170E,h5km,Mw4.4 Best double couple: M0=5.30000×10^15 NP1:φs=219.00000°,δ53.00000°, λ111.00000°. NP2:φs=7.00000°,δ41.00000°,λ65.00000°.*
JMA ***04*** *22:21:50.6±0.4,4686N×14175E,h13km,M4.8*
SKHL ***04*** *22:21:51.6±0.2,4660N×14170E,h10km,mb4.9/12, mbv5.3/1,ms4.6/5,msh5.2/4*
BJI ***04*** *22:21:51.9,4692N×14190E,h14km,mB4.9,mb4.7,Ms4.7, Msz4.5*
MOS ***04*** *22:21:52.9±0.8,4665N×14176E,h13km,mb5.1/80, MS4.1/14, Error ellipse: s-maj=8.0km s-min=4.1km az=110.5*
MOS Felt (IV) at Nevel'sk; (III) at Kholmsk, Aniva.
ISCJB ***04*** *22:21:52.8±0.1,4668N±002×14179E±003,h11km, mb4.8/174,MS4.3/25, Error ellipse: s-maj=2.8km s-min=2.1km az=13.5*
NEIC ***04*** *22:21:53.9±0.1,4666N×14177E,mb4.9/104, Error ellipse: s-maj=3.8km s-min=2.7km az=159.0*
NEIC Two people injured at Nevel'sk. Felt at Yuzhno-Sakhalinsk.
IDC ***04*** *22:21:57.6±2.6,4662N×14182E,h37km±22km,mb4.3/33, mb1 4.4/38,mb1mx4.4/39,mbtmp4.3/38,ML3.9/5,MS4.0/11, Ms1 4.0/11,ms1mx3.5/31, Error ellipse: s-maj=12.2km s-min=9.7km az=107.0*
SZGRF ***04*** *22:22:04.7,4782N×14045E,h33km,mb4.9,Primorye, Russia*

ISC 04 22:21:54.3±0.1,4667N±002×14183E±003,h11km, h11km±1.0km:pP-P,n469,σ0s89/492,mb4.8/174,MS4.3/25, 88C-29D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.70**	**66**	*i*PN	**Pg**	**22 22 07.2**	**-0.6**
YSS				*i*		22 22 18.2	
YSS				smax			
	comp=N,21μm,0.8s						
YSS	**Yuzh-Sakhalins**	**0.70**	**66**	⇓*i*Pg	**Pg**	**22 22 07.2**	**-0.6**
YSS				⇓*i*Pg	**Pg**	**22 22 07.2**	**-0.6**
YSS				*i* Sg	**Sg**	**22 22 18.2**	**+1.3**
YSS				A		22 22 19.2	
	comp=N,21μm,0.8s						
YSS				AMS	AMS	22 22 48.0	
	comp=N,62μm,5.0s						
YSS				AMS	AMS	22 22 48.0	
	comp=N,50μm,5.0s						
YSS				AMS	AMS	22 22 48.0	
	comp=N,31μm,5.0s						
YSS				AMS	AMS	22 22 48.0	
	comp=N,68μm,5.0s						
YSS				AMS	AMS	22 22 48.0	
	comp=N,50μm,5.0s						
YSS				AMS	AMS	22 22 48.0	
	comp=N,35μm,5.0s						
YSS	**Yuzh-Sakhalins**	**0.70**	**66**	⇓*i*Pg	**Pg**	**22 22 07.5**	**-0.3**
JWK2	**Keihoku**	**1.36**	**178**	P	**Pn**	**22 22 18.3**	**-0.8**
JWK2				*e*S	**Sb**	**22 22 37.2**	**+0.2**
JRR	**Rishiri**	**1.57**	**193**	P	**Pn**	**22 22 21.8**	**-0.4**
JRR				*e*S	**Sn**	**22 22 43.8**	**+1.3**
JSE	**Soyaes**	**1.79**	**163**	P	**Pn**	**22 22 24.5**	**-0.6**
JSE				*e*S	**Sn**	**22 22 49.3**	**+1.5**
JYG	**Yagishiri**	**2.26**	**187**	P	**Pn**	**22 22 31.1**	**-0.5**
JSS	**Shosan**	**2.27**	**180**	P	**Pn**	**22 22 32.4**	**+0.7**
UGL	**Uglegorsk**	**2.41**	**4**	*e*P	**Pn**	**22 22 32.5**	**-1.2**
UGL				AMB	AMB	22 22 35.2	
	comp=N,109nm,0.8s						
UGL				AMB	AMB	22 22 35.2	
	comp=N,362nm,0.8s						
UGL				AMB	AMB	22 22 35.2	
	comp=N,288nm,0.8s						
UGL				*i* Pg	**Pg**	**22 22 41.0**	**+0.4**
UGL				AMB	AMB	22 22 44.0	
	comp=N,2μm,1.5s						
UGL				AMB	AMB	22 22 44.0	
	comp=N,3μm,1.5s						
UGL				AMB	AMB	22 22 44.0	
	comp=N,5μm,1.5s						
UGL				*e*S	**Sn**	**22 23 03.5**	**+0.3**
UGL				A		22 23 07.5	
	comp=N,1μm,0.7s						
UGL				A		22 23 07.5	
	comp=N,2μm,0.7s						
UGL				*e*Sg	**Sg**	**22 23 15.1**	**+3.2**
UGL				A		22 23 18.5	
	comp=N,3μm,0.3s						
ASAJ	**Asahikawa**	**2.61**	**168**	P	**Pn**	**22 22 35.9**	**-0.5**
ASAJ	**Asahikawa**	**2.61**	**168**	Pn	**Pn**	**22 22 36.0**	**-0.4**
	comp=N,27nm,0.3s,baz=331,slow=17,SNR=178						
ASAJ				Lg		22 23 15.0	
	comp=N,80nm,0.3s,baz=314,slow=31,SNR=7.6						
JKK2	**Kamakawa 2**	**2.87**	**167**	P	**Pn**	**22 22 39.8**	**-0.2**
JMP	**Maruseppu**	**2.87**	**157**	P	**Pn**	**22 22 39.0**	**-1.0**
JHR	**Hokuryu**	**2.93**	**181**	P	**Pn**	**22 22 41.0**	**+0.2**
JTKR	**Abashiri--Toko**	**3.07**	**151**	P	**Pn**	**22 22 41.9**	**-0.9**
JAB	**Ashibetsu**	**3.18**	**175**	P	**Pn**	**22 22 44.4**	**+0.2**
JSK	**Shakotan**	**3.45**	**197**	P	**Pn**	**22 22 47.9**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**3.88**	**131**	*e*P	**Pn**	**22 22 54.0**	**+0.2**
YUK				AMB	AMB	22 23 08.4	
	comp=N,260nm,0.6s						
YUK				AMB	AMB	22 23 08.4	
	comp=N,370nm,0.6s						
YUK				AMB	AMB	22 23 08.4	
	comp=N,230nm,0.6s						
YUK				AMB	AMB	22 23 33.7	
	comp=N,3μm,2.1s						
YUK				AMB	AMB	22 23 33.7	
	comp=N,3μm,1.6s						
YUK				AMB	AMB	22 23 33.7	
	comp=N,2μm,1.7s						
YUK				*e*S	**Sn**	**22 23 38.1**	**-1.2**
YUK				A		22 23 40.6	
	comp=N,910nm,0.6s						
YUK				A		22 23 40.6	
	comp=N,490nm,0.6s						
YUK				A		22 24 33.3	
	comp=N,6μm,3.3s						
YUK				A		22 24 33.3	
	comp=N,8μm,2.0s						
YUK				AMS	AMS	22 25 26.1	
	comp=N,6μm,9.0s						
YUK				AMS	AMS	22 25 26.1	
	comp=N,6μm,9.0s						
YUK				AMS	AMS	22 25 26.1	
	comp=N,4μm,9.0s						
TEY	**Ternei**	**4.00**	**248**	*e*P	**Pn**	**22 22 54.0**	**-1.5**
TEY				*e*Pg	**Pg**	**22 23 08.5**	**-2.4**
TEY				AMB	AMB	22 23 20.0	
	comp=N,120nm,0.7s						
TEY				*e*Sg	**Sg**	**22 24 02.0**	**-0.7**
TEY				A		22 24 15.3	
	comp=N,144nm,0.6s						
TYV	**Tymovskoe**	**4.23**	**7**	*e*P	**Pn**	**22 22 58.0**	**-0.7**
TYV				*e*Pg	**Pg**	**22 23 16.8**	**+1.5**
TYV				AMB	AMB	22 23 24.2	
	comp=N,101nm,0.9s						
TYV				AMB	AMB	22 23 24.2	
	comp=N,202nm,0.9s						
TYV				AMB	AMB	22 23 24.2	
	comp=N,356nm,0.9s						
TYV				*e*S	**Sn**	**22 23 48.0**	**0.0**
TYV				A		22 23 55.0	
	comp=N,30nm,0.9s						
TYV				*e*Sg	**Sg**	**22 24 16.0**	**+5.9**
TYV				A		22 24 28.0	
	comp=N,228nm,0.9s						
KUR	**Kuril'sk**	**4.45**	**107**	*e*PN	**Pn**	**22 23 01.5**	**-0.2**
KUR				pmax	pmax		
	comp=N,260nm,0.9s						
KUR				pmax	pmax		
	comp=E,180nm,0.9s						
KUR				pmax	pmax		
	comp=Z,280nm,0.9s						
KUR				MLR	MLR		
	comp=N,3μm,15.0s						
KUR				MLR	MLR		
	comp=E,6μm,15.0s						
KUR				MLR	MLR		
	comp=Z,3μm,15.0s						
KUR	**Kuril'sk**	**4.45**	**107**	*e*P	**Pn**	**22 23 00.5**	**-1.2**
KUR				AMB	AMB	22 23 13.8	
	comp=Z,260nm,0.9s						
KUR				AMB	AMB	22 23 13.8	
	comp=Z,180nm,0.9s						
KUR				AMB	AMB	22 23 13.8	
	comp=Z,280nm,0.9s						
KUR				*e*S	**Sn**	**22 23 50.0**	**-3.4**
KUR				A		22 24 06.2	
	comp=Z,450nm,0.9s						
KUR				A		22 24 06.2	
	comp=Z,280nm,0.9s						
KUR				A		22 24 12.4	
	comp=Z,2μm,2.4s						
KUR				AMS	AMS	22 24 46.0	
	comp=Z,3μm,15.0s						
KUR				AMS	AMS	22 24 46.0	
	comp=Z,6μm,15.0s						
GRNR	**Gornyy**	**5.44**	**321**	*e*P	**Pn**	**22 23 10.0**	**-5.3**
GRNR				AMB	AMB	22 23 11.0	
	comp=Z,39nm,0.6s						
GRNR				AMB	AMB	22 23 11.0	
	comp=Z,42nm,0.6s						
GRNR				*e*Pg	**Pg**	**22 23 35.0**	**-3.5**
GRNR				*e*S	**Sn**	**22 24 11.0**	**-6.8**
GRNR				A		22 24 27.1	
	comp=Z,72nm,0.7s						
GRNR				*e*Sg	**Sg**	**22 24 49.0**	**+0.1**
GRNR				A		22 24 53.0	
	comp=Z,39nm,0.5s						
NKL	**Nikolayevsk**	**6.53**	**354**	⇓*i*P	**Pn**	**22 23 25.0**	**-5.2**
NKL				AMB	AMB	22 23 27.8	
	comp=Z,40nm,0.9s						
NKL				AMB	AMB	22 23 27.8	
	comp=Z,100nm,0.9s						
NKL				*e*Pb	**Pb**	**22 23 41.0**	**-6.8**
NKL				*e*Pg	**Pg**	**22 23 57.0**	**-2.3**
NKL				AMB	AMB	22 24 04.5	
	comp=Z,26nm,0.8s						
NKL				*e*Sg	**Sg**	**22 25 29.0**	**+5.3**
NKL				A		22 25 32.0	
	comp=Z,84nm,0.5s						
NKL				AMS	AMS	22 27 14.0	
	comp=Z,1μm,11.0s						
OKH	**Okha**	**6.92**	**5**	*e*P	**Pn**	**22 23 37.8**	**+2.2**
OKH				AMB	AMB	22 23 38.4	
	comp=Z,600nm,6.0s						
OKH				AMB	AMB	22 23 40.0	
	comp=Z,300nm,0.9s						
OKH				AMS	AMS	22 27 42.0	
	comp=Z,1μm,10.0s						
OKH				AMS	AMS	22 27 42.0	
	comp=Z,2μm,10.0s						
OKH				AMS	AMS	22 27 42.0	
	comp=Z,2μm,10.0s						
KLR	**Kul'dur**	**7.24**	**294**	*e*PN	**Pn**	**22 23 35.6**	**-4.3**
KLR				MLR	MLR		
	comp=N,3μm,12.0s						
KLR				MLR	MLR		
	comp=Z,4μm,12.0s						
VLA	**Vladivostok**	**7.90**	**247**	PN	**Pn**	**22 23 53.0**	**+4.0**
VLA				MLR	MLR		
	comp=Z,1μm,9.0s						
EKMR	**Ekimchan**	**8.59**	**321**	*e*P	**Pn**	**22 23 55.0**	**-3.5**
EKMR				AMB	AMB	22 24 11.2	
	comp=Z,11nm,0.5s						
EKMR				*e*S	**Sn**	**22 25 34.3**	**-1.0**
EKMR				A		22 25 45.5	
	comp=Z,24nm,0.6s						
EKMR				A		22 25 45.5	
	comp=Z,10.0nm,0.6s						
EKMR				A		22 25 45.5	
	comp=Z,7.0nm,0.6s						
EKMR				*e*Sg	Sn	22 26 21.3	+46
EKMR				A		22 26 29.5	
	comp=Z,44nm,0.8s						
EKMR				A		22 26 29.5	
	comp=Z,48nm,0.8s						
MDJ	**Mudanjiang**	**8.82**	**261**	P	**Pn**	**22 24 02.4**	**+0.8**
MDJ				S	**Sn**	**22 25 43.3**	**+2.4**
MDJ				PCP	PcP	22 30 31.3	+3.9
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,113nm,5.6s						
MDJ				LR	LR		
	comp=N,1μm,10.2s						
MDJ				LR	LR		
	comp=E,2μm,12.4s						
MDJ				LR	LR		
	comp=Z,3μm,12.6s						
SKR	**Severo-Kuril's**	**10.27**	**62**	*e*PN	**Pn**	**22 24 25.5**	**+4.1**
SKR				*e*S	**Sn**	**22 26 26.0**	**+10**
SKR				pmax	pmax		
	comp=Z,90nm,1.0s						
SKR				smax			
	comp=N,1μm,8.0s						
SKR				smax			
	comp=E,1μm,8.0s						
SKR				MLR	MLR		
	comp=N,1μm,18.0s						
SKR				MLR	MLR		
	comp=E,1μm,18.0s						
SKR				MLR	MLR		
	comp=Z,2μm,18.0s						
SKR	**Severo-Kuril's**	**10.27**	**62**	*e*P	**Pn**	**22 24 25.5**	**+4.1**
SKR				AMB	AMB	22 24 29.9	
	comp=Z,90nm,1.0s						
SKR				*e*S	**Sn**	**22 26 28.3**	**+12**
SKR				A		22 26 47.0	
	comp=Z,1μm,8.0s						
SKR				A		22 26 47.0	
	comp=Z,1μm,8.0s						
SKR				A		22 26 47.0	
	comp=Z,800nm,8.0s						
SKR				AMS	AMS	22 28 26.0	
	comp=Z,2μm,18.0s						
SKR				AMS	AMS	22 28 26.0	
	comp=Z,1μm,18.0s						
SKR				AMS	AMS	22 28 26.0	
	comp=Z,1μm,18.0s						
SKR				AMS	AMS	22 28 26.0	
	comp=Z,2μm,18.0s						
MAJO	**Matsushiro**	**10.47**	**196**	*e*PN	**Pn**	**22 24 25.4**	**+1.1**
MAT	**Matsushiro**	**10.47**	**196**	P	**Pn**	**22 24 25.5**	**+1.2**
MAT				*e*S	**Sn**	**22 26 22.0**	**+0.4**
MJAR	**Matsushiro Arr**	**10.47**	**196**	Pn	**Pn**	**22 24 26.2**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=9.7,slow=13,SNR=35						
BMKR	**Bomnak**	**11.50**	**319**	*e*P	**Pn**	**22 24 36.4**	**-1.9**
ZEA	**Zeya**	**11.70**	**313**	*e*rx	rx	22 27 39.0	
CN2	**Changchun**	**11.90**	**262**	*e*P	**Pn**	**22 24 46.6**	**+2.8**
CN2				*e*S	**Sn**	**22 27 00.2**	**+3.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,15.0s						
CN2				LR	LR		
	comp=E,3μm,15.0s						
CN2				LR	LR		
	comp=Z,3μm,15.0s						
PETK	**Petropavlovsk-**	**12.08**	**52**	Pn	**Pn**	**22 24 49.4**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=238,slow=11,SNR=8.2						
PETK				Sn	**Sn**	**22 27 01.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=254,slow=18,SNR=2.9						
KROS	**Kirovskiy**	**12.21**	**315**	*e*P	**Pn**	**22 24 43.7**	**-4.4**
KROS				AMB	AMB	22 24 50.8	
	comp=Z,9.0nm,1.0s						
KROS				*e*Sg	Sn	22 28 10.3	+66
KROS				A		22 28 32.7	
	comp=Z,55nm,1.0s						
PET	**Petropavlovsk**	**12.57**	**53**	*e*P	**Pn**	**22 24 51.5**	**-1.4**
PET				AMB	AMB	22 25 03.8	
	comp=Z,44nm,1.1s						
PET				*e*S	**Sn**	**22 27 11.2**	**-1.5**
PET				A		22 27 16.0	
	comp=Z,75nm,4.1s						
PET				AMS	AMS	22 34 55.2	
	comp=Z,397nm,7.3s						
PET				AMS	AMS	22 34 55.5	
	comp=Z,217nm,12.0s						
KSRS	**Korea Array**	**13.82**	**233**	Pn	**Pn**	**22 25 12.6**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=37,slow=12,SNR=7.5						
CLNS	**Chul'man**	**14.57**	**320**	*e*P	**Pn**	**22 25 23.6**	**+3.4**
CLNS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,17nm,1.3s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,618nm,14.0s						
CLNS				MLR	MLR		
	comp=E,642nm,11.0s						
CLNS				MLR	MLR		
	comp=N,126nm,11.0s						
HIA	**Hailar**	**15.01**	**288**	*e*P	**Pn**	**22 25 27.2**	**+1.0**
DL2	**Dalian**	**16.71**	**250**	*i* P	**Pn**	**22 25 50.7**	**+2.5**
DL2				S	**Sn**	**22 29 01.3**	**+7.7**
DL2				LG1		22 30 52.9	
DL2				LG2		22 31 29.1	
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
DL2				AMB	AMB		
	comp=Z,120nm,8.4s						
DL2				LR	LR		
	comp=N,580nm,10.3s						
DL2				LR	LR		
	comp=E,470nm,11.8s						
DL2				LR	LR		
	comp=Z,820nm,12.2s						
YAK	**Yakutsk**	**16.89**	**340**	*e*P	**Pn**	**22 25 51.4**	**+1.0**
YAK				*e*S	**Sn**	**22 28 58.5**	**+0.7**
YAK				pmax	pmax		
	comp=Z,18nm,1.0s						
YAK				pmax	pmax		
	comp=N,18nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.4s						
YAK				smax			
	comp=E,71nm,12.8s						
YAK				MLR	MLR		
	comp=Z,287nm,11.0s						
YAK				MLR	MLR		
	comp=N,147nm,9.0s						
YAK				MLR	MLR		
	comp=E,198nm,11.0s						
YAK	**Yakutsk**	**16.89**	**340**	*e*Pn	**Pn**	**22 25 49.5**	**-0.9**
	comp=E,14nm,0.6s						
SEY	**Seymchan**	**17.35**	**16**	⇑*e*P	**Pn**	**22 25 55.3**	**-0.9**
CIT	**Chita**	**19.12**	**297**	*e*P	**Pn**	**22 26 18.2**	**+0.4**
CIT				pmax	pmax		
	comp=Z,63nm,2.1s						
CBIJ	**Chichi jima**	**19.54**	**179**	P	**Pn**	**22 26 21.4**	**-1.7**
	comp=Z,2.7nm,0.3s,baz=101,slow=23,SNR=4.1						
BJI	**Beijing**	**19.75**	**260**	P	**Pn**	**22 26 23.9**	**-1.6**
BJI				S	**Sn**	**22 30 12.6**	**+5.5**
BJI				AMB	AMB		
	comp=Z,16nm,0.9s						
BJI				AMB	AMB		
	comp=Z,204nm,9.9s						
BJI				LR	LR		
	comp=N,910nm,11.8s						
BJI				LR	LR		
	comp=E,1μm,12.8s						
BJI				LR	LR		
	comp=Z,772nm,14.8s						
BJT	**Baijiatuau**	**19.76**	**260**	*e*P	**Pn**	**22 26 24.1**	**-1.5**
BJT				pmax	pmax		
	comp=Z,11nm,0.8s						
BJT	**Baijiatuau**	**19.76**	**260**	*e*P	**Pn**	**22 26 24.1**	**-1.5**
	comp=Z,11nm,0.8s						
BOD	**Bodaibo**	**20.21**	**314**	*e*P	**P**	**22 26 28.8**	**0.0**
BOD				pmax	pmax		
	comp=Z,13nm,2.0s						
TIA	**Tai'an**	**21.18**	**249**	*e*P	**P**	**22 26 42.1**	**+2.5**
TIA				S	**S**	**22 30 35.0**	**+0.1**
TIA				LR	LR		
	comp=E,812nm,11.0s						
JOW	**Kunigami**	**22.52**	**213**	P	**P**	**22 26 53.4**	**-0.6**
	comp=E,13nm,0.8s,mb4.4,baz=147,slow=5.4,SNR=4.0						
JOW				LR	LR	22 34 49.0	
	comp=E,83nm,19.9s,baz=280,slow=34						
HHC	**Hu-ho-hao-te**	**22.54**	**266**	*e*P	**P**	**22 26 57.0**	**+3.0**
HHC				PP		22 27 25.2	
HHC				PCP	PcP	22 30 51.5	+4.1
HHC				S	**S**	**22 31 01.6**	**+0.4**
HHC				SS		22 31 42.6	
HHC				PCS	PcS	22 34 29.7	+3.5
HHC				AMB	AMB		
	comp=Z,16nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,90nm,5.6s						
HHC				LR	LR		
	comp=N,548nm,12.5s,MS4.6						
HHC				LR	LR		
	comp=E,1μm,13.1s,MS4.6						
HHC				LR	LR		
	comp=Z,2μm,14.3s,MS4.6						
SONM	**Songino Array**	**23.96**	**286**	P	**P**	**22 27 08.1**	**-0.2**
	comp=Z,3.8nm,0.7s,mb3.9,baz=80,slow=8.5,SNR=25						
SONM				PcP	PcP	22 30 50.3	0.0

comp=Z,2.6nm,0.7s,baz=150,slow=2.8,SNR=11
AMKA Amchitka 24.83 65 *e*P **P 22 27 17.1 +0.8**
IRK Irkutsk 24.84 297 *e*P **P 22 27 15.7 -0.7**
IRK pmax pmax
comp=Z,47nm,1.7s,mb4.7
TLY Talaya 25.25 296 *e*P **P 22 27 20.0 -0.1**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
TLY MLR MLR
comp=Z,716nm,15.0s,MS4.3
TIXI Tiksi 25.80 351 *e*P **P 22 27 26.1 +1.2**
TIXI pmax pmax
comp=Z,31nm,1.6s,mb4.6
TIXI MLR MLR
comp=Z,292nm,11.0s,MS4.1
TIXI Tiksi 25.80 351 *e*P **P 22 27 23.9 -1.0**
comp=Z,20nm,1.1s,mb4.6
WHN Wuhan 26.65 243 ⇑P **P 22 27 32.4 -0.6**
WHN PP 22 28 13.6
WHN S **S 22 32 11.5 +3.6**
WHN LR LR
comp=N,1μm,8.8s
WHN LR LR
comp=E,761nm,10.6s
WHN LR LR
comp=Z,2μm,9.5s
XAN Xi'an 27.86 255 P **P 22 27 46.1 +2.3**
XAN AP pP 22 27 52.8 +5.6
XAN AMB AMB
comp=Z,5.0nm,1.3s,mb4.0
XAN AMB AMB
comp=Z,23nm,5.2s
XAN LR LR
comp=N,343nm,15.1s,MS4.4
XAN LR LR
comp=E,632nm,15.7s,MS4.4
XAN LR LR
comp=Z,1μm,15.4s,MS4.5
LZH Lanzhou 30.13 263 *e*P **P 22 28 03.0 -1.0**
LZH AP pP 22 28 07.0 -0.4
LZH S **S 22 32 58.0 -4.6**
LZH SS SS 22 34 35.0 -36
LZH AMB AMB
comp=Z,26nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,136nm,4.8s
LZH LR LR
comp=E,2μm,13.7s
LZH LR LR
comp=Z,2μm,15.6s,MS4.9
GTA Gaotai 31.25 272 *e*P **P 22 28 16.5 +2.6**
GTA AP pP 22 28 19.5 +2.2
GTA XP sP 22 28 22.2 +3.5
GTA S **S 22 33 23.9 +3.8**
GTA XS sS 22 33 33.0 +7.3
GTA AMB AMB
comp=Z,2.0nm,0.9s,mb4.0
GTA AMB AMB
comp=Z,90nm,3.8s
GTA LR LR
comp=N,535nm,12.6s,MS4.6
GTA LR LR
comp=E,627nm,14.8s,MS4.6
GTA LR LR
comp=Z,1μm,12.9s,MS4.7
KRAR Krasnoyarsk 31.36 306 *e*P **P 22 28 13.9 -0.7**
KRAR pmax pmax
comp=Z,11nm,1.0s,mb4.6
KRAR MLR MLR
comp=Z,800nm,24.0s,MS4.3
HVS Khovu-Aksy 31.49 296 *d i*P **P 22 28 15.2 -0.6**
GUMO Guam 33.08 175 LR LR 22 41 31.2
comp=Z,104nm,18.9s,MS3.6,baz=323,slow=36
CD2 Chengdu 33.22 255 *e*P **P 22 28 33.0 +1.8**
CD2 AP pP 22 28 37.4 +2.8
CD2 XP sP 22 28 40.0 +4.0
CD2 PP PP 22 29 44.2 -2.0
CD2 S **S 22 33 51.3 +0.5**
CD2 XS sS 22 33 58.6 +2.1
CD2 SS SS 22 35 52.5 -21
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,40nm,5.8s
CD2 LR LR
comp=N,240nm,14.4s,MS4.2
CD2 LR LR
comp=E,250nm,15.6s,MS4.2
CD2 LR LR
comp=Z,260nm,14.4s,MS4.1
GYA Guiyang 34.31 246 P **P 22 28 43.0 +2.3**
GYA PP PP 22 29 58.2 -0.2
GYA PCP PcP 22 31 19.5 +2.8
GYA S **S 22 34 09.8 +2.0**
GYA SCP ScP 22 35 04.4 +2.9
GYA SS SS 22 36 18.8 -17
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.6s
GYA LR LR
comp=N,560nm,17.8s,MS4.5
GYA LR LR
comp=E,480nm,18.3s,MS4.5
GYA LR LR
comp=Z,520nm,17.3s,MS4.3
ZAA0 Zalesovo Array 36.24 303 *e*P **P 22 28 56.5 -0.6**
ZALV Zalesovo Beam 36.24 303 P **P 22 28 56.6 -0.4**
comp=Z,4.8nm,0.7s,mb4.5,baz=91,slow=8.9,SNR=20
ZALV PcP PcP 22 31 21.4 -0.6
comp=Z,3.8nm,0.8s,baz=113,slow=3.4,SNR=7.9
ZALV LR LR 22 43 12.2
comp=Z,135nm,18.6s,MS3.8,baz=252,slow=35
ZAL Zalesovo 36.26 303 P **P 22 28 56.7 -0.5**
ZAL 22 31 21.4
NVS Novosibirsk 36.96 305 *e*P **P 22 29 02.0 -1.1**
NVS pmax pmax
comp=Z,14nm,1.7s,mb4.5
NVS pmax pmax
comp=E,14nm,1.5s
WMQ Urumqi 37.59 286 P **P 22 29 11.1 +2.4**
WMQ AP pP 22 29 15.5 +3.4
WMQ XP sP 22 29 18.1 +4.6
WMQ PP PP 22 30 39.6 +5.3
WMQ PCP PcP 22 31 29.2 +3.0
WMQ *e*S **S 22 34 59.8 +2.0**
WMQ SCP ScP 22 35 14.8 +1.5
WMQ SS SS 22 37 33.3 -9.1
WMQ SCS ScS 22 39 21.9 +0.3
WMQ AMB AMB
comp=Z,13nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,25nm,7.8s
WMQ LR LR
comp=N,348nm,20.0s,MS4.4
WMQ LR LR
comp=E,343nm,15.0s,MS4.4
WMQ LR LR
comp=Z,478nm,15.4s,MS4.4
TTA Tatalina 37.64 41 *e*P **P 22 29 09.6 +0.8**
KMI Kunming 37.75 249 P **P 22 29 09.6 -0.6**
KMI AP pP 22 29 13.9 +0.3
KMI PP PP 22 30 40.1 +3.8
KMI S **S 22 35 01.9 +1.4**
KMI SS SS 22 37 36.1 -10
KMI AMB AMB
comp=Z,14nm,1.1s,mb4.6
KMI AMB AMB
comp=Z,109nm,3.1s
KMI LR LR
comp=N,425nm,11.0s,MS4.6
KMI LR LR
comp=E,318nm,11.0s,MS4.6
KMI LR LR
comp=Z,280nm,13.2s,MS4.2
SVW2 Sparrevohn 38.02 44 *e*P **P 22 29 12.6 +0.6**
QIZ Qiongzhong 38.04 234 P **P 22 29 17.4 +4.7**
QIZ S **S 22 35 09.6 +4.6**
QIZ AMB AMB
comp=Z,204nm,5.5s
QIZ LR LR
comp=Z,365nm,13.1s,MS4.4
IMA2 Indian Mountai 38.46 36 *e*P **P 22 29 15.6 -0.1**
CHUM Lake Minchumin 39.21 40 *e*P **P 22 29 22.7 +0.7**
comp=Z,25nm,1.1s,mb4.8

PPLA Purkeypile 39.38 41 *e*P **P 22 29 24.7 +1.2**
comp=Z,74nm,1.3s,mb5.2
BPAW Bear Paw Mtn. 39.76 39 *e*P **P 22 29 27.0 +0.4**
comp=Z,14nm,1.0s,mb4.6
KTH Kantishna Hill 39.86 40 *e*P **P 22 29 28.2 +0.8**
comp=Z,53nm,1.1s,mb5.2
MK31 Makanchi Array 39.94 293 *e*P **P 22 29 27.6 -0.7**
MKAR Makanchi Array 39.94 293 P **P 22 29 27.6 -0.6**
comp=Z,9.2nm,0.7s,mb4.6,baz=77,slow=8.6,SNR=59
MKAR LR LR 22 47 02.1
comp=Z,682nm,20.0s,MS4.5,baz=67,slow=38
KDAK Kodiak Island 40.12 49 P **P 22 29 28.7 -0.9**
comp=Z,21nm,1.0s,mb4.8,baz=20,slow=4.0,SNR=5.8
TRF Thorofare Moun 40.16 40 *e*P **P 22 29 30.1 +0.2**
comp=Z,4μm,1.0s
MCK McKinley 40.71 40 *e*P **P 22 29 34.6 +0.1**
MCK pmax pmax
comp=Z,24nm,1.0s,mb4.8
MCK McKinley 40.71 40 *e*P **P 22 29 34.6 +0.1**
comp=Z,24nm,1.0s,mb4.8
KURK Kurchatov 40.80 300 *e*P **P 22 29 34.6 -0.7**
KURK pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
KURK Kurchatov 40.80 300 *e*P **P 22 29 34.6 -0.7**
comp=Z,9.1nm,0.8s,mb4.5
COLA College 41.00 38 *e*P **P 22 29 37.3 +0.5**
COLA pmax pmax
comp=Z,32nm,1.0s,mb4.9
COLA College 41.00 38 *e*P **P 22 29 37.3 +0.5**
comp=Z,32nm,1.0s,mb4.9
PMR Palmer 41.01 43 *e*P **P 22 29 37.4 +0.5**
PMR pmax pmax
comp=Z,21nm,1.0s,mb4.7
PMR Palmer 41.01 43 *e*P **P 22 29 37.4 +0.4**
comp=Z,21nm,1.0s,mb4.7
SEW Seward 41.17 45 *e*P **P 22 29 38.3 0.0**
LSA Lhasa 42.52 265 *e*P **P 22 29 50.6 +0.9**
LSA pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
LSA Lhasa 42.52 265 *e*P **P 22 29 50.6 +1.0**
comp=Z,5.6nm,0.7s,mb4.4
DIV Divide 42.69 43 *e*P **P 22 29 51.2 +0.5**
comp=Z,61nm,1.4s,mb5.1
BMRM Bremner River 43.28 43 *e*P **P 22 29 55.9 +0.5**
EGAK Eagle 43.82 37 *e*P **P 22 29 59.6 -0.2**
comp=Z,33nm,0.8s,mb5.1
BVA0 Borovoye Array 44.74 306 *i* P **P 22 30 06.5 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb3.8
BVAR Borovoye Array 44.74 306 P **P 22 30 06.9 -0.4**
comp=Z,1.5nm,0.4s,mb4.2,baz=64,slow=10,SNR=19
BVAR PcP PcP 22 31 48.7 -0.6
comp=Z,2.3nm,0.7s,baz=75,slow=2.9,SNR=7.9
BVAR LR LR 22 50 38.4
comp=Z,274nm,19.8s,MS4.2,baz=68,slow=38
BVAR Borovoye Array 44.74 306 P **P 22 30 06.9 -0.4**
BVAR 22 31 48.7
DAWY Dawson 44.75 38 *e*P **P 22 30 08.9 +1.7**
BRVK Borovoye 44.79 306 *e*P **P 22 30 07.5 -0.2**
BRVK pmax pmax
comp=Z,15nm,1.0s,mb4.8
BRVK Borovoye 44.79 306 *e*P **P 22 30 07.5 -0.2**
comp=Z,16nm,1.0s,mb4.8
CMAR Chiang Mai Arr 45.00 246 P **P 22 30 09.3 -0.4**
comp=Z,1.2nm,0.5s,mb4.0,baz=34,slow=7.0,SNR=5.7
CMAR PcP PcP 22 31 50.9 +0.1
comp=Z,1.3nm,0.7s,baz=0.0,slow=2.4,SNR=4.8
CMAR Chiang Mai Arr 45.00 246 *i* P **P 22 30 11.1 +1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 45.81 31 P **P 22 30 15.1 -0.5**
comp=Z,9.5nm,1.0s,mb4.7,baz=293,slow=8.9,SNR=12
INK Inuvik 45.81 31 *e*P **P 22 30 15.6 0.0**
comp=Z,347nm,1.0s,mb6.2
TKM2 Tokmak 2 45.90 291 *e*P **P 22 30 16.4 -0.3**
TKM2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TKM2 Tokmak 2 45.90 291 *e*P **P 22 30 16.4 -0.3**
comp=Z,9.5nm,1.0s,mb4.7
HYT Haines Junctio 46.62 42 *e*P **P 22 30 23.2 +1.2**
JIRN Jiri 47.19 266 *e*P **P 22 30 26.9 0.0**
comp=Z,18nm,0.6s,mb5.2
EKS2 Erkin-Say 47.20 291 *e*P **P 22 30 26.6 -0.2**
comp=Z,4.9nm,0.8s,mb4.5
EKS2 *e*pP pP 22 30 29.5 -0.8
EKS2 *e*PcP PcP 22 31 58.3 +0.2
RAMN Ramite 47.36 265 *e*P **P 22 30 28.2 0.0**
comp=Z,17nm,0.5s,mb5.2
AML Almayashu 47.52 291 *e*P **P 22 30 29.7 +0.4**
comp=Z,3.4nm,0.8s,mb4.4
KKN Kakani 47.73 267 *e*P **P 22 30 31.0 -0.2**
DMN Daman 47.97 267 *e*P **P 22 30 33.1 +0.1**
SVE Sverdlovsk 48.42 313 ⇓*e*P **P 22 30 36.1 0.0**
SVE *e*S **S 22 37 38.6 +2.4**
SVE *e*SS SS 22 40 56.2 -9.2
SVE pmax pmax
comp=Z,23nm,0.7s,mb5.3
SVE MLR MLR
comp=Z,170nm,8.0s
DANN Dangsing 48.43 269 *e*P **P 22 30 36.9 +0.4**
KOLN Koldanda 48.90 269 *e*P **P 22 30 39.4 -0.8**
comp=Z,30nm,1.2s,mb5.2
KK31 Karatay Array 49.06 293 *i* P **P 22 30 40.2 -1.0**
KK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
SOKR Solíkamsk 49.12 318 *e*P **P 22 30 41.4 0.0**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARU Arti 49.63 314 *e*P **P 22 30 44.6 -0.7**
ARU *e* 22 32 36.2
ARU *e*S **S 22 37 54.0 +0.8**
ARU MLR MLR
comp=Z,175nm,15.0s,MS4.2
ARU Arti 49.63 314 *e*P **P 22 30 44.7 -0.6**
comp=Z,32nm,1.1s,mb5.3
AKTK Aktyubinsk 52.78 307 P **P 22 31 08.7 -0.4**
AKTK LR LR 22 55 20.6
AKTO Aktyubinsk 52.78 307 P **P 22 31 08.7 -0.4**
comp=Z,5.6nm,0.8s,mb4.6,baz=54,slow=5.6,SNR=13
AKTO LR LR 22 55 20.6
comp=Z,208nm,18.4s,MS4.2,baz=272,slow=38
AKTO Aktyubinsk 52.78 307 *i* P **P 22 31 08.2 -0.9**
AKTO pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KBL Kabul 54.73 285 *e*P **P 22 31 22.3 -1.3**
comp=Z,9.3nm,0.8s,mb4.9
KAPI Kappang 55.06 207 P **P 22 31 24.6 -1.5**
comp=Z,5.9nm,0.6s,mb4.8,baz=40,slow=13,SNR=3.7
KAPI Kappang 55.06 207 P **P 22 31 24.6 -1.5**
ARCES ARCESS Array B 55.15 337 P **P 22 31 26.7 +0.6**
comp=Z,4.9nm,0.8s,mb4.6,baz=60,slow=7.3,SNR=9.9
YKA Yellowknife Ar 55.44 33 P **P 22 31 28.0 -0.3**
comp=Z,4.0nm,0.7s,mb4.5,baz=304,slow=6.8,SNR=12
YKA Yellowknife Ar 55.44 33 *i* P **P 22 31 30.6 +2.3**
YKA pmax pmax
comp=Z,4.0nm,0.7s
KLMR Klimovskoe 55.92 325 *e*P **P 22 31 30.3 -1.4**
KLMR pmax pmax
comp=Z,21nm,1.3s,mb5.0
DAG Danmarks Havn 56.21 355 ⇑*i*P **P 22 31 33.5 -0.2**
DAG pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
DAG Danmarks Havn 56.21 355 ⇑*i*P **P 22 31 33.5 -0.2**
comp=Z,7.5nm,0.8s,mb4.8
PSI Prapat 57.38 234 P **P 22 31 42.0 -0.7**
comp=Z,4.1nm,0.8s,mb4.5,baz=186,slow=4.7,SNR=4.5
BATI Baumata 58.91 201 P **P 22 31 52.5 -0.8**
comp=Z,12nm,0.5s,mb5.2,baz=342,slow=3.2,SNR=3.0
OBN Obninsk 60.70 321 ⇓*e*P **P 22 32 04.6 -0.7**
OBN *e* pP 22 32 06.7 -2.2
OBN pmax pmax
comp=Z,18nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.3
OBN Obninsk 60.70 321 *e*P **P 22 32 04.5 -0.8**
comp=Z,25nm,1.0s,mb5.3
VRHR Novokhopersk 60.93 315 *e*P **P 22 32 07.5 +0.6**
VRHR pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
SUMG Summit 61.06 0 *e*P **P 22 32 07.8 +0.4**
comp=E,6.9nm,1.0s,mb4.7
VRSR Storozhevoye 62.03 316 *e*P **P 22 32 13.4 -0.9**

VRSR pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
VRSR pmax pmax
comp=N,4.0nm,1.3s
VRSR pmax pmax
comp=E,3.0nm,1.1s
HOOD Mount Hood Mea 62.70 52 *e*P **P 22 32 19.7 +0.9**
comp=E,30nm,1.1s,mb5.3
WALA Waterton Lakes 64.24 45 P **P 22 32 29.5 +0.5**
comp=E,4.6nm,0.9s,mb4.5
KIV Kislovodsk 65.01 308 ⇓*i*P **P 22 32 34.8 +0.7**
KIV *e* 22 33 06.0
KIV *e* 22 34 56.2
KIV pmax pmax
comp=Z,25nm,0.9s,mb5.2
KIV MLR MLR
comp=Z,200nm,17.0s,MS4.4
DGRG David-gareji 65.17 305 P **P 22 32 35.6 +0.4**
MTA Mtatsminda 65.33 305 P **P 22 32 36.6 +0.3**
TBLG Delisi 65.34 305 P **P 22 32 37.0 +0.7**
TBLG Delisi 65.34 305 P **P 22 32 37.0 +0.7**
NB2 NORSAR Subarra 65.47 336 P **P 22 32 36.1 -0.7**
comp=Z,10nm,0.9s,mb4.8,baz=34,slow=6.5
NOA NORSAR Array B 65.47 336 P **P 22 32 36.2 -0.6**
comp=Z,7.8nm,0.9s,mb4.8,baz=35,slow=6.3,SNR=22
NOA NORSAR Array B 65.47 336 P **P 22 32 36.2 -0.6**
ONI Oni 65.50 307 P **P 22 32 37.7 +0.4**
MSO Missoula 65.74 47 *e*P **P 22 32 39.2 +0.4**
comp=Z,4.9nm,1.1s,mb4.5
FITZ Fitzroy Crossi 66.10 197 P **P 22 32 39.6 -1.7**
comp=Z,3.0nm,0.8s,mb4.4,baz=345,slow=16,SNR=3.7
AKH Akhalkalaki 66.25 306 P **P 22 32 43.1 +0.9**
GNI Garni 66.39 304 P **P 22 32 43.5 +0.4**
comp=Z,1.3nm,0.4s,mb4.4,baz=31,slow=5.9,SNR=2.9
GNI LR LR 23 04 33.4
comp=Z,139nm,19.1s,MS4.2,baz=344,slow=38
GNI Garni 66.39 304 *e*P **P 22 32 40.9 -2.2**
GNI pmax pmax
comp=Z,8.0nm,1.3s
GNI MLR MLR
comp=Z,200nm,21.0s
WRA Warramunga Arr 66.64 188 P **P 22 32 43.1 -1.7**
comp=Z,2.1nm,0.9s,mb4.2,baz=3.7,slow=6.8,SNR=7.3
WRA Warramunga Arr 66.64 188 *i* P **P 22 32 43.5 -1.2**
WRA pmax pmax
comp=Z,2.0nm,0.9s
EGMT Eagleton 66.96 44 *e*P **P 22 32 47.0 +0.4**
comp=Z,6.7nm,0.8s,mb4.7
AKASG Malin Array Be 66.97 320 P **P 22 32 45.5 -1.1**
comp=Z,6.3nm,0.7s,mb4.7,baz=40,slow=6.8,SNR=37
AKBB Malin Array Si 66.97 320 *e*P **P 22 32 45.8 -0.8**
KIEV Kiev 66.98 320 *e*P **P 22 32 45.4 -1.3**
KIEV pmax pmax
comp=Z,15nm,1.0s,mb5.0
KIEV Kiev 66.98 320 *e*P **P 22 32 45.4 -1.3**
comp=Z,15nm,1.0s,mb5.0
ANN Anapa 67.21 312 *e*P **P 22 32 45.2 -3.1**
ANN pmax pmax
comp=Z,36nm,1.1s,mb5.3
CMB Columbia Colle 68.21 57 *e*P **P 22 32 55.3 +0.6**
CMB pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CMB Columbia Colle 68.21 57 *e*P **P 22 32 55.3 +0.6**
comp=Z,6.8nm,1.0s,mb4.6
NVAR Mina Array Bea 69.14 56 P **P 22 33 00.7 +0.2**
comp=Z,2.9nm,0.9s,mb4.2,baz=277,slow=5.7,SNR=14
BSD Bornholm Skovb 69.16 331 *i* P **P 22 32 59.2 -1.1**
BSD pmax pmax
comp=Z,20nm,1.0s,mb5.0
BSD Bornholm Skovb 69.16 331 *i* P **P 22 32 59.2 -1.1**
comp=Z,20nm,1.0s,mb5.0
RLMT Red Lodge 69.26 46 *e*P **P 22 33 01.6 +0.6**
comp=Z,8.6nm,1.2s,mb4.6
RRI2 Red Ridge 69.49 48 *e*P **P 22 33 03.7 +1.1**
comp=Z,11nm,0.9s,mb4.8
LVV L'vov 69.85 322 *e*P **P 22 33 06.7 +2.0**
MSL Mosul 69.95 302 *e*x x 22 33 10.0
ASAR Alice Springs 70.37 188 P **P 22 33 07.7 -0.3**
comp=Z,2.9nm,0.6s,mb4.4,baz=9.3,slow=6.0,SNR=29
KWP Kalwaria 70.55 323 *e*P **P 22 33 09.0 +0.1**
KWP Kalwaria 70.55 323 ⇓*i*P **P 22 33 09.4 +0.5**
KWP Kalwaria 70.55 323 *e*P **P 22 33 09.0 +0.1**
PDAR Pinedale Array 70.81 48 P **P 22 33 10.8 +0.2**
comp=Z,3.6nm,0.9s,mb4.3,baz=345,slow=2.7,SNR=15
PDAR LR LR 23 04 54.7
comp=Z,59nm,19.2s,MS3.9,baz=161,slow=36
BURAR Bucovina Array 71.02 320 ⇑*i*P **P 22 33 11.7 -0.1**
BURAR Bucovina Array 71.02 320 ⇑P **P 22 33 11.7 -0.1**
MALT Malatya 71.21 306 *e*P **P 22 33 14.0 +0.8**
MALT pmax pmax
comp=Z,14nm,1.5s,mb4.7
MALT Malatya 71.21 306 ⇓*i*P **P 22 33 14.3 +1.1**
MALT Malatya 71.21 306 *e*P **P 22 33 13.9 +0.8**
comp=Z,14nm,1.5s,mb4.7
KOLS Kolonicke sedl 71.27 323 *i* P **P 22 33 13.3 0.0**
OJC Ojcow 71.27 325 *e*P **P 22 33 13.2 -0.1**
TPNV Topopah Spring 71.34 56 *e*P **P 22 33 14.2 +0.3**
TPNV pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TPNV Topopah Spring 71.34 56 *e*P **P 22 33 14.2 +0.3**
comp=Z,5.8nm,1.0s,mb4.5
ULM Lac du Bonnet 71.35 35 P **P 22 33 12.4 -1.4**
comp=Z,4.0nm,0.8s,mb4.4,baz=6.6,slow=6.4,SNR=3.4
ULM LR LR 23 05 51.0
comp=Z,83nm,18.9s,MS4.0,baz=351,slow=37
CRVS Cervenica-Dubn 71.63 323 *e*P **P 22 33 15.2 -0.3**
BSEG Bad Segeberg 71.65 332 *e*P **P 22 33 15.2 -0.3**
BSEG pmax pmax
comp=Z,12nm,1.1s,mb4.7
BSEG Bad Segeberg 71.65 332 *e*P **P 22 33 15.2 -0.3**
comp=Z,12nm,1.1s,mb4.7
VRI Vrincioaia 71.66 318 ⇑*i*P **P 22 33 17.7 +1.9**
VRI Vrincioaia 71.66 318 ⇑P **P 22 33 17.7 +1.9**
NIE Niedzica 71.70 324 *e*P **P 22 33 16.6 +0.7**
PLOR Plostina 71.71 318 ⇑*i*P **P 22 33 17.1 +1.1**
UMR Umm Al-Rimmam 71.77 294 *e*P **P 22 33 15.1 -1.6**
baz=294
UMR AMb AMB 22 33 16.5
comp=Z,30nm,0.7s,mb5.3,baz=294
MIB Mutribah 71.84 294 *e*P **P 22 33 15.3 -1.8**
baz=294
MIB AMb AMB 22 33 16.6
comp=Z,32nm,0.8s,mb5.3,baz=294
OKC Ostrava-Krasne 72.22 326 *e*P **P 22 33 20.0 +0.9**
OKC *e*pP pP 22 33 21.9 -0.8
NAY Al-Naaiem 72.28 294 *e*P **P 22 33 17.8 -1.9**
baz=294
NAY AMb AMB 22 33 18.7
comp=Z,11nm,0.7s,mb4.9,baz=294
MLR Muntele Rosu 72.31 318 ⇓*i*P **P 22 33 20.0 +0.4**
MLR Muntele Rosu 72.31 318 ⇓P **P 22 33 20.1 +0.4**
RDF Al-Radifah 72.31 293 *e*P **P 22 33 18.6 -1.3**
baz=293
RDF AMb AMB 22 33 19.6
comp=Z,24nm,0.7s,mb5.2,baz=293
MSU Marysvale 72.50 52 *e*P **P 22 33 21.3 +0.4**
UPC Upice 72.50 327 *e*P **P 22 33 21.5 +0.8**
UPC *e*pP pP 22 33 23.7 -0.6
MORC Moravsky Berou 72.51 326 *e*P **P 22 33 20.8 +0.1**
MORC pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MORC Moravsky Berou 72.51 326 ⇓*i*P **P 22 33 21.2 +0.5**
MORC Moravsky Berou 72.51 326 *e*P **P 22 33 20.8 +0.1**
comp=Z,8.7nm,0.9s,mb4.7
DPC Dobruska-Polom 72.51 327 *e*P **P 22 33 21.1 +0.3**
DPC *e*pP pP 22 33 24.0 -0.4
RSSD Black Hills 72.53 44 *e*P **P 22 33 20.3 -0.7**
RSSD pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
RSSD Black Hills 72.53 44 *e*P **P 22 33 20.2 -0.7**
comp=Z,4.2nm,0.9s,mb4.4
DRGR 72.75 321 ⇓*i*P **P 22 33 22.3 +0.1**
DRGR 72.75 321 ⇓P **P 22 33 22.3 +0.1**
VOIR 72.76 319 ⇓*i*P **P 22 33 22.8 +0.5**
VOIR 72.76 319 ⇓P **P 22 33 22.8 +0.5**
CLL Collm 72.94 329 ⇑*i*P **P 22 33 22.7 -0.6**
CLL *i* pP 22 33 25.1 -1.8
CLL *i* pP 22 33 26.5 -0.4
CLL pmax pmax
comp=Z,11nm,0.7s,mb4.9
CLL Collm 72.94 329 *e*P **P 22 33 22.4 -0.9**
comp=Z,11nm,0.7s,mb4.9
CLL Collm 72.94 329 ⇑*i*P **P 22 33 22.7 -0.6**
comp=Z,11nm,0.7s,mb4.9
CLL *i* pP pP 22 33 25.1 -1.8

CLL *i* sP sP 22 33 26.5 -1.7
CLL *e*PcP PcP 22 33 40.0 -0.2
CLL LmH 23 01 00.0
comp=N,100nm,20.9s
CLL LmH 23 01 00.0
comp=E,200nm,20.0s
CLL LmV 23 08 00.0
comp=Z,100nm,19.7s
CLL Collm 72.94 329⇑*i*P P 22 33 22.7 -0.6
comp=Z,11nm,0.7s,mb4.9
CLL *i* pP 22 33 25.1 -1.8
BRG Berggiesshubel 72.96 328 *e*P P 22 33 23.1 -0.3
BRG *e* pP 22 33 25.3 -1.8
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRG Berggiesshubel 72.96 328 *e*P P 22 33 23.0 -0.4
comp=Z,9.0nm,1.4s,mb4.5
BRG Berggiesshubel 72.96 328 *e*P P 22 33 23.1 -0.4
comp=Z,3.7nm,0.9s,mb4.3
BRG *e* pP 22 33 25.3 -1.7
comp=Z,9.0nm,1.3s
PVCC Panska Ves 73.02 328 *e*P P 22 33 24.2 +0.4
VYHS Vyhne 73.02 324 *i*P P 22 33 23.9 +0.1
VYHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
VYHS Vyhne 73.02 324 *i*P P 22 33 23.9 +0.1
comp=Z,3.0nm,0.9s,mb4.2
PSZ Piszkesteto 73.05 323⇓*i*P P 22 33 25.0 +1.0
PSZ Piszkesteto 73.05 323 ⇓P P 22 33 25.0 +1.0
KOLL Kolacno 73.13 325 *i*P P 22 33 24.5 0.0
VRAC Vranov 73.25 326 P P 22 33 25.5 +0.3
comp=Z,3.8nm,0.7s,mb4.4,baz=39,slow=5.9,SNR=6.2
VRAC Vranov 73.25 326 P P 22 33 25.5 +0.3
VRAC pmax pmax
comp=Z,4.0nm,0.7s
VRAC Vranov 73.25 326⇑*i*P P 22 33 25.7 +0.5
VRAC Vranov 73.25 326 ⇑P P 22 33 25.7 +0.5
CLZ Clausthal 73.39 331 *e*P P 22 33 26.2 +0.3
CLZ pmax pmax
comp=Z,12nm,0.8s,mb4.9
CLZ Clausthal 73.39 331 *e*P P 22 33 26.2 +0.3
comp=Z,12nm,0.8s,mb4.9
PRU Pruhonice 73.47 328 *e*P P 22 33 26.7 +0.3
PRU *e*pP pP 22 33 30.4 +0.3
TREC Trest 73.68 327 *e*P P 22 33 28.0 +0.3
IBBN Ibbenburen 73.85 333 *e*P P 22 33 28.3 -0.3
comp=Z,14nm,1.0s,mb4.8
WERD Werda 73.90 329 *e*P P 22 33 28.8 -0.1
comp=Z,19nm,1.7s,mb4.8
GUNZ Gunzen 73.96 329 *e*P P 22 33 29.0 -0.3
comp=Z,10.0nm,1.4s,mb4.5
MOX Moxa 73.97 330 *e*P P 22 33 29.2 -0.2
comp=Z,25nm,1.8s,mb4.8
MOX Moxa 73.97 330 *e*P P 22 33 29.2 -0.2
MOX pmax pmax
comp=Z,25nm,1.8s,mb4.8
MOX Moxa 73.97 330 *e*P P 22 33 29.1 -0.3
comp=Z,12nm,1.4s,mb4.6
WERN Wernitzgruen 74.00 329 *e*P P 22 33 29.0 -0.6
comp=Z,8.0nm,0.9s,mb4.7
NKC Novy Kostel 74.03 329 *e*P P 22 33 30.0 +0.3
BZS Buzias 74.14 321⇑*i*P P 22 33 29.9 -0.6
BZS Buzias 74.14 321 ⇑P P 22 33 29.9 -0.6
EKA Eskdalemuir Ar 74.17 340 P P 22 33 31.1 +0.6
comp=Z,1.3nm,0.6s,mb4.0,baz=16,slow=5.1,SNR=6.6
PV10 Paradox Valley 74.28 50 *e*P P 22 33 32.4 +1.0
ROTZ Rotzenmuhle 74.50 329 *e*P P 22 33 32.5 0.0
comp=Z,4.0nm,1.0s,mb4.3
KHC Kasperske Hory 74.53 328 *e*P P 22 33 33.0 +0.3
KHC *e*pP pP 22 33 35.6 -0.7
CONA Conrad Observa 74.66 326⇓*i*P P 22 33 34.1 +0.7
comp=Z,20nm,1.8s,mb4.7,SNR=9.0
CONA Conrad Observa 74.66 326⇓*i*pP pP 22 33 34.1 -3.0
comp=Z,20nm,1.8s,SNR=9.0
CSNA Conrad Observa 74.66 326⇑*i*P P 22 33 34.1 +0.7
comp=Z,18nm,1.8s,mb4.7
CSNA Conrad Observa 74.66 326⇑*i*pP pP 22 33 34.1 -2.9
comp=Z,18nm,1.8s
GEC2 GERESS Array S 74.72 327 *e*P P 22 33 33.4 -0.4
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GEC2 GERESS Array S 74.72 327 *e*P P 22 33 33.4 -0.4
comp=Z,5.0nm,0.9s,mb4.4
GERES GERESS Array B 74.17 340 P P 22 33 33.9 +0.1
comp=Z,2.0nm,0.6s,mb4.2,baz=38,slow=5.5,SNR=30
GERES LR LR 23 08 19.1
comp=Z,159nm,19.9s,MS4.3,baz=292,slow=37
WET Wettzell 74.78 328 *e*P P 22 33 34.3 +0.2
WET pmax pmax
comp=Z,36nm,1.7s,mb5.0
WET Wettzell 74.78 328 *e*P P 22 33 34.3 +0.2
comp=Z,36nm,1.7s,mb5.0
GRA1 Grafenberg Arr 74.91 329 *e*P P 22 33 34.8 -0.1
comp=Z,18nm,0.9s,mb5.0
GRF Grafenberg Arr 74.91 329 *e*P P 22 33 34.8 -0.1
GRF pmax pmax
comp=Z,18nm,0.9s,mb5.0
GRF Grafenberg Arr 74.91 329 *e*P P 22 33 34.8 -0.1
GRF pmax pmax
comp=Z,18nm,0.9s,mb5.0
GRF Grafenberg Arr 74.91 329 *e*P P 22 33 34.8 -0.1
comp=Z,18nm,0.9s,mb5.0
PKSM Moragy 74.93 323⇑*i*P P 22 33 34.5 -0.5
PKSM Moragy 74.93 323 ⇑P P 22 33 34.5 -0.5
TNS Taunus Mts 75.41 331 *e*P P 22 33 37.4 -0.3
TNS pmax pmax
comp=Z,12nm,1.4s,mb4.6
TNS Taunus Mts 75.41 331 *e*P P 22 33 37.4 -0.3
comp=Z,12nm,1.4s,mb4.6
TOD Tromm 75.82 331 *e*P P 22 33 40.4 +0.3
MEM Membach 75.87 333 P P 22 33 40.7 +0.4
SOKA Soboth 76.00 325⇑*i*P P 22 33 41.1 -0.1
comp=Z,16nm,1.1s,mb4.8
SOKA Soboth 76.00 325⇑*i*pP pP 22 33 41.1 -3.7
comp=Z,16nm,1.1s
SCHQ Schefferville 76.01 17 P P 22 33 40.5 -0.5
comp=Z,4.8nm,0.7s,mb4.5,baz=348,slow=7.7,SNR=4.9
PERS Pernice 76.01 325 *i*P P 22 33 41.6 +0.4
FUR Furstenfeldbru 76.18 328 *e*P P 22 33 42.0 -0.1
FUR pmax pmax
comp=Z,30nm,1.1s,mb5.1
FUR Furstenfeldbru 76.18 328 *e*P P 22 33 42.0 -0.1
comp=Z,30nm,1.1s,mb5.1
ECSD EROS,Sioux Fal 76.22 39 *e*P P 22 33 41.5 -1.0
comp=Z,19nm,1.6s,mb4.8
BCLA Clavier 76.25 333 P P 22 33 41.6 -0.9
RUP Ruppelstein 76.32 332 *e*P P 22 33 46.2 +3.3
KBA Koelnbreinsper 76.32 327⇑*i*P P 22 33 43.5 +0.5
comp=Z,45nm,1.4s,mb5.2
KBA Koelnbreinsper 76.32 327⇑*i*pP pP 22 33 43.5 -3.2
comp=Z,45nm,1.4s
KBA Koelnbreinsper 76.32 327⇑*i*P P 22 33 43.5 +0.5
KBA pmax pmax
comp=Z,45nm,1.4s,mb5.2
STU Stuttgart 76.40 330 *e*P P 22 33 43.5 +0.1
comp=Z,14nm,0.9s,mb4.9
ASF Jabal al Asfar 76.48 303 P P 22 33 44.1 0.0
comp=Z,3.9nm,0.7s,mb4.4,baz=313,slow=6.1,SNR=8.1
GIVF Givet 76.68 333 *e*P P 22 33 44.4 -0.6
DOU Dourbes 76.76 333 P P 22 33 44.9 -0.5
WATA Walderalm 76.77 328⇑*i*P P 22 33 45.5 0.0
comp=Z,12nm,0.9s,mb4.8,SNR=11
WATA Walderalm 76.77 328⇑*i*pP pP 22 33 45.5 -3.7
comp=Z,12nm,0.9s,SNR=11
WATA Walderalm 76.77 328⇑*i*P P 22 33 45.5 0.0
WATA pmax pmax
comp=Z,12nm,0.9s,mb4.8
WATA Walderalm 76.77 328⇑*i*P P 22 33 45.5 0.0
comp=Z,12nm,0.9s,mb4.8
VISS Visnje 76.80 325 *i*P P 22 33 45.2 -0.5
WTTA Wattenberg 76.81 328⇓*i*P P 22 33 46.1 +0.4
comp=Z,22nm,1.2s,mb5.0,SNR=7.2
WTTA Wattenberg 76.81 328⇓*i*pP pP 22 33 46.1 -3.3
comp=Z,22nm,1.2s,SNR=7.2
WTTA Wattenberg 76.81 328⇓*i*P P 22 33 46.1 +0.4
WTTA pmax pmax
comp=Z,22nm,1.2s,mb5.0
BOJS Bojanci 76.89 325 *i*P P 22 33 45.9 -0.3
BAIF Baives 76.91 334 *e*P P 22 33 45.6 -0.6
MOTA Moosalm 76.93 328⇓*i*P P 22 33 46.6 +0.1
comp=Z,15nm,0.8s,mb5.0,SNR=14
MOTA Moosalm 76.93 328⇓*i*pP pP 22 33 46.6 -3.5
comp=Z,15nm,0.8s,SNR=14
MOTA Moosalm 76.93 328⇓*i*P P 22 33 46.6 +0.2
MOTA pmax pmax
comp=Z,15nm,0.8s,mb5.0

JAVS Javornik 77.03 325 *i*P P 22 33 46.1 -0.9
BFO Black Forest 77.07 330 *e*P P 22 33 46.9 -0.3
BFO pmax pmax
comp=Z,12nm,1.1s,mb4.7
BFO Black Forest 77.07 330 *e*P P 22 33 46.9 -0.3
comp=Z,12nm,1.1s,mb4.7
SPAK Spaichingen-Ko 77.11 330 *e*P P 22 33 48.0 +0.6
FETA Feichten 77.34 328⇑*i*P P 22 33 49.1 +0.4
comp=Z,11nm,1.0s,mb4.8,SNR=12
FETA Feichten 77.34 328⇑*i*pP pP 22 33 49.1 -3.3
comp=Z,11nm,1.0s,SNR=12
CDF Champ du Feu 77.36 331⇑*i*P P 22 33 48.5 -0.3
comp=Z,34nm,1.1s,mb4.9
CDF Champ du Feu 77.36 331⇑*i*P P 22 33 48.5 -0.3
CDF pmax pmax
comp=Z,17nm,1.1s,mb4.9
CDF Champ du Feu 77.36 331⇑*i*P P 22 33 48.5 -0.3
comp=Z,17nm,1.1s,mb4.9
DAVA Damuels 77.42 329⇑*i*P P 22 33 49.3 +0.1
comp=Z,19nm,1.0s,mb5.0,SNR=11
DAVA Damuels 77.42 329⇑*i*pP pP 22 33 49.3 -3.6
comp=Z,19nm,1.0s,SNR=11
ECH Echery 77.57 331 *e*P P 22 33 49.9 -0.1
ECH Echery 77.57 331 *e*P P 22 33 49.4 -0.6
ECH *e*pP pP 22 33 52.6 -1.0
FELD Feldberg im Sc 77.58 330 *e*P P 22 33 50.3 +0.3
DAVOS Davos 77.84 329 P P 22 33 51.2 -0.3
DAVOX Davos/Dischmat 77.86 328 P P 22 33 51.2 -0.4
comp=Z,4.8nm,0.8s,mb4.5,baz=24,slow=6.7,SNR=7.4
THEF They Montfort 77.95 332 *e*P P 22 33 52.3 +0.2
MEZF Maizieres J'vi 78.01 332 *e*P P 22 33 52.4 0.0
comp=Z,70nm,1.4s,mb5.1
MEZF Maizieres J'vi 78.01 332 *e*P P 22 33 52.4 0.0
comp=Z,70nm,1.4s,mb5.4
HINF Hinteralfeld 78.02 331⇑*i*P P 22 33 51.7 -0.8
HAU Haudompre 78.02 331 *e*P P 22 33 51.9 -0.6
comp=Z,12nm,0.8s,mb4.6
HAU Haudompre 78.02 331 *e*P P 22 33 51.9 -0.6
HAU pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
HAU Haudompre 78.02 331 *e*P P 22 33 51.9 -0.6
comp=Z,5.9nm,0.8s,mb4.6
STKA Stephens Creek 78.18 180 P P 22 33 52.5 -0.8
comp=Z,2.4nm,1.0s,mb4.1,baz=95,slow=11,SNR=2.7
ANMO Albuquerque 78.22 51 *e*P P 22 33 54.5 +0.7
BNM Barren Site 78.73 52 *e*P P 22 33 57.1 +0.4
FLN La Foliniere 79.45 336⇑*i*P P 22 33 59.7 -0.7
comp=Z,28nm,1.0s,mb4.8
FLN La Foliniere 79.45 336⇑*i*P P 22 33 59.7 -0.7
FLN pmax pmax
comp=Z,14nm,1.0s,mb4.8
FLN La Foliniere 79.45 336⇑*i*P P 22 33 59.7 -0.7
comp=Z,14nm,1.0s,mb4.8
LOR Lormes 79.48 332⇑*i*P P 22 33 59.8 -0.7
comp=Z,37nm,0.9s,mb5.0
LOR Lormes 79.48 332⇑*i*P P 22 33 59.8 -0.7
LOR pmax pmax
comp=Z,18nm,0.9s,mb5.0
LOR Lormes 79.48 332⇑*i*P P 22 33 59.8 -0.7
comp=Z,18nm,0.9s,mb5.0
LDF La Druitiere 79.50 335 *e*P P 22 34 01.2 +0.6
comp=Z,31nm,1.2s,mb4.8
LDF La Druitiere 79.50 335 *e*P P 22 34 01.2 +0.6
LDF pmax pmax
comp=Z,16nm,1.2s,mb4.8
LDF La Druitiere 79.50 335 *e*P P 22 34 01.2 +0.6
comp=Z,16nm,1.2s,mb4.8
SSF Saint Saulge 79.77 332⇑*i*P P 22 34 01.5 -0.6
comp=Z,12nm,0.8s,mb4.6
SSF Saint Saulge 79.77 332⇑*i*P P 22 34 01.5 -0.6
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SSF Saint Saulge 79.77 332⇑*i*P P 22 34 01.5 -0.6
comp=Z,6.3nm,0.8s,mb4.6
HYF Humbligny 79.86 333 *e*P P 22 34 02.4 -0.2
GRR Gorron 79.90 336⇑*i*P P 22 34 02.4 -0.4
comp=Z,37nm,1.0s,mb5.0
GRR Gorron 79.90 336⇑*i*P P 22 34 02.4 -0.4
GRR pmax pmax
comp=Z,19nm,1.0s,mb5.0
GRR Gorron 79.90 336⇑*i*P P 22 34 02.4 -0.4
comp=Z,18nm,1.0s,mb5.0
SMF Signal de Mont 80.03 332⇑*i*P P 22 34 03.0 -0.6
comp=Z,47nm,1.0s,mb5.1
SMF Signal de Mont 80.03 332⇑*i*P P 22 34 03.0 -0.6
SMF pmax pmax
comp=Z,23nm,1.0s,mb5.1
SMF Signal de Mont 80.03 332⇑*i*P P 22 34 03.0 -0.6
comp=Z,23nm,1.0s,mb5.1
LPL La Plagne 80.06 330⇑*i*P P 22 34 03.9 +0.2
comp=Z,20nm,0.8s,mb4.8
LPL La Plagne 80.06 330⇑*i*P P 22 34 03.9 +0.2
LPL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LPL La Plagne 80.06 330⇑*i*P P 22 34 03.9 +0.2
comp=Z,10nm,0.8s,mb4.8
AVF Avril sur Loir 80.06 332⇑*i*P P 22 34 03.3 -0.4
comp=Z,58nm,1.2s,mb5.1
AVF Avril sur Loir 80.06 332⇑*i*P P 22 34 03.3 -0.4
AVF pmax pmax
comp=Z,29nm,1.2s,mb5.1
AVF Avril sur Loir 80.06 332⇑*i*P P 22 34 03.3 -0.4
comp=Z,29nm,1.2s,mb5.1
LPG La Plagne 80.07 330⇑*i*P P 22 34 04.0 +0.2
comp=Z,37nm,0.9s,mb5.0
LPG La Plagne 80.07 330⇑*i*P P 22 34 04.0 +0.2
LPG pmax pmax
comp=Z,19nm,0.9s,mb5.0
LPG La Plagne 80.07 330⇑*i*P P 22 34 04.0 +0.2
comp=Z,19nm,0.9s,mb5.0
BGF Bois d'Agland 80.43 333 *e*P P 22 34 05.2 -0.5
comp=Z,21nm,1.1s,mb4.7
BGF Bois d'Agland 80.43 333 *e*P P 22 34 05.2 -0.5
BGF pmax pmax
comp=Z,11nm,1.1s,mb4.7
BGF Bois d'Agland 80.43 333 *e*P P 22 34 05.2 -0.5
comp=Z,11nm,1.1s,mb4.7
BNI Bardonecchia 80.48 330 *e*P P 22 34 05.9 -0.1
BNI *e*PP pP 22 34 09.1 -0.6
BNI pmax pmax
comp=Z,11nm,1.0s,mb4.7
BNI Bardonecchia 80.48 330 *e*P P 22 34 05.8 -0.1
comp=Z,12nm,1.0s,mb4.8
BNI *e*pP pP 22 34 09.1 -0.6
SGMF Saint Gilles 80.49 337 *e*P P 22 34 05.1 -0.9
comp=Z,56nm,1.3s,mb5.0
SGMF Saint Gilles 80.49 337 *e*P P 22 34 05.1 -0.9
SGMF pmax pmax
comp=Z,28nm,1.3s,mb5.0
SGMF Saint Gilles 80.49 337 *e*P P 22 34 05.1 -0.9
comp=Z,28nm,1.3s,mb5.0
ROSF Rostrenen 80.61 337 *e*P P 22 34 06.6 0.0
comp=Z,30nm,0.9s,mb4.9
ROSF Rostrenen 80.61 337 *e*P P 22 34 06.6 0.0
ROSF pmax pmax
comp=Z,15nm,0.9s,mb4.9
ROSF Rostrenen 80.61 337 *e*P P 22 34 06.6 0.0
comp=Z,15nm,0.9s,mb4.9
PLDF La Plantade 80.70 332 *e*P P 22 34 07.4 +0.2
MBDF Montbardon 80.73 329 *e*P P 22 34 06.7 -0.6
comp=Z,25nm,1.1s,mb4.8
MBDF Montbardon 80.73 329 *e*P P 22 34 06.7 -0.6
MBDF pmax pmax
comp=Z,12nm,1.1s,mb4.7
MBDF Montbardon 80.73 329 *e*P P 22 34 06.7 -0.6
comp=Z,12nm,1.1s,mb4.8
AGO Saint Agoulin 80.79 332 *e*P P 22 34 08.1 +0.5
TCF Toulx Ste Croi 80.87 333⇑*i*P P 22 34 07.8 -0.3
comp=Z,23nm,1.0s,mb4.8
TCF Toulx Ste Croi 80.87 333⇑*i*P P 22 34 07.8 -0.3
TCF pmax pmax
comp=Z,12nm,1.0s,mb4.8
TCF Toulx Ste Croi 80.87 333⇑*i*P P 22 34 07.8 -0.3
comp=Z,12nm,1.0s,mb4.8
ORIF Oris-en-Rattie 80.87 330 *e*P P 22 34 08.0 -0.1
comp=Z,19nm,0.8s,mb4.8
ORIF Oris-en-Rattie 80.87 330 *e*P P 22 34 08.0 -0.1
ORIF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 80.87 330 *e*P P 22 34 08.0 -0.1
comp=Z,9.3nm,0.8s,mb4.8
QUIF Quistinic 80.96 337 *e*P P 22 34 08.2 -0.3
comp=Z,21nm,0.9s,mb4.8
QUIF Quistinic 80.96 337 *e*P P 22 34 08.2 -0.3
QUIF pmax pmax
comp=Z,11nm,0.9s,mb4.8

QUIF Quistinic 80.96 337 *e*P P 22 34 08.2 -0.3
comp=Z,11nm,0.9s,mb4.8
SSB Saint Sauveur 81.01 331 *e*P P 22 34 08.8 0.0
SSB *e*PP pP 22 34 11.8 -0.7
SAOF Saorge 81.09 328 *e*P P 22 34 10.7 +1.4
PYM Petit Puy Mans 81.10 332 *e*P P 22 34 09.5 +0.2
TOUF Mont Tournerai 81.18 329 *e*P P 22 34 09.5 -0.3
SBF Sospel 81.25 328 *e*P P 22 34 09.0 -1.1
LUCF Luceram 81.25 329 *e*P P 22 34 09.9 -0.2
MNTX Cornudas Mount 81.27 53 *e*P P 22 34 10.6 +0.1
comp=Z,3.3nm,1.1s,mb4.2
MFF Saint Martin d 81.31 335⇑*i*P P 22 34 10.3 -0.1
comp=Z,36nm,0.9s,mb5.0
MFF Saint Martin d 81.31 335⇑*i*P P 22 34 10.3 -0.1
MFF pmax pmax
comp=Z,18nm,0.9s,mb5.0
MFF Saint Martin d 81.31 335⇑*i*P P 22 34 10.3 -0.1
comp=Z,18nm,0.9s,mb5.0
VIVF Saint-Julien-l 81.34 331⇑*i*P P 22 34 10.4 -0.2
comp=Z,16nm,0.8s,mb4.7
VIVF Saint-Julien-l 81.34 331⇑*i*P P 22 34 10.4 -0.2
VIVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
VIVF Saint-Julien-l 81.34 331⇑*i*P P 22 34 10.4 -0.2
comp=Z,8.3nm,0.8s,mb4.7
FRF La Foret Royal 81.79 329 *e*P P 22 34 12.0 -1.0
PGF Pioggiola 81.80 327 *e*P P 22 34 12.5 -0.6
comp=Z,28nm,1.1s,mb4.8
PGF Pioggiola 81.80 327 *e*P P 22 34 12.5 -0.6
PGF pmax pmax
comp=Z,14nm,1.1s,mb4.8
PGF Pioggiola 81.80 327 *e*P P 22 34 12.5 -0.6
comp=Z,14nm,1.1s,mb4.8
SMRF Simiane la Rot 81.80 330 *e*P P 22 34 12.7 -0.4
RJF Les Rejaudoux 81.97 333⇑*i*P P 22 34 13.8 -0.1
comp=Z,25nm,1.1s,mb4.8
RJF Les Rejaudoux 81.97 333⇑*i*P P 22 34 13.8 -0.1
RJF pmax pmax
comp=Z,13nm,1.1s,mb4.8
RJF Les Rejaudoux 81.97 333⇑*i*P P 22 34 13.8 -0.1
comp=Z,13nm,1.1s,mb4.8
LMR La Mourre 82.04 329⇑*i*P P 22 34 13.5 -0.8
comp=Z,30nm,1.1s,mb4.8
LMR La Mourre 82.04 329⇑*i*P P 22 34 13.5 -0.8
LMR pmax pmax
comp=Z,15nm,1.1s,mb4.8
LMR La Mourre 82.04 329⇑*i*P P 22 34 13.5 -0.8
comp=Z,15nm,1.1s,mb4.8
CAF Calviac 82.13 332⇑*i*P P 22 34 15.1 +0.3
comp=Z,43nm,1.3s,mb4.9
CAF Calviac 82.13 332⇑*i*P P 22 34 15.1 +0.3
CAF pmax pmax
comp=Z,22nm,1.3s,mb4.9
CAF Calviac 82.13 332⇑*i*P P 22 34 15.1 +0.3
comp=Z,22nm,1.3s,mb4.9
LASF Ste Croix 82.30 331 *e*P P 22 34 15.7 0.0
LFF La Frestale 82.54 333⇑*i*P P 22 34 17.1 +0.2
comp=Z,31nm,0.9s,mb5.0
LFF La Frestale 82.54 333⇑*i*P P 22 34 17.1 +0.2
LFF pmax pmax
comp=Z,16nm,0.9s,mb5.0
LFF La Frestale 82.54 333⇑*i*P P 22 34 17.1 +0.2
comp=Z,16nm,0.9s,mb5.0
MTLF Montolieu 83.50 332⇑*i*P P 22 34 22.0 +0.1
comp=Z,7.6nm,0.8s,mb4.5
MTLF Montolieu 83.50 332⇑*i*P P 22 34 22.0 +0.1
MTLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MTLF Montolieu 83.50 332⇑*i*P P 22 34 22.0 +0.1
comp=Z,3.8nm,0.8s,mb4.5
TXAR Lajitas Array 84.03 53 P P 22 34 25.0 +0.1
comp=Z,5.7nm,1.0s,mb4.7,baz=290,slow=3.6,SNR=28
EJON La Jonquera 84.07 331 P P 22 34 24.8 0.0
comp=Z,7.0nm,0.9s,mb4.8
MLS Moulis 84.21 332 *e*P P 22 34 26.2 +0.7
EPF Esparros 84.38 333⇑*i*P P 22 34 25.9 -0.5
comp=Z,21nm,1.0s,mb4.9
EPF Esparros 84.38 333⇑*i*P P 22 34 25.9 -0.5
EPF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
EPF Esparros 84.38 333⇑*i*P P 22 34 25.9 -0.5
comp=Z,10nm,1.0s,mb4.9
VALF Valcebollere 84.41 331 *e*P P 22 34 27.6 +1.1
EBIE Bielsa 84.75 333 P P 22 34 29.7 +1.3
comp=Z,5.9nm,0.9s,mb4.7
ETSF Etsaut 84.78 333 *e*P P 22 34 29.0 +0.6
comp=Z,34nm,1.0s,mb5.1
ETSF Etsaut 84.78 333 *e*P P 22 34 29.0 +0.6
ETSF pmax pmax
comp=Z,17nm,1.0s,mb5.1
ETSF Etsaut 84.78 333 *e*P P 22 34 29.0 +0.6
comp=Z,17nm,1.0s,mb5.1
SJPF Ste Jean 84.79 334 *e*P P 22 34 28.8 +0.3
EMIR Miracle 85.00 331 P P 22 34 29.4 -0.2
comp=Z,13nm,0.8s,mb5.1
ELAN Lanestosa 85.34 335 P P 22 34 31.4 +0.1
comp=Z,14nm,0.8s,mb5.2
EPOB Poblet 85.66 331 P P 22 34 33.0 +0.1
comp=Z,13nm,0.7s,mb5.3
ESAC San Caprasio 85.82 333 P P 22 34 34.9 +1.2
comp=Z,34nm,0.7s,mb5.7
EPON Pontenova 86.27 338 P P 22 34 35.9 0.0
comp=Z,9.2nm,0.7s,mb5.1
ETOS Mallorca 86.48 330 P P 22 34 38.4 +1.4
comp=Z,10nm,0.8s,mb5.1
ETOR Torete 87.14 333 P P 22 34 40.6 +0.5
ETOR pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
ETOR Torete 87.14 333 P P 22 34 40.6 +0.5
comp=Z,8.1nm,0.9s,mb5.0
ERUA La Rua 87.14 338 P P 22 34 39.8 -0.3
ERUA pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
ERUA La Rua 87.14 338 P P 22 34 39.8 -0.4
comp=Z,3.6nm,0.6s,mb4.8
KEST Kesra 87.53 323 P P 22 34 41.3 -0.8
comp=Z,2.0nm,0.8s,mb4.4,baz=334,slow=6.2,SNR=5.5
KEST LR LR 23 19 18.4
comp=Z,58nm,18.1s,MS4.0,baz=213,slow=39
MVO Moncorvo 88.25 337 *e*P P 22 34 45.2 -0.3
comp=Z,12nm,1.2s,mb5.0
TAOE Nuku Hiva Isla 88.26 105 *e*LR LR 23 02 46.5
comp=Z,1µm,26.2s
PPT Papeete 88.73 117 *e*LR LR 23 03 02.6
comp=Z,156nm,24.8s
ESDC Sonseca Array 88.77 334 P P 22 34 47.9 0.0
comp=Z,5.1nm,0.8s,mb4.9,baz=18,slow=4.1,SNR=36
ESDC Sonseca Array 88.77 334 P P 22 34 47.8 -0.1
comp=Z,3.4nm,0.6s,mb4.8
ESLA Sonseca Array 88.77 334 *e*P P 22 34 47.6 -0.3
comp=Z,1.5nm,0.8s,mb4.4
PVIS Viseu 88.91 337 *e*P P 22 34 48.0 -0.6
comp=Z,12nm,0.9s,mb5.2
PAB San Pablo 89.00 335 *e*P P 22 34 48.7 -0.3
PAB pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
PAB San Pablo 89.00 335 *e*P P 22 34 48.7 -0.3
comp=Z,4.5nm,0.8s,mb4.8
MTE Manteigas 89.11 337 *e*P P 22 34 49.6 +0.1
comp=Z,17nm,0.8s,mb5.4
EVIA Vianos 89.27 333 P P 22 34 51.0 +0.7
EVIA pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
EVIA Vianos 89.27 333 P P 22 34 51.0 +0.7
comp=Z,5.7nm,0.6s,mb5.1
PCBR Castelo Branco 89.61 337 *e*P P 22 34 51.5 -0.4
comp=Z,8.9nm,2.4s,mb4.7
EBAN Banos Encina 90.10 334 P P 22 34 54.4 +0.2
EBAN pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
EBAN Banos Encina 90.10 334 P P 22 34 54.4 +0.2
comp=Z,2.7nm,0.5s,mb4.8
EADA Adamuz 90.34 334 P P 22 34 56.2 +0.9
comp=Z,5.6nm,0.9s,mb4.9
ELUQ Luque 90.81 334 P P 22 34 57.7 +0.2
ELUQ pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
ELUQ Luque 90.81 334 P P 22 34 57.7 +0.2
comp=Z,3.5nm,0.7s,mb4.8
ELOJ Sierra Loja 91.15 333 P P 22 34 58.6 -0.5
ELOJ pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
ELOJ Sierra Loja 91.15 333 P P 22 34 58.6 -0.5
comp=Z,2.3nm,0.6s,mb4.7
ERON Agron 91.16 333 P P 22 34 58.0 -1.1
TORD Torodi Ar. Bea 110.55 318 PKiKP PKiKP 22 40 24.6 -2.5
comp=Z,0.3nm,0.7s,baz=23,slow=1.7,SNR=2.6

TORD				PP	PP		22 40 59.4	-2.8
	comp=Z,1.7nm,0.9s,baz=14,slow=7.8,SNR=6.6							
LPAZ	**La Paz**	**140.81**	**49**	PKP	PKPdf		22 41 24.4	+0.1
	comp=Z,0.7nm,0.8s,baz=18,slow=6.4,SNR=3.6							
BDFB	**Brasilia**	**147.99**	**18**	PKPbc	PKPbc		22 41 39.2	-0.7
	comp=Z,1.6nm,0.6s,baz=214,slow=23,SNR=4.2							
BDFB	**Brasilia**	**147.99**	**18**	PKP2	PKPab		22 41 39.2	-3.3
BDFB				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SNAA	**Sanae**	**149.95**	**201**	*e*PKPdf	PKPdf		22 41 41.7	+3.4
SNAA				*e*			22 41 48.5	
SNAA				*e*			22 41 51.5	
SNAA	**Sanae**	**149.95**	**201**	PKPbc	PKPbc		22 41 42.3	-0.9
	comp=Z,0.9nm,0.9s,baz=184,slow=3.0,SNR=14							
SNAA				PKPab	PKPab		22 41 48.6	-0.4
	comp=Z,2.5nm,0.6s,baz=186,slow=7.9,SNR=57							
VNA1	**Neumayer--Stat**	**151.96**	**201**	*e*PKPdf	PKPdf		22 41 50.2	+8.8
VNA1				*e*			22 41 57.4	
VNA1				*e*			22 41 59.8	

GUC 04 22:32:25.7±0.7, 3091S×7183W, h42km±16km, MD3.5, ML2.6, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.62**	**61**	*i* P	PKP	22 32 38.0	-0.1
OVCH				*i* S	Sn	22 32 48.1	+1.1
OVCH				AML	AML	22 32 48.3	
	comp=N,902nm,0.2s						
CMCH	**Combarbala**	**0.76**	**110**	⇑*i* P	Pn	22 32 40.2	+0.2
CMCH				*i* S	Sn	22 32 51.7	+1.4
CMCH				AML	AML	22 32 53.4	
	comp=N,632nm,0.3s						
CHNG	**Los Chungos**	**1.01**	**164**	⇑*i* P	Pn	22 32 44.0	+0.6
CHNG				*i* S	Sn	22 32 58.1	+1.7
TLL	**Tololo Astrono**	**1.15**	**50**	⇑*i* P	Pn	22 32 47.1	+1.8
TLL				*i* S	Sn	22 33 03.1	+3.1
TLL				AML	AML	22 33 09.2	
	comp=N,141nm,0.4s						

ISCJB ***04*** *23:47:51.8±0.7, 3082S±002×712W±0.1, h70km±7km, Error ellipse: s-maj=19.5km s-min=3.9km az=179.3*
NEIC ***04*** *23:47:52.1, 3082S×71.14W, h65km±2km, MG3.8(GUC), After GUC.*
GUC ***04*** *23:47:52.1±0.5, 3082S×71.14W, h65km±2km, MD3.6, ML3.8*

ISC 04 23:47:52.7±0.7, 3081S±002×713W±01, h64km±7km, n25, σ0§47/47, 14C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.21**	**14**	⇑*i* P	Pn	**23 48 02.5**	**-0.1**
OVCH				*i* S	Sn	**23 48 10.2**	**+0.3**
OVCH				AML	AML	23 48 11.5	
	comp=N,7μm,0.2s						
OVCH	**Ovalle**	**0.21**	**14**	⇑*i* P	Pn	**23 48 02.5**	**-0.1**
OVCH				*i* S	Sn	**23 48 10.2**	**+0.3**
CMCH	**Combarbala**	**0.42**	**149**	⇑*i* P	Pn	**23 48 03.5**	**-0.7**
CMCH				*i* S	Sn	**23 48 12.3**	**-0.4**
CMCH				AML	AML	23 48 13.4	
	comp=E,9μm,0.4s						
TLL	**Tololo Astrono**	**0.75**	**32**	⇑*i* P	Pn	**23 48 07.6**	**-0.1**
TLL				*i* S	Sn	**23 48 19.1**	**+0.3**
TLL				AML	AML	23 48 20.5	
	comp=N,3μm,0.4s						
TLL	**Tololo Astrono**	**0.75**	**32**	⇑*i* P	Pn	**23 48 07.6**	**-0.1**
TLL				*i* S	Sn	**23 48 19.1**	**+0.3**
LSCH	**La Serena**	**0.90**	**1**	*i* P	Pn	**23 48 09.2**	**-0.3**
LSCH				*i* S	Sn	**23 48 22.3**	**+0.3**
CHNG	**Los Chungos**	**1.09**	**191**	⇓*i* P	Pn	**23 48 11.7**	**-0.3**
CHNG				*i* S	Sn	**23 48 27.1**	**+0.6**
CHNG				AML	AML	23 48 29.0	
	comp=N,2μm,0.3s						
PTCH	**Petorca**	**1.48**	**169**	⇑*i* P	Pn	**23 48 16.5**	**-0.6**
PTCH				*i* S	Sn	**23 48 35.3**	**-0.3**
PTCH				AML	AML	23 48 37.0	
	comp=E,1μm,0.1s						
PTCH	**Petorca**	**1.48**	**169**	⇑*i* P	Pn	**23 48 16.5**	**-0.6**
PTCH				*i* S	Sn	**23 48 35.3**	**-0.3**
LCO	**Las Campanas**	**1.85**	**15**	P	Pn	**23 48 22.4**	**+0.2**
JACH	**Jahuel**	**1.95**	**163**	⇑*i* P	Pn	**23 48 23.4**	**-0.1**
JACH				*i* S	Sn	**23 48 46.8**	**-0.2**
ROCH	**El Roble**	**2.17**	**175**	*i* P	Pn	**23 48 26.9**	**+0.5**
ROCH				*i* S	Sn	**23 48 53.2**	**+1.0**
VACH	**Vallenar**	**2.27**	**11**	⇑*i* P	Pn	**23 48 27.7**	**-0.1**
VACH				*i* S	Sn	**23 48 54.7**	**0.0**
FCH	**Farellones**	**2.64**	**162**	⇓*i* P	Pn	**23 48 33.7**	**+0.8**
FCH				*i* S	Sn	**23 49 05.1**	**+1.3**
FCH				AML	AML	23 49 16.5	
	comp=N,418nm,0.2s						
CLCH	**Cerro Calan**	**2.65**	**167**	*e*P	Pn	**23 48 32.9**	**-0.2**
CLCH				*i* S	Sn	**23 49 03.6**	**-0.4**
CLCH				AML	AML	23 49 19.3	
	comp=E,594nm,0.4s						
ANTU	**Antumapu**	**2.80**	**169**	⇑*i* P	Pn	**23 48 34.7**	**-0.4**
ANTU				⇓*i* S	Sn	**23 49 07.2**	**-0.5**
ANTU				AML	AML	23 49 14.5	
	comp=E,631nm,0.3s						
ANTU	**Antumapu**	**2.80**	**169**	⇑*i* P	Pn	**23 48 34.7**	**-0.4**
ANTU				*i* S	Sn	**23 49 07.2**	**-0.5**
TACH	**Talagante**	**2.85**	**175**	⇑*i* P	Pn	**23 48 35.4**	**-0.3**
TACH				*i* S	Sn	**23 49 08.6**	**-0.2**
PCH	**Pirque**	**2.87**	**168**	⇓*i* P	Pn	**23 48 36.0**	**-0.1**
PCH				*i* S	Sn	**23 49 09.1**	**-0.3**
CHCH	**Chadas Angostu**	**3.16**	**171**	⇓*i* P	Pn	**23 48 39.5**	**-0.4**
CHCH				*i* S	Sn	**23 49 16.2**	**-0.2**
LMEL	**Las Melosas**	**3.16**	**164**	⇑*i* P	Pn	**23 48 40.5**	**+0.6**
LMEL				*i* S	Sn	**23 49 16.8**	**+0.4**
LMEL				AML	AML	23 49 26.0	
	comp=N,537nm,0.2s						
LMEL	**Las Melosas**	**3.16**	**164**	⇑*i* P	Pn	**23 48 40.5**	**+0.6**
LMEL				*i* S	Sn	**23 49 16.8**	**+0.4**
CACH	**El Canelo**	**3.34**	**171**	⇓*i* P	Pn	**23 48 42.6**	**+0.1**
CACH				*i* S	Sn	**23 49 21.7**	**+0.7**
CICH	**Cipreses**	**3.57**	**169**	*i* P	Pn	**23 48 45.6**	**0.0**
CICH				*i* S	Sn	**23 49 26.0**	**-0.5**
CDCH	**Caldera**	**3.74**	**6**	AML	AML	23 49 47.1	
	comp=E,117nm,0.4s						

CSEM ***05*** *00:00:35.1±0.9, 3851N×2687W, h0km±5km, ML2.5, Error ellipse: s-maj=6.1km s-min=2.2km az=34.0, After PDA*

PDA 05 00:00:35.1±0.9, 3851N×2687W, h0km±5km, MD3.6, ML2.5, Error ellipse: s-maj=6.1km s-min=2.2km az=34.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCM	**Serra do Cume**	**0.27**	**315**	*e*S	Sg	00 01 02.4	+19
PSCM				A		00 01 05.1	
	129nm,0.3s						
PSCM	**Serra do Cume**	**0.27**	**315**	*e*P	Pg	00 00 40.1	-0.2
PSCM				*e*S	Sg	00 00 44.5	+0.7
PSCM				A		00 00 49.8	
	277nm,0.3s						
PSCM	**Serra do Cume**	**0.27**	**315**	*e*P	Pg	00 00 40.1	-0.2
PSCM				*e*S	Sg	00 00 44.5	+0.7
ADH	**Angra Heroismo**	**0.32**	**297**	*e*P	Pg	00 00 40.9	-0.3
ADH				*e*S	Sg	00 00 45.3	-0.1
PMAN	**Manadas**	**0.96**	**278**	*e*P	Pg	00 00 50.4	-3.1
PMAN				*e*S	Sg	00 01 02.5	-3.5
PMAN				A		00 01 04.6	
	46nm,0.3s						
PMAN	**Manadas**	**0.96**	**278**	*e*P	Pg	00 00 50.4	-3.1
PMAN				*e*S	Sg	00 01 02.5	-3.5
ROSA	**Rosais**	**1.09**	**281**	*e*P	Pg	00 00 52.7	-3.4
ROSA				*e*S	Sg	00 01 06.3	-3.9
PDA	**Ponta Delgada**	**1.22**	**128**	*e*S	Sg	00 01 25.7	+11
PDA	**Ponta Delgada**	**1.22**	**128**	*e*P	Pg	00 00 54.6	-3.9
PDA				*e*S	Sg	00 01 09.1	-5.2
PICO	**Pico**	**1.22**	**270**	*e*P	Pg	00 00 54.8	-3.7
PICO				*e*S	Sg	00 01 09.3	-5.0
CMLA	**Cha da Macela**	**1.30**	**125**	*e*S	Sg	00 01 27.9	+11
CMLA				A		00 01 29.4	
	25nm,0.2s						
CMLA	**Cha da Macela**	**1.30**	**125**	*e*P	Pg	00 00 55.8	-4.2
CMLA				*e*S	Sg	00 01 10.8	-6.0
CMLA				A		00 01 12.8	
	59nm,0.2s						
CMLA	**Cha da Macela**	**1.30**	**125**	*e*P	Pg	00 00 55.8	-4.2
CMLA				*e*S	Sg	00 01 10.8	-6.0
CALA	**Caldeira**	**1.44**	**273**	*e*P	Pn	00 00 57.4	-5.0
CALA				*e*S	Sg	00 01 14.8	-6.5
PSMN	**Pico do Norte,**	**2.08**	**136**	*e*P	Sg	00 01 46.5	+4.7
PSMN	**Pico do Norte,**	**2.08**	**136**	*e*S	Sn	00 01 29.9	-7.8

ISCJB ***05*** *00:12:21.9±0.7, 4483N±003×2247E±006, h7km±8km, Error ellipse: s-maj=7.6km s-min=4.5km az=11.4*
BUC ***05*** *00:12:24.5±0.5, 4495N×2253E, h18km±1km, MD2.7/2, Error ellipse: s-maj=5.2km s-min=2.4km az=326.0*
BEO ***05*** *00:12:24.1±0.6, 4485N×2245E, ML2.0/4*

ISC 05 00:12:23.1±0.7, 4486N±003×2248E±007, h9km±8km, n8, σ0§82/15, 3C, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.58**	**211**	⇑*i* P	Pg	**00 12 34.7**	**+0.4**
GZR				*i* S	Sg	**00 12 42.1**	**+0.3**
BZS	**Buzias**	**0.97**	**322**	*i* Pg	Pg	**00 12 42.2**	**+0.4**
BZS				*i* Sg	Sg	**00 12 53.7**	**-0.8**
BZS	**Buzias**	**0.97**	**322**	⇑*i* P	Pg	**00 12 42.0**	**+0.2**
BZS				*i* S	Sg	**00 12 53.9**	**-0.6**
SVIS	**Svilajnac**	**1.08**	**237**	*e*Sg	Sg	**00 12 57.4**	**-0.4**
ZAPS	**Zavoj**	**1.59**	**176**	*e*Pg	Pg	**00 12 53.9**	**+0.4**
ZAPS				*i* Sg	Sg	**00 13 13.5**	**-0.5**
DIVS	**Divibare**	**1.93**	**248**	*e*Pn	Pn	**00 12 56.5**	**+0.4**
DIVS				*e*Sg	Sg	**00 13 25.9**	**+0.7**
DRGR		**1.94**	**5**	⇑*i* P	Pn	**00 12 56.2**	**0.0**
DRGR				*i* S	Sn	**00 13 19.6**	**-1.1**
BARS	**Barje**	**2.09**	**193**	*e*Pn	Pn	**00 13 01.3**	**+3.0**
BARS				*i* Sg	Sg	**00 13 29.2**	**-1.1**

JMA ***05*** *00:18:56.7±0.3, 2355N×12204E, h67km, M2.9*

TAP 05 00:18:55.1, 2357N×12193E, h16km, ML3.5, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.33**	**48**	P	Pn	00 19 18.9	0.0
YOJ				S	Sn	00 19 35.3	-1.0
HATJ	**Hateruma jima**	**1.78**	**74**	P	Pn	00 19 24.5	-0.7
HATJ				S	Sn	00 19 45.5	-2.0
IRIF	**Iriomote-Funau**	**1.81**	**65**	P	Pn	00 19 25.4	-0.2
IRIF				*e*S	Sn	00 19 47.0	-1.3
JKRS	**Kuro-shima**	**2.02**	**70**	P	Pn	00 19 28.3	-0.1
JKRS				S	Sn	00 19 52.1	-1.1
JIJ	**Ishigaki jima**	**2.17**	**68**	P	Pn	00 19 29.9	-0.6
JIJ				S	Sn	00 19 54.8	-2.3
JTJ	**Tarama**	**2.75**	**67**	P	Pn	00 19 38.0	-0.5
JTJ				S	Sn	00 20 09.5	-1.8

ISCJB ***05*** *00:27:30.0±0.3, 4832N±002×657E±003, h10km±5km, Error ellipse: s-maj=3.5km s-min=2.9km az=159.9*
STR ***05*** *00:27:31.7±0.2, 4832N×666E, h10km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
LDG ***05*** *00:27:32.3±0.1, 4832N×666E, h12km, Md2.5/4, Ml2.2/14, Error ellipse: s-maj=1.4km s-min=1.0km az=165.0*
BGR ***05*** *00:27:33.3±1.4, 4839N×672E, h10km, ML1.6/1, Error ellipse: s-maj=14.5km s-min=5.6km az=42.0*

ISC 05 00:27:31.1±0.3, 4831N±002×664E±003, h18km±4km, n30, σ0§79/47, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.36**	**106**	Pg	**Pg**	**00 27 39.2**	**+0.6**
ECH				Sg	**Sg**	**00 27 43.8**	**+0.1**
HAU	**Haudompre**	**0.36**	**213**	*e*Pg	**Pg**	**00 27 40.0**	**+1.2**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**00 27 44.9**	**+1.0**
	25nm,0.2s						
CDF	**Champ du Feu**	**0.43**	**76**	*e*Pg	**Pg**	**00 27 40.3**	**+0.3**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**00 27 46.0**	**+0.1**
	28nm,0.4s,SNR=1.0						
THEF	**They Montfort**	**0.45**	**259**	Pg	**Pg**	**00 27 41.0**	**+0.8**
THEF				Sg	**Sg**	**00 27 47.0**	**+0.6**
HINF	**Hinteralfeld**	**0.52**	**164**	*e*Pg	**Pg**	**00 27 42.5**	**+1.0**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**00 27 49.4**	**+1.0**
HINF				*e*Sn	**Sg**	**00 27 52.0**	**+3.6**
	17nm,0.2s,SNR=1.0						
LANF	**Langenberg**	**1.02**	**49**	Pg	**Pg**	**00 27 51.1**	**+0.2**
LANF				Sg	**Sg**	**00 28 04.7**	**+0.4**
MEZF	**Maizieres J'vi**	**1.08**	**281**	*e*Pn	**Pn**	**00 27 52.4**	**+1.2**
	SNR=1.0						
MEZF	**Maizieres J'vi**	**1.08**	**281**	*e*Pg	**Pg**	**00 27 53.0**	**+1.0**
	baz=107						
MEZF				*e*Sg	**Sg**	**00 28 06.9**	**+0.8**
	8.1nm,0.2s,SNR=1.0						
BFO	**Black Forest**	**1.12**	**88**	*e*Pg	**Pg**	**00 27 52.4**	**-0.4**
BFO				*e*Sg	**Sg**	**00 28 07.9**	**+0.2**
WLF	**Walferdange**	**1.39**	**347**	*e*Sg	**Sg**	**00 28 15.7**	**-0.4**
CABF	**La Chapelle**	**1.74**	**193**	*e*Pn	**Pn**	**00 28 01.6**	**+1.2**
CABF	**La Chapelle**	**1.74**	**193**	*e*Pg	**Pg**	**00 28 05.6**	**+1.0**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**00 28 27.0**	**-0.3**
	4.8nm,0.4s,SNR=1.0						
LOR	**Lormes**	**2.15**	**242**	*e*Pn	**Pn**	**00 28 06.4**	**+0.5**
	baz=67,SNR=1.0						
LOR	**Lormes**	**2.15**	**242**	*e*Pg	**Pg**	**00 28 12.6**	**+0.3**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**00 28 40.2**	**0.0**
	6.0nm,0.3s,baz=64,SNR=1.0						
GIVF	**Givet**	**2.15**	**327**	*e*Pg	**Pg**	**00 28 12.2**	**-0.2**
GIVF				*e*Sg	**Sg**	**00 28 40.3**	**0.0**
	1.6nm,0.2s						
TNS	**Taunus Mts**	**2.25**	**31**	*e*Sg	**Sg**	**00 28 41.9**	**-1.5**
BAIF	**Baives**	**2.37**	**318**	*e*Pg	**Pg**	**00 28 16.0**	**-0.5**
BAIF				*e*Sg	**Sg**	**00 28 47.2**	**0.0**
	1.2nm,0.3s						
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pn	**Pn**	**00 28 10.7**	**+0.5**
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pg	**Pg**	**00 28 18.6**	**+0.3**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**00 28 49.7**	**-0.5**
	1.6nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.53**	**230**	*e*Pg	**Pg**	**00 28 19.0**	**-0.6**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**00 28 51.8**	**-0.6**
	2.5nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pn	**Pn**	**00 28 13.7**	**+0.2**
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pg	**Pg**	**00 28 22.0**	**-0.8**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**00 28 57.1**	**-0.7**
	0.8nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**2.80**	**179**	*e*Sg	**Sg**	**00 29 00.3**	**-0.7**
	0.4nm,0.2s						
HYF	**Humbligny**	**2.90**	**250**	*e*Sg	**Sg**	**00 29 03.0**	**-1.1**
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pn	**Pn**	**00 28 19.4**	**+0.1**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pg	**Pg**	**00 28 30.5**	**-0.3**
BGF				*e*Sg	**Sg**	**00 29 10.0**	**-1.2**
	6.6nm,0.4s,SNR=1.0						
GRF	**Grafenberg Arr**	**3.31**	**64**	*e*Sg	**Sg**	**00 29 15.8**	**-1.7**
ORIF	**Oris-en-Rattie**	**3.44**	**189**	*e*Sg	**Sg**	**00 29 19.8**	**-1.6**
	0.6nm,0.2s						
TCF	**Toulx Ste Croi**	**3.63**	**238**	*e*Pn	**Pn**	**00 28 26.5**	**+0.2**
VIVF	**Saint-Julien-I**	**3.71**	**202**	*e*Sg	**Sg**	**00 29 28.9**	**-1.4**
	0.3nm,0.2s						

CSEM ***05*** *00:32:25.3±0.1, 3849N×3932E, h10km, MD2.7, Error ellipse: s-maj=3.2km s-min=2.6km az=110.0*
ISK ***05*** *00:32:25.8, 3848N×3930E, h10km, MD2.7*
ISCJB ***05*** *00:32:26.5±0.6, 3849N±003×3933E±004, h10km, Error ellipse: s-maj=5.0km s-min=4.4km az=21.7*
DDA ***05*** *00:32:26.5, 3846N×3934E, h6km±3km, Md2.7*

ISC 05 00:32:26.8±0.6, 3847N±004×3933E±004, h8km±5km, n12, σ0§79/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.10**	**192**	PG	**Pg**	**00 32 28.4**	**-0.6**
SVRC				SG	**Sg**	**00 32 30.9**	**+0.3**
ELZG	**Elazig**	**0.27**	**275**	*i* P	**Pg**	**00 32 32.0**	**-0.1**
ELZG				*i* S	**Sg**	**00 32 37.4**	**+1.5**
ELZG	**Elazig**	**0.27**	**275**	*i* P	**Pg**	**00 32 32.0**	**-0.2**
ELZG				*i* S	**Sg**	**00 32 37.4**	**+1.6**
PTK	**Pertek**	**0.42**	**6**	*e*PG	**Pg**	**00 32 33.9**	**-1.0**
PTK				*e*SG	**Sg**	**00 32 41.2**	**+0.7**
MYA	**Malataya**	**0.73**	**259**	*e*PG	**Pg**	**00 32 40.1**	**-0.6**
MALT	**Malatya**	**0.73**	**258**	*e*PG	**Pg**	**00 32 39.5**	**-1.3**
MALT				*e*SG	**Sg**	**00 32 50.1**	**-0.2**
DIYA	**Diyarbakir**	**0.83**	**131**	*i* P	**Pg**	**00 32 42.7**	**0.0**
DIYA				*i* S	**Sg**	**00 32 54.2**	**+0.7**
DIYA	**Diyarbakir**	**0.83**	**131**	*i* P	**Pg**	**00 32 42.7**	**0.0**
DIYA				*i* S	**Sg**	**00 32 54.2**	**+0.7**
URFA	**Urfa**	**1.11**	**202**	*e*PN	**Pn**	**00 32 48.0**	**-0.6**
ATAB	**Bozova**	**1.29**	**220**	*i* P	**Pn**	**00 32 51.6**	**+0.4**
ATAB				*i* S	**Sb**	**00 33 08.2**	**+0.1**
MARD	**Mardin**	**1.63**	**135**	*i* P	**Pn**	**00 32 55.8**	**0.0**
MARD				*i* S	**Sn**	**00 33 16.7**	**-0.2**
GZT	**Gaziantep**	**1.79**	**232**	*i* P	**Pn**	**00 33 01.3**	**+3.4**
GZT				*i* S	**Sn**	**00 33 25.4**	**+4.5**

ISCJB ***05*** *00:43:56.3±1.0, 27N±02×662E±02, h10km, mb3.9/7, MS3.9/15, Error ellipse: s-maj=27.1km s-min=22.3km az=40.5*
IDC ***05*** *00:43:56.7±1.0, 271N×6623E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/21, mbtmp3.9/7, MS3.8/15, Ms1 3.9/15, ms1mx3.6/26, Error ellipse: s-maj=34.8km s-min=23.9km az=37.0*
NEIC ***05*** *00:43:58.0±0.7, 270N×66.19E, h10km, Error ellipse: s-maj=22.6km s-min=19.4km az=218.0*

ISC 05 00:43:58.3±1.0, 27N±02×662E±02, h10km, n23, σ0§68/8, mb3.9/7, MS3.9/15, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.67**	**62**	LR	LR	01 03 02.9	
	comp=Z,121nm,19.2s,MS3.7,baz=193,slow=32						
MKAR	**Makanchi Array**	**46.08**	**15**	P	**P**	**00 52 20.9**	**-1.5**
	0.5nm,0.4s,mb3.8,baz=204,slow=9.5,SNR=6.9						
MKAR				LR	LR	01 11 07.1	
	comp=Z,95nm,19.2s,MS3.8,baz=191,slow=35						
AKTO	**Aktyubinsk**	**48.05**	**353**	LR	LR	01 14 02.1	
	comp=Z,75nm,18.9s,MS3.7,baz=19,slow=38						
BOSA	**Boshof**	**50.14**	**229**	LR	LR	01 10 17.3	
	comp=Z,149nm,20.5s,MS4.0,baz=123,slow=32						
BVAR	**Borovoye Array**	**50.26**	**3**	LR	LR	01 14 15.0	
	comp=Z,153nm,20.6s,MS4.0,baz=226,slow=36						
ZAA0	**Zalesovo Array**	**53.31**	**14**	*e*P	**P**	**00 53 17.4**	**+0.1**
ZALV	**Zalesovo Beam**	**53.31**	**14**	P	**P**	**00 53 17.6**	**+0.3**
	1.3nm,0.4s,mb4.3,baz=198,slow=9.0,SNR=9.2						
ZALV				LR	LR	01 15 30.0	
	comp=Z,67nm,20.9s,MS3.7,baz=254,slow=36						
SONM	**Songino Array**	**56.71**	**31**	P	**P**	**00 53 43.1**	**+1.0**
	0.2nm,0.3s,mb3.6,baz=201,slow=7.6,SNR=3.5						
SONM				LR	LR	01 17 58.4	
	comp=Z,148nm,20.7s,MS4.1,baz=225,slow=36						
GERES	**GERESS Array B**	**64.09**	**324**	LR	LR	01 19 58.6	
	comp=Z,74nm,18.6s,MS3.9,baz=120,slow=34						
TORD	**Torodi Ar. Bea**	**64.57**	**283**	P	**P**	**00 54 36.1**	**-0.3**
	0.7nm,1.0s,mb3.7,baz=100,slow=7.5,SNR=3.0						
TORD				LR	LR	01 22 04.7	
	comp=Z,74nm,18.1s,MS3.9,baz=270,slow=35						
KSRS	**Korea Array**	**66.10**	**50**	LR	LR	01 26 05.3	
	comp=Z,45nm,20.1s,MS3.7,baz=353,slow=38						
WRA	**Warramunga Arr**	**70.48**	**112**	P	**P**	**00 55 13.7**	**0.0**
	2.6nm,0.8s,mb4.2,baz=288,slow=5.8,SNR=7.8						
ASAR	**Alice Springs**	**70.80**	**116**	P	**P**	**00 55 15.4**	**-0.2**
	1.5nm,0.9s,mb3.9,baz=289,slow=5.0,SNR=9.6						
DBIC	**Dimbokro**	**70.89**	**276**	LR	LR	01 27 27.0	
	comp=Z,50nm,19.1s,MS3.8,baz=83,slow=37						
NOA	**NORSAR Array B**	**71.34**	**335**	LR	LR	01 24 41.1	
	comp=Z,56nm,19.6s,MS3.8,baz=150,slow=34						
ARCES	**ARCESS Array B**	**71.92**	**346**	LR	LR	01 27 54.1	
	comp=Z,101nm,20.3s,MS4.1,baz=109,slow=37						
ESDC	**Sonseca Array**	**73.06**	**311**	P	**P**	**00 55 29.3**	**+0.5**
	1.4nm,0.8s,mb4.0,baz=89,slow=5.3,SNR=13						
PETK	**Petropavlovsk-**	**88.75**	**37**	LR	LR	01 39 00.5	
	comp=Z,76nm,19.5s,MS4.1,baz=64,slow=37						
VNDA	**Vanda**	**93.86**	**167**	LR	LR	01 35 47.4	
	comp=Z,71nm,18.9s,MS4.2,baz=288,slow=33						
MCMT	**McKenzie Canyo**	**132.66**	**359**	*e*PKPdf	PKPdf	01 03 10.2	-3.5
PDAR	**Pinedale Array**	**134.57**	**356**	PKP	PKPdf	01 03 16.1	-1.3
	0.2nm,0.3s,baz=0.8,slow=6.5,SNR=3.2						
MNTX	**Cornudas Mount**	**144.85**	**347**	*e*PKPdf	PKPdf	01 03 36.5	+0.2
TXAR	**Lajitas Array**	**146.69**	**344**	PKPbc	PKPbc	01 03 41.6	+0.5
	3.1nm,0.8s,baz=72,slow=1.6,SNR=33						

ISCJB ***05*** *01:28:27.6±4.1, 235S±01×1800E±02, h526km±49km, mb3.6/7, Error ellipse: s-maj=29.6km s-min=19.4km az=156.9*
NEIC ***05*** *01:28:28.5±3.2, 2358S×17995W, h531km±36km, mb3.7/3, Error ellipse: s-maj=30.7km s-min=18.8km az=206.0*
IDC ***05*** *01:28:29.5±5.3, 2368S×17997W, h541km±61km, mb3.1/5, mb1 3.5/6, mb1mx3.2/17, mbtmp3.3/6, Error ellipse: s-maj=37.2km s-min=27.5km az=15.0*

ISC 05 01:28:28.6±3.7, 237S±02×1800W±02, h526km±43km, n13, σ0§83/11, mb3.6/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.72**	**189**	P	**P**	**01 31 35.8**	**+0.5**
	4.6nm,0.3s,baz=52,slow=2.0,SNR=21						
URZ				S	**S**	**01 34 08.3**	**-0.9**
	0.5nm,0.3s,baz=260,slow=20,SNR=7.1						
CTA	**Charters Tower**	**31.49**	**270**	P	**P**	**01 34 08.0**	**+0.6**
	4.6nm,0.4s,mb4.4,baz=90,slow=12,SNR=8.2						
**CT

comp=Z,111nm,20.4s,MS3.8,baz=194,slow=36
KURK Kurchatov 49.22 11 *e*P **P 02 01 10.8 -0.5**
2.5nm,1.0s,mb4.2
BOSA Boshof 49.78 229 LR LR 02 20 47.8
comp=Z,252nm,18.0s,MS4.3,baz=69,slow=34
ZALV Zalesovo Beam 53.57 14 P **P 02 01 41.9 -2.0**
1.0nm,0.6s,mb3.9,baz=212,slow=10,SNR=5.6
ZALV LR LR 02 23 55.6
comp=Z,133nm,21.7s,MS4.0,baz=99,slow=35
SONM Songino Array 57.03 31 P **P 02 02 08.7 -0.2**
4.5nm,1.3s,mb4.3,baz=232,slow=5.1,SNR=13
SONM LR LR 02 26 34.1
comp=Z,298nm,20.5s,MS4.4,baz=344,slow=36
GERES GERESS Array B 64.08 325 LR LR 02 33 26.2
comp=Z,90nm,19.1s,MS4.0,baz=195,slow=38
TORD Torodi Ar. Bea 64.33 283 LR LR 02 31 12.2
comp=Z,93nm,19.2s,MS4.0,baz=140,slow=36
KSRS Korea Array 66.46 50 LR LR 02 34 31.2
comp=Z,152nm,18.6s,MS4.2,baz=66,slow=38
MAW Mawson 70.00 181 LR LR 02 27 43.6
comp=Z,142nm,19.1s,MS4.2,baz=249,slow=30
DBIC Dimbokro 70.61 276 LR LR 02 33 13.3
comp=Z,70nm,19.0s,MS3.9,baz=84,slow=35
WRA Warramunga Arr 70.69 112 P **P 02 03 39.2 -0.3**
1.7nm,0.8s,mb4.0,baz=286,slow=6.2,SNR=5.1
ASAR Alice Springs 70.99 116 P **P 02 03 41.1 -0.1**
0.6nm,0.7s,mb3.6,baz=289,slow=5.6,SNR=6.8
ARCES ARCESS Array B 72.04 346 LR LR 02 36 55.1
comp=Z,121nm,18.6s,MS4.2,baz=251,slow=37
ESDC Sonseca Array 72.96 311 P **P 02 03 53.4 +0.6**
0.9nm,1.0s,mb3.7,baz=81,slow=5.6,SNR=4.8
STKA Stephens Creek 79.21 123 LR LR 02 34 27.1
comp=Z,88nm,18.3s,MS4.1,baz=205,slow=32
VNDA Vanda 93.73 167 LR LR 02 41 57.9
comp=Z,112nm,20.4s,MS4.3,baz=284,slow=32
TXAR Lajitas Array 146.79 343 PKPbc PKPbc 02 12 08.0 +2.0
2.1nm,0.9s,baz=67,slow=2.5,SNR=14

*ISCJB **05** 01:57:58.9±0.6, 2382N±006×7086E±006, h10km, Error ellipse: s-maj=10.8km s-min=5.0km az=142.9*
*NDI **05** 01:58:04.3±1.7, 2385N×7052E, h10km, ML3.6*
*DMN **05** 01:59:48.5±19.0, 2541N×7945E, h33km, Mb5.0/7, Error ellipse: s-maj=460.6km s-min=33.2km az=65.0*
ISC 05 01:58:00.2±0.6, 2385N±005×7075E±006, h10km, n18, σ1°25/21, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**1.16**	**240**	*e*P	**Pb**	**01 58 22.7**	**+0.3**
BHJ				*e*S	**Sb**	**01 58 38.1**	**+0.5**
BHJ				AML	AML	01 58 43.2	
	comp=E,2μm,0.2s						
BHJ				AML	AML	01 58 43.3	
	comp=N,3μm,0.3s						
AJM	**Ajmer**	**4.40**	**53**	*ex*	**Pn**	**01 59 11.1**	**+4.1**
AJM				*e*S	**Sn**	**02 00 03.5**	**+5.2**
AJM				AML	AML	02 00 06.0	
	comp=N,137nm,0.4s						
AJM				AML	AML	02 00 23.3	
	comp=E,227nm,0.3s						
BOM	**Bombay**	**5.29**	**158**	*e*S	**Pn**	**01 59 18.4**	**-0.9**
POO	**Poona**	**6.03**	**151**	*e*S	**Sn**	**02 00 40.9**	**+2.3**
POO				AML	AML	02 01 11.0	
	comp=N,47nm,0.5s						
POO				AML	AML	02 01 11.8	
	comp=E,70nm,0.5s						
KUDL	**Kundal**	**6.71**	**49**	*e*S	**Sn**	**02 00 58.0**	**+2.7**
KUDL				AML	AML	02 01 13.9	
	comp=Z,20nm,0.7s						
KUDL				AML	AML	02 01 16.5	
	comp=N,32nm,0.5s						
SONA	**Sohna**	**7.19**	**51**	*e*S	**Sn**	**02 01 09.4**	**+2.2**
SONA				AML	AML	02 01 57.4	
	comp=N,47nm,0.6s						
SONA				AML	AML	02 01 58.9	
	comp=E,92nm,0.1s						
LATR	**Latur**	**7.65**	**134**	*ex*	**Pg**	**02 00 26.2**	**-0.6**
SMLA	**Simla**	**9.22**	**37**	*i* x	**Pn**	**02 00 12.8**	**-0.5**
SMLA				*e*S	**Sn**	**02 01 56.4**	**-0.8**
KOLN	**Koldanda**	**12.22**	**69**	*e*P	**Pn**	**02 00 55.4**	**+1.0**
	comp=E,18nm,0.4s						
DANN	**Dangsing**	**12.52**	**66**	*e*P	**Pn**	**02 01 01.0**	**+2.5**
	comp=E,18nm,0.5s						
DMN	**Daman**	**13.47**	**71**	*e*P	**Pn**	**02 01 11.6**	**+0.1**
	comp=E,6.1nm,0.3s						
KKN	**Kakani**	**13.66**	**70**	*e*P	**Pn**	**02 01 13.6**	**-0.5**
	comp=E,27nm,0.6s						
PKI	**Pulchoki**	**13.73**	**71**	*e*P	**Pn**	**02 01 14.1**	**-0.9**
	comp=E,15nm,0.4s						
GUN	**Gumba**	**14.21**	**70**	*e*P	**Pn**	**02 01 21.4**	**-0.1**
	comp=E,38nm,0.4s						
JIRN	**Jiri**	**14.42**	**71**	*e*P	**Pn**	**02 01 22.9**	**-1.6**
	comp=E,15nm,0.4s						
RAMN	**Ramite**	**14.66**	**75**	*e*P	**Pn**	**02 01 26.6**	**-1.1**
	comp=E,31nm,0.6s						
ODAN	**Odare**	**15.34**	**75**	*e*P	**Pn**	**02 01 35.6**	**-1.3**
	comp=E,14nm,0.5s						
TAPN	**Taplejung**	**15.70**	**74**	*e*P	**Pn**	**02 01 40.5**	**-1.0**

NEIC 05 02:08:07.8, 3833S×17602E, h163km, MG4.1(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.72**	**325**	P	Pn	02 08 32.0	+0.2
TOZ				S	Sn	02 08 50.4	+0.2
URZ	**Urewera**	**0.86**	**86**	P	Pn	02 08 32.1	-0.6
TWVZ	**Taurewa**	**0.87**	**211**	P	Pn	02 08 33.0	+0.2
NGZ	**Ngauruhoe**	**0.91**	**201**	P	Pn	02 08 33.5	+0.5
BKZ	**Black Stump Fm**	**0.91**	**156**	P	Pn	02 08 33.3	+0.2
HIZ	**Hauiti**	**0.93**	**258**	P	Pn	02 08 33.3	+0.1
TUVZ	**Tukino**	**0.98**	**197**	P	Pn	02 08 34.0	+0.4
TUVZ				S	Sn	02 08 53.6	+0.1
FWVZ	**Far West T-bar**	**0.99**	**201**	P	Pn	02 08 34.0	+0.3
DRZ	**Dome Shelter**	**1.01**	**201**	P	Pn	02 08 34.7	+0.9
DRZ				S	Sn	02 08 54.1	+0.2
WNVZ	**Wahianoa**	**1.05**	**198**	P	Pn	02 08 34.5	+0.3
MOVZ	**Moawhango**	**1.10**	**191**	P	Pn	02 08 34.5	-0.1
MWZ	**Matawai**	**1.19**	**91**	P	Pn	02 08 35.4	+0.1
VRZ	**Vera Road**	**1.27**	**231**	P	Pn	02 08 35.9	-0.2
KNZ	**Kokohu**	**1.47**	**119**	P	Pn	02 08 38.4	+0.4
WAZ	**Wanganui**	**1.64**	**209**	P	Pn	02 08 39.5	-0.2
TSZ	**Takapari Road**	**1.73**	**182**	P	Pn	02 08 40.3	-0.4
PUZ	**Puketiti**	**1.78**	**82**	P	Pn	02 08 41.1	-0.2
PKE	**Pukeiti**	**1.81**	**241**	P	Pn	02 08 41.7	+0.2
MXZ	**Matakaoa Point**	**1.96**	**68**	P	Pn	02 08 43.4	+0.1
MRZ	**Mangatainoka R**	**2.35**	**188**	P	Pn	02 08 46.4	-1.3
KIW	**Kapiti Island**	**2.67**	**198**	P	Pn	02 08 49.6	-1.9
MTW	**Mount Morrison**	**2.85**	**188**	P	Pn	02 08 51.7	-2.1
CAW	**Cannon Point**	**2.87**	**195**	P	Pn	02 08 52.0	-2.0
MRW	**Makara Radio**	**3.07**	**199**	P	Pn	02 08 54.1	-2.4
PAWZ	**Paruwai Farm**	**3.08**	**188**	P	Pn	02 08 54.3	-2.3
WEL	**Wellington**	**3.11**	**198**	P	Pn	02 08 54.6	-2.3
MSWZ	**Moikau Station**	**3.14**	**191**	P	Pn	02 08 54.9	-2.4
SNZO	**South Karori**	**3.14**	**198**	P	Pn	02 08 54.8	-2.6
TCW	**Tory Channel**	**3.18**	**204**	P	Pn	02 08 55.4	-2.4
BHW	**Baring Head**	**3.20**	**196**	P	Pn	02 08 55.5	-2.6
NNZ	**Nelson**	**3.53**	**214**	P	Pn	02 08 59.3	-3.0
QRZ	**Quartz Range**	**3.67**	**226**	P	Pn	02 09 00.7	-3.4
BSWZ	**Blackbirch Sta**	**3.76**	**205**	P	Pn	02 09 02.6	-2.6
THZ	**Tophouse**	**4.18**	**214**	P	Pn	02 09 07.2	-3.4
KHZ	**Kahutara**	**4.50**	**204**	P	Pn	02 09 11.7	-3.1
DSZ	**Denniston Nort**	**4.70**	**222**	P	Pn	02 09 13.3	-4.1
LTZ	**Lake Taylor**	**5.29**	**212**	P	Pn	02 09 20.5	-4.6
MQZ	**McQueen's Vall**	**5.95**	**204**	P	Pn	02 09 28.7	-5.1

*CSEM **05** 02:56:27.1, 3554N×2483E, h28km, MD3.5, After ATH*
ATH 05 02:56:27.1, 3554N×2483E, h29km, MD3.5/4, 2C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.53**	**256**	⇓*i*PN	Pn	02 56 38.5	-0.2
VAM	**Vamos**	**0.53**	**256**	⇓*e*Pn	Pn	02 56 38.5	-0.2
NPS	**Neapolis**	**0.70**	**113**	⇑*i*PN	Pn	02 56 40.5	-0.5
NPS	**Neapolis**	**0.70**	**113**	*e*Pn	Pn	02 56 40.5	-0.5
KARP	**Karpathos**	**1.90**	**89**	*e*PB	Pb	02 57 00.0	-1.1
VLI	**Veliai**	**1.93**	**308**	⇑*i*PN	Pn	02 56 59.8	+1.8
VLI	**Veliai**	**1.93**	**308**	*e*Pn	Pn	02 56 59.8	+1.8

IDC 05 03:52:42.6±1.0, 288N×6609E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, MS3.7/4, Ms1 3.7/4, ms1mx3.3/22, Error ellipse: s-maj=35.1km s-min=25.1km az=28.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**32.79**	**89**	LR	LR	04 09 27.4	
	comp=Z,199nm,19.9s,baz=34,slow=31						
MKAR	**Makanchi Array**	**45.96**	**15**	P	P	04 01 07.6	+0.3
	0.4nm,0.6s,baz=152,slow=6.3,SNR=3.8						
BOSA	**Boshof**	**50.16**	**228**	LR	LR	04 21 13.1	
	comp=Z,88nm,18.3s,baz=73,slow=34						
ZALV	**Zalesovo Beam**	**53.18**	**14**	P	P	04 02 01.6	-0.7
	1.0nm,0.4s,baz=182,slow=4.3,SNR=5.4						
ZALV				LR	LR	04 23 37.2	
	comp=Z,36nm,21.1s,baz=126,slow=35						
SONM	**Songino Array**	**56.63**	**31**	P	P	04 02 27.9	+0.4
	0.4nm,0.6s,baz=260,slow=5.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**64.42**	**283**	P	P	04 03 21.6	+0.3
	0.5nm,0.9s,baz=108,slow=9.3,SNR=2.5						
KSRS	**Korea Array**	**66.09**	**50**	LR	LR	04 33 11.3	
	comp=Z,58nm,18.1s,baz=204,slow=37						
WRA	**Warramunga Arr**	**70.65**	**112**	P	P	04 04 01.2	+0.5
	1.8nm,0.8s,baz=294,slow=5.6,SNR=5.2						
ASAR	**Alice Springs**	**70.98**	**116**	P	P	04 04 02.0	-0.6
	0.4nm,0.7s,baz=270,slow=5.2,SNR=6.3						
ESDC	**Sonseca Array**	**72.86**	**311**	P	P	04 04 12.7	-0.9
	0.7nm,0.9s,baz=84,slow=6.1,SNR=5.1						
TXAR	**Lajitas Array**	**146.50**	**344**	PKPbc	PKPbc	04 12 27.5	+0.9
	0.5nm,0.7s,baz=51,slow=3.7,SNR=8.0						

*SZGRF **05** 03:56:52.5, 1786S×17754W, h33km, Fiji Islands region*
*ISCJB **05** 03:57:48.5±1.0, 178S±01×1787W±01, h535km±14km, mb3.8/16, Error ellipse: s-maj=19.6km s-min=11.8km az=136.5*
*NEIC **05** 03:57:49.6±0.9, 1778S×17869W, h536km±10km, mb4.0/5, Error ellipse: s-maj=14.4km s-min=8.9km az=136.0*
*IDC **05** 03:57:49.6±1.5, 1782S×17863W, h536km±17km, mb3.3/12, mb1 3.5/13, mb1mx3.5/20, mbtmp3.4/13, Error ellipse: s-maj=20.2km s-min=11.2km az=144.0*
ISC 05 03:57:49.1±1.0, 178S±01×1787W±01, h530km±13km, n100, σ0°87/26, mb3.8/16, 18C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.65**	**61**	P	**P**	**03 59 44.2**	**+1.4**
	9.2nm,0.3s,baz=85,slow=4.9,SNR=12						
AFI				S	**S**	**04 01 15.0**	**-1.1**
	2.0nm,0.3s,baz=322,slow=22,SNR=4.5						
URZ	**Urewera**	**20.74**	**189**	P	**P**	**04 01 51.6**	**-1.1**
	10nm,1.0s,baz=329,slow=18,SNR=2.5						
CTA	**Charters Tower**	**33.24**	**260**	P	**P**	**04 03 42.9**	**+0.3**
	1.2nm,0.4s,mb3.8,baz=74,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**04 04 27.0**	**+1.2**
	2.2nm,0.5s,mb4.0,baz=316,slow=7.1,SNR=15						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**04 04 27.0**	**+1.2**
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**04 05 12.7**	**-0.3**
	0.5nm,0.5s,mb3.3,baz=91,slow=6.8,SNR=4.0						
WRA				PcP	PcP	04 06 44.4	-0.9
	1.3nm,0.7s,baz=92,slow=3.4,SNR=3.4						
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**04 05 14.5**	**+0.1**
	3.3nm,0.4s,mb4.2,baz=91,slow=8.6,SNR=85						
ASAR				PcP	PcP	04 06 45.6	-0.3
	1.2nm,0.5s,baz=104,slow=4.7,SNR=11						
ASAR				S	**S**	**04 11 05.5**	**-6.3**
	0.9nm,0.9s,baz=97,slow=17,SNR=4.1						
MJAR	**Matsushiro Arr**	**67.67**	**323**	P	**P**	**04 07 53.0**	**-0.4**
	2.9nm,0.7s,mb3.9,baz=157,slow=6.3,SNR=9.6						
MAJO	**Matsushiro**	**67.67**	**323**	*e*P	**P**	**04 07 52.6**	**-0.7**
	1.8nm,0.3s,mb4.1						
QSPA	**South Pole Qui**	**72.27**	**180**	*e*P	**P**	**04 08 20.9**	**+0.8**
	8.1nm,1.1s,mb4.1						
PETK	**Petropavlovsk-**	**73.50**	**345**	P	**P**	**04 08 27.5**	**+0.1**
	3.8nm,0.7s,mb3.9,baz=119,slow=9.3,SNR=4.5						
KSRS	**Korea Array**	**74.45**	**318**	P	**P**	**04 08 34.2**	**+1.0**
	0.5nm,0.7s,mb3.1,baz=101,slow=6.3,SNR=3.2						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**04 09 01.8**	**+1.1**
	1.1nm,0.7s,mb3.3,baz=227,slow=8.3,SNR=6.1						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**04 09 01.8**	**+1.1**
PSI	**Prapat**	**83.64**	**275**	P	**P**	**04 09 21.9**	**-0.7**
	baz=196,slow=7.4,SNR=1.4						
PSI	**Prapat**	**83.64**	**275**	P	**P**	**04 09 21.9**	**-0.7**
MAW	**Mawson**	**83.90**	**200**	P	**P**	**04 09 22.4**	**-0.4**
	1.8nm,0.5s,mb3.9,baz=129,slow=5.8,SNR=7.8						
TRF	**Thorofare Moun**	**83.94**	**12**	*e*P	**P**	**04 09 21.8**	**-1.0**
	1.7nm,0.6s,mb3.8						
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**04 09 35.9**	**+1.7**
	1.5nm,0.7s,mb3.7,baz=216,slow=6.4,SNR=23						
EGAK	**Eagle**	**87.15**	**15**	*e*P	**P**	**04 09 37.7**	**-0.5**
	1.3nm,0.6s,mb3.7						
PDAR	**Pinedale Array**	**87.42**	**44**	P	**P**	**04 09 40.5**	**+0.6**
	1.0nm,0.5s,mb3.7,baz=210,slow=3.1,SNR=11						
SNAA	**Sanae**	**90.73**	**179**	*e*	**P**	**04 09 54.1**	**-0.8**
SNAA				*e*		04 09 55.3	
SNAA	**Sanae**	**90.73**	**179**	*e*P	**P**	**04 09 54.1**	**-0.8**
	0.9nm,0.4s,mb4.0						
INK	**Inuvik**	**91.82**	**15**	*e*P	**P**	**04 09 58.9**	**-1.0**
MKAR	**Makanchi Array**	**108.88**	**314**	PKiKP	PKiKP	04 15 16.6	-1.5
	0.6nm,0.5s,baz=234,slow=2.3,SNR=4.6						
ARCES	**ARCESS Array B**	**126.15**	**350**	PKP	PKPdf	04 15 49.6	-0.9
	2.0nm,0.8s,baz=84,slow=1.5,SNR=8.1						
NOA	**NORSAR Array B**	**136.22**	**353**	PKP	PKPdf	04 16 10.3	+0.5
	0.9nm,0.8s,baz=335,slow=19,SNR=2.7						
AKASG	**Malin Array Be**	**140.34**	**332**	PKP	PKPdf	04 16 18.0	+0.4
	0.6nm,0.5s,baz=50,slow=2.9,SNR=4.2						
AKASG	**Malin Array Be**	**140.34**	**332**	PKP	PKPdf	04 16 18.0	+0.4
BSEG	**Bad Segeberg**	**143.25**	**351**	*e*PKPbc	PKPdf	04 16 20.4	-2.3
BURAR	**Bucovina Array**	**144.40**	**332**	⇓*i*P	PKPdf	04 16 25.4	+0.6
NIE	**Niedzica**	**144.92**	**338**	*e*P	PKPdf	04 16 26.7	+1.0
CRVS	**Cervenica-Dubn**	**144.93**	**337**	*i*PKP	PKPdf	04 16 26.4	+0.7
CRVS	**Cervenica-Dubn**	**144.93**	**337**	*e*P	PKPdf	04 16 26.4	+0.7
OKC	**Ostrava-Krasne**	**145.28**	**341**	*e*PKP	PKPbc	04 16 27.3	0.0
CLL	**Collm**	**145.29**	**347**	*e*PKPbc	PKPbc	04 16 26.9	-0.4
CLL	**Collm**	**145.29**	**347**	⇑*i*PKPbc	PKPbc	04 16 27.0	-0.3
	comp=Z,9.0nm,0.6s						
CLL				*e*PKiKP	PKiKP	04 16 30.0	-0.4
UPC	**Upice**	**145.30**	**344**	*e*PKP	PKPbc	04 16 27.6	+0.2
DPC	**Dobruska-Polom**	**145.36**	**343**	*e*PKP	PKPbc	04 16 27.9	+0.4
BRG	**Berggiesshubel**	**145.49**	**346**	*e*PKPbc	PKPbc	04 16 27.6	-0.3
BRG	**Berggiesshubel**	**145.49**	**346**	*e*PKP	PKPdf	04 16 27.5	+0.9
	comp=Z,8.5nm,1.3s						
KECS	**Kecovo**	**145.64**	**337**	*i*PKP	PKPbc	04 16 28.5	+0.1
KECS	**Kecovo**	**145.64**	**337**	*e*P	PKPbc	04 16 28.5	+0.1
PVCC	**Panska Ves**	**145.66**	**345**	*e*PKP	PKPbc	04 16 28.6	+0.2
DRGR		**146.12**	**333**	⇑*i*P	PKPbc	04 16 29.8	0.0
DRGR		**146.12**	**333**	⇑P	PKPbc	04 16 29.8	-0.1
PRU	**Pruhonice**	**146.16**	**345**	*e*PKP	PKPbc	04 16 29.9	+0.1
VYHS	**Vyhne**	**146.22**	**339**	*i*PKP	PKPbc	04 16 29.9	-0.1
VYHS	**Vyhne**	**146.22**	**339**	*e*P	PKPbc	04 16 29.9	-0.1
WERD	**Werda**	**146.25**	**347**	*e*PKPbc	PKPbc	04 16 29.9	-0.2
GUNZ	**Gunzen**	**146.32**	**347**	*e*PKPbc	PKPbc	04 16 30.2	-0.1
TREC	**Trest**	**146.55**	**343**	*e*PKP	PKPbc	04 16 31.0	+0.1
ROTZ	**Rotzenmuhle**	**146.91**	**347**	*e*PKPbc	PKPbc	04 16 31.9	0.0
ZST	**Bratislava**	**147.05**	**340**	*i*PKP	PKPdf	04 16 32.6	+3.3
ZST	**Bratislava**	**147.05**	**340**	*e*P	PKPbc	04 16 32.6	+0.3
TNS	**Taunus Mts**	**147.14**	**352**	*e*PKPbc	PKPbc	04 16 32.3	-0.2
GRA1	**Grafenberg Arr**	**147.19**	**348**	*e*PKPbc	PKPbc	04 16 32.7	+0.1
GRF	**Grafenberg Arr**	**147.19**	**348**	*e*PKPbc	PKPbc	04 16 32.7	+0.1
KHC	**Kasperske Hory**	**147.20**	**345**	*e*PKP	PKPbc	04 16 32.7	0.0
KHC				*ex*	x	04 16 36.0	
WET	**Wettzell**	**147.35**	**346**	*e*PKPbc	PKPbc	04 16 32.8	-0.3
GEC2	**GERESS Array S**	**147.43**	**345**	*e*PKPbc	PKPbc	04 16 33.0	-0.3
GERES	**GERESS Array B**	**147.43**	**345**	PKPbc	PKPbc	04 16 33.1	-0.2
	comp=Z,5.2nm,0.7s,baz=24,slow=3.0,SNR=50						
BZS	**Buzias**	**147.52**	**333**	⇓*i*P	PKPbc	04 16 33.2	-0.4
BZS	**Buzias**	**147.52**	**333**	⇓P	PKPbc	04 16 33.2	-0.4
GIVF	**Givet**	**147.64**	**356**	*e*PKP1	PKPbc	04 16 33.5	-0.3
CONA	**Conrad Observa**	**147.67**	**342**	⇑*i*P	PKPbc	04 16 34.2	+0.2
	comp=Z,5.1nm,0.6s						
CSNA	**Conrad Observa**	**147.67**	**342**	⇑*i*P	PKPbc	04 16 34.1	+0.2
	comp=Z,4.9nm,0.6s						
BAIF	**Baives**	**147.72**	**357**	*e*PKP1	PKPbc	04 16 34.0	0.0
	comp=Z,7.0nm,0.6s						
WLF	**Walferdange**	**147.96**	**354**	*e*PKPbc	PKPbc	04 16 35.0	+0.4
PKSM	**Moragy**	**148.23**	**337**	⇑*i*P	PKPbc	04 16 34.5	-0.9
PKSM	**Moragy**	**148.23**	**337**	⇑P	PKPbc	04 16 34.5	-0.9
STU	**Stuttgart**	**148.44**	**350**	*e*PKPbc	PKPbc	04 16 35.8	0.0
FUR	**Furstenfeldbru**	**148.63**	**347**	*e*PKPbc	PKPbc	04 16 36.2	-0.1
BFO	**Black Forest**	**149.00**	**351**	*e*PKPbc	PKPbc	04 16 36.7	-0.5
FLN	**La Foliniere**	**149.06**	**2**	⇑*i*PKP1	PKPbc	04 16 36.8	-0.6
	comp=Z,6.9nm,0.5s						
CDF	**Champ du Feu**	**149.07**	**352**	*e*PKP1	PKPbc	04 16 37.3	-0.1
	comp=Z,5.8nm,0.5s						
MEZF	**Maizieres J'vi**	**149.21**	**355**	⇑*i*PKP1	PKPbc	04 16 37.7	0.0
LDF	**La Druitiere**	**149.24**	**2**	⇑*i*PKP1	PKPbc	04 16 37.1	-0.7
	comp=Z,5.7nm,0.3s						
GRR	**Gorron**	**149.42**	**3**	⇑*i*PKP1	PKPbc	04 16 37.8	-0.4
	comp=Z,7.8nm,0.4s						
SGMF	**Saint Gilles**	**149.44**	**5**	*e*PKP1	PKPbc	04 16 37.6	-0.7
MOTA	**Moosalm**	**149.44**	**347**	⇑*i*P	PKPbc	04 16 37.8	-0.6
	comp=Z,3.2nm,0.9s						
HAU	**Haudompre**	**149.58**	**353**	⇑*i*PKP1	PKPbc	04 16 38.3	-0.3
HINF	**Hinteralfeld**	**149.71**	**353**	*e*PKP1	PKPbc	04 16 38.5	-0.4
LOR	**Lormes**	**150.52**	**357**	⇑*i*PKP1	PKPbc	04 16 40.6	-0.3
	comp=Z,9.4nm,0.4s						
SSF	**Saint Saulge**	**150.75**	**357**	⇑*i*PKP1	PKPbc	04 16 41.2	-0.2
	comp=Z,6.8nm,0.4s						
CABF	**La Chapelle**	**150.99**	**353**	*e*PKP1	PKPbc	04 16 42.3	+0.4
	comp=Z,7.4nm,0.8s						
AVF	**Avril sur Loir**	**151.02**	**357**	*e*PKP1	PKPbc	04 16 41.4	-0.6
MFF	**Saint Martin d**	**151.23**	**2**	⇑*i*PKP1	PKPbc	04 16 42.0	-0.5
	comp=Z,5.3nm,0.5s						
BGF	**Bois d'Agland**	**151.28**	**358**	⇑*i*PKP1	PKPbc	04 16 42.3	-0.3
	comp=Z,6.4nm,0.4s						
TCF	**Toulx Ste Croi**	**151.56**	**359**	*e*PKP1	PKPbc	04 16 42.7	-0.6
	comp=Z,5.6nm,0.8s						
LPL	**La Plagne**	**151.98**	**352**	⇑*i*PKP1	PKPbc	04 16 44.7	+0.5
	comp=Z,4.3nm,0.8s						
LPG	**La Plagne**	**152.00**	**352**	*e*PKP1	PKPbc	04 16 44.9	+0.6
RJF	**Les Rejaudoux**	**152.56**	**360**	*e*PKP1	PKPbc	04 16 45.0	-0.5
ORIF	**Oris-en-Rattie**	**152.68**	**353**	*e*PKP1	PKPbc	04 16 45.7	-0.1
	comp=Z,3.4nm,0.6s						
MBDF	**Montbardon**	**152.75**	**352**	*e*PKP1	PKPbc	04 16 45.9	0.0
	comp=Z,6.3nm,0.7s						
VIVF	**Saint-Julien-l**	**152.86**	**355**	*e*PKP1	PKPbc	04 16 46.1	-0.1
CAF	**Calviac**	**152.93**	**359**	*e*PKP1	PKPbc	04 16 46.0	-0.3
	comp=Z,3.2nm,0.6s						
ETSF	**Etsaut**	**154.91**	**3**	*e*PKP1	PKPdf	04 16 51.9	+11
ESDC	**Sonseca Array**	**157.70**	**11**	PKPab	PKPab	04 17 20.4	-0.4
	comp=Z,0.1nm,0.4s,baz=351,slow=3.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**175.38**	**184**	PKP	PKPdf	04 16 56.6	-2.5
	comp=Z,0.5nm,0.8s,baz=5.7,slow=1.4,SNR=2.5						
TORD				PKPab	PKPab	04 18 38.1	-1.2
	comp=Z,0.4nm,0.6s,baz=208,slow=2.8,SNR=6.6						

*ISCJB **05** 03:58:35.4±0.9, 3928N±002×2013E±006, h1km±6km, Error ellipse: s-maj=7.7km s-min=4.0km az=178.6*
*THE **05** 03:58:36.7, 3928N×2018E, h0km*
*ATH **05** 03:58:37.0, 3925N×2026E, h25km±2km, MD3.4/6*
*CSEM **05** 03:58:37.5±0.2, 3928N×2027E, h10km, MD3.4, Error ellipse: s-maj=5.0km s-min=2.9km az=81.0*
*NEIC **05** 03:58:37.0, 3925N×2026E, h25km, MD3.4(ATH), After ATH.*
ISC 05 03:58:37.7±0.6, 3926N±002×2026E±005, h6km±5km, n26, σ1°50/47, 4C-5D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**11**	*e*Pg	**Pg**	**03 58 41.9**	**-1.2**
IGT				*e*Sg	**Sg**	**03 58 46.3**	**-0.5**
KEK	**Kerkira**	**0.58**	**322**	⇑*i*PN	**Pg**	**03 58 48.4**	**-0.4**
KEK				*e*SN	**Sg**	**03 58 58.0**	**+1.7**
KEK	**Kerkira**	**0.58**	**322**	*e*Pn	**Pg**	**03 58 48.4**	**-0.4**
KEK				Sn	**Sg**	**03 58 58.0**	**+1.7**
JAN

TKM2 Tokmak 2 7.17 28 *e*Pn **Pn 04 56 23.9 +0.6**
6.4nm,0.9s
SMLA Simla 7.52 135 *i* P **Pn 04 56 27.2 -0.8**
SMLA *i* S 04 57 48.0
SMLA *i* S 04 57 48.2
SMLA *ex* x 04 57 50.5
comp=N,226nm,0.3s
SMLA *ex* x 04 57 50.8
comp=E,286nm,0.3s
MK31 Makanchi Array 13.15 36 P **Pn 04 57 42.2 +2.4**
comp=E,0.1nm,0.3s,baz=219,slow=12,SNR=6.4
MKAR Makanchi Array 13.15 36 P **Pn 04 57 40.1 +0.3**
comp=E,0.1nm,0.3s,baz=212,slow=9.7,SNR=6.2
AB31 Akbulak array 14.95 331 ⇑P **Pn 04 58 04.7 +2.7**
comp=E,0.7nm,0.5s,baz=149,slow=12,SNR=14
BVAR Borovoye Array 16.37 359 P **P 04 58 19.9 +1.8**
comp=E,0.3nm,0.3s,baz=182,slow=13,SNR=5.2
AKTK Aktyubinsk 16.65 330 P **P 04 58 21.5 +0.3**
AKTO Aktyubinsk 16.65 330 ⇑P **P 04 58 22.5 +1.3**
comp=E,0.2nm,0.6s
AKTO Aktyubinsk 16.65 330 P **P 04 58 21.5 +0.3**
comp=E,0.2nm,0.3s,baz=151,slow=13,SNR=6.0
ZALV Zalesovo Beam 19.76 25 P **P 04 58 54.2 -0.6**
comp=E,1.3nm,0.3s,baz=213,slow=11,SNR=3.8
ARCES ARCESS Array B 41.00 338 P **P 05 02 03.0 -0.2**
comp=E,1.1nm,0.7s,mb3.4,baz=116,slow=8.2,SNR=7.8
ARCES ARCESS Array B 41.00 338 P **P 05 02 03.0 -0.2**
NOA NORSAR Array B 44.26 323 P **P 05 02 28.4 -1.0**
comp=E,0.6nm,0.8s,mb3.0,baz=97,slow=7.7,SNR=2.6
TORD Torodi Ar. Bea 65.74 269 P **P 05 05 00.1 -3.7**
comp=E,0.2nm,0.3s,mb3.2,baz=52,slow=6.0,SNR=18
WRA Warramunga Arr 82.06 122 P **P 05 06 35.3 -2.9**
comp=E,0.2nm,0.4s,mb3.1,baz=329,slow=5.0,SNR=2.7

IDC 05 05:10:02.4±1.5,206N×6583E,h0km,mb3.6/4,mb1 3.8/4, mb1mx3.5/21,mbtmp3.6/4,Error ellipse: s-maj=69.8km s-min=32.0km az=37.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**57.46**	**31**	P	P	05 19 53.2	+0.1
	0.3nm,0.5s,baz=219,slow=6.7,SNR=3.0						
WRA	**Warramunga Arr**	**70.59**	**112**	P	P	05 21 20.3	+0.2
	0.8nm,0.7s,baz=292,slow=5.7,SNR=3.5						
ASAR	**Alice Springs**	**70.86**	**116**	P	P	05 21 21.6	-0.1
	0.5nm,0.8s,baz=283,slow=5.5,SNR=5.0						
ESDC	**Sonseca Array**	**73.20**	**311**	P	P	05 21 35.1	-0.2
	0.1nm,0.4s,baz=70,slow=5.0,SNR=4.7						
TXAR	**Lajitas Array**	**147.21**	**343**	PKPbc	PKPbc	05 29 48.4	0.0
	0.7nm,0.8s,baz=74,slow=2.6,SNR=8.8						

IDC 05 05:10:37.5±1.1,220N×6623E,h0km,mb3.6/3,mb1 3.8/3, mb1mx3.4/21,mbtmp3.6/3,Error ellipse: s-maj=137.7km s-min=29.7km az=21.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**64.71**	**283**	P	P	05 21 18.1	0.0
	0.3nm,0.7s,baz=80,slow=4.3,SNR=2.6						
WRA	**Warramunga Arr**	**70.28**	**112**	P	P	05 21 53.2	-0.1
	0.8nm,0.7s,baz=290,slow=5.5,SNR=3.7						
ASAR	**Alice Springs**	**70.56**	**116**	P	P	05 21 55.2	+0.3
	0.4nm,0.8s,baz=291,slow=5.1,SNR=4.1						
TXAR	**Lajitas Array**	**147.18**	**344**	PKPbc	PKPbc	05 30 22.9	-0.6
	0.9nm,0.7s,baz=46,slow=2.6,SNR=6.3						

IDC 05 06:04:16.7±2.8,205N×6605E,h0km,mb3.8/3,mb1 4.0/3, mb1mx3.4/21,mbtmp3.8/3,MS3.7/1,Ms1 3.6/1, ms1mx2.9/34,Error ellipse: s-maj=110.0km s-min=36.0km az=61.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**49.59**	**229**	LR	LR	06 31 53.1	
	comp=Z,71nm,18.4s,baz=228,slow=33						
ZALV	**Zalesovo Beam**	**53.99**	**14**	P	P	06 13 42.4	0.0
	0.5nm,0.3s,baz=223,slow=7.9,SNR=2.0						
WRA	**Warramunga Arr**	**70.38**	**112**	P	P	06 15 33.2	+0.1
	0.6nm,0.4s,baz=292,slow=5.8,SNR=4.0						
ASAR	**Alice Springs**	**70.65**	**116**	P	P	06 15 34.9	+0.1
	0.3nm,0.6s,baz=292,slow=5.8,SNR=5.7						
TXAR	**Lajitas Array**	**147.28**	**343**	PKPbc	PKPbc	06 24 02.2	-0.7
	0.5nm,0.9s,baz=13,slow=1.9,SNR=5.1						

IDC 05 06:23:43.9±2.4,258N×6638E,h0km,mb3.6/3,mb1 3.8/3, mb1mx3.4/21,mbtmp3.6/3,Error ellipse: s-maj=83.3km s-min=39.2km az=63.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**56.73**	**31**	P	P	06 33 30.3	+0.8
	0.2nm,0.5s,baz=218,slow=6.8,SNR=2.3						
WRA	**Warramunga Arr**	**70.27**	**112**	P	P	06 34 59.7	+0.1
	0.7nm,0.7s,baz=284,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**70.59**	**116**	P	P	06 35 01.4	-0.2
	0.5nm,0.8s,baz=297,slow=4.9,SNR=4.9						
TXAR	**Lajitas Array**	**146.87**	**344**	PKPbc	PKPbc	06 43 27.8	-1.1
	0.5nm,0.7s,baz=67,slow=2.1,SNR=8.7						

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*ISCJB **05** 06:25:01.0±0.5,1070S×7528W,h33km, mb4.2/12,Error ellipse: s-maj=8.7km s-min=7.2km az=20.4*
*IDC **05** 06:25:00.8±3.2,1072S×7534W,h18km±22km,mb3.8/8, mb1 4.0/11,mb1mx3.9/22,mbtmp3.8/11,ML3.3/3,MS3.1/3, Ms1 3.1/3,ms1mx2.8/34,Error ellipse: s-maj=18.0km s-min=17.9km az=12.0*
*NEIC **05** 06:25:01.8±1.7,1076S×7534W,h27km±12km,mb4.7/5, Error ellipse: s-maj=9.8km s-min=6.3km az=62.0*
ISC 05 06:25:00.0±1.7,1078S±005×**7534W**±006,**h13**km±11km, **n33**,σ0**97**/25,**mb4.2**/12,**Central Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.90**	**231**	Pn	**Pn**	**06 25 32.4**	**+0.3**
	359nm,0.3s,baz=48,slow=9.6,SNR=119						
NNA				Pg	**Pg**	**06 25 35.5**	**-1.1**
	359nm,0.3s,baz=45,slow=9.6,SNR=354						
NNA				Sn	**Sn**	**06 25 56.6**	**+0.6**
	141nm,0.3s,baz=204,slow=16,SNR=8.5						
NNA				Lg		06 26 03.3	
	249nm,0.3s,baz=322,slow=23,SNR=29						
ATAH	**Atahualpa**	**4.82**	**321**	Pn	**Pn**	**06 26 14.2**	**+1.9**
	12nm,0.3s,baz=162,slow=6.6,SNR=56						
ATAH				Lg		06 27 17.1	
	3.6nm,0.3s,baz=131,slow=15,SNR=2.2						
ATAH				LR	LR	06 28 08.6	
	comp=Z,396nm,19.3s,baz=172,slow=40						
LPAZ	**La Paz**	**8.89**	**129**	Pn	**Pn**	**06 27 10.5**	**+2.2**
	0.2nm,0.3s,baz=306,slow=10,SNR=20						
LPAZ				Lg		06 29 35.8	
	0.5nm,0.3s,baz=185,slow=20,SNR=4.6						
LPAZ	**La Paz**	**8.89**	**129**	Pn	**Pn**	**06 27 10.5**	**+2.2**
LPAZ				Lg		06 29 35.8	
OTAV	**Otavalo**	**11.37**	**344**	*e*Pn	**Pn**	**06 27 43.2**	**+0.9**
	9.5nm,0.7s						
OTAV				*e*Sn	**Sn**	**06 29 41.9**	**-7.4**
LVC	**Limon Verde**	**13.28**	**153**	LR	LR	06 33 38.3	
	comp=Z,132nm,21.5s,baz=352,slow=39						
SIV	**San Ignacio**	**14.81**	**112**	Pn	**Pn**	**06 28 28.3**	**-1.0**
	0.3nm,0.3s,baz=308,slow=15,SNR=11						
SIV				Lg		06 32 43.3	
	0.8nm,0.3s,baz=22,slow=23,SNR=4.7						
ROSC	**El Rosal**	**15.56**	**4**	Pn	**Pn**	**06 28 39.9**	**+0.6**
	0.5nm,0.3s,baz=90,slow=21,SNR=4.4						
ROSC				Lg		06 33 07.1	
	0.2nm,0.3s,baz=118,slow=22,SNR=3.0						
SDV	**Santo Domingo**	**20.09**	**14**	P	**P**	**06 29 34.1**	**+0.7**
	5.5nm,0.5s,baz=247,slow=9.1,SNR=9.6						
SDV				Lg		06 35 30.2	
	3.3nm,0.9s,baz=53,slow=12,SNR=2.6						
CPUP	**Villa Florida**	**22.99**	**135**	P	**P**	**06 30 05.1**	**+0.5**
	2.1nm,0.8s,mb3.6,baz=289,slow=10,SNR=6.2						
PCRV	**Puerto La Cruz**	**23.38**	**27**	Lg		06 37 18.1	
	3.3nm,0.9s,baz=100,slow=11,SNR=1.8						
BDFB	**Brasilia**	**27.02**	**103**	Lg		06 39 20.6	
	0.9nm,0.8s,baz=352,slow=27,SNR=2.6						
OXF	**Oxford**	**46.98**	**344**	*e*P	**P**	**06 33 30.1**	**-0.6**
	5.1nm,0.6s,mb4.6						
ELN	**Prospectdale**	**48.02**	**354**	*e*P	**P**	**06 33 39.4**	**+0.6**
MIAR	**Mount Ida**	**48.28**	**340**	*e*P	**P**	**06 33 40.7**	**-0.2**
	8.4nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**48.34**	**326**	P	**P**	**06 33 41.6**	**+0.1**
	0.6nm,0.7s,mb3.8,baz=146,slow=9.1,SNR=11						
SADO	**Sadowa**	**55.39**	**357**	P	**P**	**06 34 32.5**	**-1.3**
	baz=198,slow=6.4						
SDCO	**Great Sand Dun**	**55.93**	**331**	*e*P	**P**	**06 34 37.9**	**+0.1**
	1.9nm,0.9s,mb4.1						
ECSD	**EROS,Sioux Fal**	**57.60**	**342**	*e*P	**P**	**06 34 48.3**	**-1.3**
	7.1nm,1.2s,mb4.6						
AGMN	**Agassiz Refuge**	**61.56**	**345**	*e*P	**P**	**06 35 15.6**	**-1.2**
	5.9nm,0.6s,mb4.9						
PDAR	**Pinedale Array**	**61.79**	**332**	P	**P**	**06 35 19.6**	**+1.2**
	0.3nm,0.7s,mb3.5,baz=123,slow=3.3,SNR=3.0						
ULM	**Lac du Bonnet**	**63.37**	**345**	P	**P**	**06 35 27.6**	**-1.2**
	6.6nm,0.6s,mb4.9,baz=161,slow=6.0,SNR=11						
YKA	**Yellowknife Ar**	**79.12**	**343**	P	**P**	**06 37 03.0**	**-0.9**
	0.7nm,0.5s,mb3.8,baz=146,slow=5.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**80.05**	**75**	P	**P**	**06 37 09.9**	**-0.1**
	3.1nm,0.8s,mb4.3,baz=270,slow=5.5,SNR=16						
ESDC	**Sonseca Array**	**82.87**	**47**	P	**P**	**06 37 24.2**	**-0.3**
	0.1nm,0.4s,mb3.2,baz=252,slow=3.5,SNR=4.1						
ZAA0	**Zalesovo Array**	**134.12**	**16**	*e*PKPdf	PKPdf	06 44 17.1	0.0
ZALV	**Zalesovo Beam**	**134.12**	**16**	PKP	PKPdf	06 44 17.3	+0.2
	3.5nm,0.7s,baz=328,slow=2.0,SNR=11						
KURK	**Kurchatov**	**134.80**	**23**	*e*PKPdf	PKPdf	06 44 18.6	+0.1
ASAR	**Alice Springs**	**135.40**	**220**	PKP	PKPdf	06 44 20.2	-0.4
	0.3nm,0.7s,baz=116,slow=2.2,SNR=3.7						
WRA	**Warramunga Arr**	**137.74**	**224**	PKP	PKPdf	06 44 24.5	-0.5
	0.3nm,0.3s,baz=164,slow=1.4,SNR=5.7						
MKAR	**Makanchi Array**	**139.40**	**24**	PKP	PKPdf	06 44 27.2	0.0
	0.7nm,0.7s,baz=325,slow=1.8,SNR=5.9						
MKAR	**Makanchi Array**	**139.40**	**24**	PKP	PKPdf	06 44 27.2	0.0
KSRS	**Korea Array**	**146.19**	**326**	PKPbc	PKPbc	06 44 40.1	-0.4
	1.5nm,0.7s,baz=65,slow=3.1,SNR=4.6						

MAN 05 06:30:06,916N×12571E,h4km,mb3.7,ML2.5,MS2.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.21**	**206**	*e*P	Pg	06 30 11.1	+1.0
BUTP				*e*S	Sg	06 30 15.8	+3.0
SCPH	**Surigao**	**0.66**	**341**	*e*P	Pg	06 30 19.4	+0.7
SCPH				*e*S	Sg	06 30 29.6	+2.3
BUKP	**Musuan**	**1.42**	**207**	*e*P	Pn	06 30 32.3	-0.3
BUKP				*e*S	Sb	06 30 52.5	+0.9

IDC 05 06:35:49.1±2.6,305N×6675E,h0km,mb3.8/3,mb1 4.0/3, mb1mx3.5/21,mbtmp3.8/3,MS3.8/4,Ms1 3.8/4, ms1mx3.3/42,Error ellipse: s-maj=104.9km s-min=35.8km az=60.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**35.04**	**62**	LR	LR	06 56 19.4	
	comp=Z,59nm,18.8s,baz=170,slow=35						
IDI	**Anoyia**	**50.29**	**315**	LR	LR	07 06 04.8	
	comp=Z,71nm,21.6s,baz=92,slow=36						
ZALV	**Zalesovo Beam**	**52.86**	**13**	P	P	06 45 06.3	-0.1
	0.4nm,0.3s,baz=220,slow=5.6,SNR=3.0						
DAVOX	**Davos/Dischmat**	**65.58**	**321**	LR	LR	07 17 43.7	
	comp=Z,95nm,18.4s,baz=112,slow=38						
WRA	**Warramunga Arr**	**70.11**	**112**	P	P	06 47 04.4	+0.6
	1.1nm,0.7s,baz=288,slow=5.7,SNR=3.4						
ASAR	**Alice Springs**	**70.47**	**116**	P	P	06 47 05.7	-0.3
	0.5nm,0.8s,baz=291,slow=5.9,SNR=5.0						
BORG	**Borgarnes**	**86.44**	**335**	LR	LR	07 24 04.0	
	comp=Z,79nm,20.2s,baz=19,slow=34						
TXAR	**Lajitas Array**	**146.51**	**345**	PKPbc	PKPbc	06 55 32.4	-0.7
	1.1nm,0.8s,baz=46,slow=2.4,SNR=13						

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*BJI **05** 06:43:50.9,1173N×4709E,h10km,mB5.0,mb4.9,Ms4.5, Msz4.1*
*ISCJB **05** 06:43:58.1±0.3,1263N±004×4741E±003,h10km, mb4.6/57,MS3.9/13,Error ellipse: s-maj=6.4km s-min=4.1km az=14.1*
*MOS **05** 06:43:58.0±1.2,1255N×4750E,h10km,mb4.7/18,Error ellipse: s-maj=12.2km s-min=6.9km az=102.4*
*IDC **05** 06:43:58.0±0.5,1261N×4755E,h0km,mb4.2/22, mb1 4.3/22,mb1mx4.3/28,mbtmp4.2/22,MS3.9/12, Ms1 3.9/12,ms1mx3.6/33,Error ellipse: s-maj=15.8km s-min=13.3km az=108.0*
*SZGRF **05** 06:43:59.0,12.15N×4835E,h33km,mb4.5,Eastern Gulf of Aden*
*NEIC **05** 06:43:59.7±0.4,1254N×4750E,h10km,mb4.6/16,Error ellipse: s-maj=9.8km s-min=8.4km az=91.0*
*CSEM **05** 06:44:00.5±0.1,1258N×4733E,h26km,mb4.6/13,Ms3.7, Error ellipse: s-maj=4.0km s-min=2.6km az=32.0*
*DHMR **05** 06:44:01.5±1.0,1263N×4695E,h10km±10km,ML4.5*
ISC 05 06:43:59.9±0.3,**1262N**±005×**4744E**±003,**h10**km, (**h28**km±3.1km:**pP-P**),**n149**,σ1**9**12/145,**mb4.6**/57,**MS3.9**/13, **4C-2D**,**Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**2.26**	**307**	⇑*i*P	**Pn**	**06 44 35.2**	**-2.2**
BDHA				*i* S	**Sn**	**06 45 01.8**	**-3.5**
	3μm,0.5s						
BDHA	**Al Bayda'**	**2.26**	**307**	⇑*i*P	**Pn**	**06 44 35.2**	**-2.2**
BDHA				*i* S	**Sn**	**06 45 01.8**	**-3.5**
BDHA				AML	AML	06 45 04.1	
	comp=N,6μm,0.5s						
ADEN	**Aden**	**2.40**	**274**	⇓*i*P	**Pn**	**06 44 34.8**	**-4.5**
ADEN				*i* S	**Sn**	**06 45 02.1**	**-6.6**
LBOS		**2.46**	**300**	⇑*i*P	**Pn**	**06 44 37.8**	**-2.4**
LBOS				*i* S	**Sn**	**06 45 06.1**	**-4.2**
DHBB	**Dhamar BB**	**3.54**	**304**	*i* P	**Pn**	**06 44 54.4**	**-0.6**
DHBB				*i* S	**Sn**	**06 45 35.2**	**-1.7**
UDYN	**Al 'Udayn**	**3.63**	**292**	⇑*i*P	**Pn**	**06 44 54.8**	**-1.4**
UDYN				*i* S	**Sn**	**06 45 34.9**	**-4.3**
HAJJ	**Hajjah**	**4.82**	**310**	*i* S	**Sn**	**06 46 06.5**	**-1.9**
	comp=N,558nm,0.6s						
HAJJ	**Hajjah**	**4.82**	**310**	*i* S	**Sn**	**06 46 06.5**	**-2.0**
HAJJ				AML	AML	06 46 26.1	
	comp=Z,1μm,0.6s						
FURI	**Furi**	**9.37**	**248**	*e*P	**Pn**	**06 46 17.5**	**+2.5**
RDF	**Al-Radifah**	**16.22**	**0**	*e*P	**Pn**	**06 47 48.2**	**+0.2**
	baz=359						
RDF				AMb	AMB	06 47 56.5	
	comp=Z,80nm,1.2s,baz=359						
NAY	**Al-Naaiem**	**16.54**	**359**	*e*P	**Pn**	**06 47 52.1**	**+0.1**
	baz=358						
NAY				AMb	AMB	06 48 01.9	
	comp=Z,54nm,1.4s,baz=358						
MIB	**Mutribah**	**17.09**	**360**	*e*P	**Pn**	**06 47 58.5**	**-0.5**
	baz=358						
MIB				AMb	AMB	06 48 05.9	
	comp=Z,63nm,1.0s,baz=358						
EIL	**Elat**	**20.54**	**328**	P	**P**	**06 48 41.6**	**+3.0**
	comp=Z,6.1nm,0.9s,baz=82,slow=4.5,SNR=1.8						
EIL				LR	LR	06 55 58.8	
	comp=Z,364nm,20.0s,MS3.7,baz=123,slow=35						
BHD	**Baghdad**	**20.74**	**353**	*ex*	x	06 48 42.0	
ASF	**Jabal al Asfar**	**21.73**	**335**	P	**P**	**06 48 55.0**	**+3.6**
	comp=Z,11nm,1.1s,mb4.2,baz=16,slow=6.2,SNR=9.3						
MMAI	**Mount Meron Ar**	**23.09**	**333**	LR	LR	06 57 24.2	
	comp=Z,164nm,18.7s,MS3.5,baz=180,slow=35						
MALT	**Malatya**	**26.81**	**344**	*e*P	**P**	**06 49 47.5**	**+7.2**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
MALT	**Malatya**	**26.81**	**344**	*e*P	**P**	**06 49 47.5**	**+7.2**
	comp=Z,9.3nm,1.1s,mb4.2						
MALT	**Malatya**	**26.81**	**344**	*e*P	**P**	**06 49 47.5**	**+7.2**
	comp=Z,9.3nm,1.1s,mb4.2						
GNI	**Garni**	**27.52**	**356**	P	**P**	**06 49 49.2**	**+2.5**
	comp=Z,2.6nm,0.3s,mb4.3,baz=115,slow=17,SNR=2.2						
GNI	**Garni**	**27.52**	**356**	*i* P	**P**	**06 49 50.9**	**+4.2**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GNI				MLR	MLR		
	comp=Z,700nm,20.0s						
TURN	**Turunc**	**29.47**	**328**	*i* P	**P**	**06 50 13.5**	**+9.4**
BDRM	**Kayabasi**	**30.22**	**327**	*i* P	**P**	**06 50 12.0**	**+1.2**
AYDN	**Tasoluk**	**30.45**	**328**	*i* P	**P**	**06 50 14.3**	**+1.6**
OPO	**Ambohidratompo**	**31.00**	**180**	P	**P**	**06 50 18.1**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.0,baz=357,slow=23,SNR=2.8						
NDI	**New Delhi**	**32.00**	**55**	*e*P	**P**	**06 50 26.0**	**-0.5**
LSZ	**Lusaka**	**33.64**	**215**	P	**P**	**06 50 41.6**	**+0.7**
	comp=Z,4.7nm,1.0s,mb4.4,baz=74,slow=9.6,SNR=4.6						
LSZ				LR	LR	07 04 29.0	
	comp=Z,173nm,20.9s,MS3.8,baz=56,slow=36						
LSZ	**Lusaka**	**33.64**	**215**	P	**P**	**06 50 41.6**	**+0.7**
LSZ				LR	LR	07 04 29.0	
KOLN	**Koldanda**	**36.97**	**60**	*e*P	**P**	**06 51 09.1**	**-0.5**
	comp=Z,61nm,1.0s,mb5.4						
AML	**Almayashu**	**37.22**	**33**	P	**P**	**06 51 13.6**	**+2.1**
	SNR=18						
AML	**Almayashu**	**37.22**	**33**	*e*P	**P**	**06 51 13.5**	**+2.0**
	comp=Z,28nm,1.3s,mb4.9						
AML	**Almayashu**	**37.22**	**33**	*e*P	**P**	**06 51 13.5**	**+2.0**
	comp=Z,28nm,1.3s,mb4.9						
DANN	**Dangsing**	**37.27**	**60**	*e*P	**P**	**06 51 12.1**	**-0.1**
	comp=Z,114nm,1.1s,mb5.6						
EKS2	**Erkin-Say**	**37.64**	**32**	P	**P**	**06 51 17.0**	**+2.0**
	SNR=10						
EKS2	**Erkin-Say**	**37.64**	**32**	*e*P	**P**	**06 51 16.8**	**+1.8**
	comp=Z,13nm,1.1s,mb4.6						
EKS2	**Erkin-Say**	**37.64**	**32**	*e*P	**P**	**06 51 16.8**	**+1.8**
	comp=Z,13nm,1.1s,mb4.6						
GKN	**Gorkha**	**37.91**	**60**	*e*P	**P**	**06 51 16.7**	**-0.9**
DMN	**Daman**	**38.21**	**61**	*e*P	**P**	**06 51 19.7**	**-0.4**
	comp=Z,48nm,1.0s,mb5.2						
KKN	**Kakani**	**38.40**	**61**	*e*P	**P**	**06 51 21.4**	**-0.3**
	comp=Z,64nm,1.1s,mb5.3						
USP	**Ospenovka**	**38.44**	**32**	P	**P**	**06 51 23.1**	**+1.4**
	SNR=7.0						
PKI	**Pulchoki**	**38.46**	**61**	*e*P	**P**	**06 51 21.6**	**-0.6**
VAE	**Valguarnera**	**38.49**	**316**	LR	LR	07 11 25.2	
	comp=Z,88nm,18.1s,MS3.6,baz=307,slow=43						
ULHL	**Ulahol**	**38.69**	**35**	P	**P**	**06 51 26.2**	**+2.3**
	SNR=20						
TKM2	**Tokmak 2**	**38.78**	**34**	*e*P	**P**	**06 51 26.0**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
TKM2	**Tokmak 2**	**38.78**	**34**	P	**P**	**06 51 26.7**	**+2.0**
	SNR=5.4						
TKM2	**Tokmak 2**	**38.78**	**34**	*e*P	**P**	**06 51 26.0**	**+1.3**
	comp=Z,6.0nm,1.1s,mb4.2						
TKM2	**Tokmak 2**	**38.78**	**34**	*e*P	**P**	**06 51 26.0**	**+1.3**
	comp=Z,6.0nm,1.1s,mb4.2						
GUN	**Gumba**	**38.95**	**61**	*e*P	**P**	**06 51 26.1**	**-0.2**
	comp=Z,48nm,0.8s,mb5.3						
JIRN	**Jiri**	**39.15**	**62**	*e*P	**P**	**06 51 27.4**	**-0.6**
RAMN	**Ramite**	**39.33**	**63**	*e*P	**P**	**06 51 28.7**	**-0.8**
	comp=Z,62nm,1.2s,mb5.2						
ODAN	**Odare**	**40.00**	**63**	*e*P	**P**	**06 51 34.3**	**-0.8**
TAPN	**Taplejung**	**40.39**	**63**	*e*P	**P**	**06 51 37.9**	**-0.4**
	comp=Z,40nm,0.8s,mb5.2						
AKASG	**Malin Array Be**	**40.78**	**342**	P	**P**	**06 51 41.1**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.7,baz=161,slow=7.6,SNR=9.7						
AKASG				PcP	PcP	06 53 41.8	-0.5
	comp=Z,0.2nm,0.3s,baz=153,slow=2.6,SNR=4.5						
AKASG	**Malin Array Be**	**40.78**	**342**	PcP	PcP	06 53 41.8	-0.5
TAM	**Tamanrasset**	**41.06**	**290**	*e*P	**P**	**06 51 45.3**	**+1.3**
TAM	**Tamanrasset**	**41.06**	**290**	*e*P	**P**	**06 51 45.4**	**+1.4**
KEST	**Kesra**	**41.30**	**310**	P	**P**	**06 51 47.7**	**+2.0**
	comp=Z,1.0nm,0.7s,mb3.6,baz=86,slow=19,SNR=2.4						
KEST				LR	LR	07 09 30.4	
	comp=Z,47nm,19.1s,MS3.4,baz=271,slow=37						
UZH	**Uzhgorod**	**41.52**	**335**	*e*P	**P**	**06 51 43.5**	**-3.8**
UZH				*e*		06 51 49.5	
LBTB	**Lobatse**	**43.05**	**210**	P	**P**	**06 52 00.5**	**+0.4**
	comp=Z,12nm,1.0s,mb4.6,baz=62,slow=4.2,SNR=3.6						
LBTB				LR	LR	07 10 06.2	
	comp=Z,131nm,19.0s,MS3.9,baz=210,slow=36						
LBTB	**Lobatse**	**43.05**	**210**	P	**P**	**06 52 00.5**	**+0.4**
LBTB				LR	LR	07 10 06.2	
TSUM	**Tsumeb**	**43.19**	**223**	P	**P**	**06 52 02.4**	**+1.2**
	comp=Z,2.6nm,0.8s,mb4.0,baz=56,slow=10,SNR=3.8						
TSUM				LR	LR	07 11 15.3	
	comp=Z,154nm,18.9s,MS3.9,baz=312,slow=38						
OBN	**Obninsk**	**43.24**	**351**	*e*P	**P**	**06 52 02.9**	**+1.7**
OBN				*e*		06 53 45.5	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
MOS	**Moscow**	**43.69**	**352**	*e*P	**P**	**06 52 05.3**	**+0.5**
BVAR	**Borovoye Array**	**44.27**	**20**	LR	LR	07 13 51.2	
	comp=Z,428nm,18.3s,MS4.4,baz=219,slow=40						
TOA0	**Torodi Ar. Sit**	**44.55**	**276**	*e*P	**P**	**06 52 12.3**	**0.0**
TOA0	**Torodi Ar. Sit**	**44.55**	**276**	*e*P	**P**	**06 52 12.3**	**0.0**
TORD	**Torodi Ar. Bea**	**44.55**	**276**	P	**P**	**06 52 12.5**	**+0.2**
	comp=Z,5.3nm,0.8s,mb4.4,baz=93,slow=6.0,SNR=27						
TORD				PcP	PcP	06 53 55.3	-0.3
	comp=Z,0.9nm,1.0s,baz=66,slow=3.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**44.55**	**276**	PcP	PcP	06 53 55.3	-0.3
TORD	**Torodi Ar. Bea**	**44.55**	**276**	P	**P**	**06 52 12.5**	**+0.2**
TORD				PcP	PcP	06 53 55.3	-0.3
ARU	**Arti**	**44.55**	**9**	*d i*P	**P**	**06 52 12.4**	**+0.7**
ARU				*e*		06 53 53.9	
ARU				*e*PPP		06 54 34.9	
ARU				*e*S	**S**	**06 58 48.1**	**+0.9**
ARU

comp=Z,8.3nm,1.2s,mb4.6
LPG La Plagne 47.55 322 *e*P **P 06 52 35.9 +0.3**
LPL La Plagne 47.57 322 *e*P **P 06 52 35.2 -0.5**
VSU Vasula 48.34 346 *i* P **P 06 52 44.8 +3.3**
KLMR Klimovskoe 48.50 355 P **P 06 52 43.0 +0.4**
KLMR pmax pmax
comp=Z,14nm,0.7s,mb5.1
VIVF Saint-Julien-l 48.52 320 *e*P **P 06 52 43.4 +0.3**
comp=Z,14nm,1.2s,mb4.5
VIVF Saint-Julien-l 48.52 320 *e*P **P 06 52 43.4 +0.3**
VIVF pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
VIVF Saint-Julien-l 48.52 320 *e*P **P 06 52 43.4 +0.3**
comp=Z,6.8nm,1.2s,mb4.5
CDF Champ du Feu 48.78 325 *e*P **P 06 52 45.2 +0.2**
CMAR Chiang Mai Arr 49.83 76 P **P 06 52 52.3 -1.2**
comp=Z,2.0nm,0.5s,mb4.4,baz=276,slow=8.9,SNR=16
CMAR Chiang Mai Arr 49.83 76 *i* P **P 06 52 52.7 -0.8**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
LOR Lormes 50.16 322 *e*P **P 06 52 56.1 +0.5**
comp=Z,28nm,1.4s,mb4.8
LOR *e*MLR MLR
comp=Z,119nm,17.2s,MS3.7
LOR Lormes 50.16 322 *e*P **P 06 52 56.1 +0.5**
LOR pmax pmax
comp=Z,14nm,1.4s,mb4.8
LOR MLR MLR
comp=Z,120nm,17.3s,MS4.0
LOR Lormes 50.16 322 *e*P **P 06 52 56.1 +0.5**
comp=Z,14nm,1.4s,mb4.8
LOR LR LR
comp=Z,120nm,17.3s,MS4.0
SSF Saint Saulge 50.28 322 *e*P **P 06 52 56.7 +0.2**
comp=Z,12nm,1.1s,mb4.5
SSF Saint Saulge 50.28 322 *e*P **P 06 52 56.7 +0.2**
SSF pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
SSF Saint Saulge 50.28 322 *e*P **P 06 52 56.7 +0.2**
comp=Z,5.8nm,1.1s,mb4.5
NVS Novosibirsk 50.57 26 *e*P **P 06 52 57.6 -1.0**
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=Z,17nm,1.5s,mb4.8
ZAL Zalesovo 50.66 28 P **P 06 52 58.2 -1.1**
ZAA0 Zalesovo Array 50.68 28 *e*P **P 06 52 58.1 -1.3**
ZAA0 Zalesovo Array 50.68 28 *e*P **P 06 52 58.1 -1.3**
ZALV Zalesovo Beam 50.68 28 P **P 06 52 58.2 -1.2**
comp=Z,3.4nm,0.7s,mb4.4,baz=229,slow=7.2,SNR=14
ESDC Sonseca Array 52.55 311 P **P 06 53 13.9 +0.2**
comp=Z,1.2nm,0.8s,mb3.9,baz=93,slow=7.2,SNR=6.2
GTA Gaotai 53.20 50 *e*P **P 06 53 19.2 +0.7**
GTA AP pP 06 53 23.7 +2.0
GTA XP sP 06 53 27.0 +4.1
GTA AMB AMB
comp=Z,13nm,0.9s,mb4.9
HFS Hagfors 53.54 340 P **P 06 53 20.2 -0.4**
comp=Z,6.4nm,1.1s,mb4.5,baz=160,slow=8.9,SNR=3.6
KONO Kongsberg 54.65 338 *i* P **P 06 53 34.5 +5.8**
NB2 NORSAR Subarra 55.04 339 P **P 06 53 29.7 -1.8**
comp=Z,1.0nm,0.8s,mb3.9,baz=134,slow=7.4
NOA NORSAR Array B 55.04 339 P **P 06 53 30.2 -1.3**
comp=Z,1.0nm,0.9s,mb3.8,baz=135,slow=6.4,SNR=4.3
LZH Lanzhou 55.61 55 *e*P **P 06 53 36.4 +0.3**
LZH AP pP 06 53 45.9 +6.6
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,77nm,4.0s
GYA Guiyang 57.05 67 P **P 06 53 43.9 -2.6**
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
ARCES ARCESS Array B 58.55 351 P **P 06 53 56.4 +0.1**
comp=Z,3.7nm,1.0s,mb4.4,baz=153,slow=6.1,SNR=5.2
ARCES LR LR 07 23 54.1
comp=Z,90nm,18.1s,MS3.9,baz=138,slow=41
ZAK Zakamensk 58.82 38 *e*P **P 06 53 54.6 -3.9**
ZAK pmax pmax
comp=Z,2.0nm,2.0s,mb3.8
XAN Xi'an 59.47 58 P **P 06 54 02.1 -1.2**
XAN AP pP 06 54 09.6 +3.0
XAN AMB AMB
comp=Z,9.0nm,1.4s,mb4.6
SONM Songino Array 60.03 42 P **P 06 54 07.4 +0.6**
comp=Z,7.6nm,0.9s,mb4.7,baz=245,slow=7.4,SNR=38
BOD Bodaibo 66.97 32 *e*P **P 06 54 46.6 -6.0**
CN2 Changchun 72.75 48 *e*P **P 06 55 28.1 -0.4**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
KSRS Korea Array 74.94 54 P **P 06 55 40.2 -1.2**
comp=Z,2.6nm,0.8s,mb4.2,baz=263,slow=6.4,SNR=10
KSRS Korea Array 74.94 54 P **P 06 55 40.2 -1.3**
KSRS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KLR Kul'dur 76.86 42 *e*P **P 06 55 46.7 -5.5**
MAW Mawson 80.79 174 P **P 06 56 13.1 -0.2**
comp=Z,1.2nm,0.7s,mb3.9,baz=333,slow=6.8,SNR=3.7
MAW LR LR 07 28 00.5
comp=Z,174nm,19.4s,MS4.4,baz=244,slow=33
FITZ Fitzroy Crossi 82.95 110 P **P 06 56 24.6 -1.1**
comp=Z,4.1nm,1.0s,mb4.4,baz=253,slow=12,SNR=3.5
BILL Bilibino 88.62 19 *e*P **P 06 56 54.0 +1.1**
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
SNAA Sanae 90.49 194 LR LR 07 35 38.6
comp=Z,31nm,18.5s,MS3.8,baz=21,slow=34
WRA Warramunga Arr 91.38 110 P **P 06 57 05.9 -0.8**
comp=Z,2.9nm,0.8s,mb4.7,baz=298,slow=3.8,SNR=11
ASAR Alice Springs 91.81 114 P **P 06 57 07.5 -1.1**
comp=Z,1.5nm,1.1s,mb4.2,baz=309,slow=3.8,SNR=6.1
PDAR Pinedale Array 120.98 340 PKP PKPdf 07 02 51.4 -1.6
comp=Z,0.2nm,0.7s,baz=59,slow=3.5,SNR=3.0
NVAR Mina Array Bea 127.49 346 PKP PKPdf 07 03 06.2 +0.6
comp=Z,0.9nm,0.9s,baz=157,slow=0.6,SNR=5.1
NVAR Mina Array Bea 127.49 346 PKP PKPdf 07 03 06.2 +0.6
TXAR Lajitas Array 129.82 327 PKP PKPdf 07 03 10.1 -0.2
comp=Z,0.2nm,0.9s,baz=72,slow=2.9,SNR=2.5

*ISCJB **05** 06:52:36.6±0.8, 27N±0.1×66.1E±0.1, h10km, mb3.9/12, MS3.9/4, Error ellipse: s-maj=19.4km s-min=17.6km az=34.0*
*IDC **05** 06:52:37.0±1.2, 264N×66.13E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/24, mbtmp3.8/11, MS3.9/4, Ms1 3.9/4, ms1mx3.4/29, Error ellipse: s-maj=37.6km s-min=22.0km az=33.0*
*NEIC **05** 06:52:38.6±0.6, 266N×66.14E, h10km, mb4.7/1, Error ellipse: s-maj=16.6km s-min=15.1km az=203.0*
ISC 05 06:52:38.6±0.8, 27N±01×661E±01, h10km, n19, σ0§69/14, mb3.9/12, MS3.9/4, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**32.75**	**89**	LR	LR	07 09 51.7	
	comp=Z,636nm,21.2s,MS4.3,baz=238,slow=32						
CMAR	**Chiang Mai Arr**	**35.77**	**62**	P	**P**	**06 59 39.0**	**+0.8**
	1.1nm,0.3s,mb4.2,baz=265,slow=9.9,SNR=3.7						
MKAR	**Makanchi Array**	**46.16**	**15**	P	**P**	**07 01 03.3**	**-0.1**
	0.1nm,0.3s,mb3.2,baz=206,slow=9.3,SNR=4.1						
MKAR				LR	LR	07 19 06.2	
	comp=Z,56nm,19.8s,MS3.5,baz=355,slow=34						
LBTB	**Lobatse**	**47.97**	**233**	P	**P**	**07 01 18.3**	**+0.4**
	3.4nm,0.5s,mb4.6						
AKTK	**Aktyubinsk**	**48.11**	**353**	P	**P**	**07 01 18.8**	**+0.3**
AKTO	**Aktyubinsk**	**48.11**	**353**	P	**P**	**07 01 18.8**	**+0.3**
	2.4nm,0.8s,mb4.3,baz=167,slow=4.8,SNR=5.4						
IDI	**Anoyia**	**50.14**	**315**	P	**P**	**07 01 32.7**	**-1.7**
	5.3nm,0.9s,mb4.6,baz=98,slow=7.1,SNR=2.2						
ZALV	**Zalesovo Beam**	**53.39**	**14**	P	**P**	**07 01 57.2**	**-1.1**
	1.8nm,0.9s,mb4.0,baz=202,slow=7.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**53.39**	**14**	P	**P**	**07 01 57.2**	**-1.1**
SONM	**Songino Array**	**56.80**	**31**	P	**P**	**07 02 22.9**	**-0.1**
	1.0nm,1.0s,mb3.8,baz=224,slow=6.2,SNR=6.6						
AKASG	**Malin Array Be**	**57.09**	**333**	P	**P**	**07 02 26.0**	**+0.9**
	0.2nm,0.3s,mb3.6,baz=157,slow=5.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**64.52**	**283**	LR	LR	07 28 22.0	
	comp=Z,33nm,20.7s,MS3.5,baz=10.0,slow=33						
HFS	**Hagfors**	**69.84**	**335**	P	**P**	**07 03 49.6**	**+0.3**
	1.2nm,0.6s,mb4.0,baz=127,slow=4.7,SNR=3.6						
WRA	**Warramunga Arr**	**70.53**	**112**	P	**P**	**07 03 54.3**	**0.0**
	1.3nm,0.7s,mb3.9,baz=290,slow=5.7,SNR=4.1						
ASAR	**Alice Springs**	**70.84**	**116**	P	**P**	**07 03 55.5**	**-0.6**
	0.4nm,0.7s,mb3.4,baz=298,slow=6.1,SNR=3.9						
ESDC	**Sonseca Array**	**73.04**	**311**	P	**P**	**07 04 09.5**	**+0.4**
	0.2nm,0.3s,mb3.5,baz=94,slow=5.5,SNR=5.7						
VNDA	**Vanda**	**93.81**	**167**	LR	LR	07 42 32.2	
	comp=Z,104nm,19.3s,MS4.3,baz=282,slow=32						
MNTX	**Cornudas Mount**	**144.90**	**347**	*e*PKPdf	PKPdf	07 12 16.5	-0.3
TXAR	**Lajitas Array**	**146.73**	**344**	PKPbc	PKPbc	07 12 23.1	+1.6
	1.5nm,0.8s,baz=57,slow=2.5,SNR=13						

*CSEM **05** 07:08:28.9±0.1, 3650N×2762E, h2km, MD3.0, Error ellipse: s-maj=2.5km s-min=1.9km az=67.0*
*DDA **05** 07:08:29.8, 3643N×2772E, h5km±1km, Md3.0*
*ATH **05** 07:08:29.1, 3648N×2800E, h52km, MD3.2/3*
*ISCJB **05** 07:08:30.6±0.5, 3652N±003×2769E±004, h10km, Error ellipse: s-maj=5.0km s-min=3.7km az=148.9*
*ISK **05** 07:08:32.0, 3669N×2778E, h7km, MD3.0*
ISC 05 07:08:30.5±0.6, 3650N±003×2768E±004, h4km±6km, n27, σ1§05/43, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.45**	**128**	*e*P	**Pg**	**07 08 38.8**	**-0.4**
BDRM	**Kayabasi**	**0.60**	**342**	*i* P	**Pg**	**07 08 42.7**	**+0.7**
BDRM				*i* S	**Sg**	**07 08 53.1**	**+3.2**
BDRM	**Kayabasi**	**0.60**	**342**	*i* P	**Pg**	**07 08 41.8**	**-0.2**
BDRM				*i* S	**Sg**	**07 08 52.5**	**+2.6**
BODT	**Bodrum**	**0.64**	**332**	*e*PG	**Pg**	**07 08 42.8**	**0.0**
BODT				*e*SG	**Sg**	**07 08 50.6**	**-0.5**
YER	**Yerkesik**	**0.80**	**37**	*e*PG	**Pg**	**07 08 44.7**	**-1.1**
MLSB	**Milas**	**0.80**	**5**	*e*PG	**Pg**	**07 08 44.2**	**-1.7**
MLSB				*e*SG	**Sg**	**07 08 52.9**	**-3.4**
DALT	**Dalyan (Mudla)**	**0.82**	**70**	*e*PG	**Pg**	**07 08 45.4**	**-0.7**
TURN	**Turunc**	**0.83**	**63**	*i* P	**Pg**	**07 08 40.0**	**-6.5**
TURN				*i* S	**Sg**	**07 08 48.3**	**-8.9**
TURN	**Turunc**	**0.83**	**63**	*i* P	**Pg**	**07 08 40.0**	**-6.4**
TURN				*i* S	**Sg**	**07 08 50.1**	**-7.1**
KARP	**Karpathos**	**1.04**	**204**	*e*P	**Pg**	**07 08 50.2**	**-0.2**
KARP				*e*S	**Sg**	**07 09 05.0**	**+1.2**
AYDN	**Tasoluk**	**1.17**	**8**	*i* P	**Pg**	**07 08 52.5**	**-0.6**
AYDN				*i* S	**Sg**	**07 09 10.5**	**+2.2**
AYDN	**Tasoluk**	**1.17**	**8**	*i* P	**Pg**	**07 08 51.9**	**-1.1**
AYDN				*i* S	**Sg**	**07 09 09.3**	**+1.0**
AYDN	**Tasoluk**	**1.17**	**8**	*i* P	**Pg**	**07 08 52.5**	**-0.5**
AYDN				*i* S	**Sg**	**07 09 09.3**	**+1.0**
GCAM	**G?zelcaml?**	**1.25**	**344**	*i* P	**Pg**	**07 08 53.8**	**-0.8**
GCAM				*i* S	**Sg**	**07 09 12.5**	**+1.6**
SMG	**Samos**	**1.39**	**331**	*e*P	**Pn**	**07 08 55.3**	**-1.3**
AKAS	**Kas**	**1.57**	**99**	*i* P	**Pn**	**07 08 59.0**	**-0.1**
AKAS				*i* S	**Sn**	**07 09 20.6**	**+0.7**
GOLH	**Golhisar**	**1.68**	**63**	*i* P	**Pn**	**07 09 01.7**	**+1.1**
GOLH				*i* S	**Sg**	**07 09 25.1**	**+0.6**
GOLH	**Golhisar**	**1.68**	**63**	*i* P	**Pn**	**07 09 01.3**	**+0.7**
GOLH				*i* S	**Sg**	**07 09 25.5**	**+1.0**
GOLH	**Golhisar**	**1.68**	**63**	*i* P	**Pn**	**07 09 01.3**	**+0.7**
GOLH				*i* S	**Sg**	**07 09 25.1**	**+0.6**
ELL	**Elmali**	**1.81**	**81**	*e*PN	**Pn**	**07 09 03.2**	**+0.9**
IZM	**Izmir**	**1.93**	**350**	*e*PN	**Pn**	**07 09 03.7**	**-0.3**
KDAG	**Bornova**	**1.93**	**350**	*i* P	**Pg**	**07 09 06.8**	**-0.7**
KDAG				*i* S	**Sg**	**07 09 35.4**	**+2.8**
BLCB	**Balcova**	**1.95**	**345**	*e*PN	**Pn**	**07 09 04.2**	**-0.2**
KULA	**Kula-Manisa**	**2.16**	**21**	*e*PN	**Pn**	**07 09 06.7**	**-0.6**
KHL	**Karahalli**	**2.34**	**38**	*e*PN	**Pn**	**07 09 08.9**	**-0.8**
AKS	**Akhisar**	**2.38**	**2**	*e*PN	**Pn**	**07 09 09.8**	**-0.5**
BCK	**Bucak**	**2.52**	**67**	*e*PN	**Pn**	**07 09 13.1**	**+1.0**

*NEIC **05** 07:12:40.0, 3319S×11765E, h17km, ML3.5(AUST), After AUST.*
AUST 05 07:12:40.4, 3319S×11765E, h16km, ML3.5, 3C-1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**0.43**	**306**	⇓*i*P	Pg	07 12 48.2	-0.9
NWAO				*i* S	Sg	07 12 54.8	-0.2
	4μm,0.2s						
RKGY	**Rocky Gully**	**1.53**	**201**	⇑*i*P	Pn	07 13 05.7	-1.2
RKGY				*e*S	Sn	07 13 24.9	-1.5
KLBR	**Kellerberrin**	**1.59**	**3**	⇑*i*P	Pn	07 13 06.7	-1.1
KLBR				*e*S	Sn	07 13 26.8	-1.2
	219nm,0.2s						
MUN	**Mundaring**	**1.71**	**314**	⇑*i*P	Pn	07 13 08.6	-0.8
MUN				*e*S	Sn	07 13 27.3	-3.6
KMBL	**Kambalda**	**4.02**	**64**	*e*P	Pn	07 13 39.0	-2.2
KMBL				*e*S	Sn	07 14 22.3	-5.6
	122nm,0.3s						
MORW	**Morawa**	**4.33**	**341**	*e*P	Pn	07 13 43.9	-1.6
MORW				*e*S	Sn	07 14 31.8	-3.8
	23nm,0.2s						
MEEK	**Meekatharra**	**6.58**	**8**	*e*P	Pn	07 14 13.7	-2.7
MEEK				*e*S	Sn	07 15 22.2	-8.8
	24nm,0.2s						
MEEK	**Meekatharra**	**6.58**	**8**	*e*P	Pn	07 14 13.7	-2.7
	24nm,0.2s						
MEEK				*e*S	Sn	07 15 22.2	-8.8
FORT	**Forrest**	**9.16**	**78**	*e*P	Pn	07 14 48.6	-3.2
FORT				*e*S	Sn	07 16 26.0	-8.6
	26nm,0.4s						
FORT	**Forrest**	**9.16**	**78**	*e*P	Pn	07 14 48.6	-3.2
	26nm,0.4s						
FORT				*e*S	Sn	07 16 26.0	-8.6

*ISCJB **05** 07:17:45.0±0.6, 3389N±004×1405W±006, h10km, Error ellipse: s-maj=8.9km s-min=3.5km az=34.9*
*MDD **05** 07:17:48.0±0.7, 3397N×1444W, h0km, mb3.9/9, Error ellipse: s-maj=16.9km s-min=6.4km az=135.0, PRIMO*
*CSEM **05** 07:17:50.2±0.3, 3367N×1417W, h10km, ML3.8/8, Error ellipse: s-maj=11.8km s-min=5.0km az=137.0*
*INMG **05** 07:17:53.6±1.6, 3403N×1456W, h0km, ML2.5, Error ellipse: s-maj=7.4km s-min=2.2km az=129.0*
ISC 05 07:17:46.9±0.6, 3390N±004×1416W±007, h10km, n51, σ1§67/80, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**2.00**	**246**	*e*Pn	**Pn**	**07 18 19.2**	**-1.6**
PMPS				*e*Sn	**Sn**	**07 18 38.5**	**-7.4**
PMPS				A		07 18 40.0	
	19nm,0.1s						
PMPS	**Porto Santo**	**2.00**	**246**	Pn	**Pn**	**07 18 19.2**	**-1.6**
PMPS				Sn	**Sn**	**07 18 38.5**	**-7.4**
	9.6nm,0.1s						
PMAR	**Madeira**	**2.59**	**244**	*e*Pn	**Pn**	**07 18 27.4**	**-1.4**
PMAR				*e*Sn	**Sn**	**07 18 52.9**	**-7.4**
PMAR				A		07 18 58.3	
	39nm,0.1s						
PMAR	**Madeira**	**2.59**	**244**	*e*Pn	**Pn**	**07 18 27.4**	**-1.4**
PMAR				*e*Sn	**Sn**	**07 18 52.9**	**-7.4**
	39nm,0.1s						
EFAM	**Famara**	**4.79**	**173**	Sn	**Sn**	**07 19 55.5**	**+0.9**
	0.4nm,0.1s,SNR=7.9						
EFAM	**Famara**	**4.79**	**173**	S	**Sn**	**07 19 55.5**	**+0.9**
	0.4nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**5.24**	**178**	Sn	**Sn**	**07 20 06.2**	**+0.5**
	4.9nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.41**	**52**	*e*Pn	**Pn**	**07 19 11.3**	**+3.7**
PFVI				*e*Sn	**Sn**	**07 20 09.5**	**-0.5**
PFVI				A		07 20 13.3	
	3.3nm,0.1s						
PFVI	**Vila Bisbo**	**5.41**	**52**	*e*Pn	**Pn**	**07 19 11.3**	**+3.7**
PFVI				*e*Sn	**Sn**	**07 20 09.5**	**-0.5**
	3.3nm,0.1s						
CFTV	**Fuerteventura**	**5.47**	**179**	Sn	**Sn**	**07 20 10.1**	**-1.4**
	1.4nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.72**	**49**	*e*Pn	**Pn**	**07 19 15.7**	**+3.8**
PTEO				*e*Sn	**Sn**	**07 20 16.8**	**-0.8**
PTEO				A		07 20 22.4	
	3.4nm,0.1s						
PTEO	**Sao Teotonio**	**5.72**	**49**	*e*Pn	**Pn**	**07 19 15.7**	**+3.8**
PTEO				*e*Sn	**Sn**	**07 20 16.8**	**-0.8**
	3.4nm,0.1s						
EOSO	**Osorio**	**5.93**	**192**	Sn	**Sn**	**07 20 19.8**	**-3.0**
	2.4nm,0.2s,SNR=7.9						
EOSO	**Osorio**	**5.93**	**192**	S	**Sn**	**07 20 19.8**	**-3.0**
	2.4nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**6.07**	**55**	*e*Pn	**Pn**	**07 19 20.9**	**+4.2**
PBDV				*e*Sn	**Sn**	**07 20 26.3**	**+0.1**
PBDV				A		07 20 28.8	
	1.4nm,0.1s						
PBDV	**Barranco-do-Ve**	**6.07**	**55**	*e*Pn	**Pn**	**07 19 20.9**	**+4.2**
PBDV				*e*Sn	**Sn**	**07 20 26.3**	**+0.1**
	1.4nm,0.1s						
PVAQ	**Vaqueiros**	**6.30**	**54**	*e*Pn	**Pn**	**07 19 23.9**	**+4.1**
PVAQ				*e*Sn	**Sn**	**07 20 31.7**	**-0.1**
PVAQ				A		07 20 34.4	
	3.3nm,0.1s						
PVAQ	**Vaqueiros**	**6.30**	**54**	Pn	**Pn**	**07 19 23.9**	**+4.1**
PVAQ				Sn	**Sn**	**07 20 31.7**	**-0.1**
	1.7nm,0.1s						
PMAFR	**Mafra**	**6.39**	**37**	*e*Pn	**Pn**	**07 19 23.9**	**+2.8**
PMAFR				*e*Sn	**Sn**	**07 20 29.1**	**-5.0**
PMAFR				A		07 20 31.3	
	7.6nm,0.2s						
PMAFR	**Mafra**	**6.39**	**37**	Pn	**Pn**	**07 19 23.9**	**+2.8**
PMAFR				Sn	**Sn**	**07 20 29.1**	**-5.0**
	3.8nm,0.2s						
EGRO	**El Granado**	**6.53**	**54**	Pn	**Pn**	**07 19 26.3**	**+3.4**
	0.6nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**07 20 37.4**	**0.0**
	1.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**6.53**	**54**	P	**Pn**	**07 19 26.3**	**+3.4**
	0.6nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**6.55**	**49**	*e*Pn	**Pn**	**07 19 27.6**	**+4.3**
PBEJ				*e*Sn	**Sn**	**07 20 36.8**	**-1.3**
PBEJ				A		07 20 38.6	
	1.7nm,0.2s						
PBEJ	**Beja**	**6.55**	**49**	Pn	**Pn**	**07 19 27.6**	**+4.3**
PBEJ				Sn	**Sn**	**07 20 36.8**	**-1.3**
	0.9nm,0.2s						
EVO	**Evora**	**6.78**	**45**	*e*Pn	**Pn**	**07 19 30.3**	**+3.9**
EVO				*e*Sn	**Sn**	**07 20 41.7**	**-2.0**
EVO				A		07 20 48.1	
	2.9nm,0.1s						
EVO	**Evora**	**6.78**	**45**	Pn	**Pn**	**07 19 30.3**	**+3.9**
EVO				Sn	**Sn**	**07 20 41.7**	**-2.0**
	1.4nm,0.1s						
PBAR	**Barrancos**	**7.17**	**51**	*e*Pn	**Pn**	**07 19 35.5**	**+3.7**
PBAR				*e*Sn	**Sn**	**07 20 52.0**	**-1.3**
PBAR				A		07 20 56.9	
	0.8nm,0.1s						
PBAR	**Barrancos**	**7.17**	**51**	Pn	**Pn**	**07 19 35.5**	**+3.7**
PBAR				Sn	**Sn**	**07 20 52.0**	**-1.3**
	0.4nm,0.1s						
EMIN	**Mina Concepcio**	**7.20**	**55**	Pn	**Pn**	**07 19 35.8**	**+3.6**
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**07 20 53.3**	**-0.6**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.20**	**55**	P	**Pn**	**07 19 35.8**	**+3.6**
	0.3nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**7.25**	**45**	*e*Sn	**Sn**	**07 20 53.3**	**-2.0**
ESPR	**Espera**	**7.40**	**64**	Pn	**Pn**	**07 19 39.9**	**+5.0**
	1.1nm,0.2s,SNR=7.9						
ESPR				Sn	**Sn**	**07 20 59.4**	**+0.6**
	2.9nm,0.3s,SNR=7.9						
ESPR	**Espera**	**7.40**	**64**	P	**Pn**	**07 19 40.6**	**+5.7**
	1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**7.53**	**48**	Pn	**Pn**	**07 19 39.7**	**+3.0**
	0.9nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**07 21 01.1**	**-1.0**
	0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**7.53**	**48**	P	**Pn**	**07 19 39.7**	**+3.0**
	0.9nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**7.74**	**43**	*e*Pn	**Pn**	**07 19 42.7**	**+3.1**
PMRV				*e*Sn	**Sn**	**07 21 04.6**	**-2.8**
PMRV				A		07 21 07.2	
	1.2nm,0.2s						
PCBR	**Castelo Branco**	**7.99**	**40**	*e*Pn	**Pn**	**07 19 45.8**	**+2.9**
PCBR				*e*Sn	**Sn**	**07 21 09.7**	**-3.6**
EMIJ	**Mijas**	**8.12**	**68**	Sn	**Sn**	**07 21 17.9**	**+1.1**
	28nm,2.5s,SNR=7.9						
PVIS	**Viseu**	**8.43**	**34**	*e*Pn	**Pn**	**07 19 51.6**	**+2.5**
PVIS				A		07 21 19.6	
	1.8nm,0.2s						
EADA	**Adamuz**	**8.85**	**59**	Pn	**Pn**	**07 19 58.0**	**+3.2**
	0.2nm,0.0s,SNR=7.9						
EADA				Sn	**Sn**	**07 21 33.8**	**-0.7**
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**8.85**	**59**	P	**Pn**	**07 19 58.0**	**+3.2**
	0.2nm,0.0s,SNR=7.9						
MVO	**Moncorvo**	**9.20**	**36**	*e*Sn	**Sn**	**07 21 38.4**	**-4.6**
MVO				A		07 21 39.9	
	1.8nm,0.4s						
MVO	**Moncorvo**	**9.20**	**36**	Sn	**Sn**	**07 21 38.4**	**-4.6**
	0.9nm,0.4s						
ELOB	**Lobios**	**9.30**	**29**	Pn	**Pn**	**07 20 01.8**	**+0.9**
	0.1nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**07 21 39.1**	**-6.4**
	0.1nm,0.0s,SNR=7.9						
ELOB	**Lobios**	**9.30**	**29**	P	**Pn**	**07 20 01.8**	**+0.9**
	0.1nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**9.90**	**23**	Sn	**Sn**	**07 21 47.6**	**-13**
	0.5nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**9.94**	**34**	Pn	**Pn**	**07 20 10.1**	**+0.4**
	0.1nm,0.1s,SNR=7.9						
ECAL				Sn	**Sn**	**07 21 56.2**	**-4.9**
	0.4nm,0.6s,SNR=7.9						
ECAL	**Calabor**	**9.94**	**34**	P	**Pn**	**07 20 10.1**	**+0.4**
	0.1nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**10.00**	**52**	Pn	**Pn**	**07 20 13.5**	**+3.0**
	1.2nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**10.00**	**52**	P	**Pn**	**07 20 13.5**	**+3.0**
	1.2nm,0.1s,SNR=7.9						
ETOR	**Torete**	**11.84**	**51**	Pn	**Pn**	**07 20 39.3**	**+3.5**
	0.1nm,0.6s,SNR=7.9						

IDC 05 07:25:25.0±2.3, 247N×6657E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/22, mbtmp3.6/4, MS3.7/1, Ms1 3.7/1, ms1mx2.9/36, Error ellipse: s-maj=89.6km s-min=32.3km az=58.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**48.34**	**353**	P	P	07 34 09.7	+1.5
	1.0nm,0.7s,baz=181,slow=6.9,SNR=3.6						
TSUM	**Tsumeb**	**52.73**	**244**	LR	LR	07 55 50.8	
	comp=Z,73nm,19.0s,baz=309,slow=35						
SONM	**Songino Array**	**56.73**	**31**	P	P	07 35 09.6	-0.9
	0.6nm,0.8s,baz=241,slow=8.1,SNR=3.5						
WRA	**Warramunga Arr**	**70.06**	**112**	P	P	07 36 39.6	+0.3
	0.5nm,0.6s,baz=285,slow=6.1,SNR=5.7					

NOA	**NORSAR Array B**	**71.38 335**	P	**P**	**07 51 40.8**	**-0.9**
	1.6nm,0.9s,mb3.9,baz=122,slow=6.1,SNR=3.0					
NOA	**NORSAR Array B**	**71.38 335**	P	**P**	**07 51 40.8**	**-0.9**
ESDC	**Sonseca Array**	**73.11 311**	P	**P**	**07 51 53.1**	**+0.7**
	0.1nm,0.3s,baz=96,slow=5.6,SNR=5.1					
PDAR	**Pinedale Array**	**134.59 356**	PKP	PKPdf	07 59 41.9	+1.2
	0.2nm,0.6s,baz=357,slow=1.8,SNR=3.0					
TXAR	**Lajitas Array**	**146.72 344**	PKPbc	PKPbc	08 00 06.4	+1.9
	1.4nm,0.7s,baz=65,slow=3.0,SNR=21					

*ISCJB **05** 07:46:22.5±0.5, 274N±008×6627E±009, h10km, mb4.3/22, MS4.1/25, Error ellipse: s-maj=12.6km s-min=12.0km az=3.3*
*BJI **05** 07:46:22.4, 280N×6630E, h10km, mB4.9, mb4.5, Ms4.4, Msz4.1*
*IDC **05** 07:46:23.1±0.6, 277N×6629E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/24, mbtmp4.1/16, MS4.0/23, Ms1 4.0/23, ms1mx4.0/29, Error ellipse: s-maj=17.9km s-min=15.7km az=40.0*
*NEIC **05** 07:46:24.5±0.5, 277N×6629E, h10km, mb4.8/6, Error ellipse: s-maj=13.2km s-min=12.3km az=66.0*
*GCMT **05** 07:46:24.5±0.3, 271N×66.19E, h12km, MW4.9/76, Moment Tensor Solution. s21,c24; s76,c113; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.53±.09; Mθθ=2.16±.07; Mφφ=0.36±.08; Mrθ=0.70±.30; Mφθ=-0.78±.07; Mφr=0.75±.35; Best double couple: Mo=2.67600×10^16 NP1:φs=127.00000°, δ=43.00000°, λ=-64.00000°. NP2: φs=273.00000°, δ=52.00000°, λ=-112.00000°. Principal axes: T 2.4870, Plg=5.0000°, Azm=19.0000°; N 0.3780, Plg=18.0000°, Azm=287.0000°; P -2.8660, Plg=72.0000°, Azm=124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 07:46:24.4±0.5, 272N±008×6626E±009, h10km, n46, σ1$03/30, mb4.3/22, MS4.1/25, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**32.63**	**89**	LR	LR		08 01 51.6	
	comp=Z,106nm,21.5s,MS3.5,baz=246,slow=28							
CMAR	**Chiang Mai Arr**	**35.63**	**62**	P	**P**		**07 53 24.1**	**+1.3**
	0.8nm,0.3s,mb4.1,baz=243,slow=7.9,SNR=8.8							
CMAR				LR	LR		08 07 38.8	
	comp=Z,231nm,18.1s,MS4.0,baz=226,slow=36							
LSA	**Lhasa**	**35.75**	**39**	*eP*	**P**		**07 53 25.0**	**+1.3**
	4.2nm,0.4s,mb4.7							
ASF	**Jabal al Asfar**	**40.25**	**320**	P	**P**		**07 54 01.8**	**+0.2**
	1.5nm,0.4s,mb4.1,baz=190,slow=1.8,SNR=2.6							
EKS2	**Erkin-Say**	**40.34**	**9**	*eP*	**P**		**07 54 02.7**	**+0.6**
	12nm,1.4s,mb4.5							
LSZ	**Lusaka**	**41.70**	**243**	P	**P**		**07 54 15.8**	**+2.0**
	1.7nm,0.4s,mb4.1,baz=43,slow=9.3,SNR=2.9							
LSZ	**Lusaka**	**41.70**	**243**	*eP*	**P**		**07 54 13.1**	**-0.7**
LSZ				P	pP		07 54 15.8	-1.1
GNI	**Garni**	**42.05**	**335**	P	**P**		**07 54 16.5**	**+0.1**
	2.9nm,0.4s,mb4.3,baz=8.7,slow=19,SNR=3.5							
GNI	**Garni**	**42.05**	**335**	*eP*	**P**		**07 54 15.9**	**-0.5**
	85nm,1.5s,mb5.2							
MALT	**Malatya**	**43.62**	**328**	P	**P**		**07 54 30.5**	**+1.4**
	6.9nm,1.3s,mb4.2							
WMQ	**Urumqi**	**45.13**	**22**	*eP*	**P**		**07 54 40.5**	**-0.6**
WMQ				LR	LR			
	comp=N,215nm,18.8s,MS4.2							
WMQ				LR	LR			
	comp=E,226nm,22.0s,MS4.2							
WMQ				LR	LR			
	comp=Z,243nm,23.8s,MS4.1							
MKAR	**Makanchi Array**	**46.07**	**15**	P	**P**		**07 54 47.2**	**-1.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=198,slow=6.4,SNR=6.7							
MKAR				LR	LR		08 14 59.3	
	comp=Z,168nm,22.0s,MS3.9,baz=187,slow=37							
GTA	**Gaotai**	**47.57**	**35**	*eP*	**P**		**07 55 00.5**	**+0.1**
GTA				AP	pP		07 55 05.3	+1.8
GTA				XP	sP		07 55 08.2	+3.4
GTA				PP	PP		07 56 55.4	+3.4
GTA				S	**S**		**08 01 58.0**	**+2.3**
GTA				AMB	AMB			
	comp=Z,6.0nm,0.9s,mb4.6							
GTA				LR	LR			
	comp=N,224nm,16.0s,MS4.3							
GTA				LR	LR			
	comp=E,196nm,16.0s,MS4.3							
GTA				LR	LR			
	comp=Z,215nm,14.4s,MS4.3							
BOSA	**Boshof**	**50.18**	**229**	P	**P**		**07 55 20.9**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.4,baz=72,slow=15,SNR=3.0							
BOSA				LR	LR		08 14 56.0	
	comp=Z,388nm,18.2s,MS4.5,baz=63,slow=34							
BOSA	**Boshof**	**50.18**	**229**	P	**P**		**07 55 20.9**	**+0.4**
BOSA				LR	LR		08 14 56.0	
ZALV	**Zalesovo Beam**	**53.29**	**14**	P	**P**		**07 55 42.1**	**-1.3**
	comp=Z,3.1nm,0.6s,mb4.4,baz=210,slow=6.8,SNR=12							
ZALV				LR	LR		08 18 07.1	
	comp=Z,174nm,20.8s,MS4.1,baz=34,slow=36							
ARU	**Arti**	**53.91**	**355**	*eP*	**P**		**07 55 46.0**	**-1.8**
	comp=Z,17nm,1.4s,mb4.8							
SONM	**Songino Array**	**56.68**	**31**	P	**P**		**07 56 08.7**	**+0.7**
	comp=Z,3.2nm,1.1s,mb4.3,baz=231,slow=4.8,SNR=15							
SONM				LR	LR		08 20 34.4	
	comp=Z,384nm,20.7s,MS4.5,baz=226,slow=36							
AKASG	**Malin Array Be**	**57.08**	**333**	P	**P**		**07 56 10.4**	**-0.4**
	comp=Z,0.1nm,0.3s,mb3.4,baz=336,slow=29,SNR=3.2							
KEST	**Kesra**	**61.90**	**309**	LR	LR		08 23 04.5	
	comp=Z,45nm,18.4s,MS3.7,baz=318,slow=36							
JOW	**Kunigami**	**63.90**	**61**	LR	LR		08 25 53.9	
	comp=Z,122nm,18.4s,MS4.1,baz=124,slow=37							
GERES	**GERESS Array B**	**64.12**	**324**	LR	LR		08 23 18.0	
	comp=Z,82nm,18.8s,MS3.9,baz=282,slow=35							
TORD	**Torodi Ar. Bea**	**64.62**	**283**	P	**P**		**07 57 03.1**	**+0.3**
	comp=Z,1.3nm,1.0s,mb3.9,baz=164,slow=1.1,SNR=4.8							
TORD				LR	LR		08 25 09.7	
	comp=Z,106nm,18.6s,MS4.1,baz=115,slow=36							
KSRS	**Korea Array**	**66.06**	**50**	LR	LR		08 28 22.0	
	comp=Z,188nm,18.4s,MS4.3,baz=70,slow=38							
MAW	**Mawson**	**70.21**	**181**	P	**P**		**07 57 37.7**	**+0.6**
	comp=Z,1.8nm,0.9s,mb4.0,baz=339,slow=6.1,SNR=4.1							
MAW				LR	LR		08 21 03.1	
	comp=Z,186nm,18.1s,MS4.4,baz=62,slow=30							
WRA	**Warramunga Arr**	**70.44**	**112**	P	**P**		**07 57 39.6**	**+0.1**
	comp=Z,6.0nm,0.9s,mb4.5,baz=288,slow=5.9,SNR=20							
WB2	**Warramunga Arr**	**70.45**	**112**	*eP*	**P**		**07 57 37.9**	**-1.7**
ASAR	**Alice Springs**	**70.76**	**116**	P	**P**		**07 57 41.4**	**-0.1**
	comp=Z,2.6nm,0.9s,mb4.2,baz=269,slow=5.3,SNR=15							
DBIC	**Dimbokro**	**70.94**	**276**	LR	LR		08 27 21.8	
	comp=Z,70nm,18.5s,MS4.0,baz=76,slow=35							
NOA	**NORSAR Array B**	**71.36**	**335**	P	**P**		**07 57 45.2**	**+0.9**
	comp=Z,1.2nm,1.0s,mb3.8,baz=50,slow=24,SNR=2.8							
NOA				LR	LR		08 29 08.4	
	comp=Z,102nm,20.3s,MS4.1,baz=65,slow=36							
NOA	**NORSAR Array B**	**71.36**	**335**	P	**P**		**07 57 45.2**	**+0.9**
NOA				LR	LR		08 29 08.4	
ARCES	**ARCESS Array B**	**71.93**	**346**	LR	LR		08 29 33.4	
	comp=Z,87nm,20.9s,MS4.0,baz=308,slow=36							
ESDC	**Sonseca Array**	**73.09**	**311**	P	**P**		**07 57 54.6**	**-0.6**
	comp=Z,2.3nm,0.9s,mb4.1,baz=90,slow=5.4,SNR=12							
MJAR	**Matsushiro Arr**	**73.91**	**53**	LR	LR		08 32 50.6	
	comp=Z,101nm,19.5s,MS4.1,baz=270,slow=38							
CBIJ	**Chichi jima**	**76.24**	**63**	LR	LR		08 28 52.4	
	comp=Z,38nm,21.1s,MS3.7,baz=99,slow=34							
GUMO	**Guam**	**78.30**	**77**	LR	LR		08 30 38.4	
	comp=Z,40nm,18.5s,MS3.8,baz=269,slow=34							
STKA	**Stephens Creek**	**79.03**	**123**	*eP*	**P**		**07 58 28.8**	**-0.3**
STKA	**Stephens Creek**	**79.03**	**123**	P	**P**		**07 58 28.8**	**-0.3**
	comp=Z,4.1nm,0.9s,mb4.4,baz=315,slow=5.7,SNR=5.4							
STKA				LR	LR		08 28 04.3	
	comp=Z,143nm,20.1s,MS4.3,baz=206,slow=32							
KBS	**Kingsbay**	**80.86**	**351**	*eP*	**P**		**07 58 35.2**	**-2.9**
	comp=Z,15nm,0.6s,mb5.1							
CTA	**Charters Tower**	**81.55**	**111**	LR	LR		08 28 01.8	
	comp=Z,18nm,20.3s,MS3.4,baz=234,slow=31							
PETK	**Petropavlovsk-**	**88.72**	**37**	LR	LR		08 41 26.1	
	comp=Z,168nm,19.5s,MS4.5,baz=271,slow=37							
QSPA	**South Pole Qui**	**92.68**	**180**	LR	LR		08 34 10.2	
	comp=Z,135nm,18.1s,MS4.4,baz=311,slow=31							
VNDA	**Vanda**	**93.85**	**167**	LR	LR		08 36 16.0	
	comp=Z,213nm,18.4s,MS4.6,baz=267,slow=32							
PDAR	**Pinedale Array**	**134.57**	**356**	PKP	PKPdf		08 05 45.0	+1.5
	comp=Z,0.6nm,0.9s,baz=67,slow=3.9,SNR=4.0							
TXAR	**Lajitas Array**	**146.70**	**344**	PKPbc	PKPbc		08 06 08.0	+0.7
	comp=Z,3.6nm,0.9s,baz=58,slow=2.1,SNR=36							
TXAR	**Lajitas Array**	**146.70**	**344**	PKPbc	PKPbc		08 06 08.0	+0.7

*ISCJB **05** 08:04:19.4±1.3, 56S±02×1256E±02, h519km±21km, mb2.9/2, Error ellipse: s-maj=42.4km s-min=12.3km az=145.3*
*NEIC **05** 08:04:20.3±1.1, 573S×1256E, h520km±19km, mb4.1/3, Error ellipse: s-maj=37.6km s-min=11.2km az=50.0*
*IDC **05** 08:04:20.7±3.2, 575S×1254E, h525km±49km, mb2.6/2, mb1 2.9/6, mb1mx2.8/18, mbtmp2.8/6, Error ellipse: s-maj=97.7km s-min=15.5km az=60.0*

ISC 05 08:04:21.0±1.2, 59S±02×1255E±02, h532km±17km, n12, σ0$70/14, mb2.9/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.67**	**203**	P	**P**		**08 05 47.7**	**+0.7**
	50nm,0.3s,baz=304,slow=0.5,SNR=27							
BATI				S	**S**		**08 06 56.5**	**-0.6**
	14nm,0.3s,baz=158,slow=22,SNR=7.6							
KAPI	**Kappang**	**5.76**	**278**	P	**P**		**08 05 56.6**	**-0.1**
	3.2nm,0.3s,baz=126,slow=4.5,SNR=19							
KAKA	**Kakadu**	**9.66**	**135**	*eP*	**P**		**08 06 35.2**	**0.0**
	11nm,0.5s							
KAKA	**Kakadu**	**9.66**	**135**	*eP*	**P**		**08 06 35.0**	**-0.3**
	26nm,0.6s							
FITZ	**Fitzroy Crossi**	**12.16**	**179**	*eP*	**P**		**08 07 01.3**	**+0.2**
	8.1nm,1.2s							
FITZ	**Fitzroy Crossi**	**12.16**	**179**	P	**P**		**08 07 01.0**	**-0.1**
	0.4nm,0.3s,baz=37,slow=12,SNR=16							
WRAB	**Tennant Creek**	**16.43**	**149**	*eP*	**P**		**08 07 44.7**	**-0.5**
	1.5nm,0.4s							
WRA	**Warramunga Arr**	**16.43**	**149**	P	**P**		**08 07 45.4**	**+0.1**
	0.5nm,0.3s,baz=336,slow=9.5,SNR=17							
WRA				S	**S**		**08 10 31.6**	**-0.6**
	0.1nm,0.3s,baz=326,slow=17,SNR=3.6							
WB2	**Warramunga Arr**	**16.43**	**149**	*eP*	**P**		**08 07 45.1**	**-0.3**
ASAR	**Alice Springs**	**19.46**	**156**	P	**P**		**08 08 15.2**	**+2.1**
	0.2nm,0.3s,baz=346,slow=14,SNR=11							
SONM	**Songino Array**	**56.06**	**345**	P	**P**		**08 13 08.8**	**-0.5**
	0.3nm,0.6s,mb2.7,baz=139,slow=7.7,SNR=3.1							
MKAR	**Makanchi Array**	**64.88**	**329**	P	**P**		**08 14 07.7**	**+0.1**
	0.3nm,0.5s,mb3.0,baz=139,slow=6.5,SNR=4.3							

*ISCJB **05** 08:10:16.7±1.0, 204S±02×1774W±02, h400km, mb3.7/7, Error ellipse: s-maj=30.2km s-min=15.9km az=139.7*
*NEIC **05** 08:10:18.0±1.5, 2044S×17722W, h411km±28km, mb4.0/4, Error ellipse: s-maj=31.7km s-min=14.5km az=128.0*
*IDC **05** 08:10:27.7±15.0, 2104S×178.16W, h438km±150km, mb3.3/5, mb1 3.4/6, mb1mx3.1/19, mbtmp3.3/6, Error ellipse: s-maj=196.5km s-min=79.0km az=54.0*

ISC 05 08:10:17.5±1.1, 204S±02×1773W±02, h400km, n10, σ0$73/10, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.34**	**40**	P	**P**		**08 12 16.7**	**-0.1**
	91nm,1.3s							
URZ	**Urewera**	**18.43**	**194**	P	**P**		**08 14 06.8**	**+0.4**
	0.8nm,0.3s,baz=287,slow=9.0,SNR=6.2							
CTA	**Charters Tower**	**34.16**	**264**	P	**P**		**08 16 28.4**	**+1.2**
	2.7nm,0.5s,mb3.9,baz=86,slow=13,SNR=5.1							
CTAO	**Charters Tower**	**34.16**	**264**	*eP*	**P**		**08 16 28.1**	**+0.9**
	2.9nm,0.5s,mb3.9							
STKA	**Stephens Creek**	**38.42**	**244**	P	**P**		**08 17 01.2**	**-1.5**
	1.4nm,0.5s,mb3.6,baz=88,slow=13,SNR=5.1							
ASAR	**Alice Springs**	**45.19**	**257**	P	**P**		**08 17 56.4**	**-0.4**
	2.1nm,0.8s,mb3.5,baz=99,slow=8.8,SNR=24							
WRAB	**Tennant Creek**	**45.26**	**262**	*eP*	**P**		**08 17 57.0**	**-0.5**
	1.5nm,0.5s,mb3.6							
WRA	**Warramunga Arr**	**45.27**	**262**	P	**P**		**08 17 57.6**	**0.0**
	1.3nm,0.3s,mb3.8,baz=94,slow=7.8,SNR=52							
FITZ	**Fitzroy Crossi**	**53.70**	**262**	P	**P**		**08 19 01.4**	**+1.0**
	1.1nm,0.5s,mb3.4,baz=90,slow=11,SNR=6.2							
MBWA	**Marble Bar**	**58.52**	**257**	*eP*	**P**		**08 19 33.9**	**-0.1**
	2.8nm,0.4s,mb4.0							

*ISCJB **05** 08:12:55.6±0.6, 31.16N±004×14048E±009, h147km±5km, mb3.6/12, Error ellipse: s-maj=13.3km s-min=6.6km az=167.8*
*MOS **05** 08:12:56.7±1.1, 31.13N×14026E, h157km, mb3.8/3, Error ellipse: s-maj=23.9km s-min=9.8km az=107.2*
*IDC **05** 08:12:56.1±0.8, 31.05N×140.18E, h128km±9km, mb3.5/10, mb1 3.6/14, mb1mx3.5/26, mbtmp3.5/14, Error ellipse: s-maj=29.6km s-min=7.9km az=73.0*
*NEIC **05** 08:12:57.5±1.4, 31.09N×140.13E, h142km±12km, mb4.3/4, Error ellipse: s-maj=25.3km s-min=11.9km az=76.0*
*JMA **05** 08:12:58.6±0.3, 31.31N×14033E, h146km±2km, M4.1*

ISC 05 08:12:56.7±0.5, 3115N±004×14048E±009, h140km±5km, n45, σ0$94/52, mb3.6/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.03**	**344**	P	**Pn**		**08 13 32.4**	**+0.9**
JHJ2				S	**Sn**		**08 13 58.8**	**+0.5**
JHJ	**Hachijo jima 2**	**2.05**	**343**	P	**Pn**		**08 13 32.5**	**+0.8**
	78nm,0.3s,baz=65,slow=23,SNR=88							
JHJ				S	**Sn**		**08 13 57.8**	**-0.9**
	150nm,0.3s,baz=95,slow=22,SNR=13							
JKO	**Kozu shima**	**3.23**	**340**	P	**Pn**		**08 13 47.7**	**+1.2**
BSO1	**Boso 1**	**3.52**	**7**	P	**Pn**		**08 13 50.4**	**+0.1**
BSO1				S	**Sn**		**08 14 30.7**	**-1.1**
BSO3	**Boso 3**	**3.64**	**0**	P	**Pn**		**08 13 52.2**	**+0.3**
BSO3				S	**Sn**		**08 14 33.7**	**-1.0**
BSO4	**Boso 4**	**3.83**	**358**	P	**Pn**		**08 13 55.2**	**+0.9**
BSO4				S	**Sn**		**08 14 37.9**	**-1.2**
JOD2	**Odawara 2**	**4.26**	**345**	P	**Pn**		**08 14 01.0**	**+1.0**
JOD2				S	**Sn**		**08 14 48.4**	**-0.9**
JHMK	**Hamakita**	**4.31**	**329**	P	**Pn**		**08 14 01.2**	**+0.6**
CBIJ	**Chichi jima**	**4.31**	**159**	P	**Pn**		**08 14 00.1**	**-0.7**
CBIJ	**Chichi jima**	**4.31**	**159**	P	**Pn**		**08 14 00.5**	**-0.3**
	60nm,0.3s,baz=327,slow=6.3,SNR=60							
CBIJ				S	**Sn**		**08 14 49.4**	**-1.2**
	25nm,0.3s,baz=281,slow=22,SNR=10							
HMMJ	**Hamamatsu 2**	**4.36**	**329**	P	**Pn**		**08 14 01.8**	**+0.5**
JIE	**Ise**	**4.53**	**316**	P	**Pn**		**08 14 03.7**	**+0.1**
JWZ	**Kozaga**	**4.67**	**302**	P	**Pn**		**08 14 05.0**	**-0.5**
JKN2	**Miekihoku**	**4.69**	**312**	P	**Pn**		**08 14 05.8**	**+0.1**
JNY	**Yasuok**	**4.73**	**333**	P	**Pn**		**08 14 07.2**	**+0.9**
JHU	**Hanno**	**4.79**	**348**	P	**Pn**		**08 14 07.1**	**0.0**
JHU				S	**Sn**		**08 14 59.6**	**-2.3**
MJAR	**Matsushiro Arr**	**5.70**	**341**	P	**Pn**		**08 14 19.8**	**+0.6**
	2.9nm,0.3s,baz=163,slow=11,SNR=39							
MAJO	**Matsushiro**	**5.70**	**341**	*eP*	**Pn**		**08 14 20.2**	**+1.1**
MAJO				pmax	pmax			
	comp=Z,11nm,0.4s							
MAJO	**Matsushiro**	**5.70**	**341**	*ePn*	**Pn**		**08 14 20.1**	**+1.0**
	comp=Z,10nm,0.4s							
MAT	**Matsushiro**	**5.70**	**341**	P	**Pn**		**08 14 20.9**	**+1.8**
KSRS	**Korea Array**	**12.13**	**305**	P	**Pn**		**08 15 44.8**	**0.0**
	baz=117,slow=13,SNR=8.1							
ASAJ	**Asahikawa**	**13.05**	**7**	P	**Pn**		**08 15 55.6**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=202,slow=9.9,SNR=14							
ASAJ	**Asahikawa**	**13.05**	**7**	P	**Pn**		**08 15 55.6**	**-1.0**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**15.88**	**6**	*eP*	**Pn**		**08 16 33.4**	**+1.2**
YSS	**Yuzh-Sakhalins**	**15.88**	**6**	*eP*	**Pn**		**08 16 33.3**	**+1.1**
	comp=Z,15nm,0.8s							
MDJ	**Mudanjiang**	**15.93**	**331**	*ePn*	**Pn**		**08 16 32.1**	**-0.7**
	comp=Z,4.5nm,0.4s							
SONM	**Songino Array**	**30.82**	**313**	P	**P**		**08 18 58.9**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=108,slow=8.4,SNR=6.5							
ZAK	**Zakamensk**	**33.63**	**316**	*eP*	**P**		**08 19 19.2**	**-4.4**
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.1s,mb3.5							
ZALV	**Zalesovo Beam**	**45.48**	**317**	PcP	PcP		08 22 38.2	+0.2
	comp=Z,2.2nm,0.5s,baz=132,slow=2.2,SNR=4.8							
MK31	**Makanchi Array**	**46.80**	**307**	*eP*	**P**		**08 21 11.1**	**-0.9**
MKAR	**Makanchi Array**	**46.80**	**307**	P	**P**		**08 21 11.2**	**-0.8**
	comp=Z,0.6nm,0.4s,mb3.5,baz=90,slow=9.5,SNR=11							
KURK	**Kurchatov**	**49.12**	**312**	*eP*	**P**		**08 21 27.8**	**-2.0**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb3.9							
KURK	**Kurchatov**	**49.12**	**312**	*eP*	**P**		**08 21 27.8**	**-2.0**
	comp=Z,2.4nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**51.14**	**187**	P	**P**		**08 21 45.4**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.0,baz=4.1,slow=7.6,SNR=6.2							
BVAR	**Borovoye Array**	**54.08**	**315**	P	**P**		**08 22 05.9**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.7,baz=101,slow=7.9,SNR=4.5							
ASAR	**Alice Springs**	**54.87**	**187**	P	**P**		**08 22 12.2**	**-0.3**
	comp=Z,0.2nm,0.6s,mb3.0,baz=350,slow=4.2,SNR=4.0							
INK	**Inuvik**	**59.99**	**25**	P	**P**		**08 22 50.3**	**+2.4**
	comp=Z,0.7nm,0.5s,mb3.7,baz=45,slow=7.0,SNR=5.3							
INK	**Inuvik**	**59.99**	**25**	P	**P**		**08 22 50.3**	**+2.4**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKTK	**Aktyubinsk**	**62.12**	**314**	P	**P**		**08 23 02.2**	**-0.3**
AKTO	**Aktyubinsk**	**62.12**	**314**	P	**P**		**08 23 02.2**	**-0.3**
	comp=Z,1.1nm,0.6s,mb3.9,baz=76,slow=14,SNR=4.2							
ARCES	**ARCESS Array B**	**69.23**	**340**	P	**P**		**08 23 49.2**	**+1.4**
	comp=Z,2.0nm,0.5s,mb4.1,baz=71,slow=9.0,SNR=21							
ARCES	**ARCESS Array B**	**69.23**	**340**	P	**P**		**08 23 49.2**	**+1.4**
AKASG	**Malin Array Be**	**78.48**	**323**	P	**P**		**08 24 42.1**	**+0.1**
	comp=Z,0.8nm,0.4s,mb3.7,baz=47,slow=5.7,SNR=10							
NB2	**NORSAR Subarra**	**79.30**	**337**	P	**P**		**08 24 46.9**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.5,baz=42,slow=5.3							
NOA	**NORSAR Array B**	**79.30**	**337**	P	**P**		**08 24 47.0**	**+0.8**
	comp=Z,1.1nm,0.7s,mb3.6,baz=44,slow=5.3,SNR=5.9							

*ISCJB **05** 08:18:37.7±0.5, 266N±009×6635E±008, h10km, mb4.3/19, MS4.0/7, Error ellipse: s-maj=12.4km s-min=11.2km az=171.4*
*IDC **05** 08:18:38.3±0.6, 265N×6631E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.1/25, mbtmp4.2/16, MS4.0/7, Ms1 4.0/7, ms1mx3.6/38, Error ellipse: s-maj=18.2km s-min=17.2km az=30.0*
*NEIC **05** 08:18:39.6±0.4, 265N×6636E, h10km, mb4.9/6, Error ellipse: s-maj=13.0km s-min=11.0km az=165.0*

ISC 05 08:18:39.7±0.5, 266N±008×6637E±008, h10km, n32, σ1$09/26, mb4.3/19, MS4.0/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.00**	**72**	*ePn*	**Pn**		**08 22 09.6**	**-2.3**
	19nm,1.0s							
CMAR	**Chiang Mai Arr**	**35.56**	**62**	P	**P**		**08 25 39.5**	**+2.0**
	0.5nm,0.3s,mb3.9,baz=248,slow=9.1,SNR=6.0							
CMAR				LR	LR		08 40 11.8	
	comp=Z,138nm,18.8s,MS3.7,baz=197,slow=36							
CMAR	**Chiang Mai Arr**	**35.56**	**62**	P	**P**		**08 25 39.5**	**+2.0**
CMAR				LR	LR		08 40 11.8	
ASF	**Jabal al Asfar**	**40.36**	**320**	P	**P**		**08 26 19.1**	**+1.3**
	1.5nm,0.4s,mb4.1,baz=109,slow=3.5,SNR=3.2							
GNI	**Garni**	**42.15**	**335**	P	**P**		**08 26 34.5**	**+2.1**
	3.3nm,0.3s,mb4.4,baz=35,slow=16,SNR=2.5							
GNI	**Garni**	**42.15**	**335**	*eP*	**P**		**08 26 33.5**	**+1.1**
	37nm,1.4s,mb4.8							
QIZ	**Qiongzhong**	**45.52**	**66**	*eP*	**P**		**08 27 00.7**	**+0.8**
	106nm,1.5s,mb5.5							
MKAR	**Makanchi Array**	**46.09**	**15**	P	**P**		**08 27 06.1**	**+2.2**
	0.1nm,0.2s,baz=224,slow=5.1,SNR=2.7							
MKAR				LR	LR		08 46 21.9	
	comp=Z,102nm,19.8s,MS3.8,baz=179,slow=36							
AKTK	**Aktyubinsk**	**48.13**	**353**	P	**P**		**08 27 19.4**	**-0.4**
AKTO	**Aktyubinsk**	**48.13**	**353**	P	**P**		**08 27 19.4**	**-0.4**
	5.9nm,0.9s,mb4.6,baz=170,slow=8.6,SNR=11							
BOSA	**Boshof**	**50.22**	**229**	P	**P**		**08 27 37.3**	**+1.1**
	4.1nm,0.9s,mb4.5,baz=87,slow=4.0,SNR=3.3							
TSUM	**Tsumeb**	**52.63**	**243**	P	**P**		**08 27 54.7**	**+0.3**
	4.7nm,1.1s,mb4.3,baz=252,slow=6.4,SNR=3.8							
ZALV	**Zalesovo Beam**	**53.32**	**13**	P	**P**		**08 27 57.4**	**-1.5**
	1.7nm,0.6s,mb4.2,baz=199,slow=6.5,SNR=5.9							
ZALV				LR	LR		08 50 11.7	
	comp=Z,108nm,21.1s,MS3.9,baz=234,slow=36							
ARU	**Arti**	**53.98**	**355**	*eP*	**P**		**08 28 01.9**	**-1.7**
	16nm,1.4s,mb4.7							
SUR	**Sutherland**	**55.44**	**227**	*eP*	**P**		**08 28 13.6**	**-1.1**
	26nm,1.2s,mb5.1							
SONM	**Songino Array**	**56.67**	**31**	P	**P**		**08 28 23.5**	**+0.2**
	2.5nm,1.1s,mb4

WRA			Sn	Sn	08 43 38.7	-9.1
	0.1nm,0.3s,baz=353,slow=24,SNR=4.0					
FITZ	**Fitzroy Crossi**	**15.27 209**	Pn	Pn	08 40 59.6	-0.3
	0.1nm,0.3s,baz=10,slow=11,SNR=2.4					
FITZ			Sn	Sn	08 43 47.2	-2.7
	0.1nm,0.3s,baz=247,slow=14,SNR=3.1					
ASAR	**Alice Springs**	**18.87 178**	P	Pn	08 41 45.8	+0.6
	0.2nm,0.3s,baz=6.4,slow=11,SNR=14					
MKAR	**Makanchi Array**	**68.16 325**	P	P	08 48 25.0	+0.1
	0.2nm,0.5s,baz=111,slow=7.9,SNR=3.9					

IDC 05 08:38:57.6±9.6, 308N×6688E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.3/21, mbtmp3.8/2, Error ellipse: s-maj=804.6km s-min=50.0km az=40.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**70.00 112**		P	P	08 50 12.3	+0.6
	0.8nm,0.7s,baz=290,slow=5.9,SNR=5.4						
ASAR	**Alice Springs**	**70.36 116**		P	P	08 50 13.4	-0.3
	0.7nm,0.9s,baz=296,slow=5.4,SNR=5.8						
TXAR	**Lajitas Array**	**146.53 345**		PKPbc	PKPbc	08 58 41.0	-0.7
	0.6nm,0.7s,baz=46,slow=3.1,SNR=7.3						

MAN 05 08:43:10, 1484N×12186E, h13km, mb4.2, ML3.1, MS2.8, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.13 145**		*e*P	Pg	08 43 14.4	+0.9
POLP				*e*S	Sg	08 43 17.6	+1.8
BALP	**Baler**	**0.94 343**		*e*P	Pb	08 43 28.1	0.0
BALP				*e*S	Sg	08 43 43.2	+2.8
LBPH	**Los Banos**	**0.95 224**	⇑	*e*P	Pb	08 43 29.6	+1.3
LBPH				*e*S	Sg	08 43 41.8	+1.1
GQP	**Guinayangan**	**1.09 148**	⇓	*e*P	Pb	08 43 29.3	-1.4
GQP				*e*S	Sb	08 43 44.5	-0.3
TGY	**Tagaytay City**	**1.16 231**	⇑	*i*P	Pb	08 43 35.6	+3.8
TGY				*i*S	Sb	08 43 59.9	+13
NBP	**Mount Natib**	**1.40 266**	⇓	*e*P	Pn	08 43 38.1	+2.9
NBP				*e*S	Sn	08 43 48.6	-5.0
CAUP	**Cauayan**	**2.09 359**		*e*P	Pn	08 43 45.9	+1.0
BOLP	**Bolinao**	**2.42 310**		*e*P	Pn	08 43 50.1	+0.8
PVCP	**Virac**	**2.54 119**		*e*P	Pn	08 43 52.4	+1.4
PVCP				*e*S	Sn	08 44 25.0	+3.1
ABRA	**Dolores**	**3.00 339**		*e*P	Pn	08 44 01.2	+3.9
APYP	**Conner**	**3.06 349**		*e*P	Pn	08 43 59.0	+0.9

SZGRF ***05*** *08:46:52.1, 455S×3579E, h33km, mb4.6, Tanzania*
ISCJB ***05*** *08:46:59.0±0.4, 268S±006×3599E±009, h10km, mb4.3/22, MS4.2/17, Error ellipse: s-maj=12.4km s-min=9.2km az=5.6*
IDC ***05*** *08:46:59.0±0.5, 270S×3600E, h0km, mb4.3/18, mb1 4.3/19, mb1mx4.2/27, mbtmp4.2/19, ML3.7/1, MS4.2/18, Ms1 4.2/18, ms1mx4.0/44, Error ellipse: s-maj=16.9km s-min=13.4km az=111.0*
NEIC ***05*** *08:47:00.7±0.3, 273S×3600E, h10km, mb4.5/8, Error ellipse: s-maj=9.9km s-min=7.3km az=96.0*
NEIC Felt at Arusha.
BJI ***05*** *08:47:08.2, 222S×3696E, h30km, mb4.4*

ISC 05 08:47:01.3±9.1, 273S±008×3597E±009, h13km±57km, n41, σ0§88/34, mb4.3/22, MS4.2/17, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**14.64 211**		Pn	**Pn**	**08 50 25.2**	**-3.1**
	1.7nm,0.3s,baz=25,slow=12,SNR=13						
LSZ				Sn	**Sn**	**08 53 00.1**	**-10**
	0.7nm,0.3s,baz=328,slow=15,SNR=2.2						
LSZ				Lg		08 54 40.9	
	2.4nm,0.3s,baz=121,slow=17,SNR=10						
LSZ				LR	LR	08 56 46.0	
	comp=Z,419nm,20.4s,baz=215,slow=40						
LSZ	**Lusaka**	**14.64 211**		*e*Pn	**Pn**	**08 50 23.1**	**-5.1**
	26nm,1.2s						
OPO	**Ambohidratompo**	**19.20 146**		P	**Pn**	**08 51 25.0**	**-1.0**
	0.2nm,0.3s,baz=281,slow=8.4,SNR=3.0						
ABPO	**Ambohimpanom**	**19.59 147**		*e*P	**Pn**	**08 51 32.9**	**+2.3**
	9.2nm,1.1s						
LBTB	**Lobatse**	**24.31 203**		P	**P**	**08 52 19.0**	**+0.3**
	6.9nm,0.7s,mb4.2,baz=48,slow=9.5,SNR=8.8						
LBTB				Lg		08 59 46.6	
	5.8nm,0.9s,baz=343,slow=19,SNR=3.0						
LBTB				LR	LR	09 01 29.0	
	comp=Z,500nm,19.2s,MS4.0,baz=45,slow=36						
LBTB	**Lobatse**	**24.31 203**		*e*P	**P**	**08 52 18.6**	**-0.1**
	12nm,0.9s,mb4.3						
TSUM	**Tsumeb**	**24.32 226**		P	**P**	**08 52 19.6**	**+0.8**
	1.8nm,0.8s,mb3.6,baz=21,slow=10,SNR=4.5						
TSUM				Lg		08 59 49.5	
	17nm,1.1s,baz=296,slow=23,SNR=3.1						
TSUM				LR	LR	09 02 43.3	
	comp=Z,547nm,20.4s,MS4.0,baz=125,slow=39						
TSUM	**Tsumeb**	**24.32 226**		*e*P	**P**	**08 52 19.4**	**+0.5**
	12nm,0.9s,mb4.3						
TSUM				P		08 52 19.6	
TSUM				Lg		08 59 49.5	
TSUM				LR	LR	09 02 43.3	
BOSA	**Boshof**	**27.69 201**		P	**P**	**08 52 49.5**	**+0.2**
	10nm,0.7s,mb4.6,baz=14,slow=7.4,SNR=18						
BOSA				LR	LR	09 04 16.2	
	comp=Z,599nm,21.1s,MS4.2,baz=28,slow=37						
EIL	**Elat**	**32.23 358**		LR	LR	09 05 40.1	
	comp=Z,164nm,18.5s,MS3.8,baz=107,slow=35						
SUR	**Sutherland**	**32.76 204**		P	**P**	**08 53 34.9**	**+0.8**
	13nm,1.0s,mb4.8,baz=41,slow=12,SNR=3.3						
ASF	**Jabal al Asfar**	**34.72 1**		LR	LR	09 06 30.6	
	comp=Z,180nm,18.2s,MS3.9,baz=232,slow=34						
MMAI	**Mount Meron Ar**	**35.55 359**		LR	LR	09 08 17.7	
	comp=Z,191nm,18.8s,MS3.9,baz=85,slow=36						
TORD	**Torodi Ar. Bea**	**37.49 296**		P	**P**	**08 54 14.8**	**-0.3**
	7.2nm,1.1s,mb4.4,baz=114,slow=6.8,SNR=20						
TORD				LR	LR	09 09 47.7	
	comp=Z,1μm,19.0s,MS4.8,baz=100,slow=36						
IDI	**Anoyia**	**39.21 346**		LR	LR	09 11 30.7	
	comp=Z,268nm,18.1s,MS4.1,baz=261,slow=38						
MALT	**Malatya**	**40.90 3**		P	**P**	**08 54 44.1**	**+0.8**
	22nm,2.3s,mb4.4						
DBIC	**Dimbokro**	**41.81 283**		P	**P**	**08 54 50.0**	**-1.1**
	8.0nm,1.0s,mb4.3,baz=85,slow=12,SNR=3.7						
DBIC				LR	LR	09 12 45.0	
	comp=Z,1μm,18.1s,MS4.9,baz=96,slow=37						
VAE	**Valguarnera**	**44.73 335**		LR	LR	09 14 55.4	
	comp=Z,812nm,18.6s,MS4.7,baz=308,slow=38						
KEST	**Kesra**	**45.65 329**		LR	LR	09 14 08.9	
	comp=Z,294nm,19.4s,MS4.2,baz=142,slow=36						
AKASG	**Malin Array Be**	**53.53 355**		P	**P**	**08 56 22.4**	**+0.9**
	0.2nm,0.3s,mb3.5,baz=178,slow=6.0,SNR=8.1						
AKASG				LR	LR	09 20 50.4	
	comp=Z,112nm,20.1s,MS3.9,baz=300,slow=38						
AKASG	**Malin Array Be**	**53.53 355**		P	**P**	**08 56 22.4**	**+0.9**
AKASG				LR	LR	09 20 50.4	
DAVOX	**Davos/Dischmat**	**54.39 338**		LR	LR	09 19 37.3	
	comp=Z,113nm,20.8s,MS3.9,baz=89,slow=36						
GEC2	**GERESS Array S**	**54.88 342**		*e*P	**P**	**08 56 35.8**	**+4.3**
	comp=Z,11nm,1.3s,mb4.7						
GERES	**GERESS Array B**	**54.88 342**		P	**P**	**08 56 31.1**	**-0.4**
	comp=Z,1.5nm,0.9s,mb4.0,baz=113,slow=13,SNR=6.2						
GERES				LR	LR	09 24 34.3	
	comp=Z,141nm,18.3s,MS4.1,baz=290,slow=41						
ESDC	**Sonseca Array**	**55.87 323**		P	**P**	**08 56 38.3**	**-0.4**
	comp=Z,1.1nm,0.8s,mb4.0,baz=127,slow=9.5,SNR=10.0						
ESDC				LR	LR	09 22 09.7	
	comp=Z,428nm,18.2s,MS4.6,baz=135,slow=38						
GRA1	**Grafenberg Arr**	**56.41 341**		*e*P	**P**	**08 56 43.8**	**+1.4**
	comp=Z,5.0nm,1.1s,mb4.5						
GRF	**Grafenberg Arr**	**56.41 341**		*e*P	**P**	**08 56 43.8**	**+1.4**
	comp=Z,5.0nm,1.1s,mb4.5						
BVAR	**Borovoye Array**	**62.61 23**		P	**P**	**08 57 25.6**	**+0.5**
	comp=Z,1.0nm,0.9s,mb4.0,baz=232,slow=12,SNR=3.5						
BVAR				LR	LR	09 25 42.7	
	comp=Z,136nm,18.5s,MS4.2,baz=227,slow=37						
BVAR	**Borovoye Array**	**62.61 23**		P	**P**	**08 57 25.6**	**+0.5**
BVAR				LR	LR	09 25 42.7	
PSI	**Prapat**	**63.17 86**		P	**P**	**08 57 28.8**	**-0.9**
	comp=Z,8.8nm,0.9s,mb4.9,baz=294,slow=6.0,SNR=7.7						
PSI	**Prapat**	**63.17 86**		P	**P**	**08 57 28.8**	**-0.9**
MKAR	**Makanchi Array**	**63.92 34**		P	**P**	**08 57 33.0**	**-1.0**
	comp=Z,5.2nm,1.0s,mb4.5,baz=231,slow=5.8,SNR=17						
KURK	**Kurchatov**	**64.50 29**		*e*P	**P**	**08 57 37.2**	**-0.4**
	comp=Z,4.7nm,1.1s,mb4.4						
CMAR	**Chiang Mai Arr**	**65.42 68**		P	**P**	**08 57 44.0**	**-0.4**
	comp=Z,5.4nm,0.8s,mb4.6,baz=256,slow=7.4,SNR=14						
NOA	**NORSAR Array B**	**66.41 347**		LR	LR	09 28 07.1	
	comp=Z,58nm,21.0s,MS3.8,baz=160,slow=37						
MAW	**Mawson**	**67.36 169**		P	**P**	**08 57 55.6**	**-0.2**
	comp=Z,2.3nm,0.9s,mb4.2,baz=330,slow=7.0,SNR=6.4						
ZALV	**Zalesovo Beam**	**69.49 28**		P	**P**	**08 58 08.3**	**-1.0**
	comp=Z,0.8nm,0.3s,mb4.1,baz=249,slow=7.6,SNR=6.1						
GTA	**Gaotai**	**71.87 47**		P	**P**	**08 58 25.2**	**+1.0**
GTA				AP	pP	08 58 31.2	+2.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
SONM	**Songino Array**	**79.02 40**		P	**P**	**08 59 05.2**	**+0.1**
	comp=Z,1.3nm,0.9s,mb3.9,baz=272,slow=4.2,SNR=7.4						
ASAR	**Alice Springs**	**96.18 114**		P	**P**	**09 00 30.1**	**+0.3**
	comp=Z,0.5nm,0.9s,mb3.9,baz=198,slow=5.8,SNR=3.1						
WRA	**Warramunga Arr**	**96.94 110**		P	**P**	**09 00 32.6**	**-0.7**
	comp=Z,1.2nm,0.9s,mb4.3,baz=263,slow=2.9,SNR=6.0						

ISCJB ***05*** *08:50:14.1±0.5, 43.12N±003×4724E±003, h1km±4km, mb3.7/8, Error ellipse: s-maj=4.7km s-min=3.1km az=23.3*
IDC ***05*** *08:50:14.0±1.1, 4279N×4718E, h0km, mb3.7/5, mb1 3.7/9, mb1mx3.6/25, mbtmp3.7/9, ML3.1/4, MS3.0/1, Ms1 3.0/1, ms1mx2.2/50, Error ellipse: s-maj=23.2km s-min=13.9km az=139.0*
MOS ***05*** *08:50:15.4±2.0, 4303N×4735E, h8km, mb4.3/2, Error ellipse: s-maj=7.4km s-min=6.1km az=162.1*
MOS Felt (III-IV) at Makhachkala.
CSEM ***05*** *08:50:16.8±0.1, 4329N×4749E, h2km, mb4.3, Error ellipse: s-maj=2.3km s-min=1.6km az=162.0*
TIF ***05*** *08:50:17.9, 4302N×4732E, h14km±3km*
NEIC ***05*** *08:50:19.1±0.7, 4300N×4710E, h35km, mb3.9/1, Error ellipse: s-maj=15.9km s-min=10.7km az=155.0*
NNC ***05*** *08:50:26.6±5.2, 4360N×4753E, h61km±41km, mb3.2, Error ellipse: s-maj=101.3km s-min=36.5km az=129.0*

ISC 05 08:50:16.0±0.5, 4311N±003×4720E±003, h2km±4km, n62, σ1§43/91, mb3.6/8, 8C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.27 123**		*e*PG	**Pg**	**08 50 22.3**	**+1.1**
MAK				*e*		08 50 27.6	
MAK				pmax	pmax		
	comp=Z,2μm,0.2s						
MAK	**Makhachkala**	**0.27 123**		*e*Pg	**Pg**	**08 50 22.3**	**+1.1**
	comp=Z,2μm,0.2s						
MAK				*e*Sg	**Sg**	**08 50 27.6**	**+2.9**
DBC	**Dubki**	**0.28 252**		*i* PG	**Pg**	**08 50 20.0**	**-1.4**
BUJR	**Buynaksk**	**0.29 193**		PG	**Pg**	**08 50 19.0**	**-2.6**
KRNR	**Karanay**	**0.35 217**		PG	**Pg**	**08 50 19.0**	**-3.8**
XNZR	**Khunzakh**	**0.67 213**		*i* Pg	**Pg**	**08 50 29.2**	**+0.3**
XNZR				*e*S	**Sg**	**08 50 38.0**	**+0.4**
XNZR				pmax	pmax		
	comp=Z,384nm,0.2s						
KMKR	**Kumukh**	**0.98 184**		*e*PG	**Pg**	**08 50 34.5**	**-0.3**
KMKR				*e*S	**Sg**	**08 50 49.3**	**+1.8**
KMKR				pmax	pmax		
	comp=Z,387nm,0.6s						
SNJR	**Sundja**	**1.75 269**		*i* Pn	**Pg**	**08 50 51.1**	**+1.6**
SNJR				*i* Sg	**Sg**	**08 51 16.3**	**+4.2**
VLKR	**Vladikavkaz**	**1.85 269**		*e*Pn	**Pg**	**08 50 52.5**	**+1.1**
VLKR				*i* Sg	**Sg**	**08 51 19.1**	**+3.8**
TRKR	**Terskaya**	**1.90 290**	⇑	*i*PN	**Pg**	**08 50 53.3**	**+0.9**
TRKR				*i* S	**Sg**	**08 51 20.8**	**+3.9**
SEKA	**Sheki**	**1.90 180**		P	**Pg**	**08 50 53.3**	**+0.9**
	SNR=143						
SEKA				S	**Sg**	**08 51 19.6**	**+2.6**
BTKR	**Batakoyurt**	**1.96 279**		*e*PN	**Pg**	**08 50 54.9**	**+1.4**
BTKR				*e*S	**Sg**	**08 51 23.5**	**+4.7**
ARNR	**Ardon**	**2.14 273**		*e*PN	**Pg**	**08 50 56.7**	**-0.2**
ARNR				*e*S	**Sg**	**08 51 26.0**	**+1.4**
KMSR	**Komsomolskaya**	**2.14 278**		*e*PN	**Pg**	**08 50 56.7**	**-0.3**
KMSR				*e*S	**Sg**	**08 51 26.6**	**+1.9**
DGRG	**David-gareji**	**2.14 220**		P	**Pg**	**08 50 58.6**	**+1.7**
DGRG				S	**Sg**	**08 51 24.1**	**-0.6**
PRTR	**Priterechnaya**	**2.22 288**		*e*PN	**Pg**	**08 50 58.3**	**-0.2**
PRTR				*e*S	**Sg**	**08 51 29.7**	**+2.5**
MTA	**Mtatsminda**	**2.27 232**		P	**Pg**	**08 50 57.9**	**-1.7**
MTA				S	**Sg**	**08 51 28.1**	**-0.9**
TBLG	**Delisi**	**2.28 234**		Pn	**Pg**	**08 50 57.7**	**-2.0**
TBLG				Sn	**Sg**	**08 51 28.3**	**-1.0**
SIZA	**Siyzn**	**2.40 147**		P	**Pg**	**08 51 00.0**	**-1.9**
	SNR=30						
SIZA				S	**Sg**	**08 51 34.4**	**+1.5**
ZEI	**Tsey**	**2.44 263**		*e*Pn	**Pg**	**08 51 00.4**	**-2.4**
ZEI				*e*Sn	**Sg**	**08 51 32.8**	**-1.7**
LSNR	**Lesken**	**2.48 275**		*e*PN	**Pg**	**08 51 01.1**	**-2.4**
LSNR				*e*S	**Sg**	**08 51 34.7**	**-0.9**
PQL	**Pirkuli**	**2.54 155**		P	**Pn**	**08 51 02.0**	**+3.8**
	SNR=14						
GANJ	**Ganja**	**2.55 195**		P	**Pn**	**08 50 59.4**	**+1.1**
	SNR=33						
DIGR	**Digorskoe uzhe**	**2.66 267**		*e*PN	**Pn**	**08 51 03.4**	**+3.6**
DIGR				*e*S	**Sn**	**08 51 38.5**	**+5.9**
ONI	**Oni**	**2.81 260**		P	**Pg**	**08 51 07.3**	**-2.4**
ONI				S	**Sg**	**08 51 44.2**	**-1.9**
KUBR	**Kubataba**	**2.84 285**		*e*Pn	**Pn**	**08 51 03.7**	**+1.4**
KUBR				*i* Sn	**Sn**	**08 51 38.2**	**+1.1**
PYA	**Pyatigorsk**	**3.15 288**		*e*PN	**Pn**	**08 51 07.4**	**+0.9**
PYA				*e*S	**Sn**	**08 51 44.9**	**+0.3**
AKH	**Akhalkalaki**	**3.23 240**		P	**Pg**	**08 51 15.9**	**-2.0**
AKH				S	**Sg**	**08 51 58.0**	**-1.7**
SHAR	**Shatzhatmas**	**3.36 282**	⇑	*e*PN	**Pn**	**08 51 09.9**	**+0.5**
SHAR				*e*S	**Sn**	**08 51 50.4**	**+0.6**
KIV	**Kislovodsk**	**3.39 286**	⇓	*e*PN	**Pn**	**08 51 10.8**	**+1.0**
KIV				*e*S	**Sn**	**08 51 50.9**	**+0.4**
GNI	**Garni**	**3.48 213**		Pn	**Pn**	**08 51 08.8**	**-2.4**
	comp=Z,2.8nm,0.3s,baz=68,slow=11,SNR=3.1						
GNI				Lg		08 52 02.9	
	comp=Z,4.2nm,0.3s,baz=152,slow=21,SNR=3.6						
GLBA	**Clilabad**	**3.97 166**		P	**Pn**	**08 51 20.5**	**+2.7**
	SNR=5.8						
AKTK	**Aktyubinsk**	**10.42 42**		P	**Pn**	**08 52 46.9**	**+0.6**
AKTK	**Aktyubinsk**	**10.42 42**		Pn	**Pn**	**08 52 46.9**	**+0.5**
AKTK				Sn	**Sn**	**08 54 34.9**	**-8.7**
AKTK				LR	LR	08 58 27.4	
AKTO	**Aktyubinsk**	**10.42 42**	⇑	Pn	**Pn**	**08 52 46.8**	**+0.4**
	comp=Z,0.3nm,0.4s						
AKTO			⇑	Sn	**Sn**	**08 54 35.4**	**-8.2**
	comp=Z,1.1nm,0.6s						
AKTO	**Aktyubinsk**	**10.42 42**		Pn	**Pn**	**08 52 46.9**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=214,slow=13,SNR=10						
AKTO				Sn	**Sn**	**08 54 34.9**	**-8.7**
	comp=Z,0.6nm,0.3s,baz=138,slow=21,SNR=7.0						
AKTO				LR	LR	08 58 27.4	
	comp=Z,82nm,19.1s,baz=37,slow=46						
AB31	**Akbulak array**	**10.76 51**		Pn	**Pn**	**08 52 50.7**	**-0.2**
	comp=Z,0.5nm,0.2s,baz=237,slow=12,SNR=74						
AB31			⇑	Sn	**Sn**	**08 54 47.0**	**-4.8**
	comp=Z,2.6nm,0.5s,baz=223,slow=18,SNR=9.7						
OBN	**Obninsk**	**13.86 334**		*e*P	**Pn**	**08 53 36.2**	**+2.9**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN	**Obninsk**	**13.86 334**		*e*P	**Pn**	**08 53 36.2**	**+2.9**
	comp=Z,4.0nm,1.0s						
AKASG	**Malin Array Be**	**14.42 308**		Pn	**Pn**	**08 53 39.1**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=113,slow=12,SNR=3.0						
ARU	**Arti**	**15.19 25**		*e*P	**Pn**	**08 53 49.4**	**-2.0**
ARU				*e*S	**Sn**	**08 56 41.4**	**+1.4**
SVE	**Sverdlovsk**	**16.18 27**		*e*P	**Pn**	**08 53 57.6**	**-6.7**
SVE				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SVE				MLR	MLR		
	comp=Z,189nm,15.0s						
KK31	**Karatay Array**	**17.02 82**		P	**Pn**	**08 54 14.7**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=281,slow=13,SNR=7.5						
BRVK	**Borovoye**	**18.28 49**		*i* P	**Pn**	**08 54 29.6**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**18.28 49**		*i* P	**Pn**	**08 54 29.6**	**-1.0**
	comp=Z,2.0nm,0.8s						
BVA0	**Borovoye Array**	**18.32 49**	⇑	Pn	**Pn**	**08 54 30.2**	**-0.9**
	comp=Z,0.9nm,1.1s,baz=240,slow=13,SNR=6.2						
BVAR	**Borovoye Array**	**18.32 49**		P	**Pn**	**08 54 30.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=209,slow=30,SNR=6.3						
KLMR	**Klimovskoe**	**18.37 348**		*e*P	**Pn**	**08 54 27.4**	**-4.2**
KLMR				pmax	pmax		
	comp=Z,15nm,1.6s						
KURBB	**Kurchatov Arra**	**22.58 60**	⇑	P	**P**	**08 55 16.9**	**-0.5**
	comp=Z,1.5nm,1.5s,mb3.2						
KURK	**Kurchatov**	**22.65 59**	⇓	P	**P**	**08 55 16.3**	**-1.8**
KURK	**Kurchatov**	**22.65 59**		*e*P	**P**	**08 55 16.9**	**-1.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.9						
KURK	**Kurchatov**	**22.65 59**		*e*P	**P**	**08 55 16.9**	**-1.2**
KURK	**Kurchatov**	**22.65 59**		*e*P	**P**	**08 55 16.9**	**-1.2**
	comp=Z,6.0nm,1.3s,mb3.9						
MK31	**Makanchi Array**	**24.98 69**	⇑	P	**P**	**08 55 41.3**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.5,baz=282,slow=7.8,SNR=4.2						
MK31	**Makanchi Array**	**24.98 69**		*e*P	**P**	**08 55 41.3**	**+0.6**
MKAR	**Makanchi Array**	**24.98 69**		P	**P**	**08 55 41.4**	**+0.6**
	comp=Z,0.8nm,0.5s,mb3.5,baz=274,slow=7.9,SNR=10.0						
MKAR	**Makanchi Array**	**24.98 69**		P	**P**	**08 55 41.4**	**+0.6**
HFS	**Hagfors**	**26.47 322**		P	**P**	**08 55 53.4**	**-0.8**
	comp=Z,1.2nm,0.6s,mb3.6,baz=102,slow=12,SNR=6.9						
NOA	**NORSAR Array B**	**27.96 322**		P	**P**	**08 56 07.2**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.1,baz=107,slow=9.4,SNR=2.6						
ARCES	**ARCESS Array B**	**28.75 344**		P	**P**	**08 56 15.4**	**+1.0**
	comp=Z,1.1nm,0.7s,mb3.7,baz=153,slow=8.2,SNR=5.5						
TORD	**Torodi Ar. Bea**	**49.16 247**		P	**P**	**08 59 03.0**	**-2.4**
	comp=Z,1.3nm,0.9s,mb3.9,baz=33,slow=7.8,SNR=6.4						
CMAR	**Chiang Mai Arr**	**49.86 103**		*i* P	**P**	**08 59 09.1**	**-1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						

NEIC 05 08:51:53.7±1.3, 5135N×17978W, h10km, mb3.9/2, Error ellipse: s-maj=38.0km s-min=7.5km az=176.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.58 273**		P	Pg	08 52 04.3	-0.6
AMKA				S	Sg	08 52 11.6	-0.7
ADK	**Adak**	**2.00 73**		P	Pn	08 52 27.2	-0.3
FX1	**Attu Island--F**	**4.61 292**		P	Pn	08 53 04.1	+0.8
NIKO	**Nikolski**	**6.92 72**		*e*Pn	Pn	08 53 34.3	-0.7
	210nm,1.5s						
UNV	**Unalaska Valle**	**8.46 68**		Pn	Pn	08 53 57.4	+1.2
	18nm,0.8s						
KTH	**Kantishna Hill**	**19.54 40**		*e*P	Pn	08 56 20.4	-1.8
	4.6nm,0.8s						
MCK	**McKinley**	**20.43 41**		*e*P	P	08 56 30.7	+0.1
	2.2nm,0.3s						
PV10	**Paradox Valley**	**49.90 76**		*e*P	P	09 00 47.8	+0.7

ISCJB ***05*** *08:52:21.8±1.0, 27N±02×663E±01, h10km, mb4.1/10, MS4.0/2, Error ellipse: s-maj=27.0km s-min=14.9km az=35.4*
IDC ***05*** *08:52:21.7±1.2, 254N×66.15E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/23, mbtmp3.9/9, MS4.0/2, Ms1 4.1/2, ms1mx3.0/40, Error ellipse: s-maj=45.3km s-min=22.3km az=47.0*
NEIC ***05*** *08:52:23.7±0.7, 267N×6633E, h10km, mb4.6/2, Error ellipse: s-maj=21.8km s-min=13.2km az=209.0*

ISC 05 08:52:23.8±1.0, 27N±02×663E±01, h10km, n19, σ0§93/14, mb4.1/10, MS4.0/2, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.04 72**		*e*Pn	**Pn**	**08 55 55.0**	**-1.6**
	7.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**35.61 62**		LR	LR	09 11 38.5	
	comp=Z,137nm,18.5s,MS3.7,baz=79,slow=32						
MKAR	**Makanchi Array**	**46.12 15**		P	**P**	**09 00 49.7**	**+1.5**
	0.2nm,0.3s,mb3.6,baz=186,slow=7.2,SNR=2.7						
AKTK	**Aktyubinsk**	**48.13 353**		P	**P**	**09 01 04.3**	**+0.5**
AKTO	**Aktyubinsk**	**48.13 353**		P	**P**	**09 01 04.3**	**+0.5**
	4.7nm,0.9s,mb4.5,baz=182,slow=7.3,SNR=9.8						
KKM	**Kota Kinabalu**	**49.85 84**		*e*P	**P**	**09 01 17.6**	**-0.1**
BOSA	**Boshof**	**50.18 229**		LR	LR	09 20 37.8	
	comp=Z,299nm,20.6s,MS4.3,baz=357,slow=34						
ZALV	**Zalesovo Beam**	**53.35 14**		P	**P**	**09 01 42.7**	**-0.4**
	1.1nm,0.4s,mb4.2,baz=216,slow=9.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**53.35 14**		P	**P**	**09 01 42.7**	**-0.4**
SONM	**Songino Array**	**56.71 31**		P	**P**	**09 02 08.6**	**+1.1**
	0.3nm,0.4s,mb3.6,baz=232,slow=9.0,SNR=3.7						
AKASG	**Malin Array Be**	**57.17 333**		P	**P**	**09 02 08.8**	**-2.0**
	0.4nm,0.5s,mb3.8,baz=110,slow=6.6,SNR=4.9						
HFS	**Hagfors**	**69.93 335**		P	**P**	**09 03 34.7**	**

WRA Warramunga Arr 16.02 138 P **P 09 21 12.8 +0.6**
0.4nm,0.3s,baz=316,slow=12,SNR=30
WRA S **S 09 24 08.4 -0.3**
0.2nm,0.3s,baz=318,slow=23,SNR=5.4
WRAB Tennant Creek 16.02 138 *e*P **P 09 21 12.6 +0.5**
1.0nm,0.5s
WB2 Warramunga Arr 16.03 138 *e*P **P 09 21 12.4 +0.1**
ASAR Alice Springs 18.61 148 P **P 09 21 42.1 +1.7**
0.3nm,0.3s,baz=326,slow=10,SNR=25
STKA Stephens Creek 29.24 147 P **P 09 23 20.9 +0.2**
0.8nm,0.6s,baz=323,slow=12,SNR=3.2

SZGRF ***05*** *09:28:33.6, 2026S×16955E, h45km, mb5.4, Vanuatu Islands*
DJA ***05*** *09:28:34, 1962S×169.14E, h3km, mB6.2/5*
NEIC ***05*** *09:28:39.8±0.1, 1915S×16872E, h40km, mb5.6/103, ME5.3, MS5.5/157, MW6.0, Error ellipse: s-maj=5.1km s-min=3.6km az=159.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^18Nm; Mrr1.12; Mθθ-0.19; Mφφ-0.93; Mrθ-0.10; Mθφ0.46; Mφr-0.08; Best double couple: M0 1.0000×10^18 NP1:φs161.00000°, δ46.00000°, λ99.00000°. NP2:φs328.00000°, δ45.00000°, λ81.00000°. Principal axes: T 1.1400, Plg83.0000°, Azm148.0000°; N 0.0100, Plg7.0000°, Azm335.0000°; P -1.1500, Plg1.0000°, Azm245.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [III] at Port-Vila.
IDC ***05*** *09:28:40.9±0.6, 1922S×16871E, h45km±4km, mb5.2/34, mb1 5.2/36, mb1mx5.2/36, mbtmp5.2/36, MS5.2/26, Ms1 5.2/26, ms1mx5.1/29 Error ellipse: s-maj=9.1km s-min=7.5km az=168.0*
GCMT ***05*** *09:28:40.4±0.1, 1918S×16844E, h50km, MW5.9/106, Moment Tensor Solution. s106, c238; s105, c323; Duration: ≥2 Moment tensor: Scale 10^18Nm; Mrr0.93±.01; Mθθ-0.01±.01; Mφφ-0.91±.01; Mrθ-0.03±.01; Mφθ0.32±.01; Mφr-0.02±.01; Best double couple: M0 0.97000×10^18 NP1:φs340.00000°, δ45.00000°, λ87.00000°. NP2:φs165.00000°, δ45.00000°, λ93.00000°. Principal axes: T 0.9270, Plg88.0000°, Azm157.0000°; N 0.0850, Plg2.0000°, Azm342.0000°; P -1.0130, Plg0.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BJI ***05*** *09:28:40.6, 1862S×16890E, h46km, mB6.0, mb5.6, Ms5.4, Msz5.3*
ISCJB ***05*** *09:28:40.0±0.1, 1913S±003×16866E±002, h49km, mb5.6/153, MS5.5/210, Error ellipse: s-maj=5.0km s-min=3.0km az=166.1*
BGS ***05*** *09:28:40.0, 1915S×16872E, h40km, mb5.6(NEIC)*
MOS ***05*** *09:28:41.5±1.1, 1909S×16870E, h58km, mb5.9/41, MS5.4/77, Error ellipse: s-maj=7.0km s-min=6.7km az=89.3*

ISC 05 09:28:41.8±0.1, 1914S±003×16872E±002, h51km, h51km±1.6km: pP-P, n1247, c0§72/706, mb5.6/153, MS5.5/210, 214C-149D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.61**	**216**	*e*P	**Pn**	**09 29 33.2**	**-2.0**
DZM	**Mont Dzumac**	**3.61**	**216**	‖*e*Pn	**Pn**	**09 29 32.9**	**-2.3**
HNR	**Honiara**	**12.86**	**317**	P	**Pn**	**09 31 42.9**	**+1.0**
	41nm,0.3s,baz=43,slow=2.0,SNR=11						
HNR				S	**Sn**	**09 34 12.1**	**+8.5**
	9.2nm,0.3s,baz=264,slow=20,SNR=3.2						
HNR				LR	LR	09 35 50.4	
	comp=Z,13μm,20.6s,baz=177,slow=33						
HNR	**Honiara**	**12.86**	**317**	P	**Pn**	**09 31 42.9**	**+1.0**
HNR				S	**Sn**	**09 34 12.1**	**+8.5**
HNR				pmax	pmax		
	comp=Z,41nm,0.3s						
HNR				smax			
	comp=N,9.0nm,0.3s						
HNR				MLR	MLR		
	comp=Z,13μm,20.6s						
HNR	**Honiara**	**12.86**	**317**	*e*Pn	**Pn**	**09 31 42.0**	**+0.1**
	comp=Z,3μm,1.4s						
FUNA	**Funafuti**	**14.65**	**45**	*e*P	**Pn**	**09 32 06.6**	**+0.5**
	comp=Z,3μm,1.9s						
RAO	**Raoul Island**	**15.79**	**132**	LR	LR	09 37 16.2	
	comp=Z,11μm,18.9s,baz=131,slow=33						
ARMA	**Armidale**	**19.12**	**231**	*e*P	**Pn**	**09 33 04.2**	**+2.3**
ARMA				*e*		09 33 11.4	
ARMA				*e*S	**S**	**09 36 40.2**	**+5.4**
AFI	**Afiamalu**	**19.41**	**77**	P	**Pn**	**09 33 05.4**	**+0.1**
	comp=Z,3.3nm,0.3s,baz=76,slow=9.3,SNR=13						
AFI				S	**S**	**09 36 47.1**	**+6.4**
	comp=Z,0.8nm,0.3s,baz=316,slow=22,SNR=1.9						
AFI				LR	LR	09 37 58.0	
	comp=Z,3μm,21.6s,baz=235,slow=29						
AFI	**Afiamalu**	**19.41**	**77**	*e*P	**Pn**	**09 33 01.4**	**-4.0**
	comp=Z,2μm,1.6s						
AFI				S	**S**	**09 36 47.1**	**+6.4**
AFI				LR	LR	09 37 58.0	
URZ	**Urewera**	**20.40**	**161**	P	**P**	**09 33 14.3**	**-0.1**
	comp=Z,120nm,0.6s,baz=318,slow=6,SNR=23						
URZ				S	**S**	**09 37 09.0**	**+8.8**
	comp=Z,14nm,0.8s,baz=208,slow=20,SNR=3.1						
URZ				LR	LR	09 39 56.3	
	comp=Z,10μm,20.7s,MS5.2,baz=314,slow=33						
CTA	**Charters Tower**	**21.18**	**264**	*e*P	**P**	**09 33 24.7**	**+1.7**
	comp=Z,24nm,0.6s,mb4.7						
CTA				*e*		09 33 30.2	
CTA				*e*S	**S**	**09 37 22.2**	**+6.3**
CTA	**Charters Tower**	**21.18**	**264**	P	**P**	**09 33 24.4**	**+1.4**
	comp=Z,36nm,0.7s,mb4.8,baz=94,slow=12,SNR=48						
CTA				S	**S**	**09 37 20.3**	**+4.4**
	comp=Z,5.5nm,0.8s,baz=295,slow=22,SNR=3.3						
CTA				LR	LR	09 40 26.5	
	comp=Z,19μm,21.6s,MS5.5,baz=88,slow=33						
CTA	**Charters Tower**	**21.18**	**264**	P	**P**	**09 33 24.4**	**+1.4**
CTA				S	**S**	**09 37 20.3**	**+4.4**
CTA				pmax	pmax		
	comp=Z,36nm,0.7s						
CTA				smax			
	comp=N,6.0nm,0.8s						
CTA				MLR	MLR		
	comp=Z,19μm,21.6s						
CTAO	**Charters Tower**	**21.18**	**264**	*e*P	**P**	**09 33 24.4**	**+1.4**
CTAO				*e*S	**S**	**09 37 24.2**	**+8.3**
CTAO				MLR	MLR		
	comp=Z,18μm,21.0s,MS5.4						
RIV	**Riverview**	**21.42**	**223**	*e*P	**P**	**09 33 27.4**	**+1.9**
RIV				*e*S	**S**	**09 37 26.5**	**+6.2**
SNZO	**South Karori**	**22.68**	**168**	*e*P	**P**	**09 33 38.8**	**0.0**
SNZO				LR	LR		
	comp=Z,13μm,20.0s,MS5.4						
PMG	**Port Moresby**	**23.00**	**292**	P	**P**	**09 33 42.1**	**-0.3**
PMG				pmax	pmax		
	comp=Z,196nm,1.1s						
PMG				MLR	MLR		
	comp=Z,13μm,20.0s						
PMG	**Port Moresby**	**23.00**	**292**	P	**P**	**09 33 42.1**	**-0.4**
	comp=Z,196nm,1.1s,mb5.5						
PMG				LR	LR		
	comp=Z,13μm,20.0s,MS5.4						
RPZ	**Rata Peaks**	**24.58**	**176**	P	**P**	**09 33 57.4**	**+0.5**
	comp=Z,63nm,0.5s,mb5.4,baz=303,slow=2.1,SNR=72						
RPZ				LR	LR	09 42 32.5	
	comp=Z,11μm,20.8s,MS5.3,baz=337,slow=34						
RPZ	**Rata Peaks**	**24.58**	**176**	P	**P**	**09 33 57.4**	**+0.5**
RPZ				LR	LR	09 42 32.5	
COEN	**Coen**	**25.01**	**278**	*e*P	**P**	**09 34 01.4**	**+0.3**
	comp=Z,229nm,1.3s,mb5.5						
TOO	**Toolangi**	**27.35**	**223**	*e*P	**P**	**09 34 22.4**	**+0.4**
TOO				*e*S	**S**	**09 38 56.2**	**-2.2**
STKA	**Stephens Creek**	**27.48**	**237**	⇑*i*P	**P**	**09 34 23.5**	**+0.2**
	comp=Z,26nm,0.8s,mb4.8						
STKA				*e*pP	pP	09 34 35.5	-0.8
STKA				*e*PCP	PcP	09 37 41.1	+0.4
STKA				*e*PCS	PcS	09 41 21.4	-1.1
STKA				*e*SCS	ScS	09 45 09.4	+0.5
STKA	**Stephens Creek**	**27.48**	**237**	P	**P**	**09 34 23.7**	**+0.4**
	comp=Z,32nm,0.7s,mb5.0,baz=68,slow=8.8,SNR=77						
STKA				PcP	PcP	09 37 40.5	-0.2
	comp=Z,18nm,0.7s,baz=58,slow=1.2,SNR=4.6						
STKA				S	**S**	**09 39 01.2**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=92,slow=9.8,SNR=1.5						
STKA				ScP	ScP	09 41 17.6	+0.4
	comp=Z,5.0nm,0.9s,baz=336,slow=9.6,SNR=3.4						
STKA				LR	LR	09 44 46.0	
	comp=Z,11μm,20.1s,MS5.4,baz=152,slow=35						
STKA				PKiKP	PKiKP	09 45 15.5	-2.2
	comp=Z,2.0nm,0.8s,baz=194,slow=2.5,SNR=7.3						
RAR	**Rarotonga**	**29.62**	**99**	LR	LR	09 44 16.3	
	comp=Z,4μm,20.9s,MS5.1,baz=276,slow=32						
WB2	**Warramunga Arr**	**32.37**	**263**	*e*P	**P**	**09 35 05.4**	**-1.2**
WB2				*e*	pP	09 35 17.2	-2.6
WB2				*e*S	**S**	**09 40 14.6**	**-2.8**
WRAB	**Tennant Creek**	**32.37**	**263**	P	**P**	**09 35 05.0**	**-1.7**
	comp=Z,110nm,0.7s,mb5.8,SNR=23						
WRAB	**Tennant Creek**	**32.37**	**263**	*e*P	**P**	**09 35 05.2**	**-1.5**
WRAB				*e*pP	pP	09 35 17.1	-2.7
WRAB				LR	LR		
	comp=Z,10μm,21.0s,MS5.5						
WRA	**Warramunga Arr**	**32.38**	**263**	P	**P**	**09 35 05.3**	**-1.5**
	comp=Z,5.8nm,0.4s,mb4.8,baz=89,slow=8.3,SNR=168						
WRA				pP	pP	09 35 17.3	-2.6
	comp=Z,24nm,0.9s,baz=98,slow=8.4,SNR=13						
WRA				PcP	PcP	09 37 52.7	-0.9
	comp=Z,7.4nm,0.8s,baz=98,slow=2.9,SNR=5.3						
WRA				S	**S**	**09 40 13.8**	**-3.8**
	comp=Z,1.9nm,0.9s,baz=73,slow=29,SNR=2.4						
WRA				ScP	ScP	09 41 35.0	+1.7
	comp=Z,6.0nm,1.0s,baz=89,slow=3.6,SNR=5.6						
WRA				PKiKP	PKiKP	09 45 19.2	-2.0
	comp=Z,1.6nm,0.8s,baz=30,slow=0.2,SNR=15						
WRA				LR	LR	09 47 22.5	
	comp=Z,9μm,20.7s,MS5.4,baz=90,slow=35						
WRA				P3KPbc		10 06 32.6	
	comp=Z,1.9nm,0.8s,baz=287,slow=2.7,SNR=9.9						
WRA	**Warramunga Arr**	**32.38**	**263**	P	**P**	**09 35 05.3**	**-1.4**
WRA				*PP	pP	09 35 17.3	-2.6
WRA						09 37 52.7	
WRA				S	**S**	**09 40 13.8**	**-3.8**
WRA	**Warramunga Arr**	**32.38**	**263**	P	**P**	**09 35 05.3**	**-1.5**
WRA				pP	pP	09 35 17.3	-2.6
WRA				PcP	PcP	09 37 52.7	-0.9
WRA				S	**S**	**09 40 13.8**	**-3.8**
WRA				ScP	ScP	09 41 35.0	+1.7
ASAR	**Alice Springs**	**32.67**	**256**	P	**P**	**09 35 08.7**	**-0.7**
	comp=Z,37nm,0.7s,mb5.5,baz=88,slow=9.6,SNR=562						
ASAR				pP	pP	09 35 20.6	-1.9
	comp=Z,20nm,0.8s,baz=357,slow=11,SNR=16						
ASAR				ScP	ScP	09 41 36.1	+2.0
	comp=Z,2.2nm,0.9s,baz=111,slow=5.1,SNR=3.8						
ASAR				PKiKP	PKiKP	09 45 19.6	-1.7
	comp=Z,0.4nm,0.5s,baz=110,slow=2.2,SNR=5.3						
ASAR				P3KPbc		10 06 31.1	
	comp=Z,1.4nm,0.8s,baz=277,slow=3.3,SNR=11						
ASAR	**Alice Springs**	**32.67**	**256**	P	**P**	**09 35 08.7**	**-0.6**
ASAR				*PP	pP	09 35 20.6	-1.9
ASAR	**Alice Springs**	**32.67**	**256**	P	**P**	**09 35 08.7**	**-0.7**
ASAR				pP	pP	09 35 20.6	-1.9
ASAR				ScP	ScP	09 41 36.1	+2.0
KAKA	**Kakadu**	**35.42**	**275**	⇑*i*P	**P**	**09 35 32.7**	**-0.5**
	comp=Z,49nm,0.7s,mb5.5						
FORT	**Forrest**	**38.45**	**244**	*e*P	**P**	**09 35 58.2**	**-0.6**
	comp=Z,82nm,0.7s,mb5.6						
TBI	**Tubuai**	**39.11**	**104**	*e*P	**P**	**09 36 05.0**	**+0.6**
	comp=Z,207nm,1.0s,mb5.8						
TBI				*e*S	**S**	**09 42 02.2**	**+1.5**
	comp=Z,747nm,27.0s						
TBI				*e*LQ		09 45 08.6	
	comp=Z,13μm,32.8s						
TBI				*e*LR	LR	09 46 52.2	
	comp=Z,14μm,30.2s,baz=264						
TBI	**Tubuai**	**39.11**	**104**	*e*P	**P**	**09 36 05.0**	**+0.6**
	comp=Z,207nm,1.0s,mb5.8						
TBI				*e*S	**S**	**09 42 02.2**	**+1.5**
TBI				*e*LQ		09 45 08.6	
PAE	**Paea**	**39.53**	**95**	*e*P	**P**	**09 36 08.1**	**+0.1**
	comp=Z,261nm,1.0s,mb5.9						
PAE	**Paea**	**39.53**	**95**	*e*P	**P**	**09 36 08.1**	**+0.1**
PAE				pmax	pmax		
	comp=Z,261nm,1.0s,mb5.9						
PPT	**Papeete**	**39.55**	**95**	*e*P	**P**	**09 36 08.5**	**+0.4**
	comp=Z,52nm,1.1s,mb5.2						
PPT				*e*S	**S**	**09 42 09.8**	**+2.4**
	comp=Z,2μm,31.5s						
PPT				*e*LQ		09 45 18.7	
	comp=Z,8μm,29.5s						
PPT				*e*LR	LR	09 47 02.6	
	comp=Z,17μm,27.2s,baz=245						
PPT	**Papeete**	**39.55**	**95**	P	**P**	**09 36 07.9**	**-0.2**
	comp=Z,29nm,0.5s,mb5.3,baz=236,slow=11,SNR=8.3						
PPT				LR	LR	09 49 00.3	
	comp=Z,2μm,20.9s,MS5.0,baz=271,slow=31						
TIAR	**Tiarei**	**39.77**	**95**	*e*P	**P**	**09 36 10.4**	**+0.4**
	comp=Z,435nm,0.9s,mb6.2						
TVO	**Taravao**	**39.82**	**95**	*e*P	**P**	**09 36 10.7**	**+0.3**
	comp=Z,288nm,0.8s,mb6.0						
TVO	**Taravao**	**39.82**	**95**	*e*P	**P**	**09 36 10.7**	**+0.3**
TVO				pmax	pmax		
	comp=Z,288nm,0.8s,mb6.1						
GUMO	**Guam**	**40.12**	**322**	P	**P**	**09 36 12.8**	**0.0**
	comp=Z,17nm,0.5s,mb5.0,baz=216,slow=17,SNR=2.9						
GUMO				LR	LR	09 50 38.4	
	comp=Z,4μm,22.0s,MS5.2,baz=120,slow=33						
FITZ	**Fitzroy Crossi**	**40.76**	**264**	⇑*i*P	**P**	**09 36 18.0**	**-0.2**
	comp=Z,92nm,0.7s,mb5.5						
FITZ				*e*S	**S**	**09 42 23.5**	**-2.0**
FITZ	**Fitzroy Crossi**	**40.76**	**264**	P	**P**	**09 36 18.2**	**0.0**
	comp=Z,51nm,0.7s,mb5.2,baz=112,slow=9.3,SNR=84						
FITZ				S	**S**	**09 42 23.2**	**-2.3**
	comp=Z,2.3nm,0.9s,baz=283,slow=20,SNR=3.7						
MEH	**Mehetia**	**40.92**	**95**	*e*P	**P**	**09 36 19.8**	**+0.3**
	comp=Z,2μm,1.1s,mb6.6						
PMOR	**Pomariorio Ree**	**41.60**	**91**	*e*P	**P**	**09 36 24.8**	**-0.3**
	comp=Z,156nm,1.0s,mb5.6						
BATI	**Baumata**	**44.37**	**275**	P	**P**	**09 36 48.5**	**+0.9**
	comp=Z,136nm,0.7s,mb5.8,baz=162,slow=1.4,SNR=9.9						
BATI				S	**S**	**09 43 18.1**	**-0.6**
	comp=Z,48nm,0.9s,baz=97,slow=22,SNR=1.6						
MBWA	**Marble Bar**	**45.89**	**259**	*e*P	**P**	**09 36 59.1**	**-0.4**
	comp=Z,112nm,1.0s,mb5.8						
MBWA				LR	LR		
	comp=Z,7μm,20.0s,MS5.6						
KLBR	**Kellerberrin**	**47.31**	**244**	*e*P	**P**	**09 37 09.3**	**-1.2**
	comp=Z,34nm,0.6s,mb5.5						
KDI	**Kendari**	**47.44**	**283**	⇑*e*P	**P**	**09 37 04.5**	**-7.2**
KDI				*e*S	**S**	**09 43 44.7**	**-18**
NWAO	**Narrogin (SRO)**	**47.82**	**243**	P	**P**	**09 37 14.3**	**-0.1**
	comp=Z,50nm,0.9s,mb5.6,baz=101,slow=7.5,SNR=14						
NWAO	**Narrogin (SRO)**	**47.82**	**243**	*e*P	**P**	**09 37 13.0**	**-1.4**
NWAO				pmax	pmax		
	comp=Z,133nm,1.4s						
NWAO				MLR	MLR		
	comp=Z,8μm,20.0s						
NWAO	**Narrogin (SRO)**	**47.82**	**243**	*e*P	**P**	**09 37 13.0**	**-1.5**
	comp=Z,133nm,1.4s,mb5.8						
NWAO				LR	LR		
	comp=Z,8μm,20.0s,MS5.7						
MUN	**Mundaring**	**48.64**	**244**	*e*P	**P**	**09 37 20.5**	**-0.3**
MUN				*e*S	**S**	**09 44 12.7**	**-6.7**
MIDW	**Midway**	**48.97**	**16**	PFAKE		09 37 30.0	+6.8
MIDW				LR	LR		
	comp=Z,3μm,22.0s,MS5.3						
KAPI	**Kappang**	**49.71**	**280**	P	**P**	**09 37 29.9**	**+0.7**
	comp=Z,647nm,1.3s,mb6.5,SNR=8.6						
KAPI	**Kappang**	**49.71**	**280**	P	**P**	**09 37 29.4**	**+0.2**
	comp=Z,32nm,0.7s,mb5.5,baz=172,slow=6.2,SNR=13						
KAPI				LR	LR	09 58 12.2	
	comp=Z,2μm,21.9s,MS5.2,baz=17,slow=36						
KAPI	**Kappang**	**49.71**	**280**	*e*P	**P**	**09 37 28.6**	**-0.6**
KAPI				LR	LR		
	comp=Z,5μm,21.0s,MS5.5						
DAV	**Davao City (W)**	**49.85**	**297**	⇑*e*P	**P**	**09 37 28.2**	**-2.0**
DAV	**Davao City (W)**	**49.85**	**297**	PFAKE		09 37 40.0	+10
DAV				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
MKS	**Makassar**	**49.91**	**280**	⇑*e*P	**P**	**09 37 32.2**	**+1.5**
TAOE	**Nuku Hiva Isla**	**50.50**	**86**	*e*LR	LR	09 52 10.2	
	comp=Z,12μm,29.5s						
DRV	**Dumont d'Urvil**	**51.00**	**194**	P	**P**	**09 37 39.0**	**+0.9**
DRV				S	**S**	**09 44 57.0**	**+5.7**
DRV				SS	SS	09 48 42.0	+15
DRV				L		09 50 00.0	
DRV				R		09 52 00.0	
KIP	**Kipapa**	**51.82**	**41**	*e*P	**P**	**09 37 44.2**	**-0.7**
KIP				pmax	pmax		
	comp=Z,130nm,1.1s,mb5.8						
KIP				MLR	MLR		
	comp=Z,4μm,22.0s,MS5.5						
KIP	**Kipapa**	**51.82**	**41**	*e*P	**P**	**09 37 44.1**	**-0.7**
	comp=Z,130nm,1.1s,mb5.8						
KIP				LR	LR		
	comp=Z,4μm,22.0s,MS5.5						
POHA	**Pohakuloa**	**52.19**	**44**	*e*P	**P**	**09 37 47.3**	**-0.3**
	comp=Z,79nm,0.8s,mb5.7						
POHA				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
STCH	**Steam Cracks**	**52.19**	**45**	*e*P	**P**	**09 37 46.6**	**-1.1**
RKT	**Rikitea**	**52.41**	**105**	*e*S	**S**	**09 45 12.4**	**+0.5**
	comp=Z,2μm,25.8s						
RKT				*e*LQ		09 50 46.2	
	comp=Z,2μm,35.0s						
RKT				*e*LR	LR	09 52 56.2	
	comp=Z,9μm,30.8s,baz=261						
CBIJ	**Chichi jima**	**52.67**	**330**	P	**P**	**09 37 50.5**	**-0.6**
	comp=Z,317nm,0.7s,mb6.3,baz=243,slow=2.7,SNR=24						
CBIJ				LR	LR	09 59 52.6	
	comp=Z,749nm,18.5s,MS4.8,baz=351,slow=36						
TSM	**Tawau**	**55.18**	**290**	‖P	**P**	**09 38 11.6**	**+1.9**
SDKM	**Sandakan**	**56.39**	**291**	⇑P	**P**	**09 38 19.9**	**+1.6**
KKM	**Kota Kinabalu**	**57.44**	**291**	⇑P	**P**	**09 38 27.1**	**+1.3**
KKM	**Kota Kinabalu**	**57.44**	**291**	*e*P	**P**	**09 38 26.0**	**+0.2**
	comp=Z,218nm,1.4s,mb6.0						
KKM				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						
VNDA	**Vanda**	**58.51**	**182**	P	**P**	**09 38 31.8**	**-0.5**
	comp=Z,13nm,0.8s,mb5.0,baz=1.8,slow=7.6,SNR=38						
VNDA				LR	LR	09 59 53.2	
	comp=Z,2μm,21.5s,MS5.3,baz=11,slow=32						
VNDA				PKPPKP		10 08 13.5	
	comp=Z,1.3nm,1.1s,baz=272,slow=0.6,SNR=3.3						
VNDA	**Vanda**	**58.51**	**182**	*e*P	**P**	**09 38 31.7**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,12nm,0.7s						
VNDA				MLR	MLR		
	comp=Z,3μm,22.0s						
VNDA	**Vanda**	**58.51**	**182**	*e*P	**P**	**09 38 31.7**	**-0.6**
	comp=Z,12nm,0.7s,mb5.0						
VNDA				LR	LR		
	comp=Z,3μm,22.0s,MS5.3						
SBA	**Scott Base**	**58.75**	**180**	*e*P	**P**	**09 38 34.7**	**+0.7**
SBA				pmax	pmax		
	comp=Z,138nm,1.1s,mb5.9						
SBA	**Scott Base**	**58.75**	**180**	*e*P	**P**	**09 38 34.7**	**+0.7**
	comp=Z,138nm,1.1s,mb5.9						
JHJ	**Hachijo jima 2**	**58.86**	**332**	P	**P**	**09 38 35.6**	**+0.3**
	comp=Z,101nm,0.6s,mb6.0,baz=211,slow=7.2,SNR=7.5						
JHJ				LR	LR	10 00 02.5	
	comp=Z,1μm,21.7s,MS5.0,baz=161,slow=32						
SBUM	**Sibu**	**59.50**	**285**	‖P	**P**	**09 38 41.4**	**+1.2**
JOW	**Kunigami**	**60.23**	**318**	P	**P**	**09 38 45.1**	**+0.3**
	comp=Z,60nm,0.8s,mb5.7,baz=154,slow=8.5,SNR=12						
JOW				LR	LR	10 01 08.9	
	comp=Z,1μm,21.9s,MS5.0,baz=15,slow=32						
KSM	**Kuching**	**60.87**	**283**	⇑P	**P**	**09 38 50.3**	**+0.7**
KSM	**Kuching**	**60.87**	**283**	*e*P	**P**	**09 38 49.4**	**-0.2**
	comp=Z,68nm,0.6s,mb6.0						
MJAR	**Matsushiro Arr**	**62.44**	**333**	P	**P**	**09 38 59.2**	**-0.4**
	comp=Z,41nm,0.8s,mb5.6,baz=161,slow=6.8,SNR=70						
MJAR				LR	LR	10 04 14.6	
	comp=Z,655nm,20.9s,MS4.8,baz=155,slow=34						
MJAR				PKP2bc		10 08 09.4	
	comp=Z,2.6nm,1.0s,baz=320,slow=2.7,SNR=5.0						
MJAR	**Matsushiro Arr**	**62.44**	**333**	P	**P**	**09 38 59.2**	**-0.4**
MJAR				LR	LR	10 04 14.6	
MJAR				⇑*e*		10 08 09.4	
MAJO	**Matsushiro**	**62.44**	**333**	*e*P	**P**	**09 38 59.2**	**-0.4**
MAJO				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
MAT	**Matsushiro**	**62.44**	**333**	P	**P**	**09 38 59.0**	**-0.6**
MAT				S	**S**	**09 47 16.0**	**-7.0**
NACB	**Ninganchiao**	**62.95**	**311**	*e*P	**P**	**09 39 02.2**	**-1.1**
	comp=Z,79nm,1.3s,mb5.7						
YHNB	**Yeheng**	**63.41**	**312**	*e*P	**P**	**09 39 06.3**	**-0.1**
	comp=Z,196nm,0.9s,mb6.2						
TATO	**Taipei**	**63.53**	**312**	*e*P	**P**	**09 39 06.5**	**-0.6**
QZH	**Quanzhou**	**65.58**	**310**	⇑*i*P	**P**	**09 39 21.3**	**+0.8**
QZH				S	S	09 48 00.4	-1.9
QZH				AMB	AMB		
	comp=Z,160nm,0.6s,mb6.2						
QZH				AMB	AMB		
	comp=Z,2μm,3.8s						
QZH				LR	LR		
	comp=N,6μm,27.0s						
QZH				LR	LR		
	comp=E,2μm,20.3s						
QZH				LR	LR		
	comp=Z,880nm,20.1s						
MIR	**Mirnyy**	**66.91**	**205**	*c*eP	**P**	**09 39 28.0**	**-0.4**
MIR				*i*	pP	09 39 41.0	-1.7
MIR				*i* S	S	09 48 18.0	+0.7
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.6						
MIR				pmax	pmax		
	comp=Z,2μm,3.0s						
MYKOM	**Kota Tinggi**	**66.97**	**280**	⇑P	**P**	**09 39 30.9**	**+1.2**
ASAJ	**Asahikawa**	**67.34**	**340**	P	**P**	**09 39 32.5**	**+1.2**
	comp=Z,156nm,1.0s,mb6.0,baz=214,slow=9.1,SNR=99						
ASAJ	**Asahikawa**	**67.34**	**340**	P	**P**	**09 39 32.5**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,156nm,1.0s						
KGM	**Kluang**	**67.55**	**281**	⇑P	**P**	**09 39 34.3**	**+1.0**
SSE	**Sheshan**	**67.66**	**317**	P	**P**	**09 39 34.0**	**+0.3**
SSE				XP	sP	09 39 56.8	+3.0
SSE				PCP	PcP	09 40 00.7	+0.3
SSE				S	S	09 48 26.7	-0.6
SSE				SS	SS	09 52 48.7	-0.9
SSE				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.5						
SSE				AMB	AMB		
	comp=Z,679nm,7.5s						
SSE				LR	LR		
	comp=N,909nm,22.3s,MS5.2						
SSE				LR	LR		
	comp=E,1μm,22.2s,MS5.2						
SSE				LR	LR		
	comp=Z,1μm,15.6s						
KSRS	**Korea Array**	**68.15**	**326**	P	**P**	**09 39 37.6**	**+1.0**
	comp=Z,26nm,1.1s,mb5.2,baz=143,sl

comp=Z,90nm,1.1s,mb5.6
NJ2 AMB AMB
comp=Z,630nm,10.8s
NJ2 LR LR
comp=N,1μm,33.2s,MS5.0
NJ2 LR LR
comp=E,700nm,33.3s,MS5.0
NJ2 LR LR
comp=Z,700nm,33.3s,MS4.7
YSS Yuzh-Sakhalins 69.83 341 *c iP* **P 09 39 48.1 +1.3**
YSS pmax pmax
comp=Z,254nm,1.5s,mb5.9
YSS Yuzh-Sakhalins 69.83 341 *eP* **P 09 39 47.6 +0.8**
SKR Severo-Kuril's 70.40 352 *eP* **P 09 39 48.0 -2.2**
SKR *e* pP 09 40 00.0 -4.6
SKR *e* 09 40 09.1
SKR *e*PPP 09 44 07.0
SKR *e*S S 09 48 57.0 -1.9
SKR *e* 09 49 18.0
SKR pmax pmax
comp=Z,130nm,1.0s,mb5.8
SKR pmax pmax
comp=N,1μm,4.0s
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR pmax pmax
comp=N,1μm,12.0s
SKR pmax pmax
comp=E,1μm,12.0s
SKR MLR MLR
comp=N,1μm,18.0s,MS5.3
SKR MLR MLR
comp=E,1μm,18.0s,MS5.3
SKR MLR MLR
comp=Z,1μm,18.0s,MS5.3
IPM Ipoh 70.58 282 ⇑P **P 09 39 52.5 +0.4**
VLA Vladivostok 70.60 332 *d iP* **P 09 39 51.9 +0.3**
VLA *e**PP pP 09 40 12.8 +6.8
VLA *i* S S 09 49 02.4 +0.8
VLA pmax pmax
comp=Z,223nm,1.7s,mb5.8
VLA MLR MLR
comp=Z,900nm,19.0s,MS5.0
VLA Vladivostok 70.60 332 *i* P **P 09 39 51.9 +0.3**
AMKA Amchitka 70.83 7 *eP* **P 09 39 52.4 -0.4**
QSPA South Pole Qui 70.91 180 P **P 09 39 53.0 0.0**
comp=Z,87nm,0.9s,mb5.7,baz=14,slow=1.6,SNR=166
QSPA S S 09 49 02.5 -1.8
comp=Z,0.8nm,1.0s,baz=74,slow=9.2,SNR=2.1
QSPA PKP2bc 10 07 45.4
comp=Z,3.7nm,1.1s,baz=226,slow=1.6,SNR=7.7
QSPA LR LR 10 10 19.5
comp=Z,2μm,18.2s,MS5.4,baz=30,slow=35
QSPA South Pole Qui 70.91 180 P **P 09 39 53.0 0.0**
QSPA S S 09 49 02.5 -1.8
QSPA ⇑*e* 10 07 45.4
QSPA LR LR 10 10 19.5
KULM Kulim 71.23 283 ⇓P **P 09 39 56.5 +0.4**
SMY Shemya 71.72 3 *eP* **P 09 39 58.9 +0.8**
SMY pmax pmax
comp=Z,163nm,1.1s,mb5.9
SMY Shemya 71.72 3 *eP* **P 09 39 58.9 +0.8**
comp=Z,163nm,1.1s,mb5.9
ADK Adak 71.86 9 *eP* **P 09 39 58.1 -0.9**
ADK pmax pmax
comp=Z,116nm,1.1s,mb5.7
ADK MLR MLR
comp=Z,2μm,22.0s,MS5.3
ADK Adak 71.86 9 *eP* **P 09 39 58.0 -1.0**
comp=Z,116nm,1.1s,mb5.7
ADK LR LR
comp=Z,2μm,22.0s,MS5.3
WHN Wuhan 71.92 312 P **P 09 40 00.1 +0.2**
WHN AP pP 09 40 13.1 -1.2
WHN S S 09 49 17.6 +0.3
WHN XS sS 09 49 41.2 -0.4
WHN AMB AMB
comp=Z,2μm,5.2s
WHN LR LR
comp=N,2μm,17.1s,MS5.6
WHN LR LR
comp=E,2μm,19.7s,MS5.6
WHN LR LR
comp=Z,5μm,22.5s,MS5.7
PET Petropavlovsk 72.39 354 *ceP* **P 09 40 01.9 -0.2**
PET *e**SP sP 09 40 23.0 +0.7
PET *e*S S 09 49 23.8 +2.0
PET pmax pmax
comp=Z,1μm,8.2s
PET pmax pmax
comp=Z,76nm,2.1s,mb5.3
PET pmax pmax
comp=Z,1μm,22.5s
PET pmax pmax
comp=Z,200nm,17.7s
PET MLR MLR
comp=Z,900nm,17.0s,MS5.1
PET MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 72.39 354 *eP* **P 09 40 01.9 -0.3**
PET LR LR
comp=Z,2μm,20.0s,MS5.4
PETK Petropavlovsk- 72.58 353 P **P 09 40 03.5 +0.2**
comp=Z,84nm,0.9s,mb5.7,baz=131,slow=5.4,SNR=72
PETK LR LR 10 07 00.2
comp=Z,2μm,21.7s,MS5.4,baz=171,slow=32
PETK Petropavlovsk- 72.58 353 *eP* **P 09 40 03.4 +0.1**
DL2 Dalian 72.64 323 ⇑*i iP* **P 09 40 04.6 +0.6**
DL2 AP pP 09 40 18.0 -0.5
DL2 S S 09 49 23.2 -2.1
DL2 SS SS 09 54 04.3 -1.6
DL2 AMB AMB
comp=Z,110nm,1.0s,mb5.7
DL2 AMB AMB
comp=Z,720nm,5.9s
DL2 LR LR
comp=N,460nm,22.8s,MS4.9
DL2 LR LR
comp=E,700nm,24.6s,MS4.9
DL2 LR LR
comp=Z,1μm,25.8s,MS5.1
MDJ Mudanjiang 72.81 332 P **P 09 40 05.5 +0.7**
MDJ AP pP 09 40 19.5 +0.2
MDJ XP sP 09 40 25.6 +0.6
MDJ S S 09 49 25.0 -1.9
MDJ SCS ScS 09 50 07.9 -0.1
MDJ AMB AMB
comp=Z,196nm,1.1s,mb6.0
MDJ AMB AMB
comp=Z,893nm,8.7s
MDJ LR LR
comp=N,1μm,28.5s,MS5.1
MDJ LR LR
comp=E,976nm,25.6s,MS5.1
MDJ LR LR
comp=Z,1μm,30.2s,MS5.1
MDJ Mudanjiang 72.81 332 *eP* **P 09 40 05.4 +0.5**
comp=Z,228nm,1.1s,mb6.0
MDJ LR LR
comp=Z,2μm,22.0s,MS5.3
TIA Tai'an 73.55 319 ⇑P **P 09 40 09.4 0.0**
TIA AMB AMB
comp=Z,152nm,1.4s,mb5.7
SNY Shenyang 73.63 326 ⇑P **P 09 40 09.9 +0.1**
SNY AMB AMB
comp=Z,80nm,2.4s,mb5.2
SNY LR LR
comp=N,680nm,20.1s,MS5.1
SNY LR LR
comp=E,552nm,17.1s,MS5.1
SNY LR LR
comp=Z,585nm,27.3s
CN2 Changchun 74.12 329 ⇑P **P 09 40 13.0 +0.4**
CN2 *e*AP pP 09 40 29.6 +2.5
CN2 *e*S S 09 49 42.0 +0.2
CN2 AMB AMB
comp=Z,20nm,1.8s,mb4.8
CN2 AMB AMB
comp=Z,500nm,10.0s
CN2 LR LR
comp=N,500nm,25.0s,MS5.0
CN2 LR LR
comp=E,900nm,25.0s,MS5.0
CN2 LR LR
comp=Z,800nm,29.0s,MS4.8
NIKO Nikolski 74.40 14 *eP* **P 09 40 12.4 -1.6**
GYA Guiyang 75.36 305 ⇑*i iP* **P 09 40 20.8 +0.6**
GYA AP pP 09 40 35.6 +0.9
GYA PP PP 09 43 13.4 +3.6
GYA PPP 09 44 59.3
GYA S S 09 49 55.6 -0.7
GYA SKS 09 50 21.2
GYA SS SS 09 54 50.5 +2.7
GYA SSS 09 58 05.0
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,940nm,7.8s
GYA LR LR
comp=N,800nm,21.0s,MS5.3
GYA LR LR
comp=E,1μm,21.9s,MS5.3
GYA LR LR
comp=Z,2μm,23.4s,MS5.3
KLR Kul'dur 75.58 336 ⇓*i iP* **P 09 40 17.3 -3.6**
KLR *e*S S 09 49 54.5 -3.3
KLR pmax pmax
comp=E,200nm,1.8s
KLR pmax pmax
comp=Z,680nm,1.8s,mb6.3
KLR pmax pmax
comp=Z,2μm,8.0s
UNV Unalaska Valle 75.76 15 *eP* **P 09 40 20.6 -1.1**
BSI Banda Aceh 76.26 281 ⇓*eP* **P 09 40 17.0 -8.6**
BSI Banda Aceh 76.26 281 ⇓*eP* **P 09 40 17.0 -8.6**
BJT Baijiatuau 76.54 321 *eP* **P 09 40 26.9 +0.3**
BJT pmax pmax
comp=Z,57nm,0.6s
BJT MLR MLR
comp=Z,1μm,20.0s
BJT Baijiatuau 76.54 321 *eP* **P 09 40 26.9 +0.3**
comp=Z,57nm,0.6s,mb5.7
BJT LR LR
comp=Z,1μm,20.0s,MS5.2
BJI Beijing 76.55 321 P **P 09 40 27.3 +0.7**
BJI PP PP 09 43 19.6 0.0
BJI AMB AMB
comp=Z,113nm,2.1s,mb5.4
BJI AMB AMB
comp=Z,2μm,4.0s
BJI LR LR
comp=N,787nm,28.5s,MS5.0
BJI LR LR
comp=E,937nm,29.9s,MS5.0
BJI LR LR
comp=Z,3μm,34.7s,MS5.3
XAN Xi'an 77.68 313 P **P 09 40 33.8 +0.7**
XAN AP pP 09 40 42.8 -4.9
XAN XP sP 09 40 46.5 -6.9
XAN PP PP 09 43 26.8 -2.4
XAN S S 09 50 19.6 -1.8
XAN AMB AMB
comp=Z,110nm,1.9s,mb5.5
XAN AMB AMB
comp=Z,1μm,5.7s
XAN LR LR
comp=N,397nm,23.4s,MS5.1
XAN LR LR
comp=E,851nm,21.8s,MS5.1
XAN LR LR
comp=Z,2μm,22.6s,MS5.3
KMI Kunming 77.81 302 P **P 09 40 35.7 +1.7**
KMI PCP PcP 09 40 47.0 +3.2
KMI AP pP 09 40 53.6 +5.0
KMI PP PP 09 43 33.9 +3.5
KMI PPP 09 45 23.3
KMI S S 09 50 23.1 0.0
KMI SKS 09 50 39.0
KMI SS SS 09 55 27.4 +2.6
KMI SSS 09 58 44.4
KMI AMB AMB
comp=Z,113nm,1.2s,mb5.7
KMI AMB AMB
comp=Z,1μm,7.0s
KMI LR LR
comp=N,759nm,24.9s,MS5.2
KMI LR LR
comp=E,1μm,23.2s,MS5.2
KMI LR LR
comp=Z,2μm,29.2s
CM31 Chiang Mai Arr 78.02 294 PFAKE 09 40 40.0 +4.7
CM31 LR LR
comp=Z,1μm,19.0s,MS5.2
CMAR Chiang Mai Arr 78.02 294 P **P 09 40 36.5 +1.2**
comp=Z,14nm,0.8s,mb5.0,baz=130,slow=4.1,SNR=35
CHTO Chiang Mai 78.16 295 *eP* **P 09 40 36.6 +0.5**
CHTO MLR MLR
comp=Z,857nm,21.0s,MS5.0
MAW Mawson 78.34 202 P **P 09 40 36.8 +0.6**
comp=Z,33nm,0.7s,mb5.3,baz=116,slow=7.8,SNR=64
MAW LR LR 10 11 37.5
comp=Z,4μm,19.1s,MS5.7,baz=95,slow=33
MAW Mawson 78.34 202 ⇑*i iP* **P 09 40 36.7 +0.5**
MAW pmax pmax
comp=Z,32nm,0.8s
MAW MLR MLR
comp=Z,6μm,20.0s
MAW Mawson 78.34 202 ⇑*i iP* **P 09 40 36.7 +0.5**
comp=Z,32nm,0.8s,mb5.3
MAW LR LR
comp=Z,6μm,20.0s,MS5.9
SDPT Sand Point 78.68 17 *eP* **P 09 40 36.7 -1.4**
comp=Z,280nm,1.6s,mb5.9
CD2 Chengdu 79.79 308 ⇑*i iP* **P 09 40 45.6 +0.8**
CD2 AP pP 09 41 02.3 +2.9
CD2 PP PP 09 43 49.5 +2.7
CD2 S S 09 50 44.0 -0.1
CD2 SKS 09 50 52.6
CD2 XS sS 09 51 10.1 +1.4
CD2 PS 09 51 36.4
CD2 SS SS 09 55 57.0 +2.6
CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.4
CD2 AMB AMB
comp=Z,1μm,4.5s
CD2 LR LR
comp=N,1μm,19.2s
CD2 LR LR
comp=E,2μm,25.2s
CD2 LR LR
comp=Z,2μm,24.0s,MS5.4
HHC Hu-ho-hao-te 79.83 320 *eP* **P 09 40 45.7 +0.9**
HHC AP pP 09 41 01.4 +2.0
HHC PP PP 09 43 49.7 +2.8
HHC S S 09 50 47.1 +3.1
HHC SCS ScS 09 51 04.9 -0.1
HHC PS 09 51 35.9
HHC SS SS 09 55 56.3 +1.7
HHC AMB AMB
comp=Z,84nm,1.6s,mb5.4
HHC AMB AMB
comp=Z,1μm,7.4s
HHC LR LR
comp=N,859nm,21.4s,MS5.2
HHC LR LR
comp=E,665nm,22.6s,MS5.2
HHC LR LR
comp=Z,1μm,23.8s,MS5.2
CHGN Chignik 80.10 18 *eP* **P 09 40 44.5 -1.3**
BTO Baotou 80.64 319 *eP* **P 09 40 49.0 -0.1**
HIA Hailar 80.78 330 *eP* **P 09 40 49.5 -0.2**
HIA pmax pmax
comp=Z,167nm,1.3s
HIA MLR MLR
comp=Z,1μm,22.0s
HIA Hailar 80.78 330 *eP* **P 09 40 49.5 -0.2**
comp=Z,167nm,1.3s,mb5.8
HIA LR LR
comp=Z,1μm,22.0s,MS5.3
LZH Lanzhou 82.30 312 *eP* **P 09 40 59.9 +1.9**
LZH AP pP 09 41 12.7 0.0
LZH XP sP 09 41 19.7 +1.3
LZH *e*S S 09 51 13.2 +3.2
LZH XS sS 09 51 35.0 +0.3
LZH AMB AMB
comp=Z,375nm,1.5s,mb6.1
LZH AMB AMB
comp=Z,2μm,4.6s
LZH LR LR
comp=E,3μm,18.8s
LZH LR LR
comp=Z,5μm,19.2s,MS5.9
OHAK Old Harbor 82.43 20 *eP* **P 09 40 58.6 +0.4**
comp=Z,119nm,0.9s,mb5.8
SEY Seymchan 82.81 353 *c iP* **P 09 40 59.8 -0.2**
SEY Seymchan 82.81 353 ⇑*i iP* **P 09 40 59.9 -0.1**
KDAK Kodiak Island 83.11 20 P **P 09 41 02.6 +0.9**
comp=Z,426nm,1.1s,mb6.4,SNR=9.6
KDAK Kodiak Island 83.11 20 P **P 09 41 02.1 +0.4**
comp=Z,42nm,0.8s,mb5.5,baz=137,slow=2.8,SNR=17
KDAK Kodiak Island 83.11 20 *eP* **P 09 41 01.7 0.0**
comp=Z,58nm,0.9s,mb5.6
KDAK LR LR
comp=Z,749nm,22.0s,MS5.0
CLNS Chul'man 84.11 338 *eP* **P 09 41 08.9 +2.0**
CLNS *e*S S 09 51 27.6 +0.2
CLNS *e* 09 52 12.3
CLNS pmax pmax
comp=Z,246nm,1.3s,mb6.2
CLNS pmax pmax
comp=N,168nm,1.5s
CLNS pmax pmax
comp=E,36nm,1.6s
CLNS pmax pmax
comp=Z,16nm,1.5s,mb4.9
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS smax
comp=N,17nm,1.6s
CLNS smax
comp=E,14nm,1.6s
IMP Imphal 84.86 298 *eP* **P 09 41 11.0 -0.4**
IMP *e*S S 09 51 24.0 -12
SYO Syowa Base 84.89 196 ⇓*eP* **P 09 41 08.6 -2.2**
SYO Syowa Base 84.89 196 ⇓*i* PcP PcP 09 41 10.6 -3.5
SVW2 Sparrevohn 84.95 17 *eP* **P 09 41 10.7 -0.3**
MCCM Marconi Confer 85.76 47 ⇓P **P 09 41 15.7 +0.1**
baz=86
MCCM Marconi Confer 85.76 47 PFAKE 09 41 20.0 +4.4
MCCM LR LR
comp=Z,1μm,21.0s,MS5.2
BNLO Ben Lomond (Sa 85.78 48 ⇓P **P 09 41 15.6 -0.1**
baz=86,SNR=5.6
HAST Hastings Reser 85.89 49 P **P 09 41 16.8 +0.6**
baz=86,SNR=16
SEW Seward 85.94 20 *eP* **P 09 41 15.4 -0.6**
comp=Z,3μm,0.7s
SNCC San Nicolas Is 85.98 53 PFAKE 09 41 30.0 +13
SNCC LR LR
comp=Z,2μm,21.0s,MS5.5
SLKM Skilak Lake 86.02 19 *eP* **P 09 41 15.2 -1.1**
HOPS Hopland 86.03 46 P **P 09 41 16.8 -0.1**
HOPS LR LR
comp=Z,2μm,20.0s,MS5.5
V04C Ramage Ranch, 86.04 50 ⇓P **P 09 41 17.4 +0.4**
baz=86,SNR=6.1
O01C Eel River Cons 86.07 45 ⇑P **P 09 41 17.8 +0.8**
baz=86,SNR=5.7
P01C Double 8 Ranch 86.08 46 ⇑P **P 09 41 17.2 +0.1**
baz=86
SAO San Andreas Ge 86.13 49 *eP* **P 09 41 15.7 -1.8**
SAO MLR MLR
comp=Z,3μm,20.0s,MS5.7
CVS Carmenet Viney 86.15 47 ⇑P **P 09 41 18.8 +1.3**
baz=86,SNR=6.8
TNA Tin City 86.29 10 *eP* **P 09 41 17.4 -0.1**
comp=Z,123nm,1.1s,mb6.0
WENL Wente Brothers 86.31 48 ⇓P **P 09 41 18.7 +0.4**
baz=86
SBC Santa Barbara 86.36 52 ⇓P **P 09 41 19.4 +0.8**
baz=86
PACP Pacheco Peak 86.36 49 ⇓P **P 09 41 19.4 +0.8**
baz=86,SNR=7.3
MNRC McLaughlin Nat 86.41 47 ⇑P **P 09 41 19.7 +0.9**
baz=87,SNR=14
PKD Parkfield 86.41 50 ⇓P **P 09 41 19.1 +0.3**
baz=87,SNR=15
U04C Hernandez Rese 86.43 50 ⇓P **P 09 41 19.6 +0.6**
baz=87,SNR=9.3
PKM Peak Mountain 86.48 51 ⇓P **P 09 41 19.7 +0.5**
baz=87,SNR=13
KHMM Horse Mountain 86.49 45 *eP* **P 09 41 20.5 +1.4**
SMMC Simmler 86.53 51 ⇓P **P 09 41 20.0 +0.6**
baz=87,SNR=8.1
S04C Ingram Canyon, 86.56 48 ⇓P **P 09 41 20.2 +0.6**
baz=87,SNR=14
GASB Alder Springs 86.59 46 ⇑P **P 09 41 20.5 +0.9**
baz=87,SNR=23
Q03C Winters 86.59 47 ⇑P **P 09 41 20.4 +0.7**
baz=87
SCI San Clemente I 86.60 54 ⇓P **P 09 41 19.8 0.0**
baz=87
RC01 Rabbit Creek A 86.62 19 *eP* **P 09 41 18.8 -0.4**
comp=Z,33nm,0.9s,mb5.6
YAK Yakutsk 86.63 343 *c iP* **P 09 41 18.8 -0.5**
YAK *e**PP pP 09 41 31.3 -2.8
YAK *e* 09 51 37.8
YAK *e**SS sS 09 51 52.5 -24
YAK pmax pmax
comp=Z,246nm,1.0s,mb6.4
YAK pmax pmax
comp=N,70nm,1.4s
YAK pmax pmax
comp=E,51nm,1.5s
YAK pmax pmax
comp=Z,12nm,0.6s,mb5.3
YAK pmax pmax
comp=N,2.0nm,0.3s
YAK pmax pmax
comp=E,1.0nm,0.3s
YAK MLR MLR
comp=Z,1μm,19.0s,MS5.3
YAK MLR MLR
comp=N,898nm,21.0s
YAK MLR MLR
comp=E,207nm,15.0s
YAK Yakutsk 86.63 343 *eP* **P 09 41 18.6 -0.7**
comp=E,246nm,0.9s,mb6.4
M01C Crescent City 86.70 44 ⇓P **P 09 41 21.1 +0.9**
baz=87
N02C Big Bar 86.75 45 P **P 09 41 21.0 +0.6**
baz=87,SNR=20
O02C Red Bluff 86.78 46 P **P 09 41 21.4 +0.8**
baz=87,SNR=45
SONM Songino Array 86.85 323 P **P 09 41 20.9 +0.2**
comp=E,60nm,0.9s,mb5.8,baz=156,slow=3.7,SNR=117
SONM pP pP 09 41 33.9 -1.6
comp=E,38nm,1.1s,baz=139,slow=3.4,SNR=6.0
SONM PKKP PKKPbc 09 59 14.0 -2.5
comp=E,2.4nm,0.9s,baz=266,slow=2.6,SNR=9.1
SONM PKPPKP 10 07 18.1
comp=E,2.0nm,1.1s,baz=275,slow=1.2,SNR=8.4
SONM LR LR 10 22 39.8
comp=E,659nm,18.4s,MS5.1,baz=125,slow=37
SONM Songino Array 86.85 323 P **P 09 41 20.9 +0.2**
SONM *PP pP 09 41 33.9 -1.6
SHL Shillong 86.87 298 *i* P **P 09 41 24.0 +2.6**
comp=Z,9.0nm,1.2s,mb4.9
SHL *e*S S 09 51 46.0 -10
CIS Catalina Islan 86.89 53 ⇓P **P 09 41 20.9 -0.4**
baz=87
BILL Bilibino 86.95 359 *c iP* **P 09 41 20.3 -0.4**
BILL *e**PP pP 09 41 35.2 -0.3
BILL *e*S S 09 51 39.6 -15
BILL *e*SS SS 09 57 41.5 +2.6
BILL pmax pmax
comp=Z,230nm,1.1s,mb6.3
BILL MLR MLR
comp=Z,1μm,20.0s,MS5.2
BILL Bilibino 86.95 359 *eP* **P 09 41 20.0 -0.7**
comp=Z,195nm,0.9s,mb6.3
BILL LR LR
comp=Z,891nm,19.0s,MS5.2
SUTB Sutter Butte 87.03 47 P **P 09 41 21.4 -0.3**
baz=87,SNR=42
Q04C Lincoln 87.13 47 ⇑P **P 09 41 22.1 -0.2**
baz=87
WDC Whiskeytown Da 87.14 45 *eP* **P 09 41 22.3 0.0**
WDC pmax pmax
comp=Z,48nm,0.9s,mb5.7
WDC Whiskeytown Da 87.14 45 P **P 09 41 22.7 +0.4**
baz=87,SNR=26
WDC Whiskeytown Da 87.14 45 *eP* **P 09 41 22.3 0.0**
comp=Z,48nm,0.9s,mb5.7

PMSA **Palmer Station** 87.17 160 P P 09 41 22.4 +0.3
comp=Z,8.4nm,0.4s,mb5.3,baz=200,slow=12,SNR=4.2
PMSA LR LR 10 13 60.0
comp=Z,2μm,19.1s,MS5.5,baz=254,slow=31
R04C **Big Horse Ranc** 87.17 48 ⇑P P 09 41 22.4 -0.1
baz=87,SNR=5.3
S05C **Merced** 87.19 49 ⇑P P 09 41 22.3 -0.3
baz=87,SNR=27
PMR **Palmer** 87.20 19 eP P 09 41 21.8 -0.3
PMR pmax pmax
comp=Z,17nm,0.7s,mb5.4
PMR MLR MLR
comp=Z,3μm,20.0s,MS5.7
PMR **Palmer** 87.20 19 eP P 09 41 21.8 -0.3
comp=Z,17nm,0.7s,mb5.4
PMR LR LR
comp=Z,3μm,20.0s,MS5.7
O03C **Acorn Hollow,** 87.21 46 P P 09 41 22.9 +0.3
baz=87,SNR=25
OHCM **Honcut** 87.28 47 eP P 09 41 22.8 -0.2
ARVC **Arvin** 87.31 51 ⇓P P 09 41 23.5 +0.2
baz=88,SNR=12
M02C **Callahan** 87.32 44 ⇓P P 09 41 24.0 +0.9
baz=88,SNR=31
ORV **Oroville** 87.37 47 P P 09 41 23.4 0.0
baz=88,SNR=68
VES **Vestal, Richgr** 87.43 51 ⇓P P 09 41 23.0 -0.9
baz=88,SNR=25
CMB **Columbia Colle** 87.46 48 ⇓P P 09 41 23.3 -0.6
baz=88,SNR=63
CMB **Columbia Colle** 87.46 48 eP P 09 41 23.4 -0.5
CMB LR LR
comp=Z,2μm,20.0s,MS5.6
T06C **Millerton Lake** 87.49 49 P P 09 41 24.0 -0.1
baz=88,SNR=46
MWC **Mount Wilson** 87.50 53 eP P 09 41 23.1 -1.1
MWC pmax pmax
comp=Z,35nm,0.8s,mb5.6
MWC MLR MLR
comp=Z,3μm,22.0s,MS5.6
MWC **Mount Wilson** 87.50 53 eP P 09 41 23.1 -1.1
comp=Z,35nm,0.8s,mb5.6
MWC LR LR
comp=Z,3μm,22.0s,MS5.6
RCTC **Rector, Farmer** 87.52 50 ⇑P P 09 41 23.7 -0.6
baz=88
LAVA **Lava Cap Winer** 87.53 48 ⇑P P 09 41 24.1 -0.2
baz=88,SNR=16
K02A **Glendale** 87.56 43 ⇑P P 09 41 24.3 +0.1
baz=88
YBH **Yreka Blue Hor** 87.57 44 ⇓P P 09 41 25.0 +0.6
baz=88,SNR=24
YBH **Yreka Blue Hor** 87.57 44 eP P 09 41 24.7 +0.4
109C **Camp Elliot, M** 87.67 54 P P 09 41 24.9 -0.1
baz=88,SNR=13
RAGM **Ragged Mountai** 87.73 21 eP P 09 41 22.9 -1.7
M03C **McCloud** 87.75 45 P P 09 41 25.7 +0.5
baz=88,SNR=47
S06C **San Francisco** 87.77 49 P P 09 41 25.4 0.0
baz=88,SNR=32
J02A **Umpqua** 87.79 42 ⇑P P 09 41 25.4 +0.1
baz=88,SNR=6.4
ISA **Isabella** 87.80 51 eP P 09 41 25.6 0.0
ISA pmax pmax
comp=Z,35nm,0.9s,mb5.6
ISA MLR MLR
comp=Z,2μm,20.0s,MS5.6
ISA **Isabella** 87.80 51 P P 09 41 25.9 +0.3
baz=88,SNR=36
ISA **Isabella** 87.80 51 eP P 09 41 25.6 0.0
comp=Z,35nm,0.9s,mb5.6
ISA LR LR
comp=Z,2μm,20.0s,MS5.6
BFSC **Mount Baldy St** 87.81 53 P P 09 41 25.6 -0.1
baz=88,SNR=16
HUMO **Hull Mountain** 87.83 43 ⇓P P 09 41 26.2 +0.7
baz=88,SNR=29
HUMO **Hull Mountain** 87.83 43 eP P 09 41 25.9 +0.3
HUMO LR LR
comp=Z,3μm,21.0s,MS5.7
EDW2 **Edwards Air Fo** 87.83 52 P P 09 41 25.5 -0.2
baz=88,SNR=29
HELL **Mitchell Peak** 87.84 50 P P 09 41 25.5 -0.3
baz=88,SNR=28
P05C **Yuba Gap, Truc** 87.87 47 P P 09 41 26.3 +0.5
baz=88,SNR=47
MURC **Murrieta** 87.89 53 ⇓P P 09 41 25.5 -0.6
baz=88,SNR=16
KCC **Kaiser Creek** 87.91 49 P P 09 41 26.1 0.0
baz=88,SNR=25
DIV **Divide** 87.91 20 P P 09 41 24.1 -1.4
comp=Z,34nm,1.1s,mb5.5
BAR **Barrett** 87.91 54 eP P 09 41 25.8 -0.4
BAR LR LR
comp=Z,2μm,21.0s,MS5.4
I02A **Mapleton** 87.94 42 ⇓P P 09 41 26.9 +0.8
baz=88
O05C **Quincy** 87.96 46 ⇓P P 09 41 26.4 +0.2
baz=88,SNR=23
R05C **Kirkwood Meado** 87.98 48 P P 09 41 26.7 +0.3
baz=88,SNR=23
HATC **Hat Creek Radi** 87.98 45 ⇑P P 09 41 26.8 +0.5
baz=88,SNR=21
O04C **Chester** 88.00 46 P P 09 41 26.9 +0.4
baz=88,SNR=24
LBCM **Butte Creek Ri** 88.06 45 P P 09 41 26.9 +0.2
CHUM **Lake Minchumin** 88.11 16 eP P 09 41 24.9 -1.5
comp=Z,26nm,0.9s,mb5.5
M04C **Macdoel** 88.17 44 P P 09 41 27.8 +0.5
baz=88,SNR=24
BMRM **Bremner River** 88.17 21 eP P 09 41 25.5 -1.2
comp=Z,46nm,1.2s,mb5.6
J03A **Ideyld Park** 88.19 43 ⇓P P 09 41 28.0 +0.8
baz=88
MONP **Monument Peak** 88.19 54 ⇓P P 09 41 27.8 +0.3
baz=88,SNR=32
KTH **Kantishna Hill** 88.22 17 eP P 09 41 23.9 -3.0
comp=Z,30nm,0.8s,mb5.6
BEKR **Beckwourth** 88.30 47 P P 09 41 28.2 +0.3
baz=88,SNR=13
LRMC **Laurel Mountai** 88.30 52 P P 09 41 28.2 +0.2
baz=88,SNR=16
TRF **Thorofare Moun** 88.31 17 eP P 09 41 25.2 -2.1
comp=Z,27nm,0.8s,mb5.5
L04A **Klamath Falls** 88.32 44 ⇓P P 09 41 28.2 +0.3
baz=88,SNR=15
R06C **Coleville** 88.33 48 ⇑P P 09 41 28.3 +0.3
baz=88,SNR=21
BBRC **Big Bear Sol-O** 88.37 53 ⇑P P 09 41 28.5 +0.2
baz=88,SNR=10
ELFS **Eagle Lake Fie** 88.38 46 ⇑P P 09 41 28.6 +0.3
baz=89,SNR=12
CWC **Cottonwood Cre** 88.42 51 ⇓P P 09 41 29.1 +0.6
baz=89
M05C **Lookout** 88.44 45 P P 09 41 28.9 +0.4
baz=89,SNR=17
PFO **Pinyon Flat Ob** 88.46 54 P P 09 41 28.0 -0.8
comp=Z,105nm,0.9s,mb6.1,SNR=6.7
PFO **Pinyon Flat Ob** 88.46 54 eP P 09 41 28.7 -0.1
PFO pmax pmax
comp=Z,46nm,1.4s,mb5.5
PFO MLR MLR
comp=Z,2μm,21.0s,MS5.5
PFO **Pinyon Flat Ob** 88.46 54 ⇓P P 09 41 28.8 0.0
baz=89,SNR=8.2
PFO **Pinyon Flat Ob** 88.46 54 eP P 09 41 28.7 -0.1
comp=Z,46nm,1.4s,mb5.5
PFO LR LR
comp=Z,2μm,21.0s,MS5.5
MTUM **Tungsten Hills** 88.46 50 eP P 09 41 29.2 +0.5
WCN **Washoe City** 88.46 47 P P 09 41 29.1 +0.4
baz=89,SNR=18
P06A **Stead Airport,** 88.53 47 ⇑P P 09 41 29.3 +0.4
baz=89,SNR=18
COR **Corvallis** 88.55 42 PFAKE 09 41 40.0 +11
COR LR LR
comp=Z,2μm,19.0s,MS5.6
TIN **Tinemaha** 88.58 50 ⇓P P 09 41 29.2 0.0
baz=89
H03A **Soap Creek Ran** 88.60 41 P P 09 41 29.5 +0.3
baz=89,SNR=7.8
K04A **Chilquin** 88.63 44 ⇓P P 09 41 29.1 -0.3
baz=89,SNR=7.2
BPAW **Bear Paw Mtn.** 88.64 17 eP P 09 41 25.5 -3.4
comp=Z,6.1nm,0.7s,mb5.0
J04A **Umpqua Nationa** 88.67 43 ⇑P P 09 41 29.8 +0.2
baz=89,SNR=23
MPMC **Manual Prospec** 88.69 51 ⇓P P 09 41 29.5 -0.3
baz=89,SNR=37
DAC **Darwin (Calif)** 88.71 51 PFAKE 09 41 40.0 +10
DAC LR LR
comp=Z,3μm,22.0s,MS5.6
I04A **Tendick Farm,** 88.74 43 P P 09 41 29.9 0.0
baz=89,SNR=10
O06A **Flanigan** 88.80 47 P P 09 41 30.5 +0.3
baz=89,SNR=51
S08C **White Mtn Res** 88.81 50 ⇑P P 09 41 30.4 +0.1
baz=89,SNR=37
M06C **Likely Place G** 88.82 45 ⇑P P 09 41 30.4 +0.2
baz=89,SNR=37
GSC **Goldstone** 88.89 52 eP P 09 41 30.3 -0.4
GSC pmax pmax
comp=Z,60nm,1.5s,mb5.7
GSC MLR MLR
comp=Z,2μm,20.0s,MS5.5
GSC **Goldstone** 88.89 52 ⇑P P 09 41 30.6 -0.2
baz=89,SNR=17
GSC **Goldstone** 88.89 52 eP P 09 41 30.3 -0.5
comp=Z,60nm,1.5s,mb5.7
GSC LR LR
comp=Z,2μm,20.0s,MS5.5
NVL **N'lazarevskaya** 88.89 187 c iP P 09 41 30.2 0.0
NVL e*PP pP 09 41 42.5 -2.5
NVL eS S 09 51 58.2 -15
NVL pmax pmax
comp=Z,144nm,1.5s,mb6.1
NVL MLR MLR
comp=N,1μm,20.0s,MS5.3
NVL MLR MLR
comp=E,650nm,20.0s,MS5.3
NVL MLR MLR
comp=Z,2μm,20.0s,MS5.5
MAIT **Maitri** 88.89 187 eP P 09 41 28.2 -2.0
PAHR **Pah Rah Range** 88.90 47 eP P 09 41 30.6 -0.1
comp=Z,64nm,1.1s,mb5.9
L05A **Lakeview** 88.96 45 ⇓P P 09 41 31.0 +0.1
baz=89,SNR=27
BELC **Belle Mtn.** 88.96 53 ⇑P P 09 41 31.4 +0.2
baz=89,SNR=56
F03A **Seaside** 89.04 40 ⇑P P 09 41 31.5 +0.3
baz=89
HEC **Hector,Ludlow** 89.05 53 ⇓P P 09 41 31.3 -0.2
baz=89,SNR=16
N06A **Buffalo Meadow** 89.05 46 P P 09 41 31.7 +0.4
baz=89,SNR=59
LSA **Lhasa** 89.06 302 P P 09 41 29.8 -1.9
LSA XS sS 09 52 35.5 -6.1
LSA LR LR
comp=E,780nm,27.5s
LSA LR LR
comp=Z,1μm,32.7s
LSA **Lhasa** 89.06 302 eP P 09 41 30.6 -1.1
LSA pmax pmax
comp=Z,19nm,0.8s,mb5.5
LSA MLR MLR
comp=Z,884nm,22.0s,MS5.1
LSA **Lhasa** 89.06 302 eP P 09 41 30.6 -1.1
comp=Z,20nm,0.8s,mb5.5
LSA LR LR
comp=Z,884nm,22.0s,MS5.1
SIT **Sitka** 89.07 27 PFAKE 09 41 40.0 +8.9
SIT LR LR
comp=Z,4μm,20.0s,MS5.8
NVAR **Mina Array Bea** 89.11 49 P P 09 41 31.5 -0.2
comp=Z,9.6nm,0.8s,mb5.2,baz=69,slow=31,SNR=47
NVAR PKKPbc PKKPbc 09 59 09.8 -0.6
comp=Z,0.2nm,0.5s,baz=80,slow=3.9,SNR=3.7
NVAR PKPPKP 10 07 18.4
comp=Z,0.7nm,0.9s,baz=57,slow=3.3,SNR=5.1
NVAR **Mina Array Bea** 89.11 49 P P 09 41 31.5 -0.2
NVAR PKKPbc PKKPbc 09 59 09.8 -0.6
NVAR P'P' 10 07 18.4
P07A **Fallon** 89.17 47 ⇑P P 09 41 32.2 +0.2
baz=89
GRAC **Grapevine Rang** 89.17 50 ⇓P P 09 41 32.3 +0.2
baz=89,SNR=24
R08A **Mina** 89.21 49 ⇓P P 09 41 32.3 +0.1
baz=89,SNR=12
K05A **Summer Lake** 89.23 44 P P 09 41 32.7 +0.5
baz=89,SNR=37
SNAA **Sanae** 89.23 183 eP P 09 41 30.5 -1.3
SNAA e 09 41 32.3
SNAA e 09 41 39.8
SNAA e pP 09 41 46.1 -0.6
SNAA **Sanae** 89.23 183 P P 09 41 30.6 -1.2
comp=Z,12nm,0.6s,mb5.4,baz=200,slow=5.2,SNR=225
SNAA **Sanae** 89.23 183 eP P 09 41 30.4 -1.4
SNAA pmax pmax
comp=Z,129nm,1.3s
SNAA **Sanae** 89.23 183 eP P 09 41 30.4 -1.4
comp=Z,129nm,1.3s,mb6.1
BC3 **Big Chuckw Mtn** 89.24 54 ⇑P P 09 41 32.4 0.0
baz=89
MOD **Modoc** 89.25 45 P P 09 41 32.4 +0.2
baz=89,SNR=77
MOD **Modoc** 89.25 45 eP P 09 41 32.2 -0.1
comp=Z,69nm,1.0s,mb5.9
MOD LR LR
comp=Z,3μm,20.0s,MS5.7
J05A **Fort Rock** 89.26 43 ⇓P P 09 41 32.8 +0.5
baz=89,SNR=89
H04A **Detroit Lake** 89.30 42 ⇓P P 09 41 32.2 -0.2
baz=90,SNR=24
FURC **Furnace Creek,** 89.33 51 ⇓P P 09 41 32.8 +0.1
baz=90,SNR=32
E03A **Lebam** 89.34 40 ⇓P P 09 41 33.1 +0.5
baz=90,SNR=15
O07A **Toulon** 89.45 47 P P 09 41 33.5 +0.2
baz=90,SNR=63
GLA **Glamis** 89.48 55 eP P 09 41 32.3 -1.3
GLA pmax pmax
comp=Z,46nm,0.8s,mb5.9
GLA MLR MLR
comp=Z,1μm,20.0s,MS5.2
GLA **Glamis** 89.48 55 ⇓P P 09 41 33.8 +0.2
baz=90,SNR=12
GLA **Glamis** 89.48 55 eP P 09 41 32.3 -1.3
comp=Z,46nm,0.8s,mb5.9
GLA LR LR
comp=Z,1μm,20.0s,MS5.2
D03A **Wishkah Elem.** 89.49 39 ⇑P P 09 41 34.9 +1.6
baz=90,SNR=7.2
BMW **Boistfort Moun** 89.51 40 eP P 09 41 33.5 +0.1
SHOC **Shoshone** 89.52 52 ⇓P P 09 41 33.3 -0.4
baz=90,SNR=17
GMRC **Grante Mounta** 89.53 53 ⇑P P 09 41 34.0 +0.2
baz=90,SNR=14
IMA2 **Indian Mountai** 89.54 14 eP P 09 41 32.1 -1.0
Q08A **Gabbs** 89.55 48 P P 09 41 33.7 -0.1
baz=90,SNR=42
NLWA **Neilton Lookou** 89.57 39 ⇓P P 09 41 34.8 +1.2
baz=90,SNR=8.5
NLWA **Neilton Lookou** 89.57 39 eP P 09 41 33.5 -0.1
comp=Z,56nm,1.1s,mb5.8
NLWA LR LR
comp=Z,1μm,20.0s,MS5.3
S09A **Goldfield** 89.58 50 ⇑P P 09 41 33.7 -0.2
baz=90,SNR=23
TUQ **Turquoise Mtn.** 89.60 52 ⇓P P 09 41 33.5 -0.6
baz=90,SNR=12
I05A **Bend** 89.64 43 ⇓P P 09 41 34.3 +0.3
baz=90,SNR=24
IRM **Iron Mountain** 89.67 54 ⇓P P 09 41 33.3 -1.2
baz=90,SNR=20
K06A **Valley Falls** 89.68 44 ⇑P P 09 41 34.5 +0.2
baz=90,SNR=40
U10A **Ash Meadows, A** 89.70 51 ⇑P P 09 41 34.6 +0.1
baz=90,SNR=21
F04A **Amboy** 89.74 41 ⇓P P 09 41 34.3 -0.2
baz=90,SNR=15
P08A **Dixie Valley** 89.80 48 ⇑P P 09 41 35.4 +0.5
baz=90,SNR=6.0
LPIG **La Paz** 89.82 64 P P 09 41 34.9 -0.4
comp=Z,99nm,1.1s,mb6.0,baz=56,slow=0.7,SNR=10
E04A **Onalaska** 89.87 40 ⇑P P 09 41 36.1 +1.0
baz=90,SNR=8.5
OSD **Olympics--Snow** 89.88 39 P P 09 41 36.1 +1.0
H05A **Madras** 89.89 42 ⇓P P 09 41 35.2 0.0
baz=90,SNR=26
R09A **Tonopah** 89.91 49 ⇑P P 09 41 35.3 -0.1
baz=90,SNR=30
ZAK **Zakamensk** 89.93 324 ⇓eP P 09 41 34.3 -0.9
ZAK e 09 52 03.9
ZAK pmax pmax
comp=Z,69nm,1.6s,mb5.7
ZAK pmax pmax
comp=Z,5.0nm,2.0s,mb4.5
HOOD **Mount Hood Mea** 89.93 41 eP P 09 41 35.2 -0.2
comp=Z,69nm,0.8s,mb6.0
L07A **Adell** 89.94 45 ⇑P P 09 41 36.1 +0.5
baz=90,SNR=109
J06A **Christmas Vall** 89.95 44 P P 09 41 35.6 +0.1
baz=90,SNR=45
TPNV **Topopah Spring** 89.97 51 ⇑P P 09 41 35.8 0.0
baz=90,SNR=45
Y12C **Blythe** 89.99 54 ⇑P P 09 41 35.4 -0.6
baz=90,SNR=8.8
WRAK **Wrangell Islan** 90.00 28 eP P 09 41 34.5 -0.9
comp=Z,71nm,1.3s,mb5.8
TDL **Tradedollar La** 90.06 40 P P 09 41 36.6 +0.7
LDFC **Landfair** 90.07 53 eP P 09 41 36.3 0.0
D04A **Dobbs Creek Ra** 90.07 39 ⇑P P 09 41 37.6 +1.6
baz=90,SNR=7.0
Q09A **Carvers** 90.07 49 ⇓P P 09 41 36.2 0.0
baz=90,SNR=7.5
COLA **College** 90.09 17 eP P 09 41 33.2 -2.5
COLA pmax pmax
comp=Z,27nm,0.9s,mb5.6
COLA MLR MLR
comp=Z,2μm,21.0s,MS5.5
COLA **College** 90.09 17 eP P 09 41 33.2 -2.4
comp=Z,27nm,0.9s,mb5.6
COLA LR LR
comp=Z,2μm,21.0s,MS5.5
B04A **Port Angeles** 90.11 38 ⇓P P 09 41 37.1 +1.0
baz=90,SNR=7.4
G05A **Wamic** 90.11 42 ⇓P P 09 41 36.6 +0.4
baz=90,SNR=9.9
S10A **Tonopah Range,** 90.12 50 ⇑P P 09 41 36.6 +0.1
baz=90,SNR=77
V11A **Goodsprings** 90.13 52 ⇑P P 09 41 36.6 0.0
baz=90,SNR=33
VIPM **Ingram Point** 90.21 42 P P 09 41 37.0 +0.3
I06A **Prineville** 90.22 43 P P 09 41 37.5 +0.7
baz=90,SNR=97
N08A **GE Springer Mi** 90.23 47 P P 09 41 37.1 +0.2
baz=90,SNR=88
C04A **Brinnon** 90.26 39 ⇑P P 09 41 37.1 +0.3
baz=90,SNR=24
GNW **Green Mountain** 90.27 39 eP P 09 41 37.2 +0.3
comp=Z,88nm,1.0s,mb6.0
K07A **Rock Creek Ran** 90.30 45 P P 09 41 37.6 +0.5
baz=90,SNR=96
F05A **White Salmon** 90.31 41 P P 09 41 37.4 +0.2
baz=90,SNR=31
NEE2 **Needles Airpor** 90.31 53 ⇑P P 09 41 38.2 +0.7
baz=90,SNR=9.6
W12A **Cal Nev Ari** 90.33 53 ⇑P P 09 41 38.1 +0.6
baz=90,SNR=9.7
M08A **Happy Creek Ra** 90.34 46 P P 09 41 38.1 +0.7
baz=90,SNR=70
IRK **Irkutsk** 90.36 326 ⇑iP P 09 41 36.2 -1.0
IRK pmax pmax
comp=Z,97nm,2.0s,mb5.8
U11A **Corn Creek** 90.40 51 ⇑P P 09 41 38.4 +0.6
baz=91,SNR=12
P09A **Austin** 90.40 48 ⇑P P 09 41 37.7 0.0
baz=91,SNR=7.0
TLY **Talaya** 90.40 326 P P 09 41 37.6 +0.2
comp=Z,203nm,1.4s,mb6.3,SNR=13
TLY **Talaya** 90.40 326 eP P 09 41 37.0 -0.4
TLY eS S 09 52 32.3 +4.2
TLY ePS PS 09 53 47.8 +6.2
TLY eSS SS 09 58 28.4 -1.4
TLY pmax pmax
comp=Z,53nm,1.1s,mb5.8
TLY MLR MLR
comp=Z,715nm,20.0s,MS5.1
TLY **Talaya** 90.40 326 eP P 09 41 36.4 -1.0
comp=Z,77nm,1.4s,mb5.8
VNA1 **Neumayer--Stat** 90.42 181 eP P 09 41 36.6 -0.8
VNA1 e 09 41 38.7
VNA1 e 09 41 45.8
VNA1 e pP 09 41 52.2 0.0
E05A **Randle** 90.44 40 P P 09 41 37.7 0.0
baz=91,SNR=76
R10A **Warm Springs** 90.48 49 ⇑P P 09 41 38.0 -0.1
baz=91,SNR=46
PALK **Pallekele** 90.49 277 PFAKE 09 41 50.0 +11
PALK LR LR
comp=Z,2μm,21.0s,MS5.5
H06A **Lindquist Farm** 90.50 42 ⇓P P 09 41 37.7 -0.3
baz=91,SNR=120
PDMCI **Parker Dam,Lak** 90.50 54 ⇑P P 09 41 38.3 0.0
baz=91,SNR=28
V12A **Nelson** 90.52 52 ⇑P P 09 41 38.1 -0.3
baz=91,SNR=27
G06A **Carlson Farm,** 90.53 42 P P 09 41 38.2 0.0
baz=91,SNR=29
Y13A **Salome** 90.55 54 ⇑P P 09 41 39.0 +0.4
baz=91,SNR=50
J07A **Hines** 90.56 44 P P 09 41 38.7 +0.3
baz=91,SNR=51
SKAG **Skagway** 90.57 25 eP P 09 41 37.3 -0.7
comp=Z,63nm,1.1s,mb5.9
SHPR **Sheep Range** 90.59 51 eP P 09 41 39.0 +0.3
WVOR **Wild Horse Val** 90.59 45 eP P 09 41 38.5 0.0
WVOR pmax pmax
comp=Z,160nm,1.3s,mb6.2
WVOR **Wild Horse Val** 90.59 45 eP P 09 41 38.5 -0.1
comp=Z,160nm,1.3s,mb6.2
D05A **Enumclaw** 90.59 40 P P 09 41 39.1 +0.7
baz=91,SNR=35
HYT **Haines Junctio** 90.60 23 eP P 09 41 36.7 -1.4
S11A **Rachel** 90.62 50 ⇓P P 09 41 38.5 -0.3
baz=91,SNR=32
O09A **Fish Creek Ran** 90.62 47 ⇑P P 09 41 39.0 +0.2
baz=91,SNR=40
Q10A **Clear Creek Ra** 90.63 49 ⇓P P 09 41 38.8 0.0
baz=91,SNR=35
214A **Organ Pipe Nat** 90.63 56 ⇓P P 09 41 39.6 +0.6
baz=91
N09A **Rock Creek Ran** 90.68 47 ⇑P P 09 41 39.0 +0.1
baz=91,SNR=25
F06A **Goldendale** 90.68 41 P P 09 41 39.1 +0.3
baz=91,SNR=31
L08A **Fields** 90.69 45 P P 09 41 39.6 +0.6
baz=91,SNR=108
BMN **Battle Mountai** 90.71 47 eP P 09 41 38.5 -0.6
BMN pmax pmax
comp=Z,61nm,1.0s,mb5.9
BMN MLR MLR
comp=Z,1μm,21.0s,MS5.3
BMN **Battle Mountai** 90.71 47 eP P 09 41 38.5 -0.7
comp=Z,61nm,1.0s,mb5.9
BMN LR LR
comp=Z,1μm,21.0s,MS5.3
I07A **Izee** 90.74 43 P P 09 41 39.6 +0.5
baz=91,SNR=120
K08A **Mann Creek Ran** 90.82 45 P P 09 41 40.0 +0.4
baz=91,SNR=161
RMW **Rattlesnake Mo** 90.83 39 P P 09 41 39.7 +0.2
T11A **Corn Creek, Al** 90.84 51 P P 09 41 40.3 +0.5
baz=91,SNR=80
X13A **Yucca** 90.85 54 ⇓P P 09 41 40.0 +0.1
baz=91,SNR=31
A04A **Legoe Bay, Lum** 90.89 38 P P 09 41 40.4 +0.6
baz=91,SNR=43
P10A **Eureka** 90.91 48 ⇓P P 09 41 40.2 +0.1
baz=91,SNR=15
E06A **Yakima** 90.91 41 ⇓P P 09 41 39.9 0.0
baz=91,SNR=47
H07A **Lands Inn, Kim** 90.93 43 P P 09 41 40.2 +0.1
baz=91,SNR=124
M09A **Marrel Ranch,** 90.97 46 P P 09 41 41.1 +0.8
baz=91,SNR=32
W13A **Hualapai Mount** 91.00 53 ⇓P P 09 41 40.7 +0.1
baz=91,SNR=43
C05A **Tolt Reservoir** 91.01 39 P P 09 41 40.3 0.0
baz=91,SNR=51
T12A **Moapa** 91.01 51 ⇑P P 09 41 40.8 +0.2
baz=91,SNR=14
R11A **Troy Canyon, C** 91.02 50 P P 09 41 40.6 0.0
baz=91,SNR=35
U12A **Valley of Fire** 91.03 52 ⇓P P 09 41 41.2 +0.5
baz=91,SNR=11
B05A **Bryant** 91.03 39 ⇑P P 09 41 40.5 0.0
baz=91,SNR=46
Z14A **Wintersburg** 91.06 55 ⇑P P 09 41 41.1 +0.2
baz=91,SNR=8.7
L09A **Wilkinson Ranc** 91.07 46 ⇑P P 09 41 41.0 +0.2
baz=91,SNR=86

J08A	Circle Bar Ran	91.10	44	P	P	09 41 41.0	+0.2
	baz=91,SNR=117						
JCW	Jim Creek	91.10	39	eP	P	09 41 40.6	-0.1
O10A	Cortez Mining,	91.16	48	⇑P	P	09 41 41.8	+0.6
	baz=91,SNR=9.7						
G07A	Ruggs Ranch, H	91.16	42	P	P	09 41 41.1	0.0
	baz=91,SNR=80						
Q11A	Duckwater	91.17	49	⇑P	P	09 41 41.2	-0.1
	baz=91,SNR=58						
V13A	Grand Canyon W	91.21	52	⇑P	P	09 41 41.6	0.0
	baz=91,SNR=46						
Y14A	Wickenburg	91.23	55	⇑P	P	09 41 41.8	+0.1
	baz=91,SNR=21						
S12A	Delamar Landin	91.26	51	P	P	09 41 42.6	+0.8
	baz=91,SNR=99						
F07A	Phinny Hill Vi	91.27	41	P	P	09 41 41.9	+0.3
	baz=92,SNR=26						
I08A	Drewsey	91.27	44	P	P	09 41 41.5	-0.1
	baz=92,SNR=57						
D06A	Cle Elum	91.29	40	⇑P	P	09 41 41.5	-0.1
	baz=92,SNR=45						
COLD	Coldfoot	91.31	15	eP	P	09 41 40.9	-0.4
	comp=Z,21nm,0.9s,mb5.5						
K09A	Rome	91.32	45	P	P	09 41 42.2	+0.3
	baz=92,SNR=144						
N10A	Dunphy	91.32	47	⇑P	P	09 41 42.1	+0.2
	baz=92,SNR=11						
EBG	Ellensburg	91.33	40	P	P	09 41 42.0	+0.2
115A	Sonoran Desert	91.37	56	⇑P	P	09 41 42.7	+0.3
	baz=92,SNR=6.7						
P11A	Circle Ranch,	91.38	48	⇑P	P	09 41 42.9	+0.7
	baz=92,SNR=9.5						
A05A	Maple Falls	91.38	38	⇓P	P	09 41 41.9	-0.2
	baz=92,SNR=8.5						
TBM	Table Mountain	91.43	40	P	P	09 41 42.5	+0.2
U13A	Pakoon Wash	91.44	52	P	P	09 41 43.1	+0.5
	baz=92,SNR=45						
RPW	Rockport	91.46	39	P	P	09 41 42.0	-0.4
H08A	Prairie City	91.47	43	P	P	09 41 42.5	-0.1
	baz=92,SNR=35						
B06A	Marblemount	91.51	39	⇑P	P	09 41 41.7	-1.0
	baz=92,SNR=8.2						
X14A	Yava	91.52	54	P	P	09 41 43.7	+0.6
	baz=92,SNR=65						
J09A	Fry Pan Ranch,	91.57	44	P	P	09 41 43.4	+0.3
	baz=92,SNR=128						
C06A	Tall Timber Ra	91.59	39	⇓P	P	09 41 42.2	-0.8
	baz=92						
E07A	Sunnyside	91.61	41	⇑P	P	09 41 43.4	+0.3
	baz=92,SNR=7.2						
G08A	Pilot Rock	91.62	42	P	P	09 41 43.3	+0.1
	baz=92,SNR=118						
M10A	I.L. Ranch, Tu	91.63	46	P	P	09 41 44.1	+0.7
	baz=92,SNR=84						
Z15A	Gila River Ind	91.64	55	⇓P	P	09 41 43.4	-0.3
	baz=92,SNR=16						
W14A	Seligman	91.65	53	P	P	09 41 44.3	+0.7
	baz=92,SNR=50						
O11A	Cowboy Ranch,	91.68	48	P	P	09 41 44.1	+0.5
	baz=92,SNR=19						
RSW	Rattlesnake Hi	91.70	41	eP	P	09 41 43.7	+0.1
	comp=Z,113nm,1.0s,mb6.2						
R12A	Pony Springs,	91.72	50	⇑P	P	09 41 43.9	+0.1
	baz=92,SNR=56						
216A	Three Points,	91.72	57	⇑P	P	09 41 42.3	-1.8
	baz=92,SNR=23						
T13A	Saint George	91.72	51	P	P	09 41 44.5	+0.6
	baz=92,SNR=73						
116A	Eloy	91.73	56	⇓P	P	09 41 44.8	+0.7
	baz=92,SNR=33						
HAWA	Hanford	91.74	41	eP	P	09 41 43.5	-0.2
	comp=Z,96nm,0.9s,mb6.1						
HAWA				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
Y15A	Casa Rosa Ranc	91.75	55	⇑P	P	09 41 44.5	+0.4
	baz=92,SNR=89						
USHA	Ushuaia	91.77	151	P	P	09 41 41.9	-2.0
	comp=Z,26nm,0.9s,mb5.6,baz=237,slow=0.9,SNR=5.0						
USHA				LR	LR	10 11 42.6	
	comp=Z,599nm,21.7s,MS5.0,baz=194,slow=28						
A06A	Chilliwack	91.78	38	⇑P	P	09 41 44.1	+0.2
	baz=92						
ETW	Entiat	91.79	40	eP	P	09 41 43.7	-0.2
	comp=Z,69nm,0.9s,mb6.0						
V14A	Boquillas Ranc	91.79	53	P	P	09 41 44.9	+0.6
	baz=92,SNR=58						
Q12A	Willow Creek R	91.83	49	⇑P	P	09 41 44.1	-0.3
	baz=92,SNR=22						
I09A	Lost Marbles R	91.84	44	⇑P	P	09 41 44.4	+0.1
	baz=92,SNR=12						
L10A	Juniper Basin	91.90	46	P	P	09 41 44.9	+0.3
	baz=92,SNR=92						
K10A	MacKenzie Ranc	91.92	45	⇓P	P	09 41 44.8	+0.1
	baz=92,SNR=78						
P12A	McGill	91.95	49	P	P	09 41 45.3	+0.4
	baz=92,SNR=28						
F08A	Pendleton	91.95	42	⇓P	P	09 41 44.6	-0.2
	baz=92						
S13A	Holt Ranch, En	91.97	51	⇑P	P	09 41 45.0	0.0
	baz=92,SNR=56						
C07A	Waterville	91.99	40	P	P	09 41 44.3	-0.6
	baz=92,SNR=21						
EGAK	Eagle	92.00	19	eP	P	09 41 42.8	-1.7
	comp=Z,19nm,0.8s,mb5.5						
EGAK				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
X15A	Humboldt	92.02	54	P	P	09 41 46.1	+0.7
	baz=92,SNR=88						
U14A	Mt Trumbull	92.03	52	⇑P	P	09 41 45.7	+0.3
	baz=92,SNR=85						
WTV	Waterville	92.06	40	P	P	09 41 44.8	-0.4
DAWY	Dawson	92.07	20	eP	P	09 41 42.8	-2.0
E08A	Dider Farm, El	92.08	41	P	P	09 41 45.5	+0.1
	baz=92,SNR=31						
M11A	Holland Ranch,	92.11	47	P	P	09 41 46.1	+0.5
	baz=92,SNR=42						
R13A	O'Grain Ranch,	92.12	50	⇓P	P	09 41 46.2	+0.5
	baz=92						
217A	Green Valley	92.15	57	P	P	09 41 46.9	+0.8
	baz=92,SNR=50						
H09A	Durkee	92.18	43	⇑P	P	09 41 46.6	+0.7
	baz=92,SNR=11						
ELK	Elko	92.22	48	eP	P	09 41 45.9	-0.2
ELK				pmax	pmax		
	comp=Z,17nm,1.0s						
ELK				MLR	MLR		
	comp=Z,1μm,20.0s						
ELK	Elko	92.22	48	eP	P	09 41 45.9	-0.2
	comp=Z,18nm,1.0s,mb5.3						
ELK				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
Z16A	Peralta Trail,	92.23	56	P	P	09 41 46.9	+0.5
	baz=92,SNR=33						
J10A	Berg Farm, Mel	92.26	45	⇓P	P	09 41 46.1	-0.1
	baz=92,SNR=20						
W15A	Williams	92.26	54	⇑P	P	09 41 47.2	+0.7
	baz=92,SNR=23						
LNOR	Lincton Mounta	92.30	42	eP	P	09 41 45.3	-1.1
	comp=Z,8.5nm,1.0s,mb5.0						
B07A	Winthrop	92.30	39	⇓P	P	09 41 46.0	-0.3
	baz=92,SNR=40						
T14A	Hurricane	92.35	52	⇑P	P	09 41 47.0	+0.2
	baz=92,SNR=76						
ARUT	Antelope Range	92.36	51	eP	P	09 41 46.9	0.0
	comp=Z,23nm,1.0s,mb5.5						
TUC	Tucson	92.36	57	eP	P	09 41 47.3	+0.3
TUC				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.8						
TUC	Tucson	92.36	57	eP	P	09 41 47.3	+0.3
	comp=Z,45nm,1.0s,mb5.8						
G09A	Cove	92.36	43	⇓P	P	09 41 46.8	+0.1
	baz=92,SNR=16						
O12A	Currie	92.38	48	⇓P	P	09 41 46.8	0.0
	baz=92,SNR=24						
Q13A	Wheeler Ranch,	92.38	50	⇓P	P	09 41 47.0	+0.1
	baz=92,SNR=41						
Y16A	Circle Bar Ran	92.39	55	P	P	09 41 47.8	+0.7
	baz=92,SNR=56						
N12A	Clover Valley,	92.40	48	P	P	09 41 47.3	+0.4
	baz=93,SNR=24						
A07A	Ashnola River,	92.40	38	⇓P	P	09 41 46.7	0.0
	baz=93,SNR=30						
D08A	Wollman Farm,	92.41	41	⇑P	P	09 41 46.7	-0.2
	baz=93,SNR=17						
L11A	Cat Creek Ranc	92.43	46	P	P	09 41 47.5	+0.4
	baz=93,SNR=52						
F09A	S2 Ranch, Elgi	92.46	42	⇑P	P	09 41 47.0	-0.2
	baz=93						
K11A	Parker Ranch,	92.48	45	⇑P	P	09 41 47.2	-0.1
	baz=93,SNR=42						
117A	Oracle	92.49	56	⇓P	P	09 41 48.2	+0.6
	baz=93,SNR=52						
BMO	Blue Mountains	92.49	43	eP	P	09 41 46.5	-0.8
BMO				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.6						
I10A	Payette	92.50	44	⇑P	P	09 41 47.3	-0.1
	baz=93,SNR=12						
S14A	Cedar City	92.55	51	P	P	09 41 48.1	+0.4
	baz=93,SNR=18						
V15A	Kaibab Nationa	92.56	53	⇑P	P	09 41 48.2	+0.3
	baz=93,SNR=37						
P13A	Bates Ranch, G	92.58	49	⇓P	P	09 41 47.7	-0.1
	baz=93,SNR=38						
X16A	Lo Mia Camp, P	92.61	55	⇓P	P	09 41 48.7	+0.6
	baz=93,SNR=76						
C08A	Higginbotham F	92.65	40	⇓P	P	09 41 48.0	+0.1
	baz=93						
E09A	Wood Farm, Sta	92.66	41	⇓P	P	09 41 48.2	+0.2
	baz=93,SNR=21						
OD2	Odessa Site #2	92.68	40	eP	P	09 41 48.1	0.0
	comp=Z,34nm,0.8s,mb5.8						
318A	Bisbee	92.68	58	⇓P	P	09 41 48.1	-0.4
	baz=93,SNR=38						
U15A	North Rim	92.70	52	P	P	09 41 49.3	+0.8
	baz=93,SNR=110						
M12A	Wells	92.71	47	⇑P	P	09 41 48.2	-0.1
	baz=93,SNR=12						
B08A	Colville Reser	92.72	39	⇑P	P	09 41 47.6	-0.7
	baz=93,SNR=28						
H10A	Noah's Angus R	92.75	44	⇓P	P	09 41 47.2	-1.3
	baz=93,SNR=45						
D09A	Jones Farm, Ri	92.79	41	⇓P	P	09 41 47.9	-0.7
	baz=93,SNR=33						
W16A	Flagstaff	92.79	54	⇓P	P	09 41 49.0	+0.1
	baz=93,SNR=41						
G10A	Bishop Farm, J	92.80	43	P	P	09 41 48.1	-0.5
	baz=93,SNR=39						
Y17A	Roosevelt	92.81	55	⇓P	P	09 41 48.5	-0.6
	baz=93,SNR=25						
218A	Dragoon	92.83	57	P	P	09 41 49.8	+0.6
	baz=93,SNR=51						
T15A	Red Dirt Ranch	92.85	52	⇑P	P	09 41 48.2	-0.9
	baz=93,SNR=42						
R14A	James Farms, M	92.86	50	⇓P	P	09 41 49.7	+0.6
	baz=93						
O13A	Hicks Ranch, I	92.86	48	⇑P	P	09 41 49.6	+0.5
	baz=93,SNR=5.9						
MFID	Camas Ranch	92.88	45	⇑P	P	09 41 48.4	-0.7
	baz=93,SNR=67						
L12A	House Creek Ra	92.92	46	⇑P	P	09 41 49.4	0.0
	baz=93,SNR=33						
Q14A	Sevier Lake (B	92.93	50	⇑P	P	09 41 49.8	+0.3
	baz=93						
Z17A	San Carlos Hig	92.96	56	⇑P	P	09 41 50.3	+0.6
	baz=93,SNR=7.4						
N13A	Wendover, West	92.98	48	⇑P	P	09 41 48.9	-0.7
	baz=93,SNR=8.0						
I11A	Placerville	92.99	44	⇑P	P	09 41 49.2	-0.4
	baz=93,SNR=52						
F10A	Beach Ranch, E	93.01	42	⇑P	P	09 41 48.8	-0.8
	baz=93,SNR=34						
A08A	Turner Farm, O	93.02	39	⇓P	P	09 41 49.2	-0.4
	baz=93,SNR=27						
WUAZ	Wupatki	93.06	54	⇑P	P	09 41 50.9	+0.7
	baz=93,SNR=22						
WUAZ	Wupatki	93.06	54	eP	P	09 41 50.0	-0.2
X17A	Forest Lakes	93.07	55	⇓P	P	09 41 50.7	+0.5
	baz=93,SNR=66						
S15A	Panguitch	93.11	51	⇑P	P	09 41 50.6	+0.3
	baz=93,SNR=6.6						
118A	Homack Ranch,	93.12	57	P	P	09 41 51.0	+0.5
	baz=93,SNR=54						
C09A	Chrisman Ranch	93.12	40	⇓P	P	09 41 49.4	-0.7
	baz=93,SNR=6.3						
K12A	Draper Farm, C	93.19	46	⇓P	P	09 41 50.3	-0.2
	baz=93,SNR=34						
M13A	Montello	93.20	47	⇓P	P	09 41 50.6	-0.1
	baz=93						
Z18A	Geronimo	93.23	56	⇓P	P	09 41 51.4	+0.4
	baz=93,SNR=9.1						
319A	Douglas	93.23	58	⇓P	P	09 41 51.5	+0.4
	baz=93,SNR=66						
H11A	Donnelly	93.27	44	⇓P	P	09 41 50.0	-0.9
	baz=93,SNR=42						
E10A	Myers Farm, Un	93.29	42	⇑P	P	09 41 51.4	+0.5
	baz=94						
J12A	Stokes Ranch,	93.30	45	⇓P	P	09 41 51.1	+0.1
	baz=94,SNR=34						
P14A	Drum Mountains	93.31	49	⇓P	P	09 41 50.8	-0.4
	baz=94						
R15A	Junction	93.37	51	⇑P	P	09 41 50.2	-1.3
	baz=94,SNR=14						
G11A	Walters Elk Ra	93.39	43	⇑P	P	09 41 50.2	-1.2
	baz=94,SNR=40						
W17A	Winslow	93.41	54	⇑P	P	09 41 52.7	+0.9
	baz=94,SNR=6.7						
D10A	Wagner Farm, O	93.42	41	⇑P	P	09 41 51.0	-0.5
	baz=94,SNR=25						
A09A	Danville	93.44	39	⇑P	P	09 41 51.4	-0.2
	baz=94,SNR=22						
B09A	Rice	93.46	40	⇑P	P	09 41 50.9	-0.7
	baz=94,SNR=19						
219A	White Tail Can	93.46	57	⇓P	P	09 41 52.7	+0.6
	baz=94,SNR=36						
DGAR	Diego Garcia	93.47	261	PFAKE		09 42 00.0	+7.4
DGAR				LR	LR		
	comp=Z,5μm,22.0s,MS5.9						
Y18A	Canyon Day Jun	93.47	56	⇓P	P	09 41 52.0	-0.1
	baz=94,SNR=66						
T16A	Glen Canyon Da	93.49	52	⇑P	P	09 41 52.4	+0.3
	baz=94,SNR=9.5						
MVU	Marysvale	93.52	51	PFAKE		09 42 00.0	+7.8
MVU				LR	LR		
	comp=Z,3μm,21.0s,MS5.7						
MSU	Marysvale	93.55	51	eP	P	09 41 52.6	+0.3
Q15A	Fillmore	93.58	50	⇑P	P	09 41 52.0	-0.5
	baz=94						
L13A	Double Diamond	93.64	47	⇑P	P	09 41 52.1	-0.6
	baz=94,SNR=7.5						
F11A	Grangeville	93.66	43	⇓P	P	09 41 52.0	-0.6
	baz=94,SNR=13						
S16A	Weppner Ranch,	93.69	51	⇑P	P	09 41 52.6	-0.4
	baz=94,SNR=23						
119A	Ashpeak Ranch,	93.69	57	⇑P	P	09 41 53.7	+0.6
	baz=94,SNR=30						
N14A	Grayback Hills	93.69	48	⇑P	P	09 41 52.1	-0.8
	baz=94						
DUG	Dugway	93.72	49	eP	P	09 41 53.2	+0.2
DUG				pmax	pmax		
	comp=Z,12nm,1.1s,mb5.2						
DUG				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.7						
DUG	Dugway	93.72	49	⇑P	P	09 41 52.5	-0.5
	baz=94,SNR=9.8						
DUG	Dugway	93.72	49	eP	P	09 41 53.2	+0.1
	comp=Z,12nm,1.1s,mb5.2						
DUG				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
K13A	Stover Farm, H	93.75	46	⇑P	P	09 41 53.3	+0.2
	baz=94,SNR=18						
X18A	Snowflake	93.80	55	⇓P	P	09 41 53.8	+0.2
	baz=94,SNR=20						
E11A	Bogner Ranch,	93.81	42	⇑P	P	09 41 52.1	-1.2
	baz=94,SNR=15						
M14A	Sheep Mountain	93.83	47	⇑P	P	09 41 52.8	-0.7
	baz=94,SNR=21						
BGU	Big Grassy Mou	93.83	48	eP	P	09 41 53.0	-0.5
	comp=Z,7.6nm,0.9s,mb5.1						
P15A	Leamington	93.87	50	⇓P	P	09 41 52.8	-1.0
	baz=94,SNR=6.8						
HLID	Hailey	93.88	45	⇑P	P	09 41 53.5	-0.3
	baz=94,SNR=56						
HLID	Hailey	93.88	45	eP	P	09 41 53.1	-0.6
	comp=Z,22nm,0.8s,mb5.6						
HLID				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
H12A	Diamond D Ranc	93.97	44	⇑P	P	09 41 53.3	-0.8
	baz=94						
J13A	Cove Ranch, Pi	93.98	45	⇑P	P	09 41 53.3	-0.9
	baz=94,SNR=39						
U17A	Shonto	93.98	53	⇑P	P	09 41 53.4	-1.0
	baz=94,SNR=8.3						
O15A	The Old Anders	93.99	49	⇑P	P	09 41 53.9	-0.4
	baz=94						
D11A	Klaveano Farm,	94.01	41	⇑P	P	09 41 53.6	-0.6
	baz=94,SNR=23						
NEW	Newport	94.02	40	eP	P	09 41 52.9	-1.3
NEW				pmax	pmax		
	comp=Z,13nm,0.9s						
NEW				MLR	MLR		
	comp=Z,1μm,22.0s						
NEW	Newport	94.02	40	eP	P	09 41 52.9	-1.3
	comp=Z,13nm,0.9s,mb5.3						
NEW				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
T17A	Navajo Res., N	94.02	52	⇑P	P	09 41 55.0	+0.5
	baz=94,SNR=46						
A10A	Northport	94.05	39	⇑P	P	09 41 54.6	+0.2
	baz=94,SNR=8.3						
L14A	Malta	94.10	47	⇓P	P	09 41 55.1	+0.3
	baz=94,SNR=11						
Y19A	Nutrioso	94.14	56	⇓P	P	09 41 55.8	+0.6
	baz=94,SNR=32						
NLU	North Lily Min	94.15	49	eP	P	09 41 54.6	-0.4
	comp=Z,11nm,1.0s,mb5.2						
F12A	Elk City	94.18	43	⇓P	P	09 41 54.2	-0.8
	baz=94,SNR=25						
I13A	Wildhorse Cree	94.22	45	⇑P	P	09 41 55.1	-0.1
	baz=94,SNR=51						
V18A	Ganado	94.23	54	⇑P	P	09 41 55.3	-0.2
	baz=94,SNR=22						
S17A	Black Ridge (B	94.25	52	⇑P	P	09 41 55.0	-0.5
	baz=94,SNR=16						
X19A	St. Johns	94.28	55	⇑P	P	09 41 55.9	+0.1
	baz=94,SNR=21						
HVU	Hansel Valley	94.33	47	eP	P	09 41 54.8	-1.0
K14A	Jones Ranch, D	94.34	46	⇓P	P	09 41 55.6	-0.2
	baz=94,SNR=18						
H13A	Challis	94.37	44	⇑P	P	09 41 55.8	-0.2
	baz=94,SNR=23						
SPUT	South Promonto	94.38	48	eP	P	09 41 56.3	+0.2
Q16A	Castle Valley	94.43	50	⇑P	P	09 41 56.7	+0.3
	baz=95,SNR=21						
W19A	Sanders	94.44	54	⇑P	P	09 41 56.4	-0.1
	baz=95,SNR=7.5						
MPU	Maple Canyon	94.49	49	eP	P	09 41 57.1	+0.5
MPU				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
U18A	Rough Rock, Ch	94.52	53	⇓P	P	09 41 56.1	-0.7
	baz=95,SNR=10.0						
TMUT	Trail Mountain	94.54	50	eP	P	09 41 58.6	+1.7
TIXI	Tiksi	94.55	348	c iP	P	09 41 54.4	-1.7
TIXI				eS	SKSac	09 52 18.6	-8.0
TIXI				e		09 59 32.0	
TIXI				pmax	pmax		
	comp=Z,39nm,1.6s,mb5.6						
TIXI				MLR	MLR		
	comp=Z,996nm,18.0s,MS5.3						
TIXI	Tiksi	94.55	348	eP	P	09 41 54.3	-1.8
	comp=Z,34nm,1.3s,mb5.6						
B11A	Sandpoint	94.55	40	⇓P	P	09 41 56.8	+0.2
	baz=95,SNR=14						
G13A	Cobalt	94.59	44	P	P	09 41 56.5	-0.4
	baz=95,SNR=23						
R17A	Hanksville Air	94.59	51	⇑P	P	09 41 57.0	-0.1
	baz=95,SNR=27						
D12A	Red Ives Fores	94.63	42	⇓P	P	09 41 56.4	-0.6
	baz=95						
CTU	Camp Tracy	94.65	49	eP	P	09 41 57.5	+0.1
O16A	Springville	94.65	49	⇓P	P	09 41 57.1	-0.2
	baz=95,SNR=9.3						
L15A	Malad City	94.68	47	P	P	09 41 57.1	-0.3
	baz=95,SNR=12						
A11A	Hall Mountain,	94.76	40	P	P	09 41 57.9	+0.3
	baz=95,SNR=17						
T18A	Mexican Hat	94.77	52	⇑P	P	09 41 57.9	-0.1
	baz=95,SNR=78						
F13A	Darby	94.79	43	⇓P	P	09 41 56.9	-1.0
	baz=95						
S18A	Hurst Farm, Bl	94.87	52	⇑P	P	09 41 57.5	-0.9
	baz=95,SNR=34						
DAU	Daniels Canyon	94.90	49	eP	P	09 41 59.4	+0.9
SRU	San Rafael	94.97	50	eP	P	09 41 59.2	+0.4
E13A	Victor	95.13	43	⇓P	P	09 41 57.8	-1.6
	baz=95						
G14A	Jackson	95.15	44	⇑P	P	09 41 59.3	-0.2
	baz=95,SNR=12						
A12A	Yaak River Ran	95.18	40	⇑P	P	09 42 00.2	+0.7
	baz=95						
R18A	Canyonlands Na	95.18	51	⇑P	P	09 41 59.3	-0.5
	baz=95,SNR=21						
D13A	Huson	95.21	42	⇓P	P	09 42 00.5	+0.8
	baz=95						
Q18A	Rafter H Ranch	95.25	51	⇓P	P	09 41 59.9	-0.2
	baz=95,SNR=13						
T19A	Beclabito	95.30	53	⇑P	P	09 42 01.3	+0.9
	baz=95,SNR=9.9						
L16A	Fish Haven	95.35	47	⇓P	P	09 41 59.9	-0.6
	baz=96,SNR=6.8						
P18A	Preston Nutter	95.35	50	⇓P	P	09 41 59.8	-0.8
	baz=96,SNR=8.8						
N17A	Moffit Pass	95.39	49	⇓P	P	09 42 01.0	+0.3
	baz=96						
MCMT	McKenzie Canyo	95.40	44	eP	P	09 42 00.2	-0.5
	comp=Z,18nm,1.0s,mb5.4						
F14A	Wisdom	95.42	43	⇓P	P	09 41 59.9	-0.9
	baz=96,SNR=11						
MSO	Missoula	95.44	42	PFAKE		09 42 10.0	+9.2
MSO				LR	LR		
	comp=Z,848nm,20.0s,MS5.2						
S19A	Harvey Farm, M	95.53	52	⇑P	P	09 42 00.7	-0.7
	baz=96,SNR=16						
K16A	Soda Springs	95.53	47	⇓P	P	09 42 01.6	+0.3
	baz=96,SNR=7.9						
E14A	Clinton	95.57	43	⇑P	P	09 42 00.6	-0.8
	baz=96,SNR=10						
R19A	Curley Farm, L	95.62	52	⇓P	P	09 42 00.9	-0.9
	baz=96,SNR=8.8						
HVS	Khovu-Aksy	95.69	322	d iP	P	09 42 01.3	-0.5
HVS				pmax	pmax		
	comp=Z,221nm,1.2s,mb6.5						
B13A	Whitefish	95.69	41	⇓P	P	09 42 01.9	0.0
	baz=96						
HYB	Hyderabad	95.71	286	i P	P	09 42 03.0	+0.3
HYB	Hyderabad	95.71	286	eP	P	09 42 01.0	-1.7
O18A	Roosevelt	95.75	49	⇑P	P	09 42 01.7	-0.6
	baz=96,SNR=8.6						
G15A	Dillon	95.76	44	P	P	09 42 02.1	-0.2
	baz=96,SNR=20						
DLMT	Dillon	95.76	44	eP	P	09 42 01.0	-1.3
	comp=Z,14nm,0.9s,mb5.4						
PV10	Paradox Valley	95.81	52	P	P	09 42 03.8	+1.1
	comp=Z,3μm,0.8s						
MVCO	Mesa Verde	95.82	53	⇓P	P	09 42 02.6	-0.2
	baz=96						
MVCO	Mesa Verde	95.82	53	eP	P	09 42 03.0	+0.2
MVCO				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
Q19A	Hogan Spring (	95.84	51	⇓P	P	09 42 02.4	-0.4
	baz=96						
AHID	Auburn Hatcher	95.84	47	PFAKE		09 42 10.0	+7.3

MNTX LR LR
comp=Z,982nm,20.0s,MS5.3
BOZ Bozeman (W) 96.50 44 *e*P **P 09 42 04.3 -1.3**
BOZ pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
BOZ MLR MLR
comp=Z,3μm,21.0s,MS5.7
BOZ Bozeman (W) 96.50 44 ⇓P **P 09 42 05.0 -0.7**
baz=97,SNR=15
BOZ Bozeman (W) 96.50 44 *e*P **P 09 42 04.3 -1.3**
comp=Z,9.0nm,1.0s,mb5.2
BOZ LR LR
comp=Z,3μm,21.0s,MS5.7
FLWY Flagg Ranch 96.58 46 *e*P **P 09 42 06.6 +0.6**
comp=Z,6.9nm,0.8s,mb5.1
YMR Madison River 96.60 45 *e*P **P 09 42 06.1 0.0**
comp=Z,0.9nm,0.9s
INK Inuvik 96.61 18 P **P 09 42 04.1 -1.5**
comp=Z,18nm,1.0s,mb5.5,baz=234,slow=5.8,SNR=18
INK PKiKP PKiKP 09 46 39.8 -2.6
comp=Z,1.4nm,0.8s,baz=158,slow=5.4,SNR=4.9
INK PKKPbc PKKPbc 09 58 48.5 -3.5
comp=Z,0.9nm,0.5s,baz=27,slow=2.3,SNR=10
INK Inuvik 96.61 18 P **P 09 42 04.1 -1.5**
INK pmax pmax
comp=Z,18nm,1.0s
INK pmax pmax
comp=Z,1.0nm,0.8s
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 96.61 18 *e*P **P 09 42 04.2 -1.4**
ANMO Albuquerque 96.65 55 *e*P **P 09 42 05.8 -0.8**
ANMO pmax pmax
comp=Z,7.0nm,0.9s
ANMO MLR MLR
comp=Z,1μm,22.0s
ANMO Albuquerque 96.65 55 *e*P **P 09 42 05.8 -0.8**
comp=Z,7.4nm,0.9s,mb5.1
ANMO LR LR
comp=Z,1μm,22.0s,MS5.3
WMQ Urumqi 96.78 314 P **P 09 42 07.3 +0.3**
WMQ AP pP 09 42 24.5 +2.6
WMQ XP sP 09 42 31.2 +3.7
WMQ PP PP 09 46 05.4 +2.6
WMQ SKS 09 52 37.6
WMQ S S 09 53 20.8 -4.0
WMQ XS sS 09 53 50.3 +0.2
WMQ PS PS 09 54 55.3 +2.9
WMQ AMB AMB
comp=Z,37nm,1.5s,mb5.6
WMQ AMB AMB
comp=Z,214nm,12.2s
WMQ LR LR
comp=N,889nm,23.9s,MS5.4
WMQ LR LR
comp=E,1μm,28.8s,MS5.4
WMQ LR LR
comp=Z,2μm,27.0s,MS5.4
BW06 Boulder Array 96.91 47 PFAKE 09 42 20.0 +12
BW06 LR LR
comp=Z,1μm,20.0s,MS5.4
PDAR Pinedale Array 96.91 47 P **P 09 42 06.5 -1.0**
comp=Z,3.9nm,0.9s,mb4.8,baz=242,slow=3.2,SNR=19
PDAR PP PP 09 46 00.6 -3.2
comp=Z,1.8nm,1.0s,baz=235,slow=5.2,SNR=6.2
PDAR PKKP PKKPbc 09 58 47.5 -2.6
comp=Z,0.8nm,0.9s,baz=90,slow=7.4,SNR=5.1
PDAR PKP2ab 10 05 27.9
comp=Z,0.5nm,1.0s,baz=159,slow=4.6,SNR=3.7
PDAR PKPPKP 10 07 04.8
comp=Z,1.4nm,1.1s,baz=126,slow=2.6,SNR=7.1
PDAR LR LR 10 21 05.3
comp=Z,1μm,19.7s,MS5.3,baz=285,slow=32
PDAR Pinedale Array 96.91 47 P **P 09 42 06.5 -1.0**
PDAR PP PP 09 46 00.6 -3.2
PDAR PKKP PKKPbc 09 58 47.5 -2.6
PDAR P'P'ab 10 05 27.9
PDAR P'P' 10 07 04.8
PDAR LR LR 10 21 05.3
LKWY Lake 96.94 45 PFAKE 09 42 20.0 +12
LKWY LR LR
comp=Z,4μm,21.0s,MS5.8
TXAR Lajitas Array 97.15 62 P **P 09 42 08.8 -0.2**
comp=Z,9.5nm,0.8s,mb5.3,baz=224,slow=5.7,SNR=42
TXAR PKKP PKKPbc 09 58 48.6 -0.3
comp=Z,1.0nm,0.9s,baz=97,slow=3.1,SNR=6.6
TXAR PKP2ab 10 05 07.1
comp=Z,0.4nm,0.9s,baz=118,slow=3.2,SNR=3.9
TXAR LR LR 10 18 26.4
comp=Z,2μm,19.8s,MS5.6,baz=295,slow=31
TXAR Lajitas Array 97.15 62 P **P 09 42 08.8 -0.2**
TXAR PKKP PKKPbc 09 58 48.6 -0.3
TXAR P'P'ab 10 05 07.1
TXAR LR LR 10 18 26.4
GCMT Greycliff 97.84 44 *e*P **P 09 42 12.0 +0.3**
comp=Z,5.0nm,1.0s,mb5.0
RLMT Red Lodge 97.89 45 *e*P **P 09 42 11.3 -0.6**
comp=Z,4.8nm,0.9s,mb5.0
RLMT LR LR
comp=Z,4μm,20.0s,MS5.9
KRAR Krasnoyarsk 98.04 327⇑*e*P **P 09 42 13.5 +1.2**
RWWY Rawlins 98.21 49 *e*P **P 09 42 13.2 -0.3**
comp=Z,9.5nm,0.9s,mb5.3
SDCO Great Sand Dun 98.25 53 *e*P **P 09 42 14.1 +0.3**
comp=Z,3.2nm,1.0s,mb4.8
SDCO LR LR
comp=Z,2μm,21.0s,MS5.5
EFI East Falkland 98.52 153 PFAKE 09 42 20.0 +5.3
EFI LR LR
comp=Z,2μm,20.0s,MS5.7
EGMT Eagleton 98.52 42 ⇑P **P 09 42 15.8 +1.1**
baz=99
EGMT Eagleton 98.52 42 P **P 09 42 14.4 -0.3**
comp=Z,8.0nm,0.9s,mb5.2
EGMT LR LR
comp=Z,1μm,19.0s,MS5.4
ISCO Idaho Springs 98.79 51 PFAKE 09 42 30.0 +14
ISCO LR LR
comp=Z,1μm,22.0s,MS5.4
PLCA Paso Flores 98.93 139 P **P 09 42 17.6 +0.8**
comp=Z,1.8nm,0.8s,mb4.6,baz=179,slow=6.3,SNR=4.0
PLCA LR LR 10 17 31.5
comp=Z,599nm,19.8s,MS5.1,baz=234,slow=30
PHWY Pilot Hill 99.35 50 *e*P **P 09 42 18.4 -0.2**
comp=Z,4.2nm,0.9s,mb5.0
PAYG Puerto Ayora 100.17 94 PFAKE 09 42 30.0 +7.9
PAYG LR LR
comp=Z,2μm,22.0s,MS5.6
AMTX Amarillo 100.38 57 *e*Pdif Pdif 09 42 23.3 +0.2
comp=Z,4.7nm,0.6s
AMTX LR LR
comp=Z,1μm,19.0s,MS5.4
LAO LASA Array 100.39 44 *e*Pdif Pdif 09 42 24.4 +1.3
comp=Z,4.6nm,0.8s
LAO LR LR
comp=Z,2μm,21.0s,MS5.7
JCT Junction City 100.69 61 *e*P Pdif 09 42 25.3 +0.9
JCT pmax pmax
comp=Z,5.0nm,0.8s
JCT MLR MLR
comp=Z,2μm,21.0s,MS5.7
JCT Junction City 100.69 61 *e*Pdif Pdif 09 42 25.3 +0.8
comp=Z,4.7nm,0.8s
JCT LR LR
comp=Z,2μm,21.0s,MS5.7
YKA Yellowknife Ar 100.81 27 P Pdif 09 42 24.3 -0.6
comp=Z,10nm,0.8s,baz=255,slow=4.7,SNR=15
YKA Yellowknife Ar 100.81 27 P Pdif 09 42 24.3 -0.6
RSSD Black Hills 101.15 47 *e*P Pdif 09 42 27.1 +0.6
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD MLR MLR
comp=Z,2μm,20.0s,MS5.5
RSSD Black Hills 101.15 47 *e*Pdif Pdif 09 42 27.1 +0.6
comp=Z,5.2nm,0.8s
RSSD LR LR
comp=Z,2μm,20.0s,MS5.5
CMIG Matias Romero 101.30 76 P Pdif 09 42 27.1 -0.1
comp=Z,2.3nm,0.9s,baz=309,slow=14,SNR=4.5
MK31 Makanchi Array 101.33 316 *e*P Pdif 09 42 28.3 +1.1
MKAR Makanchi Array 101.33 316 P Pdif 09 42 27.0 -0.3
comp=Z,3.9nm,0.6s,baz=99,slow=5.6,SNR=18
MKAR PP PP 09 46 44.5 +7.1
comp=Z,3.9nm,0.9s,baz=118,slow=8.6,SNR=5.3
MKAR PKKPbc PKKPbc 09 58 34.3 -3.5
comp=Z,2.5nm,0.5s,baz=271,slow=3.8,SNR=19
MKAR Makanchi Array 101.33 316 P Pdif 09 42 27.0 -0.2
MKAR 09 46 44.5
ZAA0 Zalesovo Array 101.74 323 *e*Pdif Pdif 09 42 28.3 -0.8
ZALV Zalesovo Beam 101.74 323 P Pdif 09 42 28.0 -1.1
comp=Z,5.3nm,0.8s,baz=110,slow=3.9,SNR=12
ZALV PP PP 09 46 38.0 -2.2
comp=Z,0.6nm,0.4s,baz=125,slow=9.5,SNR=3.0
ZAL Zalesovo 101.75 323 P Pdif 09 42 28.0 -1.1
ZAL 09 46 38.1
DGMT Dagmar 102.20 43 PFAKE 09 42 40.0 +8.9
DGMT LR LR
comp=Z,1μm,20.0s,MS5.4
NVS Novosibirsk 102.88 324 *e*P Pdif 09 42 32.1 -2.0
NVS *e* 09 53 08.0
NVS *i* 09 54 17.9
NVS pmax pmax
comp=Z,42nm,1.9s
NVS pmax pmax
comp=N,19nm,2.0s
NVS pmax pmax
comp=E,34nm,2.0s
CBKS Cedar Bluff 102.91 53 PFAKE 09 42 40.0 +5.7
CBKS LR LR
comp=Z,1μm,21.0s,MS5.5
HKT Hockley 103.88 63 PFAKE 09 42 50.0 +11
HKT LR LR
comp=Z,3μm,20.0s,MS5.8
KURK Kurchatov 104.63 319 PFAKE 09 42 50.0 +8.1
KURK LR LR
comp=Z,872nm,20.0s,MS5.3
TKM2 Tokmak 2 105.01 311 *e*PKiKP PKiKP 09 46 58.7 +0.4
NATX Nacogdoches 105.28 61 PFAKE 09 47 10.0 +11
NATX LR LR
comp=Z,2μm,20.0s,MS5.6
LCO Las Campanas 105.31 129 PFAKE 09 47 10.0 +11
LCO LR LR
comp=Z,1μm,22.0s,MS5.5
KSU1 Kansas State U 105.35 54 PFAKE 09 47 10.0 +11
KSU1 LR LR
comp=Z,1μm,21.0s,MS5.5
CFAA Coronel Fontan 105.66 132 Pdiff Pdif 09 42 45.4 -1.1
comp=Z,0.1nm,0.4s,baz=206,slow=3.3,SNR=4.4
CFAA Coronel Fontan 105.66 132 Pdif Pdif 09 42 45.4 -1.1
AML Almayashu 106.23 309 PFAKE 09 47 10.0 +9.4
AML LR LR
comp=Z,1μm,22.0s,MS5.3
EKS2 Erkin-Say 106.27 310 PFAKE 09 47 10.0 +9.4
EKS2 LR LR
comp=Z,932nm,22.0s,MS5.3
ECSD EROS,Sioux Fal 106.28 49 PFAKE 09 47 10.0 +9.4
ECSD LR LR
comp=Z,3μm,21.0s,MS5.8
MIAR Mount Ida 106.78 59 PFAKE 09 47 10.0 +8.1
MIAR LR LR
comp=Z,1μm,20.0s,MS5.4
TGUH Tegucigalpa,Un 107.50 81 PFAKE 09 47 10.0 +6.3
TGUH LR LR
comp=Z,2μm,22.0s,MS5.6
AGMN Agassiz Refuge 107.59 44 PFAKE 09 47 10.0 +7.1
AGMN LR LR
comp=Z,2μm,20.0s,MS5.6
NNA Nana 108.39 110 PFAKE 09 47 10.0 +4.6
NNA LR LR
comp=Z,914nm,20.0s,MS5.3
SCIA State Center 108.42 51 PFAKE 09 47 10.0 +5.3
SCIA LR LR
comp=Z,1μm,21.0s,MS5.4
CCM Cathedral Cave 109.28 55 PFAKE 09 47 20.0 +14
CCM LR LR
comp=Z,1μm,20.0s,MS5.4
BVAR Borovoye Array 110.03 320 Pdiff Pdif 09 43 05.7 -0.2
comp=Z,2.0nm,1.0s,baz=343,slow=4.6,SNR=3.2
BVAR PKiKP PKiKP 09 47 06.2 -1.2
comp=Z,2.7nm,0.6s,baz=114,slow=1.8,SNR=11
BVAR PKKPbc PKKPbc 09 58 06.4 -4.9
comp=Z,2.2nm,0.5s,baz=250,slow=3.0,SNR=13
LVC Limon Verde 110.06 124 PFAKE 09 47 20.0 +12
LVC LR LR
comp=Z,1μm,19.0s,MS5.5
BRVK Borovoye 110.10 321 *e*PKIKP PKiKP 09 47 04.7 -2.8
BRVK MLR MLR
comp=Z,961nm,20.0s,MS5.4
OXF Oxford 110.15 59 PFAKE 09 47 20.0 +12
OXF LR LR
comp=Z,2μm,20.0s,MS5.7
MSEY Mahe Island 110.21 257 PFAKE 09 47 20.0 +11
MSEY LR LR
comp=Z,2μm,20.0s,MS5.8
EYMN Ely 110.45 45 PFAKE 09 47 20.0 +12
EYMN LR LR
comp=Z,2μm,22.0s,MS5.7
HDIL Hopedale 111.14 53 PFAKE 09 47 20.0 +10
HDIL LR LR
comp=Z,1μm,20.0s,MS5.5
ABPO Ambohimpanom 111.20 240 PFAKE 09 47 20.0 +9.4
ABPO LR LR
comp=Z,4μm,21.0s,MS5.9
PLAL Pickwick Lake 111.31 59 PFAKE 09 47 20.0 +10
PLAL LR LR
comp=Z,2μm,22.0s,MS5.6
BRAL Brewton 111.50 63 PFAKE 09 47 20.0 +9.2
BRAL LR LR
comp=Z,1μm,21.0s,MS5.5
OTAV Otavalo 111.60 98 PFAKE 09 47 20.0 +8.4
OTAV LR LR
comp=Z,1μm,21.0s,MS5.4
COWI Conover 111.87 47 PFAKE 09 47 20.0 +9.0
COWI LR LR
comp=Z,2μm,20.0s,MS5.6
BCIP Isla Barro Col 113.13 88 PFAKE 09 47 20.0 +5.6
BCIP LR LR
comp=Z,568nm,20.0s,MS5.2
LPAZ La Paz 113.93 118 PKiKP PKiKP 09 47 15.7 -0.2
comp=Z,1.6nm,0.6s,baz=41,slow=8.2,SNR=11
LPAZ La Paz 113.93 118 *e*PKP PKiKP 09 47 15.5 -0.4
LPAZ LR LR
comp=Z,985nm,22.0s,MS5.4
GOGA Godfrey 114.87 61 PFAKE 09 47 30.0 +13
GOGA LR LR
comp=Z,1μm,22.0s,MS5.5
GLMI Grayling 114.96 49 PFAKE 09 47 30.0 +13
GLMI LR LR
comp=Z,3μm,22.0s,MS5.8
AAM Ann Arbor 115.53 52 PFAKE 09 47 30.0 +12
AAM LR LR
comp=Z,2μm,20.0s,MS5.6
SVE Sverdlovsk 115.70 325⇑*i*PKIKP PKPdf 09 47 17.4 -0.6
SVE *e* 09 48 23.5
SVE *e*SP SP 09 57 48.1 -7.8
SVE *e*PS PS 09 58 06.9 +4.1
SVE *e*SS SS 10 04 18.3 +0.4
SVE pmax pmax
comp=Z,14nm,0.8s
SVE MLR MLR
comp=Z,1μm,24.0s,MS5.5
DWPF Disney 115.87 67 PFAKE 09 47 30.0 +11
DWPF LR LR
comp=Z,1μm,22.0s,MS5.4
ACSO Alum Creek Sta 115.91 54 PFAKE 09 47 30.0 +11
ACSO LR LR
comp=Z,1μm,22.0s,MS5.5
CPUP Villa Florida 116.43 134 PKP PKPdf 09 47 19.8 -0.7
comp=Z,2.1nm,0.7s,baz=217,slow=5.8,SNR=5.9
CPUP Villa Florida 116.43 134 PKIKP PKPdf 09 47 19.8 -0.7
CPUP pmax pmax
comp=Z,2.0nm,0.7s
CPUP Villa Florida 116.43 134 PKPdf PKPdf 09 47 19.2 -1.3
ARU Arti 116.87 324 *i* PKIKP PKPdf 09 47 19.7 -0.6
ARU SP SP 09 57 59.6 -7.0
ARU PS PS 09 58 09.5 -4.0
ARU MLR MLR
comp=Z,894nm,21.0s,MS5.4
ARU Arti 116.87 324 *e*PKPdf PKPdf 09 47 18.9 -1.4
ARU LR LR
comp=Z,994nm,19.0s,MS5.5
SOKR Solikamsk 117.41 328*c i*PKIKP PKPdf 09 47 21.8 +0.6
SOKR pmax pmax
comp=Z,30nm,1.0s
SOKR MLR MLR
comp=Z,1μm,27.0s,MS5.5
NHSC New Hope 117.58 62 PFAKE 09 47 30.0 +7.6
NHSC LR LR
comp=Z,1μm,21.0s,MS5.5
AKTK Aktyubinsk 117.67 318 PKP PKPdf 09 47 21.1 -0.9
AKTK PKKPbc PKKPbc 09 57 42.3 -2.8
AKTO Aktyubinsk 117.67 318 PKP PKPdf 09 47 21.1 -0.9
comp=Z,8.6nm,0.8s,baz=92,slow=3.3,SNR=21
AKTO PKKPbc PKKPbc 09 57 42.3 -2.8
comp=Z,1.8nm,0.5s,baz=163,slow=7.3,SNR=5.2
BLA Blacksburg 117.71 57 *e*PKIKP PKPdf 09 47 19.8 -2.7
BLA MLR MLR
comp=Z,2μm,20.0s,MS5.6
KBS Kingsbay 119.19 355 PFAKE 09 47 30.0 +5.7
KBS LR LR
comp=Z,408nm,20.0s,MS5.1
SPITS Spitsbergen Ar 119.45 354 PKP PKPdf 09 47 23.0 -1.8
comp=Z,9.5nm,0.5s,baz=354,slow=7.8,SNR=10
CNNC Cliffs of the 119.64 60 PFAKE 09 47 40.0 +14
CNNC LR LR
comp=Z,2μm,19.0s,MS5.7
URVA University of 120.03 57 *e*PKPdf PKPdf 09 47 25.3 -1.7
SUR Sutherland 120.26 211 PFAKE 09 47 40.0 +12
SUR LR LR
comp=Z,2μm,20.0s,MS5.6
BOSA Boshof 120.83 218 PKP PKPdf 09 47 27.9 -1.1
comp=Z,30nm,1.1s,baz=155,slow=3.2,SNR=28
BOSA Boshof 120.83 218 *e*PKPdf PKPdf 09 47 28.5 -0.4
BOSA LR LR
comp=Z,1μm,21.0s,MS5.6
BINY Binghamton 121.22 52 PFAKE 09 47 40.0 +11
BINY LR LR
comp=Z,2μm,20.0s,MS5.7
SDV Santo Domingo 121.75 91 *e*PKPdf PKPdf 09 47 28.9 -2.1
SDV LR LR
comp=Z,241nm,20.0s,MS4.8
LONY Lake Ozonia 122.11 49 *e*PKPdf PKPdf 09 47 27.5 -3.3
LONY LR LR
comp=Z,3μm,20.0s,MS5.9
NCB Newcomb 122.41 50 *e*PKPdf PKPdf 09 47 29.2 -2.2
NCB LR LR
comp=Z,2μm,21.0s,MS5.7
MDV Middlebury 123.16 50 *e*PKPdf PKPdf 09 47 30.7 -2.1
LBTB Lobatse 123.30 221 *e*PKIKP PKPdf 09 47 32.4 -1.3
LBTB MLR MLR
comp=Z,2μm,21.0s,MS5.8
SDDR Presa de Saban 123.55 80 PFAKE 09 47 40.0 +5.7
SDDR LR LR
comp=Z,3μm,20.0s,MS6.0
APA Apatity 123.98 341⇑*i*PKIKP PKPdf 09 47 33.0 -0.7
APA *i* 09 49 23.0
APA pmax pmax
comp=Z,40nm,1.2s
LBNH Lisbon 124.04 49 PFAKE 09 47 40.0 +5.5
LBNH LR LR
comp=Z,4μm,21.0s,MS6.0
KEV Kevo 124.32 345 *e*p PKPdf 09 47 32.4 -1.9
comp=Z,9.1nm,0.8s
KEV Kevo 124.32 345 *e*P PKPdf 09 47 32.4 -1.9
KEV LR LR
comp=Z,1μm,21.0s,MS5.6
HRV Adam Dziewonsk 124.47 51 PFAKE 09 47 40.0 +4.6
HRV LR LR
comp=Z,1μm,20.0s,MS5.7
BRYW Bryant College 124.54 52 *e*PKPdf PKPdf 09 47 34.0 -1.5
WES Weston 124.66 51 PFAKE 09 47 50.0 +14
WES LR LR
comp=Z,2μm,21.0s,MS5.7
ARCES ARCESS Array B 124.85 345 PKhKP 09 47 27.8
comp=Z,11nm,0.4s,baz=96,slow=1.2,SNR=27
ARCES PKP PKPdf 09 47 34.4 -0.9
comp=Z,11nm,0.4s,baz=71,slow=1.6,SNR=93
ARCES pPKP pPKPdf 09 47 47.7 -3.0
comp=Z,12nm,0.6s,baz=48,slow=1.8,SNR=8.3
ARCES PKKPbc 09 57 16.3
comp=Z,1.6nm,0.8s,baz=222,slow=1.6,SNR=8.3
ARCES ARCESS Array B 124.85 345 PKIKP 09 47 27.8
ARCES 09 47 47.7
ARCES ARCESS Array B 124.85 345 PKP 09 47 27.8
ARCES PKP PKPdf 09 47 34.4 -0.9
ARCES pPKP pPKPdf 09 47 47.7 -3.0
ARCES PKKPbc 09 57 16.3
ARE0 ARCESS Array S 124.85 345 *e*PKPdf PKPdf 09 47 34.0 -1.3
SCHQ Schefferville 125.12 36 PKP PKPdf 09 47 34.8 -1.4
comp=Z,8.5nm,0.9s,baz=288,slow=3.1,SNR=7.3
SCHQ Schefferville 125.12 36 *e*PKPdf PKPdf 09 47 33.6 -2.5
SCHQ LR LR
comp=Z,3μm,20.0s,MS5.9
KLMR Klimovskoe 125.22 332 *e*PKIKP PKPdf 09 47 35.0 -1.2
PKME Peaks-Kenny Pk 125.77 48 *e*PKPdf PKPdf 09 47 36.2 -1.6
PKME LR LR
comp=Z,2μm,20.0s,MS5.8
RDF Al-Radifah 125.86 292 *e*P PKPdf 09 47 37.5 -0.9
baz=292
RDF AMb AMB 09 47 40.9
comp=Z,91nm,1.4s,baz=292
SFJD Kangerlussuaq 125.95 18 PFAKE 09 47 50.0 +13
SFJD LR LR
comp=Z,1μm,21.0s,MS5.6
MIB Mutribah 126.09 293 *e*P PKPdf 09 47 37.4 -1.5
baz=293
MIB AMb AMB 09 47 40.9
comp=Z,70nm,1.1s,baz=293
NAY Al-Naaiem 126.14 293 *e*P PKPdf 09 47 37.4 -1.6
baz=293
NAY AMb AMB 09 47 40.8
comp=Z,29nm,1.3s,baz=293
TRO Tromso 126.25 347 *e*P PKPdf 09 47 36.7 -1.2
TRO AMb AMB 09 47 40.3
comp=Z,88nm,1.6s
DGRG David-gareji 127.27 308 P PKPdf 09 47 41.4 +0.6
JOF Joensuu 127.47 337 *e*p PKPdf 09 47 38.7 -1.8
comp=Z,15nm,0.8s
JOF Joensuu 127.47 337 *e*PKIKP PKPdf 09 47 38.7 -1.8
JOF pmax pmax
comp=Z,15nm,0.8s
MTA Mtatsminda 127.67 308 P PKPdf 09 47 41.5 0.0
TBLG Delisi 127.71 308 P PKPdf 09 47 41.7 +0.2
VRHR Novokhopersk 127.77 320 *i* PKIKP PKPdf 09 47 41.5 +0.1
VRHR pmax pmax
comp=Z,80nm,1.5s
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.9s
GNI Garni 127.90 306 PKP PKPdf 09 47 41.6 -0.4
comp=E,2.3nm,0.3s,baz=342,slow=19,SNR=6.3
GNI Garni 127.90 306 *e*PKPdf PKPdf 09 47 41.6 -0.4
GNI LR LR
comp=Z,728nm,22.0s,MS5.3
SJG San Juan 128.18 82 *e*PKIKP PKPdf 09 47 41.0 -2.2
SJG MLR MLR
comp=Z,1μm,22.0s
LSZ Lusaka 128.24 231 *e*PKIKP PKPdf 09 47 42.7 -0.7
LSZ MLR MLR
comp=Z,1μm,22.0s,MS5.6
MOS Moscow 128.34 327 *e*PKIKP PKPdf 09 47 40.8 -1.5
MOS *e* 09 49 45.8
MOS pmax pmax
comp=Z,92nm,1.2s
MOS MLR MLR
comp=Z,1μm,21.0s,MS5.5
STEI Steigen 128.42 348 *e*P PKPdf 09 47 41.4 -0.8
STEI AMb AMB 09 47 43.4
comp=Z,56nm,1.3s
ONI Oni 128.53 310 P PKPdf 09 47 42.4 -0.7
AKH Akhalkalaki 128.68 308 P PKPdf 09 47 41.2 -2.2
OBN Obninsk 129.15 327*c i*PKIKP PKPdf 09 47 43.1 -0.8
OBN *e* 09 49 52.7
OBN pmax pmax
comp=Z,51nm,1.2s
OBN Obninsk 129.15 327 *e*PKPdf PKPdf 09 47 43.5 -0.4
OBN LR LR
comp=Z,991nm,20.0s,MS5.5
VRSR Storozhevoye 129.19 321 *i* PKIKP PKPdf 09 47 43.5 -0.6
VRSR pmax pmax
comp=Z,10.0nm,1.3s
VRSR pmax pmax
comp=N,2.0nm,0.6s
VRSR pmax pmax
comp=E,3.0nm,1.1s
KAF Kangasniemi 129.79 338 *e*p PKPdf 09 47 44.0 -0.9
comp=E,5.1nm,0.5s
KAF Kangasniemi 129.79 338 *e*PKIKP PKPdf 09 47 44.0 -0.9
KAF pmax pmax
comp=Z,5.0nm,0.5s
BDFB Brasilia 129.99 131 PKP PKPdf 09 47 45.6 -1.1
comp=Z,6.4nm,0.7s,baz=186,slow=14,SNR=14
BDFB Brasilia 129.99 131 PKP PKPdf 09 47 45.6 -1.1
BDFB LR LR
comp=Z,578nm,19.0s,MS5.3
MOR8 Moi Rana 130.08 347 *e*P PKPdf 09 47 43.8 -1.6

MOR8 AMb AMB 09 47 46.8
comp=Z,32nm,1.7s
STOK Stokkvaagen 130.25 347 *e*P PKPdf 09 47 44.4 -1.3
BBSR BB Station 130.58 63 PFAKE 09 48 00.0 +13
BBSR LR LR
comp=Z,716nm,22.0s,MS5.3
SOC Sochi 131.02 312 *i* PKIKP PKPdf 09 47 46.9 -0.9
SOC *e* 09 50 03.9
SOC *e*PPP 09 52 55.3
SOC pmax pmax
comp=Z,32nm,1.2s
SOC MLR MLR
comp=Z,536nm,21.0s,MS5.2
GRGR Grenville 131.13 90 PFAKE 09 48 00.0 +11
GRGR LR LR
comp=Z,640nm,20.0s,MS5.3
VSU Vasula 131.97 334⇑ *i* PKIKP PKPdf 09 47 48.2 -0.9
ANN Anapa 132.30 314 *i* PKIKP PKPdf 09 47 49.1 -1.1
ANN *e* 09 50 11.8
ANN *e*PPP 09 53 03.0
ANN pmax pmax
comp=Z,47nm,1.1s
ANN MLR MLR
comp=Z,949nm,24.0s,MS5.4
TSUM Tsumeb 132.52 218 *e*PKPdf PKPdf 09 47 51.2 -0.2
MALT Malatya 133.01 305⇑ *i*P PKPdf 09 47 51.6 -0.2
MALT Malatya 133.01 305 *e*PKPdf PKPdf 09 47 52.2 +0.4
MALT LR LR
comp=Z,853nm,20.0s,MS5.5
BBGH Gun Hill 133.36 90 PFAKE 09 48 00.0 +6.9
BBGH LR LR
comp=Z,2μm,19.0s,MS5.7
ASF Jabal al Asfar 135.02 297 PKP PKPdf 09 47 54.7 -1.0
comp=Z,2.5nm,0.6s,baz=5.2,slow=1.6,SNR=5.0
AKASG Malin Array Be 135.13 324 PKP PKPdf 09 47 54.3 -1.0
comp=Z,5.1nm,0.7s,baz=65,slow=2.0,SNR=24
AKASG pPKP pPKPdf 09 48 10.2 -0.6
comp=Z,3.9nm,0.7s,baz=58,slow=2.0,SNR=4.2
AKASG PP PP 09 50 28.9 -2.0
comp=Z,1.1nm,0.6s,baz=51,slow=5.6,SNR=9.7
AKASG SKPbc SKPbc 09 51 21.2 -0.7
comp=Z,1.9nm,0.6s,baz=47,slow=4.2,SNR=6.5
AKASG Malin Array Be 135.13 324 PKIKP PKPdf 09 47 54.3 -1.0
AKASG 09 48 10.2
AKASG 09 50 29.0
AKBB Malin Array Si 135.13 324 *e*PKIKP PKPdf 09 47 54.3 -1.0
KIEV Kiev 135.14 324 *e*PKIKP PKPdf 09 47 54.3 -1.0
KIEV MLR MLR
comp=Z,867nm,21.0s,MS5.5
NB2 NORSAR Subarra135.22 345 PKPdf PKPdf 09 47 54.7 -0.5
comp=Z,7.6nm,0.8s,baz=31,slow=1.9
NB2 NORSAR Subarra135.22 345 PKPdf PKPdf 09 47 54.7 -0.5
baz=31,slow=1.9
NOA NORSAR Array B 135.22 345 PKP PKPdf 09 47 54.3 -0.9
comp=Z,6.8nm,0.8s,baz=32,slow=2.0,SNR=6.6
NOA pPKP pPKPdf 09 48 08.5 -2.1
comp=Z,3.9nm,0.6s,baz=35,slow=2.0,SNR=5.7
NOA PP PP 09 50 31.7 +0.7
comp=Z,1.7nm,0.9s,baz=32,slow=6.1,SNR=3.5
NOA SKPbc SKPbc 09 51 23.6 +1.8
comp=Z,1.8nm,0.8s,baz=28,slow=3.3,SNR=4.6
NOA NORSAR Array B 135.22 345 PKIKP PKPdf 09 47 54.3 -0.9
NOA 09 48 08.5
NOA 09 50 31.7
NOA NORSAR Array B 135.22 345 PKP PKPdf 09 47 54.3 -0.9
NOA pPKP pPKPdf 09 48 08.5 -2.1
NOA PP PP 09 50 31.7 +0.7
NOA SKPbc SKPbc 09 51 23.6 +1.8
HFS Hagfors 135.33 343 PKhKP 09 47 42.3
comp=Z,2.1nm,0.6s,baz=114,slow=3.6,SNR=5.9
HFS PKP PKPdf 09 47 53.6 -1.8
comp=Z,3.5nm,0.5s,baz=64,slow=3.4,SNR=11
HFS SKPbc SKPbc 09 51 21.9 -0.3
comp=Z,5.1nm,0.9s,baz=298,slow=3.2,SNR=4.1
HFS Hagfors 135.33 343 PKHKP 09 47 42.3
HFS 09 47 53.6
BHL Bhannes 135.88 299 *e*P PKPdf 09 47 58.4 +1.1
MMAI Mount Meron Ar 136.19 298 PKP PKPdf 09 47 57.3 -0.6
comp=Z,5.6nm,0.7s,baz=42,slow=2.3,SNR=2.9
MMAI SKPbc SKPbc 09 51 29.2 +3.4
comp=Z,3.7nm,0.7s,baz=57,slow=3.4,SNR=3.6
SUW Suwalki 136.32 331 *e*PKP PKPdf 09 47 59.8 +2.4
SUW Suwalki 136.32 331 *e*PKP PKPdf 09 47 59.8 +2.4
ANTO Ankara 136.96 308 *e*PKIKP PKPdf 09 48 01.5 +2.4
ANTO MLR MLR
comp=Z,604nm,20.0s,MS5.3
KIS Kishinev 137.11 320 *e*PKIKP PKPdf 09 48 00.0 +0.9
KIS *e* 09 50 41.0
KIS MLR MLR
comp=Z,1μm,20.0s,MS5.7
KIS MLR MLR
comp=E,1μm,22.0s
KIS MLR MLR
comp=Z,1μm,20.0s
LVV L'vov 138.42 326 *e*PKIKP PKPdf 09 48 01.1 -0.3
PSN Preselentsi 138.92 315 *i* P PKPdf 09 47 58.4 -4.2
BSD Bornholm Skovb 138.95 337 *i* PKIKP PKPdf 09 48 02.0 -0.3
BSD pmax pmax
comp=Z,35nm,1.1s
BSD MLR MLR
comp=Z,890nm,23.0s,MS5.4
BSD Bornholm Skovb 138.95 337 *i* P PKPdf 09 48 02.0 -0.3
comp=Z,35nm,1.1s
BSD *i* 09 50 49.5
BSD
comp=Z,890nm,23.0s
BSD Bornholm Skovb 138.95 337 *i* P PKPdf 09 48 02.0 -0.3
BSD *i* 09 50 49.5
BURAR Bucovina Array 138.96 322⇓ *i*P PKPdf 09 48 02.3 -0.2
BURAR Bucovina Array 138.96 322⇓ P PKPdf 09 48 02.4 -0.2
ISP Isparta 139.22 306 PFAKE 09 48 10.0 +6.7
ISP LR LR
comp=Z,710nm,21.0s,MS5.4
KWP Kalwaria 139.23 326 *e*PKP PKPdf 09 48 04.2 +1.2
KWP Kalwaria 139.23 326 *e*PKP PKPdf 09 48 04.2 +1.3
KWP LR LR
comp=Z,833nm,21.0s,MS5.5
COP Copenhagen 139.36 340 *e*PKIKP PKPdf 09 48 02.3 -0.7
COP pmax pmax
comp=Z,27nm,1.2s
COP Copenhagen 139.36 340 *i* P PKPdf 09 48 02.3 -0.7
comp=Z,27nm,1.2s
MLR Muntele Rosu 139.57 319 PKhKP 09 47 58.7
comp=Z,4.1nm,0.7s,baz=123,slow=2.7,SNR=5.3
MLR PKP PKPdf 09 48 04.2 +0.5
comp=Z,8.0nm,0.9s,baz=72,slow=4.7,SNR=11
MLR Muntele Rosu 139.57 319 PKIKP PKPdf 09 48 04.9 +1.2
MLR Muntele Rosu 139.57 319⇓ *i*P PKPdf 09 47 58.8 -4.9
MLR Muntele Rosu 139.57 319⇓ P PKPdf 09 47 58.8 -4.9
MLR PKP PKPdf 09 48 04.2 +0.5
MLR P 09 48 04.9
KOLS Kolonicke sedl 139.87 326 *e*PKP PKPdf 09 48 04.0 -0.1
UZH Uzhgorod 140.04 325 *e*PKIKP PKPdf 09 47 59.0 -5.4
UZH *i* 09 48 16.0
VOIR 140.15 319⇑ *i*P PKPdf 09 48 03.5 -1.2
VOIR 140.15 319 P PKPdf 09 48 04.6 -0.2
CRVS Cervenica-Dubn 140.32 326 *e*PKP PKPdf 09 48 04.9 0.0
OJC Ojcow 140.35 329 *e*PKPdf PKPdf 09 48 04.0 -1.0
OJC *e*PP PP 09 51 01.9 -1.4
NIE Niedzica 140.60 327 *e*PKP PKPdf 09 48 01.2 -4.2
NIE i 09 48 06.6
NIE Niedzica 140.60 327 *e*PKP PKPdf 09 48 01.2 -4.2
NIE *e* 09 48 06.6
DRGR 140.84 323⇑ *i*P PKPdf 09 48 00.2 -5.8
DRGR 140.84 323 P PKPdf 09 48 00.5 -5.5
OKC Ostrava-Krasne 141.40 329 *e*PKP PKPdf 09 48 04.4 -2.5
OKC *ex* x 09 48 09.1
OKC *e*PP PP 09 51 25.0 +15
OKC AMS AMS 10 48 30.0
comp=Z,1μm,18.7s
OKC Ostrava-Krasne 141.40 329 *e*PKP PKPdf 09 48 04.4 -2.5
OKC *e* 09 48 09.1
OKC *e*PP PP 09 51 25.0 +15
GZR Gura Zlata 141.55 321 PKIKP PKPdf 09 48 08.9 +1.6
KSP Ksiaz 141.57 332 *e*PKP PKPdf 09 48 02.7 -4.4
KSP Ksiaz 141.57 332 *i* PKIKP PKPdf 09 48 03.5 -3.6
KSP *e* 09 51 14.0
KSP Ksiaz 141.57 332 *e*PKP PKPdf 09 48 01.8 -5.3
KSP *e*PKPdf PKPdf 09 48 03.5 -3.6
KSP *e*PP PP 09 51 14.0 +3.4
KSP *e* 10 02 48.0
KSP LR LR
comp=Z,4μm,31.1s,MS6.0
MORC Moravsky Berou 141.73 330 PKIKP PKPdf 09 48 05.0 -2.5
MORC Moravsky Berou 141.73 330⇓ *i*P PKPdf 09 48 01.9 -5.6
MORC Moravsky Berou 141.73 330 *e*PKP PKPdf 09 48 01.7 -5.8
PSZ Piszkesteto 141.75 326⇑ *e*PKP PKPdf 09 48 00.9 -6.6
PSZ Piszkesteto 141.75 326⇑ *i*P PKPdf 09 48 04.7 -2.8
DPC Dobruska-Polom 141.91 331 *e*PKP PKPdf 09 48 02.3 -5.5
DPC *ex* x 09 48 10.0
DPC *e*PP PP 09 51 14.0 +1.3
DPC AMS AMS 10 49 50.0
comp=Z,1μm,22.4s
UPC Upice 141.94 332 *e*PKP PKPdf 09 48 04.2 -3.6
UPC *ex* x 09 48 06.4
VYHS Vyhne 141.94 327 *e*PKP PKPdf 09 48 02.5 -5.4
VYHS *e*PP PP 09 51 07.7 -5.3
PGB Panagyurishte 142.07 316 *i* P PKPdf 09 48 02.9 -5.4
BZS Buzias 142.12 322⇑ *i*P PKPdf 09 48 09.0 +0.7
BZS Buzias 142.12 322 P PKPdf 09 48 09.1 +0.8
CHOS Chios island 142.40 309 *e*P PKPdf 09 48 03.7 -5.4
BUD Budapest 142.48 326 *e*PKP/Dc PKPdf 09 48 03.4 -5.5
VRAC Vranov 142.51 330 PKP PKPdf 09 48 07.6 -1.3
comp=Z,12nm,0.9s,baz=57,slow=4.8,SNR=19
VRAC Vranov 142.51 330 PKIKP PKPdf 09 48 07.6 -1.3
VRAC pmax pmax
comp=Z,12nm,1.0s
VRAC Vranov 142.51 330⇑ *i*P PKPdf 09 48 04.7 -4.2
VRAC Vranov 142.51 330 *e*PKP PKPdf 09 48 04.6 -4.3
PVCC Panska Ves 142.56 333 *e*PKP PKPdf 09 48 05.4 -3.5
PVCC *ex* x 09 48 11.1
PVCC *e*PP PP 09 51 17.7 +1.1
PVCC AMS AMS 10 47 10.0
comp=Z,2μm,22.7s
PVCC Panska Ves 142.56 333 *e*PKP PKPdf 09 48 05.4 -3.5
PVCC *e* 09 48 11.1
PVCC *e*PP PP 09 51 17.7 +1.1
BRG Berggiesshubel 142.57 334 *e*PKPbc PKPdf 09 48 03.1 -5.8
BRG Berggiesshubel 142.57 334 *e*PKP PKPdf 09 48 04.2 -4.7
comp=Z,42nm,1.5s
BRG *i* pPKP pPKPdf 09 48 22.9 -1.5
comp=Z,24nm,1.1s
BRG PP PP 09 51 20.0 +3.4
BRG *e* 09 51 43.4
comp=Z,7.8nm,0.9s
BRG SS SS 10 10 10.0 +21
BRG
comp=N,1μm,22.7s
BRG
comp=E,1μm,22.6s
BRG
comp=Z,900nm,21.2s
BRG Berggiesshubel 142.57 334 *e*PKP PKPdf 09 48 04.2 -4.7
BRG *i* pPKP pPKPdf 09 48 22.9 -1.5
BRG PP PP 09 51 20.0 +3.4
BRG *e* 09 51 43.4
CLL Collm 142.62 335⇓ *i*PKHKP 09 48 04.3
CLL *e* 09 51 22.0
CLL pmax pmax
comp=Z,83nm,2.0s
CLL MLR MLR
comp=Z,1μm,22.7s,MS5.6
CLL Collm 142.62 335 *e*PKPbc PKPdf 09 48 03.8 -5.2
CLL Collm 142.62 335⇓ *i*PKPdf PKPdf 09 48 04.3 -4.7
comp=Z,83nm,2.0s
CLL *e*PP PP 09 51 22.0 +5.1
comp=Z,400nm,24.0s
CLL *e*PPPrev 10 02 58.0
CLL *e*PPS 10 03 47.0
CLL *ex* x 10 05 06.0
CLL *e*SS SS 10 09 54.0 +4.8
CLL *e*SSS 10 15 12.0
CLL Collm 142.62 335⇓ *i*PKP PKPdf 09 48 04.3 -4.7
CLL *e*PP PP 09 51 22.0 +5.1
CLL LR LR
comp=Z,1μm,22.7s,MS5.6
EAB Aberfoyle 142.65 354 *e*P PKPdf 09 48 06.1 -2.8
VTS Vitosha 142.68 316 P PKPdf 09 48 05.4 -4.0
MMB Musomiste 142.79 315 *i* P PKPdf 09 48 08.1 -1.5
NVR Nevrokopi 142.80 314 *e*P PKPdf 09 48 03.9 -5.7
EAU Auchinoon 142.88 353 *e*P PKPdf 09 48 05.3 -4.0
PRU Pruhonice 142.96 332 *e*PKP PKPdf 09 48 06.3 -3.3
PRU *ex* x 09 48 13.2
PRU *e*PP PP 09 51 22.1 +3.0
PRU AMS AMS 10 47 30.0
comp=Z,2μm,25.6s
ZST Bratislava 143.01 328 *e*PKP PKPdf 09 48 07.5 -2.3
ZST *e*PP PP 09 51 26.6 +7.1
TREC Trest 143.03 331 *e*PKP PKPdf 09 48 08.9 -0.9
TREC *e*PP PP 09 51 24.4 +4.9
TREC AMS AMS 10 46 20.0
comp=Z,2μm,25.4s
SRS Serrai 143.09 314 *e*P PKPdf 09 48 05.3 -4.8
ZKR Zakros 143.28 303 *e*P PKPdf 09 48 05.3 -5.3
EKA Eskdalemuir Ar 143.35 352 PKhKP 09 48 06.3
comp=Z,6.8nm,0.5s,baz=348,slow=2.6,SNR=32
ESK Eskdalemuir 143.37 352 *e*P PKPdf 09 48 06.2 -3.9
ESK AMb AMB 09 48 08.3
comp=Z,28nm,1.2s
ESK Eskdalemuir 143.37 352 PFAKE 09 48 20.0 +10
ESK LR LR
comp=Z,1μm,21.0s,MS5.7
SOH Sokhos 143.38 314 *e*P PKPdf 09 48 06.1 -4.6
PKSM Moragy 143.47 324 PKIKP PKPdf 09 48 08.2 -2.5
PKSM Moragy 143.47 324⇑ P PKPdf 09 48 07.0 -3.7
PKSM Moragy 143.47 324⇑ *e*P PKPdf 09 48 07.2 -3.5
ECK Cauldkaine Hil 143.49 352 *e*P PKPdf 09 48 10.0 -0.4
PLG Polygyros 143.51 313 *e*P PKPdf 09 48 06.5 -4.5
KNT Kendrikon 143.54 314 *e*P PKPdf 09 48 07.3 -3.7
WERD Werda 143.57 334 *e*PKPbc PKPdf 09 48 07.7 -3.0
GUNZ Gunzen 143.62 334 *e*PKPbc PKPdf 09 48 08.0 -2.8
SOP Sopron 143.62 328⇑ *e*PKP PKPdf 09 48 07.2 -3.7
HORT Hortiatis 143.65 313 *e*P PKPdf 09 48 07.3 -3.8
WERN Wernitzgruen 143.66 334 *e*PKPbc PKPdf 09 48 08.2 -2.7
WERN *e*PP PP 09 51 24.6 +1.4
NKC Novy Kostel 143.68 334 *e*PKP PKPdf 09 48 08.6 -2.3
NKC *e*PP PP 09 51 17.3 -6.0
NKC AMS AMS 10 50 30.0
comp=Z,1μm,25.5s
NKC Novy Kostel 143.68 334 *e*PKP PKPdf 09 48 08.6 -2.3
NKC *e*PP PP 09 51 17.3 -6.0
VAY Valandovo 143.69 315 *e*PKP PKPdf 09 48 06.0 -5.2
MOX Moxa 143.69 335⇓ *e*P PKPdf 09 48 08.0 -2.9
comp=Z,210nm,1.6s
MOX *e* 09 48 21.4
MOX *e* 09 51 27.0
MOX
comp=Z,800nm,21.0s
MOX Moxa 143.69 335⇓ *e*PKIKP PKPdf 09 48 08.0 -2.9
MOX *e* 09 48 21.4
MOX *e* 09 51 27.0
MOX pmax pmax
comp=Z,210nm,1.6s
MOX MLR MLR
comp=Z,800nm,21.0s,MS5.5
MOX Moxa 143.69 335 *e*PKPbc PKPdf 09 48 07.9 -3.0
MOX *e*PP PP 09 51 25.6 +2.3
IBBN Ibbenburen 143.71 340 *e*PKPbc PKPdf 09 48 07.8 -3.1
IBBN *e*PP PP 09 51 24.4 +1.1
NPS Neapolis 143.71 304 *e*P PKPdf 09 48 09.4 -2.0
THE Thessaloniki 143.73 314 *e*P PKPdf 09 48 06.7 -4.6
STIP Stip 143.77 316 *e*PKP PKPdf 09 48 08.0 -3.3
CONA Conrad Observa 143.81 329⇑ *i*P PKPdf 09 48 08.9 -2.3
comp=Z,170nm,1.2s,SNR=82
LAST Lasithi 143.85 304 *e*P PKPdf 09 48 08.0 -3.7
GRG Griva 143.97 314 *e*P PKPdf 09 48 08.5 -3.2
GAL1 Galloway 143.99 354 *e*P PKPdf 09 48 08.5 -2.8
GAL1 AMb AMB 09 48 09.8
comp=Z,70nm,2.0s
KHC Kasperske Hory 144.02 332 *e*PKIKP PKPdf 09 48 09.6 -1.9
KHC *e* 09 51 25.8
KHC MLR MLR
comp=Z,2μm,25.5s,MS5.7
KHC Kasperske Hory 144.02 332 *e*PKP PKPdf 09 48 09.6 -1.9
KHC *ex* x 09 48 15.9
KHC *e*PP PP 09 51 25.8 +0.4
KHC *e*SKP 09 51 47.0
KHC AMS AMS 10 47 00.0
comp=Z,2μm,25.5s
XOR Xorichti 144.10 312 *e*P PKPdf 09 48 08.9 -3.1
SKO Skopje 144.12 317 *e*P PKPdf 09 48 10.6 -1.4
SKO Skopje 144.12 317 *e*PKP PKPdf 09 48 10.3 -1.6
ROTZ Rotzenmuhle 144.13 334 *e*PKPbc PKPdf 09 48 09.9 -1.8
ROTZ *e*PP PP 09 51 27.2 +1.2
UBBA Unterbreizbach 144.17 337 *e*PKPbc PKPdf 09 48 09.6 -2.1
UBBA *e*PP PP 09 51 25.2 -1.0
GEC2 GERESS Array S 144.17 332 *e*PKPbc PKPdf 09 48 09.6 -2.2
GEC2 *e*PP PP 09 51 26.8 +0.5
GERES GERESS Array B 144.17 332 PKP PKPdf 09 48 10.1 -1.7
comp=Z,22nm,0.8s,baz=31,slow=3.1,SNR=100
GERES SKPbc SKPbc 09 51 47.5 +0.9
comp=Z,2.9nm,0.8s,baz=45,slow=2.3,SNR=5.4
IDI Anoyia 144.27 304 PKP PKPdf 09 48 11.0 -1.4
comp=Z,21nm,0.3s,baz=64,slow=3.3,SNR=14
LIT Litokhoron 144.28 313 *e*P PKPdf 09 48 08.7 -3.6
WTSB Winterswijk 144.30 341 *e*PKiKP PKiKP 09 48 09.5 -6.0
comp=Z,124nm,2.3s
WET Wettzell 144.32 333 *e*PKPbc PKPdf 09 48 10.4 -1.6
WET *e*PP PP 09 51 27.6 +0.4
SIVA Sivas 144.41 304 *e*P PKPdf 09 48 11.1 -1.6
ARSA Arzberg 144.44 328⇑ *i*P PKPdf 09 48 10.1 -2.2
comp=Z,237nm,1.7s,SNR=98
HPK Haverah Park 144.46 350 *e*P PKPdf 09 48 09.5 -2.6
HPK AMb AMB 09 48 13.4
comp=Z,251nm,1.4s
LKR Lokris 144.53 311 *e*P PKPdf 09 48 09.8 -2.9
LKR Lokris 144.53 311 *e*P PKPdf 09 48 09.9 -2.9
KRUS Krusevo 144.54 316 *e*PKP PKPdf 09 48 11.0 -1.7
GRA1 Grafenberg Arr 144.59 335 *e*PKPbc PKPdf 09 48 11.5 -1.0
GRA1 *ep*PKPbc 09 48 25.0
GRA1 *e*PP PP 09 51 32.3 +3.5
GRA1 LR LR
comp=Z,700nm,21.6s,MS5.4
GRF Grafenberg Arr 144.59 335 *e*PKPbc PKPdf 09 48 11.5 -1.0
GRF *ep*PKPbc 09 48 25.0
GRF *e*PP PP 09 51 32.3 +3.5
GRF *e*L 10 53 04.4
comp=Z,736nm,21.6s
BUG Bochum--Univer 144.61 340 *e*PKPbc PKPdf 09 48 10.5 -2.0
BUG *e*PP PP 09 51 29.6 +0.9
MOA Molln 144.63 330 *i* P PKPdf 09 48 11.4 -1.2
comp=Z,309nm,1.1s,SNR=105
IVA Berane 144.65 319⇑ *i*PKP PKPdf 09 48 11.6 -1.2
BIA Bitola 144.66 315 *e*PKP PKPdf 09 48 10.8 -2.1
KZN Kozani 144.69 314 *e*P PKPdf 09 48 10.7 -2.3
SHEL Horse Pasture 144.70 189 PFAKE 09 48 20.0 +6.3
SHEL LR LR
comp=Z,1μm,22.0s,MS5.6
PLE Pljevlja 144.71 320⇑ *i*PKP PKPdf 09 48 12.3 -0.6
FNA Florina 144.73 315 *e*P PKPdf 09 48 11.1 -2.0
PVY Plav 144.74 318⇑ *i*PKP PKPdf 09 48 11.7 -1.3
VAM Vamos 144.77 305 *e*P PKPdf 09 48 11.3 -2.0
DID Didima 144.79 309 *e*P PKPdf 09 48 10.1 -3.2
LTK Loutraki 144.80 310 *e*P PKPdf 09 48 10.2 -3.0
THL Klokotos Trika 144.85 313 *e*P PKPdf 09 48 10.8 -2.5
THL Klokotos Trika 144.85 313 *e*P PKPdf 09 48 10.9 -2.4
AGG Agios Georgios 144.85 311 *e*P PKPdf 09 48 09.1 -4.2
ABA1 Baconsthorpe 144.96 347⇑ *e*P PKPdf 09 48 11.2 -1.9
OHR Ohrid 144.96 316 *e*P PKPdf 09 48 11.8 -1.6
OHR Ohrid 144.96 316 *e*PKP PKPdf 09 48 11.4 -2.1
KARN Karanos 144.99 305 *e*P PKPdf 09 48 12.7 -1.0
PERS Pernice 145.06 328 *i* PKPdf PKPdf 09 48 12.2 -1.2
PERS *i* 09 48 23.9
UPM Unac-Piva 145.07 320⇑ *i*PKP PKPdf 09 48 13.4 -0.2
SOKA Soboth 145.07 328⇓ *i*P PKPbc 09 48 12.3 -0.6
comp=Z,232nm,1.0s
AEU East Anglia Un 145.19 347⇑ *e*P PKPbc 09 48 11.9 -1.2
TNS Taunus Mts 145.23 338 *e*PKPbc PKPbc 09 48 13.4 +0.1
NKY Niksic 145.23 319⇑ *i*PKP PKPdf 09 48 13.3 -0.5
EVR Evrytania 145.27 312 *e*P PKPbc 09 48 13.0 -0.8
TTG Podgorica 145.28 319⇑ *i*PKP PKPdf 09 48 13.3 -0.6
STNC Stoke 145.39 350 *e*P PKPbc 09 48 12.0 -1.7
OBKA Obir 145.43 328⇓ *i*P PKPdf 09 48 12.4 -1.7
comp=Z,163nm,1.1s,SNR=27
TIR Tirane 145.46 317 *e*PKIKP PKPdf 09 48 13.6 -0.7
BRY Bratogost 145.46 320⇑ *i*PKP PKPdf 09 48 13.8 -0.4
VLX Vlachokerasia 145.48 309 *e*P PKPdf 09 48 14.0 -0.4
ULC Ulcinj 145.53 318⇑ *i*PKP PKPdf 09 48 13.9 -0.5
BUM Brajici-Budva 145.57 319⇑ *i*PKP PKPdf 09 48 13.9 -0.5
CWF Charnwood Fore 145.58 349⇑ *e*P PKPdf 09 48 13.3 -0.8
CWF AMb AMB 09 48 17.1
comp=Z,631nm,1.4s
TOD Tromm 145.61 337 PKP2 PKPab 09 48 13.7 -1.1
JAN Janina 145.61 313 *e*P PKPdf 09 48 14.8 +0.2
HGN Heimansgroeve 145.62 341 *e*PKiKP PKiKP 09 48 14.2 -4.0
comp=Z,353nm,2.6s
KBA Koelnbreinsper 145.62 330⇓ *i*P PKPdf 09 48 13.4 -1.0
comp=Z,161nm,0.9s,SNR=32
BEBN Eben Emael 145.67 341 PKPbc PKPbc 09 48 14.3 -0.4
BEBN APKP 09 48 27.9
MEM Membach 145.73 340 PKPbc PKPbc 09 48 14.4 -0.5
MEM APKP 09 48 28.2
SBD1 Bryn Du 145.73 351⇑ *i*P PKPdf 09 48 14.2 -0.2
HCY Herceg Novi 145.74 319⇑ *i*PKP PKPdf 09 48 13.6 -1.1
BOJS Bojanci 145.75 326 *e*PKPdf PKPdf 09 48 13.8 -0.8
BOJS *e* 09 48 28.0
DSB Dublin 145.75 355 *e*PKPdf PKPdf 09 48 13.9 -0.5
FUR Furstenfeldbru 145.75 333 *e*PKPbc PKPbc 09 48 15.4 +0.4
LJU Ljubljana 145.76 327 *e*PKPdf PKPdf 09 48 14.4 -0.3
LJU *e* 09 48 16.1
LJU *e* 09 48 28.1
RLS Riolos of Patr 145.87 310 *e*P PKPdf 09 48 15.9 +0.8
ITM Ithomi 145.88 309 *e*P PKPdf 09 48 15.1 0.0
STON Ston 145.99 320 P PKPdf 09 48 15.0 -0.1
IGT Igoumenitsa 146.02 313 *e*P PKPdf 09 48 15.5 +0.2
HLM1 Long Mynd 146.05 351⇑ *e*P PKPdf 09 48 15.1 +0.2
UCC Uccle 146.06 342 PKPbc PKPbc 09 48 15.6 -0.3
VOY Vojsko 146.09 328 *e*PKPdf PKPdf 09 48 15.3 +0.1
JAVS Javornik 146.10 328 *e*PKPdf PKPdf 09 48 14.1 -1.1
JAVS *e* 09 48 28.3
KTD Kalmit 146.11 337 PKIKP PKPdf 09 48 13.7 -1.4
BCLA Clavier 146.11 341 PKPbc PKPbc 09 48 15.3 -0.8
BCLA APKP 09 48 29.1
STU Stuttgart 146.13 335 *e*PKPbc PKPbc 09 48 16.3 +0.1
STU Stuttgart 146.13 335 *e*PKPdf PKPdf 09 48 14.7 -0.5
STU *e*PKPbc PKPbc 09 48 15.9 -0.3
RUP Ruppelstein 146.16 338 PKP2 PKPab 09 48 15.2 -1.7
LKD Levkas 146.18 312 *e*P PKPdf 09 48 16.6 +1.0
WATA Walderalm 146.25 332⇑ *i*P PKPdf 09 48 15.0 -0.4
comp=Z,70nm,1.1s,SNR=28
ABTA Abfaltersbach 146.25 330⇑ *i*P PKPdf 09 48 14.0 -1.4
SNR=57
WTTA Wattenberg 146.28 331⇓ *i*P PKPdf 09 48 15.1 -0.4
comp=Z,223nm,1.2s,SNR=50
KEK Kerkira 146.30 314 *e*P PKPdf 09 48 16.8 +1.0
VLS Valsamata 146.45 311 *e*P PKPdf 09 48 16.3 +0.2
MOTA Moosalm 146.45 332⇑ *i*P PKPdf 09 48 15.3 -0.5
comp=Z,152nm,0.9s,SNR=49
HAE Alders End 146.47 350⇑ *i*P PKPdf 09 48 16.2 +0.5
LANF Langenberg 146.49 337 PKP PKPdf 09 48 13.9 -1.9
RETA Reutte 146.50 333⇑ *i*P PKPdf 09 48 16.3 +0.5
comp=Z,132nm,1.4s,SNR=39
WLF Walferdange 146.50 339 PKPbc PKPbc 09 48 16.2 -1.0
WLF APKP 09 48 32.2
WLF Walferdange 146.50 339 *e*PKPbc PKPbc 09 48 17.6 +0.4
WLF Walferdange 146.50 339 *e*PKP PKPdf 09 48 16.9 +1.1
HTR Trewern Hill 146.54 351⇑ *i*P PKPdf 09 48 16.4 +0.6
GIVF Givet 146.54 341 *e*PKIKP PKPdf 09 48 15.3 -0.5
NVLJ Novalja 146.57 325 P PKPdf 09 48 16.9 +0.8
MCH1 Michaelchurch 146.57 351 *e*P PKPdf 09 48 16.2 +0.4
MCH1 AMb AMB 09 48 18.9
comp=Z,326nm,2.2s
DOU Dourbes 146.62 341 PKPbc PKPbc 09 48 16.0 -1.5
DOU APKP 09 48 30.8
BAIF Baives 146.76 342 *e*PKIKP PKPdf 09 48 16.0 -0.2
BFO Black Forest 146.83 336 *e*PKPbc PKPbc 09 48 16.6 -1.6
BFO *e*PP PP 09 51 42.5 +0.5
BFO Black Forest 146.83 336 *e*PKPbc PKPbc 09 48 16.6 -1.6
BFO *e*PP PP 09 51 42.5 +0.5
BFO LR LR
comp=Z,982nm,22.0s,MS5.5
SPAK Spaichingen-Ko 146.84 335 PKP PKPdf 09 48 15.7 -0.7
STR Strasbourg 146.84 337 PKP PKPdf 09 48 16.1 -0.3
FETA Feichten 146.87 332⇑ *i*P PKPdf 09 48 15.9 -0.6
comp=Z,181nm,1.0s,SNR=112
MENF Mencas 146.88 344 PKP PKPdf 09 48 15.9 -0.5
HGH Gray Hill 146.89 350⇑ *e*P PKPdf 09 48 17.3 +1.0
WOL Wolverton 146.93 348 *e*P PKPdf 09 48 14.3 -2.2
DAVA Damuels 147.03 333⇑ *i*P PKPdf 09 48 15.8 -0.9
comp=Z,235nm,1.1s,SNR=61
CDF Champ du Feu 147.16 337 *e*PKIKP PKPdf 09 48 16.5 -0.4
LIBD Limburg 147.26 336 PKP2 PKPdf 09 48 17.8 +0.7
FELD Feldberg im Sc 147.33 336 PKP PKPdf 09 48 16.1 -1.1
ECH Echery 147.37 337 PKP PKPdf 09 48 16.3 -1.0
ECH Echery 147.37 337 *e*PKPdf PKPdf 09 48 16.3 -1.0
DAVOS Davos 147.42 333 PKP2 PKPab 09 48 20.2 -1.7
DAVOX Davos/Dischmat 147.43 333 PKPbc PKPbc 09 48 20.2 +0.2
comp=Z,72nm,0.4s,baz=17,slow=0.3,SNR=155

HTL	**Hartland**	**147.76**	**352**	*e*P	PKPbc	09 48 19.8	-0.9
HTL				AMb	AMB	09 48 22.9	
comp=Z,277nm,1.4s							
THEF	**They Montfort**	**147.78**	**338**	PKP	PKPdf	09 48 17.8	-0.2
HINF	**Hinteralfeld**	**147.81**	**337**	*e*PKIKP	PKPdf	09 48 16.9	-1.1
comp=Z,42nm,1.1s							
HAU	**Haudompre**	**147.84**	**338**	*e*PKIKP	PKPdf	09 48 17.8	-0.3
HAU				*e*MLR	MLR		
comp=Z,2μm,23.0s,MS5.5							
HAU	**Haudompre**	**147.84**	**338**	*e*PKPdf	PKPdf	09 48 17.8	-0.3
HAU				LR	LR		
comp=Z,2μm,23.0s,MS5.8							
BBS	**Basel-Blauen**	**147.86**	**336**	PKIKP	PKPdf	09 48 17.8	-0.3
MEZF	**Maizieres J'vi**	**147.87**	**339**	*e*PKIKP	PKPdf	09 48 18.3	+0.2
LOMF	**Lomont**	**148.21**	**336**	PKP	PKPdf	09 48 18.5	-0.2
DYA	**Yadsworthy**	**148.23**	**351**	*e*P	PKPbc	09 48 20.9	-1.1
DYA				AMb	AMB	09 48 24.6	
comp=Z,250nm,1.6s							
AQU	**L'Aquila**	**148.82**	**323⇑**	*i*P	PKPbc	09 48 23.2	-0.6
AQU	**L'Aquila**	**148.82**	**323**	*e*PKPbc	PKPbc	09 48 23.8	+0.1
AQU				LR	LR		
comp=Z,896nm,20.0s,MS5.6							
GRAM	**Graiana**	**149.08**	**330**	P	PKPdf	09 48 18.6	-1.6
VALM	**Valbona**	**149.09**	**329**	P	PKPdf	09 48 18.5	-1.7
CABF	**La Chapelle**	**149.11**	**336**	*e*PKIKP	PKPdf	09 48 20.5	+0.3
FLN	**La Foliniere**	**149.19**	**346**	*e*PKIKP	PKPdf	09 48 19.9	-0.3
FLN				*e*MLR	MLR		
comp=Z,1μm,22.0s,MS5.3							
FLN	**La Foliniere**	**149.19**	**346**	*e*PKPdf	PKPdf	09 48 19.9	-0.3
FLN				LR	LR		
comp=Z,1μm,22.0s,MS5.6							
BACM	**Baccana**	**149.23**	**329**	P	PKPdf	09 48 18.5	-2.0
CODM	**Codolo**	**149.25**	**330**	P	PKPdf	09 48 18.1	-2.3
LDF	**La Druitiere**	**149.26**	**345**	*e*PKIKP	PKPdf	09 48 20.2	-0.2
MAIM	**Mastiano**	**149.29**	**328**	P	PKPdf	09 48 17.9	-2.6
VINC	**Vinca**	**149.29**	**329**	P	PKPdf	09 48 18.1	-2.5
LOR	**Lormes**	**149.34**	**340**	*e*PKIKP	PKPdf	09 48 20.5	0.0
comp=Z,61nm,1.6s							
LOR				*e*MLR	MLR		
comp=Z,933nm,22.2s,MS5.2							
LOR	**Lormes**	**149.34**	**340**	*e*PKPdf	PKPdf	09 48 20.5	0.0
LOR				LR	LR		
comp=Z,930nm,22.3s,MS5.5							
TRAV	**Traversella**	**149.34**	**333**	P	PKPdf	09 48 17.6	-3.0
SC2M	**Scurtabo**	**149.39**	**330**	P	PKPdf	09 48 18.5	-2.2
GRR	**Gorron**	**149.63**	**346**	*e*PKIKP	PKPdf	09 48 20.8	-0.2
LSD	**Lago del Serru**	**149.63**	**334**	PKIHKP		09 48 21.9	
SSF	**Saint Saulge**	**149.63**	**340**	*e*PKIKP	PKPdf	09 48 20.9	-0.1
GENL	**Genova Univers**	**149.66**	**331**	P	PKPdf	09 48 19.1	-2.1
PCP	**Piancastagn**	**149.75**	**331**	PKHKP		09 48 20.7	
LPL	**La Plagne**	**149.76**	**334**	*e*PKIKP	PKPdf	09 48 21.5	+0.2
LPG	**La Plagne**	**149.77**	**334**	*e*PKIKP	PKPdf	09 48 21.7	+0.4
RSP	**Reno Superiore**	**149.84**	**333**	PKIKP	PKPdf	09 48 20.2	-1.2
SMF	**Signal de Mont**	**149.89**	**339**	*e*PKIKP	PKPdf	09 48 21.1	-0.3
AVF	**Avril sur Loir**	**149.92**	**340**	*e*PKIKP	PKPdf	09 48 21.0	-0.5
BHB	**Bricherasio**	**150.08**	**333**	P	PKPdf	09 48 19.5	-2.3
SGMF	**Saint Gilles**	**150.11**	**348**	*e*PKIKP	PKPdf	09 48 21.2	-0.5
BNI	**Bardonecchia**	**150.16**	**334**	*e*PKPdf	PKPdf	09 48 21.8	-0.1
BNI				*e*PKPbc	PKPbc	09 48 27.5	+0.5
BNI				LR	LR		
comp=Z,2μm,22.0s,MS5.9							
FIN	**Finale Ligure**	**150.16**	**331**	PKIKP	PKPdf	09 48 20.2	-1.7
ROSF	**Rostrenen**	**150.16**	**349**	*e*PKIKP	PKPdf	09 48 21.1	-0.7
ROB	**Robourent**	**150.25**	**332**	PKIKP	PKPdf	09 48 19.9	-2.2
GDM	**Grand'Maison**	**150.26**	**335**	PKP	PKPdf	09 48 22.7	+0.6
BGF	**Bois d'Agland**	**150.29**	**340**	*e*PKIKP	PKPdf	09 48 22.1	0.0
RORO	**Rocca Rossa**	**150.30**	**331**	P	PKPdf	09 48 19.9	-2.2
GRN	**Grenoble**	**150.38**	**335**	PKP	PKPdf	09 48 22.6	+0.4
MBDF	**Montbardon**	**150.38**	**333**	*e*PKIKP	PKPdf	09 48 22.0	-0.3
ENR	**Entracque**	**150.50**	**332**	PKIKP	PKPdf	09 48 20.7	-1.8
STV	**Sant Anna di V**	**150.53**	**332**	PKIKP	PKPdf	09 48 21.7	-0.8
PLDF	**La Plantade**	**150.55**	**339**	PKP	PKPdf	09 48 22.4	-0.1
QUIF	**Quistinic**	**150.55**	**349**	*e*PKIKP	PKPdf	09 48 21.9	-0.5
SURF	**Saint Ours**	**150.56**	**333**	PKP	PKPdf	09 48 23.1	+0.5
ORIF	**Oris-en-Rattie**	**150.59**	**335**	*e*PKIKP	PKPdf	09 48 22.5	-0.1
ORIF				*e*MLR	MLR		
comp=Z,1μm,21.2s,MS5.4							
SAOF	**Saorge**	**150.63**	**332**	PKP	PKPdf	09 48 22.4	-0.3
AGO	**Saint Agoulin**	**150.64**	**339**	PKP	PKPdf	09 48 22.7	+0.1
NEGI	**Seborga**	**150.67**	**331**	P	PKPdf	09 48 21.3	-1.4
TCF	**Toulx Ste Croi**	**150.73**	**341**	*e*PKIKP	PKPdf	09 48 22.6	-0.2
comp=Z,68nm,1.2s							
TOUF	**Mont Tournerai**	**150.74**	**332**	PKP	PKPdf	09 48 23.0	+0.1
SBF	**Sospel**	**150.78**	**332**	*e*PKIKP	PKPdf	09 48 22.7	-0.2
LUCF	**Luceram**	**150.79**	**332**	PKP	PKPdf	09 48 23.3	+0.4
SSB	**Saint Sauveur**	**150.81**	**337**	PKP	PKPdf	09 48 23.1	+0.2
SSB				*e*PKPbc	PKPbc	09 48 28.1	-0.4
MVIF	**Mont Vial**	**150.88**	**332**	PKP	PKPdf	09 48 23.2	+0.1
REVF	**Revere**	**150.91**	**332**	PKP	PKPdf	09 48 22.7	-0.4
COLF	**Collangettes**	**150.91**	**338**	PKP	PKPdf	09 48 23.3	+0.2
PYM	**Petit Puy Mans**	**150.95**	**339**	PKP	PKPdf	09 48 22.5	-0.6
PGF	**Pioggiola**	**151.03**	**328**	*e*PKIKP	PKPdf	09 48 22.4	-0.9
comp=Z,164nm,1.3s							
VAE	**Valguarnera**	**151.07**	**315**	PKPbc	PKPbc	09 48 30.3	+0.9
comp=Z,17nm,1.0s,baz=23,slow=7.4,SNR=3.9							
VAE				PKPab	PKPab	09 48 37.0	-0.1
comp=Z,36nm,0.8s,baz=349,slow=10,SNR=7.4							
OCF	**Saint Nazaire**	**151.11**	**335**	PKP	PKPdf	09 48 24.0	+0.6
OG26	**St.-Nazaire-De**	**151.11**	**335**	PKP	PKPdf	09 48 24.0	+0.6
CALN	**Calern**	**151.11**	**332**	PKP	PKPdf	09 48 24.3	+0.9
VIVF	**Saint-Julien-l**	**151.12**	**336**	*e*PKIKP	PKPdf	09 48 23.1	-0.3
comp=Z,108nm,1.8s							
MFF	**Saint Martin d**	**151.12**	**344**	*e*PKIKP	PKPdf	09 48 22.6	-0.7
comp=Z,84nm,1.2s							
VERF	**Verneugheol**	**151.12**	**340**	PKP	PKPdf	09 48 24.3	+0.9
CORF	**Corte**	**151.14**	**328**	PKP	PKPdf	09 48 23.2	-0.3
LBL	**Lubilhac**	**151.32**	**338**	PKP	PKPdf	09 48 23.8	+0.1
FRF	**La Foret Royal**	**151.37**	**332**	*e*PKIKP	PKPdf	09 48 23.4	-0.4
SMRF	**Simiane la Rot**	**151.49**	**334**	*e*PKIKP	PKPdf	09 48 24.1	+0.1
VILF	**Villemus**	**151.53**	**334**	PKP	PKPdf	09 48 23.7	-0.4
TAVF	**Tavernes**	**151.58**	**333**	PKP	PKPdf	09 48 22.2	-1.9
LMR	**La Mourre**	**151.61**	**332**	*e*PKIKP	PKPdf	09 48 23.9	-0.3
comp=Z,76nm,1.3s							
PRAF	**Pradon**	**151.80**	**334**	PKP	PKPdf	09 48 23.9	-0.6
RJF	**Les Rejaudoux**	**151.83**	**341**	*e*PKIKP	PKPdf	09 48 24.5	0.0
comp=Z,116nm,1.7s							
RJF				*e*MLR	MLR		
comp=Z,1μm,22.5s,MS5.3							
RJF	**Les Rejaudoux**	**151.83**	**341**	*e*PKPdf	PKPdf	09 48 24.5	0.0
RJF				LR	LR		
comp=Z,1μm,22.5s,MS5.6							
CAF	**Calviac**	**151.99**	**340**	*e*PKIKP	PKPdf	09 48 25.1	+0.4
comp=Z,53nm,1.4s							
LASF	**Ste Croix**	**152.09**	**336**	*e*PKIKP	PKPdf	09 48 24.3	-0.6
comp=Z,62nm,1.2s							
LFF	**La Frestale**	**152.40**	**341**	*e*PKIKP	PKPdf	09 48 25.5	+0.2
ASCN	**Ascension**	**152.93**	**173**	PFAKE		09 48 40.0	+13
ASCN				LR	LR		
comp=Z,1μm,21.0s,MS5.7							
MTLF	**Montolieu**	**153.33**	**338**	*e*PKIKP	PKPdf	09 48 25.7	-1.0
comp=Z,74nm,1.4s							
LRDF	**Laroque-de-Fa**	**153.56**	**337**	PKP	PKPdf	09 48 25.9	-1.2
EJON	**La Jonquera**	**153.85**	**336**	PKP	PKPdf	09 48 26.3	-1.2
VALF	**Valcebollere**	**154.22**	**337**	PKP	PKPdf	09 48 27.4	-0.6
EPF	**Esparros**	**154.24**	**340**	*e*PKIKP	PKPdf	09 48 27.2	-0.8
comp=Z,94nm,1.3s							
REYF	**Montagne du Re**	**154.44**	**341**	PKP	PKPdf	09 48 27.7	-0.6
RESF	**Ens**	**154.44**	**340**	PKP	PKPdf	09 48 27.6	-0.7
EBIE	**Bielsa**	**154.62**	**340**	PKP	PKPdf	09 48 28.6	0.0
EALK	**Alkurruntz**	**154.62**	**343**	PKP	PKPdf	09 48 30.1	+1.6
SJPF	**Ste Jean**	**154.64**	**343**	*e*PKIKP	PKPdf	09 48 28.4	-0.2
comp=Z,51nm,1.3s							
LARF	**Larrau**	**154.64**	**342**	PKP	PKPdf	09 48 28.4	-0.2
ETSF	**Etsaut**	**154.64**	**341**	*e*PKIKP	PKPdf	09 48 28.3	-0.3
comp=Z,52nm,1.2s							
EMIR	**Miracle**	**154.82**	**337**	PKP	PKPdf	09 48 27.3	-1.6
KEST	**Kesra**	**155.42**	**316**	PKP	PKPdf	09 48 30.8	+0.8
comp=Z,3.6nm,0.9s,baz=270,slow=3.1,SNR=6.5							
KEST				PKPbc	PKPdf	09 48 40.2	+10
comp=Z,10.0nm,1.1s,baz=126,slow=1.2,SNR=7.4							
KEST				PKPab	PKPab	09 48 57.8	+2.2
comp=Z,13nm,1.1s,baz=288,slow=3.3,SNR=8.8							
ECRI	**Cripan**	**155.46**	**344**	PKIKP	PKPdf	09 48 31.7	+2.0
EPOB	**Poblet**	**155.48**	**337**	PKP	PKPdf	09 48 30.3	+0.5
ESAC	**San Caprasio**	**155.68**	**340**	PKP	PKPdf	09 48 31.8	+1.7
ERTA	**Horta de San J**	**156.09**	**338**	PKP	PKPdf	09 48 30.6	-0.1
STS	**Santiago**	**156.22**	**355**	PKIKP	PKPdf	09 48 30.8	+0.1
EMOS	**Mosqueruela**	**156.90**	**339**	PKP	PKPdf	09 48 31.7	0.0
ETOR	**Torete**	**156.99**	**342**	PKIKP	PKPdf	09 48 31.6	-0.2
PBRG	**Braganca**	**157.08**	**351**	*e*PKPab	PKPab	09 49 01.6	-0.8
ELOB	**Lobios**	**157.18**	**354**	PKP	PKPdf	09 48 33.3	+1.3
PCAB	**Cabril**	**157.34**	**354**	*e*PKPab	PKPab	09 49 03.5	+0.1
EIBI	**Ibiza**	**157.37**	**334**	PKP	PKPdf	09 48 31.4	-1.0
CMLA	**Cha da Macela**	**157.67**	**31**	PFAKE		09 48 40.0	+7.2
CMLA				LR	LR		
comp=Z,1μm,20.0s,MS5.8							
GUD	**Guadarrama**	**157.72**	**346**	PKIKP	PKPdf	09 48 33.1	+0.4
MVO	**Moncorvo**	**157.75**	**351**	*e*PKPdf	PKPdf	09 48 32.8	+0.1
MVO	**Moncorvo**	**157.75**	**351**	*e*PKPab	PKPab	09 49 05.0	-0.3
ECHE	**Chera**	**157.76**	**339**	PKIKP	PKPdf	09 48 32.5	-0.3
PVIS	**Viseu**	**158.30**	**353**	*e*PKPab	PKPab	09 49 07.5	-0.2
MTE	**Manteigas**	**158.57**	**352**	*e*PKPdf	PKPdf	09 48 33.1	-0.7
MTE	**Manteigas**	**158.57**	**352**	*e*PKPab	PKPab	09 49 08.7	-0.1
MTE	**Manteigas**	**158.57**	**352**	*e*PKPdf	PKPdf	09 48 33.2	-0.6
MTE				LR	LR		
comp=Z,1μm,22.0s,MS5.8							
ESDC	**Sonseca Array**	**158.59**	**344**	PKP	PKPdf	09 48 34.0	+0.2
comp=Z,1.7nm,0.8s,baz=0.4,slow=4.4,SNR=9.5							
ESDC				PKPab	PKPab	09 49 08.3	-0.6
comp=Z,8.9nm,0.8s,baz=17,slow=3.5,SNR=23							
ESDC				PP	PP	09 52 53.0	+4.5
comp=Z,1.7nm,0.8s,baz=13,slow=6.0,SNR=4.8							
ESLA	**Sonseca Array**	**158.59**	**344**	PFAKE		09 48 40.0	+6.2
ESLA				LR	LR		
comp=Z,7μm,20.0s,MS6.5							
PAB	**San Pablo**	**158.80**	**345**	*e*PKIKP	PKPdf	09 48 33.9	-0.2
PAB				*e*		09 49 09.7	
PAB				MLR	MLR		
comp=Z,1μm,21.0s,MS5.7							
PCBR	**Castelo Branco**	**159.11**	**352**	*e*PKPdf	PKPdf	09 48 33.4	-1.0
PCBR	**Castelo Branco**	**159.11**	**352**	*e*PKPab	PKPab	09 49 11.3	+0.1
EVIA	**Vianos**	**159.13**	**340**	PKIKP	PKPdf	09 48 35.7	+1.2
EMUR	**La Murta**	**159.41**	**337**	PKP	PKPdf	09 48 34.7	-0.1
PTOM	**Tomar**	**159.45**	**354**	*e*PKPdf	PKPdf	09 48 34.6	-0.2
PTOM	**Tomar**	**159.45**	**354**	*e*PKPab	PKPab	09 49 13.6	+1.0
PMRV	**Marv??o**	**159.51**	**351**	*e*PKPdf	PKPdf	09 48 34.9	0.0
PMRV	**Marv??o**	**159.51**	**351**	*e*PKPab	PKPab	09 49 13.2	+0.3
PMRV	**Marv??o**	**159.51**	**351**	*e*LR	LR	10 51 48.4	
comp=Z,1μm,22.0s							
EHUE	**Huescar**	**159.91**	**340**	PKIKP	PKPdf	09 48 36.7	+1.3
EANR	**'Ain N'Sour**	**160.01**	**329**	P	PKPdf	09 48 36.0	+0.4
EQES	**Quesada**	**160.07**	**341**	PKP	PKPdf	09 48 36.4	+0.8
PESTR	**Estremoz**	**160.09**	**352**	*e*PKPdf	PKPdf	09 48 34.4	-1.2
PESTR	**Estremoz**	**160.09**	**352**	*e*PKPab	PKPab	09 49 14.9	-0.6
PESTR	**Estremoz**	**160.09**	**352**	*e*LR	LR	10 51 01.9	
comp=Z,1μm,22.0s							
EBAD	**Badajoz**	**160.11**	**350**	PKP	PKPdf	09 48 38.8	+3.1
EADA	**Adamuz**	**160.16**	**344**	PKP	PKPdf	09 48 36.2	+0.5
PMAFR	**Mafra**	**160.18**	**355**	*e*PKPdf	PKPdf	09 48 31.7	-4.0
PMAFR	**Mafra**	**160.18**	**355**	*e*PKPab	PKPab	09 49 15.7	-0.2
PMAFR	**Mafra**	**160.18**	**355**	*e*LR	LR	10 46 31.7	
comp=Z,1μm,18.0s							
ETRT	**Tiaret**	**160.36**	**328**	P	PKPdf	09 48 36.5	+0.5
EVO	**Evora**	**160.47**	**352**	*e*PKIKP	PKPdf	09 48 34.6	-1.4
comp=Z,60nm,1.3s							
EVO				*e*MLR	MLR		
comp=Z,2μm,21.5s							
EVO	**Evora**	**160.47**	**352**	*e*PKPdf	PKPdf	09 48 34.7	-1.3
EVO	**Evora**	**160.47**	**352**	*e*PKPab	PKPab	09 49 17.3	+0.2
ENIJ	**Nijar**	**160.54**	**338**	PKIKP	PKPdf	09 48 36.7	+0.6
ELUQ	**Luque**	**160.65**	**343**	PKIKP	PKPdf	09 48 37.0	+0.8
PBAR	**Barrancos**	**160.68**	**350**	*e*PKPdf	PKPdf	09 48 35.2	-1.1
PBAR	**Barrancos**	**160.68**	**350**	*e*PKPab	PKPab	09 49 17.9	-0.2
PBAR	**Barrancos**	**160.68**	**350**	*e*LQ		10 44 06.8	
PBAR				*e*LR	LR	10 47 27.7	
comp=Z,2μm,22.0s							
ECOG	**Cogollos-Vega**	**160.71**	**341**	PKIKP	PKPdf	09 48 36.1	-0.2
PBEJ	**Beja**	**160.95**	**352**	*e*PKPdf	PKPdf	09 48 35.9	-0.7
PBEJ	**Beja**	**160.95**	**352**	*e*PKPab	PKPab	09 49 19.3	+0.1
EMIN	**Mina Concepcio**	**161.01**	**349**	PKP	PKPdf	09 48 37.1	+0.5
PTEO	**Sao Teotonio**	**161.53**	**354**	*e*PKPab	PKPab	09 49 22.4	+0.6
PVAQ	**Vaqueiros**	**161.54**	**351**	*e*PKPdf	PKPdf	09 48 36.4	-0.8
PVAQ	**Vaqueiros**	**161.54**	**351**	*e*PKPab	PKPab	09 49 19.9	-1.9
PVAQ	**Vaqueiros**	**161.54**	**351**	*e*LR	LR	10 53 54.0	
comp=Z,2μm,22.0s							
PBDV	**Barranco-do-Ve**	**161.73**	**351**	*e*PKPdf	PKPdf	09 48 37.0	-0.4
PBDV	**Barranco-do-Ve**	**161.73**	**351**	*e*PKPab	PKPab	09 49 23.2	+0.5
PBDV	**Barranco-do-Ve**	**161.73**	**351**	*e*LR	LR	10 49 14.4	
comp=Z,2μm,20.0s							
EALB	**Alboran**	**161.75**	**338**	PKP	PKPdf	09 48 39.3	+1.8
PFVI	**Vila Bisbo**	**161.95**	**354**	*e*PKPdf	PKPdf	09 48 36.5	-1.1
PFVI	**Vila Bisbo**	**161.95**	**354**	*e*PKPab	PKPab	09 49 23.9	+0.3
PFVI	**Vila Bisbo**	**161.95**	**354**	*e*LR	LR	10 47 53.6	
comp=Z,762nm,22.0s							
SFS	**San Fernando**	**162.18**	**347**	PFAKE		09 48 50.0	+12
SFS				LR	LR		
comp=Z,3μm,21.0s							
TAM	**Tamanrasset**	**163.89**	**286**	*e*PKIKP	PKPdf	09 48 39.8	-0.1
KIC	**Kosan Boka**	**165.79**	**207**	*e*P	PKPdf	09 48 40.9	-1.0
comp=Z,561nm,1.6s							
LIC	**Lamto**	**165.79**	**206**	*e*PKIKP	PKPdf	09 48 41.4	-0.5
comp=Z,174nm,1.7s							
LIC				*e*MLR	MLR		
comp=Z,3μm,22.5s							
LIC	**Lamto**	**165.79**	**206**	*e*P	PKPdf	09 48 38.3	-3.6
comp=Z,283nm,1.7s							
LIC	**Lamto**	**165.79**	**206**	*e*P	PKPdf	09 48 38.3	-3.6
LIC				*e*PKPdf	PKPdf	09 48 41.4	-0.5
LIC				LR	LR		
comp=Z,2μm,22.5s							
DBIC	**Dimbokro**	**166.12**	**208**	PKP	PKPdf	09 48 40.8	-1.3
comp=Z,16nm,1.2s,baz=278,slow=3.6,SNR=4.9							
DBIC				PKPab	PKPab	09 49 41.0	-1.6
comp=Z,17nm,0.8s,baz=121,slow=6.8,SNR=9.3							
DBIC	**Dimbokro**	**166.12**	**208**	PKIKP	PKPdf	09 48 40.8	-1.3
DBIC						09 49 41.0	
DBIC				pmax	pmax		
comp=Z,16nm,1.2s							
DBIC				pmax	pmax		
comp=Z,17nm,0.8s							
DBIC	**Dimbokro**	**166.12**	**208**	*e*PKPdf	PKPdf	09 48 41.7	-0.4
DBIC				*e*PKPab	PKPab	09 49 42.8	+0.3
DBIC				LR	LR		
comp=Z,2μm,20.0s							
TIC	**Toumodi**	**166.16**	**207**	*e*P	PKPdf	09 48 42.1	-0.1
comp=Z,126nm,0.8s							
TOA0	**Torodi Ar. Sit**	**166.19**	**246**	*e*PKPdf	PKPdf	09 48 39.0	-3.1
TORD	**Torodi Ar. Bea**	**166.19**	**246**	PKP	PKPdf	09 48 41.0	-1.1
comp=Z,25nm,1.1s,baz=34,slow=0.3,SNR=50							
TORD				PKPab	PKPab	09 49 43.6	+0.5
comp=Z,19nm,1.0s,baz=106,slow=3.7,SNR=8.8							
TORD				PP	PP	09 53 27.4	-3.3
comp=Z,1.2nm,0.8s,baz=148,slow=8.5,SNR=3.9							
TORD	**Torodi Ar. Bea**	**166.19**	**246**	PKP	PKPdf	09 48 41.0	-1.1
TORD				PKPab	PKPab	09 49 43.6	+0.5
TORD				PP	PP	09 53 27.4	-3.3
CFTV	**Fuerteventura**	**170.42**	**15**	PKP	PKPdf	09 48 46.0	+1.4

ISCJB ***05*** *09:50:43.4±0.5,3523N±003×7535E±005,h57km±7km, mb3.7/11,Error ellipse: s-maj=7.2km s-min=4.4km az=153.3*

NNC ***05*** *09:50:46.2±3.7,3550N×7433E,h0km,mb4.0,mpv3.8, Error ellipse: s-maj=35.5km s-min=32.1km az=136.0*

MOS ***05*** *09:50:48.4±1.2,3541N×7508E,h91km,mb3.9/1,Error ellipse: s-maj=24.6km s-min=9.5km az=94.4*

IDC ***05*** *09:50:49.0±6.1,3531N×7500E,h83km±55km, mb3.6/11, mb1 3.8/14,mb1mx3.6/24,mbtmp3.6/14,ML4.2/3,Error ellipse: s-maj=24.0km s-min=16.2km az=33.0*

NEIC ***05*** *09:50:58.3±1.7,3550N×7504E,h169km±15km,mb4.2/5, Error ellipse: s-maj=15.1km s-min=12.5km az=130.0*

ISC 05 09:50:44.3±0.5,3530N±003×7533E±005,h44km±7km,n70, σ1°41/81,mb3.7/11,5C-4D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**1.26**	**198**	*e*P	**Pn**	**09 51 12.5**	**+7.1**
SRNI				*ex*	**Sn**	**09 51 19.5**	**-1.6**
CHCP	**Chirah Chowk**	**2.36**	**227**	⇓P	**Pn**	**09 51 21.1**	**+0.6**
JMU	**Jammu**	**2.60**	**188**	*e*P	**Pn**	**09 51 27.5**	**+3.7**
JMU				*e*S	**Sn**	**09 52 00.0**	**+5.9**
DLH	**Dalhousie**	**2.80**	**169**	*e*P	**Pn**	**09 51 29.0**	**+2.5**
DLH				*ex*	**Sn**	**09 52 11.0**	**+12**
THN	**Thein Dam**	**2.88**	**173**	*e*P	**Pn**	**09 51 29.3**	**+1.7**
THN				*e*S	**Sn**	**09 52 05.5**	**+4.6**
CEP	**Cherat**	**3.18**	**243**	P	**Pn**	**09 51 31.3**	**-0.4**
CEP				S	**Sn**	**09 52 11.0**	**+2.6**
PONG	**Pong**	**3.38**	**171**	*ex*	**Pn**	**09 51 40.2**	**+5.7**
THW	**Thamme Wali**	**3.88**	**231**	P	**Pn**	**09 51 40.4**	**-1.0**
BHK	**Bhakra**	**3.98**	**166**	*ex*	x	09 51 52.0	
BHK				*e*S	**Sn**	**09 52 32.2**	**+4.1**
SDNR	**Sundarnagar**	**4.03**	**160**	*e*P	**Pn**	**09 51 44.4**	**+1.0**
SDNR				*ex*	**Sn**	**09 52 30.4**	**+1.0**
SMLA	**Simla**	**4.44**	**159**	*i* P	**Pn**	**09 51 50.2**	**+1.2**
SMLA				*i* S	**Sn**	**09 52 42.1**	**+2.7**
SMLA				*ex*	x	09 52 45.0	
comp=E,3μm,0.4s							
SMLA				*ex*	x	09 52 45.1	
comp=N,3μm,0.3s							
KLP	**Kalpa**	**4.48**	**146**	*e*P	**Pn**	**09 51 52.2**	**+2.6**
KLP				*e*S	**Sn**	**09 52 45.9**	**+5.4**
KLP				AML	AML	09 53 11.0	
comp=E,473nm,0.4s							
KLP				AML	AML	09 53 11.2	
comp=N,414nm,0.5s							
DDI	**Dehra Dun**	**5.47**	**154**	*ex*	x	09 52 02.8	
DDI				*es*	**Sn**	**09 53 04.5**	**-0.3**
NDI	**New Delhi**	**6.79**	**166**	*ex*	x	09 52 45.0	
NDI				*e*S	**Sn**	**09 53 34.5**	**-2.8**
AML	**Almayashu**	**6.94**	**350**	*e*P	**Pn**	**09 52 25.9**	**+2.6**
comp=N,7.0nm,0.6s							
AYAN	**Aya Nagar**	**6.97**	**167**	*e*P	**Pn**	**09 52 23.6**	**-0.2**
PTH	**Pithoragarh**	**7.07**	**143**	*e*P	**Pn**	**09 52 25.6**	**+0.5**
PTH				*ex*	**Sn**	**09 53 45.1**	**+1.0**
SONA	**Sohna**	**7.18**	**168**	*e*P	**Pn**	**09 52 26.6**	**-0.1**
SONA				*e*S	**Sn**	**09 53 43.0**	**-4.0**
SONA				AML	AML	09 53 48.2	
comp=E,108nm,0.2s							
SONA				AML	AML	09 53 48.9	
comp=N,44nm,0.1s							
KUDL	**Kundal**	**7.20**	**172**	*e*P	**Pn**	**09 52 27.1**	**+0.1**
EKS2	**Erkin-Say**	**7.45**	**351**	*e*P	**Pn**	**09 52 38.0**	**+7.7**
comp=N,1.7nm,0.5s							
TKM2	**Tokmak 2**	**7.62**	**2**	⇑Pn	**Pn**	**09 52 35.4**	**+2.9**
comp=N,1.7nm,0.5s							
TKM2				⇑Sn	**Sn**	**09 54 03.4**	**+5.9**
comp=N,1.9nm,0.6s							
TKM2	**Tokmak 2**	**7.62**	**2**	*e*Pn	**Pn**	**09 52 36.7**	**+4.2**
KK31	**Karatay Array**	**8.64**	**336**	Pn	**Pn**	**09 52 47.0**	**+0.4**
comp=N,4.0nm,0.5s,baz=147,slow=12,SNR=53							
KK31				⇓Sn	**Sn**	**09 54 20.3**	**-2.4**
comp=N,4.4nm,0.7s,baz=155,slow=23,SNR=5.5							
AJM	**Ajmer**	**8.81**	**184**	*e*P	**Pn**	**09 52 47.0**	**-2.1**
AJM				*e*S	**Sn**	**09 54 20.8**	**-6.2**
AJM				AML	AML	09 55 08.6	
comp=N,26nm,0.1s			

TORD	**Torodi Ar. Bea**	**78.52**	**75**	P	**P**	**10 05 48.3**	**+0.3**
	0.4nm,0.4s,mb3.4,baz=276,slow=5.8,SNR=12						
QSPA	**South Pole Qui**	**82.08**	**180**	P	**P**	**10 06 06.1**	**+0.2**
	1.2nm,0.8s,mb3.6,baz=191,slow=2.8,SNR=7.1						
WRA	**Warramunga Arr**	**140.28**	**225**	PKP	PKPdf	10 13 14.8	0.0
	0.4nm,0.8s,baz=118,slow=2.1,SNR=7.7						

*ISCJB **05** 10:04:28.5±1.4,28N±02×664E±03,h10km,mb3.7/5,Error ellipse: s-maj=51.8km s-min=20.5km az=141.6*
*IDC **05** 10:04:29.0±1.5,266N×6639E,h0km,mb3.8/5,mb1 4.0/5, mb1mx3.6/22,mbtmp3.8/5,MS4.1/1,Ms1 4.1/1, ms1mx2.5/32,Error ellipse: s-maj=61.5km s-min=28.2km az=45.0*
*NEIC **05** 10:04:30.4±0.9,268N×6633E,h10km,Error ellipse: s-maj=39.2km s-min=17.8km az=46.0*
ISC 05 10:04:30.4±1.4,27N±03×663E±03,h10km,n9,σ0§67/7, mb3.7/5,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTK	**Aktyubinsk**	**48.07**	**353**	P	**P**	**10 13 09.3**	**-0.6**
AKTO	**Aktyubinsk**	**48.07**	**353**	P	**P**	**10 13 09.3**	**-0.6**
	1.4nm,0.8s,mb4.1,baz=186,slow=11,SNR=3.0						
SONM	**Songino Array**	**56.66**	**31**	P	**P**	**10 14 14.9**	**+1.1**
	0.2nm,0.5s,mb3.4,baz=235,slow=5.1,SNR=3.6						
WRA	**Warramunga Arr**	**70.38**	**112**	P	**P**	**10 15 44.3**	**-0.8**
	1.3nm,0.8s,mb3.9,baz=292,slow=5.6,SNR=5.0						
WRAB	**Tennant Creek**	**70.39**	**112**	*e*P	**P**	**10 15 45.5**	**+0.4**
ASAR	**Alice Springs**	**70.70**	**116**	P	**P**	**10 15 47.0**	**0.0**
	1.0nm,1.1s,mb3.7,baz=298,slow=5.9,SNR=5.8						
ESDC	**Sonseca Array**	**73.14**	**311**	P	**P**	**10 16 02.0**	**+0.6**
	0.2nm,0.4s,mb3.4,baz=111,slow=4.7,SNR=4.1						
MNTX	**Cornudas Mount**	**144.88**	**348**	*e*PKPdf	PKPdf	10 24 08.3	-0.2
TXAR	**Lajitas Array**	**146.72**	**344**	PKPbc	PKPbc	10 24 14.2	+1.0
	0.9nm,0.7s,baz=58,slow=2.4,SNR=12						

*NEIC **05** 10:12:39.7,3530S×7285W,h7km,ML3.1(GUC),After GUC.*
GUC 05 10:12:39.7±0.8,3530S×7285W,h7km±2km,MD3.6,ML3.1, 1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	**Chanco**	**0.51**	**149**	*e*P	Pg	10 12 50.1	+0.5
CNCO				*i* S	Sg	10 12 57.8	+1.6
COCH	**Cobquecura**	**0.83**	**176**	⇓*i*P	Pg	10 12 55.4	-0.3
COCH				*i* S	Sg	10 13 07.1	+0.6
TALC	**Talca**	**1.00**	**96**	*e*P	Pg	10 12 58.3	-0.7
TALC				*i* S	Sg	10 13 12.2	+0.2
TALC				AML	AML	10 13 15.2	
	comp=N,1μm,0.4s						
TALC	**Talca**	**1.00**	**96**	*e*P	Pg	10 12 58.3	-0.7
TALC				*i* S	Sg	10 13 12.2	+0.2
LNCH	**Linares**	**1.16**	**119**	⇑*i*P	Pg	10 13 00.9	-1.1
LNCH				*i* S	Sg	10 13 17.1	+0.1
CCHI	**Chillan**	**1.45**	**154**	*e*P	Pn	10 13 05.6	-0.6
SFDO	**San Fernando**	**1.66**	**66**	⇓*i*P	Pn	10 13 08.3	-0.8
SFDO				*i* S	Sn	10 13 30.6	-0.1
LNV	**Longovilo**	**1.79**	**42**	*e*P	Pn	10 13 10.6	-0.4
LNV				*i* S	Sn	10 13 34.0	+0.1
CICH	**Cipreses**	**2.23**	**65**	*e*P	Pn	10 13 18.2	+1.3
CICH				*i* S	Sn	10 13 47.2	+2.5
TACH	**Talagante**	**2.28**	**44**	*e*P	Pn	10 13 18.5	+0.8
LMEL	**Las Melosas**	**2.62**	**57**	*e*P	Pn	10 13 23.8	+1.4
LMEL				*i* S	Sn	10 13 57.1	+2.6
LMEL				AML	AML	10 14 03.5	
	comp=N,69nm,0.6s						
LMEL	**Las Melosas**	**2.62**	**57**	*e*P	Pn	10 13 23.8	+1.4
LMEL				*i* S	Sn	10 13 57.1	+2.6
CLCH	**Cerro Calan**	**2.70**	**46**	*e*P	Pn	10 13 25.2	+1.8
CLCH				*i* S	Sn	10 13 59.0	+2.7
CLCH				AML	AML	10 14 12.0	
	comp=N,74nm,0.6s						

*IDC **05** 10:28:35.7±1.7,289S×14137E,h0km,mb3.2/2,mb1 3.6/3, mb1mx3.4/15,mbtmp3.5/3,ML3.8/1,Error ellipse: s-maj=68.2km s-min=30.0km az=90.0*
*ISCJB **05** 10:28:40.3±2.5,29S±01×1410E±05,h33km,mb3.4/2, Error ellipse: s-maj=69.3km s-min=20.2km az=4.7*
*NEIC **05** 10:28:40.9±1.1,292S×14132E,h35km,mb3.7/1,Error ellipse: s-maj=34.5km s-min=16.6km az=108.0*
ISC 05 10:28:41.9±2.4,29S±01×1412E±05,h35km,n9,σ0§60/7, mb3.4/2,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.01**	**221**	*e*P	**Pn**	**10 31 44.4**	**0.0**
WRAB	**Tennant Creek**	**18.18**	**201**	*e*P	**Pn**	**10 32 52.1**	**+0.6**
	3.7nm,0.6s						
WB2	**Warramunga Arr**	**18.18**	**201**	*e*P	**Pn**	**10 32 52.5**	**+0.8**
WB2	**Warramunga Arr**	**18.18**	**201**	*e*P	**Pn**	**10 32 52.1**	**+0.4**
WRA	**Warramunga Arr**	**18.19**	**201**	P	**Pn**	**10 32 50.5**	**-1.2**
	0.3nm,0.3s,baz=21,slow=13,SNR=20						
ASAR	**Alice Springs**	**21.79**	**198**	P	**P**	**10 33 30.9**	**0.0**
	0.3nm,0.6s,mb2.9,baz=30,slow=11,SNR=8.9						
MKAR	**Makanchi Array**	**71.46**	**322**	P	**P**	**10 39 58.9**	**0.0**
	0.9nm,0.7s,mb3.8,baz=109,slow=7.4,SNR=7.3						
LPAZ	**La Paz**	**145.32**	**124**	PKPbc	PKPbc	10 48 15.9	-1.0
	1.0nm,0.9s,baz=248,slow=5.4,SNR=4.4						
LPAZ	**La Paz**	**145.32**	**124**	*e*PKPbc	PKPbc	10 48 15.7	-1.1

*ISCJB **05** 10:35:30.9±1.4,28N±02×663E±03,h10km,mb3.6/5, MS4.0/2,Error ellipse: s-maj=47.2km s-min=24.3km az=142.2*
*IDC **05** 10:35:31.4±1.4,270N×6634E,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.6/20,mbtmp3.7/5,MS4.0/2,Ms1 4.1/2, ms1mx3.3/44,Error ellipse: s-maj=55.0km s-min=28.7km az=45.0*
*NEIC **05** 10:35:32.8±0.9,274N×6629E,h10km,Error ellipse: s-maj=38.0km s-min=20.5km az=47.0*
ISC 05 10:35:31.1±1.4,27N±02×663E±03,h0km,n10,σ1§09/6, mb3.8/5,MS4.0/2,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.63**	**62**	LR	LR	10 54 25.1	
	comp=Z,161nm,21.1s,MS3.8,baz=86,slow=32						
ZALV	**Zalesovo Beam**	**53.29**	**14**	P	**P**	**10 44 50.6**	**-1.0**
	0.5nm,0.5s,mb3.8,baz=285,slow=7.2,SNR=2.7						
SONM	**Songino Array**	**56.68**	**31**	P	**P**	**10 45 17.2**	**+0.9**
	0.3nm,0.6s,mb3.5,baz=217,slow=4.5,SNR=3.8						
SONM				LR	LR	11 11 28.7	
	comp=Z,188nm,18.3s,MS4.2,baz=274,slow=38						
WRA	**Warramunga Arr**	**70.44**	**112**	P	**P**	**10 46 48.3**	**+0.4**
	2.0nm,0.8s,mb4.3,baz=293,slow=5.7,SNR=7.3						
WB2	**Warramunga Arr**	**70.46**	**112**	P	**P**	**10 46 48.5**	**+0.5**
ASAR	**Alice Springs**	**70.77**	**116**	P	**P**	**10 46 48.6**	**-1.1**
	0.9nm,0.9s,mb3.9,baz=294,slow=4.5,SNR=6.3						
ESDC	**Sonseca Array**	**73.08**	**311**	P	**P**	**10 47 03.6**	**+0.2**
	0.1nm,0.3s,mb3.5,baz=94,slow=4.0,SNR=4.7						
MNTX	**Cornudas Mount**	**144.86**	**348**	*e*PKPdf	PKPdf	10 55 10.4	-0.4
TXAR	**Lajitas Array**	**146.69**	**344**	PKPbc	PKPbc	10 55 16.8	+1.2
	1.1nm,0.8s,baz=67,slow=2.5,SNR=13						
TXAR	**Lajitas Array**	**146.69**	**344**	PKPbc	PKPbc	10 55 16.8	+1.2

*NEIC **05** 10:39:28.5,3209S×7187W,h21km,ML2.6(GUC),After GUC.*
GUC 05 10:39:28.5±0.8,3209S×7187W,h21km±5km,MD3.6, ML2.6,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.38**	**56**	⇓*i*P	Pb	10 39 36.8	+0.3
CHNG				*i* S	Sb	10 39 41.9	0.0
PTCH	**Petorca**	**0.81**	**102**	⇑*i*P	Pb	10 39 43.6	-0.4
PTCH				*i* S	Sb	10 39 54.5	0.0
PTCH				AML	AML	10 39 57.0	
	comp=N,320nm,0.2s						
PTCH	**Petorca**	**0.81**	**102**	⇑*i*P	Pb	10 39 43.6	-0.4
PTCH				*i* S	Sb	10 39 54.5	0.0
CMCH	**Combarbala**	**1.18**	**39**	⇓*i*P	Pn	10 39 49.0	-0.7
CMCH				*i* S	Sb	10 40 05.0	+0.1
CMCH				AML	AML	10 40 11.5	
	comp=N,592nm,0.5s						
CMCH	**Combarbala**	**1.18**	**39**	⇓*i*P	Pn	10 39 49.0	-0.7
CMCH				*i* S	Sb	10 40 05.0	+0.1
JACH	**Jahuel**	**1.23**	**119**	⇑*i*P	Pn	10 39 50.0	-0.4
JACH				*i* S	Sn	10 40 06.2	-0.1
CLCH	**Cerro Calan**	**1.72**	**140**	*e*P	Pn	10 39 57.6	+0.4
CLCH				*i* S	Sn	10 40 19.9	+1.5
CLCH				AML	AML	10 40 29.1	
	comp=E,95nm,0.6s						
TACH	**Talagante**	**1.74**	**154**	*e*P	Pn	10 39 58.0	+0.6
TACH				*i* S	Sn	10 40 20.6	+1.5
FCH	**Farellones**	**1.81**	**133**	*e*P	Pn	10 39 59.2	+0.8
FCH				*i* S	Sn	10 40 23.2	+2.4
FCH				AML	AML	10 40 26.2	
	comp=E,87nm,0.2s						
PCH	**Pirque**	**1.90**	**144**	*e*P	Pn	10 40 01.0	+1.3
PCH				*e*S	Sn	10 40 25.7	+2.6
TLL	**Tololo Astrono**	**2.12**	**26**	*e*S	Sn	10 40 31.9	+3.4
TLL				AML	AML	10 40 43.1	
	comp=N,70nm,0.5s						
LMEL	**Las Melosas**	**2.24**	**142**	*e*P	Pn	10 40 05.7	+1.3
LMEL				*i* S	Sn	10 40 34.6	+3.3
LMEL				AML	AML	10 40 41.5	
	comp=N,54nm,0.3s						
LMEL	**Las Melosas**	**2.24**	**142**	*e*P	Pn	10 40 05.7	+1.3
LMEL				*i* S	Sn	10 40 34.6	+3.3

*ISCJB **05** 10:40:40.6±0.7,28S±01×360E±02,h10km,mb3.9/9,Error ellipse: s-maj=24.0km s-min=12.3km az=23.8*
*IDC **05** 10:40:41.6±0.9,274S×3595E,h0km,mb3.9/9,mb1 4.1/10, mb1mx3.9/24,mbtmp3.9/10,ML3.8/1,Error ellipse: s-maj=28.6km s-min=19.4km az=110.0*
*NEIC **05** 10:40:42.7±0.7,275S×3594E,h10km,mb3.9/1,Error ellipse: s-maj=24.2km s-min=12.0km az=112.0*
ISC 05 10:40:45.7±7.5,29S±01×359E±02,h31km±55km,n14, σ1§14/15,mb3.9/9,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**14.49**	**211**	Pn	**Pn**	**10 44 08.0**	**-0.7**
	0.4nm,0.3s,baz=34,slow=11,SNR=3.2						
LSZ				Sn	**Sn**	**10 46 46.5**	**-2.0**
	0.4nm,0.3s,baz=90,slow=20,SNR=2.7						
LSZ				Lg		10 48 18.6	
	0.5nm,0.3s,baz=106,slow=16,SNR=3.2						
LBTB	**Lobatse**	**24.16**	**203**	P	**P**	**10 46 01.7**	**+2.4**
	4.4nm,1.0s,mb3.9,baz=31,slow=11,SNR=3.7						
LBTB	**Lobatse**	**24.16**	**203**	*e*P	**Pn**	**10 46 02.3**	**+3.1**
	2.4nm,0.8s,mb3.7						
BOSA	**Boshof**	**27.55**	**201**	P	**P**	**10 46 31.5**	**+1.6**
	6.0nm,0.9s,mb4.2,baz=47,slow=7.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**37.48**	**296**	P	**P**	**10 47 56.5**	**-0.3**
	3.0nm,1.1s,mb4.0,baz=107,slow=8.5,SNR=10.0						
TORD				PcP	PcP	10 50 17.0	+2.0
	0.8nm,0.9s,baz=98,slow=4.4,SNR=2.7						
AKASG	**Malin Array Be**	**53.65**	**355**	P	**P**	**10 50 03.5**	**-0.6**
	0.4nm,0.6s,mb3.6,baz=177,slow=6.3,SNR=3.2						
GERES	**GERESS Array B**	**54.98**	**342**	P	**P**	**10 50 14.2**	**+0.4**
	1.6nm,0.9s,mb4.0,baz=152,slow=6.0,SNR=9.6						
ESDC	**Sonseca Array**	**55.92**	**323**	P	**P**	**10 50 21.3**	**+0.6**
	0.9nm,0.7s,mb3.9,baz=130,slow=7.0,SNR=9.4						
AKTK	**Aktyubinsk**	**56.38**	**17**	P	**P**	**10 50 24.3**	**+0.5**
AKTO	**Aktyubinsk**	**56.38**	**17**	P	**P**	**10 50 24.3**	**+0.5**
	1.4nm,0.8s,mb4.0,baz=256,slow=2.6,SNR=3.8						
MK31	**Makanchi Array**	**64.06**	**34**	*e*P	**P**	**10 51 14.3**	**-2.3**
MKAR	**Makanchi Array**	**64.06**	**34**	P	**P**	**10 51 16.4**	**-0.2**
	0.2nm,0.3s,mb3.6,baz=232,slow=5.9,SNR=5.0						
MKAR	**Makanchi Array**	**64.06**	**34**	P	**P**	**10 51 16.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**65.54**	**68**	P	**P**	**10 51 26.3**	**-0.5**
	0.7nm,0.7s,mb3.8,baz=266,slow=8.2,SNR=4.4						

*CSEM **05** 10:52:04.7±0.1,4348N×4603E,h109km±1km,mb4.4, Error ellipse: s-maj=3.0km s-min=1.7km az=25.0*
*ISCJB **05** 10:52:04.4±0.2,4350N±003×4587E±003,h122km±3km, mb3.6/7,Error ellipse: s-maj=4.9km s-min=3.1km az=26.6*
*MOS **05** 10:52:04.2±0.8,4344N×4584E,h128km,mb4.4/1,Error ellipse: s-maj=8.8km s-min=8.0km az=176.2*
*NEIC **05** 10:52:06.5±0.4,4344N×4566E,mb4.5/1,Error ellipse: s-maj=10.7km s-min=7.5km az=146.0*
*IDC **05** 10:52:07.7±1.7,4345N×4569E,h145km±22km,mb3.4/7, mb1 3.4/10,mb1mx3.2/24,mbtmp3.4/10,MS3.8/2, Ms1 3.8/2,ms1mx3.3/29,Error ellipse: s-maj=20.9km s-min=14.1km az=145.0*
*NNC **05** 10:52:13.3±2.5,4370N×4672E,h126km±16km,mb2.9, Error ellipse: s-maj=28.3km s-min=19.9km az=130.0*
ISC 05 10:52:05.5±0.3,4347N±003×4582E±003,h120km±3km, n72,σ1§30/119,mb3.6/7,9C-6D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.83**	**288**	*i* P	**Pn**	**10 52 26.9**	**+0.9**
TRKR				*i* S	**Sn**	**10 52 42.9**	**+1.4**
SNJR	**Sundja**	**0.84**	**242**	*i* P	**Pn**	**10 52 26.0**	**0.0**
SNJR				*i* S	**Sn**	**10 52 42.2**	**+0.7**
BTLR	**Botlikh**	**0.85**	**160**	P	**Pn**	**10 52 24.0**	**-2.2**
BTLR				S	**Sn**	**10 52 37.8**	**-4.0**
DBC	**Dubki**	**0.86**	**121**	⇑*i*P	**Pn**	**10 52 24.3**	**-1.9**
DBC				*i* S	**Sn**	**10 52 38.5**	**-3.4**
DBC				pmax	pmax		
	comp=Z,363nm,0.2s						
DBC	**Dubki**	**0.86**	**121**	*i* P	**Pn**	**10 52 24.3**	**-1.9**
	comp=Z,363nm,0.2s						
DBC				*i* S	**Sn**	**10 52 38.5**	**-3.4**
VLKR	**Vladikavkaz**	**0.94**	**244**	*i* P	**Pn**	**10 52 27.3**	**+0.4**
VLKR				*i* S	**Sn**	**10 52 43.9**	**+0.8**
BTKR	**Batakoyurt**	**0.94**	**265**	*i* P	**Pn**	**10 52 27.9**	**+1.0**
BTKR				*i* S	**Sn**	**10 52 44.8**	**+1.7**
KRNR	**Karanay**	**1.02**	**128**	P	**Pn**	**10 52 26.0**	**-1.7**
KRNR				S	**Sn**	**10 52 43.0**	**-1.5**
UNCR	**Uncukul**	**1.03**	**136**	*i* P	**Pn**	**10 52 26.0**	**-1.9**
UNCR				*i* S	**Sn**	**10 52 42.0**	**-2.8**
UNCR				pmax	pmax		
	comp=Z,168nm,0.2s						
UNCR	**Uncukul**	**1.03**	**136**	*i* P	**Pn**	**10 52 26.0**	**-1.9**
	comp=Z,168nm,0.2s						
UNCR				*i* S	**Sn**	**10 52 42.0**	**-2.8**
KMSR	**Komsomolskaya**	**1.12**	**266**	*i* P	**Pn**	**10 52 29.8**	**+1.1**
KMSR				*i* S	**Sn**	**10 52 48.6**	**+2.3**
XNZR	**Khunzakh**	**1.13**	**145**	⇓*i*P	**Pn**	**10 52 30.0**	**+1.1**
XNZR				*i* S	**Sn**	**10 52 47.8**	**+1.3**
XNZR				pmax	pmax		
	comp=Z,690nm,0.4s						
XNZR	**Khunzakh**	**1.13**	**145**	*i* P	**Pn**	**10 52 30.0**	**+1.1**
	comp=Z,690nm,0.4s						
BUJR	**Buynaksk**	**1.14**	**124**	*e*P	**Pn**	**10 52 30.1**	**+1.2**
BUJR				*i* S	**Sn**	**10 52 48.8**	**+2.1**
BUJR				pmax	pmax		
	comp=Z,406nm,0.3s						
PRTR	**Priterechnaya**	**1.16**	**285**	*i* P	**Pn**	**10 52 30.0**	**+0.9**
PRTR				*i* S	**Sn**	**10 52 48.3**	**+1.3**
ARNR	**Ardon**	**1.16**	**257**	*i* P	**Pn**	**10 52 29.9**	**+0.7**
ARNR				*i* S	**Sn**	**10 52 48.0**	**+0.9**
LACR	**Lac**	**1.29**	**241**	⇑*i*P	**Pn**	**10 52 30.0**	**-0.6**
LACR				*i* S	**Sn**	**10 52 47.9**	**-1.6**
MAK	**Makhachkala**	**1.33**	**112**	*e*P	**Pn**	**10 52 33.0**	**+2.0**
MAK				*i*		10 52 53.5	
MAK				pmax	pmax		
	comp=Z,263nm,0.2s						
MAK				smax			
	comp=N,2μm,0.3s						
MAK				smax			
	comp=E,3μm,0.4s						
LSNR	**Lesken**	**1.48**	**263**	⇓*i*P	**Pn**	**10 52 33.0**	**+0.3**
LSNR				*i* S	**Sn**	**10 52 52.9**	**-0.4**
ZEI	**Tsey**	**1.57**	**244**	⇑*i*P	**Pn**	**10 52 33.3**	**-0.5**
ZEI				*i* S	**Sn**	**10 52 53.1**	**-2.2**
KMKR	**Kumukh**	**1.63**	**144**	*i* P	**Pn**	**10 52 33.2**	**-1.3**
KMKR				*i* S	**Sn**	**10 52 55.0**	**-1.5**
KMKR				pmax	pmax		
	comp=Z,193nm,0.3s						
KMKR	**Kumukh**	**1.63**	**144**	*i* P	**Pn**	**10 52 33.2**	**-1.3**
	comp=Z,193nm,0.3s						
DIGR	**Digorskoe uzhe**	**1.73**	**252**	⇑*i*P	**Pn**	**10 52 35.3**	**-0.4**
DIGR				*i* S	**Sn**	**10 52 56.6**	**-2.1**
KUBR	**Kubataba**	**1.78**	**282**	⇓*i*P	**Pn**	**10 52 36.3**	**0.0**
KUBR				*e*S	**Sn**	**10 52 58.0**	**-1.8**
TBLG	**Delisi**	**1.91**	**205**	P	**Pn**	**10 52 38.3**	**+0.4**
TBLG				S	**Sn**	**10 53 02.4**	**-0.1**
MTA	**Mtatsminda**	**1.93**	**204**	P	**Pn**	**10 52 38.5**	**+0.4**
MTA				S	**Sn**	**10 53 02.5**	**-0.5**
ONI	**Oni**	**1.95**	**244**	P	**Pn**	**10 52 38.9**	**+0.5**
ONI				S	**Sn**	**10 53 03.3**	**-0.1**
DGRG	**David-gareji**	**2.04**	**190**	P	**Pn**	**10 52 40.7**	**+1.2**
DGRG				S	**Sn**	**10 53 07.1**	**+1.6**
PYA	**Pyatigorsk**	**2.08**	**287**	*e*P	**Pn**	**10 52 39.4**	**-0.6**
SHAR	**Shatzhatmas**	**2.31**	**278**	*i* P	**Pn**	**10 52 42.3**	**-0.5**
SHAR				*e*S	**Sn**	**10 53 09.1**	**-2.3**
KIV	**Kislovodsk**	**2.33**	**283**	*i* P	**Pn**	**10 52 42.5**	**-0.6**
KIV				*i* S	**Sn**	**10 53 09.6**	**-2.3**
SEKA	**Sheki**	**2.48**	**155**	P	**Pn**	**10 52 45.5**	**+0.5**
	SNR=148						
SEKA				S	**Sn**	**10 53 14.6**	**-0.7**
AKH	**Akhalkalaki**	**2.68**	**221**	P	**Pn**	**10 52 48.5**	**+0.8**
AKH				S	**Sn**	**10 53 18.1**	**-1.9**
GANJ	**Ganja**	**2.84**	**172**	P	**Pn**	**10 52 49.7**	**-0.1**
	SNR=5.2						
GANJ				S	**Sn**	**10 53 22.0**	**-1.8**
SIZA	**Siyzn**	**3.30**	**135**	P	**Pn**	**10 52 57.1**	**+1.3**
	SNR=11						
SIZA				S	**Sn**	**10 53 34.6**	**0.0**
BRDA	**Brd**	**3.36**	**162**	P	**Pn**	**10 52 58.3**	**+1.8**
	SNR=9.1						
BRDA				S	**Sn**	**10 53 37.6**	**+1.7**
PQL	**Pirkuli**	**3.38**	**141**	P	**Pn**	**10 52 58.0**	**+1.2**
	SNR=11						
GNI	**Garni**	**3.41**	**194**	P	**Pn**	**10 52 58.1**	**+0.9**
	comp=Z,5.3nm,0.3s,baz=353,slow=3.8,SNR=11						
GNI				S	**Sn**	**10 53 41.5**	**+4.3**
	comp=Z,3.7nm,0.3s,baz=100,slow=0.7,SNR=5.6						
GNI				LR	LR	10 54 15.8	
	comp=Z,398nm,20.1s,baz=313,slow=38						
GNI	**Garni**	**3.41**	**194**	P	**Pn**	**10 52 58.1**	**+0.9**
GNI				S	**Sn**	**10 53 41.5**	**+4.3**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GNI				smax			
	comp=N,4.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,398nm,20.1s						
GNI	**Garni**	**3.41**	**194**	P	**Pn**	**10 52 58.1**	**+0.9**
	comp=Z,5.0nm,0.3s						
GNI				S	**Sn**	**10 53 41.5**	**+4.3**
GNI	**Garni**	**3.41**	**194**	*e*P	**Pn**	**10 52 58.4**	**+1.2**
GNI				S	**Sn**	**10 53 41.5**	**+4.3**
GNI				LR	LR	10 54 15.8	
ALIB	**Ili-Bayraml**	**4.24**	**145**	P	**Pn**	**10 53 10.6**	**+2.4**
	SNR=5.0						
ALIB				S	**Sn**	**10 53 59.5**	**+2.7**
SOC	**Sochi**	**4.44**	**274**	*d*iP	**Pn**	**10 53 11.7**	**+0.8**
SOC				pmax	pmax		
	comp=Z,23nm,0.5s						
GLBA	**Clilabad**	**4.64**	**155**	P	**Pn**	**10 53 14.0**	**+0.4**
	SNR=5.1						
GLBA				S	**Sn**	**10 54 04.5**	**-2.1**
ANN	**Anapa**	**6.18**	**285**	*e*P	**Pn**	**10 53 36.6**	**+2.2**
ANN				*e*S	**Sn**	**10 54 47.2**	**+3.5**
ANN				pmax	pmax		
	comp=Z,32nm,1.2s						
AKTK	**Aktyubinsk**	**10.86**	**46**	P	**Pn**	**10 54 35.9**	**-1.4**
AKTK				S	**Sn**	**10 56 31.6**	**-5.1**
AKTK	**Aktyubinsk**	**10.86**	**46**	P	**Pn**	**10 54 35.9**	**-1.4**
AKTK				S	**Sn**	**10 56 31.6**	**-5.1**
AKTO	**Aktyubinsk**	**10.86**	**46**	⇑Pn	**Pn**	**10 54 35.6**	**-1.7**
	comp=Z,0.2nm,0.4s						
AKTO				⇓Sn	**Sn**	**10 56 29.6**	**-7.1**
	comp=Z,1.0nm,0.7s						
AKTO	**Aktyubinsk**	**10.86**	**46**	P	**Pn**	**10 54 35.9**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=238,slow=8.7,SNR=12						
AKTO				S	**Sn**	**10 56 31.6**	**-5.1**
	comp=Z,0.8nm,0.3s,baz=310,slow=23,SNR=6.9						
AKTO	**Aktyubinsk**	**10.86**	**46**	Sn	**Sn**	**10 56 29.6**	**-7.1**
AB31	**Akbulak array**	**11.34**	**54**	⇓Pn	**Pn**	**10 54 43.0**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=243,slow=11,SNR=56						
AB31				⇑Sn	**Sn**	**10 56 42.0**	**-6.5**
	comp=Z,10nm,0.7s,baz=248,slow=20,SNR=10						
OBN	**Obninsk**	**13.11**	**336**	*e*P	**Pn**	**10 55 15.2**	**+8.3**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKASG	**Malin Array Be**	**13.41**	**308**	P	**Pn**	**10 55 09.5**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=116,slow=11,SNR=8.3						
AKASG	**Malin Array Be**	**13.41**	**308**	*i* P	**Pn**	**10 55 19.8**	**+9.0**
ARU	**Arti**	**15.31**	**28**	P	**Pn**	**10 55 33.0**	**-1.9**
ARU				*e*S	**S**	**10 58 17.5**	**-15**
KK31	**Karatay Array**	**17.97**	**83**	P	**Pn**	**10 56 07.0**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=283,slow=13,SNR=37						
KK31				⇑S	**S**	**10 59 18.5**	**-7.6**
	comp=Z,1.2nm,0.5s,baz=287,slow=25,SNR=7.2						
BRVK	**Borovoye**	**18.82**	**51**	*e*P	**P**	**10 56 16.4**	**+0.9**
BRVK	**Borovoye**	**18.82**	**51**	*e*P	**P**	**10 56 16.4**	**+0.8**
BVA0	**Borovoye Array**	**18.86**	**51**	⇑P	**P**	**10 56 16.5**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=224,slow=34,SNR=9.2						
BVA0				S	**S**	**10 59 39.1**	**-4.8**
	comp=Z,0.4nm,0.8s,baz=240,slow=24,SNR=8.4						
BVAR	**Borovoye Array**	**18.86**	**51**	P	**P**	**10 56 17.4**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=242,slow=9.5,SNR=9.7						
BVAR				S	**S**	**10 59 39.5**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=235,slow=23,SNR=6.8						
HFS	**Hagfors**	**25.57**	**322**	P	**P**	**10

684nm,0.1s,SNR=1413
DAVA ⇓iSg Sg 11 15 51.1 +0.5
2µm,0.2s
DAVOX Davos/Dischmat 0.37 149 ⇓iPg Pg 11 15 48.5 -0.2
1µm,0.3s
DAVOX Sg Sg 11 15 54.1 +0.5
OBER Oberstdorf 0.56 56 ⇓iPg Pg 11 15 50.6 -1.9
OBER ⇓iSg Sg 11 15 59.8 -0.1
WILA Wila 0.57 304 i Sg Pg 11 15 53.8 +1.2
2µm,0.2s
WILA Wila 0.57 304 ⇓iPg Sg 11 16 02.8 +2.6
2µm,0.2s
WILA Wila 0.57 304 ⇓iP Pg 11 15 53.7 +1.1
VDL Val di Lei 0.62 190 i Sg Pg 11 15 53.7 +0.2
468nm,0.3s
FUORN Ofenpass-Fuorn 0.66 136 Pg Pg 11 15 53.8 -0.4
FUORN Sg Sg 11 16 03.8 +1.1
FUORN Ofenpass-Fuorn 0.66 136 ⇓iPg Pg 11 15 54.7 +0.5
303nm,0.5s
FUORN Sg Sg 11 16 03.8 +1.1
FUORN Ofenpass-Fuorn 0.66 136 ⇓iP Pg 11 15 53.8 -0.4
MUO Muotathal 0.67 260 ⇓iPg Pg 11 15 55.3 +0.8
1µm,0.3s
MUO Muotathal 0.67 260 ⇓iP Pg 11 15 54.7 +0.2
BERNI Berninapass 0.74 157 ⇓iPg Pg 11 15 56.8 +1.1
290nm,0.4s
BERNI Berninapass 0.74 157 ePg Pg 11 15 55.3 -0.4
ZUR Degenried 0.75 292 ePg Pg 11 15 57.2 +1.2
2µm,0.1s
ZUR Degenried 0.75 292 eP Pg 11 15 56.8 +0.8
STEIN Stein am Rhein 0.76 319 ePg Pg 11 15 58.6 +2.4
187nm,0.4s
STEIN Stein am Rhein 0.76 319 eP Pg 11 15 57.3 +1.1
FETA Feichten 0.77 95 ⇓ePg Pg 11 15 55.7 -0.7
comp=Z,14nm,0.3s,SNR=9.2
FETA Feichten 0.77 95 ⇓iPg Pg 11 15 55.7 -0.7
14nm,0.3s,SNR=9.2
FETA ⇓iSg Sg 11 16 06.7 +0.2
44nm,0.4s
BRMO Bormio 0.81 139 Pg Pg 11 15 56.5 -0.6
BRMO Sg Sg 11 16 08.2 +0.5
65nm,0.9s
TRULL Truellikon 0.84 312 ⇓iPg Pg 11 16 00.6 +3.0
373nm,0.3s
TRULL Truellikon 0.84 312 ⇓iP Pg 11 15 58.6 +1.0
FLACH Flaach 0.85 305 ⇑iPg Pg 11 15 58.6 +0.7
742nm,0.2s
FLACH Flaach 0.85 305 ⇑iP Pg 11 15 58.9 +1.0
RETA Reutte 0.88 63 ⇑ePg Pg 11 15 58.3 -0.1
comp=Z,8.0nm,0.2s,SNR=56
RETA Reutte 0.88 63 ⇓iSg Sg 11 16 10.9 +1.0
comp=E,95nm,0.3s
RETA Reutte 0.88 63 ⇓ePg Sg 11 15 58.5 +0.1
8.0nm,0.2s,SNR=56
RETA ⇓iSg Sg 11 16 12.1 +2.1
20nm,0.1s
FUSIO Fusio 0.91 226 ⇑iPg Pg 11 15 58.9 -0.1
540nm,0.2s
FUSIO Fusio 0.91 226 ⇑iP Pg 11 15 58.6 -0.4
SLE Schleitheim 1.01 312 ⇓iPg Pg 11 16 00.9 0.0
879nm,0.2s
SLE Schleitheim 1.01 312 ⇓iP Pg 11 16 01.5 +0.6
SLE Schleitheim 1.01 312 ⇓iP Pg 11 16 01.5 +0.6
HASLI Hasliberg/Brie 1.05 252 ⇓iPg Pg 11 16 01.3 -0.4
2µm,0.3s
HASLI Hasliberg/Brie 1.05 252 ⇓iP Pb 11 16 01.4 -0.2
MOTA Moosalm 1.05 76 ⇑ePg Pg 11 16 01.4 -0.3
32nm,0.1s,SNR=108
MOTA ⇑iSg Sg 11 16 16.1 +0.7
35nm,0.1s
SQTA Sankt Quirin 1.10 83 ⇓ePg Pg 11 16 02.0 -0.6
SNR=102
SQTA Sankt Quirin 1.10 83 Pg Pg 11 16 02.0 -0.7
101nm,5.0s
SULZ Cheisacher 1.10 294 ⇓iPg Pg 11 16 01.4 -1.3
1µm,0.2s
SPAK Spaichingen-Ko 1.15 332 Pg Pg 11 16 04.4 +0.8
SPAK Sg Sg 11 16 21.0 +2.4
MABI Malga Bissina 1.21 149 Pg Pg 11 16 04.2 -0.6
31nm,0.7s
MUGIO Muggio 1.23 199 Pg Pg 11 16 05.1 -0.1
APPI Appiano 1.27 118 Pg Pg 11 16 06.1 +0.2
183nm,0.5s
MDI Monti di Nese 1.32 177 Pg Pg 11 16 06.2 -0.6
178nm,0.4s
BALST Balsthal 1.32 281 ⇓iP Pn 11 16 04.4 -1.4
727nm,0.5s
BALST Balsthal 1.32 281 ⇓iP Pn 11 16 07.2 +1.4
FELD Feldberg im Sc 1.34 306 Pn Pn 11 16 06.9 +0.9
FELD Pg Pg 11 16 08.2 +1.0
FELD Sg Sg 11 16 26.5 +1.9
VAI Varese 1.36 206 Pg Pg 11 16 07.2 -0.3
55nm,0.3s
WATA Walderalm 1.36 79 ⇑ePg Pg 11 16 07.4 -0.3
12nm,0.1s,SNR=33
WATA ⇑iSg Sg 11 16 26.6 +1.2
34nm,0.2s
WTTA Wattenberg 1.40 82 ePn Pn 11 16 07.8 +0.9
SNR=24
WTTA ePg Pg 11 16 09.3 +1.0
SNR=24
WTTA eSg Sg 11 16 30.7 +4.3
WTTA Wattenberg 1.40 82 ⇓ePg Pg 11 16 07.8 -0.5
8.8nm,0.1s,SNR=26
WTTA ⇑iSg Sg 11 16 27.3 +0.9
28nm,0.2s
WTTA Wattenberg 1.40 82 Pg Pg 11 16 07.8 -0.5
8.8nm,0.1s,SNR=26
WTTA i Sg Sg 11 16 27.2 +0.8
WIMIS Wimmis 1.43 253 ⇓iP Pn 11 16 01.5 -5.7
250nm,0.6s
WIMIS Wimmis 1.43 253 ⇓ePg Pn 11 16 08.7 +1.5
SCE Schlegeis 1.44 91 ⇑iPg Pg 11 16 08.2 -0.9
BBS Basel-Blauen 1.47 285 Pg Pg 11 16 09.2 -0.6
BBS Sg Sg 11 16 30.0 +1.1
MAGA Magasa 1.50 151 Pg Pg 11 16 09.8 -0.4
184nm,0.4s
BFO Black Forest 1.51 326 ePn Pn 11 16 09.3 +1.0
SNR=33
BFO ePg Pg 11 16 10.9 +0.5
SNR=33
BFO eSg Sg 11 16 31.4 +1.4
BFO Black Forest 1.51 326 ePn Pn 11 16 09.2 +0.8
BFO eSg Sg 11 16 31.7 +1.7
LKBD Leukerbad 1.53 243 ⇓iP Pn 11 16 03.3 -5.4
120nm,0.2s
LKBD Leukerbad 1.53 243 ⇓iP Pn 11 16 10.3 +1.6
MMK Mattmark 1.54 228 Pg Pg 11 16 10.1 -0.9
FUR Furstenfeldbru 1.56 46 ePn Pn 11 16 11.3 +2.2
SNR=8.8
FUR eSg Sg 11 16 33.1 +1.5
FUR Furstenfeldbru 1.56 46 ePn Pn 11 16 11.2 +2.1
FUR Sg Sg 11 16 33.1 +1.5
FUR Furstenfeldbru 1.56 46 ePn Pn 11 16 11.2 +2.1
FUR eSg Sg 11 16 33.1 +1.5
STU Stuttgart 1.70 351 ePn Pn 11 16 11.5 +0.5
SNR=3.1
STU eSg Sg 11 16 37.6 +1.4
STU Stuttgart 1.70 351 ePn Pn 11 16 11.4 +0.4
STU eSg Sg 11 16 37.4 +1.2
LIBD Limburg 1.72 309 Pg Pg 11 16 14.7 +0.3
SENIN Lac Senin/Sane 1.75 246 ⇓iP Pn 11 16 07.2 -4.4
161nm,0.6s
SENIN Lac Senin/Sane 1.75 246 ⇓iP Pn 11 16 14.2 +2.6
CTI Castel Tesino 1.76 126 Pg Pg 11 16 14.5 -0.6
14nm,0.3s
NORI Noerdlinger Ri 1.77 22 ⇓iPn Pn 11 16 12.3 +0.4
NORI ⇓iSn Sn 11 16 36.1 +1.7
DIX Grande Dixence 1.82 237 Pg Pg 11 16 15.5 -0.9
SEST Monte Rota 1.82 100 Pg Pg 11 16 17.1 +0.7
126nm,0.7s
AFL Alpe Faloria 1.86 107 ⇓iPg Pg 11 16 21.8 +4.7
AFL i Sg Sg 11 16 47.7 +6.6
AIGLE Aigle 1.97 249 ⇓iP Pn 11 16 08.7 -6.1
259nm,0.6s
ECH Echery 2.00 305 Pn Pn 11 16 16.1 +1.0
ECH eS Sn 11 16 45.8 +5.7
ECH Echery 2.00 305 eP Pn 11 16 16.1 +0.9
ECH eS Sn 11 16 45.8 +5.7
HINF Hinteralfeld 2.00 292 ePg Pg 11 16 20.6 +0.7
HINF eSg Sg 11 16 45.6 -0.2
27nm,0.2s
HINF Hinteralfeld 2.00 292 ePg Pg 11 16 20.6 +0.7
HINF eSg Sg 11 16 45.6 -0.2
14nm,0.2s
HINF Hinteralfeld 2.00 292 ePn Pn 11 16 16.1 +0.9
HINF ePg Pg 11 16 20.6 +0.7
HINF eSg Sg 11 16 45.6 -0.2
ABTA Abfaltersbach 2.02 99 ⇑ePg Pg 11 16 19.5 -0.7
5.4nm,0.2s,SNR=13
ABTA ⇑iSg Sg 11 16 47.5 +1.1
18nm,0.3s
TRAV Traversella 2.04 220 P Pn 11 16 17.5 +1.8
TRAV Traversella 2.04 220 Pg Pg 11 16 18.2 -2.4
40nm,0.4s
TRAV S Sn 11 16 42.4 +1.3
TRAV Traversella 2.04 220 P Pn 11 16 17.4 +1.8
CDF Champ du Feu 2.05 311 eP Pn 11 16 17.0 +1.2
CDF Champ du Feu 2.05 311 ePg Pg 11 16 20.5 -0.3
CDF eSn Sn 11 16 39.6 -1.8
SNR=1.0
CDF eSg Sg 11 16 46.4 -1.0
34nm,0.3s,SNR=1.0
CDF Champ du Feu 2.05 311 eP Pn 11 16 17.0 +1.2
CDF Champ du Feu 2.05 311 ePg Pg 11 16 20.5 -0.3
CDF eSn Sn 11 16 39.6 -1.8
SNR=1.0
CDF eSg Sg 11 16 46.4 -1.0
17nm,0.3s,SNR=1.0
CDF Champ du Feu 2.05 311 ePn Pn 11 16 15.3 -0.5
CDF eP 11 16 17.0
CDF ePg Pg 11 16 20.5 -0.3
CDF eSn Sn 11 16 39.6 -1.8
CDF eSg Sg 11 16 46.4 -1.0
EMV Vieux Emosson 2.13 242 Pg Pg 11 16 21.9 -0.4
MRGE Morge 2.20 234 Pg Pg 11 16 22.4 -1.3
40nm,0.6s
FVI Forni Avoltri 2.24 102 Pg Pg 11 16 22.9 -1.4
26nm,0.4s
LANF Langenberg 2.24 328 Pn Pn 11 16 19.7 +1.2
LSD Lago del Serru 2.36 227 Pg Pg 11 16 24.7 -2.0
20nm,0.6s
LSD S Sn 11 16 53.5 +4.5
LSD Lago del Serru 2.36 227 P Pn 11 16 24.7 +4.6
HAU Haudompre 2.39 294 ePg Pg 11 16 27.3 +0.1
SNR=1.0
HAU eSn Sn 11 16 47.3 -2.4
SNR=1.0
HAU eSg Sg 11 16 57.7 -0.4
55nm,0.4s,SNR=1.0
HAU Haudompre 2.39 294 ePg Pg 11 16 27.3 +0.1
SNR=1.0
HAU eSn Sn 11 16 47.3 -2.4
SNR=1.0
HAU eSg Sg 11 16 57.7 -0.4
28nm,0.4s,SNR=1.0
HAU Haudompre 2.39 294 ePn Pn 11 16 21.5 +1.0
HAU ePg Pg 11 16 27.3 +0.1
HAU eSn Sn 11 16 47.3 -2.4
HAU eSg Sg 11 16 57.7 -0.4
CABF La Chapelle 2.46 260 ePg Pg 11 16 28.0 -0.6
SNR=1.0
CABF eSn Sn 11 16 48.9 -2.6
SNR=1.0
CABF eSg Sg 11 17 00.7 +0.2
23nm,0.3s,SNR=1.0
CABF La Chapelle 2.46 260 ePg Pg 11 16 28.0 -0.6
SNR=1.0
CABF eSn Sn 11 16 48.9 -2.6
SNR=1.0
CABF eSg Sg 11 17 00.7 +0.2
12nm,0.3s,SNR=1.0
CABF La Chapelle 2.46 260 ePn Pn 11 16 22.5 +1.0
CABF ePg Pg 11 16 28.0 -0.6
CABF eSn Sn 11 16 48.9 -2.6
CABF eSg Sg 11 17 00.7 +0.2
RSP Reno Superiore 2.54 221 P Pn 11 16 24.4 +1.9
RSP S Sn 11 16 53.4 0.0
RSP Reno Superiore 2.54 221 P Pn 11 16 24.4 +1.9
LPL La Plagne 2.54 233 ePg Pg 11 16 30.5 +0.4
SNR=1.0
LPL eSg Sg 11 17 04.0 +0.9
19nm,0.5s
LPL La Plagne 2.54 233 ePg Pg 11 16 30.5 +0.4
SNR=1.0
LPL eSg Sg 11 17 04.0 +0.9
9.3nm,0.5s
LPL La Plagne 2.54 233 ePn Pn 11 16 22.8 +0.2
LPL ePg Pg 11 16 30.5 +0.4
LPL eSg Sg 11 17 04.0 +0.9
LPG La Plagne 2.54 232 ePg Pg 11 16 30.6 +0.4
LPG eSg Sg 11 17 04.6 +1.5
15nm,0.4s
LPG La Plagne 2.54 232 ePg Pg 11 16 30.6 +0.4
LPG eSg Sg 11 17 04.6 +1.5
7.4nm,0.4s
LPG La Plagne 2.54 232 ePn Pn 11 16 23.4 +0.8
LPG ePg Pg 11 16 30.6 +0.4
LPG eSg Sg 11 17 04.6 +1.5
KBA Koelnbreinsper 2.56 89 eSg Sg 11 17 02.3 -1.3
PTCC Patocco-Chiusa 2.67 104 Pg Pg 11 16 28.3 -4.3
15nm,0.6s
THEF They Montfort 2.70 296 Pn Pn 11 16 26.5 +1.8
THEF Pg Pg 11 16 34.6 +1.5
GRA1 Grafenberg Arr 2.81 22 Pn Pn 11 16 25.7 -0.6
GRA1 Grafenberg Arr 2.81 22 Pg Pg 11 16 36.0 +0.6
SNR=2.3
GRA1 Sg Sg 11 17 12.3 +0.5
GRA1 Grafenberg Arr 2.81 22 ePn Pn 11 16 25.7 -0.6
GRA1 eSg Sg 11 17 12.6 +0.8
GRF Grafenberg Arr 2.81 22 ePn Pn 11 16 25.7 -0.6
GRF ePg Pg 11 16 36.0 +0.6
SNR=2.3
GRF eSg Sg 11 17 12.3 +0.5
GRF Grafenberg Arr 2.81 22 ePn Pn 11 16 25.7 -0.6
GRF eSg Sg 11 17 12.6 +0.8
BNI Bardonecchia 2.88 226 eP Pn 11 16 32.6 +5.3
BNI Bardonecchia 2.88 226 eP Pn 11 16 32.6 +5.4
WET Wettzell 3.00 46 ePn Pn 11 16 29.4 +0.5
SNR=10
WET eSn Sn 11 17 04.6 -0.2
WET eSg Sg 11 17 15.7 -2.2
FIN Finale Ligure 3.05 199 Pg Pg 11 16 33.9 -5.9
ROB Robourent 3.05 204 P Pn 11 16 33.0 +3.4
ROB Robourent 3.05 204 P Pn 11 16 33.0 +3.4
MBDF Montbardon 3.08 221 ePg Pg 11 16 40.8 +0.2
MBDF eSg Sg 11 17 21.7 +1.2
16nm,0.5s
MBDF Montbardon 3.08 221 ePg Pg 11 16 40.8 +0.2
MBDF eSg Sg 11 17 21.7 +1.2
8.1nm,0.5s
MBDF Montbardon 3.08 221 ePn Pn 11 16 32.3 +2.3
MBDF ePg Pg 11 16 40.8 +0.2
MBDF eSg Sg 11 17 21.7 +1.2
VOY Vojsko 3.14 108 ePn Pn 11 16 35.3 +4.4
VOY eSn Sn 11 17 12.4 +4.1
TNS Taunus Mts 3.22 347 ePn Pn 11 16 33.6 +1.7
TNS Taunus Mts 3.22 347 ePn Pn 11 16 33.6 +1.6
ENR Entracque 3.25 209 P Pn 11 16 33.3 +1.0
ENR Entracque 3.25 209 P Pn 11 16 33.3 +1.0
MOA Molln 3.25 75 ePn Pn 11 16 34.8 +2.5
SNR=19
MOA ePg Pg 11 16 39.0 -4.7
SNR=5.0
GEC2 GERESS Array S 3.26 56 ePn Pn 11 16 33.4 +1.0
SNR=6.8
GEC2 ePg Pg 11 16 43.9 -0.1
SNR=2.6
GEC2 eSn Sn 11 17 11.6 +0.3
GEC2 eSg Sg 11 17 25.2 -1.0
GEC2 GERESS Array S 3.26 56 eP Pn 11 16 33.5 +1.0
KHC Kasperske Hory 3.35 51 ePn Pn 11 16 34.4 +0.7
KHC ePG Pg 11 16 44.4 -1.3
KHC ex x 11 16 49.5
KHC eSN Sn 11 17 13.5 0.0
KHC eSG Sg 11 17 27.8 -1.3
comp=Z,26nm,1.0s
MEZF Maizieres J'vi 3.38 296 eP Pn 11 16 36.2 +2.1
baz=111
MEZF eSn Sn 11 17 11.6 -2.5
MEZF eSg Sg 11 17 29.6 -0.3
comp=Z,18nm,0.5s
MEZF Maizieres J'vi 3.38 296 eP Pn 11 16 36.2 +2.1
MEZF eSn Sn 11 17 11.6 -2.5
MEZF eSg Sg 11 17 29.6 -0.3
comp=Z,8.9nm,0.5s
ORIF Oris-en-Rattie 3.39 231 ePg Pg 11 16 45.4 -0.9
SNR=1.0
ORIF eSg Sg 11 17 29.6 -0.6
comp=Z,13nm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 3.39 231 ePg Pg 11 16 45.4 -0.9
SNR=1.0
ORIF eSg Sg 11 17 29.6 -0.6
comp=Z,6.6nm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 3.39 231 ePn Pn 11 16 35.6 +1.4
ORIF ePg Pg 11 16 45.4 -0.9
ORIF eSg Sg 11 17 29.6 -0.6
WLF Walferdange 3.45 319 ePn Pn 11 16 37.8 +2.8
SNR=2.2
SBF Sospel 3.57 206 eP Pn 11 16 40.1 +3.3
SNR=1.0
SBF eSn Sn 11 17 18.7 -0.2
comp=Z,18nm,0.4s
SBF Sospel 3.57 206 eP Pn 11 16 40.1 +3.3
SNR=1.0
SBF eSn Sn 11 17 18.7 -0.2
comp=Z,8.8nm,0.4s
NKC Novy Kostel 3.66 30 ePN Pn 11 16 40.1 +2.1
NKC ePG Pg 11 16 52.2 +0.6
NKC eSN Sn 11 17 19.4 -1.7
NKC eSG Sg 11 17 38.0 -1.0
comp=Z,20nm,0.4s
GUNZ Gunzen 3.74 28 eSn Sn 11 17 21.4 -1.5
GUNZ eSg Sg 11 17 40.3 -1.1
MOX Moxa 3.79 20 ePn Pn 11 16 38.6 -1.2
SNR=3.1
MOX ePg Pg 11 16 55.9 +1.8
MOX eSn Sn 11 17 23.6 -0.7
MOX i Sg Sg 11 17 43.8 +0.6
MOX Moxa 3.79 20 ePN Pn 11 16 38.6 -1.2
MOX ePG Pg 11 16 55.9 +1.8
MOX i SN Sn 11 17 23.7 -0.6
MOX i SG Sg 11 17 43.8 +0.6
WERD Werda 3.80 27 ePn Pn 11 16 39.1 -0.8
SNR=2.5
WERD ePg Pg 11 16 54.5 +0.2
SNR=2.5
WERD eSg Sg 11 17 41.6 -1.9
LOR Lormes 3.92 275 ePg Pg 11 16 55.7 -0.9
baz=90
LOR eSn Sn 11 17 25.0 -2.5
SNR=1.0
LOR eSg Sg 11 17 45.5 -1.9
comp=Z,8.4nm,0.2s,SNR=1.0
LOR Lormes 3.92 275 ePg Pg 11 16 55.7 -0.9
LOR eSn Sn 11 17 25.0 -2.5
SNR=1.0
LOR eSg Sg 11 17 45.5 -1.9
comp=Z,4.2nm,0.2s,SNR=1.0
LOR Lormes 3.92 275 ePn Pn 11 16 41.5 -0.1
LOR eP 11 16 44.7
LOR ePg Pg 11 16 55.7 -0.9
LOR eSn Sn 11 17 25.0 -2.5
LOR eSg Sg 11 17 45.5 -1.9
SMF Signal de Mont 3.98 266 ePg Pg 11 16 56.4 -1.3
SNR=1.0
SMF eSn Sn 11 17 25.1 -3.8
SNR=1.0
SMF eSg Sg 11 17 48.1 -1.1
comp=Z,11nm,0.4s,SNR=1.0
SMF Signal de Mont 3.98 266 ePg Pg 11 16 56.4 -1.3
SNR=1.0
SMF eSn Sn 11 17 25.1 -3.8
SNR=1.0
SMF eSg Sg 11 17 48.1 -1.1
comp=Z,5.7nm,0.4s,SNR=1.0
SMF Signal de Mont 3.98 266 ePn Pn 11 16 43.2 +0.9
SMF ePg Pg 11 16 56.4 -1.3
SMF eSn Sn 11 17 25.1 -3.8
SMF eSg Sg 11 17 48.1 -1.1
FRF La Foret Royal 4.10 212 eP Pn 11 16 47.3 +3.3
SNR=1.0
FRF eSn Sn 11 17 31.2 -0.8
comp=Z,6.5nm,0.4s
FRF La Foret Royal 4.10 212 eP Pn 11 16 47.3 +3.3
SNR=1.0
FRF eSn Sn 11 17 31.2 -0.8
comp=Z,3.2nm,0.4s
VIVF Saint-Julien-I 4.10 239 ePg Pg 11 16 59.0 -1.0
SNR=1.0
VIVF eSn Sn 11 17 29.6 -2.4
SNR=1.0
VIVF eSg Sg 11 17 52.7 -0.4
comp=Z,5.4nm,0.3s,SNR=1.0
VIVF Saint-Julien-I 4.10 239 ePg Pg 11 16 59.0 -1.0
SNR=1.0
VIVF eSn Sn 11 17 29.6 -2.4
SNR=1.0
VIVF eSg Sg 11 17 52.7 -0.4
comp=Z,2.7nm,0.3s,SNR=1.0
VIVF Saint-Julien-I 4.10 239 ePn Pn 11 16 45.0 +1.0
VIVF ePg Pg 11 16 59.0 -1.0
VIVF eSn Sn 11 17 29.6 -2.4
VIVF eSg Sg 11 17 52.7 -0.4
SSF Saint Saulge 4.17 272 ePg Pg 11 17 00.4 -0.9
SSF eSn Sn 11 17 30.5 -3.1
SNR=1.0
SSF eSg Sg 11 17 53.7 -1.5
comp=Z,5.4nm,0.4s,SNR=1.0
SSF Saint Saulge 4.17 272 ePg Pg 11 17 00.4 -0.9
SSF eSn Sn 11 17 30.5 -3.1
SNR=1.0
SSF eSg Sg 11 17 53.7 -1.5
comp=Z,2.7nm,0.4s,SNR=1.0
SSF Saint Saulge 4.17 272 ePn Pn 11 16 45.5 +0.6
SSF ePg Pg 11 17 00.4 -0.9
SSF eSn Sn 11 17 30.5 -3.1
SSF eSg Sg 11 17 53.7 -1.5
AVF Avril sur Loir 4.29 268 ePn Pn 11 16 47.4 +0.7
SNR=1.0
AVF eSg Sg 11 17 57.2 -2.1
comp=Z,2.8nm,0.2s,SNR=1.0
AVF Avril sur Loir 4.29 268 ePn Pn 11 16 47.4 +0.7
SNR=1.0
AVF eSg Sg 11 17 57.2 -2.1
comp=Z,1.4nm,0.2s,SNR=1.0
GIVF Givet 4.37 315 eP Pn 11 16 50.1 +2.4
GIVF ePg Pg 11 17 02.6 -2.6
PRU Pruhonice 4.38 47 ePN Pn 11 16 48.5 +0.7
PRU ePG Pg 11 17 03.8 -1.4
PRU eSN Sn 11 17 36.1 -2.6
PRU eSG Sg 11 17 59.1 -2.8
comp=Z,17nm,0.9s
BAIF Baives 4.65 312 eP Pn 11 16 54.1 +2.5
BAIF ePg Pg 11 17 08.1 -2.4
BGF Bois d'Agland 4.67 266 ePg Pg 11 17 09.4 -1.5
BGF eSn Sn 11 17 43.7 -2.3
SNR=1.0
BGF eSg Sg 11 18 10.3 -1.0
comp=Z,9.0nm,0.3s,SNR=1.0
BGF Bois d'Agland 4.67 266 ePg Pg 11 17 09.4 -1.5
BGF eSn Sn 11 17 43.7 -2.3
SNR=1.0
BGF eSg Sg 11 18 10.3 -1.0
comp=Z,4.5nm,0.3s,SNR=1.0
BGF Bois d'Agland 4.67 266 ePn Pn 11 16 51.9 +0.1
BGF ePg Pg 11 17 09.4 -1.5
BGF eSn Sn 11 17 43.7 -2.3
BGF eSg Sg 11 18 10.3 -1.0
BRG Berggiesshubel 4.74 35 PN Pn 11 17 00.8 +8.0
BRG i 11 17 10.6
BRG Berggiesshubel 4.74 35 PG Pg 11 17 18.1 +5.9
BRG SN Sn 11 17 47.6 0.0
BRG SG Sg 11 18 10.0 -3.5
comp=Z,8.9nm,0.4s
BRG Berggiesshubel 4.74 35 Pn Pn 11 17 00.8 +8.0
BRG i 11 17 10.6
BRG Pg Pg 11 17 18.1 +5.9
BRG Sn Sn 11 17 47.6 0.0
BRG Sg Sg 11 18 10.0 -3.5
CLL Collm 4.77 27 ePn Pn 11 16 52.0 -1.2
CLL ePg Pg 11 17 16.0 +3.2
CLL i Sn Sn 11 17 47.2 -1.2
CLL eSg Sg 11 18 14.0 -0.5
CLL Collm 4.77 27 ePn Pn 11 16 52.0 -1.2
CLL ePg Pg 11 17 16.0 +3.2
CLL i Sn Sn 11 17 47.2 -1.2
CLL eSg Sg 11 18 14.0 -0.5
comp=Z,9.0nm,0.6s
LASF Ste Croix 5.04 235 ePn Pn 11 16 56.9 0.0
SNR=1.0
LASF eSn Sn 11 17 52.8 -2.2
comp=Z,2.0nm,0.3s,SNR=1.0
LASF Ste Croix 5.04 235 ePn Pn 11 16 56.9 0.0

SNR=1.0
LASF eSn **Sn** **11 17 52.8 -2.2**
comp=Z,1.0nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 5.15 264 ePn **Pn** **11 16 58.5 +0.1**
TCF eSn **Sn** **11 17 56.2 -1.6**
comp=Z,2.2nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 5.15 264 ePn **Pn** **11 16 58.5 +0.1**
TCF eSn **Sn** **11 17 56.2 -1.6**
comp=Z,1.1nm,0.3s,SNR=1.0
VRAC Vranov 5.17 62 ePn **Pn** **11 17 00.1 +1.4**
VRAC eSn **Sn** **11 17 56.4 -1.9**
DPC Dobruska-Polom 5.51 51 Pn **Pn** **11 17 04.4 +1.0**
DPC Sn **Sn** **11 18 06.4 -0.2**
DPC Dobruska-Polom 5.51 51 ePN **Pn** **11 17 04.4 +1.0**
DPC ePG **Pg** **11 17 23.6 -3.3**
DPC eSN **Sn** **11 18 06.4 -0.2**
DPC eSG **Sg** **11 18 35.7 -2.6**
comp=Z,7.4nm,0.5s
DPC Dobruska-Polom 5.51 51 ePn **Pn** **11 17 04.4 +1.0**
comp=Z,7.4nm,0.5s
DPC ePg **Pg** **11 17 23.6 -3.3**
DPC eSn **Sn** **11 18 06.4 -0.2**
DPC eSg **Sg** **11 18 35.7 -2.6**
MORC Moravsky Berou 5.92 60 ePn **Pn** **11 17 09.9 +0.9**
MORC eSn **Sn** **11 18 15.2 -1.6**
MORC Moravsky Berou 5.92 60 eP **Pn** **11 17 09.7 +0.6**
comp=Z,2.7nm,0.6s
MFF Saint Martin d 6.71 269 ePn **Pn** **11 17 19.5 -0.3**
SNR=1.0
MFF eSn **Sn** **11 18 30.4 -5.7**
comp=Z,1.6nm,0.3s,SNR=1.0
MFF Saint Martin d 6.71 269 ePn **Pn** **11 17 19.5 -0.3**
SNR=1.0
MFF eSn **Sn** **11 18 30.4 -5.7**
comp=Z,0.8nm,0.3s,SNR=1.0
FLN La Foliniere 6.98 288 ePn **Pn** **11 17 22.4 -1.1**
baz=107
COLD Coldfoot 64.98 351 P **P** **11 26 20.4 -0.3**

BJI ***05*** *11:25:05.7, 38.10N×7294E, h15km, ML3.6*
MOS ***05*** *11:25:10.8±1.3, 3797N×7363E, h118km, mb3.9/2, Error ellipse: s-maj=44.2km s-min=12.0km az=79.5*
ISCJB ***05*** *11:25:13.6±0.6, 3832N±003×7361E±009, h139km±9km, mb3.6/2, Error ellipse: s-maj=11.9km s-min=4.7km az=163.4*
IDC ***05*** *11:25:15.4±29.0, 3838N×7356E, h116km±153km, mb3.6/2, mb1 3.4/4, mb1mx3.0/24, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=295.4km s-min=71.0km az=6.0*
NEIC ***05*** *11:25:16.3±1.2, 3838N×7366E, h123km±11km, mb3.8/4, Error ellipse: s-maj=25.8km s-min=11.1km az=125.0*
NNC ***05*** *11:25:19.9±3.2, 3878N×7328E, h140km±41km, mb2.9, mpv3.6, Error ellipse: s-maj=34.7km s-min=17.1km az=8.0*
ISC 05 11:25:13.3±0.7, 3822N±003×7350E±009, h119km±9km, n39, σ1⁹30/49, mb3.8/2, 4C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.32**	**55**	*eP*	**Pn**	**11 25 53.3**	**+2.5**
KSH				S	**Sn**	**11 26 20.7**	**+1.2**
AML	**Almayashu**	**3.91**	**2**	*ePn*	**Pn**	**11 26 11.6**	**+0.1**
AML				*eSn*	**Sn**	**11 26 53.4**	**-3.3**
UCH	**Uchtor**	**4.08**	**11**	*ePn*	**Pn**	**11 26 14.4**	**+0.6**
UCH				*eSn*	**Sn**	**11 26 57.9**	**-2.8**
EKS2	**Erkin-Say**	**4.44**	**3**	*ePn*	**Pn**	**11 26 19.2**	**+0.6**
TKM2	**Tokmak 2**	**4.96**	**18**	⇑Pn	**Pn**	**11 26 26.4**	**+0.8**
	3.0nm,0.7s						
TKM2				⇑Sn	**Sn**	**11 27 19.0**	**-2.8**
	27nm,1.0s						
TKM2	**Tokmak 2**	**4.96**	**18**	*ePn*	**Pn**	**11 26 26.9**	**+1.3**
KBL	**Kabul**	**5.14**	**226**	*eP*	**Pn**	**11 26 34.4**	**+6.3**
	4.0nm,0.4s						
KK31	**Karatay Array**	**5.38**	**336**	⇓Pn	**Pn**	**11 26 30.8**	**-0.5**
	13nm,0.5s,baz=150,slow=13,SNR=210						
KK31				Sn	**Sn**	**11 27 25.9**	**-6.1**
	12nm,0.6s,baz=155,slow=21,SNR=15						
DLH	**Dalhousie**	**6.01**	**160**	*eP*	**Pn**	**11 26 47.0**	**+7.1**
DLH				*eS*	**Sn**	**11 27 53.0**	**+5.5**
THN	**Thein Dam**	**6.05**	**162**	*eP*	**Pn**	**11 26 43.0**	**+2.6**
THN				*eS*	**Sn**	**11 27 47.5**	**-0.9**
SMLA	**Simla**	**7.69**	**156**	*i* P	**Pn**	**11 27 05.6**	**+2.9**
SMLA				*i* S	**Sn**	**11 28 24.6**	**-3.5**
SMLA				*i* S	**Sn**	**11 28 24.6**	**-3.5**
KLP	**Kalpa**	**7.73**	**148**	*eP*	**Pn**	**11 27 06.9**	**+3.8**
KLP				*eS*	**Sn**	**11 28 28.6**	**-0.4**
KLP				AML	AML	11 28 51.6	
	comp=E,48nm,0.5s						
KLP				AML	AML	11 28 54.9	
	comp=N,34nm,0.6s						
JOSI	**Joshimath**	**9.14**	**145**	*eS*	**Sn**	**11 29 01.7**	**-1.4**
JOSI				AML	AML	11 29 07.2	
	comp=N,56nm,0.3s						
JOSI				AML	AML	11 29 07.3	
	comp=E,111nm,0.4s						
MK31	**Makanchi Array**	**10.74**	**34**	*eP*	**Pn**	**11 27 43.2**	**-0.3**
MKAR	**Makanchi Array**	**10.74**	**34**	P	**Pn**	**11 27 43.8**	**+0.3**
	comp=E,0.1nm,0.3s,baz=202,slow=12,SNR=6.9						
KURK	**Kurchatov**	**13.01**	**15**	P	**Pn**	**11 28 15.5**	**+2.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**13.01**	**15**	P	**Pn**	**11 28 15.5**	**+2.0**
	comp=Z,1.4nm,0.7s						
DANN	**Dangsing**	**13.05**	**136**	*eP*	**Pn**	**11 28 13.0**	**-1.2**
	comp=Z,20nm,0.3s						
KOLN	**Koldanda**	**13.42**	**138**	*eP*	**Pn**	**11 28 18.9**	**-0.1**
	comp=Z,15nm,0.5s						
KKN	**Kakani**	**14.34**	**133**	*eP*	**Pn**	**11 28 29.6**	**-1.1**
DMN	**Daman**	**14.37**	**134**	*eP*	**Pn**	**11 28 31.0**	**-0.2**
	comp=Z,12nm,0.4s						
PKI	**Pulchoki**	**14.57**	**133**	*eP*	**Pn**	**11 28 33.5**	**-0.2**
	comp=Z,7.5nm,0.3s						
AB31	**Akbulak array**	**14.73**	**323**	⇓P	**Pn**	**11 28 33.5**	**-1.9**
	comp=Z,2.1nm,0.7s,baz=128,slow=13,SNR=25						
BVA0	**Borovoye Array**	**14.96**	**353**	⇑P	**Pn**	**11 28 38.3**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=161,slow=10,SNR=24						
JIRN	**Jiri**	**14.96**	**131**	*eP*	**Pn**	**11 28 38.5**	**-0.1**
	comp=Z,20nm,0.4s						
BRVK	**Borovoye**	**15.01**	**352**	*eP*	**Pn**	**11 28 42.2**	**+3.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BRVK	**Borovoye**	**15.01**	**352**	*eP*	**Pn**	**11 28 42.1**	**+3.2**
	comp=Z,5.9nm,0.9s						
RAMN	**Ramite**	**15.74**	**132**	*eP*	**Pn**	**11 28 47.4**	**-0.9**
	comp=Z,16nm,0.5s						
TAPN	**Taplejung**	**16.11**	**128**	*eP*	**Pn**	**11 28 53.2**	**+0.3**
	comp=Z,8.3nm,0.4s						
ODAN	**Odare**	**16.27**	**130**	*eP*	**Pn**	**11 28 54.5**	**-0.4**
	comp=Z,11nm,0.6s						
AKTO	**Aktyubinsk**	**16.44**	**323**	⇑P	**Pn**	**11 28 55.1**	**-1.7**
	comp=Z,0.9nm,0.8s						
ZAL	**Zalesovo**	**17.53**	**23**	P	**Pn**	**11 29 09.6**	**-0.3**
ZALV	**Zalesovo Beam**	**17.54**	**23**	P	**Pn**	**11 29 09.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=220,slow=11,SNR=4.4						
ARU	**Arti**	**20.76**	**336**	*eP*	**P**	**11 29 45.0**	**+0.7**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARU	**Arti**	**20.76**	**336**	*eP*	**P**	**11 29 45.0**	**+0.7**
	comp=Z,4.2nm,1.0s						
ARCES	**ARCESS Array B**	**40.35**	**336**	P	**P**	**11 32 39.9**	**+1.2**
	comp=Z,0.9nm,0.5s,mb3.9,baz=111,slow=9.2,SNR=9.8						
INK	**Inuvik**	**71.88**	**10**	P	**P**	**11 36 24.4**	**+1.7**
	comp=Z,1.1nm,1.0s,mb3.6,baz=329,slow=5.9,SNR=3.1						
INK	**Inuvik**	**71.88**	**10**	P	**P**	**11 36 24.4**	**+1.7**
INK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
INK	**Inuvik**	**71.88**	**10**	*eP*	**P**	**11 36 24.1**	**+1.4**

IDC ***05*** *11:38:11.1±0.8, 5395×152.11E, h0km, mb4.2/13, mb1 4.4/13, mb1mx4.3/17, mbtmp4.2/13, MS3.5/3, Ms1 3.5/3, ms1mx3.2/22, Error ellipse: s-maj=30.0km s-min=17.8km az=110.0*
ISCJB ***05*** *11:38:19.1±3.2, 54S±0.1×1520E±0.1, h70km±28km, mb4.1/16, Error ellipse: s-maj=25.3km s-min=15.8km az=29.7*
NEIC ***05*** *11:38:20.5±1.7, 546S×1520.2E, h72km±15km, mb4.5/5, Error ellipse: s-maj=14.3km s-min=8.8km az=121.0*
ISC 05 11:38:11.2±6.5, 54S±01×1522E±01, h0km±40km, n36, σ0⁹71/30, mb4.3/15, MS3.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.37**	**231**	*ePn*	**Pn**	**11 39 50.0**	**+3.7**
	40nm,0.6s						
PMG				*eSn*	**Sn**	**11 41 00.2**	**+0.4**
GUMO	**Guam**	**20.21**	**339**	LR	LR	11 49 27.8	
	comp=Z,69nm,21.1s,MS3.0,baz=101,slow=34						
KAKA	**Kakadu**	**20.78**	**248**	*eP*	**P**	**11 42 54.0**	**-0.1**
	20nm,0.5s						
KAKA	**Kakadu**	**20.78**	**248**	*eP*	**P**	**11 42 53.9**	**-0.2**
WRAB	**Tennant Creek**	**22.57**	**229**	*eP*	**P**	**11 43 13.0**	**-0.2**
	9.4nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**22.57**	**229**	*eP*	**P**	**11 43 13.1**	**-0.1**
WB2	**Warramunga Arr**	**22.57**	**229**	*eP*	**P**	**11 43 13.1**	**-0.2**
WRA	**Warramunga Arr**	**22.58**	**229**	P	**P**	**11 43 13.3**	**-0.1**
	6.1nm,0.6s,mb4.3,baz=54,slow=9.8,SNR=58						
ASAR	**Alice Springs**	**25.29**	**222**	P	**P**	**11 43 39.4**	**-0.1**
	3.6nm,0.6s,mb4.3,baz=59,slow=9.5,SNR=47						
STKA	**Stephens Creek**	**28.14**	**199**	P	**P**	**11 44 05.2**	**+0.1**
	1.5nm,0.4s,mb4.2,baz=30,slow=11,SNR=4.2						
FITZ	**Fitzroy Crossi**	**28.82**	**242**	*eP*	**P**	**11 44 10.6**	**-0.8**
	6.1nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**28.82**	**242**	P	**P**	**11 44 10.6**	**-0.7**
	1.9nm,0.5s,mb4.2,baz=82,slow=8.0,SNR=13						
MJAR	**Matsushiro Arr**	**43.72**	**344**	PcP	PcP	11 48 04.7	-0.6
	0.9nm,0.6s,baz=168,slow=4.0,SNR=4.5						
MJAR				LR	LR	12 03 15.7	
	comp=Z,80nm,19.7s,MS3.6,baz=185,slow=34						
CMAR	**Chiang Mai Arr**	**57.56**	**296**	P	**P**	**11 48 04.4**	**+1.3**
	1.4nm,0.5s,mb4.3,baz=125,slow=5.7,SNR=5.4						
SONM	**Songino Array**	**66.49**	**328**	P	**P**	**11 49 02.7**	**0.0**
	1.0nm,0.5s,mb4.3,baz=147,slow=5.3,SNR=6.0						
VNDA	**Vanda**	**72.26**	**178**	P	**P**	**11 49 38.3**	**+0.4**
	0.8nm,0.7s,mb4.0,baz=302,slow=6.5,SNR=4.4						
VNDA	**Vanda**	**72.26**	**178**	P	**P**	**11 49 37.7**	**-0.2**
	0.4nm,0.6s,mb3.7						
SLKM	**Skilak Lake**	**79.47**	**25**	*eP*	**P**	**11 50 19.0**	**-0.3**
RC01	**Rabbit Creek A**	**79.98**	**25**	*eP*	**P**	**11 50 21.9**	**-0.1**
MK31	**Makanchi Array**	**80.36**	**319**	*eP*	**P**	**11 50 24.7**	**+0.2**
MKAR	**Makanchi Array**	**80.36**	**319**	P	**P**	**11 50 23.9**	**-0.5**
	1.1nm,0.7s,mb3.9,baz=112,slow=5.1,SNR=11						
ZALV	**Zalesovo Beam**	**81.30**	**327**	P	**P**	**11 50 28.1**	**-1.2**
	1.0nm,0.5s,mb4.1,baz=130,slow=9.0,SNR=4.1						
ZALV				LR	LR	12 25 35.2	
	comp=Z,45nm,18.6s,MS3.9,baz=66,slow=35						
DIV	**Divide**	**81.68**	**26**	*eP*	**P**	**11 50 31.2**	**0.0**
	7.9nm,0.6s,mb5.0						
COLA	**College**	**82.64**	**22**	*eP*	**P**	**11 50 35.1**	**-1.0**
MAW	**Mawson**	**84.78**	**203**	P	**P**	**11 50 46.0**	**-1.1**
	0.7nm,0.6s,mb4.0,baz=113,slow=13,SNR=5.3						
EGAK	**Eagle**	**85.15**	**23**	*eP*	**P**	**11 50 49.0**	**+0.1**
	4.9nm,0.8s,mb4.8						
HYT	**Haines Junctio**	**85.25**	**28**	*eP*	**P**	**11 50 50.8**	**+1.2**
DAWY	**Dawson**	**85.59**	**24**	*eP*	**P**	**11 50 51.9**	**+0.7**
INK	**Inuvik**	**89.23**	**21**	P	**P**	**11 51 08.1**	**-0.6**
	1.1nm,0.7s,mb4.2,baz=266,slow=3.9,SNR=5.3						
INK	**Inuvik**	**89.23**	**21**	P	**P**	**11 51 08.1**	**-0.6**
NVAR	**Mina Array Bea**	**92.95**	**52**	P	**P**	**11 51 28.0**	**+1.3**
	0.7nm,0.7s,mb4.2,baz=256,slow=6.1,SNR=6.6						
PDAR	**Pinedale Array**	**99.71**	**48**	P	Pdif	11 51 58.5	+1.6
	0.4nm,0.6s,baz=268,slow=0.7,SNR=4.5						
GERES	**GERESS Array B**	**124.23**	**328**	PKP	PKPdf	11 57 11.8	-0.3
	0.4nm,0.6s,baz=104,slow=1.7,SNR=5.6						
MDT	**Midelt**	**145.17**	**324**	PKPbc	PKPbc	11 57 49.7	-1.2
	2.4nm,0.8s,baz=31,slow=3.9,SNR=5.3						
TOA0	**Torodi Ar. Sit**	**149.88**	**287**	*e*PKPbc	PKPbc	11 58 03.6	-0.9
TORD	**Torodi Ar. Bea**	**149.88**	**287**	PKPbc	PKPbc	11 58 03.6	-0.9
	2.8nm,0.8s,baz=87,slow=2.5,SNR=15						

CSEM ***05*** *11:38:12.9, 3997N×2404E, h10km, ML3.5, After THE*
THE 05 11:38:12.9, 3997N×2404E, h10km, ML3.5, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.28**	**261**	*e*Pg	Pg	11 38 18.1	-0.4
PAIG				*e*Sg	Sg	11 38 23.0	+0.7
OUR	**Ouranopolis**	**0.36**	**354**	*e*Pg	Pg	11 38 20.3	+0.1
OUR				*e*Sg	Sg	11 38 25.5	+0.4
PLG	**Polygyros**	**0.60**	**312**	*e*Pg	Pg	11 38 24.5	-0.2
PLG				*e*Sg	Sg	11 38 33.3	+0.7
KNT	**Kendrikon**	**1.47**	**324**	*e*Pg	Pg	11 38 38.7	-2.5

CSEM ***05*** *11:39:23.2±0.3, 2986N×3649E, h2km, ML3.0, Error ellipse: s-maj=5.9km s-min=2.7km az=66.0*
HLW ***05*** *11:39:23.5, 2997N×3680E, h20km, Mb2.9*
SGS ***05*** *11:39:24.4, 3005N×3638E, h5km*
ISCJB ***05*** *11:39:26.3±0.8, 2981N±003×3624E±005, h0km, Error ellipse: s-maj=5.8km s-min=4.4km az=14.8*
GII ***05*** *11:39:26.7±0.8, 2980N×3616E, h0km, ML2.3/9, EXPLOSION*
ISC 05 11:39:26.4±0.8, 2980N±003×3629E±005, h0km, n22, σ0⁹92/35, 2C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.11**	**283**	Pg	**Pg**	**11 39 46.5**	**-1.2**
HRFI				Sg	**Sg**	**11 40 02.2**	**+0.1**
EIL	**Elat**	**1.17**	**264**	Pg	**Pg**	**11 39 47.9**	**-0.8**
EIL				Sg	**Sg**	**11 40 04.2**	**+0.3**
HQLS		**1.18**	**245**	P	**Pg**	**11 39 48.3**	**-0.6**
HQLS		**1.18**	**245**	P	**Pg**	**11 39 48.3**	**-0.6**
HQLS				S	**Sg**	**11 40 06.1**	**+2.0**
MBRI	**Mt Berech**	**1.19**	**270**	Pg	**Pg**	**11 39 48.5**	**-0.8**
MBRI				Sg	**Sg**	**11 40 05.1**	**+0.4**
ZFRI	**Zfri**	**1.22**	**308**	Pg	**Pg**	**11 39 48.8**	**-1.0**
ZFRI				Sg	**Sg**	**11 40 05.5**	**-0.1**
PRNI	**Paran**	**1.24**	**297**	Pg	**Pg**	**11 39 48.7**	**-1.5**
PRNI				Sg	**Sg**	**11 40 06.7**	**+0.4**
JLOS		**1.27**	**213**	P	**Pg**	**11 39 50.3**	**-0.3**
JLOS		**1.27**	**213**	P	**Pg**	**11 39 50.3**	**-0.3**
JLOS				S	**Sg**	**11 40 09.9**	**+2.9**
KRMI	**Paran Flat**	**1.39**	**284**	Pg	**Pg**	**11 39 51.5**	**-1.5**
KRMI				Sg	**Sg**	**11 40 10.3**	**-0.8**
HBST	**Basata**	**1.47**	**247**	⇓P	**Pn**	**11 39 54.8**	**+0.7**
RMNI	**Mount Ramon**	**1.54**	**302**	Pn	**Pn**	**11 39 54.0**	**-1.1**
MZDA	**Masada**	**1.71**	**332**	Pn	**Pn**	**11 39 57.1**	**-0.3**
MZDA				Sn	**Sn**	**11 40 20.3**	**+0.5**
YTIR	**Yattir**	**1.86**	**327**	Pn	**Pn**	**11 39 59.2**	**-0.2**
DSI	**Dead Sea**	**1.93**	**336**	Pn	**Pn**	**11 40 01.1**	**+0.6**
DSI				Sn	**Sn**	**11 40 26.6**	**+1.1**
KZIT	**Kziot**	**1.97**	**305**	Pn	**Pn**	**11 40 01.0**	**0.0**
KZIT				Sn	**Sn**	**11 40 26.3**	**-0.2**
RSHS		**1.98**	**222**	P	**Pn**	**11 40 00.5**	**-0.6**
HNKL	**Nakhl**	**2.01**	**274**	⇑P	**Pn**	**11 40 01.2**	**-0.3**
HNKL				S	**Sn**	**11 40 28.9**	**+1.6**
HMDT	**Nahal Hemdat**	**2.53**	**345**	Pn	**Pn**	**11 40 09.8**	**+1.0**
HMDT				Sn	**Sn**	**11 40 41.9**	**+1.6**
TR2		**2.65**	**239**	⇑P	**Pn**	**11 40 10.3**	**0.0**
SUZ		**3.00**	**272**	P	**Pn**	**11 40 15.2**	**0.0**
SUZ		**3.00**	**272**	P	**Pn**	**11 40 15.1**	**-0.1**

IDC 05 11:46:48.7±5.3, 789S×12908E, h172km±56km, mb3.2/1, mb1 3.5/5, mb1mx3.2/16, mbtmp3.4/5, Error ellipse: s-maj=51.4km s-min=19.1km az=44.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.82**	**246**	P	Pn	**11 48 13.8**	**+0.4**
	12nm,0.3s,baz=94,slow=5.2,SNR=24						
BATI				S	Sn	11 49 20.1	+0.4
	12nm,0.3s,baz=92,slow=18,SNR=9.2						
FITZ	**Fitzroy Crossi**	**10.69**	**198**	P	Pn	11 49 17.9	+0.5
	0.9nm,0.3s,baz=27,slow=13,SNR=22						
FITZ				S	Sn	11 51 14.3	-1.7
	1.3nm,0.3s,baz=102,slow=18,SNR=7.4						
WRA	**Warramunga Arr**	**13.02**	**157**	P	Pn	11 49 47.6	+0.2
	0.4nm,0.3s,baz=342,slow=13,SNR=20						
WRA				S	Sn	11 52 09.8	-2.2
	1.3nm,0.3s,baz=330,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.35**	**164**	P	Pn	11 50 30.2	+1.5
	0.6nm,0.3s,baz=345,slow=8.5,SNR=58						
ASAR				S	S	11 53 31.2	+0.9
	0.3nm,0.3s,baz=347,slow=23,SNR=7.0						
MKAR	**Makanchi Array**	**68.47**	**327**	P	P	11 57 32.1	-0.2
	0.3nm,0.4s,baz=126,slow=7.0,SNR=5.0						

ISCJB ***05*** *11:50:23.9±1.5, 26N±03×66.1E±03, h10km, mb3.8/5, Error ellipse: s-maj=49.5km s-min=28.1km az=140.9*
IDC ***05*** *11:50:24.2±1.4, 253N×66.12E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.6/21, mbtmp3.8/5, MS3.8/1, Ms1 3.7/1, ms1mx2.7/31, Error ellipse: s-maj=53.7km s-min=27.8km az=45.0*
NEIC ***05*** *11:50:25.6±0.9, 253N×66.08E, h10km, Error ellipse: s-maj=36.5km s-min=21.3km az=46.0*
ISC 05 11:50:25.7±1.5, 25N±03×661E±03, h10km, n7, σ0⁹94/5, mb3.8/5, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**53.52**	**14**	P	**P**	**11 59 45.3**	**-1.1**
	1.0nm,0.5s,mb4.0,baz=182,slow=8.1,SNR=4.9						
SONM	**Songino Array**	**56.93**	**31**	P	**P**	**12 00 12.2**	**+1.0**
	0.4nm,0.9s,mb3.4,baz=219,slow=1.8,SNR=2.6						
WRA	**Warramunga Arr**	**70.53**	**112**	P	**P**	**12 01 41.3**	**-0.1**
	1.6nm,0.8s,mb4.0,baz=288,slow=5.9,SNR=6.6						
ASAR	**Alice Springs**	**70.83**	**116**	P	**P**	**12 01 43.1**	**-0.1**
	1.0nm,0.9s,mb3.8,baz=287,slow=5.7,SNR=8.8						
ESDC	**Sonseca Array**	**73.08**	**311**	P	**P**	**12 01 56.6**	**+0.2**
	0.9nm,0.9s,mb3.7,baz=83,slow=4.9,SNR=6.0						
MNTX	**Cornudas Mount**	**145.01**	**347**	*e*PKP	PKPdf	12 10 02.9	-1.1
TXAR	**Lajitas Array**	**146.83**	**343**	PKPbc	PKPbc	12 10 09.2	+0.2
	1.1nm,0.8s,baz=54,slow=2.4,SNR=11						

MOS ***05*** *12:02:33.5±1.0, 189N×12169E, h33km, mb5.4/9, Error ellipse: s-maj=17.0km s-min=7.7km az=111.1*
IDC ***05*** *12:02:35.9±3.0, 186N×12164E, h40km±27km, mb4.1/16, mb1 4.2/17, mb1mx4.2/21, mbtmp4.1/17, ML4.1/1, MS3.7/8, Ms1 3.8/8, ms1mx3.4/36, Error ellipse: s-maj=20.3km s-min=10.5km az=80.0*
ISCJB ***05*** *12:02:35.1±0.2, 195N±002×12179E±003, h50km, mb4.7/49, MS3.8/16, Error ellipse: s-maj=4.7km s-min=3.3km az=0.6*
NEIC ***05*** *12:02:36.9±0.2, 187N×12170E, mb4.9/12, Error ellipse: s-maj=9.1km s-min=5.0km az=73.0*
BJI ***05*** *12:02:37.8, 190N×12170E, h50km, mB4.9, mb4.8, Ms4.4, Msz4.1*
DJA ***05*** *12:02:43, 151N×122.13E, h40km, ML5.0/6*
ISC 05 12:02:37.1±0.2, 191N±002×12179E±003, h51km, h51km±1.3km: pP-P, n144, σ1⁹26/142, mb4.7/49, MS3.8/16, 13C-10D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**3.08**	**99**	P	**Pn**	**12 03 22.3**	**-1.0**
	0.0nm,0.0s						
PCI	**Palu**	**3.41**	**215**	P	**Pn**	**12 03 26.2**	**-1.6**
	0.0nm,0.0s						
PCI	**Palu**	**3.41**	**215**	⇑*e*P	**Pn**	**12 03 27.0**	**-0.8**
PCI				*e*S	**Sn**	**12 03 57.0**	**-10**
TSM	**Tawau**	**4.57**	**301**	⇓P	**Pn**	**12 03 41.0**	**-2.8**
MYLDM	**Lahad Datu**	**4.62**	**315**	⇑P	**Pn**	**12 03 44.2**	**-0.3**
SMKI	**Samarinda**	**5.14**	**243**	P	**Sn**	**12 04 44.1**	**-5.6**
	0.0nm,0.0s						
GSPH	**General Santos**	**5.21**	**37**	⇓*e*P	**Pn**	**12 03 51.9**	**-0.7**
GSPH				*e*S	**Sn**	**12 04 49.9**	**-1.5**
KDI	**Kendari**	**5.88**	**172**	P	**Pn**	**12 04 02.3**	**+0.5**
	0.0nm,0.0s						
KDI	**Kendari**	**5.88**	**172**	⇓*e*P	**Pn**	**12 04 01.5**	**-0.3**
KDI				*e*S	**Sn**	**12 05 10.0**	**+2.0**
IPIL	**Ipil**	**5.89**	**8**	*e*P	**Pn**	**12 04 00.4**	**-1.5**
SDKM	**Sandakan**	**5.90**	**309**	⇓P	**Pn**	**12 04 00.9**	**-1.1**
PAGZ	**Pagadian**	**6.11**	**15**	*e*P	**Pn**	**12 04 02.3**	**-2.6**
DAV	**Davao City (W)**	**6.37**	**36**	*e*P	**Pn**	**12 04 08.7**	**+0.3**
MATI	**Mati**	**6.70**	**42**	*e*P	**Pn**	**12 04 11.1**	**-1.9**
BUKP	**Musuan**	**6.77**	**29**	*e*P	**Pn**	**12 04 12.5**	**-1.4**
KKM	**Kota Kinabalu**	**6.92**	**307**	⇑P	**Pn**	**12 04 14.6**	**-1.4**
KKM	**Kota Kinabalu**	**6.92**	**307**	*e*P	**Pn**	**12 04 14.9**	**-1.1**
KDM	**Kudat**	**7.01**	**315**	⇑P	**Pn**	**12 04 18.4**	**+1.1**
KAPI	**Kappang**	**7.17**	**196**	P	**Pn**	**12 04 17.3**	**-2.2**
	3.7nm,0.3s,baz=1.3,slow=5.4,SNR=5.6						
KAPI				S	**Sn**	**12 05 35.9**	**-3.7**
	0.4nm,0.3s,baz=105,slow=22,SNR=1.8						
KAPI	**Kappang**	**7.17**	**196**	*e*P	**Pn**	**12 04 17.2**	**-2.2**
BBSI	**Bau Bau**	**7.39**	**174**	P	**Pn**	**12 04 22.0**	**-0.4**
	0.0nm,0.0s						
BATP	**Bataraza**	**7.91**	**330**	*e*P	**Pn**	**12 04 30.1**	**+0.4**
BUTP	**Butuan**	**7.98**	**28**	*e*P	**Pn**	**12 04 30.6**	**0.0**
TBP	**Tagbilaran**	**8.00**	**15**	*e*P	**Pn**	**12 04 29.5**	**-1.3**
PPR	**Puerto Princes**	**8.39**	**339**	⇓*e*P	**Pn**	**12 04 33.5**	**-2.6**
GUIM	**Jordan**	**8.70**	**5**	*e*P	**Pn**	**12 04 39.6**	**-0.8**
BTM	**Bintulu**	**8.79**	**279**	⇑P	**Pn**	**12 04 44.0**	**+2.3**
CUYO	**Cuyo Island**	**8.92**	**355**	*e*P	**Pn**	**12 04 42.9**	**-0.5**
OCLP	**Ormoc**	**9.51**	**17**	*e*P	**Pn**	**12 04 50.6**	**-0.8**
ENPP	**El Nido**	**9.53**	**346**	*e*P	**Pn**	**12 04 50.1**	**-1.7**
SBUM	**Sibu**	**9.58**	**273**	⇑P	**Pn**	**12 04 52.5**	**+0.1**
BUSP	**Coron**	**10.15**	**351**	*e*P	**Pn**	**12 05 00.3**	**0.0**
OTRP	**Odiongan**	**

NJ2	**Nanjing**	**30.11**	**355**	*e*P	**P**	**12 08 45.6 +3.6**
NJ2				AMB	AMB	
comp=Z,20nm,0.5s,mb5.1						
FORT	**Forrest**	**33.05**	**170**	*e*P	**P**	**12 09 09.3 +1.5**
comp=Z,36nm,0.7s,mb5.4						
CD2	**Chengdu**	**33.52**	**331**	*e*P	**P**	**12 09 13.3 +1.4**
CD2				AP	pP	12 09 26.3 +1.1
CD2				XP	sP	12 09 32.7 +1.4
CD2				PP	PP	12 10 27.4 -1.2
CD2				S	**S**	**12 14 33.0 +2.6**
CD2				XS	sS	12 14 55.3 +2.5
CD2				SS	SS	12 16 40.9 -16
CD2				AMB	AMB	
comp=Z,20nm,0.5s,mb5.3						
CD2				AMB	AMB	
comp=Z,40nm,5.2s						
CD2				LR	LR	
comp=N,200nm,13.2s,MS4.2						
CD2				LR	LR	
comp=E,230nm,12.0s,MS4.2						
CD2				LR	LR	
comp=Z,210nm,13.2s,MS4.0						
NWAO	**Narrogin (SRO)**	**34.91**	**187**	P	**P**	**12 09 23.4 -0.5**
comp=Z,8.4nm,0.6s,mb4.8,baz=88,slow=3.8,SNR=3.9						
JHJ	**Hachijo jima 2**	**35.34**	**27**	P	**P**	**12 09 29.3 +1.6**
comp=Z,51nm,0.7s,mb5.6,baz=238,slow=19,SNR=3.4						
JHJ				LR	LR	12 21 10.5
comp=Z,157nm,21.3s,MS3.7,baz=264,slow=31						
KS15	**Wonju Array Si**	**35.80**	**8**	*e*P	**P**	**12 09 32.2 +0.7**
KSRS	**Korea Array**	**35.82**	**8**	P	**P**	**12 09 32.4 +0.7**
comp=Z,0.8nm,0.7s,mb3.8,baz=182,slow=9.3,SNR=4.3						
KSRS				PcP	PcP	12 11 58.8 +0.3
comp=Z,1.4nm,0.9s,baz=190,slow=4.0,SNR=4.8						
KSRS				LR	LR	12 27 05.7
comp=Z,108nm,18.2s,MS3.6,baz=245,slow=41						
KSRS	**Korea Array**	**35.82**	**8**	P	**P**	**12 09 32.4 +0.7**
KSRS						12 11 58.8
KSRS				pmax	pmax	
comp=Z,1.0nm,0.7s,mb3.9						
KSRS				pmax	pmax	
comp=Z,1.0nm,0.9s,mb3.8						
KSRS				MLR	MLR	
comp=Z,108nm,18.2s,MS3.6						
SHL	**Shillong**	**37.19**	**312**	*e*P	**P**	**12 09 46.5 +3.0**
MAT	**Matsushiro**	**37.66**	**22**	P	**P**	**12 09 41.1 -6.2**
MJAR	**Matsushiro Arr**	**37.66**	**22**	P	**P**	**12 09 46.5 -0.8**
comp=Z,1.4nm,0.9s,mb3.7,baz=205,slow=10,SNR=4.4						
MJAR				PcP	PcP	12 12 04.2 +0.2
comp=Z,1.8nm,0.9s,baz=208,slow=2.4,SNR=5.2						
LZH	**Lanzhou**	**37.85**	**336**	*e*P	**P**	**12 09 51.8 +2.8**
LZH				AP	pP	12 10 04.1 +1.6
LZH				XP	sP	12 10 10.0 +1.5
LZH				AMB	AMB	
comp=Z,14nm,1.0s,mb4.7						
LZH				AMB	AMB	
comp=Z,100nm,4.6s						
BJI	**Beijing**	**38.30**	**353**	P	**P**	**12 09 54.3 +1.6**
BJI				AMB	AMB	
comp=Z,8.0nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**38.50**	**152**	*e*P	**P**	**12 09 55.3 +0.8**
comp=Z,12nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**38.50**	**152**	P	**P**	**12 09 55.4 +1.0**
comp=Z,5.3nm,0.7s,mb4.4,baz=322,slow=8.6,SNR=14						
HHC	**Hu-ho-hao-te**	**39.85**	**348**	*e*P	**P**	**12 10 08.9 +3.2**
HHC				AP	pP	12 10 21.7 +2.5
HHC				XP	sP	12 10 26.5 +1.3
HHC				PP	PP	12 11 45.5 +7.4
HHC				PCS	PcS	12 16 02.4 +1.5
HHC				S	**S**	**12 16 10.8 +4.1**
HHC				XS	sS	12 16 32.2 +2.8
HHC				SS	SS	12 19 02.0 -2.7
HHC				AMB	AMB	
comp=Z,14nm,0.5s,mb5.0						
HHC				AMB	AMB	
comp=Z,141nm,7.4s						
HHC				LR	LR	
comp=N,151nm,20.2s,MS4.0						
HHC				LR	LR	
comp=E,122nm,19.0s,MS4.0						
HHC				LR	LR	
comp=Z,122nm,19.0s,MS3.8						
LSA	**Lhasa**	**40.14**	**317**	*e*P	**P**	**12 10 10.1 +1.9**
LSA				pmax	pmax	
comp=Z,4.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**40.14**	**317**	*e*P	**P**	**12 10 10.1 +1.8**
comp=Z,4.4nm,0.6s,mb4.4						
CN2	**Changchun**	**41.84**	**4**	*e*P	**P**	**12 10 25.5 +3.5**
CN2				*e*AP	pP	12 10 40.9 +5.3
CN2				*e*S	**S**	**12 16 41.0 +4.9**
CN2				AMB	AMB	
comp=Z,10.0nm,0.6s,mb4.6						
CN2				AMB	AMB	
comp=Z,200nm,3.0s						
CN2				LR	LR	
comp=N,200nm,16.0s,MS4.2						
CN2				LR	LR	
comp=E,200nm,16.0s,MS4.2						
CN2				LR	LR	
comp=Z,200nm,16.0s,MS4.1						
GTA	**Gaotai**	**42.36**	**335**	*e*P	**P**	**12 10 28.9 +2.6**
GTA				AP	pP	12 10 41.8 +1.9
GTA				XP	sP	12 10 46.5 +0.6
GTA				PCP	PcP	12 12 20.1 +1.1
GTA				S	**S**	**12 16 47.6 +3.7**
GTA				XS	sS	12 17 07.4 +0.6
GTA				SS	SS	12 19 53.9 -0.6
GTA				AMB	AMB	
comp=Z,3.0nm,0.6s,mb4.1						
GTA				AMB	AMB	
comp=Z,104nm,6.5s						
GTA				LR	LR	
comp=N,80nm,14.4s,MS3.9						
GTA				LR	LR	
comp=E,83nm,16.0s,MS3.9						
GTA				LR	LR	
comp=Z,140nm,14.8s,MS4.0						
ARMA	**Armidale**	**42.92**	**141**	*e*P	**P**	**12 10 33.7 +2.7**
MDJ	**Mudanjiang**	**43.09**	**8**	P	**P**	**12 10 34.1 +2.0**
MDJ				AP	pP	12 10 47.3 +1.6
MDJ				XP	sP	12 10 53.5 +1.8
MDJ				PP	PP	12 12 15.5 +2.5
MDJ				PCP	PcP	12 12 21.6 +0.3
MDJ				SCP	ScP	12 16 08.5 +0.1
MDJ				S	**S**	**12 16 58.4 +4.0**
MDJ				XS	sS	12 17 21.9 +4.5
MDJ				AMB	AMB	
comp=Z,6.0nm,1.0s,mb4.3						
MDJ				AMB	AMB	
comp=Z,67nm,4.7s						
MDJ				LR	LR	
comp=N,71nm,25.9s						
MDJ				LR	LR	
comp=E,16nm,17.0s						
MDJ				LR	LR	
comp=Z,101nm,25.0s,MS3.6						
MDJ	**Mudanjiang**	**43.09**	**8**	P	**P**	**12 10 37.6 +5.5**
comp=Z,38nm,1.3s,mb5.0						
ASAJ	**Asahikawa**	**45.91**	**21**	LR	LR	12 30 57.7
comp=Z,90nm,18.2s,MS3.8,baz=86,slow=37						
HIA	**Hailar**	**47.21**	**358**	*e*P	**P**	**12 11 06.4 +1.6**
SONM	**Songino Array**	**47.65**	**346**	P	**P**	**12 11 09.7 +1.5**
comp=Z,3.0nm,0.7s,mb4.4,baz=167,slow=8.0,SNR=17						
SONM				PcP	PcP	12 12 36.8 -0.3
comp=Z,3.5nm,0.7s,baz=164,slow=4.3,SNR=7.6						
SONM				LR	LR	12 32 01.2
comp=Z,141nm,18.4s,MS4.0,baz=199,slow=37						
SONM	**Songino Array**	**47.65**	**346**	P	**P**	**12 11 09.7 +1.5**
SONM						12 12 36.8
KLR	**Kul'dur**	**47.91**	**9**	*e*P	**P**	**12 11 06.1 -4.1**
ZAK	**Zakamensk**	**50.79**	**345**	*e*P	**P**	**12 11 32.2 +0.1**
ZAK				*e*	pP	12 11 46.5 +0.4
ZAK				*e*		12 12 45.7
ZAK				pmax	pmax	
comp=Z,1.0nm,1.2s,mb3.6						
ZAK				pmax	pmax	
comp=Z,3.0nm,0.9s,mb4.2						
ZAK				pmax	pmax	
comp=Z,4.0nm,1.1s,mb4.3						
ZAK				pmax	pmax	
comp=Z,2.0nm,1.2s,mb3.9						
WMQ	**Urumqi**	**51.55**	**329**	*e*P	**P**	**12 11 39.9 +2.0**
WMQ				AMB	AMB	
comp=Z,8.0nm,0.8s,mb4.7						
WMQ				LR	LR	
comp=N,124nm,20.6s,MS4.0						
WMQ				LR	LR	
comp=E,95nm,20.0s,MS4.0						
WMQ				LR	LR	
comp=Z,132nm,24.1s,MS3.9						
TLY	**Talaya**	**51.89**	**346**	*i* P	**P**	**12 11 41.7 +1.4**
TLY				MLR	MLR	
comp=Z,100nm,14.0s,MS4.0						
TLY	**Talaya**	**51.89**	**346**	*e*P	**P**	**12 11 41.0 +0.7**
comp=Z,8.8nm,0.8s,mb4.7						
HVS	**Khovu-Aksy**	**54.47**	**339⇑**	*e*P	**P**	**12 11 59.8 +0.5**
HVS				pmax	pmax	
comp=Z,50nm,1.5s,mb5.2						
BOD	**Bodaibo**	**56.09**	**355**	*e*P	**P**	**12 12 11.3 +0.4**
BOD				pmax	pmax	
comp=Z,7.0nm,1.0s,mb4.7						
MK31	**Makanchi Array**	**56.37**	**328**	*e*P	**P**	**12 12 13.9 +0.9**
MKAR	**Makanchi Array**	**56.37**	**328**	P	**P**	**12 12 13.5 +0.4**
comp=Z,4.4nm,0.7s,mb4.6,baz=127,slow=8.7,SNR=44						
MKAR				PcP	PcP	12 13 09.4 -0.3
comp=Z,3.9nm,0.7s,baz=123,slow=5.0,SNR=8.4						
KBL	**Kabul**	**58.80**	**310**	*e*P	**P**	**12 12 30.2 -0.2**
KBL				pmax	pmax	
comp=Z,36nm,1.1s,mb5.3						
KBL	**Kabul**	**58.80**	**310**	*e*P	**P**	**12 12 30.2 -0.1**
comp=Z,36nm,1.1s,mb5.3						
EKS2	**Erkin-Say**	**58.97**	**320**	*e*P	**P**	**12 12 32.7 +1.3**
comp=Z,2.8nm,0.6s,mb4.5						
ZAA0	**Zalesovo Array**	**60.09**	**336**	*e*P	**P**	**12 12 38.2 -0.7**
ZAL	**Zalesovo**	**60.09**	**336**	P	**P**	**12 12 38.6 -0.3**
ZALV	**Zalesovo Beam**	**60.09**	**336**	P	**P**	**12 12 38.5 -0.3**
comp=Z,8.6nm,0.8s,mb4.8,baz=116,slow=6.8,SNR=26						
YAK	**Yakutsk**	**60.27**	**4⇓**	*e*P	**P**	**12 12 40.7 +0.7**
YAK				pmax	pmax	
comp=Z,21nm,1.0s,mb5.1						
YAK	**Yakutsk**	**60.27**	**4**	*e*P	**P**	**12 12 40.8 +0.8**
KURK	**Kurchatov**	**60.73**	**330**	P	**P**	**12 12 44.9 +1.5**
comp=Z,135nm,0.7s,mb6.2,SNR=16						
KURK	**Kurchatov**	**60.73**	**330**	*e*P	**P**	**12 12 43.7 +0.3**
KURK				*e*	pP	12 12 57.8 +0.2
KURK				pmax	pmax	
comp=Z,21nm,0.9s,mb5.3						
KURK	**Kurchatov**	**60.73**	**330**	*e*P	**P**	**12 12 43.7 +0.3**
comp=Z,21nm,0.9s,mb5.3						
KURK				*e*	pP	12 12 57.8 +0.2
NVS	**Novosibirsk**	**61.38**	**336**	*e*P	**P**	**12 12 46.6 -1.0**
BRVK	**Borovoye**	**66.31**	**329**	*e*P	**P**	**12 13 20.2 +0.1**
BRVK				*e*	pP	12 13 34.6 +0.1
TIXI	**Tiksi**	**69.79**	**2**	*e*P	**P**	**12 13 40.8 -0.8**
TIXI				*e*	pP	12 13 55.1 -1.0
TIXI				pmax	pmax	
comp=Z,19nm,1.2s,mb4.9						
TIXI	**Tiksi**	**69.79**	**2**	*e*P	**P**	**12 13 41.3 -0.3**
comp=Z,16nm,0.7s,mb5.0						
TIXI				*e*pP	pP	12 13 55.2 -1.0
SVE	**Sverdlovsk**	**72.98**	**330**	*e*P	**P**	**12 14 01.3 +0.2**
SVE				pmax	pmax	
comp=Z,41nm,0.9s,mb5.4						
ARU	**Arti**	**73.88**	**329***c*	*i* P	**P**	**12 14 06.4 -0.1**
ARU				*e**PP	pP	12 14 20.4 -0.7
ARU				*e*S	S	12 23 33.5 -0.8
ARU				pmax	pmax	
comp=Z,30nm,1.0s,mb5.2						
ARU	**Arti**	**73.88**	**329**	*e*P	**P**	**12 14 05.8 -0.7**
comp=Z,22nm,0.8s,mb5.1						
ARU				*e*	pP	12 14 20.4 -0.7
UMR	**Umm Al-Rimmam**	**75.22**	**300**	*e*P	**P**	**12 14 14.4 -0.4**
baz=300						
UMR				AMb	AMB	12 14 15.0
comp=Z,54nm,0.6s,mb5.7,baz=300						
RDF	**Al-Radifah**	**75.29**	**299**	*e*P	**P**	**12 14 14.8 -0.4**
baz=299						
RDF				AMb	AMB	12 14 15.9
comp=Z,34nm,0.7s,mb5.4,baz=299						
MIB	**Mutribah**	**75.57**	**300**	*e*P	**P**	**12 14 16.3 -0.6**
baz=300						
MIB				AMb	AMB	12 14 17.3
comp=Z,88nm,0.7s,mb5.8,baz=300						
NAY	**Al-Naaiem**	**75.59**	**300**	*e*P	**P**	**12 14 16.1 -0.9**
baz=300						
NAY				AMb	AMB	12 14 16.8
comp=Z,13nm,0.6s,mb5.0,baz=300						
GNI	**Garni**	**78.88**	**310**	*i* P	**P**	**12 14 36.6 +1.5**
GNI				pmax	pmax	
comp=Z,25nm,2.2s						
GNI				MLR	MLR	
comp=Z,100nm,26.0s						
MAW	**Mawson**	**80.38**	**199**	P	**P**	**12 14 42.0 -0.7**
comp=Z,2.1nm,0.8s,mb4.1,baz=56,slow=7.5,SNR=5.9						
VNDA	**Vanda**	**82.29**	**172**	P	**P**	**12 14 52.4 -0.3**
comp=Z,1.1nm,0.8s,mb3.9,baz=314,slow=4.9,SNR=6.5						
KLMR	**Klimovskoe**	**84.57**	**331**	*e*P	**P**	**12 15 04.1 -0.6**
KLMR				pmax	pmax	
comp=Z,31nm,1.2s,mb5.3						
OBN	**Obninsk**	**85.70**	**325⇓**	*e*P	**P**	**12 15 10.4 -0.1**
OBN				*e*	pP	12 15 22.6 -2.8
OBN				pmax	pmax	
comp=Z,10.0nm,0.6s,mb5.2						
EIL	**Elat**	**86.32**	**299**	LR	LR	13 02 01.6
comp=Z,34nm,18.2s,MS3.8,baz=93,slow=41						
MCK	**McKinley**	**87.98**	**26**	*e*P	**P**	**12 15 21.3 -0.1**
COLA	**College**	**88.44**	**25**	*i* P	**P**	**12 15 24.8 +1.3**
SYO	**Syowa Base**	**88.97**	**201⇓**	*e*X	**P**	**12 15 32.6 +6.7**
AKASG	**Malin Array Be**	**90.17**	**321**	P	**P**	**12 15 31.3 -0.6**
comp=Z,0.1nm,0.3s,mb3.7,baz=75,slow=3.7,SNR=4.4						
AKASG	**Malin Array Be**	**90.17**	**321**	*i* P	**P**	**12 15 31.2 -0.7**
ARCES	**ARCESS Array B**	**90.43**	**340**	P	**P**	**12 15 30.7 -2.1**
comp=Z,1.7nm,0.9s,mb4.4,baz=32,slow=4.8,SNR=3.5						
ARCES	**ARCESS Array B**	**90.43**	**340**	P	**P**	**12 15 30.7 -2.1**
SUW	**Suwalki**	**93.53**	**324**	*e*P	**P**	**12 15 47.7 +0.3**
HYT	**Haines Junctio**	**93.56**	**29**	*e*P	**P**	**12 15 48.7 +1.3**
LSZ	**Lusaka**	**93.97**	**255**	*e*P	**P**	**12 15 49.6 -0.7**
DLMT	**Dillon**	**112.76**	**38**	*e*PKiKP	PKiKP	12 21 07.7 -0.7
PV10	**Paradox Valley**	**118.41**	**44**	*e*PKPdf	PKPdf	12 21 20.6 +1.2
RSSD	**Black Hills**	**118.60**	**36**	*e*PKIKP	PKPdf	12 21 19.9 +0.3
TORD	**Torodi Ar. Bea**	**118.73**	**286**	PKP	PKPdf	12 21 19.1 -1.5
comp=Z,1.0nm,0.8s,baz=66,slow=2.7,SNR=4.9						
ULM	**Lac du Bonnet**	**118.85**	**27**	PKP	PKPdf	12 21 18.3 -1.6
comp=Z,3.1nm,0.8s,baz=341,slow=3.8,SNR=2.9						
MVCO	**Mesa Verde**	**119.33**	**45**	*e*PKPdf	PKPdf	12 21 21.5 +0.2
ANMO	**Albuquerque**	**121.86**	**46**	*e*PKIKP	PKPdf	12 21 26.2 0.0
MNTX	**Cornudas Mount**	**124.19**	**49**	*e*PKPdf	PKPdf	12 21 31.4 +0.7
TXAR	**Lajitas Array**	**126.59**	**51**	PKP	PKPdf	12 21 36.0 +0.6
comp=Z,0.8nm,0.8s,baz=233,slow=1.8,SNR=9.2						
JCT	**Junction City**	**128.95**	**47**	*e*PKIKP	PKPdf	12 21 40.7 +0.8

SGS ***05*** *12:17:41.9, 3006N×3633E, h3km*
CSEM ***05*** *12:17:41.9, 3006N×3633E, h5km, ML2.7, After SNSN*
ISCJB ***05*** *12:17:42.3±1.0, 2988N±004×3628E±006, h0km, Error ellipse: s-maj=7.2km s-min=5.2km az=178.5*
GII ***05*** *12:17:43.4±0.9, 2988N×3619E, h0km, ML2.2/7, EXPLOSION*

ISC 05 12:17:42.1±1.1, 2987N±004×3634E±006, h0km, n15, σ0972/24, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.14**	**279**	Pg	**Pg**	**12 18 03.4**	**-0.7**
ZFRI	**Zfri**	**1.22**	**305**	Pg	**Pg**	**12 18 04.9**	**-0.5**
ZFRI				Sg	**Sg**	**12 18 21.2**	**-0.1**
EIL	**Elat**	**1.22**	**261**	Pg	**Pg**	**12 18 05.7**	**+0.1**
EIL				Sg	**Sg**	**12 18 21.6**	**+0.2**
MBRI	**Mt Berech**	**1.24**	**267**	Pg	**Pg**	**12 18 05.4**	**-0.5**
MBRI				Sg	**Sg**	**12 18 21.9**	**0.0**
HQLS		**1.25**	**243**	S	**Sg**	**12 18 22.9**	**+0.8**
HQLS		**1.25**	**243**	P	**Pg**	**12 18 05.0**	**-1.0**
HQLS				S	**Sg**	**12 18 23.0**	**+0.8**
PRNI	**Paran**	**1.25**	**293**	Pg	**Pg**	**12 18 05.1**	**-1.0**
PRNI				Sg	**Sg**	**12 18 22.9**	**+0.5**
JLOS		**1.35**	**214**	P	**Pg**	**12 18 07.9**	**0.0**
JLOS		**1.35**	**214**	P	**Pg**	**12 18 07.9**	**0.0**
JLOS				S	**Sg**	**12 18 26.8**	**+1.4**
KRMI	**Paran Flat**	**1.42**	**281**	Pg	**Pg**	**12 18 08.1**	**-1.3**
KRMI				Sg	**Sg**	**12 18 27.6**	**-0.3**
MZDA	**Masada**	**1.67**	**330**	Pn	**Pn**	**12 18 12.7**	**+0.2**
MZDA				Sn	**Sn**	**12 18 35.9**	**+1.2**
DSI	**Dead Sea**	**1.89**	**334**	Pn	**Pn**	**12 18 16.6**	**+1.0**
KZIT	**Kziot**	**1.97**	**302**	Pn	**Pn**	**12 18 17.0**	**+0.2**
KZIT				Sn	**Sn**	**12 18 42.7**	**+0.5**
RSHS		**2.06**	**221**	P	**Pn**	**12 18 17.2**	**-0.8**
RSHS		**2.06**	**221**	P	**Pn**	**12 18 17.2**	**-0.8**

ISCJB ***05*** *12:17:55.4±1.2, 3325N±003×4815E±006, h5km±10km, Error ellipse: s-maj=8.8km s-min=4.6km az=23.0*
CSEM ***05*** *12:17:56.3±0.2, 3333N×4819E, h14km, ML3.4, Error ellipse: s-maj=7.2km s-min=2.9km az=49.0*
KISR ***05*** *12:17:57.4, 3294N×4796E, h1km, ML2.8*
THR ***05*** *12:17:57.7±0.5, 3334N×4829E, h35km±5km, ML3.4*
TEH ***05*** *12:18:08.8, 3305N×4797E, h5km, ML3.5*

ISC 05 12:17:56.0±1.5, 3326N±004×4815E±006, h1km±12km, n22, σ0981/34, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.06**	**330**	*e*Pg	**Pg**	**12 18 15.4**	**-1.0**
IKOM				*e*Sg	**Sg**	**12 18 30.7**	**+0.5**
IKOM	**Komasi**	**1.06**	**330**	*e*Pg	**Pg**	**12 18 15.4**	**-1.0**
IKOM				*e*Sg	**Sg**	**12 18 31.0**	**+0.8**
IKOM				*e*		12 18 45.8	
SHGR	**Shooshtar-Gavs**	**1.27**	**154**	*e*Pg	**Pn**	**12 18 21.4**	**+0.5**
SHGR				AML	AML	12 18 42.9	
comp=N,848nm,0.6s							
SHGR				AML	AML	12 18 43.6	
comp=E,949nm,0.4s							
SNGE	**Sanandaj**	**1.95**	**340**	*e*Pg	**Pb**	**12 18 32.2**	**-0.2**
ASAO	**Ashtian**	**2.02**	**50**	*e*Pg	**Pn**	**12 18 31.9**	**+0.6**
ASAO				*e*Sg	**Sn**	**12 18 56.3**	**-0.9**
ASAO				AML	AML	12 19 04.3	
comp=E,189nm,0.6s							
ASAO				AML	AML	12 19 08.0	
comp=N,247nm,0.7s							
ASAO	**Ashtian**	**2.02**	**50**	*e*Pg	**Pn**	**12 18 31.9**	**+0.6**
SNR=96							
ASAO				*e*Sg	**Sn**	**12 18 56.3**	**-0.9**
SNR=96							
IDHR	**Dehrash**	**2.06**	**315**	*e*Pn	**Pn**	**12 18 30.5**	**-1.3**
IDHR				*e*		12 19 19.4	
IPIR	**Pirpir**	**2.37**	**103**	*e*Pn	**Pn**	**12 18 35.4**	**-0.7**
IPIR				*e*Sn	**Sn**	**12 19 05.7**	**-0.1**
IPIR	**Pirpir**	**2.37**	**103**	*e*Pn	**Pn**	**12 18 35.4**	**-0.7**
IPIR				*e*Sn	**Sn**	**12 19 05.7**	**-0.1**
IPIR				*e*		12 19 12.9	
IRAZ	**Razeghan**	**2.60**	**34**	*e*Pn	**Pn**	**12 18 39.9**	**+0.7**
IRAZ				*e*	**Pb**	**12 18 44.8**	**+1.4**
IRAZ				*e*Sn	**Sb**	**12 19 14.5**	**-1.4**
IKLH	**Kolahrood**	**2.87**	**88**	*e*Pn	**Pn**	**12 18 42.7**	**-0.3**
IKLH				*e*		12 19 38.6	
IMHD	**Mahdasht**	**3.19**	**40**	*e*Pn	**Pn**	**12 18 47.9**	**+0.5**
IMHD				*e*		12 18 56.9	
IMHD				*e*Sn	**Sn**	**12 19 28.1**	**+2.0**
IR3	**Iran Long-Peri**	**3.25**	**46**	*e*Pn	**Pn**	**12 18 48.8**	**+0.7**
IVRN	**Varamin**	**3.43**	**59**	*e*Pn	**Pn**	**12 18 50.1**	**-0.6**
IVRN				*e*		12 19 02.3	
IVRN				*e*		12 19 55.5	
ISFB	**Sefidab**	**3.57**	**71**	*e*Pn	**Pn**	**12 18 52.5**	**-0.1**
ISFB	**Sefidab**	**3.57**	**71**	*e*Pn	**Pn**	**12 18 52.3**	**-0.3**
ISFB				*e*		12 19 54.0	
UMR	**Umm Al-Rimmam**	**3.71**	**186**	*e*P	**Pn**	**12 18 55.3**	**+0.7**
baz=184							
UMR				*e*S	**Sn**	**12 19 38.5**	**-0.4**
baz=184							
UMR				AML	AML	12 19 42.8	
comp=Z,20nm,0.4s,baz=184							
NASN	**Na'in**	**3.94**	**95**	*e*Pn	**Pn**	**12 18 56.7**	**-0.9**
IDMV	**Damavand**	**3.95**	**53**	*e*Pn	**Pn**	**12 18 57.4**	**-0.5**
IDMV				*e*		12 19 08.7	
NAY	**Al-Naaiem**	**4.07**	**191**	*e*P	**Pn**	**12 19 00.0**	**+0.5**
baz=190							
NAY				*e*S	**Sn**	**12 19 47.3**	**-0.5**
baz=190							
NAY				AML	AML	12 19 54.6	
comp=Z,10.0nm,0.6s,baz=190							
RDF	**Al-Radifah**	**4.35**	**187**	*e*P	**Pn**	**12 19 04.3**	**+1.0**
baz=185							
RDF				AML	AML	12 19 59.5	
comp=Z,17nm,0.4s,baz=185							
ISHM	**Shahmirzad**	**4.95**	**58**	*e*Pn	**Pn**	**12 19 11.0**	**-0.5**
ISHM				*e*		12 19 12.0	
ISHM				*e*Sn	**Sn**	**12 20 09.9**	**+0.5**

IDC 05 12:20:17.8±1.4, 262N×6614E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=53.9km s-min=29.4km az=45.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**53.41**	**14**	P	P	12 29 38.6	-0.7
0.7nm,0.6s,baz=186,slow=8.4,SNR=2.5							
SONM	**Songino Array**	**56.82**	**31**	P	P	12 30 04.6	+0.6
0.7nm,0.9s,baz=235,slow=5.1,SNR=4.8							
WRA	**Warramunga Arr**	**70.51**	**112**	P	P	12 31 34.6	-0.4
1.6nm,1.0s,baz=282,slow=6.1,SNR=6.0							
ASAR	**Alice Springs**	**70.82**	**116**	P	P	12 31 37.3	+0.4
0.9nm,1.0s,baz=285,slow=5.3,SNR=5.2							
ESDC	**Sonseca Array**	**73.07**	**311**	P	P	12 31 50.0	-0.1
0.1nm,0.3s,baz=76,slow=6.1,SNR=4.7							
TXAR	**Lajitas Array**	**146.76**	**344**	PKPbc	PKPbc	12 40 02.4	-0.1
1.0nm,0.7s,baz=62,slow=2.8,SNR=15							

IDC ***05*** *12:20:50.2±1.7, 3574N×14041E, h54km±15km, mb3.4/8, mb1 3.6/11, mb1mx3.5/24, mbtmp3.6/11, ML3.9/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/27, Error ellipse: s-maj=18.8km s-min=7.3km az=67.0*
ISCJB ***05*** *12:20:51.3±0.5, 3570N±004×14021E±007, h76km±3km, mb3.5/8, Error ellipse: s-maj=9.9km s-min=5.8km az=166.3*
NEIC ***05*** *12:20:51.7±1.7, 3576N×14025E, h63km±13km, MG3.4(JMA), Error ellipse: s-maj=22.8km s-min=10.5km az=71.0*
JMA ***05*** *12:20:52.7±0.2, 3579N×14011E, h68km±2km, M3.4 Broadband fault plane solution: P waves. NP1: φs179.00000°, δ25.00000°, λ60.00000°. NP2: φs32.00000°, δ69.00000°, λ103.00000°. Principal axes: T Plg64.0000°, Azm323.0000°; N Plg12.0000°, Azm207.0000°; P Plg23.0000°, Azm112.0000°;*
JMA Felt I J1.

ISC 05 12:20:51.9±0.5, 3573N±003×14026E±007, h67km±4km, n31, σ1900/39, mb3.5/8, 3C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.31**	**188**	⇑P	**Pn**	**12 21 04.9**	**+2.1**
JCN				S	**Sn**	**12 21 14.8**	**+4.1**
TOK	**Tokyo**	**0.41**	**264**	P	**Pn**	**12 21 04.6**	**+1.1**
TOK				S	**Sn**	**12

0.3nm,0.5s,mb3.1,baz=113,slow=7.8,SNR=2.8
ZALV Zalesovo Beam 42.12 313 P **P 12 28 36.9 -0.3**
0.5nm,0.4s,mb3.6,baz=161,slow=11,SNR=2.9
MK31 Makanchi Array 44.03 303 *e*P **P 12 28 52.9 +0.1**
MKAR Makanchi Array 44.03 303 P **P 12 28 53.0 +0.3**
0.5nm,0.5s,mb3.5,baz=85,slow=10,SNR=6.5
AML Almayashu 51.01 299 P **P 12 29 48.2 +1.3**
WB2 Warramunga Arr 55.65 187 *e*P **P 12 30 21.5 +0.5**
WRA Warramunga Arr 55.65 187 P **P 12 30 21.5 +0.4**
0.5nm,0.4s,mb3.9,baz=0.4,slow=7.5,SNR=18
ASAR Alice Springs 59.38 187 P **P 12 30 47.7 +0.5**
0.3nm,0.9s,mb3.3,baz=17,slow=10.0,SNR=4.7
ARCES ARCESS Array B 64.89 339 P **P 12 31 23.9 +0.4**
0.8nm,0.6s,mb3.8,baz=53,slow=8.3,SNR=5.2
ARCES ARCESS Array B 64.89 339 P **P 12 31 23.9 +0.3**
AKASG Malin Array Be 74.75 322 P **P 12 32 24.1 -0.3**
0.9nm,0.3s,mb3.9,baz=51,slow=5.9,SNR=10.0
NOA NORSAR Array B 75.03 337 P **P 12 32 26.5 +0.7**
0.2nm,0.5s,mb3.1,baz=57,slow=5.0,SNR=2.6
PV10 Paradox Valley 82.34 48 *e*P **P 12 33 06.8 +0.4**

*ISCJB **05** 12:28:32.1±0.6,26N×0.1×670E±0.1,h10km,mb4.0/16, MS3.9/15,Error ellipse: s-maj=18.8km s-min=13.7km az=24.2*
*IDC **05** 12:28:32.4±0.8,267N×6695E,h0km,mb3.8/10, mb1 4.0/10,mb1mx3.8/21,mbtmp3.8/10,MS3.8/15, Ms1 3.8/15,ms1mx3.7/37,Error ellipse: s-maj=24.4km s-min=21.2km az=168.0*
*NEIC **05** 12:28:33.9±0.5,266N×6700E,h10km,mb4.4/5,Error ellipse: s-maj=16.6km s-min=11.7km az=212.0*
ISC 05 12:28:34.2±0.6,26N±01×670E±01,h10km,n44,σ0§75/30, mb4.0/16,MS3.9/15,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**31.91**	**89**	LR		LR		12 45 31.9	
	comp=Z,276nm,20.1s,MS3.9,baz=353,slow=32								
CMAR	**Chiang Mai Arr**	**35.04**	**61**	LR		LR		12 49 50.3	
	comp=Z,126nm,19.0s,MS3.7,baz=203,slow=36								
EIL	**Elat**	**40.58**	**315**	LR		LR		12 50 46.2	
	comp=Z,61nm,18.7s,MS3.5,baz=107,slow=33								
ASF	**Jabal al Asfar**	**40.78**	**319**	LR		LR		12 52 18.6	
	comp=Z,56nm,18.8s,MS3.5,baz=140,slow=35								
MMAI	**Mount Meron Ar**	**42.28**	**319**	LR		LR		12 53 17.3	
	comp=Z,58nm,18.1s,MS3.5,baz=125,slow=35								
GNI	**Garni**	**42.43**	**335**	LR		LR		12 53 50.2	
	comp=Z,78nm,20.4s,MS3.6,baz=337,slow=36								
MK31	**Makanchi Array**	**45.96**	**15**	*e*P		**P**		**12 37 02.0 +4.7**	
MKAR	**Makanchi Array**	**45.96**	**15**	P		**P**		**12 36 56.5 -0.8**	
	0.4nm,0.8s,mb3.4,baz=223,slow=7.9,SNR=2.8								
MKAR						LR		12 57 36.3	
	comp=Z,56nm,18.1s,MS3.5,baz=199,slow=38								
BOSA	**Boshof**	**50.67**	**229**	P		**P**		**12 37 33.6 -0.4**	
	4.5nm,1.1s,mb4.3,baz=100,slow=12,SNR=2.9								
ZAA0	**Zalesovo Array**	**53.21**	**13**	P		**P**		**12 37 55.7 +3.2**	
ZALV	**Zalesovo Beam**	**53.21**	**13**	P		**P**		**12 37 50.5 -2.0**	
	1.1nm,0.5s,mb4.1,baz=188,slow=9.0,SNR=4.8								
ZALV				LR		LR		13 02 01.1	
	comp=Z,65nm,18.2s,MS3.7,baz=230,slow=38								
SUR	**Sutherland**	**55.87**	**228**	LR		LR		12 59 12.0	
	comp=Z,300nm,18.3s,MS4.4,baz=64,slow=33								
SONM	**Songino Array**	**56.38**	**31**	P		**P**		**12 38 15.5 -0.1**	
	0.5nm,0.7s,mb3.6,baz=242,slow=3.1,SNR=2.6								
SONM				LR		LR		13 02 47.5	
	comp=Z,194nm,19.2s,MS4.2,baz=214,slow=36								
TORD	**Torodi Ar. Bea**	**65.34**	**283**	P		**P**		**12 39 16.6 -0.6**	
	0.5nm,0.8s,mb3.6,baz=139,slow=6.8,SNR=2.9								
KSRS	**Korea Array**	**65.56**	**50**	P		**P**		**12 39 18.5 +0.2**	
	0.4nm,0.5s,mb3.8,baz=268,slow=40,SNR=2.8								
KSRS				LR		LR		13 10 53.0	
	comp=Z,89nm,18.4s,MS4.0,baz=71,slow=39								
LPG	**La Plagne**	**67.58**	**319**	*e*P		**P**		**12 39 32.6 +1.6**	
LPL	**La Plagne**	**67.60**	**319**	*e*P		**P**		**12 39 31.2 0.0**	
ORIF	**Oris-en-Rattie**	**67.97**	**318**	*e*P		**P**		**12 39 32.6 -0.9**	
CDF	**Champ du Feu**	**68.30**	**322**	*e*P		**P**		**12 39 35.4 -0.1**	
	3.0nm,0.6s,mb4.2								
CDF	**Champ du Feu**	**68.30**	**322**	*e*P		**P**		**12 39 35.4 -0.1**	
	1.5nm,0.6s,mb4.2								
CABF	**La Chapelle**	**68.40**	**320**	*e*P		**P**		**12 39 36.1 -0.1**	
	23nm,1.1s,mb4.8								
CABF	**La Chapelle**	**68.40**	**320**	*e*P		**P**		**12 39 36.1 -0.1**	
	12nm,1.1s,mb4.8								
LASF	**Ste Croix**	**69.08**	**317**	*e*P		**P**		**12 39 40.3 -0.1**	
	12nm,1.1s,mb4.5								
WRA	**Warramunga Arr**	**69.74**	**112**	P		**P**		**12 39 45.1 +0.1**	
	1.8nm,0.9s,mb4.0,baz=289,slow=5.8,SNR=6.0								
WB2	**Warramunga Arr**	**69.75**	**112**	P		**P**		**12 39 45.2 +0.1**	
SMF	**Signal de Mont**	**69.88**	**319**	*e*P		**P**		**12 39 45.6 +0.3**	
LOR	**Lormes**	**70.06**	**320**	*e*P		**P**		**12 39 46.3 -0.1**	
	5.0nm,0.8s,mb4.2								
LOR	**Lormes**	**70.06**	**320**	*e*P		**P**		**12 39 46.3 -0.1**	
	2.5nm,0.8s,mb4.2								
ASAR	**Alice Springs**	**70.08**	**116**	P		**P**		**12 39 47.1 +0.2**	
	0.8nm,1.0s,mb3.6,baz=283,slow=5.2,SNR=5.5								
SSF	**Saint Saulge**	**70.22**	**319**	*e*P		**P**		**12 39 47.2 -0.2**	
	4.9nm,0.7s,mb4.2								
SSF	**Saint Saulge**	**70.22**	**319**	*e*P		**P**		**12 39 47.2 -0.2**	
	2.5nm,0.7s,mb4.2								
AVF	**Avril sur Loir**	**70.24**	**319**	*e*P		**P**		**12 39 47.9 +0.4**	
	4.2nm,0.8s,mb4.1								
AVF	**Avril sur Loir**	**70.24**	**319**	*e*P		**P**		**12 39 47.9 +0.4**	
	2.1nm,0.8s,mb4.1								
BGF	**Bois d'Agland**	**70.50**	**319**	*e*P		**P**		**12 39 49.4 +0.3**	
NB2	**NORSAR Subarra**	**71.74**	**335**	P		**P**		**12 39 57.7 +1.4**	
	comp=Z,2.4nm,0.9s,mb4.1,baz=119,slow=6.2								
NOA	**NORSAR Array B**	**71.74**	**335**	P		**P**		**12 39 56.6 +0.2**	
	comp=Z,2.9nm,0.9s,mb4.2,baz=111,slow=6.5,SNR=5.0								
MJAR	**Matsushiro Arr**	**73.39**	**53**	LR		LR		13 16 32.7	
	comp=Z,58nm,18.1s,MS3.9,baz=215,slow=39								
ESDC	**Sonseca Array**	**73.69**	**311**	P		**P**		**12 40 08.7 +0.2**	
	comp=Z,1.9nm,0.7s,mb4.1,baz=86,slow=5.3,SNR=12								
GUMO	**Guam**	**77.62**	**77**	LR		LR		13 11 32.9	
	comp=Z,36nm,19.3s,MS3.7,baz=270,slow=33								
CTA	**Charters Tower**	**80.84**	**111**	LR		LR		13 14 08.5	
	comp=Z,111nm,18.5s,MS4.2,baz=41,slow=34								
PETK	**Petropavlovsk-**	**88.35**	**37**	LR		LR		13 23 39.4	
	comp=Z,113nm,18.2s,MS4.3,baz=277,slow=37								
PDAR	**Pinedale Array**	**134.70**	**356**	PKP		PKPdf		12 47 55.3	+1.9
	comp=Z,0.6nm,0.8s,baz=48,slow=2.2,SNR=4.9								
MNTX	**Cornudas Mount**	**145.09**	**349**	*e*PKPdf		PKPdf		12 48 10.5	-2.1
TXAR	**Lajitas Array**	**146.98**	**345**	PKPbc		PKPbc		12 48 16.4	-1.4
	comp=Z,2.2nm,0.9s,baz=45,slow=2.6,SNR=15								

*ISCJB **05** 12:34:40.3±1.5,3.1N±0.3×669E±0.3,h10km,mb3.6/5,Error ellipse: s-maj=48.9km s-min=27.9km az=141.9*
*IDC **05** 12:34:40.2±1.4,301N×6678E,h0km,mb3.6/5,mb1 3.7/5, mb1mx3.4/21,mbtmp3.6/5,Error ellipse: s-maj=51.1km s-min=29.8km az=49.0*
*NEIC **05** 12:34:41.4±1.0,299N×6672E,h10km,Error ellipse: s-maj=37.5km s-min=22.8km az=47.0*
ISC 05 12:34:42.1±1.5,30N±03×668E±03,h10km,n7,σ0§63/5, mb3.6/5,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**52.86**	**13**	P		**P**		**12 43 57.4 -0.5**	
	0.7nm,0.6s,mb3.8,baz=253,slow=8.9,SNR=3.1								
SONM	**Songino Array**	**56.12**	**31**	P		**P**		**12 44 22.3 +0.5**	
	1.3nm,1.1s,mb3.9,baz=219,slow=4.6,SNR=6.5								
WRA	**Warramunga Arr**	**70.05**	**112**	P		**P**		**12 45 54.3 -0.5**	
	0.5nm,0.8s,mb3.5,baz=298,slow=5.7,SNR=4.6								
ASAR	**Alice Springs**	**70.40**	**116**	P		**P**		**12 45 57.4 +0.4**	
	0.3nm,0.7s,mb3.4,baz=286,slow=6.0,SNR=4.4								
ESDC	**Sonseca Array**	**73.31**	**310**	P		**P**		**12 46 14.2 +0.1**	
	0.9nm,0.9s,mb3.7,baz=119,slow=6.5,SNR=4.3								
MNTX	**Cornudas Mount**	**144.67**	**348**	*e*PKP		PKPdf		12 54 18.2	-1.7
TXAR	**Lajitas Array**	**146.54**	**345**	PKPbc		PKPbc		12 54 23.4	-1.2
	0.9nm,0.7s,baz=54,slow=3.4,SNR=13								

*ISCJB **05** 12:36:07.4±0.6,3753N±002×2704E±004,h1km±5km, Error ellipse: s-maj=6.1km s-min=3.3km az=157.1*
*CSEM **05** 12:36:07.8±0.1,3756N×27.14E,h5km,MD3.0,Error ellipse: s-maj=1.9km s-min=1.2km az=58.0*
*ISK **05** 12:36:07.0,3755N×27.11E,h2km,MD3.0*
*DDA **05** 12:36:07.8,3755N×2710E,h7km±3km,Md3.0*
*ATH **05** 12:36:08.4,3766N×2705E,h24km,MD3.4/3*
ISC 05 12:36:08.5±0.5,3753N±002×2707E±004,h5km±4km,n25, σ0§76/39,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.21**	**37**	*e*P		**Pg**		**12 36 12.7 +0.1**	
GCAM				*i*S		**Sg**		**12 36 16.3 +0.9**	
SMG	**Samos**	**0.26**	**313**	*e*PB		**Pg**		**12 36 13.7 +0.2**	
SMG				*e*SB		**Sg**		**12 36 17.5 +0.6**	
BODT	**Bodrum**	**0.51**	**158**	*e*PG		**Pg**		**12 36 17.9 -0.3**	
BODT				*e*SG		**Sg**		**12 36 26.0 +1.2**	
BDRM	**Kayabasi**	**0.55**	**148**	*i*P		**Pg**		**12 36 18.9 -0.2**	
BDRM				*i*S		**Sg**		**12 36 27.1 +0.8**	
MLSB	**Milas**	**0.61**	**113**	*e*PG		**Pg**		**12 36 19.4 -0.8**	
MLSB				*e*SG		**Sg**		**12 36 28.5 +0.5**	
AYDN	**Tasoluk**	**0.65**	**79**	*i*P		**Pg**		**12 36 20.4 -0.6**	
AYDN				*i*S		**Sg**		**12 36 28.8 -0.7**	
BLCB	**Balcova**	**0.85**	**358**	*e*PG		**Pg**		**12 36 24.0 -0.8**	
BLCB				*e*SG		**Sg**		**12 36 35.7 -0.2**	
IZM	**Izmir**	**0.88**	**10**	*e*PG		**Pg**		**12 36 24.4 -0.9**	
IZM				*e*SG		**Sg**		**12 36 37.2 +0.6**	
KDAG	**Bornova**	**0.88**	**10**	*i*P		**Pg**		**12 36 24.5 -0.9**	
KDAG				*i*S		**Sg**		**12 36 38.6 +1.8**	
URLA	**Izmir**	**0.91**	**336**	*i*P		**Pg**		**12 36 25.1 -0.8**	
URLA				*i*S		**Sg**		**12 36 37.5 -0.2**	
YER	**Yerkesik**	**1.04**	**112**	*e*PG		**Pg**		**12 36 27.6 -0.9**	
APE	**Apeiranthos**	**1.32**	**250**	*e*PN		**Pn**		**12 36 33.8 +0.3**	
TURN	**Turunc**	**1.39**	**118**	*i*P		**Pn**		**12 36 30.0 -4.5**	
TURN				*i*S		**Sb**		**12 36 46.2 -6.6**	
AKS	**Akhisar**	**1.46**	**23**	*e*PN		**Pn**		**12 36 35.2 -0.3**	
AKHS	**Akhisar**	**1.46**	**23**	*i*P		**Pn**		**12 36 36.0 +0.4**	
AKHS				*i*S		**Sn**		**12 36 55.6 +0.5**	
DALT	**Dalyan (Mudla)**	**1.46**	**121**	*e*PN		**Pn**		**12 36 35.1 -0.4**	
KULA	**Kula-Manisa**	**1.59**	**52**	*e*PN		**Pn**		**12 36 36.9 -0.4**	
PRK	**Paraskevi**	**1.82**	**340**	*e*PN		**Pn**		**12 36 38.6 -1.9**	
KHL	**Karahalli**	**2.09**	**67**	*e*PN		**Pn**		**12 36 44.1 -0.1**	
BALB	**Balikesir**	**2.19**	**16**	*e*PN		**Pn**		**12 36 45.6 0.0**	
BALY	**Balya**	**2.24**	**11**	*e*P		**Pn**		**12 36 48.3 +2.1**	
BALY				*i*S		**Sn**		**12 37 20.5 +6.2**	
EZN	**Ezine**	**2.36**	**346**	*e*PN		**Pn**		**12 36 48.1 +0.2**	
ELL	**Elmali**	**2.40**	**108**	*e*PN		**Pn**		**12 36 48.5 +0.1**	
DST	**Dursunbey**	**2.40**	**30**	*e*PN		**Pn**		**12 36 48.3 -0.1**	
AKAS	**Kas**	**2.41**	**122**	*i*P		**Pn**		**12 36 48.9 +0.4**	
AKAS				*e*S		**Sn**		**12 37 26.6 +8.2**	

*ISCJB **05** 12:44:42.9±1.2,27N±02×666E±03,h10km,mb3.9/8,Error ellipse: s-maj=42.6km s-min=18.8km az=149.5*
*IDC **05** 12:44:43.2±1.3,269N×6658E,h0km,mb3.8/8,mb1 4.0/8, mb1mx3.7/22,mbtmp3.8/8,Error ellipse: s-maj=45.1km s-min=22.5km az=58.0*
*NEIC **05** 12:44:44.7±0.8,270N×6657E,h10km,Error ellipse: s-maj=28.7km s-min=15.1km az=59.0*
ISC 05 12:44:44.6±1.2,27N±02×665E±03,h10km,n13,σ0§55/10, mb3.9/8,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.05**	**15**	P		**P**		**12 53 08.3 -0.2**	
	0.5nm,0.4s,mb3.8,baz=184,slow=24,SNR=7.4								
MKAR	**Makanchi Array**	**46.05**	**15**	P		**P**		**12 53 08.3 -0.2**	
AKTK	**Aktyubinsk**	**48.15**	**353**	P		**P**		**12 53 25.5 +0.7**	
AKTO	**Aktyubinsk**	**48.15**	**353**	P		**P**		**12 53 25.5 +0.7**	
	1.5nm,0.5s,mb4.2,baz=166,slow=8.9,SNR=5.2								
ZALV	**Zalesovo Beam**	**53.28**	**13**	P		**P**		**12 54 02.3 -1.2**	
	1.9nm,0.7s,mb4.2,baz=210,slow=8.6,SNR=7.7								
SONM	**Songino Array**	**56.58**	**31**	P		**P**		**12 54 27.8 +0.3**	
	0.3nm,0.4s,mb3.7,baz=2.1,slow=40,SNR=3.5								
WRA	**Warramunga Arr**	**70.16**	**112**	P		**P**		**12 55 58.1 0.0**	
	1.1nm,0.9s,mb3.8,baz=293,slow=5.6,SNR=8.8								
ASAR	**Alice Springs**	**70.49**	**116**	P		**P**		**12 55 59.8 -0.2**	
	0.5nm,0.8s,mb3.5,baz=288,slow=5.5,SNR=5.2								
ESDC	**Sonseca Array**	**73.34**	**311**	P		**P**		**12 56 16.4 -0.4**	
	0.8nm,0.9s,mb3.7,baz=89,slow=4.6,SNR=4.9								
STKA	**Stephens Creek**	**78.76**	**123**	P		**P**		**12 56 48.3 +0.4**	
	1.8nm,0.8s,mb4.0,baz=22,slow=20,SNR=3.5								
MNTX	**Cornudas Mount**	**144.98**	**348**	*e*PKP		PKPdf		13 04 23.1	+0.2
TXAR	**Lajitas Array**	**146.83**	**344**	PKPbc		PKPbc		13 04 28.7	+0.8
TXAR	**Lajitas Array**	**146.83**	**344**	PKPbc		PKPbc		13 04 28.7	+0.8

*SZGRF **05** 12:55:40.4,441S×3581E,h33km,mb5.0,Tanzania*
*IDC **05** 12:55:48.2±0.5,264S×36.10E,h0km,mb4.3/19, mb1 4.3/20,mb1mx4.2/27,mbtmp4.2/20,ML3.9/1,MS4.3/22, Ms1 4.4/22,ms1mx4.3/28,Error ellipse: s-maj=16.6km s-min=11.1km az=116.0*
*BJI **05** 12:55:48.8,270S×3600E,h10km,mB4.9,mb4.3*
*ISCJB **05** 12:55:48.0±0.3,271S±005×3600E±006,h10km,mb4.4/32, MS4.4/25,Error ellipse: s-maj=9.1km s-min=6.6km az=172.2*
*NEIC **05** 12:55:49.9±0.3,274S×3600E,h10km,mb4.7/13,MS4.5/2, Error ellipse: s-maj=9.8km s-min=7.0km az=78.0*
NEIC Felt at Usa River. Also felt at Nairobi, Kenya.
*DJA **05** 12:55:50,237S×3554E,h10km,mb5.0/10*
ISC 05 12:55:50.0±0.3,275S±004×3601E±006,h10km,n79, σ1§01/78,mb4.4/32,MS4.4/25,Tanzania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**14.64**	**211**	Pn		**Pn**		**12 59 14.2 -3.1**	
	1.2nm,0.3s,baz=32,slow=14,SNR=14								
LSZ					Sn	**Sn**		**13 01 53.9 -5.8**	
	0.7nm,0.3s,baz=311,slow=20,SNR=3.9								
LSZ					Lg			13 03 27.8	
	2.1nm,0.3s,baz=113,slow=22,SNR=9.2								
LSZ				LR		LR		13 05 06.8	
	comp=Z,2μm,18.7s,baz=106,slow=38								
LSZ	**Lusaka**	**14.64**	**211**	*e*Pn		**Pn**		**12 59 14.7 -2.6**	
LSZ				*e*Sn		**Sn**		**13 01 59.8 0.0**	
LSZ					Lg			13 03 27.9	
LSZ				LR		LR		13 05 06.8	
OPO	**Ambohidratompo**	**19.16**	**146**	P		**Pn**		**13 00 15.5 +0.9**	
	0.4nm,0.3s,baz=312,slow=14,SNR=4.5								
OPO					S	**Sn**		**13 03 40.3 -9.0**	
	0.2nm,0.3s,baz=238,slow=21,SNR=2.3								
ABPO	**Ambohimpanom**	**19.54**	**147**	*e*P		**Pn**		**13 00 20.6 +1.5**	
	33nm,1.4s								
LBTB	**Lobatse**	**24.30**	**203**	P		**P**		**13 01 07.4 -0.4**	
	11nm,0.7s,mb4.4,baz=30,slow=11,SNR=13								
LBTB					S	**S**		**13 05 40.5 +14**	
	4.7nm,0.9s,baz=23,slow=17,SNR=2.2								
LBTB					Lg			13 08 25.3	
	12nm,0.8s,baz=174,slow=18,SNR=2.0								
LBTB				LR		LR		13 10 18.0	
	comp=Z,538nm,18.4s,MS4.1,baz=44,slow=36								
LBTB	**Lobatse**	**24.30**	**203**	*e*P		**P**		**13 01 07.9 +0.1**	
LBTB					S	**S**		**13 05 40.5 +14**	
LBTB					Lg			13 08 25.3	
LBTB				LR		LR		13 10 18.0	
TSUM	**Tsumeb**	**24.33**	**226**	P		**P**		**13 01 07.9 -0.2**	
	1.0nm,0.2s,mb3.8,baz=28,slow=9.2,SNR=6.1								
TSUM					S	**S**		**13 05 35.6 +8.1**	
	3.1nm,0.9s,baz=86,slow=20,SNR=1.9								
TSUM					Lg			13 08 34.7	
	19nm,1.0s,baz=49,slow=3.3,SNR=2.8								
TSUM				LR		LR		13 11 15.2	
	comp=Z,2μm,18.1s,MS4.6,baz=39,slow=38								
TSUM	**Tsumeb**	**24.33**	**226**	*e*P		**P**		**13 01 08.5 +0.4**	
TSUM					S	**S**		**13 05 35.6 +8.1**	
TSUM					Lg			13 08 34.7	
TSUM				LR		LR		13 11 15.2	
BOSA	**Boshof**	**27.68**	**201**	P		**P**		**13 01 38.1 -0.2**	
	27nm,1.0s,mb4.8,baz=23,slow=8.7,SNR=20								
BOSA					Lg			13 10 09.7	
	27nm,1.3s,baz=109,slow=19,SNR=2.1								
BOSA				LR		LR		13 12 55.4	
	comp=Z,997nm,18.0s,MS4.4,baz=26,slow=37								
BOSA	**Boshof**	**27.68**	**201**	*e*P		**P**		**13 01 38.8 +0.4**	
BOSA					Lg			13 10 09.7	
BOSA				LR		LR		13 12 55.4	
SUR	**Sutherland**	**32.75**	**204**	P		**P**		**13 02 23.7 +0.5**	
	20nm,1.0s,mb5.0,baz=61,slow=8.1,SNR=4.2								
TOA0	**Torodi Ar. Sit**	**37.55**	**296**	*e*P		**P**		**13 03 04.2 -0.5**	
TORD	**Torodi Ar. Bea**	**37.55**	**296**	P		**P**		**13 03 03.3 -1.4**	
	6.1nm,1.0s,mb4.3,baz=110,slow=6.4,SNR=20								
TORD					LR	LR		13 18 36.8	
	comp=Z,1μm,18.9s,MS4.7,baz=100,slow=36								
DBIC	**Dimbokro**	**41.86**	**283**	LR		LR		13 21 25.1	
	comp=Z,792nm,21.1s,MS4.6,baz=96,slow=37								
DBIC	**Dimbokro**	**41.86**	**283**	*e*P		**P**		**13 03 40.0 -0.8**	
KEST	**Kesra**	**45.69**	**329**	LR		LR		13 24 08.5	
	comp=Z,289nm,19.0s,MS4.2,baz=96,slow=37								
PGF	**Pioggiola**	**51.28**	**335**	*e*P		**P**		**13 04 55.3 +1.1**	
	34nm,1.2s,mb4.8								
PGF	**Pioggiola**	**51.28**	**335**	*e*P		**P**		**13 04 55.3 +1.1**	
	17nm,1.2s,mb4.8								
AKASG	**Malin Array Be**	**53.56**	**355**	P		**P**		**13 05 11.6 +0.6**	
	1.1nm,0.7s,mb3.9,baz=180,slow=6.6,SNR=5.0								
MBDF	**Montbardon**	**54.00**	**335**	*e*P		**P**		**13 05 15.4 +1.1**	
	29nm,1.3s,mb4.7								
MBDF	**Montbardon**	**54.00**	**335**	*e*P		**P**		**13 05 15.4 +1.1**	
	14nm,1.3s,mb4.7								
ORIF	**Oris-en-Rattie**	**54.53**	**334**	*e*P		**P**		**13 05 18.9 +0.7**	
ORIF					*e*MLR	MLR			
	comp=Z,434nm,20.8s,MS4.2								
LPL	**La Plagne**	**54.65**	**335**	*e*P		**P**		**13 05 20.6 +1.6**	
GERES	**GERESS Array B**	**54.93**	**342**	P		**P**		**13 05 20.5 -0.4**	
	comp=Z,2.8nm,1.0s,mb4.3,baz=144,slow=4.8,SNR=14								
GERES					LR	LR		13 33 31.8	
	comp=Z,144nm,18.6s,MS4.1,baz=24,slow=41								
MTLF	**Montolieu**	**55.04**	**330**	*e*P		**P**		**13 05 22.3 +0.4**	
KHC	**Kasperske Hory**	**55.22**	**342**	*e*P		**P**		**13 05 22.0 -1.0**	
ESDC	**Sonseca Array**	**55.91**	**323**	P		**P**		**13 05 27.0 -1.2**	
	comp=Z,2.5nm,0.9s,mb4.2,baz=129,slow=6.9,SNR=14								
ESDC					LR	LR		13 30 59.2	
	comp=Z,341nm,18.7s,MS4.5,baz=145,slow=38								
ETSF	**Etsaut**	**56.14**	**328**	*e*P		**P**		**13 05 30.3 +0.5**	
	comp=Z,16nm,1.1s,mb4.7								
ETSF	**Etsaut**	**56.14**	**328**	*e*P		**P**		**13 05 30.3 +0.5**	
	comp=Z,7.8nm,1.1s,mb4.7								
AML	**Almayashu**	**56.21**	**33**	*e*P		**P**		**13 05 31.6 +1.3**	
	comp=Z,3.0nm,0.9s,mb4.3								
CAF	**Calviac**	**56.29**	**332**	*e*P		**P**		**13 05 31.7 +0.9**	
HINF	**Hinteralfeld**	**56.45**	**337**	*e*P		**P**		**13 05 32.8 +0.9**	
GRA1	**Grafenberg Arr**	**56.45**	**341**	*e*P		**P**		**13 05 31.2 -0.7**	
	comp=Z,43nm,2.5s,mb5.0								
GRF	**Grafenberg Arr**	**56.45**	**341**	*e*P		**P**		**13 05 31.2 -0.7**	
	comp=Z,43nm,2.5s,mb5.0								
SJPF	**Ste Jean**	**56.64**	**328**	*e*P		**P**		**13 05 31.9 -1.5**	
CDF	**Champ du Feu**	**56.77**	**337**	*e*P		**P**		**13 05 33.5 -0.7**	
SMF	**Signal de Mont**	**56.77**	**334**	*e*P		**P**		**13 05 34.6 +0.4**	
	comp=Z,25nm,1.4s,mb4.8								
SMF	**Signal de Mont**	**56.77**	**334**	*e*P		**P**		**13 05 34.6 +0.4**	
	comp=Z,13nm,1.4s,mb4.8								
HAU	**Haudompre**	**56.80**	**337**	*e*P		**P**		**13 05 35.5 +1.1**	
HAU					*e*MLR	MLR			
	comp=Z,206nm,19.8s,MS3.9								
HAU	**Haudompre**	**56.80**	**337**	*e*P		**P**		**13 05 35.5 +1.1**	
HAU					LR	LR			
	comp=Z,210nm,19.8s,MS4.2								
RJF	**Les Rejaudoux**	**56.83**	**331**	*e*P		**P**		**13 05 34.8 +0.2**	
RJF					*e*MLR	MLR			
	comp=Z,640nm,18.8s,MS4.4								
RJF	**Les Rejaudoux**	**56.83**	**331**	*e*P		**P**		**13 05 34.8 +0.2**	
RJF					LR	LR			
	comp=Z,640nm,18.8s,MS4.7								
AVF	**Avril sur Loir**	**57.10**	**334**	*e*P		**P**		**13 05 36.8 +0.2**	
	comp=Z,14nm,1.2s,mb4.6								
AVF	**Avril sur Loir**	**57.10**	**334**	*e*P		**P**		**13 05 36.8 +0.2**	
	comp=Z,7.0nm,1.2s,mb4.6								
BGF	**Bois d'Agland**	**57.15**	**333**	*e*P		**P**		**13 05 36.5 -0.4**	
TCF	**Toulx Ste Croi**	**57.23**	**333**	*e*P		**P**		**13 05 38.0 +0.5**	
	comp=Z,38nm,1.3s,mb5.0								
TCF	**Toulx Ste Croi**	**57.23**	**333**	*e*P		**P**		**13 05 38.0 +0.5**	
	comp=Z,19nm,1.3s,mb5.0

FITZ **Fitzroy Crossi 23.48 232** P **P 13 23 59.1 -0.7**
7.0nm,0.7s,mb4.2,baz=65,slow=10,SNR=24
STKA **Stephens Creek 28.01 186** *e*P **P 13 24 41.6 +0.9**
2.4nm,0.7s,mb3.9
STKA **Stephens Creek 28.01 186** P **P 13 24 40.1 -0.6**
3.0nm,0.7s,mb4.0,baz=358,slow=7.3,SNR=9.3
STKA **Stephens Creek 28.01 186** *e*P **P 13 24 41.3 +0.5**

IDC 05 13:19:08.1±2.1, 093N×9689E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, ML3.6/2, MS4.0/2, Ms1 4.0/2, ms1mx3.2/38, Error ellipse: s-maj=50.0km s-min=26.9km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.75**	**47**	Pn	Pn	13 19 52.2	-1.3
	0.9nm,0.3s,baz=207,slow=9.0,SNR=7.9						
CMAR	**Chiang Mai Arr**	**17.54**	**6**	P	Pn	13 23 14.2	0.0
	0.4nm,0.3s,baz=192,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**42.15**	**122**	P	P	13 27 02.6	-0.1
	0.3nm,0.6s,baz=302,slow=9.3,SNR=4.5						
KSRS	**Korea Array**	**46.24**	**35**	P	P	13 27 35.0	-0.3
	2.2nm,0.9s,baz=224,slow=9.3,SNR=8.0						
MKAR	**Makanchi Array**	**47.43**	**346**	P	P	13 27 45.1	+0.7
	0.5nm,0.4s,baz=156,slow=8.0,SNR=7.6						
SONM	**Songino Array**	**47.45**	**9**	P	P	13 27 45.5	+1.1
	1.0nm,0.8s,baz=180,slow=10,SNR=6.6						
CTA	**Charters Tower**	**52.66**	**116**	LR	LR	13 55 46.0	
	comp=Z,290nm,18.8s,baz=237,slow=42						
ZALV	**Zalesovo Beam**	**53.78**	**351**	P	P	13 28 30.5	-1.7
	1.3nm,0.6s,baz=165,slow=6.2,SNR=5.3						
PETK	**Petropavlovsk-**	**72.13**	**34**	LR	LR	14 07 29.1	
	comp=Z,55nm,18.9s,baz=94,slow=40						

IDC 05 13:38:28.3±3.2, 525S×13386E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.4/14, mbtmp3.3/4, ML2.9/3, MS3.9/1, Ms1 3.9/1, ms1mx2.9/30, Error ellipse: s-maj=132.7km s-min=30.1km az=83.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.61**	**178**	Pn	Pn	13 41 55.3	-1.1
	0.1nm,0.3s,baz=355,slow=13,SNR=5.7						
FITZ	**Fitzroy Crossi**	**15.09**	**211**	Pn	Pn	13 42 03.0	0.0
	0.1nm,0.3s,baz=22,slow=14,SNR=3.8						
FITZ				Sn	Sn	13 44 33.7	-17
	0.1nm,0.3s,baz=122,slow=21,SNR=4.3						
ASAR	**Alice Springs**	**18.31**	**180**	P	Pn	13 42 44.4	+0.5
	0.0nm,0.3s,baz=5.7,slow=10,SNR=3.5						
RAO	**Raoul Island**	**51.39**	**123**	LR	LR	14 04 18.6	
	comp=Z,118nm,20.0s,baz=221,slow=30						
MKAR	**Makanchi Array**	**68.94**	**325**	P	P	13 49 35.5	+0.1
	0.2nm,0.3s,baz=106,slow=6.7,SNR=2.6						

IDC 05 13:39:41.8±2.5, 065N×9997E, h144km±15km, mb3.5/6, mb1 3.5/7, mb1mx3.2/20, mbtmp3.4/7, Error ellipse: s-maj=94.6km s-min=14.7km az=52.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.38**	**334**	P	Pn	13 40 20.9	-0.3
	1.7nm,0.3s,baz=16,slow=15,SNR=8.5						
PSI				S	Sn	13 40 50.0	-1.5
	1.0nm,0.3s,baz=224,slow=20,SNR=7.0						
BATI	**Baumata**	**25.93**	**115**	P	P	13 45 02.2	+1.4
	4.8nm,0.3s,baz=211,slow=5.9,SNR=2.5						
WRA	**Warramunga Arr**	**39.41**	**123**	P	P	13 46 57.2	-0.5
	0.8nm,0.5s,baz=304,slow=9.1,SNR=8.1						
WRA				PcP	PcP	13 49 03.1	-0.1
	0.3nm,0.4s,baz=318,slow=2.6,SNR=5.6						
ASAR	**Alice Springs**	**40.87**	**129**	P	P	13 47 08.5	-1.3
	0.2nm,0.3s,baz=297,slow=7.3,SNR=8.3						
ASAR				PcP	PcP	13 49 08.6	+0.8
	0.3nm,0.5s,baz=315,slow=1.9,SNR=7.0						
MKAR	**Makanchi Array**	**48.49**	**344**	P	P	13 48 10.0	+0.2
	0.4nm,0.3s,baz=151,slow=8.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**54.58**	**349**	P	P	13 48 54.8	0.0
	0.4nm,0.3s,baz=150,slow=6.1,SNR=2.8						
ARCES	**ARCESS Array B**	**83.99**	**340**	P	P	13 51 55.0	-0.5
	0.8nm,0.7s,baz=83,slow=3.8,SNR=5.0						

IDC 05 13:44:24.3±2.4, 238N×6630E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/21, mbtmp3.7/3, MS3.7/2, Ms1 3.7/2, ms1mx3.0/40, Error ellipse: s-maj=89.0km s-min=41.1km az=59.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**41.58**	**244**	LR	LR	14 06 24.9	
	comp=Z,140nm,19.9s,baz=118,slow=32						
SONM	**Songino Array**	**56.95**	**31**	P	P	13 54 11.7	+0.2
	0.2nm,0.4s,baz=220,slow=4.4,SNR=4.1						
WRA	**Warramunga Arr**	**70.28**	**112**	P	P	13 55 39.7	-0.4
	1.2nm,0.8s,baz=291,slow=5.8,SNR=5.0						
ASAR	**Alice Springs**	**70.58**	**116**	P	P	13 55 42.4	+0.5
	0.5nm,0.7s,baz=284,slow=4.9,SNR=6.8						
CTA	**Charters Tower**	**81.39**	**111**	LR	LR	14 24 39.7	
	comp=Z,29nm,21.5s,baz=39,slow=30						
TXAR	**Lajitas Array**	**147.04**	**344**	PKPbc	PKPbc	14 04 09.1	-0.7
	0.9nm,0.7s,baz=64,slow=2.7,SNR=8.7						

IDC 05 13:51:02.5±8.2, 596S×15427E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=134.0km s-min=72.9km az=39.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.84**	**233**	P	P	13 56 18.8	+1.2
	1.1nm,0.5s,baz=57,slow=9.9,SNR=23						
ASAR	**Alice Springs**	**26.34**	**226**	P	P	13 56 40.5	+0.1
	0.4nm,0.4s,baz=64,slow=9.6,SNR=22						
STKA	**Stephens Creek**	**28.38**	**203**	P	P	13 56 58.4	-0.1
	1.0nm,0.6s,baz=24,slow=16,SNR=2.3						
FITZ	**Fitzroy Crossi**	**30.43**	**244**	P	P	13 57 15.8	-1.1
	2.1nm,1.0s,baz=51,slow=13,SNR=2.7						

IDC 05 13:54:41.3±9.3, 161N×12582E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/16, mbtmp3.7/3, Error ellipse: s-maj=161.5km s-min=143.7km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.99**	**159**	P	P	13 59 48.2	+0.5
	1.1nm,0.4s,baz=337,slow=11,SNR=37						
ASAR	**Alice Springs**	**26.32**	**163**	P	P	14 00 19.7	+0.8
	0.3nm,0.4s,baz=351,slow=7.0,SNR=15						
STKA	**Stephens Creek**	**36.51**	**157**	P	P	14 01 47.4	-1.1
	1.2nm,0.5s,baz=354,slow=10,SNR=6.2						

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*ISCJB **05** 13:56:17.0±1.2, 25N±02×66.1E±02, h10km, mb4.0/8, MS3.8/7, Error ellipse: s-maj=37.7km s-min=22.1km az=142.1*
*IDC **05** 13:56:17.6±1.2, 251N×66.18E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.8/21, mbtmp4.0/8, MS3.8/7, Ms1 3.8/7, ms1mx3.3/43, Error ellipse: s-maj=42.6km s-min=22.6km az=48.0*
*NEIC **05** 13:56:19.5±1.1, 253N×6620E, h10km, Error ellipse: s-maj=36.9km s-min=22.9km az=51.0*

ISC 05 13:56:18.8±1.2, 25N±02×661E±02, h10km, n16, σ0=85/9, mb4.0/8, MS3.8/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.90**	**61**	LR	LR	14 17 54.4	
	comp=Z,67nm,18.9s,MS3.4,baz=180,slow=36						
MKAR	**Makanchi Array**	**46.36**	**15**	P	P	**14 04 45.0**	**-0.1**
	0.3nm,0.2s,mb3.6,baz=188,slow=8.3,SNR=5.2						
MKAR				LR	LR	14 23 52.5	
	comp=Z,72nm,19.1s,MS3.6,baz=188,slow=36						
BOSA	**Boshof**	**49.88**	**229**	LR	LR	14 23 27.2	
	comp=Z,132nm,19.2s,MS4.0,baz=234,slow=33						
BVAR	**Borovoye Array**	**50.53**	**3**	LR	LR	14 25 19.6	
	comp=Z,138nm,20.8s,MS4.0,baz=5.1,slow=34						
TSUM	**Tsumeb**	**52.29**	**243**	LR	LR	14 25 52.4	
	comp=Z,177nm,19.3s,MS4.1,baz=320,slow=34						
ZAA0	**Zalesovo Array**	**53.59**	**14**	*e*P	**P**	**14 05 40.5**	**+0.5**
ZALV	**Zalesovo Beam**	**53.59**	**14**	P	**P**	**14 05 39.4**	**-0.6**
	2.2nm,0.7s,mb4.2,baz=198,slow=9.3,SNR=9.6						
ZALV				LR	LR	14 28 34.3	
	comp=Z,52nm,18.6s,MS3.6,baz=264,slow=36						
SONM	**Songino Array**	**56.99**	**31**	P	**P**	**14 06 05.4**	**+0.8**
	0.7nm,0.7s,mb3.8,baz=230,slow=7.5,SNR=4.8						
SONM				LR	LR	14 30 21.9	
	comp=Z,124nm,20.1s,MS4.0,baz=77,slow=36						
WRA	**Warramunga Arr**	**70.49**	**112**	P	**P**	**14 07 35.4**	**+1.1**
	3.2nm,0.9s,mb4.2,baz=289,slow=5.9,SNR=11						
ASAR	**Alice Springs**	**70.79**	**116**	P	**P**	**14 07 34.8**	**-1.3**
	1.0nm,0.7s,mb3.8,baz=83,slow=10.0,SNR=10						
NOA	**NORSAR Array B**	**71.52**	**335**	P	**P**	**14 07 39.8**	**+0.1**
	2.0nm,0.9s,mb4.1,baz=112,slow=6.6,SNR=3.6						
ARCES	**ARCESS Array B**	**72.14**	**346**	P	**P**	**14 07 41.9**	**-1.4**
	1.6nm,0.9s,mb4.0,baz=60,slow=4.8,SNR=4.0						
ESDC	**Sonseca Array**	**73.14**	**311**	P	**P**	**14 07 50.7**	**+0.8**
	1.7nm,0.8s,mb4.0,baz=83,slow=5.4,SNR=11						
MNTX	**Cornudas Mount**	**145.08**	**347**	*e*PKP	PKPdf	14 15 59.1	+1.9
TXAR	**Lajitas Array**	**146.91**	**343**	PKPbc	PKPbc	14 16 04.2	+2.0
	6.6nm,0.9s,baz=60,slow=2.8,SNR=60						
TXAR	**Lajitas Array**	**146.91**	**343**	PKPbc	PKPbc	14 16 04.2	+1.9

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*ISCJB **05** 14:21:43.5±0.4, 281N±008×6629E±006, h10km, mb4.4/42, MS3.9/23, Error ellipse: s-maj=11.7km s-min=9.1km az=14.0*
*IDC **05** 14:21:43.7±0.6, 278N×6626E, h0km, mb4.2/23, mb1 4.3/23, mb1mx4.2/30, mbtmp4.2/23, MS3.9/22, Ms1 3.9/22, ms1mx3.8/29, Error ellipse: s-maj=20.1km s-min=13.6km az=30.0*
*BJI **05** 14:21:45.5, 280N×6630E, h10km, mB5.0, mb4.5, Ms4.4, Msz4.1*
*NEIC **05** 14:21:45.5±0.2, 283N×6631E, h10km, mb4.8/14, Error ellipse: s-maj=7.2km s-min=5.9km az=200.0*

ISC 05 14:21:45.6±0.4, 281N±008×6630E±006, h10km, n82, σ0=62/68, mb4.4/42, MS3.9/23, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**13.12**	**236**	*e*P	**Pn**	**14 24 53.3**	**+1.1**
KMBO	**Kilima Mbogo**	**29.30**	**263**	LR	LR	14 38 32.9	
	comp=Z,225nm,20.6s,MS3.8,baz=93,slow=34						
PSI	**Prapat**	**32.58**	**89**	PcP	PcP	14 31 04.6	+0.5
	5.8nm,0.9s,baz=236,slow=8.4,SNR=3.9						
PSI				LR	LR	14 37 16.1	
	comp=Z,129nm,20.9s,MS3.6,baz=267,slow=29						
SHL	**Shillong**	**33.42**	**45**	*e*P	**P**	**14 28 32.5**	**+7.8**
CMAR	**Chiang Mai Arr**	**35.54**	**62**	P	**P**	**14 28 43.7**	**+0.5**
	0.9nm,0.8s,mb3.8,baz=249,slow=11,SNR=3.8						
CMAR				PcP	PcP	14 31 13.4	+1.0
	0.7nm,0.4s,baz=249,slow=4.7,SNR=4.2						
CMAR				LR	LR	14 42 40.3	
	comp=Z,189nm,19.9s,MS3.9,baz=216,slow=35						
LSA	**Lhasa**	**35.65**	**39**	*e*P	**P**	**14 28 49.2**	**+5.2**
	8.2nm,0.8s,mb4.7						
EIL	**Elat**	**39.97**	**315**	LR	LR	14 44 49.7	
	comp=Z,59nm,18.5s,MS3.5,baz=117,slow=35						
ASF	**Jabal al Asfar**	**40.20**	**320**	P	**P**	**14 29 23.1**	**+0.7**
	3.8nm,0.9s,mb4.1,baz=322,slow=5.4,SNR=3.3						
ASF				LR	LR	14 45 08.1	
	comp=Z,87nm,19.2s,MS3.6,baz=334,slow=35						
MMAI	**Mount Meron Ar**	**41.71**	**320**	P	**P**	**14 29 33.7**	**-1.1**
	13nm,1.0s,mb4.5,baz=253,slow=42,SNR=4.0						
MMAI				LR	LR	14 46 23.1	
	comp=Z,97nm,18.3s,MS3.7,baz=105,slow=36						
GNI	**Garni**	**41.98**	**335**	P	**P**	**14 29 37.6**	**+0.6**
	2.5nm,0.3s,mb4.2,baz=143,slow=10,SNR=1.8						
GYA	**Guiyang**	**45.26**	**55**	P	**P**	**14 30 04.8**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**45.96**	**15**	P	**P**	**14 30 08.5**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=204,slow=5.5,SNR=5.7						
MKAR				PcP	PcP	14 31 45.7	+0.2
	comp=Z,1.0nm,0.8s,baz=225,slow=3.1,SNR=5.0						
MKAR				LR	LR	14 48 55.2	
	comp=Z,110nm,21.0s,MS3.8,baz=186,slow=36						
GTA	**Gaotai**	**47.47**	**35**	*e*P	**P**	**14 30 25.0**	**+4.3**
GTA				AP	pP	14 30 28.7	+4.8
GTA				XP	sP	14 30 31.7	+6.6
GTA				PP	PP	14 32 16.5	+4.3
GTA				S	**S**	**14 37 22.6**	**+7.2**
GTA				XS	sS	14 37 30.9	+10
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,104nm,3.8s						
GTA				LR	LR		
	comp=N,130nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=E,181nm,13.7s,MS4.3						
GTA				LR	LR		
	comp=Z,154nm,16.0s,MS4.1						
LZH	**Lanzhou**	**47.93**	**42**	*e*P	**P**	**14 30 31.5**	**+7.2**
LZH				AP	pP	14 30 34.0	+6.5
LZH				XP	sP	14 30 37.1	+8.4
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,83nm,4.3s						
AKTK	**Aktyubinsk**	**47.97**	**353**	P	**P**	**14 30 25.4**	**+1.0**
AKTO	**Aktyubinsk**	**47.97**	**353**	P	**P**	**14 30 25.4**	**+1.0**
	comp=Z,7.3nm,0.8s,mb4.7,baz=166,slow=8.3,SNR=27						
BVAR	**Borovoye Array**	**50.16**	**3**	PcP	PcP	14 32 01.1	+0.6
	comp=Z,1.2nm,0.8s,baz=183,slow=5.9,SNR=5.3						
BOSA	**Boshof**	**50.28**	**229**	P	**P**	**14 30 41.7**	**-0.7**
	comp=Z,4.3nm,0.8s,mb4.5,baz=130,slow=19,SNR=5.1						
BOSA				LR	LR	14 50 19.4	
	comp=Z,261nm,18.3s,MS4.3,baz=354,slow=34						
BOSA	**Boshof**	**50.28**	**229**	P	**P**	**14 30 41.7**	**-0.8**
BOSA				LR	LR	14 50 19.4	
ZAA0	**Zalesovo Array**	**53.19**	**14**	*e*P	**P**	**14 31 03.1**	**-0.6**
ZALV	**Zalesovo Beam**	**53.19**	**14**	P	**P**	**14 31 03.5**	**-0.2**
	comp=Z,1.4nm,0.5s,mb4.2,baz=198,slow=9.3,SNR=9.2						
ZALV				LR	LR	14 53 27.3	
	comp=Z,101nm,18.8s,MS3.9,baz=219,slow=36						
SONM	**Songino Array**	**56.58**	**31**	P	**P**	**14 31 29.0**	**+0.6**
	comp=Z,2.4nm,1.0s,mb4.2,baz=231,slow=6.0,SNR=12						
SONM				LR	LR	14 55 44.0	
	comp=Z,264nm,21.1s,MS4.3,baz=236,slow=36						
AKASG	**Malin Array Be**	**57.02**	**333**	P	**P**	**14 31 29.6**	**-1.9**
	comp=Z,0.2nm,0.3s,mb3.6,baz=133,slow=5.9,SNR=4.0						
AKASG				PcP	PcP	14 32 26.2	-0.4
	comp=Z,0.1nm,0.2s,baz=123,slow=2.6,SNR=4.7						
AKASG	**Malin Array Be**	**57.02**	**333**	P	**P**	**14 31 29.6**	**-1.9**
AKASG				PcP	PcP	14 32 26.2	-0.4
KEST	**Kesra**	**61.87**	**309**	LR	LR	14 58 11.3	
	comp=Z,27nm,20.7s,MS3.4,baz=314,slow=35						
VRAC	**Vranov**	**62.64**	**326**	P	**P**	**14 32 09.4**	**-0.8**
	comp=Z,1.4nm,0.5s,mb4.4,baz=185,slow=2.0,SNR=3.3						
JOW	**Kunigami**	**63.82**	**62**	P	**P**	**14 32 18.0**	**-0.5**
	comp=Z,13nm,0.9s,mb5.0,baz=135,slow=21,SNR=3.6						
JOW				LR	LR	15 02 19.9	
	comp=Z,131nm,19.7s,MS4.1,baz=198,slow=38						
TORD	**Torodi Ar. Bea**	**64.64**	**283**	P	**P**	**14 32 23.8**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.6,baz=110,slow=6.3,SNR=2.5						
TORD				LR	LR	15 00 13.2	
	comp=Z,113nm,18.4s,MS4.1,baz=100,slow=36						
JOF	**Joensuu**	**65.30**	**343**	*e*p	**P**	**14 32 27.4**	**-0.1**
	comp=Z,3.8nm,0.7s,mb4.5						
KSRS	**Korea Array**	**65.96**	**50**	P	**P**	**14 32 31.9**	**-0.4**
	comp=Z,1.2nm,1.1s,mb3.9,baz=68,slow=31,SNR=4.1						
KSRS				LR	LR	15 04 01.8	
	comp=Z,112nm,19.6s,MS4.1,baz=74,slow=38						
KAF	**Kangasniemi**	**66.25**	**341**	*e*p	**P**	**14 32 33.6**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.4						
LPG	**La Plagne**	**67.00**	**319**	*e*P	**P**	**14 32 38.9**	**+0.1**
LPL	**La Plagne**	**67.02**	**319**	*e*P	**P**	**14 32 38.2**	**-0.7**
	comp=Z,27nm,1.4s,mb4.8						
LPL	**La Plagne**	**67.02**	**319**	*e*P	**P**	**14 32 38.2**	**-0.7**
	comp=Z,13nm,1.4s,mb4.8						
ORIF	**Oris-en-Rattie**	**67.38**	**318**	*e*P	**P**	**14 32 40.8**	**-0.4**
	comp=Z,12nm,1.1s,mb4.5						
ORIF	**Oris-en-Rattie**	**67.38**	**318**	*e*P	**P**	**14 32 40.8**	**-0.4**
	comp=Z,5.8nm,1.1s,mb4.5						
CDF	**Champ du Feu**	**67.74**	**322**	*e*P	**P**	**14 32 43.5**	**+0.1**
	comp=Z,14nm,1.2s,mb4.6						
CDF	**Champ du Feu**	**67.74**	**322**	*e*P	**P**	**14 32 43.5**	**+0.1**
	comp=Z,7.2nm,1.2s,mb4.6						
CABF	**La Chapelle**	**67.83**	**320**	*e*P	**P**	**14 32 44.4**	**+0.4**
	comp=Z,28nm,1.3s,mb4.8						
CABF	**La Chapelle**	**67.83**	**320**	*e*P	**P**	**14 32 44.4**	**+0.4**
	comp=Z,14nm,1.3s,mb4.8						
LASF	**Ste Croix**	**68.48**	**317**	*e*P	**P**	**14 32 48.4**	**+0.3**
	comp=Z,20nm,1.1s,mb4.7						
SMF	**Signal de Mont**	**69.30**	**319**	*e*P	**P**	**14 32 53.0**	**-0.2**
LOR	**Lormes**	**69.49**	**320**	*e*P	**P**	**14 32 54.5**	**+0.2**
	comp=Z,7.6nm,0.9s,mb4.3						
LOR	**Lormes**	**69.49**	**320**	*e*P	**P**	**14 32 54.5**	**+0.2**
	comp=Z,3.8nm,0.9s,mb4.3						
SSF	**Saint Saulge**	**69.65**	**320**	*e*P	**P**	**14 32 55.4**	**+0.1**
	comp=Z,9.2nm,0.9s,mb4.4						
SSF	**Saint Saulge**	**69.65**	**320**	*e*P	**P**	**14 32 55.4**	**+0.1**
	comp=Z,4.6nm,0.9s,mb4.4						
AVF	**Avril sur Loir**	**69.66**	**319**	*e*P	**P**	**14 32 56.4**	**+1.0**
	comp=Z,7.2nm,1.0s,mb4.2						
AVF	**Avril sur Loir**	**69.66**	**319**	*e*P	**P**	**14 32 56.4**	**+1.0**
	comp=Z,3.6nm,1.0s,mb4.3						
HFS	**Hagfors**	**69.77**	**335**	P	**P**	**14 32 55.6**	**-0.2**
	comp=Z,9.9nm,0.8s,mb4.8,baz=134,slow=8.4,SNR=18						
BGF	**Bois d'Agland**	**69.92**	**319**	*e*P	**P**	**14 32 57.3**	**+0.3**
	comp=Z,24nm,1.0s,mb4.8						
BGF	**Bois d'Agland**	**69.92**	**319**	*e*P	**P**	**14 32 57.3**	**+0.3**
	comp=Z,12nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**70.43**	**112**	P	**P**	**14 33 00.6**	**0.0**
	comp=Z,8.3nm,0.8s,mb4.7,baz=288,slow=6.0,SNR=31						
RJF	**Les Rejaudoux**	**70.44**	**317**	*e*P	**P**	**14 33 00.2**	**0.0**
	comp=Z,22nm,1.2s,mb4.7						
RJF	**Les Rejaudoux**	**70.44**	**317**	*e*P	**P**	**14 33 00.2**	**0.0**
	comp=Z,11nm,1.2s,mb4.7						
WRAB	**Tennant Creek**	**70.44**	**112**	*e*P	**P**	**14 33 00.8**	**+0.1**
	comp=Z,8.1nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**70.44**	**112**	*e*P	**P**	**14 33 00.7**	**0.0**
WB2	**Warramunga Arr**	**70.44**	**112**	*e*P	**P**	**14 33 00.8**	**0.0**
ASAR	**Alice Springs**	**70.76**	**116**	P	**P**	**14 33 02.4**	**-0.2**
	comp=Z,3.6nm,0.8s,mb4.3,baz=285,slow=4.9,SNR=27						
LFF	**La Frestale**	**70.86**	**317**	*e*P	**P**	**14 33 03.6**	**+0.8**
	comp=Z,32nm,1.3s,mb4.8						
LFF	**La Frestale**	**70.86**	**317**	*e*P	**P**	**14 33 03.6**	**+0.8**
	comp=Z,16nm,1.3s,mb4.8						
DBIC	**Dimbokro**	**70.97**	**276**	LR	LR	15 04 16.0	
	comp=Z,71nm,18.0s,MS4.0,baz=77,slow=36						
NB2	**NORSAR Subarra**	**71.29**	**335**	P	**P**	**14 33 04.5**	**-0.5**
	comp=Z,3.7nm,1.0s,mb4.3,baz=120,slow=6.2						
NOA	**NORSAR Array B**	**71.29**	**335**	P	**P**	**14 33 04.1**	**-1.0**
	comp=Z,3.1nm,0.9s,mb4.2,baz=113,slow=6.7,SNR=5.8						
NOA	**NORSAR Array B**	**71.29**	**335**	P	**P**	**14 33 04.1**	**-1.0**
ARCES	**ARCESS Array B**	**71.85**	**346**	P	**P**	**14 33 08.3**	**0.0**
	comp=Z,2.5nm,0.8s,mb4.2,baz=159,slow=7.3,SNR=6.1						
ARCES				LR	LR	15 05 27.4	
	comp=Z,91nm,18.1s,MS4.1,baz=89,slow=36						
ESDC	**Sonseca Array**	**73.06**	**311**	P	**P**	**14 33 16.5**	**+0.4**
	comp=Z,3.2nm,0.7s,mb4.3,baz=88,slow=5.1,SNR=22						
MJAR	**Matsushiro Arr**	**73.82**	**53**	P	**P**	**14 33 20.4**	**-0.3**
	comp=Z,1.2nm,0.9s,mb3.8,baz=270,slow=4.9,SNR=4.5						
MJAR				LR	LR	15 05 11.0	
	comp=Z,98nm,21.5s,MS4.1,baz=260,slow=35						
SGMF	**Saint Gilles**	**73.92**	**320**	*e*P	**P**	**14 33 21.2**	**+0.2**
ROSF	**Rostrenen**	**74.40**	**320**	*e*P	**P**	**14 33 23.5**	**-0.3**
	comp=Z,46nm,1.2s,mb5.0						
ROSF	**Rostrenen**	**74.40**	**320**	*e*P	**P**	**14 33 23.5**	**-0.3**
	comp=Z,23nm,1.2s,mb5.0						
EKA	**Eskdalemuir Ar**	**76.10**	**327**	P	**P**	**14 33 32.9**	**-0.5**
	comp=Z,3.4nm,1.1s,mb4.2,baz=218,slow=25,SNR=3.7						
CBIJ	**Chichi jima**	**76.16**	**63**	LR	LR	15 06 01.7	
	comp=Z,63nm,20.6s,MS3.9,baz=118,slow=35						
ASAJ	**Asahikawa**	**78.21**	**46**	LR	LR	15 08 44.6	
	comp=Z,58nm,19.9s,MS3.9,baz=338,slow=36						
STKA	**Stephens Creek**	**79.04**	**123**	P	**P**	**14 33 50.2**	**-0.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=314,slow=5.8,SNR=6.8						
STKA				LR	LR	15 06 47.5	
	comp=Z,31nm,18.8s,MS3.7,baz=206,slow=34						
STKA	**Stephens Creek**	**79.04**	**123**	P	**P**	**14 33 50.2**	**-0.2**
STKA				LR	LR	15 06 47.5	
PETK	**Petropavlovsk-**	**88.61**	**37**	LR	LR	15 16 46.6	
	comp=Z,108nm,18.9s,MS4.3,baz=183,slow=37						
VNDA	**Vanda**	**93.93**	**167**	LR	LR	15 11 25.2	
	comp=Z,102nm,20.1s,MS4.3,baz=65,slow=32						
PDAR	**Pinedale Array**	**134.48**	**356**	PKP	PKPdf	14 41 05.2	+0.8
	comp=Z,1.0nm,0.8s,baz=57,slow=5.5,SNR=7.7						
BNM	**Barren Site**	**142.64**	**350**	*e*PKPpre	PKPdf	14 41 17.2	-2.5
MNTX	**Cornudas Mount**	**144.78**	**348**	*e*PKP	PKPdf	14 41 23.1	-0.4
TUC	**Tucson**	**144.96**	**356**	*e*PKP	PKPdf	14 41 24.6	+0.8
TXAR	**Lajitas Array**	**146.62**	**344**	PKPbc	PKPbc	14 41 28.2	0.0
	comp=Z,9.8nm,0.8s,ba

WRA	**Warramunga Arr**	**42.29 192**	P	P	14 54 10.5	-0.2
	0.3nm,0.5s,baz=18,slow=9.0,SNR=4.9					
ARCES	**ARCESS Array B**	**78.93 342**	P	P	14 58 16.4	+0.3
	1.6nm,0.9s,baz=67,slow=9.3,SNR=7.4					

ISCJB ***05*** *14:59:35.4±1.4, 3807N±007×3808E±0.10, h0km±15km, Error ellipse: s-maj=13.1km s-min=11.8km az=22.8*
CSEM ***05*** *14:59:36.6±0.1, 3806N×3828E, h15km, MD2.6, Error ellipse: s-maj=5.2km s-min=2.3km az=130.0*
ISK ***05*** *14:59:37.1, 3809N×3826E, h14km, MD2.6*
ISC 05 14:59:36.0±1.5, 3808N±007×3808E±010, h3km±15km, n10, σ0§99/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.36**	**49**	*e*PG	**Pg**	**14 59 43.0**	**0.0**
MYA	**Malataya**	**0.37**	**47**	*e*PG	**Pg**	**14 59 43.3**	**+0.2**
MYA				*e*SG	**Sg**	**14 59 47.9**	**0.0**
ELZG	**Elazig**	**0.83**	**59**	*i* P	**Pg**	**14 59 51.9**	**0.0**
ELZG	**Elazig**	**0.83**	**59**	*i* P	**Pg**	**14 59 51.8**	**-0.1**
ELZG				*i* S	**Sg**	**15 00 03.9**	**+1.3**
GZT	**Gaziantep**	**0.83**	**210**	*i* P	**Pg**	**15 00 00.3**	**+8.5**
URFA	**Urfa**	**0.86**	**137**	*e*PG	**Pg**	**14 59 53.2**	**+0.6**
DARE	**Darende-Malaty**	**0.90**	**346**	*e*PG	**Pg**	**14 59 52.5**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.01**	**72**	*e*PG	**Pg**	**14 59 54.0**	**-1.4**
PTK	**Pertek**	**1.31**	**51**	*e*PN	**Pn**	**14 59 59.6**	**-1.6**
SVSK	**Karacayir**	**2.02**	**336**	*e*PN	**Pn**	**15 00 12.8**	**+1.7**

SFS ***05*** *15:00:20.0, 3667N×603W, h0km, ML2.6*
NEIC ***05*** *15:00:20.6, 3667N×603W, h11km, MN2.6(MDD), After MDD.*
NEIC Felt [III] at Arcos de la Frontera, Spain.
IGIL ***05*** *15:00:21.8, 3663N×567W, h22km, ML2.9*
ISCJB ***05*** *15:00:21.6±0.3, 3689N±002×578W±002, h10km±2km, Error ellipse: s-maj=3.2km s-min=2.1km az=25.6*
LDG ***05*** *15:00:21.7±0.3, 3661N×593W, h10km, Ml3.2/4, Error ellipse: s-maj=5.9km s-min=3.3km az=6.0*
MDD ***05*** *15:00:22.9±0.2, 3676N×582W, h10km, mbLg2.7/24, Error ellipse: s-maj=2.0km s-min=1.4km az=45.0, PRIMO*
MDD EMS: III INTENSIDAD MIMA.
INMG ***05*** *15:00:22.9±1.5, 3669N×574W, h19km±4km, ML2.9, Error ellipse: s-maj=4.2km s-min=3.1km az=80.0*
CSEM ***05*** *15:00:22.4±0.1, 3674N×578W, h2km, ML3.5/16, Error ellipse: s-maj=1.3km s-min=1.1km az=9.0*
ISC 05 15:00:22.5±0.3, 3681N±002×579W±002, h13km±2km, n109, σ0§94/177, 3C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.08**	**319**	⇓Pg	**Pg**	**15 00 25.1**	**-0.3**
	231nm,0.1s,SNR=18						
ESPR				Lg		15 00 28.9	
	4μm,0.2s,SNR=7.9						
GIBL	**Gibalbin**	**0.14**	**279**	⇑Pg	**Pg**	**15 00 25.8**	**-0.3**
GIBL				Lg		15 00 30.3	
GIBL	**Gibalbin**	**0.14**	**279**	*i* P	**Pg**	**15 00 25.8**	**-0.3**
LIJA	**Lijar**	**0.33**	**72**	Pg	**Pg**	**15 00 29.7**	**+0.5**
LIJA				Lg		15 00 37.3	
LIJA	**Lijar**	**0.33**	**72**	*e*P	**Pg**	**15 00 29.7**	**+0.5**
SCRT	**Cerro San Cris**	**0.35**	**241**	*i* P	**Pg**	**15 00 29.8**	**+0.1**
EJIF	**Jimena Fronter**	**0.44**	**144**	⇑Pg	**Pg**	**15 00 29.4**	**-1.9**
	11nm,0.4s,SNR=18						
EJIF				Lg		15 00 38.3	
	232nm,0.3s,SNR=7.9						
SFS	**San Fernando**	**0.48**	**225**	⇑Pg	**Pg**	**15 00 31.9**	**-0.1**
SFS				Lg		15 00 45.0	
SFS	**San Fernando**	**0.48**	**225**	*e*Pg	**Pg**	**15 00 27.5**	**-4.4**
SFS	**San Fernando**	**0.48**	**225**	*i* P	**Pg**	**15 00 31.9**	**0.0**
SFS				*e*S	**Sg**	**15 00 45.0**	**+6.7**
SFS	**San Fernando**	**0.48**	**225**	*e*Pg	**Pg**	**15 00 27.5**	**-4.4**
MOMI	**Momias**	**0.48**	**173**	Pg	**Pg**	**15 00 31.6**	**-0.4**
MOMI				Lg		15 00 43.1	
MOMI	**Momias**	**0.48**	**173**	*e*P	**Pg**	**15 00 31.6**	**-0.4**
MOMI				*e*S	**Sg**	**15 00 43.1**	**+4.7**
CNIL	**Conil**	**0.48**	**206**	Pg	**Pg**	**15 00 31.8**	**-0.3**
CNIL				Lg		15 00 43.8	
CNIL	**Conil**	**0.48**	**206**	*i* P	**Pg**	**15 00 31.8**	**-0.3**
CNIL				*e*S	**Sg**	**15 00 43.8**	**+5.2**
REAL	**Reales**	**0.57**	**124**	⇓Pg	**Pg**	**15 00 33.2**	**-0.5**
REAL	**Reales**	**0.57**	**124**	*i* P	**Pg**	**15 00 33.2**	**-0.5**
EMIJ	**Mijas**	**0.85**	**106**	Pg	**Pg**	**15 00 38.4**	**-0.7**
	35nm,0.5s,SNR=7.9						
EMIJ				Lg		15 00 52.5	
	179nm,0.3s,SNR=7.9						
ECEU	**Ceuta**	**0.97**	**160**	Pg	**Pg**	**15 00 41.4**	**+0.2**
	16nm,0.1s,SNR=7.9						
ECEU				Lg		15 00 53.7	
	63nm,0.5s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.09**	**92**	Pg	**Pg**	**15 00 47.7**	**+4.1**
	19nm,0.3s,SNR=7.9						
EMAL				Lg		15 01 04.7	
	38nm,0.5s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.09**	**92**	*e*P	**Pb**	**15 00 43.4**	**+0.1**
EMAL				*e*S	**Sb**	**15 01 01.1**	**+3.7**
EMIN	**Mina Concepcio**	**1.19**	**324**	Pn	**Pn**	**15 00 44.5**	**-0.4**
	SNR=7.9						
EMIN				Pg	**Pg**	**15 00 45.7**	**+0.2**
	18nm,0.3s,SNR=7.9						
EMIN				Lg		15 01 02.4	
	95nm,0.3s,SNR=7.9						
ERIP	**Rio Piedras**	**1.30**	**296**	Pg	**Pg**	**15 00 45.8**	**-1.7**
	SNR=7.9						
ERIP				Lg		15 01 05.0	
	273nm,0.5s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.35**	**75**	Pg	**Pg**	**15 00 48.3**	**-0.3**
	34nm,0.4s,SNR=40						
ELOJ				Lg		15 01 09.3	
	59nm,0.5s,SNR=5.0						
ELOJ	**Sierra Loja**	**1.35**	**75**	Pg	**Pg**	**15 00 48.4**	**-0.2**
	34nm,0.4s,SNR=40						
ELOJ	**Sierra Loja**	**1.35**	**75**	Pg	**Pg**	**15 00 48.4**	**-0.1**
ELOJ				Lg		15 01 09.6	
DKH	**Dar Kharkhour**	**1.36**	**165**	*i* P	**Pn**	**15 00 50.0**	**+2.8**
DKH				*i* S	**Sn**	**15 01 05.0**	**-0.1**
ELUQ	**Luque**	**1.43**	**58**	Pg	**Pg**	**15 00 48.9**	**-1.1**
	20nm,0.2s,SNR=42						
ELUQ				Lg		15 01 11.5	
	61nm,0.4s,SNR=5.0						
ELUQ	**Luque**	**1.43**	**58**	Pg	**Pg**	**15 00 48.9**	**-1.1**
ELUQ				Lg		15 01 12.7	
ERON	**Agron**	**1.60**	**82**	Pg	**Pg**	**15 00 53.8**	**+0.5**
	9.5nm,0.3s,SNR=7.9						
ERON				Lg		15 01 15.2	
	22nm,0.8s,SNR=7.9						
ERON	**Agron**	**1.60**	**82**	Pg	**Pg**	**15 00 53.8**	**+0.5**
ERON				Lg		15 01 19.0	
PVAQ	**Vaqueiros**	**1.65**	**292**	*e*Pn	**Pn**	**15 00 50.4**	**-0.8**
PVAQ				*e*Sn	**Sn**	**15 01 11.9**	**-0.4**
PVAQ				*e*Sg	**Sg**	**15 01 16.1**	**+0.4**
PVAQ				A		15 01 23.8	
	78nm,0.3s						
PVAQ	**Vaqueiros**	**1.65**	**292**	*e*Pn	**Pn**	**15 00 50.4**	**-0.8**
PVAQ				*e*Sn	**Sn**	**15 01 11.9**	**-0.4**
PVAQ				*e*Sg	**Sg**	**15 01 16.1**	**+0.4**
	78nm,0.3s						
EADA	**Adamuz**	**1.67**	**35**	Pn	**Pn**	**15 00 51.8**	**+0.4**
	0.5nm,0.2s,SNR=7.9						
EADA				Pg	**Pg**	**15 00 54.5**	**0.0**
	7.7nm,0.3s,SNR=7.9						
EADA				Lg		15 01 18.8	
	27nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**1.69**	**324**	*e*Pn	**Pn**	**15 00 51.7**	**0.0**
PBAR				*e*Sg	**Sg**	**15 01 18.6**	**+1.7**
PBAR				A		15 01 24.5	
	86nm,0.3s						
PBAR	**Barrancos**	**1.69**	**324**	*e*Pn	**Pn**	**15 00 51.7**	**0.0**
PBAR				*e*Sg	**Sg**	**15 01 18.6**	**+1.7**
	86nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.77**	**285**	*e*Pn	**Pn**	**15 00 52.1**	**-0.7**
PBDV				*e*Sn	**Sn**	**15 01 14.4**	**-0.7**
PBDV				*e*Sg	**Sg**	**15 01 21.2**	**+1.8**
PBDV				A		15 01 29.3	
	66nm,0.7s						
PBDV	**Barranco-do-Ve**	**1.77**	**285**	*e*Pn	**Pn**	**15 00 52.1**	**-0.7**
PBDV				*e*Sn	**Sn**	**15 01 14.4**	**-0.7**
PBDV				*e*Sg	**Sg**	**15 01 21.2**	**+1.8**
	66nm,0.7s						
EGUA	**Guajares**	**1.79**	**88**	Pn	**Pn**	**15 00 53.8**	**+0.8**
	3.7nm,0.2s,SNR=7.9						
EGUA				Pg	**Pg**	**15 00 56.7**	**-0.1**
	18nm,0.2s,SNR=7.9						
EGUA				Lg		15 01 20.9	
	395nm,1.0s,SNR=7.9						
EGUA	**Guajares**	**1.79**	**88**	Pn	**Pn**	**15 00 54.6**	**+1.6**
	3.7nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.79**	**88**	Pn	**Pn**	**15 00 54.6**	**+1.6**
EGUA				Pg	**Pg**	**15 00 56.7**	**-0.1**
EGUA				Lg		15 01 23.9	
ECOG	**Cogollos-Vega**	**1.84**	**75**	Pn	**Pn**	**15 00 54.9**	**+1.1**
	2.2nm,0.3s,SNR=7.9						
ECOG				Pg	**Pg**	**15 00 58.2**	**+0.3**
	4.3nm,0.2s,SNR=7.9						
ECOG				Lg		15 01 23.0	
	34nm,0.5s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.84**	**75**	Pn	**Pn**	**15 00 54.9**	**+1.1**
ECOG				Pg	**Pg**	**15 00 58.2**	**+0.3**
ECOG				Lg		15 01 27.4	
EQUE	**Quentar**	**1.92**	**77**	Pn	**Pn**	**15 00 55.8**	**+0.9**
	0.5nm,0.2s,SNR=7.9						
EQUE				Pg	**Pg**	**15 00 58.7**	**-0.7**
	12nm,0.3s,SNR=7.9						
EQUE				Lg		15 01 26.9	
	51nm,0.4s,SNR=7.9						
PBEJ	**Beja**	**2.05**	**307**	*e*Pn	**Pn**	**15 00 56.5**	**-0.2**
PBEJ	**Beja**	**2.05**	**307**	*e*Pg	**Pg**	**15 01 01.0**	**-0.9**
PBEJ				*e*Sg	**Sg**	**15 01 29.9**	**+1.3**
PBEJ				A		15 01 35.7	
	45nm,0.4s						
PBEJ	**Beja**	**2.05**	**307**	Pn	**Pn**	**15 00 56.5**	**-0.2**
PBEJ				Pg	**Pg**	**15 01 01.0**	**-0.9**
PBEJ				Lg		15 01 29.9	
	22nm,0.4s						
PBEJ	**Beja**	**2.05**	**307**	*e*Pg	**Pg**	**15 01 01.0**	**-0.9**
PBEJ				*e*Sg	**Sg**	**15 01 29.9**	**+1.3**
	45nm,0.4s						
EBAN	**Banos Encina**	**2.09**	**49**	Pn	**Pn**	**15 00 57.4**	**+0.2**
	0.4nm,0.1s,SNR=11						
EBAN				Pg	**Pg**	**15 01 01.5**	**-1.2**
	0.8nm,0.2s,SNR=7.9						
EBAN				Lg		15 01 32.0	
	33nm,0.4s,SNR=5.0						
EBAD	**Badajoz**	**2.17**	**334**	Pn	**Pn**	**15 00 58.4**	**0.0**
	0.4nm,0.4s,SNR=7.9						
EBAD				Pg	**Pg**	**15 01 03.1**	**-1.1**
	0.7nm,0.4s,SNR=7.9						
EBAD				Lg		15 01 32.6	
	49nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.33**	**87**	Pn	**Pn**	**15 01 01.2**	**+0.7**
	0.2nm,0.3s,SNR=7.9						
EBER				Pg	**Pg**	**15 01 06.0**	**-1.1**
	1.8nm,0.6s,SNR=7.9						
EQES	**Quesada**	**2.38**	**65**	Pn	**Pn**	**15 01 02.1**	**+0.8**
	1.3nm,0.4s,SNR=7.9						
EQES				Pg	**Pg**	**15 01 07.7**	**-0.6**
	7.7nm,0.3s,SNR=7.9						
EQES				Lg		15 01 40.5	
	65nm,0.4s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.45**	**279**	*e*Pn	**Pn**	**15 01 01.5**	**-0.7**
PFVI				*e*Sn	**Sn**	**15 01 30.9**	**-1.2**
PFVI				A		15 01 46.9	
	22nm,0.6s						
PFVI	**Vila Bisbo**	**2.45**	**279**	*e*Pn	**Pn**	**15 01 01.5**	**-0.7**
PFVI				*e*Sn	**Sn**	**15 01 30.9**	**-1.2**
	22nm,0.6s						
PTEO	**Sao Teotonio**	**2.46**	**288**	*e*Pn	**Pn**	**15 01 02.0**	**-0.3**
PTEO	**Sao Teotonio**	**2.46**	**288**	*e*Pg	**Pg**	**15 01 07.8**	**-1.8**
PTEO				*e*Sn	**Sn**	**15 01 31.6**	**-0.5**
PTEO				*e*Sg	**Sg**	**15 01 41.7**	**+0.2**
PTEO				A		15 01 52.4	
	64nm,0.5s						
PTEO	**Sao Teotonio**	**2.46**	**288**	Pn	**Pn**	**15 01 02.0**	**-0.3**
PTEO				Pg	**Pg**	**15 01 07.8**	**-1.8**
PTEO				Sn	**Sn**	**15 01 31.6**	**-0.5**
PTEO				Lg		15 01 41.7	
	32nm,0.5s						
PTEO	**Sao Teotonio**	**2.46**	**288**	*e*Pg	**Pg**	**15 01 07.8**	**-1.8**
PTEO				*e*Sn	**Sn**	**15 01 31.6**	**-0.5**
PTEO				*e*Sg	**Sg**	**15 01 41.7**	**+0.2**
	64nm,0.5s						
EVO	**Evora**	**2.47**	**315**	*e*Pn	**Pn**	**15 01 03.1**	**+0.7**
EVO	**Evora**	**2.47**	**315**	*e*Pg	**Pg**	**15 01 10.4**	**+0.6**
EVO				*e*Sg	**Sg**	**15 01 44.4**	**+2.6**
	53nm,0.3s						
EVO	**Evora**	**2.47**	**315**	*e*Pn	**Pn**	**15 01 02.5**	**+0.1**
EVO				A		15 01 48.3	
	49nm,0.4s						
EVO	**Evora**	**2.47**	**315**	*e*Pn	**Pn**	**15 01 02.5**	**+0.1**
	49nm,0.4s						
PESTR	**Estremoz**	**2.50**	**326**	*e*Pn	**Pn**	**15 01 03.4**	**+0.5**
PESTR				*e*Sg	**Sg**	**15 01 43.3**	**+0.3**
PESTR				A		15 01 52.9	
	46nm,0.6s						
PESTR	**Estremoz**	**2.50**	**326**	*e*Pn	**Pn**	**15 01 03.4**	**+0.5**
PESTR				*e*Sg	**Sg**	**15 01 43.3**	**+0.3**
	46nm,0.6s						
EVOP	**Sao Brissos**	**2.53**	**314**	*e*Pn	**Pn**	**15 01 03.1**	**-0.1**
EVOP	**Sao Brissos**	**2.53**	**314**	*e*Pg	**Pg**	**15 01 10.4**	**-0.6**
EVOP				*e*Sg	**Sg**	**15 01 44.4**	**+0.7**
	26nm,0.3s						
EHUE	**Huescar**	**2.74**	**67**	Pn	**Pn**	**15 01 06.4**	**+0.2**
	1.2nm,0.4s,SNR=7.9						
EHUE				Pg	**Pg**	**15 01 15.4**	**+0.3**
	2.7nm,0.2s,SNR=7.9						
EHUE				Lg		15 01 53.4	
	7.6nm,0.3s,SNR=7.9						
PMRV	**Marv??o**	**2.91**	**335**	*e*Pn	**Pn**	**15 01 08.6**	**+0.1**
PMRV				*e*Sg	**Sg**	**15 01 56.5**	**+0.6**
PMRV				A		15 02 00.2	
	38nm,0.5s						
PMRV	**Marv??o**	**2.91**	**335**	*e*Pn	**Pn**	**15 01 08.6**	**+0.1**
PMRV				*e*Sg	**Sg**	**15 01 56.5**	**+0.6**
	38nm,0.5s						
EVIA	**Vianos**	**3.18**	**54**	Pn	**Pn**	**15 01 12.2**	**-0.1**
	0.8nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.20**	**26**	Pn	**Pn**	**15 01 13.7**	**+1.1**
	0.5nm,0.3s,baz=204,slow=12,SNR=21						
ESDC				Lg		15 02 07.0	
	4.0nm,0.4s,baz=207,slow=30,SNR=12						
ESDC	**Sonseca Array**	**3.20**	**26**	Pn	**Pn**	**15 01 13.7**	**+1.2**
	0.5nm,0.3s,baz=204,slow=12,SNR=21						
ESDC	**Sonseca Array**	**3.20**	**26**	Pn	**Pn**	**15 01 13.7**	**+1.1**
ESDC				Lg		15 02 11.6	
ALMR	**Almeirim**	**3.22**	**318**	*e*P	**Pn**	**15 01 12.4**	**-0.3**
ALMR				*e*S	**Sn**	**15 01 49.0**	**-1.9**
ALMR				*e*S	**Sn**	**15 01 49.1**	**-1.7**
ALMR				AML	AML	15 01 49.8	
	comp=N,38nm,0.8s						
PCBR	**Castelo Branco**	**3.31**	**337**	*e*Pn	**Pn**	**15 01 14.3**	**+0.3**
PCBR				*e*Sn	**Sn**	**15 01 53.5**	**+0.4**
PCBR				*e*Sg	**Sg**	**15 02 07.6**	**-1.1**
PCBR				A		15 02 16.0	
	comp=N,30nm,0.4s						
PCBR	**Castelo Branco**	**3.31**	**337**	*e*Pn	**Pn**	**15 01 14.3**	**+0.3**
PCBR				*e*Sn	**Sn**	**15 01 53.5**	**+0.4**
PCBR				*e*Sg	**Sg**	**15 02 07.6**	**-1.1**
	comp=N,30nm,0.4s						
PMAFR	**Mafra**	**3.50**	**309**	*e*Pn	**Pn**	**15 01 17.5**	**+0.9**
PMAFR				A		15 02 35.4	
	comp=N,31nm,0.4s						
PMAFR	**Mafra**	**3.50**	**309**	*e*Pn	**Pn**	**15 01 17.5**	**+0.9**
	comp=N,31nm,0.4s						
EMUR	**La Murta**	**3.77**	**73**	Pn	**Pn**	**15 01 20.9**	**+0.6**
	comp=N,0.5nm,0.6s,SNR=7.9						
MTE	**Manteigas**	**3.84**	**340**	*e*Sn	**Sn**	**15 02 06.5**	**+0.2**
MTE				*e*Sg	**Sg**	**15 02 25.3**	**-0.6**
MTE				A		15 02 35.3	
	comp=N,55nm,0.6s						
MTE	**Manteigas**	**3.84**	**340**	*e*Sn	**Sn**	**15 02 06.5**	**+0.2**
MTE				*e*Sg	**Sg**	**15 02 25.3**	**-0.6**
	comp=N,55nm,0.6s						
GUD	**Guadarrama**	**4.04**	**18**	Pn	**Pn**	**15 01 24.6**	**+0.6**
	comp=N,0.4nm,0.3s,SNR=7.9						
GUD				Sn	**Sn**	**15 02 10.6**	**-0.5**
	comp=N,0.9nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.24**	**338**	*e*Pn	**Pn**	**15 01 27.5**	**+0.8**
PVIS				*e*Sn	**Sn**	**15 02 16.3**	**+0.3**
PVIS				*e*Sg	**Sg**	**15 02 38.3**	**-0.2**
PVIS				A		15 02 52.6	
	comp=N,12nm,0.4s						
PVIS	**Viseu**	**4.24**	**338**	*e*Pn	**Pn**	**15 01 27.5**	**+0.8**
PVIS				*e*Sn	**Sn**	**15 02 16.3**	**+0.3**
PVIS				*e*Sg	**Sg**	**15 02 38.3**	**-0.2**
	comp=N,12nm,0.4s						
MVO	**Moncorvo**	**4.46**	**348**	*e*Pn	**Pn**	**15 01 30.7**	**+0.9**
MVO				*e*Sn	**Sn**	**15 02 21.6**	**+0.1**
MVO				A		15 02 54.0	
	comp=N,23nm,0.5s						
MVO	**Moncorvo**	**4.46**	**348**	*e*Pn	**Pn**	**15 01 30.7**	**+0.9**
MVO				*e*Sn	**Sn**	**15 02 21.6**	**+0.1**
	comp=N,23nm,0.5s						
EBEN	**Beniarda**	**4.80**	**65**	Pn	**Pn**	**15 01 34.8**	**+0.4**
	comp=N,0.2nm,0.3s,SNR=7.9						
EBEN				Sn	**Sn**	**15 02 28.0**	**-1.9**
	comp=N,5.9nm,1.1s,SNR=7.9						
ETOR	**Torete**	**4.96**	**35**	Pn	**Pn**	**15 01 37.5**	**+0.9**
	comp=N,6.2nm,0.2s,SNR=27						
ETOR				Sn	**Sn**	**15 02 33.7**	**0.0**
	comp=N,0.7nm,0.8s,SNR=7.9						
ETOR				Lg		15 03 03.8	
	comp=N,13nm,0.7s,SNR=7.9						
ETOR	**Torete**	**4.96**	**35**	Pn	**Pn**	**15 01 37.5**	**+0.9**
	comp=N,6.2nm,0.2s,SNR=27						
ETOR				Sn	**Sn**	**15 02 33.7**	**0.0**
	SNR=7.9						
ETOR	**Torete**	**4.96**	**35**	Pn	**Pn**	**15 01 37.5**	**+0.9**
ETOR				Sn	**Sn**	**15 02 33.7**	**0.0**
ECAL	**Calabor**	**5.18**	**352**	Lg		15 03 09.8	
	comp=N,9.5nm,0.4s,SNR=7.9						
PCAB	**Cabril**	**5.20**	**341**	*e*Sg	**Sg**	**15 03 04.3**	**-5.0**
PCAB				A		15 03 18.3	
	comp=N,18nm,0.5s						
PCAB	**Cabril**	**5.20**	**341**	Lg		15 03 04.3	
	comp=N,8.8nm,0.5s						
ELOB	**Lobios**	**5.35**	**341**	Pn	**Pn**	**15 01 43.2**	**+1.2**
	comp=N,1.2nm,0.4s,SNR=7.9						
ELOB				Sn	**Sn**	**15 02 41.2**	**-2.3**
	comp=N,2.6nm,0.4s,SNR=7.9						
ELOB				Lg		15 03 14.8	
	comp=N,19nm,1.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.47**	**48**	Pn	**Pn**	**15 01 44.5**	**+0.8**
	comp=N,0.1nm,0.4s,SNR=7.9						
EMOS				Lg		15 03 18.7	
	comp=N,5.1nm,0.5s,SNR=7.9						
ESAC	**San Caprasio**	**6.41**	**38**	Pn	**Pn**	**15 01 57.9**	**+1.3**
	comp=N,6.8nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**6.67**	**15**	Pn	**Pn**	**15 02 01.6**	**+1.6**
	comp=N,5.7nm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**7.21**	**28**	*e*Pn	**Pn**	**15 02 09.0**	**+1.5**
SJPF				*e*Sn	**Sn**	**15 03 27.3**	**-1.9**
	comp=N,3.6nm,0.5s						
SJPF	**Ste Jean**	**7.21**	**28**	*e*Pn	**Pn**	**15 02 09.0**	**+1.5**
SJPF				*e*Sn	**Sn**	**15 03 27.3**	**-1.9**
	comp=N,1.8nm,0.5s						
ETSF	**Etsaut**	**7.29**	**32**	*e*Pn	**Pn**	**15 02 08.7**	**0.0**
ETSF				*e*Sn	**Sn**	**15 03 29.1**	**-2.2**
	comp=N,1.1nm,0.4s						
ETSF	**Etsaut**	**7.29**	**32**	Pn	**Pn**	**15 02 08.7**	**0.0**
ETSF				Sn	**Sn**	**15 03 29.1**	**-2.2**
	comp=N,0.6nm,0.4s						
EBIE	**Bielsa**	**7.44**	**36**	Pn	**Pn**	**15 02 12.1**	**+1.4**
	comp=N,1.2nm,0.4s,SNR=7.9						
EPF	**Esparros**	**7.80**	**35**	*e*Pn	**Pn**	**15 02 16.6**	**+1.0**
EPF				*e*Sn	**Sn**	**15 03 40.8**	**-2.9**
	comp=N,1.7nm,0.3s						
EPF	**Esparros**	**7.80**	**35**	*e*Pn	**Pn**	**15 02 16.6**	**+1.0**
EPF				*e*Sn	**Sn**	**15 03 40.8**	**-2.9**
	comp=N,0.9nm,0.3s						
LFF	**La Frestale**	**9.51**	**29**	*e*Pn	**Pn**	**15 02 39.0**	**-0.1**
RJF	**Les Rejaudoux**	**10.12**	**31**	*e*Pn	**Pn**	**15 02 47.2**	**-0.2**
QUIF	**Quistinic**	**11.27**	**9**	*e*Pn	**Pn**	**15 03 03.1**	**-0.1**
ROSF	**Rostrenen**	**11.67**	**8**	*e*Pn	**Pn**	**15 03 07.7**	**-0.9**
SGMF	**Saint Gilles**	**11.69**	**11**	*e*Pn	**Pn**	**15 03 08.2**	**-0.6**

NEIC ***05*** *15:21:39.9±0.9, 260N×6630E, h10km, Error ellipse: s-maj=31.6km s-min=19.0km az=224.0*
IDC 05 15:21:37.7±1.3, 249N×6630E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.7/21, mbtmp3.8/6, MS3.5/5, Ms1 3.6/5, ms1mx3.2/33, Error ellipse: s-maj=40.9km s-min=26.9km az=43.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.69**	**61**	P	P	15 28 39.2	+1.0
	0.5nm,0.3s,baz=198,slow=33,SNR=3.4						
CMAR				LR	LR	15 42 45.3	
	comp=Z,42nm,18.1s,baz=195,slow=36						
BOSA	**Boshof**	**50.07**	**229**	LR	LR	15 52 30.7	
	comp=Z,98nm,18.4s,baz=246,slow=37						
BVAR	**Borovoye Array**	**50.48**	**3**	LR	LR	15 51 40.8	
	comp=Z,79nm,19.9s,baz=190,slow=36						
ZALV	**Zalesovo Beam**	**53.50**	**14**	P	P	15 30 58.5	-1.2
	1.0nm,0.5s,baz=188,slow=9.0,SNR=4.9						
ZALV				LR	LR	15 51 49.7	
	comp=Z,20nm,19.4s,baz=91,slow=34						
SONM	**Songino Array**	**56.85**	**31**	P	P	15 31 24.0	-0.1
	0.6nm,0.9s,baz=241,slow=8.1,SNR=3.0						
SONM				LR	LR	15 55 38.2	
	comp=Z,61nm,18.2s,baz=62,slow=36						
WRA	**Warramunga Arr**	**70.31**	**112**	P	P	15 32 54.4	+0.7
	1.6nm,0.8s,baz=289,slow=5.8,SNR=9.2						
WRAB	**Tennant Creek**	**70.32**	**112**	*e*P	P	15 32 55.1	+1.4
WB2	**Warram

comp=Z,133nm,19.1s,MS3.7,baz=223,slow=35
EIL Elat 40.06 315 P **P 15 54 27.9 0.0**
2.2nm,0.7s,mb4.0,baz=12,slow=9.3,SNR=3.1
GYA Guiyang 45.28 55⇑ *i* P **P 15 55 11.6 +1.3**
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
MKAR Makanchi Array 46.04 15 P **P 15 55 15.9 -0.1**
comp=Z,0.2nm,0.2s,mb3.6,baz=190,slow=7.0,SNR=2.5
MKAR LR LR 16 13 49.7
comp=Z,58nm,18.8s,MS3.5,baz=40,slow=35
BVAR Borovoye Array 50.25 3 LR LR 16 16 43.7
comp=Z,114nm,20.3s,MS3.9,baz=215,slow=36
BOSA Boshof 50.25 229 LR LR 16 14 08.2
comp=Z,158nm,19.3s,MS4.0,baz=62,slow=32
XAN Xi'an 50.43 47 P **P 15 55 50.7 +0.6**
XAN AP pP 15 55 58.9 +5.6
XAN AMB AMB
comp=Z,8.0nm,1.5s,mb4.5
ZAA0 Zalesovo Array 53.27 14 *e*P **P 15 56 10.6 -0.3**
ZALV Zalesovo Beam 53.27 14 P **P 15 56 09.8 -1.1**
comp=Z,1.5nm,0.7s,mb4.0,baz=203,slow=7.2,SNR=6.2
ZALV LR LR 16 18 22.9
comp=Z,67nm,19.4s,MS3.7,baz=193,slow=36
SONM Songino Array 56.63 31 P **P 15 56 35.9 +0.5**
comp=Z,2.6nm,1.2s,mb4.1,baz=230,slow=4.8,SNR=10
SONM LR LR 16 20 50.7
comp=Z,157nm,20.7s,MS4.1,baz=246,slow=36
AKASG Malin Array Be 57.12 333 P **P 15 56 38.8 0.0**
comp=Z,0.1nm,0.3s,mb3.3,baz=140,slow=6.1,SNR=4.0
TORD Torodi Ar. Bea 64.70 283 P **P 15 57 31.9 +0.9**
comp=Z,0.9nm,1.0s,mb3.8,baz=58,slow=5.4,SNR=2.2
TORD LR LR 16 25 10.7
comp=Z,90nm,19.0s,MS4.0,baz=125,slow=36
KSRS Korea Array 65.99 50 P **P 15 57 38.5 -0.6**
comp=Z,1.7nm,1.1s,mb4.0,baz=232,slow=26,SNR=3.2
WRA Warramunga Arr 70.36 112 P **P 15 58 06.8 +0.1**
comp=Z,2.1nm,0.8s,mb4.1,baz=288,slow=5.9,SNR=10
WRAB Tennant Creek 70.37 112 *e*P **P 15 58 06.9 +0.1**
comp=Z,6.1nm,0.9s,mb4.5
WB2 Warramunga Arr 70.37 112 P **P 15 58 07.0 +0.1**
ASAR Alice Springs 70.69 116 P **P 15 58 08.7 0.0**
comp=Z,0.9nm,0.8s,mb3.8,baz=289,slow=5.0,SNR=10.0
DBIC Dimbokro 71.02 276 LR LR 16 26 32.0
comp=Z,74nm,18.9s,MS4.0,baz=78,slow=34
NOA NORSAR Array B 71.39 335 P **P 15 58 11.5 -0.7**
comp=Z,1.2nm,0.8s,mb3.9,baz=115,slow=6.6,SNR=3.2
ESDC Sonseca Array 73.15 311 P **P 15 58 23.5 +0.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=89,slow=4.9,SNR=9.2
STKA Stephens Creek 78.96 123 P **P 15 58 55.5 -1.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=20,slow=18,SNR=3.5
PDAR Pinedale Array 134.57 356 PKP PKPdf 16 06 11.7 +0.5
comp=Z,0.4nm,0.8s,baz=104,slow=1.9,SNR=3.4
MNTX Cornudas Mount 144.88 348 *e*PKP PKPdf 16 06 29.7 -0.5
TXAR Lajitas Array 146.72 344 PKPbc PKPbc 16 06 35.3 +0.3
comp=Z,2.3nm,0.8s,baz=59,slow=2.6,SNR=39

IDC 05 15:54:30.4±1.9, 029S×13330E, h0km, mb3.9/3, mb1 4.2/6, mb1mx3.8/17, mbtmp4.0/6, ML4.0/2, Error ellipse: s-maj=59.3km s-min=25.5km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**13.75**	**224**	Pn	Pn	15 57 47.7	+1.0
	1.5nm,0.3s,baz=11,slow=10,SNR=3.2						
FITZ	**Fitzroy Crossi**	**19.24**	**203**	*e*P	Pn	15 58 52.7	-4.6
	8.9nm,1.6s						
FITZ	**Fitzroy Crossi**	**19.24**	**203**	P	Pn	15 58 56.1	-1.2
FITZ				S	Sn	16 02 10.8	-23
	0.1nm,0.3s,baz=143,slow=15,SNR=2.8						
WRA	**Warramunga Arr**	**19.56**	**177**	P	Pn	15 59 00.0	-1.1
	0.4nm,0.3s,baz=355,slow=11,SNR=20						
WRA				S	Sn	16 02 27.5	-14
	0.1nm,0.3s,baz=3.6,slow=23,SNR=5.1						
WB2	**Warramunga Arr**	**19.56**	**177**	*e*P	Pn	15 59 00.2	-0.9
ASAR	**Alice Springs**	**23.25**	**179**	P	P	15 59 39.5	-0.1
	2.3nm,0.5s,baz=5.4,slow=13,SNR=60						
STKA	**Stephens Creek**	**32.38**	**167**	*e*P	P	16 01 02.1	+0.3
	3.1nm,1.1s						
STKA	**Stephens Creek**	**32.38**	**167**	P	P	16 01 01.9	+0.1
	2.0nm,0.5s,baz=338,slow=7.5,SNR=8.5						
MKAR	**Makanchi Array**	**64.61**	**324**	P	P	16 05 09.8	0.0
	0.1nm,0.3s,baz=102,slow=7.6,SNR=4.1						

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*NEIC **05** 15:59:50.1±1.3, 278N×6632E, h10km, Error ellipse: s-maj=48.5km s-min=25.0km az=64.0*

IDC 05 15:59:49.8±2.3, 285N×6659E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.7/4, MS3.6/3, Ms1 3.7/3, ms1mx3.3/28, Error ellipse: s-maj=79.6km s-min=31.5km az=66.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.28**	**62**	LR	LR	16 20 14.1	
	comp=Z,45nm,21.9s,baz=215,slow=35						
ZALV	**Zalesovo Beam**	**53.09**	**13**	P	P	16 09 08.3	-0.6
	0.2nm,0.3s,baz=218,slow=6.8,SNR=2.7						
ZALV				LR	LR	16 33 03.3	
	comp=Z,23nm,18.1s,baz=184,slow=38						
SONM	**Songino Array**	**56.40**	**31**	P	P	16 09 33.5	+0.6
	0.5nm,0.9s,baz=120,slow=8.8,SNR=3.9						
WRA	**Warramunga Arr**	**70.19**	**112**	P	P	16 11 05.6	+0.6
	0.5nm,0.8s,baz=293,slow=5.4,SNR=5.9						
ASAR	**Alice Springs**	**70.52**	**116**	P	P	16 11 06.5	-0.4
	0.5nm,0.7s,baz=287,slow=5.6,SNR=7.3						
MJAR	**Matsushiro Arr**	**73.57**	**53**	LR	LR	16 46 52.1	
	comp=Z,191nm,19.1s,baz=150,slow=38						
MNTX	**Cornudas Mount**	**144.81**	**348**	*e*PKP	PKPdf	16 19 27.6	-1.9
TXAR	**Lajitas Array**	**146.66**	**344**	PKPbc	PKPbc	16 19 33.8	-0.5
	1.3nm,0.7s,baz=53,slow=2.6,SNR=18						

MAN 05 16:19:26, 1844N×12079E, h1km, mb4.5, ML3.3, MS3.2, Luzon

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*BJI **05** 16:19:32.7, 3.18S×14186E, h19km, mB5.0, mb4.9, Ms4.6, Msz4.4*

*ISCJB **05** 16:19:34.4±1.3, 293S±003×14148E±006, h10km±8km, mb4.7/50, MS4.2/26, Error ellipse: s-maj=9.4km s-min=5.7km az=4.2*

*IDC **05** 16:19:37.4±4.3, 298S×14133E, h19km±27km, mb4.2/16, mb1 4.4/19, mb1mx4.4/21, mbtmp4.3/19, ML4.4/3, MS4.1/10, Ms1 4.1/10, ms1mx3.9/18, Error ellipse: s-maj=16.8km s-min=9.5km az=92.0*

*MOS **05** 16:19:37.9±1.3, 291S×14150E, h33km, mb5.1/13, Error ellipse: s-maj=14.9km s-min=7.5km az=103.8*

*NEIC **05** 16:19:37.3±4.2, 289S×14139E, h20km±26km, mb5.0/16, Error ellipse: s-maj=9.1km s-min=7.7km az=50.0*

*GCMT **05** 16:19:37.3±0.2, 296S×14164E, h12km, MW5.0/86, Moment Tensor Solution. s31,c34; s86,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.20±.10; $M_{\theta\theta}$1.75±.09; $M_{\phi\phi}$2.46±.12; $M_{r\theta}$-0.64±.41; $M_{\theta\phi}$-1.26±.08; $M_{\phi r}$-1.70±.41; Best double couple: $M_0$4.14600×10^{16} NP1:ϕ_s131.00000°, δ39.00000°, λ-114.00000°. NP2: ϕ_s340.00000°, δ55.00000°, λ-72.00000°. Principal axes: T 3.5510, Plg8.0000°, Azm57.0000°; N 1.2000, Plg15.0000°, Azm149.0000°; P -4.7410, Plg73.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*DJA **05** 16:19:42, 294S×14144E, h40km, mb4.8/6*

ISC 05 16:19:38.9±1.4, 299S±004×14149E±005, h29km±10km, h29km±2.0km: pP-P, n113, σ1$18/109, mb4.7/50, MS4.2/26, 4C-3D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.51**	**139**	P	**Pn**	**16 21 43.1**	**+2.9**
PMG				pmax	pmax		
	comp=Z,46nm,0.9s						
PMG	**Port Moresby**	**8.51**	**139**	Pn	**Pn**	**16 21 43.1**	**+2.9**
	comp=Z,46nm,0.9s						
KAKA	**Kakadu**	**13.17**	**222**	*e*P	**Pn**	**16 22 42.5**	**-1.6**
	comp=Z,39nm,0.6s						
CTA	**Charters Tower**	**17.62**	**165**	P	**Pn**	**16 23 43.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=358,slow=16,SNR=2.6						
WRAB	**Tennant Creek**	**18.23**	**202**	Pn	**Pn**	**16 23 51.4**	**+1.6**
	comp=Z,236nm,0.9s,SNR=8.1						
WRAB	**Tennant Creek**	**18.23**	**202**	*i* P	**Pn**	**16 23 51.8**	**+2.0**
WRAB	**Tennant Creek**	**18.23**	**202**	*e*P	**Pn**	**16 23 49.4**	**-0.4**
	comp=Z,90nm,1.3s						
WB2	**Warramunga Arr**	**18.24**	**202**	*e*P	**Pn**	**16 23 49.9**	**0.0**
WRA	**Warramunga Arr**	**18.24**	**202**	P	**Pn**	**16 23 49.7**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=24,slow=12,SNR=30						
WRA				S	**Sn**	**16 27 10.9**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=23,slow=23,SNR=3.9						
BATI	**Baumata**	**19.09**	**247**	P	**Pn**	**16 24 00.7**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=35,slow=16,SNR=2.4						
HNR	**Honiara**	**19.43**	**110**	P	**Pn**	**16 24 02.9**	**-1.5**
	comp=Z,9.0nm,0.3s,baz=306,slow=1.8,SNR=16						
HNR	**Honiara**	**19.43**	**110**	*e*P	**Pn**	**16 24 02.4**	**-2.0**
HNR				pmax	pmax		
	comp=Z,160nm,0.8s						
HNR	**Honiara**	**19.43**	**110**	*e*P	**Pn**	**16 24 02.4**	**-2.0**
	comp=Z,160nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.61**	**225**	*e*P	**P**	**16 24 26.2**	**-0.5**
	comp=Z,17nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**21.61**	**225**	P	**P**	**16 24 25.5**	**-1.2**
	comp=Z,9.3nm,0.7s,mb4.3,baz=48,slow=12,SNR=14						
FITZ				S	**S**	**16 28 24.1**	**-0.6**
	comp=Z,8.0nm,0.9s,baz=60,slow=20,SNR=3.5						
FITZ	**Fitzroy Crossi**	**21.61**	**225**	*e*P	**P**	**16 24 26.1**	**-0.6**
FITZ				*e*P		16 24 26.2	
KAPI	**Kappang**	**21.78**	**264**	P	**P**	**16 24 26.1**	**-2.5**
	comp=Z,13nm,1.0s,mb4.3,baz=80,slow=18,SNR=2.6						
ASAR	**Alice Springs**	**21.83**	**199**	P	**P**	**16 24 28.6**	**-0.3**
	comp=Z,4.3nm,0.8s,mb3.9,baz=34,slow=9.8,SNR=40						
ASAR				S	**S**	**16 28 30.4**	**+1.5**
	comp=Z,2.2nm,1.0s,baz=23,slow=23,SNR=4.7						
STKA	**Stephens Creek**	**28.74**	**180**	*e*P	**P**	**16 25 35.5**	**+1.6**
	comp=Z,3.6nm,1.1s,mb4.0						
STKA	**Stephens Creek**	**28.74**	**180**	P	**P**	**16 25 34.0**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.1,baz=12,slow=13,SNR=3.6						
STKA				LR	LR	16 38 11.2	
	comp=Z,57nm,21.2s,MS3.1,baz=121,slow=39						
ARMA	**Armidale**	**28.92**	**162**	*e*P	**P**	**16 25 38.5**	**+3.0**
FORT	**Forrest**	**30.42**	**203**	*e*P	**P**	**16 25 47.3**	**-1.5**
	comp=Z,50nm,0.7s,mb5.3						
JOW	**Kunigami**	**32.28**	**338**	LR	LR	16 36 48.1	
	comp=Z,454nm,19.8s,MS4.2,baz=109,slow=32						
CAN	**Canberra**	**32.92**	**169**	*e*P	**P**	**16 26 12.8**	**+2.1**
QIZ	**Qiongzhong**	**38.05**	**306**	P	**P**	**16 26 54.8**	**-0.2**
QIZ				S	**S**	**16 32 48.0**	**+2.0**
QIZ				AMB	AMB		
	comp=Z,24nm,2.5s,mb4.5						
QIZ				LR	LR		
	comp=Z,366nm,28.3s,MS4.0						
SSE	**Sheshan**	**39.02**	**332**	P	**P**	**16 27 03.6**	**+0.5**
SSE				XP	sP	16 27 16.5	+1.2
SSE				S	**S**	**16 33 01.0**	**+0.6**
SSE				XS	sS	16 33 16.5	+1.7
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,105nm,9.1s						
SSE				LR	LR		
	comp=N,76nm,17.7s,MS3.8						
SSE				LR	LR		
	comp=E,117nm,17.7s,MS3.8						
SSE				LR	LR		
	comp=Z,232nm,16.3s,MS4.1						
MJAR	**Matsushiro Arr**	**39.44**	**356**	P	**P**	**16 27 05.5**	**-0.9**
	comp=Z,2.2nm,1.0s,mb3.9,baz=161,slow=8.8,SNR=5.9						
NJ2	**Nanjing**	**40.94**	**330**	*e*P	**P**	**16 27 20.6**	**+1.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
KSRS	**Korea Array**	**42.16**	**344**	P	**P**	**16 27 28.2**	**-0.7**
	comp=Z,3.3nm,1.1s,mb3.9,baz=152,slow=7.3,SNR=6.7						
KSRS				PcP	PcP	16 29 22.4	-0.6
	comp=Z,0.9nm,0.7s,baz=173,slow=4.0,SNR=4.4						
KSRS				LR	LR	16 41 27.7	
	comp=Z,254nm,21.3s,MS4.1,baz=146,slow=31						
GYA	**Guiyang**	**44.60**	**313**	P	**P**	**16 27 51.7**	**+2.9**
GYA				AP	pP	16 27 58.4	+0.8
GYA				XP	sP	16 28 02.7	+1.5
GYA				PCP	PcP	16 29 32.6	+1.1
GYA				PP	PP	16 29 35.3	+2.0
GYA				SCP	ScP	16 33 23.0	+1.2
GYA				S	**S**	**16 34 23.8**	**+0.7**
GYA				XS	sS	16 34 37.5	-0.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,560nm,19.0s,MS4.7						
GYA				LR	LR		
	comp=E,540nm,18.9s,MS4.7						
GYA				LR	LR		
	comp=Z,610nm,18.4s,MS4.6						
KMI	**Kunming**	**46.83**	**309**	P	**P**	**16 28 06.7**	**+0.3**
KMI				S	**S**	**16 34 54.7**	**-0.6**
KMI				SS	SS	16 38 14.0	-8.2
KMI				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
KMI				LR	LR		
	comp=N,238nm,13.7s,MS4.4						
KMI				LR	LR		
	comp=E,166nm,13.7s,MS4.4						
KMI				LR	LR		
	comp=Z,271nm,20.0s						
CMAR	**Chiang Mai Arr**	**46.99**	**299**	P	**P**	**16 28 07.3**	**-0.5**
	comp=Z,1.3nm,0.8s,mb3.9,baz=112,slow=5.7,SNR=7.1						
CMAR				PcP	PcP	16 29 40.6	+0.7
	comp=Z,1.2nm,0.8s,baz=155,slow=3.5,SNR=5.0						
CMAR				LR	LR	16 48 04.0	
	comp=Z,86nm,19.1s,MS3.7,baz=303,slow=36						
CMAR	**Chiang Mai Arr**	**46.99**	**299**	*i* P	**P**	**16 28 09.8**	**+2.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AFI	**Afiamalu**	**47.39**	**106**	LR	LR	16 45 59.6	
	comp=Z,348nm,19.5s,MS4.3,baz=11,slow=33						
URZ	**Urewera**	**47.86**	**142**	P	**P**	**16 28 15.6**	**+1.3**
	comp=Z,5.7nm,0.4s,mb4.9,baz=269,slow=7.6,SNR=4.1						
XAN	**Xi'an**	**47.93**	**323**	P	**P**	**16 28 13.6**	**-1.2**
XAN				AP	pP	16 28 22.1	-1.6
XAN				XP	sP	16 28 26.4	-0.8
XAN				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.6						
RPZ	**Rata Peaks**	**48.28**	**151**	P	**P**	**16 28 19.2**	**+1.8**
	comp=Z,21nm,1.0s,mb5.1,baz=317,slow=12,SNR=3.1						
MDJ	**Mudanjiang**	**48.57**	**349**	P	**P**	**16 28 20.8**	**+1.2**
MDJ				AP	pP	16 28 27.1	-1.4
MDJ				XP	sP	16 28 29.7	-2.3
MDJ				PCP	PcP	16 29 45.6	+0.6
MDJ				PP	PP	16 30 13.7	+1.0
MDJ				S	**S**	**16 35 18.5**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.5s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,48nm,5.8s						
MDJ				LR	LR		
	comp=N,252nm,20.6s,MS4.3						
MDJ				LR	LR		
	comp=E,200nm,21.8s,MS4.3						
MDJ				LR	LR		
	comp=Z,382nm,23.1s,MS4.3						
BJI	**Beijing**	**48.71**	**334**	P	**P**	**16 28 19.9**	**-0.8**
BJI				PP	PP	16 30 11.3	-2.8
BJI				AMB	AMB		
	comp=Z,8.0nm,1.7s,mb4.5						
BJI				AMB	AMB		
	comp=Z,99nm,4.5s						
BJI				LR	LR		
	comp=N,208nm,21.6s,MS4.2						
BJI				LR	LR		
	comp=E,211nm,22.3s,MS4.2						
BJI				LR	LR		
	comp=Z,295nm,28.8s						
CN2	**Changchun**	**48.76**	**345**	*e*P	**P**	**16 28 23.0**	**+2.0**
CN2				*e*XP	sP	16 28 33.8	+0.4
CN2				*e*S	**S**	**16 35 23.6**	**+1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,21.0s,MS4.2						
CN2				LR	LR		
	comp=E,200nm,21.0s,MS4.2						
CN2				LR	LR		
	comp=Z,200nm,23.0s,MS4.0						
CD2	**Chengdu**	**49.28**	**316**	*e*P	**P**	**16 28 25.9**	**+0.7**
CD2				AP	pP	16 28 33.4	-0.8
CD2				XP	sP	16 28 36.7	-1.0
CD2				PCP	PcP	16 29 48.4	+0.5
CD2				PP	PP	16 30 20.4	+1.0
CD2				PCS	PcS	16 33 43.5	-1.0
CD2				S	**S**	**16 35 30.2**	**+0.4**
CD2				XS	sS	16 35 42.7	-1.7
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,40nm,5.8s						
CD2				LR	LR		
	comp=N,240nm,15.6s,MS4.5						
CD2				LR	LR		
	comp=E,260nm,15.6s,MS4.5						
CD2				LR	LR		
	comp=Z,220nm,14.4s,MS4.3						
YSS	**Yuzh-Sakhalins**	**49.74**	**1**	*i* P	**P**	**16 28 29.8**	**+1.3**
YSS				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.3						
YSS				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.8						
HHC	**Hu-ho-hao-te**	**51.47**	**331**	*e*P	**P**	**16 28 42.8**	**+1.1**
HHC				AP	pP	16 28 53.3	+2.7
HHC				XP	sP	16 28 55.7	+1.6
HHC				PP	PP	16 30 42.8	+3.6
HHC				PCS	PcS	16 33 53.1	-0.4
HHC				S	**S**	**16 35 59.1**	**-0.9**
HHC				XS	sS	16 36 15.8	+1.1
HHC				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,146nm,4.9s						
HHC				LR	LR		
	comp=N,164nm,21.4s,MS4.2						
HHC				LR	LR		
	comp=E,206nm,22.6s,MS4.2						
HHC				LR	LR		
	comp=Z,208nm,21.4s,MS4.1						
LZH	**Lanzhou**	**52.40**	**321**	⇑P	**P**	**16 28 50.1**	**+1.4**
LZH				AP	pP	16 28 57.2	-0.4
LZH				XP	sP	16 28 59.9	-1.2
LZH				PP	PP	16 30 49.5	+1.8
LZH				*e*S	**S**	**16 36 11.0**	**-1.9**
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,110nm,4.4s						
LZH				LR	LR		
	comp=E,1μm,13.7s						
LZH				LR	LR		
	comp=Z,1μm,15.5s,MS5.1						
KLR	**Kul'dur**	**52.69**	**352**	*e*P	**P**	**16 28 44.6**	**-5.9**
GTA	**Gaotai**	**56.97**	**322**	*e*P	**P**	**16 29 23.0**	**+1.3**
GTA				AP	pP	16 29 32.6	+1.8
GTA				XP	sP	16 29 36.1	+1.8
GTA				S	**S**	**16 37 15.2**	**+1.0**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
GTA				AMB	AMB		
	comp=Z,224nm,4.9s						
GTA				LR	LR		
	comp=N,110nm,12.6s,MS4.3						
GTA				LR	LR		
	comp=E,120nm,16.3s,MS4.3						
GTA				LR	LR		
	comp=Z,117nm,17.9s,MS4.0						
PETK	**Petropavlovsk-**	**57.53**	**12**	P	**P**	**16 29 24.1**	**-1.3**
	comp=Z,3.1nm,0.8s,mb4.4,baz=173,slow=5.9,SNR=5.6						
PET	**Petropavlovsk**	**57.65**	**12**	*e*P	**P**	**16 29 27.1**	**+0.8**
PET				*e*S	**S**	**16 37 18.6**	**-4.0**
PET				pmax	pmax		
	comp=Z,100nm,17.6s						
PET				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
SONM	**Songino Array**	**59.18**	**333**	P	**P**	**16 29 37.3**	**+0.2**
	comp=Z,2.0nm,1.0s,mb4.1,baz=152,slow=7.1,SNR=10						
SONM				LR	LR	16 53 41.4	
	comp=Z,210nm,19.7s,MS4.3,baz=111,slow=35						
ZAK	**Zakamensk**	**62.44**	**333**⇓	*e*P	**P**	**16 29 59.0**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.9						
TLY	**Talaya**	**63.22**	**335**	*e*P	**P**	**16 30 05.3**	**+0.9**
TLY				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.9						
TLY	**Talaya**	**63.22**	**335**	*e*P	**P**	**16 30 05.0**	**+0.6**
	comp=Z,15nm,1.3s,mb5.0						
IRK	**Irkutsk**	**63.37**	**335**	*e*P	**P**	**16 30 07.8**	**+2.4**
IRK				pmax	pmax		
	comp=Z,36nm,3.0s						
MOY	**Mondy**	**64.37**	**333**	*e*P	**P**	**16 30 13.0**	**+1.0**
BOD	**Bodaibo**	**64.51**	**344**	*e*P	**P**	**16 30 11.3**	**-1.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.3						
YAK	**Yakutsk**	**65.47**	**354**	*e*P	**P**	**16 30 16.8**	**-2.1**
YAK				*e**PP	pP	16 30 28.2	+0.1
YAK				*e*S	S	16 39 00.3	-1.2
YAK				*e*		16 40 12.8	
YAK				pmax	pmax		
	comp=Z,19nm,1.8s,mb4.8						
YAK				pmax	pmax		
	comp=N,11nm,1.7s						
YAK				pmax	pmax		
	comp=E,1.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,63nm,3.7s						
YAK				pmax	pmax		
	comp=N,25nm,3.3s						
YAK				pmax	pmax		
	comp=E,89nm,3.2s						
YAK				smax			
	comp=N,42nm,2.5s						
YAK				smax			
	comp=E,25nm,2.0s						
SEY	**Seymchan**	**66.26**	**5**⇓	*e*P	**P**	**16 30 25.2**	**+1.2**
WMQ	**Urumqi**	**66.97**	**321**	P	**P**	**16 30 30.2**	**+1.3**
WMQ				AP	pP	16 30 38.0	-0.1
WMQ				XP	sP	16 30 41.3	-0.2
WMQ				PP	PP	16 32 59.4	+2.7
WMQ				AMB	AMB		
	comp=Z,17nm,1.2s,mb5.0						
WMQ				LR	LR		
	comp=N,99nm,25.6s,MS4.1						
WMQ				LR	LR		
	comp=E,96nm,21.6s,MS4.1						
WMQ				LR	LR		
	comp=Z,82nm,18.6s,MS4.0						
HVS	**Khovu-Aksy**	**67.51**	**330***d*	*i* P	**P**	**16 30 32.7**	**+0.5**
HVS				pmax	pmax		
	comp=Z,256nm,1.8s						
PPT	**Papeete**	**69.03**	**108**	*e*S	S	16 39 47.2	+1.2
	comp=Z,54nm,23.5s						
PPT	**Papeete**	**69.03**	**108**	*e*LR	LR	16 51 52.9	
	comp=Z,305nm,30.5s						
TBI	**Tubuai**	**69.60**	**114**	*e*LR	LR	16 52 01.2	
	comp=Z,234nm,38.5s						
MK31	**Makanchi Array**	**71.72**	**322**	*e*P	**P**	**16 30 58.4**	**+0.2**
MKAR	**Makanchi Array**	**71.72**	**322**	P	**P**	**16 30 58.0**	**-0.2**
	comp=Z,6.7nm,0.9s,mb4.6,baz=108,slow=7.3,SNR=34						
BILL	**Bilibino**	**72.96**	**9**⇑	*e*P	**P**	**16 31 05.0**	**-0.2**
BILL				*e*SS	SS	16 45 11.3	+0.6
BILL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BILL				MLR	MLR		
	comp=Z,100nm,23.0s,MS4.0						
ZAA0	**Zalesovo Array**	**73.58**	**329**	*e*P	**P**	**16 31 08.1**	**-1.1**
ZALV	**Zalesovo Beam**	**73.58**	**329**	P	**P**	**16 31 08.1**	**-1.0**
	comp=Z,3.8nm,0.7s,mb4.4,baz=116,slow=6.8,SNR=13						
ZALV				LR	LR	17 04 03.4	
	comp=Z,119nm,18.6s,MS4.2,baz=83,slow=36						
ZAL	**Zalesovo**	**73.59**	**329**	P	**P**	**16 31 08.1**	**-1.1**
TKM2	**Tokmak 2**	**74.66**	**316**	*e*P	**P**	**16 31 15.5**	**-0.2**
TKM2				pm

KURK pmax pmax
comp=Z,19nm,1.2s,mb4.9
KURK MLR MLR
comp=Z,100nm,18.0s,MS4.2
KURK Kurchatov 75.55 324 *e*P **P 16 31 19.9 -0.7**
comp=Z,27nm,1.4s,mb5.0
AML Almayashu 75.75 315 *e*P **P 16 31 22.8 +0.8**
comp=Z,16nm,1.3s,mb4.8
EKS2 Erkin-Say 75.85 315 *e*P **P 16 31 23.1 +0.5**
comp=Z,22nm,1.6s,mb4.8
BRVK Borovoye 81.20 325 P **P 16 31 52.1 +0.3**
comp=Z,61nm,0.7s,mb5.6,SNR=5.9
BRVK Borovoye 81.20 325 *e*P **P 16 31 52.0 +0.2**
BRVK pmax pmax
comp=Z,15nm,1.1s,mb4.8
BRVK Borovoye 81.20 325 *e*P **P 16 31 52.0 +0.2**
comp=Z,14nm,1.1s,mb4.8
CHUM Lake Minchumin 82.42 24 *e*P **P 16 31 57.6 -0.4**
comp=Z,23μm,0.9s
IMA2 Indian Mountai 82.76 22 *e*P **P 16 31 59.7 0.0**
KTH Kantishna Hill 82.86 25 *e*P **P 16 31 58.8 -1.5**
comp=Z,29nm,1.4s,mb5.1
RKT Rikitea 82.89 113 *e*LR LR 16 58 19.5
comp=Z,194nm,24.8s
MAW Mawson 82.92 202 P **P 16 32 00.4 -0.2**
comp=Z,3.4nm,1.0s,mb4.3,baz=58,slow=6.9,SNR=7.1
MAW LR LR 17 06 56.7
comp=Z,346nm,18.2s,MS4.8,baz=67,slow=34
MAW Mawson 82.92 202 *e*P **P 16 32 00.8 +0.2**
MAW pmax pmax
comp=Z,12nm,1.3s
MAW Mawson 82.92 202 *e*P **P 16 32 00.8 +0.2**
comp=Z,12nm,1.3s,mb4.8
BPAW Bear Paw Mtn. 83.04 24 *e*P **P 16 32 00.3 -0.9**
comp=Z,33nm,1.8s,mb5.1
MCK McKinley 83.76 25 *e*P **P 16 32 02.7 -2.3**
MCK pmax pmax
comp=Z,59nm,1.6s,mb5.5
MCK McKinley 83.76 25 *e*P **P 16 32 02.7 -2.2**
comp=Z,59nm,1.6s,mb5.5
DIV Divide 84.34 28 *e*P **P 16 32 07.1 -0.9**
comp=Z,16nm,0.9s,mb5.2
COLD Coldfoot 84.49 21 *e*P **P 16 32 08.3 -0.3**
comp=Z,14nm,1.3s,mb4.9
COLA College 84.58 24 *i*P **P 16 32 07.9 -1.2**
BMRM Bremner River 84.85 28 *e*P **P 16 32 09.7 -0.8**
EGAK Eagle 87.31 25 *e*P **P 16 32 21.9 -0.8**
comp=Z,13nm,1.4s,mb5.0
DAWY Dawson 87.91 26 *e*P **P 16 32 24.9 -0.6**
HYT Haines Junctio 88.20 29 *e*P **P 16 32 26.8 -0.1**
ARU Arti 88.55 327 *c i*P **P 16 32 27.2 -1.5**
ARU *e*S S 16 42 52.5 -20
ARU pmax pmax
comp=Z,11nm,1.7s,mb4.9
YKA Yellowknife Ar 99.05 27 P **P 16 33 15.6 -1.1**
comp=Z,1.3nm,0.9s,mb4.5,baz=281,slow=5.3,SNR=4.4
YKA LR LR 17 13 30.0
comp=Z,56nm,21.1s,MS4.0,baz=120,slow=33
YKA Yellowknife Ar 99.05 27 *i*P **P 16 33 18.8 +2.0**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 99.05 27 P **P 16 33 15.7 -1.1**
YKA LR LR 17 13 30.0
OBN Obninsk 100.96 326 *e*P Pdif 16 33 24.2 -1.3
OBN *e* 16 37 33.1
OBN *e*PS PS 16 46 34.4 -1.7
OBN *e*SS SS 16 51 56.9 -3.4
OBN pmax pmax
comp=Z,3.0nm,0.7s
TXAR Lajitas Array 113.06 59 PKiKP PKiKP 16 38 14.5 +0.5
comp=Z,0.2nm,0.7s,baz=232,slow=2.2,SNR=2.9
TXAR Lajitas Array 113.06 59 PKPdf PKiKP 16 38 14.5 +0.5
TORD Torodi Ar. Bea 139.00 287 PKP PKPdf 16 39 03.1 -0.6
comp=Z,1.1nm,0.7s,baz=48,slow=1.7,SNR=5.8
LPAZ La Paz 145.02 124 PKP PKPdf 16 39 14.6 +0.2
comp=Z,5.7nm,0.7s,baz=262,slow=2.2,SNR=25
LPAZ La Paz 145.02 124 *e*PKP PKPdf 16 39 14.4 0.0
CPUP Villa Florida 145.64 149 PKPbc PKPbc 16 39 16.3 +0.8
comp=Z,4.0nm,0.9s,baz=176,slow=2.2,SNR=5.2
KIC Kosan Boka 146.18 277 *e*P PKPdf 16 39 17.6 +1.1
comp=Z,120nm,1.3s
DBIC Dimbokro 146.27 277 PKPbc PKPbc 16 39 17.3 -0.5
comp=Z,6.5nm,0.7s,baz=72,slow=2.5,SNR=9.1
TIC Toumodi 146.44 277 *e*P PKPdf 16 39 17.3 +0.3
comp=Z,22nm,0.2s
LIC Lamto 146.48 277 *e*P PKPdf 16 39 14.9 -2.1
comp=Z,101nm,1.9s
SDV Santo Domingo 147.53 78 *e*PKPbc PKPbc 16 39 20.6 -0.8

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*IDC **05** 16:26:00.5±0.8, 294S×14147E, h0km, mb3.9/10, mb1 4.2/13, mb1mx4.1/19, mbtmp4.1/13, ML4.3/3, Error ellipse: s-maj=23.3km s-min=16.5km az=89.0*
*ISCJB **05** 16:26:02.7±5.7, 30S±01×14149E±009, h29km±43km, mb4.0/15, Error ellipse: s-maj=18.5km s-min=14.3km az=174.4*
*NEIC **05** 16:26:03.3±5.7, 292S×14143E, h19km±36km, mb4.3/5, Error ellipse: s-maj=12.3km s-min=10.4km az=194.0*
ISC 05 16:26:05.2±5.8, 30S±01×14149E±009, h34km±44km, n26, σ0999/23, mb4.0/15, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.52**	**139**	P	**Pn**	**16 28 08.3**	**+2.0**
WRA	**Warramunga Arr**	**18.25**	**202**	P	**Pn**	**16 30 15.5**	**-0.5**
	0.5nm,0.3s,baz=24,slow=13,SNR=8.5						
BATI	**Baumata**	**19.10**	**247**	P	**Pn**	**16 30 26.9**	**+0.5**
	3.0nm,0.3s,baz=55,slow=4.1,SNR=5.9						
HNR	**Honiara**	**19.43**	**110**	P	**Pn**	**16 30 28.4**	**-1.9**
	2.0nm,0.3s,baz=270,slow=19,SNR=8.2						
FITZ	**Fitzroy Crossi**	**21.62**	**225**	P	**P**	**16 30 51.7**	**-0.9**
	6.3nm,0.7s,mb4.1,baz=49,slow=14,SNR=3.6						
KAPI	**Kappang**	**21.78**	**264**	P	**P**	**16 30 52.7**	**-1.7**
	6.0nm,0.6s,mb4.2,baz=63,slow=6.8,SNR=2.8						
ASAR	**Alice Springs**	**21.84**	**199**	P	**P**	**16 30 55.8**	**+0.8**
	3.0nm,0.8s,mb3.8,baz=29,slow=9.5,SNR=6.4						
MJAR	**Matsushiro Arr**	**39.43**	**356**	P	**P**	**16 33 31.5**	**-0.6**
	0.5nm,0.5s,mb3.5,baz=152,slow=10,SNR=2.9						
KSRS	**Korea Array**	**42.15**	**344**	P	**P**	**16 33 55.9**	**+1.4**
	0.7nm,0.7s,mb3.4,baz=173,slow=10,SNR=4.1						
CMAR	**Chiang Mai Arr**	**46.99**	**299**	P	**P**	**16 34 33.5**	**+0.1**
	0.9nm,0.6s,mb3.9,baz=116,slow=6.3,SNR=5.5						
SONM	**Songino Array**	**59.17**	**333**	P	**P**	**16 36 02.5**	**-0.3**
	0.6nm,0.7s,mb3.7,baz=142,slow=5.1,SNR=5.4						
TLY	**Talaya**	**63.21**	**335**	*e*P	**P**	**16 36 30.6**	**+0.6**
	1.9nm,0.8s,mb4.3						
MK31	**Makanchi Array**	**71.71**	**322**	*e*P	**P**	**16 37 24.6**	**+0.8**
MKAR	**Makanchi Array**	**71.71**	**322**	P	**P**	**16 37 24.8**	**+0.9**
	3.1nm,0.7s,mb4.3,baz=108,slow=7.8,SNR=17						
MKAR	**Makanchi Array**	**71.71**	**322**	P	**P**	**16 37 24.8**	**+0.9**
ZALV	**Zalesovo Beam**	**73.58**	**329**	P	**P**	**16 37 33.9**	**-0.9**
	2.3nm,0.7s,mb4.2,baz=123,slow=7.3,SNR=9.9						
VNDA	**Vanda**	**75.29**	**176**	P	**P**	**16 37 44.7**	**+0.3**
	0.5nm,0.8s,mb3.5,baz=326,slow=6.8,SNR=4.6						
KURK	**Kurchatov**	**75.54**	**324**	*e*P	**P**	**16 37 46.4**	**+0.1**
	5.7nm,1.3s,mb4.3						
AML	**Almayashu**	**75.74**	**315**	*e*P	**P**	**16 37 49.0**	**+1.4**
	2.3nm,0.8s,mb4.2						
BRVK	**Borovoye**	**81.19**	**325**	*e*P	**P**	**16 38 16.4**	**-1.1**
	1.7nm,0.6s,mb4.2						
CHUM	**Lake Minchumin**	**82.40**	**24**	*e*P	**P**	**16 38 23.6**	**0.0**
	6.8nm,0.7s,mb4.7						
DAWY	**Dawson**	**87.90**	**26**	*e*P	**P**	**16 38 51.4**	**+0.3**
HYT	**Haines Junctio**	**88.19**	**29**	*e*P	**P**	**16 38 51.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**139.00**	**287**	PKP	PKPdf	16 45 31.0	+1.7
	0.8nm,0.8s,baz=83,slow=1.8,SNR=3.1						
LPAZ	**La Paz**	**145.02**	**124**	PKPbc	PKPbc	16 45 41.0	+1.5
	2.2nm,0.8s,baz=228,slow=1.4,SNR=12						
DBIC	**Dimbokro**	**146.27**	**278**	PKPbc	PKPbc	16 45 43.5	0.0
	6.0nm,0.9s,baz=79,slow=2.5,SNR=7.7						

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*IDC **05** 16:27:33.5±0.6, 275S×14163E, h0km, mb4.2/13, mb1 4.5/16, mb1mx4.4/20, mbtmp4.4/16, ML4.8/3, MS4.5/1, Ms1 4.5/1, ms1mx3.4/25, Error ellipse: s-maj=18.9km s-min=10.5km az=95.0*
*ISCJB **05** 16:27:34.7±3.8, 279S±006×14165E±007, h15km±25km, mb4.5/27, MS4.3/3, Error ellipse: s-maj=11.2km s-min=9.1km az=16.5*
*BJI **05** 16:27:34.8, 297S×14169E, h24km, mB5.2, mb4.6, Ms4.5, Msz4.2*
*NEIC **05** 16:27:36.6±3.6, 275S×14163E, h21km±25km, mb4.8/11, Error ellipse: s-maj=10.8km s-min=7.2km az=63.0*

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*DJA **05** 16:28:14, 303S×14094E, h335km, mb4.6/16*
ISC 05 16:27:33.5±4.0, 277S±004×14170E±008, h0km±25km, n60, σ0991/53, mb4.6/27, MS4.3/3, 4D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.47**	**222**	*e*P	**Pn**	**16 30 44.5**	**-1.6**
	35nm,0.6s						
KAKA	**Kakadu**	**13.47**	**222**	*e*Pn	**Pn**	**16 30 46.3**	**+0.1**
WRAB	**Tennant Creek**	**18.51**	**202**	*e*P	**Pn**	**16 31 51.2**	**-0.3**
WB2	**Warramunga Arr**	**18.51**	**202**	*e*P	**Pn**	**16 31 53.5**	**+1.9**
WB2	**Warramunga Arr**	**18.51**	**202**	*e*P	**Pn**	**16 31 51.7**	**+0.1**
WRA	**Warramunga Arr**	**18.52**	**202**	P	**Pn**	**16 31 52.6**	**+0.9**
	1.4nm,0.3s,baz=17,slow=12,SNR=9.1						
WRA				S	**Sn**	**16 35 19.6**	**+0.2**
	baz=19,slow=26,SNR=2.7						
KDI	**Kendari**	**19.08**	**266**	||*e*P	**Pn**	**16 32 02.9**	**+4.3**
KDI				*e*S	**Sn**	**16 35 26.1**	**-7.1**
HNR	**Honiara**	**19.31**	**111**	P	**Pn**	**16 32 00.8**	**-0.5**
	7.6nm,0.3s,baz=284,slow=2.7,SNR=11						
HNR	**Honiara**	**19.31**	**111**	P	**Pn**	**16 32 00.8**	**-0.5**
BATI	**Baumata**	**19.37**	**247**	P	**Pn**	**16 32 02.1**	**0.0**
	4.7nm,0.3s,baz=73,slow=5.5,SNR=8.8						
FITZ	**Fitzroy Crossi**	**21.91**	**225**	*e*P	**P**	**16 32 27.9**	**-0.6**
	28nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**21.91**	**225**	P	**P**	**16 32 28.0**	**-0.6**
	14nm,0.6s,mb4.6,baz=60,slow=9.9,SNR=9.2						
PCI	**Palu**	**21.93**	**274**	||*e*P	**P**	**16 32 37.0**	**+8.2**
PCI	**Palu**	**21.93**	**274**	||*e*P	**P**	**16 32 37.0**	**+8.2**
ASAR	**Alice Springs**	**22.10**	**199**	P	**P**	**16 32 30.1**	**-0.4**
	4.2nm,0.6s,mb4.1,baz=29,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**28.95**	**180**	*e*P	**P**	**16 33 34.9**	**+0.2**
	5.4nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**28.95**	**180**	P	**P**	**16 33 34.8**	**+0.1**
	4.6nm,0.7s,mb4.4,baz=358,slow=10,SNR=6.4						
STKA	**Stephens Creek**	**28.95**	**180**	*e*P	**P**	**16 33 34.8**	**+0.1**
FORT	**Forrest**	**30.70**	**203**	*e*P	**P**	**16 33 49.4**	**-0.8**
	43nm,0.9s,mb5.4						
KSM	**Kuching**	**31.66**	**277**	*e*P	**P**	**16 33 58.5**	**-0.5**
KLBR	**Kellerberrin**	**36.48**	**216**	*e*P	**P**	**16 34 44.7**	**+4.2**
	41nm,1.2s,mb5.1						
NWAO	**Narrogin (SRO)**	**37.76**	**215**	LR	LR	16 52 03.7	
	comp=Z,662nm,18.6s,MS4.5,baz=44,slow=39						
MJAR	**Matsushiro Arr**	**39.24**	**356**	P	**P**	**16 35 02.2**	**-1.6**
	0.5nm,0.5s,mb3.4,baz=160,slow=7.8,SNR=4.0						
MJAR	**Matsushiro Arr**	**39.24**	**356**	P	**P**	**16 35 02.2**	**-1.6**
KSRS	**Korea Array**	**42.02**	**344**	P	**P**	**16 35 29.2**	**+2.6**
	1.1nm,0.8s,mb3.6,baz=140,slow=6.9,SNR=5.2						
PSI	**Prapat**	**43.11**	**277**	||*e*P	**P**	**16 35 34.9**	**-1.2**
GYA	**Guiyang**	**44.61**	**313**	P	**P**	**16 35 49.4**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
ASAJ	**Asahikawa**	**46.68**	**1**	P	**P**	**16 36 03.4**	**-0.6**
	comp=Z,3.7nm,0.9s,mb4.5,baz=207,slow=11,SNR=3.6						
CMAR	**Chiang Mai Arr**	**47.07**	**298**	P	**P**	**16 36 07.4**	**-0.1**
	comp=Z,1.4nm,0.9s,mb4.1,baz=129,slow=7.2,SNR=4.0						
CMAR				PcP	PcP	16 37 43.9	+4.2
	comp=Z,1.4nm,1.0s,baz=108,slow=2.9,SNR=4.5						
XAN	**Xi'an**	**47.88**	**323**	P	**P**	**16 36 13.6**	**+0.1**
XAN				AP		16 36 23.2	
XAN				AMB	AMB		
	comp=Z,7.0nm,2.5s,mb4.3						
XAN				LR	LR		
	comp=Z,261nm,19.7s,MS4.2						
URZ	**Urewera**	**47.90**	**142**	P	**P**	**16 36 14.0**	**+0.4**
	comp=Z,5.5nm,0.7s,mb4.8,baz=315,slow=10.0,SNR=6.4						
RPZ	**Rata Peaks**	**48.37**	**152**	P	**P**	**16 36 17.9**	**+0.8**
	comp=Z,3.6nm,0.6s,mb4.7,baz=297,slow=4.5,SNR=4.2						
CD2	**Chengdu**	**49.27**	**316**	*e*P	**P**	**16 36 25.8**	**+1.5**
LZH	**Lanzhou**	**52.36**	**321**	*e*P	**P**	**16 36 49.2**	**+1.7**
LZH				AP		16 36 53.5	
LZH				XP	sP	16 36 56.5	+9.0
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,150nm,4.1s						
GTA	**Gaotai**	**56.92**	**322**	*e*P	**P**	**16 37 21.8**	**+1.2**
GTA				AP		16 37 26.8	
GTA				XP	sP	16 37 30.1	+9.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,124nm,6.1s						
GTA				LR	LR		
	comp=N,153nm,15.2s,MS4.3						
GTA				LR	LR		
	comp=E,152nm,18.2s,MS4.3						
GTA				LR	LR		
	comp=Z,144nm,15.6s,MS4.2						
LSA	**Lhasa**	**58.09**	**308**	P	**P**	**16 37 29.3**	**+0.3**
SONM	**Songino Array**	**59.09**	**333**	P	**P**	**16 37 35.9**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=141,slow=5.8,SNR=4.8						
TLY	**Talaya**	**63.12**	**335**	*e*P	**P**	**16 38 03.7**	**+0.8**
	comp=Z,8.2nm,1.3s,mb4.7						
MK31	**Makanchi Array**	**71.67**	**321**	*e*P	**P**	**16 38 55.5**	**-1.8**
MKAR	**Makanchi Array**	**71.67**	**321**	P	**P**	**16 38 57.2**	**-0.1**
	comp=Z,3.5nm,0.7s,mb4.6,baz=113,slow=7.2,SNR=11						
MKAR	**Makanchi Array**	**71.67**	**321**	P	**P**	**16 38 57.2**	**-0.1**
ZALV	**Zalesovo Beam**	**73.51**	**329**	P	**P**	**16 39 07.0**	**-1.0**
	comp=Z,3.3nm,0.9s,mb4.4,baz=103,slow=6.4,SNR=8.9						
TKM2	**Tokmak 2**	**74.65**	**316**	*e*P	**P**	**16 39 13.5**	**-1.5**
	comp=Z,7.5nm,0.8s,mb4.8						
VNDA	**Vanda**	**75.47**	**176**	P	**P**	**16 39 19.1**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=318,slow=6.0,SNR=9.6						
VNDA	**Vanda**	**75.47**	**176**	*e*P	**P**	**16 39 19.1**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.4						
KURK	**Kurchatov**	**75.50**	**324**	*e*P	**P**	**16 39 19.0**	**-0.6**
	comp=Z,11nm,1.0s,mb4.8						
AML	**Almayashu**	**75.75**	**315**	*e*P	**P**	**16 39 21.1**	**-0.2**
	comp=Z,28nm,1.3s,mb5.2						
EKS2	**Erkin-Say**	**75.84**	**315**	*e*P	**P**	**16 39 21.7**	**-0.2**
	comp=Z,11nm,1.0s,mb5.0						
SBA	**Scott Base**	**76.20**	**175**	*e*P	**P**	**16 39 23.2**	**0.0**
	comp=Z,12nm,1.5s,mb4.8						
BRVK	**Borovoye**	**81.15**	**325**	*e*P	**P**	**16 39 50.4**	**-0.5**
	comp=Z,9.9nm,1.0s,mb4.8						
MAW	**Mawson**	**83.19**	**202**	P	**P**	**16 40 01.5**	**+0.1**
	comp=Z,6.8nm,1.1s,mb4.8,baz=90,slow=4.0,SNR=3.7						
DAWY	**Dawson**	**87.63**	**26**	*e*P	**P**	**16 40 23.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**139.13**	**287**	PKP	PKPdf	16 47 00.6	-2.8
	comp=Z,0.6nm,0.9s,baz=116,slow=3.4,SNR=3.0						
LPAZ	**La Paz**	**144.97**	**124**	PKPbc	PKPdf	16 47 14.1	+0.3
	comp=Z,7.6nm,1.0s,baz=264,slow=3.7,SNR=10						
CPUP	**Villa Florida**	**145.72**	**149**	PKPbc	PKPbc	16 47 14.3	-0.8
	comp=Z,0.3nm,0.3s,baz=222,slow=3.5,SNR=2.8						
KIC	**Kosan Boka**	**146.36**	**277**	*e*P	PKPdf	16 47 21.4	+5.1
	comp=Z,110nm,1.2s						
DBIC	**Dimbokro**	**146.45**	**278**	PKPbc	PKPbc	16 47 17.3	-0.5
	comp=Z,10.0nm,0.9s,baz=5.0,slow=2.1,SNR=5.7						
DBIC	**Dimbokro**	**146.45**	**278**	PKPbc	PKPbc	16 47 17.3	-0.5
TIC	**Toumodi**	**146.62**	**278**	*e*P	PKPdf	16 47 22.1	+5.3
	comp=Z,16nm,0.2s						
LIC	**Lamto**	**146.66**	**277**	*e*P	PKPdf	16 47 17.4	+0.6
	comp=Z,76nm,1.7s						

IDC 05 16:41:19.5±11.0, 1012N×9416E, h138km±73km, mb3.4/5, mb1 3.4/6, mb1mx3.2/21, mbtmp3.3/6, MS4.4/1, Ms1 4.4/1, ms1mx3.3/22, Error ellipse: s-maj=133.7km s-min=74.0km az=149.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.50**	**29**	P	Pn	16 43 33.4	+0.3
	0.1nm,0.3s,baz=229,slow=13,SNR=4.1						
KAPI	**Kappang**	**29.59**	**119**	LR	LR	16 58 16.4	
	comp=Z,730nm,20.5s,baz=29,slow=34						
MKAR	**Makanchi Array**	**37.92**	**347**	P	P	16 48 22.9	-0.5
	1.0nm,0.7s,baz=165,slow=8.4,SNR=8.9						
SONM	**Songino Array**	**38.99**	**13**	P	P	16 48 31.8	-0.4
	0.3nm,0.6s,baz=198,slow=9.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**44.35**	**352**	P	P	16 49 16.4	+0.6
	2.6nm,0.4s,baz=169,slow=8.4,SNR=6.2						
ARCES	**ARCESS Array B**	**73.18**	**340**	P	P	16 52 35.9	+1.0
	1.2nm,0.8s,baz=108,slow=7.7,SNR=4.3						
GERES	**GERESS Array B**	**76.18**	**318**	P	P	16 52 52.2	-0.3
	0.2nm,0.7s,baz=94,slow=8.0,SNR=4.3						

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*ISCJB **05** 16:42:59.3±1.3, 290S±004×14160E±005, h11km±8km, mb4.8/55, MS4.3/18, Error ellipse: s-maj=8.0km s-min=6.0km az=24.6*
*GCMT **05** 16:43:00.9±0.3, 294S×14156E, h18km, MW5.0/69, Moment Tensor Solution. s13,c13; s69,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.90±.23; $M_{\theta\theta}$=0.94±.12; $M_{\phi\phi}$=2.96±.15; $M_{r\theta}$=-0.36±.37; $M_{r\phi}$=-0.49±.07; $M_{\theta\phi}$=0.28±.26; Best double couple: M_0=3.51300×10^{16} NP1:ϕ_s=350.00000°, δ42.00000°, λ-85.00000°. NP2: ϕ_s=163.00000°, δ48.00000°, λ-95.00000°. Principal axes: T 3.0910, Plg3.0000°, Azm257.0000°; N 0.8470, Plg3.0000°, Azm166.0000°; P -3.9350, Plg86.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 16:43:00.9±0.2, 287S×14151E, h10km, mb5.1/20 Error ellipse: s-maj=7.8km s-min=4.9km az=98.0*
*BJI **05** 16:43:00.4, 308S×14205E, h40km, mB5.2, mb4.8, Ms4.7, Msz4.3*
*MOS **05** 16:43:00.8±1.1, 284S×14157E, h21km, mb5.1/18, Error ellipse: s-maj=13.1km s-min=7.2km az=105.3*
*IDC **05** 16:43:02.6±2.1, 286S×14169E, h22km±12km, mb4.2/15, mb1 4.4/18, mb1mx4.4/20, mbtmp4.4/18, ML4.8/3, MS4.2/10, Ms1 4.2/10, ms1mx3.9/26, Error ellipse: s-maj=14.3km s-min=8.4km az=110.0*
*DJA **05** 16:43:07, 288S×14140E, h40km, mb5.0/5*
ISC 05 16:43:03.5±1.3, 291S±004×14158E±004, h26km±9km, h35km±1.0km: pP-P, n138, σ1903/143, mb4.8/55, MS4.3/18, 6C-7D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.51**	**140**	*e*P	**Pn**	**16 45 05.4**	**+0.2**
PMG				pmax	pmax		
	comp=Z,41nm,0.8s						
PMG	**Port Moresby**	**8.51**	**140**	*e*P	**Pn**	**16 45 05.4**	**+0.3**
	comp=Z,41nm,0.8s						
TLE	**Tual**	**9.22**	**253**	||*e*P	**Pn**	**16 45 15.0**	**+0.1**
COEN	**Coen**	**11.09**	**172**	*e*P	**Pn**	**16 45 42.6**	**+2.1**
	comp=Z,12nm,0.9s						
KAKA	**Kakadu**	**13.29**	**222**	*e*P	**Pn**	**16 46 08.1**	**-2.5**
	comp=Z,60nm,0.4s						
KAKA				*e*S	**Sn**	**16 48 30.8**	**-6.9**
KAKA	**Kakadu**	**13.29**	**222**	*e*Pn	**Pn**	**16 46 07.9**	**-2.8**
KAKA				*e*Sn	**Sn**	**16 48 30.6**	**-7.1**
GUMO	**Guam**	**16.71**	**11**	Pn	**Pn**	**16 46 57.8**	**+1.9**
	comp=Z,3.9nm,0.3s,baz=171,slow=13,SNR=3.5						
GUMO				LR	LR	16 51 41.9	
	comp=Z,303nm,19.0s,baz=217,slow=31						
CTA	**Charters Tower**	**17.68**	**165**	P	**Pn**	**16 47 10.7**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=3.2						
CTA				Lg		16 52 28.2	
	comp=Z,0.2nm,0.3s,baz=66,slow=20,SNR=2.4						
CTA				LR	LR	16 53 51.1	
	comp=Z,422nm,20.9s,baz=192,slow=37						
WRAB	**Tennant Creek**	**18.34**	**202**	P	**Pn**	**16 47 15.0**	**-1.1**
	comp=Z,392nm,0.9s,SNR=12						
WRAB	**Tennant Creek**	**18.34**	**202**	*e*P	**Pn**	**16 47 15.3**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,47nm,0.8s						
WRAB	**Tennant Creek**	**18.34**	**202**	*e*P	**Pn**	**16 47 15.3**	**-0.8**
	comp=Z,48nm,0.8s						
WRAB				*e*Sn	**Sn**	**16 50 21.5**	**-19**
WB2	**Warramunga Arr**	**18.34**	**202**	*e*Pn	**Pn**	**16 47 15.2**	**-1.0**
WB2	**Warramunga Arr**	**18.34**	**202**	*e*Pn	**Pn**	**16 47 15.3**	**-0.9**
WB2				*e*Sn	**Sn**	**16 50 23.1**	**-17**
WRA	**Warramunga Arr**	**18.35**	**202**	P	**Pn**	**16 47 15.3**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=17,slow=11,SNR=46						
WRA				S	**Sn**	**16 50 42.6**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=19,slow=20,SNR=5.4						
WRA				LR	LR	16 54 42.9	
	comp=Z,2μm,20.7s,baz=35,slow=38						
WRA	**Warramunga Arr**	**18.35**	**202**	P	**Pn**	**16 47 15.3**	**-1.0**
WRA				S	**Sn**	**16 50 42.6**	**+2.0**
KDI	**Kendari**	**18.95**	**266**	||*e*P	**Pn**	**16 47 24.7**	**+1.0**
KDI				*e*S	**Sn**	**16 50 52.5**	**-2.9**
BATI	**Baumata**	**19.21**	**247**	P	**Pn**	**16 47 27.3**	**+0.6**
	comp=Z,6.3nm,0.3s,baz=123,slow=5.3,SNR=14						
BATI				S	**Sn**	**16 51 05.4**	**+3.9**
	comp=Z,1.4nm,0.3s,baz=80,slow=18,SNR=3.7						
HNR	**Honiara**	**19.37**	**110**	P	**Pn**	**16 47 27.2**	**-1.5**
	comp=Z,7.8nm,0.3s,baz=273,slow=4.0,SNR=19						
HNR	**Honiara**	**19.37**	**110**	*e*P	**Pn**	**16 47 27.0**	**-1.7**
HNR				pmax	pmax		
	comp=Z,200nm,0.8s						
HNR	**Honiara**	**19.37**	**110**	*e*P	**Pn**	**16 47 27.0**	**-1.7**
	comp=Z,200nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.73**	**225**	*e*P	**P**	**16 47 51.7**	**-1.3**
	comp=Z,36nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**21.73**	**225**	P	**P**	**16 47 51.7**	**-1.3**
	comp=Z,19nm,0.7s,mb4.7,baz=55,slow=13,SNR=27						
FITZ				S	**S**	**16 51 49.1**	**-3.2**
	comp=Z,14nm,0.7s,baz=84,slow=19,SNR=5.2						
FITZ	**Fitzroy Crossi**	**21.73**	**225**	*e*Pn	**P**	**16 47 51.5**	**-1.5**
PCI	**Palu**	**21.82**	**275**	||*e*P	**P**	**16 48 01.0**	**+7.0**
KAPI	**Kappang**	**21.87**	**264**	P	**P**	**16 47 54.6**	**0.0**
	comp=Z,8.3nm,0.7s,mb4.3,baz=96,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**21.93**	**199**	P	**P**	**16 47 54.5**	**-0.6**
	comp=Z,4.7nm,0.6s,mb4.1,baz=33,slow=9.8,SNR=32						
ASAR				S	**S**	**16 51 58.6**	**+2.5**
	comp=Z,13nm,1.1s,baz=18,slow=24,SNR=7.9						
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comp=N,198nm,16.7s,MS4.3
KMI LR LR
comp=E,201nm,19.0s,MS4.3
KMI LR LR
comp=Z,234nm,25.5s
CMAR Chiang Mai Arr 47.03 299 P **P** **16 51 32.8 -0.4**
comp=Z,2.6nm,0.8s,mb4.2,baz=119,slow=6.7,SNR=12
CMAR PcP PcP 16 53 05.4 +0.2
comp=Z,2.6nm,1.0s,baz=110,slow=2.1,SNR=3.8
CMAR Chiang Mai Arr 47.03 299 *i* P **P** **16 51 32.7 -0.4**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 47.17 299 *e*P **P** **16 51 33.7 -0.5**
CHTO pmax pmax
comp=Z,62nm,2.1s,mb5.2
CHTO Chiang Mai 47.17 299 *e*P **P** **16 51 33.7 -0.5**
comp=Z,62nm,2.1s,mb5.2
SNY Shenyang 47.43 342 P **P** **16 51 35.1 -0.8**
SNY S **S** **16 58 23.2 -5.5**
SNY AMB AMB
comp=Z,202nm,4.5s
SNY LR LR
comp=N,239nm,19.5s,MS4.3
SNY LR LR
comp=E,154nm,14.7s,MS4.3
SNY LR LR
comp=Z,262nm,16.5s,MS4.3
XAN Xi'an 47.92 323 P **P** **16 51 39.5 -0.3**
XAN AP pP 16 51 48.8 +1.0
XAN XP sP 16 51 53.5 +2.6
XAN AMB AMB
comp=Z,17nm,1.8s,mb4.8
MDJ Mudanjiang 48.51 349 P **P** **16 51 43.7 -0.4**
MDJ AP pP 16 51 52.7 +0.6
MDJ XP sP 16 51 56.6 +1.3
MDJ PCP PcP 16 53 09.2 -0.7
MDJ PP PP 16 53 36.4 -0.8
MDJ S **S** **16 58 43.8 0.0**
MDJ XS sS 16 58 58.7 +1.7
MDJ AMB AMB
comp=Z,7.0nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,77nm,4.8s
MDJ LR LR
comp=N,140nm,18.8s,MS4.1
MDJ LR LR
comp=E,131nm,21.6s,MS4.1
MDJ LR LR
comp=Z,211nm,22.3s,MS4.1
BJI Beijing 48.67 334 P **P** **16 51 45.3 -0.2**
BJI AMB AMB
comp=Z,17nm,1.8s,mb4.8
BJI AMB AMB
comp=Z,205nm,3.6s
CN2 Changchun 48.70 344 *e*P **P** **16 51 45.2 -0.5**
CN2 *e*AP pP 16 51 55.1 +1.5
CN2 *e*S **S** **16 58 44.9 -1.7**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.4
CN2 LR LR
comp=E,200nm,15.0s,MS4.4
CN2 LR LR
comp=Z,200nm,17.0s,MS4.2
CD2 Chengdu 49.28 316 P **P** **16 51 51.1 +0.8**
CD2 AP pP 16 52 01.0 +2.7
CD2 XP sP 16 52 04.9 +3.4
CD2 PP PP 16 53 45.0 +0.5
CD2 S **S** **16 58 54.6 -0.6**
CD2 XS sS 16 59 11.2 +2.9
CD2 SCS ScS 17 01 37.3 -3.7
CD2 SS SS 17 02 22.4 -4.7
CD2 AMB AMB
comp=Z,40nm,1.2s,mb5.3
CD2 AMB AMB
comp=Z,100nm,6.2s
CD2 LR LR
comp=N,210nm,14.4s,MS4.4
CD2 LR LR
comp=E,200nm,15.6s,MS4.4
CD2 LR LR
comp=Z,230nm,15.6s,MS4.3
HHC Hu-ho-hao-te 51.45 331 *e*P **P** **16 52 09.4 +2.9**
HHC AP pP 16 52 21.0 +6.4
HHC XP sP 16 52 23.4 +5.7
HHC PCP PcP 16 53 22.9 +2.1
HHC PP PP 16 54 09.2 +5.2
HHC PCS PcS 16 57 18.3 -0.2
HHC S **S** **16 59 26.8 +1.8**
HHC PS 16 59 38.7
HHC SCS ScS 17 01 53.4 -1.9
HHC SS SS 17 03 00.9 -0.4
HHC AMB AMB
comp=Z,17nm,0.8s,mb5.0
HHC AMB AMB
comp=Z,191nm,6.3s
HHC LR LR
comp=N,170nm,21.4s,MS4.2
HHC LR LR
comp=E,171nm,22.6s,MS4.2
HHC LR LR
comp=Z,207nm,19.0s,MS4.2
LZH Lanzhou 52.39 321 ⇑P **P** **16 52 15.0 +1.3**
LZH AP pP 16 52 25.5 +3.8
LZH XP sP 16 52 29.0 +4.1
LZH PP PP 16 54 15.0 +2.3
LZH *e*S **S** **16 59 39.4 +1.3**
LZH XS sS 16 59 57.0 +5.6
LZH SS SS 17 03 12.0 -4.4
LZH AMB AMB
comp=Z,57nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,285nm,4.5s
LZH LR LR
comp=E,1μm,13.3s
LZH LR LR
comp=Z,2μm,16.0s,MS5.2
KLR Kul'dur 52.62 352 *e*P **P** **16 52 10.6 -4.5**
KLR pmax pmax
comp=Z,42nm,1.6s,mb5.1
HIA Hailar 55.30 343 *d i*P **P** **16 52 34.4 -0.3**
GTA Gaotai 56.96 322 *e*P **P** **16 52 47.7 +1.0**
GTA PP PP 16 54 59.1 +5.5
GTA S **S** **17 00 39.0 -0.4**
GTA SS SS 17 04 30.2 +1.9
GTA AMB AMB
comp=Z,15nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,174nm,4.9s
GTA LR LR
comp=N,153nm,15.2s,MS4.3
GTA LR LR
comp=E,177nm,19.0s,MS4.3
GTA LR LR
comp=Z,131nm,17.1s,MS4.1
PETK Petropavlovsk- 57.43 11 P **P** **16 52 49.0 -0.8**
comp=Z,4.0nm,0.9s,mb4.5,baz=157,slow=7.9,SNR=4.1
PETK LR LR 17 13 38.9
comp=Z,123nm,20.6s,MS4.0,baz=212,slow=32
LSA Lhasa 58.08 308 P **P** **16 52 56.2 +1.4**
SONM Songino Array 59.15 333 P **P** **16 53 02.4 +0.5**
comp=Z,2.4nm,0.9s,mb4.2,baz=148,slow=6.7,SNR=14
SONM LR LR 17 19 36.8
comp=Z,276nm,20.7s,MS4.4,baz=141,slow=37
ZAK Zakamensk 62.41 333 ⇑*i*P **P** **16 53 24.1 0.0**
ZAK pmax pmax
comp=Z,15nm,1.8s,mb4.8
ZAK pmax pmax
comp=Z,16nm,1.7s,mb4.9
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.3
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb4.1
TLY Talaya 63.19 335 P **P** **16 53 29.7 +0.5**
comp=Z,52nm,1.1s,mb5.6,SNR=7.1
TLY Talaya 63.19 335 *e*P **P** **16 53 29.8 +0.6**
TLY pmax pmax
comp=Z,14nm,1.2s,mb5.0
TLY Talaya 63.19 335 *e*P **P** **16 53 29.8 +0.5**
comp=Z,18nm,1.4s,mb5.0
IRK Irkutsk 63.34 335 ⇓*i*P **P** **16 53 30.2 0.0**
IRK pmax pmax
comp=Z,37nm,3.2s
MOY Mondy 64.34 333 *e*P **P** **16 53 37.9 +1.1**
MOY pmax pmax
comp=Z,51nm,1.6s,mb5.3
BOD Bodaibo 64.45 344 *e*P **P** **16 53 35.9 -1.5**
BOD pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
YAK Yakutsk 65.40 354 *e*P **P** **16 53 42.6 -0.9**
YAK pmax pmax
comp=Z,14nm,1.4s,mb4.8
YAK pmax pmax
comp=N,10.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.5s
YAK Yakutsk 65.40 354 *e*P **P** **16 53 43.3 -0.2**
comp=E,9.2nm,0.9s,mb4.8
SEY Seymchan 66.17 5 *i*P **P** **16 53 49.0 +0.5**
WMQ Urumqi 66.96 321 P **P** **16 53 55.0 +1.1**
WMQ AP pP 16 54 05.0 +2.8
WMQ XP sP 16 54 09.0 +3.7
WMQ AMB AMB
comp=Z,19nm,1.0s,mb5.1
WMQ LR LR
comp=N,341nm,20.8s,MS4.6
WMQ LR LR
comp=E,224nm,21.8s,MS4.6
WMQ LR LR
comp=Z,364nm,25.2s,MS4.5
HVS Khovu-Aksy 67.48 330 *c i*P **P** **16 53 57.8 +0.7**
HVS pmax pmax
comp=Z,216nm,1.4s
PPT Papeete 68.97 108 LR LR 17 19 28.9
comp=Z,141nm,20.5s,MS4.2,baz=336,slow=32
MK31 Makanchi Array 71.71 322 *i*P **P** **16 54 23.5 +0.3**
MK31 pmax pmax
comp=Z,15nm,0.9s,mb4.9
MK31 Makanchi Array 71.71 322 *e*P **P** **16 54 23.8 +0.5**
MKAR Makanchi Array 71.71 322 P **P** **16 54 23.3 0.0**
comp=Z,9.2nm,1.0s,mb4.7,baz=108,slow=7.9,SNR=60
MKAR Makanchi Array 71.71 322 P **P** **16 54 23.3 0.0**
BILL Bilibino 72.86 9⇑*e*P **P** **16 54 29.7 0.0**
BILL *e* 16 54 51.2
BILL pmax pmax
comp=Z,18nm,1.7s,mb4.7
ZAA0 Zalesovo Array 73.56 329 *e*P **P** **16 54 33.3 -0.8**
ZALV Zalesovo Beam 73.56 329 P **P** **16 54 33.4 -0.8**
comp=Z,3.6nm,0.7s,mb4.4,baz=116,slow=6.9,SNR=14
ZAL Zalesovo 73.57 329 P **P** **16 54 33.4 -0.7**
KZA Kyzart 74.64 315 P **P** **16 54 42.4 +1.7**
SNR=15
TKM2 Tokmak 2 74.67 316 *e*P **P** **16 54 41.6 +0.8**
TKM2 pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
TKM2 Tokmak 2 74.67 316 P **P** **16 54 42.0 +1.2**
SNR=8.2
TKM2 Tokmak 2 74.67 316 *e*P **P** **16 54 41.6 +0.8**
comp=Z,3.4nm,0.5s,mb4.5
NVS Novosibirsk 74.80 329 *i*P **P** **16 54 40.2 -1.1**
NVS pmax pmax
comp=N,18nm,1.6s
NVS pmax pmax
comp=Z,33nm,1.6s,mb5.0
NVS pmax pmax
comp=E,17nm,1.2s
TIXI Tiksi 74.88 356 *i*P **P** **16 54 42.0 +0.5**
TIXI pmax pmax
comp=Z,12nm,1.9s,mb4.5
VNDA Vanda 75.35 176 P **P** **16 54 44.0 -0.2**
comp=Z,1.6nm,0.6s,mb4.1,baz=333,slow=5.6,SNR=14
VNDA LR LR 17 29 06.7
comp=Z,221nm,20.5s,MS4.5,baz=336,slow=37
VNDA Vanda 75.35 176 P **P** **16 54 44.0 -0.2**
VNDA LR LR 17 29 06.7
KURK Kurchatov 75.53 324 P **P** **16 54 45.3 -0.3**
comp=Z,75nm,1.2s,mb5.5,SNR=8.4
KURK Kurchatov 75.53 324 *d i*P **P** **16 54 44.5 -1.1**
KURK pmax pmax
comp=Z,44nm,2.2s,mb5.0
KURK Kurchatov 75.53 324 *e*P **P** **16 54 45.0 -0.7**
comp=Z,25nm,1.3s,mb5.0
USP Ospenovka 75.54 316 P **P** **16 54 46.1 +0.3**
SNR=6.4
AML Almayashu 75.76 315 P **P** **16 54 48.6 +1.4**
SNR=7.1
AML Almayashu 75.76 315 *e*P **P** **16 54 46.5 -0.6**
comp=Z,14nm,1.1s,mb4.8
EKS2 Erkin-Say 75.86 315 P **P** **16 54 48.7 +1.0**
SNR=6.8
EKS2 Erkin-Say 75.86 315 *e*P **P** **16 54 48.3 +0.6**
comp=Z,108nm,0.8s,mb5.8
KK31 Karatay Array 78.28 315 *i*P **P** **16 55 01.3 0.0**
KK31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
OHAK Old Harbor 79.27 30 *e*P **P** **16 55 06.8 +0.4**
comp=Z,91nm,1.5s,mb5.5
BVA0 Borovoye Array 81.12 325 *i*P **P** **16 55 16.6 +0.1**
BVA0 pmax pmax
comp=Z,20nm,2.1s,mb4.7
BRVK Borovoye 81.19 325 P **P** **16 55 17.0 +0.1**
comp=Z,67nm,0.8s,mb5.6,SNR=8.7
BRVK Borovoye 81.19 325 *e*P **P** **16 55 16.3 -0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BRVK Borovoye 81.19 325 *e*P **P** **16 55 16.3 -0.5**
comp=Z,10.0nm,0.9s,mb4.8
PPLA Purkeypile 81.98 25 *e*P **P** **16 55 20.4 -0.4**
SEW Seward 82.19 28 *e*P **P** **16 55 20.5 -1.5**
CHUM Lake Minchumin 82.31 24 *e*P **P** **16 55 22.8 +0.3**
comp=Z,52nm,1.1s,mb5.4
IMA2 Indian Mountai 82.65 22 *e*P **P** **16 55 24.5 +0.2**
KTH Kantishna Hill 82.75 25 *e*P **P** **16 55 24.3 -0.6**
comp=Z,17nm,1.0s,mb5.0
TRF Thorofare Moun 82.98 25 *e*P **P** **16 55 24.6 -1.4**
comp=Z,2μm,0.6s
MAW Mawson 83.02 202 *e*P **P** **16 55 26.3 +0.1**
comp=Z,1.4nm,0.6s,mb4.2
MAW Mawson 83.02 202 P **P** **16 55 26.1 -0.1**
comp=Z,1.5nm,0.6s,mb4.2,baz=58,slow=5.7,SNR=8.3
MAW Mawson 83.02 202 *e*P **P** **16 55 26.3 +0.1**
MAW pmax pmax
comp=Z,1.0nm,0.6s
DIV Divide 84.23 28 *e*P **P** **16 55 32.8 +0.3**
comp=Z,14nm,1.0s,mb5.1
COLD Coldfoot 84.38 21 *e*P **P** **16 55 33.7 +0.6**
comp=Z,14nm,1.1s,mb5.0
COLA College 84.47 24 *i*P **P** **16 55 33.1 -0.5**
BMRM Bremner River 84.73 28 *e*P **P** **16 55 34.2 -0.8**
AB31 Akbulak array 86.72 320 *i*P **P** **16 55 43.5 -1.7**
DAWY Dawson 87.80 26 *e*P **P** **16 55 50.5 +0.4**
HYT Haines Junctio 88.09 29 *e*P **P** **16 55 52.3 +0.8**
HYT *e* 16 56 14.0
ARU Arti 88.53 327 *c i*P **P** **16 55 52.6 -1.1**
ARU *e* 16 59 18.9
ARU *e*S S 17 06 18.2 -20
ARU *e*SP 17 07 38.9
ARU pmax pmax
comp=Z,13nm,1.7s,mb5.0
SKAG Skagway 88.97 30 *e*P **P** **16 55 56.4 +0.7**
comp=Z,34nm,1.8s,mb5.4
YKA Yellowknife Ar 98.94 27 P **P** **16 56 39.9 -1.5**
comp=Z,1.9nm,1.0s,mb4.6,baz=276,slow=4.2,SNR=4.6
YKA Yellowknife Ar 98.94 27 *i*P **P** **16 56 41.0 -0.4**
YKA pmax pmax
comp=Z,2.0nm,1.0s
NOA NORSAR Array B 111.03 337 PP PP 17 02 10.0 -2.5
comp=Z,0.7nm,0.7s,baz=90,slow=8.9,SNR=3.6
TXAR Lajitas Array 112.94 59 PKiKP PKiKP 17 01 38.3 -0.6
comp=Z,0.3nm,0.7s,baz=11,slow=1.3,SNR=3.9
TORD Torodi Ar. Bea 139.06 287 PKhKP 17 02 20.5
comp=Z,0.9nm,1.1s,baz=96,slow=1.4,SNR=3.1
TORD PKP PKPdf 17 02 28.8 -0.1
comp=Z,1.2nm,0.7s,baz=65,slow=1.2,SNR=6.9
TORD SKPbc SKPbc 17 06 02.1 -0.5
comp=Z,1.0nm,1.1s,baz=79,slow=1.7,SNR=2.8
SDDR Presa de Saban 144.11 61 PKPdf PKPdf 17 02 36.9 -1.0
ROSC El Rosal 144.12 86 PKP PKPdf 17 02 36.0 -2.1
comp=Z,7.9nm,0.5s,baz=104,slow=19,SNR=9.7
ROSC El Rosal 144.12 86 *e*PKPdf PKPdf 17 02 35.6 -2.5
LPAZ La Paz 144.99 124 PKP PKPdf 17 02 39.9 +0.4
comp=Z,6.1nm,0.8s,baz=298,slow=2.1,SNR=24
LPAZ SKP 17 06 11.5
comp=Z,1.4nm,0.9s,baz=281,slow=4.4,SNR=3.6
LPAZ La Paz 144.99 124 *e*PKP PKPdf 17 02 39.9 +0.5
CPUP Villa Florida 145.66 149 PKPbc PKPbc 17 02 40.5 -0.1
comp=Z,6.6nm,1.1s,baz=242,slow=5.2,SNR=5.2
KIC Kosan Boka 146.26 277 *e*P PKPdf 17 02 42.5 +0.7
comp=Z,234nm,1.8s
DBIC Dimbokro 146.35 278 PKPbc PKPbc 17 02 43.0 -0.2
comp=Z,11nm,0.7s,baz=98,slow=4.6,SNR=12
DBIC Dimbokro 146.35 278 *e*PKPbc PKPbc 17 02 42.8 -0.4
TIC Toumodi 146.52 278 *e*P PKPdf 17 02 43.1 +0.9
comp=Z,64nm,1.1s
LIC Lamto 146.56 277 *e*P PKPdf 17 02 41.1 -1.2
comp=Z,30nm,0.7s

IDC 05 16:47:14.3±5.0, 837S×12753E, h172km±53km, mb3.4/1, mb1 3.6/5, mb1mx3.2/16, mbtmp3.5/5, MS3.7/1, Ms1 3.9/1, ms1mx2.8/17, Error ellipse: s-maj=55.0km s-min=17.5km az=44.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.23**	**244**	P		Pn		16 48 17.2	-0.9
	2.3nm,0.3s,baz=21,slow=8.6,SNR=2.8								
BATI				S		Sn		16 49 09.2	+1.2
	1.7nm,0.3s,baz=112,slow=19,SNR=3.5								
FITZ	**Fitzroy Crossi**	**9.84**	**191**	P		Pn		16 49 32.4	+0.5
	0.2nm,0.3s,baz=0.0,slow=13,SNR=4.7								
FITZ				S		Sn		16 51 22.6	+1.2
	0.5nm,0.3s,baz=17,slow=20,SNR=3.1								
WRA	**Warramunga Arr**	**13.26**	**151**	P		Pn		16 50 14.1	-1.9
	0.8nm,0.3s,baz=322,slow=13,SNR=9.4								
WRA				S		Sn		16 52 39.6	-3.7
	0.8nm,0.3s,baz=320,slow=26,SNR=6.2								
ASAR	**Alice Springs**	**16.39**	**159**	P		Pn		16 50 56.4	+1.7
	0.5nm,0.3s,baz=342,slow=10.0,SNR=5.4								
ASAR				S		S		16 53 59.7	+3.1
	0.2nm,0.3s,baz=325,slow=39,SNR=2.9								
CMAR	**Chiang Mai Arr**	**38.81**	**314**	LR		LR		17 12 53.9	
	comp=Z,95nm,18.9s,baz=314,slow=40								
MKAR	**Makanchi Array**	**68.06**	**328**	P		P		16 57 55.2	+0.1
	0.4nm,0.3s,baz=112,slow=7.5,SNR=4.7								

MEX 05 17:01:34.1±0.6, 1894N×10464W, h15km±15km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANIG	**Ahuacatlan**	**2.11**	**3**	*i* P		Pn		17 02 05.5	-3.3
ANIG				*i* S		Sn		17 02 30.8	-4.0
SFJM	**Santa Fe**	**2.15**	**44**	*i* P		Pn		17 02 07.0	-2.5
SFJM				*i* S		Sn		17 02 31.0	-4.9
ZIIG	**Zihuatanejo**	**3.29**	**113**	*e*P		Pn		17 02 21.7	-3.4
ZIIG				*i* S		Sn		17 03 00.4	-3.7
PLIG	**Platanillo**	**4.90**	**96**	*i* S		Sn		17 03 40.5	-3.1

ATH ***05*** *17:01:43.6, 3653N×2770E, h26km±2km, MD3.4/6*
CSEM ***05*** *17:01:43.6±0.1, 3651N×2763E, h2km, MD3.4, Error ellipse: s-maj=2.4km s-min=1.8km az=48.0*
NEIC ***05*** *17:01:43.6, 3653N×2770E, h26km, MD3.4(ISK), MD3.4(ATH), After ATH.*
DDA ***05*** *17:01:44.2, 3651N×2770E, h9km±1km, Md3.0*
ISCJB ***05*** *17:01:44.1±0.4, 3646N±003×2762E±004, h10km, Error ellipse: s-maj=4.7km s-min=3.5km az=146.1*
ISK ***05*** *17:01:44.2, 3657N×2772E, h5km, MD3.4*
ISC 05 17:01:44.0±0.7, 3645N±003×2761E±004, h4km±5km, n26, σ1§05/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.42**	**292**	*e*PB		**Pg**		**17 01 53.5**	**+1.4**
ARG	**Arkhangelos**	**0.48**	**119**	*e*PB		**Pg**		**17 01 53.1**	**-0.1**
ARG				*e*SB		**Sg**		**17 02 01.3**	**+1.9**
BDRM	**Kayabasi**	**0.63**	**348**	*i* P		**Pg**		**17 01 55.9**	**-0.1**
BDRM				*i* S		**Sg**		**17 02 06.0**	**+1.9**
BODT	**Bodrum**	**0.65**	**338**	*e*PG		**Pg**		**17 01 56.7**	**+0.1**
BODT				*e*SG		**Sg**		**17 02 06.3**	**+1.3**
MLSB	**Milas**	**0.85**	**9**	*e*PG		**Pg**		**17 01 59.2**	**-1.2**
YER	**Yerkesik**	**0.87**	**38**	*e*PG		**Pg**		**17 01 59.3**	**-1.4**
DALT	**Dalyan (Mudla)**	**0.88**	**69**	*e*PG		**Pg**		**17 01 59.4**	**-1.5**
TURN	**Turunc**	**0.90**	**62**	*i* P		**Pg**		**17 01 54.1**	**-7.2**
TURN				*i* S		**Sg**		**17 02 01.7**	**-11**
KARP	**Karpathos**	**0.97**	**202**	*e*PN		**Pn**		**17 02 04.1**	**-0.3**
KARP				*e*SN		**Sn**		**17 02 19.2**	**+0.6**
AYDN	**Tasoluk**	**1.23**	**10**	*i* P		**Pg**		**17 02 06.0**	**-1.4**
AYDN				*i* S		**Sg**		**17 02 22.8**	**-0.6**
GCAM	**G?zelcaml?**	**1.28**	**346**	*i* P		**Pg**		**17 02 07.5**	**-1.0**
GCAM				*i* S		**Sg**		**17 02 26.7**	**+1.5**
SMG	**Samos**	**1.40**	**334**	*e*PN		**Pn**		**17 02 09.0**	**-1.2**
AKAS	**Kas**	**1.62**	**97**	*i* P		**Pn**		**17 02 13.6**	**+0.3**
AKAS				*i* S		**Sn**		**17 02 33.7**	**-0.9**
GOLH	**Golhisar**	**1.75**	**63**	*i* P		**Pn**		**17 02 15.5**	**+0.4**
GOLH				*i* S		**Sn**		**17 02 38.8**	**+1.0**
APE	**Apeiranthos**	**1.78**	**291**	*e*PN		**Pn**		**17 02 15.3**	**-0.1**
ELL	**Elmali**	**1.87**	**80**	*e*PN		**Pn**		**17 02 17.5**	**+0.7**
IZM	**Izmir**	**1.96**	**352**	*e*PN		**Pn**		**17 02 18.5**	**+0.5**
BLCB	**Balcova**	**1.98**	**347**	*e*PN		**Pn**		**17 02 18.9**	**+0.6**
NPS	**Neapolis**	**2.01**	**234**	*e*PB		**Pb**		**17 02 19.7**	**-1.4**
URLA	**Izmir**	**2.07**	**337**	*i* P		**Pn**		**17 02 17.9**	**-1.5**
URLA				*i* S		**Sn**		**17 02 52.4**	**+6.8**
KULA	**Kula-Manisa**	**2.22**	**22**	*e*PN		**Pn**		**17 02 21.6**	**+0.1**
KHL	**Karahalli**	**2.41**	**39**	*e*PN		**Pn**		**17 02 24.3**	**+0.2**
AKHS	**Akhisar**	**2.43**	**4**	*i* P		**Pn**		**17 02 22.3**	**-2.0**
AKS	**Akhisar**	**2.43**	**4**	*e*PN		**Pn**		**17 02 24.8**	**+0.5**
ANTB	**Antalya**	**2.49**	**79**	*e*PN		**Pn**		**17 02 26.2**	**+1.0**
BCK	**Bucak**	**2.59**	**66**	*e*PN		**Pn**		**17 02 27.1**	**+0.5**

BJI ***05*** *17:08:59.2, 197N×6585E, h10km, mB4.9, mb4.4, Ms4.5, Msz4.4*
ISCJB ***05*** *17:09:04.7±0.7, 264N±0.10×6635E±0.10, h10km, mb4.3/14, MS4.3/23, Error ellipse: s-maj=14.1km s-min=13.7km az=33.1*
IDC ***05*** *17:09:05.2±0.9, 265N×6630E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/22, mbtmp4.0/8, MS4.3/21, Ms1 4.3/21, ms1mx4.1/35, Error ellipse: s-maj=29.7km s-min=21.9km az=57.0*
NEIC ***05*** *17:09:06.4±0.5, 264N×6635E, h10km, mb4.9/3, Error ellipse: s-maj=14.5km s-min=12.6km az=203.0*
GCMT ***05*** *17:09:06.4±0.2, 252N×6641E, h12km, MW5.0/81, Moment Tensor Solution. s32,c45; s81,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.73±.09; $M_{\theta\theta}$2.03±.09; $M_{\phi\phi}$1.70±.09; $M_{r\theta}$0.67±.27; $M_{\theta\phi}$-2.04±.07; $M_{\phi r}$-1.02±.31; Best double couple: $M_0$4.01200×10^{16} NP1:ϕs128.00000°, δ37.00000°, λ-97.00000°. NP2: ϕs317.00000°, δ54.00000°, λ-85.00000°. Principal axes: T 4.0920, Plg9.0000°, Azm43.0000°; N -0.1600, Plg4.0000°, Azm134.0000°; P -3.9320, Plg80.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 17:09:06.7±0.7, 264N±010×6637E±010, h10km, (h22km±.5km:pP-P), n41, σ0§83/22, mb4.3/14, MS4.3/23, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.00**	**72**	*e*Pn		**Pn**		**17 12 38.3**	**-0.7**
PSI	**Prapat**	**32.52**	**89**	LR		LR		17 26 11.0	
	comp=Z,540nm,18.2s,MS4.3,baz=244,slow=32								
SHL	**Shillong**	**33.50**	**45**	*e*P		**P**		**17 15 52.0**	**+5.5**
COCO	**West Island**	**33.67**	**117**	*e*P		**P**		**17 15 47.4**	**-0.8**
	31nm,0.5s,mb5.5								
CMAR	**Chiang Mai Arr**	**35.57**	**61**	LR		LR		17 29 31.4	
	comp=Z,397nm,19.5s,MS4.2,baz=226,slow=34								
LSA	**Lhasa**	**35.74**	**39**	P		**P**		**17 16 07.8**	**+1.9**
LSA				S		**S**		**17 21 39.8**	**-3.2**
LSA				LR		LR			
	comp=N,340nm,20.8s,MS4.3								
LSA				LR		LR			
	comp=E,390nm,17.3s,MS4.3								
LSA	**Lhasa**	**35.74**	**39**	*e*P		**P**		**17 16 07.5**	**+1.7**
	comp=E,11nm,1.1s,mb4.7								
GNI	**Garni**	**42.17**	**335**	LR		LR		17 34 53.8	
	comp=E,152nm,21.0s,MS3.9,baz=341,slow=37								
MKAR	**Makanchi Array**	**46.11**	**15**	P		**P**		**17 17 31.6**	**+0.5**
	comp=E,0.2nm,0.2s,mb3.6,baz=211,slow=10,SNR=3.6								
MKAR				LR		LR		17 36 28.8	
	comp=E,268nm,20.6s,MS4.2,baz=187,slow=36								
GTA	**Gaotai**	**47.57**	**35**	*e*P		**P**		**17 17 43.5**	**+0.8**
GTA				AP		pP		17 17 49.4	+3.6
GTA				XP		sP		17 17 52.9	+5.9
GTA				AMB		AMB			
	comp=Z,1.0nm,1.1s,mb3.8								

LZH	**Lanzhou**	**48.01**	**42**	*e*P	**P**	**17 17 52.3**	**+6.2**
LZH				AP	pP	17 17 58.5	+9.2
LZH				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,87nm,4.3s						
AKTK	**Aktyubinsk**	**48.15**	**353**	P	**P**	**17 17 47.6**	**+0.7**
AKTK				LR	LR	17 36 53.0	
AKTO	**Aktyubinsk**	**48.15**	**353**	P	**P**	**17 17 47.6**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.4,baz=166,slow=9.6,SNR=4.8						
AKTO				LR	LR	17 36 53.0	
	comp=Z,144nm,20.2s,MS3.9,baz=158,slow=35						
LBTB	**Lobatse**	**48.15**	**233**	LR	LR	17 35 51.4	
	comp=Z,728nm,18.9s,MS4.7,baz=105,slow=33						
KKM	**Kota Kinabalu**	**49.80**	**84**	*e*P	**P**	**17 18 06.8**	**+6.6**
BOSA	**Boshof**	**50.21**	**229**	P	**P**	**17 18 03.6**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.4,baz=65,slow=11,SNR=4.8						
BOSA				LR	LR	17 37 29.6	
	comp=Z,667nm,18.4s,MS4.7,baz=75,slow=34						
XAN	**Xi'an**	**50.46**	**47**	P	**P**	**17 18 04.7**	**-0.3**
XAN				AP	pP	17 18 11.2	+3.1
XAN				S	**S**	**17 25 18.9**	**0.0**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.5s,mb4.5						
XAN				AMB	AMB		
	comp=Z,86nm,6.4s						
XAN				LR	LR		
	comp=Z,315nm,34.6s,MS4.1						
ZAA0	**Zalesovo Array**	**53.34**	**13**	*e*P	**P**	**17 18 25.2**	**-0.9**
ZALV	**Zalesovo Beam**	**53.34**	**13**	P	**P**	**17 18 25.8**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=215,slow=7.2,SNR=8.4						
ZALV				LR	LR	17 41 01.7	
	comp=Z,176nm,21.1s,MS4.1,baz=225,slow=36						
KAPI	**Kappang**	**53.87**	**98**	LR	LR	17 38 52.3	
	comp=Z,184nm,18.3s,MS4.2,baz=325,slow=33						
SONM	**Songino Array**	**56.69**	**31**	LR	LR	17 43 17.9	
	comp=Z,623nm,21.2s,MS4.7,baz=233,slow=36						
AKASG	**Malin Array Be**	**57.20**	**333**	P	**P**	**17 18 52.7**	**-1.3**
	comp=Z,0.1nm,0.2s,mb3.4,baz=147,slow=5.7,SNR=4.8						
FITZ	**Fitzroy Crossi**	**61.88**	**112**	LR	LR	17 40 06.1	
	comp=Z,151nm,20.7s,MS4.1,baz=85,slow=30						
JOW	**Kunigami**	**63.84**	**61**	LR	LR	17 46 34.6	
	comp=Z,266nm,20.9s,MS4.4,baz=261,slow=35						
TORD	**Torodi Ar. Bea**	**64.75**	**283**	LR	LR	17 48 23.8	
	comp=Z,288nm,18.3s,MS4.5,baz=105,slow=36						
KSRS	**Korea Array**	**66.02**	**50**	LR	LR	17 51 03.9	
	comp=Z,288nm,19.3s,MS4.5,baz=259,slow=38						
MAW	**Mawson**	**70.13**	**181**	LR	LR	17 43 33.0	
	comp=Z,248nm,19.1s,MS4.5,baz=247,slow=30						
WRA	**Warramunga Arr**	**70.31**	**112**	P	**P**	**17 20 21.3**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=290,slow=5.9,SNR=9.8						
WRAB	**Tennant Creek**	**70.31**	**112**	*e*P	**P**	**17 20 21.1**	**0.0**
	comp=Z,9.0nm,1.1s,mb4.6						
ASAR	**Alice Springs**	**70.62**	**116**	P	**P**	**17 20 23.3**	**+0.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=286,slow=5.0,SNR=8.5						
DBIC	**Dimbokro**	**71.06**	**276**	LR	LR	17 51 39.1	
	comp=Z,133nm,19.6s,MS4.2,baz=66,slow=36						
ARCES	**ARCESS Array B**	**72.03**	**346**	LR	LR	17 53 28.1	
	comp=Z,115nm,21.1s,MS4.1,baz=110,slow=37						
ESDC	**Sonseca Array**	**73.23**	**311**	P	**P**	**17 20 37.2**	**-1.0**
	comp=Z,2.4nm,1.0s,mb4.1,baz=78,slow=5.8,SNR=9.5						
MJAR	**Matsushiro Arr**	**73.87**	**53**	LR	LR	17 54 38.3	
	comp=Z,192nm,19.9s,MS4.4,baz=235,slow=37						
STKA	**Stephens Creek**	**78.89**	**123**	LR	LR	17 49 33.5	
	comp=Z,160nm,21.7s,MS4.3,baz=208,slow=31						
PETK	**Petropavlovsk-**	**88.71**	**37**	LR	LR	18 04 09.0	
	comp=Z,283nm,19.0s,MS4.7,baz=266,slow=37						
VNDA	**Vanda**	**93.75**	**167**	LR	LR	17 58 25.4	
	comp=Z,211nm,21.8s,MS4.6,baz=268,slow=32						
BNM	**Barren Site**	**142.82**	**350**	*e*PKPdf	PKPdf	17 28 38.7	-2.4
OTAV	**Otavalo**	**144.72**	**274**	*e*PKPdf	PKPdf	17 28 45.6	+0.6
MNTX	**Cornudas Mount**	**144.96**	**348**	*e*PKPdf	PKPdf	17 28 44.8	-0.2
TXAR	**Lajitas Array**	**146.81**	**344**	PKPbc	PKPbc	17 28 50.6	+0.7
	comp=Z,5.0nm,0.8s,baz=54,slow=2.4,SNR=40						

*ISCJB **05** 17:16:34.4±0.3,5526N±002×11046E±004,h10km, mb3.7/3,Error ellipse: s-maj=4.1km s-min=2.3km az=136.8*
*IDC **05** 17:16:35.1±4.1,5548N×11087E,h0km,mb3.6/3, mb1 3.7/6,mb1mx3.4/25,mbtmp3.6/6,ML3.6/2,Error ellipse: s-maj=73.4km s-min=25.2km az=98.0*
*MOS **05** 17:16:36.6±0.9,5545N×11037E,h9km,mb3.8/1,Error ellipse: s-maj=12.9km s-min=7.5km az=73.2*
*NEIC **05** 17:16:37.7±2.1,5551N×11057E,h10km,mb3.6/1,Error ellipse: s-maj=30.8km s-min=18.1km az=81.0*
*BYKL **05** 17:16:37.6±0.3,5542N×11039E,h2km±20km*

ISC 05 17:16:36.8±0.3,5533N±002×11046E±003,h10km,n54, σ1§78/103,mb3.7/3,2C-3D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.61**	**138**	*e*Pg	**Pg**	**17 16 50.3**	**+1.7**
YLYR				*e*Sg	**Sg**	**17 16 59.5**	**+3.0**
YLYR				Pmax			
	517nm,0.3s						
YLYR				Smax			
	1μm,1.3s						
NIZ	**Nizh Angarsk**	**0.68**	**311**	*e*Pg	**Pg**	**17 16 48.8**	**-1.2**
NIZ				*e*		17 16 55.9	
NIZ				*e*Sg	**Sg**	**17 16 57.2**	**-1.7**
NIZ				Pmax			
	324nm,0.3s						
NIZ				Smax			
	1μm,0.4s						
KMO	**Kumora**	**0.70**	**37**	*e*PG	**Pg**	**17 16 49.3**	**-0.9**
KMO				*e*		17 16 58.0	
KMO				pmax	pmax		
	comp=Z,374nm,0.4s						
KMO				smax			
	comp=E,2μm,0.6s						
KMO	**Kumora**	**0.70**	**37**	⇓*i*Pg	**Pg**	**17 16 49.2**	**-1.0**
KMO				*e*Sg	**Sg**	**17 16 57.9**	**-1.4**
KMO				Pmax			
	comp=E,655nm,0.3s						
KMO				Smax			
	comp=E,2μm,1.0s						
YOA	**Uoyan**	**1.08**	**41**	⇓*i*PG	**Pg**	**17 16 56.5**	**-0.9**
YOA				*e*		17 17 11.3	
YOA				pmax	pmax		
	comp=Z,466nm,0.2s						
YOA				smax			
	comp=N,2μm,0.4s						
YOA	**Uoyan**	**1.08**	**41**	*e*Pg	**Pg**	**17 16 57.1**	**-0.3**
YOA				*e*Sg	**Sg**	**17 17 10.3**	**-1.1**
YOA				Pmax			
	comp=N,352nm,0.3s						
YOA				Smax			
	comp=N,2μm,0.7s						
SYVR	**Suvo**	**1.70**	**189**	*e*PN	**Pg**	**17 17 09.8**	**+0.5**
SYVR				*e*		17 17 35.3	
SYVR				pmax	pmax		
	comp=Z,558nm,0.6s						
SYVR				smax			
	comp=E,2μm,1.2s						
SYVR	**Suvo**	**1.70**	**189**	⇓*i*Pg	**Pg**	**17 17 09.7**	**+0.4**
SYVR				*e*		17 17 13.2	
SYVR				*e*Sg	**Sg**	**17 17 34.3**	**+3.0**
SYVR				Pmax			
	comp=E,561nm,0.6s						
SYVR				Smax			
	comp=E,2μm,1.4s						
UKT	**Uakit**	**1.81**	**84**	*e*PN	**Pg**	**17 17 10.4**	**-1.1**
UKT	**Uakit**	**1.81**	**84**	*e*Pg	**Pg**	**17 17 10.5**	**-1.0**
UKT				*i* Sg	**Sg**	**17 17 35.4**	**+0.4**
UKT				Pmax			
	comp=E,216nm,1.0s						
UKT				Smax			
	comp=E,637nm,1.0s						
MXMB	**Maximikha**	**2.30**	**207**	*e*Pg	**Pg**	**17 17 20.2**	**-0.7**
MXMB				*e*Sg	**Sg**	**17 17 53.3**	**+2.6**
MXMB				Pmax			
	comp=E,211nm,0.8s						
MXMB				Smax			
	comp=E,2μm,0.7s						
OGRR	**Ongureny**	**2.38**	**226**	*e*PN	**Pn**	**17 17 17.4**	**+1.7**
OGRR				*e*		17 17 20.5	
OGRR				*e*		17 17 50.5	
OGRR				pmax	pmax		
	comp=Z,104nm,0.5s						
OGRR				smax			
	comp=N,663nm,1.0s						
OGRR	**Ongureny**	**2.38**	**226**	*e*Pn	**Pn**	**17 17 19.3**	**+3.6**
OGRR				*e*Pg	**Pg**	**17 17 21.0**	**-1.3**
OGRR				*e*		17 17 35.4	
OGRR				*e*Sg	**Sg**	**17 17 51.6**	**-1.5**
OGRR				Pmax			
	comp=N,105nm,0.3s						
OGRR				Smax			
	comp=N,664nm,0.7s						
BOD	**Bodaibo**	**3.17**	**37**	*e*PN	**Pn**	**17 17 27.3**	**+0.7**
BOD				*e*		17 17 33.5	
BOD				*e*		17 18 13.5	
BOD				pmax	pmax		
	comp=Z,31nm,0.3s						
BOD				smax			
	comp=N,252nm,0.6s						
BOD	**Bodaibo**	**3.17**	**37**	*e*Pn	**Pn**	**17 17 28.0**	**+1.4**
BOD				*e*		17 17 30.5	
BOD				*e*Pg	**Pg**	**17 17 33.4**	**-4.1**
BOD				*e*Sg	**Sg**	**17 18 13.6**	**-4.9**
BOD				max			
	comp=N,42nm,0.3s						
BOD				Smax			
	comp=N,253nm,0.6s						
ZRHB	**Zarechye**	**3.40**	**216**	*e*Pg	**Pg**	**17 17 39.2**	**-2.7**
ZRHB				*e*Sn	**Sn**	**17 18 11.2**	**+1.1**
ZRHB				*e*Sg	**Sg**	**17 18 25.8**	**-0.1**
ZRHB				Pmax			
	comp=N,102nm,0.6s						
ZRHB				Smax			
	comp=N,618nm,1.0s						
TRG	**Tyrgan**	**3.54**	**225**	*e*PN	**Pn**	**17 17 34.7**	**+3.0**
TRG				*e*		17 17 42.3	
TRG				*e*S	**Sn**	**17 18 16.1**	**+2.6**
TRG				*e*		17 18 28.3	
TRG				pmax	pmax		
	comp=Z,28nm,0.3s						
TRG				smax			
	comp=N,272nm,0.5s						
TRG	**Tyrgan**	**3.54**	**225**	*e*Pn	**Pn**	**17 17 34.3**	**+2.6**
TRG				*e*Pg	**Pg**	**17 17 41.8**	**-2.7**
TRG				*e*		17 18 18.1	
TRG				*e*Sg	**Sg**	**17 18 28.0**	**-2.2**
TRG				Pmax			
	comp=N,26nm,0.4s						
TRG				Smax			
	comp=N,288nm,0.9s						
CIT	**Chita**	**3.79**	**150**	*e*PN	**Pn**	**17 17 39.3**	**+4.1**
CIT				*e*		17 17 47.0	
CIT				*e*		17 18 38.5	
CIT				pmax	pmax		
	comp=Z,69nm,1.2s						
CIT				smax			
	comp=E,358nm,0.8s						
CIT	**Chita**	**3.79**	**150**	*i* Sg	**Sg**	**17 18 36.8**	**-1.7**
CIT				Smax			
	comp=E,359nm,0.7s						
FFNB	**Fofonovo**	**3.96**	**215**	*e*Pn	**Pn**	**17 17 41.2**	**+3.8**
FFNB				*e*Pg	**Pg**	**17 17 49.7**	**-2.8**
FFNB				*e*Sn	**Sn**	**17 18 22.5**	**-1.3**
FFNB				*e*Sg	**Sg**	**17 18 41.4**	**-2.3**
FFNB				Pmax			
	comp=E,90nm,0.8s						
FFNB				Smax			
	comp=E,588nm,0.9s						
KAB	**Kabansk**	**3.99**	**216**	*e*PN	**Pg**	**17 17 50.1**	**-3.0**
KAB				*e*	**Sg**	**17 18 44.1**	**-0.7**
KAB				pmax	pmax		
	comp=Z,883nm,0.1s						
KAB				smax			
	comp=N,4μm,0.4s						
HRMR	**Khuramsha**	**4.26**	**211**	*e*Pn	**Pn**	**17 17 45.6**	**+4.0**
HRMR				*e*Pg	**Pg**	**17 17 54.4**	**-3.9**
HRMR				*e*		17 18 35.6	
HRMR				*e*Sg	**Sg**	**17 18 51.5**	**-1.9**
HRMR				Pmax			
	comp=N,141nm,0.5s						
HRMR				Smax			
	comp=N,675nm,0.9s						
CRS	**Chara**	**4.65**	**67**	*e*PN	**Pg**	**17 18 02.4**	**-3.3**
CRS				*e*	**Sg**	**17 19 01.6**	**-4.2**
CRS				pmax	pmax		
	comp=Z,49nm,1.0s						
CRS				smax			
	comp=N,198nm,1.5s						
CRS	**Chara**	**4.65**	**67**	*e*Pn	**Pn**	**17 17 46.6**	**-0.3**
CRS				*e*Pg	**Pg**	**17 18 00.3**	**-5.4**
CRS				*e*Sg	**Sg**	**17 19 01.8**	**-4.0**
CRS				Pmax			
	comp=N,49nm,0.9s						
CRS				Smax			
	comp=N,200nm,1.4s						
IRK	**Irkutsk**	**4.80**	**232**	*e*PN	**Pg**	**17 18 05.3**	**-3.3**
IRK				*e*S	**Sn**	**17 18 46.4**	**+1.8**
IRK				*e*	**Sg**	**17 19 06.5**	**-4.2**
IRK				pmax	pmax		
	comp=Z,49nm,0.4s						
IRK				smax			
	comp=N,926nm,1.0s						
IRK				pmax	pmax		
	comp=Z,27nm,2.8s						
IRK	**Irkutsk**	**4.80**	**232**	*e*Pg	**Pg**	**17 18 03.6**	**-5.0**
IRK				*e*Sn	**Sn**	**17 18 46.7**	**+2.1**
IRK				*e*Sg	**Sg**	**17 19 07.3**	**-3.4**
IRK				Pmax			
	comp=Z,51nm,0.4s						
IRK				Smax			
	comp=Z,922nm,1.2s						
LSTR	**Listvyanka**	**4.82**	**226**	*e*Pn	**Pn**	**17 17 51.7**	**+2.4**
LSTR				*e*Pg	**Pg**	**17 18 03.4**	**-5.7**
LSTR				*e*Sn	**Sn**	**17 18 47.2**	**+2.0**
LSTR				*e*Sg	**Sg**	**17 19 06.5**	**-5.0**
LSTR				Pmax			
	comp=Z,13nm,0.5s						
LSTR				Smax			
	comp=Z,216nm,1.5s						
TLY	**Talaya**	**5.47**	**231**	*e*PN	**Pn**	**17 18 00.7**	**+2.5**
TLY				*e*		17 18 16.1	
TLY				*e*S	**Sn**	**17 19 01.9**	**+0.8**
TLY				*e*		17 19 26.4	
TLY				pmax	pmax		
	comp=Z,23nm,0.6s						
TLY				smax			
	comp=E,191nm,1.0s						
TLY	**Talaya**	**5.47**	**231**	*e*Pn	**Pn**	**17 18 00.8**	**+2.6**
TLY				*e*Pg	**Pg**	**17 18 16.0**	**-5.4**
TLY				*e*Sn	**Sn**	**17 19 03.2**	**+2.1**
TLY				*e*Sg	**Sg**	**17 19 26.5**	**-5.7**
TLY				Pmax			
	comp=E,22nm,0.8s						
TLY				Smax			
	comp=E,183nm,1.1s						
TUP	**Tupik**	**5.56**	**96**	*e*PN	**Pn**	**17 18 02.2**	**+2.8**
TUP				*e*		17 18 19.0	
TUP				*e*S	**Sn**	**17 19 06.0**	**+2.7**
TUP				*e*		17 19 32.3	
TUP				pmax	pmax		
	comp=Z,13nm,0.5s						
TUP				smax			
	comp=N,129nm,0.7s						
TUP	**Tupik**	**5.56**	**96**	⇑*i*Pn	**Pn**	**17 18 02.1**	**+2.7**
TUP				*e*		17 18 15.6	
TUP				*e*Sn	**Sn**	**17 19 04.6**	**+1.3**
TUP				*e*Sg	**Sg**	**17 19 31.8**	**-3.2**
TUP				max			
	comp=N,9.0nm,0.5s						
TUP				Smax			
	comp=N,125nm,0.7s						
KHNR	**Khani**	**5.56**	**69**	*e*Sg	**Sg**	**17 19 29.2**	**-5.9**
KPC	**Khapcheranga**	**5.76**	**167**	*e*PN	**Pn**	**17 18 04.5**	**+2.3**
KPC				*e*		17 18 23.5	
KPC				*e*		17 19 39.5	
KPC				pmax	pmax		
	comp=Z,35nm,0.6s						
KPC				smax			
	comp=E,137nm,1.1s						
KPC	**Khapcheranga**	**5.76**	**167**	⇑*i*Pn	**Pn**	**17 18 04.4**	**+2.2**
KPC				*e*		17 18 12.7	
KPC				*e*Pg	**Pg**	**17 18 23.5**	**-3.5**
KPC				*i* Sg	**Sg**	**17 19 39.4**	**-2.1**
KPC				Pmax			
	comp=E,35nm,0.6s						
KPC				Smax			
	comp=E,136nm,1.0s						
ARS	**Arshan**	**5.88**	**238**	*e*Pn	**Pn**	**17 18 05.9**	**+2.1**
ARS				*e*Pg	**Pg**	**17 18 22.7**	**-6.5**
ARS				*e*Sn	**Sn**	**17 19 11.2**	**+0.1**
ARS				*e*Sg	**Sg**	**17 19 38.8**	**-6.4**
ARS				Pmax			
	comp=E,41nm,0.6s						
ARS				Smax			
	comp=E,755nm,1.0s						
ZAK	**Zakamensk**	**6.59**	**224**	*e*PN	**Pn**	**17 18 16.8**	**+3.2**
ZAK				*e*		17 18 37.6	
ZAK				*e*S	**Sn**	**17 19 30.6**	**+1.9**
ZAK				*e*		17 20 03.0	
ZAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ZAK				pmax	pmax		
	comp=N,142nm,1.1s						
ZAK	**Zakamensk**	**6.59**	**224**	*e*Pn	**Pn**	**17 18 17.5**	**+3.9**
ZAK				*e*Pg	**Pg**	**17 18 37.6**	**-5.3**
ZAK				*e*		17 19 35.6	
ZAK				*e*Sg	**Sg**	**17 20 04.1**	**-4.1**
ZAK				Pmax			
	comp=N,4.0nm,0.4s						
ZAK				Smax			
	comp=N,141nm,1.1s						
MOY	**Mondy**	**6.73**	**241**	*e*S	**Sn**	**17 19 30.5**	**-1.7**
MOY				*e*		17 20 07.0	
MOY				pmax	pmax		
	comp=Z,36nm,0.6s						
MOY				smax			
	comp=Z,237nm,1.6s						
MOY	**Mondy**	**6.73**	**241**	*e*Pn	**Pn**	**17 18 19.3**	**+3.8**
MOY				*e*		17 19 35.0	
MOY				*e*Sg	**Sg**	**17 20 07.2**	**-5.5**
MOY				max			
	comp=Z,43nm,1.5s						
MOY				Smax			
	comp=Z,236nm,1.2s						
ORL	**Orlik**	**6.88**	**250**	*e*PN	**Pn**	**17 18 20.4**	**+2.8**
ORL				*e*S	**Sg**	**17 20 10.4**	**-7.0**
ORL				smax			
	comp=N,302nm,1.4s						
ORL	**Orlik**	**6.88**	**250**	*e*Pn	**Pn**	**17 18 20.7**	**+3.1**
ORL				*e*Sn	**Sn**	**17 19 36.2**	**+0.4**
ORL				*i* Sg	**Sg**	**17 20 10.7**	**-6.7**
ORL				max			
	comp=N,22nm,1.2s						
ORL				Smax			
	comp=N,300nm,1.4s						
SONM	**Songino Array**	**7.92**	**200**	Pn	**Pn**	**17 18 34.9**	**+3.1**
	comp=N,0.5nm,0.3s,baz=12,slow=12,SNR=11						
SONM				Lg		17 20 52.0	
	comp=N,1.9nm,0.3s,baz=8.7,slow=30,SNR=13						
CLNS	**Chul'man**	**8.21**	**74**	*e*Sg	Sx	17 20 52.6	
HIA	**Hailar**	**8.32**	**133**	*e*Sg	Sx	17 20 57.3	
ZAA0	**Zalesovo Array**	**14.88**	**275**	*e*Pn	**Pn**	**17 20 07.3**	**+0.3**
ZALV	**Zalesovo Beam**	**14.88**	**275**	Pn	**Pn**	**17 20 08.4**	**+1.4**
	comp=N,0.2nm,0.3s,baz=77,slow=9.4,SNR=8.5						
ZAL	**Zalesovo**	**14.90**	**275**	P	**Pn**	**17 20 08.4**	**+1.2**
MKAR	**Makanchi Array**	**19.54**	**256**	P	**Pn**	**17 21 08.3**	**+2.9**
	comp=N,0.2nm,0.3s,baz=43,slow=7.8,SNR=5.6						
KURK	**Kurchatov**	**19.59**	**270**	*e*P	**Pn**	**17 21 05.9**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**19.59**	**270**	*e*P	**Pn**	**17 21 05.9**	**-0.2**
	comp=Z,3.1nm,0.9s						
BVAR	**Borovoye Array**	**23.34**	**281**	P	**P**	**17 21 47.2**	**+2.2**
	comp=Z,1.3nm,0.5s,mb3.6,baz=80,slow=11,SNR=8.4						
ARCES	**ARCESS Array B**	**38.20**	**325**	P	**P**	**17 23 56.1**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=62,slow=10,SNR=7.5						
AKASG	**Malin Array Be**	**46.47**	**300**	P	**P**	**17 25 03.6**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=48,slow=9.1,SNR=6.9						

IDC 05 17:30:35.5±2.2,277N×6650E,h0km,mb3.9/5,mb1 4.0/5, mb1mx3.6/22,mbtmp3.9/5,Error ellipse: s-maj=76.6km s-min=28.0km az=62.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**48.03**	**353**	P	P	17 39 15.9	-0.5
	1.1nm,0.7s,baz=176,slow=9.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**53.18**	**13**	P	P	17 39 54.2	-1.1
	1.9nm,0.8s,baz=203,slow=11,SNR=6.9						
SONM	**Songino Array**	**56.51**	**31**	P	P	17 40 20.7	+1.2
	0.9nm,1.0s,baz=232,slow=6.8,SNR=5.7						
WRA	**Warramunga Arr**	**70.24**	**112**	P	P	17 41 50.8	-0.2
	1.2nm,0.8s,baz=287,slow=6.0,SNR=5.5						
ASAR	**Alice Springs**	**70.57**	**116**	P	P	17 41 53.1	+0.1
	0.7nm,0.8s,baz=302,slow=5.4,SNR=5.8						
TXAR	**Lajitas Array**	**146.71**	**344**	PKPbc	PKPbc	17 50 20.1	0.0
	1.7nm,0.8s,baz=70,slow=2.9,SNR=24						

*ISCJB **05** 17:57:30.5±0.4,3742N±004×2475W±003,h10km, mb4.1/10,Error ellipse: s-maj=6.2km s-min=3.7km az=7.9*
*IDC **05** 17:57:30.7±1.3,3757N×2441W,h0km,mb3.6/4,mb1 3.9/6, mb1mx3.6/26,mbtmp3.7/6,ML4.2/2,MS3.4/1,Ms1 3.5/1, ms1mx2.7/33,Error ellipse: s-maj=36.7km s-min=24.1km az=5.0*
*NEIC **05** 17:57:32.0±1.1,3734N×2467W,h10km,mb4.4/9,Error ellipse: s-maj=22.9km s-min=11.0km az=187.0*
*CSEM **05** 17:57:33.9±0.3,3767N×2475W,h25km,mb4.2/4,Error ellipse: s-maj=13.6km s-min=2.6km az=179.0*
*PDA **05** 17:57:33.3±1.3,3726N×2467W,h0km,MD3.9,ML3.6, Error ellipse: s-maj=8.3km s-min=3.8km az=88.0*

ISC 05 17:57:32.0±0.4,3740N±004×2479W±003,h10km,n45, σ1§17/59,mb4.1/10,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**210**	*i* P	**Pg**	**17 57 40.6**	**-0.2**
PSMN				*e*S	**Sg**	**17 57 46.6**	**-0.2**
CMLA	**Cha da Macela**	**0.69**	**302**	*i* P	**Pg**	**17 57 47.2**	**+1.8**
CMLA				*i* S	**Sg**	**17 57 57.6**	**+3.1**
CMLA				A		17 58 04.2	
	1μm,0.4s						
CMLA	**Cha da Macela**	**0.69**	**302**	*e*P	**Pg**	**17 57 47.0**	**+1.6**
CMLA				*i* S	**Sg**	**17 57 57.6**	**+3.1**
CMLA	**Cha da Macela**	**0.69**	**302**	*e*P	**Pg**	**17 57 47.0**	**+1.6**
CMLA				*e*S	**Sg**	**17 57 55.2**	**+0.8**
PDA	**Ponta Delgada**	**0.78**	**297**	*e*P	**Pg**	**17 57 48.3**	**+1.2**
PDA				*e*S	**Sg**	**17 57 59.7**	**+2.4**
PSCM	**Serra do Cume**	**2.26**	**306**	*e*P	**Pn**	**17 58 09.6**	**+0.3**
PSCM				*e*S	**Sn**	**17 58 36.0**	**-1.2**
PSCM				A		17 58 41.1	
	88nm,0.3s						
PSCM	**Serra do Cume**	**2.26**	**306**	*e*P	**Pn**	**17 58 09.6**	**+0.3**
PSCM				*e*S	**Sn**	**17 58 36.0**	**-1.2**
ADH	**Angra Heroismo**	**2.31**	**304**	*e*P	**Pn**	**17 58 10.4**	**+0.3**
ADH				*e*S	**Sn**	**17 58 37.4**	**-1.1**
PMAN	**Manadas**	**2.89**	**296**	*e*P	**Pn**	**17 58 18.4**	**+0.4**
PMAN				*e*S	**Sn**	**17 58 51.5**	**-1.3**
PMAN				A		17 58 52.9	
	75nm,0.3s						
PMAN	**Manadas**	**2.89**	**296**	*e*P	**Pn**	**17 58 18.4**	**+0.4**
PMAN				*e*S	**Sn**	**17 58 51.5**	**-1.3**
ROSA	**Rosais**	**3.03**	**297**	*e*P	**Pn**	**17 58 20.7**	**+0.7**
ROSA				*e*S	**Sn**	**17 58 55.2**	**-1.2**
PICO	**Pico**	**3.08**	**292**	*e*P	**Pn**	**17 58 21.4**	**+0.7**
PICO				*e*S	**Sn**	**17 58 56.5**	**-1.1**
HOR	**Horta**	**3.24**	**292**	*e*P	**Pn**	**17 58 23.1**	**+0.2**
HOR				*e*S	**Sn**	**17 58 59.9**	**-1.6**
CALA	**Caldeira**	**3.31**	**292**	*e*P	**Pn**	**17 58 24.2**	**+0.3**
CALA				*e*S	**Sn**	**17 59 02.0**	**-1.3**
EVO	**Evora**	**13.29**	**80**	*e*Pn	**Pn**	**18 00 35.1**	**-5.5**
ESDC	**Sonseca Array**	**16.45**	**76**	Pn	**Pn**	**18 01 16.9**	**-5.9**
	0.4nm,0.3s,baz=266,slow=13,SNR=6.2						
MDT	**Midelt**	**17.12**	**99**	Pn	**Pn**	**18 01 27.8**	**-3.5**
	0.2nm,0.3s,baz

TCF	Toulx Ste Croi	21.90	58	*e*P		P	18 02 25.7 +0.6
SSF	Saint Saulge	22.96	56	*e*P		P	18 02 37.7 +1.3
SMF	Signal de Mont	23.08	57	*e*P		P	18 02 38.9 +1.2
ESK	Eskdalemuir	23.14	32	P		P	18 02 45.1 +6.9
	79nm,1.8s,mb4.8						
EKA	Eskdalemuir Ar	23.17	32	P		P	18 02 35.7 -2.8
	3.0nm,1.0s,mb3.7,baz=219,slow=12,SNR=4.6						
LOR	Lormes	23.25	56	*e*P		P	18 02 39.3 -0.1
VIVF	Saint-Julien-l	23.32	62	*e*P		P	18 02 40.1 -0.1
	7.4nm,0.9s,mb3.8						
VIVF	Saint-Julien-l	23.32	62	*e*P		P	18 02 40.1 -0.1
	3.7nm,0.9s,mb3.8						
MORC	Moravsky Berou	32.63	54	*e*P		P	18 04 04.0 +0.2
	2.5nm,1.1s,mb4.1						
TORD	Torodi Ar. Bea	33.79	129	P		P	18 04 13.6 -0.6
	1.0nm,0.7s,mb3.9,baz=313,slow=8.8,SNR=5.2						
PSZ	Piszkesteto	34.06	58	P		P	18 04 08.4 -7.9
	8.0nm,1.3s,mb4.5						
PAL	Palisades	37.84	291	*e*P		P	18 04 50.3 +1.6
	18nm,1.0s,mb4.8						
PAL	Palisades	37.84	291	*e*P		P	18 04 50.4 +1.6
	18nm,1.0s,mb4.8						
AKASG	Malin Array Be	40.15	53	P		P	18 05 05.6 -2.4
	0.1nm,0.3s,mb3.1,baz=274,slow=7.4,SNR=6.5						
AKASG	Malin Array Be	40.15	53	P		P	18 05 05.6 -2.4
ARE0	ARCESS Array S	41.84	24	P		P	18 05 19.0 -2.6
ARE0	ARCESS Array S	41.84	24	P		P	18 05 19.0 -2.6
TXAR	Lajitas Array	64.61	288	P		P	18 08 11.6 +1.8
	1.1nm,0.7s,mb4.0,baz=82,slow=7.4,SNR=17						
TXAR	Lajitas Array	64.61	288	P		P	18 08 11.6 +1.8

*ISCJB **05** 18:05:46.6±0.5, 5047N±003×8749E±005, h10km, Error ellipse: s-maj=4.4km s-min=4.0km az=19.8*
*MOS **05** 18:05:47.1±2.7, 5024N×8747E, h10km, mb3.9/1, Error ellipse: s-maj=12.4km s-min=9.0km az=73.5*
*ASRS **05** 18:05:48.4±0.5, 5039N×8760E, h8km, Ms2.9*
*NNC **05** 18:05:53.4±3.3, 5044N×8681E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=29.5km s-min=15.5km az=82.0*
ISC 05 18:05:48.3±0.4, 5045N±003×8752E±004, h10km, n24, σ1§37/42, 6C-13D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	Aktash	0.15	154	*i* Pg	Pg	18 05 50.1	-1.6
AKAR				*e*Sg	Sg	18 05 52.0	-1.9
UKR	Ust'-Kan	1.81	287	*e*Pg	Pg	18 06 23.2	+0.2
UKR				*e*Sg	Sg	18 06 45.9	-0.6
TASR	Tashtagol	2.32	5	*e*Pg	Pg	18 06 32.4	-0.4
TASR				*e*Sg	Sg	18 07 03.8	+1.0
ELT	Yel'tsovka	2.92	345	*e*Pn	Pn	18 06 38.3	+3.5
ELT				*e*Pg	Pg	18 06 42.5	-1.8
ELT				*e*Sg	Sg	18 07 19.8	-2.3
CERR	Cheremushki	3.42	44	*e*Pg	Pg	18 06 51.1	-2.6
CERR				*e*Sg	Sg	18 07 37.0	-0.9
HVS	Khovu-Aksy	3.98	78	*d i*PN	Pn	18 06 50.3	+0.9
BLRR	Bol'shaya Rech	4.00	48	⇓*e*PN	Pn	18 06 50.9	+1.3
BLRR				*e*		18 07 04.5	
BLRR				*e*		18 07 53.9	
KZLR	Kyzyl	4.55	71	*de*PN	Pn	18 06 58.2	+1.1
KZLR				*e*		18 07 12.9	
KZLR				*e*		18 07 56.1	
KZLR				*e*		18 08 08.8	
KZLR	Kyzyl	4.55	71	*e*Pn	Pn	18 06 59.2	+2.1
KZLR				*e*Pg	Pg	18 07 10.3	-5.1
KZLR				*e*Sg	Sg	18 08 05.8	-8.5
MK31	Makanchi Array	5.04	225	⇑Pn	Pn	18 07 05.4	+1.5
	21nm,0.5s,baz=54,slow=13,SNR=603						
MK31				Pg	Pg	18 07 20.7	-4.2
	19nm,0.4s,baz=49,slow=20,SNR=7.1						
MK31				⇓Sn	Sn	18 08 02.9	+0.7
	20nm,0.5s,baz=63,slow=21,SNR=4.1						
MK31				⇓Lg		18 08 24.7	
	47nm,0.5s,baz=44,slow=25,SNR=7.8						
MK31	Makanchi Array	5.04	225	*i* PN	Pn	18 07 05.7	+1.8
MK31				pmax	pmax		
	comp=Z,15nm,0.2s						
NVS	Novosibirsk	5.11	331	*e*PN	Pn	18 07 07.0	+2.2
NVS				*i*		18 07 22.4	
NVS				*i*		18 08 31.3	
NVS	Novosibirsk	5.11	331	*e*Pn	Pn	18 07 07.0	+2.2
NVS				*e*Pg	Pg	18 07 22.4	-3.7
NVS				*e*Sn	Sn	18 08 04.5	+0.7
NVS				*e*Sg	Sg	18 08 31.3	-0.9
KURK	Kurchatov	5.67	276	⇓Pn	Pn	18 07 13.5	+0.9
	comp=Z,7.6nm,0.5s						
KURK				⇓Lg		18 08 41.0	
	comp=Z,130nm,0.8s						
KURK	Kurchatov	5.67	276	*c i*PN	Pn	18 07 13.4	+0.8
KURK				pmax	pmax		
	comp=Z,8μm,0.5s						
KURBB	Kurchatov Arra	5.73	275	⇑Pn	Pn	18 07 14.3	+0.9
	comp=Z,3.2nm,0.5s						
KURBB				⇑Lg		18 08 43.1	
	comp=Z,45nm,0.7s						
KRAR	Krasnoyarsk	6.43	28	*i* PN	Pn	18 07 24.7	+1.8
KRAR				pmax	pmax		
	comp=Z,11nm,0.5s						
VOSK	Vostochnaya	10.54	289	⇓Pn	Pn	18 08 19.7	+0.4
	comp=Z,1.8nm,0.6s						
VOSK				⇓Sn	Sn	18 10 11.9	-5.4
	comp=Z,13nm,0.9s						
BVA0	Borovoye Array	10.93	290	Pn	Pn	18 08 24.3	-0.3
	comp=Z,0.6nm,0.7s,baz=0.0,slow=0.1,SNR=11						
BVA0				⇓Sn	Sn	18 10 22.5	-4.3
	comp=Z,1.1nm,0.6s						
BRVK	Borovoye	11.00	290	*i* P	Pn	18 08 28.4	+2.9
TKM2	Tokmak 2	11.12	232	⇑Pn	Pn	18 08 28.1	+0.8
	comp=Z,2.5nm,0.7s						
TKM2				⇓Sn	Sn	18 10 27.5	-4.0
	comp=Z,4.0nm,0.6s						
KK31	Karatay Array	13.76	244	⇑Pn	Pn	18 09 01.7	-1.6
	comp=Z,0.7nm,0.4s,baz=59,slow=14						
KK31				⇓Sn	Sn	18 11 34.9	-1.1
	comp=Z,2.8nm,0.8s,baz=64,slow=26,SNR=3.8						
KK31	Karatay Array	13.76	244	*i* P	Pn	18 09 00.4	-2.9
KK31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
ARU	Arti	18.17	300	*d i*P	Pn	18 10 00.3	-0.1
ARU				*e*S	Sn	18 13 22.6	-0.3
ARU				pmax	pmax		
	comp=Z,9.0nm,2.5s						

*IDC **05** 18:06:07.5±0.8, 2935×14156E, h0km, mb4.0/9, mb1 4.2/12, mb1mx4.1/18, mbtmp4.2/12, ML4.4/3, Error ellipse: s-maj=25.7km s-min=16.9km az=87.0*
*ISCJB **05** 18:06:10.8±0.5, 3025±006×14156E±010, h33km, mb4.2/15, Error ellipse: s-maj=13.8km s-min=8.7km az=7.8*
*BJI **05** 18:06:10.1, 3005×14150E, h25km, mB5.0, mb4.6*
*NEIC **05** 18:06:13.1±0.5, 3035×14154E, h35km, mb4.5/5, Error ellipse: s-maj=14.5km s-min=9.6km az=102.0*
ISC 05 18:06:12.8±0.5, 3025±006×14159E±009, h35km, n31, σ1§10/26, mb4.2/15, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	13.22	223	*e*P	Pn	18 09 17.1	-1.0
	19nm,0.5s						
WRAB	Tennant Creek	18.24	202	*e*P	Pn	18 10 23.0	-0.2
	7.1nm,0.6s						
WB2	Warramunga Arr	18.25	202	*e*P	Pn	18 10 23.4	+0.1
WRA	Warramunga Arr	18.25	202	P	Pn	18 10 23.4	+0.1
	0.8nm,0.3s,baz=16,slow=13,SNR=25						
BATI	Baumata	19.18	247	P	Pn	18 10 34.7	0.0
	1.0nm,0.3s,baz=22,slow=11,SNR=2.9						
HNR	Honiara	19.32	110	P	Pn	18 10 35.4	-0.9
	2.3nm,0.3s,baz=294,slow=3.4,SNR=6.3						
FITZ	Fitzroy Crossi	21.66	225	*e*P	P	18 10 59.5	-0.9
	7.0nm,0.9s,mb4.1						
FITZ	Fitzroy Crossi	21.66	225	P	P	18 10 59.9	-0.6
	3.2nm,0.8s,mb3.8,baz=54,slow=17,SNR=5.7						
ASAR	Alice Springs	21.83	199	P	P	18 11 02.5	+0.2
	1.6nm,0.6s,mb3.7,baz=30,slow=10,SNR=16						
MBWA	Marble Bar	27.89	228	P	P	18 11 58.9	-0.7
	19nm,1.3s,mb4.6						
STKA	Stephens Creek	28.71	180	P	P	18 12 07.3	+0.6
	1.5nm,0.7s,mb3.8,baz=4.8,slow=12,SNR=3.8						
FORT	Forrest	30.43	203	*e*P	P	18 12 23.0	+1.0
	15nm,0.7s,mb4.8						
KSM	Kuching	31.59	278	*e*P	P	18 12 34.4	+1.9
NWAO	Narrogin (SRO)	37.49	215	*e*P	P	18 13 23.9	+0.6
	122nm,1.8s,mb5.4						
MJAR	Matsushiro Arr	39.48	356	P	P	18 13 37.8	-2.1
	0.3nm,0.4s,mb3.4,baz=173,slow=11,SNR=3.3						
PSI	Prapat	43.04	277	P	P	18 14 07.3	-2.2
	3.4nm,0.6s,mb4.2,baz=111,slow=8.6,SNR=4.5						
LZH	Lanzhou	52.48	321	*e*P	P	18 15 20.3	-2.1
LZH				AP	pP	18 15 28.6	-4.3
LZH				XP	sP	18 15 31.0	-6.1
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,87nm,4.5s						
GTA	Gaotai	57.05	322	*e*P	P	18 15 56.8	+1.4
GTA				AP	pP	18 16 06.3	+0.3
GTA				XP	sP	18 16 10.7	+0.6
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.7						
SONM	Songino Array	59.26	333	P	P	18 16 13.8	+3.1
	comp=Z,0.6nm,0.9s,mb3.6,baz=142,slow=8.0,SNR=3.2						
MK31	Makanchi Array	71.80	322	*e*P	P	18 17 32.1	+0.3
MKAR	Makanchi Array	71.80	322	P	P	18 17 32.8	+1.0
	comp=Z,3.2nm,0.9s,mb4.3,baz=120,slow=7.1,SNR=13						
ZALV	Zalesovo Beam	73.66	329	P	P	18 17 42.2	-0.5
	comp=Z,1.4nm,0.7s,mb4.0,baz=100,slow=8.1,SNR=5.5						
ZALV	Zalesovo Beam	73.66	329	P	P	18 17 42.2	-0.5
VNDA	Vanda	75.24	176	P	P	18 17 52.4	+0.9
	comp=Z,0.5nm,0.8s,mb3.5,baz=327,slow=11,SNR=3.3						
MAW	Mawson	82.93	202	P	P	18 18 33.0	-0.6
	comp=Z,6.3nm,0.7s,mb4.8,baz=61,slow=17,SNR=26						
DAWY	Dawson	87.90	26	*e*P	P	18 18 59.2	+0.8
TORD	Torodi Ar. Bea	139.10	287	PKP	PKPdf	18 25 38.9	+2.0
	comp=Z,0.6nm,0.8s,baz=57,slow=1.3,SNR=3.1						
ROSC	El Rosal	144.12	86	PKP	PKPdf	18 25 45.5	-0.5
	comp=Z,2.5nm,0.4s,baz=92,slow=23,SNR=4.7						
LPAZ	La Paz	144.92	124	PKP	PKPdf	18 25 48.9	+1.7
	comp=Z,1.9nm,0.7s,baz=262,slow=3.0,SNR=14						
LPAZ	La Paz	144.92	124	PKP	PKPdf	18 25 48.9	+1.7
DBIC	Dimbokro	146.38	277	PKPbc	PKPbc	18 25 51.5	+0.4
	comp=Z,6.5nm,0.8s,baz=162,slow=16,SNR=5.9						

*IDC **05** 18:11:54.9±0.5, 2945×14158E, h0km, mb4.5/17, mb1 4.6/22, mb1mx4.6/24, mbtmp4.6/22, ML4.4/5, MS4.1/19, Ms1 4.2/19, ms1mx3.9/27, Error ellipse: s-maj=19.1km s-min=8.5km az=100.0*
*BJI **05** 18:11:57.6, 2575×14190E, h27km, mB5.2, mb5.0, Ms4.4, Msz4.3*
*ISCJB **05** 18:11:58.0±0.2, 2935±004×14159E±006, h33km, mb4.8/59, MS4.1/23, Error ellipse: s-maj=8.0km s-min=5.1km az=3.6*
*MOS **05** 18:11:58.0±1.1, 2875×14158E, h33km, mb5.2/19, MS4.1/4, Error ellipse: s-maj=12.6km s-min=6.7km az=103.4*
*NEIC **05** 18:11:59.9±0.2, 2945×14156E, h35km, mb5.1/26, Error ellipse: s-maj=8.4km s-min=5.3km az=95.0*
*DJA **05** 18:11:59, 2855×14186E, h100km, mb5.1/3*
ISC 05 18:11:55.6±2.1, 2925±004×14165E±006, h6km±12km, h33km±2.3km: pP-P, n133, σ1§06/129, mb4.8/59, MS4.1/23, 3C-7D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.46	140	*i* P	Pn	18 14 03.5	+4.7
PMG	Port Moresby	8.46	140	*e*Pn	Pn	18 14 01.8	+3.0
	64nm,1.0s						
KAKA	Kakadu	13.33	223	*e*P	Pn	18 15 03.1	-2.5
	33nm,0.5s						
KAKA				*e*S	Sn	18 17 25.7	-8.6
GUMO	Guam	16.70	11	Pn	Pn	18 15 52.5	+2.0
	1.0nm,0.3s,baz=165,slow=11,SNR=5.1						
GUMO				LR	LR	18 21 30.5	
	comp=Z,542nm,18.8s,baz=222,slow=34						
CTA	Charters Tower	17.65	166	P	Pn	18 16 01.9	-0.4
	0.2nm,0.3s,baz=291,slow=8.6,SNR=2.4						
CTA				Lg		18 21 11.7	
	0.2nm,0.3s,baz=38,slow=12,SNR=2.7						
CTA				LR	LR	18 23 01.4	
	comp=Z,1μm,18.7s,baz=2.7,slow=38						
CTA	Charters Tower	17.65	166	P	Pn	18 16 01.9	-0.4
CTA				Lg		18 21 11.7	
CTA				LR	LR	18 23 01.4	
WRAB	Tennant Creek	18.35	202	*i* P	Pn	18 16 12.3	+1.3
WRAB	Tennant Creek	18.35	202	*e*P	Pn	18 16 11.6	+0.7
	386nm,2.0s						
WB2	Warramunga Arr	18.36	202	*e*P	Pn	18 16 10.9	-0.2
WRA	Warramunga Arr	18.37	202	P	Pn	18 16 10.8	-0.4
	1.5nm,0.3s,baz=16,slow=13,SNR=30						
WRA				S	Sn	18 19 38.7	+2.0
	0.1nm,0.3s,baz=21,slow=20,SNR=7.1						
WRA				Lg		18 21 36.7	
	0.1nm,0.3s,baz=19,slow=28,SNR=3.9						
WRA				LR	LR	18 23 37.0	
	comp=Z,2μm,18.4s,baz=25,slow=38						
WRA	Warramunga Arr	18.37	202	P	Pn	18 16 10.8	-0.3
WRA				S	Sn	18 19 38.7	+2.0
WRA	Warramunga Arr	18.37	202	P	Pn	18 16 10.8	-0.4
WRA				S	Sn	18 19 38.7	+2.0
WRA				Lg		18 21 36.7	
WRA				LR	LR	18 23 37.0	
BATI	Baumata	19.27	247	P	Pn	18 16 22.6	+0.4
	1.5nm,0.3s,baz=17,slow=6.3,SNR=4.8						
HNR	Honiara	19.30	110	P	Pn	18 16 22.6	+0.1
	6.3nm,0.3s,baz=254,slow=1.0,SNR=23						
HNR	Honiara	19.30	110	*e*P	Pn	18 16 22.0	-0.5
HNR				pmax	pmax		
	comp=Z,147nm,0.8s						
HNR	Honiara	19.30	110	*e*P	Pn	18 16 22.0	-0.5
	comp=Z,148nm,0.8s						
FITZ	Fitzroy Crossi	21.77	225	*e*P	P	18 16 47.2	-1.1
	comp=Z,18nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	21.77	225	P	P	18 16 47.3	-1.0
	comp=Z,9.6nm,0.8s,mb4.3,baz=56,slow=14,SNR=4.3						
FITZ				S	S	18 20 43.2	-6.5
	comp=Z,7.1nm,0.9s,baz=139,slow=23,SNR=4.2						
FITZ				LR	LR	18 26 18.0	
	comp=Z,622nm,20.9s,MS4.0,baz=49,slow=40						
PCI	Palu	21.89	275	⇑*e*P	P	18 16 54.0	+4.4
ASAR	Alice Springs	21.95	199	P	P	18 16 49.0	-1.1
	comp=Z,4.9nm,0.8s,mb4.0,baz=28,slow=11,SNR=14						
ASAR				S	S	18 20 51.3	-1.7
	comp=Z,2.0nm,1.0s,baz=25,slow=21,SNR=4.2						
STKA	Stephens Creek	28.81	180	*e*P	P	18 17 53.9	-0.7
STKA	Stephens Creek	28.81	180	P	P	18 17 54.6	0.0
	comp=Z,3.6nm,0.8s,mb4.2,baz=357,slow=12,SNR=5.8						
CBIJ	Chichi jima	29.84	1	LR	LR	18 29 00.6	
	comp=Z,308nm,19.2s,MS4.0,baz=106,slow=34						
FORT	Forrest	30.55	203	*e*P	P	18 18 09.8	-0.2
	comp=Z,40nm,0.7s,mb5.4						
KSM	Kuching	31.63	278	*e*P	P	18 18 18.8	-1.0
JOW	Kunigami	32.27	337	LR	LR	18 28 48.5	
	comp=Z,397nm,19.1s,MS4.1,baz=154,slow=31						
NACB	Ninganchiao	33.25	325	*e*P	P	18 18 33.8	0.0
	comp=Z,13nm,0.8s,mb4.9						
TOO	Toolangi	34.67	175	*e*P	P	18 18 48.6	+2.6
JHJ	Hachijo jima 2	35.88	357	LR	LR	18 30 25.7	
	comp=Z,660nm,21.0s,MS4.4,baz=290,slow=31						
NWAO	Narrogin (SRO)	37.61	215	*e*P	P	18 19 11.9	+0.6
NWAO				pmax	pmax		
	comp=Z,50nm,1.5s						
NWAO	Narrogin (SRO)	37.61	215	*e*P	P	18 19 11.9	+0.6
	comp=Z,50nm,1.5s,mb5.0						
QIZ	Qiongzhong	38.13	306	P	P	18 19 13.2	-2.7
QIZ				S	S	18 25 02.8	-6.9
QIZ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
QIZ				AMB	AMB		
	comp=Z,272nm,3.9s						
QIZ				LR	LR		
	comp=E,129nm,26.9s						
QIZ				LR	LR		
	comp=Z,176nm,24.7s,MS3.8						
MJAR	Matsushiro Arr	39.38	356	P	P	18 19 24.4	-1.7
	comp=Z,3.3nm,1.0s,mb4.0,baz=150,slow=8.0,SNR=11						
MJAR				LR	LR	18 32 45.7	
	comp=Z,213nm,21.9s,MS3.9,baz=145,slow=32						
MAJO	Matsushiro	39.38	356	*e*P	P	18 19 24.6	-1.5
MAJO				pmax	pmax		
	comp=Z,101nm,2.6s,mb5.1						
MAJO	Matsushiro	39.38	356	*e*P	P	18 19 24.6	-1.6
	comp=Z,101nm,2.6s,mb5.1						
MAT	Matsushiro	39.38	356	P	P	18 19 23.7	-2.4
MAT				*e*S	S	18 25 25.0	-3.1
KSRS	Korea Array	42.14	344	P	P	18 19 49.1	+0.2
	comp=Z,2.2nm,0.8s,mb3.9,baz=161,slow=9.9,SNR=15						
KSRS				PcP	PcP	18 21 44.2	+0.8
	comp=Z,1.8nm,0.8s,baz=161,slow=3.9,SNR=7.0						
KSRS				LR	LR	18 36 26.7	
	comp=Z,170nm,18.9s,MS4.0,baz=150,slow=35						
WHN	Wuhan	42.26	324	P	P	18 19 51.5	+1.5
WHN				S	S	18 26 12.5	+1.4
WHN				LR	LR		
	comp=Z,579nm,12.2s,MS4.7						
PSI	Prapat	43.08	277	P	P	18 19 55.7	-1.3
	comp=Z,6.2nm,0.6s,mb4.5,baz=82,slow=3.4,SNR=5.0						
COCO	West Island	45.30	256	*e*P	P	18 20 10.2	-4.6
	comp=Z,65nm,0.4s,mb5.8						
KMI	Kunming	46.91	309	P	P	18 20 28.6	+1.4
KMI				AP	pP	18 20 37.1	+8.1
KMI				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.6						
KMI				LR	LR		
	comp=N,179nm,14.0s,MS4.3						
KMI				LR	LR		
	comp=E,188nm,17.1s,MS4.3						
KMI				LR	LR		
	comp=Z,233nm,19.4s,MS4.2						
CMAR	Chiang Mai Arr	47.10	298	P	P	18 20 28.5	-0.3
	comp=Z,1.7nm,0.8s,mb4.0,baz=125,slow=6.3,SNR=8.2						
CMAR				PcP	PcP	18 22 01.5	+0.7
	comp=Z,1.3nm,0.9s,baz=125,slow=2.1,SNR=4.7						
CMAR				LR	LR	18 38 22.1	
	comp=Z,105nm,21.2s,MS3.8,baz=310,slow=34						
CMAR	Chiang Mai Arr	47.10	298	P	P	18 20 28.5	-0.3
CMAR						18 22 01.5	
URZ	Urewera	47.81	142	LR	LR	18 38 42.5	
	comp=Z,370nm,20.5s,MS4.3,baz=220,slow=34						
XAN	Xi'an	47.97	323	P	P	18 20 35.3	0.0
XAN				AP	pP	18 20 45.0	+7.9
XAN				XP	sP	18 20 49.5	+12
XAN				AMB	AMB		
	comp=Z,19nm,1.6s,mb4.9						
RPZ	Rata Peaks	48.27	152	LR	LR	18 38 55.8	
	comp=Z,334nm,19.7s,MS4.3,baz=311,slow=34						
CN2	Changchun	48.73	344	*e*P	P	18 20 40.8	-0.2
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CD2	Chengdu	49.34	316	P	P	18 20 46.1	+0.2
CD2				AMB	AMB		
	comp=Z,50nm,0.5s,mb5.8						
LZH	Lanzhou	52.44	321	⇓P	P	18 21 10.0	+0.7
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,248nm,5.1s						
KLR	Kul'dur	52.64	352	*e*P	P	18 21 05.7	-4.7
KLR				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.2						
HIA	Hailar	55.33	343	*e*P	P	18 21 30.1	0.0
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	Hailar	55.33	343	*e*P	P	18 21 30.1	0.0
	comp=Z,4.0nm,0.6s,mb4.6						
GTA	Gaotai	57.01	322	⇓P	P	18 21 43.3	+1.0
GTA				AP	pP	18 21 51.4	+7.3
GTA				XP	sP	18 21 55.7	+11
GTA				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.1						
PETK	Petropavlovsk-	57.43	11	P	P	18 21 45.6	+0.6
	comp=Z,5.0nm,0.8s,mb4.6,baz=165,slow=7.7,SNR=6.1						
PETK				LR	LR	18 42 45.1	
	comp=Z,159nm,21.1s,MS4.1,baz=196,slow=32						
PET	Petropavlovsk	57.54	12	*e*P	P	18 21 50.7	+4.9
PET				*e*S	S	18 29 44.2	+0.3
PET				pmax	pmax		
	comp=Z,100nm,17.6s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
LSA	Lhasa	58.14	308	*e*P	P	18 21 51.6	+1.1
LSA				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.1						
LSA	Lhasa	58.14	308	*e*P	P	18 21 51.6	+1.1
	comp=Z,34nm,1.6s,mb5.1						
SONM	Songino Array	59.19	333	P	P	18 21 58.4	+1.0
	comp=Z,7.7nm,1.3s,mb4.6,baz=156,slow=6.6,SNR=17						
SONM				LR	LR	18 46 44.6	
	comp=Z,242nm,20.4s,MS4.3,baz=161,slow=35						
CIT	Chita	59.69	340	*e*P	P	18 22 01.6	+0.8
CIT				*e*		18 22 10.6	
CIT				pmax	pmax		
	comp=Z,82nm,2.7s,mb5.3						
ZAK	Zakamensk	62.45	333	*e*P	P	18 22 20.2	+0.6
ZAK				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
TLY	Talaya	63.23	335	*e*P	P	18 22 25.1	+0.3
TLY				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.1						
TLY				MLR	MLR		
	comp=Z,181nm,22.0s,MS4.2						
TLY	Talaya	63.23	335	*e*P	P	18 22 25.5	+0.8
	comp=Z,22nm,1.3s,mb5.1						
BOD	Bodaibo	64.48	344	*e*P	P	18 22 31.1	-1.8
BOD				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5						
YAK	Yakutsk	65.41	354	*e*P	P	18 22 38.8	-0.1
YAK				*e**PP	pP	18 22 50.3	+10
YAK				*e*		18 23 09.1	
YAK				*e*		18 25 06.0	
YAK				*e*S	S	18 31 21.7	-1.8
YAK				*e*		18 31 49.5	
YAK				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,64nm,3.8s						
YAK				pmax	pmax		
	comp=N,24nm,2.4s						
YAK				pmax	pmax		
	comp=E,38nm,2.7s						
YAK				smax			
	comp=N,33nm,2.8s						
YAK				smax			
	comp=E,22nm,2.4s						
YAK	Yakutsk	65.41	354	*e*P	P	18 22 38.5	-0.3
	comp=E,38nm,1.4s,mb5.2						
SEY	Seymchan	66.17

comp=Z,44nm,1.7s,mb5.1
NVS pmax pmax
comp=E,25nm,1.3s
UCH Uchtor 75.26 315 *e*P **P 18 23 41.2 +1.6**
comp=E,10nm,1.2s,mb4.6
VNDA Vanda 75.33 176 P **P 18 23 39.5 +0.1**
comp=E,1.2nm,0.6s,mb4.0,baz=333,slow=6.5,SNR=8.5
VNDA LR LR 18 56 56.2
comp=E,200nm,18.2s,MS4.5,baz=302,slow=36
VNDA Vanda 75.33 176 P **P 18 23 39.5 +0.1**
VNDA LR LR 18 56 56.2
KURK Kurchatov 75.58 324 *d i*P **P 18 23 41.0 -0.2**
KURK pmax pmax
comp=Z,29nm,1.3s,mb5.0
KURK MLR MLR
comp=Z,100nm,16.0s,MS4.2
KURK Kurchatov 75.58 324 *e*P **P 18 23 40.7 -0.6**
USP Ospenovka 75.59 316 P **P 18 23 41.8 +0.4**
SNR=9.1
AML Almayashu 75.81 315 P **P 18 23 44.6 +1.9**
SNR=9.8
AML Almayashu 75.81 315 *e*P **P 18 23 43.6 +0.9**
comp=Z,38nm,1.5s,mb5.1
AML *e* 18 23 52.4
EKS2 Erkin-Say 75.91 315 P **P 18 23 44.4 +1.1**
SNR=9.9
EKS2 Erkin-Say 75.91 315 *e*P **P 18 23 43.6 +0.3**
comp=Z,23nm,1.6s,mb4.9
SBA Scott Base 76.06 175 *e*P **P 18 23 46.4 +2.9**
SBA pmax pmax
comp=Z,43nm,1.7s,mb5.1
SBA Scott Base 76.06 175 *e*P **P 18 23 46.4 +2.9**
comp=Z,43nm,1.7s,mb5.1
KDAK Kodiak Island 79.81 30 P **P 18 24 05.9 +1.3**
comp=Z,10nm,1.1s,mb4.7,baz=80,slow=2.3,SNR=4.8
VOSK Vostochnaya 80.73 324 P **P 18 24 09.2 -0.6**
VOSK pmax pmax
comp=Z,47nm,1.9s,mb5.1
BVA0 Borovoye Array 81.17 325 P **P 18 24 11.9 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BVAR Borovoye Array 81.17 325 P **P 18 24 12.6 +0.6**
comp=Z,5.1nm,0.7s,mb4.6,baz=112,slow=7.2,SNR=40
BRVK Borovoye 81.24 325 *i*P **P 18 24 12.6 +0.1**
BRVK pmax pmax
comp=Z,25nm,1.3s,mb5.0
BRVK Borovoye 81.24 325 *i*P **P 18 24 12.6 +0.1**
comp=Z,25nm,1.3s,mb5.0
PPLA Purkeypile 81.95 25 *e*P **P 18 24 14.8 -1.3**
comp=Z,63nm,1.8s,mb5.2
SEW Seward 82.16 28 *e*P **P 18 24 17.2 0.0**
CHUM Lake Minchumin 82.28 24 *e*P **P 18 24 18.0 +0.3**
comp=Z,73nm,1.1s,mb5.5
IMA2 Indian Mountai 82.63 22 *e*P **P 18 24 20.1 +0.6**
KTH Kantishna Hill 82.73 25 *e*P **P 18 24 19.5 -0.6**
comp=Z,48nm,1.4s,mb5.3
PMR Palmer 82.81 27 *e*P **P 18 24 20.0 -0.6**
MAW Mawson 83.04 202 P **P 18 24 21.6 -0.1**
comp=Z,3.7nm,1.0s,mb4.4,baz=80,slow=8.7,SNR=6.2
MCK McKinley 83.63 25 *e*P **P 18 24 22.7 -2.0**
MCK pmax pmax
comp=Z,37nm,1.2s,mb5.4
MCK McKinley 83.63 25 *e*P **P 18 24 22.7 -2.0**
comp=Z,37nm,1.2s,mb5.4
DIV Divide 84.21 28 *e*P **P 18 24 28.1 +0.4**
comp=Z,8.8nm,0.6s,mb5.1
COLD Coldfoot 84.37 21 *e*P **P 18 24 29.2 +0.8**
comp=Z,18nm,1.3s,mb5.0
COLA College 84.45 24 *e*P **P 18 24 27.1 -1.8**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
COLA College 84.45 24 *e*P **P 18 24 27.1 -1.8**
comp=Z,5.8nm,0.8s,mb4.8
BMRM Bremner River 84.71 28 *e*P **P 18 24 30.5 +0.2**
AB31 Akbulak array 86.78 320 P **P 18 24 39.6 -1.2**
AB31 pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
EGAK Eagle 87.18 25 *e*P **P 18 24 42.7 +0.2**
comp=Z,23nm,1.3s,mb5.2
DHAK Deception Hill 87.42 31 *e*P **P 18 24 41.9 -1.8**
DAWY Dawson 87.78 26 *e*P **P 18 24 46.1 +0.7**
HYT Haines Junctio 88.06 29 *e*P **P 18 24 47.2 +0.4**
AKTK Aktyubinsk 88.17 321 P **P 18 24 46.7 -0.8**
AKTO Aktyubinsk 88.17 321 P **P 18 24 46.7 -0.8**
comp=Z,1.5nm,0.7s,mb4.4,baz=96,slow=5.0,SNR=7.4
AKTO Aktyubinsk 88.17 321 P **P 18 24 45.8 -1.7**
AKTO pmax pmax
comp=Z,4.0nm,1.8s,mb4.3
ARU Arti 88.58 327 *d i*P **P 18 24 48.0 -1.3**
ARU *e*PPP 18 30 15.9
ARU *e*S S 18 35 13.6 -22
ARU pmax pmax
comp=Z,13nm,1.7s,mb5.0
YKA Yellowknife Ar 98.91 27 P **P 18 25 36.3 -0.3**
comp=Z,2.5nm,0.9s,mb4.7,baz=277,slow=4.6,SNR=8.4
YKA LR LR 19 05 17.1
comp=Z,30nm,21.1s,MS3.8,baz=135,slow=32
YKA Yellowknife Ar 98.91 27 *i* P **P 18 25 36.2 -0.4**
YKA pmax pmax
comp=Z,3.0nm,0.9s
OBN Obninsk 100.99 326 *e*P Pdif 18 25 43.3 -2.8
OBN *e*PS PS 18 38 56.4 +0.2
OBN *e*SS SS 18 44 20.2 -3.1
OBN pmax pmax
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 139.13 287 PKhKP 18 31 17.2
comp=Z,0.8nm,1.1s,baz=45,slow=2.7,SNR=2.7
TORD PKP PKPdf 18 31 25.4 +0.9
comp=Z,1.3nm,0.8s,baz=68,slow=1.7,SNR=6.5
ROSC El Rosal 144.06 86 PKP PKPdf 18 31 32.4 -1.0
comp=Z,13nm,0.9s,baz=140,slow=3.0,SNR=17
LPAZ La Paz 144.93 124 PKP PKPdf 18 31 35.6 +0.7
comp=Z,7.8nm,0.8s,baz=255,slow=2.2,SNR=31
CPUP Villa Florida 145.62 149 PKPbc PKPbc 18 31 36.1 +0.1
comp=Z,1.0nm,0.5s,baz=317,slow=0.9,SNR=4.9
DBIC Dimbokro 146.42 278 PKPbc PKPbc 18 31 38.4 -0.4
comp=Z,12nm,0.9s,baz=68,slow=4.4,SNR=9.9
SDV Santo Domingo 147.36 78 *e*PKPdf PKPdf 18 31 40.3 +1.2

*IDC **05** 18:16:37.7±1.4, 100N×9721E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/21, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=41.5km s-min=19.5km az=62.0*
*NEIC **05** 18:16:42.3±0.8, 103N×9728E, h30km, mb4.0/1, Error ellipse: s-maj=21.6km s-min=9.9km az=66.0*
*ISCJB **05** 18:16:45.0±5.2, 1.1N±02×974E±04, h69km±36km, mb3.9/9, Error ellipse: s-maj=69.5km s-min=15.5km az=149.8*
ISC 05 18:16:44.0±5.8, 11N±02×974E±04, h41km±43km, n15, σ0$52/15, mb3.9/9, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.29**	**42**	Pn	**Pn**	**18 17 18.9**	**-0.3**
	1.8nm,0.3s,baz=210,slow=6.5,SNR=9.6						
PSI	**Prapat**	**2.29**	**42**	⇑*e*P	**Pn**	**18 17 19.4**	**+0.1**
TSI	**Tuntungan**	**2.67**	**26**	⇑*e*P	**Pn**	**18 17 29.0**	**+4.5**
CMAR	**Chiang Mai Arr**	**17.33**	**5**	P	**Pn**	**18 20 43.0**	**+0.1**
	0.1nm,0.3s,baz=195,slow=12,SNR=8.9						
WRA	**Warramunga Arr**	**41.82**	**122**	P	**P**	**18 24 29.4**	**-0.8**
	1.1nm,0.9s,mb3.5,baz=301,slow=9.2,SNR=2.6						
WRAB	**Tennant Creek**	**41.82**	**122**	P	**P**	**18 24 29.9**	**-0.2**
	3.2nm,0.9s,mb4.0						
ASAR	**Alice Springs**	**43.18**	**127**	P	**P**	**18 24 41.0**	**-0.1**
	1.5nm,1.0s,mb3.7,baz=297,slow=6.2,SNR=2.8						
ASAR	**Alice Springs**	**43.18**	**127**	P	**P**	**18 24 41.0**	**-0.1**
KSRS	**Korea Array**	**45.83**	**34**	P	**P**	**18 25 02.2**	**+0.1**
	2.5nm,0.9s,mb4.2,baz=217,slow=9.1,SNR=12						
SONM	**Songino Array**	**47.21**	**8**	P	**P**	**18 25 12.9**	**+0.2**
	1.5nm,0.5s,mb4.1,baz=194,slow=8.2,SNR=12						
SONM				PcP	PcP	18 26 44.2	+0.5
	0.8nm,0.7s,baz=177,slow=4.0,SNR=4.7						
MKAR	**Makanchi Array**	**47.39**	**346**	P	**P**	**18 25 14.5**	**+0.3**
	1.3nm,0.7s,mb4.0,baz=156,slow=9.0,SNR=6.8						
STKA	**Stephens Creek**	**53.14**	**132**	P	**P**	**18 25 59.2**	**+1.2**
	1.9nm,0.9s,mb4.0,baz=287,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**53.14**	**132**	P	**P**	**18 25 59.2**	**+1.2**
ZALV	**Zalesovo Beam**	**53.70**	**351**	P	**P**	**18 26 01.5**	**-0.1**
	2.2nm,0.6s,mb4.2,baz=165,slow=6.2,SNR=6.3						
BVAR	**Borovoye Array**	**56.41**	**341**	P	**P**	**18 26 20.7**	**-0.6**
	0.7nm,0.7s,mb3.8,baz=142,slow=7.3,SNR=2.7						

*IDC **05** 18:23:05.1±1.0, 3621N×6827E, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.7/24, mbtmp3.8/11, ML3.8/3, MS3.5/2, Ms1 3.5/2, ms1mx2.8/35, Error ellipse: s-maj=22.7km s-min=21.0km az=69.0*
*NEIC **05** 18:23:09.0±0.8, 3666N×6808E, h10km, mb3.9/5, Error ellipse: s-maj=12.7km s-min=11.2km az=93.0*
*MOS **05** 18:23:09.8±1.9, 3660N×6821E, h33km, mb4.0/3, Error ellipse: s-maj=18.9km s-min=9.2km az=78.3*
*ISCJB **05** 18:23:11.1±0.9, 3657N±003×6837E±007, h61km±10km, mb3.6/8, Error ellipse: s-maj=9.8km s-min=4.8km az=166.6*
*NNC **05** 18:23:12.8±2.9, 3660N×6813E, h92km±38km, mb3.5, mpv4.0, Error ellipse: s-maj=21.9km s-min=15.9km az=23.0*
ISC 05 18:23:08.6±2.0, 3653N±003×6818E±006, h15km±13km, n60, σ1$57/67, mb3.6/8, 10C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.11**	**160**	⇑*i*Pn	**Pn**	**18 23 46.3**	**+3.0**
KBL				*e*Sn	**Sn**	**18 24 12.0**	**+2.7**
CEP	**Cherat**	**4.08**	**130**	⇑P	**Pn**	**18 24 13.7**	**+3.3**
THW	**Thamme Wali**	**4.75**	**141**	⇑P	**Pn**	**18 24 21.7**	**+2.1**
KK31	**Karatay Array**	**6.80**	**15**	Pn	**Pn**	**18 24 49.5**	**+1.6**
	2.1nm,0.2s,baz=208,slow=16,SNR=202						
KK31				⇑Sn	**Sn**	**18 26 05.4**	**+0.3**
	4.2nm,0.3s,baz=30,slow=41,SNR=4.7						
KK31				⇑Lg		18 26 48.0	
	11nm,0.5s,baz=200,slow=30,SNR=4.9						
AML	**Almayashu**	**7.04**	**36**	P	**Pn**	**18 24 53.0**	**+1.9**
	SNR=13						
AML	**Almayashu**	**7.04**	**36**	*e*Pn	**Pn**	**18 24 52.5**	**+1.5**
	16nm,0.5s						
AML				*e*Sn	**Sn**	**18 26 10.4**	**-0.4**
THN	**Thein Dam**	**7.45**	**121**	*e*P	**Pn**	**18 24 56.3**	**-0.4**
THN				*e*S	**Sn**	**18 26 14.2**	**-6.7**
EKS2	**Erkin-Say**	**7.49**	**33**	P	**Pn**	**18 25 00.7**	**+3.4**
	SNR=7.6						
EKS2	**Erkin-Say**	**7.49**	**33**	*e*Pn	**Pn**	**18 24 58.6**	**+1.3**
	6.0nm,0.5s						
UCH	**Uchtor**	**7.51**	**39**	*e*Pn	**Pn**	**18 24 59.1**	**+1.6**
	8.9nm,0.8s						
KZA	**Kyzart**	**7.79**	**43**	P	**Pn**	**18 25 03.0**	**+1.6**
	SNR=12						
KBK	**Karagaybulak**	**8.04**	**38**	P	**Pn**	**18 25 07.0**	**+2.2**
	SNR=18						
ULHL	**Ulahol**	**8.46**	**45**	P	**Pn**	**18 25 11.9**	**+1.4**
	SNR=13						
TKM2	**Tokmak 2**	**8.56**	**40**	⇑Pn	**Pn**	**18 25 13.5**	**+1.5**
	3.8nm,0.4s						
TKM2				⇑Sn	**Sn**	**18 26 48.5**	**+0.2**
	4.0nm,0.6s						
TKM2	**Tokmak 2**	**8.56**	**40**	*e*P	**Pn**	**18 25 11.7**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TKM2	**Tokmak 2**	**8.56**	**40**	*e*Pn	**Pn**	**18 25 11.7**	**-0.3**
	comp=Z,7.5nm,0.4s						
AB31	**Akbulak array**	**14.06**	**337**	⇓P	**Pn**	**18 26 25.8**	**-1.4**
	comp=Z,2.8nm,0.6s						
AB31				⇑S	**Sn**	**18 28 57.9**	**-5.0**
	comp=Z,2.1nm,0.6s						
MK31	**Makanchi Array**	**14.69**	**41**	⇓P	**Pn**	**18 26 34.6**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=231,slow=9.4,SNR=5.9						
MK31	**Makanchi Array**	**14.69**	**41**	*e*Pn	**Pn**	**18 26 33.6**	**-2.1**
MKAR	**Makanchi Array**	**14.69**	**41**	Pn	**Pn**	**18 26 34.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=233,slow=13,SNR=13						
DANN	**Dangsing**	**15.47**	**117**	*e*P	**Pn**	**18 26 43.7**	**-2.5**
	comp=Z,15nm,0.4s						
AKTK	**Aktyubinsk**	**15.71**	**335**	Pn	**Pn**	**18 26 48.5**	**-0.8**
AKTO	**Aktyubinsk**	**15.71**	**335**	⇓P	**Pn**	**18 26 48.2**	**-1.0**
	comp=Z,0.6nm,0.7s						
AKTO				⇑S	**Sn**	**18 29 42.0**	**-0.9**
	comp=Z,0.6nm,1.0s						
AKTO	**Aktyubinsk**	**15.71**	**335**	Pn	**Pn**	**18 26 48.5**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=150,slow=12,SNR=12						
KURBB	**Kurchatov Arra**	**15.94**	**25**	⇑P	**Pn**	**18 26 51.0**	**-1.2**
KURK	**Kurchatov**	**16.04**	**25**	*e*P	**Pn**	**18 26 56.1**	**+2.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KURK	**Kurchatov**	**16.04**	**25**	*e*Pn	**Pn**	**18 26 56.1**	**+2.6**
	comp=Z,4.2nm,1.1s						
GKN	**Gorkha**	**16.30**	**117**	*e*P	**Pn**	**18 26 55.1**	**-1.8**
VOSK	**Vostochnaya**	**16.31**	**6**	⇓P	**Pn**	**18 26 54.6**	**-2.3**
	comp=Z,3.7nm,0.8s						
BVA0	**Borovoye Array**	**16.57**	**5**	⇓P	**Pn**	**18 27 01.3**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=180,slow=11,SNR=24						
BVAR	**Borovoye Array**	**16.57**	**5**	Pn	**Pn**	**18 26 59.2**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=168,slow=10,SNR=17						
BVAR				LR	LR	18 33 08.7	
	comp=Z,63nm,18.9s,baz=29,slow=36						
BRVK	**Borovoye**	**16.59**	**4**	*e*P	**Pn**	**18 26 58.9**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BRVK	**Borovoye**	**16.59**	**4**	*e*Pn	**Pn**	**18 26 58.9**	**-1.6**
	comp=Z,10nm,0.7s						
DMN	**Daman**	**16.86**	**117**	*e*P	**Pn**	**18 27 01.4**	**-2.7**
	comp=Z,16nm,0.5s						
KKN	**Kakani**	**16.88**	**116**	*e*P	**Pn**	**18 27 01.7**	**-2.7**
	comp=Z,15nm,0.5s						
PKI	**Pulchoki**	**17.10**	**117**	*e*P	**Pn**	**18 27 04.3**	**-2.8**
GUN	**Gumba**	**17.25**	**115**	*e*P	**Pn**	**18 27 07.4**	**-1.6**
JIRN	**Jiri**	**17.62**	**115**	*e*P	**Pn**	**18 27 11.8**	**-1.8**
	comp=Z,25nm,0.4s						
TAPN	**Taplejung**	**18.91**	**113**	*e*P	**Pn**	**18 27 27.4**	**-1.9**
	comp=Z,28nm,0.7s						
ODAN	**Odare**	**18.95**	**115**	*e*P	**Pn**	**18 27 28.2**	**-1.7**
	comp=Z,20nm,0.6s						
LSA	**Lhasa**	**20.39**	**103**	*e*P	**P**	**18 27 49.3**	**+4.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSA	**Lhasa**	**20.39**	**103**	*e*P	**P**	**18 27 49.3**	**+4.4**
	comp=Z,3.5nm,0.8s						
ZAL	**Zalesovo**	**20.88**	**28**	P	**P**	**18 27 50.0**	**0.0**
ZAA0	**Zalesovo Array**	**20.90**	**28**	*e*P	**P**	**18 27 49.6**	**-0.6**
ZALV	**Zalesovo Beam**	**20.90**	**28**	P	**P**	**18 27 50.0**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=215,slow=10,SNR=9.2						
ARU	**Arti**	**20.94**	**345**	P	**P**	**18 27 53.3**	**+2.7**
ARU	**Arti**	**20.94**	**345**	*e*P	**P**	**18 27 51.2**	**+0.7**
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**30.20**	**56**	P	**P**	**18 29 19.3**	**+1.1**
	comp=Z,0.3nm,0.7s,mb3.1,baz=252,slow=11,SNR=3.0						
ARCES	**ARCESS Array B**	**40.26**	**338**	P	**P**	**18 30 45.7**	**+1.2**
	comp=Z,1.4nm,0.8s,mb3.8,baz=132,slow=8.6,SNR=5.9						
ARCES	**ARCESS Array B**	**40.26**	**338**	P	**P**	**18 30 45.7**	**+1.2**
NB2	**NORSAR Subarra**	**42.99**	**323**	P	**P**	**18 31 08.2**	**+1.3**
	comp=Z,0.5nm,0.6s,mb3.4,baz=101,slow=8.6						
NOA	**NORSAR Array B**	**42.99**	**323**	P	**P**	**18 31 07.4**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.4,baz=127,slow=6.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**63.45**	**267**	P	**P**	**18 33 37.6**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.6,baz=48,slow=5.2,SNR=3.1						
EGAK	**Eagle**	**76.43**	**12**	*e*P	**P**	**18 34 58.5**	**+1.4**
	comp=Z,4.2nm,1.5s,mb4.2						
YKA	**Yellowknife Ar**	**81.29**	**1**	P	**P**	**18 35 25.3**	**+1.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=353,slow=5.7,SNR=4.4						
YKA	**Yellowknife Ar**	**81.29**	**1**	P	**P**	**18 35 25.3**	**+1.5**
WRA	**Warramunga Arr**	**83.95**	**120**	P	**P**	**18 35 36.0**	**-2.3**
	comp=Z,0.5nm,0.6s,mb3.8,baz=321,slow=4.4,SNR=4.6						
WRA	**Warramunga Arr**	**83.95**	**120**	P	**P**	**18 35 36.0**	**-2.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**86.16**	**123**	P	**P**	**18 35 47.0**	**-2.3**
	comp=Z,0.5nm,1.0s,mb3.7,baz=316,slow=4.3,SNR=2.6						
ASAR	**Alice Springs**	**86.16**	**123**	P	**P**	**18 35 47.0**	**-2.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						

*ISCJB **05** 18:23:58.5±1.3, 544S×007×14755E±009, h164km±13km, mb4.3/14, Error ellipse: s-maj=16.3km s-min=10.6km az=28.2*
*NEIC **05** 18:23:59.8±1.5, 542S×14752E, h165km±14km, mb4.8/9, Error ellipse: s-maj=12.9km s-min=11.3km az=135.0*
*IDC **05** 18:23:59.9±2.5, 551S×14752E, h161km±24km, mb3.9/10, mb1 4.1/13, mb1mx4.0/19, mbtmp4.0/13, Error ellipse: s-maj=22.0km s-min=10.1km az=104.0*
ISC 05 18:24:01.4±1.3, 554S±007×14750E±009, h175km±13km, n33, σ0$89/35, mb4.3/14, 1C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.85**	**185**	*e*Pn	**Pn**	**18 24 59.8**	**-0.7**
PMG				*e*Sn	**Sn**	**18 25 42.4**	**-4.3**
HNR	**Honiara**	**12.93**	**108**	P	**Pn**	**18 26 57.9**	**-1.1**
	2.8nm,0.3s,baz=240,slow=0.8,SNR=6.5						
HNR	**Honiara**	**12.93**	**108**	P	**Pn**	**18 26 57.9**	**-1.1**
CTA	**Charters Tower**	**14.51**	**185**	*e*P	**Pn**	**18 27 19.9**	**+1.2**
	11nm,0.7s						
CTA	**Charters Tower**	**14.51**	**185**	P	**Pn**	**18 27 20.2**	**+1.5**
	0.6nm,0.3s,baz=4.1,slow=15,SNR=11						
KAKA	**Kakadu**	**16.48**	**243**	*e*P	**Pn**	**18 27 42.9**	**0.0**
	26nm,0.6s						
WRAB	**Tennant Creek**	**19.19**	**221**	*e*P	**P**	**18 28 12.2**	**+0.3**
	32nm,0.6s						
WB2	**Warramunga Arr**	**19.19**	**221**	⇑*i*P	**P**	**18 28 12.5**	**+0.5**
WB2				*e*S	**S**	**18 31 39.5**	**-0.8**
WRA	**Warramunga Arr**	**19.20**	**221**	P	**P**	**18 28 12.3**	**+0.2**
	8.4nm,0.3s,baz=48,slow=12,SNR=284						
WRA				S	**S**	**18 31 39.4**	**-1.0**
	0.2nm,0.3s,baz=41,slow=20,SNR=8.1						
ASAR	**Alice Springs**	**22.27**	**215**	P	**P**	**18 28 45.2**	**+0.8**
	21nm,0.4s,mb4.9,baz=53,slow=9.0,SNR=960						
ASAR				S	**S**	**18 32 41.6**	**+5.1**
	13nm,1.0s,baz=34,slow=20,SNR=31						
FITZ	**Fitzroy Crossi**	**24.73**	**238**	*e*P	**P**	**18 29 06.9**	**0.0**
	27nm,0.5s,mb5.0						
FITZ	**Fitzroy Crossi**	**24.73**	**238**	P	**P**	**18 29 07.2**	**+0.3**
	14nm,0.5s,mb4.8,baz=65,slow=11,SNR=77						
ARMA	**Armidale**	**25.05**	**172**	*e*P	**P**	**18 29 10.2**	**+0.6**
STKA	**Stephens Creek**	**26.77**	**191**	⇓*i*P	**P**	**18 29 24.8**	**-0.3**
	3.4nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**26.77**	**191**	P	**P**	**18 29 25.1**	**0.0**
	5.6nm,0.6s,mb4.4,baz=360,slow=7.9,SNR=22						
STKA	**Stephens Creek**	**26.77**	**191**	*e*P	**P**	**18 29 24.5**	**-0.6**
	4.9nm,0.5s,mb4.4						
FORT	**Forrest**	**31.05**	**214**	*e*P	**P**	**18 30 03.1**	**+0.1**
	12nm,0.5s,mb4.9						
MBWA	**Marble Bar**	**31.07**	**237**	*e*P	**P**	**18 30 03.2**	**-0.1**
	10nm,0.8s,mb4.6						
TOO	**Toolangi**	**31.93**	**183**	*e*P	**P**	**18 30 11.0**	**+0.4**
KKM	**Kota Kinabalu**	**33.29**	**290**	*e*P	**P**	**18 30 19.4**	**-3.3**
KLBR	**Kellerberrin**	**38.04**	**223**	*e*P	**P**	**18 31 02.6**	**-0.4**
	9.7nm,0.4s,mb4.8						
NWAO	**Narrogin (SRO)**	**39.20**	**222**	*e*P	**P**	**18 31 14.9**	**+2.3**
	49nm,1.3s,mb5.0						
MUN	**Mundaring**	**39.34**	**224**	*e*P	**P**	**18 31 13.9**	**+0.1**
KSRS	**Korea Array**	**46.51**	**338**	P	**P**	**18 32 12.0**	**+0.7**
	0.8nm,0.6s,mb3.5,baz=154,slow=9.5,SNR=5.2						
SONM	**Songino Array**	**64.25**	**331**	P	**P**	**18 34 19.4**	**+1.6**
	1.1nm,1.0s,mb3.6,baz=151,slow=6.4,SNR=6.4						
VNDA	**Vanda**	**72.33**	**177**	P	**P**	**18 35 07.8**	**+0.2**
	3.8nm,0.6s,mb4.3,baz=328,slow=6.6,SNR=30						
MKAR	**Makanchi Array**	**77.47**	**320**	P	**P**	**18 35 37.5**	**0.0**
	1.3nm,0.7s,mb3.7,baz=102,slow=6.8,SNR=14						
MKAR	**Makanchi Array**	**77.47**	**320**	P	**P**	**18 35 37.5**	**0.0**
ZALV	**Zalesovo Beam**	**78.89**	**328**	P	**P**	**18 35 44.0**	**-1.2**
	0.8nm,0.4s,mb3.7,baz=128,slow=6.9,SNR=5.3						
MAW	**Mawson**	**82.86**	**203**	P	**P**	**18 36 05.3**	**-0.6**
	1.7nm,0.6s,mb4.0,baz=114,slow=10,SNR=14						
BVAR	**Borovoye Array**	**86.70**	**324**	P	**P**	**18 36 24.0**	**-1.4**
	0.6nm,0.5s,mb3.6,baz=123,slow=5.5,SNR=5.0						
GERES	**GERESS Array B**	**121.81**	**326**	PKP	PKPdf	18 42 33.7	-1.1
	0.3nm,0.8s,baz=70,slow=1.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**145.46**	**285**	PKPbc	PKPbc	18 43 19.1	-1.0
	0.9nm,0.4s,baz=56,slow=3.1,SNR=21						
TORD				pPKPbc	pPKPbc	18 44 11.2	+6.1
	1.4nm,0.7s,baz=84,slow=3.7,SNR=6.2						

*IDC **05** 18:29:59.0±2.5, 1548S×16804E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=89.4km s-min=33.4km az=135.0*
*ISCJB **05** 18:30:05.7±2.7, 1538S±009×1675E±04, h33km, mb3.8/5, Error ellipse: s-maj=53.6km s-min=12.5km az=175.0*
ISC 05 18:30:07.7±2.7, 1531S±009×1675E±04, h35km, n22, σ0$29/7, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.80**	**188**	*e*P	**Pn**	**18 31 50.9**	**+6.0**
DZM				*e*S	**Sn**	**18 33 01.1**	**-0.1**
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**18 36 02.8**	**+0.4**
	1.8nm,0.8s,mb3.9,baz=37,slow=9.2,SNR=4.0						
WRA	**Warramunga Arr**	**31.91**	**257**	P	**P**	**18 36 29.8**	**-0.3**
	0.4nm,0.6s,mb3.5,baz=80,slow=6.1,SNR=5.3						
ASAR	**Alice Springs**	**32.68**	**250**	P	**P**	**18 36 36.5**	**-0.3**
	0.6nm,0.3s,mb4.0,baz=84,slow=9.2,SNR=26						
FITZ	**Fitzroy Crossi**	**40.14**	**260**	P	**P**	**18 37 40.9**	**+0.4**
	2.6nm,0.8s,mb4.0,baz=81,slow=13,SNR=4.2						
SONM	**Songino Array**	**83.10**	**324**	P	**P**	**18 42 29.6**	**-0.1**
	0.6nm,0.5s,mb3.9,baz=138,slow=6.3,SNR=7.9						
ARCES	**ARCESS Array B**	**120.87**	**345**	PKP	PKPdf	18 48 52.5	-3.0
	0.7nm,0.4s,baz=72,slow=1.7,SNR=18						
CABF	**La Chapelle**	**145.15**	**337**	*e*PKP1	PKPbc	18 49 40.1	-1.0
	5.2nm,0.7s						
FLN	**La Foliniere**	**145.21**	**346**	*e*PKP1	PKPbc	18 49 39.3	-1.9
	5.8nm,0.5s						
LDF	**La Druitiere**	**145.28**	**346**	*e*PKP1	PKPbc	18 49 39.5	-2.0
LOR	**Lormes**	**145.36**	**340**	*e*PKP1	PKPbc	18 49 40.2	-1.5
GRR	**Gorron**	**145.65**	**346**	*e*PKP1	PKPbc	18 49 40.7	-1.9
SSF	**Saint Saulge**	**145.66**	**340**	*e*PKP1	PKPbc	18 49 41.3	-1.4
	5.9nm,0.6s						
LPL	**La Plagne**	**145.81**	**336**	*e*PKP1	PKPbc	18 49 42.2	-1.0
	5.9nm,0.8s						
LPG	**La Plagne**	**145.82**	**336**	*e*PKP1	PKPbc	18 49 42.4	-0.9
	4.4nm,0.7s						
SMF	**Signal de Mont**	**145.91**	**340**	*e*PKP1	PKPbc	18 49 41.7

JJT2 **Tamagusuku 2** **1.50 143** P Pn 18 50 08.4 +0.8
JJT2 S Sg 18 50 27.8 +0.1

*ISCJB **05** 18:54:33.3±1.1, 253S±0.1×1797E±0.1, h482km±15km, mb4.1/16, Error ellipse: s-maj=17.4km s-min=15.6km az=138.7*
*NEIC **05** 18:54:34.1±0.9, 2532S×17983E, h487km±12km, mb4.4/8, Error ellipse: s-maj=14.8km s-min=12.9km az=156.0*
*IDC **05** 18:54:35.3±1.8, 2540S×17984E, h495km±20km, mb3.7/12, mb1 3.8/14, mb1mx3.7/20, mbtmp3.7/14, Error ellipse: s-maj=18.7km s-min=16.7km az=19.0*
ISC 05 18:54:34.1±1.0, 2526S±008×1798E±01, h477km±14km, n35, σ1°01/28, mb4.1/16, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.49**	**153**	P	**P**	**18 55 56.4**	**+1.3**
	84nm,0.3s,baz=52,slow=21,SNR=8.2						
URZ	**Urewera**	**13.15**	**189**	P	**P**	**18 57 22.8**	**-2.2**
	1.0nm,0.3s,baz=338,slow=12,SNR=9.6						
URZ				S	**S**	**18 59 47.0**	**+1.1**
	0.9nm,0.3s,baz=50,slow=21,SNR=6.2						
AFI	**Afiamalu**	**13.82**	**37**	P	**P**	**18 57 31.0**	**-1.4**
	3.4nm,0.3s,baz=212,slow=17,SNR=5.2						
HNR	**Honiara**	**24.54**	**306**	P	**P**	**18 59 15.3**	**+0.2**
	27nm,0.4s,mb5.0,baz=122,slow=1.2,SNR=4.8						
CTA	**Charters Tower**	**31.28**	**273**	⇓*i*P	**P**	**19 00 15.4**	**+1.3**
	14nm,0.4s,mb4.7						
CTA	**Charters Tower**	**31.28**	**273**	P	**P**	**19 00 15.7**	**+1.6**
	31nm,0.6s,mb4.9,baz=98,slow=10,SNR=38						
CTAO	**Charters Tower**	**31.28**	**273**	*e*P	**P**	**19 00 15.0**	**+0.9**
	21nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**34.02**	**250**	*e*P	**P**	**19 00 37.6**	**+0.3**
	4.6nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**34.02**	**250**	P	**P**	**19 00 38.0**	**+0.7**
	4.7nm,0.4s,mb4.3,baz=95,slow=10,SNR=37						
STKA	**Stephens Creek**	**34.02**	**250**	*e*P	**P**	**19 00 37.5**	**+0.1**
	5.4nm,0.4s,mb4.3						
PMG	**Port Moresby**	**34.74**	**291**	*e*P	**P**	**19 00 42.9**	**-0.7**
ASAR	**Alice Springs**	**41.60**	**262**	P	**P**	**19 01 39.8**	**+0.2**
	6.2nm,0.4s,mb4.4,baz=96,slow=8.7,SNR=232						
WB2	**Warramunga Arr**	**42.09**	**268**	⇓*i*P	**P**	**19 01 43.2**	**-0.3**
WRAB	**Tennant Creek**	**42.10**	**268**	*e*P	**P**	**19 01 43.0**	**-0.5**
	7.3nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**42.10**	**268**	P	**P**	**19 01 43.3**	**-0.3**
	7.3nm,0.3s,mb4.6,baz=100,slow=6.3,SNR=206						
KAKA	**Kakadu**	**46.22**	**277**	*e*P	**P**	**19 02 15.2**	**-0.4**
	83nm,2.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.51**	**267**	*e*P	**P**	**19 02 47.8**	**+0.1**
	4.7nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**50.51**	**267**	P	**P**	**19 02 48.4**	**+0.7**
	2.4nm,0.5s,mb3.8,baz=140,slow=12,SNR=17						
MBWA	**Marble Bar**	**54.92**	**261**	*e*P	**P**	**19 03 17.2**	**-2.2**
	1.5nm,0.4s,mb3.7						
QSPA	**South Pole Qui**	**64.83**	**180**	*e*P	**P**	**19 04 23.7**	**-0.8**
	2.8nm,1.0s,mb3.9						
MJAR	**Matsushiro Arr**	**72.89**	**326**	P	**P**	**19 05 14.3**	**+0.4**
	1.2nm,0.6s,mb3.6,baz=161,slow=5.2,SNR=6.7						
MAW	**Mawson**	**76.40**	**201**	P	**P**	**19 05 32.2**	**-1.1**
	1.2nm,0.5s,mb3.6,baz=189,slow=11,SNR=7.1						
KSRS	**Korea Array**	**79.14**	**320**	P	**P**	**19 05 49.5**	**+1.0**
	1.1nm,0.7s,mb3.5,baz=130,slow=5.7,SNR=7.4						
PETK	**Petropavlovsk-**	**80.36**	**347**	P	**P**	**19 05 55.2**	**+0.7**
	5.9nm,1.0s,mb4.1,baz=115,slow=13,SNR=3.6						
CMAR	**Chiang Mai Arr**	**89.78**	**290**	P	**P**	**19 06 42.9**	**+1.4**
	1.0nm,0.8s,mb3.7,baz=137,slow=4.1,SNR=5.1						
TXAR	**Lajitas Array**	**91.34**	**58**	P	**P**	**19 06 49.2**	**+0.8**
	0.8nm,1.1s,mb3.5,baz=206,slow=8.3,SNR=5.1						
TXAR	**Lajitas Array**	**91.34**	**58**	P	**P**	**19 06 49.2**	**+0.8**
BVAR	**Borovoye Array**	**121.30**	**318**	PKP	PKPdf	19 12 31.1	-0.9
	0.9nm,0.5s,baz=118,slow=3.1,SNR=8.2						
ARCES	**ARCESS Array B**	**133.16**	**348**	PKhKP		19 12 47.0	
	2.2nm,1.0s,baz=54,slow=6.2,SNR=3.5						
ARCES				PKP	PKPdf	19 12 52.2	-1.9
	1.2nm,0.8s,baz=56,slow=2.2,SNR=6.4						
ARCES	**ARCESS Array B**	**133.16**	**348**	PKP		19 12 47.0	
ARCES				PKP	PKPdf	19 12 52.2	-1.9
NB2	**NORSAR Subarra**	**143.38**	**351**	PKP	PKPdf	19 13 10.3	-2.7
	comp=Z,1.6nm,0.7s,baz=20,slow=3.8						
NOA	**NORSAR Array B**	**143.38**	**351**	PKP	PKPdf	19 13 10.6	-2.4
	comp=Z,2.7nm,0.8s,baz=16,slow=5.0,SNR=9.7						
AKASG	**Malin Array Be**	**145.97**	**326**	PKPbc	PKPbc	19 13 18.6	-0.9
	comp=Z,1.3nm,0.4s,baz=43,slow=4.2,SNR=9.5						
CLL	**Collm**	**152.08**	**342**	*e*PKPbc	PKPbc	19 13 35.0	+0.5
CLL				LmV		19 23 00.0	
	comp=Z,100nm,19.1s						
TORD	**Torodi Ar. Bea**	**167.81**	**189**	PKPab	PKPab	19 14 53.8	-1.8
	comp=Z,0.4nm,0.8s,baz=198,slow=3.7,SNR=4.1						

*SZGRF **05** 19:11:16.8, 1598S×17423W, h33km, Tonga Islands*
*ISCJB **05** 19:11:24.9±1.0, 1601S±006×17421W±005, h121km±8km, mb4.7/64, Error ellipse: s-maj=10.6km s-min=5.0km az=144.8*
*BJI **05** 19:11:25.6, 1590S×17430W, h120km, mB4.9, mb4.8*
*NEIC **05** 19:11:26.7±1.2, 1594S×17426W, h121km±10km, mb4.8/34, Error ellipse: s-maj=11.2km s-min=5.7km az=143.0*
*GCMT **05** 19:11:26.7±0.3, 1598S×17383W, h171km±1km, MW5.2/81, Moment Tensor Solution. s57,c85; s81,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.91±.13; $M_{\theta\theta}$-2.06±.18; $M_{\phi\phi}$-2.85±.19; $M_{r\theta}$0.44±.14; $M_{\theta\phi}$-2.80±.15; $M_{\phi r}$4.01±.14; Best double couple: $M_0$6.50200×10^{16} NP1:ϕ_s239.00000°, δ31.00000°, λ124.00000°. NP2: ϕ_s21.00000°, δ65.00000°, λ71.00000°. Principal axes: T 6.6680, Plg65.0000°, Azm258.0000°; N -0.3330, Plg17.0000°, Azm29.0000°; P -6.3350, Plg18.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **05** 19:11:27.2±1.5, 1593S×17433W, h129km, mb4.7/12 Error ellipse: s-maj=10.7km s-min=8.6km az=57.5*
*DJA **05** 19:11:27, 1639S×17422W, h99km, mb5.3/12*
*IDC **05** 19:11:27.9±2.2, 1603S×174.15W, h134km±19km, mb4.4/20, mb1 4.5/21, mb1mx4.5/23, mbtmp4.4/21, MS3.9/4, Ms1 3.9/4, ms1mx3.4/26, Error ellipse: s-maj=15.5km s-min=10.0km az=129.0*
ISC 05 19:11:26.8±1.0, 1599S±005×17421W±005, h123km±8km, h124km±3.6km; pP-P, n429, c0°71/273, mb4.7/64, 134C-70D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.13**	**49**	P	**Pn**	**19 12 16.3**	**+1.4**
	372nm,0.3s,baz=42,slow=1.8,SNR=323						
AFI				S	**Sn**	**19 12 49.9**	**-2.2**
	392nm,0.3s,baz=179,slow=23,SNR=8.0						
AFI	**Afiamalu**	**3.13**	**49**	⇑*i*Pn	**Pn**	**19 12 15.7**	**+0.8**
AFI				*e*Sn	**Sn**	**19 12 50.1**	**-1.9**
RAR	**Rarotonga**	**14.63**	**113**	P	**Pn**	**19 14 50.5**	**+2.5**
	1.0nm,0.3s,baz=221,slow=10,SNR=4.4						
RAR				LR	LR	19 18 25.4	
	comp=Z,215nm,19.8s,baz=39,slow=29						
DZM	**Mont Dzumac**	**19.26**	**249**	*e*P	**P**	**19 15 43.4**	**+1.6**
URZ	**Urewera**	**23.47**	**197**	P	**P**	**19 16 25.2**	**0.0**
	12nm,0.3s,mb4.7,baz=313,slow=3.6,SNR=12						
PAE	**Paea**	**23.63**	**98**	*e*T		19 39 57.2	
	29nm,0.2s						
PPT	**Papeete**	**23.63**	**97**	*e*LR	LR	19 22 00.9	
	593nm,38.5s						
TIAR	**Tiarei**	**23.85**	**97**	*e*T		19 40 14.2	
	33nm,0.3s						
TBI	**Tubuai**	**24.40**	**111**	*e*LR	LR	19 22 13.1	
	517nm,35.0s						
TBI	**Tubuai**	**24.40**	**111**	*e*T		19 40 56.2	
	5.7nm,0.3s						
PMOR	**Pomariorio Ree**	**25.37**	**91**	*e*T		19 42 07.9	
	2.0nm,0.3s						
PMOR	**Pomariorio Ree**	**25.37**	**91**	*e*P	**P**	**19 16 42.2**	**-0.6**
	63nm,1.3s,mb4.9						
PMOR				*e*TT		19 42 07.9	
RPZ	**Rata Peaks**	**30.35**	**201**	P	**P**	**19 17 26.2**	**-0.6**
	9.6nm,0.4s,mb4.8,baz=7.2,slow=19,SNR=8.7						
TAOE	**Nuku Hiva Isla**	**33.98**	**82**	*e*LR	LR	19 26 27.3	
	1μm,34.0s						
ARMA	**Armidale**	**34.37**	**239**	*e*P	**P**	**19 18 02.5**	**+0.3**
RKT	**Rikitea**	**37.56**	**107**	*e*LR	LR	19 28 16.7	
	298nm,32.5s						
RKT	**Rikitea**	**37.56**	**107**	*e*T		19 57 21.4	
	2.9nm,0.3s						
CTA	**Charters Tower**	**37.75**	**258**	P	**P**	**19 18 32.8**	**+1.7**
	3.5nm,0.3s,mb4.6,baz=70,slow=9.7,SNR=8.0						
TOO	**Toolangi**	**41.49**	**231**	*e*P	**P**	**19 19 00.6**	**-1.3**

STKA	**Stephens Creek**	**43.07**	**240**	*e*P	**P**	**19 19 13.5**	**-1.2**
	28nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**43.07**	**240**	P	**P**	**19 19 14.7**	**-0.1**
	31nm,1.0s,mb5.0,baz=91,slow=8.6,SNR=35						
STKA				PcP	PcP	19 21 03.0	+0.4
	2.9nm,0.9s,baz=90,slow=1.0,SNR=3.0						
WB2	**Warramunga Arr**	**48.94**	**257**	*e*P	**P**	**19 20 00.5**	**-0.5**
WRAB	**Tennant Creek**	**48.94**	**257**	*i*P	**P**	**19 20 00.5**	**-0.5**
WRAB	**Tennant Creek**	**48.94**	**257**	*e*P	**P**	**19 19 59.9**	**-1.1**
WRAB				*e*P		19 20 00.3	
WRA	**Warramunga Arr**	**48.95**	**257**	P	**P**	**19 20 00.1**	**-0.9**
	9.7nm,0.4s,mb5.0,baz=97,slow=6.0,SNR=77						
ASAR	**Alice Springs**	**49.19**	**252**	P	**P**	**19 20 02.0**	**-0.7**
	44nm,0.9s,mb5.4,baz=94,slow=7.7,SNR=453						
GUMO	**Guam**	**50.00**	**304**	*e*P	**P**	**19 20 06.9**	**-2.1**
GUMO				pmax	pmax		
	comp=Z,141nm,1.4s,mb5.7						
GUMO	**Guam**	**50.00**	**304**	*e*P	**P**	**19 20 06.8**	**-2.1**
	comp=Z,141nm,1.4s,mb5.7						
KAKA	**Kakadu**	**51.68**	**266**	*e*P	**P**	**19 20 21.9**	**+0.3**
	comp=Z,19nm,0.8s,mb5.2						
FORT	**Forrest**	**54.46**	**243**	*e*P	**P**	**19 20 40.5**	**-1.3**
	comp=Z,24nm,1.0s,mb5.2						
FITZ	**Fitzroy Crossi**	**57.33**	**259**	*e*P	**P**	**19 21 01.3**	**-1.1**
	comp=Z,3.8nm,0.3s,mb4.9						
FITZ	**Fitzroy Crossi**	**57.33**	**259**	P	**P**	**19 21 02.9**	**+0.5**
	comp=Z,2.7nm,0.3s,mb4.8,baz=80,slow=8.4,SNR=18						
FITZ				LR	LR	19 43 43.4	
	comp=Z,109nm,21.4s,baz=81,slow=34						
BATI	**Baumata**	**60.61**	**267**	LR	LR	19 44 00.8	
	comp=Z,269nm,20.4s,baz=225,slow=32						
MBWA	**Marble Bar**	**62.45**	**254**	*e*P	**P**	**19 21 36.6**	**-0.8**
SBA	**Scott Base**	**62.60**	**184**	*e*P	**P**	**19 21 38.7**	**+1.2**
VNDA	**Vanda**	**62.72**	**186**	P	**P**	**19 21 38.9**	**+0.7**
	comp=Z,7.8nm,0.9s,mb4.7,baz=8.0,slow=6.3,SNR=42						
VNDA				PcP	PcP	19 22 15.8	0.0
	comp=Z,3.8nm,0.9s,baz=359,slow=4.1,SNR=7.6						
VNDA	**Vanda**	**62.72**	**186**	P	**P**	**19 21 38.9**	**+0.7**
VNDA				PcP	PcP	19 22 15.8	0.0
KLBR	**Kellerberrin**	**63.28**	**242**	*e*P	**P**	**19 21 42.2**	**-0.6**
	comp=Z,34nm,0.8s,mb5.3						
NWAO	**Narrogin (SRO)**	**63.65**	**241**	*e*P	**P**	**19 21 44.7**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,33nm,1.3s						
NWAO	**Narrogin (SRO)**	**63.65**	**241**	*e*P	**P**	**19 21 44.7**	**-0.5**
	comp=Z,33nm,1.3s,mb5.0						
MUN	**Mundaring**	**64.57**	**242**	*e*P	**P**	**19 21 49.7**	**-1.5**
MJAR	**Matsushiro Arr**	**68.89**	**320**	P	**P**	**19 22 18.3**	**0.0**
	comp=Z,0.8nm,1.0s,baz=183,slow=8.2,SNR=3.9						
ASAJ	**Asahikawa**	**71.63**	**329**	P	**P**	**19 22 36.6**	**+1.7**
	comp=Z,6.3nm,0.8s,mb4.5,baz=224,slow=15,SNR=8.1						
ASAJ	**Asahikawa**	**71.63**	**329**	P	**P**	**19 22 36.6**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PETK	**Petropavlovsk-**	**72.95**	**343**	P	**P**	**19 22 42.1**	**-0.4**
	comp=Z,10nm,1.0s,mb4.6,baz=113,slow=9.8,SNR=7.8						
PETK	**Petropavlovsk-**	**72.95**	**343**	P	**P**	**19 22 42.1**	**-0.5**
PETK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
VES	**Vestal, Richgr**	**73.31**	**44**	⇓P	**P**	**19 22 45.1**	**0.0**
	baz=74						
EDW2	**Edwards Air Fo**	**73.51**	**45**	⇓P	**P**	**19 22 46.4**	**+0.1**
	baz=74,SNR=5.8						
MONP	**Monument Peak**	**73.54**	**48**	⇑P	**P**	**19 22 46.2**	**-0.3**
	baz=74						
T06C	**Millerton Lake**	**73.56**	**43**	⇑P	**P**	**19 22 46.4**	**-0.1**
	baz=74						
YSS	**Yuzh-Sakhalins**	**73.61**	**331**	⇑*e*P	**P**	**19 22 47.3**	**+0.7**
YSS				pmax	pmax		
	comp=Z,31nm,1.4s,mb4.8						
ISA	**Isabella**	**73.62**	**45**	⇑P	**P**	**19 22 47.0**	**+0.1**
	baz=74						
CMB	**Columbia Colle**	**73.72**	**42**	*e*P	**P**	**19 22 47.3**	**-0.1**
CMB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
CMB	**Columbia Colle**	**73.72**	**42**	⇑P	**P**	**19 22 47.0**	**-0.4**
	baz=74						
CMB	**Columbia Colle**	**73.72**	**42**	*e*P	**P**	**19 22 47.3**	**-0.1**
	comp=Z,7.0nm,0.9s,mb4.4						
HELL	**Mitchell Peak**	**73.82**	**43**	⇑P	**P**	**19 22 47.3**	**-0.8**
	baz=74						
QSPA	**South Pole Qui**	**74.06**	**180**	*e*P	**P**	**19 22 48.7**	**-0.1**
	comp=Z,39nm,1.0s,mb5.1						
R05C	**Kirkwood Meado**	**74.31**	**41**	⇑P	**P**	**19 22 50.3**	**-0.6**
	baz=74						
BELC	**Belle Mtn.**	**74.42**	**47**	⇑P	**P**	**19 22 52.0**	**+0.4**
	baz=75						
MPMC	**Manual Prospec**	**74.50**	**45**	⇑P	**P**	**19 22 52.3**	**+0.3**
	baz=75,SNR=8.4						
YBH	**Yreka Blue Hor**	**74.54**	**37**	*e*P	**P**	**19 22 53.0**	**+0.9**
YBH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YBH	**Yreka Blue Hor**	**74.54**	**37**	*e*P	**P**	**19 22 53.0**	**+0.9**
	comp=Z,10nm,0.9s,mb4.6						
GSC	**Goldstone**	**74.55**	**46**	⇑P	**P**	**19 22 52.3**	**0.0**
	baz=75						
GSC	**Goldstone**	**74.55**	**46**	*e*P	**P**	**19 22 52.4**	**+0.1**
R06C	**Coleville**	**74.60**	**42**	⇓P	**P**	**19 22 53.0**	**+0.4**
	baz=75						
GMRC	**Granite Mounta**	**75.07**	**47**	⇓P	**P**	**19 22 54.7**	**-0.6**
	baz=75						
FURC	**Furnace Creek,**	**75.15**	**45**	⇑P	**P**	**19 22 56.0**	**+0.2**
	baz=75						
M05C	**Lookout**	**75.23**	**38**	⇓P	**P**	**19 22 56.1**	**0.0**
	baz=75						
NVAR	**Mina Array Bea**	**75.28**	**42**	P	**P**	**19 22 57.1**	**+0.6**
	comp=Z,4.6nm,0.8s,mb4.3,baz=229,slow=9.6,SNR=15						
PAHR	**Pah Rah Range**	**75.33**	**41**	*e*P	**P**	**19 22 57.9**	**+1.2**
	comp=Z,8.0nm,1.0s,mb4.4						
M06C	**Likely Place G**	**75.54**	**39**	⇑P	**P**	**19 22 58.7**	**+0.9**
	baz=76						
KDAK	**Kodiak Island**	**75.65**	**12**	P	**P**	**19 22 58.3**	**+0.2**
	comp=Z,11nm,0.9s,mb4.6,baz=126,slow=8.7,SNR=3.2						
N06A	**Buffalo Meadow**	**75.66**	**40**	⇑P	**P**	**19 22 58.8**	**+0.3**
	baz=76						
Q08A	**Gabbs**	**75.77**	**42**	⇑P	**P**	**19 22 58.8**	**-0.4**
	baz=76						
TPNV	**Topopah Spring**	**75.82**	**44**	⇓P	**P**	**19 22 59.7**	**+0.1**
	baz=76						
TPNV	**Topopah Spring**	**75.82**	**44**	*e*P	**P**	**19 22 59.8**	**+0.3**
Y13A	**Salome**	**75.87**	**48**	⇑P	**P**	**19 23 00.1**	**+0.2**
	baz=76						
O07A	**Toulon**	**75.91**	**41**	⇑P	**P**	**19 23 00.4**	**+0.4**
	baz=76,SNR=7.9						
KSRS	**Korea Array**	**76.03**	**316**	P	**P**	**19 23 01.5**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=138,slow=6.6,SNR=5.3						
KSRS				LR	LR	19 53 57.8	
	comp=Z,49nm,18.3s,baz=271,slow=34						
KSRS	**Korea Array**	**76.03**	**316**	P	**P**	**19 23 01.5**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,49nm,18.3s						
MOD	**Modoc**	**76.06**	**38**	⇑P	**P**	**19 23 01.5**	**+0.6**
	baz=76						
S10A	**Tonopah Range,**	**76.12**	**43**	⇑P	**P**	**19 23 01.4**	**+0.1**
	baz=76,SNR=6.8						
K05A	**Summer Lake**	**76.21**	**37**	⇑P	**P**	**19 23 02.7**	**+1.0**
	baz=76,SNR=5.0						
X13A	**Yucca**	**76.26**	**48**	⇑P	**P**	**19 23 02.5**	**+0.4**
	baz=76						
Z14A	**Wintersburg**	**76.28**	**49**	⇓P	**P**	**19 23 02.8**	**+0.6**
	baz=76						
SHPR	**Sheep Range**	**76.33**	**45**	*e*P	**P**	**19 23 03.2**	**+0.7**
J05A	**Fort Rock**	**76.35**	**37**	⇑P	**P**	**19 23 02.6**	**+0.2**
	baz=76,SNR=6.5						
KSM	**Kuning**	**76.47**	**275**	*e*P	**P**	**19 23 04.3**	**+0.6**
Y14A	**Wickenburg**	**76.52**	**49**	⇓P	**P**	**19 23 03.6**	**0.0**
	baz=77						
K06A	**Valley Falls**	**76.63**	**38**	⇑P	**P**	**19 23 04.1**	**+0.1**
	baz=77						
T11A	**Corn Creek, Al**	**76.67**	**45**	⇓P	**P**	**19 23 04.8**	**+0.4**
	baz=77,SNR=6.7						
U12A	**Valley of Fire**	**76.71**	**46**	⇑P	**P**	**19 23 04.8**	**+0.1**
	baz=77						
N08A	**GE Springer Mi**	**76.73**	**40**	⇑P	**P**	**19 23 04.6**	**0.0**
	baz=77						
Q10A	**Clear Creek Ra**	**76.74**	**43**	⇓P	**P**	**19 23 04.7**	**0.0**
	baz=77						
V13A	**Grand Canyon W**	**76.80**	**46**	⇑P	**P**	**19 23 05.6**	**+0.5**
	baz=77						
X14A	**Yava**	**76.87**	**48**	⇑P	**P**	**19 23 05.7**	**+0.2**
	baz=77						
M08A	**Happy Creek Ra**	**76.96**	**40**	⇓P	**P**	**19 23 06.0**	**+0.1**
	baz=77						
O09A	**Fish Creek Ran**	**76.98**	**41**	⇓P	**P**	**19 23 06.2**	**+0.2**
	baz=77						

U13A	**Pakoon Wash**	**77.10**	**46**	⇑P	**P**	**19 23 07.3**	**+0.5**
	baz=77,SNR=12						
W14A	**Seligman**	**77.10**	**47**	⇑P	**P**	**19 23 07.3**	**+0.5**
	baz=77,SNR=9.6						
S12A	**Delamar Landin**	**77.12**	**45**	⇑P	**P**	**19 23 07.4**	**+0.6**
	baz=77						
P10A	**Eureka**	**77.14**	**42**	⇑P	**P**	**19 23 07.2**	**+0.3**
	baz=77						
N09A	**Rock Creek Ran**	**77.15**	**41**	⇑P	**P**	**19 23 07.5**	**+0.5**
	baz=77						
K07A	**Rock Creek Ran**	**77.16**	**38**	⇓P	**P**	**19 23 07.5**	**+0.5**
	baz=77						
Q11A	**Duckwater**	**77.24**	**43**	⇓P	**P**	**19 23 07.8**	**+0.2**
	baz=77,SNR=5.6						
V14A	**Boquillas Ranc**	**77.30**	**47**	⇑P	**P**	**19 23 08.2**	**+0.3**
	baz=78,SNR=12						
X15A	**Humboldt**	**77.35**	**48**	⇑P	**P**	**19 23 08.6**	**+0.4**
	baz=78,SNR=6.1						
TUC	**Tucson**	**77.36**	**51**	*e*P	**P**	**19 23 09.1**	**+0.7**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
TUC	**Tucson**	**77.36**	**51**	*e*P	**P**	**19 23 09.1**	**+0.8**
	comp=Z,7.8nm,1.2s,mb4.3						
Z16A	**Peralta Trail,**	**77.38**	**50**	⇓P	**P**	**19 23 08.4**	**0.0**
	baz=78						
L08A	**Fields**	**77.41**	**39**	⇑P	**P**	**19 23 08.6**	**+0.2**
	baz=78,SNR=5.0						
T13A	**Saint George**	**77.45**	**45**	⇓P	**P**	**19 23 09.0**	**+0.3**
	baz=78,SNR=7.1						
117A	**Oracle**	**77.52**	**51**	⇑P	**P**	**19 23 09.8**	**+0.5**
	baz=78						
318A	**Bisbee**	**77.56**	**52**	⇓P	**P**	**19 23 10.0**	**+0.6**
	baz=78						
K08A	**Mann Creek Ran**	**77.64**	**39**	⇓P	**P**	**19 23 09.8**	**+0.1**
	baz=78,SNR=10						
U14A	**Mt Trumbull**	**77.64**	**46**	⇑P	**P**	**19 23 10.3**	**+0.5**
	baz=78,SNR=13						
R12A	**Pony Springs,**	**77.66**	**44**	⇓P	**P**	**19 23 09.8**	**-0.1**
	baz=78						
L09A	**Wilkinson Ranc**	**77.73**	**40**	⇑P	**P**	**19 23 10.2**	**0.0**
	baz=78						
H06A	**Lindquist Farm**	**77.75**	**36**	⇑P	**P**	**19 23 10.2**	**0.0**
	baz=78,SNR=6.6						
I07A	**Izee**	**77.83**	**37**	⇓P	**P**	**19 23 10.8**	**+0.1**
	baz=78						
X16A	**Lo Mia Camp, P**	**77.89**	**49**	P	**P**	**19 23 12.1**	**+0.8**
	baz=78,SNR=7.7						
J08A	**Circle Bar Ran**	**78.01**	**38**	⇑P	**P**	**19 23 11.6**	**-0.1**
	baz=78						
V15A	**Kaibab Nationa**	**78.05**	**47**	⇑P	**P**	**19 23 12.3**	**+0.2**
	baz=78,SNR=9.1						
319A	**Douglas**	**78.07**	**52**	⇓P	**P**	**19 23 13.4**	**+1.1**
	baz=78						
P12A	**McGill**	**78.07**	**43**	⇓P	**P**	**19 23 12.3**	**+0.2**
	baz=78						
K09A	**Rome**	**78.08**	**39**	⇓P	**P**	**19 23 11.9**	**-0.2**
	baz=78,SNR=8.6						
CCUT	**Cedar City**	**78.10**	**45**	*e*P	**P**	**19 23 16.3**	**+4.0**
H07A	**Lands Inn, Kim**	**78.10**	**37**	⇓P	**P**	**19 23 12.3**	**+0.1**
	baz=78,SNR=5.5						
118A	**Homack Ranch,**	**78.13**	**51**	⇓P	**P**	**19 23 12.8**	**+0.2**
	baz=78,SNR=6.2						
M10A	**I.L. Ranch, Tu**	**78.14**	**40**	⇑P	**P**	**19 23 13.0**	**+0.5**
	baz=78,SNR=6.1						
U15A	**North Rim**	**78.27**	**47**	⇑P	**P**	**19 23 13.8**	**+0.5**
	baz=78,SNR=13						
I08A	**Drewsey**	**78.28**	**38**	⇓P	**P**	**19 23 13.5**	**+0.3**
	baz=78						
X17A	**Forest Lakes**	**78.31**	**49**	⇑P	**P**	**19 23 14.1**	**+0.5**
	baz=78						
Q13A	**Wheeler Ranch,**	**78.38**	**44**	⇓P	**P**	**19 23 14.2**	**+0.4**
	baz=79						
SEW	**Seward**	**78.43**	**12**	*e*P	**P**	**19 23 13.4**	**-0.2**
J09A	**Fry Pan Ranch,**	**78.43**	**38**	⇓P	**P**	**19 23 14.1**	**+0.1**
	baz=79,SNR=6.7						
G07A	**Ruggs Ranch, H**	**78.45**	**36**	⇓P	**P**	**19 23 13.3**	**-0.8**
	baz=79						
WUAZ	**Wupatki**	**78.47**	**48**	*e*P	**P**	**19 23 15.5**	**+1.1**
	comp=Z,7.2nm,1.0s,mb4.4						
L10A	**Juniper Basin**	**78.50**	**40**	⇑P	**P**

BMRM	Bremner River	80.27	14	eP	P	19 23 22.9	-0.7
D09A	Jones Farm, Ri	80.28	35	⇓P	P	19 23 23.3	-0.6
	baz=80						
T18A	Mexican Hat	80.31	47	⇓P	P	19 23 25.2	+0.9
	baz=80,SNR=9.1						
R17A	Hanksville Air	80.34	45	⇑P	P	19 23 24.2	-0.3
	baz=80						
A07A	Ashnola River,	80.36	33	⇑P	P	19 23 24.0	-0.3
	baz=81						
TMUT	Trail Mountain	80.44	45	eP	P	19 23 26.3	+1.3
G11A	Walters Elk Ra	80.48	37	P	P	19 23 24.6	-0.4
	baz=81,SNR=13						
B08A	Colville Reser	80.50	34	⇑P	P	19 23 24.2	-0.9
	baz=81						
HLID	Hailey	80.57	40	⇓P	P	19 23 25.7	+0.1
	baz=81,SNR=11						
HLID	Hailey	80.57	40	eP	P	19 23 25.9	+0.3
	comp=Z,6.4nm,0.9s,mb4.5						
J13A	Cove Ranch, Pi	80.63	40	⇑P	P	19 23 26.1	+0.2
	baz=81,SNR=6.7						
C09A	Chrisman Ranch	80.73	34	⇓P	P	19 23 25.6	-0.7
	baz=81						
T19A	Beclabito	80.76	48	⇑P	P	19 23 26.9	+0.1
	baz=81						
K14A	Jones Ranch, D	80.80	41	⇑P	P	19 23 26.7	-0.2
	baz=81						
D10A	Wagner Farm, O	80.85	35	⇓P	P	19 23 26.4	-0.6
	baz=81						
I13A	Wildhorse Cree	80.94	39	⇓P	P	19 23 27.6	0.0
	baz=81						
LAZ	Ladron	81.03	50	eP	P	19 23 28.3	0.0
CN2	Changchun	81.04	320	eP	P	19 23 30.2	+2.1
CN2				eS	S	19 33 28.3	+1.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
E11A	Bogner Ranch,	81.05	36	⇑P	P	19 23 26.9	-1.1
	baz=81						
Q18A	Rafter H Ranch	81.07	45	⇑P	P	19 23 28.0	-0.3
	baz=81						
N16A	Rees Ranch, Co	81.07	43	⇑P	P	19 23 28.5	+0.2
	baz=81						
S19A	Harvey Farm, M	81.11	47	⇓P	P	19 23 28.1	-0.5
	baz=81						
MNTX	Cornudas Mount	81.20	54	eP	P	19 23 28.6	-0.7
	comp=Z,6.4nm,1.1s,mb4.4						
MNTX				e		19 24 09.7	
A09A	Danville	81.26	33	⇓P	P	19 23 28.3	-0.8
	baz=82						
F12A	Elk City	81.27	37	P	P	19 23 28.9	-0.4
	baz=82,SNR=14						
BNM	Barren Site	81.30	51	eP	P	19 23 29.9	+0.2
KTH	Kantishna Hill	81.33	10	eP	P	19 23 26.9	-2.2
	comp=Z,21nm,1.2s,mb4.8						
TRF	Thorofare Moun	81.34	11	eP	P	19 23 27.9	-1.3
	comp=Z,20nm,0.9s,mb5.0						
D11A	Klaveano Farm,	81.37	36	⇓P	P	19 23 28.6	-1.2
	baz=82						
CHUM	Lake Minchumin	81.40	10	eP	P	19 23 28.2	-1.3
	comp=Z,22nm,1.2s,mb4.9						
G13A	Cobalt	81.51	38	⇑P	P	19 23 29.8	-0.7
	baz=82,SNR=5.0						
TXAR	Lajitas Array	81.58	56	P	P	19 23 31.6	+0.3
	comp=Z,3.6nm,1.0s,mb4.2,baz=216,slow=6.3,SNR=21						
ANMO	Albuquerque	81.77	50	eP	P	19 23 32.5	+0.3
ANMO				pmax	pmax		
	comp=Z,13nm,1.3s						
ANMO	Albuquerque	81.77	50	eP	P	19 23 32.5	+0.3
	comp=Z,13nm,1.3s,mb4.6						
ANMO				epP	pP	19 24 14.3	+11
BPAW	Bear Paw Mtn.	81.82	10	eP	P	19 23 28.6	-3.1
	comp=Z,2μm,0.6s						
F13A	Darby	81.83	38	⇑P	P	19 23 31.7	-0.5
	baz=82						
MCK	McKinley	81.84	11	eP	P	19 23 31.5	-0.3
D12A	Red Ives Fores	81.93	36	⇑P	P	19 23 32.0	-0.7
	baz=82						
J16A	Bone	82.16	41	⇓P	P	19 23 33.8	-0.2
	baz=82						
GDL2	Guadalupe Moun	82.20	53	eP	P	19 23 34.9	+0.5
MCMT	McKenzie Canyo	82.20	39	P	P	19 23 34.5	+0.4
E13A	Victor	82.26	37	⇓P	P	19 23 33.4	-1.1
	baz=82						
RRI2	Red Ridge	82.39	41	eP	P	19 23 34.1	-1.1
	comp=Z,13nm,0.9s,mb4.8						
D13A	Huson	82.46	37	⇓P	P	19 23 34.2	-1.3
	baz=83,SNR=6.9						
G15A	Dillon	82.59	39	⇑P	P	19 23 35.6	-0.5
	baz=83,SNR=6.7						
MSO	Missoula	82.62	37	eP	P	19 23 35.4	-0.9
DLMT	Dillon	82.63	39	eP	P	19 23 36.5	+0.2
	comp=Z,10nm,1.0s,mb4.6						
E14A	Clinton	82.66	37	⇓P	P	19 23 35.9	-0.6
	baz=83,SNR=10						
REDW	Red Top Meadow	82.69	41	eP	P	19 23 36.2	-0.5
	comp=Z,15nm,1.2s,mb4.7						
TPAW	Teton Pass	82.69	41	eP	P	19 23 36.5	-0.3
	comp=Z,8.9nm,0.8s,mb4.7						
SNOW	Snow King Moun	82.80	41	eP	P	19 23 37.7	+0.4
	comp=Z,12nm,0.8s,mb4.8						
SEY	Seymchan	82.88	345	⇑eP	P	19 23 36.9	-0.4
F15A	Butte	82.94	38	⇑P	P	19 23 37.6	-0.3
	baz=83,SNR=6.8						
LRM	Limekiln Ridge	82.96	38	eP	P	19 23 37.7	-0.4
LOHW	Long Hollow	82.97	41	eP	P	19 23 38.1	0.0
	comp=Z,14nm,1.4s,mb4.6						
D14A	Greenough	83.00	37	⇑P	P	19 23 37.3	-0.9
	baz=83						
CHMT	Chamberlain Mo	83.06	37	eP	P	19 23 37.9	-0.7
QLMT	Earthquake Lak	83.07	40	eP	P	19 23 39.2	+0.5
COLA	College	83.08	11	eP	P	19 23 37.4	-0.9
COLA				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.3						
COLA	College	83.08	11	eP	P	19 23 37.4	-0.8
	comp=Z,47nm,0.9s,mb5.3						
FLWY	Flagg Ranch	83.14	41	eP	P	19 23 39.5	+0.5
	comp=Z,14nm,0.8s,mb4.8						
E15A	Deer Lodge	83.16	38	⇓P	P	19 23 38.8	-0.3
	baz=83						
BW06	Boulder Array	83.22	42	eP	P	19 23 39.0	-0.5
	comp=Z,7.2nm,0.8s,mb4.5						
PDAR	Pinedale Array	83.22	42	P	P	19 23 38.9	-0.6
	comp=Z,7.6nm,0.8s,mb4.6,baz=211,slow=3.0,SNR=52						
IMA2	Indian Mountai	83.25	8	eP	P	19 23 39.5	+0.5
LCCM	Lewis and Clar	83.31	39	P	P	19 23 40.0	+0.1
BOZ	Bozeman (W)	83.36	39	eP	P	19 23 40.0	-0.1
BOZ				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
BOZ	Bozeman (W)	83.36	39	⇑P	P	19 23 39.8	-0.3
	baz=84						
BOZ	Bozeman (W)	83.36	39	eP	P	19 23 40.0	-0.2
	comp=Z,6.5nm,1.1s,mb4.4						
A13A	Flathead Natio	83.49	35	⇓P	P	19 23 40.1	-0.7
	baz=84						
D15A	Lincoln	83.55	37	⇑P	P	19 23 40.6	-0.5
	baz=84,SNR=8.3						
SDCO	Great Sand Dun	83.69	48	eP	P	19 23 42.3	+0.3
SDCO				epP	pP	19 24 24.1	+11
DAWY	Dawson	84.18	15	eP	P	19 23 43.5	-0.4
RWWY	Rawlins	84.25	44	eP	P	19 23 44.0	-0.7
	comp=Z,13nm,1.0s,mb4.7						
EGAK	Eagle	84.37	14	eP	P	19 23 44.8	0.0
	comp=Z,20nm,1.1s,mb4.9						
RLMT	Red Lodge	84.54	40	eP	P	19 23 46.2	0.0
GCMT	Greycliff	84.62	39	eP	P	19 23 46.4	-0.2
COLD	Coldfoot	84.84	9	eP	P	19 23 46.8	-0.4
	comp=Z,25nm,1.2s,mb5.0						
BILL	Bilibino	84.99	353	⇓eP	P	19 23 48.1	+0.2
BILL				eS	S	19 33 56.3	-10
BILL				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
BJI	Beijing	85.31	314	P	P	19 23 51.0	+0.9
BJI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
BJI				AMB	AMB		
	comp=Z,196nm,5.9s						
EDM	Edmonton	86.39	32	eP	P	19 23 54.4	-0.7
MAW	Mawson	86.99	199	eP	P	19 23 56.9	-1.0
	comp=Z,15nm,0.9s,mb4.9						
MAW	Mawson	86.99	199	P	P	19 23 57.6	-0.3
	comp=Z,21nm,1.0s,mb5.0,baz=129,slow=5.7,SNR=42						
MAW	Mawson	86.99	199	P	P	19 23 57.6	-0.3
MAW				pmax	pmax		
	comp=Z,21nm,1.0s						
MAW	Mawson	86.99	199	eP	P	19 23 56.5	-1.4
	comp=Z,25nm,0.9s,mb5.1						
GYA	Guiyang	87.63	298	P	P	19 24 02.7	+0.9
GYA				AP	pP	19 24 35.8	+2.5
GYA				XP	sP	19 24 49.0	+2.8
GYA				PP	PP	19 27 31.8	+2.9
GYA				SKS		19 34 15.6	
GYA				S	S	19 34 31.4	-2.3
GYA				XS	sS	19 35 29.8	+1.8
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
XAN	Xi'an	88.34	306	P	P	19 24 05.7	+0.7
XAN				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.6						
HHC	Hu-ho-hao-te	88.86	313	eP	P	19 24 08.4	+1.2
HHC				AP	pP	19 24 40.6	+1.8
HHC				XP	sP	19 24 54.8	+3.1
HHC				PP	PP	19 27 42.5	+4.1
HHC				S	S	19 34 43.5	-1.1
HHC				XS	sS	19 35 40.1	+1.0
HHC				PS	PS	19 36 08.6	+3.8
HHC				SS	SS	19 40 42.2	+2.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,92nm,5.2s						
HHC				LR	LR		
	comp=N,137nm,17.8s						
HHC				LR	LR		
	comp=E,118nm,15.5s						
HHC				LR	LR		
	comp=Z,129nm,15.5s						
INK	Inuvik	89.02	14	P	P	19 24 07.7	+0.3
	comp=Z,3.3nm,0.8s,mb4.4,baz=188,slow=4.0,SNR=8.7						
YAK	Yakutsk	89.34	337	⇓eP	P	19 24 07.8	-1.2
YAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
PLCA	Paso Flores	89.69	132	P	P	19 24 10.8	-0.5
	comp=Z,1.8nm,0.8s,mb4.2,baz=266,slow=8.2,SNR=4.1						
PLCA	Paso Flores	89.69	132	P	P	19 24 10.8	-0.5
KMI	Kunming	90.58	296	P	P	19 24 17.7	+2.1
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.9						
YKA	Yellowknife Ar	90.94	24	P	P	19 24 15.4	-1.0
	comp=Z,1.9nm,1.0s,mb4.2,baz=242,slow=4.2,SNR=6.7						
CD2	Chengdu	91.45	302	eP	P	19 24 20.2	+0.7
CD2				XP	sP	19 25 06.2	+2.1
CD2				PP	PP	19 28 02.4	+3.1
CD2				SKS		19 34 39.0	
CD2				S	S	19 35 05.7	-3.2
CD2				XS	sS	19 36 02.4	-1.3
CD2				SS	SS	19 41 17.6	-0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,50nm,9.0s						
SYO	Syowa Base	91.87	192	⇓eP	P	19 24 17.6	-3.2
SYO	Syowa Base	91.87	192	⇓ePcP	PcP	19 24 19.2	-2.4
CMAR	Chiang Mai Arr	92.06	288	P	P	19 24 24.1	+1.5
	comp=Z,3.1nm,1.0s,mb4.5,baz=96,slow=2.9,SNR=12						
SNAA	Sanae	92.36	177	eP	P	19 24 22.0	-1.0
SNAA				e		19 24 23.2	
SNAA				e		19 24 28.1	
SNAA	Sanae	92.36	177	d iP	P	19 24 22.5	-0.5
SNAA	Sanae	92.36	177	eP	P	19 24 21.9	-1.1
VNA2	Neumayer--Watz	92.83	176	eP	P	19 24 24.8	-0.4
VNA2				e		19 24 25.8	
VNA2				e		19 24 30.9	
LZH	Lanzhou	92.94	307	eP	P	19 24 27.3	+1.0
LZH				AP	pP	19 24 56.6	-1.4
LZH				XP	sP	19 25 12.4	+1.5
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,69nm,5.3s						
VNA1	Neumayer--Stat	93.03	175	eP	P	19 24 26.2	+0.1
VNA1				e		19 24 27.0	
VNA1				e		19 24 32.0	
SONM	Songino Array	94.76	318	P	P	19 24 35.0	+0.7
	comp=Z,0.3nm,0.6s,mb3.9,baz=101,slow=4.6,SNR=2.9						
TLY	Talaya	97.61	322	eP	P	19 24 42.2	-5.0
MKAR	Makanchi Array	110.68	314	PKiKP	PKiKP	19 29 43.5	-1.5
	comp=Z,0.4nm,0.6s,baz=187,slow=1.3,SNR=4.8						
ARU	Arti	123.43	328	i PKIKP	PKPdf	19 30 08.6	-0.6
ARU						19 31 48.6	
KEV	Kevo	124.66	351	ep	PKPdf	19 30 10.2	-1.0
	comp=Z,4.3nm,0.8s						
ARCES	ARCESS Array B	125.08	352	PKP	PKPdf	19 30 11.2	-0.8
	comp=Z,8.2nm,0.8s,baz=358,slow=0.9,SNR=27						
JOF	Joensuu	129.84	345	ep	PKPdf	19 30 20.8	-0.5
	comp=Z,3.4nm,0.6s						
KAF	Kangasniemi	131.69	347	ep	PKPdf	19 30 23.7	-1.1
	comp=Z,2.1nm,0.5s						
OBN	Obninsk	134.33	336	ePKIKP	PKPdf	19 30 29.2	-0.8
OBN				e		19 33 00.7	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NB2	NORSAR Subarra	134.84	356	PKPdf	PKPdf	19 30 30.5	-0.3
	comp=Z,3.1nm,1.0s,baz=7,2,slow=1.9						
NOA	NORSAR Array B	134.84	356	PKP	PKPdf	19 30 30.4	-0.4
	comp=Z,2.1nm,0.8s,baz=13,slow=4.0,SNR=4.6						
AKASG	Malin Array Be	140.57	337	PKP	PKPdf	19 30 40.3	-1.3
	comp=Z,0.6nm,0.5s,baz=28,slow=2.0,SNR=5.1						
AKASG	Malin Array Be	140.57	337	i PKIKP	PKPdf	19 30 43.0	+1.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MALT	Malatya	143.72	314	⇑iP	PKPdf	19 30 46.3	-1.3
MALT	Malatya	143.72	314	ePKPdf	PKPdf	19 30 46.2	-1.4
KSP	Ksiaz	144.22	349	ePKP	PKPdf	19 30 46.4	-1.7
KSP	Ksiaz	144.22	349	ePKP	PKPdf	19 30 46.2	-1.9
CLL	Collm	144.30	352	ePKPbc	PKPdf	19 30 45.9	-2.3
CLL	Collm	144.30	352	⇓iPKPdf	PKPdf	19 30 46.1	-2.1
	comp=Z,12nm,0.8s						
CLL				i PKiKP	PKiKP	19 30 49.6	-2.3
KOLS	Kolonicke sedl	144.49	341	i PKP	PKPdf	19 30 46.8	-1.8
BRG	Berggiesshubel	144.59	351	ePKPbc	PKPdf	19 30 47.0	-1.7
BRG	Berggiesshubel	144.59	351	ePKP	PKPdf	19 30 47.1	-1.7
	comp=Z,12nm,1.1s						
UPC	Upice	144.59	349	ePKP	PKPdf	19 30 47.8	-1.0
BURAR	Bucovina Array	144.61	337	⇑iP	PKPdf	19 30 47.6	-1.3
BURAR	Bucovina Array	144.61	337	⇑P	PKPdf	19 30 47.6	-1.3
BUG	Bochum--Univer	144.62	358	ePKPbc	PKPdf	19 30 47.3	-1.5
DPC	Dobruska-Polom	144.68	348	ePKP	PKPdf	19 30 47.9	-1.0
UZH	Uzhgorod	144.75	341	⇓iPKIKP	PKPdf	19 30 48.3	-0.8
UZH				e		19 31 33.7	
CRVS	Cervenica-Dubn	144.76	342	i PKP	PKPdf	19 30 48.2	-0.9
OKC	Ostrava-Krasne	144.78	346	ePKP	PKPdf	19 30 48.1	-1.0
PVCC	Panska Ves	144.83	350	ePKP	PKPdf	19 30 48.4	-0.8
MORC	Moravsky Berou	144.97	347	⇑iP	PKPdf	19 30 48.9	-0.5
MORC	Moravsky Berou	144.97	347	ePKPdf	PKPdf	19 30 47.5	-1.9
UBBA	Unterbreizbach	145.09	355	ePKPbc	PKPbc	19 30 48.6	-0.7
MOX	Moxa	145.11	354	ePKPbc	PKPbc	19 30 48.8	-0.6
WERD	Werda	145.23	353	ePKPbc	PKPbc	19 30 49.2	-0.6
UCC	Uccle	145.26	2	PKP	PKPdf	19 30 49.3	-0.6
BEBN	Eben Emael	145.28	0	PKP	PKPdf	19 30 49.7	-0.3
GUNZ	Gunzen	145.31	353	ePKPbc	PKPbc	19 30 49.6	-0.4
PRU	Pruhonice	145.35	350	ePKP	PKPdf	19 30 50.0	-0.1
WERN	Wernitzgruen	145.38	353	ePKPbc	PKPbc	19 30 49.9	-0.3
MENF	Mencas	145.39	4	PKP	PKPdf	19 30 49.6	-0.5
NKC	Novy Kostel	145.42	352	ePKP	PKPdf	19 30 50.1	-0.1
KECS	Kecovo	145.42	343	i PKP	PKPdf	19 30 50.0	-0.3
KECS	Kecovo	145.42	343	i PKP	PKPdf	19 30 50.1	-0.2
VRI	Vrincioaia	145.44	334	⇑iP	PKPdf	19 30 50.9	+0.5
VRI	Vrincioaia	145.44	334	⇑P	PKPdf	19 30 50.9	+0.6
MEM	Membach	145.47	360	PKP	PKPdf	19 30 50.4	+0.2
VRAC	Vranov	145.62	347	⇑iP	PKPdf	19 30 50.9	+0.3
VRAC	Vranov	145.62	347	⇑P	PKPdf	19 30 50.9	+0.4
BCLA	Clavier	145.66	1	PKP	PKPdf	19 30 50.6	0.0
TIRR	Tirgusor	145.78	331	⇓iP	PKPdf	19 30 52.0	+1.0
TIRR	Tirgusor	145.78	331	⇓P	PKPdf	19 30 52.0	+1.0
TNS	Taunus Mts	145.79	357	ePKPbc	PKPbc	19 30 51.5	0.0
TREC	Trest	145.85	349	ePKP	PKPdf	19 30 51.4	+0.4
VYHS	Vyhne	145.86	344	i PKP	PKPdf	19 30 51.3	+0.3
VYHS	Vyhne	145.86	344	i PKP	PKPdf	19 30 51.4	+0.4
KOLL	Kolacno	145.89	345	i PKP	PKPdf	19 30 51.8	+0.7
ROTZ	Rotzenmuhle	145.91	353	ePKPbc	PKPbc	19 30 51.7	-0.2
GIVF	Givet	145.97	1	⇑iPKP1	PKPbc	19 30 51.6	-0.4
	comp=Z,32nm,1.0s						
DOU	Dourbes	145.97	1	PKP	PKPdf	19 30 51.8	+0.6
BAIF	Baives	145.99	2	⇑iPKP1	PKPbc	19 30 51.9	-0.2
	comp=Z,30nm,0.8s						
MLR	Muntele Rosu	146.07	334	⇑iP	PKPdf	19 30 52.9	+1.4
MLR	Muntele Rosu	146.07	334	⇑P	PKPdf	19 30 52.9	+1.5
GRA1	Grafenberg Arr	146.10	354	ePKPbc	PKPbc	19 30 52.7	+0.2
GRF	Grafenberg Arr	146.10	354	ePKPbc	PKPbc	19 30 52.7	+0.2
PSZ	Piszkesteto	146.10	343	⇑iP	PKPdf	19 30 52.9	+1.5
PSZ	Piszkesteto	146.10	343	⇑P	PKPdf	19 30 52.9	+1.5
DRGR		146.22	339	⇓iP	PKPdf	19 30 52.6	+0.9
DRGR		146.22	339	⇓P	PKPdf	19 30 52.6	+1.0
KHC	Kasperske Hory	146.34	351	ePKP	PKPdf	19 30 53.2	+1.4
RUP	Ruppelstein	146.36	359	PKP2	PKPab	19 30 53.1	-1.1
TOD	Tromm	146.38	356	PKP2	PKPab	19 30 52.7	-1.6
WLF	Walferdange	146.41	360	PKPbc	PKPbc	19 30 53.8	+0.4
WLF	Walferdange	146.41	360	ePKPbc	PKPbc	19 30 53.7	+0.3
WLF	Walferdange	146.41	360	ePKPdf	PKPdf	19 30 52.3	+0.4
WET	Wettzell	146.43	352	ePKPbc	PKPbc	19 30 53.3	-0.2
VOIR		146.48	335	⇑iP	PKPbc	19 30 54.5	+0.8
VOIR		146.48	335	⇑P	PKPbc	19 30 54.5	+0.8
ZST	Bratislava	146.56	346	i PKP	PKPdf	19 30 53.9	+1.7
GEC2	GERESS Array S	146.60	350	ePKPbc	PKPbc	19 30 53.7	-0.2
GERES	GERESS Array B	146.60	350	PKPbc	PKPbc	19 30 52.2	-1.8
	comp=Z,6.2nm,0.9s,baz=48,slow=2.0,SNR=42						
KTD	Kalmit	146.71	357	PKP2	PKPbc	19 30 53.6	-0.6
ROSF	Rostrenen	146.89	11	⇑iPKP1	PKPbc	19 30 54.0	-0.8
	comp=Z,50nm,1.0s						
FLN	La Foliniere	146.91	8	⇑iPKP1	PKPbc	19 30 54.1	-0.7
	comp=Z,73nm,0.9s						
LANF	Langenberg	147.06	358	PKP	PKPbc	19 30 55.1	-0.1
SGMF	Saint Gilles	147.10	10	⇑iPKP1	PKPbc	19 30 54.6	-0.8
	comp=Z,70nm,0.8s						
LDF	La Drutiere	147.12	7	⇑iPKP1	PKPbc	19 30 54.6	-0.8
	comp=Z,63nm,1.1s						
STU	Stuttgart	147.19	356	ePKPbc	PKPbc	19 30 55.7	+0.1
GRR	Gorron	147.23	8	⇑iPKP1	PKPbc	19 30 55.2	-0.5
	comp=Z,54nm,0.8s						
QUIF	Quistinic	147.32	11	ePKP1	PKPbc	19 30 55.1	-0.9
	comp=Z,83nm,1.2s						
MOA	Molln	147.47	349	i P	PKPbc	19 30 56.0	-0.4
	comp=Z,8.4nm,0.9s,SNR=8.0						
MEZF	Maizieres J'vi	147.57	1	⇑iPKP1	PKPbc	19 30 56.5	-0.2
	comp=Z,42nm,1.2s						
FUR	Furstenfeldbru	147.60	353	ePKPbc	PKPbc	19 30 56.4	-0.3
BZS	Buzias	147.61	339	⇑iP	PKPbc	19 30 56.5	-0.4
BZS	Buzias	147.61	339	⇑P	PKPbc	19 30 56.5	-0.4
CDF	Champ du Feu	147.64	358	⇑iPKP1	PKPbc	19 30 56.6	-0.3
	comp=Z,60nm,1.1s						
BFO	Black Forest	147.68	357	ePKPbc	PKPbc	19 30 56.7	-0.3
ECH	Echery	147.84	358	PKP	PKPbc	19 30 56.6	-0.8
SPAK	Spaichingen-Ko	147.88	356	PKP	PKPbc	19 30 56.8	-0.7
PKSM	Moragy	148.01	343	⇑iP	PKPdf	19 30 54.1	-0.6
PKSM	Moragy	148.01	343	⇑P	PKPdf	19 30 54.1	-0.6
HAU	Haudompre	148.07	359	⇑iPKP1	PKPbc	19 30 57.7	-0.3
	comp=Z,46nm,1.0s						
FELD	Feldberg im Sc	148.15	357	PKP	PKPbc	19 30 57.7	-0.5
HINF	Hinteralfeld	148.25	359	⇑iPKP1	PKPbc	19 30 57.9	-0.6
	comp=Z,28nm,1.1s						
RETA	Reutte	148.32	354	⇑iP	PKPbc	19 30 57.3	-1.4
	comp=Z,9.5nm,1.0s,SNR=6.3						
MOTA	Moosalm	148.43	353	⇑iP	PKPbc	19 30 58.5	-0.4
	comp=Z,14nm,1.2s,SNR=5.7						
WTTA	Wattenberg	148.44	352	⇑iP	PKPbc	19 30 58.7	-0.3
	comp=Z,11nm,0.7s						
DAVA	Damuels	148.61	355	⇑iP	PKPbc	19 30 59.5	0.0
	comp=Z,14nm,0.9s,SNR=8.5						
HYF	Humbligny	148.70	4	ePKP1	PKPbc	19 30 59.7	0.0
LOR	Lormes	148.77	3	⇑iPKP1	PKPbc	19 30 59.6	-0.2
	comp=Z,50nm,1.1s						
FETA	Feichten	148.79	353	⇑iP	PKPbc	19 30 59.9	0.0
	comp=Z,19nm,1.1s,SNR=10						
ABTA	Abfaltersbach	148.82	351	i P	PKPbc	19 30 58.7	-1.3
	comp=Z,13nm,0.9s,SNR=11						
SSF	Saint Saulge	148.96	3	⇑iPKP1	PKPbc	19 31 00.1	-0.2
	comp=Z,107nm,1.3s						
MFF	Saint Martin d	149.08	8	⇑iPKP1	PKPbc	19 31 00.1	-0.5
	comp=Z,97nm,1.3s						
AVF	Avril sur Loir	149.22	3	⇑iPKP1	PKPbc	19 31 00.4	-0.6
	comp=Z,59nm,1.2s						
SMF	Signal de Mont	149.39	3	⇑iPKP1	PKPbc	19 31 00.9	-0.5
	comp=Z,56nm,1.2s						
BGF	Bois d'Agland	149.42	4	⇑iPKP1	PKPbc	19 31 01.2	-0.3
	comp=Z,67nm,1.1s						
CABF	La Chapelle	149.47	360	⇑iPKP1	PKPbc	19 31 01.9	+0.3
	comp=Z,113nm,1.1s						
TCF	Toulx Ste Croi	149.64	5	⇑iPKP1	PKPbc	19 31 01.5	-0.6
	comp=Z,63nm,1.2s						

*NEIC **05** 19:31:07.1, 3762S×7333W, h36km, MD3.9(GUC), After GUC.*

GUC 05 19:31:07.1±0.8, 3762S×7333W, h36km, MD3.9, ML3.7, 7C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	**Temuco**	**1.25**	**153**	⇓*i*P	Pn	19 31 29.7	+1.6
TMU				*i* S	Sn	19 31 45.1	+1.4
TMU				AML	AML	19 31 49.4	
	comp=N,173nm,0.4s						
TMU	**Temuco**	**1.25**	**153**	⇓*i*P	Pn	19 31 29.7	+1.6
TMU				*i* S	Sn	19 31 45.1	+1.4
CCHI	**Chillan**	**1.43**	**45**	⇓*i*P	Pn	19 31 33.6	+3.1
CCHI				*i* S	Sn	19 31 52.6	+4.6
CCHI				AML	AML	19 31 58.0	
	comp=N,2μm,0.4s						
CCHI	**Chillan**	**1.43**	**45**	⇓*i*P	Pn	19 31 33.6	+3.1
CCHI				*i* S	Sn	19 31 52.6	+4.6
COCH	**Cobquecura**	**1.55**	**17**	⇑*i*P	Pn	19 31 33.8	+1.7
COCH				*e*S	Sn	19 31 53.5	+2.5
COCH				AML	AML	19 31 59.6	
	comp=E,1μm,0.6s						
COCH	**Cobquecura**	**1.55**	**17**	⇑*i*P	Pn	19 31 33.8	+1.7
COCH				*e*S	Sn	19 31 53.5	+2.5
LNCH	**Linares**	**2.25**	**39**	⇑*i*P	Pn	19 31 44.2	+2.4
LNCH				AML	AML	19 32 26.9	
	comp=N,2μm,0.8s						
TALC	**Talca**	**2.61**	**32**	⇑*i*P	Pn	19 31 48.4	+1.7
TALC				AML	AML	19 32 32.6	
	comp=E,2μm,0.5s						
SFDO	**San Fernando**	**3.54**	**33**	*i* P	Pn	19 32 01.0	+1.4
PLCA	**Paso Flores**	**3.79**	**146**	*e*Pn	Pn	19 32 05.5	+2.5
LNV	**Longovilo**	**3.98**	**24**	⇓*i*P	Pn	19 32 06.7	+1.1
CICH	**Cipreses**	**4.05**	**37**	⇓*i*P	Pn	19 32 09.4	+2.8
TACH	**Talagante**	**4.41**	**27**	⇓*i*P	Pn	19 32 12.8	+1.2
LMEL	**Las Melosas**	**4.54**	**35**	⇓*i*P	Pn	19 32 15.8	+2.4
PCH	**Pirque**	**4.61**	**31**	⇑*i*P	Pn	19 32 15.6	+1.4
CLCH	**Cerro Calan**	**4.79**	**29**	⇑*i*P	Pn	19 32 18.1	+1.3
FCH	**Farellones**	**4.95**	**31**	⇑*i*P	Pn	19 32 21.3	+2.3
JACH	**Jahuel**	**5.42**	**25**	*i* P	Pn	19 32 26.4	+1.1

*ISCJB **05** 19:31:09.7±0.5, 3093S±007×1784W±0.1, h30km, mb4.2/10, MS4.0/7, Error ellipse: s-maj=14.4km s-min=8.9km az=24.9*

*IDC **05** 19:31:10.9±0.6, 3080S×17832W, h27km±3km, mb4.0/8, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, MS3.9/9, Ms1 3.9/9, ms1mx3.6/30, Error ellipse: s-maj=21.5km s-min=17.4km az=147.0*

*NEIC **05** 19:31:11.2±0.6, 3100S×17830W, h35km, mb4.5/5, Error ellipse: s-maj=17.3km s-min=11.6km az=128.0*

ISC 05 19:31:11.3±0.5, 3093S±007×1784W±01, h32km, h32km±.6km: pP-P, n50, σ1§21/25, mb4.2/10, MS4.0/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.71**	**13**	Pn	**Pn**	**19 31 37.5**	**-1.4**
	686nm,0.3s,baz=93,slow=6.0,SNR=83						
RAO				Sn	**Sn**	**19 31 57.3**	**-2.4**
	2μm,0.3s,baz=109,slow=22,SNR=16						
URZ	**Urewera**	**8.21**	**206**	Pn	**Pn**	**19 33 05.9**	**-2.3**
	2.9nm,0.3s,baz=348,slow=2.3,SNR=15						
URZ				Sn	**Sn**	**19 34 35.6**	**-4.2**
	4.4nm,0.3s,baz=131,slow=20,SNR=6.1						
RPZ	**Rata Peaks**	**15.28**	**210**	Pn	**Pn**	**19 34 42.4**	**-2.1**
	0.7nm,0.3s,baz=330,slow=17,SNR=3.6						
RPZ				LR	LR	19 40 07.8	
	comp=Z,283nm,21.7s,baz=202,slow=35						
RAR	**Rarotonga**	**19.27**	**64**	LR	LR	19 41 00.7	
	comp=Z,126nm,18.0s,baz=286,slow=31						
TBI	**Tubuai**	**26.75**	**81**	*e*LR	LR	19 43 30.0	
	186nm,28.0s						
TBI				*e*LR	LR	19 43 30.0	
	186nm,28.0s						
TBI	**Tubuai**	**26.75**	**81**	*e*T		20 04 35.0	
	122nm,0.4s						
PAE	**Paea**	**29.27**	**70**	*e*T		20 07 34.5	
	2μm,0.3s						
PPT	**Papeete**	**29.32**	**70**	*e*LR	LR	19 44 25.9	
	170nm,25.5s						
PPT				*e*LR	LR	19 44 25.9	
	170nm,25.5s						
PPT	**Papeete**	**29.32**	**70**	*e*T		20 07 38.3	
	51nm,0.3s						
PPT	**Papeete**	**29.32**	**70**	LR	LR	19 45 30.1	
	comp=Z,156nm,20.3s,MS3.6,baz=178,slow=29						
TVO	**Taravao**	**29.47**	**70**	*e*T		20 07 50.5	
	193nm,0.3s						
TIAR	**Tiarei**	**29.51**	**70**	*e*T		20 07 53.0	
	186nm,0.3s						
MEH	**Mehetia**	**30.39**	**72**	*e*T		20 09 00.6	
	6μm,0.2s						
TOO	**Toolangi**	**30.47**	**248**	*e*P	pP	19 37 31.9	+1.5
PMOR	**Pomariorio Ree**	**32.08**	**67**	*e*T		20 11 02.0	
	6.5nm,0.2s						
CTA	**Charters Tower**	**33.58**	**280**	*e*P	**P**	**19 37 50.2**	**+1.6**
	6.1nm,1.4s,mb4.3						
CTA	**Charters Tower**	**33.58**	**280**	P	**P**	**19 37 50.9**	**+2.3**
	3.1nm,0.5s,mb4.5,baz=91,slow=12,SNR=6.4						
CTA				LR	LR	19 49 11.8	
	comp=Z,164nm,21.6s,MS3.7,baz=226,slow=32						
CTAO	**Charters Tower**	**33.58**	**280**	*e*P	**P**	**19 37 49.3**	**+0.7**
	7.1nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**34.06**	**258**	*e*P	**P**	**19 37 54.6**	**+1.9**
	1.9nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**34.06**	**258**	P	**P**	**19 37 54.9**	**+2.2**
	1.7nm,0.4s,mb4.3,baz=78,slow=11,SNR=12						
STKA				LR	LR	19 50 38.1	
	comp=Z,195nm,22.0s,MS3.8,baz=26,slow=34						
STKA	**Stephens Creek**	**34.06**	**258**	*e*P	**P**	**19 37 54.3**	**+1.6**
	3.6nm,0.6s,mb4.5						
RKT	**Rikitea**	**39.23**	**89**	*e*LR	LR	19 49 14.3	
	226nm,32.2s						
RKT	**Rikitea**	**39.23**	**89**	*e*T		20 20 21.8	
	4.6nm,0.3s						
ASAR	**Alice Springs**	**42.77**	**268**	P	**P**	**19 39 05.8**	**-0.2**
	1.6nm,0.5s,mb4.0,baz=108,slow=8.1,SNR=58						
ASAR				pPcP		19 41 06.2	
	0.3nm,0.4s,baz=119,slow=4.5,SNR=4.1						
WB2	**Warramunga Arr**	**43.80**	**273**	*e*P	**P**	**19 39 14.1**	**-0.2**
WRAB	**Tennant Creek**	**43.80**	**273**	*e*P	**P**	**19 39 13.9**	**-0.4**
	6.2nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**43.81**	**273**	P	**P**	**19 39 14.2**	**-0.2**
	2.3nm,0.5s,mb4.2,baz=111,slow=8.1,SNR=38						
VNDA	**Vanda**	**47.54**	**186**	pP	pP	19 39 52.6	-0.1
	1.2nm,0.6s,baz=3.5,slow=8.3,SNR=7.1						
FITZ	**Fitzroy Crossi**	**52.05**	**270**	*e*P	**P**	**19 40 18.9**	**+0.7**
	8.0nm,1.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.05**	**270**	pP	pP	19 40 27.6	-0.3
	2.2nm,0.7s,baz=124,slow=5.8,SNR=2.4						
FITZ				LR	LR	19 59 55.9	
	comp=Z,111nm,21.9s,MS3.9,baz=33,slow=33						
GUMO	**Guam**	**56.64**	**316**	LR	LR	20 00 25.0	
	comp=Z,56nm,21.4s,MS3.6,baz=310,slow=31						
SNAA	**Sanae**	**77.64**	**179**	*e*	**P**	**19 43 04.1**	**+0.1**
SNAA				*e*	pP	19 43 13.1	-1.0
SNAA				*e*		19 43 16.9	
VNA2	**Neumayer--Watz**	**78.23**	**177**	*e*	**P**	**19 43 07.0**	**-0.3**
VNA2				*e*	pP	19 43 16.8	-0.6
VNA2				*e*		19 43 21.1	
VNA1	**Neumayer--Stat**	**78.47**	**177**	*e*	**P**	**19 43 08.7**	**+0.1**
VNA1				*e*	pP	19 43 18.4	-0.3
VNA1				*e*		19 43 22.8	
PLCA	**Paso Flores**	**82.38**	**133**	P	**P**	**19 43 31.3**	**+1.1**
	2.0nm,0.8s,mb4.1,baz=245,slow=6.1,SNR=5.1						
PLCA				pP	pP	19 43 41.0	+0.8
	4.6nm,0.9s,baz=204,slow=6.6,SNR=6.8						
PLCA				LR	LR	20 13 52.0	
	comp=Z,503nm,18.6s,MS4.9,baz=172,slow=31						
PLCA	**Paso Flores**	**82.38**	**133**	P	**P**	**19 43 31.3**	**+1.1**
PLCA				pP	pP	19 43 41.0	+0.8
PLCA				LR	LR	20 13 52.0	
KSRS	**Korea Array**	**84.55**	**320**	P	**P**	**19 43 42.0**	**+0.9**
	0.3nm,0.4s,mb3.8,baz=241,slow=5.6,SNR=3.4						
NVAR	**Mina Array Bea**	**88.83**	**43**	P	**P**	**19 44 03.3**	**+1.3**
	0.6nm,0.7s,mb4.1,baz=214,slow=7.4,SNR=4.8						
TXAR	**Lajitas Array**	**92.93**	**57**	P	**P**	**19 44 22.2**	**+0.9**
	0.8nm,1.0s,mb4.1,baz=191,slow=3.8,SNR=4.3						
TXAR	**Lajitas Array**	**92.93**	**57**	P	**P**	**19 44 22.2**	**+0.9**
LPAZ	**La Paz**	**98.21**	**114**	LR	LR	20 22 10.7	
	comp=Z,135nm,18.1s,MS4.5,baz=145,slow=31						
ARCES	**ARCESS Array B**	**139.03**	**347**	PKP	PKPdf	19 50 31.9	-1.8
	1.6nm,0.8s,baz=42,slow=1.5,SNR=5.7						
NB2	**NORSAR Subarra**	**149.22**	**351**	PKP	PKPbc	19 50 54.6	-1.2
	comp=Z,1.9nm,0.6s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**149.22**	**351**	PKPbc	PKPbc	19 50 54.8	-1.0
	comp=Z,3.4nm,0.8s,baz=15,slow=4.2,SNR=12						
NOA				pPKPbc	pPKPbc	19 51 04.0	-2.3
	comp=Z,3.3nm,0.9s,baz=15,slow=4.3,SNR=7.0						
HFS	**Hagfors**	**149.69**	**348**	PKPbc	PKPbc	19 50 55.6	-1.4
	comp=Z,3.2nm,0.7s,baz=116,slow=3.4,SNR=17						
HFS				pPKPbc	pPKPbc	19 51 05.1	-2.4
	comp=Z,4.3nm,0.8s,baz=61,slow=7.1,SNR=6.1						
MMAI	**Mount Meron Ar**	**151.35**	**283**	PKPbc	PKPbc	19 51 01.7	-0.2
	comp=Z,3.8nm,0.7s,baz=93,slow=5.0,SNR=5.0						
MMAI				pPKPbc	pPKPbc	19 51 11.4	-0.9
	comp=Z,1.7nm,0.4s,baz=79,slow=8.8,SNR=5.3						
AKASG	**Malin Array Be**	**151.53**	**322**	PKPbc	PKPbc	19 51 00.5	-1.1
	comp=Z,0.2nm,0.2s,baz=55,slow=2.7,SNR=4.1						
AKASG				pPKPbc	pPKPbc	19 51 10.4	-1.8
	comp=Z,0.8nm,0.4s,baz=50,slow=2.5,SNR=4.5						
AKASG	**Malin Array Be**	**151.53**	**322**	PKPbc	PKPbc	19 51 00.5	-1.1
AKASG				pPKPbc	pPKPbc	19 51 10.4	-1.8
TORD	**Torodi Ar. Bea**	**162.31**	**180**	PKP	PKPdf	19 51 10.0	-0.3
	comp=Z,0.8nm,1.0s,baz=266,slow=0.3,SNR=2.9						
TORD				pPKP	pPKPdf	19 51 19.1	-1.7
	comp=Z,1.9nm,1.0s,baz=129,slow=0.3,SNR=6.8						
TORD				PKPab	PKPab	19 51 56.5	-0.8
	comp=Z,1.4nm,0.9s,baz=190,slow=2.0,SNR=5.1						
TORD				pPKPab	pPKPab	19 52 05.8	-1.7
	comp=Z,8.5nm,0.7s,baz=178,slow=3.9,SNR=25						
TORD	**Torodi Ar. Bea**	**162.31**	**180**	PKP	PKPdf	19 51 10.0	-0.3
TORD				pPKP	pPKPdf	19 51 19.1	-1.7
TORD				PKPab	PKPab	19 51 56.5	-0.8
TORD				pPKPab	pPKPab	19 52 05.8	-1.7

*NEIC **05** 19:50:17.0, 1572N×9439W, h16km, MD4.0(MEX), After MEX.*

MEX 05 19:50:16.9±0.8, 1573N×9439W, h16km±11km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.43**	**341**	*i* P	Pn	19 50 38.7	-3.6
CMIG				*i* S	Sn	19 50 56.0	-4.8
TGIG		**1.60**	**49**	*i* P	Pn	19 50 41.2	-3.4
TGIG				*i* S	Sn	19 50 59.6	-5.5
HUIG	**Huatulco**	**1.65**	**271**	*i* P	Pn	19 50 41.3	-4.0
HUIG				*i* S	Sn	19 51 01.6	-4.7
SCX	**San Cristobal**	**1.96**	**59**	*i* P	Pn	19 50 47.0	-2.6
SCX				*i* S	Sn	19 51 11.0	-2.9
SCX	**San Cristobal**	**1.96**	**59**	*i* P	Pn	19 50 47.0	-2.6
SCX				*i* S	Sn	19 51 04.0	-10
CCIG	**Comitan**	**2.24**	**76**	*i* P	Pn	19 50 50.6	-2.8
CCIG				*i* S	Sn	19 51 17.4	-3.2
CCIG	**Comitan**	**2.24**	**76**	*i* P	Pn	19 50 50.6	-2.8
CCIG				*i* S	Sn	19 51 15.9	-4.7
OXX	**Oaxaca**	**2.61**	**301**	*i* P	Pn	19 50 57.0	-1.5
OXX				*i* S	Sn	19 51 26.0	-3.9
VHO	**Vista Hermosa**	**2.61**	**301**	*i* P	Pn	19 50 56.8	-1.7
VHO				*i* S	Sn	19 51 25.6	-4.4
UTMO	**Huajuapan**	**3.88**	**303**	*i* P	Pn	19 51 14.6	-1.4

*ISCJB **05** 20:00:22.3±0.4, 4374N±002×10523W±005, h0km, mb3.8/2, Error ellipse: s-maj=5.0km s-min=3.5km az=179.6*

*NEIC **05** 20:00:24.5±0.5, 4379N×10524W, h0km, ML3.4, Error ellipse: s-maj=7.2km s-min=6.2km az=124.0, Suspected Mining explosion.*

NEIC 60 km [35 miles] SSE of Gillette.

*IDC **05** 20:00:27.6±3.0, 4402N×10572W, h16km±21km, mb3.7/3, mb1 3.7/8, mb1mx3.5/26, mbtmp3.5/8, ML3.6/5, MS4.0/2, Ms1 4.0/2, ms1mx2.6/53, Error ellipse: s-maj=24.5km s-min=10.3km az=143.0*

ISC 05 20:00:24.3±0.4, 4375N±002×10522W±005, h0km, n111, σ0§85/114, mb3.8/2, 28C-23D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**66**	*e*P	**Pg**	**20 00 42.9**	**+0.8**
PHWY	**Pilot Hill**	**2.46**	**184**	*e*Pn	**Pn**	**20 01 05.3**	**-0.3**
PHWY				*e*Sn	**Sn**	**20 01 37.6**	**+1.4**
RWWY	**Rawlins**	**2.53**	**216**	*e*Pn	**Pn**	**20 01 07.5**	**+0.9**
RWWY				*e*Sn	**Sn**	**20 01 40.4**	**+2.2**
LAO	**LASA Array**	**3.02**	**347**	*e*Pn	**Pn**	**20 01 13.8**	**+0.4**
RLMT	**Red Lodge**	**3.21**	**297**	*e*Pn	**Pn**	**20 01 11.4**	**-4.6**
BW06	**Boulder Array**	**3.32**	**254**	*e*Pn	**Pn**	**20 01 17.5**	**+0.1**
BW06				*e*Sn	**Sn**	**20 02 02.5**	**+4.9**
PDAR	**Pinedale Array**	**3.32**	**254**	Pn	**Pn**	**20 01 17.6**	**+0.2**
	6.9nm,0.3s,baz=72,slow=16,SNR=102						
PDAR				Lg		20 02 03.1	
	39nm,0.3s,baz=70,slow=33,SNR=17						
GCMT	**Greycliff**	**3.77**	**304**	*e*Pn	**Pn**	**20 01 24.3**	**+0.6**
LKWY	**Lake**	**3.82**	**284**	*e*Pn	**Pn**	**20 01 23.4**	**-0.9**
LOHW	**Long Hollow**	**3.91**	**270**	*e*Pn	**Pn**	**20 01 26.2**	**+0.7**
ISCO	**Idaho Springs**	**3.96**	**184**	*e*Pn	**Pn**	**20 01 26.9**	**+0.6**
FLWY	**Flagg Ranch**	**3.97**	**277**	*e*Pn	**Pn**	**20 01 24.4**	**-2.1**
MOOW	**Moose Ponds**	**4.00**	**272**	*e*Pn	**Pn**	**20 01 27.5**	**+0.7**
SNOW	**Snow King Moun**	**4.03**	**268**	*e*Pn	**Pn**	**20 01 27.9**	**+0.7**
YNR	**Norris Junctio**	**4.04**	**286**	*e*Pn	**Pn**	**20 01 29.9**	**+2.5**
YFT	**Old Faithful**	**4.11**	**282**	Pn	**Pn**	**20 01 28.6**	**+0.3**
IMW	**Indian Meadow**	**4.14**	**274**	*e*Pn	**Pn**	**20 01 30.0**	**+1.3**
TPAW	**Teton Pass**	**4.17**	**268**	*e*Pn	**Pn**	**20 01 29.2**	**0.0**
YMR	**Madison River**	**4.23**	**284**	Pn	**Pn**	**20 01 30.4**	**+0.4**
N18A	**Larsen Ranch,**	**4.31**	**231**	⇓P	**Pn**	**20 01 30.7**	**-0.4**
	baz=4.2						
DCID1	**Drake Creek**	**4.33**	**270**	*e*Pn	**Pn**	**20 01 32.3**	**+1.0**
AHID	**Auburn Hatcher**	**4.41**	**259**	*e*Pn	**Pn**	**20 01 29.0**	**-3.5**
RRI2	**Red Ridge**	**4.45**	**267**	*e*Pn	**Pn**	**20 01 33.6**	**+0.5**
QLMT	**Earthquake Lak**	**4.59**	**286**	*e*Pn	**Pn**	**20 01 32.2**	**-2.7**
J16A	**Bone**	**4.67**	**266**	⇓P	**Pn**	**20 01 35.6**	**-0.5**
	baz=4.6						
L16A	**Fish Haven**	**4.88**	**251**	⇑P	**Pn**	**20 01 39.3**	**+0.4**
	baz=4.8						
BOZ	**Bozeman (W)**	**4.95**	**295**	*e*Pn	**Pn**	**20 01 39.5**	**-0.4**
BOZ				*e*Sn	**Sn**	**20 02 33.7**	**-4.0**
BOZ	**Bozeman (W)**	**4.95**	**295**	⇓P	**Pn**	**20 01 39.7**	**-0.1**
	baz=4.9						
O18A	**Roosevelt**	**4.99**	**227**	⇓P	**Pn**	**20 01 39.9**	**-0.5**
	baz=4.9						
N17A	**Moffit Pass**	**5.02**	**238**	⇑P	**Pn**	**20 01 40.5**	**-0.3**
	baz=4.9						
EGMT	**Eagleton**	**5.32**	**325**	*e*Pn	**Pn**	**20 01 45.1**	**+0.2**
	19nm,0.5s						
EGMT	**Eagleton**	**5.32**	**325**	⇑P	**Pn**	**20 01 44.9**	**0.0**
	baz=5.3						
M16A	**Huntsville**	**5.33**	**245**	⇑P	**Pn**	**20 01 44.6**	**-0.5**
	baz=5.2						
G15A	**Dillon**	**5.39**	**288**	⇓P	**Pn**	**20 01 46.1**	**+0.1**
	baz=5.3						
DLMT	**Dillon**	**5.51**	**290**	*e*Pn	**Pn**	**20 01 44.1**	**-3.5**
	4.1nm,0.4s						
L15A	**Malad City**	**5.55**	**254**	⇑P	**Pn**	**20 01 47.4**	**-0.7**
	baz=5.5						
P18A	**Preston Nutter**	**5.58**	**224**	⇓P	**Pn**	**20 01 48.5**	**-0.1**
	baz=5.5,SNR=16						
MCMT	**McKenzie Canyo**	**5.58**	**284**	*e*Pn	**Pn**	**20 01 51.3**	**+2.8**
DAU	**Daniels Canyon**	**5.59**	**235**	*e*Pn	**Pn**	**20 01 49.9**	**+1.2**
Q19A	**Hogan Spring (**	**5.68**	**214**	⇑P	**Pn**	**20 01 49.4**	**-0.5**
	baz=5.6						
CTU	**Camp Tracy**	**5.73**	**240**	*e*Pn	**Pn**	**20 01 49.7**	**-0.9**
	14nm,0.4s						
M15A	**Larsen Ranch,**	**5.80**	**249**	⇑P	**Pn**	**20 01 50.9**	**-0.7**
	baz=5.7						
O16A	**Springville**	**5.87**	**235**	⇑P	**Pn**	**20 01 51.9**	**-0.6**
	baz=5.8						
SPUT	**South Promonto**	**5.87**	**248**	*e*Pn	**Pn**	**20 01 53.4**	**+0.8**
E15A	**Deer Lodge**	**5.89**	**300**	⇑P	**Pn**	**20 01 53.0**	**+0.1**
	baz=5.9						
HVU	**Hansel Valley**	**5.90**	**253**	*e*Pn	**Pn**	**20 01 52.8**	**-0.2**
	8.8nm,0.4s						
Q18A	**Rafter H Ranch**	**5.93**	**220**	⇑P	**Pn**	**20 01 52.5**	**-0.9**
	baz=5.9,SNR=9.0						
P17A	**Butcher Ranch,**	**5.95**	**226**	⇓P	**Pn**	**20 01 53.5**	**-0.1**
	baz=5.9						
NOQ	**North Oquirrh**	**5.99**	**241**	*e*Pn	**Pn**	**20 01 54.1**	**0.0**
	31nm,0.4s						
PV10	**Paradox Valley**	**6.10**	**210**	*e*Pn	**Pn**	**20 01 57.0**	**+1.4**
D15A	**Lincoln**	**6.10**	**305**	⇓P	**Pn**	**20 01 56.1**	**+0.4**
	baz=6.1						
SRU	**San Rafael**	**6.11**	**222**	*e*Pn	**Pn**	**20 01 54.3**	**-1.6**
	14nm,0.4s						
SRU	**San Rafael**	**6.11**	**222**	⇑P	**Pn**	**20 01 54.9**	**-1.0**
	baz=6.0,SNR=16						
N15A	**Stansbury Isla**	**6.12**	**245**	⇑P	**Pn**	**20 01 55.4**	**-0.5**
	baz=6.0						
L14A	**Malta**	**6.14**	**257**	⇓P	**Pn**	**20 01 55.5**	**-0.7**
	baz=6.1						
PV01	**Paradox Valley**	**6.16**	**205**	*e*Pn	**Pn**	**20 01 57.3**	**+0.8**
ECSD	**EROS,Sioux Fal**	**6.23**	**87**	*e*Pn	**Pn**	**20 01 57.7**	**+0.2**
	8.1nm,0.4s						
R19A	**Curley Farm, L**	**6.25**	**211**	⇑P	**Pn**	**20 01 57.7**	**0.0**
	baz=6.2						
TMUT	**Trail Mountain**	**6.33**	**227**	*e*Pn	**Pn**	**20 01 59.2**	**+0.5**
NLU	**North Lily Min**	**6.37**	**236**	*e*Pn	**Pn**	**20 01 59.4**	**0.0**
M14A	**Sheep Mountain**	**6.40**	**252**	⇑P	**Pn**	**20 01 59.0**	**-0.9**
	baz=6.3						
R18A	**Canyonlands Na**	**6.42**	**215**	⇑P	**Pn**	**20 01 59.5**	**-0.6**
	baz=6.4,SNR=15						
BGU	**Big Grassy Mou**	**6.44**	**247**	*e*Pn	**Pn**	**20 02 01.1**	**+0.8**
CHMT	**Chamberlain Mo**	**6.49**	**302**	*e*Pn	**Pn**	**20 02 01.3**	**+0.3**
J13A	**Cove Ranch, Pi**	**6.51**	**270**	⇓P	**Pn**	**20 02 01.2**	**-0.2**
	baz=6.4						
Q16A	**Castle Valley**	**6.59**	**225**	⇑P	**Pn**	**20 02 02.1**	**-0.2**
	baz=6.5,SNR=15						
G13A	**Cobalt**	**6.59**	**285**	⇑P	**Pn**	**20 02 02.8**	**+0.4**
	baz=6.5						
HLID	**Hailey**	**6.67**	**272**	*e*Pn	**Pn**	**20 02 05.3**	**+1.7**
	2.5nm,0.4s						
DUG	**Dugway**	**6.68**	**240**	*e*Pn	**Pn**	**20 02 02.7**	**-0.9**
	8.2nm,0.4s						
DUG	**Dugway**	**6.68**	**240**	⇓P	**Pn**	**20 02 03.2**	**-0.4**
	baz=6.6						
S19A	**Harvey Farm, M**	**6.70**	**208**	⇑P	**Pn**	**20 02 03.3**	**-0.5**
	baz=6.6						
D14A	**Greenough**	**6.71**	**303**	⇑P	**Pn**	**20 02 04.1**	**0.0**
	baz=6.7						
P15A	**Leamington**	**6.74**	**234**	⇓P	**Pn**	**20 02 03.8**	**-0.6**
	baz=6.7						
R17A	**Hanksville Air**	**6.75**	**220**	⇓P	**Pn**	**20 02 03.9**	**-0.7**
	baz=6.7,SNR=9.4						
F13A	**Darby**	**6.80**	**291**	⇑P	**Pn**	**20 02 04.8**	**-0.4**
	baz=6.7						
MSO	**Missoula**	**6.88**	**300**	*e*Pn	**Pn**	**20 02 07.1**	**+0.8**
	2.2nm,0.4s						
MVCO	**Mesa Verde**	**7.00**	**202**	*e*Pn	**Pn**	**20 02 09.7**	**+1.7**
	5.0nm,0.4s						
S18A	**Hurst Farm, Bl**	**7.06**	**213**	⇑P	**Pn**	**20 02 08.4**	**-0.4**
	baz=7.0,SNR=33						
Q15A	**Fillmore**	**7.18**	**231**	⇑P	**Pn**	**20 02 10.0**	**-0.5**
	baz=7.1						
C14A	**Swan Lake**	**7.19**	**307**	⇓P	**Pn**	**20 02 10.6**	**0.0**
	baz=7.2						
P14A	**Drum Mountains**	**7.20**	**237**	⇓P	**Pn**	**20 02 10.3**	**-0.5**
	baz=7.1						
D13A	**Huson**	**7.31**	**300**	⇓P	**Pn**	**20 02 12.1**	**-0.2**
	baz=7.3						
MSU	**Marysvale**	**7.41**	**227**	*e*Pn	**Pn**	**20 02 13.3**	**-0.4**
F12A	**Elk City**	**7.42**	**289**	⇑P	**Pn**	**20 02 13.7**	**-0.1**
	baz=7.4						
S17A	**Black Ridge (B**	**7.44**	**217**	⇑P	**Pn**	**20 02 13.5**	**-0.6**
	baz=7.4,SNR=26						
T18A	**Mexican Hat**	**7.50**	**210**	⇑P	**Pn**	**20 02 14.6**	**-0.3**
	baz=7.4						
T19A	**Beclabito**	**7.50**	**204**	⇑P	**Pn**	**20 02 14.8**	**-0.1**
	baz=7.4						
M12A	**Wells**	**7.53**	**255**	⇓P	**Pn**	**20 02 14.8**	**-0.5**
	baz=7.4						
S16A	**Weppner Ranch,**	**7.73**	**221**	⇑P	**Pn**	**20 02 17.4**	**-0.6**
	baz=7.7						
P13A	**Bates Ranch, G**	**7.87**	**240**	⇑P	**Pn**	**20 02 19.7**	**-0.2**
	baz=7.8						
O12A	**Currie**	**7.90**	**247**	⇓P	**Pn**	**20 02 19.7**	**-0.6**
	baz=7.8						
B13A	**Whitefish**	**7.92**	**309**	⇓P	**Pn**	**20 02 20.7**	**+0.1**
	baz=7.9						
T17A	**Navajo Res., N**	**7.98**	**214**	⇓P	**Pn**	**20 02 21.1**	**-0.4**
	baz=7.9						
WALA	**Waterton Lakes**	**8.01**	**315**	*e*Pn	**Pn**	**20 02 21.1**	**-0.8**
	2.2nm,0.7s						
ELK	**Elko**	**8.02**	**251**	Pn	**Pn**	**20 02 24.7**	**+2.7**

RAO S **S** **20 39 52.7 +0.9**
2µm,0.3s,baz=85,slow=23,SNR=6.1
RAO Raoul Island 2.63 41 P **Pn** **20 39 13.5 +0.9**
RAO S **S** **20 39 52.7 +0.9**
MXZ Matakaoa Point 6.45 193 P **Pn** **20 39 58.0 +1.0**
MXZ S **S** **20 41 14.4 +2.0**
KUZ Kuaotunu 6.57 213 P **Pn** **20 40 04.8 +6.3**
WIZ White Island 6.69 200 P **Pn** **20 40 08.2 +8.2**
PUZ Puketiti 6.95 192 P **Pn** **20 40 03.6 +0.3**
PUZ S **S** **20 41 22.9 -0.9**
MWZ Matawai 7.36 196 P **Pn** **20 40 08.7 +0.3**
URZ Urewera 7.40 199 P **Pn** **20 40 13.4 +4.6**
53nm,0.3s,baz=317,slow=2.5,SNR=78
URZ S **S** **20 41 39.0 +5.1**
52nm,0.3s,baz=262,slow=22,SNR=9.3
KNZ Kokohu 7.99 194 P **Pn** **20 40 15.2 -1.0**
BKZ Black Stump Fm 8.41 200 P **Pn** **20 40 21.4 -0.2**
HIZ Hauiti 8.42 209 P **Pn** **20 40 28.6 +7.0**
WTVZ West Tongariro 8.66 204 P **Pn** **20 40 29.2 +4.5**
TWVZ Taurewa 8.67 205 P **Pn** **20 40 29.6 +4.8**
NGZ Ngauruhoe 8.71 204 P **Pn** **20 40 30.2 +4.9**
WPVZ Whakapapa 8.75 204 P **Pn** **20 40 31.4 +5.6**
FWVZ Far West T-bar 8.79 204 P **Pn** **20 40 26.8 +0.4**
WNVZ Wahianoa 8.84 203 P **Pn** **20 40 30.7 +3.7**
VRZ Vera Road 8.98 208 P **Pn** **20 40 34.5 +5.8**
RAEZ Rainy Point 9.26 209 P **Pn** **20 40 39.7 +7.4**
PKE Pukeiti 9.36 211 P **Pn** **20 40 41.4 +7.9**
NEZ North Egmont 9.38 210 P **Pn** **20 40 41.6 +7.9**
TSZ Takapari Road 9.40 200 P **Pn** **20 40 32.1 -1.8**
WAZ Wanganui 9.44 205 P **Pn** **20 40 36.9 +2.4**
MRZ Mangatainoka R 10.06 200 P **Pn** **20 40 40.1 -2.2**
KIW Kapiti Island 10.45 202 P **Pn** **20 40 45.3 -1.9**
MTW Mount Morrison 10.54 199 P **Pn** **20 40 49.3 +1.0**
CAW Cannon Point 10.63 201 P **Pn** **20 40 46.2 -3.1**
PAWZ Paruwai Farm 10.77 199 P **Pn** **20 40 51.8 +0.7**
MRW Makara Radio 10.85 202 P **Pn** **20 40 53.6 +1.5**
MSWZ Moikau Station 10.85 200 P **Pn** **20 40 51.4 -0.7**
MSWZ S **S** **20 42 46.9 -6.7**
WEL Wellington 10.88 202 P **Pn** **20 40 53.3 +0.8**
SNZO South Karori 10.92 202 P **Pn** **20 40 52.2 -0.8**
BHW Baring Head 10.96 201 P **Pn** **20 40 52.7 -0.8**
TCW Tory Channel 10.98 204 P **Pn** **20 40 51.1 -2.6**
NNZ Nelson 11.31 207 P **Pn** **20 40 58.8 +0.9**
THZ Tophouse 11.96 207 P **Pn** **20 41 05.4 -0.5**
KHZ Kahutara 12.30 203 P **Pn** **20 41 08.1 -2.0**
DSZ Denniston Nort 12.40 210 P **Pn** **20 41 11.2 -0.1**
LTZ Lake Taylor 13.08 206 P **Pn** **20 41 18.2 -1.4**
MQZ McQueen's Vall 13.75 203 P **Pn** **20 41 25.9 -1.8**
WVZ Waitaha Valley 13.94 210 P **Pn** **20 41 30.7 +0.6**
RPZ Rata Peaks 14.34 207 P **Pn** **20 41 34.8 -0.1**
9.7nm,0.3s,baz=335,slow=3.2,SNR=38
RPZ S **S** **20 44 09.3 -3.9**
12nm,0.3s,baz=24,slow=14,SNR=6.7
RPZ Rata Peaks 14.34 207 P **Pn** **20 41 34.5 -0.4**
FOZ Fox Glacier 14.79 211 P **Pn** **20 41 39.1 -1.2**
LBZ Lake Benmore 15.25 208 P **Pn** **20 41 44.8 -0.9**
DZM Mont Dzumac 15.27 304 *e*P **Pn** **20 41 51.3 +5.0**
DZM *e*S **S** **20 44 35.6 +2.3**
DZM Mont Dzumac 15.27 304 ⇑P **Pn** **20 41 50.9 +4.6**
JCZ Jackson Bay 15.61 212 P **Pn** **20 41 49.1 -0.9**
ODZ Otahua Downs 15.62 206 P **Pn** **20 41 50.5 +0.3**
AFI Afiamalu 18.82 25 P **P** **20 42 24.2 +0.2**
7.1nm,0.3s,baz=209,slow=9.7,SNR=6.9
AFI S **S** **20 45 32.2 -12**
5.9nm,0.3s,baz=73,slow=18,SNR=4.7
AFI Afiamalu 18.82 25 P **P** **20 42 24.2 +0.2**
AFI S **S** **20 45 32.2 -12**
RAR Rarotonga 20.60 66 P **P** **20 42 41.9 -0.9**
19nm,0.6s,baz=262,slow=9.9,SNR=6.3
ARMA Armidale 24.45 265 ⇓*i*P **P** **20 43 23.4 +4.9**
ARMA *e*PCP PcP 20 46 48.3 -1.4
RIV Riverview 24.52 256 ⇓*i*P **P** **20 43 23.7 +4.7**
CAN Canberra 26.27 253 ⇓*e*P **P** **20 43 39.0 +4.2**
TAU Tasmania Unive 28.45 237 P **P** **20 43 57.5 +3.5**
431nm,0.7s,mb6.0,SNR=7.3
TAU Tasmania Unive 28.45 237 *e*P **P** **20 43 57.8 +3.8**
TAU pmax pmax
comp=Z,58nm,0.9s,mb5.0
TAU Tasmania Unive 28.45 237 *e*P **P** **20 43 57.8 +3.7**
comp=Z,58nm,0.9s,mb5.0
TOO Toolangi 29.14 248 ⇓*i*P **P** **20 44 03.8 +3.6**
TOO *e*PCP PcP 20 47 00.4 -0.3
TOO *e*SCP ScP 20 50 12.8 -4.3
TOO Toolangi 29.14 248 ⇓*i*P **P** **20 44 03.8 +3.6**
TOO *e* 20 47 00.4
PAE Paea 30.61 71 *e*P **P** **20 44 12.3 -1.0**
comp=Z,660nm,1.0s,mb6.1
PAE Paea 30.61 71 *e*P **P** **20 44 12.3 -1.0**
PAE pmax pmax
comp=Z,660nm,1.0s,mb6.1
PPT Papeete 30.66 71 *e*P **P** **20 44 13.0 -0.7**
comp=Z,89nm,1.1s,mb5.2
PPT Papeete 30.66 71 P **P** **20 44 12.8 -1.0**
comp=Z,79nm,1.0s,mb5.2,baz=274,slow=2.2,SNR=6.3
TIAR Tiarei 30.85 71 *e*P **P** **20 44 14.8 -0.6**
comp=Z,2µm,0.8s
MEH Mehetia 31.73 73 *e*P **P** **20 44 22.4 -0.7**
comp=Z,3µm,1.0s
CTA Charters Tower 32.37 282 ⇓*i*P **P** **20 44 31.4 +2.8**
comp=Z,304nm,0.6s,mb6.0
CTA *e*S **S** **20 49 25.0 +1.8**
CTA Charters Tower 32.37 282 P **P** **20 44 31.1 +2.5**
comp=Z,406nm,0.7s,mb6.1,baz=106,slow=10,SNR=288
CTA Charters Tower 32.37 282 ⇓*i*P **P** **20 44 31.4 +2.8**
CTA *e*S **S** **20 49 25.0 +1.8**
CTA pmax pmax
comp=Z,304nm,0.6s
CTAO Charters Tower 32.37 282 *e*P **P** **20 44 31.2 +2.6**
STKA Stephens Creek 32.72 259 ⇓*i*P **P** **20 44 35.0 +3.5**
comp=Z,474nm,0.5s
STKA *e*PCP PcP 20 47 10.1 -0.3
STKA *e*SCP ScP 20 50 25.5 -3.7
STKA *e*PCS PcS 20 50 53.9 -2.1
STKA Stephens Creek 32.72 259 P **P** **20 44 34.7 +3.2**
comp=Z,825nm,0.8s,baz=100,slow=10,SNR=1832
STKA PcP PcP 20 47 09.5 -0.9
comp=Z,22nm,0.7s,baz=102,slow=3.0,SNR=2.6
STKA ScP ScP 20 50 25.9 -3.2
comp=Z,8.3nm,0.8s,baz=87,slow=4.8,SNR=3.3
STKA PKiKP PKiKP 20 54 34.7 -1.9
comp=Z,3.6nm,0.8s,baz=223,slow=3.4,SNR=4.2
PMOR Pomariorio Ree 33.41 68 *e*P **P** **20 44 36.8 -0.9**
comp=Z,70nm,1.1s,mb5.1
PMG Port Moresby 37.56 298 *e*P **P** **20 45 13.7 +0.8**
PMG pmax pmax
comp=Z,47nm,0.8s
PMG Port Moresby 37.56 298 *e*P **P** **20 45 13.7 +0.8**
comp=Z,47nm,0.8s,mb5.0
COEN Coen 37.99 289 ⇓*e*P **P** **20 45 18.2 +1.8**
comp=Z,108nm,0.9s,mb5.3
ASAR Alice Springs 41.46 269 P **P** **20 45 46.6 +1.8**
comp=Z,163nm,0.7s,mb5.4,baz=107,slow=8.0,SNR=2196
ASAR PcP PcP 20 47 37.0 -0.3
comp=Z,14nm,0.5s,baz=113,slow=5.1,SNR=5.7
ASAR ScP ScP 20 50 58.9 -3.2
comp=Z,17nm,0.9s,baz=130,slow=6.2,SNR=19
ASAR S **S** **20 51 37.2 -3.0**
comp=Z,4.6nm,1.1s,baz=113,slow=19,SNR=5.4
ASAR PKiKP PKiKP 20 54 41.9 -2.0
comp=Z,1.2nm,0.7s,baz=106,slow=2.0,SNR=6.1
ASAR Alice Springs 41.46 269 P **P** **20 45 46.7 +1.8**
ASAR 20 47 37.1
ASAR S **S** **20 51 37.3 -2.9**
ASAR Alice Springs 41.46 269 P **P** **20 45 46.6 +1.8**
ASAR PcP PcP 20 47 37.0 -0.3
ASAR ScP ScP 20 50 58.9 -3.2
ASAR S **S** **20 51 37.2 -3.0**
WB2 Warramunga Arr 42.52 274 ⇓*i*P **P** **20 45 54.3 +0.8**
WB2 *e*SCP ScP 20 51 03.9 -2.5
WB2 *e*S **S** **20 51 49.8 -6.0**
WRAB Tennant Creek 42.53 274 P **P** **20 45 54.0 +0.5**
comp=Z,3µm,0.5s
WRAB Tennant Creek 42.53 274 *e*P **P** **20 45 54.3 +0.8**
WRAB pmax pmax
comp=Z,354nm,0.8s,mb5.7
WRAB Tennant Creek 42.53 274 *e*P **P** **20 45 54.3 +0.8**
comp=Z,354nm,0.8s,mb5.7
WRA Warramunga Arr 42.53 274 P **P** **20 45 54.6 +1.1**
comp=Z,214nm,0.4s,mb5.8,baz=111,slow=8.0,SNR=1069
WRA ScP ScP 20 51 03.4 -3.0
comp=Z,9.4nm,1.0s,baz=113,slow=4.5,SNR=6.3
WRA S **S** **20 51 52.7 -3.3**
comp=Z,0.4nm,0.5s,baz=207,slow=22,SNR=2.9
WRA PKiKP PKiKP 20 54 42.8 -2.1
comp=Z,2.9nm,0.7s,baz=99,slow=0.3,SNR=12
WRA Warramunga Arr 42.53 274 P **P** **20 45 54.6 +1.1**
WRA ScP ScP 20 51 03.4 -3.0
WRA S **S** **20 51 52.7 -3.3**
FORT Forrest 44.27 257 ⇓*i*P **P** **20 46 07.8 +0.6**
comp=Z,255nm,0.5s,mb5.7
FORT *e*PCP PcP 20 47 45.2 -1.5
FORT *e*SCP ScP 20 51 09.1 -4.2
SBA Scott Base 47.05 184 *e*P **P** **20 46 31.3 +3.1**
SBA pmax pmax
comp=Z,129nm,1.4s,mb5.1
SBA Scott Base 47.05 184 *e*P **P** **20 46 31.3 +3.1**
comp=Z,129nm,1.4s,mb5.1
VNDA Vanda 47.07 185 P **P** **20 46 30.2 +1.8**
comp=Z,3.5nm,0.5s,baz=4.4,slow=7.8,SNR=53
VNDA PcP PcP 20 47 56.4 +0.7
comp=Z,27nm,0.9s,baz=342,slow=4.1,SNR=18
VNDA ScP ScP 20 51 21.6 -2.5
comp=Z,7.5nm,0.6s,baz=358,slow=3.9,SNR=12
VNDA Vanda 47.07 185 P **P** **20 46 30.2 +1.8**
VNDA 20 47 56.4
KAKA Kakadu 47.51 282 ⇓*i*P **P** **20 46 32.2 -0.4**
comp=Z,52nm,0.6s,mb5.0
FITZ Fitzroy Crossi 50.76 272 ⇓*i*P **P** **20 46 57.7 +0.6**
comp=Z,122nm,0.6s,mb5.4
FITZ Fitzroy Crossi 50.76 272 P **P** **20 46 57.7 +0.6**
comp=Z,58nm,0.7s,mb5.0,baz=142,slow=6.8,SNR=169
KLBR Kellerberrin 52.54 252 ⇓*i*P **P** **20 47 09.8 -0.3**
comp=Z,90nm,1.1s,mb5.0
NWAO Narrogin (SRO) 52.58 250 P **P** **20 47 10.7 +0.3**
comp=Z,16nm,0.9s,mb4.3,baz=153,slow=6.8,SNR=3.1
CASEY Casey 53.61 208 *e*P **P** **20 47 16.7 -0.6**
MUN Mundaring 53.69 251 *e*P **P** **20 47 18.7 +0.3**
MBWA Marble Bar 54.53 265 *e*P **P** **20 47 24.2 -0.4**
comp=Z,45nm,0.9s,mb4.9
BATI Baumata 56.18 279 P **P** **20 47 38.1 +1.7**
comp=Z,57nm,0.7s,mb5.1,baz=159,slow=4.0,SNR=18
QSPA South Pole Qui 58.84 180 P **P** **20 47 56.3 +2.4**
comp=Z,473nm,0.8s,mb6.0,baz=23,slow=1.3,SNR=1595
QSPA PKiKP PKiKP 20 55 00.2 -0.7
comp=Z,1.3nm,0.6s,baz=345,slow=0.2,SNR=6.1
QSPA S **S** **20 55 40.4 +2.5**
comp=Z,7.1nm,0.9s,baz=250,slow=16,SNR=11
QSPA South Pole Qui 58.84 180 P **P** **20 47 56.3 +2.4**
MIR Mirnyy 60.61 207 ⇓*i*P **P** **20 48 06.0 -0.1**
MIR pmax pmax
comp=Z,300nm,1.0s,mb5.8
KAPI Kappang 62.19 282 P **P** **20 48 16.7 -0.8**
comp=Z,18nm,0.7s,mb4.8,baz=131,slow=4.9,SNR=10
KAPI PP PP 20 50 36.1 -1.7
comp=Z,13nm,0.7s,baz=178,slow=13,SNR=4.8
KAPI Kappang 62.19 282 *e*P **P** **20 48 16.6 -0.9**
PCI Palu 64.38 286 ⇓*e*P **P** **20 48 32.5 +0.7**
MAW Mawson 70.92 201 ⇓*i*P **P** **20 49 11.2 -0.4**
comp=Z,11nm,0.6s,mb4.7
MAW Mawson 70.92 201 P **P** **20 49 11.4 -0.3**
comp=Z,25nm,1.0s,mb4.8,baz=128,slow=7.5,SNR=52
MAW Mawson 70.92 201 ⇓*i*P **P** **20 49 11.2 -0.4**
MAW pmax pmax
comp=Z,11nm,0.6s
KSM Kuching 73.61 282 ⇓*i*P **P** **20 49 27.6 -0.9**
KSM *e*PP PP 20 52 17.9 +1.3
JHJ Hachijo jima 2 74.53 326 P **P** **20 49 31.2 -2.0**
comp=Z,122nm,0.9s,mb5.5,baz=165,slow=9.1,SNR=7.1
SYO Syowa Base 75.89 194 ⇑*i*P **P** **20 49 38.3 -2.2**
SYO Syowa Base 75.89 194 ⇑*i*PcP PcP 20 49 50.4 -1.4
JOW Kunigami 76.07 314 P **P** **20 49 41.6 -0.5**
comp=Z,42nm,0.9s,mb5.1,baz=176,slow=5.2,SNR=8.8
SNAA Sanae 77.32 179 *e*P **P** **20 49 48.7 +0.2**
SNAA *e* 20 49 53.8
SNAA *e* pP 20 50 54.9 +5.2
SNAA *e*S S 20 59 14.9 -1.0
SNAA Sanae 77.32 179 P **P** **20 49 49.0 +0.5**
comp=Z,72nm,0.8s,mb5.5,baz=208,slow=6.4,SNR=565
SNAA S S 20 59 15.1 -0.8
comp=Z,2.0nm,1.1s,baz=356,slow=24,SNR=14
SNAA PKKPbc PKKPbc 21 08 49.3 -3.3
comp=Z,0.4nm,1.0s,baz=304,slow=3.6,SNR=7.2
SNAA Sanae 77.32 179 P **P** **20 49 49.0 +0.5**
SNAA S S 20 59 15.1 -0.8
MAIT Maitri 77.90 184 *e*P **P** **20 49 50.5 -1.2**
MJAR Matsushiro Arr 78.06 327 P **P** **20 49 50.8 -2.2**
comp=Z,20nm,0.9s,mb4.8,baz=164,slow=5.5,SNR=66
MJAR pP pP 20 51 02.1 +7.8
comp=Z,6.9nm,1.1s,baz=125,slow=6.1,SNR=2.1
MAJO Matsushiro 78.06 327 ⇓*i*P **P** **20 49 51.0 -1.9**
MAJO pmax pmax
comp=Z,38nm,1.0s,mb5.1
MAJO Matsushiro 78.06 327 ⇓*i*P **P** **20 49 51.0 -1.9**
comp=Z,38nm,1.0s,mb5.1
MAT Matsushiro 78.06 327 P **P** **20 49 51.0 -1.9**
VNA1 Neumayer--Stat 78.19 177 *e*P **P** **20 49 54.5 +1.3**
VNA1 *e* 20 49 58.5
VNA1 *e* pP 20 51 00.5 +5.9
VNA1 *e*S S 20 59 27.9 +2.7
YHNB Yeheng 79.06 308 *e*P **P** **20 49 57.5 -1.2**
comp=Z,22nm,1.0s,mb4.8
AMKA Amchitka 82.30 359 *e*P **P** **20 50 13.9 -1.2**
ASAJ Asahikawa 82.49 334 P **P** **20 50 16.7 +0.4**
comp=Z,20nm,0.8s,mb4.9,baz=232,slow=8.7,SNR=27
PLCA Paso Flores 83.08 134 P **P** **20 50 20.3 +0.6**
comp=Z,16nm,0.8s,mb4.9,baz=229,slow=5.0,SNR=46
PLCA pP pP 20 51 28.1 +6.3
comp=Z,15nm,1.1s,baz=220,slow=4.8,SNR=5.1
PLCA PKKP PKKPdf 21 08 22.9 -5.7
comp=Z,1.9nm,0.9s,baz=251,slow=5.6,SNR=3.1
PLCA PKKPbc PKKPbc 21 08 38.3 -0.5
comp=Z,3.1nm,1.0s,baz=121,slow=1.6,SNR=4.0
PLCA Paso Flores 83.08 134 P **P** **20 50 20.3 +0.6**
PLCA *PP pP 20 51 28.1 +6.3
SMY Shemya 83.81 356 *e*P **P** **20 50 22.2 -0.6**
SMY pmax pmax
comp=Z,426nm,1.2s,mb6.2
SMY Shemya 83.81 356 *e*P **P** **20 50 22.2 -0.6**
comp=Z,426nm,1.2s,mb6.2
PSI Prapat 83.93 277 P **P** **20 50 22.4 -2.0**
comp=Z,10nm,0.7s,mb4.8,baz=353,slow=20,SNR=9.7
PSI PP PP 20 53 40.6 -1.5
comp=Z,23nm,0.9s,baz=162,slow=7.4,SNR=13
PSI Prapat 83.93 277 ⇓*e*P **P** **20 50 21.9 -2.5**
KSRS Korea Array 83.98 321 P **P** **20 50 23.9 -0.2**
comp=Z,22nm,0.8s,mb5.1,baz=142,slow=5.6,SNR=111
NIKO Nikolski 84.44 7 *e*P **P** **20 50 24.9 -1.0**
comp=Z,336nm,1.1s,mb6.1
INCN Inchon 84.71 320 *e*P **P** **20 50 27.5 -0.2**
comp=Z,26nm,0.9s,mb5.1
UNV Unalaska Valle 85.56 8 *e*P **P** **20 50 30.2 -1.3**
comp=Z,182nm,1.6s,mb5.7
PET Petropavlovsk 86.01 347 *i*P **P** **20 50 33.1 -0.6**
PET pmax pmax
comp=Z,55nm,0.6s,mb5.6
PET pmax pmax
comp=Z,100nm,14.0s
PET Petropavlovsk 86.01 347 *i*P **P** **20 50 33.0 -0.7**
BSC Santa Cruz Isl 86.24 46 ⇓P **P** **20 50 35.9 +0.5**
baz=86
PETK Petropavlovsk- 86.27 347 P **P** **20 50 34.3 -0.7**
comp=Z,28nm,0.6s,mb5.2,baz=113,slow=6.6,SNR=82
PETK PKiKP PKiKP 20 55 39.0 -1.8
comp=Z,4.5nm,0.8s,baz=110,slow=3.6,SNR=5.0
PETK Petropavlovsk- 86.27 347 *e*P **P** **20 50 34.2 -0.8**
V03C Hunter Liggett 86.63 44 ⇑P **P** **20 50 37.9 +0.7**
baz=87
HAST Hastings Reser 86.69 43 ⇓P **P** **20 50 38.1 +0.7**
baz=87
PKM Peak Mountain 86.73 46 ⇓P **P** **20 50 38.2 +0.6**
baz=87
BNLO Ben Lomond (Sa 86.84 43 ⇓P **P** **20 50 37.8 -0.4**
baz=87
PKD Parkfield 86.99 44 ⇓P **P** **20 50 39.4 +0.5**
baz=87,SNR=9.5
U04C Hernandez Rese 87.13 44 ⇓P **P** **20 50 39.8 +0.3**
baz=87
BAR Barrett 87.25 49 *e*P **P** **20 50 40.3 +0.1**
comp=Z,4.0nm,0.8s,mb4.3
PACP Pacheco Peak 87.27 43 ⇑P **P** **20 50 41.0 +0.8**
baz=87
ARVC Arvin 87.49 46 P **P** **20 50 41.4 +0.2**
baz=88,SNR=9.4
MURC Murrieta 87.51 48 ⇑P **P** **20 50 41.7 +0.3**
baz=88,SNR=5.4
MONP Monument Peak 87.55 49 ⇑P **P** **20 50 42.0 +0.4**
baz=88,SNR=13
NSHM Saint Helena R 87.55 41 *e*P **P** **20 50 41.5 +0.1**
S04C Ingram Canyon, 87.59 43 ⇑P **P** **20 50 41.7 0.0**
baz=88,SNR=7.7
WHN Wuhan 87.60 308 ⇑P **P** **20 50 41.8 -0.1**
WHN AMB AMB
comp=Z,34nm,0.8s,mb5.2
DVTC Desert V Tower 87.61 49 ⇓P **P** **20 50 42.2 +0.3**
baz=88,SNR=7.8
BFSC Mount Baldy St 87.63 47 ⇓P **P** **20 50 42.0 0.0**
baz=88,SNR=6.3
VES Vestal, Richgr 87.80 45 ⇑P **P** **20 50 42.3 -0.4**
baz=88,SNR=11
EDW2 Edwards Air Fo 87.84 47 ⇑P **P** **20 50 43.0 +0.1**
baz=88,SNR=21
SDPT Sand Point 87.86 11 *e*P **P** **20 50 41.8 -0.7**
comp=Z,193nm,0.6s,mb6.1
SWSC Sam W. Stewart 87.98 49 ⇓P **P** **20 50 44.3 +0.7**
baz=88,SNR=7.2
PFO Pinyon Flat Ob 87.99 48 P **P** **20 50 44.9 +1.2**
comp=Z,109nm,0.8s,mb5.7,SNR=6.9
PFO Pinyon Flat Ob 87.99 48 P **P** **20 50 44.1 +0.4**
comp=Z,14nm,0.8s,mb4.8,baz=279,slow=5.9,SNR=24
PFO Pinyon Flat Ob 87.99 48 ⇑P **P** **20 50 44.3 +0.7**
baz=88,SNR=11
RCTC Rector, Farmer 88.02 45 ⇓P **P** **20 50 42.8 -0.9**
baz=88
ISA Isabella 88.06 46 *e*P **P** **20 50 43.9 0.0**
ISA pmax pmax
comp=Z,29nm,0.9s,mb5.1
ISA Isabella 88.06 46 ⇑P **P** **20 50 44.0 +0.1**
baz=88,SNR=27
ISA Isabella 88.06 46 *e*P **P** **20 50 43.9 0.0**
comp=Z,29nm,0.9s,mb5.1
S05C Merced 88.06 43 ⇓P **P** **20 50 43.8 -0.2**
baz=88,SNR=8.9
T06C Millerton Lake 88.20 44 P **P** **20 50 44.4 -0.2**
baz=88,SNR=20
GASB Alder Springs 88.27 40 ⇑P **P** **20 50 45.6 +0.8**
baz=88,SNR=9.9
HELL Mitchell Peak 88.39 45 ⇓P **P** **20 50 44.8 -0.7**
baz=88,SNR=9.1
MDJ Mudanjiang 88.45 327 P **P** **20 50 45.3 -0.2**
MDJ AP pP 20 51 49.8 +1.3
MDJ XP sP 20 52 18.5 +2.7
MDJ AMB AMB
comp=Z,22nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,122nm,5.5s
MDJ Mudanjiang 88.45 327 *e*P **P** **20 50 44.5 -1.0**
comp=Z,69nm,1.4s,mb5.3
CMB Columbia Colle 88.49 43 ⇓*i*P **P** **20 50 45.6 -0.3**
CMB pmax pmax
comp=Z,15nm,0.8s,mb4.9
CMB Columbia Colle 88.49 43 ⇑P **P** **20 50 45.9 0.0**
baz=89,SNR=18
CMB Columbia Colle 88.49 43 ⇓*i*P **P** **20 50 45.6 -0.3**
comp=Z,15nm,0.8s,mb4.9
DL2 Dalian 88.51 318 P **P** **20 50 45.9 -0.1**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
BELC Belle Mtn. 88.53 48 P **P** **20 50 46.9 +0.7**
baz=89,SNR=24
O02C Red Bluff 88.60 40 ⇓P **P** **20 50 47.0 +0.7**
baz=89,SNR=13
KCC Kaiser Creek 88.64 44 ⇓P **P** **20 50 46.9 +0.3**
baz=89,SNR=11
BC3 Big Chuckw Mtn 88.66 49 ⇓P **P** **20 50 47.5 +0.6**
baz=89,SNR=14
GLA Glamis 88.69 50 ⇓*i*P **P** **20 50 47.9 +0.9**
GLA pmax pmax
comp=Z,48nm,0.9s,mb5.3
GLA Glamis 88.69 50 ⇓P **P** **20 50 48.0 +1.1**
baz=89,SNR=21
GLA Glamis 88.69 50 ⇓*i*P **P** **20 50 47.9 +0.9**
comp=Z,48nm,0.9s,mb5.3
S06C San Francisco 88.70 43 ⇓P **P** **20 50 46.6 -0.3**
baz=89,SNR=12
N02C Big Bar 88.76 39 ⇓P **P** **20 50 47.7 +0.6**
baz=89,SNR=6.2
LAVA Lava Cap Winer 88.78 42 ⇑P **P** **20 50 46.9 -0.4**
baz=89,SNR=5.9
HEC Hector,Ludlow 88.85 47 ⇑P **P** **20 50 47.5 -0.1**
baz=89,SNR=19
GSC Goldstone 88.85 47 *e*P **P** **20 50 47.2 -0.5**
GSC pmax pmax
comp=Z,15nm,0.8s,mb4.9
GSC Goldstone 88.85 47 ⇓P **P** **20 50 47.7 +0.1**
baz=89,SNR=13
GSC Goldstone 88.85 47 *e*P **P** **20 50 47.2 -0.5**
comp=Z,15nm,0.8s,mb4.9
ORV Oroville 88.89 41 ⇓P **P** **20 50 47.5 -0.2**
baz=89,SNR=5.3
MPMC Manual Prospec 88.92 46 ⇓P **P** **20 50 47.6 -0.4**
baz=89,SNR=8.3
WDC Whiskeytown Da 89.01 40 *e*P **P** **20 50 48.0 -0.3**
WDC pmax pmax
comp=Z,15nm,1.0s,mb4.8
WDC Whiskeytown Da 89.01 40 ⇓P **P** **20 50 48.1 -0.2**
baz=89,SNR=8.3
WDC Whiskeytown Da 89.01 40 *e*P **P** **20 50 48.0 -0.3**
comp=Z,15nm,1.0s,mb4.8
MTUM Tungsten Hills 89.11 44 *e*P **P** **20 50 49.1 +0.2**
R05C Kirkwood Meado 89.12 43 ⇑P **P** **20 50 48.4 -0.5**
baz=89,SNR=7.1
CHGN Chignik 89.12 12 *e*P **P** **20 50 47.9 -0.5**
IRM Iron Mountain 89.17 49 ⇑P **P** **20 50 50.0 +0.7**
baz=89,SNR=20
113A Mohawk Valley, 89.20 50 ⇓P **P** **20 50 50.2 +0.8**
baz=89,SNR=7.3
P05C Yuba Gap, Truc 89.22 42 ⇓P **P** **20 50 49.6 +0.3**
baz=89,SNR=6.2
GMRC Granite Mounta 89.24 48 ⇑P **P** **20 50 49.7 +0.2**
baz=89,SNR=9.1
Y12C Blythe 89.32 49 ⇓P **P** **20 50 50.6 +0.6**
baz=89,SNR=8.4
214A Organ Pipe Nat 89.34 52 ⇓P **P** **20 50 50.8 +0.8**
baz=89
R06C Coleville 89.36 43 ⇑P **P** **20 50 49.9 0.0**
baz=90,SNR=7.8
TIA Tai'an 89.40 314 ⇓P **P** **20 50 50.4 +0.2**
TIA AMB AMB
comp=Z,37nm,1.2s,mb5.1
M02C Callahan 89.40 39 ⇓P **P** **20 50 50.5 +0.4**
baz=90,SNR=8.0
S08C White Mtn Res 89.45 44 P **P** **20 50 50.9 +0.5**
baz=90,SNR=21
O05C Quincy 89.49 41 ⇑P **P** **20 50 50.3 -0.2**
baz=90,SNR=5.4
GRAC Grapevine Rang 89.60 45 ⇑P **P** **20 50 51.6 +0.4**
baz=90,SNR=7.4
KEBM Edson Butte 89.66 37 *e*P **P** **20 50 51.6 +0.3**
YBH Yreka Blue Hor 89.72 39 *e*P **P** **20 50 51.6 +0.1**
YBH pmax pmax
comp=Z,8.0nm,0.8s
YBH Yreka Blue Hor 89.72 39 ⇑P **P** **20 50 51.8 +0.3**
baz=90,SNR=5.9
YBH Yreka Blue Hor 89.72 39 *e*P **P** **20 50 51.6 +0.1**
comp=Z,8.2nm,0.8s,mb4.6
M03C McCloud 89.72 40 ⇓P **P** **20 50 51.3 -0.2**
baz=90,SNR=9.6
Y13A Salome 89.81 50 ⇑P **P** **20 50 53.3 +1.1**
baz=90,SNR=5.2
LCO Las Campanas 89.83 124 *e*P **P** **20 50 52.9 +0.2**
comp=Z,34nm,1.2s,mb5.1
U10A Ash Meadows, A 89.87 46 ⇑P **P** **20 50 53.1 +0.7**
baz=90,SNR=6.9
CN2 Changchun 89.88 324 *e*P **P** **20 50 51.2 -1.0**
CN2 *e*AP pP 20 52 00.1 +4.8
CN2 *e*S S 21 01 16.7 -4.8
CN2 AMB AMB
comp=Z,60nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,200nm,10.0s
PDMCI Parker Dam,Lak 89.91 49 ⇓P **P** **20 50 53.1 +0.4**
baz=90
NVAR Mina Array Bea 89.98 44 P **P** **20 50 53.0 +0.1**
comp=Z,8.8nm,0.8s,mb4.7,baz=222,slow=8.2,SNR=51
NVAR pP pP 20 52 02.4 +6.5
comp=Z,2.1nm,1.0s,baz=230,slow=8.1,SNR=2.3
NVAR PKKPbc PKKPbc 21 08 24.1 +0.3
comp=Z,1.2nm,0.5s,baz=111,slow=1.3,SNR=7.3
NVAR PKPPKP 21 16 28.9
comp=Z,0.8nm,0.7s,baz=83,slow=3.4,SNR=4.2
CFAA Coronel Fontan 90.00 128 PKKPbc PKKPbc 21 08 22.5 +0.2
comp=Z,0.3nm,0.9s,baz=19,slow=5.5,SNR=3.8
K02A Glendale 90.03 38 ⇑P **P** **20 50 53.6 +0.7**
baz=90,SNR=17
V11A Goodsprings 90.06 47 P **P** **20 50 53.8 +0.5**
baz=90,SNR=9.7
W12A Cal Nev Ari 90.07 48 ⇑P **P** **20 50 54.4 +1.0**

baz=90
Z14A Wintersburg 90.11 50 ⇓P P 20 50 54.5 +0.9
baz=90,SNR=7.3
S09A Goldfield 90.16 45 ⇑P P 20 50 53.4 -0.3
baz=90,SNR=9.3
115A Sonoran Desert 90.18 51 ⇑P P 20 50 54.9 +1.0
baz=90,SNR=6.2
PAHR Pah Rah Range 90.19 42 eP P 20 50 46.7 -7.2
comp=Z,7.9nm,0.8s,mb4.6
HUMO Hull Mountain 90.19 38 ⇓P P 20 50 54.3 +0.6
baz=90,SNR=11
HUMO Hull Mountain 90.19 38 eP P 20 50 54.1 +0.4
comp=Z,18nm,0.9s,mb4.9
TPNV Topopah Spring 90.26 46 ⇓iP P 20 50 54.4 +0.2
TPNV pmax pmax
comp=Z,13nm,0.8s,mb4.8
TPNV Topopah Spring 90.26 46 ⇓P P 20 50 54.5 +0.3
baz=90,SNR=15
TPNV Topopah Spring 90.26 46 ⇓iP P 20 50 54.4 +0.2
comp=Z,13nm,0.8s,mb4.8
X13A Yucca 90.30 49 ⇑P P 20 50 55.1 +0.6
baz=90,SNR=11
M05C Lookout 90.31 40 ⇓P P 20 50 54.6 +0.2
baz=90,SNR=5.8
V12A Nelson 90.35 48 ⇓P P 20 50 55.2 +0.5
baz=90
TPH Tonopah 90.39 45 eP P 20 50 54.9 +0.1
TPH pmax pmax
comp=Z,18nm,0.8s,mb5.0
TPH Tonopah 90.39 45 eP P 20 50 54.9 +0.1
comp=Z,18nm,0.8s,mb5.0
J02A Umpqua 90.40 37 ⇓P P 20 50 55.1 +0.4
baz=90,SNR=5.6
Y14A Wickenburg 90.43 50 ⇓P P 20 50 55.5 +0.5
baz=90,SNR=8.4
116A Eloy 90.45 52 P P 20 50 56.3 +1.1
baz=90,SNR=9.3
L04A Klamath Falls 90.47 39 P P 20 50 55.1 +0.1
baz=91,SNR=25
Q08A Gabbs 90.48 44 ⇑P P 20 50 55.2 +0.1
baz=91,SNR=7.4
W13A Hualapai Mount 90.57 49 P P 20 50 56.5 +0.8
baz=91,SNR=11
217A Green Valley 90.58 53 ⇓P P 20 50 56.7 +0.9
baz=91,SNR=17
M06C Likely Place G 90.58 41 ⇓P P 20 50 55.6 0.0
baz=91,SNR=7.0
R09A Tonopah 90.59 44 ⇓P P 20 50 55.5 -0.2
baz=91,SNR=11
Z15A Gila River Ind 90.59 51 ⇓P P 20 50 56.6 +0.7
baz=91
GYA Guiyang 90.60 301 ⇓iP P 20 50 56.8 +0.8
GYA AP pP 20 52 04.8 +5.7
GYA XP sP 20 52 32.4 +6.0
GYA PP PP 20 54 40.6 +5.2
GYA SKS 21 01 02.4
GYA S S 21 01 28.7 -0.1
GYA PS PS 21 03 17.7 +6.0
GYA XS sS 21 03 24.6 +4.5
GYA AMB AMB
comp=Z,30nm,1.2s,mb5.0
GYA AMB AMB
comp=Z,120nm,5.4s
N06A Buffalo Meadow 90.63 41 ⇓P P 20 50 55.8 0.0
baz=91,SNR=12
S10A Tonopah Range, 90.67 45 ⇓P P 20 50 56.0 -0.1
baz=91,SNR=21
J03A Ideyld Park 90.72 38 ⇑P P 20 50 56.4 +0.2
baz=91
O07A Toulon 90.79 42 ⇑P P 20 50 56.3 -0.3
baz=91,SNR=9.8
X14A Yava 90.83 50 ⇓P P 20 50 57.0 +0.1
baz=91,SNR=15
TUC Tucson 90.92 52 eP P 20 50 58.1 +0.7
TUC e*PP pP 20 52 06.3 +5.8
TUC pmax pmax
comp=Z,11nm,0.9s,mb4.7
TUC Tucson 90.92 52 eP P 20 50 58.1 +0.7
comp=Z,11nm,0.9s,mb4.7
TUC epP pP 20 52 06.3 +5.8
318A Bisbee 90.94 53 ⇓P P 20 50 58.2 +0.7
baz=91,SNR=12
L05A Lakeview 90.95 40 ⇓P P 20 50 57.5 +0.2
baz=91,SNR=9.5
OHAK Old Harbor 90.97 14 eP P 20 50 56.7 -0.3
comp=Z,115nm,0.8s,mb5.8
I03A Eugene 90.98 37 ⇑P P 20 50 57.9 +0.5
baz=91,SNR=9.5
V13A Grand Canyon W 90.98 48 ⇑P P 20 50 57.9 +0.3
baz=91,SNR=12
KLR Kul'dur 90.99 331 eP P 20 50 53.1 -4.1
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,80nm,1.6s,mb5.3
U12A Valley of Fire 90.99 47 ⇑P P 20 50 58.3 +0.6
baz=91,SNR=13
T11A Corn Creek, Al 91.08 46 P P 20 50 58.7 +0.7
baz=91,SNR=16
J04A Umpqua Nationa 91.08 38 ⇓P P 20 50 58.4 +0.5
baz=91,SNR=6.7
117A Oracle 91.11 52 ⇑P P 20 50 59.4 +1.2
baz=91,SNR=5.3
MOD Modoc 91.15 40 P P 20 50 58.1 -0.1
baz=91,SNR=12
MOD Modoc 91.15 40 eP P 20 50 57.3 -0.8
comp=Z,20nm,0.7s,mb5.1
W14A Seligman 91.16 49 ⇓P P 20 50 59.1 +0.7
baz=91,SNR=11
218A Dragoon 91.22 53 ⇓P P 20 50 59.5 +0.7
baz=91,SNR=13
X15A Humboldt 91.27 50 P P 20 50 59.8 +0.9
baz=91,SNR=10
I04A Tendick Farm, 91.31 38 ⇓P P 20 50 58.4 -0.5
baz=91,SNR=16
U13A Pakoon Wash 91.34 47 P P 20 50 59.8 +0.6
baz=91,SNR=13
Q10A Clear Creek Ra 91.37 44 ⇑P P 20 51 00.1 +0.8
baz=92,SNR=5.6
K05A Summer Lake 91.38 39 ⇓P P 20 50 59.3 0.0
baz=92,SNR=15
319A Douglas 91.39 54 ⇑P P 20 51 00.1 +0.5
baz=91,SNR=5.9
Y16A Circle Bar Ran 91.40 51 ⇓P P 20 51 00.8 +1.2
baz=92,SNR=14
V14A Boquillas Ranc 91.41 48 P P 20 51 00.3 +0.8
baz=92,SNR=22
H03A Soap Creek Ran 91.46 37 ⇓P P 20 51 00.0 +0.4
baz=92
S12A Delamar Landin 91.54 46 ⇑P P 20 51 00.6 +0.5
baz=92,SNR=8.5
R11A Troy Canyon, C 91.56 45 ⇑P P 20 50 59.7 -0.5
baz=92,SNR=6.1
J05A Fort Rock 91.58 39 P P 20 51 00.5 +0.4
baz=92,SNR=15
N08A GE Springer Mi 91.62 42 ⇓P P 20 51 00.4 0.0
baz=92,SNR=17
KDAK Kodiak Island 91.64 14 P P 20 50 59.6 -0.4
comp=Z,261nm,0.8s,mb6.2,SNR=7.8
118A Homack Ranch, 91.67 52 ⇓P P 20 51 01.7 +0.8
baz=92,SNR=12
Y17A Roosevelt 91.71 51 ⇓P P 20 51 02.0 +1.0
baz=92,SNR=6.0
X16A Lo Mia Camp, P 91.75 50 ⇓P P 20 51 02.0 +0.9
baz=92,SNR=10
L07A Adell 91.76 40 ⇓P P 20 51 01.4 +0.4
baz=92
O09A Fish Creek Ran 91.77 43 ⇓P P 20 51 01.0 -0.1
baz=92,SNR=9.4
K06A Valley Falls 91.78 39 P P 20 51 01.0 -0.1
baz=92,SNR=36
Q11A Duckwater 91.83 45 ⇑P P 20 51 01.6 +0.2
baz=92,SNR=7.6
P10A Eureka 91.84 44 ⇓P P 20 51 01.8 +0.4
baz=92
BMN Battle Mountai 91.92 43 eP P 20 51 01.4 -0.4
BMN pmax pmax
comp=Z,12nm,0.8s,mb4.9
BMN Battle Mountai 91.92 43 eP P 20 51 01.4 -0.4
comp=Z,12nm,0.8s,mb4.9
M08A Happy Creek Ra 91.92 41 ⇓P P 20 51 01.7 -0.1
baz=92,SNR=10
N09A Rock Creek Ran 92.02 42 ⇑P P 20 51 02.5 +0.3
baz=92,SNR=9.8
W16A Flagstaff 92.09 50 ⇓P P 20 51 03.5 +0.8
baz=92,SNR=10
X17A Forest Lakes 92.12 51 ⇑P P 20 51 04.3 +1.5
baz=92
V15A Kaibab Nationa 92.12 49 P P 20 51 03.9 +1.0
baz=92,SNR=12
S13A Holt Ranch, En 92.13 47 ⇑P P 20 51 03.4 +0.5
baz=92,SNR=8.9
J06A Christmas Vall 92.14 39 P P 20 51 02.5 -0.2
baz=92,SNR=19
R12A Pony Springs, 92.14 46 ⇓P P 20 51 03.5 +0.6
baz=92,SNR=7.1
I05A Bend 92.16 38 ⇓P P 20 51 03.1 +0.3
baz=92,SNR=7.0
CMAR Chiang Mai Arr 92.18 290 P P 20 51 04.0 +0.5
comp=Z,4.2nm,0.8s,mb4.4,baz=146,slow=3.7,SNR=19
CMAR PKiKP PKiKP 20 55 50.8 -1.0
comp=Z,2.3nm,0.8s,baz=169,slow=0.9,SNR=6.0
CMAR PKKPbc PKKPbc 21 08 18.1 +1.0
comp=Z,2.3nm,0.8s,baz=289,slow=4.1,SNR=11
K07A Rock Creek Ran 92.26 40 ⇑P P 20 51 03.2 -0.1
baz=92,SNR=24
T14A Hurricane 92.30 47 ⇑P P 20 51 04.1 +0.5
baz=92
Y18A Canyon Day Jun 92.30 51 ⇑P P 20 51 04.8 +1.1
baz=92,SNR=7.9
U15A North Rim 92.41 48 ⇓P P 20 51 04.9 +0.8
baz=92,SNR=35
BJT Baijiatuau 92.42 316 eP P 20 51 03.2 -0.9
BJT pmax pmax
comp=Z,55nm,1.5s
BJT Baijiatuau 92.42 316 eP P 20 51 03.2 -0.9
comp=Z,55nm,1.5s,mb5.3
WVOR Wild Horse Val 92.42 41 eP P 20 51 03.2 -0.9
WVOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
WVOR Wild Horse Val 92.42 41 eP P 20 51 03.2 -0.8
comp=Z,6.9nm,0.8s,mb4.6
CCUT Cedar City 92.42 47 eP P 20 51 08.5 +4.3
BJI Beijing 92.43 316 P P 20 51 02.9 -1.2
BJI AMB AMB
comp=Z,21nm,1.4s,mb4.9
BJI AMB AMB
comp=Z,88nm,4.3s
L08A Fields 92.43 41 ⇓P P 20 51 04.0 -0.1
baz=92,SNR=10
Q12A Willow Creek R 92.45 45 ⇑P P 20 51 04.4 +0.2
baz=92
WUAZ Wupatki 92.45 49 ⇑P P 20 51 05.0 +0.7
baz=92
WUAZ Wupatki 92.45 49 eP P 20 51 04.2 -0.2
comp=Z,7.0nm,0.8s,mb4.6
I06A Prineville 92.57 39 ⇑P P 20 51 05.0 +0.3
baz=93,SNR=9.5
O11A Cowboy Ranch, 92.64 44 ⇓P P 20 51 04.8 -0.3
baz=93
P12A McGill 92.67 45 P P 20 51 05.4 +0.1
baz=93,SNR=12
L09A Wilkinson Ranc 92.69 41 P P 20 51 05.4 +0.1
baz=93,SNR=15
K08A Mazon Creek Ran 92.70 40 ⇑P P 20 51 05.3 -0.1
baz=93,SNR=26
T15A Red Dirt Ranch 92.71 48 ⇓P P 20 51 06.2 +0.7
baz=93,SNR=5.7
F04A Amboy 92.78 36 ⇓P P 20 51 05.1 -0.5
baz=93
KMI Kunming 92.78 298 P P 20 51 06.7 +0.5
KMI AMB AMB
comp=Z,11nm,0.9s,mb4.8
KMI LR LR
comp=Z,127nm,23.7s
Q13A Wheeler Ranch, 92.89 45 ⇑P P 20 51 06.5 +0.2
baz=93,SNR=7.5
Y19A Nutrioso 92.93 52 ⇑P P 20 51 07.2 +0.6
baz=93,SNR=6.4
M10A I.L. Ranch, Tu 93.02 42 P P 20 51 07.1 +0.3
baz=93,SNR=15
H06A Lindquist Farm 93.04 38 ⇓P P 20 51 06.4 -0.4
baz=93,SNR=18
I07A Izee 93.04 39 P P 20 51 07.0 +0.2
baz=93,SNR=14
K09A Rome 93.11 41 ⇓P P 20 51 07.1 -0.1
baz=93,SNR=28
J08A Circle Bar Ran 93.12 40 ⇓P P 20 51 07.1 -0.2
baz=93,SNR=9.5
P13A Bates Ranch, G 93.20 45 ⇓P P 20 51 07.2 -0.6
baz=93,SNR=9.1
G06A Carlson Farm, 93.22 37 P P 20 51 07.3 -0.3
baz=93,SNR=7.9
O12A Currie 93.27 44 ⇓P P 20 51 07.8 -0.2
baz=93,SNR=9.4
ELK Elko 93.28 43 eP P 20 51 07.9 -0.1
ELK pmax pmax
comp=Z,7.0nm,0.8s
ELK Elko 93.28 43 eP P 20 51 07.9 -0.1
comp=Z,6.5nm,0.8s,mb4.6
H07A Lands Inn, Kim 93.35 38 ⇑P P 20 51 08.0 -0.3
baz=94,SNR=17
Q14A Sevier Lake (B 93.36 46 ⇑P P 20 51 08.9 +0.4
baz=93,SNR=5.3
XAN Xi'an 93.37 308 P P 20 51 08.5 -0.1
XAN AMB AMB
comp=Z,8.0nm,0.9s,mb4.7
M11A Holland Ranch, 93.39 43 ⇑P P 20 51 09.1 +0.5
baz=94,SNR=14
L10A Juniper Basin 93.41 42 P P 20 51 08.8 +0.2
baz=94,SNR=11
I08A Drewsey 93.43 39 ⇓P P 20 51 08.4 -0.3
baz=94,SNR=12
N12A Clover Valley, 93.46 43 ⇑P P 20 51 08.8 -0.1
baz=94,SNR=9.1
V18A Ganado 93.51 50 ⇑P P 20 51 09.6 +0.4
baz=94
J09A Fry Pan Ranch, 93.51 40 ⇑P P 20 51 08.8 -0.2
baz=94,SNR=15
E05A Randle 93.54 36 ⇓P P 20 51 08.7 -0.5
baz=94,SNR=5.3
K10A MacKenzie Ranc 93.64 41 P P 20 51 09.7 +0.1
baz=94,SNR=19
LON Longmire 93.65 36 eP P 20 51 09.0 -0.6
LON pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LON Longmire 93.65 36 eP P 20 51 09.0 -0.6
comp=Z,5.4nm,0.7s,mb4.7
GNW Green Mountain 93.71 35 eP P 20 51 08.2 -1.6
comp=Z,7.6nm,0.6s,mb4.9
G07A Ruggs Ranch, H 93.74 38 ⇓P P 20 51 09.2 -0.9
baz=94,SNR=6.3
MSU Marysvale 93.75 47 eP P 20 51 11.1 +0.8
L11A Cat Creek Ranc 93.88 42 ⇑P P 20 51 10.5 -0.3
baz=94,SNR=13
M12A Wells 93.89 43 ⇓P P 20 51 10.6 -0.3
baz=94,SNR=6.7
E06A Yakima 93.93 36 ⇑P P 20 51 10.7 -0.1
baz=94,SNR=6.8
I09A Lost Marbles R 93.93 40 ⇓P P 20 51 10.4 -0.5
baz=94,SNR=5.8
K11A Parker Ranch, 94.11 42 ⇑P P 20 51 11.5 -0.2
baz=94,SNR=10
J10A Berg Farm, Mel 94.11 41 ⇓P P 20 51 11.6 -0.2
baz=94
G08A Pilot Rock 94.14 38 ⇓P P 20 51 11.6 -0.3
baz=94,SNR=12
TXAR Lajitas Array 94.22 58 P P 20 51 12.6 -0.1
comp=Z,1.6nm,0.9s,mb4.0,baz=210,slow=7.2,SNR=13
TXAR pP pP 20 52 22.4 +6.5
comp=Z,1.1nm,1.1s,baz=189,slow=7.2,SNR=2.1
TXAR PKKP PKKPbc 21 08 07.3 -5.0
comp=Z,0.4nm,0.6s,baz=92,slow=5.1,SNR=4.3
TXAR PKKPbc PKKPbc 21 08 12.9 +0.6
comp=Z,2.0nm,0.9s,baz=95,slow=3.9,SNR=8.7
TXAR PKPPKP 21 16 19.8
comp=Z,0.6nm,0.9s,baz=108,slow=2.8,SNR=4.1
TXAR Lajitas Array 94.22 58 P P 20 51 12.6 -0.1
TXAR *PP pP 20 52 22.4 +6.5
TXAR Lajitas Array 94.22 58 P P 20 51 12.6 -0.1
TXAR pP pP 20 52 22.4 +6.5
TXAR PKKP PKKPbc 21 08 07.3 -5.0
TXAR PKKPbc PKKPbc 21 08 12.9 +0.6
TXAR P'P' 21 16 19.8
L12A House Creek Ra 94.29 42 ⇑P P 20 51 12.6 0.0
baz=94
M13A Montello 94.30 43 ⇓P P 20 51 12.9 +0.2
baz=94
MNTX Cornudas Mount 94.30 55 eP P 20 51 12.2 -0.8
comp=Z,1.7nm,1.2s,mb4.0
C05A Tolt Reservoir 94.36 35 ⇑P P 20 51 12.0 -0.8
baz=94
T18A Mexican Hat 94.39 49 ⇓P P 20 51 13.5 +0.3
baz=94,SNR=8.2
RSW Rattlesnake Hi 94.54 37 eP P 20 51 13.2 -0.4
B05A Bryant 94.55 35 ⇓P P 20 51 13.5 -0.2
baz=95
CMIG Matias Romero 94.55 73 P P 20 51 15.3 +0.8
comp=Z,1.3nm,0.6s,mb4.2,baz=301,slow=5.9,SNR=3.6
CMIG Matias Romero 94.55 73 P P 20 51 15.3 +0.8
HAWA Hanford 94.57 37 eP P 20 51 13.2 -0.6
comp=Z,6.1nm,0.7s,mb4.8
JCW Jim Creek 94.58 35 eP P 20 51 12.7 -1.1
MFID Camas Ranch 94.63 41 ⇑P P 20 51 13.7 -0.5
baz=95,SNR=15
SLKM Skilak Lake 94.63 14 eP P 20 51 12.8 -0.9
BBB Bella Bella 94.63 29 P P 20 51 14.3 +0.4
comp=Z,4.6nm,0.6s,mb4.8,baz=0.4,slow=23,SNR=4.4
K12A Draper Farm, C 94.67 42 ⇑P P 20 51 14.0 -0.3
baz=95
BMO Blue Mountains 94.73 39 eP P 20 51 13.7 -0.9
comp=Z,3.3nm,0.7s,mb4.6
TMUT Trail Mountain 94.83 46 eP P 20 51 15.4 +0.2
M14A Sheep Mountain 94.87 44 ⇑P P 20 51 14.8 -0.5
baz=95,SNR=20
I11A Placerville 94.87 41 ⇓P P 20 51 15.0 -0.3
baz=95,SNR=5.7
L13A Double Diamond 94.88 43 ⇓P P 20 51 15.1 -0.3
baz=95,SNR=5.1
LVC Limon Verde 94.91 120 PKKPbc PKKPbc 21 08 10.3 +0.7
comp=Z,1.9nm,0.4s,baz=67,slow=4.4,SNR=15
J12A Stokes Ranch, 94.94 42 P P 20 51 15.6 0.0
baz=95,SNR=18
RPW Rockport 94.96 35 eP P 20 51 14.5 -1.0
ETW Entiat 94.97 36 eP P 20 51 13.4 -2.2
G10A Bishop Farm, J 95.12 39 ⇓P P 20 51 15.8 -0.5
baz=95
SRU San Rafael 95.14 47 eP P 20 51 16.4 -0.2
SRU pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
SRU San Rafael 95.14 47 ⇑P P 20 51 16.5 -0.1
baz=95,SNR=7.2
SRU San Rafael 95.14 47 eP P 20 51 16.4 -0.2
comp=Z,3.4nm,0.8s,mb4.5
K13A Stover Farm, H 95.14 43 ⇓P P 20 51 16.5 0.0
baz=95,SNR=5.2
CD2 Chengdu 95.20 303 eP P 20 51 18.5 +1.4
CD2 AP pP 20 52 23.5 +3.2
CD2 XP sP 20 52 51.5 +4.0
CD2 PP PP 20 55 14.7 +3.5
CD2 SKS 21 01 28.2
CD2 S S 21 02 08.7 -0.5
CD2 XS sS 21 04 01.5 +0.1
CD2 SS SS 21 08 46.6 +3.5
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,40nm,6.2s
RC01 Rabbit Creek A 95.26 14 eP P 20 51 15.2 -1.3
comp=Z,29nm,1.2s,mb5.3
D08A Wollman Farm, 95.32 37 ⇑P P 20 51 16.9 -0.4
baz=95,SNR=12
H11A Donnelly 95.35 40 ⇑P P 20 51 16.8 -0.6
baz=95,SNR=8.5
E09A Wood Farm, Sta 95.37 38 ⇑P P 20 51 16.9 -0.6
baz=96,SNR=7.5
HVU Hansel Valley 95.38 44 eP P 20 51 17.5 -0.1
HVU pmax pmax
comp=Z,12nm,0.7s,mb5.1
HVU Hansel Valley 95.38 44 eP P 20 51 17.5 -0.1
comp=Z,12nm,0.7s,mb5.1
M15A Larsen Ranch, 95.38 44 ⇓P P 20 51 17.1 -0.6
baz=96,SNR=5.4
F10A Beach Ranch, E 95.50 38 P P 20 51 17.0 -1.1
baz=96,SNR=16
HLID Hailey 95.52 42 ⇑P P 20 51 18.0 -0.2
baz=96,SNR=11
HLID Hailey 95.52 42 eP P 20 51 18.2 -0.1
comp=Z,3.7nm,0.7s,mb4.6
J13A Cove Ranch, Pi 95.56 42 ⇑P P 20 51 18.6 +0.2
baz=96,SNR=14
K14A Jones Ranch, D 95.61 43 ⇑P P 20 51 18.7 +0.1
baz=96,SNR=8.0
D09A Jones Farm, Ri 95.64 37 ⇓P P 20 51 18.2 -0.5
baz=96,SNR=6.5
G11A Walters Elk Ra 95.65 39 ⇓P P 20 51 18.1 -0.7
baz=96,SNR=18
OD2 Odessa Site #2 95.65 37 eP P 20 51 18.1 -0.6
HHC Hu-ho-hao-te 95.69 315 eP P 20 51 20.3 +1.2
HHC AP pP 20 52 22.9 +0.6
HHC PP PP 20 55 17.7 +2.9
HHC SKS 21 01 30.0
HHC S S 21 02 11.6 -1.4
HHC SS SS 21 08 51.3 +1.6
HHC AMB AMB
comp=Z,12nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,138nm,6.1s
HHC LR LR
comp=N,135nm,20.2s
HHC LR LR
comp=E,108nm,19.0s
HHC LR LR
comp=Z,135nm,25.0s
L15A Malad City 95.74 44 ⇓P P 20 51 18.7 -0.6
baz=96,SNR=7.3
PMR Palmer 95.84 14 eP P 20 51 18.0 -1.2
PMR pmax pmax
comp=Z,18nm,0.9s,mb5.2
PMR Palmer 95.84 14 eP P 20 51 18.0 -1.2
comp=Z,18nm,0.9s,mb5.2
H12A Diamond D Ranc 95.89 41 P P 20 51 19.3 -0.6
baz=96,SNR=7.6
A07A Ashnola River, 95.91 35 ⇓P P 20 51 18.5 -1.4
baz=96
B08A Colville Reser 95.97 36 P P 20 51 19.0 -1.1
baz=96,SNR=5.5
K15A Arbon 96.07 43 ⇓P P 20 51 20.5 -0.2
baz=96
C09A Chrisman Ranch 96.14 37 ⇓P P 20 51 20.2 -0.7
baz=96
DIV Divide 96.18 16 eP P 20 51 19.4 -1.3
comp=Z,30nm,1.0s,mb5.4
BMRM Bremner River 96.31 16 eP P 20 51 20.3 -1.1
SEY Seymchan 96.47 348 eP P 20 51 21.3 -0.7
B09A Rice 96.61 36 ⇑P P 20 51 21.9 -1.2
baz=97,SNR=6.0
F13A Darby 96.95 40 ⇑P P 20 51 23.9 -0.8
baz=97
KTH Kantishna Hill 97.26 13 eP P 20 51 23.2 -2.4
comp=Z,24nm,0.6s,mb5.6
REDW Red Top Meadow 97.46 43 eP P 20 51 26.5 -0.5
comp=Z,3.9nm,0.8s,mb4.7
TPAW Teton Pass 97.48 43 eP P 20 51 26.1 -1.0
comp=Z,2.9nm,0.7s,mb4.6
G15A Dillon 97.60 41 ⇑P P 20 51 27.7 +0.1
baz=98,SNR=7.4
MCK McKinley 97.81 13 eP P 20 51 25.9 -2.1
MCK pmax pmax
comp=Z,26nm,0.9s,mb5.6
MCK McKinley 97.81 13 eP P 20 51 25.9 -2.1
comp=Z,26nm,0.9s,mb5.6
A11A Hall Mountain, 97.86 37 ⇑P P 20 51 28.4 -0.3
baz=98
PDAR Pinedale Array 97.88 44 P P 20 51 28.2 -0.7
comp=Z,2.2nm,0.8s,mb4.5,baz=221,slow=2.9,SNR=12
PDAR PKKP PKKPbc 21 08 01.6 -1.5
comp=Z,2.6nm,0.8s,baz=75,slow=6.3,SNR=6.1
PDAR PKPPKP 21 16 15.5
comp=Z,1.5nm,1.1s,baz=146,slow=2.9,SNR=5.9
LZH Lanzhou 97.96 307 eP P 20 51 30.7 +1.3
LZH AP pP 20 52 34.9 +2.1
LZH XP sP 20 53 01.9 +1.9
LZH PP PP 20 55 36.5 +4.2
LZH eS S 21 02 31.5 -1.0
LZH XS sS 21 04 26.0 +0.9
LZH SS SS 21 09 23.5 +1.8
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,52nm,4.5s
BOZ Bozeman (W) 98.37 41 eP P 20 51 30.6 -0.4
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
BOZ Bozeman (W) 98.37 41 ⇓P P 20 51 30.9 -0.2
baz=98
BOZ Bozeman (W) 98.37 41 eP P 20 51 30.6 -0.4
comp=Z,4.0nm,0.8s,mb4.8
COLA College 99.04 13 iP Pdif 20 51 31.9 -2.4
COLA College 99.04 13 iP Pdif 20 51 31.9 -2.4
IMA2 Indian Mountai 99.10 11 ePdif Pdif 20 51 33.1 -1.4

LPAZ La Paz 99.25 115 P Pdif 20 51 36.8 +1.6
comp=Z,1.2nm,0.9s,baz=227,slow=3.9,SNR=4.9
BILL Bilibino 99.55 355 *i* P Pdif 20 51 36.5 0.0
BILL *e*PS PS 21 04 42.8 -4.6
BILL pmax pmax
comp=Z,15nm,1.1s,mb5.3
BILL Bilibino 99.55 355 *i* P Pdif 20 51 36.6 +0.1
DAWY Dawson 100.23 17 *e*Pdif Pdif 20 51 38.0 -1.6
EGAK Eagle 100.40 16 *e*Pdif Pdif 20 51 38.9 -1.4
comp=Z,9.1nm,0.9s
COLD Coldfoot 100.73 11 *e*Pdif Pdif 20 51 38.1 -3.7
comp=Z,7.3nm,0.9s
YAK Yakutsk 101.45 338‖ *e*P Pdif 20 51 43.2 -1.8
YAK pmax pmax
comp=Z,19nm,1.6s
YAK Yakutsk 101.45 338‖ *e*P Pdif 20 51 43.3 -1.7
GTA Gaotai 102.42 309 *e*P Pdif 20 51 49.6 +0.3
GTA AP 20 52 58.1
GTA XP 20 53 28.4
GTA PP PP 20 56 09.0 +3.2
GTA S Sdif 21 03 02.2 -7.6
GTA SS SS 21 10 18.7 -4.7
GTA AMB AMB
comp=Z,4.0nm,1.0s
GTA AMB AMB
comp=Z,78nm,6.5s
GTA LR LR
comp=N,112nm,14.8s
GTA LR LR
comp=E,99nm,16.3s
GTA LR LR
comp=Z,122nm,16.7s
SONM Songino Array 102.72 318 P Pdif 20 51 49.3 -1.3
comp=Z,0.5nm,0.7s,baz=129,slow=6.3,SNR=4.2
SONM PKiKP PKiKP 20 56 08.7 -0.9
comp=Z,1.4nm,0.8s,baz=131,slow=1.7,SNR=5.7
SONM PKKPbc PKKPbc 21 07 49.2 -0.2
comp=Z,1.5nm,0.6s,baz=262,slow=3.6,SNR=8.7
SIV San Ignacio 104.79 119 PKKPbc PKKPbc 21 07 41.6 -0.2
comp=Z,0.7nm,0.5s,baz=186,slow=23,SNR=5.2
INK Inuvik 105.06 16 Pdiff Pdif 20 51 59.6 -1.4
comp=Z,3.0nm,1.0s,baz=182,slow=6.6,SNR=5.7
INK PKiKP PKiKP 20 56 11.8 -1.4
comp=Z,6.1nm,0.7s,baz=184,slow=2.2,SNR=11
INK Inuvik 105.06 16 Pdif Pdif 20 51 59.6 -1.4
INK PKPdf PKiKP 20 56 11.8 -1.4
TAPN Taplejung 105.55 293 *e*P PKiKP 20 56 13.2 -2.2
ODAN Odare 105.58 292 *e*P PKiKP 20 56 14.9 -0.6
JIRN Jiri 106.90 292 *e*P PKiKP 20 56 15.6 -2.3
YKA Yellowknife Ar 106.93 26 Pdiff Pdif 20 52 06.6 -2.7
comp=Z,0.5nm,0.6s,baz=220,slow=5.7,SNR=2.8
YKA PKiKP PKiKP 20 56 15.1 -1.8
comp=Z,2.4nm,0.7s,baz=257,slow=1.8,SNR=9.7
YKA PKKPbc PKKPbc 21 07 34.2 -3.0
comp=Z,3.7nm,0.6s,baz=38,slow=3.2,SNR=23
YKA PKPPKP 21 15 59.3
comp=Z,2.1nm,0.8s,baz=24,slow=2.0,SNR=6.9
YKA Yellowknife Ar 106.93 26 Pdif Pdif 20 52 06.6 -2.7
YKA PKPdf PKiKP 20 56 15.1 -1.7
YKA PKKPbc PKKPbc 21 07 34.2 -3.0
YKA P'P' 21 15 59.4
GUN Gumba 107.25 292 *e*P PKiKP 20 56 16.6 -2.0
PKI Pulchoki 107.48 292 *e*P PKiKP 20 56 17.5 -1.5
comp=Z,21nm,0.7s
KKN Kakani 107.68 292 *e*P PKiKP 20 56 16.7 -2.6
DMN Daman 107.73 292 *e*P PKiKP 20 56 19.2 -0.3
PLAL Pickwick Lake 108.48 60 *e*PKPdf PKiKP 20 56 16.9 -3.8
TIXI Tiksi 108.68 345 *e*PKPdf PKiKP 20 56 17.6 -2.3
KOLN Koldanda 109.00 291 *e*P PKiKP 20 56 21.0 -0.8
comp=Z,8.1nm,0.5s
DANN Dangsing 109.13 292 *e*P PKiKP 20 56 20.5 -1.6
comp=Z,17nm,0.6s
WCI Wyandotte Cave 111.13 57 *e*PKiKP PKiKP 20 56 21.9 -3.6
HVS Khovu-Aksy 111.56 317 *d i*PKiKP PKiKP 20 56 24.0 -1.9
TKL Tuckaleechee C 111.96 61 PKiKP PKiKP 20 56 25.4 -1.7
comp=Z,2.7nm,0.6s,baz=197,slow=3.7,SNR=6.5
WMQ Urumqi 112.50 308 *e*PKP PKiKP 20 56 27.8 -0.1
WMQ LR LR
comp=N,89nm,18.6s
WMQ LR LR
comp=E,91nm,18.6s
WMQ LR LR
comp=Z,128nm,20.1s
OPO Ambohidratompo 112.94 229 PKiKP PKiKP 20 56 29.5 -0.1
comp=Z,12nm,0.7s,baz=225,slow=0.2,SNR=35
SUR Sutherland 113.73 199 *e*PKPdf PKiKP 20 56 30.6 -0.2
KRAR Krasnoyarsk 113.85 322⇑ *i*PKiKP PKiKP 20 56 29.1 -1.0
BDFB Brasilia 114.34 128 PKP PKiKP 20 56 31.4 -0.9
comp=Z,1.4nm,0.7s,baz=173,slow=14,SNR=6.2
BOSA Boshof 115.81 205 PKP PKPdf 20 56 34.6 -0.4
comp=Z,19nm,0.8s,baz=193,slow=0.9,SNR=23
BOSA PKKPbc PKKPbc 21 07 05.7 -1.4
comp=Z,2.5nm,0.4s,baz=322,slow=18,SNR=15
MK31 Makanchi Array 117.10 310 *i*PKIKP PKPdf 20 56 34.6 -2.1
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MK31 Makanchi Array 117.10 310 *e*PKPdf PKPdf 20 56 34.9 -1.8
MKAR Makanchi Array 117.10 310 PKP PKPdf 20 56 35.0 -1.7
comp=Z,11nm,0.6s,baz=69,slow=1.7,SNR=77
MKAR SKP 20 59 42.9
comp=Z,1.8nm,0.7s,baz=180,slow=0.9,SNR=4.0
MKAR PKKPbc PKKPbc 21 07 02.3 -0.5
comp=Z,1.7nm,0.6s,baz=289,slow=3.8,SNR=13
MKAR Makanchi Array 117.10 310 PKP PKPdf 20 56 35.0 -1.7
MKAR SKP 20 59 42.9
MKAR PKKPbc PKKPbc 21 07 02.3 -0.5
THN Thein Dam 117.12 293 *e*P PKPdf 20 56 33.8 -3.4
ZALV Zalesovo Beam 117.61 318 PKP PKPdf 20 56 35.5 -1.9
comp=Z,7.9nm,0.6s,baz=148,slow=1.6,SNR=42
ZAL Zalesovo 117.62 318 PKIKP PKPdf 20 56 35.5 -1.9
SADO Sadowa 118.44 53 PKP PKPdf 20 56 37.2 -2.1
baz=202,slow=3.7
SADO Sadowa 118.44 53 PKP PKPdf 20 56 37.2 -2.1
NVS Novosibirsk 118.74 319 *i*PKIKP PKPdf 20 56 36.3 -3.3
NVS pmax pmax
comp=Z,31nm,1.3s
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,21nm,1.3s
LBTB Lobatse 118.95 206 *e*PKIKP PKPdf 20 56 40.5 -0.6
HUMP Col San Antoni 119.43 86 *e*PKPdf PKPdf 20 56 40.1 -1.9
ULHL Ulahol 119.91 304 P PKPdf 20 56 42.0 -0.2
SNR=28
KURK Kurchatov 120.48 314 *i*PKIKP PKPdf 20 56 41.0 -2.1
KURK Kurchatov 120.48 314 *i*PKP PKPdf 20 56 41.0 -2.1
TKM2 Tokmak 2 120.55 304 P PKPdf 20 56 42.2 -1.2
SNR=54
TKM2 Tokmak 2 120.55 304 *e*PKPdf PKPdf 20 56 42.2 -1.3
KZA Kyzart 120.57 303 P PKPdf 20 56 43.3 -0.2
SNR=37
KBK Karagaybulak 120.94 304 P PKPdf 20 56 43.4 -0.8
SNR=21
UCH Uchtor 121.13 303 P PKPdf 20 56 44.9 +0.3
SNR=7.0
UCH Uchtor 121.13 303 *e*PKPdf PKPdf 20 56 44.5 -0.1
CHMS Chumysh 121.17 304 P PKPdf 20 56 43.4 -1.2
SNR=39
FRU Bishkek 121.22 304 *e*PKIKP PKPdf 20 56 43.0 -1.7
FRU pmax pmax
comp=Z,90nm,1.2s
AAK Ala-Archa 121.25 304 P PKPdf 20 56 44.3 -0.5
SNR=17
USP Ospenovka 121.42 304 P PKPdf 20 56 43.9 -1.2
SNR=19
NCB Newcomb 121.61 55 *e*PKPdf PKPdf 20 56 41.9 -3.6
AML Almayashu 121.69 303 P PKPdf 20 56 45.6 0.0
SNR=5.8
EKS2 Erkin-Say 121.77 304 P PKPdf 20 56 44.9 -0.9
SNR=43
EKS2 Erkin-Say 121.77 304 *e*PKPdf PKPdf 20 56 44.5 -1.3
KBL Kabul 123.08 293 *e*PKPdf PKPdf 20 56 48.0 -0.6
LBNH Lisbon 123.29 55 *e*PKIKP PKPdf 20 56 47.1 -1.6
KK31 Karatay Array 124.21 303 PKIKP PKPdf 20 56 49.0 -1.5
KK31 pmax pmax
comp=Z,18nm,0.6s
PKME Peaks-Kenny Pk 125.33 54 *e*PKPdf PKPdf 20 56 51.3 -1.2
VOSK Vostochnaya 125.51 315 PKIKP PKPdf 20 56 50.5 -2.1
VOSK pmax pmax
comp=Z,60nm,0.8s
BVA0 Borovoye Array 125.90 315 *i*PKIKP PKPdf 20 56 51.6 -1.8
BVA0 pmax pmax
comp=Z,18nm,1.0s
BVAR Borovoye Array 125.90 315 PKP PKPdf 20 56 52.1 -1.3
comp=Z,41nm,0.7s,baz=103,slow=2.0,SNR=166

BRVK Borovoye 125.97 315 *i*PKIKP PKPdf 20 56 52.1 -1.4
BRVK Borovoye 125.97 315 *i*PKP PKPdf 20 56 52.1 -1.4
LSZ Lusaka 126.44 214 *e*PKIKP PKPdf 20 56 54.7 -0.9
TSUM Tsumeb 127.09 201 *e*PKPdf PKPdf 20 56 55.9 -0.9
SCHQ Schefferville 127.97 42 PKP PKPdf 20 56 55.1 -2.2
comp=Z,20nm,1.0s,baz=291,slow=3.3,SNR=8.4
SVE Sverdlovsk 131.55 320 *e*PKIKP PKPdf 20 57 00.2 -3.8
SVE pmax pmax
comp=Z,44nm,1.4s
KBS Kingsbay 131.98 357 *e*P PKPdf 20 57 03.5 -0.8
KBS AMb AMB 20 57 06.2
comp=Z,77nm,1.3s
AB31 Akbulak array 132.24 310 PKIKP PKPdf 20 57 04.1 -1.5
AB31 pmax pmax
comp=Z,16nm,0.9s
ARU Arti 132.73 320 *i*PKIKP PKPdf 20 57 04.6 -1.6
ARU 20 59 29.7
ARU Arti 132.73 320 *i*PKP PKPdf 20 57 04.6 -1.6
SOKR Solikamsk 133.17 324 *e*PKIKP PKPdf 20 57 06.4 -0.6
SOKR pmax pmax
comp=Z,50nm,1.1s
SUMG Summit 133.97 15 *e*PKPdf PKPdf 20 57 06.6 -1.5
LVZ Lovozero 138.17 341⇑ *i*PKIKP PKPdf 20 57 16.7 +0.7
KEV Kevo 138.60 346 *e*pkp 20 57 09.8
comp=Z,23nm,0.7s
KEV Kevo 138.60 346 *e*PKHKP 20 57 09.8
KEV pmax pmax
comp=Z,23nm,0.7s
APA Apatity 138.74 341⇑ *i*PKIKP PKPdf 20 57 18.0 +0.9
APA pmax pmax
comp=Z,44nm,1.0s
APA MLR MLR
comp=Z,600nm,1.0s
QRN Al-Qurain 138.79 279 *e*P PKPdf 20 57 07.9 -10
baz=279
QRN AMb AMB 20 57 21.0
comp=Z,212nm,0.9s,baz=279
ARCES ARCESS Array B 139.08 347 PKhKP 20 57 08.2
comp=Z,15nm,0.6s,baz=30,slow=3.2,SNR=40
ARCES PKP PKPdf 20 57 16.7 -1.0
comp=Z,42nm,0.7s,baz=342,slow=0.2,SNR=30
ARCES SKPbc SKPbc 21 00 23.6 -4.0
comp=Z,5.7nm,0.6s,baz=29,slow=2.8,SNR=8.1
ARCES ARCESS Array B 139.08 347 PKP PKPdf 20 57 16.7 -1.0
ARCES SKPbc SKPbc 21 00 23.6 -4.0
RDF Al-Radifah 139.15 279 *e*P PKPdf 20 57 08.1 -11
baz=279
RDF AMb AMB 20 57 22.1
comp=Z,218nm,1.4s,baz=279
UMR Umm Al-Rimmam 139.17 280 *e*P PKPdf 20 57 08.1 -11
baz=280
UMR AMb AMB 20 57 21.9
comp=Z,187nm,1.0s,baz=280
NAY Al-Naaiem 139.49 280 *e*P PKPdf 20 57 08.3 -11
baz=280
NAY AMb AMB 20 57 22.1
comp=Z,48nm,1.3s,baz=280
MIB Mutribah 139.55 281 *e*P PKPdf 20 57 08.4 -11
baz=281
MIB AMb AMB 20 57 22.5
comp=Z,127nm,0.9s,baz=281
KTK1 Kautokeino 139.96 347 *e* PKPdf 20 57 11.6 -7.7
TRO Tromso 140.15 350 *e* PKPdf 20 57 11.1 -8.6
TRO AMb AMB 20 57 22.4
comp=Z,70nm,1.5s
KLMR Klimovskoe 140.75 331 *e*PKHKP 20 57 11.9
STEI Steigen 142.25 351 *e*P PKPdf 20 57 18.6 -4.8
DGRG David-gareji 142.54 299 P PKPdf 20 57 20.9 -3.8
JOF Joensuu 142.61 337 *e*pkp 20 57 19.0
comp=Z,49nm,0.7s
JOF Joensuu 142.61 337 *e*PKHKP 20 57 19.0
JOF pmax pmax
comp=Z,49nm,0.7s
MTA Mtatsminda 142.97 299 P PKPdf 20 57 21.3 -4.2
TBLG Delisi 143.01 299 P PKPdf 20 57 21.8 -3.8
GNI Garni 143.03 296 *e*P PKPdf 20 57 20.5 -5.2
GNI Garni 143.03 296 PKP PKPdf 20 57 22.9 -2.7
comp=Z,7.1nm,0.5s,baz=354,slow=8.4,SNR=13
VRHR Novokhopersk 143.64 315 *i*PKIKP PKPdf 20 57 22.9 -3.5
VRHR pmax pmax
comp=Z,20nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.5s
CLDR Caldiran 143.65 295 *e*P PKPdf 20 57 23.7 -3.1
HKR Hakkari 143.73 292 *e*P PKPdf 20 57 24.9 -2.1
HAKT HAKKARI 143.75 292 *i*P PKPdf 20 57 24.1 -2.9
DYDN Diyadin 143.83 295 *i*P PKPdf 20 57 24.9 -2.2
KONS Konsvik 143.88 351 *e*P PKPdf 20 57 23.4 -2.9
KONS AMb AMB 20 57 24.5
comp=Z,334nm,1.3s
ONI Oni 143.93 301 P PKPdf 20 57 25.2 -2.0
AKH Akhalkalaki 143.96 299 P PKPdf 20 57 25.5 -1.8
GOF Gofitskoye 143.99 305‖ *i*PKIKP PKPdf 20 57 30.0 +2.8
GOF pmax pmax
comp=Z,170nm,1.3s
FLOS Flostrand 144.00 351 *e*P PKPdf 20 57 23.6 -3.0
FLOS AMb AMB 20 57 24.8
comp=Z,482nm,0.8s
MOR8 Moi Rana 144.01 350 *e*P PKPdf 20 57 23.0 -3.6
MOR8 AMb AMB 20 57 25.4
comp=Z,203nm,1.4s
TVAN Van 144.03 294 *i*P PKPdf 20 57 25.2 -2.3
VANT Van 144.04 294 *e*P PKPdf 20 57 27.0 -0.5
VANB Van 144.05 294 *e*P PKPdf 20 57 24.5 -3.0
STOK Stokkvaagen 144.05 351 *e*P PKPdf 20 57 24.2 -2.5
STOK AMb AMB 20 57 25.2
comp=Z,600nm,1.0s
MOS Moscow 144.12 324 *e*PKHKP 20 57 23.5
MOS pmax pmax
comp=Z,232nm,1.3s
MOS pmax pmax
comp=Z,400nm,1.6s
MSL Mosul 144.15 290 *e*x x 20 57 30.0
KARS Kars 144.28 297 *e*P PKPdf 20 57 26.6 -1.3
AGRB Hanur-Agry 144.37 295 *e*P PKPdf 20 57 26.9 -1.2
TUTA Tutak 144.51 295 *i*P PKPdf 20 57 27.4 -0.8
KAF Kangasniemi 144.81 339 *e*pkp 20 57 24.0
comp=Z,181nm,0.7s,baz=40,slow=3.2
KAF Kangasniemi 144.81 339 *e*PKHKP 20 57 24.0
KAF pmax pmax
comp=Z,181nm,0.7s
VOR Voronezh 144.88 317 *e*PKIKP PKPdf 20 57 26.0 -2.5
VOR pmax pmax
comp=Z,350nm,2.0s
OBN Obninsk 144.94 324 *d i*PKIKP PKPdf 20 57 26.8 -1.7
OBN *e* 20 58 40.4
OBN *e*SS SS 21 19 12.5 -4.3
OBN pmax pmax
comp=Z,314nm,1.0s
OBN Obninsk 144.94 324 *i*PKP PKPdf 20 57 26.9 -1.6
VRSR Storozhevoye 145.06 316 *i*PKIKP PKPdf 20 57 27.4 -1.4
VRSR pmax pmax
comp=Z,40nm,0.9s
VRSR pmax pmax
comp=N,20nm,1.6s
VRSR pmax pmax
comp=E,20nm,1.0s
PUL Pulkovo 145.09 334 *i*PKIKP PKPdf 20 57 27.9 -0.7
PUL Pulkovo 145.09 334 *i*PKP PKPdf 20 57 27.9 -0.7
HOMI Horasan 145.21 296 *i*P PKPdf 20 57 28.8 -0.7
BTMT Batman 145.53 293 *e*P PKPdf 20 57 30.0 -0.1
ERZM Erzurum 145.62 296 *i*P PKPdf 20 57 30.1 -0.1
EZM Erzurum 145.63 296 *e*P PKPdf 20 57 30.6 +0.4
BNGL BINGOL 145.80 294 *i*P PKPdf 20 57 30.2 -0.3
NSS Namsos 145.91 351 *e*P PKPdf 20 57 28.7 -1.2
NSS AMb AMB 20 57 29.8
comp=Z,380nm,1.2s
MARD Mardin 146.07 291 *i*P PKPdf 20 57 30.1 -0.9
KOPT Kop Dagi 146.29 296 *i*P PKPdf 20 57 30.9 -0.4
BINT Bingol 146.32 294 *e*P PKPbc 20 57 33.6 +0.5
SOC Sochi 146.55 303 *i*PKIKP PKPdf 20 57 31.9 +0.3
SOC pmax pmax
comp=Z,64nm,0.8s
DIYA Diyarbakir 146.61 293 *i*P PKPdf 20 57 30.6 -1.3
KTUT Trabzon 146.79 298 *e*P PKPdf 20 57 32.3 +0.2
MACK Trabzon 146.79 298 *i*P PKPdf 20 57 31.2 -0.9
EZC Erzincan 146.82 296 *e*P PKPdf 20 57 32.4 +0.2
GUMT Gumushane 147.04 297 *e*P PKPdf 20 57 32.7 +0.1
PTK Pertek 147.18 294 *e*P PKPdf 20 57 30.7 -2.1
SVRC Sivrice-ELAZID 147.25 293 *e*P PKPdf 20 57 32.7 -0.3
VSU Vasula 147.34 334 *d i*PKP2 PKPbc 20 57 34.0 -1.3
ELZG Elazig 147.50 294 *i*P PKPdf 20 57 32.5 -0.9

ESPY Espiye-Giresun 147.58 298 *e*P PKPdf 20 57 32.0 -1.5
URFA Urfa 147.63 292 *e*P PKPdf 20 57 34.0 +0.4
GRSN GIRESUNGRSN 147.93 298 *i*P PKPdf 20 57 32.4 -1.6
MALT Malatya 147.94 293 *e*P PKPdf 20 57 32.9 -1.2
MALT Malatya 147.94 293⇑ *i*P PKPdf 20 57 33.1 -1.0
MALT Malatya 147.94 293⇑ P PKPdf 20 57 33.1 -1.1
MYA Malataya 147.94 293 *e*P PKPdf 20 57 32.9 -1.2
ANN Anapa 147.95 306 *i*PKIKP PKPdf 20 57 34.6 +0.7
ANN pmax pmax
comp=Z,231nm,1.1s
MOL Molde 148.33 353 *e*P PKPbc 20 57 36.6 -1.1
MOL AMb AMB 20 57 37.9
comp=Z,198nm,0.8s
DARE Darende-Malaty 148.41 295 *e*P PKPdf 20 57 33.6 -1.2
GZT Gaziantep 148.63 291 *i*P PKPdf 20 57 34.5 -0.8
DOMB Dombas 148.68 352 *e*P PKPbc 20 57 37.7 -0.9
DOMB AMb AMB 20 57 38.6
comp=Z,205nm,0.8s
RSDY Resadiye-TOKAT 148.69 297 *e*P PKPbc 20 57 38.2 -1.1
ASF Jabal al Asfar 148.80 281 PKPbc PKPbc 20 57 39.5 -0.4
comp=Z,38nm,0.7s,baz=329,slow=0.7,SNR=28
SVSK Karacayir 148.98 296 *e*P PKPdf 20 57 34.2 -1.6
KMRS Kahramanmaras 149.16 292 *e*P PKPdf 20 57 35.1 -1.0
SARI SarD1z-Kayseri 149.29 294 *e*P PKPdf 20 57 35.4 -0.9
TOKT Tokat 149.29 297 *e*P PKPbc 20 57 40.6 -0.3
NB2 NORSAR Subarra 149.34 349 PKP PKPbc 20 57 39.1 -1.2
comp=Z,161nm,0.8s,baz=17,slow=2.6
NB2 NORSAR Subarra 149.34 349 PKP PKPbc 20 57 39.1 -1.2
baz=17,slow=2.6
NOA NORSAR Array B 149.34 349 PKP PKPdf 20 57 34.5 -1.1
comp=Z,37nm,0.7s,baz=15,slow=4.1,SNR=106
NOA PKPbc PKPbc 20 57 39.0 -1.3
comp=Z,115nm,0.8s,baz=17,slow=4.2,SNR=171
NOA NORSAR Array B 149.34 349 PKP PKPdf 20 57 34.5 -1.1
NOA PKPbc PKPbc 20 57 39.0 -1.3
FKH Fakeheh 149.45 285 *e*P PKPbc 20 57 41.9 +0.5
MNK Minsk 149.51 328 *e*PKIKP PKPdf 20 57 33.0 -3.1
PINB Pinarbasi 149.52 294 *i*P PKPbc 20 57 40.9 -0.6
NAO01 NORSAR Array S 149.58 350 *e*PKPdf PKPdf 20 57 35.3 -0.7
NAO01 *e*PKPbc PKPbc 20 57 39.7 -1.2
NAO01 *e*PKPab PKPab 20 57 46.1 -0.8
KVT Kavak 149.58 299 *e*P PKPdf 20 57 37.8 +1.1
ANDN Andirin 149.60 292 *i*P PKPdf 20 57 35.2 -1.7
HFS Hagfors 149.75 347 PKP PKPdf 20 57 34.5 -1.8
comp=Z,16nm,0.9s,baz=83,slow=6.2,SNR=22
HFS PKPbc PKPbc 20 57 39.2 -2.1
comp=Z,84nm,0.5s,baz=191,slow=1.5,SNR=138
HTY Hatay 149.76 289 *e*P PKPbc 20 57 41.1 -1.0
YAYL Yayladag 149.78 289 *i*P PKPbc 20 57 41.1 -1.1
HWQ Hawqa 149.83 285 *e*P PKPbc 20 57 42.1 -0.3
HYA Hoyanger 149.84 354 *e*P PKPbc 20 57 41.5 0.0
HYA AMb AMB 20 57 42.8
comp=Z,210nm,1.1s
RCY Rachaya 149.86 284 *e*P PKPbc 20 57 42.5 +0.1
BNN Bunyan 149.94 294 *e*P PKPdf 20 57 37.9 +0.6
KOZT Kozan 150.01 292 *e*P PKPdf 20 57 38.0 +0.6
BHL Bhannes 150.04 285 *e*P PKPbc 20 57 42.5 -0.4
CEYT Ceyhan 150.08 291 *e*P PKPbc 20 57 40.7 -2.2
DIKM Dikmen 150.09 300 *e*P PKPdf 20 57 36.2 -1.3
SIM Simferopol' 150.21 307 *d i*PKIKP PKPdf 20 57 35.7 -1.8
SIM *e* 20 57 49.0
SIM pmax pmax
comp=Z,108nm,0.8s
YOZ Yozgat 150.29 296 *e*P PKPbc 20 57 42.0 -1.3
BOYT Boyabat 150.39 300 *i*P PKPbc 20 57 43.3 -0.2
BYBT Boyabat 150.48 300 *e*P PKPbc 20 57 43.2 -0.5
CTKT Corum 150.59 298 *i*P PKPdf 20 57 37.4 -0.8
KARA Karaisali 150.63 291 *e*P PKPdf 20 57 37.0 -1.4
RUND Rundenannen 150.65 355 *e*P PKPbc 20 57 44.7 +1.3
RUND AMb AMB 20 57 46.0
comp=Z,285nm,0.8s
AVNT Avonos 150.72 294 *i*P PKPdf 20 57 35.6 -3.0
CORM Corum 150.76 297 *e*P PKPbc 20 57 42.4 -2.0
KONO Kongsberg 150.92 350 *e*P PKPbc 20 57 43.1 -0.9
KONO AMb AMB 20 57 44.2
comp=Z,249nm,0.9s
KONO Kongsberg 150.92 350⇑ *i*PKIKP PKPdf 20 57 39.8 +1.7
NIG Nigde 150.95 293 *e*P PKPbc 20 57 43.2 -1.6
BZK Bozkurt 150.96 301 *e*P PKPbc 20 57 44.1 -0.7
AKASG Malin Array Be 150.98 320 PKP PKPdf 20 57 36.7 -1.8
comp=Z,2.0nm,0.7s,baz=42,slow=1.1,SNR=22
AKASG PKPbc PKPbc 20 57 43.0 -1.5
comp=Z,122nm,0.8s,baz=58,slow=2.5,SNR=189
AKASG Malin Array Be 150.98 320 PKP PKPdf 20 57 36.7 -1.8
AKASG PKPbc PKPbc 20 57 43.0 -1.5
AKBB Malin Array Si 150.98 320 *e*PKPdf PKPdf 20 57 36.6 -1.9
AKBB *e*PKPbc PKPbc 20 57 42.6 -1.9
KIEV Kiev 150.99 320 *e*PKPdf PKPdf 20 57 36.0 -2.5
KIEV *e*PKPbc PKPbc 20 57 42.9 -1.7
CDAG Cicekdag 151.02 296 *i*P PKPbc 20 57 43.1 -1.9
MERS Mersin 151.07 291 *e*P PKPbc 20 57 42.6 -2.6
TOS Tosya 151.10 299 *e*P PKPbc 20 57 44.2 -1.0
LRW Lerwick 151.12 1 *e*P PKPbc 20 57 44.4 -0.1
LRW AMb AMB 20 57 44.7
comp=Z,340nm,1.0s
ILGA Ilgaz 151.33 299 *i*P PKPbc 20 57 44.7 -0.9
EREN Erenkoy 151.35 288 *e*P PKPbc 20 57 42.6 -3.3
CANT Cankiri 151.47 298 *e*P PKPbc 20 57 44.5 -1.4
BALT Daday 151.49 300 *i*P PKPbc 20 57 44.6 -1.4
BLS5 Blasjo 151.53 353 *e*P PKPbc 20 57 45.6 +0.1
BLS5 AMb AMB 20 57 46.9
comp=Z,164nm,1.4s
KAMT Kaman 151.55 296 *e*P PKPdf 20 57 41.0 +1.3
IKL Isikli 151.75 289 *e*P PKPdf 20 57 43.0 +2.8
LFK Lefkose 151.86 287 *e*P PKPbc 20 57 45.7 -1.4
SUW Suwalki 151.88 331 *e*PKP PKPdf 20 57 38.6 -1.2
SUW *e* 20 57 45.7
SUW *e* 20 57 55.9
SUW Suwalki 151.88 331 *e*PKP PKPdf 20 57 38.6 -1.2
SUW *e* 20 57 45.7
SUW *e* 20 57 55.9
CSS Prodhromos 152.02 287 *e*PKPdf PKPdf 20 57 38.7 -1.9
CSS *e*PKPbc PKPbc 20 57 46.3 -1.1
SAFT Safranbolu 152.06 300 *e*P PKPbc 20 57 45.6 -1.7
ANTO Ankara 152.20 297 *e*P PKPbc 20 57 45.5 -2.1
ANTO Ankara 152.20 297⇑ *i*P PKPdf 20 57 38.4 -2.3
ANTO Ankara 152.20 297 P PKPdf 20 57 40.0 -0.7
LEF Lefka 152.38 287 *e*P PKPbc 20 57 46.5 -1.7
SNART Snartemo 152.51 352 *e*P PKPbc 20 57 47.0 -0.7
SNART AMb AMB 20 57 48.0
comp=Z,158nm,1.5s
RTO Tolsta 152.55 7‖ *e*P PKPbc 20 57 46.6 -1.2
SGKT Sivrigoynuk 152.65 299 *i*P PKPdf 20 57 37.5 -3.8
RSC Scourie 152.69 6‖ *e*P PKPbc 20 57 46.9 -1.2
HDMB Hadim 152.70 291 *e*P PKPbc 20 57 45.8 -3.0
LADK Ladik-KONYA 152.71 294 *e*P PKPbc 20 57 45.4 -3.4
KONT Konya--Tatoy 152.74 293 *e*P PKPbc 20 57 45.1 -3.8
MLA1 Latheron 152.87 4‖ *e*P PKPbc 20 57 47.3 -1.2
REB Eisgbhrachaidh 152.90 6‖ *e*P PKPbc 20 57 47.0 -1.6
RRH Rhenigidale 152.95 8 *e*P PKPbc 20 57 47.4 -1.3
KIS Kishinev 152.96 314 *e*PKP PKPbc 20 57 47.0 -2.1
KIZT Kizilcal 153.02 295 *e*P PKPdf 20 57 40.5 -1.5
RRR Rubha Reidh 153.11 7‖ *e*P PKPbc 20 57 47.6 -1.5
MVH1 Achvaich 153.19 5‖ *e*P PKPbc 20 57 48.0 -1.2
HENT Hendek 153.47 300 *i*P PKPdf 20 57 40.3 -2.2
KAC Achnashellach 153.51 7 *e*P PKPbc 20 57 48.8 -1.2
MCD Coleburn Disti 153.59 4‖ *e*P PKPbc 20 57 48.5 -1.6
KPL Plockton 153.63 7 *e*P PKPbc 20 57 48.5 -1.7
KPL AMb AMB 20 57 50.2
comp=Z,83nm,1.1s
MDO Dochfour 153.65 5‖ *e*P PKPbc 20 57 48.8 -1.4
ESKT Eskisehir 153.73 297 *i*P PKPdf 20 57 41.4 -1.5
MME1 Meikle Cairn 153.88 4‖ *e*P PKPbc 20 57 48.9 -1.8
BSD Bornholm Skovb 153.96 340‖ *i*PKIKP PKPdf 20 57 41.0 -1.7
BSD *i* 20 58 04.1
BSD pmax pmax
comp=Z,28nm,0.9s
BSD Bornholm Skovb 153.96 340‖ *i*P PKPdf 20 57 41.0 -1.7
comp=Z,28nm,0.9s
BSD *i* 20 57 49.7
BSD *i* 20 58 04.1
KAR1 Arisaig 154.03 7 *e*P PKPbc 20 57 49.6 -1.5
COP Copenhagen 154.10 344‖ *i*PKIKP PKPbc 20 57 50.4 -0.8
COP *i* PKPab 20 58 05.1 -0.9
COP pmax pmax
comp=Z,40nm,0.7s
COP Copenhagen 154.10 344‖ *i*P PKPbc 20 57 50.4 -0.8
comp=Z,40nm,0.7s
COP *i* PKPab 20 58 05.1 -0.9
LVV L'vov 154.24 323 *e*PKIKP PKPdf 20 57 41.1 -2.2
TKTP Tekketepe 154.33 294 *i*P PKPdf 20 57 39.9 -3.9
HARR Harsova 154.46 309‖ *i*P PKPdf 20 57 42.9 -0.9

HARR	Harsova	154.46	309	⇓P	PKPdf	20 57 42.9	-0.9
LIC	Lamto	154.62	168	*e*PKIKP	PKPdf	20 57 44.6	-0.4
	comp=Z,70nm,0.9s						
LIC	Lamto	154.62	168	*e*PKIKP	PKPdf	20 57 44.5	-0.5
	comp=Z,152nm,0.6s						
KIC	Kosan Boka	154.80	169	*e*PKIKP	PKPdf	20 57 44.8	-0.4
	comp=Z,214nm,0.7s						
PLOR	Plostina	154.81	313	⇓*i*P	PKPbc	20 57 52.5	-0.6
BURAR	Bucovina Array	154.83	318	⇑*i*P	PKPdf	20 57 43.2	-1.0
BURAR	Bucovina Array	154.83	318	⇑P	PKPdf	20 57 43.2	-1.0
EAB	Aberfoyle	154.90	6	*e*P	PKPbc	20 57 50.5	-2.5
EBH	Black Hill	154.90	5	⇓*e*P	PKPbc	20 57 51.4	-1.5
ULDT	Uludag	154.92	299	*i*P	PKPdf	20 57 42.7	-1.9
KHAL	Karahalli	154.94	294	*i*P	PKPdf	20 57 38.9	-5.8
TIC	Toumodi	155.03	168	*e*PKIKP	PKPdf	20 57 45.1	-0.5
	comp=Z,101nm,0.5s						
KWP	Kalwaria	155.03	324	*e*PKP	PKPdf	20 57 43.1	-1.3
KWP				*e*		20 57 53.3	
KWP				*e*		20 58 10.2	
KWP	Kalwaria	155.03	324	⇓*i*P	PKPdf	20 57 43.2	-1.2
KWP	Kalwaria	155.03	324	*e*PKP	PKPdf	20 57 43.1	-1.3
KWP				*e*		20 57 53.3	
KWP				*e*		20 58 10.2	
DBIC	Dimbokro	155.08	168	PKP	PKPdf	20 57 45.6	0.0
	comp=Z,30nm,0.7s,baz=165,slow=1.8,SNR=48						
DBIC				PKPab	PKPab	20 58 11.4	+0.1
	comp=Z,24nm,0.7s,baz=149,slow=5.0,SNR=7.4						
EAU	Auchinoon	155.31	5	⇓*e*P	PKPdf	20 57 51.6	+7.0
EBL	Broad Law	155.41	4	*e*P	PKPdf	20 57 51.4	+6.6
MLR	Muntele Rosu	155.41	313	⇓*i*P	PKPdf	20 57 42.6	-2.5
MLR	Muntele Rosu	155.41	313	⇓P	PKPdf	20 57 42.6	-2.5
KOLS	Kolonicke sedl	155.69	323	*i* PKP	PKPdf	20 57 43.9	-1.4
UZH	Uzhgorod	155.87	322	*e*PKIKP	PKPdf	20 57 44.3	-1.3
UZH				*i*		20 58 10.0	
VOIR		156.00	313	⇓*i*P	PKPdf	20 57 48.2	+2.4
VOIR		156.00	313	⇓P	PKPdf	20 57 48.2	+2.4
OJC	Ojcow	156.04	328	*e*PKPdf	PKPdf	20 57 43.8	-1.9
OJC				*e*PKPab	PKPab	20 58 12.9	-1.6
CRVS	Cervenica-Dubn	156.12	324	*i* PKIKP	PKPdf	20 57 43.9	-2.0
CRVS				*i*		20 58 14.5	
CRVS	Cervenica-Dubn	156.12	324	*i* PKP	PKPdf	20 57 43.9	-2.0
CRVS				*i*		20 58 14.5	
CRVS				*e*		20 59 29.9	
BSEG	Bad Segeberg	156.19	345	*e*PKPdf	PKPdf	20 57 44.4	-1.4
BSEG				*e*PKPab	PKPab	20 58 13.9	-1.1
NIE	Niedzica	156.35	326	*e*PKP	PKPdf	20 57 44.8	-1.4
HLG	Helgoland	156.43	349	*e*PKPab	PKPab	20 58 15.0	-1.1
RUE	Ruedersdorf	156.58	339	*e*PKPdf	PKPdf	20 57 45.1	-1.2
RUE				*e*		20 57 56.4	
RUE				*e*PKPab	PKPab	20 58 15.9	-0.8
DRGR		156.71	318	⇓*i*P	PKPdf	20 57 44.7	-2.0
DRGR		156.71	318	P	PKPdf	20 57 45.9	-0.8
KECS	Kecovo	156.89	324	*e*PKP	PKPdf	20 57 44.9	-2.0
KECS				*i*		20 58 17.5	
KECS				*e*		20 59 32.2	
KECS	Kecovo	156.89	324	*e*PKP	PKPdf	20 57 44.9	-2.0
KECS				*i*		20 58 17.5	
KECS				*e*		20 59 32.3	
KSP	Ksiaz	157.06	333	*e*PKP	PKPdf	20 57 46.2	-0.8
KSP				*e*		20 57 57.9	
KSP				*e*		20 58 18.4	
KSP	Ksiaz	157.06	333	*e*PKPdf	PKPdf	20 57 45.2	-1.8
KSP				*i* PKPab	PKPab	20 58 18.2	-0.7
OKC	Ostrava-Krasne	157.06	329	*e*PKPDF	PKPdf	20 57 45.9	-1.1
OKC				*e*PKPAB	PKPab	20 58 18.0	-0.9
MORC	Moravsky Berou	157.36	330	⇓*i*P	PKPdf	20 57 44.9	-2.5
MORC	Moravsky Berou	157.36	330	P	PKPdf	20 57 46.3	-1.1
GZR	Gura Zlata	157.42	315	⇓*i*P	PKPdf	20 57 47.2	-0.5
GZR	Gura Zlata	157.42	315	P	PKPdf	20 57 46.0	-1.6
UPC	Upice	157.43	333	*e*PKPDF	PKPdf	20 57 46.4	-1.1
UPC				*ex*	x	20 57 58.0	
UPC				*e*PKPAB	PKPab	20 58 19.4	-1.1
DPC	Dobruska-Polom	157.43	332	*e*PKPDF	PKPdf	20 57 46.4	-1.1
DPC				*e*PKPAB	PKPab	20 58 20.1	-0.4
PSZ	Piszkesteto	157.56	323	⇑*e*PKP	PKPdf	20 57 46.3	-1.4
PSZ	Piszkesteto	157.56	323	P	PKPdf	20 57 46.7	-1.1
VYHS	Vyhne	157.70	326	*i* PKIKP	PKPdf	20 57 46.1	-1.8
VYHS				*i*		20 58 20.8	
VYHS	Vyhne	157.70	326	*i* PKP	PKPdf	20 57 46.1	-1.8
VYHS				*i*		20 58 20.8	
VYHS				*i*		20 59 36.4	
CLL	Collm	157.83	338	*e*PKIKP	PKPdf	20 57 46.0	-2.0
CLL				*i*		20 58 21.3	
CLL				pmax	pmax		
	comp=Z,65nm,0.7s						
CLL	Collm	157.83	338	*e*PKPdf	PKPdf	20 57 46.5	-1.5
CLL				*e*		20 57 58.5	
CLL				*e*PKPab	PKPab	20 58 21.1	-1.1
CLL	Collm	157.83	338	*e*PKPdf	PKPdf	20 57 46.0	-2.0
CLL				*i* PKPdif		20 57 58.7	
CLL				*i x*	x	20 58 01.3	
CLL				*i* PKPab	PKPab	20 58 21.3	-0.9
	comp=Z,65nm,0.7s						
CLL				*ex*	x	20 59 36.0	
KOLL	Kolacno	157.84	326	*i* PKP	PKPdf	20 57 46.6	-1.5
KOLL				*i*		20 58 22.3	
BRG	Berggiesshubel	157.89	336	*e*PKIKP	PKPdf	20 57 46.4	-1.7
BRG				*i*		20 58 22.3	
BRG	Berggiesshubel	157.89	336	*e*PKPdf	PKPdf	20 57 46.3	-1.8
BRG				*e*		20 57 58.7	
BRG				*e*PKPab	PKPab	20 58 21.7	-0.8
BRG	Berggiesshubel	157.89	336	*e*PKP	PKPdf	20 57 46.4	-1.6
	comp=Z,14nm,1.1s						
BRG				*i*		20 57 58.8	
	comp=Z,16nm,0.9s						
BRG				*i*	PKPab	20 58 22.2	-0.2
	comp=Z,76nm,1.3s						
BRG				*e*pPKP	pPKPab	20 59 35.8	+10
	comp=Z,17nm,1.4s						
BRG	Berggiesshubel	157.89	336	*e*PKP	PKPdf	20 57 46.4	-1.6
BRG				*i*		20 57 58.8	
BRG				*i*	PKPab	20 58 22.2	-0.2
BRG				*e*pPKP	pPKPab	20 59 35.8	+10
PVCC	Panska Ves	157.96	335	*e*PKPDF	PKPdf	20 57 46.4	-1.7
PVCC				*e*PKPAB	PKPab	20 58 22.1	-0.7
BZS	Buzias	157.99	317	⇑*i*P	PKPdf	20 57 46.0	-2.4
BZS	Buzias	157.99	317	P	PKPdf	20 57 47.5	-0.9
VRAC	Vranov	158.12	330	PKP	PKPdf	20 57 47.3	-1.1
	comp=Z,6.9nm,1.1s,baz=102,slow=2.0,SNR=13						
VRAC				PKPab	PKPab	20 58 23.0	-0.6
	comp=Z,7.8nm,0.4s,baz=34,slow=3.8,SNR=18						
VRAC	Vranov	158.12	330	⇓*i*P	PKPdf	20 57 46.7	-1.7
VRAC	Vranov	158.12	330	P	PKPdf	20 57 47.0	-1.3
IBBN	Ibbenburen	158.25	347	*e*PKPab	PKPab	20 58 22.7	-1.3
BUD	Budapest	158.29	324	⇑*e*PKP	PKPdf	20 57 47.2	-1.4
PRU	Pruhonice	158.41	334	*e*PKPDF	PKPdf	20 57 46.0	-2.7
PRU				*e*PKPAB	PKPab	20 58 24.0	-0.8
TREC	Trest	158.59	332	*e*PKPDF	PKPdf	20 57 47.6	-1.4
TREC				*e*PKPAB	PKPab	20 58 24.5	-1.1
ZST	Bratislava	158.72	327	*i* PKP	PKPdf	20 57 48.0	-1.1
ZST				*i*		20 58 26.2	
WTSB	Winterswijk	158.75	349	*e*PKiKP	PKPab	20 58 24.8	-1.4
	comp=Z,36nm,0.7s						
WERD	Werda	158.80	338	*e*PKPdf	PKPdf	20 57 47.0	-2.2
WERD				*e*PKPab	PKPab	20 58 25.7	-0.7
MOX	Moxa	158.84	339	*e*PKIKP	PKPdf	20 57 49.6	+0.4
MOX				*e*		20 58 26.3	
MOX				pmax	pmax		
	comp=Z,64nm,1.4s						
MOX	Moxa	158.84	339	*e*PKPdf	PKPdf	20 57 47.8	-1.4
MOX				*e*		20 58 00.6	
MOX				*e*PKPab	PKPab	20 58 25.7	-0.9
MOX	Moxa	158.84	339	*e*Pdif	PKPdf	20 57 49.6	+0.4
MOX				*e*		20 58 26.3	
GUNZ	Gunzen	158.86	338	*e*PKPdf	PKPdf	20 57 47.9	-1.3
GUNZ				*e*PKPab	PKPab	20 58 26.1	-0.6
WERN	Wernitzgruen	158.91	338	*e*PKPdf	PKPdf	20 57 47.5	-1.8
WERN				*e*PKPab	PKPab	20 58 26.4	-0.5
NKC	Novy Kostel	158.94	338	*e*PKPDF	PKPdf	20 57 47.9	-1.4
NKC				*e*PKPAB	PKPab	20 58 26.5	-0.6
UBBA	Unterbreizbach	159.14	342	*e*PKPab	PKPab	20 58 26.6	-1.3
BUG	Bochum--Univer	159.17	347	*e*PKPab	PKPab	20 58 26.4	-1.6
PKSM	Moragy	159.31	321	⇓*i*P	PKPdf	20 57 47.7	-2.2
PKSM	Moragy	159.31	321	P	PKPdf	20 57 48.3	-1.6
ROTZ	Rotzenmuhle	159.42	337	*e*PKPab	PKPab	20 58 29.0	-0.2
KHC	Kasperske Hory	159.47	334	*e*PKIKP	PKPdf	20 57 48.5	-1.5
KHC				*e*		20 58 28.8	
KHC	Kasperske Hory	159.47	334	*e*PKPDF	PKPdf	20 57 48.5	-1.5
KHC				*ex*	x	20 58 01.5	
KHC				*ex*	x	20 58 11.5	
KHC				*e*PKPab	PKPab	20 58 28.8	-0.6
KHC				*ex*	x	20 58 32.5	
KHC				*ex*	x	20 59 43.0	
GEC2	GERESS Array S	159.66	334	*e*PKPdf	PKPdf	20 57 48.2	-2.0
GEC2				*e*		20 58 01.7	
GEC2				*e*PKPab	PKPab	20 58 29.3	-0.9
GERES	GERESS Array B	159.66	334	PKP	PKPdf	20 57 48.5	-1.7
	comp=Z,4.5nm,1.0s,baz=96,slow=1.3,SNR=28						
GERES				PKPab	PKPab	20 58 29.2	-1.0
	comp=Z,7.2nm,0.9s,baz=45,slow=4.0,SNR=11						
WET	Wettzell	159.72	335	*e*PKPdf	PKPdf	20 57 48.7	-1.6
WET				*e*PKPab	PKPab	20 58 30.0	-0.5
GRF	Grafenberg Arr	159.80	339	*e*PKPab	PKPab	20 58 30.5	-0.3
HGN	Heimansgroeve	160.06	349	*e*PKiKP	PKPab	20 58 30.6	-1.3
	comp=Z,100nm,0.9s						
BEBN	Eben Emael	160.06	350	PKPab	PKPab	20 58 30.9	-1.1
TNS	Taunus Mts	160.07	344	*e*PKPdf	PKPdf	20 57 49.1	-1.5
TNS				*e*		20 58 03.0	
TNS				*e*PKPab	PKPab	20 58 30.8	-1.2
MEM	Membach	160.19	349	PKP	PKPdf	20 57 49.5	-1.2
MEM				PKPab	PKPab	20 58 31.4	-1.1
UCC	Uccle	160.24	352	PKP	PKPdf	20 57 49.6	-1.2
UCC				PKPab	PKPab	20 58 31.1	-1.5
KRUS	Krusevo	160.27	307	*e*PKP	PKPdf	20 57 48.2	-2.9
BCLA	Clavier	160.49	350	PKPab	PKPab	20 58 32.3	-1.4
TOD	Tromm	160.56	343	PKIKP	PKPdf	20 57 49.5	-1.7
MENF	Mencas	160.68	356	PKP	PKPdf	20 57 49.8	-1.5
GIVF	Givet	160.87	351	*e*PKIKP	PKPdf	20 57 49.4	-2.1
RUP	Ruppelstein	160.87	346	PKIKP	PKPdf	20 57 50.6	-0.9
DOU	Dourbes	160.90	351	PKP	PKPdf	20 57 50.0	-1.6
DOU				PKPab	PKPab	20 58 34.3	-1.3
BAIF	Baives	160.99	352	*e*PKIKP	PKPdf	20 57 49.6	-2.0
	comp=Z,17nm,1.0s						
WLF	Walferdange	161.08	348	PKP	PKPdf	20 57 51.0	-0.7
WLF				PKPab	PKPab	20 58 34.9	-1.5
WLF	Walferdange	161.08	348	*e*PKPdf	PKPdf	20 57 50.9	-0.8
WLF				*e*PKPab	PKPab	20 58 35.5	-0.9
WLF	Walferdange	161.08	348	*e*PKPdf	PKPdf	20 57 50.7	-1.0
FUR	Furstenfeldbru	161.11	336	*e*PKPdf	PKPdf	20 57 50.2	-1.6
FUR				*e*PKPab	PKPab	20 58 36.1	-0.5
STU	Stuttgart	161.22	341	*e*PKPdf	PKPdf	20 57 49.8	-2.1
STU				*e*PKPab	PKPab	20 58 36.0	-1.0
KBA	Koelnbreinsper	161.23	331	⇑*i*P	PKPdf	20 57 49.8	-2.2
	comp=Z,15nm,1.4s,SNR=7.1						
LANF	Langenberg	161.38	344	PKP	PKPdf	20 57 50.8	-1.3
BOJS	Bojanci	161.54	325	*e*P	PKPdf	20 57 50.6	-1.8
WTTA	Wattenberg	161.75	334	⇑*i*P	PKPdf	20 57 51.3	-1.3
	comp=Z,27nm,1.3s						
ABTA	Abfaltersbach	161.83	332	*i* P	PKPdf	20 57 50.6	-2.0
	comp=Z,24nm,1.3s,SNR=9.0						
BFO	Black Forest	161.86	342	*e*PKIKP	PKPdf	20 57 49.8	-2.8
BFO	Black Forest	161.86	342	*e*PKPab	PKPab	20 58 38.7	-1.1
RETA	Reutte	161.87	336	⇑*i*P	PKPdf	20 57 51.0	-1.6
	comp=Z,8.7nm,1.4s,SNR=13						
MOTA	Moosalm	161.87	335	⇑*i*P	PKPdf	20 57 50.9	-1.7
	comp=Z,25nm,1.3s,SNR=16						
TOA0	Torodi Ar. Sit	161.90	185	*e*PKPdf	PKPdf	20 57 52.5	-1.2
TOA0				*e*PKPab	PKPab	20 58 39.8	-1.0
TORD	Torodi Ar. Bea	161.90	185	PKP	PKPdf	20 57 52.6	-1.0
	comp=Z,45nm,1.0s,baz=329,slow=0.5,SNR=123						
TORD				PKPab	PKPab	20 58 40.4	-0.4
	comp=Z,64nm,0.9s,baz=173,slow=4.0,SNR=27						
TORD				pPKPab	pPKPab	20 59 50.3	+6.0
	comp=Z,10nm,0.9s,baz=179,slow=3.7,SNR=3.6						
TORD				PP	PP	21 02 23.0	-1.0
	comp=Z,6.6nm,1.0s,baz=186,slow=3.7,SNR=6.9						
SPAK	Spaichingen-Ko	161.94	341	PKP	PKPdf	20 57 50.8	-1.9
CDF	Champ du Feu	162.04	344	*e*PKIKP	PKPdf	20 57 50.0	-2.8
	comp=Z,15nm,1.1s						
ECH	Echery	162.25	344	PKP	PKPdf	20 57 51.4	-1.6
FETA	Feichten	162.28	336	*i* P	PKPdf	20 57 51.8	-1.3
	comp=Z,28nm,1.1s,SNR=15						
DAVA	Damuels	162.34	338	*i* P	PKPdf	20 57 51.7	-1.4
	comp=Z,11nm,1.0s,SNR=5.5						
FELD	Feldberg im Sc	162.36	342	PKP	PKPdf	20 57 51.6	-1.5
MEZF	Maiziers J'vi	162.39	349	*e*PKIKP	PKPdf	20 57 51.4	-1.7
	comp=Z,121nm,1.3s						
FLN	La Foliniere	162.53	1	*e*PKIKP	PKPdf	20 57 51.2	-2.0
	comp=Z,72nm,1.3s						
HAU	Haudompre	162.63	346	*e*PKIKP	PKPdf	20 57 50.9	-2.5
	comp=Z,36nm,1.2s						
HINF	Hinteralfeld	162.70	345	*e*PKIKP	PKPdf	20 57 50.8	-2.6
	comp=Z,33nm,1.1s						
LDF	La Druitiere	162.70	1	*e*PKIKP	PKPdf	20 57 51.1	-2.3
	comp=Z,82nm,1.5s						
DAVOS	Davos	162.76	337	PKIKP	PKPdf	20 57 52.4	-1.1
DAVOS						20 58 44.1	
ROSF	Rostrenen	162.76	8	*e*PKIKP	PKPdf	20 57 50.6	-2.9
DAVOX	Davos/Dischmat	162.78	337	PKP	PKPdf	20 57 52.4	-1.1
	comp=Z,9.1nm,0.8s,baz=205,slow=2.7,SNR=21						
DAVOX				PKPab	PKPab	20 58 44.1	+0.2
	comp=Z,12nm,0.7s,baz=275,slow=3.5,SNR=12						
BBS	Basel-Blauen	162.87	343	PKIKP	PKPdf	20 57 51.9	-1.7
SGMF	Saint Gilles	162.92	6	*e*PKIKP	PKPdf	20 57 51.1	-2.5
	comp=Z,154nm,1.7s						
LOR	Lormes	163.77	351	*e*PKIKP	PKPdf	20 57 52.5	-2.0
	comp=Z,63nm,1.3s						
HYF	Humbligny	163.91	354	*e*PKIKP	PKPdf	20 57 53.0	-1.6
CABF	La Chapelle	164.01	345	*e*PKIKP	PKPdf	20 57 52.9	-1.8
	comp=Z,50nm,1.1s						
SSF	Saint Saulge	164.02	352	*e*PKIKP	PKPdf	20 57 52.6	-2.1
	comp=Z,60nm,1.3s						
AVF	Avril sur Loir	164.31	352	*e*PKIKP	PKPdf	20 57 52.7	-2.3
	comp=Z,28nm,1.3s						
SMF	Signal de Mont	164.38	350	*e*PKIKP	PKPdf	20 57 52.8	-2.2
	comp=Z,39nm,1.3s						
BGF	Bois d'Agland	164.59	353	*e*PKIKP	PKPdf	20 57 53.3	-1.9
	comp=Z,48nm,1.2s						
MFF	Saint Martin d	164.69	1	*e*PKIKP	PKPdf	20 57 53.3	-2.0
	comp=Z,48nm,1.1s						
LPL	La Plagne	164.88	342	*e*PKIKP	PKPdf	20 57 53.7	-1.8
	comp=Z,18nm,1.1s						
LPG	La Plagne	164.89	342	*e*PKIKP	PKPdf	20 57 53.7	-1.8
	comp=Z,12nm,0.9s						
TCF	Toulx Ste Croi	164.92	354	*e*PKIKP	PKPdf	20 57 53.3	-2.2
	comp=Z,45nm,1.1s						
AGO	Saint Agoulin	165.06	352	PKP	PKPdf	20 57 54.2	-1.4
PLDF	La Plantade	165.08	350	PKP	PKPdf	20 57 54.2	-1.5
BNI	Bardonecchia	165.32	341	*e*PKIKP	PKPdf	20 57 54.6	-1.3
BNI				*e*		20 58 54.4	
PYM	Petit Puy Mans	165.37	352	PKP	PKPdf	20 57 54.8	-1.1
MBDF	Montbardon	165.59	341	*e*PKIKP	PKPdf	20 57 54.1	-2.0
	comp=Z,16nm,0.9s						
SSB	Saint Sauveur	165.60	347	*e*PKIKP	PKPdf	20 57 55.3	-0.8
ORIF	Oris-en-Rattie	165.65	343	*e*PKIKP	PKPdf	20 57 54.1	-2.1
	comp=Z,18nm,1.0s						
LBL	Lubilhac	165.85	351	PKP	PKPdf	20 57 55.1	-1.2
RJF	Les Rejaudoux	165.95	356	*e*PKIKP	PKPdf	20 57 54.5	-1.9
	comp=Z,74nm,1.4s						
VIVF	Saint-Julien-l	165.98	347	*e*PKIKP	PKPdf	20 57 54.7	-1.7
	comp=Z,41nm,1.4s						
SAOF	Saorge	166.02	337	PKP	PKPdf	20 57 55.3	-1.2
AUTN	L'Aution	166.06	338	PKP	PKPdf	20 57 55.1	-1.4
TOUF	Mont Tournerai	166.10	338	PKP	PKPdf	20 57 55.4	-1.2
SBF	Sospel	166.17	337	*e*PKIKP	PKPdf	20 57 54.2	-2.4
	comp=Z,32nm,0.8s						
LUCF	Luceram	166.17	338	PKP	PKPdf	20 57 55.3	-1.3
MVIF	Mont Vial	166.23	338	PKP	PKPdf	20 57 55.1	-1.6
CAF	Calviac	166.29	354	*e*PKIKP	PKPdf	20 57 55.0	-1.7
	comp=Z,36nm,1.1s						
REVF	Revere	166.30	337	PKP	PKPdf	20 57 55.4	-1.3
LFF	La Frestale	166.35	358	*e*PKIKP	PKPdf	20 57 55.1	-1.6
	comp=Z,40nm,1.1s						
STS	Santiago	166.51	28	PKIKP	PKPdf	20 57 55.4	-1.5
SMRF	Simiane la Rot	166.61	343	*e*PKIKP	PKPdf	20 57 55.3	-1.7
	comp=Z,14nm,0.8s						
FRF	La Foret Royal	166.69	339	*e*PKIKP	PKPdf	20 57 54.7	-2.3
	comp=Z,17nm,0.9s						
PGF	Pioggiola	166.71	330	*e*PKIKP	PKPdf	20 57 54.7	-2.4
	comp=Z,83nm,1.4s						
LASF	Ste Croix	166.89	348	*e*PKIKP	PKPdf	20 57 55.6	-1.6
	comp=Z,28nm,1.1s						
LMR	La Mourre	166.94	339	*e*PKIKP	PKPdf	20 57 55.0	-2.2
	comp=Z,44nm,1.3s						
CFTV	Fuerteventura	167.34	99	PKP	PKPdf	20 57 58.2	+0.2
ELOB	Lobios	167.56	30	PKP	PKPdf	20 57 56.6	-1.1
MTLF	Montolieu	167.84	353	*e*PKIKP	PKPdf	20 57 56.1	-1.8
	comp=Z,26nm,1.2s						
SJPF	Ste Jean	168.13	5	*e*PKIKP	PKPdf	20 57 56.9	-1.2
	comp=Z,35nm,1.0s						
EPF	Esparros	168.26	359	*e*PKIKP	PKPdf	20 57 56.8	-1.4
	comp=Z,53nm,0.9s						
ETSF	Etsaut	168.38	2	*e*PKIKP	PKPdf	20 57 57.2	-1.1
	comp=Z,30nm,1.0s						
ECRI	Cripan	168.49	10	PKIKP	PKPdf	20 57 58.2	-0.1
PVIS	Viseu	168.56	32	*e*PKPdf	PKPdf	20 57 58.4	-0.1
PVIS	Viseu	168.56	32	*e*PKPab	PKPab	20 59 10.1	+0.4
MVO	Moncorvo	168.57	28	*e*PKPdf	PKPdf	20 57 58.7	+0.3
MVO	Moncorvo	168.57	28	*e*PKPab	PKPab	20 59 09.0	-0.7
MTE	Manteigas	168.98	32	*e*PKPdf	PKPdf	20 57 58.3	-0.4
MTE	Manteigas	168.98	32	*e*PKPab	PKPab	20 59 10.7	-0.8
PTOM	Tomar	169.16	38	*e*PKPdf	PKPdf	20 57 59.0	+0.1
PTOM	Tomar	169.16	38	*e*PKPab	PKPab	20 59 11.3	-1.1
EMIR	Miracle	169.32	354	PKP	PKPdf	20 57 56.9	-2.0
PCBR	Castelo Branco	169.45	34	*e*PKPdf	PKPdf	20 57 59.2	+0.2
PCBR	Castelo Branco	169.45	34	*e*PKPab	PKPab	20 59 13.8	+0.2
ESAC	San Caprasio	169.56	2	PKP	PKPdf	20 57 59.0	0.0
PMRV	Marv??o	169.81	35	*e*PKPab	PKPab	20 59 15.6	+0.3
EPOB	Poblet	169.91	356	PKP	PKPdf	20 57 57.1	-2.1
GUD	Guadarrama	170.03	19	PKIKP	PKPdf	20 58 00.1	+0.8
PESTR	Estremoz	170.14	38	*e*PKPdf	PKPdf	20 57 59.6	+0.1
PESTR	Estremoz	170.14	38	*e*PKPab	PKPab	20 59 16.7	0.0
EVO	Evora	170.15	40	*e*PKIKP	PKPdf	20 57 58.8	-0.7
	comp=Z,86nm,1.1s						
EVO	Evora	170.15	40	*e*PKPdf	PKPdf	20 57 59.4	-0.1
TAM	Tamanrasset	170.28	211	*e*PKIKP	PKPdf	20 57 59.8	-0.2
ETOR	Torete	170.31	10	PKIKP	PKPdf	20 57 59.8	+0.3
ERTA	Horta de San J	170.34	359	PKP	PKPdf	20 57 58.4	-1.1
PTEO	Sao Teotonio	170.38	47	*e*PKPdf	PKPdf	20 58 00.4	+0.8
PTEO	Sao Teotonio	170.38	47	*e*PKPab	PKPab	20 59 17.1	-0.8
EBAD	Badajoz	170.52	36	PKP	PKPdf	20 57 59.9	+0.2
PFVI	Vila Bisbo	170.56	49	*e*PKPdf	PKPdf	20 58 00.0	+0.2
PBEJ	Beja	170.59	42	*e*PKPdf	PKPdf	20 58 00.1	+0.4
EMOS	Mosqueruela	170.92	3	PKP	PKPdf	20 58 00.5	+0.7
PBAR	Barrancos	170.94	39	*e*PKPdf	PKPdf	20 58 00.1	+0.2
PAB	San Pablo	170.98	23	*e*PKIKP	PKPdf	20 57 59.7	-0.2
ESDC	Sonseca Array	170.98	21	PKP	PKPdf	20 57 59.7	-0.2
	comp=Z,12nm,0.8s,baz=349,slow=2.7,SNR=65						
ESDC				PKPab	PKPab	20 59 20.0	-0.3
	comp=Z,18nm,1.0s,baz=338,slow=4.4,SNR=22						
ESDC				PP	PP	21 03 14.0	+3.2
	comp=Z,2.2nm,0.9s,baz=338,slow=4.4,SNR=5.9						
ESDC	Sonseca Array	170.98	21	PKP	PKPdf	20 57 59.6	-0.3
ESLA	Sonseca Array	170.98	21	*e*PKPdf	PKPdf	20 57 59.6	-0.3
PBDV	Barranco-do-Ve	171.06	46	*e*PKPdf	PKPdf	20 58 00.3	+0.3
PVAQ	Vaqueiros	171.09	45	*e*PKPdf	PKPdf	20 58 00.3	+0.3
KEST	Kesra	171.11	302	PKP	PKPdf	20 58 00.1	0.0
	comp=Z,7.0nm,1.0s,baz=346,slow=0.9,SNR=12						
KEST				PKPab	PKPab	20 59 20.8	-0.5
	comp=Z,2.6nm,1.1s,baz=90,slow=3.0,SNR=2.0						
E

HNR	**Honiara**	**82.97**	**263**	LR	LR	21 36 49.8	
	comp=Z,175nm,18.1s,MS4.5,baz=178,slow=30						
SCHQ	**Schefferville**	**85.26**	**25**	LR	LR	21 42 57.3	
	comp=Z,146nm,20.9s,MS4.3,baz=295,slow=33						
KTH	**Kantishna Hill**	**88.67**	**344**	*e*P	**P**	**21 08 31.5**	**-0.5**
	9.2nm,0.9s,mb5.1						
BPAW	**Bear Paw Mtn.**	**89.14**	**345**	*e*P	**P**	**21 08 32.3**	**-1.9**
	4.0nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**90.75**	**236**	LR	LR	21 42 55.6	
	comp=Z,158nm,21.0s,MS4.4,baz=206,slow=31						
CTA	**Charters Tower**	**91.61**	**248**	LR	LR	21 39 12.7	
	comp=Z,39nm,20.7s,MS3.8,baz=81,slow=28						
MAW	**Mawson**	**92.04**	**179**	LR	LR	21 47 19.9	
	comp=Z,402nm,19.1s,MS4.9,baz=338,slow=34						
SONM	**Songino Array**	**137.59**	**320**	PKP	PKPdf	21 15 01.9	-1.4
	0.3nm,0.3s,baz=5.7,slow=1.4,SNR=3.4						
AKASG	**Malin Array Be**	**138.39**	**35**	PKP	PKPdf	21 15 05.7	+1.0
	0.3nm,0.3s,baz=290,slow=2.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**143.69**	**341**	PKhKP	PKPdf	21 15 10.7	-3.4
	0.6nm,0.5s,baz=11,slow=3.2,SNR=4.2						
KURK	**Kurchatov**	**148.30**	**345**	*e*PKPdf	PKPbc	21 15 22.9	-2.5
CMAR	**Chiang Mai Arr**	**148.80**	**272**	PKPbc	PKPab	21 15 28.6	-2.9
	4.5nm,0.7s,baz=85,slow=1.2,SNR=20						
MKAR	**Makanchi Array**	**150.64**	**337**	PKPbc	PKPbc	21 15 30.6	-0.7
	2.6nm,0.7s,baz=4.9,slow=1.5,SNR=18						

*IDC **05** 21:22:28.5±1.4, 708S×14665E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.9/16, mbtmp3.9/9, ML3.7/2, Error ellipse: s-maj=49.4km s-min=19.3km az=95.0*
*ISCJB **05** 21:22:30.2±4.4, 709S±007×1466E±01, h21km±32km, mb3.9/9, Error ellipse: s-maj=20.2km s-min=12.1km az=169.5*
*NEIC **05** 21:22:33.7±1.4, 7.13S×14657E, h35km±14km, mb4.1/7, Error ellipse: s-maj=15.0km s-min=9.8km az=100.0*
ISC 05 21:22:32.6±4.3, 711S±007×1466E±01, h25km±31km, n26, σ0§81/26, mb3.9/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.36**	**165**	*e*Pn	**Pn**	**21 23 10.2**	**+0.5**
PMG				*e*Sn	**Sn**	**21 23 38.3**	**+0.4**
PMG				*e*Sg	**Sn**	**21 23 45.7**	**+7.8**
CTA	**Charters Tower**	**12.90**	**181**	Pn	**Pn**	**21 25 33.8**	**-0.7**
	0.4nm,0.3s,baz=0.0,slow=16,SNR=2.8						
CTAO	**Charters Tower**	**12.90**	**181**	Pn	**Pn**	**21 25 34.8**	**+0.2**
WRAB	**Tennant Creek**	**17.40**	**222**	*e*Pn	**Pn**	**21 26 33.7**	**-0.1**
	31nm,1.8s						
WB2	**Warramunga Arr**	**17.40**	**222**	*e*Pn	**Pn**	**21 26 33.8**	**-0.1**
WRA	**Warramunga Arr**	**17.41**	**222**	P	**Pn**	**21 26 32.7**	**-1.3**
	0.3nm,0.3s,baz=45,slow=12,SNR=10						
ASAR	**Alice Springs**	**20.46**	**215**	P	**P**	**21 27 10.0**	**+1.5**
	4.8nm,0.7s,baz=34,slow=13,SNR=28						
GUMO	**Guam**	**20.63**	**355**	*e*P	**P**	**21 27 10.6**	**+0.3**
	91nm,1.6s						
FITZ	**Fitzroy Crossi**	**23.12**	**240**	P	**P**	**21 27 36.4**	**-0.6**
	3.2nm,0.9s,mb3.7,baz=39,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**25.07**	**190**	P	**P**	**21 27 55.3**	**+0.1**
	1.7nm,0.7s,mb3.7,baz=37,slow=5.1,SNR=3.0						
STKA	**Stephens Creek**	**25.07**	**190**	*e*P	**P**	**21 27 55.0**	**-0.1**
	3.5nm,1.0s,mb3.8						
MBWA	**Marble Bar**	**29.45**	**239**	P	**P**	**21 28 36.3**	**+1.7**
TAU	**Tasmania Unive**	**35.66**	**179**	P	**P**	**21 29 27.0**	**-1.7**
KSM	**Kuching**	**37.16**	**282**	P	**P**	**21 29 42.2**	**+0.3**
MJAR	**Matsushiro Arr**	**44.12**	**350**	P	**P**	**21 30 39.4**	**+0.4**
	0.6nm,0.5s,mb3.6,baz=172,slow=8.9,SNR=3.0						
TLY	**Talaya**	**69.12**	**333**	*e*P	**P**	**21 33 35.5**	**-1.1**
	1.2nm,0.6s,mb4.0						
VNDA	**Vanda**	**70.84**	**177**	P	**P**	**21 33 47.0**	**+0.3**
	0.7nm,0.8s,mb3.6,baz=310,slow=9.7,SNR=3.6						
VNDA	**Vanda**	**70.84**	**177**	*e*P	**P**	**21 33 47.1**	**+0.4**
	0.6nm,0.7s,mb3.6						
VNDA				*e*		21 33 56.9	
MK31	**Makanchi Array**	**78.07**	**321**	*e*P	**P**	**21 34 29.6**	**+0.3**
MKAR	**Makanchi Array**	**78.07**	**321**	P	**P**	**21 34 29.6**	**+0.4**
	0.4nm,0.4s,mb3.7,baz=108,slow=6.5,SNR=6.1						
ZALV	**Zalesovo Beam**	**79.71**	**328**	P	**P**	**21 34 37.6**	**-0.4**
	1.3nm,0.7s,mb4.0,baz=80,slow=8.9,SNR=5.2						
TKM2	**Tokmak 2**	**81.12**	**315**	*e*P	**P**	**21 34 44.6**	**-1.3**
	0.9nm,0.4s,mb4.0						
UCH	**Uchtor**	**81.67**	**314**	*e*P	**P**	**21 34 49.3**	**+0.4**
	2.0nm,0.4s,mb4.4						
KURK	**Kurchatov**	**81.83**	**323**	P	**P**	**21 34 49.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**144.92**	**283**	PKPbc	PKPdf	21 42 07.1	-1.5
	0.7nm,0.7s,baz=68,slow=4.0,SNR=9.8						
TORD	**Torodi Ar. Bea**	**144.92**	**283**	PKPbc	PKPdf	21 42 07.1	-1.5

*NEIC **05** 21:33:09.6, 1548N×9367W, h4km, MD3.9(MEX), After MEX.*
MEX 05 21:33:09.4±0.5, 1547N×9368W, h4km±7km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.40**	**22**	*i* P	Pn	21 33 32.2	-3.7
TGIG				*i* S	Sb	21 33 49.4	-5.1
THIG		**1.48**	**112**	*i* P	Pn	21 33 33.1	-3.7
THIG				*i* S	Sb	21 33 51.3	-5.2
SCX	**San Cristobal**	**1.61**	**38**	*i* P	Pn	21 33 35.0	-3.6
SCX				*i* S	Sn	21 33 56.0	-3.8
CCIG	**Comitan**	**1.69**	**61**	*i* P	Pn	21 33 36.7	-3.0
CCIG				*i* S	Sn	21 33 58.2	-3.6
CCIG	**Comitan**	**1.69**	**61**	*i* P	Pn	21 33 36.7	-3.0
CCIG				*i* S	Sn	21 33 55.5	-6.3
CMIG	**Matias Romero**	**1.98**	**324**	*i* P	Pn	21 33 40.0	-3.7
CMIG				*i* S	Sn	21 34 05.4	-3.7
VHO	**Vista Hermosa**	**3.34**	**299**	*e*P	Pn	21 33 59.7	-2.7
VHO				*i* S	Sn	21 34 39.1	-3.4
UTMO	**Huajuapan**	**4.60**	**301**	*i* P	Pn	21 34 18.6	-1.2
UTMO				*i* S	Sn	21 35 11.6	-2.0

*ISCJB **05** 21:43:46.0±0.5, 40.14N±002×2158E±004, h7km±6km, Error ellipse: s-maj=5.0km s-min=3.5km az=162.3*
*NEIC **05** 21:43:46.6, 40.16N×2159E, h4km, MD3.2(ATH), ML2.9(THE), After THE.*
*THE **05** 21:43:46.8, 40.16N×2159E, h3km*
*CSEM **05** 21:43:46.7±0.2, 40.15N×2160E, h12km, MD3.2, Error ellipse: s-maj=4.3km s-min=3.2km az=82.0*
*ATH **05** 21:43:47.2, 40.12N×2170E, h14km±2km, MD3.2/4*
ISC 05 21:43:46.8±0.4, 4015N±002×2160E±004, h14km±5km, n20, σ1§06/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.20**	**40**	*e*PG	**Pg**	**21 43 51.8**	**+0.4**
KZN				*e*SG	**Sg**	**21 43 55.3**	**+0.7**
FNA	**Florina**	**0.66**	**345**	*e*Pg	**Pg**	**21 43 58.9**	**-0.7**
FNA				*e*Sg	**Sg**	**21 44 08.4**	**+0.1**
THL	**Klokotos Trika**	**0.67**	**151**	*e*Pg	**Pg**	**21 43 59.5**	**-0.3**
THL				*e*Sg	**Sg**	**21 44 09.7**	**+1.1**
THL	**Klokotos Trika**	**0.67**	**151**	*e*Pb	**Pb**	**21 43 59.0**	**-1.2**
THL	**Klokotos Trika**	**0.67**	**151**	*e*Pg	**Pg**	**21 43 59.5**	**-0.3**
THL				*e*Sg	**Sg**	**21 44 09.7**	**+1.2**
LIT	**Litokhoron**	**0.68**	**94**	*e*Pg	**Pg**	**21 43 59.7**	**-0.4**
LIT				*e*Sg	**Sg**	**21 44 10.1**	**+1.0**
BIA	**Bitola**	**0.89**	**346**	*e*Pg	**Pg**	**21 44 02.6**	**-1.5**
BIA				*e*Sg	**Sg**	**21 44 16.1**	**+0.3**
BIA	**Bitola**	**0.89**	**346**	*e*Pg	**Pg**	**21 44 02.7**	**-1.4**
BIA				*e*Sg	**Sg**	**21 44 16.6**	**+0.8**
GRG	**Griva**	**1.01**	**37**	*e*Pg	**Pg**	**21 44 05.7**	**-0.6**
GRG				*e*Sg	**Sg**	**21 44 20.5**	**+1.0**
OHR	**Ohrid**	**1.14**	**328**	*e*Pg	**Pg**	**21 44 07.2**	**-1.6**
OHR	**Ohrid**	**1.14**	**328**	*e*Pg	**Pg**	**21 44 07.1**	**-1.6**
IGT	**Igoumenitsa**	**1.16**	**238**	*e*Pg	**Pg**	**21 44 08.1**	**-0.9**
IGT				*e*Sg	**Sg**	**21 44 25.5**	**+1.4**
EVR	**Evrytania**	**1.24**	**172**	*e*PG	**Pg**	**21 44 09.6**	**-1.1**
KRUS	**Krusevo**	**1.25**	**348**	*e*Pn	**Pn**	**21 44 09.8**	**0.0**
KRUS				*e*Sn	**Sn**	**21 44 28.3**	**+1.9**
KRUS	**Krusevo**	**1.25**	**348**	*e*Pn	**Pn**	**21 44 09.7**	**-0.1**
KRUS				*e*Sn	**Sn**	**21 44 28.3**	**+1.9**
AGG	**Agios Georgios**	**1.26**	**153**	*e*Pg	**Pg**	**21 44 10.3**	**-0.7**
AGG				*e*Sg	**Sg**	**21 44 29.1**	**+1.7**
PLG	**Polygyros**	**1.43**	**80**	*e*PB	**Pb**	**21 44 12.5**	**-0.7**
KEK	**Kerkira**	**1.45**	**253**	*e*PB	**Pb**	**21 44 15.8**	**+2.2**
XOR	**Xorichti**	**1.46**	**122**	*e*Pg	**Pg**	**21 44 13.2**	**-1.6**
XOR				*e*Sg	**Sg**	**21 44 34.0**	**+0.3**
NEO	**Neokhori**	**1.51**	**123**	*e*PB	**Pb**	**21 44 14.1**	**-0.4**

*NNC **05** 22:19:54.2±4.0, 3744N×6892E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=37.4km s-min=19.2km az=3.0*
*IDC **05** 22:19:58.5±0.9, 3769N×6952E, h0km, mb4.0/14, mb1 4.2/18, mb1mx4.1/28, mbtmp4.1/18, ML4.1/4, MS3.8/3, Ms1 3.8/3, ms1mx3.1/37, Error ellipse: s-maj=19.2km s-min=13.0km az=13.0*
*MOS **05** 22:20:02.9±1.4, 3801N×6958E, h33km, mb4.6/14, MS4.0/4, Error ellipse: s-maj=7.9km s-min=5.6km az=88.7*
*ISCJB **05** 22:20:03.7±0.6, 3780N±002×6971E±004, h58km±7km, mb4.2/33, MS4.0/7, Error ellipse: s-maj=4.8km s-min=3.3km az=162.3*
*BJI **05** 22:20:03.0, 3825N×6946E, h46km, mB4.9, mb4.6, ML4.6, Ms4.1, Msz4.1*
*NEIC **05** 22:20:05.4±1.0, 3795N×6960E, h42km±10km, mb4.4/11, Error ellipse: s-maj=9.4km s-min=8.0km az=155.0*
ISC 05 22:20:05.6±0.5, 3782N±002×6963E±004, h52km±6km, n144, σ1§37/160, mb4.2/33, MS4.0/7, 9C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.31**	**188**	*e*Pn	**Pn**	**22 20 56.8**	**+1.9**
KBL				*e*Sn	**Sn**	**22 21 33.5**	**+0.6**
CEP	**Cherat**	**4.39**	**154**	P	**Pn**	**22 21 12.3**	**+2.5**
CEP				S	**Sn**	**22 22 06.0**	**+6.4**
CHCP	**Chirah Chowk**	**5.09**	**143**	P	**Pn**	**22 21 21.1**	**+1.8**
KSH	**Kashi**	**5.24**	**69**	*e*P	**Pn**	**22 21 20.5**	**-0.9**
KSH				S	**Sn**	**22 22 16.9**	**-3.6**
KSH				Smax			
	comp=N,2μm,1.2s						
KSH				Smax			
	comp=E,1μm,0.7s						
AML	**Almayashu**	**5.32**	**35**	P	**Pn**	**22 21 22.6**	**+0.2**
	SNR=31						
AML	**Almayashu**	**5.32**	**35**	*e*Pn	**Pn**	**22 21 22.7**	**+0.4**
	comp=E,156nm,0.5s						
AML				*e*Sn	**Sn**	**22 22 23.5**	**+1.2**
KK31	**Karatay Array**	**5.32**	**7**	⇑Pn	**Pn**	**22 21 21.9**	**-0.5**
	comp=E,7.5nm,0.4s,baz=198,slow=15,SNR=260						
KK31				Pg	Pn	22 21 42.1	+20
	comp=E,17nm,0.3s,baz=188,slow=16,SNR=9.5						
KK31	**Karatay Array**	**5.32**	**7**	PN	**Pn**	**22 21 21.8**	**-0.6**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KK31				pmax	pmax		
	comp=Z,462nm,0.8s						
UCH	**Uchtor**	**5.78**	**39**	P	**Pn**	**22 21 30.2**	**+1.5**
	SNR=11						
UCH	**Uchtor**	**5.78**	**39**	*e*Pn	**Pn**	**22 21 29.7**	**+1.0**
	comp=Z,44nm,0.7s						
UCH				*e*Sn	**Sn**	**22 22 33.3**	**-0.3**
EKS2	**Erkin-Say**	**5.78**	**32**	P	**Pn**	**22 21 30.6**	**+1.8**
	SNR=14						
EKS2	**Erkin-Say**	**5.78**	**32**	*e*Pn	**Pn**	**22 21 28.5**	**-0.2**
	comp=Z,63nm,0.6s						
EKS2				*e*Sn	**Sn**	**22 22 34.9**	**+1.2**
KZA	**Kyzart**	**6.06**	**44**	P	**Pn**	**22 21 33.0**	**+0.5**
	SNR=364						
AAK	**Ala-Archa**	**6.08**	**36**	P	**Pn**	**22 21 33.3**	**+0.5**
	SNR=88						
FRU	**Bishkek**	**6.29**	**36**	*e*PN	**Pn**	**22 21 36.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,60nm,1.4s						
KBK	**Karagaybulak**	**6.31**	**38**	P	**Pn**	**22 21 37.2**	**+1.2**
	SNR=77						
CHMS	**Chumysh**	**6.48**	**35**	P	**Pn**	**22 21 38.6**	**+0.3**
	SNR=86						
USP	**Ospenovka**	**6.58**	**33**	P	**Pn**	**22 21 39.6**	**-0.1**
	SNR=23						
ULHL	**Ulahol**	**6.73**	**47**	P	**Pn**	**22 21 41.8**	**+0.1**
	SNR=30						
TKM2	**Tokmak 2**	**6.83**	**40**	⇑Pn	**Pn**	**22 21 43.4**	**+0.2**
	comp=Z,34nm,0.6s						
TKM2				⇑Sn	**Sn**	**22 23 12.3**	**+13**
	comp=Z,121nm,0.8s						
TKM2	**Tokmak 2**	**6.83**	**40**	PN	**Pn**	**22 21 43.3**	**+0.2**
TKM2						22 23 22.7	
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.3s						
TKM2	**Tokmak 2**	**6.83**	**40**	P	**Pn**	**22 21 43.5**	**+0.4**
	SNR=86						
TKM2	**Tokmak 2**	**6.83**	**40**	*e*Pn	**Pn**	**22 21 43.4**	**+0.3**
TKM2				*e*Sn	**Sn**	**22 22 50.7**	**-8.7**
THN	**Thein Dam**	**7.33**	**135**	*ex*	x	22 21 49.7	
THN				*e*S	**Sn**	**22 23 14.1**	**+2.4**
DLH	**Dalhousie**	**7.39**	**134**	*ex*	x	22 21 51.0	
DLH				*ex*	x	22 23 24.0	
AAA	**Alma-Ata**	**7.79**	**43**	*e*P	**Pn**	**22 21 56.1**	**-0.1**
AAA				pmax	pmax		
	comp=Z,200nm,0.5s						
PONG	**Pong**	**7.82**	**137**	*ex*	x	22 23 00.0	
BHK	**Bhakra**	**8.48**	**137**	*ex*	x	22 23 36.2	
SDNR	**Sundarnagar**	**8.73**	**134**	*ex*	x	22 22 09.0	
SDNR				*e*S	**Sn**	**22 23 46.6**	**+0.4**
SMLA	**Simla**	**9.12**	**135**	*i* x	x	22 22 14.9	
SMLA				*e*S	**Sn**	**22 23 55.5**	**-0.2**
DDI	**Dehra Dun**	**10.23**	**134**	*ex*	x	22 22 27.8	
DDI				*e*S	**Sn**	**22 24 25.0**	**+2.1**
JOSI	**Joshimath**	**10.95**	**128**	*ex*	x	22 22 40.1	
JOSI				*e*S	**Sn**	**22 24 39.5**	**-1.0**
NDI	**New Delhi**	**11.10**	**143**	*ex*	x	22 22 40.0	
NDI				*e*S	**Sn**	**22 24 43.5**	**-0.7**
AYAN	**Aya Nagar**	**11.22**	**144**	*ex*	x	22 22 43.7	
AYAN				AMb	AMB	22 22 46.7	
	comp=Z,14nm,0.7s						
AYAN				*e*S	**Sn**	**22 24 47.4**	**+0.1**
SONA	**Sohna**	**11.40**	**145**	*e*P	**Pn**	**22 22 50.5**	**+4.8**
SONA				AMb	AMB	22 22 51.8	
	comp=Z,13nm,1.3s						
SONA				*e*S	**Sn**	**22 24 49.2**	**-2.4**
PTH	**Pithoragarh**	**12.06**	**130**	*ex*	x	22 23 09.8	
PTH				*ex*	x	22 25 04.8	
MK31	**Makanchi Array**	**12.95**	**42**	⇑Pn	**Pn**	**22 23 05.6**	**-1.2**
	comp=Z,23nm,0.8s,baz=228,slow=13,SNR=137						
MK31	**Makanchi Array**	**12.95**	**42**	*e*Pn	**Pn**	**22 23 05.8**	**-1.0**
MK31				*e*Sn	**Sn**	**22 25 30.9**	**+1.7**
MKAR	**Makanchi Array**	**12.95**	**42**	Pn	**Pn**	**22 23 05.0**	**-1.8**
	comp=Z,1.2nm,0.3s,baz=233,slow=14,SNR=194						
MKAR	**Makanchi Array**	**12.95**	**42**	Pn	**Pn**	**22 23 05.0**	**-1.8**
AB31	**Akbulak array**	**13.40**	**332**	⇑Pn	**Pn**	**22 23 08.5**	**-4.4**
	comp=Z,4.3nm,0.5s						
AB31				⇑Sn	**Sn**	**22 25 34.4**	**-5.8**
	comp=Z,3.9nm,0.5s						
AB31	**Akbulak array**	**13.40**	**332**	P	**Pn**	**22 23 07.8**	**-5.1**
AB31						22 25 28.9	
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AB31				smax			
	comp=Z,2.0nm,0.4s						
KURBB	**Kurchatov Arra**	**14.29**	**24**	⇓Pn	**Pn**	**22 23 27.1**	**+2.4**
	comp=Z,1.6nm,0.6s						
KURBB				⇓Lg		22 27 49.3	
	comp=Z,15nm,1.1s						
KURK	**Kurchatov**	**14.39**	**24**	⇓Pn	**Pn**	**22 23 27.1**	**+0.9**
	comp=Z,6.9nm,0.8s						
KURK				⇑Lg		22 27 53.2	
	comp=Z,134nm,1.8s						
KURK	**Kurchatov**	**14.39**	**24**	*e*Pn	**Pn**	**22 23 22.2**	**-4.0**
KURK				*e*Sn	**Sn**	**22 25 58.2**	**-6.1**
AKTK	**Aktyubinsk**	**15.10**	**330**	Pn	**Pn**	**22 23 31.1**	**-4.3**
AKTK				Sn	**Sn**	**22 26 10.3**	**-11**
AKTO	**Aktyubinsk**	**15.10**	**330**	⇑Pn	**Pn**	**22 23 31.8**	**-3.6**
	comp=Z,9.2nm,0.8s						
AKTO				⇓Sn	**Sn**	**22 26 15.8**	**-5.5**
	comp=Z,2.6nm,0.8s						
AKTO	**Aktyubinsk**	**15.10**	**330**	Pn	**Pn**	**22 23 31.1**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=142,slow=15,SNR=22						
AKTO				Sn	**Sn**	**22 26 10.3**	**-11**
	comp=Z,0.6nm,0.3s,baz=40,slow=18,SNR=3.2						
DANN	**Dangsing**	**15.13**	**124**	*e*P	**Pn**	**22 23 32.9**	**-3.1**
	comp=Z,94nm,0.9s						
BVA0	**Borovoye Array**	**15.22**	**2**	Pn	**Pn**	**22 23 36.6**	**-0.3**
BVA0				⇓Sn	**Sn**	**22 26 30.2**	**+6.0**
	comp=Z,2.7nm,1.1s,baz=177,slow=20,SNR=5.5						
BVA0	**Borovoye Array**	**15.22**	**2**	*i* P	**Pn**	**22 23 33.2**	**-3.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**15.22**	**2**	Pn	**Pn**	**22 23 33.2**	**-3.8**
	comp=Z,0.3nm,0.3s,baz=166,slow=13,SNR=9.1						
BVAR				Sn	**Sn**	**22 26 30.5**	**+6.3**
	comp=Z,0.4nm,0.3s,baz=171,slow=22,SNR=3.0						
BVAR				Lg		22 28 13.6	
	comp=Z,0.1nm,0.3s,baz=196,slow=25,SNR=3.3						
BRVK	**Borovoye**	**15.25**	**1**	*e*P	**Pn**	**22 23 34.4**	**-2.9**
BRVK				*e*		22 26 19.9	
BRVK				pmax	pmax		
	comp=Z,16nm,0.9s						
BRVK	**Borovoye**	**15.25**	**1**	*e*Pn	**Pn**	**22 23 34.4**	**-2.9**
	comp=Z,16nm,0.9s						
BRVK				*e*Sn	**Sn**	**22 26 19.9**	**-5.0**
KOLN	**Koldanda**	**15.42**	**126**	*e*P	**Pn**	**22 23 36.2**	**-3.6**
	comp=Z,61nm,0.7s						
GKN	**Gorkha**	**15.94**	**124**	*e*P	**Pn**	**22 23 43.2**	**-3.1**
KKN	**Kakani**	**16.50**	**123**	*e*P	**Pn**	**22 23 50.4**	**-3.1**
	comp=Z,141nm,1.0s						
DMN	**Daman**	**16.51**	**124**	*e*P	**Pn**	**22 23 50.7**	**-2.9**
	comp=Z,157nm,0.9s						
PKI	**Pulchoki**	**16.73**	**123**	*e*P	**Pn**	**22 23 54.2**	**-2.2**
	comp=Z,114nm,0.9s						
GUN	**Gumba**	**16.83**	**121**	*e*P	**Pn**	**22 23 56.5**	**-1.1**
	comp=Z,216nm,0.9s						
JIRN	**Jiri**	**17.20**	**121**	*e*P	**Pn**	**22 23 59.1**	**-3.1**
	comp=Z,94nm,0.7s						
RAMN	**Ramite**	**17.94**	**122**	*e*P	**Pn**	**22 24 08.1**	**-3.1**
	comp=Z,59nm,0.7s						
TAPN	**Taplejung**	**18.44**	**119**	*e*P	**Pn**	**22 24 15.1**	**-2.2**
	comp=Z,58nm,0.7s						
ODAN	**Odare**	**18.53**	**121**	*e*P	**Pn**	**22 24 14.8**	**-3.6**
	comp=Z,60nm,0.7s						
DGRG	**David-gareji**	**19.02**	**289**	P	**Pn**	**22 24 22.8**	**-1.4**
ZAL	**Zalesovo**	**19.20**	**28**	P	**Pn**	**22 24 24.1**	**-2.2**
ZAA0	**Zalesovo Array**	**19.22**	**28**	*e*P	**Pn**	**22 24 23.9**	**-2.5**
ZAA0				*e*		22 24 34.5	
ZALV	**Zalesovo Beam**	**19.22**	**28**	P	**Pn**	**22 24 24.1**	**-2.4**
	comp=Z,2.2nm,0.3s,baz=220,slow=11,SNR=119						
NVS	**Novosibirsk**	**19.38**	**24**	*i* P	**Pn**	**22 24 25.0**	**-3.4**
NVS				pmax	pmax		
	comp=Z,17nm,1.0s						
NVS				pmax	pmax		
	comp=N,10.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
MTA	**Mtatsminda**	**19.46**	**289**	P	**Pn**	**22 24 27.7**	**-1.8**
GNI	**Garni**	**19.48**	**285**	P	**Pn**	**22 24 29.7**	**+0.1**
	comp=E,0.4nm,0.3s,baz=121,slow=4.1,SNR=13						
GNI	**Garni**	**19.48**	**285**	*d* *i* P	**Pn**	**22 24 29.0**	**-0.7**
GNI				pmax	pmax		
	comp=Z,59nm,1.4s						
GNI				MLR	MLR		
	comp=Z,100nm,17.0s						
GNI	**Garni**	**19.48**	**285**	*e*P	**Pn**	**22 24 26.2**	**-3.4**
	comp=Z,33nm,1.0s						
TBLG	**Delisi**	**19.51**	**289**	P	**Pn**	**22 24 28.6**	**-1.5**
LSA	**Lhasa**	**19.61**	**108**	P	**Pn**	**22 24 32.1**	**+0.8**
LSA				LR	LR		
	comp=Z,1μm,11.5s						
LSA	**Lhasa**	**19.61**	**108**	*e*P	**Pn**	**22 24 31.9**	**+0.6**
LSA				pmax	pmax		
	comp=Z,29nm,0.8s						
LSA	**Lhasa**	**19.61**	**108**	*e*P	**Pn**	**22 24 31.9**	**+0.6**
	comp=Z,29nm,0.8s						
SVE	**Sverdlovsk**	**19.94**	**345**	⇓*e*P	**Pn**	**22 24 31.9**	**-3.0**
SVE				*e*S	**S**	**22 28 08.8**	**-5.4**
SVE				pmax	pmax		
	comp=Z,14nm,1.4s						
SVE				MLR	MLR		
	comp=Z,345nm,11.0s						
ARU	**Arti**	**20.04**	**342**	*d* *i* P	**P**	**22 24 33.5**	**-0.5**
ARU				*e*S	**S**	**22 28 16.9**	**+0.7**
ARU				pmax	pmax		
	comp=Z,12nm,0.8s						
ARU	**Arti**	**20.04**	**342**	*e*P	**P**	**22 24 33.0**	**-1.0**
	comp=Z,19nm,0.8s						
ARU				*e*S	**S**	**22 28 05.0**	**-11**
MIB	**Mutribah**	**20.14**	**253**	*e*P	**P**	**22 24 34.8**	**-0.6**
	baz=253						
MIB				AMb	AMB	22 24 42.0	
	comp=Z,40nm,1.0s,baz=253						
AKH	**Akhalkalaki**	**20.43**	**288**	P	**P**	**22 24 39.4**	**+1.1**
RDF	**Al-Radifah**	**20.43**	**251**	*e*P	**P**	**22 24 38.6**	**+0.1**
	baz=251						
RDF				AMb	AMB	22 24 39.8	
	comp=Z,28nm,1.5s,baz=251						
NAY	**Al-Naaiem**	**20.49**	**252**	*e*P	**P**	**22 24 39.0**	**-0.1**
	baz=252						
NAY				AMb	AMB	22 24 39.8	
	comp=Z,21nm,0.9s,baz=252						
ONI	**Oni**	**20.52**	**292**	P	**P**	**22 24 40.2**	**+0.8**
BHD	**Baghdad**	**21.02**	**265**	*ex*	x	22 24 46.5	
GOF	**Gofitskoye**	**21.15**	**298**	⇓*i* P	**P**	**22 24 51.0**	**+4.9**
GOF				pmax	pmax		
	comp=Z,70nm,1.3s,mb4.8						
MSL	**Mosul**	**21.22**	**274**	*ex*	x	22 24 52.0	
HVS	**Khovu-Aksy**	**21.61**	**44**	*d* *i* P	**P**	**22 24 50.3**	**-0.6**
HVS				pmax	pmax		
	comp=Z,46nm,

KWP	Kalwaria	35.36	305	eP	P		22 26 56.1	+0.3
KWP				pmax	pmax			
comp=Z,18nm,1.4s,mb4.8								
KWP	Kalwaria	35.36	305	eP	P		22 26 56.1	+0.2
comp=Z,18nm,1.4s,mb4.8								
NIE	Niedzica	36.92	304	eP	P		22 27 10.4	+1.3
PSZ	Piszkesteto	37.24	302	P	P		22 27 11.6	-0.3
WHN	Wuhan	37.41	88	P	P		22 27 14.6	+1.0
WHN				eS	S		22 33 05.3	+7.0
WHN				LR	LR			
comp=Z,405nm,12.7s,MS4.4								
VRAC	Vranov	39.35	304	P	P		22 27 30.8	+1.2
comp=Z,3.1nm,0.9s,mb4.0,baz=68,slow=7.2,SNR=5.7								
ARCES	ARCESS Array B	39.51	337	P	P		22 27 31.4	+0.6
comp=Z,4.8nm,0.7s,mb4.4,baz=104,slow=6.2,SNR=13								
BRG	Berggiesshubel	40.95	307	eP	P		22 27 43.3	+0.4
comp=Z,2.5nm,0.9s,mb3.8								
BRG				e			22 27 48.1	
comp=Z,6.5nm,1.2s								
GERES	GERESS Array B	41.28	304	P	P		22 27 46.0	+0.4
comp=Z,0.2nm,0.6s,baz=72,slow=4.4,SNR=3.3								
HFS	Hagfors	41.36	321	P	P		22 27 46.3	+0.2
comp=Z,2.1nm,0.6s,mb4.0,baz=93,slow=10,SNR=10.0								
NB2	NORSAR Subarra	42.67	322	P	P		22 27 55.3	-1.5
comp=Z,0.8nm,0.7s,mb3.6,baz=95,slow=8.6								
NOA	NORSAR Array B	42.67	322	P	P		22 27 56.5	-0.2
comp=Z,0.5nm,0.5s,mb3.5,baz=96,slow=8.1,SNR=4.0								
YAK	Yakutsk	43.54	36	P	P		22 28 03.7	-0.1
TIXI	Tiksi	44.97	23	eP	P		22 28 15.7	+0.6
TIXI				pmax	pmax			
comp=Z,9.0nm,0.6s,mb4.8								
TIXI	Tiksi	44.97	23	eP	P		22 28 15.3	+0.2
comp=Z,15nm,0.8s,mb4.9								
KLR	Kul'dur	45.26	55	eP	P		22 28 13.8	-3.9
KSRS	Korea Array	45.49	72	P	P		22 28 20.5	+0.8
comp=Z,1.5nm,0.7s,mb3.9,baz=282,slow=6.9,SNR=7.4								
KSRS	Korea Array	45.49	72	P	P		22 28 20.5	+0.8
KSRS				pmax	pmax			
comp=Z,2.0nm,0.7s,mb4.1								
PGF	Pioggiola	45.70	296	eP	P		22 28 22.1	+0.8
comp=Z,13nm,1.0s,mb4.5								
PGF	Pioggiola	45.70	296	eP	P		22 28 22.1	+0.8
PGF				pmax	pmax			
comp=Z,6.0nm,1.0s,mb4.5								
PGF	Pioggiola	45.70	296	eP	P		22 28 22.1	+0.8
comp=Z,6.4nm,1.0s,mb4.5								
LPG	La Plagne	46.53	300	eP	P		22 28 29.3	+1.5
comp=Z,4.6nm,0.8s,mb4.2								
LPG	La Plagne	46.53	300	eP	P		22 28 29.3	+1.5
LPG				pmax	pmax			
comp=Z,2.0nm,0.8s,mb4.1								
LPG	La Plagne	46.53	300	eP	P		22 28 29.3	+1.5
comp=Z,2.3nm,0.8s,mb4.2								
LPL	La Plagne	46.54	300	eP	P		22 28 29.7	+1.9
comp=Z,2.4nm,0.6s,mb4.0								
LPL	La Plagne	46.54	300	eP	P		22 28 29.7	+1.9
LPL				pmax	pmax			
comp=Z,1.0nm,0.6s,mb3.9								
LPL	La Plagne	46.54	300	eP	P		22 28 29.7	+1.9
comp=Z,1.2nm,0.6s,mb4.0								
EKA	Eskdalemuir Ar	50.58	315	P	P		22 28 58.8	0.0
comp=Z,1.8nm,0.9s,mb4.0,baz=82,slow=8.5,SNR=3.6								
JMIC	Jan Mayen	50.94	336	P	P		22 29 01.2	+0.1
comp=Z,51nm,0.5s,baz=209,slow=6.3,SNR=2.3								
MJAR	Matsuhiro Arr	53.49	69	P	P		22 29 20.7	0.0
comp=Z,1.0nm,0.8s,mb3.8,baz=291,slow=9.1,SNR=5.0								
MJAR				LR	LR		22 53 03.3	
comp=Z,72nm,20.0s,MS3.7,baz=50,slow=37								
ESDC	Sonseca Array	55.88	297	P	P		22 29 36.2	-1.7
comp=Z,1.5nm,0.8s,mb4.1,baz=60,slow=7.5,SNR=10.0								
TAM	Tamanrasset	56.34	274	P	P		22 29 40.9	-0.5
BILL	Bilibino	57.91	26	eP	P		22 29 50.2	-1.6
BILL				pmax	pmax			
comp=Z,3.0nm,0.6s,mb4.5								
TORD	Torodi Ar. Bea	64.67	267	P	P		22 30 37.7	-0.6
comp=Z,2.2nm,1.0s,mb4.2,baz=52,slow=4.2,SNR=9.1								
YKA	Yellowknife Ar	79.97	2	P	P		22 32 10.7	+2.0
comp=Z,1.2nm,0.9s,mb3.8,baz=348,slow=4.6,SNR=5.0								
YKA	Yellowknife Ar	79.97	2	P	P		22 32 10.7	+2.0

IDC ***05*** *22:21:41.5±2.8, 1420S×16689E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.9/5, MS3.4/2, Ms1 3.4/2, ms1mx2.9/28, Error ellipse: s-maj=79.5km s-min=31.5km az=124.0*

ISCJB ***05*** *22:21:46.7±2.9, 142S±0.1×1669E±0.1, h61km±27km, mb4.2/9, Error ellipse: s-maj=22.9km s-min=14.2km az=137.8*

NEIC ***05*** *22:21:49.4±2.0, 1422S×16686E, h62km±18km, mb4.2/6, Error ellipse: s-maj=15.5km s-min=11.9km az=52.0*

ISC 05 22:21:49.2±2.2, 142S±01×1669E±01, h61km±21km, n36, σ1§04/22, mb4.2/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	8.29	304	LR	LR	22 26 26.0	
comp=Z,129nm,18.6s,baz=180,slow=34							
HNR	Honiara	8.29	304	Pn	Pn	22 23 47.1	+0.3
HNR				eSn	Sn	22 25 19.9	+0.8
PMG	Port Moresby	19.89	282	eP	Pn	22 26 15.5	-2.4
4.1nm,0.5s							
RAO	Raoul Island	20.54	139	P	P	22 26 21.9	-0.8
CTA	Charters Tower	20.56	251	P	P	22 26 22.8	-0.2
15nm,1.1s,baz=80,slow=8.3,SNR=4.4							
CTAO	Charters Tower	20.56	251	eP	P	22 26 23.8	+0.7
14nm,0.9s							
STKA	Stephens Creek	29.06	228	eP	P	22 27 44.2	+0.4
1.8nm,0.6s,mb4.0							
STKA	Stephens Creek	29.06	228	P	P	22 27 44.3	+0.5
2.4nm,0.7s,mb4.1,baz=41,slow=11,SNR=6.7							
STKA				LR	LR	22 39 37.3	
comp=Z,112nm,18.4s,baz=29,slow=37							
STKA	Stephens Creek	29.06	228	eP	P	22 27 43.9	+0.1
1.8nm,0.5s,mb4.1							
WRAB	Tennant Creek	31.59	255	P	P	22 28 06.7	+0.3
WRA	Warramunga Arr	31.61	255	P	P	22 28 06.2	-0.2
0.4nm,0.7s,mb3.4,baz=80,slow=6.7,SNR=2.6							
ASAR	Alice Springs	32.52	248	P	P	22 28 13.4	-1.0
0.4nm,0.6s,mb3.5,baz=79,slow=9.8,SNR=8.5							
TAU	Tasmania Unive	33.20	207	P	P	22 28 20.2	+0.1
FITZ	Fitzroy Crossi	39.76	259	eP	P	22 29 16.0	-0.3
12nm,1.1s,mb4.5							
MBWA	Marble Bar	45.33	254	eP	P	22 29 58.8	-2.7
14nm,1.2s,mb4.7							
KLBR	Kellerberrin	48.05	240	eP	P	22 30 25.6	+3.0
8.4nm,0.5s,mb5.0							
MUN	Mundaring	49.41	240	eP	P	22 30 33.2	+0.1
MJAR	Matsuhiro Arr	57.28	333	P	P	22 31 31.0	+0.4
1.1nm,0.8s,mb3.9,baz=146,slow=7.5,SNR=4.2							
MAJO	Matsuhiro	57.28	333	P	P	22 31 30.2	-0.4
VNDA	Vanda	63.37	181	eP	P	22 32 11.4	-0.3
0.2nm,0.5s,mb3.5							
SBA	Scott Base	63.66	180	P	P	22 32 15.2	+1.7
CASY	Casey	63.87	202	eP	P	22 32 15.9	+0.8
16nm,0.5s,mb5.3							
ARCES	ARCESS Array B	119.66	345	PKP	PKPdf	22 40 32.6	+1.0
2.4nm,1.0s,baz=32,slow=1.7,SNR=4.7							
LPL	La Plagne	144.57	336	ePKP1	PKPdf	22 41 20.3	+1.4
LPG	La Plagne	144.58	336	ePKP1	PKPdf	22 41 19.8	+0.9
SMF	Signal de Mont	144.68	340	ePKP1	PKPdf	22 41 19.3	+0.3
AVF	Avril sur Loir	144.71	340	ePKP1	PKPdf	22 41 19.3	+0.2
BGF	Bois d'Agland	145.08	341	ePKP1	PKPbc	22 41 20.8	+1.5
7.1nm,0.7s							
MBDF	Montbardon	145.20	335	ePKP1	PKPbc	22 41 21.2	+1.5
3.9nm,0.8s							
ORIF	Oris-en-Rattie	145.40	336	ePKP1	PKPbc	22 41 22.3	+1.9
11nm,0.8s							
SBF	Sospel	145.62	333	ePKP1	PKPbc	22 41 23.1	+2.0
VIVF	Saint-Julien-l	145.92	337	ePKP1	PKPbc	22 41 23.8	+1.8
PGF	Pioggiola	145.92	330	ePKP1	PKPbc	22 41 23.4	+1.4
17nm,0.9s							
FRF	La Foret Royal	146.20	334	ePKP1	PKPbc	22 41 24.1	+1.3
6.9nm,0.8s							
SMRF	Simiane la Rot	146.31	335	ePKP1	PKPbc	22 41 25.0	+1.9
5.0nm,0.8s							
LMR	La Mourre	146.44	334	ePKP1	PKPbc	22 41 25.0	+1.4

IDC ***05*** *22:23:33.0±1.0, 234N×12746E, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.1/19, mbtmp4.3/9, ML4.2/1, Error ellipse: s-maj=45.7km s-min=15.8km az=74.0*

ISCJB ***05*** *22:23:36.8±1.3, 231N×005×12733E±008, h37km±13km, mb4.4/14, Error ellipse: s-maj=13.8km s-min=6.7km az=158.3*

NEIC ***05*** *22:23:38.2±1.1, 231N×12742E, h36km±10km, mb4.7/9, Error ellipse: s-maj=13.0km s-min=5.5km az=71.0*

DJA ***05*** *22:23:47, 086N×12606E, h219km, ML4.2/2*

ISC 05 22:23:38.8±1.1, 231N×005×12741E±008, h41km±11km, n31, σ0§80/33, mb4.4/14, 2C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	Ternate	1.52	181	↓eP	Pn	22 24 05.0	+1.5
DAV	Davao City (W)	5.06	339	ePn	Pn	22 24 50.2	-2.0
DAV				eSn	Sn	22 25 49.4	-0.1
KAPI	Kappang	10.56	226	Pn	Pn	22 26 07.2	-0.4
1.7nm,0.3s,baz=20,slow=9.6,SNR=4.4							
KKM	Kota Kinabalu	11.76	289	ePn	Pn	22 26 25.1	+1.0
KKM				eSn	Sn	22 28 34.1	0.0
KAKA	Kakadu	15.74	162	Pn	Pn	22 27 17.7	0.0
KSM	Kuching	17.11	268	ePn	Pn	22 27 35.4	+0.3
FITZ	Fitzroy Crossi	20.36	185	eP	P	22 28 11.5	-0.5
5.1nm,0.6s							
FITZ	Fitzroy Crossi	20.36	185	P	P	22 28 11.3	-0.7
4.6nm,0.9s,baz=283,slow=22,SNR=10							
NACB	Ninganchiao	22.45	346	eP	P	22 28 34.3	0.0
15nm,0.7s,mb4.5							
WRAB	Tennant Creek	23.14	163	eP	P	22 28 41.9	+0.3
26nm,0.8s,mb4.7							
WRA	Warramunga Arr	23.14	163	P	P	22 28 41.3	-0.3
28nm,0.6s,mb4.9,baz=344,slow=11,SNR=107							
WB2	Warramunga Arr	23.14	163	↑iP	P	22 28 41.6	-0.1
WB2				ePcP	PcP	22 32 21.9	-7.6
MBWA	Marble Bar	24.51	197	eP	P	22 28 54.1	-0.4
36nm,1.3s,mb4.8							
ASAR	Alice Springs	26.59	167	P	P	22 29 13.2	-0.1
4.3nm,0.5s,mb4.2,baz=352,slow=7.0,SNR=85							
ASAR				PcP	PcP	22 32 36.6	-0.3
0.4nm,0.5s,baz=10,slow=2.0,SNR=4.5							
FORT	Forrest	32.91	179	eP	P	22 30 08.8	-0.5
14nm,0.6s,mb5.1							
NWAO	Narrogin (SRO)	36.35	195	P	P	22 30 38.2	-0.7
14nm,0.9s,mb4.9,baz=330,slow=15,SNR=5.8							
NWAO	Narrogin (SRO)	36.35	195	P	P	22 30 38.2	-0.7
STKA	Stephens Creek	36.57	160	↑iP	P	22 30 41.2	+0.3
5.8nm,0.5s,mb4.7							
STKA	Stephens Creek	36.57	160	P	P	22 30 41.4	+0.5
10nm,0.6s,mb4.8,baz=333,slow=9.3,SNR=23							
STKA	Stephens Creek	36.57	160	eP	P	22 30 41.2	+0.4
10nm,0.7s,mb4.8							
BJT	Baijiatuan	38.89	346	P	P	22 31 00.5	+0.1
PALK	Pallekele	46.78	278	eP	P	22 32 04.5	-0.2
29nm,1.2s,mb5.1							
SONM	Songino Array	48.85	341	P	P	22 32 20.0	-0.1
0.9nm,0.7s,mb3.9,baz=160,slow=8.0,SNR=6.5							
MKAR	Makanchi Array	59.10	325	P	P	22 33 34.2	-0.8
0.3nm,0.4s,mb3.6,baz=127,slow=7.0,SNR=2.4							
TKM2	Tokmak 2	61.25	319	P	P	22 33 50.7	+0.9
KURK	Kurchatov	63.29	328	eP	P	22 34 02.5	-0.8
1.2nm,0.5s,mb4.3							
BVAR	Borovoye Array	68.87	327	P	P	22 34 41.5	+2.4
0.6nm,0.6s,mb3.7,baz=138,slow=9.7,SNR=4.2							
VNDA	Vanda	81.95	173	eP	P	22 35 52.9	-0.8
0.5nm,0.6s,mb3.6							
GNI	Garni	82.90	310	P	P	22 36 00.0	+0.6
PMR	Palmer	84.86	28	P	P	22 36 10.4	+1.5
MALT	Malatya	87.78	308	P	P	22 36 23.2	-0.7

ISCJB ***05*** *22:41:46.7±0.5, 267N×009×6638E±009, h10km, mb4.3/15, MS4.0/9, Error ellipse: s-maj=14.3km s-min=10.3km az=42.1*

BJI ***05*** *22:41:46.5, 270N×6640E, h10km, mB5.1, mb4.5*

IDC ***05*** *22:41:46.7±0.8, 266N×6636E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.0/22, mbtmp4.2/9, MS3.9/9, Ms1 3.9/9, ms1mx3.6/29, Error ellipse: s-maj=27.4km s-min=22.1km az=65.0*

NEIC ***05*** *22:41:48.5±0.4, 269N×6637E, h10km, mb4.2/4, Error ellipse: s-maj=13.1km s-min=9.0km az=129.0*

ISC 05 22:41:48.7±0.5, 268N±008×6638E±009, h10km, n36, σ0§89/26, mb4.3/15, MS4.0/9, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	Mahe Island	13.12	236	ePn	Pn	22 44 55.4	+0.1
KBL	Kabul	31.79	4	eP	P	22 48 13.3	-0.1
1.5nm,0.3s,mb4.3							
PSI	Prapat	32.50	89	LR	LR	22 58 20.2	
comp=Z,272nm,20.3s,MS3.9,baz=231,slow=30							
CHTO	Chiang Mai	35.67	61	P	P	22 48 47.1	-0.3
LSA	Lhasa	35.70	39	eP	P	22 48 49.8	+2.3
11nm,1.1s,mb4.7							
UCH	Uchtor	40.04	9	eP	P	22 49 24.4	+0.4
1.5nm,0.3s,mb4.2							
EKS2	Erkin-Say	40.35	8	eP	P	22 49 28.3	+1.7
5.0nm,1.1s,mb4.2							
TKM2	Tokmak 2	40.90	10	P	P	22 49 31.6	+0.5
LSZ	Lusaka	41.80	244	P	P	22 49 39.7	+0.8
MALT	Malatya	43.71	328	P	P	22 49 53.4	-0.7
GYA	Guiyang	45.27	55	P	P	22 50 07.2	+0.4
GYA				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.6							
MK31	Makanchi Array	46.07	15	P	P	22 50 12.1	-0.6
MKAR	Makanchi Array	46.07	15	P	P	22 50 12.9	+0.2
comp=Z,0.3nm,0.5s,mb3.5,baz=185,slow=9.6,SNR=6.6							
MKAR				LR	LR	23 11 06.5	
comp=Z,56nm,19.9s,MS3.5,baz=182,slow=38							
AKTK	Aktyubinsk	48.11	353	P	P	22 50 28.9	+0.3
AKTO	Aktyubinsk	48.11	353	P	P	22 50 28.9	+0.3
comp=Z,4.1nm,0.9s,mb4.4,baz=174,slow=6.9,SNR=7.1							
BOSA	Boshof	50.25	229	P	P	22 50 45.9	+0.5
comp=Z,4.6nm,0.9s,mb4.5,baz=28,slow=14,SNR=4.1							
BOSA				LR	LR	23 10 39.9	
comp=Z,174nm,19.2s,MS4.1,baz=320,slow=34							
BVAR	Borovoye Array	50.29	3	LR	LR	23 11 53.4	
comp=Z,132nm,21.3s,MS3.9,baz=246,slow=36							
XAN	Xi'an	50.43	47	P	P	22 50 46.2	-0.4
XAN				AP	pP	22 50 52.8	+3.0
XAN				AMB	AMB		
comp=Z,10.0nm,1.2s,mb4.7							
ZAA0	Zalesovo Array	53.30	13	eP	P	22 51 05.5	-2.2
ZALV	Zalesovo Beam	53.30	13	P	P	22 51 06.8	-0.9
comp=Z,4.0nm,0.9s,mb4.4,baz=216,slow=7.3,SNR=14							
ZALV	Zalesovo Beam	53.30	13	P	P	22 51 06.8	-0.9
SONM	Songino Array	56.65	31	P	P	22 51 33.1	+1.1
comp=Z,1.0nm,0.8s,mb3.9,baz=229,slow=7.6,SNR=8.9							
FITZ	Fitzroy Crossi	61.88	112	P	P	22 52 08.6	-0.2
KSRS	Korea Array	65.99	50	LR	LR	23 23 42.1	
comp=Z,66nm,18.0s,MS3.9,baz=94,slow=38							
HFS	Hagfors	69.92	335	LR	LR	23 22 00.7	
comp=Z,100nm,19.6s,MS4.1,baz=118,slow=34							
WRA	Warramunga Arr	70.31	112	P	P	22 53 03.2	+0.2
comp=Z,4.3nm,1.0s,mb4.3,baz=288,slow=5.8,SNR=9.3							
ASAR	Alice Springs	70.63	116	P	P	22 53 03.9	-1.1
comp=Z,1.7nm,1.0s,mb3.9,baz=258,slow=5.4,SNR=8.6							
DBIC	Dimbokro	71.06	276	LR	LR	23 24 30.2	
comp=Z,75nm,18.2s,MS4.0,baz=73,slow=36							
NB2	NORSAR Subarra	71.44	335	P	P	22 53 07.9	-1.2
comp=Z,3.1nm,1.0s,mb4.2,baz=120,slow=6.2							
NOA	NORSAR Array B	71.44	335	P	P	22 53 07.7	-1.4
comp=Z,2.0nm,0.9s,mb4.0,baz=114,slow=6.5,SNR=3.8							
ARCES	ARCESS Array B	71.99	346	LR	LR	23 26 45.1	
comp=Z,114nm,19.3s,MS4.2,baz=160,slow=38							
ESDC	Sonseca Array	73.21	311	P	P	22 53 19.6	-0.5
comp=Z,3.0nm,1.0s,mb4.2,baz=90,slow=5.4,SNR=9.4							
PETK	Petropavlovsk-	88.67	37	LR	LR	23 36 48.4	
comp=Z,56nm,18.8s,MS4.0,baz=104,slow=37							
PDAR	Pinedale Array	134.61	356	PKP	PKPdf	23 01 08.0	+0.2
comp=Z,0.7nm,1.0s,baz=3.8,slow=2.7,SNR=3.4							
TXAR	Lajitas Array	146.77	344	PKPbc	PKPbc	23 01 31.0	-0.7
comp=Z,5.9nm,0.9s,baz=51,slow=1.7,SNR=33							
TXAR	Lajitas Array	146.77	344	PKPbc	PKPbc	23 01 31.0	-0.7

ISCJB ***05*** *22:51:14.8±0.6, 1093N±004×6245W±003, h80km±7km, Error ellipse: s-maj=6.2km s-min=4.1km az=159.1*

FUNV ***05*** *22:51:15.3, 1093N×6234W, h76km, MW3.0*

NEIC ***05*** *22:51:17.6, 1097N×6234W, h72km, MD3.5(TRN), After TRN.*

TRN ***05*** *22:51:17.9, 1098N×6233W, h71km, MD3.5*

ISC 05 22:51:15.7±0.6, 1094N±003×6245W±003, h74km±8km, n20, σ0§91/38, 2C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.36	143	↓iP	Pn	22 51 27.2	-0.6
GUIV				eS	Sn	22 51 36.1	-0.6
TCE	Chacachacare	0.72	109	↑eP	Pn	22 51 32.2	+1.0
TCE				eS	Sn	22 51 43.0	+0.3
ITEV	Isla Los Testi	0.79	302	↓iP	Pn	22 51 32.2	+0.3
ITEV				eS	Sn	22 51 44.8	+0.8
CRUV	Carupano	0.82	251	eP	Pn	22 51 32.1	-0.1
CRUV				eS	Sn	22 51 44.7	+0.2
GUNV	Guanoco	0.91	212	eP	Pn	22 51 33.2	-0.1
GUNV				eS	Sn	22 51 46.6	+0.1
TRN	Trinidad (W)	1.07	106	eP	Pn	22 51 36.1	+0.9
TRN				eS	Sn	22 51 49.3	-0.6
TPP	Pointe-a-Pierr	1.16	122	eP	Pn	22 51 38.5	+2.1
GRGR	Grenville	1.42	33	ePn	Pn	22 51 38.9	-0.8
GRGR				eSn	Sn	22 51 55.8	-2.1
TBH	Brigand Hill	1.43	108	↑eP	Pn	22 51 40.6	+0.7
TBH				eS	Sn	22 51 58.2	+0.1
GRW	Mount Saint Ca	1.44	32	eP	Pn	22 51 41.7	+1.7
GRW				eS	Sn	22 51 58.0	-0.3
GRHS	Sauteurs	1.50	32	eP	Pn	22 51 41.9	+1.1
GRSS	Sisters	1.58	31	eP	Pn	22 51 42.0	+1.1
GRSS				eS	Sn	22 52 01.3	-0.3
GRIC	Isle de Caille	1.58	32	eP	Pn	22 51 42.5	+0.6
GRIC				eS	Sn	22 52 01.6	-0.1
TPR	Prospect	1.66	81	eP	Pn	22 51 43.9	+1.0
TPR				eS	Sn	22 52 02.3	-1.1
TOSP	Speyside	1.91	79	eP	Pn	22 51 44.5	-1.7
TOSP				eS	Sn	22 52 05.6	-3.8
IBAV	Isla La Blanqu	2.27	293	eP	Pn	22 51 50.9	-0.1
IBAV				eS	Sn	22 52 18.5	+0.5
PCRV	Puerto La Cruz	2.28	251	eP	Pn	22 51 51.1	-0.1
PCRV				eS	Sn	22 52 17.7	-0.7
SVB	Belmont	2.60	27	eP	Pn	22 51 56.9	+1.4
SVB				eS	Sn	22 52 25.3	-0.8
CAOV	Caicara del Or	5.25	227	eP	Pn	22 52 30.6	-1.0
CAOV				eS	Sn	22 53 26.2	-4.6
BAUV	El Baul	5.86	251	eP	Pn	22 52 38.8	-1.2
BAUV				eS	Sn	22 53 41.5	-4.3

ISCJB ***05*** *23:10:55.9±0.4, 4293N±002×4642E±002, h5km±2km, mb4.2/48, MS3.5/6, Error ellipse: s-maj=3.3km s-min=2.0km az=17.4*

MOS ***05*** *23:10:55.9±1.2, 4282N×4641E, h10km, mb4.4/28, Error ellipse: s-maj=5.2km s-min=3.4km az=34.0*

CSEM ***05*** *23:10:56.9±0.1, 4277N×4636E, h15km, mb4.3/28, Error ellipse: s-maj=2.3km s-min=1.3km az=14.0*

TIF ***05*** *23:10:56.6, 4278N×4638E, h16km±2km*

IDC ***05*** *23:10:59.6±3.2, 4274N×4633E, h28km±25km, mb3.9/19, mb1 4.0/24, mb1mx4.0/30, mbtmp3.9/24, ML3.7/5, MS3.4/8, Ms1 3.4/8, ms1mx3.0/40, Error ellipse: s-maj=11.8km s-min=9.2km az=152.0*

NEIC ***05*** *23:11:01.1±0.8, 4278N×4637E, h37km±9km, mb4.3/34, Error ellipse: s-maj=8.4km s-min=4.3km az=184.0*

SZGRF ***05*** *23:11:03.2, 4261N×4605E, h33km, mb4.2, Eastern Caucasus*

NNC ***05*** *23:11:09.9±3.5, 4314N×4735E, h41km±28km, mb4.0, Error ellipse: s-maj=28.3km s-min=22.0km az=127.0*

ISC 05 23:10:57.2±0.3, 4286N±002×4638E±002, h3km±2km, n262, σ1§25/314, mb4.2/48, MS3.5/6, 24C-25D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	Dubki	0.37	64	↓iPG	Pg	23 11 03.3	-1.0
DBC				i S	Sg	23 11 11.0	+1.9
KRNR	Karanay	0.39	94	PG	Pg	23 11 03.5	-1.2
KRNR				S	Sg	23 11 12.0	+2.2
BUJR	Buynaksk	0.54	93	↓iPG	Pg	23 11 08.4	+0.9
BUJR				i S	Sg	23 11 19.8	+5.3
BUJR				pmax	pmax		
comp=Z,3μm,0.5s							
BUJR	Buynaksk	0.54	93	i Pg	Pg	23 11 08.4	+0.9
comp=Z,3μm,0.5s							
GNBR	Gunib	0.64	137	i PG	Pg	23 11 08.6	-0.8
GNBR				i S	Sg	23 11 20.0	+2.3
MAK	Makhachkala	0.84	83	ePG	Pg	23 11 15.6	+2.4
MAK				e		23 11 30.4	
MAK				pmax	pmax		
comp=Z,3μm,0.4s							
MAK				smax			
comp=E,25μm,0.5s							
MAK	Makhachkala	0.84	83	ePg	Pg	23 11 15.6	+2.4
comp=E,3μm,0.4s							
KMKR	Kumukh	0.90	143	ePG	Pg	23 11 10.0	-4.4
KMKR				eS	Sg	23 11 24.7	-1.4
KMKR				pmax	pmax		
comp=Z,2μm,0.4s							
KMKR	Kumukh	0.90	143	eSg	Sg	23 11 24.7	-1.4
MNSR	Manas	1.00	98	i PG	Pg	23 11 15.0	-1.3
SNJR	Sundja	1.17	281	↑iPG	Pg	23 11 18.8	-0.7
SNJR				eS	Sg	23 11 36.6	+1.9
VLKR	Vladikavkaz	1.26	279	i Pg	Pg	23 11 20.8	-0.5
VLKR				eSg	Sg	23 11 39.2	+1.5
BTKR	Batakoyurt	1.44	292	i Pg	Pg	23 11 24.3	-0.4
BTKR				i Sg	Sg	23 11 45

GOF Gofitskoye 3.27 313 *e*PN **Pg 23 12 00.0 +0.3**
GOF *i* S **Sg 23 12 50.0 +8.0**
GOF pmax pmax
comp=Z,70nm,1.0s
GOF smax
comp=E,950nm,0.6s
GLBA Ciilabad 3.92 156 P **Pn 23 11 59.3 +1.1**
SNR=49
GLBA S **Sn 23 12 46.6 +2.0**
SOC Sochi 4.92 281 *e*PN **Pn 23 12 12.5 +0.6**
SOC *e*PPP 23 12 25.8
SOC *e* 23 13 13.0
SOC *e*SS 23 13 22.3
SOC pmax pmax
comp=Z,14nm,0.6s
SOC MLR MLR
comp=Z,159nm,7.0s
SOC Sochi 4.92 281 *e*Pn **Pn 23 12 12.5 +0.6**
comp=Z,14nm,0.6s
ANN Anapa 6.75 290 *e*P **Pn 23 12 39.1 +2.0**
ANN *e*S **Sn 23 13 59.6 +5.2**
ANN pmax pmax
comp=Z,66nm,1.3s
ANN Anapa 6.75 290 *e*P **Pn 23 12 39.1 +2.0**
comp=Z,66nm,1.3s
MALT Malatya 7.56 236 P **Pn 23 12 46.2 -2.0**
MALT Malatya 7.56 236 Pn **Pn 23 12 46.2 -1.9**
VRSR Storozhevoye 9.69 332 *e*P **Pn 23 13 17.5 +0.2**
VRSR pmax pmax
comp=Z,1.0nm,0.4s
VRSR pmax pmax
comp=N,4.0nm,1.0s
VRSR pmax pmax
comp=E,1.0nm,0.9s
VRSR Storozhevoye 9.69 332 *e*P **Pn 23 13 17.5 +0.2**
comp=E,4.0nm,1.0s
VOR Voronezh 10.12 334 P **Pn 23 13 26.0 +2.8**
VOR pmax pmax
comp=Z,150nm,2.0s
VOR Voronezh 10.12 334 P **Pn 23 13 26.0 +2.8**
comp=Z,150nm,2.0s
AKTK Aktyubinsk 11.01 42 Pn **Pn 23 13 35.1 -0.3**
AKTK Sn **Sn 23 15 29.9 -9.1**
AKTK LR LR 23 19 00.8
AKTO Aktyubinsk 11.01 42 ⇑Pn **Pn 23 13 35.4 0.0**
comp=Z,2.6nm,0.7s
AKTO ⇓Sn **Sn 23 15 27.9 -11**
comp=Z,2.6nm,0.5s
AKTO Aktyubinsk 11.01 42 Pn **Pn 23 13 35.1 -0.3**
comp=Z,2.5nm,0.3s,baz=224,slow=11,SNR=55
AKTO Sn **Sn 23 15 29.9 -9.1**
comp=Z,1.3nm,0.3s,baz=223,slow=19,SNR=4.0
AKTO LR LR 23 19 00.8
comp=Z,83nm,20.1s,baz=234,slow=43
AB31 Akbulak array 11.38 51 ⇑Pn **Pn 23 13 40.1 -0.4**
comp=Z,4.8nm,0.3s
AB31 ⇓Sn **Sn 23 15 40.2 -7.9**
comp=Z,19nm,0.5s
OBN Obninsk 13.83 336⇓*e*P **Pn 23 14 11.5 -2.4**
OBN *e*S **Sn 23 16 48.0 +0.1**
OBN pmax pmax
comp=Z,11nm,0.7s
OBN MLR MLR
comp=Z,100nm,15.0s
OBN Obninsk 13.83 336 *e*Pn **Pn 23 14 11.2 -2.7**
comp=Z,15nm,0.6s
OBN *e*Sn **Sn 23 16 48.6 +0.8**
MOS Moscow 14.08 339 *e*P **Pn 23 14 22.1 +4.8**
MOS *e* 23 16 47.1
MOS pmax pmax
comp=Z,47nm,0.9s
AKASG Malin Array Be 14.11 310 Pn **Pn 23 14 13.1 -4.5**
comp=Z,0.5nm,0.3s,baz=112,slow=14,SNR=2.9
AKBB Malin Array Si 14.11 310 *e*P **Pn 23 14 18.0 +0.3**
AKBB *e*Sn **Sn 23 16 53.5 -1.1**
AKBB Malin Array Si 14.11 310 *e*Pn **Pn 23 14 18.0 +0.3**
AKBB *e*Sn **Sn 23 16 53.5 -1.1**
KIEV Kiev 14.11 310 P **Pn 23 14 18.0 +0.3**
KIEV *e* 23 16 53.4
KIEV pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 14.11 310 P **Pn 23 14 18.0 +0.3**
comp=Z,6.0nm,0.6s
KIEV *e*Sn **Sn 23 16 53.4 -1.3**
KIEV Kiev 14.11 310 Pn **Pn 23 14 18.0 +0.2**
comp=Z,6.1nm,0.6s
KIEV *e*Sn **Sn 23 16 53.4 -1.4**
PLOR Plostina 14.43 289⇓*i*P **Pn 23 14 31.8 +10**
MLR Muntele Rosu 14.89 287 Pn **Pn 23 14 29.9 +1.5**
comp=Z,0.1nm,0.3s,baz=274,slow=18,SNR=7.0
MLR LR LR 23 21 53.6
comp=Z,122nm,19.4s,baz=91,slow=44
MLR Muntele Rosu 14.89 287⇑*i*P **Pn 23 14 30.5 +2.1**
MLR Muntele Rosu 14.89 287 ⇑P **Pn 23 14 30.5 +2.1**
VOIR 15.52 287⇓*i*P **Pn 23 14 44.2 +7.5**
VOIR 15.52 287 ⇓P **Pn 23 14 44.2 +7.4**
BURAR Bucovina Array 15.63 295⇑*i*P **Pn 23 14 44.0 +5.8**
BURAR Bucovina Array 15.63 295 ⇑P **Pn 23 14 44.0 +5.8**
ARU Arti 15.68 26*c*P **Pn 23 14 36.0 -2.7**
ARU *e*S **Sn 23 17 29.2 -3.5**
ARU pmax pmax
comp=Z,18nm,2.5s
ARU Arti 15.68 26 *e*Pn **Pn 23 14 36.3 -2.4**
comp=Z,17nm,0.6s
ARU *e*Sn **Sn 23 17 20.4 -12**
SVE Sverdlovsk 16.68 28⇓*e*P **Pn 23 14 49.6 -2.1**
SVE pmax pmax
comp=Z,30nm,0.8s
SVE MLR MLR
comp=Z,175nm,9.0s
DRGR 17.22 291⇑*i*P **Pn 23 15 01.6 +3.1**
DRGR 17.22 291 ⇑P **Pn 23 15 01.6 +3.1**
KK31 Karatay Array 17.65 81 ⇓P **Pn 23 15 01.9 -2.0**
comp=Z,3.1nm,0.5s,baz=284,slow=13,SNR=6.6
KK31 ⇓S **Sn 23 18 10.5 -10**
comp=Z,4.1nm,0.7s,baz=277,slow=24,SNR=3.4
KWP Kalwaria 17.67 301⇓*i*P **Pn 23 15 05.1 +1.0**
KWP Kalwaria 17.67 301 *e*Pn **Pn 23 15 01.7 -2.4**
KWP *e*Sn **Sn 23 18 14.9 -6.4**
KOLS Kolonicke sedl 17.80 298 *i* P **Pn 23 15 06.7 +1.0**
SOKR Solikamsk 17.92 17*d i*P **Pn 23 15 08.3 +1.2**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR Solikamsk 17.92 17 *i* P **Pn 23 15 08.3 +1.2**
comp=Z,10.0nm,0.9s
BZS Buzias 17.94 287⇓*i*P **Pn 23 15 10.5 +3.1**
BZS Buzias 17.94 287 ⇓P **Pn 23 15 10.5 +3.1**
IDI Anoyia 18.29 253 Pn **Pn 23 15 15.5 +3.7**
comp=Z,0.7nm,0.3s,baz=138,slow=19,SNR=5.6
CRVS Cervenica-Dubn 18.33 298 *e*P **Pn 23 15 13.1 +1.0**
KLMR Klimovskoe 18.50 349 *e*P **Pn 23 15 12.0 -2.1**
KLMR pmax pmax
comp=Z,25nm,1.4s
BRVK Borovoye 18.90 49 *e*P **Pn 23 15 17.5 -1.6**
BRVK *e*S **Sn 23 18 42.9 -7.9**
BRVK pmax pmax
comp=Z,13nm,0.6s
BRVK Borovoye 18.90 49 *e*P **Pn 23 15 17.5 -1.6**
comp=Z,13nm,0.6s
BRVK *e*S **Sn 23 18 42.9 -7.9**
KECS Kecovo 18.90 296 *e*P **Pn 23 15 18.4 -0.7**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 18.90 296 *e*P **Pn 23 15 18.4 -0.7**
comp=Z,1.9nm,0.7s
SUW Suwalki 18.91 314 *e*P **Pn 23 15 18.3 -1.0**
SUW pmax pmax
comp=Z,27nm,0.8s
SUW Suwalki 18.91 314 *e*P **Pn 23 15 18.3 -1.0**
comp=Z,27nm,0.8s
SUW Suwalki 18.91 314 *e*P **Pn 23 15 18.3 -1.0**
comp=Z,27nm,0.8s
BVA0 Borovoye Array 18.94 49 ⇓P **Pn 23 15 18.4 -1.2**
comp=Z,1.9nm,0.7s,baz=236,slow=12,SNR=11
BVA0 ⇑S **Sn 23 18 43.6 -8.3**
comp=Z,1.9nm,0.8s,baz=237,slow=26,SNR=7.2
BVAR Borovoye Array 18.94 49 P **Pn 23 15 17.6 -2.0**
comp=Z,0.6nm,0.3s,baz=217,slow=14,SNR=20
BVAR S **Sn 23 18 47.5 -4.4**
comp=Z,1.3nm,0.3s,baz=249,slow=26,SNR=7.0
BVAR LR LR 23 23 13.4
comp=Z,86nm,19.1s,baz=248,slow=38
BVAR Borovoye Array 18.94 49 P **Pn 23 15 17.6 -2.0**
BVAR S **Sn 23 18 47.5 -4.4**
BVAR Borovoye Array 18.94 49 S **Sn 23 18 47.5 -4.4**

PSZ Piszkesteto 19.23 294 *e*P **Pn 23 15 19.0 -4.1**
PSZ pmax pmax
comp=Z,5.0nm,0.8s
PSZ Piszkesteto 19.23 294⇓*e*P **Pn 23 15 25.1 +2.0**
PSZ Piszkesteto 19.23 294 *e*P **Pn 23 15 18.9 -4.2**
comp=Z,4.5nm,0.8s
KBL Kabul 19.50 108 *e*P **Pn 23 15 25.1 -1.4**
comp=Z,22nm,1.5s
VSU Vasula 19.85 329 *e*P **Pn 23 15 29.5 -1.0**
VYHS Vyhne 19.99 296 *i* P **Pn 23 15 32.5 +0.3**
VYHS pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 19.99 296 *i* P **Pn 23 15 32.5 +0.3**
comp=Z,3.2nm,1.3s
PKSM Moragy 20.01 289⇑*i*P **P 23 15 31.7 +0.9**
PKSM Moragy 20.01 289 ⇑P **P 23 15 31.7 +1.0**
EKS2 Erkin-Say 20.09 81 P **P 23 15 32.6 +0.9**
SNR=36
EKS2 Erkin-Say 20.09 81 *e*P **P 23 15 32.8 +1.1**
comp=Z,33nm,1.1s
EKS2 *e*S **S 23 19 15.0 -2.8**
EKS2 Erkin-Say 20.09 81 *e*P **P 23 15 32.8 +1.1**
comp=Z,33nm,1.1s
EKS2 *e*S **S 23 19 15.0 -2.8**
AML Almayashu 20.13 83 P **P 23 15 34.0 +2.0**
SNR=28
AML Almayashu 20.13 83 *e*P **P 23 15 33.6 +1.5**
comp=Z,135nm,0.7s
KOLL Kolacno 20.29 296 *i* P **P 23 15 35.0 +1.3**
AAK Ala-Archa 20.62 81 P **P 23 15 38.0 +0.6**
SNR=13
FRU Bishkek 20.67 80 *e*P **P 23 15 38.0 0.0**
FRU *e* 23 16 02.0
UCH Uchtor 20.71 82 *e*P **P 23 15 37.7 -0.7**
comp=Z,3.6nm,0.6s
UCH Uchtor 20.71 82 *e*P **P 23 15 37.7 -0.7**
comp=Z,3.6nm,0.6s
KBK Karagaybulak 20.94 81 P **P 23 15 42.7 +1.7**
SNR=24
MORC Moravsky Berou 21.00 299 *e*P **P 23 15 40.8 -0.6**
MORC pmax pmax
comp=Z,2.0nm,0.6s
MORC Moravsky Berou 21.00 299⇓*i*P **P 23 15 41.4 0.0**
MORC Moravsky Berou 21.00 299 *e*P **P 23 15 40.8 -0.6**
comp=Z,2.3nm,0.6s
MORC Moravsky Berou 21.00 299 *e*P **P 23 15 40.8 -0.6**
comp=Z,2.3nm,0.6s
ZST Bratislava 21.12 295 *i* P **P 23 15 43.5 +0.7**
ZST pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
ZST Bratislava 21.12 295 *i* P **P 23 15 43.5 +0.7**
comp=Z,10nm,0.9s,mb4.2
KZA Kyzart 21.27 82 P **P 23 15 46.3 +1.8**
SNR=17
TKM2 Tokmak 2 21.37 80 ⇑P **P 23 15 45.7 +0.2**
comp=Z,12nm,0.8s,mb4.2
TKM2 Tokmak 2 21.37 80 *e*P **P 23 15 45.7 +0.2**
TKM2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.0
TKM2 Tokmak 2 21.37 80 P **P 23 15 46.2 +0.7**
SNR=16
TKM2 Tokmak 2 21.37 80 *e*P **P 23 15 45.7 +0.2**
comp=Z,4.6nm,0.6s,mb4.0
SOP Sopron 21.46 293⇓*e*P **P 23 15 50.0 +3.6**
VRAC Vranov 21.55 298 P **P 23 15 46.8 -0.6**
comp=Z,2.7nm,0.8s,mb3.8,baz=100,slow=9.9,SNR=5.0
VRAC LR LR 23 25 29.0
comp=Z,81nm,20.1s,MS3.1,baz=345,slow=40
DPC Dobruska-Polom 21.86 300 *e*P **P 23 15 51.6 +0.9**
ULHL Ulahol 21.96 81 P **P 23 15 53.9 +2.1**
SNR=16
UPC Upice 22.07 301 *e*P **P 23 15 54.1 +1.1**
TREC Trest 22.27 298 *e*pP pP 23 16 02.7 +6.6
PRU Pruhonice 22.95 299 *e*P **P 23 16 03.0 +0.7**
PVCC Panska Ves 22.99 301 *e*P **P 23 16 03.9 +1.2**
KURBB Kurchatov Arra 23.22 59 ⇓P **P 23 16 05.8 +0.6**
comp=Z,1.2nm,0.7s,mb3.5
KURK Kurchatov 23.29 59 ⇓P **P 23 16 06.1 +0.2**
comp=Z,8.9nm,0.8s,mb4.2
KURK Kurchatov 23.29 59⇓*e*P **P 23 16 05.9 0.0**
KURK pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
KURK MLR MLR
comp=Z,100nm,14.0s,MS3.4
KURK Kurchatov 23.29 59 *e*P **P 23 16 05.8 -0.1**
comp=Z,12nm,0.9s,mb4.3
KURK Kurchatov 23.29 59 *e*P **P 23 16 05.8 -0.1**
comp=Z,12nm,0.9s,mb4.3
GEC2 GERESS Array S 23.41 296 *e*P **P 23 16 08.2 +1.0**
GEC2 pmax pmax
comp=Z,4.0nm,1.1s,mb3.8
GEC2 GERESS Array S 23.41 296 *e*P **P 23 16 08.2 +1.0**
comp=Z,4.0nm,1.1s,mb3.8
GERES GERESS Array B 23.41 296 P **P 23 16 06.5 -0.7**
comp=Z,1.8nm,0.5s,mb3.7,baz=103,slow=8.4,SNR=23
GERES LR LR 23 26 13.4
comp=Z,89nm,21.1s,MS3.2,baz=287,slow=39
BRG Berggiesshubel 23.43 301 *e*P **P 23 16 07.6 +0.3**
comp=Z,13nm,1.9s,mb4.0
BRG *e* 23 16 19.1
comp=Z,4.5nm,1.0s
KHC Kasperske Hory 23.51 297 *e*P **P 23 16 08.9 +0.7**
KHC *e*pP 23 16 15.5
BSD Bornholm Skovb 23.79 312 *e*P **P 23 16 10.5 -0.3**
BSD pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
BSD Bornholm Skovb 23.79 312 *i* P **P 23 16 10.5 -0.3**
comp=Z,9.1nm,1.0s,mb4.2
BSD Bornholm Skovb 23.79 312 *e*P **P 23 16 10.5 -0.3**
comp=Z,9.1nm,1.0s,mb4.2
CLL Collm 24.07 302 *e*P **P 23 16 12.0 -1.4**
CLL *e* 23 16 19.0
CLL *e* 23 17 02.0
CLL pmax pmax
comp=Z,9.0nm,1.4s,mb4.0
CLL Collm 24.07 302 *e*P **P 23 16 13.9 +0.5**
comp=Z,9.0nm,1.4s,mb4.0
CLL Collm 24.07 302 *e*P **P 23 16 12.0 -1.4**
comp=Z,9.0nm,1.4s,mb4.0
CLL *ex* x 23 16 19.0
CLL *ex* x 23 16 36.0
CLL Collm 24.07 302 *e*P **P 23 16 12.0 -1.4**
comp=Z,9.0nm,1.4s,mb4.0
CLL *e* 23 16 19.0
CLL *e* 23 16 36.0
CLL *e* 23 17 02.0
AQU L'Aquila 24.19 280 P **P 23 16 13.0 -1.6**
AQU L'Aquila 24.19 280 P **P 23 16 13.0 -1.6**
NKC Novy Kostel 24.31 299 *e*P **P 23 16 15.8 +0.2**
comp=Z,11nm,1.2s,mb4.2
WERN Wernitzgruen 24.36 300 *e*P **P 23 16 17.2 +1.1**
comp=Z,10.0nm,1.4s,mb4.0
WTTA Wattenberg 24.80 292⇑*i*P **P 23 16 19.9 -0.2**
comp=Z,17nm,1.2s,mb4.5
WTTA Wattenberg 24.80 292⇑*i*P **P 23 16 19.9 -0.2**
WTTA pmax pmax
comp=Z,17nm,1.2s,mb4.5
WATA Walderalm 24.84 292⇑*i*P **P 23 16 20.4 0.0**
comp=Z,11nm,1.1s,mb4.3
WATA Walderalm 24.84 292⇑*i*P **P 23 16 20.4 0.0**
WATA pmax pmax
comp=Z,11nm,1.1s,mb4.3
MOX Moxa 24.88 300 *e*P **P 23 16 21.5 +0.8**
comp=Z,11nm,1.4s,mb4.2
MOX Moxa 24.88 300 *e*P **P 23 16 21.5 +0.8**
MOX pmax pmax
comp=Z,11nm,1.4s,mb4.2
FUR Furstenfeldbru 25.02 294 *e*P **P 23 16 23.8 +1.8**
GRA1 Grafenberg Arr 25.07 298 *e*P **P 23 16 23.5 +1.0**
comp=Z,16nm,1.5s,mb4.3
GRF Grafenberg Arr 25.07 298 *e*P **P 23 16 23.5 +1.0**
GRF pmax pmax
comp=Z,16nm,1.5s,mb4.3
GRF Grafenberg Arr 25.07 298 *e*P **P 23 16 23.5 +1.0**
GRF pmax pmax
comp=Z,16nm,1.5s,mb4.3
GRF Grafenberg Arr 25.07 298 *e*P **P 23 16 23.5 +1.0**
comp=Z,16nm,1.5s,mb4.3
MK31 Makanchi Array 25.63 69 ⇑P **P 23 16 28.3 +0.6**
comp=Z,6.1nm,0.8s,mb4.2,baz=273,slow=8.4,SNR=41
MK31 Makanchi Array 25.63 69 *e*P **P 23 16 27.9 +0.2**
MKAR Makanchi Array 25.63 69 P **P 23 16 28.3 +0.7**
comp=Z,5.1nm,0.7s,mb4.1,baz=272,slow=8.5,SNR=24
DAVOX Davos/Dischmat 26.03 291 P **P 23 16 32.0 +0.7**
comp=Z,2.1nm,0.7s,mb3.8,baz=128,slow=17,SNR=8.9
DAVOX LR LR 23 28 46.9
comp=Z,114nm,19.0s,MS3.4,baz=88,slow=41
DAVOS Davos 26.09 291 P **P 23 16 32.0 +0.2**
HFS Hagfors 26.30 322 P **P 23 16 32.2 -1.3**
comp=Z,1.6nm,0.4s,mb3.9,baz=116,slow=10,SNR=16
NVS Novosibirsk 26.73 50 *e*P **P 23 16 37.3 -0.2**
ZAL Zalesovo 27.48 53 P **P 23 16 44.0 -0.2**
ZALV Zalesovo Beam 27.49 53 P **P 23 16 44.0 -0.4**
comp=Z,1.3nm,0.3s,mb4.0,baz=264,slow=11,SNR=7.9
NB2 NORSAR Subarra 27.80 323 P **P 23 16 45.5 -1.5**
comp=Z,2.4nm,1.1s,mb3.7,baz=115,slow=9.3
NOA NORSAR Array B 27.80 323 P **P 23 16 45.7 -1.3**
comp=Z,0.5nm,0.4s,mb3.5,baz=117,slow=8.4,SNR=5.2
NOA NORSAR Array B 27.80 323 P **P 23 16 45.7 -1.3**
NAO01 NORSAR Array S 27.86 323 *e*P **P 23 16 47.3 -0.3**
NAO01 NORSAR Array S 27.86 323 *e*P **P 23 16 47.3 -0.3**
LPG La Plagne 28.34 289 *e*P **P 23 16 52.0 -0.1**
LPL La Plagne 28.35 289 *e*P **P 23 16 51.8 -0.4**
MBDF Montbardon 28.46 288 *e*P **P 23 16 52.3 -0.8**
comp=Z,6.2nm,0.7s,mb4.0
MBDF Montbardon 28.46 288 *e*P **P 23 16 52.3 -0.8**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
MBDF Montbardon 28.46 288 *e*P **P 23 16 52.3 -0.8**
comp=Z,3.1nm,0.7s,mb4.0
FRF La Foret Royal 28.78 285 *e*P **P 23 16 54.3 -1.6**
comp=Z,8.5nm,0.9s,mb4.2
FRF La Foret Royal 28.78 285 *e*P **P 23 16 54.3 -1.6**
FRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
FRF La Foret Royal 28.78 285 *e*P **P 23 16 54.3 -1.6**
comp=Z,4.2nm,0.9s,mb4.2
ARCES ARCESS Array B 28.83 345 P **P 23 16 56.2 +0.1**
comp=Z,0.5nm,0.3s,mb3.8,baz=151,slow=9.8,SNR=13
ARCES ARCESS Array B 28.83 345 P **P 23 16 56.2 +0.1**
KEST Kesra 29.35 269 P **P 23 17 01.3 +0.2**
comp=Z,1.3nm,0.8s,mb3.7,baz=4.4,slow=7.8,SNR=7.3
VIVF Saint-Julien-l 29.90 288 *e*P **P 23 17 04.3 -1.6**
comp=Z,4.5nm,0.8s,mb4.0
VIVF Saint-Julien-l 29.90 288 *e*P **P 23 17 04.3 -1.6**
VIVF pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
VIVF Saint-Julien-l 29.90 288 *e*P **P 23 17 04.3 -1.6**
comp=Z,2.2nm,0.8s,mb3.9
LDF La Druitiere 32.56 297 *e*P **P 23 17 28.5 -0.7**
comp=Z,4.0nm,0.6s,mb4.2
LDF La Druitiere 32.56 297 *e*P **P 23 17 28.5 -0.7**
LDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LDF La Druitiere 32.56 297 *e*P **P 23 17 28.5 -0.7**
comp=Z,2.0nm,0.6s,mb4.2
LFF La Frestale 32.62 290 *e*P **P 23 17 29.6 -0.2**
comp=Z,7.4nm,0.7s,mb4.4
LFF La Frestale 32.62 290 *e*P **P 23 17 29.6 -0.2**
LFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LFF La Frestale 32.62 290 *e*P **P 23 17 29.6 -0.2**
comp=Z,3.7nm,0.7s,mb4.4
FLN La Foliniere 32.77 297 *e*P **P 23 17 29.4 -1.7**
comp=Z,9.0nm,0.8s,mb4.5
FLN La Foliniere 32.77 297 *e*P **P 23 17 29.4 -1.7**
FLN pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
FLN La Foliniere 32.77 297 *e*P **P 23 17 29.4 -1.7**
comp=Z,4.5nm,0.8s,mb4.5
HVS Khovu-Aksy 32.83 59*d i*P **P 23 17 32.2 +0.6**
DANN Dangsing 33.37 103 *e*P **P 23 17 37.7 +1.1**
KOLN Koldanda 33.60 104 *e*P **P 23 17 39.1 +0.5**
DMN Daman 34.77 103 *e*P **P 23 17 49.4 +0.7**
GUN Gumba 35.15 102 *e*P **P 23 17 52.5 +0.5**
JIRN Jiri 35.52 102 *e*P **P 23 17 55.8 +0.6**
comp=Z,21nm,0.5s,mb5.3
RAMN Ramite 36.23 103 *e*P **P 23 18 02.2 +0.9**
TAPN Taplejung 36.79 101 *e*P **P 23 18 07.1 +1.0**
ODAN Odare 36.85 102 *e*P **P 23 18 07.4 +0.8**
comp=Z,28nm,0.6s,mb5.2
MOY Mondy 37.31 57 *e*P **P 23 18 11.7 +1.5**
SPITS Spitsbergen Ar 37.40 350 P **P 23 18 10.4 -0.2**
comp=Z,0.9nm,0.4s,mb4.0,baz=140,slow=8.0,SNR=3.3
ESDC Sonseca Array 37.52 283 P **P 23 18 10.1 -2.1**
comp=Z,0.2nm,0.5s,mb3.1,baz=46,slow=8.9,SNR=4.6
LSA Lhasa 37.98 95 *e*P **P 23 18 17.2 +1.1**
LSA pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
LSA Lhasa 37.98 95 *e*P **P 23 18 17.1 +1.0**
comp=Z,2.6nm,0.5s,mb4.2
LSA Lhasa 37.98 95 *e*P **P 23 18 17.1 +1.0**
comp=Z,2.6nm,0.5s,mb4.2
TLY Talaya 38.93 56 *e*P **P 23 18 25.3 +1.4**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
TLY Talaya 38.93 56 *e*P **P 23 18 25.3 +1.4**
comp=Z,5.0nm,0.8s,mb4.3
TLY Talaya 38.93 56 *e*P **P 23 18 25.4 +1.5**
comp=Z,4.1nm,0.6s,mb4.3
ZAK Zakamensk 38.95 59⇑*i*P **P 23 18 25.1 +1.0**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
ZAK Zakamensk 38.95 59 *i* P **P 23 18 25.1 +1.0**
comp=Z,2.0nm,1.0s,mb3.8
SONM Songino Array 41.55 62 P **P 23 18 45.9 +0.3**
comp=Z,1.5nm,0.7s,mb3.8,baz=280,slow=8.9,SNR=12
BOD Bodaibo 43.76 46 *e*P **P 23 19 02.5 -0.9**
BOD pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
BOD Bodaibo 43.76 46 *e*P **P 23 19 02.5 -0.9**
comp=Z,9.0nm,0.8s,mb4.5
TOA0 Torodi Ar. Sit 48.51 246 *e*P **P 23 19 39.4 -2.0**
TOA0 Torodi Ar. Sit 48.51 246 *e*P **P 23 19 39.4 -2.0**
TORD Torodi Ar. Bea 48.51 246 P **P 23 19 38.9 -2.5**
comp=Z,1.1nm,0.6s,mb4.1,baz=32,slow=6.4,SNR=15
HIA Hailar 49.46 56 *e*P **P 23 19 49.1 +0.8**
HIA *e* 23 19 56.0
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 49.46 56 *e*P **P 23 19 49.1 +0.8**
comp=Z,6.0nm,0.6s,mb4.8
HIA Hailar 49.46 56 *e*P **P 23 19 49.0 +0.8**
comp=Z,6.3nm,0.6s,mb4.8
HIA *e* 23 19 56.0
CHTO Chiang Mai 50.16 102 *e*P **P 23 19 53.6 -0.4**
CHTO *e* 23 21 11.6
CHTO Chiang Mai 50.16 102 *e*PcP PcP 23 21 11.6 -1.8
CMAR Chiang Mai Arr 50.39 102 P **P 23 19 55.3 -0.4**
comp=Z,1.4nm,0.4s,mb4.4,baz=305,slow=8.4,SNR=8.4
CMAR Chiang Mai Arr 50.39 102 *i* P **P 23 19 55.9 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
DBIC Dimbokro 57.62 247 P **P 23 20 45.8 -2.8**
comp=Z,3.3nm,0.5s,mb4.6,baz=0.0,slow=7.1,SNR=8.6
DBIC Dimbokro 57.62 247 *e*P **P 23 20 45.9 -2.7**
DBIC pmax pmax
comp=Z,22nm,1.7s
DBIC Dimbokro 57.62 247 *e*P **P 23 20 45.9 -2.7**
comp=Z,22nm,1.7s,mb4.9
DBIC Dimbokro 57.62 247 *e*P **P 23 20 45.9 -2.7**
comp=Z,22nm,1.7s,mb4.9
LIC Lamto 58.06 246⇑*i*P **P 23 20 49.0 -2.7**
comp=Z,25nm,1.0s,mb4.9
LIC Lamto 58.06 246⇑*i*P **P 23 20 49.0 -2.7**
comp=Z,12nm,1.0s,mb4.9
KSRS Korea Array 60.24 65 P **P 23 21 05.1 -1.4**
comp=Z,2.2nm,0.7s,mb4.3,baz=295,slow=7.2,SNR=8.6
KSRS Korea Array 60.24 65 P **P 23 21 05.1 -1.4**
KSRS pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
PSI Prapat 61.35 115 P **P 23 21 12.4 -1.9**
comp=Z,4.6nm,0.7s,mb4.7,baz=306,slow=11,SNR=4.8
MJAR Matsushiro Arr 67.49 61 LR LR 23 51 46.2
comp=Z,63nm,20.7s,MS3.8,baz=70,slow=36
INK Inuvik 69.16 360 P **P 23 22 02.7 -1.5**
COLA College 72.03 6 *e*P **P 23 22 21.3 -0.5**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
COLA College 72.03 6 *e*P **P 23 22 21.3 -0.5**
comp=Z,3.2nm,0.7s,mb4.4
COLA College 72.03 6 *e*P **P 23 22 21.3 -0.5**
comp=Z,3.2nm,0.7s,mb4.4
BOSA Boshof 73.73 199 P **P 23 22 30.3 -1.9**
comp=Z,2.9nm,0.9s,mb4.2,baz=0.0,slow=1.0,SNR=3.5
YKA Yellowknife Ar 73.89 351 P **P 23 22 31.5 -1.3**
comp=Z,1.1nm,0.6s,mb4.0,baz=9.8,slow=6.5,SNR=9.0
YKA Yellowknife Ar 73.89 351 P **P 23 22 31.5 -1.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
TKL Tuckaleechee C 89.59 322 LR LR 00 06 33.9
comp=Z,38nm,20.1s,MS3.8,baz=10,slow=37

WRA Warramunga Arr 101.84 106 P Pdif 23 24 50.1 -1.7
comp=Z,0.6nm,0.6s,baz=320,slow=4.2,SNR=5.4

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*IDC **05** 23:30:59.4±1.0, 45.30S×76.06W, h0km, mb4.0/8, mb1 4.1/9, mb1mx4.0/19, mbtmp4.0/9, ML3.8/1, MS3.4/4, Ms1 3.4/4, ms1mx3.2/30, Error ellipse: s-maj=40.1km s-min=17.4km az=106.0*
*ISCJB **05** 23:31:02.6±0.6, 45.27S±007×76.0W±0.1, h33km, mb4.0/9, MS3.6/3, Error ellipse: s-maj=12.0km s-min=7.4km az=38.1*
*NEIC **05** 23:31:05.0±2.0, 45.26S×75.86W, h40km±18km, mb3.9/4, Error ellipse: s-maj=21.3km s-min=7.9km az=87.0*
ISC 05 23:31:04.6±0.6, 4529S±007×760W±01, h35km, n26, σ0§94/27, mb4.0/9, MS3.6/3, 1C, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**2.79**	**97**	⇑*i*P	**Pn**	**23 31 45.4**	**-1.3**
PLCA	**Paso Flores**	**6.07**	**43**	Pn	**Pn**	**23 32 30.6**	**-1.2**
	0.5nm,0.3s,baz=213,slow=13,SNR=31						
PLCA	**Paso Flores**	**6.07**	**43**	Pn	**Pn**	**23 32 30.6**	**-1.2**
PLCA				*e*Sn	**Sn**	**23 33 40.0**	**+0.1**
TRQA	**Tornquist**	**12.74**	**60**	*e*Pn	**Pn**	**23 34 02.4**	**-0.7**
	7.2nm,0.8s						
TRQA				Sn	**Sn**	**23 36 25.6**	**+2.1**
CFAA	**Coronel Fontan**	**14.95**	**27**	Pn	**Pn**	**23 34 28.1**	**-5.1**
	0.1nm,0.3s,baz=207,slow=15,SNR=3.7						
CFAA				LR	LR	23 39 47.3	
	comp=Z,20nm,21.4s,baz=88,slow=35						
LCO	**Las Campanas**	**16.79**	**16**	Pn	**Pn**	**23 34 55.9**	**-1.0**
	4.2nm,0.6s						
LVC	**Limon Verde**	**23.36**	**17**	P	**P**	**23 36 10.0**	**0.0**
	2.3nm,0.6s,mb3.8,baz=157,slow=13,SNR=2.4						
LVC				LR	LR	23 43 58.5	
	comp=Z,140nm,21.6s,MS3.4,baz=199,slow=33						
LVC	**Limon Verde**	**23.36**	**17**	*e*P	**P**	**23 36 10.1**	**+0.1**
LVC				LR	LR	23 43 58.5	
CPUP	**Villa Florida**	**24.14**	**45**	P	**P**	**23 36 17.2**	**0.0**
	10.0nm,0.5s,mb4.5,baz=202,slow=8.8,SNR=74						
CPUP				LR	LR	23 46 17.0	
	comp=Z,275nm,19.1s,MS3.8,baz=194,slow=38						
CPUP	**Villa Florida**	**24.14**	**45**	*e*P	**P**	**23 36 17.2**	**0.0**
	62nm,0.4s,mb5.4						
CPUP				LR	LR	23 46 17.0	
LPAZ	**La Paz**	**29.67**	**15**	*e*P	**P**	**23 37 06.6**	**-0.3**
	2.5nm,1.2s,mb3.8						
NNA	**Nana**	**33.20**	**359**	P	**P**	**23 37 37.6**	**-0.4**
BDFB	**Brasilia**	**37.79**	**48**	P	**P**	**23 38 19.3**	**+1.8**
	1.8nm,0.8s,mb3.8,baz=192,slow=14,SNR=4.4						
BDFB				LR	LR	23 55 05.3	
	comp=Z,125nm,21.7s,MS3.7,baz=4.2,slow=38						
SNAA	**Sanae**	**42.56**	**153**	P	**P**	**23 38 56.2**	**-0.2**
	0.8nm,0.7s,mb3.6,baz=268,slow=6.2,SNR=10						
SNAA	**Sanae**	**42.56**	**153**	*e*P	**P**	**23 38 56.6**	**+0.2**
	2.5nm,0.7s,mb4.0						
QSPA	**South Pole Qui**	**44.96**	**180**	P	**P**	**23 39 15.6**	**0.0**
	3.0nm,0.9s,mb4.1,baz=123,slow=4.1,SNR=5.1						
OTAV	**Otavalo**	**45.38**	**357**	P	**P**	**23 39 21.5**	**+1.8**
SBA	**Scott Base**	**51.40**	**194**	P	**P**	**23 40 05.0**	**-0.3**
VNDA	**Vanda**	**52.43**	**193**	P	**P**	**23 40 14.0**	**+1.0**
	1.7nm,0.9s,mb4.0,baz=140,slow=6.0,SNR=8.5						
VNDA	**Vanda**	**52.43**	**193**	*e*P	**P**	**23 40 14.4**	**+1.4**
	1.4nm,0.8s,mb3.9						
SDV	**Santo Domingo**	**54.14**	**7**	P	**P**	**23 40 25.2**	**-1.0**
TGUH	**Tegucigalpa,Ún**	**59.94**	**347**	*e*P	**P**	**23 41 07.2**	**0.0**
TXAR	**Lajitas Array**	**78.42**	**336**	P	**P**	**23 43 01.8**	**+0.4**
	0.5nm,0.9s,mb3.4,baz=159,slow=7.5,SNR=5.0						
TXAR	**Lajitas Array**	**78.42**	**336**	P	**P**	**23 43 01.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**90.79**	**72**	P	**P**	**23 44 03.5**	**-0.7**
	0.9nm,1.1s,mb4.0,baz=225,slow=4.9,SNR=2.7						
GERES	**GERESS Array B 121.97**		**51**	PKP	PKPdf	23 49 53.2	-1.2
	0.5nm,0.8s,baz=221,slow=2.1,SNR=4.6						

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*ATH **05** 23:43:24.4, 38.12N×26.81E, h42km, MD3.1/3*
*CSEM **05** 23:43:24.9±0.1, 38.16N×26.68E, h3km, MD2.6, Error ellipse: s-maj=4.2km s-min=1.6km az=100.0*
*DDA **05** 23:43:25.4, 38.17N×26.65E, h7km±1km, Md2.6*
*ISCJB **05** 23:43:25.1±0.8, 38.14N±002×26.62E±005, h0km±7km, Error ellipse: s-maj=7.3km s-min=4.1km az=176.9*
*NEIC **05** 23:43:26.2, 38.14N×26.75E, h6km, MD2.9(ISK), MD3.1(ATH), After ISK.*
*ISK **05** 23:43:26.2, 38.14N×26.75E, h6km, MD2.9*
ISC 05 23:43:25.6±0.7, 3814N±003×2661E±006, h6km±6km, n20, σ0§80/30, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.22**	**356**	*i* P	**Pg**	**23 43 29.6**	**-0.2**
URLA				*i* S	**Sg**	**23 43 33.2**	**+0.4**
BLCB	**Balcova**	**0.41**	**54**	*e*PG	**Pg**	**23 43 33.0**	**-0.5**
BLCB				*e*SG	**Sg**	**23 43 38.6**	**-0.4**
BLCB	**Balcova**	**0.41**	**54**	Pg	**Pg**	**23 43 33.0**	**-0.5**
BLCB				Sg	**Sg**	**23 43 38.0**	**-0.9**
SMG	**Samos**	**0.47**	**158**	*e*P	**Pg**	**23 43 35.0**	**+0.4**
SMG				*e*S	**Sg**	**23 43 41.7**	**+1.0**
IZM	**Izmir**	**0.57**	**63**	*e*PG	**Pg**	**23 43 36.2**	**-0.3**
KDAG	**Bornova**	**0.57**	**63**	*i* P	**Pg**	**23 43 36.1**	**-0.5**
KDAG				*i* S	**Sg**	**23 43 44.2**	**+0.1**
PRK	**Paraskevi**	**1.13**	**346**	*e*P	**Pg**	**23 43 46.1**	**-1.2**
AYVA	**Ayvalik**	**1.16**	**3**	*i* P	**Pg**	**23 43 47.2**	**-0.7**
AYVA				*i* S	**Sg**	**23 44 04.9**	**+1.9**
AKHS	**Akhisar**	**1.19**	**52**	*i* P	**Pg**	**23 43 47.9**	**-0.6**
AKHS				*i* S	**Sg**	**23 44 04.2**	**+0.3**
AKHS	**Akhisar**	**1.19**	**52**	*i* P	**Pg**	**23 43 47.9**	**-0.5**
AKHS				*i* S	**Sg**	**23 44 04.2**	**+0.3**
AKS	**Akhisar**	**1.19**	**52**	*e*PN	**Pn**	**23 43 48.2**	**-0.6**
BODT	**Bodrum**	**1.21**	**153**	*e*PN	**Pn**	**23 43 49.0**	**-0.1**
MLSB	**Milas**	**1.25**	**132**	*e*PN	**Pn**	**23 43 48.9**	**-0.7**
BDRM	**Kayabasi**	**1.26**	**148**	*i* P	**Pg**	**23 43 49.5**	**-0.2**
BDRM				*i* S	**Sg**	**23 44 07.0**	**+0.8**
BDRM	**Kayabasi**	**1.26**	**148**	*i* P	**Pg**	**23 43 49.5**	**-0.3**
BDRM				*i* S	**Sg**	**23 44 06.9**	**+0.8**
APE	**Apeiranthos**	**1.38**	**219**	*e*P	**Pn**	**23 43 49.9**	**-1.4**
KULA	**Kula-Manisa**	**1.65**	**76**	*e*PN	**Pn**	**23 43 55.2**	**+0.2**
YER	**Yerkesik**	**1.66**	**127**	*e*PN	**Pn**	**23 43 55.3**	**+0.1**
EZN	**Ezine**	**1.69**	**352**	*e*PN	**Pn**	**23 43 57.5**	**+1.9**
BALB	**Balikesir**	**1.79**	**33**	*e*PN	**Pn**	**23 43 57.8**	**+0.8**

IDC 06 00:05:14.1±12.0, 748S×12802E, h111km±137km, mb3.3/1, mb1 3.8/4, mb1mx3.4/15, mbtmp3.6/4, ML4.1/3, Error ellipse: s-maj=87.4km s-min=59.6km az=31.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.81**	**192**	P	Pn	00 07 47.1	+1.4
	1.6nm,0.3s,baz=33,slow=12,SNR=61						
FITZ				S	Sn	00 09 42.7	-2.1
	0.4nm,0.3s,baz=63,slow=21,SNR=3.4						
WRA	**Warramunga Arr**	**13.82**	**154**	P	Pn	00 08 23.4	-1.9
	0.9nm,0.3s,baz=330,slow=13,SNR=13						
WRA				S	Sn	00 10 49.9	-7.9
	1.4nm,0.3s,baz=339,slow=22,SNR=8.2						
ASAR	**Alice Springs**	**17.06**	**161**	P	Pn	00 09 07.7	+1.8
	0.8nm,0.3s,baz=339,slow=8.6,SNR=47						
ASAR				S	S	00 12 11.1	-5.1
	0.3nm,0.3s,baz=320,slow=15,SNR=5.2						
MKAR	**Makanchi Array**	**67.56**	**328**	P	P	00 15 58.5	-0.1
	0.4nm,0.4s,baz=117,slow=8.0,SNR=4.4						

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*MOS **06** 00:16:04.4±1.5, 47.43N×151.55E, h46km, mb4.2/3, Error ellipse: s-maj=32.9km s-min=13.7km az=56.9*
*ISCJB **06** 00:16:05.3±1.3, 47.7N±02×151.3E±03, h33km, mb3.6/5, Error ellipse: s-maj=39.0km s-min=9.5km az=137.2*
*IDC **06** 00:16:06.5±1.7, 48.28N×150.61E, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.7/23, mbtmp3.7/8, ML3.4/2, Error ellipse: s-maj=48.5km s-min=23.7km az=151.0*
ISC 06 00:16:07.6±1.6, 474N±03×1518E±05, h64km±18km, n16, σ0§34/17, mb3.6/5, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.47**	**234**	⇑*i*PN	**Pn**	**00 16 52.0**	**-7.1**
KUR				*e*S	**Sn**	**00 17 31.5**	**-7.5**
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
KUR				smax			
	comp=N,220nm,0.7s						
KUR				smax			
	comp=E,260nm,0.7s						
SKR	**Severo-Kuril's**	**4.36**	**39**	*e*PN	**Pn**	**00 17 11.0**	**-0.2**
SKR				*e*		00 18 01.2	
PETK	**Petropavlovsk-**	**6.88**	**31**	Pn	**Pn**	**00 17 45.9**	**+0.3**
	comp=E,0.2nm,0.3s,baz=168,slow=15,SNR=4.4						
ASAJ	**Asahikawa**	**7.23**	**247**	Pn	**Pn**	**00 17 50.1**	**-0.3**
	comp=E,1.1nm,0.3s,baz=94,slow=13,SNR=4.5						
ASAJ	**Asahikawa**	**7.23**	**247**	PN	**Pn**	**00 17 50.2**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.79**	**228**	Pn	**Pn**	**00 19 32.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=39,slow=16,SNR=4.4						
KSRS	**Korea Array**	**20.17**	**249**	P	**P**	**00 20 37.2**	**+0.7**
	baz=56,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**45.88**	**296**	P	**P**	**00 24 23.2**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.4,baz=69,slow=9.4,SNR=4.6						
NB2	**NORSAR Subarra**	**67.36**	**340**	P	**P**	**00 26 55.4**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**67.36**	**340**	P	**P**	**00 26 55.6**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=27,slow=6.4,SNR=4.5						
NOA	**NORSAR Array B**	**67.36**	**340**	P	**P**	**00 26 55.6**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**70.55**	**325**	P	**P**	**00 27 14.7**	**-0.6**
	comp=Z,0.7nm,0.3s,mb4.0,baz=37,slow=6.2,SNR=3.5						
AKASG	**Malin Array Be**	**70.55**	**325**	P	**P**	**00 27 14.7**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES	**GERESS Array B**	**77.52**	**333**	P	**P**	**00 27 55.8**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=54,slow=7.4,SNR=3.4						
TXAR	**Lajitas Array**	**77.95**	**60**	P	**P**	**00 28 08.2**	**+9.5**
	comp=Z,0.6nm,0.7s,mb3.7,baz=288,slow=3.5,SNR=8.0						
TXAR	**Lajitas Array**	**77.95**	**60**	P	**P**	**00 28 08.2**	**+10**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

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*NEIC **06** 00:25:41.1, 36.13S×70.79W, h208km, MG3.9(GUC), After GUC.*
GUC 06 00:25:41.1±0.9, 3613S×7079W, h208km±7km, MD3.4, ML3.9, 9C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.00**	**317**	⇓*i*P	Pn	00 26 11.7	+0.1
TALC				*i* S	Sn	00 26 34.9	-0.4
TALC				AML	AML	00 26 41.5	
	comp=N,2μm,0.1s						
TALC	**Talca**	**1.00**	**317**	⇓*i*P	Pn	00 26 11.7	+0.1
TALC				*i* S	Sn	00 26 34.9	-0.4
CNCO	**Chanco**	**1.47**	**285**	*e*P	Pn	00 26 17.1	+1.9
CNCO				*i* S	Sn	00 26 43.0	+1.4
CNCO				AML	AML	00 26 49.7	
	comp=N,36nm,0.5s						
CNCO	**Chanco**	**1.47**	**285**	*e*P	Pn	00 26 17.1	+1.9
CNCO				*i* S	Sn	00 26 43.0	+1.4
SFDO	**San Fernando**	**1.52**	**353**	⇑*i*P	Pn	00 26 16.1	+0.4
SFDO				*i* S	Sn	00 26 42.6	+0.1
COCH	**Cobquecura**	**1.62**	**269**	⇑*i*P	Pn	00 26 17.6	+1.1
COCH				*i* S	Sn	00 26 44.1	+0.1
COCH				AML	AML	00 26 51.3	
	comp=E,165nm,0.4s						
COCH	**Cobquecura**	**1.62**	**269**	⇑*i*P	Pn	00 26 17.6	+1.1
COCH				*i* S	Sn	00 26 44.1	+0.1
CICH	**Cipreses**	**1.83**	**10**	⇑*i*P	Pn	00 26 18.8	+0.3
CACH	**El Canelo**	**2.01**	**5**	⇑*i*P	Pn	00 26 20.9	+0.6
CACH				*i* S	Sn	00 26 52.1	+1.3
CHCH	**Chadas Angostu**	**2.19**	**3**	*e*P	Pn	00 26 22.6	+0.4
CHCH				*i* S	Sn	00 26 55.2	+1.0
LNV	**Longovilo**	**2.23**	**347**	⇑*i*P	Pn	00 26 23.6	+1.1
LNV				*i* S	Sn	00 26 54.7	-0.2
LMEL	**Las Melosas**	**2.33**	**12**	⇓*i*P	Pn	00 26 24.3	+0.7
LMEL				*i* S	Sn	00 26 59.4	+2.7
LMEL				AML	AML	00 27 05.8	
	comp=N,563nm,0.1s						
LMEL	**Las Melosas**	**2.33**	**12**	⇓*i*P	Pn	00 26 24.3	+0.7
LMEL				*i* S	Sn	00 26 59.4	+2.7
TACH	**Talagante**	**2.47**	**357**	*i* P	Pn	00 26 26.2	+1.0
TACH				*i* S	Sn	00 27 00.2	+0.6
SJCH	**San Jose de Ma**	**2.51**	**8**	*i* P	Pn	00 26 26.3	+0.7
SJCH				*i* S	Sn	00 27 01.2	+0.9
SJCH				AML	AML	00 27 06.1	
	comp=N,143nm,0.4s						
SJCH	**San Jose de Ma**	**2.51**	**8**	*i* P	Pn	00 26 26.3	+0.7
SJCH				*i* S	Sn	00 27 01.2	+0.9
PCH	**Pirque**	**2.51**	**5**	⇓*i*P	Pn	00 26 26.9	+1.3
PCH				*i* S	Sn	00 27 01.5	+1.1
ANTU	**Antumapu**	**2.56**	**3**	⇑*i*P	Pn	00 26 26.6	+0.5
ANTU				*i* S	Sn	00 27 01.9	+0.7
ANTU				AML	AML	00 27 03.2	
	comp=N,302nm,0.2s						
ANTU	**Antumapu**	**2.56**	**3**	⇑*i*P	Pn	00 26 26.6	+0.5
ANTU				*i* S	Sn	00 27 01.9	+0.7
CLCH	**Cerro Calan**	**2.73**	**4**	⇑*i*P	Pn	00 26 29.1	+1.0
CLCH				*i* S	Sn	00 27 05.6	+0.8
CLCH				AML	AML	00 27 07.1	
	comp=E,510nm,0.3s						
CLCH				AML	AML	00 27 07.2	
	comp=E,601nm,0.4s						
FCH	**Farellones**	**2.82**	**9**	*i* S	Sn	00 27 08.2	+1.5
FCH				AML	AML	00 27 08.9	
	comp=N,357nm,0.3s						
PEL	**Peldehue**	**2.98**	**2**	⇓*i*P	Pn	00 26 31.9	+1.0
PEL				*i* S	Sn	00 27 10.2	+0.3
PEL				AML	AML	00 27 12.9	
	comp=E,550nm,0.4s						
ROCH	**El Roble**	**3.15**	**357**	*i* S	Sn	00 27 14.7	+1.1
JACH	**Jahuel**	**3.44**	**3**	*e*P	Pn	00 26 38.0	+1.6
JACH				*i* S	Sn	00 27 20.9	+1.2
CHNG	**Los Chungos**	**4.28**	**352**	*i* S	Sn	00 27 38.0	-0.2
CHNG				AML	AML	00 27 42.0	
	comp=E,101nm,0.3s						

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*ISCJB **06** 00:26:29.9±1.1, 275S±003×141.63E±003, h2km±6km, mb5.3/115, MS4.8/38, Error ellipse: s-maj=5.7km s-min=4.3km az=178.6*
*BJI **06** 00:26:33.2, 268S×142.06E, h34km, mB5.7, mb5.2, Ms5.1, Msz4.9*
*MOS **06** 00:26:34.0±1.2, 270S×141.51E, h25km, mb5.5/35, MS5.0/7, Error ellipse: s-maj=10.4km s-min=5.3km az=103.7*
*GCMT **06** 00:26:35.2±0.1, 269S×141.66E, h12km, MW5.4/92, Moment Tensor Solution. s63,c97; s92,c152; Duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.31±.02; $M_{\theta\theta}$-0.54±.02; $M_{\phi\phi}$-0.77±.02; $M_{r\theta}$-0.58±.07; $M_{\theta\phi}$0.89±.02; M_{rr}0.69±.06; Best double couple: $M_0$1.69200×10^{17} NP1:ϕ_s138.00000°, δ29.00000°, λ88.00000°. NP2: ϕ_s320.00000°, δ61.00000°, λ91.00000°. Principal axes: T 1.5690, Plg74.0000°, Azm232.0000°; N 0.2440, Plg1.0000°, Azm139.0000°; P -1.8160, Plg16.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 00:26:35.2±1.4, 275S×141.61E, h26km±9km, mb5.4/54 Error ellipse: s-maj=4.7km s-min=3.7km az=77.0*
*IDC **06** 00:26:36.1±3.2, 285S×141.51E, h33km±24km, mb4.9/21, mb1 5.0/26, mb1mx5.0/27, mbtmp5.0/26, ML4.9/5, MS5.0/13, Ms1 5.0/13, ms1mx4.7/22, Error ellipse: s-maj=13.9km s-min=7.7km az=103.0*
*DJA **06** 00:26:41, 281S×141.72E, h54km, mB6.1/4*
ISC 06 00:26:32.9±1.3, 275S±003×14165E±003, h10km±8km, h35km±1.0km: pP-P, n373, σ1§06/269, mb5.3/115, MS4.8/38, 19C-16D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.58**	**141**	*e*P	**Pn**	**00 28 40.4**	**+3.2**
TLE	**Tual**	**9.34**	**252**	⇓*e*P	**Pn**	**00 28 52.0**	**+4.3**
COEN	**Coen**	**11.23**	**172**	*e*Pn	**Pn**	**00 29 15.0**	**+1.4**
	98nm,1.1s						
KAKA	**Kakadu**	**13.46**	**222**	*e*P	**Pn**	**00 29 42.6**	**-1.4**
	129nm,0.4s						
KAKA				*e*S	**Sn**	**00 32 07.1**	**-6.6**
TNE	**Ternate**	**14.71**	**284**	⇓*e*P	**Pn**	**00 30 02.0**	**+0.9**
GUMO	**Guam**	**16.55**	**11**	Pn	**Pn**	**00 30 26.3**	**+1.2**
	3.9nm,0.3s,baz=210,slow=21,SNR=3.8						
GUMO				Sn	**Sn**	**00 33 27.4**	**-1.5**
	3.6nm,0.3s,baz=18,slow=20,SNR=2.0						
GUMO	**Guam**	**16.55**	**11**	*e*P	**Pn**	**00 30 25.2**	**+0.1**
GUMO				pmax	pmax		
	comp=Z,199nm,1.2s						
GUMO	**Guam**	**16.55**	**11**	*e*Pn	**Pn**	**00 30 25.2**	**+0.1**
	comp=Z,199nm,1.2s						
CTA	**Charters Tower**	**17.80**	**166**	*e*P	**Pn**	**00 30 45.0**	**+4.1**
	comp=Z,40nm,0.9s						
CTA				*e*S	**Sn**	**00 34 11.9**	**+12**
CTA	**Charters Tower**	**17.80**	**166**	P	**Pn**	**00 30 40.7**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=137,slow=18,SNR=5.1						
CTA				S	**Sn**	**00 34 02.5**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=297,slow=11,SNR=1.8						
CTA				Lg		00 35 55.2	
	comp=Z,0.3nm,0.3s,baz=241,slow=12,SNR=3.1						
CTA				LR	LR	00 37 36.2	
	comp=Z,5μm,19.9s,baz=352,slow=37						
CTA	**Charters Tower**	**17.80**	**166**	P	**Pn**	**00 30 40.7**	**-0.2**
CTA				S	**Sn**	**00 34 02.6**	**+3.1**
CTA	**Charters Tower**	**17.80**	**166**	P	**Pn**	**00 30 40.7**	**-0.2**
CTA				S	**Sn**	**00 34 02.5**	**+3.1**
CTA				Lg		00 35 55.2	
CTA				LR	LR	00 37 36.2	
CTAO	**Charters Tower**	**17.80**	**166**	*e*P	**Pn**	**00 30 41.7**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,143nm,1.3s						
CTAO	**Charters Tower**	**17.80**	**166**	*e*Pn	**Pn**	**00 30 41.7**	**+0.8**
	comp=Z,144nm,1.3s						
WRAB	**Tennant Creek**	**18.50**	**202**	*e*P	**Pn**	**00 30 49.7**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,227nm,1.0s						
WRAB	**Tennant Creek**	**18.50**	**202**	*e*P	**Pn**	**00 30 49.7**	**+0.2**
	comp=Z,228nm,1.0s						
WB2	**Warramunga Arr**	**18.51**	**202**	*e*P	**Pn**	**00 30 48.7**	**-0.9**
WB2				*e*S	**Sn**	**00 34 05.1**	**-12**
WRA	**Warramunga Arr**	**18.52**	**202**	P	**Pn**	**00 30 48.5**	**-1.1**
	comp=Z,4.2nm,0.3s,baz=29,slow=11,SNR=108						
WRA				S	**Sn**	**00 34 13.6**	**-3.1**
	baz=16,slow=20,SNR=5.8						
WRA				Lg		00 36 17.9	
	comp=Z,0.5nm,0.3s,baz=23,slow=26,SNR=3.9						
WRA				LR	LR	00 38 29.6	
	comp=Z,15μm,18.6s,baz=20,slow=39						
WRA	**Warramunga Arr**	**18.52**	**202**	P	**Pn**	**00 30 48.5**	**-1.1**
WRA				S	**Sn**	**00 34 13.6**	**-3.1**
KDI	**Kendari**	**19.04**	**266**	⇑*e*P	**Pn**	**00 30 55.9**	**-0.2**
KDI				*e*S	**Sn**	**00 34 34.9**	**+5.4**
BATI	**Baumata**	**19.34**	**247**	P	**Pn**	**00 30 57.5**	**-2.2**
	comp=Z,8.8nm,0.3s,baz=30,slow=1.0,SNR=8.1						
HNR	**Honiara**	**19.35**	**111**	P	**Pn**	**00 30 58.3**	**-1.5**
	comp=Z,11nm,0.3s,baz=250,slow=2.8,SNR=16						
HNR	**Honiara**	**19.35**	**111**	*e*P	**Pn**	**00 30 58.4**	**-1.4**
HNR				pmax	pmax		
	comp=Z,800nm,0.9s						
HNR	**Honiara**	**19.35**	**111**	*e*P	**Pn**	**00 30 58.4**	**-1.5**
	comp=Z,800nm,0.9s						
TBP	**Tagbilaran**	**21.61**	**305**	*e*P	**P**	**00 31 22.0**	**-1.2**
PCI	**Palu**	**21.88**	**274**	⇓*e*P	**P**	**00 31 29.0**	**+2.8**
	comp=Z,9.0nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**21.89**	**225**	*e*P	**P**	**00 31 24.7**	**-1.5**
	comp=Z,135nm,0.7s,mb5.5						
FITZ				*e*S	**S**	**00 35 27.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.89**	**225**	P	**P**	**00 31 24.9**	**-1.3**
	comp=Z,93nm,0.8s,mb5.2,baz=47,slow=12,SNR=51						
FITZ				S	**S**	**00 35 24.2**	**-4.0**
	comp=Z,66nm,1.0s,baz=86,slow=20,SNR=4.7						
FITZ				LR	LR	00 40 27.2	
	comp=Z,8μm,20.4s,MS5.1,baz=44,slow=38						
KAPI	**Kappang**	**21.96**	**263**	P	**P**	**00 31 26.2**	**-0.9**
	comp=Z,14nm,0.8s,mb4.4,baz=232,slow=17,SNR=3.0						
KAPI	**Kappang**	**21.96**	**263**	*e*P	**P**	**00 31 28.5**	**+1.4**
	comp=Z,158nm,1.1s,mb5.4						
ASAR	**Alice Springs**	**22.10**	**199**	P	**P**	**00 31 27.6**	**-0.7**
	comp=Z,89nm,1.0s,mb5.1,baz=34,slow=8.4,SNR=114						
ASAR				S	**S**	**00 35 24.3**	**-7.8**
	comp=Z,7.3nm,1.1s,baz=39,slow=8.1,SNR=2.8						
MKS	**Makassar**	**22.26**	**263**	⇑*e*P	**P**	**00 31 35.7**	**+5.4**
MKS				*e*S	**S**	**00 35 39.6**	**+4.0**
MYLDM	**Lahad Datu**	**24.44**	**289**	⇓P	**P**	**00 31 54.6**	**+2.6**
TSM	**Tawau**	**24.77**	**286**	⇓P	**P**	**00 31 56.3**	**+1.3**
SDKM	**Sandakan**	**25.81**	**289**	⇑P	**P**	**00 32 04.8**	**+0.3**
KDM	**Kudat**	**26.57**	**291**	⇑P	**P**	**00 32 16.6**	**+5.3**
KKM	**Kota Kinabalu**	**26.86**	**289**	⇓P	**P**	**00 32 14.8**	**+0.7**
KKM	**Kota Kinabalu**	**26.86**	**289**	*e*P	**P**	**00 32 13.8**	**-0.3**
MBWA	**Marble Bar**	**28.11**	**228**	*e*P	**P**	**00 32 24.4**	**-0.8**
	comp=Z,89nm,1.1s,mb5.3						
STKA	**Stephens Creek**	**28.97**	**180**	*e*P	**P**	**00 32 32.1**	**-0.5**
	comp=Z,34nm,0.9s,mb5.1						
STKA				*e*S	**S**	**00 37 26.0**	**+2.5**
STKA	**Stephens Creek**	**28.97**	**180**	P	**P**	**00 32 32.1**	**-0.5**
	comp=Z,61nm,1.0s,mb5.3,baz=351,slow=8.1,SNR=49						
STKA				LR	LR	00 46 16.0	
	comp=Z,3μm,18.0s,MS4.9,baz=354,slow=41						
ARMA	**Armidale**	**29.09**	**162**	*e*P	**P**	**00 32 35.0**	**+1.3**

comp=Z,9.9nm,0.9s,mb4.5,baz=174,slow=8.5,SNR=12
MJAR LR LR 00 49 30.7
comp=Z,659nm,18.5s,MS4.5,baz=185,slow=35
MAJO Matsushiro 39.23 356 *e*P **P 00 33 59.8 -1.6**
MAJO pmax pmax
comp=Z,25nm,0.8s,mb5.0
MAJO Matsushiro 39.23 356 *e*P **P 00 33 59.8 -1.5**
comp=Z,25nm,0.8s,mb5.0
MAT Matsushiro 39.23 356 P **P 00 33 59.2 -2.2**
MAT S **S 00 39 53.0 -8.8**
KTGM Kuala Trenggan 39.31 282 ⇑P **P 00 34 01.3 -1.1**
TAU Tasmania Unive 40.30 174 *e*P **P 00 34 10.3 0.0**
TAU pmax pmax
comp=Z,93nm,1.2s,mb5.4
TAU Tasmania Unive 40.30 174 *e*P **P 00 34 10.3 +0.1**
comp=Z,93nm,1.2s,mb5.4
FRIM Kepong 40.45 278 ⇓P **P 00 34 11.2 -0.8**
NJ2 Nanjing 40.82 330 *e*P **P 00 34 15.1 +0.4**
NJ2 AP pP 00 34 25.2 +7.2
NJ2 XP sP 00 34 29.9 +11
NJ2 PCP PcP 00 36 16.0 +0.3
NJ2 S **S 00 40 22.5 -3.4**
NJ2 XS sS 00 40 39.0 +7.8
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,340nm,10.3s
NJ2 LR LR
comp=N,580nm,28.0s
NJ2 LR LR
comp=E,470nm,17.4s
NJ2 LR LR
comp=Z,470nm,17.5s
IPM Ipoh 41.23 280 ⇓P **P 00 34 19.1 +0.7**
KULM Kulim 41.73 281 ⇑P **P 00 34 21.7 -0.8**
KSRS Korea Array 41.99 344 P **P 00 34 22.8 -1.4**
comp=Z,9.8nm,1.0s,mb4.4,baz=166,slow=9.1,SNR=12
KSRS PcP PcP 00 36 19.1 -0.3
comp=Z,4.2nm,0.8s,baz=164,slow=4.0,SNR=9.1
WHN Wuhan 42.13 324 ⇑P **P 00 34 27.5 +2.0**
WHN S **S 00 40 46.1 +0.8**
WHN LR LR
comp=N,949nm,19.6s
WHN LR LR
comp=E,1μm,13.8s
WHN LR LR
comp=Z,2μm,22.3s,MS4.9
PSI Prapat 43.07 277 P **P 00 34 30.6 -2.8**
comp=Z,30nm,0.9s,mb5.0,baz=288,slow=22,SNR=5.8
PSI Prapat 43.07 277 ⇑*e*P **P 00 34 31.9 -1.5**
GYA Guiyang 44.57 313 ⇑*i*P **P 00 34 47.2 +1.9**
GYA AP pP 00 34 58.8 +10
GYA XP sP 00 35 03.7 +14
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,140nm,4.9s
GYA LR LR
comp=N,870nm,18.6s,MS4.8
GYA LR LR
comp=E,640nm,17.7s,MS4.8
GYA LR LR
comp=Z,660nm,18.9s,MS4.6
DL2 Dalian 45.38 338 *i*P **P 00 34 52.2 +0.7**
DL2 AP pP 00 35 00.9 +6.1
DL2 S **S 00 41 32.4 -0.2**
DL2 SS SS 00 44 48.4 -8.1
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
DL2 AMB AMB
comp=Z,210nm,4.5s
DL2 LR LR
comp=N,260nm,15.8s,MS4.5
DL2 LR LR
comp=E,340nm,14.4s,MS4.5
DL2 LR LR
comp=Z,380nm,17.6s,MS4.4
VLA Vladivostok 46.50 350 *e*P **P 00 35 00.4 +0.1**
VLA pmax pmax
comp=Z,57nm,1.3s,mb5.3
VLA MLR MLR
comp=Z,700nm,15.0s,MS4.7
VLA Vladivostok 46.50 350 *i*P **P 00 35 01.8 +1.5**
KMI Kunming 46.81 309 P **P 00 35 05.3 +2.2**
KMI AP pP 00 35 13.4 +7.1
KMI XP sP 00 35 16.7 +9.1
KMI AMB AMB
comp=Z,52nm,1.4s,mb5.3
KMI AMB AMB
comp=Z,276nm,3.9s
KMI LR LR
comp=N,770nm,16.3s,MS4.8
KMI LR LR
comp=E,720nm,20.0s,MS4.8
KMI LR LR
comp=Z,1μm,22.4s,MS4.7
CM31 Chiang Mai Arr 47.03 298 *e*P **P 00 35 04.4 -0.4**
comp=Z,21nm,0.9s,mb5.1
CMAR Chiang Mai Arr 47.03 298 P **P 00 35 03.8 -1.1**
comp=Z,4.9nm,0.8s,mb4.5,baz=120,slow=6.2,SNR=16
CMAR PcP PcP 00 36 38.8 +1.7
comp=Z,7.8nm,0.9s,baz=123,slow=2.1,SNR=6.3
CHTO Chiang Mai 47.16 299 *e*P **P 00 35 05.9 0.0**
CHTO pmax pmax
comp=Z,16nm,1.0s,mb4.9
CHTO Chiang Mai 47.16 299 *e*P **P 00 35 05.9 0.0**
comp=Z,16nm,1.0s,mb4.9
SNY Shenyang 47.31 342 ⇓P **P 00 35 06.7 0.0**
SNY S **S 00 42 02.4 +2.2**
SNY AMB AMB
comp=Z,40nm,2.3s,mb4.9
SNY AMB AMB
comp=Z,459nm,4.7s
SNY LR LR
comp=N,896nm,15.9s,MS5.0
SNY LR LR
comp=E,681nm,11.2s,MS5.0
SNY LR LR
comp=Z,749nm,17.6s
XAN Xi'an 47.84 323 P **P 00 35 10.7 -0.2**
XAN AP pP 00 35 21.1 +6.9
XAN S **S 00 42 06.9 -1.1**
XAN XS sS 00 42 22.3 +8.9
XAN AMB AMB
comp=Z,24nm,1.5s,mb5.0
XAN AMB AMB
comp=Z,361nm,5.5s
XAN LR LR
comp=N,211nm,16.0s,MS4.6
XAN LR LR
comp=E,507nm,19.2s,MS4.6
XAN LR LR
comp=Z,932nm,24.8s
MDJ Mudanjiang 48.38 348 P **P 00 35 14.7 -0.2**
MDJ AP pP 00 35 23.7 +5.6
MDJ XP sP 00 35 27.7 +8.3
MDJ PP PP 00 37 09.0 +1.4
MDJ SCP ScP 00 40 31.3 -5.0
MDJ PCS PcS 00 40 34.9 -2.2
MDJ S **S 00 42 17.1 +1.9**
MDJ XS sS 00 42 28.0 +7.4
MDJ AMB AMB
comp=Z,11nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,318nm,4.3s
MDJ LR LR
comp=N,711nm,18.4s,MS4.7
MDJ LR LR
comp=E,356nm,18.4s,MS4.7
MDJ LR LR
comp=Z,1μm,21.5s,MS4.8
MDJ Mudanjiang 48.38 348 *e*P **P 00 35 14.9 +0.1**
comp=Z,18nm,0.9s,mb5.1
TIY Taiyuan 48.52 329 ⇑*i*P **P 00 35 17.5 +1.4**
TIY AP pP 00 35 26.5 +7.1
TIY PP PP 00 37 09.1 0.0
TIY S **S 00 42 20.4 +2.9**
TIY AMB AMB
comp=Z,363nm,3.6s
TIY LR LR
comp=N,913nm,16.1s,MS4.9
TIY LR LR
comp=E,544nm,15.4s,MS4.9
TIY LR LR
comp=Z,1μm,19.4s,MS4.9
BJT Baijiatuau 48.56 334 *e*P **P 00 35 16.2 -0.1**
BJT pmax pmax
comp=Z,46nm,1.2s
BJT Baijiatuau 48.56 334 *e*P **P 00 35 16.2 -0.1**
comp=Z,46nm,1.2s,mb5.4
BJI Beijing 48.57 334 P **P 00 35 15.9 -0.5**
BJI AMB AMB
comp=Z,23nm,1.6s,mb5.0
BJI AMB AMB
comp=Z,596nm,3.4s
BJI LR LR
comp=N,627nm,25.3s
BJI LR LR
comp=E,730nm,19.2s
BJI LR LR
comp=Z,604nm,22.6s,MS4.5
CN2 Changchun 48.58 344 *e*P **P 00 35 15.7 -0.7**
CN2 *e*AP pP 00 35 26.7 +7.0
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,18.0s,MS4.8
CN2 LR LR
comp=E,600nm,18.0s,MS4.8
CN2 LR LR
comp=Z,600nm,19.0s,MS4.6
CD2 Chengdu 49.23 316 P **P 00 35 22.2 +0.6**
CD2 AP pP 00 35 32.0 +7.1
CD2 XP sP 00 35 36.3 +10
CD2 AMB AMB
comp=Z,50nm,0.8s,mb5.6
CD2 AMB AMB
comp=Z,540nm,4.0s
CD2 LR LR
comp=N,1μm,19.8s,MS5.1
CD2 LR LR
comp=E,1μm,18.4s,MS5.1
CD2 LR LR
comp=Z,1μm,21.0s,MS4.8
YSS Yuzh-Sakhalins 49.51 1 ⇑*i*P **P 00 35 22.0 -1.5**
YSS *e*PPP 00 37 18.0
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS pmax pmax
comp=Z,600nm,4.0s
YSS Yuzh-Sakhalins 49.51 1 *e*P **P 00 35 22.6 -0.8**
comp=Z,41nm,0.9s,mb5.5
HHC Hu-ho-hao-te 51.35 331 *e*P **P 00 35 39.0 +1.4**
HHC AP pP 00 35 49.4 +8.5
HHC XP sP 00 35 53.0 +11
HHC PCP PcP 00 36 52.5 +0.2
HHC AMB AMB
comp=Z,27nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,405nm,4.6s
HHC LR LR
comp=N,1μm,20.2s,MS5.0
HHC LR LR
comp=E,693nm,16.7s,MS5.0
HHC LR LR
comp=Z,1μm,20.2s,MS5.0
BTO Baotou 51.93 330 *e*P **P 00 35 40.8 -1.1**
LZH Lanzhou 52.32 321 *e*P **P 00 35 47.0 +2.1**
LZH AP pP 00 35 59.2 +11
LZH XP sP 00 36 04.4 +15
LZH AMB AMB
comp=Z,139nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,590nm,4.5s
LZH LR LR
comp=E,800nm,14.8s
LZH LR LR
comp=Z,2μm,18.0s,MS5.1
KLR Kul'dur 52.48 352 *e*P **P 00 35 41.3 -4.5**
KLR pmax pmax
comp=Z,430nm,3.0s
KLR MLR MLR
comp=N,1μm,15.0s
HIA Hailar 55.18 343 *e*P **P 00 36 05.9 +0.3**
HIA pmax pmax
comp=Z,52nm,1.3s
HIA Hailar 55.18 343 *e*P **P 00 36 05.9 +0.3**
comp=Z,52nm,1.3s,mb5.4
PETK Petropavlovsk- 57.27 11 P **P 00 36 20.2 -0.2**
comp=Z,12nm,0.8s,mb5.0,baz=170,slow=4.1,SNR=9.7
PETK LR LR 00 56 10.9
comp=Z,887nm,21.2s,MS4.8,baz=206,slow=31
LSA Lhasa 58.05 308 *e*P **P 00 36 28.3 +1.9**
LSA pmax pmax
comp=Z,59nm,1.1s,mb5.5
LSA Lhasa 58.05 308 *e*P **P 00 36 28.3 +1.9**
comp=Z,59nm,1.1s,mb5.5
SONM Songino Array 59.05 333 P **P 00 36 33.4 +0.4**
comp=Z,7.2nm,1.0s,mb4.7,baz=154,slow=7.6,SNR=17
TAPN Taplejung 59.92 304 *e*P **P 00 36 40.3 +0.8**
comp=Z,164nm,1.2s,mb5.9
ODAN Odare 60.02 303 *e*P **P 00 36 40.5 +0.4**
comp=Z,130nm,1.1s,mb5.9
RAMN Ramite 60.71 303 *e*P **P 00 36 45.2 +0.3**
comp=Z,96nm,1.0s,mb5.9
CLNS Chul'man 60.94 350 *e*P **P 00 36 46.1 +0.3**
CLNS *e**PP pP 00 36 56.1 +7.0
CLNS *e* 00 37 29.3
CLNS *e* 00 39 00.2
CLNS *e*PPP 00 40 29.1
CLNS *e*S **S 00 45 04.3 +0.6**
CLNS pmax pmax
comp=Z,22nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,14nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,15nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS smax
comp=N,92nm,11.8s
CLNS smax
comp=E,251nm,15.5s
JIRN Jiri 61.30 304 *e*P **P 00 36 49.5 +0.6**
comp=E,219nm,1.5s,mb6.1
PALK Pallekele 61.63 280 *e*P **P 00 36 51.3 -0.1**
comp=E,56nm,1.0s,mb5.7
GUN Gumba 61.64 304 *e*P **P 00 36 51.9 +0.7**
comp=E,271nm,1.2s,mb6.2
PKI Pulchoki 61.92 303 *e*P **P 00 36 53.1 0.0**
comp=E,113nm,1.2s,mb5.9
KKN Kakani 62.10 303 *e*P **P 00 36 54.7 +0.4**
comp=E,230nm,1.3s,mb6.1
DMN Daman 62.18 303 *e*P **P 00 36 55.0 +0.2**
comp=E,205nm,1.1s,mb6.2
ZAK Zakamensk 62.31 333 ⇑*i*P **P 00 36 53.4 -1.8**
ZAK pmax pmax
comp=Z,34nm,1.8s,mb5.2
GKN Gorkha 62.71 303 *e*P **P 00 36 58.6 +0.3**
TLY Talaya 63.09 335*c*/*i*P **P 00 37 00.5 +0.2**
TLY *e* 00 39 17.3
TLY *e*S **S 00 45 34.2 +3.1**
TLY pmax pmax
comp=Z,17nm,0.8s,mb5.2
TLY Talaya 63.09 335 *e*P **P 00 37 00.5 +0.2**
comp=Z,38nm,1.3s,mb5.4
BLSP Bilaspur 63.13 296 *e*P **P 00 37 00.7 -0.6**
BLSP AMb AMB 00 37 08.2
comp=Z,44nm,1.1s,mb5.5
IRK Irkutsk 63.23 335 ⇓*i*P **P 00 37 01.6 +0.3**
IRK *e* 00 37 38.9
IRK pmax pmax
comp=Z,95nm,2.4s,mb5.5
KOLN Koldanda 63.50 303 *e*P **P 00 37 04.1 +0.5**
comp=Z,57nm,0.7s,mb5.8
DANN Dangsing 63.55 304 *e*P **P 00 37 04.4 +0.5**
comp=Z,118nm,0.7s,mb6.0
MOY Mondy 64.24 333 *e*P **P 00 37 08.9 +0.9**
MOY pmax pmax
comp=Z,138nm,3.4s
BOD Bodaibo 64.33 344 *e*P **P 00 37 06.8 -1.6**
BOD pmax pmax
comp=Z,14nm,1.4s,mb4.8
KOD Kodaikanal 65.19 283 *e*P **P 00 37 15.0 +0.1**
YAK Yakutsk 65.25 354 *e*P **P 00 37 14.0 -0.4**
YAK *e**PP pP 00 37 22.6 +4.9
YAK *e* 00 37 45.5
YAK *e*PPP 00 41 13.2
YAK *e*S S 00 45 57.9 +0.3
YAK *e**SS sS 00 46 15.4 +12
YAK *e* 00 47 06.7
YAK *e*SS SS 00 50 05.7 -4.9
YAK *e*SSS 00 53 09.1
YAK pmax pmax
comp=Z,57nm,1.3s,mb5.4
YAK pmax pmax
comp=N,37nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,36nm,1.0s,mb5.4
YAK smax
comp=N,298nm,5.9s
YAK smax
comp=E,206nm,5.5s
YAK Yakutsk 65.25 354 *e*P **P 00 37 14.9 +0.5**
comp=E,106nm,1.4s,mb5.7
NGP Nagpur 65.67 295 *e*P **P 00 37 16.3 -1.6**
NGP AMb AMB 00 37 21.4
comp=Z,53nm,1.0s,mb5.5
SEY Seymchan 66.01 5 ⇑*e*P **P 00 37 18.6 -0.7**
WMQ Urumqi 66.89 320 P **P 00 37 27.0 +1.7**
WMQ AP pP 00 37 37.3 +8.6
WMQ XP sP 00 37 41.3 +11
WMQ PCP PcP 00 37 55.5 +1.6
WMQ PP PP 00 39 56.1 +3.3
WMQ SCP 00 41 55.2
WMQ S S 00 46 16.1 -2.2
WMQ SCS ScS 00 47 18.0 -4.9
WMQ SS SS 00 50 36.0 -0.8
WMQ AMB AMB
comp=Z,66nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,167nm,9.9s
WMQ LR LR
comp=N,845nm,20.7s,MS5.0
WMQ LR LR
comp=E,642nm,23.4s,MS5.0
WMQ LR LR
comp=Z,911nm,28.0s,MS4.8
CASY Casey 67.07 193 *e*P **P 00 37 25.4 -0.6**
HVS Khovu-Aksy 67.39 330 *i*P **P 00 37 29.0 +0.7**
HVS pmax pmax
comp=Z,1μm,1.7s
LATR Latur 67.39 291 *e*P **P 00 37 28.1 -0.9**
LATR AMb AMB 00 37 30.4
comp=Z,45nm,1.1s,mb5.4
AKL Akola 67.43 294 *e*P **P 00 37 28.5 -0.7**
DDI Dehra Dun 68.89 304 *e*P **P 00 37 37.2 -1.0**
PPT Papeete 68.94 108 *e*P **P 00 37 40.0 +1.3**
comp=Z,61nm,1.4s,mb5.3
PPT *e*S S 00 46 41.2 -2.5
comp=Z,697nm,25.2s
PPT *e*LQ 00 55 42.6
comp=Z,1μm,32.0s
PPT *e*LR LR 00 58 33.1
comp=Z,1μm,29.8s
PPT Papeete 68.94 108 LR LR 01 04 45.6
comp=Z,658nm,18.7s,MS4.9,baz=275,slow=33
PPT Papeete 68.94 108 *e*P **P 00 37 40.0 +1.3**
PPT *e*S S 00 46 41.2 -2.5
PPT pmax pmax
comp=Z,61nm,1.4s
PPT Papeete 68.94 108 *e*P **P 00 37 40.0 +1.3**
comp=Z,61nm,1.4s,mb5.3
PPT *e*S S 00 46 41.2 -2.5
PPT *e*LQ 00 55 42.6
PAE Paea 68.94 108 *e*P **P 00 37 39.7 +1.0**
comp=Z,218nm,1.1s,mb6.0
PAE Paea 68.94 108 *e*P **P 00 37 39.7 +1.0**
PAE pmax pmax
comp=Z,218nm,1.1s,mb6.0
NDI New Delhi 69.15 302 *e*P **P 00 37 38.0 -1.8**
NDI *e*P 00 37 39.0
TIAR Tiarei 69.16 108 *e*P **P 00 37 41.2 +1.1**
comp=Z,708nm,1.2s,mb6.5
KAD Karad 69.42 290 *e*P **P 00 37 40.8 -0.9**
KAD AMb AMB 00 38 05.5
comp=Z,72nm,1.4s,mb5.4
TBI Tubuai 69.54 114 *e*S S 00 46 48.6 -2.1
comp=Z,440nm,27.8s
TBI *e*SS SS 00 51 04.4 -14
comp=Z,334nm,27.5s
TBI *e*LQ 00 55 53.5
comp=Z,449nm,52.2s
TBI *e*LR LR 00 58 48.5
comp=Z,686nm,27.5s
SMLA Simla 69.86 304 *e*P **P 00 37 44.1 -0.1**
SMLA AMb AMB 00 37 51.0
comp=Z,91nm,1.2s,mb5.6
POO Poona 69.94 291 *e*P **P 00 37 44.3 -0.6**
PMOR Pomariorio Ree 70.41 105 *e*P **P 00 37 49.0 +1.1**
comp=Z,129nm,1.2s,mb5.7
MK31 Makanchi Array 71.64 321 *i*P **P 00 37 54.6 0.0**
MK31 pmax pmax
comp=Z,96nm,1.0s,mb5.7
MK31 Makanchi Array 71.64 321 *e*P **P 00 37 54.8 +0.1**
MKAR Makanchi Array 71.64 321 P **P 00 37 54.9 +0.3**
comp=Z,30nm,0.8s,mb5.3,baz=111,slow=7.0,SNR=87
MKAR PKKP 00 57 28.1
comp=Z,0.6nm,0.4s,baz=173,slow=12,SNR=6.5
MKAR Makanchi Array 71.64 321 P **P 00 37 54.9 +0.3**
MKAR PKKP 00 57 28.1
MIR Mirnyy 72.07 198 ⇑*i*P **P 00 37 57.0 +0.1**
MIR *i* 00 38 07.0
MIR pmax pmax
comp=Z,400nm,1.2s,mb6.2
BILL Bilibino 72.70 9 ⇓*e*P **P 00 38 00.2 -0.4**
BILL *e* 00 40 39.4
BILL pmax pmax
comp=Z,11nm,0.7s,mb4.9
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.4
BILL Bilibino 72.70 9 ⇑*e*P **P 00 38 01.9 +1.3**
KSH Kashi 73.26 313 *e*P **P 00 38 06.6 +2.1**
KSH *e*AP pP 00 38 16.9 +9.0
KSH XP sP 00 38 21.8 +13
KSH PP PP 00 40 52.1 +4.2
KSH S S 00 47 32.5 -0.6
KSH XS sS 00 47 49.0 +10
KSH SKS 00 48 05.5
KSH SCS ScS 00 48 09.3 -4.0
KSH SS SS 00 52 17.7 +2.6
KSH AMB AMB
comp=Z,197nm,1.1s,mb6.0
KSH AMB AMB
comp=Z,1μm,3.5s
KSH LR LR
comp=N,652nm,5.0s
KSH LR LR
comp=E,1μm,6.2s
KSH LR LR
comp=Z,873nm,6.9s
ZAA0 Zalesovo Array 73.47 329 *e*P **P 00 38 04.7 -0.7**
ZALV Zalesovo Beam 73.47 329 P **P 00 38 04.8 -0.7**
comp=Z,18nm,0.8s,mb5.1,baz=116,slow=6.8,SNR=24
ZAL Zalesovo 73.47 329 P **P 00 38 04.8 -0.6**
ULHL Ulahol 73.94 315 P **P 00 38 09.3 +0.8**
SNR=15
KZA Kyzart 74.58 315 P **P 00 38 14.0 +1.8**
SNR=109
NVS Novosibirsk 74.71 329 *i*P **P 00 38 11.2 -1.5**
NVS *i*S S 00 47 48.9 +0.1
NVS pmax pmax
comp=Z,72nm,1.3s,mb5.4
NVS pmax pmax
comp=N,46nm,1.4s
NVS pmax pmax
comp=E,57nm,1.2s
NVS smax
comp=N,31nm,2.5s
NVS smax
comp=E,180nm,3.8s
TIXI Tiksi 74.73 356 *e*P **P 00 38 11.2 -1.3**
TIXI *e*S S 00 47 45.4 -3.1
TIXI pmax pmax
comp=Z,22nm,1.9s,mb4.8
TIXI MLR MLR
comp=Z,1μm,20.0s,MS5.1
TIXI Tiksi 74.73 356 *e*P **P 00 38 12.5 0.0**
comp=Z,6.9nm,0.7s,mb4.7

KBK Karagaybulak 74.98 315 P **P 00 38 15.7 +1.2**
SNR=16
UCH Uchtor 75.15 315 P **P 00 38 17.5 +2.0**
SNR=11
UCH Uchtor 75.15 315 *e*P **P 00 38 17.0 +1.5**
comp=Z,41nm,1.1s,mb5.3
CHMS Chumysh 75.22 316 P **P 00 38 16.1 +0.3**
SNR=24
FRU Bishkek 75.27 316 *e*P **P 00 38 16.0 -0.1**
FRU *e* 00 38 22.0
FRU pmax pmax
comp=Z,80nm,1.8s,mb5.3
AAK Ala-Archa 75.29 315 P **P 00 38 17.1 +0.8**
SNR=14
KURK Kurchatov 75.46 324 *e*P **P 00 38 16.7 -0.3**
KURK pmax pmax
comp=Z,77nm,1.2s,mb5.5
KURK Kurchatov 75.46 324 *e*P **P 00 38 16.7 -0.3**
comp=Z,77nm,1.2s,mb5.5
USP Ospenovka 75.48 316 P **P 00 38 17.7 +0.3**
SNR=44
VNDA Vanda 75.49 176 P **P 00 38 16.7 -0.1**
comp=Z,17nm,0.8s,mb5.0,baz=327,slow=6.5,SNR=76
VNDA LR LR 01 11 03.4
comp=Z,1μm,18.2s,MS5.2,baz=79,slow=35
VNDA Vanda 75.49 176 *e*P **P 00 38 16.4 -0.4**
VNDA pmax pmax
comp=Z,25nm,0.9s
VNDA Vanda 75.49 176 *e*P **P 00 38 16.4 -0.5**
comp=Z,25nm,0.9s,mb5.2
AML Almayashu 75.70 315 P **P 00 38 20.0 +1.3**
SNR=49
EKS2 Erkin-Say 75.80 315 P **P 00 38 20.2 +1.0**
SNR=36
EKS2 Erkin-Say 75.80 315 *e*P **P 00 38 20.1 +0.9**
comp=Z,67nm,1.1s,mb5.5
SBA Scott Base 76.22 175 *e*P **P 00 38 21.9 +0.9**
SBA pmax pmax
comp=Z,58nm,1.4s,mb5.3
SBA Scott Base 76.22 175 *e*P **P 00 38 21.9 +1.0**
comp=Z,58nm,1.4s,mb5.3
KBL Kabul 77.32 306 *e*P **P 00 38 28.1 +0.1**
comp=Z,16nm,0.8s,mb5.0
TAOE Nuku Hiva Isla 77.92 98 *e*SS SS 00 53 24.4 -2.4
comp=Z,1μm,27.2s
TAOE *e*LR LR 01 02 36.3
comp=Z,4μm,21.9s
KK31 Karatay Array 78.23 315 *i*P **P 00 38 32.0 -0.9**
KK31 pmax pmax
comp=Z,28nm,0.9s,mb5.2
KK31 Karatay Array 78.23 315 *i*P **P 00 38 32.1 -0.8**
SVW2 Sparrevohn 79.61 26 *e*P **P 00 38 40.5 +0.4**
KDAK Kodiak Island 79.67 30 *e*P **P 00 38 40.2 -0.2**
comp=Z,33nm,0.9s,mb5.3
BVA0 Borovoye Array 81.04 325 *i*P **P 00 38 47.1 -0.8**
BVA0 pmax pmax
comp=Z,67nm,1.7s,mb5.3
BVAR Borovoye Array 81.04 325 P **P 00 38 48.2 +0.3**
comp=Z,28nm,0.7s,mb5.3,baz=112,slow=7.1,SNR=7.5
BRVK Borovoye 81.11 325 *e*P **P 00 38 48.3 0.0**
BRVK pmax pmax
comp=Z,132nm,1.3s,mb5.7
BRVK Borovoye 81.11 325 *e*P **P 00 38 48.2 0.0**
comp=Z,132nm,1.3s,mb5.7
PPLA Purkeypile 81.81 25 *e*P **P 00 38 52.5 +0.7**
comp=Z,44nm,1.4s,mb5.2
CHUM Lake Minchumin 82.14 24 *e*P **P 00 38 53.7 +0.2**
comp=Z,62nm,0.8s,mb5.6
IMA2 Indian Mountai 82.48 22 *e*P **P 00 38 55.4 +0.1**
PMR Palmer 82.67 27 *e*P **P 00 38 55.6 -0.7**
PMR pmax pmax
comp=Z,31nm,1.4s,mb5.2
PMR Palmer 82.67 27 *e*P **P 00 38 55.6 -0.7**
comp=Z,31nm,1.4s,mb5.2
TRF Thorofare Moun 82.81 25 *e*P **P 00 38 55.8 -1.2**
comp=Z,18nm,1.1s,mb5.0
RKT Rikitea 82.83 113 *e*LR LR 01 05 05.1
comp=Z,672nm,22.8s
MAW Mawson 83.19 202 *e*P **P 00 38 58.9 -0.1**
comp=Z,28nm,1.0s,mb5.2
MAW Mawson 83.19 202 P **P 00 38 59.2 +0.2**
comp=Z,41nm,1.0s,mb5.4,baz=84,slow=7.0,SNR=34
MAW LR LR 01 14 08.9
comp=Z,2μm,18.8s,MS5.4,baz=64,slow=34
MAW Mawson 83.19 202 *e*P **P 00 38 58.9 -0.1**
comp=Z,28nm,1.0s,mb5.2
MCK McKinley 83.48 25 *e*P **P 00 38 59.4 -1.1**
MCK pmax pmax
comp=Z,47nm,1.1s,mb5.4
MCK McKinley 83.48 25 *e*P **P 00 38 59.4 -1.1**
comp=Z,47nm,1.1s,mb5.4
DIV Divide 84.06 28 *e*P **P 00 39 03.5 0.0**
comp=Z,35nm,1.1s,mb5.4
COLD Coldfoot 84.21 21 *e*P **P 00 39 04.5 +0.3**
comp=Z,31nm,1.1s,mb5.3
COLA College 84.30 24 *e*P **P 00 39 03.4 -1.3**
COLA pmax pmax
comp=Z,18nm,0.9s,mb5.2
COLA College 84.30 24 *e*P **P 00 39 03.4 -1.3**
comp=Z,18nm,0.9s,mb5.2
BMRM Bremner River 84.56 28 *e*P **P 00 39 06.0 -0.1**
RER Riviere de l'E 85.20 249 *e*P **P 00 39 10.5 +0.3**
AB31 Akbulak array 86.66 319 *i*P **P 00 39 15.4 -1.4**
AB31 pmax pmax
comp=Z,22nm,1.1s,mb5.3
AB31 Akbulak array 86.66 319 *i*P **P 00 39 15.5 -1.3**
EGAK Eagle 87.03 25 *e*P **P 00 39 18.1 -0.1**
comp=Z,42nm,1.3s,mb5.5
QSPA South Pole Qui 87.19 180 P **P 00 39 18.8 0.0**
comp=Z,170nm,1.1s,mb6.2,baz=346,slow=1.4,SNR=84
SVE Sverdlovsk 87.37 327⇑ *e*P **P 00 39 18.8 -1.2**
SVE *e*S S 00 49 43.2 -17
SVE *e*SS SS 00 55 39.5 -5.7
SVE pmax pmax
comp=Z,25nm,1.4s,mb5.2
DAWY Dawson 87.63 26 *e*P **P 00 39 21.4 +0.2**
HYT Haines Junctio 87.92 29 *e*P **P 00 39 22.8 +0.2**
AKTK Aktyubinsk 88.05 321 P **P 00 39 22.5 -0.9**
AKTO Aktyubinsk 88.05 321 P **P 00 39 22.5 -0.9**
comp=Z,3.9nm,0.8s,mb4.7,baz=79,slow=7.6,SNR=8.4
AKTO Aktyubinsk 88.05 321 *i*P **P 00 39 21.6 -1.8**
AKTO pmax pmax
comp=Z,4.0nm,1.4s,mb4.5
ARU Arti 88.45 327*c i*P **P 00 39 24.0 -1.2**
ARU *e*S S 00 49 49.7 -21
ARU *e*PS 00 51 10.1
ARU *e*SS SS 00 56 02.0 +1.1
ARU pmax pmax
comp=Z,11nm,1.2s,mb5.0
ARU Arti 88.45 327 *e*P **P 00 39 23.6 -1.6**
comp=Z,14nm,1.1s,mb5.1
WRAK Wrangell Islan 90.05 34 *e*P **P 00 39 33.3 +0.6**
comp=Z,24nm,1.0s,mb5.5
INK Inuvik 90.62 22 *e*P **P 00 39 34.1 -1.0**
INK pmax pmax
comp=Z,874nm,1.1s
INK Inuvik 90.62 22 *e*P **P 00 39 34.1 -1.1**
comp=Z,874nm,1.1s
SYO Syowa Base 91.76 201⇑ *e*P **P 00 39 39.6 -0.8**
OPO Ambohidratompo 93.36 251 P **P 00 39 48.9 0.0**
comp=Z,8.8nm,1.0s,mb5.1,baz=109,slow=4.5,SNR=4.7
RDF Al-Radifah 94.91 299 *e*P **P 00 39 53.3 -2.6**
baz=299
RDF AMb AMB 00 40 03.1
comp=Z,28nm,1.3s,mb5.5,baz=299
MIB Mutribah 95.10 300 *e*P **P 00 39 54.5 -2.2**
baz=300
MIB AMb AMB 00 39 57.3
comp=Z,25nm,1.2s,mb5.5,baz=300
NAY Al-Naaiem 95.18 299 *e*P **P 00 39 54.2 -2.9**
baz=299
NAY AMb AMB 00 40 02.8
comp=Z,24nm,1.3s,mb5.5,baz=299
GNW Green Mountain 95.75 43 *e*P **P 00 39 59.4 +0.1**
comp=Z,15nm,1.2s,mb5.3
HUMO Hull Mountain 95.82 48 *e*P **P 00 40 00.4 +0.7**
comp=Z,19nm,1.2s,mb5.4
JCW Jim Creek 96.32 42 *e*P **P 00 40 02.4 +0.6**
YKA Yellowknife Ar 98.77 27 P **P 00 40 12.0 -0.5**
comp=Z,5.4nm,0.9s,mb5.1,baz=284,slow=4.7,SNR=12
YKA LR LR 01 19 59.9
comp=Z,228nm,21.9s,MS4.6,baz=225,slow=32
YKA Yellowknife Ar 98.77 27 P **P 00 40 12.1 -0.5**
YKA LR LR 01 19 59.9
WVOR Wild Horse Val 99.02 48 *e*P **P 00 40 14.6 +0.5**
WVOR pmax pmax
comp=Z,13nm,1.1s,mb5.4
WVOR Wild Horse Val 99.02 48 *e*P **P 00 40 14.6 +0.5**
comp=Z,13nm,1.1s,mb5.4
APA Apatity 99.44 338 *e*P **P 00 40 15.0 -0.4**
SPITS Spitsbergen Ar 99.54 350 LR LR 01 22 44.6
comp=Z,537nm,21.6s,MS5.0,baz=45,slow=34
NVAR Mina Array Bea 99.58 52 P **P 00 40 16.3 -0.4**
comp=Z,0.8nm,0.6s,mb4.3,baz=257,slow=6.1,SNR=4.2
BMO Blue Mountains 99.76 45 *e*P Pdif 00 40 19.2 +2.1
BMO pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
BMO Blue Mountains 99.76 45 *e*Pdif Pdif 00 40 19.2 +2.0
comp=Z,7.7nm,1.1s
OBN Obninsk 100.86 326‖ *e*P Pdif 00 40 21.8 -0.2
OBN *e* 00 44 34.8
OBN *e*PS SS 00 59 11.8 +14
OBN pmax pmax
comp=Z,18nm,1.9s
ARCES ARCESS Array B 101.51 341 P Pdif 00 40 23.0 -1.9
comp=Z,4.6nm,0.8s,baz=54,slow=6.3,SNR=10
HLID Hailey 101.98 46 *e*Pdif Pdif 00 40 28.9 +1.9
comp=Z,3.0nm,1.1s
SNAA Sanae 102.24 191 *e*Pdiff Pdif 00 40 28.5 +0.4
SNAA Sanae 102.24 191 P Pdif 00 40 28.6 +0.5
comp=Z,9.3nm,1.2s,baz=102,slow=6.8,SNR=14
TMUT Trail Mountain 104.98 50 *e*PKP PKiKP 00 44 56.5 +0.8
PDAR Pinedale Array 105.62 46 Pdiff Pdif 00 40 44.4 +1.3
comp=Z,0.9nm,0.9s,baz=318,slow=2.0,SNR=3.8
PDAR PKKPbc PKKPbc 00 56 27.0 +4.8
comp=Z,0.3nm,0.5s,baz=101,slow=3.0,SNR=4.7
MNTX Cornudas Mount 110.92 57 *e*PKP PKiKP 00 45 07.0 0.0
TXAR Lajitas Array 112.80 59 PKiKP PKiKP 00 45 10.6 -0.1
comp=Z,1.0nm,0.9s,baz=313,slow=0.9,SNR=6.9
TXAR PKKPab PKKPab 00 56 06.6 +0.1
comp=Z,3.4nm,1.1s,baz=116,slow=5.8,SNR=11
TXAR Lajitas Array 112.80 59 PKPdf PKiKP 00 45 10.6 -0.1
TXAR PKKPab PKKPab 00 56 06.6 +0.1
OKC Ostrava-Krasne 113.17 324 AMS AMS 01 34 00.0
comp=Z,400nm,18.4s
DPC Dobruska-Polom 114.00 325 *e*PKP PKiKP 00 45 14.2 +1.9
DPC *e*PP PP 00 46 11.9 +6.0
DPC AMS AMS 01 35 30.0
comp=Z,500nm,23.2s
PVCC Panska Ves 114.91 326 *e*PKP PKiKP 00 45 18.7 +4.7
PVCC AMS AMS 01 37 40.0
comp=Z,500nm,16.2s
TREC Trest 114.96 324 AMS AMS 01 36 10.0
comp=Z,400nm,16.1s
BRG Berggiesshubel 115.09 326 *e*PKPdf PKiKP 00 45 15.1 +0.8
BRG Berggiesshubel 115.09 326 *e* PKiKP 00 45 15.0 +0.7
comp=Z,6.2nm,1.3s
PRU Pruhonice 115.18 325 *e*PKP PKiKP 00 45 16.4 +1.9
PRU *e*PP PP 00 46 24.1 +10
PRU AMS AMS 01 37 50.0
comp=Z,300nm,16.9s
BSEG Bad Segeberg 115.38 331 *e*PKPdf PKPdf 00 45 16.0 +1.2
CLL Collm 115.39 327 *e*PKIKP PKPdf 00 45 16.0 +1.1
CLL pmax pmax
comp=Z,3.0nm,1.0s
CLL MLR MLR
comp=Z,500nm,18.7s,MS5.2
CLL Collm 115.39 327 *e*PKPdf PKPdf 00 45 15.5 +0.6
CLL Collm 115.39 327 *e*PKiKP PKiKP 00 45 16.0 +1.1
comp=Z,3.0nm,1.0s
JCT Junction City 115.86 57 *e*PKIKP PKPdf 00 45 16.0 -0.5
KHC Kasperske Hory 116.14 325 *e*PKP PKPdf 00 45 16.9 +0.5
KHC *e*PP PP 00 46 23.7 +2.7
KHC AMS AMS 01 41 10.0
comp=Z,400nm,19.2s
GERES GERESS Array B 116.21 325 PKP PKPdf 00 45 15.8 -0.8
comp=Z,0.6nm,0.7s,baz=70,slow=1.6,SNR=7.6
NKC Novy Kostel 116.23 326 AMS AMS 01 40 00.0
comp=Z,600nm,18.1s
MOX Moxa 116.48 327 *e*PKPdf PKPdf 00 45 19.1 +2.1
WET Wettzell 116.54 325 *e*PKPdf PKPdf 00 45 19.9 +2.7
BORG Borgarnes 116.92 352 PKP PKPdf 00 45 16.8 -0.7
comp=Z,9.3nm,0.8s,baz=78,slow=9.3,SNR=3.1
GRA1 Grafenberg Arr 117.19 326 *e*PKPdf PKPdf 00 45 18.7 +0.3
GRA1 *e*PP PP 00 46 29.3 +1.0
GRF Grafenberg Arr 117.19 326 *e*PKPdf PKPdf 00 45 18.7 +0.3
GRF *e*PP PP 00 46 29.3 +1.0
FUR Furstenfeldbru 117.95 325 *e*PKPdf PKPdf 00 45 20.9 +1.0
BUG Bochum--Univer 118.33 329 *e*PKPdf PKPdf 00 45 21.4 +0.8
DAVOX Davos/Dischmat 119.47 324 PKP PKPdf 00 45 22.3 -0.6
comp=Z,2.2nm,0.6s,baz=30,slow=1.8,SNR=7.0
DAVOS Davos 119.49 324 PKIKP PKPdf 00 45 22.3 -0.6
MIAR Mount Ida 119.81 51 *e*PKIKP PKPdf 00 45 24.2 +0.2
CDF Champ du Feu 120.07 327 *e*PKIKP PKPdf 00 45 24.0 0.0
CCM Cathedral Cave 120.33 47 *e*PKIKP PKPdf 00 45 23.4 -1.4
EKA Eskdalemuir Ar 120.37 338 PKP PKPdf 00 45 25.1 +0.7
comp=Z,1.5nm,0.7s,baz=20,slow=1.7,SNR=6.7
GIVF Givet 120.37 329 *e*PKIKP PKPdf 00 45 23.9 -0.6
HINF Hinteralfeld 120.64 326 *e*PKIKP PKPdf 00 45 24.7 -0.4
comp=Z,15nm,1.0s
BAIF Baives 120.71 330 *e*PKIKP PKPdf 00 45 24.6 -0.6
comp=Z,16nm,1.2s
HAU Haudompre 120.81 327 *e*PKIKP PKPdf 00 45 25.1 -0.3
comp=Z,9.2nm,0.8s
HAU *e*MLR MLR
comp=Z,341nm,20.0s,MS4.7
HAU Haudompre 120.81 327 *e*PKPdf PKPdf 00 45 25.1 -0.3
HAU LR LR
comp=Z,340nm,20.0s,MS5.0
TSUM Tsumeb 120.88 246 *e*PKPdf PKPdf 00 45 25.8 -0.6
FVM French Village 120.95 47 *e*PKIKP PKPdf 00 45 26.0 0.0
MEZF Maizieres J'vi 121.22 328 *e*PKIKP PKPdf 00 45 26.4 +0.2
CABF La Chapelle 121.75 325 *e*PKIKP PKPdf 00 45 26.9 -0.4
comp=Z,37nm,1.4s
LPG La Plagne 121.99 324 *e*PKIKP PKPdf 00 45 28.1 +0.3
LPL La Plagne 122.00 324 *e*PKIKP PKPdf 00 45 28.0 +0.2
comp=Z,7.3nm,0.9s
PGF Pioggiola 122.16 320 *e*PKIKP PKPdf 00 45 27.5 -0.7
comp=Z,37nm,1.2s
OLIL Olney 122.31 45 *e*PKPdf PKPdf 00 45 28.3 -0.4
MBDF Montbardon 122.41 323 *e*PKIKP PKPdf 00 45 28.3 -0.3
comp=Z,3.4nm,0.7s
SBF Sospel 122.47 322 *e*PKIKP PKPdf 00 45 27.6 -1.2
LOR Lormes 122.60 327 *e*PKIKP PKPdf 00 45 28.2 -0.7
comp=Z,7.5nm,0.9s
LOR *e*MLR MLR
comp=Z,396nm,22.0s,MS4.7
LOR Lormes 122.60 327 *e*PKPdf PKPdf 00 45 28.2 -0.7
LOR LR LR
comp=Z,400nm,22.0s,MS5.0
ORIF Oris-en-Rattie 122.83 324 *e*PKIKP PKPdf 00 45 29.2 -0.2
comp=Z,6.3nm,0.8s
ORIF *e*MLR MLR
comp=Z,428nm,20.0s,MS4.8
SSF Saint Saulge 122.92 327 *e*PKIKP PKPdf 00 45 29.0 -0.5
comp=Z,14nm,1.0s
SMF Signal de Mont 122.99 327 *e*PKIKP PKPdf 00 45 29.7 0.0
comp=Z,18nm,1.1s
FRF La Foret Royal 123.11 322 *e*PKIKP PKPdf 00 45 29.7 -0.3
comp=Z,19nm,1.2s
SCHQ Schefferville 123.15 19 PKP PKPdf 00 45 29.1 -0.6
comp=Z,8.1nm,0.9s,baz=37,slow=6.7,SNR=5.2
AVF Avril sur Loir 123.17 327 *e*PKIKP PKPdf 00 45 29.7 -0.3
comp=Z,12nm,1.1s
BLO Bloomington 123.22 44 *e*PKIKP PKPdf 00 45 29.8 -0.5
LMR La Mourre 123.32 322 *e*PKIKP PKPdf 00 45 30.2 -0.2
comp=Z,17nm,1.2s
SMRF Simiane la Rot 123.53 323 *e*PKIKP PKPdf 00 45 30.4 -0.4
comp=Z,39nm,1.3s
VIVF Saint-Julien-l 123.57 324 *e*PKIKP PKPdf 00 45 30.2 -0.6
comp=Z,14nm,1.1s
BGF Bois d'Agland 123.59 327 *e*PKIKP PKPdf 00 45 30.2 -0.6
comp=Z,30nm,1.1s
LDF La Druitiere 123.82 330 *e*PKIKP PKPdf 00 45 30.4 -0.8
PLAL Pickwick Lake 123.88 49 *e*PKPdf PKPdf 00 45 30.3 -1.5
FLN La Foliniere 123.89 331 *e*PKIKP PKPdf 00 45 30.5 -0.8
FLN *e*MLR MLR
comp=Z,449nm,20.8s,MS4.8
FLN La Foliniere 123.89 331 *e*PKPdf PKPdf 00 45 30.5 -0.8
FLN LR LR
comp=Z,450nm,20.8s,MS5.1
TCF Toulx Ste Croi 124.10 327 *e*PKIKP PKPdf 00 45 31.4 -0.4
comp=Z,26nm,1.1s
GRR Gorron 124.33 331 *e*PKIKP PKPdf 00 45 32.3 +0.1
comp=Z,82nm,1.6s
LASF Ste Croix 124.50 324 *e*PKIKP PKPdf 00 45 32.0 -0.7
comp=Z,18nm,1.2s
CAF Calviac 125.02 326 *e*PKIKP PKPdf 00 45 33.2 -0.4
comp=Z,22nm,1.2s
KEST Kesra 125.08 313 PKP PKPdf 00 45 34.2 +0.2
comp=Z,2.1nm,0.9s,baz=275,slow=3.8,SNR=5.0
ACSO Alum Creek Sta 125.09 41 *e*PKPdf PKPdf 00 45 33.7 -0.2
RJF Les Rejaudoux 125.09 326 *e*PKIKP PKPdf 00 45 33.8 0.0
RJF *e*MLR MLR
comp=Z,351nm,20.0s,MS4.7
RJF Les Rejaudoux 125.09 326 *e*PKPdf PKPdf 00 45 33.8 0.0
RJF LR LR
comp=Z,350nm,20.0s,MS5.0
MFF Saint Martin d 125.16 329 *e*PKIKP PKPdf 00 45 33.0 -0.8
comp=Z,25nm,1.2s
SGMF Saint Gilles 125.24 331 *e*PKIKP PKPdf 00 45 33.8 -0.1
SWET Sewanee 125.38 48 *e*PKPdf PKPdf 00 45 33.4 -1.3
LFF La Frestale 125.75 327 *e*PKIKP PKPdf 00 45 34.8 -0.2
QUIF Quistinic 125.77 331 *e*PKIKP PKPdf 00 45 34.4 -0.6
MTLF Montolieu 125.89 324 *e*PKIKP PKPdf 00 45 34.7 -0.6
CPCT Cooper Cave 126.32 47 *e*PKPdf PKPdf 00 45 35.6 -0.8
TKL Tuckaleechee C 126.77 46 *e*PKIKP PKPdf 00 45 36.7 -0.6
EPF Esparros 127.17 325 *e*PKIKP PKPdf 00 45 37.2 -0.6
comp=Z,19nm,1.2s
PLCA Paso Flores 127.68 149 PKP PKPdf 00 45 39.7 +0.9
comp=Z,3.8nm,0.9s,baz=252,slow=4.7,SNR=6.2
PLCA Paso Flores 127.68 149 PKP PKPdf 00 45 39.7 +0.8
ETSF Etsaut 127.77 325 *e*PKIKP PKPdf 00 45 39.3 +0.4
comp=Z,23nm,1.1s
SJPF Ste Jean 128.00 326 *e*PKIKP PKPdf 00 45 38.8 -0.6
comp=Z,56nm,1.3s
ELN Prospectdale 128.13 43 *e*PKPdf PKPdf 00 45 39.9 0.0
BLA Blacksburg 128.37 43 *e*PKIKP PKPdf 00 45 39.8 -0.5
MDV Middlebury 128.66 32 *e*PKPdf PKPdf 00 45 41.6 +1.0
ESDC Sonseca Array 131.80 324 PP PP 00 48 08.4 +2.1
comp=Z,1.7nm,1.0s,baz=64,slow=5.9,SNR=5.7
ESLA Sonseca Array 131.80 324 *e*PKPdf PKPdf 00 45 46.3 -0.4
TAM Tamanrasset 133.07 299 *e*PKIKP PKPdf 00 45 49.2 -0.4
TOA0 Torodi Ar. Sit 139.09 287 PKPdf PKPdf 00 46 00.5 -0.5
TORD Torodi Ar. Bea 139.09 287 PKhKP 00 45 54.7
comp=Z,2.5nm,0.8s,baz=57,slow=2.5,SNR=11
TORD PKP PKPdf 00 45 59.7 -1.2
comp=Z,6.8nm,1.0s,baz=70,slow=2.9,SNR=12
TORD PP PP 00 48 58.6 +4.8
comp=Z,3.1nm,1.2s,baz=72,slow=6.2,SNR=3.6
TORD Torodi Ar. Bea 139.09 287 PKP PKPdf 00 45 59.7 -1.2
TORD PP PP 00 48 58.6 +4.8
OTAV Otavalo 139.84 93 *e*PKPdf PKPdf 00 46 03.4 +1.0
SDDR Presa de Saban 143.97 61 *e*PKPdf PKPdf 00 46 06.8 -2.8
ROSC El Rosal 144.04 86 PKP PKPdf 00 46 08.5 -1.4
comp=Z,24nm,0.8s,baz=111,slow=5.5,SNR=19
ROSC El Rosal 144.04 86 *e*PKPdf PKPdf 00 46 08.5 -1.4
LPAZ La Paz 145.01 124 PKPbc PKPbc 00 46 11.8 +1.1
comp=Z,51nm,0.8s,baz=251,slow=1.8,SNR=110
LPAZ La Paz 145.01 124 *e*PKPdf PKPdf 00 46 11.9 +0.4
CPUP Villa Florida 145.75 149 PKPbc PKPbc 00 46 12.4 -0.5
comp=Z,25nm,1.0s,baz=240,slow=2.1,SNR=31
CPUP Villa Florida 145.75 149 *e*PKPdf PKPdf 00 46 12.2 -0.3
KIC Kosan Boka 146.32 277 *e*P PKPdf 00 46 13.5 -0.3
comp=Z,278nm,0.9s
DBIC Dimbokro 146.41 278 PKPbc PKPbc 00 46 14.7 -0.6
comp=Z,53nm,0.8s,baz=67,slow=3.9,SNR=39
DBIC Dimbokro 146.41 278 *e*PKPbc PKPbc 00 46 14.7 -0.6
TIC Toumodi 146.57 278 *e*P PKPdf 00 46 15.2 +0.9
comp=Z,619nm,1.1s
LIC Lamto 146.61 277 *e*PKIKP PKPdf 00 46 15.4 +1.1
comp=Z,315nm,1.1s
LIC *e*MLR MLR
comp=Z,401nm,22.0s,MS4.9
LIC Lamto 146.61 277 *e*P PKPdf 00 46 15.3 +1.0
comp=Z,393nm,1.1s
LIC Lamto 146.61 277 *e*PKPdf PKPdf 00 46 15.4 +1.1
LIC LR LR
comp=Z,200nm,22.0s,MS4.8
SDV Santo Domingo 147.32 78 PKPbc PKPbc 00 46 15.8 -2.1
comp=Z,57nm,0.8s,baz=296,slow=2.0,SNR=25
SDV Santo Domingo 147.32 78 *e*PKPdf PKPdf 00 46 15.4 -0.1
SDV *e*PKPbc PKPbc 00 46 17.9 0.0
AOPR Arecibo Observ 148.15 59 *e*PKPbc PKPbc 00 46 20.3 +0.4
SJG San Juan 148.77 59 *e*PKPdf PKPdf 00 46 18.0 +0.3
SJG *e*PKPbc PKPbc 00 46 21.5 -0.1
SJG *e*PKPab PKPab 00 46 24.5 -0.8
CPD Cerro la Pandu 149.00 59 *e*PKPbc PKPbc 00 46 21.4 -0.8
CPD *e*PKPab PKPab 00 46 26.5 +0.3
HUMP Col San Antoni 149.01 59 *e*PKPdf PKPdf 00 46 19.0 +0.8
HUMP *e*PKPbc PKPbc 00 46 21.8 -0.4
HUMP *e*PKPab PKPab 00 46 26.7 +0.4
MTP Monte Pirata 149.28 58 *e*PKPbc PKPbc 00 46 22.7 -0.2
MTP *e*pPKPdf pPKPdf 00 46 30.9 +8.8
PCRV Puerto La Cruz 152.88 73 PKPbc PKPbc 00 46 29.0 -2.4
comp=Z,9.3nm,1.0s,baz=35,slow=7.4,SNR=2.5
BDFB Brasilia 159.37 153 PKP PKPdf 00 46 34.1 +1.5
comp=Z,3.8nm,1.0s,baz=177,slow=1.1,SNR=4.9
BDFB PKPab PKPab 00 47 10.1 +0.2
comp=Z,3.0nm,0.8s,baz=176,slow=16,SNR=6.2
BDFB Brasilia 159.37 153 PKP PKPdf 00 46 34.1 +1.5
BDFB PKPab PKPab 00 47 10.1 +0.2

BJI ***06*** *00:27:33.4, 196N×6596E, h10km, mB5.2, mb4.8, Ms5.0, Msz4.8*
IDC ***06*** *00:27:39.2±0.7, 276N×6631E, h0km, mb4.4/22, mb1 4.5/22, mb1mx4.4/29, mbtmp4.4/22, MS4.5/22, Ms1 4.5/22, ms1mx4.3/36, Error ellipse: s-maj=19.2km s-min=15.5km az=137.0*
MOS ***06*** *00:27:39.8±0.8, 288N×6625E, h11km, mb5.1/49, MS4.5/12, Error ellipse: s-maj=9.3km s-min=5.2km az=115.2*
ISCJB ***06*** *00:27:40.5±0.4, 274N±006×6626E±004, h20km, mb4.7/105, MS4.5/40, Error ellipse: s-maj=8.9km s-min=5.4km az=162.0*
NEIC ***06*** *00:27:40.3±0.3, 271N×6641E, h10km, mb4.9/49, Error ellipse: s-maj=7.4km s-min=6.0km az=187.0*
GCMT ***06*** *00:27:40.3±0.1, 258N×6635E, h12km, MW5.3/89, Moment Tensor Solution. s45,c72; s89,c174; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.95±.01; $M_{\theta\theta}$0.52±.01; $M_{\phi\phi}$0.42±.01; $M_{r\theta}$0.33±.04; $M_{\theta\phi}$-0.49±.01; $M_{\phi r}$0.08±.05; Best double couple: $M_0$1.01300×10^{17} NP1:ϕ_s147.00000°, δ41.00000°, λ-67.00000°. NP2: ϕ_s298.00000°, δ53.00000°, λ-109.00000°. Principal axes: T 0.9850, Plg6.0000°, Azm41.0000°; N 0.0570, Plg15.0000°, Azm309.0000°; P -1.0410, Plg74.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***06*** *00:27:48.7, 286N×65.34E, h33km, mb5.0, Carlsberg Ridge*
ISC 06 00:27:41.6±1.9, 270N±006×6629E±004, h14km±12km, h21km±4.6km:pP-P,n331,σ0983/244, mb4.7/105, MS4.5/40, 41C-35D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.06**	**72**	*e*Pn	**Pn**	**00 31 10.7**	**-3.4**
HYB	**Hyderabad**	**18.95**	**39**	*i* P	**Pn**	**00 32 00.0**	**-3.0**
HYB				*e*S	**Sn**	**00 35 30.0**	**-5.1**
HYB	**Hyderabad**	**18.95**	**39**	*e*P	**Pn**	**00 32 00.0**	**-3.0**
HYB				*e*S	**Sn**	**00 35 36.0**	**+0.9**
KOLN	**Koldanda**	**29.92**	**32**	*e*P	**P**	**00 33 49.8**	**+0.6**
	144nm,1.9s,mb5.4						
DANN	**Dangsing**	**30.47**	**31**	*e*P	**P**	**00 33 58.5**	**+4.4**
DMN	**Daman**	**30.61**	**34**	*e*P	**P**	**00 33 54.5**	**-0.9**
	32nm,0.8s,mb5.2						
GKN	**Gorkha**	**30.66**	**33**	*e*P	**P**	**00 33 56.4**	**+0.6**
PKI	**Pulchoki**	**30.76**	**35**	*e*P	**P**	**00 33 55.8**	**-0.8**
	45nm,1.1s,mb5.2						
KKN	**Kakani**	**30.85**	**34**	*e*P	**P**	**00 33 57.6**	**+0.2**
	84nm,1.4s,mb5.4						
GUN	**Gumba**	**31.28**	**35**	*e*P	**P**	**00 34 02.3**	**+1.0**
	63nm,1.0s,mb5.4						
ODAN	**Odare**	**31.40**	**38**	*e*P	**P**	**00 34 03.4**	**+1.1**
	34nm,1.1s,mb5.1						
TAPN	**Taplejung**	**31.95**	**38**	*e*P	**P**	**00 34 10.6**	**+3.4**
	118nm,1.7s,mb5.4						
PSI	**Prapat**	**32.60**	**89**	LR	LR	00 45 02.3	
	comp=Z,2μm,20.9s,MS4.7,baz=283,slow=32						
CMAR	**Chiang Mai Arr**	**35.61**	**62**	LR	LR	00 49 03.9	
	comp=Z,922nm,18.3s,MS4.6,baz=213,slow=36						
LSA	**Lhasa**	**35.74**	**39**	P	**P**	**00 34 40.4**	**+0.3**
LSA				AP	pP	00 34 49.0	+4.5
LSA				PP	PP	00 36 06.5	+5.0
LSA				S	**S**	**00 40 24.2**	**+7.3**
LSA				LR	LR		
	comp=N,850nm,19.9s,MS4.7						
LSA				LR	LR		
	comp=E,790nm,17.9s,MS4.7						
LSA				LR	LR		
	comp=Z,2μm,19.9s,MS4.9						
LSA	**Lhasa**	**35.74**	**39**	*e*P	**P**	**00 34 40.2**	**+0.1**

LSA pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
LSA Lhasa 35.74 39 *eP* **P 00 34 40.2 +0.1**
comp=Z,6.1nm,0.5s,mb4.8
CHTO Chiang Mai 35.75 61 *eP* **P 00 34 38.7 -1.6**
CHTO pmax pmax
comp=Z,15nm,1.0s,mb4.9
CHTO Chiang Mai 35.75 61 *eP* **P 00 34 38.7 -1.5**
comp=Z,15nm,1.0s,mb4.9
MSL Mosul 39.70 330 *ex* x 00 35 22.0
EIL Elat 40.04 315 LR LR 00 49 49.2
comp=Z,285nm,21.5s,MS4.1,baz=40,slow=33
ASF Jabal al Asfar 40.28 320 P **P 00 35 18.3 -0.1**
comp=Z,2.5nm,0.8s,mb4.0,baz=304,slow=3.6,SNR=2.5
EKS2 Erkin-Say 40.35 9 *eP* **P 00 35 22.3 +3.6**
comp=Z,13nm,1.1s,mb4.6
KMI Kunming 41.58 54 P **P 00 35 30.2 +1.0**
KMI AMB AMB
comp=Z,18nm,1.0s,mb4.7
LSZ Lusaka 41.72 243 P **P 00 35 30.4 -0.1**
comp=Z,4.5nm,1.0s,mb4.0,baz=72,slow=6.7,SNR=5.8
LSZ Lusaka 41.72 243 *eP* **P 00 35 31.2 +0.8**
LSZ pmax pmax
comp=Z,31nm,1.6s,mb4.7
LSZ Lusaka 41.72 243 *eP* **P 00 35 31.2 +0.8**
comp=Z,31nm,1.6s,mb4.7
MMAI Mount Meron Ar 41.78 320 P **P 00 35 32.8 +2.0**
comp=Z,5.2nm,0.8s,mb4.2,baz=94,slow=11,SNR=6.7
GNI Garni 42.08 335 P **P 00 35 31.3 -1.7**
comp=Z,2.5nm,0.8s,mb3.9,baz=205,slow=23,SNR=2.0
GNI LR LR 00 53 29.9
comp=Z,327nm,21.2s,MS4.2,baz=93,slow=37
GNI Garni 42.08 335⇑ *eP* **P 00 35 35.1 +2.1**
GNI pmax pmax
comp=Z,57nm,1.9s
MALT Malatya 43.65 328 *eP* **P 00 35 48.0 +2.2**
KSM Kuching 44.01 91 *eP* **P 00 35 47.5 -1.6**
WMQ Urumqi 45.13 22 *eP* **P 00 35 58.0 +0.4**
WMQ AP pP 00 36 02.5 +0.5
WMQ XP sP 00 36 05.0 +1.2
WMQ AMB AMB
comp=Z,13nm,1.2s,mb4.6
CD2 Chengdu 45.15 48 *eP* **P 00 35 58.6 +0.7**
CD2 AP pP 00 36 03.5 +1.1
CD2 XP sP 00 36 06.2 +2.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA Guiyang 45.34 55 P **P 00 35 59.0 -0.5**
GYA PCP PcP 00 37 39.4 +0.3
GYA SCP ScP 00 41 31.0 -0.7
GYA S **S 00 42 39.8 -0.3**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
GYA AMB AMB
comp=Z,140nm,4.5s
GYA LR LR
comp=N,470nm,18.8s,MS4.6
GYA LR LR
comp=E,440nm,17.9s,MS4.6
GYA LR LR
comp=Z,460nm,19.2s,MS4.4
MK31 Makanchi Array 46.08 15 *eP* **P 00 36 05.1 +0.1**
MKAR Makanchi Array 46.08 15 P **P 00 36 05.3 +0.3**
comp=Z,2.8nm,1.0s,mb4.2,baz=187,slow=9.5,SNR=12
MKAR PcP PcP 00 37 41.9 +0.7
comp=Z,2.1nm,0.9s,baz=223,slow=4.3,SNR=6.0
MKAR LR LR 00 55 14.7
comp=Z,530nm,21.1s,MS4.5,baz=192,slow=36
MKAR Makanchi Array 46.08 15 P **P 00 36 05.3 +0.3**
MKAR 00 37 41.9
MKAR Makanchi Array 46.08 15 P **P 00 36 05.3 +0.3**
MKAR PcP PcP 00 37 41.9 +0.7
MKAR LR LR 00 55 14.7
GTA Gaotai 47.57 35 P **P 00 36 18.5 +1.7**
GTA AP pP 00 36 28.9 +7.6
GTA PP PP 00 38 07.1 -1.3
GTA S **S 00 43 13.1 +1.4**
GTA XS sS 00 43 32.9 +14
GTA SS SS 00 46 40.4 +0.5
GTA AMB AMB
comp=Z,15nm,1.5s,mb4.8
GTA AMB AMB
comp=Z,428nm,6.5s
GTA LR LR
comp=N,874nm,16.3s,MS4.9
GTA LR LR
comp=E,703nm,17.1s,MS4.9
GTA LR LR
comp=Z,870nm,28.9s
LZH Lanzhou 48.02 42 *eP* **P 00 36 22.1 +1.7**
LZH AP pP 00 36 25.1 +0.2
LZH XP sP 00 36 26.6 0.0
LZH PP PP 00 38 13.5 +0.9
LZH *e*S **S 00 43 19.0 +0.8**
LZH SS SS 00 46 44.0 -3.4
LZH AMB AMB
comp=Z,78nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,290nm,6.5s
LZH LR LR
comp=E,800nm,14.8s
LZH LR LR
comp=Z,2μm,18.0s,MS5.0
LBTB Lobatse 48.12 233 P **P 00 36 22.6 +1.2**
comp=Z,2.5nm,0.8s,mb4.3,baz=216,slow=4.9,SNR=4.8
KURK Kurchatov 48.97 10⇓ *eP* **P 00 36 28.3 +0.9**
KURK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
KURK Kurchatov 48.97 10 *eP* **P 00 36 28.0 +0.6**
comp=Z,5.4nm,0.9s,mb4.6
BOSA Boshof 50.19 229 P **P 00 36 38.6 +1.4**
comp=Z,6.9nm,0.8s,mb4.8,baz=81,slow=9.6,SNR=10
BOSA LR LR 00 56 03.8
comp=Z,2μm,18.6s,MS5.0,baz=58,slow=34
BOSA Boshof 50.19 229 *eP* **P 00 36 38.7 +1.6**
BOSA pmax pmax
comp=Z,14nm,1.0s,mb5.0
BOSA Boshof 50.19 229 *eP* **P 00 36 38.7 +1.5**
comp=Z,14nm,1.0s,mb4.9
BVAR Borovoye Array 50.27 3 PcP PcP 00 37 57.1 +1.0
comp=Z,3.0nm,0.9s,baz=164,slow=5.9,SNR=8.2
BVAR LR LR 00 59 07.5
comp=Z,548nm,19.3s,MS4.6,baz=177,slow=38
BRVK Borovoye 50.30 3 *eP* **P 00 36 37.2 -0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BRVK Borovoye 50.30 3 *eP* **P 00 36 37.2 -0.3**
comp=Z,3.4nm,0.7s,mb4.5
TSUM Tsumeb 52.58 243 P **P 00 36 55.6 +0.5**
comp=Z,2.3nm,0.9s,mb4.1,baz=76,slow=8.5,SNR=3.1
ZAL Zalesovo 53.29 14 P **P 00 36 59.3 -0.5**
ZAA0 Zalesovo Array 53.30 14 *eP* **P 00 36 59.8 -0.1**
ZALV Zalesovo Beam 53.30 14 P **P 00 36 59.3 -0.6**
comp=Z,7.7nm,0.7s,mb4.8,baz=199,slow=8.6,SNR=28
ZALV LR LR 00 59 25.8
comp=Z,554nm,21.1s,MS4.6,baz=252,slow=36
VRSR Storozhevoye 53.44 339 *eP* **P 00 37 01.1 +0.1**
VRSR pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR pmax pmax
comp=E,4.0nm,1.1s
HVS Khovu-Aksy 53.49 21 *i* P **P 00 37 01.8 +0.5**
NVS Novosibirsk 53.78 12 *eP* **P 00 37 03.0 -0.4**
ARU Arti 53.93 355*c i*P **P 00 37 05.0 +0.5**
ARU *e* 00 38 08.1
ARU *e* 00 39 01.7
ARU *e*S **S 00 44 38.4 -1.0**
ARU *e*SS SS 00 48 19.2 -1.5
ARU pmax pmax
comp=Z,21nm,1.7s,mb4.8
ARU MLR MLR
comp=Z,376nm,16.0s,MS4.5
ARU Arti 53.93 355 *eP* **P 00 37 04.5 0.0**
comp=Z,18nm,1.2s,mb4.9
KAPI Kappang 53.96 98 LR LR 00 57 06.3
comp=Z,400nm,21.1s,MS4.5,baz=308,slow=33
SVE Sverdlovsk 54.16 356 *eP* **P 00 37 07.0 +0.9**
HHC Hu-ho-hao-te 55.69 41 *eP* **P 00 37 18.3 +0.8**
HHC XP sP 00 37 23.8 0.0
HHC PP PP 00 39 23.9 +1.9
HHC S **S 00 45 02.8 -0.8**
HHC SCS ScS 00 47 04.2 -2.4
HHC AMB AMB
comp=Z,7.0nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,155nm,7.2s
HHC LR LR
comp=N,1μm,17.8s,MS5.1
HHC LR LR
comp=E,693nm,19.0s,MS5.1
HHC LR LR
comp=Z,1μm,21.4s,MS5.0
AKASG Malin Array Be 57.11 333 P **P 00 37 26.7 -0.8**
comp=Z,0.3nm,0.2s,mb4.0,baz=128,slow=5.7,SNR=6.1
AKASG PcP PcP 00 38 22.8 +0.6
comp=Z,0.4nm,0.4s,baz=123,slow=3.0,SNR=5.4
OBN Obninsk 57.54 340⇑ *eP* **P 00 37 30.6 +0.2**
OBN *e* 00 39 37.3
OBN pmax pmax
comp=Z,31nm,1.9s,mb5.0
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.3
OBN Obninsk 57.54 340 *eP* **P 00 37 30.5 0.0**
comp=Z,14nm,1.0s,mb5.0
MOS Moscow 57.70 341 *eP* **P 00 37 30.5 -1.1**
MOS pmax pmax
comp=Z,31nm,0.9s,mb5.3
BJI Beijing 58.39 44 P **P 00 37 35.5 -1.2**
BJI AMB AMB
comp=Z,5.0nm,0.8s,mb4.6
KOLS Kolonicke sedl 59.41 328 *i* P **P 00 37 44.6 +1.0**
KWP Kalwaria 59.60 329 *eP* **P 00 37 45.4 +0.5**
KWP pmax pmax
comp=Z,18nm,1.3s,mb4.9
KWP Kalwaria 59.60 329 *eP* **P 00 37 45.4 +0.5**
comp=Z,18nm,1.3s,mb4.9
CRVS Cervenica-Dubn 59.82 327 *i* P **P 00 37 47.1 +0.6**
KOLL Kolacno 61.32 326 *eP* **P 00 37 56.8 +0.1**
KLMR Klimovskoe 61.48 345 *eP* **P 00 37 57.0 -0.5**
KLMR pmax pmax
comp=Z,46nm,1.2s,mb5.5
BOJS Bojanci 61.64 322 *i* P **P 00 37 59.0 +0.1**
ZST Bratislava 61.86 325 *eP* **P 00 38 01.4 +1.1**
ZST Bratislava 61.86 325 *eP* **P 00 38 01.5 +1.2**
KEST Kesra 61.93 309 LR LR 01 05 22.6
comp=Z,120nm,18.7s,MS4.1,baz=306,slow=37
FITZ Fitzroy Crossi 61.97 112 LR LR 00 58 52.1
comp=Z,319nm,19.5s,MS4.5,baz=114,slow=30
VISS Visnje 62.03 322 *i* P **P 00 38 01.6 +0.1**
TAM Tamanrasset 62.08 294 *eP* **P 00 38 03.8 +1.5**
OKC Ostrava-Krasne 62.14 327 *eP* **P 00 38 02.0 -0.2**
MORC Moravsky Berou 62.44 327 *eP* **P 00 38 03.7 -0.5**
MORC pmax pmax
comp=Z,13nm,1.5s,mb4.8
MORC Moravsky Berou 62.44 327 *eP* **P 00 38 03.7 -0.5**
comp=Z,13nm,1.5s,mb4.8
CONA Conrad Observa 62.44 324⇑ *i*P **P 00 38 03.7 -0.5**
comp=Z,12nm,1.5s,mb4.8
CSNA Conrad Observa 62.45 324⇑ *i*P **P 00 38 03.7 -0.5**
comp=Z,11nm,1.5s,mb4.8
VRAC Vranov 62.72 326 P **P 00 38 06.1 0.0**
comp=Z,5.2nm,0.9s,mb4.7,baz=134,slow=8.5,SNR=4.4
MOA Molln 63.34 324⇑ *i*P **P 00 38 10.0 -0.3**
comp=Z,7.6nm,1.0s,mb4.8
DPC Dobruska-Polom 63.41 327 *eP* **P 00 38 10.1 -0.6**
DPC LR LR
comp=Z,500nm,23.2s,MS4.6
VSU Vasula 63.60 338⇓ *eP* **P 00 38 12.0 +0.3**
UPC Upice 63.66 327 *eP* **P 00 38 13.9 +1.6**
JOW Kunigami 63.88 61 LR LR 01 06 13.5
comp=Z,630nm,20.7s,MS4.8,baz=210,slow=36
GEC2 GERESS Array S 64.15 324 *eP* **P 00 38 16.3 +0.8**
GEC2 pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
GEC2 GERESS Array S 64.15 324 *eP* **P 00 38 16.3 +0.8**
comp=Z,6.0nm,1.5s,mb4.4
GERES GERESS Array B 64.15 324 P **P 00 38 14.8 -0.7**
comp=Z,0.2nm,0.4s,mb3.5,baz=123,slow=6.7,SNR=5.7
GERES LR LR 01 03 48.0
comp=Z,122nm,18.6s,MS4.1,baz=260,slow=34
PRU Pruhonice 64.22 326 *eP* **P 00 38 15.5 -0.5**
PRU LR LR
comp=Z,300nm,16.9s,MS4.5
KHC Kasperske Hory 64.35 325 *eP* **P 00 38 15.7 -1.2**
KHC LR LR
comp=Z,400nm,19.2s,MS4.6
PVCC Panska Ves 64.47 326 *eP* **P 00 38 17.3 -0.3**
PVCC LR LR
comp=Z,500nm,16.2s,MS4.8
PGF Pioggiola 64.50 316 *eP* **P 00 38 17.3 -0.7**
comp=Z,35nm,1.3s,mb4.9
PGF Pioggiola 64.50 316 *eP* **P 00 38 17.3 -0.7**
PGF pmax pmax
comp=Z,17nm,1.3s,mb4.9
PGF Pioggiola 64.50 316 *eP* **P 00 38 17.3 -0.7**
comp=Z,17nm,1.3s,mb4.9
TORD Torodi Ar. Bea 64.66 283 P **P 00 38 19.2 -0.3**
comp=Z,1.7nm,0.9s,mb4.1,baz=100,slow=6.0,SNR=8.3
TORD LR LR 01 06 49.3
comp=Z,565nm,19.0s,MS4.8,baz=120,slow=36
BRG Berggiesshubel 64.98 326 *eP* **P 00 38 21.0 +0.1**
comp=Z,2.0nm,0.9s,mb4.2
BRG
comp=N,324nm,16.7s
BRG
comp=E,304nm,17.1s
BRG
comp=Z,631nm,19.2s
BRG Berggiesshubel 64.98 326 *eP* **P 00 38 21.0 +0.1**
comp=Z,1.2nm,0.9s,mb3.9
BRG LR LR
comp=Z,380nm,19.2s,MS4.6
MOTA Moosalm 65.03 322⇓ *i*P **P 00 38 20.9 -0.4**
comp=Z,9.3nm,1.4s,mb4.6
MOTA Moosalm 65.03 322⇓ *i*P **P 00 38 20.9 -0.4**
MOTA pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
FETA Feichten 65.12 322⇓ *i*P **P 00 38 20.5 -1.4**
comp=Z,4.5nm,1.1s,mb4.4
FUR Furstenfeldbru 65.28 323 *eP* **P 00 38 22.2 -0.7**
FUR pmax pmax
comp=Z,14nm,1.0s,mb5.0
FUR Furstenfeldbru 65.28 323 *eP* **P 00 38 22.2 -0.7**
comp=Z,14nm,1.0s,mb5.0
JOF Joensuu 65.40 343 *ep* **P 00 38 21.9 -1.5**
comp=Z,8.3nm,0.8s,mb4.8
NKC Novy Kostel 65.52 325 *eP* **P 00 38 24.5 0.0**
WERN Wernitzgruen 65.58 325 *eP* **P 00 38 25.0 +0.1**
comp=Z,20nm,1.3s,mb5.0
GUNZ Gunzen 65.65 325 *eP* **P 00 38 25.1 -0.2**
CLL Collm 65.72 326⇑ *i*P **P 00 38 25.5 -0.2**
CLL *i* 00 38 32.1
CLL pmax pmax
comp=Z,18nm,1.6s,mb4.8
CLL Collm 65.72 326 *eP* **P 00 38 25.4 -0.3**
comp=Z,17nm,1.7s,mb4.8
CLL Collm 65.72 326⇑ *i*P **P 00 38 25.5 -0.2**
comp=Z,18nm,1.6s,mb4.8
CLL *i* x x 00 38 32.1
CLL *e*SS SS 00 51 54.0 +28
CLL *e*(SSS) 00 54 24.0
CLL Collm 65.72 326⇑ *i*P **P 00 38 25.5 -0.2**
comp=Z,18nm,1.6s,mb4.8
CLL *i* 00 38 32.1
CLL *i* 00 38 36.9
DAVA Damuels 65.76 322⇑ *i*P **P 00 38 26.0 -0.1**
comp=Z,7.7nm,1.4s,mb4.5
DAVA Damuels 65.76 322⇑ *i*P **P 00 38 26.0 -0.1**
comp=Z,7.7nm,1.4s,mb4.5
RUE Ruedersdorf 65.86 328 *eP* **P 00 38 26.7 +0.1**
comp=Z,15nm,0.3s,mb5.5
GRA1 Grafenberg Arr 65.98 324 *eP* **P 00 38 26.6 -0.8**
comp=Z,10.0nm,1.0s,mb4.8
GRF Grafenberg Arr 65.98 324 *eP* **P 00 38 26.6 -0.8**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
GRF Grafenberg Arr 65.98 324 *eP* **P 00 38 26.6 -0.8**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
GRF Grafenberg Arr 65.98 324 *eP* **P 00 38 26.6 -0.8**
comp=Z,10.0nm,1.0s,mb4.8
SBF Sospel 66.04 317 *eP* **P 00 38 27.3 -0.7**
KSRS Korea Array 66.05 50 P **P 00 38 28.0 -0.1**
comp=Z,1.8nm,0.7s,mb4.2,baz=263,slow=7.8,SNR=6.1
KSRS LR LR 01 09 39.0
comp=Z,563nm,18.8s,MS4.8,baz=245,slow=38
KSRS Korea Array 66.05 50 P **P 00 38 28.0 -0.1**
KSRS pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
KSRS MLR MLR
comp=Z,563nm,18.8s,MS4.8
MOX Moxa 66.18 325 *eP* **P 00 38 27.3 -1.4**
comp=Z,8.0nm,1.3s,mb4.6
CN2 Changchun 66.23 43 *eP* **P 00 38 29.4 +0.2**
KAF Kangasniemi 66.35 341 *ep* **P 00 38 29.2 -0.3**
comp=Z,8.9nm,0.8s,mb4.8,baz=135,slow=6.1
KAF Kangasniemi 66.35 341 *eP* **P 00 38 29.2 -0.3**
KAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FRF La Foret Royal 66.47 317 *eP* **P 00 38 31.1 +0.3**
comp=Z,32nm,1.3s,mb4.9
FRF La Foret Royal 66.47 317 *eP* **P 00 38 31.1 +0.3**
FRF pmax pmax
comp=Z,16nm,1.3s,mb4.9
FRF La Foret Royal 66.47 317 *eP* **P 00 38 31.1 +0.3**
comp=Z,16nm,1.3s,mb4.9
LMR La Mourre 66.49 317 *eP* **P 00 38 31.1 +0.2**
comp=Z,39nm,1.4s,mb5.0
LMR La Mourre 66.49 317 *eP* **P 00 38 31.1 +0.2**
LMR pmax pmax
comp=Z,19nm,1.4s,mb4.9
LMR La Mourre 66.49 317 *eP* **P 00 38 31.1 +0.2**
comp=Z,20nm,1.4s,mb4.9
MBDF Montbardon 66.79 318 *eP* **P 00 38 32.6 -0.2**
comp=Z,16nm,1.2s,mb4.6
MBDF Montbardon 66.79 318 *eP* **P 00 38 32.6 -0.2**
MBDF pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
MBDF Montbardon 66.79 318 *eP* **P 00 38 32.6 -0.2**
comp=Z,8.0nm,1.2s,mb4.6
BNI Bardonecchia 66.97 318 *eP* **P 00 38 34.0 +0.1**
BNI pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BNI Bardonecchia 66.97 318 *eP* **P 00 38 34.0 +0.1**
comp=Z,6.2nm,1.0s,mb4.6
LPG La Plagne 67.08 319 *eP* **P 00 38 34.3 -0.3**
comp=Z,32nm,1.3s,mb4.9
LPG La Plagne 67.08 319 *eP* **P 00 38 34.3 -0.3**
LPG pmax pmax
comp=Z,16nm,1.3s,mb4.9
LPG La Plagne 67.08 319 *eP* **P 00 38 34.3 -0.3**
comp=Z,16nm,1.3s,mb4.9
LPL La Plagne 67.10 319 *eP* **P 00 38 34.4 -0.3**
comp=Z,36nm,1.2s,mb5.0
LPL La Plagne 67.10 319 *eP* **P 00 38 34.4 -0.3**
LPL pmax pmax
comp=Z,18nm,1.2s,mb5.0
LPL La Plagne 67.10 319 *eP* **P 00 38 34.4 -0.3**
comp=Z,18nm,1.2s,mb5.0
RGN Rugen 67.14 330 *eP* **P 00 38 33.9 -0.8**
comp=Z,46nm,1.0s,mb5.5
BFO Black Forest 67.14 322 *eP* **P 00 38 33.6 -1.3**
BFO pmax pmax
comp=Z,25nm,1.4s,mb5.0
BFO Black Forest 67.14 322 *eP* **P 00 38 33.5 -1.4**
comp=Z,25nm,1.4s,mb5.0
BFO Black Forest 67.14 322 *eP* **P 00 38 33.6 -1.3**
comp=Z,25nm,1.4s,mb5.0
UBBA Unterbreizbach 67.18 325 *eP* **P 00 38 34.9 -0.2**
comp=Z,13nm,1.5s,mb4.7
SMRF Simiane la Rot 67.35 317 *eP* **P 00 38 35.9 -0.4**
comp=Z,19nm,1.3s,mb4.7
SMRF Simiane la Rot 67.35 317 *eP* **P 00 38 35.9 -0.4**
comp=Z,19nm,1.3s,mb5.0
CLZ Clausthal 67.42 326 *eP* **P 00 38 36.8 +0.2**
CLZ pmax pmax
comp=Z,12nm,1.1s,mb4.8
CLZ Clausthal 67.42 326 *eP* **P 00 38 36.8 +0.2**
comp=Z,12nm,1.1s,mb4.8
ORIF Oris-en-Rattie 67.45 318 *eP* **P 00 38 37.1 +0.1**
comp=Z,12nm,1.1s,mb4.5
ORIF *e*MLR MLR
comp=Z,220nm,23.0s,MS4.0
ORIF Oris-en-Rattie 67.45 318 *eP* **P 00 38 37.1 +0.1**
ORIF pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
ORIF Oris-en-Rattie 67.45 318 *eP* **P 00 38 37.1 +0.1**
comp=Z,5.8nm,1.1s,mb4.5
ECH Echery 67.82 322 *eP* **P 00 38 39.1 -0.1**
CDF Champ du Feu 67.82 322 *eP* **P 00 38 38.2 -1.0**
comp=Z,17nm,1.1s,mb4.7
CDF Champ du Feu 67.82 322 *eP* **P 00 38 38.2 -1.0**
CDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
CDF Champ du Feu 67.82 322 *eP* **P 00 38 38.2 -1.0**
comp=Z,8.5nm,1.1s,mb4.7
TNS Taunus Mts 67.83 324 *eP* **P 00 38 38.6 -0.6**
TNS pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
TNS Taunus Mts 67.83 324 *eP* **P 00 38 38.5 -0.7**
comp=Z,10.0nm,1.3s,mb4.7
TNS Taunus Mts 67.83 324 *eP* **P 00 38 38.6 -0.6**
comp=Z,10.0nm,1.3s,mb4.7
HINF Hinteralfeld 67.86 321 *eP* **P 00 38 38.9 -0.5**
comp=Z,19nm,1.4s,mb4.7
HINF Hinteralfeld 67.86 321 *eP* **P 00 38 38.9 -0.5**
HINF pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
HINF Hinteralfeld 67.86 321 *eP* **P 00 38 38.9 -0.5**
comp=Z,9.6nm,1.4s,mb4.6
CABF La Chapelle 67.91 320 *eP* **P 00 38 40.3 +0.5**
comp=Z,72nm,1.2s,mb5.3
CABF La Chapelle 67.91 320 *eP* **P 00 38 40.3 +0.5**
CABF pmax pmax
comp=Z,36nm,1.2s,mb5.3
CABF La Chapelle 67.91 320 *eP* **P 00 38 40.3 +0.5**
comp=Z,36nm,1.2s,mb5.3
HAU Haudompre 68.24 321 *eP* **P 00 38 41.1 -0.7**
HAU *e*MLR MLR
comp=Z,173nm,20.0s,MS4.0
HAU Haudompre 68.24 321 *eP* **P 00 38 41.1 -0.7**
HAU LR LR
comp=Z,170nm,20.0s,MS4.3
VIVF Saint-Julien-l 68.24 318 *eP* **P 00 38 41.1 -0.8**
BSEG Bad Segeberg 68.39 328 *eP* **P 00 38 43.6 +0.9**
comp=Z,15nm,1.3s,mb4.9
SSB Saint Sauveur 68.47 318 *eP* **P 00 38 43.4 +0.1**
LASF Ste Croix 68.55 317 *eP* **P 00 38 43.7 -0.2**
comp=Z,30nm,1.1s,mb4.8
WLF Walferdange 68.97 323 P **P 00 38 46.5 +0.2**
comp=Z,5.3nm,1.0s,mb4.4
WLF Walferdange 68.97 323 *eP* **P 00 38 46.3 -0.1**
comp=Z,11nm,1.0s,mb4.7
BUG Bochum--Univer 69.00 325 *eP* **P 00 38 47.2 +0.7**
comp=Z,7.0nm,1.0s,mb4.5
MEZF Maizieres J'vi 69.23 321 *eP* **P 00 38 47.0 -1.0**
comp=Z,15nm,0.9s,mb4.8
MEZF Maizieres J'vi 69.23 321 *eP* **P 00 38 47.0 -1.0**
comp=Z,15nm,0.9s,mb4.9
SMF Signal de Mont 69.37 319 *eP* **P 00 38 48.6 -0.3**
comp=Z,42nm,1.2s,mb4.9
SMF Signal de Mont 69.37 319 *eP* **P 00 38 48.6 -0.3**
SMF pmax pmax
comp=Z,21nm,1.2s,mb4.9
SMF Signal de Mont 69.37 319 *eP* **P 00 38 48.6 -0.3**
comp=Z,21nm,1.2s,mb5.0
MEM Membach 69.42 324 P **P 00 38 49.5 +0.4**
comp=Z,7.0nm,1.3s,mb4.4
LOR Lormes 69.56 320 *eP* **P 00 38 49.8 -0.3**
comp=Z,27nm,1.2s,mb4.7
LOR *e*MLR MLR
comp=Z,149nm,22.8s,MS3.9
LOR Lormes 69.56 320 *eP* **P 00 38 49.8 -0.3**
LOR pmax pmax
comp=Z,14nm,1.2s,mb4.8
LOR MLR MLR
comp=Z,150nm,22.8s,MS4.2
LOR Lormes 69.56 320 *eP* **P 00 38 49.8 -0.3**
comp=Z,14nm,1.2s,mb4.8
LOR LR LR
comp=Z,150nm,22.8s,MS4.2
SSF Saint Saulge 69.73 320 *eP* **P 00 38 50.8 -0.3**
comp=Z,23nm,1.1s,mb4.7
SSF Saint Saulge 69.73 320 *eP* **P 00 38 50.8 -0.3**
SSF pmax pmax
comp=Z,12nm,1.1s,mb4.7
SSF Saint Saulge 69.73 320 *eP* **P 00 38 50.8 -0.3**
comp=Z,12nm,1.1s,mb4.7
AVF Avril sur Loir 69.74 319 *eP* **P 00 38 50.8 -0.4**
comp=Z,15nm,1.2s,mb4.5
AVF Avril sur Loir 69.74 319 *eP* **P 00 38 50.8 -0.4**
AVF pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
AVF Avril sur Loir 69.74 319 *eP* **P 00 38 50.8 -0.4**
comp=Z,7.7nm,1.2s,mb4.5
BCLA Clavier 69.76 323 P **P 00 38 51.3 0.0**

comp=Z,6.7nm,1.3s,mb4.4
HFS Hagfors 69.87 335 P **P 00 38 51.7 0.0**
comp=Z,22nm,0.8s,mb5.2,baz=133,slow=6.3,SNR=40
BGF Bois d'Agland 70.00 319 *e*P **P 00 38 53.0 +0.2**
comp=Z,41nm,1.1s,mb5.0
BGF Bois d'Agland 70.00 319 *e*P **P 00 38 53.0 +0.2**
BGF pmax pmax
comp=Z,21nm,1.1s,mb5.0
BGF Bois d'Agland 70.00 319 *e*P **P 00 38 53.0 +0.2**
comp=Z,20nm,1.1s,mb5.0
DOU Dourbes 70.07 323 P **P 00 38 53.8 +0.6**
BAIF Baives 70.29 323 *e*P **P 00 38 53.8 -0.7**
comp=Z,28nm,1.2s,mb4.8
BAIF Baives 70.29 323 *e*P **P 00 38 53.8 -0.7**
BAIF pmax pmax
comp=Z,14nm,1.2s,mb4.8
BAIF Baives 70.29 323 *e*P **P 00 38 53.8 -0.7**
comp=Z,14nm,1.2s,mb4.8
HYF Humbligny 70.35 320 *e*P **P 00 38 55.3 +0.4**
WRA Warramunga Arr 70.41 112 P **P 00 38 54.3 -1.5**
comp=Z,18nm,1.1s,mb4.9,baz=284,slow=6.1,SNR=3.5
UCC Uccle 70.46 324 P **P 00 38 55.0 -0.6**
comp=Z,11nm,1.0s,mb4.7
RJF Les Rejaudoux 70.51 317 *e*P **P 00 38 56.5 +0.5**
comp=Z,58nm,1.5s,mb5.0
RJF *e*MLR MLR
comp=Z,173nm,20.2s,MS4.0
RJF Les Rejaudoux 70.51 317 *e*P **P 00 38 56.5 +0.5**
RJF pmax pmax
comp=Z,29nm,1.5s,mb5.0
RJF MLR MLR
comp=Z,170nm,20.3s,MS4.3
RJF Les Rejaudoux 70.51 317 *e*P **P 00 38 56.5 +0.5**
comp=Z,29nm,1.5s,mb5.0
RJF LR LR
comp=Z,170nm,20.3s,MS4.3
LFF La Frestale 70.94 317 *e*P **P 00 38 59.2 +0.6**
comp=Z,74nm,1.5s,mb5.1
LFF La Frestale 70.94 317 *e*P **P 00 38 59.2 +0.6**
LFF pmax pmax
comp=Z,37nm,1.5s,mb5.1
LFF La Frestale 70.94 317 *e*P **P 00 38 59.2 +0.6**
comp=Z,37nm,1.5s,mb5.1
DBIC Dimbokro 70.97 276 P **P 00 38 58.8 -0.6**
comp=Z,7.1nm,1.0s,mb4.5,baz=70,slow=15,SNR=6.5
DBIC LR LR 01 10 12.3
comp=Z,294nm,18.4s,MS4.6,baz=73,slow=36
ETSF Etsaut 71.31 315 *e*P **P 00 39 02.0 +1.1**
comp=Z,23nm,1.2s,mb4.7
ETSF Etsaut 71.31 315 *e*P **P 00 39 02.0 +1.1**
ETSF pmax pmax
comp=Z,11nm,1.2s,mb4.7
ETSF Etsaut 71.31 315 *e*P **P 00 39 02.0 +1.1**
comp=Z,11nm,1.2s,mb4.7
NB2 NORSAR Subarra 71.38 335 P **P 00 39 00.4 -0.5**
comp=Z,7.8nm,1.0s,mb4.6,baz=120,slow=6.2
NOA NORSAR Array B 71.38 335 P **P 00 39 01.0 +0.1**
comp=Z,7.1nm,0.9s,mb4.6,baz=112,slow=6.6,SNR=16
NOA NORSAR Array B 71.38 335 P **P 00 39 01.0 +0.1**
KONO Kongsberg 71.40 333⇓*e*P **P 00 39 01.6 +0.5**
NAO01 NORSAR Array S 71.42 335 *e*P **P 00 39 01.9 +0.8**
SJPF Ste Jean 71.84 315 *e*P **P 00 39 03.9 -0.2**
comp=Z,53nm,1.2s,mb5.1
SJPF Ste Jean 71.84 315 *e*P **P 00 39 03.9 -0.2**
SJPF pmax pmax
comp=Z,26nm,1.2s,mb5.0
SJPF Ste Jean 71.84 315 *e*P **P 00 39 03.9 -0.2**
comp=Z,26nm,1.2s,mb5.0
ARCES ARCESS Array B 71.95 346 P **P 00 39 02.1 -2.1**
comp=Z,4.1nm,0.9s,mb4.3,baz=148,slow=5.6,SNR=9.7
MFF Saint Martin d 71.98 318 *e*P **P 00 39 04.8 -0.1**
comp=Z,30nm,1.2s,mb4.8
MFF Saint Martin d 71.98 318 *e*P **P 00 39 04.8 -0.1**
MFF pmax pmax
comp=Z,15nm,1.2s,mb4.8
MFF Saint Martin d 71.98 318 *e*P **P 00 39 04.8 -0.1**
comp=Z,15nm,1.2s,mb4.8
LDF La Drutiere 72.52 320 *e*P **P 00 39 08.0 0.0**
GRR Gorron 72.93 320 *e*P **P 00 39 10.2 -0.3**
ESDC Sonseca Array 73.13 311 P **P 00 39 11.7 -0.1**
comp=Z,5.1nm,0.8s,mb4.5,baz=86,slow=5.3,SNR=29
ESDC LR LR 01 08 16.4
comp=Z,103nm,20.9s,MS4.1,baz=55,slow=33
ESLA Sonseca Array 73.13 311 *e*P **P 00 39 12.8 +1.0**
SYO Syowa Base 73.86 190⇓*e*P **P 00 39 16.4 +0.9**
MJAR Matsushiro Arr 73.90 53 P **P 00 39 17.1 +0.7**
comp=Z,1.6nm,0.5s,mb4.2,baz=264,slow=5.5,SNR=7.0
MJAR LR LR 01 13 22.5
comp=Z,310nm,19.2s,MS4.6,baz=40,slow=37
EVO Evora 76.05 309 *e*P **P 00 39 30.1 +1.3**
comp=Z,28nm,1.3s,mb4.7
EVO *e*MLR MLR
comp=Z,206nm,22.0s,MS4.1
EKA Eskdalemuir Ar 76.19 327 P **P 00 39 28.9 -0.3**
comp=Z,1.5nm,0.7s,mb4.0,baz=110,slow=7.2,SNR=4.6
CBIJ Chichi jima 76.22 63 LR LR 01 11 50.7
comp=Z,237nm,18.2s,MS4.5,baz=70,slow=35
YSS Yuzh-Sakhalins 78.80 43⇑*e*P **P 00 39 44.9 +0.9**
YSS pmax pmax
comp=Z,33nm,1.5s,mb5.0
STKA Stephens Creek 78.99 123 P **P 00 39 44.4 -1.0**
comp=Z,10nm,1.1s,mb4.7,baz=320,slow=7.9,SNR=3.0
STKA LR LR 01 12 05.0
comp=Z,288nm,19.2s,MS4.6,baz=207,slow=34
STKA Stephens Creek 78.99 123 P **P 00 39 44.4 -1.0**
STKA LR LR 01 12 05.0
TIXI Tiksi 79.04 17 *i* P **P 00 39 45.1 +0.2**
TIXI pmax pmax
comp=Z,15nm,1.6s,mb4.7
CTA Charters Tower 81.51 111 LR LR 01 09 20.0
comp=Z,311nm,21.9s,MS4.6,baz=237,slow=31
SNAA Sanae 86.09 197 *e*P **P 00 40 21.0 -0.5**
SNAA Sanae 86.09 197 *e*P **P 00 40 21.0 -0.6**
PETK Petropavlovsk- 88.71 37 LR LR 01 22 43.5
comp=Z,749nm,18.7s,MS5.1,baz=248,slow=37
BILL Bilibino 91.25 22⇑*e*P **P 00 40 49.4 +3.3**
BILL *e*S SKSac 00 51 14.1 -3.7
BILL *e*PS PS 00 52 58.8 +4.7
BILL pmax pmax
comp=Z,20nm,1.2s,mb5.3
BILL MLR MLR
comp=Z,500nm,20.0s,MS5.0
COWI Conover 126.76 339 *e*PKPdf PKPdf 00 46 45.7 +0.7
LAO LASA Array 130.38 353 *e*PKPdf PKPdf 00 46 53.3 +1.4
DLMT Dillon 132.14 359 *e*PKPdf PKPdf 00 46 55.5 +0.3
TPAW Teton Pass 133.95 357 *e*PKPdf PKPdf 00 46 58.9 +0.2
REDW Red Top Meadow 134.08 357 *e*PKPdf PKPdf 00 46 59.1 +0.1
BW06 Boulder Array 134.59 356 *e*PKPdf PKPdf 00 46 58.4 -1.6
PDAR Pinedale Array 134.59 356 PKP PKPdf 00 46 57.6 -2.3
comp=Z,2.6nm,1.0s,baz=48,slow=2,2,SNR=6.5
DUG Dugway 137.31 359⇑P PKPdf 00 47 02.9 -2.1
baz=137
SMCO Snowmass 137.87 352 *e*PKPdf PKPdf 00 47 07.7 +1.6
SMCO *e*PP PP 00 49 56.1 +4.1
MIAR Mount Ida 138.39 335 *e*PKIKP PKPdf 00 47 08.0 +0.8
NVAR Mina Array Bea 138.86 5 PKP PKPdf 00 47 07.2 -0.8
comp=Z,0.4nm,0.5s,baz=58,slow=30,SNR=3.9
PV10 Paradox Valley 138.90 354 *e*PKPdf PKPdf 00 47 04.6 -3.5
R17A Hanksville Air 138.99 356⇓P PKPdf 00 47 04.3 -3.9
baz=139
R09A Tonopah 139.15 4⇓P PKPdf 00 47 05.5 -3.0
baz=139
S06C San Francisco 139.22 7⇑P PKPdf 00 47 07.3 -1.3
baz=139
S16A Weppner Ranch, 139.74 357⇓P PKPdf 00 47 06.6 -3.0
baz=140
S08C White Mtn Res 139.79 5⇑P PKPdf 00 47 07.7 -2.0
baz=140
T18A Mexican Hat 140.21 355⇓P PKPdf 00 47 07.4 -3.0
baz=140
T13A Saint George 140.48 0⇑P PKPdf 00 47 07.9 -3.1
baz=140,SNR=6.3
U17A Shonto 140.80 356⇑P PKPdf 00 47 09.1 -2.4
baz=141
U18A Rough Rock, Ch 140.92 355⇓P PKPdf 00 47 08.7 -3.1
baz=141
U13A Pakoon Wash 141.09 0⇓P PKPdf 00 47 10.2 -1.9
baz=141
V13A Grand Canyon W 141.65 0⇓P PKPdf 00 47 10.7 -2.4
baz=142,SNR=6.8
PPT Papeete 141.84 115 *e*LR LR 01 33 18.9
comp=Z,327nm,28.5s
V14A Boquillas Ranc 141.86 359⇑P PKPdf 00 47 10.8 -2.7
baz=142
ANMO Albuquerque 141.94 350⇑*i*PKIKP PKPdf 00 47 15.9 +2.2
W14A Seligman 142.28 359⇑P PKPdf 00 47 12.5 -1.7
baz=142
W13A Hualapai Mount 142.40 0⇑P PKPdf 00 47 13.0 -1.4
baz=142
LAZ Ladron 142.58 351 *e*PKPdf PKPdf 00 47 12.6 -2.2
LPM Los Pinos Moun 142.59 350 *e*PKPdf PKPdf 00 47 13.1 -1.8
BNM Barren Site 142.75 350 *e*PKPdf PKPdf 00 47 12.4 -2.8
LENM Lemitar 142.79 351 *e*PKPdf PKPdf 00 47 12.8 -2.4
X18A Snowflake 142.80 355⇑P PKPdf 00 47 13.9 -1.3
baz=143
Y22C IRIS PASSCAL I 142.87 351⇓P PKPdf 00 47 14.2 -1.1
baz=143
X13A Yucca 142.91 0 P PKPdf 00 47 13.9 -1.5
baz=143,SNR=5.6
X15A Humboldt 142.99 358 P PKPdf 00 47 14.0 -1.5
baz=143,SNR=9.7
X16A Lo Mia Camp, P 143.02 357⇑P PKPdf 00 47 13.7 -1.9
baz=143,SNR=5.7
X17A Forest Lakes 143.06 356⇓P PKPdf 00 47 14.0 -1.6
baz=143,SNR=6.9
Y19A Nutrioso 143.30 354⇓P PKPdf 00 47 14.8 -1.3
baz=143
IRM Iron Mountain 143.31 2⇓P PKPdf 00 47 14.8 -1.3
baz=143
Y15A Casa Rosa Ranc 143.52 358⇓P PKPdf 00 47 15.2 -1.3
baz=143
Y14A Wickenburg 143.55 359⇑P PKPdf 00 47 15.5 -1.0
baz=143
Y18A Canyon Day Jun 143.55 355⇓P PKPdf 00 47 15.4 -1.2
baz=144,SNR=7.2
Y16A Circle Bar Ran 143.56 357⇓P PKPdf 00 47 15.4 -1.2
baz=144,SNR=5.4
Y13A Salome 143.68 0⇓P PKPdf 00 47 15.9 -0.9
baz=144
Y17A Roosevelt 143.70 356⇑P PKPdf 00 47 16.0 -0.9
baz=144,SNR=9.4
Y12C Blythe 143.74 1⇓P PKPdf 00 47 16.3 -0.6
baz=144
MURC Murrieta 143.75 5⇓P PKPdf 00 47 16.5 -0.4
baz=144
PFO Pinyon Flat Ob 143.79 4⇑P PKPdf 00 47 16.5 -0.4
baz=144
PFO Pinyon Flat Ob 143.79 4 *e*PKPdf PKPdf 00 47 16.2 -0.8
BC3 Big Chuckw Mtn 143.80 2⇑P PKPdf 00 47 16.6 -0.4
baz=144
Z19A T-Link Ranch, 143.96 354⇑P PKPdf 00 47 16.9 -0.4
baz=144
Z17A San Carlos Hig 144.07 355⇑P PKPdf 00 47 17.2 -0.2
baz=144
Z16A Peralta Trail, 144.09 357⇑P PKPdf 00 47 16.8 -0.7
baz=144
Z14A Wintersburg 144.13 359⇑P PKPdf 00 47 16.8 -0.7
baz=144
Z15A Gila River Ind 144.18 358⇓P PKPdf 00 47 17.2 -0.4
baz=144
SCI San Clemente I 144.22 7⇑P PKPdf 00 47 17.1 -0.6
baz=144
Z18A Geronimo 144.24 355⇓P PKPdf 00 47 17.3 -0.5
baz=144
GLA Glamis 144.43 2⇑P PKPdf 00 47 18.0 -0.1
baz=144
GLA Glamis 144.43 2 *e*PKPdf PKPdf 00 47 18.2 +0.1
119A Ashpeak Ranch, 144.48 354⇑P PKPdf 00 47 18.7 +0.5
baz=144,SNR=9.0
MONP Monument Peak 144.51 4⇑P PKPdf 00 47 18.4 +0.1
baz=144
OTAV Otavalo 144.63 274 *e*PKPdf PKPdf 00 47 19.7 +0.7
118A Homack Ranch, 144.68 355⇓P PKPdf 00 47 18.4 -0.2
baz=145,SNR=16
BAR Barrett 144.70 4 *e*PKPdf PKPdf 00 47 19.3 +0.7
113A Mohawk Valley, 144.73 0⇓P PKPdf 00 47 18.5 -0.1
baz=145
DVTC Desert V Tower 144.76 3⇓P PKPdf 00 47 19.0 +0.3
baz=145
115A Sonoran Desert 144.76 358⇓P PKPdf 00 47 18.7 0.0
baz=145,SNR=6.3
117A Oracle 144.81 356⇓P PKPdf 00 47 19.4 +0.6
baz=145,SNR=19
116A Eloy 144.88 357⇑P PKPdf 00 47 18.8 -0.1
baz=145,SNR=5.7
MNTX Cornudas Mount 144.89 348 *e*PKPdf PKPdf 00 47 18.8 -0.2
112A Yuma 144.95 1⇑P PKPdf 00 47 18.9 -0.1
baz=145
TUC Tucson 145.07 356 *e*PKIKP PKPdf 00 47 19.8 +0.6
219A White Tail Can 145.24 353⇓P PKPbc 00 47 19.8 +0.7
baz=145,SNR=8.9
218A Dragoon 145.34 355⇑P PKPbc 00 47 20.8 +1.3
baz=145
216A Three Points, 145.42 357⇑P PKPbc 00 47 20.6 +0.8
baz=145,SNR=7.9
214A Organ Pipe Nat 145.53 359⇑P PKPdf 00 47 21.1 +1.1
baz=145
217A Green Valley 145.61 356⇓P PKPdf 00 47 21.3 +1.1
baz=146,SNR=36
319A Douglas 145.85 353⇓P PKPdf 00 47 22.0 +1.4
baz=146
318A Bisbee 145.87 354⇓P PKPdf 00 47 21.6 +1.0
baz=146,SNR=14
TXAR Lajitas Array 146.73 344 PKPbc PKPbc 00 47 24.3 +0.6
comp=Z,22nm,0.9s,baz=58,slow=2.8,SNR=88
TXAR Lajitas Array 146.73 344 PKP2 PKPab 00 47 24.3 -0.6
TXAR pmax pmax
comp=Z,23nm,0.9s
TGUH Tegucigalpa,Un 148.95 303 *e*PKPbc PKPbc 00 47 30.2 +0.1

*NEIC **06** 00:39:30.2, 3558N×2474E, h38km, MD3.6(ATH), After ATH.*
*CSEM **06** 00:39:30.2, 3558N×2474E, h38km, MD3.6, After ATH*
ATH 06 00:39:30.0, 3559N×2474E, h38km±9km, MD3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**0.33**	**158**	P	Pn		00 39 39.9	+1.5
VAM	**Vamos**	**0.48**	**248**	*e*PB	Pn		00 39 41.3	+0.9
VAM				*e*SB	Sn		00 39 48.6	+1.0
SIVA	**Sivas**	**0.57**	**174**	P	Pn		00 39 44.6	+2.9
LAST	**Lasithi**	**0.74**	**125**	P	Pn		00 39 45.2	+1.3
NPS	**Neapolis**	**0.78**	**114**	*e*PN	Pn		00 39 45.7	+1.2
ZKR	**Zakros**	**1.30**	**111**	P	Pn		00 39 53.3	+1.7
KYTH	**Kithira**	**1.54**	**297**	*e*PB	Pn		00 39 57.0	+2.0
VLI	**Veliai**	**1.84**	**308**	*e*PB	Pn		00 40 01.5	+2.4
KARP	**Karpathos**	**1.97**	**91**	*e*PN	Pn		00 40 02.0	+1.1
SMG	**Samos**	**2.71**	**38**	*e*PN	Pn		00 40 12.7	+1.8
ITM	**Ithomi**	**2.77**	**306**	*e*Pb	Pn		00 40 15.8	+4.0
ARG	**Arkhangelos**	**2.82**	**76**	*e*PN	Pn		00 40 14.7	+2.2
LKR	**Lokris**	**3.36**	**336**	P	Pn		00 40 24.7	+4.8
PLG	**Polygyros**	**4.88**	**348**	P	Pn		00 45.0	+4.1

IDC 06 00:49:51.2±1.5, 267S×14142E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=61.9km s-min=27.6km az=90.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.51**	**201**	P	Pn		00 54 09.1	-0.1
	0.6nm,0.3s,baz=15,slow=12,SNR=8.4							
ASAR	**Alice Springs**	**22.11**	**199**	P	P		00 54 49.2	+1.0
	0.5nm,0.4s,baz=32,slow=11,SNR=9.8							
MKAR	**Makanchi Array**	**71.42**	**322**	P	P		01 01 13.7	+0.4
	0.5nm,0.6s,baz=116,slow=7.5,SNR=4.3							
BVAR	**Borovoye Array**	**80.83**	**325**	P	P		01 02 07.2	+0.3
	0.4nm,0.4s,baz=125,slow=7.6,SNR=2.9							
LPAZ	**La Paz**	**145.26**	**124**	PKPbc	PKPbc		01 09 30.5	-1.2
	0.8nm,0.7s,baz=281,slow=5.2,SNR=2.2							

*CSEM **06** 00:52:30.4±0.1, 3887N×2777E, h8km, MD2.9, Error ellipse: s-maj=2.7km s-min=1.8km az=139.0*
*DDA **06** 00:52:30.9, 3886N×2779E, h8km±1km, Md2.6*
*ISK **06** 00:52:30.7, 3888N×2777E, h6km, MD2.9*
*ISCJB **06** 00:52:31.1±0.4, 3887N±004×2778E±004, h6km±4km, Error ellipse: s-maj=7.1km s-min=3.8km az=140.8*
ISC 06 00:52:31.4±0.4, 3886N±003×2780E±004, h7km±4km, n17, σ0°49/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.02**	**42**	PG	**Pg**		**00 52 32.4**	**-0.2**
AKHS	**Akhisar**	**0.02**	**43**	*i* P	**Pg**		**00 52 32.6**	**0.0**
AKHS				*i* S	**Sg**		**00 52 33.9**	**+0.3**
KDAG	**Bornova**	**0.62**	**222**	*i* P	**Pg**		**00 52 43.0**	**-0.3**
KDAG				*i* S	**Sg**		**00 52 51.5**	**+0.2**
IZM	**Izmir**	**0.62**	**222**	*e*PG	**Pg**		**00 52 43.0**	**-0.4**
IZM				*e*SG	**Sg**		**00 52 52.4**	**+0.9**
BLCB	**Balcova**	**0.76**	**231**	*e*PG	**Pg**		**00 52 45.6**	**-0.3**
KULA	**Kula-Manisa**	**0.76**	**117**	*e*PG	**Pg**		**00 52 46.0**	**0.0**
BALB	**Balikesir**	**0.78**	**5**	*e*PG	**Pg**		**00 52 45.8**	**-0.6**
BTOK	**Tokmak**	**0.92**	**11**	*i* P	**Pg**		**00 52 48.2**	**-0.8**
BTOK				*i* S	**Sg**		**00 53 02.0**	**+1.2**
AYVA	**Ayvalik**	**0.97**	**298**	*i* P	**Pg**		**00 52 50.0**	**+0.1**
AYVA				*i* S	**Sg**		**00 53 02.9**	**+0.4**
DST	**Dursunbey**	**0.98**	**41**	*e*PG	**Pg**		**00 52 49.9**	**-0.4**
URLA	**Izmir**	**1.07**	**242**	*i* P	**Pg**		**00 52 51.0**	**-0.8**
URLA				*i* S	**Sg**		**00 53 05.9**	**+0.3**
URLA	**Izmir**	**1.07**	**242**	*i* P	**Pg**		**00 52 51.0**	**-0.8**
URLA				*i* S	**Sg**		**00 53 05.9**	**+0.2**
GDZ	**Gediz**	**1.33**	**80**	*i* P	**Pn**		**00 52 56.8**	**+0.4**
GDZ				*i* S	**Sb**		**00 53 14.1**	**+0.2**
KHL	**Karahalli**	**1.46**	**111**	*e*PN	**Pn**		**00 52 58.5**	**+0.4**
KCT	**Karacabey**	**1.47**	**17**	*e*PN	**Pn**		**00 52 58.0**	**-0.2**
EDC	**Edincik**	**1.48**	**2**	*e*PN	**Pn**		**00 52 58.1**	**-0.3**
ULDT	**Uludag**	**1.65**	**39**	*i* P	**Pn**		**00 53 01.4**	**+0.7**
ULDT				*i* S	**Sn**		**00 53 21.7**	**-0.4**

*ISCJB **06** 01:29:14.3±0.5, 4277N±005×4634E±003, h10km, Error ellipse: s-maj=7.4km s-min=3.2km az=11.6*
*MOS **06** 01:29:14.5±1.1, 4279N×4644E, h11km, mb3.8/1, Error ellipse: s-maj=20.0km s-min=9.9km az=15.1*
*CSEM **06** 01:29:14.5, 4279N×4644E, h11km, mb3.8, After OBN*
ISC 06 01:29:15.0±0.6, 4276N±005×4636E±003, h4km±8km, n12, σ0°89/23, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.43**	**53**	*i* PG	**Pg**		**01 29 21.5**	**-1.8**
DBC				*i* S	**Sg**		**01 29 29.0**	**0.0**
BUJR	**Buynaksk**	**0.56**	**83**	*e*Pg	**Pg**		**01 29 27.4**	**+1.7**
BUJR				*i* Sg	**Sg**		**01 29 37.4**	**+4.5**
KMKR	**Kumukh**	**0.83**	**139**	*e*PG	**Pg**		**01 29 29.8**	**-1.2**
KMKR				*i* S	**Sg**		**01 29 42.8**	**+1.0**
KMKR				pmax	pmax			
	comp=Z,35nm,0.2s							
KMKR	**Kumukh**	**0.83**	**139**	*e*Pg	**Pg**		**01 29 29.8**	**-1.2**
	comp=Z,35nm,0.2s							
KMKR				*i* Sg	**Sg**		**01 29 42.8**	**+1.0**
SNJR	**Sundja**	**1.18**	**286**	*e*Pg	**Pg**		**01 29 37.3**	**-0.2**
SNJR				*e*Sg	**Sg**		**01 29 54.0**	**+1.2**
VLKR	**Vladikavkaz**	**1.27**	**284**	*e*Pg	**Pg**		**01 29 38.7**	**-0.6**
VLKR				*e*Sg	**Sg**		**01 29 56.6**	**+0.9**
BTKR	**Batakoyurt**	**1.46**	**295**	*e*Pg	**Pg**		**01 29 42.4**	**-0.7**
BTKR				*e*Sg	**Sg**		**01 30 02.9**	**+0.9**
LACR	**Lac**	**1.52**	**273**	*i* Pg	**Pg**		**01 29 42.8**	**-1.3**
LACR				*i* Sg	**Sg**		**01 30 03.3**	**-0.5**
ARNR	**Ardon**	**1.58**	**286**	*e*Pn	**Pn**		**01 29 43.9**	**+0.1**
ARNR				*e*Sg	**Sg**		**01 30 05.9**	**0.0**
KMSR	**Komsomolskaya**	**1.63**	**293**	*e*Pn	**Pn**		**01 29 44.9**	**+0.4**
KMSR				*e*Sg	**Sg**		**01 30 07.7**	**+0.3**
ZEI	**Tsey**	**1.81**	**271**	*e*Pn	**Pn**		**01 29 47.2**	**+0.3**
DIGR	**Digorskoe uzhe**	**2.05**	**275**	*e*Pn	**Pn**		**01 29 50.6**	**+0.4**
DIGR				*e*Sb	**Sb**		**01 30 17.4**	**-1.1**

*IDC **06** 01:32:03.0±6.6, 3428N×7368E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.7/3, Error ellipse: s-maj=168.7km s-min=39.7km az=130.0*
ISC 06 01:32:11.0±1.9, 347N±01×733E±03, h35km, n4, σ1°14/5, mb3.5/2, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.72**	**346**	⇓Pn	**Pn**		**01 34 15.8**	**+1.2**
	1.6nm,0.3s,baz=154,slow=11							
KK31				⇑Sn	**Sn**		**01 35 51.0**	**-0.6**
	0.5nm,0.3s,baz=146,slow=21							
ZALV	**Zalesovo Beam**	**20.92**	**19**	P	**P**		**01 36 49.7**	**-0.6**
	1.2nm,0.3s,baz=213,slow=11,SNR=5.6							
ARCES	**ARCESS Array B**	**43.58**	**338**	P	**P**		**01 40 11.9**	**+0.8**
	0.7nm,0.6s,mb3.6,baz=113,slow=8.2,SNR=6.2							
TORD	**Torodi Ar. Bea**	**67.62**	**271**	P	**P**		**01 43 03.9**	**-0.7**
	0.2nm,0.6s,mb3.4,baz=49,slow=6.0,SNR=4.6							

*SZGRF **06** 01:38:55.7, 1998S×175.12W, h33km, Tonga Islands*
*ISCJB **06** 01:39:57.6±1.3, 191S±02×177W±02, h554km±21km, mb3.6/8, Error ellipse: s-maj=32.9km s-min=18.0km az=149.7*
*IDC **06** 01:39:58.4±1.6, 1903S×177.61W, h554km±19km, mb3.1/8, mb1 3.3/9, mb1mx3.2/19, mbtmp3.1/9, Error ellipse: s-maj=28.3km s-min=14.8km az=144.0*
*NEIC **06** 01:39:58.6±1.1, 1900S×177.67W, h557km±14km, Error ellipse: s-maj=28.3km s-min=13.7km az=150.0*
ISC 06 01:39:58.1±1.2, 191S±02×177W±02, h547km±20km, n23, σ0°49/14, mb3.6/8, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.61**	**49**	P	**P**		**01 41 52.7**	**+0.6**
	6.6nm,0.3s,baz=230,slow=20,SNR=7.1							
AFI				S	**S**		**01 43 24.4**	**-0.9**
	14nm,0.3s,baz=75,slow=23,SNR=6.6							
AFI	**Afiamalu**	**7.61**	**49**	*e*P	**P**		**01 41 52.6**	**+0.6**
AFI				*e*S	**S**		**01 43 25.2**	**-0.1**
CTA	**Charters Tower**	**33.98**	**262**	P	**P**		**01 45 56.5**	**-0.3**
	2.7nm,0.5s,mb4.0,baz=70,slow=15,SNR=3.0							
STKA	**Stephens Creek**	**38.72**	**243**	P	**P**		**01 46 35.2**	**-0.5**
	2.5nm,0.8s,mb3.8,baz=111,slow=5.6,SNR=4.3							
STKA	**Stephens Creek**	**38.72**	**243**	P	**P**		**01 46 35.2**	**-0.5**
WRA	**Warramunga Arr**	**45.14**	**261**	P	**P**		**01 47 26.6**	**+0.2**
	1.0nm,0.6s,mb3.5,baz=97,slow=8.4,SNR=5.6							
WRA				PcP	PcP		01 48 54.6	-0.6
	0.5nm,0.5s,baz=92,slow=3.4,SNR=3.5							
ASAR	**Alice Springs**	**45.18**	**255**	P	**P**		**01 47 27.1**	**+0.5**
	2.1nm,0.7s,mb3.8,baz=87,slow=8.5,SNR=19							
ASAR				PcP	PcP		01 48 54.5	-0.8
	0.9nm,0.7s,baz=112,slow=5.1,SNR=8.3							
VNDA	**Vanda**	**59.37**	**185**	P	**P**		**01 49 07.9**	**+0.5**
	0.6nm,0.7s,mb2.9,baz=17,slow=8.2,SNR=3.5							
PETK	**Petropavlovsk-**	**74.97**	**345**	P	**P**		**01 50 43.2**	**0.0**
	6.7nm,1.1s,mb4.0,baz=148,slow=8.4,SNR=4.5							
MAW	**Mawson**	**83.03**	**200**	P	**P**		**01 51 25.1**	**-0.8**
	0.9nm,0.7s,mb3.4,baz=112,slow=8.3,SNR=3.8							
TXAR	**Lajitas Array**	**86.00**	**57**	P	**P**		**01 51 41.4**	**+0.3**
	0.3nm,0.6s,mb3.1,baz=209,slow=7.1,SNR=4.9							
TXAR	**Lajitas Array**	**86.00**	**57**	P	**P**		**01 51 41.4**	**+0.3**
ARCES	**ARCESS Array B**	**127.57**	**350**	PKP	PKPdf		01 57 58.6	-1.9
	0.6nm,0.4s,baz=335,slow=1.7,SNR=12							
NOA	**NORSAR Array B**	**137.59**	**354**	PKP	PKPdf		01 58 20.0	+0.4
	0.5nm,0.8s,baz=46,slow=1.9,SNR=2.8							
AKASG	**Malin Array Be**	**141.91**	**332**	PKhKP			01 58 22.1	
	0.5nm,0.3s,baz=41,slow=4.0,SNR=8.0							
CLL	**Collm**	**146.73**	**348**	*e*PKPbc	PKPbc		01 58 37.6	-1.1
CLL	**Collm**	**146.73**	**348**⇓*i*PKPbc		PKPbc		01 58 37.8	-0.9
	comp=Z,4.0nm,0.6s							
CLL				*e*PKPab	PKPab		01 58 41.0	-0.6
BRG	**Berggiesshubel**	**146.95**	**346**	*e*PKPbc	PKPbc		01 58 38.7	-0.6
WERD	**Werda**	**147.69**	**348**	*e*PKPbc	PKPbc		01 58 40.8	-0.5
GUNZ	**Gunzen**	**147.76**	**348**	*e*PKPbc	PKPbc		01 58 40.4	-1.1
KHC	**Kasperske Hory**	**148.66**	**346**	*e*PKP	PKPbc		01 58 43.0	-0.7
GEC2	**GERESS Array S**	**148.90**	**345**	*e*PKPbc	PKPbc		01 58 43.7	-0.6
GERES	**GERESS Array B**	**148.90**	**345**	PKPbc	PKPbc		01 58 43.7	-0.6
	comp=Z,1.3nm,0.7s,baz=34,slow=3.0,SNR=14							

*ISCJB **06** 01:42:32.6±0.4, 4267N±003×4628E±003, h10km, Error ellipse: s-maj=4.8km s-min=2.2km az=23.1*
*TIF **06** 01:42:32.5, 4276N×4630E, h13km±1km*
*MOS **06** 01:42:32.8±1.0, 4265N×4633E, h12km, mb3.9/1, Error ellipse: s-maj=15.6km s-min=6.7km az=31.3*
*CSEM **06** 01:42:32.1, 4265N×4633E, h12km, mb3.9, After OBN*
ISC 06 01:42:32.8±0.5, 4271N±004×4633E±003, h4km±4km, n27, σ1°29/52, 1D, Eastern Caucasus

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

comp=Z,72nm,0.1s
KMKR Kumukh 0.81 135 *e*Pg **Pg 01 42 47.0 -1.4**
comp=Z,72nm,0.1s
KMKR *i* Sg **Sg 01 42 59.7 +0.9**
MAK Makhachkala 0.90 73 *e*Pg **Pn 01 42 51.7 -0.5**
MAK *e* **Sn 01 43 06.1 +0.4**
MAK pmax pmax
comp=Z,104nm,0.4s
MAK smax
comp=N,461nm,0.4s
MAK smax
comp=E,459nm,0.5s
MAK Makhachkala 0.90 73 *e*Pg **Pn 01 42 51.7 -0.5**
comp=E,104nm,0.4s
MAK *e*Sg **Sn 01 43 06.1 +0.4**
comp=E,461nm,0.4s
SNJR Sundja 1.17 289 *i* Pg **Pg 01 42 54.5 -0.8**
SNJR *i* Sg **Sg 01 43 11.9 +1.4**
VLKR Vladikavkaz 1.26 286 *e*Pg **Pg 01 42 56.0 -1.0**
VLKR *e*Sg **Sg 01 43 15.2 +1.9**
DGRG David-gareji 1.44 210 P **Pg 01 43 02.7 +2.2**
DGRG S **Sg 01 43 25.2 +6.1**
BTKR Batakoyurt 1.47 298 *i* Pg **Pg 01 43 00.1 -0.9**
BTKR *i* Sg **Sg 01 43 21.8 +1.8**
LACR Lac 1.50 275 *i* Pg **Pg 01 42 59.5 -2.1**
LACR *i* Sg **Sg 01 43 20.2 -0.9**
MTA Mtatsminda 1.52 229 P **Pg 01 43 00.9 -1.1**
MTA S **Sg 01 43 22.4 +0.7**
TBLG Delisi 1.53 231 Pg **Pg 01 43 01.6 -0.6**
TBLG Sg **Sg 01 43 23.1 +1.1**
TBLG Delisi 1.53 231 P **Pg 01 43 01.7 -0.5**
TBLG S **Sg 01 43 23.1 +1.1**
TRKR Terskaya 1.55 312 *e*Pg **Pn 01 43 00.5 -0.6**
TRKR *i* Sg **Sn 01 43 22.4 +0.8**
ARNR Ardon 1.58 289 *e*Pg **Pg 01 43 01.3 -1.8**
ARNR *e*Sg **Sg 01 43 24.1 +0.5**
AKT Akhty 1.61 139 *i* PG **Pn 01 42 59.0 -2.9**
AKT *i* S **Sn 01 43 22.0 -1.1**
AKT pmax pmax
comp=Z,36nm,0.3s
AKT Akhty 1.61 139 *i* Pg **Pn 01 42 59.0 -2.9**
comp=Z,36nm,0.3s
AKT *i* Sg **Sn 01 43 22.0 -1.1**
DRN Derbent 1.63 114 *i* PG **Pg 01 43 01.6 -2.5**
DRN *e*S **Sg 01 43 27.1 +1.9**
KMSR Komsomolskaya 1.63 295 *i* Pn **Pn 01 43 02.9 +0.6**
KMSR *e*Sg **Sg 01 43 26.2 +0.9**
KSMR Kasumkent 1.73 129 *e*PN **Pg 01 43 04.8 -1.3**
KSMR *e*S **Sg 01 43 31.8 +3.3**
KSMR pmax pmax
comp=Z,54nm,0.2s
KSMR Kasumkent 1.73 129 *e*Pn **Pg 01 43 04.8 -1.3**
comp=Z,54nm,0.2s
KSMR *e*Sg **Sg 01 43 31.8 +3.3**
ZEI Tsey 1.79 273 *e*Pn **Pn 01 43 04.2 -0.2**
ZEI *e*Sg **Sn 01 43 28.3 +0.7**
PRTR Priterechnaya 1.82 306 *i* Pn **Pn 01 43 05.6 +0.7**
PRTR *i* Sg **Sg 01 43 31.3 -0.1**
LSNR Lesken 1.93 288 *i* Pn **Pn 01 43 07.1 +0.8**
DIGR Digorskoe uzhe 2.03 276 *i* Pn **Pn 01 43 07.9 +0.2**
ONI Oni 2.13 268 P **Pg 01 43 11.0 -2.5**
ONI S **Sg 01 43 39.8 -1.3**

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*ISCJB **06** 02:02:24.9±0.7, 609S±0.1×265W±03, h10km, mb4.3/10, Error ellipse: s-maj=28.2km s-min=11.3km az=143.4*
*IDC **06** 02:02:26.5±0.8, 6057S×2664W, h0km, mb4.4/9, mb1 4.4/9, mb1mx4.2/15, mbtmp4.3/9, Error ellipse: s-maj=30.3km s-min=18.8km az=75.0*
*NEIC **06** 02:02:27.6±0.6, 6066S×2660W, h10km, mb4.4/1, Error ellipse: s-maj=22.5km s-min=15.6km az=59.0*
ISC 06 02:02:27.0±0.6, 608S±01×264W±03, h10km, n15, σ1°14/17, mb4.3/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.30**	**151**	*e*	**Pn**	**02 05 21.4**	**-0.5**
VNA1				*e*		02 05 25.6	
VNA1				*e*S	**Sn**	**02 07 30.2**	**-8.6**
SNAA	**Sanae**	**14.30**	**149**	*e*	**Pn**	**02 05 48.1**	**-1.1**
SNAA				*e*		02 05 51.9	
SNAA				*e*S	**Sn**	**02 08 16.8**	**-11**
SNAA	**Sanae**	**14.30**	**149**	Pn	**Pn**	**02 05 48.2**	**-1.0**
	0.5nm,0.3s,baz=315,slow=12,SNR=62						
SNAA				Sn	**Sn**	**02 08 15.1**	**-13**
	0.2nm,0.3s,baz=346,slow=20,SNR=3.9						
QSPA	**South Pole Qui**	**29.41**	**180**	P	**P**	**02 08 32.7**	**+2.8**
	3.5nm,0.6s,mb4.3,baz=204,slow=5.4,SNR=31						
PLCA	**Paso Flores**	**33.49**	**287**	P	**P**	**02 09 05.0**	**-1.1**
	0.8nm,0.6s,mb3.8,baz=168,slow=8.3,SNR=3.1						
CPUP	**Villa Florida**	**40.37**	**315**	P	**P**	**02 10 03.2**	**-1.5**
	1.7nm,0.3s,mb4.2,baz=147,slow=7.9,SNR=25						
VNDA	**Vanda**	**41.81**	**183**	P	**P**	**02 10 20.7**	**+4.6**
	1.4nm,0.7s,mb3.7,baz=185,slow=6.5,SNR=13						
LVC	**Limon Verde**	**48.15**	**303**	*e*P	**P**	**02 11 07.2**	**+0.2**
	2.5nm,0.7s,mb4.3						
LPAZ	**La Paz**	**53.53**	**307**	P	**P**	**02 11 47.8**	**+0.1**
	3.2nm,0.3s,mb4.7,baz=134,slow=6.1,SNR=29						
DBIC	**Dimbokro**	**69.39**	**23**	P	**P**	**02 13 34.1**	**-0.7**
	8.8nm,1.2s,mb4.6,baz=122,slow=23,SNR=3.8						
ROSC	**El Rosal**	**75.28**	**310**	P	**P**	**02 14 11.7**	**+1.7**
	1.9nm,0.5s,mb4.3,baz=90,slow=20,SNR=3.4						
TORD	**Torodi Ar. Bea**	**77.06**	**28**	P	**P**	**02 14 20.8**	**+0.7**
	7.0nm,0.7s,mb4.7,baz=199,slow=6.2,SNR=46						
TORD	**Torodi Ar. Bea**	**77.06**	**28**	P	**P**	**02 14 20.8**	**+0.7**
ASAR	**Alice Springs**	**94.31**	**162**	P	**P**	**02 15 47.5**	**+1.0**
	0.8nm,1.1s,mb4.1,baz=159,slow=7.9,SNR=3.0						
INK	**Inuvik**	**149.63**	**315**	PKPbc	PKPbc	02 22 14.1	-0.8
	1.1nm,0.8s,baz=117,slow=2.7,SNR=2.9						

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*NEIC **06** 02:03:34.9, 1639N×9898W, h16km, MD3.9(MEX), After MEX.*
MEX 06 02:03:35.4±1.7, 1641N×9898W, h16km±307km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.01**	**297**	*i* P	Pb	02 03 50.0	-4.5
ACX				*i* S	Sb	02 04 02.5	-5.0
CAIG	**El Cayaco**	**1.39**	**297**	*i* P	Pn	02 03 56.9	-3.2
CAIG				*i* S	Sn	02 04 13.6	-4.5
MEIG	**Mezcala**	**1.63**	**338**	*i* P	Pn	02 03 59.9	-3.5
MEIG				*i* S	Sn	02 04 18.9	-5.2
UTMO	**Huajuapan**	**1.81**	**38**	*e*P	Pn	02 04 02.5	-3.4
UTMO				*i* S	Sn	02 04 23.3	-5.2
PLIG	**Platanillo**	**2.04**	**346**	*i* P	Pn	02 04 06.3	-2.8
PLIG				*i* S	Sn	02 04 29.6	-4.5
VHO	**Vista Hermosa**	**2.25**	**73**	*e*P	Pn	02 04 08.9	-3.1
VHO				*i* S	Sn	02 04 36.4	-3.0
OXX	**Oaxaca**	**2.26**	**72**	*e*P	Pn	02 04 11.0	-1.2
TPIG	**Tehuac#an**	**2.53**	**37**	*i* P	Pn	02 04 14.3	-1.5
TPIG				*i* S	Sn	02 04 44.8	-1.5
ZIIG	**Zihuatanejo**	**2.66**	**297**	*i* P	Pn	02 04 17.4	-0.2
ZIIG				*i* S	Sn	02 04 45.1	-4.5
ZIIG	**Zihuatanejo**	**2.66**	**297**	*i* P	Pn	02 04 17.7	+0.1
ZIIG				*i* S	Sn	02 04 51.0	+1.5
PPM	**Popocatepetl**	**2.67**	**7**	*e*P	Pn	02 04 13.4	-4.3
PPM				*e*P		02 04 17.0	
PPM				*i* S	Sn	02 04 47.0	-2.6
PPM	**Popocatepetl**	**2.67**	**7**	*e*P	Pn	02 04 17.0	-0.7
PPM				*i* S	Sn	02 04 47.0	-2.6
PTVM	**Pico Tres Padr**	**3.17**	**358**	*i* P	Pn	02 04 24.7	0.0
PTVM				*i* S	Sn	02 04 59.1	-3.0
IIO	**Organos**	**3.18**	**4**	*i* P	Pn	02 04 21.9	-2.8
IIO				*i* S	Sn	02 04 59.0	-3.2
MOIG	**Morelia**	**3.87**	**327**	*i* S	Sn	02 05 14.4	-5.1
CMIG	**Matias Romero**	**3.98**	**80**	*e*P	Pn	02 04 39.5	+3.6
CMIG				*i* S	Sn	02 05 19.8	-2.4

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*NIED **06** 02:21:00, 2960N×13020E, h11km, Mw3.8 Best double couple: M0:6.26000×10^14 NP1:φs:307.00000°, δ50.00000°, λ-64.00000°. NP2:φs:91.00000°, δ46.00000°, λ-117.00000°.*
*JMA **06** 02:21:57.1±0.1, 2957N×130.19E, h23km±2km, M3.7*
*NEIC **06** 02:21:57.2, 2957N×130.19E, h23km, MG4.1(JMA), After JMA.*
*ISCJB **06** 02:21:58.1±0.5, 2963N±006×1300E±0.1, h38km±9km, mb4.2/4, Error ellipse: s-maj=20.7km s-min=4.8km az=24.5*

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*IDC **06** 02:22:01.8±2.5, 2871N×13063E, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.7/23, mbtmp3.9/6, ML3.4/1, Error ellipse: s-maj=63.4km s-min=27.6km az=135.0*
ISC 06 02:21:57.8±1.8, 2959N±008×1301E±02, h21km±17km, n13, σ0°75/20, mb4.2/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.33**	**319**	P	**Pb**	**02 22 05.1**	**0.0**
JNN				S	**Sb**	**02 22 10.9**	**+0.8**
JKC	**Kuchinoerabu**	**0.87**	**4**	P	**Pb**	**02 22 13.8**	**-0.5**
JKC				S	**Sb**	**02 22 25.2**	**-0.3**
JAM	**Amami Oshima**	**1.26**	**201**	P	**Pn**	**02 22 19.0**	**-1.1**
JAM				*e*S	**Sn**	**02 22 35.0**	**-1.4**
JZK	**Kikaishima**	**1.28**	**186**	P	**Pn**	**02 22 21.4**	**+1.0**
JTN	**Tanegashima 3**	**1.29**	**35**	P	**Pn**	**02 22 20.1**	**-0.5**
JTN				S	**Sn**	**02 22 37.2**	**-0.1**
JTSR	**Tashiro 2**	**1.72**	**23**	P	**Pn**	**02 22 26.0**	**-0.4**
JTSR				S	**Sn**	**02 22 47.4**	**-0.3**
JTK	**Tokunoshima**	**2.07**	**210**	P	**Pn**	**02 22 30.7**	**-0.6**
JTK				*e*S	**Sn**	**02 22 55.4**	**-1.1**
JOW	**Kunigami**	**3.20**	**211**	Pn	**Pn**	**02 22 47.4**	**+0.6**
	8.4nm,0.3s,baz=65,slow=9.6,SNR=22						
JOW				Sn	**Sn**	**02 23 25.0**	**+0.7**
	8.0nm,0.3s,baz=174,slow=27,SNR=4.0						
FITZ	**Fitzroy Crossi**	**47.61**	**186**	P	**P**	**02 30 32.5**	**+0.2**
	2.4nm,0.8s,mb4.2,baz=3.8,slow=15,SNR=3.7						
WRA	**Warramunga Arr**	**49.41**	**175**	P	**P**	**02 30 46.2**	**+0.1**
	2.9nm,0.7s,mb4.4,baz=353,slow=8.3,SNR=10						
ASAR	**Alice Springs**	**53.07**	**176**	P	**P**	**02 31 14.7**	**+1.1**
	1.1nm,0.6s,mb4.0,baz=7.7,slow=13,SNR=22						
STKA	**Stephens Creek**	**62.09**	**169**	P	**P**	**02 32 18.0**	**+1.1**
	1.9nm,0.8s,mb4.3,baz=344,slow=15,SNR=2.9						
AFI	**Afiamalu**	**70.75**	**119**	*e*P	**P**	**02 33 13.5**	**+0.8**
	110nm,0.8s						

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*IDC **06** 03:23:42.0±1.5, 2785N×14200E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.7/16, mbtmp3.6/5, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/32, Error ellipse: s-maj=54.7km s-min=28.4km az=94.0*
*NEIC **06** 03:23:43.8±1.1, 2785N×14183E, h10km, mb4.2/1, Error ellipse: s-maj=35.2km s-min=17.6km az=110.0*
*ISCJB **06** 03:23:46.1±1.6, 285S±02×1416E±03, h33km, mb3.5/4, MS3.4/2, Error ellipse: s-maj=43.5km s-min=20.6km az=9.4*
ISC 06 03:23:48.2±1.6, 285S±01×1416E±03, h35km, n13, σ0°85/10, mb3.5/4, MS3.4/2, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.39**	**222**	*e*P	**Pn**	**03 26 54.3**	**-1.6**
	7.4nm,0.5s						
WB2	**Warramunga Arr**	**18.45**	**202**	*e*P	**Pn**	**03 28 01.2**	**0.0**
WB2	**Warramunga Arr**	**18.45**	**202**	*e*P	**Pn**	**03 28 01.1**	**-0.1**
WRA	**Warramunga Arr**	**18.45**	**202**	P	**Pn**	**03 28 02.0**	**+0.8**
	0.5nm,0.3s,baz=17,slow=13,SNR=6.4						
FITZ	**Fitzroy Crossi**	**21.83**	**225**	*e*P	**P**	**03 28 39.0**	**+1.3**
	12nm,1.2s,mb4.2						
FITZ	**Fitzroy Crossi**	**21.83**	**225**	P	**P**	**03 28 38.5**	**+0.8**
	2.8nm,0.7s,mb3.8,baz=92,slow=15,SNR=8.3						
FITZ				LR	LR	03 38 01.4	
	comp=Z,79nm,21.1s,MS3.1,baz=42,slow=39						
ASAR	**Alice Springs**	**22.04**	**199**	P	**P**	**03 28 40.2**	**+0.4**
	0.4nm,0.5s,mb3.1,baz=28,slow=12,SNR=9.8						
JOW	**Kunigami**	**32.17**	**337**	LR	LR	03 40 25.1	
	comp=Z,139nm,21.9s,MS3.6,baz=162,slow=31						
MKAR	**Makanchi Array**	**71.66**	**321**	P	**P**	**03 35 06.5**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=120,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**71.66**	**321**	P	**P**	**03 35 06.5**	**+0.1**
VNDA	**Vanda**	**75.44**	**176**	P	**P**	**03 35 27.2**	**-0.8**
	0.7nm,0.9s,mb3.6,baz=338,slow=5.4,SNR=3.6						
LPAZ	**La Paz**	**145.00**	**124**	PKP	PKPdf	03 43 21.6	-1.2
	0.6nm,0.6s,baz=297,slow=2.3,SNR=3.3						
DBIC	**Dimbokro**	**146.38**	**278**	PKPbc	PKPbc	03 43 28.0	+1.4
	1.9nm,0.7s,baz=0.0,slow=4.0,SNR=4.4						

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*PRU **06** 03:30:12.5, 4627N×1095E, h0km*
*CSEM **06** 03:30:14.5±0.1, 4637N×1087E, h25km, ML3.0/6, Error ellipse: s-maj=1.4km s-min=1.2km az=32.0*
*ISCJB **06** 03:30:14.7±0.4, 4640N±002×1087E±002, h11km±6km, Error ellipse: s-maj=3.7km s-min=2.7km az=21.5*
*ROM **06** 03:30:14.6±0.2, 4637N×1086E, h3km±3km, Md2.5/7, Ml2.2/6, Error ellipse: s-maj=3.5km s-min=1.9km az=163.0*
*VIE **06** 03:30:15.0±0.4, 4640N×1086E, h10km±9km, mb1.8/4, ML2.3/7, Error ellipse: s-maj=1.8km s-min=1.1km az=14.0*
*ZUR **06** 03:30:15.1, 4638N×1085E, h13km, ML2.1/5*
ISC 06 03:30:15.6±0.3, 4641N±002×1086E±002, h6km±7km, n29, σ0°72/48, 6C-10D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APPI	**Appiano**	**0.27**	**74**	Pg	**Pg**	**03 30 21.2**	**+0.4**
APPI				Sg	**Sg**	**03 30 25.3**	**+0.9**
	797nm,0.2s						
BRMO	**Bormio**	**0.34**	**282**	Pg	**Pg**	**03 30 22.4**	**+0.2**
BRMO				Sg	**Sg**	**03 30 27.1**	**+0.4**
	75nm,0.1s						
MABI	**Malga Bissina**	**0.42**	**214**	Pg	**Pg**	**03 30 23.4**	**-0.4**
	113nm,0.1s						
FUORN	**Ofenpass-Fuorn**	**0.46**	**298**	⇑*i*Pg	**Pg**	**03 30 24.6**	**+0.1**
	281nm,0.5s						
FUORN				*e*Sg	**Sg**	**03 30 31.0**	**+0.4**
	281nm,0.5s						
BERNI	**Berninapass**	**0.58**	**271**	⇑*i*Pg	**Pg**	**03 30 26.5**	**-0.2**
	161nm,0.2s						
FETA	**Feichten**	**0.62**	**352**	⇓*e*Pg	**Pg**	**03 30 27.8**	**+0.2**
	SNR=23						
FETA				⇑*i*Sg	**Sg**	**03 30 36.5**	**+0.8**
	16nm,0.1s						
MAGA	**Magasa**	**0.65**	**194**	Pg	**Pg**	**03 30 27.3**	**-0.8**
MAGA				Sg	**Sg**	**03 30 37.5**	**+1.0**
	158nm,0.6s						
CTI	**Castel Tesino**	**0.66**	**123**	Pg	**Pg**	**03 30 27.8**	**-0.4**
CTI				Sg	**Sg**	**03 30 36.8**	**+0.1**
	41nm,0.1s						
DAVOX	**Davos/Dischmat**	**0.77**	**299**	*i* Pg	**Pg**	**03 30 30.3**	**-0.1**
	107nm,0.4s						
FAU	**Forcella Aurin**	**0.80**	**102**	⇑*i*Pg	**Pg**	**03 30 30.7**	**-0.2**
CGRP	**Cima Grappa**	**0.84**	**128**	⇓*i*Pg	**Pg**	**03 30 31.9**	**+0.1**
CGRP				*i* Sg	**Sg**	**03 30 42.7**	**+0.1**
MOTA	**Moosalm**	**0.95**	**10**	⇓*e*Pg	**Pg**	**03 30 33.9**	**0.0**
	SNR=12						
MOTA				⇓*i*Sg	**Sg**	**03 30 47.6**	**+1.3**
	2.8nm,0.1s						
MOTA	**Moosalm**	**0.95**	**10**	Pg	**Pg**	**03 30 33.9**	**0.0**
MOTA				Sg	**Sg**	**03 30 47.6**	**+1.3**
	2.8nm,0.1s						
VARN	**Col Varnada, M**	**0.96**	**115**	*e*Pg	**Pg**	**03 30 33.3**	**-0.7**
VDL	**Val di Lei**	**0.98**	**275**	⇑*i*Pg	**Pg**	**03 30 33.9**	**-0.4**
	58nm,0.2s						
SEST	**Monte Rota**	**1.00**	**69**	Pg	**Pg**	**03 30 34.6**	**-0.2**
SEST				Sg	**Sg**	**03 30 48.4**	**+0.7**
	77nm,0.2s						
DAVA	**Damuels**	**1.11**	**323**	⇑*e*Pg	**Pg**	**03 30 37.1**	**+0.2**
	SNR=10.0						
DAVA				⇓*i*Sg	**Sg**	**03 30 51.6**	**+0.4**
	43nm,0.3s						
CAE	**Caneva**	**1.17**	**109**	⇓*e*Pg	**Pg**	**03 30 38.4**	**+0.4**
CAE				*e*Sg	**Sg**	**03 30 54.1**	**+1.0**
TEOL	**Teolo**	**1.19**	**151**	⇓*i*Pg	**Pg**	**03 30 38.5**	**+0.1**
TEOL				*i* Sg	**Sg**	**03 30 54.5**	**+0.7**
TEOL	**Teolo**	**1.19**	**151**	*i* Pg	**Pg**	**03 30 38.5**	**+0.1**
TEOL				*i* Sg	**Sg**	**03 30 54.5**	**+0.7**
ABTA	**Abfaltersbach**	**1.19**	**73**	⇓*e*Pg	**Pg**	**03 30 38.0**	**-0.4**
	SNR=34						
ABTA				⇓*i*Sg	**Sg**	**03 30 53.8**	**-0.1**
	23nm,0.1s						
FVI	**Forni Avoltri**	**1.34**	**81**	Pg	**Pg**	**03 30 40.8**	**-0.5**
FVI				Sg	**Sg**	**03 30 58.5**	**-0.2**
	19nm,0.4s						
MUGIO	**Muggio**	**1.35**	**250**	⇓*i**	**Pb**	**03 30 40.1**	**-1.1**
	62nm,0.5s						
VAI	**Varese**	**1.55**	**250**	Pg	**Pg**	**03 30 44.3**	**-1.0**
	9.0nm,0.4s						
VOY	**Vojsko**	**2.14**	**99**	*e*Pn	**Pg**	**03 30 55.9**	**-0.7**
VOY				*e*Sn	**Sg**	**03 31 23.6**	**-0.8**
JAVS	**Javornik**	**2.29**	**102**	*i* Pn	**Pn**	**03 30 56.2**	**+2.4**
KHC	**Kasperske Hory**	**3.29**	**33**	*e*PG	**Pg**	**03 31 13.9**	**-4.7**
KHC				*e*SN	**Sn**	**03 31 47.3**	**+0.4**
KHC				*e*SG	**Sg**	**03 31 59.8**	**-1.3**
	comp=Z,6.1nm,0.9s						
NKC	**Novy Kostel**	**3.98**	**15**	*e*SG	**Sg**	**03 32 23.1**	**-0.1**
PRU	**Pruhonice**	**4.35**	**33**	*e*SG	**Sg**	**03 32 33.2**	**-2.0**

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*IDC **06** 03:30:41.9±1.2, 2765S×14158E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.9/16, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=44.3km s-min=23.9km az=87.0*
*NEIC **06** 03:30:43.4±0.6, 2755S×14166E, h10km, mb4.3/1, Error ellipse: s-maj=20.0km s-min=9.9km az=104.0*
*ISCJB **06** 03:30:45.2±0.9, 282S±010×1416E±02, h33km, mb4.0/7, Error ellipse: s-maj=29.7km s-min=12.7km az=11.3*
ISC 06 03:30:48.2±5.1, 28S±02×1416E±03, h42km±44km, n13, σ0°62/11, mb4.0/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.36**	**222**	*e*P	**Pn**	**03 33 55.0**	**-0.3**
	21nm,1.0s						
WB2	**Warramunga Arr**	**18.42**	**202**	*e*P	**Pn**	**03 35 01.3**	**+0.9**
WRA	**Warramunga Arr**	**18.42**	**202**	P	**Pn**	**03 35 00.9**	**+0.4**
	0.4nm,0.3s,baz=20,slow=11,SNR=9.8						
FITZ	**Fitzroy Crossi**	**21.80**	**225**	P	**P**	**03 35 35.8**	**-1.0**
	2.8nm,0.7s,mb3.8,baz=62,slow=15,SNR=5.0						
ASAR	**Alice Springs**	**22.01**	**199**	P	**P**	**03 35 38.6**	**-0.3**
	1.6nm,0.8s,mb3.5,baz=35,slow=9.3,SNR=10						
STKA	**Stephens Creek**	**28.89**	**180**	P	**P**	**03 36 43.4**	**+0.3**
	2.3nm,0.9s,mb3.9,baz=333,slow=11,SNR=2.5						
MK31	**Makanchi Array**	**71.66**	**322**	*e*P	**P**	**03 42 05.4**	**-0.1**
MKAR	**Makanchi Array**	**71.66**	**322**	P	**P**	**03 42 05.3**	**-0.2**
	1.6nm,0.8s,mb4.0,baz=111,slow=7.9,SNR=9.9						
VNDA	**Vanda**	**75.42**	**176**	P	**P**	**03 42 26.7**	**-0.4**
	0.4nm,0.6s,mb3.5,baz=328,slow=8.4,SNR=2.9						
AML	**Almayashu**	**75.72**	**315**	*e*P	**P**	**03 42 30.8**	**+1.3**
	2.5nm,0.9s,mb4.1						
KDAK	**Kodiak Island**	**79.76**	**30**	*e*P	**P**	**03 42 51.1**	**-0.5**
	86nm,1.7s,mb5.4						
LPAZ	**La Paz**	**145.01**	**124**	PKPbc	PKPbc	03 50 22.3	+1.0
	2.2nm,0.8s,baz=262,slow=2.3,SNR=11						
DBIC	**Dimbokro**	**146.36**	**278**	PKPbc	PKPbc	03 50 24.7	-0.9
	2.0nm,0.7s,baz=236,slow=3.6,SNR=3.2						

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*ISCJB **06** 03:49:12.5±4.0, 53S±04×1519E±04, h87km±34km, mb4.0/5, Error ellipse: s-maj=95.0km s-min=26.4km az=41.6*
*NEIC **06** 03:49:13.6±2.4, 553S×15206E, h88km±19km, mb4.2/4, Error ellipse: s-maj=56.7km s-min=15.8km az=132.0*
*IDC **06** 03:49:21.4±21.0, 584S×15193E, h146km±171km, mb3.5/3, mb1 3.7/3, mb1mx3.3/16, mbtmp3.5/3, MS3.7/1, Ms1 3.7/1, ms1mx2.3/24, Error ellipse: s-maj=104.9km s-min=97.2km az=127.0*
ISC 06 03:49:13.8±3.5, 55S±04×1520E±04, h89km±29km, n12, σ0°19/9, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.19**	**231**	*e*Pn	**Pn**	**03 50 42.7**	**+0.1**
PMG				*e*Sn	Sn	03 51 26.6	-25
KAKA	**Kakadu**	**20.61**	**248**	*e*P	**P**	**03 53 45.9**	**-0.2**
	8.2nm,0.6s						
WB2	**Warramunga Arr**	**22.39**	**229**	*e*P	**P**	**03 54 04.8**	**-0.2**
WRA	**Warramunga Arr**	**22.40**	**229**	P	**P**	**03 54 05.1**	**0.0**
	1.9nm,0.5s,mb3.7,baz=53,slow=9.9,SNR=10						
ASAR	**Alice Springs**	**25.11**	**222**	P	**P**	**03 54 30.6**	**+0.1**
	1.0nm,0.4s,mb3.6,baz=62,slow=9.6,SNR=21						
FITZ	**Fitzroy Crossi**	**28.65**	**242**	*e*P	**P**	**03 55 02.9**	**+0.6**
	5.7nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**28.65**	**242**	P	**P**	**03 55 02.3**	**0.0**
	1.1nm,0.4s,mb3.8,baz=76,slow=14,SNR=4.5						
RPZ	**Rata Peaks**	**41.59**	**159**	LR	LR	04 09 27.9	
	comp=Z,101nm,19.9s,baz=10,slow=29						
RC01	**Rabbit Creek A**	**80.13**	**25**	*e*P	**P**	**04 01 13.7**	**-0.1**
	25nm,1.0s,mb5.0						
COLD	**Coldfoot**	**83.17**	**19**	*e*P	**P**	**04 01 29.7**	**+0.1**
	2.2nm,0.9s,mb4.0						
TORD	**Torodi Ar. Bea**	**149.78**	**287**	PKPbc	PKPbc	04 08 55.0	+0.4
	2.0nm,1.2s,baz=85,slow=2.0,SNR=14						
TORD	**Torodi Ar. Bea**	**149.78**	**287**	PKPbc	PKPbc	04 08 55.0	+0.4

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*IDC **06** 03:52:21.7±0.8, 534S×15224E, h0km, mb4.5/15, mb1 4.7/15, mb1mx4.6/17, mbtmp4.5/15, MS3.5/6, Ms1 3.5/6, ms1mx3.3/22, Error ellipse: s-maj=26.9km s-min=14.5km az=117.0*
*BJI **06** 03:52:24.0, 625S×15271E, h79km, mB5.0, mb4.8, Ms4.7, Msz4.3*
*ISCJB **06** 03:52:28.9±1.6, 548S±007×15206E±006, h63km±14km, mb4.7/42, Error ellipse: s-maj=11.7km s-min=9.8km az=142.7*
*MOS **06** 03:52:29.4±0.8, 542S×15205E, h68km, mb5.2/10, Error ellipse: s-maj=14.4km s-min=10.4km az=71.9*
*NEIC **06** 03:52:32.1±1.6, 548S×15201E, h80km±14km, mb4.8/19, Error ellipse: s-maj=10.6km s-min=8.2km az=108.0*
ISC 06 03:52:32.0±1.4, 552S±007×15206E±006, h77km±13km, h80km±2.4km: pP-P, n89, σ0°93/80, mb4.6/41, 2C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.21**	**231**	*c i* P	**Pn**	**03 54 01.6**	**+0.6**
PMG	**Port Moresby**	**6.21**	**231**	*e*Pn	**Pn**	**03 54 01.0**	**0.0**
HNR	**Honiara**	**8.73**	**117**	LR	LR	03 57 07.7	
	comp=Z,94nm,20.2s,baz=357,slow=33						
CTA	**Charters Tower**	**15.54**	**201**	Pn	**Pn**	**03 56 09.8**	**+3.2**
	0.4nm,0.3s,baz=21,slow=14,SNR=4.9						
CTAO	**Charters Tower**	**15.54**	**201**	*e*P	**Pn**	**03 56 07.0**	**+0.3**
GUMO	**Guam**	**20.29**	**339**	*e*P	**P**	**03 57 01.3**	**-0.3**
GUMO				pmax	pmax		
	comp=Z,53nm,1.0s						
GUMO	**Guam**	**20.29**	**339**	*e*P	**P**	**03 57 01.3**	**-0.3**
	comp=

comp=Z,199nm,23.7s
NJ2 Nanjing 48.95 322 *e*P P **04 01 12.6 +2.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
ASAJ Asahikawa 50.14 351 LR LR 04 21 09.4
comp=Z,52nm,19.5s,baz=216,slow=35
GYA Guiyang 54.26 308 P P **04 01 52.8 +2.5**
GYA AP pP 04 02 13.4 +3.6
GYA XP sP 04 02 22.0 +3.5
GYA PCP PcP 04 02 55.8 +2.1
GYA PP PP 04 03 57.2 +4.2
GYA SCP ScP 04 06 44.8 -0.5
GYA S **S** **04 09 21.6 -0.7**
GYA XS sS 04 09 57.2 +1.7
GYA SCS ScS 04 11 29.0 -3.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,490nm,19.8s
GYA LR LR
comp=E,460nm,19.9s
GYA LR LR
comp=Z,480nm,20.2s
CN2 Changchun 54.66 337 *e*P P **04 01 56.4 +3.5**
BJI Beijing 56.09 327 P P **04 02 03.5 +0.2**
BJI AMB AMB
comp=Z,5.0nm,0.3s,mb5.0
KMI Kunming 56.79 305 P P **04 02 08.8 +0.3**
KMI AMB AMB
comp=Z,11nm,0.9s,mb4.9
CMAR Chiang Mai Arr 57.52 296 P P **04 02 14.8 +1.0**
comp=Z,1.8nm,0.4s,mb4.4,baz=126,slow=5.9,SNR=9.4
CD2 Chengdu 58.66 311 *e*P P **04 02 22.6 +1.1**
CD2 AP pP 04 02 44.1 +2.8
CD2 XP sP 04 02 53.6 +3.7
CD2 PP PP 04 04 35.1 +3.0
CD2 S **S** **04 10 20.3 0.0**
CD2 XS sS 04 10 56.6 +2.7
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,30nm,4.2s
CD2 LR LR
comp=N,260nm,19.2s
CD2 LR LR
comp=E,280nm,20.4s
CD2 LR LR
comp=Z,300nm,16.8s
HHC Hu-ho-hao-te 59.21 325 *e*P P **04 02 28.4 +3.3**
HHC AP pP 04 02 49.6 +4.7
HHC XP sP 04 02 56.8 +3.2
HHC PP PP 04 04 42.6 +5.8
HHC PCS PcS 04 07 13.6 -1.1
HHC S **S** **04 10 29.9 +2.8**
HHC SCS ScS 04 12 07.4 -0.8
HHC SS SS 04 14 31.3 +8.4
HHC AMB AMB
comp=Z,15nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,105nm,5.4s
HHC LR LR
comp=N,176nm,15.5s
HHC LR LR
comp=E,265nm,20.2s
HHC LR LR
comp=Z,217nm,20.2s
LZH Lanzhou 61.24 316 *e*P P **04 02 39.5 +0.4**
LZH AP pP 04 02 58.0 -1.0
LZH XP sP 04 03 10.0 +2.4
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,55nm,4.0s
GTA Gaotai 65.69 318 *e*P P **04 03 08.7 +0.3**
GTA AP pP 04 03 27.9 -0.6
GTA XP sP 04 03 37.2 +0.1
GTA S S 04 11 44.3 -4.3
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.2
GTA AMB AMB
comp=Z,90nm,7.6s
GTA LR LR
comp=N,106nm,15.2s
GTA LR LR
comp=E,140nm,18.6s
GTA LR LR
comp=Z,114nm,12.9s
SHL Shillong 66.04 301 *e*P P **04 03 10.5 -0.5**
SONM Songino Array 66.55 328 P P **04 03 14.0 +0.3**
comp=Z,1.6nm,0.6s,mb4.1,baz=138,slow=4.2,SNR=8.1
ZAK Zakamensk 69.73 329 *e*P P **04 03 32.1 -1.5**
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
VNDA Vanda 72.14 178 P P **04 03 48.1 +0.3**
comp=Z,0.8nm,0.7s,mb3.7,baz=293,slow=4.6,SNR=4.4
VNDA Vanda 72.14 178 *e*P P **04 03 48.1 +0.3**
VNDA pmax pmax
comp=Z,1.0nm,0.6s
VNDA Vanda 72.14 178 *e*P P **04 03 48.0 +0.3**
comp=Z,0.6nm,0.6s,mb3.6
PALK Pallekele 72.33 279 *e*P P **04 03 47.6 -2.5**
PALK pmax pmax
comp=Z,16nm,1.0s,mb4.8
PALK Pallekele 72.33 279 *e*P P **04 03 47.6 -2.5**
comp=Z,16nm,1.0s,mb4.8
HVS Khovu-Aksy 75.24 326⇑ *e*P P **04 04 06.7 +0.4**
HVS pmax pmax
comp=Z,35nm,1.2s,mb5.0
WMQ Urumqi 75.78 318 *e*P P **04 04 11.0 +1.4**
WMQ PCP PcP 04 04 23.8 +1.9
WMQ AP pP 04 04 31.0 +0.9
WMQ XP sP 04 04 39.6 +1.0
WMQ AMB AMB
comp=Z,13nm,1.0s,mb4.6
WMQ LR LR
comp=N,122nm,19.2s
WMQ LR LR
comp=E,138nm,20.7s
WMQ LR LR
comp=Z,155nm,23.8s
SVW2 Sparrevohn 77.77 23 *e*P P **04 04 20.1 -0.3**
SEW Seward 79.75 26 *e*P P **04 04 31.2 -0.1**
MK31 Makanchi Array 80.39 319 *e*P P **04 04 34.5 -0.5**
MKAR Makanchi Array 80.39 319 P P **04 04 34.9 -0.1**
comp=Z,2.2nm,0.8s,mb4.0,baz=104,slow=5.1,SNR=19
PMR Palmer 80.64 24 *e*P P **04 04 35.7 -0.3**
PMR pmax pmax
comp=Z,22nm,1.1s,mb4.9
PMR Palmer 80.64 24 *e*P P **04 04 35.7 -0.4**
comp=Z,22nm,1.1s,mb4.9
TRF Thorofare Moun 81.14 23 *e*P P **04 04 37.8 -0.9**
comp=Z,8.4nm,0.7s,mb4.7
ZALV Zalesovo Beam 81.35 327 P P **04 04 39.0 -1.0**
comp=Z,1.9nm,0.6s,mb4.1,baz=110,slow=7.2,SNR=3.1
ZAL Zalesovo 81.35 327 P P **04 04 39.0 -1.0**
MCK McKinley 81.81 23 *e*P P **04 04 41.6 -0.6**
MCK pmax pmax
comp=Z,34nm,0.9s,mb5.2
MCK McKinley 81.81 23 *e*P P **04 04 41.6 -0.6**
comp=Z,34nm,0.9s,mb5.2
DIV Divide 81.84 26 *e*P P **04 04 42.6 +0.2**
comp=Z,29nm,1.0s,mb5.1
BMRM Bremner River 82.27 26 *e*P P **04 04 45.1 +0.4**
COLA College 82.79 22 *e*P P **04 04 46.2 -1.1**
COLA pmax pmax
comp=Z,14nm,0.8s,mb4.8
COLA College 82.79 22 *e*P P **04 04 46.2 -1.1**
comp=Z,14nm,0.8s,mb4.9
KURK Kurchatov 83.89 322 *e*P P **04 04 52.6 -0.6**
TKM2 Tokmak 2 83.90 314 *e*P P **04 04 53.5 0.0**
comp=Z,25nm,0.6s,mb5.2
MAW Mawson 84.62 203 P P **04 04 57.0 +0.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=100,slow=9.0,SNR=4.5
AML Almayashu 85.10 313 *e*P P **04 05 00.5 +0.9**
comp=Z,18nm,1.1s,mb4.9
EKS2 Erkin-Say 85.15 314 *e*P P **04 04 58.6 -1.2**
comp=Z,12nm,1.1s,mb4.8
EGAK Eagle 85.31 23 *e*P P **04 05 00.2 +0.1**
comp=Z,12nm,0.9s,mb4.8
HYT Haines Junctio 85.41 28 P P **04 05 01.5 +0.8**
DAWY Dawson 85.74 24 *e*P P **04 05 02.9 +0.6**
BVAR Borovoye Array 89.38 323 P P **04 05 18.6 -1.4**
comp=Z,1.1nm,0.6s,mb4.1,baz=113,slow=1.9,SNR=4.8

INK Inuvik 89.39 21 *e*P P **04 05 19.7 0.0**
NVAR Mina Array Bea 93.11 52 P P **04 05 38.9 +1.3**
comp=Z,1.5nm,0.8s,mb4.4,baz=253,slow=5.2,SNR=7.8
NEW Newport 94.62 42 *e*P P **04 05 44.5 +0.2**
NEW pmax pmax
comp=Z,3.0nm,1.0s
NEW Newport 94.62 42 *e*P P **04 05 44.5 +0.2**
comp=Z,2.8nm,1.0s,mb4.7
YKA Yellowknife Ar 96.41 28 P P **04 05 51.9 -0.2**
comp=Z,1.7nm,0.7s,mb4.6,baz=273,slow=5.3,SNR=5.3
YKA Yellowknife Ar 96.41 28 *i*P P **04 05 52.5 +0.4**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 96.41 28 P P **04 05 51.9 -0.2**
ARU Arti 96.50 326 *e*P P **04 05 50.2 -2.5**
ARU *e* 04 09 44.6
ARU S S 04 16 19.2 -48
PDAR Pinedale Array 99.88 48 P Pdif 04 06 07.8 -0.1
comp=Z,0.6nm,0.7s,baz=268,slow=4.2,SNR=4.9
HBAR Harrisburg 115.30 53 *e*PKPdf PKPdf 04 11 02.5 -2.6
BOSA Boshof 118.61 233 *e*PKIKP PKPdf 04 11 11.7 0.0
SUR Sutherland 120.29 227 *e*PKPdf PKPdf 04 11 15.0 +0.1
GERES GERESS Array B 124.28 328 PKP PKPdf 04 11 22.8 +0.8
comp=Z,0.6nm,0.6s,baz=37,slow=0.7,SNR=6.1
DAVOX Davos/Dischmat 127.58 328 PKP PKPdf 04 11 29.0 +0.6
comp=Z,0.7nm,0.4s,baz=186,slow=20,SNR=4.0
MDT Midelt 145.22 324 PKPbc PKPbc 04 12 01.3 +0.2
comp=Z,3.8nm,0.7s,baz=65,slow=5.7,SNR=8.9
TOA0 Torodi Ar. Sit 149.82 287 *e*PKPbc PKPbc 04 12 14.4 +0.2
TORD Torodi Ar. Bea 149.82 287 PKPbc PKPbc 04 12 14.3 +0.1
comp=Z,6.4nm,0.9s,baz=96,slow=2.6,SNR=47
DBIC Dimbokro 157.02 274 PKPab PKPab 04 12 50.2 -0.2
comp=Z,2.6nm,0.8s,baz=146,slow=7.3,SNR=3.4

IDC 06 03:56:09.3±2.3,280N×6638E,h0km,mb4.1/5,mb1 4.2/5, mb1mx3.7/23,mbtmp4.1/5,Error ellipse: s-maj=132.8km s-min=24.6km az=48.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**47.99**	**353**	P	P	04 04 50.3	+0.5
2.4nm,0.8s,baz=177,slow=8.3,SNR=7.3							
HFS	**Hagfors**	**69.81**	**335**	P	P	04 07 20.9	-0.5
3.5nm,0.8s,baz=141,slow=9.3,SNR=14							
WRA	**Warramunga Arr**	**70.36**	**112**	P	P	04 07 25.5	0.0
2.5nm,0.9s,baz=292,slow=5.4,SNR=6.4							
ASAR	**Alice Springs**	**70.69**	**116**	P	P	04 07 27.4	-0.1
0.8nm,0.8s,baz=298,slow=5.8,SNR=5.2							
NOA	**NORSAR Array B**	**71.33**	**335**	P	P	04 07 29.9	-0.8
1.1nm,0.8s,baz=117,slow=6.5,SNR=3.5							
TXAR	**Lajitas Array**	**146.66**	**344**	PKPbc	PKPbc	04 15 54.5	+0.8
2.7nm,0.7s,baz=55,slow=3.1,SNR=42							

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*ISCJB **06** 03:57:16.9±0.5,273N±009×6621E±007,h10km,mb4.4/44, MS3.9/8,Error ellipse: s-maj=13.5km s-min=9.5km az=2.9*
*MOS **06** 03:57:16.7±0.7,275N×6622E,h10km,mb5.1/14,Error ellipse: s-maj=13.8km s-min=7.1km az=118.6*
*BJI **06** 03:57:17.5,270N×6620E,h10km,mB4.8,mb4.6*
*IDC **06** 03:57:17.1±0.7,269N×6624E,h0km,mb4.1/22, mb1 4.2/22,mb1mx4.1/28,mbtmp4.1/22,MS3.9/3, Ms1 3.9/3,ms1mx3.4/16,Error ellipse: s-maj=20.5km s-min=15.3km az=30.0*
*NEIC **06** 03:57:18.5±0.4,265N×6623E,h10km,mb5.0/9,Error ellipse: s-maj=11.1km s-min=8.7km az=203.0*
*SZGRF **06** 03:57:30.7,4.15N×6565E,h33km,mb4.6,Carlsberg Ridge*

ISC 06 03:57:18.8±0.5,268N±009×6622E±007,h10km,n95, σ0°80/89,mb4.4/44,MS3.9/8,32C-1D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**32.67**	**89**	LR	LR	04 14 54.1	
comp=Z,235nm,19.7s,MS3.9,baz=198,slow=32							
CMAR	**Chiang Mai Arr**	**35.68**	**62**	P	P	**04 04 17.9**	**+0.2**
0.8nm,0.2s,mb4.2,baz=243,slow=8.0,SNR=5.7							
AML	**Almayashu**	**39.85**	**9**	*e*P	P	**04 04 54.3**	**+1.8**
18nm,1.1s,mb4.7							
EIL	**Elat**	**40.00**	**315**	P	P	**04 04 55.5**	**+1.6**
2.8nm,0.7s,mb4.1,baz=347,slow=16,SNR=2.5							
ASF	**Jabal al Asfar**	**40.25**	**320**	P	P	**04 04 57.7**	**+1.7**
2.9nm,1.0s,mb4.0,baz=5.1,slow=15,SNR=3.4							
MMAI	**Mount Meron Ar**	**41.76**	**320**	P	P	**04 05 11.4**	**+3.0**
1.2nm,0.5s,mb3.8,baz=132,slow=10,SNR=3.0							
GNI	**Garni**	**42.07**	**335**	P	P	**04 05 13.5**	**+2.6**
2.1nm,0.3s,mb4.2,baz=295,slow=19,SNR=7.3							
GNI	**Garni**	**42.07**	**335⇓**	*e*P	P	**04 05 14.3**	**+3.5**
GNI				pmax	pmax		
comp=Z,64nm,2.1s							
MKAR	**Makanchi Array**	**46.11**	**15**	P	P	**04 05 42.3**	**-0.9**
comp=Z,0.6nm,0.7s,mb3.6,baz=180,slow=8.4,SNR=2.8							
LZH	**Lanzhou**	**48.08**	**42**	*e*P	P	**04 06 00.8**	**+2.0**
LZH				AP	pP	04 06 10.0	+8.1
LZH				XP	sP	04 06 13.5	+10
LZH				AMB	AMB		
comp=Z,12nm,1.0s,mb4.9							
LZH				AMB	AMB		
comp=Z,53nm,4.2s							
AKTK	**Aktyubinsk**	**48.09**	**353**	P	P	**04 05 58.2**	**-0.3**
AKTO	**Aktyubinsk**	**48.09**	**353**	P	P	**04 05 58.2**	**-0.3**
comp=Z,5.5nm,0.9s,mb4.6,baz=174,slow=8.2,SNR=15							
AKTO	**Aktyubinsk**	**48.09**	**353**	P	P	**04 05 58.3**	**-0.2**
AKTO				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.6							
KURK	**Kurchatov**	**49.00**	**10⇑**	*e*P	P	**04 06 05.5**	**-0.1**
KURK				pmax	pmax		
comp=Z,10.0nm,1.7s,mb4.6							
KURK				MLR	MLR		
comp=Z,100nm,20.0s,MS3.8							
BOSA	**Boshof**	**50.12**	**229**	P	P	**04 06 14.0**	**-0.5**
comp=Z,2.9nm,0.8s,mb4.4,baz=78,slow=11,SNR=4.1							
IDI	**Anoyia**	**50.18**	**315**	LR	LR	04 28 03.9	
comp=Z,46nm,19.6s,MS3.5,baz=326,slow=37							
XAN	**Xi'an**	**50.55**	**47**	P	P	**04 06 17.7**	**0.0**
XAN				AP	pP	04 06 27.0	+6.1
XAN				AMB	AMB		
comp=Z,15nm,1.4s,mb4.7							
XAN				AMB	AMB		
comp=Z,64nm,5.2s							
WHN	**Wuhan**	**53.23**	**53**	P	P	**04 06 43.3**	**+5.6**
ZAL	**Zalesovo**	**53.33**	**14**	P	P	**04 06 37.3**	**-0.7**
ZAA0	**Zalesovo Array**	**53.34**	**14**	*e*P	P	**04 06 37.3**	**-0.8**
ZALV	**Zalesovo Beam**	**53.34**	**14**	P	P	**04 06 37.3**	**-0.8**
comp=Z,2.1nm,0.5s,mb4.3,baz=201,slow=7.9,SNR=6.9							
NVS	**Novosibirsk**	**53.82**	**12**	*i*P	P	**04 06 40.5**	**-1.1**
ARU	**Arti**	**53.94**	**355⇑**	*e*P	P	**04 06 42.7**	**+0.2**
ARU				pmax	pmax		
comp=Z,33nm,2.7s,mb4.8							
ARU				MLR	MLR		
comp=Z,100nm,16.0s,MS4.0							
SONM	**Songino Array**	**56.73**	**31**	P	P	**04 07 03.4**	**+0.6**
comp=Z,1.9nm,0.9s,mb4.1,baz=235,slow=6.7,SNR=7.8							
ZAK	**Zakamensk**	**56.91**	**27**	*e*P	P	**04 07 03.7**	**-0.3**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.3s,mb4.0							
AKASG	**Malin Array Be**	**57.10**	**333**	P	P	**04 07 04.4**	**-0.9**
comp=Z,0.1nm,0.2s,mb3.4,baz=140,slow=5.9,SNR=5.8							
AKASG	**Malin Array Be**	**57.10**	**333**	*i*P	P	**04 07 05.0**	**-0.3**
MOS	**Moscow**	**57.70**	**341**	*e*P	P	**04 07 07.9**	**-1.5**
KOLS	**Kolonicke sedl**	**59.39**	**328**	*e*P	P	**04 07 21.9**	**+0.5**
CRVS	**Cervenica-Dubn**	**59.80**	**327**	*e*P	P	**04 07 23.4**	**-0.8**
VYHS	**Vyhne**	**61.01**	**326**	*e*P	P	**04 07 31.9**	**-0.6**
VRAC	**Vranov**	**62.70**	**326**	P	P	**04 07 43.4**	**-0.4**
comp=Z,1.0nm,0.4s,mb4.3,baz=106,slow=9.6,SNR=5.4							
TREC	**Trest**	**63.32**	**325**	*e*P	P	**04 07 48.6**	**+0.6**
DPC	**Dobruska-Polom**	**63.39**	**327**	*e*P	P	**04 07 47.7**	**-0.7**
KHC	**Kasperske Hory**	**64.33**	**325⇑**	*e*P	P	**04 07 54.0**	**-0.6**
KHC	**Kasperske Hory**	**64.33**	**325**	*e*P	P	**04 07 57.7**	**+3.1**
PGF	**Pioggiola**	**64.47**	**316⇑**	*e*P	P	**04 07 55.8**	**+0.1**
comp=Z,42nm,1.4s,mb5.0							
PGF	**Pioggiola**	**64.47**	**316⇑**	*i*P	P	**04 07 55.8**	**+0.1**
PGF				pmax	pmax		
comp=Z,21nm,1.4s,mb5.0							
PGF	**Pioggiola**	**64.47**	**316⇑**	*i*P	P	**04 07 55.8**	**+0.1**
comp=Z,21nm,1.4s,mb5.0							
TORD	**Torodi Ar. Bea**	**64.59**	**283**	P	P	**04 07 57.0**	**0.0**
comp=Z,0.6nm,1.0s,mb3.6,baz=98,slow=6.4,SNR=3.9							
NKC	**Novy Kostel**	**65.50**	**325**	*e*P	P	**04 08 02.2**	**0.0**
DAVOX	**Davos/Dischmat**	**65.53**	**321**	P	P	**04 08 02.4**	**-0.1**
comp=Z,1.6nm,0.8s,mb4.1,baz=135,slow=7.9,SNR=3.4							
DAVOS	**Davos**	**65.61**	**321**	P	P	**04 08 02.4**	**-0.6**
CLL	**Collm**	**65.69**	**327⇑**	*i*P	P	**04 08 03.4**	**-0.1**
CLL				pmax	pmax		
comp=Z,39nm,2.2s,mb5.0							
CLL	**Collm**	**65.69**	**327⇑**	*i*P	P	**04 08 03.4**	**-0.1**
comp=Z,39nm,2.2s,mb5.0							
CLL				*e*		04 08 13.0	
GRA1	**Grafenberg Arr**	**65.95**	**324**	*e*P	P	**04 08 04.6**	**-0.6**
comp=Z,5.0nm,1.1s,mb4.5							
GRF	**Grafenberg Arr**	**65.95**	**324**	*e*P	P	**04 08 04.6**	**-0.6**
GRF				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.5							
GRF	**Grafenberg Arr**	**65.95**	**324**	*e*P	P	**04 08 04.6**	**-0.6**
GRF				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.5							
GRF	**Grafenberg Arr**	**65.95**	**324**	*e*P	P	**04 08 04.6**	**-0.6**
comp=Z,5.0nm,1.1s,mb4.5							
KSRS	**Korea Array**	**66.12**	**50**	P	P	**04 08 05.8**	**-0.6**
comp=Z,0.4nm,0.3s,mb4.0,baz=251,slow=7.6,SNR=3.4							
FRF	**La Foret Royal**	**66.44**	**317⇑**	*i*P	P	**04 08 08.6**	**+0.2**
LMR	**La Mourre**	**66.46**	**317⇑**	*i*P	P	**04 08 08.7**	**+0.1**
LPG	**La Plagne**	**67.05**	**319⇑**	*i*P	P	**04 08 11.8**	**-0.5**
LPL	**La Plagne**	**67.07**	**319⇑**	*i*P	P	**04 08 11.8**	**-0.6**
comp=Z,13nm,1.0s,mb4.6							
LPL	**La Plagne**	**67.07**	**319⇑**	*i*P	P	**04 08 11.8**	**-0.6**
LPL				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
LPL	**La Plagne**	**67.07**	**319⇑**	*i*P	P	**04 08 11.8**	**-0.6**
comp=Z,6.3nm,1.0s,mb4.6							
SMRF	**Simiane la Rot**	**67.31**	**317**	*e*P	P	**04 08 14.3**	**+0.3**
CDF	**Champ du Feu**	**67.79**	**322⇑**	*i*P	P	**04 08 16.6**	**-0.3**
comp=Z,32nm,1.4s,mb4.8							
CABF	**La Chapelle**	**67.88**	**320⇑**	*i*P	P	**04 08 17.7**	**+0.2**
comp=Z,24nm,1.0s,mb4.9							
VIVF	**Saint-Julien-l**	**68.21**	**318**	*e*P	P	**04 08 19.5**	**-0.1**
LASF	**Ste Croix**	**68.52**	**317**	*e*P	P	**04 08 21.2**	**-0.4**
comp=Z,34nm,1.2s,mb4.8							
MEZF	**Maizieres J'vi**	**69.20**	**321⇑**	*i*P	P	**04 08 26.0**	**+0.3**
SMF	**Signal de Mont**	**69.34**	**319⇑**	*i*P	P	**04 08 26.1**	**-0.6**
MDJ	**Mudanjiang**	**69.38**	**43**	P	P	**04 08 28.8**	**+1.9**
MDJ				AMB	AMB		
comp=Z,10.0nm,1.3s,mb4.6							
MDJ				AMB	AMB		
comp=Z,78nm,3.6s							
LOR	**Lormes**	**69.53**	**320⇑**	*i*P	P	**04 08 27.3**	**-0.5**
comp=Z,39nm,1.5s,mb4.8							
LOR				*e*MLR	MLR		
comp=Z,58nm,19.0s,MS3.5							
LOR	**Lormes**	**69.53**	**320⇑**	*i*P	P	**04 08 27.3**	**-0.5**
LOR				LR	LR		
comp=Z,60nm,19.0s,MS3.9							
SSF	**Saint Saulge**	**69.70**	**320⇑**	*i*P	P	**04 08 28.3**	**-0.5**
comp=Z,24nm,1.2s,mb4.7							
HFS	**Hagfors**	**69.86**	**335**	P	P	**04 08 29.1**	**-0.4**
comp=Z,6.8nm,0.8s,mb4.6,baz=125,slow=7.4,SNR=15							
BGF	**Bois d'Agland**	**69.97**	**319⇑**	*i*P	P	**04 08 30.4**	**-0.1**
TCF	**Toulx Ste Croi**	**70.30**	**319⇑**	*i*P	P	**04 08 33.0**	**+0.4**
comp=Z,33nm,1.5s,mb4.7							
WRA	**Warramunga Arr**	**70.46**	**112**	P	P	**04 08 34.1**	**0.0**
comp=Z,4.2nm,0.8s,mb4.4,baz=290,slow=5.7,SNR=12							
RJF	**Les Rejaudoux**	**70.48**	**317⇑**	*i*P	P	**04 08 34.1**	**+0.4**
RJF				*e*MLR	MLR		
comp=Z,88nm,18.0s,MS3.8							
RJF	**Les Rejaudoux**	**70.48**	**317⇑**	*i*P	P	**04 08 34.1**	**+0.4**
RJF				LR	LR		
comp=Z,90nm,18.0s,MS4.1							
ASAR	**Alice Springs**	**70.78**	**116**	P	P	**04 08 35.9**	**0.0**
comp=Z,1.9nm,0.7s,mb4.1,baz=280,slow=5.1,SNR=12							
LFF	**La Frestale**	**70.90**	**317⇑**	*i*P	P	**04 08 36.9**	**+0.6**
ETSF	**Etsaut**	**71.28**	**315**	*e*P	P	**04 08 40.1**	**+1.5**
comp=Z,62nm,1.5s,mb5.0							
ETSF	**Etsaut**	**71.28**	**315**	*e*P	P	**04 08 40.1**	**+1.5**
ETSF				pmax	pmax		
comp=Z,31nm,1.5s,mb5.0							
ETSF	**Etsaut**	**71.28**	**315**	*e*P	P	**04 08 40.1**	**+1.5**
comp=Z,31nm,1.5s,mb5.0							
NOA	**NORSAR Array B**	**71.37**	**335**	P	P	**04 08 38.2**	**-0.5**
comp=Z,1.5nm,0.8s,mb4.0,baz=113,slow=6.7,SNR=5.9							
SJPF	**Ste Jean**	**71.81**	**315⇑**	*i*P	P	**04 08 41.6**	**-0.2**
comp=Z,56nm,1.4s,mb5.0							
SJPF	**Ste Jean**	**71.81**	**315⇑**	*i*P	P	**04 08 41.6**	**-0.2**
SJPF				pmax	pmax		
comp=Z,28nm,1.4s,mb5.0							
SJPF	**Ste Jean**	**71.81**	**315⇑**	*i*P	P	**04 08 41.6**	**-0.2**
comp=Z,28nm,1.4s,mb5.0							
ARCES	**ARCESS Array B**	**71.95**	**346**	P	P	**04 08 41.0**	**-1.2**
comp=Z,2.7nm,1.0s,mb4.1,baz=45,slow=5.3,SNR=4.4							
KLR	**Kul'dur**	**72.17**	**39**	*e*P	P	**04 08 39.0**	**-4.8**
MDT	**Midelt**	**72.47**	**303**	P	P	**04 08 46.6**	**+0.7**
comp=Z,2.0nm,1.1s,mb4.0,baz=92,slow=15,SNR=3.3							
FLN	**La Foliniere**	**72.77**	**320⇑**	*i*P	P	**04 08 47.0**	**-0.4**
comp=Z,68nm,1.5s,mb5.1							
FLN				*e*MLR	MLR		
comp=Z,54nm,17.0s,MS3.6							
FLN	**La Foliniere**	**72.77**	**320⇑**	*i*P	P	**04 08 47.0**	**-0.4**
FLN				pmax	pmax		
comp=Z,34nm,1.5s,mb5.1							
FLN				MLR	MLR		
comp=Z,50nm,17.0s,MS3.9							
FLN	**La Foliniere**	**72.77**	**320⇑**	*i*P	P	**04 08 47.0**	**-0.4**
comp=Z,34nm,1.5s,mb5.1							
FLN				LR	LR		
comp=Z,50nm,17.0s,MS3.9							
ESDC	**Sonseca Array**	**73.08**	**311**	P	P	**04 08 49.9**	**+0.5**
comp=Z,2.2nm,0.7s,mb4.2,baz=85,slow=5.3,SNR=11							
MJAR	**Matsushiro Arr**	**73.97**	**53**	P	P	**04 08 54.9**	**+0.2**
comp=Z,0.5nm,0.3s,mb3.9,baz=258,slow=5.8,SNR=4.9							
PETK	**Petropavlovsk-**	**88.77**	**37**	LR	LR	04 52 19.7	
comp=Z,110nm,19.3s,MS4.3,baz=273,slow=37							
VNDA	**Vanda**	**93.82**	**167**	P	P	**04 10 35.9**	**+0.1**
comp=Z,0.4nm,0.8s,mb3.9,baz=262,slow=9.0,SNR=2.5							
PDAR	**Pinedale Array**	**134.60**	**356**	PKP	PKPdf	04 16 37.2	-0.7
comp=Z,0.5nm,0.6s,baz=100,slow=5.3,SNR=4.0							
TXAR	**Lajitas Array**	**146.73**	**344**	PKPbc	PKPbc	04 17 02.5	+0.8
comp=Z,5.1nm,0.8s,baz=57,slow=2.6,SNR=40							
TXAR	**Lajitas Array**	**146.73**	**344**	PKP2	PKPbc	04 17 02.5	+0.8
TXAR				pmax	pmax		
comp=Z,5.0nm,0.8s							

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*ISCJB **06** 04:04:48.9±4.7,2191N±007×143.1E±02,h30km±33km, mb4.2/14,MS3.4/2,Error ellipse: s-maj=24.8km s-min=12.5km az=178.9*
*NEIC **06** 04:04:50.3±4.8,2186N×143.18E,h29km±33km,mb4.5/4, Error ellipse: s-maj=15.6km s-min=11.0km az=89.0*
*IDC **06** 04:04:50.8±7.4,2187N×143.17E,h32km±54km,mb3.8/11, mb1 4.0/13,mb1mx3.9/25,mbtmp3.9/13,ML3.8/1,MS3.5/2, Ms1 3.5/2,ms1mx2.6/33,Error ellipse: s-maj=28.0km s-min=17.5km az=84.0*

ISC 06 04:04:50.7±4.8,2189N±007×1432E±02,h31km±33km,n23, σ0°63/21,mb4.2/14,MS3.4/2,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.27**	**350**	Pn	**Pn**	**04 06 07.3**	**+0.1**
8.3nm,0.3s,baz=240,slow=20,SNR=5.1							
CBIJ				Sn	**Sn**	**04 07 06.2**	**-0.7**
6.9nm,0.3s,baz=104,slow=23,SNR=4.6							
MJAR	**Matsushiro Arr**	**15.23**	**344**	Pn	**Pn**	**04 08 23.2**	**-0.3**
baz=157,slow=16,SNR=2.8							
KSRS	**Korea Array**	**20.38**	**323**	P	P	**04 09 25.4**	**+0.5**
4.8nm,0.9s,baz=143,slow=8.8,SNR=15							
KSRS				LR	LR	04 16 51.4	
comp=Z,40nm,20.0s,MS2.8,baz=220,slow=35							
SONM	**Songino Array**	**39.21**	**320**	P	P	**04 12 16.6**	**+0.6**
2.0nm,0.6s,mb4.1,baz=135,slow=8.9,SNR=7.2							
CMAR	**Chiang Mai Arr**	**41.59**	**273**	P	P	**04 12 36.8**	**+0.7**
0.7nm,0.3s,mb3.7,baz=63,slow=10,SNR=3.7							
WRA	**Warramunga Arr**	**42.47**	**192**	P	P	**04 12 42.2**	**-0.8**
1.3nm,0.7s,mb3.7,baz=12,slow=8.4,SNR=5.3							
ASAR	**Alice Springs**	**46.18**	**192**	P	P	**04 13 12

SUMG	**Summit**	85.77	1	*e*P	P	04 17 27.0	+0.5
	11nm,0.6s,mb5.3						
RLMT	**Red Lodge**	86.34	43	*e*P	P	04 17 30.6	+0.7
	1.6nm,0.6s,mb4.4						
AKASG	**Malin Array Be**	87.37	324	P	P	04 17 32.8	-1.9
	0.2nm,0.3s,mb3.8,baz=47,slow=3.9,SNR=4.3						
GERES	**GERESS Array B**	96.44	329	LR	LR	05 07 57.6	
	comp=Z,54nm,18.1s,MS4.1,baz=90,slow=39						
TORD	**Torodi Ar. Bea**	128.64	309	PKP	PKPdf	04 23 55.0	-0.7
	0.4nm,1.0s,baz=68,slow=1.2,SNR=3.8						
LPAZ	**La Paz**	149.90	85	PKPbc	PKPbc	04 24 40.2	+1.6
	0.7nm,0.8s,baz=310,slow=4.7,SNR=2.7						
LPAZ				PKPab	PKPab	04 24 44.9	+0.6
	1.1nm,0.8s,baz=310,slow=3.5,SNR=4.9						

IDC 06 04:15:41.0±2.8, 704S×15056E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, MS3.4/1, Ms1 3.4/1, ms1mx2.7/19, Error ellipse: s-maj=66.1km s-min=44.2km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	20.31	229	P	P	04 20 18.6	-0.1
	1.6nm,0.6s,baz=55,slow=11,SNR=6.8						
ASAR	**Alice Springs**	23.01	222	P	P	04 20 48.4	+0.7
	0.5nm,0.4s,baz=61,slow=9.6,SNR=7.1						
STKA	**Stephens Creek**	26.09	198	P	P	04 21 16.6	+0.1
	1.5nm,0.8s,baz=7.6,slow=15,SNR=2.7						
FITZ	**Fitzroy Crossi**	26.66	243	P	P	04 21 20.9	-0.9
	1.1nm,0.6s,baz=56,slow=9.8,SNR=3.5						
AFI	**Afiamalu**	37.62	104	LR	LR	04 36 28.4	
	comp=Z,53nm,19.4s,baz=100,slow=33						
TORD	**Torodi Ar. Bea**	148.78	284	PKPbc	PKPbc	04 35 31.4	-0.2
	0.4nm,0.9s,baz=77,slow=2.2,SNR=3.7						

*ISCJB **06** 04:18:05.5±0.5, 295S±006×1415E±01, h10km, mb4.3/14, MS3.2/2, Error ellipse: s-maj=15.7km s-min=8.6km az=9.3*
*IDC **06** 04:18:05.8±0.8, 290S×14151E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.2/18, mbtmp4.2/12, ML4.5/2, MS3.3/3, Ms1 3.2/3, ms1mx3.0/20, Error ellipse: s-maj=27.1km s-min=16.7km az=79.0*
*NEIC **06** 04:18:07.1±0.4, 293S×14152E, h10km, mb4.8/6, Error ellipse: s-maj=12.7km s-min=7.9km az=104.0*
ISC 06 04:18:07.1±0.5, 295S±006×1416E±01, h10km, n32, σ1§02/24, mb4.3/14, MS3.2/2, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	13.25	222	*e*P	Pn	04 21 13.7	-1.8
	19nm,0.5s						
GUMO	**Guam**	16.75	11	LR	LR	04 26 26.3	
	comp=Z,104nm,20.9s,baz=100,slow=30						
WRAB	**Tennant Creek**	18.29	202	*e*Pn	Pn	04 22 21.5	+0.3
	15nm,0.6s						
WB2	**Warramunga Arr**	18.30	202	*e*P	Pn	04 22 21.2	-0.1
WRA	**Warramunga Arr**	18.30	202	P	Pn	04 22 21.2	-0.1
	0.7nm,0.3s,baz=18,slow=14,SNR=22						
HNR	**Honiara**	19.37	110	P	Pn	04 22 32.5	-1.8
	9.0nm,0.3s,baz=247,slow=7.7,SNR=4.0						
HNR	**Honiara**	19.37	110	P	Pn	04 22 32.5	-1.8
FITZ	**Fitzroy Crossi**	21.69	225	*e*P	P	04 22 58.1	-0.3
	14nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	21.69	225	P	P	04 22 57.8	-0.6
	5.6nm,0.8s,mb4.1,baz=43,slow=12,SNR=11						
FITZ				LR	LR	04 31 56.5	
	comp=Z,204nm,20.6s,MS3.5,baz=12,slow=38						
ASAR	**Alice Springs**	21.89	199	P	P	04 22 60.0	-0.5
	1.8nm,0.8s,mb3.6,baz=32,slow=10,SNR=14						
STKA	**Stephens Creek**	28.77	180	P	P	04 24 07.2	+2.0
	1.1nm,0.6s,mb3.8,baz=8.7,slow=13,SNR=3.1						
FORT	**Forrest**	30.48	203	*e*P	P	04 24 21.1	+0.8
	29nm,0.6s,mb5.2						
NACB	**Ninganchiao**	33.23	325	*e*P	P	04 24 44.8	+0.2
	32nm,0.4s,mb5.6						
KSRS	**Korea Array**	42.15	344	P	P	04 25 59.9	0.0
	0.8nm,0.7s,mb3.4,baz=157,slow=6.6,SNR=3.5						
PSI	**Prapat**	43.00	277	P	P	04 26 06.4	-0.8
	2.0nm,0.4s,mb4.2,baz=111,slow=8.6,SNR=4.1						
SONM	**Songino Array**	59.18	333	P	P	04 28 06.5	-1.8
	0.5nm,0.5s,mb3.8,baz=141,slow=4.8,SNR=2.4						
MK31	**Makanchi Array**	71.73	322	*e*P	P	04 29 30.7	+1.1
MKAR	**Makanchi Array**	71.73	322	P	P	04 29 30.7	+1.2
	1.0nm,0.6s,mb3.9,baz=115,slow=5.6,SNR=4.0						
VNDA	**Vanda**	75.31	176	P	P	04 29 50.0	-0.1
	1.6nm,0.9s,mb3.9,baz=320,slow=7.4,SNR=7.8						
VNDA	**Vanda**	75.31	176	P	P	04 29 50.0	-0.1
MAW	**Mawson**	82.98	202	P	P	04 30 34.2	+2.0
	3.3nm,1.0s,mb4.3,baz=61,slow=4.4,SNR=4.9						
MCK	**McKinley**	83.69	25	*e*P	P	04 30 35.3	-0.6
	11nm,1.2s,mb4.8						
EGAK	**Eagle**	87.25	25	*e*P	P	04 30 53.8	+0.2
	5.5nm,1.1s,mb4.7						
DAWY	**Dawson**	87.85	26	*e*P	P	04 30 57.3	+0.8
YKA	**Yellowknife Ar**	98.98	27	LR	LR	05 09 46.3	
	comp=Z,5.1nm,21.8s,MS3.0,baz=185,slow=31						
TORD	**Torodi Ar. Bea**	139.06	287	PKP	PKPdf	04 37 34.6	-0.7
	0.8nm,0.7s,baz=37,slow=1.5,SNR=4.9						
ROSC	**El Rosal**	144.14	86	PKP	PKPdf	04 37 43.5	-0.9
	6.5nm,0.7s,baz=203,slow=0.9,SNR=9.8						
LPAZ	**La Paz**	144.98	124	PKPbc	PKPdf	04 37 46.5	+0.8
	4.1nm,0.8s,baz=269,slow=4.1,SNR=18						
CPUP	**Villa Florida**	145.63	149	PKPbc	PKPbc	04 37 46.9	+0.1
	0.3nm,0.3s,baz=200,slow=6.7,SNR=3.9						
DBIC	**Dimbokro**	146.34	278	PKPbc	PKPbc	04 37 49.3	-0.1
	7.1nm,0.9s,baz=59,slow=4.7,SNR=6.5						
SDV	**Santo Domingo**	147.45	78	*e*PKPdf	PKPdf	04 37 51.1	+1.1

*ISK **06** 04:26:27.8, 3452N×3416E, h10km, MD3.6*
*ISCJB **06** 04:26:29.4±1.5, 3465N±007×3421E±004, h6km±7km, Error ellipse: s-maj=11.5km s-min=5.7km az=170.0*
*CSEM **06** 04:26:29.7±0.2, 3469N×3417E, h8km, Mw3.2, Error ellipse: s-maj=4.9km s-min=2.4km az=156.0*
*NIC **06** 04:26:31.2±0.5, 3486N×3422E, h15km, ML3.1, MW3.2*
ISC 06 04:26:29.4±1.4, 3458N±007×3419E±005, h7km±6km, n23, σ0§81/30, 3C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	0.45	343	S	Sg	04 26 40.0	-3.9
CSS	**Prodhromos**	0.81	299	⇑P	Pg	04 26 45.0	+0.1
	8.7nm,0.5s						
CSS				S	Sg	04 26 56.3	+0.9
LFK	**Lefkose**	0.89	322	*e*PG	Pg	04 26 45.6	-0.8
LFK				*e*SG	Sg	04 26 59.1	+1.2
EREN	**Erenkoy**	0.95	359	*e*PG	Pg	04 26 47.6	0.0
MAMC	**Mammari**	1.00	307	P	Pg	04 26 48.6	+0.1
MAMC				S	Sg	04 27 00.3	-1.2
SZAC	**Souni-Zanaja**	1.09	280	⇑P	Pg	04 26 50.5	+0.1
SZAC				S	Sg	04 27 05.3	+0.7
LEF	**Lefka**	1.20	297	*e*PN	Pn	04 26 51.7	-0.9
ALFC	**Alevga**	1.43	294	P	Pn	04 26 55.5	-0.3
ALFC				S	Sb	04 27 12.6	-2.3
PPCY	**Paphos**	1.55	282	P	Pn	04 26 57.7	+0.2
AKMC	**Akamas**	1.60	287	⇑P	Pn	04 26 58.2	+0.1
	1.0nm,0.4s						
AKMC				S	Sn	04 27 19.6	+0.6
IKL	**Isikli**	1.71	346	*e*PN	Pn	04 26 58.5	-1.1
HTY	**Hatay**	2.21	45	*e*PN	Pn	04 27 06.4	-0.2
MERS	**Mersin**	2.30	7	*e*PN	Pn	04 27 07.7	0.0
ERMK	**Ermenek**	2.31	334	*i* P	Pn	04 27 09.3	+1.4
ERMK	**Ermenek**	2.31	334	*i* P	Pn	04 27 09.3	+1.4
ERMK				*i* S	Sn	04 27 37.2	+0.7
HDMB	**Hadim**	2.76	330	*e*PN	Pn	04 27 13.9	-0.1
KARA	**Karaisali**	2.77	14	*e*PN	Pn	04 27 14.4	+0.2
KOZT	**Kozan**	3.19	24	*e*PN	Pn	04 27 20.4	+0.4
NIG	**Nigde**	3.54	5	*e*PN	Pn	04 27 25.3	+0.5
KONT	**Konya--Tatoy**	3.67	337	*e*PN	Pn	04 27 27.1	+0.5
AVNT	**Avanos**	4.23	7	*i* P	Pn	04 27 34.6	+0.3
KDHN	**Kadinhani**	4.28	338	*i* P	Pn	04 27 33.8	-1.1
SARI	**SarD1z-Kayseri**	4.56	25	*e*PN	Pn	04 27 35.0	-3.8

*ISCJB **06** 04:43:42.5±0.5, 3838N±003×4104E±004, h10km, Error ellipse: s-maj=4.6km s-min=4.3km az=7.7*
*CSEM **06** 04:43:42.6±0.1, 3842N×4098E, h8km, MD2.9, Error ellipse: s-maj=3.3km s-min=2.4km az=35.0*
*DDA **06** 04:43:42.1, 3837N×4105E, h9km±4km, Md3.0*
*ISK **06** 04:43:42.8, 3843N×4100E, h10km, MD2.9*
ISC 06 04:43:42.7±0.6, 3839N±003×4099E±004, h3km±8km, n14, σ0§76/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTMT	**Batman**	0.44	116	*e*PG	Pg	04 43 50.9	-0.3
BTMT				*e*SG	Sg	04 43 57.2	+0.3
BNGL	**BINGOL**	0.58	13	*i* P	Pg	04 43 53.9	0.0
BNGL				*i* S	Sg	04 44 03.2	+1.8
BINT	**Bingol**	0.62	322	*e*PG	Pg	04 43 55.0	+0.2
DIY	**Diyarbakir**	0.77	231	*e*PG	Pg	04 43 58.4	+0.8
MARD	**Mardin**	1.08	189	*i* P	Pg	04 44 02.7	-0.8
MARD				*i* S	Sg	04 44 17.9	+0.3
SVRC	**Sivrice-ELAZID**	1.32	270	*e*PN	Pn	04 44 08.3	+0.3
PTK	**Pertek**	1.35	292	*e*PN	Pn	04 44 07.8	-0.6
SIRT	**Sirnak**	1.45	127	*e*PN	Pn	04 44 09.6	-0.1
EZM	**Erzurum**	1.54	11	*e*PN	Pn	04 44 10.6	-0.5
TUTA	**Tutak**	1.75	54	*i* P	Pg	04 44 14.8	-1.5
TUTA				*i* S	Sg	04 44 38.0	-0.9
TUTA	**Tutak**	1.75	54	*i* P	Pg	04 44 14.8	-1.5
TUTA				*i* S	Sg	04 44 38.0	-0.9
URFA	**Urfa**	1.96	242	*e*PN	Pn	04 44 17.5	+0.7
HAKT	**HAKKARI**	2.30	110	*e*P	Pn	04 44 22.1	+0.5
HAKT				*i* S	Sg	04 44 57.4	+0.7
GZT	**Gaziantep**	2.90	250	*i* S	Sg	04 45 14.9	-0.9

*ISCJB **06** 04:47:45.2±1.0, 3811N±003×2671E±006, h3km±6km, Error ellipse: s-maj=8.4km s-min=5.2km az=167.7*
*CSEM **06** 04:47:45.0±0.2, 3810N×2677E, h5km, MD2.8, Error ellipse: s-maj=4.7km s-min=2.2km az=91.0*
*DDA **06** 04:47:45.8, 3813N×2674E, h7km±4km, Md2.8*
*ISK **06** 04:47:45.1, 3812N×2674E, h6km, MD3.0*
ISC 06 04:47:45.6±0.9, 3811N±004×2670E±006, h6km±6km, n12, σ0§50/20, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	0.27	341	*i* P	Pg	04 47 50.5	-0.2
URLA				*i* S	Sg	04 47 55.0	+0.7
BLCB	**Balcova**	0.39	44	*e*PG	Pg	04 47 52.5	-0.5
IZM	**Izmir**	0.53	57	*e*PG	Pg	04 47 55.4	-0.4
IZM				*e*SG	Sg	04 48 02.7	+0.1
KDAG	**Bornova**	0.53	56	*i* P	Pg	04 47 55.6	-0.2
KDAG				*i* S	Sg	04 48 03.5	+0.7
BODT	**Bodrum**	1.15	155	*e*PN	Pn	04 48 07.5	-0.6
BODT				*e*SN	Sn	04 48 23.9	-0.3
AKHS	**Akhisar**	1.16	48	*i* P	Pb	04 48 07.7	-0.4
AKHS				*i* S	Sg	04 48 22.9	0.0
MLSB	**Milas**	1.18	133	*e*PN	Pg	04 48 07.4	-0.7
BDRM	**Kayabasi**	1.20	150	*i* P	Pb	04 48 09.5	+0.9
BDRM				*i* S	Sb	04 48 25.3	+1.0
AYVA	**Ayvalik**	1.20	360	*i* P	Pn	04 48 08.7	-0.2
AYVA				*i* S	Sn	04 48 25.6	+0.2
AYVA	**Ayvalik**	1.20	360	*i* P	Pn	04 48 08.6	-0.2
AYVA				*i* S	Sn	04 48 25.6	+0.2
YER	**Yerkesik**	1.59	127	*e*PN	Pn	04 48 14.1	0.0
KULA	**Kula-Manisa**	1.59	75	*e*PN	Pn	04 48 14.2	0.0

IDC 06 04:47:56.5±3.4, 555S×15254E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, Error ellipse: s-maj=111.8km s-min=32.4km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	22.76	229	P	P	04 53 00.5	0.0
	1.0nm,0.6s,baz=54,slow=9.7,SNR=5.8						
ASAR	**Alice Springs**	25.42	223	P	P	04 53 26.0	0.0
	0.5nm,0.6s,baz=59,slow=9.1,SNR=6.2						
FITZ	**Fitzroy Crossi**	29.08	242	P	P	04 53 58.6	-0.3
	2.7nm,0.8s,baz=63,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	80.71	319	P	P	05 00 11.6	0.0
	0.5nm,0.9s,baz=114,slow=6.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	150.28	287	PKPbc	PKPbc	05 07 50.9	+0.2
	0.2nm,0.3s,baz=86,slow=2.4,SNR=8.6						

KRSC 06 04:50:04.5±0.9, 5244N×15759E, h272km±31km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	0.56	90	*i* P	Pn	04 50 41.0	+1.0
RUS				*e*S	S	04 51 08.0	-0.1
PET	**Petropavlovsk**	0.87	47	P	Pn	04 50 42.2	+1.1
SDLR	**Sedlovina**	1.15	43	*e*P	Pn	04 50 43.9	+1.4
GNL	**Ganaly**	1.27	9	P	Pn	04 50 44.3	+1.0
NLC	**Nalytchevo**	1.29	55	S	S	04 51 16.9	+2.7
SPN	**Mys Shipunski**	1.62	65	P	Pn	04 50 47.4	+1.7
SPN				*e*S	S	04 51 18.7	+0.4
MKZ	**Mys Kozlova**	3.26	48	*e*P	Pn	04 51 02.8	+1.9
MKZ				*e*S	S	04 51 44.3	-1.5
KBTR	**Krutoberegovo**	4.86	37	*e*P	Pn	04 51 20.6	+1.5

*ISCJB **06** 05:12:47.5±0.4, 1074N±003×6242W±002, h78km±6km, Error ellipse: s-maj=4.8km s-min=3.6km az=149.6*
*FUNV **06** 05:12:49.0, 1075N×6235W, h68km, MW3.4*
*NEIC **06** 05:12:51.5, 1087N×6231W, h48km, MD3.8(TRN), After TRN.*
*TRN **06** 05:12:51.4, 1087N×6231W, h49km, MD3.8*
ISC 06 05:12:48.6±0.4, 1075N±003×6242W±002, h71km±6km, n30, σ1§01/52, 7C-5D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	0.22	119	⇑*i*P	Pn	05 12 59.6	+0.3
GUIV				*e*S	Sn	05 13 06.8	-0.3
TCE	**Chacachacare**	0.66	95	*e*P	Pn	05 13 03.5	+0.5
TCE				*e*S	Sn	05 13 12.3	-1.3
GUNV	**Guanoco**	0.78	221	⇓*i*P	Pn	05 13 05.2	+0.7
GUNV				*e*S	Sn	05 13 17.1	+0.9
CRUV	**Carupano**	0.81	265	⇓*i*P	Pn	05 13 04.8	0.0
CRUV				*e*S	Sn	05 13 16.8	0.0
ITEV	**Isla Los Testi**	0.92	311	⇓*i*P	Pn	05 13 06.4	+0.3
ITEV				*e*S	Sn	05 13 19.1	0.0
TRN	**Trinidad (W)**	1.00	96	⇓*e*P	Pn	05 13 07.9	+0.8
TRN				*e*S	Sn	05 13 20.5	-0.4
TPP	**Pointe-a-Pierr**	1.04	114	*e*P	Pn	05 13 09.8	+2.1
TPP				*e*S	Sn	05 13 23.2	+1.3
TBH	**Brigand Hill**	1.35	101	*e*P	Pn	05 13 12.6	+0.9
TBH				*e*S	Sn	05 13 29.2	+0.2
GRGR	**Grenville**	1.56	29	*e*Pg	Pn	05 13 14.9	+0.5
GRGR				*e*Sg	Sn	05 13 34.4	+0.5
GRW	**Mount Saint Ca**	1.58	28	*e*P	Pn	05 13 15.6	+0.9
GRW				*e*S	Sn	05 13 32.4	-2.0
GRHS	**Sauteurs**	1.65	27	*e*P	Pn	05 13 16.3	+0.8
GRHS				*e*S	Sn	05 13 34.3	-1.6
TPR	**Prospect**	1.67	75	*e*P	Pn	05 13 16.9	+1.1
TPR				*e*S	Sn	05 13 34.5	-1.9
GRSS	**Sisters**	1.73	27	*e*P	Pn	05 13 17.2	+0.6
GRSS				*e*S	Sn	05 13 36.6	-1.2
GRSS	**Sisters**	1.73	27	*e*P	Pn	05 13 17.2	+0.6
GRSS				*e*S	Sn	05 13 37.5	-0.3
GRIC	**Isle de Caille**	1.73	28	*e*P	Pn	05 13 17.2	+0.6
GRIC				*e*S	Sn	05 13 36.7	-1.1
TOSP	**Speyside**	1.93	73	*e*P	Pn	05 13 19.7	+0.4
TOSP				*e*S	Sn	05 13 42.0	-0.5
ORIV	**Oritupano**	1.94	210	*e*P	Pn	05 13 20.3	+0.6
PCRV	**Puerto La Cruz**	2.26	255	*e*P	Pn	05 13 24.3	+0.6
IBAV	**Isla La Blanqu**	2.37	297	⇑*e*P	Pn	05 13 25.8	+0.5
IBAV				*e*S	Sn	05 13 52.5	-0.8
RIOV	**Rio Grande**	2.73	167	*e*P	Pn	05 13 29.9	-0.3
RIOV				*e*S	Sn	05 13 59.5	-2.7
SVB	**Belmont**	2.75	24	*e*P	Pn	05 13 32.8	+2.4
SVB				*e*S	Sn	05 14 02.4	-0.1
PRGV	**PARIAGUAN**	2.96	228	⇑*i*P	Pn	05 13 33.2	0.0
GURV	**El Guri**	3.05	193	*e*P	Pn	05 13 33.6	-0.8
CUPV	**Cœpira**	3.39	259	⇑*e*P	Pn	05 13 40.3	+1.3
ORCV	**Isla La Orchil**	3.85	286	⇑*e*P	Pn	05 13 45.7	+0.3
MERV	**Las Mercedes**	4.10	249	⇑*e*P	Pn	05 13 48.7	-0.1
MERV				*e*S	Sn	05 14 33.5	-2.1
LUEV	**Luepa**	4.97	169	⇑*i*P	Pn	05 13 59.2	-1.5
CAOV	**Caicara del Or**	5.14	229	*e*P	Pn	05 14 01.9	-1.2
CAOV				*e*S	Sn	05 14 56.6	-4.6
TURV	**Turiamo**	5.34	267	*e*P	Pn	05 14 06.0	+0.3
BAUV	**El Baul**	5.83	253	⇓*e*P	Pn	05 14 11.7	-0.7
BAUV				*e*S	Sn	05 15 13.7	-4.2

IDC 06 05:19:47.9±2.0, 051N×12640E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, Error ellipse: s-maj=165.6km s-min=25.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	21.76	159	P	P	05 24 41.4	+0.1
	4.4nm,0.6s,baz=338,slow=12,SNR=17						
ASAR	**Alice Springs**	25.11	164	P	P	05 25 14.6	+0.1
	0.5nm,0.8s,baz=341,slow=8.0,SNR=5.9						
MKAR	**Makanchi Array**	60.02	326	P	P	05 29 56.5	+0.1
	0.2nm,0.4s,baz=123,slow=8.5,SNR=6.1						

*ISCJB **06** 05:20:34.0±1.6, 1861S±007×17471W±007, h64km±14km, mb4.6/22, Error ellipse: s-maj=13.4km s-min=9.7km az=144.5*
*NEIC **06** 05:20:35.9±1.2, 1857S×17467W, h68km±12km, mb4.8/9, Error ellipse: s-maj=12.4km s-min=8.1km az=147.0*
*IDC **06** 05:20:36.4±2.5, 1861S×17461W, h74km±23km, mb4.1/14, mb1 4.3/16, mb1mx4.2/23, mbtmp4.2/16, MS3.6/4, Ms1 3.6/4, ms1mx2.9/37, Error ellipse: s-maj=17.8km s-min=13.7km az=142.0*
ISC 06 05:20:36.4±1.3, 1862S±007×17465W±007, h72km±12km, n67, σ0§94/46, mb4.4/22, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	5.43	31	P	Pn	05 21 54.7	-0.1
	53nm,0.3s,baz=276,slow=2.1,SNR=44						
AFI				S	Sn	05 22 49.6	-6.4
	71nm,0.3s,baz=57,slow=22,SNR=14						
AFI	**Afiamalu**	5.43	31	*e*Pn	Pn	05 21 53.6	-1.3
	577nm,0.7s						
AFI				*e*Sn	Sn	05 22 50.0	-6.0
RAO	**Raoul Island**	11.00	195	P	Pn	05 23 11.7	+0.8
	124nm,0.3s,baz=71,slow=23,SNR=5.0						
RAO				S	Sn	05 25 06.0	-6.3
	46nm,0.3s,baz=92,slow=20,SNR=2.7						
RAO	**Raoul Island**	11.00	195	P	Pn	05 23 11.7	+0.8
RAO				S	Sn	05 25 06.0	-6.3
RAR	**Rarotonga**	14.23	103	P	Pn	05 23 55.4	+1.0
	2.6nm,0.3s,baz=94,slow=22,SNR=5.0						
RAR				S	Sn	05 26 15.5	-15
	1.0nm,0.3s,baz=357,slow=8.3,SNR=1.8						
URZ	**Urewera**	20.85	198	P	P	05 25 12.3	0.0
	13nm,0.3s,baz=175,slow=21,SNR=23						
URZ				S	S	05 28 46.7	-14
	21nm,1.0s,baz=206,slow=2.7,SNR=4.6						
PAE	**Paea**	23.84	92	*e*T		05 49 55.7	
	250nm,0.3s						
PAE	**Paea**	23.84	92	*e*P	P	05 25 42.2	-0.9
	320nm,1.2s,mb5.5						
PAE				*e*TT		05 49 55.7	
PPT	**Papeete**	23.85	91	*e*P	P	05 25 42.6	-0.6
	66nm,1.3s,mb4.8						
PPT				*e*LR	LR	05 30 56.2	
	176nm,36.2s						
PPT	**Papeete**	23.85	91	*e*T		05 49 56.9	
	7.4nm,0.3s						
PPT	**Papeete**	23.85	91	P	P	05 25 41.2	-2.0
	32nm,0.9s,mb4.7,baz=254,slow=11,SNR=2.9						
PPT	**Papeete**	23.85	91	P	P	05 25 41.2	-2.0
PPT				*e*P		05 25 42.6	
PPT				*e*TT		05 49 56.9	
TBI	**Tubuai**	23.97	106	*e*P	P	05 25 44.1	-0.1
	98nm,0.9s,mb5.1						
TBI				*e*LR	LR	05 30 53.3	
	101nm,40.2s						
TBI	**Tubuai**	23.97	106	*e*T		05 50 08.3	
	19nm,0.3s						
TBI	**Tubuai**	23.97	106	*e*P	P	05 25 44.1	-0.1
	98nm,0.9s,mb5.1						
TBI				*e*TT		05 50 08.3	
TIAR	**Tiarei**	24.07	92	*e*T		05 50 13.4	
	57nm,0.3s						
TVO	**Taravao**	24.14	92	*e*T		05 50 13.2	
	76nm,0.4s						
MEH	**Mehetia**	25.25	93	*e*T		05 51 41.8	
	2μm,0.2s						
PMOR	**Pomariorio Ree**	25.85	86	*e*T		05 52 26.1	
	2.5nm,0.4s						
PMOR	**Pomariorio Ree**	25.85	86	*e*P	P	05 26 00.6	-0.8
	73nm,1.2s,mb5.0						
PMOR				*e*TT		05 52 26.1	
HNR	**Honiara**	26.25	287	LR	LR	05 34 00.1	
	comp=Z,78nm,19.9s,baz=181,slow=31						
RPZ	**Rata Peaks**	27.77	203	P	P	05 26 22.6	+4.3
	7.3nm,0.4s,mb4.6,baz=32,slow=6.6,SNR=11						
TAOE	**Nuku Hiva Isla**	34.83	79	*e*T		06 03 38.1	
	82nm,0.2s						
CTA	**Charters Tower**	36.86	261	*e*P	P	05 27 38.4	+0.4
	10nm,0.6s,mb4.9						
CTA	**Charters Tower**	36.86	261	P	P	05 27 38.5	+0.5
	17nm,0.7s,mb5.1,baz=95,slow=10,SNR=14						
RKT	**Rikitea**	37.26	104	*e*T		06 06 44.5	
	8.5nm,0.3s						
WB2	**Warramunga Arr**	48.01	260	*e*P	P	05 29 07.5	-1.1
WRA	**Warramunga Arr**	48.02	260	P	P	05 29 07.5	-1.1
	5.2nm,0.4s,mb4.7,baz=97,slow=7.7,SNR=47						
ASAR	**Alice Springs**	48.05	255	P	P	05 29 08.2	-0.6
	6.7nm,0.5s,mb4.7,baz=90,slow=8.9,SNR=90		

CDF	Champ du Feu	150.24	357	*e*PKP1	PKPbc	05 40 18.4	-0.7
	comp=Z,11nm,0.9s						
LOR	Lormes	151.40	2	*e*PKP1	PKPbc	05 40 23.0	+1.1
	comp=Z,9.8nm,0.7s						
SSF	Saint Saulge	151.59	3	*e*PKP1	PKPbc	05 40 23.5	+1.2
	comp=Z,8.2nm,0.8s						
DAVOX	Davos/Dischmat	151.66	353	PKPbc	PKPbc	05 40 21.3	-1.2
	comp=Z,4.9nm,0.5s,baz=0.6,slow=3.3,SNR=7.5						
AVF	Avril sur Loir	151.85	3	*e*PKP1	PKPbc	05 40 23.5	+0.6
CABF	La Chapelle	152.07	359	*e*PKP1	PKPbc	05 40 23.2	-0.2
TCF	Toulx Ste Croi	152.28	5	*e*PKP1	PKPbc	05 40 25.5	+1.6
ESDC	Sonseca Array	157.52	19	PKPab	PKPab	05 40 55.8	-0.6
	comp=Z,0.8nm,0.5s,baz=296,slow=38,SNR=4.8						
TORD	Torodi Ar. Bea	173.53	147	PKPab	PKPab	05 42 06.3	-1.2
	comp=Z,1.0nm,0.9s,baz=221,slow=2.4,SNR=3.5						

IDC 06 05:24:32.7±1.2, 283S×14142E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.7/17, mbtmp3.7/5, ML3.6/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/25, Error ellipse: s-maj=45.6km s-min=26.4km az=85.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	18.35	202	*e*P	Pn	05 28 51.7	+2.9
WRA	Warramunga Arr	18.36	202	P	Pn	05 28 50.6	+1.7
	0.2nm,0.3s,baz=21,slow=11,SNR=4.4						
BATI	Baumata	19.09	247	LR	LR	05 35 02.6	
	comp=Z,373nm,21.2s,baz=143,slow=33						
FITZ	Fitzroy Crossi	21.67	224	P	P	05 29 24.2	-0.9
	1.6nm,0.9s,baz=63,slow=11,SNR=2.1						
MKAR	Makanchi Array	71.55	322	P	P	05 35 56.4	+0.7
	1.0nm,0.7s,baz=99,slow=4.5,SNR=7.8						
VNDA	Vanda	75.43	175	P	P	05 36 17.2	-0.8
	0.3nm,0.6s,baz=315,slow=7.3,SNR=3.2						
BVAR	Borovoye Array	80.97	325	P	P	05 36 49.5	+0.4
	0.6nm,0.8s,baz=100,slow=6.0,SNR=4.4						
LPAZ	La Paz	145.16	124	PKPbc	PKPbc	05 44 12.8	0.0
	1.6nm,0.8s,baz=271,slow=3.3,SNR=8.0						

MOS ***06*** *05:26:01.6±1.8, 3600N×3142E, h10km, mb4.1/10, Error ellipse: s-maj=12.1km s-min=6.9km az=121.0*
NEIC ***06*** *05:26:04.0, 3603N×3139E, h10km, mb4.1/7, ML3.9(ISK), After ISK.*
ISK ***06*** *05:26:04.6, 3603N×3139E, h11km, ML3.8*
CSEM ***06*** *05:26:05.6±0.0, 3599N×3136E, h25km, mb4.2/3, Mw3.8, Error ellipse: s-maj=1.3km s-min=0.9km az=78.0*
DDA ***06*** *05:26:06.5, 3612N×3142E, h27km±5km, Md3.7*
ISCJB ***06*** *05:26:06.8±0.2, 3595N±002×3140E±002, h67km±3km, mb3.8/19, Error ellipse: s-maj=3.2km s-min=2.1km az=144.1*
IDC ***06*** *05:26:08.0±1.7, 3604N×3146E, h59km±19km, mb3.7/13, mb1 3.7/20, mb1mx3.7/28, mbtmp3.7/20, ML4.0/7, MS2.8/1, Ms1 2.8/1, ms1mx2.1/39, Error ellipse: s-maj=14.9km s-min=11.5km az=29.0*
HLW ***06*** *05:26:09.7, 3583N×3124E, h17km, Mb4.0*
GII ***06*** *05:26:09.4±1.3, 3594N×3139E, h31km, mb4.1/6, ML4.0/6*
NIC ***06*** *05:26:12.0±0.4, 3581N×3184E, h35km, mb4.1, ML3.8, MW3.8*
NSSC ***06*** *05:26:19.0, 3607N×3236E, h35km±2km*

ISC 06 05:26:08.2±0.2, 3598N±002×3139E±002, h63km±3km, n185, σ0°97/221, mb3.9/18, 5C-13D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	1.09	327	*e*PG	Pn	05 26 25.9	-1.7
ANTB				*e*SG	Sn	05 26 39.9	-2.1
AKMC	Akamas	1.22	141	⇑P	Pn	05 26 27.8	-1.4
ALFC	Alevga	1.28	129	⇑P	Pn	05 26 27.7	-2.3
	37nm,0.2s						
ALFC				S	Sn	05 26 41.0	-5.4
HDMB	Hadim	1.32	42	*e*PN	Pn	05 26 29.5	-1.1
PPCY	Paphos	1.34	144	⇓P	Pn	05 26 30.4	-0.4
	27nm,0.4s						
PPCY				S	Sn	05 26 43.9	-3.9
ERMK	Ermenek	1.40	61	*i* P	Pn	05 26 31.2	-0.3
ERMK				*i* S	Sn	05 26 49.2	0.0
AKAS	Kas	1.47	281	*i* P	Pn	05 26 32.7	+0.2
AKAS				*i* S	Sn	05 27 03.1	+12
KSL	Kastellorizon	1.47	277	*e*P	Pn	05 26 32.6	+0.1
LEF	Lefka	1.50	125	*e*PN	Pn	05 26 31.2	-1.7
BCK	Bucak	1.61	337	*e*PN	Pn	05 26 33.2	-1.3
MAMC	Mammari	1.70	118	P	Pn	05 26 33.7	-1.9
	40nm,0.4s						
MAMC				S	Sn	05 26 51.2	-5.1
SZAC	Souni-Zanaja	1.73	134	P	Pn	05 26 36.8	+0.8
	15nm,0.5s						
SZAC				S	Sn	05 26 56.0	-1.0
IKL	Isikli	1.88	81	*e*PN	Pn	05 26 37.4	-0.6
LFK	Lefkose	1.88	111	*e*PN	Pn	05 26 37.7	-0.4
CSS	Prodhromos	1.88	122	⇑P	Pn	05 26 35.9	-2.2
	14nm,0.7s						
CSS				S	Sn	05 26 55.4	-5.4
CSS	Prodhromos	1.88	122	*e*Pn	Pn	05 26 37.0	-1.1
CSS	Prodhromos	1.88	122	*e*Pn	Pn	05 26 37.0	-1.1
CSS	Prodhromos	1.88	122	Pn	Pn	05 26 36.8	-1.3
CSS				Sn	Sn	05 26 58.4	-2.4
GOLH	Golhisar	1.93	311	*i* P	Pn	05 26 41.3	+2.5
GOLH				*i* S	Sn	05 27 05.4	+3.4
ISP	Isparta	1.99	340	*e*PN	Pn	05 26 38.8	-0.8
ISP	Isparta	1.99	340	*e*Pn	Pn	05 26 40.1	+0.6
ISP	Isparta	1.99	340	Pn	Pn	05 26 39.1	-0.4
ISP				Sn	Sn	05 27 02.9	-0.5
KONT	Konya--Tatoy	2.11	21	*e*PN	Pn	05 26 40.2	-1.0
TKTP	Tekketepe	2.23	338	*i* P	Pn	05 26 42.4	-0.4
TKTP				*i* S	Sn	05 27 13.1	+3.9
EREN	Erenkoy	2.31	100	*e*PN	Pn	05 26 44.3	+0.5
LADK	Ladik-KONYA	2.35	19	*e*PN	Pn	05 26 43.9	-0.5
DALT	Dalyan (Mudla)	2.36	290	*e*PN	Pn	05 26 44.4	-0.1
PHNC	Paralimni	2.37	113	P	Pn	05 26 43.5	-1.1
	20nm,0.8s						
PHNC				S	Sn	05 27 07.4	-5.2
KDHN	Kadinhani	2.60	13	*i* P	Pn	05 26 47.1	-0.8
KDHN				*i* S	Sn	05 27 19.2	+0.9
ARG	Arkhangelos	2.65	276	*e*P	Pn	05 26 48.9	+0.4
SHUT	Suhut-Afyon	2.66	346	*e*PN	Pn	05 26 47.9	-0.7
MERS	Mersin	2.68	70	*e*PN	Pn	05 26 48.7	-0.2
YER	Yerkesik	2.75	296	*e*PN	Pn	05 26 49.8	-0.1
KHL	Karahalli	2.77	328	*e*PN	Pn	05 26 49.6	-0.5
KIZT	Kizilcal	2.92	8	*e*PN	Pn	05 26 51.6	-0.6
MLSB	Milas	3.19	295	*e*PN	Pn	05 26 56.0	+0.1
KARA	Karaisali	3.22	65	*e*PN	Pn	05 26 56.2	0.0
ALT	Altintas	3.23	342	*e*PN	Pn	05 26 56.1	-0.4
KRTS	Karatas	3.28	78	*e*PN	Pn	05 26 57.3	+0.2
KULA	Kula-Manisa	3.34	320	*e*PN	Pn	05 26 57.8	-0.1
NIG	Nigde	3.34	50	*e*PN	Pn	05 26 57.9	-0.1
GDZ	Gediz	3.46	335	*i* P	Pn	05 26 59.1	-0.4
GDZ				*i* S	Sn	05 27 36.8	-2.3
BODT	Bodrum	3.46	289	*e*PN	Pn	05 26 60.0	+0.4
KARP	Karpathos	3.46	264	*e*P	Pn	05 27 00.3	+0.7
CEYT	Ceyhan	3.66	72	*e*PN	Pn	05 27 03.1	+0.8
ARNB	Al Arnab	3.72	90	⇑P	Pn	05 27 03.7	+0.5
ARNB				⇑S	Sn	05 27 36.4	-9.4
ARNB	Al Arnab	3.72	90	⇑*i*P	Pn	05 27 03.7	+0.5
HTY	Hatay	3.85	86	*e*PN	Pn	05 27 05.6	+0.7
KAMT	Kaman	3.85	28	*e*PN	Pn	05 27 05.1	+0.1
KOZT	Kozan	3.87	66	*e*PN	Pn	05 27 05.5	+0.3
SLNF	Slenfeh	3.95	94	⇑P	Pn	05 27 07.0	+0.8
SLNF				⇑S	Sn	05 27 42.1	-9.2
SLNF	Slenfeh	3.95	94	⇑*i*P	Pn	05 27 07.0	+0.7
SMG	Samos	4.04	297	*e*P	Pn	05 27 07.4	-0.1
ANTO	Ankara	4.04	16	*e*PN	Pn	05 27 08.2	+0.7
AKS	Akhisar	4.06	317	*e*PN	Pn	05 27 08.1	+0.3
IZM	Izmir	4.08	307	*e*PN	Pn	05 27 08.6	+0.5
HWQ	Hawqa	4.10	113	*e*Pn	Pn	05 27 09.6	+1.2
BTCH	Batrach	4.11	88	⇓P	Pn	05 27 09.0	+0.5
BTCH				⇓S	Sn	05 27 45.6	-10
BTCH	Batrach	4.11	88	⇓*i*P	Pn	05 27 09.0	+0.5
WRDH	Warideh	4.11	95	⇑P	Pn	05 27 09.3	+0.8
WRDH				⇑S	Sn	05 27 46.1	-9.3
WRDH	Warideh	4.11	95	⇑*i*P	Pn	05 27 09.3	+0.8
BIDA	Albida	4.14	102	⇓P	Pn	05 27 09.9	+1.0
BIDA				⇓S	Sn	05 27 47.0	-9.0
BIDA	Albida	4.14	102	⇓*i*P	Pn	05 27 09.9	+1.1
DST	Dursunbey	4.23	330	*e*PN	Pn	05 27 10.4	+0.3
HNTI	Hanita	4.25	132	Sn	Sn	05 27 58.3	-0.5
CDAG	Cicekdag	4.34	32	*i* P	Pn	05 27 12.6	+1.0
GPA	Golpazari	4.39	349	*e*PN	Pn	05 27 12.5	+0.2
RCY	Rachaya	4.42	123	*e*Pn	Pn	05 27 14.6	+1.9
MMC6	Mount Meron ar	4.44	131	Pn	Pn	05 27 13.0	+0.1
MMA0	Mount Meron ar	4.44	131	Pn	Pn	05 27 13.6	+0.5
MMA0				Sn	Sn	05 28 02.9	-0.5
MMAI	Mount Meron Ar	4.44	131	P	Pn	05 27 13.3	+0.3
	15nm,0.3s,baz=314,slow=11,SNR=17						
MMAI				S	Sn	05 28 02.1	-1.3
	11nm,0.3s,baz=316,slow=22,SNR=4.2						
OFRI	'Ofer	4.48	137	Pn	Pn	05 27 12.9	-0.6
MDU	Mudurnu	4.48	358	*e*PN	Pn	05 27 13.8	+0.3
HRI	Mount Hermon	4.49	126	Pn	Pn	05 27 14.5	+0.8
HRI				Sn	Sn	05 28 04.9	+0.3
BNN	Bunyan	4.56	50	*e*PN	Pn	05 27 15.4	+0.8
BALB	Balikesir	4.59	324	*e*PN	Pn	05 27 15.6	+0.6
ADVT	Abdulvahap	4.63	344	*e*PN	Pn	05 27 16.1	+0.5
KMRS	Kahramanmaras	4.68	69	*e*PN	Pn	05 27 16.9	+0.6
NPS	Neapolis	4.76	263	*e*P	Pn	05 27 17.3	0.0
YOZ	Yozgat	4.80	39	*e*PN	Pn	05 27 18.7	+0.8
SLTI	Sal'it	4.80	140	Sn	Sn	05 28 10.9	-1.4
GAZ	Gaziantep	4.84	74	*e*PN	Pn	05 27 19.2	+0.8
MMLI	Mount Malkishu	4.86	135	Pn	Pn	05 27 17.9	-0.9
MMLI				Sn	Sn	05 28 13.6	-0.1
TOTH	TOTAH	4.91	121	⇓P	Pn	05 27 22.8	+3.4
CORM	Corum	4.91	30	*e*PN	Pn	05 27 20.2	+0.8
SARI	SarD1z-Kayseri	5.02	56	*e*PN	Pn	05 27 17.3	-3.6
HMDT	Nahal Hemdat	5.06	136	Pn	Pn	05 27 22.0	+0.5
HMDT				Sn	Sn	05 28 18.1	-0.5
ROOS	tl_alroos	5.17	109	⇓P	Pn	05 27 25.1	+2.2
ROOS				⇓S	Sn	05 28 13.0	-8.1
ROOS	tl_alroos	5.17	109	⇓*i*P	Pn	05 27 25.1	+2.2
IDI	Anoyia	5.34	264	P	Pn	05 27 26.8	+1.5
	8.9nm,0.3s,baz=79,slow=16,SNR=9.9						
IDI				S	Sn	05 28 22.8	-2.5
	12nm,0.3s,baz=281,slow=19,SNR=7.6						
RSH		5.37	158	P	Pn	05 27 27.4	+1.7
TOS	Tosya	5.46	21	*e*PN	Pn	05 27 27.4	+0.5
DSI	Dead Sea	5.51	142	Sn	Sn	05 28 29.6	-0.1
KZIT	Kziot	5.65	153	Sn	Sn	05 28 31.7	-1.4
MZDA	Masada	5.71	143	Pn	Pn	05 27 31.9	+1.4
MZDA				Sn	Sn	05 28 33.9	-0.8
VAM	Vamos	5.88	267	*e*P	Pn	05 27 33.1	+0.5
DARE	Darende-Malaty	5.91	58	*e*PN	Pn	05 27 28.2	-4.8
ASF	Jabal al Asfar	5.94	128	P	Pn	05 27 35.0	+1.5
	0.5nm,0.3s,baz=7.7,slow=20,SNR=3.7						
ASF				S	Sn	05 28 39.6	-0.6
	0.8nm,0.3s,baz=13,slow=23,SNR=1.4						
HHAG	Hagoal	6.04	174	P	Pn	05 27 36.4	+1.5
HHAG				S	Sn	05 28 38.3	-4.3
HHAG	Hagoal	6.04	174	P	Pn	05 27 36.3	+1.4
KOT	Kottamia	6.04	176	P	Pn	05 27 35.7	+0.7
KOT				S	Sn	05 28 39.7	-3.1
HMAT	Matruh	6.05	218	⇑P	Pn	05 27 35.3	+0.3
MALT	Malatya	6.09	65	*e*P	Pn	05 27 36.4	+0.9
MALT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MALT	Malatya	6.09	65	*e*Pn	Pn	05 27 36.4	+0.9
	comp=Z,5.9nm,0.5s						
MALT	Malatya	6.09	65	*e*Pn	Pn	05 27 36.4	+0.9
	comp=Z,5.9nm,0.5s						
MALT	Malatya	6.09	65	Pn	Pn	05 27 36.1	+0.6
MALT				Sn	Sn	05 28 44.7	+1.0
HMYD	Mayadein	6.18	185	P	Pn	05 27 38.1	+1.2
SUZ		6.24	168	⇑P	Pn	05 27 38.5	+0.8
AYT	Al 'Ayyat	6.26	182	P	Pn	05 27 38.8	+0.9
FYM	Al Fayyum	6.28	183	P	Pn	05 27 38.9	+0.8
HSAF	As Saff	6.34	179	P	Pn	05 27 40.1	+1.1
HNAT	Natroun	6.36	186	P	Pn	05 27 40.5	+1.2
GLL	Jalalah	6.39	177	⇓P	Pn	05 27 41.0	+1.3
HNKL	Nakhl	6.41	159	P	Pn	05 27 41.2	+1.2
HNKL				S	Sn	05 28 49.1	-2.7
HRFI	Mount Harif	6.67	152	Pn	Pn	05 27 43.8	+0.3
HRFI				Sn	Sn	05 28 57.3	-0.8
SLUM		6.82	231	⇓P	Pn	05 27 45.7	+0.2
MBRI	Mt Berech	6.84	153	Pn	Pn	05 27 46.4	+0.5
MBRI				Sn	Sn	05 29 01.8	-0.5
EIL	Elat	6.97	154	P	Pn	05 27 48.6	+1.0
	comp=Z,1.0nm,0.3s,baz=334,slow=16,SNR=8.3						
EIL				S	Sn	05 29 02.9	-2.5
	comp=Z,2.5nm,0.3s,baz=224,slow=10,SNR=3.6						
EIL	Elat	6.97	154	P	Pn	05 27 48.6	+1.0
EIL				S	Sn	05 29 02.9	-2.5
EIL	Elat	6.97	154	Pn	Pn	05 27 48.4	+0.7
AWBH		7.92	196	P	Pn	05 28 00.9	+0.2
SWA2		8.37	218	P	Pn	05 28 06.1	-0.7
HFRF	Wahat Farafira	9.19	197	P	Pn	05 28 17.9	0.0
MLR	Muntele Rosu	10.36	338	LR	LR	05 32 48.4	
	comp=Z,47nm,18.4s,baz=1.8,slow=39						
AKASG	Malin Array Be	14.80	355	P	Pn	05 29 33.8	+0.1
	comp=Z,2.0nm,0.3s,baz=179,slow=9.8,SNR=27						
AKASG				S	Sn	05 32 15.8	-0.5
	comp=Z,0.3nm,0.3s,baz=78,slow=14,SNR=2.6						
AKBB	Malin Array Si	14.80	355	*e*P	Pn	05 29 37.8	+4.1
GEC2	GERESS Array S	18.27	320	*e*P	Pn	05 30 23.7	+6.7
GEC2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GEC2	GERESS Array S	18.27	320	*e*P	Pn	05 30 23.7	+6.7
	comp=Z,3.0nm,0.6s						
GERES	GERESS Array B	18.27	320	P	Pn	05 30 17.5	+0.4
	comp=Z,0.3nm,0.3s,baz=120,slow=12,SNR=6.9						
KHC	Kasperske Hory	18.51	321	*e*P	Pn	05 30 20.5	+0.6
WET	Wettzell	18.88	320	*e*P	Pn	05 30 23.8	-0.6
WET				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WET	Wettzell	18.88	320	*e*P	Pn	05 30 23.8	-0.6
	comp=Z,6.0nm,0.5s						
DAVOX	Davos/Dischmat	19.35	311	P	Pn	05 30 30.0	-0.1
	comp=Z,0.5nm,0.3s,baz=145,slow=12,SNR=3.6						
DAVOS	Davos	19.43	311	P	Pn	05 30 30.0	-1.0
ROTZ	Rotzenmuhle	19.61	321	*e*P	Pn	05 30 31.9	-1.1
	comp=Z,9.0nm,1.4s						
GUNZ	Gunzen	19.91	322	*e*P	Pn	05 30 34.8	-1.8
	comp=Z,5.0nm,0.7s						
WERD	Werda	19.98	322	*e*P	Pn	05 30 35.8	-1.6
	comp=Z,4.0nm,0.8s						
GRA1	Grafenberg Arr	20.08	319	*e*P	P	05 30 36.4	+0.2
	comp=Z,7.0nm,0.8s						
GRF	Grafenberg Arr	20.08	319	*e*P	P	05 30 36.4	+0.2
GRF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GRF	Grafenberg Arr	20.08	319	*e*P	P	05 30 36.4	+0.2
GRF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GRF	Grafenberg Arr	20.08	319	*e*P	P	05 30 36.4	+0.2
	comp=Z,7.0nm,0.8s						
MOX	Moxa	20.45	322	*e*P	P	05 30 40.8	+0.6
	comp=Z,6.0nm,0.8s						
LPG	La Plagne	20.88	305	*e*P	P	05 30 49.7	+4.8
LPL	La Plagne	20.90	305	*e*P	P	05 30 49.9	+4.8
	comp=Z,6.4nm,0.6s						
LPL	La Plagne	20.90	305	*e*P	P	05 30 49.9	+4.8
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LPL	La Plagne	20.90	305	*e*P	P	05 30 49.9	+4.8
	comp=Z,3.2nm,0.6s						
BFO	Black Forest	20.99	313	*e*P	P	05 30 48.8	+2.7
BFO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BFO	Black Forest	20.99	313	*e*P	P	05 30 48.8	+2.7
	comp=Z,10.0nm,1.0s						
CABF	La Chapelle	21.69	307	*e*P	P	05 30 54.0	+0.4
	comp=Z,4.8nm,0.6s,mb3.8						
CABF	La Chapelle	21.69	307	*e*P	P	05 30 54.0	+0.4
CABF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
CABF	La Chapelle	21.69	307	*e*P	P	05 30 54.0	+0.4
	comp=Z,2.4nm,0.6s,mb3.8						
SMF	Signal de Mont	23.16	306	*e*P	P	05 31 08.8	-0.3
	comp=Z,8.8nm,0.7s,mb4.0						
SMF	Signal de Mont	23.16	306	*e*P	P	05 31 08.8	-0.3
SMF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
SMF	Signal de Mont	23.16	306	*e*P	P	05 31 08.8	-0.3
	comp=Z,4.4nm,0.7s,mb4.0						
LOR	Lormes	23.34	307	*e*P	P	05 31 10.2	-0.6
	comp=Z,8.2nm,0.6s,mb4.0						
LOR	Lormes	23.34	307	*e*P	P	05 31 10.2	-0.6
LOR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
LOR	Lormes	23.34	307	*e*P	P	05 31 10.2	-0.6
	comp=Z,4.1nm,0.6s,mb4.0						
SSF	Saint Saulge	23.51	307	*e*P	P	05 31 12.1	-0.2
	comp=Z,16nm,0.9s,mb4.2						
SSF	Saint Saulge	23.51	307	*e*P	P	05 31 12.1	-0.2
SSF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
SSF	Saint Saulge	23.51	307	*e*P	P	05 31 12.1	-0.2
	comp=Z,8.2nm,0.9s,mb4.2						
AVF	Avril sur Loir	23.53	306	*e*P	P	05 31 12.2	-0.2
	comp=Z,11nm,0.8s,mb4.0						
AVF	Avril sur Loir	23.53	306	*e*P	P	05 31 12.2	-0.2
AVF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
AVF	Avril sur Loir	23.53	306	*e*P	P	05 31 12.2	-0.2
	comp=Z,5.6nm,0.8s,mb4.0						
AKTK	Aktyubinsk	24.03	45	P	P	05 31 17.0	0.0
AKTK	Aktyubinsk	24.03	45	P	P	05 31 17.0	0.0
AKTO	Aktyubinsk	24.03	45	P	P	05 31 17.0	0.0
	comp=Z,3.3nm,0.7s,mb3.9,baz=244,slow=10,SNR=9.8						
HFS	Hagfors	26.73	340	P	P	05 31 40.9	-0.5
	comp=Z,0.5nm,0.3s,mb3.5,baz=133,slow=8.6,SNR=8.3						
NB2	NORSAR Subarra	28.18	339	P	P	05 31 53.1	-1.2
	comp=Z,0.8nm,0.5s,mb3.6,baz=142,slow=10						
NOA	NORSAR Array B	28.18	339	P	P	05 31 53.5	-0.8
	comp=Z,1.0nm,0.5s,mb3.7,baz=143,slow=9.2,SNR=4.8						
BVAR	Borovoye Array	32.13	46	P	P	05 32 29.4	+0.2
	comp=Z,0.4nm,0.4s,mb3.6,baz=262,slow=2.9,SNR=4.1						
ARCES	ARCESS Array B	33.77	356	P	P	05 32 42.2	-1.2
	comp=Z,1.0nm,0.5s,mb4.0,baz=169,slow=8.5,SNR=22						
TORD	Torodi Ar. Bea	35.06	237	P	P	05 32 55.6	+0.5
	comp=Z,0.2nm,0.5s,mb3.3,baz=39,slow=9.6,SNR=4.7						
TORD				PcP	PcP	05 35 27.1	+1.2
	comp=Z,0.4nm,0.9s,baz=27,slow=2.5,SNR=6.2						
MK31	Makanchi Array	39.07	58	*e*P	P	05 33 29.2	+0.4
MKAR	Makanchi Array	39.07	58	P	P	05 33 29.6	+0.8
	comp=Z,1.0nm,0.6s,mb3.7,baz=284,slow=6.5,SNR=11						
MKAR				PcP	PcP	05 35 38.0	+0.5
	comp=Z,0.3nm,0.6s,baz=299,slow=3.0,SNR=2.8						
MKAR	Makanchi Array	39.07	58	P	P	05 33 29.5	+0.7
MKAR	Makanchi Array	39.07	58	PcP	PcP	05 35 38.0	+0.5
ZAL	Zalesovo	40.75	47	P	P	05 33 42.2	-0.4
ZALV	Zalesovo Beam	40.76	47	P	P	05 33 42.2	-0.6
	comp=Z,1.4nm,0.4s,mb4.0,baz=272,slow=8.5,SNR=4.4						
ZALV	Zalesovo Beam	40.76	47	P	P	05 33 42.2	-0.6
DBIC	Dimbokro	44.17	237	P	P	05 34 12.4	+1.5
	comp=Z,3.3nm,0.9s,mb4.1,baz=21,slow=12,SNR=3.4						
CMAR	Chiang Mai Arr	61.45	87	P	P	05 36 18.0	-0.2
	comp=Z,1.2nm,0.4s,mb4.4,baz=286,slow=8.1,SNR=4.2						
SCHQ	Schefferville	65.80	321	P	P	05 36 44.8	-1.6
	comp=Z,3.0nm,0.9s,mb4.3,baz=45,slow=11,SNR=3.8						
KSRS	Korea Array	73.70	55	P	P	05 37 35.4	+0.1
	comp=Z,0.9nm,0.6s,mb3.9,baz=304,slow=3.5,SNR=2.5						
KSRS	Korea Array	73.70	55	P	P	05 37 35.4	+0.2
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
PDAR	Pinedale Array	93.91	332	P	P	05 39 18.2	-0.6
	comp=Z,0.2nm,0.5s,mb3.8,baz=30,slow=4.2,SNR=2.6						

NIED ***06*** *05:53:00, 3750N×13860E, h5km, Mw3.5 Best double couple: M0 1.86000×10^14 NP1:φ0=206.00000°, δ47.00000°, λ70.00000°. NP2:φ0=54.00000°, δ47.00000°, λ110.00000°.*
IDC ***06*** *05:53:17.8±1.9, 3752N×13866E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.5/22, mbtmp3.8/3, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/29, Error ellipse: s-maj=20.3km s-min=14.6km az=83.0*
ISCJB ***06*** *05:53:20.1±0.6, 3749N±003×13856E±004, h13km±4km, mb3.8/2, Error ellipse: s-maj=4.9km s-min=4.8km az=31.9*
JMA ***06*** *05:53:20.6, 3751N×13858E, h14km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs161.00000°, δ13.00000°, λ-156.00000°. NP2: φs48.00000°, δ85.00000°, λ-78.00000°. Principal axes: T Plg39.0000°, Azm127.0000°; N Plg11.0000°, Azm226.0000°; P Plg49.0000°, Azm330.0000°;*
JMA Felt III J1.

ISC 06 05:53:20.3±0.5, 3749N±003×13858E±004, h15km±4km, n15, σ0°78/25, mb3.8/2, 3C-2D, Near west coast of eastern Honshu

| Code | Station Name | Δ° | AZ°

baz=1.1,SNR=317
T12A ⇑S Sg 06 00 20.3 -0.9
baz=1.1
S11A Rachel 1.11 263 ⇑P Pb 06 00 06.0 -1.0
baz=1.1,SNR=1000
S11A ⇓S Sg 06 00 21.1 -0.4
baz=1.1
R11A Troy Canyon, C 1.12 300 ⇓P Pb 06 00 05.7 -1.4
baz=1.1,SNR=1000
R11A ⇑S Sg 06 00 20.0 -1.8
baz=1.1
R14A James Farms, M 1.17 64 ⇓P Pb 06 00 06.7 -1.4
baz=1.2,SNR=1000
R14A ⇑S Sb 06 00 22.5 -0.8
baz=1.2
Q13A Wheeler Ranch, 1.19 13 ⇓P Pb 06 00 06.4 -2.0
baz=1.2,SNR=1000
Q13A ⇑S Sb 06 00 22.6 -1.3
baz=1.2
T14A Hurricane 1.25 125 P Pn 06 00 08.0 -1.3
baz=1.2,SNR=1000
T14A ⇑S Sb 06 00 24.3 -1.3
baz=1.2
Q12A Willow Creek R 1.30 344 ⇑P Pn 06 00 08.9 -1.1
baz=1.3,SNR=1000
Q12A ⇑S Sb 06 00 26.2 -0.9
baz=1.3
U12A Valley of Fire 1.36 186 ⇑P Pn 06 00 10.0 -0.9
baz=1.3,SNR=147
U12A ⇑S Sb 06 00 28.6 -0.2
baz=1.3
U13A Pakoon Wash 1.41 167 P Pn 06 00 10.8 -0.7
baz=1.4,SNR=1000
U13A ⇑S Sn 06 00 29.1 -1.0
baz=1.4
Q11A Duckwater 1.46 316 P Pn 06 00 11.1 -1.1
baz=1.5,SNR=1000
Q11A ⇑S Sn 06 00 31.2 -0.2
baz=1.5
Q14A Sevier Lake (B 1.47 35 ⇑P Pn 06 00 11.4 -0.9
baz=1.5,SNR=1000
Q14A ⇑S Sn 06 00 31.0 -0.5
baz=1.5
S15A Panguitch 1.59 94 ⇑P Pn 06 00 13.6 -0.3
baz=1.6,SNR=219
S15A ⇑S Sn 06 00 35.0 +0.5
baz=1.6
U11A Corn Creek 1.59 211 P Pn 06 00 13.8 -0.1
baz=1.6,SNR=364
U11A ⇓Sb Sb 06 00 37.0 +1.6
baz=1.6
R10A Warm Springs 1.61 289 ⇑P Pn 06 00 13.3 -0.9
baz=1.6
R10A ⇓S Sn 06 00 35.0 -0.1
baz=1.6
U14A Mt Trumbull 1.66 145 ⇑P Pn 06 00 14.5 -0.4
baz=1.6,SNR=1000
U14A ⇓S Sn 06 00 36.6 +0.2
baz=1.6
P13A Bates Ranch, G 1.68 9 ⇓P Pn 06 00 14.3 -1.0
baz=1.7,SNR=1000
P13A ⇓S Sn 06 00 36.6 -0.3
baz=1.7
R15A Junction 1.70 75 P Pn 06 00 15.0 -0.5
baz=1.7,SNR=637
R15A ⇓Sb Sb 06 00 39.0 +0.5
baz=1.7
TPNV Topopah Spring 1.72 241 ⇑P Pn 06 00 15.1 -0.7
baz=1.7,SNR=1000
TPNV ⇑Sb Sb 06 00 40.3 +1.1
baz=1.7
TPNV Topopah Spring 1.72 241 *e*Pn Pn 06 00 15.0 -0.8
TPNV *e*Sg Sg 06 00 41.3 +0.1
P12A McGill 1.73 346 ⇓P Pn 06 00 14.8 -1.1
baz=1.8,SNR=1000
P12A ⇓Sb Sb 06 00 39.8 +0.2
baz=1.8
T15A Red Dirt Ranch 1.75 115 ⇑P Pn 06 00 15.9 -0.4
baz=1.7,SNR=1000
T15A ⇓S Sn 06 00 39.4 +0.8
baz=1.7
S10A Tonopah Range, 1.77 275 P Pn 06 00 15.4 -1.1
baz=1.8,SNR=966
S10A ⇑S Sn 06 00 38.8 -0.3
baz=1.8
MSU Marysvale 1.87 67 *e*Pn Pn 06 00 17.4 -0.4
Q10A Clear Creek Ra 1.91 303 ⇓P Pn 06 00 17.4 -0.9
baz=1.9,SNR=326
Q10A ⇓Sb Sb 06 00 45.0 +0.5
baz=1.9
V13A Grand Canyon W 1.96 171 P Pn 06 00 18.7 -0.3
baz=1.9,SNR=373
Q15A Fillmore 1.97 52 ⇑P Pn 06 00 18.2 -0.9
baz=2.0,SNR=54
Q15A ⇑Sb Sb 06 00 47.1 +0.8
baz=2.0
P14A Drum Mountains 2.06 29 P Pn 06 00 19.5 -0.9
baz=2.1,SNR=101
P14A ⇑Sb Sb 06 00 49.5 +0.5
baz=2.1
P11A Circle Ranch, 2.07 329 ⇓P Pn 06 00 20.0 -0.6
baz=2.1
V12A Nelson 2.10 191 P Pn 06 00 20.6 -0.3
baz=2.1,SNR=322
V12A ⇑S Sn 06 00 47.7 +0.6
baz=2.1
V11A Goodsprings 2.13 204 P Pn 06 00 21.2 -0.1
baz=2.1,SNR=114
V11A ⇓Sb Sb 06 00 52.0 +1.1
baz=2.1
U15A North Rim 2.14 129 ⇑Sb Sb 06 00 51.8 +0.5
baz=2.1
R09A Tonopah 2.19 283 P Pn 06 00 21.3 -0.9
baz=2.2,SNR=552
R09A ⇓Sb Sb 06 00 53.4 +0.8
baz=2.2
S16A Weppner Ranch, 2.19 91 ⇓Sb Sb 06 00 53.7 +1.0
baz=2.2
S09A Goldfield 2.27 269 ⇓P Pn 06 00 22.1 -1.2
baz=2.3,SNR=149
S09A ⇑Sb Sb 06 00 56.4 +1.4
baz=2.3
TPH Tonopah 2.28 278 *e*Pn Pn 06 00 22.5 -0.9
TPH *e*Sg Sg 06 00 57.8 -1.2
O13A Hicks Ranch, I 2.36 7 ⇓P Pn 06 00 23.2 -1.3
baz=2.4
O13A ⇓Sb Sb 06 00 58.5 +1.1
baz=2.4
V14A Boquillas Ranc 2.38 155 ⇑P Pn 06 00 24.7 0.0
baz=2.3,SNR=39
V14A ⇓Sb Sb 06 00 58.4 +0.4
baz=2.3
FURC Furnace Creek, 2.39 237 ⇑P Pn 06 00 24.8 -0.2
baz=2.4,SNR=217
FURC ⇑Sb Sb 06 01 00.9 +2.4
baz=2.4
P15A Leamington 2.41 42 ⇓P Pn 06 00 24.2 -1.0
baz=2.4,SNR=71
P15A ⇓Sb Sb 06 00 59.7 +0.7
baz=2.4
T16A Glen Canyon Da 2.41 109 ⇑Sb Sb 06 01 00.2 +1.1
baz=2.4
SHOC Shoshone 2.44 220 ⇑Sb Sb 06 01 01.6 +1.9
baz=2.4
Q09A Carvers 2.45 296 ⇑Sb Sb 06 01 01.7 +1.6
baz=2.5
P10A Eureka 2.46 319 ⇓Sb Sb 06 01 01.5 +1.1
baz=2.5
O12A Currie 2.49 353 P Pn 06 00 25.1 -1.3
baz=2.5,SNR=78
O12A ⇓Sb Sb 06 01 02.2 +0.8
baz=2.5
W12A Cal Nev Ari 2.52 190 P Pn 06 00 26.3 -0.4
baz=2.5,SNR=36
W12A ⇑Sb Sb 06 01 04.0 +1.9
baz=2.5
GRAC Grapevine Rang 2.52 253 ⇓P Pn 06 00 26.3 -0.5
baz=2.5,SNR=39
O11A Cowboy Ranch, 2.55 337 ⇓P Pn 06 00 26.0 -1.1
baz=2.6,SNR=27
O11A ⇓Sb Sb 06 01 03.9 +1.0
baz=2.6
V15A Kaibab Nationa 2.64 138 ⇓P Pn 06 00 28.6 +0.2
baz=2.6,SNR=640
V15A ⇓Sb Sb 06 01 05.4 -0.1
baz=2.6
TUQ Turquoise Mtn. 2.67 209 ⇓P Pn 06 00 28.4 -0.4
baz=2.7,SNR=17
TUQ ⇑Sb Sb 06 01 08.6 +2.3
baz=2.7
DUG Dugway 2.69 26 ⇓P Pn 06 00 28.3 -0.7
baz=2.7,SNR=46
DUG ⇑Sb Sb 06 01 07.9 +1.0
baz=2.7
DUG Dugway 2.69 26 *e*Pn Pn 06 00 29.6 +0.6
DUG *e*Sg Sg 06 01 10.5 -1.6
W13A Hualapai Mount 2.71 172 P Pn 06 00 28.8 -0.6
baz=2.7,SNR=40
W13A ⇓Sb Sb 06 01 09.1 +1.4
baz=2.7
Q16A Castle Valley 2.75 65 ⇓Sb Sb 06 01 10.4 +1.7
baz=2.7
W14A Seligman 2.77 158 ⇑P Pn 06 00 30.2 0.0
baz=2.7,SNR=16
W14A ⇓Sb Sb 06 01 10.9 +1.6
baz=2.7
LDFC Landfair 2.77 193 *e*Pn Pn 06 00 29.4 -0.9
LDFC *e*Sg Sg 06 01 13.5 -1.4
P16A Fountain Green 2.79 49 ⇓P Pn 06 00 30.4 0.0
baz=2.8
P16A ⇑Sb Sb 06 01 11.8 +2.0
baz=2.8
P09A Austin 2.80 310 ⇑Sb Sb 06 01 12.0 +1.9
baz=2.8
NLU North Lily Min 2.80 39 *e*Pn Pn 06 00 33.5 +2.9
NLU *e*Sg Sg 06 01 14.5 -1.3
S17A Black Ridge (B 2.83 92 ⇓Sb Sb 06 01 12.5 +1.5
baz=2.8
O15A The Old Anders 2.89 30 ⇓Sb Sb 06 01 14.7 +2.0
baz=2.9
TMUT Trail Mountain 2.89 58 *e*Pn Pn 06 00 32.4 +0.5
TMUT *e*Sg Sg 06 01 17.5 -1.2
T17A Navajo Res., N 2.94 105 ⇓Sb Sb 06 01 15.7 +1.4
baz=2.9
R17A Hanksville Air 2.95 77 ⇑P Pn 06 00 32.4 -0.2
baz=2.9
R17A ⇓Sb Sb 06 01 16.1 +1.7
baz=2.9
O10A Cortez Mining, 3.00 327 ⇑P Pn 06 00 32.5 -0.8
baz=3.0,SNR=19
O10A ⇑Sb Sb 06 01 18.2 +2.2
baz=3.0
Q08A Gabbs 3.00 292 ⇓P Pn 06 00 32.6 -0.8
baz=3.0,SNR=56
Q08A ⇓Sb Sb 06 01 18.2 +2.1
baz=3.0
R08A Mina 3.01 282 ⇑P Pn 06 00 32.5 -0.9
baz=3.0,SNR=12
R08A ⇓Sb Sb 06 01 19.1 +2.9
baz=3.0
NEE2 Needles Airpor 3.02 184 ⇑P Pn 06 00 32.6 -1.1
baz=3.0,SNR=15
NEE2 ⇑Sb Sb 06 01 19.0 +2.4
baz=3.0
ELK Elko 3.03 347 Pn Pn 06 00 32.7 -1.1
11nm,0.3s,baz=166,slow=9.3,SNR=164
ELK Pg Pg 06 00 40.5 -3.2
53nm,0.3s,baz=180,slow=12,SNR=58
ELK Lg 06 01 16.8
76nm,0.3s,baz=71,slow=22,SNR=9.8
ELK Elko 3.03 347 *e*Pn Pn 06 00 32.7 -1.0
ELK *e*Sg Sg 06 01 20.8 -2.2
S08C White Mtn Res 3.04 266 ⇓P Pn 06 00 33.4 -0.4
baz=3.0,SNR=34
MPMC Manual Prospec 3.04 236 ⇓P Pn 06 00 33.3 -0.6
baz=3.0,SNR=180
MPMC ⇑Sb Sb 06 01 20.2 +3.0
baz=3.0
N13A Wendover, West 3.06 2 ⇑P Pn 06 00 32.7 -1.5
baz=3.1
N13A ⇓Sb Sb 06 01 19.3 +1.6
baz=3.1
MPU Maple Canyon 3.08 43 Pn Pn 06 00 37.4 +3.0
MPU *e*Sg Sg 06 01 21.0 -3.6
N12A Clover Valley, 3.10 350 ⇑P Pn 06 00 33.7 -1.1
baz=3.1,SNR=46
W15A Williams 3.10 146 ⇓Sb Sb 06 01 20.8 +1.8
baz=3.1
TIN Tinemaha 3.17 258 ⇓P Pn 06 00 35.6 0.0
baz=3.2
GSC Goldstone 3.17 219 ⇓P Pn 06 00 35.4 -0.3
baz=3.2,SNR=7.5
GSC ⇓Sb Sb 06 01 24.4 +3.6
baz=3.2
GSC Goldstone 3.17 219 *e*Pn Pn 06 00 35.4 -0.3
GSC *e*Sg Sg 06 01 25.3 -2.2
NVAR Mina Array Bea 3.17 283 Pn Pn 06 00 34.4 -1.4
15nm,0.3s,baz=108,slow=13,SNR=233
NVAR Pg Pg 06 00 42.1 -4.5
196nm,0.3s,baz=106,slow=16,SNR=201
NVAR Sn Sn 06 01 10.3 -3.4
82nm,0.3s,baz=112,slow=24,SNR=1464
NVAR Lg 06 01 21.3
63nm,0.3s,baz=72,slow=9.5,SNR=3.3
NVAR Mina Array Bea 3.17 283 Pn Pn 06 00 34.4 -1.4
NVAR Pg Pg 06 00 42.1 -4.5
NVAR Sn Sn 06 01 10.3 -3.4
NVAR Lg 06 01 21.3
GMRC Granite Mounta 3.18 200 ⇓P Pn 06 00 35.1 -0.7
baz=3.2,SNR=127
U17A Shonto 3.18 111 ⇑Sb Sb 06 01 22.9 +1.7
baz=3.2
N14A Grayback Hills 3.19 16 ⇑P Pn 06 00 35.1 -0.8
baz=3.2,SNR=28
N14A ⇓Sb Sb 06 01 23.2 +1.8
baz=3.2
N11A Elko Archery C 3.20 341 ⇑P Pn 06 00 34.8 -1.3
baz=3.2,SNR=41
X13A Yucca 3.22 172 ⇑P Pn 06 00 35.5 -0.9
baz=3.2,SNR=20
O09A Fish Creek Ran 3.24 318 ⇓P Pn 06 00 35.8 -0.9
baz=3.3,SNR=83
O16A Springville 3.28 42 ⇑P Pn 06 00 37.6 +0.4
baz=3.3
SRU San Rafael 3.29 65 *e*Pn Pn 06 00 38.2 +0.9
SRU *e*Sg Sg 06 01 28.4 -3.0
BGU Big Grassy Mou 3.30 18 *e*Pn Pn 06 00 37.1 -0.3
BGU *e*Sg Sg 06 01 31.5 -0.1
WUAZ Wupatki 3.30 132 ⇑P Pn 06 00 37.9 +0.3
baz=3.3
WUAZ Wupatki 3.30 132 Pn Pn 06 00 38.3 +0.8
WUAZ *e*Sg Sg 06 01 31.9 0.0
NOQ North Oquirrh 3.35 31 *e*Pn Pn 06 00 39.3 +1.2
NOQ *e*Sg Sg 06 01 31.3 -1.9
HEC Hector,Ludlow 3.35 209 ⇑P Pn 06 00 37.7 -0.5
baz=3.3
MTUM Tungsten Hills 3.37 264 *e*Pn Pn 06 00 38.5 +0.1
MTUM *e*Sg Sg 06 01 32.1 -1.9
BMN Battle Mountai 3.45 321 *e*Pn Pn 06 00 38.6 -0.9
BMN *e*Sg Sg 06 01 34.3 -2.3
S18A Hurst Farm, Bl 3.46 90 ⇓P Pn 06 00 39.4 -0.3
baz=3.4,SNR=52
X14A Yava 3.52 160 ⇓P Pn 06 00 40.2 -0.3
baz=3.5,SNR=6.0
CTU Camp Tracy 3.54 34 Pn Pn 06 00 41.9 +1.2
CTU *e*Sg Sg 06 01 39.2 -0.1
DAU Daniels Canyon 3.56 42 *e*Pn Pn 06 00 45.1 +4.1
DAU *e*Sg Sg 06 01 38.9 -1.3
M13A Montello 3.57 2 ⇓P Pn 06 00 39.7 -1.4
baz=3.6,SNR=12
R18A Canyonlands Na 3.57 79 ⇑P Pn 06 00 41.3 +0.1
baz=3.6,SNR=19
T18A Mexican Hat 3.63 99 P Pn 06 00 41.3 -0.7
baz=3.6,SNR=71
M12A Wells 3.65 353 P Pn 06 00 41.0 -1.2
baz=3.7,SNR=25
Q07A Schurz 3.68 290 ⇓P Pn 06 00 42.0 -0.7
baz=3.7,SNR=11
IRM Iron Mountain 3.68 190 ⇑P Pn 06 00 42.0 -0.7
baz=3.7,SNR=13
P18A Preston Nutter 3.71 59 ⇓P Pn 06 00 45.3 +2.3
baz=3.7
X15A Humboldt 3.72 152 ⇓P Pn 06 00 43.1 -0.2
baz=3.7,SNR=12
M14A Sheep Mountain 3.79 12 ⇓P Pn 06 00 43.3 -0.9
baz=3.8,SNR=25
M11A Holland Ranch, 3.80 344 ⇑P Pn 06 00 43.5 -0.8
baz=3.8,SNR=64
SPUT South Promonto 3.81 22 *e*Pn Pn 06 00 46.6 +2.1
SPUT *e*Sg Sg 06 01 45.7 -2.4
HELL Mitchell Peak 3.88 255 ⇑P Pn 06 00 45.2 -0.3
baz=3.9,SNR=18
N09A Rock Creek Ran 3.92 322 ⇑P Pn 06 00 45.2 -0.7
baz=4.0,SNR=13
ISA Isabella 3.93 239 ⇑P Pn 06 00 45.7 -0.4
baz=3.9
ISA Isabella 3.93 239 *e*Pn Pn 06 00 46.0 -0.2
ISA *e*Sg Sg 06 01 54.1 +2.2
P07A Fallon 3.95 298 ⇓P Pn 06 00 46.0 -0.4
baz=4.0
M15A Larsen Ranch, 3.95 21 ⇑P Pn 06 00 46.2 -0.3
baz=4.0,SNR=33
KCC Kaiser Creek 3.97 265 ⇑P Pn 06 00 46.2 -0.5
baz=4.0
Y13A Salome 3.99 174 ⇓P Pn 06 00 46.4 -0.6
baz=4.0,SNR=17
Y14A Wickenburg 4.00 164 ⇓P Pn 06 00 46.6 -0.5
baz=4.0,SNR=33
BELC Belle Mtn. 4.01 200 ⇑P Pn 06 00 47.1 -0.1
baz=4.0
R19A Curley Farm, L 4.06 81 ⇓P Pn 06 00 48.0 +0.1
baz=4.0,SNR=19
R06C Coleville 4.08 282 ⇑P Pn 06 00 47.4 -0.8
baz=4.1,SNR=43
M10A I.L. Ranch, Tu 4.09 336 ⇑P Pn 06 00 47.9 -0.4
baz=4.1
X16A Lo Mia Camp, P 4.11 144 ⇑P Pn 06 00 49.2 +0.6
baz=4.1
V18A Ganado 4.12 119 ⇓P Pn 06 00 49.0 +0.3
baz=4.1,SNR=9.2
S19A Harvey Farm, M 4.14 89 ⇓P Pn 06 00 48.8 -0.2
baz=4.1,SNR=8.6
HVU Hansel Valley 4.17 17 *e*Pn Pn 06 00 49.0 -0.3
HVU *e*Sg Sg 06 01 56.0 -3.5
Y15A Casa Rosa Ranc 4.17 156 P Pn 06 00 49.3 -0.1
baz=4.1,SNR=62
N17A Moffit Pass 4.17 40 ⇓P Pn 06 00 50.6 +1.2
baz=4.2
Q19A Hogan Spring (4.17 72 ⇑P Pn 06 00 49.6 +0.2
baz=4.2
RCTC Rector, Farmer 4.17 251 ⇓P Pn 06 00 49.6 +0.1
baz=4.2
N08A GE Springer Mi 4.18 317 ⇓P Pn 06 00 49.4 -0.1
baz=4.2
BC3 Big Chuckw Mtn 4.22 192 ⇓P Pn 06 00 50.3 +0.2
baz=4.2,SNR=5.1
PV10 Paradox Valley 4.24 80 *e*Pn Pn 06 00 51.2 +0.9
VES Vestal, Richgr 4.26 244 ⇑P Pn 06 00 51.0 +0.4
baz=4.3
L13A Double Diamond 4.30 4 ⇓P Pn 06 00 50.2 -1.1
baz=4.3,SNR=14
L14A Malta 4.33 11 ⇑P Pn 06 00 50.5 -1.0
baz=4.4
T06C Milleton Lake 4.33 261 ⇑P Pn 06 00 51.5 -0.1
baz=4.3
M09A Marrel Ranch, 4.34 328 ⇑P Pn 06 00 51.4 -0.4
baz=4.4
S06C San Francisco 4.34 273 ⇑P Pn 06 00 51.3 -0.5
baz=4.4,SNR=10
T19A Beclabito 4.36 101 ⇑P Pn 06 00 52.0 0.0
baz=4.3
PAHR Pah Rah Range 4.37 298 *e*Pn Pn 06 00 52.9 +0.7
PAHR *e*Sg Sg 06 02 01.5 -4.5
L12A House Creek Ra 4.38 354 ⇑P Pn 06 00 51.7 -0.6
baz=4.4,SNR=26
BFSC Mount Baldy St 4.44 218 ⇑P Pn 06 00 53.6 +0.5
baz=4.4
L15A Malad City 4.47 19 ⇑P Pn 06 00 53.6 0.0
baz=4.5
ARVC Arvin 4.48 235 ⇑P Pn 06 00 53.9 +0.3
baz=4.5
WCN Washoe City 4.49 291 ⇓P Pn 06 00 53.3 -0.5
baz=4.5,SNR=9.5
X17A Forest Lakes 4.49 139 ⇑P Pn 06 00 54.5 +0.7
baz=4.5
L11A Cat Creek Ranc 4.50 347 ⇓P Pn 06 00 53.8 -0.2
baz=4.5,SNR=52
PFO Pinyon Flat Ob 4.51 203 Pn Pn 06 00 53.9 -0.1
3.0nm,0.3s,baz=31,slow=15,SNR=28
PFO Lg 06 02 05.4
7.2nm,0.3s,baz=274,slow=19,SNR=4.3
PFO Pinyon Flat Ob 4.51 203 ⇓P Pn 06 00 53.9 -0.2
baz=4.5,SNR=17
PFO Pinyon Flat Ob 4.51 203 Pn Pn 06 00 53.9 -0.2
PFO Lg 06 02 05.4
Z14A Wintersburg 4.57 165 P Pn 06 00 54.9 0.0
baz=4.5,SNR=18
L10A Juniper Basin 4.58 340 ⇓P Pn 06 00 54.9 -0.1
baz=4.6,SNR=57
W18A Petrified Fore 4.58 124 ⇑P Pn 06 00 55.3 +0.2
baz=4.5
PV01 Paradox Valley 4.59 84 *e*Pn Pn 06 00 56.0 +0.8
PV01 *e*Sg Sg 06 02 06.6 -6.5
R05C Kirkwood Meado 4.59 283 ⇑P Pn 06 00 54.3 -0.9
baz=4.6,SNR=8.0
MWC Mount Wilson 4.65 221 *e*Pn Pn 06 00 58.2 +2.2
MWC *e*Sg Sg 06 02 14.1 -1.0
MVCO Mesa Verde 4.70 95 ⇑P Pn 06 00 56.4 -0.3
baz=4.7,SNR=24
MVCO Mesa Verde 4.70 95 *e*Pn Pn 06 00 56.4 -0.3
MVCO *e*Sg Sg 06 02 15.5 -1.1
P06A Stead Airport, 4.72 295 ⇓P Pn 06 00 57.4 +0.4
baz=4.7
GLA Glamis 4.74 185 ⇓P Pn 06 00 57.0 -0.4
baz=4.7
GLA Glamis 4.74 185 ⇑/*e*Pn Pn 06 00 56.9 -0.4
GLA *e*Sn Sn 06 01 51.8 -0.6
CMB Columbia Colle 4.77 275 ⇓P Pn 06 00 57.1 -0.6
baz=4.8,SNR=19
CMB Columbia Colle 4.77 275 *e*Pn Pn 06 00 57.2 -0.5
CMB *e*Sg Sg 06 02 16.1 -2.9
MURC Murrieta 4.78 210 ⇑P Pn 06 00 58.3 +0.5
baz=4.8,SNR=11
W19A Sanders 4.82 122 ⇓P Pn 06 00 58.6 +0.3
baz=4.8,SNR=6.3
K14A Jones Ranch, D 4.83 10 ⇓P Pn 06 00 57.9 -0.7
baz=4.9
K12A Draper Farm, C 4.86 355 ⇓P Pn 06 00 58.3 -0.6
baz=4.9,SNR=14
K13A Stover Farm, H 4.86 2 ⇑P Pn 06 00 58.5 -0.3
baz=4.9
O06A Flanigan 4.88 301 ⇓P Pn 06 00 59.3 +0.2
baz=4.9,SNR=17
L09A Wilkinson Ranc 4.93 330 ⇓P Pn 06 01 00.1 +0.2
baz=5.0
113A Mohawk Valley, 5.04 174 ⇓P Pn 06 01 01.0 -0.3
baz=5.0
LAVA Lava Cap Winer 5.11 283 ⇓P Pn 06 01 01.7 -0.7
baz=5.1
BEKR Beckwourth 5.12 296 ⇓P Pn 06 01 03.0 +0.5
baz=5.1
P05C Yuba Gap, Truc 5.12 289 ⇑P Pn 06 01 03.1 +0.5
baz=5.1
K11A Parker Ranch, 5.14 346 ⇓P Pn 06 01 03.2 +0.5
baz=5.2
M07A Soldier Meadow 5.17 316 ⇓P Pn 06 01 04.4 +1.3
baz=5.2
MONP Monument Peak 5.17 200 ⇑P Pn 06 01 03.2 0.0
baz=5.2,SNR=13
N06A Buffalo Meadow 5.17 307 ⇓P Pn 06 01 04.2 +1.0
baz=5.2
BAR Barrett 5.44 201 *e*Pn Pn 06 01 07.3 +0.5
24nm,0.5s
BAR *e*Sg Sg 06 02 35.1 -5.2
J12A Stokes Ranch, 5.48 354 ⇓P Pn 06 01 07.1 -0.3
baz=5.5
O05C Quincy 5.56 295 ⇑P Pn 06 01 08.8 +0.3
baz=5.6
AHID Auburn Hatcher 5.56 26 *e*Pn Pn 06 01 13.1 +4.6
24nm,0.6s
AHID *e*Sg Sg 06 02 48.1 +3.9
Q04C Lincoln 5.62 283 ⇓P Pn 06 01 08.4 -0.9
baz=5.6,SNR=6.6
WVOR Wild Horse Val 5.68 326 *e*Pn Pn 06 01 12.3 +2.1
72nm,0.6s
WVOR *e*Sg Sg 06 02 47.0 -1.0
O04C Chester 5.81 298 ⇑P Pn 06 01 12.2 +0.2
baz=5.8
M06C Likely Place G 5.83 308 ⇑P Pn 06 01 13.5 +1.3
baz=5.9
ORV Oroville 5.86 290 ⇑P Pn 06 01 12.2 -0.4
baz=5.9,SNR=6.2
SUTB Sutter Butte 6.00 286 ⇑P Pn 06 01 14.7 +0.1
baz=6.0
RRI2 Red Ridge 6.01 22 *e*Pn Pn 06 01 19.5 +4.8
23nm,0.7s
MOD Modoc 6.14 314 ⇓/*e*Pn Pn 06 01 18.2 +1.6
40nm,0.5s
MOD *e*Sg Sg 06 02 59.1 -3.9
REDW Red Top Meadow 6.17 25 *e*Pn Pn 06 01 21.0 +4.0
27nm,0.8s

REDW				*e*Sg	**Sg**	**06 03 00.8**	**-3.0**
PDAR	**Pinedale Array**	**6.18**	**35**	Pn	**Pn**	**06 01 19.1**	**+2.0**
	0.7nm,0.3s,baz=208,slow=12,SNR=32						
PDAR				Lg		06 02 56.0	
	1.7nm,0.3s,baz=215,slow=31,SNR=4.1						
TUC	**Tucson**	**6.21**	**151**	*e*Pn	**Pn**	**06 01 18.0**	**+0.6**
	14nm,0.5s						
TUC				*e*Sg	**Sg**	**06 03 02.6**	**-2.4**
I11A	**Placerville**	**6.23**	**349**	⇑P	**Pn**	**06 01 18.7**	**+1.0**
	baz=6.3						
TPAW	**Teton Pass**	**6.25**	**23**	*e*Pn	**Pn**	**06 01 21.9**	**+3.8**
	20nm,0.6s						
TPAW				*e*Sg	**Sg**	**06 03 08.9**	**+2.4**
DCID1	**Drake Creek**	**6.28**	**22**	*e*Pn	**Pn**	**06 01 15.4**	**-2.9**
DCID1				*e*Sg	**Sg**	**06 03 07.1**	**-0.1**
HATC	**Hat Creek Radi**	**6.28**	**301**	⇑P	**Pn**	**06 01 19.0**	**+0.6**
	baz=6.3						
SNOW	**Snow King Moun**	**6.29**	**25**	*e*Pn	**Pn**	**06 01 22.6**	**+4.0**
	16nm,0.6s						
SNOW				*e*Sg	**Sg**	**06 03 12.1**	**+4.4**
M05C	**Lookout**	**6.34**	**306**	⇓P	**Pn**	**06 01 20.3**	**+1.1**
	baz=6.4						
O03C	**Acorn Hollow,**	**6.38**	**293**	⇑P	**Pn**	**06 01 20.7**	**+1.0**
	baz=6.4						
LOHW	**Long Hollow**	**6.48**	**25**	⇑*i*Pn	**Pn**	**06 01 24.1**	**+3.0**
	18nm,0.5s						
LOHW				*e*Sg	**Sg**	**06 03 21.7**	**+8.1**
L05A	**Lakeview**	**6.54**	**313**	⇓P	**Pn**	**06 01 24.3**	**+2.3**
	baz=6.6						
MOOW	**Moose Ponds**	**6.55**	**24**	*e*Pn	**Pn**	**06 01 25.2**	**+3.0**
	14nm,0.8s						
MOOW				*e*Sg	**Sg**	**06 03 12.8**	**-3.2**
IMW	**Indian Meadow**	**6.63**	**22**	*e*Pn	**Pn**	**06 01 26.3**	**+3.1**
	18nm,0.5s						
IMW				*e*Sg	**Sg**	**06 03 18.3**	**-0.1**
I09A	**Lost Marbles R**	**6.69**	**339**	⇓P	**Pn**	**06 01 25.9**	**+2.0**
	baz=6.7						
J07A	**Hines**	**6.73**	**328**	⇑P	**Pn**	**06 01 27.3**	**+2.7**
	baz=6.8						
K06A	**Valley Falls**	**6.73**	**320**	⇓P	**Pn**	**06 01 26.9**	**+2.4**
	baz=6.8						
RWWY	**Rawlins**	**6.75**	**53**	*e*Pn	**Pn**	**06 01 26.6**	**+1.8**
	28nm,0.7s						
RWWY				*e*Sg	**Sg**	**06 03 17.2**	**-5.0**
LAZ	**Ladron**	**6.75**	**118**	*e*Pn	**Pn**	**06 01 31.2**	**+6.2**
LAZ				*e*Sg	**Sg**	**06 03 16.1**	**-6.5**
FLWY	**Flagg Ranch**	**6.87**	**23**	*e*Pn	**Pn**	**06 01 31.0**	**+4.5**
	45nm,0.8s						
I08A	**Drewsey**	**6.89**	**334**	⇑P	**Pn**	**06 01 29.4**	**+2.6**
	baz=6.9						
ANMO	**Albuquerque**	**6.97**	**112**	Pn	**Pn**	**06 01 28.9**	**+0.9**
	0.3nm,0.3s,baz=309,slow=13,SNR=6.1						
ANMO				Lg		06 03 23.0	
	6.0nm,0.3s,baz=66,slow=20,SNR=8.4						
ANMO	**Albuquerque**	**6.97**	**112**	Pn	**Pn**	**06 01 28.9**	**+0.9**
ANMO				Lg		06 03 23.0	
LENM	**Lemitar**	**7.00**	**119**	*e*Pg	**Pg**	**06 01 58.2**	**-1.5**
LENM				*e*Sg	**Sg**	**06 03 29.0**	**-1.3**
J06A	**Christmas Vall**	**7.01**	**323**	⇓P	**Pn**	**06 01 31.1**	**+2.6**
	baz=7.0						
K05A	**Summer Lake**	**7.02**	**317**	⇓P	**Pn**	**06 01 31.3**	**+2.8**
	baz=7.0						
SDCO	**Great Sand Dun**	**7.02**	**88**	*e*Pn	**Pn**	**06 01 29.1**	**+0.5**
	17nm,0.8s						
H10A	**Noah's Angus R**	**7.03**	**346**	⇑P	**Pn**	**06 01 30.2**	**+1.5**
	baz=7.1						
MCMT	**McKenzie Canyo**	**7.12**	**9**	⇑*i*Pn	**Pn**	**06 01 35.6**	**+5.6**
MCMT				*e*Sg	**Sg**	**06 03 30.5**	**-3.7**
LPM	**Los Pinos Moun**	**7.16**	**117**	Pg	**Pg**	**06 02 02.1**	**-0.7**
LPM				*e*Sg	**Sg**	**06 03 29.3**	**-6.2**
L04A	**Klamath Falls**	**7.25**	**309**	⇓P	**Pn**	**06 01 33.8**	**+2.0**
	baz=7.3						
YMR	**Madison River**	**7.33**	**19**	*e*Pn	**Pn**	**06 01 37.3**	**+4.5**
	12nm,0.7s						
I07A	**Izee**	**7.39**	**330**	⇑P	**Pn**	**06 01 36.3**	**+2.7**
	baz=7.4						
BMO	**Blue Mountains**	**7.39**	**344**	⇓*i*Pn	**Pn**	**06 01 36.1**	**+2.4**
	43nm,0.8s						
BMO				*e*Sg	**Sg**	**06 03 45.9**	**+2.9**
H08A	**Prairie City**	**7.47**	**336**	⇑P	**Pn**	**06 01 37.1**	**+2.4**
	baz=7.5						
YBH	**Yreka Blue Hor**	**7.54**	**304**	Pn	**Pn**	**06 01 36.9**	**+1.2**
	0.2nm,0.3s,baz=116,slow=9.8,SNR=8.3						
YBH				Lg		06 03 38.8	
	0.2nm,0.3s,baz=140,slow=14,SNR=3.5						
YBH	**Yreka Blue Hor**	**7.54**	**304**	⇓P	**Pn**	**06 01 37.7**	**+2.0**
	baz=7.6						
I06A	**Prineville**	**7.58**	**326**	⇑P	**Pn**	**06 01 39.1**	**+2.9**
	baz=7.6						
J05A	**Fort Rock**	**7.58**	**319**	⇑P	**Pn**	**06 01 39.1**	**+2.8**
	baz=7.6						
DLMT	**Dillon**	**7.68**	**9**	⇓*i*Pn	**Pn**	**06 01 42.8**	**+5.2**
	12nm,0.8s						
DLMT				*e*S	**Sb**	**06 03 36.2**	**+5.7**
RLMT	**Red Lodge**	**8.26**	**26**	*e*Pn	**Pn**	**06 01 49.0**	**+3.4**
	241nm,0.7s						
LNOR	**Lincton Mounta**	**8.59**	**341**	*e*Pn	**Pn**	**06 01 53.9**	**+3.8**
MSO	**Missoula**	**9.04**	**2**	*e*Pn	**Pn**	**06 01 59.7**	**+3.5**
	2.0nm,1.0s						
HAWA	**Hanford**	**9.41**	**338**	*e*Pn	**Pn**	**06 02 04.4**	**+3.0**
	10nm,0.9s						
RSSD	**Black Hills**	**10.04**	**48**	*e*Pn	**Pn**	**06 02 10.7**	**+0.7**
	4.7nm,0.6s						
RSSD				*e*Sn	**Sn**	**06 04 21.1**	**+18**
NEW	**Newport**	**10.66**	**350**	*e*Pn	**Pn**	**06 02 21.4**	**+2.9**
	4.3nm,0.8s						
LAO	**LASA Array**	**10.74**	**32**	*e*Pn	**Pn**	**06 02 23.6**	**+4.1**
	6.2nm,0.6s						
TXAR	**Lajitas Array**	**12.27**	**130**	Pn	**Pn**	**06 02 45.6**	**+5.1**
	0.0nm,0.3s,baz=298,slow=9.8,SNR=6.4						
TXAR				Lg		06 06 06.7	
	0.1nm,0.3s,baz=135,slow=46,SNR=2.6						
TXAR				LR	LR	06 08 01.6	
	comp=Z,59nm,20.6s,baz=180,slow=40						
LPIG	**La Paz**	**14.08**	**165**	LR	LR	06 07 53.7	
	comp=Z,47nm,18.6s,baz=17,slow=35						
ULM	**Lac du Bonnet**	**18.16**	**41**	P	**Pn**	**06 03 56.7**	**-1.1**
	0.4nm,0.3s,baz=245,slow=11,SNR=3.3						
ULM	**Lac du Bonnet**	**18.16**	**41**	P	**Pn**	**06 03 56.7**	**-1.1**
SWET	**Sewanee**	**22.96**	**88**	*e*P	**P**	**06 04 50.4**	**+0.1**
TKL	**Tuckaleechee C**	**24.56**	**86**	P	**P**	**06 05 05.6**	**0.0**
	2.1nm,0.6s,mb3.8,baz=227,slow=12,SNR=4.8						
TKL				LR	LR	06 16 19.9	
	comp=Z,35nm,20.2s,MS2.8,baz=298,slow=40						
YKA	**Yellowknife Ar**	**24.73**	**360**	P	**P**	**06 05 06.8**	**-0.2**
	0.6nm,0.7s,mb3.3,baz=181,slow=9.4,SNR=4.5						
YKA				LR	LR	06 13 54.2	
	comp=Z,5.4nm,19.9s,baz=255,slow=34						
CN2	**Changchun**	**82.39**	**321**	*e*P	**P**	**06 12 06.4**	**-1.5**
BJI	**Beijing**	**89.75**	**324**	P	**P**	**06 12 42.3**	**-2.0**
BJI				AMB	AMB		
	comp=Z,3.0nm,0.4s,mb5.0						
HHC	**Hu-ho-hao-te**	**91.17**	**327**	*e*P	**P**	**06 12 51.3**	**+0.3**
HHC				PP	PP	06 16 28.5	+1.6
HHC				SKS		06 23 22.7	
HHC				S	S	06 23 44.9	-4.3
HHC				SCS	ScS	06 23 50.0	-2.3
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.4						
HHC				AMB	AMB		
	comp=Z,56nm,6.9s						
HHC				LR	LR		
	comp=N,116nm,23.8s,MS4.5						
HHC				LR	LR		
	comp=E,178nm,23.8s,MS4.5						
HHC				LR	LR		
	comp=Z,156nm,22.6s,MS4.4						
WMQ	**Urumqi**	**96.34**	**344**	*e*P	**P**	**06 13 16.7**	**+2.1**
LZH	**Lanzhou**	**98.42**	**330**	*e*P	**P**	**06 13 22.6**	**-1.6**
LZH				AP	pP	06 13 26.0	-1.5
LZH				XP	sP	06 13 29.0	+0.3
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,57nm,4.5s						

IDC 06 06:19:28.3±2.4, 299N×6655E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.8/4, MS3.8/3, Ms1 3.8/3, ms1mx3.3/25, Error ellipse: s-maj=96.1km s-min=27.9km az=60.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.24**	**62**	LR	LR	06 40 15.6	
	comp=Z,86nm,18.3s,baz=185,slow=35						
MKAR	**Makanchi Array**	**45.73**	**15**	P	P	06 27 51.2	0.0
	0.3nm,0.7s,baz=183,slow=9.4,SNR=3.0						
AKTO	**Aktyubinsk**	**47.83**	**353**	P	P	06 28 07.5	-0.1
	2.4nm,0.8s,baz=164,slow=7.0,SNR=7.1						
TORD	**Torodi Ar. Bea**	**64.85**	**283**	LR	LR	06 58 24.6	
	comp=Z,68nm,18.1s,baz=185,slow=36						
WRA	**Warramunga Arr**	**70.27**	**112**	P	P	06 30 44.1	+0.1
	2.2nm,0.9s,baz=283,slow=6.4,SNR=4.9						
ASAR	**Alice Springs**	**70.61**	**116**	P	P	06 30 46.3	+0.2
	0.8nm,0.9s,baz=278,slow=9.0,SNR=5.1						
BORG	**Borgarnes**	**86.41**	**335**	LR	LR	07 13 13.8	
	comp=Z,51nm,18.5s,baz=196,slow=37						
TXAR	**Lajitas Array**	**146.53**	**344**	PKPbc	PKPbc	06 39 11.8	-0.6
	1.0nm,0.8s,baz=62,slow=2.5,SNR=11						

*BJI **06** 06:53:46.9, 1957N×10105E, h30km, mB4.2, ML4.3, Ms4.1, Msz3.8*
*IDC **06** 06:53:55.3±0.9, 2040N×10088E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, Error ellipse: s-maj=22.2km s-min=14.9km az=107.0*
*NEIC **06** 06:53:56.7±0.6, 2037N×10083E, h10km, Error ellipse: s-maj=14.9km s-min=10.2km az=98.0*
*ISCJB **06** 06:54:00.7±1.0, 2040N±007×10057E±007, h58km±12km, mb3.8/7, Error ellipse: s-maj=14.1km s-min=8.1km az=140.9*
*PLV **06** 06:54:23.4±192.0, 2190N×10052E, h0km±999km, ML3.6*
ISC 06 06:54:01.8±1.0, 2037N±007×10056E±007, h44km±12km, n13, σ1°26/22, mb3.8/7, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**2.17**	**225**	*e*Pn	**Pn**	**06 54 35.5**	**0.0**
CHTO				*e*Sg	**Sn**	**06 55 10.9**	**+10**
CMAR	**Chiang Mai Arr**	**2.44**	**219**	Pn	**Pn**	**06 54 38.7**	**-0.4**
	11nm,0.3s,baz=34,slow=13,SNR=39						
CMAR				Pg	**Pn**	**06 54 45.3**	**+6.2**
	54nm,0.3s,baz=39,slow=17,SNR=99						
CMAR				Lg		06 55 18.6	
	70nm,0.3s,baz=59,slow=36,SNR=18						
DBV	**Dienbien**	**2.52**	**66**	*e*PN	**Pn**	**06 54 33.5**	**-6.7**
DBV				*e*PG	**Pn**	**06 54 40.0**	**-0.2**
	baz=217,slow=8.6						
DBV				*e*SG	**Sn**	**06 55 08.0**	**-1.6**
DBV				AMP		06 55 18.2	
	comp=Z,1μm,0.7s						
LCVN	**Lai Chau**	**2.93**	**55**	*e*PN	**Pn**	**06 54 39.7**	**-6.2**
LCVN				*e*PG	**Pn**	**06 54 48.3**	**+2.4**
LCVN				*e*SG	**Sn**	**06 55 21.1**	**+1.2**
SLVN	**Son La**	**3.27**	**72**	*e*PN	**Pn**	**06 54 43.9**	**-6.6**
SLVN				*e*PG	**Pn**	**06 54 52.3**	**+1.8**
	baz=304,slow=16						
SLVN				*e*SG	**Sn**	**06 55 29.5**	**+1.3**
SLVN				AMP		06 55 44.6	
	comp=Z,222nm,0.7s						
CD2	**Chengdu**	**10.88**	**15**	*e*P	**Pn**	**06 56 34.1**	**-0.8**
CD2				PP		06 56 42.5	
CD2				S	**Sn**	**06 58 33.8**	**-1.5**
CD2				AMB	AMB		
	comp=Z,20nm,3.8s						
CD2				LR	LR		
	comp=N,340nm,8.4s						
CD2				LR	LR		
	comp=E,520nm,10.8s						
CD2				LR	LR		
	comp=Z,360nm,10.8s						
MKAR	**Makanchi Array**	**30.28**	**335**	P	**P**	**07 00 09.1**	**+0.5**
	comp=Z,1.2nm,0.5s,mb3.9,baz=139,slow=9.7,SNR=17						
ZALV	**Zalesovo Beam**	**35.62**	**344**	P	**P**	**07 00 54.5**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.9,baz=138,slow=8.9,SNR=3.1						
BVAR	**Borovoye Array**	**40.03**	**332**	P	**P**	**07 01 32.3**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.7,baz=123,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**51.95**	**138**	P	**P**	**07 03 04.8**	**-1.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=324,slow=8.2,SNR=3.0						
ASAR	**Alice Springs**	**54.51**	**142**	P	**P**	**07 03 23.9**	**-1.4**
	comp=Z,0.3nm,0.6s,mb3.5,baz=326,slow=7.1,SNR=4.5						
NOA	**NORSAR Array B**	**72.09**	**329**	P	**P**	**07 05 22.4**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=82,slow=5.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**93.59**	**285**	P	**P**	**07 07 16.2**	**+2.3**
	comp=Z,0.6nm,1.1s,mb3.9,baz=65,slow=6.7,SNR=1.9						

*IDC **06** 07:10:01.0±0.8, 1421S×16673E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, MS3.6/7, Ms1 3.6/7, ms1mx3.3/28, Error ellipse: s-maj=29.2km s-min=17.7km az=82.0*
*ISCJB **06** 07:10:06.9±3.2, 1428S±0.10×1666E±0.1, h59km±27km, mb4.2/11, MS3.6/6, Error ellipse: s-maj=24.9km s-min=13.7km az=156.6*
*NEIC **06** 07:10:09.2±2.6, 1435S×16655E, h57km±21km, mb4.5/2, Error ellipse: s-maj=21.5km s-min=13.2km az=82.0*
ISC 06 07:10:09.2±2.7, 1429S±010×1666E±02, h61km±23km, n35, σ0°80/17, mb4.2/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.11**	**306**	Pn	**Pn**	**07 12 04.5**	**+0.3**
	9.6nm,0.3s,baz=261,slow=3.9,SNR=3.1						
HNR				Sn	**Sn**	**07 13 34.4**	**-0.1**
	6.4nm,0.3s,baz=93,slow=11,SNR=2.4						
HNR				LR	LR	07 14 44.4	
	comp=Z,205nm,19.7s,baz=174,slow=35						
HNR	**Honiara**	**8.11**	**306**	Pn	**Pn**	**07 12 04.5**	**+0.3**
HNR				Sn	**Sn**	**07 13 34.4**	**-0.1**
HNR				LR	LR	07 14 44.4	
CTA	**Charters Tower**	**20.27**	**251**	LR	LR	07 21 17.7	
	comp=Z,145nm,18.5s,baz=46,slow=33						
URZ	**Urewera**	**25.63**	**161**	P	**P**	**07 15 32.7**	**-0.2**
	17nm,1.1s,mb4.5,baz=112,slow=16,SNR=2.7						
STKA	**Stephens Creek**	**28.79**	**228**	*e*P	**P**	**07 16 03.0**	**+1.6**
	2.2nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**28.79**	**228**	P	**P**	**07 16 03.0**	**+1.6**
	3.3nm,0.6s,mb4.3,baz=58,slow=11,SNR=10.0						
STKA				LR	LR	07 27 29.1	
	comp=Z,214nm,19.6s,baz=294,slow=36						
RPZ	**Rata Peaks**	**29.57**	**173**	P	**P**	**07 16 07.9**	**-0.3**
	7.0nm,0.8s,mb4.5,baz=23,slow=14,SNR=3.4						
RPZ				LR	LR	07 26 22.9	
	comp=Z,154nm,19.4s,baz=327,slow=33						
WB2	**Warramunga Arr**	**31.30**	**255**	*e*P	**P**	**07 16 23.7**	**0.0**
WRA	**Warramunga Arr**	**31.31**	**255**	P	**P**	**07 16 23.7**	**-0.2**
	0.6nm,0.6s,mb3.6,baz=85,slow=9.4,SNR=5.8						
WRA				LR	LR	07 28 09.7	
	comp=Z,93nm,21.1s,baz=215,slow=35						
ASAR	**Alice Springs**	**32.23**	**248**	P	**P**	**07 16 31.9**	**0.0**
	0.8nm,0.6s,mb3.7,baz=78,slow=10,SNR=15						
FORT	**Forrest**	**38.97**	**239**	*e*P	**P**	**07 17 27.0**	**-2.6**
	9.4nm,0.6s,mb4.7						
MJAR	**Matsushiro Arr**	**57.22**	**333**	P	**P**	**07 19 49.6**	**-0.5**
	1.6nm,0.6s,mb4.3,baz=167,slow=7.6,SNR=4.4						
KSRS	**Korea Array**	**63.01**	**326**	P	**P**	**07 20 30.0**	**+0.2**
	0.7nm,0.5s,mb4.0,baz=137,slow=6.7,SNR=3.6						
VNDA	**Vanda**	**63.28**	**181**	P	**P**	**07 20 31.5**	**+0.4**
	0.6nm,0.4s,mb4.0,baz=353,slow=7.9,SNR=6.4						
PETK	**Petropavlovsk-**	**67.56**	**354**	P	**P**	**07 20 58.5**	**-0.4**
	3.4nm,0.8s,mb4.4,baz=142,slow=7.3,SNR=3.5						
KDAK	**Kodiak Island**	**79.28**	**21**	LR	LR	07 51 05.0	
	comp=Z,56nm,19.2s,baz=298,slow=31						
INK	**Inuvik**	**92.68**	**19**	LR	LR	08 01 05.8	
	comp=Z,35nm,21.2s,baz=55,slow=33						
MKAR	**Makanchi Array**	**96.44**	**317**	P	**P**	**07 23 32.8**	**+1.1**
	0.4nm,0.3s,mb4.3,baz=96,slow=7.4,SNR=8.2						
ARCES	**ARCESS Array B**	**119.67**	**345**	PKP	PKPdf	07 28 50.9	-0.7
	0.9nm,0.5s,baz=80,slow=1.0,SNR=11						
NOA	**NORSAR Array B**	**130.03**	**345**	PKP	PKPdf	07 29 11.9	+0.2
	0.6nm,0.6s,baz=38,slow=4.5,SNR=2.8						
GERES	**GERESS Array B**	**138.96**	**333**	PKP	PKPdf	07 29 31.1	+2.4
	0.2nm,0.3s,baz=48,slow=1.5,SNR=3.4						
SMF	**Signal de Mont**	**144.65**	**339**	*e*PKP1	PKPdf	07 29 38.2	-0.8
AVF	**Avril sur Loir**	**144.69**	**340**	*e*PKP1	PKPdf	07 29 38.2	-0.8
	8.4nm,0.8s						
MBDF	**Montbardon**	**145.16**	**335**	*e*PKP1	PKPbc	07 29 40.1	+0.5
	6.1nm,0.7s						
ORIF	**Oris-en-Rattie**	**145.36**	**336**	*e*PKP1	PKPbc	07 29 41.2	+1.0
	23nm,0.8s						
TCF	**Toulx Ste Croi**	**145.51**	**341**	*e*PKP1	PKPbc	07 29 41.1	+0.5
	12nm,0.9s						
SBF	**Sospel**	**145.56**	**333**	*e*PKP1	PKPbc	07 29 41.2	+0.3
	30nm,0.8s						
PGF	**Pioggiola**	**145.85**	**330**	*e*PKP1	PKPbc	07 29 42.2	+0.4
	21nm,0.9s						
FRF	**La Foret Royal**	**146.15**	**333**	*e*PKP1	PKPbc	07 29 42.9	+0.2
	14nm,0.7s						
SMRF	**Simiane la Rot**	**146.26**	**335**	*e*PKP1	PKPbc	07 29 43.9	+0.9
	6.1nm,0.6s						
LMR	**La Mourre**	**146.39**	**333**	*e*PKP1	PKPbc	07 29 43.7	+0.3
	8.0nm,0.6s						
LASF	**Ste Croix**	**146.86**	**337**	*e*PKP1	PKPbc	07 29 45.4	+0.7
	19nm,1.0s						
MTLF	**Montolieu**	**148.09**	**338**	*e*PKP1	PKPbc	07 29 48.9	+0.8
	9.6nm,0.8s						
KEST	**Kesra**	**150.46**	**320**	PKPbc	PKPbc	07 29 55.6	+1.3
	1.6nm,0.9s,baz=223,slow=3.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**165.29**	**267**	PKPab	PKPab	07 31 06.7	+1.2
	0.6nm,0.9s,baz=132,slow=6.0,SNR=2.9						

IDC 06 07:12:51.8±9.6, 253N×6603E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.4/21, mbtmp3.7/2, Error ellipse: s-maj=836.8km s-min=49.5km az=40.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**70.58**	**112**	P	P	07 24 08.9	-0.5
	0.4nm,0.8s,baz=279,slow=5.9,SNR=4.7						
ASAR	**Alice Springs**	**70.89**	**116**	P	P	07 24 11.8	+0.6
	0.7nm,0.9s,baz=309,slow=5.9,SNR=3.6						
TXAR	**Lajitas Array**	**146.81**	**343**	PKPbc	PKPbc	07 32 36.0	-0.7
	0.8nm,0.9s,baz=56,slow=2.6,SNR=7.7						

IDC 06 07:14:51.2±10.0, 2367S×6663W, h213km±81km, mb3.2/1, mb1 3.3/2, mb1mx2.9/16, mbtmp3.2/2, Error ellipse: s-maj=124.6km s-min=81.0km az=50.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.48**	**349**	P	Pn	07 16 38.5	+0.6
	1.0nm,0.3s,baz=194,slow=12,SNR=36						
LPAZ				S	S	07 18 04.3	+1.4
	0.1nm,0.3s,baz=41,slow=20,SNR=2.1						
TORD	**Torodi Ar. Bea**	**76.14**	**69**	P	P	07 26 16.2	+0.1
	0.3nm,0.3s,baz=256,slow=5.2,SNR=6.4						
MKAR	**Makanchi Array**	**146.06**	**39**	PKPbc	PKPbc	07 34 05.3	-0.7
	0.3nm,0.3s,baz=331,slow=2.4,SNR=3.7						

*CSEM **06** 07:22:16.7±0.6, 3988N×4193E, h10km±8km, MD2.7, Error ellipse: s-maj=26.2km s-min=11.3km az=16.0*
*ISK **06** 07:22:17.7, 3994N×4194E, h9km, MD2.7*
*ISCJB **06** 07:22:18.6±0.8, 3984N±008×4193E±006, h15km±8km, Error ellipse: s-maj=14.9km s-min=5.5km az=24.8*
*DDA **06** 07:22:18.5, 3980N×4193E, h7km±2km, Md2.8*
ISC 06 07:22:18.8±0.7, 3985N±007×4193E±005, h20km±7km, n7, σ0°95/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.19**	**355**	*i* P	**Pg**	**07 22 23.8**	**0.0**
HOMI				*i* S	**Sg**	**07 22 27.9**	**+0.6**
ERZM	**Erzurum**	**0.44**	**277**	*i* P	**Pg**	**07 22 26.9**	**-0.9**
ERZM				*i* S	**Sg**	**07 22 34.6**	**+0.7**
EZM	**Erzurum**	**0.44**	**277**	*e*PG	**Pg**	**07 22 26.8**	**-1.1**
TUTA	**Tutak**	**0.82**	**123**	*i* P	**Pb**	**07 22 32.6**	**-1.7**
TUTA				*i* S	**Sb**	**07 22 45.4**	**+0.5**
AGRB	**Hanur-Agry**	**0.86**	**108**	*e*PG	**Pg**	**07 22 35.2**	**-0.5**
AGRB				*e*SG	**Sg**	**07 22 48.0**	**+0.9**
BCA	**Borcka**	**1.61**	**352**	*e*PN	**Pn**	**07 22 45.7**	**-0.3**
PTK	**Pertek**	**2.19**	**245**	*e*PN	**Pn**	**07 22 55.9**	**+1.8**

*JMA **06** 07:38:34.4±0.4, 4690N×14181E, h0km, M2.8*
*ISCJB **06** 07:38:37.7±0.7, 4684N±005×14220E±008, h10km, mb3.9/4, Error ellipse: s-maj=8.1km s-min=6.2km az=28.0*
*MOS **06** 07:38:37.7±1.8, 4674N×14218E, h13km, mb4.1/4, Error ellipse: s-maj=32.8km s-min=31.0km az=174.1*
ISC 06 07:38:39.3±0.6, 4678N±005×14225E±009, h10km, n8, σ1°32/12, mb3.9/4, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.39**	**63**	*e*PN	**Pg**	**07 38 47.1**	**+0.2**
YSS				*e*S	**Sg**	**07 38 51.3**	**-0.8**
JWK2	**Keihoku**	**1.48**	**190**	P	**Pn**	**07 39 04.0**	**-2.0**
JWK2				*e*S	**Sn**	**07 39 25.2**	**-0.2**
JSE	**Soyaes**	**1.84**	**173**	P	**Pn**	**07 39 10.2**	**-0.6**
JSE				*e*S	**Sn**	**07 39 36.3**	**+2.2**
HIA	**Hailar**	**15.25**	**288**	*e*P	**Pn**	**07 42 11.9**	**-2.6**
BILL	**Bilibino**	**24.61**	**22**	⇑*e*P	**P**	**07 43 59.9**	**+0.7**
BILL				*e*		07 44 31.5	
BILL				*e*S	**S**	**07 48 23.1**	**+3.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
HVS	**Khovu-Aksy**	**31.71**	**296**	*e*P	**P**	**07 45 03.8**	**+1.0**
HVS				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.0						
KURK	**Kurchatov**	**40.99**	**300**	*e*P	**P**	**07 46 23.4**	**+1.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb3.8						
ARU	**Arti**	**49.76**	**314**	*e*P	**P**	**07 47 30.8

GUMO Guam 16.70 11 *eP* **Pn 07 51 35.7 -1.5**
GUMO pmax pmax
comp=Z,235nm,1.1s
GUMO Guam 16.70 11 *eP* **Pn 07 51 35.7 -1.5**
comp=Z,235nm,1.1s
CTA Charters Tower 17.68 165 *eP* **Pn 07 51 50.6 +1.1**
comp=Z,24nm,1.2s
CTA *eS* **Sn 07 55 06.7 +0.3**
CTA Charters Tower 17.68 165 P **Pn 07 51 50.1 +0.6**
comp=Z,0.4nm,0.3s,baz=331,slow=15,SNR=6.0
CTA Lg 07 56 54.9
comp=Z,0.2nm,0.3s,baz=58,slow=24,SNR=2.8
CTA LR LR 07 58 38.8
comp=Z,1μm,19.0s,baz=352,slow=37
CTA Charters Tower 17.68 165 *eP* **Pn 07 51 50.6 +1.1**
CTA pmax pmax
comp=Z,24nm,1.2s
CTAO Charters Tower 17.68 165 *eP* **Pn 07 51 50.7 +1.2**
WRAB Tennant Creek 18.35 202 P **Pn 07 51 56.0 -1.7**
comp=Z,1μm,0.9s,SNR=16
WRAB Tennant Creek 18.35 202 *eP* **Pn 07 51 57.6 -0.1**
WRAB Tennant Creek 18.35 202 *eP* **Pn 07 51 55.8 -1.9**
comp=Z,373nm,1.4s
WB2 Warramunga Arr 18.36 202 *eP* **Pn 07 51 55.4 -2.4**
WB2 *eS* **Sn 07 55 12.9 -10**
WRA Warramunga Arr 18.36 202 P **Pn 07 51 56.3 -1.6**
comp=Z,2.7nm,0.3s,baz=18,slow=14,SNR=52
WRA S **Sn 07 55 12.0 -11**
comp=Z,0.3nm,0.3s,baz=12,slow=23,SNR=4.5
WRA Lg 07 57 15.5
baz=20,slow=29,SNR=3.6
WRA LR LR 07 59 23.7
comp=Z,3μm,19.9s,baz=25,slow=38
WRA Warramunga Arr 18.36 202 P **Pn 07 51 56.3 -1.6**
WRA S **Sn 07 55 12.1 -11**
KDI Kendari 18.97 266⇑*eP* **Pn 07 52 05.3 -0.1**
KDI *eS* **Sn 07 55 37.6 -0.2**
BATI Baumata 19.23 247 P **Pn 07 52 07.8 -0.6**
comp=Z,25nm,0.3s,baz=185,slow=1.4,SNR=11
HNR Honiara 19.36 110 P **Pn 07 52 09.2 -0.8**
comp=Z,22nm,0.3s,baz=268,slow=1.3,SNR=23
HNR Honiara 19.36 110 *eP* **Pn 07 52 09.0 -1.0**
HNR pmax pmax
comp=Z,551nm,0.8s
HNR Honiara 19.36 110 *eP* **Pn 07 52 09.0 -1.0**
comp=Z,550nm,0.8s
TBP Tagbilaran 21.64 305 *eP* **P 07 52 34.8 +1.1**
FITZ Fitzroy Crossi 21.75 225 *eP* **P 07 52 32.3 -2.5**
comp=Z,84nm,0.8s,mb5.2
FITZ *eS* **S 07 56 30.1 -5.0**
FITZ Fitzroy Crossi 21.75 225 P **P 07 52 32.9 -1.9**
comp=Z,52nm,1.0s,mb4.9,baz=52,slow=12,SNR=48
FITZ S **S 07 56 30.4 -4.7**
comp=Z,50nm,0.9s,baz=84,slow=11,SNR=6.8
FITZ LR LR 08 02 41.5
comp=Z,444nm,18.9s,MS3.9,baz=48,slow=42
PCI Palu 21.84 275⇓*eP* **P 07 52 42.3 +6.5**
comp=Z,7.0nm,1.0s
KAPI Kappang 21.89 264 P **P 07 52 36.3 -0.1**
comp=Z,23nm,0.8s,mb4.6,baz=117,slow=4.6,SNR=8.4
KAPI S **S 07 56 40.0 +1.9**
comp=Z,3.4nm,0.8s,baz=180,slow=18,SNR=2.2
KAPI Kappang 21.89 264 *eP* **P 07 52 38.2 +1.8**
ASAR Alice Springs 21.95 199 P **P 07 52 34.5 -2.4**
comp=Z,26nm,1.1s,mb4.6,baz=31,slow=9.9,SNR=77
ASAR S **S 07 56 31.2 -7.7**
comp=Z,4.8nm,1.1s,baz=234,slow=38,SNR=2.4
MKS Makassar 22.19 263⇓*eP* **P 07 52 41.6 +2.0**
MYLDM Lahad Datu 24.43 289 ⇓P **P 07 53 04.4 +2.5**
TSM Tawau 24.76 287 ⇑P **P 07 53 05.5 +0.5**
SDKM Sandakan 25.80 289 ⇓P **P 07 53 14.8 +0.3**
KDM Kudat 26.57 292 ⇑P **P 07 53 20.3 -1.1**
KKM Kota Kinabalu 26.86 289 ⇑P **P 07 53 23.8 -0.2**
KKM Kota Kinabalu 26.86 289 *eP* **P 07 53 23.6 -0.4**
MBWA Marble Bar 27.97 228 *eP* **P 07 53 34.8 +0.8**
comp=Z,31nm,0.9s,mb4.9
STKA Stephens Creek 28.83 180 *eP* **P 07 53 39.1 -2.3**
comp=Z,7.3nm,0.7s,mb4.5
STKA *eS* **S 07 58 46.0 +15**
STKA Stephens Creek 28.83 180 P **P 07 53 40.2 -1.1**
comp=Z,11nm,0.8s,mb4.6,baz=2.2,slow=7.5,SNR=7.0
STKA Lg 08 02 59.1
comp=Z,6.2nm,1.0s,baz=260,slow=22,SNR=2.2
STKA LR LR 08 05 18.7
comp=Z,1μm,18.3s,MS4.5,baz=110,slow=37
ARMA Armidale 28.98 162 *eP* **P 07 53 44.6 +1.9**
BTM Bintulu 29.14 282 ⇓P **P 07 53 44.1 -0.2**
CBIJ Chichi jima 29.82 1 LR LR 08 05 18.4
comp=Z,257nm,18.1s,MS3.9,baz=142,slow=35
SBUM Sibu 29.84 280 ⇑P **P 07 53 50.8 +0.1**
FORT Forrest 30.54 203 *eP* **P 07 53 56.1 -0.5**
comp=Z,106nm,0.7s,mb5.8
KSM Kuching 31.58 278 ⇓P **P 07 54 06.1 +0.1**
KSM Kuching 31.58 278 *eP* **P 07 54 05.5 -0.5**
CAN Canberra 32.99 169 *eP* **P 07 54 18.4 +0.4**
NACB Ningancliao 33.20 325 *eP* **P 07 54 19.1 -1.0**
comp=Z,56nm,1.3s,mb5.3
YHNB Yeheng 33.71 325 *eP* **P 07 54 24.1 -0.4**
comp=Z,14nm,0.8s,mb5.0
TOO Toolangi 34.69 175 *eP* **P 07 54 34.1 +1.3**
QZH Quanzhou 35.56 322⇓*iP* **P 07 54 40.3 -0.2**
QZH AMB AMB
comp=Z,110nm,0.8s,mb5.8
KLBR Kellerberrin 36.32 216 *eP* **P 07 54 45.8 -1.1**
comp=Z,64nm,1.4s,mb5.4
NWAO Narrogin (SRO) 37.60 215 P **P 07 54 56.7 -1.1**
comp=Z,29nm,1.0s,mb5.0,baz=282,slow=5.1,SNR=3.9
NWAO LR LR 08 11 21.4
comp=Z,2μm,18.5s,MS4.8,baz=20,slow=38
NWAO Narrogin (SRO) 37.60 215 P **P 07 54 56.7 -1.1**
NWAO LR LR 08 11 21.4
QIZ Qiongzhong 38.08 306 P **P 07 55 04.5 +2.5**
QIZ S **S 08 00 48.2 -6.4**
QIZ AMB AMB
comp=Z,44nm,2.1s,mb4.8
QIZ LR LR
comp=N,162nm,23.3s
QIZ LR LR
comp=Z,218nm,28.1s,MS3.8
SSE Sheshan 39.00 332 P **P 07 55 10.3 +0.7**
SSE AP pP 07 55 21.5 +7.3
SSE XP sP 07 55 26.5 +10
SSE S **S 08 01 09.1 +1.0**
SSE XS sS 08 01 28.0 +12
SSE AMB AMB
comp=Z,49nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,117nm,4.8s
SSE LR LR
comp=N,64nm,15.4s,MS3.9
SSE LR LR
comp=E,141nm,15.4s,MS3.9
SSE LR LR
comp=Z,215nm,17.4s,MS4.0
KTGM Kuala Trenggan 39.28 282 ⇓P **P 07 55 13.6 +1.4**
MJAR Matsushiro Arr 39.36 356 P **P 07 55 10.2 -2.3**
comp=Z,10nm,0.9s,mb4.5,baz=155,slow=8.0,SNR=14
MJAR PcP PcP 07 57 19.9 -1.0
comp=Z,2.2nm,0.8s,baz=187,slow=3.6,SNR=4.4
MJAR LR LR 08 09 25.5
comp=Z,167nm,20.2s,MS3.9,baz=150,slow=33
MJAR Matsushiro Arr 39.36 356 P **P 07 55 10.2 -2.3**
MJAR 07 57 19.9
MAJO Matsushiro 39.36 356 *eP* **P 07 55 10.8 -1.7**
MAT Matsushiro 39.36 356 P **P 07 55 10.6 -1.9**
MAT S **S 08 01 08.0 -5.4**
FRIM Kepong 40.41 278 ⇑P **P 07 55 20.7 -1.0**
NJ2 Nanjing 40.92 330 *eP* **P 07 55 26.0 +0.5**
NJ2 S **S 08 01 36.0 -0.8**
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
NJ2 LR LR
comp=N,220nm,18.3s
NJ2 LR LR
comp=E,270nm,27.1s
NJ2 LR LR
comp=Z,270nm,27.2s
IPM Ipoh 41.20 280 ⇓P **P 07 55 28.1 0.0**
KULM Kulim 41.70 281 ⇓P **P 07 55 32.0 -0.3**
KSRS Korea Array 42.11 344 P **P 07 55 34.7 -0.5**
comp=Z,7.1nm,0.9s,mb4.3,baz=162,slow=9.2,SNR=30
KSRS PcP PcP 07 57 29.7 0.0
comp=Z,12nm,1.0s,baz=163,slow=3.8,SNR=18
KSRS LR LR 08 09 45.8
comp=Z,292nm,21.7s,MS4.1,baz=157,slow=32

WHN Wuhan 42.21 324 P **P 07 55 37.0 +0.8**
WHN LR LR
comp=N,465nm,15.0s
WHN LR LR
comp=E,693nm,31.0s
WHN LR LR
comp=Z,554nm,13.6s,MS4.6
PSI Prapat 43.03 277 P **P 07 55 41.3 -1.8**
comp=Z,27nm,0.7s,mb5.1,baz=93,slow=4.2,SNR=37
PSI PcP PcP 07 57 32.3 -1.1
comp=Z,5.7nm,0.6s,baz=105,slow=3.8,SNR=3.3
GYA Guiyang 44.62 313⇑*iP* **P 07 55 56.8 +1.1**
GYA AP pP 07 56 08.2 +7.8
GYA XP sP 07 56 11.7 +10
GYA PCP PcP 07 57 39.2 +0.7
GYA PP PP 07 57 43.6 +3.6
GYA SCP ScP 08 01 27.4 -3.1
GYA S **S 08 02 30.8 -0.7**
GYA XS sS 08 02 48.5 +9.3
GYA SS SS 08 05 42.3 -10
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,130nm,6.4s
GYA LR LR
comp=N,590nm,19.4s,MS4.7
GYA LR LR
comp=E,560nm,19.6s,MS4.7
GYA LR LR
comp=Z,680nm,20.0s,MS4.6
VLA Vladivostok 46.63 350 *eP* **P 07 56 10.4 -0.9**
VLA pmax pmax
comp=Z,24nm,1.3s,mb5.0
ASAJ Asahikawa 46.81 1 P **P 07 56 12.6 -0.1**
comp=Z,18nm,0.7s,mb5.1,baz=222,slow=13,SNR=21
KMI Kunming 46.86 309 P **P 07 56 14.1 +0.7**
KMI AMB AMB
comp=Z,23nm,1.3s,mb5.0
CMAR Chiang Mai Arr 47.05 299 P **P 07 56 14.7 -0.3**
comp=Z,5.8nm,0.7s,mb4.6,baz=122,slow=6.5,SNR=16
CMAR PcP PcP 07 57 48.1 +1.0
comp=Z,9.7nm,0.9s,baz=135,slow=2.0,SNR=9.6
CMAR LR LR 08 16 57.0
comp=Z,120nm,20.1s,MS3.9,baz=307,slow=37
CMAR Chiang Mai Arr 47.05 299 P **P 07 56 14.7 -0.3**
CMAR 07 57 48.1
CHTO Chiang Mai 47.18 299 *eP* **P 07 56 15.6 -0.4**
comp=Z,14nm,1.1s,mb4.8
AFI Afiamalu 47.31 106 P **P 07 56 16.9 -0.2**
comp=Z,61nm,1.0s,mb5.5,baz=321,slow=4.2,SNR=3.5
SNY Shenyang 47.43 342 ⇓P **P 07 56 17.5 -0.1**
SNY AMB AMB
comp=Z,30nm,0.6s,mb5.4
URZ Urewera 47.86 142 P **P 07 56 22.7 +1.7**
comp=Z,9.4nm,0.7s,mb5.0,baz=36,slow=6.1,SNR=5.5
URZ LR LR 08 15 00.8
comp=Z,373nm,19.2s,MS4.4,baz=247,slow=34
XAN Xi'an 47.92 323 P **P 07 56 21.2 -0.4**
XAN AP pP 07 56 31.2 +5.0
XAN AMB AMB
comp=Z,50nm,1.5s,mb5.3
XAN AMB AMB
comp=Z,168nm,5.2s
RPZ Rata Peaks 48.31 151 P **P 07 56 24.4 0.0**
comp=Z,37nm,0.9s,mb5.4,baz=31,slow=9.6,SNR=6.0
RPZ LR LR 08 12 50.0
comp=Z,468nm,21.6s,MS4.4,baz=307,slow=31
MDJ Mudanjiang 48.50 349 P **P 07 56 25.5 -0.3**
MDJ AMB AMB
comp=Z,20nm,1.1s,mb5.1
MDJ AMB AMB
comp=Z,104nm,6.0s
MDJ Mudanjiang 48.50 349 *eP* **P 07 56 25.4 -0.4**
comp=Z,18nm,1.0s,mb5.1
BJI Beijing 48.67 334 P **P 07 56 27.1 -0.1**
BJI S **S 08 03 31.9 +2.8**
BJI AMB AMB
comp=Z,35nm,1.5s,mb5.2
BJI AMB AMB
comp=Z,236nm,3.4s
BJI LR LR
comp=N,244nm,22.6s,MS4.3
BJI LR LR
comp=E,216nm,22.6s,MS4.3
BJI LR LR
comp=Z,347nm,28.8s
CN2 Changchun 48.70 344 ⇓P **P 07 56 27.2 -0.2**
CN2 *e*AP pP 07 56 38.0 +5.9
CN2 *eS* **S 08 03 27.5 -1.8**
CN2 AMB AMB
comp=Z,40nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,20.0s,MS4.4
CN2 LR LR
comp=E,300nm,20.0s,MS4.4
CN2 LR LR
comp=Z,300nm,21.0s,MS4.3
CD2 Chengdu 49.29 316⇓*iP* **P 07 56 32.9 +0.8**
CD2 AP pP 07 56 42.8 +6.0
CD2 XP sP 07 56 46.9 +8.3
CD2 PCP PcP 07 57 55.3 +0.4
CD2 PP PP 07 58 27.4 +1.2
CD2 PCS PcS 08 01 50.4 -1.1
CD2 S **S 08 03 36.4 -1.7**
CD2 XS sS 08 03 53.0 +7.2
CD2 SCS ScS 08 06 19.1 -5.0
CD2 SS SS 08 07 04.2 -5.7
CD2 AMB AMB
comp=Z,50nm,0.5s,mb5.8
CD2 AMB AMB
comp=Z,210nm,5.4s
CD2 LR LR
comp=N,220nm,16.8s,MS4.5
CD2 LR LR
comp=E,260nm,14.4s,MS4.5
CD2 LR LR
comp=Z,220nm,15.6s,MS4.3
YSS Yuzh-Sakhalins 49.65 1⇑*eP* **P 07 56 32.9 -1.7**
YSS pmax pmax
comp=Z,23nm,1.1s,mb5.1
YSS Yuzh-Sakhalins 49.65 1 *eP* **P 07 56 34.1 -0.5**
HHC Hu-ho-hao-te 51.45 331 *eP* **P 07 56 49.4 +1.1**
HHC AP pP 07 56 59.6 +6.6
HHC XP sP 07 57 03.2 +8.4
HHC PCP PcP 07 58 02.6 0.0
HHC PP PP 07 58 50.2 +4.5
HHC PCS PcS 08 01 59.3 -1.1
HHC S **S 08 04 06.5 -1.3**
HHC SCS ScS 08 06 32.8 -5.6
HHC SS SS 08 07 40.6 -3.4
HHC AMB AMB
comp=Z,22nm,0.9s,mb5.1
HHC AMB AMB
comp=Z,185nm,5.9s
HHC LR LR
comp=N,183nm,19.0s,MS4.2
HHC LR LR
comp=E,147nm,20.2s,MS4.2
HHC LR LR
comp=Z,271nm,20.2s,MS4.3
BTO Baotou 52.03 330 *eP* **P 07 56 52.0 -0.6**
LZH Lanzhou 52.40 321 ⇓P **P 07 56 56.6 +1.1**
LZH AP pP 07 57 04.6 +4.4
LZH XP sP 07 57 08.6 +6.6
LZH PP PP 07 58 56.5 +2.1
LZH S **S 08 04 19.5 -1.5**
LZH XS sS 08 04 35.9 +7.1
LZH SS SS 08 07 57.0 -2.2
LZH AMB AMB
comp=Z,135nm,1.3s,mb5.7
LZH AMB AMB
comp=Z,382nm,4.0s
LZH LR LR
comp=E,359nm,13.5s
LZH LR LR
comp=Z,610nm,14.7s,MS4.8
KLR Kul'dur 52.61 352 *eP* **P 07 56 52.0 -4.8**
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,68nm,1.6s,mb5.3
HIA Hailar 55.30 343 *eP* **P 07 57 16.1 -0.3**
HIA pmax pmax
comp=Z,55nm,1.2s
HIA Hailar 55.30 343 *eP* **P 07 57 16.1 -0.3**
comp=Z,55nm,1.2s,mb5.5
SHL Shillong 55.82 304 *i* P **P 07 57 20.5 -0.2**
GTA Gaotai 56.96 322⇓*iP* **P 07 57 29.7 +1.2**
GTA AP pP 07 57 39.9 +6.6
GTA XP sP 07 57 43.8 +8.7
GTA PCP PcP 07 58 24.7 +0.9
GTA PP PP 07 59 34.3 -1.0
GTA S **S 08 05 26.4 +4.1**
GTA XS sS 08 05 43.5 +13
GTA SS SS 08 09 14.5 +3.4
GTA AMB AMB
comp=Z,70nm,1.1s,mb5.6
GTA AMB AMB
comp=Z,265nm,6.5s
GTA LR LR
comp=N,110nm,13.3s,MS4.2
GTA LR LR
comp=E,113nm,17.9s,MS4.2
GTA LR LR
comp=Z,88nm,18.6s,MS3.9
PETK Petropavlovsk- 57.42 11 P **P 07 57 31.9 +0.3**
comp=Z,20nm,0.7s,mb5.2,baz=172,slow=6.2,SNR=17
PETK LR LR 08 17 59.0
comp=Z,225nm,21.2s,MS4.2,baz=193,slow=32
PET Petropavlovsk 57.53 12 *eP* **P 07 57 29.2 -3.1**
PET *eS* **S 08 05 25.2 -4.2**
PET *e*SS SS 08 09 18.9 -0.7
PET pmax pmax
comp=Z,200nm,7.3s
PET pmax pmax
comp=Z,200nm,10.9s
LSA Lhasa 58.09 308 *eP* **P 07 57 38.3 +1.6**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
LSA Lhasa 58.09 308 *eP* **P 07 57 38.3 +1.6**
comp=Z,9.9nm,0.6s,mb5.0
SONM Songino Array 59.15 333 P **P 07 57 44.4 +0.6**
comp=Z,8.4nm,0.9s,mb4.8,baz=153,slow=7.8,SNR=39
SONM LR LR 08 21 48.4
comp=Z,243nm,19.7s,MS4.3,baz=72,slow=35
TAPN Taplejung 59.96 304 *eP* **P 07 57 50.0 +0.3**
comp=Z,94nm,1.1s,mb5.7
ODAN Odare 60.05 303 *eP* **P 07 57 50.7 +0.4**
comp=Z,61nm,0.8s,mb5.7
RAMN Ramite 60.74 303 *eP* **P 07 57 55.6 +0.5**
comp=Z,74nm,0.8s,mb5.9
CLNS Chul'man 61.06 350 *eP* **P 07 57 56.7 0.0**
CLNS pmax pmax
comp=Z,28nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,15nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.9s
JIRN Jiri 61.33 304 *eP* **P 07 57 59.7 +0.6**
comp=E,51nm,0.8s,mb5.7
GUN Gumba 61.67 304 *eP* **P 07 58 02.0 +0.6**
comp=E,99nm,0.9s,mb5.9
PKI Pulchoki 61.95 303 *eP* **P 07 58 03.4 +0.1**
comp=E,44nm,0.9s,mb5.6
KKN Kakani 62.13 303 *eP* **P 07 58 04.7 +0.2**
comp=E,105nm,0.8s,mb6.0
DMN Daman 62.21 303 *eP* **P 07 58 05.6 +0.6**
comp=E,97nm,0.8s,mb6.0
ZAK Zakamensk 62.41 333⇑*iP* **P 07 58 06.1 +0.2**
ZAK pmax pmax
comp=Z,57nm,1.1s,mb5.6
GKN Gorkha 62.74 304 *eP* **P 07 58 08.8 +0.3**
TLY Talaya 63.19 335 P **P 07 58 11.2 +0.2**
comp=Z,209nm,1.3s,mb6.1,SNR=15
TLY Talaya 63.19 335 *eP* **P 07 58 11.8 +0.8**
TLY *eS* **S 08 06 45.5 +3.6**
TLY pmax pmax
comp=Z,61nm,1.3s,mb5.6
TLY MLR MLR
comp=Z,189nm,19.0s,MS4.3
TLY Talaya 63.19 335 *eP* **P 07 58 11.9 +0.9**
IRK Irkutsk 63.34 335 *eP* **P 07 58 09.2 -2.8**
IRK pmax pmax
comp=Z,52nm,1.1s,mb5.6
KOLN Koldanda 63.53 303 *eP* **P 07 58 14.1 +0.3**
comp=Z,84nm,0.8s,mb5.8
DANN Dangsing 63.58 304 *eP* **P 07 58 14.3 +0.2**
comp=Z,131nm,0.7s,mb6.1
KIP Kipapa 63.80 65 *eP* **P 07 58 16.9 +1.2**
BOD Bodaibo 64.45 344 *eP* **P 07 58 18.0 -1.2**
BOD pmax pmax
comp=Z,24nm,1.4s,mb5.0
HYB Hyderabad 65.33 291 *i P* **P 07 58 26.5 +0.7**
HYB Hyderabad 65.33 291 *eP* **P 07 58 24.5 -1.3**
YAK Yakutsk 65.39 354 *eP* **P 07 58 24.5 -0.7**
YAK pmax pmax
comp=Z,60nm,1.1s,mb5.5
YAK pmax pmax
comp=N,46nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK Yakutsk 65.39 354 *eP* **P 07 58 25.6 +0.4**
SEY Seymchan 66.16 5⇑*eP* **P 07 58 29.9 -0.3**
CASY Casey 66.92 193 *eP* **P 07 58 33.8 -1.3**
WMQ Urumqi 66.96 321 P **P 07 58 37.0 +1.2**
WMQ AP pP 07 58 47.4 +6.8
WMQ XP sP 07 58 51.0 +8.6
WMQ PCP PcP 07 59 05.7 +1.5
WMQ AMB AMB
comp=Z,81nm,1.0s,mb5.7
WMQ LR LR
comp=N,97nm,21.8s
WMQ LR LR
comp=Z,61nm,20.8s,MS3.8
HVS Khovu-Aksy 67.48 330*c iP* **P 07 58 39.5 +0.6**
HVS pmax pmax
comp=Z,453nm,1.0s,mb6.5
DDI Dehra Dun 68.93 304 *ex* **P 07 58 48.0 -0.4**
PPT Papeete 68.95 108 *eS* S 08 07 51.8 -1.6
comp=Z,35nm,21.2s
PPT Papeete 68.95 108 *e*LR LR 08 19 46.9
comp=Z,220nm,28.8s
PPT Papeete 68.95 108 LR LR 08 26 47.1
comp=Z,129nm,18.9s,MS4.2,baz=163,slow=34
PAE Paea 68.95 108 *eP* **P 07 58 48.8 0.0**
comp=Z,419nm,1.4s,mb6.2
PAE Paea 68.95 108 *eP* **P 07 58 48.8 0.0**
PAE pmax pmax
comp=Z,419nm,1.4s,mb6.2
TIAR Tiarei 69.17 108 *eP* **P 07 58 50.4 +0.3**
comp=Z,551nm,1.1s,mb6.4
TVO Taravao 69.27 108 *eP* **P 07 58 51.2 +0.4**
comp=Z,424nm,1.1s,mb6.3
TVO Taravao 69.27 108 *eP* **P 07 58 51.2 +0.4**
TVO pmax pmax
comp=Z,424nm,1.1s,mb6.3
TBI Tubuai 69.54 114 *e*SS SS 08 12 17.9 -10
comp=Z,62nm,28.0s
TBI *e*LR LR 08 20 15.6
comp=Z,126nm,38.0s
TBI Tubuai 69.54 114 *eP* **P 07 58 52.3 0.0**
comp=Z,164nm,1.1s,mb5.9
TBI *e*SS SS 08 12 17.9 -10
MEH Mehetia 70.41 108 *eP* **P 07 58 57.5 -0.3**
comp=Z,2μm,1.2s
PMOR Pomariorio Ree 70.43 105 *eP* **P 07 58 58.1 +0.1**
comp=Z,166nm,1.2s,mb5.8
UNV Unalaska Valle 71.05 30 *eP* **P 07 59 00.6 -0.3**
comp=Z,31nm,1.0s,mb5.2
AKUT Akutan 71.57 30 *eP* **P 07 59 03.8 -0.3**
comp=Z,149nm,1.2s,mb5.8
MK31 Makanchi Array 71.71 322 *eP* **P 07 59 05.5 +0.4**
MKAR Makanchi Array 71.71 322 P **P 07 59 05.6 +0.6**
comp=Z,40nm,0.9s,mb5.3,baz=111,slow=6.8,SNR=201
MKAR LR LR 08 29 31.9
comp=Z,72nm,19.4s,MS4.0,baz=152,slow=35
MIR Mirnyy 71.92 198⇓*iP* **P 07 59 05.5 -0.5**
MIR *i* 07 59 23.0
MIR pmax pmax
comp=Z,100nm,0.7s,mb5.8
BILL Bilibino 72.85 9 *eP* **P 07 59 11.8 +0.3**
BILL *eS* S 08 08 36.1 -0.7
BILL pmax pmax
comp=Z,15nm,0.4s,mb5.3
BILL MLR MLR
comp=Z,200nm,21.0s,MS4.4
BILL Bilibino 72.85 9 *eP* **P 07 59 11.8 +0.4**
comp=Z,33nm,0.4s,mb5.6
ZAA0 Zalesovo Array 73.56 329⇓*iP* **P 07 59 15.1 -0.9**

ZALV Zalesovo Beam 73.56 329 P **P 07 59 15.2 -0.7**
comp=Z,17nm,0.7s,mb5.1,baz=111,slow=5.8,SNR=61
ZALV LR LR 08 30 30.8
comp=Z,75nm,20.3s,MS4.0,baz=105,slow=35
ZAL Zalesovo 73.57 329 P **P 07 59 15.2 -0.8**
ULHL Ulahol 74.00 315 P **P 07 59 19.8 +1.0**
SNR=14
KZA Kyzart 74.64 315 P **P 07 59 24.4 +1.9**
SNR=22
TKM2 Tokmak 2 74.67 316⇓*iP* **P 07 59 23.4 +0.7**
TKM2 pmax pmax
comp=Z,27nm,0.7s,mb5.3
TKM2 Tokmak 2 74.67 316 P **P 07 59 23.5 +0.8**
SNR=34
TKM2 Tokmak 2 74.67 316⇓*iP* **P 07 59 23.4 +0.8**
comp=Z,27nm,0.7s,mb5.3
NVS Novosibirsk 74.80 329 *eP* **P 07 59 22.1 -1.1**
NVS pmax pmax
comp=N,54nm,1.7s
NVS pmax pmax
comp=Z,48nm,1.7s,mb5.2
NVS pmax pmax
comp=E,55nm,1.4s
TIXI Tiksi 74.87 356 *eP* **P 07 59 21.6 -1.6**
TIXI pmax pmax
comp=Z,19nm,1.5s,mb4.8
TIXI Tiksi 74.87 356 *eP* **P 07 59 22.0 -1.3**
comp=Z,9.9nm,0.8s,mb4.8
UCH Uchtor 75.21 315 P **P 07 59 27.5 +1.7**
SNR=5.1
UCH Uchtor 75.21 315⇓*iP* **P 07 59 27.4 +1.6**
comp=Z,16nm,1.2s,mb4.8
CHMS Chumysh 75.28 316 P **P 07 59 26.6 +0.4**
SNR=11
FRU Bishkek 75.33 316 *eP* **P 07 59 26.0 -0.5**
AAK Ala-Archa 75.35 315 P **P 07 59 27.5 +0.9**
SNR=7.5
VNDA Vanda 75.36 176 P **P 07 59 25.1 -0.9**
comp=Z,6.7nm,0.9s,mb4.6,baz=323,slow=6.5,SNR=31
VNDA LR LR 08 32 53.0
comp=Z,373nm,18.8s,MS4.7,baz=341,slow=36
KURK Kurchatov 75.54 324 P **P 07 59 27.8 +0.3**
comp=Z,226nm,1.3s,mb5.9,SNR=33
KURK Kurchatov 75.54 324⇓*iP* **P 07 59 27.4 -0.1**
KURK pmax pmax
comp=Z,51nm,1.1s,mb5.4
KURK Kurchatov 75.54 324⇓*iP* **P 07 59 27.4 -0.1**
comp=Z,51nm,1.1s,mb5.4
USP Ospenovka 75.54 316 P **P 07 59 28.2 +0.5**
SNR=39
AML Almayashu 75.76 315 P **P 07 59 30.4 +1.4**
SNR=28
AML Almayashu 75.76 315⇓*iP* **P 07 59 30.3 +1.3**
comp=Z,40nm,0.9s,mb5.3
EKS2 Erkin-Say 75.86 315 P **P 07 59 30.6 +1.0**
SNR=21
EKS2 Erkin-Say 75.86 315⇓*iP* **P 07 59 30.3 +0.8**
comp=Z,36nm,1.1s,mb5.2
SBA Scott Base 76.08 175 *eP* **P 07 59 30.8 +0.6**
KBL Kabul 77.36 306 *eP* **P 07 59 37.7 -0.5**
comp=Z,18nm,1.0s,mb5.0
TAOE Nuku Hiva Isla 77.96 98 *eP* **P 07 59 41.7 -0.3**
comp=Z,742nm,1.4s,mb6.4
TAOE Nuku Hiva Isla 77.96 98 *e*LR LR 08 23 59.7
comp=Z,728nm,24.6s
OHAK Old Harbor 79.25 30⇓*iP* **P 07 59 48.2 +0.1**
comp=Z,120nm,1.0s,mb5.8
SVW2 Sparrevohn 79.76 26 *eP* **P 07 59 50.7 -0.1**
KDAK Kodiak Island 79.82 30 P **P 07 59 51.0 -0.2**
comp=Z,498nm,0.9s,mb6.4,SNR=7.3
KDAK Kodiak Island 79.82 30 P **P 07 59 51.4 +0.2**
comp=Z,67nm,0.9s,mb5.6,baz=267,slow=2.8,SNR=18
TTA Tatalina 80.38 24 *eP* **P 07 59 54.6 +0.5**
BVAR Borovoye Array 81.12 325 P **P 07 59 58.5 +0.2**
comp=Z,22nm,0.6s,mb5.2,baz=114,slow=7.2,SNR=118
BRVK Borovoye 81.19 325 P **P 07 59 59.6 +0.9**
comp=Z,275nm,0.7s,mb6.3,SNR=19
BRVK Borovoye 81.19 325⇓*iP* **P 07 59 58.7 0.0**
BRVK pmax pmax
comp=Z,39nm,0.8s,mb5.4
BRVK Borovoye 81.19 325⇓*iP* **P 07 59 58.7 0.0**
comp=Z,39nm,0.8s,mb5.4
SLKM Skilak Lake 81.95 28⇑*iP* **P 08 00 02.3 -0.2**
PPLA Purkeypile 81.96 25 *eP* **P 08 00 02.4 -0.1**
comp=Z,69nm,1.4s,mb5.4
SEW Seward 82.17 28⇓*iP* **P 08 00 03.0 -0.7**
CHUM Lake Minchumin 82.29 24⇓*iP* **P 08 00 04.6 +0.3**
comp=Z,150nm,0.8s,mb6.0
RC01 Rabbit Creek A 82.37 27 *eP* **P 08 00 04.3 -0.5**
IMA2 Indian Mountai 82.64 22 *eP* **P 08 00 05.2 -0.8**
PMR Palmer 82.82 27⇓*iP* **P 08 00 06.1 -1.0**
PMR pmax pmax
comp=Z,53nm,1.2s,mb5.5
PMR Palmer 82.82 27⇓*iP* **P 08 00 06.1 -1.0**
comp=Z,53nm,1.2s,mb5.4
MAW Mawson 83.04 202 *eP* **P 08 00 07.9 -0.3**
comp=Z,4.7nm,0.3s,mb5.0
MAW Mawson 83.04 202 P **P 08 00 08.0 -0.1**
comp=Z,21nm,1.1s,mb5.1,baz=75,slow=6.3,SNR=17
MAW LR LR 08 34 54.1
comp=Z,388nm,18.2s,MS4.8,baz=61,slow=34
MAW Mawson 83.04 202 *eP* **P 08 00 07.9 -0.3**
MAW pmax pmax
comp=Z,5.0nm,0.3s
MCK McKinley 83.63 25⇓*iP* **P 08 00 10.2 -1.0**
MCK pmax pmax
comp=Z,74nm,0.9s,mb5.8
MCK McKinley 83.63 25⇓*iP* **P 08 00 10.2 -1.1**
comp=Z,74nm,0.9s,mb5.8
DIV Divide 84.21 28⇓*iP* **P 08 00 14.2 -0.1**
comp=Z,140nm,1.2s,mb6.0
COLD Coldfoot 84.37 21⇓*iP* **P 08 00 15.4 +0.5**
comp=Z,39nm,1.0s,mb5.5
COLA College 84.46 24⇓*iP* **P 08 00 13.8 -1.6**
COLA pmax pmax
comp=Z,44nm,0.9s,mb5.6
COLA College 84.46 24⇓*iP* **P 08 00 13.8 -1.6**
comp=Z,44nm,0.9s,mb5.6
BMRM Bremner River 84.72 28⇓*iP* **P 08 00 16.5 -0.3**
EGAK Eagle 87.18 25⇓*iP* **P 08 00 28.7 -0.3**
comp=Z,30nm,0.9s,mb5.5
DAWY Dawson 87.79 26⇓*iP* **P 08 00 32.2 +0.3**
HYT Haines Junctio 88.07 29⇓*iP* **P 08 00 33.6 +0.4**
AKTK Aktyubinsk 88.12 321 P **P 08 00 32.6 -1.2**
AKTO Aktyubinsk 88.12 321 P **P 08 00 32.6 -1.2**
comp=Z,8.1nm,0.9s,mb5.0,baz=100,slow=5.9,SNR=24
ARU Arti 88.53 327*d iP* **P 08 00 32.3 -3.3**
ARU *e*S S 08 10 54.2 -27
ARU pmax pmax
comp=Z,27nm,1.7s,mb5.3
ARU Arti 88.53 327 *eP* **P 08 00 34.4 -1.2**
comp=Z,26nm,1.3s,mb5.4
SKAG Skagway 88.95 30⇓*iP* **P 08 00 37.7 +0.2**
comp=Z,41nm,0.9s,mb5.8
WRAK Wrangell Islan 90.20 34⇓*iP* **P 08 00 43.4 0.0**
comp=Z,37nm,0.9s,mb5.7
INK Inuvik 90.77 22 P **P 08 00 45.2 -0.6**
comp=Z,18nm,1.0s,mb5.4,baz=256,slow=6.6,SNR=24
INK Inuvik 90.77 22 P **P 08 00 45.2 -0.6**
OBC Olympics--Boni 95.03 42 P **P 08 01 06.8 +0.9**
NLWA Neilton Lookou 95.19 43⇑P **P 08 01 06.8 +0.1**
baz=95
NLWA Neilton Lookou 95.19 43 *eP* **P 08 01 07.0 +0.4**
comp=Z,10.0nm,1.1s,mb5.2
O01C Eel River Cons 95.36 50⇑P **P 08 01 08.2 +0.6**
baz=95
E03A Lebam 95.42 44⇑P **P 08 01 08.1 +0.4**
baz=96
F03A Seaside 95.44 44⇓P **P 08 01 08.4 +0.6**
baz=96
L02A Cave Junction 95.49 48⇓P **P 08 01 08.2 0.0**
baz=96
H03A Soap Creek Ran 95.66 46⇑P **P 08 01 09.2 +0.3**
baz=96
HDW Hoodsport 95.73 43 P **P 08 01 09.6 +0.5**
N02C Big Bar 95.74 49⇑P **P 08 01 09.4 +0.1**
baz=96
C04A Brinnon 95.79 43⇑P **P 08 01 09.7 +0.4**
baz=96
HUMO Hull Mountain 95.96 48⇓P **P 08 01 10.3 0.0**
baz=96
HUMO Hull Mountain 95.96 48⇓*iP* **P 08 01 10.4 +0.2**
comp=Z,6.8nm,0.9s,mb5.1
M02C Callahan 96.07 49 P **P 08 01 11.4 +0.6**
baz=96,SNR=5.9
O02C Red Bluff 96.15 50⇑P **P 08 01 11.1 -0.1**
baz=96,SNR=6.5

YBH Yreka Blue Hor 96.17 49 *eP* **P 08 01 11.1 -0.1**
YBH pmax pmax
comp=Z,23nm,1.6s
YBH Yreka Blue Hor 96.17 49⇓P **P 08 01 11.6 +0.3**
baz=96
YBH Yreka Blue Hor 96.17 49 *eP* **P 08 01 11.1 -0.2**
comp=Z,23nm,1.6s,mb5.3
F04A Amboy 96.23 44⇓P **P 08 01 11.4 -0.1**
baz=96
I04A Tendick Farm, 96.32 46⇓P **P 08 01 11.4 -0.5**
baz=96
A05A Maple Falls 96.32 41⇑P **P 08 01 11.5 -0.3**
baz=96
WDC Whiskeytown Da 96.33 50 *eP* **P 08 01 12.4 +0.4**
WDC pmax pmax
comp=Z,27nm,1.7s,mb5.4
WDC Whiskeytown Da 96.33 50⇓P **P 08 01 11.8 -0.2**
baz=96,SNR=5.0
WDC Whiskeytown Da 96.33 50 *eP* **P 08 01 12.4 +0.4**
comp=Z,27nm,1.7s,mb5.4
CMW Cultus Mountai 96.33 42 P **P 08 01 12.2 +0.4**
B05A Bryant 96.35 42⇓P **P 08 01 11.9 0.0**
baz=96
H04A Detroit Lake 96.45 46⇑P **P 08 01 12.0 -0.5**
baz=96
MNRC McLaughlin Nat 96.45 51⇑P **P 08 01 12.6 0.0**
baz=96
JCW Jim Creek 96.47 42 *eP* **P 08 01 12.3 -0.1**
J04A Umpqua Nationa 96.56 47⇑P **P 08 01 13.3 +0.3**
baz=97
M03C McCloud 96.62 49 P **P 08 01 13.9 +0.6**
baz=97,SNR=12
C05A Tolt Reservoir 96.65 42⇓P **P 08 01 13.5 +0.2**
baz=97
E05A Randle 96.66 44⇓P **P 08 01 13.3 -0.1**
baz=97
RPW Rockport 96.73 42 *eP* **P 08 01 13.3 -0.4**
O03C Acorn Hollow, 96.73 50⇓P **P 08 01 14.0 +0.1**
baz=97
L04A Klamath Falls 96.76 48⇓P **P 08 01 13.6 -0.3**
baz=97,SNR=5.4
M04C Macdoel 96.82 48 P **P 08 01 14.4 +0.2**
baz=97,SNR=7.7
F05A White Salmon 96.91 44⇓P **P 08 01 14.4 -0.1**
baz=97
G05A Wamic 97.04 45⇑P **P 08 01 14.9 -0.3**
baz=97
I05A Bend 97.13 46⇓P **P 08 01 15.6 +0.1**
baz=97
H05A Madras 97.14 46⇓P **P 08 01 15.5 0.0**
baz=97
HATC Hat Creek Radi 97.14 49⇓P **P 08 01 15.6 -0.1**
baz=97
ORV Oroville 97.16 51 P **P 08 01 15.6 -0.2**
baz=97,SNR=5.2
J05A Fort Rock 97.20 47⇑P **P 08 01 16.1 +0.2**
baz=97
E06A Yakima 97.20 44⇑P **P 08 01 16.2 +0.4**
baz=97
LBCM Butte Creek Ri 97.22 49 P **P 08 01 16.2 +0.2**
M05C Lookout 97.36 49⇑P **P 08 01 16.8 +0.1**
baz=97
S04C Ingram Canyon, 97.37 53⇑P **P 08 01 16.9 +0.1**
baz=97
A07A Ashnola River, 97.44 41⇓P **P 08 01 16.9 0.0**
baz=98
O04C Chester 97.45 50 P **P 08 01 17.6 +0.5**
baz=98,SNR=6.8
K05A Summer Lake 97.48 47 P **P 08 01 17.7 +0.5**
baz=98,SNR=6.7
L05A Lakeview 97.56 48⇑P **P 08 01 17.7 +0.1**
baz=98
R04C Big Horse Ranc 97.65 52⇑P **P 08 01 17.7 -0.3**
baz=98
B07A Winthrop 97.66 42⇑P **P 08 01 17.5 -0.4**
baz=98
C07A Waterville 97.75 42⇓P **P 08 01 18.4 +0.1**
baz=98
H06A Lindquist Farm 97.77 45⇓P **P 08 01 18.3 -0.1**
baz=98
LAVA Lava Cap Winer 97.78 51 P **P 08 01 18.6 0.0**
baz=98,SNR=8.3
U04C Hernandez Rese 97.85 54⇑P **P 08 01 19.4 +0.4**
baz=98
P05C Yuba Gap, Truc 97.86 51⇓P **P 08 01 19.2 +0.2**
baz=98
M06C Likely Place G 97.87 49 P **P 08 01 19.6 +0.6**
baz=98,SNR=5.7
I06A Prineville 97.90 46⇓P **P 08 01 19.1 0.0**
baz=98
K06A Valley Falls 97.94 47 P **P 08 01 19.9 +0.6**
baz=98,SNR=8.6
MOD Modoc 97.96 48 P **P 08 01 19.5 +0.2**
baz=98,SNR=13
MOD Modoc 97.96 48⇑*iP* **P 08 01 19.2 -0.2**
comp=Z,18nm,1.1s,mb5.5
J06A Christmas Vall 97.99 47 P **P 08 01 19.8 +0.4**
baz=98,SNR=7.3
BEKR Beckwourth 98.03 50 P **P 08 01 19.9 +0.2**
baz=98,SNR=7.1
PKD Parkfield 98.06 54⇓P **P 08 01 19.7 -0.3**
baz=98
CMB Columbia Colle 98.09 52⇓P **P 08 01 19.8 -0.2**
baz=98
A08A Turner Farm, O 98.18 41⇑P **P 08 01 20.3 +0.1**
baz=98
B08A Colville Reser 98.19 42⇓P **P 08 01 19.7 -0.5**
baz=98
G07A Ruggs Ranch, H 98.20 45⇑P **P 08 01 20.1 -0.2**
baz=98
H07A Lands Inn, Kim 98.32 46⇑P **P 08 01 21.4 +0.5**
baz=98
N06A Buffalo Meadow 98.38 49 P **P 08 01 21.7 +0.4**
baz=98,SNR=6.6
I07A Izee 98.40 46⇑P **P 08 01 21.2 -0.1**
baz=98
O06A Flanigan 98.42 50⇑P **P 08 01 21.4 -0.1**
baz=98
S06C San Francisco 98.53 52⇓P **P 08 01 21.6 -0.4**
baz=99
D08A Wollman Farm, 98.58 43⇑P **P 08 01 21.4 -0.6**
baz=99
J07A Hines 98.59 47⇑P **P 08 01 22.5 +0.4**
baz=99
A09A Danville 98.62 41⇑P **P 08 01 21.9 -0.3**
baz=99
L07A Adell 98.67 48 P **P 08 01 23.6 +1.1**
baz=99,SNR=18
T06C Millerton Lake 98.68 53⇑P **P 08 01 22.1 -0.7**
baz=99
K07A Rock Creek Ran 98.69 47⇓P **P 08 01 22.9 +0.3**
baz=99
PKM Peak Mountain 98.69 55⇓P **P 08 01 22.8 -0.1**
baz=99
G08A Pilot Rock 98.70 45⇑P **P 08 01 22.7 +0.1**
baz=99
R06C Coleville 98.80 52⇑P **P 08 01 23.1 -0.1**
baz=99
M07A Soldier Meadow 98.84 49 P **P 08 01 23.9 +0.6**
baz=99,SNR=9.1
YKA Yellowknife Ar 98.92 27 P **P 08 01 22.5 -0.6**
comp=Z,5.7nm,0.8s,mb5.2,baz=283,slow=4.5,SNR=14
YKA LR LR 08 41 14.7
comp=Z,56nm,21.5s,MS4.0,baz=220,slow=32
YKA Yellowknife Ar 98.92 27 *i* P **P 08 01 22.5 -0.7**
YKA pmax pmax
comp=Z,6.0nm,0.8s
H08A Prairie City 98.97 46⇓P **P 08 01 23.5 -0.3**
baz=99
B09A Rice 98.97 42⇓P **P 08 01 23.1 -0.6**
baz=99
KCC Kaiser Creek 98.97 53⇑P **P 08 01 23.4 -0.7**
baz=99
N07B Gerlach 99.03 49 P **P 08 01 24.6 +0.5**
baz=99,SNR=11
I08A Drewsey 99.09 46⇓P **P 08 01 24.8 +0.5**
baz=99
O07A Toulon 99.14 50⇑P **P 08 01 25.0 +0.3**
baz=99
E09A Wood Farm, Sta 99.16 44⇓P **P 08 01 24.4 -0.2**
baz=99
WVOR Wild Horse Val 99.16 48 P **P 08 01 24.9 +0.2**
J08A Circle Bar Ran 99.20 47 P **P 08 01 25.5 +0.6**
baz=99,SNR=5.5
K08A Mann Creek Ran 99.25 47 P **P 08 01 25.3 +0.2**
baz=99,SNR=11
HELL Mitchell Peak 99.25 53⇓P **P 08 01 25.1 -0.2**
baz=99

A10A Northport 99.30 41⇑P **P 08 01 24.5 -0.7**
baz=99
L08A Fields 99.39 48 P **P 08 01 26.6 +0.8**
baz=100,SNR=12
M08A Happy Creek Ra 99.43 49 P **P 08 01 26.8 +0.8**
baz=100,SNR=7.9
G09A Cove 99.53 45⇓P **P 08 01 26.5 +0.2**
baz=100
N08A GE Springer Mi 99.66 49 P Pdif 08 01 27.3 +0.7
baz=100,SNR=8.9
D10A Wagner Farm, O 99.69 43⇑P Pdif 08 01 26.6 -0.2
baz=100
NVAR Mina Array Bea 99.71 52 P Pdif 08 01 27.4 +0.6
comp=Z,1.1nm,0.8s,baz=262,slow=6.2,SNR=7.5
J09A Fry Pan Ranch, 99.73 47 P Pdif 08 01 27.6 +0.7
baz=100,SNR=5.7
K09A Rome 99.81 47 P Pdif 08 01 27.9 +0.7
baz=100,SNR=6.6
F10A Beach Ranch, E 99.84 44⇓P Pdif 08 01 27.5 +0.1
baz=100
S08C White Mtn Res 99.88 53⇓P Pdif 08 01 28.0 +0.4
baz=100
L09A Wilkinson Ranc 99.91 48 P Pdif 08 01 28.9 +1.2
baz=100,SNR=7.6
Q08A Gabbs 99.97 51⇑P Pdif 08 01 28.5 +0.5
baz=100
G10A Bishop Farm, J 99.99 45⇓P Pdif 08 01 29.1 +0.9
baz=100,SNR=6.9
A11A Hall Mountain, 100.08 41⇓P Pdif 08 01 28.8 +0.3
baz=100
M09A Marrel Ranch, 100.12 49⇓P Pdif 08 01 29.2 +0.5
baz=100
H10A Noah's Angus R 100.33 45 P Pdif 08 01 29.4 -0.2
baz=100,SNR=6.3
D11A Klaveano Farm, 100.33 43⇓P Pdif 08 01 29.6 -0.1
baz=100
I10A Payette 100.34 46⇑P Pdif 08 01 29.6 0.0
baz=100
K10A MacKenzie Ranc 100.43 47 P Pdif 08 01 30.5 +0.5
baz=100,SNR=7.3
O09A Fish Creek Ran 100.43 50⇑P Pdif 08 01 30.4 +0.3
baz=100
J10A Berg Farm, Mel 100.44 47⇓P Pdif 08 01 30.5 +0.5
baz=100
G11A Walters Elk Ra 100.58 44⇑P Pdif 08 01 30.9 +0.2
baz=101,SNR=6.8
S09A Goldfield 100.61 52⇑P Pdif 08 01 30.8 0.0
baz=101
R09A Tonopah 100.69 52⇓P Pdif 08 01 31.6 +0.4
baz=101
L10A Juniper Basin 100.79 48⇓P Pdif 08 01 31.7 +0.1
baz=101,SNR=5.6
H11A Donnelly 100.84 45⇓P Pdif 08 01 32.3 +0.4
baz=101,SNR=6.0
OBN Obninsk 100.94 326⇑*eP* Pdif 08 01 31.0 -1.3
OBN *e*S SKSac 08 12 09.7 -1.3
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,200nm,22.0s,MS4.6
I11A Placerville 100.97 46⇓P Pdif 08 01 33.0 +0.6
baz=101
D12A Red Ives Fores 101.00 43⇓P Pdif 08 01 33.0 +0.4
baz=101
P10A Eureka 101.04 50⇓P Pdif 08 01 33.2 +0.5
baz=101
K11A Parker Ranch, 101.04 47⇑P Pdif 08 01 33.2 +0.4
baz=101,SNR=8.2
S10A Tonopah Range, 101.09 52⇑P Pdif 08 01 33.3 +0.3
baz=101
MFID Camas Ranch 101.12 46 P Pdif 08 01 34.1 +1.0
baz=101,SNR=5.6
L11A Cat Creek Ranc 101.31 48⇓P Pdif 08 01 34.9 +0.9
baz=101
A13A Flathead Natio 101.36 41⇓P Pdif 08 01 34.6 +0.4
baz=101
M11A Holland Ranch, 101.36 48⇓P Pdif 08 01 34.3 +0.1
baz=101
B13A Whitefish 101.41 41⇑P Pdif 08 01 34.6 +0.1
baz=102
O11A Cowboy Ranch, 101.61 50⇑P Pdif 08 01 35.5 +0.2
baz=102
ARCES ARCESS Array B 101.62 341 P Pdif 08 01 33.7 -1.7
comp=Z,5.7nm,1.0s,baz=72,slow=5.2,SNR=9.4
ARCES ARCESS Array B 101.62 341 P Pdif 08 01 33.7 -1.7
MONP Monument Peak 101.63 57⇓P Pdif 08 01 35.7 +0.4
baz=102
J12A Stokes Ranch, 101.67 47 P Pdif 08 01 36.9 +1.3
baz=102,SNR=7.3
H12A Diamond D Ranc 101.68 45⇑P Pdif 08 01 36.4 +0.8
baz=102
Q11A Duckwater 101.74 51⇑P Pdif 08 01 36.3 +0.5
baz=102
L12A House Creek Ra 101.86 48⇑P Pdif 08 01 37.3 +0.9
baz=102
F13A Darby 101.87 44⇑P Pdif 08 01 37.3 +0.8
baz=102
K12A Draper Farm, C 101.88 47⇓P Pdif 08 01 37.3 +0.8
baz=102
N12A Clover Valley, 102.00 49⇓P Pdif 08 01 37.8 +0.8
baz=102
M12A Wells 102.02 48⇓P Pdif 08 01 37.7 +0.6
baz=102
G13A Cobalt 102.04 45⇑P Pdif 08 01 38.1 +0.9
baz=102,SNR=6.1
H13A Challis 102.10 45⇑P Pdif 08 01 38.3 +0.8
baz=102,SNR=5.3
HLID Hailey 102.12 46 P Pdif 08 01 38.8 +1.2
baz=102,SNR=6.7
O12A Currie 102.28 50⇓P Pdif 08 01 38.5 +0.2
baz=102
I13A Wildhorse Cree 102.29 46⇑P Pdif 08 01 39.2 +0.9
baz=102
K13A Stover Farm, H 102.48 47⇑P Pdif 08 01 40.3 +1.2
baz=102
M13A Montello 102.59 48⇑P Pdif 08 01 39.8 +0.2
baz=103
R12A Pony Springs, 102.61 52⇓P Pdif 08 01 40.1 +0.3
baz=103
V12A Nelson 102.69 54⇓P Pdif 08 01 40.4 +0.3
baz=103
P13A Bates Ranch, G 102.94 50⇓P Pdif 08 01 42.0 +0.8
baz=103
E15A Deer Lodge 102.94 43⇑P Pdif 08 01 41.3 +0.1
baz=103
MCMT McKenzie Canyo 103.05 45 P Pdif 08 01 44.0 +2.2
M14A Sheep Mountain 103.18 48⇓P Pdif 08 01 42.7 +0.4
baz=103
L14A Malta 103.19 48⇑P Pdif 08 01 42.7 +0.4
baz=103
S13A Holt Ranch, En 103.28 52⇓P Pdif 08 01 42.9 +0.2
baz=103
T13A Saint George 103.31 53⇓P Pdif 08 01 43.3 +0.4
baz=103
N14A Grayback Hills 103.39 49⇑P Pdif 08 01 44.4 +1.2
baz=103
Q14A Sevier Lake (B 103.57 51⇓P Pdif 08 01 44.4 +0.4
baz=104
X13A Yucca 103.63 55⇓P Pdif 08 01 45.0 +0.7
baz=104
P14A Drum Mountains 103.65 50⇓P Pdif 08 01 45.1 +0.8
baz=104
BOZ Bozeman (W) 103.77 44⇑P Pdif 08 01 45.6 +0.7
baz=104
GCMT Greycliff 105.09 43 *e*PKPdf PKiKP 08 06 00.3 -5.3
PDAR Pinedale Array 105.75 46 Pdiff Pdif 08 01 53.9 +0.1
comp=Z,0.9nm,0.8s,baz=270,slow=4.4,SNR=7.1
PDAR PKIKP PKiKP 08 06 06.6 -0.3
comp=Z,0.6nm,0.6s,baz=190,slow=1.9,SNR=5.5
AKASG Malin Array Be 106.29 322 Pdiff Pdif 08 01 54.4 -1.8
comp=Z,0.2nm,0.2s,baz=62,slow=4.3,SNR=5.6
AKASG PP PP 08 06 14.6 -5.7
comp=Z,0.2nm,0.3s,baz=62,slow=7.6,SNR=6.0
MNTX Cornudas Mount 111.05 57 *e*PKPdf PKiKP 08 06 17.0 -0.2
ULM Lac du Bonnet 112.53 36 PKiKP PKiKP 08 06 17.4 -2.0
comp=Z,3.4nm,0.9s,baz=285,slow=1.8,SNR=3.2
ULM Lac du Bonnet 112.53 36 PKPdf PKiKP 08 06 17.4 -2.0
TXAR Lajitas Array 112.92 59 PKiKP PKiKP 08 06 20.2 -0.6
comp=Z,1.5nm,0.9s,baz=293,slow=1.8,SNR=14
TXAR PKKPab PKKPab 08 17 15.0 -0.9
comp=Z,1.0nm,1.0s,baz=130,slow=6.4,SNR=7.2
TXAR Lajitas Array 112.92 59 PKPdf PKiKP 08 06 20.2 -0.6
TXAR PKKPab PKKPab 08 17 15.0 -0.9
OKC Ostrava-Krasne 113.25 324 AMS AMS 08 57 30.0
DPC Dobruska-Polom 114.08 325 AMS AMS 09 00 50.0
comp=Z,200nm,6.9s
BRG Berggiesshubel 115.17 326 *e*PKP PKiKP 08 06 21.7 -2.8
PRU Pruhonice 115.26 325 AMS AMS 08 57 50.0

WMOK	**Wichita Mounta**	**115.79**	**53**	*e*PKIKP	PKPdf	08 06 25.2	-0.9
JCT	**Junction City**	**115.98**	**57**	*e*PKIKP	PKPdf	08 06 25.9	-0.7
KHC	**Kasperske Hory**	**116.22**	**325⇑**	*i*PKIKP	PKPdf	08 06 25.2	-1.3
KHC	**Kasperske Hory**	**116.22**	**325**	AMS	AMS	08 58 40.0	
	comp=Z,200nm,6.9s						
GERES	**GERESS Array B**	**116.29**	**324**	PKP	PKPdf	08 06 26.1	-0.5
	comp=Z,0.4nm,0.3s,baz=82,slow=2.8,SNR=6.0						
CLZ	**Clausthal**	**116.60**	**329**	*e*PKP	PKPdf	08 06 27.2	0.0
ROTZ	**Rotzenmuhle**	**116.69**	**326**	*e*PKP	PKPdf	08 06 29.9	+2.5
GRA1	**Grafenberg Arr**	**117.28**	**326**	*e*PKP	PKPdf	08 06 27.6	-0.9
GRF	**Grafenberg Arr**	**117.28**	**326**	*e*PKP	PKPdf	08 06 27.6	-0.9
COWI	**Conover**	**118.42**	**38**	*e*PKPdf	PKPdf	08 06 29.4	-1.5
JFWS	**Jewell Farm**	**119.17**	**41**	*e*PKIKP	PKPdf	08 06 30.5	-1.9
DAVA	**Damuels**	**119.29**	**324⇑**	*i*P	PKPdf	08 06 32.3	-0.2
	comp=Z,9.8nm,1.1s						
BFO	**Black Forest**	**119.62**	**326**	*e*PKP	PKPdf	08 06 25.8	-7.3
MIAR	**Mount Ida**	**119.95**	**51**	*e*PKIKP	PKPdf	08 06 33.4	-0.8
WLF	**Walferdange**	**120.04**	**328**	*e*PKP	PKPdf	08 06 34.0	+0.1
CDF	**Champ du Feu**	**120.16**	**327**	*e*PKIKP	PKPdf	08 06 33.4	-0.7
GIVF	**Givet**	**120.47**	**329**	*e*PKIKP	PKPdf	08 06 34.1	-0.6
CCM	**Cathedral Cave**	**120.47**	**47**	*e*PKIKP	PKPdf	08 06 33.8	-1.2
HINF	**Hinteralfeld**	**120.72**	**326**	*e*PKIKP	PKPdf	08 06 34.0	-1.2
	comp=Z,15nm,1.0s						
BAIF	**Baives**	**120.81**	**329**	*e*PKIKP	PKPdf	08 06 34.7	-0.6
UALR	**University of**	**120.83**	**51**	*e*PKPdf	PKPdf	08 06 35.1	-0.8
HDIL	**Hopedale**	**120.83**	**44**	*e*PKPdf	PKPdf	08 06 34.5	-1.2
HAU	**Haudompre**	**120.90**	**327**	*e*PKIKP	PKPdf	08 06 34.5	-1.1
	comp=Z,21nm,0.9s						
HAU				*e*MLR	MLR		
	comp=Z,131nm,21.2s,MS4.2						
HAU	**Haudompre**	**120.90**	**327**	*e*PKPdf	PKPdf	08 06 34.5	-1.1
HAU				LR	LR		
	comp=Z,130nm,21.3s,MS4.5						
FVM	**French Village**	**121.09**	**47**	*e*PKIKP	PKPdf	08 06 34.8	-1.4
CABF	**La Chapelle**	**121.84**	**325**	*e*PKIKP	PKPdf	08 06 36.9	-0.5
	comp=Z,15nm,0.9s						
PARMO	**Parma**	**122.10**	**48**	*e*PKPdf	PKPdf	08 06 37.0	-1.2
BNI	**Bardonecchia**	**122.36**	**324**	*e*PKIKP	PKPdf	08 06 36.7	-1.8
OLIL	**Olney**	**122.45**	**45**	*e*PKPdf	PKPdf	08 06 38.0	-0.8
ORIF	**Oris-en-Rattie**	**122.91**	**324**	*e*PKIKP	PKPdf	08 06 38.6	-0.9
	comp=Z,7.1nm,0.8s						
ORIF				*e*MLR	MLR		
	comp=Z,148nm,21.5s,MS4.3						
SSF	**Saint Saulge**	**123.01**	**327**	*e*PKIKP	PKPdf	08 06 39.0	-0.6
	comp=Z,19nm,1.0s						
SMF	**Signal de Mont**	**123.08**	**326**	*e*PKIKP	PKPdf	08 06 39.0	-0.8
	comp=Z,21nm,1.0s						
VBMS	**Vicksburg**	**123.13**	**53**	*e*PKPdf	PKPdf	08 06 39.1	-1.2
AVF	**Avril sur Loir**	**123.26**	**327**	*e*PKIKP	PKPdf	08 06 38.9	-1.2
	comp=Z,21nm,1.3s						
SCHQ	**Schefferville**	**123.30**	**19**	PKP	PKPdf	08 06 39.3	-0.7
	comp=Z,5.9nm,0.6s,baz=348,slow=5.2,SNR=11						
BLO	**Bloomington**	**123.36**	**44**	*e*PKIKP	PKPdf	08 06 39.7	-0.9
SMRF	**Simiane la Rot**	**123.61**	**323**	*e*PKIKP	PKPdf	08 06 40.5	-0.4
	comp=Z,10.0nm,0.8s						
VIVF	**Saint-Julien-l**	**123.65**	**324**	*e*PKIKP	PKPdf	08 06 40.1	-0.9
	comp=Z,18nm,1.1s						
BGF	**Bois d'Agland**	**123.67**	**327**	*e*PKIKP	PKPdf	08 06 40.3	-0.6
	comp=Z,22nm,0.9s						
WCI	**Wyandotte Cave**	**123.94**	**45**	*e*PKIKP	PKPdf	08 06 40.6	-1.1
PLAL	**Pickwick Lake**	**124.01**	**49**	*e*PKPdf	PKPdf	08 06 39.9	-2.1
PLAL				*e*PP	PP	08 08 32.0	+6.3
TCF	**Toulx Ste Croi**	**124.19**	**327**	*e*PKIKP	PKPdf	08 06 41.3	-0.6
	comp=Z,59nm,1.2s						
KEST	**Kesra**	**125.14**	**313**	PKP	PKPdf	08 06 44.9	+0.8
	comp=Z,1.8nm,0.7s,baz=316,slow=2.7,SNR=4.7						
RJF	**Les Rejaudoux**	**125.18**	**326**	*e*PKIKP	PKPdf	08 06 43.3	-0.6
	comp=Z,47nm,1.3s						
RJF				*e*MLR	MLR		
	comp=Z,139nm,22.0s,MS4.3						
RJF	**Les Rejaudoux**	**125.18**	**326**	*e*PKPdf	PKPdf	08 06 43.3	-0.6
RJF				LR	LR		
	comp=Z,140nm,22.0s,MS4.6						
ACSO	**Alum Creek Sta**	**125.23**	**41**	*e*PKPdf	PKPdf	08 06 43.1	-1.0
MFF	**Saint Martin d**	**125.25**	**328**	*e*PKPdf	PKPdf	08 06 43.0	-1.0
	comp=Z,26nm,1.1s						
SWET	**Sewanee**	**125.52**	**48**	*e*PKPdf	PKPdf	08 06 42.6	-2.2
CPCT	**Cooper Cave**	**126.46**	**47**	*e*PKPdf	PKPdf	08 06 45.5	-1.2
TZTN	**Tazewell**	**126.66**	**45**	*e*PKPdf	PKPdf	08 06 46.2	-0.8
TKL	**Tuckaleechee C**	**126.91**	**46**	*e*PKIKP	PKPdf	08 06 46.5	-1.0
PLCA	**Paso Flores**	**127.59**	**149**	PKP	PKPdf	08 06 48.6	0.0
	comp=Z,4.2nm,0.8s,baz=250,slow=3.2,SNR=12						
ELN	**Prospectdale**	**128.27**	**43**	*e*PKPdf	PKPdf	08 06 49.1	-0.9
NCB	**Newcomb**	**128.28**	**33**	*e*PKPdf	PKPdf	08 06 49.1	-0.7
BLA	**Blacksburg**	**128.51**	**43**	*e*PKIKP	PKPdf	08 06 50.0	-0.5
MDV	**Middlebury**	**128.81**	**32**	*e*PKPdf	PKPdf	08 06 50.5	-0.4
COW	**Cow Castle Cre**	**130.21**	**48**	*e*PKPdf	PKPdf	08 06 54.1	+0.3
TOA0	**Torodi Ar. Sit**	**139.07**	**287**	*e*PKPdf	PKPdf	08 07 09.9	-1.0
TORD	**Torodi Ar. Bea**	**139.07**	**287**	PKhKP		08 06 59.7	
	comp=Z,2.0nm,0.9s,baz=98,slow=3.1,SNR=8.6						
TORD				PKP	PKPdf	08 07 11.9	+1.0
	comp=Z,5.7nm,0.7s,baz=49,slow=1.7,SNR=21						
TORD	**Torodi Ar. Bea**	**139.07**	**287**	PKP	PKPdf	08 07 11.9	+1.1
SDDR	**Presa de Saban**	**144.09**	**61**	*e*PKPdf	PKPdf	08 07 16.9	-2.8
ROSC	**El Rosal**	**144.11**	**86**	PKP	PKPdf	08 07 18.3	-1.7
	comp=Z,75nm,0.7s,baz=99,slow=0.6,SNR=95						
LPAZ	**La Paz**	**144.98**	**124**	PKPbc	PKPdf	08 07 21.3	0.0
	comp=Z,35nm,0.8s,baz=261,slow=1.9,SNR=154						
CPUP	**Villa Florida**	**145.66**	**149**	PKPbc	PKPbc	08 07 22.1	-0.5
	comp=Z,24nm,1.1s,baz=217,slow=3.6,SNR=25						
KIC	**Kosan Boka**	**146.28**	**277**	‖*i*PKP1	PKPbc	08 07 24.2	-0.6
	comp=Z,18nm,1.0s						
KIC	**Kosan Boka**	**146.28**	**277**	*e*P	PKPdf	08 07 24.2	+0.5
DBIC	**Dimbokro**	**146.37**	**278**	PKPbc	PKPbc	08 07 24.6	-0.5
	comp=Z,63nm,0.8s,baz=75,slow=2.7,SNR=68						
TIC	**Toumodi**	**146.53**	**278**	‖*i*PKP1	PKPbc	08 07 24.8	-0.8
	comp=Z,258nm,0.9s						
TIC	**Toumodi**	**146.53**	**278**	*e*P	PKPdf	08 07 24.8	+0.7
LIC	**Lamto**	**146.57**	**277**	‖*i*PKIKP	PKPdf	08 07 25.0	+0.8
	comp=Z,155nm,0.9s						
LIC				*e*MLR	MLR		
	comp=Z,202nm,21.8s,MS4.6						
LIC	**Lamto**	**146.57**	**277**	‖*i*PKP1	PKPbc	08 07 24.9	-0.8
	comp=Z,218nm,0.9s						
LIC	**Lamto**	**146.57**	**277**	‖*i*PKPdf	PKPdf	08 07 25.0	+0.8
LIC				LR	LR		
	comp=Z,100nm,21.8s,MS4.6						
SDV	**Santo Domingo**	**147.41**	**78**	*e*PKPdf	PKPdf	08 07 24.9	-0.7
SDV				*e*PKPbc	PKPbc	08 07 27.6	-0.4
AOPR	**Arecibo Observ**	**148.27**	**59**	*e*PKPbc	PKPbc	08 07 28.7	-1.5
SJG	**San Juan**	**148.89**	**59**	*e*PKP2	PKPbc	08 07 30.6	-1.2
CPD	**Cerro la Pandu**	**149.12**	**59**	*e*PKP2	PKPbc	08 07 31.6	-0.8
HUMP	**Col San Antoni**	**149.13**	**59**	*e*PKPdf	PKPdf	08 07 27.6	-0.6
HUMP				*e*PKPbc	PKPbc	08 07 31.7	-0.8
MTP	**Monte Pirata**	**149.40**	**59**	*e*PKPbc	PKPbc	08 07 32.4	-0.7
BDFB	**Brasilia**	**159.27**	**153**	PKP	PKPdf	08 07 41.9	-0.7
	comp=Z,1.4nm,0.9s,baz=175,slow=16,SNR=5.1						
BDFB				PKPab	PKPab	08 08 17.9	-1.6
	comp=Z,1.8nm,0.9s,baz=360,slow=26,SNR=3.5						

NEIC ***06*** *08:05:45.8±1.1,284S×141.60E,h10km,mb4.1/1,Error ellipse: s-maj=36.6km s-min=15.9km az=105.0*
IDC ***06*** *08:05:45.1±1.5,287S×141.25E,h0km,mb3.6/4,mb1 3.9/5, mb1mx3.7/16,mbtmp3.8/5,ML4.0/1,Error ellipse: s-maj=55.7km s-min=24.1km az=95.0*
ISCJB ***06*** *08:05:47.1±2.1,29S±0.1×1415E±0.4,h33km,mb3.7/4, Error ellipse: s-maj=62.3km s-min=16.2km az=8.3*
ISC 06 08:05:51.8±8.0,30S±02×1414E±06,h57km±61km,n13, σ1§19/10,mb3.7/4,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.17**	**222**	*e*P	**Pn**	**08 08 56.1**	**0.0**
	12nm,0.5s						
WB2	**Warramunga Arr**	**18.25**	**202**	*e*P	**Pn**	**08 10 02.4**	**+1.3**
WB2	**Warramunga Arr**	**18.25**	**202**	*e*P	**Pn**	**08 10 02.4**	**+1.4**
WRA	**Warramunga Arr**	**18.25**	**202**	P	**Pn**	**08 09 59.5**	**-1.6**
	0.5nm,0.3s,baz=22,slow=12,SNR=16						
FITZ	**Fitzroy Crossi**	**21.60**	**225**	*e*P	**P**	**08 10 38.9**	**+1.8**
	6.1nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**21.60**	**225**	P	**P**	**08 10 35.9**	**-1.2**
	2.8nm,0.6s,mb3.9,baz=40,slow=14,SNR=8.1						
ASAR	**Alice Springs**	**21.84**	**199**	P	**P**	**08 10 39.6**	**0.0**
	0.7nm,0.5s,mb3.3,baz=30,slow=11,SNR=9.0						
MKAR	**Makanchi Array**	**71.66**	**322**	P	**P**	**08 17 06.1**	**-1.4**
	0.4nm,0.4s,mb3.7,baz=109,slow=7.8,SNR=5.1						
MKAR	**Makanchi Array**	**71.66**	**322**	P	**P**	**08 17 06.1**	**-1.4**
ZALV	**Zalesovo Beam**	**73.53**	**329**	P	**P**	**08 17 19.7**	**+1.3**
	0.5nm,0.4s,mb3.8,baz=106,slow=4.7,SNR=2.4						
LPAZ	**La Paz**	**145.08**	**124**	PKPbc	PKPbc	08 25 25.2	+1.9
	0.9nm,0.7s,baz=239,slow=5.3,SNR=5.4						
DBIC	**Dimbokro**	**146.22**	**278**	PKPbc	PKPbc	08 25 28.5	+1.6
	3.2nm,0.7s,baz=115,slow=6.9,SNR=3.4						
DBIC	**Dimbokro**	**146.22**	**278**	PKPbc	PKPbc	08 25 28.5	+1.6

IDC 06 08:13:05.0±1.5,1708S×7490W,h0km,mb3.8/3, mb1 3.9/7,mb1mx3.7/22,mbtmp3.9/7,ML4.0/1,Error ellipse: s-maj=46.2km s-min=19.6km az=73.0,Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**5.40**	**339**	Pn	Pn	08 14 28.0	+1.2
	5.2nm,0.3s,baz=121,slow=8.8,SNR=17						
NNA				Sn	Sn	08 15 29.1	-0.6
	12nm,0.3s,baz=254,slow=16,SNR=6.9						
LPAZ	**La Paz**	**6.54**	**84**	Pn	Pn	08 14 47.1	+4.6
	2.5nm,0.3s,baz=267,slow=11,SNR=92						
LVC	**Limon Verde**	**7.88**	**135**	Pn	Pn	08 15 03.0	+2.0
	9.8nm,0.3s,baz=316,slow=9.8,SNR=88						
LVC				Sn	Sn	08 16 22.6	-8.3
	12nm,0.3s,baz=146,slow=18,SNR=18						
SIV	**San Ignacio**	**13.31**	**87**	Pn	Pn	08 16 13.6	-1.7
	1.2nm,0.3s,baz=278,slow=11,SNR=25						
CFAA	**Coronel Fontan**	**15.68**	**159**	Pn	Pn	08 16 48.2	+0.9
	0.0nm,0.3s,baz=322,slow=11,SNR=7.5						
CFAA				Sn	Sn	08 19 24.9	-17
	0.0nm,0.3s,baz=190,slow=6.1,SNR=2.7						
PLCA	**Paso Flores**	**23.87**	**172**	P	P	08 18 19.7	-0.5
	1.3nm,1.0s,baz=307,slow=15,SNR=2.6						
SDV	**Santo Domingo**	**26.14**	**10**	P	P	08 18 41.5	+0.4
	3.4nm,0.7s,baz=281,slow=5.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**81.37**	**73**	P	P	08 25 24.4	+0.1
	0.4nm,0.6s,baz=256,slow=3.6,SNR=5.5						
MKAR	**Makanchi Array**	**144.87**	**28**	PKP	PKPdf	08 32 43.2	-0.9
	0.3nm,0.4s,baz=336,slow=2.7,SNR=4.2						

ISCJB ***06*** *08:20:36.3±4.3,20N±02×1242E±04,h334km±55km, mb3.2/4,Error ellipse: s-maj=67.0km s-min=25.1km az=167.3*
IDC ***06*** *08:20:37.6±7.6,202N×124.18E,h330km±92km,mb3.1/5, mb1 3.2/5,mb1mx3.0/18,mbtmp3.1/5,Error ellipse: s-maj=44.9km s-min=20.8km az=80.0*
ISC 06 08:20:37.4±4.3,20N±02×1242E±04,h329km±55km,n6, σ0§18/6,mb3.2/4,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**12.16**	**183**	P	**Pn**	**08 23 21.4**	**0.0**
	14nm,0.3s,baz=320,slow=3.5,SNR=5.1						
FITZ	**Fitzroy Crossi**	**20.05**	**176**	P	**P**	**08 24 47.2**	**0.0**
	1.5nm,0.3s,baz=7.4,slow=10,SNR=12						
WRA	**Warramunga Arr**	**23.99**	**156**	P	**P**	**08 25 23.5**	**+0.2**
	1.2nm,0.5s,mb3.4,baz=332,slow=11,SNR=14						
ASAR	**Alice Springs**	**27.22**	**160**	P	**P**	**08 25 52.0**	**-0.2**
	0.2nm,0.4s,mb2.7,baz=339,slow=6.5,SNR=4.6						
MJAR	**Matsushiro Arr**	**36.71**	**19**	P	**P**	**08 27 14.1**	**0.0**
	1.5nm,0.7s,mb3.4,baz=196,slow=9.4,SNR=5.2						
MKAR	**Makanchi Array**	**57.56**	**327**	P	**P**	**08 29 53.5**	**0.0**
	0.5nm,0.3s,mb3.3,baz=123,slow=7.8,SNR=5.5						

ISCJB ***06*** *08:40:24.5±0.3,279N±005×6633E±006,h10km,mb4.5/44, MS4.1/34,Error ellipse: s-maj=8.2km s-min=7.9km az=2.0*
IDC ***06*** *08:40:24.8±0.5,270N×66.36E,h0km,mb4.4/25, mb1 4.5/25,mb1mx4.4/29,mbtmp4.4/25,MS4.1/30, Ms1 4.1/30,ms1mx4.0/43,Error ellipse: s-maj=15.0km s-min=13.0km az=48.0*
MOS ***06*** *08:40:24.3±0.9,284N×6622E,h10km,mb5.1/16,Error ellipse: s-maj=13.9km s-min=8.7km az=81.2*
NEIC ***06*** *08:40:26.3±0.3,269N×6633E,h10km,mb4.8/11,Error ellipse: s-maj=10.0km s-min=8.8km az=51.0*
GCMT ***06*** *08:40:26.3±0.3,266N×6642E,h12km,MW5.0/74, Moment Tensor Solution. s25,c31; s74,c107; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}=2.79±.08; $M_{\theta\theta}$=1.90±.08; $M_{\phi\phi}$=0.89±.08; $M_{r\theta}$=0.62±.28; $M_{\theta\phi}$=-1.30±.07; $M_{\phi r}$=-1.52±.33; Best double couple: M_0=3.23200×10^16 NP1:ϕ_s=111.00000°,δ34.00000°,λ=-115.00000°. NP2: ϕ_s=320.00000°,δ60.00000°,λ=-74.00000°. Principal axes: T 3.1240, Plg14.0000°, Azm38.0000°; N 0.2210, Plg13.0000°, Azm132.0000°; P -3.3400, Plg71.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***06*** *08:40:26.2,270N×6630E,h10km,mB5.0,mb4.6,Ms4.5, Msz4.5*
ISC 06 08:40:25.3±2.9,274N±006×6633E±006,h3km±17km,n101, σ1§05/87,mb4.5/44,MS4.1/34,5C,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.01**	**72**	*e*P	**Pn**	**08 43 57.7**	**-0.7**
	38nm,0.6s						
OPO	**Ambohidratompo**	**28.35**	**221**	LR	LR	08 54 57.5	
	comp=Z,944nm,19.5s,MS4.4,baz=12,slow=31						
PSI	**Prapat**	**32.56**	**89**	LR	LR	08 58 09.3	
	comp=Z,255nm,18.4s,MS4.0,baz=233,slow=33						
SHL	**Shillong**	**33.45**	**45**	*e*P	**P**	**08 47 07.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**35.55**	**62**	P	**P**	**08 47 25.6**	**+1.6**
	1.0nm,0.4s,mb4.1,baz=254,slow=12,SNR=5.0						
CMAR				LR	LR	09 01 38.9	
	comp=Z,222nm,18.6s,MS4.0,baz=71,slow=36						
LSA	**Lhasa**	**35.69**	**39**	P	**P**	**08 47 25.0**	**0.0**
EIL	**Elat**	**40.04**	**315**	LR	LR	09 02 30.4	
	comp=Z,106nm,19.1s,MS3.7,baz=285,slow=33						
ASF	**Jabal al Asfar**	**40.28**	**320**	P	**P**	**08 48 05.7**	**+1.9**
	4.5nm,1.0s,mb4.2,baz=206,slow=3.1,SNR=3.9						
ASF				LR	LR	09 04 40.1	
	comp=Z,66nm,19.5s,MS3.5,baz=245,slow=36						
ASF	**Jabal al Asfar**	**40.28**	**320**	P	**P**	**08 48 05.7**	**+1.9**
ASF				LR	LR	09 04 40.1	
EKS2	**Erkin-Say**	**40.30**	**9**	*e*P	**P**	**08 48 05.6**	**+1.9**
	22nm,1.3s,mb4.7						
MMAI	**Mount Meron Ar**	**41.78**	**320**	P	**P**	**08 48 17.8**	**+1.6**
	3.9nm,0.7s,mb4.1,baz=108,slow=9.8,SNR=3.5						
MMAI				LR	LR	09 05 02.1	
	comp=Z,126nm,18.0s,MS3.8,baz=145,slow=35						
GNI	**Garni**	**42.06**	**335**	P	**P**	**08 48 20.8**	**+2.5**
	3.3nm,0.3s,mb4.4,baz=153,slow=23,SNR=4.1						
GNI				LR	LR	09 05 47.9	
	comp=Z,140nm,21.3s,MS3.8,baz=93,slow=36						
GNI	**Garni**	**42.06**	**335⇑**	*e*P	**P**	**08 48 20.2**	**+1.9**
GNI				pmax	pmax		
	comp=Z,47nm,1.4s						
WMQ	**Urumqi**	**45.08**	**22**	*e*P	**P**	**08 48 46.2**	**+3.6**
QIZ	**Qiongzhong**	**45.52**	**66**	P	**P**	**08 48 44.3**	**-2.2**
QIZ				S	**S**	**08 55 29.6**	**+0.2**
QIZ				XS	sS	08 55 43.0	+12
QIZ				AMB	AMB		
	comp=Z,43nm,2.2s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,315nm,3.0s						
QIZ				LR	LR		
	comp=E,238nm,26.8s						
MK31	**Makanchi Array**	**46.02**	**15**	*e*P	**P**	**08 48 53.0**	**+3.0**
MKAR	**Makanchi Array**	**46.02**	**15**	P	**P**	**08 48 50.4**	**+0.3**
	comp=E,1.3nm,0.7s,mb3.9,baz=190,slow=6.2,SNR=7.8						
MKAR				PcP	PcP	08 50 26.9	+0.3
	comp=E,1.0nm,0.7s,baz=225,slow=3.3,SNR=4.4						
MKAR				LR	LR	09 08 07.3	
	comp=E,160nm,18.4s,MS4.0,baz=182,slow=36						
MKAR	**Makanchi Array**	**46.02**	**15**	P	**P**	**08 48 50.4**	**+0.4**
MKAR						08 50 26.9	
GTA	**Gaotai**	**47.51**	**35**	*e*P	**P**	**08 49 08.4**	**+6.6**
GTA				AP	pP	08 49 12.8	+10
GTA				XP	sP	08 49 16.3	+13
GTA				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.5						
AKTK	**Aktyubinsk**	**48.04**	**353**	P	**P**	**08 49 06.1**	**+0.3**
AKTO	**Aktyubinsk**	**48.04**	**353**	P	**P**	**08 49 06.1**	**+0.4**
	comp=Z,8.3nm,0.9s,mb4.8,baz=162,slow=6.7,SNR=17						
AKTO	**Aktyubinsk**	**48.04**	**353**	P	**P**	**08 49 06.1**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
LBTB	**Lobatse**	**48.18**	**233**	P	**P**	**08 49 07.2**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.4,baz=63,slow=6.8,SNR=3.6						
LBTB				LR	LR	09 07 30.8	
	comp=Z,524nm,18.3s,MS4.5,baz=100,slow=34						
KURK	**Kurchatov**	**48.92**	**10**	*e*P	**P**	**08 49 12.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**48.92**	**10**	*e*P	**P**	**08 49 12.5**	**0.0**
	comp=Z,6.7nm,1.0s,mb4.6						
BVAR	**Borovoye Array**	**50.23**	**3**	P	**P**	**08 49 23.4**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.6,baz=170,slow=8.8,SNR=2.7						
BVAR				PcP	PcP	08 50 42.0	+0.5
	comp=Z,1.0nm,0.6s,baz=207,slow=1.7,SNR=5.8						
BVAR				LR	LR	09 11 49.3	
	comp=Z,183nm,19.4s,MS4.1,baz=188,slow=38						
BVAR	**Borovoye Array**	**50.23**	**3**	P	**P**	**08 49 23.4**	**+1.0**
BVAR						08 50 42.0	
BOSA	**Boshof**	**50.25**	**229**	P	**P**	**08 49 23.6**	**+0.5**
	comp=Z,5.6nm,0.7s,mb4.7,baz=62,slow=8.1,SNR=8.6						
BOSA				LR	LR	09 08 49.6	
	comp=Z,495nm,18.4s,MS4.5,baz=51,slow=34						
XAN	**Xi'an**	**50.42**	**47**	P	**P**	**08 49 24.2**	**-0.1**
XAN				S	**S**	**08 56 34.2**	**-4.4**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
XAN				AMB	AMB		
	comp=Z,119nm,6.1s						
XAN				LR	LR		
	comp=Z,197nm,32.1s,MS3.9						
WHN	**Wuhan**	**53.10**	**53**	P	**P**	**08 49 46.5**	**+2.1**
WHN				S	**S**	**08 57 16.4**	**+0.8**
WHN				LR	LR		
	comp=N,284nm,22.1s,MS4.5						
WHN				LR	LR		
	comp=E,514nm,26.6s,MS4.5						
WHN				LR	LR		
	comp=Z,706nm,25.9s,MS4.6						
ZAL	**Zalesovo**	**53.24**	**14**	P	**P**	**08 49 43.7**	**-1.2**
ZAA0	**Zalesovo Array**	**53.25**	**14**	*e*P	**P**	**08 49 45.8**	**+0.8**
ZALV	**Zalesovo Beam**	**53.25**	**14**	P	**P**	**08 49 43.7**	**-1.3**
	comp=Z,2.6nm,0.5s,mb4.4,baz=221,slow=5.9,SNR=11						
ZALV				LR	LR	09 11 57.5	
	comp=Z,165nm,21.7s,MS4.0,baz=9.8,slow=36						
ZALV	**Zalesovo Beam**	**53.25**	**14**	P	**P**	**08 49 43.7**	**-1.4**
ZALV				LR	LR	09 11 57.5	
HVS	**Khovu-Aksy**	**53.43**	**21**	*e*P	**P**	**08 49 47.0**	**+0.6**
HVS				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
NVS	**Novosibirsk**	**53.73**	**12**	*i*P	**P**	**08 49 47.1**	**-1.4**
NVS				pmax	pmax		
	comp=N,7.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
NVS				pmax	pmax		
	comp=E,2.0nm,0.4s						
ARU	**Arti**	**53.89**	**355**	*e*P	**P**	**08 49 47.9**	**-1.8**
ARU				*e*		08 51 49.9	
KAPI	**Kappang**	**53.92**	**98**	LR	LR	09 10 03.0	
	comp=E,154nm,19.5s,MS4.1,baz=341,slow=33						
SONM	**Songino Array**	**56.62**	**31**	P	**P**	**08 50 10.7**	**+1.2**
	comp=E,3.0nm,0.9s,mb4.3,baz=238,slow=8.3,SNR=15						
SONM				LR	LR	09 14 25.3	
	comp=E,464nm,21.6s,MS4.5,baz=224,slow=36						
OBN	**Obninsk**	**57.52**	**340⇑**	*e*P	**P**	**08 50 15.5**	**-0.2**
OBN				*e*		08 52 27.2	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
MOS	**Moscow**	**57.68**	**341**	*e*P	**P**	**08 50 15.3**	**-1.6**
MOS				*e*		08 50 22.2	
TLY	**Talaya**	**57.87**	**26**	*e*P	**P**	**08 50 19.7**	**+1.4**
TLY				*e*		08 51 16.6	
TLY				*e*		08 58 30.8	
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
TLY				MLR	MLR		
	comp=Z,226nm,18.0s,MS4.3						
TLY	**Talaya**	**57.87**	**26**	*e*P	**P**	**08 50 19.5**	**+1.2**
	comp=Z,8.7nm,1.1s,mb4.7						
KLMR	**Klimovskoe**	**61.46**	**345**	*e*P	**P**	**08 50 41.6**	**-1.2**
KLMR				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.3						
KEST	**Kesra**	**61.94**	**309**	LR	LR	09 17 48.8	
	comp=Z,31nm,18.8s,MS3.5,baz=328,slow=36						
FITZ	**Fitzroy Crossi**	**61.95**	**112**	*e*P	**P**	**08 50 46.9**	**-0.1**
	comp=Z,9.1nm,0.9s,mb4.9						

YSS pmax pmax
comp=Z,30nm,1.4s,mb5.0
STKA Stephens Creek 78.98 123 *eP* **P** **08 52 29.7 -1.1**
comp=Z,6.9nm,0.8s,mb4.6
STKA *e* 08 52 36.8
STKA Stephens Creek 78.98 123 P **P** **08 52 30.3 -0.6**
comp=Z,7.8nm,0.8s,mb4.7,baz=289,slow=5.7,SNR=14
STKA LR LR 09 20 39.1
comp=Z,138nm,20.6s,MS4.3,baz=206,slow=31
TIXI Tiksi 78.99 17 *eP* **P** **08 52 30.0 -0.1**
TIXI pmax pmax
comp=Z,12nm,1.2s,mb4.7
TIXI MLR MLR
comp=Z,146nm,16.0s,MS4.4
CTA Charters Tower 81.49 111 *eP* **P** **08 52 44.4 -0.2**
comp=Z,6.4nm,0.8s,mb4.6
CTA Charters Tower 81.49 111 P **P** **08 52 44.2 -0.4**
comp=Z,7.4nm,0.8s,mb4.6,baz=334,slow=4.0,SNR=6.5
CTA Charters Tower 81.49 111 *eP* **P** **08 52 44.4 -0.2**
CTA pmax pmax
comp=Z,6.0nm,0.8s
NVL N'lazarevskaya 81.52 196 *eP* **P** **08 52 44.7 +1.0**
NVL pmax pmax
comp=Z,18nm,1.0s,mb5.0
TOO Toolangi 83.08 128 *eP* **P** **08 52 52.4 -0.2**
SEY Seymchan 85.77 27 *eP* **P** **08 53 04.2 -1.5**
SNAA Sanae 86.14 197 *eP* **P** **08 53 07.6 +0.3**
SNAA *e* 08 53 12.3
SNAA Sanae 86.14 197⇑ *eP* **P** **08 53 06.8 -0.5**
VNA1 Neumayer--Stat 87.50 199 *eP* **P** **08 53 14.9 +0.9**
PETK Petropavlovsk- 88.65 37 LR LR 09 35 36.7
comp=Z,176nm,18.6s,MS4.5,baz=90,slow=37
VNDA Vanda 93.86 167 P **P** **08 53 44.5 +0.9**
comp=Z,1.4nm,0.9s,mb4.4,baz=265,slow=7.7,SNR=7.0
VNDA LR LR 09 30 19.1
comp=Z,219nm,19.8s,MS4.6,baz=41,slow=32
VNDA Vanda 93.86 167 P **P** **08 53 44.5 +0.9**
VNDA LR LR 09 30 19.1
LPAZ La Paz 133.25 250 PKP PKPdf 08 59 45.1 +1.4
comp=Z,0.6nm,0.7s,baz=81,slow=5.3,SNR=3.5
PDAR Pinedale Array 134.55 356 PKP PKPdf 08 59 43.6 -1.8
comp=Z,1.0nm,0.7s,baz=28,slow=3.5,SNR=5.0
NVAR Mina Array Bea 138.81 6 PKhKP 08 59 49.0
comp=Z,0.2nm,0.6s,baz=309,slow=4.3,SNR=3.0
NVAR PKP PKPdf 08 59 55.3 +1.8
comp=Z,0.9nm,0.7s,baz=56,slow=0.5,SNR=5.9
TXAR Lajitas Array 146.70 344 PKPbc PKPbc 09 00 09.8 +0.6
comp=Z,13nm,0.7s,baz=56,slow=2.8,SNR=32
TXAR Lajitas Array 146.70 344 PKPbc PKPbc 09 00 09.8 +0.6
CMIG Matias Romero 152.94 317 PKPbc PKPbc 09 00 23.2 -1.9
comp=Z,3.9nm,0.8s,baz=29,slow=3.3,SNR=4.9

*ISCJB **06** 08:48:40.1±0.2, 3945N±001×11106W±002, h0km, mb4.2/13, Error ellipse: s-maj=2.3km s-min=1.6km az=165.8*
*NEIC **06** 08:48:40.0, 3947N×11124W, h2km, mb4.2/12, ML3.9(SLC), After SLC.*
NEIC Probable implosion at a coal mine northwest of Huntington. Six miners killed and several injured. Felt [III] at Huntington. Also felt at Mount Pleasant.
*IDC **06** 08:48:42.4±1.2, 3950N×111.18W, h7km±8km, mb4.0/11, mb1 4.2/18, mb1mx4.0/31, mbtmp4.0/18, ML3.2/7, Error ellipse: s-maj=8.0km s-min=6.5km az=154.0*

ISC 06 08:48:42.4±0.2, 3945N±001×11107W±002, h0km, n128, σ1§49/170, mb4.2/13, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMUT	**Trail Mountain**	**0.18**	**216**	*e*Pg	**Pg**	**08 48 43.9**	**-2.0**
TMUT				*e*Sg	**Sg**	**08 48 49.3**	**+1.0**
SRU	**San Rafael**	**0.54**	**128**	*e*Pg	**Pg**	**08 48 52.5**	**-0.2**
SRU				*e*Sg	**Sg**	**08 49 02.2**	**+2.6**
MPU	**Maple Canyon**	**0.72**	**323**	*e*Pg	**Pg**	**08 48 52.4**	**-3.7**
MPU				*e*Sg	**Sg**	**08 49 07.9**	**+2.4**
NLU	**North Lily Min**	**0.93**	**304**	*e*Pg	**Pg**	**08 48 54.8**	**-5.4**
NLU				*e*Sg	**Sg**	**08 49 05.0**	**-7.2**
DAU	**Daniels Canyon**	**0.98**	**352**	*e*Pg	**Pg**	**08 48 58.5**	**-2.7**
MSU	**Marysvale**	**1.27**	**223**	*e*Pg	**Pg**	**08 49 02.5**	**-4.2**
CTU	**Camp Tracy**	**1.35**	**337**	*e*Pg	**Pg**	**08 49 05.2**	**-3.1**
NOQ	**North Oquirrh**	**1.45**	**327**	*e*Pn	**Pn**	**08 49 06.1**	**-3.8**
DUG	**Dugway**	**1.54**	**300**	*e*Pn	**Pn**	**08 49 06.4**	**-4.7**
PV10	**Paradox Valley**	**1.91**	**123**	*e*Pn	**Pn**	**08 49 15.4**	**-0.8**
BGU	**Big Grassy Mou**	**2.11**	**315**	*e*Pn	**Pn**	**08 49 14.4**	**-4.5**
BGU				*e*Sn	**Sn**	**08 49 38.7**	**-7.1**
SPUT	**South Promonto**	**2.14**	**331**	*e*Pn	**Pn**	**08 49 16.1**	**-3.3**
PV01	**Paradox Valley**	**2.35**	**123**	*e*Pn	**Pn**	**08 49 21.5**	**-0.7**
ARUT	**Antelope Range**	**2.49**	**229**	*e*Pn	**Pn**	**08 49 23.0**	**-1.1**
CCUT	**Cedar City**	**2.61**	**224**	*e*Pn	**Pn**	**08 49 23.9**	**-1.9**
HVU	**Hansel Valley**	**2.67**	**331**	*e*Pn	**Pn**	**08 49 23.1**	**-3.5**
MVCO	**Mesa Verde**	**3.01**	**137**	*e*Pn	**Pn**	**08 49 32.2**	**+0.9**
MVCO				*e*Sg	**Sg**	**08 50 20.2**	**+1.1**
AHID	**Auburn Hatcher**	**3.32**	**360**	*e*Pn	**Pn**	**08 49 34.7**	**-0.8**
AHID				*e*Sg	**Sg**	**08 50 33.1**	**+4.1**
ELK	**Elko**	**3.45**	**293**	Pn	**Pn**	**08 49 34.6**	**-2.7**
	0.9nm,0.3s,baz=111,slow=13,SNR=27						
ELK				Lg		08 50 26.3	
	2.8nm,0.3s,baz=188,slow=18,SNR=3.9						
ELK	**Elko**	**3.45**	**293**	*e*Pn	**Pn**	**08 49 35.6**	**-1.8**
ELK				*e*Sg	**Sg**	**08 50 27.7**	**-5.6**
BW06	**Boulder Array**	**3.51**	**18**	*e*Pn	**Pn**	**08 49 37.9**	**-0.2**
BW06				*e*Sg	**Sg**	**08 50 34.0**	**-1.1**
PDAR	**Pinedale Array**	**3.51**	**18**	Pn	**Pn**	**08 49 38.5**	**+0.3**
	6.7nm,0.3s,baz=195,slow=11,SNR=270						
PDAR				Pg	**Pg**	**08 49 46.1**	**-3.5**
	18nm,0.3s,baz=195,slow=14,SNR=23						
PDAR				Lg		08 50 33.5	
	3.3nm,0.3s,baz=208,slow=22,SNR=3.5						
RWWY	**Rawlins**	**3.70**	**51**	*e*Pn	**Pn**	**08 49 41.9**	**+1.2**
RWWY				*e*Sg	**Sg**	**08 50 46.1**	**+5.0**
RRI2	**Red Ridge**	**3.90**	**357**	*e*Pn	**Pn**	**08 49 41.2**	**-2.4**
RRI2				*e*Sg	**Sg**	**08 50 46.2**	**-1.6**
REDW	**Red Top Meadow**	**3.92**	**2**	*e*Pn	**Pn**	**08 49 42.9**	**-0.9**
REDW				*e*Sg	**Sg**	**08 50 51.2**	**+3.0**
WUAZ	**Wupatki**	**3.93**	**184**	*e*Pn	**Pn**	**08 49 44.7**	**+0.8**
WUAZ				*e*Sg	**Sg**	**08 50 49.8**	**+1.2**
SNOW	**Snow King Moun**	**4.02**	**3**	*e*Pn	**Pn**	**08 49 44.7**	**-0.5**
SNOW				*e*Sg	**Sg**	**08 50 53.2**	**+1.6**
TPAW	**Teton Pass**	**4.04**	**1**	*e*Pn	**Pn**	**08 49 44.8**	**-0.7**
TPAW				*e*Sg	**Sg**	**08 50 57.0**	**+4.7**
DCID1	**Drake Creek**	**4.15**	**359**	*e*Pn	**Pn**	**08 49 46.1**	**-0.8**
LOHW	**Long Hollow**	**4.18**	**5**	*e*Pn	**Pn**	**08 49 45.7**	**-1.7**
LOHW				*e*Sg	**Sg**	**08 50 59.4**	**+2.8**
ISCO	**Idaho Springs**	**4.23**	**83**	*e*Pn	**Pn**	**08 49 48.2**	**+0.2**
ISCO				*e*Sg	**Sg**	**08 50 58.9**	**+0.7**
MOOW	**Moose Ponds**	**4.31**	**3**	*e*Pn	**Pn**	**08 49 47.9**	**-1.2**
MOOW				*e*Sg	**Sg**	**08 51 04.3**	**+3.5**
IMW	**Indian Meadow**	**4.45**	**1**	*e*Pn	**Pn**	**08 49 50.2**	**-0.9**
IMW				*e*Sg	**Sg**	**08 51 06.3**	**+1.0**
FLWY	**Flagg Ranch**	**4.64**	**3**	*e*Pn	**Pn**	**08 49 52.8**	**-0.9**
FLWY				*e*Sg	**Sg**	**08 51 12.1**	**+0.6**
PHWY	**Pilot Hill**	**4.67**	**65**	*e*Pn	**Pn**	**08 49 57.0**	**+2.9**
PHWY				*e*Sg	**Sg**	**08 51 13.2**	**+0.8**
SDCO	**Great Sand Dun**	**4.68**	**110**	*e*Pn	**Pn**	**08 49 56.3**	**+2.1**
SDCO				*e*Sg	**Sg**	**08 51 15.1**	**+2.4**
TPNV	**Topopah Spring**	**4.78**	**240**	*e*Pn	**Pn**	**08 49 55.4**	**-0.3**
HLID	**Hailey**	**4.82**	**330**	*e*Pn	**Pn**	**08 49 56.2**	**0.0**
HLID				*e*Sg	**Sg**	**08 51 19.7**	**+2.5**
BMN	**Battle Mountai**	**4.83**	**284**	*e*Pn	**Pn**	**08 49 55.5**	**-0.8**
BMN				*e*Sg	**Sg**	**08 51 12.6**	**-5.0**
TPH	**Tonopah**	**5.00**	**256**	*e*Pn	**Pn**	**08 49 57.9**	**-0.7**
TPH				*e*Sg	**Sg**	**08 51 22.7**	**-0.3**
YFT	**Old Faithful**	**5.01**	**2**	*e*Pn	**Pn**	**08 50 00.2**	**+1.5**
LKWY	**Lake**	**5.14**	**5**	*e*Pn	**Pn**	**08 50 04.3**	**+3.7**
YMR	**Madison River**	**5.22**	**1**	*e*Pn	**Pn**	**08 50 03.0**	**+1.4**
YNR	**Norris Junctio**	**5.28**	**3**	*e*Pn	**Pn**	**08 50 04.6**	**+2.2**
QLMT	**Earthquake Lak**	**5.39**	**357**	*e*Pn	**Pn**	**08 50 06.7**	**+2.7**
QLMT				*e*Sg	**Sg**	**08 51 39.4**	**+4.0**
LDFC	**Landfair**	**5.42**	**218**	*e*Pn	**Pn**	**08 49 58.4**	**-6.0**
MCMT	**McKenzie Canyo**	**5.54**	**347**	*e*Pn	**Pn**	**08 50 06.9**	**+0.9**
MCMT				*e*Sg	**Sg**	**08 51 43.6**	**+3.3**
NVAR	**Mina Array Bea**	**5.73**	**262**	Pn	**Pn**	**08 50 08.6**	**-0.1**
	0.8nm,0.3s,baz=234,slow=29,SNR=38						
NVAR				Pg	**Pg**	**08 50 26.4**	**-5.8**
	3.3nm,0.3s,baz=79,slow=17,SNR=33						
NVAR				Lg		08 51 40.7	
	baz=90,slow=33,SNR=2.4						
NVAR	**Mina Array Bea**	**5.73**	**262**	Pn	**Pn**	**08 50 08.6**	**-0.1**
NVAR				Pg	**Pg**	**08 50 26.4**	**-5.8**
NVAR				Lg		08 51 40.6	
ANMO	**Albuquerque**	**5.80**	**139**	Pn	**Pn**	**08 50 09.4**	**-0.2**
	2.9nm,0.3s,baz=334,slow=13,SNR=63						
ANMO				Pg	**Pg**	**08 50 30.2**	**-3.3**
	5.0nm,0.3s,baz=328,slow=16,SNR=37						
ANMO				Lg		08 51 44.5	
	4.8nm,0.3s,baz=98,slow=16,SNR=5.1						
ANMO	**Albuquerque**	**5.80**	**139**	*e*Pn	**Pn**	**08 50 09.5**	**-0.2**
ANMO				*e*Sg	**Sg**	**08 51 45.3**	**-3.4**
RLMT	**Red Lodge**	**5.83**	**13**	*e*Pn	**Pn**	**08 50 10.5**	**+0.5**
LAZ	**Ladron**	**5.94**	**147**	*e*Pn	**Pn**	**08 50 11.8**	**+0.3**
LAZ				*e*Sg	**Sg**	**08 51 57.2**	**+4.1**
DLMT	**Dillon**	**6.02**	**350**	*e*Pn	**Pn**	**08 50 14.3**	**+1.6**
DLMT				*e*Sg	**Sg**	**08 51 53.5**	**-2.2**
GSC	**Goldstone**	**6.16**	**230**	*e*Pn	**Pn**	**08 50 14.6**	**0.0**
LENM	**Lemitar**	**6.21**	**147**	*e*Pn	**Pn**	**08 50 24.7**	**+9.5**
LENM				*e*Sg	**Sg**	**08 52 05.9**	**+4.2**
BOZ	**Bozeman (W)**	**6.21**	**356**	*e*Pn	**Pn**	**08 50 16.5**	**+1.3**
BOZ				*e*Sg	**Sg**	**08 52 05.4**	**+3.6**
LPM	**Los Pinos Moun**	**6.24**	**144**	Pn	**Pn**	**08 50 15.6**	**0.0**
LPM				*e*Sg	**Sg**	**08 52 07.6**	**+4.9**
MTUM	**Tungsten Hills**	**6.25**	**253**	*e*Pn	**Pn**	**08 50 17.1**	**+1.3**
BNM	**Barren Site**	**6.37**	**145**	*e*Pn	**Pn**	**08 50 18.3**	**+0.8**
BNM				*e*Sg	**Sg**	**08 52 10.5**	**+3.4**
GCMT	**Greycliff**	**6.43**	**9**	*e*Pn	**Pn**	**08 50 20.9**	**+2.7**
GCMT				*e*Sg	**Sg**	**08 52 15.2**	**+6.5**
PAHR	**Pah Rah Range**	**6.43**	**275**	*e*Pn	**Pn**	**08 50 18.0**	**-0.3**
WVOR	**Wild Horse Val**	**6.46**	**300**	*e*Pn	**Pn**	**08 50 20.6**	**+1.9**
WVOR				*e*Sg	**Sg**	**08 52 08.2**	**-1.7**
ISA	**Isabella**	**6.99**	**240**	*e*Pn	**Pn**	**08 50 27.2**	**+1.3**
ISA				*e*Sg	**Sg**	**08 52 30.7**	**+3.9**
RSSD	**Black Hills**	**7.03**	**46**	*e*Pn	**Pn**	**08 50 26.3**	**-0.2**
RSSD				*e*Sg	**Sg**	**08 52 31.2**	**+3.1**
TUC	**Tucson**	**7.12**	**178**	Pn	**Pn**	**08 50 23.6**	**-4.2**
TUC				*e*Sg	**Sg**	**08 52 29.8**	**-1.4**
PFO	**Pinyon Flat Ob**	**7.26**	**218**	Pn	**Pn**	**08 50 31.4**	**+1.7**
	0.1nm,0.3s,baz=72,slow=3.2,SNR=5.6						
PFO				Lg		08 52 29.9	
	0.1nm,0.3s,baz=108,slow=3.2,SNR=2.9						
PFO	**Pinyon Flat Ob**	**7.26**	**218**	Pn	**Pn**	**08 50 21.6**	**-8.1**
PFO				Lg		08 52 29.9	
CMB	**Columbia Colle**	**7.42**	**262**	Pn	**Pn**	**08 50 32.9**	**+1.1**
MOD	**Modoc**	**7.44**	**292**	*e*Pn	**Pn**	**08 50 33.5**	**+1.4**
CHMT	**Chamberlain Mo**	**7.63**	**349**	*e*Pn	**Pn**	**08 50 36.4**	**+1.6**
MWC	**Mount Wilson**	**7.65**	**229**	*e*Pn	**Pn**	**08 50 36.4**	**+1.3**
MSO	**Missoula**	**7.67**	**345**	*e*Pn	**Pn**	**08 50 36.7**	**+1.4**
MSO				*e*Sg	**Sg**	**08 52 52.1**	**+3.4**
LAO	**LASA Array**	**8.06**	**24**	*e*Pn	**Pn**	**08 50 39.7**	**-0.9**
OHCM	**Honcut**	**8.07**	**273**	*e*Pn	**Pn**	**08 50 42.0**	**+1.3**
PTRM	**Twissleman Ran**	**8.19**	**245**	Pn	**Pn**	**08 50 44.6**	**+2.1**
LNOR	**Lincton Mounta**	**8.34**	**323**	*e*Pn	**Pn**	**08 50 46.9**	**+2.5**
SAO	**San Andreas Ge**	**8.61**	**255**	*e*Pn	**Pn**	**08 50 51.0**	**+2.8**
EGMT	**Eagleton**	**8.63**	**6**	*e*Pn	**Pn**	**08 50 49.4**	**+1.0**
MNTX	**Cornudas Mount**	**9.01**	**147**	Pn	**Pn**	**08 50 52.2**	**-1.5**
MNTX				*e*Pg	Pg	08 51 27.7	
MNTX				*e*Lg		08 53 21.4	
YBH	**Yreka Blue Hor**	**9.15**	**288**	Pn	**Pn**	**08 50 56.8**	**+1.2**
	0.2nm,0.3s,baz=101,slow=9.6,SNR=20						
YBH				Lg		08 53 27.0	
	0.0nm,0.3s,baz=242,slow=17,SNR=2.1						
YBH	**Yreka Blue Hor**	**9.15**	**288**	*e*Pn	**Pn**	**08 50 57.2**	**+1.7**
RSW	**Rattlesnake Hi**	**9.34**	**321**	*e*Pn	**Pn**	**08 51 01.1**	**+3.0**
HUMO	**Hull Mountain**	**9.52**	**293**	*e*Pn	**Pn**	**08 51 02.2**	**+1.5**
OD2	**Odessa Site #2**	**9.69**	**328**	*e*Pn	**Pn**	**08 51 04.1**	**+1.2**
NEW	**Newport**	**9.84**	**336**	*e*Pn	**Pn**	**08 51 06.8**	**+1.9**
DGMT	**Dagmar**	**10.29**	**26**	*e*Pn	**Pn**	**08 51 11.0**	**-0.1**
ECSD	**EROS,Sioux Fal**	**11.64**	**64**	*e*Pn	**Pn**	**08 51 28.3**	**-1.3**
ECSD				*e*Lg		08 54 38.1	
TXAR	**Lajitas Array**	**11.79**	**147**	Pn	**Pn**	**08 51 34.6**	**+2.8**
	0.1nm,0.3s,baz=324,slow=11,SNR=27						
TXAR				Pg	Pn	08 52 17.0	+45
	0.1nm,0.3s,baz=344,slow=9.7,SNR=3.7						
TXAR				Lg		08 54 57.4	
	0.1nm,0.3s,baz=320,slow=25,SNR=1.1						
TXAR	**Lajitas Array**	**11.79**	**147**	Pn	**Pn**	**08 51 34.6**	**+2.8**
TXAR				Pg	Pn	08 52 17.0	+45
TXAR				Lg		08 54 57.4	
JCT	**Junction City**	**12.85**	**131**	Pn	**Pn**	**08 51 42.7**	**-3.6**
JCT				*e*Lg		08 55 11.3	
SCIA	**State Center**	**13.77**	**74**	*e*Pn	**Pn**	**08 51 58.0**	**-0.9**
EDM	**Edmonton**	**13.87**	**354**	Pn	**Pn**	**08 51 59.5**	**-0.6**
AGMN	**Agassiz Refuge**	**14.07**	**46**	*e*Pn	**Pn**	**08 51 57.6**	**-5.2**
AGMN				*e*Lg		08 55 53.7	
MIAR	**Mount Ida**	**14.81**	**104**	Pn	**Pn**	**08 52 12.4**	**-0.5**
	7.7nm,0.9s						
MIAR				*e*Lg		08 56 34.3	
ULM	**Lac du Bonnet**	**15.23**	**40**	Pn	**Pn**	**08 52 14.2**	**-4.3**
	0.6nm,0.3s,baz=240,slow=9.1,SNR=12						
ULM				Lg		08 56 42.3	
	0.2nm,0.3s,baz=141,slow=19,SNR=2.7						
ULM	**Lac du Bonnet**	**15.23**	**40**	*e*Pn	**Pn**	**08 52 14.0**	**-4.5**
	16nm,0.8s						
ULM				*e*Lg		08 56 41.4	
CCM	**Cathedral Cave**	**15.53**	**89**	Pn	**Pn**	**08 52 21.1**	**-1.5**
	4.5nm,0.7s						
HKT	**Hockley**	**15.69**	**122**	Pn	**Pn**	**08 52 22.5**	**-2.2**
	28nm,1.6s						
JFWS	**Jewell Farm**	**16.05**	**71**	Pn	**Pn**	**08 52 25.7**	**-3.7**
	6.4nm,0.7s						
FVM	**French Village**	**16.18**	**89**	Pn	**Pn**	**08 52 28.9**	**-2.1**
	14nm,0.8s						
SLM	**Saint Louis**	**16.21**	**86**	Pn	**Pn**	**08 52 29.3**	**-2.1**
	20nm,0.7s						
HDIL	**Hopedale**	**16.72**	**79**	*e*Pn	**Pn**	**08 52 36.0**	**-2.0**
	13nm,0.7s						
SIUC	**Southern Illin**	**17.17**	**89**	Pn	**Pn**	**08 52 43.0**	**-0.6**
	50nm,1.7s						
COWI	**Conover**	**17.39**	**60**	*e*Pn	**Pn**	**08 52 43.7**	**-2.6**
	9.9nm,0.6s						
OXF	**Oxford**	**17.98**	**99**	*e*Pn	**Pn**	**08 52 51.4**	**-2.3**
	12nm,1.0s						
SWET	**Sewanee**	**20.41**	**94**	*e*P	**P**	**08 53 20.9**	**0.0**
CPCT	**Cooper Cave**	**21.42**	**92**	*e*P	**P**	**08 53 32.0**	**+0.2**
ACSO	**Alum Creek Sta**	**21.55**	**79**	*e*P	**P**	**08 53 31.9**	**-1.3**
	13nm,0.9s,mb4.4						
TKL	**Tuckaleechee C**	**21.93**	**91**	P	**P**	**08 53 37.2**	**-0.1**
	2.8nm,0.7s,mb3.8,baz=248,slow=4.8,SNR=6.9						
TKL				Lg		09 00 20.6	
	4.2nm,1.0s,baz=196,slow=20,SNR=4.9						
TKL	**Tuckaleechee C**	**21.93**	**91**	*e*P	**P**	**08 53 37.7**	**+0.3**
YKA	**Yellowknife Ar**	**23.18**	**356**	P	**P**	**08 53 49.6**	**-0.7**
	3.2nm,0.8s,mb3.9,baz=167,slow=10.0,SNR=8.1						
SADO	**Sadowa**	**24.18**	**67**	P	**P**	**08 54 00.2**	**-0.1**
	baz=298,slow=10						
SADO	**Sadowa**	**24.18**	**67**	P	**P**	**08 54 00.2**	**-0.1**
DAWY	**Dawson**	**29.77**	**335**	*e*P	**P**	**08 54 48.7**	**-1.6**
SCHQ	**Scheiferville**	**33.16**	**48**	P	**P**	**08 55 18.9**	**-1.4**
	3.9nm,0.9s,mb4.3,baz=326,slow=5.3,SNR=3.6						
COLA	**College**	**33.18**	**332**	P	**P**	**08 55 14.2**	**-6.0**
	4.5nm,0.9s,mb4.4						
ARCES	**ARCESS Array B**	**66.76**	**15**	P	**P**	**08 59 33.3**	**-1.6**
	5.0nm,0.7s,mb4.8,baz=330,slow=7.0,SNR=17						
NB2	**NORSAR Subarra**	**69.42**	**26**	P	**P**	**08 59 49.8**	**-2.0**
	comp=Z,2.1nm,0.8s,mb4.4,baz=316,slow=6.2						
NOA	**NORSAR Array B**	**69.42**	**26**	P	**P**	**08 59 50.7**	**-1.1**
	comp=Z,1.6nm,0.7s,mb4.4,baz=312,slow=6.3,SNR=9.9						
MJAR	**Matsushiro Arr**	**81.11**	**310**	P	**P**	**09 00 58.8**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=46,slow=4.4,SNR=4.2						
CPUP	**Villa Florida**	**82.42**	**133**	P	**P**	**09 01 06.0**	**-0.5**
	comp=Z,0.2nm,0.3s,mb3.7,baz=297,slow=11,SNR=2.5						
AKASG	**Malin Array Be**	**83.71**	**24**	P	**P**	**09 01 11.2**	**-1.6**
	comp=Z,0.3nm,0.4s,mb3.9,baz=319,slow=4.5,SNR=7.6						
KSRS	**Korea Array**	**86.23**	**317**	P	**P**	**09 01 25.7**	**-0.1**
	comp=Z,0.8nm,0.6s,mb4.0,baz=67,slow=5.5,SNR=4.0						
BVAR	**Borovoye Array**	**87.90**	**359**	P	**P**	**09 01 33.4**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.6,baz=10,slow=3.3,SNR=9.6						
MKAR	**Makanchi Array**	**93.32**	**351**	P	**P**	**09 01 57.5**	**-1.4**
	comp=Z,0.2nm,0.2s,mb4.1,baz=17,slow=6.0,SNR=2.7						
WRA	**Warramunga Arr**	**121.18**	**269**	PKP	PKPdf	09 07 35.3	-2.1
	comp=Z,1.1nm,0.8s,baz=53,slow=1.7,SNR=8.6						
ASAR	**Alice Springs**	**123.57**	**266**	PKP	PKPdf	09 07 39.7	-2.2
	comp=Z,0.5nm,0.7s,baz=78,slow=4.1,SNR=6.8						

*ISCJB **06** 08:59:04.0±1.5, 3093N±006×3652E±008, h0km, Error ellipse: s-maj=11.4km s-min=6.3km az=144.6*
*GII **06** 08:59:12.6±1.6, 3093N×3603E, h0km, ML2.1/3, EXPLOSION*
*CSEM **06** 08:59:19.5, 2998N×3609E, h3km, ML2.6, After SNSN*
*SGS **06** 08:59:19.5, 2998N×3609E, h3km*

ISC 06 08:59:04.9±1.5, 3093N±006×3653E±008, h0km, n12, σ1§29/16, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**1.07**	**291**	Pg	**Pg**	**08 59 26.6**	**+1.2**
MZDA				Sg	**Sg**	**08 59 37.9**	**-1.4**
DSI	**Dead Sea**	**1.17**	**303**	Sg	**Sg**	**08 59 42.6**	**+0.1**
HRFI	**Mount Harif**	**1.57**	**236**	Pg	**Pg**	**08 59 37.1**	**+2.1**
HRFI				Sg	**Sg**	**08 59 55.1**	**-0.2**
KRMI	**Paran Flat**	**1.76**	**243**	Sn	**Sn**	**08 59 59.4**	**-0.3**
MBRI	**Mt Berech**	**1.80**	**231**	Pn	**Pn**	**08 59 40.6**	**+3.4**
MBRI				Sn	**Sn**	**09 00 01.0**	**+0.3**
EIL	**Elat**	**1.86**	**228**	Pn	**Pn**	**08 59 40.3**	**+2.3**
HQLS		**2.06**	**218**	P	**Pn**	**08 59 40.1**	**-0.7**
JLOS		**2.37**	**203**	S	**Sn**	**09 00 01.0**	**-14**
JLOS		**2.37**	**203**	P	**Pn**	**08 59 43.2**	**-1.8**
JLOS		**2.37**	**203**	P	**Pn**	**08 59 43.2**	**-1.8**
JLOS				S	**Sn**	**09 00 01.0**	**-14**
RSHS		**3.03**	**210**	P	**Pn**	**08 59 52.5**	**-1.5**
BIDS	**Bi'r al Bayda'**	**4.07**	**175**	P	**Pn**	**09 00 08.7**	**+0.3**

IDC 06 09:02:51.3±10.0, 252N×6639E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.4/21, mbtmp3.7/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/42, Error ellipse: s-maj=921.6km s-min=47.9km az=40.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**28.22**	**221**	LR	LR	09 16 42.2	
	comp=Z,97nm,21.5s,baz=14,slow=29						
WRA	**Warramunga Arr**	**70.24**	**112**	P	P	09 14 07.1	+0.2
	0.8nm,0.8s,baz=292,slow=5.5,SNR=4.8						
ASAR	**Alice Springs**	**70.55**	**116**	P	P	09 14 08.7	0.0
	0.5nm,1.0s,baz=274,slow=4.5,SNR=5.0						
TXAR	**Lajitas Array**	**146.93**	**344**	PKPbc	PKPbc	09 22 35.9	-0.6
	1.0nm,0.7s,baz=56,slow=3.1,SNR=15						

MAN 06 09:05:24, 1803N×12048E, h19km, mb4.0, ML2.8, MS2.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.10**	**191**	⇓*i*P	Pg	09 05 29.9	+2.1
SIPP				*i* S	Sg	09 05 36.0	+5.5
APYP	**Conner**	**0.74**	**102**	*e*P	Pb	09 05 38.1	-0.3
APYP				*e*S	Sb	09 05 51.0	+2.8
CAUP	**Cauayan**	**1.67**	**130**	*e*P	Pn	09 05 54.5	+2.3
BOLP	**Bolinao**	**1.72**	**198**	*e*P	Pn	09 05 52.5	-0.5
BALP	**Baler**	**2.50**	**155**	*e*P	Pn	09 06 05.2	+1.5

KRSC 06 09:09:32.0±0.3, 5456N×16253E, h28km±18km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.47**	**270**	*i* P	Pb	09 09 42.1	+0.4
MKZ				*i* S	Sb	09 09 49.2	+0.8
TUMR	**Tumrok**	**1.56**	**299**	*e*P	Pn	09 09 58.4	+0.7
TUMR				*i* S	Sn	09 10 17.4	+0.5
KBTR	**Krutoberegovo**	**1.66**	**6**	P	Pn	09 09 58.7	-0.5
KBTR				*i* S	Sn	09 10 17.4	-2.1
ZLN	**Zelenaya**	**1.76**	**327**	*e*P	Pn	09 10 02.1	+1.5
ZLN				*i* S	Sn	09 10 23.7	+1.6
KMNR	**Kamenistaya**	**1.78**	**313**	*e*P	Pn	09 10 02.1	+1.3
KMNR				*i* S	Sn	09 10 24.1	+1.6

3.7nm,0.8s,mb4.2
STKA **Stephens Creek 28.95 180** P **P** 09 22 16.9 +0.1
3.9nm,0.7s,mb4.2,baz=350,slow=8.7,SNR=7.8
STKA LR LR 09 35 45.5
comp=Z,228nm,18.4s,MS3.8,baz=205,slow=40
FORT **Forrest 30.62 203** *e*P **P** 09 22 32.3 +0.8
28nm,0.8s,mb5.2
CAN **Canberra 33.12 169** *e*P **P** 09 22 54.3 +0.9
TOO **Toolangi 34.82 174** *e*P **P** 09 23 13.4 +5.2
MJAR **Matsushiro Arr 39.23 356** P **P** 09 23 43.5 -2.2
0.9nm,0.6s,mb3.7,baz=174,slow=9.2,SNR=5.1
MJAR **Matsushiro Arr 39.23 356** P **P** 09 23 43.5 -2.2
KSRS **Korea Array 41.97 344** P **P** 09 24 08.3 +0.1
0.5nm,0.5s,mb3.4,baz=137,slow=6.3,SNR=2.9
PSI **Prapat 42.92 277** P **P** 09 24 16.4 -0.1
11nm,0.7s,mb4.7,baz=163,slow=22,SNR=4.3
ASAJ **Asahikawa 46.69 1** P **P** 09 24 44.9 -1.0
2.9nm,0.6s,mb4.4,baz=244,slow=25,SNR=5.9
CMAR **Chiang Mai Arr 46.91 298** P **P** 09 24 48.6 +0.5
1.2nm,0.3s,mb4.3,baz=122,slow=6.3,SNR=3.0
SONM **Songino Array 59.00 333** P **P** 09 26 16.7 -0.1
1.0nm,0.6s,mb4.0,baz=156,slow=8.6,SNR=5.0
PPT **Papeete 69.08 108** LR LR 09 51 39.8
comp=Z,144nm,18.3s,MS4.2,baz=306,slow=31
MK31 **Makanchi Array 71.56 322** *e*P **P** 09 27 39.4 +1.2
MKAR **Makanchi Array 71.56 322** P **P** 09 27 39.1 +0.9
4.6nm,0.7s,mb4.5,baz=105,slow=7.6,SNR=39
ZALV **Zalesovo Beam 73.41 329** P **P** 09 27 48.8 -0.3
3.1nm,0.7s,mb4.3,baz=101,slow=6.0,SNR=9.2
TKM2 **Tokmak 2 74.52 316** *e*P **P** 09 27 56.9 +1.1
28nm,0.8s,mb5.2
VNDA **Vanda 75.48 176** P **P** 09 28 01.1 +0.4
1.1nm,0.6s,mb3.9,baz=330,slow=5.5,SNR=8.2
BVAR **Borovoye Array 80.97 325** P **P** 09 28 32.0 +0.5
4.6nm,0.6s,mb4.6,baz=111,slow=7.6,SNR=23
MAW **Mawson 83.11 202** P **P** 09 28 42.9 +0.3
1.9nm,0.7s,mb4.2,baz=119,slow=2.6,SNR=4.7
DAWY **Dawson 87.72 26** *e*P **P** 09 29 04.8 -0.7
TORD **Torodi Ar. Bea 138.95 287** PKP PKPdf 09 35 46.4 +1.9
0.8nm,0.7s,baz=46,slow=2.4,SNR=4.8
TORD **Torodi Ar. Bea 138.95 287** PKP PKPdf 09 35 46.4 +1.9
LPAZ **La Paz 145.12 124** PKPbc PKPbc 09 35 56.3 +1.3
6.0nm,0.8s,baz=269,slow=3.4,SNR=28
KIC **Kosan Boka 146.17 277** *e*PKP1 PKPbc 09 35 58.5 +0.1
72nm,1.1s
DBIC **Dimbokro 146.26 278** PKPbc PKPbc 09 35 59.1 +0.5
9.9nm,0.8s,baz=93,slow=3.8,SNR=8.3
TIC **Toumodi 146.42 278** *e*PKP1 PKPbc 09 35 59.1 0.0
19nm,0.5s
LIC **Lamto 146.47 277** *e*PKP1 PKPbc 09 35 59.1 -0.2
77nm,1.4s

IDC 06 09:20:05.0±2.0,271S×14188E,h0km,mb3.8/4,mb1 4.0/5, mb1mx3.8/17,mbtmp3.9/5,ML3.8/1,Error ellipse: s-maj=72.6km s-min=25.2km az=98.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.65**	**203**	P	Pn	09 24 24.1	-0.6
0.3nm,0.3s,baz=24,slow=11,SNR=5.4							
FITZ	**Fitzroy Crossi**	**22.09**	**225**	P	P	09 25 02.0	+0.1
3.0nm,0.6s,baz=41,slow=16,SNR=5.1							
ASAR	**Alice Springs**	**22.22**	**200**	P	P	09 25 03.4	+0.1
0.8nm,0.7s,baz=31,slow=10,SNR=5.9							
MKAR	**Makanchi Array**	**71.74**	**321**	P	P	09 31 29.2	+0.1
0.5nm,0.3s,baz=113,slow=6.7,SNR=6.0							
BVAR	**Borovoye Array**	**81.13**	**325**	P	P	09 32 22.4	+0.1
0.9nm,0.5s,baz=122,slow=5.6,SNR=4.5							
LPAZ	**La Paz**	**144.85**	**123**	PKP	PKPdf	09 39 45.6	+0.5
3.2nm,1.0s,baz=243,slow=3.2,SNR=11							

*JMA **06** 09:21:29.5±0.3,2501N×12259E,h129km±4km,M2.3*
TAP 06 09:21:29.0,2490N×12268E,h129km±1km,ML3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**145**	P	Pn	09 21 49.5	+1.4
YOJ				*e*S	Sn	09 22 05.4	+2.8
IRIF	**Iriomote-Funau**	**1.11**	**120**	P	Pn	09 21 54.9	+2.0
IRIF				*e*S	Sn	09 22 13.7	+2.7
HATJ	**Hateruma jima**	**1.32**	**129**	P	Pn	09 21 57.3	+2.2
HATJ				*e*S	Sn	09 22 18.1	+3.2
JKRS	**Kuro-shima**	**1.38**	**118**	P	Pn	09 21 57.8	+2.1
JKRS				*e*S	Sn	09 22 19.1	+3.1
JJI	**Ishigaki jima**	**1.43**	**112**	P	Pn	09 21 58.2	+1.9
JJI				*e*S	Sn	09 22 19.1	+2.0
JTJ	**Tarama**	**1.86**	**98**	P	Pn	09 22 03.7	+2.5
JTJ				*e*S	Sn	09 22 28.7	+3.0

*ISCJB **06** 09:21:36.5±0.8,26N±0.1×663E±0.1,h10km,mb4.1/7,Error ellipse: s-maj=19.5km s-min=14.9km az=156.5*
*IDC **06** 09:21:36.7±2.1,263N×66.14E,h0km,mb3.9/6,mb1 4.0/6, mb1mx3.7/23,mbtmp3.9/6,Error ellipse: s-maj=73.5km s-min=24.7km az=57.0*
*NEIC **06** 09:21:38.7±0.7,263N×6629E,h10km,Error ellipse: s-maj=18.5km s-min=13.1km az=156.0*
ISC 06 09:21:38.7±0.8,26N±01×663E±01,h10km,n10,σ0$82/10, mb4.1/7,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**13.01**	**236**	P	**Pn**	09 24 43.2	-0.6
PALK	**Pallekele**	**15.08**	**72**	P	**Pn**	09 25 11.3	-0.8
AKTK	**Aktyubinsk**	**48.14**	**353**	P	**P**	09 30 18.9	0.0
AKTO	**Aktyubinsk**	**48.14**	**353**	P	**P**	09 30 18.9	0.0
2.4nm,0.7s,mb4.3,baz=179,slow=8.6,SNR=7.5							
ZALV	**Zalesovo Beam**	**53.37**	**14**	P	**P**	09 30 57.0	-1.2
2.4nm,0.8s,mb4.2,baz=214,slow=7.2,SNR=5.8							
SONM	**Songino Array**	**56.74**	**31**	P	**P**	09 31 23.6	+0.8
0.6nm,0.5s,mb3.9,baz=241,slow=5.9,SNR=6.2							
KWP	**Kalwaria**	**59.65**	**329**	*e*P	**P**	09 31 44.7	+1.6
11nm,0.3s,mb5.4							
HFS	**Hagfors**	**69.92**	**335**	P	**P**	09 32 49.2	-0.7
1.7nm,0.6s,mb4.2,baz=119,slow=10,SNR=6.8							
WRA	**Warramunga Arr**	**70.38**	**112**	P	**P**	09 32 54.0	+0.5
0.7nm,0.8s,mb3.6,baz=289,slow=6.2,SNR=4.0							
ASAR	**Alice Springs**	**70.70**	**116**	P	**P**	09 32 55.9	+0.5
0.5nm,0.9s,mb3.4,baz=292,slow=4.9,SNR=3.8							

*ISCJB **06** 09:27:01.2±0.8,27N±0.1×665E±0.1,h10km,mb4.1/8,Error ellipse: s-maj=20.7km s-min=17.8km az=4.0*
*IDC **06** 09:27:01.3±0.9,263N×6643E,h0km,mb4.0/8,mb1 4.1/8, mb1mx3.8/23,mbtmp4.0/8,Error ellipse: s-maj=30.2km s-min=24.2km az=54.0*
*NEIC **06** 09:27:03.0±0.8,266N×6647E,h10km,Error ellipse: s-maj=21.8km s-min=17.6km az=175.0*
ISC 06 09:27:03.2±0.8,26N±01×665E±01,h10km,n11,σ1$06/10, mb4.1/8,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.89**	**71**	*e*P	**Pn**	09 30 33.9	-0.1
AKTK	**Aktyubinsk**	**48.17**	**353**	P	**P**	09 35 44.4	+0.9
AKTO	**Aktyubinsk**	**48.17**	**353**	P	**P**	09 35 44.4	+0.8
2.5nm,0.8s,mb4.3,baz=166,slow=9.8,SNR=3.7							
BOSA	**Boshof**	**50.30**	**229**	P	**P**	09 36 01.6	+1.4
6.3nm,1.0s,mb4.6,baz=66,slow=10.0,SNR=3.0							
ZALV	**Zalesovo Beam**	**53.32**	**13**	P	**P**	09 36 22.1	-0.2
0.6nm,0.3s,mb4.0,baz=197,slow=8.6,SNR=3.5							
SONM	**Songino Array**	**56.63**	**31**	P	**P**	09 36 47.8	+1.3
0.4nm,0.7s,mb3.6,baz=218,slow=6.8,SNR=3.0							
HFS	**Hagfors**	**70.01**	**335**	P	**P**	09 38 13.2	-1.7
2.1nm,0.7s,mb4.2,baz=116,slow=6.6,SNR=4.2							
WRA	**Warramunga Arr**	**70.20**	**112**	P	**P**	09 38 16.8	-0.1
2.3nm,0.9s,mb4.1,baz=288,slow=6.0,SNR=7.9							
ASAR	**Alice Springs**	**70.52**	**116**	P	**P**	09 38 17.9	-0.8
1.0nm,0.8s,mb3.8,baz=256,slow=5.1,SNR=5.0							
ESDC	**Sonseca Array**	**73.32**	**311**	P	**P**	09 38 33.6	-1.7
0.7nm,0.5s,mb3.9,baz=294,slow=37,SNR=3.2							
TXAR	**Lajitas Array**	**146.84**	**344**	PKPbc	PKPbc	09 46 46.1	-0.3
1.8nm,0.7s,baz=52,slow=3.0,SNR=19							

*NIED **06** 09:29:00,47.10N×15300E,h20km,Mw4.0 Best double couple: M0 1.14000×10^15 NP1:φs222.00000°,δ87.00000°, λ-128.00000°. NP2:φs128.00000°,δ38.00000°, λ-5.00000°.*
*SKHL **06** 09:29:09.3±0.7,4660N×15330E,h75km±45km,mb4.6/2*

*ISCJB **06** 09:29:13.1±1.0,4687N±007×15290E±0.10,h61km±9km, mb4.2/27,Error ellipse: s-maj=14.2km s-min=7.9km az=140.2*
*NEIC **06** 09:29:14.9±0.4,4709N×15295E,mb4.6/4,Error ellipse: s-maj=12.7km s-min=7.6km az=154.0*
*IDC **06** 09:29:15.1±0.6,4699N×15284E,h57km±5km,mb3.8/21, mb1 4.1/22,mb1mx4.0/29,mbtmp3.9/22,Error ellipse: s-maj=17.8km s-min=13.2km az=143.0*
*MOS **06** 09:29:15.3±1.1,4703N×15292E,h76km,mb4.5/6,Error ellipse: s-maj=14.2km s-min=11.5km az=76.1*
ISC 06 09:29:15.5±0.9,4688N±007×15286E±010,h65km±8km, h55km±.7km:pP-P,n68,σ1$28/81,mb4.2/27,7C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.85**	**246**	⇑*i*PN	**Pn**	09 30 10.0	-2.1
KUR				*e*S	**Sn**	09 30 56.0	0.0
KUR				pmax	pmax		
comp=Z,160nm,0.8s							
KUR				smax			
comp=N,340nm,0.7s							
KUR				smax			
comp=E,200nm,0.7s							
KUR	**Kuril'sk**	**3.85**	**246**	⇑*i*P	**Pn**	09 30 10.0	-2.1
KUR				AMB	AMB	09 30 10.5	
comp=E,161nm,0.8s							
KUR				*e*S	**Sn**	09 30 56.0	0.0
KUR				A		09 31 15.0	
comp=E,344nm,0.7s							
KUR				A		09 31 15.0	
comp=E,198nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**5.69**	**242**	*e*PN	**Pn**	09 30 38.0	+0.7
YUK				*e*S	**Sn**	09 31 44.0	+2.9
YUK				pmax	pmax		
comp=Z,190nm,0.3s							
YUK				smax			
comp=N,2μm,0.6s							
YUK				smax			
comp=E,2μm,0.6s							
YUK				smax			
comp=N,230nm,0.5s							
YUK				smax			
comp=E,380nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.69**	**242**	*e*P	**Pn**	09 30 38.0	+0.7
YUK				*e*S	**Sn**	09 31 44.0	+2.9
YUK				A		09 32 04.0	
comp=E,2μm,0.6s							
YUK				A		09 32 04.6	
comp=E,230nm,0.5s							
YUK				A		09 32 04.6	
comp=E,380nm,0.5s							
NEM2	**Nemuro 2**	**6.14**	**238**	P	**Pn**	09 30 42.7	-0.8
NEM2				*e*S	**Sn**	09 31 50.0	-2.3
JRA	**Rausu**	**6.19**	**244**	P	**Pn**	09 30 46.1	+1.9
JNK	**Nakash**	**6.63**	**243**	P	**Pn**	09 30 51.3	+1.2
YSS	**Yuzh-Sakhalins**	**6.92**	**274**	*e*P	**Pn**	09 30 58.0	+3.8
YSS	**Yuzh-Sakhalins**	**6.92**	**274**	*e*Pn	**Pn**	09 30 54.6	+0.4
comp=E,9.1nm,0.4s							
JTKR	**Abashiri--Toko**	**6.94**	**248**	P	**Pn**	09 30 56.4	+2.0
PETK	**Petropavlovsk-**	**6.97**	**25**	P	**Pn**	09 30 53.8	-0.9
comp=E,0.7nm,0.3s,baz=182,slow=12,SNR=3.9							
JAK	**Akkeshi**	**6.97**	**239**	P	**Pn**	09 30 53.7	-1.2
JAK				*e*S	**Sn**	09 32 09.6	-3.1
JMP	**Maruseppu**	**7.27**	**250**	P	**Pn**	09 31 01.7	+2.7
JAR	**Ashorobuto**	**7.36**	**244**	P	**Pn**	09 31 01.5	+1.3
JOB	**Onbets**	**7.54**	**241**	P	**Pn**	09 31 03.8	+1.1
JOB				*e*S	**Sn**	09 32 25.7	-0.9
ASAJ	**Asahikawa**	**7.72**	**253**	P	**Pn**	09 31 08.2	+3.1
ASAJ	**Asahikawa**	**7.72**	**253**	P	**Pn**	09 31 08.6	+3.4
comp=E,1.5nm,0.3s,baz=83,slow=12,SNR=16							
ASAJ	**Asahikawa**	**7.72**	**253**	PN	**Pn**	09 31 08.6	+3.5
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
JKK2	**Kamakawa 2**	**7.73**	**251**	P	**Pn**	09 31 08.1	+2.9
TYV	**Tymovskoe**	**7.82**	**304**	*e*P	**Pn**	09 31 08.0	+1.6
TYV				AMB	AMB	09 31 09.8	
comp=Z,9.0nm,0.8s							
TYV				AMB	AMB	09 31 09.8	
comp=Z,13nm,0.8s							
JCH	**Churui**	**7.99**	**241**	P	**Pn**	09 31 08.2	-0.6
JCH				*e*S	**Sn**	09 32 32.4	-5.3
JNBK	**Urakawa-nobuka**	**8.55**	**241**	P	**Pn**	09 31 15.9	-0.6
JNBK				*e*S	**Sn**	09 32 47.8	-3.6
JKB	**Kayabe**	**9.83**	**244**	P	**Pn**	09 31 33.5	-0.4
JKB				*e*S	**Sn**	09 33 16.9	-5.6
JANG	**Nango**	**10.48**	**236**	P	**Pn**	09 31 39.2	-3.6
JANG				*e*S	**Sn**	09 33 27.3	-11
OFUJ	**Ofunato**	**11.30**	**230**	*e*S	**Sn**	09 33 49.0	-10
JRG	**Rokugo**	**11.64**	**234**	P	**Pn**	09 31 56.3	-2.3
JRG				*e*S	**Sn**	09 33 56.4	-10
MJAR	**Matsushiro Arr**	**15.02**	**232**	P	**Pn**	09 32 47.6	+3.8
comp=Z,0.4nm,0.3s,baz=33,slow=9.5,SNR=10							
VLA	**Vladivostok**	**15.29**	**263**	*e*P	**Pn**	09 32 53.7	+6.4
VLA				pmax	pmax		
comp=Z,16nm,1.0s							
KSRS	**Korea Array**	**20.67**	**252**	P	**P**	09 33 52.3	+2.4
comp=Z,2.1nm,0.6s,baz=54,slow=11,SNR=7.1							
KSRS	**Korea Array**	**20.67**	**252**	P	**P**	09 33 52.3	+2.4
KSRS				pmax	pmax		
comp=Z,2.0nm,0.6s							
BILL	**Bilibino**	**22.30**	**13**	⇑*e*P	**P**	09 33 59.5	-7.5
BILL				*e*		09 34 16.1	
BILL				*e*S	**S**	09 38 01.8	-6.3
BILL				pmax	pmax		
comp=Z,4.0nm,1.0s,mb3.8							
COLD	**Coldfoot**	**35.32**	**34**	*e*P	**P**	09 36 02.8	-1.1
comp=Z,3.5nm,0.8s,mb4.3							
COLD				*e*pP	pP	09 36 16.7	-3.0
COLA	**College**	**36.14**	**38**	*e*P	**P**	09 36 02.6	-8.3
HVS	**Khovu-Aksy**	**38.13**	**299**	*e*P	**P**	09 36 32.5	+4.6
HVS				pmax	pmax		
comp=Z,12nm,1.3s,mb4.5							
INK	**Inuvik**	**41.63**	**32**	P	**P**	09 36 57.1	+0.3
comp=Z,2.8nm,0.6s,mb4.0,baz=296,slow=7.7,SNR=6.3							
INK	**Inuvik**	**41.63**	**32**	*e*P	**P**	09 36 55.5	-1.2
comp=Z,65nm,0.6s,mb5.4							
INK				P		09 36 57.1	
ZALV	**Zalesovo Beam**	**42.39**	**306**	P	**P**	09 37 01.7	-1.4
comp=Z,0.7nm,0.4s,mb3.7,baz=40,slow=6.3,SNR=2.4							
ZAL	**Zalesovo**	**42.41**	**306**	P	**P**	09 37 01.7	-1.5
MKAR	**Makanchi Array**	**46.73**	**297**	P	**P**	09 37 37.9	+0.1
comp=Z,0.3nm,0.2s,mb3.8,baz=69,slow=11,SNR=4.5							
KURK	**Kurchatov**	**47.15**	**303**	⇑*e*P	**P**	09 37 42.0	+1.1
KURK				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
BVAR	**Borovoye Array**	**50.64**	**309**	P	**P**	09 38 08.8	+1.1
comp=Z,0.3nm,0.5s,mb3.5,baz=65,slow=12,SNR=3.6							
BVAR				PcP	PcP	09 39 24.6	+0.4
comp=Z,0.9nm,0.5s,baz=76,slow=6.3,SNR=5.4							
YKA	**Yellowknife Ar**	**50.92**	**37**	P	**P**	09 38 10.1	+0.4
comp=Z,2.2nm,0.7s,mb4.2,baz=298,slow=7.0,SNR=3.3							
CMAR	**Chiang Mai Arr**	**52.23**	**256**	P	**P**	09 38 22.1	+2.2
comp=Z,1.2nm,0.4s,mb4.2,baz=32,slow=7.2,SNR=4.5							
KBS	**Kingsbay**	**52.34**	**351**	⇑*e*P	**P**	09 38 19.9	-0.1
ARCES	**ARCESS Array B**	**57.67**	**341**	P	**P**	09 38 57.9	-0.6
comp=Z,1.0nm,0.7s,mb4.0,baz=39,slow=7.8,SNR=5.5							
ARCES	**ARCESS Array B**	**57.67**	**341**	P	**P**	09 38 57.9	-0.6
MSO	**Missoula**	**59.82**	**52**	*e*P	**P**	09 39 13.7	0.0
NVAR	**Mina Array Bea**	**62.53**	**62**	P	**P**	09 39 33.1	+0.9
comp=Z,0.9nm,0.7s,mb4.0,baz=296,slow=7.0,SNR=7.9							
RRI2	**Red Ridge**	**63.45**	**54**	*e*P	**P**	09 39 38.3	+0.1
comp=Z,4.8nm,0.7s,mb4.7							
REDW	**Red Top Meadow**	**63.70**	**54**	*e*P	**P**	09 39 38.4	-1.5
comp=Z,2.7nm,0.7s,mb4.4							
PDAR	**Pinedale Array**	**64.81**	**54**	P	**P**	09 39 47.7	+0.5
comp=Z,1.7nm,0.8s,mb4.2,baz=332,slow=1.2,SNR=13							
OBN	**Obninsk**	**65.10**	**325**	⇑*e*P	**P**	09 39 48.1	-0.7
OBN				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
OBN				MLR	MLR		
comp=Z,300nm,22.0s							
NB2	**NORSAR Subarra**	**68.05**	**341**	P	**P**	09 40 06.6	-0.9
comp=Z,2.2nm,0.6s,mb4.4,baz=27,slow=6.2							
NOA	**NORSAR Array B**	**68.05**	**341**	P	**P**	09 40 06.9	-0.6
comp=Z,4.1nm,0.8s,mb4.5,baz=27,slow=6.3,SNR=16							
HFS	**Hagfors**	**68.27**	**339**	P	**P**	09 40 08.4	-0.5
comp=Z,8.2nm,0.6s,mb4.9,baz=55,slow=5.6,SNR=32							
WRA	**Warramunga Arr**	**68.58**	**199**	P	**P**	09 40 11.6	+0.4
comp=Z,0.6nm,1.0s,mb3.5,baz=16,slow=6.2,SNR=3.5							
WRA				pP	pP	09 40 26.3	-2.4
comp=Z,0.4nm,0.6s,baz=22,slow=6.9,SNR=2.8							
AKASG	**Malin Array Be**	**71.34**	**326**	P	**P**	09 40 27.3	-0.6
comp=Z,3.9nm,0.4s,mb4.7,baz=34,slow=6.1,SNR=16							
AKASG	**Malin Array Be**	**71.34**	**326**	*i* P	**P**	09 40 27.2	-0.7
AKASG				pmax	pmax		
comp=Z,4.0nm,0.4s							
ASAR	**Alice Springs**	**72.28**	**198**	P	**P**	09 40 35.4	+1.7
comp=Z,0.7nm,0.7s,mb3.7,baz=17,slow=5.3,SNR=7.3							
ASAR				pP	pP	09 40 49.9	-1.3
comp=Z,0.6nm,0.5s,baz=18,slow=5.9,SNR=3.5							
EKA	**Eskdalemuir Ar**	**76.17**	**346**	P	**P**	09 40 55.9	-0.2
comp=Z,0.5nm,0.5s,mb3.7,baz=26,slow=4.6,SNR=4.2							
CLL	**Collm**	**76.27**	**335**	⇓*i*P	**P**	09 40 56.3	-0.5
DARE	**Darende-Malaty**	**76.76**	**313**	*e*PN	**P**	09 40 52.6	-7.1
MLR	**Muntele Rosu**	**76.86**	**325**	P	**P**	09 41 00.8	+0.6
comp=Z,1.6nm,0.6s,mb4.1,baz=348,slow=9.3,SNR=4.4							
VRAC	**Vranov**	**76.95**	**332**	P	**P**	09 41 01.0	+0.3
comp=Z,2.3nm,0.4s,mb4.4,baz=34,slow=3.6,SNR=2.9							
TXAR	**Lajitas Array**	**77.58**	**60**	P	**P**	09 41 04.8	+0.3
comp=Z,1.4nm,0.5s,mb4.1,baz=298,slow=4.8,SNR=32							
TXAR				pP	pP	09 41 20.2	-1.9
comp=Z,1.3nm,0.7s,baz=8.9,slow=1.9,SNR=7.0							
TXAR				sP	sP	09 41 29.1	-0.1
comp=Z,2.3nm,0.7s,baz=343,slow=2.6,SNR=9.4							
KHC	**Kasperske Hory**	**78.04**	**334**	⇑*e*P	**P**	09 41 06.1	-0.6
GERES	**GERESS Array B**	**78.26**	**334**	P	**P**	09 41 07.2	-0.7
comp=Z,0.7nm,0.5s,mb3.8,baz=64,slow=9.1,SNR=5.8							
MMAI	**Mount Meron Ar**	**82.60**	**311**	P	**P**	09 41 32.4	+1.0
comp=Z,1.9nm,0.4s,mb4.5,baz=21,slow=5.2,SNR=2.4							

*NEIC **06** 09:30:31.4±4.1,1469S×16727E,h99km±17km,mb4.5/6, Error ellipse: s-maj=79.3km s-min=15.1km az=65.0*
*ISCJB **06** 09:30:35.6±3.5,151S±02×1663E±04,h71km±18km, mb4.5/6,Error ellipse: s-maj=74.1km s-min=9.2km az=155.5*
*IDC **06** 09:30:37.8±9.8,1444S×16689E,h139km±66km,mb4.1/5, mb1 4.2/6,mb1mx3.7/20,mbtmp4.1/6,Error ellipse: s-maj=117.9km s-min=53.5km az=64.0*
ISC 06 09:30:36.7±3.2,150S±02×1665E±03,h79km±14km,n16, σ0$66/19,mb4.5/6,2D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.00**	**180**	*e*P	**Pn**	09 32 16.5	0.0
DZM				*e*S	**Sn**	09 33 34.4	-0.2
DZM	**Mont Dzumac**	**7.00**	**180**	*e*Pn	**Pn**	09 32 16.4	-0.2
HNR	**Honiara**	**8.47**	**310**	P	**Pn**	09 32 37.0	+0.3
9.7nm,0.3s,baz=258,slow=0.8,SNR=5.7							
HNR				S	**Sn**	09 34 10.7	-0.1
46nm,0.3s,baz=82,slow=19,SNR=8.4							
HNR	**Honiara**	**8.47**	**310**	P	**Pn**	09 32 37.0	+0.3
HNR				S	**Sn**	09 34 10.7	-0.1
CTA	**Charters Tower**	**19.93**	**252**	*e*P	**Pn**	09 35 05.7	+1.1
9.5nm,0.8s							
CTA	**Charters Tower**	**19.93**	**252**	P	**Pn**	09 35 06.1	+1.4
15nm,0.9s,baz=70,slow=11,SNR=12							
CTAO	**Charters Tower**	**19.93**	**252**	*e*P	**Pn**	09 35 03.6	-1.1
20nm,1.0s							
STKA	**Stephens Creek**	**28.22**	**229**	⇓*i*P	**P**	09 36 23.6	+1.4
4.8nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**28.22**	**229**	P	**P**	09 36 23.6	+1.4
7.2nm,0.7s,mb4.3,baz=42,slow=11,SNR=15							
WB2	**Warramunga Arr**	**31.00**	**256**	⇓*i*P	**P**	09 36 46.3	-0.7
WRAB	**Tennant Creek**	**31.01**	**256**	*e*P	**P**	09 36 46.4	-0.6
29nm,1.9s,mb4.7							
WRA	**Warramunga Arr**	**31.02**	**256**	P	**P**	09 36 46.4	-0.7
3.8nm,0.6s,mb4.3,baz=87,slow=9.4,SNR=58							
ASAR	**Alice Springs**	**31.86**	**249**	P	**P**	09 36 54.2	-0.2
3.3nm,0.7s,mb4.2,baz=76,slow=9.6,SNR=56							
FORT	**Forrest**	**38.49**	**239**	*e*P	**P**	09 37 51.9	+0.6
13nm,0.5s,mb5.0							
FITZ	**Fitzroy Crossi**	**39.22**	**260**	*e*P	**P**	09 37 57.2	-0.3
9.7nm,0.7s,mb4.7							
FITZ	**Fitzroy Crossi**	**39.22**	**260**	P	**P**	09 37 57.6	0.0
7.9nm,0.9s,mb4.5,baz=97,slow=11,SNR=8.0							

*BJI **06** 09:32:19.1,162N×6576E,h10km,mB5.4,mb4.9,Ms5.0, Msz4.8*
*MOS **06** 09:32:26.9±1.2,260N×6622E,h10km,mb5.1/21, MS4.6/11,Error ellipse: s-maj=10.0km s-min=6.5km az=101.4*
*ISCJB **06** 09:32:26.6±0.3,250N±005×6620E±004,h10km,mb4.7/74, MS4.8/24,Error ellipse: s-maj=7.7km s-min=5.3km az=171.6*
*IDC **06** 09:32:27.3±0.5,258N×6635E,h0km,mb4.2/29, mb1 4.3/29,mb1mx4.3/32,mbtmp4.2/29,Error ellipse: s-maj=15.3km s-min=12.3km az=40.0*
*GCMT **06** 09:32:28.4±0.2,254N×6640E,h12km,MW5.3/102, Moment Tensor Solution. s56,c82; s102,c196; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-1.11±.01; Mθθ0.85±.01; Mφφ0.26±.01; Mrθ0.14±.04; Mθφ-0.48±.01; Mφr-0.10±.05; Best double couple: M0 1.12500×10^17 NP1:φs118.00000°,δ41.00000°, λ-92.00000°. NP2:φs300.00000°,δ49.00000°, λ-89.00000°. Principal axes: T 1.1270, Plg4.0000°, Azm29.0000°; N -0.0050, Plg1.0000°, Azm119.0000°; P -1.1240, Plg85.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 09:32:28.4±0.3,248N×6627E,h10km,mb5.1/24,MS4.4/2 Error ellipse: s-maj=10.3km s-min=7.6km az=25.0*
**ISC 06 09:32:28.2±1.3,255N±006×6628E±004,h6km±8km, h17km

GNI	Garni	42.21	335	eP	P	09 40 24.7	+2.6
	comp=Z,100nm,1.7s,mb5.2						
MAK	Makhachkala	43.58	340	eP	P	09 40 32.9	-0.3
MAK				e		09 42 25.5	
MAK				eS	S	09 47 03.7	+0.8
MAK				pmax	pmax		
	comp=Z,184nm,1.5s,mb5.6						
MAK				MLR	MLR		
	comp=Z,386nm,17.0s,MS4.4						
CD2	Chengdu	45.25	47	eP	P	09 40 47.6	+0.8
CD2				AP	pP	09 40 52.1	+3.6
CD2				XP	sP	09 40 54.8	+5.6
CD2				PCP	PcP	09 42 26.4	-0.4
CD2				PP	PP	09 42 34.4	+1.8
CD2				PCS	PcS	09 46 19.1	-1.6
CD2				S	S	09 47 28.9	+1.3
CD2				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=N,2µm,22.8s						
CD2				LR	LR		
	comp=E,930nm,15.6s						
CD2				LR	LR		
	comp=Z,2µm,19.2s,MS5.0						
WMQ	Urumqi	45.27	22	P	P	09 40 47.9	+1.2
WMQ				AP	pP	09 40 52.4	+3.9
WMQ				XP	sP	09 40 54.9	+5.7
WMQ				PCP	PcP	09 42 27.5	+0.9
WMQ				PP	PP	09 42 34.8	+2.2
WMQ				SCP	ScP	09 46 18.4	-1.7
WMQ				S	S	09 47 27.9	+0.4
WMQ				SCS	ScS	09 50 41.6	-2.8
WMQ				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,65nm,8.5s						
WMQ				LR	LR		
	comp=N,1µm,20.2s,MS4.8						
WMQ				LR	LR		
	comp=E,728nm,22.5s,MS4.8						
WMQ				LR	LR		
	comp=Z,1µm,26.6s,MS4.7						
GYA	Guiyang	45.43	55⇑	iP	P	09 40 49.2	+0.9
GYA				PCP	PcP	09 42 28.0	+0.5
GYA				PP	PP	09 42 36.8	+2.2
GYA				S	S	09 47 30.6	+0.2
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,130nm,7.4s						
GYA				LR	LR		
	comp=N,560nm,19.4s,MS4.7						
GYA				LR	LR		
	comp=E,540nm,19.6s,MS4.7						
GYA				LR	LR		
	comp=Z,650nm,20.0s,MS4.6						
QIZ	Qiongzhong	45.64	66	P	P	09 40 48.0	-2.0
QIZ				S	S	09 47 32.7	-0.9
QIZ				SS	SS	09 50 54.0	-3.9
QIZ				AMB	AMB		
	comp=Z,44nm,2.1s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,205nm,3.5s						
QIZ				LR	LR		
	comp=E,1µm,24.7s						
QIZ				LR	LR		
	comp=Z,1µm,23.8s,MS4.8						
MK31	Makanchi Array	46.22	15	eP	P	09 40 55.0	+0.9
MKAR	Makanchi Array	46.22	15	P	P	09 40 53.2	-0.9
	comp=Z,0.3nm,0.3s,mb3.7,baz=185,slow=8.5,SNR=6.8						
MKAR	Makanchi Array	46.22	15	P	P	09 40 53.2	-0.9
SOC	Sochi	47.17	334	eP	P	09 40 56.0	-5.7
SOC				e		09 42 53.0	
SOC				eSS	SS	09 51 12.8	-9.4
SOC				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.4						
GTA	Gaotai	47.70	35	eP	P	09 41 06.7	+0.9
GTA				AP	pP	09 41 10.8	+3.2
GTA				XP	sP	09 41 14.2	+5.9
GTA				PP	PP	09 42 57.4	-0.1
GTA				S	S	09 47 59.3	-3.1
GTA				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.6						
GTA				AMB	AMB		
	comp=Z,278nm,5.7s						
GTA				LR	LR		
	comp=N,820nm,17.9s,MS4.9						
GTA				LR	LR		
	comp=E,857nm,16.0s,MS4.9						
GTA				LR	LR		
	comp=Z,1µm,14.8s,MS4.9						
LBTB	Lobatse	48.03	233	P	P	09 41 09.9	+1.3
	comp=Z,3.5nm,0.8s,mb4.4,baz=78,slow=14,SNR=3.6						
LZH	Lanzhou	48.14	42	eP	P	09 41 10.9	+1.6
LZH				AP	pP	09 41 15.7	+4.6
LZH				XP	sP	09 41 18.6	+6.8
LZH				PP	PP	09 43 03.0	+1.4
LZH				eS	S	09 48 09.8	+1.0
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,190nm,4.4s						
LZH				LR	LR		
	comp=E,1µm,19.6s						
LZH				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
AKTK	Aktyubinsk	48.22	353	P	P	09 41 09.3	-0.3
AKTO	Aktyubinsk	48.22	353	P	P	09 41 09.3	-0.3
	comp=Z,5.0nm,0.8s,mb4.6,baz=160,slow=7.5,SNR=18						
AKTO	Aktyubinsk	48.22	353	P	P	09 41 09.4	-0.3
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KURK	Kurchatov	49.11	10	eP	P	09 41 16.2	-0.3
KURK				e*PP	pP	09 41 22.0	+3.7
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
KURK	Kurchatov	49.11	10	eP	P	09 41 16.2	-0.3
	comp=Z,10nm,1.2s,mb4.7						
KURK				epP	pP	09 41 22.0	+3.7
BOSA	Boshof	50.09	229	P	P	09 41 26.2	+1.8
	comp=Z,5.9nm,1.0s,mb4.6,baz=128,slow=7.0,SNR=6.3						
BVAR	Borovoye Array	50.42	3	P	P	09 41 25.1	-1.3
	comp=Z,0.3nm,0.5s,mb3.6,baz=169,slow=8.2,SNR=4.8						
BVAR				PcP	PcP	09 42 45.2	+0.4
	comp=Z,1.2nm,0.9s,baz=172,slow=2.2,SNR=4.7						
XAN	Xi'an	50.59	47	P	P	09 41 27.3	-0.8
XAN				AP	pP	09 41 32.9	+3.0
XAN				PP	PP	09 43 24.0	0.0
XAN				S	S	09 48 37.3	-6.0
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
XAN				AMB	AMB		
	comp=Z,257nm,5.0s						
XAN				LR	LR		
	comp=N,180nm,14.7s,MS4.4						
XAN				LR	LR		
	comp=E,275nm,18.3s,MS4.4						
XAN				LR	LR		
	comp=Z,546nm,19.1s,MS4.6						
WHN	Wuhan	53.26	53	P	P	09 41 48.7	+0.6
WHN				S	S	09 49 20.1	+0.1
WHN				LR	LR		
	comp=N,2µm,29.4s,MS5.0						
WHN				LR	LR		
	comp=E,1µm,30.4s,MS5.0						
WHN				LR	LR		
	comp=Z,2µm,15.4s						
ZAL	Zalesovo	53.43	14	P	P	09 41 48.2	-0.7
ZAA0	Zalesovo Array	53.45	14	eP	P	09 41 48.8	-0.3
ZALV	Zalesovo Beam	53.45	14	P	P	09 41 48.2	-0.8
	comp=Z,4.9nm,0.7s,mb4.5,baz=215,slow=7.0,SNR=12						
HVS	Khovu-Aksy	53.63	21	eP	P	09 41 51.1	+0.7
NVS	Novosibirsk	53.92	12	eP	P	09 41 52.4	-0.1
ARU	Arti	54.07	355	eP	P	09 41 52.3	-1.2
ARU	Arti	54.07	355	eP	P	09 41 55.5	+1.9
	comp=Z,46nm,1.7s,mb5.1						
TIY	Taiyuan	54.85	44	eP	P	09 41 59.6	0.0
TIY				S	S	09 49 40.3	-1.0
TIY				LR	LR		
	comp=N,521nm,15.1s,MS4.9						
TIY				LR	LR		
	comp=E,547nm,15.2s,MS4.9						
TIY				LR	LR		
	comp=Z,991nm,18.1s,MS4.9						
MLR	Muntele Rosu	55.45	326	P	P	09 42 05.0	+1.2
	comp=Z,2.2nm,0.8s,mb4.2,baz=120,slow=3.8,SNR=5.5						
HHC	Hu-ho-hao-te	55.80	41	eP	P	09 42 07.3	+0.9
HHC				XP	sP	09 42 12.8	+3.9
HHC				PP	PP	09 44 14.7	+3.7
HHC				S	S	09 49 54.2	+0.2
HHC				SCS	ScS	09 51 52.0	-4.5
HHC				SS	SS	09 53 41.4	+1.7
HHC				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,259nm,4.6s						
HHC				LR	LR		
	comp=N,970nm,17.8s,MS5.0						
HHC				LR	LR		
	comp=E,782nm,21.4s,MS5.0						
HHC				LR	LR		
	comp=Z,1µm,17.8s,MS5.1						
SONM	Songino Array	56.81	31	P	P	09 42 14.3	+0.8
	comp=Z,3.0nm,0.9s,mb4.3,baz=223,slow=5.5,SNR=21						
AKASG	Malin Array Be	57.24	333	P	P	09 42 15.5	-0.9
	comp=Z,0.3nm,0.3s,mb3.7,baz=122,slow=5.7,SNR=11						
NJ2	Nanjing	57.39	53	eP	P	09 42 18.3	+0.4
NJ2				AP	pP	09 42 22.9	+3.2
NJ2				XP	sP	09 42 26.4	+6.0
NJ2				PCP	PcP	09 43 08.7	-3.1
NJ2				S	S	09 50 15.0	-0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,110nm,10.7s						
NJ2				LR	LR		
	comp=N,240nm,28.9s,MS4.3						
NJ2				LR	LR		
	comp=E,180nm,25.8s,MS4.3						
NJ2				LR	LR		
	comp=Z,170nm,24.2s,MS4.1						
OBN	Obninsk	57.67	340⇑	eP	P	09 42 17.8	-1.6
OBN				iS	S	09 50 21.9	+3.7
OBN				eSS	SS	09 54 05.8	-2.8
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
MOS	Moscow	57.84	341	eP	P	09 42 16.9	-3.6
MOS				e		09 43 13.5	
MOS				e		09 44 27.1	
MOS				e		09 50 30.2	
MOS				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.7						
TLY	Talaya	58.06	26	P	P	09 42 22.4	+0.2
	comp=Z,46nm,1.4s,mb5.3,SNR=6.2						
TLY	Talaya	58.06	26	eP	P	09 42 22.9	+0.7
TLY				pmax	pmax		
	comp=Z,34nm,1.7s,mb5.1						
TLY	Talaya	58.06	26	eP	P	09 42 22.9	+0.7
	comp=Z,34nm,1.7s,mb5.1						
BJI	Beijing	58.51	44	P	P	09 42 25.0	-0.6
BJI				S	S	09 50 28.9	-0.8
BJI				AMB	AMB		
	comp=Z,12nm,1.9s,mb4.6						
BJI				AMB	AMB		
	comp=Z,321nm,4.3s						
BJI				LR	LR		
	comp=N,454nm,22.4s						
BJI				LR	LR		
	comp=E,566nm,14.5s						
BJI				LR	LR		
	comp=Z,482nm,28.5s						
SSE	Sheshan	58.98	55	P	P	09 42 26.2	-2.8
SSE				S	S	09 50 30.8	-5.3
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,132nm,6.3s						
SSE				LR	LR		
	comp=N,371nm,16.4s,MS4.8						
SSE				LR	LR		
	comp=E,405nm,16.4s,MS4.8						
SSE				LR	LR		
	comp=Z,592nm,12.4s,MS4.9						
KOLS	Kolonicke sedl	59.53	328	iP	P	09 42 32.5	+0.1
KOLS				i		09 42 44.4	
KOLS	Kolonicke sedl	59.53	328	iP	P	09 42 32.5	+0.1
KOLS				e		09 42 44.4	
CRVS	Cervenica-Dubn	59.94	327	iP	P	09 42 37.2	+1.9
CRVS				i		09 42 46.9	
CRVS	Cervenica-Dubn	59.94	327	iP	P	09 42 37.2	+1.9
CRVS				e		09 42 46.9	
VYHS	Vyhne	61.15	326	eP	P	09 42 42.8	-0.8
VYHS				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.7						
VYHS	Vyhne	61.15	326	eP	P	09 42 42.8	-0.8
	comp=Z,11nm,1.7s,mb4.7						
KLMR	Klimovskoe	61.62	345	eP	P	09 42 45.1	-1.4
KLMR				pmax	pmax		
	comp=Z,61nm,1.5s,mb5.5						
DL2	Dalian	61.91	47	P	P	09 42 47.8	-1.1
DL2				S	S	09 51 15.1	+1.6
DL2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.9						
DL2				AMB	AMB		
	comp=Z,120nm,4.0s						
DL2				LR	LR		
	comp=N,350nm,17.0s,MS4.6						
DL2				LR	LR		
	comp=E,130nm,16.2s,MS4.6						
DL2				LR	LR		
	comp=Z,310nm,19.3s,MS4.5						
MODS	Modra-Piesok	61.97	325	eP	P	09 42 47.4	-1.7
MODS				pmax	pmax		
	comp=Z,32nm,2.7s,mb5.0						
MODS	Modra-Piesok	61.97	325	eP	P	09 42 47.4	-1.7
	comp=Z,32nm,2.7s,mb5.0						
ZST	Bratislava	61.97	325	eP	P	09 42 49.0	-0.1
ZST				pmax	pmax		
	comp=Z,35nm,2.0s,mb5.1						
ZST	Bratislava	61.97	325	eP	P	09 42 49.0	-0.1
	comp=Z,35nm,2.0s,mb5.1						
KEST	Kesra	62.01	309	P	P	09 42 50.8	+1.1
	comp=Z,1.0nm,0.8s,mb4.0,baz=80,slow=11,SNR=3.9						
OKC	Ostrava-Krasne	62.26	327	AMS	AMS	10 10 50.0	
	comp=Z,300nm,17.9s						
CONA	Conrad Observa	62.56	324⇑	iP	P	09 42 52.6	-0.5
	comp=Z,17nm,1.7s,mb4.9						
CSNA	Conrad Observa	62.56	324⇓	iP	P	09 42 52.4	-0.6
	comp=Z,16nm,1.6s,mb4.9						
VRAC	Vranov	62.84	326	P	P	09 42 54.5	-0.4
	comp=Z,2.1nm,0.4s,mb4.6,baz=121,slow=8.7,SNR=7.1						
TREC	Trest	63.45	325	AMS	AMS	10 13 10.0	
	comp=Z,300nm,18.1s						
DPC	Dobruska-Polom	63.53	327	eP	P	09 42 58.8	-0.7
DPC				AMS	AMS	10 08 10.0	
	comp=Z,300nm,24.9s						
UPC	Upice	63.78	327	eP	P	09 43 05.9	+4.8
GERES	GERESS Array B	64.26	324	P	P	09 43 04.2	-0.1
	comp=Z,0.4nm,0.2s,mb4.0,baz=15,slow=21,SNR=1.8						
GERES	GERESS Array B	64.26	324	P	P	09 43 04.2	-0.1
PRU	Pruhonice	64.33	326	eP	P	09 43 10.4	+5.6
PRU				eS	S	09 51 34.8	-8.6
PRU				AMS	AMS	10 12 10.0	
	comp=Z,300nm,22.8s						
KHC	Kasperske Hory	64.47	325	eP	P	09 43 03.4	-2.3
KHC				eS	S	09 51 49.7	+4.6
KHC				AMS	AMS	10 11 30.0	
	comp=Z,300nm,20.0s						
PVCC	Panska Ves	64.58	326	AMS	AMS	10 10 50.0	
	comp=Z,300nm,19.9s						
TORD	Torodi Ar. Bea	64.68	283	P	P	09 43 08.2	+0.5
	comp=Z,1.2nm,0.9s,mb3.9,baz=101,slow=5.9,SNR=6.2						
HIA	Hailar	64.98	36	eP	P	09 43 09.2	+0.2
HIA				pmax	pmax		
	comp=Z,14nm,0.9s						
HIA	Hailar	64.98	36	eP	P	09 43 09.2	+0.2
	comp=Z,14nm,0.9s,mb5.0						
BRG	Berggiesshubel	65.10	326	eP	P	09 43 17.0	+7.2
	comp=Z,4.5nm,0.7s,mb4.6						
BRG				e		09 43 21.3	
	comp=Z,26nm,1.8s						
NKC	Novy Kostel	65.63	325	eP	P	09 43 11.1	-2.1
NKC				AMS	AMS	10 11 00.0	
DAVOX	Davos/Dischmat	65.66	321	P	P	09 43 13.1	-0.4
	comp=Z,3.0nm,0.8s,mb4.4,baz=66,slow=5.1,SNR=5.7						
DAVOS	Davos	65.74	321	P	P	09 43 13.1	-0.9
CLL	Collm	65.83	327	iP	P	09 43 14.4	-0.1
CLL				e		09 43 22.0	
CLL				pmax	pmax		
	comp=Z,79nm,2.2s,mb5.4						
CLL				MLR	MLR		
	comp=Z,200nm,18.9s,MS4.3						
CLL	Collm	65.83	327	iP	P	09 43 14.4	-0.1
	comp=Z,79nm,2.2s,mb5.4						
CLL				LmV		09 16 00.0	
	comp=Z,200nm,18.9s						
CLL				ex	x	09 43 22.0	
CLL				ix	x	09 43 25.8	
CLL				eS	S	09 52 06.0	+4.3
CLL				e(SSS)		09 59 42.0	
CLL	Collm	65.83	327	iP	P	09 43 14.4	-0.1
	comp=Z,79nm,2.2s,mb5.4						
CLL				e		09 43 22.0	
CLL				i		09 43 25.8	
CLL				LR	LR		
	comp=Z,200nm,18.9s,MS4.3						
DAVA	Damuels	65.87	322⇑	iP	P	09 43 14.5	-0.3
	comp=Z,21nm,1.6s,mb4.9						
RUE	Ruedersdorf	65.98	328	eP	P	09 43 16.5	+1.1
SAOF	Saorge	66.11	318	eP	P	09 43 16.1	-0.3
KSRS	Korea Array	66.15	50	P	P	09 43 14.9	-1.9
	comp=Z,1.4nm,0.9s,mb4.0,baz=248,slow=8.9,SNR=6.0						
KSRS	Korea Array	66.15	50	P	P	09 43 14.9	-1.9
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
AUTN	L'Aution	66.20	318	eP	P	09 43 17.2	+0.2
MOX	Moxa	66.30	325	e(P)	P	09 43 18.6	+1.1
TOUF	Mont Tournerai	66.32	318	eP	P	09 43 18.4	+0.6
CN2	Changchun	66.35	43	eP	P	09 43 19.0	+1.0
CN2				eXP	sP	09 43 25.0	+4.5
CN2				eS	S	09 52 07.7	-0.6
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=N,400nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=E,500nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=Z,400nm,17.0s,MS4.7						
MVIF	Mont Vial	66.35	317	eP	P	09 43 18.2	+0.2
CALN	Calern	66.47	317	eP	P	09 43 18.5	-0.3
BOD	Bodaibo	66.61	26	eP	P	09 43 19.3	0.0
BOD				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.3						
SPAK	Spaichingen-Ko	66.88	322	eP	P	09 43 19.7	-1.6
BFO	Black Forest	67.25	322	eP	P	09 43 22.9	-0.7
BFO				pmax	pmax		
	comp=Z,40nm,1.8s,mb5.2						
BFO	Black Forest	67.25	322	eP	P	09 43 22.9	-0.7
	comp=Z,40nm,1.8s,mb5.2						
FELD	Feldberg im Sc	67.27	322	eP	P	09 43 23.3	-0.5
KAKA	Kakadu	67.40	105	eP	P	09 43 24.5	-0.7
	comp=Z,14nm,0.9s,mb5.0						
BBS	Basel-Blauen	67.42	321	eP	P	09 43 25.1	+0.4
ECH	Echery	67.92	322	eP	P	09 43 26.8	-1.1
MDJ	Mudanjiang	69.43	43	P	P	09 43 37.3	-0.1
MDJ				AP	pP	09 43 40.5	+1.3
MDJ				XP	sP	09 43 41.7	+1.8
MDJ				S	S	09 52 45.7	+0.5
MDJ				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,173nm,3.5s						
MDJ				LR	LR		
	comp=N,68nm,17.2s,MS4.8						
MDJ				LR	LR		
	comp=E,410nm,15.4s,MS4.8						
MDJ				LR	LR		
	comp=Z,399nm,16.4s,MS4.7						
MDJ	Mudanjiang	69.43	43	eP	P	09 43 38.2	+0.8
	comp=Z,57nm,1.7s,mb5.2						
HFS	Hagfors	69.99	335	P	P	09 43 40.0	-0.5
	comp=Z,7.2nm,0.8s,mb4.6,baz=123,slow=7.3,SNR=15						
MAW	Mawson	70.04	181	P	P	09 43 39.8	-0.9
	comp=Z,0.3nm,0.3s,mb3.7,baz=311,slow=9.5,SNR=2.3						
WRA	Warramunga Arr	70.36	112	P	P	09 43 42.9	-0.7
	comp=Z,9.3nm,0.9s,mb4.7,baz=291,slow=5.7,SNR=29						
WRAB	Tennant Creek	70.37	112	P	P	09 43 43.0	-0.6
	comp=Z,112nm,1.2s,mb5.7,SNR=6.0						
WRAB	Tennant Creek	70.37	112	eP	P	09 43 41.6	-2.0
WRAB				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
WRAB	Tennant Creek	70.37	112	eP	P	09 43 41.6	-2.0
	comp=Z,15nm,0.9s,mb4.9						
WB2	Warramunga Arr	70.37	112	eP	P	09 43 42.7	-0.9
WB2				iP	pP	09 43 49.5	+4.0
ASAR	Alice Springs	70.67	116	P	P	09 43 44.6	-0.8
	comp=Z,5.1nm,1.0s,mb4.4,baz=269,slow=5.2,SNR=17						
CLNS	Chul'man	71.16	30	eP	P	09 43 47.8	+0.1
CLNS				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
CLNS				pmax	pmax		
	comp=N,4.0nm,1.3s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.2s						
CLNS				MLR	MLR		
	comp=Z,783nm,16.0s,MS5.1						
CLNS				MLR	MLR		
	comp=N,128nm,14.0s,MS5.0						
CLNS				MLR	MLR		
	comp=E,534nm,15.0s,MS5.0						
NB2	NORSAR Subarra	71.51	335	P	P	09 43 48.5	-1.3
	comp=Z,43nm,1.7s,mb5.1,baz=120,slow=6.2						
NOA	NORSAR Array B	71.51	335	P	P	09 43 49.2	-0.6
	comp=Z,3.9nm,1.1s,mb4.3,baz=113,slow=6.5,SNR=3.4						
NOA	NORSAR Array B	71.51	335	P	P	09 43 49.2	-0.6
ARCES	ARCESS Array B	72.09	346	P	P	09 43 53.5	+0.4
	comp=Z,2.3nm,0.9s,mb4.1,baz=121,slow=8.5,SNR=5.3						
KLR	Kul'dur	72.23	39	eP	P	09 43 49.2	-5.1
MDT	Midelt	72.59	304	P	P	09 43 57.9	+1.1
	comp=Z,4.2nm,1.0s,mb4.3,baz=107,slow=0.7						
ESDC	Sonseca Array	73.21	311	P	P	09 44 00.2	-0.2
	comp=Z,3.2nm,0.8s,mb4.3,baz=86,slow=5.2,SNR=8.1						
ESLA	Sonseca Array	73.21	311	eP	P	09 44 01.0	+0.6
MJAR	Matsushiro Arr	73.99	53	P	P	09 44 05.3	+0.2
	comp=Z,0.6nm,0.5s,mb3.8,baz=267,slow=6.3,SNR=5.7						
YSS	Yuzh-Sakhalins	78.92	43	eP	P	09 44 28.0	-4.7
YSS				e		09 44 37.0	
YSS				MLR	MLR		
	comp=E,500nm,17.0s						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.9						
YSS	Yuzh-Sakhalins	78.92	43	eP	P	09 44 32.4	-0.3
	comp=Z,78nm,1.6s,mb5.4						
STKA	Stephens Creek	78.92	123	eP	P	09 44 32.4	-0.7
	comp=Z,4.6nm,0.9s,mb4.4						
STKA	Stephens Creek	78.92	123	P	P	09 44 32.5	-0.5
	comp=Z,7.5nm,1.0s,mb4.6,baz=320,slow=5.5,SNR=8.0						
TIXI	Tiksi	79.19	17	eP	P	09 44 32.1	-1.6
TIXI				pmax	pmax		
	comp=Z,37nm,2.2s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,616nm,21.0s,MS4.9						
TIXI	Tiksi	79.19	17	eP	P	09 44 35.0	+1.3
	comp=Z,12nm,1.1s,mb4.7						
NVL	N'lazarevskaya	81.33	196	eP	P	09 44 52.1	+6.9
NVL				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
CTA	Charters Tower	81.47	111	eP	P	09 44 46.5	-0.6
	comp=Z,4.1nm,0.9s,mb4.4						
CTA	Charters Tower	81.47	111	P	P	09 44 47.0	0.0
	comp=Z,3.7nm,0.7s,mb4.4,baz=273,slow=9.0,SNR=3.3						
CTA	Charters Tower	81.47	111	eP	P	09 44 46.5	-0.6
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SNAA	Sanae	85.94	197⇑	eP	P	09 45 12.1	+3.2
ARMA	Armidale	87.27	120	eP	P	09 45 17.0	+0.7
PET	Petropavlovsk	89.41	37⇑	eP	P	09 45 25.8	-0.2
PET				pmax	pmax		
	comp=Z,56nm,1.7s,mb5.6						
BILL	Bilibino	91.39	22⇑	eP	P	09 45 35.1	+0.2
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.7						
BILL				MLR	MLR		
	comp=Z,700nm,19.0s,MS5.1						
EDM	Edmonton	124.43	360	ePKIKP	PKPdf	09 51 28.4	0.0
REDW	Red Top Meadow	134.22	357	ePKPdf	PKPdf	09 51 47.4	0.0
PDAR	Pinedale Array	134.73	356	PKP	PKPdf	09 51 46

R17A	Hanksville Air	139.14	356	⇓P		PKPdf	09 51 51.2 -5.4
	baz=139						
TBI	Tubuai	139.71	124	eLR		LR	10 37 16.3
	comp=Z,138nm,32.2s						
S18A	Hurst Farm, Bl	139.81	355	⇓P		PKPdf	09 51 52.5 -5.4
	baz=140						
S16A	Weppner Ranch,	139.88	357	⇑P		PKPdf	09 51 52.6 -5.4
	baz=140						
T18A	Mexican Hat	140.35	355	⇓P		PKPdf	09 51 54.9 -3.9
	baz=141						
T13A	Saint George	140.63	0	⇑P		PKPdf	09 51 56.0 -3.3
	baz=141						
U17A	Shonto	140.94	356	⇓P		PKPdf	09 51 56.6 -3.3
	baz=141						
U18A	Rough Rock, Ch	141.06	355	⇓P		PKPdf	09 51 56.7 -3.5
	baz=141						
PPT	Papeete	141.79	115	eLR		LR	10 38 06.3
	comp=Z,340nm,28.0s						
ANMO	Albuquerque	142.08	350	ePKIKP		PKPdf	09 51 59.2 -2.8
W14A	Seligman	142.43	359	⇓P		PKPdf	09 52 00.5 -2.2
	baz=143						
W13A	Hualapai Mount	142.55	0	⇑P		PKPdf	09 52 00.9 -1.9
	baz=143						
LAZ	Ladron	142.72	351	ePKPdf		PKPdf	09 52 00.9 -2.3
LPM	Los Pinos Moun	142.73	350	ePKPdf		PKPdf	09 52 00.4 -2.8
BNM	Barren Site	142.89	350	ePKPdf		PKPdf	09 52 00.8 -2.7
LENM	Lemitar	142.93	351	ePKPdf		PKPdf	09 52 01.6 -2.0
X19A	St. Johns	142.98	354	⇓P		PKPdf	09 52 02.2 -1.4
	baz=143						
X13A	Yucca	143.05	0	⇑P		PKPdf	09 52 01.8 -2.0
	baz=143						
X15A	Humboldt	143.13	358	⇓P		PKPdf	09 52 01.3 -2.6
	baz=143						
X16A	Lo Mia Camp, P	143.16	357	⇑P		PKPdf	09 52 02.3 -1.7
	baz=143						
X14A	Yava	143.17	359	⇓P		PKPdf	09 52 01.4 -2.6
	baz=143						
X17A	Forest Lakes	143.21	356	⇓P		PKPdf	09 52 02.6 -1.5
	baz=143						
PDMCI	Parker Dam,Lak	143.34	1	⇑P		PKPdf	09 52 02.8 -1.5
	baz=144						
Y19A	Nutrioso	143.44	354	⇑P		PKPdf	09 52 02.1 -2.3
	baz=144						
Y15A	Casa Rosa Ranc	143.67	358	P		PKPdf	09 52 03.2 -1.6
	baz=144,SNR=5.5						
Y18A	Canyon Day Jun	143.70	355	⇓P		PKPdf	09 52 03.3 -1.6
	baz=144						
Y16A	Circle Bar Ran	143.70	357	⇓P		PKPdf	09 52 03.3 -1.6
	baz=144						
Y17A	Roosevelt	143.84	356	P		PKPdf	09 52 03.6 -1.6
	baz=144,SNR=6.5						
PFO	Pinyon Flat Ob	143.94	4	ePKIKP		PKPdf	09 52 04.3 -1.1
CIS	Catalina Islan	143.96	7	⇓P		PKPdf	09 52 02.6 -2.8
	baz=144						
Z14A	Wintersburg	144.27	359	⇓P		PKPdf	09 52 05.0 -0.9
	baz=144						
GDL2	Guadalupe Moun	144.31	346	ePKPdf		PKPdf	09 52 05.7 -0.4
Z18A	Geronimo	144.38	355	⇑P		PKPdf	09 52 05.3 -0.9
	baz=145						
JCT	Junction City	144.57	339	ePKIKP		PKPdf	09 52 05.2 -1.3
GLA	Glamis	144.57	2	⇓P		PKPdf	09 52 05.8 -0.6
	baz=145						
GLA	Glamis	144.57	2	ePKPdf		PKPdf	09 52 06.4 -0.1
119A	Ashpeak Ranch,	144.62	354	⇓P		PKPdf	09 52 06.1 -0.5
	baz=145,SNR=7.9						
MONP	Monument Peak	144.66	4	⇑P		PKPdf	09 52 06.4 -0.3
	baz=145						
118A	Homack Ranch,	144.82	354	P		PKPdf	09 52 07.2 +0.3
	baz=145,SNR=14						
BAR	Barrett	144.85	4	ePKPdf		PKPdf	09 52 07.1 +0.1
113A	Mohawk Valley,	144.87	0	⇓P		PKPdf	09 52 06.9 -0.1
	baz=145						
117A	Oracle	144.95	356	P		PKPdf	09 52 07.8 +0.6
	baz=145,SNR=14						
116A	Eloy	145.03	357	⇓P		PKPab	09 52 07.3 +0.8
	baz=145						
MNTX	Cornudas Mount	145.03	348	ePKPdf		PKPdf	09 52 06.9 -0.4
TUC	Tucson	145.22	356	ePKIKP		PKPdf	09 52 08.1 +0.5
219A	White Tail Can	145.38	353	P		PKPbc	09 52 08.5 +0.8
	baz=146,SNR=9.2						
218A	Dragoon	145.49	354	P		PKPbc	09 52 08.8 +0.8
	baz=146,SNR=7.4						
216A	Three Points,	145.57	357	⇑P		PKPdf	09 52 09.4 +1.1
	baz=146						
214A	Organ Pipe Nat	145.67	359	⇓P		PKPdf	09 52 09.3 +0.9
	baz=146						
217A	Green Valley	145.75	356	P		PKPdf	09 52 10.1 +1.5
	baz=146,SNR=25						
319A	Douglas	146.00	353	⇓P		PKPdf	09 52 10.7 +1.8
	baz=146						
318A	Bisbee	146.01	354	⇑P		PKPdf	09 52 10.1 +1.1
	baz=146,SNR=11						
TXAR	Lajitas Array	146.86	344	PKPbc		PKPbc	09 52 13.2 +1.0
	comp=Z,11nm,0.9s,baz=174,slow=1.3,SNR=68						
TXAR	Lajitas Array	146.86	344	PKP2		PKPab	09 52 13.3 -0.2
TXAR				pmax		pmax	
	comp=Z,11nm,0.9s						
TGUH	Tegucigalpa,Un	149.02	303	ePKPbc		PKPbc	09 52 19.2 +0.8
RKT	Rikitea	150.98	137	eLR		LR	10 42 21.9
	comp=Z,265nm,29.2s						

*ISCJB **06** 09:33:20.3±1.3,26N±03×664E±03,h10km,mb4.2/8, MS4.1/2, Error ellipse: s-maj=54.8km s-min=21.5km az=137.2*

*IDC **06** 09:33:20.8±1.4,261N×6637E,h0km,mb4.3/7,mb1 4.4/7, mb1mx4.0/23,mbtmp4.3/7,MS4.1/2,Ms1 4.1/2, ms1mx4.0/7, Error ellipse: s-maj=62.2km s-min=22.9km az=47.0*

ISC 06 09:33:22.2±1.3,26N±03×663E±03,h10km,n13,σ0§60/10, mb4.2/8,MS4.1/2,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	48.20	353	P	P	09 42 03.7	+0.9
	4.1nm,0.8s,mb4.5,baz=169,slow=7.2,SNR=3.8						
IDI	Anoyia	50.33	315	LR	LR	10 05 36.6	
	comp=Z,66nm,20.1s,MS3.6,baz=86,slow=38						
ZALV	Zalesovo Beam	53.40	13	P	P	09 42 41.3	-0.7
	1.5nm,0.4s,mb4.2,baz=170,slow=4.1,SNR=2.2						
BATI	Baumata	58.47	104	LR	LR	10 07 30.4	
	comp=Z,401nm,20.6s,MS4.5,baz=274,slow=35						
HFS	Hagfors	69.99	335	P	P	09 44 34.0	+0.2
	6.1nm,0.7s,mb4.6,baz=126,slow=7.5,SNR=5.0						
WRA	Warramunga Arr	70.32	112	P	P	09 44 36.0	-0.6
	2.8nm,0.9s,mb4.2,baz=290,slow=5.8,SNR=2.5						
WB2	Warramunga Arr	70.33	112	eP	P	09 44 42.8	+6.2
ASAR	Alice Springs	70.63	116	P	P	09 44 39.2	+0.7
	1.3nm,0.9s,mb3.9,baz=286,slow=5.7,SNR=2.6						
NB2	NORSAR Subarra	71.51	335	P	P	09 44 42.9	-0.1
	comp=Z,2.9nm,1.0s,mb4.2,baz=120,slow=6.2						
NOA	NORSAR Array B	71.51	335	P	P	09 44 42.6	-0.4
	comp=Z,1.6nm,0.8s,mb4.0,baz=113,slow=6.7,SNR=4.4						
ESDC	Sonseca Array	73.24	311	P	P	09 44 53.5	-0.3
	comp=Z,2.2nm,0.7s,mb4.2,baz=87,slow=6.2,SNR=4.1						
STKA	Stephens Creek	78.89	123	eP	P	09 45 31.6	+5.4
	comp=Z,2.0nm,0.8s,mb4.1						
TXAR	Lajitas Array	146.85	344	PKPbc	PKPbc	09 53 06.9	+1.5
	comp=Z,3.3nm,0.7s,baz=55,slow=2.8,SNR=5.1						

*ISCJB **06** 09:38:15.5±2.3,27N±04×666E±04,h10km,mb4.0/4, Error ellipse: s-maj=84.0km s-min=20.1km az=137.4*

*IDC **06** 09:38:16.2±2.8,273N×6655E,h0km,mb4.0/4,mb1 4.1/4, mb1mx3.6/23,mbtmp4.0/4, Error ellipse: s-maj=156.0km s-min=29.6km az=49.0*

*NEIC **06** 09:38:17.3±1.8,270N×6651E,h10km, Error ellipse: s-maj=71.1km s-min=18.4km az=45.0*

ISC 06 09:38:17.4±2.3,27N±04×665E±04,h10km,n8,σ0§46/7, mb4.0/4,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTK	Aktyubinsk	48.13	353	P	P	09 46 57.8	+0.3
AKTO	Aktyubinsk	48.13	353	P	P	09 46 57.8	+0.3
	1.8nm,0.8s,mb4.1,baz=179,slow=8.2,SNR=3.6						
KAPI	Kappang	53.73	98	P	P	09 47 39.7	-0.6
DAV	Davao City (W)	58.98	83	P	P	09 48 17.7	-0.1
HFS	Hagfors	69.98	335	P	P	09 49 28.2	-0.7
	3.7nm,0.9s,mb4.3,baz=192,slow=13,SNR=4.3						
WRA	Warramunga Arr	70.19	112	P	P	09 49 31.2	+0.3
	1.4nm,0.9s,mb3.9,baz=289,slow=5.5,SNR=4.6						
ASAR	Alice Springs	70.51	116	P	P	09 49 33.4	+0.5
	0.7nm,1.0s,mb3.5,baz=270,slow=3.7,SNR=2.7						
TXAR	Lajitas Array	146.81	344	PKPbc	PKPbc	09 58 01.4	+0.9
	1.5nm,0.8s,baz=46,slow=3.2,SNR=8.1						

*IDC **06** 09:49:40.4±6.4,3709N×7186E,h98km±55km,mb3.7/9, mb1 3.8/13,mb1mx3.7/25,mbtmp3.7/13,MS4.1/3, Ms1 4.0/3,ms1mx3.5/37,Error ellipse: s-maj=36.9km s-min=17.2km az=10.0*

*ISCJB **06** 09:49:44.0±0.4,3729N±002×72.19E±006,h154km±6km, mb3.7/11,Error ellipse: s-maj=7.3km s-min=3.6km az=170.7*

*BJI **06** 09:49:44.6,3732N×7200E,h142km,mb4.2*

*NEIC **06** 09:49:45.6±0.9,3740N×7195E,h133km±9km,mb4.5/3, Error ellipse: s-maj=14.3km s-min=8.9km az=136.0*

*MOS **06** 09:49:46.0±1.1,3744N×7196E,h154km,mb4.1/1,Error ellipse: s-maj=19.6km s-min=10.0km az=88.2*

*NNC **06** 09:49:52.7±4.5,3796N×7182E,h153km±45km,mb3.5, mpv4.6,Error ellipse: s-maj=35.7km s-min=23.0km az=7.0*

ISC 06 09:49:44.9±0.4,3726N±002×7219E±006,h146km±6km, n70,σ1§19/89,mb3.7/11,12C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.43	184	⇑P	P	09 50 38.5	+0.8
CEP				S	Sn	09 51 21.0	+2.5
CHCP	Chirah Chowk	3.69	166	⇓P	P	09 50 43.6	+2.5
KBL	Kabul	3.72	224	ePn	Pn	09 50 41.4	-0.1
KSH	Kashi	3.73	52	eP	Pn	09 50 45.3	+3.8
KSH				S	Sn	09 51 25.9	+0.5
KSH				Smax			
	comp=N,2μm,0.6s						
KSH				Smax			
	comp=E,1μm,0.5s						
SRNI	Srinagar	3.82	145	ex	x	09 51 12.5	
SRNI				ex	x	09 51 19.5	
THW	Thamme Wali	4.47	185	P	Pn	09 50 51.8	+0.6
AML	Almayashu	5.00	13	P	Pn	09 50 58.4	+0.2
	SNR=223						
AML	Almayashu	5.00	13	ePn	Pn	09 50 58.2	-0.1
AML				eSn	Sn	09 51 52.6	-2.8
UCH	Uchtor	5.28	19	P	Pn	09 51 02.7	+0.8
	SNR=19						
KZA	Kyzart	5.36	25	P	Pn	09 51 03.1	+0.1
	SNR=16						
EKS2	Erkin-Say	5.54	12	P	Pn	09 51 05.6	+0.3
	SNR=83						
EKS2	Erkin-Say	5.54	12	ePn	Pn	09 51 05.5	+0.3
	comp=E,70nm,0.6s						
THN	Thein Dam	5.62	148	eP	Pn	09 51 05.9	-0.6
THN				eS	Sn	09 52 10.5	+0.4
AAK	Ala-Archa	5.66	18	P	Pn	09 51 07.7	+0.8
	SNR=95						
KBK	Karagaybulak	5.79	21	P	Pn	09 51 09.9	+1.2
	SNR=11						
ULHL	Ulahol	5.88	31	P	Pn	09 51 10.6	+0.7
	SNR=27						
KK31	Karatay Array	5.98	348	⇑P	Pn	09 51 09.7	-1.5
	comp=E,122nm,0.5s,baz=179,slow=13						
KK31				⇑S	Sn	09 52 11.4	-7.3
	comp=E,112nm,0.5s,baz=171,slow=22						
CHMS	Chumysh	6.06	18	P	Pn	09 51 12.8	+0.5
	SNR=47						
TKM2	Tokmak 2	6.23	24	⇑P	Pn	09 51 15.1	+0.5
	comp=E,10.0nm,0.6s						
TKM2				⇑S	Sn	09 52 19.9	-4.8
	comp=E,19nm,0.8s						
TKM2	Tokmak 2	6.23	24	ePN	Pn	09 51 15.5	+0.9
TKM2				pmax	pmax		
	comp=Z,17nm,0.6s						
TKM2	Tokmak 2	6.23	24	P	Pn	09 51 15.4	+0.9
	SNR=28						
TKM2	Tokmak 2	6.23	24	ePn	Pn	09 51 15.5	+0.9
	comp=Z,16nm,0.6s						
USP	Ospenovka	6.26	16	P	Pn	09 51 14.6	-0.4
	SNR=28						
BHK	Bhakra	6.79	148	eP	Pn	09 51 21.6	-0.6
BHK				eS	Sn	09 52 35.0	-3.3
SDNR	Sundarnagar	6.97	144	eP	Pn	09 51 24.4	-0.2
SDNR				eS	Sn	09 52 38.4	-4.2
SMLA	Simla	7.37	145	i P	Pn	09 51 30.9	+1.0
SMLA				i S	Sn	09 52 49.0	-3.2
SMLA				i S	Sn	09 52 49.4	-2.9
SMLA				ex	x	09 52 54.3	
	comp=N,2μm,0.4s						
SMLA				ex	x	09 52 57.2	
	comp=E,1μm,0.4s						
KLP	Kalpa	7.59	137	eP	Pn	09 51 33.2	+0.3
KLP				eS	Sn	09 52 56.1	-1.5
KLP				AML	AML	09 53 17.1	
	comp=N,147nm,0.5s						
KLP				AML	AML	09 53 17.2	
	comp=E,251nm,0.7s						
JOSI	Joshimath	9.06	135	eP	Pn	09 51 53.1	+0.6
JOSI				eS	Sn	09 53 29.8	-3.3
JOSI				AML	AML	09 53 44.2	
	comp=E,162nm,0.4s						
JOSI				AML	AML	09 53 45.8	
	comp=N,271nm,1.0s						
KUDL	Kundal	9.78	157	eP	Pn	09 52 01.1	-1.0
KUDL				eS	Sn	09 53 43.5	-6.8
MK31	Makanchi Array	12.12	35	⇓P	Pn	09 52 36.7	+3.9
	comp=N,1.8nm,0.6s,baz=225,slow=14,SNR=6.7						
MKAR	Makanchi Array	12.12	35	P	Pn	09 52 33.5	+0.7
	comp=N,0.6nm,0.3s,baz=220,slow=12,SNR=5.4						
DANN	Dangsing	13.16	129	eP	Pn	09 52 46.4	0.0
	comp=N,19nm,0.2s						
KOLN	Koldanda	13.49	131	eP	Pn	09 52 50.2	-0.3
	comp=N,11nm,0.4s						
GKN	Gorkha	13.96	128	eP	Pn	09 52 55.9	-0.6
	comp=N,33nm,1.0s						
KURBB	Kurchatov Arra	14.11	17	⇓P	Pn	09 52 58.6	+0.4
	comp=N,2.0nm,0.7s						
KURBB				⇓S	Sn	09 55 28.2	-6.2
	comp=N,1.4nm,0.9s						
KURK	Kurchatov	14.22	17	⇑P	Pn	09 53 02.7	+3.1
	comp=N,16nm,0.9s						
KURK				⇓S	Sn	09 55 31.0	-5.9
	comp=N,9.7nm,1.5s						
KKN	Kakani	14.51	127	eP	Pn	09 53 03.0	-0.5
	comp=N,95nm,0.6s						
DMN	Daman	14.53	128	eP	Pn	09 53 04.2	+0.6
	comp=N,13nm,0.5s						
PKI	Pulchoki	14.75	127	eP	Pn	09 53 05.6	-0.8
	comp=N,30nm,0.7s						
GUN	Gumba	14.82	125	eP	Pn	09 53 06.9	-0.4
	comp=N,26nm,0.7s						
AB31	Akbulak array	14.92	327	⇓P	Pn	09 53 04.4	-4.0
	comp=N,14nm,0.8s,baz=141,slow=12,SNR=184						
AB31				S	Sn	09 55 41.3	-13
	comp=N,26nm,0.8s,baz=155,slow=23,SNR=24						
JIRN	Jiri	15.19	125	eP	Pn	09 53 11.8	-0.1
	comp=N,44nm,0.5s						
VOSK	Vostochnaya	15.49	357	⇑P	Pn	09 53 13.3	-2.1
	comp=N,5.7nm,1.0s						
VOSK				⇑S	S	09 55 56.2	-12
	comp=N,11nm,1.8s						
BVA0	Borovoye Array	15.82	356	⇑P	Pn	09 53 19.0	-0.4
	comp=N,1.3nm,1.0s,baz=171,slow=18,SNR=29						
BVA0				⇑S	S	09 56 04.5	-11
	comp=N,1.2nm,1.1s						
BVAR	Borovoye Array	15.82	356	P	Pn	09 53 18.9	-0.5
	comp=N,1.8nm,0.3s,baz=166,slow=14,SNR=21						
BVAR				S	S	09 56 06.0	-10
	comp=N,0.3nm,0.3s,baz=165,slow=23,SNR=7.3						
BRVK	Borovoye	15.86	356	eP	Pn	09 53 18.7	-1.2
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BRVK	Borovoye	15.86	356	eP	Pn	09 53 18.7	-1.2
	comp=Z,6.2nm,0.6s						
TAPN	Taplejung	16.40	123	eP	Pn	09 53 24.8	-2.0
	comp=Z,24nm,0.6s						
AKTK	Aktyubinsk	16.64	327	P	Pn	09 53 27.2	-2.1
AKTK				S	S	09 56 23.1	-11
AKTO	Aktyubinsk	16.64	327	⇑P	Pn	09 53 29.3	-0.1
	comp=Z,2.2nm,0.9s						
AKTO				⇑S	S	09 56 26.3	-8.0
	comp=Z,2.1nm,0.7s						
AKTO	Aktyubinsk	16.64	327	P	Pn	09 53 27.2	-2.2
	comp=Z,1.2nm,0.3s,baz=134,slow=16,SNR=34						
AKTO				S	S	09 56 23.1	-11
	comp=Z,0.9nm,0.3s,baz=35,slow=10,SNR=14						
ZAL	Zalesovo	18.82	24	P	P	09 53 54.5	+1.3
ZAA0	Zalesovo Array	18.84	24	ePn	Pn	09 53 54.0	-1.6
ZALV	Zalesovo Beam	18.84	24	P	P	09 53 54.5	+1.2
	comp=Z,1.4nm,0.3s,baz=216,slow=11,SNR=15						
NVS	Novosibirsk	19.14	20	eP	P	09 53 56.4	-0.2
GTA	Gaotai	21.75	76	eP	P	09 54 29.8	+5.1
GTA				AMB	AMB		
	comp=Z,9.0nm,1.8s,mb3.9						
SONM	Songino Array	27.12	56	P	P	09 55 17.5	+3.4
	comp=Z,1.9nm,0.9s,mb3.7,baz=256,slow=9.4,SNR=8.8						
AKASG	Malin Array Be	33.23	308	P	P	09 56 07.1	-0.7
	comp=Z,0.6nm,0.3s,mb3.8,baz=108,slow=9.6,SNR=7.3						
MLR	Muntele Rosu	35.25	298	P	P	09 56 27.0	+1.6
	comp=Z,1.8nm,0.6s,mb3.9,baz=135,slow=11,SNR=4.5						
ARCES	ARCESS Array B	40.82	337	P	P	09 57 12.3	+0.7
	comp=Z,2.9nm,0.8s,mb4.0,baz=114,slow=7.9,SNR=10						
HFS	Hagfors	43.07	321	P	P	09 57 30.2	+0.2
	comp=Z,1.2nm,0.4s,mb3.9,baz=96,slow=9.1,SNR=8.2						
NB2	NORSAR Subarra	44.36	323	P	P	09 57 40.0	-0.3
	comp=Z,0.7nm,0.6s,mb3.5,baz=92,slow=7.9						
NOA	NORSAR Array B	44.36	323	P	P	09 57 40.3	+0.1
	comp=Z,1.1nm,0.7s,mb3.6,baz=93,slow=7.7,SNR=4.9						
MJAR	Matsushiro Arr	51.79	69	P	P	09 58 40.6	+2.9
	comp=Z,0.7nm,0.6s,mb3.5,baz=287,slow=9.7,SNR=4.6						
TORD	Torodi Ar. Bea	66.69	269	P	P	10 00 19.1	-1.3
	comp=Z,0.3nm,0.4s,mb3.4,baz=49,slow=6.8,SNR=8.1						
YKA	Yellowknife Ar	80.44	3	P	P	10 01 41.0	+1.1
	comp=Z,1.6nm,0.5s,mb3.9,baz=348,slow=5.7,SNR=4.4						
YKA				LR	LR	10 46 07.3	
	comp=Z,31nm,18.1s,baz=75,slow=42						
YKA	Yellowknife Ar	80.44	3	P	P	10 01 41.0	+1.0
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	Warramunga Arr	81.59	123	P	P	10 01 48.3	+1.7
	comp=Z,0.5nm,0.7s,mb3.3,baz=332,slow=5.4,SNR=5.4						
SCHQ	Schefferville	81.77	337	LR	LR	10 39 09.8	
	comp=Z,154nm,22.0s,baz=207,slow=36						
ULM	Lac du Bonnet	92.23	352	LR	LR	10 52 57.2	
	comp=Z,146nm,19.2s,baz=30,slow=41						

IDC 06 09:49:51.2±1.2,263N×6643E,h0km,mb4.0/6,mb1 4.3/6, mb1mx3.8/21,mbtmp4.0/6,Error ellipse: s-maj=52.6km s-min=23.7km az=44.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	53.34	13	P	P	09 59 12.0	-0.1
	1.3nm,0.6s,baz=232,slow=7.3,SNR=4.0						
SONM	Songino Array	56.67	31	P	P	09 59 36.7	+0.4
	0.6nm,0.7s,baz=218,slow=7.0,SNR=4.3						
WRA	Warramunga Arr	70.25	112	P	P	10 01 06.7	-0.1
	2.8nm,0.8s,baz=290,slow=5.7,SNR=13						
ASAR	Alice Springs	70.57	116	P	P	10 01 08.7	0.0
	1.0nm,0.7s,baz=288,slow=5.5,SNR=12						
NOA	NORSAR Array B	71.51	335	P	P	10 01 12.9	-0.7
	2.4nm,1.0s,baz=117,slow=6.4,SNR=3.2						
ESDC	Sonseca Array	73.28	311	P	P	10 01 24.7	0.0
	0.9nm,0.5s,baz=79,slow=5.3,SNR=5.5						
TXAR	Lajitas Array	146.84	344	PKPbc	PKPbc	10 09 37.1	+1.0
	5.7nm,0.8s,baz=58,slow=2.5,SNR=58						

*ISCJB **06** 10:07:42.4±0.6,26N±01×6628E±008,h10km,mb4.3/22, MS4.3/27,Error ellipse: s-maj=15.2km s-min=11.6km az=173.2*

*IDC **06** 10:07:42.7±0.6,248N×6627E,h0km,mb4.1/16, mb1 4.3/16,mb1mx4.2/21,mbtmp4.1/16,MS4.3/27, Ms1 4.3/27,ms1mx4.1/37,Error ellipse: s-maj=20.0km s-min=16.8km az=8.0*

*NEIC **06** 10:07:44.1±0.5,252N×6630E,h10km,mb4.8/5,Error ellipse: s-maj=14.9km s-min=11.6km az=171.0*

*GCMT **06** 10:07:44.1±0.2,268N×6635E,h12km,MW5.1/94, Moment Tensor Solution. s36,c49; s94,c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.89±.09; $M_{\theta\theta}$3.28±.09; $M_{\phi\phi}$1.61±.10; $M_{r\theta}$1.30±.32; $M_{\phi\phi}$-2.05±.08; $M_{\theta r}$-1.34±.35; Best double couple: $M_0$5.12500×10^{16} NP1:ϕ_s120.00000°,δ35.00000°,λ-97.00000°. NP2: ϕ_s308.00000°,δ56.00000°,λ-85.00000°. Principal axes: T 4.9970, Plg10.0000°, Azm35.0000°; N 0.2570, Plg4.0000°, Azm125.0000°; P -5.2540, Plg79.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **06** 10:07:49.8,3.15N×67.13E,h10km,mB4.9,mb4.7,Ms4.8, Msz4.6*

ISC 06 10:07:44.4±0.6,25N±01×6628E±008,h10km,n61, σ1§02/30,mb4.3/22,MS4.3/27,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	15.12	71	ePn	Pn	10 11 15.4	-2.8
	19nm,0.6s						
MDRS	Chennai	17.33	52	ex	x	10 11 42.0	
SHL	Shillong	33.63	45	eP	P	10 14 25.3	-0.1
CMAR	Chiang Mai Arr	35.69	61	P	P	10 14 43.9	+0.6
	1.2nm,0.7s,mb4.0,baz=249,slow=11,SNR=6.7						
CMAR				LR	LR	10 28 38.2	
	comp=Z,463nm,18.2s,MS4.3,baz=234,slow=35						
LSA	Lhasa	35.88	39	P	P	10 14 45.0	+0.3
LSA	Lhasa	35.88	39	eP	P	10 14 45.8	+1.1
	18nm,1.2s,mb4.9						
GNI	Garni	42.22	335	eP	P	10 15 36.2	-1.5
	26nm,1.2s,mb4.7						
MKAR	Makanchi Array	46.23	15	P	P	10 16 10.1	+0.3
	0.2nm,0.3s,mb3.5,baz=211,slow=6.9,SNR=6.3						
MKAR				LR	LR	10 36 19.9	
	comp=Z,289nm,20.9s,MS4.2,baz=181,slow=37						
KURK	Kurchatov	49.13	10	eP	P	10 16 31.2	-0.9
	4.4nm,1.0s,mb4.4						
BOSA	Boshof	50.08	229	P	P	10 16 41.0	+1.3
	7.2nm,0.7s,mb4.8,baz=72,slow=9.3,SNR=12						
BOSA				LR	LR	10 35 57.9	
	comp=Z,754nm,18.1s,MS4.7,baz=54,slow=34						
XAN	Xi'an	50.60	47	P	P	10 16 42.4	-1.2
XAN				AP	pP	10 16 48.0	+1.2
XAN				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
XAN				AMB	AMB		
	comp=Z,115nm,6.6s						
ZAA0	Zalesovo Array	53.46	14	eP	P	10 17

ASAR Alice Springs 70.66 116 P P 10 18 59.9 -0.9
comp=Z,1.4nm,0.8s,mb4.0,baz=288,slow=5.5,SNR=14
DBIC Dimbokro 70.98 276 P P 10 19 02.0 -0.9
comp=Z,7.7nm,1.1s,mb4.6,baz=105,slow=6.7,SNR=3.3
DBIC LR LR 10 47 59.8
comp=Z,184nm,21.9s,MS4.3,baz=75,slow=34
DBIC Dimbokro 70.98 276 P P 10 19 02.0 -0.9
DBIC LR LR 10 47 59.8
NOA NORSAR Array B 71.53 335 P P 10 19 04.1 -1.2
comp=Z,3.6nm,1.0s,mb4.3,baz=113,slow=6.6,SNR=3.4
ARCES ARCESS Array B 72.11 346 P P 10 19 09.1 +0.4
comp=Z,1.9nm,0.8s,mb4.1,baz=166,slow=6.2,SNR=5.4
ARCES LR LR 10 52 05.6
comp=Z,147nm,21.7s,MS4.2,baz=223,slow=37
MDT Midelt 72.60 304 LR LR 10 49 08.6
comp=Z,121nm,21.4s,MS4.1,baz=263,slow=34
ESDC Sonseca Array 73.23 311 P **P 10 19 15.0 -0.9**
comp=Z,2.2nm,0.6s,mb4.3,baz=86,slow=5.3,SNR=8.6
MJAR Matsushiro Arr 74.00 53 P **P 10 19 22.0 +1.5**
comp=Z,0.4nm,0.3s,mb3.8,baz=308,slow=31,SNR=3.1
MJAR LR LR 10 53 05.0
comp=Z,145nm,19.6s,MS4.3,baz=35,slow=37
MJAR Matsushiro Art 74.00 53 P **P 10 19 22.0 +1.5**
MJAR LR LR 10 53 05.0
JHJ Hachijo jima 2 74.81 56 LR LR 10 54 31.9
comp=Z,140nm,18.7s,MS4.3,baz=262,slow=38
ASAJ Asahikawa 78.42 46 LR LR 10 54 52.5
comp=Z,98nm,18.8s,MS4.2,baz=178,slow=36
STKA Stephens Creek 78.91 123 P **P 10 19 48.3 -0.2**
comp=Z,3.0nm,0.8s,mb4.3,baz=295,slow=8.9,SNR=4.0
STKA LR LR 10 50 16.5
comp=Z,272nm,21.1s,MS4.6,baz=109,slow=32
CTA Charters Tower 81.46 111 LR LR 10 53 26.5
comp=Z,211nm,18.9s,MS4.5,baz=110,slow=34
PETK Petropavlovsk- 88.84 37 LR LR 11 02 46.1
comp=Z,344nm,18.4s,MS4.8,baz=264,slow=37
VNDA Vanda 93.67 167 LR LR 10 57 04.2
comp=Z,272nm,18.0s,MS4.8,baz=275,slow=32
HNR Honiara 94.03 99 LR LR 11 00 18.6
comp=Z,87nm,20.8s,MS4.2,baz=181,slow=34
WRAK Wrangell Islan 119.31 12 *e*PKPdf PKPdf 10 26 34.5 +0.6
DLMT Dillon 132.30 359 *e*PKPdf PKPdf 10 26 59.9 +0.8
RLMT Red Lodge 132.39 356 *e*PKPdf PKPdf 10 27 03.0 +3.7
TPAW Teton Pass 134.12 357 *e*PKPdf PKPdf 10 27 02.5 -0.1
PDAR Pinedale Array 134.75 356 PKP PKPdf 10 27 04.1 +0.3
comp=Z,1.4nm,1.1s,baz=40,slow=2.5,SNR=6.3
NVAR Mina Array Bea 139.02 5 PKP PKPdf 10 27 12.6 +0.8
comp=Z,0.4nm,0.8s,baz=74,slow=32,SNR=3.2
LAZ Ladron 142.74 351 *e*PKPdf PKPdf 10 27 16.2 -2.5
BNM Barren Site 142.90 350 *e*PKPdf PKPdf 10 27 16.0 -3.0
JCT Junction City 144.58 339 *e*PKPdf PKPdf 10 27 20.5 -1.5
MNTX Cornudas Mount 145.04 348 *e*PKPab PKPab 10 27 21.4 -0.7
TUC Tucson 145.23 356 *e*PKPbc PKPbc 10 27 22.4 -0.2
TXAR Lajitas Array 146.88 344 PKPbc PKPbc 10 27 27.3 -0.5
comp=Z,8.9nm,0.9s,baz=56,slow=3.0,SNR=52
TXAR Lajitas Array 146.88 344 PKPbc PKPbc 10 27 27.3 -0.5
TGUH Tegucigalpa,Un 149.03 303 *e*PKPdf PKPdf 10 27 26.2 -3.6
TGUH *e*PKPab PKPab 10 27 34.2 -3.8

KISR ***06*** *10:25:55.7, 32.10N×4874E, h43km, ML2.7*
THR ***06*** *10:25:55.7±0.4, 3171N×4681E, h33km±6km, ML2.9*
ISCJB ***06*** *10:25:59.1±3.1, 3202N±005×470E±0.1, h11km±21km, Error ellipse: s-maj=18.0km s-min=8.6km az=3.6*
CSEM ***06*** *10:25:59.1±0.2, 3207N×4711E, h12km, ML2.7, Error ellipse: s-maj=8.3km s-min=4.9km az=101.0*
ISC 06 10:25:59.7±3.5, 3201N±005×470E±01, h9km±23km, n11, σ0§81/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.54**	**86**	*e*Pg		**Pn**		**10 26 27.0**	**-0.3**
SHGR				*e*Sg		**Sg**		**10 26 49.7**	**+0.4**
MIB	**Mutribah**	**2.22**	**172**	*e*P		**Pn**		**10 26 37.3**	**+0.7**
	baz=208								
MIB				AML		AML		10 27 13.7	
	comp=Z,58nm,0.6s,baz=208								
UMR	**Umm Al-Rimmam**	**2.53**	**165**	*e*P		**Pn**		**10 26 39.2**	**-1.7**
	baz=199								
UMR				AML		AML		10 27 13.8	
	comp=Z,31nm,0.4s,baz=199								
NAY	**Al-Naaiem**	**2.76**	**175**	*e*P		**Pn**		**10 26 45.1**	**+1.0**
NAY				*e*S		**Sb**		**10 27 22.7**	**-0.4**
NAY	**Al-Naaiem**	**2.76**	**175**	*e*P		**Pn**		**10 26 45.1**	**+1.1**
	baz=205								
NAY				*e*S		**Sb**		**10 27 22.7**	**-0.4**
	baz=205								
NAY				AML		AML		10 27 25.1	
	comp=Z,11nm,0.4s,baz=205								
SNGE	**Sanandaj**	**3.09**	**5**	*e*Pn		**Pn**		**10 26 48.7**	**+0.1**
SNGE				AML		AML		10 27 53.3	
	comp=E,25nm,0.7s								
RDF	**Al-Radifah**	**3.11**	**171**	*e*P		**Pn**		**10 26 48.4**	**-0.5**
RDF				*e*S		**Sn**		**10 27 27.1**	**+0.9**
RDF	**Al-Radifah**	**3.11**	**171**	*e*P		**Pn**		**10 26 48.4**	**-0.5**
	baz=198								
RDF				*e*S		**Sn**		**10 27 27.1**	**+0.9**
	baz=198								
RDF				AML		AML		10 27 30.5	
	comp=Z,18nm,0.5s,baz=198								
ASAO	**Ashtian**	**3.59**	**44**	*e*Pn		**Pn**		**10 26 56.1**	**+0.6**
ASAO				AML		AML		10 28 05.4	
	comp=E,20nm,0.7s								
NASN	**Na'in**	**4.99**	**79**	*e*Pn		**Pn**		**10 27 13.7**	**-1.0**
NASN	**Na'in**	**4.99**	**79**	*e*Pn		**Pn**		**10 27 13.6**	**-1.1**
	SNR=54								

ISCJB ***06*** *10:33:14.0±0.7, 26N±0.1×663E±0.1, h10km, mb4.3/16, MS4.2/22, Error ellipse: s-maj=19.6km s-min=13.9km az=34.6*
IDC ***06*** *10:33:14.4±1.0, 266N×6640E, h0km, mb4.2/13, mb1 4.4/13, mb1mx4.2/23, mbtmp4.2/13, MS4.2/21, Ms1 4.2/21, ms1mx4.0/33, Error ellipse: s-maj=29.8km s-min=19.5km az=28.0*
NEIC ***06*** *10:33:15.7±0.6, 261N×6641E, h10km, mb4.4/2, Error ellipse: s-maj=19.8km s-min=12.7km az=223.0*
GCMT ***06*** *10:33:15.7±0.2, 254N×6642E, h12km, MW4.9/78, Moment Tensor Solution. s24,c27; s78,c120; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=3.23±.08; Mθθ2.19±.08; Mφφ1.04±.09; Mrθ-0.27±.33; Mθφ-1.24±.07; Mφr-0.34±.42; Best double couple: M0 3.13300×1016 NP1:φs309.00000°, δ45.00000°, λ-80.00000°. NP2: φs116.00000°, δ46.00000°, λ-100.00000°. Principal axes: T 2.9820, Plg0.0000°, Azm213.0000°; N 0.3010, Plg7.0000°, Azm122.0000°; P -3.2830, Plg83.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***06*** *10:33:15.7, 260N×6640E, h10km, mB5.1, mb4.7, Ms4.7, Msz4.5*
ISC 06 10:33:15.8±0.7, 26N±01×663E±01, h10km, n40, σ0§94/22, mb4.3/16, MS4.2/22, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.64**	**61**	P		**P**		**10 40 14.8**	**+0.5**
	0.6nm,0.4s,mb3.9,baz=194,slow=34,SNR=2.3								
CMAR						LR	LR	10 53 17.9	
	comp=Z,353nm,19.9s,MS4.1,baz=194,slow=34								
LSA	**Lhasa**	**35.83**	**39**	P		**P**		**10 40 18.4**	**+2.6**
EIL	**Elat**	**40.16**	**315**	LR		LR		10 55 24.9	
	comp=Z,140nm,20.5s,MS3.8,baz=284,slow=33								
ASF	**Jabal al Asfar**	**40.41**	**320**	LR		LR		10 56 08.8	
	comp=Z,149nm,22.0s,MS3.8,baz=244,slow=34								
MMAI	**Mount Meron Ar**	**41.91**	**320**	LR		LR		10 58 46.5	
	comp=Z,103nm,18.1s,MS3.8,baz=110,slow=37								
GNI	**Garni**	**42.22**	**335**	LR		LR		10 58 41.7	
	comp=Z,239nm,20.3s,MS4.1,baz=273,slow=36								
WMQ	**Urumqi**	**45.25**	**22**	*e*P		**P**		**10 41 35.0**	**+1.6**
WMQ					AP	pP		10 41 45.0	+8.4
WMQ					XP	sP		10 41 49.0	+11
WMQ					AMB	AMB			
	comp=Z,13nm,0.6s,mb4.9								
WMQ						LR	LR		
	comp=N,341nm,21.4s,MS4.3								
WMQ						LR	LR		
	comp=E,251nm,22.6s,MS4.3								
WMQ						LR	LR		
	comp=Z,337nm,25.2s,MS4.2								
MKAR	**Makanchi Array**	**46.20**	**15**	P		**P**		**10 41 38.6**	**-2.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=191,slow=9.9,SNR=6.2								
MKAR						LR	LR	11 01 42.2	
	comp=Z,242nm,21.2s,MS4.1,baz=198,slow=37								
KURK	**Kurchatov**	**49.09**	**10**	*e*P		**P**		**10 42 03.0**	**-0.4**
	comp=Z,5.9nm,1.3s,mb4.5								
BOSA	**Boshof**	**50.13**	**229**	LR		LR		11 01 31.2	
	comp=Z,558nm,18.4s,MS4.6,baz=58,slow=34								
XAN	**Xi'an**	**50.55**	**47**	P		**P**		**10 42 14.8**	**+0.1**
XAN					AP	pP		10 42 22.6	+4.7
XAN					AMB	AMB			
	comp=Z,13nm,1.2s,mb4.7								
XAN					AMB	AMB			
	comp=Z,111nm,5.7s								
ZAA0	**Zalesovo Array**	**53.43**	**14**	*e*P		**P**		**10 42 35.6**	**-0.2**
ZALV	**Zalesovo Beam**	**53.43**	**14**	P		**P**		**10 42 35.5**	**-0.2**
	comp=Z,4.1nm,0.8s,mb4.4,baz=212,slow=8.1,SNR=16								
ZALV						LR	LR	11 05 00.5	
	comp=Z,233nm,20.4s,MS4.2,baz=115,slow=36								
SONM	**Songino Array**	**56.78**	**31**	P		**P**		**10 42 59.5**	**-0.6**
	comp=Z,4.7nm,1.2s,mb4.4,baz=228,slow=7.0,SNR=15								
SONM						LR	LR	11 07 27.0	
	comp=Z,572nm,20.4s,MS4.7,baz=243,slow=36								
AKASG	**Malin Array Be**	**57.25**	**333**	P		**P**		**10 43 03.3**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=144,slow=5.3,SNR=4.6								
VRAC	**Vranov**	**62.86**	**326**	P		**P**		**10 43 42.3**	**+0.4**
	comp=Z,1.8nm,0.3s,mb4.6,baz=162,slow=6.4,SNR=3.9								
GERES	**GERESS Array B**	**64.28**	**324**	LR		LR		11 11 32.1	
	comp=Z,76nm,19.0s,MS3.9,baz=90,slow=36								
TORD	**Torodi Ar. Bea**	**64.72**	**283**	P		**P**		**10 43 56.0**	**+1.1**
	comp=Z,1.1nm,1.1s,mb3.8,baz=132,slow=4.2,SNR=4.2								
TORD						LR	LR	11 12 26.8	
	comp=Z,249nm,18.3s,MS4.4,baz=120,slow=36								
CLL	**Collm**	**65.85**	**327**	*e*P		**P**		**10 44 02.0**	**+0.5**
KSRS	**Korea Array**	**66.11**	**50**	LR		LR		11 15 12.4	
	comp=Z,253nm,18.2s,MS4.5,baz=258,slow=38								
HFS	**Hagfors**	**70.01**	**335**	P		**P**		**10 44 27.8**	**+0.3**
	comp=Z,13nm,1.0s,mb4.8,baz=116,slow=6.8,SNR=15								
MAW	**Mawson**	**70.05**	**181**	LR		LR		11 07 42.7	
	comp=Z,251nm,18.5s,MS4.5,baz=240,slow=30								
WRA	**Warramunga Arr**	**70.32**	**112**	P		**P**		**10 44 29.4**	**-0.8**
	comp=Z,3.4nm,0.8s,mb4.3,baz=288,slow=5.8,SNR=11								
WB2	**Warramunga Arr**	**70.33**	**112**	*e*P		**P**		**10 44 30.7**	**+0.4**
DBIC	**Dimbokro**	**71.02**	**276**	LR		LR		11 15 10.5	
	comp=Z,108nm,18.8s,MS4.1,baz=78,slow=35								
NOA	**NORSAR Array B**	**71.52**	**335**	P		**P**		**10 44 35.0**	**-1.8**
	comp=Z,1.8nm,0.8s,mb4.0,baz=114,slow=6.4,SNR=7.4								
ARCES	**ARCESS Array B**	**72.09**	**346**	P		**P**		**10 44 39.8**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=104,slow=10,SNR=4.5								
ARCES						LR	LR	11 17 49.9	
	comp=Z,156nm,19.6s,MS4.3,baz=139,slow=37								
ESDC	**Sonseca Array**	**73.24**	**311**	P		**P**		**10 44 47.6**	**+0.1**
	comp=Z,4.4nm,1.0s,mb4.3,baz=93,slow=6.5,SNR=8.3								
MJAR	**Matsushiro Arr**	**73.95**	**53**	LR		LR		11 18 26.3	
	comp=Z,181nm,21.7s,MS4.3,baz=70,slow=37								
JHJ	**Hachijo jima 2**	**74.76**	**56**	LR		LR		11 20 03.4	
	comp=Z,124nm,19.4s,MS4.2,baz=297,slow=38								
ASAJ	**Asahikawa**	**78.37**	**46**	LR		LR		11 19 19.3	
	comp=Z,92nm,21.8s,MS4.1,baz=180,slow=35								
STKA	**Stephens Creek**	**78.89**	**123**	*e*P		**P**		**10 45 20.6**	**+0.8**
	comp=Z,2.7nm,0.9s,mb4.2								
STKA	**Stephens Creek**	**78.89**	**123**	P		**P**		**10 45 19.9**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=278,slow=10,SNR=4.4								
STKA						LR	LR	11 16 48.7	
	comp=Z,198nm,19.3s,MS4.5,baz=206,slow=33								
ARMA	**Armidale**	**87.23**	**120**	*e*P		**P**		**10 46 02.1**	**-0.9**
PETK	**Petropavlovsk-**	**88.80**	**37**	LR		LR		11 28 28.0	
	comp=Z,253nm,18.6s,MS4.7,baz=263,slow=37								
VNDA	**Vanda**	**93.69**	**167**	LR		LR		11 23 16.4	
	comp=Z,171nm,19.0s,MS4.5,baz=317,slow=32								
MIV	**Mineville/With**	**121.31**	**327**	*e*PKPdf		PKPdf		10 52 10.8	+1.3
JCT	**Junction City**	**144.58**	**339**	*e*PKPdf		PKPdf		10 52 52.8	-0.7
TUC	**Tucson**	**145.21**	**356**	*e*PKPdf		PKPdf		10 52 53.5	-0.9
TXAR	**Lajitas Array**	**146.87**	**344**	PKPbc		PKPbc		10 53 00.8	+1.6
	comp=Z,7.1nm,0.9s,baz=60,slow=2.3,SNR=55								

NEIC ***06*** *10:39:34.8±2.5, 294S×14153E, h10km, Error ellipse: s-maj=68.0km s-min=19.6km az=97.0*
IDC ***06*** *10:39:36.1±4.7, 281S×14088E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/14, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=174.2km s-min=30.3km az=90.0*
ISCJB ***06*** *10:39:38.1±2.6, 30S±02×1411E±05, h33km, mb3.3/2, Error ellipse: s-maj=72.6km s-min=21.2km az=5.0*
ISC 06 10:39:39.6±2.6, 30S±02×1413E±05, h35km, n6, σ1§20/6, mb3.3/2, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.06**	**222**	*e*P		**Pn**		**10 42 43.0**	**+0.2**
	2.9nm,0.3s								
WRAB	**Tennant Creek**	**18.18**	**201**	*e*P		**Pn**		**10 43 48.8**	**-0.5**
WB2	**Warramunga Arr**	**18.19**	**201**	*e*P		**Pn**		**10 43 47.8**	**-1.6**
WRA	**Warramunga Arr**	**18.19**	**201**	P		**Pn**		**10 43 50.2**	**+0.8**
	0.2nm,0.3s,baz=19,slow=12,SNR=9.8								
ASAR	**Alice Springs**	**21.79**	**199**	P		**P**		**10 44 29.6**	**+1.1**
	0.3nm,0.5s,mb3.0,baz=32,slow=9.7,SNR=7.8								
MKAR	**Makanchi Array**	**71.58**	**322**	P		**P**		**10 50 57.2**	**-0.1**
	0.6nm,0.7s,mb3.6,baz=111,slow=7.9,SNR=4.7								

IDC ***06*** *10:41:57.0±24.0, 24.19S×172.20W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=450.2km s-min=145.7km az=80.0*
ISC 06 10:42:42.5±5.0, 255S±09×1776W±06, h35km, n7, σ1§17/6, mb4.1/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.72**	**272**	P		**P**		**10 49 22.2**	**+1.5**
	2.2nm,0.4s,mb4.5,baz=112,slow=14,SNR=7.4								
STKA	**Stephens Creek**	**36.25**	**250**	P		**P**		**10 49 42.8**	**+0.4**
	1.1nm,0.4s,mb4.1,baz=102,slow=13,SNR=4.7								
ASAR	**Alice Springs**	**43.99**	**262**	P		**P**		**10 50 46.0**	**-0.8**
	0.8nm,0.5s,mb3.7,baz=96,slow=7.9,SNR=35								
WRA	**Warramunga Arr**	**44.53**	**267**	P		**P**		**10 50 49.9**	**-1.1**
	0.7nm,0.4s,mb3.9,baz=104,slow=7.3,SNR=40								
VNA3	**Neumayer Olymp**	**83.20**	**176**	*e*		**P**		**10 55 04.7**	**0.0**
VNA3				*e*				10 55 07.6	
VNA2	**Neumayer--Watz**	**83.64**	**177**	*e*		**P**		**10 55 07.1**	**+0.1**
VNA2				*e*				10 55 10.3	
NB2	**NORSAR Subarra**	**143.92**	**353**	PKP		PKPdf		11 02 13.9	+0.3
	comp=Z,0.3nm,0.5s,baz=16,slow=3.2								

ISCJB ***06*** *10:44:34.1±1.1, 695N±008×7305W±0.10, h176km±12km, Error ellipse: s-maj=17.8km s-min=9.3km az=32.9*
FUNV ***06*** *10:44:34.6, 678N×73.12W, h174km, MW3.5*
IDC ***06*** *10:44:39.1±6.1, 504N×7242W, h189km±40km, Error ellipse: s-maj=90.0km s-min=58.4km az=87.0*
ISC 06 10:44:34.6±1.1, 693N±007×7308W±010, h170km±12km, n13, σ0§99/19, 5C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**39**	⇓*e*P		**Pn**		**10 45 03.9**	**+1.0**
CAPV				*e*S		**Sn**		**10 45 25.6**	**+0.8**
ROSC	**El Rosal**	**2.41**	**211**	P		**Pn**		**10 45 16.0**	**+0.4**
	12nm,0.3s,baz=95,slow=18,SNR=31								
ROSC					S		**Sn**	**10 45 45.2**	**-2.2**
	19nm,0.3s,baz=80,slow=20,SNR=11								
VIGV	**El Vigia**	**2.55**	**42**	⇑*e*P		**Pn**		**10 45 18.3**	**+1.0**
VIGV				*e*S		**Sn**		**10 45 50.3**	**-0.1**
SOCV	**Socops**	**2.58**	**58**	⇑*i*P		**Pn**		**10 45 18.6**	**+1.0**
SOCV				*e*S		**Sn**		**10 45 51.0**	**-0.1**
ELOV	**Elorza**	**3.57**	**89**	*e*P		**Pn**		**10 45 30.0**	**+0.2**
VIRV	**Villa del Rosa**	**3.62**	**10**	*e*P		**Pn**		**10 45 30.9**	**+0.4**
VIRV				*e*S		**Sn**		**10 46 13.0**	**-1.1**
QARV	**Quebrada Arrib**	**4.12**	**38**	⇑*i*P		**Pn**		**10 45 38.2**	**+1.2**
QARV				*e*S		**Sn**		**10 46 24.7**	**-0.9**
SANV	**Sanarito**	**4.34**	**54**	*e*P		**Pn**		**10 45 40.2**	**+0.5**
CURV	**Curarigua**	**4.35**	**45**	⇑*e*P		**Pn**		**10 45 40.4**	**+0.6**
CURV				*e*S		**Sn**		**10 46 28.9**	**-2.0**
TEPV	**Terepaima**	**4.88**	**52**	*e*P		**Pn**		**10 45 46.7**	**-0.2**
BAUV	**El Baul**	**5.37**	**68**	⇑*i*P		**Pn**		**10 45 51.9**	**-1.4**
BAUV				*e*S		**Sn**		**10 46 50.2**	**-4.7**
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc		PKPbc		11 04 04.4	+0.5
	0.3nm,0.9s,baz=118,slow=4.5,SNR=3.7								
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc		PKPbc		11 04 07.6	+0.7
	0.2nm,0.4s,baz=108,slow=2.6,SNR=8.2								

GRAL ***06*** *10:48:15.0±0.8, 3461N×3689E, h0km±435km, MD3.0*
CSEM ***06*** *10:48:18.8±0.1, 3441N×3664E, h8km, Mc1.8, Error ellipse: s-maj=3.9km s-min=2.4km az=114.0*
ISCJB ***06*** *10:48:19.7±0.5, 3447N±002×3668E±004, h0km, Error ellipse: s-maj=4.9km s-min=3.0km az=13.4*
NSSC ***06*** *10:48:21.4, 3458N×3690E, h8km±1km*
GII ***06*** *10:49:19.2±2.3, 3447N×3672E, h0km, ML2.6/8, EXPLOSION*
ISC 06 10:48:20.2±0.5, 3447N±002×3669E±004, h0km, n23, σ1§17/41, 13D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.33**	**225**	*e*Pg		**Pg**		**10 48 24.1**	**-2.5**
MARH	**Ras Al Marh**	**0.47**	**201**	⇑P		**Pg**		**10 48 34.1**	**+4.7**
ROOS	**tl_alroos**	**0.58**	**121**	⇓P		**Pg**		**10 48 31.3**	**-0.1**
ROOS				⇓S		**Sg**		**10 48 39.8**	**+0.9**
ROOS	**tl_alroos**	**0.58**	**121**	⇓*i*P		**Pg**		**10 48 31.3**	**-0.1**
BIDA	**Albida**	**0.62**	**331**	⇑P		**Pg**		**10 48 34.5**	**+2.4**
BIDA				⇓S		**Sg**		**10 48 44.4**	**+4.2**
BIDA	**Albida**	**0.62**	**331**	⇑*i*P		**Pg**		**10 48 34.5**	**+2.4**
BIDA				⇓*i*S		**Sg**		**10 48 44.4**	**+4.2**
HWQ	**Hawqa**	**0.64**	**253**	*e*Pg		**Pg**		**10 48 30.4**	**-2.2**
HWQ				*e*Sg		**Sg**		**10 48 41.6**	**+0.7**
BHL	**Bhannes**	**1.03**	**237**	*e*Pg		**Pg**		**10 48 37.3**	**-2.6**
BHL				*e*Sg		**Sg**		**10 48 53.3**	**+0.1**
WRDH	**Warideh**	**1.06**	**348**	⇓P		**Pg**		**10 48 40.7**	**+0.2**
WRDH				⇓S		**Sg**		**10 48 55.1**	**+0.8**
WRDH	**Warideh**	**1.06**	**348**	⇓*i*P		**Pg**		**10 48 40.7**	**+0.2**
WRDH				⇓*i*S		**Sg**		**10 48 55.1**	**+0.8**
SLNF	**Slenfeh**	**1.19**	**341**	⇓P		**Pg**		**10 48 43.0**	**0.0**
SLNF				⇓S		**Sg**		**10 48 59.4**	**+1.0**
SLNF	**Slenfeh**	**1.19**	**341**	⇓*i*P		**Pg**		**10 48 43.0**	**+0.1**
RCY	**Rachaya**	**1.22**	**217**	*e*Pg		**Pg**		**10 48 40.6**	**-3.0**
RCY				*e*Sg		**Sg**		**10 48 59.3**	**-0.1**
HRI	**Mount Hermon**	**1.44**	**214**	Pn		**Pn**		**10 48 46.5**	**-1.1**
HRI				Sn		**Sn**		**10 49 07.6**	**+0.5**
BTCH	**Batrach**	**1.57**	**353**	⇑P		**Pn**		**10 48 48.5**	**-0.9**
BTCH				⇓S		**Sn**		**10 49 09.2**	**-1.2**
BTCH	**Batrach**	**1.57**	**353**	⇑*i*P		**Pn**		**10 48 48.5**	**-0.9**
BTCH				⇓*i*S		**Sn**		**10 49 09.2**	**-1.3**
KSHT	**Keshet**	**1.66**	**206**	Pn		**Pn**		**10 48 49.1**	**-1.4**
KSHT				Sn		**Sn**		**10 49 12.7**	**+0.2**
MMC3	**Mount Meron ar**	**1.80**	**217**	Pn		**Pn**		**10 48 51.8**	**-0.6**
MMC3				Sn		**Sn**		**10 49 16.6**	**+0.7**
HNTI	**Hanita**	**1.87**	**223**	Pn		**Pn**		**10 48 52.7**	**-0.8**
HNTI				Sn		**Sn**		**10 49 19.2**	**+1.4**
MMLI	**Mount Malkishu**	**2.29**	**208**	Pn		**Pn**		**10 48 59.0**	**-0.2**
MMLI				Sn		**Sn**		**10 49 29.2**	**+1.1**
OFRI	**'Ofer**	**2.33**	**218**	Sn		**Sn**		**10 49 30.7**	**+1.6**
HMDT	**Nahal Hemdat**	**2.42**	**204**	Pn		**Pn**		**10 49 01.2**	**+0.2**
HMDT				Sn		**Sn**		**10 49 32.3**	**+1.1**
SLTI	**Sal'it**	**2.62**	**212**	Pn		**Pn**		**10 49 02.9**	**-0.8**
SLTI				Sn		**Sn**		**10 49 37.3**	**+1.1**

NEIC ***06*** *10:52:12.1, 2145S×14999W, h10km, ML3.8(PPT), After PPT.*
PPT 06 10:52:12.1±0.1, 2145S×14999W, h10km, MI3.8/15, Error ellipse: s-maj=3.6km s-min=1.9km az=99.0, Tubuai Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**1.96**	**166**	*e*Pn		**Pn**		**10 52 40.3**	**-5.0**
	16nm,0.1s								
TBI				*e*Sn		Sn		10 53 01.4	-8.6
	55nm,0.1s								
TBI				*e*T				10 54 36.8	
	12nm,0.2s								
TVO	**Taravao**	**3.71**	**11**	*e*Pn		Pn		10 53 04.3	-5.2
	898nm,0.1s								
TVO				*e*Sn		Sn		10 53 40.9	-12
	287nm,0.1s								
PAE	**Paea**	**3.79**	**6**	*e*Pn		Pn		10 53 05.5	-5.0
	883nm,0.2s								
PAE				*e*Sn		Sn		10 53 42.8	-12
	147nm,0.1s								
PPT	**Papeete**	**3.88**	**6**	*e*Pn		Pn		10 53 06.7	-5.1
	41nm,0.2s								
PPT				*e*Sn		Sn		10 53 45.7	-12
	5.5nm,0.1s								
TIAR	**Tiarei**	**3.92**	**9**	*e*Pn		Pn		10 53 07.2	-5.1
	6μm,0.2s								
TIAR				*e*Sn		Sn		10 53 46.2	-12
	377nm,0.1s								
MEH	**Mehetia**	**3.99**	**27**	*e*Sn		Sn		10 53 47.0	-13
	215nm,0.1s								
PMOR	**Pomariorio Ree**	**6.71**	**18**	*e*Pn		Pn		10 53 46.0	-4.8
	6.9nm,0.1s								
PMOR				*e*Sn		Sn	

JIM2 *e*S **Sn** **11 15 30.3 -0.8**
JIZS Izushimoda 0.91 196 P **Pn** **11 15 15.2 -0.2**
SHZ3 Shizuoka 3 0.95 237 P **Pn** **11 15 16.4 +0.6**
SHZ3 *e*S **Sn** **11 15 31.6 -0.5**
MJAR Matsushiro Arr 1.23 320 P **Pn** **11 15 18.0 -0.6**
21nm,0.3s,baz=149,slow=14,SNR=176
MJAR S **Sn** **11 15 37.1 0.0**
35nm,0.3s,baz=40,slow=15,SNR=29
MJAR Matsushiro Arr 1.23 320 P **Pn** **11 15 18.0 -0.6**
MJAR S **Sn** **11 15 37.1 0.0**
MAJO Matsushiro 1.24 320 *e*Pn **Pn** **11 15 18.8 +0.2**
MAJO *e*Sn **Sn** **11 15 37.9 +0.7**
MAT Matsushiro 1.24 320 P **Pn** **11 15 19.1 +0.5**
MAT S **Sn** **11 15 36.8 -0.4**
MAT Matsushiro 1.24 320 P **Pn** **11 15 19.2 +0.6**
BSO1 Boso 1 1.74 122 P **Pn** **11 15 23.9 -0.6**
JHJ Hachijo jima 2 2.52 168 P **Pn** **11 15 34.2 0.0**
98nm,0.3s,baz=80,slow=0.7,SNR=89
JHJ S **Sn** **11 16 07.3 +2.4**
33nm,0.3s,baz=71,slow=23,SNR=12
ASAJ Asahikawa 8.91 16 P **Pn** **11 16 58.8 -1.1**
0.6nm,0.3s,baz=240,slow=12,SNR=4.5
KSRS Korea Array 9.25 285 P **Pn** **11 17 07.5 +2.9**
0.1nm,0.3s,baz=103,slow=14,SNR=6.4
INCN Inchon 10.28 284 Pn **Pn** **11 17 14.7 -3.6**
HIA Hailar 19.74 320 P **P** **11 19 12.7 -1.6**
WRA Warramunga Arr 55.42 186 P **P** **11 24 15.0 -1.1**
3.1nm,0.7s,mb4.5,baz=0.7,slow=7.7,SNR=53
ASAR Alice Springs 59.15 186 P **P** **11 24 42.5 +0.2**
0.5nm,0.6s,mb3.8,baz=12,slow=4.8,SNR=17
NVAR Mina Array Bea 77.29 52 P **P** **11 26 37.2 +1.8**
0.4nm,0.5s,mb3.4,baz=302,slow=5.2,SNR=5.5
NVAR Mina Array Bea 77.29 52 P **P** **11 26 37.2 +1.8**

*IDC **06** 11:17:16.3±2.3, 205N×6631E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, MS3.8/6, Ms1 3.8/6, ms1mx3.4/35, Error ellipse: s-maj=78.7km s-min=32.0km az=65.0*
*NEIC **06** 11:17:19.8±1.7, 223N×6672E, h10km, Error ellipse: s-maj=34.4km s-min=29.0km az=67.0*
ISC 06 11:17:19.9±1.8, 22N±02×667E±02, h10km, n11, σ1°15/5, mb3.8/4, MS3.8/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.80**	**70**	*e*Pn	**Pn**	**11 20 49.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**35.45**	**61**	LR	LR	11 36 34.6	
comp=Z,172nm,18.8s,MS3.8,baz=189,slow=32							
MKAR	**Makanchi Array**	**46.41**	**15**	LR	LR	11 45 30.9	
comp=Z,34nm,19.4s,MS3.3,baz=65,slow=36							
ZALV	**Zalesovo Beam**	**53.65**	**13**	P	**P**	**11 26 40.4**	**-1.1**
0.5nm,0.4s,mb3.8,baz=226,slow=5.6,SNR=3.6							
ZALV				LR	LR	11 48 14.4	
comp=Z,35nm,19.2s,MS3.4,baz=232,slow=34							
SUR	**Sutherland**	**55.42**	**228**	LR	LR	11 48 20.8	
comp=Z,363nm,18.1s,MS4.5,baz=52,slow=34							
SONM	**Songino Array**	**56.85**	**31**	P	**P**	**11 27 06.1**	**+1.4**
0.2nm,0.3s,mb3.6,baz=242,slow=3.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**65.19**	**283**	LR	LR	11 56 28.8	
comp=Z,87nm,18.6s,MS4.0,baz=150,slow=36							
KSRS	**Korea Array**	**66.01**	**50**	LR	LR	11 59 14.7	
comp=Z,49nm,19.0s,MS3.7,baz=235,slow=38							
WRA	**Warramunga Arr**	**69.83**	**112**	P	**P**	**11 28 31.5**	**+0.2**
2.4nm,0.9s,mb4.2,baz=289,slow=5.9,SNR=11							
ASAR	**Alice Springs**	**70.13**	**116**	P	**P**	**11 28 32.7**	**-0.3**
0.8nm,0.8s,mb3.7,baz=278,slow=4.3,SNR=6.7							
TXAR	**Lajitas Array**	**147.29**	**344**	PKPbc	PKPbc	11 37 02.3	-2.1
2.2nm,0.9s,baz=54,slow=2.5,SNR=20							

IDC 06 11:28:44.5±2.7, 1875S×17716W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.7/3, Error ellipse: s-maj=283.9km s-min=33.1km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.66**	**260**	P	P	11 37 06.7	-0.5
0.3nm,0.3s,baz=97,slow=7.6,SNR=23							
ASAR	**Alice Springs**	**45.72**	**255**	P	P	11 37 08.1	+0.4
1.3nm,0.5s,baz=93,slow=7.8,SNR=43							
TXAR	**Lajitas Array**	**85.45**	**57**	P	P	11 41 24.5	+0.1
0.1nm,0.3s,baz=227,slow=5.7,SNR=4.4							

*MDD **06** 11:30:24.8±0.6, 3639N×135E, h0km, mb4.0/28, Error ellipse: s-maj=5.4km s-min=4.0km az=83.0, PRIMO*
*ISCJB **06** 11:30:25.8±0.5, 3635N±005×137E±005, h16km±9km, Error ellipse: s-maj=9.3km s-min=4.2km az=145.2*
*CRAAG **06** 11:30:25.2, 3622N×140E, Ml3.9*
*CSEM **06** 11:30:26.1±0.2, 3623N×138E, h20km, ML3.9, Error ellipse: s-maj=4.6km s-min=4.4km az=1.0*
*NEIC **06** 11:30:27.4, 3632N×139E, h0km, MG4.2(MDD), After MDD.*
ISC 06 11:30:26.6±0.5, 3629N±004×142E±004, h16km±5km, n67, σ1°26/111, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.09**	**90**	P	**Pg**	**11 30 29.2**	**-0.7**
ECHA	**Ech Chlef**	**0.15**	**197**	P	**Pg**	**11 30 28.9**	**-1.6**
ECHF	**Ech Chlef**	**0.15**	**205**	P	**Pg**	**11 30 28.9**	**-1.6**
EANR	**'Ain N'Sour**	**0.43**	**217**	P	**Pg**	**11 30 33.6**	**-1.6**
OKGL	**Djebel Kef Gue**	**0.68**	**248**	P	**Pg**	**11 30 41.0**	**+1.2**
ETRT	**Tiaret**	**0.90**	**186**	P	**Pb**	**11 30 42.6**	**-1.2**
OJGS	**Djebel Guires**	**0.95**	**215**	P	**Pb**	**11 30 43.0**	**-1.7**
EMHD	**Djebel Mahouad**	**1.24**	**94**	P	**Pn**	**11 30 48.4**	**-0.8**
ADJB	**Djebel Djouab**	**1.64**	**94**	P	**Pn**	**11 30 59.9**	**+5.2**
EMUR	**La Murta**	**2.63**	**307**	P	**Pn**	**11 31 08.8**	**+0.5**
5.0nm,0.3s,SNR=6.2							
EMUR				S	**Sn**	**11 31 40.0**	**+0.2**
12nm,0.3s							
EMUR	**La Murta**	**2.63**	**307**	P	**Pn**	**11 31 08.8**	**+0.5**
5.0nm,0.3s,SNR=6.2							
EMUR				S	**Sn**	**11 31 40.0**	**+0.1**
12nm,0.3s							
EIBI	**Ibiza**	**2.73**	**359**	P	**Pn**	**11 31 10.9**	**+1.2**
11nm,0.2s,SNR=19							
EIBI				S	**Sn**	**11 31 41.6**	**-0.7**
51nm,0.2s,SNR=9.0							
EIBI	**Ibiza**	**2.73**	**359**	P	**Pn**	**11 31 10.9**	**+1.2**
11nm,0.2s,SNR=19							
EIBI				S	**Sn**	**11 31 41.6**	**-0.8**
51nm,0.2s,SNR=9.0							
EBEN	**Beniarda**	**2.74**	**332**	P	**Pn**	**11 31 10.9**	**+1.1**
3.5nm,0.2s,SNR=7.8							
EBEN				S	**Sn**	**11 31 42.8**	**+0.2**
12nm,0.2s,SNR=77							
EBEN	**Beniarda**	**2.74**	**332**	P	**Pn**	**11 31 10.9**	**+1.1**
3.5nm,0.2s,SNR=7.8							
EBEN				S	**Sn**	**11 31 42.8**	**+0.2**
12nm,0.2s,SNR=77							
ENIJ	**Nijar**	**2.99**	**284**	P	**Pn**	**11 31 12.5**	**-0.8**
3.5nm,0.2s,SNR=4.0							
ENIJ				S	**Sn**	**11 31 48.9**	**+0.1**
5.7nm,0.3s,SNR=4.0							
ENIJ	**Nijar**	**2.99**	**284**	P	**Pn**	**11 31 14.4**	**+1.1**
3.5nm,0.2s,SNR=4.0							
ENIJ				S	**Sn**	**11 31 48.9**	**+0.1**
5.7nm,0.3s,SNR=4.0							
ENIJ	**Nijar**	**2.99**	**284**	P	**Pn**	**11 31 14.4**	**+1.1**
ENIJ				S	**Sn**	**11 31 48.9**	**+0.1**
ETOB	**Tobarra**	**3.33**	**316**	P	**Pn**	**11 31 19.6**	**+1.6**
5.1nm,0.1s,SNR=22							
ETOB				S	**Sn**	**11 31 57.1**	**0.0**
8.6nm,0.2s							
ETOB	**Tobarra**	**3.33**	**316**	P	**Pn**	**11 31 19.6**	**+1.7**
5.1nm,0.1s,SNR=22							
ETOB				S	**Sn**	**11 31 57.1**	**0.0**
8.6nm,0.2s							
EBER	**Berja**	**3.52**	**281**	P	**Pn**	**11 31 20.8**	**+0.3**
14nm,0.3s,SNR=19							
EBER				S	**Sn**	**11 32 02.2**	**+0.4**
16nm,0.4s,SNR=7.9							
EBER	**Berja**	**3.52**	**281**	P	**Pn**	**11 31 20.8**	**+0.3**
14nm,0.3s,SNR=19							
EBER				S	**Sn**	**11 32 02.2**	**+0.4**
16nm,0.4s,SNR=7.9							
EHUE	**Huescar**	**3.55**	**297**	P	**Pn**	**11 31 22.9**	**+2.0**
1.8nm,0.3s,SNR=7.9							
EHUE				S	**Sn**	**11 32 01.9**	**-0.6**
3.1nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**3.55**	**297**	P	**Pn**	**11 31 22.9**	**+1.9**
1.8nm,0.3s,SNR=7.9							
EHUE				S	**Sn**	**11 31 59.3**	**-3.3**
3.1nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**3.55**	**297**	P	**Pn**	**11 31 22.9**	**+2.0**
EHUE				S	**Sn**	**11 31 59.3**	**-3.3**
ETOS	**Mallorca**	**3.64**	**17**	P	**Pn**	**11 31 22.8**	**+0.5**
4.1nm,0.3s,SNR=7.4							
ETOS				S	**Sn**	**11 32 02.7**	**-2.2**
5.3nm,0.2s							
ETOS	**Mallorca**	**3.64**	**17**	P	**Pn**	**11 31 22.8**	**+0.6**
4.1nm,0.3s,SNR=7.4							
EQES	**Quesada**	**3.90**	**294**	P	**Pn**	**11 31 26.7**	**+1.0**
4.2nm,0.1s,SNR=7.9							
EQES				S	**Sn**	**11 32 12.0**	**+0.9**
20nm,0.2s,SNR=13							
EQES	**Quesada**	**3.90**	**294**	P	**Pn**	**11 31 26.7**	**+1.0**
4.2nm,0.1s,SNR=7.9							
EQES				S	**Sn**	**11 32 12.0**	**+0.9**
20nm,0.2s,SNR=13							
EVIA	**Vianos**	**3.90**	**308**	P	**Pn**	**11 31 27.6**	**+1.9**
1.7nm,0.1s,SNR=7.9							
EVIA				S	**Sn**	**11 32 11.6**	**+0.3**
17nm,0.4s,SNR=7.7							
EQUE	**Quentar**	**4.01**	**285**	P	**Pn**	**11 31 25.5**	**-1.7**
14nm,0.4s,SNR=13							
EQUE				S	**Sn**	**11 32 13.4**	**-0.4**
10nm,0.3s,SNR=4.6							
EQUE	**Quentar**	**4.01**	**285**	P	**Pn**	**11 31 28.8**	**+1.6**
14nm,0.4s,SNR=13							
EQUE				S	**Sn**	**11 32 13.4**	**-0.4**
10nm,0.3s,SNR=4.6							
EGUA	**Guajares**	**4.05**	**279**	S	**Sn**	**11 32 14.3**	**-0.5**
40nm,0.7s,SNR=4.0							
ERON	**Agron**	**4.26**	**281**	P	**Pn**	**11 31 32.3**	**+1.6**
2.2nm,0.2s,SNR=4.0							
ERON				S	**Sn**	**11 32 20.6**	**+0.4**
10.0nm,0.5s,SNR=4.0							
EMOS	**Mosqueruela**	**4.33**	**341**	P	**Pn**	**11 31 34.1**	**+2.4**
5.3nm,0.2s,SNR=9.7							
EMOS				S	**Sn**	**11 32 21.0**	**-0.7**
5.5nm,0.2s							
EMOS	**Mosqueruela**	**4.33**	**341**	P	**Pn**	**11 31 34.1**	**+2.4**
5.3nm,0.2s,SNR=9.7							
EMOS				S	**Sn**	**11 32 21.0**	**-0.8**
5.5nm,0.2s							
EBAN	**Banos Encina**	**4.55**	**296**	P	**Pn**	**11 31 36.3**	**+1.5**
1.6nm,0.2s,SNR=7.9							
EBAN				S	**Sn**	**11 32 27.1**	**-0.2**
2.1nm,0.2s,SNR=7.9							
ELOJ	**Sierra Loja**	**4.56**	**282**	P	**Pn**	**11 31 36.4**	**+1.6**
3.7nm,0.3s,SNR=4.6							
ELOJ				S	**Sn**	**11 32 27.2**	**-0.2**
7.2nm,0.4s							
ERTA	**Horta de San J**	**4.74**	**350**	P	**Pn**	**11 31 39.4**	**+2.2**
1.8nm,0.2s,SNR=7.9							
ERTA				S	**Sn**	**11 32 30.4**	**-1.4**
2.3nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**4.74**	**350**	P	**Pn**	**11 31 39.4**	**+2.2**
1.8nm,0.2s,SNR=7.9							
ERTA				S	**Sn**	**11 32 30.4**	**-1.4**
2.3nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**5.00**	**275**	P	**Pn**	**11 31 40.7**	**-0.2**
3.1nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**5.06**	**357**	P	**Pn**	**11 31 43.3**	**+1.6**
1.8nm,0.2s,SNR=6.7							
EPOB				S	**Sn**	**11 32 38.5**	**-1.3**
6.2nm,0.4s							
EPOB	**Poblet**	**5.06**	**357**	P	**Pn**	**11 31 43.3**	**+1.6**
1.8nm,0.2s,SNR=6.7							
EPOB				S	**Sn**	**11 32 38.5**	**-1.3**
6.2nm,0.4s							
EADA	**Adamuz**	**5.14**	**293**	P	**Pn**	**11 31 43.5**	**+0.8**
1.0nm,0.2s,SNR=7.9							
EADA				S	**Sn**	**11 32 40.1**	**-1.6**
16nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**5.14**	**293**	P	**Pn**	**11 31 43.5**	**+0.7**
1.0nm,0.2s,SNR=7.9							
EADA				S	**Sn**	**11 32 40.1**	**-1.6**
16nm,0.4s,SNR=7.9							
ETOR	**Torete**	**5.28**	**330**	P	**Pn**	**11 31 43.9**	**-0.8**
4.9nm,0.3s,SNR=7.9							
ETOR				S	**Sn**	**11 32 43.7**	**-1.4**
5.9nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**5.43**	**310**	P	**Pn**	**11 31 45.4**	**-1.3**
3.2nm,0.3s,baz=126,slow=14,SNR=5.5							
ESDC				S	**Sn**	**11 32 47.5**	**-1.4**
3.2nm,0.2s,baz=127,slow=25,SNR=4.8							
EMIR	**Miracle**	**5.62**	**1**	P	**Pn**	**11 31 49.4**	**+0.1**
7.6nm,0.3s,SNR=5.6							
EMIR				S	**Sn**	**11 32 53.3**	**-0.2**
8.2nm,0.4s							
EMIR	**Miracle**	**5.62**	**1**	P	**Pn**	**11 31 51.7**	**+2.4**
7.6nm,0.3s,SNR=5.6							
EMIR	**Miracle**	**5.62**	**1**	P	**Pn**	**11 31 51.7**	**+2.4**
EMIR				S	**Sn**	**11 32 53.3**	**-0.2**
ESAC	**San Caprasio**	**5.62**	**345**	P	**Pn**	**11 31 49.4**	**0.0**
5.5nm,0.2s,SNR=7.9							
ESAC				S	**Sn**	**11 32 52.3**	**-1.3**
19nm,0.4s,SNR=7.9							
ESAC	**San Caprasio**	**5.62**	**345**	P	**Pn**	**11 31 51.1**	**+1.7**
5.5nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**5.62**	**345**	P	**Pn**	**11 31 51.1**	**+1.7**
ESAC				S	**Sn**	**11 32 50.6**	**-2.9**
ECAB	**El Cabril**	**5.74**	**290**	S	**Sn**	**11 32 55.0**	**-1.6**
3.9nm,0.4s,SNR=7.9							
EBIE	**Bielsa**	**6.46**	**352**	P	**Pn**	**11 32 02.4**	**+1.5**
0.3nm,0.2s,SNR=4.0							
EBIE				S	**Sn**	**11 33 12.4**	**-2.0**
0.5nm,0.3s,SNR=4.0							
EBIE	**Bielsa**	**6.46**	**352**	P	**Pn**	**11 32 02.5**	**+1.6**
EMIN	**Mina Concepcio**	**6.64**	**285**	P	**Pn**	**11 32 04.0**	**+0.6**
2.1nm,0.2s,SNR=7.9							
EMIN				S	**Sn**	**11 33 18.6**	**0.0**
2.2nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**6.64**	**285**	P	**Pn**	**11 32 04.0**	**+0.6**
EMIN				S	**Sn**	**11 33 16.2**	**-2.5**
EBAD	**Badajoz**	**7.14**	**293**	S	**Sn**	**11 33 30.3**	**-0.7**
2.3nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**7.87**	**333**	P	**Pn**	**11 32 21.4**	**+1.1**
1.7nm,0.2s,SNR=14							
ELAN				S	**Sn**	**11 33 48.5**	**-0.5**
0.8nm,0.3s							
ELAN	**Lanestosa**	**7.87**	**333**	P	**Pn**	**11 32 23.7**	**+3.4**
ELAN	**Lanestosa**	**7.87**	**333**	P	**Pn**	**11 32 23.7**	**+3.4**
ELAN				S	**Sn**	**11 33 46.8**	**-2.2**
ECAL	**Calabor**	**8.48**	**314**	P	**Pn**	**11 32 29.6**	**+0.9**
1.5nm,0.3s,SNR=7.9							
ECAL	**Calabor**	**8.48**	**314**	P	**Pn**	**11 32 29.6**	**+0.9**
EARI	**Arriondas**	**8.66**	**326**	P	**Pn**	**11 32 30.9**	**-0.1**
0.5nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**8.66**	**326**	P	**Pn**	**11 32 34.7**	**+3.6**
EARI	**Arriondas**	**8.66**	**326**	P	**Pn**	**11 32 34.7**	**+3.6**

*ISCJB **06** 11:35:13.0±0.6, 332N±008×1272E±02, h10km, mb4.2/14, MS3.5/2, Error ellipse: s-maj=32.3km s-min=8.0km az=166.0*
*IDC **06** 11:35:13.5±0.9, 325N×12723E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.1/17, mbtmp4.1/9, MS3.6/2, Ms1 3.6/2, ms1mx2.9/31, Error ellipse: s-maj=57.7km s-min=16.0km az=70.0*
*NEIC **06** 11:35:15.7±0.5, 327N×12723E, h15km, mb4.6/6, Error ellipse: s-maj=31.0km s-min=8.1km az=74.0*
ISC 06 11:35:14.8±1.8, 329N±009×1272E±02, h9km±53km, n22, σ0°98/20, mb4.2/14, MS3.5/2, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.49**	**177**	‖*e*P	**Pn**	**11 35 56.0**	**+0.5**
KAKA	**Kakadu**	**16.71**	**162**	*e*P	**Pn**	**11 39 12.4**	**+3.0**
18nm,0.6s							
KAKA				*e*S	Sn	11 41 36.3	-39
KAKA	**Kakadu**	**16.71**	**162**	*e*Pn	**Pn**	**11 39 09.7**	**+0.3**
KAKA				*e*S	Sn	11 41 36.3	-39
FITZ	**Fitzroy Crossi**	**21.31**	**184**	*e*P	**P**	**11 40 01.6**	**-0.5**
12nm,1.4s,mb4.0							
YHNB	**Yeheng**	**22.00**	**346**	*e*P	**P**	**11 40 08.2**	**-1.3**
8.7nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**24.11**	**163**	P	**P**	**11 40 29.5**	**-1.6**
2.1nm,0.4s,mb3.9,baz=334,slow=11,SNR=23							
ASAR	**Alice Springs**	**27.57**	**167**	P	**P**	**11 41 03.8**	**+1.5**
0.8nm,0.4s,mb3.7,baz=339,slow=10,SNR=31							
PSI	**Prapat**	**28.28**	**270**	LR	LR	11 53 21.7	
comp=Z,260nm,18.4s,MS3.9,baz=242,slow=38							
CMAR	**Chiang Mai Arr**	**31.53**	**301**	P	**P**	**11 41 38.2**	**+0.6**
0.8nm,0.6s,mb3.7,baz=110,slow=6.8,SNR=4.6							
CMAR				LR	LR	11 55 06.5	
comp=Z,35nm,18.0s,MS3.1,baz=155,slow=38							
KSRS	**Korea Array**	**34.01**	**1**	P	**P**	**11 41 59.2**	**+0.2**
1.0nm,0.8s,mb3.8,baz=178,slow=8.0,SNR=3.5							
KLBR	**Kellerberrin**	**35.84**	**194**	*e*P	**P**	**11 42 14.6**	**-0.3**
41nm,1.2s,mb5.2							
MUN	**Mundaring**	**36.61**	**196**	*e*P	**P**	**11 42 21.3**	**-0.2**
STKA	**Stephens Creek**	**37.54**	**160**	*e*P	**P**	**11 42 28.5**	**-0.9**
5.4nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**37.54**	**160**	P	**P**	**11 42 28.3**	**-1.1**
3.0nm,0.7s,mb4.1,baz=335,slow=11,SNR=5.5							
SONM	**Songino Array**	**47.88**	**341**	P	**P**	**11 43 54.3**	**+1.2**
0.8nm,0.6s,mb4.0,baz=156,slow=7.7,SNR=5.3							
MK31	**Makanchi Array**	**58.21**	**325**	*e*P	**P**	**11 45 09.2**	**-0.2**
MKAR	**Makanchi Array**	**58.21**	**325**	P	**P**	**11 45 08.9**	**-0.5**
1.3nm,0.5s,mb4.3,baz=127,slow=8.0,SNR=14							
ZALV	**Zalesovo Beam**	**61.21**	**333**	P	**P**	**11 45 29.3**	**-0.6**
2.0nm,0.6s,mb4.5,baz=118,slow=6.1,SNR=7.1							
KURK	**Kurchatov**	**62.38**	**327**	*e*P	**P**	**11 45 37.3**	**-0.6**
4.4nm,0.7s,mb4.7							
BRVK	**Borovoye**	**68.04**	**327**	*e*P	**P**	**11 46 14.8**	**+0.2**
9.9nm,1.0s,mb4.8							
ARCES	**ARCESS Array B**	**91.04**	**340**	P	**P**	**11 48 21.6**	**+2.3**
0.6nm,0.6s,mb4.1,baz=94,slow=7.3,SNR=3.8							
MNTX	**Cornudas Mount**	**119.13**	**51**	*e*PKPdf	PKPdf	11 54 05.3	+0.4

*IDC **06** 11:36:00.1±1.3, 283S×14163E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/15, mbtmp3.9/5, ML3.9/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/24, Error ellipse: s-maj=62.5km s-min=26.0km az=84.0*
*NEIC **06** 11:36:03.6±1.1, 280S×14094E, h10km, mb4.5/2, Error ellipse: s-maj=19.2km s-min=16.2km az=70.0*
*ISCJB **06** 11:36:08.8±3.7, 30S±02×1412E±02, h72km±34km, mb3.9/5, Error ellipse: s-maj=28.9km s-min=25.4km az=15.2*
ISC 06 11:36:10.5±3.0, 30S±01×1411E±02, h68km±28km, n17, σ0°85/13, mb3.9/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.75**	**137**	*e*Pn	**Pn**	**11 38 14.5**	**+0.1**
GUMO	**Guam**	**16.88**	**13**	LR	LR	11 45 53.9	
comp=Z,31nm,20.6s,baz=270,slow=36							
WRAB	**Tennant Creek**	**18.10**	**201**	*e*Pn	**Pn**	**11 40 17.8**	**+0.4**
7.8nm,0.7s							
WB2	**Warramunga Arr**	**18.11**	**201**	*e*P	**Pn**	**11 40 16.6**	**-0.9**
WB2	**Warramunga Arr**	**18.11**	**201**	*e*Pn	**Pn**	**11 40 16.6**	**-0.8**
WB2				*e*Sn	Sx	11 43 42.5	
WRA	**Warramunga Arr**	**18.11**	**201**	P	**Pn**	**11 40 17.2**	**-0.3**
0.4nm,0.3s,baz=26,slow=13,SNR=31							
ASAR	**Alice Springs**	**21.72**	**198**	P	**P**	**11 40 55.9**	**-0.2**
2.0nm,0.8s,mb3.5,baz=32,slow=11,SNR=29							
ASAR	**Alice Springs**	**21.72**	**198**	P	**P**	**11 40 55.9**	**-0.2**
STKA	**Stephens Creek**	**28.74**	**179**	P	**P**	**11 42 01.8**	**+0.2**
1.7nm,0.9s,mb3.7,baz=346,slow=16,SNR=4.1							
FORT	**Forrest**	**30.28**	**203**	*e*P	**P**	**11 42 15.9**	**+0.6**
18nm,0.7s,mb4.8							
TOO	**Toolangi**	**34.65**	**174**	*e*P	**P**	**11 42 54.9**	**+1.5**
HYB	**Hyderabad**	**64.93**	**291**	*i*P	**P**	**11 46 44.5**	**+1.0**
MKAR	**Makanchi Array**	**71.49**	**322**	P	**P**	**11 47 23.3**	**-0.7**
1.2nm,0.7s,mb3.6,baz=108,slow=7.8,SNR=5.6							
VNDA	**Vanda**	**75.31**	**175**	P	**P**	**11 47 44.1**	**-1.8**
0.9nm,0.6s,mb3.7,baz=340,slow=4.0,SNR=6.8							
LPAZ	**La Paz**	**145.31**	**124**	PKP	PKPdf	11 55 39.8	-1.9
3.1nm,0.8s,baz=219,slow=2.6,SNR=12							
CPUP	**Villa Florida**	**145.82**	**150**	PKPbc	PKPbc	11 55 42.5	-0.3
1.3nm,0.8s,baz=158,slow=5.4,SNR=3.1							
DBIC	**Dimbokro**	**145.92**	**277**	PKPbc	PKPbc	11 55 45.5	+2.0
5.0nm,0.9s,baz=28,slow=7.0,SNR=3.2							

*ISCJB **06** 11:40:52.4±0.5, 5589S±009×248W±02, h10km, mb4.5/10, MS3.9/4, Error ellipse: s-maj=15.5km s-min=11.3km az=140.3*
*IDC **06** 11:40:52.7±0.7, 5588S×2473W, h0km, mb4.5/8, mb1 4.5/9, mb1mx4.3/17, mbtmp4.4/9, ML3.5/1, MS3.9/4, Ms1 3.8/4, ms1mx3.5/20, Error ellipse: s-maj=25.3km s-min=17.1km az=76.0*
*NEIC **06** 11:41:00.0±0.4, 5594S×2483W, mb4.5/2, Error ellipse: s-maj=13.7km s-min=10.2km az=46.0*
ISC 06 11:40:54.3±0.5, 5591S±009×249W±02, h10km, n21, σ0°75/15, mb4.5/10, MS3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.36**	**158**	P	**Pn**	**11 45 08.3**	**-0.2**
0.2nm,0.3s,baz=330,slow=10,SNR=31							
EFI	**East Falkland**	**19.95**	**268**	P	**Pn**	**11 45 26.2**	**-1.8**
USHA	**Ushuaia**	**24.49**	**254**	LR	LR	11 53 02.1	
comp=Z,474nm,20.5s,MS4.0,baz=249,slow=30							
TRQA	**Tornquist**	**30.49**	**290**	*e*P	**P**	**11 47 07.0**	**-0.2**
6.1nm,0.8s,mb4.4							
TRQA				*e*pP	pP	11 47 21.9	+12
QSPA	**South Pole Qui**	**34.34**	**180**	P	**P**	**11 47 40.9**	**+0.4**
4.0nm,0.5s,mb4.6,baz=214,slow=2.0,SNR=58							
CPUP	**Villa Florida**	**37.73**	**308**	P	**P**	**11 48 09.8**	**-0.3**
1.6nm,0.5s,mb4.0,baz=132,slow=7.0,SNR=6.8							
MAW	**Mawson**	**39.48**	**143**	P	**

MOS ***06*** *12:06:37.6±0.4, 3741N×14128E, h85km, mb3.7/1, Error ellipse: s-maj=28.0km s-min=18.8km az=63.0*
IDC ***06*** *12:06:38.9±2.4, 3735N×141.18E, h73km±22km, mb3.4/3, mb1 3.6/6, mb1mx3.3/23, mbtmp3.6/6, Error ellipse: s-maj=21.3km s-min=14.6km az=74.0*
ISCJB ***06*** *12:06:39.3±0.6, 3738N±004×14108E±006, h93km±4km, mb3.6/3, Error ellipse: s-maj=9.1km s-min=4.7km az=30.5*
NEIC ***06*** *12:06:41.8±2.4, 3736N×14096E, h96km±21km, MG3.4(JMA), Error ellipse: s-maj=31.1km s-min=22.8km az=78.0*
JMA ***06*** *12:06:41.1±0.1, 3742N×14094E, h86km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs340.00000°, δ76.00000°, λ167.00000°. NP2: φs74.00000°, δ77.00000°, λ14.00000°. Principal axes: T Plg19.0000°, Azm297.0000°; N Plg71.0000°, Azm114.0000°; P Plg1.0000°, Azm207.0000°;*
JMA Felt I J1.

ISC 06 12:06:40.4±0.5, 3738N±003×14107E±006, h87km±4km, n26, σ0°73/42, mb3.6/3, 6C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.15**	**263**	⇑P	**Pn**	**12 06 53.4**	**+0.6**
JFK				S	**Sn**	**12 07 02.3**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.35**	**217**	⇓P	**Pn**	**12 06 54.5**	**+0.7**
ONAJ				S	**Sn**	**12 07 04.5**	**+0.8**
JMM	**Marumori**	**0.53**	**336**	⇓P	**Pn**	**12 06 55.2**	**+0.2**
JMM				S	**Sn**	**12 07 05.6**	**-0.4**
JFT	**Otama**	**0.60**	**283**	⇑P	**Pn**	**12 06 55.8**	**+0.2**
JFT				S	**Sn**	**12 07 06.3**	**-0.7**
JOU	**Okura**	**1.03**	**342**	P	**Pn**	**12 07 00.3**	**+0.1**
JOU				S	**Sn**	**12 07 15.2**	**+0.1**
JFY	**Yanaizu**	**1.08**	**272**	⇑P	**Pn**	**12 07 00.5**	**-0.3**
JFY				S	**Sn**	**12 07 15.0**	**-1.2**
JIO	**Ouri**	**1.09**	**12**	⇓P	**Pn**	**12 07 01.4**	**+0.5**
JIO				S	**Sn**	**12 07 16.1**	**-0.2**
JYS	**Shiratake**	**1.15**	**317**	⇑P	**Pn**	**12 07 01.6**	**0.0**
JYS				S	**Sn**	**12 07 17.5**	**-0.1**
JNS	**Sasagawa**	**1.46**	**288**	⇑P	**Pn**	**12 07 04.8**	**-0.6**
JMK	**Ichinoseki**	**1.57**	**4**	⇓P	**Pn**	**12 07 07.1**	**+0.3**
JMK				*e*S	**Sn**	**12 07 27.4**	**+0.5**
JKT	**Katashina**	**1.58**	**248**	⇓P	**Pn**	**12 07 07.6**	**+0.6**
JAG	**Ashikaga**	**1.61**	**234**	⇓P	**Pn**	**12 07 07.6**	**+0.2**
JAG				S	**Sn**	**12 07 27.3**	**-0.5**
JYK	**Kaneyama**	**1.63**	**340**	⇓P	**Pn**	**12 07 08.0**	**+0.4**
JYK				*e*S	**Sn**	**12 07 28.6**	**+0.3**
JAW	**Awa shima**	**1.79**	**307**	⇑P	**Pn**	**12 07 09.5**	**-0.2**
MJAR	**Matsushiro Arr**	**2.44**	**251**	P	**Pn**	**12 07 18.6**	**+0.4**
	6.1nm,0.3s,baz=70,slow=13,SNR=38						
MJAR				S	**Sn**	**12 07 47.1**	**-0.3**
	3.2nm,0.3s,baz=70,slow=39,SNR=9.1						
MAJO	**Matsushiro**	**2.44**	**251**	*e*Pn	**Pn**	**12 07 18.9**	**+0.6**
MAJO				*e*Sn	**Sn**	**12 07 47.4**	**0.0**
MAT	**Matsushiro**	**2.44**	**251**	P	**Pn**	**12 07 18.8**	**+0.5**
MAT				S	**Sn**	**12 07 48.4**	**+1.0**
JHJ	**Hachijo jima 2**	**4.38**	**194**	P	**Pn**	**12 07 44.4**	**-0.2**
	16nm,0.3s,baz=262,slow=23,SNR=26						
JHJ				S	**Sn**	**12 08 31.9**	**-2.5**
	34nm,0.3s,baz=74,slow=21,SNR=11						
ASAJ	**Asahikawa**	**6.83**	**9**	P	**Pn**	**12 08 16.1**	**-1.6**
	3.0nm,0.3s,baz=224,slow=12,SNR=33						
ASAJ	**Asahikawa**	**6.83**	**9**	P	**Pn**	**12 08 16.1**	**-1.6**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**7.57**	**27**	*e*P	**Pn**	**12 08 26.0**	**-1.9**
YUK				S	**Sn**	**12 09 46.8**	**-5.3**
YUK				pmax	pmax		
	comp=Z,150nm,0.3s						
YUK				smax			
	comp=N,190nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
YUK				smax			
	comp=N,190nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
YUK				smax			
	comp=N,450nm,0.8s						
YUK				smax			
	comp=E,370nm,0.8s						
SONM	**Songino Array**	**27.36**	**303**	P	**P**	**12 12 18.2**	**+1.1**
	comp=E,1.3nm,0.6s,mb3.7,baz=110,slow=9.4,SNR=10						
ZALV	**Zalesovo Beam**	**41.48**	**312**	P	**P**	**12 14 17.8**	**-0.5**
	comp=E,0.6nm,0.4s,mb3.7,baz=86,slow=9.1,SNR=3.8						
ZAL	**Zalesovo**	**41.49**	**312**	P	**P**	**12 14 17.8**	**-0.7**
EGAK	**Eagle**	**51.79**	**32**	P	**P**	**12 15 39.9**	**+1.2**
WRA	**Warramunga Arr**	**57.37**	**188**	P	**P**	**12 16 19.9**	**+0.4**
	comp=E,0.4nm,1.0s,mb3.4,baz=23,slow=7.4,SNR=5.3						

ISCJB ***06*** *12:21:12.5±0.8, 28N±02×664E±0.1, h10km, mb4.0/8, MS3.7/7, Error ellipse: s-maj=23.2km s-min=17.2km az=158.5*
IDC ***06*** *12:21:13.0±0.9, 274N×6635E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/21, mbtmp4.0/8, MS3.7/7, Ms1 3.7/7, ms1mx3.5/22, Error ellipse: s-maj=27.2km s-min=25.6km az=31.0*
NEIC ***06*** *12:21:14.4±0.7, 279N×6638E, h10km, Error ellipse: s-maj=22.3km s-min=16.1km az=159.0*

ISC 06 12:21:14.5±0.8, 28N±02×664E±01, h10km, n14, σ0°90/10, mb4.0/8, MS3.7/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.94**	**72**	*e*Pn	**Pn**	**12 24 45.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**35.48**	**62**	P	**P**	**12 28 13.6**	**+2.0**
	0.6nm,0.4s,mb3.9,baz=256,slow=11,SNR=3.3						
CMAR				LR	LR	12 40 28.3	
	comp=Z,87nm,18.2s,MS3.5,baz=86,slow=32						
MKAR	**Makanchi Array**	**45.96**	**15**	LR	LR	12 48 26.5	
	comp=Z,26nm,21.5s,MS3.1,baz=194,slow=36						
BOSA	**Boshof**	**50.33**	**229**	P	**P**	**12 30 12.2**	**+0.3**
	5.0nm,1.0s,mb4.5,baz=105,slow=11,SNR=3.7						
BOSA				LR	LR	12 47 56.0	
	comp=Z,166nm,19.5s,MS4.1,baz=2.5,slow=32						
BOSA	**Boshof**	**50.33**	**229**	P	**P**	**12 30 12.2**	**+0.3**
BOSA				LR	LR	12 47 56.0	
ZALV	**Zalesovo Beam**	**53.19**	**14**	P	**P**	**12 30 31.6**	**-1.1**
	2.0nm,0.3s,mb4.5,baz=224,slow=4.0,SNR=7.9						
ZALV				LR	LR	12 51 27.8	
	comp=Z,33nm,18.2s,MS3.4,baz=150,slow=34						
SONM	**Songino Array**	**56.55**	**31**	P	**P**	**12 30 58.2**	**+1.0**
	0.8nm,0.8s,mb3.8,baz=236,slow=7.5,SNR=4.0						
SONM				LR	LR	12 53 49.2	
	comp=Z,98nm,19.8s,MS3.9,baz=63,slow=35						
TORD	**Torodi Ar. Bea**	**64.73**	**283**	LR	LR	12 57 43.4	
	comp=Z,81nm,19.4s,MS3.9,baz=80,slow=34						
KSRS	**Korea Array**	**65.91**	**50**	LR	LR	13 03 21.4	
	comp=Z,83nm,18.4s,MS4.0,baz=149,slow=38						
WRA	**Warramunga Arr**	**70.35**	**112**	P	**P**	**12 32 28.9**	**-0.2**
	2.5nm,1.0s,mb4.1,baz=292,slow=5.7,SNR=7.7						
ASAR	**Alice Springs**	**70.68**	**116**	P	**P**	**12 32 30.8**	**-0.3**
	0.8nm,0.7s,mb3.7,baz=289,slow=4.9,SNR=9.1						
ESDC	**Sonseca Array**	**73.14**	**311**	P	**P**	**12 32 45.1**	**-0.4**
	0.2nm,0.3s,mb3.5,baz=81,slow=5.1,SNR=4.3						
STKA	**Stephens Creek**	**78.96**	**123**	P	**P**	**12 33 18.6**	**-0.2**
	2.0nm,0.8s,mb4.1,baz=300,slow=6.7,SNR=2.9						
TXAR	**Lajitas Array**	**146.66**	**344**	PKPbc	PKPbc	12 40 58.4	+1.1
	2.2nm,0.7s,baz=57,slow=3.0,SNR=34						

IDC 06 12:40:38.7±56.0, 1698S×17966W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/17, mbtmp4.2/3, Error ellipse: s-maj=1017.0km s-min=143.1km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.05**	**240**	P	P	12 47 59.5	+0.5
	1.9nm,0.6s,baz=99,slow=13,SNR=9.1						
WRA	**Warramunga Arr**	**43.63**	**259**	P	P	12 48 45.2	-0.1
	0.8nm,0.6s,baz=94,slow=7.6,SNR=29						
ASAR	**Alice Springs**	**43.90**	**253**	P	P	12 48 46.9	-0.5
	5.9nm,0.6s,baz=91,slow=8.5,SNR=233						

GRAL ***06*** *13:09:27.5±0.3, 3388N×3569E, h25km±3km, MD2.7*
CSEM ***06*** *13:09:27.5, 3388N×3569E, h24km, ML2.7, After GRAL*
ISCJB ***06*** *13:09:28.3±1.0, 3391N±004×3588E±007, h0km, Error ellipse: s-maj=8.5km s-min=5.5km az=174.1*
GII ***06*** *13:09:29.8±1.6, 3383N×3587E, h0km, ML2.3/4, EXPLOSION*

ISC 06 13:09:28.6±1.0, 3393N±004×3589E±007, h0km, n9, σ0°83/15, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.20**	**263**	*i* Pg	**Pg**	**13 09 31.5**	**-0.8**
BHL				*e*Sg	**Sg**	**13 09 34.5**	**-0.4**
HWQ	**Hawqa**	**0.35**	**8**	*e*Pg	**Pg**	**13 09 36.2**	**+0.8**
RCY	**Rachaya**	**0.45**	**187**	*e*Pg	**Pg**	**13 09 35.5**	**-1.7**
RCY				*e*Sg	**Sg**	**13 09 41.4**	**-1.5**
KSHT	**Keshet**	**0.95**	**184**	Sg	**Sg**	**13 09 59.7**	**+0.8**
MMA0B	**Mount Meron ar**	**1.00**	**204**	Pg	**Pg**	**13 09 47.4**	**-0.3**
MMA0B				Sg	**Sg**	**13 10 00.9**	**+0.3**
HNTI	**Hanita**	**1.03**	**215**	Pg	**Pg**	**13 09 49.0**	**+0.7**
HNTI				Sg	**Sg**	**13 10 02.7**	**+0.9**
MMLI	**Mount Malkishu**	**1.54**	**195**	Pn	**Pn**	**13 09 57.0**	**-0.3**
MMLI				Sn	**Sn**	**13 10 18.9**	**+1.0**
HMDT	**Nahal Hemdat**	**1.70**	**190**	Pn	**Pn**	**13 09 59.0**	**-0.5**
HMDT				Sn	**Sn**	**13 10 21.8**	**0.0**
SLTI	**Sal'it**	**1.83**	**203**	Sn	**Sn**	**13 10 25.9**	**+0.9**

IDC 06 13:13:25.8±8.7, 144N×6559E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.4/21, mbtmp3.8/2, Error ellipse: s-maj=781.6km s-min=48.4km az=39.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**70.59**	**112**	P	P	13 24 43.3	-0.2
	1.3nm,0.9s,baz=285,slow=6.3,SNR=5.5						
ASAR	**Alice Springs**	**70.81**	**116**	P	P	13 24 45.2	+0.4
	0.4nm,0.8s,baz=286,slow=5.4,SNR=5.0						
TXAR	**Lajitas Array**	**147.72**	**342**	PKPbc	PKPbc	13 33 12.6	-0.6
	1.2nm,0.8s,baz=71,slow=2.3,SNR=11						

IDC 06 13:13:54.1±3.4, 552S×15105E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=109.5km s-min=47.9km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.67**	**227**	P	P	13 18 46.4	-0.1
	2.0nm,0.8s,baz=54,slow=10,SNR=13						
ASAR	**Alice Springs**	**24.46**	**221**	P	P	13 19 14.9	0.0
	1.4nm,0.8s,baz=50,slow=9.3,SNR=21						
FITZ	**Fitzroy Crossi**	**27.79**	**241**	P	P	13 19 45.7	+0.6
	1.7nm,0.5s,baz=72,slow=13,SNR=6.4						
TORD	**Torodi Ar. Bea**	**148.85**	**286**	PKPbc	PKPbc	13 33 44.0	-0.9
	1.6nm,0.8s,baz=67,slow=2.6,SNR=6.7						

JMA 06 13:15:35.1±0.4, 4700N×14175E, h22km, M3.5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.69**	**176**	P	Pn	13 16 03.8	+0.6
JWK2				*e*S	Sn	13 16 24.6	+0.5
JRR	**Rishiri**	**1.89**	**189**	P	Pn	13 16 07.0	+1.0
JRR				*e*S	Sn	13 16 30.1	+1.0
JSE	**Soyaes**	**2.12**	**164**	P	Pn	13 16 09.7	+0.5
JYG	**Yagishiri**	**2.58**	**185**	P	Pn	13 16 17.1	+1.6
JSS	**Shosan**	**2.60**	**178**	P	Pn	13 16 16.8	+1.0
JTKR	**Abashiri--Toko**	**3.39**	**153**	P	Pn	13 16 26.9	+0.3
JAR	**Ashorobuto**	**3.97**	**158**	P	Pn	13 16 35.6	+1.0

IDC 06 13:59:20.8±8.7, 020N×6476E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.4/21, mbtmp3.7/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/33, Error ellipse: s-maj=834.3km s-min=47.6km az=37.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**39.27**	**245**	LR	LR	14 21 59.3	
	comp=Z,94nm,20.4s,baz=330,slow=35						
WRA	**Warramunga Arr**	**70.91**	**111**	P	P	14 10 41.4	+1.0
	0.6nm,0.8s,baz=291,slow=5.7,SNR=4.5						
ASAR	**Alice Springs**	**71.03**	**115**	P	P	14 10 40.4	-0.7
	0.6nm,0.8s,baz=293,slow=4.5,SNR=5.8						
JHJ	**Hachijo jima 2**	**77.37**	**56**	LR	LR	14 44 59.3	
	comp=Z,30nm,18.6s,baz=259,slow=35						
TXAR	**Lajitas Array**	**148.62**	**340**	PKPbc	PKPbc	14 19 10.1	-0.5
	1.3nm,0.7s,baz=49,slow=2.9,SNR=13						

IDC 06 14:14:37.6±9.8, 384N×6747E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.3/21, mbtmp3.6/2, Error ellipse: s-maj=793.6km s-min=47.1km az=41.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**69.75**	**113**	P	P	14 25 50.7	+0.6
	1.1nm,0.8s,baz=292,slow=5.6,SNR=6.3						
ASAR	**Alice Springs**	**70.17**	**117**	P	P	14 25 52.2	-0.4
	0.3nm,0.7s,baz=300,slow=5.5,SNR=5.3						
TXAR	**Lajitas Array**	**145.93**	**346**	PKPbc	PKPbc	14 34 19.1	-0.7
	1.1nm,0.6s,baz=52,slow=2.9,SNR=16						

SZGRF ***06*** *14:37:59.6, 500N×9250E, h28km, mb4.8, Off west coast of northern Sumatera, Indonesia*
IDC ***06*** *14:38:08.1±0.4, 662N×9090E, h0km, mb4.4/23, mb1 4.5/25, mb1mx4.5/27, mbtmp4.4/25, ML4.7/1, MS4.2/22, Ms1 4.2/22, ms1mx4.1/28, Error ellipse: s-maj=15.0km s-min=12.2km az=49.0*
ISCJB ***06*** *14:38:10.7±0.2, 665N±003×9099E±003, h28km, mb4.8/108, MS4.2/44, Error ellipse: s-maj=4.7km s-min=3.5km az=26.8*
MOS ***06*** *14:38:10.7±0.8, 672N×9102E, h25km, mb5.1/42, MS4.2/10, Error ellipse: s-maj=9.3km s-min=5.3km az=112.7*
BJI ***06*** *14:38:11.4, 669N×9092E, h32km, mB4.9, mb4.9, Ms4.5, Msz4.3*
GCMT ***06*** *14:38:12.9±0.3, 668N×9104E, h21km±1km, MW5.0/69, Moment Tensor Solution. s34,c46; s69,c113; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.24±.14; Mθθ-2.98±.11; Mφφ2.74±.13; Mrθ-1.24±.22; Mφθ-3.23±.12; Mφr-0.23±.23; Best double couple: M0=4.47700×10^16 NP1:φs20.00000°, δ77.00000°, λ-7.00000°. NP2: φs111.00000°, δ84.00000°, λ-167.00000°. Principal axes: T 4.2180, Plg5.0000°, Azm245.0000°; N 0.5130, Plg75.0000°, Azm137.0000°; P -4.7360, Plg14.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***06*** *14:38:12.8±0.2, 669N×9100E, h30km, mb4.9/46, MS4.2/2 Error ellipse: s-maj=5.8km s-min=4.1km az=36.0*
DJA ***06*** *14:38:24, 710N×9197E, h33km, mb5.2/7*

ISC 06 14:38:12.0±1.0, 667N±003×9098E±003, h23km±6km, h29km±1.1km: pP-P, n300, σ0°99/301, mb4.8/108, MS4.2/44, 28C-17D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**5.25**	**19**	*e*P	x	14 39 50.6	
PBA				*e*S	x	14 40 46.1	
PSI	**Prapat**	**8.80**	**116**	Pn	**Pn**	**14 40 17.5**	**-0.4**
	2.5nm,0.3s,baz=314,slow=11,SNR=7.3						
PSI				Sn	**Sn**	**14 41 48.5**	**-7.9**
	5.8nm,0.3s,baz=310,slow=11,SNR=5.0						
PSI				LR	LR	14 44 25.5	
	comp=Z,3μm,18.7s,baz=99,slow=42						
PSI	**Prapat**	**8.80**	**116**	⇓*e*P	**Pn**	**14 40 17.7**	**-0.2**
KULM	**Kulim**	**9.71**	**98**	⇑P	**Pn**	**14 40 29.2**	**-1.3**
PALK	**Pallekele**	**10.22**	**274**	Pn	**Pn**	**14 40 35.9**	**-1.6**
	1μm,0.5s,SNR=51						
PALK	**Pallekele**	**10.22**	**274**	*e*Pn	**Pn**	**14 40 35.5**	**-2.0**
IPM	**Ipoh**	**10.23**	**102**	⇑P	**Pn**	**14 40 36.3**	**-1.2**
FRIM	**Kepong**	**11.14**	**107**	⇓P	**Pn**	**14 40 48.7**	**-1.2**
KTGM	**Kuala Trenggan**	**12.16**	**96**	⇑P	**Pn**	**14 41 02.9**	**-1.1**
KGM	**Kluang**	**13.14**	**110**	⇑P	**Pn**	**14 41 16.5**	**-0.9**
VIS	**Vishakhapatnam**	**13.28**	**326**	*i* P	**Pn**	**14 41 17.1**	**-2.3**
VIS				AMb	AMB	14 41 18.9	
	comp=Z,61nm,1.0s						
VIS				*i* x	x	14 43 30.4	
KOD	**Kodaikanal**	**13.83**	**286**	*e*P	**Pn**	**14 41 25.9**	**-0.9**
KOD				AMb	AMB	14 41 28.3	
	comp=Z,94nm,0.8s						
TRD	**Trivandrum**	**14.02**	**278**	*e*P	**Pn**	**14 41 27.8**	**-1.6**
TRD				*e*x	x	14 44 10.0	
CM31	**Chiang Mai Arr**	**14.05**	**33**	*e*P	**Pn**	**14 41 28.4**	**-1.4**
CMAR	**Chiang Mai Arr**	**14.05**	**33**	Pn	**Pn**	**14 41 29.1**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=227,slow=14,SNR=64						
CMAR				Sn	**Sn**	**14 44 02.8**	**-2.4**
	baz=232,slow=14,SNR=2.4						
CMAR				LR	LR	14 47 03.3	
	comp=Z,704nm,21.0s,baz=215,slow=38						
CMAR	**Chiang Mai Arr**	**14.05**	**33**	P	**Pn**	**14 41 29.2**	**-0.6**
CMAR						14 44 02.8	
CHTO	**Chiang Mai**	**14.34**	**32**	*e*P	**Pn**	**14 41 32.5**	**-1.3**
HYB	**Hyderabad**	**16.17**	**312**	*i* P	**Pn**	**14 42 00.0**	**+2.1**
HYB				*e*S	**Sn**	**14 45 01.0**	**+4.3**
HYB	**Hyderabad**	**16.17**	**312**	*e*P	**Pn**	**14 42 00.0**	**+2.1**
HYB				*e*S	**Sn**	**14 45 08.0**	**+11**
BLSP	**Bilaspur**	**17.59**	**332**	*e*P	**Pn**	**14 42 13.8**	**-1.9**
BLSP				AMb	AMB	14 42 19.3	
	comp=Z,56nm,0.5s						
BOK	**Bokaro**	**17.72**	**344**	*e*P	**Pn**	**14 42 17.4**	**0.0**
IMP	**Imphal**	**18.23**	**9**	*e*P	**Pn**	**14 42 22.0**	**-1.7**
IMP				*e*x	x	14 45 53.0	
LATR	**Latur**	**18.27**	**311**	*e*P	**Pn**	**14 42 23.7**	**-0.5**
LATR				AMb	AMB	14 42 30.9	
	comp=Z,38nm,2.0s						
NGP	**Nagpur**	**18.46**	**322**	*e*P	**Pn**	**14 42 26.2**	**-0.2**
NGP				*e*x	x	14 42 36.4	
	comp=Z,85nm,1.6s						
NGP				*e*S	**Sn**	**14 45 52.2**	**+0.1**
SHL	**Shillong**	**18.81**	**3**	*i* P	**Pn**	**14 42 30.0**	**-0.7**
SHL				*e*PP		14 42 44.0	
SHL				*i* x	x	14 45 49.0	
AKL	**Akola**	**19.44**	**317**	*e*P	**Pn**	**14 42 38.7**	**+0.4**
AKL				AMb	AMB	14 42 50.8	
	comp=Z,65nm,0.9s						
KAD	**Karad**	**19.52**	**304**	*e*x	x	14 42 48.8	
KAD				AMb	AMB	14 42 52.9	
	comp=Z,61nm,0.9s						
KSM	**Kuching**	**19.95**	**104**	⇓P	**Pn**	**14 42 44.4**	**0.0**
KSM	**Kuching**	**19.95**	**104**	*e*P	**Pn**	**14 42 42.7**	**-1.7**
ODAN	**Odare**	**20.37**	**351**	*e*P	**P**	**14 42 48.2**	**+1.1**
	comp=Z,251nm,0.7s						
POO	**Poona**	**20.43**	**307**	*e*P	**P**	**14 42 48.2**	**+0.3**
POO				AMb	AMB	14 42 52.3	
	comp=Z,64nm,1.2s						
RAMN	**Ramite**	**20.59**	**349**	*e*P	**P**	**14 42 51.4**	**+1.8**
	comp=Z,445nm,0.6s						
TAPN	**Taplejung**	**20.80**	**352**	*e*P	**P**	**14 42 53.2**	**+1.4**
	comp=Z,438nm,0.8s						
JIRN	**Jiri**	**21.37**	**348**	*e*P	**P**	**14 42 59.0**	**+1.1**
	comp=Z,313nm,0.8s,mb5.7						
PKI	**Pulchoki**	**21.45**	**346**	*e*P	**P**	**14 42 59.6**	**+0.8**
	comp=Z,240nm,1.0s,mb5.5						
KMI	**Kunming**	**21.52**	**30**	P	**P**	**14 43 01.5**	**+1.9**
KMI				AP		14 43 08.8	
KMI				XP	sP	14 43 11.9	+3.0
KMI				PP		14 43 26.9	
KMI				S	**S**	**14 46 54.8**	**-2.5**
KMI				XS	sS	14 47 06.8	-0.6
KMI				SS		14 47 31.5	
KMI				SCP	ScP	14 50 37.9	0.0
KMI				PCS	PcS	14 50 40.1	-0.2
KMI				AMB	AMB		
	comp=Z,107nm,0.8s,mb5.3						
KMI				AMB	AMB		
	comp=Z,204nm,7.0s						
KMI				LR	LR		
	comp=N,961nm,20.5s,MS4.3						
KMI				LR	LR		
	comp=E,599nm,19.4s,MS4.3						
KMI				LR	LR		
	comp=Z,719nm,23.7s,MS4.0						
DMN	**Daman**	**21.56**	**346**	*e*P	**P**	**14 43 00.6**	**+0.6**
SBUM	**Sibu**	**21.58**	**100**	⇓P	**P**	**14 43 00.4**	**+0.1**
GUN	**Gumba**	**21.67**	**348**	*e*P	**P**	**14 43 02.1**	**+0.9**
	comp=Z,334nm,0.7s,mb5.9						
KKN	**Kakani**	**21.69**	**346**	*e*P	**P**	**14 43 01.8**	**+0.4**
	comp=Z,101nm,0.8s,mb5.3						
GKN	**Gorkha**	**22.05**	**345**	*e*P	**P**	**14 43 06.5**	**+1.2**
QIZ	**Qiongzhong**	**22.08**	**54**	P	**P**	**14 43 06.6**	**+0.9**
QIZ				AP		14 43 13.9	
QIZ				XP	sP	14 43 18.0	+3.0
QIZ				S	**S**	**14 47 08.0**	**-0.3**
QIZ				XS	sS	14 47 21.9	+3.4
QIZ				AMB	AMB		
	comp=Z,511nm,2.8s,mb5.5						
QIZ				LR	LR		
	comp=N,1μm,14.6s						
QIZ				LR	LR		
	comp=Z,832nm,15.0s,MS4.3						
KOLN	**Koldanda**	**22.12**	**342**	*e*P	**P**	**14 43 06.8**	**+0.8**
	comp=Z,191nm,0.8s,mb5.6						
BTM	**Bintulu**	**22.28**	**98**	⇓P	**P**	**14 43 16.9**	**+9.1**
DANN	**Dangsing**	**22.62**	**343**	*e*P	**P**	**14 43 11.8**	**+0.5**
LSA	**Lhasa**	**22.91**	**0**	P	**P**	**14 43 14.2**	**-0.1**
LSA				S	**S**	**14 47 23.0**	**-0.1**
LSA				LR	LR		
	comp=N,340nm,20.5s,MS4.2						
LSA				LR	LR		
	comp=E,820nm,20.5s,MS4.2						
LSA				LR	LR		
	comp=Z,460nm,20.5s,MS3.9						
LSA	**Lhasa**	**22.91**	**0**	*e*P	**P**	**14 43 13.8**	**-0.5**
LSA				pmax	pmax		
	comp=Z,123nm,0.8s,mb5.4						
LSA	**Lhasa**	**22.91**	**0**	*e*P	**P**	**14 43 13.8**	**-0.6**
	comp=Z,123nm,0.8s,mb5.4						
GYA	**Guiyang**	**24.71**	**35**	⇓*i*P	**P**	**14 43 33.5**	**+1.9**
GYA				AP		14 43 41.8	
GYA				XP	sP	14 43 46.4	+5.2
GYA				PP		14 44 10.4	
GYA				PCP	PcP	14 47 10.8	+2.3
GYA				S	**S**	**14 47 50.0**	**-2.4**
GYA				XS	sS	14 48 04.6	+1.0
GYA				SS		14 48 47.2	
GYA				SCP	ScP	14 50 45.8	-0.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,660nm,15.4s,MS4.4						
GYA				LR	LR		
	comp=E,740nm,14.6s,MS4.4						
GYA				LR	LR		
	comp=Z,650nm,15.0s,MS4.2						
PTH	**Pithoragarh**	**24.92**	**337**	*e*P	**P**	**14 43 35.1**	**+1.6**
PTH

LZH AP pP 14 44 41.2 +1.6
LZH XP sP 14 44 46.0 +3.6
LZH PP PP 14 45 38.0 -6.3
LZH S **S** **14 49 38.0 -2.2**
LZH XS sS 14 49 53.2 +1.7
LZH SS SS 14 51 29.2 -27
LZH AMB AMB
comp=Z,38nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,180nm,4.0s
LZH LR LR
comp=N,641nm,15.9s
LZH LR LR
comp=Z,1µm,17.5s,MS4.6
XAN Xi'an 31.89 29 P **P** **14 44 34.8 -0.9**
XAN AMB AMB
comp=Z,15nm,1.3s,mb4.7
XAN AMB AMB
comp=Z,164nm,8.1s
XAN LR LR
comp=N,260nm,18.3s,MS4.1
XAN LR LR
comp=E,271nm,20.3s,MS4.1
XAN LR LR
comp=Z,616nm,22.1s,MS4.2
WHN Wuhan 32.33 40 ⇑P **P** **14 44 40.7 +1.1**
WHN S **S** **14 49 59.7 +7.4**
WHN LR LR
comp=N,751nm,14.1s,MS4.7
WHN LR LR
comp=E,830nm,18.3s,MS4.7
WHN LR LR
comp=Z,1µm,14.3s,MS4.7
GTA Gaotai 33.55 12 P **P** **14 44 51.0 +0.8**
GTA AP pP 14 44 59.0 +2.0
GTA XP sP 14 45 03.9 +4.1
GTA PP PP 14 45 59.3 -7.0
GTA S **S** **14 50 03.4 -7.7**
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,100nm,7.6s
GTA LR LR
comp=N,256nm,16.4s,MS4.1
GTA LR LR
comp=E,143nm,18.6s,MS4.1
GTA LR LR
comp=Z,325nm,16.0s,MS4.1
NJ2 Nanjing 36.24 42 *e*P **P** **14 45 15.0 +1.5**
NJ2 XP sP 14 45 28.2 +5.0
NJ2 S **S** **14 50 49.5 -3.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,100nm,7.3s
NJ2 LR LR
comp=N,210nm,26.5s,MS4.0
NJ2 LR LR
comp=E,220nm,22.5s,MS4.0
NJ2 LR LR
comp=Z,310nm,26.8s,MS4.0
BATI Baumata 36.61 117 P **P** **14 45 15.2 -1.7**
comp=Z,24nm,0.7s,mb5.1,baz=147,slow=20,SNR=4.2
WMQ Urumqi 37.12 356 P **P** **14 45 21.2 +0.4**
WMQ AP pP 14 45 31.0 +3.3
WMQ XP sP 14 45 35.0 +4.5
WMQ PP PP 14 46 48.0 +2.4
WMQ PCP PcP 14 47 42.2 +1.3
WMQ S **S** **14 51 04.0 -1.8**
WMQ SCP ScP 14 51 25.3 -1.5
WMQ SS SS 14 53 34.0 -15
WMQ SCS ScS 14 55 31.3 -2.9
WMQ AMB AMB
comp=Z,33nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,36nm,9.3s
WMQ LR LR
comp=N,249nm,24.2s,MS4.3
WMQ LR LR
comp=E,573nm,22.6s,MS4.3
WMQ LR LR
comp=Z,218nm,25.4s,MS3.8
SSE Sheshan 37.28 45 P **P** **14 45 23.7 +1.4**
SSE XP sP 14 45 36.5 +4.5
SSE PP PP 14 46 48.7 +1.1
SSE S **S** **14 51 08.9 +0.3**
SSE XS sS 14 51 24.2 +4.2
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,65nm,4.5s
SSE LR LR
comp=N,191nm,17.3s,MS4.0
SSE LR LR
comp=E,111nm,17.3s,MS4.0
SSE LR LR
comp=Z,140nm,11.8s
BTO Baotou 37.84 24 *e*P **P** **14 45 26.4 -0.6**
TIA Tai'an 37.91 35 ⇓P **P** **14 45 28.3 +0.7**
HHC Hu-ho-hao-te 38.68 25 *e*P **P** **14 45 34.6 +0.5**
HHC AP pP 14 45 43.2 +2.2
HHC XP sP 14 45 48.0 +4.2
HHC S **S** **14 51 28.1 -1.5**
HHC SCP ScP 14 51 34.1 +1.3
HHC XS sS 14 51 44.8 +3.8
HHC SS SS 14 54 09.9 -11
HHC SCS ScS 14 55 40.2 -3.0
HHC AMB AMB
comp=Z,16nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,98nm,3.1s
HHC LR LR
comp=N,304nm,21.4s,MS4.3
HHC LR LR
comp=E,376nm,21.4s,MS4.3
HHC LR LR
comp=Z,287nm,19.0s,MS4.1
FRU Bishkek 38.81 341 *e*P **P** **14 45 36.5 +1.4**
MBWA Marble Bar 39.51 135 *e*P **P** **14 45 40.5 -0.7**
comp=Z,12nm,1.0s,mb4.6
BJT Baijiatuau 40.16 30 *e*P **P** **14 45 47.0 +0.6**
BJT *e* pP 14 45 54.8 +1.4
BJT pmax pmax
comp=Z,15nm,0.7s
BJT Baijiatuau 40.16 30 *e*P **P** **14 45 47.0 +0.6**
comp=Z,15nm,0.7s,mb4.8
BJT *e* pP 14 45 54.8 +1.4
BJI Beijing 40.18 30 P **P** **14 45 47.4 +0.8**
BJI S **S** **14 51 55.8 +3.6**
BJI SS SS 14 54 48.7 -1.9
BJI AMB AMB
comp=Z,9.0nm,0.9s,mb4.5
BJI AMB AMB
comp=Z,129nm,3.6s
BJI LR LR
comp=N,334nm,21.7s,MS4.4
BJI LR LR
comp=E,519nm,23.1s,MS4.4
BJI LR LR
comp=Z,387nm,29.3s
MK31 Makanchi Array 40.67 351 *e*P **P** **14 45 50.4 -0.1**
MKAR Makanchi Array 40.67 351 P **P** **14 45 50.4 -0.1**
comp=Z,6.2nm,0.6s,mb4.4,baz=166,slow=8.9,SNR=50
MKAR LR LR 15 06 53.2
comp=Z,125nm,18.4s,MS3.8,baz=160,slow=42
FITZ Fitzroy Crossi 42.14 126 *e*P **P** **14 46 00.9 -2.1**
comp=Z,11nm,0.8s,mb4.5
FITZ Fitzroy Crossi 42.14 126 P **P** **14 46 02.3 -0.7**
comp=Z,5.5nm,0.7s,mb4.3,baz=326,slow=14,SNR=12
FITZ PcP PcP 14 47 58.2 +0.8
comp=Z,6.8nm,1.0s,baz=193,slow=5.2,SNR=3.2
SONM Songino Array 43.08 15 P **P** **14 46 10.5 +0.4**
comp=Z,9.9nm,0.7s,mb4.7,baz=195,slow=8.8,SNR=70
SONM LR LR 15 06 48.0
comp=Z,535nm,19.6s,MS4.5,baz=206,slow=40
SONM Songino Array 43.08 15 P **P** **14 46 10.5 +0.4**
SONM LR LR 15 06 48.0
ZAK Zakamensk 44.77 11 *e*P **P** **14 46 23.7 0.0**
ZAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.3
ZAK pmax pmax
comp=Z,3.0nm,1.7s,mb3.9
KURK Kurchatov 45.10 349 P **P** **14 46 26.1 -0.2**
comp=Z,138nm,1.3s,mb5.6,SNR=8.6
KURK Kurchatov 45.10 349⇑*e*P **P** **14 46 26.2 -0.1**
KURK pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
KURK Kurchatov 45.10 349 *e*P **P** **14 46 26.4 0.0**
comp=Z,27nm,1.0s,mb5.0
SNY Shenyang 45.40 34 ⇑P **P** **14 46 32.1 +3.2**
SNY AMB AMB
comp=Z,25nm,1.1s,mb5.0
KSRS Korea Array 45.44 42 P **P** **14 46 29.4 +0.1**
comp=Z,4.1nm,0.8s,mb4.3,baz=256,slow=8.9,SNR=5.1
KSRS LR LR 15 09 29.1
comp=Z,208nm,18.9s,MS4.1,baz=238,slow=41
KSRS Korea Array 45.44 42 P **P** **14 46 29.4 +0.1**
KSRS pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
KSRS MLR MLR
comp=Z,208nm,18.9s,MS4.1
KAKA Kakadu 45.48 115 *e*P **P** **14 46 29.9 0.0**
comp=Z,13nm,0.6s,mb4.9
MOY Mondy 45.61 9 *e*P sP 14 46 46.8 +6.6
TLY Talaya 46.08 11 *e*P **P** **14 46 43.4 +9.3**
TLY *e*S **S** **14 53 33.5 +15**
TLY pmax pmax
comp=Z,11nm,1.4s,mb4.6
TLY MLR MLR
comp=Z,202nm,20.0s,MS4.1
RDF Al-Radifah 46.54 304 *e*P **P** **14 46 35.4 -2.8**
baz=304
RDF AMb AMB 14 46 39.8
comp=Z,63nm,1.4s,mb5.3,baz=304
UMR Umm Al-Rimmam 46.62 305 *e*P **P** **14 46 35.5 -3.2**
baz=305
UMR AMb AMB 14 46 40.1
comp=Z,45nm,1.3s,mb5.2,baz=305
NWAO Narrogin (SRO) 46.62 149 P **P** **14 46 39.1 +0.5**
comp=Z,10nm,0.8s,mb4.8,baz=270,slow=6.1,SNR=2.8
MIB Mutribah 47.01 305 *e*P **P** **14 46 38.8 -3.0**
baz=305
MIB AMb AMB 14 46 44.0
comp=Z,49nm,1.1s,mb5.3,baz=305
ZAL Zalesovo 47.39 355 P **P** **14 46 44.1 -0.2**
ZAA0 Zalesovo Array 47.40 355 *e*P **P** **14 46 44.4 0.0**
ZALV Zalesovo Beam 47.40 355 P **P** **14 46 44.1 -0.3**
comp=Z,13nm,0.5s,mb5.1,baz=176,slow=7.5,SNR=49
ZALV LR LR 15 08 35.2
comp=Z,240nm,21.1s,MS4.1,baz=295,slow=38
ZALV Zalesovo Beam 47.40 355 P **P** **14 46 44.1 -0.3**
ZALV LR LR 15 08 35.2
CN2 Changchun 47.73 34 ⇓P **P** **14 46 47.6 +0.4**
CN2 *e*XP sP 14 46 59.9 +2.9
CN2 *e*S **S** **14 53 41.0 -1.2**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,300nm,17.0s,MS4.5
CN2 LR LR
comp=E,300nm,17.0s,MS4.5
CN2 LR LR
comp=Z,500nm,19.0s,MS4.5
NVS Novosibirsk 48.44 354 *e*P **P** **14 46 51.1 -1.3**
NVS *e*S **S** **14 53 48.5 -3.3**
NVS pmax pmax
comp=Z,34nm,1.0s,mb5.3
NVS pmax pmax
comp=N,17nm,1.3s
NVS pmax pmax
comp=E,11nm,1.2s
NVS smax
comp=N,23nm,2.1s
NVS smax
comp=E,37nm,2.1s
HIA Hailar 48.88 25 *e*P **P** **14 46 56.8 +0.9**
HIA pmax pmax
comp=Z,17nm,0.8s
HIA Hailar 48.88 25 *e*P **P** **14 46 56.8 +0.8**
comp=Z,17nm,0.8s,mb5.1
KRAR Krasnoyarsk 49.23 1 *e*P **P** **14 46 57.9 -0.6**
KRAR pmax pmax
comp=Z,12nm,0.8s,mb5.0
BRVK Borovoye 49.24 344 *e*P **P** **14 46 58.4 -0.2**
OPO Ambohidratompo 49.94 239 P **P** **14 47 04.7 +0.2**
comp=Z,8.2nm,0.8s,mb4.8,baz=11,slow=5.8,SNR=9.5
WRA Warramunga Arr 50.18 123 P **P** **14 47 05.8 -0.5**
comp=Z,4.8nm,0.8s,mb4.6,baz=301,slow=8.9,SNR=17
WRA LR LR 15 11 56.8
comp=Z,89nm,18.6s,MS3.8,baz=320,slow=40
WRAB Tennant Creek 50.19 123 P **P** **14 47 07.0 +0.6**
comp=Z,151nm,0.6s,mb6.2,SNR=5.3
WRAB Tennant Creek 50.19 123 *e*P **P** **14 47 09.1 +2.7**
WRAB pmax pmax
comp=Z,18nm,0.8s,mb5.2
WRAB Tennant Creek 50.19 123 *e*P **P** **14 47 09.1 +2.7**
comp=Z,18nm,0.8s,mb5.2
WB2 Warramunga Arr 50.19 123 *e*P **P** **14 47 06.2 -0.2**
MDJ Mudanjiang 50.57 35 P **P** **14 47 06.8 -2.1**
MDJ AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,100nm,4.3s
MDJ Mudanjiang 50.57 35 *e*P **P** **14 47 07.2 -1.7**
comp=Z,48nm,1.3s,mb5.3
FORT Forrest 51.44 138 *e*P **P** **14 47 17.5 +1.9**
comp=Z,34nm,0.7s,mb5.4
ASAR Alice Springs 51.62 127 P **P** **14 47 16.9 -0.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=304,slow=6.9,SNR=28
MAJO Matsushiro 52.29 48 *e*P **P** **14 47 25.5 +3.6**
MAJO pmax pmax
comp=Z,11nm,1.0s,mb4.7
MAJO Matsushiro 52.29 48 *e*P **P** **14 47 25.5 +3.5**
comp=Z,11nm,1.0s,mb4.8
MAT Matsushiro 52.29 48 P **P** **14 47 21.2 -0.7**
MAT *e*S **S** **14 54 50.0 +4.0**
MJAR Matsushiro Arr 52.29 48 P **P** **14 47 23.5 +1.6**
comp=Z,1.2nm,0.6s,mb4.0,baz=188,slow=27,SNR=5.4
MJAR LR LR 15 14 35.8
comp=Z,127nm,18.1s,MS4.0,baz=240,slow=42
CBIJ Chichi jima 52.62 61 P **P** **14 47 26.6 +2.1**
comp=Z,53nm,0.6s,mb5.7,baz=280,slow=17,SNR=2.9
GNI Garni 53.08 316 *e*P **P** **14 47 27.9 +0.2**
GNI pmax pmax
comp=Z,8.0nm,0.6s
GNI Garni 53.08 316 *e*P **P** **14 47 27.9 +0.2**
comp=Z,8.1nm,0.6s,mb4.8
BOD Bodaibo 54.08 15 *e*P **P** **14 47 34.5 -0.2**
BOD pmax pmax
comp=Z,15nm,0.9s,mb4.9
KLR Kul'dur 54.53 32 *e*P **P** **14 47 34.7 -3.4**
SVE Sverdlovsk 55.41 340 *e*P **P** **14 47 45.3 +0.9**
SVE pmax pmax
comp=Z,48nm,1.1s,mb5.4
ARU Arti 55.82 339⇑*e*P **P** **14 47 47.5 +0.2**
ARU pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
ARU Arti 55.82 339 *e*P **P** **14 47 47.7 +0.4**
comp=Z,15nm,1.1s,mb4.9
CLNS Chul'man 56.67 22 *e*P **P** **14 47 54.0 +0.6**
CLNS *e**PP pP 14 48 01.9 +1.4
CLNS *e* 14 48 45.1
CLNS *e*PPP 14 51 18.5
CLNS *e*S **S** **14 55 49.2 +4.9**
CLNS *e*SS SS 14 59 27.4 -4.8
CLNS pmax pmax
comp=Z,19nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,10.0nm,0.6s
CLNS pmax pmax
comp=E,8.0nm,0.7s
CLNS pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
CLNS pmax pmax
comp=N,3.0nm,0.8s
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS smax
comp=N,14nm,10.0s
CLNS smax
comp=E,147nm,14.0s
CLNS MLR MLR
comp=Z,176nm,14.0s,MS4.3
CLNS MLR MLR
comp=N,207nm,15.0s,MS4.5
CLNS MLR MLR
comp=E,164nm,14.0s,MS4.5
MALT Malatya 56.88 312 *e*P **P** **14 47 56.2 +0.9**
ASAJ Asahikawa 58.38 42 P **P** **14 48 07.6 +1.9**
comp=E,2.9nm,0.7s,mb4.4,baz=237,slow=8.5,SNR=3.9
ASAJ Asahikawa 58.38 42 P **P** **14 48 07.6 +1.9**
ASAJ pmax pmax
comp=Z,3.0nm,0.7s
SOKR Solikamsk 58.83 340 *e*P **P** **14 48 14.3 +5.8**
SOKR pmax pmax
comp=Z,20nm,1.3s,mb5.0
SOKR MLR MLR
comp=Z,380nm,26.0s,MS4.4
YSS Yuzh-Sakhalins 59.66 39 *e*P **P** **14 48 21.0 +6.5**
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 59.66 39 *e*P **P** **14 48 14.7 +0.2**
CTA Charters Tower 60.49 117 LR LR 15 14 16.7
comp=Z,198nm,19.1s,MS4.3,baz=114,slow=36
STKA Stephens Creek 61.60 132 *e*P **P** **14 48 28.2 +0.2**
comp=Z,8.3nm,1.0s,mb4.8
STKA Stephens Creek 61.60 132 P **P** **14 48 30.5 +2.5**
comp=Z,2.4nm,0.5s,mb4.6,baz=279,slow=6.2,SNR=9.8
STKA LR LR 15 15 35.9
comp=Z,309nm,18.1s,MS4.5,baz=218,slow=36
YAK Yakutsk 62.14 19 *e*P **P** **14 48 30.3 -0.8**
YAK pmax pmax
comp=Z,31nm,1.1s,mb5.3
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,15nm,1.4s
YAK Yakutsk 62.14 19 *e*P **P** **14 48 31.2 +0.1**
OBN Obninsk 64.75 329⇓*e*P **P** **14 48 46.4 -2.1**
OBN *e* 14 51 10.5
OBN *e*S **S** **14 57 20.8 -6.9**
OBN pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.3
LSZ Lusaka 65.92 250 *e*P **P** **14 48 57.0 +0.3**
KLMR Klimovskoe 66.20 335 *e*P **P** **14 49 03.9 +6.2**
KLMR pmax pmax
comp=Z,30nm,1.6s,mb5.1
TOO Toolangi 67.16 135 *e*P **P** **14 49 04.9 +0.6**
AKASG Malin Array Be 67.17 323 P **P** **14 49 02.5 -1.7**
comp=Z,0.9nm,0.5s,mb4.1,baz=86,slow=4.6,SNR=5.2
AKASG LR LR 15 23 24.2
comp=Z,109nm,20.4s,MS4.1,baz=95,slow=40
VRI Vrincioaia 67.42 317⇑*i*P **P** **14 49 06.8 +1.0**
PLOR Plostina 67.47 317⇓*i*P **P** **14 49 07.1 +1.0**
MLR Muntele Rosu 67.86 316⇓*i*P **P** **14 49 09.7 +1.1**
VOIR 68.46 316⇑*i*P **P** **14 49 11.5 -0.9**
ARMA Armidale 68.75 126 *e*P **P** **14 49 19.0 +4.6**
BURAR Bucovina Array 68.85 319⇑*i*P **P** **14 49 15.2 +0.4**
TIXI Tiksi 69.04 12 *e*P **P** **14 49 13.8 -1.7**
TIXI *e* pP 14 49 22.4 -0.4
TIXI pmax pmax
comp=Z,20nm,0.8s,mb5.1
TIXI Tiksi 69.04 12 *e*P **P** **14 49 14.1 -1.4**
comp=Z,48nm,0.8s,mb5.5
VAY Valandovo 69.44 312 *e*P **P** **14 49 27.0 +8.5**
DRGR 70.34 317⇓*i*P **P** **14 49 24.4 +0.4**
KRUS Krusevo 70.43 311 *e*P **P** **14 49 23.6 -1.1**
HNR Honiara 70.55 102 P **P** **14 49 30.0 +4.1**
comp=Z,68nm,1.0s,mb5.5,baz=263,slow=3.6,SNR=3.3
JOF Joensuu 70.60 335 *e*p **P** **14 49 24.5 -0.7**
comp=Z,4.7nm,0.8s,mb4.5
PETK Petropavlovsk- 70.81 36 LR LR 15 25 28.2
comp=Z,85nm,19.3s,MS4.0,baz=70,slow=40
BZS Buzias 70.86 316⇑*i*P **P** **14 49 27.5 +0.3**
KWP Kalwaria 70.93 320 *e*P **P** **14 49 27.2 -0.3**
KWP pmax pmax
comp=Z,17nm,1.0s,mb4.9
KWP Kalwaria 70.93 320 *e*P **P** **14 49 27.2 -0.3**
comp=Z,17nm,1.0s,mb4.9
KOLS Kolonicke sedl 71.06 319 *i* P **P** **14 49 29.1 +0.8**
SEY Seymchan 71.33 25 *e*P **P** **14 49 31.1 +1.4**
CRVS Cervenica-Dubn 71.58 319 *i* P **P** **14 49 32.3 +0.8**
KECS Kecovo 72.14 319 *e*P **P** **14 49 35.1 +0.3**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 72.14 319 *e*P **P** **14 49 35.1 +0.3**
comp=Z,2.4nm,1.0s,mb4.1
BOSA Boshof 72.30 237 P **P** **14 49 36.0 -0.2**
comp=Z,12nm,0.7s,mb4.9,baz=92,slow=6.4,SNR=21
BOSA LR LR 15 15 12.0
comp=Z,265nm,19.8s,MS4.5,baz=258,slow=31
BOSA Boshof 72.30 237 P **P** **14 49 36.0 -0.2**
BOSA LR LR 15 15 12.0
PSZ Piszkesteto 72.43 318⇑*e*P **P** **14 49 36.3 -0.3**
KAF Kangasniemi 72.45 334 *e*p **P** **14 49 35.7 -0.7**
comp=Z,5.3nm,1.0s,mb4.4
KAF Kangasniemi 72.45 334 *e*P **P** **14 49 35.7 -0.7**
KAF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
OJC Ojcow 72.89 320 *e*P **P** **14 49 39.0 -0.3**
PKSM Moragy 73.01 316⇓*i*P **P** **14 49 39.4 -0.6**
VYHS Vyhne 73.22 319 *e*P **P** **14 49 40.6 -0.6**
VYHS pmax pmax
comp=Z,10.0nm,1.9s,mb4.4
VYHS Vyhne 73.22 319 *e*P **P** **14 49 40.6 -0.6**
comp=Z,10nm,1.9s,mb4.4
OKC Ostrava-Krasne 73.88 320 AMS AMS 15 24 40.0
MODS Modra-Piesok 74.23 318 *e*P **P** **14 49 46.2 -1.0**
MODS pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
MODS Modra-Piesok 74.23 318 *e*P **P** **14 49 46.2 -1.0**
comp=Z,6.8nm,1.2s,mb4.5
MORC Moravsky Berou 74.25 320 *e*P **P** **14 49 47.7 +0.4**
MORC *e* pP 14 49 55.9 +1.3
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MORC Moravsky Berou 74.25 320 *e*P **P** **14 49 47.7 +0.4**
comp=Z,5.0nm,1.0s,mb4.4
MORC *e* pP 14 49 55.9 +1.2
SOP Sopron 74.62 318 *e*P **P** **14 49 49.8 +0.3**
DPC Dobruska-Polom 75.11 320 *e*P **P** **14 49 52.8 +0.5**
DPC *e*pP pP 14 50 00.7 +1.1
DPC AMS AMS 15 26 30.0
comp=Z,100nm,9.5s
DPC Dobruska-Polom 75.11 320 *e*P **P** **14 49 52.8 +0.5**
DPC *e*pP pP 14 50 00.7 +1.1
ARSA Arzberg 75.27 317⇓*i*P **P** **14 49 53.4 +0.2**
comp=Z,12nm,1.2s,mb4.7
BOJS Bojanci 75.27 315 *i* P **P** **14 49 52.9 -0.4**
UPC Upice 75.33 320 *e*P **P** **14 49 53.6 +0.1**
UPC *e*pP pP 14 50 02.5 +1.6
ARCES ARCESS Array B 75.34 341 P **P** **14 49 53.5 +0.3**
comp=Z,3.4nm,0.8s,mb4.3,baz=111,slow=6.6,SNR=14
ARCES LR LR 15 25 28.6
comp=Z,245nm,19.9s,MS4.5,baz=287,slow=38
PERS Pernice 75.48 316 *i* P **P** **14 49 51.9 -2.6**
TREC Trest 75.52 319 AMS AMS 15 29 10.0
comp=Z,200nm,15.0s
SOKA Soboth 75.54 316⇑*i*P **P** **14 49 54.8 0.0**
comp=Z,11nm,1.1s,mb4.7
VISS Visnje 75.59 315 *i* P **P** **14 49 54.6 -0.5**
MOA Molln 76.17 318⇑*i*P **P** **14 49 58.0 -0.3**
comp=Z,5.3nm,1.0s,mb4.4
PRU Pruhonice 76.20 320 *e*P **P** **14 49 58.0 -0.5**
PRU pmax pmax
comp=Z,200nm,16.9s
PVCC Panska Ves 76.25 320 AMS AMS 15 26 50.0
comp=Z,100nm,18.2s
GEC2 GERESS Array S 76.64 319 *e*P **P** **14 50 00.8 -0.2**
GEC2 pmax pmax
comp=Z,14nm,1.1s,mb4.8
GEC2 GERESS Array S 76.64 319 *e*P **P** **14 50 00.8 -0.2**
comp=Z,14nm,1.1s,mb4.8
GERES GERESS Array B 76.64 319 P **P** **14 50 01.0 -0.1**
comp=Z,4.9nm,0.8s,mb4.5,baz=94,slow=5.9,SNR=31
GERES LR LR 15 28 17.2
comp=Z,99nm,18.3s,MS4.2,baz=96,slow=39
BRG Berggiesshubel 76.68 321 *e*P **P** **14 50 01.7 +0.5**
BRG *e* pP 14 50 09.3 +0.7
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BRG Berggiesshubel 76.68 321 *e*P **P** **14 50 01.9 +0.7**
comp=Z,5.0nm,1.0s,mb4.4
BRG Berggiesshubel 76.68 321 *e*P **P** **14 50 01.7 +0.5**
comp=Z,5.5nm,1.1s,mb4.4
BRG *e* pP 14 50 09.3 +0.8
comp=Z,9.7nm,1.2s
KBA Koelnbreinsper 76.73 317⇑*i*P **P** **14 50 01.0 -0.6**
comp=Z,7.8nm,0.9s,mb4.6
KBA Koelnbreinsper 76.73 317⇑*i*P **P** **14 50 01.0 -0.6**
KBA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7

KHC Kasperske Hory 76.75 319 *eP* **P 14 50 01.0 -0.6**
KHC *e**PP pP 14 50 12.2 +3.2
KHC MLR MLR
comp=Z,100nm,17.6s,MS4.2
KHC Kasperske Hory 76.75 319 *eP* **P 14 50 01.0 -0.6**
KHC *ep*P pP 14 50 12.2 +3.2
KHC *ex* x 14 50 19.5
KHC AMS AMS 15 28 20.0
comp=Z,100nm,17.6s
MAW Mawson 76.75 191 P **P 14 50 02.4 +1.3**
comp=Z,1.4nm,0.7s,mb4.0,baz=333,slow=9.0,SNR=3.3
MAW LR LR 15 16 57.0
comp=Z,149nm,21.0s,MS4.3,baz=244,slow=30
MAW Mawson 76.75 191 *eP* **P 14 50 01.6 +0.4**
MAW pmax pmax
comp=Z,27nm,0.6s
MAW Mawson 76.75 191 *eP* **P 14 50 01.6 +0.5**
comp=Z,27nm,0.6s,mb5.3
WET Wettzell 77.20 319 *eP* **P 14 50 04.3 +0.1**
WET pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
WET Wettzell 77.20 319 *eP* **P 14 50 04.3 +0.1**
comp=Z,8.0nm,1.2s,mb4.5
CLL Collm 77.31 321 *eP* **P 14 50 04.0 -0.7**
CLL *e**PP pP 14 50 13.0 +0.9
CLL pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
CLL Collm 77.31 321 *eP* **P 14 50 04.0 -0.7**
comp=Z,9.0nm,1.2s,mb4.6
CLL *ep*P pP 14 50 13.0 +0.9
CLL *e*PcP PcP 14 50 15.0 -0.3
CLL *ex* x 14 50 23.0
CLL Collm 77.31 321 *eP* **P 14 50 04.0 -0.7**
comp=Z,9.0nm,1.2s,mb4.6
CLL *ep*P pP 14 50 13.0 +0.9
NKC Novy Kostel 77.57 320 *eP* **P 14 50 07.2 +1.0**
NKC *ep*P pP 14 50 15.4 +1.8
NKC AMS AMS 15 24 40.0
comp=Z,100nm,16.0s
NKC Novy Kostel 77.57 320 *eP* **P 14 50 07.2 +1.0**
NKC *ep*P pP 14 50 15.4 +1.8
GUNZ Gunzen 77.66 320 *eP* **P 14 50 06.9 +0.2**
WERD Werda 77.68 320 *eP* **P 14 50 06.9 +0.1**
ROTZ Rotzenmuhle 77.69 319 *eP* **P 14 50 07.3 +0.4**
comp=Z,6.0nm,0.9s,mb4.5
WTTA Wattenberg 77.90 317⇑ *iP* **P 14 50 07.6 -0.6**
comp=Z,13nm,0.8s,mb4.9
WTTA Wattenberg 77.90 317⇑ *iP* **P 14 50 07.6 -0.5**
WTTA pmax pmax
comp=Z,13nm,0.8s,mb4.9
MOX Moxa 78.13 320 *eP* **P 14 50 09.5 +0.2**
comp=Z,14nm,1.4s,mb4.7
MOTA Moosalm 78.27 317⇑ *iP* **P 14 50 09.6 -0.6**
comp=Z,11nm,1.1s,mb4.7
MOTA Moosalm 78.27 317⇑ *iP* **P 14 50 09.6 -0.6**
MOTA pmax pmax
comp=Z,11nm,1.1s,mb4.7
GRA1 Grafenberg Arr 78.32 319 *eP* **P 14 50 10.9 +0.5**
comp=Z,17nm,0.6s,mb5.2
GRA1 *ep*P pP 14 50 18.9 +1.1
GRF Grafenberg Arr 78.32 319 *eP* **P 14 50 10.9 +0.5**
GRF *e**PP pP 14 50 18.9 +1.1
GRF pmax pmax
comp=Z,17nm,0.6s,mb5.2
GRF Grafenberg Arr 78.32 319 *eP* **P 14 50 10.9 +0.5**
GRF *e**PP pP 14 50 18.9 +1.1
GRF pmax pmax
comp=Z,17nm,0.6s,mb5.2
GRF Grafenberg Arr 78.32 319 *eP* **P 14 50 10.9 +0.5**
comp=Z,17nm,0.6s,mb5.2
GRF *ep*P pP 14 50 18.9 +1.1
BILL Bilibino 78.36 22⇑ *eP* **P 14 50 12.9 +2.7**
BILL *e* 14 53 05.2
BILL *e*S S 15 00 02.2 -2.0
BILL pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BILL MLR MLR
comp=Z,300nm,19.0s,MS4.6
FETA Feichten 78.51 317⇓ *iP* **P 14 50 11.3 -0.2**
comp=Z,11nm,1.2s,mb4.7
CLZ Clausthal 78.99 321 *eP* **P 14 50 13.1 -0.9**
CLZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CLZ Clausthal 78.99 321 *eP* **P 14 50 13.1 -0.9**
comp=Z,6.0nm,0.8s,mb4.6
DAVA Damuels 79.10 317⇑ *iP* **P 14 50 14.9 +0.2**
comp=Z,19nm,0.9s,mb5.0
NB2 NORSAR Subarra 79.24 331 P **P 14 50 14.2 -1.0**
comp=Z,2.0nm,0.8s,mb4.1,baz=96,slow=5.6
NOA NORSAR Array B 79.24 331 P **P 14 50 14.2 -1.0**
comp=Z,1.8nm,0.8s,mb4.1,baz=95,slow=5.5,SNR=4.8
NOA LR LR 15 31 24.9
comp=Z,162nm,19.6s,MS4.4,baz=100,slow=40
KEST Kesra 79.36 305 P **P 14 50 16.2 -0.3**
comp=Z,1.6nm,0.7s,mb4.0,baz=271,slow=5.1,SNR=6.1
PGF Pioggiola 79.62 312 *eP* **P 14 50 18.2 +0.5**
comp=Z,43nm,1.1s,mb5.0
PGF Pioggiola 79.62 312 *eP* **P 14 50 18.2 +0.5**
PGF pmax pmax
comp=Z,21nm,1.1s,mb5.0
PGF Pioggiola 79.62 312 *eP* **P 14 50 18.2 +0.5**
comp=Z,22nm,1.1s,mb5.0
TNS Taunus Mts 80.14 320 *eP* **P 14 50 20.6 +0.3**
TNS pmax pmax
comp=Z,12nm,1.2s,mb4.7
TNS Taunus Mts 80.14 320 *eP* **P 14 50 20.6 +0.3**
comp=Z,12nm,1.2s,mb4.7
BFO Black Forest 80.17 318 *eP* **P 14 50 20.0 -0.6**
BFO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BFO Black Forest 80.17 318 *eP* **P 14 50 20.0 -0.6**
comp=Z,8.0nm,1.0s,mb4.6
SPITS Spitsbergen Ar 80.37 348 LR LR 15 28 32.3
comp=Z,207nm,21.8s,MS4.4,baz=350,slow=38
SBF Sospel 80.77 313 *eP* **P 14 50 23.7 -0.2**
comp=Z,24nm,0.7s,mb4.9
SBF Sospel 80.77 313 *eP* **P 14 50 23.7 -0.2**
SBF pmax pmax
comp=Z,12nm,0.7s,mb4.9
SBF Sospel 80.77 313 *eP* **P 14 50 23.7 -0.2**
comp=Z,12nm,0.7s,mb4.9
CDF Champ du Feu 80.88 318 *eP* **P 14 50 24.0 -0.3**
MBDF Montbardon 81.24 314 *eP* **P 14 50 26.6 +0.3**
comp=Z,23nm,1.1s,mb4.7
MBDF Montbardon 81.24 314 *eP* **P 14 50 26.6 +0.3**
MBDF pmax pmax
comp=Z,12nm,1.1s,mb4.7
MBDF Montbardon 81.24 314 *eP* **P 14 50 26.6 +0.3**
comp=Z,12nm,1.1s,mb4.7
LPG La Plagne 81.24 315 *eP* **P 14 50 26.7 +0.3**
LPL La Plagne 81.26 315 *eP* **P 14 50 26.7 +0.3**
BNI Bardonecchia 81.30 314 *eP* **P 14 50 26.1 -0.6**
BNI pmax pmax
comp=Z,11nm,0.9s,mb4.8
BNI Bardonecchia 81.30 314 *eP* **P 14 50 26.1 -0.6**
comp=Z,11nm,0.9s,mb4.8
FRF La Foret Royal 81.34 313 *eP* **P 14 50 27.0 +0.1**
LMR La Mourre 81.45 313 *eP* **P 14 50 27.4 -0.1**
comp=Z,36nm,1.0s,mb5.0
LMR La Mourre 81.45 313 *eP* **P 14 50 27.4 -0.1**
LMR pmax pmax
comp=Z,18nm,1.0s,mb5.0
LMR La Mourre 81.45 313 *eP* **P 14 50 27.4 -0.1**
comp=Z,18nm,1.0s,mb5.0
CABF La Chapelle 81.69 316 *eP* **P 14 50 28.7 0.0**
comp=Z,25nm,0.9s,mb4.8
CABF La Chapelle 81.69 316 *eP* **P 14 50 28.7 0.0**
CABF pmax pmax
comp=Z,13nm,0.9s,mb4.9
CABF La Chapelle 81.69 316 *eP* **P 14 50 28.7 0.0**
comp=Z,12nm,0.9s,mb4.8
ORIF Oris-en-Rattie 81.87 314 *eP* **P 14 50 29.4 -0.3**
comp=Z,14nm,0.8s,mb4.6
ORIF *e*MLR MLR
comp=Z,110nm,20.2s,MS3.9
ORIF Oris-en-Rattie 81.87 314 *eP* **P 14 50 29.4 -0.3**
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ORIF Oris-en-Rattie 81.87 314 *eP* **P 14 50 29.4 -0.3**
comp=Z,6.8nm,0.8s,mb4.6
SMRF Simiane la Rot 82.11 313 *eP* **P 14 50 31.6 +0.6**
comp=Z,37nm,1.3s,mb4.9
SMRF Simiane la Rot 82.11 313 *eP* **P 14 50 31.6 +0.6**
comp=Z,37nm,1.3s,mb5.2
VIVF Saint-Julien-l 82.73 314 *eP* **P 14 50 34.3 +0.1**
comp=Z,37nm,1.3s,mb5.0
VIVF Saint-Julien-l 82.73 314 *eP* **P 14 50 34.3 +0.1**
VIVF pmax pmax
comp=Z,18nm,1.3s,mb4.9
VIVF Saint-Julien-l 82.73 314 *eP* **P 14 50 34.3 +0.1**
comp=Z,18nm,1.3s,mb5.0
SSB Saint Sauveur 82.81 315 *eP* **P 14 50 34.4 -0.2**
BAIF Baives 82.86 320 *eP* **P 14 50 34.6 -0.2**
LOR Lormes 83.20 317 *eP* **P 14 50 36.4 -0.2**
LOR *e*MLR MLR
comp=Z,97nm,21.0s,MS3.9
LOR Lormes 83.20 317 *eP* **P 14 50 36.4 -0.2**
LOR LR LR
comp=Z,100nm,21.0s,MS4.2
SMF Signal de Mont 83.24 316 *eP* **P 14 50 36.6 -0.2**
TAM Tamanrasset 83.28 292 *eP* **P 14 50 38.6 +1.1**
LASF Ste Croix 83.35 314 *eP* **P 14 50 37.9 +0.5**
comp=Z,28nm,1.1s,mb4.9
SYO Syowa Base 83.36 196⇑ *eP* **P 14 50 37.6 +0.8**
SSF Saint Saulge 83.45 317 *eP* **P 14 50 38.0 +0.1**
TCF Toulx Ste Croi 84.38 316 *eP* **P 14 50 42.7 +0.1**
CAF Calviac 84.58 314 *eP* **P 14 50 44.2 +0.5**
MTLF Montolieu 84.58 313 *eP* **P 14 50 44.0 +0.3**
RJF Les Rejaudoux 84.94 315 *eP* **P 14 50 45.9 +0.4**
RJF *e*MLR MLR
comp=Z,102nm,20.2s,MS3.9
RJF Les Rejaudoux 84.94 315 *eP* **P 14 50 45.9 +0.4**
RJF LR LR
comp=Z,100nm,20.3s,MS4.2
TORD Torodi Ar. Bea 87.82 283 P **P 14 50 59.0 -1.2**
comp=Z,2.9nm,0.9s,mb4.5,baz=77,slow=4.6,SNR=12
TORD LR LR 15 30 11.7
comp=Z,155nm,19.5s,MS4.4,baz=190,slow=36
ESDC Sonseca Array 89.58 310 P **P 14 51 07.5 -0.6**
comp=Z,0.2nm,0.3s,mb3.9,baz=55,slow=4.5,SNR=5.5
VNDA Vanda 92.40 168 P **P 14 51 19.1 -1.2**
comp=Z,0.5nm,0.8s,mb3.9,baz=297,slow=6.1,SNR=3.5
VNDA LR LR 15 24 36.5
comp=Z,123nm,21.6s,MS4.3,baz=313,slow=30
DBIC Dimbokro 95.00 277 LR LR 15 33 41.0
comp=Z,109nm,18.0s,MS4.4,baz=65,slow=35
TBI Tubuai 119.72 113 *e*LR LR 15 33 43.1
comp=Z,82nm,24.5s
PPT Papeete 120.02 106 *e*LR LR 15 33 45.0
comp=Z,84nm,28.0s
PDAR Pinedale Array 127.37 19 PKP PKPdf 14 57 13.4 -1.8
comp=Z,0.5nm,0.7s,baz=146,slow=0.5,SNR=4.9
NVAR Mina Array Bea 127.52 29 PKP PKPdf 14 57 17.1 +1.4
comp=Z,0.4nm,0.5s,baz=62,slow=27,SNR=2.5
BDFB Brasilia 138.86 254 PKP PKPdf 14 57 37.4 -0.1
comp=Z,0.8nm,0.3s,baz=68,slow=19,SNR=3.5
TXAR Lajitas Array 141.53 21 PKP PKPdf 14 57 41.2 -0.8
comp=Z,0.4nm,0.6s,baz=81,slow=1.0,SNR=5.7
CPUP Villa Florida 144.04 233 PKP PKPdf 14 57 43.7 -2.9
comp=Z,4.6nm,0.6s,baz=87,slow=2.9,SNR=21
CPUP Villa Florida 144.04 233 *e*PKP PKPdf 14 57 44.1 -2.5
MTP Monte Pirata 146.21 317 *e*PKPdf PKPdf 14 57 51.1 +0.6
HUMP Col San Antoni 146.38 318 *e*PKPdf PKPdf 14 57 52.0 +1.2
SDDR Presa de Saban 149.10 326 *e*PKPbc PKPbc 14 57 59.1 -0.3
SDDR *e*PKPab PKPab 14 58 04.2 +0.6
LPAZ La Paz 157.43 243 PKP PKPdf 14 58 07.7 +0.4
comp=Z,1.3nm,0.7s,baz=59,slow=2.4,SNR=6.6
LPAZ PKPab PKPab 14 58 38.2 -0.7
comp=Z,2.9nm,0.9s,baz=44,slow=3.4,SNR=8.0
LPAZ La Paz 157.43 243 *e*PKPdf PKPdf 14 58 07.9 +0.6
LPAZ *e*PKPab PKPab 14 58 39.3 +0.5

ISCJB ***06*** *15:00:03.7±3.2, 31.0S±0.1×1775W±0.5, h33km, mb4.2/4, Error ellipse: s-maj=64.1km s-min=8.7km az=13.3*
NEIC ***06*** *15:00:08.9±1.6, 30.61S×177.94W, h35km, mb4.2/1, Error ellipse: s-maj=40.4km s-min=15.0km az=128.0*
IDC ***06*** *15:00:14.8±4.9, 30.28S×178.27W, h74km±32km, mb4.0/3, mb1 4.1/3, mb1mx3.6/15, mbtmp4.0/3, Error ellipse: s-maj=86.9km s-min=28.9km az=145.0*
ISC 06 15:00:05.7±3.5, 30.82S±0.09×177.5W±0.5, h35km, n16, σ1^{9}02/15, mb4.2/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.59**	**348**	P	**Pn**	**15 00 34.2**	**+2.8**
	270nm,0.3s,baz=168,slow=23,SNR=10.0						
RAO				S	**Sn**	**15 00 49.1**	**-1.6**
	357nm,0.3s,baz=55,slow=23,SNR=6.9						
RAO	**Raoul Island**	**1.59**	**348**	*e*Pn	**Pn**	**15 00 31.5**	**0.0**
RAO				S	**Sn**	**15 00 49.1**	**-1.6**
URZ	**Urewera**	**8.63**	**209**	P	**Pn**	**15 02 06.9**	**-1.2**
	0.3nm,0.3s,baz=42,slow=5.8,SNR=7.1						
URZ				S	**Sn**	**15 03 43.7**	**-0.6**
	2.5nm,0.3s,baz=332,slow=21,SNR=15						
ARMA	**Armidale**	**26.49**	**263**	*e*P	**P**	**15 05 39.4**	**-0.5**
STKA	**Stephens Creek**	**34.77**	**257**	*e*P	**P**	**15 06 55.2**	**+2.3**
	3.9nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**34.77**	**257**	P	**P**	**15 06 53.5**	**+0.6**
	5.7nm,0.8s,mb4.6,baz=88,slow=8.8,SNR=10						
STKA	**Stephens Creek**	**34.77**	**257**	*e*P	**P**	**15 06 55.1**	**+2.2**
ASAR	**Alice Springs**	**43.48**	**267**	P	**P**	**15 08 06.0**	**+0.3**
	1.1nm,0.5s,mb3.9,baz=109,slow=8.0,SNR=30						
WB2	**Warramunga Arr**	**44.50**	**272**	*e*P	**P**	**15 08 14.6**	**+0.7**
WB2	**Warramunga Arr**	**44.50**	**272**	*e*P	**P**	**15 08 14.3**	**+0.4**
WRAB	**Tennant Creek**	**44.50**	**272**	*e*P	**P**	**15 08 14.4**	**+0.4**
	1.3nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	**15 08 14.2**	**+0.2**
	1.3nm,0.3s,mb4.2,baz=111,slow=8.0,SNR=90						
NOA	**NORSAR Array B**	**149.22**	**352**	PKPbc	PKPbc	15 19 52.9	+3.1
	0.6nm,0.6s,baz=15,slow=4.3,SNR=3.3						
NOA	**NORSAR Array B**	**149.22**	**352**	PKPbc	PKPbc	15 19 52.9	+3.1
AKASG	**Malin Array Be**	**151.87**	**323**	PKPbc	PKPbc	15 19 58.0	+1.6
	1.1nm,0.6s,baz=60,slow=2.4,SNR=5.5						
AKASG	**Malin Array Be**	**151.87**	**323**	PKPbc	PKPbc	15 19 58.0	+1.5

IDC ***06*** *15:13:25.4±0.8, 52.59N×168.13W, h0km, mb3.9/16, mb1 4.1/16, mb1mx4.0/25, mbtmp3.9/16, MS3.8/2, Ms1 3.8/2, ms1mx2.8/42, Error ellipse: s-maj=28.0km s-min=13.9km az=175.0*
NEIC ***06*** *15:13:26.4±0.6, 52.32N×168.05W, h10km, mb3.8/1, ML3.5(AEIC), Error ellipse: s-maj=12.5km s-min=7.9km az=171.0*
ISCJB ***06*** *15:13:27.8±2.1, 52.29N±0.08×168.00W±0.08, h33km±14km, mb3.9/17, MS3.8/2, Error ellipse: s-maj=14.9km s-min=7.3km az=159.4*
BJI ***06*** *15:13:28.2, 53.01N×168.72W, h10km, mB5.2, mb4.5*
ISC 06 15:13:27.6±2.6, 52.34N±0.07×168.04W±0.08, h16km±16km, n34, σ1^{9}11/35, mb3.9/17, MS3.8/2, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.81**	**323**	P	**Pb**	**15 13 42.9**	**-0.3**
NIKO				S	**Sb**	**15 13 56.3**	**+2.5**
UNV	**Unalaska Valle**	**1.78**	**31**	P	**Pn**	**15 13 56.8**	**-0.8**
UNV				S	**Sn**	**15 14 19.5**	**-0.2**
AKUT	**Akutan**	**2.26**	**36**	P	**Pn**	**15 14 03.8**	**-0.4**
AKUT				S	**Sn**	**15 14 32.5**	**+0.9**
FALS	**False Pass**	**3.74**	**46**	*e*Pn	**Pn**	**15 14 23.8**	**-0.7**
SPIA	**Saint Paul Isl**	**5.02**	**346**	P	**Pn**	**15 14 44.6**	**+2.5**
SDPT	**Sand Point**	**5.40**	**53**	P	**Pn**	**15 14 47.5**	**+0.2**
KDAK	**Kodiak Island**	**10.40**	**52**	Pn	**Pn**	**15 15 55.8**	**0.0**
	1.3nm,0.3s,baz=189,slow=16,SNR=4.4						
BMRM	**Bremner River**	**15.44**	**47**	*e*Pn	**Pn**	**15 17 03.6**	**-0.7**
EGAK	**Eagle**	**18.57**	**37**	*e*P	**Pn**	**15 17 43.5**	**-0.1**
	6.3nm,1.0s						
HYT	**Haines Junctio**	**18.69**	**51**	*e*P	**Pn**	**15 17 48.3**	**+3.2**
PETK	**Petropavlovsk-**	**20.65**	**286**	P	**P**	**15 18 06.2**	**0.0**
	6.8nm,0.6s,baz=84,slow=14,SNR=27						
PETK	**Petropavlovsk-**	**20.65**	**286**	*e*P	**P**	**15 18 06.3**	**+0.1**
INK	**Inuvik**	**22.93**	**33**	P	**P**	**15 18 28.8**	**-1.6**
	1.6nm,0.3s,mb3.9,baz=262,slow=13,SNR=10						
INK	**Inuvik**	**22.93**	**33**	*e*P	**P**	**15 18 30.3**	**-0.1**
YKA	**Yellowknife Ar**	**29.65**	**49**	P	**P**	**15 19 32.4**	**+0.6**
	1.4nm,0.7s,mb3.8,baz=149,slow=37,SNR=2.7						
YBH	**Yreka Blue Hor**	**32.17**	**91**	P	**P**	**15 19 58.3**	**+4.1**
	1.2nm,0.7s,mb3.8,baz=293,slow=2.9,SNR=3.9						
ASAJ	**Asahikawa**	**33.32**	**276**	LR	LR	15 31 49.8	
	comp=Z,76nm,20.3s,MS3.4,baz=247,slow=33						
NVAR	**Mina Array Bea**	**36.85**	**92**	P	**P**	**15 20 37.0**	**+2.2**
	0.2nm,0.4s,mb3.3,baz=327,slow=31,SNR=4.7						
NVAR	**Mina Array Bea**	**36.85**	**92**	P	**P**	**15 20 37.0**	**+2.2**
PDAR	**Pinedale Array**	**39.61**	**80**	P	**P**	**15 20 58.8**	**+0.9**
	1.0nm,0.7s,mb3.6,baz=314,slow=4.6,SNR=6.6						
MJAR	**Matsushiro Arr**	**40.51**	**269**	P	**P**	**15 21 04.9**	**-0.6**
	1.4nm,0.7s,mb3.7,baz=49,slow=6.2,SNR=5.0						
KSRS	**Korea Array**	**46.22**	**278**	P	**P**	**15 21 51.6**	**+0.1**
	3.5nm,0.9s,mb4.3,baz=58,slow=6.8,SNR=11						
TXAR	**Lajitas Array**	**51.94**	**90**	P	**P**	**15 22 35.8**	**+0.4**
	0.5nm,0.5s,mb3.7,baz=308,slow=5.4,SNR=7.9						
SONM	**Songino Array**	**52.01**	**302**	P	**P**	**15 22 34.8**	**-1.0**
	1.4nm,0.9s,mb3.9,baz=56,slow=5.8,SNR=7.1						
SCHQ	**Schefferville**	**54.90**	**44**	P	**P**	**15 22 54.3**	**-2.5**
	1.0nm,0.4s,mb4.2,baz=204,slow=20,SNR=3.3						
ARCES	**ARCESS Array B**	**58.04**	**354**	P	**P**	**15 23 17.6**	**-1.3**
	1.9nm,0.9s,mb4.1,baz=356,slow=7.2,SNR=5.8						
MKAR	**Makanchi Array**	**64.42**	**314**	P	**P**	**15 24 01.5**	**-1.0**
	0.3nm,0.3s,mb3.9,baz=45,slow=6.5,SNR=4.6						
GYA	**Guiyang**	**66.73**	**283**	P	**P**	**15 24 19.2**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
NB2	**NORSAR Subarra**	**66.97**	**0**	P	**P**	**15 24 17.3**	**-1.4**
	comp=Z,2.1nm,0.7s,mb4.3,baz=358,slow=6.5						
NOA	**NORSAR Array B**	**66.97**	**0**	P	**P**	**15 24 18.1**	**-0.6**
	comp=Z,1.7nm,0.9s,mb4.1,baz=1.5,slow=6.5,SNR=3.9						
AKASG	**Malin Array Be**	**76.30**	**349**	P	**P**	**15 25 13.9**	**-1.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=9.9,slow=5.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**77.42**	**284**	P	**P**	**15 25 22.6**	**+0.7**
	comp=Z,0.8nm,0.3s,mb4.1,baz=23,slow=5.4,SNR=7.9						
FITZ	**Fitzroy Crossi**	**90.54**	**241**	LR	LR	16 10 19.2	
	comp=Z,90nm,18.4s,MS4.2,baz=256,slow=38						
ASAR	**Alice Springs**	**91.00**	**231**	P	**P**	**15 26 30.9**	**+0.4**
	comp=Z,0.5nm,1.0s,mb3.8,baz=35,slow=5.1,SNR=3.7						

ISCJB ***06*** *15:21:21.0±0.7, 22N±0.1×665E±0.1, h10km, mb3.9/7, MS3.8/5, Error ellipse: s-maj=24.1km s-min=14.9km az=145.1*
IDC ***06*** *15:21:21.0±0.8, 230N×663.3E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/22, mbtmp3.9/7, MS3.8/5, Ms1 3.8/5, ms1mx3.4/29, Error ellipse: s-maj=29.9km s-min=20.8km az=144.0*
NEIC ***06*** *15:21:22.4±0.7, 229N×663.1E, h10km, Error ellipse: s-maj=27.4km s-min=18.6km az=135.0*
ISC 06 15:21:22.9±0.7, 22N±0.1×665E±0.1, h10km, n14, σ1^{9}01/10, mb3.9/7, MS3.8/5, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.04**	**70**	P	**Pn**	**15 24 53.3**	**-2.5**
CMAR	**Chiang Mai Arr**	**35.68**	**61**	P	**P**	**15 28 21.7**	**0.0**
	0.3nm,0.3s,mb3.6,baz=213,slow=39,SNR=2.9						
CMAR				LR	LR	15 41 41.9	
	comp=Z,101nm,19.1s,MS3.6,baz=260,slow=34						
LSZ	**Lusaka**	**41.67**	**244**	P	**P**	**15 29 11.3**	**-0.7**
	2.1nm,0.6s,mb3.9,baz=46,slow=9.2,SNR=2.8						
MKAR	**Makanchi Array**	**46.48**	**15**	P	**P**	**15 29 51.0**	**+0.7**
	0.2nm,0.3s,mb3.6,baz=204,slow=7.3,SNR=4.0						
MKAR				LR	LR	15 46 54.1	
	comp=Z,38nm,20.6s,MS3.3,baz=48,slow=33						
BOSA	**Boshof**	**50.02**	**229**	P	**P**	**15 30 17.4**	**-0.4**
	6.5nm,1.1s,mb4.6,baz=233,slow=5.1,SNR=2.2						
BOSA				LR	LR	15 47 04.4	
	comp=Z,128nm,21.0s,MS3.9,baz=59,slow=31						
BOSA	**Boshof**	**50.02**	**229**	P	**P**	**15 30 17.4**	**-0.4**
BOSA				LR	LR	15 47 04.4	
ZAA0	**Zalesovo Array**	**53.72**	**13**	*e*P	**P**	**15 30 45.9**	**+0.9**
ZALV	**Zalesovo Beam**	**53.72**	**13**	P	**P**	**15 30 44.4**	**-0.7**
	3.0nm,0.9s,mb4.2,baz=213,slow=7.1,SNR=6.7						
WRA	**Warramunga Arr**	**70.06**	**112**	P	**P**	**15 32 36.0**	**+0.3**
	0.4nm,0.6s,mb3.5,baz=290,slow=5.7,SNR=4.7						
ASAR	**Alice Springs**	**70.36**	**116**	P	**P**	**15 32 39.0**	**+1.5**
	0.6nm,1.0s,mb3.5,baz=322,slow=4.0,SNR=3.9						
ARCES	**ARCESS Array B**	**72.45**	**346**	LR	LR	16 06 50.9	
	comp=Z,47nm,19.3s,MS3.8,baz=86,slow=38						
VNDA	**Vanda**	**93.33**	**167**	LR	LR	16 09 03.9	
	comp=Z,125nm,18.1s,MS4.4,baz=306,slow=31						
MNTX	**Cornudas Mount**	**145.39**	**348**	*e*PKP	PKPdf	15 40 58.8	-3.0
TXAR	**Lajitas Array**	**147.23**	**344**	PKPbc	PKPbc	15 41 04.6	-2.7
	1.0nm,0.6s,baz=56,slow=3.4,SNR=13						

IDC 06 15:45:20.9±17.0, 23.35S×174.61W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.0/19, mbtmp4.3/5, Error ellipse: s-maj=320.6km s-min=138.1km az=83.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.43**	**267**	P	P	15 52 28.4	+0.9
	3.7nm,0.3s,baz=99,slow=10,SNR=10.0						
STKA	**Stephens Creek**	**39.51**	**248**	*e*P	P	15 52 52.7	-0.7
	2.7nm,1.5s						
STKA	**Stephens Creek**	**39.51**	**248**	P	P	15 52 52.6	-0.8
	0.9nm,0.3s,baz=91,slow=10,SNR=7.0						
ASAR	**Alice Springs**	**46.99**	**259**	P	P	15 53 53.4	-0.7
	0.7nm,0.3s,baz=98,slow=7.9,SNR=19						
WRA	**Warramunga Arr**	**47.38**	**264**	P	P	15 53 56.5	-0.6
	2.6nm,0.3s,baz=100,slow=7.0,SNR=57						
FITZ	**Fitzroy Crossi**	**55.80**	**263**	P	P	15 55 01.2	+1.1
	1.6nm,0.5s,baz=106,slow=7.4,SNR=5.3						

ISCJB ***06*** *15:47:43.5±2.4, 30S±0.1×140.9E±0.3, h53km±29km, mb3.8/6, Error ellipse: s-maj=55.5km s-min=9.9km az=19.0*
IDC ***06*** *15:47:44.6±4.3, 30.3S×141.07E, h60km±40km, mb3.4/4, mb1 3.6/5, mb1mx3.4/15, mbtmp3.5/5, ML4.2/2, MS3.1/2, Ms1 3.1/2, ms1mx2.9/16, Error ellipse: s-maj=45.0km s-min=17.7km az=102.0*
NEIC ***06*** *15:47:45.2±2.3, 30.5S×141.09E, h63km±21km, mb4.2/2, Error ellipse: s-maj=32.7km s-min=12.5km az=102.0*
ISC 06 15:47:44.5±2.1, 30S±0.1×141.0E±0.3, h49km±23km, n19, σ1^{9}00/18, mb3.8/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.83**	**221**	*e*P	**Pn**	**15 50 43.4**	**-0.9**
	13nm,0.6s						
KAKA	**Kakadu**	**12.83**	**221**	*e*P	**Pn**	**15 50 44.0**	**-0.3**
	139nm,0.6s						
GUMO	**Guam**	**16.94**	**13**	P	**Pn**	**15 51 38.2**	**+0.1**
	6.3nm,0.3s,baz=164,slow=22,SNR=12						
GUMO				S	**S**	**15 54 44.9**	**-8.8**
	2.0nm,0.3s,baz=20,slow=23,SNR=2.3						
GUMO				LR	LR	15 56 35.7	
	comp=Z,42nm,21.1s,baz=152,slow=31						
GUMO	**Guam**	**16.94**	**13**	*e*P	**Pn**	**15 51 38.7**	**+0.5**
GUMO				S	**S**	**15 54 45.0**	**-8.8**
GUMO				LR	LR	15 56 35.7	
WRAB	**Tennant Creek**	**18.02**	**201**	*e*P	**Pn**	**15 51 51.9**	**+0.3**
WB2	**Warramunga Arr**	**18.03**	**201**	*e*P	**Pn**	**15 51 53.5**	**+1.8**
WB2	**Warramunga Arr**	**18.03**	**201**	*e*P	**Pn**	**15 51 53.4**	**+1.7**
WRA	**Warramunga Arr**	**18.04**	**201**	P	**Pn**	**15 51 50.7**	**-1.1**
	0.4nm,0.3s,baz=16,slow=13,SNR=18						
FITZ	**Fitzroy Crossi**	**21.25**	**224**	P	**P**	**15 52 27.1**	**+0.4**
	2.1nm,0.8s,mb3.5,baz=41,slow=15,SNR=4.5						
FITZ				LR	LR	16 01 35.3	
	comp=Z,95nm,21.9s,baz=260,slow=39						
FITZ	**Fitzroy Crossi**	**21.25**	**224**	*e*P	**P**	**15 52 28.1**	**+1.3**
FITZ				LR	LR	16 01 35.2	
ASAR	**Alice Springs**	**21.65**	**198

ISC 06 15:57:42.2±0.9, 2164S±008×17930W±009, h570km±12km, n68, σ0°90/54, mb4.3/24, 7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	7.69	171	P	P	15 59 36.8	-0.5
RAO				S	S	16 01 11.0	-0.7
76nm,0.3s,baz=76,slow=23,SNR=9.3							
RAO	Raoul Island	7.69	171	eP	P	15 59 36.4	-0.9
RAO				eS	S	16 01 13.6	+1.9
AFI	Afiamalu	10.51	44	P	P	16 00 06.0	+0.4
AFI				S	S	16 01 58.1	-5.4
2.5nm,0.3s,baz=185,slow=22,SNR=5.4							
AFI	Afiamalu	10.51	44	eP	P	16 00 05.8	+0.2
AFI				eS	S	16 01 58.3	-5.2
URZ	Urewera	16.85	190	P	P	16 01 05.1	-3.3
0.4nm,0.3s,baz=162,slow=21,SNR=2.9							
URZ				S	S	16 03 48.7	-7.8
0.4nm,0.3s,baz=162,slow=18,SNR=4.4							
SNZO	South Karori	20.26	193	P	P	16 01 39.3	-0.1
HNR	Honiara	23.35	298	P	P	16 02 04.6	-2.9
21nm,0.5s,mb5.0,baz=261,slow=6.8,SNR=2.6							
RPZ	Rata Peaks	23.43	198	P	P	16 02 07.5	-0.2
7.6nm,1.0s,mb4.3,baz=32,slow=15,SNR=3.5							
ARMA	Armidale	27.48	245	↓iP	P	16 02 45.6	+1.9
ARMA	Armidale	27.48	245	eP	P	16 02 45.5	+1.9
CAN	Canberra	30.87	237	eP	P	16 03 14.3	+1.4
CTA	Charters Tower	32.19	266	↓iP	P	16 03 25.1	+0.8
13nm,0.6s,mb4.7							
CTA	Charters Tower	32.19	266	P	P	16 03 24.9	+0.6
19nm,0.6s,mb4.8,baz=100,slow=9.4,SNR=30							
CTA				PcP	PcP	16 05 54.9	-0.7
3.9nm,0.8s,baz=117,slow=9.0,SNR=3.6							
CTAO	Charters Tower	32.19	266	eP	P	16 03 24.9	+0.6
18nm,0.9s,mb4.6							
TOO	Toolangi	34.25	234	eP	P	16 03 42.3	+0.9
PMG	Port Moresby	34.44	285	eP	P	16 03 43.8	+0.5
STKA	Stephens Creek	36.20	245	↓iP	P	16 03 58.7	+1.0
8.9nm,0.5s,mb4.5							
STKA	Stephens Creek	36.20	245	P	P	16 03 58.3	+0.5
11nm,0.5s,mb4.7,baz=90,slow=9.6,SNR=44							
STKA	Stephens Creek	36.20	245	eP	P	16 03 58.5	+0.8
ASAR	Alice Springs	43.08	258	P	P	16 04 53.0	+0.1
20nm,0.6s,mb4.8,baz=93,slow=8.9,SNR=290							
ASAR				PcP	PcP	16 06 29.1	-0.8
2.2nm,0.7s,baz=104,slow=4.9,SNR=5.2							
ASAR				ScP	ScP	16 09 19.2	-7.9
0.2nm,0.6s,baz=80,slow=6.7,SNR=2.3							
ASAR				S	S	16 10 33.4	-5.0
2.6nm,0.9s,baz=97,slow=16,SNR=8.6							
WB2	Warramunga Arr	43.24	264	↓iP	P	16 04 53.6	-0.6
WB2				eS	S	16 10 33.5	-7.2
WB2	Warramunga Arr	43.24	264	eP	P	16 04 53.7	-0.5
WB2				eS	S	16 10 33.5	-7.2
WRAB	Tennant Creek	43.24	264	eP	P	16 04 53.6	-0.6
31nm,0.9s,mb4.8							
WRA	Warramunga Arr	43.25	264	P	P	16 04 53.5	-0.7
20nm,0.7s,mb4.7,baz=92,slow=5.7,SNR=143							
WRA				S	S	16 10 35.4	-5.4
1.2nm,0.8s,baz=99,slow=19,SNR=5.3							
KAKA	Kakadu	46.80	273	↓iP	P	16 05 20.8	-0.6
17nm,0.4s,mb4.9							
FORT	Forrest	47.73	248	eP	P	16 05 27.5	-0.7
23nm,0.5s,mb5.0							
FITZ	Fitzroy Crossi	51.68	264	↓iP	P	16 05 57.2	-0.2
4.7nm,0.4s,mb4.2							
FITZ	Fitzroy Crossi	51.68	264	P	P	16 05 57.2	-0.1
2.8nm,0.4s,mb4.0,baz=308,slow=23,SNR=21							
BATI	Baumata	55.74	272	P	P	16 06 26.6	+0.6
37nm,0.7s,mb4.7,baz=271,slow=8.0,SNR=10							
KLBR	Kellerberrin	56.48	246	eP	P	16 06 30.2	-0.7
48nm,1.0s,mb4.7							
VNDA	Vanda	56.68	185	P	P	16 06 30.1	-1.3
0.6nm,0.7s,mb2.9,baz=344,slow=7.1,SNR=6.0							
VNDA	Vanda	56.68	185	P	P	16 06 30.5	-1.0
0.6nm,0.6s,mb3.0							
MUN	Mundaring	57.74	245	eP	P	16 06 39.6	+0.1
QSPA	South Pole Qui	68.44	180	P	P	16 07 47.5	+0.3
3.5nm,0.9s,mb3.9,baz=8.9,slow=2.4,SNR=9.1							
MJAR	Matsushiro Arr	70.42	325	P	P	16 07 58.9	-0.6
3.0nm,0.6s,mb4.0,baz=155,slow=6.0,SNR=11							
MJAR	Matsushiro Arr	70.42	325	P	P	16 07 58.9	-0.6
KSRS	Korea Array	76.94	319	P	P	16 08 36.5	-0.1
1.5nm,0.8s,mb3.5,baz=149,slow=5.6,SNR=5.4							
PETK	Petropavlovsk-	77.06	346	P	P	16 08 36.1	-0.7
2.9nm,0.8s,mb3.7,baz=104,slow=6.3,SNR=5.0							
MAW	Mawson	80.09	200	P	P	16 08 52.6	-0.3
1.7nm,0.6s,mb3.5,baz=136,slow=8.4,SNR=4.6							
NVAR	Mina Array Bea	82.68	44	P	P	16 09 06.9	+0.3
0.9nm,0.7s,mb3.4,baz=222,slow=8.5,SNR=7.1							
XAN	Xi'an	87.86	308	P	P	16 09 31.8	+0.2
XAN				AMB	AMB		
comp=Z,7.0nm,0.9s,mb4.4							
XAN				AMB	AMB		
comp=Z,48nm,5.2s							
TXAR	Lajitas Array	88.69	58	P	P	16 09 36.5	+0.9
comp=Z,1.5nm,0.9s,mb3.8,baz=206,slow=6.0,SNR=7.4							
CMAR	Chiang Mai Arr	89.35	290	P	P	16 09 39.9	+0.9
comp=Z,5.4nm,0.9s,mb4.4,baz=128,slow=3.1,SNR=22							
PDAR	Pinedale Array	90.62	44	P	P	16 09 43.8	-0.5
comp=Z,0.7nm,0.8s,mb3.6,baz=232,slow=4.9,SNR=3.7							
INK	Inuvik	95.69	16	P	P	16 10 10.1	+3.3
comp=Z,1.7nm,0.7s,mb4.4,baz=115,slow=6.8,SNR=3.0							
ARCES	ARCESS Array B	129.81	349	PKP	PKPdf	16 15 44.2	-2.2
comp=Z,1.1nm,0.6s,baz=343,slow=1.3,SNR=7.7							
AKASG	Malin Array Be	143.39	329	PKP	PKPdf	16 16 08.6	-3.4
comp=Z,8.2nm,0.7s,baz=42,slow=4.3,SNR=37							
KOLS	Kolonicke sedl	147.79	333	ePKP	PKPbc	16 16 22.8	-0.5
CRVS	Cervenica-Dubn	148.16	334	ePKP	PKPbc	16 16 23.7	-0.5
UPC	Upice	148.77	341	ePKPbc	PKPbc	16 16 25.4	-0.2
DPC	Dobruska-Polom	148.81	341	ePKPbc	PKPbc	16 16 25.3	-0.5
CLL	Collm	148.87	345	ePKPbc	PKPbc	16 16 25.0	-0.8
CLL	Collm	148.87	345	↓iPKPbc	PKPbc	16 16 24.9	-0.9
comp=Z,6.0nm,1.0s							
CLZ	Clausthal	148.93	348	ePKPbc	PKPbc	16 16 25.4	-0.6
BRG	Berggiesshubel	149.03	344	ePKPbc	PKPbc	16 16 25.8	-0.5
BRG	Berggiesshubel	149.03	344	eP	PKPbc	16 16 25.7	-0.5
comp=Z,4.5nm,0.9s							
PVCC	Panska Ves	149.17	343	ePKPbc	PKPbc	16 16 26.2	-0.4
VYHS	Vyhne	149.53	336	ePKP	PKPbc	16 16 25.7	-1.8
PRU	Pruhonice	149.66	342	ePKPbc	PKPbc	16 16 26.7	-1.1
MOX	Moxa	149.81	346	ePKPbc	PKPbc	16 16 27.3	-0.8
WERD	Werda	149.83	345	ePKPbc	PKPbc	16 16 27.0	-1.2
GUNZ	Gunzen	149.90	345	ePKPbc	PKPbc	16 16 27.5	-0.8
WERN	Wernitzgruen	149.96	345	ePKPbc	PKPbc	16 16 27.9	-0.6
ROTZ	Rotzenmuhle	150.49	345	ePKPbc	PKPbc	16 16 28.6	-1.1
KHC	Kasperske Hory	150.71	343	ePKPbc	PKPbc	16 16 29.5	-0.8
KHC				ePKPab	PKPab	16 16 40.0	+0.1
TNS	Taunus Mts	150.82	350	ePKPbc	PKPbc	16 16 29.7	-0.8
GEC2	GERESS Array S	150.94	342	ePKPbc	PKPbc	16 16 29.9	-0.9
GERES	GERESS Array B	150.94	342	PKPbc	PKPbc	16 16 29.4	-1.3
comp=Z,1.7nm,0.8s,baz=52,slow=2.4,SNR=8.2							

IDC 06 15:58:32.9±3.3, 433S×15411E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/17, mbtmp4.2/3, Error ellipse: s-maj=128.6km s-min=46.8km az=123.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.73	230	P	P	16 03 56.7	+0.5
5.5nm,0.7s,baz=54,slow=9.6,SNR=48							
ASAR	Alice Springs	27.38	224	P	P	16 04 19.9	-0.2
1.2nm,0.6s,baz=59,slow=9.0,SNR=33							
FITZ	Fitzroy Crossi	31.03	242	eP	P	16 04 52.5	-0.1
5.6nm,0.6s							
FITZ	Fitzroy Crossi	31.03	242	P	P	16 04 52.6	0.0
2.6nm,0.5s,baz=79,slow=11,SNR=11							
TORD	Torodi Ar. Bea	151.39	290	PKPbc	PKPbc	16 18 29.6	-0.2
0.7nm,0.6s,baz=102,slow=1.8,SNR=8.7							

*ISCJB **06** 16:37:16.5±1.9, 155S±09×177.7W±04, h389km±31km, mb3.8/6, Error ellipse: s-maj=147.8km s-min=18.8km az=155.3*

*IDC **06** 16:37:17.3±1.9, 1572S×17756W, h388km±30km, mb3.4/5, mb1 3.7/6, mb1mx3.3/18, mbtmp3.4/6, Error ellipse: s-maj=124.5km s-min=15.6km az=155.0*

ISC 06 16:37:17.3±1.7, 157S±09×1776W±04, h385km±29km, n9, σ0°55/10, mb3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.91	74	P	Pn	16 38 49.4	+1.1
2.8nm,0.3s,baz=265,slow=11,SNR=6.4							
AFI				S	S	16 40 01.6	-0.8
0.8nm,0.3s,baz=20,slow=15,SNR=2.5							
STKA	Stephens Creek	40.41	239	eP	P	16 44 20.1	+0.3
1.3nm,0.6s,mb3.4							
STKA	Stephens Creek	40.41	239	P	P	16 44 19.4	-0.5
1.7nm,0.5s,mb3.6,baz=153,slow=21,SNR=2.9							
WB2	Warramunga Arr	45.82	257	eP	P	16 45 02.6	-0.2
WRA	Warramunga Arr	45.83	257	P	P	16 45 02.4	-0.5
2.1nm,0.6s,mb3.7,baz=91,slow=6.6,SNR=52							
ASAR	Alice Springs	46.17	252	P	P	16 45 05.8	+0.3
8.6nm,0.5s,mb4.3,baz=90,slow=8.4,SNR=281							
KAKA	Kakadu	48.43	267	eP	P	16 45 27.9	+5.1
3.8nm,0.4s,mb4.1							
NVAR	Mina Array Bea	77.28	44	P	P	16 48 30.3	0.0
0.6nm,0.7s,mb3.4,baz=224,slow=8.8,SNR=4.7							
TXAR	Lajitas Array	84.15	58	P	P	16 49 06.7	+0.2
0.9nm,0.8s,mb3.6,baz=212,slow=6.0,SNR=7.2							

*ISCJB **06** 17:00:15.0±1.2, 1101N±004×6209W±005, h82km±12km, Error ellipse: s-maj=9.0km s-min=5.5km az=44.3*

*TRN **06** 17:00:15.3, 1103N×6184W, h103km, MD3.5*

*NEIC **06** 17:00:15.1, 1101N×6185W, h104km, MD3.5(TRN), After TRN.*

*FUNV **06** 17:00:16.6, 1104N×6210W, h74km, MW2.4*

ISC 06 17:00:15.4±1.2, 1101N±004×6209W±005, h81km±12km, n14, σ0°68/28, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.38	200	↓eP	Pn	17 00 29.2	+0.8
GUIV				eS	Sn	17 00 37.6	-0.3
TRN	Trinidad (W)	0.76	118	eP	Pn	17 00 32.7	+0.9
TRN				eS	Sn	17 00 43.8	-0.2
ITEV	Isla Los Testi	1.08	289	eP	Pn	17 00 35.4	-0.1
ITEV				eS	Sn	17 00 50.0	-0.5
CRUV	Carupano	1.18	254	↑iP	Pn	17 00 36.6	0.0
CRUV				eS	Sn	17 00 51.8	-0.8
GUNV	Guanoco	1.19	225	eP	Pn	17 00 37.7	+0.9
GUNV				eS	Sn	17 00 53.1	+0.2
GRW	Mount Saint Ca	1.22	20	eP	Pn	17 00 37.8	+0.6
GRW				eS	Sn	17 00 54.1	+0.5
GRHS	Sauteurs	1.29	20	eP	Pn	17 00 38.0	0.0
GRHS				eS	Sn	17 00 55.3	+0.2
GRHS	Sauteurs	1.29	20	eP	Pn	17 00 38.0	0.0
GRHS				eS	Sn	17 00 55.3	+0.2
GRIC	Isle de Caille	1.36	21	eP	Pn	17 00 38.9	-0.1
GRIC				eS	Sn	17 00 56.7	-0.1
GRSS	Sisters	1.36	20	eP	Pn	17 00 39.3	+0.3
GRSS				eS	Sn	17 00 57.1	+0.2
GRSS	Sisters	1.36	20	eP	Pn	17 00 39.3	+0.3
GRSS				eS	Sn	17 00 57.4	+0.5
TOSP	Speyside	1.55	79	eP	Pn	17 00 39.4	-2.0
TOSP				eS	Sn	17 00 57.4	-3.7
GRCU	Cariacou	1.58	23	eP	Pn	17 00 41.6	-0.2
GRCU				eS	Sn	17 01 00.9	-0.9
GRCU	Cariacou	1.58	23	eP	Pn	17 00 41.6	-0.2
GRCU				eS	Sn	17 01 02.0	+0.2

*ISCJB **06** 17:03:16.6±0.5, 1352N±005×9084W±004, h68km±5km, mb4.2/22, Error ellipse: s-maj=9.3km s-min=3.0km az=37.9*

*NEIC **06** 17:03:17.9±0.4, 1356N×9076W, mb4.3/14, MD4.3(GCG), Error ellipse: s-maj=11.2km s-min=5.7km az=222.0*

NEIC Felt [III] at Ahuachapan, El Salvador. Felt [II] at Guatemala City and in Escuintla and Retalhuleu.

*IDC **06** 17:03:17.4±0.6, 1378N×9064W, h62km±5km, mb3.9/14, mb1 4.1/17, mb1mx3.9/26, mbtmp3.9/17, MS3.3/8, Ms1 3.3/8, ms1mx3.0/32, Error ellipse: s-maj=21.5km s-min=9.1km az=51.0*

*CASC **06** 17:03:17.5±2.5, 1359N×9081W, h40km±158km, MD4.3, ML4.6, mb4.3(NEIC)*

ISC 06 17:03:18.2±0.4, 1358N±004×9084W±003, h63km±4km, h66km±1.0km: pP-P, n257, σ1°27/88, mb4.2/22, 79C-92D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.84	15	↓iP	Pn	17 03 33.8	+0.1
FUG	Fuego 3	0.86	360	↓eP	Pn	17 03 33.9	-0.1
FG6		0.97	357	↓eP	Pn	17 03 35.6	+0.1
GCG	Guatemala City	1.04	16	↓eP	Pn	17 03 36.3	-0.2
GCG				eS	Sn	17 03 50.5	-0.3
JAT	Jato	1.07	313	↑eP	Pn	17 03 37.6	+0.8
JAT				eS	Sn	17 03 47.7	-3.7
SONS		1.10	82	eP	x	17 03 35.6	
SONS				eS	x	17 03 49.5	
SONS				i		17 03 51.9	
comp=Z,12μm,0.5s							
NBG	Las Nubes	1.11	25	↓eP	Pn	17 03 38.2	+0.8
RTR	El Retiro	1.20	75	↑iP	x	17 03 37.8	
RTR				eS	x	17 03 53.5	
SNJE	San Jose	1.23	76	↑iP	x	17 03 38.0	
SNJE				eS	x	17 03 56.9	
RBDL	Robledal	1.24	65	↑iP	x	17 03 38.4	
BOQS	Boqueron	1.52	84	↑eP	x	17 03 42.3	
BOQS				eS	x	17 04 00.2	
MTO2	Montecristo 2	1.65	60	↑iP	x	17 03 43.7	
MTO2				eS	x	17 04 04.1	
LFU	La Fuente	1.68	84	eP	x	17 03 44.7	
LFU				eS	x	17 04 04.4	
LFRS	El Faro	1.73	88	↑eP	x	17 03 44.6	
LBRS	Las Brisas	1.75	85	eP	x	17 03 45.2	
LCBS	La Ceiba	1.81	87	↑eP	x	17 03 46.0	
SNVI	San Vicente	1.94	89	↓eP	x	17 03 48.3	
SNVI				eS	x	17 04 11.8	
VSM	San Miguel	2.50	93	eP	x	17 03 56.0	
VSM				eS	x	17 04 27.6	
CAHU	Cacacuatique	2.56	85	eP	x	17 03 56.4	
CCIG	Comitan	2.96	335	↑iP	Pn	17 04 04.3	+1.5
CCIG				i S	Sn	17 04 39.8	+2.6
TGUH	Tegucigalpa,Un	3.50	82	eP	Pn	17 04 08.5	-1.5
TGUH	Tegucigalpa,Un	3.50	82	ePn	Pn	17 04 08.8	-1.3
SCX	San Cristobal	3.58	331	eP	Pn	17 04 12.8	+1.5
SCX				i S	Sn	17 04 54.0	+1.6
CRIN	San Cristobal	3.79	103	eP	Pn	17 04 13.8	-0.3
CRIN				eS	Sn	17 04 58.1	+0.6
CRIN				AML	AML	17 05 14.4	
comp=N,4μm,0.5s							
CNGN	Cerro Negro	4.17	104	eP	Pn	17 04 18.2	-1.2
CNGN				eS	Sn	17 05 04.9	-2.0
CSAN		4.52	107	eP	Pn	17 04 24.2	0.0
CSAN				eS	Sn	17 05 17.8	+2.3
APYN	Apoyeque	4.58	106	eP	Pn	17 04 24.2	-0.7
APYN				eS	Sn	17 05 18.3	+1.5
XAVN	Gruta Xavier	4.62	107	eP	Pn	17 04 24.4	-1.1
MGAN	Managua	4.70	107	eP	Pn	17 04 25.3	-1.3
HUEN		4.71	105	↓eP	Pn	17 04 26.0	-0.8
TICN	Ticuantepe	4.75	108	eP	Pn	17 04 26.5	-0.7
WILN	Americas 2	4.75	107	eP	Pn	17 04 27.5	+0.3
WILN				AML	AML	17 05 40.4	
comp=Z,2μm,1.0s							
CMIG	Matias Romero	5.24	312	P	Pn	17 04 34.1	+0.2
comp=Z,11nm,0.3s,baz=135,slow=9.9,SNR=84							
CMIG				S	Sn	17 05 30.8	-2.2
comp=Z,13nm,0.3s,baz=91,slow=11,SNR=4.4							
CMIG				LR	LR	17 06 20.1	
comp=Z,95nm,20.7s,baz=127,slow=35							
CONN	Concepcion	5.47	111	eP	Pn	17 04 38.1	+1.0
OXX	Oaxaca	6.66	302	eP	Pn	17 04 52.4	-1.0
OXX				i S	Sn	17 06 05.4	-2.5
VHO	Vista Hermosa	6.66	302	i P	Pn	17 04 59.0	+5.5
VHO				i S	Sn	17 06 08.2	+0.1
JCR	Jicaral	6.72	123	eP	Pn	17 04 55.1	+0.8
LCR2	La Lucha 2	7.70	119	eP	Pn	17 05 09.7	+1.9
LCR2				eS	Sn	17 06 34.4	+0.7
BUS	Buena Vista	8.01	119	↑eP	Pn	17 05 14.6	+2.7
PPM	Popocatepetl	9.25	307	i P	Pn	17 05 32.8	+3.9
PPM				i S	Sn	17 07 08.7	-2.8
BRU2	Volcan	9.30	120	eP	Pn	17 05 29.6	0.0
IIO	Organos	9.63	309	eP	Pn	17 05 33.7	-0.4
IIO				i S	Sn	17 07 24.7	+3.8
ZIIG	Zihuatanejo	10.99	293	eP	Pn	17 05 53.6	+0.9
ZIIG				i S	Sn	17 07 52.8	-1.3
DWPF	Disney	16.91	30	eP	Pn	17 07 12.0	+1.4
comp=Z,39nm,0.8s							
HKT	Hockley	16.93	345	eP	Pn	17 07 10.2	-0.7
comp=Z,45nm,1.5s							
HKT				epP	pP	17 07 21.9	-3.4
OTAV	Otavalo	18.06	136	eP	Pn	17 07 26.2	+1.3
comp=Z,2.3nm,0.7s							
ROSC	El Rosal	18.44	116	P	Pn	17 07 28.8	-0.7
baz=279,slow=22,SNR=1.7							
TXAR	Lajitas Array	19.68	325	P	Pn	17 07 42.2	-1.9
comp=Z,0.5nm,0.3s,baz=148,slow=11,SNR=27							
TXAR	Lajitas Array	19.68	325	P	Pn	17 07 42.2	-1.9
SDV	Santo Domingo	20.36	101	P	P	17 07 47.2	-2.5
comp=Z,1.6nm,0.4s,baz=321,slow=14,SNR=4.1							
SDV				LR	LR	17 15 53.2	
comp=Z,57nm,20.9s,baz=213,slow=37							
SDV	Santo Domingo	20.36	101	eP	P	17 07 47.0	-2.7
comp=Z,4.9nm,0.7s							
GOGA	Godfrey	20.85	18	P	P	17 07 55.4	+0.6
comp=Z,36nm,0.9s							
WMOK	Wichita Mounta	22.26	343	eP	P	17 08 09.3	-0.6
comp=Z,3.6nm,0.8s,mb3.9							
MNTX	Cornudas Mount	22.43	326	eP	P	17 08 11.5	-0.3
comp=Z,5.1nm,0.7s,mb4.1							
MNTX				epP		17 08 24.8	
TKL	Tuckaleechee C	22.89	15	P	P	17 08 14.2	-2.3
comp=Z,8.3nm,0.8s,mb4.2,baz=183,slow=12,SNR=7.6							
TKL				LR	LR	17 17 47.0	
comp=Z,171nm,22.0s,baz=4.5,slow=38							
TKL	Tuckaleechee C	22.89	15	eP	P	17 08 14.8	-1.6
TZTN	Tazewell	23.78	15	eP	P	17 08 24.5	-0.5
comp=Z,27nm,0.7s,mb4.8							
TZTN				e		17 08 40.5	
ATAH	Atahualpa	23.89	148	P	P	17 08 28.7	+2.5
comp=Z,3.7nm,0.5s,mb4.1,baz=285,slow=0.9,SNR=3.1							
ATAH				LR	LR	17 15 05.5	
comp=Z,45nm,20.8s,baz=218,slow=29							
SIUC	Southern Illin	24.08	3	P	P	17 08 28.7	+1.0
comp=Z,25nm,1.1s,mb4.5							
319A	Douglas	24.51	319	↓P	pP	17 08 48.4	+1.5
baz=25							
219A	White Tail Can	24.92	320	↓P	pP	17 08 52.4	+1.8
baz=25							
BNM	Barren Site	24.99	328	eP	P	17 08 37.3	+1.2
318A	Bisbee	25.01	318	P	pP	17 08 53.7	+2.2
baz=25,SNR=7.6							
LENM	Lemitar	25.18	327	P	P	17 08 38.5	+0.7
LENM				e	pP	17 08 54.9	+1.9
ELN	Prospectdale	25.21	19	P	P	17 08 38.0	0.0
218A	Dragoon	25.39	319	P	pP	17 08 57.1	+2.2
baz=26,SNR=5.5							
119A	Ashpeak Ranch,	25.47	322	↓P	pP	17 08 57.4	+1.7
baz=26							
ANMO	Albuquerque	25.53	329	LR	LR	17 19 04.9	
comp=Z,31nm,19.7s,baz=161,slow=37							
217A	Green Valley	25.76	318	↓P	pP	17 09 00.2	+2.0
baz=26							
118A	Homack Ranch,	25.80	321	↑P	pP	17 09 00.4	+1.8
baz=26							
PCRV	Puerto La Cruz	25.86	95	P	P	17 08 43.9	-0.3
comp=Z,4.9nm,0.5s,mb4.3,baz=15,slow=2.7,SNR=2.6							
KSU1	Kansas State U	25.93	350	P	P	17 08 44.6	+0.1
117A	Oracle	26.23	319	↑P	pP	17 09 03.9	+1.3
baz=26							
Y19A	Nutrioso	26.29	324	↑P	pP	17 09 04.9	+1.9
baz=26							
216A	Three Points,	26.32	318	↓P	pP	17 09 05.1	+1.7
baz=26							
Y18A	Canyon Day Jun	26.62	322	↓P	pP	17 09 08.0	+2.0
baz=27							
116A	Eloy	26.84	318	↓P	pP	17 09 09.6	+1.5
baz=27							
Z16A	Peralta Trail,	27.17	320	↓P	pP	17 09 12.3	+1.2
baz=27							
214A	Organ Pipe Nat	27.20	316	↓P	pP	17 09 12.8	+1.5
baz=27							
Y16A	Circle Bar Ran	27.56	321	↓P	pP	17 09 16.0	+1.5
baz=28							
X16A	Lo Mia Camp, P	27.90	322	P	pP	17 09 19.7	+2.1
baz=28,SNR=5.0							
Y15A	Casa Rosa Ranc	28.14	320	↓P	pP	17 09 21.3	+1.6
baz=28							
T19A	Beclabito	28.30	328	↓P	pP	17 09 22.4	+1.3
baz=28							
113A	Mohawk Valley,	28.33	316	↓P	pP	17 09 23.1	+1.6
baz=28							
X15A	Humboldt	28.43	321	↑P	pP	17 09 23.9	+1.5
baz=29							
WUAZ	Wupatki	28.62	323	↑P	pP	17 09 27.0	+3.0
baz=29							
X14A	Yava	28.83	320	↑P	pP	17 09 27.6	+1.7
baz=29							
W15A	Williams	28.92	322	↓P	pP	17 09 28.4	+1.8
baz=29							
T18A	Mexican Hat	28.97	327	↓P	pP	17 09 28.5	+1.4
baz=29							
U17A	Shonto	29.00	326	↑P	pP	17 09 28.8	+1.5
baz=29							
Y13A	Salome	29.01	318	↓P	pP	17 09 29.3	+1.7
baz=29							
S19A	Harvey Farm, M	29.06	329	↓P	pP	17 09 29.1	+1.2
baz=29							
GLA	Glamis	29.22	316	↑P	pP	17 09 31.3	+1.9
baz=29							
GLA	Glamis	29.22	316	eP	P	17 09 16.1	+2.1
comp=Z,8.8nm,1.1s,mb4.4							
GLA				epP	pP	17 09 30.6	+1.2
V15A	Kaibab Nationa	29.30	323	↓P	pP	17 09 31

baz=32
Q15A Fillmore 31.68 327 ⇑P pP 17 09 53.1 +2.1
baz=32
BFSC Mount Baldy St 31.83 315 ⇓P pP 17 09 55.2 +2.7
baz=32
GSC Goldstone 31.86 317 ⇑P pP 17 09 54.3 +1.5
baz=32
R13A O'Grain Ranch, 31.97 324 ⇑P pP 17 09 55.5 +1.9
baz=32
T11A Corn Creek, Al 32.07 322 ⇓P pP 17 09 56.2 +1.7
baz=32
O16A Springville 32.13 329 ⇑P pP 17 09 56.6 +1.6
baz=32
Q14A Sevier Lake (B 32.15 326 ⇓P pP 17 09 56.9 +1.6
baz=32
N17A Moffit Pass 32.38 331 ⇓P pP 17 09 59.6 +2.4
baz=32
EDW2 Edwards Air Fo 32.42 316 ⇓P pP 17 09 58.9 +1.3
baz=32
R12A Pony Springs, 32.43 324 ⇓P pP 17 10 00.1 +2.3
baz=33
P14A Drum Mountains 32.47 327 ⇓P pP 17 10 00.3 +2.2
baz=33
TPNV Topopah Spring 32.51 320 ⇓P pP 17 10 00.5 +2.0
baz=33
Q13A Wheeler Ranch, 32.54 325 ⇓P pP 17 10 00.4 +1.8
baz=33
MPMC Manual Prospec 32.76 318 P pP 17 10 02.6 +1.9
baz=33,SNR=8.1
P13A Bates Ranch, G 32.88 326 ⇓P pP 17 10 03.7 +2.0
baz=33
R11A Troy Canyon, C 33.02 323 ⇑P pP 17 10 04.4 +1.6
baz=33
ISA Isabella 33.18 316 ⇓P pP 17 10 06.6 +2.2
baz=33
GRAC Grapevine Rang 33.25 319 ⇓P pP 17 10 07.0 +2.1
baz=33
PDAR Pinedale Array 33.27 334 P **P 17 09 48.6 -0.9**
comp=Z,0.3nm,0.5s,mb3.5,baz=121,slow=11,SNR=2.9
S10A Tonopah Range, 33.34 321 ⇑P pP 17 10 07.9 +2.2
baz=34
O13A Hicks Ranch, I 33.35 327 ⇓P pP 17 10 07.6 +1.8
baz=34
Q11A Duckwater 33.39 323 ⇓P pP 17 10 08.0 +1.9
baz=34
P12A McGill 33.39 325 ⇓P pP 17 10 08.1 +2.0
baz=34
N14A Grayback Hills 33.46 328 ⇑P pP 17 10 08.4 +1.7
baz=34
L16A Fish Haven 33.50 332 ⇓P pP 17 10 08.7 +1.7
baz=34
S09A Goldfield 33.60 320 ⇑P pP 17 10 09.5 +1.5
baz=34
VES Vestal, Richgr 33.69 316 ⇑P pP 17 10 11.3 +2.5
baz=34
Q10A Clear Creek Ra 33.81 323 ⇓P pP 17 10 12.1 +2.3
baz=34
R09A Tonopah 33.83 321 ⇓P pP 17 10 11.7 +1.7
baz=34
O12A Currie 33.86 326 ⇑P pP 17 10 12.2 +2.0
baz=34
L15A Malad City 33.94 331 ⇑P pP 17 10 12.0 +1.2
baz=34
N13A Wendover, West 33.99 327 ⇓P pP 17 10 13.4 +2.1
baz=34
M14A Sheep Mountain 34.03 329 P pP 17 10 13.4 +1.8
baz=34,SNR=7.2
S08C White Mtn Res 34.06 319 P pP 17 10 14.5 +2.5
baz=34,SNR=5.4
HELL Mitchell Peak 34.13 317 ⇓P pP 17 10 14.5 +1.9
baz=34
M13A Montello 34.34 328 P pP 17 10 16.2 +1.9
baz=34,SNR=6.4
L14A Malta 34.37 330 ⇑P pP 17 10 16.2 +1.5
baz=34
ELK Elko 34.46 326 *e*P **P 17 10 00.9 +1.0**
comp=Z,2.1nm,0.9s,mb4.1
ELK *e* pP 17 10 17.1 +1.7
KCC Kaiser Creek 34.69 318 ⇑P pP 17 10 19.5 +2.0
baz=35
NVAR Mina Array Bea 34.71 320 P **P 17 10 02.6 +0.6**
comp=Z,2.6nm,0.6s,mb4.3,baz=128,slow=8.7,SNR=25
NVAR pP pP 17 10 18.1 +0.5
comp=Z,5.4nm,0.6s,baz=132,slow=8.4,SNR=16
NVAR PcP PcP 17 12 34.8 0.0
comp=Z,1.0nm,0.7s,baz=148,slow=3.2,SNR=4.3
K14A Jones Ranch, D 34.73 330 ⇑P pP 17 10 19.0 +1.3
baz=35
PKD Parkfield 34.74 315 ⇑P pP 17 10 19.5 +1.5
baz=35
Q08A Gabbs 34.75 321 ⇓P pP 17 10 19.6 +1.7
baz=35
L13A Double Diamond 34.76 329 ⇑P pP 17 10 20.2 +2.2
baz=35
M12A Wells 34.76 327 ⇓P pP 17 10 19.6 +1.6
baz=35
U04C Hernandez Rese 35.13 316 ⇑P pP 17 10 23.2 +1.9
baz=35
O09A Fish Creek Ran 35.15 324 ⇓P pP 17 10 22.9 +1.5
baz=35
M11A Holland Ranch, 35.24 327 ⇑P pP 17 10 23.5 +1.4
baz=35
S06C San Francisco 35.36 318 ⇓P pP 17 10 25.3 +2.1
baz=36
S05C Merced 35.37 317 ⇑P pP 17 10 25.4 +2.1
baz=36
R06C Coleville 35.48 320 ⇑P pP 17 10 26.3 +2.0
baz=36
K12A Draper Farm, C 35.64 329 ⇑P pP 17 10 26.8 +1.2
baz=36
M10A I.L. Ranch, Tu 35.70 326 ⇓P pP 17 10 27.9 +1.7
baz=36
L11A Cat Creek Ranc 35.74 328 ⇑P pP 17 10 28.0 +1.5
baz=36
R05C Kirkwood Meado 35.98 319 ⇓P pP 17 10 30.8 +2.2
baz=36
L10A Juniper Basin 36.05 327 ⇑P pP 17 10 30.1 +0.9
baz=36
HLID Hailey 36.09 330 ⇓P pP 17 10 31.0 +1.5
baz=36
HLID Hailey 36.09 330 *e*P **P 17 10 14.5 +0.7**
HLID *ep*P pP 17 10 31.1 +1.6
S04C Ingram Canyon, 36.12 317 ⇑P pP 17 10 31.5 +1.7
baz=36
I13A Wildhorse Cree 36.22 331 ⇑P pP 17 10 32.5 +2.0
baz=36
K11A Parker Ranch, 36.31 328 ⇑P pP 17 10 32.7 +1.3
baz=36
MCMT McKenzie Canyo 36.35 333 *e*P **P 17 10 17.2 +1.2**
MCMT *e* pP 17 10 32.3 +0.6
LAVA Lava Cap Winer 36.43 319 ⇓P pP 17 10 34.2 +1.7
baz=37
L09A Wilkinson Ranc 36.66 326 ⇑P pP 17 10 36.0 +1.7
baz=37
MFID Camas Ranch 36.67 329 ⇑P pP 17 10 36.6 +2.2
baz=37
M08A Happy Creek Ra 36.68 324 ⇑P pP 17 10 36.2 +1.7
baz=37
O06A Flanigan 36.71 322 ⇓P pP 17 10 36.0 +1.2
baz=37
K10A MacKenzie Ranc 36.76 327 ⇓P pP 17 10 36.5 +1.3
baz=37
H13A Challis 36.77 332 ⇑P pP 17 10 36.7 +1.4
baz=37
ULM Lac du Bonnet 36.80 355 P **P 17 10 16.2 -3.5**
comp=Z,1.9nm,0.5s,mb4.2,baz=166,slow=6.0,SNR=4.7
ULM pP pP 17 10 32.6 -2.8
comp=Z,3.9nm,0.8s,baz=172,slow=8.3,SNR=3.8
ULM LR LR 17 26 15.5
comp=Z,69nm,19.2s,baz=264,slow=38
H12A Diamond D Ranc 37.04 331 ⇓P pP 17 10 39.4 +1.8
baz=37
N06A Buffalo Meadow 37.07 322 ⇑P pP 17 10 39.4 +1.5
baz=37
I11A Placerville 37.10 329 ⇓P pP 17 10 39.8 +1.7
baz=37
L08A Fields 37.15 325 ⇓P pP 17 10 39.7 +1.1
baz=37
K09A Rome 37.16 326 ⇑P pP 17 10 40.5 +1.9
baz=37
LPAZ La Paz 37.21 142 P **P 17 10 23.3 -0.3**
comp=Z,1.7nm,0.6s,mb4.0,baz=344,slow=8.5,SNR=10
LPAZ La Paz 37.21 142 *e*P **P 17 10 23.5 -0.1**
comp=Z,1.4nm,0.6s,mb4.0
WVOR Wild Horse Val 37.47 325 P **P 17 10 25.8 +0.2**
WVOR *e* pP 17 10 42.7 +1.4
MCCM Marconi Confer 37.49 317 ⇑P pP 17 10 44.2 +2.7
baz=38
K08A Mann Creek Ran 37.59 326 ⇓P pP 17 10 44.0 +1.7
baz=38
L07A Adell 37.59 324 ⇓P pP 17 10 43.8 +1.5
baz=38
K07A Rock Creek Ran 37.98 325 ⇑P pP 17 10 46.5 +0.9
baz=38
H10A Noah's Angus R 37.98 330 ⇑P pP 17 10 46.2 +0.6
baz=38
J08A Circle Bar Ran 38.01 327 ⇓P pP 17 10 47.0 +1.2
baz=38
I09A Lost Marbles R 38.05 328 P pP 17 10 47.2 +1.1
baz=38,SNR=6.4
F12A Elk City 38.14 332 ⇓P pP 17 10 47.8 +0.9
baz=38
M05C Lookout 38.23 322 ⇓P pP 17 10 48.8 +1.1
baz=38
G11A Walters Elk Ra 38.34 331 ⇓P pP 17 10 49.2 +0.6
baz=38
J06A Christmas Vall 38.85 325 ⇑P pP 17 10 53.7 +0.8
baz=39
M04C Macdoel 38.90 322 ⇑P pP 17 10 54.7 +1.4
baz=39
H08A Prairie City 38.91 328 ⇑P pP 17 10 54.6 +1.2
baz=39
G09A Cove 38.99 329 ⇑P pP 17 10 54.0 0.0
baz=39
E11A Bogner Ranch, 39.03 332 ⇓P pP 17 10 54.7 +0.3
baz=39
I07A Izee 39.05 327 ⇓P pP 17 10 55.0 +0.5
baz=39
O01C Eel River Cons 39.18 319 ⇑P pP 17 10 56.4 +0.6
baz=39
F10A Beach Ranch, E 39.22 331 ⇓P pP 17 10 56.9 +0.9
baz=39
N02C Big Bar 39.23 320 ⇑P pP 17 10 57.1 +0.9
baz=39
I06A Prineville 39.33 326 ⇓P pP 17 10 57.1 +0.2
baz=40
H07A Lands Inn, Kim 39.42 327 ⇓P pP 17 10 58.3 +0.6
baz=40
H06A Lindquist Farm 39.92 327 ⇑P pP 17 11 02.3 +0.4
baz=40
G07A Ruggs Ranch, H 39.93 328 ⇓P pP 17 11 02.3 +0.4
baz=40
I04A Tendick Farm, 40.46 324 ⇑P pP 17 11 06.7 +0.3
baz=41
K02A Glendale 40.47 322 ⇓P pP 17 11 06.9 +0.4
baz=41
G05A Wamic 40.78 327 ⇓P pP 17 11 09.9 +0.9
baz=41
F06A Goldendale 40.85 328 ⇓P pP 17 11 10.6 +1.0
baz=41
J02A Umpqua 40.87 323 ⇓P pP 17 11 10.3 +0.5
baz=41
H04A Detroit Lake 40.89 325 ⇓P pP 17 11 10.3 +0.3
baz=41
I03A Eugene 41.07 324 ⇑P pP 17 11 11.5 +0.1
baz=41
A11A Hall Mountain, 41.08 334 ⇑P pP 17 11 11.6 +0.2
baz=41
F05A White Salmon 41.28 327 ⇑P pP 17 11 14.1 +0.9
baz=41
C08A Higginbotham F 41.39 331 ⇑P pP 17 11 14.8 +0.7
baz=42
E06A Yakima 41.47 328 ⇓P pP 17 11 15.0 +0.3
baz=42
SIV San Ignacio 41.58 134 P **P 17 10 59.1 -1.0**
comp=Z,4.2nm,0.6s,mb4.3,baz=308,slow=8.0,SNR=29
SIV pP pP 17 11 14.8 -1.2
comp=Z,2.8nm,0.7s,baz=330,slow=8.3,SNR=5.8
SIV PcP PcP 17 12 55.6 -0.8
comp=Z,0.9nm,0.8s,baz=274,slow=0.7,SNR=3.7
E05A Randle 41.89 328 ⇓P pP 17 11 18.8 +0.7
baz=42
LVC Limon Verde 41.90 149 P **P 17 11 02.7 +0.1**
comp=Z,8.7nm,1.0s,mb4.3
F03A Seaside 42.43 326 ⇓P pP 17 11 24.2 +1.6
baz=42
E03A Lebam 42.82 327 ⇑P pP 17 11 26.2 +0.5
baz=43
A07A Ashnola River, 42.92 332 ⇓P pP 17 11 27.3 +0.8
baz=43
SCHQ Schefferville 45.23 19 P **P 17 11 25.4 -3.6**
comp=Z,4.2nm,0.5s,mb4.5,baz=228,slow=8.4,SNR=10
SCHQ pP pP 17 11 42.2 -2.8
comp=Z,8.5nm,0.5s,baz=215,slow=8.2,SNR=7.4
SCHQ LR LR 17 30 46.7
comp=Z,114nm,18.9s,baz=191,slow=37
SCHQ Schefferville 45.23 19 P **P 17 11 25.4 -3.6**
SCHQ pP pP 17 11 42.2 -2.9
SCHQ LR LR 17 30 46.7
CPUP Villa Florida 51.34 141 P **P 17 12 14.4 -2.0**
comp=Z,1.7nm,0.7s,mb4.1,baz=312,slow=9.4,SNR=4.6
BDFB Brasilia 51.35 123 P **P 17 12 12.4 -4.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=165,slow=22,SNR=2.3
YKA Yellowknife Ar 51.70 346 P **P 17 12 16.8 -1.8**
comp=Z,0.6nm,0.5s,mb3.8,baz=151,slow=7.8,SNR=2.9
YKA pP pP 17 12 32.9 -2.0
comp=Z,0.8nm,0.5s,baz=140,slow=8.0,SNR=2.3
PLCA Paso Flores 57.22 162 P **P 17 12 58.7 -0.2**
comp=Z,3.6nm,1.1s,mb4.3,baz=320,slow=8.7,SNR=2.9
PLCA Paso Flores 57.22 162 P **P 17 12 58.7 -0.2**
ARCES ARCESS Array B 86.18 18 P **P 17 15 49.7 -2.5**
comp=Z,1.5nm,0.9s,mb4.2,baz=327,slow=6.5,SNR=3.0
TORD Torodi Ar. Bea 89.38 77 LR LR 17 51 04.6
comp=Z,58nm,20.7s,baz=195,slow=32
WRA Warramunga Arr 136.38 255 PKP PKPdf 17 22 34.7 +1.1
comp=Z,0.6nm,0.5s,baz=35,slow=0.9,SNR=4.1
FITZ Fitzroy Crossi 144.66 258 PKP PKPdf 17 22 47.8 -0.8
comp=Z,4.0nm,1.0s,baz=72,slow=13,SNR=2.8
CMAR Chiang Mai Arr 146.74 343 PKPbc PKPbc 17 22 52.1 -1.8
comp=Z,4.0nm,0.5s,baz=341,slow=3.1,SNR=15
CMAR pPKPbc pPKPbc 17 23 09.4 -2.7
comp=Z,3.6nm,0.6s,baz=337,slow=3.4,SNR=6.9

IDC 06 17:03:23.5±3.5, 1663S×17509W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/17, mbtmp4.1/3, Error ellipse: s-maj=169.8km s-min=74.7km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.01 241**		P	P	17 11 17.6	+0.8
	1.3nm,0.5s,baz=84,slow=9.2,SNR=4.4						
WRA	**Warramunga Arr**	**47.99 258**		P	P	17 12 04.0	-0.5
	0.8nm,0.5s,baz=95,slow=7.3,SNR=44						
WRA				PcP	PcP	17 13 32.7	-0.1
	0.4nm,0.9s,baz=90,slow=3.6,SNR=4.6						
ASAR	**Alice Springs**	**48.19 253**		P	P	17 12 05.8	-0.3
	2.1nm,0.5s,baz=94,slow=8.8,SNR=75						
ASAR				PcP	PcP	17 13 33.1	-0.3
	0.3nm,0.5s,baz=109,slow=4.7,SNR=7.3						

BJI ***06*** *17:11:41.8, 672S×15165E, h47km, mB5.0, mb4.9, Ms4.8, Msz4.5*

IDC ***06*** *17:11:43.2±0.4, 606S×15080E, h0km, mb4.6/25, mb1 4.6/25, mb1mx4.6/26, mbtmp4.6/25, MS4.3/22, Ms1 4.3/22, ms1mx4.2/29, Error ellipse: s-maj=17.0km s-min=11.0km az=105.0*

ISCJB ***06*** *17:11:44.7±1.2, 598S±004×15066E±003, h11km±7km, mb4.8/64, MS4.4/35, Error ellipse: s-maj=6.3km s-min=5.0km az=159.6*

MOS ***06*** *17:11:48.1±1.1, 597S×15073E, h33km, mb5.2/13, MS4.6/12, Error ellipse: s-maj=10.2km s-min=7.4km az=78.9*

GCMT ***06*** *17:11:50.5±0.2, 634S×15096E, h26km, MW5.1/70, Moment Tensor Solution. s58,c93; s70,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.37±.16; $M_{\theta\theta}$-4.99±.11; $M_{\phi\phi}$0.61±.11; $M_{r\theta}$3.90±.23; $M_{\theta\phi}$-0.70±.10; $M_{\phi r}$0.59±.24; Best double couple: $M_0$6.15400×10^{16} NP1:ϕ_s264.00000°, δ25.00000°, λ92.00000°. NP2: ϕ_s82.00000°, δ65.00000°, λ89.00000°. Principal axes: T 5.8010, Plg70.0000°, Azm350.0000°; N 0.7040, Plg1.0000°, Azm82.0000°; P -6.5060, Plg20.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***06*** *17:11:50.5±0.7, 602S×15077E, h47km±5km, mb5.0/23, MS4.7/6 Error ellipse: s-maj=5.3km s-min=4.1km az=135.0*

ISC 06 17:11:51.1±0.9, 604S±004×15068E±003, h48km±8km, h60km±1.7km:pP-P, n386, σ0.74/293, mb4.8/63, MS4.4/35, 83C-57D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83 226**		*e*P	**Pn**	**17 13 03.0**	**+1.7**
PMG	**Port Moresby**	**4.83 226**		*e*Pn	**Pn**	**17 13 03.4**	**+2.1**
HNR	**Honiara**	**9.79 111**		Pn	**Pn**	**17 14 07.8**	**-1.5**
	5.2nm,0.3s,baz=73,slow=1.3,SNR=5.7						
HNR				Sn	**Sn**	**17 15 58.5**	**+0.7**
	2.4nm,0.3s,baz=316,slow=5.1,SNR=2.7						
HNR				LR	LR	17 17 10.6	
	comp=Z,1μm,21.3s,baz=354,slow=34						
HNR	**Honiara**	**9.79 111**		P	**Pn**	**17 14 07.8**	**-1.5**
HNR						17 15 58.5	
HNR	**Honiara**	**9.79 111**		Pn	**Pn**	**17 14 07.8**	**-1.5**
HNR				Sn	**Sn**	**17 15 58.5**	**+0.7**
HNR				LR	LR	17 17 10.6	
CTA	**Charters Tower**	**14.61 197**		*e*P	**Pn**	**17 15 13.9**	**-1.1**
	16nm,1.5s						
CTA	**Charters Tower**	**14.61 197**		Pn	**Pn**	**17 15 13.8**	**-1.1**
	0.9nm,0.3s,baz=26,slow=15,SNR=9.4						
CTA				LR	LR	17 20 17.5	
	comp=Z,1μm,20.8s,baz=16,slow=35						
CTA	**Charters Tower**	**14.61 197**		*e*P	**Pn**	**17 15 13.9**	**-1.1**
CTA				pmax	pmax		
	comp=Z,16nm,1.5s						
CTAO	**Charters Tower**	**14.61 197**		*e*P	**Pn**	**17 15 14.9**	**-0.1**
KAKA	**Kakadu**	**19.16 248**		*e*P	**Pn**	**17 16 11.6**	**-0.5**
	comp=Z,37nm,0.4s						
GUMO	**Guam**	**20.34 344**		P	**P**	**17 16 24.3**	**+0.8**
	comp=Z,191nm,1.0s,baz=180,slow=7.6,SNR=13						
GUMO				LR	LR	17 22 52.1	
	comp=Z,815nm,19.3s,MS4.1,baz=96,slow=33						
GUMO	**Guam**	**20.34 344**		*e*Pn	**P**	**17 16 25.0**	**+1.5**
WRAB	**Tennant Creek**	**21.03 227**		P	**P**	**17 16 32.2**	**+1.2**
	comp=Z,588nm,0.5s,mb6.2,SNR=18						
WRAB	**Tennant Creek**	**21.03 227**		*e*P	**P**	**17 16 31.5**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,59nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**21.03 227**		*e*P	**P**	**17 16 31.5**	**+0.5**
	comp=Z,59nm,0.6s,mb5.1						
WB2	**Warramunga Arr**	**21.04 227**		*e*P	**P**	**17 16 31.6**	**+0.5**
WB2				*e*S	**S**	**17 20 22.9**	**+0.1**
WRA	**Warramunga Arr**	**21.05 227**		P	**P**	**17 16 31.4**	**+0.3**
	comp=Z,15nm,0.6s,mb4.5,baz=52,slow=11,SNR=116						
WRA				S	**S**	**17 20 22.5**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=56,slow=19,SNR=7.7						
WRA				PcP	PcP	17 20 37.6	+0.8
	comp=Z,2.0nm,0.4s,baz=39,slow=2.1,SNR=7.4						
WRA				ScP	ScP	17 24 12.6	+2.8
	comp=Z,3.7nm,1.1s,baz=55,slow=2.7,SNR=4.9						
WRA				LR	LR	17 25 08.8	
	comp=Z,871nm,19.0s,MS4.2,baz=45,slow=38						
WRA				PKiKP	PKiKP	17 28 21.3	-3.1
	comp=Z,0.3nm,0.5s,baz=313,slow=1.2,SNR=6.4						
WRA	**Warramunga Arr**	**21.05 227**		P	**P**	**17 16 31.4**	**+0.2**
WRA				S	**S**	**17 20 22.5**	**-0.5**
WRA						17 20 37.6	
WRA	**Warramunga Arr**	**21.05 227**		P	**P**	**17 16 31.4**	**+0.3**
WRA				S	**S**	**17 20 22.5**	**-0.5**
WRA				PcP	PcP	17 20 37.6	+0.8
WRA				ScP	ScP	17 24 12.6	+2.8
WRA				LR	LR	17 25 08.8	
ASAR	**Alice Springs**	**23.82 221**		P	**P**	**17 16 60.0**	**+0.1**
	comp=Z,14nm,0.6s,mb4.6,baz=62,slow=8.7,SNR=246						
ASAR				S	**S**	**17 21 12.0**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=265,slow=28,SNR=2.5						
ASAR				ScP	ScP	17 24 20.6	+3.7
	comp=Z,1.1nm,0.9s,baz=46,slow=4.0,SNR=4.6						
ASAR				PKiKP	PKiKP	17 28 22.9	-2.8
	comp=Z,0.4nm,0.7s,baz=99,slow=1.9,SNR=4.4						
ASAR	**Alice Springs**	**23.82 221**		P	**P**	**17 17 00.0**	**+0.2**
ASAR				S	**S**	**17 21 12.0**	**-0.4**
ASAR	**Alice Springs**	**23.82 221**		P	**P**	**17 16 60.0**	**+0.1**
ASAR				S	**S**	**17 21 12.0**	**-0.4**
ASAR				ScP	ScP	17 24 20.6	+3.7
BATI	**Baumata**	**27.05 259**		P	**P**	**17 17 28.8**	**-0.5**
	comp=Z,15nm,0.6s,mb4.7,baz=108,slow=9.6,SNR=3.4						
STKA	**Stephens Creek**	**27.07 197**		*e*P	**P**	**17 17 27.7**	**-1.5**
	comp=Z,23nm,1.3s,mb4.5						
STKA	**Stephens Creek**	**27.07 197**		P	**P**	**17 17 28.3**	**-0.9**
	comp=Z,12nm,0.7s,mb4.5,baz=2.3,slow=10,SNR=11						
STKA				LR	LR	17 27 47.0	
	comp=Z,1μm,20.3s,MS4.4,baz=290,slow=36						
FITZ	**Fitzroy Crossi**	**27.21 242**		*e*P	**P**	**17 17 31.2**	**+0.5**
	comp=Z,26nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**27.21 242**		P	**P**	**17 17 30.8**	**+0.1**
	comp=Z,8.0nm,0.5s,mb4.5,baz=62,slow=9.3,SNR=56						
FITZ				LR	LR	17 29 49.4	
	comp=Z,497nm,18.1s,MS4.1,baz=260,slow=40						
FORT	**Forrest**	**32.50 218**		*e*P	**P**	**17 18 18.3**	**+0.9**
	comp=Z,17nm,0.5s,mb5.2						
MBWA	**Marble Bar**	**33.52 240**		*e*P	**P**	**17 18 25.5**	**-0.9**
CBIJ	**Chichi jima**	**33.95 346**		P	**P**	**17 18 24.1**	**-5.9**
	comp=Z,50nm,0.7s,mb5.5,baz=267,slow=19,SNR=4.0						
CBIJ				LR	LR	17 30 52.9	
	comp=Z,592nm,21.2s,MS4.3,baz=148,slow=34						
AFI	**Afiamalu**	**37.75 105**		LR	LR	17 30 13.9	
	comp=Z,601nm,19.3s,MS4.4,baz=228,slow=30						
JOW	**Kunigami**	**39.23 327**		P	**P**	**17 19 15.9**	**+1.0**
	comp=Z,35nm,1.1s,mb5.0,baz=141,slow=16,SNR=3.5						
JOW				LR	LR	17 33 23.5	
	comp=Z,404nm,19.2s,MS4.3,baz=149,slow=33						
KLBR	**Kellerberrin**	**39.92 226**		*e*P	**P**	**17 19 20.6**	**-0.1**
	comp=Z,33nm,1.1s,mb5.0						
URZ	**Urewera**	**40.05 147**		P	**P**	**17 19 20.2**	**-1.4**
	comp=Z,4.3nm,0.5s,mb4.5,baz=6.0,slow=19,SNR=3.6						
JHJ	**Hachijo jima 2**	**40.29 346**		P	**P**	**17 19 18.4**	**-5.3**
	comp=Z,21nm,0.6s,mb5.0,baz=49,slow=19,SNR=3.2						
NWAO	**Narrogin (SRO)**	**41.02 225**		P	**P**	**17 19 30.4**	**+0.6**
	comp=Z,14nm,1.1s,mb4.5,baz=90,slow=8.1,SNR=3.2						
MUN	**Mundaring**	**41.24 227**		*e*P	**P**	**17 19 31.4**	**-0.2**
RPZ	**Rata Peaks**	**41.58 158**		LR	LR	17 35 18.0	
	comp=Z,719nm,18.0s,MS4.6,baz=227,slow=34						
YHNB	**Yeheng**	**41.78 318**		*e*P	**P**	**17 19 37.2**	**+1.1**
	comp=Z,71nm,1.4s,mb5.1						
MJAR	**Matsushiro Arr**	**43.94 345**		P	**P**	**17 19 53.2**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.6,baz=188,slow=6.5,SNR=3.8						
MJAR				ScP	ScP	17 25 29.5	+2.8
	comp=Z,3.2nm,0.9s,baz=175,slow=5.2,SNR=10						
MJAR				LR	LR	17 37 36.2	
	comp=Z,271nm,18.3s,MS4.2,baz=170,slow=35						
MAT	**Matsushiro**	**43.94 345**		P	**P**	**17 19 51.4**	**-2.0**
MAT				S	**S**	**17 26 31.0**	**+9.3**
SSE	**Sheshan**	**46.46 324**		P	**P**	**17 20 15.7**	**+2.2**
SSE				AP	pP	17 20 30.9	+4.3
SSE				PP	PP	17 22 04.7	+1.4
SSE				S	**S**	**17 26 59.5**	**+1.3**
SSE				XS	sS	17 27 26.3	+6.1
SSE				SS	SS	17 30 26.7	+1.9
SSE				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,66nm,9.9s						
SSE				LR	LR		
	comp=N,127nm,19.2s,MS4.2						
SSE				LR	LR		
	comp=E,196nm,19.2s,MS4.2						
SSE				LR	LR		
	comp=Z,269nm,14.4s,MS4.3						
QIZ	**Qiongzhong**	**47.31 303**		P	**P**	**17 20 21.0**	**+0.7**
QIZ				S	**S**	**17 27 10.3**	**-0.5**
QIZ				AMB	AMB		
	comp=Z,60nm,2.5s,mb5.1						
QIZ				AMB	AMB		
	comp=Z,354nm,3.0s						
QIZ				LR	LR		
	comp=N,337nm,35.1s						
QIZ				LR	LR		
	comp=E,252nm,24.6s						
QIZ				LR	LR		
	comp=Z,187nm,29.7s						
KSRS	**Korea Array**	**48.20 336**		P	**P**	**17 20 27.9**	**+1.1**
	comp=Z,8.8nm,0.9s,mb4.8,baz=156,slow=8.6,SNR=27						
KSRS				LR	LR	17 39 04.4	
	comp=Z,354nm,21.1s,MS4.3,baz=123,slow=34						
NJ2	**Nanjing**	**48.52 323**		*e*P	**P**	**17 20 31.2**	**+1.7**
NJ2				AP	pP	17 20 45.9	+3.2
NJ2				XP	sP	17 20 54.3	+6.0
NJ2				S	**S**	**17 27 27.5**	**0.0**
NJ2				XS	sS	17 27 53.5	+3.9
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,150nm,8.8s						
NJ2				LR	LR		
	comp=N,210nm,19.1s,MS4.5						
NJ2				LR	LR		

comp=E,400nm,19.2s,MS4.5
NJ2 LR LR
comp=Z,400nm,19.2s,MS4.4
RAR Rarotonga 50.24 113 LR LR 17 36 30.4
comp=Z,75nm,19.5s,MS3.7,baz=290,slow=30
ASAJ Asahikawa 50.45 352 P **P** **17 20 43.5 -0.4**
comp=Z,1.7nm,0.5s,mb4.4,baz=205,slow=10,SNR=4.1
DL2 Dalian 52.20 331 P **P** **17 21 01.4 +4.3**
DL2 S **S** **17 28 25.4 +7.0**
DL2 XS sS 17 28 51.5 +11
DL2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
DL2 AMB AMB
comp=Z,100nm,6.9s
DL2 LR LR
comp=N,120nm,17.8s,MS4.1
DL2 LR LR
comp=E,100nm,16.7s,MS4.1
DL2 LR LR
comp=Z,160nm,16.8s,MS4.1
PSI Prapat 52.42 278 P **P** **17 21 00.2 +0.9**
comp=Z,2.5nm,0.4s,mb4.5,baz=254,slow=9.8,SNR=2.8
PSI Prapat 52.42 278 P **P** **17 21 00.2 +0.9**
YSS Yuzh-Sakhalins 53.23 353 *e*P **P** **17 21 03.4 -1.2**
YSS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GYA Guiyang 53.50 309 P **P** **17 21 11.2 +4.2**
GYA AP pP 17 21 26.9 +6.6
GYA PP PP 17 23 12.7 +4.7
GYA SCP ScP 17 26 06.0 -1.5
GYA XS sS 17 29 05.2 +6.3
GYA SCS ScS 17 30 50.4 -2.4
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,120nm,5.9s
GYA LR LR
comp=N,540nm,19.4s,MS4.7
GYA LR LR
comp=E,500nm,19.8s,MS4.7
GYA LR LR
comp=Z,490nm,20.6s,MS4.5
CN2 Changchun 54.60 338 *e*P **P** **17 21 19.0 +4.3**
KMI Kunming 55.95 306 P **P** **17 21 28.1 +3.3**
KMI AP pP 17 21 44.9 +6.7
KMI PP PP 17 23 35.9 +5.8
KMI S **S** **17 29 10.5 +0.9**
KMI XS sS 17 29 37.6 +5.5
KMI AMB AMB
comp=Z,4.0nm,0.7s,mb4.6
KMI AMB AMB
comp=Z,105nm,5.0s
KMI LR LR
comp=N,251nm,12.7s
KMI LR LR
comp=E,229nm,18.4s
XAN Xi'an 56.09 318 P **P** **17 21 25.5 -0.1**
XAN AMB AMB
comp=Z,11nm,1.2s,mb4.8
XAN LR LR
comp=N,87nm,20.2s,MS4.0
XAN LR LR
comp=E,121nm,22.1s,MS4.0
XAN LR LR
comp=Z,362nm,21.9s,MS4.4
CMAR Chiang Mai Arr 56.51 297 P **P** **17 21 29.5 +0.6**
comp=Z,1.0nm,0.5s,mb4.1,baz=114,slow=4.9,SNR=4.4
CMAR LR LR 17 44 04.7
comp=Z,99nm,18.3s,MS3.9,baz=205,slow=34
CMAR Chiang Mai Arr 56.51 297⇑ *e*P **P** **17 21 32.2 +3.3**
KLR Kul'dur 57.47 345 *e*P **P** **17 21 30.2 -4.9**
CD2 Chengdu 57.97 312 *e*P **P** **17 21 40.8 +1.8**
CD2 XP sP 17 21 56.8 -1.2
CD2 PCP PcP 17 22 31.8 +1.1
CD2 PP PP 17 23 51.5 +3.6
CD2 PCS PcS 17 26 32.1 -0.1
CD2 S **S** **17 29 34.8 -1.2**
CD2 XS sS 17 30 02.2 +3.7
CD2 SCS ScS 17 31 21.1 -3.7
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
CD2 AMB AMB
comp=Z,50nm,5.2s
CD2 LR LR
comp=N,480nm,19.2s,MS4.8
CD2 LR LR
comp=E,370nm,16.8s,MS4.8
CD2 LR LR
comp=Z,520nm,20.8s,MS4.6
HHC Hu-ho-hao-te 58.85 326 *e*P **P** **17 21 48.5 +3.6**
HHC AP pP 17 22 04.6 +6.2
HHC PP PP 17 24 02.3 +6.7
HHC S **S** **17 29 49.6 +2.5**
HHC XS sS 17 30 15.8 +6.1
HHC SCS ScS 17 31 30.7 -0.1
HHC AMB AMB
comp=Z,12nm,0.9s,mb4.9
HHC AMB AMB
comp=Z,121nm,6.9s
HHC LR LR
comp=N,440nm,19.0s,MS4.7
HHC LR LR
comp=E,322nm,19.0s,MS4.7
HHC LR LR
comp=Z,430nm,17.8s,MS4.6
PETK Petropavlovsk- 59.22 5 P **P** **17 21 45.6 -1.7**
comp=Z,3.5nm,0.7s,mb4.5,baz=157,slow=6.6,SNR=10
PETK LR LR 17 43 29.0
comp=Z,207nm,21.2s,MS4.2,baz=192,slow=32
PETK Petropavlovsk- 59.22 5 P **P** **17 21 46.0 -1.2**
PPT Papeete 59.38 107 *e*S **S** **17 29 58.8 +4.0**
PPT *e*LQ 17 36 44.4
comp=Z,206nm,25.8s
PPT *e*LR LR 17 39 08.2
comp=Z,761nm,30.5s
PPT *e*LR LR 17 39 08.2
comp=Z,133nm,26.2s
PPT Papeete 59.38 107 LR LR 17 43 18.5
comp=Z,100nm,21.0s,MS3.9,baz=272,slow=32
TBI Tubuai 59.99 113 *e*S **S** **17 30 06.2 +3.6**
comp=Z,172nm,27.8s
TBI *e*LQ 17 37 13.8
comp=Z,678nm,33.2s
TBI *e*LR LR 17 39 45.7
comp=Z,276nm,32.5s
HIA Hailar 61.33 337 *e*P **P** **17 22 01.2 -0.5**
SONM Songino Array 66.27 329 P **P** **17 22 33.8 -0.5**
comp=Z,3.6nm,0.4s,mb4.7,baz=142,slow=5.2,SNR=36
SONM LR LR 17 50 53.0
comp=Z,326nm,21.3s,MS4.5,baz=110,slow=35
SEY Seymchan 68.79 1⇑ *e*P **P** **17 22 48.5 -1.4**
ZAK Zakamensk 69.47 330 *e*P **P** **17 22 53.9 -0.4**
ZAK *e* 17 23 16.4
ZAK pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
YAK Yakutsk 69.78 350⇑ *e*P **P** **17 22 54.9 -1.1**
YAK pmax pmax
comp=Z,27nm,2.2s,mb4.8
YAK Yakutsk 69.78 350 *e*P **P** **17 22 55.2 -0.9**
comp=Z,16nm,1.2s,mb4.8
BOD Bodaibo 70.21 340 *e*P **P** **17 22 56.0 -2.7**
MOY Mondy 71.40 330 *e*P **P** **17 23 06.8 +0.7**
MOY pmax pmax
comp=Z,18nm,1.6s,mb4.8
VNDA Vanda 71.68 177 P **P** **17 23 07.4 0.0**
comp=Z,2.0nm,0.8s,mb4.1,baz=327,slow=5.3,SNR=14
VNDA LR LR 17 49 49.2
comp=Z,171nm,20.3s,MS4.3,baz=74,slow=32
MIR Mirnyy 72.02 201⇑ *i*P **P** **17 23 09.0 -0.6**
MIR *i* pP 17 23 23.0 -0.5
MIR *i* 17 23 36.0
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.5
SBA Scott Base 72.27 176 *e*P **P** **17 23 17.2 +6.3**
SBA pmax pmax
comp=Z,19nm,1.4s,mb4.8
SBA Scott Base 72.27 176 *e*P **P** **17 23 17.2 +6.3**
comp=Z,19nm,1.4s,mb4.8
RKT Rikitea 73.27 112 *e*LR LR 17 46 03.0
comp=Z,608nm,39.0s
BILL Bilibino 74.72 6⇑ *e*P **P** **17 23 25.1 -0.3**
BILL *e* 17 26 10.3
BILL *e*S S 17 32 54.9 -2.9
BILL pmax pmax
comp=Z,18nm,1.1s,mb4.9

HVS Khovu-Aksy 74.91 327 *d*P **P** **17 23 26.6 -0.2**
HVS pmax pmax
comp=Z,76nm,1.3s,mb5.5
WMQ Urumqi 75.23 318 *e*P **P** **17 23 30.0 +1.1**
WMQ AP pP 17 23 46.5 +3.7
WMQ AMB AMB
comp=Z,6.0nm,0.8s,mb4.6
WMQ LR LR
comp=N,111nm,21.5s,MS4.4
WMQ LR LR
comp=E,148nm,20.2s,MS4.4
WMQ LR LR
comp=Z,146nm,23.0s,MS4.2
KDAK Kodiak Island 78.23 27 P **P** **17 23 43.5 -1.9**
comp=Z,6.0nm,0.8s,mb4.5,baz=338,slow=19,SNR=3.4
MK31 Makanchi Array 79.88 320 *e*P **P** **17 23 54.6 -0.1**
MKAR Makanchi Array 79.88 320 P **P** **17 23 53.7 -1.0**
comp=Z,1.0nm,0.4s,mb4.1,baz=105,slow=4.3,SNR=12
MKAR PKIKP PKiKP 17 29 22.8 -2.4
comp=Z,0.8nm,0.5s,baz=182,slow=26,SNR=4.1
MKAR LR LR 17 58 17.0
comp=Z,229nm,18.1s,MS4.6,baz=247,slow=35
MKAR Makanchi Array 79.88 320⇑ *e*P **P** **17 23 54.7 0.0**
MKAR Makanchi Array 79.88 320 P **P** **17 23 53.7 -1.0**
SLKM Skilak Lake 80.69 25 *e*P **P** **17 23 57.4 -1.4**
ZAA0 Zalesovo Array 81.02 327 *e*P **P** **17 23 59.0 -1.6**
ZALV Zalesovo Beam 81.02 327 P **P** **17 23 58.7 -2.0**
comp=Z,1.7nm,0.4s,mb4.3,baz=128,slow=6.2,SNR=10
ZALV LR LR 18 00 03.6
comp=Z,146nm,19.3s,MS4.3,baz=309,slow=36
ZAL Zalesovo 81.02 327 P **P** **17 23 58.7 -2.0**
NVS Novosibirsk 82.22 327 *e*P **P** **17 24 04.8 -2.2**
MCK McKinley 82.82 23 *e*P **P** **17 24 07.4 -2.5**
MCK pmax pmax
comp=Z,14nm,0.9s,mb5.0
MCK McKinley 82.82 23 *e*P **P** **17 24 07.4 -2.5**
comp=Z,14nm,0.9s,mb5.0
KURK Kurchatov 83.45 322 P **P** **17 24 12.4 -1.1**
comp=Z,74nm,1.3s,mb5.6,SNR=8.0
KURK Kurchatov 83.45 322⇑ *e*P **P** **17 24 12.5 -1.0**
KURK pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
MAW Mawson 83.62 203 P **P** **17 24 13.6 -0.5**
comp=Z,1.2nm,0.6s,mb4.2,baz=78,slow=7.8,SNR=4.2
MAW LR LR 17 57 54.0
comp=Z,258nm,20.7s,MS4.6,baz=69,slow=33
COLA College 83.78 22 *e*P **P** **17 24 11.6 -3.3**
QSPA South Pole Qui 83.93 180 P **P** **17 24 15.3 -0.2**
comp=Z,7.5nm,0.8s,mb4.9,baz=2.3,slow=2.8,SNR=26
COLD Coldfoot 84.12 20 *e*P **P** **17 24 16.4 -0.2**
comp=Z,85nm,1.2s,mb5.8
AML Almayashu 84.45 313 *e*P **P** **17 24 19.6 +0.9**
comp=Z,11nm,0.9s,mb5.0
EKS2 Erkin-Say 84.51 314 *e*P **P** **17 24 19.4 +0.4**
comp=Z,5.6nm,0.4s,mb5.0
EGAK Eagle 86.33 23 *e*P **P** **17 24 26.8 -0.9**
HYT Haines Junctio 86.51 28 *e*P **P** **17 24 28.0 -0.6**
DAWY Dawson 86.78 24 *e*P **P** **17 24 29.2 -0.6**
BVAR Borovoye Array 88.97 323 P **P** **17 24 38.5 -2.0**
comp=Z,1.7nm,0.8s,mb4.4,baz=108,slow=4.8,SNR=9.7
BVAR LR LR 18 07 25.9
comp=Z,182nm,18.9s,MS4.5,baz=95,slow=38
INK Inuvik 90.36 21 P **P** **17 24 45.4 -1.4**
comp=Z,2.8nm,0.8s,mb4.7,baz=272,slow=4.6,SNR=3.6
M01C Crescent City 90.42 48 ⇑P **P** **17 24 47.5 -0.1**
baz=90
P01C Double 8 Ranch 90.70 51 ⇑P **P** **17 24 49.2 +0.2**
baz=91
L02A Cave Junction 90.84 48 ⇓P **P** **17 24 50.1 +0.5**
baz=91
MCCM Marconi Confer 90.90 52 ⇓P **P** **17 24 50.0 +0.1**
baz=91
N02C Big Bar 90.90 49 ⇑P **P** **17 24 49.8 -0.1**
baz=91
I02A Mapleton 90.92 46 ⇓P **P** **17 24 49.9 0.0**
baz=91
K02A Glendale 91.00 47 ⇑P **P** **17 24 50.2 -0.1**
baz=91
J02A Umpqua 91.02 47 ⇓P **P** **17 24 50.5 +0.1**
baz=91
GASB Alder Springs 91.20 50 ⇑P **P** **17 24 51.7 +0.4**
baz=91
O02C Red Bluff 91.21 50 ⇑P **P** **17 24 51.9 +0.5**
baz=91
CVS Carmenet Viney 91.25 52 ⇓P **P** **17 24 51.7 +0.1**
baz=91
M02C Callahan 91.31 49 ⇓P **P** **17 24 51.8 +0.1**
baz=91
I03A Eugene 91.31 46 ⇑P **P** **17 24 52.1 +0.4**
baz=91
HUMO Hull Mountain 91.38 47 ⇓P **P** **17 24 52.3 +0.2**
baz=91
HUMO Hull Mountain 91.38 47 P **P** **17 24 52.0 0.0**
E03A Lebam 91.43 44 ⇑P **P** **17 24 52.4 +0.2**
baz=92
WDC Whiskeytown Da 91.45 50 ⇓P **P** **17 24 52.3 -0.1**
baz=92
YBH Yreka Blue Hor 91.45 48 *e*P **P** **17 24 52.5 +0.1**
YBH pmax pmax
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 91.45 48 ⇑P **P** **17 24 52.5 +0.1**
baz=92
YBH Yreka Blue Hor 91.45 48 *e*P **P** **17 24 52.5 0.0**
comp=Z,16nm,1.1s,mb5.3
SYO Syowa Base 91.80 200⇑ *e*P **P** **17 24 52.3 -1.2**
LHEM Herd Peak 91.81 49 P **P** **17 24 54.4 +0.3**
I04A Tendick Farm, 91.91 46 ⇑P **P** **17 24 54.1 -0.4**
baz=92
V03C Hunter Liggett 91.97 54 ⇑P **P** **17 24 55.5 +0.5**
baz=92
PACP Pacheco Peak 92.03 53 ⇓P **P** **17 24 55.4 +0.2**
baz=92
IRO Indian Ridge 92.05 46 P **P** **17 24 54.2 -1.0**
S04C Ingram Canyon, 92.05 53 ⇓P **P** **17 24 55.6 +0.3**
baz=92
J04A Umpqua Nationa 92.07 47 P **P** **17 24 55.8 +0.5**
baz=92,SNR=6.0
M04C Macdoel 92.11 48 ⇑P **P** **17 24 55.8 +0.3**
baz=92
L04A Klamath Falls 92.11 48 ⇓P **P** **17 24 55.8 +0.3**
baz=92
ORV Oroville 92.13 51 ⇑P **P** **17 24 55.8 +0.2**
baz=92
HATC Hat Creek Radi 92.29 49 ⇑P **P** **17 24 56.5 +0.1**
baz=92
U04C Hernandez Rese 92.37 54 ⇓P **P** **17 24 57.4 +0.6**
baz=92,SNR=5.1
PKD Parkfield 92.52 54 P **P** **17 24 58.1 +0.6**
baz=93,SNR=6.4
M05C Lookout 92.58 49 P **P** **17 24 57.6 0.0**
baz=93,SNR=7.1
LAVA Lava Cap Winer 92.64 51 P **P** **17 24 58.2 +0.2**
baz=93,SNR=6.4
E05A Randle 92.67 44 ⇑P **P** **17 24 57.7 -0.2**
baz=93
J05A Fort Rock 92.70 47 P **P** **17 24 58.4 +0.2**
baz=93,SNR=14
P05C Yuba Gap, Truc 92.79 51 ⇑P **P** **17 24 58.9 +0.2**
baz=93
S05C Merced 92.82 53 ⇑P **P** **17 24 59.3 +0.4**
baz=93
CMB Columbia Colle 92.84 52 *e*P **P** **17 24 58.6 -0.3**
CMB pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
CMB Columbia Colle 92.84 52 ⇓P **P** **17 24 59.1 +0.2**
baz=93
CMB Columbia Colle 92.84 52 *e*P **P** **17 24 58.6 -0.3**
comp=Z,4.6nm,0.9s,mb4.9
L05A Lakeview 92.88 48 P **P** **17 24 59.7 +0.7**
baz=93,SNR=6.1
K05A Summer Lake 92.90 48 P **P** **17 24 59.2 +0.2**
baz=93,SNR=13
PKM Peak Mountain 93.01 55 P **P** **17 25 01.2 +1.4**
baz=93,SNR=6.1
BEKR Beckwourth 93.03 50 ⇑P **P** **17 24 59.9 +0.1**
baz=93
CROR Criterion Ridg 93.05 45 P **P** **17 24 59.6 -0.1**
M06C Likely Place G 93.07 49 ⇓P **P** **17 25 00.2 +0.3**
baz=93
R05C Kirkwood Meado 93.15 52 ⇑P **P** **17 25 00.4 +0.1**
baz=93
E06A Yakima 93.20 44 ⇑P **P** **17 25 00.4 0.0**
baz=93
S06C San Francisco 93.25 52 P **P** **17 25 01.1 +0.3**
baz=93,SNR=12
MOD Modoc 93.26 48 P **P** **17 25 00.7 -0.1**
baz=93,SNR=7.9

MOD Modoc 93.26 48 *e*P **P** **17 25 00.7 -0.1**
comp=Z,21nm,1.3s,mb5.4
T06C Millerton Lake 93.28 53 P **P** **17 25 01.2 +0.2**
baz=93,SNR=5.8
K06A Valley Falls 93.38 47 P **P** **17 25 01.2 -0.1**
baz=93,SNR=7.5
WCN Washoe City 93.45 51 ⇓P **P** **17 25 01.9 +0.2**
baz=94
H06A Lindquist Farm 93.49 46 P **P** **17 25 01.6 -0.1**
baz=94,SNR=5.2
J06A Christmas Vall 93.49 47 P **P** **17 25 01.3 -0.5**
baz=94,SNR=9.2
I06A Prineville 93.51 46 P **P** **17 25 02.2 +0.4**
baz=94,SNR=6.6
N06A Buffalo Meadow 93.51 50 P **P** **17 25 01.9 0.0**
baz=94,SNR=7.9
BLG Laguna Peak 93.56 56 ⇑P **P** **17 25 02.4 0.0**
baz=94
R06C Coleville 93.62 52 ⇑P **P** **17 25 02.7 +0.2**
baz=94,SNR=6.4
KCC Kaiser Creek 93.62 53 P **P** **17 25 02.7 +0.1**
baz=94,SNR=13
VES Vestal, Richgr 93.69 55 ⇑P **P** **17 25 03.0 +0.1**
baz=94
HELL Mitchell Peak 93.81 54 P **P** **17 25 03.2 -0.2**
baz=94,SNR=10
A07A Ashnola River, 93.82 41 ⇑P **P** **17 25 03.4 +0.2**
baz=94
L07A Adell 93.99 48 P **P** **17 25 04.5 +0.3**
baz=94,SNR=8.9
G07A Ruggs Ranch, H 94.00 45 ⇑P **P** **17 25 03.7 -0.4**
baz=94
H07A Lands Inn, Kim 94.02 46 P **P** **17 25 04.1 -0.1**
baz=94,SNR=6.0
I07A Izee 94.03 46 P **P** **17 25 04.4 +0.2**
baz=94,SNR=7.9
CIS Catalina Islan 94.05 57 ⇓P **P** **17 25 04.7 +0.1**
baz=94
M07A Soldier Meadow 94.06 49 ⇓P **P** **17 25 04.6 +0.1**
baz=94
K07A Rock Creek Ran 94.11 48 P **P** **17 25 04.9 +0.2**
baz=94,SNR=6.7
FMP Fort Macarthur 94.17 57 ⇑P **P** **17 25 05.6 +0.5**
baz=94
N07B Gerlach 94.17 50 ⇓P **P** **17 25 05.4 +0.5**
baz=94
ISA Isabella 94.17 55 ⇑P **P** **17 25 05.2 +0.1**
baz=94
O07A Toulon 94.19 50 ⇑P **P** **17 25 05.0 -0.1**
baz=94
MWC Mount Wilson 94.40 56 *e*P **P** **17 25 06.7 +0.5**
MWC pmax pmax
comp=Z,33nm,1.1s,mb5.7
MWC Mount Wilson 94.40 56 *e*P **P** **17 25 06.7 +0.5**
comp=Z,33nm,1.1s,mb5.7
B08A Colville Reser 94.46 42 ⇑P **P** **17 25 05.3 -0.8**
baz=94
G08A Pilot Rock 94.50 45 ⇓P **P** **17 25 06.3 -0.1**
baz=95
EDW2 Edwards Air Fo 94.50 56 P **P** **17 25 07.5 +0.9**
baz=95,SNR=7.8
NVAR Mina Array Bea 94.51 52 P **P** **17 25 06.5 -0.2**
comp=Z,5.2nm,0.8s,mb5.0,baz=256,slow=6.7,SNR=34
S08C White Mtn Res 94.55 53 P **P** **17 25 07.3 +0.5**
baz=95,SNR=9.3
H08A Prairie City 94.66 46 ⇑P **P** **17 25 06.9 -0.2**
baz=95
M08A Happy Creek Ra 94.66 49 ⇑P **P** **17 25 07.2 -0.1**
baz=95
K08A Mann Creek Ran 94.67 48 ⇓P **P** **17 25 07.1 -0.1**
baz=95
I08A Drewsey 94.69 46 ⇓P **P** **17 25 07.1 -0.2**
baz=95
J08A Circle Bar Ran 94.72 47 ⇑P **P** **17 25 07.2 -0.2**
baz=95
BFSC Mount Baldy St 94.73 56 ⇑P **P** **17 25 07.7 0.0**
baz=95
LRMC Laurel Mountai 94.79 55 ⇓P **P** **17 25 08.3 +0.3**
baz=95
N08A GE Springer Mi 94.80 50 P **P** **17 25 09.3 +1.4**
baz=95,SNR=6.2
Q08A Gabbs 94.83 52 P **P** **17 25 08.5 +0.4**
baz=95,SNR=6.2
MPMC Manual Prospec 94.99 54 P **P** **17 25 09.5 +0.6**
baz=95,SNR=16
A09A Danville 95.00 41 ⇓P **P** **17 25 08.8 +0.3**
baz=95
E09A Wood Farm, Sta 95.15 44 ⇑P **P** **17 25 08.7 -0.7**
baz=95
K09A Rome 95.23 48 ⇑P **P** **17 25 10.1 +0.3**
baz=95
L09A Wilkinson Ranc 95.23 48 ⇓P **P** **17 25 09.6 -0.2**
baz=95
J09A Fry Pan Ranch, 95.24 47 ⇓P **P** **17 25 09.6 -0.3**
baz=95
B09A Rice 95.25 42 ⇑P **P** **17 25 09.6 -0.1**
baz=95
I09A Lost Marbles R 95.29 46 ⇑P **P** **17 25 09.7 -0.4**
baz=95
S09A Goldfield 95.31 53 P **P** **17 25 10.5 +0.2**
baz=95,SNR=27
G09A Cove 95.33 45 ⇑P **P** **17 25 10.4 +0.1**
baz=95
Q09A Carvers 95.41 52 ⇓P **P** **17 25 10.9 +0.2**
baz=96
R09A Tonopah 95.46 52 P **P** **17 25 11.5 +0.5**
baz=96,SNR=7.7
O09A Fish Creek Ran 95.48 50 ⇓P **P** **17 25 11.4 +0.4**
baz=96
GSC Goldstone 95.50 55 *e*P **P** **17 25 11.3 +0.1**
GSC pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
GSC Goldstone 95.50 55 ⇑P **P** **17 25 11.6 +0.4**
baz=96
GSC Goldstone 95.50 55 *e*P **P** **17 25 11.3 0.0**
comp=Z,2.5nm,0.7s,mb4.8
FURC Furnace Creek, 95.53 54 P **P** **17 25 11.6 +0.3**
baz=96,SNR=5.4
A10A Northport 95.67 41 ⇑P **P** **17 25 11.5 -0.1**
baz=96
MONP Monument Peak 95.68 58 ⇑P **P** **17 25 12.6 +0.5**
baz=96
PFO Pinyon Flat Ob 95.69 57 ⇑P **P** **17 25 11.9 -0.2**
baz=96
F10A Beach Ranch, E 95.76 44 P **P** **17 25 11.7 -0.5**
baz=96,SNR=5.4
D10A Wagner Farm, O 95.77 43 ⇓P **P** **17 25 11.8 -0.3**
baz=96
G10A Bishop Farm, J 95.80 45 P **P** **17 25 11.8 -0.6**
baz=96,SNR=12
S10A Tonopah Range, 95.82 53 P **P** **17 25 13.0 +0.4**
baz=96,SNR=12
K10A MacKenzie Ranc 95.86 48 ⇓P **P** **17 25 12.8 +0.2**
baz=96
HEC Hector,Ludlow 95.86 56 ⇑P **P** **17 25 13.0 +0.1**
baz=96
U10A Ash Meadows, A 95.95 54 ⇑P **P** **17 25 13.9 +0.6**
baz=96
H10A Noah's Angus R 96.03 46 ⇓P **P** **17 25 12.8 -0.7**
baz=96
TPNV Topopah Spring 96.05 54 *e*P **P** **17 25 13.6 -0.1**
TPNV pmax pmax
comp=Z,11nm,1.0s,mb5.2
TPNV Topopah Spring 96.05 54 ⇑P **P** **17 25 13.5 -0.1**
baz=96
TPNV Topopah Spring 96.05 54 *e*P **P** **17 25 13.6 -0.1**
comp=Z,11nm,1.0s,mb5.2
BELC Belle Mtn. 96.09 57 ⇑P **P** **17 25 14.4 +0.4**
baz=96
L10A Juniper Basin 96.12 48 ⇑P **P** **17 25 14.5 +0.6**
baz=96
G11A Walters Elk Ra 96.40 45 P **P** **17 25 14.2 -0.8**
baz=96,SNR=5.1
GMRC Granite Mounta 96.41 56 ⇑P **P** **17 25 15.9 +0.6**
baz=96,SNR=8.1
A11A Hall Mountain, 96.46 41 P **P** **17 25 15.8 +0.6**
baz=96,SNR=5.1
K11A Parker Ranch, 96.48 48 ⇓P **P** **17 25 15.1 -0.3**
baz=96
E11A Bogner Ranch, 96.48 44 ⇑P **P** **17 25 14.3 -1.1**
baz=96
BC3 Big Chuckw Mtn 96.53 57 ⇑P **P** **17 25 16.4 +0.5**
baz=97,SNR=5.9
I11A Placerville 96.57 47 ⇓P **P** **17 25 15.7 -0.2**
baz=97
Q11A Duckwater 96.61 52 ⇓P **P** **17 25 16.3 +0.2**
baz=97
R11A Troy Canyon, C 96.64 52 P **P** **17 25 16.9 +0.6**

baz=97,SNR=6.2
V11A Goodsprings 96.65 55 ⇑P **P 17 25 16.5 +0.1**
baz=97
O11A Cowboy Ranch, 96.66 50 ⇓P **P 17 25 17.2 +0.8**
baz=97
L11A Cat Creek Ranc 96.66 48 ⇓P **P 17 25 16.8 +0.5**
baz=97
IRM Iron Mountain 96.80 56 P **P 17 25 18.1 +1.0**
baz=97,SNR=6.9
T11A Corn Creek, Al 96.88 53 P **P 17 25 18.2 +0.8**
baz=97,SNR=5.9
V12A Nelson 97.12 55 ⇑P **P 17 25 19.0 +0.4**
baz=97
F12A Elk City 97.13 45 ⇑P **P 17 25 16.9 -1.4**
baz=97
N12A Clover Valley, 97.15 50 ⇑P **P 17 25 17.9 -0.7**
baz=97
J12A Stokes Ranch, 97.18 47 P **P 17 25 18.7 0.0**
baz=97,SNR=6.4
P12A McGill 97.21 51 ⇑P **P 17 25 18.9 0.0**
baz=97
M12A Wells 97.26 49 ⇓P **P 17 25 19.1 +0.1**
baz=97
K12A Draper Farm, C 97.30 48 ⇓P **P 17 25 19.1 -0.2**
baz=97
O12A Currie 97.36 50 ⇑P **P 17 25 20.3 +0.8**
baz=97
R12A Pony Springs, 97.41 52 ⇑P **P 17 25 19.4 -0.4**
baz=98
YKA Yellowknife Ar 97.50 28 P **P 17 25 18.4 -1.2**
comp=Z,0.8nm,0.3s,mb4.7,baz=271,slow=4.9,SNR=7.6
HLID Hailey 97.68 47 ⇓P **P 17 25 20.5 -0.4**
baz=98
HLID Hailey 97.68 47 *e*P **P 17 25 20.5 -0.4**
comp=Z,3.1nm,0.9s,mb4.8
D13A Huson 97.70 43 ⇑P **P 17 25 20.6 -0.3**
baz=98
B13A Whitefish 97.70 42 ⇓P **P 17 25 20.9 0.0**
baz=98
F13A Darby 97.77 45 ⇑P **P 17 25 20.7 -0.6**
baz=98
H13A Challis 97.81 46 P **P 17 25 21.1 -0.3**
baz=98,SNR=7.4
M13A Montello 97.82 49 ⇑P **P 17 25 21.3 -0.3**
baz=98
V13A Grand Canyon W 97.83 55 ⇓P **P 17 25 22.1 +0.4**
baz=98
G13A Cobalt 97.83 45 ⇓P **P 17 25 21.6 0.0**
baz=98
U13A Pakoon Wash 97.86 54 ⇑P **P 17 25 22.0 +0.1**
baz=98
W13A Hualapai Mount 97.88 55 ⇓P **P 17 25 22.6 +0.6**
baz=98
P13A Bates Ranch, G 97.90 51 ⇑P **P 17 25 22.6 +0.6**
baz=98
I13A Wildhorse Cree 97.90 47 P **P 17 25 21.9 0.0**
baz=98,SNR=9.9
R13A O'Grain Ranch, 97.90 52 ⇓P **P 17 25 22.7 +0.7**
baz=98
X13A Yucca 97.91 56 ⇑P **P 17 25 22.8 +0.6**
baz=98
T13A Saint George 97.92 54 ⇑P **P 17 25 22.7 +0.5**
baz=98
WALA Waterton Lakes 98.07 41 *e*P **P 17 25 21.8 -0.7**
comp=Z,4.3nm,0.8s,mb5.0
M14A Sheep Mountain 98.44 49 ⇓P **P 17 25 24.2 -0.1**
baz=98
U14A Mt Trumbull 98.49 54 ⇓P **P 17 25 25.2 +0.5**
baz=98
L14A Malta 98.53 49 ⇓P **P 17 25 25.1 +0.4**
baz=99
V14A Boquillas Ranc 98.53 55 ⇓P **P 17 25 25.5 +0.6**
baz=99
Y15A Casa Rosa Ranc 99.13 57 ⇓P **P 17 25 27.7 0.0**
baz=99
U15A North Rim 99.21 54 ⇓P **P 17 25 27.8 -0.2**
baz=99
V15A Kaibab Nationa 99.30 55 ⇓P **P 17 25 28.6 +0.3**
baz=99
BOZ Bozeman (W) 99.67 45 *e*P Pdif 17 25 29.4 -0.1
BOZ pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
BOZ Bozeman (W) 99.67 45 ⇑P Pdif 17 25 29.8 +0.2
baz=100
BOZ Bozeman (W) 99.67 45 *e*P Pdif 17 25 29.4 -0.2
comp=Z,1.7nm,0.9s
RRI2 Red Ridge 99.94 47 *e*P Pdif 17 25 31.1 +0.3
comp=Z,3.9nm,0.9s
TMUT Trail Mountain 100.07 51 *e*P Pdif 17 25 31.9 +0.6
EGMT Eagleton 100.86 42 ⇑P Pdif 17 25 34.5 -0.4
baz=101
Q18A Rafter H Ranch 100.91 51 ⇑P Pdif 17 25 34.7 -0.4
baz=101
S18A Hurst Farm, Bl 101.04 53 ⇑P Pdif 17 25 36.0 +0.3
baz=101
R18A Canyonlands Na 101.11 52 ⇓P Pdif 17 25 35.9 0.0
baz=101
PDAR Pinedale Array 101.24 48 P Pdif 17 25 35.5 -1.1
comp=Z,2.7nm,0.8s,baz=256,slow=1.7,SNR=19
S19A Harvey Farm, M 101.72 53 ⇓P Pdif 17 25 39.3 +0.6
baz=102
T19A Beclabito 101.83 54 ⇑P Pdif 17 25 39.4 +0.2
baz=102
MNTX Cornudas Mount 105.01 59 Pdif Pdif 17 25 51.0 -2.3
comp=Z,0.8nm,0.8s
TXAR Lajitas Array 106.58 61 PKiKP PKiKP 17 30 11.7 +0.1
comp=Z,0.1nm,0.5s,baz=207,slow=0.8,SNR=3.2
ARCES ARCESS Array B 107.42 342 PKiKP PKiKP 17 30 10.4 -1.5
comp=Z,1.3nm,0.4s,baz=96,slow=1.8,SNR=36
ARCES PKKPbc PKKPbc 17 41 25.5 -4.8
comp=Z,3.0nm,1.1s,baz=258,slow=4.5,SNR=3.8
OBN Obninsk 108.60 326⇑ *e*P Pdif 17 26 09.7 +0.5
OBN *e*PS PS 17 40 03.4 -2.8
OBN *e*SS SS 17 45 50.2 -3.1
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.7
ULM Lac du Bonnet 109.53 39 PKiKP PKiKP 17 30 15.5 -0.9
comp=Z,1.4nm,0.6s,baz=243,slow=4.6,SNR=3.8
AKASG Malin Array Be 114.25 323 PKP PKiKP 17 30 24.4 -0.9
comp=Z,1.4nm,0.4s,baz=55,slow=2.8,SNR=14
AKASG Malin Array Be 114.25 323 PKP PKiKP 17 30 24.4 -0.9
BOSA Boshof 117.19 234 PKP PKPdf 17 30 32.1 +0.3
comp=Z,2.6nm,0.9s,baz=27,slow=5.7,SNR=6.9
NB2 NORSAR Subarra117.33 339 PKPdf PKPdf 17 30 30.4 -0.6
comp=Z,1.7nm,0.6s,baz=47,slow=2.0
NOA NORSAR Array B117.33 339 PKP PKPdf 17 30 30.1 -0.9
comp=Z,1.8nm,0.8s,baz=47,slow=1.9,SNR=6.5
KOLS Kolonicke sedl 119.08 324 *i*PKP PKPdf 17 30 34.5 -0.2
KOLS Kolonicke sedl 119.08 324 *e*P PKPdf 17 30 34.5 -0.2
CRVS Cervenica-Dubn 119.57 324 *e*PKP PKPdf 17 30 39.2 +3.6
OKC Ostrava-Krasne 120.99 326 *e*PKPDF PKPdf 17 30 38.4 0.0
OKC AMS AMS 18 29 40.0
comp=Z,200nm,18.8s
DPC Dobruska-Polom 121.71 327 *e*PKPDF PKPdf 17 30 39.8 +0.1
DPC AMS AMS 18 24 20.0
comp=Z,200nm,20.7s
UPC Upice 121.79 328 *e*PKPDF PKPdf 17 30 39.9 0.0
MODS Modra-Piesok 122.24 325 *e*PKP PKPdf 17 30 41.1 +0.3
ZST Bratislava 122.44 325 *e*PKP PKPdf 17 30 41.4 +0.2
BSEG Bad Segeberg 122.49 333 *e*PKPdf PKPdf 17 30 41.1 0.0
PVCC Panska Ves 122.54 328 *e*PKPDF PKPdf 17 30 42.1 +0.8
PVCC AMS AMS 18 23 00.0
comp=Z,200nm,20.8s
BRG Berggiesshubel 122.66 329 *e*PKP PKPdf 17 30 41.7 +0.2
comp=Z,9.4nm,1.0s
BRG
comp=N,150nm,16.3s
BRG
comp=E,202nm,29.6s
BRG
comp=Z,155nm,27.9s
TREC Trest 122.75 327 *e*PKPDF PKPdf 17 30 41.9 +0.2
TREC AMS AMS 18 24 20.0
comp=Z,200nm,15.5s
SCHQ Schefferville 122.80 25 PKP PKPdf 17 30 40.8 -0.9
comp=Z,5.8nm,0.8s,baz=210,slow=4.3,SNR=5.7
PRU Pruhonice 122.86 328 *e*PKPDF PKPdf 17 30 41.9 -0.1
PRU AMS AMS 18 25 10.0
comp=Z,200nm,17.3s
CLL Collm 122.88 330 *i*PKIKP PKPdf 17 30 41.6 -0.3
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL MLR MLR
comp=Z,100nm,20.9s,MS4.5
CLL Collm 122.88 330 *e*PKPdf PKPdf 17 30 41.6 -0.3
CLL Collm 122.88 330 *i*PKPdf PKPdf 17 30 41.6 -0.3
comp=Z,9.0nm,1.1s
CLL LmV 17 23 00.0
comp=Z,100nm,20.9s
CLL *e*pPKPdf pPKPdf 17 31 02.0 +5.3
CLL *e*sPKPdf 17 31 09.0
CLL *e*PS PS 17 42 29.0 +12
CLL *e*PPS 17 43 47.0
CLL *e*SS SS 17 49 20.0 +20
CLL Collm 122.88 330 *i*PKP PKPdf 17 30 41.6 -0.3
CLL *e*pPKP pPKPdf 17 31 02.0 +5.3
CLL LR LR
comp=Z,100nm,20.9s,MS4.5
CONA Conrad Observa 123.28 325⇓ *i*P PKPdf 17 30 43.0 +0.1
comp=Z,2.9nm,0.9s
CSNA Conrad Observa 123.28 325⇓ *i*P PKPdf 17 30 43.1 +0.2
comp=Z,4.0nm,1.1s
NKC Novy Kostel 123.81 329 *e*PKPDF PKPdf 17 30 44.2 +0.4
NKC AMS AMS 18 24 00.0
comp=Z,200nm,19.0s
CLZ Clausthal 123.83 332 *e*PKPdf PKPdf 17 30 44.9 +1.2
KHC Kasperske Hory 123.87 327 *e*PKPDF PKPdf 17 30 44.1 +0.2
KHC AMS AMS 18 25 50.0
comp=Z,200nm,20.0s
KHC Kasperske Hory 123.87 327 *e*P PKPdf 17 30 44.0 +0.1
KHC LR LR
comp=Z,200nm,20.0s,MS4.8
GEC2 GERESS Array S 123.97 327 *e*PKPdf PKPdf 17 30 43.9 -0.2
GERES GERESS Array B 123.97 327 PKP PKPdf 17 30 43.6 -0.5
comp=Z,2.0nm,0.6s,baz=355,slow=1.6,SNR=20
MOX Moxa 123.98 330 *e*PKPdf PKPdf 17 30 44.3 +0.2
ROTZ Rotzenmuhle 124.22 329 *e*PKPdf PKPdf 17 30 44.8 +0.2
WET Wettzell 124.24 328 *e*PKPdf PKPdf 17 30 45.0 +0.4
SOKA Soboth 124.43 324⇑ *i*P PKPdf 17 30 44.5 -0.6
comp=Z,7.5nm,1.3s
GRA1 Grafenberg Arr 124.77 329 *e*PKPdf PKPdf 17 30 45.9 +0.3
GRF Grafenberg Arr 124.77 329 *e*PKPdf PKPdf 17 30 45.9 +0.3
KBA Koelnbreinsper 125.18 325⇓ *i*P PKPdf 17 30 46.0 -0.5
comp=Z,8.8nm,1.2s
FRNY Flat Rock 125.47 38 *e*PKPdf PKPdf 17 30 46.3 -0.8
FUR Furstenfeldbru 125.67 328 *e*PKPdf PKPdf 17 30 48.0 +0.6
TNS Taunus Mts 125.81 331 *e*PKPdf PKPdf 17 30 47.7 +0.1
WTTA Wattenberg 126.02 326⇓ *i*P PKPdf 17 30 48.3 +0.2
comp=Z,17nm,0.9s
MDV Middlebury 126.15 38 *e*PKPdf PKPdf 17 30 48.4 0.0
MOTA Moosalm 126.26 327⇑ *i*P PKPdf 17 30 48.6 0.0
comp=Z,7.1nm,1.0s
STU Stuttgart 126.38 329 *e*PKPdf PKPdf 17 30 49.1 +0.4
FETA Feichten 126.66 327⇑ *i*P PKPdf 17 30 50.1 +0.8
comp=Z,15nm,1.1s
MEM Membach 126.69 333 PKP PKPdf 17 30 49.7 +0.4
DAVA Damuels 126.96 327⇑ *i*P PKPdf 17 30 50.6 +0.7
comp=Z,6.5nm,1.2s
BFO Black Forest 127.11 329 *e*PKPdf PKPdf 17 30 50.4 +0.3
WLF Walferdange 127.28 332 PKP PKPdf 17 30 52.0 +1.5
CFAA Coronel Fontan 127.28 138 PKP PKPdf 17 30 50.4 -0.7
comp=Z,0.2nm,0.5s,baz=256,slow=4.2,SNR=2.9
TSUM Tsumeb 127.44 240 *e*PKPdf PKPdf 17 30 52.6 +0.9
CDF Champ du Feu 127.58 330 *e*PKP1 PKPdf 17 30 50.3 -0.7
GIVF Givet 127.59 333 *e*PKP1 PKPdf 17 30 50.7 -0.3
DOU Dourbes 127.70 333 PKP PKPdf 17 30 52.1 +0.9
BAIF Baives 127.90 333 *e*PKP1 PKPdf 17 30 51.4 -0.2
HINF Hinteralfeld 128.19 330 *e*PKP1 PKPdf 17 30 51.4 -0.8
comp=Z,52nm,1.5s
HAU Haudompre 128.32 330 *e*PKP1 PKPdf 17 30 51.8 -0.7
HAU *e*MLR MLR
comp=Z,179nm,20.5s,MS4.4
HAU Haudompre 128.32 330 *e*PKP PKPdf 17 30 51.8 -0.7
HAU LR LR
comp=Z,180nm,20.5s,MS4.7
MEZF Maizieres J'vi 128.61 331 *e*PKP1 PKPdf 17 30 52.9 -0.1
CABF La Chapelle 129.38 329 *e*PKP1 PKPdf 17 30 54.7 +0.2
comp=Z,21nm,1.0s
LPL La Plagne 129.76 327 *e*PKP1 PKPdf 17 30 55.3 0.0
LPG La Plagne 129.77 327 *e*PKP1 PKPdf 17 30 55.3 0.0
LOR Lormes 130.05 331 *e*PKP1 PKPdf 17 30 55.3 -0.5
LOR *e*MLR MLR
comp=Z,201nm,22.8s,MS4.5
LOR MLR MLR
comp=Z,126nm,22.2s
LOR Lormes 130.05 331 *e*PKP PKPdf 17 30 55.3 -0.5
LOR LR LR
comp=Z,130nm,22.3s,MS4.6
BNI Bardonecchia 130.09 327 *e*PKIKP PKPdf 17 30 55.6 -0.3
PGF Pioggiola 130.32 323 *e*PKP1 PKPdf 17 30 56.4 0.0
comp=Z,7.4nm,0.5s
SSF Saint Saulge 130.36 331 *e*PKP1 PKPdf 17 30 55.8 -0.6
comp=Z,41nm,1.5s
SMF Signal de Mont 130.49 330 *e*PKP1 PKPdf 17 30 56.2 -0.4
comp=Z,30nm,1.3s
ORIF Oris-en-Rattie 130.61 327 *e*PKP1 PKPdf 17 30 56.7 -0.2
ORIF *e*MLR MLR
comp=Z,216nm,22.0s,MS4.5
AVF Avril sur Loir 130.63 331 *e*PKP1 PKPdf 17 30 56.1 -0.8
FLN La Foliniere 130.91 335 *e*PKP1 PKPdf 17 30 56.9 -0.5
FLN *e*MLR MLR
comp=Z,142nm,19.8s,MS4.4
FLN La Foliniere 130.91 335 *e*PKP PKPdf 17 30 56.9 -0.5
FLN LR LR
comp=Z,140nm,19.8s,MS4.7
BGF Bois d'Agland 131.04 331 *e*PKP1 PKPdf 17 30 57.2 -0.5
FRF La Foret Royal 131.06 326 *e*PKP1 PKPdf 17 30 56.9 -0.9
VIVF Saint-Julien-I 131.29 328 *e*PKP1 PKPdf 17 30 57.8 -0.4
comp=Z,36nm,1.5s
SMRF Simiane la Rot 131.39 327 *e*PKP1 PKPdf 17 30 58.0 -0.4
comp=Z,46nm,1.4s
TCF Toulx Ste Croi 131.54 331 *e*PKP1 PKPdf 17 30 58.6 0.0
comp=Z,32nm,1.2s
LPAZ La Paz 135.66 121 PKP PKPdf 17 31 07.1 -0.1
comp=Z,0.9nm,0.5s,baz=0.0,slow=1.0,SNR=3.9
SDV Santo Domingo 138.96 83 *e*PKPdf PKPdf 17 31 13.3 -0.1
SIV San Ignacio 141.70 125 PKiKP 17 31 10.8
comp=Z,0.9nm,0.4s,baz=284,slow=2.6,SNR=5.4
SIV PKP PKPdf 17 31 17.8 -0.5
comp=Z,1.2nm,0.4s,baz=230,slow=7.7,SNR=5.2
HUMP Col San Antoni 142.40 68 *e*PKPdf PKPdf 17 31 15.8 -3.7
PCRV Puerto La Cruz 144.81 81 PKP PKPdf 17 31 21.2 -2.6
comp=Z,21nm,1.0s,baz=324,slow=4.3,SNR=8.8
TOA0 Torodi Ar. Sit 148.64 285 *e*PKPdf PKPdf 17 31 33.7 +3.4
TORD Torodi Ar. Bea 148.64 285 PKP PKPdf 17 31 29.2 -1.0
comp=Z,25nm,0.8s,baz=128,slow=1.6,SNR=18
TORD PKPbc PKPbc 17 31 33.4 -0.6
comp=Z,20nm,0.5s,baz=65,slow=1.4,SNR=31
TORD Torodi Ar. Bea 148.64 285 PKP PKPdf 17 31 29.2 -1.0
TORD PKPbc PKPbc 17 31 33.4 -0.6
BDFB Brasilia 151.60 140 PKPbc PKPbc 17 31 40.5 -0.6
comp=Z,3.4nm,0.4s,baz=214,slow=5.4,SNR=13
DBIC Dimbokro 155.68 273 PKPbc PKPdf 17 31 50.1 +9.4
comp=Z,2.8nm,0.4s,baz=93,slow=3.7,SNR=13
DBIC PKPab PKPab 17 32 07.5 +0.3
comp=Z,4.6nm,0.4s,baz=66,slow=5.1,SNR=14

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*ISCJB **06** 17:15:26.7±0.8, 4829S±0.10×870W±03, h10km, mb4.0/8, MS4.2/4, Error ellipse: s-maj=26.8km s-min=13.6km az=5.9*
*IDC **06** 17:15:26.0±0.8, 4835S×8734W, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.1/19, mbtmp4.2/7, MS4.1/4, Ms1 4.1/4, ms1mx3.5/24, Error ellipse: s-maj=41.8km s-min=18.3km az=93.0*
*NEIC **06** 17:15:27.2±0.6, 4832S×8721W, h10km, mb3.9/1, Error ellipse: s-maj=21.9km s-min=13.3km az=111.0*
ISC 06 17:15:28.4±0.8, 4830S±009×871W±03, h10km, n20, σ0°83/13, mb4.0/8, MS4.2/4, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	**Tornquist** 5.6nm,1.0s	**20.89**	**70**	*e*P	**P**	**17 20 09.2**	**-1.4**
CFAA	**Coronel Fontan** 0.2nm,0.3s,mb3.0,baz=210,slow=12,SNR=4.1	**21.97**	**47**	P	**P**	**17 20 22.9**	**+0.7**
LPAZ	**La Paz** 1.1nm,0.7s,mb3.9,baz=195,slow=8.7,SNR=5.3	**35.52**	**32**	P	**P**	**17 22 26.0**	**+0.7**
LPAZ	**La Paz** 5.1nm,0.7s,mb4.3,baz=290,slow=4.3,SNR=3.7	**35.52**	**32**	P	**P**	**17 22 26.0**	**+0.7**
ATAH	**Atahualpa** 3.6nm,1.1s,mb3.9,baz=101,slow=7.7,SNR=4.7	**41.81**	**13**	P	**P**	**17 23 18.3**	**+0.1**
QSPA	**South Pole Qui** 3.6nm,1.1s,mb3.9,baz=101,slow=7.7,SNR=4.7	**41.94**	**180**	P	**P**	**17 23 18.6**	**+0.1**
VNA2	**Neumayer--Watz** VNA2	**42.08**	**151**	*e* *e*	**P**	**17 23 21.1** 17 23 27.5	**+1.3**
SNAA	**Sanae** SNAA	**43.34**	**153**	*e* *e*	**P**	**17 23 30.7** 17 23 36.6	**+0.7**
SNAA	**Sanae** 1.6nm,0.9s,mb3.8,baz=273,slow=3.1,SNR=13	**43.34**	**153**	P	**P**	**17 23 29.6**	**-0.4**
BDFB	**Brasilia** comp=Z,36nm,20.4s,MS3.3,baz=182,slow=36	**45.66**	**58**	LR	**P**	17 42 57.4	
MAW	**Mawson** 3.5nm,0.7s,mb4.6,baz=211,slow=8.5,SNR=4.2	**62.22**	**167**	P	**P**	**17 25 48.4**	**-1.2**
URZ	**Urewera** comp=Z,129nm,20.2s,MS4.1,baz=235,slow=31	**66.05**	**239**	LR	LR	17 49 33.8	
TXAR	**Lajitas Array** 1.8nm,0.9s,mb4.0,baz=167,slow=7.3,SNR=12	**78.69**	**345**	P	**P**	**17 27 30.5**	**+0.1**
TXAR	**Lajitas Array**	**78.69**	**345**	P	**P**	**17 27 30.5**	**+0.1**
PDAR	**Pinedale Array** 1.0nm,1.0s,mb4.2,baz=155,slow=4.9,SNR=5.2	**92.82**	**344**	P	**P**	**17 28 39.8**	**-0.7**
PDAR	comp=Z,284nm,21.9s,MS4.7,baz=261,slow=32			LR	LR	18 04 06.5	
ULM	**Lac du Bonnet** comp=Z,212nm,19.0s,MS4.7,baz=266,slow=34	**98.46**	**354**	LR	LR	18 11 41.4	
MJAR	**Matsushiro Arr** 1.8nm,0.7s,baz=146,slow=4.3,SNR=5.3	**145.04**	**267**	PKP	PKPdf	17 35 02.7	-2.7
CMAR	**Chiang Mai Arr** 3.8nm,1.1s,baz=218,slow=3.0,SNR=12	**149.83**	**191**	PKPbc	PKPbc	17 35 17.1	-1.6
CHTO	**Chiang Mai**	**150.18**	**192**	*e*PKPbc	PKPbc	17 35 18.5	-1.0
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=204,slow=3.3,SNR=5.0	**172.39**	**39**	PKP	PKPdf	17 35 34.1	-2.2

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*NEIC **06** 17:34:44.5±1.0, 285S×14173E, h10km, mb3.9/1, Error ellipse: s-maj=32.0km s-min=15.1km az=100.0*
IDC 06 17:34:43.0±1.8, 282S×14175E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/16, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=58.7km s-min=26.5km az=91.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek** 9.0nm,1.1s	**18.48**	**202**	*e*P	Pn	17 38 59.9	-0.8
WB2	**Warramunga Arr**	**18.49**	**202**	*e*P	Pn	17 39 00.6	-0.2
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=25,slow=12,SNR=21	**18.50**	**202**	P	Pn	17 38 59.8	-1.0
FITZ	**Fitzroy Crossi** 4.1nm,0.8s,baz=32,slow=14,SNR=3.8	**21.91**	**225**	P	P	17 39 38.2	+0.2
ASAR	**Alice Springs** 0.9nm,0.6s,baz=32,slow=12,SNR=13	**22.07**	**199**	P	P	17 39 40.1	+0.4
STKA	**Stephens Creek** 1.1nm,0.7s,baz=29,slow=13,SNR=1.9	**28.91**	**180**	P	P	17 40 43.6	-0.1
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=111,slow=6.6,SNR=5.7	**71.75**	**321**	P	P	17 46 07.0	-0.1
LPAZ	**La Paz** 1.6nm,0.7s,baz=220,slow=4.7,SNR=7.4	**144.89**	**124**	PKP	PKPdf	17 54 23.9	+0.8

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*NEIC **06** 17:58:20.8±0.5, 5480N×16028E, h10km, mb4.2/2, Error ellipse: s-maj=20.1km s-min=9.4km az=136.0*
*MOS **06** 17:58:26.7±0.7, 5402N×161.18E, h59km, mb4.4/3, Error ellipse: s-maj=20.6km s-min=8.1km az=68.8*
*ISCJB **06** 17:58:27.2±0.4, 5407N±002×161.10E±007, h68km±5km, mb3.8/13, Error ellipse: s-maj=7.6km s-min=3.0km az=24.2*
*KRSC **06** 17:58:27.8±0.5, 5411N×16090E, h61km±59km, ML4.4*
*IDC **06** 17:58:29.1±2.0, 5473N×16029E, h81km±20km, mb3.5/10, mb1 3.8/12, mb1mx3.5/24, mbtmp3.5/12, Error ellipse: s-maj=26.8km s-min=14.8km az=142.0*
ISC 06 17:58:28.3±0.4, 5407N±003×16107E±007, h61km±5km, n47, σ0°81/69, mb3.9/13, 2C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.62**	**38**	*i*P	**Pn**	**17 58 42.2**	**+0.5**
MKZ				*i*S	**Sn**	**17 58 52.1**	**+0.6**
KII	**Karymskiy**	**0.96**	**269**	*i*P	**Pn**	**17 58 45.4**	**-0.4**
SPN	**Mys Shipunski**	**1.16**	**213**	*i*P	**Pn**	**17 58 48.1**	**-0.3**
SPN				*i*S	**Sn**	**17 59 02.7**	**-0.7**
TUMR	**Tumrok**	**1.33**	**337**	*i*P	**Pn**	**17 58 50.8**	**+0.1**
TUMR				*i*S	**Sn**	**17 59 07.1**	**-0.3**
NLC	**Nalytchevo**	**1.37**	**229**	*i*P	**Pn**	**17 58 51.0**	**-0.2**
NLC				*i*S	**Sn**	**17 59 07.7**	**-0.7**
AVH	**Avacha**	**1.61**	**241**	*i*P	**Pn**	**17 58 54.9**	**+0.5**
AVH				*i*S	**Sn**	**17 59 14.9**	**+0.8**
KMNR	**Kamenistaya**	**1.76**	**344**	*i*P	**Pn**	**17 58 56.9**	**+0.5**
KMNR				*i*S	**Sn**	**17 59 18.8**	**+1.1**
PET	**Petropavlovsk**	**1.78**	**235**⇑	*i*PN	**Pn**	**17 58 57.0**	**+0.2**
PET				*e*S	**Sn**	**17 59 18.5**	**+0.1**
PET	comp=Z,483nm,0.4s			pmax	pmax		
PET	comp=N,2μm,0.6s			smax			
PET	comp=N,2μm,0.7s			smax			
PET	comp=E,2μm,0.5s			smax			
PET	**Petropavlovsk**	**1.78**	**235**	*i*P	**Pn**	**17 58 56.9**	**+0.1**
PET				*i*S	**Sn**	**17 59 18.1**	**-0.3**
PET	**Petropavlovsk**	**1.78**	**235**	*e*P	**Pn**	**17 58 56.6**	**-0.2**
GNL	**Ganaly**	**1.89**	**260**	*i*P	**Pn**	**17 58 58.4**	**+0.2**
GNL				*i*S	**Sn**	**17 59 20.5**	**-0.5**
BZMR	**Bezymyannaya**	**1.90**	**350**	*i*P	**Pn**	**17 58 58.9**	**+0.6**
BZMR				*i*S	**Sn**	**17 59 21.1**	**-0.1**
ZLN	**Zelenaya**	**1.96**	**356**	*i*P	**Pn**	**17 58 59.7**	**+0.6**
ZLN				*i*S	**Sn**	**17 59 23.5**	**+0.9**
KPT	**Kopyto**	**1.96**	**346**	*i*P	**Pn**	**17 58 59.3**	**+0.1**
KPT				*i*S	**Sn**	**17 59 22.4**	**-0.3**
KOZ	**Kozyrevsk**	**2.11**	**341**	*i*P	**Pn**	**17 59 01.3**	**+0.1**
KOZ				*i*S	**Sn**	**17 59 26.3**	**+0.1**
KOZR	**Kozyr**	**2.11**	**342**	PN	**Pn**	**17 59 01.3**	**+0.1**
KOZR				S	**Sn**	**17 59 26.3**	**0.0**
KRSR	**Krestovskiy**	**2.17**	**353**	*i*P	**Pn**	**17 59 02.3**	**+0.3**
KRSR				*i*S	**Sn**	**17 59 26.8**	**-1.0**
PETK	**Petropavlovsk-** comp=E,30nm,0.3s,baz=70,slow=18,SNR=437	**2.23**	**246**	P	**Pn**	**17 59 02.4**	**-0.4**
PETK				S	**Sn**	**17 59 32.1**	**+2.8**
PETK	**Petropavlovsk-** comp=E,33nm,0.3s,baz=269,slow=30,SNR=11	**2.23**	**246**	*e*P	**Pn**	**17 59 02.8**	**0.0**
RUS	**Russkaya**	**2.25**	**224**	*i*P	**Pn**	**17 59 02.6**	**-0.5**
RUS				*i*S	**Sn**	**17 59 27.9**	**-1.8**
KLY	**Klyuchi**	**2.26**	**354**	*i*P	**Pn**	**17 59 03.2**	**-0.1**
KLY				*i*S	**Sn**	**17 59 29.1**	**-0.9**
GRL	**Gorelyy**	**2.36**	**231**	*e*P	**Pn**	**17 59 05.6**	**+1.0**
GRL				*i*S	**Sn**	**17 59 32.9**	**+0.6**
KBTR	**Krutoberegovo**	**2.37**	**24**	*e*P	**Pn**	**17 59 04.9**	**+0.2**
KBTR				*i*S	**Sn**	**17 59 31.3**	**-1.2**
SRDR	**Sredinnyy**	**2.38**	**342**	*i*P	**Pn**	**17 59 04.4**	**-0.5**
SRDR				*i*S	**Sn**	**17 59 31.6**	**-1.3**
SRKR	**Sorokina**	**2.59**	**1**	*i*P	**Pn**	**17 59 08.1**	**+0.4**
SRKR				*i*S	**Sn**	**17 59 37.8**	**-0.2**
MIPR	**Malaya Ipel'ka**	**3.16**	**237**	P	**Pn**	**17 59 15.8**	**+0.3**
SKR	**Severo-Kuril's**	**4.55**	**224**	*e*PN	**Pn**	**17 59 33.9**	**-0.7**
BILL	**Bilibino**	**14.23**	**8**⇑	*e*P	**Pn**	**18 01 47.9**	**+1.6**
BILL	comp=Z,5.0nm,1.2s			pmax	pmax		
ASAJ	**Asahikawa** comp=Z,0.3nm,0.3s,baz=200,slow=24,SNR=4.6	**15.63**	**238**	P	**Pn**	**18 02 03.9**	**-0.6**
YAK	**Yakutsk**	**18.26**	**308**	*d*P	**Pn**	**18 02 32.7**	**-4.3**
YAK	comp=Z,8.0nm,0.7s			pmax	pmax		
VLA	**Vladivostok**	**22.03**	**252**	*e*P	**P**	**18 03 18.7**	**+1.3**
VLA	comp=Z,8.0nm,1.0s,mb4.1			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,0.7nm,0.5s,mb3.4,baz=12,slow=12,SNR=3.5	**23.61**	**231**	P	**P**	**18 03 32.3**	**-1.2**
YKA	**Yellowknife Ar** comp=Z,1.3nm,0.6s,mb3.8,baz=73,slow=17,SNR=3.6	**42.05**	**44**	P	**P**	**18 06 11.8**	**-1.5**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.5s,mb3.7,baz=54,slow=7.8,SNR=5.9	**48.26**	**295**	P	**P**	**18 06 56.3**	**-6.4**
NVAR	**Mina Array Bea** comp=Z,1.5nm,0.6s,mb4.2,baz=310,slow=7.5,SNR=14	**54.87**	**71**	P	**P**	**18 07 52.6**	**+0.5**
ELK	**Elko**	**54.94**	**67**	*e*P	**P**	**18 07 53.2**	**+0.6**
ELK	comp=Z,2.0nm,0.6s			pmax	pmax		
ELK	**Elko** comp=Z,1.6nm,0.6s,mb4.2	**54.94**	**67**	*e*P	**P**	**18 07 53.2**	**+0.6**
PDAR	**Pinedale Array** comp=Z,1.3nm,0.8s,mb4.0,baz=328,slow=3.0,SNR=9.7	**56.54**	**62**	P	**P**	**18 08 03.3**	**-0.7**
ULM	**Lac du Bonnet** comp=Z,1.7nm,0.4s,mb4.5,baz=309,slow=6.0,SNR=4.7	**57.73**	**48**	P	**P**	**18 08 10.2**	**-2.1**
SRU	**San Rafael**	**58.65**	**66**	*e*P	**P**	**18 08 19.3**	**+0.4**
SRU	comp=Z,2.0nm,0.8s,mb4.2			pmax	pmax		
SRU	**San Rafael** comp=Z,1.7nm,0.8s,mb4.1	**58.65**	**66**	*e*P	**P**	**18 08 19.3**	**+0.5**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.5s,mb3.7,baz=14,slow=5.7,SNR=2.5	**62.76**	**344**	P	**P**	**18 08 40.0**	**-6.5**
TXAR	**Lajitas

WRAB	Tennant Creek	77.20 206	*e*P	P	18 10 22.0	+6.7
WRA	Warramunga Arr	77.22 206	P	P	18 10 16.2	+0.8
	comp=Z,0.2nm,0.5s,mb3.3,baz=18,slow=6.0,SNR=6.3					
WRA	Warramunga Arr	77.22 206	*i* P	P	18 10 16.8	+1.4
ASAR	Alice Springs	80.89 205	P	P	18 10 36.8	+1.4
	comp=Z,0.4nm,1.1s,mb3.3,baz=9.8,slow=5.6,SNR=3.4					

IDC 06 18:04:05.0±59.0,2112S×17952W,h0km,mb3.8/3, mb1 4.0/3,ms1mx3.7/16,mbtmp3.8/3,Error ellipse: s-maj=1065.0km s-min=156.5km az=83.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.24	245	P	P	18 11 09.5	-0.5
	1.2nm,0.5s,baz=99,slow=13,SNR=4.1						
ASAR	Alice Springs	43.00	258	P	P	18 12 06.5	+0.2
	1.3nm,0.7s,baz=96,slow=9.1,SNR=23						
WRA	Warramunga Arr	43.11	263	P	P	18 12 07.3	0.0
	0.3nm,0.3s,baz=96,slow=8.2,SNR=18						

JMA 06 18:12:42.2±0.2,4395N×14798E,h74km,M3.6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.73	251	P	Pn	18 13 10.8	+0.6
NEM2				*e*S	Sn	18 13 32.2	+0.7
JRA	Rausu	2.06	271	P	Pn	18 13 15.3	+0.6
JRA				*e*S	Sn	18 13 40.3	+0.7
JNK	Nakash	2.39	262	*e*S	Sn	18 13 48.1	+0.7
JAK	Akkeshi	2.57	249	*e*S	Sn	18 13 52.1	+0.2
JTKR	Abashiri--Toko	2.94	272	P	Pn	18 13 26.8	+0.2
JAR	Ashorobuto	3.13	259	*e*S	Sn	18 14 06.6	+1.3
JCH	Churui	3.63	250	P	Pn	18 13 37.5	+1.6
JCH				*e*S	Sn	18 14 18.1	+0.6
JKK2	Kamakawa 2	3.78	271	P	Pn	18 13 39.3	+1.3
JNBK	Urakawa-nobuka	4.17	248	*e*S	Sn	18 14 30.6	-0.3
JKB	Kayabe	5.50	250	P	Pn	18 14 01.9	+0.4
JKB				*e*S	Sn	18 15 00.7	-2.7
JOT	Ohata	5.72	246	P	Pn	18 14 04.3	-0.2
JOT				*e*S	Sn	18 15 05.9	-2.8
JANG	Nango	5.99	236	P	Pn	18 14 07.9	-0.2
JANG				*e*S	Sn	18 15 11.3	-3.9

IDC 06 18:13:30.3±2.2,258S×12711E,h0km,mb3.6/2,mb1 4.0/4, mb1mx3.6/17,mbtmp3.8/4,ML3.8/2,Error ellipse: s-maj=149.9km s-min=26.4km az=68.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.49	185	Pn	Pn	18 17 10.8	+0.7
	0.4nm,0.3s,baz=7.0,slow=11,SNR=16						
WRA	Warramunga Arr	18.64	158	P	Pn	18 17 50.3	+0.3
	0.3nm,0.3s,baz=332,slow=13,SNR=26						
ASAR	Alice Springs	21.97	163	P	P	18 18 25.4	-0.4
	2.0nm,0.5s,baz=348,slow=12,SNR=60						
MKAR	Makanchi Array	62.98	327	P	P	18 23 58.8	0.0
	0.2nm,0.5s,baz=120,slow=8.5,SNR=3.8						

*IDC **06** 18:15:23.6±1.4,8.04N×12635E,h0km,mb3.6/6,mb1 3.8/6, mb1mx3.6/19,mbtmp3.6/6,Error ellipse: s-maj=160.2km s-min=19.2km az=68.0*

*ISCJB **06** 18:15:25.9±1.7,8.14N±006×1273E±0.1,h39km±15km, mb3.6/6,Error ellipse: s-maj=17.6km s-min=8.3km az=163.5*

*MAN **06** 18:15:25,8.10N×12730E,h29km,mb5.0,ML3.9,MS4.0*

ISC 06 18:15:26.4±2.7,810N±006×12730E±007,h33km±21km, n15,σ0§97/21,mb3.6/6,2C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.54	222	*e*P	Pn	18 15 50.6	-1.0
MATI				*e*S	Sn	18 16 09.6	-1.0
BUTP	Butuan	1.87	298	*e*P	Pn	18 15 55.1	-1.1
BUTP				*e*S	Sn	18 16 18.5	-0.3
DMPH	Davao City--Mi	2.04	241	*i* P	Pn	18 15 59.9	+1.4
DMPH				*i* S	Sn	18 16 06.0	-17
BUKP	Musuan	2.23	265	*e*P	Pn	18 16 01.1	0.0
BUKP				*e*S	Sn	18 16 28.0	+0.5
SCPH	Surigao	2.45	313	*e*P	Pn	18 16 03.5	-0.7
SCPH				*e*S	Sn	18 16 33.0	0.0
TBP	Tagbilaran	3.75	295	*e*P	Pn	18 16 22.1	+0.1
PLP	Palo	3.81	323	*e*P	Pn	18 16 27.3	+4.4
PAGZ	Pagadian	3.89	267	*e*P	Pn	18 16 23.7	-0.2
LLP	Lapu-Lapu	3.96	304	*e*P	Pn	18 16 26.2	+1.2
LLP				*e*S	Sn	18 17 11.4	+1.1
WRA	Warramunga Arr	28.71	166	P	P	18 21 24.0	+3.2
	0.6nm,0.8s,mb3.4,baz=342,slow=8.9,SNR=8.8						
ASAR	Alice Springs	32.22	169	P	P	18 21 55.6	+3.9
	0.4nm,0.3s,mb3.7,baz=347,slow=6.4,SNR=20						
ASAR				PcP	PcP	18 24 42.1	+2.1
	0.3nm,0.7s,baz=357,slow=1.9,SNR=4.9						
MKAR	Makanchi Array	54.36	323	P	P	18 24 49.8	-0.2
	0.4nm,0.4s,mb3.7,baz=123,slow=6.8,SNR=4.3						
ZALV	Zalesovo Beam	57.01	332	P	P	18 25 07.9	-1.0
	0.5nm,0.6s,mb3.7,baz=119,slow=9.0,SNR=2.9						
BVAR	Borovoye Array	64.02	326	P	P	18 25 55.3	-1.4
	0.3nm,0.4s,mb3.7,baz=118,slow=8.6,SNR=3.7						
ARCES	ARCESS Array B	86.57	340	P	P	18 28 06.6	+0.6
	0.4nm,0.7s,mb3.8,baz=81,slow=6.5,SNR=3.9						

GUC 06 18:32:36.8±0.7,3307S×7225W,h32km±4km,MD3.5, ML2.4,2C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.70	126	‖ *i* P	Pn	18 32 50.0	-0.5
LCCH				*i* S	Sb	18 32 59.7	-0.3
TACH	Talagante	1.25	118	‖ *i* P	Pn	18 32 58.7	+0.7
TACH				*i* S	Sn	18 33 15.6	+1.9
PEL	Peldehue	1.32	94	‖ *i* P	Pn	18 33 00.1	+1.2
PEL				*i* S	Sn	18 33 16.9	+1.5
PEL				AML	AML	18 33 20.8	
	comp=N,154nm,0.4s						
JACH	Jahuel	1.45	75	*e*P	Pn	18 33 01.4	+0.7
PCH	Pirque	1.56	111	*e*P	Pn	18 33 03.9	+1.6
PCH				*i* S	Sn	18 33 25.2	+3.9
FCH	Farellones	1.66	100	‖ *i* P	Pn	18 33 05.9	+2.2
FCH				*i* S	Sn	18 33 28.1	+4.1
FCH				AML	AML	18 33 32.6	
	comp=E,61nm,0.3s						
SFDO	San Fernando	1.86	147	*i* S	Sn	18 33 31.1	+2.4
LMEL	Las Melosas	1.88	115	‖ *i* P	Pn	18 33 08.7	+2.0
LMEL				*i* S	Sn	18 33 32.6	+3.3
LMEL				AML	AML	18 33 38.3	
	comp=N,50nm,0.2s						

*ISCJB **06** 18:35:07.7±0.6,4059N±003×24.10E±004,h10km,Error ellipse: s-maj=4.5km s-min=4.2km az=32.5*

*CSEM **06** 18:35:07.9±0.1,4061N×24.15E,h10km,ML2.1,Error ellipse: s-maj=1.9km s-min=1.8km az=48.0*

*ATH **06** 18:35:07.9,4058N×2403E,h41km±15km,MD2.7/3*

*THE **06** 18:35:08.1,4060N×24.11E,h1km,ML2.1*

ISC 06 18:35:07.9±0.6,4060N±004×2414E±006,h7km±13km,n11, σ0§48/18,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.29	205	*e*Pg	Pg	18 35 14.1	+0.5
OUR				*e*Sg	Sg	18 35 17.4	0.0
PLG	Polygyros	0.57	247	*e*Pg	Pg	18 35 18.8	-0.1
PLG				*e*Sg	Sg	18 35 26.6	+0.1
SOH	Sokhos	0.64	291	*e*Pg	Pg	18 35 20.3	+0.1
SOH				*e*Sg	Sg	18 35 29.4	+0.9
SRS	Serrai	0.67	322	*e*Pg	Pg	18 35 20.2	-0.5
SRS				*e*Sg	Sg	18 35 28.6	-0.8
PAIG	Paliouri	0.76	208	*e*Pg	Pg	18 35 22.3	-0.1
PAIG				*e*Sg	Sg	18 35 32.0	-0.3
NVR	Nevrokopi	0.78	345	*e*P	Pg	18 35 23.6	+0.7
HORT	Hortiatis	0.79	270	*e*Pg	Pg	18 35 22.5	-0.6
HORT				*e*Sg	Sg	18 35 33.5	+0.1
LOS	Limnos	0.98	132	*e*Pg	Pg	18 35 26.1	-0.6
LOS	Limnos	0.98	132	*e*Pg	Pg	18 35 26.1	-0.6
KNT	Kendrikon	1.10	301	*e*Pg	Pg	18 35 28.6	-0.4
RDO	Rodhopi	1.19	62	*e*P	Pn	18 35 30.7	-0.3
RDO				*e*S	Sb	18 35 47.2	+0.7

IDC 06 18:43:17.6±4.7,657S×12907E,h161km±44km,mb3.1/1, mb1 3.1/5,mb1mx2.9/16,mbtmp3.0/5,Error ellipse: s-maj=43.7km s-min=18.6km az=62.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.46	236	P	Pn	18 44 51.9	+1.3
	3.4nm,0.3s,baz=108,slow=3.2,SNR=8.1						
BATI				S	Sn	18 46 03.2	-0.2
	2.3nm,0.3s,baz=265,slow=17,SNR=6.3						
FITZ	Fitzroy Crossi	11.94	196	P	Pn	18 46 02.2	-0.6
	0.1nm,0.3s,baz=63,slow=20,SNR=6.3						
FITZ				S	Sn	18 48 08.2	-6.9
	0.2nm,0.3s,baz=137,slow=18,SNR=3.9						
WRA	Warramunga Arr	14.24	159	P	Pn	18 46 30.7	-1.5
	0.1nm,0.3s,baz=338,slow=12,SNR=5.4						
WRA				S	Sn	18 49 03.4	-7.0
	0.2nm,0.3s,baz=332,slow=23,SNR=5.9						
ASAR	Alice Springs	17.62	165	P	Pn	18 47 13.2	-0.2
	0.1nm,0.3s,baz=344,slow=9.3,SNR=14						
ASAR				S	S	18 50 27.8	+1.0
	0.1nm,0.3s,baz=342,slow=23,SNR=4.4						
MKAR	Makanchi Array	67.37	327	P	P	18 53 55.4	0.0
	0.2nm,0.4s,baz=118,slow=6.9,SNR=2.6						

IDC 06 18:57:10.0±1.6,2615S×17804W,h0km,mb4.1/5, mb1 4.3/6,mb1mx4.0/18,mbtmp4.1/6,MS4.0/13, Ms1 4.0/13,ms1mx3.7/25,Error ellipse: s-maj=32.0km s-min=30.9km az=110.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.10	178	Pn	Pn	18 57 58.9	-1.3
	23nm,0.3s,baz=124,slow=20,SNR=2.6						
RAO				Sn	Sn	18 58 39.2	+1.3
	83nm,0.3s,baz=78,slow=22,SNR=6.1						
RAO				LR	LR	18 59 10.7	
	comp=Z,2μm,18.8s,baz=337,slow=39						
AFI	Afiamalu	13.51	27	LR	LR	19 04 07.0	
	comp=Z,268nm,21.5s,baz=202,slow=31						
RPZ	Rata Peaks	19.65	204	LR	LR	19 08 59.6	
	comp=Z,465nm,19.1s,baz=20,slow=36						
TBI	Tubuai	26.08	90	*e*LQ		19 07 47.5	
	1μm,26.2s						
TBI				*e*LR	LR	19 08 59.1	
	330nm,28.0s,baz=256						
PPT	Papeete	27.71	78	*e*LQ		19 08 38.5	
	1μm,24.2s						
PPT				*e*LR	LR	19 09 57.3	
	120nm,23.5s						
CTA	Charters Tower	33.32	273	P	P	19 03 50.4	+0.6
	4.0nm,0.8s,baz=84,slow=9.2,SNR=3.3						
STKA	Stephens Creek	35.52	251	P	P	19 04 11.4	+1.9
	3.7nm,1.0s,baz=98,slow=15,SNR=3.6						
STKA				LR	LR	19 17 00.3	
	comp=Z,227nm,19.5s,baz=26,slow=33						
RKT	Rikitea	39.13	95	*e*LR	LR	19 14 59.2	
	206nm,28.2s,baz=261						
ASAR	Alice Springs	43.47	262	P	P	19 05 15.0	-0.2
	2.0nm,0.9s,baz=115,slow=9.4,SNR=12						
WRA	Warramunga Arr	44.07	268	P	P	19 05 18.6	-1.5
	2.2nm,0.8s,baz=103,slow=8.0,SNR=12						
VNDA	Vanda	52.31	185	LR	LR	19 23 22.5	
	comp=Z,106nm,18.3s,baz=13,slow=30						
FITZ	Fitzroy Crossi	52.45	267	LR	LR	19 26 37.5	
	comp=Z,102nm,20.0s,baz=139,slow=34						
GUMO	Guam	53.50	313	LR	LR	19 26 14.5	
	comp=Z,142nm,21.8s,baz=41,slow=33						
NWAO	Narrogin (SRO)	55.96	247	LR	LR	19 29 01.9	
	comp=Z,175nm,18.8s,baz=96,slow=34						
BATI	Baumata	57.17	275	LR	LR	19 30 43.1	
	comp=Z,436nm,20.2s,baz=55,slow=35						
MAW	Mawson	76.27	200	LR	LR	19 39 50.4	
	comp=Z,158nm,21.3s,baz=254,slow=34						
PETK	Petropavlovsk-	81.70	346	LR	LR	19 41 59.8	
	comp=Z,47nm,18.6s,baz=112,slow=33						
NVAR	Mina Array Bea	85.15	43	P	P	19 09 48.7	+0.6
	0.7nm,0.7s,baz=214,slow=9.2,SNR=4.8						
TXAR	Lajitas Array	90.12	57	LR	LR	19 42 13.1	
	comp=Z,47nm,18.9s,baz=175,slow=30						
PDAR	Pinedale Array	93.08	43	LR	LR	19 43 37.3	
	comp=Z,44nm,19.4s,baz=75,slow=30						
NB2	NORSAR Subarra	144.55	352	PKP	PKPdf	19 16 47.6	-0.3
	comp=Z,1.0nm,0.7s,baz=13,slow=3.4						

*NEIC **06** 18:57:30.8±2.3,1573S×17240W,h10km,mb4.5/1,Error ellipse: s-maj=165.0km s-min=27.7km az=149.0*

IDC 06 18:57:29.3±3.0,1572S×17240W,h0km,mb4.3/4, mb1 4.5/4,mb1mx3.9/20,mbtmp4.3/4,MS4.1/1,Ms1 4.1/1, ms1mx3.0/29,Error ellipse: s-maj=186.4km s-min=40.3km az=147.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.72	240	P	P	19 05 44.6	+0.1
	2.2nm,0.4s,baz=79,slow=8.2,SNR=17						
WRAB	Tennant Creek	50.70	257	P	P	19 06 30.5	-0.7
	7.6nm,1.3s						
WRA	Warramunga Arr	50.71	257	P	P	19 06 30.3	-0.9
	1.1nm,0.5s,baz=91,slow=8.4,SNR=22						
ASAR	Alice Springs	50.93	252	P	P	19 06 32.4	-0.5
	11nm,0.6s,baz=90,slow=8.7,SNR=108						
FITZ	Fitzroy Crossi	59.09	258	P	P	19 07 33.5	+1.6
	1.2nm,0.8s,baz=270,slow=20,SNR=4.3						
SONM	Songino Array	95.72	318	LR	LR	19 48 30.9	
	comp=Z,93nm,21.9s,baz=245,slow=32						
ARCES	ARCESS Array B	125.05	352	PKP	PKPdf	19 16 31.2	+0.2
	0.6nm,0.6s,baz=323,slow=2.4,SNR=4.1						
NOA	NORSAR Array B	134.66	358	PKP	PKPdf	19 16 47.7	-1.8
	1.5nm,0.8s,baz=18,slow=2.4,SNR=6.2						
NOA	NORSAR Array B	134.66	358	PKP	PKPdf	19 16 47.7	-1.8
AKASG	Malin Array Be	141.00	338	PKP	PKPdf	19 17 02.6	+1.2
	0.2nm,0.3s,baz=50,slow=3.5,SNR=4.7						

IDC 06 18:59:04.5±2.6,347N×6743E,h0km,mb3.9/4,mb1 4.0/4, mb1mx3.5/22,mbtmp3.9/4,MS4.0/8,Ms1 4.0/8, ms1mx3.5/36,Error ellipse: s-maj=110.9km s-min=28.1km az=57.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	31.45	90	LR	LR	19 16 13.2	
	comp=Z,354nm,18.8s,baz=152,slow=33						
CMAR	Chiang Mai Arr	34.24	62	LR	LR	19 20 17.1	
	comp=Z,192nm,18.6s,baz=60,slow=37						
LSZ	Lusaka	43.08	243	LR	LR	19 22 07.4	
	comp=Z,197nm,18.1s,baz=301,slow=32						
MKAR	Makanchi Array	45.04	14	LR	LR	19 26 33.8	
	comp=Z,60nm,19.7s,baz=69,slow=37						
AKTO	Aktyubinsk	47.47	352	P	P	19 07 42.4	+1.3
	1.2nm,0.5s,baz=189,slow=7.8,SNR=4.4						
LBTB	Lobatse	49.50	233	LR	LR	19 28 55.2	
	comp=Z,137nm,18.2s,baz=248,slow=36						
BOSA	Boshof	51.55	229	LR	LR	19 27 19.6	
	comp=Z,179nm,18.5s,baz=341,slow=33						
ZALV	Zalesovo Beam	52.30	13	P	P	19 08 16.6	-1.1
	1.0nm,0.7s,baz=205,slow=6.6,SNR=4.0						
TORD	Torodi Ar. Bea	65.59	283	LR	LR	19 37 42.3	
	comp=Z,80nm,19.6s,baz=235,slow=35						
WRA	Warramunga Arr	69.64	113	P	P	19 10 17.2	+0.8
	1.1nm,0.6s,baz=292,slow=5.6,SNR=12						
ASAR	Alice Springs	70.04	117	P	P	19 10 18.3	-0.5
	0.8nm,0.9s,baz=293,slow=5.4,SNR=5.8						
CTA	Charters Tower	80.72	111	LR	LR	19 40 33.6	
	comp=Z,116nm,18.8s,baz=93,slow=31						
TXAR	Lajitas Array	146.28	346	PKPbc	PKPbc	19 18 46.5	-1.3
	2.3nm,0.7s,baz=59,slow=3.0,SNR=21						

IDC 06 19:05:20.3±3.1,419S×15270E,h0km,mb3.7/3,mb1 3.9/3, mb1mx3.5/17,mbtmp3.7/3,MS3.7/1,Ms1 3.7/1, ms1mx2.9/27,Error ellipse: s-maj=128.4km s-min=42.7km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.77	227	P	P	19 10 35.2	+0.3
	1.5nm,0.4s,baz=53,slow=9.4,SNR=53						
ASAR	Alice Springs	26.53	221	P	P	19 11 00.2	+0.4
	0.3nm,0.5s,baz=56,slow=8.6,SNR=11						
FITZ	Fitzroy Crossi	29.87	240	P	P	19 11 28.7	-1.1
	0.8nm,0.5s,baz=133,slow=17,SNR=6.3						
RPZ	Rata Peaks	42.57	160	LR	LR	19 25 53.4	
	comp=Z,94nm,21.5s,baz=139,slow=29						
TORD	Torodi Ar. Bea	150.02	289	PKPbc	PKPbc	19 25 13.8	-0.1
	0.5nm,0.4s,baz=85,slow=2.3,SNR=23						

*ISCJB **06** 19:08:56.8±0.6,4057N±004×2406E±005,h27km±6km, Error ellipse: s-maj=7.9km s-min=5.3km az=31.4*

*CSEM **06** 19:08:56.9±0.1,4058N×2410E,h15km,ML1.9,Error ellipse: s-maj=2.7km s-min=1.6km az=56.0*

*ATH **06** 19:08:56.5,4059N×2410E,h26km±18km,MD2.7/3*

*THE **06** 19:08:57.1,4056N×2406E,h18km,ML1.9*

ISC 06 19:08:56.1±0.7,4060N±006×2412E±005,h15km±11km, n13,σ0§46/22,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.29	201	*e*Pg	Pg	19 09 02.6	+0.4
OUR				*e*Sg	Sg	19 09 05.9	-0.5
PLG	Polygyros	0.56	246	*e*Pg	Pg	19 09 07.4	+0.2
PLG				*e*Sg	Sg	19 09 15.0	+0.3
PLG	Polygyros	0.56	246	*e*PN	Pg	19 09 07.4	+0.2
PLG				*e*SN	Sg	19 09 14.9	+0.2
SOH	Sokhos	0.62	291	*e*Pg	Pg	19 09 08.7	+0.4
SOH				*e*Sg	Sg	19 09 16.3	-0.2
PAIG	Paliouri	0.76	207	*e*Pg	Pg	19 09 10.4	-0.4
PAIG				*e*Sg	Sg	19 09 20.9	+0.2
PAIG	Paliouri	0.76	207	*e*Pg	Pg	19 09 10.4	-0.4
PAIG				*e*Sg	Sg	19 09 20.9	+0.1
NVR	Nevrokopi	0.77	345	*e*PN	Pn	19 09 11.8	-0.6
NVR				*e*SN	Sn	19 09 23.1	-0.6
HORT	Hortiatis	0.78	270	*e*Pg	Pg	19 09 11.0	-0.2
HORT				*e*Sg	Sg	19 09 21.6	+0.2
LOS	Limnos	0.99	132	*e*Pg	Pg	19 09 15.7	+0.3
LOS	Limnos	0.99	132	*e*Pg	Pg	19 09 15.6	+0.3
LIA	Limnos Island	1.08	131	*e*Pg	Pg	19 09 16.3	-0.5
LIA				*e*Sg	Sg	19 09 30.7	-0.3
KNT	Kendrikon	1.08	301	*e*Pg	Pg	19 09 17.1	+0.1
RDO	Rodhopi	1.20	63	*e*PN	Pn	19 09 19.6	+1.3

IDC 06 19:14:09.4±9.4,311N×6679E,h0km,mb3.8/2,mb1 4.1/2, mb1mx3.4/21,mbtmp3.8/2,MS3.6/1,Ms1 3.6/1, ms1mx2.9/34,Error ellipse: s-maj=785.5km s-min=47.1km az=40.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	Borovoye Array	49.84	3	LR	LR	19 44 02.4	
	comp=Z,57nm,19.7s,baz=218,slow=36						
WRA	Warramunga Arr	70.10	112	P	P	19 25 24.5	+0.5
	1.5nm,0.9s,baz=292,slow=5.7,SNR=9.1						
ASAR	Alice Springs	70.46	116	P	P	19 25 25.9	-0.3
	0.6nm,0.9s,baz=285,slow=5.7,SNR=5.2						
TXAR	Lajitas Array	146.47	345	PKPbc	PKPbc	19 33 52.5	-0.7
	1.1nm,0.7s,baz=31,slow=2.6,SNR=13						

IDC 06 19:18:13.0±1.3,424N×7983W,h0km,mb3.7/5,mb1 4.0/7, mb1mx3.7/22,mbtmp3.9/7,ML3.5/2,MS2.9/1,Ms1 2.9/1, ms1mx2.5/28,Error ellipse: s-maj=37.3km s-min=22.0km az=52.0,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	5.52	83	Pn	Pn	19 19 36.9	+0.4
	8.0nm,0.3s,baz=277,slow=16,SNR=9.9						
SDV	Santo Domingo	10.24	63	Pn	Pn	19 20 43.2	+1.9
	3.3nm,0.3s,baz=338,slow=1.9,SNR=10						
CMIG	Matias Romero	19.52	312	LR	LR	19 29 23.5	
	comp=Z,38nm,19.1s,baz=180,slow=34						
LPAZ	La Paz	23.45	151	P	P	19 23 25.1	+0.8
	1.3nm,0.8s,baz=343,slow=13,SNR=5.8						
SIV	San Ignacio	27.36	138	P	P	19 23 59.7	-0.3
	0.7nm,0.5s,baz=308,slow=16,SNR=4.2						
PDAR	Pinedale Array	46.58	330	P	P	19 26 43.6	+0.9
	0.4nm,0.4s,baz=294,slow=34,SNR=5.1						
ULM	Lac du Bonnet	47.81	346	P	P	19 26 50.8	-1.4
	0.7nm,0.3s,baz=237,slow=13,SNR=3.0						
TORD	Torodi Ar. Bea	80.81	77	P	P	19 30 28.9	-0.4
	0.3nm,0.5s,baz=278,slow=6.2,SNR=6.4						
ASAR	Alice Springs	142.16	236	PKP	PKPdf	19 37 47.4	-0.8
	0.3nm,0.4s,baz=121,slow=4.5,SNR=8.6						
WRA	Warramunga Arr	143.24	242	PKP	PKPdf	19 37 51.7	+1.5
	1.6nm,0.6s,baz=105,slow=3.0,SNR=18						

*ISK **06** 19:35:22.8,3955N×3855E,h5km,ML4.2*

*DDA **06** 19:35:22.7,3954N×3852E,h7km±8km,Md3.7,Ml4.1*

*CSEM **06** 19:35:23.4±0.1,3953N×3855E,h5km,ML4.1,Error ellipse: s-maj=1.5km s-min=1.2km az=9.0*

*MOS **06** 19:35:24.1±2.2,3949N×3819E,h10km,mb4.3/6,Error ellipse: s-maj=10.9km s-min=6.3km az=104.8*

*NEIC **06** 19:35:24.4±0.7,3939N×3810E,h10km,mb4.1/3, ML4.1(ISK),Error ellipse: s-maj=13.6km s-min=9.6km az=208.0*

*ISCJB **06** 19:35:24.5±0.2,3956N±002×3855E±003,h10km, mb3.8/10,MS3.2/4,Error ellipse: s-maj=3.1km s-min=2.6km az=18.6*

*IDC **06** 19:35:25.5±1.1,3957N×3822E,h0km,mb3.6/5, mb1 3.6/10,mb1mx3.4/28,mbtmp3.5/10,ML3.6/5,MS3.1/10, Ms1 3.2/10,ms1mx2.9/40,Error ellipse: s-maj=20.3km s-min=17.8km az=82.0*

ISC 06 19:35:25.5±0.2,3955N±002×3858E±002,h10km,n119, σ1§33/128,mb3.8/10,MS3.2/4,11C-6D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	Darende-Malaty	0.85	226	PN	Pn	19 35 47.5	+4.1
PTK	Pertek	0.91	136	PG	Pg	19 35 41.4	-1.5
PTK				*e*SG	Sg	19 35 55.3	+0.6
EZC	Erzincan	0.97	78	PG	Pg	19 35 36.7	-7.4
EZC				*e*SG	Sg	19 35 46.9	-10
ELZG	Elazig	1.09	163	*i* P	Pb	19 35 44.5	-1.9
ELZG				*i* S	Sg	19 36 00.6	0.0
GUMT	Gumushane	1.14	37	PN	Pn	19 35 45.6	-1.9
GUMT				*e*SN	Sn	19 36 03.1	-0.1
MYA	Malataya	1.23	186	PN	Pn	19 35 46.7	-1.9
MALT	Malatya	1.24	186	PN	Pn	19 35 47.1	-1.7
MALT	Malatya	1.24	186	‖ *i* P	Pn	19 35 46.1	-2.7
MALT				S	Sb	19 36 03.4	-1.5
MALT	Malatya	1.24	186	*e*P	Pn	19 35 45.4	-3.4
MALT	Malatya	1.24	186	*i* Pn

SOC MLR MLR
comp=Z,158nm,9.0s
SOC MLR MLR
comp=N,96nm,9.0s
SOC MLR MLR
comp=E,73nm,8.0s
SOC Sochi 4.12 12 *i* P **Pn 19 36 31.3 +2.9**
comp=E,29nm,0.5s
SOC *e*S **Sn 19 37 23.1 +6.4**
comp=E,96nm,9.0s
MERS Mersin 4.17 231 *e*PN **Pn 19 36 29.3 +0.2**
AKH Akhalkalaki 4.18 62 P **Pb 19 36 40.7 +1.6**
AKH S **Pg 19 36 44.7 -0.8**
BZK Bozkurt 4.23 306 *e*PN **Pn 19 36 31.2 +1.3**
ANTO Ankara 4.48 276 *e*PN **Pn 19 36 34.0 +0.6**
ANTO Ankara 4.48 276 ⇓*i*P **Pn 19 36 36.4 +3.0**
ANTO Ankara 4.48 276 S **Sg 19 37 46.6 -2.6**
ANTO Ankara 4.48 276 P **Pn 19 36 36.4 +3.0**
ANTO Ankara 4.48 276 ⇓P **Pn 19 36 36.4 +3.1**
ANTO S **Sg 19 37 46.6 -2.6**
ONI Oni 4.76 49 P **Pb 19 36 45.2 -3.8**
ONI S **Sg 19 37 56.2 -2.2**
GNI Garni 4.78 81 *e*PN **Pn 19 36 40.0 +2.5**
GNI Garni 4.78 81 Pn **Pb 19 36 50.7 +1.4**
comp=E,0.4nm,0.3s,baz=354,slow=1.8,SNR=11
GNI Lg **Sg 19 38 07.2 +8.4**
baz=124,slow=23,SNR=2.1
GNI LR LR 19 38 46.8
comp=E,150nm,18.1s,baz=269,slow=40
SAFT Safranbolu 4.81 292 *e*PN **Pn 19 36 39.3 +1.4**
MSL Mosul 4.82 131 *ex* x 19 36 52.5
MSL *ex* x 19 37 52.5
MSL *ex* x 19 38 27.0
LADK Ladik-KONYA 5.04 256 *e*PN **Pn 19 36 41.6 +0.6**
IKL Isikli 5.09 231 *e*PN **Pn 19 36 43.6 +1.8**
TBLG Delisi 5.17 63 P **Pg 19 37 03.8 -0.6**
TBLG S **Sg 19 38 11.4 +0.2**
MTA Mtatsminda 5.19 64 P **Pg 19 37 04.5 -0.3**
MTA S **Sg 19 38 10.4 -1.6**
KIZT Kizilcal 5.25 265 *e*PN **Pn 19 36 44.9 +1.0**
ANN Anapa 5.32 351 *e*P **Pn 19 36 49.4 +4.5**
ANN *e* 19 37 55.8
ANN pmax pmax
comp=Z,10.0nm,0.4s
ANN pmax pmax
comp=Z,9.0nm,0.3s
ANN smax
comp=N,13nm,0.9s
HDMB Hadim 5.45 244 *e*PN **Pn 19 36 48.2 +1.5**
DGRG David-gareji 5.51 68 P **Pg 19 37 10.4 -0.6**
DGRG S **Sg 19 38 38.2 +16**
MMAI Mount Meron Ar 7.01 202 Pn **Pn 19 37 08.7 +0.5**
comp=N,2.3nm,0.3s,baz=24,slow=13,SNR=9.6
ASF Jabal al Asfar 7.49 191 Pn **Pn 19 37 15.1 +0.4**
comp=N,0.7nm,0.3s,baz=283,slow=5.5,SNR=7.2
ASF Lg 19 39 21.4
comp=N,0.3nm,0.3s,baz=260,slow=23,SNR=2.6
ASF LR LR 19 40 32.7
comp=N,67nm,20.4s,baz=241,slow=41
BHD Baghdad 7.81 142 *ex* x 19 37 38.0
BHD *ex* x 19 39 46.0
TIRR Tirgusor 9.02 306 ⇑*i*P **Pn 19 37 33.5 -2.2**
TIRR Tirgusor 9.02 306 ⇑P **Pn 19 37 33.5 -2.2**
EIL Elat 10.30 198 LR LR 19 42 10.6
comp=N,113nm,20.4s,baz=284,slow=40
VRI Vrincioaia 10.76 310 ⇑*i*P **Pn 19 37 55.4 -4.2**
VRI Vrincioaia 10.76 310 ⇑P **Pn 19 37 55.4 -4.2**
MLR Muntele Rosu 11.05 307 LR LR 19 42 51.3
comp=N,101nm,21.1s,baz=107,slow=41
MLR Muntele Rosu 11.05 307 ⇓*i*P **Pn 19 37 59.3 -4.2**
MLR Muntele Rosu 11.05 307 ⇓P **Pn 19 37 59.3 -4.2**
VOIR 11.59 305 ⇑*i*P **Pn 19 38 12.6 +1.7**
VOIR 11.59 305 ⇑P **Pn 19 38 12.6 +1.7**
IDI Anoyia 11.69 253 LR LR 19 42 33.4
comp=N,108nm,20.2s,baz=83,slow=38
BURAR Bucovina Array 12.59 314 ⇑*i*P **Pn 19 38 18.5 -6.1**
BURAR Bucovina Array 12.59 314 ⇑P **Pn 19 38 18.5 -6.1**
AKASG Malin Array Be 12.95 333 Pn **Pn 19 38 27.3 -2.1**
comp=N,0.6nm,0.3s,baz=141,slow=14,SNR=5.3
AKASG Malin Array Be 12.95 333 *i* P **Pn 19 38 27.2 -2.2**
OBN Obninsk 15.63 356 *e*P **Pn 19 39 05.1 -0.6**
OBN *e*S **Sn 19 41 57.7 -1.1**
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,100nm,19.0s
OBN Obninsk 15.63 356 *e*P **Pn 19 39 05.1 -0.6**
comp=Z,100nm,19.0s
PKSM Moragy 16.04 301 ⇑*i*P **Pn 19 39 05.9 -5.1**
PKSM Moragy 16.04 301 ⇑P **Pn 19 39 05.9 -5.2**
AKTK Aktyubinsk 17.48 45 P **Pn 19 39 32.6 +3.4**
AKTO Aktyubinsk 17.48 45 P **Pn 19 39 32.6 +3.4**
comp=Z,0.1nm,0.3s,baz=252,slow=15,SNR=4.3
VRAC Vranov 18.43 309 LR LR 19 47 28.1
comp=Z,52nm,19.3s,baz=84,slow=40
GERES GERESS Array B 20.04 306 P **P 19 39 57.4 -1.0**
comp=Z,0.1nm,0.3s,baz=115,slow=9.4,SNR=4.0
GERES LR LR 19 49 07.4
comp=Z,65nm,18.3s,MS3.0,baz=108,slow=42
KHC Kasperske Hory 20.21 307 *e*P **P 19 40 01.5 +1.2**
KHC *e*pP 19 40 07.0
KHC Kasperske Hory 20.21 307 *e*P **P 19 40 01.5 +1.2**
KHC *e* 19 40 07.0
VSU Vasula 20.41 342 *e*P **P 19 40 04.6 +2.3**
KLMR Klimovskoe 21.34 1 P **P 19 40 17.1 +4.7**
KLMR pmax pmax
comp=Z,19nm,1.6s,mb4.2
CLL Collm 21.34 312 *e*pP pP 19 40 12.0 -3.4
CLL *e*PP 19 40 31.0
ARU Arti 21.41 31*c* *i*P **P 19 40 13.2 0.0**
ARU *e*PPP 19 40 41.9
ARU *e*S **S 19 44 13.7 +3.2**
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb3.9
ARU Arti 21.41 31 *e*P **P 19 40 13.8 +0.6**
ARU Arti 21.41 31 *e*P **P 19 40 13.8 +0.5**
comp=Z,6.0nm,0.9s,mb3.9
GRA1 Grafenberg Arr 21.85 307 *e*P **P 19 40 20.5 +2.5**
GRA1 *e*pP 19 40 24.7
GRF Grafenberg Arr 21.85 307 *e*P **P 19 40 20.5 +2.5**
GRF *e*PP 19 40 24.7
DAVOX Davos/Dischmat 22.07 299 P **P 19 40 19.8 -0.6**
comp=Z,0.5nm,0.4s,mb3.3,baz=7.9,slow=20,SNR=1.7
DAVOS Davos 22.13 299 P **P 19 40 19.8 -1.3**
SVE Sverdlovsk 22.53 33 *e*P **P 19 40 24.8 -0.3**
SVE pmax pmax
comp=Z,15nm,1.2s,mb4.3
BNI Bardonecchia 24.13 294 *e*P **P 19 40 36.4 -5.0**
BNI pmax pmax
comp=Z,9.0nm,1.3s,mb4.0
BNI Bardonecchia 24.13 294 *e*P **P 19 40 36.4 -5.0**
comp=Z,8.7nm,1.3s,mb4.0
BVAR Borovoye Array 25.54 48 P **P 19 40 57.1 +3.0**
comp=Z,0.9nm,0.6s,mb3.5,baz=256,slow=6.0,SNR=5.5
HFS Hagfors 25.83 331 P **P 19 40 56.3 -0.3**
comp=Z,0.9nm,0.7s,mb3.4,baz=139,slow=11,SNR=2.9
HFS LR LR 19 53 24.1
comp=Z,63nm,18.4s,MS3.2,baz=147,slow=42
HFS Hagfors 25.83 331 P **P 19 40 56.3 -0.4**
HFS pmax pmax
comp=Z,1.0nm,0.7s
HFS MLR MLR
comp=Z,63nm,18.4s
NOA NORSAR Array B 27.36 331 LR LR 19 52 38.6
comp=Z,39nm,20.1s,MS3.5,baz=85,slow=39
KURK Kurchatov 30.02 55 *e*P **P 19 41 37.4 +3.2**
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
KURK Kurchatov 30.02 55 *e*P **P 19 41 37.4 +3.2**
comp=Z,1.5nm,0.6s,mb3.9
ARCES ARCESS Array B 30.85 351 LR LR 19 55 23.1
comp=Z,89nm,18.1s,MS3.5,baz=85,slow=39
MKAR Makanchi Array 32.35 63 P **P 19 41 58.2 +3.4**
comp=Z,0.2nm,0.3s,mb3.4,baz=285,slow=5.5,SNR=4.3
MKAR Makanchi Array 32.35 63 P **P 19 41 58.2 +3.4**
HVS Khovu-Aksy 39.55 54 *e*P **P 19 42 58.6 +2.2**
BOD Bodaibo 50.22 42 *e*P **P 19 44 22.4 +1.2**
KSRS Korea Array 66.98 60 P **P 19 46 22.2 +3.9**
comp=Z,1.2nm,0.8s,mb4.0,baz=305,slow=6.6,SNR=5.9
KSRS Korea Array 66.98 60 P **P 19 46 22.2 +3.9**
KSRS pmax pmax
comp=Z,1.0nm,0.8s,mb3.9

*ISCJB **06** 20:07:18.0±1.0, 4060N×004×2412E±008, h19km±13km, Error ellipse: s-maj=10.8km s-min=6.6km az=159.2*
*THE **06** 20:07:17.7, 4060N×2412E, h14km, ML1.8*
*ATH **06** 20:07:18.4, 4062N×2401E, h36km±9km, MD2.6/3*
*CSEM **06** 20:07:18.9±0.1, 4060N×2408E, h20km, ML1.8, Error ellipse: s-maj=2.3km s-min=1.7km az=128.0*
ISC 06 20:07:17.8±0.9, 4061N±003×2411E±007, h17km±6km, n11, σ0°75/19, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.29**	**199**	*e*Pg	**Pg**	**Pg**	**20 07 24.2**	**+0.2**
OUR				*e*Sg	**Sg**	**Sg**	**20 07 27.5**	**-0.9**
PLG	**Polygyros**	**0.56**	**245**	*e*Pg	**Pg**	**Pg**	**20 07 28.9**	**+0.1**
PLG				*e*Sg	**Sg**	**Sg**	**20 07 36.6**	**+0.3**
PLG	**Polygyros**	**0.56**	**245**	*e*PB	**Pb**	**Pb**	**20 07 28.9**	**-0.2**
PLG				*e*SB	**Sb**	**Sb**	**20 07 36.7**	**0.0**
SOH	**Sokhos**	**0.61**	**290**	*e*Pg	**Pg**	**Pg**	**20 07 30.3**	**+0.5**
SOH				*e*Sg	**Sg**	**Sg**	**20 07 39.3**	**+1.3**
SRS	**Serrai**	**0.64**	**322**	*e*Pg	**Pg**	**Pg**	**20 07 29.9**	**-0.4**
SRS				*e*Sg	**Sg**	**Sg**	**20 07 38.7**	**-0.2**
PAIG	**Paliouri**	**0.76**	**206**	*e*Pg	**Pg**	**Pg**	**20 07 32.5**	**-0.1**
PAIG				*e*Sg	**Sg**	**Sg**	**20 07 42.8**	**+0.2**
NVR	**Nevrokopi**	**0.76**	**346**	*e*PN	**Pn**	**Pn**	**20 07 33.3**	**-0.4**
NVR				*e*SN	**Sn**	**Sn**	**20 07 44.1**	**-0.7**
HORT	**Hortiatis**	**0.77**	**269**	*e*Pg	**Pg**	**Pg**	**20 07 32.7**	**-0.1**
HORT				*e*Sg	**Sg**	**Sg**	**20 07 43.4**	**+0.4**
KNT	**Kendrikon**	**1.07**	**301**	*e*Pg	**Pg**	**Pg**	**20 07 38.8**	**+0.3**
RDO	**Rodhopi**	**1.21**	**63**	*e*PN	**Pn**	**Pn**	**20 07 41.4**	**+1.6**
GRG	**Griva**	**1.34**	**285**	*e*Pg	**Pg**	**Pg**	**20 07 41.1**	**-2.5**

*NEIC **06** 20:18:35.6, 1700N×10060W, h20km, MD3.9(MEX), After MEX.*
MEX 06 20:18:35.6±0.6, 1700N×10060W, h20km±18km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.32**	**80**	*i* P	Pb		20 18 41.2	-1.5
CAIG				*i* S	Sb		20 18 46.3	-1.1
ACX	**Acapulco**	**0.66**	**101**	*i* P	Pb		20 18 46.3	-2.2
ACX				*i* S	Sb		20 18 55.2	-2.1
ZIIG	**Zihuatanejo**	**1.03**	**306**	*i* P	Pb		20 18 52.0	-2.8
ZIIG				*i* S	Sb		20 19 04.7	-3.1
MEIG	**Mezcala**	**1.31**	**45**	*i* P	Pn		20 18 55.5	-3.3
MEIG				*i* S	Sn		20 19 10.8	-5.0
PLIG	**Platanillo**	**1.74**	**37**	*i* P	Pn		20 19 01.6	-3.0
PLIG				*i* S	Sn		20 19 23.2	-3.0
MZVM		**2.54**	**31**	*i* P	Pn		20 19 13.6	-2.1
MZVM				*i* S	Sn		20 19 44.6	-1.5
MOIG	**Morelia**	**2.73**	**348**	*i* P	Pn		20 19 17.8	-0.5
MOIG				*i* S	Sn		20 19 48.3	-2.4
PPM	**Popocatepetl**	**2.79**	**42**	*e*P	Pn		20 19 17.7	-1.4
PPM				*i* S	Sn		20 19 49.6	-2.5
UTMO	**Huajuapan**	**2.79**	**72**	*i* P	Pn		20 19 17.0	-2.2
UTMO				*i* S	Sn		20 19 48.9	-3.4
PTVM	**Pico Tres Padr**	**2.94**	**28**	*e*P	Pn		20 19 19.9	-1.4
PTVM				*i* S	Sn		20 19 53.5	-2.5
IIO	**Organos**	**3.14**	**34**	*i* P	Pn		20 19 22.7	-1.2
IIO				*i* S	Sn		20 19 58.7	-2.1
SFJM	**Santa Fe**	**4.17**	**327**	*e*P	Pn		20 19 45.2	+7.0

*ISCJB **06** 21:02:39.8±0.4, 5919S×007×2511W±0.1, h10km, mb4.2/14, MS3.6/4, Error ellipse: s-maj=11.2km s-min=9.2km az=148.4*
*IDC **06** 21:02:39.9±0.6, 5921S×2509W, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/19, mbtmp4.2/11, ML4.3/1, MS3.6/4, Ms1 3.6/4, ms1mx3.4/20, Error ellipse: s-maj=19.4km s-min=18.7km az=168.0*
*NEIC **06** 21:02:46.3±1.9, 5926S×25.13W, h48km±18km, mb4.2/12, Error ellipse: s-maj=9.9km s-min=7.5km az=192.0*
ISC 06 21:02:44.4±5.6, 5925S±01×2511W±01, h28km±42km, n38, σ0°60/34, mb4.2/14, MS3.6/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.43**	**155**	*e*		**Pn**	**21 05 53.4**	**+0.7**
VNA1				*e*			21 05 57.0	
VNA1				*e*			21 06 02.5	
VNA1				*e*S		**Sn**	**21 08 10.9**	**-10**
VNA2	**Neumayer--Watz**	**13.82**	**155**	*e*		**Pn**	**21 05 57.8**	**-0.3**
VNA2				*e*			21 06 01.6	
VNA2				*e*			21 06 07.6	
VNA2				*e*S		**Sn**	**21 08 16.5**	**-14**
SNAA	**Sanae**	**15.39**	**153**	*e*		**Pn**	**21 06 19.3**	**+0.3**
SNAA				*e*			21 06 22.4	
SNAA				*e*			21 06 28.4	
SNAA				*e*S		**Sn**	**21 08 55.9**	**-12**
SNAA	**Sanae**	**15.39**	**153**	Pn		**Pn**	**21 06 19.3**	**+0.2**
1.1nm,0.3s,baz=321,slow=15,SNR=187								
SNAA				Sn		**Sn**	**21 08 53.2**	**-15**
0.1nm,0.3s,baz=349,slow=18,SNR=5.3								
SNAA	**Sanae**	**15.39**	**153**	*e*Pn		**Pn**	**21 06 19.6**	**+0.6**
6.5nm,0.5s								
SNAA				Sn		**Sn**	**21 08 53.2**	**-15**
PMSA	**Palmer Station**	**18.84**	**236**	*e*P		**Pn**	**21 07 01.0**	**-1.3**
3.8nm,0.5s								
QSPA	**South Pole Qui**	**31.01**	**180**	P		**P**	**21 08 58.7**	**0.0**
0.9nm,0.7s,mb3.7,baz=225,slow=5.7,SNR=15								
TRQA	**Tornquist**	**31.65**	**296**	*e*P		**P**	**21 09 05.5**	**+0.8**
3.6nm,0.9s,mb4.2								
PLCA	**Paso Flores**	**33.72**	**283**	P		**P**	**21 09 22.6**	**-0.3**
1.8nm,0.6s,mb4.2,baz=110,slow=9.3,SNR=3.8								
PLCA				LR		LR	21 22 14.2	
comp=Z,147nm,18.5s,MS3.7,baz=3.6,slow=35								
PLCA	**Paso Flores**	**33.72**	**283**	*e*P		**P**	**21 09 23.3**	**+0.5**
1.1nm,0.6s,mb4.0								
PLCA				LR		LR	21 22 14.2	
CPUP	**Villa Florida**	**39.75**	**312**	LR		LR	21 23 05.3	
comp=Z,105nm,22.0s,MS3.6,baz=298,slow=31								
CFAA	**Coronel Fontan**	**39.86**	**295**	P		**P**	**21 10 15.2**	**0.0**
0.8nm,0.8s,mb3.5,baz=158,slow=6.1,SNR=12								
VNDA	**Vanda**	**43.43**	**182**	P		**P**	**21 10 45.4**	**+1.4**
1.1nm,1.0s,mb3.5,baz=185,slow=3.8,SNR=4.1								
VNDA				LR		LR	21 26 29.0	
comp=Z,102nm,20.0s,MS3.7,baz=13,slow=33								
VNDA	**Vanda**	**43.43**	**182**	*e*P		**P**	**21 10 43.5**	**-0.4**
1.1nm,0.9s,mb3.6								
VNDA				LR		LR	21 26 29.0	
BOSA	**Boshof**	**45.83**	**71**	P		**P**	**21 11 03.4**	**-0.1**
4.9nm,0.8s,mb4.5,baz=205,slow=8.5,SNR=6.4								
BOSA	**Boshof**	**45.83**	**71**	*e*P		**P**	**21 11 03.1**	**-0.4**
16nm,1.2s,mb4.8								
BDFB	**Brasilia**	**46.67**	**329**	LR		LR	21 28 40.7	
comp=Z,35nm,18.6s,MS3.3,baz=181,slow=33								
LVC	**Limon Verde**	**47.86**	**300**	*e*P		**P**	**21 11 19.8**	**+0.3**
1.9nm,0.7s,mb4.2								
LBTB	**Lobatse**	**49.01**	**69**	P		**P**	**21 11 27.4**	**-0.9**
3.1nm,0.7s,mb4.5,baz=219,slow=6.4,SNR=6.6								
LBTB	**Lobatse**	**49.01**	**69**	*e*P		**P**	**21 11 28.2**	**-0.1**
3.0nm,0.6s,mb4.5								
TSUM	**Tsumeb**	**50.40**	**56**	*e*P		**P**	**21 11 38.1**	**-0.8**
2.4nm,0.7s,mb4.3								
LPAZ	**La Paz**	**53.12**	**305**	P		**P**	**21 11 59.4**	**+0.2**
1.2nm,0.5s,mb4.1,baz=138,slow=11,SNR=7.4								
LPAZ	**La Paz**	**53.12**	**305**	*e*P		**P**	**21 11 58.5**	**-0.7**
1.0nm,0.4s,mb4.1								
LSZ	**Lusaka**	**58.60**	**65**	P		**P**	**21 12 38.1**	**-0.5**
baz=187,slow=9.0								
LSZ	**Lusaka**	**58.60**	**65**	*e*P		**P**	**21 12 38.4**	**-0.2**
2.9nm,0.7s,mb4.4								
RER	**Riviere de l'E**	**67.43**	**94**	P		**P**	**21 13 30.8**	**-6.4**
DBIC	**Dimbokro**	**67.66**	**22**	P		**P**	**21 13 39.0**	**+0.5**
5.1nm,0.8s,mb4.6,baz=170,slow=12,SNR=7.9								
TOA0	**Torodi Ar. Sit**	**75.34**	**27**	*e*P		**P**	**21 14 25.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**75.34**	**27**	P		**P**	**21 14 25.4**	**+0.6**
12nm,0.7s,mb5.0,baz=199,slow=6.4,SNR=135								
STKA	**Stephens Creek**	**88.56**	**169**	P		**P**	**21 15 33.6**	**-0.6**
2.5nm,1.1s,mb4.5,baz=294,slow=20,SNR=3.0								
STKA	**Stephens Creek**	**88.56**	**169**	*e*P		**P**	**21 15 34.2**	**0.0**
1.9nm,0.8s,mb4.5								
CMAR	**Chiang Mai Arr**	**122.91**	**111**	PKP		PKPdf	21 21 36.2	-1.2
6.8nm,0.8s,baz=219,slow=2.4,SNR=4.2								
AKTK	**Aktyubinsk**	**128.33**	**54**	PKP		PKPdf	21 21 46.1	-0.7
AKTO	**Aktyubinsk**	**128.33**	**54**	PKP		PKPdf	21 21 46.1	-0.7
1.5nm,0.8s,baz=164,slow=6.6,SNR=4.7								
ARCES	**ARCESS Array B**	**133.49**	**22**	PKP		PKPdf	21 21 55.0	-1.1
1.4nm,0.7s,baz=194,slow=1.4,SNR=12								
BVAR	**Borovoye Array**	**135.52**	**59**	PKP		PKPdf	21 22 01.9	+1.6
0.5nm,0.5s,baz=212,slow=1.9,SNR=3.2								
ZALV	**Zalesovo Beam**	**142.71**	**66**	PKhKP			21 22 08.9	
0.6nm,0.4s,baz=236,slow=3.5,SNR=4.1								
SONM	**Songino Array**	**149.71**	**90**	PKPbc		PKPbc	21 22 29.9	-0.2
2.2nm,0.6s,baz=227,slow=3.1,SNR=15								

IDC 06 21:10:38.9±2.4, 297N×6641E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/22, mbtmp3.9/4, Error ellipse: s-maj=82.2km s-min=36.1km az=61.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**47.83**	**353**	P		P	21 19 18.1	-0.1
2.8nm,0.9s,baz=176,slow=11,SNR=7.1								
ZALV	**Zalesovo Beam**	**53.02**	**14**	P		P	21 19 55.8	-1.6
0.4nm,0.3s,baz=188,slow=7.5,SNR=4.7								
SONM	**Songino Array**	**56.39**	**31**	P		P	21 20 23.7	+1.6
0.3nm,0.4s,baz=242,slow=3.1,SNR=4.6								
WRA	**Warramunga Arr**	**70.40**	**112**	P		P	21 21 55.2	-0.3
1.8nm,1.0s,baz=289,slow=6.0,SNR=5.0								
TXAR	**Lajitas Array**	**146.50**	**344**	PKPbc		PKPbc	21 30 22.8	-0.1
0.9nm,0.9s,baz=58,slow=3.6,SNR=9.1								

IDC 06 21:32:09.5±2.8, 2953S×13810E, h0km, mb1 3.1/3, mb1mx3.1/14, mbtmp2.9/3, ML2.9/3, Error ellipse: s-maj=77.9km s-min=15.4km az=48.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.81**	**129**	Pn		Pn	21 33 08.2	-1.2
0.4nm,0.3s,baz=310,slow=14,SNR=8.5								
STKA				Pg		Pg	21 33 20.9	-1.7
0.6nm,0.3s,baz=310,slow=18,SNR=8.7								
STKA				Sn		Sn	21 33 54.4	-0.7
1.1nm,0.3s,baz=315,slow=13,SNR=3.1								
STKA				Lg			21 34 10.7	
1.3nm,0.3s,baz=33,slow=18,SNR=5.0								
ASAR	**Alice Springs**	**6.94**	**326**	Pn		Pn	21 33 53.3	+0.8
0.1nm,0.3s,baz=146,slow=13,SNR=8.5								
ASAR				Sn		Sn	21 35 13.2	+1.1
0.2nm,0.3s,baz=148,slow=22,SNR=5.4								
WRA	**Warramunga Arr**	**10.13**	**339**	Pn		Pn	21 34 36.2	-0.1
0.1nm,0.3s,baz=155,slow=12,SNR=14								
WRA				Sn		Sn	21 36 30.6	-0.1
0.1nm,0.3s,baz=164,slow=24,SNR=4.8								

*IDC **06** 21:52:06.3±1.1, 3006N×7250E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.4/25, mbtmp3.5/8, ML3.6/1, Error ellipse: s-maj=31.6km s-min=21.7km az=55.0*
*ISCJB **06** 21:52:11.1±0.7, 3022N±004×7278E±005, h51km±8km, mb3.5/9, Error ellipse: s-maj=8.0km s-min=4.4km az=137.1*
*NDI **06** 21:52:11.9±3.0, 3027N×7257E, h33km, ML3.8, mb3.8(NEIC)*
*NEIC **06** 21:52:12.1±2.2, 3018N×7256E, h38km±18km, mb3.8/2, Error ellipse: s-maj=18.9km s-min=14.4km az=202.0*
*NNC **06** 21:52:16.5±4.0, 3124N×7200E, h0km, mb3.4, Error ellipse: s-maj=80.1km s-min=33.5km az=79.0*
ISC 06 21:52:11.8±0.7, 3018N±004×7274E±005, h37km±9km, n50, σ1°49/62, mb3.5/9, 4C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SARP	**Sargodha**	**1.74**	**358**	P		**Pn**	**21 52 38.7**	**-0.8**
SARP				S		**Sn**	**21 53 01.0**	**+0.6**
DRP	**Derazinda**	**2.68**	**306**	P		**Pn**	**21 52 55.7**	**+3.3**
THW	**Thamme Wali**	**2.74**	**342**	P		**Pn**	**21 52 52.2**	**-1.0**
JMU	**Jammu**	**3.13**	**36**	*e*S		**Sn**	**21 53 35.0**	**+0.2**
BHK	**Bhakra**	**3.40**	**68**	*e*P		**Pn**	**21 53 04.6**	**+2.3**
BHK				*ex*		x	21 53 53.2	
THN	**Thein Dam**	**3.40**	**48**	*e*P		**Pn**	**21 53 02.2**	**-0.1**
THN				*ex*		x	21 53 56.7	
RTK	**Rohtak**	**3.40**	**109**	*e*S		**Sn**	**21 53 43.9**	**+2.4**
RTK				AML		AML	21 53 52.5	
comp=Z,457nm,0.4s								
CHCP	**Chirah Chowk**	**3.50**	**7**	P		**Pn**	**21 53 02.9**	**-0.7**
DLH	**Dalhousie**	**3.63**	**49**	*e*P		**Pn**	**21 53 07.0**	**+1.5**
DLH				*ex*		x	21 54 08.0	
CEP	**Cherat**	**3.70**	**349**	P		**Pn**	**21 53 05.8**	**-0.6**
SDNR	**Sundarnagar**	**3.87**	**69**	*ex*		**Pn**	**21 53 07.0**	**-1.8**
SDNR				*ex*		x	21 54 06.4	
SMLA	**Simla**	**3.93**	**75**	*e*P		**Pn**	**21 53 10.1**	**+0.4**
SMLA				*i* S		**Sn**	**21 53 56.0**	**+1.5**
SMLA				*ex*		x	21 53 58.1	
comp=E,2μm,0.3s								
SMLA				*ex*		x	21 53 58.2	
comp=N,2μm,0.2s								
AJM	**Ajmer**	**4.05**	**155**	*e*P		**Pn**	**21 53 13.8**	**+2.5**
AJM				*e*S		**Sn**	**21 54 00.3**	**+2.7**
AJM				AML		AML	21 54 17.1	
comp=N,122nm,0.4s								
AJM				AML		AML	21 54 18.1	
comp=E,282nm,0.0s								
NDI	**New Delhi**	**4.18**	**110**	*e*P		**Pn**	**21 53 15.0**	**+1.9**
NDI				*ex*		x	21 53 28.0	
SONA	**Sohna**	**4.26**	**116**	*e*P		**Pn**	**21 53 15.0**	**+0.9**
SONA				*e*S		**Sn**	**21 54 03.3**	**+0.6**
SONA				AML		AML	21 54 26.5	
comp=E,274nm,0.3s								
SONA				AML		AML	21 54 28.9	
comp=N,141nm,0.6s								
KLP	**Kalpa**	**4.93**	**73**	*e*P		**Pn**	**21 53 26.4**	**+3.1**
KLP				*e*S		**Sn**	**21 54 19.4**	**+0.3**
KLP				AML		AML	21 54 52.4	
comp=E,326nm,0.4s								
KLP				AML		AML	21 54 55.6	
comp=N,207nm,0.6s								
KBL	**Kabul**	**5.35**	**325**	*e*Pn		**Pn**	**21 53 28.9**	**-0.2**
comp=N,21nm,0.6s								
KBL				*e*Sn		**Sn**	**21 54 31.4**	**+1.8**
JOSI	**Joshimath**	**5.91**	**85**	*e*P		**Pn**	**21 53 37.2**	**+0.4**
JOSI				*e*S		**Sn**	**21 54 40.7**	**-2.6**
PTH	**Pithoragarh**	**6.53**	**94**	*e*P		**Pn**	**21 53 48.1**	**+2.8**
PTH				*e*S		**Sn**	**21 54 56.1**	**-2.4**
BHJ	**Bhuj**	**7.43**	**202**	*e*S		**Sn**	**21 55 14.8**	**-5.9**
BHJ				AML		AML	21 57 37.5	
comp=E,13nm,0.3s								
BHJ				AML		AML	21 57 39.3	
comp=N,15nm,0.8s								
DANN	**Dangsing**	**9.80**	**98**	*e*P		**Pn**	**21 54 30.1**	**-0.1**
comp=N,32nm,0.3s								
DANN				*e*S		**Sn**	**21 56 13.3**	**-5.7**
KOLN	**Koldanda**	**9.81**	**101**	*e*P		**Pn**	**21 54 28.3**	**-2.1**
comp=N,19nm,0.3s								
DMN	**Daman**	**11.14**	**100**	*e*P		**Pn**	**21 54 46.6

AKTK	Aktyubinsk	23.05 335	P		P	21 57 13.2	-0.5
AKTO	Aktyubinsk	23.05 335	⇓Pn		P	21 57 12.3	-1.4
	comp=N,1.2nm,2.0s						
AKTO	Aktyubinsk	23.05 335	P		P	21 57 13.2	-0.5
	comp=N,0.4nm,0.5s,mb3.1,baz=180,slow=15,SNR=2.5						
ZALV	Zalesovo Beam	25.32 17	P		P	21 57 36.5	+1.7
	comp=N,0.6nm,0.3s,mb3.6,baz=209,slow=7.6,SNR=3.9						
CMAR	Chiang Mai Arr	26.51 110	P		P	21 57 48.7	+2.8
	comp=N,0.4nm,0.7s,mb3.1,baz=293,slow=11,SNR=4.2						
KWP	Kalwaria	42.12 312	P		P	21 59 59.6	-0.6
ARCES	ARCESS Array B	47.54 340	P		P	22 00 42.2	-0.9
	comp=N,0.6nm,0.6s,mb3.8,baz=117,slow=7.1,SNR=4.6						
ARCES	ARCESS Array B	47.54 340	P		P	22 00 42.2	-0.9
TORD	Torodi Ar. Bea	67.22 272	P		P	22 03 02.3	-0.4
	comp=N,0.4nm,0.6s,mb3.6,baz=52,slow=5.7,SNR=6.0						
WRA	Warramunga Arr	77.42 122	P		P	22 04 03.1	-0.3
	comp=N,0.1nm,0.3s,mb3.2,baz=320,slow=5.2,SNR=6.3						

*ISCJB **06** 22:40:57.1±4.8, 3086S±006×1775W±01, h10km±29km, mb4.3/11, MS3.8/4, Error ellipse: s-maj=21.6km s-min=9.7km az=173.4*
*IDC **06** 22:40:57.1±1.0, 3077S×17750W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.1/16, mbtmp4.0/6, MS3.7/5, Ms1 3.7/5, ms1mx3.3/26, Error ellipse: s-maj=28.6km s-min=20.3km az=91.0*
*NEIC **06** 22:40:59.2±4.4, 3077S×17736W, h18km±26km, mb4.2/3, Error ellipse: s-maj=17.4km s-min=9.0km az=85.0*
ISC 06 22:40:57.5±5.5, 3081S±006×1775W±02, h4km±33km, n34, σ0§82/25, mb4.3/11, MS3.8/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.60	345	Pn	Pn	22 41 26.1	-0.5
	138nm,0.3s,baz=260,slow=6.3,SNR=8.1						
RAO				Sn	Sn	22 41 48.0	+0.3
	161nm,0.3s,baz=7.5,slow=23,SNR=6.6						
URZ	Urewera	8.69	210	Pn	Pn	22 43 00.4	-3.5
	0.7nm,0.3s,baz=207,slow=9.0,SNR=3.6						
URZ				Sn	Sn	22 44 33.2	-9.0
	2.2nm,0.3s,baz=3.8,slow=3.2,SNR=9.6						
SNZO	South Karori	12.25	209	Pn	Pn	22 43 54.2	+1.6
RAR	Rarotonga	18.52	63	LR	LR	22 51 04.1	
	comp=Z,186nm,18.9s,baz=263,slow=33						
TBI	Tubuai	25.96	80	eLR	LR	22 52 43.9	
	166nm,28.5s						
PPT	Papeete	28.54	69	eLR	LR	22 53 54.2	
	110nm,21.2s						
PPT	Papeete	28.54	69	LR	LR	22 56 32.3	
	comp=Z,122nm,19.7s,MS3.5,baz=229,slow=33						
HNR	Honiara	29.92	311	eP	P	22 47 06.3	-0.4
	21nm,0.4s,mb5.2						
CTA	Charters Tower	34.33	279	LR	LR	22 59 31.3	
	comp=Z,150nm,20.8s,MS3.7,baz=50,slow=32						
CTAO	Charters Tower	34.33	279	eP	P	22 47 45.5	+0.1
	6.0nm,0.7s,mb4.6						
STKA	Stephens Creek	34.85	257	P	P	22 47 48.7	-1.1
	2.7nm,0.6s,mb4.4,baz=99,slow=9.8,SNR=5.3						
STKA	Stephens Creek	34.85	257	eP	P	22 47 48.6	-1.2
	12nm,1.1s,mb4.7						
PMG	Port Moresby	39.21	295	P	P	22 48 27.2	+0.2
ASAR	Alice Springs	43.56	267	P	P	22 49 03.0	+0.3
	1.1nm,0.7s,mb3.7,baz=107,slow=7.9,SNR=13						
WB2	Warramunga Arr	44.58	272	eP	P	22 49 11.8	+0.9
WB2	Warramunga Arr	44.58	272	eP	P	22 49 12.2	+1.3
WRAB	Tennant Creek	44.58	272	eP	P	22 49 10.7	-0.3
	2.8nm,0.6s,mb4.3						
WRA	Warramunga Arr	44.59	272	P	P	22 49 11.2	+0.2
	1.6nm,0.4s,mb4.2,baz=111,slow=8.1,SNR=38						
VNDA	Vanda	47.74	186	P	P	22 49 36.5	+1.4
	0.8nm,0.9s,mb3.8,baz=358,slow=6.4,SNR=4.0						
VNDA	Vanda	47.74	186	P	P	22 49 35.1	0.0
	0.3nm,0.7s,mb3.4						
FITZ	Fitzroy Crossi	52.84	270	eP	P	22 50 14.8	+0.4
CASY	Casey	55.01	208	eP	P	22 50 28.8	-0.9
	4.8nm,0.8s,mb4.6						
SNAA	Sanae	77.74	178	eP	P	22 52 54.2	-0.9
	5.8nm,1.4s,mb4.3						
VNA2	Neumayer--Watz	78.31	177	e	P	22 52 57.7	-0.6
VNA2				e		22 53 11.2	
VNA1	Neumayer--Stat	78.54	176	e	P	22 53 00.0	+0.4
VNA1				e		22 53 13.4	
MJAR	Matsushiro Arr	78.84	325	P	P	22 53 00.8	-0.8
	0.8nm,0.5s,mb3.9,baz=171,slow=5.7,SNR=4.2						
MJAR	Matsushiro Arr	78.84	325	P	P	22 53 00.8	-0.8
PLCA	Paso Flores	81.88	133	LR	LR	23 21 38.4	
	comp=Z,99nm,21.2s,MS4.2,baz=1.6,slow=30						
NVAR	Mina Array Bea	88.21	42	P	P	22 53 50.9	+1.2
	0.9nm,0.9s,mb4.0,baz=215,slow=6.8,SNR=5.5						
CMIG	Matias Romero	92.43	72	LR	LR	23 23 57.8	
	comp=Z,33nm,21.5s,MS3.7,baz=358,slow=28						
NOA	NORSAR Array B	149.22	352	PKPbc	PKPbc	23 00 46.8	+0.2
	5.2nm,1.2s,baz=14,slow=4.3,SNR=3.5						
AKASG	Malin Array Be	151.91	323	PKPbc	PKPbc	23 00 52.8	-0.5
	0.2nm,0.3s,baz=47,slow=2.1,SNR=5.8						
MMAI	Mount Meron Ar	152.09	283	PKPbc	PKPbc	23 00 54.6	+0.3
	3.8nm,0.8s,baz=109,slow=7.1,SNR=3.7						
TORD	Torodi Ar. Bea	162.41	177	PKPab	PKPab	23 01 47.0	-1.4
	0.8nm,1.0s,baz=187,slow=3.6,SNR=6.1						

*DDA **06** 22:59:25.9, 3476N×2783E, h8km±3km, Md3.8*
*ISK **06** 22:59:26.8, 3484N×2768E, h5km, MD3.8*
*ISCJB **06** 22:59:31.7±1.1, 3505N±003×2785E±003, h14km±8km, mb3.5/6, Error ellipse: s-maj=4.7km s-min=4.3km az=150.0*
*IDC **06** 22:59:31.1±1.0, 3528N×2784E, h0km, mb3.6/6, mb1 3.6/10, mb1mx3.5/25, mbtmp3.5/10, ML3.5/4, Error ellipse: s-maj=22.1km s-min=15.4km az=4.0*
*CSEM **06** 22:59:32.2±0.1, 3499N×2768E, h30km, MD3.8, Error ellipse: s-maj=2.1km s-min=1.3km az=76.0*
*NEIC **06** 22:59:35.6, 3536N×2770E, h15km, mb3.4/2, MD3.8(ATH), After ATH.*
*ATH **06** 22:59:35.7, 3536N×2770E, h15km±1km, MD3.8/7*
*HLW **06** 22:59:38.0, 3489N×2802E, h33km, Mb3.5*
ISC 06 22:59:33.8±1.3, 3512N±003×2781E±003, h17km±9km, n54, σ1§19/67, mb3.5/6, 3C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.68	309	ePB	Pb	22 59 45.1	-2.1
ARG	Arkhangelos	1.12	13	ePN	Pn	22 59 53.2	-1.6
ZKR	Zakros	1.31	270	P	Pn	22 59 57.8	+0.5
DALT	Dalyan (Mudla)	1.78	22	ePN	Pn	23 00 04.0	+0.2
DALT				eSN	Sn	23 00 31.4	+5.4
NPS	Neapolis	1.81	275	ePN	Pn	23 00 06.5	+2.3
AKAS	Kas	1.83	52	iP	Pn	23 00 03.8	-0.8
AKAS				iS	Sn	23 00 28.7	+1.3
BDRM	Kayabasi	1.96	351	iP	Pn	23 00 04.7	-1.7
BDRM				iS	Sn	23 00 38.5	+8.0
BODT	Bodrum	1.98	348	ePN	Pn	23 00 06.9	+0.3
YER	Yerkesik	2.05	11	ePN	Pn	23 00 07.3	-0.2
MLSB	Milas	2.17	359	ePN	Pn	23 00 09.2	0.0
IDI	Anoyia	2.40	275	Pn	Pn	23 00 13.4	+1.1
	6.3nm,0.3s,baz=106,slow=16,SNR=25						
IDI				Sn	Sn	23 00 42.8	+1.6
	6.6nm,0.3s,baz=68,slow=21,SNR=5.6						
GOLH	Golhisar	2.54	33	iP	Pn	23 00 14.8	+0.5
GOLH				iS	Sn	23 00 51.6	+6.7
APE	Apeiranthos	2.68	317	ePB	Pb	23 00 16.9	-4.5
SMG	Samos	2.70	343	ePN	Pn	23 00 17.4	+1.0
VAM	Vamos	2.97	277	ePN	Pn	23 00 23.3	+3.2
BCK	Bucak	3.24	43	ePN	Pn	23 00 25.0	+1.1
IZM	Izmir	3.30	352	ePN	Pn	23 00 25.3	+0.6
ISP	Isparta	3.48	38	ePn	Pn	23 00 29.0	+1.8
ISP	Isparta	3.48	38	ePg	Pg	23 00 41.8	+1.3
ISP	Isparta	3.48	38	ePn	Pn	23 00 29.0	+1.9
ISP				ePg	Pg	23 00 41.8	+1.3
ISP				Sn	Sn	23 01 06.8	-1.1
HMAT	Matruh	4.06	189	⇑P	Pn	23 00 34.7	-0.4
HMAT				S	Sn	23 01 16.9	-5.4
SLUM		4.22	212	P	Pn	23 00 38.6	+1.2
PRK	Paraskevi	4.30	344	ePN	Pn	23 00 39.9	+1.5
ERMK	Ermenek	4.41	68	iP	Pn	23 00 40.9	+0.9
ERMK				iS	Sn	23 01 33.9	+2.9
KDHN	Kadinhani	4.84	44	iP	Pn	23 00 45.5	-0.4
KDHN				iS	Sn	23 01 48.4	+6.8
KDHN	Kadinhani	4.84	44	iP	Pn	23 00 45.5	-0.4
KDHN				iS	Sn	23 01 48.3	+6.8
SWA2		6.19	199	⇑P	Pn	23 01 04.6	+0.2
GLL	Jalalah	6.43	148	P	Pn	23 01 06.7	-1.1
MMAI	Mount Meron Ar	6.64	106	Pn	Pn	23 01 09.3	-1.3
	1.8nm,0.3s,baz=302,slow=12,SNR=12						
MMAI				Sn	Sn	23 02 25.7	-0.2
	2.3nm,0.3s,baz=303,slow=24,SNR=4.6						
SUZ		6.76	140	P	Pn	23 01 11.8	-0.4
AWBH		6.84	172	P	Pn	23 01 13.1	-0.3
ZNM		7.15	142	P	Pn	23 01 17.0	-0.6
HFRF	Wahat Farafira	7.96	177	⇓P	Pn	23 01 28.3	-0.4
EIL	Elat	8.12	130	Pn	Pn	23 01 32.4	+1.5
	0.5nm,0.3s,baz=349,slow=13,SNR=7.5						
EIL				Sn	Sn	23 03 03.5	+1.2
	1.2nm,0.3s,baz=316,slow=10.0,SNR=4.9						
TR2		8.39	142	P	Pn	23 01 34.0	-0.6
TR1		8.81	142	⇑P	Pn	23 01 40.0	-0.4
GTR	Jabal at Tayr	9.87	165	⇓P	Pn	23 01 54.2	-0.7
PGF	Pioggiola	16.41	302	eP	Pn	23 03 25.6	+2.4
GERES	GERESS Array B	17.23	327	P	Pn	23 03 31.0	-2.5
	0.1nm,0.3s,baz=137,slow=13,SNR=3.1						
KHC	Kasperske Hory	17.49	327	eP	Pn	23 03 36.5	-0.3
	2.8nm,1.1s						
FRF	La Foret Royal	18.38	304	eP	Pn	23 03 48.0	+0.3
LPG	La Plagne	19.06	309	eP	Pn	23 03 54.3	-1.7
LPL	La Plagne	19.08	309	eP	Pn	23 03 54.8	-1.5
	2.2nm,0.4s						
LPL	La Plagne	19.08	309	eP	Pn	23 03 54.8	-1.5
	2.0nm,0.4s						
CDF	Champ du Feu	20.19	317	eP	P	23 04 00.9	-6.6
	2.5nm,0.6s						
CDF	Champ du Feu	20.19	317	eP	P	23 04 00.9	-6.6
	1.3nm,0.6s						
ESDC	Sonseca Array	25.57	290	P	P	23 05 00.7	-1.2
	0.4nm,0.4s,mb3.3,baz=86,slow=9.9,SNR=6.1						
HFS	Hagfors	26.66	344	P	P	23 05 09.4	-2.0
	1.8nm,0.8s,mb3.6,baz=158,slow=12,SNR=5.0						
AKTK	Aktyubinsk	26.70	46	P	P	23 05 11.4	-0.6
AKTK	Aktyubinsk	26.70	46	P	P	23 05 11.3	-0.6
AKTO	Aktyubinsk	26.70	46	P	P	23 05 11.3	-0.6
	1.4nm,0.7s,mb3.6,baz=252,slow=8.3,SNR=6.1						
TORD	Torodi Ar. Bea	32.17	234	P	P	23 06 01.9	+1.0
	1.0nm,0.8s,mb3.7,baz=35,slow=8.6,SNR=18						
ARCES	ARCESS Array B	34.49	359	P	P	23 06 19.0	-1.5
	0.6nm,0.8s,mb3.6,baz=178,slow=8.9,SNR=2.8						
MKAR	Makanchi Array	41.98	57	P	P	23 07 23.4	-0.4
	0.2nm,0.3s,mb3.2,baz=269,slow=7.6,SNR=2.3						

*ISCJB **06** 23:04:40.5±0.7, 542N±01×352W±02, h10km, mb3.7/6, MS3.5/16, Error ellipse: s-maj=15.6km s-min=12.4km az=21.4*
*IDC **06** 23:04:41.3±1.1, 5407N×3530W, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/26, mbtmp3.7/5, MS3.5/17, Ms1 3.5/17, ms1mx3.2/50, Error ellipse: s-maj=67.9km s-min=22.7km az=25.0*
*CSEM **06** 23:04:42.4, 5421N×3520W, h10km, mb4.1/2, After NEIC*
*NEIC **06** 23:04:42.4±0.6, 5421N×3520W, h10km, mb3.6/4, Error ellipse: s-maj=14.5km s-min=11.2km az=200.0*
ISC 06 23:04:42.6±0.7, 542N±01×352W±02, h10km, n32, σ0§77/17, mb3.7/6, MS3.5/16, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	12.66	28	ePn	Pn	23 07 42.4	0.0
BORG	Borgarnes	12.66	28	ePn	Pn	23 07 42.4	0.0
SCHQ	Schefferville	18.30	285	LR	LR	23 14 26.3	
	comp=Z,115nm,21.3s,baz=96,slow=32						
SCHQ	Schefferville	18.30	285	ePn	Pn	23 08 56.0	-0.3
	0.6nm,0.4s						
SCHQ	Schefferville	18.30	285	ePn	Pn	23 08 56.0	-0.3
	0.6nm,0.4s						
SUMG	Summit	18.49	357	eP	Pn	23 08 58.4	0.0
	0.8nm,0.8s						
SUMG	Summit	18.49	357	eP	Pn	23 08 58.4	0.0
	0.8nm,0.8s						
JMIC	Jan Mayen	20.51	25	LR	LR	23 15 05.0	
	comp=Z,86nm,19.4s,MS3.1,baz=84,slow=30						
NOA	NORSAR Array B	25.30	56	LR	LR	23 17 56.8	
	comp=Z,34nm,20.1s,MS2.9,baz=20,slow=31						
ESDC	Sonseca Array	25.54	112	P	P	23 10 12.8	+1.6
	0.7nm,0.7s,mb3.3,baz=321,slow=8.8,SNR=7.1						
ESDC				LR	LR	23 17 42.3	
	comp=Z,78nm,20.8s,MS3.2,baz=255,slow=31						
GERES	GERESS Array B	30.38	80	LR	LR	23 22 53.2	
	comp=Z,60nm,18.4s,MS3.3,baz=105,slow=36						
PSZ	Piszkesteto	34.41	77	P	P	23 11 29.3	-0.4
	1.5nm,0.6s,mb4.1						
PSZ	Piszkesteto	34.41	77	P	P	23 11 29.3	-0.4
	1.5nm,0.6s,mb4.1						
TKL	Tuckaleechee C	38.18	261	LR	LR	23 27 28.3	
	comp=Z,62nm,18.4s,MS3.5,baz=198,slow=36						
YKA	Yellowknife Ar	39.93	315	LR	LR	23 27 54.0	
	comp=Z,8.0nm,18.5s,MS2.6,baz=165,slow=35						
INK	Inuvik	43.98	328	LR	LR	23 30 35.4	
	comp=Z,67nm,18.4s,MS3.6,baz=13,slow=35						
PDAR	Pinedale Array	48.39	288	P	P	23 13 23.9	-0.4
	0.4nm,0.7s,mb3.6,baz=67,slow=6.9,SNR=2.9						
PDAR	Pinedale Array	48.39	288	P	P	23 13 23.9	-0.4
TORD	Torodi Ar. Bea	50.16	130	P	P	23 13 37.3	-0.9
	1.2nm,0.7s,mb4.0,baz=331,slow=7.5,SNR=8.3						
TORD				LR	LR	23 34 54.9	
	comp=Z,62nm,18.8s,MS3.6,baz=190,slow=36						
TORD	Torodi Ar. Bea	50.16	130	P	P	23 13 37.3	-0.9
TORD				LR	LR	23 34 54.9	
ANMO	Albuquerque	51.94	279	LR	LR	23 35 18.1	
	comp=Z,116nm,19.7s,MS3.9,baz=237,slow=35						
ELK	Elko	52.89	290	LR	LR	23 35 31.7	
	comp=Z,128nm,18.3s,MS4.0,baz=13,slow=35						
DBIC	Dimbokro	53.34	141	P	P	23 14 01.4	-0.6
	2.8nm,0.9s,mb4.2,baz=353,slow=8.0,SNR=3.6						
DBIC	Dimbokro	53.34	141	eP	P	23 14 01.3	-0.6
	1.7nm,0.6s,mb4.2						
DBIC	Dimbokro	53.34	141	eP	P	23 14 01.3	-0.6
	1.7nm,0.6s,mb4.2						
TXAR	Lajitas Array	54.37	272	P	P	23 14 10.4	+1.1
	0.2nm,0.6s,mb3.2,baz=49,slow=6.6,SNR=3.5						
TXAR				LR	LR	23 36 59.8	
	comp=Z,79nm,19.0s,MS3.8,baz=0.0,slow=36						
YBH	Yreka Blue Hor	56.24	296	LR	LR	23 36 41.4	
	comp=Z,56nm,18.2s,MS3.7,baz=0.5,slow=34						
KDAK	Kodiak Island	57.41	326	LR	LR	23 37 38.2	
	comp=Z,62nm,19.7s,MS3.7,baz=295,slow=34						
CMIG	Matias Romero	58.68	255	LR	LR	23 38 09.1	
	comp=Z,26nm,21.6s,MS3.3,baz=254,slow=34						
LPIG	La Paz	62.19	273	LR	LR	23 41 40.5	
	comp=Z,48nm,18.9s,MS3.7,baz=159,slow=36						
MKAR	Makanchi Array	66.31	42	LR	LR	23 41 44.4	
	comp=Z,308nm,18.1s,MS4.5,baz=267,slow=34						
ASAR	Alice Springs	148.42	19	PKPbc	PKPbc	23 24 29.0	0.0
	1.1nm,0.6s,baz=7.6,slow=1.5,SNR=11						

*IDC **06** 23:06:26.2±1.4, 238N×9572E, h0km, mb3.9/7, mb1 3.9/9, mb1mx3.8/22, mbtmp3.9/9, ML3.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/30, Error ellipse: s-maj=41.9km s-min=18.3km az=48.0*
*ISCJB **06** 23:06:27.2±3.7, 230N±006×9570E±006, h18km±27km, mb4.4/23, Error ellipse: s-maj=13.0km s-min=8.0km az=135.6*
*NEIC **06** 23:06:28.4±3.4, 235N×9571E, h16km±21km, mb4.4/9, Error ellipse: s-maj=9.7km s-min=5.2km az=66.0*
ISC 06 23:06:27.6±4.1, 230N±006×9572E±006, h7km±26km, n37, σ0§88/38, mb4.4/23, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.24	81	Pn	Pn	23 07 18.4	-0.4
	1.0nm,0.3s,baz=276,slow=8.7,SNR=11						
PSI				Sn	Sn	23 07 58.5	+0.9
	4.9nm,0.3s,baz=341,slow=22,SNR=4.9						
PSI				LR	LR	23 08 49.6	
	comp=Z,459nm,20.6s,baz=275,slow=45						
PSI	Prapat	3.24	81	⇓eP	Pn	23 07 18.6	-0.2
COCO	West Island	14.44	176	ePn	Pn	23 09 52.5	0.0
KSM	Kuching	14.60	93	ePn	Pn	23 09 54.6	-0.1
CMAR	Chiang Mai Arr	16.36	11	Pn	Pn	23 10 18.1	+0.2
	0.2nm,0.3s,baz=199,slow=11,SNR=9.4						
KKM	Kota Kinabalu	20.77	79	eP	P	23 11 09.6	+0.3
ODAN	Odare	25.69	343	eP	P	23 11 59.3	+0.9
TAPN	Taplejung	26.06	344	eP	P	23 12 02.2	+0.5
	18nm,0.7s,mb4.7						
JIRN	Jiri	26.81	341	eP	P	23 12 09.5	+1.0
	46nm,0.8s,mb5.0						
PKI	Pulchoki	27.00	340	eP	P	23 12 10.7	+0.6
DMN	Daman	27.14	339	eP	P	23 12 13.7	+2.3
	20nm,1.0s,mb4.6						
GUN	Gumba	27.15	341	eP	P	23 12 12.3	+0.8
KKN	Kakani	27.24	339	eP	P	23 12 13.0	+0.6
	24nm,0.9s,mb4.7						
LSA	Lhasa	27.59	351	eP	P	23 12 14.8	-0.7
	4.7nm,0.8s,mb4.2						
LSA				ePcP	PcP	23 15 33.0	-0.3
KOLN	Koldanda	27.85	337	eP	P	23 12 18.7	+0.9
	14nm,0.7s,mb4.7						
DANN	Dangsing	28.31	337	eP	P	23 12 23.8	+1.9
	19nm,0.6s,mb4.9						
ENH	Enshi	30.73	24	eP	P	23 12 41.8	-1.5
	0.5nm,0.3s,mb3.8						
FITZ	Fitzroy Crossi	35.77	126	P	P	23 13 27.4	0.0
NWAO	Narrogin (SRO)	40.51	152	eP	P	23 14 07.1	-0.3
	34nm,1.4s,mb4.8						
KBL	Kabul	40.58	325	eP	P	23 14 08.0	+0.2
	7.0nm,0.4s,mb4.6						
BJT	Baijiatuau	41.88	24	eP	P	23 14 16.9	-1.5
	14nm,0.8s,mb4.6						
WRA	Warramunga Arr	43.87	122	P	P	23 14 34.9	0.0
	0.3nm,0.5s,mb3.3,baz=301,slow=9.2,SNR=7.5						
WRAB	Tennant Creek	43.87	122	eP	P	23 14 34.9	-0.1
	3.5nm,1.0s,mb4.0						
WB2	Warramunga Arr	43.88	122	P	P	23 14 35.2	+0.3
ASAR	Alice Springs	45.23	127	P	P	23 14 45.9	+0.2
	0.2nm,0.4s,mb3.3,baz=306,slow=7.9,SNR=3.2						
MK31	Makanchi Array	45.83	347	eP	P	23 14 49.7	-0.4
MKAR	Makanchi Array	45.83	347	P	P	23 14 48.9	-1.3
	2.5nm,0.7s,mb4.2,baz=161,slow=7.7,SNR=22						
SONM	Songino Array	46.29	10	P	P	23 14 52.3	-1.4
	1.6nm,0.5s,mb4.2,baz=192,slow=9.3,SNR=15						
KURK	Kurchatov	50.36	346	eP	P	23 15 24.2	-0.9
	1.8nm,0.7s,mb4.2						
ZAA0	Zalesovo Array	52.26	352	eP	P	23 15 38.2	-1.0
ZALV	Zalesovo Beam	52.26	352	P	P	23 15 38.7	-0.6
	1.8nm,0.4s,mb4.3,baz=182,slow=8.9,SNR=10						
ZALV	Zalesovo Beam	52.26	352	P	P	23 15 38.7	-0.6
BVAR	Borovoye Array	54.74	342	P	P	23 15 56.9	-0.6
	1.6nm,0.8s,mb4.1,baz=136,slow=7.4,SNR=6.2						
BRVK	Borovoye	54.80	342	eP	P	23 15 57.1	-0.8
	1.7nm,0.4s,mb4.4						
ARU	Arti	61.60	338	eP	P	23 16 44.4	-1.1
	3.5nm,0.8s,mb4.5						
ARCES	ARCESS Array B	81.01	340	P	P	23 18 42.7	+0.1
	0.7nm,0.7s,mb3.7,baz=101,slow=6.5,SNR=5.3						
UNV	Unalaska Valle	92.75	36	P	P	23 19 42.0	+1.5
	36nm,1.2s,mb5.7						

NNC 06 23:11:57.9±4.8, 3894N×7013E, h0km, mb3.9, mpv3.4, 3C-2D, Error ellipse: s-maj=36.9km s-min=30.2km az=14.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.17	4	⇑Pn	Pn	23 13 05.4	+2.6
	1.7nm,0.3s,baz=190,slow=13						
KK31				⇑Sn	Sn	23 13 58.7	+6.5
	5.9nm,0.5s						
KK31				⇓Lg		23 14 09.6	
	20nm,0.7s,baz=180,slow=28						
TKM2	Tokmak 2	5.74	44	⇑Pn	Pn	23 13 25.0	+0.6
	4.7nm,0.8s						
TKM2				⇓Sn	Sn	23 14 33.5	+2.6
	11nm,0.7s						
AB31	Akbulak array	12.63	328	Pn	Pn	23 14 58.8	0.0
	1.7nm,0.5s,baz=149,slow=12,SNR=45						

KRSC 06 23:17:22.7±0.8, 5043N×15772E, h10km±10km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	2.07	14	eP	Pn	23 17 58.9	+1.5
RUS				eS	Sn	23 18 24.8	+1.6
NLC	Nalytchevo	2.92	20	S	Sn	23 18 45.8	+1.5
SDLR	Sedlovina	2.94	14	eP	Pn	23 18 11.5	+2.1
SPN	Mys Shipunski	3.03	27	P	Pn	23 18 13.2	+2.5
SPN				S	Sn	23 18 49.6	+2.6
GNL	Ganaly	3.27	2	eP	Pn	23 18 15.7	+1.7
MKZ	Mys Kozlova	4.80	29	eP	Pn	23 18 36.5	+1.5
MKZ				S	Sn	23 19 31.9	+1.3
KBTR	Krutoberegovo	6.54	26	P	Pn	23 19 01.3	+2.4

*NEIC **06** 23:26:46.9±0.4, 4396N×10501W, h0km, ML3.2, Error ellipse: s-maj=8.2km s-min=4.6km az=158.0, Suspected Mining explosion.*
NEIC 55 km [35 miles] SE of Gillette.
*ISCJB **06** 23:26:48.4±0.4, 4428N±002×10567W±003, h0km, Error ellipse: s-maj=3.5km s-min=2.5km az=159.1*
*IDC **06** 23:26:52.4±0.9, 4439N×10569W, h0km, mb1 3.5/5, mb1mx3.4/26, mbtmp3.2/5, ML3.3/4, Error ellipse: s-maj=26.6km s-min=6.9km az=145.0*
ISC 06 23:26:51.0±0.3, 4429N±002×10556W±003, h0km, n38, σ1§46/110, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.11	98	ePn	Pn	23 27 00.0	-14
RSSD				ePg

BOZ				*e*Sg	**Sg**	**23 29 14.6**	**-1.4**
DLMT	**Dillon**	**5.12**	**285**	*e*Pn	**Pn**	**23 28 09.8**	**+0.9**
	4.5nm,0.4s						
DLMT				*e*Pg	**Pg**	**23 28 28.2**	**-0.8**
DLMT				*e*Sg	**Sg**	**23 29 34.5**	**-0.9**
MCMT	**McKenzie Canyo**	**5.24**	**278**	*e*Pn	**Pn**	**23 28 11.9**	**+1.4**
MCMT				*e*Pg	**Pg**	**23 28 28.3**	**-3.0**
MCMT				*e*Sg	**Sg**	**23 29 37.6**	**-1.6**
CTU	**Camp Tracy**	**5.81**	**234**	*e*Pn	**Pn**	**23 28 15.5**	**-2.9**
CTU				*e*Sn	**Sn**	**23 29 29.7**	**+3.9**
CTU				*e*Sg	**Sg**	**23 29 58.6**	**+0.9**
HVU	**Hansel Valley**	**5.85**	**247**	*e*Pn	**Pn**	**23 28 19.5**	**+0.6**
	3.5nm,0.4s						
SPUT	**South Promonto**	**5.88**	**242**	*e*Pn	**Pn**	**23 28 18.7**	**-0.5**
SPUT				*e*Pg	**Pg**	**23 28 42.7**	**-0.8**
SPUT				Sn	**Sn**	**23 29 27.9**	**+0.7**
SPUT				*e*Sg	**Sg**	**23 30 00.2**	**+0.5**
CHMT	**Chamberlain Mo**	**6.00**	**299**	*e*Pn	**Pn**	**23 28 23.5**	**+2.5**
CHMT				*e*Pg	**Pg**	**23 28 46.5**	**+0.5**
CHMT				Sn	**Sn**	**23 29 30.3**	**-0.1**
CHMT				*e*Sg	**Sg**	**23 30 05.3**	**+1.6**
SRU	**San Rafael**	**6.36**	**217**	*e*Pn	**Pn**	**23 28 21.4**	**-4.6**
	6.3nm,0.5s						
SRU				*e*Pg	**Pg**	**23 28 51.2**	**-1.7**
SRU				*e*Sn	**Sn**	**23 29 42.5**	**+3.2**
SRU				*e*Sg	**Sg**	**23 30 14.4**	**-0.9**
HLID	**Hailey**	**6.43**	**267**	*e*Pn	**Pn**	**23 28 27.0**	**+0.1**
	1.5nm,0.5s						
HLID				*e*Pg	**Pg**	**23 28 52.1**	**-2.1**
BGU	**Big Grassy Mou**	**6.45**	**241**	*e*Pn	**Pn**	**23 28 25.9**	**-1.3**
BGU				*e*Pg	**Pg**	**23 28 48.8**	**-5.8**
BGU				*e*Sn	**Sn**	**23 29 42.2**	**+0.8**
BGU				*e*Sg	**Sg**	**23 30 20.6**	**+2.5**
ECSD	**EROS,Sioux Fal**	**6.48**	**92**	*e*Pn	**Pn**	**23 28 17.1**	**-10**
	6.9nm,0.4s						
ECSD				*e*Pg	**Pg**	**23 28 46.9**	**-8.1**
ECSD				*e*Sn	**Sn**	**23 29 47.6**	**+5.5**
ECSD				*e*Sg	**Sg**	**23 30 12.6**	**-6.3**
TMUT	**Trail Mountain**	**6.53**	**222**	*e*Pn	**Pn**	**23 28 24.3**	**-3.9**
TMUT				*e*Sn	**Sn**	**23 29 46.2**	**+2.8**
TMUT				*e*Sg	**Sg**	**23 30 20.2**	**-0.4**
DUG	**Dugway**	**6.76**	**235**	Pn	**Pn**	**23 28 26.2**	**-5.1**
	3.0nm,0.5s						
DUG				*e*Pg	**Pg**	**23 29 02.5**	**+2.1**
DUG				*e*Sn	**Sn**	**23 29 48.2**	**-0.7**
DUG				*e*Sg	**Sg**	**23 30 29.9**	**+2.0**
MSU	**Marysvale**	**7.61**	**223**	Pn	**Pn**	**23 28 39.5**	**-3.6**
MSU				*e*Sn	**Sn**	**23 30 07.5**	**-2.6**
AGMN	**Agassiz Refuge**	**7.82**	**56**	*e*Pn	**Pn**	**23 28 40.4**	**-5.6**
	6.2nm,0.5s						
AGMN				*e*Pg	**Pg**	**23 29 14.3**	**-6.5**
AGMN				*e*Sn	**Sn**	**23 30 16.7**	**+1.5**
ELK	**Elko**	**7.97**	**247**	Pn	**Pn**	**23 28 50.5**	**+2.5**
	0.2nm,0.3s,baz=121,slow=5.9,SNR=3.8						
ELK				Lg		23 31 04.0	
	0.1nm,0.3s,baz=9.0,slow=19,SNR=2.7						
ULM	**Lac du Bonnet**	**8.88**	**44**	Pn	**Pn**	**23 28 59.6**	**-0.8**
	1.3nm,0.3s,baz=229,slow=12,SNR=12						
ULM				Sn	**Sn**	**23 30 37.9**	**-3.3**
	0.8nm,0.3s,baz=259,slow=10,SNR=3.5						
ULM				Lg		23 31 30.3	
	0.7nm,0.3s,baz=144,slow=20,SNR=3.7						
EYMN	**Ely**	**10.43**	**65**	*e*Pn	**Pn**	**23 29 14.7**	**-6.9**
	3.2nm,0.4s						
EYMN				*e*Sn	**Sn**	**23 31 31.5**	**+12**
NVAR	**Mina Array Bea**	**11.22**	**243**	Pn	**Pn**	**23 29 35.9**	**+3.4**
	baz=58,slow=14,SNR=1.4						
TXAR	**Lajitas Array**	**15.00**	**174**	Pn	**Pn**	**23 30 29.0**	**+4.9**
TXAR	**Lajitas Array**	**15.00**	**174**	Pn	**Pn**	**23 30 29.0**	**+4.9**
	0.0nm,0.3s,baz=356,slow=12,SNR=4.6						

ISK ***06*** *23:28:52.8, 36.46N×27.71E, h5km, MD2.9*
DDA ***06*** *23:28:53.4, 36.45N×27.69E, h6km±2km, Md2.9*
CSEM ***06*** *23:28:53.8±0.4, 36.50N×27.71E, h2km, MD2.9, Error ellipse: s-maj=8.2km s-min=4.1km az=34.0*

ISC 06 23:28:52.5±1.9, 36.36N±009×27.66E±008, h6km±26km, n8, σ0§43/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.72**	**346**	*i* P	**Pg**	**23 29 05.7**	**-0.7**
BDRM				*i* S	**Sg**	**23 29 15.9**	**0.0**
BODT	**Bodrum**	**0.75**	**338**	*e*PG	**Pg**	**23 29 07.0**	**0.0**
BODT				*e*SG	**Sg**	**23 29 17.7**	**+0.9**
DALT	**Dalyan (Mudla)**	**0.89**	**62**	*e*PG	**Pg**	**23 29 09.7**	**+0.1**
YER	**Yerkesik**	**0.92**	**33**	*e*PG	**Pg**	**23 29 09.7**	**-0.6**
YER				*e*SG	**Sg**	**23 29 22.1**	**-0.1**
MLSB	**Milas**	**0.94**	**6**	*e*PG	**Pg**	**23 29 10.2**	**-0.3**
AKAS	**Kas**	**1.58**	**94**	*i* P	**Pg**	**23 29 23.2**	**+0.5**
AKAS				*i* S	**Sg**	**23 29 49.7**	**+6.4**
AKAS	**Kas**	**1.58**	**94**	*i* P	**Pg**	**23 29 23.2**	**+0.4**
GOLH	**Golhisar**	**1.76**	**60**	*i* P	**Pb**	**23 29 25.2**	**+0.1**
GOLH				*i* S	**Sg**	**23 29 49.3**	**+0.2**

IDC 06 23:30:25.5±5.7, 19.63S×176.04W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=186.9km s-min=93.2km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.83**	**244**	P	P	23 38 00.0	-0.6
	2.2nm,0.8s,baz=79,slow=16,SNR=3.2						
ASAR	**Alice Springs**	**46.52**	**256**	P	P	23 38 55.4	+0.4
	1.1nm,0.5s,baz=94,slow=8.5,SNR=13						
WRA	**Warramunga Arr**	**46.55**	**261**	P	P	23 38 55.1	-0.2
	0.3nm,0.4s,baz=97,slow=7.2,SNR=15						
AKASG	**Malin Array Be**	**143.12**	**333**	PKP	PKPdf	23 50 00.8	-0.5
	1.4nm,0.5s,baz=40,slow=4.1,SNR=12						

JMA 06 23:32:03.5, 37.57N×138.63E, h16km±1km, M2.9, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.07**	**121**	P	Pg	23 32 06.3	-0.3
JIZZ				*e*S	Sg	23 32 08.9	+0.2
JHK	**Hiroka**	**0.45**	**136**	P	Pg	23 32 11.8	-0.6
JHK				S	Sg	23 32 17.8	-0.7
JSD	**Sado**	**0.55**	**328**	P	Pg	23 32 14.0	-0.4
JNS	**Sasagawa**	**0.60**	**65**	P	Pg	23 32 15.0	-0.3
JNS				S	Sg	23 32 23.5	+0.2
MAT	**Matsushiro**	**1.08**	**198**	P	Pb	23 32 22.9	-0.9
MAT				S	Sb	23 32 36.7	-0.9

IDC 06 23:32:05.7±3.3, 32.32S×155.96E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=137.7km s-min=46.8km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.63**	**229**	P	P	23 37 28.6	+0.6
	2.1nm,0.7s,baz=53,slow=9.6,SNR=24						
ASAR	**Alice Springs**	**27.28**	**223**	P	P	23 37 51.8	-0.3
	0.4nm,0.5s,baz=61,slow=8.7,SNR=7.0						
FITZ	**Fitzroy Crossi**	**30.90**	**241**	P	P	23 38 24.2	-0.1
	2.4nm,0.8s,baz=62,slow=9.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**151.24**	**290**	PKPbc	PKPbc	23 52 02.0	-0.3
	0.4nm,0.5s,baz=63,slow=1.8,SNR=10.0						

NDI ***06*** *23:33:06.7±3.8, 34.72N×82.09E, h15km±76km, mb4.8, mb4.8(NEIC)*
IDC ***06*** *23:33:07.6±0.5, 34.26N×81.87E, h0km, mb4.4/21, mb1 4.6/23, mb1mx4.5/27, mbtmp4.4/23, ML4.3/2, MS3.6/2, Ms1 3.6/2, ms1mx3.2/36, Error ellipse: s-maj=17.2km s-min=12.1km az=32.0*
LDG ***06*** *23:33:07.3±0.1, 34.39N×81.68E, h10km, Mb4.8/25, Error ellipse: s-maj=5.2km s-min=2.9km az=72.0*
MOS ***06*** *23:33:11.6±1.6, 34.40N×81.98E, h33km, mb4.9/41, Error ellipse: s-maj=8.7km s-min=4.1km az=120.9*
SZGRF ***06*** *23:33:11.7, 34.12N×82.87E, h33km, mb4.6, Xizang*
ISCJB ***06*** *23:33:11.6±0.5, 34.37N±002×81.86E±003, h35km±5km, mb4.6/75, MS3.5/5, Error ellipse: s-maj=4.4km s-min=3.0km az=137.8*
BJI ***06*** *23:33:13.2, 34.48N×81.91E, h49km, mB4.6, mb4.6, ML4.2, Ms4.2, Msz4.0*
NEIC ***06*** *23:33:15.2±1.1, 34.38N×82.01E, h54km±10km, mb4.8/43, Error ellipse: s-maj=12.9km s-min=6.2km az=215.0.*

ISC 06 23:33:14.3±0.3, 34.39N±002×81.88E±003, h41km±4km, n245, σ1§32/258, mb4.6/75, MS3.5/5, 20C-9D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	**Kalpa**	**4.18**	**228**	*e*P	**Pn**	**23 34 14.6**	**-0.9**
JOSI	**Joshimath**	**4.30**	**208**	*e*P	**Pn**	**23 34 17.3**	**+0.1**
JOSI				*e*x	x	23 35 12.0	
PTH	**Pithoragarh**	**5.03**	**197**	*e*x	x	23 34 29.9	
SDNR	**Sundarnagar**	**5.04**	**236**	*e*P	**Pn**	**23 34 26.0**	**-1.3**
SDNR				*e*x	x	23 35 26.0	
SMLA	**Simla**	**5.14**	**232**	*i* P	**Pn**	**23 34 28.1**	**-0.5**
SMLA				*i* x	x	23 35 28.4	
DLH	**Dalhousie**	**5.28**	**251**	*e*P	**Pn**	**23 34 30.0**	**-0.6**
DLH				*e*x	x	23 35 40.0	
BHK	**Bhakra**	**5.47**	**239**	*e*P	**Pn**	**23 34 30.2**	**-3.1**
BHK				*e*x	x	23 34 50.8	
THN	**Thein Dam**	**5.51**	**251**	*e*P	**Pn**	**23 34 31.6**	**-2.2**
DANN	**Dangsing**	**6.24**	**165**	*e*Pn	**Pn**	**23 34 42.7**	**-1.1**
DANN				*e*Sn	**Sn**	**23 35 55.7**	**+1.9**
	163nm,0.8s						
KOLN	**Koldanda**	**6.76**	**167**	*e*Pn	**Pn**	**23 34 49.6**	**-1.5**
KOLN				*e*Sn	**Sn**	**23 36 06.9**	**+0.1**
	105nm,0.6s						
NDI	**New Delhi**	**6.95**	**216**	*e*P	**Pn**	**23 34 51.5**	**-2.0**
NDI				*e*P		23 34 52.0	
NDI				*e*x	x	23 36 10.0	
NDI				*e*S	**Sn**	**23 36 11.0**	**-0.3**
KSH	**Kashi**	**6.96**	**319**	*e*P	**Pn**	**23 34 51.2**	**-2.5**
KSH				Smax			
	comp=N,322nm,0.8s						
KSH				Smax			
	comp=E,439nm,1.0s						
AYAN	**Aya Nagar**	**7.16**	**216**	*e*P	**Pn**	**23 34 55.5**	**-0.9**
AYAN				*e*S	**Sn**	**23 36 13.1**	**-3.3**
CHCP	**Chirah Chowk**	**7.19**	**267**	P	**Pn**	**23 34 55.5**	**-1.4**
KKN	**Kakani**	**7.20**	**155**	*e*Pn	**Pn**	**23 34 57.7**	**+0.7**
KKN				*e*Sn	**Sn**	**23 36 19.9**	**+2.4**
	comp=E,119nm,0.8s						
DMN	**Daman**	**7.31**	**157**	*e*Pn	**Pn**	**23 34 59.0**	**+0.5**
DMN				*e*Sn	**Sn**	**23 36 22.2**	**+2.1**
	comp=E,251nm,1.0s						
GUN	**Gumba**	**7.31**	**151**	*e*Pn	**Pn**	**23 34 59.1**	**+0.5**
SONA	**Sohna**	**7.37**	**215**	*e*P	**Pn**	**23 34 58.8**	**-0.6**
SONA				*e*x	x	23 36 20.4	
PKI	**Pulchoki**	**7.44**	**155**	*e*Pn	**Pn**	**23 35 01.0**	**+0.6**
PKI				*e*Sn	**Sn**	**23 36 25.2**	**+1.7**
	comp=E,148nm,0.8s						
JIRN	**Jiri**	**7.66**	**150**	*e*Pn	**Pn**	**23 35 04.4**	**+1.0**
JIRN				*e*Sn	**Sn**	**23 36 30.7**	**+1.8**
	comp=E,107nm,0.7s						
CEP	**Cherat**	**8.29**	**269**	P	**Pn**	**23 35 08.3**	**-3.6**
CEP				S	**Sn**	**23 36 46.0**	**+1.7**
THW	**Thamme Wali**	**8.61**	**262**	P	**Pn**	**23 35 14.2**	**-2.1**
TAPN	**Taplejung**	**8.62**	**143**	*e*Pn	**Pn**	**23 35 17.3**	**+0.8**
TAPN				*e*Sn	**Sn**	**23 36 53.6**	**+1.1**
	comp=E,154nm,1.2s						
ODAN	**Odare**	**8.88**	**146**	*e*Pn	**Pn**	**23 35 19.2**	**-0.9**
LSA	**Lhasa**	**9.15**	**118**	P	**Pn**	**23 35 27.0**	**+3.2**
LSA	**Lhasa**	**9.15**	**118**	*e*P	**Pn**	**23 35 25.5**	**+1.7**
LSA				pmax	pmax		
	comp=Z,39nm,1.0s						
LSA	**Lhasa**	**9.15**	**118**	*e*Pn	**Pn**	**23 35 25.5**	**+1.7**
	comp=Z,39nm,1.0s						
AAA	**Alma-Ata**	**9.66**	**338**	*i* P	**Pn**	**23 35 32.5**	**+1.8**
AAA				pmax	pmax		
	comp=Z,300nm,11.7s						
AAA				MLR	MLR		
	comp=Z,1μm,9.0s						
UCH	**Uchtor**	**9.73**	**326**	*e*Pn	**Pn**	**23 35 32.8**	**+1.3**
	comp=Z,8.2nm,0.7s						
UCH				*e*Sn	**Sn**	**23 37 22.7**	**+3.2**
TKM2	**Tokmak 2**	**9.83**	**332**	*e*P	**Pn**	**23 35 35.5**	**+2.6**
TKM2				pmax	pmax		
	comp=Z,24nm,1.0s						
TKM2	**Tokmak 2**	**9.83**	**332**	*e*Pn	**Pn**	**23 35 35.5**	**+2.6**
	comp=Z,24nm,1.0s						
AML	**Almayashu**	**10.05**	**323**	*e*Pn	**Pn**	**23 35 37.2**	**+1.2**
	comp=Z,22nm,0.8s						
DRP	**Derazinda**	**10.15**	**258**	P	**Pn**	**23 35 36.0**	**-1.4**
FRU	**Bishkek**	**10.16**	**328⇓**	*e*P	**Pn**	**23 35 39.5**	**+2.0**
FRU				pmax	pmax		
	comp=Z,80nm,1.5s						
FRU				pmax	pmax		
	comp=E,250nm,2.0s						
EKS2	**Erkin-Say**	**10.41**	**325**	*e*Pn	**Pn**	**23 35 42.5**	**+1.6**
	comp=E,165nm,1.1s						
EKS2				*e*Sn	**Sn**	**23 37 42.8**	**+6.7**
WMQ	**Urumqi**	**10.44**	**24**	P	**Pn**	**23 35 42.0**	**+0.7**
WMQ				AP		23 35 49.1	
WMQ				XP		23 35 53.9	
WMQ				S	**Sn**	**23 37 43.4**	**+6.6**
WMQ				XS		23 37 53.9	
WMQ				PCP	PcP	23 41 42.1	-2.4
WMQ				AMB	AMB		
	comp=Z,107nm,1.2s						
WMQ				LR	LR		
	comp=N,669nm,16.5s						
WMQ				LR	LR		
	comp=E,469nm,22.2s						
WMQ				LR	LR		
	comp=Z,722nm,16.2s						
KBL	**Kabul**	**10.60**	**274**	*e*Pn	**Pn**	**23 35 39.6**	**-4.0**
	comp=Z,24nm,0.6s						
KBL				*e*Sn	**Sn**	**23 37 41.3**	**+0.4**
SHL	**Shillong**	**12.34**	**133**	*e*P	**Pn**	**23 36 02.0**	**-5.5**
SHL				*e*x	x	23 38 19.0	
MK31	**Makanchi Array**	**12.39**	**1**	*e*P	**Pn**	**23 36 07.5**	**-0.5**
MKAR	**Makanchi Array**	**12.39**	**1**	Pn	**Pn**	**23 36 07.3**	**-0.7**
	comp=Z,2.7nm,0.3s,baz=179,slow=13,SNR=167						
MKAR	**Makanchi Array**	**12.39**	**1**	*i* P	**Pn**	**23 36 07.3**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,26nm,0.6s						
NGP	**Nagpur**	**13.43**	**191**	*e*x	x	23 36 15.5	
NGP				AMb	AMB	23 36 18.5	
	comp=Z,76nm,1.3s						
AKL	**Akola**	**14.30**	**199**	*e*x	x	23 36 28.4	
GTA	**Gaotai**	**15.19**	**66**	*e*P	**Pn**	**23 36 44.5**	**-1.4**
GTA				AMB	AMB		
	comp=Z,165nm,6.9s						
GTA				LR	LR		
	comp=N,489nm,13.3s						
GTA				LR	LR		
	comp=E,877nm,13.7s						
GTA				LR	LR		
	comp=Z,1μm,13.3s						
KURK	**Kurchatov**	**16.48**	**353⇑**	*e*P	**Pn**	**23 36 59.7**	**-2.7**
KURK				pmax	pmax		
	comp=Z,149nm,1.4s						
KURK	**Kurchatov**	**16.48**	**353**	*e*P	**Pn**	**23 36 59.7**	**-2.6**
	comp=Z,110nm,1.0s						
KURK				*e*		23 37 05.3	
HYB	**Hyderabad**	**17.17**	**191**	*i* P	**Pn**	**23 37 14.0**	**+2.9**
HYB				*e*S	**S**	**23 40 22.0**	**-7.0**
HYB	**Hyderabad**	**17.17**	**191**	*e*P	**Pn**	**23 37 16.0**	**+4.9**
LZH	**Lanzhou**	**18.02**	**78**	*e*P	**Pn**	**23 37 21.8**	**+0.3**
LZH				AP	pP	23 37 27.0	-4.7
LZH				AMB	AMB		
	comp=Z,30nm,1.2s						
LZH				AMB	AMB		
	comp=Z,160nm,4.0s						
LZH				LR	LR		
	comp=E,583nm,12.9s						
LZH				LR	LR		
	comp=Z,738nm,14.2s						
HVS	**Khovu-Aksy**	**18.81**	**24**	*d i*P	**Pn**	**23 37 29.7**	**-1.3**
HVS				pmax	pmax		
	comp=Z,48nm,1.0s						
ZAL	**Zalesovo**	**19.65**	**5**	P	**Pn**	**23 37 39.9**	**-1.1**
ZAA0	**Zalesovo Array**	**19.66**	**5**	*e*P	**Pn**	**23 37 39.9**	**-1.3**
ZALV	**Zalesovo Beam**	**19.66**	**5**	P	**Pn**	**23 37 39.9**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=191,slow=12,SNR=33						
ZALV	**Zalesovo Beam**	**19.66**	**5**	P	**Pn**	**23 37 39.9**	**-1.2**
KMI	**Kunming**	**20.30**	**112**	P	**P**	**23 37 46.0**	**-0.7**
KMI				S	**S**	**23 41 33.2**	**+1.2**
KMI				AMB	AMB		
	comp=Z,70nm,1.0s						
KMI				LR	LR		
	comp=N,323nm,10.8s						
KMI				LR	LR		
	comp=E,220nm,9.6s						
KMI				LR	LR		
	comp=Z,254nm,16.8s						
BVAR	**Borovoye Array**	**20.35**	**340**	P	**P**	**23 37 47.6**	**+0.7**
	comp=Z,40nm,0.9s,baz=145,slow=11,SNR=104						
BRVK	**Borovoye**	**20.41**	**340**	*e*P	**P**	**23 37 48.2**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,121nm,1.3s						
BRVK	**Borovoye**	**20.41**	**340**	*e*Pn	**P**	**23 37 48.2**	**+0.6**
	comp=Z,121nm,1.3s						
NVS	**Novosibirsk**	**20.47**	**2**	*e*P	**P**	**23 37 46.9**	**-1.3**
NVS				pmax	pmax		
	comp=Z,29nm,1.1s						
NVS				pmax	pmax		
	comp=N,25nm,1.4s						
NVS				pmax	pmax		
	comp=E,14nm,1.5s						
CHTO	**Chiang Mai**	**21.71**	**131**	*e*P	**P**	**23 38 00.1**	**-1.8**
CHTO				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.7						
CHTO	**Chiang Mai**	**21.71**	**131**	*e*P	**P**	**23 38 00.1**	**-1.8**
	comp=Z,25nm,0.8s,mb4.7						
CMAR	**Chiang Mai Arr**	**21.98**	**132**	P	**P**	**23 38 03.8**	**-1.0**
	comp=Z,50nm,0.9s,mb4.9,baz=311,slow=11,SNR=83						
XAN	**Xi'an**	**22.34**	**83**	P	**P**	**23 38 06.8**	**-1.8**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
XAN				AMB	AMB		
	comp=Z,83nm,6.0s						
XAN				LR	LR		
	comp=N,66nm,18.9s,MS3.5						
XAN				LR	LR		
	comp=E,179nm,19.0s,MS3.5						
XAN				LR	LR		
	comp=Z,222nm,21.8s,MS3.5						
ZAK	**Zakamensk**	**22.35**	**38**	*e*P	**P**	**23 38 07.2**	**-1.3**
ZAK				*e*		23 38 48.8	
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.8						
SONM	**Songino Array**	**22.71**	**46**	P	**P**	**23 38 12.8**	**+0.5**
	comp=Z,10nm,1.1s,mb4.2,baz=238,slow=9.3,SNR=33						
SONM				PcP	PcP	23 42 03.5	+0.2
	comp=Z,1.1nm,0.9s,baz=206,slow=2.6,SNR=5.0						
SONM				LR	LR	23 47 45.4	
	comp=Z,397nm,18.4s,MS3.9,baz=239,slow=38						
SONM	**Songino Array**	**22.71**	**46**	P	**P**	**23 38 12.8**	**+0.4**
SONM						23 42 03.5	
BTO	**Baotou**	**23.11**	**66**	*e*P	**P**	**23 38 17.3**	**+0.7**
AKTK	**Aktyubinsk**	**23.67**	**320**	P	**P**	**23 38 21.8**	**-0.1**
AKTO	**Aktyubinsk**	**23.67**	**320**	P	**P**	**23 38 21.8**	**-0.1**
	comp=Z,8.7nm,0.9s,mb4.2,baz=118,slow=8.8,SNR=22						
SVE	**Sverdlovsk**	**26.70**	**334**	*e*P	**P**	**23 38 53.1**	**+3.8**
SVE				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.3						
ARU	**Arti**	**27.20**	**331**	*e*P	**P**	**23 38 54.6**	**+0.7**
ARU				*e*		23 39 39.1	
ARU				*e*S	**S**	**23 43 25.0**	**-4.7**
ARU	**Arti**	**27.20**	**331**	*e*P	**P**	**23 38 54.0**	**+0.1**
	comp=Z,4.5nm,0.9s,mb4.0						
ARU				*e*PcP	PcP	23 42 13.3	+0.3
QIZ	**Qiongzhong**	**29.16**	**114**	P	**P**	**23 39 10.3**	**-1.4**
QIZ				S	**S**	**23 44 01.6**	**+0.3**
QIZ				AMB	AMB		
	comp=Z,35nm,1.9s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,130nm,3.6s						
QIZ				LR	LR		
	comp=N,151nm,23.4s,MS3.5						
QIZ				LR	LR		
	comp=E,74nm,28.1s,MS3.5						
QIZ				LR	LR		
	comp=Z,103nm,22.3s						
GNI	**Garni**	**29.96**	**292**	P	**P**	**23 39 20.9**	**+2.3**
	comp=Z,1.1nm,0.4s,mb3.9,baz=204,slow=8.1,SNR=4.3						
GNI				LR	LR	23 54 31.0	
	comp=Z,44nm,20.3s,MS3.1,baz=136,slow=43						
GNI	**Garni**	**29.96**	**292**	*e*P	**P**	**23 39 21.0**	**+2.4**
GNI				*e*		23 42 20.8	
GNI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GNI	**Garni**	**29.96**	**292**	*e*P	**P**	**23 39 21.0**	**+2.4**
	comp=Z,6.4nm,0.9s,mb4.3						
GNI				*e*PcP	PcP	23 42 20.8	+0.5
GNI				LR	LR	23 54 31.0	
HIA	**Hailar**	**31.51**	**50**	*i* P	**P**	**23 39 34.5**	**+2.3**
BOD	**Bodaibo**	**31.81**	**33**	*e*P	**P**	**23 39 33.8**	**-0.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
VRHR	**Novokhopersk**	**33.45**	**312**	*e*P	**P**	**23 39 48.8**	**-0.3**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRSR	**Storozhevoye**	**34.97**	**312**	*e*P	**P**	**23 40 02.2**	**-0.1**
VRSR				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
VRSR				pmax	pmax		
	comp=N,2.0nm,1.1s						
VRSR				pmax	pmax		
	comp=E,3.0nm,0.9s						
MALT	**Malatya**	**34.98**	**289**	*e*P	**P**	**23 40 04.7**	**+2.2**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
MALT	**Malatya**	**34.98**	**289**	*e*P	**P**	**23 40 04.7**	**+2.2**
	comp=Z,5.8nm,1.0s,mb4.5						
NACB	**Ninganchiao**	**35.91**	**96**	P	**P**	**23 40 08.0**	**-2.7**
KSRS	**Korea Array**	**37.13**	**72**	P	**P**	**23 40 20.3**	**-0.7**
	comp=Z,1.6nm,0.7s,mb3.9,baz=278,slow=9.6,SNR=5.7						
KSRS	**Korea Array**	**37.13**	**72**	P	**P**	**23 40 20.3**	**-0.6**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
OBN	**Obninsk**	**37.41**	**318⇑**	*e*P	**P**	**23 40 23.0**	**-0.1**
OBN				*e*		23 41 48.4	
OBN				*e*S	**S**	**23 46 18.6**	**+10**
OBN				*e*SS	SS	23 49 11.8	+19
OBN				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.7						
EIL	**Elat**	**39.79**	**277**	P	**P**	**23 40 43.2**	**-0.2**
	com

KECS Kecovo 46.91 307 *eP* **P 23 41 42.1 +1.6**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 46.91 307 *eP* **P 23 41 42.1 +1.6**
comp=Z,1.7nm,1.0s,mb3.9
PSZ Piszkesteto 47.37 306 *eP* **P 23 41 45.7 +1.6**
VYHS Vyhne 48.00 307 *eP* **P 23 41 50.7 +1.7**
VYHS pmax pmax
comp=Z,51nm,3.8s
VYHS Vyhne 48.00 307 *eP* **P 23 41 50.7 +1.7**
comp=Z,51nm,3.8s
OKC Ostrava-Krasne 48.28 309 *eP* **P 23 41 54.9 +3.7**
PKSM Moragy 48.46 304⇓*iP* **P 23 41 54.0 +1.4**
PKSM Moragy 48.46 304⇓P **P 23 41 54.0 +1.4**
MODS Modra-Piesok 49.04 307 *eP* **P 23 41 59.8 +2.8**
MODS Modra-Piesok 49.04 307 *eP* **P 23 41 59.9 +2.9**
VRAC Vranov 49.35 308⇓*iP* **P 23 42 00.3 +0.9**
VRAC Vranov 49.35 308⇓P **P 23 42 00.3 +0.9**
DPC Dobruska-Polom 49.39 310 *eP* **P 23 42 01.3 +1.7**
UPC Upice 49.56 310 *eP* **P 23 42 01.9 +0.9**
CONA Conrad Observa 50.05 307⇑*iP* **P 23 42 05.4 +0.7**
comp=Z,11nm,1.2s,mb4.8
CSNA Conrad Observa 50.05 307⇑*iP* **P 23 42 05.4 +0.7**
comp=Z,9.9nm,1.2s,mb4.7
TREC Trest 50.07 309 *eP* **P 23 42 05.3 +0.5**
ARSA Arzberg 50.39 306⇑*iP* **P 23 42 10.0 +2.7**
comp=Z,3.7nm,1.0s,mb4.4
ARSA Arzberg 50.39 306⇓*iP* **P 23 42 07.8 +0.5**
comp=Z,3.7nm,1.0s,mb4.4
PRU Pruhonice 50.57 310 *eP* **P 23 42 10.5 +1.9**
BRG Berggiesshubel 50.82 311 *eP* **P 23 42 11.0 +0.6**
BRG pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BRG Berggiesshubel 50.82 311 *eP* **P 23 42 13.3 +2.9**
comp=Z,5.0nm,0.9s,mb4.4
BRG Berggiesshubel 50.82 311 *eP* **P 23 42 11.0 +0.6**
comp=Z,3.3nm,1.1s,mb4.2
SOKA Soboth 50.83 305⇑*iP* **P 23 42 11.4 +0.8**
comp=Z,15nm,0.9s,mb4.9
SEY Seymchan 51.22 34⇑*eP* **P 23 42 13.1 -0.2**
GEC2 GERESS Array S 51.30 308 *eP* **P 23 42 16.0 +1.9**
GERES GERESS Array B 51.30 308 P **P 23 42 14.2 +0.1**
comp=Z,2.6nm,0.9s,mb4.2,baz=79,slow=6.9,SNR=20
GERES PcP PcP 23 43 29.2 +0.6
comp=Z,0.9nm,0.8s,baz=87,slow=4.7,SNR=4.3
GERES PP PP 23 44 13.5 +2.3
comp=Z,0.8nm,0.9s,baz=70,slow=7.7,SNR=4.3
KHC Kasperske Hory 51.33 309 *eP* **P 23 42 17.2 +2.8**
KHC *ex* x 23 42 21.5
CLL Collm 51.34 311 *eP* **P 23 42 16.0 +1.7**
CLL pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
CLL Collm 51.34 311 *eP* **P 23 42 16.0 +1.7**
comp=Z,6.0nm,1.2s,mb4.4
NB2 NORSAR Subarra 51.36 324 P **P 23 42 13.6 -0.8**
comp=Z,2.1nm,0.8s,mb4.1,baz=89,slow=7.4
NOA NORSAR Array B 51.36 324 P **P 23 42 13.9 -0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=88,slow=7.4,SNR=8.5
WET Wettzell 51.78 309 *eP* **P 23 42 20.3 +2.6**
WET pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
WET Wettzell 51.78 309 *eP* **P 23 42 20.3 +2.6**
comp=Z,6.0nm,1.1s,mb4.4
GRA1 Grafenberg Arr 52.74 310 *eP* **P 23 42 28.4 +3.6**
comp=Z,15nm,1.4s,mb4.7
GRF Grafenberg Arr 52.74 310 *eP* **P 23 42 28.4 +3.6**
GRF pmax pmax
comp=Z,15nm,1.4s,mb4.7
GRF Grafenberg Arr 52.74 310 *eP* **P 23 42 28.4 +3.6**
GRF pmax pmax
comp=Z,15nm,1.4s,mb4.7
GRF Grafenberg Arr 52.74 310 *eP* **P 23 42 28.4 +3.6**
comp=Z,15nm,1.4s,mb4.7
CLZ Clausthal 52.87 312 *eP* **P 23 42 28.7 +3.0**
CLZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CLZ Clausthal 52.87 312 *eP* **P 23 42 28.7 +3.0**
comp=Z,6.0nm,1.0s,mb4.5
FUR Furstenfeldbru 53.02 308 *eP* **P 23 42 29.8 +2.9**
DAVA Damuels 54.14 307⇑*iP* **P 23 42 35.1 0.0**
comp=Z,15nm,0.8s,mb4.9
CDF Champ du Feu 55.56 309 *eP* **P 23 42 44.6 -0.8**
comp=Z,14nm,1.2s,mb4.6
CDF Champ du Feu 55.56 309 *eP* **P 23 42 44.6 -0.8**
CDF pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
CDF Champ du Feu 55.56 309 *eP* **P 23 42 44.6 -0.8**
comp=Z,7.0nm,1.2s,mb4.6
HINF Hinteralfeld 55.99 308 *eP* **P 23 42 47.6 -0.8**
comp=Z,24nm,1.1s,mb4.9
HINF Hinteralfeld 55.99 308 *eP* **P 23 42 47.6 -0.8**
HINF pmax pmax
comp=Z,12nm,1.1s,mb4.8
HINF Hinteralfeld 55.99 308 *eP* **P 23 42 47.6 -0.8**
comp=Z,12nm,1.1s,mb4.8
PGF Pioggiola 56.03 302 *eP* **P 23 42 47.8 -1.1**
comp=Z,14nm,0.7s,mb4.8
PGF Pioggiola 56.03 302 *eP* **P 23 42 47.8 -1.1**
PGF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
PGF Pioggiola 56.03 302 *eP* **P 23 42 47.8 -1.1**
comp=Z,6.9nm,0.7s,mb4.8
HAU Haudompre 56.26 309 *eP* **P 23 42 49.5 -0.9**
comp=Z,20nm,1.1s,mb4.8
HAU Haudompre 56.26 309 *eP* **P 23 42 49.5 -0.9**
HAU pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
HAU Haudompre 56.26 309 *eP* **P 23 42 49.5 -0.9**
comp=Z,10.0nm,1.1s,mb4.8
BILL Bilibino 56.54 27 *eP* **P 23 42 53.1 +1.1**
BILL *e* 23 44 55.4
BILL pmax pmax
comp=Z,14nm,1.9s,mb4.7
LPG La Plagne 56.70 306 *eP* **P 23 42 53.4 -0.2**
comp=Z,30nm,0.8s,mb5.1
LPG La Plagne 56.70 306 *eP* **P 23 42 53.4 -0.2**
LPG pmax pmax
comp=Z,15nm,0.8s,mb5.1
LPG La Plagne 56.70 306 *eP* **P 23 42 53.4 -0.2**
comp=Z,15nm,0.8s,mb5.1
LPL La Plagne 56.71 306 *eP* **P 23 42 53.4 -0.2**
comp=Z,39nm,0.8s,mb5.2
LPL La Plagne 56.71 306 *eP* **P 23 42 53.4 -0.2**
LPL pmax pmax
comp=Z,19nm,0.8s,mb5.2
LPL La Plagne 56.71 306 *eP* **P 23 42 53.4 -0.2**
comp=Z,19nm,0.8s,mb5.2
SBF Sospel 56.73 304 *eP* **P 23 42 53.1 -0.7**
comp=Z,35nm,0.8s,mb5.1
SBF Sospel 56.73 304 *eP* **P 23 42 53.1 -0.7**
SBF pmax pmax
comp=Z,18nm,0.8s,mb5.2
SBF Sospel 56.73 304 *eP* **P 23 42 53.1 -0.7**
comp=Z,18nm,0.8s,mb5.1
CABF La Chapelle 56.82 307 *eP* **P 23 42 53.5 -0.9**
comp=Z,24nm,1.2s,mb4.8
CABF La Chapelle 56.82 307 *eP* **P 23 42 53.5 -0.9**
CABF pmax pmax
comp=Z,12nm,1.2s,mb4.8
CABF La Chapelle 56.82 307 *eP* **P 23 42 53.5 -0.9**
comp=Z,12nm,1.2s,mb4.8
BNI Bardonecchia 56.88 305 *eP* **P 23 42 57.1 +2.2**
BNI pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BNI Bardonecchia 56.88 305 *eP* **P 23 42 57.1 +2.2**
comp=Z,8.6nm,0.9s,mb4.8
MBDF Montbardon 56.92 305 *eP* **P 23 42 54.1 -1.0**
comp=Z,14nm,0.8s,mb4.7
MBDF Montbardon 56.92 305 *eP* **P 23 42 54.1 -1.0**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MBDF Montbardon 56.92 305 *eP* **P 23 42 54.1 -1.0**
comp=Z,6.9nm,0.8s,mb4.7
MEZF Maizieres J'vi 56.96 309 *eP* **P 23 42 54.8 -0.6**
comp=Z,53nm,1.5s,mb5.0
MEZF Maizieres J'vi 56.96 309 *eP* **P 23 42 54.8 -0.6**
comp=Z,53nm,1.5s,mb5.3
FRF La Foret Royal 57.36 303 *eP* **P 23 42 57.2 -1.1**
comp=Z,16nm,1.0s,mb4.7
FRF La Foret Royal 57.36 303 *eP* **P 23 42 57.2 -1.1**
FRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
FRF La Foret Royal 57.36 303 *eP* **P 23 42 57.2 -1.1**
comp=Z,7.8nm,1.0s,mb4.7
ORIF Oris-en-Rattie 57.47 305 *eP* **P 23 42 57.6 -1.4**
KEST Kesra 58.07 294 P **P 23 43 04.6 +1.2**
comp=Z,1.2nm,1.0s,mb3.9,baz=260,slow=5.9,SNR=4.8
LOR Lormes 58.09 308 *eP* **P 23 43 01.8 -1.5**
comp=Z,15nm,1.2s,mb4.6
LOR Lormes 58.09 308 *eP* **P 23 43 01.8 -1.5**
LOR pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
LOR Lormes 58.09 308 *eP* **P 23 43 01.8 -1.5**
comp=Z,7.4nm,1.2s,mb4.6
SMF Signal de Mont 58.29 308 *eP* **P 23 43 03.6 -1.1**
comp=Z,15nm,0.9s,mb4.7
SMF Signal de Mont 58.29 308 *eP* **P 23 43 03.6 -1.1**
SMF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SMF Signal de Mont 58.29 308 *eP* **P 23 43 03.6 -1.1**
comp=Z,7.4nm,0.9s,mb4.7
VIVF Saint-Julien-l 58.30 305 *eP* **P 23 43 03.8 -1.0**
comp=Z,25nm,1.1s,mb4.8
VIVF Saint-Julien-l 58.30 305 *eP* **P 23 43 03.8 -1.0**
VIVF pmax pmax
comp=Z,12nm,1.1s,mb4.8
VIVF Saint-Julien-l 58.30 305 *eP* **P 23 43 03.8 -1.0**
comp=Z,12nm,1.1s,mb4.8
SSF Saint Saulge 58.38 308 *eP* **P 23 43 04.1 -1.3**
comp=Z,34nm,1.3s,mb4.9
SSF Saint Saulge 58.38 308 *eP* **P 23 43 04.1 -1.3**
SSF pmax pmax
comp=Z,17nm,1.3s,mb4.9
SSF Saint Saulge 58.38 308 *eP* **P 23 43 04.1 -1.3**
comp=Z,17nm,1.3s,mb4.9
AVF Avril sur Loir 58.56 308 *eP* **P 23 43 05.4 -1.2**
comp=Z,10.0nm,1.0s,mb4.5
AVF Avril sur Loir 58.56 308 *eP* **P 23 43 05.4 -1.2**
AVF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
AVF Avril sur Loir 58.56 308 *eP* **P 23 43 05.4 -1.2**
comp=Z,5.0nm,1.0s,mb4.5
BGF Bois d'Agland 58.97 308 *eP* **P 23 43 08.2 -1.3**
comp=Z,12nm,0.9s,mb4.6
BGF Bois d'Agland 58.97 308 *eP* **P 23 43 08.2 -1.3**
BGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BGF Bois d'Agland 58.97 308 *eP* **P 23 43 08.2 -1.3**
comp=Z,6.1nm,0.9s,mb4.6
LASF Ste Croix 59.11 305 *eP* **P 23 43 09.7 -0.8**
comp=Z,34nm,1.3s,mb4.9
TCF Toulx Ste Croi 59.47 308 *eP* **P 23 43 12.2 -0.7**
comp=Z,21nm,1.0s,mb4.8
TCF Toulx Ste Croi 59.47 308 *eP* **P 23 43 12.2 -0.7**
TCF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
TCF Toulx Ste Croi 59.47 308 *eP* **P 23 43 12.2 -0.7**
comp=Z,10nm,1.0s,mb4.8
CAF Calviac 60.03 306 *eP* **P 23 43 16.0 -0.8**
comp=Z,12nm,0.9s,mb4.6
CAF Calviac 60.03 306 *eP* **P 23 43 16.0 -0.8**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CAF Calviac 60.03 306 *eP* **P 23 43 16.0 -0.8**
comp=Z,5.9nm,0.9s,mb4.6
LDF La Druitiere 60.21 311 *eP* **P 23 43 16.8 -1.1**
MFF Saint Martin d 60.90 309 *eP* **P 23 43 21.3 -1.4**
comp=Z,88nm,1.7s,mb5.3
MFF Saint Martin d 60.90 309 *eP* **P 23 43 21.3 -1.4**
MFF pmax pmax
comp=Z,44nm,1.7s,mb5.3
MFF Saint Martin d 60.90 309 *eP* **P 23 43 21.3 -1.4**
comp=Z,44nm,1.7s,mb5.3
ESDC Sonseca Array 66.19 303 P **P 23 43 56.3 -1.4**
comp=Z,2.3nm,0.9s,mb4.2,baz=57,slow=5.7,SNR=5.2
FITZ Fitzroy Crossi 66.77 134 P **P 23 44 01.5 -0.1**
comp=Z,3.2nm,1.1s,mb4.3,baz=107,slow=7.2,SNR=3.8
COLD Coldfoot 71.33 19 *eP* **P 23 44 28.4 -0.9**
comp=Z,12nm,1.0s,mb4.8
WRA Warramunga Arr 73.54 129 P **P 23 44 41.4 -1.6**
comp=Z,3.5nm,0.6s,mb4.4,baz=327,slow=5.6,SNR=28
WRAB Tennant Creek 73.54 129 *eP* **P 23 44 42.1 -0.9**
WB2 Warramunga Arr 73.54 129 *eP* **P 23 44 41.4 -1.7**
INK Inuvik 74.25 13 P **P 23 44 46.2 -0.4**
comp=Z,6.7nm,0.8s,mb4.6,baz=7.7,slow=8.6,SNR=5.6
INK Inuvik 74.25 13 P **P 23 44 46.2 -0.4**
TOA0 Torodi Ar. Sit 74.67 276 *eP* **P 23 44 49.0 -0.9**
TORD Torodi Ar. Bea 74.67 276 P **P 23 44 49.2 -0.7**
comp=Z,7.2nm,0.7s,mb4.7,baz=45,slow=5.2,SNR=54
EGAK Eagle 75.58 18 *eP* **P 23 44 54.0 -0.2**
comp=Z,5.0nm,1.0s,mb4.4
EGAK *ePP* PP 23 47 39.3 -4.0
ASAR Alice Springs 75.99 132 P **P 23 44 55.9 -1.2**
comp=Z,1.8nm,0.6s,mb4.2,baz=316,slow=5.1,SNR=18
CTAO Charters Tower 81.71 121 *eP* **P 23 45 28.5 -0.1**
BOSA Boshof 82.41 228 P **P 23 45 31.4 -0.7**
comp=Z,7.5nm,0.9s,mb4.6,baz=77,slow=7.1,SNR=5.7
BOSA Boshof 82.41 228 P **P 23 45 31.4 -0.7**
YKA Yellowknife Ar 82.54 8 P **P 23 45 31.6 -0.7**
comp=Z,7.6nm,0.7s,mb4.8,baz=340,slow=5.3,SNR=15
YKA Yellowknife Ar 82.54 8 P **P 23 45 31.6 -0.8**
YKA pmax pmax
comp=Z,8.0nm,0.7s
DBIC Dimbokro 83.59 274 P **P 23 45 38.1 -0.6**
comp=Z,11nm,0.8s,mb5.0,baz=20,slow=7.9,SNR=9.7
KIC Kosan Boka 83.67 273 *eP* **P 23 45 37.4 -1.7**
comp=Z,56nm,0.8s,mb5.7
TIC Toumodi 83.74 274 *eP* **P 23 45 35.2 -4.2**
comp=Z,55nm,1.0s,mb5.7
TIC Toumodi 83.74 274 *eP* **P 23 45 35.2 -4.2**
TIC pmax pmax
comp=Z,55nm,1.0s,mb5.6
LIC Lamto 83.98 273 *eP* **P 23 45 42.3 +1.6**
comp=Z,50nm,1.1s,mb5.2
LIC Lamto 83.98 273 *eP* **P 23 45 39.3 -1.4**
comp=Z,82nm,1.5s,mb5.6
LIC *eP* 23 45 42.3
CPUP Villa Florida 144.09 272 PKP PKPdf 23 52 42.6 -3.1
comp=Z,1.9nm,0.6s,baz=65,slow=2.7,SNR=7.6
LPAZ La Paz 147.63 296 PKPbc PKPbc 23 52 55.2 +0.5
comp=Z,1.9nm,0.7s,baz=51,slow=2.8,SNR=7.8
TRQA Tornquist 150.73 252 *e*PKP PKPbc 23 53 01.5 -0.4

NEIC ***06*** *23:48:04.5±0.7, 260S×141.12E, h10km, mb4.1/8, Error ellipse: s-maj=25.3km s-min=6.7km az=89.0*
ISCJB ***06*** *23:48:10.9±2.7, 276S±008×1410E±02, h71km±28km, mb3.8/11, Error ellipse: s-maj=41.0km s-min=12.2km az=8.0*
IDC ***06*** *23:48:13.1±5.4, 275S×141 05E, h80km±48km, mb3.5/6, mb1 3.7/7, mb1mx3.5/15, mbtmp3.5/7, ML4.3/2, Error ellipse: s-maj=43.5km s-min=19.5km az=85.0*
ISC 06 23:48:12.1±2.3, 275S±008×1409E±02, h65km±24km, n23, σ0§47/20, mb3.8/11, Near north coast of Irian Jaya
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUMO Guam 16.70 13 P **Pn 23 52 02.2 +0.3**
6.0nm,0.3s,baz=30,slow=20,SNR=2.8
WRAB Tennant Creek 18.25 200 *eP* **Pn 23 52 20.9 0.0**
4.1nm,0.7s
WB2 Warramunga Arr 18.26 200 *eP* **Pn 23 52 20.8 -0.2**
WRA Warramunga Arr 18.26 200 P **Pn 23 52 20.8 -0.2**
0.5nm,0.3s,baz=21,slow=13,SNR=23
FITZ Fitzroy Crossi 21.39 223 *eP* **P 23 52 54.9 +0.3**
4.8nm,0.8s,mb3.9
FITZ Fitzroy Crossi 21.39 223 P **P 23 52 54.9 +0.4**
2.3nm,0.7s,mb3.6,baz=28,slow=9.2,SNR=4.6
FITZ Fitzroy Crossi 21.39 223 *eP* **P 23 52 55.1 +0.6**
4.4nm,0.7s,mb3.9
ASAR Alice Springs 21.88 198 P **P 23 52 59.2 -0.4**
0.9nm,0.6s,mb3.3,baz=33,slow=11,SNR=8.0
STKA Stephens Creek 28.98 179 P **P 23 54 05.5 0.0**
1.0nm,0.7s,mb3.9,baz=350,slow=12,SNR=2.7
STKA Stephens Creek 28.98 179 *eP* **P 23 54 06.2 +0.6**
2.4nm,0.8s,mb3.9
MK31 Makanchi Array 71.19 322 *eP* **P 23 59 24.0 0.0**
MKAR Makanchi Array 71.19 322 P **P 23 59 24.3 +0.3**
1.1nm,0.7s,mb3.8,baz=108,slow=7.8,SNR=8.7
ZALV Zalesovo Beam 73.10 329 P **P 23 59 34.3 -1.0**
0.5nm,0.4s,mb3.7,baz=113,slow=9.6,SNR=3.4
TKM2 Tokmak 2 74.11 316 *eP* **P 23 59 41.7 +0.2**
1.6nm,0.6s,mb3.9
UCH Uchtor 74.65 315 *eP* **P 23 59 45.1 +0.5**
1.8nm,0.8s,mb3.9
KURK Kurchatov 75.04 324 *eP* **P 23 59 46.8 +0.2**
7.7nm,1.8s,mb4.1
EKS2 Erkin-Say 75.30 315 *eP* **P 23 59 47.5 -0.9**
0.8nm,0.4s,mb3.8
VNDA Vanda 75.55 175 P **P 23 59 49.1 0.0**
0.4nm,0.6s,mb3.3,baz=326,slow=7.4,SNR=4.0
BRVK Borovoye 80.70 325 *eP* **P 00 00 17.8 -0.3**
1.6nm,0.7s,mb4.0
RER Riviere de l'E 84.54 249 P **P 00 00 39.6 +0.9**
TORD Torodi Ar. Bea 138.41 287 PKP PKPdf 00 07 32.4 +1.2
0.3nm,0.7s,baz=78,slow=1.9,SNR=2.7
LPAZ La Paz 145.60 124 PKPbc PKPbc 00 07 42.1 -2.2
1.2nm,0.8s,baz=234,slow=3.0,SNR=5.2
DBIC Dimbokro 145.70 278 PKPbc PKPbc 00 07 42.9 -1.9
2.1nm,0.8s,baz=117,slow=2.3,SNR=4.6

MEX 06 23:58:28.9±1.1, 1815N×10047W, h40km±100km, MD3.5, Guerrero
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MEIG Mezcala 0.84 105 *i* P Pn 23 58 43.2 -1.0
MEIG *i* S Sn 23 58 53.7 -1.7
PLIG Platanillo 0.95 75 *i* P Pn 23 58 43.9 -1.9
PLIG *i* S Sn 23 58 54.8 -3.3
ACX Acapulco 1.38 157 *i* P Pn 23 58 50.2 -1.5
ACX *i* S Sn 23 59 05.4 -3.3
MZVM 1.57 48 *e*P Pn 23 58 53.8 -0.4
MZVM *i* S Sn 23 59 12.3 -1.0
IIO Organos 2.19 49 *e*P Pn 23 59 01.0 -1.8
IIO *i* S Sn 23 59 30.4 +1.7
UTMO Huajuapan 2.56 97 *e*P Pn 23 59 07.8 -0.1
UTMO *i* S Sn 23 59 36.7 -1.0

JMA ***07*** *00:01:02.7±0.3, 2735N×12670E, h3km, M3.8*
ISCJB ***07*** *00:01:03.9±0.9, 2734N±005×12673E±005, h10km, mb3.6/3, Error ellipse: s-maj=7.0km s-min=6.3km az=145.3*
IDC ***07*** *00:01:05.0±1.2, 2776N×12726E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.7/3, Error ellipse: s-maj=79.5km s-min=16.4km az=52.0*
ISC 07 00:01:04.1±1.3, 2732N±005×12677E±005, h4km±8km, n11, σ0§63/18, mb3.6/3, Northwest of Ryukyu Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JAGN Aguni-jima 0.84 150 P **Pg 00 01 20.1 -0.2**
JAGN *e*S **Sg 00 01 31.8 +0.6**
JKE Kume jima 2 0.99 179 P **Pg 00 01 22.1 -1.0**
JKE *e*S **Sg 00 01 36.1 +0.2**
JIH Iheya 1.10 105 P **Pg 00 01 25.0 -0.3**
JIH *e*S **Sg 00 01 40.5 +0.8**
NAH1 Naha 1.38 143 P **Pn 00 01 30.0 -0.2**
NAH1 *e*S **Sb 00 01 49.6 +1.0**
JOW Kunigami 1.43 109 P **Pn 00 01 29.7 -1.1**
JOW *e*S **Sb 00 01 49.4 -0.5**
JOW Kunigami 1.43 109 Pn **Pn 00 01 29.8 -1.0**
31nm,0.3s,baz=294,slow=16,SNR=53
JOW Sn **Sn 00 01 50.2 +0.1**
150nm,0.3s,baz=76,slow=19,SNR=19
JJT2 Tamagusuku 2 1.47 143 P **Pn 00 01 31.3 -0.1**
JJT2 *e*S **Sb 00 01 50.4 -0.6**
JTK Tokunoshima 1.99 76 *e*S **Sn 00 02 03.8 -0.2**
SONM Songino Array 25.93 328 P **P 00 06 38.4 +1.0**
2.2nm,0.9s,mb3.7,baz=137,slow=9.9,SNR=9.3
ZALV Zalesovo Beam 40.59 323 P **P 00 08 44.8 +0.1**
0.3nm,0.3s,mb3.5,baz=108,slow=7.7,SNR=2.8
WRA Warramunga Arr 47.55 170 P **P 00 09 45.4 +4.5**
0.5nm,0.9s,mb3.6,baz=349,slow=8.5,SNR=2.8

IDC ***07*** *00:02:06.7±1.0, 2727N×12675E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/21, mbtmp3.9/6, MS5.0/1, Ms1 5.0/1, ms1mx4.0/29, Error ellipse: s-maj=39.9km s-min=16.7km az=52.0*
ISCJB ***07*** *00:02:10.0±0.7, 272N±02×1268E±02, h33km, mb3.9/6, Error ellipse: s-maj=28.9km s-min=12.1km az=43.0*
ISC 07 00:02:11.9±0.7, 273N±02×1269E±02, h35km, n16, σ0§94/12, mb3.9/6, Northwest of Ryukyu Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JOW Kunigami 1.33 111 Pn **Pn 00 02 34.0 0.0**
169nm,0.3s,baz=288,slow=12,SNR=9.9
CBIJ Chichi jima 13.62 87 LR LR 00 09 26.7
comp=Z,7μm,21.2s,baz=261,slow=32
SONM Songino Array 26.00 327 P **P 00 07 41.3 0.0**
6.7nm,1.0s,mb4.1,baz=140,slow=7.4,SNR=14
MKAR Makanchi Array 39.92 311 P **P 00 09 41.2 -1.3**
1.0nm,0.6s,mb3.8,baz=93,slow=9.7,SNR=5.5
ZALV Zalesovo Beam 40.66 323 P **P 00 09 47.8 -0.7**
1.3nm,0.5s,mb3.8,baz=109,slow=8.0,SNR=6.7
TKM2 Tokmak 2 44.07 305 P **P 00 10 17.1 +0.6**
SNR=7.4
WRA Warramunga Arr 47.53 170 P **P 00 10 42.8 -1.1**
0.7nm,0.7s,mb3.8,baz=352,slow=8.7,SNR=5.2
BVAR Borovoye Array 48.67 318 P **P 00 10 52.2 -0.2**
1.7nm,0.7s,mb4.2,baz=88,slow=6.3,SNR=6.8
ASAR Alice Springs 51.13 172 P **P 00 11 12.0 +0.7**
0.8nm,0.6s,mb3.8,baz=0.3,slow=14,SNR=8.5
ATH Athens Observa 83.14 309 *e*P **P 00 14 39.9 +5.5**
JAN Janina 84.24 312 *e*P **P 00 14 41.3 +1.3**
VLI Veliai 84.30 308 *e*P **P 00 14 43.8 +3.4**
VLS Valsamata 85.17 311 *e*P **P 00 14 36.2 -8.5**
HGN Heimansgroeve 86.45 327 *e*PP PP 00 17 47.7 -24
HGN Heimansgroeve 86.45 327 *e*S S 00 25 20.3 -4.1
HGN Heimansgroeve 86.45 327 *e*SS SS 00 30 54.2 -9.5

NIED ***07*** *00:02:00, 2760N×12650E, h5km, Mw6.0 Best double couple: M0 1.09000×10^18 NP1:φs 88.00000°, δ75.00000°, λ-46.00000°. NP2:φs 193.00000°, δ46.00000°, λ-159.00000°.*
JMA ***07*** *00:02:20.4±0.7, 2735N×12667E, h5km, M6.3*
JMA Felt III J1.
ISCJB ***07*** *00:02:20.7±0.6, 2735N±002×12680E±002, h4km±3km, mb5.4/190, MS5.9/244, Error ellipse: s-maj=2.7km s-min=2.3km az=172.7*
MOS ***07*** *00:02:24.2±1.2, 2734N×12682E, h28km, mb5.7/71, MS6.0/61, Error ellipse: s-maj=6.8km s-min=4.3km az=106.1*
NEIC ***07*** *00:02:24.2±1.8, 2729N×12684E, h18km±11km, mb5.5/105, MS5.8/178, MW5.9, MW6.0(NIED), Error ellipse: s-maj=3.8km s-min=3.4km az=125.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^17Nm; Mrr 1.82; Mθθ 0.66; Mφφ -2.47; Mrθ -1.06; Mφθ 9.23; Mφr 1.90; Best double couple: Mo 9.60000×10^17 NP1:φs 185.00000°, δ86.00000°, λ-170.00000°. NP2:φs 94.00000°, δ80.00000°, λ-4.00000°. Principal axes: T 8.5000, Plg4.0000°, Azm319.0000°; N 2.2000, Plg80.0000°, Azm209.0000°; P -10.6000, Plg10.0000°, Azm50.0000°;*
NEIC Felt [III] at Naha and Okinawa; [II] at Chatan, Gushikawa and Yomitan. Also felt at Ginowan, Okinawa. Recorded [3 JMA] on Kume-jima and [2 JMA] on Okinawa.
BJI ***07*** *00:02:24.4, 2739N×12663E, h21km, mB5.8, mb5.2, ML5.8, Ms6.4, Msz6.2*
GCMT ***07*** *00:02:24.2±0.1, 2726N×12674E, h12km, MW6.0/106, Moment Tensor Solution. s91,c199; s106,c356; Duration: 2±3 Moment tensor: Scale 10^18Nm; Mrr-0.07±.01; Mθθ 0.18±.01; Mφφ -0.10±.01; Mrθ 0.25±.02; Mθφ 1.02±.01; Mφr-0.01±.02; Best double couple: Mo 1.06000×10^18 NP1:φs 4.00000°, δ76.00000°, λ-179.00000°. NP2:φs 274.00000°, δ89.00000°, λ-14.00000°. Principal axes: T 1.0960, Plg9.0000°, Azm320.0000°; N -0.0700, Plg76.0000°, Azm89.0000°; P -1.0250, Plg11.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***07*** *00:02:24.2±1.4, 2728N×12673E, h22km±7km, mb4.6/29, mb1 4.6/33, mb1mx4.6/36, mbtmp4.6/33, ML3.7/4, MS5.7/25, Ms1 5.8/25, ms1mx5.6/33 Error ellipse: s-maj=8.1km s-min=5.9km az=71.0*
DJA ***07*** *00:02:25, 2773N×12673E, h10km, Mwp5.7/13*
SZGRF ***07*** *00:02:29.5, 2794N×12708E, h33km, mb5.9, MS6.6, Ryukyu Islands, Japan*
ISC 07 00:02:23.0±0.6, 2734N±002×12685E±001, h10km±3km, h36km±2.5km: pP-P, n1059, σ0§93/977, mb5.4/190, MS5.9/244, 198C-193D, Northwest of Ryukyu Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JAGN Aguni-jima 0.82 154 P **Pg 00 02 38.3 -0.6**

JAGN				S	Sg	00 02 49.2	-0.4
JKE	**Kume jima 2**	**1.01**	**183**	P	Pg	00 02 39.3	-3.1
JKE				S	Sg	00 02 53.3	-2.2
JIH	**Iheya**	**1.04**	**106**	P	Pg	00 02 42.3	-0.8
JIH				S	Sg	00 02 57.7	+1.0
NAH1	**Naha**	**1.36**	**146**	P	Pn	00 02 47.8	-0.2
NAH1				*e*S	Sb	00 03 07.5	+1.6
JOW	**Kunigami**	**1.37**	**111**	P	Pn	00 02 47.9	-0.3
JOW				S	Sb	00 03 07.0	+0.7
JOW	**Kunigami**	**1.37**	**111**	Pn	Pn	00 02 47.1	-1.0
	1μm,0.3s,baz=278,slow=12,SNR=34						
JOW				Sn	Sn	00 03 06.7	+0.3
	3μm,0.3s,baz=55,slow=19,SNR=25						
JOW				LR	LR	00 03 14.2	
	comp=Z,133μm,20.8s,baz=279,slow=34						
JJT2	**Tamagusuku 2**	**1.44**	**146**	P	Pn	00 02 49.6	+0.5
JJT2				*e*S	Sn	00 03 10.1	+2.0
JTK	**Tokunoshima**	**1.92**	**76**	P	Pn	00 03 00.3	+4.5
JTK				*e*S	Sn	00 03 24.0	+4.0
JAM	**Amami Oshima**	**2.67**	**66**	P	Pn	00 03 07.2	+1.2
JAM				*e*S	Sn	00 03 43.5	+5.1
JMJ	**Miyako jima 2**	**2.87**	**209**	P	Pn	00 03 10.4	+1.6
JOGS	**Gusukube**	**2.87**	**207**	P	Pn	00 03 11.6	+2.8
JTJ	**Tarama**	**3.30**	**216**	P	Pn	00 03 14.7	-0.1
JNN	**Nakanoshima**	**3.65**	**46**	P	Pn	00 03 22.0	+2.4
JIJ	**Ishigaki jima**	**3.83**	**220**	P	Pn	00 03 22.7	+0.7
JKRS	**Kuro-shima**	**4.01**	**220**	P	Pn	00 03 25.6	+1.2
JKRS				*e*S	Sn	00 04 17.0	+5.6
IRIF	**Iriomote-Funau**	**4.10**	**224**	P	Pn	00 03 25.1	-0.6
JMZ	**Minamidaito 2**	**4.20**	**110**	P	Pn	00 03 25.8	-1.3
JMZ				*e*S	Sn	00 04 11.2	-5.0
YOJ	**Yonaguni jima**	**4.48**	**231**	P	Pn	00 03 30.7	-0.3
TATO	**Taipei**	**5.36**	**245**⇓	*e*Pn	Pn	00 03 42.9	-0.1
TATO				*e*Sn	Sn	00 04 40.0	-4.8
YHNB	**Yeheng**	**5.59**	**243**⇑	*e*Pn	Pn	00 03 37.8	-8.5
	1μm,0.8s						
YHNB				Sn	Sn	00 04 53.0	+2.4
NACB	**Ninganchiao**	**5.69**	**238**⇓	*i*Pn	Pn	00 03 47.2	-0.4
NACB				*e*Sn	Sn	00 04 50.1	-2.7
SSE	**Sheshan**	**6.20**	**308**	P	Pn	00 03 52.9	-1.7
SSE				LR	LR		
	comp=N,138μm,13.3s						
SSE				LR	LR		
	comp=E,123μm,13.3s						
SSE				LR	LR		
	comp=Z,175μm,13.0s						
QZH	**Quanzhou**	**7.79**	**254**	P	Pn	00 04 16.6	+0.2
QZH				S	Sn	00 05 44.0	-0.7
QZH				LR	LR		
	comp=N,404μm,13.2s						
QZH				LR	LR		
	comp=E,120μm,8.1s						
QZH				LR	LR		
	comp=Z,190μm,13.6s						
NJ2	**Nanjing**	**8.39**	**306**	*e*P	Pn	00 04 23.5	-1.1
NJ2				AP		00 04 30.2	
NJ2				XP		00 04 33.9	
NJ2				S	Sn	00 06 00.6	+1.2
NJ2				AMB	AMB		
	comp=Z,80nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,2μm,9.9s						
NJ2				Smax			
	comp=N,900nm,1.0s						
NJ2				Smax			
	comp=E,8μm,1.8s						
NJ2				LR	LR		
	comp=N,85μm,12.3s						
NJ2				LR	LR		
	comp=E,125μm,9.8s						
NJ2				LR	LR		
	comp=Z,118μm,11.2s						
KS15	**Wonju Array Si**	**10.12**	**5**	*e*Pn	Pn	00 04 53.3	+5.0
KSRS	**Korea Array**	**10.13**	**5**	Pn	Pn	00 04 48.9	+0.4
	comp=Z,0.5nm,0.3s,baz=194,slow=13,SNR=6.1						
KSRS				Sn	Sn	00 06 41.5	-0.7
	baz=182,slow=28,SNR=2.4						
KSRS				Lg		00 07 48.3	
	comp=Z,1.1nm,0.3s,baz=200,slow=25,SNR=4.5						
KSRS				LR	LR	00 08 58.2	
	comp=Z,22μm,19.4s,baz=187,slow=39						
KSRS	**Korea Array**	**10.13**	**5**	P	Pn	00 04 48.9	+0.4
KSRS						00 06 41.5	
KSRS				MLR	MLR		
	comp=Z,22μm,19.4s						
JKN2	**Miekihoku**	**10.63**	**47**	P	Pn	00 04 56.6	+1.2
TIA	**Tai'an**	**12.11**	**319**	*e*P	Pn	00 05 13.2	-2.3
TIA				AP		00 05 21.7	
TIA				XP		00 05 25.2	
TIA				AMB	AMB		
	comp=Z,32nm,0.6s						
TIA				LR	LR		
	comp=N,99μm,11.0s						
TIA				LR	LR		
	comp=E,144μm,10.0s						
HKC	**Hong Kong Obse**	**12.55**	**249**⇓	*i*P	Pn	00 05 24.0	+2.4
HKC				*i* S	Sn	00 07 44.0	+2.5
JHJ	**Hachijo jima 2**	**12.58**	**60**	Pn	Pn	00 05 22.7	+0.6
	comp=E,3.5nm,0.3s,baz=226,slow=4.3,SNR=22						
JHJ				Sn	Sn	00 07 44.9	+2.6
	comp=E,2.9nm,0.3s,baz=72,slow=20,SNR=1.8						
JHJ				LR	LR	00 09 59.4	
	comp=E,39μm,20.2s,baz=73,slow=36						
MAJO	**Matsushiro**	**13.31**	**44**	*e*Pn	Pn	00 05 33.3	+1.3
MAJO				*e*S	Sn	00 07 51.7	-8.2
MAT	**Matsushiro**	**13.31**	**44**	P	Pn	00 05 33.1	+1.1
MJAR	**Matsushiro Arr**	**13.31**	**44**	Pn	Pn	00 05 32.9	+0.9
	comp=E,0.6nm,0.3s,baz=240,slow=13,SNR=53						
MJAR				LR	LR	00 11 08.8	
	comp=E,30μm,20.0s,baz=225,slow=39						
CBIJ	**Chichi jima**	**13.65**	**87**	Pn	Pn	00 05 38.4	+1.6
	comp=E,1.0nm,0.3s,baz=318,slow=12,SNR=2.1						
SNY	**Shenyang**	**14.70**	**350**	⇑P	Pn	00 05 53.7	+2.7
SNY				AP	pP	00 06 02.1	+2.0
SNY				PP		00 06 04.5	
SNY				S	Sn	00 08 38.2	+4.2
SNY				XS	sS	00 08 45.2	-12
SNY				SS		00 08 54.0	
SNY				AMB	AMB		
	comp=Z,68nm,1.6s						
SNY				AMB	AMB		
	comp=Z,428nm,11.2s						
SNY				LR	LR		
	comp=N,62μm,14.1s						
SNY				LR	LR		
	comp=E,183μm,16.5s						
SNY				LR	LR		
	comp=Z,66μm,12.7s						
BJT	**Baijiatuau**	**15.44**	**328**	*e*Pn	Pn	00 05 52.8	-8.1
BJT				*e*Sn	Sn	00 09 02.9	+11
BJI	**Beijing**	**15.46**	**328**	P	Pn	00 06 02.5	+1.5
BJI				AMB	AMB		
	comp=Z,64nm,1.2s						
BJI				AMB	AMB		
	comp=Z,3μm,4.0s						
BJI				LR	LR		
	comp=N,74μm,13.9s						
BJI				LR	LR		
	comp=E,53μm,15.5s						
BJI				LR	LR		
	comp=Z,47μm,26.3s						
TIY	**Taiyuan**	**15.94**	**314**⇑	*i*P	Pn	00 06 08.3	+0.9
TIY				S	Sn	00 09 09.3	+5.1
TIY				AMB	AMB		
	comp=Z,10μm,5.0s						
TIY				LR	LR		
	comp=N,61μm,11.1s						
TIY				LR	LR		
	comp=E,82μm,12.4s						
TIY				LR	LR		
	comp=Z,88μm,12.3s						
VLA	**Vladivostok**	**16.27**	**13**	*e*P	Pn	00 06 14.0	+2.4
VLA				*e*S	Sn	00 09 21.6	+9.5
VLA				pmax	pmax		
	comp=Z,567nm,2.1s						
VLA				MLR	MLR		
	comp=Z,33μm,13.0s						
VLA	**Vladivostok**	**16.27**	**13**⇑	*i*P	Pn	00 06 14.4	+2.8
CN2	**Changchun**	**16.47**	**356**	⇑P	Pn	00 06 16.6	+2.5
CN2				*e*XP	sP	00 06 27.7	+6.7
CN2				*e*S	Sn	00 09 17.6	+0.7
CN2				AMB	AMB		
	comp=Z,50nm,1.4s						
CN2				AMB	AMB		
	comp=Z,5μm,6.0s						
CN2				LR	LR		
	comp=Z,93μm,12.0s						
XAN	**Xi'an**	**16.79**	**298**	P	Pn	00 06 17.2	-1.1
XAN				AP	pP	00 06 28.0	+4.7
XAN				S	Sn	00 09 24.2	-0.7
XAN				AMB	AMB		
	comp=Z,34nm,1.4s						
XAN				AMB	AMB		
	comp=Z,4μm,12.5s						
XAN				LR	LR		
	comp=N,54μm,12.6s						
XAN				LR	LR		
	comp=E,36μm,15.6s						
XAN				LR	LR		
	comp=Z,69μm,13.9s						
MDJ	**Mudanjiang**	**17.39**	**7**	P	Pn	00 06 30.0	+4.4
MDJ				AP	pP	00 06 37.6	+7.8
MDJ				XP	sP	00 06 41.9	+11
MDJ				S	Sn	00 09 45.1	+6.0
MDJ				AMB	AMB		
	comp=Z,72nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,3μm,6.9s						
MDJ				LR	LR		
	comp=N,52μm,14.5s						
MDJ				LR	LR		
	comp=E,129μm,12.7s						
MDJ				LR	LR		
	comp=Z,46μm,16.2s						
MDJ	**Mudanjiang**	**17.39**	**7**⇓	*i*Pn	Pn	00 06 29.5	+3.9
	comp=Z,211nm,1.2s						
MDJ				*e*Sn	Sn	00 09 48.1	+9.0
MDJ				*e*PcP	PcP	00 11 15.9	+8.8
QIZ	**Qiongzhong**	**17.67**	**246**	P	Pn	00 06 29.9	+0.6
QIZ				XP	sP	00 06 42.9	+8.5
QIZ				S	Sn	00 09 46.9	+0.6
QIZ				AMB	AMB		
	comp=Z,59nm,1.9s						
QIZ				AMB	AMB		
	comp=Z,8μm,10.8s						
QIZ				LR	LR		
	comp=N,58μm,12.5s						
QIZ				LR	LR		
	comp=Z,34μm,16.2s						
QIZ	**Qiongzhong**	**17.67**	**246**⇓	*e*Pn	Pn	00 06 31.3	+2.0
	comp=Z,261nm,1.7s						
QIZ				*e*Sn	Sn	00 09 47.5	+1.3
QIZ				PcP	PcP	00 11 07.8	-0.2
GYA	**Guiyang**	**18.02**	**272**⇓	*i*P	Pn	00 06 36.4	+2.7
GYA				AP	pP	00 06 43.8	+6.8
GYA				PP		00 06 50.4	
GYA				S	Sn	00 09 53.5	-1.3
GYA				XS	sS	00 10 04.6	-0.9
GYA				SS		00 10 13.2	
GYA				AMB	AMB		
	comp=Z,80nm,1.0s						
GYA				AMB	AMB		
	comp=Z,3μm,7.8s						
GYA				LR	LR		
	comp=N,41μm,10.2s						
GYA				LR	LR		
	comp=E,54μm,14.2s						
GYA				LR	LR		
	comp=Z,75μm,13.2s						
PPR	**Puerto Princes**	**19.07**	**205**⇑	*i*P	Pn	00 06 44.6	-1.9
BTO	**Baotou**	**19.19**	**318**	*e*P	Pn	00 06 46.4	-1.3
BTO				LR	LR		
	comp=N,29μm,12.3s						
BTO				LR	LR		
	comp=E,19μm,15.2s						
BUKP	**Musuan**	**19.42**	**185**	*e*P	Pn	00 06 49.9	-0.8
DAV	**Davao City (W)**	**20.19**	**184**	*e*P	P	00 06 57.7	-0.2
DAV				*e*S	S	00 10 50.5	+5.9
DAV				LR	LR		
	comp=Z,23μm,20.0s,MS5.5						
CD2	**Chengdu**	**20.47**	**286**⇑	*i*P	P	00 07 00.6	-0.3
CD2				AP		00 07 09.8	
CD2				XP	sP	00 07 14.5	+9.3
CD2				PP		00 07 21.5	
CD2				S	S	00 10 42.3	-7.8
CD2				XS	sS	00 10 59.1	+4.3
CD2				SS		00 11 12.5	
CD2				AMB	AMB		
	comp=Z,480nm,1.2s						
CD2				AMB	AMB		
	comp=Z,440nm,5.0s						
CD2				LR	LR		
	comp=N,185μm,17.4s						
CD2				LR	LR		
	comp=E,141μm,12.0s						
CD2				LR	LR		
	comp=Z,97μm,15.6s,MS6.3						
ASAJ	**Asahikawa**	**21.01**	**33**	P	P	00 07 06.4	-0.2
	comp=Z,5.1nm,0.6s,baz=235,slow=11,SNR=7.5						
ASAJ				S	S	00 11 03.8	+3.3
	comp=Z,2.7nm,0.6s,baz=229,slow=19,SNR=1.8						
ASAJ				LR	LR	00 15 21.1	
	comp=Z,30μm,19.3s,MS5.7,baz=242,slow=37						
ASAJ	**Asahikawa**	**21.01**	**33**	P	P	00 07 06.4	-0.2
ASAJ				S	S	00 11 03.8	+3.3
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ASAJ				smax			
	comp=N,3.0nm,0.6s						
ASAJ				MLR	MLR		
	comp=Z,30μm,19.3s						
LZH	**Lanzhou**	**21.39**	**300**	⇑P	P	00 07 11.7	+0.9
LZH				AP		00 07 18.8	
LZH				XP	sP	00 07 23.7	+8.7
LZH				PP		00 07 35.5	
LZH				S	S	00 11 09.0	+0.9
LZH				SS		00 11 37.0	
LZH				AMB	AMB		
	comp=Z,700nm,1.3s,mb5.8						
LZH				AMB	AMB		
	comp=Z,2μm,4.5s						
LZH				LR	LR		
	comp=N,57μm,11.4s						
LZH				LR	LR		
	comp=Z,58μm,12.8s,MS6.2						
GUMO	**Guam**	**21.69**	**126**	P	P	00 07 14.4	+0.3
	comp=Z,187nm,1.0s,mb5.5,baz=235,slow=2.9,SNR=15						
GUMO				S	S	00 11 16.0	+1.7
	comp=Z,18nm,0.3s,baz=322,slow=19,SNR=2.3						
GUMO				LR	LR	00 13 48.5	
	comp=Z,18μm,20.6s,MS5.5,baz=302,slow=32						
GUMO	**Guam**	**21.69**	**126**	P	P	00 07 14.4	+0.3
GUMO				S	S	00 11 16.0	+1.7
GUMO				pmax	pmax		
	comp=Z,187nm,1.0s,mb5.5						
GUMO				smax			
	comp=N,18nm,0.3s						
GUMO				MLR	MLR		
	comp=Z,18μm,20.6s,MS5.5						
GUMO	**Guam**	**21.69**	**126**⇑	*e*P	P	00 07 14.5	+0.3
	comp=Z,519nm,1.1s,mb5.9						
GUMO				*e*S	S	00 11 12.4	-1.9
GUMO				LR	LR		
	comp=Z,20μm,22.0s,MS5.5						
KMI	**Kunming**	**21.73**	**270**	P	P	00 07 15.4	+0.9
KMI				AP		00 07 23.9	
KMI				XP	sP	00 07 27.5	+8.7
KMI				S	S	00 11 15.5	+0.5
KMI				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.3						
KMI				AMB	AMB		
	comp=Z,822nm,4.8s						
KMI				LR	LR		
	comp=N,92μm,13.9s,MS6.3						
KMI				LR	LR		
	comp=E,27μm,16.7s,MS6.3						
KMI				LR	LR		
	comp=Z,38μm,13.9s,MS6.0						
KLR	**Kul'dur**	**22.19**	**9**	*c*eP	P	00 07 15.2	-4.0
KLR				*e*S	S	00 11 18.0	-5.5
KLR				*e*SS		00 12 13.5	
KLR				pmax	pmax		
	comp=Z,200nm,2.0s,mb5.2						
KLR				pmax	pmax		
	comp=E,2μm,7.0s						
KLR				pmax	pmax		
	comp=Z,2μm,7.0s						
KLR				MLR	MLR		
	comp=Z,50μm,13.0s,MS6.1						
KDM	**Kudat**	**22.42**	**207**	⇓P	P	00 07 26.2	+4.3
HIA	**Hailar**	**22.57**	**348**	*e*P	P	00 07 23.1	-0.2
YUK	**Yuzh-Kuril'sk**	**22.63**	**38**⇓	*i*P	P	00 07 23.0	-1.0
YUK				*e*		00 07 55.0	
YUK				*e*S	S	00 11 30.0	-2.2
YUK				pmax	pmax		
	comp=N,3μm,4.0s						
YUK				pmax	pmax		
	comp=Z,4μm,4.0s						
YUK				pmax	pmax		
	comp=E,3μm,5.0s						
YUK				smax			
	comp=E,8μm,12.0s						
YUK				smax			
	comp=N,12μm,13.0s						
YUK				MLR	MLR		
	comp=N,33μm,14.0s,MS6.0						
YUK				MLR	MLR		
	comp=Z,24μm,14.0s,MS5.8						
YUK				MLR	MLR		
	comp=E,6μm,10.0s,MS6.0						
YSS	**Yuzh-Sakhalins**	**23.25**	**28**⇓	*e*P	P	00 07 28.0	-2.5
YSS				*e*		00 07 38.0	
YSS				*e*		00 08 02.0	
YSS				*e*S	S	00 11 35.0	-7.3
YSS				*e*		00 11 48.0	
YSS				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.1						
YSS				MLR	MLR		
	comp=N,15μm,13.0s,MS6.0						
YSS				MLR	MLR		
	comp=Z,49μm,13.0s,MS6.1						
YSS				MLR	MLR		
	comp=E,32μm,14.0s,MS6.0						
YSS	**Yuzh-Sakhalins**	**23.25**	**28**	*e*P	P	00 07 30.4	-0.1
YSS				S	S	00 11 44.0	+1.7
YSS				LR	LR		
	comp=Z,7μm,20.0s,MS5.1						
MYLDM	**Lahad Datu**	**23.42**	**201**	⇓P	P	00 07 36.2	+3.6
SDKM	**Sandakan**	**23.45**	**205**	⇑P	P	00 07 33.7	+0.8
KKM	**Kota Kinabalu**	**23.46**	**207**	⇓P	P	00 07 33.7	+0.7
KKM	**Kota Kinabalu**	**23.46**	**207**⇓	*e*P	P	00 07 32.6	-0.4
KKM				*e*S	S	00 11 55.0	+8.7
KKM				LR	LR		
	comp=Z,15μm,21.0s,MS5.4						
TSM	**Tawau**	**24.46**	**202**	⇓P	P	00 07 42.3	+0.1
GTA	**Gaotai**	**25.48**	**305**	*e*P	P	00 07 50.6	-0.7
GTA				AP	pP	00 08 02.3	+7.9
GTA				XP	sP	00 08 07.7	+12
GTA				PP		00 08 33.5	
GTA				PCP	PcP	00 11 27.9	+4.9
GTA				S	S	00 12 15.3	-3.2
GTA				AMB	AMB		
	comp=Z,101nm,1.5s,mb5.1						
GTA				AMB	AMB		
	comp=Z,2μm,6.5s						
GTA				LR	LR		
	comp=N,68μm,16.3s,MS6.4						
GTA				LR	LR		
	comp=E,45μm,14.8s,MS6.4						
GTA				LR	LR		
	comp=Z,67μm,17.9s,MS6.2						
SONM	**Songino Array**	**25.96**	**327**	P	P	00 07 55.5	-0.1
	comp=Z,63nm,1.1s,mb5.1,baz=139,slow=10,SNR=34						
SONM				S	S	00 12 31.9	+6.1
	comp=Z,0.9nm,0.9s,baz=120,slow=20,SNR=2.6						
SONM				LR	LR	00 19 19.9	
	comp=Z,47μm,19.3s,MS6.0,baz=135,slow=39						
SONM	**Songino Array**	**25.96**	**327**	P	P	00 07 55.5	0.0
SONM				S	S	00 12 31.9	+6.1
TNE	**Ternate**	**26.40**	**179**⇓	*e*P	P	00 08 01.0	+1.2
CIT	**Chita**	**26.61**	**342**	*e*P	pP	00 08 11.8	+7.3
CIT				*e*		00 08 24.1	
CIT				*e*		00 08 43.0	
CIT				pmax	pmax		
	comp=Z,317nm,1.4s,mb5.7						
CHTO	**Chiang Mai**	**26.99**	**258**	*e*P	P	00 08 05.0	-0.1
CHTO				*e*S	S	00 12 20.9	-22
CHTO				LR	LR		
	comp=Z,13μm,21.0s,MS5.5						
CM31	**Chiang Mai Arr**	**27.13**	**257**	*e*P	P	00 08 03.3	-3.1
	comp=Z,18nm,0.8s,mb4.7						
CM31				*e*S	S	00 13 17.1	+32
CM31				LR	LR		
	comp=Z,36μm,19.0s,MS6.0						
CMAR	**Chiang Mai Arr**	**27.13**	**257**	P	P	00 08 06.2	-0.2
	comp=Z,3.0nm,0.8s,baz=58,slow=7.3,SNR=9.8						
CMAR				S	S	00 12 57.0	+12
	comp=Z,0.5nm,0.4s,baz=55,slow=16,SNR=2.6						
CMAR				LR	LR	00 18 12.7	
	comp=Z,11μm,20.0s,MS5.4,baz=67,slow=35						
BTM	**Bintulu**	**27.37**	**211**	⇑P	P	00 08 12.1	+3.5
SBUM	**Sibu**	**28.43**	**212**	⇓P	P	00 08 15.0	-3.0
PCI	**Palu**	**28.88**	**195**⇑	*e*P	P	00 08 24.0	+2.0
	comp=Z,3.0nm,1.0s						
ZAK	**Zakamensk**	**29.20**	**328**⇑	*e*P	P	00 08 24.2	-0.4
ZAK				pmax	pmax		
	comp=Z,14nm,1.8s,mb4.4						
CLNS	**Chul'man**	**29.52**	**358**	*e*P	P	00 08 19.2	-8.1
CLNS				*e*S	S	00 13 16.4	-5.2
CLNS				*e*		00 15 15.0	
CLNS				pmax	pmax		
	comp=Z,49nm,1.5s,mb5.0						
CLNS				pmax	pmax		
	comp=N,36nm,1.3s						
CLNS				pmax	pmax		
	comp=E,13nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
CLNS				pmax	pmax		
	comp=N,41nm,1.2s						
CLNS				pmax	pmax		
	comp=E,23nm,1.0s						
CLNS				smax			
	comp=N,1μm,14.1s						
CLNS				smax			
	comp=E,2μm,13.5s						
CLNS				MLR	MLR		
	comp=Z,49μm,12.0s,MS6.4						
CLNS				MLR	MLR		
	comp=N,46μm,13.0s,MS6.3						
CLNS				MLR	MLR		
	comp=E,10μm,12.0s,MS6.3						
TLY	**Talaya**	**29.95**	**331**	*c i*P	P	00 08 30.9	-0.2
TLY				*e*		00 09 22.8	
TLY				*e*PPP		00 09 41.3	
TLY				*e*S	S	00 13 24.8	-3.7
TLY				*e*SS	SS	00 15 02.1	-34
TLY				pmax	pmax		
	comp=Z,66nm,1.2s,mb5.2						
TLY				MLR	MLR		
	comp=Z,41μm,14.0s,MS6.2						
TLY	**Talaya**	**29.95**	**331**	*e*P	P	00 08 32.0	+0.9
TLY				*e*S	S	00 13 36.9	+8.4
TLY				LR	LR		
	comp=Z,34μm,20.0s,MS6.0						
IRK	**Irkutsk**	**30.08**	**332**	*e*P	P	00 08 33.4	+1.0
IRK				pmax	pmax		
	comp=Z,269nm,2.6s,mb5.5						
KSM	**Kuching**	**30.21**	**214**	⇓P	P	00 08 34.7	+0.9
KSM	**Kuching**	**30.21**	**214**⇓	*e*P	P	00 08 33.9	+0.1
KSM				*e*PP	PP	00 09 46.7	+4.6
KSM				*e*PcP	PcP	00 11 51.9	+17
KSM				*e*S	S	00 13 26.4	-7.0
MOY	**Mondy**	**31.14**	**328**	*e*P	P	00 08 42.2	+0.5
MOY				pmax	pmax		
	comp=Z,352nm,2.6s,mb5.7						
SHL	**Shillong**	**31.29**	**275**⇑	*i*P	P	00 08 42.0	-1.4
	comp=Z,37nm,0.7s,mb5.3						
SHL				*i* x	x	00 13 48.0	
KDI	**Kendari**	**31.38**	**188**⇑	*e*P	P	00 08 42.8	-1.3
KDI				*e*S	S	00 13 50.7	-0.8
LSA	**Lhasa**	**31.38**	**283**	P	P	00 08 43.0	-1.1
LSA				S	S	00 13 52.0	+0.5
LSA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
LSA				LR	LR		
	comp=N,20μm,23.6s						
LSA				LR	LR		
	comp=E,20μm,15.7s						
LSA				LR	LR		
	comp=Z,24μm,16.5s						
LSA	**Lhasa**	**31.38**	**283**⇑	*e*P	P	00 08 43.5	-0.6
LSA				*e*		00 09 58.0	
LSA				*e*		00 15 33.8	
LSA				pmax	pmax		

comp=Z,16nm,0.8s,mb4.9
LSA MLR MLR
comp=Z,25μm,21.0s,MS5.9
LSA Lhasa 31.38 283⇑ *e*P **P** **00 08 43.5 -0.6**
comp=Z,16nm,0.8s,mb4.9
LSA *e*PP PP 00 09 58.0 +3.1
LSA *e*PcP PcP 00 11 28.7 -9.1
LSA *e*ScP ScP 00 15 33.8 +13
LSA LR LR
comp=Z,25μm,21.0s,MS5.9
BOD Bodaibo 31.79 347 *e*P **P** **00 08 49.1 +1.8**
BOD *e* 00 19 14.5
BOD pmax pmax
comp=Z,23nm,1.6s,mb4.8
KAPI Kappang 32.88 193 P **P** **00 08 57.5 +0.1**
comp=Z,25nm,1.1s,mb5.1,baz=43,slow=2.4,SNR=4.6
KAPI S **S** **00 14 15.6 +0.6**
comp=Z,3.1nm,0.5s,baz=52,slow=19,SNR=1.8
KAPI LR LR 00 22 20.7
comp=Z,8μm,19.8s,MS5.4,baz=20,slow=36
KAPI Kappang 32.88 193 *e*P **P** **00 08 57.4 +0.1**
KAPI *e*pP pP 00 09 13.6 +13
KAPI *e*PcP PcP 00 11 39.0 -3.1
KAPI *e*S **S** **00 14 26.2 +11**
KAPI LR LR
comp=Z,7μm,21.0s,MS5.3
MKS Makassar 33.14 194⇑ *e*P **P** **00 09 01.2 +1.6**
MKS *e*S **S** **00 14 22.5 +3.5**
KULM Kulim 33.21 233 ⇑P **P** **00 09 01.4 +1.1**
IPM Ipoh 33.51 232 ⇓P **P** **00 09 03.2 +0.3**
MYKOM Kota Tinggi 33.62 225 ⇓P **P** **00 09 05.5 +1.6**
KGM Kluang 33.79 226 ⇑P **P** **00 09 07.4 +2.2**
FRIM Kepong 33.99 230 ⇓P **P** **00 09 09.7 +2.7**
PETK Petropavlovsk- 34.43 33 P **P** **00 09 08.9 -1.5**
comp=Z,7.2nm,0.9s,mb4.6,baz=191,slow=7.2,SNR=3.8
PETK S **S** **00 14 42.0 +3.7**
comp=Z,2.9nm,0.8s,baz=184,slow=20,SNR=3.6
PETK LR LR 00 22 42.8
comp=Z,13μm,21.8s,MS5.6,baz=227,slow=35
HVS Khovu-Aksy 34.51 323*d* *i*P **P** **00 09 10.8 -0.4**
HVS pmax pmax
comp=Z,100nm,1.3s,mb5.6
HVS MLR MLR
comp=Z,280μm,16.0s,MS7.1
TAPN Taplejung 34.67 279 *e*P **P** **00 09 12.4 -0.4**
comp=Z,312nm,1.4s,mb6.0
YAK Yakutsk 34.74 2 *e*P **P** **00 09 12.7 -0.4**
YAK *e*S **S** **00 14 35.0 -8.0**
YAK pmax pmax
comp=Z,52nm,1.3s,mb5.3
YAK MLR MLR
comp=Z,21μm,12.8s,MS6.1
YAK Yakutsk 34.74 2⇓ *e*P **P** **00 09 10.9 -2.1**
YAK *e*S **S** **00 14 40.6 -2.4**
YAK LR LR
comp=Z,25μm,19.0s,MS6.0
PET Petropavlovsk 34.85 34 *e*P **P** **00 09 12.3 -1.8**
PET *e*S **S** **00 14 34.1 -11**
PET pmax pmax
comp=Z,600nm,17.9s
PET MLR MLR
comp=Z,22μm,22.0s,MS5.9
PET Petropavlovsk 34.85 34 *e*P **P** **00 09 13.7 -0.4**
PET *e*S **S** **00 14 42.5 -2.3**
PET LR LR
comp=Z,21μm,22.0s,MS5.8
ODAN Odare 35.03 278 *e*P **P** **00 09 15.0 -1.0**
comp=Z,247nm,1.0s,mb6.1
CAL Calcutta 35.15 271 *e*P **P** **00 09 23.2 +6.1**
CAL *e*S **S** **00 14 52.3 +2.1**
CAL AMP 00 26 27.0
comp=Z,19μm,18.5s
WMQ Urumqi 35.46 308 P **P** **00 09 19.5 0.0**
WMQ AP pP 00 09 31.6 +9.0
WMQ PP PP 00 10 40.1 +0.2
WMQ PCP PcP 00 11 49.0 0.0
WMQ S **S** **00 14 50.2 -4.3**
WMQ SCP ScP 00 15 29.8 -5.2
WMQ SS SS 00 17 09.9 -19
WMQ SCS ScS 00 19 32.8 -6.5
WMQ AMB AMB
comp=Z,98nm,1.6s,mb5.5
WMQ AMB AMB
comp=Z,405nm,8.4s
WMQ LR LR
comp=N,32μm,18.4s,MS6.2
WMQ LR LR
comp=E,24μm,19.8s,MS6.2
WMQ LR LR
comp=Z,25μm,22.8s,MS5.9
JIRN Jiri 35.95 280 *e*P **P** **00 09 23.4 -0.5**
comp=Z,111nm,1.1s,mb5.7
PSI Prapat 36.17 232 P **P** **00 09 26.4 +0.5**
comp=Z,40nm,1.1s,mb5.3,baz=72,slow=9.2,SNR=9.0
PSI S **S** **00 15 02.8 -3.1**
comp=Z,2.6nm,0.4s,baz=3.8,slow=15,SNR=3.2
PSI LR LR 00 24 50.6
comp=Z,8μm,19.0s,MS5.5,baz=51,slow=37
PSI Prapat 36.17 232 P **P** **00 09 26.4 +0.5**
PSI S **S** **00 15 02.8 -3.1**
GUN Gumba 36.18 281 *e*P **P** **00 09 25.4 -0.5**
comp=Z,192nm,1.1s,mb5.9
PKI Pulchoki 36.65 280 *e*P **P** **00 09 28.9 -1.0**
comp=Z,243nm,1.3s,mb5.9
KKN Kakani 36.73 281 *e*P **P** **00 09 29.6 -0.9**
comp=Z,115nm,1.0s,mb5.7
DMN Daman 36.91 280 *e*P **P** **00 09 31.1 -1.0**
comp=Z,307nm,1.4s,mb6.0
GKN Gorkha 37.25 281 *e*P **P** **00 09 34.6 -0.4**
BATI Baumata 37.44 185 P **P** **00 09 39.1 +2.5**
comp=Z,95nm,0.7s,mb5.8,baz=315,slow=8.6,SNR=7.9
BATI S **S** **00 15 23.4 -1.7**
comp=Z,24nm,0.5s,baz=13,slow=18,SNR=2.4
TRT Tretes 37.45 204⇓ *e*P **P** **00 09 35.5 -1.2**
KRAR Krasnoyarsk 37.60 329 *i* P **P** **00 09 35.6 -2.0**
KRAR pmax pmax
comp=Z,13nm,1.3s,mb4.5
KRAR MLR MLR
comp=Z,23μm,16.0s,MS6.1
DANN Dangsing 37.96 282 *e*P **P** **00 09 40.6 -0.4**
comp=Z,215nm,0.9s,mb5.9
KOLN Koldanda 38.20 281 *e*P **P** **00 09 42.3 -0.7**
comp=Z,107nm,0.9s,mb5.6
SEY Seymchan 39.34 18 *e*P **P** **00 09 50.6 -1.5**
MK31 Makanchi Array 39.88 311 *e*P **P** **00 09 55.1 -1.7**
MK31 *e* 00 11 28.8
MKAR Makanchi Array 39.88 311 P **P** **00 09 55.2 -1.6**
comp=Z,12nm,0.6s,mb4.8,baz=97,slow=9.8,SNR=27
MKAR S **S** **00 15 59.6 -1.9**
comp=Z,1.1nm,0.9s,baz=118,slow=16,SNR=3.5
MKAR LR LR 00 28 01.2
comp=Z,11μm,20.8s,MS5.7,baz=108,slow=39
MKAR Makanchi Array 39.88 311 P **P** **00 09 55.2 -1.6**
MKAR S **S** **00 15 59.6 -1.9**
MKAR Makanchi Array 39.88 311 P **P** **00 09 55.2 -1.6**
MKAR S **S** **00 15 59.6 -1.9**
MKAR LR LR 00 28 01.2
KAKA Kakadu 40.17 172 *e*P **P** **00 09 57.7 -1.8**
comp=Z,425nm,2.0s,mb5.8
ZAA0 Zalesovo Array 40.62 323⇑ *e*P **P** **00 10 01.4 -1.5**
ZALV Zalesovo Beam 40.62 323 P **P** **00 10 01.9 -1.0**
comp=Z,11nm,0.7s,mb4.6,baz=111,slow=8.0,SNR=22
ZALV S **S** **00 16 10.0 -2.4**
comp=Z,0.5nm,0.3s,baz=94,slow=10,SNR=2.0
ZALV LR LR 00 28 20.3
comp=Z,26μm,18.6s,MS6.1,baz=120,slow=38
ZAL Zalesovo 40.63 323 P **P** **00 10 01.9 -1.0**
ZAL S **S** **00 16 10.0 -2.5**
PTH Pithoragarh 40.85 284 *e*P **P** **00 10 04.8 -0.3**
PMG Port Moresby 41.49 149 *e*P **P** **00 10 09.7 -0.7**
PMG *e* 00 11 46.1
PMG *e* 00 12 07.6
PMG *e*S **S** **00 16 25.4 -0.7**
PMG pmax pmax
comp=Z,416nm,2.0s
PMG MLR MLR
comp=Z,15μm,21.0s
PMG Port Moresby 41.49 149 *e*P **P** **00 10 09.7 -0.7**
comp=Z,416nm,2.0s,mb5.7
PMG *e*PP PP 00 11 46.1 -0.3
PMG *e*PcP PcP 00 12 07.6 -0.5
PMG *e*S **S** **00 16 25.4 -0.7**
PMG LR LR
comp=Z,15μm,21.0s,MS5.8
NVS Novosibirsk 41.83 323 *e*P **P** **00 10 09.1 -3.7**
NVS *e*S **S** **00 16 19.2 -11**
NVS pmax pmax
comp=N,200nm,2.2s
NVS pmax pmax
comp=E,265nm,2.2s
NVS pmax pmax
comp=Z,385nm,2.2s,mb5.6
NVS smax
comp=N,171nm,3.3s
NVS smax
comp=E,173nm,2.8s
KLP Kalpa 42.26 288 *e*P **P** **00 10 17.5 +0.9**
KLP AMb AMB 00 10 28.1
comp=Z,62nm,1.1s,mb5.1
AAA Alma-Ata 43.07 305 *i* P **P** **00 10 21.9 -1.2**
AAA *i* S **S** **00 16 54.6 +5.7**
AAA pmax pmax
comp=Z,650nm,4.9s
AAA smax
comp=E,4μm,9.9s
AAA MLR MLR
comp=Z,32μm,14.3s,MS6.4
SMY Shemya 43.13 41 PFAKE 00 10 40.0 +17
SMY LR LR
comp=Z,5μm,21.0s,MS5.3
KURK Kurchatov 43.17 316 *e*P **P** **00 10 22.7 -1.0**
KURK pmax pmax
comp=Z,72nm,1.7s,mb5.1
KURK MLR MLR
comp=Z,53μm,16.0s,MS6.5
ULHL Ulahol 43.52 304 P **P** **00 10 27.2 +0.5**
SNR=12
NDI New Delhi 43.58 284 *e*P **P** **00 10 26.8 -0.6**
NDI *ex* x 00 16 10.0
KSH Kashi 43.64 300 P **P** **00 10 29.2 +1.5**
KSH AP pP 00 10 41.3 +10
KSH PP PP 00 12 12.8 +3.7
KSH PCP PcP 00 12 16.7 +1.7
KSH SCP ScP 00 16 02.0 -4.7
KSH PCS PcS 00 16 07.7 0.0
KSH S **S** **00 16 54.8 -2.5**
KSH SS SS 00 20 03.7 -8.6
KSH AMB AMB
comp=Z,164nm,0.9s,mb5.8
KSH AMB AMB
comp=Z,2μm,3.8s
KSH LR LR
comp=N,69μm,11.3s,MS7.0
KSH LR LR
comp=E,67μm,10.9s,MS7.0
KSH LR LR
comp=Z,42μm,11.8s,MS6.6
SONA Sohna 43.78 283 *e*P **P** **00 10 28.7 -0.3**
NGP Nagpur 43.81 273 *e*P **P** **00 10 28.7 -0.6**
NGP *ex* x 00 16 54.6
COEN Coen 44.00 157 *e*P **P** **00 10 31.0 +0.3**
comp=Z,185nm,1.7s,mb5.5
COEN *e* 00 10 36.8
COEN *e*PP PP 00 12 13.3 -0.1
COEN *e*PcP PcP 00 12 16.2 -0.3
TKM2 Tokmak 2 44.03 304⇑ *e*P **P** **00 10 31.4 +0.6**
TKM2 *e* 00 12 24.3
TKM2 *e*S **S** **00 17 15.6 +13**
TKM2 pmax pmax
comp=Z,161nm,1.3s,mb5.6
TKM2 MLR MLR
comp=Z,20μm,21.0s,MS6.0
TKM2 Tokmak 2 44.03 304⇑ *e*P **P** **00 10 31.4 +0.6**
comp=Z,160nm,1.3s,mb5.6
TKM2 *e*PP PP 00 12 24.2 +11
TKM2 *e*S **S** **00 17 15.6 +13**
TKM2 LR LR
comp=Z,20μm,21.0s,MS6.0
KZA Kyzart 44.24 303 P **P** **00 10 34.4 +1.9**
SNR=5.3
THN Thein Dam 44.28 289 *e*P **P** **00 10 33.6 +0.6**
KUDL Kundal 44.31 283 *e*P **P** **00 10 32.6 -0.7**
KUDL AMb AMB 00 10 43.8
comp=Z,138nm,1.6s,mb5.4
TIXI Tiksi 44.37 1 *e*P **P** **00 10 30.1 -3.0**
TIXI *e*S **S** **00 17 02.8 -4.4**
TIXI *e*SS SS 00 20 23.7 -1.9
TIXI pmax pmax
comp=Z,40nm,2.0s,mb4.8
TIXI MLR MLR
comp=Z,31μm,11.0s,MS6.5
TIXI MLR MLR
comp=N,14μm,10.0s,MS6.2
TIXI MLR MLR
comp=E,9μm,12.0s,MS6.2
TIXI Tiksi 44.37 1⇑ *e*P **P** **00 10 28.9 -4.2**
comp=E,153nm,1.5s,mb5.5
TIXI *e*S S 00 17 27.7 +20
TIXI LR LR
comp=Z,37μm,20.0s,MS6.3
KBK Karagaybulak 44.49 304 P **P** **00 10 35.2 +0.7**
SNR=17
CHMS Chumysh 44.66 305 P **P** **00 10 36.0 +0.2**
SNR=14
FRU Bishkek 44.75 304⇑ *e*P **P** **00 10 36.0 -0.5**
FRU *e*S **S** **00 17 17.0 +3.6**
FRU *e*SS SS 00 20 32.0 -1.7
FRU pmax pmax
comp=Z,300nm,2.1s,mb5.8
FRU MLR MLR
comp=Z,33μm,15.0s,MS6.4
UCH Uchtor 44.80 303 P **P** **00 10 38.6 +1.6**
SNR=16
UCH Uchtor 44.80 303⇑ *i*P **P** **00 10 38.0 +1.1**
comp=Z,118nm,1.2s,mb5.6
UCH *e*PcP PcP 00 12 24.3 +5.4
UCH *e*S **S** **00 17 19.2 +5.0**
UCH LR LR
comp=Z,7μm,20.0s,MS5.6
AAK Ala-Archa 44.83 304 P **P** **00 10 37.4 +0.2**
SNR=8.7
USP Ospenovka 44.85 305 P **P** **00 10 37.3 -0.1**
SNR=9.2
FITZ Fitzroy Crossi 45.18 182 *e*P **P** **00 10 39.5 -0.6**
comp=Z,39nm,0.7s,mb5.3
FITZ *e*S **S** **00 17 11.7 -8.2**
FITZ Fitzroy Crossi 45.18 182 P **P** **00 10 39.2 -0.9**
comp=Z,7.9nm,1.0s,mb4.5,baz=9.8,slow=9.7,SNR=10
FITZ Fitzroy Crossi 45.18 182⇓ *e*P **P** **00 10 39.9 -0.3**
FITZ *e*PcP PcP 00 12 22.2 +1.8
FITZ *e*S **S** **00 17 11.7 -8.2**
EKS2 Erkin-Say 45.36 304 P **P** **00 10 41.6 +0.2**
SNR=12
EKS2 Erkin-Say 45.36 304⇑ *e*P **P** **00 10 41.5 0.0**
comp=Z,64nm,1.3s,mb5.3
EKS2 *e*PP PP 00 12 29.1 +1.7
EKS2 *e*S **S** **00 17 24.5 +2.2**
EKS2 LR LR
comp=Z,20μm,22.0s,MS6.0
AML Almayashu 45.40 303 P **P** **00 10 42.9 +1.1**
SNR=16
AML Almayashu 45.40 303⇑ *i*P **P** **00 10 42.4 +0.6**
AML *e*PcP PcP 00 12 22.2 +1.2
AML *e*S **S** **00 17 36.2 +13**
AML LR LR
comp=Z,13μm,19.0s,MS5.9
HYB Hyderabad 45.50 268 *i* P **P** **00 10 43.5 +0.7**
HYB *e*S **S** **00 17 23.5 -1.3**
HYB LR LR 00 30 28.0
comp=Z,13nm,20.0s
HYB Hyderabad 45.50 268 *e*P **P** **00 10 40.0 -2.8**
HYB *e*S **S** **00 17 22.0 -2.8**
BILL Bilibino 47.02 19 *e*P **P** **00 10 53.2 -0.9**
BILL *i* 00 12 46.6
BILL *i* SS SS 00 21 06.3 -5.8
BILL pmax pmax
comp=Z,25nm,1.7s,mb4.9
BILL MLR MLR
comp=Z,6μm,14.0s,MS5.7
BILL Bilibino 47.02 19 *e*P **P** **00 10 53.7 -0.4**
WRAB Tennant Creek 47.55 170⇓ *e*P **P** **00 10 59.2 +0.5**
WRAB *e* 00 12 52.5
WRAB *e*S **S** **00 17 43.9 -10**
WRAB pmax pmax
comp=Z,125nm,1.2s,mb5.8
WRAB MLR MLR
comp=Z,9μm,22.0s,MS5.7
WRAB Tennant Creek 47.55 170⇓ *e*P **P** **00 10 59.2 +0.4**
comp=Z,125nm,1.2s,mb5.8
WRAB *e*PP PP 00 12 52.5 +2.1
WRAB *e*S **S** **00 17 43.9 -10**
WRAB LR LR
comp=Z,9μm,22.0s,MS5.7
WRA Warramunga Arr 47.55 170 P **P** **00 10 57.8 -1.0**
comp=Z,8.6nm,0.8s,mb4.8,baz=350,slow=8.1,SNR=10
WRA S **S** **00 17 49.2 -4.7**
comp=Z,1.1nm,0.9s,baz=356,slow=14,SNR=2.7
WRA LR LR 00 29 58.4
comp=Z,7μm,21.8s,MS5.6,baz=5.0,slow=35
WRA Warramunga Arr 47.55 170 P **P** **00 10 57.8 -1.0**
WRA S **S** **00 17 49.2 -4.7**
WB2 Warramunga Arr 47.56 170 *e*P **P** **00 10 57.9 -0.9**
WB2 *e*S **S** **00 17 47.1 -6.9**
PALK Pallekele 48.02 254 *e*P **P** **00 11 03.2 +0.6**
PALK *e*PP PP 00 12 53.8 -1.0
PALK *e*S **S** **00 18 12.7 +12**
PALK LR LR
comp=Z,7μm,21.0s,MS5.6
ADK Adak 48.47 44 PFAKE 00 11 20.0 +14
ADK LR LR
comp=Z,5μm,20.0s,MS5.5
BVAR Borovoye Array 48.63 318 P **P** **00 11 06.1 -0.7**
comp=Z,9.1nm,0.5s,mb5.0,baz=84,slow=9.6,SNR=34
BVAR S **S** **00 18 08.2 -0.5**
comp=Z,0.3nm,0.5s,baz=139,slow=13,SNR=2.1
HNR Honiara 48.63 134 *e*P **P** **00 11 11.9 +4.6**
HNR *e*S **S** **00 18 16.5 +7.0**
HNR MLR MLR
comp=Z,5μm,19.0s,MS5.5
MBWA Marble Bar 48.70 189 *e*P **P** **00 11 05.9 -1.7**
MBWA *e*PcP PcP 00 12 33.5 +0.7
MBWA *e*S **S** **00 18 19.4 +9.3**
MBWA LR LR
comp=Z,3μm,20.0s,MS5.3
BRVK Borovoye 48.70 318⇑ *i*P **P** **00 11 06.8 -0.5**
BRVK *e* 00 13 03.8
BRVK *e*S **S** **00 18 10.8 +1.2**
BRVK pmax pmax
comp=Z,84nm,1.0s,mb5.7
BRVK MLR MLR
comp=Z,44μm,19.0s,MS6.5
BRVK Borovoye 48.70 318⇑ *i*P **P** **00 11 06.8 -0.6**
comp=Z,84nm,1.0s,mb5.7
BRVK *e*PP PP 00 13 03.8 +3.6
BRVK *e*S **S** **00 18 10.8 +1.2**
BRVK LR LR
comp=Z,44μm,19.0s,MS6.5
COCO West Island 48.90 220 P **P** **00 11 09.8 +0.5**
COCO *e*S **S** **00 17 58.5 -15**
COCO LR LR
comp=Z,1μm,21.0s,MS5.0
MIDW Midway 48.98 75 *e*P **P** **00 11 10.6 +0.7**
MIDW *e*S **S** **00 18 02.2 -12**
MIDW LR LR
comp=Z,2μm,20.0s,MS5.1
JASL Jaisalmer 49.42 283 *e*P **P** **00 11 12.4 -0.8**
JASL AMb AMB 00 11 24.6
comp=Z,63nm,0.9s,mb5.7
KBL Kabul 49.53 293⇑ *i*P **P** **00 11 13.4 -0.6**
comp=Z,90nm,1.2s,mb5.7
KBL *e* 00 11 20.2
KBL *e*PcP PcP 00 12 36.0 +0.2
KBL *e*PP PP 00 13 11.8 +3.6
KBL *e*S **S** **00 18 24.2 +2.4**
CTA Charters Tower 50.75 156 *e*P **P** **00 11 23.2 -0.1**
comp=Z,55nm,1.4s,mb5.3
CTA *e*S **S** **00 18 30.4 -8.5**
CTA Charters Tower 50.75 156 P **P** **00 11 23.4 +0.2**
comp=Z,11nm,0.9s,mb4.8,baz=335,slow=8.3,SNR=4.6
CTA S **S** **00 18 38.7 -0.2**
comp=Z,3.4nm,0.7s,baz=52,slow=19,SNR=2.0
CTA Charters Tower 50.75 156 P **P** **00 11 23.5 +0.2**
CTA S **S** **00 18 38.7 -0.2**
CTA pmax pmax
comp=Z,11nm,0.9s
CTA smax
comp=N,3.0nm,0.7s
CTAO Charters Tower 50.75 156 *e*P **P** **00 11 23.9 +0.6**
CTAO *e*PcP PcP 00 12 36.9 -3.5
CTAO *e*PP PP 00 13 23.5 +3.9
CTAO *e*S **S** **00 18 32.5 -6.5**
CTAO LR LR
comp=Z,10μm,20.0s,MS5.8
ASAR Alice Springs 51.16 172 P **P** **00 11 25.4 -0.9**
comp=Z,8.7nm,0.6s,mb4.8,baz=8.7,slow=6.7,SNR=36
SVE Sverdlovsk 54.63 322⇓ *e*P **P** **00 11 50.5 -1.1**
SVE *e* 00 13 54.3
SVE *e*PPP 00 15 04.5
SVE *e*S **S** **00 19 32.6 +1.4**
SVE *e* 00 21 42.5
SVE *e*SS SS 00 23 10.0 -3.6
SVE pmax pmax
comp=Z,118nm,1.6s,mb5.7
SVE pmax pmax
comp=Z,566nm,10.8s
SVE MLR MLR
comp=Z,45μm,16.0s,MS6.6
ARU Arti 55.76 321 P **P** **00 11 59.4 -0.4**
comp=Z,155nm,1.3s,mb5.9,SNR=7.0
ARU Arti 55.76 321⇑ *i*P **P** **00 11 58.9 -0.9**
ARU *e* 00 12 06.1
ARU 00 12 57.5
ARU *e*S **S** **00 19 50.6 +4.2**
ARU pmax pmax
comp=Z,57nm,1.1s,mb5.5
ARU MLR MLR
comp=Z,50μm,19.0s,MS6.6
ARU Arti 55.76 321⇑ *i*P **P** **00 11 58.9 -0.8**
comp=Z,58nm,1.1s,mb5.5
ARU *e* 00 12 06.0
ARU PcP PcP 00 12 57.5 -1.3
ARU *e*S **S** **00 19 50.6 +4.2**
ARU LR LR
comp=Z,50μm,19.0s,MS6.6
AKTK Aktyubinsk 56.18 314 P **P** **00 12 02.3 -0.6**
AKTK S **S** **00 19 50.9 -1.3**
AKTO Aktyubinsk 56.18 314 P **P** **00 12 02.3 -0.6**
comp=Z,7.4nm,0.9s,mb4.7,baz=90,slow=9.3,SNR=12
AKTO S **S** **00 19 50.9 -1.3**
comp=Z,0.8nm,0.7s,baz=52,slow=18,SNR=2.2
SOKR Solikamsk 56.80 325*c* *i*P **P** **00 12 07.1 0.0**
SOKR 00 14 21.5
SOKR S **S** **00 20 01.2 +1.2**
SOKR pmax pmax
comp=Z,30nm,1.2s,mb5.2
SOKR MLR MLR
comp=Z,22μm,21.0s,MS6.2
FORT Forrest 57.80 179 *e*P **P** **00 12 20.4 +6.0**
comp=Z,59nm,0.8s,mb5.7
KLBR Kellerberrin 59.23 189 *e*P **P** **00 12 30.9 +6.4**
comp=Z,113nm,1.4s,mb5.7
CHGN Chignik 59.35 39 *e*P **P** **00 12 23.9 -1.2**
CHGN *e*pP pP 00 12 33.6 +5.3
TTA Tatalina 60.22 31 *e*P **P** **00 12 30.8 -0.1**
TTA *e* 00 12 37.5
TTA pmax pmax
comp=Z,64nm,1.4s,mb5.5
TTA Tatalina 60.22 31 *e*P **P** **00 12 30.8 -0.1**
comp=Z,64nm,1.4s,mb5.5
TTA *e* 00 12 37.5
SVW2 Sparrevohn 60.51 33 *e*P **P** **00 12 33.1 +0.2**
SVW2 *e* 00 12 39.3
SVW2 *e*PcP PcP 00 13 17.6 0.0
STKA Stephens Creek 60.54 166 *e*P **P** **00 12 32.9 -0.5**
comp=Z,36nm,1.1s,mb5.4
STKA *e*S **S** **00 20 39.8 -9.3**
STKA Stephens Creek 60.54 166 P **P** **00 12 33.1 -0.3**
comp=Z,17nm,1.0s,mb5.1,baz=356,slow=8.3,SNR=8.8
STKA S **S** **00 20 44.3 -4.8**
comp=Z,1.7nm,0.7s,baz=4.1,slow=14,SNR=2.0
STKA LR LR 00 37 14.5
comp=Z,5μm,21.9s,MS5.6,baz=338,slow=34
STKA Stephens Creek 60.54 166 *e*P **P** **00 12 33.0 -0.4**
STKA *e* 00 12 39.3
NWAO Narrogin (SRO) 60.62 189 P **P** **00 12 33.3 -0.7**
comp=Z,16nm,0.9s,mb5.2,baz=34,slow=3.6,SNR=2.5
NWAO S **S** **00 20 55.0 +4.9**
comp=Z,7.4nm,0.9s,baz=0.0,slow=18,SNR=1.7
NWAO Narrogin (SRO) 60.62 189 *e*P **P** **00 12 33.8 -0.2**
NWAO *e* 00 14 48.0
NWAO *e*S **S** **00 20 53.6 +3.4**
NWAO pmax pmax
comp=Z,100nm,1.3s
NWAO MLR MLR
comp=Z,2μm,20.0s

NWAO Narrogin (SRO) 60.62 189 *e*P **P** **00 12 33.8 -0.2**
comp=Z,100nm,1.3s,mb5.8
NWAO *e*PP PP 00 14 48.0 +0.1
NWAO *e*S **S** **00 20 53.6 +3.4**
NWAO LR LR
comp=Z,2μm,20.0s,MS5.3
CHUM Lake Minchumin 61.82 30 *e*P **P** **00 12 42.2 +0.4**
CHUM *e* 00 12 48.5
CHUM *e*PcP PcP 00 13 23.6 +0.8
CHUM *e*PP PP 00 14 58.1 +0.6
FUNA Funafuti 61.95 117 P **P** **00 12 43.7 +0.3**
FUNA LR LR
comp=Z,4μm,21.0s,MS5.6
PPLA Purkeypile 61.97 31 *e*P **P** **00 12 41.5 -1.3**
comp=Z,124nm,1.6s,mb5.8
PPLA *e* 00 12 49.1
PPLA *e*PcP PcP 00 13 23.5 +0.1
ARMA Armidale 62.12 156 *e*P **P** **00 12 43.5 -0.7**
ARMA Armidale 62.12 156 *e*P **P** **00 12 44.1 -0.1**
ARMA *e*PcP PcP 00 13 22.9 -1.5
DZM Mont Dzumac 62.28 138 *e*P **P** **00 12 45.0 -0.4**
DZM *e* 00 12 51.5
DZM *e*PcP PcP 00 13 25.1 0.0
DZM *e*PP PP 00 15 04.1 +1.4
KDAK Kodiak Island 62.37 37 P **P** **00 12 44.9 -0.7**
comp=Z,29nm,1.1s,mb5.3,baz=75,slow=5.3,SNR=4.6
KDAK S **S** **00 21 20.0 +8.0**
comp=Z,7.7nm,1.0s,baz=280,slow=17,SNR=1.7
KDAK Kodiak Island 62.37 37 *e*P **P** **00 12 44.8 -0.8**
KDAK *e*PcP PcP 00 13 25.5 +0.4
KDAK *e*PP PP 00 15 03.3 +0.8
KDAK S **S** **00 21 20.0 +8.0**
BPAW Bear Paw Mtn. 62.38 29⇓*e*P **P** **00 12 45.3 -0.3**
comp=Z,30nm,1.2s,mb5.3
BPAW *e* 00 12 51.3
BPAW *e*PcP PcP 00 13 23.5 -1.6
KTH Kantishna Hill 62.47 30 *e*P **P** **00 12 46.0 -0.2**
KTH *e*PcP PcP 00 13 25.3 -0.1
KTH *e*ScP ScP 00 17 27.4 -0.2
DGAR Diego Garcia 62.93 245 PFAKE 00 13 00.0 +10
DGAR LR LR
comp=Z,6μm,21.0s,MS5.8
FIB Fire Island 63.12 33 P **P** **00 12 52.1 +1.6**
FIB *e* 00 13 28.6
FIB *e* 00 15 09.2
MCK McKinley 63.33 30 *e*P **P** **00 12 50.8 -1.1**
MCK *e* 00 12 57.8
MCK *e* 00 13 28.7
MCK pmax pmax
comp=Z,66nm,1.3s,mb5.6
MCK McKinley 63.33 30 *e*P **P** **00 12 50.8 -1.0**
comp=Z,66nm,1.3s,mb5.6
MCK *e* 00 12 57.8
MCK *e*PcP PcP 00 13 28.7 -0.2
RC01 Rabbit Creek A 63.34 33 P **P** **00 12 51.8 -0.2**
comp=Z,45nm,1.4s,mb5.4
PMR Palmer 63.55 32 *e*P **P** **00 12 53.3 -0.1**
PMR *e**PP pP 00 13 05.0 +8.3
PMR *e* 00 13 30.8
PMR *e* 00 15 09.5
PMR *e*S **S** **00 21 19.7 -7.0**
PMR MLR MLR
comp=Z,2μm,19.0s,MS5.4
SEW Seward 63.63 34 P **P** **00 12 55.7 +1.8**
COLA College 63.63 28 *e*P **P** **00 12 57.0 +3.1**
MAK Makhachkala 64.47 307 *e*P **P** **00 12 57.0 -2.8**
MAK *i* 00 15 18.6
MAK *i* S **S** **00 21 35.3 -3.4**
MAK *i* 00 22 44.8
MAK pmax pmax
comp=Z,249nm,1.9s,mb5.9
MAK MLR MLR
comp=Z,17μm,15.0s,MS6.3
DIV Divide 65.22 32 *e*P **P** **00 13 03.8 -0.6**
comp=Z,48nm,1.1s,mb5.4
DIV *e* 00 13 10.1
DIV PcP PcP 00 13 37.5 +0.8
KLMR Klimovskoe 65.25 327 *e*P **P** **00 13 05.0 +0.5**
KLMR *e*S S 00 21 48.4 +0.6
KLMR *e*SS SS 00 26 06.3 +6.4
KLMR pmax pmax
comp=Z,206nm,2.1s,mb5.8
KLMR pmax pmax
comp=Z,328μm,10.9s
KLMR MLR MLR
comp=Z,34μm,14.0s,MS6.7
CAN Canberra 65.74 160 *e*P **P** **00 13 08.6 +0.7**
CAN *e* 00 13 36.4
CAN *e* 00 15 29.8
MENT Mentasta 65.78 30 *e*P **P** **00 13 07.7 -0.2**
MENT *e*PcP PcP 00 13 41.1 +2.1
LVZ Lovozero 65.80 336 *e*P **P** **00 13 09.0 +1.0**
LVZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
LVZ MLR MLR
comp=Z,12μm,18.0s,MS6.1
LVZ Lovozero 65.80 336 *e*P **P** **00 13 12.2 +4.3**
LVZ *e*S S 00 21 46.8 -7.5
LVZ LR LR
comp=Z,12μm,19.0s,MS6.1
BMRM Bremner River 65.81 32 *e*P **P** **00 13 08.1 -0.1**
BMRM *e* 00 13 14.2
BMRM *e*PcP PcP 00 13 39.7 +0.5
RAGM Ragged Mountai 65.91 33 *e*P **P** **00 13 08.3 -0.5**
RAGM *e*PcP PcP 00 13 40.2 +0.6
APA Apatity 66.34 335⇓*i*P **P** **00 13 13.7 +2.3**
APA *i* 00 13 25.0
APA *i* PPP 00 17 22.0
APA *e*S S 00 22 00.0 -0.8
APA *i* PS 00 22 30.0
APA pmax pmax
comp=Z,54nm,1.4s,mb5.4
APA MLR MLR
comp=Z,4μm,14.0s,MS5.8
VRHR Novokhopersk 66.34 317 *e*P **P** **00 13 11.0 -0.7**
VRHR *e*PPP 00 17 16.4
VRHR *e*S S 00 22 00.1 -1.3
VRHR pmax pmax
comp=Z,20nm,0.8s,mb5.2
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.7s
VRHR smax
comp=N,110nm,1.9s
VRHR smax
comp=Z,80nm,3.5s
VRHR smax
comp=E,110nm,1.9s
VRHR MLR MLR
comp=Z,12μm,15.0s,MS6.2
VRHR MLR MLR
comp=N,7μm,13.0s,MS6.2
VRHR MLR MLR
comp=E,10μm,15.0s,MS6.2
DGRG David-gareji 66.40 306 P **P** **00 13 20.7 +8.4**
EGAK Eagle 66.46 28⇓*e*P **P** **00 13 11.4 -0.9**
EGAK *e*PP PP 00 15 39.7 +1.5
EGAK *e*S S 00 22 06.3 +4.0
EGAK LR LR
comp=Z,3μm,19.0s,MS5.6
MTA Mtatsminda 66.75 306 P sP 00 13 31.4 +12
TOO Toolangi 66.89 164 *e*P **P** **00 13 19.5 +4.3**
GNI Garni 67.23 305 P **P** **00 13 18.3 +0.7**
comp=Z,8.9nm,1.2s,mb4.7,baz=240,slow=15,SNR=7.6
GNI S S 00 22 14.9 +2.4
comp=Z,0.6nm,0.3s,baz=23,slow=13,SNR=2.2
GNI Garni 67.23 305*d i*P **P** **00 13 18.3 +0.7**
GNI pmax pmax
comp=Z,28nm,1.7s
GNI MLR MLR
comp=Z,12μm,20.0s
DAWY Dawson 67.39 28 *e*P **P** **00 13 17.6 -0.5**
DAWY *e* 00 13 24.5
DAWY *e*PP PP 00 15 46.4 +0.2
MOS Moscow 67.45 322 *e*P **P** **00 13 17.0 -1.7**
MOS *e* 00 13 29.7
MOS *e*S S 00 22 12.2 -2.3
MOS *e*SS SS 00 26 35.7 +1.6
MOS pmax pmax
comp=Z,51nm,1.5s,mb5.3
MOS MLR MLR
comp=Z,36μm,17.0s,MS6.7

ONI Oni 67.45 307 P **P** **00 13 20.6 +1.6**
SPB4 Spitsbergen Ar 67.50 348 *e*P **P** **00 13 18.6 -0.1**
SPB4 *e* 00 13 24.6
KIV Kislovodsk 67.58 309 P **P** **00 13 21.9 +2.1**
comp=Z,609nm,1.2s,mb6.5,SNR=6.8
AKH Akhalkalaki 67.76 306 P sP 00 13 34.5 +9.0
KIP Kipapa 67.77 77 PFAKE 00 13 30.0 +8.7
KIP LR LR
comp=Z,3μm,20.0s,MS5.5
VRSR Storozhevoye 67.79 317 *e*P **P** **00 13 19.8 -1.1**
VRSR *e*PPP 00 17 23.6
VRSR *e*S S 00 22 11.7 -7.1
VRSR *e*PPS 00 22 42.2
VRSR *e*SS SS 00 26 41.6 +2.0
VRSR *e*SSS 00 29 43.8
VRSR pmax pmax
comp=N,5.0nm,1.3s
VRSR pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
VRSR pmax pmax
comp=E,7.0nm,1.1s
VRSR smax
comp=E,20nm,3.8s
VRSR smax
comp=Z,10.0nm,3.2s
VRSR smax
comp=N,10.0nm,4.1s
VRSR MLR MLR
comp=Z,2μm,16.0s,MS5.4
VRSR MLR MLR
comp=N,1μm,20.0s,MS5.3
VRSR MLR MLR
comp=E,1μm,17.0s,MS5.3
KBS Kingsbay 67.93 349 *e*P **P** **00 13 23.9 +2.4**
KBS *e*S S 00 22 20.0 +0.3
KBS AMS AMS 00 42 27.9
comp=Z,9μm,18.9s,MS6.0
KBS Kingsbay 67.93 349 PFAKE 00 13 30.0 +8.6
KBS LR LR
comp=Z,11μm,20.0s,MS6.1
KEV Kevo 67.96 338 *e*p **P** **00 13 28.8 +7.1**
comp=Z,12nm,0.8s,mb5.0
KEV Kevo 67.96 338 *e*P **P** **00 13 28.8 +7.1**
KEV pmax pmax
comp=Z,12nm,0.8s,mb5.0
OBN Obninsk 68.20 322 *e*P **P** **00 13 22.7 -0.7**
OBN *i* 00 13 38.1
OBN *e* 00 15 52.1
OBN *i* S S 00 22 16.5 -7.1
OBN *i* SS SS 00 26 42.9 -2.9
OBN pmax pmax
comp=Z,34nm,1.6s,mb5.1
OBN pmax pmax
comp=Z,124nm,1.7s,mb5.7
OBN MLR MLR
comp=Z,30μm,24.0s,MS6.4
UMR Umm Al-Rimmam 68.27 293 *e*P **P** **00 13 23.0 -1.3**
baz=293
UMR AMb AMB 00 13 43.8
comp=Z,70nm,2.2s,mb5.3,baz=293
INK Inuvik 68.37 23 *e*P **P** **00 13 23.7 -0.6**
INK *e* 00 13 30.0
INK *e* 00 13 50.0
INK *e* 00 15 55.8
BJO Bjornoya 68.44 344 *e*S S 00 22 26.6 +0.6
BJO AMS AMS 00 47 54.8
comp=Z,14μm,18.5s,MS6.2
JOF Joensuu 68.48 331 *e*p **P** **00 13 25.9 +0.9**
comp=Z,28nm,0.8s,mb5.3
JOF Joensuu 68.48 331 *e*P **P** **00 13 25.9 +0.9**
JOF pmax pmax
comp=Z,28nm,0.8s,mb5.3
MIB Mutribah 68.49 293 *e*P **P** **00 13 24.0 -1.7**
baz=293
MIB AMb AMB 00 13 46.3
comp=Z,82nm,1.7s,mb5.5,baz=293
ARCES ARCESS Array B 68.53 338 P **P** **00 13 23.9 -1.3**
comp=Z,4.0nm,1.2s,mb4.2,baz=93,slow=7.3,SNR=3.7
ARCES LR LR 00 48 51.8
comp=Z,10μm,18.1s,MS6.1,baz=61,slow=41
ARE0 ARCESS Array S 68.53 338 P **P** **00 13 25.9 +0.7**
RDF Al-Radifah 68.61 292 *e*P **P** **00 13 25.5 -1.0**
baz=292
RDF AMb AMB 00 13 47.3
comp=Z,87nm,1.7s,mb5.4,baz=292
HYT Haines Junctio 69.19 31 *e*P **P** **00 13 29.3 -0.2**
HYT *e* 00 13 36.0
MSL Mosul 69.68 301 *e*x x 00 13 39.0
MSL *e*x x 00 22 49.0
BHD Baghdad 69.69 298 *e*x x 00 13 30.7
BHD *i* x x 00 22 39.2
SOC Sochi 69.75 309 *e*P **P** **00 13 32.4 -0.9**
SOC *e**PP pP 00 13 41.6 +5.0
SOC *e**SP sP 00 13 45.4 +7.6
SOC *e* 00 13 58.6
SOC *e*PPP 00 17 48.9
SOC *i* S S 00 22 39.4 -2.9
SOC *e**SS sS 00 22 58.7 +11
SOC *e* 00 23 28.8
SOC *e*SS SS 00 27 02.3 -7.9
SOC pmax pmax
comp=Z,12nm,0.5s,mb5.1
SOC MLR MLR
comp=Z,5nm,15.0s,MS5.9
POHA Pohakuloa 70.54 77 *e*P **P** **00 13 35.4 -3.2**
POHA *e*S S 00 22 12.6 -40
POHA LR LR
comp=Z,3μm,22.0s,MS5.5
TRO Tromso 70.61 339 *e*S S 00 22 47.9 -3.6
TRO AMS AMS 00 51 27.0
comp=Z,13μm,18.3s,MS6.2
ANN Anapa 70.90 311 *e*P **P** **00 13 38.7 -1.6**
ANN *e* 00 13 55.4
ANN *e* 00 16 15.2
ANN *e*S S 00 22 55.5 -0.2
ANN pmax pmax
comp=Z,93nm,1.2s,mb5.6
KAF Kangasniemi 70.94 331 *e*p **P** **00 13 46.6 +6.4**
comp=Z,35nm,0.9s,mb5.3
KAF Kangasniemi 70.94 331 *e*P **P** **00 13 46.6 +6.4**
KAF pmax pmax
comp=Z,35nm,0.9s,mb5.3
STCH Steam Cracks 71.04 78 P **P** **00 13 41.4 -0.2**
SIT Sitka 71.56 35 *e*P **P** **00 13 44.6 +0.5**
SIT *e*PP PP 00 16 14.9 -7.5
SIT *e*S S 00 22 53.0 -10
SIT LR LR
comp=Z,3μm,20.0s,MS5.6
VSU Vasula 72.15 327 *e*P **P** **00 13 47.4 -0.2**
TAU Tasmania Unive 72.39 164 P **P** **00 13 48.3 -0.8**
TAU MLR MLR
comp=Z,4μm,19.0s,MS5.7
MALT Malatya 72.46 304 *e*P **P** **00 13 49.9 0.0**
MALT *e* 00 14 07.9
MALT *e* 00 16 31.4
MALT pmax pmax
comp=Z,54nm,1.2s,mb5.3
MALT MLR MLR
comp=Z,7μm,20.0s,MS5.9
MALT Malatya 72.46 304⇓*i*P PcP 00 14 02.4 -5.2
MALT Malatya 72.46 304 *e*P **P** **00 13 49.9 0.0**
comp=Z,54nm,1.2s,mb5.4
MALT *e*PcP PcP 00 14 07.9 +0.2
MALT *e*PP PP 00 16 31.4 +0.7
MALT LR LR
comp=Z,7μm,20.0s,MS5.9
SIM Simferopol' 73.05 312 *c*P **P** **00 13 55.6 +2.4**
SIM *e* 00 14 04.8
SIM *e*S S 00 23 20.0 -0.5
SIM *e*SSS 00 31 14.0
SIM pmax pmax
comp=Z,159nm,1.9s,mb5.6
SIM MLR MLR
comp=Z,10μm,20.0s,MS6.1
MNK Minsk 73.16 323 *e*P **P** **00 13 55.0 +1.3**
MNK *e* 00 14 04.0
MNK *e*S S 00 23 26.0 +4.6
MNK MLR MLR
comp=Z,73μm,18.0s,MS7.0
MNK MLR MLR
comp=E,62μm,18.0s
WRAK Wrangell Islan 73.32 35 *e*P **P** **00 13 47.2 -7.4**
DLBC Dease Lake 73.61 32⇑*e*P **P** **00 13 55.5 -0.7**
DLBC *e* 00 14 02.9

DLBC *e*PP PP 00 16 41.3 +1.4
AKASG Malin Array Be 73.89 319 P **P** **00 13 57.5 -0.5**
comp=E,0.8nm,0.5s,baz=55,slow=5.7,SNR=6.6
AKASG LR LR 00 48 40.7
comp=E,28μm,19.4s,MS6.6,baz=75,slow=38
AKBB Malin Array Si 73.89 319⇓*e*P **P** **00 14 00.4 +2.4**
AKBB *e* 00 14 12.7
KIEV Kiev 73.90 319 *e*P **P** **00 13 58.6 +0.5**
KIEV *e* 00 14 14.4
KIEV pmax pmax
comp=Z,294nm,1.8s,mb5.9
KIEV MLR MLR
comp=Z,27μm,20.0s,MS6.5
KIEV Kiev 73.90 319 *e*P **P** **00 13 58.6 +0.5**
comp=Z,294nm,1.8s,mb5.9
KIEV *e*PcP PcP 00 14 14.4 +0.9
KIEV LR LR
comp=Z,27μm,20.0s,MS6.5
DAG Danmarks Havn 74.00 352⇑*i*P PcP 00 14 14.8 +1.3
comp=Z,16nm,1.2s
RES Resolute Bay 74.70 11 *e*P **P** **00 14 02.5 +0.2**
RES *e* 00 14 09.0
RES *e* 00 14 16.6
RES *e* 00 16 49.5
RES pmax pmax
comp=Z,556nm,0.8s,mb6.5
RES Resolute Bay 74.70 11 *e*P **P** **00 14 02.5 +0.2**
comp=Z,556nm,0.8s,mb6.5
RES *e* 00 14 08.9
RES *e*PcP PcP 00 14 16.6 +0.1
RES *e*PP PP 00 16 49.5 +0.7
NSS Namsos 75.52 336 *e*S S 00 23 46.7 -0.8
NSS AMS AMS 00 52 57.4
comp=Z,17μm,18.4s,MS6.4
KIS Kishinev 75.64 316 *e*P **P** **00 14 11.0 +2.7**
KIS *e* 00 14 19.0
KIS *e* 00 14 23.0
KIS *e* 00 17 06.0
KIS *e*S S 00 23 50.0 +0.5
KIS *e*PS 00 24 18.0
KIS *e*SS SS 00 28 40.0 0.0
KIS MLR MLR
comp=Z,17μm,15.0s,MS6.5
KIS MLR MLR
comp=N,8μm,14.0s,MS6.3
KIS MLR MLR
comp=E,8μm,15.0s,MS6.3
KIS MLR MLR
comp=Z,17μm,16.0s
KIS Kishinev 75.64 316 *e*PcP PcP 00 14 23.0 +1.9
KIS Kishinev 75.64 316 *e*PP PP 00 17 06.0 +8.6
KIS Kishinev 75.64 316 *e*PS 00 24 18.0
KIS *e*SS SS 00 28 40.0 0.0
KIS *e*LQ 00 43 00.0
comp=Z,11μm,18.0s
KIS LRM 00 51 22.0
comp=Z,17μm,16.0s
MSEY Mahe Island 75.74 257 PFAKE 00 14 20.0 +11
MSEY LR LR
comp=Z,5μm,20.0s,MS5.9
SUW Suwalki 75.84 324 *e*P **P** **00 14 09.6 +0.3**
SUW *e*pP pP 00 14 20.9 +8.3
SUW *e*PcP PcP 00 14 26.3 +4.5
SUW *e*S S 00 23 54.9 +3.5
SUW LMZ 00 50 05.9
comp=Z,26μm,20.6s
SUW Suwalki 75.84 324 *e*P **P** **00 14 09.6 +0.4**
SUW *e*pP pP 00 14 20.9 +8.3
SUW *e*PcP PcP 00 14 26.3 +4.5
SUW *e*S S 00 23 54.9 +3.5
ANTO Ankara 75.92 308 *e*P **P** **00 14 10.3 +0.3**
ANTO pmax pmax
comp=Z,130nm,1.7s,mb5.6
ANTO MLR MLR
comp=Z,4μm,22.0s,MS5.7
ANTO Ankara 75.92 308 *e*P **P** **00 14 10.3 +0.3**
comp=Z,130nm,1.7s,mb5.6
ANTO LR LR
comp=Z,4μm,22.0s,MS5.7
ASF Jabal al Asfar 75.95 299 LR LR 00 50 23.7
comp=Z,5μm,20.4s,MS5.8,baz=169,slow=38
BHL Bhannes 76.22 301 *e*P PcP 00 14 23.4 -0.5
XMAS Kiritimati 76.37 95 PFAKE 00 14 20.0 +7.0
XMAS LR LR
comp=Z,2μm,21.0s,MS5.5
CFR Carcaliu 76.84 314 P **P** **00 14 17.3 +2.2**
TIRR Tirgusor 76.97 313 P **P** **00 14 15.2 -0.7**
JMIC Jan Mayen 77.05 346 *e*P **P** **00 14 15.4 -0.5**
JMIC *e*SS SS 00 29 02.9 +2.7
JMIC AMS AMS 00 49 49.5
comp=Z,4μm,19.1s,MS5.8
RAO Raoul Island 77.22 133 P **P** **00 14 16.5 -0.9**
RAO MLR MLR
comp=Z,3μm,21.0s,MS5.5
LVV L'vov 77.28 320 *e*P **P** **00 14 27.0 +10**
LVV *e*S S 00 24 14.0 +6.7
LVV MLR MLR
comp=Z,11μm,16.0s,MS6.3
VRI Vrincioaia 77.44 315⇑*i*P **P** **00 14 23.8 +5.4**
VRI Vrincioaia 77.44 315⇑P **P** **00 14 23.8 +5.3**
PLOR Plostina 77.49 315⇓*i*P **P** **00 14 24.4 +5.6**
CSS Prodhromos 77.54 303 P **P** **00 14 19.8 +0.5**
comp=Z,132nm,1.5s,mb5.6
BURAR Bucovina Array 77.58 317⇑*i*P **P** **00 14 23.0 +3.8**
NB2 NORSAR Subarra 77.78 333 P **P** **00 14 17.1 -3.0**
comp=Z,23nm,1.4s,mb4.9,baz=54,slow=6.2
NOA NORSAR Array B 77.78 333 P **P** **00 14 18.1 -2.0**
comp=Z,2.0nm,0.9s,baz=52,slow=5.6,SNR=5.5
NOA LR LR 00 51 46.5
comp=Z,12μm,20.5s,MS6.2,baz=30,slow=38
NAO01 NORSAR Array S 78.02 333 *e*P **P** **00 14 22.3 +0.9**
comp=Z,55nm,1.3s,mb5.3
NAO01 *e*PP PP 00 17 15.6 -1.4
NAO01 LR LR
comp=Z,16μm,22.0s,MS6.3
YKA Yellowknife Ar 78.05 25 P **P** **00 14 20.0 -1.5**
comp=Z,6.2nm,1.0s,mb4.5,baz=305,slow=6.0,SNR=7.7
YKA LR LR 00 55 47.3
comp=Z,507nm,18.7s,MS4.9,baz=280,slow=41
YKA Yellowknife Ar 78.05 25 P **P** **00 14 20.0 -1.5**
YKA pmax pmax
comp=Z,6.0nm,1.0s
MLR Muntele Rosu 78.09 315⇑*i*P **P** **00 14 27.3 +5.2**
MLR Muntele Rosu 78.09 315⇑P **P** **00 14 27.3 +5.1**
KWP Kalwaria 78.13 320 *e*P **P** **00 14 27.8 +5.6**
KWP *e*pP pP 00 14 35.2 +10
KWP *e*PcP PcP 00 14 40.4 +8.6
KWP *e*PP PP 00 17 22.6 +4.3
KWP *e*S S 00 24 22.2 +5.7
KWP *e*SKS 00 24 45.3
KWP *e*ScS ScS 00 24 55.7 +14
KWP LMZ 00 49 43.1
comp=Z,18μm,24.0s
KWP Kalwaria 78.13 320 *e*P **P** **00 14 27.8 +5.6**
KWP *e**PP pP 00 14 35.2 +10
KWP *e* 00 14 40.4
KWP *e* 00 17 22.6
KWP *e*S S 00 24 22.2 +5.7
KWP *e* 00 24 55.7
KWP MLR MLR
comp=Z,18μm,24.0s,MS6.3
KWP Kalwaria 78.13 320⇓*i*P **P** **00 14 26.2 +4.0**
KWP Kalwaria 78.13 320 *e*P **P** **00 14 27.8 +5.6**
KWP *e*pP pP 00 14 35.2 +10
KWP *e*PcP PcP 00 14 40.4 +8.6
KWP *e*PP PP 00 17 22.6 +4.4
KWP *e*S S 00 24 22.2 +5.7
KWP *e*SKS 00 24 45.3
KWP *e*ScS ScS 00 24 55.7 +14
KWP LR LR
comp=Z,18μm,19.0s,MS6.4
PRD Provadia 78.18 313 P sP 00 14 40.1 +13
MOL Molde 78.28 336 AMS AMS 00 54 16.8
comp=Z,9μm,19.1s,MS6.1
ISP Isparta 78.39 307 P **P** **00 14 22.9 -1.0**
ISP S S 00 24 17.5 -2.2
ISP pmax pmax
comp=Z,68nm,1.4s,mb5.4
ISP MLR MLR
comp=Z,5μm,20.0s,MS5.9
ISP Isparta 78.39 307 P **P** **00 14 22.9 -1.0**
comp=Z,68nm,1.4s,mb5.4
ISP S S 00 24 17.5 -2.2
ISP LR LR

comp=Z,5µm,20.0s,MS5.9
EIL Elat 78.50 297 LR LR 00 55 00.7
comp=Z,4µm,18.1s,MS5.8,baz=82,slow=40
VOIR 78.68 315 ⇑*i*P **P** **00 14 30.1 +4.7**
VOIR 78.68 315 ⇑P **P** **00 14 30.1 +4.7**
KOLS Kolonicke sedl 78.71 319 *i* P PcP 00 14 36.1 +1.7
KOLS *i* S S 00 24 20.6 -2.2
KOLS Kolonicke sedl 78.71 319 *i* P PcP 00 14 36.1 +1.7
KOLS *i* S S 00 24 20.6 -2.2
KOLS *e* 00 29 50.0
KOLS *i* 00 33 17.1
UZH Uzhgorod 78.84 319 *e*P **P** **00 14 32.0 +5.8**
UZH *i* 00 14 43.5
UZH *i* S S 00 24 30.0 +5.8
UZH *i* SP 00 25 13.0
UZH *i* PS 00 25 28.0
UZH *i* SS SS 00 29 25.0 -3.2
UZH MLR MLR
comp=Z,6µm,15.0s,MS6.0
CRVS Cervenica-Dubn 79.19 320 *i* P **P** **00 14 34.5 +6.4**
CRVS *i* S S 00 24 23.0 -4.9
CRVS Cervenica-Dubn 79.19 320 *i* P **P** **00 14 34.5 +6.4**
CRVS *i* S S 00 24 23.0 -4.9
CRVS *e* 00 30 10.6
CRVS *i* 00 33 47.5
CRVS Cervenica-Dubn 79.19 320 *i* P **P** **00 14 34.5 +6.4**
CRVS *i* S S 00 24 23.0 -4.9
CRVS *e*SS SS 00 30 10.6 +37
CRVS *e* 00 33 47.5
KONO Kongsberg 79.24 333 *e*S S 00 24 26.4 -1.7
KONO AMS AMS 00 54 02.7
comp=Z,19µm,17.5s,MS6.5
GKP Gorka Klasztor 79.29 325 *e*P PcP 00 14 39.7 +2.9
GKP *e*pP x 00 14 46.6
GKP *e*S S 00 24 34.4 +5.6
GKP *e*SKS 00 24 55.8
GKP LMZ 00 52 58.6
comp=Z,54µm,18.2s
GKP Gorka Klasztor 79.29 325 *e*P PcP 00 14 39.7 +2.9
GKP *e**PP x 00 14 46.7
GKP *e*S S 00 24 34.4 +5.6
GKP MLR MLR
comp=Z,54µm,18.2s,MS6.9
BSD Bornholm Skovb 79.46 327 *i* P **P** **00 14 30.5 +1.1**
BSD *i* S S 00 24 37.5 +7.0
BSD *e* 00 29 40.7
BSD pmax pmax
comp=Z,76nm,1.1s,mb5.5
BSD MLR MLR
comp=Z,17µm,17.0s,MS6.5
BSD Bornholm Skovb 79.46 327 *i* P **P** **00 14 30.5 +1.1**
comp=Z,76nm,1.1s,mb5.5
BSD *i* S S 00 24 37.5 +7.0
BSD *e* 00 29 40.7
BSD *i* 00 33 52.9
BSD
comp=Z,17µm,17.0s
BSD Bornholm Skovb 79.46 327 *i* P **P** **00 14 30.5 +1.1**
comp=Z,76nm,1.1s,mb5.5
BSD *i* S S 00 24 37.5 +7.0
BSD *e* 00 29 40.7
BSD *i* 00 33 52.9
DRGR 79.48 317 ⇑*i*P **P** **00 14 32.9 +3.2**
DRGR 79.48 317 ⇑P **P** **00 14 32.9 +3.2**
OJC Ojcow 79.48 321 *e*P **P** **00 14 32.7 +3.0**
OJC *e*PcP PcP 00 14 40.8 +3.1
OJC *e*pP pP 00 14 45.9 +13
OJC *e*S S 00 24 30.9 -0.1
OJC L 00 51 26.5
comp=Z,24nm,21.1s
NIE Niedzica 79.60 320 *e*P **P** **00 14 32.3 +2.0**
NIE *e*pP pP 00 14 48.7 +15
SUMG Summit 79.85 356 *e*P **P** **00 14 32.4 +1.1**
comp=Z,14nm,1.4s,mb4.7
KECS Kecovo 79.96 320 *i* P sP 00 14 48.3 +11
COP Copenhagen 80.32 328 *i* P **P** **00 14 35.4 +1.3**
COP *i* 00 17 37.8
COP *i* S S 00 24 47.4 +7.9
COP pmax pmax
comp=Z,38nm,1.1s,mb5.2
COP MLR MLR
comp=Z,9µm,18.0s,MS6.2
COP Copenhagen 80.32 328 *i* P **P** **00 14 35.4 +1.3**
comp=Z,38nm,1.1s,mb5.2
COP *i* 00 17 37.8
COP *i* S S 00 24 47.4 +7.9
COP *i* 00 30 06.3
COP *i* 00 34 18.5
COP
comp=Z,9µm,18.0s
RDO Rodhopi 80.35 311 *e*P **P** **00 14 38.2 +3.6**
RAC Raciborz 80.44 322 *e*P **P** **00 14 38.4 +3.5**
RAC *e*S S 00 24 39.1 -2.0
RAC MLR MLR
comp=N,20µm,16.0s,MS6.8
RAC MLR MLR
comp=E,35µm,17.0s,MS6.8
RAC MLR MLR
comp=Z,30µm,17.0s,MS6.7
RAC Raciborz 80.44 322 *e*P **P** **00 14 38.4 +3.5**
RAC *e*S S 00 24 39.1 -2.0
RAC LR LR
comp=Z,30µm,17.0s,MS6.7
BER Bergen 80.48 335 *e*S S 00 24 39.6 -1.4
BER *e*SS SS 00 29 58.5 +6.6
BER AMS AMS 00 54 57.0
comp=Z,31µm,16.7s,MS6.7
RGN Rugen 80.54 327 *e*P **P** **00 14 35.4 +0.1**
comp=Z,241nm,1.7s,mb5.8
PSZ Piszkesteto 80.59 319 *e*P **P** **00 14 36.5 +0.8**
PSZ S S 00 24 32.0 -11
PSZ pmax pmax
comp=Z,200nm,2.0s,mb5.7
PSZ MLR MLR
comp=Z,18µm,19.0s,MS6.4
PSZ Piszkesteto 80.59 319 ⇑*e*sP sP 00 14 52.0 +12
PSZ Piszkesteto 80.59 319 ⇓*i*P **P** **00 14 37.9 +2.2**
PSZ Piszkesteto 80.59 319 *e*P **P** **00 14 36.5 +0.8**
comp=Z,200nm,2.0s,mb5.7
PSZ S S 00 24 32.0 -11
PSZ LR LR
comp=Z,18µm,19.0s,MS6.4
PGB Panagyurishte 80.59 313 P PcP 00 14 48.5 +5.8
OKC Ostrava-Krasne 80.59 322 *e*P **P** **00 14 39.5 +3.8**
OKC *e**PP pP 00 14 47.2 +8.1
OKC *e* 00 14 53.7
OKC *e* 00 17 34.7
OKC *e*S S 00 24 46.0 +3.3
OKC *e*SS SS 00 29 54.9 +0.6
OKC MLR MLR
comp=Z,22µm,16.8s,MS6.6
OKC Ostrava-Krasne 80.59 322 *e*P **P** **00 14 39.5 +3.8**
OKC *e*x x 00 14 47.2
OKC *e*x x 00 14 53.7
OKC *e*PP PP 00 17 34.7 -4.0
OKC *e*x x 00 21 06.0
OKC *e*S S 00 24 46.0 +3.3
OKC *e*SS SS 00 29 54.9 +0.6
OKC *e*x x 00 34 13.6
OKC AMS AMS 00 52 30.0
comp=Z,22µm,16.8s
OKC Ostrava-Krasne 80.59 322 *e*P **P** **00 14 39.5 +3.8**
OKC *e*pP pP 00 14 47.2 +8.1
OKC *e* 00 14 53.7
OKC *e*PP PP 00 17 34.7 -4.0
OKC *e* 00 21 06.0
OKC *e*S S 00 24 46.0 +3.3
OKC *e*SS SS 00 29 54.9 +0.6
OKC *e* 00 34 13.6
RZN Rozhen 80.64 312 P sP 00 14 52.5 +12
BZS Buzias 80.72 317 ⇑*i*P **P** **00 14 40.0 +3.6**
BZS Buzias 80.72 317 ⇑P **P** **00 14 40.0 +3.6**
PRK Paraskevi 80.73 309 *e*P **P** **00 14 40.1 +3.4**
VYHS Vyhne 80.90 320 *i* P PcP 00 14 48.6 +4.7
MORC Moravsky Berou 80.96 322 ⇑*i*P **P** **00 14 39.0 +1.4**
MORC Moravsky Berou 80.96 322 ⇑P **P** **00 14 39.0 +1.4**
SMG Samos 81.05 308 *e*P **P** **00 14 46.9 +8.5**
KSP Ksiaz 81.07 323 *e*P **P** **00 14 40.9 +2.7**
KSP *e*PcP PcP 00 14 49.0 +4.4
KSP *e*pP pP 00 14 55.4 +14
KSP *e*PP PP 00 17 39.0 -3.6
KSP *e*S S 00 24 48.4 +0.8
KSP *e*SS SS 00 30 07.0 +5.7
KSP *e*SSS 00 34 14.6
KSP LMZ 00 53 20.6
comp=Z,47µm,19.0s
KSP Ksiaz 81.07 323 *e*P **P** **00 14 40.6 +2.4**
KSP *e* 00 14 49.2
KSP *e**PP pP 00 14 56.1 +15
KSP *e* 00 17 39.0
KSP *e*S S 00 24 44.0 -3.6
KSP MLR MLR
comp=Z,54µm,19.0s,MS6.9
KSP Ksiaz 81.07 323 *e*P **P** **00 14 40.6 +2.4**
KSP *e*PcP PcP 00 14 49.2 +4.6
KSP *e*pP pP 00 14 56.1 +15
KSP *e*PP PP 00 17 39.0 -3.6
KSP *e*PPPP 00 21 02.5
KSP *e*S S 00 24 44.0 -3.6
KSP *e*SS SS 00 29 53.0 -8.3
KSP *e*SSS 00 34 17.0
KSP LR LR
comp=Z,54µm,19.0s,MS6.9
LIA Limnos Island 81.17 310 *e*P PcP 00 14 49.4 +4.1
VTS Vitosha 81.19 313 P **P** **00 14 48.9 +10**
BUD Budapest 81.32 319 ⇓*e*sP sP 00 14 56.0 +12
DPC Dobruska-Polom 81.32 323 *e*P **P** **00 14 39.4 -0.2**
DPC *e**PP pP 00 14 50.3 +7.4
DPC *e* 00 17 47.5
DPC *e*S S 00 24 50.0 -0.2
DPC *e*SS SS 00 30 03.5 -1.6
DPC MLR MLR
comp=Z,23µm,16.7s,MS6.6
DPC Dobruska-Polom 81.32 323 *e*P **P** **00 14 39.4 -0.2**
DPC *e*pP pP 00 14 50.3 +7.4
DPC *e*x x 00 14 57.9
DPC *e*PP PP 00 17 47.5 +2.8
DPC *e*x x 00 21 05.1
DPC *e*S S 00 24 50.0 -0.2
DPC *e*SS SS 00 30 03.5 -1.6
DPC *e*x x 00 34 20.3
DPC AMS AMS 00 53 10.0
comp=Z,23µm,16.7s
MMB Musomiste 81.34 312 P PcP 00 14 51.7 +5.7
NVR Nevrokopi 81.36 312 *e*P PcP 00 14 50.1 +4.0
UPC Upice 81.40 323 *e*P **P** **00 14 42.5 +2.5**
UPC *e*x x 00 14 52.0
UPC *e*x x 00 14 58.0
RUE Ruedersdorf 81.48 325 *e*P **P** **00 14 40.5 +0.2**
comp=Z,238nm,1.8s,mb5.8
RUE Ruedersdorf 81.48 325 *e*P **P** **00 14 42.0 +1.7**
comp=Z,22nm,0.8s,mb5.1
RUE *e*PcP PcP 00 14 46.7 +0.3
RUE *e*PP PP 00 17 45.3 -0.6
RPZ Rata Peaks 81.50 149 P **P** **00 14 41.6 +1.2**
comp=Z,19nm,0.7s,mb5.1,baz=9.5,slow=6.1,SNR=2.4
SRS Serrai 81.66 312 *e*P **P** **00 14 43.6 +2.1**
VRAC Vranov 81.73 322 ⇑*i*P **P** **00 14 42.5 +0.7**
VRAC Vranov 81.73 322 ⇑P **P** **00 14 42.5 +0.7**
MODS Modra-Piesok 81.85 321 *i* P **P** **00 14 52.2 +10**
MODS *i* S S 00 24 59.8 +4.0
MODS *e* 00 30 44.2
MODS *i* 00 34 45.6
MODS Modra-Piesok 81.85 321 *i* P **P** **00 14 52.2 +10**
comp=Z,56nm,1.9s,mb5.2
MODS *i* S S 00 24 59.8 +4.0
MODS *e*SS SS 00 30 44.3 +31
MODS *e* 00 34 45.6
SOH Sokhos 81.96 312 *e*P pP 00 14 53.3 +6.8
B04A Port Angeles 82.07 40 ⇓P **P** **00 14 43.1 -0.4**
baz=82
PLG Polygyros 82.11 311 *e*P **P** **00 14 45.9 +2.0**
A04A Legoe Bay, Lum 82.16 39 ⇓P **P** **00 14 43.6 -0.4**
baz=82
PVCC Panska Ves 82.16 323 *e*P **P** **00 14 45.6 +1.6**
PVCC *e* 00 15 01.8
PVCC *e* 00 17 56.0
PVCC *e*SS SS 00 30 22.5 +5.0
PVCC MLR MLR
comp=Z,25µm,16.9s,MS6.7
PVCC Panska Ves 82.16 323 *e*P **P** **00 14 45.6 +1.6**
PVCC *e*x x 00 15 01.8
PVCC *e*PP PP 00 17 56.0 +4.4
PVCC *e*S S 00 25 06.6 +7.7
PVCC *e*SS SS 00 30 22.5 +5.0
PVCC *e*x x 00 34 46.3
PVCC AMS AMS 00 53 50.0
comp=Z,25µm,16.9s
PAIG Paliouri 82.17 311 *e*P **P** **00 14 45.0 +0.8**
PKSM Moragy 82.20 318 ⇑*i*P **P** **00 14 44.5 +0.2**
PKSM Moragy 82.20 318 ⇑P **P** **00 14 44.5 +0.2**
NLWA Neilton Lookou 82.21 40 ⇓P **P** **00 14 44.7 +0.3**
baz=82
NLWA Neilton Lookou 82.21 40 *e*P **P** **00 14 44.8 +0.5**
comp=Z,29nm,1.2s,mb5.1
NLWA *e*PP PP 00 17 53.1 +1.0
NLWA LR LR
comp=Z,2µm,19.0s,MS5.5
VAY Valandovo 82.23 313 *e*P pP 00 14 55.4 +7.5
APE Apeiranthos 82.27 308 *e*P **P** **00 14 38.5 -6.3**
STIP Stip 82.30 313 *e*P pP 00 14 55.5 +7.2
BRG Berggiesshubel 82.30 324 *e*P **P** **00 14 51.4 +6.7**
BRG *i* 00 15 01.8
BRG 00 17 52.0
BRG S S 00 25 01.0 +0.7
BRG SS SS 00 30 16.0 -3.5
BRG pmax pmax
comp=Z,3.0nm,1.1s
BRG pmax pmax
comp=Z,72nm,2.0s,mb5.3
BRG MLR MLR
comp=N,6µm,16.4s,MS6.4
BRG MLR MLR
comp=E,13µm,16.9s,MS6.4
BRG MLR MLR
comp=Z,17µm,16.8s,MS6.5
BRG Berggiesshubel 82.30 324 *e*P **P** **00 14 44.6 -0.1**
comp=Z,121nm,2.0s,mb5.5
BRG Berggiesshubel 82.30 324 *e*P **P** **00 14 51.4 +6.7**
comp=Z,5.0nm,1.1s,mb4.4
BRG *i* 00 15 01.8
comp=Z,121nm,2.0s
BRG PP PP 00 17 52.0 -0.7
BRG S S 00 25 01.0 +0.7
BRG SS SS 00 30 16.0 -3.5
BRG
comp=N,11µm,16.4s
BRG
comp=E,22µm,16.9s
BRG
comp=Z,28µm,16.8s
BRG Berggiesshubel 82.30 324 *e*P **P** **00 14 51.4 +6.7**
comp=Z,3.0nm,1.1s
BRG *i* 00 15 01.8
BRG PP PP 00 17 52.0 -0.7
BRG S S 00 25 01.0 +0.7
BRG SS SS 00 30 16.0 -3.5
BRG LR LR
comp=Z,17µm,16.8s,MS6.5
BSEG Bad Segeberg 82.33 328 *e*P **P** **00 14 44.9 +0.1**
BSEG pmax pmax
comp=Z,158nm,1.7s,mb5.7
BSEG Bad Segeberg 82.33 328 *e*P **P** **00 14 44.9 +0.1**
comp=Z,158nm,1.7s,mb5.7
TREC Trest 82.35 322 *e*P **P** **00 14 46.4 +1.4**
TREC *e**PP pP 00 14 56.6 +8.2
TREC *e* 00 15 03.1
TREC *e* 00 17 55.2
TREC *e*SS SS 00 30 27.4 +7.0
TREC MLR MLR
comp=Z,23µm,17.9s,MS6.6
TREC Trest 82.35 322 *e*P **P** **00 14 46.4 +1.4**
TREC *e*pP pP 00 14 56.6 +8.2
TREC *e*x x 00 15 03.1
TREC *e*PP PP 00 17 55.2 +2.0
TREC *e*x x 00 21 16.0
TREC *e*S S 00 25 09.4 +8.5
TREC *e*SS SS 00 30 27.4 +7.0
TREC *e*x x 00 34 32.4
TREC AMS AMS 00 53 40.0
comp=Z,23µm,17.9s
A05A Maple Falls 82.35 38 ⇑P **P** **00 14 44.4 -0.6**
baz=82
D03A Wishkah Elem. 82.42 41 ⇓P **P** **00 14 45.3 -0.1**
baz=82
PRU Pruhonice 82.48 323 *e*P **P** **00 14 48.6 +3.0**
PRU *e* 00 15 03.7
PRU *e*S S 00 25 07.2 +5.0
PRU *e*SS SS 00 30 20.0 -2.2
PRU MLR MLR
comp=Z,24µm,16.5s,MS6.7
PRU Pruhonice 82.48 323 *e*P **P** **00 14 48.6 +3.0**
PRU *e*x x 00 15 03.7
PRU *e*PP PP 00 18 04.2 +10
PRU *e*x x 00 21 21.0
PRU *e*S S 00 25 07.2 +5.0
PRU *e*SS SS 00 30 20.0 -2.2
PRU *e*x x 00 34 34.8
PRU AMS AMS 00 54 00.0
comp=Z,24µm,16.5s
GRG Griva 82.52 312 *e*P **P** **00 14 50.6 +4.6**
CLL Collm 82.54 325 *e*P **P** **00 14 45.5 -0.4**
comp=Z,71nm,1.4s,mb5.5
CLL Collm 82.54 325 *e*P **P** **00 14 46.0 +0.1**
CLL *i* P(2) 00 14 55.6
CLL *i* Pmax 00 15 02.4
comp=Z,72nm,1.5s
CLL *e*PP PP 00 17 53.0 -1.7
CLL *e*PPmax 00 18 10.0
CLL *e*PPPmax 00 20 05.0
CLL *e*PPPPmax 00 21 24.0
CLL *e*S S 00 25 00.0 -2.8
CLL *e*PS 00 25 57.0
CLL *e*SS SS 00 30 22.0 -1.1
CLL *e*x x 00 31 30.0
CLL *e*x x 00 34 47.0
CLL LmH 00 49 00.0
comp=N,29µm,19.1s
CLL LmH 00 49 00.0
comp=E,19µm,21.0s
CLL LmV 00 54 00.0
comp=Z,31µm,19.8s
CLL Collm 82.54 325 *e*P **P** **00 14 46.0 +0.1**
CLL *i* pP pP 00 14 55.6 +6.3
CLL *i* sP sP 00 15 02.4 +12
CLL *e*S S 00 25 00.0 -2.8
CLL LR LR
comp=Z,31µm,19.8s,MS6.7
C04A Brinnon 82.55 40 ⇑P **P** **00 14 46.0 -0.1**
baz=82
SOP Sopron 82.63 320 ⇓*e*sP sP 00 15 04.3 +13
A06A Chilliwack 82.63 38 ⇑P **P** **00 14 45.7 -0.8**
baz=82
SKO Skopje 82.64 314 *e*P pP 00 14 57.9 +7.8
GNW Green Mountain 82.72 40 *e*P **P** **00 14 47.0 +0.1**
comp=Z,16nm,1.0s,mb5.0
GNW PcP PcP 00 14 52.8 +0.9
B05A Bryant 82.75 39 ⇓P **P** **00 14 46.8 -0.3**
baz=83
XOR Xorichti 82.78 311 *e*P sP 00 15 02.8 +11
NEO Neokhori 82.78 311 *e*P PcP 00 14 55.9 +3.6
E03A Lebam 82.84 41 ⇑P **P** **00 14 47.4 -0.2**
baz=83
JCW Jim Creek 82.88 39 *e*P **P** **00 14 48.0 +0.2**
JCW *e*PcP PcP 00 14 53.0 +0.4
LIT Litokhoron 82.89 312 *e*P **P** **00 14 51.9 +3.9**
CONA Conrad Observa 82.89 321 ⇑*i*P PcP 00 14 51.5 -1.1
comp=Z,35nm,1.4s
CONA Conrad Observa 82.89 321 ⇑*i*PcP PcP 00 14 51.5 -1.1
comp=Z,35nm,1.4s
CSNA Conrad Observa 82.89 321 ⇑*i*P PcP 00 14 51.5 -1.2
comp=Z,34nm,1.4s
CSNA Conrad Observa 82.89 321 ⇑*i*PcP PcP 00 14 51.5 -1.2
comp=Z,34nm,1.4s
B06A Marblemount 82.95 39 ⇓P **P** **00 14 47.7 -0.4**
baz=83
D04A Dobbs Creek Ra 82.98 40 ⇓P **P** **00 14 48.0 -0.3**
baz=83
KRUS Krusevo 83.07 313 *e*P pP 00 15 00.4 +8.1
BMW Boistfort Moun 83.08 41 *e*P **P** **00 14 49.1 +0.3**
F03A Seaside 83.17 41 ⇓P **P** **00 14 48.9 -0.4**
baz=83
A07A Ashnola River, 83.26 38 ⇑P **P** **00 14 49.4 -0.3**
baz=83
LKR Lokris 83.26 310 *e*P **P** **00 14 49.2 -0.7**
KZN Kozani 83.26 312 *e*P **P** **00 14 50.6 +0.7**
FNA Florina 83.28 313 *e*P **P** **00 14 50.0 0.0**
C05A Tolt Reservoir 83.29 39 ⇑P **P** **00 14 49.3 -0.6**
baz=83
WERD Werda 83.40 324 *e*P **P** **00 14 50.4 0.0**
comp=Z,125nm,2.0s,mb5.6
D05A Enumclaw 83.40 40 ⇑P **P** **00 14 50.7 +0.2**
baz=83
GUNZ Gunzen 83.43 324 *e*P **P** **00 14 50.7 +0.1**
comp=Z,172nm,2.0s,mb5.7
NKC Novy Kostel 83.45 324 *e*P **P** **00 14 49.8 -0.9**
NKC *e**PP pP 00 15 01.9 +7.8
NKC *e*S S 00 25 15.6 +3.6
NKC *e*SS SS 00 30 34.6 -2.0
NKC MLR MLR
comp=Z,34µm,16.7s,MS6.8
NKC Novy Kostel 83.45 324 *e*P **P** **00 14 49.8 -0.9**
NKC *e*pP pP 00 15 01.9 +7.8
NKC *e*S S 00 25 15.6 +3.6
NKC *e*SS SS 00 30 34.6 -2.0
NKC *e*x x 00 35 12.8
NKC AMS AMS 00 54 40.0
comp=Z,34µm,16.7s
NKC Novy Kostel 83.45 324 *e*P **P** **00 14 49.8 -0.9**
NKC *e*pP pP 00 15 01.9 +7.8
NKC *e* 00 15 08.6
NKC *e* 00 21 26.1
NKC *e*S S 00 25 15.6 +3.6
NKC *e*SS SS 00 30 34.6 -2.0
NKC *e* 00 35 12.8
WERN Wernitzgruen 83.45 324 *e*P **P** **00 14 50.8 +0.1**
comp=Z,118nm,1.8s,mb5.6
THL Klokotos Trika 83.47 311 *e*P **P** **00 14 46.9 -4.1**
KHC Kasperske Hory 83.48 323 *e*P **P** **00 14 48.7 -2.2**
KHC *e**PP pP 00 14 58.0 +3.8
KHC *e* 00 18 06.9
KHC *e*S S 00 25 15.3 +2.9
KHC *e*SS SS 00 30 35.3 -1.8
KHC MLR MLR
comp=Z,32µm,16.7s,MS6.8
KHC Kasperske Hory 83.48 323 *e*P **P** **00 14 48.7 -2.2**
KHC *e*pP pP 00 14 58.0 +3.8
KHC *e*x x 00 15 07.6
KHC *e*PP PP 00 18 06.9 +4.5
KHC *e*x x 00 21 30.2
KHC *e*S S 00 25 15.3 +2.9
KHC *e*SS SS 00 30 35.3 -1.8
KHC *e*x x 00 34 57.7
KHC AMS AMS 00 54 20.0
comp=Z,32µm,16.7s
CLZ Clausthal 83.56 326 *e*P **P** **00 14 51.7 +0.5**
CLZ pmax pmax
comp=Z,303nm,1.9s,mb6.1
CLZ Clausthal 83.56 326 *e*P **P** **00 14 51.7 +0.5**
comp=Z,303nm,1.9s,mb6.1
GEC2 GERESS Array S 83.57 322 *e*P **P** **00 14 51.3 -0.1**
GEC2 pmax pmax
comp=Z,96nm,2.0s,mb5.6
GEC2 GERESS Array S 83.57 322 *e*P **P** **00 14 51.3 -0.1**
comp=Z,96nm,2.0s,mb5.6
GEC2 GERESS Array S 83.57 322 *e*P **P** **00 14 52.1 +0.7**
GERES GERESS Array B 83.57 322 P **P** **00 14 51.5 +0.1**
comp=Z,0.9nm,0.7s,baz=46,slow=5.8,SNR=9.3
GERES PKKPbc PKKPbc 00 33 15.0 +5.6
comp=Z,0.4nm,0.6s,baz=208,slow=2.6,SNR=3.7
H02A Toledo 83.58 43 ⇓P **P** **00 14 51.6 +0.1**
baz=83
C06A Tall Timber Ra 83.61 39 ⇓P **P** **00 14 51.8 +0.2**
baz=83
MOX Moxa 83.64 325 *e*P **P** **00 14 57.3 +5.7**
MOX *e* 00 15 09.1
comp=Z,192nm,2.3s
MOX
comp=Z,23µm,21.0s
MOX Moxa 83.64 325 *e*P **P** **00 14 57.3 +5.7**
MOX *e* 00 15 09.1
MOX pmax pmax
comp=Z,192nm,2.3s,mb5.8
MOX MLR MLR
comp=Z,23µm,21.0s,MS6.5
MOX Moxa 83.64 325 *e*P **P** **00 14 51.7 +0.1**
comp=Z,166nm,2.0s,mb5.8

MOX	Moxa	83.64	325	eP	P	00 14 57.3	+5.7
	comp=Z,192nm,2.3s,mb5.8						
MOX				e		00 15 09.1	
MOX				LR	LR		
	comp=Z,23µm,21.0s,MS6.5						
G03A	Yamhill	83.67	42	⇑P	P	00 14 51.6	-0.3
	baz=84						
B07A	Winthrop	83.73	38	⇓P	P	00 14 52.2	0.0
	baz=84						
LON	Longmire	83.74	40	eP	P	00 14 52.1	-0.2
LON				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.2						
LON	Longmire	83.74	40	eP	P	00 14 52.1	-0.1
	comp=Z,22nm,1.2s,mb5.2						
F04A	Amboy	83.84	41	⇑P	P	00 14 51.2	-1.6
	baz=84						
ROTZ	Rotzenmuhle	83.84	324	eP	P	00 14 53.2	+0.5
	comp=Z,148nm,1.8s,mb5.8						
WET	Wettzell	83.85	323	eP	P	00 14 53.1	+0.3
WET				pmax	pmax		
	comp=Z,200nm,2.3s,mb5.8						
WET	Wettzell	83.85	323	eP	P	00 14 53.1	+0.3
	comp=Z,200nm,2.3s,mb5.8						
E05A	Randle	83.88	40	⇑P	P	00 14 52.2	-0.8
	baz=84						
A08A	Turner Farm, O	83.91	37	⇓P	P	00 14 52.6	-0.5
	baz=84						
EVR	Evrytania	83.93	311	eP	P	00 14 51.3	-2.1
RER	Riviere de l'E	83.97	243	P	P	00 14 54.4	+0.7
TIR	Tirane	83.97	314	eP	P	00 14 56.7	+3.1
TIR				pmax	pmax		
	comp=Z,456nm,1.9s,mb6.3						
TIR				MLR	MLR		
	comp=Z,11µm,22.0s,MS6.2						
TIR	Tirane	83.97	314	eP	P	00 14 56.7	+3.1
	comp=Z,456nm,1.9s,mb6.3						
TIR				LR	LR		
	comp=Z,11µm,22.0s,MS6.2						
H03A	Soap Creek Ran	84.01	42	⇓P	P	00 14 52.7	-0.9
	baz=84						
PERS	Pernice	84.03	320	eP	sP	00 15 09.3	+11
I02A	Mapleton	84.05	43	⇓P	P	00 14 54.3	+0.4
	baz=84						
D06A	Cle Elum	84.05	39	⇑P	P	00 14 53.2	-0.6
	baz=84						
COR	Corvallis	84.05	43	eP	P	00 14 54.5	+0.6
COR				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.6						
SOKA	Soboth	84.05	320	⇑iP	P	00 14 56.6	+2.7
SOKA	Soboth	84.05	320	⇑iPcP	PcP	00 14 56.6	-1.2
ETW	Entiat	84.10	39	eP	P	00 14 54.2	+0.1
ETW				PcP	PcP	00 14 59.2	+1.3
C07A	Waterville	84.20	39	⇓P	P	00 14 54.5	-0.1
	baz=84						
G04A	Mulino	84.20	42	P	P	00 14 54.5	-0.1
	baz=84						
B08A	Colville Reser	84.22	38	⇓P	P	00 14 54.5	-0.1
	baz=84						
A09A	Danville	84.27	37	⇑P	P	00 14 54.4	-0.5
	baz=84						
K01A	Sixes	84.29	44	⇓P	P	00 14 54.4	-0.8
	baz=84						
EDM	Edmonton	84.31	32	eP	P	00 14 54.5	-0.5
E06A	Yakima	84.33	40	⇑P	P	00 14 55.0	-0.3
	baz=84						
UBBA	Unterbreizbach	84.36	325	eP	P	00 14 55.3	0.0
	comp=Z,160nm,1.9s,mb5.8						
I03A	Eugene	84.40	43	⇑P	P	00 14 54.7	-0.9
	baz=84						
GRA1	Grafenberg Arr	84.41	324	eP	P	00 14 55.9	+0.3
	comp=Z,324nm,2.0s,mb6.1						
GRA1				ePP	PP	00 18 17.4	+7.4
GRA1				eS	S	00 25 17.6	-4.1
GRA1				LR	LR		
	comp=Z,25µm,19.5s,MS6.6						
GRF	Grafenberg Arr	84.41	324	eP	P	00 14 55.9	+0.3
GRF				e		00 18 17.4	
GRF				eS	S	00 25 17.6	-4.1
GRF				pmax	pmax		
	comp=Z,324nm,2.0s,mb6.1						
GRF				MLR	MLR		
	comp=Z,25µm,19.5s,MS6.6						
GRF	Grafenberg Arr	84.41	324	eP	P	00 14 55.9	+0.3
GRF				e		00 18 17.4	
GRF				eS	S	00 25 17.6	-4.1
GRF				pmax	pmax		
	comp=Z,324nm,2.0s,mb6.1						
GRF				MLR	MLR		
	comp=Z,25µm,19.5s,MS6.6						
GRF	Grafenberg Arr	84.41	324	eP	P	00 14 55.9	+0.3
	comp=Z,324nm,2.0s,mb6.1						
GRF				ePP	PP	00 18 17.4	+7.4
GRF				eS	S	00 25 17.6	-4.1
GRF				eL		00 55 36.3	
	comp=Z,25µm,19.5s						
GRFO	Grafenberg	84.41	324	eP	P	00 14 55.9	+0.3
GRFO				pmax	pmax		
	comp=Z,304nm,2.0s,mb6.1						
GRFO	Grafenberg	84.41	324	eP	P	00 14 55.9	+0.3
	comp=Z,304nm,2.0s,mb6.1						
F05A	White Salmon	84.43	41	⇑P	P	00 14 55.1	-0.6
	baz=84						
J02A	Umpqua	84.54	44	⇑P	P	00 14 55.0	-1.4
	baz=84						
IBBN	Ibbenburen	84.55	327	eP	P	00 14 56.2	-0.1
	comp=Z,309nm,2.0s,mb6.1						
BOJS	Bojanci	84.58	319	eS	S	00 25 18.5	-5.1
RLS	Riolos of Patr	84.60	310	eP	P	00 14 48.7	-8.1
HOOD	Mount Hood Mea	84.63	41	eP	P	00 14 57.4	+0.6
	comp=Z,66nm,1.2s,mb5.6						
H04A	Detroit Lake	84.67	42	⇑P	P	00 14 56.7	-0.3
	baz=84						
LJU	Ljubljana	84.70	320	iP	sP	00 15 12.6	+11
LJU				eS	S	00 25 17.3	-7.4
C08A	Higginbotham F	84.71	38	⇑P	P	00 14 56.5	-0.6
	baz=84						
ITM	Ithomi	84.73	309	eP	P	00 14 53.4	-4.1
A10A	Northport	84.81	37	⇓P	P	00 14 57.8	+0.1
	baz=85						
B09A	Rice	84.83	37	⇑P	P	00 14 57.7	-0.1
	baz=85						
G05A	Wamic	84.87	41	⇓P	P	00 14 57.9	-0.1
	baz=85						
F06A	Goldendale	84.89	41	⇑P	P	00 14 58.3	+0.2
	baz=85						
K02A	Glendale	84.92	44	⇓P	P	00 14 58.4	0.0
	baz=85						
BORG	Borgarnes	84.93	347	PFAKE		00 15 10.0	+12
BORG				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
E07A	Sunnyside	84.97	40	⇓P	P	00 14 58.2	-0.3
	baz=85						
M01C	Crescent City	85.02	45	⇑P	P	00 14 58.6	-0.3
	baz=85						
I04A	Tendick Farm,	85.02	43	⇓P	P	00 14 58.5	-0.3
	baz=85						
JAVS	Javornik	85.05	320	eP	sP	00 15 14.1	+11
VOY	Vojsko	85.07	320	e(P)	pP	00 15 11.0	+8.6
VOY				e		00 15 16.1	
VOY				e		00 15 34.1	
VOY				e		00 15 46.8	
C09A	Chrisman Ranch	85.12	38	⇓P	P	00 14 58.9	-0.3
	baz=85						
OD2	Odessa Site #2	85.12	38	eP	P	00 14 59.3	+0.1
L02A	Cave Junction	85.18	45	⇓P	P	00 15 00.0	+0.4
	baz=85						
D08A	Wollman Farm,	85.20	39	⇓P	P	00 14 59.2	-0.5
	baz=85						
RSW	Rattlesnake Hi	85.21	40	eP	P	00 14 59.7	0.0
WTSB	Winterswijk	85.22	327	⇓eP	sP	00 15 13.9	+10
	comp=Z,100nm,2.3s						
HAWA	Hanford	85.24	40	eP	P	00 15 00.2	+0.3
	comp=Z,28nm,1.2s,mb5.3						
HAWA				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
H05A	Madras	85.25	42	⇓P	P	00 15 00.1	+0.2
	baz=85						
G06A	Carlson Farm,	85.27	41	⇓P	P	00 15 00.2	+0.2
	baz=85						
FUR	Furstenfeldbru	85.28	323	eP	P	00 15 00.3	+0.3
FUR				pmax	pmax		
	comp=Z,570nm,2.1s,mb6.3						
FUR	Furstenfeldbru	85.28	323	eP	P	00 15 00.3	+0.3
	comp=Z,570nm,2.1s,mb6.3						
F07A	Phinny Hill Vi	85.30	40	⇓P	P	00 15 00.5	+0.3
	baz=85						
KRMB	Red Mountain	85.33	45	eP	P	00 15 01.0	+0.6
BUG	Bochum--Univer	85.33	327	eP	P	00 15 00.0	-0.2
	comp=Z,196nm,2.1s,mb5.9						
HUMO	Hull Mountain	85.34	44	⇑P	P	00 15 00.3	-0.1
	baz=85						
B10A	Chitwood Farm,	85.40	37	⇑P	P	00 15 00.4	-0.2
	baz=85						
E08A	Dider Farm, El	85.45	39	⇓P	P	00 15 00.4	-0.5
	baz=85						
A11A	Hall Mountain,	85.46	36	⇓P	P	00 15 01.4	+0.5
	baz=85						
NEW	Newport	85.47	37	eP	P	00 15 00.8	-0.2
NEW				pmax	pmax		
	comp=Z,19nm,1.0s						
NEW				MLR	MLR		
	comp=Z,3µm,19.0s						
NEW	Newport	85.47	37	eP	P	00 15 00.8	-0.1
	comp=Z,19nm,1.0s,mb5.2						
NEW				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
I05A	Bend	85.50	42	⇑P	P	00 15 01.4	+0.2
	baz=85						
J04A	Umpqua Nationa	85.51	43	⇓P	P	00 15 00.9	-0.3
	baz=85						
TNS	Taunus Mts	85.51	325	eP	P	00 15 01.4	+0.3
TNS				pmax	pmax		
	comp=Z,104nm,2.0s,mb5.7						
TNS	Taunus Mts	85.51	325	eP	P	00 15 01.4	+0.3
	comp=Z,104nm,2.0s,mb5.7						
D09A	Jones Farm, Ri	85.54	38	⇑P	P	00 15 01.0	-0.3
	baz=85						
WTTA	Wattenberg	85.62	322	⇑iP	P	00 15 04.9	+3.1
	comp=Z,51nm,1.8s,mb5.4						
WTTA	Wattenberg	85.62	322	⇑iPcP	PcP	00 15 04.9	+0.2
	comp=Z,51nm,1.8s						
WTTA	Wattenberg	85.62	322	⇑iP	P	00 15 04.9	+3.2
WTTA				pmax	pmax		
	comp=Z,51nm,1.8s,mb5.5						
JCC	Jacoby Creek	85.63	46	⇓P	P	00 15 01.8	-0.1
	baz=86						
C10A	Spilker Farm,	85.64	37	⇑P	P	00 15 01.3	-0.5
	baz=86						
H06A	Lindquist Farm	85.73	41	⇓P	P	00 15 01.8	-0.5
	baz=86						
B11A	Sandpoint	85.77	37	⇓P	P	00 15 02.3	-0.2
	baz=86						
G07A	Ruggs Ranch, H	85.81	40	⇑P	P	00 15 02.6	-0.2
	baz=86						
A12A	Yaak River Ran	85.84	36	⇑P	P	00 15 02.6	-0.2
	baz=86						
SFJD	Kangerlussuaq	85.95	359	iP	P	00 15 05.2	+2.2
SFJD				iS	S	00 25 32.2	-4.1
SFJD							
	comp=Z,5µm,22.0s						
E09A	Wood Farm, Sta	85.95	39	⇑P	P	00 15 03.2	-0.2
	baz=86						
YBH	Yreka Blue Hor	85.97	45	eP	P	00 15 04.3	+0.7
YBH				pmax	pmax		
	comp=Z,90nm,1.9s						
YBH				MLR	MLR		
	comp=Z,2µm,20.0s						
YBH	Yreka Blue Hor	85.97	45	⇑P	P	00 15 03.8	+0.3
	baz=86						
YBH	Yreka Blue Hor	85.97	45	eP	P	00 15 04.3	+0.8
	comp=Z,90nm,1.9s,mb5.7						
YBH				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
J05A	Fort Rock	86.01	43	⇓P	P	00 15 03.6	-0.2
	baz=86						
F08A	Pendleton	86.02	40	⇑P	P	00 15 03.7	0.0
	baz=86						
STU	Stuttgart	86.02	324	eP	P	00 15 03.4	-0.3
	comp=Z,139nm,2.1s,mb5.8						
STU	Stuttgart	86.02	324	P	P	00 15 03.9	+0.2
M02C	Callahan	86.06	45	⇑P	P	00 15 04.2	+0.2
	baz=86						
K04A	Chilquin	86.09	44	⇑P	P	00 15 04.0	-0.2
	baz=86						
N02C	Big Bar	86.09	46	⇓P	P	00 15 02.9	-1.3
	baz=86						
D10A	Wagner Farm, O	86.11	38	⇑P	P	00 15 03.3	-0.9
	baz=86						
G08A	Pilot Rock	86.21	40	⇓P	P	00 15 04.0	-0.7
	baz=86						
LNOR	Lincton Mounta	86.25	39	eP	P	00 15 05.7	+0.8
I06A	Prineville	86.25	42	⇑P	P	00 15 04.9	0.0
	baz=86						
H07A	Lands Inn, Kim	86.26	41	⇓P	P	00 15 04.8	-0.2
	baz=86						
HGN	Heimansgroeve	86.41	327	⇓eP	sP	00 15 19.6	+9.4
	comp=Z,46nm,2.2s						
M04C	Macdoel	86.48	44	⇓P	P	00 15 06.3	+0.2
	baz=86						
A13A	Flathead Natio	86.49	35	⇓P	P	00 15 05.9	-0.1
	baz=86						
BEBN	Eben Emael	86.52	327	P	sP	00 15 22.1	+11
KCPM	Cahto Peak	86.53	47	eP	P	00 15 06.7	+0.3
KCPM				e		00 15 13.1	
KCPM				ePP	PP	00 18 28.3	+0.7
KIPM	Iron Peak	86.53	47	eP	P	00 15 06.7	+0.4
K05A	Summer Lake	86.53	43	⇑P	P	00 15 06.8	+0.5
	baz=86						
E10A	Myers Farm, Un	86.55	38	⇑P	P	00 15 05.6	-0.7
	baz=86						
F09A	S2 Ranch, Elgi	86.56	39	⇑P	P	00 15 06.4	0.0
	baz=86						
DAVA	Damuels	86.56	323	⇑iP	P	00 15 05.9	-0.5
	comp=Z,52nm,1.9s,mb5.4						
M03C	McCloud	86.59	45	⇓P	P	00 15 06.7	0.0
	baz=86						
I07A	Izee	86.59	41	⇓P	P	00 15 06.9	+0.3
	baz=86						
LANF	Langenberg	86.61	325	eP	sP	00 15 22.0	+11
D11A	Klaveano Farm,	86.63	38	⇓P	P	00 15 05.9	-0.9
	baz=86						
WALA	Waterton Lakes	86.67	35	eP	P	00 15 07.2	+0.4
	comp=Z,67nm,1.6s,mb5.6						
J06A	Christmas Vall	86.68	42	⇓P	P	00 15 06.7	-0.3
	baz=86						
WDC	Whiskeytown Da	86.71	46	eP	P	00 15 07.6	+0.3
WDC				S	S	00 25 49.3	+4.6
WDC				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.4						
WDC				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.4						
WDC	Whiskeytown Da	86.71	46	⇓P	P	00 15 07.3	+0.1
	baz=86						
WDC	Whiskeytown Da	86.71	46	eP	P	00 15 07.6	+0.3
	comp=Z,23nm,1.0s,mb5.4						
WDC				S	S	00 25 49.3	+4.5
WDC				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
BFO	Black Forest	86.75	324	eP	P	00 15 06.3	-1.0
BFO				pmax	pmax		
	comp=Z,28nm,1.8s,mb5.2						
BFO				MLR	MLR		
	comp=Z,22µm,19.0s,MS6.6						
BFO	Black Forest	86.75	324	eP	P	00 15 06.9	-0.4
	comp=Z,100nm,1.8s,mb5.7						
BFO	Black Forest	86.75	324	eP	P	00 15 06.3	-0.9
	comp=Z,28nm,1.8s,mb5.2						
BFO				LR	LR		
	comp=Z,22µm,19.0s,MS6.6						
F10A	Beach Ranch, E	86.79	39	⇓P	P	00 15 06.6	-0.9
	baz=87						
B13A	Whitefish	86.81	36	⇓P	P	00 15 07.5	-0.1
	baz=87						
H08A	Prairie City	86.83	41	⇓P	P	00 15 07.5	-0.2
	baz=87						
STR	Strasbourg	86.88	324	eP	sP	00 15 23.9	+11
K06A	Valley Falls	86.88	43	⇑P	P	00 15 08.0	0.0
	baz=87						
G09A	Cove	86.89	40	⇓P	P	00 15 07.8	-0.2
	baz=87						
BCLA	Clavier	86.94	327	P	sP	00 15 23.5	+11
	comp=Z,28nm,2.3s						
L05A	Lakeview	86.96	44	⇑P	P	00 15 08.6	+0.1
	baz=87						
WLF	Walferdange	87.01	326	P	sP	00 15 26.1	+13
	comp=Z,48nm,2.2s						
GASB	Alder Springs	87.11	46	⇑P	P	00 15 09.1	-0.1
	baz=87						
J07A	Hines	87.12	42	⇑P	P	00 15 09.5	+0.3
	baz=87						
E11A	Bogner Ranch,	87.12	38	⇓P	P	00 15 08.2	-0.9
	baz=87						
UCC	Uccle	87.15	328	P	sP	00 15 24.3	+11
M05C	Lookout	87.15	44	⇑P	P	00 15 09.2	-0.2
	baz=87						
D12A	Red Ives Fores	87.16	37	⇑P	P	00 15 08.8	-0.6
	baz=87						
C13A	Hot Springs	87.19	36	⇓P	P	00 15 09.2	-0.2
	baz=87						
HOPS	Hopland	87.24	47	⇓P	P	00 15 09.9	+0.1
	baz=87						
HOPS	Hopland	87.24	47	eP	P	00 15 10.0	+0.1
HOPS				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
I08A	Drewsey	87.24	41	⇑P	P	00 15 10.2	+0.5
	baz=87						
CDF	Champ du Feu	87.24	325	eP	P	00 15 10.1	+0.4
	comp=Z,227nm,1.8s,mb5.8						
CDF	Champ du Feu	87.24	325	eP	P	00 15 10.1	+0.4
CDF				pmax	pmax		
	comp=Z,114nm,1.8s,mb5.8						
CDF	Champ du Feu	87.24	325	eP	P	00 15 10.1	+0.4
	comp=Z,114nm,1.8s,mb5.8						
G10A	Bishop Farm, J	87.25	39	⇑P	P	00 15 10.1	+0.3
	baz=87						
HATC	Hat Creek Radi	87.26	45	⇑P	P	00 15 09.9	0.0
	baz=87						
ESK	Eskdalemuir	87.27	334	PFAKE		00 15 20.0	+10
ESK				LR	LR		
	comp=Z,12µm,20.0s,MS6.3						
H09A	Durkee	87.32	40	⇓P	P	00 15 10.3	+0.1
	baz=87						
MOD	Modoc	87.36	44	⇑P	P	00 15 09.9	-0.5
	baz=87						
MOD	Modoc	87.36	44	eP	P	00 15 10.7	+0.2
	comp=Z,22nm,1.0s,mb5.3						
MOD				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
BMO	Blue Mountains	87.41	40	eP	P	00 15 10.7	+0.1
	comp=Z,20nm,1.1s,mb5.2						
BMO				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
ECH	Echery	87.43	324	eP	P	00 15 09.8	-0.8
F11A	Grangeville	87.43	39	⇑P	P	00 15 09.6	-1.1
	baz=87						
AQU	L'Aquila	87.47	317	eP	P	00 15 10.6	-0.3
AQU				pmax	pmax		
	comp=Z,102nm,1.8s,mb5.8						
AQU				MLR	MLR		
	comp=Z,18µm,22.0s,MS6.4						
AQU	L'Aquila	87.47	317	eP	P	00 15 10.6	-0.3
	comp=Z,102nm,1.8s,mb5.8						
AQU				LR	LR		
	comp=Z,18µm,22.0s,MS6.4						
DOU	Dourbes	87.50	327	P	sP	00 15 26.0	+10
	comp=Z,23nm,2.8s						
K07A	Rock Creek Ran	87.55	42	⇑P	P	00 15 10.8	-0.5
	baz=87						
C14A	Swan Lake	87.56	36	⇓P	P	00 15 10.8	-0.4
	baz=87						
D13A	Huson	87.61	37	⇓P	P	00 15 10.6	-0.9
	baz=87						
J08A	Circle Bar Ran	87.62	42	⇓P	P	00 15 11.6	-0.1
	baz=87						
M06C	Likely Place G	87.65	44	⇓P	P	00 15 11.3	-0.5
	baz=88						
G11A	Walters Elk Ra	87.67	39	⇓P	P	00 15 10.7	-1.1
	baz=88						
MOF	Molkenrain	87.67	324	eP	sP	00 15 26.4	+10
I09A	Lost Marbles R	87.69	41	⇓P	P	00 15 11.9	-0.1
	baz=88						
MNRC	McLaughlin Nat	87.71	47	⇓P	P	00 15 12.0	-0.1
	baz=88						
FCC	Fort Churchill	87.73	20	eP	P	00 15 10.7	-1.1
FCC				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.3						
FCC	Fort Churchill	87.73	20	eP	P	00 15 10.7	-1.2
	comp=Z,18nm,0.8s,mb5.3						
O04C	Chester	87.78	45	⇓P	P	00 15 11.9	-0.5
	baz=88						
MCCM	Marconi Confer	87.83	48	⇓P	P	00 15 12.2	-0.5
	baz=88						
MCCM	Marconi Confer	87.83	48	P	P	00 15 12.9	+0.2
MCCM				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
ELFS	Eagle Lake Fie	87.83	45	⇑P	P	00 15 12.4	-0.3
	baz=88						
HINF	Hinteralfeld	87.84	324	eP	P	00 15 12.5	-0.1
	comp=Z,62nm,1.6s,mb5.3						
HINF	Hinteralfeld	87.84	324	eP	P	00 15 12.5	-0.1
HINF				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.3						
HINF	Hinteralfeld	87.84	324	eP	P	00 15 12.5	-0.1
	comp=Z,31nm,1.6s,mb5.3						
L07A	Adell	87.88	43	⇓P	P	00 15 13.4	+0.4
	baz=88						
H10A	Noah's Angus R	87.89	40	⇑P	P	00 15 12.3	-0.6
	baz=88						
SUTB	Sutter Butte	87.94	46	⇑P	P	00 15 12.2	-1.1
	baz=88						
ORV	Oroville	87.94	46	⇓P	P	00 15 12.4	-0.9
	baz=88						
HAU	Haudompre	87.98	325	eP	P	00 15 13.4	+0.2
	comp=Z,111nm,1.8s,mb5.5						
HAU	Haudompre	87.98	325	eP	P	00 15 13.4	+0.2
HAU				pmax	pmax		
	comp=Z,56nm,1.8s,mb5.5						
HAU	Haudompre	87.98	325	eP	P	00 15 13.4	+0.2
	comp=Z,56nm,1.8s,mb5.5						
K08A	Mann Creek Ran	87.98	42	⇑P	P	00 15 13.3	-0.1
	baz=88						
FARB	Farallon Islan	88.00	48	⇑P	P	00 15 13.3	-0.2
	baz=88						
CVS	Carmenet Viney	88.00	47	⇓P	P	00 15 13.2	-0.3
	baz=88						
F12A	Elk City	88.01	38	⇓P	P	00 15 13.2	-0.2
	baz=88						
THEF	They Montfort	88.02	325	eP	sP	00 15 29.0	+11
J09A	Fry Pan Ranch,	88.05	41	⇑P	P	00 15 13.4	-0.2
	baz=88						
MSO	Missoula	88.06	37	eP	P	00 15 13.4	-0.3
	comp=Z,18nm,1.2s,mb5.2						
MSO				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
WVOR	Wild Horse Val	88.07	42	eP	P	00 15 14.2	+0.4
WVOR				e		00 15 20.2	
WVOR				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.2						
WVOR				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.4						
WVOR	Wild Horse Val	88.07	42	eP	P	00 15 14.2	+0.4
	comp=Z,22nm,1.3s,mb5.2						
WVOR				e		00 15 20.2	
WVOR				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
OHCM	Honcut	88.08	46	eP	P	00 15 14.2	+0.3
OHCM				e		00 15 20.2	
D14A	Greenough	88.13	36	⇓P	P	00 15 13.4	-0.6
	baz=88						
I10A	Payette	88.16	40	⇓P	P	00 15 14.4	+0.3
	baz=88						
E13A	Victor	88.17	37	⇓P	P	00 15 13.4	-0.8
	baz=88						
H11A	Donnelly	88.24	39	⇑P	P	00 15 14.1	-0.4
	baz=88						
N06A	Buffalo Meadow	88.31	44	⇑P	P	00 15 14.9	-0.1
	baz=88						
MEZF	Maizieres J'vi	88.32	326	eP	P	00 15 15.6	+0.8
	comp=Z,98nm,1.5s,mb5.5						
MEZF	Maizieres J'vi	88.32	326	eP	P	00 15 15.6	+0.8
	comp=Z,98nm,1.5s,mb5.8						
M07A	Soldier Meadow	88.35	43	⇓P	P	00 15 15.1	-0.1
	baz=88						
CHMT	Chamberlain Mo	88.37	36	eP	P	00 15 15.1	0.0
L08A	Fields	88.39	42	⇑P	P	00 15 15.2	-0.1
	baz=88						
K09A	Rome	88.45	42	⇓P	P	00 15 15.8	+0.3
	baz=88						
BEKR	Beckwourth	88.49	45	⇓P	P	00 15 15.3	-0.5
	baz=88						
F13A	Darby	88.50	38	⇓P	P	00 15 14.8	-0.9
	baz=88						
E14A	Clinton	88.56	37	⇓P	P	00 15 15.1	-0.9

JRSC	Jasper Ridge	88.66	48	⇓P	P	00 15 16.0	-0.7
	baz=88						
D15A	Lincoln	88.67	36	⇑P	P	00 15 16.6	+0.1
	baz=88						
I11A	Placerville	88.75	40	⇓P	P	00 15 17.2	+0.2
	baz=89						
M08A	Happy Creek Ra	88.80	43	⇑P	P	00 15 17.5	+0.3
	baz=89						
N07B	Gerlach	88.83	44	⇓P	P	00 15 17.7	+0.3
	baz=89						
BNLO	Ben Lomond (Sa	88.86	48	⇑P	P	00 15 17.1	-0.5
	baz=89						
WENL	Wente Brothers	88.86	48	⇑P	P	00 15 16.4	-1.2
	baz=89						
LAVA	Lava Cap Winer	88.88	46	⇓P	P	00 15 17.1	-0.5
	baz=89						
L09A	Wilkinson Ranc	88.89	42	⇓P	P	00 15 17.8	+0.1
	baz=89						
K10A	MacKenzie Ranc	88.91	41	⇑P	P	00 15 18.0	+0.2
	baz=89						
H12A	Diamond D Ranc	88.98	39	⇑P	P	00 15 18.3	+0.2
	baz=89						
G13A	Cobalt	88.99	38	⇑P	P	00 15 17.1	-0.9
	baz=89						
E15A	Deer Lodge	89.00	37	⇓P	P	00 15 18.1	0.0
	baz=89						
F14A	Wisdom	89.00	37	⇓P	P	00 15 17.8	-0.3
	baz=89						
R04C	Big Horse Ranc	89.04	47	⇑P	P	00 15 17.7	-0.8
	baz=89						
MFID	Camas Ranch	89.13	40	⇑P	P	00 15 18.8	+0.1
	baz=89						
PAHR	Pah Rah Range	89.20	45	*e*P	P	00 15 19.6	+0.5
	comp=Z,22nm,1.2s,mb5.4						
WCN	Washoe City	89.20	45	⇑P	P	00 15 18.8	-0.4
	baz=89						
HRY	Holter Researc	89.25	36	*e*P	P	00 15 19.3	+0.1
H13A	Challis	89.31	39	⇑P	P	00 15 19.2	-0.4
	baz=89						
N08A	GE Springer Mi	89.34	43	⇑P	P	00 15 20.2	+0.4
	baz=89						
M09A	Marrel Ranch,	89.38	43	⇓P	P	00 15 20.7	+0.7
	baz=89						
K11A	Parker Ranch,	89.40	41	⇓P	P	00 15 20.5	+0.4
	baz=89						
EGMT	Eagleton	89.44	34	⇓P	P	00 15 19.6	-0.5
	baz=89						
EGMT	Eagleton	89.44	34	*e*P	P	00 15 19.7	-0.4
	comp=Z,43nm,1.1s,mb5.7						
EGMT				*e*		00 15 26.5	
EGMT				LR	LR		
	comp=Z,4μm,20.0s,MS5.8						
F15A	Butte	89.46	37	⇓P	P	00 15 20.8	+0.5
	baz=89						
LRM	Limekiln Ridge	89.49	37	*e*P	P	00 15 20.8	+0.4
PACP	Pacheco Peak	89.51	48	⇓P	P	00 15 20.6	-0.1
	baz=89						
CMB	Columbia Colle	89.52	47	*e*P	P	00 15 20.6	-0.1
CMB				*e*		00 15 26.5	
CMB				pmax	pmax		
	comp=Z,60nm,1.9s,mb5.6						
CMB				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.4						
CMB	Columbia Colle	89.52	47	⇓P	P	00 15 20.0	-0.7
	baz=89						
CMB	Columbia Colle	89.52	47	*e*P	P	00 15 20.6	-0.1
	comp=Z,60nm,1.9s,mb5.6						
CMB				*e*		00 15 26.5	
CMB				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
SAO	San Andreas Ge	89.54	48	P	P	00 15 18.8	-2.0
SAO				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.3						
L10A	Juniper Basin	89.57	42	⇓P	P	00 15 21.6	+0.7
	baz=89						
OPO	Ambohidratompo	89.60	249	P	P	00 15 18.7	-2.6
	comp=Z,3.6nm,0.9s,mb4.7,baz=141,slow=6.5,SNR=2.3						
J12A	Stokes Ranch,	89.65	40	⇓P	P	00 15 21.8	+0.5
	baz=90						
N09A	Rock Creek Ran	89.67	43	⇓P	P	00 15 21.9	+0.6
	baz=90						
HAST	Hastings Reser	89.69	49	⇑P	P	00 15 21.5	-0.1
	baz=90						
BNI	Bardonecchia	89.70	322	P	P	00 15 22.4	+1.0
BNI				*e*		00 18 54.8	
BNI				MLR	MLR		
	comp=Z,25μm,20.0s,MS6.7						
DLMT	Dillon	89.71	37	*e*P	P	00 15 21.8	+0.3
	comp=Z,95nm,1.4s,mb5.9						
ABPO	Ambohimpanom	89.79	249	*e*P	P	00 15 21.8	-0.3
ABPO				LR	LR		
	comp=Z,6μm,20.0s,MS6.0						
I13A	Wildhorse Cree	89.79	39	⇓P	P	00 15 23.1	+1.2
	baz=90						
HLID	Hailey	89.85	40	⇓P	P	00 15 22.5	+0.4
	baz=90						
HLID	Hailey	89.85	40	*e*P	P	00 15 23.1	+1.0
	comp=Z,22nm,1.2s,mb5.4						
HLID				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
M10A	I.L. Ranch, Tu	89.86	42	⇑P	P	00 15 22.5	+0.2
	baz=90						
SAOF	Saorge	89.89	321	*e*P	sP	00 15 37.8	+11
G15A	Dillon	89.89	37	⇑P	P	00 15 22.7	+0.4
	baz=90						
MCMT	McKenzie Canyo	89.92	38	*e*P	P	00 15 22.9	+0.5
L11A	Cat Creek Ranc	89.94	41	⇑P	P	00 15 23.6	+1.0
	baz=90						
S05C	Merced	89.95	47	⇓P	P	00 15 22.2	-0.6
	baz=90						
AUTN	L'Aution	89.95	321	*e*P	sP	00 15 39.2	+12
P08A	Dixie Valley	90.02	44	⇑P	P	00 15 23.3	+0.2
	baz=90						
TOUF	Mont Tournerai	90.04	321	*e*P	sP	00 15 39.2	+12
BOZ	Bozeman (W)	90.05	37	*e*P	P	00 15 23.5	+0.5
BOZ				*e*		00 15 29.9	
BOZ				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.3						
BOZ				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.6						
BOZ	Bozeman (W)	90.05	37	⇑P	P	00 15 23.0	0.0
	baz=90						
BOZ	Bozeman (W)	90.05	37	*e*P	P	00 15 23.5	+0.5
	comp=Z,21nm,1.2s,mb5.3						
BOZ				*e*		00 15 29.9	
BOZ				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
J13A	Cove Ranch, Pi	90.08	40	⇓P	P	00 15 24.1	+0.9
	baz=90						
V03C	Hunter Liggett	90.10	49	⇑P	P	00 15 23.7	+0.3
	baz=90						
BMN	Battle Mountai	90.11	43	*e*P	P	00 15 24.2	+0.8
BMN				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.3						
BMN				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.4						
BMN	Battle Mountai	90.11	43	*e*P	P	00 15 24.2	+0.8
	comp=Z,19nm,1.3s,mb5.3						
BMN				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
K12A	Draper Farm, C	90.14	41	⇓P	P	00 15 23.4	-0.1
	baz=90						
REVF	Revere	90.15	321	*e*P	sP	00 15 38.6	+10
SMF	Signal de Mont	90.16	325	*e*P	P	00 15 23.9	+0.4
MVIF	Mont Vial	90.17	321	*e*P	sP	00 15 39.2	+11
R07C	Lee Vining	90.35	46	⇑P	P	00 15 24.4	-0.2
	baz=90						
M11A	Holland Ranch,	90.37	42	⇑P	P	00 15 25.8	+1.2
	baz=90						
N10A	Dunphy	90.37	43	⇑P	P	00 15 25.0	+0.4
	baz=90						
L12A	House Creek Ra	90.38	41	⇑P	P	00 15 24.0	-0.6
	baz=90						
CALN	Calern	90.41	321	*e*P	sP	00 15 40.5	+11
V04C	Ramage Ranch,	90.57	49	⇓P	P	00 15 25.5	-0.1
	baz=90						
Q08A	Gabbs	90.61	45	⇓P	P	00 15 25.8	0.0
	baz=90						
K13A	Stover Farm, H	90.61	40	⇓P	P	00 15 25.7	0.0
	baz=90						
PKD	Parkfield	90.61	49	⇓P	P	00 15 24.7	-1.1
	baz=90						
KCC	Kaiser Creek	90.62	47	⇑P	P	00 15 24.7	-1.1
	baz=90						
NVAR	Mina Array Bea	90.63	45	P	P	00 15 26.1	+0.2
	comp=Z,0.9nm,0.7s,mb4.2,baz=287,slow=4.9,SNR=5.3						
O10A	Cortez Mining,	90.63	43	P	P	00 15 26.1	+0.2
	baz=90						
FRF	La Foret Royal	90.67	321	*e*P	P	00 15 25.9	0.0
QLMT	Earthquake Lak	90.68	37	*e*P	P	00 15 27.1	+1.1
MLAC	Mammoth Lakes	90.75	46	⇓P	P	00 15 26.7	+0.2
	baz=91						
N11A	Elko Archery C	90.78	42	⇑P	P	00 15 26.7	+0.2
	baz=91						
R08A	Mina	90.80	45	⇓P	P	00 15 26.3	-0.4
	baz=91						
LMR	La Mourre	90.89	321	*e*P	P	00 15 26.7	-0.3
M12A	Wells	90.89	42	⇑P	P	00 15 27.9	+0.9
	baz=91						
GCMT	Greycliff	90.98	36	*e*P	P	00 15 27.5	+0.1
L13A	Double Diamond	91.04	41	⇑P	P	00 15 28.4	+0.7
	baz=91						
YMR	Madison River	91.04	37	PFAKE		00 15 40.0	+12
YMR				LR	LR		
	comp=Z,4μm,22.0s,MS5.8						
V05C	Boulder Hill,	91.08	48	⇑P	P	00 15 28.1	+0.1
	baz=91						
MTUM	Tungsten Hills	91.09	46	*e*P	P	00 15 28.6	+0.5
ELK	Elko	91.12	42	*e*P	P	00 15 28.7	+0.6
ELK				pmax	pmax		
	comp=Z,19nm,1.2s						
ELK				MLR	MLR		
	comp=Z,2μm,20.0s						
ELK	Elko	91.12	42	*e*P	P	00 15 28.7	+0.7
	comp=Z,19nm,1.2s,mb5.3						
ELK				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
YNR	Norris Junctio	91.16	37	*e*P	P	00 15 25.5	-2.8
N12A	Clover Valley,	91.17	42	⇓P	P	00 15 28.7	+0.4
	baz=91						
HELL	Mitchell Peak	91.19	47	⇓P	P	00 15 28.1	-0.4
	baz=91						
K14A	Jones Ranch, D	91.19	40	⇓P	P	00 15 28.9	+0.5
	baz=91						
O11A	Cowboy Ranch,	91.24	43	⇓P	P	00 15 28.7	0.0
	baz=91						
YFT	Old Faithful	91.25	37	*e*P	P	00 15 30.5	+1.9
SMMC	Simmler	91.33	49	⇓P	P	00 15 28.6	-0.6
	baz=91						
M13A	Montello	91.37	41	⇑P	P	00 15 29.6	+0.3
	baz=91						
LKWY	Lake	91.41	37	PFAKE		00 15 40.0	+11
LKWY				LR	LR		
	comp=Z,5μm,20.0s,MS6.0						
L14A	Malta	91.48	40	⇓P	P	00 15 30.4	+0.7
	baz=91						
TIN	Tinemaha	91.48	47	⇓P	P	00 15 30.1	+0.2
	baz=91						
R09A	Tonopah	91.52	45	⇓P	P	00 15 30.0	0.0
	baz=91						
TPH	Tonopah	91.52	45	PFAKE		00 15 40.0	+10
TPH				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
P11A	Circle Ranch,	91.54	43	⇓P	P	00 15 30.1	0.0
	baz=91						
IMW	Indian Meadow	91.56	38	*e*P	P	00 15 31.4	+1.3
	comp=Z,48nm,1.3s,mb5.7						
FLWY	Flagg Ranch	91.57	37	*e*P	P	00 15 31.4	+1.3
	comp=Z,48nm,1.1s,mb5.7						
Q10A	Clear Creek Ra	91.58	44	⇓P	P	00 15 29.9	-0.4
	baz=91						
RLMT	Red Lodge	91.64	36	*e*P	P	00 15 31.0	+0.6
	comp=Z,47nm,1.3s,mb5.7						
RLMT				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
VES	Vestal, Richgr	91.64	48	⇓P	P	00 15 29.0	-1.7
	baz=92						
N13A	Wendover, West	91.66	42	⇓P	P	00 15 31.1	+0.5
	baz=92						
PKM	Peak Mountain	91.69	49	⇓P	P	00 15 31.3	+0.4
	baz=92						
O12A	Currie	91.71	42	⇑P	P	00 15 30.4	-0.4
	baz=92						
RRI2	Red Ridge	91.71	38	*e*P	P	00 15 32.1	+1.3
	comp=Z,23nm,1.2s,mb5.4						
M14A	Sheep Mountain	91.76	41	⇑P	P	00 15 31.0	0.0
	baz=92						
MOOW	Moose Ponds	91.77	38	*e*P	P	00 15 32.2	+1.2
	comp=Z,40nm,1.6s,mb5.5						
DGMT	Dagmar	91.80	31	*e*P	P	00 15 30.8	-0.3
	comp=Z,49nm,1.1s,mb5.8						
DGMT				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
TPAW	Teton Pass	91.82	38	*e*P	P	00 15 31.9	+0.6
	comp=Z,24nm,1.1s,mb5.4						
TPAW				*e*		00 15 38.2	
K16A	Soda Springs	91.90	39	⇑P	P	00 15 32.7	+1.0
	baz=92						
HVU	Hansel Valley	91.91	40	*e*P	P	00 15 32.3	+0.6
HVU				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.4						
HVU	Hansel Valley	91.91	40	*e*P	P	00 15 32.3	+0.6
	comp=Z,24nm,1.2s,mb5.4						
LOHW	Long Hollow	91.93	38	*e*P	P	00 15 32.2	+0.4
	comp=Z,20nm,1.3s,mb5.3						
CWC	Cottonwood Cre	91.94	47	⇓P	P	00 15 32.7	+0.7
	baz=92						
SNOW	Snow King Moun	91.95	38	*e*P	P	00 15 32.6	+0.7
	comp=Z,5.3nm,0.5s,mb5.1						
REDW	Red Top Meadow	91.96	38	*e*P	P	00 15 31.9	0.0
	comp=Z,42nm,1.4s,mb5.6						
REDW				*e*		00 15 39.1	
R10A	Warm Springs	91.97	45	⇑P	P	00 15 32.9	+0.8
	baz=92						
L15A	Malad City	91.99	40	⇓P	P	00 15 32.7	+0.6
	baz=92						
Q11A	Duckwater	92.03	44	⇑P	P	00 15 32.1	-0.2
	baz=92						
GRAC	Grapevine Rang	92.07	46	⇑P	P	00 15 32.8	+0.2
	baz=92						
LAO	LASA Array	92.10	33	*e*P	P	00 15 33.2	+0.7
	comp=Z,37nm,1.1s,mb5.6						
LAO				*e*		00 15 39.1	
LAO				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
ISA	Isabella	92.14	48	⇑P	P	00 15 33.2	+0.2
	baz=92						
ISA	Isabella	92.14	48	P	P	00 15 33.1	+0.1
ISA				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
AHID	Auburn Hatcher	92.22	39	PFAKE		00 15 40.0	+6.9
AHID				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
ARVC	Arvin	92.22	48	⇓P	P	00 15 32.0	-1.3
	baz=92						
O13A	Hicks Ranch, I	92.25	42	⇑P	P	00 15 33.9	+0.6
	baz=92						
N14A	Grayback Hills	92.26	41	⇑P	P	00 15 33.9	+0.5
	baz=92						
M15A	Larsen Ranch,	92.30	40	⇓P	P	00 15 33.7	+0.1
	baz=92						
BGU	Big Grassy Mou	92.31	41	*e*P	P	00 15 34.4	+0.8
BGU				*e*		00 15 40.3	
BSC	Santa Cruz Isl	92.34	50	⇑P	P	00 15 33.9	+0.1
	baz=92						
DAC	Darwin (Calif)	92.36	47	PFAKE		00 15 50.0	+16
DAC				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
SPUT	South Promonto	92.40	40	*e*P	P	00 15 34.5	+0.5
PPT	Papeete	92.41	108	*e*S	S	00 26 17.0	-21
	comp=Z,2μm,24.5s						
PPT				*e*SS	SS	00 32 23.7	-26
	comp=Z,838nm,25.5s						
PPT				*e*LQ		00 40 39.6	
	comp=Z,12μm,31.8s						
PPT				*e*LR	LR	00 44 22.5	
	comp=Z,10μm,23.2s,baz=299						
PPT	Papeete	92.41	108	LR	LR	00 50 16.5	
	comp=Z,3μm,19.9s,MS5.8,baz=290,slow=31						
L16A	Fish Haven	92.52	39	⇓P	P	00 15 34.9	+0.3
	baz=92						
MPMC	Manual Prospec	92.55	47	⇑P	P	00 15 34.6	-0.2
	baz=92						
N15A	Stansbury Isla	92.63	41	⇓P	P	00 15 35.4	+0.3
	baz=92						
P13A	Bates Ranch, G	92.65	43	⇑P	P	00 15 36.0	+0.8
	baz=92						
S11A	Rachel	92.71	45	⇓P	P	00 15 34.9	-0.7
	baz=92						
FURC	Furnace Creek,	92.71	46	⇑P	P	00 15 36.1	+0.5
	baz=92						
LRMC	Laurel Mountai	92.77	48	⇓P	P	00 15 36.1	+0.2
	baz=93						
TPNV	Topopah Spring	92.82	46	*e*P	P	00 15 36.2	+0.2
	baz=93						
TPNV				*e*		00 15 42.4	
TPNV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.2						
TPNV				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.5						
TPNV	Topopah Spring	92.82	46	⇓P	P	00 15 35.2	-0.8
	baz=93						
TPNV	Topopah Spring	92.82	46	*e*P	P	00 15 36.2	+0.1
	comp=Z,10nm,1.0s,mb5.2						
TPNV				*e*		00 15 42.4	
TPNV				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
SNCC	San Nicolas Is	92.84	50	⇓P	P	00 15 36.0	-0.2
	baz=93						
SNCC	San Nicolas Is	92.84	50	PFAKE		00 15 50.0	+14
SNCC				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
M16A	Huntsville	92.87	40	⇓P	P	00 15 35.8	-0.4
	baz=93						
DUG	Dugway	92.90	41	*e*P	P	00 15 37.1	+0.7
DUG				*e*		00 15 43.1	
DUG				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.4						
DUG				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.6						
DUG	Dugway	92.90	41	⇑P	P	00 15 35.9	-0.5
	baz=93						
DUG	Dugway	92.90	41	*e*P	P	00 15 37.1	+0.7
	comp=Z,18nm,1.1s,mb5.4						
DUG				*e*		00 15 43.1	
DUG				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
EDW2	Edwards Air Fo	92.92	48	⇑P	P	00 15 36.1	-0.4
	baz=93						
Q13A	Wheeler Ranch,	92.96	43	⇓P	P	00 15 37.2	+0.6
	baz=93						
NOQ	North Oquirrh	93.01	41	*e*P	P	00 15 37.5	+0.6
	comp=Z,41nm,1.2s,mb5.7						
BW06	Boulder Array	93.07	38	*e*P	P	00 15 37.0	0.0
	comp=Z,18nm,1.3s,mb5.3						
BW06				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
PDAR	Pinedale Array	93.07	38	P	P	00 15 36.4	-0.7
	comp=Z,1.3nm,0.7s,mb4.5,baz=27,slow=0.7,SNR=9.4						
CTU	Camp Tracy	93.20	41	*e*P	P	00 15 38.4	+0.7
MWC	Mount Wilson	93.27	49	P	P	00 15 38.4	+0.2
MWC				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.7						
T11A	Corn Creek, Al	93.29	45	P	P	00 15 38.4	+0.2
	baz=93						
S12A	Delamar Landin	93.29	44	⇓P	P	00 15 38.6	+0.4
	baz=93						
FMP	Fort Macarthur	93.41	49	⇓P	P	00 15 37.7	-1.2
	baz=93						
GSC	Goldstone	93.45	47	*e*P	P	00 15 39.3	+0.3
GSC				*e*		00 15 45.4	
GSC				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.5						
GSC				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.4						
GSC	Goldstone	93.45	47	⇑P	P	00 15 38.2	-0.8
	baz=93						
GSC	Goldstone	93.45	47	*e*P	P	00 15 39.3	+0.3
	comp=Z,24nm,1.3s,mb5.5						
GSC				*e*		00 15 45.4	
GSC				LR	LR		
	comp=Z,1μm,22.0s,MS5.4						
NLU	North Lily Min	93.49	41	*e*P	P	00 15 40.0	+1.0
CIS	Catalina Islan	93.51	50	⇑P	P	00 15 38.5	-0.8
	baz=93						
BFSC	Mount Baldy St	93.52	49	⇑P	P	00 15 38.9	-0.4
	baz=93						
N17A	Moffit Pass	93.56	40	⇑P	P	00 15 39.2	-0.2
	baz=93						
O16A	Springville	93.66	41	⇑P	P	00 15 40.2	+0.3
	baz=94						
DAU	Daniels Canyon	93.67	41	*e*P	P	00 15 41.0	+1.1
DAU				*e*		00 15 47.0	
MPU	Maple Canyon	93.71	41	*e*P	P	00 15 40.4	+0.3
	comp=Z,64nm,1.8s,mb5.8						
MPU				*e*		00 15 46.0	
MPU				LR	LR		
	comp=Z,4μm,21.0s,MS5.9						
KEST	Kesra	93.94	314	LR	LR	01 05 01.2	
	comp=Z,3μm,19.7s,MS5.7,baz=328,slow=40						
ULM	Lac du Bonnet	93.98	26	P	P	00 15 39.6	-1.4
	comp=Z,3.8nm,1.0s,mb4.8,baz=310,slow=3.4,SNR=5.0						
ULM				LR	LR	01 04 44.8	
	comp=Z,4μm,18.5s,MS5.9,baz=224,slow=40						
V11A	Goodsprings	94.02	46	⇑P	P	00 15 40.7	-0.8
	baz=94						
HEC	Hector,Ludlow	94.05	47	⇑P	P	00 15 41.6	-0.1
	baz=94						
CASY	Casey	94.14	187	*e*P	P	00 15 46.0	+4.8
CASY	Casey	94.14	187	P	P	00 15 40.6	-0.5
CASY				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
N18A	Larsen Ranch,	94.20	39	⇓P	P	00 15 41.7	-0.6
	baz=94						
CCUT	Cedar City	94.25	44	P	P	00 15 42.1	-0.5
MVU	Marysvale	94.34	42	PFAKE		00 15 50.0	+7.0
MVU				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
MSU	Marysvale	94.36	42	*e*P	P	00 15 44.3	+1.2
TMUT	Trail Mountain	94.42	41	*e*P	P	00 15 45.9	+2.5
V12A	Nelson	94.46	46	⇑P	P	00 15 42.6	-1.0
	baz=94						
GMRC	Granite Mounta	94.51	47	⇑P	P	00 15 43.9	0.0
	baz=94						
PFO	Pinyon Flat Ob	94.70	48	*e*P	P	00 15 43.6	-1.2
PFO				*e*		00 15 50.9	
PFO				pmax	pmax		
	comp=Z,76nm,1.8s,mb5.8						
PFO				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.7						
PFO	Pinyon Flat Ob	94.70	48	⇓P	P	00 15 44.4	-0.3
	baz=94						
PFO	Pinyon Flat Ob	94.70	48	*e*P	P	00 15 43.6	-1.2
	comp=Z,76nm,1.8s,mb5.8						
PFO				*e*		00 15 50.9	
PFO				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
V13A	Grand Canyon W	94.93	45	⇓P	P	00 15 44.9	-0.9
	baz=95						
SRU	San Rafael	94.95	41	*e*P	P	00 15 45.9	+0.1
SRU				*e*		00 19 34.3	
SRU				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb5.1						
SRU	San Rafael	94.95	41	⇓P	P	00 15 45.4	-0.4
	baz=95						
SRU	San Rafael	94.95	41	*e*P	P	00 15 45.9	+0.1
	comp=Z,9.6nm,1.3s,mb5.1						
SRU				*e*PP	PP	00 19 34.3	+0.1
RSSD	Black Hills	95.01	34	*e*P	P	00 15 45.8	-0.2
RSSD				*e*		00 19 33.3	
RSSD				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.5						
RSSD				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.7						
RSSD	Black Hills	95.01	34	*e*P	P	00 15 45.8	-0.2
	comp=Z,25nm,1.4s,mb5.5						
RSSD				*e*PP	PP	00 19 33.3	-1.2
RSSD				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
RWWY	Rawlins	95.08	38	*e*P	P	00 15 46.8	+0.5
	comp=Z,42nm,1.8s,mb5.6						
BAR	Barrett	95.11	49	*e*P	P	00 15 46.9	+0.3
BAR				LR	LR		
	comp=Z,1μm,21.0s,MS5.4						
MONP	Monument Peak	95.16	49	⇑P	P	00 15 46.2	-0.7
	baz=95						
TBI	Tubuai	95.17	113	*e*PP	PP	00 19 25.5	-12
	comp=Z,153nm,27.8s						
TBI				*e*SKSac	SKSac	00 26 09.2	-14
	comp=

comp=Z,3μm,20.0s,MS5.7
SWSC Sam W. Stewart 95.54 49 ⇑P **P 00 15 48.1 -0.5**
baz=95
V14A Boquillas Ranc 95.62 45 ⇑P **P 00 15 48.0 -0.9**
baz=95
PDMCI Parker Dam,Lak 95.80 47 ⇑P **P 00 15 49.0 -0.7**
baz=96
X13A Yucca 95.81 46 ⇓P **P 00 15 49.9 +0.1**
baz=96
Y12C Blythe 95.89 47 ⇑P **P 00 15 49.8 -0.4**
baz=96
W14A Seligman 95.90 45 ⇑P **P 00 15 49.8 -0.4**
baz=96
V15A Kaibab Nationa 96.09 44 ⇑P **P 00 15 50.8 -0.3**
baz=96
GLA Glamis 96.12 48 *e*P **P 00 15 51.7 +0.4**
GLA pmax pmax
comp=Z,43nm,1.6s,mb5.6
GLA MLR MLR
comp=Z,2μm,19.0s,MS5.6
GLA Glamis 96.12 48 ⇓P **P 00 15 51.1 -0.2**
baz=96
GLA Glamis 96.12 48 *e*P **P 00 15 51.7 +0.5**
comp=Z,43nm,1.6s,mb5.6
GLA LR LR
comp=Z,2μm,19.0s,MS5.6
PHWY Pilot Hill 96.29 37 P **P 00 15 51.8 0.0**
Y13A Salome 96.30 47 ⇑P **P 00 15 51.5 -0.6**
baz=96
PV10 Paradox Valley 96.30 41 *e*P **P 00 15 53.3 +1.3**
W15A Williams 96.44 45 ⇑P **P 00 15 52.5 -0.1**
baz=96
X14A Yava 96.50 46 ⇓P **P 00 15 53.0 0.0**
baz=96
112A Yuma 96.60 48 ⇑P **P 00 15 53.4 -0.1**
baz=96
TAOE Nuku Hiva Isla 96.66 96 *e*LQ 00 42 29.5
comp=Z,12μm,30.9s
TAOE *e*LR LR 00 46 31.7
comp=Z,11μm,27.5s,baz=304
PV01 Paradox Valley 96.74 41 *e*P **P 00 15 54.6 +0.6**
Y14A Wickenburg 96.76 46 ⇓P **P 00 15 53.8 -0.4**
baz=97
WUAZ Wupatki 96.78 44 ⇓P **P 00 15 54.0 -0.3**
baz=97
WUAZ Wupatki 96.78 44 P **P 00 15 55.6 +1.4**
comp=Z,13nm,1.1s,mb5.3
WUAZ LR LR
comp=Z,1μm,19.0s,MS5.5
X15A Humboldt 96.90 46 ⇑P **P 00 15 54.6 -0.1**
baz=97
W16A Flagstaff 96.95 45 ⇑P **P 00 15 53.7 -1.3**
baz=97
113A Mohawk Valley, 96.99 48 ⇓P **P 00 15 55.4 +0.2**
baz=97
Z14A Wintersburg 97.16 47 ⇓P **P 00 15 55.2 -0.8**
baz=97
Y15A Casa Rosa Ranc 97.18 46 ⇓P **P 00 15 55.9 -0.2**
baz=97
ISCO Idaho Springs 97.26 38 *e*P **P 00 15 56.5 +0.2**
ISCO pmax pmax
comp=Z,19nm,1.8s,mb5.2
ISCO MLR MLR
comp=Z,3μm,20.0s,MS5.7
ISCO Idaho Springs 97.26 38 *e*P **P 00 15 56.5 +0.2**
comp=Z,19nm,1.8s,mb5.2
ISCO LR LR
comp=Z,3μm,20.0s,MS5.7
SCHQ Schefferville 97.33 8 LR LR 00 59 45.3
comp=Z,6μm,20.6s,MS6.0,baz=350,slow=35
SCHQ Schefferville 97.33 8 PFAKE 00 16 10.0 +14
SCHQ LR LR
comp=Z,7μm,20.0s,MS6.1
MVCO Mesa Verde 97.40 41 ⇓P **P 00 15 57.2 +0.2**
baz=97
MVCO Mesa Verde 97.40 41 *e*P **P 00 15 57.7 +0.8**
MVCO *e* 00 16 03.6
MVCO LR LR
comp=Z,2μm,20.0s,MS5.6
X16A Lo Mia Camp, P 97.45 45 ⇑P **P 00 15 57.1 -0.2**
baz=97
EYMN Ely 97.53 25 PFAKE 00 16 10.0 +13
EYMN LR LR
comp=Z,4μm,21.0s,MS5.8
V18A Ganado 97.54 43 ⇓P **P 00 15 57.4 -0.2**
baz=97
Y16A Circle Bar Ran 97.77 46 ⇓P **P 00 15 58.5 -0.2**
baz=98
W18A Petrified Fore 98.05 44 ⇑P **P 00 15 59.9 -0.1**
baz=98
214A Organ Pipe Nat 98.13 48 ⇑P **P 00 15 59.7 -0.7**
baz=98
X18A Snowflake 98.31 44 ⇓P **P 00 16 01.2 +0.1**
baz=98
Y18A Canyon Day Jun 98.75 45 ⇓P **P 00 16 02.2 -0.9**
baz=99
SDCO Great Sand Dun 98.77 39 PFAKE 00 16 10.0 +6.9
SDCO LR LR
comp=Z,5μm,21.0s,MS6.0
Z17A San Carlos Hig 98.79 46 ⇓P **P 00 16 03.2 -0.1**
baz=99
ECSD EROS,Sioux Fal 98.83 30 P **P 00 16 03.0 -0.2**
ECSD LR LR
comp=Z,3μm,19.0s,MS5.8
117A Oracle 99.09 46 ⇑P **P 00 16 05.4 +0.7**
baz=99
ESDC Sonseca Array 99.11 324 PP PP 00 20 05.3 -0.8
comp=Z,2.5nm,1.1s,baz=35,slow=8.6,SNR=4.5
ESDC LR LR 01 05 00.9
comp=Z,6μm,18.2s,MS6.1,baz=75,slow=38
ESLA Sonseca Array 99.11 324 PFAKE 00 16 20.0 +15
ESLA LR LR
comp=Z,40μm,19.0s,MS6.9
Y19A Nutrioso 99.12 44 ⇓P **P 00 16 05.8 +1.1**
baz=99
TUC Tucson 99.23 46 PFAKE 00 16 20.0 +15
TUC LR LR
comp=Z,2μm,20.0s,MS5.6
PAB San Pablo 99.40 324 PFAKE 00 16 20.0 +14
PAB LR LR
comp=Z,5μm,21.0s,MS6.0
118A Homack Ranch, 99.53 46 ⇓P **P 00 16 06.1 -0.5**
baz=99
Z19A T-Link Ranch, 99.55 45 ⇑P **P 00 16 07.0 +0.3**
baz=99
217A Green Valley 99.55 47 ⇑P **P 00 16 06.9 +0.1**
baz=99
COWI Conover 99.95 25 PFAKE 00 16 20.0 +12
COWI LR LR
comp=Z,3μm,19.0s,MS5.8
LAZ Ladron 100.12 43 *e*Pdif Pdif 00 16 09.9 +1.0
ANMO Albuquerque 100.15 42 *e*P Pdif 00 16 09.1 +0.1
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO MLR MLR
comp=Z,2μm,19.0s
ANMO Albuquerque 100.15 42 *e*Pdif Pdif 00 16 09.1 +0.1
comp=Z,3.0nm,1.2s
ANMO LR LR
comp=Z,2μm,19.0s,MS5.7
MTE Manteigas 100.39 326 PFAKE 00 16 20.0 +10
MTE LR LR
comp=Z,14μm,19.0s,MS6.5
BNM Barren Site 100.60 43 Pdif Pdif 00 16 13.7 +2.7
319A Douglas 100.81 46 ⇓P Pdif 00 16 13.0 +1.1
baz=101
CBKS Cedar Bluff 101.10 35 PFAKE 00 16 20.0 +6.7
CBKS LR LR
comp=Z,4μm,19.0s,MS6.0
SCIA State Center 101.79 29 PFAKE 00 16 30.0 +14
SCIA LR LR
comp=Z,3μm,21.0s,MS5.8
JFWS Jewell Farm 102.21 27 PFAKE 00 16 30.0 +12
JFWS LR LR
comp=Z,2μm,21.0s,MS5.6
KSU1 Kansas State U 102.45 33 Pdif Pdif 00 16 19.9 +0.7
KSU1 LR LR
comp=Z,3μm,21.0s,MS5.8
GLMI Grayling 102.66 22 PFAKE 00 16 30.0 +10
GLMI LR LR
comp=Z,3μm,19.0s,MS5.8
AMTX Amarillo 102.96 39 PFAKE 00 16 30.0 +8.5
AMTX LR LR
comp=Z,2μm,20.0s,MS5.7
MNTX Cornudas Mount 103.04 44 PFAKE 00 16 30.0 +8.1
MNTX LR LR
comp=Z,2μm,22.0s,MS5.5
LSZ Lusaka 104.41 260 *e*P Pdif 00 16 28.6 +0.7
LSZ MLR MLR
comp=Z,4μm,19.0s,MS6.0
HDIL Hopedale 104.57 28 PFAKE 00 16 40.0 +11
HDIL LR LR
comp=Z,3μm,21.0s,MS5.8
WMOK Wichita Mounta 104.67 37 PFAKE 00 16 40.0 +11
WMOK LR LR
comp=Z,3μm,19.0s,MS5.8
RTC Rabat Centre 104.86 322 PFAKE 00 16 40.0 +10
RTC LR LR
comp=Z,5μm,20.0s,MS6.0
AAM Ann Arbor 105.21 23 PFAKE 00 21 00.0 +14
AAM LR LR
comp=Z,3μm,19.0s,MS5.9
TXAR Lajitas Array 105.75 44 Pdiff Pdif 00 16 31.4 -2.5
comp=Z,0.1nm,0.4s,baz=339,slow=4.8,SNR=4.1
TXAR PKiKP PKiKP 00 20 46.3 -1.0
comp=Z,0.3nm,0.8s,baz=308,slow=4.4,SNR=3.6
LONY Lake Ozonia 105.76 16 PFAKE 00 21 00.0 +13
LONY LR LR
comp=Z,3μm,19.0s,MS5.9
MAW Mawson 105.80 201 PFAKE 00 21 00.0 +14
MAW LR LR
comp=Z,2μm,19.0s,MS5.7
CCM Cathedral Cave 105.80 30 PFAKE 00 21 00.0 +13
CCM LR LR
comp=Z,4μm,20.0s,MS6.0
PKME Peaks-Kenny Pk 106.27 12 PFAKE 00 21 00.0 +12
PKME LR LR
comp=Z,6μm,20.0s,MS6.1
NCB Newcomb 106.46 16 PFAKE 00 21 00.0 +12
NCB LR LR
comp=Z,3μm,22.0s,MS5.8
MDV Middlebury 106.68 15 *e*PKiKP PKiKP 00 20 47.9 -0.7
VNDA Vanda 106.70 173 PP PP 00 21 02.8 -0.3
comp=Z,3.1nm,1.2s,baz=336,slow=6.3,SNR=4.3
VNDA Vanda 106.70 173 *e*PKiKP PKiKP 00 20 51.9 +4.5
VNDA LR LR
comp=Z,2μm,20.0s,MS5.7
LBNH Lisbon 106.73 14 PFAKE 00 21 00.0 +11
LBNH LR LR
comp=Z,4μm,22.0s,MS6.0
ACCN Adirondack Com 107.15 16 PKiKP PKiKP 00 20 49.7 +0.2
RKT Rikitea 107.15 108 *e*SS SS 00 35 47.3 -29
comp=Z,1μm,27.8s
RKT Rikitea 107.15 108 *e*LQ 00 46 52.9
comp=Z,2μm,35.5s
RKT *e*LR LR 00 51 21.9
comp=Z,5μm,34.0s,baz=288
HNH Hanover 107.16 14 *e*PKiKP PKiKP 00 20 49.2 -0.2
JCT Junction City 107.26 41 PFAKE 00 21 00.0 +10
JCT LR LR
comp=Z,2μm,20.0s,MS5.7
ACSO Alum Creek Sta 107.28 24 PFAKE 00 21 00.0 +10
ACSO LR LR
comp=Z,2μm,20.0s,MS5.8
MIAR Mount Ida 107.53 34 PFAKE 00 21 00.0 +10
MIAR LR LR
comp=Z,3μm,19.0s,MS5.8
SBA Scott Base 107.57 172 *e*PKiKP PKiKP 00 20 48.7 -0.3
SBA *e*PP PP 00 21 12.4 +2.9
SBA LR LR
comp=Z,2μm,22.0s,MS5.7
BINY Binghamton 107.67 18 PFAKE 00 21 00.0 +10
BINY LR LR
comp=Z,3μm,19.0s,MS5.9
WCI Wyandotte Cave 107.77 27 PFAKE 00 21 00.0 +9.2
WCI LR LR
comp=Z,2μm,19.0s,MS5.8
HRV Adam Dziewonsk 108.46 14 PKiKP PKiKP 00 20 52.1 +0.2
HRV LR LR
comp=Z,4μm,22.0s,MS6.0
QUA2 Belchertown 108.50 15 *e*PKiKP PKiKP 00 20 52.1 +0.1
WES Weston 108.63 14 PFAKE 00 21 00.0 +7.8
WES LR LR
comp=Z,16μm,20.0s,MS6.6
MET Memphis--Engin 108.81 31 *e*PKiKP PKiKP 00 20 52.5 -0.2
NATX Nacogdoches 109.16 37 PFAKE 00 21 00.0 +6.5
NATX LR LR
comp=Z,3μm,19.0s,MS5.9
CPNY Central Park 109.52 17 *e*PKiKP PKiKP 00 20 55.1 +1.1
OXF Oxford 109.56 31 *e*PKiKP PKiKP 00 20 54.7 +0.5
OXF LR LR
comp=Z,3μm,19.0s,MS5.9
PLAL Pickwick Lake 109.77 30 *e*PKiKP PKiKP 00 20 55.5 +0.9
PLAL *e*PP PP 00 21 25.9 +0.6
PLAL LR LR
comp=Z,3μm,19.0s,MS5.8
HKT Hockley 109.92 39 PFAKE 00 21 10.0 +15
HKT LR LR
comp=Z,4μm,19.0s,MS6.0
CMLA Cha da Macela 110.25 337 *e*LQ 00 48 28.5
CMLA *i* LR LR 00 54 52.9
CMLA Cha da Macela 110.25 337 PFAKE 00 21 10.0 +15
CMLA LR LR
comp=Z,7μm,20.0s,MS6.2
TZTN Tazewell 110.31 26 *e*PKiKP PKiKP 00 20 56.0 +0.4
TZTN LR LR
comp=Z,3μm,20.0s,MS5.9
LBTB Lobatse 110.46 252 PFAKE 00 21 10.0 +14
LBTB LR LR
comp=Z,4μm,20.0s,MS6.0
KVTX Kingsville 110.55 42 PFAKE 00 21 10.0 +14
KVTX LR LR
comp=Z,2μm,21.0s,MS5.8
BLA Blacksburg 110.87 23 PFAKE 00 21 10.0 +13
BLA LR LR
comp=Z,4μm,19.0s,MS6.0
VBMS Vicksburg 110.92 33 PFAKE 00 21 10.0 +13
VBMS LR LR
comp=Z,4μm,20.0s,MS6.0
BOSA Boshof 112.01 248 PFAKE 00 21 10.0 +11
BOSA LR LR
comp=Z,3μm,19.0s,MS6.0
PTCN Pitcairn Islan 112.01 108 PFAKE 00 21 10.0 +11
PTCN LR LR
comp=Z,2μm,21.0s,MS5.8
GOGA Godfrey 113.08 27 PFAKE 00 21 10.0 +9.1
GOGA LR LR
comp=Z,3μm,19.0s,MS5.9
TOA0 Torodi Ar. Sit 113.31 300 *e*PKiKP PKiKP 00 21 00.9 -0.8
TORD Torodi Ar. Bea 113.31 300 PKiKP PKiKP 00 21 00.1 -1.7
comp=Z,0.9nm,0.8s,baz=28,slow=2.7,SNR=6.0
TORD PKKPbc PKKPbc 00 31 46.5 +0.5
comp=Z,0.3nm,0.6s,baz=252,slow=1.4,SNR=3.7
TORD Torodi Ar. Bea 113.31 300 PKPdf PKiKP 00 21 00.1 -1.7
TORD PKKPbc PKKPbc 00 31 46.5 +0.5
CNNC Cliffs of the 113.52 22 PFAKE 00 21 10.0 +8.3
CNNC LR LR
comp=Z,5μm,20.0s,MS6.1
BRAL Brewton 113.56 31 PFAKE 00 21 10.0 +8.1
BRAL LR LR
comp=Z,3μm,19.0s,MS5.9
NHSC New Hope 114.64 25 PFAKE 00 21 20.0 +16
NHSC LR LR
comp=Z,5μm,19.0s,MS6.2
TSUM Tsumeb 115.25 261 PP PP 00 22 04.2 -1.9
comp=Z,3.5nm,0.9s,baz=333,slow=4.5,SNR=2.1
TSUM Tsumeb 115.25 261 PFAKE 00 21 20.0 +15
TSUM LR LR
comp=Z,3μm,20.0s,MS5.8
SUR Sutherland 116.83 246 PFAKE 00 21 20.0 +12
SUR LR LR
comp=Z,4μm,21.0s,MS6.0
QSPA South Pole Qui 117.11 180 PKP PKPdf 00 21 06.6 -0.5
comp=Z,1.2nm,0.8s,baz=353,slow=2.5,SNR=4.2
QSPA PP PP 00 22 18.2 +0.7
comp=Z,5.7nm,1.1s,baz=321,slow=3.4,SNR=2.7
DWPF Disney 118.55 28 PFAKE 00 21 20.0 +8.4
DWPF LR LR
comp=Z,3μm,19.0s,MS6.0
BBSR BB Station 119.62 11 PFAKE 00 21 20.0 +6.5
BBSR LR LR
comp=Z,3μm,21.0s,MS5.8
DBIC Dimbokro 122.35 299 PKP PKPdf 00 21 18.0 -1.2
comp=Z,5.0nm,1.0s,baz=343,slow=10,SNR=3.6
DBIC Dimbokro 122.35 299 PKP PKPdf 00 21 18.0 -1.2
DBIC LR LR
comp=Z,5μm,22.0s,MS6.1
KIC Kosan Boka 122.45 298 *e*P PKPdf 00 21 18.4 -1.0
comp=Z,101nm,1.3s
TIC Tounodi 122.50 299 *e*P PKPdf 00 21 17.3 -2.2
comp=Z,106nm,1.3s
LIC Lamto 122.76 298 *e*P PKPdf 00 21 21.4 +1.4
comp=Z,42nm,1.0s
TGUH Tegucigalpa,Un 127.19 43 PFAKE 00 21 40.0 +12
TGUH LR LR
comp=Z,2μm,19.0s,MS5.8
SNAA Sanae 127.81 198 *e*PKIKP PKPdf 00 21 28.4 +0.5
VNA2 Neumayer--Watz 129.45 198 *e* PKPdf 00 21 37.5 +6.5
SDDR Presa de Saban 130.72 23 PFAKE 00 21 50.0 +15
SDDR LR LR
comp=Z,4μm,20.0s,MS6.1
AGPR Aguadilla, PR 132.50 18 *e*PKPdf PKPdf 00 21 38.2 -0.3
SJG San Juan 133.10 17 PFAKE 00 21 50.0 +10
SJG LR LR
comp=Z,2μm,22.0s,MS5.8
HUMP Col San Antoni 133.15 17 *e*PKPdf PKPdf 00 21 38.8 -0.8
CPD Cerro la Pandu 133.23 17 *e*PKIKP PKPdf 00 21 39.4 -0.4
MTP Monte Pirata 133.27 16 *e*PKPdf PKPdf 00 21 40.0 +0.1
SHEL Horse Pasture 134.74 274 PFAKE 00 21 50.0 +7.4
SHEL LR LR
comp=Z,3μm,20.0s,MS6.0
BCIP Isla Barro Col 135.44 39 PFAKE 00 22 00.0 +16
BCIP LR LR
comp=Z,2μm,22.0s,MS5.8
PAYG Puerto Ayora 135.60 60 PFAKE 00 22 00.0 +16
PAYG LR LR
comp=Z,1μm,20.0s,MS5.7
ASCN Ascension 138.54 290 PFAKE 00 22 00.0 +10
ASCN LR LR
comp=Z,3μm,21.0s,MS6.0
BBGH Gun Hill 139.29 10 PFAKE 00 22 00.0 +8.8
BBGH LR LR
comp=Z,3μm,19.0s,MS6.1
GRGR Grenville 139.91 13 PFAKE 00 22 00.0 +7.7
GRGR LR LR
comp=Z,2μm,21.0s,MS5.8
SDV Santo Domingo 140.21 28 *e*PKPdf PKPdf 00 21 52.6 -0.3
SDV LR LR
comp=Z,718nm,20.0s,MS5.4
PMSA Palmer Station 141.91 172 PKPdf PKPdf 00 21 53.2 -1.1
ROSC El Rosal 142.02 36 *e*PKPdf PKPdf 00 21 56.3 +0.2
OTAV Otavalo 143.36 46 PKPdf PKPdf 00 21 55.4 -3.1
OTAV LR LR
comp=Z,2μm,22.0s,MS5.8
USHA Ushuaia 150.35 162 PKPbc PKPbc 00 22 14.5 +0.4
comp=Z,16nm,1.0s,baz=90,slow=4.0,SNR=3.2
NNA Nana 153.05 60 *e*PKPdf PKPdf 00 22 13.8 -0.4
NNA LR LR
comp=Z,2μm,21.0s,MS5.9
EFI East Falkland 155.41 173 *e*PKIKP PKPdf 00 22 16.9 +0.5
EFI MLR MLR
comp=Z,4μm,20.0s,MS6.2
PLCA Paso Flores 160.39 137 PFAKE 00 22 30.0 +7.1
PLCA LR LR
comp=Z,2μm,20.0s
LPAZ La Paz 162.29 55 PKP PKPdf 00 22 23.1 -2.5
comp=Z,0.7nm,0.7s,baz=333,slow=4.5,SNR=2.6
LPAZ PKPab PKPab 00 23 11.8 -0.8
comp=Z,5.7nm,1.1s,baz=306,slow=4.3,SNR=3.7
LPAZ La Paz 162.29 55 PKP PKPdf 00 22 23.1 -2.5
LPAZ *e*PKPdf PKPdf 00 22 26.9 +1.3
LPAZ PKPab PKPab 00 23 11.8 -0.9
LPAZ LR LR
comp=Z,2μm,21.0s
LCO Las Campanas 164.43 100 PFAKE 00 22 40.0 +13
LCO LR LR
comp=Z,2μm,20.0s
LVC Limon Verde 164.96 75 PFAKE 00 22 40.0 +12
LVC LR LR
comp=Z,2μm,19.0s
TRQA Tornquist 166.99 147 *e*PKPdf PKPdf 00 22 29.2 +0.1
TRQA LR LR
comp=Z,4μm,20.0s
BDFB Brasilia 167.42 337 PFAKE 00 22 40.0 +10
BDFB LR LR
comp=Z,3μm,20.0s
CPUP Villa Florida 176.14 76 *e*PKIKP PKPdf 00 22 32.9 -1.0
CPUP MLR MLR
comp=Z,661nm,19.0s

JMA 07 00:12:03.7±0.3,2730N×12664E,h18km±4km,M3.5,
Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.89**	**143**	P	Pb	00 12 20.0	-0.6
JAGN				S	Sb	00 12 31.9	-0.2
JKE	**Kume jima 2**	**0.98**	**172**	P	Pb	00 12 21.7	-0.4
JKE				*e*S	Sb	00 12 34.5	-0.2
JIH	**Iheya**	**1.21**	**102**	P	Pn	00 12 25.7	0.0
JIH				*e*S	Sb	00 12 41.2	-0.2
NAH1	**Naha**	**1.44**	**139**	*e*S	Sn	00 12 47.9	+0.6
JJT2	**Tamagusuku 2**	**1.52**	**139**	P	Pn	00 12 29.9	-0.1
JJT2				*e*S	Sn	00 12 49.8	+0.4
JOW	**Kunigami**	**1.53**	**107**	*e*S	Sn	00 12 48.8	-0.7

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*ISCJB **07** 00:15:01.1±0.6,460S±010×358E±02,h10km,mb4.0/12,*
Error ellipse: s-maj=25.4km s-min=10.5km az=22.5
*IDC **07** 00:15:01.6±0.7,461S×3585E,h0km,mb4.0/11,*
mb1 4.1/12,mb1mx3.9/25,mbtmp4.0/12,ML3.6/1,MS3.2/1,
Ms1 3.2/1,ms1mx3.1/25,Error ellipse: s-maj=32.1km
s-min=16.2km az=104.0
*NEIC **07** 00:15:02.8±0.6,466S×3571E,h10km,mb4.3/2,Error*
ellipse: s-maj=26.9km s-min=10.6km az=114.0
ISC 07 00:15:03.1±0.5,464S±009×358E±02,h10km,n18,
σ0:83/18,mb4.0/12,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**12.94**	**215**	Pn	**Pn**	**00 18 06.9**	**-0.3**
	0.3nm,0.3s,baz=56,slow=15,SNR=5.7						
LSZ				Lg		00 21 47.8	
	1.2nm,0.3s,baz=303,slow=19,SNR=11						
LSZ				LR	LR	00 23 32.7	
	comp=Z,99nm,19.1s,baz=57,slow=39						
LSZ	**Lusaka**	**12.94**	**215**	*e*Pn	**Pn**	**00 18 03.5**	**-3.7**
	3.6nm,0.7s						
LSZ				Lg		00 21 47.9	
LSZ				LR	LR	00 23 32.7	
LBTB	**Lobatse**	**22.49**	**205**	P	**P**	**00 20 03.4**	**+0.4**
	3.6nm,0.9s,mb3.8,baz=27,slow=11,SNR=2.5						
TSUM	**Tsumeb**	**22.90**	**229**	*e*P	**P**	**00 20 06.3**	**-0.9**
	9.3nm,1.2s,mb4.1						
BOSA	**Boshof**	**25.85**	**202**	P	**P**	**00 20 34.8**	**-0.2**
	4.3nm,0.9s,mb4.0,baz=7.5,slow=14,SNR=3.6						
BOSA	**Boshof**	**25.85**	**202**	P	**P**	**00 20 35.3**	**+0.3**
	8.7nm,0.9s,mb4.3						
GNI	**Garni**	**45.33**	**10**	P	**P**	**00 23 21.6**	**+0.2**
AKASG	**Malin Array Be**	**55.41**	**355**	P	**P**	**00 24 36.3**	**-1.2**
	1.1nm,0.5s,mb4.1,baz=181,slow=6.8,SNR=7.3						
GERES	**GERESS Array B**	**56.64**	**343**	P	**P**	**00 24 47.2**	**+0.8**
	1.0nm,0.9s,mb3.9,baz=151,slow=6.9,SNR=8.2						
ESDC	**Sonseca Array**	**57.28**	**324**	P	**P**	**00 24 52.0**	**+0.9**
	1.5nm,0.8s,mb4.1,baz=136,slow=6.8,SNR=4.7						
AKTK	**Aktyubinsk**	**58.11**	**17**	P	**P**	**00 24 57.2**	**+0.5**
AKTO	**Aktyubinsk**	**58.11**	**17**	P	**P**	**00 24 57.2**	**+0.5**
	0.9nm,0.6s,mb4.0,baz=180,slow=1.0,SNR=3.9						
BVAR	**Borovoye Array**	**64.44**	**22**	P	**P**	**00 25 38.9**	**-0.7**
	0.3nm,0.5s,mb3.6,baz=220,slow=6.6,SNR=2.5						
BVAR	**Borovoye Array**	**64.44**	**22**	P	**P**	**00 25 38.9**	**-0.7**
MAW	**Mawson**	**65.53**	**169**	P	**P**	**00 25 47.5**	**+1.0**
	0.7nm,0.3s,mb4.2,baz=318,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**65.61**	**33**	P	**P**	**00 25 45.9**	**-1.5**
	1.2nm,0.9s,mb3.9,baz=248,slow=6.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	**66.32**	**68**	P	**P**	**00 25 51.8**	**-0.6**
	1.4nm,0.3s,mb4.5,baz=262,slow=6.3,SNR=5.8						
SONM	**Songino Array**	**80.59**	**40**	P	**P**	**00 27 16.9**	**+0.9**
	0.9nm,0.8s,mb3.7,baz=243,slow=5.5,SNR=4.2						

JMA 07 00:19:50.5±0.1,2735N×12669E,h0km,M3.7,Northwest
of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.90**	**147**	P	Pg	00 20 08.2	+0.4
JAGN				S	Sg	00 20 20.5	+0.9
JKE	**Kume jima 2**	**1.02**	**175**	P	Pg	00 20 10.4	+0.3
JKE				*e*S	Sg	00 20 24.3	+0.9
JIH	**Iheya**	**1.18**	**105**	P	Pg	00 20 13.1	0.0
JIH				*e*S	Sg	00 20 29.6	+1.2
NAH1	**Naha**	**1.45**	**142**	*e*S	Sg	00 20 36.9	-0.2
JOW	**Kunigami**	**1.50**	**110**	P	Pn	00 20 18.9	+0.2
JOW				*e*S	Sg	00 20 38.8	0.0

JJT2	Tamagusuku 2	1.53 142	eS		Sn	00 20 39.7	-0.1

ISCJB 07 00:22:47.5±1.4, 178S×1787W±0.1, h524km±21km, mb4.2/11, Error ellipse: s-maj=21.1km s-min=16.4km az=0.4
NEIC 07 00:22:48.1±0.9, 1775S×17870W, h520km±13km, mb4.4/8, Error ellipse: s-maj=14.6km s-min=10.9km az=174.0
IDC 07 00:22:48.8±2.1, 1789S×17868W, h522km±41km, mb3.7/5, mb1 3.9/6, mb1mx3.4/19, mbtmp3.8/6, Error ellipse: s-maj=39.5km s-min=20.2km az=26.0

ISC 07 00:22:48.6±1.3, 178S±02×1787W±01, h524km±22km, n27, σ0°76/24, mb4.2/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.69	61	P	P	00 24 43.5	+0.8
	10nm,0.3s,baz=111,slow=9.7,SNR=12						
AFI	Afiamalu	7.69	61	eP	P	00 24 42.0	-0.6
URZ	Urewera	20.76	189	P	P	00 26 51.0	-1.7
	6.8nm,0.6s,baz=352,slow=15,SNR=3.1						
HNR	Honiara	22.31	289	eP	P	00 27 06.9	-0.1
	65nm,1.0s						
ARMA	Armidale	29.77	239	eP	P	00 28 14.2	+1.6
CTAO	Charters Tower	33.18	260	eP	P	00 28 42.5	+0.6
	3.7nm,0.6s,mb4.1						
STKA	Stephens Creek	38.45	241	eP	P	00 29 26.4	+1.0
	6.3nm,0.5s,mb4.4						
STKA	Stephens Creek	38.45	241	P	P	00 29 26.5	+1.1
	7.3nm,0.5s,mb4.5,baz=93,slow=9.1,SNR=19						
STKA	Stephens Creek	38.45	241	eP	P	00 29 26.0	+0.6
	7.2nm,0.4s,mb4.6						
WB2	Warramunga Arr	44.36	259	eP	P	00 30 11.7	-0.8
WB2	Warramunga Arr	44.36	259	eP	P	00 30 12.1	-0.4
WRAB	Tennant Creek	44.36	259	eP	P	00 30 12.1	-0.4
	3.0nm,0.4s,mb4.2						
WRA	Warramunga Arr	44.37	259	P	P	00 30 11.9	-0.6
	3.8nm,0.5s,mb4.2,baz=94,slow=7.1,SNR=104						
ASAR	Alice Springs	44.55	254	P	P	00 30 14.1	+0.2
	35nm,0.6s,mb5.1,baz=90,slow=8.7,SNR=470						
KAKA	Kakadu	47.29	269	eP	P	00 30 34.3	-0.6
	8.1nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	52.77	260	eP	P	00 31 15.2	+0.2
	3.8nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	52.77	260	eP	P	00 31 14.8	-0.2
	2.0nm,0.4s,mb3.8						
MBWA	Marble Bar	57.83	256	eP	P	00 31 49.7	-0.6
	9.7nm,0.9s,mb4.0						
NWAO	Narrogin (SRO)	59.02	242	eP	P	00 31 58.4	+0.3
	113nm,1.8s,mb4.8						
SBA	Scott Base	60.56	183	eP	P	00 32 08.8	+1.3
	0.4nm,0.4s,mb3.1						
VNDA	Vanda	60.58	185	P	P	00 32 07.5	-0.2
	0.3nm,0.6s,baz=351,slow=5.5,SNR=3.7						
VNDA	Vanda	60.58	185	eP	P	00 32 07.2	-0.5
	0.2nm,0.6s						
QSPA	South Pole Qui	72.30	180	P	P	00 33 20.3	0.0
	1.6nm,0.8s,mb3.5,baz=341,slow=14,SNR=8.2						
ANMO	Albuquerque	86.23	52	P	P	00 34 34.8	+0.1
LSA	Lhasa	98.70	298	Pdif	Pdif	00 35 32.3	+0.8
UCH	Uchtor	114.03	309	ePdif	Pdif	00 36 41.8	+2.1
TOA0	Torodi Ar. Sit	175.41	185	ePKPdf	PKPdf	00 41 59.7	+0.5

JMA 07 00:32:27.6±0.4, 2733N×12678E, h7km±5km, M3.5
IDC 07 00:32:28.4±0.9, 2709N×12689E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/23, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=28.9km s-min=14.9km az=37.0
ISCJB 07 00:32:30.9±1.1, 2715N±004×12681E±004, h28km±9km, mb4.1/13, Error ellipse: s-maj=7.1km s-min=5.6km az=27.7
MOS 07 00:32:31.1±1.1, 2706N×12690E, h33km, mb4.5/5, Error ellipse: s-maj=20.4km s-min=10.8km az=110.6
NEIC 07 00:32:33.1±0.3, 2707N×12687E, h35km, mb4.3/6, Error ellipse: s-maj=6.3km s-min=5.9km az=83.0

ISC 07 00:32:31.1±1.2, 2717N±004×12685E±004, h16km±8km, n42, σ1°08/49, mb4.1/13, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	Aguni-jima	0.68	148	P	Pg	00 32 43.9	-0.4
JAGN				S	Sg	00 32 54.9	+1.6
JKE	Kume jima 2	0.84	184	P	Pb	00 32 46.4	-0.9
JKE				S	Sb	00 33 00.2	+1.8
JIH	Iheya	1.01	97	P	Pb	00 32 48.3	-1.9
JIH				eS	Sb	00 33 02.8	-0.4
NAH1	Naha	1.22	142	P	Pn	00 32 53.4	-0.1
NAH1				S	Sb	00 33 11.0	+1.6
JJT2	Tamagusuku 2	1.30	142	P	Pn	00 32 55.1	+0.4
JJT2				S	Sb	00 33 13.8	+2.0
JOW	Kunigami	1.32	104	P	Pn	00 32 53.1	-1.8
JOW				S	Sn	00 33 12.4	+0.3
JOW	Kunigami	1.32	104	Pn	Pn	00 32 53.1	-1.7
	41nm,0.3s,baz=303,slow=13,SNR=27						
JOW				Sn	Sn	00 33 11.9	-0.2
	47nm,0.3s,baz=136,slow=28,SNR=10						
JTK	Tokunoshima	1.97	71	P	Pn	00 33 02.3	-1.5
TATO	Taipei	5.29	247	Pn	Pn	00 33 48.8	-0.7
YHNB	Yeheng	5.52	244	ePn	Pn	00 33 52.0	-0.7
NACB	Ningcanhiao	5.60	239	ePn	Pn	00 33 52.4	-1.4
INCN	Inchon	10.29	359	ePn	Pn	00 34 58.9	+0.9
MJAR	Matsushiro Arr	13.43	43	Pn	Pn	00 35 42.2	+1.2
	0.5nm,0.3s,baz=217,slow=12,SNR=3.0						
QIZ	Qiongzhong	17.60	246	Pn	Pn	00 36 34.8	-1.1
GUMO	Guam	21.59	125	eP	P	00 37 17.5	-2.9
HIA	Hailar	22.74	348	eP	P	00 37 32.7	+0.4
HIA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HIA	Hailar	22.74	348	eP	P	00 37 32.7	+0.3
	comp=Z,9.6nm,1.2s,mb4.1						
YSS	Yuzh-Sakhalins	23.39	28	P	P	00 37 39.6	+0.3
SONM	Songino Array	26.10	328	P	P	00 38 05.7	+1.7
	comp=Z,4.9nm,1.0s,mb4.0,baz=142,slow=9.9,SNR=17						
TLY	Talaya	30.09	331	P	P	00 38 39.3	-0.4
MKAR	Makanchi Array	39.99	311	P	P	00 40 04.3	-0.7
	comp=Z,1.8nm,0.8s,mb3.9,baz=98,slow=10,SNR=4.7						
ZALV	Zalesovo Beam	40.75	323	P	P	00 40 11.0	-0.2
	comp=Z,2.3nm,0.7s,mb3.9,baz=110,slow=11,SNR=6.3						
ZAL	Zalesovo	40.76	323	P	P	00 40 11.0	-0.2
KURK	Kurchatov	43.29	316	eP	P	00 40 32.6	+0.7
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
KURK	Kurchatov	43.29	316	eP	P	00 40 32.6	+0.6
	comp=Z,3.8nm,1.0s,mb4.1						
TKM2	Tokmak 2	44.13	305	eP	P	00 40 40.1	+1.3
TKM2				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.5						
TKM2	Tokmak 2	44.13	305	eP	P	00 40 40.1	+1.3
	comp=Z,17nm,1.6s,mb4.5						
UCH	Uchtor	44.89	304	eP	P	00 40 45.5	+0.6
	comp=Z,1.6nm,0.4s,mb4.2						
EKS2	Erkin-Say	45.45	304	P	P	00 40 49.6	+0.2
AML	Almayashu	45.50	303	P	P	00 40 50.7	+1.0
WRAB	Tennant Creek	47.38	170	eP	P	00 41 04.2	-0.4
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
WRAB	Tennant Creek	47.38	170	eP	P	00 41 04.2	-0.4
	comp=Z,2.9nm,0.8s,mb4.3						
WRA	Warramunga Arr	47.39	170	P	P	00 41 04.0	-0.7
	comp=Z,0.8nm,0.8s,mb3.7,baz=352,slow=8.5,SNR=3.8						
WB2	Warramunga Arr	47.39	170	P	P	00 41 03.7	-1.0
BVAR	Borovoye Array	48.75	318	P	P	00 41 14.9	0.0
	comp=Z,2.0nm,1.0s,mb4.1,baz=93,slow=7.4,SNR=8.2						
BRVK	Borovoye	48.82	318	eP	P	00 41 15.7	+0.2
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
BRVK	Borovoye	48.82	318	eP	P	00 41 15.7	+0.2
	comp=Z,4.6nm,1.1s,mb4.4						
ASAR	Alice Springs	50.99	172	P	P	00 41 31.6	-0.6
	comp=Z,0.5nm,0.6s,mb3.7,baz=4.6,slow=14,SNR=5.5						
AKTK	Aktyubinsk	56.30	314	P	P	00 42 12.5	+1.6
AKTO	Aktyubinsk	56.30	314	P	P	00 42 12.5	+1.6
	comp=Z,1.0nm,0.9s,mb3.9,baz=97,slow=9.0,SNR=2.5						
STKA	Stephens Creek	60.38	166	P	P	00 42 38.9	-0.6
NWAO	Narrogin (SRO)	60.46	189	P	P	00 42 38.7	-1.3

IDC 07 00:45:29.0±1.2, 264N×6623E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/22, mbtmp3.9/8, Error ellipse: s-maj=44.2km s-min=22.8km az=51.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	46.15	15	P	P	00 53 54.9	-0.4
	0.2nm,0.4s,baz=205,slow=8.9,SNR=3.2						
AKTO	Aktyubinsk	48.13	353	P	P	00 54 10.8	+0.1
	1.7nm,0.7s,baz=156,slow=5.5,SNR=6.9						
ZALV	Zalesovo Beam	53.38	14	P	P	00 54 49.7	-0.5
	1.9nm,0.7s,baz=201,slow=7.9,SNR=6.0						
SONM	Songino Array	56.76	31	P	P	00 55 16.0	+1.2
	0.9nm,0.9s,baz=224,slow=6.2,SNR=3.7						
WRA	Warramunga Arr	70.43	112	P	P	00 56 45.6	-0.2
	2.5nm,0.9s,baz=292,slow=5.6,SNR=10						
ASAR	Alice Springs	70.75	116	P	P	00 56 47.4	-0.2
	0.9nm,0.7s,baz=285,slow=4.6,SNR=7.2						
NOA	NORSAR Array B	71.42	335	P	P	00 56 50.2	-0.7
	0.5nm,0.7s,baz=127,slow=8.1,SNR=2.7						
ESDC	Sonseca Array	73.13	311	P	P	00 57 01.4	-0.2
	1.3nm,0.8s,baz=110,slow=5.4,SNR=4.6						
PDAR	Pinedale Array	134.65	356	PKP	PKPdf	01 04 51.4	+1.5
	0.4nm,0.9s,baz=64,slow=4.1,SNR=2.7						
TXAR	Lajitas Array	146.77	344	PKPbc	PKPbc	01 05 14.6	+0.8
	2.5nm,0.7s,baz=58,slow=2.9,SNR=34						

NEIC 07 01:03:36.6, 1946N×6603W, h49km, MD3.2(RSPR), After RSPR.

RSPR 07 01:03:36.6, 1946N×6603W, h49km±27km, MD3.2/4, MD3.2/4, 10C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.30	212	eP	Pn	01 03 56.5	-2.0
AOPR	Arecibo Observ	1.30	212	eS	Sn	01 04 11.1	-3.6
AOPR	Arecibo Observ	1.30	212	eP	Pn	01 03 57.0	-1.5
AOPR				eS	Sn	01 04 11.1	-3.6
AOPR				eS	Sn	01 04 13.2	-1.5
HUMP	Col San Antoni	1.32	173	eP	Pn	01 03 57.5	-1.2
HUMP	Col San Antoni	1.32	173	eS	Sn	01 04 13.5	-1.5
HUMP	Col San Antoni	1.32	173	eP	Pn	01 03 57.5	-1.2
HUMP	Col San Antoni	1.32	173	eS	Sn	01 04 13.3	-1.8
HUMP	Col San Antoni	1.32	173	eP	Pn	01 03 57.5	-1.2
HUMP				eS	Sn	01 04 13.3	-1.8
HUMP				eS	Sn	01 04 13.5	-1.5
SJG	San Juan	1.34	185	eP	Pn	01 03 57.4	-1.6
SJG				eS	Sn	01 04 13.6	-2.1
MTP	Monte Pirata	1.42	162	eP	Pn	01 03 59.0	-1.1
MTP	Monte Pirata	1.42	162	eS	Sn	01 04 16.8	-0.9
MTP	Monte Pirata	1.42	162	eP	Pn	01 03 59.2	-0.9
MTP				eS	Sn	01 04 16.8	-0.9
MTP				eS	Sn	01 04 17.2	-0.5
CELP	Cerrillos	1.47	201	eP	Pn	01 03 58.8	-2.0
CELP				eS	Sn	01 04 15.7	-3.1
CRPR	Cabo Rojo, PR	1.77	216	eP	Pn	01 04 02.7	-2.2
CRPR	Cabo Rojo, PR	1.77	216	eS	Sn	01 04 23.1	-3.1
CRPR	Cabo Rojo, PR	1.77	216	eP	Pn	01 04 04.3	-0.6
CRPR				eS	Sn	01 04 23.1	-3.1
CRPR				eS	Sn	01 04 25.9	-0.2

NEIC 07 01:20:04.1, 3473N×880E, h0km, MG4.2(MDD), After MDD.
CSEM 07 01:20:28.4±0.4, 3588N×677E, h10km, ML3.7, Error ellipse: s-maj=10.0km s-min=4.5km az=144.0
ISCJB 07 01:20:29.6±1.6, 359N±0.1×671E±008, h11km±7km, Error ellipse: s-maj=19.1km s-min=7.8km az=153.0
CRAAG 07 01:20:29.3, 3597N×666E, Ml3.7

ISC 07 01:20:30.5±1.3, 3589N±009×675E±007, h2km±6km, n36, σ0°85/36, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTEI	Djebel Teioual	0.32	302	P	Pg	01 20 36.0	-0.7
CASM	Ain Smara	0.42	330	P	Pg	01 20 38.0	-0.6
CKFL	Kef-Lekhel	0.51	358	P	Pg	01 20 40.0	-0.2
ABSA	Djebel Ababsia	0.70	57	P	Pg	01 20 45.0	+1.0
CMER	Merouana	0.74	249	P	Pg	01 20 44.0	-0.7
CAEH	'Ain El Ouahch	0.89	5	P	Pg	01 20 43.0	-4.5
CMAH	Djebel Manchou	0.91	36	P	Pg	01 20 47.0	-0.9
DFRA	Djebel Bou Aff	0.96	313	P	Pg	01 20 48.8	-0.1
SET	Setif	1.13	286	P	Pg	01 20 53.0	+0.8
AKET	Djebel Ketaf	2.33	275	P	Pg	01 21 16.3	+1.2
ADJB	Djebel Djouab	2.69	277	P	Pg	01 21 22.8	+0.7
ABMS	Boumerdes	2.77	289	P	Pn	01 21 14.6	-1.3
EMHD	Djebel Mahouad	3.09	277	P	Pg	01 21 30.8	+1.1
ETRT	Tiaret	4.46	265	P	Pg	01 21 52.0	-4.0
EANR	'Ain N'Sour	4.58	272	P	Pg	01 21 57.0	-1.3
ETOS	Mallorca	4.96	322	P	Pn	01 21 46.1	+0.1
	6.5nm,0.7s,SNR=8.0						
ETOS	Mallorca	4.96	322	P	Pn	01 21 46.1	+0.1
EIBI	Ibiza	5.32	308	P	Pn	01 21 51.0	+0.2
	6.8nm,0.4s,SNR=9.3						
EIBI	Ibiza	5.32	308	P	Pn	01 21 51.0	+0.2
EBEN	Beniarda	6.22	299	P	Pn	01 22 04.7	+1.4
	3.4nm,0.6s,SNR=7.9						
EBEN	Beniarda	6.22	299	P	Pn	01 22 04.7	+1.3
EMUR	La Murta	6.69	289	P	Pn	01 22 09.7	0.0
	3.3nm,0.5s,SNR=37						
ERTA	Horta de San J	7.13	317	P	Pn	01 22 15.5	-0.3
	SNR=7.9						
ERTA	Horta de San J	7.13	317	P	Pn	01 22 15.5	-0.2
ETOB	Tobarra	7.16	295	P	Pn	01 22 17.2	+1.0
	2.8nm,0.4s,SNR=16						
ETOB	Tobarra	7.16	295	P	Pn	01 22 17.2	+1.0
EMOS	Mosqueruela	7.23	310	P	Pn	01 22 18.1	+1.0
	6.0nm,0.8s,SNR=8.3						
EMOS	Mosqueruela	7.23	310	P	Pn	01 22 18.1	+1.0
EHUE	Huescar	7.73	287	P	Pn	01 22 23.3	-0.7
	0.4nm,0.3s,SNR=7.9						
EHUE	Huescar	7.73	287	P	Pn	01 22 23.3	-0.6
EBER	Berja	7.84	280	P	Pn	01 22 23.7	-1.7
	SNR=7.9						
EBER	Berja	7.84	280	P	Pn	01 22 23.7	-1.7
EQES	Quesada	8.10	287	P	Pn	01 22 28.8	-0.2
	2.4nm,0.3s,SNR=12						
EQES	Quesada	8.10	287	P	Pn	01 22 28.8	-0.2
	2.4nm,0.3s						
EQUE	Quentar	8.30	282	P	Pn	01 22 32.0	+0.2
	1.6nm,0.4s,SNR=7.0						
ESDC	Sonseca Array	9.28	297	P	Pn	01 22 45.3	+0.1
	0.3nm,0.2s,SNR=7.9						

ISCJB 07 01:25:35.8±1.3, 1394N±005×9272W±003, h12km±9km, mb4.2/12, Error ellipse: s-maj=8.0km s-min=4.1km az=10.8
IDC 07 01:25:35.7±1.4, 1429N×9223W, h0km, mb4.0/9, mb1 4.3/11, mb1mx4.0/26, mbtmp4.0/11, ML4.1/2, Error ellipse: s-maj=45.5km s-min=17.3km az=44.0
NEIC 07 01:25:36.2±0.8, 1398N×9249W, h10km, mb4.6/4, MD4.7(MEX), Error ellipse: s-maj=17.5km s-min=9.8km az=208.0
CASC 07 01:25:37.5±2.8, 14.11N×9271W, h15km±18km, MD4.4, mb4.6(NEIC)
MEX 07 01:25:38.0±0.6, 1384N×9255W, h17km±31km, MD4.7

ISC 07 01:25:36.7±1.1, 1398N±004×9266W±003, h4km±6km, n53, σ1°15/58, mb4.2/12, 6C-2D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.98	23	iP	Pg	01 25 54.7	-0.9
THIG				iS	Sg	01 26 08.1	-0.4
JAT	Jato	1.04	72	eP	Pg	01 25 58.6	+1.9
JAT				eS	Sg	01 26 10.7	+0.4
FG6		1.81	72	eP	Pn	01 26 08.7	0.0
FUG	Fuego 3	1.82	75	eP	Pn	01 26 08.4	-0.4
PCG	Pacaya	2.03	78	eP	Pn	01 26 11.8	+0.1
PCG				eS	Sn	01 26 38.3	+0.8
NBG	Las Nubes	2.32	75	eP	Pn	01 26 17.0	+1.3
NBG				eS	Sn	01 26 46.6	+2.0
CCIG	Comitan	2.33	12	iP	Pn	01 26 15.6	-0.3
CCIG				iS	Sn	01 26 43.4	-1.6
CCIG	Comitan	2.33	12	iP	Pn	01 26 16.3	+0.4
CCIG				iS	Sn	01 26 44.6	-0.4
SCX	San Cristobal	2.73	0	iP	Pn	01 26 20.7	-0.6
SCX				iS	Sn	01 26 54.9	+0.1
SCX	San Cristobal	2.73	0	iP	Pn	01 26 20.7	-0.6
SCX				iS	Sn	01 26 56.0	+1.3
TGIG		2.81	351	iP	Pn	01 26 21.9	-0.5
TGIG				iS	Sn	01 26 55.6	-1.1
RBDL	Robledal	2.89	87	eP	x	01 26 23.7	
RTR	El Retiro	2.93	92	eP	x	01 26 23.9	
RTR				eS	x	01 27 03.5	
SBLS	San Blas	2.95	93	eP	x	01 26 24.7	
SNJE	San Jose	2.97	92	eP	x	01 26 24.5	
SNJE				eS	x	01 27 00.8	
MTO2	Montecristo 2	3.22	82	eP	x	01 26 28.1	
BOQS	Boqueron	3.29	94	eP	x	01 26 28.8	
BOQS				eS	x	01 27 10.4	
LFRS	El Faro	3.51	96	eP	x	01 26 32.1	
LBRS	Las Brisas	3.52	94	eP	x	01 26 32.4	
LBRS				eS	x	01 27 13.1	
LCBS	La Ceiba	3.59	95	eP	x	01 26 33.2	
LCBS				eS	x	01 27 19.3	
SNVI	San Vicente	3.73	95	eP	x	01 26 35.4	
SNVI				eS	x	01 27 20.5	
CMIG	Matias Romero	3.75	325	Pn	Pn	01 26 34.0	-1.4
	11nm,0.3s,baz=144,slow=11,SNR=74						
CMIG				Sn	Sn	01 27 24.4	+4.3
	49nm,0.3s,baz=128,slow=18,SNR=8.0						
VSM	San Miguel	4.30	97	eP	x	01 26 44.7	
VSM				eS	x	01 27 37.8	
OXX	Oaxaca	4.98	309	eP	Pn	01 26 52.6	+0.3
VHO	Vista Hermosa	4.98	308	eP	Pn	01 26 53.0	+0.7
VHO				iS	Sn	01 27 51.9	+1.4
VHO	Vista Hermosa	4.98	308	eP	Pn	01 26 53.9	+1.6
VHO				iS	Sn	01 27 51.9	+1.4
PNIG	Pinotepa	5.79	295	eP	Pn	01 27 03.5	0.0
PNIG				iS	Sn	01 28 09.2	-1.3
LEON	Leon	5.83	105	eP	Pn	01 27 04.2	+0.1
COPN	Copaltepe	6.18	106	eP	Pn	01 27 09.6	+0.7
UTMO	Huajuapan	6.25	308	eP	Pn	01 27 10.2	+0.4
UTMO				iS	Sn	01 28 23.8	+2.1
TPIG	Tehuac#an	6.31	315	eP	Pn	01 27 10.7	+0.2
TPIG				iS	Sn	01 28 23.8	+0.7
PPM	Popocatepetl	7.63	312	eP	Pn	01 27 30.1	+1.3
PPM				iS	Sn	01 28 56.8	+1.1
IIO	Organos	8.04	315	eP	Pn	01 27 41.1	+6.7
IIO				iS	Sn	01 29 11.9	+6.0
MZVM		8.15	310	eP	Pn	01 27 33.7	-2.1
TXAR	Lajitas Array	18.36	328	P	Pn	01 29 53.3	+1.0
	0.1nm,0.3s,baz=149,slow=12,SNR=20						
MIAR	Mount Ida	20.48	358	eP	P	01 30 14.2	-1.4
	10nm,0.9s						
SDV	Santo Domingo	22.17	101	P	P	01 30 31.6	-2.4
	3.3nm,0.6s,mb4.0,baz=305,slow=12,SNR=7.3						
TKL	Tuckaleechee C	23.00	19	P	P	01 30 39.9	-2.7
	2.1nm,0.7s,mb3.7,baz=197,slow=11,SNR=4.1						
TKL	Tuckaleechee C	23.00	19	P	P	01 30 39.9	-2.8
BNM	Barren Site	23.73	330	eP	P	01 30 51.1	+1.0
ANMO	Albuquerque	24.30	332	P	P	01 30 55.0	-0.3
	1.1nm,0.5s,mb3.6,baz=152,slow=9.9,SNR=5.6						
PDAR	Pinedale Array	32.16	336	P	P	01 32 04.4	-1.2
	0.7nm,0.6s,mb3.6,baz=140,slow=9.5,SNR=5.2						
REDW	Red Top Meadow	33.18	335	eP	P	01 32 14.3	-0.1
	13nm,1.0s,mb4.8						
SNOW	Snow King Moun	33.22	336	eP	P	01 32 14.9	0.0
	17nm,0.7s,mb5.1						
NVAR	Mina Array Bea	33.28	322	P	P	01 32 16.6	+1.2
	1.4nm,0.7s,mb4.0,baz=131,slow=8.9,SNR=9.2						
TPAW	Teton Pass	33.33	335	eP	P	01 32 15.7	0.0
	5.3nm,1.0s,mb4.4						
MCMT	McKenzie Canyo	35.20	335	eP	P	01 32 32.8	+0.8
SIV	San Ignacio	43.15	133	P	P	01 33 37.6	-1.2
	2.3nm,0.7s,mb4.0,baz=305,slow=8.1,SNR=14						
YKA	Yellowknife Ar	50.89	347	P	P	01 34 36.4	-2.2
	5.2nm,0.6s,mb4.7,baz=151,slow=7.3,SNR=14						
YKA	Yellowknife Ar	50.89	347	P	P	01 34 36.4	-2.2
EKA	Eskdalemuir Ar	78.34	36	P	P	01 37 33.4	-4.8
	1.5nm,0.6s,mb4.1,baz=273,slow=6.2,SNR=7.6						
ARCES	ARCESS Array B	86.34	18	P	P	01 38 16.6	-3.2
	1.1nm,1.0s,mb4.0,baz=336,slow=2.7,SNR=5.4						
CMAR	Chiang Mai Arr	145.79	340	PKPbc	PKPbc	01 45 16.5	-1.5
	2.0nm,0.4s,baz=345,slow=2.6,SNR=8.2						

JMA 07 01:31:27.6±0.4, 2735N×12680E, h10km±5km, M4.2
IDC 07 01:31:27.8±0.9, 2732N×12698E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/20, mbtmp4.1/5, Error ellipse: s-maj=35.4km s-min=14.6km az=45.0
ISCJB 07 01:31:28.5±2.3, 2731N±004×12683E±005, h12km±16km, mb4.2/10, Error ellipse: s-maj=8.2km s-min=4.7km az=136.0
NEIC 07 01:31:29.1±0.6, 2749N×127.17E, h10km, mb4.4/2, Error ellipse: s-maj=18.5km s-min=10.3km az=50.0
MOS 07 01:31:31.5±1.0, 2715N×12659E, h33km, mb4.7/2, Error ellipse: s-maj=41.6km s-min=15.9km az=112.7
BJI 07 01:31:31.2, 2762N×12675E, h10km, mB4.8, mb4.3

ISC 07 01:31:29.0±1.0, 2729N±004×12688E±004, h8km±7km, n28, σ0°66/35, mb4.2/10, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	Aguni-jima	0.77	155	P	Pg	01 31 43.8	-0.1
JAGN				S	Sg	01 31 54.6	+0.7
JKE	Kume jima 2	0.96	185	P	Pg	01 31 46.6	-1.0
JKE				S	Sg	01 32 00.0	-0.1
JIH	Iheya	1.00	104	P	Pg	01 31 47.7	-0.6
JIH				S	Sg	01 32 02.5	+1.2
NAH1	Naha	1.30	146	P	Pn	01 31 53.4	-0.2
NAH1				S	Sb	01 32 10.7	0.0
JOW	Kunigami	1.33	110	P	Pn	01 31 52.7	-1.2
JOW				S	Sb	01 32 11.8	+0.5
JOW	Kunigami	1.33	110	Pn	Pn	01 31 52.8	-1.1
	68nm,0.3s,baz=299,slow=12,SNR=68						
JOW				Sn	Sn	01 32 10.9	-0.8
	172nm,0.3s,baz=126,slow=26,SNR=17						
JJT2	Tamagusuku 2	1.39	146	P	Pn	01 31 54.8	+0.1
JJT2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.93**	**72**	*e*Pn	**Pn**	**01 43 25.3**	**+0.1**
RER	**Riviere de l'E**	**25.98**	**203**	*e*P	**P**	**01 45 27.1**	**+0.1**
BOSA	**Boshof**	**50.32**	**229**	P	**P**	**01 48 51.4**	**+0.2**
	10nm,1.0s,mb4.8,baz=82,slow=7.6,SNR=6.7						
ZALV	**Zalesovo Beam**	**53.20**	**13**	P	**P**	**01 49 11.4**	**-0.8**
	2.1nm,0.7s,mb4.2,baz=186,slow=13,SNR=6.6						
SONM	**Songino Array**	**56.55**	**31**	P	**P**	**01 49 36.8**	**+0.2**
	1.5nm,1.0s,mb4.0,baz=222,slow=7.4,SNR=8.0						
TORD	**Torodi Ar. Bea**	**64.74**	**283**	P	**P**	**01 50 32.6**	**-0.4**
	0.9nm,1.0s,mb3.8,baz=81,slow=8.9,SNR=3.7						
WRA	**Warramunga Arr**	**70.34**	**112**	P	**P**	**01 51 08.0**	**-0.4**
	2.8nm,0.9s,mb4.2,baz=289,slow=5.8,SNR=11						
ASAR	**Alice Springs**	**70.67**	**116**	P	**P**	**01 51 10.6**	**+0.2**
	0.9nm,0.8s,mb3.8,baz=273,slow=5.4,SNR=6.0						
DBIC	**Dimbokro**	**71.06**	**276**	P	**P**	**01 51 12.4**	**-0.5**
	4.4nm,1.0s,mb4.4,baz=110,slow=8.4,SNR=3.3						
NOA	**NORSAR Array B**	**71.35**	**335**	P	**P**	**01 51 14.8**	**+1.1**
	2.1nm,0.9s,mb4.1,baz=112,slow=6.5,SNR=4.1						
ESDC	**Sonseca Array**	**73.15**	**311**	P	**P**	**01 51 25.1**	**+0.1**
	2.2nm,0.8s,mb4.1,baz=88,slow=5.8,SNR=8.1						
CNNC	**Cliffs of the**	**129.50**	**322**	*e*PKPdf	PKPdf	01 59 06.0	+2.4
PDAR	**Pinedale Array**	**134.51**	**356**	PKP	PKPdf	01 59 12.2	-0.7
	0.6nm,0.9s,baz=327,slow=2.5,SNR=3.9						
MNTX	**Cornudas Mount**	**144.83**	**348**	*e*PKPdf	PKPdf	01 59 31.8	-0.1
TXAR	**Lajitas Array**	**146.68**	**344**	PKPbc	PKPbc	01 59 37.8	+1.1
	4.6nm,0.9s,baz=57,slow=1.9,SNR=28						

TIR ***07*** *01:42:12.4±1.3,3995N×2141E,h6km±240km*
CSEM ***07*** *01:42:22.8±0.2,3931N×2006E,h2km,ML3.1,Error ellipse: s-maj=5.8km s-min=1.8km az=92.0*
ATH ***07*** *01:42:22.9,3927N×2014E,h12km±3km,MD3.5/6*
NEIC ***07*** *01:42:22.8,3928N×2013E,h12km,ML3.1(THE), ML3.5(ATH),After ATH.*
ISCJB ***07*** *01:42:23.6±0.7,3926N±002×2018E±007,h10km,Error ellipse: s-maj=7.7km s-min=3.1km az=178.7*
THE ***07*** *01:42:24.5,3928N×2032E,h0km,ML3.1*
ISC 07 01:42:23.7±0.8,3928N±002×2024E±007,h0km±5km,n30, σ0§95/48,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.27**	**15**	*e*Pg	**Pg**	**01 42 28.1**	**-0.7**
IGT				*e*Sg	**Sg**	**01 42 32.9**	**+0.6**
IGT	**Igoumenitsa**	**0.27**	**15**	*i* PG	**Pg**	**01 42 32.2**	**+3.4**
SRN	**Sarande**	**0.63**	**343**	*e*PG	**Pg**	**01 42 35.1**	**-0.7**
SRN				*i* SG	**Sg**	**01 42 51.1**	**+7.1**
LKD	**Levkas**	**0.65**	**151**	*e*Pg	**Pg**	**01 42 35.3**	**-0.9**
LKD				*e*Sg	**Sg**	**01 42 46.5**	**+1.8**
VLS	**Valsamata**	**1.13**	**166**	*e*Pg	**Pg**	**01 42 45.1**	**-0.3**
VLS				*e*Sg	**Sg**	**01 43 02.0**	**+2.0**
VLS	**Valsamata**	**1.13**	**166**	*e*PN	**Pg**	**01 42 44.6**	**-0.8**
VLS				*e*SB	**Sg**	**01 43 01.1**	**+1.1**
VLS	**Valsamata**	**1.13**	**166**	*e*Pg	**Pg**	**01 42 45.1**	**-0.3**
VLS				*e*Sb	**Sg**	**01 43 01.1**	**+1.1**
VLS				*e*Sg	**Sn**	**01 43 02.0**	**-1.0**
KFL	**Anninata**	**1.24**	**160**	*e*Pg	**Pg**	**01 42 47.6**	**+0.1**
EVR	**Evrytania**	**1.27**	**106**	*e*PB	**Pb**	**01 42 48.1**	**-0.4**
THL	**Klokotos Trika**	**1.40**	**78**	*e*Pg	**Pg**	**01 42 48.8**	**-1.9**
THL				*e*Sg	**Sg**	**01 43 08.9**	**+0.1**
THL	**Klokotos Trika**	**1.40**	**78**	*e*PB	**Pn**	**01 42 50.9**	**+0.4**
THL				*e*SB	**Sn**	**01 43 10.9**	**+1.2**
RLS	**Riolos of Patr**	**1.55**	**141**	*e*PB	**Pb**	**01 42 53.1**	**-0.2**
KZN	**Kozani**	**1.56**	**48**	*e*PB	**Pb**	**01 42 53.7**	**+0.2**
AGG	**Agios Georgios**	**1.64**	**98**	*e*Pg	**Pn**	**01 42 53.2**	**-0.7**
AGG				*e*Sg	**Sn**	**01 43 14.8**	**-0.9**
FNA	**Florina**	**1.74**	**30**	*e*Pb	**Pb**	**01 42 55.8**	**-0.7**
FNA				*e*Sb	**Sb**	**01 43 19.5**	**+0.6**
LIT	**Litokhoron**	**1.92**	**64**	*e*Pb	**Pn**	**01 42 57.7**	**0.0**
LIT				*e*Sb	**Sn**	**01 43 22.1**	**-0.4**
BIA	**Bitola**	**1.93**	**25**	*e*PB	**Pn**	**01 42 58.4**	**+0.6**
BIA				*e*Sb	**Sn**	**01 43 23.8**	**+1.1**
BIA	**Bitola**	**1.93**	**25**	*e*Pn	**Pn**	**01 42 59.0**	**+1.2**
BIA				*e*Sn	**Sn**	**01 43 25.1**	**+2.4**
BIA	**Bitola**	**1.93**	**25**	*e*Pn	**Pn**	**01 42 58.9**	**+1.1**
BIA				*e*Sn	**Sn**	**01 43 25.1**	**+2.4**
KRUS	**Krusevo**	**2.23**	**20**	*e*Pn	**Pn**	**01 43 02.4**	**+0.5**
KRUS				*e*Sn	**Sn**	**01 43 30.6**	**+0.6**
XOR	**Xorichti**	**2.29**	**87**	*e*Pn	**Pn**	**01 43 04.1**	**+1.4**
NEO	**Neokhori**	**2.31**	**88**	*e*PN	**Pn**	**01 43 04.2**	**+1.1**
GRG	**Griva**	**2.36**	**44**	*e*Pn	**Pn**	**01 43 03.8**	**+0.1**
PLG	**Polygyros**	**2.70**	**65**	*e*Pn	**Pn**	**01 43 07.0**	**-1.4**
PLG	**Polygyros**	**2.70**	**65**	*e*Pn	**Pn**	**01 43 07.6**	**-0.8**
PAIG	**Paliouri**	**2.73**	**75**	*e*Pn	**Pn**	**01 43 07.6**	**-1.2**
KNT	**Kendrikon**	**2.77**	**46**	*e*Pn	**Pn**	**01 43 09.1**	**-0.3**
STIP	**Stip**	**2.83**	**31**	*e*Pn	**Pn**	**01 43 10.1**	**-0.1**
STIP	**Stip**	**2.83**	**31**	*e*Pn	**Pn**	**01 43 09.9**	**-0.3**
STIP				*e*Sn	**Sn**	**01 43 43.3**	**-1.7**
STIP	**Stip**	**2.83**	**31**	*e*Pn	**Pn**	**01 43 10.1**	**-0.1**
STIP				*e*Sn	**Sn**	**01 43 43.3**	**-1.7**

NNC 07 01:49:25.7±5.2,3898N×7005E,h0km,mb3.9,mpv3.4, 3C-4D,Error ellipse: s-maj=39.9km s-min=30.1km az=5.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.13**	**5**	⇑Pn	Pn	01 50 32.9	+2.8
	3.0nm,0.4s,baz=174,slow=11,SNR=84						
KK31				⇓Sn	Sn	01 51 25.8	+6.7
	8.7nm,0.5s,baz=180,slow=23,SNR=3.6						
TKM2	**Tokmak 2**	**5.75**	**45**	⇓Pn	Pn	01 50 52.3	0.0
TKM2				⇓Sn	Sn	01 52 02.0	+3.0
	17nm,0.9s						
AB31	**Akbulak array**	**12.57**	**328**	Pn	Pn	01 52 25.7	0.0
	2.6nm,0.5s,baz=146,slow=12,SNR=52						
AB31				⇑Sn	Sn	01 54 42.9	-3.4
	2.9nm,0.7s,baz=133,slow=24,SNR=6.7						
AKTO	**Aktyubinsk**	**14.28**	**327**	⇑Pn	Pn	01 52 49.3	+0.4
	0.8nm,0.8s						
AKTO				⇓Sn	Sn	01 55 27.8	-0.1
	0.4nm,0.8s						

ISCJB ***07*** *02:11:06.6±2.4,74S×0.1×1287E±024,h124km±24km, mb3.7/5,Error ellipse: s-maj=34.0km s-min=17.7km az=154.0*
IDC ***07*** *02:11:08.0±5.7,743S×12851E,h120km±52km,mb3.6/5, mb1 3.6/7,mb1mx3.5/14,mbtmp3.5/7,Error ellipse: s-maj=135.7km s-min=18.2km az=69.0*
NEIC ***07*** *02:11:08.0±1.8,743S×12852E,h121km±17km,mb4.3/1, Error ellipse: s-maj=27.9km s-min=14.1km az=67.0*
ISC 07 02:11:09.9±1.9,76S±01×1286E±021,h138km±19km,n14, σ1§12/18,mb3.6/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.37**	**144**	*e*P	**Pn**	**02 12 43.1**	**+1.7**
	27nm,0.6s						
KAKA				*e*S	**Sn**	**02 13 51.3**	**-1.7**
KAKA	**Kakadu**	**6.37**	**144**	*e*Pn	**Pn**	**02 12 41.8**	**+0.3**
KAKA				*e*Sn	**Sn**	**02 13 52.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**10.88**	**195**	*e*P	**Pn**	**02 13 41.5**	**-0.3**
	4.6nm,0.7s						
FITZ				*e*S	**Sn**	**02 15 34.3**	**-7.8**
WRAB	**Tennant Creek**	**13.51**	**156**	*e*Pn	**Pn**	**02 14 17.2**	**+1.1**
WRA	**Warramunga Arr**	**13.51**	**156**	P	**Pn**	**02 14 15.4**	**-0.8**
	0.4nm,0.3s,baz=339,slow=13,SNR=27						
WRA				S	**Sn**	**02 16 37.3**	**-8.3**
	0.9nm,0.3s,baz=336,slow=22,SNR=9.5						
WB2	**Warramunga Arr**	**13.52**	**156**	*e*P	**Pn**	**02 14 16.2**	**0.0**
WB2				*e*S	**Sn**	**02 16 36.5**	**-9.2**
ASAR	**Alice Springs**	**16.81**	**163**	P	**Pn**	**02 14 59.8**	**+2.6**
	0.7nm,0.3s,baz=346,slow=10,SNR=29						
ASAR				S	**S**	**02 18 03.1**	**-1.3**
	0.3nm,0.3s,baz=352,slow=25,SNR=4.5						
STKA	**Stephens Creek**	**27.06**	**155**	P	**P**	**02 16 40.8**	**+1.3**
	1.0nm,0.4s,mb3.8,baz=328,slow=13,SNR=2.9						
SONM	**Songino Array**	**58.53**	**343**	P	**P**	**02 20 51.6**	**-0.1**
	0.6nm,0.6s,mb3.6,baz=157,slow=5.7,SNR=4.3						
MKAR	**Makanchi Array**	**67.94**	**328**	P	**P**	**02 21 53.3**	**-0.4**
	0.6nm,0.4s,mb3.7,baz=124,slow=7.8,SNR=8.5						
ZALV	**Zalesovo Beam**	**71.47**	**334**	P	**P**	**02 22 13.6**	**-1.5**
	0.9nm,0.4s,mb3.8,baz=86,slow=5.9,SNR=3.4						
VNDA	**Vanda**	**72.08**	**173**	P	**P**	**02 22 19.2**	**+0.7**
	0.3nm,0.5s,mb3.3,baz=308,slow=7.1,SNR=5.3						
CPUP	**Villa Florida**	**145.83**	**170**	PKPbc	PKPbc	02 30 33.9	+0.2
	0.2nm,0.3s,baz=108,slow=1.9,SNR=3.2						
LPAZ	**La Paz**	**151.09**	**145**	PKPbc	PKPbc	02 30 48.9	+1.2
	0.4nm,0.4s,baz=349,slow=6.4,SNR=4.6						

NIED ***07*** *02:57:00.2730N×12660E,h5km,Mw5.0 Best double couple: M∘3.68000×10¹⁶ NP1:ϕ₀87.00000°,δ78.00000°, λ-46.00000°. NP2:ϕ₀189.00000°,δ45.00000°, λ-164.00000°.*
JMA ***07*** *02:57:17.2±0.4,2733N×12664E,h12km±5km,M5.1*
JMA Felt I J1.
IDC ***07*** *02:57:18.1±0.9,2735N×12684E,h0km,mb3.9/6, mb1 3.9/6,mb1mx3.7/21,mbtmp3.9/6,MS4.3/23, Ms1 4.3/23,ms1mx4.2/31,Error ellipse: s-maj=37.5km s-min=14.9km az=44.0*
GCMT ***07*** *02:57:20.2±0.3,2731N×12672E,h15km±1km,MW5.0/81, Moment Tensor Solution. s25,c28; s81,c129; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.79±.18; Mθθ0.45±.15; Mϕϕ0.33±.15; Mrθ1.42±.34; Mϕϕ4.36±.15; Mθϕ0.34±.29; Best double couple: M∘4.58600×10¹⁶ NP1:ϕ₀0.00000°,δ72.00000°,λ-179.00000°. NP2: ϕ₀270.00000°,δ89.00000°,λ-18.00000°. Principal axes: T 5.0230, Plg12.0000°, Azm316.0000°; N -0.8750, Plg72.0000°, Azm87.0000°; P -4.1490, Plg13.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***07*** *02:57:20.2±0.6,2717N×12666E,h10km,mb4.6/5, MW5.0(NIED) Error ellipse: s-maj=12.4km s-min=10.3km az=150.0*
NEIC Recorded [1 JMA] on Kume-jima.
ISCJB ***07*** *02:57:21.2±1.1,2718N±004×12671E±004,h32km±9km, mb4.4/18,MS4.5/30,Error ellipse: s-maj=6.5km s-min=5.4km az=20.1*
MOS ***07*** *02:57:21.9±2.6,2721N×12670E,h33km,mb5.0/6, MS4.6/6,Error ellipse: s-maj=16.2km s-min=9.4km az=100.2*
BJI ***07*** *02:57:27.8,2757N×12622E,h20km,mB4.8,mb4.4,Ms4.9, Msz4.5*
SZGRF ***07*** *02:57:43.9,2778N×12689E,h33km,mb4.8,Northwest of Ryukyu Islands, Japan*
ISC 07 02:57:23.0±0.6,2714N±004×12676E±005,h35km±9km, n77,σ1§28/67,mb4.4/18,MS4.5/30,1C,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.69**	**142**	P	**Pn**	**02 57 34.3**	**-2.0**
JAGN				S	**Sn**	**02 57 46.5**	**+0.7**
JKE	**Kume jima 2**	**0.81**	**179**	P	**Pn**	**02 57 35.9**	**-2.0**
JKE				*e*S	**Sn**	**02 57 49.9**	**+1.3**
JIH	**Iheya**	**1.08**	**95**	P	**Pn**	**02 57 39.8**	**-1.8**
JIH				S	**Sn**	**02 57 54.8**	**-0.5**
NAH1	**Naha**	**1.25**	**138**	P	**Pn**	**02 57 43.4**	**-0.5**
JJT2	**Tamagusuku 2**	**1.33**	**138**	P	**Pn**	**02 57 44.6**	**-0.4**
JOW	**Kunigami**	**1.38**	**102**	P	**Pn**	**02 57 44.1**	**-1.7**
JOW				*e*S	**Sn**	**02 58 04.1**	**+1.3**
JOW	**Kunigami**	**1.38**	**102**	Pn	**Pn**	**02 57 44.8**	**-1.0**
	119nm,0.3s,baz=278,slow=8.5,SNR=58						
JOW				Sn	**Sn**	**02 58 04.7**	**+1.9**
	573nm,0.3s,baz=7.4,slow=28,SNR=34						
JTK	**Tokunoshima**	**2.05**	**71**	P	**Pn**	**02 57 53.8**	**-1.1**
JAM	**Amami Oshima**	**2.82**	**63**	P	**Pn**	**02 58 06.0**	**+0.5**
JIJ	**Ishigaki jima**	**3.63**	**221**	P	**Pn**	**02 58 20.2**	**+3.4**
YHNB	**Yeheng**	**5.44**	**244**	*e*Pn	**Pn**	**02 58 41.5**	**-0.1**
	174nm,1.2s						
NACB	**Ninganchiao**	**5.52**	**239**	*e*Pn	**Pn**	**02 58 42.6**	**0.0**
	126nm,1.3s						
QZH	**Quanzhou**	**7.67**	**255**	P	**Pn**	**02 59 17.3**	**+5.1**
QZH				S	**Sn**	**03 00 45.0**	**+7.2**
QZH				LR	LR		
	comp=N,14μm,12.8s						
QZH				LR	LR		
	comp=E,6μm,12.2s						
QZH				LR	LR		
	comp=Z,4μm,15.2s						
KSRS	**Korea Array**	**10.33**	**5**	Pn	**Pn**	**02 59 47.9**	**-0.8**
	baz=243,slow=31,SNR=3.3						
KSRS				Lg		03 02 53.0	
	baz=187,slow=31,SNR=3.4						
KSRS				LR	LR	03 03 33.8	
	comp=Z,294nm,19.1s,baz=9.4,slow=37						
JHJ	**Hachijo jima 2**	**12.74**	**59**	LR	LR	03 04 55.9	
	comp=Z,2μm,20.3s,baz=237,slow=36						
MAJO	**Matsushiro**	**13.50**	**43**	*e*P	**Pn**	**03 00 34.4**	**+2.4**
MAJO				pmax	pmax		
	comp=Z,67nm,1.5s						
MAJO	**Matsushiro**	**13.50**	**43**	*e*Pn	**Pn**	**03 00 34.4**	**+2.4**
	comp=Z,67nm,1.5s						
MAJO				*e*		03 00 56.5	
MAT	**Matsushiro**	**13.50**	**43**	P	**Pn**	**03 00 35.0**	**+3.0**
MJAR	**Matsushiro Arr**	**13.50**	**43**	Pn	**Pn**	**03 00 32.9**	**+0.9**
	baz=242,slow=13,SNR=11						
MJAR				LR	LR	03 06 04.7	
	comp=Z,1μm,20.4s,baz=240,slow=40						
BJI	**Beijing**	**15.59**	**328**	P	**Pn**	**03 01 00.4**	**+0.5**
BJI				AMB	AMB		
	comp=Z,13nm,1.2s						
BJI				AMB	AMB		
	comp=Z,240nm,5.4s						
BJI				LR	LR		
	comp=N,3μm,14.8s						
BJI				LR	LR		
	comp=E,2μm,16.5s						
BJI				LR	LR		
	comp=Z,1μm,20.5s						
VLA	**Vladivostok**	**16.48**	**13**	*e*P	**Pn**	**03 01 15.4**	**+4.0**
VLA				pmax	pmax		
	comp=Z,35nm,0.6s						
VLA				MLR	MLR		
	comp=Z,800nm,10.5s						
CN2	**Changchun**	**16.66**	**357**	*e*P	**Pn**	**03 01 20.3**	**+6.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
XAN	**Xi'an**	**16.82**	**298**	P	**Pn**	**03 01 20.9**	**+5.1**
XAN				S	**S**	**03 04 16.5**	**-15**
XAN				AMB	AMB		
	comp=Z,4.0nm,1.2s						
XAN				AMB	AMB		
	comp=Z,41nm,3.0s						
XAN				LR	LR		
	comp=N,2μm,11.9s						
XAN				LR	LR		
	comp=E,1μm,13.8s						
XAN				LR	LR		
	comp=Z,2μm,16.6s						
MDJ	**Mudanjiang**	**17.59**	**7**	P	**Pn**	**03 01 31.4**	**+6.2**
MDJ				XP	sP	03 01 35.8	-3.9
MDJ				S	**S**	**03 04 47.2**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,13nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,125nm,5.6s						
MDJ				LR	LR		
	comp=E,4μm,12.2s						
MDJ				LR	LR		
	comp=Z,2μm,12.5s						
MDJ	**Mudanjiang**	**17.59**	**7**	*e*Pn	**Pn**	**03 01 26.3**	**+1.1**
	comp=Z,37nm,1.4s						
BTO	**Baotou**	**19.29**	**318**	*e*P	**Pn**	**03 01 47.1**	**+1.2**
CD2	**Chengdu**	**20.46**	**286**	*e*P	**P**	**03 02 00.4**	**+2.9**
CD2				AP		03 02 10.6	
CD2				XP	sP	03 02 16.5	+5.2
CD2				PP		03 02 20.8	
CD2				S	**S**	**03 05 37.8**	**-6.9**
CD2				XS	sS	03 05 53.5	-6.0
CD2				AMB	AMB		
	comp=Z,60nm,1.1s						
CD2				AMB	AMB		
	comp=Z,160nm,4.2s						
CD2				LR	LR		
	comp=N,6μm,16.8s,MS5.2						
CD2				LR	LR		
	comp=E,4μm,12.0s,MS5.2						
CD2				LR	LR		
	comp=Z,3μm,14.4s,MS4.8						
ASAJ	**Asahikawa**	**21.21**	**33**	LR	LR	03 10 17.4	
	comp=Z,1μm,19.3s,MS4.3,baz=103,slow=37						
LZH	**Lanzhou**	**21.42**	**300**	⇑P	**P**	**03 02 13.5**	**+5.6**
LZH				AP		03 02 22.2	
LZH				XP	sP	03 02 26.6	+4.9
LZH				PP		03 02 36.5	
LZH				S	**S**	**03 06 02.0**	**-1.6**
LZH				AMB	AMB		
	comp=Z,69nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,260nm,4.5s						
LZH				LR	LR		
	comp=N,3μm,13.5s						
LZH				LR	LR		
	comp=Z,3μm,14.3s,MS4.8						
GUMO	**Guam**	**21.64**	**125**	LR	LR	03 08 45.3	
	comp=Z,572nm,20.2s,MS4.0,baz=83,slow=32						
KLR	**Kul'dur**	**22.39**	**9**	*e*P	**P**	**03 02 13.8**	**-4.3**
KLR				*e*S	**S**	**03 06 19.0**	**-3.2**
KLR				smax			
	comp=N,1μm,12.5s						
KLR				smax			
	comp=E,900nm,12.5s						
KLR				MLR	MLR		
	comp=N,2μm,15.0s,MS4.8						
KLR				MLR	MLR		
	comp=E,2μm,15.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**23.46**	**28**	*e*P	sP	03 02 46.0	+2.8
YSS				*e*	**S**	**03 06 36.0**	**-3.9**
YSS				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.5						
GTA	**Gaotai**	**25.54**	**305**	P	**P**	**03 02 48.0**	**-0.3**
GTA				AP	pP	03 02 55.0	-3.4
GTA				XP	sP	03 02 59.6	-3.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.0						
GTA				AMB	AMB		
	comp=Z,71nm,6.1s						
GTA				LR	LR		
	comp=N,2μm,16.4s,MS4.8						
GTA				LR	LR		
	comp=E,1μm,15.2s,MS4.8						
GTA				LR	LR		
	comp=Z,2μm,14.4s,MS4.8						
SONM	**Songino Array**	**26.09**	**328**	P	**P**	**03 02 52.2**	**-1.0**
	comp=Z,7.6nm,1.1s,mb4.1,baz=135,slow=9.4,SNR=15						
SONM				LR	LR	03 14 15.2	
	comp=Z,1μm,19.7s,MS4.5,baz=146,slow=39						
SONM	**Songino Array**	**26.09**	**328**	P	**P**	**03 02 52.2**	**-1.0**
SONM				LR	LR	03 14 15.2	
CMAR	**Chiang Mai Arr**	**27.02**	**257**	LR	LR	03 15 23.5	
	comp=Z,508nm,18.2s,MS4.1,baz=70,slow=40						
ZAK	**Zakamensk**	**29.33**	**329**	*e*P	**P**	**03 03 27.1**	**+4.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.5						
TLY	**Talaya**	**30.08**	**331**	*e*P	sP	03 03 42.9	-0.3
TLY				*e*S	**S**	**03 08 33.8**	**+9.0**
TLY				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.5						
TLY				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.7						
PETK	**Petropavlovsk-**	**34.63**	**33**	LR	LR	03 17 39.4	
	comp=Z,458nm,21.6s,MS4.2,baz=220,slow=36						
YAK	**Yakutsk**	**34.95**	**2**	*e*P	sP	03 04 24.5	-1.2
YAK				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
YAK				pmax	pmax		
	comp=N,12nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,515nm,12.0s,MS4.5						
YAK				MLR	MLR		
	comp=N,260nm,11.0s,MS4.3						
YAK				MLR	MLR		
	comp=E,81nm,11.0s,MS4.3						
WMQ	**Urumqi**	**35.53**	**308**	*e*P	**P**	**03 04 17.0**	**+0.5**
WMQ				AP	pP	03 04 24.0	-2.7
WMQ				XP	sP	03 04 26.0	-4.9
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
WMQ				LR	LR		
	comp=N,936nm,18.6s,MS4.7						
WMQ				LR	LR		
	comp=E,696nm,20.6s,MS4.7						
WMQ				LR	LR		
	comp=Z,847nm,20.4s,MS4.5						
MK31	**Makanchi Array**	**39.95**	**311**	*e*P	**P**	**03 04 55.7**	**+1.9**
MKAR	**Makanchi Array**	**39.95**	**311**	P	**P**	**03 04 52.2**	**-1.7**
	comp=Z,0.5nm,0.5s,mb3.5,baz=93,slow=11,SNR=4.4						
MKAR				LR	LR	03 21 56.2	
	comp=Z,488nm,18.2s,MS4.4,baz=111,slow=37						
MKAR	**Makanchi Array**	**39.95**	**311**	P	**P**	**03 04 52.2**	**-1.7**
MKAR				LR	LR	03 21 56.2	
ZAA0	**Zalesovo Array**	**40.73**	**323**	*e*P	**P**	**03 05 01.2**	**+1.0**
ZALV	**Zalesovo Beam**	**40.73**	**323**	P	**P**	**03 04 59.5**	**-0.7**
	comp=Z,6.7nm,1.0s,mb4.2,baz=126,slow=11,SNR=10						
ZALV				LR	LR	03 23 15.9	
	comp=Z,814nm,18.3s,MS4.6,baz=108,slow=38						
ZALV	**Zalesovo Beam**	**40.73**	**323**	P	**P**	**03 04 59.5**	**-0.7**
ZALV				LR	LR	03 23 15.9	
ZAL	**Zalesovo**	**40.74**	**323**	P	**P**	**03 04 59.5**	**-0.7**
KURK	**Kurchatov**	**43.26**	**316**	*e*P	**P**	**03 05 19.8**	**-1.1**
KURK				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.7						
KURK	**Kurchatov**	**43.26**	**316**	*e*P	**P**	**03 05 19.8**	**-1.0**
	comp=Z,24nm,1.4s,mb4.7						
TKM2	**Tokmak 2**	**44.08**	**305**	*e*P	**P**	**03 05 27.5**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
TKM2	**Tokmak 2**	**44.08**	**305**	*e*P	**P**	**03 05 27.5**	**-0.1**
	comp=Z,7.9nm,0.9s,mb4.4						
FRU	**Bishkek**	**44.80**	**304**	*e*P	**P**	**03 05 38.0**	**+4.7**
FRU				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.0						
FRU				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.9						
AML	**Almayashu**	**45.45**	**303**	*e*P	**P**	**03 05 38.8**	**+0.3**
	comp=Z,11nm,1.4s,mb4.5						
WRA	**Warramunga Arr**	**47.37**	**170**	P	**P**	**03 05 54.6**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.8,baz=352,slow=8.3,SNR=5.8						
BVAR	**Borovoye Array**	**48.73**	**318**	P	**P**	**03 06 04.0**	**+0.1**
	comp=Z,2.5nm,0.6s,mb4.4,baz=81,slow=8.9,SNR=6.3						
BRVK	**Borovoye**	**48.80**	**318**	*e*P	**P**	**03 06 03.1**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
**B

comp=Z,178nm,18.2s,MS4.6,baz=110,slow=37
RKT Rikitea 107.16 108 *e*LR LR 03 46 45.3
comp=Z,214nm,34.5s

IDC 07 03:16:09.0±2.3,710S×15612E,h0km,mb3.9/3,mb1 4.0/3, mb1mx3.6/17,mbtmp3.9/3,Error ellipse: s-maj=86.2km s-min=40.9km az=126.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.69**	**237**	P	P	03 21 32.5	+0.6
	0.5nm,0.4s,baz=62,slow=9.5,SNR=14						
WRA				PcP	PcP	03 25 09.4	0.0
	0.1nm,0.5s,baz=89,slow=2.4,SNR=3.7						
FITZ	**Fitzroy Crossi**	**31.64**	**247**	P	P	03 22 33.6	-0.4
	1.9nm,0.7s,baz=93,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**84.22**	**318**	P	P	03 28 43.2	+0.8
	0.5nm,0.4s,baz=93,slow=6.1,SNR=7.2						
TORD	**Torodi Ar. Bea**	**154.13**	**285**	PKPbc	PKPbc	03 36 10.8	-1.2
	0.4nm,0.8s,baz=91,slow=2.7,SNR=3.4						

IDC 07 03:21:21.2±1.7,166N×12450E,h0km,mb3.7/3,mb1 3.9/3, mb1mx3.6/17,mbtmp3.7/3,Error ellipse: s-maj=180.9km s-min=23.7km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.53**	**156**	P	P	03 26 33.2	-0.3
	1.0nm,0.4s,baz=334,slow=11,SNR=24						
ASAR	**Alice Springs**	**26.78**	**161**	P	P	03 27 03.5	+0.4
	0.5nm,0.5s,baz=352,slow=7.5,SNR=8.8						
MKAR	**Makanchi Array**	**58.03**	**327**	P	P	03 31 15.8	-0.2
	0.6nm,0.4s,baz=121,slow=7.6,SNR=7.2						
TORD	**Torodi Ar. Bea**	**121.41**	**286**	PKP	PKPdf	03 40 17.6	-0.1
	0.3nm,0.9s,baz=55,slow=1.4,SNR=3.5						

*ISCJB **07** 03:22:57.9±1.5,2733N±005×12684E±006,h4km±9km, mb4.0/6,Error ellipse: s-maj=9.7km s-min=7.0km az=136.7*
*JMA **07** 03:22:58.5±0.3,2734N×12681E,h17km±4km,M3.5*
*IDC **07** 03:22:58.8±1.0,2736N×12701E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.7/20,mbtmp3.7/5,Error ellipse: s-maj=38.3km s-min=15.2km az=44.0*
*NEIC **07** 03:23:00.0±0.7,2744N×127.12E,h10km,MG3.5(JMA), Error ellipse: s-maj=25.0km s-min=12.0km az=50.0*

ISC 07 03:22:59.1±1.5,2731N±005×12687E±006,h4km±9km,n13, σ0°89/19,mb4.0/6,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.79**	**155**	P	Pg	03 23 14.4	+0.2
JAGN				S	Sg	03 23 25.2	+0.8
JKE	**Kume jima 2**	**0.98**	**184**	P	Pg	03 23 17.2	-0.6
JKE				S	Sg	03 23 30.1	-0.4
JIH	**Iheya**	**1.01**	**105**	P	Pg	03 23 18.2	-0.3
JIH				S	Sg	03 23 32.3	+0.7
NAH1	**Naha**	**1.32**	**146**	*e*S	Sg	03 23 41.2	-0.3
JOW	**Kunigami**	**1.34**	**110**	P	Pn	03 23 23.3	-1.2
JOW				*e*S	Sg	03 23 42.3	+0.2
JOW	**Kunigami**	**1.34**	**110**	Pn	Pn	03 23 23.4	-1.2
	37nm,0.3s,baz=326,slow=13,SNR=31						
JOW				Sn	Sg	03 23 42.3	+0.2
	108nm,0.3s,baz=133,slow=27,SNR=18						
JJT2	**Tamagusuku 2**	**1.40**	**146**	P	Pn	03 23 24.5	-0.9
JJT2				*e*S	Sb	03 23 44.5	+0.4
SONM	**Songino Array**	**26.00**	**327**	P	P	03 28 34.4	+1.5
	0.9nm,0.8s,mb3.4,baz=131,slow=8.4,SNR=6.4						
MKAR	**Makanchi Array**	**39.91**	**311**	P	P	03 30 34.5	+0.4
	0.9nm,0.6s,mb3.6,baz=101,slow=9.6,SNR=8.5						
ZALV	**Zalesovo Beam**	**40.66**	**323**	P	P	03 30 40.2	0.0
	0.6nm,0.3s,mb3.8,baz=120,slow=8.9,SNR=4.6						
WRA	**Warramunga Arr**	**47.52**	**170**	P	P	03 31 35.4	-0.1
	0.9nm,0.6s,mb4.0,baz=352,slow=8.4,SNR=8.8						
ASAR	**Alice Springs**	**51.13**	**172**	P	P	03 32 04.5	+1.5
	0.9nm,0.6s,mb3.9,baz=0.1,slow=14,SNR=9.1						
NIKO	**Nikolski**	**53.35**	**43**	*e*P	P	03 32 16.8	-2.6
	41nm,1.1s,mb5.3						

*CSEM **07** 03:25:20.5±0.1,3671N×3581E,h21km±1km,MD3.2,Error ellipse: s-maj=2.4km s-min=1.9km az=69.0*
*DDA **07** 03:25:20.9,3672N×3589E,h7km±6km,Md3.2*
*ISK **07** 03:25:20.5,3670N×3582E,h21km,MD3.1*
*ISCJB **07** 03:25:21.6±0.5,3673N±003×3579E±006,h27km±6km, Error ellipse: s-maj=8.6km s-min=5.3km az=168.7*

ISC 07 03:25:21.7±0.6,3672N±003×3579E±007,h24km±6km,n15, σ0°68/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.29**	**354**	P	Pb	03 25 27.8	-0.7
CEYT				*e*SG	Sb	03 25 33.1	+0.1
HTY	**Hatay**	**0.66**	**155**	*e*PG	Pb	03 25 33.9	-0.8
HTY				*e*SG	Sb	03 25 43.2	-0.3
YAYL	**Yayladag**	**0.73**	**159**	*i* P	Pb	03 25 35.7	-0.2
YAYL				*i* S	Sb	03 25 46.8	+1.4
KOZT	**Kozan**	**0.76**	**2**	*e*PG	Pb	03 25 36.7	+0.5
KARA	**Karaisali**	**0.80**	**313**	*e*PG	Pb	03 25 36.3	-0.5
ANDN	**Andirin**	**0.96**	**27**	*i* P	Pn	03 25 40.0	+0.2
ANDN				*i* S	Sb	03 25 52.9	+0.8
MERS	**Mersin**	**1.03**	**278**	*e*PG	Pn	03 25 40.8	+0.2
KMRS	**Kahramanmaras**	**1.18**	**48**	*e*PN	Pn	03 25 42.3	-0.5
GAZ	**Gaziantep**	**1.23**	**68**	*e*PN	Pn	03 25 42.3	-1.0
NIG	**Nigde**	**1.67**	**326**	*e*PN	Pn	03 25 50.1	+0.7
IKL	**Isikli**	**1.76**	**255**	*e*PN	Pn	03 25 50.8	0.0
SARI	**SarD1z-Kayseri**	**2.08**	**20**	*e*PN	Pn	03 25 51.3	-3.8
ATAB	**Bozova**	**2.14**	**69**	*i* P	Pn	03 25 59.9	+4.0
ATAB				*i* S	Sn	03 26 28.8	+7.1
URFA	**Urfa**	**2.53**	**73**	*e*PN	Pn	03 26 01.3	0.0
MALT	**Malatya**	**2.63**	**52**	*e*PN	Pn	03 26 02.8	+0.2

*ISCJB **07** 03:26:12.5±2.1,2733N±005×12681E±005,h7km±14km, mb3.8/5,Error ellipse: s-maj=8.2km s-min=7.6km az=39.9*
*NEIC **07** 03:26:12.2,2736N×12680E,h6km,MG3.4(JMA),After JMA.*
*JMA **07** 03:26:12.1±0.4,2736N×12679E,h6km±5km,M3.4*
*IDC **07** 03:26:14.0±1.1,2716N×12696E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.7/20,mbtmp3.7/5,Error ellipse: s-maj=32.7km s-min=17.4km az=38.0*

ISC 07 03:26:13.7±1.5,2730N±006×12687E±005,h5km±7km,n15, σ0°77/23,mb3.8/5,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.78**	**155**	P	Pg	03 26 28.7	0.0
JAGN				S	Sg	03 26 39.9	+1.0
JKE	**Kume jima 2**	**0.97**	**184**	P	Pg	03 26 31.3	-1.0
JKE				*e*S	Sg	03 26 44.7	-0.3
JIH	**Iheya**	**1.02**	**105**	P	Pg	03 26 32.6	-0.5
JIH				*e*S	Sg	03 26 46.9	+0.6
NAH1	**Naha**	**1.32**	**146**	P	Pn	03 26 38.5	-0.2
NAH1				*e*S	Sg	03 26 56.3	+0.3
JOW	**Kunigami**	**1.34**	**110**	P	Pn	03 26 37.7	-1.3
JOW				*e*S	Sg	03 26 56.8	+0.1
JOW	**Kunigami**	**1.34**	**110**	Pn	Pn	03 26 38.6	-0.4
	56nm,0.3s,baz=274,slow=11,SNR=9.8						
JOW				Sn	Sn	03 26 56.3	-1.0
	115nm,0.3s,baz=132,slow=25,SNR=8.3						
JJT2	**Tamagusuku 2**	**1.40**	**146**	P	Pn	03 26 39.7	-0.2
JJT2				*e*S	Sb	03 26 59.2	+0.7
JTK	**Tokunoshima**	**1.91**	**75**	P	Pn	03 26 46.6	-0.3
JTK				*e*S	Sn	03 27 11.8	+0.4
SONM	**Songino Array**	**26.00**	**327**	P	P	03 31 51.2	+3.8
	1.5nm,0.9s,mb3.5,baz=139,slow=12,SNR=7.7						
MKAR	**Makanchi Array**	**39.91**	**311**	P	P	03 33 49.8	+1.2
	0.4nm,0.4s,mb3.5,baz=96,slow=9.8,SNR=4.4						
MKAR	**Makanchi Array**	**39.91**	**311**	P	P	03 33 49.8	+1.2
WRA	**Warramunga Arr**	**47.52**	**170**	P	P	03 34 49.7	-0.3
	0.4nm,0.6s,mb3.6,baz=352,slow=8.6,SNR=4.7						
ASAR	**Alice Springs**	**51.12**	**172**	P	P	03 35 18.9	+1.3
	0.5nm,0.5s,mb3.7,baz=4.2,slow=14,SNR=6.9						
NIKO	**Nikolski**	**53.35**	**43**	*e*P	P	03 35 28.9	-5.0
STKA	**Stephens Creek**	**60.50**	**166**	P	P	03 36 23.5	-1.1
	4.3nm,0.9s,mb4.5,baz=350,slow=6.1,SNR=3.4						

*IDC **07** 03:37:21.5±0.5,3545S×6831E,h0km,mb4.4/19, mb1 4.5/19,mb1mx4.3/24,mbtmp4.4/19,MS4.0/14, Ms1 4.0/14,ms1mx3.8/30,Error ellipse: s-maj=16.5km s-min=15.1km az=172.0*
*ISCJB **07** 03:37:21.1±0.3,3485±006×6821E±005,h10km,mb4.7/59, MS4.1/16,Error ellipse: s-maj=9.4km s-min=7.2km az=151.1*
*MOS **07** 03:37:21.4±1.2,3395×6822E,h10km,mb4.9/23,Error ellipse: s-maj=10.6km s-min=7.8km az=100.0*
*BJI **07** 03:37:22.9,3505×6820E,h20km,mB5.2,mb4.7,Ms4.7, Msz4.4*
*NEIC **07** 03:37:22.9±0.2,3515×6825E,h10km,mb4.9/24,Error ellipse: s-maj=7.7km s-min=6.9km az=180.0*
*SZGRF **07** 03:37:34.2,2475×6707E,h33km,mb4.8,Carlsberg Ridge*

ISC 07 03:37:23.0±0.3,3515S±006×6821E±005,h10km, (h25km±2.5km:pP-P),n147,σ0°96/118,mb4.7/59,MS4.1/16, 11C-3D,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**31.33**	**79**	LR	LR	03 53 39.6	
	comp=Z,534nm,20.3s,MS4.2,baz=279,slow=31						
DMN	**Daman**	**34.97**	**27**	*e*P	P	03 44 16.4	+0.9
	55nm,1.0s,mb5.4						
DANN	**Dangsing**	**35.03**	**24**	*e*P	P	03 44 15.4	-0.6
GKN	**Gorkha**	**35.10**	**26**	*e*P	P	03 44 17.5	+0.9
KKN	**Kakani**	**35.20**	**27**	*e*P	P	03 44 17.9	+0.4
	44nm,0.9s,mb5.4						
ODAN	**Odare**	**35.43**	**30**	*e*P	P	03 44 20.4	+0.9
JIRN	**Jiri**	**35.51**	**28**	*e*P	P	03 44 21.2	+1.1
GUN	**Gumba**	**35.58**	**28**	*e*P	P	03 44 21.9	+1.2
	78nm,0.9s,mb5.7						
TAPN	**Taplejung**	**35.99**	**30**	*e*P	P	03 44 25.1	+0.8
	47nm,1.0s,mb5.4						
SHL	**Shillong**	**36.91**	**37**	*e*P	P	03 44 32.0	-0.2
CMAR	**Chiang Mai Arr**	**37.32**	**53**	P	P	03 44 36.4	+0.6
	2.3nm,0.6s,mb4.2,baz=245,slow=9.7,SNR=9.5						
CMAR				PcP	PcP	03 46 55.0	-0.2
	1.0nm,0.3s,baz=232,slow=4.4,SNR=4.4						
CMAR				LR	LR	03 59 03.6	
	comp=Z,190nm,20.0s,MS3.9,baz=58,slow=35						
CMAR	**Chiang Mai Arr**	**37.32**	**53**	P	P	03 44 36.4	+0.6
CMAR						03 46 55.0	
CHTO	**Chiang Mai**	**37.52**	**53**	*e*P	P	03 44 37.8	+0.4
CHTO				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.7						
CHTO	**Chiang Mai**	**37.52**	**53**	*e*P	P	03 44 37.8	+0.4
	comp=Z,19nm,1.1s,mb4.7						
LSA	**Lhasa**	**39.66**	**32**	*e*P	P	03 44 56.8	+1.5
LSA				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.0						
LSA	**Lhasa**	**39.66**	**32**	*e*P	P	03 44 56.8	+1.4
	comp=Z,36nm,1.1s,mb5.0						
LSZ	**Lusaka**	**41.09**	**251**	P	P	03 45 08.7	+1.3
	comp=Z,5.9nm,1.0s,mb4.2,baz=72,slow=8.3,SNR=6.6						
LSZ				PcP	PcP	03 47 07.6	+0.5
	comp=Z,3.6nm,0.7s,baz=102,slow=2.6,SNR=5.4						
EKS2	**Erkin-Say**	**46.23**	**6**	*e*P	P	03 45 49.8	+1.5
	comp=Z,43nm,1.5s,mb5.2						
TKM2	**Tokmak 2**	**46.69**	**7**	*e*P	P	03 45 52.4	+0.4
TKM2				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.9						
TKM2	**Tokmak 2**	**46.69**	**7**	*e*P	P	03 45 52.4	+0.4
	comp=Z,22nm,1.3s,mb4.9						
BOSA	**Boshof**	**47.83**	**234**	P	P	03 46 02.0	+0.9
	comp=Z,4.5nm,1.1s,mb4.4,baz=104,slow=17,SNR=4.7						
BOSA				LR	LR	04 03 51.8	
	comp=Z,264nm,18.2s,MS4.2,baz=80,slow=33						
GNI	**Garni**	**48.49**	**336**	P	P	03 46 07.9	+2.0
	comp=Z,3.4nm,0.5s,mb4.7,baz=312,slow=12,SNR=5.0						
GNI				LR	LR	04 06 30.2	
	comp=Z,77nm,18.4s,MS3.7,baz=298,slow=36						
GNI	**Garni**	**48.49**	**336**	*e*P	P	03 46 02.0	-4.0
GNI				pmax	pmax		
	comp=Z,18nm,1.2s						
WMQ	**Urumqi**	**50.27**	**18**	*e*P	P	03 46 21.2	+1.7
WMQ				AP	pP	03 46 31.2	+8.5
WMQ				XP	sP	03 46 35.2	+11
WMQ				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.1						
WMQ				LR	LR		
	comp=N,222nm,20.3s,MS4.2						
WMQ				LR	LR		
	comp=E,149nm,24.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,237nm,24.2s,MS4.1						
LZH	**Lanzhou**	**51.58**	**37**	*e*P	P	03 46 31.7	+2.2
LZH				AP	pP	03 46 37.0	+4.3
LZH				XP	sP	03 46 40.5	+6.6
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,103nm,4.6s						
MK31	**Makanchi Array**	**51.61**	**12**	*e*P	P	03 46 28.9	-0.7
MKAR	**Makanchi Array**	**51.61**	**12**	P	P	03 46 28.8	-0.7
	comp=Z,0.3nm,0.3s,mb3.7,baz=206,slow=8.1,SNR=6.6						
MKAR				LR	LR	04 09 43.7	
	comp=Z,115nm,18.9s,MS3.9,baz=64,slow=38						
GTA	**Gaotai**	**51.67**	**31**	*e*P	P	03 46 30.8	+0.6
GTA				AP	pP	03 46 37.3	+3.9
GTA				XP	sP	03 46 41.4	+6.8
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.0						
XAN	**Xi'an**	**53.53**	**42**	P	P	03 46 43.0	-1.1
XAN				AP	pP	03 46 50.0	+2.7
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
XAN				AMB	AMB		
	comp=Z,111nm,6.0s						
KURK	**Kurchatov**	**54.75**	**8**	*e*P	P	03 46 50.5	-2.1
KURK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
KURK	**Kurchatov**	**54.75**	**8**	*e*P	P	03 46 52.0	-0.6
	comp=Z,18nm,1.4s,mb4.9						
BVAR	**Borovoye Array**	**56.35**	**2**	LR	LR	04 10 58.9	
	comp=Z,79nm,19.9s,MS3.8,baz=201,slow=36						
HVS	**Khovu-Aksy**	**58.64**	**19**	*e*P	P	03 47 19.4	-0.9
HVS				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.1						
ZAL	**Zalesovo**	**58.90**	**11**	P	P	03 47 21.3	-0.7
ZAA0	**Zalesovo Array**	**58.91**	**11**	*e*P	P	03 47 21.3	-0.8
ZALV	**Zalesovo Beam**	**58.91**	**11**	P	P	03 47 21.3	-0.8
	comp=Z,3.6nm,0.7s,mb4.5,baz=209,slow=7.6,SNR=14						
ZALV				LR	LR	04 11 24.5	
	comp=Z,75nm,21.2s,MS3.8,baz=63,slow=35						
NVS	**Novosibirsk**	**59.47**	**10**	*e*P	P	03 47 22.6	-3.3
ARU	**Arti**	**60.26**	**354**	*e*P	P	03 47 28.6	-2.7
ARU				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
SONM	**Songino Array**	**61.08**	**28**	P	P	03 47 37.9	+0.8
	comp=Z,12nm,1.1s,mb5.0,baz=220,slow=6.2,SNR=36						
SONM				LR	LR	04 13 52.5	
	comp=Z,463nm,21.2s,MS4.6,baz=79,slow=36						
ZAK	**Zakamensk**	**61.56**	**25**	*i* P	P	03 47 40.2	-0.1
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.5						
TLY	**Talaya**	**62.69**	**24**	*e*P	P	03 47 48.8	+0.9
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
TLY	**Talaya**	**62.69**	**24**	*e*P	P	03 47 48.9	+1.0
	comp=Z,5.4nm,1.1s,mb4.6						
AKASG	**Malin Array Be**	**63.48**	**333**	P	P	03 47 52.5	-0.6
	comp=Z,0.3nm,0.3s,mb3.9,baz=131,slow=5.5,SNR=11						
OBN	**Obninsk**	**63.99**	**340**	*e*P	P	03 47 54.4	-2.0
OBN				*e*		03 48 32.6	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
MAW	**Mawson**	**64.09**	**182**	P	P	03 47 56.1	-0.8
	comp=Z,2.6nm,0.9s,mb4.2,baz=315,slow=7.1,SNR=4.4						
KOLS	**Kolonicke sedl**	**65.66**	**329**	*e*P	P	03 48 07.6	+0.1
KWP	**Kalwaria**	**65.88**	**329**	*e*P	P	03 48 08.3	-0.5
KWP				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.8						
KWP	**Kalwaria**	**65.88**	**329**	*e*P	P	03 48 08.3	-0.6
	comp=Z,16nm,1.5s,mb4.8						
CRVS	**Cervenica-Dubn**	**66.07**	**328**	*i* P	P	03 48 09.5	-0.6
ASAR	**Alice Springs**	**66.36**	**114**	P	P	03 48 11.8	-0.8
	comp=Z,3.5nm,1.1s,mb4.3,baz=275,slow=4.6,SNR=8.6						
WRA	**Warramunga Arr**	**66.39**	**110**	P	P	03 48 11.6	-1.2
	comp=Z,6.6nm,1.0s,mb4.6,baz=288,slow=5.8,SNR=21						
WB2	**Warramunga Arr**	**66.40**	**110**	*e*P	P	03 48 11.3	-1.5
VYHS	**Vyhne**	**67.23**	**327**	*i* P	P	03 48 17.2	-0.4
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
VYHS	**Vyhne**	**67.23**	**327**	*i* P	P	03 48 17.2	-0.4
	comp=Z,3.6nm,1.1s,mb4.3						
MODS	**Modra-Piesok**	**68.03**	**326**	*e*P	P	03 48 20.9	-1.7
MODS				pmax	pmax		
	comp=Z,34nm,3.0s						
MODS	**Modra-Piesok**	**68.03**	**326**	*e*P	P	03 48 20.9	-1.7
	comp=Z,34nm,3.0s						
TORD	**Torodi Ar. Bea**	**68.05**	**286**	P	P	03 48 24.1	+0.7
	comp=Z,3.1nm,1.1s,mb4.2,baz=77,slow=2.0,SNR=9.0						
SOKA	**Soboth**	**68.42**	**324**	⇓ *i* P	P	03 48 24.4	-0.6
CONA	**Conrad Observa**	**68.58**	**325**	⇑ *i* P	P	03 48 25.9	-0.1
	comp=Z,6.2nm,1.2s,mb4.4						
CSNA	**Conrad Observa**	**68.59**	**325**	⇑ *i* P	P	03 48 25.8	-0.3
	comp=Z,5.8nm,1.2s,mb4.4						
KSRS	**Korea Array**	**68.67**	**48**	P	P	03 48 27.3	+0.5
	comp=Z,1.9nm,0.7s,mb4.1,baz=251,slow=7.6,SNR=4.2						
KSRS				LR	LR	04 20 24.2	
	comp=Z,206nm,18.2s,MS4.4,baz=83,slow=38						
KSRS	**Korea Array**	**68.67**	**48**	P	P	03 48 27.3	+0.5
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KSRS				MLR	MLR		
	comp=Z,207nm,18.2s,MS4.4						
HIA	**Hailar**	**68.85**	**33**	*e*P	P	03 48 28.0	+0.3
TREC	**Trest**	**69.52**	**326**	AMS	AMS	03 48 30.0	
	comp=Z,700nm,20.7s						
UPC	**Upice**	**69.89**	**328**	*e*P	P	03 48 34.1	0.0
ABTA	**Abfaltersbach**	**69.96**	**323**	⇑ *i* P	P	03 48 34.2	-0.4
	comp=Z,9.6nm,1.4s,mb4.5						
PRU	**Pruhonice**	**70.41**	**326**	AMS	AMS	03 48 50.0	
	comp=Z,700nm,17.1s						
KHC	**Kasperske Hory**	**70.51**	**325**	*e*P	P	03 48 43.1	+5.2
KHC				*ex*	x	03 48 50.0	
PVCC	**Panska Ves**	**70.68**	**327**	AMS	AMS	03 48 50.0	
	comp=Z,800nm,16.6s						
MOTA	**Moosalm**	**71.09**	**323**	⇑ *i* P	P	03 48 41.0	-0.5
	comp=Z,7.4nm,1.2s,mb4.5						
MOTA	**Moosalm**	**71.09**	**323**	⇑ *i* P	P	03 48 41.0	-0.5
MOTA				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
FETA	**Feichten**	**71.17**	**322**	⇓ *i* P	P	03 48 42.0	+0.1
	comp=Z,7.4nm,1.1s,mb4.5						
BRG	**Berggiesshubel**	**71.20**	**327**	*e*P	P	03 48 42.4	+0.3
BRG				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRG	**Berggiesshubel**	**71.20**	**327**	*e*P	P	03 48 42.4	+0.3
	comp=Z,3.8nm,0.5s,mb4.6						
BOD	**Bodaibo**	**71.27**	**24**	P	P	03 48 40.5	-1.9
BOD				pmax	pmax		
	comp=Z,5.0nm,2.4s,mb4.0						
NKC	**Novy Kostel**	**71.69**	**326**	AMS	AMS	03 49 40.0	
	comp=Z,1μm,16.7s						
NKC	**Novy Kostel**	**71.69**	**326**	*e*P	P	03 48 45.5	+0.4
NKC				*e*pP	pP	03 48 52.8	+4.4
DAVA	**Damuels**	**71.80**	**322**	⇑ *i* P	P	03 48 46.2	+0.4
	comp=Z,14nm,0.8s,mb4.9						
CLL	**Collm**	**71.93**	**327**	*i* P	P	03 48 46.1	-0.4
CLL				*e*		03 49 00.0	
CLL				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
CLL	**Collm**	**71.93**	**327**	*i* P	P	03 48 46.1	-0.4
	comp=Z,8.0nm,1.1s,mb4.6						
CLL				*e*		03 49 00.0	
GRA1	**Grafenberg Arr**	**72.12**	**325**	*e*P	P	03 48 47.4	-0.3
	comp=Z,10.0nm,1.2s,mb4.6						
GRF	**Grafenberg Arr**	**72.12**	**325**	*e*P	P	03 48 47.4	-0.3
GRF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
GRF	**Grafenberg Arr**	**72.12**	**325**	*e*P	P	03 48 47.4	-0.3
GRF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
GRF	**Grafenberg Arr**	**72.12**	**325**	*e*P	P	03 48 47.4	-0.3
	comp=Z,10.0nm,1.2s,mb4.6						
MDJ	**Mudanjiang**	**72.61**	**41**	P	P	03 48 49.2	-1.5
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,87nm,7.2s						
MDJ	**Mudanjiang**	**72.61**	**41**	*e*P	P	03 48 49.5	-1.2
	comp=Z,11nm,0.9s,mb4.8						
MBDF	**Montbardon**	**72.69**	**319**	*e*P	P	03 48 50.3	-0.9
KIC	**Kosan Boka**	**73.49**	**278**	*e*P	P	03 48 56.4	-0.2
	comp=Z,58nm,1.0s,mb5.5						
DBIC	**Dimbokro**	**73.63**	**278**	P	P	03 48 58.6	+1.2
	comp=Z,9.8nm,1.0s,mb4.7,baz=75,slow=8.3,SNR=7.0						
LIC	**Lamto**	**73.76**	**277**	*e*P	P	03 48 56.9	-1.3
	comp=Z,30nm,1.1s,mb5.2						
TIC	**Toumodi**	**73.79**	**278**	*e*P	P	03 48 58.3	0.0
	comp=Z,105nm,1.2s,mb5.5						
TIC	**Toumodi**	**73.79**	**278**	*e*P	P	03 48 58.3	0.0
TIC				pmax	pmax		
	comp=Z,105nm,1.2s,mb5.6						
CDF	**Champ du Feu**	**73.87**	**323**	*e*P	P	03 48 57.5	-0.6
LOR	**Lormes**	**75.54**	**321**	*e*P	P	03 49 07.4	-0.4
SSF	**Saint Saulge**	**75.69**	**320**	*e*P	P	03 49 08.3	-0.3
	comp=Z,16nm,1.1s,mb4.6						
SSF	**Saint Saulge**	**75.69**	**320**	*e*P	P	03 49 08.3	-0.3
SSF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
SSF	**Saint Saulge**	**75.69**	**320**	*e*P	P	03 49 08.3	-0.3
	comp=Z,8.1nm,1.1s,mb4.6						
KLR	**Kul'dur**	**75.78**	**37**	*e*P	P	03 49 03.6	-5.5

PETK	Petropavlovsk-	92.47	37	LR	LR	04 31 09.5	
	comp=Z,70nm,19.8s,MS4.1,baz=100,slow=35						
PDAR	Pinedale Array	140.86	357	PKP	PKPdf	03 56 52.7	-0.9
	comp=Z,0.8nm,0.7s,baz=80,slow=3.1,SNR=7.7						
NVAR	Mina Array Bea	144.74	9	PKP	PKPdf	03 57 01.1	+0.5
	comp=Z,3.4nm,1.0s,baz=340,slow=2.8,SNR=13						
CMB	Columbia Colle	144.75	12	ePKIKP	PKPdf	03 56 59.7	-0.9
MIAR	Mount Ida	144.78	333	ePKIKP	PKPdf	03 57 00.4	-0.4
VBMS	Vicksburg	145.15	327	ePKPbc	PKPbc	03 57 02.1	+1.1
MSU	Marysvale	145.16	1	ePKIKP	PKPdf	03 57 02.4	+1.1
PV10	Paradox Valley	145.21	356	ePKPbc	PKPbc	03 57 02.0	+1.1
PV01	Paradox Valley	145.41	356	ePKPbc	PKPbc	03 57 02.1	+0.5
SDCO	Great Sand Dun	145.44	351	ePKPbc	PKPbc	03 57 02.3	+0.6
MTUM	Tungsten Hills	145.75	10	ePKPdf	PKPbc	03 57 03.9	+1.1
ARUT	Antelope Range	145.85	2	ePKP2	PKPab	03 57 03.3	-0.1
OTAV	Otavalo	146.52	265	ePKPbc	PKPab	03 57 07.3	+0.5
WMOK	Wichita Mounta	146.66	340	ePKPdf	PKPdf	03 57 04.1	+0.1
WMOK				ePKPbc	PKPbc	03 57 05.8	+0.3
ANMO	Albuquerque	148.33	352	ePKP2	PKPab	03 57 10.8	-2.3
BNM	Barren Site	149.14	352	ePKPdf	PKPdf	03 57 09.0	+0.9
BNM				ePKPbc	PKPbc	03 57 12.9	+0.7
JCT	Junction City	150.88	338	ePKIKP	PKPbc	03 57 16.6	0.0
JCT				e	PKPab	03 57 24.0	+0.3
MNTX	Cornudas Mount	151.32	349	ePKPbc	PKPbc	03 57 17.6	+0.1
MNTX				ePKPab	PKPab	03 57 25.7	+0.2
TUC	Tucson	151.33	358	ePKIKP	PKPbc	03 57 18.2	+0.6
TUC				e	PKPab	03 57 25.7	+0.2
TXAR	Lajitas Array	153.18	344	PKP	PKPdf	03 57 15.0	+0.6
	comp=Z,0.6nm,0.9s,baz=116,slow=2.9,SNR=5.9						
TXAR				PKPbc	PKPbc	03 57 22.1	+0.2
	comp=Z,1.0nm,0.8s,baz=153,slow=2.2,SNR=11						
TXAR	Lajitas Array	153.18	344	PKP	PKPdf	03 57 15.0	+0.6
TXAR				PKPbc	PKPbc	03 57 22.1	+0.2

*IDC **07** 04:05:51.5±2.4, 442S×154.15E, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/16, mbtmp4.3/3, MS4.2/1, Ms1 4.2/1, ms1mx2.8/25, Error ellipse: s-maj=104.1km s-min=48.3km az=121.0*

NEIC 07 04:05:56.0±1.6, 424S×15413E, h35km, mb4.4/2, Error ellipse: s-maj=56.6km s-min=25.9km az=143.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.62	233	ePn	Pn	04 07 60.0	+1.7
	47nm,0.7s						
KAKA	Kakadu	23.03	247	eP	P	04 10 57.6	-0.7
	7.9nm,0.6s						
WB2	Warramunga Arr	24.80	229	eP	P	04 11 14.7	-0.2
WRA	Warramunga Arr	24.81	229	P	P	04 11 14.8	-0.2
	6.5nm,0.7s,baz=54,slow=9.6,SNR=5.8						
ASAR	Alice Springs	27.46	223	P	P	04 11 38.5	-0.5
	1.4nm,0.6s,baz=61,slow=9.1,SNR=12						
FITZ	Fitzroy Crossi	31.09	241	eP	P	04 12 10.7	-0.6
	5.0nm,0.6s						
RAO	Raoul Island	36.33	136	LR	LR	04 24 46.6	
	comp=Z,344nm,20.3s,baz=309,slow=31						
MAW	Mawson	86.59	203	P	P	04 18 35.5	+0.1
	2.3nm,0.7s,baz=63,slow=6.8,SNR=6.1						
TORD	Torodi Ar. Bea	151.38	290	PKPbc	PKPbc	04 25 48.4	+1.2
	0.8nm,0.7s,baz=72,slow=1.8,SNR=11						

*IDC **07** 04:33:39.7±2.0, 3501S×17902E, h186km±18km, mb4.2/8, mb1 4.3/9, mb1mx4.0/18, mbtmp4.2/9, MS3.2/1, Ms1 3.2/1, ms1mx2.5/33, Error ellipse: s-maj=20.2km s-min=18.5km az=10.0*

*NEIC **07** 04:33:40.6, 3533S×179.11E, h242km, mb4.4/2, After WEL.*

*ISCJB **07** 04:33:41.5±1.1, 3523S±0.10×1787E±0.1, h209km±9km, mb4.4/9, Error ellipse: s-maj=17.2km s-min=16.1km az=166.0*

ISC 07 04:33:42.5±1.1, 353S±01×1788E±01, h207km±10km, n60, σ1§50/48, mb4.4/9, 1C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.32	190	P	Pn	04 34 25.6	+0.8
MXZ				S	Sn	04 34 58.6	+0.5
WIZ	White Island	2.60	209	P	Pn	04 34 29.9	+2.0
WIZ				S	Sn	04 35 08.0	+4.5
PUZ	Puketiti	2.83	189	P	Pn	04 34 31.1	+0.6
KUZ	Kuaotunu	2.90	239	P	Pn	04 34 33.3	+2.0
MWZ	Matawai	3.22	198	P	Pn	04 34 36.5	+1.5
URZ	Urewera	3.28	204	P	Pn	04 34 36.3	+0.7
	24nm,0.3s,baz=344,slow=1.0,SNR=75						
URZ				S	Sn	04 35 19.4	+1.9
	112nm,0.3s,baz=130,slow=22,SNR=20						
URZ				LR	LR	04 35 45.4	
	comp=Z,298nm,18.2s,baz=217,slow=35						
URZ	Urewera	3.28	204	P	Pn	04 34 36.4	+0.7
KNZ	Kokohu	3.85	193	P	Pn	04 34 42.4	-0.2
BKZ	Black Stump Fm	4.30	205	P	Pn	04 34 48.0	-0.2
NGZ	Ngauruhoe	4.66	212	P	Pn	04 34 53.7	+1.0
TUVZ	Tukino	4.71	211	P	Pn	04 34 54.2	+0.9
FWVZ	Far West T-bar	4.75	212	P	Pn	04 34 54.4	+0.6
WNVZ	Wahianoa	4.79	211	P	Pn	04 34 54.9	+0.6
MOVZ	Moawhango	4.79	210	P	Pn	04 34 53.9	-0.4
TSZ	Takapari Road	5.28	204	P	Pn	04 34 59.9	-0.7
WAZ	Wanganui	5.41	213	P	Pn	04 35 03.1	+1.0
MRZ	Mangatainoka R	5.95	204	P	Pn	04 35 07.3	-1.8
KIW	Kapiti Island	6.37	208	P	Pn	04 35 12.5	-2.0
MTW	Mount Morrison	6.42	203	P	Pn	04 35 12.8	-2.4
RAO	Raoul Island	6.61	26	S	Sn	04 36 20.1	-13
	109nm,0.3s,baz=70,slow=21,SNR=4.6						
PAWZ	Paruwai Farm	6.65	202	P	Pn	04 35 15.9	-2.2
MSWZ	Moikau Station	6.74	203	P	Pn	04 35 17.0	-2.3
MRW	Makara Radio	6.77	207	P	Pn	04 35 17.2	-2.4
BHW	Baring Head	6.86	206	P	Pn	04 35 18.5	-2.3
TCW	Tory Channel	6.92	210	P	Pn	04 35 18.8	-2.8
THZ	Tophouse	7.96	214	P	Pn	04 35 32.9	-2.2
KHZ	Kahutara	8.23	208	P	Pn	04 35 36.0	-2.6
MQZ	McQueen's Vall	9.67	208	P	Pn	04 35 53.3	-3.9
RPZ	Rata Peaks	10.34	213	P	Pn	04 36 02.6	-3.2
	0.7nm,0.3s,baz=130,slow=11,SNR=3.3						
RPZ				S	Sn	04 37 54.8	-6.5
	2.4nm,0.3s,baz=213,slow=22,SNR=7.4						
AFI	Afiamalu	22.90	24	P	P	04 38 24.9	-3.5
	22nm,0.5s,mb5.0,baz=218,slow=13,SNR=4.2						
STKA	Stephens Creek	31.07	266	P	P	04 39 42.6	+1.4
	2.8nm,0.6s,mb4.1,baz=99,slow=10,SNR=3.2						
CTA	Charters Tower	32.37	289	eP	P	04 39 53.3	+0.6
	10.0nm,1.0s,mb4.3						
CTA	Charters Tower	32.37	289	P	P	04 39 54.0	+1.3
	6.2nm,0.5s,mb4.4,baz=145,slow=6.7,SNR=6.1						
ASAR	Alice Springs	40.45	274	P	P	04 41 01.6	+0.6
	6.8nm,0.6s,mb4.2,baz=115,slow=8.4,SNR=35						
WB2	Warramunga Arr	41.89	279	⇓i/P	P	04 41 12.5	-0.2
WRAB	Tennant Creek	41.89	279	eP	P	04 41 12.0	-0.7
	12nm,0.6s,mb4.5						
WRA	Warramunga Arr	41.90	279	P	P	04 41 12.6	-0.1
	10nm,0.6s,mb4.5,baz=120,slow=7.6,SNR=114						
VNDA	Vanda	43.00	185	PcP	PcP	04 43 09.4	+2.4
	0.7nm,0.6s,baz=359,slow=2.2,SNR=3.7						
VNDA				ScP	ScP	04 46 38.8	+0.5
	0.2nm,0.6s,baz=30,slow=2.9,SNR=3.9						
SYO	Syowa Base	71.76	194⇑	eP	P	04 44 42.0	+0.4
SNAA	Sanae	73.35	179	e	P	04 44 53.4	+2.4
SNAA				e		04 45 05.2	
VNA2	Neumayer--Watz	74.01	178	e	P	04 44 57.7	+2.9
VNA2				e		04 45 09.3	
VNA1	Neumayer--Stat	74.26	178	e	P	04 44 59.4	+3.1
VNA1				e		04 45 10.4	
KSRS	Korea Array	86.40	322	P	P	04 46 01.6	+0.4
	2.5nm,0.7s,mb4.1,baz=146,slow=5.0,SNR=6.1						
PETK	Petropavlovsk-	89.91	347	P	P	04 46 16.1	-1.3
	15nm,0.6s,mb5.0,baz=123,slow=6.5,SNR=16						
NVAR	Mina Array Bea	93.61	44	P	P	04 46 35.1	+0.2
	1.0nm,0.7s,mb4.0,baz=224,slow=7.5,SNR=7.4						
PDAR	Pinedale Array	101.49	45	P	Pdif	04 47 08.9	-1.7
	0.3nm,0.7s,baz=253,slow=4.0,SNR=4.0						
MKAR	Makanchi Array	118.78	309	PKP	PKPdf	04 52 03.6	-1.9
	1.2nm,0.6s,baz=146,slow=1.0,SNR=11						
ZALV	Zalesovo Beam	119.82	317	PKP	PKPdf	04 52 05.0	-2.2
	1.0nm,0.5s,baz=67,slow=0.9,SNR=4.0						
ARCES	ARCESS Array B	142.68	345	PKhKP		04 52 44.2	
	1.4nm,0.5s,baz=32,slow=2.6,SNR=19						
JOF	Joensuu	145.78	334	epkp	PKPdf	04 52 53.5	-1.8
	25nm,0.6s						
KAF	Kangasniemi	148.06	336	epkp	PKPdf	04 53 00.1	+0.9
	21nm,0.5s,baz=41,slow=2.5						
LIC	Lamto	150.88	172	ePKIKP	PKPbc	04 53 11.5	+0.5
	55nm,0.7s						
KIC	Kosan Boka	151.04	173	ePKIKP	PKPbc	04 53 12.0	+0.6
	55nm,0.8s						
TIC	Toumodi	151.29	172	ePKIKP	PKPbc	04 53 11.9	-0.1
	40nm,0.8s						
DBIC	Dimbokro	151.34	172	PKPbc	PKPbc	04 53 12.9	+0.8
	13nm,0.8s,baz=108,slow=0.8,SNR=23						
NOA	NORSAR Array B	153.01	347	PKPbc	PKPbc	04 53 12.9	-1.5
	6.3nm,0.7s,baz=31,slow=2.0,SNR=27						
NOA				PKPab	PKPab	04 53 24.0	-2.6
	2.1nm,0.7s,baz=25,slow=3.4,SNR=7.5						
AKASG	Malin Array Be	153.17	314	PKPbc	PKPbc	04 53 13.6	-1.4
	4.9nm,0.5s,baz=51,slow=2.7,SNR=17						
AKASG				PKPab	PKPab	04 53 26.0	-1.6
	2.1nm,0.6s,baz=52,slow=4.6,SNR=6.9						
TORD	Torodi Ar. Bea	157.82	187	PKP	PKPdf	04 53 14.7	-0.1
	1.0nm,0.8s,baz=312,slow=0.1,SNR=8.6						
TORD				PKPab	PKPab	04 53 49.5	+1.2
	3.5nm,0.9s,baz=171,slow=3.7,SNR=12						
GERES	GERESS Array B	162.54	326	PKPab	PKPab	04 54 06.0	-2.2
	0.2nm,0.4s,baz=0.0,slow=1.5,SNR=5.6						
KEST	Kesra	171.39	276	PKPab	PKPab	04 54 48.2	+0.3
	1.3nm,0.9s,baz=214,slow=9.6,SNR=4.9						

IDC 07 04:44:00.8±1.8, 131N×12394E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=184.1km s-min=26.4km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.45	155	P	P	04 49 12.1	-0.1
	2.5nm,0.5s,baz=332,slow=11,SNR=21						
ASAR	Alice Springs	26.65	159	P	P	04 49 41.6	+0.2
	0.2nm,0.3s,baz=347,slow=6.8,SNR=4.7						
MKAR	Makanchi Array	58.01	327	P	P	04 53 55.3	-0.1
	0.3nm,0.4s,baz=119,slow=8.3,SNR=4.2						

*ISCJB **07** 05:05:08.4±0.2, 4603N×001×678E±002, h5km±2km, Error ellipse: s-maj=2.0km s-min=1.8km az=8.0*

*CSEM **07** 05:05:10.1±0.0, 4601N×689E, h10km, ML2.7/22, Error ellipse: s-maj=1.0km s-min=0.7km az=102.0*

*ROM **07** 05:05:10.1±0.1, 4601N×693E, h6km±1km, Md2.3/9, Ml2.0/5, Error ellipse: s-maj=2.0km s-min=1.5km az=69.0*

*STR **07** 05:05:10.0±0.2, 4599N×685E, h10km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*LDG **07** 05:05:10.3±0.1, 4601N×688E, h2km, Md2.8/3, Ml2.7/24, Error ellipse: s-maj=1.1km s-min=0.8km az=111.0*

*NEIC **07** 05:05:10.5, 4601N×693E, h1km, ML2.1(ZUR), ML2.5(STR), ML2.3(GEN), ML2.7(LDG), After GEN.*

*GEN **07** 05:05:10.5, 4601N×693E, h1km, ML2.0*

*ZUR **07** 05:05:10.5, 4604N×689E, h5km±1km, ML2.1/13*

ISC 07 05:05:09.6±0.2, 46019N±0010×682E±002, h9km±2km, n108, σ0§92/229, 8C-11D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	Vieux Emosson	0.07	51	⇓i/Pg	Sg	05 05 13.0	-0.3
EMV	Vieux Emosson	0.07	51	⇓i/Pg	Pg	05 05 11.9	+0.2
EMV				Sg	Sg	05 05 13.0	-0.3
SALAN	Lac Salanfe	0.16	40	i Sg	Sg	05 05 13.3	-2.3
	754nm,10.0s						
SALAN	Lac Salanfe	0.16	40	⇑i/Pg	Pg	05 05 15.2	+2.0
	754nm,10.0s						
SALAN	Lac Salanfe	0.16	40	⇑i/Pg	Pg	05 05 15.2	+2.0
	754nm,10.0s						
MRGE	Morge	0.30	146	⇓i/Pg	Pg	05 05 16.2	+0.6
MRGE				Sg	Sg	05 05 20.3	+0.7
	524nm,0.2s						
GRYON	Gryon	0.31	41	⇑i/Pg	Pg	05 05 15.8	+0.1
	125nm,0.3s						
OG01	Vacheresse	0.33	343	Pg	Pg	05 05 16.9	+0.8
OG01				Sg	Sg	05 05 22.4	+2.0
AIGLE	Aigle	0.34	16	i Sg	Sg	05 05 16.5	-4.3
	696nm,0.2s						
AIGLE	Aigle	0.34	16	⇑i/Pg	Pg	05 05 20.6	+4.3
	696nm,0.2s						
RSL	Roselend	0.36	202	Pg	Pg	05 05 17.5	+0.9
RSL				Sg	Sg	05 05 21.7	+0.3
DIX	Grande Dixence	0.41	81	⇓i/Pg	Pg	05 05 17.8	+0.1
	1μm,0.2s						
DIX				i Sg	Sg	05 05 22.8	-0.4
	1μm,0.2s						
SENIN	Lac Senin/Sane	0.48	44	⇑i/Pg	Pg	05 05 18.9	0.0
	339nm,0.2s						
LPL	La Plagne	0.51	187	ePg	Pg	05 05 20.4	+1.0
	SNR=1.0						
LPL				eSg	Sg	05 05 26.8	+0.7
	35nm,0.3s,SNR=1.0						
LPL	La Plagne	0.51	187	ePg	Pg	05 05 20.4	+1.0
	SNR=1.0						
LPL				eSg	Sg	05 05 26.8	+0.7
	18nm,0.3s,SNR=1.0						
LPG	La Plagne	0.52	185	ePg	Pg	05 05 20.7	+0.9
	SNR=1.0						
LPG				eSg	Sg	05 05 27.3	+0.7
	48nm,0.2s,SNR=1.0						
LPG	La Plagne	0.52	185	ePg	Pg	05 05 20.7	+0.9
	SNR=1.0						
LPG				eSg	Sg	05 05 27.3	+0.7
	24nm,0.2s,SNR=1.0						
LSD	Lago del Serru	0.61	157	Pg	Pg	05 05 21.8	+0.4
LSD				Sg	Sg	05 05 29.4	+0.1
	79nm,0.2s						
LSD	Lago del Serru	0.61	157	P	Pg	05 05 21.8	+0.4
LSD				S	Sg	05 05 29.3	0.0
GIMEL	St. Georges /	0.64	324	eP	Pg	05 05 23.2	+1.1
	134nm,0.2s						
LKBD	Leukerbad	0.67	56	⇓i/Pg	Pg	05 05 22.5	-0.1
	36nm,0.4s						
LKBD2	Leukerbad 2	0.67	58	⇓i/Pg	Pg	05 05 22.5	-0.1
	51nm,0.3s						
CABF	La Chapelle	0.78	320	ePn	Pn	05 05 27.4	+0.7
	SNR=1.0						
CABF				eSg	Sg	05 05 36.1	+1.3
CABF				eSn	Sg	05 05 39.3	+4.5
	45nm,0.3s,SNR=1.0						
CABF	La Chapelle	0.78	320	ePn	Pn	05 05 27.4	+0.7
	SNR=1.0						
CABF				eSg	Sg	05 05 36.1	+1.3
CABF				eSn	Sg	05 05 39.3	+4.5
	23nm,0.3s,SNR=1.0						
CABF	La Chapelle	0.78	320	ePg	Pg	05 05 25.6	+0.9
CABF				ePn	Pn	05 05 27.4	+0.7
CABF				eSg	Sg	05 05 36.1	+1.3
CABF				eSn	Sg	05 05 39.3	+4.5
MMK	Mattmark	0.80	87	⇓i/P	Pg	05 05 24.4	-0.6
	85nm,0.2s						
MMK	Mattmark	0.80	87	Pg	Pg	05 05 24.5	-0.5
MMK				Sg	Sg	05 05 34.6	-0.8
TRAV	Traversella	0.82	128	Pg	Pg	05 05 25.3	-0.2
TRAV				Sg	Sg	05 05 36.7	+0.5
	34nm,0.2s						
TRAV	Traversella	0.82	128	P	Pg	05 05 25.2	-0.2
TRAV				S	Sg	05 05 35.0	-1.2
WIMIS	Wimmis	0.85	40	⇓eP	Pg	05 05 26.1	+0.1
	80nm,0.4s						
ORO	Oropa	0.90	115	Pg	Pg	05 05 26.7	-0.2
	14nm,0.3s						
RSP	Reno Superiore	0.92	160	Pg	Pg	05 05 27.8	+0.5
	45nm,0.1s						
RSP				S	Sg	05 05 38.8	-0.5
RSP	Reno Superiore	0.92	160	P	Pg	05 05 27.8	+0.5
OG05	Jujurieux	0.95	272	Pg	Pg	05 05 29.3	+1.4
OG05				Sg	Sg	05 05 42.1	+1.9
BRANT	Les Verrieres	0.95	346	⇓eP	Pg	05 05 29.2	+1.3
	168nm,0.6s						
BNI	Bardonecchia	0.97	186	Pg	Pg	05 05 28.7	+0.4
	11nm,0.4s						
BNI	Bardonecchia	0.97	186	ePg	Pg	05 05 28.6	+0.3
BNI				eSg	Sg	05 05 41.3	+0.4
BNI	Bardonecchia	0.97	186	ePg	Pg	05 05 28.6	+0.3
BNI				eSg	Sg	05 05 41.3	+0.4
OG22	Abries	1.20	176	Pg	Pg	05 05 32.6	0.0
OG22				Sg	Sg	05 05 47.9	-0.3
ORIF	Oris-en-Rattie	1.28	211	ePg	Pg	05 05 34.3	+0.1
	SNR=1.0						
ORIF				eSg	Sg	05 05 51.4	+0.5
	13nm,0.2s,SNR=1.0						
ORIF	Oris-en-Rattie	1.28	211	ePg	Pg	05 05 34.3	+0.1
	SNR=1.0						
ORIF				eSg	Sg	05 05 51.4	+0.5
	6.3nm,0.2s,SNR=1.0						
MBDF	Montbardon	1.29	182	ePg	Pg	05 05 34.5	+0.1
	SNR=1.0						
MBDF				eSg	Sg	05 05 51.2	0.0
	15nm,0.4s,SNR=1.0						
MBDF	Montbardon	1.29	182	ePg	Pg	05 05 34.5	+0.1
	SNR=1.0						
MBDF				eSg	Sg	05 05 51.2	0.0
	7.3nm,0.4s,SNR=1.0						
BALST	Balsthal	1.45	24	⇑i/Pn	Pn	05 05 36.1	+0.2
	125nm,0.3s						
BBS	Basel-Blauen	1.52	18	Pn	Pn	05 05 37.1	+0.2
BBS				Pg	Pg	05 05 39.3	+0.5
BBS				Sg	Sg	05 05 59.3	+0.8
MUGIO	Muggio	1.55	93	⇓i/P	Pn	05 05 38.4	+1.1
	58nm,0.5s						
SSB	Saint Sauveur	1.76	246	Pg	Pg	05 05 43.5	+0.1
SSB				Sg	Sg	05 06 07.4	+1.2
HINF	Hinteralfeld	1.80	1	ePg	Pg	05 05 44.0	-0.1
HINF				eSg	Sg	05 06 07.1	-0.3
	20nm,0.2s						
HINF	Hinteralfeld	1.80	1	ePg	Pg	05 05 44.0	-0.1
HINF				eSg	Sg	05 06 07.1	-0.3
	10nm,0.2s						
HINF	Hinteralfeld	1.80	1	ePn	Pn	05 05 40.8	+0.1
HINF				ePg	Pg	05 05 44.0	-0.1
HINF				eSg	Sg	05 06 07.1	-0.3
MOF	Molkenrain	1.85	7	Pn	Pn	05 05 41.4	0.0
MOF				Pg	Pg	05 05 44.9	-0.1
VIVF	Saint-Julien-I	1.91	233	ePg	Pg	05 05 46.9	+0.7
VIVF				eSn	Sn	05 06 05.4	-0.9
	SNR=1.0						
VIVF				eSg	Sg	05 06 10.8	-0.1
	37nm,0.3s						
VIVF	Saint-Julien-I	1.91	233	ePg	Pg	05 05 46.9	+0.7
VIVF				eSn	Sn	05 06 05.4	-0.9
	SNR=1.0						
VIVF				eSg	Sg	05 06 10.8	-0.1
	18nm,0.3s						
VIVF	Saint-Julien-I	1.91	233	eP	Pn	05 05 44.4	+2.2
VIVF				ePg	Pg	05 05 46.9	+0.7
VIVF				eSn	Sn	05 06 05.4	-0.9
VIVF				eSg	Sg	05 06 10.8	-0.1
HAU	Haudompre	2.01	351	ePg	Pg	05 05 48.0	-0.2
HAU				eSn	Sn	05 06 08.1	-0.8
	SNR=1.0						
HAU				eSg	Sg	05 06 13.6	-0.7
	22nm,0.3s						
HAU	Haudompre	2.01	351	ePg	Pg	05 05 48.0	-0.2
HAU				eSn	Sn	05 06 08.1	-0.8
	SNR=1.0						
HAU				eSg	Sg	05 06 13.6	-0.7
	11nm,0.3s						
HAU	Haudompre	2.01	351	ePn	Pn	05 05 44.1	+0.4
HAU				ePg	Pg	05 05 48.0	-0.2
HAU				eSn	Sn	05 06 08.1	-0.8
HAU				eSg	Sg	05 06 13.6	-0.7
FELD	Feldberg im Sc	2.03	23	Pn	Pn	05 05 43.2	-0.7
FELD				Pg	Pg	05 05 48.0	-0.5
SMF	Signal de Mont	2.16	288	ePg	Pg	05 05 50.9	0.0
SMF				eSg	Sg	05 06 18.0	-0.9
	8.6nm,0.2s,SNR=1.0						
SMF	Signal de Mont	2.16	288	ePg	Pg	05 05 50.9	0.0
SMF				eSg	Sg	05 06 18.0	-0.9
	4.3nm,0.2s,SNR=1.0						
SMF	Signal de Mont	2.16	288	ePn	Pn	05 05 47.0	+1.4
SMF				ePg	Pg	05 05 50.9	0.0
SMF				eSg	Sg	05 06 18.0	-0.9
SBF	Sospel	2.20	168	ePg	Pg	05 05 50.2	-1.6
SBF				eSg	Sg	05 06 19.2	-1.1
	11nm,0.4s						
SBF	Sospel	2.20	168	ePg	Pg	05 05 50.2	-1.6
SBF				eSg	Sg	05 06 19.2	-1.1
	5.6nm,0.4s						
ECH	Echery	2.21	6	Pn	Pn	05 05 46.3	-0.1
SMRF	Simiane la Rot	2.23	204	ePg	Pg	05 05 51.7	-0.6
SMRF				eSg	Sg	05 06 21.0	-0.1
	4.4nm,0.4s						
SMRF	Simiane la Rot	2.23	204	ePg	Pg	05 05 51.7	-0.6
SMRF				eSg	Sg	05 06 21.0	-0.1
	2.2nm,0.4s						
SMRF	Simiane la Rot	2.23	204	eP	Pn	05 05 48.8	+2.2
SMRF				ePg	Pg	05 05 51.7	-0.6
SMRF				eSg	Sg	05 06 21.0	-0.1
THEF	They Montfort	2.28	346	Pn	Pn	05 05 47.0	-0.4
LOR	Lormes	2.39	303	ePg	Pg	05 05 55.4	0.0
	SNR=1.0						
LOR				eSn	Sn	05 06 19.0	+0.7
	SNR=1.0						
LOR				eSg	Sg	05 06 25.0	-1.4
	5.4nm,0.2s,SNR=1.0						
LOR	Lormes	2.39	303	ePg	Pg	05 05 55.4	0.0
	SNR=1.0						
LOR				eSn	Sn	05 06 19.0	+0.7
	SNR=1.0						
LOR				eSg	Sg	05 06 25.0	-1.4
	2.7nm,0.2s,SNR=1.0						
LOR	Lormes	2.39	303	ePn	Pn	05 05 50.2	+1.3
LOR				ePg	Pg	05 05 55.4	0.0
LOR				eSn	Sn	05 06 19.0	+0.7
LOR				eSg	Sg	05 06 25.0	-1.4
CDF	Champ du Feu	2.41	7	ePg	Pg	05 05 55.2	-0.7
	SNR=1.0						
CDF				eSn	Sn	05 06 18.0	-0.8
	SNR=1.0						
CDF				eSg	Sg	05 06 25.5	-1.7
	3.7nm,0.2s,SNR=1.0						
CDF	Champ du

MEZF Maizieres J'vi 2.76 335 *e*Sg **Sg 05 06 37.8 -0.4**
14nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 2.76 335 *e*Sg **Sg 05 06 37.8 -0.4**
7.1nm,0.4s,SNR=1.0
BGF Bois d'Agland 2.81 282 *e*Pg **Pg 05 06 04.3 +0.9**
BGF *e*Sn **Sn 05 06 28.0 -0.5**
SNR=1.0
BGF *e*Sg **Sg 05 06 40.1 +0.3**
10nm,0.4s,SNR=1.0
BGF Bois d'Agland 2.81 282 *e*Pg **Pg 05 06 04.3 +0.9**
BGF *e*Sn **Sn 05 06 28.0 -0.5**
SNR=1.0
BGF *e*Sg **Sg 05 06 40.1 +0.3**
5.1nm,0.4s,SNR=1.0
BGF Bois d'Agland 2.81 282 *e*Pn **Pn 05 05 55.6 +1.0**
BGF *e*Pg **Pg 05 06 04.3 +0.9**
BGF *e*Sn **Sn 05 06 28.0 -0.5**
BGF *e*Sg **Sg 05 06 40.1 +0.3**
LASF Ste Croix 2.86 228 *e*Pg **Pg 05 06 03.6 -0.8**
LASF *e*Sn **Sn 05 06 28.2 -1.6**
LASF *e*Sg **Sg 05 06 40.6 -0.9**
6.2nm,0.3s,SNR=1.0
LASF Ste Croix 2.86 228 *e*Pg **Pg 05 06 03.6 -0.8**
LASF *e*Sn **Sn 05 06 28.2 -1.6**
LASF *e*Sg **Sg 05 06 40.6 -0.9**
3.1nm,0.3s,SNR=1.0
LASF Ste Croix 2.86 228 *e*P **Pn 05 05 58.3 +3.0**
LASF *e*Pg **Pg 05 06 03.6 -0.8**
LASF *e*Sn **Sn 05 06 28.2 -1.6**
LASF *e*Sg **Sg 05 06 40.6 -0.9**
HYF Humbligny 3.14 295 *e*Pg **Pg 05 06 09.2 -0.5**
TCF Toulx Ste Croi 3.21 276 *e*Pn **Pn 05 06 00.4 +0.2**
SNR=1.0
TCF *e*Sn **Sn 05 06 37.5 -1.1**
SNR=1.0
TCF *e*Sg **Sg 05 06 50.7 -2.1**
2.4nm,0.2s,SNR=1.0
TCF Toulx Ste Croi 3.21 276 *e*Pn **Pn 05 06 00.4 +0.2**
SNR=1.0
TCF *e*Sn **Sn 05 06 37.5 -1.1**
SNR=1.0
TCF *e*Sg **Sg 05 06 50.7 -2.1**
1.2nm,0.2s,SNR=1.0
CAF Calviac 3.52 254 *e*Pn **Pn 05 06 04.9 +0.5**
SNR=1.0
CAF *e*Sg **Sg 05 07 01.0 -1.6**
3.1nm,0.2s,SNR=1.0
CAF Calviac 3.52 254 *e*Pn **Pn 05 06 04.9 +0.5**
SNR=1.0
CAF *e*Sg **Sg 05 07 01.0 -1.6**
1.5nm,0.2s,SNR=1.0
RJF Les Rejaudoux 3.79 261 *e*Sg **Sg 05 07 10.4 -0.8**
4.3nm,0.4s
RJF Les Rejaudoux 3.79 261 *e*Sg **Sg 05 07 10.4 -0.8**
2.2nm,0.4s
MTLF Montolieu 4.24 232 *e*Pg **Pg 05 06 29.5 -1.2**
SNR=1.0
MTLF *e*Sg **Sg 05 07 23.9 -1.7**
2.6nm,0.4s
MTLF Montolieu 4.24 232 *e*Pg **Pg 05 06 29.5 -1.2**
SNR=1.0
MTLF *e*Sg **Sg 05 07 23.9 -1.7**
1.3nm,0.4s
MFF Saint Martin d 4.86 279 *e*Pn **Pn 05 06 24.1 +1.3**
SNR=1.0
MFF *e*Sn **Sn 05 07 14.7 -4.4**
3.2nm,0.6s,SNR=1.0
MFF Saint Martin d 4.86 279 *e*Pn **Pn 05 06 24.1 +1.3**
SNR=1.0
MFF *e*Sn **Sn 05 07 14.7 -4.4**
1.6nm,0.6s,SNR=1.0
FLN La Foliniere 5.67 302 *e*Pn **Pn 05 06 33.2 -0.7**
QUIF Quistinic 7.09 289 *e*Pn **Pn 05 06 51.6 -1.8**
SNR=1.0

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*IDC **07** 05:08:16.0±0.6, 46.79N×155.75E, h0km, mb4.1/16, mb1 4.3/19, mb1mx4.2/26, mbtmp4.1/19, ML4.0/3, MS3.7/9, Ms1 3.7/9, ms1mx3.2/36, Error ellipse: s-maj=18.8km s-min=13.6km az=144.0*
*ISCJB **07** 05:08:17.0±1.3, 46.75N±0.05×155.62E±0.05, h15km±8km, mb4.4/57, MS3.9/17, Error ellipse: s-maj=9.4km s-min=4.8km az=154.9*
*BJI **07** 05:08:18.4, 47.01N×155.45E, h19km, mB4.7, mb4.4, Ms4.1, Msz4.1*
*MOS **07** 05:08:19.2±1.0, 46.75N×155.59E, h33km, mb4.6/24, Error ellipse: s-maj=10.2km s-min=9.3km az=87.7*
*NEIC **07** 05:08:20.1±0.3, 46.69N×155.61E, mb4.6/26, Error ellipse: s-maj=11.8km s-min=6.8km az=164.0*

ISC 07 05:08:19.9±1.4, 46.72N±0.05×155.60E±0.05, h22km±10km, h28km±.9km: pP-P, n127, σ1.9 09/123, mb4.4/57, MS3.9/17, 2C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.98**	**5**	*e*PN			**Pn**	**05 09 13.2**	**-6.3**
KUR	**Kuril'sk**	**5.59**	**257**	⇑*i*PN			**Pn**	**05 09 38.3**	**-3.3**
PETK	**Petropavlovsk-**	**6.54**	**11**	Pn			**Pn**	**05 09 51.0**	**-3.6**
	1.2nm,0.3s,baz=178,slow=13,SNR=13								
PETK				Sn			**Sn**	**05 11 08.6**	**+0.3**
	0.3nm,0.3s,baz=149,slow=12,SNR=2.5								
PETK				LR			LR	05 12 42.3	
	comp=Z,228nm,18.5s,baz=178,slow=41								
YUK	**Yuzh-Kuril'sk**	**7.37**	**252**	PN			**Pn**	**05 10 13.5**	**+7.5**
YUK				pmax			pmax		
	comp=Z,320nm,0.4s								
YSS	**Yuzh-Sakhalins**	**8.81**	**276**	⇑*e*PN			**Pn**	**05 10 28.0**	**+2.2**
YSS				*e*				05 12 19.0	
YSS				MLR			MLR		
	comp=E,400nm,14.0s								
YSS				MLR			MLR		
	comp=Z,400nm,14.0s								
YSS	**Yuzh-Sakhalins**	**8.81**	**276**	*e*Pn			**Pn**	**05 10 26.2**	**+0.4**
ASAJ	**Asahikawa**	**9.51**	**259**	Pn			**Pn**	**05 10 36.5**	**+1.1**
	comp=Z,2.9nm,0.3s,baz=93,slow=13,SNR=18								
ASAJ	**Asahikawa**	**9.51**	**259**	PN			**Pn**	**05 10 36.5**	**+1.1**
ASAJ				pmax			pmax		
	comp=Z,3.0nm,0.3s								
KLR	**Kul'dur**	**16.15**	**288**	*e*P			**Pn**	**05 12 04.0**	**-1.3**
KLR				MLR			MLR		
	comp=Z,700nm,13.0s								
MAJO	**Matsushiro**	**16.47**	**238**	*e*P			**Pn**	**05 12 07.9**	**-1.6**
MAJO				pmax			pmax		
	comp=Z,10.0nm,0.9s								
MAJO	**Matsushiro**	**16.47**	**238**	*e*Pn			**Pn**	**05 12 07.9**	**-1.6**
	comp=Z,10nm,0.9s								
MAT	**Matsushiro**	**16.47**	**238**	P			**Pn**	**05 12 07.6**	**-1.9**
MAT				*e*S			**Sn**	**05 15 11.0**	**-0.5**
MJAR	**Matsushiro Arr**	**16.47**	**238**	Pn			**Pn**	**05 12 07.9**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=32,slow=13,SNR=13								
MDJ	**Mudanjiang**	**18.27**	**273**	P			**Pn**	**05 12 30.1**	**-1.7**
MDJ				AP			pP	05 12 35.8	-2.3
MDJ				XP			sP	05 12 38.4	-2.6
MDJ				AMB			AMB		
	comp=Z,5.0nm,0.9s								
MDJ				AMB			AMB		
	comp=Z,62nm,5.3s								
YAK	**Yakutsk**	**21.29**	**325**	*e*P			**P**	**05 13 04.4**	**-0.2**
YAK				*e*				05 13 19.2	
YAK				*e*S			**S**	**05 16 51.5**	**-8.2**
YAK				*e*SS				05 17 09.3	
YAK				pmax			pmax		
	comp=Z,10.0nm,0.8s,mb4.2								
YAK				pmax			pmax		
	comp=N,4.0nm,0.9s								
YAK				pmax			pmax		
	comp=E,6.0nm,1.1s								
YAK				pmax			pmax		
	comp=Z,28nm,1.1s,mb4.5								
YAK				pmax			pmax		
	comp=N,12nm,1.1s								
YAK				pmax			pmax		
	comp=E,11nm,1.2s								
YAK				smax					
	comp=N,50nm,2.2s								
YAK				smax					
	comp=E,35nm,2.0s								
YAK				MLR			MLR		
	comp=Z,115nm,16.0s,MS3.4								
YAK				MLR			MLR		
	comp=N,84nm,12.0s								
YAK	**Yakutsk**	**21.29**	**325**	*e*Pn			**P**	**05 13 03.5**	**-1.0**
	comp=N,15nm,0.7s,mb4.4								
CN2	**Changchun**	**21.36**	**273**	*e*P			**P**	**05 13 07.0**	**+1.5**
CN2				*e*XP			sP	05 13 18.0	+3.3
CN2				*e*S			**S**	**05 16 57.3**	**-4.1**
CN2				AMB			AMB		
	comp=Z,10.0nm,0.6s,mb4.3								
CN2				AMB			AMB		
	comp=Z,300nm,3.0s								
CN2				LR			LR		
	comp=N,200nm,13.0s,MS3.8								
CN2				LR			LR		
	comp=E,200nm,13.0s,MS3.8								
CN2				LR			LR		
	comp=Z,300nm,14.0s,MS3.8								
BILL	**Bilibino**	**22.07**	**11**	*e*P			**P**	**05 13 14.5**	**+1.7**
BILL				*e*				05 13 35.1	
BILL				*e*S			**S**	**05 17 15.1**	**+0.3**
BILL				pmax			pmax		
	comp=Z,11nm,1.2s,mb4.2								
BILL				MLR			MLR		
	comp=Z,100nm,14.0s,MS3.4								
BILL	**Bilibino**	**22.07**	**11**	*e*P			**P**	**05 13 12.2**	**-0.6**
	comp=Z,26nm,1.7s,mb4.4								
KSRS	**Korea Array**	**22.43**	**256**	P			**P**	**05 13 18.9**	**+1.9**
	comp=Z,3.2nm,0.8s,mb3.8,baz=56,slow=9.7,SNR=10								
KSRS	**Korea Array**	**22.43**	**256**	P			**P**	**05 13 18.9**	**+1.9**
KSRS				pmax			pmax		
	comp=Z,3.0nm,0.8s,mb3.8								
BOD	**Bodaibo**	**27.33**	**309**	*e*P			**P**	**05 13 57.6**	**-5.1**
BOD				pmax			pmax		
	comp=Z,3.0nm,1.1s,mb3.7								
BJI	**Beijing**	**29.19**	**271**	P			**P**	**05 14 19.9**	**+0.4**
BJI				AMB			AMB		
	comp=Z,2.0nm,0.5s,mb4.1								
NJ2	**Nanjing**	**31.64**	**256**	*e*P			**P**	**05 14 42.6**	**+1.4**
NJ2				AMB			AMB		
	comp=Z,30nm,1.3s,mb5.0								
HHC	**Hu-ho-hao-te**	**32.00**	**276**	*e*P			**P**	**05 14 45.5**	**+1.2**
HHC				AP			pP	05 14 54.5	+3.4
HHC				XP			sP	05 14 58.1	+4.3
HHC				PP			PP	05 15 51.6	-5.0
HHC				S			**S**	**05 19 51.9**	**-2.6**
HHC				XS			sS	05 20 08.5	+2.8
HHC				PCS			PcS	05 21 19.9	+1.5
HHC				SS			SS	05 21 45.2	-27
HHC				SCS			ScS	05 25 13.3	-0.8
HHC				AMB			AMB		
	comp=Z,16nm,0.6s,mb5.0								
HHC				AMB			AMB		
	comp=Z,96nm,6.5s								
HHC				LR			LR		
	comp=N,141nm,17.8s,MS4.0								
HHC				LR			LR		
	comp=E,249nm,19.0s,MS4.0								
HHC				LR			LR		
	comp=Z,199nm,19.0s,MS3.8								
SONM	**Songino Array**	**32.95**	**290**	P			**P**	**05 14 52.2**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=60,slow=8.6,SNR=8.9								
SONM				LR			LR	05 30 09.4	
	comp=Z,82nm,19.2s,MS3.5,baz=86,slow=40								
ZAK	**Zakamensk**	**34.24**	**296**	*e*P			**P**	**05 15 03.8**	**+0.1**
ZAK				pmax			pmax		
	comp=Z,2.0nm,1.3s,mb3.9								
COLA	**College**	**35.10**	**38**	*e*P			**P**	**05 15 09.1**	**-1.9**
EGAK	**Eagle**	**37.96**	**38**	*e*P			**P**	**05 15 33.0**	**-2.4**
	comp=Z,6.0nm,0.8s,mb4.4								
EGAK				*e*pP			pP	05 15 41.6	-0.6
DAWY	**Dawson**	**38.78**	**40**	*e*P			**P**	**05 15 43.5**	**+1.3**
KRAR	**Krasnoyarsk**	**38.97**	**307**	*e*P			**P**	**05 15 41.5**	**-2.4**
KRAR				pmax			pmax		
	comp=Z,8.0nm,0.7s,mb4.6								
LZH	**Lanzhou**	**39.60**	**274**	*e*P			**P**	**05 15 50.0**	**+0.6**
LZH				AP			pP	05 15 56.5	+0.2
LZH				XP			sP	05 15 59.6	+0.5
LZH				AMB			AMB		
	comp=Z,15nm,1.0s,mb4.7								
LZH				AMB			AMB		
	comp=Z,140nm,4.5s								
LZH				LR			LR		
	comp=E,449nm,17.2s								
LZH				LR			LR		
	comp=Z,692nm,18.2s,MS4.5								
HVS	**Khovu-Aksy**	**39.85**	**300**	*e*P			**P**	**05 15 51.2**	**-0.1**
HVS				pmax			pmax		
	comp=Z,20nm,1.7s,mb4.6								
GTA	**Gaotai**	**40.66**	**281**	*e*P			**P**	**05 15 59.7**	**+1.5**
GTA				AP			pP	05 16 03.8	-1.3
GTA				XP			sP	05 16 07.0	-0.9
GTA				S			**S**	**05 22 07.7**	**+0.9**
GTA				XS			sS	05 22 20.6	+2.5
GTA				SS			SS	05 25 03.3	-3.8
GTA				AMB			AMB		
	comp=Z,4.0nm,1.6s,mb3.8								
GTA				AMB			AMB		
	comp=Z,99nm,8.4s								
GTA				LR			LR		
	comp=N,107nm,10.3s,MS4.1								
GTA				LR			LR		
	comp=E,95nm,12.5s,MS4.1								
GTA				LR			LR		
	comp=Z,131nm,8.7s								
INK	**Inuvik**	**40.76**	**33**	P			**P**	**05 15 57.1**	**-1.5**
	comp=Z,5.0nm,0.9s,mb4.2,baz=281,slow=9.1,SNR=4.5								
INK	**Inuvik**	**40.76**	**33**	P			**P**	**05 15 57.1**	**-1.5**
INK				pmax			pmax		
	comp=Z,5.0nm,0.9s								
INK	**Inuvik**	**40.76**	**33**	*e*P			**P**	**05 15 57.8**	**-0.8**
	comp=Z,144nm,0.7s,mb5.7								
CD2	**Chengdu**	**42.58**	**267**	⇓*i*P			**P**	**05 16 14.8**	**+0.7**
CD2				AP			pP	05 16 22.8	+1.8
CD2				XP			sP	05 16 26.3	+2.6
CD2				PP			PP	05 17 56.3	+3.5
CD2				S			**S**	**05 22 35.9**	**+0.5**
CD2				XS			sS	05 22 48.3	+1.5
CD2				SS			SS	05 25 38.8	-6.7
CD2				AMB			AMB		
	comp=Z,10.0nm,0.8s,mb4.6								
CD2				AMB			AMB		
	comp=Z,20nm,5.8s								
CD2				LR			LR		
	comp=N,170nm,12.0s,MS4.3								
CD2				LR			LR		
	comp=E,170nm,13.2s,MS4.3								
CD2				LR			LR		
	comp=Z,190nm,12.0s,MS4.2								
GYA	**Guiyang**	**43.39**	**260**	P			**P**	**05 16 21.4**	**+0.8**
GYA				AP			pP	05 16 29.8	+2.3
GYA				XP			sP	05 16 33.2	+2.9
GYA				PP			PP	05 18 04.0	+2.5
GYA				PCP			PcP	05 18 10.6	+1.8
GYA				SCP			ScP	05 21 58.4	-0.2
GYA				S			**S**	**05 22 46.2**	**-1.1**
GYA				SS			SS	05 25 53.9	-7.4
GYA				AMB			AMB		
	comp=Z,10.0nm,0.9s,mb4.5								
GYA				AMB			AMB		
	comp=Z,70nm,5.2s								
GYA				LR			LR		
	comp=N,450nm,19.5s,MS4.5								
GYA				LR			LR		
	comp=E,410nm,18.8s,MS4.5								
GYA				LR			LR		
	comp=Z,480nm,19.8s,MS4.4								
ZAA0	**Zalesovo Array**	**44.01**	**307**	*e*P			**P**	**05 16 27.9**	**+2.7**
ZALV	**Zalesovo Beam**	**44.01**	**307**	LR			LR	05 35 28.1	
	comp=Z,66nm,20.1s,MS3.5,baz=76,slow=37								
NVS	**Novosibirsk**	**44.56**	**308**	*e*P			**P**	**05 16 36.2**	**+6.6**
WMQ	**Urumqi**	**46.52**	**292**	*e*P			**P**	**05 16 46.7**	**+1.3**
WMQ				AP			pP	05 16 56.7	+4.4
WMQ				XP			sP	05 17 00.7	+5.6
WMQ				AMB			AMB		
	comp=Z,8.0nm,1.0s,mb4.6								
WMQ				LR			LR		
	comp=N,87nm,20.8s,MS3.8								
WMQ				LR			LR		
	comp=E,71nm,17.0s,MS3.8								
WMQ				LR			LR		
	comp=Z,72nm,18.0s,MS3.7								
KMI	**Kunming**	**46.92**	**262**	P			**P**	**05 16 49.3**	**+0.6**
KMI				AP			pP	05 16 56.8	+1.1
KMI				XP			sP	05 17 00.3	+1.9
KMI				PP			PP	05 18 39.0	-0.1
KMI				S			**S**	**05 23 36.9**	**-1.6**
KMI				XS			sS	05 23 52.8	+2.9
KMI				SS			SS	05 26 55.3	-10
KMI				AMB			AMB		
	comp=Z,10.0nm,0.5s,mb5.0								
KMI				AMB			AMB		
	comp=Z,98nm,6.0s								
KMI				LR			LR		
	comp=N,243nm,9.3s								
KMI				LR			LR		
	comp=E,194nm,9.3s								
KMI				LR			LR		
	comp=Z,182nm,9.3s								
MK31	**Makanchi Array**	**48.47**	**298**	*e*P			**P**	**05 17 00.6**	**+0.2**
MK31				*e**PP			pP	05 17 09.1	+1.7
MKAR	**Makanchi Array**	**48.47**	**298**	P			**P**	**05 17 00.2**	**-0.2**
	comp=Z,0.6nm,0.3s,mb4.1,baz=61,slow=8.5,SNR=9.0								
MKAR				LR			LR	05 40 10.9	
	comp=Z,53nm,18.7s,MS3.5,baz=253,slow=40								
MKAR	**Makanchi Array**	**48.47**	**298**	*i* P			**P**	**05 17 00.2**	**-0.2**
MKAR				pmax			pmax		
	comp=Z,1.0nm,0.3s								
MKAR	**Makanchi Array**	**48.47**	**298**	P			**P**	**05 17 00.2**	**-0.2**
MKAR				LR			LR	05 40 10.9	
KURK	**Kurchatov**	**48.80**	**305**	*e*P			**P**	**05 17 02.5**	**-0.4**
KURK				*e**PP			pP	05 17 11.4	+1.5
KURK				pmax			pmax		
	comp=Z,12nm,0.8s,mb5.0								
KURK	**Kurchatov**	**48.80**	**305**	*e*P			**P**	**05 17 02.5**	**-0.4**
	comp=Z,12nm,0.8s,mb5.0								
KURK				*e*pP			pP	05 17 11.4	+1.5
YKA	**Yellowknife Ar**	**49.92**	**37**	P			**P**	**05 17 10.8**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.9,baz=298,slow=6.9,SNR=2.9								
BVAR	**Borovoye Array**	**52.19**	**310**	P			**P**	**05 17 28.2**	**-0.2**
	comp=Z,3.2nm,0.5s,mb4.5,baz=57,slow=8.7,SNR=16								
BRVK	**Borovoye**	**52.23**	**310**	*e*P			**P**	**05 17 28.5**	**-0.3**
BRVK				*e**PP			pP	05 17 37.2	+1.4
BRVK				pmax			pmax		
	comp=Z,7.0nm,0.8s,mb4.6								
BRVK	**Borovoye**	**52.23**	**310**	*e*P			**P**	**05 17 28.5**	**-0.2**
	comp=Z,6.6nm,0.8s,mb4.6								
BRVK				*e*pP			pP	05 17 37.2	+1.4
CMAR	**Chiang Mai Arr**	**54.03**	**258**	P			**P**	**05 17 43.4**	**+0.9**
	comp=Z,2.4nm,0.6s,mb4.3,baz=34,slow=7.4,SNR=14								
CMAR	**Chiang Mai Arr**	**54.03**	**258**	*i* P			**P**	**05 17 43.4**	**+0.9**
CMAR				pmax			pmax		
	comp=Z,2.0nm,0.6s								
TKM2	**Tokmak 2**	**54.54**	**297**	*e*P			**P**	**05 17 46.5**	**+0.6**
TKM2				*e**PP			pP	05 17 54.4	+1.4
TKM2				pmax			pmax		
	comp=Z,2.0nm,1.0s,mb4.1								
TKM2	**Tokmak 2**	**54.54**	**297**	*e*P			**P**	**05 17 46.5**	**+0.6**
	comp=Z,2.1nm,1.0s,mb4.1								
TKM2				*e*pP			pP	05 17 54.4	+1.4
EKS2	**Erkin-Say**	**55.79**	**298**	*e*P			**P**	**05 17 55.7**	**+0.8**
	comp=Z,5.2nm,0.8s,mb4.6								
EKS2				*e*pP			pP	05 18 04.4	+2.4
ARU	**Arti**	**56.18**	**318**	*d i* P			**P**	**05 17 56.5**	**-1.0**
ARU				*e*				05 18 55.5	
ARU				*e*				05 19 57.7	
ARU				*e*PPP				05 21 17.8	
ARU				*e*S			**S**	**05 25 44.4**	**-0.8**
ARU				pmax			pmax		
	comp=Z,7.0nm,0.8s,mb4.7								
ARU	**Arti**	**56.18**	**318**	*e*P			**P**	**05 17 56.4**	**-1.1**
	comp=Z,6.1nm,0.6s,mb4.8								
ARU				*e*pP			pP	05 18 05.8	+1.2
MOD	**Modoc**	**57.61**	**62**	*e*P			**P**	**05 18 08.6**	**+0.8**
BMO	**Blue Mountains**	**57.66**	**57**	*e*P			**P**	**05 18 07.8**	**-0.4**
	comp=Z,12nm,1.8s,mb4.6								
MSO	**Missoula**	**58.41**	**54**	*e*P			**P**	**05 18 14.2**	**+0.8**
ARCES	**ARCESS Array B**	**58.43**	**342**	P			**P**	**05 18 13.2**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.2,baz=29,slow=8.6,SNR=6.5								
ARCES				LR			LR	05 46 14.7	
	comp=Z,96nm,20.7s,MS3.9,baz=70,slow=39								
HLID	**Hailey**	**60.10**	**57**	*e*P			**P**	**05 18 24.7**	**-0.4**
BOZ	**Bozeman (W)**	**60.40**	**54**	*e*P			**P**	**05 18 27.0**	**-0.2**
BOZ				*e**PP			pP	05 18 35.3	+1.0
BOZ				pmax			pmax		
	comp=Z,7.0nm,1.4s,mb4.5								
BOZ	**Bozeman (W)**	**60.40**	**54**	*e*P			**P**	**05 18 26.9**	**-0.2**
	comp=Z,7.0nm,1.4s,mb4.5								
BOZ				*e*pP			pP	05 18 35.3	+1.0
NVAR	**Mina Array Bea**	**60.92**	**64**	P			**P**	**05 18 28.9**	**-1.9**
	comp=Z,0.7nm,0.7s,mb3.9,baz=288,slow=7.0,SNR=4.8								
KLMR	**Klimovskoe**	**61.01**	**330**	*e*P			**P**	**05 18 29.7**	**-1.3**
KLMR				pmax			pmax		
	comp=Z,18nm,2.0s,mb4.8								
IMW	**Indian Meadow**	**61.88**	**55**	*e*P			**P**	**05 18 39.1**	**+1.9**
	comp=Z,10nm,1.7s,mb4.7								
RRI2	**Red Ridge**	**62.00**	**56**	*e*P			**P**	**05 18 38.4**	**+0.3**
	comp=Z,5.1nm,0.8s,mb4.7								
RRI2				*e*pP			pP	05 18 46.5	+1.3
MOOW	**Moose Ponds**	**62.08**	**55**	*e*P			**P**	**05 18 39.8**	**+1.3**
TPAW	**Teton Pass**	**62.12**	**55**	*e*P			**P**	**05 18 39.6**	**+0.7**
	comp=Z,14nm,1.5s,mb4.9								
TPAW				*e*pP			pP	05 18 47.6	+1.6
LOHW	**Long Hollow**	**62.24**	**55**	*e*P			**P**	**05 18 41.3**	**+1.6**
	comp=Z,8.0nm,1.4s,mb4.7								
REDW	**Red Top Meadow**	**62.26**	**55**	*e*P			**P**	**05 18 39.9**	**+0.1**
	comp=Z,18nm,1.6s,mb5.0								
TPNV	**Topopah Spring**	**63.12**	**64**	*e*P			**P**	**05 18 46.7**	**+1.1**
TPNV				*e**PP			pP	05 18 53.6	+0.8
DUG	**Dugway**	**63.13**	**59**	*e*P			**P**	**05 18 45.0**	**-0.6**
DUG				*e**PP			pP	05 18 53.5	+0.7
DUG				pmax			pmax		
	comp=Z,8.0nm,1.4s,mb4.7								
DUG	**Dugway**	**63.13**	**59**	*e*P			**P**	**05 18 45.0**	**-0.7**
	comp=Z,7.7nm,1.4s,mb4.6								
DUG				*e*pP			pP	05 18 53.5	+0.7
BW06	**Boulder Array**	**63.37**	**55**	*e*P			**P**	**05 18 47.0**	**-0.2**
	comp=Z,22nm,2.1s,mb4.9								
PDAR	**Pinedale Array**	**63.37**	**55**	P			**P**	**05 18 46.4**	**-0.8**
	comp=Z,2.0nm,1.0s,mb4.2,baz=268,slow=1.6,SNR=11								
SRU	**San Rafael**	**65.18**	**59**	*e*P			**P**	**05 18 59.4**	**+0.3**
SRU				*e**PP			pP	05 19 07.1	+0.8
SRU				pmax			pmax		
	comp=Z,3.0nm,1.3s,mb4.2								
SRU	**San Rafael**	**65.18**	**59**	*e*P			**P**	**05 18 59.4**	**+0.3**
	comp=Z,3.3nm,1.3s,mb4.2								
SRU				*e*pP			pP	05 19 06.6	+0.3
SRU				*e*pP			pP	05 19 07.1	+0.8
RSSD	**Black Hills**	**65.52**	**51**	*e*P			**P**	**05 19 01.6**	**+0.4**
RSSD				*e**PP			pP	05 19 09.3	+0.9
RSSD				pmax			pmax		
	comp=Z,3.0nm,1.1s,mb4.2								
RSSD	**Black Hills**	**65.52**	**51**	*e*P			**P**	**05 19 01.6**	**+0.4**
	comp=Z,3.5nm,1.1s,mb4.3								
RSSD				*e*pP			pP	05 19 09.3	+0.9
OBN	**Obninsk**	**66.29**	**327**	*e*P			**P**	**05 19 11.7**	**+5.8**
OBN				pmax			pmax		
	comp=Z,5.0nm,0.9s,mb4.5								
GLA	**Glamis**	**66.53**	**66**	*e*P			**P**	**05 19 07.7**	**-0.2**
SMCO	**Snowmass**	**67.20**	**57**	*e*P			**P**	**05 19 16.1**	**+4.0**
	comp=Z,6.0nm,0.7s,mb4.7								
ISCO	**Idaho Springs**	**67.56**	**55**	*e*P			**P**	**05 19 14.2**	**-0.1**
ISCO				*e*				05 21 43.7	
NB2	**NORSAR Subarra**	**68.79**	**342**	P

WMOK *e*pP pP 05 20 06.6 +0.1
TXAR Lajitas Array 76.00 62 P **P 05 20 04.5 -0.7**
comp=Z,2.1nm,0.8s,mb4.1,baz=308,slow=4.4,SNR=5.9
JCT Junction City 77.49 59 *e*P **P 05 20 13.2 -0.4**
JCT pmax pmax
comp=Z,16nm,1.5s,mb4.7
JCT Junction City 77.49 59 *e*P **P 05 20 13.2 -0.4**
comp=Z,16nm,1.5s,mb4.7
MALT Malatya 78.41 314 *e*P **P 05 20 19.5 +0.9**
MALT pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MALT Malatya 78.41 314 *e*P **P 05 20 19.5 +0.9**
comp=Z,6.6nm,1.0s,mb4.5
GLAT Glass 78.96 48 P **P 05 20 17.2 -4.4**
KHC Kasperske Hory 78.99 336 *e*P **P 05 20 20.8 -0.8**
GRA1 Grafenberg Arr 79.13 337 *e*P pP 05 20 35.6 +6.0
GRF Grafenberg Arr 79.13 337 *e*P pP 05 20 35.6 +6.0
GERES GERESS Array B 79.21 335 P **P 05 20 23.6 +0.8**
comp=Z,0.3nm,0.2s,mb3.8,baz=24,slow=7.3,SNR=3.1
GERES LR LR 05 57 21.1
comp=Z,71nm,20.3s,MS4.0,baz=19,slow=37
BAIF Baives 80.47 342 *e*P pP 05 20 41.5 +4.6
PPT Papeete 80.77 128 LR LR 05 51 05.1
comp=Z,52nm,19.8s,MS3.9,baz=311,slow=32
CDF Champ du Feu 81.31 339 *e*P pP 05 20 47.5 +6.1
comp=Z,8.4nm,0.9s
LOR Lormes 83.18 341 *e*P pP 05 20 58.3 +7.0
comp=Z,24nm,1.2s
SMF Signal de Mont 83.78 341 *e*P pP 05 20 57.0 +2.7
LPL La Plagne 84.15 339 *e*P **P 05 20 56.1 +7.2**
MBDF Montbardon 84.87 338 *e*P **P 05 20 59.2 +6.6**
comp=Z,14nm,1.0s,mb4.8
MBDF Montbardon 84.87 338 *e*P **P 05 20 59.2 +6.6**
comp=Z,7.2nm,1.0s,mb4.8
EIL Elat 87.01 311 LR LR 06 02 08.6
comp=Z,54nm,19.2s,MS4.0,baz=103,slow=37
TORD Torodi Ar. Bea 115.97 332 PKP PKPdf 05 26 59.4 -1.7
comp=Z,0.8nm,1.1s,baz=336,slow=1.3,SNR=3.1
NNA Nana 124.06 69 *e*PKPdf PKPdf 05 27 16.1 -0.5
SIV San Ignacio 136.84 57 PKP PKPdf 05 27 40.4 -0.4
comp=Z,1.2nm,0.7s,baz=268,slow=22,SNR=6.7
CFAA Coronel Fontan 143.31 82 PKhKP 05 27 48.3
comp=Z,0.2nm,0.7s,baz=0.0,slow=8.1,SNR=4.5
PLCA Paso Flores 146.50 97 PKPbc PKPbc 05 27 58.5 -0.2
comp=Z,3.2nm,0.8s,baz=270,slow=7.0,SNR=6.5
CPUP Villa Florida 146.97 64 PKPbc PKPbc 05 27 59.8 -0.7
comp=Z,0.4nm,0.5s,baz=15,slow=20,SNR=4.1

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*CSEM **07** 05:14:07.5±0.1,3968N×2783E, h8km, MD2.7, Error ellipse: s-maj=2.9km s-min=2.1km az=53.0*
*ISCJB **07** 05:14:08.5±0.6,3969N±004×2782E±004, h4km±5km, Error ellipse: s-maj=6.7km s-min=4.7km az=36.6*
*DDA **07** 05:14:08.4,3970N×2781E, h7km±2km, Md2.7*
*ISK **07** 05:14:08.0,3971N×2788E, h5km, MD2.7*
ISC 07 05:14:08.7±0.7,3969N±004×2782E±004, h4km±7km, n10, σ0§48/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.07**	**135**	PG	**Pg**	**05 14 10.0**	**-0.2**
BALB				*e*SG	**Sg**	**05 14 11.4**	**+0.2**
BALY	**Balya**	**0.16**	**289**	*i* P	**Pg**	**05 14 11.9**	**0.0**
BALY				*i* S	**Sg**	**05 14 14.7**	**+0.6**
BTOK	**Tokmak**	**0.18**	**66**	*i* P	**Pg**	**05 14 12.4**	**+0.2**
BTOK				*i* S	**Sg**	**05 14 15.6**	**+0.9**
DURS	**Dursunbey**	**0.51**	**99**	*i* P	**Pg**	**05 14 18.6**	**0.0**
DURS				*i* S	**Sg**	**05 14 25.9**	**+0.6**
DST	**Dursunbey**	**0.63**	**97**	*e*PG	**Pg**	**05 14 19.7**	**-1.1**
DST				*e*SG	**Sg**	**05 14 28.4**	**-0.6**
EDC	**Edincik**	**0.66**	**3**	*e*PG	**Pg**	**05 14 21.1**	**-0.3**
EDC				*e*SG	**Sg**	**05 14 29.7**	**-0.2**
KCT	**Karacabey**	**0.71**	**35**	*e*PG	**Pg**	**05 14 21.7**	**-0.7**
DEMI	**Demirci**	**0.95**	**132**	*i* P	**Pg**	**05 14 26.7**	**-0.2**
DEMI				*i* S	**Sg**	**05 14 39.0**	**-0.2**
ULDT	**Uludag**	**1.11**	**65**	*i* P	**Pg**	**05 14 29.7**	**-0.3**
ULDT				*i* S	**Sg**	**05 14 44.8**	**+0.4**
GDZ	**Gediz**	**1.42**	**114**	*i* P	**Pn**	**05 14 35.6**	**+0.3**
GDZ				*i* S	**Sb**	**05 14 54.5**	**+0.4**

IDC 07 05:17:34.3±1.7,7900S×15871E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/9, mbtmp3.8/2, Error ellipse: s-maj=19.9km s-min=5.6km az=61.0, Antarctica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**1.62**	**25**	Pg	Pg	05 18 02.7	-2.7
	13nm,0.3s,baz=209,slow=17,SNR=134						
VNDA				Lg		05 18 26.4	
	16nm,0.3s,baz=299,slow=18,SNR=14						
ASAR	**Alice Springs**	**56.53**	**333**	P	P	05 27 18.3	+0.4
	0.6nm,0.6s,baz=156,slow=9.7,SNR=5.0						
WRA	**Warramunga Arr**	**60.18**	**333**	P	P	05 27 43.5	0.0
	1.3nm,1.0s,baz=175,slow=5.6,SNR=5.6						

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*JMA **07** 06:04:44.2±0.4,3327N×13825E, h326km±4km, M3.6*
*NEIC **07** 06:04:44.2,3327N×13825E, h326km, MG3.6(JMA), After JMA.*
*ISCJB **07** 06:04:45.8±0.5,3330N±006×138.19E±007, h314km±3km, mb3.5/8, Error ellipse: s-maj=9.9km s-min=9.2km az=161.7*
*IDC **07** 06:04:46.7±0.7,3321N×13802E, h305km±7km, mb3.2/8, mb1 3.4/10, mb1mx3.3/23, mbtmp3.2/10, Error ellipse: s-maj=19.9km s-min=10.3km az=65.0*
ISC 07 06:04:46.8±0.5,3332N±006×13819E±007, h309km±3km, n32, σ0§97/41, mb3.4/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.72**	**330**	P	**Pn**	**06 05 26.8**	**-0.1**
TK02				*e*S	**S**	**06 06 00.0**	**+1.1**
TK03	**Tokai 3**	**0.86**	**347**	S	**S**	**06 06 01.3**	**+1.5**
TK04	**Tokai 4**	**1.09**	**346**	P	**Pn**	**06 05 28.8**	**+0.4**
TK04				S	**S**	**06 06 02.9**	**+1.3**
JKO	**Kozu shima**	**1.17**	**42**	P	**Pn**	**06 05 29.0**	**+0.2**
JHJ	**Hachijo jima 2**	**1.35**	**98**	P	**Pn**	**06 05 29.9**	**+0.1**
	6.4nm,0.3s,baz=261,slow=23,SNR=4.2						
JHJ				S	**S**	**06 06 05.5**	**+1.3**
	19nm,0.3s,baz=263,slow=23,SNR=7.6						
JHJ2	**Mitsune**	**1.38**	**98**	P	**Pn**	**06 05 29.9**	**-0.1**
JIE	**Ise**	**1.64**	**311**	P	**Pn**	**06 05 31.2**	**-0.4**
JIE				*e*S	**S**	**06 06 07.1**	**-0.2**
JOD2	**Odawara 2**	**2.08**	**21**	P	**Pn**	**06 05 35.4**	**+0.6**
JOD2				*e*S	**S**	**06 06 13.3**	**+0.1**
JWZ	**Kozaga**	**2.08**	**276**	P	**Pn**	**06 05 33.6**	**-1.3**
JWY	**Kouya**	**2.34**	**293**	P	**Pn**	**06 05 36.8**	**-0.3**
JGM	**Miyama**	**2.67**	**333**	P	**Pn**	**06 05 40.0**	**+0.1**
BSO1	**Boso 1**	**2.67**	**59**	P	**Pn**	**06 05 37.5**	**-2.4**
BSO1				S	**S**	**06 06 20.0**	**-2.4**
JRY	**Ryogami san**	**2.75**	**12**	P	**Pn**	**06 05 41.2**	**+0.5**
JRY				*e*S	**S**	**06 06 23.1**	**-0.7**
JWT	**Wachi**	**3.03**	**311**	P	**Pn**	**06 05 43.0**	**-0.3**
JAI	**Aioi**	**3.16**	**280**	P	**Pn**	**06 05 43.7**	**-1.0**
MJAR	**Matsushiro Arr**	**3.21**	**0**	P	**Pn**	**06 05 45.1**	**0.0**
	2.2nm,0.3s,baz=180,slow=9.4,SNR=12						
MJAR				S	**S**	**06 06 33.7**	**+1.8**
	0.8nm,0.3s,baz=62,slow=27,SNR=5.7						
MAJO	**Matsushiro**	**3.22**	**0**	*e*Pn	**Pn**	**06 05 45.3**	**+0.1**
MAT	**Matsushiro**	**3.22**	**0**	P	**Pn**	**06 05 45.2**	**0.0**
MAT				*e*S	**S**	**06 06 30.6**	**-1.3**
JAG	**Ashikaga**	**3.27**	**18**	P	**Pn**	**06 05 45.4**	**-0.3**
JAG				S	**S**	**06 06 30.0**	**-2.8**
JMN	**Monobe**	**3.63**	**278**	P	**Pn**	**06 05 48.7**	**-0.7**
KSRS	**Korea Array**	**9.34**	**299**	P	**Pn**	**06 06 57.2**	**+0.5**
	0.6nm,0.3s,baz=112,slow=13,SNR=15						
SONM	**Songino Array**	**27.93**	**311**	P	**P**	**06 10 09.4**	**+0.3**
	2.1nm,0.6s,mb3.8,baz=108,slow=7.8,SNR=17						
MKAR	**Makanchi Array**	**43.97**	**305**	P	**P**	**06 12 23.7**	**-0.3**
	0.8nm,0.3s,mb3.4,baz=85,slow=9.7,SNR=17						
MKAR	**Makanchi Array**	**43.97**	**305**	P	**P**	**06 12 23.7**	**-0.3**
WRA	**Warramunga Arr**	**53.09**	**185**	P	**P**	**06 13 31.9**	**-1.3**
	1.2nm,0.4s,mb3.5,baz=0.5,slow=7.6,SNR=47						
ASAR	**Alice Springs**	**56.81**	**185**	P	**P**	**06 13 59.9**	**+0.3**
	0.5nm,0.5s,mb3.2,baz=28,slow=11,SNR=8.8						
ARCES	**ARCESS Array B**	**66.53**	**339**	P	**P**	**06 15 04.0**	**+0.5**
	0.5nm,0.6s,mb3.4,baz=60,slow=7.4,SNR=6.5						
NB2	**NORSAR Subarra**	**76.56**	**336**	P	**P**	**06 16 03.1**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.6,baz=45,slow=5.9						
NOA	**NORSAR Array B**	**76.56**	**336**	P	**P**	**06 16 03.2**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=43,slow=5.5,SNR=4.0						
NVAR	**Mina Array Bea**	**79.35**	**51**	P	**P**	**06 16 21.1**	**+2.3**
	comp=Z,0.3nm,0.6s,mb3.2,baz=341,slow=4.8,SNR=3.0						
TXAR	**Lajitas Array**	**94.49**	**51**	P	**P**	**06 17 33.2**	**+0.7**
	comp=Z,0.3nm,0.9s,mb3.3,baz=289,slow=3.8,SNR=3.4						
LPAZ	**La Paz**	**150.82**	**61**	PKPbc	PKPbc	06 24 05.2	+1.8
	comp=Z,0.6nm,0.8s,baz=106,slow=9.1,SNR=3.6						

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*IDC **07** 06:10:49.2±2.0,5895×13048E, h0km, mb3.9/1, mb1 4.3/4, mb1mx3.8/14, mbtmp4.1/4, ML4.1/3, MS4.0/1, Ms1 4.0/1, ms1mx2.9/25, Error ellipse: s-maj=58.4km s-min=30.0km az=78.0*
*ISCJB **07** 06:11:05.0±1.0,67S±01×12993E±008, h163km±15km, Error ellipse: s-maj=20.4km s-min=10.2km az=151.1*
ISC 07 06:11:06.0±0.9,67S±01×12992E±008, h154km±14km, n7, σ1§45/11, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.99**	**70⇑**	*e*P	**Pn**	**06 11 56.0**	**+2.5**
TLE				*e*S	**Sn**	**06 12 29.0**	**-1.2**
BATI	**Baumata**	**7.10**	**240**	Pn	**Pn**	**06 12 48.8**	**+1.3**
	7.4nm,0.3s,baz=190,slow=0.4,SNR=4.2						
BATI				Sn	**Sn**	**06 14 06.5**	**-0.7**
	5.0nm,0.3s,baz=9.7,slow=11,SNR=3.4						
FITZ	**Fitzroy Crossi**	**12.08**	**200**	Pn	**Pn**	**06 13 52.6**	**-0.7**
	0.7nm,0.3s,baz=26,slow=14,SNR=26						
FITZ				Sn	**Sn**	**06 15 59.9**	**-7.2**
	0.7nm,0.3s,baz=284,slow=23,SNR=6.6						
WRA	**Warramunga Arr**	**13.85**	**162**	Pn	**Pn**	**06 14 14.5**	**-1.4**
	0.6nm,0.3s,baz=343,slow=13,SNR=22						
WRA				Sn	**Sn**	**06 16 41.6**	**-8.0**
	1.0nm,0.3s,baz=333,slow=23,SNR=10.0						
ASAR	**Alice Springs**	**17.31**	**168**	P	**Pn**	**06 15 00.3**	**+1.9**
	0.8nm,0.3s,baz=344,slow=9.1,SNR=30						
ASAR				S	**S**	**06 18 13.2**	**+3.5**
	0.3nm,0.3s,baz=282,slow=26,SNR=5.7						
RPZ	**Rata Peaks**	**51.53**	**142**	LR	LR	06 43 51.3	
	comp=Z,149nm,18.5s,baz=179,slow=38						
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**06 21 47.5**	**-0.6**
	0.6nm,0.5s,baz=127,slow=7.7,SNR=7.8						

MEX 07 06:19:43.0±0.9,1631N×9836W, h5km±15km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**70**	*i* P	Pg	06 19 47.0	-0.6
PNIG				*i* S	Sg	06 19 50.7	0.0
ACX	**Acapulco**	**1.59**	**290**	*i* P	Pn	06 20 08.0	-3.9
ACX				*i* S	Sn	06 20 28.0	-4.9
UTMO	**Huajuapan**	**1.60**	**19**	*e*P	Pn	06 20 09.9	-2.1
UTMO				*i* S	Sn	06 20 27.7	-5.3
VHO	**Vista Hermosa**	**1.73**	**64**	*i* P	Pn	06 20 11.6	-2.1
VHO				*i* S	Sn	06 20 31.1	-5.1
MZVM		**2.98**	**344**	*e*P	Pn	06 20 29.1	-1.9
MZVM				*i* S	Sn	06 21 02.0	-5.1

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*IDC **07** 06:36:49.9±0.9,4591N×15439E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/22, mbtmp3.7/8, ML3.4/1, Error ellipse: s-maj=27.9km s-min=22.8km az=117.0*
*MOS **07** 06:36:51.5±1.1,4577N×15397E, h20km, mb4.3/5, Error ellipse: s-maj=19.6km s-min=14.6km az=113.6*
*ISCJB **07** 06:36:53.6±0.8,458N±01×1539E±01, h33km, mb3.9/10, Error ellipse: s-maj=16.5km s-min=9.2km az=158.9*
ISC 07 06:36:55.8±0.8,458N±01×1540E±01, h35km, n22, σ1§10/24, mb3.9/10, 6C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.31**	**265**	*e*PN	**Pn**	**06 37 57.0**	**-1.8**
KUR				*e*S	**Sn**	**06 38 48.0**	**+0.2**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,90nm,0.6s						
KUR				smax			
	comp=E,90nm,0.6s						
PETK	**Petropavlovsk-**	**7.74**	**17**	Pn	**Pn**	**06 38 41.1**	**-4.7**
	comp=E,0.6nm,0.3s,baz=179,slow=12,SNR=6.0						
YSS	**Yuzh-Sakhalins**	**7.84**	**283⇑**	*i*PN	**Pn**	**06 38 46.6**	**-0.6**
PET	**Petropavlovsk**	**7.88**	**21⇑**	*e*PN	**Pn**	**06 38 47.5**	**-0.2**
YAK	**Yakutsk**	**21.46**	**328⇑**	*i*P	**P**	**06 41 41.7**	**+0.9**
YAK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.3						
HIA	**Hailar**	**23.25**	**291⇑**	*i*P	**P**	**06 41 59.7**	**-0.2**
ZALV	**Zalesovo Beam**	**43.66**	**307**	P	**P**	**06 44 55.9**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.5,baz=68,slow=6.5,SNR=4.2						
ZAL	**Zalesovo**	**43.68**	**307**	P	**P**	**06 44 55.9**	**-0.9**
MKAR	**Makanchi Array**	**47.92**	**299**	P	**P**	**06 45 31.1**	**+0.8**
	comp=Z,0.5nm,0.5s,mb3.8,baz=67,slow=9.3,SNR=8.9						
MKAR	**Makanchi Array**	**47.92**	**299**	*i* P	**P**	**06 45 31.1**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**48.40**	**305⇑**	*i*P	**P**	**06 45 34.4**	**+0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KBS	**Kingsbay**	**53.56**	**351⇑**	*e*P	**P**	**06 46 13.1**	**+0.7**
ARU	**Arti**	**56.13**	**318**	*d* iP	**P**	**06 46 32.3**	**+1.0**
ARU				*e*		06 48 34.3	
ARU				*e*S	**S**	**06 54 23.2**	**+5.6**
ARU				*e*SS	SS	06 57 58.7	-4.8
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
PDAR	**Pinedale Array**	**64.85**	**54**	P	**P**	**06 47 27.7**	**-3.3**
	comp=Z,0.4nm,0.9s,mb3.5,baz=0.0,slow=1.5,SNR=4.5						
WRA	**Warramunga Arr**	**67.78**	**200**	P	**P**	**06 47 50.3**	**+0.5**
	comp=Z,1.0nm,0.7s,mb4.0,baz=17,slow=6.6,SNR=8.5						
WRA	**Warramunga Arr**	**67.78**	**200**	*i* P	**P**	**06 47 49.5**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**69.34**	**342**	P	**P**	**06 48 00.4**	**+1.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=27,slow=6.5,SNR=3.0						
NOA	**NORSAR Array B**	**69.34**	**342**	P	**P**	**06 48 00.4**	**+1.2**
ASAR	**Alice Springs**	**71.47**	**199**	P	**P**	**06 48 14.6**	**+2.0**
	comp=Z,0.7nm,0.8s,mb3.6,baz=11,slow=8.0,SNR=5.0						
ASAR	**Alice Springs**	**71.47**	**199**	*e*P	**P**	**06 48 14.6**	**+2.1**
TXAR	**Lajitas Array**	**77.46**	**61**	P	**P**	**06 48 45.7**	**-1.9**
	comp=Z,0.8nm,0.8s,mb3.7,baz=294,slow=4.0,SNR=12						
TXAR	**Lajitas Array**	**77.46**	**61**	*e*P	**P**	**06 48 45.7**	**-1.8**

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*ISCJB **07** 06:46:13.1±0.3,4835N±002×658E±002, h12km±3km, Error ellipse: s-maj=2.8km s-min=2.2km az=166.2*
*STR **07** 06:46:15.2±0.2,4835N×667E, h10km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **07** 06:46:15.7±0.1,4834N×668E, h15km, ML3.1/17, Error ellipse: s-maj=1.0km s-min=0.8km az=165.0*
*NEIC **07** 06:46:16.0,4833N×666E, h13km, ML2.9(SZGRF), ML2.7(STR), ML3.1(LDG), After LDG.*
*BGR **07** 06:46:16.4±0.8,4833N×673E, h10km, ML2.9/9, Error ellipse: s-maj=7.8km s-min=3.3km az=101.0*
*LDG **07** 06:46:16.0±0.1,4833N×666E, h13km, Md3.1/4, Ml3.1/21, Error ellipse: s-maj=1.7km s-min=1.2km az=157.0*
ISC 07 06:46:14.5±0.2,4834N±001×664E±002, h17km±2km, n89, σ1§05/176, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.36**	**109**	Pg	**Pg**	**06 46 22.9**	**+0.8**
ECH				Sg	**Sg**	**06 46 27.4**	**+0.2**
HAU	**Haudompre**	**0.38**	**211**	*e*Pg	**Pg**	**06 46 23.6**	**+1.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**06 46 27.5**	**-0.3**
	246nm,0.2s						
HAU	**Haudompre**	**0.38**	**211**	*e*Pg	**Pg**	**06 46 23.6**	**+1.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**06 46 27.5**	**-0.3**
	123nm,0.2s						
CDF	**Champ du Feu**	**0.43**	**79**	*e*Pg	**Pg**	**06 46 23.9**	**+0.6**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**06 46 29.4**	**+0.3**
	201nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**0.43**	**79**	*e*Pg	**Pg**	**06 46 23.9**	**+0.6**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**06 46 29.4**	**+0.3**
	100nm,0.4s,SNR=1.0						
THEF	**They Montfort**	**0.45**	**256**	Pg	**Pg**	**06 46 24.7**	**+1.0**
THEF				Sg	**Sg**	**06 46 30.8**	**+1.0**
HINF	**Hinteralfeld**	**0.54**	**165**	*e*Pg	**Pg**	**06 46 26.0**	**+0.8**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**06 46 33.0**	**+0.6**
	151nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sg**	**06 46 35.7**	**+3.3**
	SNR=1.0						
HINF	**Hinteralfeld**	**0.54**	**165**	*e*Pg	**Pg**	**06 46 26.0**	**+0.8**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**06 46 33.0**	**+0.6**
	76nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sg**	**06 46 35.7**	**+3.3**
	SNR=1.0						
MOF	**Molkenrain**	**0.58**	**146**	Pg	**Pg**	**06 46 27.1**	**+1.0**
MOF				Sg	**Sg**	**06 46 35.4**	**+1.5**
LIBD	**Limburg**	**0.67**	**106**	Pg	**Pg**	**06 46 28.2**	**+0.6**
LIBD				Sg	**Sg**	**06 46 37.7**	**+1.2**
LANF	**Langenberg**	**1.01**	**50**	Pg	**Pg**	**06 46 34.0**	**0.0**
LANF				Sg	**Sg**	**06 46 47.2**	**0.0**
BOURR	**Bourrignon**	**1.02**	**157**	*e*Pg	**Pg**	**06 46 35.4**	**+1.1**
BOURR				*e*Sg	**Sg**	**06 46 48.9**	**+1.2**
FELD	**Feldberg im Sc**	**1.02**	**116**	Pg	**Pg**	**06 46 34.4**	**+0.1**
FELD				Sg	**Sg**	**06 46 48.0**	**+0.3**
BBS	**Basel-Blauen**	**1.05**	**146**	Pg	**Pg**	**06 46 35.6**	**+0.8**
BBS				Sg	**Sg**	**06 46 49.0**	**+0.5**
MEZF	**Maizieres J'vi**	**1.07**	**280**	*e*Pn	**Pn**	**06 46 35.4**	**+0.7**
	baz=100,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.07**	**280**	*e*Pg	**Pg**	**06 46 36.7**	**+1.4**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**06 46 51.0**	**+1.6**
	61nm,0.2s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.07**	**280**	*e*Pg	**Pg**	**06 46 36.7**	**+1.4**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**06 46 51.0**	**+1.6**
	30nm,0.2s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.07**	**280**	*e*Pn	**Pn**	**06 46 35.4**	**+0.7**
MEZF				*e*Pg	**Pg**	**06 46 36.7**	**+1.4**
MEZF				*e*Sg	**Sg**	**06 46 51.0**	**+1.6**
BFO	**Black Forest**	**1.12**	**90**	*e*Pg	**Pg**	**06 46 35.6**	**-0.7**
BFO				*e*Sg	**Sg**	**06 46 49.4**	**-1.6**
BFO	**Black Forest**	**1.12**	**90**	Pg	**Pg**	**06 46 35.6**	**-0.7**
BFO				Sg	**Sg**	**06 46 49.4**	**-1.6**
BFO	**Black Forest**	**1.12**	**90**	*e*Pg	**Pg**	**06 46 35.6**	**-0.7**
BFO				*e*Sg	**Sg**	**06 46 49.4**	**-1.6**
SULZ	**Cheisacher**	**1.28**	**129**	*e*Sg	**Sg**	**06 46 56.5**	**+0.7**
SLE	**Schleitheim**	**1.37**	**114**	*e*Pn	**Pn**	**06 46 39.1**	**+0.4**
SLE				*e*Sg	**Sg**	**06 46 58.6**	**0.0**
WLF	**Walferdange**	**1.37**	**347**	P	**Pn**	**06 46 43.2**	**+4.4**
WLF				S	**Sn**	**06 46 59.0**	**+2.5**
KTD	**Kalmit**	**1.37**	**43**	Pg	**Pg**	**06 46 41.3**	**+0.3**
KTD				Sg	**Sg**	**06 46 59.7**	**+0.9**
RUP	**Ruppelstein**	**1.40**	**11**	Pg	**Pg**	**06 46 41.8**	**+0.4**
RUP				Sg	**Sg**	**06 46 59.6**	**0.0**
SPAK	**Spaichingen-Ko**	**1.45**	**98**	Pg	**Pg**	**06 46 43.3**	**+0.8**
SPAK				Sg	**Sg**	**06 47 01.5**	**+0.1**
STU	**Stuttgart**	**1.75**	**75**	*e*Sg	**Sg**	**06 47 10.5**	**-0.4**
CABF	**La Chapelle**	**1.77**	**193**	*e*Pg	**Pg**	**06 46 49.0**	**+0.6**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**06 47 07.2**	**+1.0**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**06 47 11.6**	**+0.2**
	41nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**1.77**	**193**	*e*Pg	**Pg**	**06 46 49.0**	**+0.6**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**06 47 07.2**	**+1.0**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**06 47 11.6**	**+0.2**
	20nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**1.77**	**193**	*e*Pn	**Pn**	**06 46 45.2**	**+1.0**
CABF				*e*Pg	**Pg**	**06 46 49.0**	**+0.6**
CABF				*e*Sn	**Sn**	**06 47 07.2**	**+1.0**
CABF				*e*Sg	**Sg**	**06 47 11.6**	**+0.2**
GIVF	**Givet**	**2.13**	**327**	*e*Sg	**Sg**	**06 47 24.0**	**+0.8**
	11nm,0.2s,SNR=1.0						
GIVF	**Givet**	**2.13**	**327**	*e*Sg	**Sg**	**06 47 24.0**	**+0.8**
	5.3nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.16**	**241**	*e*Pg	**Pg**	**06 46 56.7**	**+0.8**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**06 47 22.8**	**-1.2**
	44nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.16**	**241**	*e*Pg	**Pg**	**06 46 56.7**	**+0.8**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**06 47 22.8**	**-1.2**
	22nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.16**	**241**	*e*Pn	**Pn**	**06 46 50.1**	**+0.5**
LOR				*e*Pg	**Pg**	**06 46 56.7**	**+0.8**
LOR				*e*Sg	**Sg**	**06 47 22.8**	**-1.2**
TNS	**Taunus Mts**	**2.23**	**31**	*e*Sg	**Sg**	**06 47 25.8**	**-0.4**
BAIF	**Baives**	**2.35**	**318**	*e*Pg	**Pg**	**06 46 59.4**	**-0.2**
	SNR=1.0						
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg	**Pg**	**06 47 02.7**	**+0.8**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**06 47 34.6**	**+0.6**
	13nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg	**Pg**	**06 47 02.7**	**+0.8**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**06 47 34.6**	**+0.6**
	6.4nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pn	**Pn**	**06 46 54.4**	**+0.5**
SSF				*e*Pg	**Pg**	**06 47 02.7**	**+0.8**
SSF				*e*Sg	**Sg**	**06 47 34.6**	**+0.6**
**SMF

ORIF				eSg	Sg	06 48 02.7	-2.8
TCF	**Toulx Ste Croi**	**3.65**	**237**	ePg	Pg	06 47 23.5	-0.8
	SNR=1.0						
TCF				eSg	Sg	06 48 09.7	-1.8
	9.7nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.65**	**237**	ePg	Pg	06 47 23.5	-0.8
	SNR=1.0						
TCF				eSg	Sg	06 48 09.7	-1.8
	4.8nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.65**	**237**	ePn	Pn	06 47 10.0	-0.1
TCF				ePg	Pg	06 47 23.5	-0.8
TCF				eSg	Sg	06 48 09.7	-1.8
VIVF	**Saint-Julien-l**	**3.73**	**202**	ePg	Pg	06 47 25.5	-0.6
	SNR=1.0						
VIVF				eSg	Sg	06 48 11.5	-2.9
	5.3nm,0.3s						
VIVF	**Saint-Julien-l**	**3.73**	**202**	ePg	Pg	06 47 25.5	-0.6
	SNR=1.0						
VIVF				eSg	Sg	06 48 11.5	-2.9
	2.7nm,0.3s						
MOX	**Moxa**	**3.98**	**53**	eSg	Sg	06 48 21.4	-0.9
WET	**Wettzell**	**4.21**	**77**	eSg	Sg	06 48 27.7	-1.7
GUNZ	**Gunzen**	**4.24**	**59**	eSg	Sg	06 48 28.4	-2.1
WERD	**Werda**	**4.26**	**58**	eSg	Sg	06 48 29.8	-1.4
LDF	**La Druitiere**	**4.51**	**276**	eSg	Sg	06 48 38.8	-0.4
	8.3nm,0.4s,SNR=1.0						
LDF	**La Druitiere**	**4.51**	**276**	eSg	Sg	06 48 38.8	-0.4
	4.2nm,0.4s,SNR=1.0						
CAF	**Calviac**	**4.64**	**224**	ePg	Pg	06 47 42.1	-1.3
	SNR=1.0						
CAF				eSg	Sg	06 48 42.3	-1.3
	4.4nm,0.3s,SNR=1.0						
CAF	**Calviac**	**4.64**	**224**	ePg	Pg	06 47 42.1	-1.3
	SNR=1.0						
CAF				eSg	Sg	06 48 42.3	-1.3
	2.2nm,0.3s,SNR=1.0						
CAF	**Calviac**	**4.64**	**224**	ePn	Pn	06 47 23.5	-0.3
CAF				ePg	Pg	06 47 42.1	-1.3
CAF				eSg	Sg	06 48 42.3	-1.3
RJF	**Les Rejaudoux**	**4.64**	**231**	eSg	Sg	06 48 42.3	-1.2
	5.4nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.64**	**231**	eSg	Sg	06 48 42.3	-1.2
	2.7nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**4.68**	**205**	ePg	Pg	06 47 42.6	-1.5
	SNR=1.0						
LASF				eSg	Sg	06 48 44.8	+0.2
	3.6nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**4.68**	**205**	ePg	Pg	06 47 42.6	-1.5
	SNR=1.0						
LASF				eSg	Sg	06 48 44.8	+0.2
	1.8nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**4.68**	**205**	ePn	Pn	06 47 23.5	-0.7
LASF				ePg	Pg	06 47 42.6	-1.5
LASF				eSg	Sg	06 48 44.8	+0.2
FLN	**La Foliniere**	**4.75**	**278**	ePn	Pn	06 47 25.0	-0.3
	SNR=1.0						
FLN				eSg	Sg	06 48 47.3	+0.3
	5.1nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**4.75**	**278**	ePn	Pn	06 47 25.0	-0.3
	SNR=1.0						
FLN				eSg	Sg	06 48 47.3	+0.3
	2.5nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**4.92**	**252**	eSg	Sg	06 48 49.9	-2.5
	3.9nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**4.92**	**252**	eSg	Sg	06 48 49.9	-2.5
	2.0nm,0.3s,SNR=1.0						
GRR	**Gorron**	**5.00**	**273**	eSn	Sn	06 48 21.7	-4.3
	4.7nm,0.5s,SNR=1.0						
GRR	**Gorron**	**5.00**	**273**	eSn	Sn	06 48 21.7	-4.3
	2.3nm,0.5s,SNR=1.0						
LMR	**La Mourre**	**5.00**	**181**	ePn	Pn	06 47 28.5	-0.2
	SNR=1.0						
LMR				eSn	Sn	06 48 24.3	-1.8
	6.4nm,0.8s,SNR=1.0						
LMR	**La Mourre**	**5.00**	**181**	ePn	Pn	06 47 28.5	-0.2
	SNR=1.0						
LMR				eSn	Sn	06 48 24.3	-1.8
	3.2nm,0.8s,SNR=1.0						

ISCJB ***07*** *06:50:34.4±0.3, 4833N±002×657E±002, h7km±3km, Error ellipse: s-maj=2.7km s-min=2.2km az=171.0*
STR ***07*** *06:50:36.5±0.2, 4835N×669E, h10km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
CSEM ***07*** *06:50:36.9±0.0, 4834N×669E, h15km, ML2.9/13, Error ellipse: s-maj=0.9km s-min=0.7km az=170.0*
BGR ***07*** *06:50:37.5±0.8, 4834N×671E, h10km, ML2.5/4, Error ellipse: s-maj=7.8km s-min=4.4km az=93.0*
NEIC ***07*** *06:50:37.1, 4833N×666E, h12km, ML2.5(SZGRF), ML2.4(STR), ML2.9(LDG), After LDG.*
LDG ***07*** *06:50:37.1±0.1, 4833N×666E, h12km±1km, Md3.2/4, Ml2.9/17, Error ellipse: s-maj=1.8km s-min=1.2km az=160.0*

ISC 07 06:50:36.0±0.2,**4832N**±002×**662E**±002,**h14**km±3km,**n72,** σ0º**90**/150,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.36**	**211**	ePg	Pg	06 50 44.7	+1.4
	SNR=1.0						
HAU				eSg	Sg	06 50 48.9	+0.6
	98nm,0.2s						
HAU	**Haudompre**	**0.36**	**211**	ePg	Pg	06 50 44.7	+1.4
	SNR=1.0						
HAU				eSg	Sg	06 50 48.9	+0.6
	49nm,0.2s						
ECH	**Echery**	**0.37**	**106**	Pg	Pg	06 50 44.0	+0.5
ECH				Sg	Sg	06 50 48.6	0.0
THEF	**They Montfort**	**0.43**	**258**	Pg	Pg	06 50 45.7	+1.0
THEF				Sg	Sg	06 50 52.3	+1.8
CDF	**Champ du Feu**	**0.45**	**78**	ePg	Pg	06 50 45.1	+0.2
	SNR=1.0						
CDF				eSg	Sg	06 50 50.5	-0.4
	137nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**0.45**	**78**	ePg	Pg	06 50 45.1	+0.2
	SNR=1.0						
CDF				eSg	Sg	06 50 50.5	-0.4
	68nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**0.53**	**163**	ePg	Pg	06 50 47.2	+0.9
	SNR=1.0						
HINF				eSg	Sg	06 50 54.1	+0.8
HINF				eSn	Sg	06 50 56.8	+3.5
	93nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**0.53**	**163**	ePg	Pg	06 50 47.2	+0.9
	SNR=1.0						
HINF				eSg	Sg	06 50 54.1	+0.8
HINF				eSn	Sg	06 50 56.8	+3.5
	46nm,0.2s,SNR=1.0						
MOF	**Molkenrain**	**0.58**	**144**	Pg	Pg	06 50 48.1	+0.8
MOF				Sg	Sg	06 50 55.6	+0.6
LIBD	**Limburg**	**0.68**	**104**	Pg	Pg	06 50 48.7	-0.5
LIBD				Sg	Sg	06 50 56.9	-1.2
BOURR	**Bourrignon**	**1.01**	**156**	ePg	Pg	06 50 56.4	+0.9
BOURR				eSg	Sg	06 51 10.0	+1.3
BOURR	**Bourrignon**	**1.01**	**156**	Pg	Pg	06 50 56.4	+0.9
BOURR				Sg	Sg	06 51 10.0	+1.3
FELD	**Feldberg im Sc**	**1.03**	**115**	Pg	Pg	06 50 56.2	+0.4
FELD				Sg	Sg	06 51 09.2	0.0
LANF	**Langenberg**	**1.03**	**49**	Pg	Pg	06 50 55.1	-0.7
LANF				Sg	Sg	06 51 08.3	-0.9
BBS	**Basel-Blauen**	**1.04**	**145**	Pg	Pg	06 50 56.7	+0.6
BBS				Sg	Sg	06 51 10.2	+0.5
MEZF	**Maizieres J'vi**	**1.06**	**281**	ePg	Pg	06 50 57.8	+1.3
	baz=102						
MEZF				eSg	Sg	06 51 12.1	+1.7
	58nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.06**	**281**	ePg	Pg	06 50 57.8	+1.3
MEZF				eSg	Sg	06 51 12.1	+1.7
	29nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.06**	**281**	ePn	Pn	06 50 56.4	0.0
MEZF				ePg	Pg	06 50 57.8	+1.3
MEZF				eSg	Sg	06 51 12.1	+1.7
BFO	**Black Forest**	**1.14**	**89**	ePg	Pg	06 50 57.9	0.0
BFO				eSg	Sg	06 51 12.7	-0.1
BFO	**Black Forest**	**1.14**	**89**	Pg	Pg	06 50 57.9	0.0
BFO				Sg	Sg	06 51 12.7	-0.1
BFO	**Black Forest**	**1.14**	**89**	ePg	Pg	06 50 57.9	0.0
BFO				eSg	Sg	06 51 12.7	-0.1
SULZ	**Cheisacher**	**1.28**	**128**	ePn	Pn	06 51 00.3	+1.0
SULZ				eSg	Sg	06 51 17.4	+0.3
SULZ	**Cheisacher**	**1.28**	**128**	Pn	Pn	06 51 00.3	+0.9
SULZ				Sg	Sg	06 51 17.4	+0.3
SLE	**Schleitheim**	**1.37**	**113**	ePn	Pn	06 51 00.6	-0.1
SLE				eSg	Sg	06 51 19.7	-0.5
WLF	**Walferdange**	**1.38**	**347**	P	Pn	06 51 03.0	+2.1
WLF				S	Sn	06 51 20.3	+1.4
WLF	**Walferdange**	**1.38**	**347**	P	Pn	06 51 02.9	+2.1
WLF				S	Sn	06 51 20.3	+1.4
KTD	**Kalmit**	**1.39**	**43**	Pg	Pg	06 51 02.2	-0.6
KTD				Sg	Sg	06 51 20.7	-0.2
RUP	**Ruppelstein**	**1.41**	**12**	Pg	Pg	06 51 03.2	0.0
RUP				Sg	Sg	06 51 20.6	-1.0
SPAK	**Spaichingen-Ko**	**1.46**	**98**	Pg	Pg	06 51 04.3	+0.2
SPAK				Sg	Sg	06 51 23.0	-0.1
CABF	**La Chapelle**	**1.75**	**192**	ePg	Pg	06 51 10.2	+0.7
	SNR=1.0						
CABF				eSn	Sn	06 51 28.3	+0.5
	SNR=1.0						
CABF				eSg	Sg	06 51 32.6	+0.5
	34nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**1.75**	**192**	ePg	Pg	06 51 10.2	+0.7
	SNR=1.0						
CABF				eSn	Sn	06 51 28.3	+0.5
	SNR=1.0						
CABF				eSg	Sg	06 51 32.6	+0.5
	17nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**1.75**	**192**	ePn	Pn	06 51 06.3	+0.5
CABF				ePg	Pg	06 51 10.2	+0.7
CABF				eSn	Sn	06 51 28.3	+0.5
CABF				eSg	Sg	06 51 32.6	+0.5
WILA	**Wila**	**1.78**	**120**	eSg	Sg	06 51 33.5	+0.1
LOR	**Lormes**	**2.14**	**242**	ePg	Pg	06 51 17.6	+0.6
	SNR=1.0						
LOR				eSg	Sg	06 51 43.9	-0.8
	16nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.14**	**242**	ePg	Pg	06 51 17.6	+0.6
	SNR=1.0						
LOR				eSg	Sg	06 51 43.9	-0.8
	8.2nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.14**	**242**	ePn	Pn	06 51 11.3	+0.1
LOR				ePg	Pg	06 51 17.6	+0.6
LOR				eSg	Sg	06 51 43.9	-0.8
GIVF	**Givet**	**2.14**	**327**	ePg	Pg	06 51 16.9	-0.1
GIVF				eSg	Sg	06 51 45.2	+0.4
	4.6nm,0.2s						
GIVF	**Givet**	**2.14**	**327**	ePg	Pg	06 51 16.9	-0.1
GIVF				eSg	Sg	06 51 45.2	+0.4
	2.3nm,0.2s						
DOU	**Dourbes**	**2.22**	**324**	P	Pn	06 51 18.1	+5.7
DOU				S	Sn	06 51 48.7	+9.1
TNS	**Taunus Mts**	**2.25**	**31**	eSg	Sg	06 51 47.0	-1.2
BAIF	**Baives**	**2.35**	**319**	ePg	Pg	06 51 20.5	-0.6
SSF	**Saint Saulge**	**2.45**	**240**	ePg	Pg	06 51 23.6	+0.6
	SNR=1.0						
SSF				eSn	Sn	06 51 44.7	-0.5
	SNR=1.0						
SSF				eSg	Sg	06 51 55.4	+0.6
	8.9nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.45**	**240**	ePg	Pg	06 51 23.6	+0.6
	SNR=1.0						
SSF				eSn	Sn	06 51 44.7	-0.5
	SNR=1.0						
SSF				eSg	Sg	06 51 55.4	+0.6
	4.4nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.45**	**240**	ePn	Pn	06 51 15.5	0.0
SSF				ePg	Pg	06 51 23.6	+0.6
SSF				eSn	Sn	06 51 44.7	-0.5
SSF				eSg	Sg	06 51 55.4	+0.6
SMF	**Signal de Mont**	**2.52**	**229**	ePg	Pg	06 51 24.6	+0.3
	SNR=1.0						
SMF				eSg	Sg	06 51 56.5	-0.5
	11nm,0.2s						
SMF	**Signal de Mont**	**2.52**	**229**	ePg	Pg	06 51 24.6	+0.3
	SNR=1.0						
SMF				eSg	Sg	06 51 56.5	-0.5
	5.7nm,0.2s						
SMF	**Signal de Mont**	**2.52**	**229**	ePn	Pn	06 51 15.8	-0.7
SMF				ePg	Pg	06 51 24.6	+0.3
SMF				eSg	Sg	06 51 56.5	-0.5
AVF	**Avril sur Loir**	**2.69**	**237**	ePg	Pg	06 51 27.8	+0.3
	SNR=1.0						
AVF				eSg	Sg	06 51 59.9	-2.5
	5.3nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.69**	**237**	ePg	Pg	06 51 27.8	+0.3
	SNR=1.0						
AVF				eSg	Sg	06 51 59.9	-2.5
	2.7nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.69**	**237**	ePn	Pn	06 51 18.6	-0.2
AVF				ePg	Pg	06 51 27.8	+0.3
AVF				eSg	Sg	06 51 59.9	-2.5
LPL	**La Plagne**	**2.80**	**178**	ePn	Pn	06 51 20.9	+0.5
HYF	**Humbligny**	**2.88**	**250**	ePg	Pg	06 51 30.4	-0.8
HYF				eSg	Sg	06 52 10.4	+1.8
BGF	**Bois d'Agland**	**3.11**	**237**	ePg	Pg	06 51 35.6	0.0
BGF				eSg	Sg	06 52 13.9	-1.9
	12nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**3.11**	**237**	ePg	Pg	06 51 35.6	0.0
BGF				eSg	Sg	06 52 13.9	-1.9
	6.1nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**3.11**	**237**	ePn	Pn	06 51 24.1	-0.5
BGF				ePg	Pg	06 51 35.6	0.0
BGF				eSg	Sg	06 52 13.9	-1.9
ORIF	**Oris-en-Rattie**	**3.44**	**189**	ePg	Pg	06 51 41.2	-0.7
ORIF				eSg	Sg	06 52 23.9	-2.5
	3.3nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.44**	**189**	ePg	Pg	06 51 41.2	-0.7
ORIF				eSg	Sg	06 52 23.9	-2.5
	1.6nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.44**	**189**	ePn	Pn	06 51 29.1	0.0
ORIF				ePg	Pg	06 51 41.2	-0.7
ORIF				eSg	Sg	06 52 23.9	-2.5
TCF	**Toulx Ste Croi**	**3.62**	**238**	ePg	Pg	06 51 44.7	-0.7
	SNR=1.0						
TCF				eSg	Sg	06 52 31.0	-1.3
	2.8nm,0.2s						
TCF	**Toulx Ste Croi**	**3.62**	**238**	ePg	Pg	06 51 44.7	-0.7
	SNR=1.0						
TCF				eSg	Sg	06 52 31.0	-1.3
	1.4nm,0.2s						
TCF	**Toulx Ste Croi**	**3.62**	**238**	ePn	Pn	06 51 31.2	-0.4
TCF				ePg	Pg	06 51 44.7	-0.7
TCF				eSg	Sg	06 52 31.0	-1.3
VIVF	**Saint-Julien-l**	**3.71**	**202**	ePg	Pg	06 51 46.6	-0.5
VIVF				eSg	Sg	06 52 32.7	-2.5
	4.6nm,0.2s						
VIVF	**Saint-Julien-l**	**3.71**	**202**	ePg	Pg	06 51 46.6	-0.5
VIVF				eSg	Sg	06 52 32.7	-2.5
	2.3nm,0.2s						
LDF	**La Druitiere**	**4.50**	**276**	eSg	Sg	06 53 00.0	-0.3
	5.3nm,0.3s						
LDF	**La Druitiere**	**4.50**	**276**	eSg	Sg	06 53 00.0	-0.3
	2.7nm,0.3s						
CAF	**Calviac**	**4.62**	**224**	ePg	Pg	06 52 03.0	-1.5
CAF				eSg	Sg	06 53 03.4	-0.9
	2.5nm,0.3s						
CAF	**Calviac**	**4.62**	**224**	ePg	Pg	06 52 03.0	-1.5
CAF				eSg	Sg	06 53 03.4	-0.9
	1.2nm,0.3s						
LASF	**Ste Croix**	**4.66**	**205**	ePg	Pg	06 52 03.6	-1.6
FLN	**La Foliniere**	**4.74**	**278**	eSg	Sg	06 53 08.1	0.0
	2.2nm,0.2s						
FLN	**La Foliniere**	**4.74**	**278**	eSg	Sg	06 53 08.1	0.0
	1.1nm,0.2s						
GRR	**Gorron**	**4.99**	**274**	eSn	Sn	06 52 42.9	-4.9
	1.8nm,0.2s,SNR=1.0						
GRR	**Gorron**	**4.99**	**274**	eSn	Sn	06 52 42.9	-4.9
	0.9nm,0.2s,SNR=1.0						

FUNV ***07*** *07:39:22.7, 673N×7327W, h162km, MW3.6*
ISCJB ***07*** *07:39:23.6±0.6, 692N±006×7307W±007, h169km±6km, mb3.2/3, Error ellipse: s-maj=12.8km s-min=6.6km az=39.9*
IDC ***07*** *07:39:24.2±0.8, 681N×7301W, h163km±13km, mb3.0/3, mb1 3.5/6, mb1mx3.2/22, mbtmp3.2/6, Error ellipse: s-maj=35.8km s-min=7.8km az=133.0*
NEIC ***07*** *07:39:24.6±0.8, 679N×7303W, h169km±12km, Error ellipse: s-maj=27.1km s-min=11.6km az=142.0*

ISC 07 07:39:24.6±0.6,**691N**±006×**7305W**±007,**h163**km±6km,**n22,** σ0º**70**/29,**mb3.2**/3,**5C,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**38**	⇑iP	Pn	07 39 53.2	+0.8
CAPV				eS	Sn	07 40 14.3	+0.7
ROSC	**El Rosal**	**2.40**	**212**	P	Pn	07 40 05.1	-0.1
	25nm,0.3s,baz=41,slow=6.6,SNR=154						
ROSC				S	Sn	07 40 36.2	-0.4
	50nm,0.3s,baz=110,slow=17,SNR=8.1						
VIGV	**El Vigia**	**2.55**	**41**	⇑iP	Pn	07 40 07.5	+0.5
VIGV				eS	Sn	07 40 40.3	+0.6
SOCV	**Socops**	**2.57**	**58**	⇑iP	Pn	07 40 07.7	+0.5
SOCV				eS	Sn	07 40 40.3	+0.1
SDV	**Santo Domingo**	**3.10**	**50**	P	Pn	07 40 14.7	+1.0
	6.7nm,0.3s,baz=244,slow=3.4,SNR=40						
SDV				S	Sn	07 40 52.5	+0.7
	12nm,0.3s,baz=66,slow=21,SNR=24						
ELOV	**Elorza**	**3.54**	**88**	eP	Pn	07 40 19.2	-0.2
VIRV	**Villa del Rosa**	**3.63**	**10**	⇑iP	Pn	07 40 19.8	-0.6
VIRV				eS	Sn	07 41 01.8	-2.1
QARV	**Quebrada Arrib**	**4.12**	**37**	⇑eP	Pn	07 40 27.4	+0.6
QARV				eS	Sn	07 41 14.7	-0.7
SANV	**Sanarito**	**4.33**	**53**	eP	Pn	07 40 29.0	-0.5
CURV	**Curarigua**	**4.34**	**45**	eP	Pn	07 40 29.8	+0.1
CURV				eS	Sn	07 41 20.5	0.0
TEPV	**Terepaima**	**4.88**	**51**	eP	Pn	07 40 36.9	+0.2
SIQV	**Siquisique**	**4.91**	**41**	eP	Pn	07 40 36.8	-0.2
BAUV	**El Baul**	**5.36**	**67**	eP	Pn	07 40 42.0	-1.0
IMOV	**Isla Los Monje**	**5.82**	**21**	eP	Pn	07 40 48.5	-0.5
TURV	**Turiamo**	**6.24**	**55**	eP	Pn	07 40 54.6	0.0
CAOV	**Caicara del Or**	**6.69**	**86**	eP	Pn	07 40 59.2	-1.4
BIRV	**Birongo**	**7.58**	**62**	eP	Pn	07 41 12.0	-0.4
PCRV	**Puerto La Cruz**	**8.93**	**68**	P	Pn	07 41 30.8	+0.4
	0.3nm,0.3s,baz=185,slow=6.4,SNR=3.1						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	07 46 13.9	0.0
	0.2nm,0.5s,mb3.0,baz=122,slow=9.2,SNR=4.5						
PDAR	**Pinedale Array**	**48.05**	**324**	P	**P**	07 47 48.7	+1.3
	0.3nm,0.5s,mb3.1,baz=106,slow=6.7,SNR=3.3						
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	07 49 35.3	+0.2
	0.5nm,0.6s,mb3.6,baz=133,slow=6.8,SNR=5.7						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	PKPbc	07 58 56.9	-0.8
	0.2nm,0.5s,baz=104,slow=3.1,SNR=7.9						

NIED ***07*** *07:39:00, 3260N×131.10E, h150km, Mw3.8 Best double couple: M0=5.36000×10^14 NP1:φs=21.00000°, δ57.00000°, λ105.00000°. NP2:φs=174.00000°, δ36.00000°, λ68.00000°.*
ISCJB ***07*** *07:39:24.2±0.6, 3243N±009×1309E±0.1, h160km±4km, mb3.6/8, Error ellipse: s-maj=21.2km s-min=14.5km az=160.3*
NEIC ***07*** *07:39:26.3, 3259N×131.11E, h148km, MG3.9(JMA), After JMA.*
JMA ***07*** *07:39:26.3±0.1, 3259N×131.11E, h148km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=224.00000°, δ38.00000°, λ114.00000°. NP2: φs=14.00000°, δ55.00000°, λ72.00000°. Principal axes: T Plg73.0000°, Azm237.0000°; N Plg14.0000°, Azm25.0000°; P Plg9.0000°, Azm117.0000°;*
JMA Felt I J1.
IDC ***07*** *07:39:28.3±2.2, 3260N×1309.3E, h185km±23km, mb3.3/8, mb1 3.4/10, mb1mx3.4/23, mbtmp3.3/10 Error ellipse: s-maj=28.1km s-min=13.7km az=66.0*

ISC 07 07:39:25.4±0.5,**3251N**±010×**1310E**±02,**h156**km±4km,**n16,** σ0º**87**/18,**mb3.6**/8,**3C,Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU2	**Izumi 2**	**0.13**	**287**	⇑P	Pn	07 39 46.7	+0.4
JIU2				S	Sn	07 40 02.2	-0.1
JKIT	**Kitakata**	**0.43**	**74**	⇑P	Pn	07 39 46.8	-0.4
JKIT				S	Sn	07 40 02.6	-1.1
JTZ	**Takazaki**	**0.61**	**170**	⇑P	Pn	07 39 48.4	+0.3
JTZ				S	Sn	07 40 05.4	0.0
KSRS	**Korea Array**	**5.53**	**334**	P	Pn	07 40 47.5	+1.7
	0.9nm,0.3s,baz=151,slow=14,SNR=23						
MJAR	**Matsushiro Arr**	**7.21**	**54**	P	Pn	07 41 11.4	+3.2
	1.3nm,0.3s,baz=240,slow=14,SNR=10						
SONM	**Songino Array**	**24.08**	**317**	P	**P**	07 44 26.1	-0.1
	1.8nm,0.8s,mb3.7,baz=137,slow=9.8,SNR=8.3						
MKAR	**Makanchi Array**	**39.47**	**306**	P	**P**	07 46 40.3	0.0
	0.5nm,0.4s,mb3.5,baz=97,slow=9.5,SNR=3.3						
BVAR	**Borovoye Array**	**47.39**	**314**	PcP	PcP	07 49 11.3	-0.3
	1.2nm,0.4s,baz=117,slow=3.3,SNR=5.2						
WRA	**Warramunga Arr**	**52.25**	**176**	P	**P**	07 48 20.6	0.0
	0.8nm,0.5s,mb3.6,baz=353,slow=7.9,SNR=13						
ASAR	**Alice Springs**	**55.93**	**177**	P	**P**	07 48 48.2	+1.1
	1.0nm,0.6s,mb3.9,baz=12,slow=14,SNR=19						
ARCES	**ARCESS Array B**	**65.08**	**338**	P	**P**	07 49 48.5	-0.1
	0.3nm,0.5s,mb3.4,baz=59,slow=7.7,SNR=5.0						
ARCES	**ARCESS Array B**	**65.08**	**338**	P	**P**	07 49 48.5	-0.1
AKASG	**Malin Array Be**	**72.34**	**319**	P	**P**	07 50 33.2	-0.7
	1.1nm,0.4s,mb3.9,baz=56,slow=6.4,SNR=4.6						
NB2	**NORSAR Subarra**	**74.74**	**334**	P	**P**	07 50 46.1	-1.6
	comp=Z,0.7nm,0.8s,mb3.3,baz=46,slow=5.6						
NOA	**NORSAR Array B**	**74.74**	**334**	P	**P**	07 50 45.8	-1.9
	comp=Z,0.8nm,0.7s,mb3.5,baz=48,slow=5.6,SNR=4.2						
PDAR	**Pinedale Array**	**86.81**	**40**	P	**P**	07 51 51.9	-0.2
	comp=Z,0.3nm,0.6s,mb3.3,baz=326,slow=0.5,SNR=3.7						

CSEM ***07*** *08:31:30.8±0.1, 3891N×4029E, h8km, MD2.9, Error ellipse: s-maj=3.9km s-min=2.2km az=176.0*
ISCJB ***07*** *08:31:31.9±0.5, 3893N±005×4029E±005, h10km, Error ellipse: s-maj=7.1km s-min=5.2km az=177.1*
ISK ***07*** *08:31:31.0, 3893N×4028E, h7km, MD2.9*
DDA ***07*** *08:31:31.4, 3888N×4029E, h7km±4km, Md2.7*

ISC 07 08:31:31.8±0.7,**3893N**±005×**4032E**±004,**h4**km±7km,**n12,** σ1º**04**/17,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.14**	**113**	PG	Pg	08 31 35.0	+0.3
BNGL	**BINGOL**	**0.65**	**88**	*i* P	Pg	08 31 45.1	+0.9
BNGL				*i* S	Sg	08 31 59.5	+6.9
PTK	**Pertek**	**0.72**	**267**

KZA Kyzart 6.57 30 P **Pn 08 51 20.1 +0.8**
SNR=9.8
EKS2 Erkin-Say 6.60 19 P **Pn 08 51 20.3 -0.6**
SNR=34
KK31 Karatay Array 6.66 358 ⇓P **Pn 08 51 19.7 -0.7**
7.0nm,0.3s,baz=175,slow=13
KK31 ⇓S **Sn 08 52 30.6 -5.8**
13nm,0.6s,baz=183,slow=22
AAK Ala-Archa 6.78 23 P **Pn 08 51 22.9 +0.8**
SNR=19
KBK Karagaybulak 6.96 26 P **Pn 08 51 26.2 +1.9**
SNR=5.0
SDNR Sundarnagar 7.07 132 *e*P **Pn 08 51 24.4 -1.5**
SDNR *e*x x 08 52 37.4
ULHL Ulahol 7.13 34 P **Pn 08 51 27.4 +0.8**
SNR=7.6
CHMS Chumysh 7.20 23 P **Pn 08 51 27.7 +0.4**
SNR=8.8
USP Ospenovka 7.36 21 P **Pn 08 51 30.5 +1.0**
SNR=13
TKM2 Tokmak 2 7.42 28 ⇑P **Pn 08 51 30.9 +0.6**
37nm,0.7s
TKM2 ⇓S **Sn 08 52 52.2 -2.2**
11nm,1.1s
TKM2 Tokmak 2 7.42 28 *e*PN **Pn 08 51 31.0 +0.7**
TKM2 pmax pmax
comp=Z,42nm,0.7s
TKM2 Tokmak 2 7.42 28 P **Pn 08 51 31.1 +0.8**
SNR=49
TKM2 Tokmak 2 7.42 28 *e*Pn **Pn 08 51 30.9 +0.6**
comp=Z,42nm,0.7s
SMLA Simla 7.45 134 *i* P **Pn 08 51 30.3 -0.6**
SMLA *i* S **Sn 08 52 50.1 -5.3**
SMLA *e*x x 08 52 52.6
comp=E,522nm,0.2s
SMLA *e*x x 08 52 55.9
comp=N,938nm,0.3s
DDI Dehra Dun 8.56 133 *e*x x 08 52 57.8
NDI New Delhi 9.41 144 *e*S **Sn 08 53 30.0 -12**
KUDL Kundal 9.54 149 *e*S **Sn 08 53 32.8 -12**
KUDL AML AML 08 53 43.4
comp=N,32nm,0.5s
MK31 Makanchi Array 13.40 36 ⇓P **Pn 08 52 45.1 -1.6**
comp=N,1.7nm,0.5s,baz=219,slow=11,SNR=13
MKAR Makanchi Array 13.40 36 P **Pn 08 52 47.5 +0.8**
comp=N,0.3nm,0.3s,baz=215,slow=10,SNR=7.8
DANN Dangsing 13.54 123 *e*P **Pn 08 52 49.2 +0.4**
KOLN Koldanda 13.82 125 *e*P **Pn 08 52 51.6 -0.5**
GKN Gorkha 14.36 122 *e*P **Pn 08 53 00.1 +1.2**
DMN Daman 14.93 122 *e*P **Pn 08 53 06.8 +1.0**
comp=N,11nm,0.4s
KKN Kakani 14.94 121 *e*P **Pn 08 53 06.2 +0.3**
AB31 Akbulak array 15.08 331 P **Pn 08 53 06.4 -1.0**
comp=N,1.2nm,0.4s,baz=150,slow=12,SNR=40
AB31 ⇓S **S 08 55 47.4 -7.2**
comp=N,0.5nm,0.5s
PKI Pulchoki 15.16 122 *e*P **Pn 08 53 09.6 +1.0**
comp=N,31nm,0.7s
JIRN Jiri 15.65 120 *e*P **Pn 08 53 14.7 +0.2**
comp=N,14nm,0.3s
VOSK Vostochnaya 16.28 0 ⇑P **P 08 53 20.3 -0.7**
comp=N,2.0nm,0.5s
RAMN Ramite 16.38 121 *e*P **P 08 53 21.8 -0.5**
BVAR Borovoye Array 16.58 359 P **P 08 53 25.2 +0.9**
comp=N,0.6nm,0.3s,baz=178,slow=16,SNR=6.6
AKTK Aktyubinsk 16.78 330 P **P 08 53 27.1 +0.6**
AKTO Aktyubinsk 16.78 330 ⇑P **P 08 53 26.6 +0.1**
comp=N,1.0nm,0.6s
AKTO Aktyubinsk 16.78 330 P **P 08 53 27.1 +0.6**
comp=N,1.5nm,0.3s,baz=143,slow=11,SNR=22
TAPN Taplejung 16.91 118 *e*P **P 08 53 29.8 +1.6**
ODAN Odare 16.98 120 *e*P **P 08 53 29.1 +0.1**
ZAL Zalesovo 19.99 25 P **P 08 54 01.4 +0.2**
ZALV Zalesovo Beam 20.01 25 P **P 08 54 01.4 0.0**
comp=N,4.1nm,0.5s,baz=221,slow=12,SNR=10
NVS Novosibirsk 20.27 21 *e*P **P 08 54 04.4 +0.2**
CMAR Chiang Mai Arr 30.52 118 LR LR 09 10 16.8
comp=N,92nm,19.9s,baz=190,slow=41
ARCES ARCESS Array B 41.16 338 P **P 08 57 08.8 +0.5**
comp=N,2.3nm,0.7s,mb3.7,baz=108,slow=7.4,SNR=14
ARCES ARCESS Array B 41.16 338 P **P 08 57 08.8 +0.5**
NB2 NORSAR Subarra 44.36 323 P **P 08 57 33.1 -1.0**
comp=Z,0.7nm,0.4s,mb3.3,baz=100,slow=7.9
NOA NORSAR Array B 44.36 323 P **P 08 57 32.9 -1.2**
comp=Z,0.1nm,0.3s,mb2.6,baz=104,slow=7.3,SNR=6.7
TORD Torodi Ar. Bea 65.61 269 P **P 09 00 04.3 -2.5**
comp=Z,1.2nm,0.5s,mb3.8,baz=49,slow=5.6,SNR=26
YKA Yellowknife Ar 81.31 3 P **P 09 01 37.4 0.0**
comp=Z,1.1nm,0.6s,mb3.7,baz=350,slow=5.4,SNR=7.4
YKA Yellowknife Ar 81.31 3 P **P 09 01 37.4 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 82.05 122 P **P 09 01 39.9 -2.1**
comp=Z,0.4nm,0.9s,mb3.0,baz=327,slow=5.3,SNR=7.8

*BJI **07** 08:53:17.7,2004N×10047E,h10km,mB4.6,mb4.3,ML4.5, Ms4.3,Msz4.1*
*ISCJB **07** 08:53:27.7±0.5,2078N±005×10076E±003,h10km, mb3.8/6,MS3.3/4,Error ellipse: s-maj=7.9km s-min=4.1km az=162.3*
*PLV **07** 08:53:27.5±1.7,2082N×10062E,h2km±17km,ML4.3*
*IDC **07** 08:53:29.3±0.9,2085N×10065E,h0km,mb3.9/6, mb1 4.0/7,mb1mx3.8/20,mbtmp3.9/7,ML4.4/1,MS3.4/4, Ms1 3.4/4,ms1mx2.9/29,Error ellipse: s-maj=25.7km s-min=14.0km az=103.0*
*NEIC **07** 08:53:30.6±0.5,2078N×10053E,h10km,Error ellipse: s-maj=15.9km s-min=8.5km az=98.0*
ISC 07 08:53:29.3±0.5,2077N±005×10071E±003,h10km,n19, σ1§20/25,mb3.8/6,MS3.3/4,Laos

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**2.25**	**74**	*e*PN		**Pn**	**Pn**	**08 54 06.4**	**-0.1**
DBV				*e*PG		**Pg**	**Pg**	**08 54 11.4**	**-1.0**
DBV				*e*SG		**Sg**	**Sg**	**08 54 42.5**	**+0.9**
DBV				AMP				08 54 48.2	
	comp=Z,4μm,0.7s								
CHTO	**Chiang Mai**	**2.56**	**221**	*e*Pn		**Pn**	**Pn**	**08 54 10.8**	**-0.1**
CHTO				*e*Sn		**Sg**	**Sg**	**08 54 50.5**	**-1.1**
LCVN	**Lai Chau**	**2.60**	**61**	*e*PN		**Pn**	**Pn**	**08 54 11.2**	**-0.3**
LCVN				*e*PG		**Pg**	**Pg**	**08 54 18.5**	**-0.7**
LCVN				*e*SG		**Sg**	**Sg**	**08 54 52.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**2.84**	**216**	Pn		**Pn**	**Pn**	**08 54 15.0**	**+0.3**
	comp=Z,13nm,0.3s,baz=26,slow=12,SNR=32								
CMAR				Pg		**Pg**	**Pg**	**08 54 22.1**	**-1.7**
	comp=Z,58nm,0.3s,baz=37,slow=18,SNR=279								
CMAR				Lg				08 55 01.2	
	comp=Z,111nm,0.3s,baz=36,slow=30,SNR=21								
SLVN	**Son La**	**3.03**	**79**	*e*PN		**Pn**	**Pn**	**08 54 17.0**	**-0.4**
SLVN				*e*PG		**Pg**	**Pg**	**08 54 24.2**	**-3.2**
SLVN				*e*SG		**Sg**	**Sg**	**08 55 05.8**	**-1.1**
LAVN	**Lang Chanh**	**4.30**	**97**	*e*PG		**Pg**	**Pg**	**08 54 51.3**	**-0.3**
LAVN				*e*SG		**Sg**	**Sg**	**08 55 48.9**	**+1.6**
CD2	**Chengdu**	**10.46**	**15**	*e*P		**Pn**	**Pn**	**08 55 58.5**	**-0.9**
CD2				PP				08 56 13.8	
CD2				AMB		AMB			
	comp=Z,10.0nm,0.6s								
CD2				AMB		AMB			
	comp=Z,20nm,4.2s								
CD2				LR		LR			
	comp=N,460nm,10.8s								
CD2				LR		LR			
	comp=E,2μm,10.8s								
CD2				LR		LR			
	comp=Z,680nm,13.2s								
LZH	**Lanzhou**	**15.51**	**10**	*e*P		**Pn**	**Pn**	**08 57 05.6**	**-2.4**
LZH				AP		pP	pP	08 57 09.4	-5.9
LZH				XP		sP	sP	08 57 12.0	-4.6
LZH				PP				08 57 18.0	
LZH				AMB		AMB			
	comp=Z,14nm,1.0s								
LZH				AMB		AMB			
	comp=Z,150nm,4.8s								
LZH				LR		LR			
	comp=N,673nm,9.9s								
LZH				LR		LR			
	comp=Z,873nm,10.1s								
SONM	**Songino Array**	**27.39**	**8**	P		**P**	**P**	**08 59 16.5**	**+1.7**
	comp=Z,1.1nm,0.7s,mb3.5,baz=171,slow=11,SNR=5.3								
KSRS	**Korea Array**	**28.86**	**49**	LR		LR	LR	09 12 52.1	
	comp=Z,104nm,18.7s,MS3.5,baz=247,slow=40								
MK31	**Makanchi Array**	**29.98**	**334**	*e*P		**P**	**P**	**08 59 38.9**	**+1.0**
MKAR	**Makanchi Array**	**29.98**	**334**	P		**P**	**P**	**08 59 38.4**	**+0.5**
	comp=Z,1.6nm,0.7s,mb3.9,baz=147,slow=8.4,SNR=9.7								
ZALV	**Zalesovo Beam**	**35.28**	**344**	P		**P**	**P**	**09 00 24.9**	**+0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=123,slow=5.4,SNR=2.9								
ZALV				LR		LR	LR	09 16 18.9	
	comp=Z,37nm,21.1s,MS3.1,baz=35,slow=39								
GUMO	**Guam**	**42.68**	**92**	LR		LR	LR	09 17 04.6	
	comp=Z,32nm,18.1s,MS3.3,baz=39,slow=33								
WRA	**Warramunga Arr**	**52.15**	**139**	P		**P**	**P**	**09 02 42.3**	**+2.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=324,slow=7.8,SNR=5.4								
ASAR	**Alice Springs**	**54.74**	**142**	P		**P**	**P**	**09 03 01.6**	**+2.5**
	comp=Z,0.8nm,0.7s,mb3.9,baz=325,slow=6.5,SNR=6.2								
NB2	**NORSAR Subarra**	**71.82**	**329**	P		**P**	**P**	**09 04 52.9**	**+0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=79,slow=6.2								
NOA	**NORSAR Array B**	**71.82**	**329**	P		**P**	**P**	**09 04 53.1**	**+1.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=81,slow=6.0,SNR=6.2								
GERES	**GERESS Array B**	**72.73**	**316**	LR		LR	LR	09 44 10.7	
	comp=Z,26nm,20.9s,MS3.5,baz=71,slow=42								

*IDC **07** 09:04:50.8±6.1,5.15S×143±61E,h85km±53km,mb4.0/14, mb1 4.2/15,mb1mx4.2/18,mbtmp4.1/15,ML4.7/1,MS3.3/2, Ms1 3.3/2,ms1mx2.9/22,Error ellipse: s-maj=35.4km s-min=13.3km az=80.0*
*MOS **07** 09:04:52.1±1.0,5.07S×143±41E,h109km,mb5.0/4,Error ellipse: s-maj=15.4km s-min=8.7km az=105.5*
*ISCJB **07** 09:04:52.1±1.3,5.14S±006×143±45E±007,h108km±13km, mb4.5/25,Error ellipse: s-maj=12.5km s-min=8.0km az=30.4*
*BJI **07** 09:04:53.0,5.20S×143±40E,h119km,mB5.2,mb4.9*
*NEIC **07** 09:04:54.6±1.2,5.18S×143±44E,h120km±11km,mb4.4/9, Error ellipse: s-maj=10.6km s-min=8.9km az=141.0*
*DJA **07** 09:04:55,5.12S×143±67E,h100km,ML4.8/3*
ISC 07 09:04:54.4±1.3,519S±007×14348E±007,h117km±14km, h112km±1.2km:pP-P,n62,σ0§99/57,mb4.5/24,3C-4D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.55**	**139**	*e*P		**Pn**	**Pn**	**09 06 15.4**	**+0.5**
PMG				*e*				09 07 14.5	
PMG				pmax		pmax			
	comp=Z,233nm,0.4s								
PMG	**Port Moresby**	**5.55**	**139**	*e*Pn		**Pn**	**Pn**	**09 06 15.4**	**+0.5**
	comp=Z,233nm,0.4s								
PMG				*e*Sn		**Sn**	**Sn**	**09 07 14.5**	**-3.0**
COEN	**Coen**	**8.71**	**182**	*e*Pn		**Pn**	**Pn**	**09 06 58.6**	**+0.9**
	comp=Z,16nm,0.9s								
KAKA	**Kakadu**	**13.21**	**235**	⇓*i*P		**Pn**	**Pn**	**09 07 56.8**	**-0.8**
	comp=Z,92nm,0.6s								
KAKA	**Kakadu**	**13.21**	**235**	*e*P		**Pn**	**Pn**	**09 07 56.4**	**-1.3**
CTA	**Charters Tower**	**15.05**	**170**	*e*P		**Pn**	**Pn**	**09 08 25.4**	**+4.3**
	comp=Z,10nm,0.8s								
CTA	**Charters Tower**	**15.05**	**170**	P		**Pn**	**Pn**	**09 08 23.2**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=344,slow=10,SNR=9.9								
CTA	**Charters Tower**	**15.05**	**170**	P		**Pn**	**Pn**	**09 08 23.3**	**+2.2**
CTA				pmax		pmax			
	comp=Z,1.0nm,0.3s								
CTAO	**Charters Tower**	**15.05**	**170**	*e*P		**Pn**	**Pn**	**09 08 22.9**	**+1.8**
CTAO				pmax		pmax			
	comp=Z,14nm,0.8s								
CTAO	**Charters Tower**	**15.05**	**170**	*e*Pn		**Pn**	**Pn**	**09 08 22.9**	**+1.8**
	comp=Z,14nm,0.8s								
HNR	**Honiara**	**16.86**	**105**	P		**Pn**	**Pn**	**09 08 43.4**	**-0.2**
	comp=Z,16nm,0.3s,baz=261,slow=2.3,SNR=4.1								
WRAB	**Tennant Creek**	**17.14**	**210**	*e*P		**Pn**	**Pn**	**09 08 46.3**	**-0.5**
WRAB				*e*				09 11 53.5	
WRAB				pmax		pmax			
	comp=Z,14nm,0.6s								
WRAB	**Tennant Creek**	**17.14**	**210**	*e*Pn		**Pn**	**Pn**	**09 08 46.3**	**-0.5**
	comp=Z,14nm,0.6s								
WRAB				*e*Sn		**Sn**	**Sn**	**09 11 53.5**	**-4.3**
WB2	**Warramunga Arr**	**17.14**	**210**	⇓*i*P		**Pn**	**Pn**	**09 08 46.1**	**-0.8**
WB2				*e*S		**S**	**S**	**09 11 51.6**	**-6.5**
WRA	**Warramunga Arr**	**17.15**	**210**	P		**Pn**	**Pn**	**09 08 46.2**	**-0.7**
	comp=Z,2.7nm,0.3s,baz=33,slow=12,SNR=55								
BATI	**Baumata**	**20.25**	**255**	P		**P**	**P**	**09 09 22.3**	**+1.6**
	comp=Z,48nm,0.7s,baz=143,slow=5.1,SNR=2.4								
ASAR	**Alice Springs**	**20.56**	**206**	P		**P**	**P**	**09 09 24.0**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=36,slow=11,SNR=46								
FITZ	**Fitzroy Crossi**	**21.65**	**232**	*e*P		**P**	**P**	**09 09 32.5**	**-3.1**
	comp=Z,11nm,0.6s,mb4.3								
FITZ	**Fitzroy Crossi**	**21.65**	**232**	P		**P**	**P**	**09 09 35.0**	**-0.6**
	comp=Z,6.4nm,0.6s,mb4.1,baz=42,slow=9.1,SNR=22								
FITZ				LR		LR	LR	09 19 21.0	
	comp=Z,116nm,18.3s,baz=219,slow=40								
FITZ	**Fitzroy Crossi**	**21.65**	**232**	*e*P		**P**	**P**	**09 09 35.7**	**+0.1**
	comp=Z,14nm,0.7s,mb4.4								
STKA	**Stephens Creek**	**26.61**	**184**	*e*P		**P**	**P**	**09 10 22.0**	**+0.1**
	comp=Z,3.4nm,0.7s,mb4.0								
STKA	**Stephens Creek**	**26.61**	**184**	P		**P**	**P**	**09 10 21.8**	**-0.1**
	comp=Z,5.4nm,1.0s,mb4.0,baz=344,slow=11,SNR=7.2								
MJAR	**Matsushiro Arr**	**41.81**	**354**	P		**P**	**P**	**09 12 31.1**	**-1.5**
	comp=Z,1.2nm,0.5s,mb3.9,baz=178,slow=8.1,SNR=6.5								
KSRS	**Korea Array**	**44.84**	**342**	P		**P**	**P**	**09 12 56.5**	**-0.3**
	comp=Z,3.2nm,0.8s,mb4.1,baz=162,slow=9.2,SNR=10								
KSRS				LR		LR		09 31 43.8	
	comp=Z,22nm,18.3s,baz=230,slow=36								
KSRS	**Korea Array**	**44.84**	**342**	P		**P**	**P**	**09 12 56.6**	**-0.3**
KSRS				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.1								
KSRS				MLR		MLR			
	comp=Z,22nm,18.3s								
KMI	**Kunming**	**49.75**	**309**	P		**P**	**P**	**09 13 36.8**	**+1.6**
KMI				AP		pP	pP	09 14 03.4	+0.7
KMI				XP		sP	sP	09 14 16.5	+0.7
KMI				PP		PP	PP	09 15 31.2	+0.2
KMI				S		**S**	**S**	**09 20 34.9**	**-0.8**
KMI				XS		sS	sS	09 21 22.8	-0.4
KMI				SS		SS	SS	09 24 06.2	-3.7
KMI				AMB		AMB			
	comp=Z,11nm,0.6s,mb5.0								
KMI				AMB		AMB			
	comp=Z,128nm,6.5s								
KMI				LR		LR			
	comp=N,217nm,7.7s								
KMI				LR		LR			
	comp=E,239nm,8.0s								
KMI				LR		LR			
	comp=Z,171nm,16.1s								
CMAR	**Chiang Mai Arr**	**49.79**	**299**	P		**P**	**P**	**09 13 36.6**	**+1.0**
	comp=Z,4.7nm,0.7s,mb4.5,baz=124,slow=6.5,SNR=14								
CD2	**Chengdu**	**52.23**	**316**	⇓*i*P		**P**	**P**	**09 13 54.3**	**+0.6**
CD2				AP		pP	pP	09 14 20.6	-0.8
CD2				XP		sP	sP	09 14 33.2	-1.3
CD2				PP		PP	PP	09 15 55.2	+1.8
CD2				S		**S**	**S**	**09 21 08.7**	**-1.0**
CD2				XS		sS	sS	09 21 54.9	-2.7
CD2				SS		SS	SS	09 24 45.9	-3.1
CD2				AMB		AMB			
	comp=Z,20nm,0.8s,mb5.2								
CD2				AMB		AMB			
	comp=Z,30nm,5.8s								
CD2				LR		LR			
	comp=N,230nm,12.0s								
CD2				LR		LR			
	comp=E,200nm,10.8s								
CD2				LR		LR			
	comp=Z,180nm,10.8s								
HHC	**Hu-ho-hao-te**	**54.36**	**330**	*e*P		**P**	**P**	**09 14 11.7**	**+2.7**
HHC				AP		pP	pP	09 14 37.4	+0.4
HHC				XP		sP	sP	09 14 50.5	+0.5
HHC				PP		PP	PP	09 16 17.3	+5.0
HHC				PCS		PcS	PcS	09 19 12.2	+1.2
HHC				S		**S**	**S**	**09 21 38.4**	**+0.3**
HHC				XS		sS	sS	09 22 26.0	-0.3
HHC				SCS		ScS	ScS	09 23 45.2	-1.6
HHC				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.9								
HHC				AMB		AMB			
	comp=Z,167nm,5.0s								
HHC				LR		LR			
	comp=N,141nm,20.2s								
HHC				LR		LR			
	comp=E,143nm,17.8s								
HHC				LR		LR			
	comp=Z,142nm,16.6s								
SONM	**Songino Array**	**62.04**	**333**	P		**P**	**P**	**09 15 02.9**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.2,baz=162,slow=6.6,SNR=10								
ZAK	**Zakamensk**	**65.29**	**333**	*e*P		**P**	**P**	**09 15 21.8**	**-1.9**
ZAK				*e*		pP	pP	09 15 49.3	-3.2
ZAK				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.6								
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.1s,mb3.9								
MDRS	**Chennai**	**65.36**	**287**	*ex*		x		09 15 00.0	
TLY	**Talaya**	**66.06**	**334**	*i* P		**P**	**P**	**09 15 29.0**	**+0.4**
TLY				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.3								
BOD	**Bodaibo**	**67.17**	**343**	*e*P		**P**	**P**	**09 15 34.5**	**-1.0**
BOD				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.2								
HVS	**Khovu-Aksy**	**70.40**	**329**	*i* P		**P**	**P**	**09 15 56.2**	**+0.5**
HVS				pmax		pmax			
	comp=Z,66nm,1.3s,mb5.3								
VNDA	**Vanda**	**72.94**	**176**	P		**P**	**P**	**09 16 11.2**	**+0.6**
	comp=Z,1.3nm,0.6s,mb4.0,baz=324,slow=6.4,SNR=13								
KRAR	**Krasnoyarsk**	**73.70**	**333**	*i* P		**P**	**P**	**09 16 13.7**	**-1.6**
KRAR				pmax		pmax			
	comp=Z,28nm,0.6s,mb5.2								
MK31	**Makanchi Array**	**74.67**	**321**	*e*P		**P**	**P**	**09 16 21.3**	**+0.2**
MKAR	**Makanchi Array**	**74.67**	**321**	P		**P**	**P**	**09 16 21.6**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.1,baz=106,slow=7.1,SNR=30								
ZALV	**Zalesovo Beam**	**76.49**	**329**	P		**P**	**P**	**09 16 30.5**	**-0.8**
	comp=Z,2.4nm,0.5s,mb4.2,baz=108,slow=6.0,SNR=8.1								
ZALV	**Zalesovo Beam**	**76.49**	**329**	P		**P**	**P**	**09 16 30.5**	**-0.8**
ZAL	**Zalesovo**	**76.49**	**329**	P		**P**	**P**	**09 16 30.5**	**-0.8**
KURK	**Kurchatov**	**78.49**	**324**	⇑*e*P		**P**	**P**	**09 16 42.3**	**-0.2**
KURK				pmax		pmax			
	comp=Z,8.0nm,2.0s,mb4.1								
MAW	**Mawson**	**81.64**	**202**	P		**P**	**P**	**09 16 59.4**	**+0.2**
	comp=Z,2.2nm,0.9s,mb4.0,baz=346,slow=7.6,SNR=4.0								
CHUM	**Lake Minchumin**	**83.61**	**24**	*e*P		**P**	**P**	**09 17 10.0**	**+0.6**
	comp=Z,19nm,0.9s,mb4.9								
BRVK	**Borovoye**	**84.14**	**324**	*e*P		**P**	**P**	**09 17 12.6**	**+0.3**
BRVK				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.5								
BRVK	**Borovoye**	**84.14**	**324**	*e*P		**P**	**P**	**09 17 12.6**	**+0.3**
	comp=Z,6.2nm,0.8s,mb4.5								
BRVK				*e*PcP		PcP	PcP	09 17 16.9	+1.0
QSPA	**South Pole Qui**	**84.77**	**180**	P		**P**	**P**	**09 17 15.3**	**+0.3**
	comp=Z,8.4nm,0.7s,mb4.8,baz=328,slow=1.3,SNR=57								
QSPA	**South Pole Qui**	**84.77**	**180**	P		**P**	**P**	**09 17 15.3**	**+0.2**
EGAK	**Eagle**	**88.47**	**25**	*e*P		**P**	**P**	**09 17 33.2**	**0.0**
	comp=Z,3.8nm,0.9s,mb4.4								
SYO	**Syowa Base**	**90.13**	**200**	⇓*e*pP		pP	pP	09 18 08.6	-2.8
SYO	**Syowa Base**	**90.13**	**200**	⇑*e*sP		sP	sP	09 18 20.4	-3.4
ARU	**Arti**	**91.47**	**326**	*e i*P		**P**	**P**	**09 17 42.4**	**-5.0**
ARU								09 21 23.3	
ARU				pmax		pmax			
	comp=Z,39nm,1.2s,mb5.4								
ARU	**Arti**	**91.47**	**326**	*e*P		**P**	**P**	**09 17 42.6**	**-4.7**
	comp=Z,59nm,1.3s,mb5.6								
NVAR	**Mina Array Bea**	**99.64**	**52**	P		Pdif		09 18 26.5	+1.9
	comp=Z,0.3nm,0.8s,baz=253,slow=8.2,SNR=3.3								
TXAR	**Lajitas Array**	**112.43**	**61**	PKiKP		PKiKP		09 23 17.8	+0.4
	comp=Z,0.3nm,0.8s,baz=322,slow=3.8,SNR=3.8								
TXAR	**Lajitas Array**	**112.43**	**61**	PKPdf		PKiKP		09 23 17.8	+0.4
TORD	**Torodi Ar. Bea**	**141.50**	**285**	PKP		PKPdf		09 24 11.1	-1.7
	comp=Z,0.6nm,0.8s,baz=94,slow=2.7,SNR=3.0								
LPAZ	**La Paz**	**142.14**	**125**	PKhKP				09 24 10.3	
	comp=Z,0.9nm,0.7s,baz=256,slow=4.2,SNR=6.8								
CPUP	**Villa Florida**	**142.74**	**148**	PKP		PKPdf		09 24 12.6	-2.1
	comp=Z,2.3nm,0.9s,baz=243,slow=2.3,SNR=3.4								
SDV	**Santo Domingo**	**145.96**	**82**	*e*PKPdf		PKPdf		09 24 20.5	-0.1
DBIC	**Dimbokro**	**148.47**	**274**	PKPbc		PKPbc		09 24 29.1	+0.6
	comp=Z,3.1nm,0.6s,baz=84,slow=3.1,SNR=5.3								

*NEIC **07** 09:39:10.4,3291S×7302W,h19km,ML3.5(GUC),After GUC.*
GUC 07 09:39:10.4±0.6,3291S×7302W,h19km±3km,MD3.8, ML3.5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.70**	**128**	*e*P		Pn	Pn	09 39 39.0	-0.1
LNV				*i* S		Sn	Sn	09 40 01.4	+1.0
TACH	**Talagante**	**1.90**	**114**	*e*P		Pn	Pn	09 39 42.0	+0.3
TACH				*i* S		Sn	Sn	09 40 06.4	+1.2
RCDM	**Rinconada Maip**	**1.95**	**108**	*e*P		Pn	Pn	09 39 43.0	+0.6
RCDM				*i* S		Sn	Sn	09 40 07.9	+1.5
RCDM				AML		AML	AML	09 40 11.3	
	comp=N,512nm,0.1s								
RCDM	**Rinconada Maip**	**1.95**	**108**	*e*P		Pn	Pn	09 39 43.0	+0.6
RCDM				*i* S		Sn	Sn	09 40 07.9	+1.5
PEL	**Peldehue**	**1.98**	**97**	*e*P		Pn	Pn	09 39 44.0	+1.1
PEL				*i* S		Sn	Sn	09 40 09.2	+2.0
PEL				AML		AML	AML	09 40 10.1	
	comp=E,1μm,0.3s								
ANTU	**Antumapu**	**2.11**	**109**	*e*P		Pn	Pn	09 39 46.3	+1.6
ANTU				*i* S		Sn	Sn	09 40 12.7	+2.3
ANTU				AML		AML	AML	09 40 14.4	
	comp=N,458nm,0.2s								
ANTU	**Antumapu**	**2.11**	**109**	*e*P		Pn	Pn	09 39 46.3	+1.6
ANTU				*i* S		Sn	Sn	09 40 12.7	+2.3
DSCH	**Colegio Aleman**	**2.12**	**104**	*i* S		Sn	Sn	09 40 13.0	+2.5
CLCH	**Cerro Calan**	**2.14**	**104**	*e*P		Pn	Pn	09 39 46.5	+1.4
CLCH				*i* S		Sn	Sn	09 40 13.6	+2.4
CLCH				AML		AML	AML	09 40 16.5	
	comp=E,269nm,0.6s								
PCH	**Pirque**	**2.22**	**109**	*e*P		Pn	Pn	09 39 48.1	+1.9
PCH				*i* S		Sn	Sn	09 40 15.9	+2.8
FCH	**Farellones**	**2.33**	**101**	*i* S		Sn	Sn	09 40 18.9	+3.1
FCH				AML		AML	AML	09 40 20.3	
	comp=N,218nm,0.2s

mb4.1/13, Error ellipse: s-maj=15.0km s-min=10.1km az=142.9
*NEIC **07** 09:49:12.9±0.9, 487N×12555E, h177km±10km, mb4.6/5, Error ellipse: s-maj=19.0km s-min=8.3km az=65.0*
*IDC **07** 09:49:12.2±2.9, 490N×12558E, h170km±26km, mb3.8/11, mb1 3.9/11, mb1mx3.7/20, mbtmp3.8/11, Error ellipse: s-maj=26.5km s-min=12.2km az=68.0*

ISC 07 09:49:12.0±0.5, 488N±007×12548E±008, h166km±8km, n30, σ1§01/31, mb4.1/13, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.31**	**336**	‖ *eP*	**Pn**	**09 49 40.6**	**-0.5**
GSPH				*eS*	**Sn**	**09 50 03.1**	**+8.9**
KCP	**Kidapawan**	**2.15**	**350**	⇑ *iP*	**Pn**	**09 49 52.3**	**+2.4**
DAV	**Davao City (W)**	**2.18**	**2**	*eP*	**Pn**	**09 49 51.7**	**+1.5**
MATI	**Mati**	**2.19**	**20**	*eP*	**Pn**	**09 49 49.5**	**-0.8**
MATI				*eS*	**Sn**	**09 50 20.2**	**+4.9**
BUKP	**Musuan**	**3.01**	**352**	*eP*	**Pn**	**09 49 60.0**	**-0.2**
PAGZ	**Pagadian**	**3.62**	**325**	*eP*	**Pn**	**09 50 07.7**	**-0.1**
IPIL	**Ipil**	**4.09**	**315**	*eP*	**Pn**	**09 50 12.5**	**-1.4**
IPIL				*eS*	**Sn**	**09 51 01.7**	**+0.8**
BATI	**Baumata**	**15.09**	**187**	P	**Pn**	**09 52 40.0**	**+3.1**
	11nm,0.3s,baz=262,slow=3.3,SNR=6.6						
KAKA	**Kakadu**	**18.79**	**158**	*eP*	**P**	**09 53 19.2**	**+0.4**
	20nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.83**	**180**	*eP*	**P**	**09 54 00.2**	**-0.6**
	12nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**22.83**	**180**	P	**P**	**09 54 01.0**	**+0.1**
	5.9nm,0.4s,mb4.3,baz=9.2,slow=8.5,SNR=47						
WRAB	**Tennant Creek**	**26.15**	**161**	*eP*	**P**	**09 54 30.3**	**-0.6**
WRA	**Warramunga Arr**	**26.16**	**161**	P	**P**	**09 54 30.5**	**-0.5**
	2.5nm,0.3s,mb4.3,baz=331,slow=11,SNR=49						
WB2	**Warramunga Arr**	**26.16**	**161**	‖ *iP*	**P**	**09 54 30.5**	**-0.5**
MBWA	**Marble Bar**	**26.48**	**192**	*eP*	**P**	**09 54 33.2**	**-0.7**
PSI	**Prapat**	**26.58**	**267**	P	**P**	**09 54 36.2**	**+1.3**
	1.3nm,0.3s,mb4.0,baz=306,slow=19,SNR=6.2						
CMAR	**Chiang Mai Arr**	**29.23**	**300**	P	**P**	**09 55 00.3**	**+1.9**
	0.9nm,0.4s,mb3.9,baz=116,slow=6.6,SNR=4.8						
ASAR	**Alice Springs**	**29.53**	**164**	P	**P**	**09 55 01.1**	**+0.1**
	2.4nm,0.6s,mb4.1,baz=348,slow=6.2,SNR=86						
ASAR				PcP	PcP	09 58 02.0	-0.1
	0.4nm,0.5s,baz=5.4,slow=2.6,SNR=5.0						
ASAR				ScP	ScP	10 01 27.9	-0.6
	0.5nm,0.6s,baz=352,slow=2.6,SNR=9.5						
KSRS	**Korea Array**	**32.50**	**4**	P	**P**	**09 55 26.5**	**-0.4**
	0.9nm,0.7s,mb3.6,baz=181,slow=9.9,SNR=3.9						
FORT	**Forrest**	**35.54**	**176**	*eP*	**P**	**09 55 53.2**	**+0.1**
	14nm,1.0s,mb4.6						
KLBR	**Kellerberrin**	**37.01**	**191**	*eP*	**P**	**09 56 05.0**	**-0.6**
	70nm,1.6s,mb5.0						
MUN	**Mundaring**	**37.70**	**193**	*eP*	**P**	**09 56 11.1**	**-0.3**
NWAO	**Narrogin (SRO)**	**38.40**	**191**	P	**P**	**09 56 17.0**	**-0.3**
	5.1nm,0.4s,mb4.5,baz=27,slow=8.3,SNR=13						
STKA	**Stephens Creek**	**39.64**	**158**	*eP*	**P**	**09 56 28.4**	**+0.8**
	5.6nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**39.64**	**158**	P	**P**	**09 56 28.2**	**+0.6**
	6.8nm,0.9s,mb4.3,baz=342,slow=8.5,SNR=6.1						
MKAR	**Makanchi Array**	**55.91**	**325**	P	**P**	**09 58 31.6**	**-1.0**
	0.7nm,0.5s,mb3.8,baz=123,slow=7.6,SNR=5.6						
MAW	**Mawson**	**84.40**	**200**	P	**P**	**10 01 25.5**	**+0.3**
	1.0nm,0.8s,mb3.6,baz=73,slow=3.9,SNR=4.6						
VNDA	**Vanda**	**84.71**	**173**	P	**P**	**10 01 26.7**	**0.0**
	0.5nm,0.9s,mb3.3,baz=318,slow=8.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**121.38**	**289**	PKP	PKPdf	10 07 45.4	-1.1
	1.2nm,0.9s,baz=91,slow=1.2,SNR=7.4						
TXAR	**Lajitas Array**	**121.87**	**51**	PKP	PKPdf	10 07 47.4	+0.3
	0.1nm,0.5s,baz=256,slow=1.1,SNR=3.6						

*IDC **07** 10:11:39.2±0.8, 3086N×7806E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.9/25, mbtmp3.9/12, ML3.9/1, Error ellipse: s-maj=24.9km s-min=18.0km az=49.0*
*NEIC **07** 10:11:40.9±0.8, 3097N×7812E, h10km, mb3.8/1, Error ellipse: s-maj=19.7km s-min=14.9km az=69.0*
*ISCJB **07** 10:11:42.4±0.7, 3103N±003×7818E±004, h26km±6km, mb3.8/11, Error ellipse: s-maj=5.4km s-min=4.8km az=3.9*
*NDI **07** 10:11:42.0±3.1, 3101N×7813E, h10km, ML3.7, mb3.8(NEIC)*

ISC 07 10:11:41.3±0.7, 3098N±002×7818E±003, h8km±4km, n33, σ1§14/43, mb3.8/11, 1D, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	**Kalpa**	**0.55**	**6**	‖ *iP*	**Pg**	**10 11 52.3**	**+0.3**
KLP				*eS*	**Sg**	**10 11 59.5**	**+0.3**
KLP				AML	AML	10 12 03.6	
	comp=N,4μm,0.7s						
KLP				AML	AML	10 12 04.1	
	comp=E,2μm,0.3s						
DDI	**Dehra Dun**	**0.67**	**189**	*eP*	**Pg**	**10 11 52.2**	**-2.0**
DDI				*eS*	**Sg**	**10 12 01.0**	**-1.9**
SMLA	**Simla**	**0.88**	**280**	*iP*	**Pg**	**10 11 58.4**	**+0.1**
SMLA				*iS*	**Sg**	**10 12 10.3**	**+0.5**
SMLA				*ex*	x	10 12 13.1	
	comp=E,10μm,0.3s						
SMLA				*ex*	x	10 12 15.2	
	comp=N,8μm,0.4s						
SDNR	**Sundarnagar**	**1.16**	**297**	*eP*	**Pg**	**10 12 05.4**	**+1.9**
SDNR				*eS*	**Sg**	**10 12 18.0**	**-0.6**
JOSI	**Joshimath**	**1.26**	**109**	*eP*	**Pn**	**10 12 05.1**	**-0.1**
JOSI				*eS*	**Sb**	**10 12 21.8**	**0.0**
JOSI				AML	AML	10 12 32.0	
	comp=E,1μm,0.5s						
JOSI				AML	AML	10 12 32.4	
	comp=N,1μm,0.9s						
KKR	**Kurukshetra**	**1.55**	**229**	*eP*	**Pn**	**10 12 10.7**	**+1.5**
KKR				*eS*	**Sn**	**10 12 29.9**	**+0.3**
KKR				AML	AML	10 12 33.1	
	comp=Z,2μm,0.2s						
BHK	**Bhakra**	**1.57**	**286**	*eP*	**Pn**	**10 12 08.8**	**-0.7**
BHK				*ex*	x	10 12 33.0	
PONG	**Pong**	**2.14**	**297**	*eP*	**Pn**	**10 12 17.0**	**-0.3**
PONG				*ex*	x	10 12 48.0	
ASOR	**Ausora**	**2.25**	**189**	*eP*	**Pn**	**10 12 20.0**	**+1.2**
PTH	**Pithoragarh**	**2.27**	**129**	*eP*	**Pn**	**10 12 20.6**	**+1.5**
PTH				*eS*	**Sn**	**10 12 50.4**	**+3.1**
NDI	**New Delhi**	**2.44**	**200**	*eP*	**Pn**	**10 12 21.0**	**-0.5**
NDI				*ex*	x	10 12 40.0	
RTK	**Rohtak**	**2.48**	**219**	*ex*	x	10 12 12.8	
RTK				AML	AML	10 12 50.3	
	comp=Z,456nm,0.3s						
THN	**Thein Dam**	**2.55**	**305**	*eP*	**Pn**	**10 12 24.4**	**+1.4**
THN				*ex*	x	10 12 58.6	
AYAN	**Aya Nagar**	**2.66**	**200**	*eP*	**Pn**	**10 12 25.2**	**+0.8**
AYAN				*eS*	**Sn**	**10 12 56.4**	**-0.4**
AYAN				AML	AML	10 13 15.8	
	comp=Z,170nm,0.3s						
SONA	**Sohna**	**2.89**	**200**	*eP*	**Pn**	**10 12 28.0**	**+0.4**
SONA				*eS*	**Sn**	**10 13 03.4**	**+0.9**
CHCP	**Chirah Chowk**	**4.94**	**304**	P	**Pn**	**10 12 58.1**	**+2.2**
AJM	**Ajmer**	**5.46**	**216**	*eP*	**Pn**	**10 13 02.8**	**-0.2**
AJM				*eS*	**Sn**	**10 14 01.4**	**-4.5**
AJM				AML	AML	10 14 39.9	
	comp=N,128nm,0.4s						
AJM				AML	AML	10 14 41.5	
	comp=E,98nm,0.5s						
CEP	**Cherat**	**6.01**	**300**	P	**Pn**	**10 13 12.0**	**+1.4**
CEP				S	**Sn**	**10 14 18.0**	**-1.6**
MKAR	**Makanchi Array**	**16.10**	**10**	Pn	**Pn**	**10 15 25.7**	**-2.3**
	comp=E,0.4nm,0.3s,baz=182,slow=13,SNR=3.0						
KURK	**Kurchatov**	**19.71**	**1**	*eP*	**Pn**	**10 16 10.3**	**-2.2**
	comp=E,3.2nm,0.6s						
BVAR	**Borovoye Array**	**22.75**	**348**	P	**P**	**10 16 43.5**	**-0.2**
	comp=E,0.5nm,0.3s,mb3.4,baz=173,slow=14,SNR=3.9						
ZALV	**Zalesovo Beam**	**23.45**	**10**	P	**P**	**10 16 50.3**	**-0.8**
	comp=E,0.6nm,0.3s,mb3.5,baz=202,slow=7.7,SNR=3.8						
AKTK	**Aktyubinsk**	**24.58**	**328**	P	**P**	**10 17 02.2**	**+0.6**
AKTO	**Aktyubinsk**	**24.58**	**328**	P	**P**	**10 17 02.2**	**+0.6**
	comp=E,3.8nm,0.5s,mb4.2,baz=120,slow=10,SNR=15						
SONM	**Songino Array**	**27.32**	**44**	P	**P**	**10 17 28.0**	**+1.5**
	comp=E,0.4nm,0.5s,mb3.2,baz=258,slow=13,SNR=3.4						
AKASG	**Malin Array Be**	**41.07**	**313**	P	**P**	**10 19 23.8**	**-1.4**
	comp=E,0.5nm,0.4s,mb3.5,baz=75,slow=5.7,SNR=4.7						
ARCES	**ARCESS Array B**	**48.50**	**338**	P	**P**	**10 20 24.6**	**+0.5**
	comp=E,1.6nm,0.5s,mb4.3,baz=104,slow=7.8,SNR=27						
NB2	**NORSAR Subarra**	**52.34**	**326**	P	**P**	**10 20 52.3**	**-1.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=100,slow=6.9						
NOA	**NORSAR Array B**	**52.34**	**326**	P	**P**	**10 20 52.6**	**-0.7**
	comp=Z,1.2nm,0.7s,mb3.9,baz=95,slow=7.2,SNR=5.6						
TORD	**Torodi Ar. Bea**	**71.86**	**275**	P	**P**	**10 23 03.5**	**-1.7**
	comp=Z,1.0nm,0.5s,mb4.0,baz=52,slow=5.3,SNR=12						
WRA	**Warramunga Arr**	**73.96**	**126**	P	**P**	**10 23 16.7**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.0,baz=319,slow=6.1,SNR=28						
ASAR	**Alice Springs**	**76.17**	**129**	P	**P**	**10 23 29.5**	**-0.6**
	comp=Z,1.0nm,0.9s,mb3.7,baz=308,slow=5.0,SNR=7.0						
DBIC	**Dimbokro**	**80.65**	**272**	P	**P**	**10 23 54.5**	**-0.7**
	comp=Z,2.1nm,0.7s,mb4.2,baz=45,slow=7.1,SNR=2.3						

*ISCJB **07** 10:12:19.3±0.5, 9.18S±0.10×67.10E±009, h10km, mb4.1/15, MS4.0/5, Error ellipse: s-maj=15.4km s-min=10.6km az=144.6*
*IDC **07** 10:12:20.0±0.6, 920S×6708E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.0/25, mbtmp4.1/13, MS3.9/5, Ms1 3.9/5, ms1mx3.5/30, Error ellipse: s-maj=22.0km s-min=15.0km az=137.0*
*NEIC **07** 10:12:21.4±0.3, 921S×6709E, h10km, mb4.7/1, Error ellipse: s-maj=10.7km s-min=7.0km az=149.0*
*GCMT **07** 10:12:21.4±0.4, 929S×6698E, h25km±1km, MW5.0/62, Moment Tensor Solution. s25, c28; s62, c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.57±.17; $M_{\theta\theta}$-3.49±.14; $M_{\phi\phi}$4.06±.15; $M_{r\theta}$-0.65±.32; $M_{r\phi}$0.65±.15; $M_{\theta\phi}$0.69±.28; Best double couple: $M_0$3.95500×10^{16} NP1:φ≈50.00000°, δ≈75.00000°, λ-4.00000°. NP2: φ≈141.00000°, δ≈86.00000°, λ-165.00000°. Principal axes: T 4.2020, Plg8.0000°, Azm274.0000°; N -0.4970, Plg75.0000°, Azm154.0000°; P -3.7090, Plg13.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 10:12:21.5±0.5, 922S±010×6711E±009, h10km, n35, σ0§65/19, mb4.1/15, MS4.0/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**12.39**	**291**	*eP*	**Pn**	**10 15 18.6**	**+0.5**
	133nm,0.5s						
OPO	**Ambohidratompo**	**21.43**	**242**	P	**P**	**10 17 09.7**	**-0.2**
	7.5nm,0.8s,mb4.0,baz=48,slow=9.2,SNR=5.9						
ABPO	**Ambohimpanom**	**21.57**	**241**	*eP*	**P**	**10 17 11.2**	**-0.2**
	35nm,1.1s,mb4.7						
PSI	**Prapat**	**33.88**	**71**	LR	LR	10 30 15.9	
	comp=Z,323nm,20.9s,MS4.0,baz=232,slow=32						
LSZ	**Lusaka**	**38.46**	**257**	P	**P**	**10 19 43.3**	**-0.6**
	10nm,0.7s,mb4.6,baz=80,slow=6.9,SNR=18						
CMAR	**Chiang Mai Arr**	**41.75**	**49**	P	**P**	**10 20 10.4**	**-0.8**
	1.2nm,0.4s,mb3.9,baz=33,slow=18,SNR=2.7						
LBTB	**Lobatse**	**42.46**	**243**	P	**P**	**10 20 17.2**	**+0.2**
	3.1nm,0.8s,mb4.0,baz=57,slow=12,SNR=2.6						
LBTB	**Lobatse**	**42.46**	**243**	P	**P**	**10 20 17.2**	**+0.2**
BOSA	**Boshof**	**43.75**	**238**	P	**P**	**10 20 26.8**	**-0.5**
	7.2nm,1.1s,mb4.3,baz=77,slow=12,SNR=3.0						
BOSA	**Boshof**	**43.75**	**238**	P	**P**	**10 20 26.8**	**-0.5**
MMAI	**Mount Meron Ar**	**51.73**	**326**	LR	LR	10 40 09.1	
	comp=Z,120nm,18.1s,MS4.0,baz=150,slow=32						
MKAR	**Makanchi Array**	**57.39**	**12**	P	**P**	**10 22 09.2**	**-0.8**
	0.7nm,0.7s,mb3.8,baz=203,slow=8.6,SNR=3.0						
MAW	**Mawson**	**58.38**	**182**	P	**P**	**10 22 17.1**	**+0.4**
	1.7nm,0.8s,mb4.1,baz=0.1,slow=11,SNR=3.6						
AKTK	**Aktyubinsk**	**59.93**	**353**	P	**P**	**10 22 27.6**	**-0.1**
AKTO	**Aktyubinsk**	**59.93**	**353**	P	**P**	**10 22 27.6**	**-0.1**
	1.4nm,0.6s,mb4.1,baz=161,slow=5.5,SNR=4.2						
BVAR	**Borovoye Array**	**62.06**	**2**	P	**P**	**10 22 42.2**	**+0.1**
	1.2nm,0.7s,mb4.2,baz=162,slow=6.2,SNR=8.1						
BVAR				LR	LR	10 49 12.1	
	comp=Z,101nm,21.6s,MS4.0,baz=225,slow=36						
ZALV	**Zalesovo Beam**	**64.69**	**11**	P	**P**	**10 22 59.4**	**-0.1**
	0.6nm,0.4s,mb4.0,baz=193,slow=5.8,SNR=3.2						
ASAR	**Alice Springs**	**65.15**	**112**	P	**P**	**10 23 03.4**	**+0.2**
	1.1nm,0.8s,mb3.9,baz=257,slow=5.8,SNR=7.5						
WRA	**Warramunga Arr**	**65.58**	**108**	P	**P**	**10 23 06.7**	**+0.7**
	1.9nm,0.9s,mb4.1,baz=274,slow=6.0,SNR=8.2						
SONM	**Songino Array**	**66.60**	**28**	P	**P**	**10 23 11.9**	**-0.1**
	0.9nm,0.7s,mb3.9,baz=211,slow=6.1,SNR=5.3						
SONM				LR	LR	10 51 36.7	
	comp=Z,100nm,21.4s,MS4.0,baz=74,slow=35						
AKASG	**Malin Array Be**	**68.12**	**335**	P	**P**	**10 23 24.4**	**+2.9**
	0.9nm,0.5s,mb4.0,baz=139,slow=5.2,SNR=5.3						
KSRS	**Korea Array**	**73.34**	**46**	LR	LR	10 57 55.5	
	comp=Z,54nm,18.6s,MS3.9,baz=258,slow=37						
MOOW	**Moose Ponds**	**145.55**	**357**	*e*PKPbc	PKPbc	10 32 07.3	+7.0
LOHW	**Long Hollow**	**145.68**	**357**	*e*PKPbc	PKPbc	10 32 05.6	+4.8
PLAL	**Pickwick Lake**	**145.76**	**322**	*e*PKPdf	PKPdf	10 32 00.8	-0.1
HLID	**Hailey**	**145.77**	**2**	*e*PKPdf	PKPdf	10 32 01.6	+1.0
SNOW	**Snow King Moun**	**145.84**	**357**	*e*PKPdf	PKPdf	10 31 57.8	-3.0
REDW	**Red Top Meadow**	**145.94**	**357**	*e*PKPbc	PKPbc	10 32 03.0	+1.5
PDAR	**Pinedale Array**	**146.46**	**356**	PKPbc	PKPbc	10 32 05.2	+2.1
	0.8nm,0.9s,baz=90,slow=1.5,SNR=4.2						
WVOR	**Wild Horse Val**	**146.54**	**8**	*e*PKPab	PKPab	10 32 06.8	+2.5
PHWY	**Pilot Hill**	**147.38**	**350**	*e*PKPdf	PKPbc	10 32 06.5	+0.7
WDC	**Whiskeytown Da**	**147.62**	**14**	*e*PKPab	PKPab	10 32 12.3	+3.7
NVAR	**Mina Array Bea**	**150.51**	**9**	PKPbc	PKPbc	10 32 16.0	+2.1
	0.6nm,0.8s,baz=20,slow=2.9,SNR=5.0						
WMOK	**Wichita Mounta**	**151.50**	**335**	*e*PKPbc	PKPbc	10 32 19.4	+3.1
TXAR	**Lajitas Array**	**158.20**	**338**	PKPab	PKPab	10 32 53.6	+0.4
	0.4nm,0.8s,baz=70,slow=2.6,SNR=4.7						

*ISCJB **07** 10:23:00.6±0.4, 289S±006×36.1E±0.1, h10km, mb4.3/15, MS4.1/20, Error ellipse: s-maj=18.5km s-min=7.6km az=17.0*
*IDC **07** 10:23:01.2±0.8, 285S×3604E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.0/24, mbtmp4.2/12, ML4.0/1, MS4.1/20, Ms1 4.1/20, ms1mx4.0/28, Error ellipse: s-maj=24.1km s-min=19.4km az=118.0*
*NEIC **07** 10:23:02.7±0.5, 287S×3599E, h10km, mb4.8/1, Error ellipse: s-maj=16.5km s-min=9.5km az=110.0*

ISC 07 10:23:03.7±7.4, 294S±007×360E±01, h17km±46km, n40, σ1§05/29, mb4.3/15, MS4.1/20, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**14.47**	**212**	Pn	**Pn**	**10 26 28.5**	**+0.6**
	0.6nm,0.3s,baz=37,slow=12,SNR=8.8						
LSZ				Sn	**Sn**	**10 29 05.4**	**-2.7**
	0.5nm,0.3s,baz=130,slow=20,SNR=2.8						
LSZ				Lg		10 30 40.8	
	0.9nm,0.3s,baz=338,slow=11,SNR=6.1						
LSZ	**Lusaka**	**14.47**	**212**	*eP*	**Pn**	**10 26 26.3**	**-1.6**
LSZ				AMb	AMB	10 26 58.1	
	comp=Z,204nm,1.8s						
MSNA	**Messina**	**20.14**	**196**	*eP*	**P**	**10 27 37.3**	**+0.1**
MSNA				AMb	AMB	10 27 47.1	
	comp=Z,29nm,1.6s						
MOPA	**Mopani**	**20.94**	**192**	*eP*	**P**	**10 27 44.9**	**-0.9**
MOPA				AMb	AMB	10 28 07.7	
	comp=Z,23nm,1.9s						
SLR	**Silverton**	**23.85**	**197**	*eP*	**P**	**10 28 16.9**	**+0.6**
SLR				AMb	AMB	10 28 46.0	
	comp=Z,43nm,1.7s,mb4.6						
LBTB	**Lobatse**	**24.13**	**204**	P	**P**	**10 28 18.6**	**-0.2**
	comp=Z,3.0nm,0.7s,mb3.8,baz=44,slow=9.7,SNR=2.3						
LBTB				LR	LR	10 37 30.9	
	comp=Z,426nm,18.7s,MS4.0,baz=143,slow=36						
LBTB	**Lobatse**	**24.13**	**204**	*eP*	**P**	**10 28 18.1**	**-0.7**
LBTB				AMb	AMB	10 28 36.9	
	comp=Z,37nm,1.8s,mb4.5						
TSUM	**Tsumeb**	**24.20**	**227**	PP		10 28 48.3	
	comp=Z,7.5nm,0.9s,baz=22,slow=16,SNR=3.7						
TSUM	**Tsumeb**	**24.20**	**227**	*eP*	**P**	**10 28 20.1**	**+0.5**
TSUM				AMb	AMB	10 29 06.6	
	comp=Z,221nm,1.6s,mb5.3						
ERPM	**east rand prop**	**24.34**	**197**	*eP*	**P**	**10 28 21.1**	**+0.4**
ERPM				AMb	AMB	10 29 24.0	
	comp=Z,37nm,1.6s,mb4.6						
PRYS	**Parys**	**25.25**	**198**	*eP*	**P**	**10 28 28.0**	**-1.0**
PRYS				AMb	AMB	10 28 52.6	
	comp=Z,47nm,1.9s,mb4.7						
SWZ	**Schweizer**	**26.18**	**202**	*eP*	**P**	**10 28 38.2**	**+0.8**
BOSA	**Boshof**	**27.51**	**201**	P	**P**	**10 28 50.7**	**+1.3**
	comp=Z,4.7nm,0.8s,mb4.2,baz=21,slow=14,SNR=3.6						
BOSA				LR	LR	10 40 08.2	
	comp=Z,762nm,18.5s,MS4.3,baz=28,slow=37						
BOSA	**Boshof**	**27.51**	**201**	*eP*	**P**	**10 28 50.6**	**+1.2**
	comp=Z,25nm,1.3s,mb4.7						
BOSA				LR	LR	10 40 08.2	
TORD	**Torodi Ar. Bea**	**37.61**	**296**	P	**P**	**10 30 18.5**	**+0.6**
	comp=Z,5.4nm,1.1s,mb4.2,baz=109,slow=6.3,SNR=16						
TORD				PP	PP	10 31 46.1	+2.2
	comp=Z,4.6nm,1.1s,baz=110,slow=10.0,SNR=6.1						
TORD				LR	LR	10 45 49.5	
	comp=Z,953nm,18.7s,MS4.6,baz=100,slow=36						
DBIC	**Dimbokro**	**41.89**	**283**	PP	PP	10 32 28.9	-1.7
	comp=Z,2.8nm,0.7s,baz=87,slow=13,SNR=3.6						
DBIC				LR	LR	10 48 26.3	
	comp=Z,570nm,18.7s,MS4.5,baz=94,slow=36						
AKASG	**Malin Array Be**	**53.75**	**355**	LR	LR	10 58 33.4	
	comp=Z,79nm,20.4s,MS3.8,baz=200,slow=40						
GEC2	**GERESS Array S**	**55.10**	**342**	*eP*	**P**	**10 32 35.8**	**+1.1**
GERES	**GERESS Array B**	**55.10**	**342**	P	**P**	**10 32 34.3**	**-0.5**
	comp=Z,2.6nm,0.9s,mb4.2,baz=159,slow=5.7,SNR=9.0						
GERES				LR	LR	10 59 20.5	
	comp=Z,108nm,19.7s,MS3.9,baz=166,slow=40						
KHC	**Kasperske Hory**	**55.39**	**342**	*eP*	**P**	**10 32 35.0**	**-1.8**
ESDC	**Sonseca Array**	**56.05**	**323**	P	**P**	**10 32 42.1**	**+0.3**
	comp=Z,0.3nm,0.3s,mb3.8,baz=130,slow=7.7,SNR=5.7						
AKTK	**Aktyubinsk**	**56.43**	**17**	P	**P**	**10 32 43.3**	**-1.0**
AKTO	**Aktyubinsk**	**56.43**	**17**	P	**P**	**10 32 43.3**	**-1.0**
	comp=Z,1.7nm,0.7s,mb4.2,baz=206,slow=7.5,SNR=6.5						
GRA1	**Grafenberg Arr**	**56.62**	**341**	*eP*	**P**	**10 32 47.9**	**+2.2**
GRF	**Grafenberg Arr**	**56.62**	**341**	*eP*	**P**	**10 32 47.9**	**+2.2**
MK31	**Makanchi Array**	**64.08**	**34**	*eP*	**P**	**10 33 36.0**	**-0.7**
MKAR	**Makanchi Array**	**64.08**	**34**	P	**P**	**10 33 35.6**	**-1.1**
	comp=Z,3.1nm,1.0s,mb4.3,baz=232,slow=6.0,SNR=15						
MKAR				LR	LR	11 05 11.6	
	comp=Z,73nm,18.3s,MS3.9,baz=89,slow=40						
HFS	**Hagfors**	**65.27**	**348**	LR	LR	11 07 25.6	
	comp=Z,86nm,19.9s,MS4.0,baz=243,slow=41						
CMAR	**Chiang Mai Arr**	**65.47**	**68**	P	**P**	**10 33 46.5**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.3,baz=257,slow=8.5,SNR=12						
CMAR				LR	LR	11 03 41.6	
	comp=Z,93nm,19.6s,MS4.0,baz=185,slow=37						
NOA	**NORSAR Array B**	**66.62**	**347**	LR	LR	11 02 36.6	
	comp=Z,58nm,18.9s,MS3.8,baz=195,slow=36						
MAW	**Mawson**	**67.14**	**169**	LR	LR	11 01 11.8	
	comp=Z,142nm,21.2s,MS4.2,baz=264,slow=34						
ZALV	**Zalesovo Beam**	**69.66**	**28**	LR	LR	11 08 32.2	
	comp=Z,53nm,21.2s,MS3.8,baz=180,slow=39						
ARCES	**ARCESS Array B**	**72.68**	**356**	P	**P**	**10 34 30.4**	**+0.2**
	comp=Z,1.1nm,0.9s,mb3.8,baz=212,slow=11,SNR=4.0						
ARCES				LR	LR	11 08 24.7	
	comp=Z,86nm,19.2s,MS4.0,baz=130,slow=38						
SONM	**Songino Array**	**79.16**	**40**	P	**P**	**10 35 08.2**	**+0.6**
	comp=Z,0.2nm,0.3s,mb3.5,baz=260,slow=5.9,SNR=3.6						
SONM				LR	LR	11 11 34.5	
	comp=Z,126nm,20.3s,MS4.2,baz=79,slow=37						
JMIC	**Jan Mayen**	**79.32**	**346**	LR	LR	11 15 36.3	
	comp=Z,74nm,19.0s,MS4.0,baz=112,slow=40						
SPITS	**Spitsbergen Ar**	**81.71**	**356**	LR	LR	11 13 54.2	
	comp=Z,115nm,20.8s,MS4.2,baz=45,slow=37						
BDFB	**Brasilia**	**83.45**	**255**	LR	LR	11 10 29.7	
	comp=Z,68nm,19.8s,MS4.0,baz=10,slow=34						
VNDA	**Vanda**	**94.45**	**170**	LR	LR	11 15 31.9	
	comp=Z,232nm,20.3s,MS4.6,baz=235,slow=33						
WRA	**Warramunga Arr**	**96.84**	**110**	P	**P**	**10 36 36.1**	**+1.6**
	comp=Z,0.9nm,1.0s,mb4.2,baz=273,slow=2.7,SNR=5.1						
WRA				LR	LR	11 19 39.9	
	comp=Z,191nm,18.8s,MS4.6,baz=260,slow=35						
SCHQ	**Schefferville**	**99.78**	**325**	LR	LR	11 25 11.7	
	comp=Z,109nm,18.0s,MS4.4,baz=161,slow=37						

*ISCJB **07** 11:07:09.9±0.3, 4834N±002×660E±002, h14km±3km, Error ellipse: s-maj=3.0km s-min=2.5km az=1.8*
*STR **07** 11:07:11.9±0.2, 4833N×668E, h10km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **07** 11:07:12.3±0.1, 4833N×668E, h12km, ML2.5/13*
*BGR **07** 11

BAIF	**Baives**	**2.35 318**	*e*Pg	**Pg**	**11 07 55.9**	**-0.5**
BAIF			*e*Sg	**Sg**	**11 08 25.5**	**-1.4**
1.2nm,0.3s						
SSF	**Saint Saulge**	**2.46 240**	*e*Pg	**Pg**	**11 07 59.0**	**+0.6**
SNR=1.0						
SSF			*e*Sn	**Sn**	**11 08 19.5**	**-0.4**
SNR=1.0						
SSF			*e*Sg	**Sg**	**11 08 31.0**	**+0.7**
3.8nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.46 240**	*e*Pn	**Pn**	**11 07 51.0**	**+0.6**
SNR=1.0						
SSF	**Saint Saulge**	**2.46 240**	*e*Pg	**Pg**	**11 07 59.0**	**+0.6**
SNR=1.0						
SSF			*e*Sn	**Sn**	**11 08 19.5**	**-0.4**
SNR=1.0						
SSF			*e*Sg	**Sg**	**11 08 31.0**	**+0.7**
1.9nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.53 229**	*e*Pn	**Pn**	**11 07 51.6**	**+0.2**
SNR=1.0						
SMF	**Signal de Mont**	**2.53 229**	*e*Pg	**Pg**	**11 07 59.9**	**+0.1**
SNR=1.0						
SMF			*e*Sg	**Sg**	**11 08 32.1**	**-0.4**
4.0nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.53 229**	*e*Pg	**Pg**	**11 07 59.9**	**+0.1**
SNR=1.0						
SMF			*e*Sg	**Sg**	**11 08 32.1**	**-0.4**
2.0nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.69 236**	*e*Pn	**Pn**	**11 07 53.9**	**+0.2**
SNR=1.0						
AVF	**Avril sur Loir**	**2.69 236**	*e*Pg	**Pg**	**11 08 03.6**	**+0.6**
SNR=1.0						
AVF			*e*Sg	**Sg**	**11 08 35.6**	**-2.3**
1.5nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.69 236**	*e*Pg	**Pg**	**11 08 03.6**	**+0.6**
SNR=1.0						
AVF			*e*Sg	**Sg**	**11 08 35.6**	**-2.3**
0.8nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**3.11 237**	*e*Pn	**Pn**	**11 07 59.4**	**-0.1**
SNR=1.0						
BGF	**Bois d'Agland**	**3.11 237**	*e*Pg	**Pg**	**11 08 10.0**	**-1.0**
SNR=1.0						
BGF			*e*Sg	**Sg**	**11 08 49.3**	**-2.0**
7.1nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.11 237**	*e*Pg	**Pg**	**11 08 10.0**	**-1.0**
SNR=1.0						
BGF			*e*Sg	**Sg**	**11 08 49.3**	**-2.0**
3.5nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.45 189**	*e*Pg	**Pg**	**11 08 16.4**	**-0.9**
ORIF			*e*Sg	**Sg**	**11 08 59.3**	**-2.7**
0.6nm,0.1s						
ORIF	**Oris-en-Rattie**	**3.45 189**	*e*Pg	**Pg**	**11 08 16.4**	**-0.9**
ORIF			*e*Sg	**Sg**	**11 08 59.3**	**-2.7**
0.3nm,0.1s						
TCF	**Toulx Ste Croi**	**3.63 237**	*e*Pn	**Pn**	**11 08 06.5**	**0.0**
TCF			*e*Sg	**Sg**	**11 09 06.7**	**-1.1**
1.5nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.63 237**	*e*Pn	**Pn**	**11 08 06.5**	**0.0**
TCF			*e*Sg	**Sg**	**11 09 06.7**	**-1.1**
0.8nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.72 202**	*e*Pn	**Pn**	**11 08 07.0**	**-0.8**
SNR=1.0						
VIVF			*e*Sg	**Sg**	**11 09 07.7**	**-3.1**
2.1nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.72 202**	*e*Pn	**Pn**	**11 08 07.0**	**-0.8**
SNR=1.0						
VIVF			*e*Sg	**Sg**	**11 09 07.7**	**-3.1**
1.0nm,0.2s,SNR=1.0						
LDF	**La Druitiere**	**4.50 276**	*e*Sg	**Sg**	**11 09 35.3**	**-0.3**
3.4nm,0.6s,SNR=1.0						
LDF	**La Druitiere**	**4.50 276**	*e*Sg	**Sg**	**11 09 35.3**	**-0.3**
1.7nm,0.6s,SNR=1.0						
SBF	**Sospel**	**4.50 172**	*e*Pg	**Pg**	**11 08 34.6**	**-2.8**
SNR=1.0						

*IDC **07** 11:54:09.9±1.1, 340N×8297W, h0km, mb3.7/5, mb1 4.0/9, mb1mx3.8/25, mbtmp3.9/9, ML3.5/4, MS3.6/7, Ms1 3.6/7, ms1mx3.2/32, Error ellipse: s-maj=39.0km s-min=18.4km az=46.0*
*NEIC **07** 11:54:11.6±5.5, 344N×8286W, h13km±36km, mb3.9/1, Error ellipse: s-maj=19.4km s-min=9.5km az=62.0*
*ISCJB **07** 11:54:13.3±0.6, 351N±008×8284W±009, h33km, mb3.7/6, MS3.8/4, Error ellipse: s-maj=14.0km s-min=9.7km az=145.8*

ISC 07 11:54:15.3±0.6, 349N±008×8288W±009, h35km, n23, σ1§04/16, mb3.7/6, MS3.8/4, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**5.48**	**126**	*e*P	**Pn**	**11 55 30.9**	**-3.6**
13nm,0.6s							
BCIP	**Isla Barro Col**	**6.40**	**28**	*e*P	**Pn**	**11 55 45.6**	**-1.6**
77nm,0.6s							
ROSC	**El Rosal**	**8.63**	**81**	Pn	**Pn**	**11 56 19.7**	**+1.9**
3.5nm,0.3s,baz=84,slow=8.5,SNR=4.8							
SDV	**Santo Domingo**	**13.30**	**66**	Pn	**Pn**	**11 57 21.6**	**-0.1**
0.4nm,0.3s,baz=281,slow=7.0,SNR=6.0							
SDV				LR	LR	12 02 09.1	
comp=Z,178nm,20.1s,baz=232,slow=36							
NNA	**Nana**	**16.50**	**159**	Pn	**Pn**	**11 58 02.3**	**-1.9**
0.5nm,0.3s,baz=243,slow=9.5,SNR=1.6							
TEIG	**Tepich**	**17.45**	**343**	LR	LR	12 04 02.1	
comp=Z,122nm,21.9s,baz=287,slow=34							
CMIG	**Matias Romero**	**17.93**	**320**	P	**Pn**	**11 58 21.7**	**-0.3**
0.2nm,0.3s,baz=124,slow=8.6,SNR=4.4							
CMIG				LR	LR	12 03 54.7	
comp=Z,133nm,20.6s,baz=338,slow=33							
CMIG	**Matias Romero**	**17.93**	**320**	P	**Pn**	**11 58 21.7**	**-0.3**
CMIG				LR	LR	12 03 54.7	
LPAZ	**La Paz**	**24.47**	**144**	P	**P**	**11 59 31.9**	**+0.7**
3.8nm,1.0s,mb3.8,baz=334,slow=11,SNR=8.4							
SIV	**San Ignacio**	**28.98**	**132**	P	**P**	**12 00 12.0**	**+0.2**
0.7nm,0.7s,mb3.5,baz=230,slow=17,SNR=2.4							
LVC	**Limon Verde**	**29.31**	**153**	LR	LR	12 12 57.1	
comp=Z,104nm,20.0s,MS3.5,baz=221,slow=38							
ANMO	**Albuquerque**	**38.19**	**328**	P	**P**	**12 01 32.5**	**+0.8**
0.8nm,0.6s,mb3.6,baz=148,slow=12,SNR=4.6							
CPUP	**Villa Florida**	**38.60**	**142**	LR	LR	12 19 59.5	
comp=Z,121nm,20.7s,MS3.7,baz=138,slow=40							
BDFB	**Brasilia**	**39.39**	**120**	LR	LR	12 20 11.9	
comp=Z,58nm,18.5s,MS3.5,baz=58,slow=40							
SDCO	**Great Sand Dun**	**39.90**	**332**	*e*P	**P**	**12 01 46.3**	**+0.4**
2.8nm,0.9s,mb4.0							
PLCA	**Paso Flores**	**45.43**	**167**	*e*P	**P**	**12 02 31.7**	**+1.0**
NVAR	**Mina Array Bea**	**47.45**	**322**	P	**P**	**12 02 46.4**	**-0.2**
0.2nm,0.3s,mb3.5,baz=148,slow=7.1,SNR=6.3							
NVAR	**Mina Array Bea**	**47.45**	**322**	P	**P**	**12 02 46.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**83.94**	**77**	P	**P**	**12 06 42.2**	**-0.3**
0.6nm,1.0s,mb3.7,baz=288,slow=5.6,SNR=2.0							
TORD	**Torodi Ar. Bea**	**83.94**	**77**	P	**P**	**12 06 42.2**	**-0.3**
DAVOX	**Davos/Dischmat**	**89.38**	**43**	LR	LR	12 40 12.1	
comp=Z,218nm,20.2s,MS4.6,baz=122,slow=31							
ASAR	**Alice Springs**	**139.21**	**237**	PKP	PKPdf	12 13 37.8	-1.6
0.1nm,0.8s,baz=108,slow=3.0,SNR=3.0							
WRA	**Warramunga Arr**	**140.20**	**243**	PKP	PKPdf	12 13 40.2	-1.1
1.8nm,1.3s,baz=131,slow=1.3,SNR=4.0							

*NEIC **07** 12:10:35.6, 1695N×10009W, h16km, MD3.7(MEX), After MEX.*

MEX 07 12:10:35.4±0.7, 1693N×10010W, h19km±12km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**109**	*i* P	Pg	12 10 39.2	-1.1
ACX				*i* S	Sg	12 10 42.5	-1.1
CAIG	**El Cayaco**	**0.20**	**307**	*i* P	Pg	12 10 40.0	-0.5
CAIG				*i* S	Sg	12 10 42.7	-1.2
MEIG	**Mezcala**	**1.09**	**25**	*i* P	Pn	12 10 51.8	-3.9
MEIG				*i* S	Sb	12 11 05.3	-4.3
ZIIG	**Zihuatanejo**	**1.47**	**298**	*e*P	Pn	12 10 57.7	-3.1
ZIIG				*i* S	Sn	12 11 14.1	-5.3
PNIG	**Pinotepa**	**1.97**	**105**	*i* P	Pn	12 11 05.3	-2.4
PNIG				*i* S	Sn	12 11 27.4	-4.4
UTMO	**Huajuapan**	**2.37**	**67**	*e*P	Pn	12 11 11.7	-1.5
UTMO				*i* S	Sn	12 11 39.1	-2.7
MZVM		**2.40**	**20**	*e*P	Pn	12 11 11.4	-2.2
MZVM				*i* S	Sn	12 11 41.5	-1.0
PPM	**Popocatepetl**	**2.55**	**33**	*e*P	Pn	12 11 20.1	+4.4
PPM				*i* S	Sn	12 11 47.6	+1.4
IIO	**Organos**	**2.96**	**26**	*e*P	Pn	12 11 19.4	-1.9
IIO				*i* S	Sn	12 11 53.4	-2.9

IDC 07 12:15:10.3±1.6, 2253S×6619W, h264km±24km, mb3.2/1, mb1 3.4/4, mb1mx3.1/18, mbtmp3.3/4, Error ellipse: s-maj=40.6km s-min=19.8km az=114.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.52**	**268**	P	Pn	12 16 00.5	+1.7
9.9nm,0.3s,baz=86,slow=6.0,SNR=88							
LVC				S	S	12 16 37.7	+0.6
9.3nm,0.3s,baz=279,slow=21,SNR=31							
LPAZ	**La Paz**	**6.48**	**343**	P	Pn	12 16 46.8	+2.1
0.7nm,0.3s,baz=165,slow=10.0,SNR=19							
LPAZ				S	S	12 18 01.5	+0.9
0.1nm,0.3s,baz=240,slow=23,SNR=8.5							
SIV	**San Ignacio**	**8.10**	**37**	P	Pn	12 17 04.4	-0.6
1.8nm,0.3s,baz=235,slow=11,SNR=44							
TORD	**Torodi Ar. Bea**	**75.34**	**69**	P	P	12 26 25.1	-0.1
0.6nm,0.5s,baz=258,slow=5.6,SNR=10							
MKAR	**Makanchi Array**	**144.92**	**39**	PKP	PKPdf	12 34 15.4	-0.4
0.4nm,0.5s,baz=266,slow=4.3,SNR=3.5							

IDC 07 12:20:42.5±1.8, 281N×6628E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.8/23, mbtmp4.1/6, Error ellipse: s-maj=66.1km s-min=25.3km az=56.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**47.97**	**353**	P	P	12 29 23.2	+0.3
6.5nm,0.9s,baz=146,slow=7.3,SNR=13							
ZALV	**Zalesovo Beam**	**53.20**	**14**	P	P	12 30 01.4	-1.1
1.5nm,0.6s,baz=202,slow=7.7,SNR=5.0							
SONM	**Songino Array**	**56.59**	**31**	P	P	12 30 28.0	+0.9
1.4nm,1.1s,baz=223,slow=7.9,SNR=5.7							
HFS	**Hagfors**	**69.77**	**335**	P	P	12 31 53.7	-0.7
2.4nm,0.8s,baz=153,slow=10.0,SNR=4.7							
WRA	**Warramunga Arr**	**70.45**	**112**	P	P	12 31 59.3	-0.1
2.3nm,0.9s,baz=287,slow=5.9,SNR=8.4							
ASAR	**Alice Springs**	**70.78**	**116**	P	P	12 32 01.4	0.0
1.0nm,1.0s,baz=289,slow=5.6,SNR=4.8							
TXAR	**Lajitas Array**	**146.62**	**344**	PKPbc	PKPbc	12 40 27.1	+0.3
1.4nm,0.8s,baz=53,slow=2.7,SNR=11							

NEIC 07 12:38:29.8, 4445S×16937E, h2km, ML4.0(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WKZ	**Wanaka**	**0.46**	**213**	P	Pg	12 38 38.9	+0.4
WKZ				S	Sg	12 38 45.1	+0.7
JCZ	**Jackson Bay**	**0.58**	**310**	P	Pg	12 38 41.5	+0.6
JCZ				S	Sg	12 38 48.9	+0.6
LBZ	**Lake Benmore**	**0.59**	**84**	P	Pg	12 38 42.3	+1.3
LBZ				S	Sg	12 38 50.3	+1.7
EAZ	**Earnscleugh**	**0.78**	**183**	P	Pg	12 38 45.2	+0.4
EAZ				S	Sg	12 38 55.3	+0.3
FOZ	**Fox Glacier**	**0.91**	**15**	P	Pg	12 38 48.0	+0.7
MSZ	**Milford Sound**	**1.05**	**257**	P	Pg	12 38 50.1	+0.1
ODZ	**Otahua Downs**	**1.09**	**124**	P	Pg	12 38 50.7	+0.1
MLZ	**Mavora Lakes**	**1.24**	**223**	P	Pg	12 38 53.8	+0.3
RPZ	**Rata Peaks**	**1.42**	**59**	P	Pn	12 38 56.8	+0.2
TUZ	**Tuapeka**	**1.52**	**173**	P	Pn	12 38 57.3	-0.6
WVZ	**Waitaha Valley**	**1.69**	**36**	P	Pn	12 39 01.4	+1.1
WHZ	**Wether Hill Ro**	**1.76**	**214**	P	Pn	12 39 01.0	-0.3
DCZ	**Deep Cove**	**1.88**	**236**	P	Pn	12 39 03.2	+0.3
LTZ	**Lake Taylor**	**2.69**	**53**	P	Pn	12 39 13.6	-0.4
DSZ	**Denniston Nort**	**3.24**	**34**	P	Pn	12 39 21.9	+0.3
THZ	**Tophouse**	**3.73**	**45**	P	Pn	12 39 29.0	+0.7
NNZ	**Nelson**	**4.37**	**44**	P	Pn	12 39 39.8	+2.6

*JMA **07** 12:46:26.2±0.4, 2732N×12664E, h7km±5km, M3.2*
*ISCJB **07** 12:46:27.0±0.9, 2730N±005×12666E±006, h10km, mb3.5/4, Error ellipse: s-maj=8.8km s-min=6.3km az=44.4*
*IDC **07** 12:46:30.0±3.0, 2730N×12605E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, MS2.6/1, Ms1 2.6/1, ms1mx2.3/24, Error ellipse: s-maj=185.8km s-min=22.0km az=64.0*

ISC 07 12:46:27.0±1.5, 2729N±006×12670E±006, h4km±10km, n11, σ0§60/16, mb3.5/4, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.85**	**145**	P	**Pg**	**12 46 43.4**	**+0.1**
JAGN				S	**Sg**	**12 46 55.4**	**+1.0**
JKE	**Kume jima 2**	**0.97**	**175**	P	**Pg**	**12 46 44.9**	**-0.6**
JKE				*e*S	**Sg**	**12 46 57.7**	**-0.3**
JIH	**Iheya**	**1.16**	**103**	P	**Pg**	**12 46 48.8**	**-0.4**
JIH				S	**Sg**	**12 47 04.3**	**+0.1**
NAH1	**Naha**	**1.40**	**141**	P	**Pn**	**12 46 53.4**	**+0.1**
NAH1				*e*S	**Sg**	**12 47 12.3**	**+0.3**
JOW	**Kunigami**	**1.48**	**108**	P	**Pn**	**12 46 53.7**	**-0.7**
JOW				S	**Sb**	**12 47 13.9**	**-0.2**
JJT2	**Tamagusuku 2**	**1.48**	**141**	P	**Pn**	**12 46 53.7**	**-0.7**
JJT2				*e*S	**Sb**	**12 47 14.5**	**+0.2**
KSRS	**Korea Array**	**10.18**	**6**	LR	LR	12 52 55.7	
comp=Z,30nm,19.1s,baz=220,slow=38							
SONM	**Songino Array**	**25.92**	**328**	P	**P**	**12 52 01.4**	**+1.3**
1.4nm,0.9s,mb3.5,baz=134,slow=10,SNR=8.1							
MKAR	**Makanchi Array**	**39.81**	**311**	P	**P**	**12 54 00.8**	**-0.3**
0.5nm,0.5s,mb3.5,baz=104,slow=6.5,SNR=3.8							
WRA	**Warramunga Arr**	**47.53**	**170**	P	**P**	**12 55 08.1**	**+4.5**
0.6nm,0.9s,mb3.6,baz=352,slow=8.8,SNR=3.8							
ASAR	**Alice Springs**	**51.14**	**172**	P	**P**	**12 55 35.5**	**+4.4**
0.4nm,0.6s,mb3.5,baz=2.7,slow=14,SNR=5.4							

IDC 07 12:59:31.9±1.8, 276N×6621E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/22, mbtmp4.0/5, Error ellipse: s-maj=66.9km s-min=29.0km az=55.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**53.26**	**14**	P	P	13 08 51.1	-1.0
1.4nm,0.5s,baz=210,slow=8.3,SNR=5.2							
SONM	**Songino Array**	**56.67**	**31**	P	P	13 09 17.9	+0.9
0.9nm,1.0s,baz=214,slow=5.0,SNR=4.8							
HFS	**Hagfors**	**69.77**	**335**	P	P	13 10 43.3	-0.4
2.1nm,0.8s,baz=102,slow=12,SNR=4.7							
WRA	**Warramunga Arr**	**70.50**	**112**	P	P	13 10 49.1	+0.1
0.6nm,0.8s,baz=284,slow=6.3,SNR=7.2							
ASAR	**Alice Springs**	**70.83**	**116**	P	P	13 10 50.7	-0.2
0.8nm,0.9s,baz=270,slow=5.0,SNR=4.2							
TXAR	**Lajitas Array**	**146.64**	**344**	PKPbc	PKPbc	13 19 16.6	+0.4
1.0nm,0.8s,baz=31,slow=2.4,SNR=9.5							

*IDC **07** 13:40:01.9±4.3, 299S×14103E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/15, mbtmp3.6/4, ML3.6/1, MS3.2/3, Ms1 3.2/3, ms1mx3.0/12, Error ellipse: s-maj=135.1km s-min=29.9km az=94.0*
*ISCJB **07** 13:40:05.1±2.4, 30S±01×1410E±04, h33km, mb3.5/3, MS3.2/2, Error ellipse: s-maj=63.0km s-min=19.4km az=3.9*
*NEIC **07** 13:40:07.8±2.1, 302S×14084E, h35km, mb3.6/1, Error ellipse: s-maj=52.3km s-min=18.5km az=94.0*

ISC 07 13:40:07.1±2.4, 30S±01×1410E±04, h35km, n13, σ0§87/10, mb3.5/3, MS3.2/2, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.84**	**221**	*e*P	**Pn**	**13 43 10.0**	**+2.8**
5.9nm,0.4s							
KAKA	**Kakadu**	**12.84**	**221**	*e*P	**Pn**	**13 43 06.8**	**-0.4**
CTA	**Charters Tower**	**17.69**	**164**	LR	LR	13 50 28.3	
comp=Z,100nm,20.4s,baz=226,slow=35							
WRAB	**Tennant Creek**	**18.02**	**201**	*e*P	**Pn**	**13 44 14.2**	**-0.6**
3.2nm,0.7s							
WB2	**Warramunga Arr**	**18.03**	**201**	*e*P	**Pn**	**13 44 15.2**	**+0.3**
WB2	**Warramunga Arr**	**18.03**	**201**	*e*P	**Pn**	**13 44 16.6**	**+1.6**
WRA	**Warramunga Arr**	**18.03**	**201**	P	**Pn**	**13 44 15.2**	**+0.2**
0.2nm,0.3s,baz=13,slow=12,SNR=21							
FITZ	**Fitzroy Crossi**	**21.26**	**224**	P	**P**	**13 44 50.2**	**-0.2**
2.8nm,0.9s,mb3.6,baz=50,slow=7.9,SNR=3.6							
FITZ	**Fitzroy Crossi**	**21.26**	**224**	*e*P	**P**	**13 44 48.9**	**-1.5**
ASAR	**Alice Springs**	**21.64**	**198**	P	**P**	**13 44 54.1**	**-0.3**
0.6nm,0.7s,mb3.1,baz=32,slow=9.9,SNR=6.4							
KSRS	**Korea Array**	**42.09**	**344**	LR	LR	14 05 15.4	
comp=Z,11nm,18.1s,MS2.8,baz=225,slow=36							
SONM	**Songino Array**	**59.03**	**333**	LR	LR	14 15 54.2	
comp=Z,47nm,18.4s,MS3.6,baz=68,slow=36							
MKAR	**Makanchi Array**	**71.48**	**322**	P	**P**	**13 51 24.3**	**+0.2**
0.3nm,0.3s,mb3.8,baz=100,slow=6.7,SNR=5.0							

*ISCJB **07** 14:22:41.6±1.1, 293N±01×869E±01, h33km, mb3.6/6, Error ellipse: s-maj=16.3km s-min=12.2km az=26.4*
*IDC **07** 14:22:41.0±1.0, 2959N×8771E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.6/23, mbtmp3.6/8, ML3.6/2, Error ellipse: s-maj=32.7km s-min=21.9km az=60.0*
*NEIC **07** 14:22:46.3±0.8, 2909N×8723E, h35km, Error ellipse: s-maj=24.9km s-min=14.5km az=211.0*

ISC 07 14:22:45.1±1.0, 293N±01×8703E±010, h35km, n11, σ1§47/11, mb3.6/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.62**	**82**	*e*P	**Pn**	**14 23 38.6**	**+0.1**
LSA				*e*S	**Sn**	**14 24 20.8**	**+0.8**
SHL	**Shillong**	**5.68**	**129**	*e*P	**Pn**	**14 24 07.0**	**+0.1**
SHL				*e*S	Sn	14 25 37.0	+26
CMAR	**Chiang Mai Arr**	**15.31**	**132**	Pn	**Pn**	**14 26 15.5**	**-3.0**
0.1nm,0.3s,baz=316,slow=14,SNR=3.2							
MKAR	**Makanchi Array**	**17.88**	**349**	P	**Pn**	**14 26 48.5**	**-2.3**
0.1nm,0.3s,baz=169,slow=11,SNR=3.6							
SONM	**Songino Array**	**23.82**	**34**	P	**P**	**14 27 48.8**	**-5.9**
0.2nm,0.6s,mb2.7,baz=218,slow=9.1,SNR=2.1							
ARCES	**ARCESS Array B**	**52.99**	**337**	P	**P**	**14 31 59.7**	**+1.9**
1.2nm,1.0s,mb3.8,baz=106,slow=9.5,SNR=3.3							
PETK	**Petropavlovsk-**	**55.77**	**43**	P	**P**	**14 32 14.4**	**-3.8**
8.6nm,1.2s,mb4.7,baz=270,slow=6.8,SNR=3.7							
WRA	**Warramunga Arr**	**66.90**	**131**	P	**P**	**14 33 34.3**	**+0.4**
0.5nm,0.7s,mb3.7,baz=325,slow=6.7,SNR=6.8							
ASAR	**Alice Springs**	**69.30**	**134**	P	**P**	**14 33 48.7**	**-0.2**
0.5nm,0.9s,mb3.5,baz=319,slow=5.0,SNR=5.1							
TORD	**Torodi Ar. Bea**	**79.68**	**279**	P	**P**	**14 34 52.7**	**+3.1**
0.6nm,0.9s,mb3.5,baz=40,slow=5.4,SNR=2.3							
TXAR	**Lajitas Array**	**120.83**	**11**	PKP	PKPdf	14 41 36.5	+2.6
0.1nm,0.5s,baz=339,slow=4.1,SNR=2.2							

*ISCJB **07** 14:41:56.9±0.3, 4833N±001×656E±002, h8km±3km, Error ellipse: s-maj=2.5km s-min=2.4km az=153.0*
*CSEM **07** 14:41:59.5±0.0, 4834N×668E, h12km, ML2.6/17, Error ellipse: s-maj=0.9km s-min=0.8km az=158.0*
*LDG **07** 14:41:59.8±0.1, 4833N×666E, h13km, Md3.1/4, Ml2.7/20, Error ellipse: s-maj=1.4km s-min=1.0km az=155.0*
*NEIC **07** 14:41:59.2, 4834N×669E, h10km, ML2.1(SZGRF), ML2.4(STR), ML2.7(LDG), After STR.*
*STR **07** 14:41:59.2±0.1, 4834N×669E, h10km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*BGR **07** 14:42:01.9±1.1, 4844N×683E, h10km, ML2.1/3, Error ellipse: s-maj=14.5km s-min=5.6km az=40.0*

ISC 07 14:41:58.5±0.2, 4832N±001×663E±002, h17km±2km, n78, σ0§99/173, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.37**	**210**	*e*Pg	**Pg**	**14 42 07.4**	**+1.3**
SNR=1.0							
HAU				*e*Sg	**Sg**	**14 42 11.7**	**+0.5**
50nm,0.2s							
HAU	**Haudompre**	**0.37**	**210**	*e*Pg	**Pg**	**14 42 07.4**	**+1.3**
SNR=1.0							
HAU				*e*Sg	**Sg**	**14 42 11.7**	**+0.5**
25nm,0.2s							
ECH	**Echery**	**0.37**	**106**	Pg	**Pg**	**14 42 06.7**	**+0.5**
ECH				Sg	**Sg**	**14 42 11.2**	**-0.2**
ECH	**Echery**	**0.37**	**106**	*e*Pg	**Pg**	**14 42 06.5**	**+0.3**
ECH				Sg	**Sg**	**14 42 11.2**	**-0.2**
ECH	**Echery**	**0.37**	**106**	*e*Pg	**Pg**	**14 42 06.5**	**+0.3**
ECH				*e*Sg	**Sg**	**14 42 11.3**	**-0.1**
THEF	**They Montfort**	**0.44**	**258**	Pg	**Pg**	**14 42 08.4**	**+1.0**
THEF				Sg	**Sg**	**14 42 15.1**	**+1.8**
CDF	**Champ du Feu**	**0.44**	**78**	*e*Pg	**Pg**	**14 42 07.8**	**+0.3**
SNR=1.0							
CDF				*e*Sg	**Sg**	**14 42 13.2**	**-0.3**
75nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**0.44**	**78**	*e*Pg	**Pg**	**14 42 07.8**	**+0.3**
SNR=1.0							
CDF				*e*Sg	**Sg**	**14 42 13.2**	**-0.3**
38nm,0.2s,SNR=1.0							
HINF	**Hinteralfeld**	**0.53**	**163**	*e*P	**Pg**	**14 42 10.7**	**+1.7**
SNR=1.0							
HINF	**Hinteralfeld**	**0.53**	**163**	*e*Pn	**Pg**	**14 42 11.2**	**+2.2**
HINF				*e*Sg	**Sg**	**14 42 16.7**	**+0.6**
54nm,0.1s,SNR=1.0							
HINF				*e*Sn	**Sg**	**14 42 19.5**	**+3.4**
HINF	**Hinterlalfeld**	**0.53**	**163**	*e*P	**Pg**	**14 42 10.7**	**+1.7**
SNR=1.0							
HINF	**Hinterlalfeld**	**0.53**	**163**	*e*Pn	**Pg**	**14 42 11.2**	**+2.2**
HINF				*e*Sg	**Sg**	**14 42 16.7**	**+0.6**
27nm,0.1s,SNR=1.0							
HINF				*e*Sn	**Sg**	**14 42 19.5**	**+3.4**
HINF	**Hinterlalfeld**	**0.53**	**163**	*e*Pg	**Pg**	**14 42 09.9**	**+0.9**
HINF				*e*P		14 42 10.7	
HINF				*e*Pn	**Pg**	**14 42 11.2**	**+2.2**
HINF				*e*Sg	**Sg**	**14 42 16.7**	**+0.6**
HINF				*e*Sn	**Sg

LOR *e*Sn **Sn** **14 43 00.0 +0.5**
SNR=1.0
LOR *e*Sg **Sg** **14 43 06.6 -0.8**
8.2nm,0.2s,baz=61,SNR=1.0
LOR Lormes 2.14 242 *e*Pg **Pg** **14 42 40.4 +0.8**
SNR=1.0
LOR *e*Sn **Sn** **14 43 00.0 +0.5**
SNR=1.0
LOR *e*Sg **Sg** **14 43 06.6 -0.8**
4.1nm,0.2s,SNR=1.0
LOR Lormes 2.14 242 *e*Pn **Pn** **14 42 34.0 +0.6**
LOR *e*Pg **Pg** **14 42 40.4 +0.8**
LOR *e*Sn **Sn** **14 43 00.0 +0.5**
LOR *e*Sg **Sg** **14 43 06.6 -0.8**
TNS Taunus Mts 2.25 31 *e*Sg **Sg** **14 43 08.3 -2.4**
BAIF Baives 2.35 319 *e*Pg **Pg** **14 42 43.1 -0.5**
BAIF *e*Sg **Sg** **14 43 13.9 -0.2**
4.4nm,0.3s
BAIF Baives 2.35 319 *e*Pg **Pg** **14 42 43.1 -0.5**
BAIF *e*Sg **Sg** **14 43 13.9 -0.2**
2.2nm,0.3s
SSF Saint Saulge 2.46 240 *e*Pg **Pg** **14 42 46.3 +0.7**
SNR=1.0
SSF *e*Sg **Sg** **14 43 17.8 +0.4**
4.6nm,0.2s,SNR=1.0
SSF Saint Saulge 2.46 240 *e*Pg **Pg** **14 42 46.3 +0.7**
SNR=1.0
SSF *e*Sg **Sg** **14 43 17.8 +0.4**
2.3nm,0.2s,SNR=1.0
SSF Saint Saulge 2.46 240 *e*Pn **Pn** **14 42 38.2 +0.5**
SSF *e*Pg **Pg** **14 42 46.3 +0.7**
SSF *e*Sg **Sg** **14 43 17.8 +0.4**
SMF Signal de Mont 2.53 229 *e*Pg **Pg** **14 42 47.3 +0.4**
SNR=1.0
SMF *e*Sn **Sn** **14 43 10.7 +1.7**
SNR=1.0
SMF *e*Sg **Sg** **14 43 19.7 0.0**
7.6nm,0.2s,SNR=1.0
SMF Signal de Mont 2.53 229 *e*Pg **Pg** **14 42 47.3 +0.4**
SNR=1.0
SMF *e*Sn **Sn** **14 43 10.7 +1.7**
SNR=1.0
SMF *e*Sg **Sg** **14 43 19.7 0.0**
3.8nm,0.2s,SNR=1.0
SMF Signal de Mont 2.53 229 *e*Pn **Pn** **14 42 38.5 -0.2**
SMF *e*Pg **Pg** **14 42 47.3 +0.4**
SMF *e*Sn **Sn** **14 43 10.7 +1.7**
SMF *e*Sg **Sg** **14 43 19.7 0.0**
AVF Avril sur Loir 2.69 237 *e*Pg **Pg** **14 42 50.8 +0.7**
SNR=1.0
AVF *e*Sg **Sg** **14 43 22.8 -2.3**
2.1nm,0.2s,SNR=1.0
AVF Avril sur Loir 2.69 237 *e*Pg **Pg** **14 42 50.8 +0.7**
SNR=1.0
AVF *e*Sg **Sg** **14 43 22.8 -2.3**
1.0nm,0.2s,SNR=1.0
AVF Avril sur Loir 2.69 237 *e*Pn **Pn** **14 42 41.1 +0.1**
AVF *e*Pg **Pg** **14 42 50.8 +0.7**
AVF *e*Sg **Sg** **14 43 22.8 -2.3**
LPL La Plagne 2.81 178 *e*Pn **Pn** **14 42 43.4 +0.9**
LPL *e*Sg **Sg** **14 43 28.9 +0.2**
3.1nm,0.3s
LPL La Plagne 2.81 178 *e*Pn **Pn** **14 42 43.4 +0.9**
LPL *e*Sg **Sg** **14 43 28.9 +0.2**
1.5nm,0.3s
BGF Bois d'Agland 3.11 237 *e*Pg **Pg** **14 42 58.2 +0.1**
SNR=1.0
BGF *e*Sg **Sg** **14 43 36.8 -1.7**
9.0nm,0.3s,SNR=1.0
BGF Bois d'Agland 3.11 237 *e*Pg **Pg** **14 42 58.2 +0.1**
SNR=1.0
BGF *e*Sg **Sg** **14 43 36.8 -1.7**
4.5nm,0.3s,SNR=1.0
BGF Bois d'Agland 3.11 237 *e*Pn **Pn** **14 42 46.7 0.0**
BGF *e*Pg **Pg** **14 42 58.2 +0.1**
BGF *e*Sg **Sg** **14 43 36.8 -1.7**
ORIF Oris-en-Rattie 3.44 189 *e*Pg **Pg** **14 43 03.5 -1.0**
ORIF *e*Sg **Sg** **14 43 46.4 -2.7**
2.4nm,0.3s
ORIF Oris-en-Rattie 3.44 189 *e*Pg **Pg** **14 43 03.5 -1.0**
ORIF *e*Sg **Sg** **14 43 46.4 -2.7**
1.2nm,0.3s
ORIF Oris-en-Rattie 3.44 189 *e*Pn **Pn** **14 42 51.5 +0.2**
ORIF *e*Pg **Pg** **14 43 03.5 -1.0**
ORIF *e*Sg **Sg** **14 43 46.4 -2.7**
TCF Toulx Ste Croi 3.63 238 *e*Pg **Pg** **14 43 07.5 -0.5**
SNR=1.0
TCF *e*Sg **Sg** **14 43 53.8 -1.2**
1.5nm,0.2s,SNR=1.0
TCF Toulx Ste Croi 3.63 238 *e*Pg **Pg** **14 43 07.5 -0.5**
SNR=1.0
TCF *e*Sg **Sg** **14 43 53.8 -1.2**
0.8nm,0.2s,SNR=1.0
TCF Toulx Ste Croi 3.63 238 *e*Pn **Pn** **14 42 53.8 0.0**
TCF *e*Pg **Pg** **14 43 07.5 -0.5**
TCF *e*Sg **Sg** **14 43 53.8 -1.2**
VIVF Saint-Julien-l 3.72 202 *e*Pg **Pg** **14 43 09.1 -0.6**
VIVF *e*Sg **Sg** **14 43 55.4 -2.5**
2.6nm,0.2s,SNR=1.0
VIVF Saint-Julien-l 3.72 202 *e*Pg **Pg** **14 43 09.1 -0.6**
VIVF *e*Sg **Sg** **14 43 55.4 -2.5**
1.3nm,0.2s,SNR=1.0
LDF La Druitiere 4.50 276 *e*Sn **Sn** **14 43 55.2 -2.4**
SNR=1.0
LDF *e*Sg **Sg** **14 44 23.2 +0.4**
3.4nm,0.3s
LDF La Druitiere 4.50 276 *e*Sn **Sn** **14 43 55.2 -2.4**
SNR=1.0
LDF *e*Sg **Sg** **14 44 23.2 +0.4**
1.7nm,0.3s
CAF Calviac 4.63 224 *e*Pg **Pg** **14 43 25.9 -1.2**
CAF *e*Sg **Sg** **14 44 26.1 -0.9**
2.7nm,0.4s
CAF Calviac 4.63 224 *e*Pg **Pg** **14 43 25.9 -1.2**
CAF *e*Sg **Sg** **14 44 26.1 -0.9**
1.4nm,0.4s
CAF Calviac 4.63 224 *e*Pn **Pn** **14 43 07.3 -0.2**
CAF *e*Pg **Pg** **14 43 25.9 -1.2**
CAF *e*Sg **Sg** **14 44 26.1 -0.9**
LASF Ste Croix 4.66 205 *e*Pn **Pn** **14 43 07.3 -0.7**
LASF *e*Sn **Sn** **14 44 00.0 -1.6**
SNR=1.0
LASF *e*Sg **Sg** **14 44 27.9 -0.2**
2.1nm,0.3s
LASF Ste Croix 4.66 205 *e*Pn **Pn** **14 43 07.3 -0.7**
LASF *e*Sn **Sn** **14 44 00.0 -1.6**
SNR=1.0
LASF *e*Sg **Sg** **14 44 27.9 -0.2**
1.0nm,0.3s
FLN La Foliniere 4.74 278 *e*Pn **Pn** **14 43 07.7 -1.4**
SNR=1.0
FLN *e*Sg **Sg** **14 44 29.8 -0.8**
2.1nm,0.3s
FLN La Foliniere 4.74 278 *e*Pn **Pn** **14 43 07.7 -1.4**
SNR=1.0
FLN *e*Sg **Sg** **14 44 29.8 -0.8**
1.0nm,0.3s
MFF Saint Martin d 4.90 252 *e*Sg **Sg** **14 44 33.5 -2.3**
0.9nm,0.2s
MFF Saint Martin d 4.90 252 *e*Sg **Sg** **14 44 33.5 -2.3**
0.4nm,0.2s
MTLF Montolieu 5.86 213 *e*Pn **Pn** **14 43 24.5 +0.1**
SNR=1.0

IDC 07 14:52:50.1±2.5, 230N×6609E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=87.5km s-min=33.0km az=65.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**53.73**	**14**	P	P	15 02 13.0	-0.9
	0.3nm,0.3s,baz=220,slow=8.7,SNR=4.3						
SONM	**Songino Array**	**57.12**	**31**	P	P	15 02 39.2	+0.8
	0.1nm,0.3s,baz=217,slow=6.9,SNR=4.1						
WRA	**Warramunga Arr**	**70.43**	**112**	P	P	15 04 08.1	+1.3
	2.1nm,1.0s,baz=287,slow=5.6,SNR=7.2						
ASAR	**Alice Springs**	**70.72**	**116**	P	P	15 04 07.5	-1.1
	0.4nm,0.9s,baz=277,slow=4.3,SNR=3.5						
TXAR	**Lajitas Array**	**147.05**	**343**	PKPbc	PKPbc	15 12 35.4	-0.2
	0.5nm,0.8s,baz=57,slow=4.6,SNR=6.5						

IDC 07 15:00:58.9±2.9, 389S×6762E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.9/4, MS3.5/3, Ms1 3.5/3, ms1mx2.9/36, Error ellipse: s-maj=92.9km s-min=36.1km az=65.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**47.13**	**234**	LR	LR	15 27 45.8	
	comp=Z,88nm,19.8s,baz=155,slow=34						
MKAR	**Makanchi Array**	**52.11**	**13**	P	P	15 10 10.6	-0.2
	0.3nm,0.3s,baz=191,slow=9.1,SNR=2.6						
ZALV	**Zalesovo Beam**	**59.40**	**12**	P	P	15 11 02.6	-0.3
	1.9nm,0.9s,baz=216,slow=7.3,SNR=4.1						
ZALV				LR	LR	15 37 59.3	
	comp=Z,15nm,19.0s,baz=169,slow=37						
SONM	**Songino Array**	**61.69**	**29**	P	P	15 11 19.4	+0.6
	2.7nm,1.1s,baz=227,slow=7.8,SNR=9.4						
WRA	**Warramunga Arr**	**66.81**	**110**	P	P	15 11 52.9	0.0
	1.1nm,0.9s,baz=284,slow=5.9,SNR=9.2						
DBIC	**Dimbokro**	**73.10**	**278**	LR	LR	15 43 36.6	
	comp=Z,51nm,18.5s,baz=74,slow=35						
TXAR	**Lajitas Array**	**153.38**	**343**	PKPbc	PKPbc	15 20 59.9	+0.1
	0.2nm,0.8s,baz=40,slow=1.5,SNR=2.4						

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*CSEM **07** 15:02:58.5±0.2, 3834N×3805E, h25km, MD2.7, Error ellipse: s-maj=5.5km s-min=4.1km az=47.0*
*ISCJB **07** 15:03:00.7±0.7, 3840N±004×38.12E±005, h10km, Error ellipse: s-maj=6.6km s-min=5.0km az=148.8*
*DDA **07** 15:03:00.1, 3843N×3809E, h7km±3km, Md2.8*
*ISK **07** 15:03:00.8, 3835N×3814E, h14km, MD2.7*

ISC 07 15:03:00.9±0.8, 3840N±004×3812E±006, h10km±7km, n6, σ0§64/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYA	**Malataya**	**0.25**	**107**	PG	**Pg**	**15 03 06.1**	**0.0**
MALT	**Malatya**	**0.26**	**110**	PG	**Pg**	**15 03 05.9**	**-0.3**
MALT				*e*SG	**Sg**	**15 03 10.1**	**+0.4**
DARE	**Darende-Malaty**	**0.60**	**336**	*e*PG	**Pg**	**15 03 12.4**	**-0.2**
DARE				*e*SG	**Sg**	**15 03 20.7**	**+0.2**
ELZG	**Elazig**	**0.69**	**82**	*i* P	**Pb**	**15 03 13.7**	**-1.3**
ELZG				*i* S	**Sb**	**15 03 25.6**	**+1.0**
URFA	**Urfa**	**1.11**	**150**	*e*PG	**Pg**	**15 03 21.4**	**-0.8**
URFA				*e*SG	**Sg**	**15 03 36.5**	**-0.2**
GZT	**Gaziantep**	**1.13**	**203**	*i* P	**Pn**	**15 03 22.6**	**-0.2**
GZT				*i* S	**Sb**	**15 03 38.2**	**+1.0**

IDC 07 15:17:31.8±23.0, 3300S×17794W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.9/16, mbtmp4.2/3, Error ellipse: s-maj=420.2km s-min=150.7km az=101.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.02**	**261**	P	P	15 24 17.4	-0.1
	2.3nm,0.9s,baz=101,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**43.08**	**270**	P	P	15 25 33.4	-0.3
	2.6nm,0.5s,baz=115,slow=8.8,SNR=91						
WRA	**Warramunga Arr**	**44.30**	**275**	P	P	15 25 43.8	+0.2
	1.3nm,0.5s,baz=117,slow=8.1,SNR=32						

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*NEIC **07** 15:55:07.0±1.4, 2107S×17766W, h500km, mb4.1/1, Error ellipse: s-maj=28.9km s-min=23.7km az=53.0*

IDC 07 15:54:59.5±16.0, 2066S×17752W, h416km±174km, mb3.3/5, mb1 3.5/6, mb1mx3.2/19, mbtmp3.3/6, Error ellipse: s-maj=115.8km s-min=36.5km az=22.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.14**	**194**	P	P	15 58 44.5	-0.2
	baz=292,slow=6.6						
CTA	**Charters Tower**	**33.93**	**264**	P	P	16 01 06.9	+0.9
	2.0nm,0.4s,baz=100,slow=13,SNR=6.3						
CTAO	**Charters Tower**	**33.93**	**264**	*e*P	P	16 01 07.2	+1.2
	2.5nm,0.4s						
STKA	**Stephens Creek**	**38.13**	**244**	P	P	16 01 41.1	+0.1
	2.3nm,1.0s,baz=125,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**44.92**	**257**	P	P	16 02 35.3	-0.1
	1.9nm,0.5s,baz=92,slow=9.1,SNR=83						
WB2	**Warramunga Arr**	**45.02**	**262**	*e*P	P	16 02 35.4	-0.9
WRAB	**Tennant Creek**	**45.02**	**262**	*e*P	P	16 02 35.7	-0.5
WRA	**Warramunga Arr**	**45.03**	**262**	P	P	16 02 35.6	-0.7
	2.9nm,0.8s,baz=96,slow=6.9,SNR=78						
FITZ	**Fitzroy Crossi**	**53.46**	**262**	P	P	16 03 39.3	+0.1
	1.4nm,0.8s,baz=100,slow=6.1,SNR=5.6						
CLL	**Collm**	**148.32**	**347**	*e*PKPbc	PKPbc	16 13 58.0	+0.6
GERES	**GERESS Array B**	**150.48**	**345**	PKPbc	PKPbc	16 14 02.7	+0.1
	0.3nm,0.6s,baz=322,slow=2.7,SNR=4.1						

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*NEIC **07** 16:01:32.7, 3470S×7079W, h94km, MD3.5(GUC), After GUC.*

GUC 07 16:01:32.7±0.5, 3470S×7079W, h94km±3km, MD3.5, ML3.3, 4C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.20**	**295**	⇑*i*P	Pn	16 01 46.4	+0.2
CICH	**Cipreses**	**0.49**	**39**	⇑*i*P	Pn	16 01 47.7	-0.1
CICH				*i* S	Sn	16 01 59.2	+0.2
CACH	**El Canelo**	**0.60**	**15**	⇓*i*P	Pn	16 01 49.0	+0.3
CACH				*i* S	Sn	16 02 01.5	+0.9
CHCH	**Chadas Angostu**	**0.77**	**9**	⇓*i*P	Pn	16 01 50.4	+0.2
CHCH				*i* S	Sn	16 02 03.8	+0.4
LNV	**Longovilo**	**0.90**	**325**	⇑*i*P	Pn	16 01 51.5	-0.1
LNV				*i* S	Sn	16 02 05.6	-0.1
LMEL	**Las Melosas**	**0.98**	**30**	⇓*i*P	Pn	16 01 52.9	+0.5
LMEL				*i* S	Sn	16 02 08.5	+1.2
LMEL				AML	AML	16 02 13.2	
	comp=N,2μm,0.1s						
LMEL	**Las Melosas**	**0.98**	**30**	⇓*i*P	Pn	16 01 52.9	+0.5
LMEL				*i* S	Sn	16 02 08.5	+1.2
TACH	**Talagante**	**1.05**	**353**	⇓*i*P	Pn	16 01 53.3	+0.1
TACH				*i* S	Sn	16 02 09.2	+0.5
PCH	**Pirque**	**1.10**	**12**	⇓*i*P	Pn	16 01 54.1	+0.3
PCH				*i* S	Sn	16 02 10.6	+1.0
SAN	**Santiago**	**1.25**	**5**	*e*P	Pn	16 01 55.7	+0.1
SAN				*i* S	Sn	16 02 13.4	+0.6
SAN				AML	AML	16 02 14.6	
	comp=E,670nm,0.2s						
SAN	**Santiago**	**1.25**	**5**	*e*P	Pn	16 01 55.7	+0.1
SAN				*i* S	Sn	16 02 13.4	+0.6
CLCH	**Cerro Calan**	**1.32**	**9**	⇓*i*P	Pn	16 01 56.7	+0.3
CLCH				*i* S	Sn	16 02 15.1	+0.8
CLCH				AML	AML	16 02 16.8	
	comp=E,559nm,0.2s						
LCCH	**Las Cruces**	**1.38**	**332**	⇑*i*P	Pn	16 01 57.4	+0.2
LCCH				*e*S	Sn	16 02 16.2	+0.6
FCH	**Farellones**	**1.43**	**17**	⇓*i*P	Pn	16 01 58.1	+0.4
FCH				*i* S	Sn	16 02 17.7	+1.0
FCH				AML	AML	16 02 21.4	
	comp=N,666nm,0.2s						
ROCH	**El Roble**	**1.73**	**354**	*e*P	Pn	16 02 02.4	+0.8
ROCH				*i* S	Sn	16 02 24.8	+1.3
JACH	**Jahuel**	**2.02**	**5**	*e*P	Pn	16 02 05.9	+0.6
JACH				*i* S	Sn	16 02 30.8	+0.7

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*ISCJB **07** 16:28:58.2±1.5, 2508S±009×17756W±007, h170km±14km, mb4.2/20, Error ellipse: s-maj=15.0km s-min=9.2km az=164.3*
*IDC **07** 16:29:01.0±0.8, 2499S×17748W, h184km±6km, mb3.9/14, mb1 4.2/15, mb1mx4.0/20, mbtmp4.0/15, Error ellipse: s-maj=16.4km s-min=13.4km az=152.0*
*NEIC **07** 16:29:01.1±0.4, 2499S×17752W, mb4.6/13, Error ellipse: s-maj=11.8km s-min=9.3km az=147.0*

ISC 07 16:28:55.3±1.2, 2487S±007×17741W±006, h135km±11km, h186km±3.4km: pP-P, n50, σ1§06/48, mb4.3/20, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.38**	**186**	P	**Pn**	**16 30 00.7**	**+0.4**
	37nm,0.3s,baz=283,slow=23,SNR=2.5						
RAO				S	**Sn**	**16 30 51.4**	**+0.7**
	238nm,0.3s,baz=100,slow=23,SNR=12						
RAO	**Raoul Island**	**4.38**	**186**	P	**Pn**	**16 30 00.7**	**+0.4**
RAO				*e*Pg	**Pn**	**16 30 01.6**	**+1.3**
RAO				*e*Sg	**Sn**	**16 30 50.1**	**-0.7**
RAO				S	**Sn**	**16 30 51.4**	**+0.7**
AFI	**Afiamalu**	**12.13**	**27**	P	**Pn**	**16 31 41.6**	**-2.2**
	15nm,0.3s,baz=339,slow=1.4,SNR=18						
AFI				S	**Sn**	**16 33 46.1**	**-12**
	15nm,0.3s,baz=215,slow=21,SNR=8.6						
AFI	**Afiamalu**	**12.13**	**27**	*e*Pn	**Pn**	**16 31 42.1**	**-1.6**
	52nm,0.5s						
URZ	**Urewera**	**14.13**	**198**	P	**Pn**	**16 32 10.2**	**+0.8**
	6.1nm,0.3s,baz=283,slow=5.4,SNR=31						
URZ				S	**Sn**	**16 34 28.8**	**-17**
	2.2nm,0.3s,baz=252,slow=22,SNR=9.1						
RAR	**Rarotonga**	**16.64**	**81**	P	**Pn**	**16 32 50.4**	**+10**
	0.7nm,0.3s,baz=86,slow=18,SNR=4.1						
RAR				S	**S**	**16 35 45.6**	**-0.5**
	0.6nm,0.3s,baz=221,slow=21,SNR=2.3						
RPZ	**Rata Peaks**	**21.04**	**204**	P	**P**	**16 33 24.8**	**-3.5**
	5.2nm,0.4s,mb4.2,baz=43,slow=3.7,SNR=11						
CTA	**Charters Tower**	**33.84**	**271**	⇓*i*P	**P**	**16 35 26.4**	**+1.4**
	14nm,0.6s,mb4.9						
CTA	**Charters Tower**	**33.84**	**271**	P	**P**	**16 35 26.2**	**+1.3**
	16nm,0.6s,mb4.9,baz=100,slow=9.8,SNR=32						
CTAO	**Charters Tower**	**33.84**	**271**	*e*P	**P**	**16 35 26.6**	**+1.6**
	16nm,0.7s,mb4.9						
TOO	**Toolangi**	**33.94**	**239**	*e*P	**P**	**16 35 25.7**	**+0.1**
STKA	**Stephens Creek**	**36.57**	**249**	*e*P	**P**	**16 35 48.5**	**+0.3**
	1.1nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**36.57**	**249**	P	**P**	**16 35 48.4**	**+0.1**
	1.5nm,0.3s,mb4.0,baz=120,slow=5.4,SNR=13						
PMG	**Port Moresby**	**37.04**	**288**	*e*P	**P**	**16 35 54.1**	**+1.8**
ASAR	**Alice Springs**	**44.21**	**261**	P	**P**	**16 36 50.5**	**-0.7**
	2.5nm,0.5s,mb4.1,baz=98,slow=8.1,SNR=62						
ASAR				pP	pP	16 37 31.6	+10
	6.0nm,0.8s,baz=106,slow=9.4,SNR=10						
ASAR				PcP	PcP	16 38 33.5	-0.1
	1.5nm,0.8s,baz=110,slow=5.6,SNR=5.0						
WB2	**Warramunga Arr**	**44.69**	**266**	*e*P	**P**	**16 36 54.2**	**-0.8**
WRAB	**Tennant Creek**	**44.69**	**266**	*e*P	**P**	**16 36 54.7**	**-0.3**
WRA	**Warramunga Arr**	**44.70**	**266**	P	**P**	**16 36 54.4**	**-0.7**
	5.5nm,0.5s,mb4.4,baz=100,slow=7.0,SNR=102						
WRA				pP	pP	16 37 35.7	+10
	11nm,1.1s,baz=102,slow=8.4,SNR=7.8						
WRA				PcP	PcP	16 38 34.7	-0.6
	3.2nm,0.8s,baz=100,slow=3.7,SNR=6.7						
FORT	**Forrest**	**48.19**	**250**	*e*P	**P**	**16 37 21.1**	**-1.1**
	16nm,0.7s,mb4.8						
KAKA	**Kakadu**	**48.74**	**275**	*e*P	**P**	**16 37 26.6**	**0.0**
	5.4nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.10**	**265**	*e*P	**P**	**16 37 59.1**	**-0.1**
	6.2nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.10**	**265**	P	**P**	**16 37 58.7**	**-0.5**
	4.9nm,0.7s,mb4.4,baz=122,slow=11,SNR=21						
SBA	**Scott Base**	**53.57**	**184**	*e*P	**P**	**16 38 03.8**	**+2.1**
	16nm,1.1s,mb4.7						
VNDA	**Vanda**	**53.63**	**185**	P	**P**	**16 38 02.0**	**-0.1**
	2.4nm,0.9s,mb3.9,baz=20,slow=8.6,SNR=9.5						
VNDA	**Vanda**	**53.63**	**185**	*e*P	**P**	**16 38 02.9**	**+0.7**
	7.0nm,1.4s,mb4.2						
KLBR	**Kellerberrin**	**56.79**	**247**	*e*P	**P**	**16 38 24.6**	**-1.0**
	69nm,1.7s,mb5.2						
MUN	**Mundaring**	**58.01**	**247**	*e*P	**P**	**16 38 32.8**	**-1.3**
CASY	**Casey**	**60.28**	**206**	*e*P	**P**	**16 38 48.1**	**-1.0**
QSPA	**South Pole Qui**	**65.22**	**180**	P	**P**	**16 39 21.9**	**+0.2**
	6.1nm,1.0s,mb4.4,baz=51,slow=2.9						
MAW	**Mawson**	**77.66**	**200**	*e*P	**P**	**16 40 36.4**	**0.0**
	8.4nm,0.9s,mb4.4						
MAW	**Mawson**	**77.66**	**200**	P	**P**	**16 40 36.7**	**+0.3**
	11nm,0.8s,mb4.5,baz=120,slow=7.2,SNR=25						
PETK	**Petropavlovsk-**	**80.61**	**345**	P	**P**	**16 40 54.4**	**+1.9**
	1.1nm,0.7s,mb3.6,baz=115,slow=34,SNR=3.4						
SYO	**Syowa Base**	**82.60**	**193**	‖*e*P	**P**	**16 41 00.2**	**-2.7**
SNAA	**Sanae**	**83.64**	**178**	*e*	**P**	**16 41 07.1**	**-1.1**
SNAA				*e*		16 41 13.1	
NVAR	**Mina Array Bea**	**83.84**	**43**	P	**P**	**16 41 09.7**	**0.0**
	1.3nm,0.7s,mb3.8,baz=227,slow=8.5,SNR=10						
VNA1	**Neumayer--Stat**	**84.43**	**176**	*e*	**P**	**16 41 11.9**	**-0.3**
VNA1				*e*		16 41 16.3	
MNTX	**Cornudas Mount**	**88.84**	**54**	*e*P	**P**	**16 41 35.0**	**+0.8**
	0.6nm,0.7s,mb3.6						
TXAR	**Lajitas Array**	**88.96**	**57**	P	**P**	**16 41 34.8**	**0.0**
	1.0nm,1.1s,mb3.7,baz=224,slow=6.9,SNR=4.1						
PDAR	**Pinedale Array**	**91.77**	**43**	P	**P**	**16 41 48.2**	**+0.7**
	0.9nm,0.8s,mb3.9,baz=198,slow=2.8,SNR=8.7						
PDAR				pP	pP	16 42 32.8	+11
	0.6nm,0.8s,baz=267,slow=3.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**92.07**	**289**	P	**P**	**16 41 50.6**	**+1.0**
	2.2nm,1.0s,mb4.2,baz=134,slow=3.4,SNR=8.9						
BOZ	**Bozeman (W)**	**92.11**	**40**	*e*P	**P**	**16 41 50.5**	**+1.5**
	9.3nm,1.9s,mb4.5						
SONM	**Songino Array**	**99.38**	**318**	P	Pdif	16 42 23.3	+1.0
	0.4nm,1.0s,baz=168,slow=7.4,SNR=2.3						
MKAR	**Makanchi Array**	**114.55**	**312**	PKiKP	PKiKP	16 47 18.3	-0.9
	0.3nm,0.3s,baz=0.0,slow=0.7,SNR=3.6						
MKAR	**Makanchi Array**	**114.55**	**312**	PKPdf	PKiKP	16 47 18.3	-0.9
ARCES	**ARCESS Array B**	**133.30**	**349**	PKP	PKPdf	16 47 54.2	-0.2
	0.9nm,0.6s,baz=64,slow=2.8,SNR=4.6						
ARCES	**ARCESS Array B**	**133.30**	**349**	PKP	PKPdf	16 47 54.2	-0.2
NOA	**NORSAR Array B**	**143.37**	**353**	PKP	PKPdf	16 48 14.1	+1.1
	0.8nm,0.6s,baz=31,slow=2.7,SNR=4.1						
AKASG	**Malin Array Be**	**147.05**	**328**	PKPbc	PKPbc	16 48 21.8	-0.2
	0.7nm,0.4s,baz=43,slow=4.3,SNR=8.7						
AKASG				pPKPbc	pPKPbc	16 49 09.3	+12
	2.6nm,0.6s,baz=42,slow=4.2,SNR=4.4						
CLL	**Collm**	**152.42**	**346**	*e*PKPab	PKPab	16 48 43.0	-2.7
TORD	**Torodi Ar. Bea**	**168.31**	**176**	PKPab	PKPab	16 49 54.3	-1.3
	1.1nm,0.8s,baz=188,slow=2.3,SNR=4.6						

IDC 07 16:32:51.0±16.0, 2594S×8345E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=553.2km s-min=41.6km az=39.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.63**	**98**	P	P	16 41 13.3	-0.2
	0.6nm,0.5s,baz=258,slow=6.3,SNR=16						
WRA	**Warramunga Arr**	**47.02**	**94**	P	P	16 41 24.4	0.0
	1.0nm,0.7s,baz=257,slow=8.4,SNR=7.3						
ZALV	**Zalesovo Beam**	**79.56**	**1**	P	P	16 44 59.5	+0.2
	0.9nm,0.5s,baz=188,slow=6.0,SNR=3.9						

NEIC 07 16:37:02.8, 3720S×17732E, h142km, MG3.8(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.87**	**115**	P	Pn	16 37 25.6	0.0
URZ	**Urewera**	**1.07**	**189**	P	Pn	16 37 27.7	+0.3
MWZ	**Matawai**	**1.15**	**172**	P	Pn	16 37 28.4	+0.3
MWZ				S	Sn	16 37 47.3	-0.2
PUZ	**Puketiti**	**1.15**	**140**	P	Pn	16 37 28.2	+0.1
KNZ	**Kokohu**	**1.84**	**171**	P	Pn	16 37 35.6	+0.1
BKZ	**Black Stump Fm**	**2.07**	**198**	P	Pn	16 37 38.3	+0.1
TUVZ	**Tukino**	**2.45**	**212**	P	Pn	16 37 43.7	+0.9
FWVZ	**Far West T-bar**	**2.48**	**214**	P	Pn	16 37 44.2	+1.0
WNVZ	**Wahianoa**	**2.52**	**212**	P	Pn	16 37 44.4	+0.7
MOVZ	**Moawhango**	**2.

mb3.6/6, Error ellipse: s-maj=54.4km s-min=27.2km az=28.1.
*NEIC **07** 16:48:17.3±2.3, 1580S×17779W, h320km±44km, Error ellipse: s-maj=51.8km s-min=23.7km az=209.0*
*IDC **07** 16:48:17.6±2.6, 1587S×17774W, h322km±43km, mb3.6/6, mb1 3.8/7, mb1mx3.4/19, mbtmp3.7/7, Error ellipse: s-maj=46.7km s-min=22.9km az=29.0*
ISC 07 16:48:17.3±2.5, 158S±03×1778W±02, h320km±48km, n11, σ0§95/11, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.12**	**73**	P	**Pn**	**16 49 48.7**	**0.0**
	11nm,0.3s,baz=34,slow=4.5,SNR=17						
URZ	**Urewera**	**22.81**	**190**	P	**P**	**16 52 51.7**	**-1.3**
	9.1nm,0.7s,mb4.2,baz=235,slow=21,SNR=9.2						
STKA	**Stephens Creek**	**40.18**	**239**	P	**P**	**16 55 24.9**	**+1.4**
	0.9nm,0.4s,mb3.4,baz=90,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**40.18**	**239**	*e*P	**P**	**16 55 25.1**	**+1.6**
WB2	**Warramunga Arr**	**45.61**	**257**	*e*P	**P**	**16 56 06.0**	**-0.9**
WRAB	**Tennant Creek**	**45.61**	**257**	*e*P	**P**	**16 56 06.9**	**0.0**
WRA	**Warramunga Arr**	**45.62**	**257**	P	**P**	**16 56 06.5**	**-0.5**
	0.3nm,0.3s,mb2.9,baz=88,slow=6.1,SNR=42						
ASAR	**Alice Springs**	**45.95**	**252**	P	**P**	**16 56 10.0**	**+0.5**
	6.7nm,0.3s,mb4.2,baz=88,slow=8.9,SNR=499						
SBA	**Scott Base**	**62.53**	**184**	*e*P	**P**	**16 58 08.6**	**+1.3**
VNDA	**Vanda**	**62.57**	**185**	P	**P**	**16 58 08.1**	**+0.6**
	0.9nm,0.5s,mb3.5,baz=351,slow=7.6,SNR=14						
MAW	**Mawson**	**86.02**	**200**	P	**P**	**17 00 20.5**	**-1.3**
	0.4nm,0.5s,mb3.5,baz=160,slow=7.0,SNR=12						

*JMA **07** 16:50:06.9±0.2, 2361N×12193E, h10km*
*ISCJB **07** 16:50:07.7±0.3, 2389N±002×12176E±002, h24km±2km, Error ellipse: s-maj=3.6km s-min=2.1km az=33.6*
*TAP **07** 16:50:08.1, 2392N×12167E, h26km, ML3.6*
TAP Felt I J at Nanau, I J at Shilin.
ISC 07 16:50:07.8±0.3, 2390N±002×12175E±002, h21km±2km, n58, σ0§79/104, 2C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.15**	**302**	*i* P	**Pb**	**16 50 12.9**	**+0.4**
HWA				S	**Sb**	**16 56 16.9**	**+1.3**
ESF	**Shoufeng Towns**	**0.22**	**263**	*e*P	**Pb**	**16 50 13.1**	**-0.3**
ESF				S	**Sb**	**16 50 17.9**	**+0.7**
TWD	**Chiawan**	**0.23**	**323**	*i* P	**Pb**	**16 50 13.6**	**0.0**
TWD				S	**Sb**	**16 50 17.4**	**0.0**
TEGC	**Jichi Village**	**0.27**	**225**	*e*P	**Pb**	**16 50 15.0**	**+1.0**
TEGC				S	**Sb**	**16 50 20.0**	**+1.8**
ESL	**Shilin**	**0.30**	**254**	P	**Pb**	**16 50 14.2**	**-0.4**
ESL				S	**Sb**	**16 50 19.3**	**+0.2**
WHF	**Hehuan Shan**	**0.50**	**300**	P	**Pb**	**16 50 17.3**	**-0.7**
WHF				S	**Sb**	**16 50 24.2**	**-0.7**
ENA	**Nanau**	**0.53**	**360**	*i* P	**Pb**	**16 50 18.4**	**-0.1**
ENA				S	**Sb**	**16 50 26.3**	**+0.6**
EHY	**Hungye**	**0.55**	**225**	P	**Pb**	**16 50 18.0**	**-0.8**
EHY				S	**Sb**	**16 50 24.9**	**-1.3**
TWT	**Tachien**	**0.63**	**304**	⇑*i*P	**Pb**	**16 50 19.9**	**-0.2**
TWT				S	**Sb**	**16 50 28.1**	**-0.5**
NNS	**Nan Shan**	**0.64**	**328**	⇑*i*P	**Pb**	**16 50 20.0**	**-0.3**
NNS				S	**Sb**	**16 50 28.2**	**-0.6**
TWF1	**Yuli**	**0.68**	**217**	*i* P	**Pb**	**16 50 20.1**	**-0.9**
ENTT	**Nioudou**	**0.76**	**348**	P	**Pb**	**16 50 21.9**	**-0.5**
ENTT				S	**Sb**	**16 50 32.6**	**+0.3**
SMLT	**Sun Moon Lake**	**0.77**	**269**	⇓*i*P	**Pb**	**16 50 22.2**	**-0.4**
SMLT				S	**Sb**	**16 50 31.2**	**-1.5**
TYC	**Yuchr**	**0.81**	**271**	⇓*i*P	**Pb**	**16 50 22.7**	**-0.6**
TYC				S	**Sb**	**16 50 32.5**	**-1.3**
TWE	**Neicheng**	**0.82**	**355**	P	**Pb**	**16 50 23.1**	**-0.4**
TWE				S	**Sb**	**16 50 34.2**	**0.0**
YUS	**Yu-Shan**	**0.83**	**241**	P	**Pb**	**16 50 23.6**	**0.0**
YUS				S	**Sb**	**16 50 34.0**	**-0.4**
NSK	**Sanguang**	**0.85**	**336**	*i* P	**Pb**	**16 50 23.4**	**-0.5**
NSK				S	**Sb**	**16 50 33.9**	**-1.1**
ILA	**Ilan**	**0.86**	**0**	*e*P	**Pb**	**16 50 23.4**	**-0.7**
CHKT	**Chengkung**	**0.87**	**204**	*e*P	**Pb**	**16 50 24.6**	**+0.5**
ALS	**Alishan**	**0.94**	**246**	⇓*i*P	**Pb**	**16 50 25.4**	**0.0**
ALS				S	**Sb**	**16 50 37.4**	**-0.1**
ELDTW	**Lidau**	**0.97**	**224**	*e*P	**Pb**	**16 50 24.5**	**-1.5**
ELDTW				S	**Sb**	**16 50 37.9**	**-0.5**
TWQ1	**Liyutan**	**1.00**	**297**	P	**Pn**	**16 50 26.5**	**0.0**
TWQ1				S	**Sn**	**16 50 40.0**	**0.0**
NSTT	**Nanjuang**	**1.00**	**317**	P	**Pn**	**16 50 26.2**	**-0.4**
NSTT				S	**Sn**	**16 50 38.7**	**-1.3**
TCU	**Taichung**	**1.01**	**285**	*e*P	**Pb**	**16 50 26.8**	**+0.2**
CHN5	**Tsauling**	**1.02**	**253**	⇓*i*P	**Pn**	**16 50 26.8**	**-0.1**
CHN5				S	**Sn**	**16 50 40.1**	**-0.5**
NSY	**Sanyi**	**1.04**	**300**	P	**Pn**	**16 50 27.7**	**+0.6**
NSY				S	**Sn**	**16 50 40.8**	**-0.2**
TWA	**Mucha**	**1.09**	**352**	*e*P	**Pn**	**16 50 27.6**	**-0.2**
TWA				S	**Sb**	**16 50 41.7**	**0.0**
WGK	**Gukeng**	**1.10**	**259**	P	**Pn**	**16 50 28.1**	**+0.1**
WGK				S	**Sn**	**16 50 43.6**	**+1.0**
TWB1	**Santiao Chiao**	**1.13**	**11**	*e*P	**Pn**	**16 50 28.7**	**+0.3**
TWB1				S	**Sb**	**16 50 42.8**	**-0.2**
HSN	**Hsinchu**	**1.15**	**322**	*e*P	**Pn**	**16 50 27.9**	**-0.8**
HSN				S	**Sb**	**16 50 44.6**	**+1.2**
TAP1	**Taipei**	**1.16**	**350**	*e*P	**Pn**	**16 50 28.1**	**-0.7**
STYT	**Tauyuan**	**1.16**	**231**	P	**Pn**	**16 50 28.3**	**-0.5**
STYT				S	**Sb**	**16 50 44.0**	**+0.1**
NWF	**Wu-fen Shan**	**1.17**	**2**	*e*P	**Pn**	**16 50 29.1**	**+0.2**
NWF				S	**Sb**	**16 50 46.2**	**+2.1**
NCU	**National Centr**	**1.18**	**335**	*e*P	**Pn**	**16 50 29.6**	**+0.5**
NCU				S	**Sb**	**16 50 45.6**	**+1.1**
CHN4	**Tsaushan**	**1.19**	**243**	P	**Pn**	**16 50 29.4**	**+0.3**
CHN4				S	**Sb**	**16 50 46.2**	**+1.6**
CHN2	**Minshiung**	**1.22**	**253**	*e*P	**Pn**	**16 50 30.2**	**+0.6**
CHN2				S	**Sn**	**16 50 47.7**	**+2.2**
WTP	**Ta-pu**	**1.22**	**238**	P	**Pn**	**16 50 29.9**	**+0.2**
WTP				S	**Sn**	**16 50 46.0**	**+0.4**
TWS1	**Kuangyinshan**	**1.24**	**346**	*e*P	**Pn**	**16 50 29.8**	**0.0**
TWS1				S	**Sn**	**16 50 47.4**	**+1.5**
TWG	**Pinlang**	**1.24**	**210**	*e*P	**Pn**	**16 50 28.4**	**-1.4**
CHY	**Chiayi**	**1.27**	**252**	*e*P	**Pn**	**16 50 30.9**	**+0.6**
YOJ	**Yonaguni jima**	**1.28**	**64**	P	**Pn**	**16 50 30.9**	**+0.4**
YOJ				*e*S	**Sn**	**16 50 48.2**	**+1.1**
TWK	**Hsinying**	**1.31**	**242**	*e*P	**Pn**	**16 50 31.5**	**+0.6**
TWK				S	**Sn**	**16 50 47.6**	**-0.2**
CHN1	**Nanshi**	**1.32**	**238**	P	**Pb**	**16 50 31.6**	**-0.3**
CHN1				S	**Sb**	**16 50 49.2**	**+0.7**
SGST	**Jiashian**	**1.34**	**233**	*e*P	**Pb**	**16 50 31.9**	**-0.4**
SGST				S	**Sb**	**16 50 50.0**	**+1.1**
WTCT	**Ta-ch'eng**	**1.34**	**269**	*e*P	**Pb**	**16 50 31.6**	**-0.6**
WTCT				S	**Sb**	**16 50 49.8**	**+0.8**
WSF	**Szhu**	**1.42**	**260**	P	**Pb**	**16 50 32.7**	**-0.9**
WSF				S	**Sb**	**16 50 51.9**	**+0.6**
ECL	**Taimali**	**1.48**	**210**	*e*P	**Pn**	**16 50 32.6**	**-0.7**
CHN3	**Shinhua**	**1.51**	**237**	*e*P	**Pb**	**16 50 33.5**	**-1.7**
CHN3				S	**Sb**	**16 50 55.3**	**+1.5**
CHN8	**Yiju**	**1.51**	**249**	*e*P	**Pb**	**16 50 33.4**	**-1.7**
CHN8				S	**Sb**	**16 50 53.2**	**-0.7**
SSD	**Sandimen**	**1.54**	**222**	*e*P	**Pn**	**16 50 34.5**	**+0.5**
SSD				S	**Sn**	**16 50 54.2**	**+0.9**
SCLT	**Jiali**	**1.59**	**244**	*e*P	**Pn**	**16 50 34.7**	**0.0**
SCLT				S	**Sn**	**16 50 55.7**	**+1.0**
TWM1	**Shoushan**	**1.62**	**229**	*e*P	**Pn**	**16 50 36.0**	**+0.9**
SCZT	**Fangliau**	**1.84**	**215**	*e*P	**Pn**	**16 50 38.9**	**+0.8**
IRIF	**Iriomote-Funau**	**1.86**	**76**	*e*S	**Sn**	**16 51 02.0**	**+0.6**
WDGT	**Dungji**	**2.02**	**252**	*e*P	**Pn**	**16 50 40.3**	**-0.3**
PNG	**Penghu**	**2.03**	**261**	*e*P	**Pn**	**16 50 40.4**	**-0.4**
PNG				S	**Sn**	**16 51 04.8**	**-0.7**
JKRS	**Kuro-shima**	**2.10**	**80**	P	**Pn**	**16 50 41.5**	**-0.2**
JKRS				*e*S	**Sn**	**16 51 06.1**	**-1.0**
JIJ	**Ishigaki jima**	**2.24**	**78**	P	**Pn**	**16 50 43.9**	**+0.3**
JIJ				*e*S	**Sn**	**16 51 10.1**	**-0.5**

*NEIC **07** 16:55:10.7, 3557N×2663E, h18km±5km, MD3.5(ATH), After ATH.*
ATH 07 16:55:10.7, 3557N×2663E, h18km±5km, MD3.5/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.43**	**93**	*e*PB	Pb	16 55 19.1	-0.7
KARP				*e*SB	Sb	16 55 25.7	-0.3
NPS	**Neapolis**	**0.89**	**250**	*e*PN	Pn	16 55 27.5	-0.7
NPS				*e*SN	Sn	16 55 39.3	-1.3
ARG	**Arkhangelos**	**1.38**	**62**	*e*PN	Pn	16 55 37.1	+2.1
APE	**Apeiranthos**	**1.74**	**330**	*e*PN	Pn	16 55 42.1	+2.1
APE				*e*SN	Sn	16 56 04.8	+3.1
VAM	**Vamos**	**1.99**	**266**	*e*PN	Pn	16 55 46.3	+2.9

*ISCJB **07** 17:00:21.4±0.4, 3827N±002×2217E±003, h7km±3km, Error ellipse: s-maj=3.7km s-min=3.2km az=170.3*
*NEIC **07** 17:00:22.3, 3825N×2220E, h25km, ML3.2(ATH), ML3.4(THE), After ATH.*
*THE **07** 17:00:22.6, 3828N×2217E, h1km, ML3.4*
*CSEM **07** 17:00:22.6±0.1, 3826N×2217E, h8km, ML3.4, Error ellipse: s-maj=1.5km s-min=1.3km az=47.0*
*ATH **07** 17:00:22.3, 3825N×2220E, h25km±1km, MD3.5/8, ML3.2*
ISC 07 17:00:22.5±0.4, 3827N±002×2220E±003, h10km±4km, n24, σ1§11/44, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.61**	**250**	*e*PN	**Pg**	**17 00 34.4**	**0.0**
RLS				*e*SN	**Sg**	**17 00 43.8**	**+1.4**
LTK	**Loutraki**	**0.65**	**112**	*e*Pg	**Pg**	**17 00 35.6**	**+0.5**
EVR	**Evrytania**	**0.72**	**335**	*e*PN	**Pn**	**17 00 36.1**	**-2.7**
EVR				*e*SN	**Sg**	**17 00 47.9**	**+2.1**
LKR	**Lokris**	**0.74**	**58**	*e*Pg	**Pg**	**17 00 35.7**	**-1.0**
LKR				*e*Sg	**Sg**	**17 00 47.2**	**+0.8**
LKR	**Lokris**	**0.74**	**58**	*e*PN	**Pn**	**17 00 36.5**	**-2.5**
LKR				*e*SN	**Sg**	**17 00 47.5**	**+1.2**
LKR	**Lokris**	**0.74**	**58**	*e*Pn	**Pn**	**17 00 36.5**	**-2.5**
LKR				*e*Sg	**Sg**	**17 00 47.2**	**+0.9**
LKR				*e*Sn	**Sg**	**17 00 47.5**	**+1.2**
AGG	**Agios Georgios**	**0.76**	**8**	*e*Pg	**Pg**	**17 00 36.2**	**-1.0**
AGG				*e*Sg	**Sg**	**17 00 47.5**	**+0.3**
VLX	**Vlachokerasia**	**0.91**	**171**	*e*Pg	**Pg**	**17 00 39.5**	**-0.5**
VLX				*e*Sg	**Sg**	**17 00 53.3**	**+1.6**
ITM	**Ithomi**	**1.11**	**191**	*e*PN	**Pn**	**17 00 43.5**	**-0.6**
ITM				*e*SN	**Sn**	**17 00 58.4**	**-1.0**
DID	**Didima**	**1.12**	**132**	*e*Pg	**Pg**	**17 00 43.6**	**-0.4**
DID				*e*Sg	**Sg**	**17 00 59.9**	**+1.4**
KFL	**Anninata**	**1.12**	**262**	*e*Pg	**Pg**	**17 00 44.2**	**+0.1**
ATH	**Athens Observa**	**1.23**	**103**	*e*PN	**Pn**	**17 00 46.4**	**+0.6**
VLS	**Valsamata**	**1.27**	**266**	*e*Pg	**Pg**	**17 00 45.6**	**-1.3**
VLS				*e*Sg	**Sg**	**17 01 03.2**	**-0.2**
VLS	**Valsamata**	**1.27**	**266**	*e*Pn	**Pn**	**17 00 45.8**	**-0.5**
VLS				*e*Sg	**Sg**	**17 01 03.2**	**-0.2**
VLS				*e*Sn	**Sn**	**17 01 03.6**	**+0.1**
LKD	**Levkas**	**1.29**	**290**	*e*Pg	**Pg**	**17 00 46.5**	**-0.8**
LKD				*e*Sg	**Sg**	**17 01 03.9**	**-0.2**
LKD	**Levkas**	**1.29**	**290**	*e*Pg	**Pg**	**17 00 46.5**	**-0.8**
LKD				*e*Sg	**Sg**	**17 01 03.9**	**-0.2**
THL	**Klokotos Trika**	**1.30**	**354**	*e*Pg	**Pg**	**17 00 47.2**	**-0.4**
THL				*e*Sg	**Sg**	**17 01 05.2**	**+0.7**
THL	**Klokotos Trika**	**1.30**	**354**	*e*PN	**Pn**	**17 00 47.5**	**+0.7**
THL				*e*SN	**Sn**	**17 01 05.9**	**+1.6**
XOR	**Xorichti**	**1.34**	**35**	*e*Pg	**Pg**	**17 00 47.5**	**-0.8**
AOS	**Alonnisos**	**1.59**	**55**	*e*Pg	**Pg**	**17 00 51.0**	**-2.1**
VLI	**Veliai**	**1.65**	**159**	*e*PN	**Pn**	**17 00 52.1**	**+0.5**
VLI				*e*SN	**Sn**	**17 01 12.6**	**-0.3**
LIT	**Litokhoron**	**1.85**	**7**	*e*Pb	**Pb**	**17 00 55.3**	**-1.1**
LIT				*e*Sb	**Sb**	**17 01 18.4**	**-1.1**
FNA	**Florina**	**2.59**	**346**	*e*Pn	**Pn**	**17 01 05.8**	**+1.3**
FNA				*e*Sn	**Sn**	**17 01 38.2**	**+2.1**
CHOS	**Chios island**	**3.04**	**87**	*e*Pn	**Pn**	**17 01 11.9**	**+1.3**

*IDC **07** 17:13:00.0±0.8, 5239N×17000W, h0km, mb3.9/10, mb1 4.2/11, mb1mx3.9/25, mbtmp3.9/11, ML4.0/1, MS3.3/13, Ms1 3.3/13, ms1mx3.1/36, Error ellipse: s-maj=39.2km s-min=15.4km az=171.0*
*ISCJB **07** 17:13:05.5±0.8, 5267N±010×16994W±008, h50km±7km, mb3.9/12, MS3.3/12, Error ellipse: s-maj=17.5km s-min=5.5km az=160.3*
*NEIC **07** 17:13:06.5±1.4, 5248N×16985W, h44km±13km, mb4.1/4, Error ellipse: s-maj=21.1km s-min=9.3km az=166.0*
ISC 07 17:13:07.1±0.9, 526N±01×16988W±008, h48km±8km, n37, σ1§21/38, mb3.9/12, MS3.3/12, 1C, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.72**	**59**	P	**Pn**	**17 13 19.8**	**-1.2**
NIKO				*e*Sg	**Sn**	**17 13 27.8**	**-3.4**
NIKO				S	**Sn**	**17 13 30.5**	**-0.6**
UNV	**Unalaska Valle**	**2.38**	**57**	⇑*e*Pn	**Pn**	**17 13 43.8**	**+0.3**
UNV				*e*Sn	**Sn**	**17 14 09.1**	**-2.3**
AKUT	**Akutan**	**2.90**	**57**	*e*Pn	**Pn**	**17 13 52.6**	**+1.9**
AKUT				*e*Sn	**Sn**	**17 14 26.2**	**+2.0**
FALS	**False Pass**	**4.45**	**57**	*e*Pn	**Pn**	**17 14 10.7**	**-1.2**
FALS				*e*Sn	**Sn**	**17 15 02.6**	**+0.2**
SPIA	**Saint Paul Isl**	**4.58**	**358**	P	**Pn**	**17 14 17.0**	**+3.2**
SDPT	**Sand Point**	**6.19**	**60**	P	**Pn**	**17 14 36.3**	**+0.5**
AMKA	**Amchitka**	**6.79**	**264**	*e*Pn	**Pn**	**17 14 45.5**	**+1.3**
AMKA				*e*Sn	**Sn**	**17 16 01.5**	**+1.5**
KDAK	**Kodiak Island**	**11.14**	**55**	Pn	**Pn**	**17 15 42.0**	**-1.6**
	0.8nm,0.3s,baz=301,slow=12,SNR=7.4						
KDAK				Sn	**Sn**	**17 17 39.4**	**-7.2**
	0.2nm,0.3s,baz=300,slow=20,SNR=3.3						
TNA	**Tin City**	**13.03**	**4**	*e*Pn	**Pn**	**17 16 09.6**	**+0.4**
SLKM	**Skilak Lake**	**13.37**	**46**	*e*Pn	**Pn**	**17 16 13.2**	**-0.7**
RC01	**Rabbit Creek A**	**13.86**	**44**	Pn	**Pn**	**17 16 19.6**	**-1.0**
RC01				*e*Sn	**Sn**	**17 18 52.5**	**-0.2**
BPAW	**Bear Paw Mtn.**	**15.11**	**33**	*e*Pn	**Pn**	**17 16 41.0**	**+3.8**
	5.7nm,0.7s						
EGAK	**Eagle**	**19.05**	**39**	*e*Pn	**Pn**	**17 17 26.1**	**+0.1**
HYT	**Haines Junctio**	**19.40**	**52**	*e*Pn	**Pn**	**17 17 30.9**	**+0.7**
PETK	**Petropavlovsk-**	**19.50**	**284**	P	**Pn**	**17 17 28.8**	**-2.7**
	0.4nm,0.3s,baz=92,slow=16,SNR=5.1						
PETK				LR	LR	17 24 22.5	
	comp=Z,32nm,18.8s,baz=248,slow=35						
SKAG	**Skagway**	**20.30**	**57**	*e*P	**P**	**17 17 39.7**	**+1.2**
	27nm,0.6s						
INK	**Inuvik**	**23.32**	**34**	P	**P**	**17 18 10.0**	**-0.6**
	1.9nm,0.6s,mb3.7,baz=234,slow=8.7,SNR=2.7						
INK				LR	LR	17 27 37.8	
	comp=Z,97nm,19.5s,MS3.3,baz=330,slow=37						
BBB	**Bella Bella**	**25.24**	**74**	LR	LR	17 26 28.5	
	comp=Z,44nm,20.0s,MS3.0,baz=261,slow=32						
YKA	**Yellowknife Ar**	**30.32**	**49**	P	**P**	**17 19 14.3**	**+0.8**
	0.8nm,0.7s,mb3.5,baz=0.0,slow=7.0,SNR=2.5						
YKA				LR	LR	17 32 53.5	
	comp=Z,13nm,19.4s,MS2.6,baz=220,slow=39						
ASAJ	**Asahikawa**	**32.18**	**274**	LR	LR	17 30 23.6	
	comp=Z,80nm,20.6s,MS3.4,baz=3.2,slow=32						
NVAR	**Mina Array Bea**	**37.98**	**91**	P	**P**	**17 20 20.4**	**+0.4**
	0.8nm,0.7s,mb3.6,baz=301,slow=8.0,SNR=7.4						
MJAR	**Matsushiro Arr**	**39.40**	**267**	P	**P**	**17 20 30.6**	**-1.3**
	1.8nm,0.8s,mb3.9,baz=49,slow=7.7,SNR=8.2						
MJAR				LR	LR	17 34 31.5	
	comp=Z,78nm,21.7s,MS3.5,baz=200,slow=33						
MAJO	**Matsushiro**	**39.40**	**267**	*e*P	**P**	**17 20 31.5**	**-0.4**
	3.2nm,0.7s,mb4.2						
MAT	**Matsushiro**	**39.40**	**267**	P	**P**	**17 20 31.2**	**-0.7**
BGU	**Big Grassy Mou**	**39.66**	**84**	P	**P**	**17 20 36.4**	**+2.3**
PDAR	**Pinedale Array**	**40.66**	**79**	P	**P**	**17 20 43.4**	**+1.1**
	1.8nm,0.6s,mb3.9,baz=332,slow=3.6,SNR=2.6						
ULM	**Lac du Bonnet**	**44.31**	**62**	LR	LR	17 42 28.6	
	comp=Z,52nm,18.1s,MS3.5,baz=180,slow=40						
KSRS	**Korea Array**	**45.07**	**276**	P	**P**	**17 21 18.2**	**+0.1**
	1.1nm,0.9s,mb3.7,baz=51,slow=6.1,SNR=4.6						
KSRS				LR	LR	17 38 30.2	
	comp=Z,61nm,18.7s,MS3.6,baz=260,slow=34						
MNTX	**Cornudas Mount**	**50.34**	**88**	*e*P	**P**	**17 21 58.9**	**-0.1**
	1.2nm,0.7s,mb4.0						
SONM	**Songino Array**	**50.91**	**300**	LR	LR	17 45 03.4	
	comp=Z,29nm,19.8s,MS3.3,baz=246,slow=38						
GUMO	**Guam**	**52.95**	**240**	LR	LR	17 39 04.1	
	comp=Z,38nm,20.9s,MS3.4,baz=58,slow=30						
TXAR	**Lajitas Array**	**53.05**	**89**	P	**P**	**17 22 19.7**	**+0.4**
	2.3nm,0.7s,mb4.2,baz=302,slow=5.4,SNR=23						
TXAR				LR	LR	17 42 54.6	
	comp=Z,39nm,18.0s,MS3.5,baz=265,slow=34						
ZALV	**Zalesovo Beam**	**57.03**	**317**	LR	LR	17 46 30.5	
	comp=Z,35nm,19.1s,MS3.5,baz=59,slow=35						
MKAR	**Makanchi Array**	**63.41**	**313**	LR	LR	17 52 03.3	
	comp=Z,37nm,19.1s,MS3.6,baz=233,slow=37						
CMAR	**Chiang Mai Arr**	**76.26**	**282**	P	**P**	**17 24 50.5**	**-0.2**
	1.5nm,0.9s,mb3.9,baz=25,slow=6.5,SNR=7.2						
WRA	**Warramunga Arr**	**86.91**	**231**	P	**P**	**17 25 43.8**	**-2.8**
	0.4nm,0.8s,mb3.7,baz=35,slow=5.7,SNR=3.2						
ASAR	**Alice Springs**	**90.31**	**230**	P	**P**	**17 26 01.9**	**-0.7**
	0.4nm,0.6s,mb3.9,baz=32,slow=5.1,SNR=13						

IDC 07 17:40:11.0±5.6, 2299N×9377E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/22, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=161.9km s-min=100.8km az=35.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.61**	**132**	Pn	Pn	17 41 49.8	+0.3
	0.1nm,0.3s,baz=309,slow=14,SNR=5.2						
WRA	**Warramunga Arr**	**58.20**	**134**	P	P	17 50 06.9	-0.3
	0.7nm,0.9s,baz=321,slow=7.5,SNR=6.9						
ASAR	**Alice Springs**	**60.59**	**137**	P	P	17 50 23.9	+0.3
	0.3nm,0.7s,baz=323,slow=6.3,SNR=9.3						

*NEIC **07** 17:43:22.2, 2403S×6706W, h200km, mb3.5/3, After GUC.*
GUC 07 17:43:22.2±0.5, 2403S×6706W, h200km, ML4.2, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.21**	**309**	*e*Pn	Pn	17 44 03.7	+0.8
LVC				*e*Sn	Sn	17 44 35.5	+0.9
CEN1	**Los Morros**	**2.95**	**282**	⇑*i*P	Pn	17 44 14.0	+2.7
CEN1				*i* S	Sn	17 44 53.4	+3.9
CEN1				AML	AML	17 44 56.2	
	comp=E,217nm,0.6s						
ANCH	**Antofagasta**	**3.09**	**276**	⇑*i*P	Pn	17 44 14.8	+2.0
ANCH				*i* S	Sn	17 44 54.2	+1.8
ANCH				AML	AML	17 44 56.8	
	comp=N,627nm,0.3s						
ANCH	**Antofagasta**	**3.09**	**276**	⇑*i*P	Pn	17 44 14.8	+2.0
ANCH				*i* S	Sn	17 44 54.2	+1.8
CPN1	**Cerro Paranal**	**3.11**	**258**	⇑*i*P	Pn	17 44 15.4	+2.3
CPN1				*i* S	Sn	17 44 56.3	+3.3
CPN1				AML	AML	17 44 57.9	
	comp=E,288nm,0.4s						
CDCH	**Caldera**	**4.56**	**228**	⇑*i*P	Pn	17 44 31.2	+0.2
CDCH				*i* S	Sn	17 45 25.6	+0.4
CDCH				AML	AML	17 45 28.2	
	comp=N,46nm,0.2s						
CDCH	**Caldera**	**4.56**	**228**	⇑*i*P	Pn	17 44 31.2	+0.2
CDCH				*i* S	Sn	17 45 25.6	+0.4
LCO	**Las Campanas**	**5.94**	**213**	Pn	Pn	17 44 46.7	-1.9
LCO				*e*Sn	Sn	17 45 57.4	+0.3
LPAZ	**La Paz**	**7.76**	**352**	*e*Pn	Pn	17 45 09.1	-3.4
	comp=N,1.3nm,0.5s						
LPAZ				*e*Sn	Sn	17 46 34.6	-5.6
TRQA	**Tornquist**	**14.64**	**164**	*e*Pn	Pn	17 46 40.3	+0.3
	comp=N,5.8nm,0.9s						
EFI	**East Falkland**	**28.46**	**168**	*e*P	P	17 48 56.4	-1.9
	comp=N,41nm,1.0s						
SNAA	**Sanae**	**59.34**	**161**	*e*P	P	17 53 02.3	-0.4
	comp=N,0.3nm,0.6s						

MAN 07 17:47:36, 1032N×12232E, h32km, mb3.6, ML2.3, MS1.8, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.40**	**41**	*e*P	Pb	17 47 47.1	+2.0
GUIM				*e*S	Sb	17 47 54.7	+3.4
CUYO	**Cuyo Island**	**1.38**	**292**	*e*P	Pn	17 48 00.2	+1.2
CUYO				*e*S	Sn	17 48 17.0	+0.8
IPIL	**Ipil**	**2.53**	**174**	*e*P	Pn	17 48 16.3	+1.4

*NIED **07** 18:24:00, 4340N×146.10E, h53km, Mw3.4 Best double couple: M0:1.34000×10^14 NP1:φ8=154.00000°, δ87.00000°, λ-52.00000°. NP2:φ8=247.00000°, δ38.00000°, λ-175.00000°.*
*MOS **07** 18:24:11.0±1.6, 4435N×14667E, h82km, mb3.9/3, Error ellipse: s-maj=25.9km s-min=22.5km az=128.7*
*ISCJB **07** 18:24:12.1±1.0, 4341N±007×146.14E±0.10, h98km±5km, mb3.7/5, Error ellipse: s-maj=14.3km s-min=9.6km az=136.2*
*IDC **07** 18:24:14.8±2.3, 4564N×145.19E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.94**	**170⇑**	*i*Pn	**Pn**	**19 54 32.7**	**+0.6**
PMG				*e*Sn	**Sn**	**19 54 58.8**	**-7.9**
COEN	**Coen**	**8.16**	**204⇑**	*e*Pn	**Pn**	**19 55 44.2**	**+1.4**
	232nm,0.7s						
COEN				*e*Sn	**Sn**	**19 57 10.5**	**-2.9**
HNR	**Honiara**	**13.51**	**103**	P	**Pn**	**19 56 56.4**	**+1.6**
	5.8nm,0.3s,baz=246,slow=5.6,SNR=4.3						
HNR	**Honiara**	**13.51**	**103**	Pn	**Pn**	**19 56 54.9**	**+0.1**
	157nm,1.2s						
CTA	**Charters Tower**	**13.52**	**182**	*e*P	**Pn**	**19 56 59.1**	**+4.2**
	74nm,0.5s						
CTA	**Charters Tower**	**13.52**	**182**	P	**Pn**	**19 56 59.8**	**+4.8**
	17nm,0.3s,baz=0.5,slow=14,SNR=189						
CTA				LR	LR	20 01 48.0	
	comp=Z,360nm,18.8s,baz=18,slow=35						
CTAO	**Charters Tower**	**13.52**	**182**	*e*Pn	**Pn**	**19 56 58.4**	**+3.4**
	87nm,0.6s						
CTAO				*e*Sn	**Sn**	**19 59 21.4**	**-2.3**
KAKA	**Kakadu**	**15.29**	**245**	*e*P	**Pn**	**19 57 17.8**	**+0.1**
	25nm,0.4s						
KAKA				*e*S	**S**	**20 00 01.9**	**-15**
KAKA	**Kakadu**	**15.29**	**245**	*e*Pn	**Pn**	**19 57 17.5**	**-0.2**
	52nm,0.5s						
KAKA				*e*Sn	**Sn**	**19 59 59.2**	**-7.5**
WRAB	**Tennant Creek**	**17.91**	**221**	*e*P	**Pn**	**19 57 49.6**	**-0.3**
	11nm,0.5s						
WRAB				*e*Sn	**Sn**	**20 01 01.9**	**-7.8**
WB2	**Warramunga Arr**	**17.91**	**221**	*e*P	**Pn**	**19 57 49.6**	**-0.4**
WB2				*e*S	**S**	**20 01 08.5**	**-1.4**
WB2	**Warramunga Arr**	**17.91**	**221**	*e*P	**Pn**	**19 57 49.7**	**-0.4**
WB2				*e*Sn	**Sn**	**20 01 02.8**	**-7.1**
WRA	**Warramunga Arr**	**17.92**	**221**	P	**Pn**	**19 57 50.2**	**+0.1**
	3.2nm,0.3s,baz=39,slow=12,SNR=123						
WRA				S	**S**	**20 01 10.2**	**+0.1**
	0.4nm,0.3s,baz=38,slow=20,SNR=4.9						
GUMO	**Guam**	**20.03**	**355**	P	**P**	**19 58 04.1**	**-8.3**
ASAR	**Alice Springs**	**21.00**	**214**	P	**P**	**19 58 24.1**	**+1.3**
	4.7nm,0.3s,mb4.3,baz=61,slow=9.6,SNR=169						
ASAR				S	**S**	**20 02 15.1**	**+3.7**
	4.3nm,0.8s,baz=36,slow=21,SNR=7.7						
BATI	**Baumata**	**23.02**	**259**	P	**P**	**19 58 45.4**	**+1.4**
	27nm,0.6s,mb4.8,baz=106,slow=4.4,SNR=8.9						
FITZ	**Fitzroy Crossi**	**23.50**	**239**	*e*P	**P**	**19 58 48.3**	**0.0**
	44nm,0.6s,mb5.0						
FITZ				*e*S	**S**	**20 02 53.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**23.50**	**239**	P	**P**	**19 58 48.5**	**+0.1**
	23nm,0.6s,mb4.7,baz=65,slow=11,SNR=94						
FITZ				LR	LR	20 08 46.1	
	comp=Z,335nm,18.1s,baz=60,slow=38						
FITZ	**Fitzroy Crossi**	**23.50**	**239**	*e*P	**P**	**19 58 48.0**	**-0.4**
	46nm,0.6s,mb5.0						
ARMA	**Armidale**	**24.26**	**169**	*e*P	**P**	**19 58 56.3**	**+1.2**
DZM	**Mont Dzumac**	**24.61**	**131**	*e*P	**P**	**19 58 55.2**	**-3.3**
STKA	**Stephens Creek**	**25.69**	**190**	*e*P	**P**	**19 59 08.9**	**+0.8**
	3.8nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**25.69**	**190**	P	**P**	**19 59 09.1**	**+1.1**
	5.1nm,0.5s,mb4.2,baz=1.9,slow=9.0,SNR=20						
STKA				LR	LR	20 10 21.4	
	comp=Z,272nm,22.0s,baz=29,slow=38						
STKA	**Stephens Creek**	**25.69**	**190**	*e*P	**P**	**19 59 08.1**	**0.0**
	4.4nm,0.5s,mb4.1						
STKA				*e*		19 59 42.3	
MBWA	**Marble Bar**	**29.84**	**238**	*e*P	**P**	**19 59 45.2**	**-0.1**
KLBR	**Kellerberrin**	**36.76**	**224**	*e*P	**P**	**20 00 45.5**	**+0.2**
	42nm,1.2s,mb5.2						
KSM	**Kuching**	**37.11**	**281**	*e*P	**P**	**20 00 48.5**	**0.0**
NWAO	**Narrogin (SRO)**	**37.92**	**222**	LR	LR	20 19 23.4	
	comp=Z,4.9nm,18.6s,baz=158,slow=40						
URZ	**Urewera**	**41.97**	**143**	P	**P**	**20 01 29.4**	**+0.8**
	6.4nm,0.5s,mb4.6,baz=244,slow=2.6,SNR=6.9						
RPZ	**Rata Peaks**	**42.83**	**154**	P	**P**	**20 01 36.3**	**+1.0**
	9.6nm,0.9s,mb4.5,baz=201,slow=6.0,SNR=6.1						
MJAR	**Matsushiro Arr**	**43.53**	**350**	P	**P**	**20 01 40.1**	**-1.0**
	0.8nm,0.5s,mb3.8,baz=89,slow=2.6,SNR=4.1						
MJAR				pP	pP	20 02 05.2	+1.1
	3.2nm,1.0s,baz=176,slow=8.1,SNR=4.6						
MAJO	**Matsushiro**	**43.53**	**350**	P	**P**	**20 01 33.4**	**-7.7**
MAT	**Matsushiro**	**43.53**	**350**	P	**P**	**20 01 40.0**	**-1.1**
QIZ	**Qiongzhong**	**44.24**	**306**	P	**P**	**20 01 47.3**	**+0.2**
	28nm,1.1s,mb4.9						
KSRS	**Korea Array**	**47.08**	**340**	P	**P**	**20 02 07.0**	**-2.1**
	3.3nm,0.9s,mb4.1,baz=154,slow=9.1,SNR=7.2						
KSRS				pP	pP	20 02 33.6	+1.2
	2.4nm,0.7s,baz=156,slow=8.6,SNR=3.9						
KSRS				LR	LR	20 20 52.6	
	comp=Z,32nm,18.3s,baz=160,slow=35						
KMI	**Kunming**	**53.01**	**308**	P	**P**	**20 02 56.0**	**+1.8**
KMI				AP	pP	20 03 21.2	+3.2
KMI				XP	sP	20 03 32.5	+3.6
KMI				PP	PP	20 04 58.7	+3.7
KMI				S	**S**	**20 10 17.5**	**+0.7**
KMI				XS	sS	20 11 02.1	+4.6
KMI				SS	SS	20 13 56.6	-0.9
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,79nm,5.1s						
KMI				LR	LR		
	comp=N,121nm,17.0s						
KMI				LR	LR		
	comp=E,158nm,17.0s						
KMI				LR	LR		
	comp=Z,142nm,14.6s						
MDJ	**Mudanjiang**	**53.14**	**345**	P	**P**	**20 02 56.5**	**+1.7**
MDJ				AP	pP	20 03 18.3	-0.3
MDJ				S	**S**	**20 10 22.6**	**+4.7**
MDJ				XS	sS	20 11 00.0	+1.4
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.7s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,116nm,6.6s						
MDJ				LR	LR		
	comp=N,33nm,30.4s						
MDJ				LR	LR		
	comp=E,44nm,28.9s						
MDJ				LR	LR		
	comp=Z,46nm,34.2s						
CM31	**Chiang Mai Arr**	**53.16**	**299**	*e*P	**P**	**20 02 56.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**53.16**	**299**	P	**P**	**20 02 56.4**	**+0.9**
	comp=Z,9.3nm,0.7s,mb4.9,baz=121,slow=5.8,SNR=56						
CMAR				pP	pP	20 03 19.5	+0.3
	comp=Z,3.6nm,0.7s,baz=121,slow=5.9,SNR=4.0						
CMAR				LR	LR	20 25 29.4	
	comp=Z,33nm,21.3s,baz=220,slow=36						
CHTO	**Chiang Mai**	**53.30**	**299**	*e*P	**P**	**20 02 57.2**	**+0.8**
	comp=Z,11nm,1.1s,mb4.8						
CD2	**Chengdu**	**55.36**	**315**	*e*P	**P**	**20 03 13.2**	**+2.0**
CD2				AP	pP	20 03 36.2	+1.1
CD2				XP	sP	20 03 48.0	+2.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,5.8s						
HHC	**Hu-ho-hao-te**	**57.06**	**329**	*e*P	**P**	**20 03 24.8**	**+1.7**
HHC				AP	pP	20 03 49.4	+2.3
HHC				XP	sP	20 04 00.1	+2.1
HHC				PP	PP	20 05 34.1	+3.1
HHC				PCS	PcS	20 08 18.2	+0.3
HHC				S	**S**	**20 11 11.8**	**+1.4**
HHC				SCS	ScS	20 13 00.9	-2.2
HHC				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.0						
HHC				AMB	AMB		
	comp=Z,159nm,5.7s						
HHC				LR	LR		
	comp=N,129nm,14.3s						
HHC				LR	LR		
	comp=E,159nm,16.6s						
HHC				LR	LR		
	comp=Z,163nm,16.6s						
LZH	**Lanzhou**	**58.35**	**320**	*e*P	**P**	**20 03 30.0**	**-2.2**
LZH				AP	pP	20 03 54.0	-2.3
LZH				XP	sP	20 04 04.5	-2.7
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,180nm,4.3s						
PETK	**Petropavlovsk-**	**60.11**	**8**	P	**P**	**20 03 43.3**	**-0.7**
	comp=Z,3.9nm,0.8s,mb4.5,baz=158,slow=6.0,SNR=7.3						
PETK				pP	pP	20 04 10.0	+1.7
	comp=Z,6.9nm,1.0s,baz=182,slow=7.4,SNR=4.2						
PETK				LR	LR	20 30 19.5	
	comp=Z,22nm,18.5s,baz=288,slow=36						
GTA	**Gaotai**	**62.89**	**321**	*e*P	**P**	**20 04 03.2**	**+0.2**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.4s,mb4.6						
LSA	**Lhasa**	**64.25**	**307**	P	**P**	**20 04 13.2**	**+1.1**
LSA	**Lhasa**	**64.25**	**307**	*e*P	**P**	**20 04 13.3**	**+1.1**
	comp=Z,3.4nm,0.6s,mb4.3						
SONM	**Songino Array**	**64.66**	**331**	P	**P**	**20 04 13.6**	**-0.9**
	comp=Z,1.4nm,1.1s,mb3.7,baz=151,slow=3.4,SNR=4.9						
SONM				pP	pP	20 04 40.3	+1.3
	comp=Z,1.2nm,0.8s,baz=161,slow=6.3,SNR=7.3						
SONM				LR	LR	20 32 36.0	
	comp=Z,48nm,19.2s,baz=240,slow=36						
CASY	**Casey**	**64.68**	**195**	*e*P	**P**	**20 04 14.3**	**-0.1**
	comp=Z,4.1nm,0.9s,mb4.3						
VNDA	**Vanda**	**71.44**	**177**	P	**P**	**20 04 57.2**	**+0.8**
	comp=Z,2.9nm,0.9s,mb4.1,baz=328,slow=6.7,SNR=23						
VNDA				LR	LR	20 34 57.9	
	comp=Z,100nm,19.6s,baz=341,slow=34						
VNDA	**Vanda**	**71.44**	**177**	*e*P	**P**	**20 04 57.1**	**+0.6**
	comp=Z,4.3nm,1.0s,mb4.2						
VNDA				pP	pP	20 05 21.9	+0.5
UNV	**Unalaska Valle**	**71.82**	**27**	P	**P**	**20 04 58.4**	**-0.6**
	comp=Z,34nm,1.3s,mb5.0						
SBA	**Scott Base**	**72.09**	**176**	*e*P	**P**	**20 05 01.4**	**+1.1**
	comp=Z,2.3nm,0.9s,mb4.0						
WMQ	**Urumqi**	**72.93**	**320**	*e*P	**P**	**20 05 06.3**	**+0.5**
MK31	**Makanchi Array**	**77.64**	**321**	*e*P	**P**	**20 05 31.1**	**-1.7**
MK31				pP	pP	20 06 03.9	+5.8
MKAR	**Makanchi Array**	**77.64**	**321**	P	**P**	**20 05 31.9**	**-0.9**
	comp=Z,0.8nm,0.4s,mb3.8,baz=97,slow=8.9,SNR=12						
MKAR				pP	pP	20 05 58.5	+0.4
	comp=Z,0.4nm,0.3s,baz=90,slow=6.3,SNR=1.9						
ZALV	**Zalesovo Beam**	**79.23**	**328**	P	**P**	**20 05 39.4**	**-2.0**
	comp=Z,1.3nm,0.5s,mb4.0,baz=106,slow=5.4,SNR=6.9						
ZALV				LR	LR	20 41 34.4	
	comp=Z,25nm,18.7s,baz=140,slow=36						
TKM2	**Tokmak 2**	**80.74**	**315**	*e*P	**P**	**20 05 49.1**	**-0.6**
TKM2				*e*pP	pP	20 06 16.7	+1.5
KURK	**Kurchatov**	**81.39**	**323**	*e*P	**P**	**20 05 52.4**	**-0.6**
	comp=Z,3.2nm,1.1s,mb4.1						
MAW	**Mawson**	**81.65**	**203**	*e*P	**P**	**20 05 54.4**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.0						
MAW	**Mawson**	**81.65**	**203**	P	**P**	**20 05 54.8**	**+0.6**
	comp=Z,2.5nm,0.7s,mb4.1,baz=112,slow=7.2,SNR=8.9						
MAW	**Mawson**	**81.65**	**203**	*e*P	**P**	**20 05 53.8**	**-0.3**
	comp=Z,6.3nm,1.1s,mb4.4						
MAW				*e*pP	pP	20 06 15.7	-4.0
AML	**Almayashu**	**81.85**	**314**	*e*P	**P**	**20 05 56.1**	**+0.4**
	comp=Z,5.6nm,1.0s,mb4.3						
AML				*e*	pP	20 06 21.9	+0.7
EKS2	**Erkin-Say**	**81.94**	**315**	*e*P	**P**	**20 05 55.8**	**-0.4**
	comp=Z,5.5nm,1.1s,mb4.3						
EKS2				*e*pP	pP	20 06 20.6	-1.1
CHUM	**Lake Minchumin**	**83.56**	**23**	*e*P	**P**	**20 06 01.4**	**-2.6**
	comp=Z,22nm,1.1s,mb4.9						
IMA2	**Indian Mountai**	**84.14**	**21**	*e*P	**P**	**20 06 04.8**	**-2.1**
DAWY	**Dawson**	**88.87**	**25**	*e*P	**P**	**20 06 29.4**	**-0.7**
PLCA	**Paso Flores**	**121.91**	**147**	PKP	PKPdf	20 12 30.6	+0.2
	comp=Z,0.8nm,0.5s,baz=83,slow=4.1,SNR=4.3						
GERES	**GERESS Array B**	**122.10**	**325**	PKP	PKPdf	20 12 29.5	-0.9
	comp=Z,0.6nm,0.5s,baz=120,slow=0.6,SNR=11						
TKL	**Tuckaleechee C**	**125.52**	**50**	PKP	PKPdf	20 12 36.5	-0.9
	comp=Z,2.8nm,0.6s,baz=166,slow=2.9,SNR=6.5						
TKL	**Tuckaleechee C**	**125.52**	**50**	PKP	PKPdf	20 12 36.5	-0.9
LPAZ	**La Paz**	**138.82**	**124**	PKP	PKPdf	20 13 01.5	-1.4
	comp=Z,0.8nm,0.4s,baz=226,slow=4.5,SNR=4.7						
LPAZ	**La Paz**	**138.82**	**124**	PKP	PKPdf	20 13 01.5	-1.4
SDV	**Santo Domingo**	**143.00**	**84**	*e*PKPdf	PKPdf	20 13 06.8	-3.8
TOA0	**Torodi Ar. Sit**	**144.85**	**284**	*e*PKPdf	PKPdf	20 13 13.1	-0.6
TOA0				*e*		20 13 40.3	
TORD	**Torodi Ar. Bea**	**144.85**	**284**	PKP	PKPdf	20 13 13.3	-0.4
	comp=Z,14nm,0.7s,baz=98,slow=4.2,SNR=112						
TORD				pPKP	pPKPdf	20 13 40.4	-0.4
	comp=Z,20nm,1.0s,baz=74,slow=3.5,SNR=10.0						
TORD	**Torodi Ar. Bea**	**144.85**	**284**	PKP	PKPdf	20 13 13.3	-0.4
TORD				pPKP	pPKPdf	20 13 40.4	-0.4
SJG	**San Juan**	**146.02**	**67**	*e*PKPdf	PKPdf	20 13 15.0	-0.7
KIC	**Kosan Boka**	**151.55**	**271**	*e*PKP1	PKPbc	20 13 31.1	+0.1
	comp=Z,263nm,2.0s						
DBIC	**Dimbokro**	**151.68**	**272**	PKPbc	PKPbc	20 13 31.5	+0.2
	comp=Z,2.6nm,0.4s,baz=89,slow=2.3,SNR=23						
DBIC				pPKPbc	pPKPbc	20 13 57.4	-0.8
	comp=Z,5.8nm,0.9s,baz=142,slow=3.4,SNR=3.9						
DBIC	**Dimbokro**	**151.68**	**272**	*e*PKPbc	PKPbc	20 13 30.9	-0.5
LIC	**Lamto**	**151.83**	**271**	*e*PKP1	PKPbc	20 13 31.7	0.0
	comp=Z,26nm,0.8s						
TIC	**Toumodi**	**151.84**	**272**	*e*PKP1	PKPbc	20 13 31.7	0.0
	comp=Z,46nm,0.9s						
BDFB	**Brasilia**	**153.65**	**147**	PKPbc	PKPbc	20 13 35.6	0.0
	comp=Z,2.5nm,0.6s,baz=306,slow=6.3,SNR=5.5						

*ISCJB **07** 20:20:16.9±0.7,3750N±003×2089E±004,h3km±4km, mb3.5/7, Error ellipse: s-maj=5.9km s-min=3.4km az=135.3*
*IDC **07** 20:20:17.4±1.1,3771N×2099E,h0km,mb3.6/6,mb1 3.6/8, mb1mx3.5/26,mbtmp3.6/8,ML3.2/2, Error ellipse: s-maj=26.4km s-min=19.1km az=100.0*
*THE **07** 20:20:18.5,3752N×2088E,h7km,ML4.0*
*CSEM **07** 20:20:18.8±0.1,3755N×2093E,h5km,ML4.0, Error ellipse: s-maj=3.5km s-min=1.4km az=43.0*
*ATH **07** 20:20:19.1,3765N×2107E,h10km±1km,MD4.0/11,ML3.7*
*NEIC **07** 20:20:19.1,3765N×2107E,h10km,ML3.7(ATH), ML4.0(THE), After ATH.*

ISC 07 20:20:18.2±0.7,3754N±003×2092E±004,h3km±4km,n69, σ1§10/83,mb3.5/7,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.58**	**349**	*e*Pg	**Pg**	**20 20 29.5**	**+0.1**
KFL				*e*Sg	**Sg**	**20 20 38.5**	**+1.6**
RLS	**Riolos of Patr**	**0.67**	**40**	*e*PG	**Pg**	**20 20 29.0**	**-2.2**
RLS				*e*SB	**Sg**	**20 20 36.8**	**-3.1**
VLS	**Valsamata**	**0.69**	**338**	*e*Pg	**Pg**	**20 20 31.7**	**+0.2**
VLS				*e*Sg	**Sg**	**20 20 41.9**	**+1.5**
VLS	**Valsamata**	**0.69**	**338**	*e*PG	**Pg**	**20 20 31.7**	**+0.2**
VLS				*e*SB	**Sb**	**20 20 41.7**	**-1.2**
ITM	**Ithomi**	**0.88**	**114**	*e*PB	**Pg**	**20 20 34.8**	**-0.2**
VLX	**Vlachokerasia**	**1.17**	**98**	*e*Pg	**Pg**	**20 20 39.5**	**-1.1**
VLX				*e*Sg	**Sg**	**20 20 56.7**	**+0.9**
VLX	**Vlachokerasia**	**1.17**	**98**	*e*Pg	**Pg**	**20 20 39.5**	**-1.2**
VLX				*e*Sg	**Sg**	**20 20 56.7**	**+0.8**
LKD	**Levkas**	**1.19**	**350**	*e*Pg	**Pg**	**20 20 39.5**	**-1.5**
LKD				*e*Sg	**Sg**	**20 20 58.5**	**+2.1**
EVR	**Evrytania**	**1.54**	**27**	*e*PG	**Pn**	**20 20 44.7**	**-2.0**
LTK	**Loutraki**	**1.69**	**73**	*e*Pb	**Pn**	**20 20 48.6**	**0.0**
LTK				*e*Sb	**Sn**	**20 21 12.3**	**+1.5**
VLI	**Veliai**	**1.81**	**116**	*e*PG	**Pg**	**20 20 52.3**	**-0.5**
DID	**Didima**	**1.84**	**90**	*e*Pb	**Pn**	**20 20 50.9**	**+0.2**
DID				*e*Sb	**Sn**	**20 21 15.5**	**+0.9**
AGG	**Agios Georgios**	**1.85**	**36**	*e*Pb	**Pn**	**20 20 51.0**	**+0.1**
AGG				*e*Sb	**Sn**	**20 21 15.0**	**+0.2**
LKR	**Lokris**	**1.98**	**55**	*e*Pn	**Pn**	**20 20 52.8**	**+0.2**
LKR				*e*Sn	**Sn**	**20 21 19.2**	**+1.2**
LKR	**Lokris**	**1.98**	**55**	*e*PN	**Pn**	**20 20 52.7**	**+0.1**
IGT	**Igoumenitsa**	**2.04**	**347**	*e*Pn	**Pn**	**20 20 53.4**	**-0.1**
IGT				*e*Sn	**Sn**	**20 21 19.4**	**-0.1**
NAIG	**Nisos Aigina**	**2.05**	**83**	*e*PN	**Pn**	**20 20 54.0**	**+0.4**
THL	**Klokotos Trika**	**2.20**	**23**	*e*Pn	**Pn**	**20 20 56.0**	**+0.3**
THL				*e*Sn	**Sn**	**20 21 23.7**	**+0.3**
THL	**Klokotos Trika**	**2.20**	**23**	*e*PN	**Pn**	**20 20 56.2**	**+0.6**
ATH	**Athens Observa**	**2.26**	**78**	*e*PN	**Pn**	**20 20 57.0**	**+0.5**
ATH	**Athens Observa**	**2.26**	**78**	*e*Pg	**Pn**	**20 20 58.0**	**+1.5**
KEK	**Kerkira**	**2.34**	**338**	*e*PN	**Pn**	**20 20 59.0**	**+1.3**
KEK	**Kerkira**	**2.34**	**338**	*e*Pb	**Pn**	**20 20 58.2**	**+0.5**
PTL	**Penteli**	**2.39**	**77**	*e*PN	**Pn**	**20 20 58.5**	**+0.3**
NEO	**Neokhori**	**2.53**	**45**	*e*PN	**Pn**	**20 20 59.8**	**-0.4**
XOR	**Xorichti**	**2.55**	**44**	*e*Pn	**Pn**	**20 21 00.1**	**-0.4**
LIT	**Litokhoron**	**2.84**	**25**	*e*Pn	**Pn**	**20 21 05.6**	**+1.1**
AOS	**Alonnisos**	**2.84**	**54**	*e*Pn	**Pn**	**20 21 04.4**	**-0.1**
KZN	**Kozani**	**2.84**	**13**	*e*PN	**Pn**	**20 21 05.5**	**+1.0**
PAIG	**Paliouri**	**3.21**	**41**	*e*Pn	**Pn**	**20 21 08.9**	**-0.7**
KARN	**Karanos**	**3.22**	**131**	*e*Pn	**Pn**	**20 21 10.1**	**+0.4**
FNA	**Florina**	**3.26**	**6**	*e*Pn	**Pn**	**20 21 10.4**	**+0.1**
PLG	**Polygyros**	**3.45**	**34**	*e*Pn	**Pn**	**20 21 12.5**	**-0.3**
PLG	**Polygyros**	**3.45**	**34**	*e*PN	**Pn**	**20 21 12.7**	**-0.1**
HORT	**Hortiatis**	**3.49**	**28**	*e*Pn	**Pn**	**20 21 13.1**	**-0.3**
GRG	**Griva**	**3.60**	**18**	*e*Pn	**Pn**	**20 21 14.4**	**-0.5**
TIP	**Timpagrande**	**3.66**	**298**	*e*Pn	**Pn**	**20 21 16.6**	**+0.8**
TIP	**Timpagrande**	**3.66**	**298**	*e*PN	**Pn**	**20 21 16.6**	**+0.8**
OUR	**Ouranopolis**	**3.67**	**40**	*e*Pn	**Pn**	**20 21 15.5**	**-0.4**
APE	**Apeiranthos**	**3.70**	**96**	*e*Pn	**Pn**	**20 21 17.0**	**+0.7**
APE	**Apeiranthos**	**3.70**	**96**	*e*PN	**Pn**	**20 21 17.4**	**+1.0**
KRUS	**Krusevo**	**3.83**	**4**	*e*Pn	**Pn**	**20 21 18.7**	**+0.6**
IDI	**Anoyia**	**3.91**	**124**	Pn	**Pn**	**20 21 20.5**	**+1.3**
	0.4nm,0.3s,baz=287,slow=14,SNR=4.1						
IDI				Sn	**Sn**	**20 22 04.2**	**-1.4**
	2.7nm,0.3s,baz=74,slow=19,SNR=3.8						
KNT	**Kendrikon**	**3.93**	**22**	*e*Pn	**Pn**	**20 21 19.3**	**-0.1**
LIA	**Limnos Island**	**4.08**	**53**	*e*Pn	**Pn**	**20 21 21.6**	**+0.1**
LIA	**Limnos Island**	**4.08**	**53**	*e*Pn	**Pn**	**20 21 21.2**	**-0.3**
SRS	**Serrai**	**4.13**	**29**	*e*Pn	**Pn**	**20 21 21.9**	**-0.4**
CHOS	**Chios island**	**4.14**	**77**	*e*Pn	**Pn**	**20 21 22.9**	**+0.5**
LAST	**Lasithi**	**4.38**	**121**	*e*Pn	**Pn**	**20 21 26.2**	**+0.6**
PRK	**Paraskevi**	**4.54**	**66**	*e*Pn	**Pn**	**20 21 30.5**	**+2.7**
SG1	**Sgolgore (BA)**	**4.66**	**316**	*e*Pn	**Pn**	**20 21 28.9**	**-0.6**
CUC	**Castrocucco**	**4.68**	**303**	*e*Pn	**Pn**	**20 21 31.5**	**+1.7**
RDO	**Rodhopi**	**5.08**	**43**	P	**Pn**	**20 21 35.5**	**+0.3**
TREB	**Trebinje**	**5.54**	**340**	*e*Pn	**Pn**	**20 21 40.0**	**-1.5**
DIVS	**Divibare**	**6.59**	**354**	*e*Sn	**Sn**	**20 23 05.2**	**-6.4**
MLR	**Muntele Rosu**	**8.79**	**24**	Pn	**Pn**	**20 22 29.8**	**+3.6**
	0.2nm,0.3s,baz=155,slow=18,SNR=2.7						
GERES	**GERESS Array B**	**12.46**	**337**	Pn	**Pn**	**20 23 15.1**	**-1.3**
	0.1nm,0.3s,baz=156,slow=15,SNR=3.3						
SUW	**Suwalki**	**16.55**	**5**	*e*Pn	**Pn**	**20 24 08.9**	**-2.3**
	29nm,0.9s						
SUW	**Suwalki**	**16.55**	**5**	*e*Pn	**Pn**	**20 24 08.9**	**-2.3**
	29nm,0.9s						
HFS	**Hagfors**	**23.08**	**351**	P	**P**	**20 25 22.4**	**-2.4**
	1.7nm,0.6s,mb3.6,baz=156,slow=11,SNR=7.1						
EKA	**Eskdalemuir Ar**	**24.13**	**325**	P	**P**	**20 25 36.4**	**+1.2**
	0.9nm,0.6s,mb3.4,baz=126,slow=8.4,SNR=4.6						
NB2	**NORSAR Subarra**	**24.31**	**348**	P	**P**	**20 25 34.9**	**-1.8**
	comp=Z,0.5nm,0.5s,mb3.2,baz=155,slow=11						
NOA	**NORSAR Array B**	**24.31**	**348**	P	**P**	**20 25 36.3**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.1,baz=166,slow=12,SNR=3.9						
TORD	**Torodi Ar. Bea**	**29.74**	**220**	P	**P**	**20 26 27.0**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.4,baz=26,slow=8.6,SNR=6.9						
DBIC	**Dimbokro**	**38.65**	**224**	P	**P**	**20 27 43.6**	**+0.6**
	comp=Z,1.4nm,0.7s,mb3.8,baz=59,slow=4.4,SNR=4.5						
MK31	**Makanchi Array**	**45.37**	**58**	P	**P**	**20 28 35.9**	**-1.8**
MK31	**Makanchi Array**	**45.37**	**58**	P	**P**	**20 28 35.9**	**-1.8**
MKAR	**Makanchi Array**	**45.37**	**58**	P	**P**	**20 28 35.6**	**-2.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=282,slow=8.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**45.88**	**48**	P	**P**	**20 28 39.6**	**-2.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=265,slow=9.4,SNR=3.9						

*ISCJB **07** 20:27:32.4±1.2,4235N±003×4299E±009,h10km, Error ellipse: s-maj=9.3km s-min=4.1km az=8.9*
*TIF **07** 20:27:33.0,4235N×4310E,h12km±3km*
*CSEM **07** 20:27:32.4,4234N×4303E,h17km,mb3.6, After OBN*
*MOS **07** 20:27:32.4±1.9,4234N×4303E,h17km,mb3.6/1, Error ellipse: s-maj=32.5km s-min=13.4km az=53.0*

ISC 07 20:27:32.5±1.4,4232N±003×430E±01,h4km±8km,n11, σ1§00/22,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.45**	**54**	P	**Pg**	**20 27 40.1**	**-1.0**
ONI				S	**Sg**	**20 27 46.7**	**-0.2**
DIGR	**Digorskoe uzhe**	**0.74**	**38**	*i* Pg	**Pg

ISC 07 20:42:22.2±1.2,515N±01×17322W±010,h44km±9km, h42km±3.4km:pP-P,n50,σ1§14/50,mb4.3/24,MS4.0/3,1C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**3.04**	**60**	P	**Pn**	**20 43 06.7**	**-1.1**
AMKA	**Amchitka**	**4.68**	**271**	P	**Pn**	**20 43 29.1**	**-1.1**
UNV	**Unalaska Valle**	**4.69**	**58**	P	**Pn**	**20 43 30.5**	**+0.1**
AKUT	**Akutan**	**5.21**	**57**	*e*Pn	**Pn**	**20 43 37.9**	**+0.4**
AKUT				*e*Sn	**Sn**	**20 44 46.4**	**+10**
OHAK	**Old Harbor**	**12.91**	**56**	*e*Pn	**Pn**	**20 45 19.2**	**-3.6**
KDAK	**Kodiak Island**	**13.45**	**54**	Pn	**Pn**	**20 45 29.6**	**-0.6**
	0.6nm,0.3s,baz=44,slow=8.0,SNR=4.2						
KDAK	**Kodiak Island**	**13.45**	**54**	*e*Pn	**Pn**	**20 45 29.5**	**-0.7**
TNA	**Tin City**	**14.32**	**9**	*e*Pn	**Pn**	**20 45 44.6**	**+2.7**
	17nm,1.1s						
TTA	**Tatalina**	**14.67**	**32**	*e*Pn	**Pn**	**20 45 52.5**	**+5.9**
	20nm,1.3s						
PPLA	**Purkeypile**	**16.00**	**37**	*e*P	**Pn**	**20 46 06.7**	**+2.9**
	15nm,1.2s						
RC01	**Rabbit Creek A**	**16.07**	**44**	P	**Pn**	**20 46 03.1**	**-1.6**
KTH	**Kantishna Hill**	**16.85**	**36**	*e*Pn	**Pn**	**20 46 14.0**	**-0.5**
	5.7nm,0.7s						
KTH				*e*Sn	**Sn**	**20 49 40.5**	**+20**
IMA2	**Indian Mountai**	**17.60**	**27**	*e*P	**Pn**	**20 46 24.4**	**+0.6**
PETK	**Petropavlovsk-**	**17.79**	**286**	P	**Pn**	**20 46 26.7**	**+0.4**
	0.2nm,0.3s,baz=84,slow=16,SNR=3.9						
DIV	**Divide**	**17.85**	**47**	*e*P	**Pn**	**20 46 28.0**	**+1.0**
EGAK	**Eagle**	**21.18**	**39**	*e*P	**P**	**20 47 02.3**	**-1.2**
	22nm,0.6s,mb4.7						
HYT	**Haines Junctio**	**21.68**	**51**	*e*P	**P**	**20 47 09.8**	**+1.0**
INK	**Inuvik**	**25.35**	**34**	P	**P**	**20 47 43.7**	**-0.9**
	3.4nm,0.4s,mb4.2,baz=234,slow=13,SNR=10						
INK	**Inuvik**	**25.35**	**34**	*e*P	**P**	**20 47 43.3**	**-1.4**
	315nm,0.9s,mb5.8						
YKA	**Yellowknife Ar**	**32.57**	**47**	LR	LR	21 04 16.4	
	comp=Z,3.7nm,19.8s,baz=300,slow=41						
MDJ	**Mudanjiang**	**37.97**	**283**	P	**P**	**20 49 33.9**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,98nm,5.0s						
MDJ				LR	LR		
	comp=Z,43nm,17.1s,MS3.3						
PDAR	**Pinedale Array**	**42.91**	**76**	P	**P**	**20 50 17.1**	**+0.8**
	comp=Z,1.0nm,0.6s,mb3.7,baz=307,slow=4.1,SNR=6.2						
SONM	**Songino Array**	**49.65**	**299**	P	**P**	**20 51 09.8**	**+0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=46,slow=8.4,SNR=8.4						
HHC	**Hu-ho-hao-te**	**50.97**	**289**	*e*P	**P**	**20 51 17.9**	**-1.2**
HHC				AP	pP	20 51 29.9	-1.5
HHC				XP	sP	20 51 34.7	-1.8
HHC				PP	PP	20 53 18.1	+2.5
HHC				PCS	PcS	20 56 36.8	+4.5
HHC				S	**S**	**20 58 29.7**	**-3.0**
HHC				SS	SS	21 02 05.0	-2.5
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,126nm,5.3s						
HHC				LR	LR		
	comp=N,222nm,17.8s,MS4.3						
HHC				LR	LR		
	comp=E,228nm,21.4s,MS4.3						
HHC				LR	LR		
	comp=Z,210nm,19.0s,MS4.2						
NJ2	**Nanjing**	**52.28**	**276**	*e*P	**P**	**20 51 30.8**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
TXAR	**Lajitas Array**	**55.17**	**85**	P	**P**	**20 51 50.2**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.8,baz=303,slow=6.3,SNR=3.8						
TXAR				ScP	ScP	20 56 44.8	-1.1
	comp=Z,0.6nm,1.1s,baz=298,slow=3.7,SNR=3.9						
ARCES	**ARCESS Array B**	**58.46**	**352**	P	**P**	**20 52 11.2**	**-1.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=27,slow=8.2,SNR=4.7						
ARCES				PcP	PcP	20 53 02.9	-0.2
	comp=Z,1.3nm,0.7s,baz=19,slow=5.5,SNR=5.4						
ARCES	**ARCESS Array B**	**58.46**	**352**	P	**P**	**20 52 11.2**	**-1.8**
ARCES				PcP	PcP	20 53 02.9	-0.2
WMQ	**Urumqi**	**62.12**	**306**	*e*P	**P**	**20 52 39.6**	**+1.2**
CD2	**Chengdu**	**62.33**	**286**	*e*P	**P**	**20 52 40.1**	**+0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
MKAR	**Makanchi Array**	**62.60**	**311**	P	**P**	**20 52 40.8**	**-0.7**
	comp=Z,0.3nm,0.4s,mb3.8,baz=62,slow=5.6,SNR=5.5						
BRVK	**Borovoye**	**62.96**	**323**	*e*P	**P**	**20 52 42.9**	**-1.0**
	comp=Z,2.9nm,0.7s,mb4.5						
GYA	**Guiyang**	**63.75**	**280**	P	**P**	**20 52 52.1**	**+2.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
KMI	**Kunming**	**67.13**	**282**	P	**P**	**20 53 10.7**	**-0.6**
KMI				AP	pP	20 53 20.8	-3.2
KMI				XP	sP	20 53 24.9	-4.1
KMI				PP	PP	20 55 40.9	+1.6
KMI				S	S	21 02 00.1	-2.3
KMI				XS	sS	21 02 19.2	-4.3
KMI				SS	SS	21 06 21.1	-0.4
KMI				AMB	AMB		
	comp=Z,5.0nm,1.7s,mb4.3						
KMI				AMB	AMB		
	comp=Z,119nm,5.4s						
KMI				LR	LR		
	comp=N,111nm,10.1s,MS4.7						
KMI				LR	LR		
	comp=E,211nm,11.9s,MS4.7						
KMI				LR	LR		
	comp=Z,158nm,14.2s,MS4.4						
NOA	**NORSAR Array B**	**67.71**	**358**	P	**P**	**20 53 13.9**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.5,baz=3.4,slow=6.6,SNR=2.8						
AML	**Almayashu**	**70.13**	**313**	*e*P	**P**	**20 53 30.7**	**+0.9**
	comp=Z,4.0nm,1.0s,mb4.3						
LSA	**Lhasa**	**70.63**	**293**	P	**P**	**20 53 35.2**	**+2.2**
LSA	**Lhasa**	**70.63**	**293**	*e*P	**P**	**20 53 34.6**	**+1.6**
	comp=Z,8.6nm,0.7s,mb4.8						
LSA				*e*	pP	20 53 47.6	+1.9
CMAR	**Chiang Mai Arr**	**74.44**	**280**	P	**P**	**20 53 57.0**	**+1.2**
	comp=Z,1.6nm,0.7s,mb4.0,baz=27,slow=6.7,SNR=9.4						
CMAR	**Chiang Mai Arr**	**74.44**	**280**	P	**P**	**20 53 57.0**	**+1.2**
AKASG	**Malin Array Be**	**76.36**	**346**	P	**P**	**20 54 05.0**	**-1.4**
	comp=Z,1.6nm,0.4s,mb4.3,baz=18,slow=6.0,SNR=8.8						
BEBN	**Eben Emael**	**78.03**	**1**	P	**P**	**20 54 15.8**	**+0.1**
BCLA	**Clavier**	**78.41**	**1**	P	**P**	**20 54 17.9**	**+0.2**
	comp=Z,11nm,2.5s,mb4.4						
KBL	**Kabul**	**78.41**	**312**	*e*P	**P**	**20 54 17.1**	**-1.0**
	comp=Z,6.6nm,1.1s,mb4.5						
KHC	**Kasperske Hory**	**79.54**	**355**	*e*P	**P**	**20 54 24.0**	**0.0**
GERES	**GERESS Array B**	**79.81**	**355**	P	**P**	**20 54 25.4**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.9,baz=15,slow=5.5,SNR=11						
KBA	**Koelnbreinsper**	**81.60**	**355⇑**	*i*P	**P**	**20 54 35.6**	**+0.6**
	comp=Z,4.4nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**88.06**	**227**	P	**P**	**20 55 07.6**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.9,baz=40,slow=4.7,SNR=8.0						
TSUM	**Tsumeb**	**146.62**	**341**	PKPbc	PKPbc	21 01 59.7	+0.8
	comp=Z,1.9nm,0.6s,baz=3.5,slow=3.1,SNR=7.7						
BOSA	**Boshof**	**153.23**	**322**	PKPbc	PKPbc	21 02 15.2	+0.2
	comp=Z,3.2nm,0.9s,baz=11,slow=1.8,SNR=4.4						

*ISCJB **07** 21:11:07.9±0.3,264N±005×6628E±005,h10km,mb4.6/60, MS4.4/17,Error ellipse: s-maj=7.4km s-min=6.5km az=155.6*

*IDC **07** 21:11:08.4±0.6,266N×66.35E,h0km,mb4.2/15, mb1 4.3/15,mb1mx4.2/21,mbtmp4.2/15,MS4.5/12, Ms1 4.5/12,ms1mx4.1/34,Error ellipse: s-maj=19.5km s-min=16.8km az=29.0*

*BJI **07** 21:11:08.9,234N×66.10E,h35km,mB5.1,mb4.8,Ms4.6, Msz4.4*

*MOS **07** 21:11:08.1±1.1,269N×6629E,h10km,mb5.0/27,Error ellipse: s-maj=10.8km s-min=7.5km az=90.0*

*GCMT **07** 21:11:09.9±0.2,247N×6643E,h12km,MW5.0/62, Moment Tensor Solution. s26,c35; s62,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.54±.12; $M_{\theta\theta}$0.51±.12; $M_{\phi\phi}$3.03±.12; $M_{r\theta}$1.15±.42; $M_{\theta\phi}$-1.97±.10; $M_{r\phi}$0.51±.34; Best double couple: $M_0$4.05500×10^{16} NP1:ϕ_s170.00000°,δ48.00000°,λ-62.00000°. NP2: ϕ_s312.00000°,δ49.00000°,λ-117.00000°. Principal axes: T 4.1110, Plg1.0000°, Azm61.0000°; N -0.1090, Plg20.0000°, Azm331.0000°; P -3.9980, Plg70.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 21:11:09.9±0.3,263N×66.31E,h10km,mb4.8/31 Error ellipse: s-maj=7.5km s-min=6.5km az=202.0*

ISC 07 21:11:10.0±0.3,264N±005×6632E±005,h10km, (h32km±6.4km:pP-P),n135,σ1§05/124,mb4.6/60,MS4.4/17, 15C,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.05**	**72**	*e*P	**Pn**	**21 14 41.4**	**-1.5**
	25nm,0.7s						
HYB	**Hyderabad**	**18.97**	**38**	*i*P	**Pn**	**21 15 33.5**	**+1.2**
HYB				*e*S	**Sn**	**21 19 02.0**	**-2.9**
HYB	**Hyderabad**	**18.97**	**38**	*e*P	**Pn**	**21 15 36.0**	**+3.7**
RER	**Riviere de l'E**	**25.82**	**203**	P	**P**	**21 16 41.5**	**-0.2**
KMBO	**Kilima Mbogo**	**29.30**	**263**	LR	LR	21 26 59.0	
	comp=Z,729nm,21.1s,MS4.3,baz=92,slow=32						
KBL	**Kabul**	**31.84**	**4**	*e*P	**P**	**21 17 37.4**	**+2.3**
KBL				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.5						
KBL	**Kabul**	**31.84**	**4**	*e*P	**P**	**21 17 37.4**	**+2.3**
	comp=Z,11nm,1.3s,mb4.5						
PSI	**Prapat**	**32.57**	**89**	LR	LR	21 29 12.5	
	comp=Z,754nm,19.5s,MS4.4,baz=259,slow=33						
COCO	**West Island**	**33.72**	**117**	*e*P	**P**	**21 17 50.5**	**-1.3**
COCO				pmax	pmax		
	comp=Z,29nm,0.5s,mb5.5						
COCO	**West Island**	**33.72**	**117**	*e*P	**P**	**21 17 50.5**	**-1.3**
	comp=Z,29nm,0.5s,mb5.5						
CM31	**Chiang Mai Arr**	**35.61**	**62**	*e*P	**P**	**21 18 09.4**	**+1.3**
	comp=Z,10nm,0.6s,mb4.9						
CMAR	**Chiang Mai Arr**	**35.61**	**62**	P	**P**	**21 18 08.0**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=253,slow=9.3,SNR=5.7						
CMAR				LR	LR	21 32 04.0	
	comp=Z,482nm,19.0s,MS4.3,baz=247,slow=35						
CHTO	**Chiang Mai**	**35.75**	**61**	*e*P	**P**	**21 18 10.2**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,51nm,1.9s,mb5.1						
CHTO	**Chiang Mai**	**35.75**	**61**	*e*P	**P**	**21 18 10.2**	**+0.8**
	comp=Z,51nm,1.9s,mb5.1						
LSA	**Lhasa**	**35.77**	**39**	P	**P**	**21 18 12.0**	**+2.6**
LSA	**Lhasa**	**35.77**	**39**	*e*P	**P**	**21 18 11.2**	**+1.8**
LSA				*e*		21 19 28.5	
LSA				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
LSA	**Lhasa**	**35.77**	**39**	*e*P	**P**	**21 18 11.2**	**+1.8**
	comp=Z,29nm,1.3s,mb5.0						
LSA				*e*PP	PP	21 19 28.5	-2.2
EKS2	**Erkin-Say**	**40.40**	**8**	*e*P	**P**	**21 18 49.7**	**+1.4**
	comp=Z,14nm,1.4s,mb4.5						
TKM2	**Tokmak 2**	**40.95**	**10**	*e*P	**P**	**21 18 54.1**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.2						
TKM2	**Tokmak 2**	**40.95**	**10**	*e*P	**P**	**21 18 54.1**	**+1.3**
	comp=Z,7.6nm,1.4s,mb4.1						
KMI	**Kunming**	**41.58**	**54**	P	**P**	**21 18 59.3**	**+1.0**
KMI				AP	pP	21 19 12.1	+11
KMI				XP	sP	21 19 17.8	+15
KMI				PP	PP	21 20 42.3	+7.8
KMI				S	**S**	**21 25 19.7**	**+5.1**
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.4						
KMI				AMB	AMB		
	comp=Z,66nm,7.1s						
KMI				LR	LR		
	comp=N,355nm,16.6s,MS4.4						
KMI				LR	LR		
	comp=E,352nm,19.2s,MS4.4						
KMI				LR	LR		
	comp=Z,419nm,14.8s,MS4.4						
LSZ	**Lusaka**	**41.72**	**244**	LR	LR	21 34 22.6	
	comp=Z,1μm,18.2s,MS4.8,baz=66,slow=33						
GNI	**Garni**	**42.14**	**335⇑**	*e*P	**P**	**21 19 03.9**	**+1.3**
GNI				pmax	pmax		
	comp=Z,62nm,2.5s						
GNI	**Garni**	**42.14**	**335**	*e*P	**P**	**21 19 06.5**	**+3.8**
	comp=Z,16nm,1.3s,mb4.5						
WMQ	**Urumqi**	**45.18**	**22**	P	**P**	**21 19 28.0**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=N,341nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=E,268nm,20.1s,MS4.4						
WMQ				LR	LR		
	comp=Z,357nm,24.8s,MS4.2						
MKAR	**Makanchi Array**	**46.12**	**15**	P	**P**	**21 19 34.5**	**0.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=196,slow=7.3,SNR=6.4						
MKAR	**Makanchi Array**	**46.12**	**15**	*i*P	**P**	**21 19 37.0**	**+2.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**46.12**	**15**	P	**P**	**21 19 34.5**	**0.0**
LZH	**Lanzhou**	**48.04**	**42**	*e*P	**P**	**21 19 50.2**	**+0.5**
LZH				AP	pP	21 19 59.1	+6.3
LZH				XP	sP	21 20 03.0	+9.0
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,110nm,4.5s						
LBTB	**Lobatse**	**48.11**	**233**	LR	LR	21 37 45.4	
	comp=Z,909nm,19.1s,MS4.8,baz=86,slow=33						
LBTB	**Lobatse**	**48.11**	**233**	*e*P	**P**	**21 19 51.1**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,62nm,1.9s,mb5.3						
LBTB	**Lobatse**	**48.11**	**233**	*e*P	**P**	**21 19 51.0**	**+0.7**
	comp=Z,62nm,1.9s,mb5.3						
KURK	**Kurchatov**	**49.02**	**10⇑**	*e*P	**P**	**21 19 56.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
KURK	**Kurchatov**	**49.02**	**10**	*e*P	**P**	**21 19 55.9**	**-1.0**
	comp=Z,4.7nm,1.1s,mb4.4						
BOSA	**Boshof**	**50.18**	**229**	P	**P**	**21 20 07.1**	**+1.0**
	comp=Z,2.9nm,0.6s,mb4.5,baz=58,slow=11,SNR=7.8						
BOSA	**Boshof**	**50.18**	**229**	P	**P**	**21 20 07.1**	**+1.0**
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BOSA	**Boshof**	**50.18**	**229**	*e*P	**P**	**21 20 07.0**	**+0.8**
	comp=Z,5.4nm,0.7s,mb4.7						
BRVK	**Borovoye**	**50.35**	**3**	*e*P	**P**	**21 20 07.6**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,16nm,2.1s,mb4.7						
BRVK	**Borovoye**	**50.35**	**3**	*e*P	**P**	**21 20 07.6**	**+0.5**
	comp=Z,16nm,2.1s,mb4.7						
XAN	**Xi'an**	**50.50**	**47**	P	**P**	**21 20 06.4**	**-2.1**
XAN				PP	PP	21 22 07.0	+2.7
XAN				S	**S**	**21 27 25.4**	**+2.8**
XAN				AMB	AMB		
	comp=Z,23nm,1.2s,mb5.1						
XAN				AMB	AMB		
	comp=Z,155nm,6.8s						
XAN				LR	LR		
	comp=E,157nm,28.1s						
XAN				LR	LR		
	comp=Z,269nm,30.2s,MS4.1						
TSUM	**Tsumeb**	**52.58**	**243**	LR	LR	21 40 49.7	
	comp=Z,1μm,18.8s,MS4.9,baz=136,slow=34						
WHN	**Wuhan**	**53.17**	**53**	*e*P	**P**	**21 20 28.6**	**+0.1**
WHN				AP	pP	21 20 34.5	+2.8
ZAL	**Zalesovo**	**53.34**	**14**	P	**P**	**21 20 28.4**	**-0.9**
ZAA0	**Zalesovo Array**	**53.35**	**14**	*e*P	**P**	**21 20 28.4**	**-1.0**
ZALV	**Zalesovo Beam**	**53.35**	**14**	P	**P**	**21 20 28.4**	**-1.0**
	comp=Z,4.5nm,0.9s,mb4.4,baz=198,slow=8.7,SNR=14						
HVS	**Khovu-Aksy**	**53.53**	**21⇑**	*i*P	**P**	**21 20 30.5**	**-0.2**
HVS				pmax	pmax		
	comp=Z,33nm,1.7s,mb5.0						
NVS	**Novosibirsk**	**53.83**	**12**	*e*P	**P**	**21 20 32.0**	**-0.9**
NVS				pmax	pmax		
	comp=N,15nm,1.4s						
NVS				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7						
ARU	**Arti**	**53.99**	**355⇑**	*e*P	**P**	**21 20 33.9**	**-0.1**
ARU				pmax	pmax		
	comp=Z,28nm,2.2s,mb4.8						
ARU	**Arti**	**53.99**	**355**	*e*P	**P**	**21 20 34.2**	**+0.2**
	comp=Z,64nm,2.1s,mb5.2						
SVE	**Sverdlovsk**	**54.22**	**356**	*e*P	**P**	**21 20 34.9**	**-0.7**
SVE				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
SUR	**Sutherland**	**55.39**	**227**	LR	LR	21 42 04.0	
	comp=Z,990nm,18.2s,MS4.9,baz=328,slow=34						
SONM	**Songino Array**	**56.71**	**31**	P	**P**	**21 20 55.0**	**+1.2**
	comp=Z,5.3nm,1.1s,mb4.5,baz=228,slow=5.9,SNR=17						
ZAK	**Zakamensk**	**56.89**	**27**	*e*P	**P**	**21 20 53.1**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.1						
AKASG	**Malin Array Be**	**57.17**	**333**	P	**P**	**21 20 55.7**	**-1.3**
	comp=Z,0.2nm,0.3s,mb3.6,baz=113,slow=5.4,SNR=9.7						
AKASG	**Malin Array Be**	**57.17**	**333**	*i*P	**P**	**21 20 57.4**	**+0.4**
KRAR	**Krasnoyarsk**	**57.33**	**17⇑**	*i*P	**P**	**21 20 59.0**	**+0.9**
KRAR				pmax	pmax		
	comp=Z,16nm,0.5s,mb5.3						
YHNB	**Yeheng**	**57.35**	**62**	P	**P**	**21 20 58.3**	**-0.4**
MBWA	**Marble Bar**	**57.36**	**117**	*e*P	**P**	**21 20 58.0**	**-0.9**
	comp=Z,63nm,1.8s,mb5.3						
OBN	**Obninsk**	**57.60**	**340⇑**	*i*P	**P**	**21 20 58.3**	**-1.7**
OBN				*e*		21 21 52.6	
OBN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.1						
OBN	**Obninsk**	**57.60**	**340**	P	**P**	**21 20 59.6**	**-0.4**
MOS	**Moscow**	**57.77**	**341**	*e*P	**P**	**21 21 01.3**	**+0.2**
MOS				pmax	pmax		
	comp=Z,52nm,1.4s,mb5.4						
TLY	**Talaya**	**57.97**	**26**	*e*P	**P**	**21 21 04.3**	**+1.7**
TLY				*e*S	**S**	**21 29 03.6**	**+0.8**
TLY				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.7						
TLY				MLR	MLR		
	comp=Z,310nm,20.0s,MS4.4						
FITZ	**Fitzroy Crossi**	**61.93**	**112**	LR	LR	21 43 02.4	
	comp=Z,110nm,19.8s,MS4.0,baz=293,slow=31						
FITZ	**Fitzroy Crossi**	**61.93**	**112**	*e*P	**P**	**21 21 30.7**	**+0.2**
	comp=Z,21nm,1.2s,mb5.1						
ARSA	**Arzberg**	**62.37**	**323⇑**	*i*P	**P**	**21 21 32.9**	**0.0**
	comp=Z,7.4nm,1.6s,mb4.6						
CONA	**Conrad Observa**	**62.51**	**324⇑**	*i*P	**P**	**21 21 33.6**	**-0.2**
	comp=Z,11nm,1.5s,mb4.8						
CSNA	**Conrad Observa**	**62.51**	**324⇑**	*i*P	**P**	**21 21 33.6**	**-0.2**
	comp=Z,9.7nm,1.5s,mb4.7						
MOA	**Molln**	**63.41**	**324⇑**	*i*P	**P**	**21 21 39.4**	**-0.3**
	comp=Z,7.6nm,1.2s,mb4.7						
KHC	**Kasperske Hory**	**64.42**	**325⇑**	*i*P	**P**	**21 21 45.1**	**-1.3**
TOA0	**Torodi Ar. Sit**	**64.70**	**283**	P	**P**	**21 21 50.6**	**+1.7**
TORD	**Torodi Ar. Bea**	**64.70**	**283**	P	**P**	**21 21 49.0**	**+0.1**
	comp=Z,1.4nm,1.1s,mb3.9,baz=92,slow=3.1,SNR=4.1						
TORD				LR	LR	21 50 09.3	
	comp=Z,368nm,19.8s,MS4.6,baz=105,slow=36						
HIA	**Hailar**	**64.88**	**36**	*e*P	**P**	**21 21 50.2**	**+0.8**
HIA				pmax	pmax		
	comp=Z,20nm,1.4s						
HIA	**Hailar**	**64.88**	**36**	*e*P	**P**	**21 21 50.2**	**+0.8**
	comp=Z,20nm,1.4s,mb5.0						
BRG	**Berggiesshubel**	**65.05**	**326**	*e*P	**P**	**21 21 52.8**	**+2.3**
BRG				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.5						
BRG	**Berggiesshubel**	**65.05**	**326**	*e*P	**P**	**21 21 52.8**	**+2.3**
	comp=Z,16nm,1.9s,mb4.7						
JOF	**Joensuu**	**65.47**	**343**	*e*p	**P**	**21 21 51.9**	**-1.1**
	comp=Z,2.2nm,0.9s,mb4.2						
CLL	**Collm**	**65.78**	**326⇑**	*i*P	**P**	**21 21 55.2**	**0.0**
CLL				pmax	pmax		
	comp=Z,39nm,2.2s,mb5.0						
CLL	**Collm**	**65.78**	**326⇑**	*i*P	**P**	**21 21 55.2**	**0.0**
	comp=Z,39nm,2.2s,mb5.0						
CLL				*i* x	x	21 22 04.7	
CLL				*e*(PcP)	PcP	21 22 30.0	+3.7
CLL				*e*PP	PP	21 24 26.0	+6.0
CLL				*e*SSSS		21 38 54.0	
CLL	**Collm**	**65.78**	**326⇑**	*i*P	**P**	**21 21 55.2**	**0.0**
	comp=Z,39nm,2.2s,mb5.0						
CLL				*i*		21 22 04.7	
CN2	**Changchun**	**66.25**	**43**	*e*P	**P**	**21 21 56.8**	**-1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
KAF	**Kangasniemi**	**66.41**	**341**	*e*p	**P**	**21 21 58.9**	**-0.2**
	comp=Z,3.4nm,0.9s,mb4.4						
KAF	**Kangasniemi**	**66.41**	**341**	*e*P	**P**	**21 21 58.9**	**-0.2**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BOD	**Bodaibo**	**66.51**	**26**	*e*P	**P**	**21 21 59.1**	**-0.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,2.4s,mb3.9						
BFO	**Black Forest**	**67.20**	**322**	*e*P	**P**	**21 22 03.8**	**-0.6**
BFO				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.7						
BFO	**Black Forest**	**67.20**	**322**	*e*P	**P**	**21 22 03.8**	**-0.5**
	comp=Z,12nm,1.4s,mb4.7						
CDF	**Champ du Feu**	**67.88**	**322**	*e*P	**P**	**21 22 07.4**	**-1.3**
CABF	**La Chapelle**	**67.97**	**320**	*e*P	**P**	**21 22 08.7**	**-0.6**
	comp=Z,63nm,1.6s,mb5.1						
CABF	**La Chapelle**	**67.97**	**320**	*e*P	**P**	**21 22 08.7**	**-0.6**
CABF				pmax	pmax		
	comp=Z,32nm,1.5s,mb5.1						
CABF	**La Chapelle**	**67.97**	**320**	*e*P	**P**	**21 22 08.7**	**-0.6**
	comp=Z,32nm,1.5s,mb5.1						
MDJ	**Mudanjiang**	**69.33**	**43**	P	**P**	**21 22 20.5**	**+2.7**
LOR	**Lormes**	**69.63**	**320**	*e*P	**P**	**21 22 18.3**	**-1.3**
SSF	**Saint Saulge**	**69.79**	**320**	*e*P	**P**	**21 22 19.3**	**-1.3**
	comp=Z,12nm,1.2s,mb4.4						
SSF	**Saint Saulge**	**69.79**	**320**	*e*P	**P**	**21 22 19.3**	**-1.3**
SSF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
SSF	**Saint Saulge**	**69.79**	**320**	*e*P	**P**	**21 22 19.3**	**-1.3**

comp=Z,0.7nm,0.8s,mb4.1
HNR Honiara 94.01 99 P **P 21 24 28.5 -0.7**
PDAR Pinedale Array 134.65 356 PKP PKPdf 21 30 27.5 -1.7
comp=Z,1.3nm,0.9s,baz=96,slow=3.0,SNR=8.3
NVAR Mina Array Bea 138.91 6 PKP PKPdf 21 30 37.7 +0.5
comp=Z,0.3nm,0.6s,baz=263,slow=1.5,SNR=3.8
OTAV Otavalo 144.66 274 *e*PKPdf PKPdf 21 30 48.8 +0.6
MNTX Cornudas Mount 144.95 348 *e*PKP PKPdf 21 30 47.9 -0.3
TUC Tucson 145.13 356 *e*PKIKP PKPdf 21 30 48.5 0.0
TXAR Lajitas Array 146.79 344 PKPbc PKPbc 21 30 53.9 +0.8
comp=Z,13nm,1.1s,baz=58,slow=2.0,SNR=55

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*ISCJB **07** 21:22:44.4±0.5,23N±0.1×658E±0.1,h10km,mb4.2/12, MS4.0/4, Error ellipse: s-maj=16.5km s-min=12.4km az=136.5*
*NEIC **07** 21:22:46.6±0.5,223N×6585E,h10km,mb4.7/3, Error ellipse: s-maj=16.0km s-min=12.3km az=136.0*
*GCMT **07** 21:22:46.6±0.3,255N×6629E,h14km±1km,MW5.0/73, Moment Tensor Solution. s25,c27; s73,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~3.36±.25; $M_{\theta\theta}$2.21±.16; $M_{\phi\phi}$1.14±.15; $M_{r\theta}$0.83±.33; $M_{\theta\phi}$-1.42±.11; $M_{\phi r}$0.14±.39; Best double couple: $M_0$3.37800×10^{16} NP1:ϕ_s133.00000°,δ40.00000°,λ-76.00000°. NP2: ϕ_s295.00000°,δ51.00000°,λ-102.00000°. Principal axes: T 3.2480, Plg5.0000°, Azm34.0000°; N 0.2510, Plg9.0000°, Azm303.0000°; P -3.5090, Plg80.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **07** 21:22:47.1±1.0,252N×6627E,h0km,mb3.8/8,mb1 4.0/8, mb1mx3.8/22,mbtmp3.8/8,MS4.1/4,Ms1 4.1/4, ms1mx3.7/32 Error ellipse: s-maj=34.6km s-min=24.0km az=35.0*
ISC 07 21:22:46.4±0.5,**223N**±010×**6579E**±009,**h10**km,**n23**, σ1$**05/18**,**mb4.2**/12,**MS4.0**/4,**Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**12.37**	**236**	*e*Pn	**Pn**	**21 25 42.1**	**-0.7**
MSEY				Sn	**Sn**	**21 27 57.7**	**-3.2**
ABPO	**Ambohimpanom**	**27.91**	**220**	P	**P**	**21 28 37.5**	**+0.6**
COCO	**West Island**	**34.01**	**116**	P	**P**	**21 29 30.4**	**-0.4**
LSA	**Lhasa**	**36.42**	**39**	*e*P	**P**	**21 29 50.2**	**-1.3**
	8.0nm,1.1s,mb4.6						
EIL	**Elat**	**40.03**	**316**	LR	LR	21 44 58.3	
	comp=Z,142nm,18.4s,MS3.9,baz=289,slow=33						
ASF	**Jabal al Asfar**	**40.33**	**321**	LR	LR	21 44 34.7	
	comp=Z,88nm,19.1s,MS3.6,baz=187,slow=32						
LSZ	**Lusaka**	**41.07**	**244**	LR	LR	21 45 10.7	
	comp=Z,747nm,20.2s,MS4.5,baz=31,slow=32						
MKAR	**Makanchi Array**	**46.66**	**16**	P	**P**	**21 31 14.9**	**-0.2**
	0.1nm,0.3s,mb3.3,baz=196,slow=3.6,SNR=3.0						
LBTB	**Lobatse**	**47.44**	**233**	LR	LR	21 47 07.4	
	comp=Z,225nm,21.7s,MS4.1,baz=348,slow=30						
TSUM	**Tsumeb**	**51.92**	**244**	*e*P	**P**	**21 31 55.8**	**0.0**
	13nm,1.4s,mb4.7						
ZALV	**Zalesovo Beam**	**53.88**	**14**	P	**P**	**21 32 08.2**	**-1.5**
	1.0nm,0.6s,mb3.9,baz=188,slow=9.0,SNR=6.1						
SONM	**Songino Array**	**57.34**	**31**	P	**P**	**21 32 34.3**	**-0.4**
	1.1nm,1.0s,mb3.8,baz=209,slow=4.9,SNR=5.1						
NWAO	**Narrogin (SRO)**	**59.80**	**130**	*e*P	**P**	**21 32 51.9**	**-0.3**
	46nm,1.4s,mb5.3						
TORD	**Torodi Ar. Bea**	**64.28**	**283**	P	**P**	**21 33 28.8**	**+6.2**
	0.8nm,1.0s,mb3.7,baz=83,slow=4.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**64.28**	**283**	P	**P**	**21 33 28.8**	**+6.2**
WRA	**Warramunga Arr**	**70.69**	**112**	P	**P**	**21 34 03.2**	**+0.2**
	1.6nm,0.7s,mb4.0,baz=288,slow=5.9,SNR=8.1						
ASAR	**Alice Springs**	**70.97**	**116**	P	**P**	**21 34 05.0**	**+0.3**
	1.0nm,1.0s,mb3.7,baz=282,slow=4.6,SNR=4.9						
NOA	**NORSAR Array B**	**71.60**	**335**	P	**P**	**21 34 09.0**	**+1.2**
	0.6nm,0.7s,mb3.6,baz=114,slow=6.6,SNR=3.6						
NOA	**NORSAR Array B**	**71.60**	**335**	P	**P**	**21 34 09.0**	**+1.2**
ESDC	**Sonseca Array**	**73.06**	**311**	P	**P**	**21 34 19.3**	**+2.3**
	1.7nm,0.9s,mb4.0,baz=74,slow=4.2,SNR=4.7						
SBA	**Scott Base**	**94.47**	**168**	*e*P	**P**	**21 36 07.8**	**+1.4**
	31nm,2.1s,mb5.4						
MNTX	**Cornudas Mount**	**145.24**	**347**	*e*PKP	PKPdf	21 42 25.9	+0.8
TXAR	**Lajitas Array**	**147.03**	**343**	PKPbc	PKPbc	21 42 32.6	+2.4
	2.9nm,0.8s,baz=57,slow=2.2,SNR=25						

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*ISCJB **07** 21:25:36.9±1.0,3927N±003×20.10E±006,h2km±6km, Error ellipse: s-maj=7.6km s-min=4.6km az=180.0*
*THE **07** 21:25:38.7,3926N×2018E,h0km,ML2.6*
*NEIC **07** 21:25:39.1,3929N×2028E,h23km,MD3.3(ATH), ML2.6(THE), After ATH.*
*ATH **07** 21:25:39.1,3929N×2028E,h23km±15km,MD3.3/4*
*CSEM **07** 21:25:39.4±0.4,3926N×2023E,h2km,MD3.3, Error ellipse: s-maj=8.1km s-min=5.2km az=77.0*
ISC 07 21:25:39.1±0.7,**3926N**±002×**2023E**±005,**h6**km±6km,**n12**, σ1$**03**/23,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**16**	*e*Pg	**Pg**	**21 25 43.6**	**-1.0**
IGT				*e*Sg	**Sg**	**21 25 48.1**	**-0.2**
KEK	**Kerkira**	**0.56**	**323**	*e*PN	**Pg**	**21 25 50.0**	**+0.1**
KEK				*e*SN	**Sg**	**21 25 59.4**	**+2.2**
JAN	**Janina**	**0.62**	**51**	*e*PN	**Pg**	**21 25 49.9**	**-1.2**
JAN				*e*SN	**Sg**	**21 25 58.9**	**-0.2**
LKD	**Levkas**	**0.65**	**149**	*e*Pg	**Pg**	**21 25 50.5**	**-1.0**
LKD				*e*Sg	**Sg**	**21 26 00.7**	**+0.8**
VLS	**Valsamata**	**1.12**	**165**	*e*Pg	**Pg**	**21 26 00.6**	**0.0**
VLS				*e*Sg	**Sg**	**21 26 15.6**	**+0.4**
VLS	**Valsamata**	**1.12**	**165**	*e*PN	**Pn**	**21 26 00.6**	**-0.7**
VLS				*e*SN	**Sn**	**21 26 17.1**	**+0.1**
EVR	**Evrytania**	**1.27**	**105**	*e*PN	**Pn**	**21 26 03.4**	**0.0**
THL	**Klokotos Trika**	**1.41**	**77**	*e*Pg	**Pg**	**21 26 06.1**	**-0.1**
THL				*e*Sg	**Sg**	**21 26 27.0**	**+2.4**
AGG	**Agios Georgios**	**1.65**	**98**	*e*Pb	**Pb**	**21 26 09.6**	**-0.3**
AGG				*e*Sb	**Sb**	**21 26 32.6**	**+1.7**
FNA	**Florina**	**1.75**	**30**	*e*Pb	**Pb**	**21 26 11.3**	**-0.4**
FNA				*e*Sb	**Sb**	**21 26 35.3**	**+1.4**
LIT	**Litokhoron**	**1.93**	**64**	*e*Pb	**Pb**	**21 26 12.8**	**-2.0**
LIT				*e*Sb	**Sb**	**21 26 38.2**	**-0.8**
LIT	**Litokhoron**	**1.93**	**64**	*e*Pb	**Pb**	**21 26 12.8**	**-1.9**
LIT				*e*Sb	**Sb**	**21 26 38.2**	**-0.8**

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*BJI **07** 21:26:56.5,202N×6555E,h10km,mB5.2,mb4.7,Ms4.8, Msz4.6*
*ISCJB **07** 21:27:01.0±1.6,254N±006×6609E±004,h1km±10km, mb4.6/86,MS4.4/33, Error ellipse: s-maj=10.2km s-min=7.3km az=13.9*
*MOS **07** 21:27:03.2±0.9,277N×6625E,h10km,mb5.0/38,MS4.3/5, Error ellipse: s-maj=10.2km s-min=6.3km az=111.9*
*IDC **07** 21:27:03.8±0.5,272N×6633E,h0km,mb4.2/19, mb1 4.3/19,mb1mx4.2/25,mbtmp4.2/19,MS4.3/23, Ms1 4.3/23,ms1mx4.3/29, Error ellipse: s-maj=18.5km s-min=13.9km az=21.0*
*GCMT **07** 21:27:04.2±0.2,259N×6642E,h12km,MW5.0/77, Moment Tensor Solution. s29,c36; s77,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~4.51±.12; $M_{\theta\theta}$2.69±.12; $M_{\phi\phi}$1.82±.12; $M_{r\theta}$0.40±.41; $M_{\theta\phi}$-1.97±.10; $M_{\phi r}$~1.03±.48; Best double couple: $M_0$4.52600×10^{16} NP1:ϕ_s123.00000°,δ39.00000°,λ-100.00000°. NP2: ϕ_s315.00000°,δ52.00000°,λ-82.00000°. Principal axes: T 4.3770, Plg6.0000°, Azm40.0000°; N 0.2980, Plg6.0000°, Azm130.0000°; P -4.6750, Plg81.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 21:27:04.2±0.3,249N×6610E,h10km,mb4.8/41 Error ellipse: s-maj=8.9km s-min=6.8km az=214.0*
*SZGRF **07** 21:27:12.0,322N×6584E,h33km,mb5.0,Carlsberg Ridge*
ISC 07 21:27:05.1±1.8,**252N**±006×**6612E**±004,**h14**km±11km, **h15**km±1.0km:**pP-P**,**n200**,σ1$**03**/183,**mb4.6**/86,**MS4.4**/33, **13C-6D**,**Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRS	**Chennai**	**17.48**	**52**	*ex*	x	21 31 56.0	
KMBO	**Kilima Mbogo**	**29.08**	**263**	LR	LR	21 42 20.9	
	comp=Z,861nm,21.8s,MS4.3,baz=96,slow=31						
PSI	**Prapat**	**32.77**	**89**	P	**P**	**21 33 38.5**	**+0.5**
	2.1nm,0.5s,mb4.4,baz=262,slow=15,SNR=3.1						
PSI				PcP	PcP	21 36 24.3	+0.8
	2.8nm,0.6s,baz=311,slow=14,SNR=3.7						
PSI				LR	LR	21 44 09.8	
	comp=Z,726nm,19.6s,MS4.4,baz=264,slow=32						
PSI	**Prapat**	**32.77**	**89**	P	**P**	**21 33 38.6**	**+0.5**
PSI						21 36 24.3	
PSI	**Prapat**	**32.77**	**89**	P	**P**	**21 33 38.5**	**+0.5**
PSI				PcP	PcP	21 36 24.3	+0.8
PSI				LR	LR	21 44 09.8	
SHL	**Shillong**	**33.76**	**45**	*e*P	**P**	**21 33 48.0**	**+1.5**
COCO	**West Island**	**33.84**	**116**	P	**P**	**21 33 48.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**35.85**	**61**	P	**P**	**21 34 04.8**	**+0.1**
	0.3nm,0.4s,mb3.6,baz=253,slow=9.2,SNR=4.0						
CMAR				PcP	PcP	21 36 33.0	+0.9
	1.3nm,0.8s,baz=238,slow=5.3,SNR=7.4						
CMAR				LR	LR	21 47 48.6	
	comp=Z,520nm,18.5s,MS4.3,baz=255,slow=35						
CMAR	**Chiang Mai Arr**	**35.85**	**61**	P	**P**	**21 34 04.8**	**+0.2**
CMAR						21 36 33.1	
CHTO	**Chiang Mai**	**35.98**	**61**	*e*P	**P**	**21 34 11.0**	**+5.2**
CHTO				pmax	pmax		
	comp=Z,37nm,1.8s,mb5.0						
CHTO	**Chiang Mai**	**35.98**	**61**	*e*P	**P**	**21 34 11.0**	**+5.1**
	comp=Z,37nm,1.8s,mb5.0						
LSA	**Lhasa**	**35.99**	**39**	P	**P**	**21 34 07.4**	**+1.6**
LSA	**Lhasa**	**35.99**	**39**	*e*P	**P**	**21 34 07.1**	**+1.3**
LSA				pmax	pmax		
	comp=Z,138nm,2.4s,mb5.5						
LSA	**Lhasa**	**35.99**	**39**	*e*P	**P**	**21 34 07.1**	**+1.4**
	comp=Z,138nm,2.4s,mb5.5						
UCH	**Uchtor**	**40.25**	**10**	*e*P	**P**	**21 34 41.6**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.0						
EKS2	**Erkin-Say**	**40.55**	**9**	*e*P	**P**	**21 34 44.1**	**+0.2**
	comp=Z,76nm,0.6s,mb5.5						
TKM2	**Tokmak 2**	**41.11**	**11**	*e*P	**P**	**21 34 47.9**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.1						
TKM2	**Tokmak 2**	**41.11**	**11**	*e*P	**P**	**21 34 47.9**	**-0.7**
	comp=Z,6.3nm,1.3s,mb4.1						
LSZ	**Lusaka**	**41.48**	**244**	P	**P**	**21 34 56.2**	**+4.2**
	comp=Z,3.1nm,1.0s,mb3.9,baz=66,slow=7.5,SNR=4.5						
LSZ	**Lusaka**	**41.48**	**244**	P	**P**	**21 34 56.2**	**+4.2**
LSZ				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
LSZ	**Lusaka**	**41.48**	**244**	*e*P	**P**	**21 34 51.2**	**-0.8**
	comp=Z,2.2nm,0.8s,mb3.8						
KMI	**Kunming**	**41.82**	**54**	P	**P**	**21 34 55.1**	**+0.4**
KMI				AP	pP	21 35 00.2	+1.1
KMI				XP	sP	21 35 02.1	+1.2
KMI				PP	PP	21 36 36.3	+4.8
KMI				S	**S**	**21 41 13.8**	**+1.7**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.4						
KMI				AMB	AMB		
	comp=Z,136nm,4.4s						
KMI				LR	LR		
	comp=N,390nm,17.5s,MS4.5						
KMI				LR	LR		
	comp=E,397nm,20.1s,MS4.5						
KMI				LR	LR		
	comp=Z,380nm,18.0s,MS4.3						
GNI	**Garni**	**42.17**	**335**	⇑*e*P	**P**	**21 34 59.4**	**+2.1**
GNI				pmax	pmax		
	comp=Z,57nm,2.0s						
GNI	**Garni**	**42.17**	**335**	*e*P	**P**	**21 35 00.3**	**+3.0**
	comp=Z,96nm,1.8s,mb5.1						
MALT	**Malatya**	**43.71**	**328**	P	**P**	**21 35 08.5**	**-1.3**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.3						
MALT	**Malatya**	**43.71**	**328**	P	**P**	**21 35 08.5**	**-1.3**
	comp=Z,7.7nm,1.4s,mb4.2						
WMQ	**Urumqi**	**45.37**	**22**	*e*P	**P**	**21 35 23.5**	**+0.6**
WMQ				AP	pP	21 35 28.0	+0.5
WMQ				XP	sP	21 35 30.5	+1.3
WMQ				PCP	PcP	21 37 03.6	+1.3
WMQ				PP	PP	21 37 10.3	+1.1
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=N,411nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=E,284nm,23.8s,MS4.4						
WMQ				LR	LR		
	comp=Z,433nm,24.8s,MS4.3						
CD2	**Chengdu**	**45.39**	**48**	*e*P	**P**	**21 35 24.2**	**+0.8**
CD2				AP	pP	21 35 28.7	+0.8
CD2				XP	sP	21 35 31.8	+2.1
CD2				PP	PP	21 37 11.1	+1.3
CD2				S	**S**	**21 42 04.0**	**-0.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,40nm,5.8s						
CD2				LR	LR		
	comp=N,650nm,20.4s,MS4.7						
CD2				LR	LR		
	comp=E,530nm,19.2s,MS4.7						
CD2				LR	LR		
	comp=Z,800nm,16.8s,MS4.7						
MKAR	**Makanchi Array**	**46.30**	**15**	P	**P**	**21 35 27.6**	**-2.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=191,slow=5.8,SNR=7.7						
MKAR				PcP	PcP	21 37 06.0	+0.6
	comp=Z,1.4nm,0.9s,baz=210,slow=3.6,SNR=3.9						
MKAR				LR	LR	21 54 27.4	
	comp=Z,283nm,19.9s,MS4.2,baz=197,slow=36						
MKAR	**Makanchi Array**	**46.30**	**15**	P	**P**	**21 35 27.6**	**-2.6**
MKAR						21 37 06.0	
GTA	**Gaotai**	**47.82**	**35**	*e*P	**P**	**21 35 42.4**	**+0.1**
GTA				AP	pP	21 35 46.9	+0.1
GTA				XP	sP	21 35 50.1	+1.6
GTA				PP	PP	21 37 37.8	+3.6
GTA				S	**S**	**21 42 39.3**	**+0.6**
GTA				SS	SS	21 46 05.8	-1.6
GTA				AMB	AMB		
	comp=Z,4.0nm,2.2s,mb4.1						
GTA				AMB	AMB		
	comp=Z,122nm,6.5s						
GTA				LR	LR		
	comp=N,359nm,18.6s,MS4.5						
GTA				LR	LR		
	comp=E,321nm,16.7s,MS4.5						
GTA				LR	LR		
	comp=Z,507nm,20.5s,MS4.5						
LBTB	**Lobatse**	**47.88**	**233**	P	**P**	**21 35 41.2**	**-1.7**
LBTB				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
LBTB	**Lobatse**	**47.88**	**233**	P	**P**	**21 35 41.2**	**-1.8**
	comp=Z,11nm,1.2s,mb4.8						
LZH	**Lanzhou**	**48.27**	**42**	*e*P	**P**	**21 35 46.5**	**+0.7**
LZH				AP	pP	21 35 50.0	-0.4
LZH				XP	sP	21 35 51.5	-0.6
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,98nm,4.5s						
LZH				LR	LR		
	comp=E,512nm,16.9s						
LZH				LR	LR		
	comp=Z,732nm,17.9s,MS4.7						
KURK	**Kurchatov**	**49.18**	**10**	⇑*i*P	**P**	**21 35 51.2**	**-1.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
KURK	**Kurchatov**	**49.18**	**10**	*e*P	**P**	**21 35 51.3**	**-1.2**
	comp=Z,8.8nm,1.4s,mb4.6						
BOSA	**Boshof**	**49.94**	**229**	P	**P**	**21 36 02.7**	**+4.0**
	comp=Z,7.5nm,1.1s,mb4.6,baz=76,slow=12,SNR=4.5						
BOSA				LR	LR	21 54 21.9	
	comp=Z,779nm,18.4s,MS4.8,baz=57,slow=33						
BOSA	**Boshof**	**49.94**	**229**	P	**P**	**21 36 02.7**	**+4.0**
BOSA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
BOSA				MLR	MLR		
	comp=Z,779nm,18.4s,MS4.8						
BOSA	**Boshof**	**49.94**	**229**	*e*P	**P**	**21 35 58.0**	**-0.8**
	comp=Z,9.8nm,1.1s,mb4.8						
BOSA				LR	LR	21 54 21.9	
BRVK	**Borovoye**	**50.49**	**3**	*e*P	**P**	**21 36 01.8**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**50.49**	**3**	*e*P	**P**	**21 36 01.8**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.3						
XAN	**Xi'an**	**50.73**	**47**	P	**P**	**21 36 03.4**	**-1.3**
XAN				S	**S**	**21 43 20.9**	**+1.1**
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
XAN				LR	LR		
	comp=E,180nm,26.4s						
XAN				LR	LR		
	comp=Z,314nm,37.5s						
TSUM	**Tsumeb**	**52.34**	**243**	P	**P**	**21 36 15.7**	**-1.3**
ZAL	**Zalesovo**	**53.50**	**14**	P	**P**	**21 36 24.2**	**-0.7**
ZAA0	**Zalesovo Array**	**53.52**	**14**	*e*P	**P**	**21 36 23.6**	**-1.4**
ZALV	**Zalesovo Beam**	**53.52**	**14**	P	**P**	**21 36 24.2**	**-0.8**
	comp=Z,4.9nm,0.8s,mb4.5,baz=198,slow=8.9,SNR=16						
ZALV				LR	LR	21 58 59.2	
	comp=Z,295nm,19.9s,MS4.3,baz=220,slow=36						
HVS	**Khovu-Aksy**	**53.72**	**21**	⇑*i*P	**P**	**21 36 25.8**	**-0.7**
HVS				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
NVS	**Novosibirsk**	**53.99**	**12**	*e*P	**P**	**21 36 26.3**	**-2.2**
NVS				*e*		21 37 30.5	
NVS				pmax	pmax		
	comp=Z,24nm,2.3s,mb4.7						
NVS				pmax	pmax		
	comp=N,22nm,1.9s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.7s						
ARU	**Arti**	**54.09**	**355**	*d*i*P*	**P**	**21 36 27.3**	**-1.9**
ARU				*e*		21 37 27.1	
ARU				*e*PPP		21 39 37.5	
ARU				*e*S	**S**	**21 44 03.3**	**-1.8**
ARU				*e*SS	SS	21 47 39.1	-7.7
ARU				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.8						
ARU	**Arti**	**54.09**	**355**	*e*P	**P**	**21 36 27.6**	**-1.5**
	comp=Z,8.6nm,1.1s,mb4.6						
KAPI	**Kappang**	**54.10**	**98**	LR	LR	21 58 49.3	
	comp=Z,134nm,20.9s,MS4.0,baz=198,slow=35						
SVE	**Sverdlovsk**	**54.33**	**356**	*e*P	**P**	**21 36 30.8**	**-0.1**
HHC	**Hu-ho-hao-te**	**55.94**	**41**	*e*P	**P**	**21 36 44.8**	**+2.0**
HHC				XP	sP	21 36 50.4	+1.2
HHC				PP	PP	21 38 51.7	+4.0
HHC				PCS	PcS	21 41 40.6	-1.0
HHC				S	**S**	**21 44 30.7**	**+0.3**
HHC				SCS	ScS	21 46 29.6	-2.3
HHC				AMB	AMB		
	comp=Z,21nm,0.5s,mb5.4						
HHC				AMB	AMB		
	comp=Z,157nm,6.9s						
HHC				LR	LR		
	comp=N,481nm,19.0s,MS4.7						
HHC				LR	LR		
	comp=E,323nm,20.2s,MS4.7						
HHC				LR	LR		
	comp=Z,534nm,21.4s,MS4.6						
SONM	**Songino Array**	**56.92**	**31**	P	**P**	**21 36 49.9**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.2,baz=219,slow=5.8,SNR=11						
SONM				LR	LR	22 01 05.4	
	comp=Z,797nm,21.4s,MS4.8,baz=230,slow=36						
ZAK	**Zakamensk**	**57.10**	**27**	*e*P	**P**	**21 36 43.8**	**-7.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.1						
AKASG	**Malin Array Be**	**57.20**	**333**	P	**P**	**21 36 50.5**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.8,baz=139,slow=5.8,SNR=10.0						
AKASG				PP	PP	21 39 01.6	+2.9
	comp=Z,0.1nm,0.2s,baz=136,slow=8.3,SNR=5.5						
KRAR	**Krasnoyarsk**	**57.51**	**17**	⇓*i*P	**P**	**21 36 53.4**	**-0.3**
KRAR				pmax	pmax		
	comp=Z,17nm,0.4s,mb5.4						
NJ2	**Nanjing**	**57.54**	**53**	*e*P	**P**	**21 36 55.4**	**+1.0**
NJ2				S	**S**	**21 44 50.5**	**-1.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,160nm,4.8s						
NJ2				LR	LR		
	comp=N,300nm,18.5s,MS4.6						
NJ2				LR	LR		
	comp=E,350nm,17.9s,MS4.6						
NJ2				LR	LR		
	comp=Z,320nm,16.7s,MS4.5						
OBN	**Obninsk**	**57.65**	**340**	*ce*P	**P**	**21 36 55.2**	**+0.5**
OBN				*e*		21 37 02.1	
OBN				*e*SS	SS	21 48 36.4	-6.5
OBN				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
MOS	**Moscow**	**57.82**	**341**	*e*P	**P**	**21 36 55.5**	**-0.4**
MOS				pmax	pmax		
	comp=Z,72nm,1.4s,mb5.5						
TLY	**Talaya**	**58.17**	**27**	*e*P	**P**	**21 36 59.1**	**+0.7**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
TLY				MLR	MLR		
	comp=Z,391nm,19.0s,MS4.5						
BATI	**Baumata**	**58.67**	**103**	LR	LR	21 58 55.5	
	comp=Z,661nm,19.0s,MS4.8,baz=263,slow=33						
KOLS	**Kolonicke sedl**	**59.47**	**328**	*i*P	**P**	**21 37 08.0**	**+0.5**
KWP	**Kalwaria**	**59.66**	**329**	P	**P**	**21 37 07.4**	**-1.4**
KWP				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
KWP	**Kalwaria**	**59.66**	**329**	P	**P**	**21 37 07.4**	**-1.4**
	comp=Z,7.8nm,1.1s,mb4.7						
NWAO	**Narrogin (SRO)**	**59.75**	**131**	LR	LR	21 55 48.1	
	comp=Z,227nm,20.9s,MS4.3,baz=117,slow=29						
CRVS	**Cervenica-Dubn**	**59.88**	**328**	*i*P	**P**	**21 37 11.2**	**+0.8**
VYHS	**Vyhne**	**61.09**	**326**	*i*P	**P**	**21 37 19.0**	**+0.4**
VYHS				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.5						
VYHS	**Vyhne**	**61.09**	**326**	*i*P	**P**	**21 37 19.0**	**+0.4**
	comp=Z,7.1nm,1.8s,mb4.5						
KLMR	**Klimovskoe**	**61.62**	**346**	*e*P	**P**	**21 37 21.2**	**-0.7**
KLMR				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.4						
MODS	**Modra-Piesok**	**61.90**	**325**	*e*P	**P**	**21 37 24.7**	**+0.6**
MODS				pmax	pmax		
	comp=Z,42nm,2.9s,mb5.1						
MODS	**Modra-Piesok**	**61.90**	**325**	*e*P	**P**	**21 37 24.7**	**+0.6**
	comp=Z,42nm,2.9s,mb5.1						
KEST	**Kesra**	**61.91**	**310**	LR	LR	22 00 39.3	
	comp=Z,50nm,21.1s,MS3.6,baz=215,slow=32						
SOP	**Sopron**	**61.96**	**324**	*e*P	**P**	**21 37 21.6**	**-2.9**
FITZ	**Fitzroy Crossi**	**62.07**	**112**	*e*P	**P**	**21 37 25.4**	**-0.4**
	comp=Z,5.6nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**62.07**	**112**	P	**P**	**21 37 25.1**	**-0.7**
	comp=Z,2.9nm,0.9s,mb4.4,baz=291,slow=7.4,SNR=5.0						
SUW	**Suwalki**	**62.17**	**

comp=Z,5.0nm,0.8s,mb4.6
NKC Novy Kostel 65.57 325 *e*P **P 21 37 48.9 +0.6**
NKC *ex* x 21 37 56.4
NKC AMS AMS 22 06 10.0
NKC Novy Kostel 65.57 325 *e*P **P 21 37 48.9 +0.6**
NKC *e* 21 37 56.4
WERN Wernitzgruen 65.64 325 *e*P **P 21 37 49.9 +1.2**
comp=Z,13nm,1.1s,mb4.9
MANZ Manzenberg 65.65 325 *e*P **P 21 37 50.8 +2.0**
comp=Z,12nm,1.8s,mb4.6
GUNZ Gunzen 65.70 325 *e*P **P 21 37 50.4 +1.3**
comp=Z,16nm,1.6s,mb4.8
WERD Werda 65.75 326 *e*P **P 21 37 50.4 +1.0**
comp=Z,12nm,1.8s,mb4.6
CLL Collm 65.77 327⇓*i*P **P 21 37 49.8 +0.2**
CLL *i* 21 37 57.2
CLL pmax pmax
comp=Z,22nm,1.6s,mb4.9
CLL Collm 65.77 327 *e*P **P 21 37 49.9 +0.3**
comp=Z,22nm,1.6s,mb4.9
CLL Collm 65.77 327⇓*i*P **P 21 37 49.8 +0.2**
comp=Z,22nm,1.6s,mb4.9
CLL *i* (sP) sP 21 37 57.2 +1.2
CLL *ex* x 21 38 31.0
CLL *e*SSS 21 53 54.0
CLL Collm 65.77 327⇓*i*P **P 21 37 49.8 +0.2**
comp=Z,22nm,1.6s,mb4.9
CLL *i* 21 37 57.2
CLL *e* 21 38 31.0
GRA1 Grafenberg Arr 66.03 324 *e*P **P 21 37 51.6 +0.4**
comp=Z,19nm,1.6s,mb4.9
GRF Grafenberg Arr 66.03 324 *e*P **P 21 37 51.6 +0.4**
GRF pmax pmax
comp=Z,19nm,1.6s,mb4.9
GRF Grafenberg Arr 66.03 324 *e*P **P 21 37 51.6 +0.4**
GRF pmax pmax
comp=Z,19nm,1.6s,mb4.9
GRF Grafenberg Arr 66.03 324 *e*P **P 21 37 51.6 +0.4**
comp=Z,19nm,1.6s,mb4.9
MOX Moxa 66.23 326 *e*P **P 21 37 51.9 -0.6**
comp=Z,30nm,2.1s,mb5.0
KSRS Korea Array 66.30 50 LR LR 22 09 11.3
comp=Z,390nm,18.9s,MS4.6,baz=266,slow=38
KAF Kangasniemi 66.46 341 *e*p **P 21 37 53.4 -0.4**
comp=Z,5.4nm,0.8s,mb4.6
KAF Kangasniemi 66.46 341 *e*P **P 21 37 53.4 -0.4**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BOD Bodaibo 66.71 26 *e*P **P 21 37 53.6 -1.8**
BOD pmax pmax
comp=Z,5.0nm,1.9s,mb4.2
MBDF Montbardon 66.81 318 *e*P **P 21 37 56.9 +0.5**
BNI Bardonecchia 66.99 318 P **P 21 37 56.6 -0.9**
LPG La Plagne 67.10 319 *e*P **P 21 37 57.8 -0.4**
comp=Z,36nm,1.5s,mb4.9
LPG La Plagne 67.10 319 *e*P **P 21 37 57.8 -0.4**
LPG pmax pmax
comp=Z,18nm,1.5s,mb4.9
LPG La Plagne 67.10 319 *e*P **P 21 37 57.8 -0.4**
comp=Z,18nm,1.5s,mb4.9
LPL La Plagne 67.12 319 *e*P **P 21 37 57.9 -0.4**
comp=Z,25nm,1.2s,mb4.8
LPL La Plagne 67.12 319 *e*P **P 21 37 57.9 -0.4**
LPL pmax pmax
comp=Z,13nm,1.2s,mb4.8
LPL La Plagne 67.12 319 *e*P **P 21 37 57.9 -0.4**
comp=Z,13nm,1.2s,mb4.8
ORIF Oris-en-Rattie 67.47 318 *e*P **P 21 38 01.4 +0.8**
comp=Z,24nm,1.4s,mb4.8
ORIF Oris-en-Rattie 67.47 318 *e*P **P 21 38 01.4 +0.8**
ORIF pmax pmax
comp=Z,12nm,1.4s,mb4.7
ORIF Oris-en-Rattie 67.47 318 *e*P **P 21 38 01.4 +0.8**
comp=Z,12nm,1.4s,mb4.7
CDF Champ du Feu 67.85 322 *e*P **P 21 38 02.6 -0.3**
comp=Z,19nm,1.2s,mb4.7
CDF Champ du Feu 67.85 322 *e*P **P 21 38 02.6 -0.3**
CDF pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
CDF Champ du Feu 67.85 322 *e*P **P 21 38 02.6 -0.3**
comp=Z,9.7nm,1.2s,mb4.7
CABF La Chapelle 67.93 320 *e*P **P 21 38 05.1 +1.7**
comp=Z,40nm,1.1s,mb5.0
CABF La Chapelle 67.93 320 *e*P **P 21 38 05.1 +1.7**
CABF pmax pmax
comp=Z,20nm,1.1s,mb5.1
CABF La Chapelle 67.93 320 *e*P **P 21 38 05.1 +1.7**
comp=Z,20nm,1.1s,mb5.1
LASF Ste Croix 68.57 317 *e*P **P 21 38 08.9 +1.4**
comp=Z,66nm,1.5s,mb5.1
WLF Walferdange 69.02 323 P **P 21 38 08.9 -1.3**
comp=Z,8.4nm,1.8s,mb4.4
MEZF Maizieres J'vi 69.26 322 *e*P **P 21 38 11.2 -0.5**
SMF Signal de Mont 69.40 319 *e*P **P 21 38 13.1 +0.5**
comp=Z,40nm,1.5s,mb4.8
SMF Signal de Mont 69.40 319 *e*P **P 21 38 13.1 +0.5**
SMF pmax pmax
comp=Z,20nm,1.5s,mb4.8
SMF Signal de Mont 69.40 319 *e*P **P 21 38 13.1 +0.5**
comp=Z,20nm,1.5s,mb4.8
MDJ Mudanjiang 69.56 43 P **P 21 38 13.5 -0.2**
MDJ AP pP 21 38 16.8 -1.5
MDJ S S 21 47 19.6 -1.7
MDJ AMB AMB
comp=Z,11nm,2.4s,mb4.4
MDJ AMB AMB
comp=Z,128nm,4.9s
MDJ LR LR
comp=N,92nm,28.7s,MS4.1
MDJ LR LR
comp=E,144nm,27.7s,MS4.1
MDJ LR LR
comp=Z,155nm,27.7s,MS4.1
LOR Lormes 69.59 320 *e*P **P 21 38 13.3 -0.5**
comp=Z,43nm,1.5s,mb4.9
LOR Lormes 69.59 320 *e*P **P 21 38 13.3 -0.5**
LOR pmax pmax
comp=Z,22nm,1.5s,mb4.9
LOR Lormes 69.59 320 *e*P **P 21 38 13.3 -0.5**
comp=Z,22nm,1.5s,mb4.9
BEBN Eben Emael 69.72 324 P **P 21 38 14.5 0.0**
SSF Saint Saulge 69.75 320 *e*P **P 21 38 14.3 -0.5**
comp=Z,11nm,0.9s,mb4.5
SSF Saint Saulge 69.75 320 *e*P **P 21 38 14.3 -0.5**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SSF Saint Saulge 69.75 320 *e*P **P 21 38 14.3 -0.5**
comp=Z,5.4nm,0.9s,mb4.5
AVF Avril sur Loir 69.76 319 *e*P **P 21 38 14.3 -0.5**
comp=Z,6.4nm,1.0s,mb4.2
AVF Avril sur Loir 69.76 319 *e*P **P 21 38 14.3 -0.5**
AVF pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
AVF Avril sur Loir 69.76 319 *e*P **P 21 38 14.3 -0.5**
comp=Z,3.2nm,1.0s,mb4.2
BCLA Clavier 69.81 323 P **P 21 38 14.4 -0.6**
comp=Z,9.5nm,1.7s,mb4.5
MAW Mawson 70.00 181 LR LR 22 01 32.9
comp=Z,325nm,18.6s,MS4.6,baz=255,slow=30
MAW Mawson 70.00 181 P **P 21 38 16.0 +0.1**
BGF Bois d'Agland 70.02 319 *e*P **P 21 38 16.0 -0.4**
comp=Z,36nm,1.2s,mb4.9
BGF Bois d'Agland 70.02 319 *e*P **P 21 38 16.0 -0.4**
BGF pmax pmax
comp=Z,18nm,1.2s,mb4.9
BGF Bois d'Agland 70.02 319 *e*P **P 21 38 16.0 -0.4**
comp=Z,18nm,1.2s,mb4.9
DOU Dourbes 70.11 323 P **P 21 38 16.6 -0.3**
CART Cartagena 70.42 309 P **P 21 38 17.4 -1.6**
WRA Warramunga Arr 70.50 112 P **P 21 38 19.4 -0.5**
comp=Z,8.6nm,0.9s,mb4.7,baz=288,slow=5.9,SNR=37
UCC Uccle 70.50 324 P **P 21 38 20.2 +1.0**
WRAB Tennant Creek 70.50 112 *e*P **P 21 38 19.5 -0.4**
WRAB pmax pmax
comp=Z,12nm,0.8s,mb4.9
WRAB Tennant Creek 70.50 112 *e*P **P 21 38 19.5 -0.4**
comp=Z,12nm,0.8s,mb4.9
WB2 Warramunga Arr 70.51 112 *e*P **P 21 38 19.6 -0.3**
ASAR Alice Springs 70.80 116 P **P 21 38 21.4 -0.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=273,slow=5.3,SNR=22
DBIC Dimbokro 70.82 276 P **P 21 38 25.1 +3.2**
comp=Z,4.0nm,1.0s,mb4.3,baz=128,slow=12,SNR=4.7
DBIC LR LR 22 07 22.1
comp=Z,172nm,20.8s,MS4.3,baz=74,slow=34
ETSF Etsaut 71.32 315 *e*P **P 21 38 25.5 +1.1**
comp=Z,15nm,1.1s,mb4.5
ETSF Etsaut 71.32 315 *e*P **P 21 38 25.5 +1.1**
ETSF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ETSF Etsaut 71.32 315 *e*P **P 21 38 25.5 +1.1**
comp=Z,7.3nm,1.1s,mb4.5
NB2 NORSAR Subarra 71.48 335 P **P 21 38 24.8 -0.2**
comp=Z,9.1nm,1.2s,mb4.6,baz=120,slow=6.2
NOA NORSAR Array B 71.48 335 P **P 21 38 25.2 +0.2**
comp=Z,5.0nm,0.9s,mb4.4,baz=114,slow=6.6,SNR=8.6
NOA LR LR 22 11 30.1
comp=Z,62nm,20.1s,MS3.9,baz=110,slow=37
SJPF Ste Jean 71.85 315 *e*P **P 21 38 29.5 +1.9**
comp=Z,42nm,1.2s,mb5.0
SJPF Ste Jean 71.85 315 *e*P **P 21 38 29.5 +1.9**
SJPF pmax pmax
comp=Z,21nm,1.2s,mb4.9
SJPF Ste Jean 71.85 315 *e*P **P 21 38 29.5 +1.9**
comp=Z,21nm,1.2s,mb4.9
ARCES ARCESS Array B 72.09 346 P **P 21 38 29.4 +0.9**
comp=Z,2.6nm,0.9s,mb4.2,baz=145,slow=6.6,SNR=6.9
ARCES LR LR 22 10 04.8
comp=Z,163nm,18.1s,MS4.3,baz=110,slow=36
ARCES ARCESS Array B 72.09 346 P **P 21 38 29.4 +0.9**
ARCES LR LR 22 10 04.8
KLR Kul'dur 72.35 39 *e*P **P 21 38 24.7 -5.8**
ESDC Sonseca Array 73.11 311 P **P 21 38 35.7 +0.5**
comp=Z,5.9nm,0.9s,mb4.5,baz=85,slow=5.3,SNR=15
MJAR Matsushiro Arr 74.14 53 P **P 21 38 41.7 +0.3**
comp=Z,0.6nm,0.3s,mb4.0,baz=269,slow=5.6,SNR=4.3
MJAR LR LR 22 12 25.9
comp=Z,163nm,21.4s,MS4.3,baz=275,slow=37
YAK Yakutsk 75.63 26⇑*i*P **P 21 38 47.5 -1.9**
YAK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
STKA Stephens Creek 79.04 123 *e*P **P 21 39 08.8 -0.3**
comp=Z,4.5nm,0.9s,mb4.4
STKA Stephens Creek 79.04 123 P **P 21 39 09.2 0.0**
comp=Z,5.4nm,0.9s,mb4.5,baz=326,slow=6.3,SNR=6.7
STKA LR LR 22 09 56.5
comp=Z,326nm,19.0s,MS4.7,baz=206,slow=33
STKA Stephens Creek 79.04 123 *e*P **P 21 39 08.1 -1.0**
comp=Z,5.5nm,0.8s,mb4.5
STKA *e*PcP PcP 21 39 15.9 -1.7
YSS Yuzh-Sakhalins 79.05 43⇑*e*P **P 21 39 07.9 -1.0**
YSS pmax pmax
comp=Z,14nm,1.0s,mb4.8
TIXI Tiksi 79.27 17⇑*i*P **P 21 39 09.0 -0.6**
TIXI pmax pmax
comp=Z,33nm,2.5s,mb4.8
CTA Charters Tower 81.61 111 LR LR 22 10 50.6
comp=Z,189nm,18.2s,MS4.5,baz=246,slow=32
CTAO Charters Tower 81.61 111 P **P 21 39 23.3 +0.1**
CTAO pmax pmax
comp=Z,16nm,1.2s,mb4.8
CTAO Charters Tower 81.61 111 P **P 21 39 23.3 +0.1**
comp=Z,16nm,1.2s,mb4.8
SEY Seymchan 86.07 27⇑*i*P **P 21 39 44.9 -0.2**
ARMA Armidale 87.39 120 *e*P **P 21 39 53.2 +0.9**
PETK Petropavlovsk- 88.96 37 LR LR 22 22 07.2
comp=Z,356nm,19.3s,MS4.8,baz=262,slow=37
VNDA Vanda 93.69 167 LR LR 22 16 36.0
comp=Z,208nm,19.7s,MS4.6,baz=266,slow=32
HKL Haleakala 132.50 59 *e*PP PP 21 48 45.8 +2.4
PDAR Pinedale Array 134.76 356 PKP PKPdf 21 46 23.2 -0.6
comp=Z,1.4nm,0.9s,baz=91,slow=3.6,SNR=6.3
NVAR Mina Array Bea 139.05 5 PKP PKPdf 21 46 31.5 -0.4
comp=Z,0.6nm,0.8s,baz=219,slow=1.2,SNR=2.3
BNM Barren Site 142.89 350 *e*PKPdf PKPdf 21 46 36.9 -1.9
OTAV Otavalo 144.47 274 PKPdf PKPdf 21 46 42.4 +0.2
JCT Junction City 144.54 339 *e*PKIKP PKPdf 21 46 41.2 -0.7
MNTX Cornudas Mount 145.03 347 *e*PKP PKPdf 21 46 42.8 +0.1
TUC Tucson 145.24 355 *e*PKIKP PKPdf 21 46 43.5 +0.5
TXAR Lajitas Array 146.85 344 PKPbc PKPbc 21 46 49.0 +1.4
comp=Z,12nm,0.9s,baz=58,slow=2.5,SNR=68

*IDC **07** 21:28:22.5±2.4, 469S×15252E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, MS2.7/1, Ms1 2.7/1, ms1mx2.5/30, Error ellipse: s-maj=92.1km s-min=27.6km az=118.0*
*ISCJB **07** 21:28:25.8±1.8, 47S±0.1×1525E±0.3, h33km, mb3.9/6, Error ellipse: s-maj=39.8km s-min=17.2km az=6.4*
*NEIC **07** 21:28:27.5±0.8, 475S×15254E, h35km, mb4.1/4, Error ellipse: s-maj=22.6km s-min=10.6km az=107.0*
ISC 07 21:28:27.8±1.7,**48S**±01×**1525E**±03,**h35**km,**n17**,σ0§**52**/14,
mb3.9/6,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.71**	**123**	LR	LR	21 33 15.4	
	comp=Z,52nm,19.8s,baz=358,slow=34						
CTAO	**Charters Tower**	**16.42**	**201**	Pn	**Pn**	**21 32 14.5**	**-1.0**
	1.2nm,0.3s						
KAKA	**Kakadu**	**21.35**	**247**	P	**P**	**21 33 12.3**	**+0.1**
WRAB	**Tennant Creek**	**23.25**	**228**	*e*P	**P**	**21 33 32.8**	**+0.4**
	2.8nm,0.6s,mb3.9						
WB2	**Warramunga Arr**	**23.26**	**228**	*e*P	**P**	**21 33 32.7**	**+0.3**
WB2				*e*PcP	PcP	21 37 20.8	+1.4
WRA	**Warramunga Arr**	**23.27**	**228**	P	**P**	**21 33 32.5**	**+0.1**
	2.0nm,0.6s,mb3.7,baz=52,slow=9.8,SNR=37						
ASAR	**Alice Springs**	**26.00**	**222**	P	**P**	**21 33 58.4**	**+0.9**
	0.5nm,0.5s,mb3.3,baz=61,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**26.00**	**222**	P	**P**	**21 33 58.4**	**+0.9**
STKA	**Stephens Creek**	**28.86**	**200**	P	**P**	**21 34 23.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**29.44**	**241**	P	**P**	**21 34 27.9**	**-0.5**
	1.9nm,0.4s,mb4.2,baz=63,slow=8.3,SNR=20						
FITZ	**Fitzroy Crossi**	**29.44**	**241**	*e*P	**P**	**21 34 28.1**	**-0.3**
	3.6nm,0.3s,mb4.6						
MBWA	**Marble Bar**	**35.75**	**240**	*e*P	**P**	**21 35 23.5**	**-0.1**
	2.2nm,0.5s,mb4.3						
KSM	**Kuching**	**42.62**	**277**	P	**P**	**21 36 20.4**	**-0.7**
ZALV	**Zalesovo Beam**	**80.96**	**326**	P	**P**	**21 40 39.0**	**+0.5**
	0.6nm,0.6s,mb3.7,baz=107,slow=7.7,SNR=3.2						
KURK	**Kurchatov**	**83.56**	**322**	P	**P**	**21 40 51.9**	**-0.3**
GERES	**GERESS Array B**	**123.87**	**328**	PKP	PKPdf	21 47 22.2	0.0
	0.3nm,0.5s,baz=48,slow=2.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**150.03**	**288**	PKPbc	PKPbc	21 48 15.2	-0.5
	1.1nm,0.5s,baz=85,slow=2.3,SNR=43						

*TIR **07** 21:34:08.2±6.3, 3980N×2124E, h0km±999km*
*CSEM **07** 21:34:21.6±0.3, 3927N×2021E, h2km, ML3.2, Error ellipse: s-maj=6.1km s-min=4.0km az=76.0*
*ISCJB **07** 21:34:21.1±0.6, 3926N±002×2023E±004, h4km±4km, Error ellipse: s-maj=5.1km s-min=3.5km az=159.2*
*ATH **07** 21:34:21.5, 3920N×2028E, h7km, MD3.4/6*
*THE **07** 21:34:22.0, 3926N×2027E, h1km, ML3.2*
*NEIC **07** 21:34:22.0, 3926N×2027E, h1km, MD3.4(ATH), ML3.2(THE), After THE.*
ISC 07 21:34:21.6±0.6,**3927N**±002×**2022E**±004,**h6**km±4km,**n32**,
σ1§**00**/54,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**18**	*e*Pg	**Pg**	**21 34 26.4**	**-0.7**
IGT				*e*Sg	**Sg**	21 34 30.6	-0.1
IGT	**Igoumenitsa**	**0.28**	**18**	*i* PG	**Pg**	**21 34 26.4**	**-0.6**
KEK	**Kerkira**	**0.55**	**324**	*e*PB	**Pg**	**21 34 32.8**	**+0.6**
KEK				*e*SB	**Sg**	21 34 43.1	+3.7
JAN	**Janina**	**0.62**	**51**	*e*PB	**Pb**	**21 34 32.6**	**-2.3**
JAN				*e*SB	**Sg**	21 34 41.6	-0.1
SRN	**Sarande**	**0.64**	**344**	*e*PG	**Pg**	**21 34 33.3**	**-0.5**
SRN				*i* SG	**Sg**	**21 34 46.3**	**+4.2**
LKD	**Levkas**	**0.65**	**149**	*e*Pg	**Pg**	**21 34 33.2**	**-0.9**
LKD				*e*Sg	**Sg**	**21 34 43.1**	**+0.6**
VLS	**Valsamata**	**1.12**	**165**	*e*Pg	**Pg**	**21 34 41.4**	**-1.8**
VLS				*e*Sg	**Sg**	**21 34 59.2**	**+1.5**
VLS	**Valsamata**	**1.12**	**165**	*e*PB	**Pb**	**21 34 41.5**	**-1.9**
VLS	**Valsamata**	**1.12**	**165**	*e*Pg	**Pg**	**21 34 41.4**	**-1.7**
VLS				*e*Sg	**Sg**	**21 34 59.2**	**+1.5**
EVR	**Evrytania**	**1.28**	**105**	*e*PB	**Pb**	**21 34 45.0**	**-1.1**
EVR	**Evrytania**	**1.28**	**105**	*e*Pb	**Pb**	**21 34 45.8**	**-0.3**
THL	**Klokotos Trika**	**1.42**	**77**	*e*Pg	**Pg**	**21 34 47.7**	**-1.1**
THL				*e*Sg	**Sg**	**21 35 08.1**	**+0.9**
THL	**Klokotos Trika**	**1.42**	**77**	*e*PB	**Pb**	**21 34 48.2**	**-0.3**
THL				*e*SB	**Sb**	**21 35 07.7**	**+0.9**
RLS	**Riolos of Patr**	**1.55**	**141**	*e*PB	**Pb**	**21 34 50.2**	**-0.5**
KZN	**Kozani**	**1.58**	**48**	*e*PB	**Pb**	**21 34 52.0**	**+0.7**
AGG	**Agios Georgios**	**1.66**	**98**	*e*Pb	**Pn**	**21 34 51.8**	**+0.6**
AGG				*e*Sb	**Sb**	**21 35 14.0**	**+0.3**
AGG	**Agios Georgios**	**1.66**	**98**	P	**Pn**	**21 34 51.8**	**+0.6**
AGG				S	**Sb**	**21 35 14.0**	**+0.3**
AGG				S	**Sg**	**21 35 16.8**	**+2.0**
FNA	**Florina**	**1.75**	**30**	*e*Pb	**Pb**	**21 34 54.0**	**-0.2**
FNA				*e*Sb	**Sb**	**21 35 16.8**	**+0.3**
LIT	**Litokhoron**	**1.94**	**64**	*e*Pb	**Pb**	**21 34 56.5**	**-0.8**
LIT				*e*Sb	**Sb**	**21 35 21.2**	**-0.6**
BIA	**Bitola**	**1.94**	**25**	*e*Pb	**Pb**	**21 34 56.8**	**-0.6**
BIA				*e*Sb	**Sb**	**21 35 21.6**	**-0.3**
BIA	**Bitola**	**1.94**	**25**	*e*Pn	**Pn**	**21 34 57.5**	**+2.4**
BIA				*e*Sn	**Sn**	**21 35 18.6**	**-1.4**
BIA	**Bitola**	**1.94**	**25**	*e*Pn	**Pn**	**21 34 57.5**	**+2.3**
BIA				*e*Sn	**Sn**	**21 35 18.5**	**-1.4**
BIA				S	**Sn**	**21 35 21.6**	**+1.7**
TIR	**Tirane**	**2.10**	**353**	*e*Pn	**Pn**	**21 34 57.7**	**+0.5**
TIR	**Tirane**	**2.10**	**353**	*i* PG	**Pn**	**21 34 57.7**	**+0.4**
KRUS	**Krusevo**	**2.24**	**20**	*e*Pn	**Pn**	**21 35 00.7**	**+1.4**
KRUS				*e*Sn	**Sn**	**21 35 26.7**	**-0.6**
KRUS	**Krusevo**	**2.24**	**20**	*e*Pn	**Pn**	**21 35 00.6**	**+1.3**
KRUS				*e*Sn	**Sn**	**21 35 26.7**	**-0.6**
NEO	**Neokhori**	**2.33**	**88**	*e*PN	**Pn**	**21 35 01.9**	**+1.4**
PLG	**Polygyros**	**2.72**	**65**	*e*Pn	**Pn**	**21 35 05.3**	**-0.5**
PLG				*e*Sn	**Sn**	**21 35 37.8**	**-1.2**
PAIG	**Paliouri**	**2.75**	**75**	*e*Pn	**Pn**	**21 35 05.8**	**-0.4**
KNT	**Kendrikon**	**2.79**	**46**	*e*Pn	**Pn**	**21 35 07.3**	**+0.5**
DID	**Didima**	**2.95**	**126**	*e*Pn	**Pn**	**21 35 09.0**	**0.0**
DID				*e*Sn	**Sn**	**21 35 45.1**	**+0.4**
SG1	**Sgolgore (BA)**	**3.14**	**301**	*e*Pn	**Pn**	**21 35 12.3**	**+0.7**

IDC 07 21:45:45.8±5.0,**1778S**×**17691W**,**h0**km,**mb3.9**/3,
mb1 4.2/3,**mb1mx3.8**/15,**mbtmp3.9**/3,**Error ellipse:**
s-maj=388.8km s-min=35.4km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.06**	**259**	P	P	21 54 11.2	-0.5
	0.5nm,0.5s,baz=95,slow=6.9,SNR=5.0						
ASAR	**Alice Springs**	**46.20**	**254**	P	P	21 54 13.1	+0.3
	2.9nm,0.5s,baz=89,slow=8.6,SNR=49						
PDAR	**Pinedale Array**	**86.28**	**43**	P	P	21 58 29.9	+0.4
	0.4nm,0.6s,baz=198,slow=5.6,SNR=4.1						

IDC 07 21:47:55.1±1.7,**2051S**×**11426W**,**h0**km,**mb3.6**/2,
mb1 3.9/2,**mb1mx3.6**/15,**mbtmp3.6**/2,**MS3.5**/2,**Ms1 3.5**/2,
ms1mx3.0/19,**Error ellipse: s-maj=62.8km**
s-min=39.9km az=22.0,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**43.86**	**92**	P	P	21 56 04.2	+0.6
	0.8nm,0.7s,baz=264,slow=10,SNR=3.5						
LPIG	**La Paz**	**44.51**	**5**	LR	LR	22 10 07.2	
	comp=Z,67nm,21.9s,baz=237,slow=30						
TEIG	**Tepich**	**47.81**	**34**	LR	LR	22 12 08.1	
	comp=Z,42nm,18.0s,baz=189,slow=30						
PDAR	**Pinedale Array**	**63.11**	**4**	P	P	21 58 24.8	+0.4
	0.3nm,0.6s,baz=166,slow=8.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**148.66**	**272**	PKPbc	PKPbc	22 07 44.6	-0.4
	0.6nm,0.3s,baz=47,slow=1.7,SNR=4.9						
MKAR	**Makanchi Array**	**150.51**	**337**	PKPbc	PKPbc	22 07 48.2	-0.5
	0.7nm,0.4s,baz=248,slow=0.8,SNR=5.8						

*ISCJB **07** 22:08:15.9±0.7, 459N±005×7631W±006, h117km±8km, mb3.4/3, Error ellipse: s-maj=10.0km s-min=8.0km az=0.1*
*NEIC **07** 22:08:18.6, 463N×7631W, h120km, mb3.3/1, After RSNC.*
NEIC Felt at El Cairo.
*IDC **07** 22:08:19.5±2.8, 456N×7598W, h145km±20km, mb3.3/2, mb1 3.5/2, mb1mx3.0/18, mbtmp3.3/2, Error ellipse: s-maj=57.3km s-min=30.7km az=146.0*
ISC 07 22:08:17.2±0.6,**459N**±005×**7630W**±006,**h112**km±8km,**n16**,
σ0§**98**/17,**mb3.4**/3,**Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.98**	**82**	P	**Pn**	**22 08 52.8**	**+2.8**
	88nm,0.3s,baz=49,slow=2.8,SNR=160						
ROSC				S	**Sn**	**22 09 14.8**	**-0.4**
	36nm,0.3s,baz=278,slow=22,SNR=7.4						
OTAV	**Otavalo**	**4.83**	**206**	*e*Pn	**Pn**	**22 09 27.6**	**-0.2**
OTAV				*e*Sn	**Sn**	**22 10 22.5**	**-0.2**
BCIP	**Isla Barro Col**	**5.74**	**322**	*e*Pn	**Pn**	**22 09 39.6**	**-0.6**
	57nm,0.6s						
BCIP				*e*Sn	**Sn**	**22 10 45.0**	**+0.2**
SDV	**Santo Domingo**	**7.06**	**53**	*e*Pn	**Pn**	**22 09 57.4**	**-0.7**
	7.7nm,0.3s						
SDV				*e*S	**Sn**	**22 11 10.0**	**-6.8**
SDDR	**Presa de Saban**	**15.12**	**18**	Pn	**Pn**	**22 11 45.1**	**+0.2**
LPAZ	**La Paz**	**22.26**	**159**	P	**P**	**22 13 05.1**	**-0.2**
	0.5nm,0.4s,mb3.2						
LVC	**Limon Verde**	**27.99**	**165**	P	**P**	**22 13 59.0**	**+1.4**
LCO	**Las Campanas**	**33.84**	**171**	P	**P**	**22 14 49.9**	**+0.9**
TXAR	**Lajitas Array**	**35.73**	**317**	PcP	PcP	22 17 31.2	+0.2
	0.3nm,0.6s,baz=140,slow=5.9,SNR=4.4						
BRNJ	**Basking Ridge**	**35.96**	**2**	P	**P**	**22 15 07.8**	**+0.7**
SDCO	**Great Sand Dun**	**42.42**	**325**	P	**P**	**22 16 01.0**	**+0.2**
PLCA	**Paso Flores**	**45.41**	**174**	P	**P**	**22 16 23.4**	**-1.3**
	0.8nm,0.6s,mb3.6,baz=21,slow=8.6,SNR=3.0						
EFI	**East Falkland**	**58.18**	**167**	P	**P**	**22 17 59.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**77.29**	**78**	P	**P**	**22 19 57.3**	**-2.8**
	0.4nm,0.4s,mb3.5,baz=283,slow=6.3,SNR=20						
ASAR	**Alice Springs**	**145.25**	**234**	PKPbc	PKPbc	22 27 40.5	-2.0
	1.2nm,0.5s,baz=117,slow=4.3,SNR=14						
WRA	**Warramunga Arr**	**146.49**	**240**	PKPbc	PKPbc	22 27 44.1	-2.2
	0.7nm,0.7s,baz=114,slow=3.1,SNR=16						

*ISCJB **07** 22:23:26.9±0.2, 3756N±002×1972E±002, h10km, mb4.0/17, MS3.3/9, Error ellipse: s-maj=2.6km s-min=2.0km az=23.2*
*IDC **07** 22:23:26.8±0.8, 3751N×1985E, h0km, mb4.0/12, mb1 4.1/23, mb1mx4.0/38, mbtmp4.0/23, ML4.0/10, MS3.3/10, Ms1 3.3/10, ms1mx3.0/36, Error ellipse: s-maj=14.3km s-min=12.5km az=158.0*
*MOS **07** 22:23:28.8±1.2, 3755N×1972E, h25km, mb4.2/7, Error ellipse: s-maj=5.4km s-min=2.8km az=88.6*
*PDG **07** 22:23:28.8±0.6, 3753N×1959E, h24km±2km, ML4.3/10, Error ellipse: s-maj=3.1km s-min=3.5km az=0.0*
*NEIC **07** 22:23:29.2, 3748N×1983E, h29km, mb4.2/8, ML4.2(ATH), After ATH.*
*ATH **07** 22:23:30.4, 3749N×1996E, h28km±1km, MD4.3/20, ML4.2*
*THE **07** 22:23:30.6, 3744N×1978E, h32km, ML4.8*
*CSEM **07** 22:23:31.0±0.1, 3750N×1981E, h53km, mb4.2/3, Error ellipse: s-maj=1.7km s-min=1.1km az=28.0*
*PRU **07** 22:23:31.4, 38.13N×2009E, h0km, M4.2*
*SZGRF **07** 22:23:32.1, 3799N×2066E, h10km, Ionian Sea*
*GII **07** 22:23:40.7±0.0, 3685N×2127E, h0km, mb4.7/13, ML4.6/13*
*HLW **07** 22:23:43.8, 3692N×2145E, h33km, Mb4.2*
ISC 07 22:23:30.9±0.7,**3751N**±002×**1977E**±002,**h29**km±6km,
n334,σ1§**10**/440,**mb4.0**/17,**MS3.3**/9,**27C-31D**,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.93**	**44**	*e*Pg	**Pn**	**22 23 47.3**	**-0.7**
VLS				*e*Sg	**Sn**	**22 24 00.3**	**0.0**
VLS	**Valsamata**	**0.93**	**44**	*e*PN	**Pn**	**22 23 47.3**	**-0.7**
VLS				*e*SN	**Sn**	**22 23 59.5**	**-0.8**
VLS	**Valsamata**	**0.93**	**44**	*e*Pg	**Pn**	**22 23 47.3**	**-0.7**
VLS				*e*Sg	**Sn**	**22 24 00.3**	**0.0**
KFL	**Anninata**	**1.00**	**53**	*e*Pg	**Pn**	**22 23 48.7**	**-0.3**
LKD	**Levkas**	**1.38**	**30**	*e*Pg	**Pn**	**22 23 54.8**	**+0.6**
LKD				*e*Sg

LTK eSn Sn 22 24 42.6 +1.5
VLI Veliai 2.65 106 ePN Pn 22 24 12.0 +0.3
VLI Veliai 2.65 106 ePb Pb 22 24 13.0 -4.7
THL Klokotos Trika 2.70 40 ePn Pn 22 24 13.9 +1.6
THL eSn Sn 22 24 45.7 +1.7
DID Didima 2.75 89 ePn Pn 22 24 12.6 -0.5
DID eSn Sn 22 24 44.7 -0.7
LKR Lokris 2.79 65 ePn Pn 22 24 13.9 +0.3
LKR eSn Sn 22 24 46.8 +0.5
KYTH Kithira 2.89 114 ePN Pn 22 24 15.5 +0.5
TIP Timpagrande 2.90 306 P Pn 22 24 15.1 +0.1
NAIG Nisos Aigina 2.96 84 ePN Pn 22 24 15.5 -0.4
ATH Athens Observa 3.16 80 ePN Pn 22 24 18.4 -0.3
KZN Kozani 3.20 29 ePN Pn 22 24 20.9 +1.7
KZN eSN Sn 22 24 57.8 +1.5
NEO Neokhori 3.25 55 ePN Pn 22 24 20.0 +0.1
NEO Neokhori 3.25 55 ePn Pn 22 24 19.7 -0.2
XOR Xorichti 3.26 54 ePn Pn 22 24 20.0 0.0
PTL Penteli 3.29 79 ePN Pn 22 24 20.0 -0.4
LIT Litokhoron 3.34 39 ePn Pn 22 24 22.0 +0.8
LIT eSn Sn 22 25 00.3 +0.4
FNA Florina 3.50 20 ePn Pn 22 24 24.6 +1.3
FNA eSn Sn 22 25 04.6 +0.9
AOS Alonnisos 3.63 62 ePn Pn 22 24 24.5 -0.6
OHR Ohrid 3.68 12 ePn Pn 22 24 27.1 +1.2
OHR Ohrid 3.68 12 ePn Pn 22 24 27.2 +1.4
OHR eSn Sn 22 25 09.2 +0.9
OHR Ohrid 3.68 12 ePn Pn 22 24 27.1 +1.3
OHR eSn Sn 22 25 09.1 +0.9
BIA Bitola 3.70 18 ePn Pn 22 24 26.8 +0.6
BIA eSn Sn 22 25 09.8 +1.0
BIA Bitola 3.70 18 ePn Pn 22 24 26.7 +0.6
BIA eSn Sn 22 25 07.8 -1.0
PE1 Pezze di Greco 3.76 332 ePn Pn 22 24 26.7 -0.2
TIR Tirane 3.83 1 ePn Pn 22 24 28.2 +0.3
TIR Tirane 3.83 1 ePN Pn 22 24 28.3 +0.4
TIR Tirane 3.83 1 P Pn 22 24 28.8 +0.9
PAIG Paliouri 3.89 51 ePn Pn 22 24 28.3 -0.4
KARN Karanos 3.95 121 ePn Pn 22 24 29.3 -0.2
KARN eSn Sn 22 25 11.9 -3.0
CUC Castrocucco 3.96 310 P Pn 22 24 32.8 +3.1
THE Thessaloniki 3.98 38 ePn Pn 22 24 30.7 +0.7
GRG Griva 4.00 30 ePn Pn 22 24 30.6 +0.3
KRUS Krusevo 4.02 16 ePn Pn 22 24 31.8 +1.3
KRUS eSn Sn 22 25 15.4 -1.1
KRUS Krusevo 4.02 16 ePn Pn 22 24 31.7 +1.2
KRUS eSn Sn 22 25 15.4 -1.1
HORT Hortiatis 4.03 39 ePn Pn 22 24 31.0 +0.4
PLG Polygyros 4.05 44 ePn Pn 22 24 31.1 +0.2
PLG eSn Sn 22 25 16.4 -0.8
PLG Polygyros 4.05 44 ePN Pn 22 24 31.2 +0.4
PLG eSN Sn 22 25 15.9 -1.3
PLG Polygyros 4.05 44 ePn Pn 22 24 31.1 +0.3
PLG eSn Sn 22 25 15.9 -1.3
SG1 Sgolgore (BA) 4.10 325 ePn Pn 22 24 31.1 -0.5
VAM Vamos 4.14 119 ePN Pn 22 24 32.0 -0.2
VAM Vamos 4.14 119 ePn Pn 22 24 30.9 -1.3
VAM P 22 24 41.2
PHP Peshkopia 4.20 7 ePN Pn 22 24 33.8 +0.8
BAI Bari 4.23 329 ePn Pn 22 24 34.0 +0.6
VAE Valguarnera 4.26 271 Pn Pn 22 24 34.6 +0.8
3.8nm,0.3s,baz=330,slow=0.4,SNR=23
VAE Sn Sn 22 25 21.8 -0.8
17nm,0.3s,baz=104,slow=10,SNR=4.9
VAE LR LR 22 26 17.1
comp=Z,382nm,18.2s,baz=314,slow=39
VAE Valguarnera 4.26 271 Pn Pn 22 24 34.6 +0.8
VAE Sn Sn 22 25 21.8 -0.8
SOH Sokhos 4.32 39 ePn Pn 22 24 35.6 +1.0
SOH eSn Sn 22 25 23.5 -0.5
OUR Ouranopolis 4.33 48 ePn Pn 22 24 35.1 +0.5
KNT Kendrikon 4.38 33 ePn Pn 22 24 35.8 +0.4
VAY Valandovo 4.38 29 ePn Pn 22 24 35.5 +0.1
VAY eSn Sn 22 25 17.2 -8.2
VAY Valandovo 4.38 29 ePn Pn 22 24 35.2 -0.2
VAY eSn Sn 22 25 17.2 -8.2
ULC Ulcinj 4.46 355 ⇑iPn Pn 22 24 35.9 -0.7
ULC eSn Sn 22 25 26.0 -1.5
ULC Ulcinj 4.46 355 *i* PN Pn 22 24 35.9 -0.7
ULC *i* SN Sn 22 25 26.0 -1.5
PUK Puka 4.53 1 ePN Pn 22 24 37.6 +0.2
STIP Stip 4.57 23 ePn Pn 22 24 38.8 +0.7
STIP Stip 4.57 23 ePn Pn 22 24 38.9 +0.8
STIP eSn Sn 22 25 29.4 -0.9
STIP Stip 4.57 23 ePn Pn 22 24 38.8 +0.7
STIP eSn Sn 22 25 29.3 -0.9
APE Apeiranthos 4.61 94 ePn Pn 22 24 37.5 -1.1
APE Apeiranthos 4.61 94 ePN Pn 22 24 39.0 +0.4
APE Apeiranthos 4.61 94 ⇑iP Pn 22 24 37.7 -0.9
APE Apeiranthos 4.61 94 ePn Pn 22 24 38.0 -0.6
SKO Skopje 4.64 16 ePn Pn 22 24 39.7 +0.8
SKO Skopje 4.64 16 ePn Pn 22 24 39.7 +0.7
SKO eSn Sn 22 25 31.0 -0.7
THR3 Thira Island, 4.64 102 ePn Pn 22 24 37.5 -1.6
THR6 Thira Island, 4.65 103 ePn Pn 22 24 38.5 -0.7
IDI Anoyia 4.69 117 Pn Pn 22 24 39.8 +0.2
5.6nm,0.3s,baz=303,slow=14,SNR=22
IDI Sn Sn 22 25 31.3 -1.8
21nm,0.3s,baz=152,slow=23,SNR=8.3
LOS Limnos 4.80 58 ePn Pn 22 24 41.3 +0.1
BUM Brajici-Budva 4.83 352 ⇑iPn Pn 22 24 40.6 -1.0
BUM eSn Sn 22 25 34.7 -1.8
BUM Brajici-Budva 4.83 352 *i* PN Pn 22 24 40.6 -1.0
BUM *i* SN Sn 22 25 34.7 -1.8
BCI Bajram Curri 4.85 3 ePN Pn 22 24 42.5 +0.6
LIA Limnos Island 4.86 59 ePn Pn 22 24 41.6 -0.3
LIA Limnos Island 4.86 59 ePN Pn 22 24 42.6 +0.6
LIA Limnos Island 4.86 59 ePn Pn 22 24 41.8 -0.2
PDG Podgorica 4.93 356 *i* PN Pn 22 24 42.0 -1.0
PDG *i* SN Sn 22 25 37.5 -1.4
PDG Podgorica 4.93 356 ⇑iPn Pn 22 24 42.0 -1.0
PDG eSn Sn 22 25 37.5 -1.4
TTG Podgorica 4.93 356 ⇑iPn Pn 22 24 42.0 -1.0
TTG eSn Sn 22 25 37.5 -1.4
NVR Nevrokopi 4.97 38 ePN Pn 22 24 44.4 +0.8
NVR Nevrokopi 4.97 38 ePn Pn 22 24 44.2 +0.6
HCY Herceg Novi 5.03 349 ⇑iPn Pn 22 24 43.3 -1.0
HCY eSn Sn 22 25 38.9 -2.5
HCY Herceg Novi 5.03 349 *i* PN Pn 22 24 43.3 -1.0
HCY *i* SN Sn 22 25 38.9 -2.5
CHOS Chios island 5.04 78 ePn Pn 22 24 44.0 -0.6
PVY Plav 5.08 2 ⇑iPn Pn 22 24 45.2 +0.2
PVY eSn Sn 22 25 41.6 -1.1
PVY Plav 5.08 2 *i* PN Pn 22 24 45.2 +0.2
PVY *i* SN Sn 22 25 41.6 -1.1
MS1 Monte Sant'Ang 5.13 326 ePn Pn 22 24 41.9 -3.8
LAST Lasithi 5.17 115 ePn Pn 22 24 46.2 -0.1
NPS Neapolis 5.22 114 ePN Pn 22 24 47.0 0.0
NPS Neapolis 5.22 114 ePn Pn 22 24 48.6 +1.6
TREB Trebinje 5.31 349 ePn Pn 22 24 47.5 -0.7
TREB eSn Sn 22 25 42.4 -6.0
NKY Niksic 5.33 354 ⇑iPn Pn 22 24 47.7 -0.8
NKY eSn Sn 22 25 46.7 -2.1
NKY Niksic 5.33 354 *i* PN Pn 22 24 47.7 -0.8
NKY *i* SN Sn 22 25 46.7 -2.1
BEY Berane 5.35 1 *i* PN Pn 22 24 48.9 +0.1
BEY *i* SN Sn 22 25 48.7 -0.8
BEY Berane 5.35 1 ⇑iPn Pn 22 24 48.9 +0.1
BEY eSn Sn 22 25 48.7 -0.8
IVA Berane 5.35 1 ⇑iPn Pn 22 24 48.9 +0.1
IVA eSn Sn 22 25 48.7 -0.8
BRY Bratogost 5.46 350 ⇓iPn Pn 22 24 49.2 -1.1
BRY eSn Sn 22 25 50.3 -1.9
BRY Bratogost 5.46 350 *i* PN Pn 22 24 49.2 -1.1
BRY *i* SN Sn 22 25 50.3 -1.9
STON Ston 5.58 344 ePn Pn 22 24 50.6 -1.4
STON Sn Sn 22 25 50.5 -4.6
UPM Unac-Piva 5.72 354 ⇓iPn Pn 22 24 53.5 -0.4
UPM eSn Sn 22 25 57.1 -1.4
SJES Sjenica 5.75 1 ePn Pn 22 24 54.5 +0.3
RDO Rodhopi 5.76 49 ePN Pn 22 24 55.8 +1.5
PLE Pljevlja 5.82 357 ⇑iPn Pn 22 24 54.7 -0.5
PLE eSn Sn 22 25 59.7 -1.2
ALN Alexandroupoli 5.93 53 ePn Pn 22 24 58.0 +1.2
KARP Karpathos 6.26 106 ePN Pn 22 25 01.9 +0.6
DIVS Divibare 6.58 1 ePn Pn 22 25 04.5 -1.2
DIVS Divibare 6.58 1 ePn Pn 22 25 05.0 -0.7
ARG Arkhangelos 6.82 98 ePN Pn 22 25 10.5 +1.5
ARG Arkhangelos 6.82 98 ePn Pn 22 25 11.2 +2.2
AQU L'Aquila 6.88 317 ⇑iP Pn 22 25 13.5 +3.7
AQU L'Aquila 6.88 317 ePn Pn 22 25 14.7 +4.9
BLY Banja Luka 7.49 346 ePn Pn 22 25 17.8 -0.3
SLUM 7.50 142 ⇓P Pn 22 25 14.8 -3.5
SLUM S Sn 22 26 20.2 -22
NVLJ Novalja 7.96 334 ePn Pn 22 25 24.1 -0.4
NVLJ Sn Sn 22 26 47.6 -5.9
BZS Buzias 8.21 9 ⇓iP Pn 22 25 27.1 -1.0
BZS S Sn 22 26 54.4 -5.4
BZS Buzias 8.21 9 ⇓iP Pn 22 25 27.1 -1.0
BZS Buzias 8.21 9 S Sn 22 26 54.4 -5.4
BZS Buzias 8.21 9 P Pn 22 25 27.7 -0.4
BZS Buzias 8.21 9 P Pn 22 25 27.7 -0.3
KEST Kesra 8.57 261 Pn Pn 22 25 33.6 +0.6
0.4nm,0.3s,baz=8.6,slow=2.7,SNR=15
BOJS Bojanci 8.67 338 ePn Pn 22 25 34.1 -0.2
BOJS eSg Sn 22 27 04.7 -6.5
BOJS
comp=Z,65nm,0.6s
BOJS Bojanci 8.67 338 ePn Pn 22 25 34.1 -0.2
BOJS eSg Sn 22 27 04.7 -6.5
HMAT Matruh 8.81 134 ⇓iP Pn 22 25 31.7 -4.6
VOIR 8.85 25 ⇓iP Pn 22 25 37.9 +1.1
VOIR 8.85 25 P Pn 22 25 38.1 +1.3
VOIR 8.85 25 P Pn 22 25 38.1 +1.3
VISS Visnje 9.07 338 *i* Pn Pn 22 25 40.2 +0.5
VISS eSn Sn 22 27 13.0 -7.8
MLR Muntele Rosu 9.22 28 Pn Pn 22 25 44.0 +2.2
comp=Z,2.4nm,0.3s,baz=237,slow=5.5,SNR=28
MLR Muntele Rosu 9.22 28 P Pn 22 25 44.0 +2.2
MLR pmax pmax
comp=Z,2.0nm,0.3s
MLR Muntele Rosu 9.22 28 ⇓iP Pn 22 25 44.1 +2.3
MLR Muntele Rosu 9.22 28 ⇓iP Pn 22 25 44.1 +2.4
LJU Ljubljana 9.38 337 *i* Pn Pn 22 25 44.1 +0.1
LJU *i* Sn Sn 22 27 20.4 -8.0
JAVS Javornik 9.40 335 *i* Pn Pn 22 25 43.9 -0.4
JAVS *i* Sn Sn 22 27 20.6 -8.3
DRGR 9.53 12 ⇓iP Pn 22 25 45.5 -0.5
DRGR 9.53 12 S Sn 22 27 24.7 -7.3
DRGR 9.53 12 ⇓P Pn 22 25 45.5 -0.5
DRGR S Sn 22 27 24.7 -7.3
VOY Vojsko 9.57 335 ePn Pn 22 25 46.7 0.0
VOY e 22 25 55.8
PERS Pernice 9.75 341 *i* Pn Pn 22 25 48.2 -0.8
PERS *i* Sn Sn 22 27 31.0 -6.5
PLOR Plostina 9.79 29 ⇓iP Pn 22 25 51.8 +2.2
OBKA Obir 9.79 338 ⇑iPn Pn 22 25 49.6 0.0
SNR=7.3
OBKA ⇑*i*Sn Sn 22 27 34.6 -3.9
SOKA Soboth 9.81 340 ⇑iPn Pn 22 25 48.9 -1.0
SOKA ⇓*i*Sn Sn 22 27 31.0 -8.0
VRI Vrincioaia 9.83 30 ⇓iP Pn 22 25 52.7 +2.5
VRI Vrincioaia 9.83 30 P Pn 22 25 52.7 +2.5
ARSA Arzberg 10.22 343 ⇑iPn Pn 22 25 54.7 -0.9
SNR=19
ARSA ⇓*i*Sn Sn 22 27 40.6 -8.6
PSZ Piszkesteto 10.40 0 eP Pn 22 25 58.0 0.0
PSZ eS Sn 22 27 45.5 -8.0
PSZ Piszkesteto 10.40 0 ePn Pn 22 25 57.7 -0.3
PSZ Piszkesteto 10.40 0 ePn Pn 22 25 57.7 -0.3
KBA Koelnbreinsper 10.67 336 ⇓iPn Pn 22 26 00.8 -0.9
KBA ⇑*i*Sn Sn 22 27 55.5 -4.7
ABTA Abfaltersbach 10.68 332 ⇑iPn Pn 22 26 01.8 -0.1
ABTA ⇑*i*Sn Sn 22 27 53.9 -6.5
CONA Conrad Observa 10.80 346 ⇑iPn Pn 22 26 02.8 -0.6
CONA ⇓*i*Sn Sn 22 27 56.9 -6.3
ZST Bratislava 10.86 350 ePN Pn 22 26 05.5 +1.3
ZST e 22 29 17.0
BURAR Bucovina Array 10.86 20 ⇓iP Pn 22 26 05.7 +1.4
BURAR Bucovina Array 10.86 20 ⇓P Pn 22 26 05.7 +1.4
KECS Kecovo 10.98 2 *i* PN Pn 22 26 06.0 +0.1
KECS eSN Sn 22 28 00.9 -6.7
VYHS Vyhne 11.00 357 *i* PN Pn 22 26 05.3 -0.9
VYHS eSN Sn 22 28 01.3 -6.8
MOA Molln 11.09 340 ⇑iPn Pn 22 26 07.0 -0.5
SNR=8.7
MOA ⇓*i*Sn Sn 22 28 04.9 -5.5
CSS Prodhromos 11.24 99 Pn Pn 22 26 11.8 +2.2
CSS eSn Sn 22 28 17.8 +3.6
CSS Prodhromos 11.24 99 Pn Pn 22 26 11.8 +2.2
CSS eSn Sn 22 28 17.8 +3.6
RJOB Jochberg 11.43 336 ePn Pn 22 26 13.1 +1.0
RJOB eSn Sn 22 28 11.2 -7.5
WTTA Wattenberg 11.44 331 ⇑iPn Pn 22 26 11.5 -0.8
WTTA ⇑*i*Sn Sn 22 28 13.0 -6.0
CRVS Cervenica-Dubn 11.45 6 *i* PN Pn 22 26 11.8 -0.6
CRVS Cervenica-Dubn 11.45 6 *i* P Pn 22 26 11.8 -0.6
KOLS Kolonicke sedl 11.56 8 *i* PN Pn 22 26 13.6 -0.2
KOLS e 22 36 15.9
MOTA Moosalm 11.72 330 ⇑iPn Pn 22 26 15.0 -1.1
DAVOX Davos/Dischmat 11.81 325 Pn Pn 22 26 18.2 +1.0
comp=Z,0.4nm,0.3s,baz=135,slow=17,SNR=5.2
DAVOX Sn Sn 22 28 22.5 -5.4
comp=Z,0.9nm,0.3s,baz=159,slow=24,SNR=7.0
DAVOX Davos/Dischmat 11.81 325 Pn Pn 22 26 18.2 +0.9
TUE Stuetta 11.84 322 ePn Pn 22 26 18.9 +1.3
TUE eSn Sn 22 28 29.7 +1.1
TUE Stuetta 11.84 322 ePn Pn 22 26 18.9 +1.3
comp=Z,6.0nm,0.8s
TUE eSn Sn 22 28 29.7 +1.1
DAVOS Davos 11.89 325 P Pn 22 26 18.3 -0.1
DAVOS 22 28 22.5
NIE Niedzica 11.91 2 eP Pn 22 26 19.3 +0.7
AWBH 11.95 137 ⇓P Pn 22 26 14.3 -4.9
VRAC Vranov 12.01 350 Pn Pn 22 26 19.8 -0.3
comp=Z,0.2nm,0.3s,baz=181,slow=8.9,SNR=6.2
GEC2 GERESS Array S 12.16 341 ePn Pn 22 26 21.2 -0.8
GEC2 eSn Sn 22 28 28.6 -7.9
GERES GERESS Array B 12.16 341 Pn Pn 22 26 21.1 -0.9
comp=Z,0.5nm,0.3s,baz=157,slow=14,SNR=16
GERES Sn Sn 22 28 28.3 -8.2
comp=Z,1.7nm,0.3s,baz=153,slow=24,SNR=16
GERES LR LR 22 31 29.8
comp=Z,55nm,18.6s,baz=59,slow=40
GERES GERESS Array B 12.16 341 P Pn 22 26 21.1 -0.9
GERES 22 28 28.3
MBDF Montbardon 12.16 310 eP Pn 22 26 21.8 -0.3
comp=Z,10.0nm,0.7s
MBDF Montbardon 12.16 310 eP Pn 22 26 21.8 -0.3
MBDF pmax pmax
comp=Z,5.0nm,0.7s
MBDF Montbardon 12.16 310 eP Pn 22 26 21.8 -0.3
comp=Z,5.0nm,0.7s
TREC Trest 12.18 347 AMS AMS 22 34 10.0
comp=Z,200nm,6.3s
DAVA Damuels 12.19 326 ⇓iPn Pn 22 26 23.0 +0.6
DAVA ⇑*i*Sn Sn 22 28 30.9 -6.3
DAVA Damuels 12.19 326 ⇓iPn Pn 22 26 23.0 +0.6
DAVA *i* Sn Sn 22 28 30.9 -6.3
KWP Kalwaria 12.30 9 Pn Pn 22 26 24.2 +0.3
KWP Sn Sn 22 28 36.5 -3.4
MORC Moravsky Berou 12.37 353 ePn Pn 22 26 23.4 -1.5
MORC eSn Sn 22 28 37.7 -3.8
OKC Ostrava-Krasne 12.38 355 AMS AMS 22 33 50.0
comp=Z,100nm,6.9s
BNI Bardonecchia 12.39 312 Pn Pn 22 26 27.5 +2.3
BNI Bardonecchia 12.39 312 Pn Pn 22 26 27.5 +2.3
KHC Kasperske Hory 12.45 341 eP Pn 22 26 24.4 -1.6
KHC ex x 22 26 47.5
KHC eS Sn 22 28 33.0 -11
KHC ex x 22 28 58.0
KHC AMS AMS 22 33 30.0
comp=Z,100nm,10.4s
KHC Kasperske Hory 12.45 341 ePn Pn 22 26 24.4 -1.6
KHC e 22 26 47.5
KHC eSn Sn 22 28 33.0 -11
KHC e 22 28 58.0
KOT Kottamia 12.56 124 ⇓P Pn 22 26 21.7 -5.9
LPG La Plagne 12.59 313 eP Pn 22 26 30.4 +2.4
HFRF Wahat Farafira 12.60 143 ⇓P Pn 22 26 24.8 -3.4
LPL La Plagne 12.62 313 eP Pn 22 26 30.7 +2.4
WET Wettzell 12.66 339 ePn Pn 22 26 28.6 -0.2
WET eSn Sn 22 28 37.2 -11
GLL Jalalah 12.71 125 ⇓P Pn 22 26 23.3 -6.4
HHAG Hagoal 12.72 123 ⇓P Pn 22 26 24.1 -5.8
HBNS Bani Suwayf 12.82 128 ⇓P Pn 22 26 26.1 -5.1
PRU Pruhonice 13.03 345 eP Pn 22 26 31.8 -2.1
PRU eS Sn 22 28 47.1 -11
PRU AMS AMS 22 33 10.0
comp=Z,100nm,13.5s
PRU Pruhonice 13.03 345 ePn Pn 22 26 31.8 -2.1
PRU eSn Sn 22 28 47.1 -11
RSH 13.26 115 P Pn 22 26 31.8 -5.3
SUZ 13.29 121 ⇓P Pn 22 26 32.1 -5.5
HNTI Hanita 13.33 105 Sn Sn 22 28 49.0 -16
ROTZ Rotzenmuhle 13.41 338 eSn Sn 22 28 53.8 -13
ZAF 13.45 124 ⇓P Pn 22 26 33.7 -6.1
MMA0 Mount Meron ar 13.54 105 Pn Pn 22 26 35.6 -5.3
MMA0 Sn Sn 22 28 54.7 -16
MMAI Mount Meron Ar 13.54 105 Pn Pn 22 26 35.3 -5.6
comp=Z,2.1nm,0.3s,baz=313,slow=12,SNR=14
MMAI Sn Sn 22 28 59.1 -11
comp=Z,3.9nm,0.3s,baz=290,slow=21,SNR=8.4
PVCC Panska Ves 13.54 346 AMS AMS 22 33 40.0
comp=Z,200nm,8.6s
HRSH Kfar Ka'horesh 13.57 106 ⇓P Pn 22 26 31.8 -10
SLTI Sal'it 13.59 108 Pn Pn 22 26 35.6 -6.1
SLTI Sn Sn 22 28 55.6 -16
CABF La Chapelle 13.62 316 eP Pn 22 26 44.6 +2.6
STU Stuttgart 13.63 329 Pn Pn 22 26 42.0 -0.1
STU Stuttgart 13.63 329 Pn Pn 22 26 42.0 -0.2
NKC Novy Kostel 13.76 340 eS Sn 22 29 04.2 -11
NKC AMS AMS 22 33 20.0
comp=Z,100nm,9.0s
KZIT Kziot 13.77 114 Pn Pn 22 26 38.7 -5.5
KZIT Sn Sn 22 28 59.0 -17
MMLI Mount Malkishu 13.79 107 Pn Pn 22 26 38.7 -5.7
RTMI Retamim 13.91 113 Pn Pn 22 26 40.5 -5.6
RTMI Sn Sn 22 29 01.7 -18
HMDT Nahal Hemdat 13.95 107 Pn Pn 22 26 41.1 -5.5
HMDT Sn Sn 22 29 04.2 -16
BRG Berggiesshubel 13.99 345 eP Pn 22 26 48.5 +1.5
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 13.99 345 eP Pn 22 26 48.5 +1.5
comp=Z,3.3nm,0.8s
BRG
comp=N,95nm,19.9s
BRG
comp=E,62nm,10.6s
BRG
comp=Z,137nm,14.6s
HNKL Nakhl 14.03 118 ⇑P Pn 22 26 42.0 -5.7
ECH Echery 14.12 323 ePn Pn 22 26 48.9 +0.1
ECH Echery 14.12 323 ePn Pn 22 26 48.9 0.0
DSI Dead Sea 14.16 110 Pn Pn 22 26 44.2 -5.3
DSI Sn Sn 22 29 09.0 -17
CDF Champ du Feu 14.21 324 eP Pn 22 26 50.5 +0.5
MZDA Masada 14.27 111 Pn Pn 22 26 44.7 -6.3
MZDA Sn Sn 22 29 11.8 -17
MOX Moxa 14.36 339 eP Pn 22 27 02.3 +10
comp=Z,16nm,1.2s
MOX Moxa 14.36 339 eSn Sn 22 29 17.2 -13
KRMI Paran Flat 14.44 116 Pn Pn 22 26 47.7 -5.6
KRMI Sn Sn 22 29 14.7 -18
HDK1 Dakhla 14.47 143 P Pn 22 26 50.7 -3.1
PRNI Paran 14.51 115 Pn Pn 22 26 49.1 -5.1
ZFRI Zfri 14.53 114 Pn Pn 22 26 49.8 -4.7
ZFRI Sn Sn 22 29 17.0 -18
MTLF Montolieu 14.57 299 eP Pn 22 26 51.9 -3.1
CLL Collm 14.61 343 e(P) Pn 22 26 57.0 +1.6
CLL ePP 22 27 02.0
CLL *i* sP sP 22 27 04.2 -8.7
HRFI Mount Harif 14.71 116 Pn Pn 22 26 51.8 -5.2
HRFI Sn Sn 22 29 21.7 -17
MALT Malatya 14.75 81 eP Pn 22 26 56.9 -0.6
MALT Malatya 14.75 81 ePn Pn 22 26 56.9 -0.6
MBRI Mt Berech 14.76 117 Pn Pn 22 26 52.6 -5.1
MBRI Sn Sn 22 29 23.1 -17
AKASG Malin Array Be 14.81 24 Pn Pn 22 26 56.8 -1.4
comp=Z,0.5nm,0.3s,baz=215,slow=12,SNR=7.0
AKASG Sn Sn 22 29 51.5 +10
baz=204,slow=22,SNR=13
TR2 14.82 124 ⇓P Pn 22 26 53.4 -5.1
TR2 14.82 124 P Pn 22 26 53.3 -5.1
EIL Elat 14.86 117 Pn Pn 22 26 54.2 -4.8
comp=Z,1.2nm,0.3s,baz=293,slow=5.0,SNR=9.9
EIL Sn Sn 22 29 27.3 -15
comp=Z,1.7nm,0.3s,baz=124,slow=21,SNR=5.4
EIL Elat 14.86 117 Pn Pn 22 26 54.2 -4.8
EIL Sn Sn 22 29 27.3 -15
EIL Elat 14.86 117 Pn Pn 22 26 53.8 -5.2
EIL Sn Sn 22 29 25.7 -17
ASF Jabal al Asfar 15.03 106 Pn Pn 22 26 57.9 -3.3
comp=Z,0.3nm,0.3s,baz=133,slow=16,SNR=3.2
SSF Saint Saulge 15.34 314 eP Pn 22 27 05.6 +0.5
comp=Z,26nm,1.5s
SSF Saint Saulge 15.34 314 eP Pn 22 27 05.6 +0.5
SSF pmax pmax
comp=Z,13nm,1.5s
SSF Saint Saulge 15.34 314 eP Pn 22 27 05.6 +0.5
comp=Z,13nm,1.5s
WLF Walferdange 15.62 325 eP Pn 22 27 12.5 +3.7
TCF Toulx Ste Croi 15.72 309 eP Pn 22 27 14.2 +4.1
SUW Suwalki 16.67 7 eP Pn 22 27 20.6 -1.6
SUW pmax pmax
comp=Z,31nm,1.0s
SUW Suwalki 16.67 7 eP Pn 22 27 20.6 -1.6
comp=Z,31nm,1.0s
SUW Suwalki 16.67 7 ePn Pn 22 27 20.6 -1.7
comp=Z,31nm,1.0s
ESDC Sonseca Array 18.67 284 P Pn 22 27 47.2 +0.2
comp=Z,0.2nm,0.3s,baz=82,slow=12,SNR=12
TAM Tamanrasset 19.12 224 eP Pn 22 27 52.8 +0.2
SGMF Saint Gilles 19.50 310 eP Pn 22 27 55.6 -1.3
comp=Z,21nm,0.9s
SGMF Saint Gilles 19.50 310 eP Pn 22 27 55.6 -1.3
SGMF pmax pmax
comp=Z,11nm,0.9s
SGMF Saint Gilles 19.50 310 eP Pn 22 27 55.6 -1.3
comp=Z,11nm,0.9s
GNI Garni 19.61 75 P Pn 22 27 56.2 -2.2
comp=Z,0.8nm,0.3s,baz=320,slow=5.7,SNR=9.0
GNI Garni 19.61 75 eP Pn 22 27 57.1 -1.3
GNI pmax pmax
comp=Z,16nm,1.0s
GNI Garni 19.61 75 eP Pn 22 27 57.1 -1.3
comp=Z,16nm,1.0s
GNI Garni 19.61 75 ePn Pn 22 27 57.1 -1.2
comp=Z,16nm,1.0s
QUIF Quistinic 19.73 309 eP Pn 22 27 58.7 -1.0
ROSF Rostrenen 19.97 310 eP Pn 22 28 00.6 -1.9
comp=Z,15nm,0.7s
ROSF Rostrenen 19.97 310 eP Pn 22 28 00.6 -1.9
ROSF pmax pmax
comp=Z,7.0nm,0.7s
ROSF Rostrenen 19.97 310 eP Pn 22 28 00.6 -1.9
comp=Z,7.3nm,0.7s
MDT Midelt 20.46 264 P P 22 28 06.8 +0.7
comp=Z,3.4nm,0.8s,baz=84,slow=10,SNR=6.0
MDT LR LR 22 37 06.5
comp=Z,63nm,18.7s,MS3.0,baz=36,slow=40
OBN Obninsk 20.99 28 eP P 22 28 12.0 +0.4
OBN e 22 28 18.1
OBN e 22 28 39.2
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.3
OBN Obninsk 20.99 28 eP P 22 28 12.0 +0.4
comp=Z,4.0nm,0.8s
OBN Obninsk 20.99 28 P P 22 28 13.0 +1.3
MTE Manteigas 21.41 286 eP P 22 28 18.8 +2.5
MTE Manteigas 21.41 286 eP P 22 28 18.8 +2.5
HFS Hagfors 22.97 352 P P 22 28 32.4 -0.4
comp=Z,4.5nm,0.5s,mb4.2,baz=165,slow=12,SNR=39
HFS LR LR 22 37 18.9
comp=Z,33nm,20.0s,MS2.8,baz=156,slow=36
EKA Eskdalemuir Ar 23.64 326 P P 22 28 40.9 +1.4
comp=Z,5.2nm,0.9s,mb4.0,baz=125,slow=11,SNR=9.3
ESK Eskdalemuir 23.65 326 eP P 22 28 40.9 +1.3
ESK pmax pmax
comp=Z,11nm,0.9s,mb4.3
ESK Eskdalemuir 23.65 326 eP P 22 28 40.9 +1.3
comp=Z,11nm,0.9s,mb4.3
ESK Eskdalemuir 23.65 326 eP P 22 28 40.9 +1.3
comp=Z,11nm,0.9s,mb4.3
NAO01 NORSAR Array S 24.02 349 eP P 22 28 43.9 +0.9
NAO01 NORSAR Array S 24.02 349 eP P 22 28 43.9 +0.9
NB2 NORSAR Subarra 24.16 350 P P 22 28 44.4 +0.2
comp=Z,0.3nm,0.5s,mb3.0,baz=158,slow=11
NOA NORSAR Array B 24.16 350 P P 22 28 44.7 +0.4
comp=Z,4.9nm,0.9s,mb3.9,baz=161,slow=9.5,SNR=12
NOA LR LR 22 38 51.5
comp=Z,18nm,19.7s,MS2.5,baz=180,slow=38

NOA NORSAR Array B 24.16 350 P P 22 28 44.7 +0.4
NOA LR LR 22 38 51.5
KAF Kangasniemi 24.96 7 *ep* **P 22 28 53.1 +1.6**
comp=Z,1.2nm,0.4s,mb3.8
KAF Kangasniemi 24.96 7 *eP* **P 22 28 53.1 +1.6**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
JOF Joensuu 26.40 12 *ep* **P 22 29 04.2 -0.3**
comp=Z,1.0nm,0.4s,mb3.7
JOF Joensuu 26.40 12 *eP* **P 22 29 04.2 -0.3**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
KLMR Klimovskoe 26.48 22 *eP* **P 22 29 07.8 +2.6**
KLMR pmax pmax
comp=Z,21nm,1.9s,mb4.3
TOA0 Torodi Ar. Sit 29.14 218 P **P 22 29 32.9 +3.4**
TORD Torodi Ar. Bea 29.14 218 P **P 22 29 30.3 +0.8**
comp=Z,1.4nm,0.7s,mb3.8,baz=27,slow=8.7,SNR=14
ARU Arti 31.95 41 P **P 22 29 53.5 -0.4**
ARU Arti 31.95 41 P **P 22 29 53.5 -0.4**
ARCES ARCESS Array B 32.23 4 P **P 22 29 55.0 -1.2**
comp=Z,1.3nm,0.6s,mb3.9,baz=181,slow=11,SNR=9.3
ARCES LR LR 22 42 47.9
comp=Z,60nm,18.5s,MS3.3,baz=54,slow=36
BVAR Borovoye Array 38.00 49 P **P 22 30 45.9 -0.2**
comp=Z,0.8nm,0.6s,mb3.6,baz=278,slow=4.3,SNR=4.7
DBIC Dimbokro 38.00 222 P **P 22 30 46.4 -0.1**
comp=Z,2.1nm,0.7s,mb4.0,baz=3.8,slow=12,SNR=3.0
DBIC Dimbokro 38.00 222 P **P 22 30 46.4 -0.1**
DBIC pmax pmax
comp=Z,2.0nm,0.7s
DBIC Dimbokro 38.00 222 *eP* **P 22 30 47.4 +0.9**
DBIC Dimbokro 38.00 222 *eP* **P 22 30 47.4 +0.9**
LIC Lamto 38.47 222 *eP* **P 22 30 51.0 +0.6**
comp=Z,22nm,1.1s,mb4.5
LIC Lamto 38.47 222 *eP* **P 22 30 51.0 +0.6**
comp=Z,11nm,1.1s,mb4.5
SPITS Spitsbergen Ar 40.80 359 LR LR 22 50 40.4
comp=Z,60nm,18.1s,MS3.5,baz=305,slow=40
EKS2 Erkin-Say 41.05 65 *eP* **P 22 31 11.8 +0.2**
EKS2 Erkin-Say 41.05 65 *eP* **P 22 31 11.8 +0.1**
UCH Uchtor 41.67 66 P **P 22 31 17.3 +0.5**
UCH Uchtor 41.67 66 P **P 22 31 17.3 +0.6**
KURK Kurchatov 43.15 53 *eP* **P 22 31 27.8 -0.8**
KURK Kurchatov 43.15 53 *eP* **P 22 31 27.8 -0.8**
SUMG Summit 45.23 339 P **P 22 31 44.5 -0.5**
SUMG Summit 45.23 339 P **P 22 31 44.5 -0.5**
MK31 Makanchi Array 46.16 58 *eP* **P 22 31 52.0 -0.7**
MK31 Makanchi Array 46.16 58 *eP* **P 22 31 52.0 -0.7**
MKAR Makanchi Array 46.16 58 P **P 22 31 51.9 -0.8**
comp=Z,1.4nm,0.5s,mb4.2,baz=272,slow=7.2,SNR=32
MKAR LR LR 22 53 48.9
comp=Z,35nm,19.4s,MS3.3,baz=183,slow=40
ZAL Zalesovo 46.57 48 P **P 22 31 55.3 -0.5**
ZAA0 Zalesovo Array 46.58 48 *eP* **P 22 31 55.3 -0.6**
ZAA0 Zalesovo Array 46.58 48 *eP* **P 22 31 55.3 -0.5**
ZALV Zalesovo Beam 46.58 48 P **P 22 31 55.2 -0.6**
comp=Z,2.1nm,0.4s,mb4.4,baz=267,slow=7.9,SNR=10
ZALV Zalesovo Beam 46.58 48 P **P 22 31 55.2 -0.7**
RES Resolute Bay 60.24 344 P **P 22 33 37.8 +1.9**
RES Resolute Bay 60.24 344 P **P 22 33 37.8 +1.9**
BOD Bodaibo 61.26 37 *eP* **P 22 33 43.2 +0.2**
BOD pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
SONM Songino Array 61.34 50 P **P 22 33 44.4 +0.6**
comp=Z,0.4nm,0.5s,mb3.8,baz=293,slow=7.5,SNR=3.4
BOSA Boshof 65.98 175 LR LR 23 03 20.1
comp=Z,104nm,21.4s,MS4.0,baz=176,slow=36
BRNJ Basking Ridge 69.64 306 P **P 22 34 39.4 +1.8**
CHTO Chiang Mai 70.37 81 *eP* **P 22 34 43.4 +1.0**
CMAR Chiang Mai Arr 70.57 81 P **P 22 34 43.9 +0.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=302,slow=7.5,SNR=5.6
PETK Petropavlovsk- 82.65 24 LR LR 23 17 15.0
comp=Z,38nm,19.1s,MS3.8,baz=168,slow=39

MOS ***07*** *22:25:08.9±2.5, 47.02N×152.35E, h33km, mb3.9/3, Error ellipse: s-maj=36.4km s-min=18.6km az=136.2*
ISCJB ***07*** *22:25:16.3±1.5, 46.5N±0.1×152.0E±0.2, h106km±14km, mb3.5/5, Error ellipse: s-maj=32.5km s-min=12.7km az=43.9*
IDC ***07*** *22:25:21.1±2.7, 46.72N×151.96E, h128km±24km, mb3.3/6, mb1 3.4/9, mb1mx3.2/25, mbtmp3.3/9, Error ellipse: s-maj=30.7km s-min=18.8km az=130.0*
ISC 07 22:25:18.0±1.3, 464N±02×1519E±02, h107km±12km, n30, σ1°29/26, mb3.5/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.09**	**249**	PN	**Pn**	**22 26 00.5**	**-4.6**
KUR				*e*S	Sx	22 26 44.5	
KUR				pmax	pmax		
	comp=Z,50nm,0.6s						
KUR				smax			
	comp=N,120nm,0.7s						
KUR				smax			
	comp=E,310nm,0.7s						
NEM2	**Nemuro 2**	**5.37**	**237**	P	**Pn**	**22 26 33.4**	**-2.3**
NEM2				*e*S	Sx	22 27 34.2	
JNK	**Nakash**	**5.86**	**244**	P	**Pn**	**22 26 42.3**	**-0.1**
JNK				*e*S	Sx	22 27 49.0	
JTKR	**Abashiri--Toko**	**6.19**	**249**	P	**Pn**	**22 26 47.7**	**+0.9**
JAK	**Akkeshi**	**6.20**	**239**	P	**Pn**	**22 26 44.9**	**-2.1**
JAK				*e*S	Sx	22 27 54.6	
JMP	**Maruseppu**	**6.53**	**251**	P	**Pn**	**22 26 52.9**	**+1.5**
JAR	**Ashorobuto**	**6.60**	**245**	P	**Pn**	**22 26 52.6**	**+0.2**
JAR				*e*S	Sx	22 28 09.0	
JOB	**Onbets**	**6.77**	**242**	P	**Pn**	**22 26 54.2**	**-0.5**
JOB				*e*S	Sx	22 28 10.2	
JKK2	**Kamakawa 2**	**6.99**	**252**	P	**Pn**	**22 26 59.2**	**+1.5**
ASAJ	**Asahikawa**	**6.99**	**254**	P	**Pn**	**22 27 00.3**	**+2.7**
	comp=E,1.0nm,0.3s,baz=85,slow=16,SNR=8.9						
ASAJ	**Asahikawa**	**6.99**	**254**	PN	**Pn**	**22 27 00.4**	**+2.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.22**	**241**	P	**Pn**	**22 26 59.4**	**-1.5**
JCH				*e*S	Sx	22 28 20.1	
PETK	**Petropavlovsk-**	**7.65**	**27**	P	**Pn**	**22 27 06.9**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=187,slow=10,SNR=4.7						
JEM	**Erimo**	**7.70**	**238**	P	**Pn**	**22 27 06.9**	**-0.4**
JEM				*e*S	Sx	22 28 31.2	
JTM	**Tenmabayashi**	**9.70**	**238**	P	Px	22 27 31.4	
JTM				*e*S	Sx	22 29 17.2	
JANG	**Nango**	**9.71**	**235**	P	Px	22 27 30.1	
JANG				*e*S	Sx	22 29 14.1	
JTH	**Tanohata**	**9.81**	**232**	*e*S	Sx	22 29 16.1	
JRG	**Rokugo**	**10.87**	**234**	P	Px	22 27 47.6	
JRG				*e*S	Sx	22 29 45.9	
MJAR	**Matsushiro Arr**	**14.25**	**231**	P	**Pn**	**22 28 40.9**	**+6.1**
	comp=Z,0.2nm,0.3s,baz=33,slow=9.8,SNR=6.2						
KSRS	**Korea Array**	**19.93**	**252**	P	**P**	**22 29 45.4**	**+4.2**
	comp=Z,0.6nm,0.4s,baz=57,slow=9.3,SNR=4.3						
KSRS	**Korea Array**	**19.93**	**252**	P	**P**	**22 29 45.4**	**+4.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**46.37**	**297**	P	**P**	**22 33 32.6**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.3,baz=61,slow=7.0,SNR=2.9						
MKAR	**Makanchi Array**	**46.37**	**297**	P	**P**	**22 33 32.6**	**-0.5**
WRA	**Warramunga Arr**	**67.96**	**198**	P	**P**	**22 36 07.7**	**+2.6**
	comp=Z,0.3nm,0.8s,mb3.2,baz=17,slow=6.6,SNR=4.6						
NB2	**NORSAR Subarra**	**68.27**	**341**	P	**P**	**22 36 06.2**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.6,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.27**	**341**	P	**P**	**22 36 06.4**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.6,baz=29,slow=6.3,SNR=4.4						
NOA	**NORSAR Array B**	**68.27**	**341**	P	**P**	**22 36 06.4**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**68.47**	**339**	P	**P**	**22 36 07.0**	**-1.0**
	comp=Z,0.8nm,0.4s,mb3.9,baz=67,slow=5.0,SNR=13						
HFS	**Hagfors**	**68.47**	**339**	P	**P**	**22 36 07.0**	**-1.0**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**78.35**	**60**	P	**P**	**22 37 06.2**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.2,baz=294,slow=4.7,SNR=5.7						

NIED ***07*** *22:34:00, 30.80N×140.80E, h17km, Mw4.0 Best double couple: M0=1.21000×10^15 NP1:φs=171.00000°, δ86.00000°, λ70.00000°. NP2:φs=71.00000°, δ20.00000°, λ169.00000°.*
JMA 07 22:34:35.3±0.2, 3076N×14083E, h33km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.50**	**340**	*e*S	Sn	22 35 44.2	+1.3
CBIJ	**Chichi jima**	**3.84**	**162**	*e*S	Sn	22 36 17.0	+1.0
BSO1	**Boso 1**	**3.88**	**2**	P	Pn	22 35 34.7	+2.0
BSO1				*e*S	Sn	22 36 18.8	+1.7
BSO2	**Boso 2**	**3.98**	**359**	*e*S	Sn	22 36 20.7	+1.2
BSO3	**Boso 3**	**4.04**	**356**	P	Pn	22 35 37.2	+2.4
BSO3				*e*S	Sn	22 36 23.0	+2.1
BSO4	**Boso 4**	**4.24**	**355**	P	Pn	22 35 40.4	+2.9
BSO4				*e*S	Sn	22 36 28.9	+3.0
JOD2	**Odawara 2**	**4.72**	**342**	*e*S	Sn	22 36 40.6	+2.8
JHU	**Hanno**	**5.24**	**346**	*e*S	Sn	22 36 53.1	+2.5
JHO	**Hitachi**	**5.84**	**358**	P	Pn	22 36 02.8	+3.3

IDC ***07*** *23:11:42.6±1.7, 16.15S×177.90E, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/17, mbtmp4.0/6, MS3.7/11, Ms1 3.7/11, ms1mx3.5/28, Error ellipse: s-maj=116.9km s-min=23.5km az=151.0*
ISCJB ***07*** *23:11:46.1±0.8, 164S±02×177.9E±02, h33km, mb4.1/9, MS3.7/10, Error ellipse: s-maj=35.1km s-min=17.1km az=155.0*
NEIC ***07*** *23:11:48.0±0.7, 16.23S×177.92E, h35km, mb4.5/3, Error ellipse: s-maj=27.7km s-min=13.6km az=155.0*
ISC 07 23:11:48.2±0.8, 163S±02×177.9E±02, h35km, n23, σ0°54/12, mb4.1/9, MS3.7/10, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**18.77**	**289**	LR	LR	23 22 10.3	
	comp=Z,181nm,20.4s,baz=1.1,slow=34						
RAR	**Rarotonga**	**21.69**	**107**	LR	LR	23 22 42.3	
	comp=Z,228nm,18.4s,MS3.6,baz=253,slow=30						
URZ	**Urewera**	**21.93**	**182**	LR	LR	23 22 58.4	
	comp=Z,148nm,19.2s,MS3.4,baz=152,slow=31						
RPZ	**Rata Peaks**	**27.98**	**191**	LR	LR	23 27 50.5	
	comp=Z,158nm,18.8s,MS3.6,baz=311,slow=34						
CTAO	**Charters Tower**	**30.29**	**258**	*e*P	**P**	**23 17 55.8**	**-0.5**
	9.8nm,1.0s,mb4.5						
PPT	**Papeete**	**31.12**	**97**	*e*LQ		23 24 44.7	
	367nm,27.5s						
PPT				*e*LR	LR	23 26 04.2	
	210nm,29.5s						
PPT	**Papeete**	**31.12**	**97**	LR	LR	23 26 50.9	
	comp=Z,136nm,20.8s,MS3.6,baz=204,slow=29						
TBI	**Tubuai**	**31.45**	**108**	*e*LQ		23 24 54.2	
	290nm,25.5s						
TBI				*e*LR	LR	23 26 10.4	
	268nm,30.8s,baz=284						
STKA	**Stephens Creek**	**36.42**	**238**	P	**P**	**23 18 49.9**	**+0.4**
	4.2nm,0.9s,mb4.4,baz=48,slow=8.4,SNR=4.0						
STKA				LR	LR	23 30 29.2	
	comp=Z,181nm,21.3s,MS3.8,baz=28,slow=31						
STKA	**Stephens Creek**	**36.42**	**238**	P	**P**	**23 18 50.3**	**+0.7**
STKA				LR	LR	23 30 29.2	
WB2	**Warramunga Arr**	**41.48**	**258**	P	**P**	**23 19 32.2**	**+0.1**
WRAB	**Tennant Creek**	**41.48**	**258**	*e*P	**P**	**23 19 32.5**	**+0.4**
	12nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**41.49**	**258**	P	**P**	**23 19 31.0**	**-1.2**
	1.2nm,0.9s,mb3.5,baz=91,slow=9.0,SNR=6.6						
ASAR	**Alice Springs**	**41.88**	**253**	P	**P**	**23 19 35.0**	**-0.4**
	2.1nm,0.8s,mb3.8,baz=86,slow=7.9,SNR=10.0						
RKT	**Rikitea**	**44.73**	**107**	*e*LR	LR	23 32 20.5	
	196nm,29.0s						
MBWA	**Marble Bar**	**55.07**	**255**	P	**P**	**23 21 17.8**	**+0.8**
VNDA	**Vanda**	**61.81**	**184**	*e*P	**P**	**23 22 03.0**	**-0.1**
	2.4nm,1.1s,mb4.2						
KSRS	**Korea Array**	**71.16**	**320**	LR	LR	23 48 44.3	
	comp=Z,67nm,20.8s,MS3.9,baz=346,slow=31						
NVAR	**Mina Array Bea**	**80.74**	**46**	P	**P**	**23 23 57.9**	**-0.1**
	0.4nm,0.3s,mb3.9,baz=202,slow=7.5,SNR=6.2						
CMAR	**Chiang Mai Arr**	**85.01**	**291**	P	**P**	**23 24 21.1**	**+0.5**
	0.5nm,0.3s,mb4.2,baz=137,slow=5.4,SNR=4.3						
CMAR				LR	LR	00 02 33.4	
	comp=Z,107nm,19.4s,MS4.2,baz=319,slow=36						
TXAR	**Lajitas Array**	**88.13**	**59**	LR	LR	23 54 56.8	
	comp=Z,38nm,20.1s,MS3.8,baz=185,slow=30						
PDAR	**Pinedale Array**	**88.62**	**45**	P	**P**	**23 24 37.6**	**-0.1**
	0.4nm,0.8s,mb3.8,baz=244,slow=7.5,SNR=2.9						
PDAR				LR	LR	23 56 03.4	
	comp=Z,40nm,19.4s,MS3.9,baz=68,slow=30						
YKA	**Yellowknife Ar**	**94.34**	**25**	LR	LR	00 02 36.3	
	comp=Z,5.1nm,18.2s,MS3.0,baz=255,slow=32						

DDA ***07*** *23:34:59.5, 38.28N×39.43E, h7km±2km, Md2.7*
ISCJB ***07*** *23:35:00.2±0.9, 38.36N±005×39.34E±006, h15km±7km, Error ellipse: s-maj=8.5km s-min=7.6km az=135.4*
CSEM ***07*** *23:35:00.5, 38.37N×39.33E, h12km, MD2.6, After ISK*
ISK ***07*** *23:35:00.5, 38.37N×39.33E, h12km, MD2.6*
ISC 07 23:35:00.9±0.8, 3837N±005×3933E±006, h14km±7km, n5, σ0°78/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.02**	**299**	PG	**Pg**	**23 35 03.0**	**-0.4**
SVRC				*e*SG	**Sg**	**23 35 04.4**	**-0.7**
PTK	**Pertek**	**0.53**	**5**	*e*PG	**Pg**	**23 35 11.2**	**-0.1**
PTK				*e*SG	**Sg**	**23 35 18.9**	**+0.6**
MALT	**Malatya**	**0.71**	**266**	*e*PG	**Pg**	**23 35 14.7**	**-0.1**
MALT				*e*SG	**Sg**	**23 35 25.1**	**+0.9**
URFA	**Urfa**	**1.01**	**204**	*e*PG	**Pg**	**23 35 20.2**	**-0.2**
MARD	**Mardin**	**1.56**	**132**	*e*P	**Pn**	**23 35 26.8**	**-1.4**
MARD				*i* S	**Sg**	**23 35 52.4**	**+1.3**

KRSC 07 23:46:22.3±0.7, 5088N×15763E, h88km±77km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.32**	**270**	P	Pn	23 46 44.0	-1.6
MIPR	**Malaya Ipel'ka**	**1.50**	**339**	*e*P	Pn	23 46 47.9	0.0
RUS	**Russkaya**	**1.65**	**19**	*i* P	Pn	23 46 52.7	+2.9
RUS				*e*S	Sn	23 47 15.4	+4.7
PET	**Petropavlovsk**	**2.24**	**16**	P	Pn	23 47 00.1	+2.6
PET				*e*S	Sn	23 47 27.5	+3.1
AVH	**Avacha**	**2.48**	**16**	P	Pn	23 47 03.9	+3.1
AVH				S	Sn	23 47 33.4	+3.1
NLC	**Nalytchevo**	**2.53**	**24**	P	Pn	23 47 02.4	+1.1
NLC				*e*S	Sn	23 47 31.6	+0.3
SPN	**Mys Shipunski**	**2.67**	**33**	*e*S	Sn	23 47 36.9	+2.2
GNL	**Ganaly**	**2.83**	**4**	P	Pn	23 47 05.8	+0.5
MKZ	**Mys Kozlova**	**4.45**	**32**	*e*P	Pn	23 47 28.7	+1.5
MKZ				*e*S	Sn	23 48 15.9	-1.8
KBTR	**Krutoberegovo**	**6.17**	**28**	P	Pn	23 47 52.7	+2.1

SZGRF ***08*** *00:07:40.2, 40.60S×37.82E, h33km, mb4.3, Tanzania*
ISCJB ***08*** *00:07:46.8±0.3, 27.80S±004×36.04E±007, h10km, mb4.3/28, MS3.7/8, Error ellipse: s-maj=10.9km s-min=6.0km az=10.7*
IDC ***08*** *00:07:46.9±0.6, 27.20S×36.07E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.1/25, mbtmp4.1/17, ML4.1/1, MS3.7/9, Ms1 3.7/9, ms1mx3.4/31, Error ellipse: s-maj=18.1km s-min=10.3km az=120.0*
NEIC ***08*** *00:07:48.8±0.3, 27.45S×36.07E, h10km, mb4.4/11, Error ellipse: s-maj=10.0km s-min=7.3km az=95.0*
NEIC Felt [III] at Arusha.
ISC 08 00:07:48.6±0.3, 281S±004×3607E±008, h10km, n55, σ1°04/56, mb4.3/28, MS3.7/8, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**2.05**	**35**	Pn	**Pn**	**00 08 22.0**	**-1.2**
	318nm,0.3s,baz=217,slow=18,SNR=673						
KMBO				Pg	**Pg**	**00 08 23.9**	**-4.1**
	318nm,0.3s,baz=216,slow=18,SNR=763						
KMBO				Lg		00 08 48.6	
	865nm,0.3s,baz=309,slow=20,SNR=35						
KMBO	**Kilima Mbogo**	**2.05**	**35**	*e*P	**Pn**	**00 08 22.4**	**-0.7**
LSZ	**Lusaka**	**14.62**	**212**	Pn	**Pn**	**00 11 12.6**	**-3.1**
	1.1nm,0.3s,baz=25,slow=13,SNR=18						
LSZ				Sn	**Sn**	**00 13 45.8**	**-12**
	1.8nm,0.3s,baz=308,slow=4.6,SNR=2.8						
LSZ				Lg		00 15 21.4	
	1.5nm,0.3s,baz=129,slow=18,SNR=3.4						
LSZ				LR	LR	00 16 04.6	
	comp=Z,179nm,18.1s,baz=200,slow=34						
LSZ	**Lusaka**	**14.62**	**212**	*e*P	**Pn**	**00 11 07.8**	**-7.9**
LSZ				AMb	AMB	00 11 27.4	
	comp=Z,147nm,1.4s						
OPO	**Ambohidratompo**	**19.08**	**146**	P	**Pn**	**00 12 13.5**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=304,slow=15,SNR=5.2						
OPO				S	**Sn**	**00 15 36.5**	**-10**
	comp=Z,0.2nm,0.3s,baz=95,slow=21,SNR=2.2						
MSNA	**Messina**	**20.29**	**196**	*e*P	**P**	**00 12 24.4**	**-0.2**
MSNA				AMb	AMB	00 12 30.9	
	comp=Z,21nm,1.2s						
MOPA	**Mopani**	**21.08**	**192**	*e*P	**P**	**00 12 33.4**	**+0.2**
MOPA				AMb	AMB	00 13 00.8	
	comp=Z,23nm,1.7s,mb4.2						
SLR	**Silverton**	**23.99**	**197**	*e*P	**P**	**00 13 03.0**	**-0.5**
SLR				AMb	AMB	00 13 34.1	
	comp=Z,41nm,2.2s,mb4.5						
LBTB	**Lobatse**	**24.27**	**204**	P	**P**	**00 13 05.5**	**-0.6**
	comp=Z,8.1nm,0.9s,mb4.2,baz=16,slow=8.6,SNR=8.4						
LBTB				Lg		00 20 24.9	
	comp=Z,9.9nm,0.9s,baz=303,slow=21,SNR=3.5						
LBTB				LR	LR	00 22 18.9	
	comp=Z,158nm,19.2s,MS3.5,baz=223,slow=36						
LBTB	**Lobatse**	**24.27**	**204**	*e*P	**P**	**00 13 06.8**	**+0.6**
	comp=Z,5.9nm,0.7s,mb4.1						
LBTB	**Lobatse**	**24.27**	**204**	*e*P	**P**	**00 13 05.0**	**-1.1**
LBTB				AMb	AMB	00 13 11.2	
	comp=Z,27nm,2.3s,mb4.3						
TSUM	**Tsumeb**	**24.33**	**227**	P	**P**	**00 13 07.5**	**+0.7**
	comp=Z,2.9nm,0.9s,mb3.7,baz=317,slow=19,SNR=4.3						
TSUM				Lg		00 20 36.1	
	comp=Z,4.9nm,0.9s,baz=131,slow=22,SNR=2.5						
TSUM				LR	LR	00 23 08.8	
	comp=Z,305nm,19.7s,MS3.8,baz=127,slow=38						
TSUM	**Tsumeb**	**24.33**	**227**	*e*P	**P**	**00 13 07.6**	**+0.8**
	comp=Z,6.1nm,1.1s,mb3.9						
TSUM	**Tsumeb**	**24.33**	**227**	*e*P	**P**	**00 13 06.2**	**-0.6**
TSUM				AMb	AMB	00 13 16.6	
	comp=Z,137nm,1.9s,mb5.1						
KSR	**Koster**	**24.55**	**200**	*e*P	**P**	**00 13 08.5**	**-0.2**
KSR				AMb	AMB	00 13 23.4	
	comp=Z,33nm,1.8s,mb4.6						
POGA	**Pongola**	**24.79**	**189**	*e*P	**P**	**00 13 10.5**	**-0.3**
POGA				AMb	AMB	00 13 27.9	
	comp=Z,62nm,1.6s,mb4.9						
PRYS	**Parys**	**25.39**	**198**	*e*P	**P**	**00 13 16.2**	**-0.1**
PRYS				AMb	AMB	00 13 31.8	
	comp=Z,34nm,1.5s,mb4.7						
SWZ	**Schweizer**	**26.32**	**202**	*e*P	**P**	**00 13 24.1**	**-0.6**
SWZ				AMb	AMB	00 13 43.5	
	comp=Z,56nm,1.9s,mb4.8						
BOSA	**Boshof**	**27.65**	**201**	P	**P**	**00 13 37.0**	**+0.2**
	comp=Z,12nm,0.7s,mb4.6,baz=13,slow=7.1,SNR=21						
BOSA				Lg		00 22 04.7	
	comp=Z,5.7nm,0.9s,baz=102,slow=19,SNR=2.0						
BOSA				LR	LR	00 24 48.8	
	comp=Z,212nm,18.6s,MS3.8,baz=24,slow=37						
BOSA	**Boshof**	**27.65**	**201**	*e*P	**P**	**00 13 36.7**	**0.0**
	comp=Z,9.0nm,0.6s,mb4.6						
BOSA	**Boshof**	**27.65**	**201**	*e*P	**P**	**00 13 35.7**	**-1.0**
BOSA				AMb	AMB	00 14 24.6	
	comp=Z,34nm,2.0s,mb4.6						
UPI	**Upington**	**29.07**	**208**	*e*P	**P**	**00 13 48.7**	**-0.7**
UPI				AMb	AMB	00 14 42.4	
	comp=Z,41nm,2.2s,mb4.8						
SUR	**Sutherland**	**32.72**	**204**	P	**P**	**00 14 22.4**	**+0.9**
	comp=Z,13nm,0.9s,mb4.8,baz=55,slow=13,SNR=4.3						
SUR				Lg		00 24 57.0	
	comp=Z,13nm,1.0s,baz=144,slow=9.2,SNR=3.7						
SUR	**Sutherland**	**32.72**	**204**	*e*P	**P**	**00 14 23.0**	**+1.4**
	comp=Z,12nm,0.7s,mb4.9						
TORD	**Torodi Ar. Bea**	**37.62**	**296**	P	**P**	**00 15 02.9**	**-1.2**
	comp=Z,1.9nm,1.1s,mb3.8,baz=103,slow=6.1,SNR=5.9						
TORD				PcP	PcP	00 17 20.9	-0.9
	comp=Z,1.0nm,0.8s,baz=95,slow=3.5,SNR=3.8						
TORD				LR	LR	00 30 59.9	
	comp=Z,51nm,20.2s,MS3.3,baz=165,slow=37						
DBIC	**Dimbokro**	**41.92**	**283**	P	**P**	**00 15 38.7**	**-1.2**
	comp=Z,2.1nm,0.8s,mb3.8,baz=81,slow=11,SNR=5.1						
DBIC				LR	LR	00 33 57.8	
	comp=Z,55nm,18.2s,MS3.5,baz=359,slow=38						
DBIC	**Dimbokro**	**41.92**	**283**	*e*P	**P**	**00 15 39.6**	**-0.3**
	comp=Z,2.6nm,0.7s,mb4.0						
KEST	**Kesra**	**45.77**	**329**	LR	LR	00 36 21.2	
	comp=Z,55nm,18.6s,MS3.5,baz=268,slow=38						
PSZ	**Piszkesteto**	**52.46**	**346**	*e*P	**P**	**00 17 03.2**	**+1.7**
	comp=Z,2.2nm,0.8s,mb4.1						
CART	**Cartagena**	**52.87**	**323**	P	**P**	**00 17 04.9**	**+0.1**
AKASG	**Malin Array Be**	**53.62**	**355**	P	**P**	**00 17 10.2**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=182,slow=6.6,SNR=5.0						
MORC	**Moravsky Berou**	**54.76**	**345**	P	**P**	**00 17 18.7**	**+0.3**
GERES	**GERESS Array B**	**54.99**	**342**	P	**P**	**00 17 20.9**	**+0.9**
	comp=Z,1.7nm,1.0s,mb4.0,baz=164,slow=6.8,SNR=11						
KHC	**Kasperske Hory**	**55.28**	**342**	*e*P	**P**	**00 17 24.5**	**+2.3**
SFS	**San Fernando**	**55.46**	**319**	P	**P**	**00 17 23.1**	**-0.6**
ESDC	**Sonseca Array**	**55.99**	**323**	P	**P**	**00 17 28.4**	**+1.0**
	comp=Z,0.4nm,0.6s,mb3.6,baz=131,slow=6.2,SNR=3.6						
AML	**Almayashu**	**56.23**	**33**	*e*P	**P**	**00 17 31.2**	**+2.1**
	comp=Z,4.4nm,0.5s,mb4.7						
AML				*e*PcP	PcP	00 18 27.1	+0.4
GRA1	**Grafenberg Arr**	**56.52**	**341**	*e*P	**P**	**00 17 33.3**	**+2.3**
	comp=Z,3.0nm,0.8s,mb4.4						
GRF	**Grafenberg Arr**	**56.52**	**341**	*e*P	**P**	**00 17 33.3**	**+2.3**
	comp=Z,3.0nm,0.8s,mb4.4						
TKM2	**Tokmak 2**	**57.80**	**34**	*e*P	**P**	**00 17 39.4**	**-0.8**
	comp=Z,4.4nm,1.2s,mb4.4						
MTE	**Manteigas**	**58.61**	**322**	P	**P**	**00 17 46.0**	**0.0**
MK31	**Makanchi Array**	**63.93**	**34**	P	**P**

NEIC Felt at Dushanbe. Also felt at Fayzabad, Afghanistan and at Islamabad, Pakistan.
GCMT ***08*** *00:37:04.9±0.2,3701N×7132E,h127km±2km,MW5.1/70, Moment Tensor Solution. s32,c41; s70,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.70±.18; $M_{\theta\theta}$3.50±.20; $M_{\phi\phi}$-2.79±.19; $M_{r\theta}$-2.96±.13; $M_{\theta\phi}$0.18±.16; $M_{\phi r}$-3.58±.12; Best double couple: $M_0$5.63900×10^{16} NP1:ϕ_s309.00000°,δ34.00000°,λ-8.00000°. NP2: ϕ_s45.00000°,δ86.00000°,λ-124.00000°. Principal axes: T 5.4890, Plg32.0000°, Azm163.0000°; N 0.3080, Plg34.0000°, Azm48.0000°; P -5.7900, Plg40.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***08*** *00:37:08.1±2.8,3702N×7165E,h148km±25km,mb4.3/21, mb1 4.5/22,mb1mx4.4/25,mbtmp4.4/22,MS3.6/5, Ms1 3.6/5,ms1mx3.2/31 Error ellipse: s-maj=15.0km s-min=9.1km az=8.0*
DJA ***08*** *00:37:08,3679N×7156E,h123km,mb5.3/14*
SZGRF ***08*** *00:37:09.2,3786N×7166E,h122km,mb5.1, Afghanistan-Tajikistan border region*
NNC ***08*** *00:37:11.7±3.4,3771N×7149E,h200km±30km,mb4.1, mpv5.3,Error ellipse: s-maj=29.1km s-min=16.6km az=12.0*
ISC 08 00:37:04.2±0.1,3702N±001×7177E±002,h114km, h114km±2.6km:pP-P,n737,σ0=94/799,mb5.0/222, 22C-167D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.19**	**178**	⇓P		**Pn**	**00 37 55.3**	**+2.5**
CEP				S		**Sn**	**00 38 34.0**	**+3.6**
KBL	**Kabul**	**3.32**	**223**	*e*Pn		**Pn**	**00 37 55.5**	**+1.0**
KBL				*e*Sn		**Sn**	**00 38 35.1**	**+1.6**
CHCP	**Chirah Chowk**	**3.57**	**160**	⇓P		**Pn**	**00 38 01.2**	**+3.3**
KSH	**Kashi**	**4.14**	**52**	*e*P		**Pn**	**00 38 08.7**	**+3.3**
KSH				S		**Sn**	**00 38 57.3**	**+4.4**
KSH				Smax				
	comp=N,12μm,0.6s							
KSH				Smax				
	comp=E,13μm,0.7s							
THW	**Thamme Wali**	**4.22**	**180**	⇓P		**Pn**	**00 38 07.5**	**+1.0**
SARP	**Sargodha**	**5.14**	**171**	⇓P		**Pn**	**00 38 20.8**	**+1.8**
SARP				S		**Sn**	**00 39 17.0**	**-0.2**
AML	**Almayashu**	**5.31**	**16**	P		**Pn**	**00 38 21.8**	**+0.6**
	SNR=2038							
AML	**Almayashu**	**5.31**	**16**	*e*Pn		**Pn**	**00 38 21.7**	**+0.5**
	comp=E,3μm,0.4s							
AML				*e*Sn		**Sn**	**00 39 20.3**	**-0.9**
DRP	**Derazinda**	**5.42**	**194**	P		**Pn**	**00 38 23.4**	**+0.7**
UCH	**Uchtor**	**5.61**	**21**	P		**Pn**	**00 38 26.8**	**+1.5**
	SNR=46							
UCH	**Uchtor**	**5.61**	**21**	*e*Pn		**Pn**	**00 38 26.6**	**+1.3**
	comp=E,92nm,0.4s							
UCH				*e*Sn		**Sn**	**00 39 27.3**	**-1.1**
DLH	**Dalhousie**	**5.65**	**141**	*e*P		**Pn**	**00 38 25.0**	**-0.8**
DLH				*e*S		**Sn**	**00 39 26.0**	**-3.4**
KZA	**Kyzart**	**5.72**	**27**	P		**Pn**	**00 38 27.6**	**+0.9**
	SNR=75							
EKS2	**Erkin-Say**	**5.84**	**15**	P		**Pn**	**00 38 28.9**	**+0.6**
	SNR=412							
EKS2	**Erkin-Say**	**5.84**	**15**	*e*Pn		**Pn**	**00 38 29.1**	**+0.8**
	comp=E,367nm,0.5s							
AAK	**Ala-Archa**	**5.98**	**20**	P		**Pn**	**00 38 31.3**	**+1.1**
	SNR=398							
PONG	**Pong**	**6.12**	**144**	*e*P		**Pn**	**00 38 31.0**	**-1.2**
PONG				*e*S		**Sn**	**00 39 35.0**	**-5.9**
KBK	**Karagaybulak**	**6.13**	**23**	P		**Pn**	**00 38 33.6**	**+1.3**
	SNR=121							
KK31	**Karatay Array**	**6.15**	**351**	⇑P		**Pn**	**00 38 31.6**	**-0.9**
	comp=E,154nm,0.3s,baz=180,slow=13,SNR=6548							
KK31				⇑S		**Sn**	**00 39 36.0**	**-5.4**
	comp=E,583nm,0.4s,baz=170,slow=23							
FRU	**Bishkek**	**6.20**	**20**	*i* PN		**Pn**	**00 38 34.0**	**+0.8**
FRU				*i* S		**Sn**	**00 39 41.0**	**-1.7**
FRU				pmax		pmax		
	comp=Z,350nm,1.0s							
FRU				smax				
	comp=N,2μm,1.6s							
ULHL	**Ulahol**	**6.25**	**32**	P		**Pn**	**00 38 34.7**	**+0.8**
	SNR=95							
CHMS	**Chumysh**	**6.39**	**20**	P		**Pn**	**00 38 36.4**	**+0.7**
	SNR=479							
USP	**Ospenovka**	**6.58**	**18**	P		**Pn**	**00 38 38.2**	**-0.1**
	SNR=52							
TKM2	**Tokmak 2**	**6.58**	**25**	⇑P		**Pn**	**00 38 39.5**	**+1.2**
	comp=N,159nm,0.5s							
TKM2				⇑S		**Sn**	**00 39 50.4**	**-1.5**
	comp=N,461nm,0.7s							
TKM2	**Tokmak 2**	**6.58**	**25**	*e*PN		**Pn**	**00 38 39.5**	**+1.1**
TKM2				*e*			00 39 50.7	
TKM2				pmax		pmax		
	comp=Z,224nm,0.5s							
TKM2	**Tokmak 2**	**6.58**	**25**	P		**Pn**	**00 38 39.2**	**+0.9**
	SNR=415							
TKM2	**Tokmak 2**	**6.58**	**25**	*e*Pn		**Pn**	**00 38 39.5**	**+1.2**
	comp=Z,224nm,0.5s							
TKM2				*e*Sn		**Sn**	**00 39 50.7**	**-1.2**
BHK	**Bhakra**	**6.79**	**144**	*e*P		**Pn**	**00 38 41.2**	**0.0**
BHK				*e*S		**Sn**	**00 39 50.0**	**-7.0**
SDNR	**Sundarnagar**	**6.99**	**140**	*e*P		**Pn**	**00 38 43.4**	**-0.6**
SDNR				*e*x		x	00 39 50.0	
KNDC	**Almaty**	**7.36**	**31**	⇑P		**Pn**	**00 38 50.4**	**+1.6**
	comp=Z,163nm,0.7s							
KNDC				⇑S		**Sn**	**00 40 10.6**	**-0.1**
	comp=Z,902nm,1.1s							
SMLA	**Simla**	**7.39**	**141**	*e*P		**Pn**	**00 38 49.6**	**+0.3**
SMLA				*e*S		**Sn**	**00 40 06.0**	**-5.6**
AAA	**Alma-Ata**	**7.39**	**31**	*e*P		**Pn**	**00 38 49.3**	**0.0**
AAA				*e*S		**Sn**	**00 40 13.5**	**+1.9**
AAA				pmax		pmax		
	comp=Z,450nm,1.2s							
AAA				smax				
	comp=E,2μm,1.9s							
AAA				MLR		MLR		
	comp=Z,3μm,3.2s							
DDI	**Dehra Dun**	**8.49**	**140**	*e*P		**Pn**	**00 39 04.0**	**-0.3**
DDI				*e*S		**Sn**	**00 40 30.8**	**-7.5**
RTK	**Rohtak**	**8.87**	**153**	*e*x		x	00 38 59.4	
RTK				AMb		AMB	00 39 05.7	
	comp=Z,223nm,0.2s							
RTK				*e*x		x	00 40 35.9	
JOSI	**Joshimath**	**9.14**	**133**	*e*P		**Pn**	**00 39 14.1**	**+0.9**
JOSI				AMb		AMB	00 39 19.1	
	comp=Z,1μm,0.8s							
JOSI				*e*S		**Sn**	**00 40 49.5**	**-4.7**
NDI	**New Delhi**	**9.49**	**150**	*e*PG		**Pn**	**00 39 17.0**	**-0.9**
NDI				*e*P			00 39 17.0	
NDI				*e*x		x	00 40 45.0	
NDI				*e*SG		**Sn**	**00 40 51.0**	**-12**
AYAN	**Aya Nagar**	**9.63**	**151**	*e*P		**Pn**	**00 39 18.9**	**-0.9**
AYAN				AMb		AMB	00 39 22.6	
	comp=Z,149nm,0.4s							
AYAN				*e*x		x	00 41 01.3	
ASOR	**Ausora**	**9.66**	**147**	*e*P		**Pn**	**00 39 20.3**	**+0.1**
ASOR				AMb		AMB	00 39 22.4	
	comp=Z,417nm,0.6s							
SONA	**Sohna**	**9.82**	**151**	*e*P		**Pn**	**00 39 21.1**	**-1.3**
SONA				AMb		AMB	00 39 26.8	
	comp=Z,159nm,0.3s							
SONA				*e*x		x	00 41 03.8	
JASL	**Jaisalmer**	**10.10**	**184**	*e*P		**Pn**	**00 39 25.2**	**-0.9**
JASL				AMb		AMB	00 39 26.9	
	comp=Z,146nm,0.5s							
PTH	**Pithoragarh**	**10.27**	**134**	*e*P		**Pn**	**00 39 18.8**	**-10**
PTH				*e*S		**Sn**	**00 41 06.0**	**-16**
ASH	**Ashkhabad**	**10.71**	**279**	*e*P		**Pn**	**00 39 28.0**	**-6.2**
ASH				*i* S		**Sn**	**00 41 20.0**	**-12**
AJM	**Ajmer**	**10.79**	**166**	*e*P		**Pn**	**00 39 34.2**	**-1.2**
AJM				AMb		AMB	00 39 35.7	
	comp=Z,147nm,0.3s							
AJM				*e*x		x	00 41 28.1	
MKAR	**Makanchi Array**	**12.51**	**35**	P		**Pn**	**00 39 57.2**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=231,slow=17,SNR=103							
MK31	**Makanchi Array**	**12.51**	**35**	⇑P		**Pn**	**00 39 57.5**	**-0.5**
	comp=Z,16nm,0.6s,baz=227,slow=11,SNR=188							
MK31	**Makanchi Array**	**12.51**	**35**	*e*Pn		**Pn**	**00 39 57.4**	**-0.6**
JHNI	**Jhansi**	**12.89**	**151**	*i* x		x	00 40 10.0	
JHNI				*i* x		x	00 42 25.0	
DANN	**Dangsing**	**13.29**	**127**	*e*P		**Pn**	**00 40 05.4**	**-2.9**
	comp=Z,325nm,0.4s							
DANN				*e*S		**Sn**	**00 42 25.8**	**-8.8**
KOLN	**Koldanda**	**13.59**	**129**	*e*P		**Pn**	**00 40 10.3**	**-2.0**
	comp=Z,221nm,0.4s							
BHJ	**Bhuj**	**13.84**	**188**	*e*P		**Pn**	**00 40 13.9**	**-1.7**
BHJ				AMb		AMB	00 40 17.3	
	comp=Z,255nm,1.0s							
BHJ				*e*x		x	00 42 40.6	
WMQ	**Urumqi**	**13.89**	**56**	P		**Pn**	**00 40 15.1**	**-0.9**
WMQ				AP			00 40 28.1	
WMQ				PP			00 40 29.1	
WMQ				S		**Sn**	**00 42 45.2**	**-3.9**
WMQ				SS			00 43 04.2	
WMQ				PCP		PcP	00 45 34.1	+4.7
WMQ				SCP		ScP	00 48 57.1	+4.7
WMQ				SCS		ScS	00 52 32.9	+3.5
WMQ				AMB		AMB		
	comp=Z,46nm,0.9s							
WMQ				AMB		AMB		
	comp=Z,229nm,3.6s							
WMQ				LR		LR		
	comp=N,283nm,26.0s							
WMQ				LR		LR		
	comp=E,215nm,30.0s							
WMQ				LR		LR		
	comp=Z,212nm,21.4s							
GKN	**Gorkha**	**14.09**	**126**	*e*P		**Pn**	**00 40 16.4**	**-2.2**
GKN				*e*S		**Sn**	**00 42 44.3**	**-10**
KURBB	**Kurchatov Arra**	**14.44**	**18**	P		**Pn**	**00 40 18.8**	**-4.1**
KURK	**Kurchatov**	**14.54**	**18**	⇑P		**Pn**	**00 40 21.0**	**-3.2**
	comp=Z,68nm,1.0s							
KURK	**Kurchatov**	**14.54**	**18**	P		**Pn**	**00 40 27.8**	**+3.6**
	SNR=29							
KURK	**Kurchatov**	**14.54**	**18**	P		**Pn**	**00 40 27.8**	**+3.6**
	SNR=29							
KURK	**Kurchatov**	**14.54**	**18**	*e*Pn		**Pn**	**00 40 19.9**	**-4.4**
KKN	**Kakani**	**14.65**	**125**	*e*P		**Pn**	**00 40 22.6**	**-3.2**
	comp=Z,173nm,0.4s							
KKN				*e*S		**Sn**	**00 42 57.3**	**-10**
DMN	**Daman**	**14.66**	**126**	*e*P		**Pn**	**00 40 23.7**	**-2.2**
	comp=Z,194nm,0.4s							
DMN				*e*S		**Sn**	**00 42 57.9**	**-10**
PKI	**Pulchoki**	**14.88**	**125**	*e*P		**Pn**	**00 40 26.4**	**-2.3**
	comp=Z,122nm,0.2s							
AB31	**Akbulak array**	**14.94**	**329**	⇓P		**Pn**	**00 40 24.9**	**-4.4**
	comp=Z,18nm,0.3s,baz=151,slow=11,SNR=6.2							
AB31				⇓S		**Sn**	**00 42 58.3**	**-16**
	comp=Z,93nm,0.3s							
GUN	**Gumba**	**14.97**	**123**	*e*P		**Pn**	**00 40 27.1**	**-2.7**
	comp=Z,668nm,0.8s							
JIRN	**Jiri**	**15.34**	**123**	*e*P		**Pn**	**00 40 32.2**	**-2.3**
	comp=Z,397nm,0.4s							
BVA0	**Borovoye Array**	**16.03**	**357**	⇓P		**Pn**	**00 40 40.2**	**-2.7**
	comp=Z,4.5nm,0.5s,baz=171,slow=12,SNR=156							
BVA0				⇑S		**S**	**00 43 31.7**	**-15**
	comp=Z,27nm,1.8s,baz=166,slow=22,SNR=8.3							
BVAR	**Borovoye Array**	**16.03**	**357**	P		**Pn**	**00 40 40.1**	**-2.8**
	comp=Z,4.7nm,0.3s,baz=163,slow=12,SNR=63							
BVAR				S		**S**	**00 43 32.1**	**-14**
	comp=Z,3.4nm,0.3s,baz=168,slow=23,SNR=9.0							
BVAR				LR		LR	00 47 33.4	
	comp=Z,76nm,20.5s,baz=177,slow=39							
BVAR	**Borovoye Array**	**16.03**	**357**	P		**Pn**	**00 40 40.1**	**-2.8**
BVAR				S		**S**	**00 43 32.1**	**-14**
BRVK	**Borovoye**	**16.07**	**357**	P		**Pn**	**00 40 40.9**	**-2.4**
	SNR=72							
BRVK	**Borovoye**	**16.07**	**357**	P		**Pn**	**00 40 40.9**	**-2.4**
	SNR=72							
BRVK	**Borovoye**	**16.07**	**357**	*e*Pn		**Pn**	**00 40 40.5**	**-2.8**
RAMN	**Ramite**	**16.08**	**124**	*e*P		**Pn**	**00 40 41.3**	**-2.4**
	comp=Z,304nm,0.6s							
TAPN	**Taplejung**	**16.57**	**121**	*e*P		**Pn**	**00 40 47.7**	**-2.0**
	comp=Z,160nm,0.4s							
AKTK	**Aktyubinsk**	**16.65**	**328**	P		**Pn**	**00 40 47.8**	**-2.7**
AKTK				S		**S**	**00 43 42.1**	**-14**
AKTK				LR		LR	00 48 53.8	
AKTO	**Aktyubinsk**	**16.65**	**328**	⇓P		**Pn**	**00 40 48.2**	**-2.3**
	comp=Z,16nm,0.5s							
AKTO				⇓S		**S**	**00 43 38.6**	**-18**
	comp=Z,50nm,1.4s							
AKTO	**Aktyubinsk**	**16.65**	**328**	P		**Pn**	**00 40 47.8**	**-2.7**
	comp=Z,15nm,0.3s,baz=136,slow=13,SNR=184							
AKTO				S		**S**	**00 43 42.1**	**-14**
	comp=Z,7.6nm,0.3s,baz=232,slow=22,SNR=12							
AKTO				LR		LR	00 48 53.8	
	comp=Z,78nm,21.6s,baz=163,slow=42							
AKTO	**Aktyubinsk**	**16.65**	**328**	P		**Pn**	**00 40 47.8**	**-2.7**
AKTO				S		**S**	**00 43 42.1**	**-14**
ODAN	**Odare**	**16.67**	**123**	*e*P		**Pn**	**00 40 48.9**	**-2.0**
	comp=Z,190nm,0.4s							
AKL	**Akola**	**16.89**	**163**	*e*P		**Pn**	**00 40 53.5**	**-0.2**
AKL				AMb		AMB	00 40 59.4	
	comp=Z,180nm,1.7s							
NGP	**Nagpur**	**17.04**	**156**	*e*P		**Pn**	**00 40 55.5**	**0.0**
NGP				*e*x		x	00 40 58.4	
	comp=Z,258nm,1.8s							
NGP				*e*x		x	00 43 56.7	
BANOM	**Banah**	**17.20**	**234**	P		**Pn**	**00 40 56.6**	**-0.7**
	SNR=34							
BANOM	**Banah**	**17.20**	**234**	P		**Pn**	**00 40 57.8**	**+0.4**
	SNR=7.1							
BANOM	**Banah**	**17.20**	**234**	P		**Pn**	**00 40 57.8**	**+0.4**
	SNR=7.1							
BLSP	**Bilaspur**	**17.34**	**146**	*e*P		**Pn**	**00 40 56.9**	**-2.3**
BLSP				AMb		AMB	00 41 01.7	
	comp=Z,72nm,1.2s							
LSA	**Lhasa**	**17.74**	**109**	P		**Pn**	**00 41 05.8**	**+1.8**
LSA				S		**S**	**00 44 24.0**	**+2.6**
LSA				AMB		AMB		
	comp=Z,50nm,1.4s							
LSA				LR		LR		
	comp=N,140nm,9.5s							
LSA				LR		LR		
	comp=E,280nm,10.8s							
LSA				LR		LR		
	comp=Z,340nm,10.8s							
LSA	**Lhasa**	**17.74**	**109**	*e*P		**Pn**	**00 41 05.5**	**+1.5**
LSA				pmax		pmax		
	comp=Z,102nm,0.9s							
LSA	**Lhasa**	**17.74**	**109**	*e*Pn		**Pn**	**00 41 05.5**	**+1.5**
	comp=Z,102nm,0.9s							
BOK	**Bokaro**	**17.92**	**133**	*e*P		**Pn**	**00 41 05.0**	**-1.0**
BOK				AMb		AMB	00 41 08.8	
	comp=Z,169nm,0.9s							
BOK				*i* x		x	00 44 10.2	
HATD	**Hatta, Dubai**	**18.07**	**232**	P		**P**	**00 41 08.3**	**+1.5**
	SNR=7.6							
HATD	**Hatta, Dubai**	**18.07**	**232**	P		**P**	**00 41 08.3**	**+1.5**
	SNR=7.6							
WBK	**Wadi Bani Khal**	**18.13**	**221**	P		**P**	**00 41 12.0**	**+4.5**
	SNR=5.6							
WBK	**Wadi Bani Khal**	**18.13**	**221**	P		**P**	**00 41 12.0**	**+4.5**
	SNR=5.6							
ASHO	**Ashiyiah**	**18.22**	**232**	P		**P**	**00 41 09.6**	**+1.1**
	SNR=31							
ASHO	**Ashiyiah**	**18.22**	**232**	P		**P**	**00 41 09.8**	**+1.3**
	SNR=31							
ASHO	**Ashiyiah**	**18.22**	**232**	P		**P**	**00 41 09.8**	**+1.3**
	SNR=31							
POO	**Poona**	**18.51**	**174**	*e*P		**P**	**00 41 11.9**	**+0.2**
POO				AMb		AMB	00 41 16.9	
	comp=Z,78nm,2.1s							
POO				*e*x		x	00 44 30.0	
BSY	**Bisya**	**18.99**	**226**	P		**P**	**00 41 19.4**	**+2.5**
	SNR=6.8							
BSY	**Bisya**	**18.99**	**226**	P		**P**	**00 41 19.4**	**+2.5**
	SNR=6.8							
LATR	**Latur**	**19.01**	**166**	*e*P		**P**	**00 41 13.2**	**-3.9**
LATR				AMb		AMB	00 41 22.6	
	comp=Z,116nm,0.7s							
LATR				*e*S		**S**	**00 44 41.9**	**-4.9**
ZAL	**Zalesovo**	**19.17**	**24**	P		**P**	**00 41 18.7**	**+0.2**
ZAA0	**Zalesovo Array**	**19.19**	**24**	*e*Pn		**Pn**	**00 41 18.5**	**-2.3**
ZALV	**Zalesovo Beam**	**19.19**	**24**	P		**P**	**00 41 18.7**	**0.0**
	comp=Z,20nm,0.3s,baz=211,slow=10,SNR=179							
ZALV	**Zalesovo Beam**	**19.19**	**24**	P		**P**	**00 41 18.7**	**0.0**
NVS	**Novosibirsk**	**19.48**	**20**	⇑*i*P		**P**	**00 41 21.7**	**-0.1**
NVS				*e*S		**S**	**00 44 47.2**	**-8.4**
NVS				pmax		pmax		
	comp=Z,94nm,1.0s							
NVS				pmax		pmax		
	comp=N,72nm,1.1s							
NVS				pmax		pmax		
	comp=E,33nm,1.1s							
NVS				smax				
	comp=N,144nm,1.8s							
NVS				smax				
	comp=E,56nm,1.5s							
MAK	**Makhachkala**	**19.48**	**295**	*c i*P		**P**	**00 41 23.8**	**+1.8**
MAK				*e*S		**S**	**00 44 55.3**	**-0.7**
MAK				pmax		pmax		
	comp=Z,153nm,1.2s							
MAK				MLR		MLR		
	comp=Z,654nm,12.0s							
MAK				MLR		MLR		
	comp=Z,255nm,20.0s							
MAK				MLR		MLR		
	comp=Z,154nm,14.0s							
KAD	**Karad**	**19.75**	**173**	*e*x		x	00 41 42.3	
KAD				AMb		AMB	00 41 45.0	
	comp=Z,190nm,1.6s							
HYB	**Hyderabad**	**20.43**	**161**	*e*P		**P**	**00 41 34.0**	**+1.6**
HYB				*e*S		**S**	**00 45 16.0**	**+1.1**
HYB				pmax		pmax		
	comp=Z,160nm,1.0s							
HYB	**Hyderabad**	**20.43**	**161**	*i* P		**P**	**00 41 34.0**	**+1.6**
	comp=Z,160nm,1.0s							
HYB	**Hyderabad**	**20.43**	**161**	*e*P		**P**	**00 41 34.0**	**+1.6**
	comp=Z,160nm,1.0s							
HYB				*e*S		**S**	**00 45 16.0**	**+1.1**
SHL	**Shillong**	**20.59**	**118**	⇑*i* x		x	00 41 37.0	
	comp=Z,17nm,1.3s							
SHL				*e*x		x	00 45 15.0	
BWNR	**Bhubaneshwar**	**20.68**	**140**	*e*P		**P**	**00 41 32.0**	**-3.1**
BWNR				*e*x		x	00 45 10.0	
DGRG	**David-gareji**	**20.89**	**290**	P		**P**	**00 41 37.8**	**+0.6**
HVS	**Khovu-Aksy**	**21.04**	**41**	*i* P		**P**	**00 41 39.4**	**+0.7**
HVS				pmax		pmax		
	comp=Z,123nm,0.6s,mb5.4							
SVE	**Sverdlovsk**	**21.17**	**343**	⇑*e*P		**P**	**00 41 39.2**	**-0.8**
SVE				*e*			00 42 19.2	
SVE				*e*S		**S**	**00 45 28.3**	**-0.5**
SVE				pmax		pmax		
	comp=Z,96nm,0.7s,mb5.2							
SVE				MLR		MLR		
	comp=Z,486nm,12.0s							
GNI	**Garni**	**21.33**	**287**	P		**P**	**00 41 43.9**	**+2.0**
	SNR=60							
GNI	**Garni**	**21.33**	**287**	P		**P**	**00 41 43.7**	**+1.8**
	comp=Z,56nm,0.5s,mb5.2,baz=335,slow=0.3,SNR=102							
GNI	**Garni**	**21.33**	**287**	P		**P**	**00 41 43.7**	**+1.8**
GNI				pmax		pmax		
	comp=Z,56nm,0.5s							
GNI	**Garni**	**21.33**	**287**	*e*P		**P**	**00 41 42.9**	**+1.0**
MTA	**Mtatsminda**	**21.34**	**291**	P		**P**	**00 41 41.9**	**0.0**
ARU	**Arti**	**21.35**	**340**	P		**P**	**00 41 41.4**	**-0.5**
	comp=Z,416nm,1.0s,mb5.7,SNR=41							
ARU	**Arti**	**21.35**	**340**	*d i*P		**P**	**00 41 40.9**	**-1.0**
ARU				*e*			00 42 05.2	
ARU				*e*PPP			00 42 17.0	
ARU				*e*S		**S**	**00 45 33.4**	**+1.1**
ARU				*e*SS			00 45 53.1	
ARU				pmax		pmax		
	comp=Z,92nm,1.2s,mb5.0							
ARU	**Arti**	**21.35**	**340**	*e*P		**P**	**00 41 40.8**	**-1.2**
TBLG	**Delisi**	**21.38**	**291**	P		**P**	**00 41 42.8**	**+0.3**
UMR	**Umm Al-Rimmam**	**21.41**	**257**	*e*P		**P**	**00 41 43.0**	**+0.1**
	baz=256							
UMR				AMb		AMB	00 41 48.2	
	comp=Z,335nm,0.4s,mb6.0,baz=256							
GOA	**Goa**	**21.52**	**175**	*e*P		**P**	**00 41 43.8**	**-0.4**
GOA				AMb		AMB	00 41 52.4	
	comp=Z,204nm,1.6s,mb5.2							
MIB	**Mutribah**	**21.59**	**258**	*e*P		**P**	**00 41 44.2**	**-0.6**
	baz=257							
MIB				AMb		AMB	00 41 50.5	
	comp=Z,228nm,0.8s,mb5.5,baz=257							
VIS	**Vishakhapatnam**	**21.76**	**149**	*e*P		**P**	**00 41 46.9**	**+0.2**
VIS				AMb		AMB	00 41 56.1	
	comp=Z,95nm,1.2s,mb5.0							
VIS				*e*S		**S**	**00 45 39.4**	**-1.3**
RDF	**Al-Radifah**	**21.82**	**255**	*e*P		**P**	**00 41 47.4**	**+0.1**
	baz=255							
RDF				AMb		AMB	00 41 47.9	
	comp=Z,155nm,1.2s,mb5.2,baz=255							
GTA	**Gaotai**	**22.13**	**75**	P		**P**	**00 41 53.9**	**+3.5**
GTA				AP			00 42 14.8	
GTA				XP		sP	00 42 26.7	+0.6
GTA				PP			00 42 27.7	
GTA				XS		sS	00 46 27.4	+3.6
GTA				AMB		AMB		
	comp=Z,44nm,1.1s,mb4.7							
GTA				AMB		AMB		
	comp=Z,229nm,4.5s							
GTA				LR		LR		
	comp=N,253nm,15.9s							
GTA				LR		LR		
	comp=E,261nm,14.4s							
GTA				LR		LR		
	comp=Z,200nm,17.4s							
AKH	**Akhalkalaki**	**22.30**	**290**	P		**P**	**00 41 53.2**	**+1.1**
IMP	**Imphal**	**22.53**	**117**	*e*x		x	00 41 58.0	
BHD	**Baghdad**	**22.68**	**269**	*e*x		x	00 41 43.7	
BHD				*e*x		x	00 45 29.0	
KIV	**Kislovodsk**	**23.10**	**297**	P		**P**	**00 41 59.4**	**-0.5**
	comp=Z,303nm,1.1s,mb5.5,SNR=5.7							
KRAR	**Krasnoyarsk**	**23.74**	**30**	*i* P		**P**	**00 42 06.0**	**+0.4**
KRAR				pmax		pmax		
	comp=Z,24nm,0.5s,mb4.8							
SOKR	**Solikamsk**	**24.55**	**342**	*d i*P		**P**	**00 42 13.3**	**+0.4**
SOKR				pmax		pmax		
	comp=Z,60nm,0.9s,mb5.0							
SOKR				MLR		MLR		
	comp=Z,380nm,18.0s							
SOC	**Sochi**	**25.20**	**295**	*e*P		**P**	**00 42 16.7**	**-2.4**
SOC				*e*			00 42 57.4	
SOC				*e*S		**S**	**00 46 38.7**	**+2.8**
SOC				*e*SS			00 47 31.4	
MOY	**Mondy**	**25.30**	**45**	*e*P		**P**	**00 42 22.3**	**+2.4**
MOY				pmax		pmax		
	comp=Z,58nm,1.8s,mb4.7							
VRHR	**Novokhopersk**	**25.61**	**313**	*e*P		**P**	**00 42 22.0**	**-0.7**
VRHR				pmax		pmax		
	comp=Z,70nm,1.3s,mb4.9							
VRHR				pmax		pmax		
	comp=N,30nm,1.0s							
VRHR

comp=Z,10.0nm,1.1s,mb4.3
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.0s
CD2 Chengdu 27.14 94 *eP* **P 00 42 39.4 +2.7**
CD2 AP pP 00 43 00.9 -0.5
CD2 PP PP 00 43 29.2 -11
CD2 PCP PcP 00 45 58.2 +3.8
CD2 S **S 00 47 06.9 +0.2**
CD2 SS 00 48 29.3
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,490nm,16.8s
CD2 LR LR
comp=E,420nm,13.2s
CD2 LR LR
comp=Z,240nm,14.4s
KOD Kodaikanal 27.16 168 *eP* **P 00 42 36.7 -0.2**
KOD AMb AMB 00 42 45.5
comp=Z,36nm,1.9s,mb4.6
VOR Voronezh 27.26 313 *eP* **P 00 42 36.5 -0.9**
VOR pmax pmax
comp=Z,100nm,1.0s,mb5.3
IRK Irkutsk 27.40 46 *eP* **P 00 42 37.4 -1.3**
IRK pmax pmax
comp=Z,36nm,1.7s,mb4.6
SONM Songino Array 27.53 56 P **P 00 42 42.6 +2.6**
comp=Z,15nm,0.8s,mb4.6,baz=256,slow=10.0,SNR=70
KMI Kunming 28.93 105 P **P 00 42 55.0 +2.4**
KMI AP pP 00 43 17.1 -0.4
KMI PP PP 00 43 51.8 -8.2
KMI S **S 00 47 37.5 +2.5**
KMI SS SS 00 49 12.6 -29
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,118nm,4.4s
KMI LR LR
comp=N,296nm,9.9s
KMI LR LR
comp=E,301nm,6.2s
KMI LR LR
comp=Z,128nm,11.8s
ASF Jabal al Asfar 29.01 271 P **P 00 42 53.9 +0.6**
comp=Z,3.2nm,0.9s,mb4.0,baz=307,slow=7.7,SNR=5.5
SIM Simferopol' 29.30 298*d i P* **P 00 42 54.4 -1.2**
SIM S **S 00 47 41.0 +0.7**
SIM pmax pmax
comp=Z,19nm,1.2s,mb4.6
MOS Moscow 29.65 320 *eP* **P 00 42 56.9 -1.7**
MOS pmax pmax
comp=Z,163nm,1.3s,mb5.5
MOS MLR MLR
comp=Z,2µm,20.0s
CHTO Chiang Mai 29.93 120 *eP* **P 00 43 03.8 +2.3**
MMAI Mount Meron Ar 29.93 273 P **P 00 43 02.9 +1.4**
comp=Z,1.2nm,0.3s,mb3.9,baz=75,slow=9.6,SNR=8.4
OBN Obninsk 29.95 318*keP* **P 00 43 01.1 -0.2**
OBN *e* 00 44 08.5
OBN S **S 00 47 46.0 -4.3**
OBN pmax pmax
comp=Z,212nm,1.4s,mb5.6
OBN MLR MLR
comp=Z,200nm,17.0s
OBN Obninsk 29.95 318 *eP* **P 00 43 01.2 -0.1**
CM31 Chiang Mai Arr 30.18 120 *eP* **P 00 43 05.9 +2.3**
CMAR Chiang Mai Arr 30.18 120 P **P 00 43 05.9 +2.2**
comp=Z,7.8nm,0.9s,mb4.3,baz=308,slow=8.7,SNR=31
CMAR PP PP 00 44 12.1 -1.8
comp=Z,2.8nm,0.4s,baz=310,slow=11,SNR=4.4
XAN Xi'an 30.26 84 P **P 00 43 06.5 +2.2**
XAN AMB AMB
comp=Z,22nm,1.1s,mb4.7
XAN AMB AMB
comp=Z,84nm,4.7s
ANTO Ankara 30.50 287 *eP* **P 00 43 06.5 +0.2**
ANTO pmax pmax
comp=Z,45nm,1.4s,mb4.9
ANTO Ankara 30.50 287 *eP* **P 00 43 06.5 +0.2**
comp=Z,45nm,1.4s,mb4.9
PALK Pallekele 30.71 162 P **P 00 43 10.3 +1.9**
HHC Hu-ho-hao-te 31.00 70 *eP* **P 00 43 12.8 +2.0**
HHC AP pP 00 43 35.4 -0.4
HHC PP PP 00 44 17.1 -5.7
HHC S **S 00 48 07.8 +0.6**
HHC PCS PcS 00 49 50.1 +2.0
HHC SCS ScS 00 53 34.8 +1.4
HHC AMB AMB
comp=Z,15nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,172nm,8.1s
HHC LR LR
comp=N,151nm,19.0s
HHC LR LR
comp=E,180nm,19.0s
HHC LR LR
comp=Z,178nm,19.0s
GYA Guiyang 31.33 100⇑ *iP* **P 00 43 17.6 +3.8**
GYA AP pP 00 43 40.2 +1.4
GYA XP sP 00 43 52.7 +0.8
GYA PP PP 00 44 23.8 -2.8
GYA PCP PcP 00 46 08.5 +3.4
GYA S **S 00 48 15.2 +2.6**
GYA SCP ScP 00 49 41.0 +3.3
GYA SCS ScS 00 53 37.4 +1.9
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,850nm,17.5s
GYA LR LR
comp=E,810nm,16.6s
GYA LR LR
comp=Z,780nm,17.4s
KLMR Klimovskoe 31.34 330 *eP* **P 00 43 11.3 -2.1**
KLMR pmax pmax
comp=Z,73nm,1.3s,mb5.2
KIS Kishinev 33.06 301 *eP* **P 00 43 27.0 -1.7**
KIS *e* 00 44 40.0
AKASG Malin Array Be 33.10 308 P **P 00 43 28.4 -0.6**
comp=Z,11nm,0.4s,mb5.0,baz=81,slow=7.5,SNR=77
AKASG PP PP 00 44 46.0 +0.1
comp=Z,7.3nm,0.7s,baz=87,slow=10,SNR=5.1
AKASG Malin Array Be 33.10 308 P **P 00 43 28.4 -0.6**
AKASG PP PP 00 44 46.0 +0.1
AKBB Malin Array Si 33.10 308 *eP* **P 00 43 28.3 -0.7**
AKBB *e* 00 46 11.4
KIEV Kiev 33.11 308 *eP* **P 00 43 28.5 -0.6**
KIEV pmax pmax
comp=Z,14nm,0.4s,mb5.1
KIEV Kiev 33.11 308 *eP* **P 00 43 28.5 -0.6**
comp=Z,14nm,0.4s,mb5.2
VRI Vrincioaia 34.51 299 P **P 00 43 42.8 +1.6**
VRI Vrincioaia 34.51 299⇓ *iP* **P 00 43 42.5 +1.3**
VRI Vrincioaia 34.51 299⇓ P **P 00 43 42.5 +1.2**
BOD Bodaibo 34.55 39 *eP* **P 00 43 41.7 +0.2**
BOD pmax pmax
comp=Z,17nm,1.2s,mb4.8
PLOR Plostina 34.56 299 P **P 00 43 43.2 +1.5**
MNK Minsk 34.60 315⇑ *eP* **P 00 43 40.0 -1.9**
ARG Arkhangelos 34.81 282 *eP* **P 00 43 43.8 -0.1**
JMB Yambol 34.85 293 *eP* **P 00 43 45.8 +1.6**
MLR Muntele Rosu 35.07 299 P **P 00 43 47.9 +1.9**
MLR Muntele Rosu 35.07 299⇓ *iP* **P 00 43 47.7 +1.7**
MLR Muntele Rosu 35.07 299⇓ P **P 00 43 47.7 +1.7**
ALN Alexandroupoli 35.45 291 *eP* **P 00 43 50.0 +0.6**
SMG Samos 35.46 285 *eP* **P 00 43 49.6 +0.1**
BURAR Bucovina Array 35.52 302⇓ *iP* **P 00 43 50.4 +0.5**
BURAR Bucovina Array 35.52 302⇓ P **P 00 43 50.4 +0.5**
PRK Paraskevi 35.57 288 *eP* **P 00 43 50.8 +0.4**
ZIMR 35.61 295 P **P 00 43 51.1 +0.4**
VOIR 35.70 299 P **P 00 43 52.7 +1.2**
VOIR 35.70 299⇓ *iP* **P 00 43 52.1 +0.6**
VOIR 35.70 299⇓ P **P 00 43 52.1 +0.6**
JOF Joensuu 35.73 329 *ep* **P 00 43 51.2 -0.3**
comp=Z,35nm,0.4s,mb5.7
JOF Joensuu 35.73 329 *eP* **P 00 43 51.2 -0.3**
JOF pmax pmax
comp=Z,35nm,0.4s,mb5.6

KARP Karpathos 35.74 281 *eP* **P 00 43 52.0 +0.1**
WHN Wuhan 35.75 88⇓ P **P 00 43 54.8 +2.7**
WHN AMB AMB
comp=Z,57nm,1.0s,mb5.5
RDO Rodhopi 35.80 291 *eP* **P 00 43 52.7 +0.4**
CHOS Chios island 35.91 286 *eP* **P 00 43 53.9 +0.5**
TIA Tai'an 36.15 77⇓ P **P 00 43 58.1 +2.7**
TIA AMB AMB
comp=Z,34nm,1.1s,mb5.2
VSU Vasula 36.16 321 *i P* **P 00 43 54.8 -0.4**
LIA Limnos Island 36.27 289 *eP* **P 00 43 56.5 +0.1**
RZN Rozhen 36.33 292 *eP* **P 00 43 57.5 +0.7**
LVV L'vov 36.35 306 *eP* **P 00 43 56.4 -0.5**
LVV *e* 00 45 20.4
LVV *e*PPP 00 46 13.6
LVV *e*S **S 00 49 33.4 +3.9**
HIA Hailar 36.49 55 *eP* **P 00 43 59.4 +1.3**
HIA pmax pmax
comp=Z,8.0nm,0.3s
HIA Hailar 36.49 55 *eP* **P 00 43 59.4 +1.3**
comp=Z,7.5nm,0.3s,mb5.1
APE Apeiranthos 36.62 284 *eP* **P 00 43 59.3 -0.1**
APE Apeiranthos 36.62 284 P **P 00 44 00.1 +0.7**
APE Apeiranthos 36.62 284⇓ *iP* **P 00 43 59.6 +0.2**
NVR Nevrokopi 37.01 292 *eP* **P 00 44 03.2 +0.5**
NPS Neapolis 37.04 282 *eP* **P 00 44 03.3 +0.4**
MMB Musomiste 37.07 292 *eP* **P 00 44 03.5 +0.3**
KWP Kalwaria 37.20 306 *eP* **P 00 44 04.9 +0.7**
KWP *ep*P pP 00 44 14.8 -15
KWP Kalwaria 37.20 306 *eP* **P 00 44 04.9 +0.7**
KWP *e**PP pP 00 44 14.7 -15
KWP Kalwaria 37.20 306⇓ *iP* **P 00 44 04.6 +0.4**
KWP Kalwaria 37.20 306 *eP* **P 00 44 04.5 +0.3**
KWP *ep*P pP 00 44 14.7 -15
LVZ Lovozero 37.21 338 *eP* **P 00 44 03.6 -0.3**
LVZ pmax pmax
comp=Z,128nm,1.6s,mb5.6
SUW Suwalki 37.21 313 *eP* **P 00 44 03.8 -0.3**
SUW *e*S **S 00 49 39.2 -3.1**
SUW Suwalki 37.21 313 *eP* **P 00 44 03.8 -0.3**
SUW *e*S **S 00 49 39.3 -3.1**
DRGR 37.25 301 P **P 00 44 05.7 +1.1**
DRGR 37.25 301⇓ *iP* **P 00 44 05.6 +1.0**
DRGR 37.25 301⇓ P **P 00 44 05.6 +0.9**
VTS Vitosha 37.30 294 *eP* **P 00 44 06.5 +1.4**
APA Apatity 37.40 337⇓ *iP* **P 00 44 05.8 +0.3**
APA *i* PPP 00 45 34.5
APA *i* 00 46 22.0
APA MLR MLR
comp=Z,600nm,13.0s
UZH Uzhgorod 37.48 304 *eP* **P 00 44 06.0 -0.5**
UZH *i **PP pP 00 44 25.0 -7.0
UZH *e*S **S 00 49 47.8 +1.2**
UZH *i* 00 52 29.0
UZH *i* 00 53 01.0
SOH Sokhos 37.48 291 *eP* **P 00 44 06.7 0.0**
KOLS Kolonicke sedl 37.49 305 *i P* **P 00 44 06.8 +0.2**
KOLS *e*PP PP 00 45 35.1 +0.9
PLG Polygyros 37.49 290 *eP* **P 00 44 07.6 +0.9**
KAF Kangasniemi 37.53 327 *ep* **P 00 44 06.3 -0.4**
comp=Z,5.8nm,0.3s,mb4.9,baz=110,slow=8.6
KAF Kangasniemi 37.53 327 *eP* **P 00 44 06.3 -0.4**
KAF pmax pmax
comp=Z,6.0nm,0.3s,mb4.9
PTL Penteli 37.67 287 *eP* **P 00 44 09.0 +0.8**
KNT Kendrikon 37.76 292 *eP* **P 00 44 08.9 -0.1**
ATH Athens Observa 37.80 286 *eP* **P 00 44 09.4 0.0**
NEO Neokhori 37.88 289 *eP* **P 00 44 09.7 -0.3**
XOR Xorichti 37.89 289 *eP* **P 00 44 10.6 +0.5**
VAY Valandovo 37.98 292 *eP* **P 00 44 10.9 +0.1**
CRVS Cervenica-Dubn 38.02 304 *i P* **P 00 44 11.1 0.0**
CRVS *e*PP PP 00 45 39.2 -0.8
CRVS Cervenica-Dubn 38.02 304 *i P* **P 00 44 11.2 +0.1**
CRVS *e*PP PP 00 45 39.2 -0.8
BZS Buzias 38.09 299 P **P 00 44 12.6 +0.9**
BZS Buzias 38.09 299⇓ *iP* **P 00 44 12.5 +0.8**
BZS Buzias 38.09 299⇓ P **P 00 44 12.5 +0.7**
VAM Vamos 38.10 282 *eP* **P 00 44 12.0 +0.1**
LKR Lokris 38.19 288 *eP* **P 00 44 12.1 -0.5**
STIP Stip 38.20 293 *eP* **P 00 44 12.4 -0.2**
LIT Litokhoron 38.27 290 *eP* **P 00 44 12.8 -0.5**
WAR Warsaw 38.35 310 *eP* **P 00 44 14.4 +0.6**
WAR Warsaw 38.35 310 *eP* **P 00 44 14.4 +0.6**
AGG Agios Georgios 38.62 289 *eP* **P 00 44 15.2 -0.9**
KECS Kecovo 38.68 304 *i P* **P 00 44 17.1 +0.5**
KECS pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
KECS Kecovo 38.68 304 *i P* **P 00 44 17.0 +0.4**
KECS *e*PP PP 00 45 45.6 -1.6
KECS Kecovo 38.68 304 *i P* **P 00 44 17.1 +0.5**
comp=Z,6.8nm,0.6s,mb4.7
KECS *e*PP PP 00 45 45.6 -1.6
SKO Skopje 38.70 293 *eP* **P 00 44 17.4 +0.5**
VLI Veliai 38.72 285 *eP* **P 00 44 15.2 -1.9**
THL Klokotos Trika 38.73 289 *eP* **P 00 44 17.5 +0.3**
THL Klokotos Trika 38.73 289 *eP* **P 00 44 16.7 -0.5**
KYTH Kithira 38.76 284 *eP* **P 00 44 17.0 -0.4**
NIE Niedzica 38.77 305 *eP* **P 00 44 18.4 +1.1**
NJ2 Nanjing 38.80 83 *eP* **P 00 44 20.2 +2.4**
NJ2 PP PP 00 45 55.3 +6.5
NJ2 S **S 00 50 12.0 +5.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
NJ2 AMB AMB
comp=Z,280nm,4.7s
NJ2 LR LR
comp=N,230nm,16.8s
NJ2 LR LR
comp=E,300nm,15.0s
NJ2 LR LR
comp=Z,190nm,22.9s
KRUS Krusevo 38.95 292 *eP* **P 00 44 19.9 +1.0**
BIA Bitola 38.95 292 *eP* **P 00 44 18.3 -0.7**
FNA Florina 38.96 292 *eP* **P 00 44 18.7 -0.3**
EVR Evrytania 39.03 288 *eP* **P 00 44 18.4 -1.3**
OJC Ojcow 39.08 307 *i P* **P 00 44 19.9 0.0**
OJC *e*PP PP 00 45 49.1 -2.5
OJC *e*S **S 00 50 17.0 +6.2**
OJC L 01 02 54.6
comp=Z,0.1nm,16.6s
PSZ Piszkesteto 39.10 303 P **P 00 44 21.0 +0.9**
PSZ Piszkesteto 39.10 303⇓ *eP* **P 00 44 20.8 +0.7**
PSZ Piszkesteto 39.10 303⇓ *iP* **P 00 44 20.8 +0.7**
PSZ Piszkesteto 39.10 303 *eP* **P 00 44 20.8 +0.7**
RLS Riolos of Patr 39.50 287 *eP* **P 00 44 23.4 -0.2**
JAN Janina 39.59 290 *eP* **P 00 44 25.0 +0.7**
BUD Budapest 39.72 302⇓ *eP* **P 00 44 26.0 +0.8**
LKD Levkas 39.96 289 *eP* **P 00 44 26.6 -0.8**
TIR Tirane 39.97 293 *eP* **P 00 44 26.7 -0.7**
TIR pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
TIR Tirane 39.97 293 *eP* **P 00 44 26.7 -0.7**
comp=Z,8.7nm,0.4s,mb4.9
IGT Igoumenitsa 40.01 290 *eP* **P 00 44 26.6 -1.2**
KOLL Kolacno 40.06 304 *i P* **P 00 44 28.3 +0.3**
PKSM Moragy 40.10 300 P **P 00 44 28.9 +0.5**
PKSM Moragy 40.10 300⇓ *iP* **P 00 44 28.7 +0.3**
PKSM Moragy 40.10 300⇓ P **P 00 44 28.7 +0.3**
VLS Valsamata 40.14 288 *eP* **P 00 44 27.4 -1.5**
OKC Ostrava-Krasne 40.16 306 *eP* **P 00 44 29.5 +0.7**
OKC *e* 00 46 03.5
OKC Ostrava-Krasne 40.16 306 *eP* **P 00 44 29.5 +0.7**
OKC *e*PP PP 00 46 03.5 +0.2
OKC *e*SS SS 00 53 50.4 +22
OKC AMS AMS 01 04 20.0
OKC Ostrava-Krasne 40.16 306 *eP* **P 00 44 29.5 +0.7**
OKC *e*PP PP 00 46 03.5 +0.2
OKC *e*SS SS 00 53 50.4 +22
KEK Kerkira 40.37 290 *eP* **P 00 44 29.6 -1.1**
KEV Kevo 40.55 338 *ep* **P 00 44 31.4 -0.4**
comp=Z,6.6nm,0.3s,mb4.9
KEV Kevo 40.55 338 *eP* **P 00 44 31.4 -0.4**
KEV pmax pmax
comp=Z,7.0nm,0.3s,mb5.0
MORC Moravsky Berou 40.55 306 *eP* **P 00 44 31.9 -0.2**
MORC *e* 00 46 07.0
MORC *e* 00 46 32.2
MORC pmax pmax
comp=Z,30nm,1.0s,mb5.1
MORC Moravsky Berou 40.55 306⇓ *iP* **P 00 44 32.5 +0.4**
MORC Moravsky Berou 40.55 306 *eP* **P 00 44 31.9 -0.1**
comp=Z,30nm,1.0s,mb5.1

MORC *e*PP PP 00 46 07.0 -0.5
MORC *e*PcP PcP 00 46 32.2 +0.1
MORC *e*ScP ScP 00 50 12.3 +1.3
GKP Gorka Klasztor 40.69 311 *eP* **P 00 44 33.3 +0.2**
GKP Gorka Klasztor 40.69 311 *eP* **P 00 44 33.3 +0.2**
MODS Modra-Piesok 40.82 304 *i P* **P 00 44 34.7 +0.4**
MODS pmax pmax
comp=Z,13nm,1.3s,mb4.6
MODS Modra-Piesok 40.82 304 *i P* **P 00 44 34.7 +0.4**
comp=Z,13nm,1.3s,mb4.6
MODS *e*PP PP 00 46 13.6 +3.2
CN2 Changchun 40.82 63 *eP* **P 00 44 35.6 +1.2**
CN2 *e*AP pP 00 44 58.3 -1.9
CN2 *e*S **S 00 50 37.7 +0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
ARCES ARCESS Array B 40.90 337 P **P 00 44 34.9 +0.2**
comp=Z,23nm,0.4s,mb5.4,baz=113,slow=7.8,SNR=492
ARCES LR LR 01 02 57.5
comp=Z,296nm,19.6s,baz=109,slow=38
ARE0 ARCESS Array S 40.90 337 *eP* **P 00 44 34.9 +0.2**
ARE0 *e*PcP PcP 00 46 32.8 -0.1
ZST Bratislava 40.95 304 *i P* **P 00 44 36.2 +0.8**
ZST pmax pmax
comp=Z,15nm,1.1s,mb4.7
ZST Bratislava 40.95 304 *i P* **P 00 44 36.2 +0.8**
comp=Z,15nm,1.1s,mb4.7
ZST *e*PP PP 00 46 16.9 +5.0
VRAC Vranov 41.20 305⇓ *iP* **P 00 44 38.2 +0.8**
VRAC Vranov 41.20 305⇓ P **P 00 44 38.2 +0.9**
KSP Ksiaz 41.30 308 *eP* **P 00 44 38.5 +0.3**
KSP *e*pP pP 00 44 49.4 -15
KSP Ksiaz 41.30 308 *eP* **P 00 44 38.3 +0.1**
KSP *e*PP PP 00 46 15.0 -0.6
KSP *e*SS SS 00 53 49.0 -2.4
DPC Dobruska-Polom 41.31 307 *ePP* PP 00 46 19.4 +3.7
SOP Sopron 41.36 303⇓ *eP* **P 00 44 39.2 +0.4**
KTK1 Kautokeino 41.39 336 *eP* **P 00 44 38.5 -0.2**
KTK1 AMb AMB 00 44 39.4
comp=Z,78nm,0.4s,mb5.9
KTK1 Kautokeino 41.39 336 *eP* **P 00 44 38.5 -0.2**
comp=Z,78nm,0.4s,mb5.9
UPC Upice 41.50 307 *eP* **P 00 44 40.2 +0.4**
UPC *e*PP PP 00 46 22.7 +5.0
CONA Conrad Observa 41.80 303 *i P* **P 00 44 42.9 +0.6**
comp=Z,109nm,1.4s,mb5.4,SNR=48
CSNA Conrad Observa 41.81 303⇓ *iP* **P 00 44 42.9 +0.6**
comp=Z,104nm,1.4s,mb5.4
TREC Trest 41.92 305 *eP* **P 00 44 43.3 0.0**
TREC *e* 00 46 20.9
TREC *e*SS SS 00 54 05.5 +1.9
TREC Trest 41.92 305 *eP* **P 00 44 43.3 0.0**
TREC *e*PP PP 00 46 20.9 -1.4
TREC *e*SS SS 00 54 05.5 +1.9
TREC AMS AMS 01 05 30.0
BSD Bornholm Skovb 42.09 314⇓ *iP* **P 00 44 43.6 -0.9**
BSD pmax pmax
comp=Z,12nm,0.4s,mb5.0
BSD Bornholm Skovb 42.09 314⇓ *iP* **P 00 44 43.6 -0.9**
comp=Z,12nm,0.4s,mb5.0
ARSA Arzberg 42.11 302⇑ *iP* **P 00 44 44.9 +0.1**
comp=Z,54nm,1.7s,mb5.0,SNR=13
PVCC Panska Ves 42.42 307 *eP* **P 00 44 47.1 -0.2**
PVCC *e* 00 46 33.7
PVCC Panska Ves 42.42 307 *eP* **P 00 44 47.1 -0.2**
PVCC *e*PP PP 00 46 33.7 +6.1
PVCC *e*SS SS 00 54 22.3 +9.1
PVCC AMS AMS 01 04 40.0
PVCC Panska Ves 42.42 307 *eP* **P 00 44 47.1 -0.2**
PVCC *e*PP PP 00 46 33.7 +6.1
PVCC *e*SS SS 00 54 22.3 +9.1
PERS Pernice 42.47 302 *i P* **P 00 44 48.1 +0.4**
PRU Pruhonice 42.48 307 *eP* **P 00 44 48.0 +0.2**
PRU *e* 00 46 28.9
PRU *e*S **S 00 51 03.0 +1.9**
PRU Pruhonice 42.48 307 *eP* **P 00 44 48.0 +0.2**
PRU *e*PP PP 00 46 28.9 +0.7
PRU *e*S **S 00 51 03.0 +1.9**
PRU *e*SS SS 00 54 27.6 +13
PRU AMS AMS 01 04 50.0
PRU Pruhonice 42.48 307 *eP* **P 00 44 48.0 +0.2**
PRU *e*PP PP 00 46 28.9 +0.7
PRU *e*S **S 00 51 03.0 +1.9**
PRU *e*SS SS 00 54 27.6 +13
SOKA Soboth 42.52 302⇓ *iP* **P 00 44 48.7 +0.6**
BOJS Bojanci 42.54 300 *i P* **P 00 44 48.7 +0.4**
BOJS *e*PP PP 00 46 33.5 +4.4
TIP Timpagrande 42.78 290 *eP* **P 00 44 49.9 -0.5**
comp=Z,48nm,1.3s,mb5.1
BRG Berggiesshubel 42.79 308⇓ *iP* **P 00 44 50.8 +0.5**
BRG *e* 00 46 30.5
BRG *e* 00 46 36.7
BRG *e* 00 54 36.7
BRG pmax pmax
comp=Z,23nm,0.5s,mb5.2
BRG pmax pmax
comp=N,28nm,1.7s
BRG pmax pmax
comp=Z,9.0nm,1.3s,mb4.3
BRG pmax pmax
comp=Z,37nm,1.8s,mb4.8
BRG pmax pmax
comp=N,5.0nm,1.4s
BRG pmax pmax
comp=Z,1.0nm,1.5s
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
BRG Berggiesshubel 42.79 308 *eP* **P 00 44 50.5 +0.2**
comp=Z,58nm,1.2s,mb5.2
BRG *e*sP sP 00 45 31.2 +2.0
BRG *e*PP PP 00 46 30.7 -0.8
BRG Berggiesshubel 42.79 308⇓ *iP* **P 00 44 50.8 +0.5**
comp=Z,38nm,0.5s,mb5.4
BRG *e*sP sP 00 45 30.8 +1.6
comp=Z,46nm,1.7s
BRG *e* 00 46 30.5
comp=Z,15nm,1.3s
BRG *e*PP PP 00 46 36.7 +5.1
comp=Z,62nm,1.8s
BRG *e*SCP ScP 00 50 13.0 -6.9
comp=Z,7.7nm,1.4s
BRG *e* 00 51 59.6
comp=Z,1.8nm,0.7s
BRG *e* 00 53 58.3
comp=Z,4.3nm,1.5s
BRG SS SS 00 54 30.0 +10
BRG *e* 00 54 36.6
comp=Z,3.8nm,1.1s
RUE Ruedersdorf 42.79 310 *eP* **P 00 44 49.9 -0.4**
comp=Z,20nm,0.4s,mb5.2
RUE *e* 00 45 29.5
RUE *e*PP PP 00 46 31.0 -0.6
OBKA Obir 42.87 301⇓ *iP* **P 00 44 51.6 +0.6**
comp=Z,114nm,1.7s,mb5.3,SNR=22
MOA Molln 42.88 303 *i P* **P 00 44 51.2 +0.1**
comp=Z,56nm,1.3s,mb5.1,SNR=26
LJU Ljubljana 42.96 301 *i P* **P 00 44 52.4 +0.7**
RGN Rugen 43.01 313 *eP* **P 00 44 52.9 +0.9**
comp=Z,462nm,1.4s,mb6.0
RGN *e* 00 45 30.3
TRO Tromso 43.04 336 *eP* **P 00 44 51.9 -0.1**
GEC2 GERESS Array S 43.13 305 *eP* **P 00 44 53.4 +0.3**
GEC2 pmax pmax
comp=Z,56nm,1.9s,mb5.0
GEC2 GERESS Array S 43.13 305 *eP* **P 00 44 53.4 +0.3**
comp=Z,56nm,1.9s,mb5.0
GERES GERESS Array B 43.13 305 P **P 00 44 53.3 +0.2**
comp=Z,3.2nm,0.4s,mb4.4,baz=74,slow=7.5,SNR=88
GERES PP PP 00 46 38.0 +2.7
comp=Z,4.0nm,0.9s,baz=71,slow=10.0,SNR=7.7
GERES ScP ScP 00 50 19.9 -1.5
comp=Z,1.5nm,1.0s,baz=79,slow=6.9,SNR=4.0
GERES GERESS Array B 43.13 305 P **P 00 44 53.3 +0.2**
GERES 00 46 38.0
YAK Yakutsk 43.18 36 *eP* **P 00 44 53.2 -0.1**
YAK *e**PP pP 00 45 17.4 -2.0
YAK *e* 00 46 34.3
YAK *e*S **S 00 51 10.8 -0.3**
YAK pmax pmax
comp=Z,34nm,1.0s,mb5.0
YAK pmax pmax
comp=N,7.0nm,1.2s

YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=Z,13nm,0.6s,mb4.8
YAK pmax pmax
comp=N,5.0nm,0.4s
YAK smax
comp=N,62nm,1.8s
YAK smax
comp=E,61nm,1.7s
KHC Kasperske Hory 43.18 305 *e*P **P 00 44 54.0 +0.5**
KHC *e*x x 00 45 24.5
KHC *e*PP PP 00 46 37.4 +1.6
KHC *e*S **S 00 51 07.6 -3.8**
KHC *e*SS SS 00 54 40.4 +12
KHC AMS AMS 01 05 40.0
KHC Kasperske Hory 43.18 305 *e*P **P 00 44 54.0 +0.5**
KHC *e* pP 00 45 24.5 +5.0
KHC *e*PP PP 00 46 37.4 +1.6
KHC *e*S **S 00 51 07.6 -3.8**
KHC *e*SS SS 00 54 40.4 +12
CUC Castrocucco 43.28 292 *e*P **P 00 44 55.0 +0.6**
comp=E,93nm,0.9s,mb5.5
JAVS Javornik 43.30 301 *i* P **P 00 44 54.6 +0.2**
CLL Collm 43.35 309⇓*i*P **P 00 44 54.7 -0.1**
CLL *e*S **S 00 51 19.0 +5.2**
CLL pmax pmax
comp=Z,36nm,1.3s,mb4.9
CLL Collm 43.35 309 *e*P **P 00 44 54.5 -0.3**
comp=Z,36nm,1.2s,mb5.0
CLL *e*pP pP 00 45 22.8 +2.0
CLL *e*sP sP 00 45 35.3 +1.6
CLL Collm 43.35 309⇓*i*P **P 00 44 54.7 -0.1**
comp=Z,36nm,1.3s,mb4.9
CLL *e*pP pP 00 45 23.0 +2.2
CLL *e*sP sP 00 45 35.0 +1.3
CLL *e*PP PP 00 46 35.0 -2.5
CLL *e*PcP PcP 00 46 42.0 +0.6
CLL *e*PPP 00 47 18.0
CLL *e*ScP ScP 00 50 22.0 -0.2
CLL *e*S **S 00 51 19.0 +5.2**
CLL *e*SS SS 00 54 22.0 -9.3
CLL Collm 43.35 309⇓*i*P **P 00 44 54.7 -0.1**
comp=Z,36nm,1.3s,mb4.9
CLL *e*pP pP 00 45 23.0 +2.2
CLL *e*sP sP 00 45 35.0 +1.3
CLL *e*ScP ScP 00 50 22.0 -0.2
CLL *e*S **S 00 51 19.0 +5.2**
VOY Vojsko 43.40 301 *e*P **P 00 44 55.3 +0.1**
VOY *e* 00 45 00.4
MYKA Terra Mystica 43.47 302⇓*i*P **P 00 44 56.2 +0.3**
comp=Z,81nm,1.6s,mb5.2
KBA Koelnbreinsper 43.61 302⇓*i*P **P 00 44 57.2 +0.3**
comp=Z,56nm,1.7s,mb5.0,SNR=13
KBA Koelnbreinsper 43.61 302⇓*i*P **P 00 44 57.3 +0.4**
KBA pmax pmax
comp=Z,56nm,1.7s,mb5.0
MDJ Mudanjiang 43.61 61 P **P 00 44 54.8 -2.2**
MDJ SCP ScP 00 50 25.9 +2.5
MDJ PCS PcS 00 50 35.7 +0.5
MDJ S **S 00 51 15.2 -2.6**
MDJ AMB AMB
comp=Z,6.0nm,1.5s,mb4.1
MDJ AMB AMB
comp=Z,78nm,5.8s
MDJ LR LR
comp=N,37nm,39.8s
MDJ LR LR
comp=E,48nm,49.5s
MDJ LR LR
comp=Z,64nm,35.3s
WET Wettzell 43.64 305 *e*P **P 00 44 57.4 +0.3**
WET pmax pmax
comp=Z,16nm,1.2s,mb4.6
WET Wettzell 43.64 305 *e*P **P 00 44 57.4 +0.3**
comp=Z,16nm,1.2s,mb4.6
MOR8 Moi Rana 43.67 330⇓*i*P **P 00 44 56.4 -0.7**
MOR8 AMb AMB 00 44 57.2
comp=Z,124nm,0.8s,mb5.7
MOR8 Moi Rana 43.67 330⇓*i*P **P 00 44 56.4 -0.7**
comp=Z,124nm,0.8s,mb5.7
STEI Steigen 43.79 333 *e*P **P 00 44 58.4 +0.3**
NKC Novy Kostel 43.80 307 *e*P **P 00 44 59.1 +0.7**
NKC *e* 00 46 44.0
NKC *e*SS SS 00 54 48.7 +8.7
NKC Novy Kostel 43.80 307 *e*P **P 00 44 59.1 +0.7**
NKC *e*PP PP 00 46 44.0 +1.7
NKC *e*x x 00 51 09.6
NKC *e*SS SS 00 54 48.7 +8.7
NKC AMS AMS 01 05 40.0
NKC Novy Kostel 43.80 307 *e*P **P 00 44 59.1 +0.7**
NKC *e*PP PP 00 46 44.0 +1.7
NKC *e*S **S 00 51 09.6 -11**
NKC *e*SS SS 00 54 48.7 +8.7
RJOB Jochberg 43.88 303 *e*P **P 00 44 59.0 -0.1**
comp=Z,20nm,1.2s,mb4.7
ROTZ Rotzenmuhle 44.00 306 *e*P **P 00 45 01.0 +1.0**
comp=Z,53nm,1.5s,mb5.0
ROTZ *e*sP sP 00 45 42.0 +3.0
MANZ Manzenberg 44.04 307 *e*P **P 00 45 01.0 +0.7**
comp=Z,23nm,1.1s,mb4.8
MANZ *e*PP PP 00 46 44.3 -0.6
FLOS Flostrand 44.13 330 *e*P **P 00 45 00.7 -0.1**
FLOS AMb AMB 00 45 05.6
comp=Z,130nm,1.6s,mb5.4
KSRS Korea Array 44.13 72 P **P 00 45 02.9 +1.6**
comp=Z,5.6nm,0.8s,mb4.3,baz=284,slow=6.3,SNR=12
KSRS Korea Array 44.13 72 P **P 00 45 02.9 +1.7**
KSRS pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
ABTA Abfaltersbach 44.22 302⇓*i*P **P 00 45 01.5 -0.3**
comp=Z,14nm,1.1s,mb4.6,SNR=11
KONS Konsvik 44.26 331 *e*P **P 00 45 01.6 -0.2**
KONS AMb AMB 00 45 02.6
comp=Z,51nm,0.6s,mb5.5
STOK Stokkvaagen 44.27 330 *e*P **P 00 45 01.7 -0.2**
MOX Moxa 44.28 308 *e*P **P 00 45 02.5 +0.3**
comp=Z,47nm,1.6s,mb5.0
MOX *e* 00 45 54.0
MOX
comp=Z,100nm,21.0s
MOX Moxa 44.28 308 *e*P **P 00 45 02.5 +0.3**
MOX pmax pmax
comp=Z,47nm,1.6s,mb5.0
MOX MLR MLR
comp=Z,100nm,21.0s
MOX Moxa 44.28 308 *e*P **P 00 45 02.5 +0.3**
comp=Z,32nm,1.3s,mb4.9
MOX *e*sP sP 00 45 43.7 +2.4
NB2 NORSAR Subarra 44.34 323 P **P 00 45 02.1 -0.4**
comp=Z,53nm,0.5s,mb5.5,baz=93,slow=7.9
NOA NORSAR Array B 44.34 323 P **P 00 45 01.9 -0.7**
comp=Z,51nm,0.4s,mb5.6,baz=94,slow=7.6,SNR=408
NOA LR LR 01 04 39.6
comp=Z,126nm,20.7s,baz=100,slow=37
KLR Kul'dur 44.34 54 *e*P **P 00 45 00.0 -2.7**
LOF Lofoten 44.46 333 *e*P **P 00 45 04.9 +1.5**
LOF AMb AMB 00 45 07.0
comp=Z,36nm,1.5s,mb4.9
LOF Lofoten 44.46 333 *e*P **P 00 45 04.9 +1.5**
comp=Z,36nm,1.5s,mb4.9
AQU L'Aquila 44.47 296 *e*P **P 00 45 05.0 +1.1**
AQU pmax pmax
comp=Z,24nm,0.9s,mb4.9
AQU L'Aquila 44.47 296⇓*i*P **P 00 45 04.4 +0.5**
AQU L'Aquila 44.47 296 *e*P **P 00 45 05.0 +1.1**
comp=Z,24nm,0.9s,mb4.9
NAO01 NORSAR Array S 44.48 322 *e*P **P 00 45 03.0 -0.7**
GRA1 Grafenberg Arr 44.65 306 *e*P **P 00 45 06.2 +1.1**
comp=Z,79nm,1.4s,mb5.2
GRA1 *e*pP pP 00 45 33.9 +2.6
GRA1 *e*sP sP 00 45 46.6 +2.4
GRA1 *e*PP PP 00 46 49.9 -1.4
GRF Grafenberg Arr 44.65 306 *e*P **P 00 45 06.2 +1.1**
GRF *e* 00 46 49.9
GRF pmax pmax
comp=Z,79nm,1.4s,mb5.2
GRF Grafenberg Arr 44.65 306 *e*P **P 00 45 06.2 +1.1**
GRF *e* 00 46 49.9
GRF pmax pmax
comp=Z,79nm,1.4s,mb5.2
GRF Grafenberg Arr 44.65 306 *e*P **P 00 45 06.2 +1.1**
comp=Z,79nm,1.4s,mb5.2
GRF *e*pP pP 00 45 33.9 +2.6
GRF *e*sP sP 00 45 46.6 +2.4
GRF *e*PP PP 00 46 49.9 -1.4
WTTA Wattenberg 44.73 303⇓*i*P **P 00 45 05.5 -0.4**
comp=Z,63nm,1.3s,mb5.2,SNR=16
WTTA Wattenberg 44.73 303⇓*i*P **P 00 45 05.5 -0.3**
WTTA pmax pmax
comp=Z,63nm,1.3s,mb5.2
WATA Walderalm 44.76 303⇑*i*P **P 00 45 05.5 -0.5**
comp=Z,22nm,1.1s,mb4.8
WATA Walderalm 44.76 303⇑*i*P **P 00 45 05.5 -0.6**
WATA pmax pmax
comp=Z,22nm,1.1s,mb4.8
BSEG Bad Segeberg 44.79 313 *e*P **P 00 45 06.7 +0.5**
BSEG *e* 00 46 50.0
BSEG pmax pmax
comp=Z,63nm,1.1s,mb5.3
BSEG Bad Segeberg 44.79 313 *e*P **P 00 45 06.7 +0.5**
comp=Z,63nm,1.1s,mb5.3
BSEG *e*PP PP 00 46 50.0 -2.8
FUR Furstenfeldbru 44.83 304 *e*P **P 00 45 07.0 +0.4**
FUR *e* 00 46 56.0
FUR pmax pmax
comp=Z,108nm,1.4s,mb5.4
FUR Furstenfeldbru 44.83 304 *e*P **P 00 45 07.0 +0.4**
comp=Z,108nm,1.4s,mb5.4
FUR *e*PP PP 00 46 56.0 +2.8
CLZ Clausthal 44.93 310 *e*P **P 00 45 07.7 +0.3**
CLZ *e* 00 46 54.1
CLZ pmax pmax
comp=Z,30nm,1.0s,mb5.0
CLZ Clausthal 44.93 310 *e*P **P 00 45 07.7 +0.3**
comp=Z,30nm,1.0s,mb5.0
CLZ *e*PP PP 00 46 54.1 -0.2
TIXI Tiksi 45.06 22 *d*i*P* **P 00 45 08.3 +0.2**
TIXI *e*S **S 00 51 37.8 -0.3**
TIXI pmax pmax
comp=Z,7.0nm,0.3s,mb4.9
TIXI Tiksi 45.06 22 *e*P **P 00 45 07.4 -0.7**
MOTA Moosalm 45.07 303⇓*i*P **P 00 45 07.9 -0.7**
comp=Z,20nm,1.0s,mb4.8,SNR=14
MOTA Moosalm 45.07 303⇓*i*P **P 00 45 07.9 -0.7**
MOTA pmax pmax
comp=Z,20nm,1.0s,mb4.8
RETA Reute 45.28 303⇓*i*P **P 00 45 09.6 -0.6**
comp=Z,28nm,1.7s,mb4.7,SNR=19
UBBA Unterbreizbach 45.28 308 *e*P **P 00 45 10.2 0.0**
comp=Z,24nm,1.3s,mb4.8
UBBA *e*pP pP 00 45 38.2 +1.8
FETA Feichten 45.38 303 *i* P **P 00 45 10.3 -0.7**
comp=Z,28nm,1.2s,mb4.9,SNR=24
DOMB Dombas 45.43 324 *e*P **P 00 45 11.3 +0.1**
DOMB AMb AMB 00 45 13.0
comp=Z,59nm,1.2s,mb5.2
DOMB Dombas 45.43 324 *e*P **P 00 45 11.3 +0.1**
comp=Z,59nm,1.2s,mb5.2
DAVA Damuels 45.90 303⇓*i*P **P 00 45 14.9 -0.2**
comp=Z,98nm,1.2s,mb5.4,SNR=79
DAVA Damuels 45.90 303⇓*i*P **P 00 45 14.9 -0.2**
comp=Z,98nm,1.2s,mb5.4
STU Stuttgart 46.09 305 *e*P **P 00 45 17.0 +0.4**
STU pmax pmax
comp=Z,22nm,0.8s,mb4.9
STU Stuttgart 46.09 305 *e*P **P 00 45 16.8 +0.2**
comp=Z,32nm,0.9s,mb5.0
STU Stuttgart 46.09 305 *e*P **P 00 45 17.0 +0.4**
comp=Z,22nm,0.8s,mb5.0
MOL Molde 46.17 325 *e*P **P 00 45 17.1 +0.2**
MOL AMb AMB 00 45 19.5
comp=Z,53nm,1.0s,mb5.2
MOL Molde 46.17 325 *e*P **P 00 45 17.1 +0.2**
comp=Z,53nm,1.0s,mb5.2
MAIM Mastiano 46.18 299 P **P 00 45 16.9 -0.4**
SARO Sassorosso 46.19 299 P **P 00 45 18.2 +0.8**
VLC Villacollemand 46.20 299 *e*P **P 00 45 18.3 +0.8**
TOD Tromm 46.21 307 *e*P **P 00 45 17.9 +0.4**
VALM Valbona 46.26 299 P **P 00 45 18.7 +0.7**
TNS Taunus Mts 46.34 308 *e*P **P 00 45 18.8 +0.3**
TNS pmax pmax
comp=Z,16nm,1.1s,mb4.7
TNS Taunus Mts 46.34 308 *e*P **P 00 45 18.8 +0.3**
comp=Z,16nm,1.1s,mb4.7
TNS *e*pP pP 00 45 47.7 +2.8
GRAM Graiana 46.35 299 P **P 00 45 19.6 +1.0**
VINC Vinca 46.37 299 P **P 00 45 19.2 +0.4**
BACM Baccana 46.39 299 P **P 00 45 19.9 +0.9**
TUE Stuetta 46.42 302 *e*P **P 00 45 19.0 -0.1**
comp=Z,15nm,1.0s,mb4.7
TUE *e*PcP PcP 00 46 52.4 +0.3
SPAK Spaichingen-Ko 46.48 305 *e*P **P 00 45 19.7 +0.1**
IBBN Ibbenburen 46.48 310 *e*P **P 00 45 19.7 +0.1**
comp=Z,88nm,1.2s,mb5.4
CODM Codolo 46.52 299 P **P 00 45 20.8 +0.8**
BLS5 Blasjo 46.67 320 *e*P **P 00 45 22.9 +2.0**
BLS5 AMb AMB 00 45 24.8
comp=Z,63nm,0.8s,mb5.4
BLS5 Blasjo 46.67 320 *e*P **P 00 45 22.9 +2.0**
comp=Z,63nm,0.8s,mb5.4
KTD Kalmit 46.72 306 *e*P **P 00 45 22.0 +0.5**
BFO Black Forest 46.74 305 *e*P **P 00 45 21.3 -0.3**
BFO *e* 00 47 12.1
BFO pmax pmax
comp=Z,24nm,1.1s,mb4.8
BFO Black Forest 46.74 305 *e*P **P 00 45 21.3 -0.3**
comp=Z,24nm,1.1s,mb4.8
BFO *e*PP PP 00 47 12.1 -0.6
SC2M Scurtabo 46.74 299 P **P 00 45 22.3 +0.6**
BUG Bochum--Univer 46.90 309 *e*P **P 00 45 23.0 +0.2**
comp=Z,37nm,1.1s,mb5.0
LANF Langenberg 46.96 306 *e*P **P 00 45 23.1 -0.3**
FELD Feldberg im Sc 47.04 304 *e*P **P 00 45 23.1 -0.9**
STR Strasbourg 47.06 305 *e*P **P 00 45 24.1 0.0**
WTSB Winterswijk 47.12 310 *e*P **P 00 45 24.4 -0.1**
comp=Z,45nm,1.1s,mb5.1
SPB4 Spitsbergen Ar 47.13 347 *e*P **P 00 45 26.0 +1.7**
BER Bergen 47.21 322 *e*P **P 00 45 25.0 -0.1**
LIBD Limburg 47.25 305 *e*P **P 00 45 25.4 -0.2**
RUP Ruppelstein 47.31 307 *e*P **P 00 45 26.5 +0.4**
PCP Piancastagn 47.40 300 P **P 00 45 26.7 -0.1**
CDF Champ du Feu 47.41 305⇓*i*P **P 00 45 26.6 -0.3**
BBS Basel-Blauen 47.45 304 *e*P **P 00 45 26.7 -0.4**
ECH Echery 47.53 305 *e*P **P 00 45 28.2 +0.4**
ECH Echery 47.53 305 *e*P **P 00 45 27.0 -0.7**
CORF Corte 47.54 297 *e*P **P 00 45 27.7 -0.2**
PGF Pioggiola 47.58 297⇓*i*P **P 00 45 27.7 -0.5**
comp=Z,28nm,0.5s,mb5.1
PGF Pioggiola 47.58 297⇓*i*P **P 00 45 27.7 -0.5**
PGF pmax pmax
comp=Z,14nm,0.5s,mb5.0
PGF Pioggiola 47.58 297⇓*i*P **P 00 45 27.7 -0.5**
comp=Z,14nm,0.5s,mb5.0
MOF Molkenrain 47.62 305 *e*P **P 00 45 27.6 -0.9**
FIN Finale Ligure 47.71 299 P **P 00 45 28.3 -0.9**
TRAV Traversella 47.72 301 P **P 00 45 28.2 -1.1**
WLF Walferdange 47.80 307 P **P 00 45 31.2 +0.6**
comp=Z,37nm,1.5s,mb5.0
WLF Walferdange 47.90 307 *e*P **P 00 45 31.6 +1.0**
WLF pmax pmax
comp=Z,46nm,1.0s,mb5.3
WLF Walferdange 47.90 307 *e*P **P 00 45 31.1 +0.5**
comp=Z,59nm,1.1s,mb5.3
WLF Walferdange 47.90 307 *e*P **P 00 45 31.6 +1.0**
comp=Z,46nm,1.0s,mb5.3
ROB Robourent 47.92 300 P **P 00 45 30.2 -0.7**
BEBN Eben Emael 48.00 309 P **P 00 45 31.9 +0.5**
HAU Haudompre 48.10 305⇓*i*P **P 00 45 31.8 -0.4**
comp=Z,36nm,0.8s,mb4.9
HAU *e*MLR MLR
comp=Z,112nm,18.8s
HAU Haudompre 48.10 305⇓*i*P **P 00 45 31.8 -0.4**
HAU pmax pmax
comp=Z,18nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,110nm,18.8s
HAU Haudompre 48.10 305⇓*i*P **P 00 45 31.8 -0.4**
comp=Z,18nm,0.8s,mb5.0
HAU LR LR
comp=Z,110nm,18.8s
LSD Lago del Serru 48.13 301 P **P 00 45 32.1 -0.4**
RSP Reno Superiore 48.14 301 P **P 00 45 31.0 -1.5**
NEGI Seborga 48.15 299 P **P 00 45 32.5 -0.1**
BHB Bricherasio 48.21 301 P **P 00 45 31.4 -1.7**
SAOF Saorge 48.22 299 *e*P **P 00 45 33.2 0.0**
KBS Kingsbay 48.24 347 *e*P **P 00 45 30.6 -2.3**
KBS Kingsbay 48.24 347 *e*P **P 00 45 32.3 -0.6**
KBS pmax pmax
comp=Z,32nm,0.9s,mb5.2
KBS Kingsbay 48.24 347 *e*P **P 00 45 32.2 -0.6**
comp=Z,32nm,0.9s,mb5.2
ENR Entracque 48.26 300 P **P 00 45 32.9 -0.5**
THEF They Montfort 48.29 305 *e*P **P 00 45 33.3 -0.3**
BCLA Clavier 48.30 308 P **P 00 45 34.3 +0.7**
AUTN L'Aution 48.31 299 *e*P **P 00 45 34.3 +0.5**
STV Sant Anna di V 48.32 300 P **P 00 45 33.5 -0.4**
SBF Sospel 48.34 299 *e*P **P 00 45 34.1 0.0**
comp=Z,252nm,1.1s,mb5.6
SBF Sospel 48.34 299 *e*P **P 00 45 34.1 0.0**
SBF pmax pmax
comp=Z,126nm,1.1s,mb5.7
SBF Sospel 48.34 299 *e*P **P 00 45 34.1 0.0**
comp=Z,126nm,1.1s,mb5.7
LUCF Luceram 48.39 299 *e*P **P 00 45 34.7 +0.2**
LPG La Plagne 48.40 302⇓*i*P **P 00 45 35.0 +0.5**
LPL La Plagne 48.41 302⇓*i*P **P 00 45 34.8 +0.2**
comp=Z,42nm,0.5s,mb5.2
LPL La Plagne 48.41 302⇓*i*P **P 00 45 34.8 +0.2**
LPL pmax pmax
comp=Z,21nm,0.5s,mb5.2
LPL La Plagne 48.41 302⇓*i*P **P 00 45 34.8 +0.2**
comp=Z,21nm,0.5s,mb5.2
REVF Revere 48.42 299 *e*P **P 00 45 35.1 +0.4**
TOUF Mont Tournerai 48.43 299 *e*P **P 00 45 35.3 +0.5**
MVIF Mont Vial 48.53 299 *e*P **P 00 45 35.1 -0.4**
BNI Bardonecchia 48.56 301 *e*P **P 00 45 35.5 -0.2**
BNI pmax pmax
comp=Z,36nm,1.1s,mb5.2
BNI Bardonecchia 48.56 301 *e*P **P 00 45 35.5 -0.3**
comp=Z,36nm,1.1s,mb5.2
MBDF Montbardon 48.58 301⇓*i*P **P 00 45 35.4 -0.5**
comp=Z,34nm,0.7s,mb5.1
MBDF Montbardon 48.58 301⇓*i*P **P 00 45 35.4 -0.5**
MBDF pmax pmax
comp=Z,17nm,0.7s,mb5.1
MBDF Montbardon 48.58 301⇓*i*P **P 00 45 35.4 -0.5**
comp=Z,17nm,0.7s,mb5.1
CABF La Chapelle 48.58 303⇓*i*P **P 00 45 36.1 +0.2**
comp=Z,39nm,0.5s,mb5.3
CABF La Chapelle 48.58 303⇓*i*P **P 00 45 36.1 +0.2**
CABF pmax pmax
comp=Z,20nm,0.5s,mb5.3
CABF La Chapelle 48.58 303⇓*i*P **P 00 45 36.1 +0.2**
comp=Z,20nm,0.5s,mb5.3
GIVF Givet 48.66 308⇓*i*P **P 00 45 36.6 +0.2**
CALN Calern 48.75 299 *e*P **P 00 45 36.9 -0.3**
DOU Dourbes 48.81 308 P **P 00 45 38.2 +0.7**
UCC Uccle 48.82 309 P **P 00 45 37.1 -0.5**
comp=Z,20nm,1.8s,mb4.7
MEZF Maizieres J'vi 48.84 306⇓*i*P **P 00 45 38.0 +0.1**
comp=Z,226nm,1.4s,mb5.6
MEZF Maizieres J'vi 48.84 306⇓*i*P **P 00 45 38.0 +0.1**
comp=Z,226nm,1.4s,mb5.9
FRF La Foret Royal 48.97 299⇓*i*P **P 00 45 38.5 -0.4**
comp=Z,44nm,0.7s,mb5.2
FRF La Foret Royal 48.97 299⇓*i*P **P 00 45 38.5 -0.4**
FRF pmax pmax
comp=Z,22nm,0.7s,mb5.2
FRF La Foret Royal 48.97 299⇓*i*P **P 00 45 38.5 -0.4**
comp=Z,22nm,0.7s,mb5.2
BAIF Baives 49.06 308⇓*i*P **P 00 45 39.8 +0.3**
comp=Z,56nm,0.9s,mb5.2
BAIF Baives 49.06 308⇓*i*P **P 00 45 39.8 +0.3**
BAIF pmax pmax
comp=Z,28nm,0.9s,mb5.2
BAIF Baives 49.06 308⇓*i*P **P 00 45 39.8 +0.3**
comp=Z,28nm,0.9s,mb5.2
LMR La Mourre 49.13 299 *e*P **P 00 45 39.5 -0.6**
ORIF Oris-en-Rattie 49.14 301 *e*P **P 00 45 39.2 -1.0**
ORIF *e*MLR MLR
comp=Z,102nm,19.8s
KEST Kesra 49.46 288 P **P 00 45 43.4 +0.7**
comp=Z,6.2nm,0.4s,mb4.8,baz=18,slow=2.3,SNR=98
SMRF Simiane la Rot 49.60 300⇓*i*P **P 00 45 43.8 +0.1**
LOR Lormes 49.91 304⇓*i*P **P 00 45 45.1 -0.9**
LOR *e*MLR MLR
comp=Z,111nm,18.0s
LOR Lormes 49.91 304⇓*i*P **P 00 45 45.1 -0.9**
LOR LR LR
comp=Z,110nm,18.0s
SSB Saint Sauveur 49.96 302 *e*P **P 00 45 46.2 -0.2**
SSB Saint Sauveur 49.96 302 *e*P **P 00 45 46.5 +0.1**
SSB *e*PP pP 00 46 12.4 -0.7
SSB *e* 00 47 05.4
SSB *e* 00 47 42.2
SSB Saint Sauveur 49.96 302 *e*P **P 00 45 46.5 +0.1**
SSB *e*pP pP 00 46 12.4 -0.7
SSB *e*sP sP 00 46 24.9 -1.0
SSB *e*PcP PcP 00 47 05.4 +0.5
SSB *e*PP PP 00 47 42.2 +0.1
VIVF Saint-Julien-l 49.98 301⇓*i*P **P 00 45 46.5 -0.1**
SMF Signal de Mont 50.08 304⇓*i*P **P 00 45 46.9 -0.4**
comp=Z,58nm,0.8s,mb5.3
SMF Signal de Mont 50.08 304⇓*i*P **P 00 45 46.9 -0.4**
SMF pmax pmax
comp=Z,29nm,0.8s,mb5.3
SMF Signal de Mont 50.08 304⇓*i*P **P 00 45 46.9 -0.4**
comp=Z,29nm,0.8s,mb5.3
SSF Saint Saulge 50.19 304⇓*i*P **P 00 45 47.5 -0.6**
comp=Z,77nm,1.2s,mb5.2
SSF Saint Saulge 50.19 304⇓*i*P **P 00 45 47.5 -0.6**
SSF pmax pmax
comp=Z,38nm,1.2s,mb5.2
SSF Saint Saulge 50.19 304⇓*i*P **P 00 45 47.5 -0.6**
comp=Z,38nm,1.2s,mb5.2
AVF Avril sur Loir 50.37 304⇓*i*P **P 00 45 49.0 -0.4**
comp=Z,48nm,0.6s,mb5.3
AVF Avril sur Loir 50.37 304⇓*i*P **P 00 45 49.0 -0.4**
AVF pmax pmax
comp=Z,24nm,0.6s,mb5.3
AVF Avril sur Loir 50.37 304⇓*i*P **P 00 45 49.0 -0.4**
comp=Z,24nm,0.6s,mb5.3
PLDF La Plantade 50.40 303 *e*P **P 00 45 49.6 -0.1**
LRW Lerwick 50.47 322 *e*P **P 00 45 49.9 0.0**
LRW AMb AMB 00 46 01.1
comp=Z,208nm,2.1s,mb5.7
COLF Collangettes 50.47 302 *e*P **P 00 45 50.4 +0.2**
AGO Saint Agoulin 50.71 303 *e*P **P 00 45 51.4 -0.6**
HYF Humbligny 50.71 305 *e*P **P 00 45 52.0 0.0**
BGF Bois d'Agland 50.76 304⇓*i*P **P 00 45 51.9 -0.5**
comp=Z,16nm,0.6s,mb5.0
BGF Bois d'Agland 50.76 304⇓*i*P **P 00 45 51.9 -0.5**
BGF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
BGF Bois d'Agland 50.76 304⇓*i*P **P 00 45 51.9 -0.5**
comp=Z,8.1nm,0.6s,mb4.9
LASF Ste Croix 50.76 300 *e*P **P 00 45 52.8 +0.3**
LBL Lubilhac 50.85 302 *e*P **P 00 45 51.8 -1.3**
PYM Petit Puy Mans 50.87 303 *e*P **P 00 45 53.3 +0.1**
KKM Kota Kinabalu 50.88 116 *e*P **P 00 45 56.0 +2.3**
KKM *e*pP pP 00 46 23.2 +2.7
KKM *e*PcP PcP 00 47 13.1 +4.4
KKM *e*PP PP 00 47 52.5 +1.3
TCF Toulx Ste Croi 51.26 304⇓*i*P **P 00 45 56.1 0.0**
comp=Z,40nm,0.7s,mb5.2
TCF Toulx Ste Croi 51.26 304⇓*i*P **P 00 45 56.1 0.0**
TCF pmax pmax
comp=Z,20nm,0.7s,mb5.3
TCF Toulx Ste Croi 51.26 304⇓*i*P **P 00 45 56.1 0.0**
comp=Z,20nm,0.7s,mb5.3
CAF Calviac 51.74 302⇓*i*P **P 00 45 59.9 +0.1**
comp=Z,26nm,0.7s,mb5.0
CAF Calviac 51.74 302⇓*i*P **P 00 45 59.9 +0.1**
CAF pmax pmax
comp=Z,13nm,0.7s,mb5.1
CAF Calviac 51.74 302⇓*i*P **P 00 45 59.9 +0.1**
comp=Z,13nm,0.7s,mb5.1
HPK Haverah Park 51.77 314 *e*P **P 00 45 59.5 -0.3**
HPK AMb AMB 00 46 00.5
comp=Z,69nm,1.0s,mb5.6

XSO **Sourhope Farm** 51.80 316⇓eP P 00 45 59.4 -0.7
CWF **Charnwood Fore** 51.86 312 eP P 00 45 59.1 -1.4
CWF AMb AMB 00 46 01.8
comp=Z,18nm,1.3s,mb5.0
MLA1 **Latheron** 51.86 320⇓eP P 00 46 00.3 -0.1
XAL **Allendale** 51.91 315⇓eP P 00 46 00.3 -0.5
ESY **Stoneypath** 51.92 316⇓eP P 00 46 00.3 -0.6
EJON **La Jonquera** 51.93 299 P P 00 46 00.1 -1.1
comp=Z,3.7nm,0.5s,mb4.7
MCD **Coleburn Disti** 51.94 319⇓eP P 00 46 00.8 -0.2
LHO **Holmfirth** 51.99 313 eP P 00 46 00.9 -0.6
RJF **Les Rejaudoux** 52.00 303⇓iP P 00 46 01.8 +0.1
RJF eMLR MLR
comp=Z,78nm,17.0s
RJF **Les Rejaudoux** 52.00 303⇓iP P 00 46 01.8 +0.1
RJF LR LR
comp=Z,80nm,17.0s
YSS **Yuzh-Sakhalins** 52.02 55⇓eP P 00 46 03.0 +1.2
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.5
YSS **Yuzh-Sakhalins** 52.02 55 eP P 00 46 02.9 +1.1
MTLF **Montolieu** 52.12 300⇓iP P 00 46 02.5 -0.1
comp=Z,25nm,0.8s,mb5.0
MTLF **Montolieu** 52.12 300⇓iP P 00 46 02.5 -0.1
MTLF pmax pmax
comp=Z,13nm,0.8s,mb5.0
MTLF **Montolieu** 52.12 300⇓iP P 00 46 02.5 -0.1
comp=Z,12nm,0.8s,mb5.0
WOL **Wolverton** 52.14 311 eP P 00 46 02.2 -0.5
LDF **La Druitiere** 52.16 307⇓iP P 00 46 02.0 -0.8
comp=Z,22nm,0.5s,mb5.1
LDF **La Druitiere** 52.16 307⇓iP P 00 46 02.0 -0.8
LDF pmax pmax
comp=Z,11nm,0.5s,mb5.1
LDF **La Druitiere** 52.16 307⇓iP P 00 46 02.0 -0.8
comp=Z,11nm,0.5s,mb5.2
EBL **Broad Law** 52.18 316 eP P 00 46 02.2 -0.6
MAT **Matsushiro** 52.19 69 P P 00 46 03.4 +0.2
MAT eS S 00 53 20.0 +0.9
MJAR **Matsushiro Arr** 52.19 69 P P 00 46 04.8 +1.5
comp=Z,4.3nm,0.8s,mb4.5,baz=291,slow=8.2,SNR=13
EBH **Black Hill** 52.34 317 eP P 00 46 03.5 -0.5
FLN **La Foliniere** 52.34 307⇓iP P 00 46 03.6 -0.5
FLN eMLR MLR
comp=Z,95nm,19.0s
FLN **La Foliniere** 52.34 307⇓iP P 00 46 03.6 -0.5
FLN LR LR
comp=Z,90nm,19.0s
ECK **Cauldkaine Hil** 52.36 316⇓eP P 00 46 03.7 -0.4
MVH1 **Achvaich** 52.36 319⇓eP P 00 46 03.4 -0.7
ESK **Eskdalemuir** 52.37 316 eP P 00 46 03.6 -0.6
ESK AMb AMB 00 46 05.8
comp=Z,54nm,1.4s,mb5.4
ESK **Eskdalemuir** 52.37 316 eP P 00 46 04.0 -0.2
EAU **Auchinoon** 52.39 316⇓eP P 00 46 03.4 -1.0
MDO **Dochfour** 52.55 319⇓eP P 00 46 05.0 -0.6
LFF **La Frestale** 52.64 302⇓iP P 00 46 06.4 0.0
comp=Z,28nm,0.5s,mb5.2
LFF **La Frestale** 52.64 302⇓iP P 00 46 06.4 0.0
LFF pmax pmax
comp=Z,14nm,0.5s,mb5.2
LFF **La Frestale** 52.64 302⇓iP P 00 46 06.4 0.0
comp=Z,14nm,0.5s,mb5.2
GRR **Gorron** 52.68 307⇓iP P 00 46 06.0 -0.6
comp=Z,31nm,0.7s,mb5.2
GRR **Gorron** 52.68 307⇓iP P 00 46 06.0 -0.6
GRR pmax pmax
comp=Z,16nm,0.7s,mb5.2
GRR **Gorron** 52.68 307⇓iP P 00 46 06.0 -0.6
comp=Z,16nm,0.7s,mb5.2
MFF **Saint Martin d** 52.73 305⇓iP P 00 46 06.2 -0.8
comp=Z,20nm,0.6s,mb5.0
MFF **Saint Martin d** 52.73 305⇓iP P 00 46 06.2 -0.8
MFF pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
MFF **Saint Martin d** 52.73 305⇓iP P 00 46 06.2 -0.8
comp=Z,9.8nm,0.6s,mb5.0
EAB **Aberfoyle** 52.81 317 eP P 00 46 06.5 -0.9
ETOS **Mallorca** 52.88 296 P P 00 46 08.7 +0.5
comp=Z,13nm,0.4s,mb5.3
SBD1 **Bryn Du** 52.97 313⇓eP P 00 46 08.1 -0.5
PGBU **Glenifferbraes** 52.97 317 eP P 00 46 08.2 -0.5
PGBU AMb AMB 00 46 08.5
comp=Z,88nm,1.7s,mb5.5
HGH **Gray Hill** 53.02 311 eP P 00 46 08.4 -0.7
KAC **Achnashellach** 53.03 319 eP P 00 46 08.5 -0.6
MCH1 **Michaelchurch** 53.04 312 eP P 00 46 08.4 -0.8
MCH1 AMb AMB 00 46 10.1
comp=Z,114nm,1.2s,mb5.8
KSB **Sheil Bridge** 53.16 318⇓eP P 00 46 08.9 -1.1
HTR **Trewern Hill** 53.18 312⇓eP P 00 46 09.7 -0.6
KPL **Plockton** 53.26 319 eP P 00 46 09.8 -0.9
KPL AMb AMB 00 46 21.5
comp=Z,44nm,2.3s,mb5.1
GAL1 **Galloway** 53.32 316 eP P 00 46 10.7 -0.5
GAL1 AMb AMB 00 46 12.3
comp=Z,44nm,1.6s,mb5.2
GIM **North Isle of** 53.32 315⇓eP P 00 46 11.4 +0.2
KAR1 **Arisaig** 53.44 318⇓eP P 00 46 11.9 -0.2
EPF **Esparros** 53.52 300⇓iP P 00 46 11.7 -1.2
comp=Z,19nm,0.8s,mb4.9
EPF **Esparros** 53.52 300⇓iP P 00 46 11.7 -1.2
EPF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
EPF **Esparros** 53.52 300⇓iP P 00 46 11.7 -1.2
comp=Z,9.6nm,0.8s,mb4.9
EPOB **Poblet** 53.57 298 P P 00 46 12.7 -0.6
comp=Z,21nm,0.9s,mb5.2
SEY **Seymchan** 53.64 34 eP P 00 46 14.4 +1.0
EBIE **Bielsa** 53.77 300 P P 00 46 15.2 +0.5
comp=Z,8.1nm,0.4s,mb5.1
SGMF **Saint Gilles** 53.81 307⇓iP P 00 46 14.5 -0.4
comp=Z,36nm,0.7s,mb5.2
SGMF **Saint Gilles** 53.81 307⇓iP P 00 46 14.5 -0.4
SGMF pmax pmax
comp=Z,18nm,0.7s,mb5.2
SGMF **Saint Gilles** 53.81 307⇓iP P 00 46 14.5 -0.4
comp=Z,18nm,0.7s,mb5.2
DYA **Yadsworthy** 54.03 310 eP P 00 46 14.9 -1.5
DYA AMb AMB 00 46 22.7
comp=Z,80nm,1.5s,mb5.5
EMHD **Djebel Mahouad** 54.09 291 P P 00 46 17.0 -0.1
ETSF **Etsaut** 54.19 300⇓iP P 00 46 17.8 +0.1
comp=Z,24nm,0.5s,mb5.1
ETSF **Etsaut** 54.19 300⇓iP P 00 46 17.8 +0.1
ETSF pmax pmax
comp=Z,12nm,0.5s,mb5.2
ETSF **Etsaut** 54.19 300⇓iP P 00 46 17.8 +0.1
comp=Z,12nm,0.5s,mb5.2
EIBI **Ibiza** 54.21 295 P P 00 46 18.2 +0.3
comp=Z,52nm,1.0s,mb5.5
ERTA **Horta de San J** 54.23 298 P P 00 46 18.4 +0.3
comp=Z,32nm,1.1s,mb5.3
ROSF **Rostrenen** 54.24 307⇓iP P 00 46 17.5 -0.5
comp=Z,26nm,0.5s,mb5.2
ROSF **Rostrenen** 54.24 307⇓iP P 00 46 17.5 -0.5
ROSF pmax pmax
comp=Z,13nm,0.5s,mb5.2
ROSF **Rostrenen** 54.24 307⇓iP P 00 46 17.5 -0.5
comp=Z,13nm,0.5s,mb5.2
QUIF **Quistinic** 54.30 307⇓iP P 00 46 17.7 -0.8
comp=Z,37nm,0.7s,mb5.2
QUIF **Quistinic** 54.30 307⇓iP P 00 46 17.7 -0.8
QUIF pmax pmax
comp=Z,18nm,0.7s,mb5.2
QUIF **Quistinic** 54.30 307⇓iP P 00 46 17.7 -0.8
comp=Z,18nm,0.7s,mb5.2
DAG **Danmarks Havn** 54.30 344⇑iP P 00 46 19.1 +0.3
DAG pmax pmax
comp=Z,24nm,0.9s,mb5.2
DAG **Danmarks Havn** 54.40 344⇑iP P 00 46 19.1 +0.3
comp=Z,24nm,0.9s,mb5.2
ESAC **San Caprasio** 54.53 299 P P 00 46 20.8 +0.6
comp=Z,19nm,0.4s,mb5.5
SJPF **Ste Jean** 54.57 301 eP P 00 46 20.1 -0.4
DSB **Dublin** 54.69 314 eP P 00 46 20.9 -0.3
DSB epP pP 00 46 48.5 +0.2
DSB ePcP PcP 00 47 23.3 +0.8
EALK **Alkurruntz** 54.73 301 P P 00 46 22.0 +0.4
comp=Z,36nm,1.3s,mb5.2
ELIZ **Elizondo** 54.76 301 P P 00 46 22.4 +0.5
ELIZ pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
ELIZ **Elizondo** 54.76 301 P P 00 46 22.4 +0.5
comp=Z,2.7nm,0.3s,mb4.8

CMA1 **Manaccan** 54.87 310 eP P 00 46 21.9 -0.6
EMOS **Mosqueruela** 55.02 297 P P 00 46 23.9 +0.1
comp=Z,19nm,1.2s,mb5.0
EBNR **Beni Rached** 55.12 292 P P 00 46 25.0 +0.5
EBEN **Beniarda** 55.46 295 P P 00 46 28.1 +1.1
comp=Z,13nm,0.5s,mb5.2
EANR **'Ain N'Sour** 55.57 292 P P 00 46 28.0 +0.2
ETRT **Tiaret** 55.65 291 P P 00 46 29.0 +0.6
ETOR **Torete** 55.97 298 P P 00 46 30.4 -0.2
ETOR pmax pmax
comp=Z,12nm,0.4s,mb5.3
ETOR **Torete** 55.97 298 P P 00 46 30.4 -0.2
comp=Z,12nm,0.4s,mb5.3
ELAN **Lanestosa** 56.04 302 P P 00 46 31.8 +0.8
comp=Z,30nm,0.8s,mb5.4
ETOB **Tobarra** 56.44 296 P P 00 46 34.5 +0.6
comp=Z,14nm,0.8s,mb5.1
CART **Cartagena** 56.46 294 eP P 00 46 34.0 -0.2
comp=Z,66nm,0.8s,mb5.7
CART epP pP 00 47 01.9 +0.5
CART esP sP 00 47 14.5 +0.5
EMUR **La Murta** 56.53 295 P P 00 46 35.0 +0.4
comp=Z,9.9nm,0.6s,mb5.0
EVIA **Vianos** 57.13 296 P P 00 46 39.2 +0.4
EVIA pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
EVIA **Vianos** 57.13 296 P P 00 46 39.2 +0.4
comp=Z,5.6nm,0.6s,mb4.8
EARI **Arriondas** 57.22 302 P P 00 46 39.0 -0.4
comp=Z,254nm,2.9s,mb5.7
GUD **Guadarrama** 57.51 299 P P 00 46 42.0 +0.5
GUD pmax pmax
comp=Z,12nm,0.7s,mb5.0
GUD **Guadarrama** 57.51 299 P P 00 46 42.0 +0.5
comp=Z,12nm,0.7s,mb5.0
EHUE **Huescar** 57.53 295 P P 00 46 40.8 -0.8
EHUE pmax pmax
comp=Z,18nm,1.3s,mb4.9
EHUE **Huescar** 57.53 295 P P 00 46 40.8 -0.8
comp=Z,18nm,1.3s,mb5.0
ENIJ **Nijar** 57.59 294 P P 00 46 42.2 +0.1
ENIJ pmax pmax
comp=Z,28nm,0.8s,mb5.3
ENIJ **Nijar** 57.59 294 P P 00 46 42.2 +0.2
comp=Z,28nm,0.8s,mb5.3
ESDC **Sonseca Array** 57.76 298 P P 00 46 43.1 -0.1
comp=Z,8.1nm,0.4s,mb5.2,baz=58,slow=7.1,SNR=175
BILL **Bilibino** 57.87 26 P P 00 46 44.0 +0.5
BILL e 00 47 34.2
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
EQES **Quesada** 57.88 295 P P 00 46 44.1 +0.1
comp=Z,14nm,0.4s,mb5.3
TAM **Tamanrasset** 58.10 276 eP P 00 46 46.4 +0.6
TAM epP pP 00 47 14.0 +0.8
TAM esP sP 00 47 28.1 +2.4
EBER **Berja** 58.12 294 P P 00 46 46.8 +1.1
comp=Z,39nm,0.9s,mb5.4
EBAN **Banos Encina** 58.24 296 P P 00 46 47.1 +0.5
EBAN pmax pmax
comp=Z,12nm,0.6s,mb5.1
EBAN **Banos Encina** 58.24 296 P P 00 46 47.1 +0.5
comp=Z,12nm,0.6s,mb5.1
ECOG **Cogollos-Vega** 58.45 295 P P 00 46 47.5 -0.6
ECOG pmax pmax
comp=Z,4.0nm,0.3s,mb4.9
ECOG **Cogollos-Vega** 58.45 295 P P 00 46 47.5 -0.6
comp=Z,3.9nm,0.3s,mb4.9
EPON **Pontenova** 58.52 303 P P 00 46 49.0 +0.6
comp=Z,9.2nm,0.4s,mb5.2
EGUA **Guajares** 58.64 295 P P 00 46 48.7 -0.7
EGUA pmax pmax
comp=Z,62nm,1.0s,mb5.6
EGUA **Guajares** 58.64 295 P P 00 46 48.7 -0.6
comp=Z,62nm,1.0s,mb5.6
ERON **Agron** 58.73 295 P P 00 46 47.4 -2.7
ECAL **Calabor** 58.79 301 P P 00 46 49.6 -0.7
comp=Z,231nm,3.0s
EADA **Adamuz** 58.81 296 P P 00 46 49.7 -0.9
comp=Z,8.1nm,2.5s,mb4.3
ELUQ **Luque** 58.84 296 P P 00 46 50.8 0.0
ELUQ pmax pmax
comp=Z,6.0nm,0.3s,mb5.1
ELUQ **Luque** 58.84 296 P P 00 46 50.8 0.0
comp=Z,6.2nm,0.3s,mb5.1
ERUA **La Rua** 58.88 302 P P 00 46 51.6 +0.6
ERUA pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
ERUA **La Rua** 58.88 302 P P 00 46 51.6 +0.6
comp=Z,7.6nm,0.5s,mb5.0
ELOJ **Sierra Loja** 58.93 295 P P 00 46 50.7 -0.7
ELOJ pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ELOJ **Sierra Loja** 58.93 295 P P 00 46 50.7 -0.7
comp=Z,2.9nm,0.5s,mb4.6
MVO **Moncorvo** 59.30 301 eP P 00 46 54.7 +0.8
comp=Z,32nm,1.8s,mb5.0
EMIJ **Mijas** 59.63 295 P P 00 46 54.7 -1.6
comp=Z,5.2nm,1.1s,mb4.5
STS **Santiago** 59.64 303 P P 00 46 56.1 -0.1
STS pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
STS **Santiago** 59.64 303 P P 00 46 56.1 0.0
comp=Z,3.4nm,0.8s,mb4.4
ELOB **Lobios** 59.72 302 P P 00 46 56.9 +0.1
comp=Z,2.1nm,0.6s,mb4.3
EMAZ **Mazaricos** 59.90 303 P P 00 46 57.7 -0.2
MTE **Manteigas** 59.97 300 eP P 00 46 59.2 +0.7
comp=Z,57nm,1.3s,mb5.4
MTE **Manteigas** 59.97 300 eP P 00 46 58.1 -0.4
PVIS **Viseu** 60.08 300 eP P 00 46 59.6 +0.3
comp=Z,63nm,1.3s,mb5.5
EJIF **Jimena Fronter** 60.18 295 P P 00 46 59.4 -0.6
EJIF pmax pmax
comp=Z,17nm,0.8s,mb5.1
EJIF **Jimena Fronter** 60.18 295 P P 00 46 59.4 -0.6
comp=Z,17nm,0.8s,mb5.1
PMRV **Marv??o** 60.28 299 eP P 00 47 01.3 +0.7
comp=Z,45nm,1.3s,mb5.3
ESPR **Espera** 60.28 296 P P 00 47 00.5 -0.2
EBAD **Badajoz** 60.30 298 P P 00 47 00.8 0.0
comp=Z,75nm,0.9s,mb5.7
EMIN **Mina Concepcio** 60.48 297 P P 00 47 01.7 -0.3
comp=Z,42nm,1.0s,mb5.4
PBAR **Barrancos** 60.56 297 eP P 00 47 02.9 +0.3
comp=Z,45nm,1.5s,mb5.3
PESTR **Estremoz** 60.66 298 eP P 00 47 03.7 +0.5
comp=Z,31nm,1.5s,mb5.1
SUMG **Summit** 60.77 341 eP P 00 47 04.8 +1.4
comp=Z,7.0nm,0.9s,mb4.7
EVO **Evora** 61.10 298 eP P 00 47 06.4 +0.2
comp=Z,21nm,0.8s,mb4.9
EVO eMLR MLR
comp=Z,35nm,20.0s
EVO **Evora** 61.10 298 eP P 00 47 07.0 +0.8
comp=Z,31nm,1.9s,mb5.0
EGRO **El Granado** 61.16 297 P P 00 47 06.4 -0.2
comp=Z,56nm,1.1s,mb5.5
PBEJ **Beja** 61.22 298 eP P 00 47 07.6 +0.6
comp=Z,41nm,1.8s,mb5.2
PVAQ **Vaqueiros** 61.38 297 eP P 00 47 08.6 +0.5
comp=Z,79nm,1.7s,mb5.5
PBDV **Barranco-do-Ve** 61.61 297 eP P 00 47 10.1 +0.5
comp=Z,96nm,1.3s,mb5.7
LSZ **Lusaka** 66.26 227 eP P 00 47 39.8 -0.4
LSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
LSZ **Lusaka** 66.26 227 eP P 00 47 39.8 -0.5
comp=Z,6.3nm,0.9s,mb4.5
TOA0 **Torodi Ar. Sit** 66.35 269 eP P 00 47 39.4 -1.6
TORD **Torodi Ar. Bea** 66.35 269 P P 00 47 39.6 -1.4
comp=Z,5.8nm,0.4s,mb4.7,baz=49,slow=5.9,SNR=252
GUMO **Guam** 68.52 89 LR LR 01 19 20.2
comp=Z,38nm,18.7s,baz=91,slow=37
COLD **Coldfoot** 71.30 16 eP P 00 48 10.8 0.0
comp=Z,6.9nm,0.8s,mb4.5
COLD pP pP 00 48 42.8 +3.6
IMA2 **Indian Mountai** 71.44 18 eP P 00 48 11.8 +0.1
IMA2 epP pP 00 48 39.4 -0.6
IMA2 ePP PP 00 50 49.7 -1.2
INK **Inuvik** 73.29 10 eP P 00 48 23.0 +0.4
INK pmax pmax
comp=Z,541nm,1.0s
INK **Inuvik** 73.29 10 eP P 00 48 23.0 +0.4
comp=Z,540nm,1.0s,mb6.3
MBWA **Marble Bar** 73.44 134 eP P 00 48 25.2 +1.1

MBWA ePcP PcP 00 48 40.2 +0.5
CHUM **Lake Minchumin** 73.55 19 eP P 00 48 24.1 -0.1
BPAW **Bear Paw Mtn.** 73.71 18 eP P 00 48 25.1 0.0
comp=Z,7.0nm,1.0s,mb4.3
BPAW epP pP 00 48 54.9 +1.2
COLA **College** 73.80 16 eP P 00 48 25.6 -0.1
COLA pmax pmax
comp=Z,12nm,0.8s,mb4.7
COLA **College** 73.80 16 eP P 00 48 25.6 -0.1
comp=Z,12nm,0.8s,mb4.7
KTH **Kantishna Hill** 74.18 18 eP P 00 48 28.0 +0.1
comp=Z,20nm,1.1s,mb4.8
PPLA **Purkeypile** 74.39 19 eP P 00 48 29.0 -0.1
comp=Z,5.0nm,0.6s,mb4.4
FITZ **Fitzroy Crossi** 74.71 127 eP P 00 48 31.4 -0.2
comp=Z,8.3nm,1.0s,mb4.4
EGAK **Eagle** 75.29 14 eP P 00 48 34.2 -0.1
comp=Z,4.4nm,1.0s,mb4.1
DBIC **Dimbokro** 75.34 267 P P 00 48 34.2 -1.2
comp=Z,2.5nm,0.7s,mb4.0,baz=38,slow=7.3,SNR=11
DBIC **Dimbokro** 75.34 267 P P 00 48 34.2 -1.2
LBTB **Lobatse** 75.48 223 eP P 00 48 35.9 +0.1
LBTB *PP pP 00 49 01.8 -2.7
LBTB e 00 51 26.7
TSUM **Tsumeb** 75.72 232 eP P 00 48 37.0 -0.4
BOSA **Boshof** 78.54 221 P P 00 48 52.1 -0.8
comp=Z,2.7nm,0.4s,mb4.4,baz=67,slow=7.7,SNR=13
BOSA **Boshof** 78.54 221 eP P 00 48 52.5 -0.4
BOSA pmax pmax
comp=Z,13nm,1.1s,mb4.7
BOSA **Boshof** 78.54 221 eP P 00 48 52.5 -0.4
comp=Z,13nm,1.1s,mb4.7
HYT **Haines Junctio** 79.60 14 eP P 00 48 59.7 +1.4
HYT ePcP PcP 00 49 07.1 +1.2
YKA **Yellowknife Ar** 80.69 3 P P 00 49 04.3 +0.1
comp=Z,5.0nm,0.5s,mb4.7,baz=351,slow=5.5,SNR=19
WRA **Warramunga Arr** 81.75 122 P P 00 49 10.1 -0.2
comp=Z,3.9nm,0.8s,mb4.3,baz=323,slow=5.0,SNR=35
WRAB **Tennant Creek** 81.75 122 eP P 00 49 10.3 0.0
WB2 **Warramunga Arr** 81.75 122⇑iP P 00 49 09.6 -0.7
WB2 **Warramunga Arr** 81.75 122 eP P 00 49 10.3 -0.1
SCHQ **Schefferville** 81.86 337 P P 00 49 09.4 -1.0
comp=Z,9.1nm,1.0s,mb4.6,baz=15,slow=2.9,SNR=6.9
FCC **Fort Churchill** 83.84 353 eP P 00 49 21.1 +0.5
ASAR **Alice Springs** 84.05 125 P P 00 49 22.1 0.0
comp=Z,2.7nm,0.8s,mb4.1,baz=316,slow=4.1,SNR=18
ULM **Lac du Bonnet** 92.42 352 P P 00 50 00.5 -1.3
comp=Z,0.9nm,0.5s,mb4.3,baz=338,slow=6.2,SNR=3.7
WALA **Waterton Lakes** 94.15 4 eP P 00 50 09.8 0.0
JCW **Jim Creek** 94.29 9 eP P 00 50 11.0 +0.6
RSSD **Black Hills** 99.15 357 eP P 00 50 32.8 +0.3
SDV **Santo Domingo** 122.32 314 PKPdf PKPdf 00 55 46.8 +0.4
PLCA **Paso Flores** 150.58 251 PKPbc PKPbc 00 56 42.2 -0.1
comp=Z,3.8nm,0.9s,baz=209,slow=3.5,SNR=4.8

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*IDC **08** 00:53:07.0±0.8, 1122S×11854E, h0km, mb4.2/7, mb1 4.4/10, mb1mx4.2/19, mbtmp4.3/10, ML4.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/26, Error ellipse: s-maj=31.6km s-min=18.3km az=75.0*

*ISCJB **08** 00:53:07.2±2.2, 11.16S±004×11889E±006, h16km±16km, mb4.3/16, Error ellipse: s-maj=10.0km s-min=6.5km az=158.2*

*DJA **08** 00:53:07, 1133S×11853E, h10km, ML5.2/5*

*NEIC **08** 00:53:09.3±4.1, 11.16S×11885E, h17km±26km, mb4.5/11, Error ellipse: s-maj=12.5km s-min=6.2km az=72.0*

ISC 08 00:53:09.8±2.6, 1113S±004×11888E±005, h20km±17km, n47, σ1$10/61, mb4.3/16, 2C, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WSI	**Waingapu**	**2.02**	**44⇑**	eP		**Pn**	**00 53 46.7**	**+4.0**
WSI				eS		**Sn**	**00 54 07.0**	**-0.4**
KHKI	**Kahang-Kahang**	**4.24**	**310**	P		**Pn**	**00 54 11.8**	**-1.5**
	0.0nm,0.0s							
BATI	**Baumata**	**4.79**	**79**	P		**Pn**	**00 54 25.3**	**+4.4**
	0.0nm,0.0s							
BATI	**Baumata**	**4.79**	**79**	Pn		**Pn**	**00 54 25.4**	**+4.5**
	25nm,0.3s,baz=258,slow=3.1,SNR=16							
BATI				Sn		**Sn**	**00 55 21.1**	**+5.2**
	21nm,0.3s,baz=39,slow=22,SNR=6.6							
MKS	**Makassar**	**5.91**	**6⇑**	eP		**Pn**	**00 54 37.5**	**+1.3**
MKS				eS		**Sn**	**00 55 42.1**	**-1.3**
KAPI	**Kappang**	**6.14**	**8**	Pn		**Pn**	**00 54 40.9**	**+1.5**
KAPI				Sn		**Sn**	**00 55 47.2**	**-2.0**
KAPI				LR		LR	00 57 50.6	
	comp=Z,105nm,19.3s,baz=277,slow=45							
KAPI	**Kappang**	**6.14**	**8**	Pn		**Pn**	**00 54 40.9**	**+1.5**
KAPI				Sn		**Sn**	**00 55 47.2**	**-2.0**
KAPI				LR		LR	00 57 50.6	
SJI	**Sawahan**	**7.79**	**295**	P		**Pn**	**00 54 59.4**	**-2.7**
	0.0nm,0.0s							
BBKI	**Banjar Baru**	**8.61**	**332**	P		**Pn**	**00 55 15.6**	**+2.2**
	0.0nm,0.0s							
FITZ	**Fitzroy Crossi**	**9.53**	**137**	eP		**Pn**	**00 55 24.1**	**-1.8**
	38nm,0.6s							
FITZ				eS		**Sn**	**00 57 04.5**	**-8.0**
FITZ	**Fitzroy Crossi**	**9.53**	**137**	Pn		**Pn**	**00 55 22.5**	**-3.4**
	2.4nm,0.3s,baz=323,slow=9.3,SNR=52							
FITZ				Sn		**Sn**	**00 57 04.0**	**-8.5**
	3.2nm,0.3s,baz=177,slow=20,SNR=4.6							
FITZ				LR		LR	00 59 04.3	
	comp=Z,61nm,20.7s,baz=120,slow=37							
MBWA	**Marble Bar**	**10.00**	**175**	eP		**Pn**	**00 55 27.8**	**-4.7**
	95nm,0.4s							
SMKI	**Samarinda**	**10.75**	**351**	P		**Pn**	**00 55 49.8**	**+7.1**
	0.0nm,0.0s							
KAKA	**Kakadu**	**13.36**	**98**	eP		**Pn**	**00 56 18.8**	**+0.3**
	11nm,1.2s							
KAKA				eS		**Sn**	**00 58 38.7**	**-7.9**
WRA	**Warramunga Arr**	**17.27**	**122**	P		**Pn**	**00 57 08.1**	**-1.8**
	0.7nm,0.3s,baz=295,slow=13,SNR=19							
WRA				S		**Sn**	**01 00 10.3**	**-11**
	0.6nm,0.3s,baz=290,slow=25,SNR=4.8							
KKM	**Kota Kinabalu**	**17.27**	**351**	Pn		**Pn**	**00 57 09.7**	**-0.2**
WRAB	**Tennant Creek**	**17.27**	**122**	ePn		**Pn**	**00 57 09.7**	**-0.3**
	4.8nm,0.6s							
WRAB				eSn		**Sn**	**01 00 13.9**	**-7.8**
WB2	**Warramunga Arr**	**17.28**	**122**	eP		**Pn**	**00 57 08.3**	**-1.7**
WB2				eS		**Sn**	**01 00 08.4**	**-13**
ASAR	**Alice Springs**	**18.97**	**133**	P		**Pn**	**00 57 32.0**	**+1.2**
	1.0nm,0.3s,baz=313,slow=12,SNR=67							
ASAR				S		**Sn**	**01 00 50.9**	**-12**
	0.4nm,0.3s,baz=304,slow=19,SNR=7.1							
KLBR	**Kellerberrin**	**20.39**	**183**	eP		**P**	**00 57 45.6**	**+0.2**
	20nm,0.5s							
KLBR				eS		**S**	**01 01 10.7**	**-22**
MUN	**Mundaring**	**20.89**	**186**	eP		**P**	**00 57 51.6**	**+0.7**
MUN				eS		**S**	**01 01 22.1**	**-21**
FORT	**Forrest**	**21.32**	**158**	eP		**P**	**00 57 57.7**	**+2.1**
	31nm,0.7s,mb4.7							
NWAO	**Narrogin (SRO)**	**21.74**	**184**	P		**P**	**00 57 58.9**	**-1.1**
	14nm,0.4s,mb4.7,baz=11,slow=13,SNR=18							
NWAO				S		**S**	**01 01 45.2**	**-15**
	13nm,0.4s,baz=277,slow=8.7,SNR=5.5							
NWAO	**Narrogin (SRO)**	**21.74**	**184**	P		**P**	**00 57 58.9**	**-1.1**
NWAO				S		**S**	**01 01 45.2**	**-15**
PMG	**Port Moresby**	**27.88**	**89**	P		**P**	**00 58 59.1**	**+0.5**
STKA	**Stephens Creek**	**29.42**	**138**	eP		**P**	**00 59 11.5**	**-0.7**
	13nm,1.4s,mb4.5							
TAU	**Tasmania Unive**	**40.17**	**147**	P		**P**	**01 00 45.2**	**+0.6**
PALK	**Pallekele**	**42.16**	**294**	P		**P**	**01 01 02.2**	**+0.8**
MJAR	**Matsushiro Arr**	**50.80**	**20**	P		**P**	**01 02 10.0**	**+1.2**
	1.3nm,0.5s,mb4.2,baz=184,slow=7.1,SNR=4.4							
SONM	**Songino Array**	**59.75**	**350**	P		**P**	**01 03 14.3**	**+1.1**
	0.7nm,0.5s,mb3.9,baz=163,slow=10,SNR=3.4							
KBL	**Kabul**	**65.53**	**316**	P		**P**	**01 03 51.2**	**-0.8**
	5.0nm,0.6s,mb4.7							
MK31	**Makanchi Array**	**66.29**	**333**	eP		**P**	**01 03 56.1**	**-0.6**
MKAR	**Makanchi Array**	**66.29**	**333**	P		**P**	**01 03 57.0**	**+0.3**
	1.5nm,0.5s,mb4.3,baz=147,slow=7.3,SNR=18							
TKM2	**Tokmak 2**	**66.75**	**327**	eP		**P**	**01 03 59.4**	**-0.3**
	1.6nm,0.5s,mb4.3							
AML	**Almayashu**	**67.27**	**325**	eP		**P**	**01 04 03.3**	**+0.2**
	3.8nm,0.8s,mb4.5							
VNDA	**Vanda**	**69.91**	**171**	P		**P**	**01 04 19.2**	**+0.2**
	1.2nm,0.9s,mb3.8,baz=294,slow=6.4,SNR=3.2							
KURK	**Kurchatov**	**70.85**	**334**	eP		**P**	**01 04 24.9**	**-0.1**
	0.8nm,0.4s,mb4.0							
KURK				PcP		PcP	01 04 44.6	-1.0
SBA	**Scott Base**	**70.92**	**170**	eP		**P**	**01 04 26.3**	**+1.1**
	1.8nm,0.8s,mb4.0							
ZALV	**Zalesovo Beam**	**70.98**	**340**	P		**P**	**01 04 24.7**	**-1.1**
	1.7nm,0.6s,mb4.2,baz=141,slow=5.1,SNR=8.8							

BRVK Borovoye 76.18 332 P **P 01 04 55.9 -0.5**
AKTK Aktyubinsk 80.90 326 P **P 01 05 23.3 +0.8**
AKTO Aktyubinsk 80.90 326 P **P 01 05 23.3 +0.8**
1.1nm,0.6s,mb4.0,baz=93,slow=8.5
ARU Arti 83.66 331 P **P 01 05 36.2 -0.6**
LSZ Lusaka 87.77 255 *e*P **P 01 05 58.0 -0.2**
2.0nm,0.7s,mb4.5
BOSA Boshof 87.89 241 *e*P **P 01 05 59.2 +0.7**
2.5nm,0.8s,mb4.5
TORD Torodi Ar. Bea 118.69 279 PKP PKPdf 01 11 57.1 -0.3
0.4nm,0.6s,baz=96,slow=1.4,SNR=4.3
TKL Tuckaleechee C 148.09 36 PKPbc PKPbc 01 12 56.5 +1.9
0.9nm,0.3s,baz=333,slow=2.3,SNR=3.6

IDC ***08*** *01:01:38.4±0.4, 0.89N×2923W, h0km, mb4.5/31, mb1 4.7/32, mb1mx4.6/34, mbtmp4.6/32, ML4.2/1, MS4.5/21, Ms1 4.5/21, ms1mx4.4/22, Error ellipse: s-maj=13.9km s-min=9.8km az=153.0*
MOS ***08*** *01:01:38.1±0.8, 0.92N×29.18W, h10km, mb5.3/85, MS4.4/15, Error ellipse: s-maj=8.8km s-min=3.7km az=59.5*
NEIC ***08*** *01:01:39.8±0.2, 0.82N×29.17W, h10km, mb5.1/130, Error ellipse: s-maj=5.3km s-min=2.9km az=158.0*
BJI ***08*** *01:01:39.7, 0.80N×2920W, h10km, mB5.6, Ms5.3, Msz4.9*
ISCJB ***08*** *01:01:39.8±0.3, 108N±006×2899W±003, h10km, mb5.0/182, MS4.5/40, Error ellipse: s-maj=9.0km s-min=3.1km az=162.1*
SZGRF ***08*** *01:01:39.5, 0.40N×2894W, h23km, mb5.1, MS4.4, Central Mid-Atlantic Ridge*
GCMT ***08*** *01:01:39.8±0.2, 0.98N×2923W, h15km±1km, MW5.1/78, Moment Tensor Solution. s39,c55; s78,c134; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}0.73±.14; $M_{\theta\theta}$1.98±.14; $M_{\phi\phi}$-2.71±.16; $M_{r\theta}$-1.34±.28; $M_{\theta\phi}$-5.32±.16; $M_{\phi r}$0.57±.27; Best double couple: $M_0$6.01900×10^16 NP1:ϕ_s349.00000°, δ77.00000°, λ10.00000°. NP2: ϕ_s257.00000°, δ81.00000°, λ167.00000°. Principal axes: T 5.8500, Plg16.0000°, Azm213.0000°; N 0.3440, Plg74.0000°, Azm41.0000°; P -6.1890, Plg2.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 08 01:01:40.9±0.3, 092N±005×2906W±003, h10km, (h23km±3.3km:pP-P), n648, c_0S79/645, mb5.0/182, MS4.5/40, 215C-94D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BBTS	**Babate**	**18.43**	**42**	P		**Pn**	**01 05 55.7**	**-1.0**
	0.8nm,0.3s,baz=327,slow=1.8,SNR=6.5							
BBTS				LR		LR	01 11 21.7	
	comp=Z,2μm,20.6s,baz=38,slow=31							
LIC	**Lamto**	**24.55**	**77**	⇑*iP*		**P**	**01 07 00.7**	**-0.4**
	428nm,1.2s,mb5.5							
LIC				*e*MLR		MLR		
	comp=Z,880nm,19.5s,MS4.0							
LIC	**Lamto**	**24.55**	**77**	⇑*iP*		**P**	**01 07 00.7**	**-0.4**
	comp=Z,214nm,1.2s,mb5.5							
LIC				LR		LR		
	comp=Z,440nm,19.5s,MS4.0							
DBIC	**Dimbokro**	**24.80**	**76**	P		**P**	**01 07 03.0**	**-0.4**
	comp=Z,185nm,1.0s,mb5.6,baz=238,slow=13,SNR=39							
DBIC				LR		LR	01 15 09.4	
	comp=Z,509nm,18.4s,MS4.1,baz=235,slow=32							
DBIC	**Dimbokro**	**24.80**	**76**	*e*P		**P**	**01 07 03.0**	**-0.5**
DBIC				pmax		pmax		
	comp=Z,288nm,1.1s							
DBIC	**Dimbokro**	**24.80**	**76**	*e*P		**P**	**01 07 03.0**	**-0.5**
	comp=Z,288nm,1.1s,mb5.7							
BDFB	**Brasilia**	**24.93**	**228**	P		**P**	**01 07 01.0**	**-3.6**
	comp=Z,9.2nm,0.9s,mb4.3,baz=42,slow=16,SNR=18							
BDFB				LR		LR	01 15 50.1	
	comp=Z,2μm,18.3s,MS4.5,baz=44,slow=34							
TOA0	**Torodi Ar. Sit**	**32.79**	**67**	*e*P		**P**	**01 08 13.5**	**-1.2**
TORD	**Torodi Ar. Bea**	**32.79**	**67**	P		**P**	**01 08 14.3**	**-0.4**
	comp=Z,12nm,0.9s,mb4.8,baz=260,slow=6.3,SNR=21							
TORD	**Torodi Ar. Bea**	**32.79**	**67**	P		**P**	**01 08 14.3**	**-0.4**
SIV	**San Ignacio**	**35.80**	**241**	P		**P**	**01 08 38.1**	**-2.7**
	comp=Z,10nm,0.9s,mb4.7,baz=79,slow=9.5,SNR=27							
PDA	**Ponta Delgada**	**36.78**	**4**	*e*LQ			01 17 08.0	
CMLA	**Cha da Macela**	**36.80**	**5**	*e*S		**S**	**01 14 27.8**	**-5.4**
CMLA				*e*SS		SS	01 17 13.1	-1.3
CMLA				*e*LQ			01 17 56.9	
CMLA				*e*LR		LR	01 18 23.7	
CPUP	**Villa Florida**	**38.44**	**223**	P		**P**	**01 08 59.6**	**-3.5**
	comp=Z,3.3nm,0.8s,mb4.1,baz=30,slow=8.9,SNR=5.3							
CPUP				LR		LR	01 24 30.3	
	comp=Z,4μm,18.2s,MS5.3,baz=43,slow=36							
CPUP	**Villa Florida**	**38.44**	**223**	*e*P		**P**	**01 09 00.2**	**-2.9**
CPUP				pmax		pmax		
	comp=Z,154nm,1.8s							
CPUP	**Villa Florida**	**38.44**	**223**	*e*P		**P**	**01 09 00.2**	**-2.9**
	comp=Z,154nm,1.8s,mb5.4							
MTP	**Monte Pirata**	**39.69**	**298**	*e*P		**P**	**01 09 11.2**	**-2.5**
HUMP	**Col San Antoni**	**39.97**	**298**	*e*P		**P**	**01 09 13.8**	**-2.2**
	comp=Z,40nm,1.1s,mb5.1							
TAM	**Tamanrasset**	**40.02**	**55**	*e*P		**P**	**01 09 16.9**	**+0.6**
SJG	**San Juan**	**40.23**	**297**	*e*P		**P**	**01 09 15.7**	**-2.4**
SJG				pmax		pmax		
	comp=Z,55nm,1.4s							
SJG	**San Juan**	**40.23**	**297**	*e*P		**P**	**01 09 15.7**	**-2.5**
	comp=Z,56nm,1.4s,mb5.1							
PFVI	**Vila Bisbo**	**40.59**	**25**	*e*P		**P**	**01 09 20.9**	**+0.1**
	comp=Z,110nm,1.2s,mb5.4							
PFVI	**Vila Bisbo**	**40.59**	**25**	*e*LR		LR	01 20 33.9	
	comp=Z,709nm,20.0s							
PTEO	**Sao Teotonio**	**40.98**	**25**	*e*P		**P**	**01 09 24.7**	**+0.6**
	comp=Z,107nm,1.6s,mb5.2							
PBDV	**Barranco-do-Ve**	**41.07**	**26**	*e*P		**P**	**01 09 25.3**	**+0.5**
	comp=Z,35nm,1.3s,mb4.8							
PBDV	**Barranco-do-Ve**	**41.07**	**26**	*e*LR		LR	01 20 46.2	
	comp=Z,562nm,20.0s							
PVAQ	**Vaqueiros**	**41.30**	**26**	*e*P		**P**	**01 09 26.9**	**+0.2**
	comp=Z,54nm,2.3s,mb4.8							
PVAQ				*e*S		**S**	**01 15 46.4**	**+5.5**
PVAQ				*e*LR		LR	01 20 55.7	
	comp=Z,556nm,20.0s							
PBEJ	**Beja**	**41.75**	**25**	*e*P		**P**	**01 09 31.2**	**+0.8**
	comp=Z,22nm,1.4s,mb4.6							
PMAFR	**Mafra**	**41.96**	**23**	*e*S		**S**	**01 15 53.3**	**+2.6**
PMAFR				*e*LR		LR	01 21 02.5	
	comp=Z,558nm,22.0s							
EVO	**Evora**	**42.11**	**25**	*e*P		**P**	**01 09 32.7**	**-0.7**
	comp=Z,39nm,1.1s,mb4.7							
EVO				*e*MLR		MLR		
	comp=Z,959nm,20.8s,MS4.4							
EVO	**Evora**	**42.11**	**25**	*e*P		**P**	**01 09 34.0**	**+0.7**
	comp=Z,37nm,1.7s,mb4.7							
SDV	**Santo Domingo**	**42.13**	**282**	P		**P**	**01 09 31.8**	**-2.1**
	comp=Z,28nm,1.1s,mb4.8,baz=72,slow=7.0,SNR=14							
SDV	**Santo Domingo**	**42.13**	**282**	*e*P		**P**	**01 09 31.5**	**-2.4**
	comp=Z,56nm,1.2s,mb5.1							
LPAZ	**La Paz**	**42.18**	**244**	P		**P**	**01 09 32.1**	**-2.1**
	comp=Z,16nm,0.9s,mb4.6,baz=50,slow=7.5,SNR=37							
LPAZ				LR		LR	01 26 28.8	
	comp=Z,666nm,18.5s,MS4.5,baz=74,slow=36							
LPAZ	**La Paz**	**42.18**	**244**	*e*P		**P**	**01 09 32.6**	**-1.6**
LPAZ				pmax		pmax		
	comp=Z,40nm,1.2s							
LPAZ	**La Paz**	**42.18**	**244**	*e*P		**P**	**01 09 32.6**	**-1.7**
	comp=Z,40nm,1.2s,mb4.9							
PBAR	**Barrancos**	**42.23**	**26**	*e*P		**P**	**01 09 34.8**	**+0.5**
	comp=Z,26nm,2.1s,mb4.5							
PBAR				*e*S		**S**	**01 16 04.2**	**+9.4**
PBAR				*e*LR		LR	01 21 29.3	
	comp=Z,713nm,20.0s							
PESTR	**Estremoz**	**42.58**	**25**	*e*S		**S**	**01 16 10.9**	**+11**
PESTR				*e*LR		LR	01 21 42.0	
	comp=Z,646nm,18.0s							
PMRV	**Marv??o**	**43.13**	**25**	*e*P		**P**	**01 09 42.3**	**+0.7**
	comp=Z,54nm,1.6s,mb5.0							
PMRV				*e*S		**S**	**01 16 18.4**	**+10**
PMRV				*e*LR		LR	01 21 46.8	
	comp=Z,513nm,20.0s							
MTE	**Manteigas**	**43.89**	**24**	*e*P		**P**	**01 09 48.3**	**+0.6**
	comp=Z,46nm,1.3s,mb5.0							
MTE				*e*S		**S**	**01 16 26.6**	**+7.6**
MTE				*e*LR		LR	01 22 15.4	
	comp=Z,582nm,22.0s							
PVIS	**Viseu**	**44.02**	**23**	*e*P		**P**	**01 09 49.3**	**+0.6**
	comp=Z,81nm,1.4s,mb5.3							
ETRT	**Tiaret**	**44.43**	**36**	P		**P**	**01 09 53.8**	**+1.7**
EANR	**'Ain N'Sour**	**44.70**	**35**	P		**P**	**01 09 55.5**	**+1.2**
CART	**Cartagena**	**44.71**	**32**	*e*P		**P**	**01 09 53.6**	**-0.8**
	comp=Z,25nm,1.2s,mb4.9							
MVO	**Moncorvo**	**44.74**	**24**	*e*P		**P**	**01 09 54.6**	**+0.1**
	comp=Z,38nm,2.1s,mb4.8							
MVO				*e*S		**S**	**01 16 39.6**	**+8.2**
MVO				*e*LR		LR	01 22 28.9	
	comp=Z,545nm,22.0s							
ESDC	**Sonseca Array**	**44.84**	**28**	P		**P**	**01 09 56.1**	**+0.7**
	comp=Z,16nm,0.8s,mb4.9,baz=224,slow=8.7,SNR=84							
ESDC				LR		LR	01 25 29.9	
	comp=Z,343nm,19.4s,MS4.3,baz=225,slow=32							
SDDR	**Presa de Saban**	**45.11**	**296**	*e*P		**P**	**01 09 56.7**	**-1.1**
	comp=Z,17nm,0.9s,mb4.9							
LVC	**Limon Verde**	**45.32**	**236**	P		**P**	**01 09 55.7**	**-3.7**
	comp=Z,3.6nm,0.7s,mb4.3,baz=304,slow=7.3,SNR=3.4							
LVC	**Limon Verde**	**45.32**	**236**	*e*P		**P**	**01 09 56.5**	**-2.9**
	comp=Z,20nm,1.4s,mb4.8							
ROSC	**El Rosal**	**45.37**	**276**	P		**P**	**01 09 57.5**	**-2.5**
	comp=Z,27nm,0.8s,mb5.2,baz=84,slow=8.2,SNR=19							
ROSC				LR		LR	01 27 50.6	
	comp=Z,888nm,19.2s,MS4.7,baz=122,slow=35							
ROSC	**El Rosal**	**45.37**	**276**	*e*P		**P**	**01 09 57.4**	**-2.6**
EMHD	**Djebel Mahouad**	**45.96**	**37**	P		**P**	**01 10 05.0**	**+0.7**
SJPF	**Ste Jean**	**48.82**	**27**	⇑*iP*		**P**	**01 10 27.3**	**+0.8**
	comp=Z,65nm,1.0s,mb5.3							
SJPF	**Ste Jean**	**48.82**	**27**	⇑*iP*		**P**	**01 10 27.3**	**+0.8**
SJPF				pmax		pmax		
	comp=Z,33nm,1.0s,mb5.3							
SJPF	**Ste Jean**	**48.82**	**27**	⇑*iP*		**P**	**01 10 27.3**	**+0.8**
	comp=Z,33nm,1.0s,mb5.3							
ETSF	**Etsaut**	**48.96**	**28**	⇑*iP*		**P**	**01 10 28.5**	**+1.0**
	comp=Z,100nm,1.2s,mb5.4							
ETSF	**Etsaut**	**48.96**	**28**	⇑*iP*		**P**	**01 10 28.5**	**+1.0**
ETSF				pmax		pmax		
	comp=Z,50nm,1.2s,mb5.4							
ETSF	**Etsaut**	**48.96**	**28**	⇑*iP*		**P**	**01 10 28.5**	**+1.0**
	comp=Z,50nm,1.2s,mb5.4							
ATE	**Arette**	**49.04**	**27**	*e*P		**P**	**01 10 29.2**	**+1.1**
TRQA	**Tornquist**	**49.25**	**214**	*e*P		**P**	**01 10 25.7**	**-4.1**
	comp=Z,7.0nm,0.9s,mb4.7							
LABF	**Labassere**	**49.37**	**28**	*e*P		**P**	**01 10 31.7**	**+1.0**
OTAV	**Otavalo**	**49.39**	**270**	*e*P		**P**	**01 10 29.9**	**-1.4**
	comp=Z,9.3nm,1.0s,mb4.8							
EPF	**Esparros**	**49.49**	**28**	⇑*iP*		**P**	**01 10 32.6**	**+1.1**
	comp=Z,116nm,1.4s,mb5.4							
EPF	**Esparros**	**49.49**	**28**	⇑*iP*		**P**	**01 10 32.6**	**+1.1**
EPF				pmax		pmax		
	comp=Z,58nm,1.4s,mb5.4							
EPF	**Esparros**	**49.49**	**28**	⇑*iP*		**P**	**01 10 32.6**	**+1.1**
	comp=Z,58nm,1.4s,mb5.4							
KEST	**Kesra**	**49.70**	**42**	P		**P**	**01 10 33.9**	**+0.6**
	comp=Z,4.9nm,0.8s,mb4.6,baz=264,slow=5.0,SNR=12							
KEST				LR		LR	01 32 09.9	
	comp=Z,412nm,19.7s,MS4.4,baz=3.5,slow=37							
TSUM	**Tsumeb**	**49.95**	**116**	P		**P**	**01 10 36.4**	**+0.9**
	comp=Z,11nm,0.9s,mb4.9,baz=262,slow=8.9,SNR=8.3							
MTLF	**Montolieu**	**50.62**	**29**	⇑*iP*		**P**	**01 10 39.9**	**-0.3**
	comp=Z,64nm,1.3s,mb5.1							
MTLF	**Montolieu**	**50.62**	**29**	⇑*iP*		**P**	**01 10 39.9**	**-0.3**
MTLF				pmax		pmax		
	comp=Z,32nm,1.3s,mb5.1							
MTLF	**Montolieu**	**50.62**	**29**	⇑*iP*		**P**	**01 10 39.9**	**-0.3**
	comp=Z,32nm,1.3s,mb5.1							
LFF	**La Frestale**	**51.13**	**27**	⇑*iP*		**P**	**01 10 44.3**	**+0.3**
	comp=Z,107nm,1.0s,mb5.4							
LFF	**La Frestale**	**51.13**	**27**	⇑*iP*		**P**	**01 10 44.3**	**+0.3**
LFF				pmax		pmax		
	comp=Z,54nm,1.0s,mb5.4							
LFF	**La Frestale**	**51.13**	**27**	⇑*iP*		**P**	**01 10 44.3**	**+0.3**
	comp=Z,54nm,1.0s,mb5.4							
CAF	**Calviac**	**51.73**	**28**	⇑*iP*		**P**	**01 10 48.5**	**0.0**
	comp=Z,69nm,1.3s,mb5.1							
CAF	**Calviac**	**51.73**	**28**	⇑*iP*		**P**	**01 10 48.5**	**0.0**
CAF				pmax		pmax		
	comp=Z,35nm,1.3s,mb5.1							
CAF	**Calviac**	**51.73**	**28**	⇑*iP*		**P**	**01 10 48.5**	**0.0**
	comp=Z,35nm,1.3s,mb5.1							
RJF	**Les Rejaudoux**	**51.77**	**27**	⇑*iP*		**P**	**01 10 48.4**	**-0.3**
	comp=Z,54nm,1.2s,mb5.0							
RJF				*e*MLR		MLR		
	comp=Z,632nm,21.8s,MS4.3							
RJF	**Les Rejaudoux**	**51.77**	**27**	⇑*iP*		**P**	**01 10 48.4**	**-0.3**
RJF				pmax		pmax		
	comp=Z,27nm,1.2s,mb5.0							
RJF				MLR		MLR		
	comp=Z,630nm,21.8s,MS4.6							
RJF	**Les Rejaudoux**	**51.77**	**27**	⇑*iP*		**P**	**01 10 48.4**	**-0.3**
	comp=Z,27nm,1.2s,mb5.0							
RJF				LR		LR		
	comp=Z,630nm,21.8s,MS4.6							
QUIF	**Quistinic**	**51.91**	**22**	*e*P		**P**	**01 10 49.8**	**+0.1**
LASF	**Ste Croix**	**51.97**	**30**	⇑*iP*		**P**	**01 10 50.4**	**+0.1**
	comp=Z,34nm,1.1s,mb4.9							
MFF	**Saint Martin d**	**52.04**	**25**	⇑*iP*		**P**	**01 10 50.5**	**-0.3**
	comp=Z,47nm,1.1s,mb5.0							
MFF	**Saint Martin d**	**52.04**	**25**	⇑*iP*		**P**	**01 10 50.5**	**-0.3**
MFF				pmax		pmax		
	comp=Z,23nm,1.1s,mb5.0							
MFF	**Saint Martin d**	**52.04**	**25**	⇑*iP*		**P**	**01 10 50.5**	**-0.3**
	comp=Z,23nm,1.1s,mb5.0							
ROSF	**Rostrenen**	**52.22**	**22**	⇑*iP*		**P**	**01 10 52.0**	**0.0**
	comp=Z,59nm,1.3s,mb5.1							
ROSF	**Rostrenen**	**52.22**	**22**	⇑*iP*		**P**	**01 10 52.0**	**0.0**
ROSF				pmax		pmax		
	comp=Z,29nm,1.3s,mb5.0							
ROSF	**Rostrenen**	**52.22**	**22**	⇑*iP*		**P**	**01 10 52.0**	**0.0**
	comp=Z,29nm,1.3s,mb5.0							
SGMF	**Saint Gilles**	**52.42**	**22**	⇑*iP*		**P**	**01 10 53.4**	**-0.1**
	comp=Z,163nm,1.3s,mb5.5							
SGMF	**Saint Gilles**	**52.42**	**22**	⇑*iP*		**P**	**01 10 53.4**	**-0.1**
SGMF				pmax		pmax		
	comp=Z,82nm,1.3s,mb5.5							
SGMF	**Saint Gilles**	**52.42**	**22**	⇑*iP*		**P**	**01 10 53.4**	**-0.1**
	comp=Z,82nm,1.3s,mb5.5							
LBL	**Lubilhac**	**52.52**	**28**	*e*P		**P**	**01 10 55.4**	**+1.1**
SMRF	**Simiane la Rot**	**52.77**	**31**	⇑*iP*		**P**	**01 10 56.7**	**+0.5**
	comp=Z,46nm,1.2s,mb5.0							
SMRF	**Simiane la Rot**	**52.77**	**31**	⇑*iP*		**P**	**01 10 56.7**	**+0.5**
	comp=Z,46nm,1.3s,mb5.2							
PYM	**Petit Puy Mans**	**52.79**	**28**	*e*P		**P**	**01 10 56.6**	**+0.3**
LMR	**La Mourre**	**52.81**	**32**	⇑*iP*		**P**	**01 10 56.3**	**-0.3**
	comp=Z,22nm,1.1s,mb4.7							
LMR	**La Mourre**	**52.81**	**32**	⇑*iP*		**P**	**01 10 56.3**	**-0.3**
LMR				pmax		pmax		
	comp=Z,11nm,1.1s,mb4.7							
LMR	**La Mourre**	**52.81**	**32**	⇑*iP*		**P**	**01 10 56.3**	**-0.3**
	comp=Z,11nm,1.1s,mb4.7							
TCF	**Toulx Ste Croi**	**52.83**	**27**	⇑*iP*		**P**	**01 10 56.6**	**0.0**
	comp=Z,43nm,1.1s,mb5.0							
TCF	**Toulx Ste Croi**	**52.83**	**27**	⇑*iP*		**P**	**01 10 56.6**	**0.0**
TCF				pmax		pmax		
	comp=Z,22nm,1.1s,mb5.0							
TCF	**Toulx Ste Croi**	**52.83**	**27**	⇑*iP*		**P**	**01 10 56.6**	**0.0**
	comp=Z,22nm,1.1s,mb5.0							
VIVF	**Saint-Julien-l**	**52.94**	**30**	⇑*iP*		**P**	**01 10 57.8**	**+0.4**
	comp=Z,49nm,1.0s,mb5.1							
VIVF	**Saint-Julien-l**	**52.94**	**30**	⇑*iP*		**P**	**01 10 57.8**	**+0.4**
VIVF				pmax		pmax		
	comp=Z,24nm,1.0s,mb5.1							
VIVF	**Saint-Julien-l**	**52.94**	**30**	⇑*iP*		**P**	**01 10 57.8**	**+0.4**
	comp=Z,24nm,1.0s,mb5.1							
COLF	**Collangettes**	**52.94**	**28**	*e*P		**P**	**01 10 58.2**	**+0.7**
AGO	**Saint Agoulin**	**53.08**	**28**	*e*P		**P**	**01 10 58.7**	**+0.3**
SSB	**Saint Sauveur**	**53.18**	**29**	*e*P		**P**	**01 10 59.5**	**+0.3**
GRR	**Gorron**	**53.18**	**23**	⇑*iP*		**P**	**01 10 58.8**	**-0.3**
	comp=Z,20nm,0.9s,mb4.7							
GRR	**Gorron**	**53.18**	**23**	⇑*iP*		**P**	**01 10 58.8**	**-0.3**
GRR				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
GRR	**Gorron**	**53.18**	**23**	⇑*iP*		**P**	**01 10 58.8**	**-0.3**
	comp=Z,10nm,0.9s,mb4.8							
PLDF	**La Plantade**	**53.24**	**28**	*e*P		**P**	**01 11 00.3**	**+0.6**
CALN	**Calern**	**53.30**	**32**	*e*P		**P**	**01 11 02.0**	**+1.9**
BGF	**Bois d'Agland**	**53.32**	**27**	*e*P		**P**	**01 11 00.5**	**+0.3**
	comp=Z,76nm,1.3s,mb5.2							
BGF	**Bois d'Agland**	**53.32**	**27**	*e*P		**P**	**01 11 00.5**	**+0.3**
BGF				pmax		pmax		
	comp=Z,38nm,1.3s,mb5.2							
BGF	**Bois d'Agland**	**53.32**	**27**	*e*P		**P**	**01 11 00.5**	**+0.3**
	comp=Z,38nm,1.3s,mb5.2							
REVF	**Revere**	**53.55**	**32**	*e*P		**P**	**01 11 02.1**	**+0.1**
ORIF	**Oris-en-Rattie**	**53.59**	**30**	⇑*iP*		**P**	**01 11 03.0**	**+0.8**
	comp=Z,66nm,1.5s,mb5.0							
ORIF				*e*MLR		MLR		
	comp=Z,715nm,22.8s,MS4.4							
ORIF	**Oris-en-Rattie**	**53.59**	**30**	⇑*iP*		**P**	**01 11 03.0**	**+0.8**
ORIF				pmax		pmax		
	comp=Z,33nm,1.5s,mb5.0							
ORIF	**Oris-en-Rattie**	**53.59**	**30**	⇑*iP*		**P**	**01 11 03.0**	**+0.8**
	comp=Z,33nm,1.5s,mb5.0							
FLN	**La Foliniere**	**53.63**	**23**	⇑*iP*		**P**	**01 11 01.9**	**-0.5**
	comp=Z,130nm,1.6s,mb5.3							
FLN				*e*MLR		MLR		
	comp=Z,490nm,19.8s,MS4.3							
FLN	**La Foliniere**	**53.63**	**23**	⇑*iP*		**P**	**01 11 01.9**	**-0.5**
FLN				pmax		pmax		
	comp=Z,65nm,1.5s,mb5.3							
FLN				MLR		MLR		
	comp=Z,490nm,19.8s,MS4.6							
FLN	**La Foliniere**	**53.63**	**23**	⇑*iP*		**P**	**01 11 01.9**	**-0.5**
	comp=Z,65nm,1.5s,mb5.3							
FLN				LR		LR		
	comp=Z,490nm,19.8s,MS4.6							
LDF	**La Druitiere**	**53.64**	**24**	⇑*iP*		**P**	**01 11 02.0**	**-0.5**
	comp=Z,35nm,1.1s,mb4.9							
LDF	**La Druitiere**	**53.64**	**24**	⇑*iP*		**P**	**01 11 02.0**	**-0.5**
LDF				pmax		pmax		
	comp=Z,17nm,1.1s,mb4.9							
LDF	**La Druitiere**	**53.64**	**24**	⇑*iP*		**P**	**01 11 02.0**	**-0.5**
	comp=Z,18nm,1.1s,mb4.9							
LUCF	**Luceram**	**53.64**	**32**	*e*P		**P**	**01 11 03.2**	**+0.6**
PGF	**Pioggiola**	**53.66**	**34**	*e*P		**P**	**01 11 02.6**	**-0.2**
	comp=Z,46nm,1.1s,mb5.0							
PGF	**Pioggiola**	**53.66**	**34**	*e*P		**P**	**01 11 02.6**	**-0.2**
PGF				pmax		pmax		
	comp=Z,23nm,1.1s,mb5.0							
PGF	**Pioggiola**	**53.66**	**34**	*e*P		**P**	**01 11 02.6**	**-0.2**
	comp=Z,23nm,1.1s,mb5.0							
SBF	**Sospel**	**53.67**	**32**	⇑*iP*		**P**	**01 11 03.0**	**+0.2**
	comp=Z,75nm,1.1s,mb5.2							
SBF	**Sospel**	**53.67**	**32**	⇑*iP*		**P**	**01 11 03.0**	**+0.2**
SBF				pmax		pmax		
	comp=Z,38nm,1.1s,mb5.2							
SBF	**Sospel**	**53.67**	**32**	⇑*iP*		**P**	**01 11 03.0**	**+0.2**
	comp=Z,38nm,1.1s,mb5.2							
TOUF	**Mont Tournerai**	**53.67**	**32**	*e*P		**P**	**01 11 03.4**	**+0.6**
AVF	**Avril sur Loir**	**53.73**	**27**	⇑*iP*		**P**	**01 11 03.1**	**-0.1**
	comp=Z,25nm,1.2s,mb4.7							
AVF	**Avril sur Loir**	**53.73**	**27**	⇑*iP*		**P**	**01 11 03.1**	**-0.1**
AVF				pmax		pmax		
	comp=Z,13nm,1.2s,mb4.7							
AVF	**Avril sur Loir**	**53.73**	**27**	⇑*iP*		**P**	**01 11 03.1**	**-0.1**
	comp=Z,12nm,1.2s,mb4.7							
AUTN	**L'Aution**	**53.75**	**32**	*e*P		**P**	**01 11 04.4**	**+0.9**
HYF	**Humbligny**	**53.77**	**26**	⇑*iP*		**P**	**01 11 03.5**	**0.0**
SAOF	**Saorge**	**53.81**	**32**	*e*P		**P**	**01 11 04.2**	**+0.3**
SMF	**Signal de Mont**	**53.84**	**28**	⇑*iP*		**P**	**01 11 04.3**	**+0.2**
	comp=Z,43nm,1.2s,mb5.0							
SMF	**Signal de Mont**	**53.84**	**28**	⇑*iP*		**P**	**01 11 04.3**	**+0.2**
SMF				pmax		pmax		
	comp=Z,21nm,1.2s,mb4.9							
SMF	**Signal de Mont**	**53.84**	**28**	⇑*iP*		**P**	**01 11 04.3**	**+0.2**
	comp=Z,21nm,1.2s,mb5.0							
MBDF	**Montbardon**	**53.91**	**31**	⇑*iP*		**P**	**01 11 05.4**	**+0.8**
	comp=Z,69nm,1.3s,mb5.1							
MBDF	**Montbardon**	**53.91**	**31**	⇑*iP*		**P**	**01 11 05.4**	**+0.8**
MBDF				pmax		pmax		
	comp=Z,35nm,1.3s,mb5.1							
MBDF	**Montbardon**	**53.91**	**31**	⇑*iP*		**P**	**01 11 05.4**	**+0.8**
	comp=Z,35nm,1.3s,mb5.1							
SSF	**Saint Saulge**	**54.00**	**27**	⇑*iP*		**P**	**01 11 05.0**	**-0.2**
	comp=Z,20nm,1.2s,mb4.6							
SSF	**Saint Saulge**	**54.00**	**27**	⇑*iP*		**P**	**01 11 05.

CDF Champ du Feu 56.73 28⇑ *i*P P 01 11 24.6 -0.3
CDF pmax pmax
comp=Z,46nm,1.3s,mb5.3
CDF Champ du Feu 56.73 28⇑ *i*P P 01 11 24.6 -0.3
comp=Z,46nm,1.3s,mb5.3
DOU Dourbes 56.75 25 P P 01 11 24.4 -0.6
GIVF Givet 56.85 25 *e*P P 01 11 25.1 -0.6
STR Strasbourg 57.08 28 *e*P P 01 11 27.4 0.0
WLF Walferdange 57.11 26 P P 01 11 27.0 -0.5
comp=Z,9.8nm,1.5s,mb4.6
WLF Walferdange 57.11 26 *e*P P 01 11 27.0 -0.5
WLF pmax pmax
comp=Z,14nm,1.2s,mb4.9
WLF Walferdange 57.11 26 *e*P P 01 11 27.3 -0.2
comp=Z,19nm,1.4s,mb4.9
WLF Walferdange 57.11 26 *e*P P 01 11 27.0 -0.6
comp=Z,14nm,1.2s,mb4.9
BFO Black Forest 57.18 29 *e*P P 01 11 27.8 -0.2
BFO *e* 01 13 37.8
BFO pmax pmax
comp=Z,61nm,1.7s,mb5.3
BFO Black Forest 57.18 29 *e*P P 01 11 27.8 -0.2
comp=Z,61nm,1.7s,mb5.3
BFO *e*PP PP 01 13 37.8 +2.7
UCC Uccle 57.18 25 P P 01 11 27.6 -0.4
comp=Z,26nm,1.7s,mb5.0
DAVA Damuels 57.24 31⇑ *i*P P 01 11 28.1 -0.4
comp=Z,96nm,1.7s,mb5.5,SNR=12
SPAK Spaichingen-Ko 57.24 29 *e*P P 01 11 28.2 -0.3
HNH Hanover 57.36 324 *e*P P 01 11 28.8 -0.6
LANF Langenberg 57.38 28 *e*P P 01 11 29.3 -0.1
FETA Feichten 57.50 31⇑ *i*P P 01 11 29.6 -0.7
comp=Z,46nm,1.6s,mb5.2
RUP Ruppelstein 57.55 27 *e*P P 01 11 30.3 -0.3
URVA University of 57.56 315 *e*P P 01 11 30.2 -0.7
NHSC New Hope 57.62 309 *e*P P 01 11 29.9 -1.6
comp=Z,62nm,1.3s,mb5.5
BEBN Eben Emael 57.74 25 P P 01 11 32.5 +0.6
MEM Membach 57.74 26 P P 01 11 30.4 -1.6
comp=Z,20nm,1.9s,mb4.8
KTD Kalmit 57.75 28 *e*P P 01 11 31.1 -0.9
RETA Reutte 57.82 31 *i* P P 01 11 31.9 -0.7
comp=Z,72nm,2.0s,mb5.3,SNR=13
HGN Heimansgroeve 57.82 25 *e*P P 01 11 32.3 -0.2
comp=Z,33nm,1.6s,mb5.1
HGN Heimansgroeve 57.82 25 *e*S S 01 19 40.3 +8.4
STU Stuttgart 57.90 29 *e*P P 01 11 32.6 -0.5
comp=Z,13nm,0.7s,mb5.1
MOTA Moosalm 57.90 31⇑ *i*P P 01 11 32.4 -0.8
comp=Z,27nm,1.3s,mb5.1,SNR=10
MOTA Moosalm 57.90 31⇑ *i*P P 01 11 32.4 -0.8
MOTA pmax pmax
comp=Z,27nm,1.3s,mb5.1
SDMD Soldier's Deli 57.95 317 *e*P P 01 11 33.6 -0.1
comp=Z,12nm,1.0s,mb4.9
WTTA Wattenberg 58.13 32⇑ *i*P P 01 11 34.2 -0.5
comp=Z,149nm,2.5s,mb5.6
WTTA Wattenberg 58.13 32⇑ *i*P P 01 11 34.2 -0.5
WTTA pmax pmax
comp=Z,149nm,2.5s,mb5.6
ABTA Abfaltersbach 58.26 32 *i* P P 01 11 35.6 -0.1
comp=Z,102nm,1.7s,mb5.6,SNR=20
TOD Tromm 58.28 28 *e*P P 01 11 35.3 -0.5
FUR Furstenfeldbru 58.52 31 *e*P P 01 11 37.1 -0.4
FUR pmax pmax
comp=Z,60nm,1.4s,mb5.4
FUR Furstenfeldbru 58.52 31 *e*P P 01 11 37.1 -0.4
comp=Z,60nm,1.4s,mb5.4
TNS Taunus Mts 58.55 27 *e*P P 01 11 37.4 -0.2
TNS pmax pmax
comp=Z,28nm,1.4s,mb5.1
TNS Taunus Mts 58.55 27 *e*P P 01 11 37.4 -0.2
comp=Z,28nm,1.4s,mb5.1
VOY Vojsko 58.58 34 *e*P P 01 11 38.0 +0.1
JAVS Javornik 58.59 34 *i* P P 01 11 38.1 +0.1
FRNY Flat Rock 58.77 324 *e*P P 01 11 37.5 -1.8
comp=Z,59nm,2.0s,mb5.3
BINY Binghamton 58.80 321 *e*P P 01 11 39.6 +0.1
comp=Z,59nm,1.7s,mb5.3
LBTB Lobatse 58.80 120 *e*P P 01 11 40.0 +0.2
LBTB pmax pmax
comp=Z,44nm,1.3s,mb5.3
LBTB Lobatse 58.80 120 *e*P P 01 11 40.0 +0.1
comp=Z,44nm,1.3s,mb5.3
MYKA Terra Mystica 58.80 33⇑ *i*P P 01 11 39.7 +0.2
comp=Z,337nm,1.8s,mb6.1
LSZ Lusaka 58.81 108 *e*P P 01 11 41.7 +1.6
LSZ pmax pmax
comp=Z,43nm,1.8s,mb5.2
LSZ Lusaka 58.81 108 *e*P P 01 11 41.7 +1.6
comp=Z,43nm,1.8s,mb5.2
BUG Bochum--Univer 58.89 26 *e*P P 01 11 39.8 -0.2
comp=Z,31nm,1.3s,mb5.2
KBA Koelnbreinsper 58.92 33⇑ *i*P P 01 11 40.0 -0.2
comp=Z,81nm,2.2s,mb5.4
KBA Koelnbreinsper 58.92 33⇑ *i*P P 01 11 40.0 -0.2
KBA pmax pmax
comp=Z,81nm,2.2s,mb5.4
LJU Ljubljana 58.94 34 *i* P P 01 11 40.7 +0.3
LJU *e* 01 11 49.0
LJU *e* 01 13 47.5
TGUH Tegucigalpa,Un 59.01 286 *e*P P 01 11 38.2 -3.3
comp=Z,69nm,1.3s,mb5.5
BOJS Bojanci 59.03 35 *i* P P 01 11 41.4 +0.3
RJOB Jochberg 59.03 32 *e*P P 01 11 40.1 -1.0
comp=Z,17nm,1.0s,mb5.0
WTSB Winterswijk 59.07 25 *e*P P 01 11 41.3 0.0
comp=Z,27nm,2.1s,mb4.9
OBKA Obir 59.23 34⇑ *i*P P 01 11 42.5 +0.1
comp=Z,120nm,2.8s,mb5.4
BLA Blacksburg 59.47 314 *e*P P 01 11 44.1 -0.2
BLA pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BLA Blacksburg 59.47 314 *e*P P 01 11 44.1 -0.2
comp=Z,8.2nm,0.9s,mb4.8
GRA1 Grafenberg Arr 59.50 29 *e*P P 01 11 43.9 -0.3
comp=Z,25nm,1.2s,mb5.1
GRA1 *e*pP pP 01 11 50.4 +2.9
GRA1 *e*PP PP 01 13 57.2 +1.5
GRA1 LR LR
comp=Z,300nm,21.5s,MS4.4
GRF Grafenberg Arr 59.50 29 *e*P P 01 11 43.9 -0.3
GRF *e**PP pP 01 11 50.4 +2.9
GRF *e* 01 13 57.2
GRF pmax pmax
comp=Z,25nm,1.2s,mb5.1
GRF MLR MLR
comp=Z,300nm,21.5s,MS4.4
GRF Grafenberg Arr 59.50 29 *e*P P 01 11 43.9 -0.3
comp=Z,25nm,1.2s,mb5.1
GRF *e*pP pP 01 11 50.4 +2.9
GRF *e*PP PP 01 13 57.2 +1.5
GRF *e*L 01 34 11.8
comp=Z,271nm,21.5s
SOKA Soboth 59.60 34⇑ *i*P P 01 11 45.0 0.0
PERS Pernice 59.62 34 *i* P P 01 11 45.0 -0.1
BOSA Boshof 59.66 124 P P 01 11 45.9 +0.2
comp=Z,19nm,1.0s,mb5.1,baz=306,slow=6.0,SNR=11
BOSA LR LR 01 32 19.3
comp=Z,654nm,18.3s,MS4.8,baz=285,slow=31
BOSA Boshof 59.66 124 *e*P P 01 11 45.7 0.0
BOSA pmax pmax
comp=Z,24nm,1.2s,mb5.1
BOSA Boshof 59.66 124 *e*P P 01 11 45.7 0.0
comp=Z,24nm,1.2s,mb5.1
UBBA Unterbreizbach 59.68 28 *e*P P 01 11 45.2 -0.2
comp=Z,21nm,1.6s,mb4.9
UBBA *e*PP PP 01 13 58.1 +0.9
IBBN Ibbenburen 59.73 25 *e*P P 01 11 45.4 -0.3
comp=Z,24nm,0.9s,mb5.2
MOA Molln 59.88 32 *i* P P 01 11 46.0 -1.0
comp=Z,41nm,1.6s,mb5.2,SNR=14
WET Wettzell 59.97 30 *e*P P 01 11 46.9 -0.6
WET pmax pmax
comp=Z,22nm,1.3s,mb5.0
WET Wettzell 59.97 30 *e*P P 01 11 46.9 -0.6
comp=Z,22nm,1.3s,mb5.0
ROTZ Rotzenmuhle 60.03 30 *e*P P 01 11 47.5 -0.4
comp=Z,25nm,1.2s,mb5.1
MANZ Manzenberg 60.13 29 *e*P P 01 11 48.1 -0.4
comp=Z,20nm,1.5s,mb4.9
GEC2 GERESS Array S 60.20 31 *e*P P 01 11 48.6 -0.5
GEC2 *e* 01 13 58.4
GEC2 pmax pmax
comp=Z,24nm,1.2s,mb5.1
GEC2 GERESS Array S 60.20 31 *e*P P 01 11 48.6 -0.5
comp=Z,24nm,1.2s,mb5.1
GEC2 *e*PP PP 01 13 58.4 -3.5
GERES GERESS Array B 60.20 31 P P 01 11 48.6 -0.4
comp=Z,8.2nm,1.0s,mb4.7,baz=224,slow=5.6,SNR=51
GERES LR LR 01 37 48.7
comp=Z,260nm,18.5s,MS4.4,baz=237,slow=36
ARSA Arzberg 60.21 33⇑ *i*P P 01 11 48.5 -0.6
comp=Z,48nm,2.3s,mb5.1
KHC Kasperske Hory 60.32 31 *e*P P 01 11 49.5 -0.4
KHC *e* 01 11 55.5
KHC *e*S S 01 20 08.6 +4.3
KHC MLR MLR
comp=Z,400nm,22.3s,MS4.5
KHC Kasperske Hory 60.32 31 *e*P P 01 11 49.5 -0.4
KHC *e*pP pP 01 11 55.5 +2.4
KHC *e*x x 01 12 00.7
KHC *e*S S 01 20 08.6 +4.3
KHC AMS AMS 01 35 00.0
comp=Z,400nm,22.3s
KHC Kasperske Hory 60.32 31 *e*P P 01 11 49.5 -0.4
KHC *e* 01 11 55.5
KHC *e*pP pP 01 12 00.7 +7.6
KHC *e*S S 01 20 08.6 +4.3
KHC LR LR
comp=Z,400nm,22.3s,MS4.5
MOX Moxa 60.32 29⇓ *e*P P 01 11 50.1 +0.2
comp=Z,65nm,2.0s,mb5.3
MOX
comp=Z,300nm,20.0s
MOX Moxa 60.32 29⇓ *e*P P 01 11 50.1 +0.2
MOX pmax pmax
comp=Z,65nm,2.0s,mb5.3
MOX MLR MLR
comp=Z,300nm,20.0s,MS4.4
MOX Moxa 60.32 29 *e*P P 01 11 49.8 -0.1
comp=Z,28nm,1.5s,mb5.1
MOX *e*PP PP 01 14 02.7 -0.2
NKC Novy Kostel 60.45 29 *e*P P 01 11 51.3 +0.5
NKC *e*x x 01 12 00.2
NKC *e*S S 01 20 14.8 +8.8
NKC Novy Kostel 60.45 29 *e*P P 01 11 51.3 +0.5
NKC *e*pP pP 01 12 00.2 +6.2
NKC *e*S S 01 20 14.8 +8.8
CLZ Clausthal 60.55 27 *e*P P 01 11 51.3 -0.1
CLZ pmax pmax
comp=Z,32nm,2.0s,mb5.1
CLZ Clausthal 60.55 27 *e*P P 01 11 51.3 -0.1
comp=Z,32nm,2.0s,mb5.1
CSNA Conrad Observa 60.79 33⇑ *i*P P 01 11 52.8 -0.3
comp=Z,111nm,2.2s,mb5.6
CONA Conrad Observa 60.79 33⇑ *i*P P 01 11 52.8 -0.3
comp=Z,108nm,2.1s,mb5.6
SOP Sopron 61.03 34⇑ *e*P P 01 11 54.8 0.0
TKL Tuckaleechee C 61.34 311 P P 01 11 56.4 -0.7
comp=Z,0.4nm,0.3s,mb4.0,baz=84,slow=2.8,SNR=6.4
TKL Tuckaleechee C 61.34 311 P P 01 11 56.4 -0.7
PRU Pruhonice 61.34 30 *e*P P 01 11 56.3 -0.5
PRU *e*x x 01 12 06.7
PRU *e*S S 01 20 19.3 +1.9
PRU AMS AMS 01 35 30.0
comp=Z,300nm,21.6s
PKSM Moragy 61.39 36⇑ *i*P P 01 11 57.1 -0.2
PKSM Moragy 61.39 36 P P 01 11 57.6 +0.4
TREC Trest 61.41 32 *e*P P 01 11 56.7 -0.6
TREC *e*S S 01 20 23.3 +5.1
TREC AMS AMS 01 37 50.0
comp=Z,300nm,16.5s
CLL Collm 61.42 29 *i* P P 01 11 56.8 -0.5
CLL *i* 01 12 03.7
CLL *e*S S 01 20 28.0 +10
CLL pmax pmax
comp=Z,43nm,1.8s,mb5.3
CLL MLR MLR
comp=Z,300nm,18.0s,MS4.5
CLL Collm 61.42 29 *e*P P 01 11 57.3 0.0
comp=Z,42nm,1.8s,mb5.3
CLL *e*PP PP 01 14 09.6 -3.0
CLL Collm 61.42 29 *i* P P 01 11 56.8 -0.5
comp=Z,43nm,1.8s,mb5.3
CLL *i* (pP) pP 01 12 03.7 +3.2
CLL *e*S S 01 20 28.0 +10
comp=N,100nm,25.8s
CLL *e*S S 01 20 28.0 +10
comp=E,100nm,24.2s
CLL *e*SS SS 01 24 30.0 +11
CLL Collm 61.42 29 *i* P P 01 11 56.8 -0.5
comp=E,43nm,1.8s,mb5.3
CLL *i* 01 12 03.7
CLL *e*S S 01 20 28.0 +10
CLL LR LR
comp=Z,300nm,18.0s,MS4.5
TZTN Tazewell 61.50 312 *e*P P 01 11 57.1 -1.0
comp=Z,56nm,1.7s,mb5.4
BRG Berggiesshubel 61.60 29 *e*P P 01 11 58.0 -0.5
BRG *e* 01 14 10.5
BRG pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BRG pmax pmax
comp=Z,5.0nm,2.1s,mb4.3
BRG pmax pmax
comp=Z,15nm,2.4s,mb4.7
BRG pmax pmax
comp=Z,16nm,1.2s,mb5.0
BRG MLR MLR
comp=N,2µm,18.2s,MS5.3
BRG MLR MLR
comp=E,120nm,17.9s,MS5.3
BRG MLR MLR
comp=Z,131nm,14.8s,MS4.2
BRG Berggiesshubel 61.60 29 *e*P P 01 11 58.1 -0.4
comp=Z,16nm,1.4s,mb5.0
BRG *e*PP PP 01 14 10.8 -3.4
BRG Berggiesshubel 61.60 29 *e*P P 01 11 58.0 -0.5
comp=Z,16nm,1.4s,mb5.0
BRG *e*PCP PcP 01 12 25.4 -15
comp=Z,7.5nm,1.0s
BRG *e*PP PP 01 14 10.5 -3.7
comp=Z,25nm,2.1s
BRG *e* 01 39 21.4
comp=Z,27nm,2.4s
BRG *e*PKPPKP 01 40 58.5
comp=Z,3.0nm,1.2s
BRG
comp=N,200nm,18.2s
BRG
comp=E,219nm,17.9s
BRG
comp=Z,259nm,14.8s
BRG Berggiesshubel 61.60 29 *e*P P 01 11 58.0 -0.5
comp=Z,9.4nm,1.4s,mb4.7
BRG *e*PcP PcP 01 12 25.4 -15
BRG *e*PP PP 01 14 10.5 -3.7
BRG *e* 01 39 21.4
BRG *e*P'P' 01 40 58.5
BRG LR LR
comp=Z,160nm,14.8s,MS4.3
ZST Bratislava 61.62 33 *i* P P 01 11 58.7 -0.1
ZST pmax pmax
comp=Z,20nm,1.0s,mb5.2
ZST Bratislava 61.62 33 *i* P P 01 11 58.7 -0.1
comp=Z,20nm,1.0s,mb5.2
PVCC Panska Ves 61.69 30 *e*P P 01 11 59.4 +0.2
PVCC *e*x x 01 12 08.5
PVCC *e*S S 01 20 35.8 +14
PVCC AMS AMS 01 35 40.0
comp=Z,400nm,15.8s
APE Apeiranthos 61.77 48⇓ *i*P P 01 11 59.9 -0.1
APE Apeiranthos 61.77 48 ⇓P P 01 11 59.9 -0.1
MODS Modra-Piesok 61.82 33 *i* P P 01 12 00.0 -0.1
MODS pmax pmax
comp=Z,21nm,1.3s,mb5.1
MODS Modra-Piesok 61.82 33 *i* P P 01 12 00.0 -0.1
comp=Z,21nm,1.3s,mb5.1
CPCT Cooper Cave 61.83 310 *e*P P 01 11 59.1 -1.3
SCHQ Schefferville 61.95 336 LR LR 01 32 10.6
comp=Z,161nm,20.5s,MS4.2,baz=121,slow=30
BSEG Bad Segeberg 61.97 25 *e*P P 01 12 00.5 -0.5
BSEG *e* 01 14 14.1
BSEG pmax pmax
comp=Z,71nm,1.7s,mb5.5
BSEG Bad Segeberg 61.97 25 *e*P P 01 12 00.5 -0.5
comp=Z,71nm,1.7s,mb5.5
BSEG *e*PP PP 01 14 14.1 -3.3
VRAC Vranov 62.00 32⇑ *i*P P 01 12 00.6 -0.7
VRAC Vranov 62.00 32 P P 01 12 01.1 -0.2
BUD Budapest 62.30 35⇑ *e*P P 01 12 03.5 +0.2
UPC Upice 62.41 31 *e*P P 01 12 04.1 +0.1
ACSO Alum Creek Sta 62.55 316 *e*P P 01 12 01.8 -3.3
comp=Z,40nm,1.4s,mb5.3
KOLL Kolacno 62.56 33 *i* P P 01 12 03.5 -1.5
KSP Ksiaz 62.75 30 *e*P P 01 12 06.4 +0.2
KSP Ksiaz 62.75 30⇑ *e*P P 01 12 06.3 0.0
KSP *e*S S 01 20 40.0 +4.9
KSP Ksiaz 62.75 30⇑ *e*P P 01 12 06.3 0.0
KSP *e*S S 01 20 40.0 +4.9
KSP LR LR
comp=Z,900nm,20.9s,MS4.9
MORC Moravsky Berou 62.77 32 *e*P P 01 12 06.4 0.0
MORC pmax pmax
comp=Z,41nm,1.5s,mb5.3
MORC Moravsky Berou 62.77 32⇑ *i*P P 01 12 06.3 -0.1
MORC Moravsky Berou 62.77 32 *e*P P 01 12 06.4 0.0
comp=Z,41nm,1.5s,mb5.3
SWET Sewanee 62.83 310 *e*P P 01 12 06.8 -0.3
BZS Buzias 62.86 38⇓ *i*P P 01 12 06.1 -1.0
BZS Buzias 62.86 38 P P 01 12 07.6 +0.4
PSZ Piszkesteto 63.03 35⇑ *i*P P 01 12 08.8 +0.6
PSZ Piszkesteto 63.03 35 *e*P P 01 12 07.9 -0.3
comp=Z,41nm,1.0s,mb5.5
OKC Ostrava-Krasne 63.13 32 *e*P P 01 12 08.8 0.0
OKC *e*x x 01 12 18.9
OKC *e*S S 01 20 46.2 +6.3
OKC AMS AMS 01 35 00.0
comp=Z,200nm,18.0s
OKC Ostrava-Krasne 63.13 32 *e*P P 01 12 08.8 0.0
OKC *e*pP pP 01 12 18.9 +6.9
OKC *e*S S 01 20 46.2 +6.3
NIE Niedzica 64.07 33 *e*P P 01 12 15.6 +0.6
DRGR 64.10 37⇑ *i*P P 01 12 15.4 +0.1
DRGR 64.10 37 P P 01 12 15.5 +0.2
WCI Wyandotte Cave 64.15 313 *e*P P 01 12 15.0 -0.8
WCI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WCI Wyandotte Cave 64.15 313 *e*P P 01 12 15.0 -0.8
comp=Z,10nm,0.9s,mb4.9
OJC Ojcow 64.22 32 *e*P P 01 12 15.5 -0.5
PLAL Pickwick Lake 64.42 309 *e*P P 01 12 16.5 -1.1
comp=Z,41nm,1.5s,mb5.2
CRVS Cervenica-Dubn 64.44 34 *i* P P 01 12 18.0 +0.5
UZH Uzhgorod 64.77 35⇓ *i*P P 01 12 19.4 -0.3
UZH *i* 01 12 27.8
VOIR 64.91 39⇑ *i*P P 01 12 20.9 +0.3
VOIR 64.91 39 P P 01 12 21.0 +0.4
OXF Oxford 65.33 308 *e*P P 01 12 22.7 -0.9
OXF pmax pmax
comp=Z,15nm,0.9s,mb5.0
OXF Oxford 65.33 308 *e*P P 01 12 22.7 -0.8
comp=Z,15nm,0.9s,mb5.0
MLR Muntele Rosu 65.50 39⇓ *i*P P 01 12 24.5 +0.1
MLR Muntele Rosu 65.50 39 P P 01 12 24.7 +0.3
BURAR Bucovina Array 66.00 37⇓ *i*P P 01 12 28.1 +0.5
BURAR Bucovina Array 66.00 37 ⇓P P 01 12 28.1 +0.5
VRI Vrincioaia 66.15 39⇓ *i*P P 01 12 27.6 -1.1
VRI Vrincioaia 66.15 39 ⇓P P 01 12 27.6 -1.1
KMBO Kilima Mbogo 66.34 92 P P 01 12 31.7 +1.2
comp=Z,6.4nm,1.1s,mb4.6,baz=249,slow=7.6,SNR=7.1
KMBO LR LR 01 39 01.2
comp=Z,516nm,18.0s,MS4.8,baz=96,slow=34
KMBO Kilima Mbogo 66.34 92 *e*P P 01 12 32.6 +2.1
KMBO pmax pmax
comp=Z,34nm,1.6s
KMBO Kilima Mbogo 66.34 92 *e*P P 01 12 32.6 +2.1
comp=Z,34nm,1.6s,mb5.1
LVV L'vov 66.35 34 *e*P P 01 12 28.2 -1.6
NAO01 NORSAR Array S 67.09 20 *e*P P 01 12 33.5 -0.8
comp=Z,13nm,1.2s,mb4.8
HDIL Hopedale 67.14 314 *e*P P 01 12 33.4 -1.7
comp=Z,18nm,0.8s,mb5.1
NB2 NORSAR Subarra 67.34 20 P P 01 12 35.1 -0.8
comp=Z,16nm,1.0s,mb5.0,baz=225,slow=6.5
NOA NORSAR Array B 67.34 20 P P 01 12 35.4 -0.6
comp=Z,8.0nm,0.9s,mb4.7,baz=224,slow=6.3,SNR=20
NOA LR LR 01 39 06.9
comp=Z,325nm,19.8s,MS4.5,baz=235,slow=33
CCM Cathedral Cave 67.78 311 *e*P P 01 12 35.9 -3.3
CCM pmax pmax
comp=Z,36nm,1.5s,mb5.2
CCM Cathedral Cave 67.78 311 *e*P P 01 12 35.9 -3.3
comp=Z,36nm,1.5s,mb5.2
SUW Suwalki 68.02 30 *e*P P 01 12 39.8 -0.6
SUW Suwalki 68.02 30 *e*P P 01 12 39.8 -0.6
MIAR Mount Ida 68.64 307 *e*P P 01 12 44.0 -0.7
MIAR pmax pmax
comp=Z,15nm,1.5s,mb4.7
MIAR Mount Ida 68.64 307 *e*P P 01 12 44.0 -0.7
comp=Z,15nm,1.5s,mb4.7
NATX Nacogdoches 68.89 304 *e*P P 01 12 41.3 -4.9
COWI Conover 68.99 320 *e*P P 01 12 46.7 +0.1
comp=Z,19nm,1.3s,mb4.9
ASF Jabal al Asfar 69.27 56 P P 01 12 48.2 -0.5
comp=Z,1.6nm,0.6s,mb4.1,baz=134,slow=9.8,SNR=4.8
HKT Hockley 69.50 302 *e*P P 01 12 47.8 -2.3
HKT pmax pmax
comp=Z,26nm,1.9s,mb4.8
HKT Hockley 69.50 302 *e*P P 01 12 47.8 -2.3
comp=Z,26nm,1.9s,mb4.8
KIEV Kiev 69.71 35 *e*P P 01 12 49.8 -1.1
KIEV pmax pmax
comp=Z,70nm,1.4s,mb5.4
KIEV Kiev 69.71 35 *e*P P 01 12 49.8 -1.2
comp=Z,70nm,1.4s,mb5.4
AKASG Malin Array Be 69.72 35 P P 01 12 50.1 -0.9
comp=Z,20nm,0.8s,mb5.1,baz=243,slow=6.6,SNR=20
AKASG LR LR 01 45 53.0
comp=Z,119nm,18.9s,MS4.2,baz=285,slow=38
AKBB Malin Array Si 69.72 35 *e*P P 01 12 50.2 -0.8
SIM Simferopol' 70.63 42 P P 01 12 52.6 -4.1
SIM *e*S S 01 22 09.0 -1.8
SIM MLR MLR
comp=Z,100nm,11.0s,MS4.3
KSU1 Kansas State U 72.11 311 *e*P P 01 13 03.6 -2.2
comp=Z,11nm,0.8s,mb4.8
WMOK Wichita Mounta 72.88 306 *e*P P 01 13 05.7 -4.8
WMOK pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
WMOK Wichita Mounta 72.88 306 *e*P P 01 13 05.7 -4.8
comp=Z,1.5nm,0.7s,mb4.0
JCT Junction City 72.98 302 *e*P P 01 13 08.1 -3.1
JCT pmax pmax
comp=Z,36nm,1.4s,mb5.1
JCT Junction City 72.98 302 *e*P P 01 13 08.1 -3.0
comp=Z,36nm,1.4s,mb5.1
ECSD EROS,Sioux Fal 73.28 316 *e*P P 01 13 11.9 -0.8
comp=Z,3.0nm,0.7s,mb4.3
KAF Kangasniemi 73.66 24 *e*p P 01 13 12.9 -1.6
comp=Z,7.2nm,0.7s,mb4.7,baz=241,slow=5.7
KAF Kangasniemi 73.66 24 *e*P P 01 13 12.9 -1.6
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
AGMN Agassiz Refuge 74.04 320 *e*P P 01 13 15.7 -1.3
SOC Sochi 74.10 45 *e*P P 01 13 14.4 -3.1
SOC *e**PP pP 01 13 18.8 -2.0
SOC *e* 01 16 11.1
SOC *e*PPP 01 17 53.4
SOC *e*S S 01 22 50.0 -0.6
SOC *e* 01 23 32.2
SOC *e*SSS 01 30 50.3
SOC pmax pmax
comp=Z,51nm,1.1s,mb5.4
PUL Pulkovo 74.24 27 *i* P P 01 13 17.9 -0.1
SNAA Sanae 74.42 172 *e*P P 01 13 18.4 -0.4
SNAA *e* pP 01 13 20.2 -1.8
SNAA *e* 01 13 25.7
SNAA Sanae 74.42 172 P P 01 13 18.6 -0.2
comp=Z,2.9nm,0.9s,mb4.2,baz=342,slow=5.7,SNR=19
SNAA Sanae 74.42 172 *e*P P 01 13 17.9 -0.9
SNAA pmax pmax
comp=Z,27nm,1.4s
SNAA Sanae 74.42 172 *e*P P 01 13 17.9 -0.9
comp=Z,27nm,1.4s,mb5.0
ULM Lac du Bonnet 74.64 322 P P 01 13 18.6 -1.8
comp=Z,8.6nm,1.1s,mb4.6,baz=61,slow=4.2,SNR=6.9
ULM LR LR 01 40 24.7
comp=Z,371nm,21.3s,MS4.7,baz=226,slow=31
ULM Lac du Bonnet 74.64 322 *e*P P 01 13 18.8 -1.7
comp=Z,25nm,1.6s,mb4.9
MSL Mosul 75.11 53 *ex* x 01 13 30.0

MSL ex x 01 23 19.0
AMTX Amarillo 75.25 306 eP **P 01 13 23.6 -0.8**
comp=Z,12nm,1.0s,mb4.8
OBN Obninsk 75.51 33ceP **P 01 13 24.7 -0.7**
OBN pmax pmax
comp=Z,30nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.5
VRSR Storozhevoye 75.79 37 eP **P 01 13 26.4 -0.7**
VRSR pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=E,4.0nm,1.0s
DAG Danmarks Havn 75.99 2⇓eP **P 01 13 26.5 -1.3**
DAG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
DAG Danmarks Havn 75.99 2⇓iP **P 01 13 26.5 -1.3**
comp=Z,4.2nm,0.9s,mb4.4
DAG Danmarks Havn 75.99 2⇓eP **P 01 13 26.5 -1.3**
comp=Z,4.2nm,0.9s,mb4.4
JOF Joensuu 76.09 24 ep **P 01 13 26.9 -1.6**
comp=Z,3.8nm,0.7s,mb4.4
JOF Joensuu 76.09 24 eP **P 01 13 26.9 -1.6**
JOF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
TXAR Lajitas Array 76.14 300 P **P 01 13 27.8 -1.8**
comp=Z,3.7nm,1.0s,mb4.2,baz=120,slow=7.4,SNR=19
TXAR LR LR 01 43 18.6
comp=Z,193nm,21.0s,MS4.4,baz=5.0,slow=33
TXAR Lajitas Array 76.14 300 P **P 01 13 27.8 -1.8**
TXAR LR LR 01 43 18.6
MOS Moscow 76.29 32 eP **P 01 13 26.7 -3.1**
MOS e 01 13 36.8
MOS pmax pmax
comp=Z,41nm,0.9s,mb5.4
MOS pmax pmax
comp=Z,100nm,1.6s,mb5.5
GNI Garni 77.05 49 P **P 01 13 35.0 +0.5**
comp=Z,1.2nm,0.4s,mb4.2,baz=117,slow=12,SNR=4.5
GNI Garni 77.05 49 eP **P 01 13 35.3 +0.8**
GNI pmax pmax
comp=Z,54nm,1.8s
GNI Garni 77.05 49 eP **P 01 13 35.3 +0.8**
comp=Z,54nm,1.8s,mb5.2
GDL2 Guadalupe Moun 77.08 303 eP **P 01 13 34.7 -0.1**
ARCES ARCESS Array B 77.36 17 P **P 01 13 34.5 -1.1**
comp=Z,1.9nm,0.7s,mb4.1,baz=3.8,slow=1.8,SNR=7.1
ARCES LR LR 01 42 22.6
comp=Z,331nm,20.2s,MS4.7,baz=246,slow=32
MNTX Cornudas Mount 77.89 302 eP **P 01 13 38.0 -1.3**
comp=Z,7.0nm,1.1s,mb4.5
RSSD Black Hills 78.59 315 eP **P 01 13 41.5 -1.5**
RSSD pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
RSSD Black Hills 78.59 315 eP **P 01 13 41.5 -1.5**
comp=Z,2.8nm,0.9s,mb4.2
SDCO Great Sand Dun 78.72 308 eP **P 01 13 44.0 +0.1**
comp=Z,7.0nm,1.1s,mb4.5
KLMR Klimovskoe 78.89 28 eP **P 01 13 41.8 -2.4**
KLMR pmax pmax
comp=Z,36nm,1.8s,mb5.0
ISCO Idaho Springs 79.09 310 eP **P 01 13 45.5 -0.3**
ISCO pmax pmax
comp=Z,21nm,1.7s,mb4.8
ISCO Idaho Springs 79.09 310 eP **P 01 13 45.5 -0.3**
comp=Z,21nm,1.7s,mb4.8
ANMO Albuquerque 79.15 305 P **P 01 13 46.1 -0.2**
comp=Z,2.4nm,1.0s,mb4.1,baz=123,slow=8.8,SNR=12
ANMO Albuquerque 79.15 305 eP **P 01 13 46.0 -0.3**
ANMO pmax pmax
comp=Z,14nm,1.4s
ANMO Albuquerque 79.15 305 eP **P 01 13 46.0 -0.2**
comp=Z,14nm,1.4s,mb4.7
PHWY Pilot Hill 79.18 312 eP **P 01 13 45.6 -0.7**
LVZ Lovozero 79.49 20 iP **P 01 13 47.1 -0.3**
LVZ pmax pmax
comp=Z,44nm,2.5s,mb5.0
LAZ Ladron 79.64 305 eP **P 01 13 49.2 +0.2**
MVCO Mesa Verde 81.03 307 eP **P 01 13 56.8 +0.4**
comp=Z,27nm,1.5s,mb5.1
319A Douglas 81.17 301 ⇑P **P 01 13 57.5 +0.3**
baz=81
PV01 Paradox Valley 81.18 308 eP **P 01 13 55.6 -1.5**
219A White Tail Can 81.20 302 ⇑P **P 01 13 57.9 +0.5**
baz=81,SNR=9.3
119A Ashpeak Ranch, 81.29 303 ⇓P **P 01 13 58.5 +0.6**
baz=81
Z19A T-Link Ranch, 81.31 303 ⇑P **P 01 13 58.7 +0.8**
baz=81
V19A Window Rock 81.33 306 ⇓P **P 01 13 57.9 -0.1**
baz=81
Y19A Nutrioso 81.35 304 ⇑P **P 01 13 59.1 +1.0**
baz=81,SNR=11
T19A Beclabito 81.41 307 ⇑P **P 01 13 58.2 -0.2**
baz=81
X19A St. Johns 81.42 305 ⇓P **P 01 13 59.1 +0.6**
baz=81
W19A Sanders 81.56 305 ⇑P **P 01 13 59.5 +0.3**
baz=82
PV10 Paradox Valley 81.57 309 eP **P 01 13 59.6 +0.4**
S19A Harvey Farm, M 81.59 308 ⇑P **P 01 13 59.7 +0.4**
baz=82
R19A Curley Farm, L 81.73 308 ⇑P **P 01 14 00.9 +0.8**
baz=82
318A Bisbee 81.78 301 ⇑P **P 01 14 01.1 +0.7**
baz=82,SNR=5.4
Q19A Hogan Spring (81.80 309 ⇑P **P 01 14 00.9 +0.5**
baz=82
W18A Petrified Fore 81.84 305 ⇑P **P 01 14 00.9 +0.2**
baz=82
118A Homack Ranch, 81.84 303 ⇑P **P 01 14 01.1 +0.3**
baz=82,SNR=5.3
218A Dragoon 81.86 302 ⇓P **P 01 14 01.4 +0.4**
baz=82
X18A Snowflake 81.97 305 ⇑P **P 01 14 01.4 0.0**
baz=82
Y18A Canyon Day Jun 81.98 304 ⇓P **P 01 14 02.0 +0.5**
baz=82
U18A Rough Rock, Ch 82.05 306 ⇓P **P 01 14 02.1 +0.2**
baz=82
T18A Mexican Hat 82.12 307 ⇓P **P 01 14 02.1 0.0**
baz=82
R18A Canyonlands Na 82.24 308 ⇑P **P 01 14 02.7 0.0**
baz=82
S18A Hurst Farm, Bl 82.26 308 ⇑P **P 01 14 02.6 -0.3**
baz=82
N18A Larsen Ranch, 82.31 311 ⇑P **P 01 14 02.6 -0.4**
baz=82
Z17A San Carlos Hig 82.31 303 ⇓P **P 01 14 04.0 +0.7**
baz=82
PDAR Pinedale Array 82.39 313 P **P 01 14 03.5 0.0**
comp=Z,1.1nm,0.9s,mb3.8,baz=90,slow=5.9,SNR=6.6
PDAR LR LR 01 45 38.0
comp=Z,394nm,21.4s,MS4.8,baz=136,slow=32
BW06 Boulder Array 82.39 313 eP **P 01 14 02.9 -0.6**
comp=Z,17nm,1.9s,mb4.7
RLMT Red Lodge 82.43 315 eP **P 01 14 02.2 -1.4**
comp=Z,42nm,2.2s,mb5.0
Q18A Rafter H Ranch 82.49 309 ⇑P **P 01 14 04.2 +0.2**
baz=82
117A Oracle 82.49 303 ⇑P **P 01 14 04.4 +0.3**
baz=82
O18A Roosevelt 82.49 310 ⇓P **P 01 14 03.9 -0.1**
baz=82
217A Green Valley 82.50 302 ⇑P **P 01 14 04.5 +0.3**
baz=82,SNR=7.1
TUC Tucson 82.51 302 eP **P 01 14 02.8 -1.5**
TUC pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
TUC Tucson 82.51 302 eP **P 01 14 02.8 -1.5**
comp=Z,2.6nm,1.0s,mb4.2
P18A Preston Nutter 82.62 310 ⇑P **P 01 14 04.2 -0.5**
baz=83
W17A Winslow 82.64 305 ⇑P **P 01 14 05.5 +0.6**
baz=83
Y17A Roosevelt 82.65 304 ⇓P **P 01 14 05.8 +0.8**
baz=83,SNR=7.6
X17A Forest Lakes 82.66 304 ⇓P **P 01 14 06.4 +1.3**
baz=83,SNR=7.7
U17A Shonto 82.70 307 ⇓P **P 01 14 06.1 +0.9**
baz=83
SRU San Rafael 82.79 309 eP **P 01 14 05.0 -0.6**
SRU pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
SRU San Rafael 82.79 309 ⇓P **P 01 14 05.8 +0.1**
baz=83
SRU San Rafael 82.79 309 eP **P 01 14 05.0 -0.6**
comp=Z,9.9nm,1.4s,mb4.7
T17A Navajo Res., N 82.85 307 ⇑P **P 01 14 07.0 +1.1**
baz=83,SNR=7.4
S17A Black Ridge (B 82.89 308 ⇑P **P 01 14 07.0 +0.9**
baz=83,SNR=5.5
P17A Butcher Ranch, 82.99 309 ⇓P **P 01 14 06.8 +0.1**
baz=83
216A Three Points, 83.06 302 ⇓P **P 01 14 07.8 +0.6**
baz=83
Z16A Peralta Trail, 83.11 303 ⇓P **P 01 14 08.7 +1.3**
baz=83
N17A Moffit Pass 83.18 311 ⇓P **P 01 14 07.9 +0.4**
baz=83
Y16A Circle Bar Ran 83.19 304 ⇓P **P 01 14 08.6 +0.8**
baz=83
X16A Lo Mia Camp, P 83.19 304 ⇑P **P 01 14 08.9 +1.1**
baz=83,SNR=7.7
WUAZ Wupatki 83.20 305 eP **P 01 14 08.9 +1.1**
comp=Z,16nm,1.3s,mb4.9
LOHW Long Hollow 83.24 314 eP **P 01 14 03.8 -4.0**
comp=Z,17nm,1.8s,mb4.8
Q16A Castle Valley 83.28 309 ⇑P **P 01 14 08.5 +0.4**
baz=83
116A Eloy 83.30 303 ⇑P **P 01 14 08.9 +0.5**
baz=83
W16A Flagstaff 83.31 305 ⇓P **P 01 14 09.3 +0.9**
baz=83,SNR=5.1
T16A Glen Canyon Da 83.41 307 ⇑P **P 01 14 09.3 +0.5**
baz=83
R16A Teasdale 83.48 308 ⇓P **P 01 14 09.5 +0.3**
baz=84
TPAW Teton Pass 83.48 314 eP **P 01 14 08.3 -0.8**
IMW Indian Meadow 83.50 314 eP **P 01 14 10.6 +1.4**
comp=Z,26nm,1.9s,mb5.0
S16A Weppner Ranch, 83.53 308 ⇓P **P 01 14 09.7 +0.3**
baz=84,SNR=5.3
O16A Springville 83.63 310 ⇑P **P 01 14 10.0 +0.1**
baz=84
L16A Fish Haven 83.71 312 ⇑P **P 01 14 10.2 -0.1**
baz=84
M16A Huntsville 83.81 311 ⇓P **P 01 14 10.4 -0.4**
baz=84
X15A Humboldt 83.85 304 ⇓P **P 01 14 12.1 +0.9**
baz=84,SNR=11
V15A Kaibab Nationa 83.87 306 ⇓P **P 01 14 12.0 +0.7**
baz=84,SNR=5.8
K16A Soda Springs 83.89 313 ⇓P **P 01 14 11.0 -0.2**
baz=84
Y15A Casa Rosa Ranc 83.90 304 ⇑P **P 01 14 11.9 +0.5**
baz=84
W15A Williams 83.91 305 ⇑P **P 01 14 12.1 +0.7**
baz=84
J16A Bone 83.94 313 ⇓P **P 01 14 11.9 +0.4**
baz=84
U15A North Rim 84.00 306 ⇑P **P 01 14 12.8 +0.9**
baz=84,SNR=5.8
MSU Marysvale 84.04 308 eP **P 01 14 13.4 +1.4**
R15A Junction 84.10 308 ⇓P **P 01 14 12.9 +0.5**
baz=84
BOZ Bozeman (W) 84.14 316 eP **P 01 14 11.3 -1.1**
P15A Leamington 84.18 310 ⇓P **P 01 14 13.3 +0.6**
baz=84
214A Organ Pipe Nat 84.21 302 ⇓P **P 01 14 13.7 +0.7**
baz=84
O15A The Old Anders 84.37 310 ⇓P **P 01 14 14.0 +0.3**
baz=84
Z14A Wintersburg 84.38 303 ⇓P **P 01 14 14.2 +0.2**
baz=84
X14A Yava 84.39 304 ⇓P **P 01 14 14.9 +0.9**
baz=84,SNR=6.5
L15A Malad City 84.42 312 ⇓P **P 01 14 14.0 +0.1**
baz=84
M15A Larsen Ranch, 84.43 311 ⇓P **P 01 14 13.8 -0.2**
baz=84
N15A Stansbury Isla 84.45 311 ⇓P **P 01 14 14.3 +0.2**
baz=84
Y14A Wickenburg 84.46 304 ⇑P **P 01 14 14.9 +0.6**
baz=84,SNR=5.3
W14A Seligman 84.58 305 ⇑P **P 01 14 15.6 +0.7**
baz=85,SNR=5.4
V14A Boquillas Ranc 84.62 306 ⇓P **P 01 14 16.3 +1.3**
baz=85,SNR=5.9
DUG Dugway 84.63 310 eP **P 01 14 14.6 -0.4**
DUG pmax pmax
comp=Z,11nm,1.6s,mb4.7
DUG Dugway 84.63 310 eP **P 01 14 14.6 -0.4**
comp=Z,11nm,1.6s,mb4.7
G15A Dillon 84.71 315 ⇓P **P 01 14 15.9 +0.6**
baz=85,SNR=5.3
U14A Mt Trumbull 84.72 306 ⇑P **P 01 14 16.4 +0.9**
baz=85
LRM Limekiln Ridge 84.73 316 eP **P 01 14 15.5 +0.1**
F15A Butte 84.76 316 ⇑P **P 01 14 16.2 +0.7**
baz=85
S14A Cedar City 84.77 308 ⇓P **P 01 14 16.4 +0.6**
baz=85
P14A Drum Mountains 84.79 309 ⇑P **P 01 14 16.2 +0.4**
baz=85
DLMT Dillon 84.80 315 eP **P 01 14 17.0 +1.2**
comp=Z,35nm,1.6s,mb5.2
BGU Big Grassy Mou 84.84 311 eP **P 01 14 15.8 -0.2**
D15A Lincoln 84.86 317 ⇑P **P 01 14 16.4 +0.3**
baz=85
E15A Deer Lodge 84.90 316 ⇑P **P 01 14 16.1 -0.1**
baz=85
Q14A Sevier Lake (B 84.92 309 ⇑P **P 01 14 17.2 +0.7**
baz=85,SNR=6.6
N14A Grayback Hills 84.95 311 ⇓P **P 01 14 16.6 -0.1**
baz=85
K14A Jones Ranch, D 85.04 312 ⇑P **P 01 14 17.0 0.0**
baz=85
113A Mohawk Valley, 85.05 303 ⇑P **P 01 14 17.8 +0.5**
baz=85
L14A Malta 85.06 312 ⇑P **P 01 14 16.8 -0.4**
baz=85
M14A Sheep Mountain 85.11 311 ⇑P **P 01 14 16.8 -0.5**
baz=85
Y13A Salome 85.14 304 ⇑P **P 01 14 18.7 +0.9**
baz=85
X13A Yucca 85.17 304 ⇓P **P 01 14 18.8 +1.0**
baz=85,SNR=6.9
W13A Hualapai Mount 85.23 305 ⇑P **P 01 14 19.0 +0.8**
baz=85
S13A Holt Ranch, En 85.31 307 ⇓P **P 01 14 19.6 +1.0**
baz=85
T13A Saint George 85.33 307 ⇓P **P 01 14 19.3 +0.7**
baz=85
V13A Grand Canyon W 85.34 306 ⇓P **P 01 14 19.1 +0.4**
baz=85
U13A Pakoon Wash 85.35 306 ⇓P **P 01 14 19.2 +0.5**
baz=85
CHMT Chamberlain Mo 85.36 317 eP **P 01 14 18.6 +0.1**
F14A Wisdom 85.37 316 ⇑P **P 01 14 18.6 0.0**
baz=85
R13A O'Grain Ranch, 85.43 308 ⇑P **P 01 14 19.6 +0.5**
baz=85
Q13A Wheeler Ranch, 85.50 309 ⇑P **P 01 14 19.8 +0.4**
baz=86
P13A Bates Ranch, G 85.52 309 ⇑P **P 01 14 19.7 +0.2**
baz=86
O13A Hicks Ranch, I 85.52 310 ⇑P **P 01 14 19.5 0.0**
baz=86
D14A Greenough 85.54 317 ⇑P **P 01 14 18.8 -0.6**
baz=86
L13A Double Diamond 85.58 312 ⇓P **P 01 14 19.7 -0.1**
baz=86
M13A Montello 85.71 311 ⇓P **P 01 14 20.7 +0.3**
baz=86
Y12C Blythe 85.72 304 ⇑P **P 01 14 21.1 +0.5**
baz=86
N13A Wendover, West 85.72 311 ⇑P **P 01 14 20.2 -0.3**
baz=86
I13A Wildhorse Cree 85.80 314 ⇓P **P 01 14 21.4 +0.6**
baz=86,SNR=7.2
J13A Cove Ranch, Pi 85.81 313 ⇓P **P 01 14 21.1 +0.2**
baz=86
U12A Valley of Fire 85.81 306 ⇓P **P 01 14 21.9 +0.9**
baz=86
NEE2 Needles Airpor 85.83 305 ⇑P **P 01 14 21.0 -0.1**
baz=86
EDM Edmonton 85.84 323 eP **P 01 14 21.2 +0.5**
H13A Challis 85.93 314 ⇑P **P 01 14 22.0 +0.6**
baz=86
WALA Waterton Lakes 85.93 319 eP **P 01 14 22.4 +1.1**
comp=Z,36nm,1.6s,mb5.3
R12A Pony Springs, 85.93 308 ⇑P **P 01 14 21.6 0.0**
baz=86
G13A Cobalt 85.94 315 ⇑P **P 01 14 22.1 +0.7**
baz=86
GLA Glamis 85.95 303 ⇓P **P 01 14 22.3 +0.5**
baz=86
E13A Victor 85.97 316 ⇑P **P 01 14 21.5 0.0**
baz=86
HLID Hailey 86.00 313 eP **P 01 14 20.1 -1.6**
comp=Z,13nm,1.6s,mb4.9
F13A Darby 86.04 316 ⇑P **P 01 14 22.1 +0.1**
baz=86,SNR=5.6
V12A Nelson 86.04 306 ⇓P **P 01 14 22.3 +0.1**
baz=86
S12A Delamar Landin 86.10 307 ⇓P **P 01 14 23.1 +0.7**
baz=86
D13A Huson 86.19 317 ⇓P **P 01 14 22.2 -0.4**
baz=86
P12A McGill 86.21 309 ⇓P **P 01 14 23.3 +0.4**
baz=86
IRM Iron Mountain 86.25 304 ⇑P **P 01 14 23.4 +0.2**
baz=86
B13A Whitefish 86.26 318 ⇑P **P 01 14 22.9 0.0**
baz=86
C13A Hot Springs 86.30 318 ⇓P **P 01 14 23.2 0.0**
baz=86
K12A Draper Farm, C 86.32 312 ⇑P **P 01 14 24.2 +0.8**
baz=86
N12A Clover Valley, 86.35 311 ⇓P **P 01 14 24.2 +0.6**
baz=86,SNR=6.4
H12A Diamond D Ranc 86.36 314 ⇓P **P 01 14 24.0 +0.5**
baz=86
T11A Corn Creek, Al 86.39 307 ⇑P **P 01 14 24.4 +0.6**
baz=86
J12A Stokes Ranch, 86.48 313 ⇑P **P 01 14 24.9 +0.8**
baz=86
BC3 Big Chuckw Mtn 86.49 303 ⇓P **P 01 14 25.0 +0.6**
baz=86
ELK Elko 86.50 311 P **P 01 14 23.7 -0.7**
comp=Z,1.2nm,0.8s,mb4.2,baz=72,slow=6.9,SNR=8.3
ELK Elko 86.50 311 eP **P 01 14 23.0 -1.3**
ELK pmax pmax
comp=Z,7.0nm,1.2s
ELK Elko 86.50 311 eP **P 01 14 23.0 -1.3**
comp=Z,6.6nm,1.2s,mb4.7
GMRC Granite Mounta 86.68 305 ⇓P **P 01 14 25.5 +0.2**
baz=87
F12A Elk City 86.68 316 ⇑P **P 01 14 25.3 +0.2**
baz=87
R11A Troy Canyon, C 86.70 308 ⇑P **P 01 14 25.3 -0.1**
baz=87
Q11A Duckwater 86.77 309 ⇑P **P 01 14 26.0 +0.4**
baz=87
O11A Cowboy Ranch, 86.80 310 ⇑P **P 01 14 26.3 +0.5**
baz=87
S11A Rachel 86.81 307 ⇓P **P 01 14 26.2 +0.2**
baz=87
P11A Circle Ranch, 86.86 309 ⇓P **P 01 14 26.3 +0.2**
baz=87
TUQ Turquoise Mtn. 86.91 305 ⇑P **P 01 14 26.5 +0.1**
baz=87
L11A Cat Creek Ranc 86.93 312 ⇑P **P 01 14 27.2 +0.8**
baz=87
M11A Holland Ranch, 86.94 311 ⇑P **P 01 14 27.3 +0.8**
baz=87
YKA Yellowknife Ar 87.12 332 LR LR 01 49 47.3
comp=Z,44nm,19.6s,MS3.9,baz=270,slow=33
K11A Parker Ranch, 87.15 313 ⇓P **P 01 14 27.6 +0.2**
baz=87
H11A Donnelly 87.19 315 ⇑P **P 01 14 27.1 -0.4**
baz=87
MONP Monument Peak 87.28 303 ⇓P **P 01 14 28.1 -0.3**
baz=87
PFO Pinyon Flat Ob 87.32 303 ⇑P **P 01 14 29.4 +0.9**
baz=87
P10A Eureka 87.41 309 ⇑P **P 01 14 29.1 +0.3**
baz=87
AKTK Aktyubinsk 87.43 40 P **P 01 14 28.1 -0.5**
AKTO Aktyubinsk 87.43 40 P **P 01 14 28.1 -0.5**
comp=Z,1.7nm,0.9s,mb4.3,baz=343,slow=3.7,SNR=5.1
L10A Juniper Basin 87.46 312 ⇓P **P 01 14 29.6 +0.6**
baz=87
D11A Klaveano Farm, 87.47 317 ⇓P **P 01 14 28.4 -0.4**
baz=88
S10A Tonopah Range, 87.49 308 ⇑P **P 01 14 29.9 +0.7**
baz=88
M10A I.L. Ranch, Tu 87.50 311 ⇓P **P 01 14 29.7 +0.5**
baz=88
A11A Hall Mountain, 87.53 319 ⇑P **P 01 14 29.2 0.0**
baz=88
FURC Furnace Creek, 87.69 306 ⇑P **P 01 14 31.2 +1.0**
baz=88
H10A Noah's Angus R 87.71 314 ⇓P **P 01 14 30.5 +0.4**
baz=88
I10A Payette 87.74 314 ⇑P **P 01 14 30.4 +0.2**
baz=88
K10A MacKenzie Ranc 87.77 313 ⇑P **P 01 14 30.7 +0.3**
baz=88
109C Camp Elliot, M 87.86 303 ⇑P **P 01 14 32.3 +1.1**
baz=88
R09A Tonopah 87.87 308 ⇑P **P 01 14 31.2 +0.2**
baz=88
ARU Arti 87.92 34c iP **P 01 14 30.9 +0.1**
ARU e 01 17 53.2
ARU ePPP 01 19 55.8
ARU eS S 01 24 58.6 -15
ARU eSS SS 01 30 56.0 -5.2
ARU pmax pmax
comp=Z,17nm,1.7s,mb5.0
ARU Arti 87.92 34 eP **P 01 14 30.4 -0.4**
comp=Z,9.3nm,1.2s,mb4.9
MURC Murrieta 87.94 303 ⇑P **P 01 14 31.9 +0.5**
baz=88
O09A Fish Creek Ran 87.98 310 ⇓P **P 01 14 32.0 +0.5**
baz=88
G10A Bishop Farm, J 87.98 315 ⇓P **P 01 14 31.5 +0.1**
baz=88
S09A Goldfield 87.99 308 ⇓P **P 01 14 32.2 +0.6**
baz=88
TPH Tonopah 87.99 308 eP **P 01 14 31.3 -0.3**
TPH pmax pmax
comp=Z,14nm,1.1s,mb5.1
TPH Tonopah 87.99 308 eP **P 01 14 31.3 -0.3**
comp=Z,14nm,1.1s,mb5.1
MPMC Manual Prospec 88.19 306 ⇓P **P 01 14 33.5 +0.9**
baz=88
N09A Rock Creek Ran 88.24 311 ⇓P **P 01 14 33.6 +0.9**
baz=88
A10A Northport 88.32 319 ⇓P **P 01 14 32.8 -0.1**
baz=88
K09A Rome 88.40 312 ⇓P **P 01 14 33.4 0.0**
baz=88
G09A Cove 88.45 315 ⇑P **P 01 14 33.9 +0.3**
baz=88
Q08A Gabbs 88.55 309 ⇑P **P 01 14 34.5 +0.3**
baz=88
EDW2 Edwards Air Fo 88.60 305 ⇓P **P 01 14 34.5 -0.1**
baz=89
S08C White Mtn Res 88.74 307 ⇑P **P 01 14 34.7 -0.4**
baz=89
NVAR Mina Array Bea 88.84 308 P **P 01 14 36.5 +0.8**
comp=Z,1.3nm,0.9s,mb4.3,baz=97,slow=4.8,SNR=7.8
ISA Isabella 88.99 305 eP **P 01 14 38.3 +1.9**
ISA pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
ISA Isabella 88.99 305 ⇑P **P 01 14 37.7 +1.4**
baz=89
ISA Isabella 88.99 305 eP **P 01 14 38.3 +1.9**
comp=Z,8.0nm,1.0s,mb5.0
WVOR Wild Horse Val 89.07 312 eP **P 01 14 35.7 -0.9**
WVOR pmax pmax
comp=Z,12nm,1.5s,mb5.0
WVOR Wild Horse Val 89.07 312 eP **P 01 14 35.7 -0.9**
comp=Z,12nm,1.5s,mb5.0
HELL Mitchell Peak 89.43 306 ⇑P **P 01 14 39.0 +0.6**
baz=89
K07A Rock Creek Ran 89.52 312 ⇓P **P 01 14 39.3 +0.6**
baz=90
O06A Flanigan 90.00 310 ⇑P **P 01 14 42.0 +1.0**
baz=90
S06C San Francisco 90.06 308 ⇓P **P 01 14 42.5 +1.1**
baz=90
J06A Christmas Vall 90.17 313 ⇑P **P 01 14 41.9 +0.2**
baz=90
A07A Ashnola River, 90.18 319 ⇓P **P 01 14 41.9 +0.3**
baz=90
K06A Valley Falls 90.26 313 ⇓P **P 01 14 42.5 +0.4**
baz=90
G06A Carlson Farm, 90.47 315 ⇓P **P 01 14 43.3 +0.3**

baz=90
E06A Yakima 90.66 316 ⇑P **P 01 14 44.4 +0.5**
baz=91
U04C Hernandez Rese 90.85 306 ⇑P **P 01 14 46.0 +0.9**
baz=91
MAW Mawson 91.58 157 P **P 01 14 48.9 +1.2**
comp=Z,5.6nm,1.0s,mb4.8,baz=285,slow=7.1,SNR=6.2
MAW LR LR 01 50 47.5
comp=Z,146nm,18.1s,MS4.5,baz=61,slow=32
MAW Mawson 91.58 157 *e*P **P 01 14 49.4 +1.6**
MAW pmax pmax
comp=Z,8.0nm,1.2s
MAW Mawson 91.58 157 *e*P **P 01 14 49.4 +1.7**
comp=Z,8.1nm,1.2s,mb4.9
BVAR Borovoye Array 94.96 37 P **P 01 15 03.2 -0.4**
comp=Z,0.4nm,0.4s,mb4.2,baz=237,slow=40,SNR=3.5
DAWY Dawson 97.96 335 *e*P **P 01 15 17.5 +0.5**
RKT Rikitea 104.99 246 *e*LR LR 01 50 16.0
comp=Z,679nm,39.8s
TBI Tubuai 118.12 244 *e*LR LR 01 56 21.9
comp=Z,172nm,24.8s
PPT Papeete 119.28 250 *e*LR LR 01 56 52.5
comp=Z,133nm,24.5s
LZH Lanzhou 122.82 45 *e*PKP PKPdf 01 20 35.1 -2.7
LZH XPKP 01 20 39.7
LZH *e*PP PP 01 22 18.5 +3.0
LZH SKKS SKKSac 01 29 09.6 -5.8
LZH *e*SS SS 01 38 59.3 +0.7
LZH PP PP
comp=Z,93nm,7.8s
LZH LR LR
comp=E,187nm,18.2s
LZH LR LR
comp=Z,235nm,20.1s,MS4.8
HHC Hu-ho-hao-te 125.16 36 *e*PKP PKPdf 01 20 37.0 -5.2
HHC PP PP 01 22 31.8 +0.9
HHC SKKS SKKSac 01 29 20.9 -9.3
HHC LR LR
comp=N,1μm,23.8s,MS5.5
HHC LR LR
comp=E,692nm,22.6s,MS5.5
HHC LR LR
comp=Z,190nm,25.0s,MS4.7
CD2 Chengdu 125.16 50 *e*PKP PKPdf 01 20 39.7 -2.8
CD2 XPKP 01 20 48.2
CD2 PP PP 01 22 33.7 +2.2
CD2 PKS 01 24 14.9
CD2 SKS SKSdf 01 27 46.5 -8.3
CD2 SKKS SKKSac 01 29 22.7 -8.0
CD2 SS SS 01 39 27.7 -1.0
CD2 PP PP
comp=Z,150nm,10.2s
CD2 LR LR
comp=N,210nm,21.2s
CD2 LR LR
comp=Z,180nm,22.4s,MS4.7
CMAR Chiang Mai Arr 125.40 67 PKP PKPdf 01 20 42.5 -0.7
comp=Z,1.2nm,0.3s,baz=292,slow=1.9,SNR=5.9
KMI Kunming 126.68 57 PKP PKPdf 01 20 43.9 -1.6
KMI XPKP 01 20 49.2
KMI PP PP 01 22 44.8 +2.9
KMI SKKS SKKSac 01 29 33.8 -6.8
KMI SS SS 01 39 50.3 +2.1
KMI PP PP
comp=Z,235nm,7.9s
KMI LR LR
comp=N,233nm,25.5s
KMI LR LR
comp=E,192nm,18.2s
KMI LR LR
comp=Z,224nm,15.8s
GYA Guiyang 129.40 54 PDIF Pdif 01 17 35.4 -1.6
GYA PKP PKPdf 01 20 49.2 -1.5
GYA PP PP 01 23 03.0 +3.4
GYA PKS 01 24 24.9
GYA SKS SKSdf 01 27 58.0 -4.8
GYA SKKS SKKSac 01 29 53.2 -4.3
GYA SS SS 01 40 22.7 +1.1
GYA PP PP
comp=Z,120nm,7.4s
GYA LR LR
comp=N,250nm,20.5s,MS4.9
GYA LR LR
comp=E,110nm,21.6s,MS4.9
GYA LR LR
comp=Z,280nm,20.4s,MS4.9
CN2 Changchun 129.98 24 *e*PKP PKPdf 01 20 53.6 +2.3
CN2 PP PP 01 23 08.8 +6.6
CN2 PP PP
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,450nm,20.0s,MS5.2
CN2 LR LR
comp=E,240nm,20.0s,MS5.2
CN2 LR LR
comp=Z,390nm,20.0s,MS5.1
MDJ Mudanjiang 130.84 20 PKP PKPdf 01 20 50.8 -2.1
NJ2 Nanjing 135.31 40 *e*PKP PKPdf 01 21 01.8 +0.1
KKM Kota Kinabalu 144.65 78 *e*PKPdf PKPdf 01 21 16.2 -2.8
STKA Stephens Creek 147.97 165 *e*PKPbc PKPbc 01 21 25.7 -1.6
FITZ Fitzroy Crossi 149.85 126 *e*PKPbc PKPbc 01 21 30.9 -1.4
ASAR Alice Springs 152.00 145 PKPbc PKPbc 01 21 35.3 -2.0
comp=Z,9.9nm,0.9s,baz=183,slow=2.5,SNR=23
WRA Warramunga Arr 155.07 140 PKPbc PKPdf 01 21 44.6 +9.3
comp=Z,1.3nm,0.9s,baz=243,slow=2.0,SNR=5.9
WRA PKPab PKPab 01 22 00.5 +0.9
comp=Z,2.2nm,0.8s,baz=222,slow=2.8,SNR=6.4
CTAO Charters Tower 160.41 167 *e*PKP2 PKPab 01 22 20.5 -1.9

*NEIC **08** 01:07:12.1, 31.68S×69.84W, h139km, MD3.6(GUC), After GUC.*

GUC 08 01:07:12.1±0.5, 31.68S×69.84W, h139km±5km, MD3.6, ML3.4, 6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**1.09**	**237**	*e*P	Pn	01 07 36.5	-0.2
PTCH				*i* S	Sn	01 07 55.8	+0.4
PTCH				AML	AML	01 07 58.6	
	comp=N,405nm,0.1s						
PTCH	**Petorca**	**1.09**	**237**	*e*P	Pn	01 07 36.5	-0.2
PTCH				*i* S	Sn	01 07 55.8	+0.4
CMCH	**Combarbala**	**1.11**	**297**	⇓*i*P	Pn	01 07 37.4	+0.6
CMCH				*i* S	Sn	01 07 56.5	+0.8
CMCH				AML	AML	01 07 58.5	
	comp=E,3μm,0.5s						
CMCH	**Combarbala**	**1.11**	**297**	⇓*i*P	Pn	01 07 37.4	+0.6
CMCH				*i* S	Sn	01 07 56.5	+0.8
JACH	**Jahuel**	**1.19**	**212**	*e*P	Pn	01 07 38.0	+0.4
JACH				*i* S	Sn	01 07 57.8	+0.7
CHNG	**Los Chungos**	**1.43**	**261**	⇓*e*P	Pn	01 07 40.3	+0.3
CHNG				*i* S	Sn	01 08 01.5	+0.1
CHNG				AML	AML	01 08 05.0	
	comp=N,379nm,0.7s						
OVCH	**Ovalle**	**1.58**	**312**	*e*P	Pn	01 07 42.0	+0.3
OVCH				*i* S	Sn	01 08 04.5	+0.2
OVCH				AML	AML	01 08 05.2	
	comp=N,485nm,0.4s						
OVCH	**Ovalle**	**1.58**	**312**	*e*P	Pn	01 07 42.0	+0.3
OVCH				*i* S	Sn	01 08 04.5	+0.2
FCH	**Farellones**	**1.69**	**193**	⇓*i*P	Pn	01 07 44.1	+1.2
FCH				*i* S	Sn	01 08 08.2	+1.6
FCH				AML	AML	01 08 12.9	
	comp=E,326nm,0.3s						
TLL	**Tololo Astrono**	**1.71**	**331**	*e*P	Pn	01 07 44.1	+0.8
TLL				*i* S	Sn	01 08 08.5	+1.4
TLL				AML	AML	01 08 11.1	
	comp=E,244nm,0.5s						
TLL	**Tololo Astrono**	**1.71**	**331**	*e*P	Pn	01 07 44.1	+0.8
TLL				*i* S	Sn	01 08 08.5	+1.4
CLCH	**Cerro Calan**	**1.81**	**199**	*e*P	Pn	01 07 44.8	+0.5
CLCH				*i* S	Sn	01 08 10.0	+0.9
CLCH				AML	AML	01 08 13.3	
	comp=E,365nm,0.2s						
RCDM	**Rinconada Maip**	**1.98**	**204**	*e*P	Pn	01 07 46.9	+0.5
RCDM				*i* S	Sn	01 08 13.4	+0.8
RCDM				AML	AML	01 08 17.7	
	comp=E,502nm,0.1s						
RCDM	**Rinconada Maip**	**1.98**	**204**	*e*P	Pn	01 07 46.9	+0.5
RCDM				*i* S	Sn	01 08 13.4	+0.8
PCH	**Pirque**	**2.02**	**196**	*e*P	Pn	01 07 47.4	+0.6
PCH				*e*S	Sn	01 08 14.2	+0.7
LSCH	**La Serena**	**2.13**	**325**	⇓*e*P	Pn	01 07 48.6	+0.4
LSCH				*i* S	Sn	01 08 15.6	-0.3
TACH	**Talagante**	**2.18**	**205**	⇓*e*P	Pn	01 07 48.8	+0.1
LMEL	**Las Melosas**	**2.19**	**188**	*e*P	Pn	01 07 49.6	+0.8
LMEL				*i* S	Sn	01 08 18.1	+1.0
LMEL				AML	AML	01 08 26.2	
	comp=N,167nm,0.2s						
LMEL	**Las Melosas**	**2.19**	**188**	*e*P	Pn	01 07 49.6	+0.8
LMEL				*i* S	Sn	01 08 18.1	+1.0
LNV	**Longovilo**	**2.63**	**210**	*e*P	Pn	01 07 53.6	-0.7
CICH	**Cipreses**	**2.68**	**190**	*e*P	Pn	01 07 55.9	+1.0
LCO	**Las Campanas**	**2.76**	**344**	*e*Pn	Pn	01 07 56.1	+0.1
LCO				*e*Sn	Sn	01 08 28.0	-1.7

*IDC **08** 01:07:16.6±10.0, 35.83N×70.79E, h69km±99km, mb3.5/4, mb1 3.6/6, mb1mx3.2/24, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=55.7km s-min=28.7km az=13.0*
*ISCJB **08** 01:07:20.9±0.7, 36.36N±0.05×70.6E±0.1, h118km±10km, mb3.6/3, Error ellipse: s-maj=14.8km s-min=7.2km az=24.7*
*NEIC **08** 01:07:21.5±1.1, 36.12N×70.97E, h109km±12km, mb3.7/1, Error ellipse: s-maj=25.2km s-min=11.5km az=125.0*
*NNC **08** 01:07:25.8±6.7, 37.09N×70.05E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=51.3km s-min=49.0km az=159.0*

ISC 08 01:07:22.6±0.7, 36.45N±0.06×70.4E±0.1, h108km±11km, n16, σ1§01/22, mb3.6/3, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.21**	**211**	*e*Pn	**Pn**	**01 07 58.2**	**0.0**
KBL				*e*Sn	**Sn**	**01 08 25.1**	**-0.4**
AML	**Almayashu**	**6.22**	**23**	*e*Pn	**Pn**	**01 08 52.1**	**+0.3**
	6.2nm,0.2s						
AML				*e*Sn	**Sn**	**01 09 59.2**	**-2.2**
KK31	**Karatay Array**	**6.65**	**0**	⇓Pn	**Pn**	**01 08 59.2**	**+1.5**
	3.4nm,0.4s,baz=190,slow=15,SNR=72						
KK31				⇑Sn	**Sn**	**01 10 12.5**	**+0.5**
	12nm,0.6s,baz=190,slow=25						
EKS2	**Erkin-Say**	**6.72**	**22**	*e*Pn	**Pn**	**01 08 59.0**	**+0.3**
	1.5nm,0.5s						
TKM2	**Tokmak 2**	**7.59**	**30**	⇓Pn	**Pn**	**01 09 09.7**	**-0.8**
	1.8nm,0.4s						
TKM2				⇑Sn	**Sn**	**01 10 35.0**	**+0.1**
	8.6nm,0.7s						
TKM2	**Tokmak 2**	**7.59**	**30**	*e*Pn	**Pn**	**01 09 10.2**	**-0.3**
	2.6nm,0.3s						
MKAR	**Makanchi Array**	**13.61**	**37**	P	**Pn**	**01 10 31.5**	**+0.5**
	0.0nm,0.3s,baz=218,slow=14,SNR=3.7						
AB31	**Akbulak array**	**14.92**	**332**	⇑Pn	**Pn**	**01 10 49.4**	**+1.7**
	1.3nm,0.6s,baz=164,slow=11,SNR=28						
AB31				⇓Sn	**Sn**	**01 13 27.9**	**-4.4**
	0.5nm,0.5s						
AKTK	**Aktyubinsk**	**16.60**	**331**	P	**Pn**	**01 11 14.2**	**+5.5**
AKTO	**Aktyubinsk**	**16.60**	**331**	⇑Pn	**Pn**	**01 11 14.0**	**+5.3**
	0.4nm,0.7s						
AKTO				⇑Sn	**Sn**	**01 14 11.1**	**-1.9**
	0.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.60**	**331**	P	**Pn**	**01 11 14.2**	**+5.5**
	0.2nm,0.3s,baz=136,slow=12,SNR=9.5						
ZAA0	**Zalesovo Array**	**20.16**	**25**	*e*P	**P**	**01 11 47.7**	**-0.4**
ZALV	**Zalesovo Beam**	**20.16**	**25**	P	**P**	**01 11 48.3**	**+0.2**
	2.9nm,0.4s,baz=215,slow=12,SNR=13						
ARCES	**ARCESS Array B**	**41.02**	**338**	P	**P**	**01 14 59.0**	**+4.3**
	1.3nm,0.8s,mb3.8,baz=112,slow=12,SNR=4.3						
TORD	**Torodi Ar. Bea**	**65.26**	**268**	P	**P**	**01 17 52.6**	**-0.4**
	0.3nm,0.3s,mb3.6,baz=44,slow=6.3,SNR=9.4						
WRA	**Warramunga Arr**	**82.35**	**122**	P	**P**	**01 19 28.6**	**-4.0**
	0.6nm,1.0s,mb3.4,baz=325,slow=4.8,SNR=2.9						

*NEIC **08** 01:42:54.9, 12.27N×59.57W, h10km, MD3.5(TRN), After TRN.*

TRN 08 01:42:53.6, 12.28N×59.51W, h10km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSV	**Crater Summit**	**1.94**	**303**	*e*P	Pn	01 43 28.7	+1.9
SSV				*e*S	Sn	01 43 54.2	+3.0
SVV	**Soufriere Volc**	**1.96**	**302**	*e*P	Pn	01 43 29.2	+2.2
SVV				*e*S	Sn	01 43 53.2	+1.6
SVB	**Belmont**	**1.97**	**300**	*e*P	Pn	01 43 28.9	+1.8
SVB				*e*S	Sn	01 43 48.0	-3.8
GRIC	**Isle de Caille**	**2.03**	**270**	*e*P	Pn	01 43 29.5	+1.5
GRIC				*e*S	Sn	01 43 56.0	+2.6
GRSS	**Sisters**	**2.06**	**271**	*e*P	Pn	01 43 29.5	+1.2
GRSS				*e*S	Sn	01 43 56.9	+2.9
GRHS	**Sauteurs**	**2.08**	**269**	*e*S	Sn	01 43 56.5	+1.8
GRW	**Mount Saint Ca**	**2.11**	**267**	*e*	Sn	01 44 01.7	+6.4
SLB	**Belfond**	**2.14**	**316**	*e*P	Pn	01 43 32.6	+3.1
SLB				*e*S	Sn	01 43 58.4	+2.2

NNC 08 01:42:55.1±19.0, 36.92N×70.55E, h0km, mb3.8, mpv3.8, 2C-4D, Error ellipse: s-maj=150.4km s-min=126.6km az=10.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.17**	**360**	⇓P	Pn	01 44 29.6	+2.2
	4.1nm,0.3s,baz=176,slow=12,SNR=110						
KK31				⇑S	Sn	01 45 40.6	+2.0
	7.3nm,0.7s,baz=186,slow=22						
TKM2	**Tokmak 2**	**7.13**	**31**	⇓P	Pn	01 44 39.3	-1.3
	2.6nm,0.6s						
TKM2				⇓S	Sn	01 46 02.2	-0.2
	1.4nm,0.6s						
AB31	**Akbulak array**	**14.54**	**331**	⇑P	Pn	01 46 20.6	-1.2
	0.1nm,0.3s,baz=309,slow=52,SNR=12						
AB31				⇓S	Sn	01 49 01.1	-2.6
	0.2nm,0.5s						

IDC 08 01:47:25.6±3.7, 19.35S×169.84E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/15, mbtmp3.8/2, MS4.8/1, Ms1 4.8/1, ms1mx3.1/23, Error ellipse: s-maj=244.3km s-min=45.3km az=156.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**14.88**	**134**	LR	LR	01 55 05.7	
	comp=Z,3μm,20.6s,baz=269,slow=31						
WRA	**Warramunga Arr**	**33.40**	**263**	P	P	01 54 05.3	-0.7
	0.8nm,1.0s,baz=94,slow=8.3,SNR=4.7						
ASAR	**Alice Springs**	**33.65**	**256**	P	P	01 54 08.8	+0.5
	1.6nm,0.6s,baz=87,slow=9.8,SNR=20						
ARCES	**ARCESS Array B**	**125.32**	**345**	PKP	PKPdf	02 06 27.4	-0.2
	0.9nm,0.8s,baz=50,slow=2.1,SNR=3.9						
GERES	**GERESS Array B**	**144.85**	**332**	PKP	PKPdf	02 07 04.2	-0.3
	0.2nm,0.5s,baz=27,slow=4.5,SNR=5.5						

*SZGRF **08** 02:00:30.8, 51.70N×157.15E, h33km, mb4.4, Near east coast of Kamchatka Peninsula, Russia*
*BJI **08** 02:00:46.9, 52.70N×157.80E, h166km, mB4.4, mb4.5*
*ISCJB **08** 02:00:47.9±0.3, 52.61N±0.04×157.90E±0.07, h174km±1km, mb4.0/71, Error ellipse: s-maj=8.1km s-min=4.4km az=38.3*
*MOS **08** 02:00:47.8±1.0, 52.73N×157.73E, h166km, mb4.2/42, Error ellipse: s-maj=12.5km s-min=6.0km az=93.8*
*KRSC **08** 02:00:48.6±0.5, 52.58N×158.26E, h166km±26km, ML4.2*
*NEIC **08** 02:00:49.0±0.6, 52.73N×157.82E, h167km±5km, mb4.2/49, Error ellipse: s-maj=7.9km s-min=4.9km az=178.0*
*IDC **08** 02:00:49.3±0.5, 52.78N×157.71E, h169km±1km, mb3.7/21, mb1 3.9/21, mb1mx3.9/24, mbtmp3.7/21, Error ellipse: s-maj=14.4km s-min=10.5km az=155.0*

ISC 08 02:00:49.0±0.3, 52.62N±0.04×157.87E±0.07, h170km±1km, n198, σ0§89/212, mb4.0/71, 26C-1D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**0.14**	**120**	*e*P	**Pn**	**02 01 12.1**	**+0.5**
GRL				*i* S	**Sn**	**02 01 29.2**	**+0.4**
RUS	**Russkaya**	**0.44**	**116**	*i* P	**Pn**	**02 01 11.6**	**-0.8**
RUS				*i* S	**Sn**	**02 01 28.4**	**-1.8**
PETK	**Petropavlovsk-**	**0.50**	**348**	P	**Pn**	**02 01 13.1**	**+0.5**
	57nm,0.3s,baz=102,slow=20,SNR=223						
PETK				S	**Sn**	**02 01 31.0**	**+0.2**
	43nm,0.3s,baz=128,slow=9.6,SNR=22						
PET	**Petropavlovsk**	**0.62**	**49**	⇓*i*PN	**Pn**	**02 01 12.5**	**-0.7**
PET				*i* S	**Sn**	**02 01 30.1**	**-1.7**
PET				pmax	pmax		
	comp=Z,1μm,0.3s						
PET				smax			
	comp=E,2μm,1.6s						
PET				smax			
	comp=N,1μm,0.5s						
PET				smax			
	comp=E,1μm,0.6s						
PET				smax			
	comp=N,600nm,10.4s						
PET	**Petropavlovsk**	**0.62**	**49**	*i* P	**Pn**	**02 01 12.7**	**-0.5**
PET				*i* S	**Sn**	**02 01 30.4**	**-1.4**
PET	**Petropavlovsk**	**0.62**	**49**	*e*Pn	**Pn**	**02 01 12.6**	**-0.6**
PET				*e*Sn	**Sn**	**02 01 30.5**	**-1.3**
MIPR	**Malaya Ipel'ka**	**0.76**	**243**	*i* P	**Pn**	**02 01 15.1**	**+1.0**
MIPR				*i* S	**Sn**	**02 01 34.6**	**+1.4**
AVH	**Avacha**	**0.83**	**39**	*e*P	**Pn**	**02 01 14.6**	**+0.2**
AVH				*i* S	**Sn**	**02 01 33.5**	**-0.6**
NLC	**Nalytchevo**	**1.05**	**58**	*e*P	**Pn**	**02 01 14.5**	**-1.6**
NLC				*i* S	**Sn**	**02 01 33.6**	**-3.3**
GNL	**Ganaly**	**1.07**	**2**	*i* P	**Pn**	**02 01 16.8**	**+0.5**
GNL				*i* S	**Sn**	**02 01 37.8**	**+0.5**
SPN	**Mys Shipunski**	**1.39**	**69**	*e*P	**Pn**	**02 01 17.6**	**-1.4**
SPN				*i* S	**Sn**	**02 01 38.7**	**-3.4**
KII	**Karymskiy**	**1.70**	**33**	*e*P	**Pn**	**02 01 22.2**	**+0.1**
KII				*i* S	**Sn**	**02 01 46.9**	**-0.9**
SKR	**Severo-Kuril's**	**2.23**	**210**	*e*PN	**Pn**	**02 01 28.0**	**0.0**
SKR				*e*S	**Sn**	**02 01 58.0**	**0.0**
SKR				pmax	pmax		
	comp=N,190nm,0.5s						
SKR				pmax	pmax		
	comp=E,190nm,0.5s						
SKR				pmax	pmax		
	comp=Z,500nm,0.5s						
SKR				smax			
	comp=N,3μm,2.0s						
SKR				smax			
	comp=E,2μm,2.0s						
SKR				smax			
	comp=N,1μm,0.5s						
SKR				smax			
	comp=E,1μm,0.5s						
ALID	**Alaid**	**2.27**	**220**	*e*P	**Pn**	**02 01 30.0**	**+1.5**
TUMR	**Tumrok**	**2.98**	**26**	*e*P	**Pn**	**02 01 38.3**	**+1.4**
TUMR				*i* S	**Sn**	**02 02 15.0**	**+0.8**
MKZ	**Mys Kozlova**	**3.01**	**48**	*e*P	**Pn**	**02 01 35.7**	**-1.5**
MKZ				*i* S	**Sn**	**02 02 09.1**	**-5.6**
KMNR	**Kamenistaya**	**3.43**	**23**	*e*P	**Pn**	**02 01 43.8**	**+1.3**
KMNR				*i* S	**Sn**	**02 02 24.0**	**-0.2**
KPT	**Kopyto**	**3.62**	**21**	*e*P	**Pn**	**02 01 45.6**	**+0.7**
KOZ	**Kozyrevsk**	**3.64**	**18**	*e*P	**Pn**	**02 01 45.7**	**+0.7**
KIRR	**Kirishev**	**3.64**	**22**	*e*P	**Pn**	**02 01 46.1**	**+1.0**
KOZR	**Kozyr**	**3.65**	**18**	PN	**Pn**	**02 01 45.7**	**+0.5**
BZMR	**Bezymyannaya**	**3.66**	**24**	*e*P	**Pn**	**02 01 46.7**	**+1.4**
BZMR				*i* S	**Sn**	**02 02 30.0**	**+0.8**
SRDR	**Sredinnyy**	**3.86**	**15**	*e*P	**Pn**	**02 01 48.4**	**+0.6**
SRDR				*i* S	**Sn**	**02 02 33.3**	**-0.5**
KRSR	**Krestovskiy**	**3.93**	**23**	*e*P	**Pn**	**02 01 49.4**	**+0.6**
BDR	**Baidarnaya**	**4.40**	**25**	*e*P	**Pn**	**02 01 55.8**	**+0.9**
KBTR	**Krutoberegovo**	**4.61**	**37**	*i* P	**Pn**	**02 01 57.4**	**-0.2**
BILL	**Bilibino**	**15.99**	**12**	P	**Pn**	**02 04 27.0**	**+2.8**
BILL				pmax	pmax		
	comp=Z,19nm,1.5s						
YAK	**Yakutsk**	**17.75**	**313**	*e*P	**Pn**	**02 04 42.7**	**-2.7**
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK	**Yakutsk**	**17.75**	**313**	*e*P	**Pn**	**02 04 43.1**	**-2.3**
	comp=E,22nm,0.5s						
MDJ	**Mudanjiang**	**20.24**	**258**	P	**P**	**02 05 10.6**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,53nm,4.1s						
MJAR	**Matsushiro Arr**	**21.21**	**228**	P	**P**	**02 05 23.2**	**+2.0**
	comp=Z,4.3nm,0.9s,mb3.8,baz=23,slow=10,SNR=9.7						
TIXI	**Tiksi**	**22.96**	**337**	*e*P	**P**	**02 05 38.2**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.8						
TIXI	**Tiksi**	**22.96**	**337**	*e*P	**P**	**02 05 38.1**	**+0.1**
	comp=Z,30nm,0.8s,mb4.8						
IMA2	**Indian Mountai**	**27.29**	**42**	*e*P	**P**	**02 06 16.4**	**-0.7**
COLD	**Coldfoot**	**28.78**	**40**	*e*P	**P**	**02 06 30.2**	**-0.2**
	comp=Z,2.1nm,0.8s,mb3.9						
SONM	**Songino Array**	**32.69**	**283**	P	**P**	**02 07 05.8**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.3,baz=101,slow=7.5,SNR=3.4						
SONM				PcP	PcP	02 09 45.2	-1.1
	comp=Z,0.6nm,0.5s,baz=36,slow=2.5,SNR=4.2						
ZAK	**Zakamensk**	**33.38**	**288**	*e*P	**P**	**02 07 11.8**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
NJ2	**Nanjing**	**34.83**	**249**	*e*P	**P**	**02 07 22.7**	**-0.8**
NJ2				S	**S**	**02 12 41.5**	**0.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
NJ2				LR	LR		
	comp=N,720nm,22.1s						
NJ2				LR	LR		
	comp=E,450nm,16.8s						
NJ2				LR	LR		
	comp=Z,480nm,18.2s						
INK	**Inuvik**	**35.06**	**37**	P	**P**	**02 07 25.4**	**+0.3**
	comp=Z,3.6nm,0.5s,mb4.2,baz=254,slow=12,SNR=8.9						
INK	**Inuvik**	**35.06**	**37**	P	**P**	**02 07 25.4**	**+0.3**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	**Inuvik**	**35.06**	**37**	*e*P	**P**	**02 07 25.2**	**+0.1**
KRAR	**Krasnoyarsk**	**36.82**	**302**	*i* P	**P**	**02 07 35.0**	**-5.1**
ZALV	**Zalesovo Beam**	**41.89**	**302**	P	**P**	**02 08 21.1**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.4,baz=106,slow=4.8,SNR=2.7						
ZALV				PcP	PcP	02 10 13.8	-0.6
	comp=Z,1.6nm,0.4s,baz=58,slow=3.4,SNR=6.8						
ZAL	**Zalesovo**	**41.91**	**302**	P	**P**	**02 08 21.1**	**-1.2**
ZAL						02 10 13.8	
YKA	**Yellowknife Ar**	**44.42**	**42**	P	**P**	**02 08 42.3**	**+0.1**
	comp=Z,2.1nm,0.8s,mb3.8,baz=305,slow=7.2,SNR=3.2						
KURK	**Kurchatov**	**46.83**	**301**	*e*P	**P**	**02 09 00.2**	**-1.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
KURK	**Kurchatov**	**46.83**	**301**	*e*P	**P**	**02 09 00.2**	**-1.1**
	comp=Z,3.9nm,0.5s,mb4.3						
MK31	**Makanchi Array**	**47.14**	**295**	*e*P	**P**	**02 09 02.7**	**-1.0**
MKAR	**Makanchi Array**	**47.14**	**295**	P	**P**	**02 09 02.8**	**-1.0**
	comp=Z,0.9nm,0.5s,mb3.7,baz=56,slow=6.9,SNR=15						
BVAR	**Borovoye Array**	**49.62**	**308**	P	**P**	**02 09 21.2**	**-1.4**
	comp=Z,2.9nm,0.4s,mb4.2,baz=59,slow=7.4,SNR=22						
BVAR				PcP	PcP	02 10 41.0	-0.4
	comp=Z,2.4nm,0.4s,baz=72,slow=2.9,SNR=14						
BRVK	**Borovoye**	**49.65**	**308**	*e*P	**P**	**02 09 21.1**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
BRVK	**Borovoye**	**49.65**	**308**	*e*P	**P**	**02 09 21.1**	**-1.7**
	comp=Z,2.2nm,0.4s,mb4.1						
ARU	**Arti**	**52.82**	**317**	*c*i P	**P**	**02 09 44.9**	**-1.5**
ARU				*e*		02 11 49.9	
ARU				*e*S	**S**	**02 17 04.0**	**+2.8**
ARU				*e*SS	SS	02 20 44.5	+3.0
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
ARU	**Arti**	**52.82**	**317**	*e*P	**P**	**02 09 45.0**	**-1.4**
	comp=Z,4.0nm,0.6s,mb4.3						
TKM2	**Tokmak 2**	**53.27**	**295**	*e*P	**P**	**02 09 49.4**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
TKM2	**Tokmak 2**	**53.27**	**295**	*e*P	**P**	**02 09 49.4**	**-0.5**
	comp=Z,1.2nm,0.6s,mb3.8						
ARCES	**ARCESS Array B**	**53.31**	**341**	P	**P**	**02 09 49.2**	**-0.5**
	comp=Z,1.5nm,0.9s,mb3.7,baz=32,slow=6.7,SNR=6.1						
ARCES				PcP	PcP	02 10 54.2	-0.7
	comp=Z,0

BOZ Bozeman (W) 55.86 58 *eP* **P 02 10 09.1 +0.6**
BOZ pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
BOZ Bozeman (W) 55.86 58 *eP* **P 02 10 09.1 +0.6**
comp=Z,1.4nm,0.6s,mb4.0
CMAR Chiang Mai Arr 56.76 256 P **P 02 10 16.4 +1.2**
comp=Z,1.1nm,0.3s,mb4.2,baz=35,slow=5.2,SNR=4.9
NVAR Mina Array Bea 57.17 68 P **P 02 10 19.4 +1.6**
comp=Z,0.6nm,0.6s,mb3.6,baz=301,slow=6.9,SNR=6.3
JOF Joensuu 57.41 334 *ep* **P 02 10 17.8 -1.3**
comp=Z,0.7nm,0.3s,mb4.0
JOF Joensuu 57.41 334 *eP* **P 02 10 17.8 -1.3**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
BW06 Boulder Array 58.93 59 *eP* **P 02 10 30.0 0.0**
comp=Z,2.1nm,0.8s,mb4.0
PDAR Pinedale Array 58.93 59 P **P 02 10 31.2 +1.2**
comp=Z,2.3nm,0.8s,mb4.0,baz=332,slow=2.4,SNR=16
KAF Kangasniemi 59.38 336 *ep* **P 02 10 31.8 -0.9**
comp=Z,0.5nm,0.3s,mb3.8
KAF Kangasniemi 59.38 336 *eP* **P 02 10 31.8 -0.9**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
ULM Lac du Bonnet 60.12 45 P **P 02 10 37.5 -0.5**
comp=Z,1.8nm,0.4s,mb4.3,baz=330,slow=8.1,SNR=8.0
ULM Lac du Bonnet 60.12 45 *eP* **P 02 10 37.5 -0.5**
comp=Z,2.1nm,0.6s,mb4.1
RSSD Black Hills 60.78 55 *eP* **P 02 10 42.8 +0.2**
RSSD pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
RSSD Black Hills 60.78 55 *eP* **P 02 10 42.8 +0.2**
comp=Z,1.8nm,0.8s,mb4.0
OBN Obninsk 62.17 326 ⇑P **P 02 10 51.0 -0.7**
OBN pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
NB2 NORSAR Subarra 63.60 343 P **P 02 11 00.5 -0.5**
comp=Z,4.2nm,0.6s,mb4.5,baz=20,slow=6.9
NOA NORSAR Array B 63.60 343 P **P 02 11 00.8 -0.3**
comp=Z,4.0nm,0.6s,mb4.4,baz=20,slow=6.7,SNR=38
NAO01 NORSAR Array S 63.85 343 *eP* **P 02 11 01.9 -0.7**
comp=Z,2.5nm,0.6s,mb4.2
ANMO Albuquerque 66.26 63 *eP* **P 02 11 18.5 -0.1**
ANMO pmax pmax
comp=Z,1.0nm,0.7s
ANMO Albuquerque 66.26 63 *eP* **P 02 11 18.5 -0.1**
comp=Z,1.0nm,0.7s,mb3.8
SCHQ Schefferville 66.68 26 P **P 02 11 20.5 -0.5**
comp=Z,2.6nm,0.7s,mb4.2,baz=328,slow=9.5,SNR=7.7
AKASG Malin Array Be 68.31 328 P **P 02 11 29.7 -1.5**
comp=Z,2.0nm,0.3s,mb4.3,baz=30,slow=6.8,SNR=14
AKASG Malin Array Be 68.31 328 P **P 02 11 29.7 -1.5**
AKBB Malin Array Si 68.31 328 *eP* **P 02 11 29.3 -1.9**
MNTX Cornudas Mount 69.30 65 *eP* **P 02 11 37.9 +0.2**
comp=Z,2.8nm,1.5s,mb3.8
KWP Kalwaria 71.27 331 *eP* **P 02 11 48.8 -0.5**
KWP pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
KWP Kalwaria 71.27 331 *eP* **P 02 11 48.8 -0.5**
comp=Z,6.1nm,0.9s,mb4.3
ESK Eskdalemuir 71.29 349 *eP* **P 02 11 49.3 -0.1**
ESK pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
ESK Eskdalemuir 71.29 349 *eP* **P 02 11 49.3 -0.1**
comp=Z,4.5nm,0.6s,mb4.4
TXAR Lajitas Array 72.06 65 P **P 02 11 55.1 +0.7**
comp=Z,2.1nm,0.7s,mb4.0,baz=298,slow=4.7,SNR=24
CLL Collm 72.30 338⇑*iP* **P 02 11 54.9 -0.5**
CLL pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
CLL Collm 72.30 338 *eP* **P 02 11 54.8 -0.6**
comp=Z,4.0nm,0.6s,mb4.3
CLL Collm 72.30 338⇑*iP* **P 02 11 54.9 -0.5**
comp=Z,4.0nm,0.7s,mb4.3
CLL Collm 72.30 338⇑*iP* **P 02 11 54.9 -0.5**
comp=Z,4.0nm,0.7s,mb4.3
OKC Ostrava-Krasne 72.37 334 *eP* **P 02 11 53.0 -2.9**
MORC Moravsky Berou 72.58 334 *eP* **P 02 11 56.7 -0.4**
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
MORC Moravsky Berou 72.58 334 *eP* **P 02 11 56.7 -0.5**
comp=Z,1.9nm,0.6s,mb4.0
PRU Pruhonice 73.16 336 *eP* **P 02 12 00.7 +0.2**
MOX Moxa 73.23 338 *eP* **P 02 12 00.9 0.0**
comp=Z,3.0nm,0.9s,mb4.0
WCI Wyandotte Cave 73.79 48 *eP* **P 02 12 03.8 -0.6**
WCI pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
WCI Wyandotte Cave 73.79 48 *eP* **P 02 12 03.8 -0.6**
comp=Z,4.6nm,0.7s,mb4.3
KHC Kasperske Hory 74.19 337 *eP* **P 02 12 06.9 +0.4**
GRA1 Grafenberg Arr 74.22 338 *eP* **P 02 12 06.8 +0.1**
comp=Z,3.0nm,0.7s,mb4.1
GRF Grafenberg Arr 74.22 338 *eP* **P 02 12 06.8 +0.1**
GRF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
GRF Grafenberg Arr 74.22 338 *eP* **P 02 12 06.8 +0.1**
GRF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
GRF Grafenberg Arr 74.22 338 *eP* **P 02 12 06.8 +0.1**
comp=Z,3.0nm,0.7s,mb4.1
WET Wettzell 74.34 337 *eP* **P 02 12 07.7 +0.3**
WET pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
WET Wettzell 74.34 337 *eP* **P 02 12 07.7 +0.3**
comp=Z,4.0nm,1.0s,mb4.1
GEC2 GERESS Array S 74.42 336 *eP* **P 02 12 07.8 -0.1**
GEC2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
GEC2 GERESS Array S 74.42 336 *eP* **P 02 12 07.8 -0.1**
comp=Z,2.0nm,0.5s,mb4.2
GERES GERESS Array B 74.42 336 P **P 02 12 08.0 +0.1**
comp=Z,2.0nm,0.5s,mb4.2,baz=32,slow=6.0,SNR=32
WRA Warramunga Arr 75.10 203 P **P 02 12 12.1 +0.1**
comp=Z,0.9nm,0.5s,mb3.7,baz=19,slow=6.0,SNR=19
BAIF Baives 75.29 343 *eP* **P 02 12 12.9 +0.1**
MALT Malatya 75.31 315 *eP* **P 02 12 13.0 -0.2**
MALT pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
MALT Malatya 75.31 315 *eP* **P 02 12 13.0 -0.1**
comp=Z,1.4nm,0.7s,mb3.7
CDF Champ du Feu 76.28 340⇑*iP* **P 02 12 18.5 0.0**
comp=Z,5.0nm,0.8s,mb3.9
CDF Champ du Feu 76.28 340⇑*iP* **P 02 12 18.5 0.0**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
CDF Champ du Feu 76.28 340⇑*iP* **P 02 12 18.5 0.0**
comp=Z,2.5nm,0.8s,mb3.9
SWET Sewanee 76.43 49 *eP* **P 02 12 18.9 -0.7**
MEZF Maizieres J'vi 76.63 342 *eP* **P 02 12 20.1 -0.3**
HAU Haudompre 76.85 341 *eP* **P 02 12 21.6 -0.1**
comp=Z,4.7nm,0.6s,mb4.0
HAU Haudompre 76.85 341 *eP* **P 02 12 21.6 -0.1**
HAU pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
HAU Haudompre 76.85 341 *eP* **P 02 12 21.6 -0.1**
comp=Z,2.3nm,0.6s,mb4.0
CPCT Cooper Cave 76.88 48 *eP* **P 02 12 20.8 -1.3**
HINF Hinteralfeld 76.93 340 *eP* **P 02 12 22.2 +0.1**
FLN La Foliniere 77.33 346 *eP* **P 02 12 24.0 -0.3**
LDF La Druitiere 77.44 345 *eP* **P 02 12 24.6 -0.3**
GRR Gorron 77.75 346 *eP* **P 02 12 26.7 0.0**
LOR Lormes 78.04 342⇑*iP* **P 02 12 28.3 0.0**
comp=Z,8.9nm,0.8s,mb4.2
LOR Lormes 78.04 342⇑*iP* **P 02 12 28.3 0.0**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
LOR Lormes 78.04 342⇑*iP* **P 02 12 28.3 0.0**
comp=Z,4.4nm,0.8s,mb4.1
SGMF Saint Gilles 78.13 347 *eP* **P 02 12 28.8 0.0**
comp=Z,12nm,0.7s,mb4.3
SGMF Saint Gilles 78.13 347 *eP* **P 02 12 28.8 0.0**
SGMF pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
SGMF Saint Gilles 78.13 347 *eP* **P 02 12 28.8 0.0**
comp=Z,5.9nm,0.7s,mb4.3
CABF La Chapelle 78.24 341 *eP* **P 02 12 29.7 +0.3**
comp=Z,9.2nm,0.9s,mb4.1
CABF La Chapelle 78.24 341 *eP* **P 02 12 29.7 +0.3**
CABF pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
CABF La Chapelle 78.24 341 *eP* **P 02 12 29.7 +0.3**
comp=Z,4.6nm,0.9s,mb4.1
SSF Saint Saulge 78.31 342⇑*iP* **P 02 12 29.8 0.0**
comp=Z,7.5nm,0.8s,mb4.0
SSF Saint Saulge 78.31 342⇑*iP* **P 02 12 29.8 0.0**
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
SSF Saint Saulge 78.31 342⇑*iP* **P 02 12 29.8 0.0**
comp=Z,3.8nm,0.8s,mb4.1
AVF Avril sur Loir 78.59 342⇑*iP* **P 02 12 31.6 +0.3**
comp=Z,6.7nm,0.6s,mb4.1
AVF Avril sur Loir 78.59 342⇑*iP* **P 02 12 31.6 +0.3**
AVF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
AVF Avril sur Loir 78.59 342⇑*iP* **P 02 12 31.6 +0.3**
comp=Z,3.3nm,0.6s,mb4.1
SMF Signal de Mont 78.64 342 *eP* **P 02 12 31.6 0.0**
ASAR Alice Springs 78.79 202 P **P 02 12 33.9 +1.3**
comp=Z,0.5nm,0.5s,mb3.4,baz=26,slow=4.4,SNR=5.3
BGF Bois d'Agland 78.91 343 *eP* **P 02 12 33.4 +0.3**
comp=Z,4.4nm,0.5s,mb4.0
BGF Bois d'Agland 78.91 343 *eP* **P 02 12 33.4 +0.3**
BGF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
BGF Bois d'Agland 78.91 343 *eP* **P 02 12 33.4 +0.3**
comp=Z,2.2nm,0.5s,mb4.0
LPL La Plagne 79.15 340 *eP* **P 02 12 35.7 +1.3**
comp=Z,4.3nm,0.5s,mb4.0
LPL La Plagne 79.15 340 *eP* **P 02 12 35.7 +1.3**
LPL pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
LPL La Plagne 79.15 340 *eP* **P 02 12 35.7 +1.3**
comp=Z,2.2nm,0.5s,mb4.0
LPG La Plagne 79.16 340 *eP* **P 02 12 35.7 +1.2**
TCF Toulx Ste Croi 79.28 343⇑*iP* **P 02 12 35.5 +0.4**
comp=Z,6.9nm,0.8s,mb4.1
TCF Toulx Ste Croi 79.28 343⇑*iP* **P 02 12 35.5 +0.4**
TCF pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
TCF Toulx Ste Croi 79.28 343⇑*iP* **P 02 12 35.5 +0.4**
comp=Z,3.5nm,0.8s,mb4.0
MFF Saint Martin d 79.38 345⇑*iP* **P 02 12 36.0 +0.4**
comp=Z,4.3nm,0.6s,mb4.0
MFF Saint Martin d 79.38 345⇑*iP* **P 02 12 36.0 +0.4**
MFF pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
MFF Saint Martin d 79.38 345⇑*iP* **P 02 12 36.0 +0.4**
comp=Z,2.2nm,0.6s,mb4.0
BNI Bardonecchia 79.60 340 *eP* **P 02 12 37.4 +0.5**
BNI pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
BNI Bardonecchia 79.60 340 *eP* **P 02 12 37.4 +0.5**
comp=Z,3.2nm,0.9s,mb4.0
MBDF Montbardon 79.89 340 *eP* **P 02 12 39.4 +1.0**
ORIF Oris-en-Rattie 79.90 340 *eP* **P 02 12 39.5 +1.0**
comp=Z,5.8nm,0.8s,mb4.0
ORIF Oris-en-Rattie 79.90 340 *eP* **P 02 12 39.5 +1.0**
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
ORIF Oris-en-Rattie 79.90 340 *eP* **P 02 12 39.5 +1.0**
comp=Z,2.9nm,0.8s,mb4.0
VIVF Saint-Julien-l 80.20 341 *eP* **P 02 12 40.9 +0.8**
RJF Les Rejaudoux 80.36 343 *eP* **P 02 12 41.5 +0.6**
comp=Z,8.9nm,0.8s,mb4.2
RJF Les Rejaudoux 80.36 343 *eP* **P 02 12 41.5 +0.6**
RJF pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
RJF Les Rejaudoux 80.36 343 *eP* **P 02 12 41.5 +0.6**
comp=Z,4.4nm,0.8s,mb4.1
AQU L'Aquila 80.54 334 *eP* **P 02 12 41.0 -1.0**
AQU pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
AQU L'Aquila 80.54 334 *eP* **P 02 12 41.0 -0.9**
comp=Z,6.0nm,0.8s,mb4.3
CAF Calviac 80.63 343⇑*iP* **P 02 12 43.3 +0.9**
comp=Z,12nm,0.9s,mb4.2
CAF Calviac 80.63 343⇑*iP* **P 02 12 43.3 +0.9**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
CAF Calviac 80.63 343⇑*iP* **P 02 12 43.3 +0.9**
comp=Z,5.8nm,0.9s,mb4.2
LFF La Frestale 80.85 344 *eP* **P 02 12 43.6 +0.1**
comp=Z,8.2nm,0.5s,mb4.3
LFF La Frestale 80.85 344 *eP* **P 02 12 43.6 +0.1**
LFF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
LFF La Frestale 80.85 344 *eP* **P 02 12 43.6 +0.1**
comp=Z,4.1nm,0.5s,mb4.3
MTLF Montolieu 82.13 342 *eP* **P 02 12 51.1 +0.8**
TIP Timpagrande 82.54 331 *eP* **P 02 12 52.1 -0.4**
comp=Z,11nm,1.2s,mb4.5
EPF Esparros 82.77 344 *eP* **P 02 12 54.3 +0.7**
comp=Z,4.6nm,0.7s,mb4.0
EPF Esparros 82.77 344 *eP* **P 02 12 54.3 +0.7**
EPF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
EPF Esparros 82.77 344 *eP* **P 02 12 54.3 +0.7**
comp=Z,2.3nm,0.7s,mb4.0
SJPF Ste Jean 82.95 345 *eP* **P 02 12 55.9 +1.4**
comp=Z,3.5nm,0.5s,mb4.0
SJPF Ste Jean 82.95 345 *eP* **P 02 12 55.9 +1.4**
SJPF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
SJPF Ste Jean 82.95 345 *eP* **P 02 12 55.9 +1.4**
comp=Z,1.8nm,0.5s,mb4.1
ETSF Etsaut 83.05 344 *eP* **P 02 12 56.0 +1.0**
comp=Z,12nm,0.8s,mb4.4
ETSF Etsaut 83.05 344 *eP* **P 02 12 56.0 +1.0**
ETSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
ETSF Etsaut 83.05 344 *eP* **P 02 12 56.0 +1.0**
comp=Z,6.3nm,0.8s,mb4.4
ESDC Sonseca Array 86.73 346 P **P 02 13 13.0 -0.5**
comp=Z,1.3nm,0.6s,mb3.9,baz=1.0,slow=4.1,SNR=13
KEST Kesra 87.83 335 P **P 02 13 18.4 -0.4**
comp=Z,1.0nm,0.5s,mb3.9,baz=298,slow=1.3,SNR=13
TORD Torodi Ar. Bea 111.35 335 PKiKP PKiKP 02 19 02.4 -0.4
comp=Z,0.3nm,0.7s,baz=5.6,slow=2.0,SNR=3.9
DBIC Dimbokro 119.13 340 PKP PKPdf 02 19 17.2 -0.5
comp=Z,0.9nm,0.6s,baz=38,slow=2.3,SNR=5.5
LPAZ La Paz 128.88 63 PKP PKPdf 02 19 37.0 +0.8
comp=Z,1.2nm,0.9s,baz=0.0,slow=2.0,SNR=2.7
LPAZ La Paz 128.88 63 PKP PKPdf 02 19 37.0 +0.8
PLCA Paso Flores 145.36 90 PKPbc PKPbc 02 20 06.8 +0.7
comp=Z,1.3nm,0.7s,baz=149,slow=5.9,SNR=3.6
TRQA Tornquist 148.88 78 *e*PKPbc PKPbc 02 20 15.6 -0.2

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*THE **08** 02:06:07.8,3933N×2002E,h7km,ML2.7*
*ISCJB **08** 02:06:09.5±0.8,3938N±004×202E±0.1,h23km±6km,Error ellipse: s-maj=13.2km s-min=5.9km az=2.7*
*ATH **08** 02:06:09.1,3927N×2027E,h30km±4km,MD3.3/5*
*NEIC **08** 02:06:09.5,3930N×2026E,h30km,MD3.3(ATH),After ATH.*
*CSEM **08** 02:06:10.1±0.1,3928N×2031E,h2km,ML2.7,Error ellipse: s-maj=4.2km s-min=2.1km az=80.0*

ISC 08 02:06:09.8±0.8,3928N±003×2026E±009,h9km±7km,n12, σ0°98/19,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**13**	*e*Pg	**Pg**	**02 06 14.6**	**-0.4**
IGT				*e*Sg	**Sg**	**02 06 18.5**	**-0.1**
KEK	**Kerkira**	**0.56**	**321**	*e*PN	**Pg**	**02 06 21.2**	**+0.5**
JAN	**Janina**	**0.59**	**50**	*e*PN	**Pg**	**02 06 20.5**	**-0.8**
JAN				*e*SN	**Sg**	**02 06 30.2**	**+1.1**
LKD	**Levkas**	**0.65**	**152**	*e*Pg	**Pg**	**02 06 21.6**	**-0.7**
LKD				*e*Sg	**Sg**	**02 06 35.0**	**+4.2**
LKD	**Levkas**	**0.65**	**152**	*e*Pg	**Pg**	**02 06 21.6**	**-0.7**
VLS	**Valsamata**	**1.13**	**167**	*e*Pg	**Pg**	**02 06 31.0**	**-0.5**
VLS				*e*Sg	**Sg**	**02 06 47.9**	**+1.7**
VLS	**Valsamata**	**1.13**	**167**	*e*Pb	**Pb**	**02 06 30.5**	**-1.0**
VLS				*e*Sn	**Sn**	**02 06 47.9**	**+0.5**
EVR	**Evrytania**	**1.26**	**106**	*e*PN	**Pn**	**02 06 32.5**	**-1.1**
EVR	**Evrytania**	**1.26**	**106**	*e*Pn	**Pn**	**02 06 34.5**	**+0.9**
THL	**Klokotos Trika**	**1.39**	**78**	*e*PN	**Pn**	**02 06 34.1**	**-1.3**
BIA	**Bitola**	**1.92**	**25**	*e*Pn	**Pg**	**02 06 45.8**	**-0.8**
BIA				*e*Sn	**Sg**	**02 07 12.8**	**+1.3**
KRUS	**Krusevo**	**2.22**	**20**	*e*Pn	**Pn**	**02 06 48.4**	**+1.6**
KRUS				*e*Sn	**Sg**	**02 07 20.5**	**-0.7**

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*ISCJB **08** 02:21:33.5±1.0,6307S±009×1516E±06,h10km,mb4.2/7, MS4.0/6,Error ellipse: s-maj=38.8km s-min=11.5km az=170.0*
*NEIC **08** 02:21:34.7±0.7,6300S×15250E,h10km,mb4.1/3,Error ellipse: s-maj=38.9km s-min=10.3km az=78.0*
*IDC **08** 02:21:35.0±1.1,6292S×15127E,h0km,mb4.4/6, mb1 4.5/6,mb1mx4.4/13,mbtmp4.4/6,MS4.2/6,Ms1 4.1/6, ms1mx3.7/26,Error ellipse: s-maj=56.4km s-min=20.1km az=84.0*

ISC 08 02:21:37.5±0.9,6300S±009×1503E±04,h10km,n37, σ0°82/15,mb4.2/7,MS4.0/6,2C,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.04**	**170**	Pn	**Pn**	**02 25 04.5**	**-5.1**
VNDA	1.7nm,0.3s,baz=340,slow=12,SNR=92			Sn	Sx	02 27 41.8	
VNDA	0.4nm,0.3s,baz=235,slow=10,SNR=3.9			LR	LR	02 30 49.3	
VNDA	comp=Z,416nm,20.9s,baz=345,slow=37 **Vanda**	**15.04**	**170**	*e*Pn	**Pn**	**02 25 03.6**	**-6.0**
VNDA	47nm,1.2s			*e*Sn	Sx	02 27 40.1	
SBA	**Scott Base**	**15.78**	**167**	*e*Pn	**Pn**	**02 25 12.3**	**-7.0**
CASY	6.4nm,0.9s **Casey**	**17.15**	**241**	*e*P	**Pn**	**02 25 36.1**	**-0.7**
RPZ	**Rata Peaks**	**22.74**	**42**	LR	LR	02 33 47.0	
QSPA	comp=Z,670nm,18.5s,MS4.1,baz=211,slow=33 **South Pole Qui**	**27.08**	**180**	P	**P**	**02 27 19.8**	**+0.2**
QSPA	8.4nm,1.0s,mb4.2,baz=332,slow=3.0,SNR=9.0			LR	LR	02 38 33.5	
QSPA	comp=Z,327nm,19.4s,MS3.9,baz=13,slow=38 **South Pole Qui**	**27.08**	**180**	P	**P**	**02 27 19.8**	**+0.2**
QSPA				LR	LR	02 38 33.5	
URZ	**Urewera**	**29.60**	**46**	LR	LR	02 37 41.9	
MAW	comp=Z,306nm,20.6s,MS3.9,baz=206,slow=33 **Mawson**	**33.95**	**223**	P	**P**	**02 28 21.5**	**+1.2**
MAW	2.7nm,0.8s,mb4.2,baz=107,slow=8.9,SNR=5.5			LR	LR	02 42 37.7	
MAW	comp=Z,771nm,19.2s,MS4.5,baz=69,slow=37 **Mawson**	**33.95**	**223**	*e*P	**P**	**02 28 22.0**	**+1.7**
SYO	2.3nm,0.9s,mb4.1 **Syowa Base**	**39.49**	**212**⇑	*e*P	**P**	**02 29 06.8**	**-0.6**
SYO	**Syowa Base**	**39.49**	**212**⇑	*e*pP	pP	02 29 10.4	-0.1
ASAR	**Alice Springs**	**40.84**	**337**	P	**P**	**02 29 19.6**	**+0.5**
SNAA	3.3nm,0.8s,mb4.0,baz=164,slow=11,SNR=25 **Sanae**	**44.34**	**192**	*e*P	**P**	**02 29 46.5**	**-0.5**
WB2	9.6nm,1.4s,mb4.3 **Warramunga Arr**	**44.41**	**338**	*e*P	**P**	**02 29 47.7**	**-0.4**
WRA	**Warramunga Arr**	**44.41**	**338**	P	**P**	**02 29 47.8**	**-0.3**
WRA	4.8nm,0.9s,mb4.2,baz=167,slow=7.3,SNR=23			PcP	PcP	02 31 30.6	-1.1
TBI	2.1nm,0.8s,baz=176,slow=3.2,SNR=4.9 **Tubuai**	**56.01**	**74**	*e*LR	LR	02 47 24.4	
PPT	226nm,27.2s **Papeete**	**61.05**	**71**	*e*LR	LR	02 49 45.8	
RKT	249nm,25.2s **Rikitea**	**62.72**	**88**	*e*LR	LR	02 50 29.2	
BOSA	382nm,30.2s **Boshof**	**78.86**	**227**	P	**P**	**02 33 43.9**	**+3.4**
BOSA	5.3nm,1.0s,mb4.4,baz=154,slow=6.6,SNR=3.9			LR	LR	03 03 12.7	
CFAA	comp=Z,185nm,20.6s,MS4.4,baz=156,slow=32 **Coronel Fontan**	**80.82**	**147**	LR	LR	03 03 22.0	
CPUP	comp=Z,7.6nm,21.4s,MS3.0,baz=108,slow=31 **Villa Florida**	**88.29**	**155**	P	**P**	**02 34 28.7**	**-0.2**
MKAR	1.4nm,0.8s,mb4.3,baz=153,slow=9.8,SNR=3.5 **Makanchi Array**	**121.96**	**311**	PKP	PKPdf	02 40 29.5	-1.2
TORD	0.5nm,0.8s,baz=117,slow=1.9,SNR=2.9 **Torodi Ar. Bea**	**125.50**	**219**	PKP	PKPdf	02 40 37.4	-1.2
ULM	1.7nm,1.1s,baz=196,slow=0.4,SNR=4.1 **Lac du Bonnet**	**143.16**	**78**	*e*PKPdf	PKPdf	02 41 05.3	-5.0
KEST	**Kesra**	**143.69**	**240**	PKP	PKPdf	02 41 10.7	-1.1
AKASG	1.7nm,1.0s,baz=203,slow=6.6,SNR=3.8 **Malin Array Be**	**146.79**	**276**	PKPbc	PKPbc	02 41 17.9	-0.5
AKASG	0.4nm,0.3s,baz=124,slow=2.3,SNR=11 **Malin Array Be**	**146.79**	**276**	PKPbc	PKPbc	02 41 17.9	-0.5
KOLS	**Kolonicke sedl**	**148.70**	**268**	*e*PKP	PKPbc	02 41 24.8	+1.2
KWP	**Kalwaria**	**149.00**	**269**	*e*PKPbc	PKPbc	02 41 24.8	+0.5
CRVS	**Cervenica-Dubn**	**149.05**	**267**	*e*PKP	PKPbc	02 41 24.4	-0.1
KOLL	**Kolacno**	**150.21**	**264**	*i* PKP	PKPbc	02 41 27.9	+0.6
KOLL	**Kolacno**	**150.21**	**264**	*i* PKP	PKPbc	02 41 28.0	+0.7
ESDC	**Sonseca Array**	**152.03**	**226**	PKPbc	PKPbc	02 41 31.8	0.0
PAB	2.6nm,0.8s,baz=158,slow=0.2,SNR=14 **San Pablo**	**152.04**	**225**	*e*PKPbc	PKPbc	02 41 31.7	-0.2
GEC2	**GERESS Array S**	**152.52**	**259**	*e*PKPbc	PKPbc	02 41 32.0	-0.7
GERES	**GERESS Array B**	**152.52**	**259**	PKPbc	PKPbc	02 41 32.3	-0.3
	1.9nm,0.8s,baz=145,slow=2.8,SNR=19						

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*SZGRF **08** 02:23:53.5,2229S×17046E,h33km,Southeast of Loyalty Islands*
*LDG **08** 02:23:53.0±0.4,2082S×17023E,h10km,Mb4.7/1,Ms4.2/6, Error ellipse: s-maj=44.2km s-min=33.5km az=32.0*
*ISCJB **08** 02:23:57.1±1.7,2179S±008×17058E±007,h69km±14km, mb4.6/27,Error ellipse: s-maj=14.0km s-min=10.3km az=25.5*
*IDC **08** 02:23:57.5±2.2,2181S×17066E,h61km±18km,mb4.3/14, mb1 4.4/15,mb1mx4.3/19,mbtmp4.3/15,MS3.8/7, Ms1 3.8/7,ms1mx3.5/25,Error ellipse: s-maj=18.4km s-min=16.6km az=80.0*
*BJI **08** 02:23:59.6,2245S×16980E,h82km,mB4.8,mb4.7,Ms5.0, Msz4.8*
*NEIC **08** 02:24:00.3±1.3,2188S×17062E,h85km±10km,mb4.9/12, Error ellipse: s-maj=10.0km s-min=8.0km az=213.0*

ISC 08 02:23:58.5±1.5,2182S±008×17060E±007,h67km±13km, n127,σ0°96/42,mb4.6/27,15C-7D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.87**	**265**	*e*P	**Pn**	**02 24 56.7**	**+1.2**
DZM				*e*S	**Sn**	**02 25 38.2**	**-1.5**
DZM	**Mont Dzumac**	**3.87**	**265**	*e*Pn	**Pn**	**02 24 56.5**	**+1.0**
DZM				*e*Sn	**Sn**	**02 25 38.0**	**-1.7**
HNR	**Honiara**	**16.02**	**319**	P	**Pn**	**02 27 43.4**	**+3.7**
URZ	46nm,0.3s,baz=124,slow=23,SNR=5.7 **Urewera**	**17.32**	**163**	P	**Pn**	**02 27 57.4**	**+1.6**
AFI	1.6nm,0.3s,baz=325,slow=3.2,SNR=13 **Afiamalu**	**18.51**	**68**	P	**Pn**	**02 28 09.0**	**-1.5**
AFI	1.3nm,0.3s,baz=356,slow=8.2,SNR=3.9			LR	LR	02 32 46.4	
AFI	comp=Z,106nm,19.2s,baz=3.0,slow=29 **Afiamalu**	**18.51**	**68**	P	**Pn**	**02 28 09.0**	**-1.5**
AFI				LR	LR	02 32 46.4	
RPZ	**Rata Peaks**	**21.84**	**179**	P	**P**	**02 28 45.4**	**+0.1**
CTA	23nm,0.8s,mb4.5,baz=172,slow=3.9,SNR=6.8 **Charters Tower**	**22.80**	**270**	*e*P	**P**	**02 28 57.3**	**+1.6**
CTA	12nm,1.0s,mb4.2 **Charters Tower**	**22.80**	**270**	P	**P**	**02 28 55.9**	**+0.1**
CTA	6.5nm,0.4s,mb4.3,baz=88,slow=12,SNR=8.7			LR	LR	02 36 17.1	
CTAO	comp=Z,300nm,18.5s,baz=293,slow=32 **Charters Tower**	**22.80**	**270**	*e*P	**P**	**02 28 57.2**	**+1.5**
PMG	23nm,1.1s,mb4.4 **Port Moresby**	**25.68**	**295**	*e*P	**P**	**02 29 22.9**	**+0.4**
COEN	43nm,0.8s,mb4.9 **Coen**	**27.21**	**282**	*e*P	**P**	**02 29 37.0**	**+0.8**
STKA	29nm,1.4s,mb4.6 **Stephens Creek**	**27.68**	**243**	P	**P**	**02 29 40.5**	**+0.3**
STKA	4.5nm,0.9s,mb4.0,baz=90,slow=14,SNR=3.8			ScP	ScP	02 36 31.7	+0.9
ASAR	2.3nm,0.8s,baz=0.0,slow=5.1,SNR=4.0 **Alice Springs**	**33.84**	**260**	P	**P**	**02 30 34.5**	**-0.1**
ASAR	7.8nm,0.8s,mb4.6,baz=93,slow=9.8,SNR=40			ScP	ScP	02 36 51.0	-0.3
WB2	1.5nm,0.9s,baz=119,slow=4.5,SNR=6.9 **Warramunga Arr**	**33.87**	**266**⇑*iP*		**P**	**02 30 33.8**	**-1.2**
WRAB	**Tennant Creek**	**33.88**	**266**	*e*P	**P**	**02 30 33.7**	**-1.3**
WRA	34nm,1.3s,mb5.0 **Warramunga Arr**	**33.88**	**266**	P	**P**	**02 30 34.0**	**-1.1**
WRA	13nm,0.8s,mb4.8,baz=101,slow=8.1,SNR=75			ScP	ScP	02 36 51.1	-0.5
WRA	1.2nm,0.9s,baz=87,slow=3.9,SNR=5.5			LR	LR	02 43 22.0	
TBI	comp=Z,185nm,20.8s,baz=320,slow=34 **Tubuai**	**36.83**	**100**	*e*LQ		02 39 25.6	
TBI	148nm,29.8s			*e*LR	LR	02 41 00.4	
KAKA	288nm,30.2s,baz=256 **Kakadu**	**37.46**	**278**	*e*P	**P**	**02 31 05.6**	**-0.2**
PPT	6.8nm,0.4s,mb4.9 **Papeete**	**37.66**	**91**	*e*LR	LR	02 41 27.3	
FITZ	336nm,30.5s,baz=251 **Fitzroy Crossi**	**42.31**	**267**⇓*iP*		**P**

KSM	Kuching	63.20	283	eP	P	02 34 20.4	+0.3
MJAR	Matsushiro Arr	65.62	332	P	P	02 34 34.7	-0.7
	5.6nm,0.9s,mb4.4,baz=164,slow=7.2,SNR=13						
MJAR				LR	LR	03 00 26.4	
	comp=Z,48nm,19.8s,baz=230,slow=33						
MAJO	Matsushiro	65.62	332	eP	P	02 34 34.9	-0.5
	4.4nm,0.3s,mb4.8						
QSPA	South Pole Qui	68.25	180	P	P	02 34 51.8	+0.2
	18nm,1.0s,mb4.9,baz=11,slow=3.3,SNR=12						
KSRS	Korea Array	71.34	325	P	P	02 35 11.2	+0.1
	2.8nm,0.9s,mb4.1,baz=144,slow=5.8,SNR=5.9						
PETK	Petropavlovsk-	75.45	352	P	P	02 35 34.7	-0.2
	5.5nm,0.9s,mb4.3,baz=161,slow=9.4,SNR=3.8						
MDJ	Mudanjiang	75.99	331	P	P	02 35 40.2	+2.0
MDJ				AP	pP	02 35 59.1	+2.6
MDJ				XP	sP	02 36 06.9	+3.0
MDJ				PP	PP	02 38 32.2	+2.4
MDJ				S	S	02 45 19.7	+3.8
MDJ				SCS	ScS	02 45 49.0	+2.2
MDJ				XS	sS	02 45 51.9	+5.0
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,88nm,5.8s						
MDJ				LR	LR		
	comp=N,45nm,30.0s						
MDJ				LR	LR		
	comp=E,45nm,26.9s						
MAW	Mawson	76.53	202	P	P	02 35 41.5	+0.4
	comp=E,1.8nm,0.7s,mb3.9,baz=128,slow=11,SNR=5.9						
KMI	Kunming	80.71	302	P	P	02 36 03.0	-1.7
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.5						
CMAR	Chiang Mai Arr	80.72	294	P	P	02 36 05.9	+1.0
	comp=Z,3.5nm,0.6s,mb4.4,baz=136,slow=3.9,SNR=16						
CMAR				LR	LR	03 09 46.9	
	comp=Z,95nm,20.0s,baz=330,slow=34						
XAN	Xi'an	80.78	312	P	P	02 36 05.3	+0.4
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
XAN				AMB	AMB		
	comp=Z,48nm,4.3s						
CHTO	Chiang Mai	80.88	294	eP	P	02 36 06.0	+0.3
	comp=Z,8.6nm,1.0s,mb4.5						
CD2	Chengdu	82.81	307	eP	P	02 36 17.3	+1.7
CD2				AP	pP	02 36 37.7	+3.6
CD2				XP	sP	02 36 44.1	+2.6
CD2				PP	PP	02 39 30.8	+3.9
CD2				S	S	02 46 28.0	-0.7
CD2				XS	sS	02 47 04.1	+3.9
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,5.4s						
CD2				LR	LR		
	comp=N,270nm,12.0s						
CD2				LR	LR		
	comp=Z,250nm,10.8s						
SNAA	Sanae	86.65	182	e	P	02 36 32.6	-1.7
SNAA				e		02 36 35.8	
SNAA	Sanae	86.65	182	eP	P	02 36 32.7	-1.6
	comp=Z,20nm,1.0s,mb5.0						
VNA1	Neumayer--Stat	87.78	180	e	P	02 36 39.2	-0.6
VNA1				e		02 36 42.5	
NVAR	Mina Array Bea	89.56	48	P	P	02 36 48.3	-0.3
	comp=Z,0.9nm,0.8s,mb4.0,baz=224,slow=9.9,SNR=5.4						
SONM	Songino Array	90.03	323	P	P	02 36 51.1	+0.5
	comp=Z,3.5nm,0.9s,mb4.5,baz=138,slow=5.5,SNR=15						
PLCA	Paso Flores	95.77	138	P	P	02 37 16.9	-0.6
	comp=Z,0.8nm,0.8s,mb4.2,baz=201,slow=4.7,SNR=5.0						
PLCA	Paso Flores	95.77	138	eP	P	02 37 17.5	0.0
	comp=Z,5.0nm,1.0s,mb4.9						
BDFB	Brasília	126.91	131	PKP	PKPdf	02 42 53.6	-1.9
	comp=Z,0.5nm,0.5s,baz=181,slow=26,SNR=3.8						
ARCES	ARCESS Array B	127.87	345	PKP	PKPdf	02 42 55.1	-0.6
	comp=Z,1.6nm,0.7s,baz=74,slow=2.4,SNR=9.9						
DRGR		144.03	322	⇓iP	PKPdf	02 43 24.9	-1.4
DRGR		144.03	322	P	PKPdf	02 43 24.8	-1.5
KECS	Kecovo	144.28	325	i PKP	PKPdf	02 43 26.2	-0.5
OKC	Ostrava-Krasne	144.59	329	ePKP	PKPdf	02 43 25.7	-1.5
BSEG	Bad Segeberg	144.61	340	ePKPbc	PKPdf	02 43 25.9	-1.2
GZR	Gura Zlata	144.73	319	P	PKPdf	02 43 27.5	0.0
KSP	Ksiaz	144.75	332	eP	PKPdf	02 43 26.9	-0.5
MORC	Moravsky Berou	144.92	329	⇑iP	PKPdf	02 43 27.5	-0.3
MORC	Moravsky Berou	144.92	329	ePKPdf	PKPdf	02 43 27.1	-0.6
PSZ	Piszkesteto	144.94	325	⇓ePKP	PKPdf	02 43 27.7	-0.2
PSZ	Piszkesteto	144.94	325	⇓iP	PKPdf	02 43 28.1	+0.2
PSZ	Piszkesteto	144.94	325	ePKPdf	PKPdf	02 43 27.5	-0.3
UPC	Upice	145.12	331	ePKP	PKPdf	02 43 28.3	+0.2
KOLL	Kolacno	145.30	327	i PKP	PKPdf	02 43 29.2	+0.7
BZS	Buzias	145.30	321	⇑iP	PKPbc	02 43 28.5	0.0
BZS	Buzias	145.30	321	P	PKPbc	02 43 28.8	+0.3
BUD	Budapest	145.67	325	⇓ePKP	PKPdf	02 43 30.2	+1.1
VRAC	Vranov	145.69	329	⇑iP	PKPdf	02 43 30.3	+1.2
VRAC	Vranov	145.69	329	P	PKPdf	02 43 30.6	+1.5
PVCC	Panska Ves	145.73	333	ePKP	PKPdf	02 43 30.1	+1.0
BRG	Berggiesshubel	145.74	334	ePKPbc	PKPbc	02 43 29.8	+0.2
BRG	Berggiesshubel	145.74	334	eP	PKPdf	02 43 29.7	+0.6
	comp=Z,25nm,1.0s						
BRG				e		02 43 49.9	
	comp=Z,6.8nm,0.9s						
CLL	Collm	145.78	335	ePKPbc	PKPbc	02 43 29.7	-0.1
CLL	Collm	145.78	335	⇑iPKPbc	PKPbc	02 43 29.6	-0.2
	comp=Z,22nm,1.0s						
CLL				ePKiKP	PKiKP	02 43 33.0	-0.3
CLL				epPKPbc	pPKPbc	02 43 53.0	+4.0
MODS	Modra-Piesok	146.00	328	i PKP	PKPdf	02 43 31.5	+1.8
PRU	Pruhonice	146.14	332	ePKP	PKPdf	02 43 31.2	+1.4
ZST	Bratislava	146.20	328	ePKP	PKPbc	02 43 32.4	+1.3
TREC	Trest	146.22	330	ePKP	PKPdf	02 43 31.6	+1.6
CLZ	Clausthal	146.34	338	ePKPbc	PKPbc	02 43 31.7	+0.3
PKSM	Moragy	146.66	324	⇓iP	PKPbc	02 43 32.8	+0.3
PKSM	Moragy	146.66	324	P	PKPbc	02 43 32.9	+0.4
SOP	Sopron	146.82	327	⇓ePKP	PKPdf	02 43 32.7	+1.6
NKC	Novy Kostel	146.84	334	ePKP	PKPbc	02 43 33.2	+0.3
MOX	Moxa	146.85	335	ePKPbc	PKPbc	02 43 32.8	-0.1
CONA	Conrad Observa	147.00	328	⇑iP	PKPbc	02 43 33.7	+0.3
	comp=Z,7.3nm,1.1s						
CSNA	Conrad Observa	147.00	328	⇑iP	PKPbc	02 43 33.7	+0.2
	comp=Z,6.3nm,1.0s						
MANZ	Manzenberg	147.17	334	ePKPbc	PKPbc	02 43 33.6	-0.3
KHC	Kasperske Hory	147.20	332	ePKP	PKPbc	02 43 34.0	0.0
KHC				epPKP	pPKPdf	02 43 55.0	+3.9
ROTZ	Rotzenmuhle	147.30	334	ePKPbc	PKPbc	02 43 34.5	+0.3
ROTZ				ePKPab	PKPab	02 43 37.1	+1.0
GEC2	GERESS Array S	147.36	331	ePKPbc	PKPbc	02 43 34.4	0.0
GEC2				ePKPab	PKPab	02 43 37.7	+1.3
GEC2	GERESS Array S	147.36	331	ePKPbc	PKPbc	02 43 34.1	-0.3
GEC2				ePKPab	PKPab	02 43 37.7	+1.3
GEC2	GERESS Array S	147.36	331	ePKPbc	PKPbc	02 43 34.4	0.0
GERES	GERESS Array B	147.36	331	PKPbc	PKPbc	02 43 34.4	0.0
	comp=Z,5.8nm,0.9s,baz=35,slow=3.3,SNR=25						
WET	Wettzell	147.49	332	ePKPbc	PKPbc	02 43 35.0	+0.2
WET				ePKPab	PKPab	02 43 37.7	+0.8
WET				ePKPab	PKPab	02 43 37.7	+0.8
WET	Wettzell	147.49	332	ePKPbc	PKPbc	02 43 35.0	+0.2
GRA1	Grafenberg Arr	147.76	335	ePKPbc	PKPbc	02 43 35.5	0.0
GRF	Grafenberg Arr	147.76	335	ePKPbc	PKPbc	02 43 35.5	0.0
TNS	Taunus Mts	148.36	338	ePKPbc	PKPbc	02 43 37.3	+0.2
RJOB	Jochberg	148.58	331	ePKPbc	PKPbc	02 43 37.4	-0.3
MEM	Membach	148.82	341	PKPbc	PKPbc	02 43 38.4	+0.2
FUR	Furstenfeldbru	148.93	333	ePKPab	PKPab	02 43 43.5	+0.8
LJU	Ljubljana	148.95	327	ePKPdf	PKPbc	02 43 38.8	+0.1
BCLA	Clavier	149.20	342	PKPbc	PKPbc	02 43 42.2	+3.0
ABTA	Abfaltersbach	149.44	330	⇑iP	PKPbc	02 43 38.7	-1.2
	comp=Z,2.0nm,0.9s						
WLF	Walferdange	149.61	340	PKPbc	PKPbc	02 43 41.1	+0.9
WLF	Walferdange	149.61	340	ePKPbc	PKPbc	02 43 40.7	+0.5
WLF	Walferdange	149.61	340	ePKPbc	PKPbc	02 43 40.8	+0.6
GIVF	Givet	149.63	342	ePKP1	PKPbc	02 43 40.2	0.0
	comp=Z,20nm,0.8s						
MOTA	Moosalm	149.63	332	⇑iP	PKPdf	02 43 37.9	+2.2
	comp=Z,5.1nm,0.9s						
DOU	Dourbes	149.70	342	PKPbc	PKPbc	02 43 40.3	-0.1
BAIF	Baives	149.84	342	ePKP1	PKPbc	02 43 40.8	0.0
	comp=Z,16nm,1.1s						
BFO	Black Forest	149.98	336	ePKPbc	PKPbc	02 43 40.6	-0.6
BFO				ePKPab	PKPab	02 43 47.4	+0.4
FETA	Feichten	150.04	332	⇑iP	PKPbc	02 43 41.3	-0.1
	comp=Z,9.7nm,1.0s						
CDF	Champ du Feu	150.30	337	⇑iPKP1	PKPbc	02 43 41.7	-0.2
	comp=Z,12nm,0.9s						
HINF	Hinteralfeld	150.95	337	⇑iPKP1	PKPbc	02 43 43.0	-0.5
	comp=Z,8.9nm,0.8s						
HAU	Haudompre	150.97	338	⇑iPKP1	PKPbc	02 43 43.2	-0.3
	comp=Z,17nm,0.9s						
HAU				eMLR	MLR		
	comp=Z,52nm,21.0s						
HAU	Haudompre	150.97	338	⇑iPKP	PKPbc	02 43 43.2	-0.3
HAU				LR	LR		
	comp=Z,50nm,21.0s						
MEZF	Maizieres J'vi	150.97	340	⇑iPKP1	PKPbc	02 43 43.7	+0.2
	comp=Z,26nm,0.9s						
TUE	Stuetta	151.07	333	ePKPbc	PKPbc	02 43 43.6	-0.2
AQU	L'Aquila	152.00	322	ePKPab	PKPab	02 43 56.4	+0.7
FLN	La Foliniere	152.19	347	ePKP1	PKPbc	02 43 45.7	-0.6
FLN				eMLR	MLR		
	comp=Z,100nm,22.0s						
FLN	La Foliniere	152.19	347	ePKP	PKPbc	02 43 45.7	-0.6
FLN				LR	LR		
	comp=Z,100nm,22.0s						
CABF	La Chapelle	152.25	337	ePKP1	PKPbc	02 43 45.8	-0.7
	comp=Z,13nm,1.0s						
LOR	Lormes	152.44	340	ePKP1	PKPbc	02 43 46.6	-0.3
	comp=Z,10nm,1.0s						
LOR				eMLR	MLR		
	comp=Z,61nm,22.0s						
LOR	Lormes	152.44	340	ePKP	PKPbc	02 43 46.6	-0.3
LOR				LR	LR		
	comp=Z,60nm,22.0s						
LPL	La Plagne	152.92	335	ePKP1	PKPbc	02 43 48.2	+0.2
	comp=Z,3.5nm,0.8s						
LPG	La Plagne	152.93	335	ePKP1	PKPbc	02 43 48.3	+0.2
	comp=Z,6.6nm,1.0s						
BNI	Bardonecchia	153.32	334	ePKPbc	PKPbc	02 43 49.5	+0.5
DBIC	Dimbokro	164.31	197	PKP	PKPdf	02 43 53.3	-2.0
	comp=Z,3.2nm,1.0s,baz=74,slow=2.8,SNR=3.0						
DBIC				PKPab	PKPab	02 44 48.7	-0.7
	comp=Z,2.3nm,0.8s,baz=128,slow=3.8,SNR=5.7						
DBIC	Dimbokro	164.31	197	PKP	PKPdf	02 43 53.3	-2.0
DBIC				PKPab	PKPab	02 44 48.7	-0.7
TORD	Torodi Ar. Bea	166.36	233	PKP	PKPdf	02 43 56.0	-0.9
	comp=Z,1.0nm,1.0s,baz=99,slow=1.7,SNR=3.5						

ATH ***08*** *02:32:49.7, 3938N×2031E, h67km*
NEIC ***08*** *02:32:51.5, 3923N×2024E, h4km, MD3.3(ATH), ML2.9(THE), After ATH.*
ISCJB ***08*** *02:32:52.3±0.7, 3926N±002×2028E±006, h10km, Error ellipse: s-maj=6.4km s-min=3.5km az=2.7*
CSEM ***08*** *02:32:52.0±0.3, 3929N×2023E, h5km, MD3.3, Error ellipse: s-maj=7.8km s-min=4.8km az=83.0*
THE ***08*** *02:32:52.5, 3925N×2021E, h0km, ML2.9*

ISC 08 02:32:52.7±0.7, 3925N±002×2024E±006, h10km, n14, σ1°16/25, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.58	324	eP	Pg	02 33 02.9	-1.0
LKD	Levkas	0.63	149	ePg	Pg	02 33 03.5	-1.3
LKD				eSg	Sg	02 33 14.8	+1.7
JAN	Janina	0.63	49	eP	Pg	02 33 02.8	-2.1
JAN				eS	Sg	02 33 11.9	-1.2
VLS	Valsamata	1.10	165	ePg	Pg	02 33 12.8	-1.1
VLS				eSg	Sg	02 33 29.8	+1.5
VLS	Valsamata	1.10	165	eP	Pb	02 33 12.0	-1.9
EVR	Evrytania	1.27	105	ePn	Pn	02 33 16.8	+0.3
THL	Klokotos Trika	1.41	76	ePg	Pg	02 33 18.9	-1.0
THL				eSg	Sg	02 33 38.2	0.0
AGG	Agios Georgios	1.64	97	ePb	Pn	02 33 21.7	+0.1
AGG				eSb	Sg	02 33 45.7	+0.1
FNA	Florina	1.77	29	ePb	Pn	02 33 24.3	+0.9
FNA				eSb	Sg	02 33 48.5	-1.0
BIA	Bitola	1.96	25	ePn	Pn	02 33 27.3	+1.3
BIA				eSn	Sg	02 33 56.3	+0.7
KRUS	Krusevo	2.26	20	ePn	Pn	02 33 31.0	+0.9
KRUS				eSn	Sn	02 33 59.5	+1.5
KRUS	Krusevo	2.26	20	ePn	Pn	02 33 30.9	+0.8
KRUS				eSn	Sn	02 33 59.4	+1.4
STIP	Stip	2.86	31	ePn	Pn	02 33 38.3	-0.1
STIP				eSn	Sn	02 34 14.5	+1.6
STIP	Stip	2.86	31	ePn	Pn	02 33 38.3	-0.1
STIP				eSn	Sn	02 34 14.4	+1.5

IDC ***08*** *02:58:18.0±1.2, 1878N×14662E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.7/19, mbtmp3.6/8, MS3.8/2, Ms1 3.8/2, ms1mx2.9/34, Error ellipse: s-maj=44.9km s-min=22.5km az=85.0*
ISCJB ***08*** *02:58:29.3±0.9, 187N±01×1463E±03, h100km, mb3.5/8, Error ellipse: s-maj=36.0km s-min=15.9km az=172.2*

ISC 08 02:58:29.0±5.7, 187N±01×1464E±03, h85km±51km, n11, σ0°80/9, mb3.5/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	19.17	339	P	Pn	03 02 47.8	+0.4
	0.4nm,0.3s,baz=164,slow=11,SNR=4.2						
KSRS	Korea Array	24.71	323	P	P	03 03 40.9	-1.4
	1.1nm,0.6s,mb3.5,baz=150,slow=8.3,SNR=4.1						
CTA	Charters Tower	38.58	180	LR	LR	03 19 13.5	
	comp=Z,136nm,20.0s,baz=66,slow=32						
WRA	Warramunga Arr	40.23	198	P	P	03 05 56.7	-0.8
	0.3nm,0.3s,mb3.6,baz=22,slow=8.3,SNR=8.2						
SONM	Songino Array	43.56	321	P	P	03 06 24.6	+0.2
	0.4nm,0.5s,mb3.4,baz=120,slow=8.5,SNR=2.1						
ASAR	Alice Springs	43.88	197	P	P	03 06 27.9	+0.8
	0.3nm,0.5s,mb3.3,baz=26,slow=5.3,SNR=3.2						
MKAR	Makanchi Array	58.95	314	P	P	03 08 19.8	+0.4
	0.4nm,0.6s,mb3.6,baz=104,slow=6.1,SNR=3.3						
PPT	Papeete	72.49	116	LR	LR	03 33 30.2	
	comp=Z,58nm,21.6s,baz=300,slow=29						
NVAR	Mina Array Bea	82.56	52	P	P	03 10 42.5	-0.4
	0.5nm,0.8s,mb3.4,baz=276,slow=3.5,SNR=3.7						
ARCES	ARCESS Array B	82.68	342	P	P	03 10 44.1	+1.3
	0.9nm,0.6s,mb3.8,baz=70,slow=7.9,SNR=7.3						
NOA	NORSAR Array B	92.79	340	P	P	03 11 31.0	-0.7
	0.5nm,0.8s,mb3.9,baz=58,slow=5.6,SNR=3.2						

DJA ***08*** *03:03:32, 2380S×17979W, h461km, mb5.3/18*
MOS ***08*** *03:03:34.5±0.7, 2367S×17981W, h498km, mb5.3/40, Error ellipse: s-maj=9.7km s-min=7.2km az=137.7*
BJI ***08*** *03:03:35.4, 2400S×17980W, h523km, mB4.8, mb4.8*
ISCJB ***08*** *03:03:36.0±0.1, 2394S±002×17990W±003, h523km, mb5.1/132, Error ellipse: s-maj=4.4km s-min=2.5km az=36.2*
NEIC ***08*** *03:03:36.5±0.5, 2395S×17982W, h523km±5km, mb5.2/103, Error ellipse: s-maj=5.1km s-min=3.3km az=143.0*
GCMT ***08*** *03:03:36.5±0.3, 2387S×17969W, h542km±2km, MW5.5/60, Moment Tensor Solution. s60,c94; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 0.71±.04; Mθθ -1.30±.06; Mφφ 0.59±.08; Mrθ 0.33±.07; Mθφ -1.03±.07; Mφr -0.94±.06; Best double couple: M0 1.82100×10^17 NP1:φs 104.00000°, δ61.00000°, λ151.00000°. NP2: φs 209.00000°, δ65.00000°, λ32.00000°. Principal axes: T 1.8870, Plg40.0000°, Azm67.0000°; N -0.1290, Plg50.0000°, Azm243.0000°; P -1.7560, Plg2.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s.*
BGS ***08*** *03:03:36.4±5.4, 2395S×17982W, h523km, mb5.2(NEIC)*
IDC ***08*** *03:03:37.6±0.5, 2382S×17980W, h527km±5km, mb4.5/27, mb1 4.6/29, mb1mx4.6/29, mbtmp4.5/29, Error ellipse: s-maj=8.0km s-min=7.5km az=145.0*
SZGRF ***08*** *03:03:39.8, 2275S×17787W, h540km, South of Fiji Islands*

ISC 08 03:03:37.0±0.1, 2398S±003×17986W±003, h525km, h525km±3.3km; pP-P, n1021, σ0°70/718, mb5.1/132, 322C-172D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.53	162	P	P	03 05 11.3	+1.4
	567nm,0.3s,baz=103,slow=6.9,SNR=15						
RAO				S	S	03 06 25.1	-0.9
	386nm,0.3s,baz=78,slow=21,SNR=7.5						
AFI	Afiamalu	12.60	39	P	P	03 06 15.9	-6.1
	24nm,0.3s,baz=22,slow=3.5,SNR=31						
AFI				S	S	03 08 31.0	-6.7
	30nm,0.3s,baz=27,slow=22,SNR=9.7						
AFI	Afiamalu	12.60	39	eP	P	03 06 15.4	-6.6
AFI				eS	S	03 08 23.3	-14
AFI				pmax	pmax		
	comp=Z,403nm,0.8s						
AFI	Afiamalu	12.60	39	eP	P	03 06 15.4	-6.6
	comp=Z,403nm,0.8s						
AFI				eS	S	03 08 23.3	-14
DZM	Mont Dzumac	12.76	276	ePn	P	03 06 24.2	+0.7
WCZ	Waipu Caves	12.93	201	P	P	03 06 28.6	+3.5
MXZ	Matakaoa Point	13.63	186	P	P	03 06 30.1	-2.3
MKAZ	Moumakai	13.77	197	P	P	03 06 36.0	+2.2
PUZ	Puketiti	14.14	186	P	P	03 06 37.6	-0.1
PUZ				S	S	03 08 59.5	-7.1
URZ	Urewera	14.47	190	P	P	03 06 39.2	-1.9
	comp=Z,10nm,0.3s,baz=20,slow=3.0,SNR=42						
URZ				S	S	03 09 16.2	+3.4
	comp=Z,22nm,0.3s,baz=226,slow=22,SNR=10						
URZ	Urewera	14.47	190	P	P	03 06 39.2	-1.9
MWZ	Matawai	14.48	188	P	P	03 06 40.6	-0.7
KNZ	Kokohu	15.14	187	P	P	03 06 48.6	+0.5
FUNA	Funafuti	15.40	356	eP	P	03 06 46.4	-4.7
BKZ	Black Stump Fm	15.45	191	P	P	03 06 49.8	-1.5
FWVZ	Far West T-bar	15.72	193	P	P	03 06 54.5	+0.5
MOVZ	Moawhango	15.82	193	P	P	03 06 53.2	-1.9
PKE	Pukeiti	16.04	198	P	P	03 07 00.3	+2.9
MRZ	Mangatainoka R	17.07	192	P	P	03 07 05.1	-2.3
MRZ				S	S	03 09 54.1	-5.0
KIW	Kapiti Island	17.39	193	P	P	03 07 08.5	-1.9
MTW	Mount Morrison	17.56	192	P	P	03 07 10.5	-1.4
CAW	Cannon Point	17.60	193	P	P	03 07 10.8	-1.4
MRW	Makara Radio	17.79	194	P	P	03 07 13.8	-0.2
SNZO	South Karori	17.87	193	P	P	03 07 13.8	-0.9
TCW	Tory Channel	17.87	195	P	P	03 07 14.1	-0.6
NNZ	Nelson	18.09	197	P	P	03 07 16.6	-0.2
THZ	Tophouse	18.73	197	P	P	03 07 22.8	+0.2
THZ				S	S	03 10 24.0	-2.2
RAR	Rarotonga	18.75	86	P	P	03 07 21.4	-1.7
	comp=Z,7.5nm,0.3s,baz=246,slow=8.1,SNR=12						
DSZ	Denniston Nort	19.03	199	P	P	03 07 26.1	+0.8
KHZ	Kahutara	19.18	195	P	P	03 07 26.8	+0.1
KHZ				S	S	03 10 32.4	-1.1
LTZ	Lake Taylor	19.85	197	P	P	03 07 32.1	-0.7
WVZ	Waitaha Valley	20.57	200	P	P	03 07 39.2	-0.1
MQZ	McQueen's Vall	20.62	196	P	P	03 07 39.6	-0.1
RPZ	Rata Peaks	21.05	199	P	P	03 07 45.7	+2.0
	comp=Z,150nm,0.4s,mb6.0,baz=348,slow=1.8,SNR=54						
RPZ				S	S	03 11 07.4	+4.0
	comp=Z,40nm,1.0s,baz=264,slow=15,SNR=3.9						
FOZ	Fox Glacier	21.34	201	P	P	03 07 45.7	-0.6
LBZ	Lake Benmore	21.92	199	P	P	03 07 50.7	-0.8
JCZ	Jackson Bay	22.11	202	P	P	03 07 53.4	+0.2
WKZ	Wanaka	22.69	201	P	P	03 07 57.7	-0.7
TUZ	Tuapeka	23.51	199	P	P	03 08 04.8	-0.9
HNR	Honiara	24.10	303	P	P	03 08 09.9	-1.5
	comp=Z,410nm,0.9s,mb6.0,baz=270,slow=5.3,SNR=4.3						
ARMA	Armidale	26.11	250	eP	P	03 08 31.9	+2.9
TBI	Tubuai	27.83	95	eP	P	03 08 43.9	-0.2
	comp=Z,260nm,0.9s,mb5.9						
PAE	Paea	28.95	83	eP	P	03 08 52.9	-1.1
	comp=Z,1μm,1.0s						
PAE	Paea	28.95	83	eP	P	03 08 52.9	-1.1
PAE				pmax	pmax		
	comp=Z,1μm,1.0s						
PPT	Papeete	28.99	83	eP	P	03 08 53.4	-0.9
	comp=Z,214nm,1.2s,mb5.7						
PPT	Papeete	28.99	83	P	P	03 08 53.1	-1.2
	comp=Z,100nm,0.6s,mb5.6,baz=236,slow=6.3,SNR=9.9						
TIAR	Tiarei	29.20	83	eP	P	03 08 55.3	-0.9
	comp=Z,3μm,1.1s						
CAN	Canberra	29.21	240	eP	P	03 08 58.1	+2.1
CAN				epP		03 10 27.4	
TVO	Taravao	29.22	84	eP	P	03 08 55.3	-1.0
	comp=Z,1μm,0.8s						
TVO	Taravao	29.22	84	eP	P	03 08 55.3	-1.0
TVO				pmax	pmax		
	comp=Z,1μm,0.8s						
MEH	Mehetia	30.27	85	eP	P	03 09 04.1	-1.3
	comp=Z,8μm,1.2s						
PMOR	Pomariorio Ree	31.37	79	eP	P	03 09 13.7	-1.2
	comp=Z,393nm,1.2s,mb5.8						
CTA	Charters Tower	31.60	270	⇓iP	P	03 09 18.2	+1.3
	comp=Z,58nm,0.4s,mb5.5						
CTA				epP		03 10 45.8	
CTA				eS	S	03 13 49.6	+0.8
CTA				eSCP	ScP	03 14 48.5	+1.6
CTA	Charters Tower	31.60	270	P	P	03 09 18.4	+1.5
	comp=Z,73nm,0.5s,mb5.5,baz=94,slow=10,SNR=77						
CTA	Charters Tower	31.60	270	⇓iP	P	03 09 18.2	+1.3
CTA				e*PP		03 10 45.8	
CTA				eS	S	03 13 49.6	+0.8
CTA				pmax	pmax		
	comp=Z,58nm,0.4s						
CTAO	Charters Tower	31.60	270	⇓iP	P	03 09 18.3	+1.4
CTAO				pmax	pmax		
	comp=Z,70nm,0.5s,mb5.5						
CTAO	Charters Tower	31.60	270	⇓iP	P	03 09 18.3	+1.4
	comp=Z,70nm,0.5s,mb5.5						
TOO	Toolangi	32.51	237	⇓iP	P	03

comp=Z,161nm,0.6s,mb5.7
FORT *e*pP pP 03 12 53.2 -0.2
KAKA Kakadu 46.44 275⇓*iP* P 03 11 16.5 -0.3
comp=Z,46nm,0.6s,mb5.2
KAKA *e*SCP ScP 03 15 45.3 +1.0
KAKA *e*S S **03 17 24.1 -2.3**
GUMO Guam 50.82 314 P P 03 11 48.0 -1.2
comp=Z,159nm,0.6s,mb5.5,baz=170,slow=9.0,SNR=10.0
FITZ Fitzroy Crossi 50.95 266⇓*iP* P 03 11 50.7 +0.5
comp=Z,28nm,0.6s,mb4.8
FITZ *e*pP pP 03 13 31.2 +1.2
FITZ *e*S S **03 18 28.7 +0.6**
FITZ Fitzroy Crossi 50.95 266 P P 03 11 51.3 +1.0
comp=Z,13nm,0.6s,mb4.5,baz=81,slow=4.8,SNR=54
FITZ pP pP 03 13 30.7 +0.7
comp=Z,13nm,0.9s,baz=136,slow=9.5,SNR=5.2
FITZ S S **03 18 31.0 +3.0**
comp=Z,2.4nm,0.8s,baz=292,slow=21,SNR=3.1
VNDA Vanda 54.31 185 P P 03 12 16.1 +2.8
comp=Z,15nm,0.7s,mb4.5,baz=355,slow=7.9,SNR=109
VNDA ScP ScP 03 16 18.1 +1.0
comp=Z,7.3nm,1.0s,baz=7.6,slow=4.1,SNR=5.6
VNDA Vanda 54.31 185⇓*iP* P 03 12 15.9 +2.6
VNDA *e* 03 13 10.7
VNDA pmax pmax
comp=Z,22nm,0.8s
VNDA Vanda 54.31 185⇓*iP* P 03 12 15.9 +2.6
comp=Z,22nm,0.8s,mb4.5
VNDA *e*PcP PcP 03 13 10.7 +1.5
VNDA *e*ScP ScP 03 16 17.8 +0.7
KLBR Kellerberrin 55.08 247 *e*P P 03 12 20.1 +0.6
comp=Z,24nm,0.6s,mb4.6
KLBR *e*pP pP 03 14 02.1 +0.7
MBWA Marble Bar 55.48 260 *e*P P 03 12 22.7 +0.2
comp=Z,38nm,0.8s,mb4.7
MUN Mundaring 56.32 247 *e*P P 03 12 29.2 +1.1
MUN *e*pP pP 03 14 11.2 +0.5
CASY Casey 60.09 206⇓*iP* P 03 12 53.9 +0.9
CASY *e*pP pP 03 14 37.3 -0.2
CASY Casey 60.09 206 *e*P P 03 12 53.4 +0.4
comp=Z,34nm,0.8s,mb4.7
CASY *e*pP pP 03 14 37.3 -0.2
QSPA South Pole Qui 66.10 180 P P 03 13 34.0 +2.6
comp=Z,53nm,0.7s,mb5.2,baz=21,slow=1.4,SNR=301
QSPA pP pP 03 15 23.6 +4.9
comp=Z,26nm,1.0s,baz=9.4,slow=5.1,SNR=5.5
MIR Mirnyy 67.12 206⇓*iP* P 03 13 39.0 +1.1
MIR pmax pmax
comp=Z,100nm,1.0s,mb5.3
JHJ Hachijo jima 2 68.58 324 P P 03 13 46.6 -0.7
comp=Z,34nm,0.4s,mb5.2,baz=212,slow=23,SNR=6.2
KKM Kota Kinabalu 69.05 287⇓*iP* P 03 13 50.6 0.0
JOW Kunigami 71.14 312 P P 03 14 03.0 +0.3
comp=Z,22nm,0.4s,mb5.0,baz=63,slow=2.3,SNR=5.9
MJAR Matsushiro Arr 72.04 326 P P 03 14 06.6 -1.1
comp=Z,9.4nm,0.8s,mb4.3,baz=161,slow=5.9,SNR=24
MAJO Matsushiro 72.04 326 *e*P P 03 14 07.0 -0.7
MAJO pmax pmax
comp=Z,15nm,0.8s,mb4.5
MAJO Matsushiro 72.04 326 *e*P P 03 14 07.0 -0.8
comp=Z,15nm,0.8s,mb4.5
MAT Matsushiro 72.04 326 P P 03 14 06.8 -0.9
MAT S S 03 22 44.8 -2.6
KSM Kuching 72.25 280 *e*P P 03 14 09.2 -0.3
ASAJ Asahikawa 76.00 333 P P 03 14 30.8 +0.8
comp=Z,24nm,0.8s,mb4.7,baz=226,slow=5.0,SNR=30
NIKO Nikolski 77.23 7⇑*iP* P 03 14 34.7 -1.8
comp=Z,4μm,0.9s
MAW Mawson 77.72 200⇓*iP* P 03 14 40.9 +1.8
comp=Z,11nm,0.6s,mb4.4
MAW Mawson 77.72 200 P P 03 14 41.0 +1.8
comp=Z,23nm,0.9s,mb4.5,baz=127,slow=7.1,SNR=39
MAW Mawson 77.72 200⇓*iP* P 03 14 40.9 +1.8
MAW pmax pmax
comp=Z,11nm,0.6s
YSS Yuzh-Sakhalins 78.26 335⇓*iP* P 03 14 42.3 0.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 78.26 335 *e*P P 03 14 43.0 +0.7
comp=Z,21nm,0.4s,mb4.8
UNV Unalaska Valle 78.36 8⇑*iP* P 03 14 40.7 -1.9
comp=Z,51nm,0.7s,mb5.0
KSRS Korea Array 78.39 320 P P 03 14 43.1 0.0
comp=Z,8.8nm,0.7s,mb4.2,baz=128,slow=5.9,SNR=24
AKUT Akutan 78.74 8 *e*P P 03 14 42.9 -1.8
comp=Z,46nm,0.6s,mb5.0
PETK Petropavlovsk- 79.21 346 P P 03 14 46.3 -0.8
comp=Z,16nm,0.6s,mb4.6,baz=109,slow=7.1,SNR=26
PETK pP pP 03 16 43.6 +4.0
comp=Z,5.8nm,0.9s,baz=72,slow=4.8,SNR=3.7
SDPT Sand Point 80.73 11 *e*P P 03 14 53.5 -1.6
comp=Z,63nm,0.7s,mb5.2
NJ2 Nanjing 80.81 311 *e*P P 03 14 56.9 +0.8
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
BSC Santa Cruz Isl 81.23 47⇓P P 03 14 58.4 +0.2
baz=81
FARB Farallon Islan 81.34 42⇓P P 03 14 58.6 -0.1
baz=81,SNR=6.1
SCI San Clemente I 81.37 48⇑P P 03 14 58.6 -0.4
baz=82
V03C Hunter Liggett 81.41 44⇓P P 03 14 59.4 +0.4
baz=82,SNR=7.8
V04C Ramage Ranch, 81.41 45⇓P P 03 14 59.3 +0.2
baz=82,SNR=5.5
HAST Hastings Reser 81.43 44⇑P P 03 14 59.4 +0.2
baz=82,SNR=32
SBC Santa Barbara 81.44 46⇓P P 03 14 59.4 +0.2
baz=82
BNLO Ben Lomond (Sa 81.50 43⇑P P 03 14 59.4 0.0
baz=82,SNR=9.7
JRSC Jasper Ridge 81.63 43⇑P P 03 15 00.1 0.0
baz=82,SNR=6.8
PKM Peak Mountain 81.65 46⇑P P 03 15 00.7 +0.4
baz=82,SNR=9.4
BLG Laguna Peak 81.68 47⇑P P 03 15 00.0 -0.5
baz=82
MCCM Marconi Confer 81.70 42⇓P P 03 15 00.4 -0.1
baz=82
CIS Catalina Islan 81.72 48⇑P P 03 15 00.3 -0.4
baz=82
SAO San Andreas Ge 81.73 44⇑*iP* P 03 15 00.6 -0.1
SAO pmax pmax
comp=Z,78nm,1.1s,mb5.0
SAO San Andreas Ge 81.73 44⇑*iP* P 03 15 00.6 -0.1
comp=Z,78nm,1.1s,mb5.0
SMMC Simmler 81.78 46⇓P P 03 15 01.3 +0.4
baz=82,SNR=6.9
PKD Parkfield 81.81 45⇓P P 03 15 01.1 0.0
baz=82,SNR=14
U04C Hernandez Rese 81.91 44⇓P P 03 15 02.2 +0.6
baz=82,SNR=23
FMP Fort Macarthur 81.97 48⇓P P 03 15 02.0 0.0
baz=82
PACP Pacheco Peak 81.98 44⇑P P 03 15 02.4 +0.4
baz=82,SNR=27
WENL Wente Brothers 82.06 43⇓P P 03 15 02.6 +0.3
baz=82,SNR=12
CVS Carmenet Viney 82.08 42 P P 03 15 02.3 -0.1
baz=82,SNR=22
HOPS Hopland 82.12 41⇓P P 03 15 02.8 +0.2
baz=82,SNR=17
HOPS Hopland 82.12 41⇑*iP* P 03 15 02.7 +0.1
comp=Z,112nm,1.2s,mb5.2
V05C Boulder Hill, 82.17 45⇓P P 03 15 03.7 +0.7
baz=82
BDM Black Diamond 82.20 43⇑P P 03 15 03.3 +0.2
baz=82
OSI Osito Adit 82.20 47⇑P P 03 15 03.2 0.0
baz=82
DECC Green Verdugo 82.25 47⇑P P 03 15 02.9 -0.5
baz=82
S04C Ingram Canyon, 82.26 43⇑P P 03 15 03.6 +0.2
baz=82,SNR=39
P01C Double 8 Ranch 82.26 41⇑P P 03 15 03.6 +0.2
baz=82,SNR=12
T05C Eagle Field, D 82.30 44⇑P P 03 15 04.3 +0.7
baz=82
109C Camp Elliot, M 82.31 49⇑P P 03 15 03.5 -0.2
baz=82,SNR=8.0
U05C Westside ANR, 82.31 45⇓P P 03 15 04.0 +0.3
baz=82
MDJ Mudanjiang 82.40 326 P P 03 15 04.0 +0.1
MDJ AP pP 03 16 56.4 -1.2
MDJ XP sP 03 17 49.9 -1.2
MDJ PP PP 03 18 20.9 -1.9
MDJ S S 03 24 36.4 -0.1
MDJ SCS ScS 03 24 47.7 -0.3
MDJ AMB AMB
comp=Z,21nm,0.9s,mb4.6
MDJ AMB AMB
comp=Z,29nm,5.4s
O01C Eel River Cons 82.41 40⇓P P 03 15 04.7 +0.7
baz=82,SNR=22
MWC Mount Wilson 82.42 47⇑*iP* P 03 15 04.0 -0.3
MWC pmax pmax
comp=Z,39nm,0.9s,mb4.8
MWC Mount Wilson 82.42 47⇑*iP* P 03 15 04.0 -0.3
comp=Z,39nm,0.9s,mb4.8
MNRC McLaughlin Nat 82.42 42⇑P P 03 15 04.8 +0.6
baz=82,SNR=34
ARVC Arvin 82.44 46⇑P P 03 15 04.2 -0.1
baz=82,SNR=14
BAR Barrett 82.49 49⇑*iP* P 03 15 04.4 -0.2
comp=Z,102nm,1.6s,mb5.0
Q03C Winters 82.53 42⇑P P 03 15 05.7 +1.0
baz=83,SNR=14
MURC Murrieta 82.65 48⇓P P 03 15 05.4 0.0
baz=83,SNR=15
VES Vestal, Richgr 82.69 46⇓P P 03 15 05.1 -0.5
baz=83,SNR=28
BFSC Mount Baldy St 82.70 48⇓P P 03 15 05.5 -0.2
baz=83,SNR=22
JCC Jacoby Creek 82.72 39⇓P P 03 15 06.0 +0.4
baz=83,SNR=3.3
GASB Alder Springs 82.75 41⇑P P 03 15 06.9 +1.1
baz=83,SNR=66
MONP Monument Peak 82.78 49⇑P P 03 15 06.5 +0.4
baz=83,SNR=28
S05C Merced 82.79 44⇓P P 03 15 05.8 -0.3
baz=83,SNR=17
EDW2 Edwards Air Fo 82.85 47⇑P P 03 15 06.4 0.0
baz=83,SNR=17
DVTC Desert V Tower 82.87 50⇓P P 03 15 07.0 +0.4
baz=83,SNR=17
SYO Syowa Base 82.96 193⇑*e*P P 03 15 05.4 -1.0
SYO Syowa Base 82.96 193⇓*e*PcP PcP 03 15 09.7 -0.1
SYO Syowa Base 82.96 193 *e*SH 03 24 39.8
R04C Big Horse Ranc 82.97 43⇑P P 03 15 06.2 -0.7
baz=83
T06C Millerton Lake 82.98 44 P P 03 15 06.8 -0.2
baz=83,SNR=71
ISA Isabella 82.99 46⇑*iP* P 03 15 07.0 -0.1
ISA pmax pmax
comp=Z,77nm,0.8s,mb5.3
ISA Isabella 82.99 46 P P 03 15 07.2 +0.1
baz=83,SNR=54
ISA Isabella 82.99 46⇑*iP* P 03 15 07.0 0.0
comp=Z,77nm,0.8s,mb5.3
O02C Red Bluff 83.04 40⇑P P 03 15 08.1 +0.9
baz=83,SNR=95
SUTB Sutter Butte 83.04 42⇓P P 03 15 06.9 -0.4
baz=83,SNR=17
Q04C Lincoln 83.05 42⇓P P 03 15 07.2 -0.1
baz=83,SNR=9.8
N02C Big Bar 83.14 40⇓P P 03 15 08.1 +0.3
baz=83,SNR=38
WHN Wuhan 83.15 308⇓P P 03 15 08.3 +0.3
WHN AMB AMB
comp=Z,35nm,0.6s,mb5.1
PFO Pinyon Flat Ob 83.16 49 P P 03 15 08.0 0.0
comp=Z,194nm,1.6s,mb5.4,SNR=12
PFO Pinyon Flat Ob 83.16 49 P P 03 15 08.2 +0.2
comp=Z,16nm,0.8s,mb4.6,baz=266,slow=3.2,SNR=18
PFO PP PP 03 18 26.9 -2.3
comp=Z,7.0nm,1.2s,baz=238,slow=7.3,SNR=4.0
PFO Pinyon Flat Ob 83.16 49⇑*iP* P 03 15 07.9 -0.1
PFO pmax pmax
comp=Z,54nm,1.3s,mb4.9
PFO Pinyon Flat Ob 83.16 49⇑P P 03 15 08.1 +0.1
baz=83,SNR=12
PFO Pinyon Flat Ob 83.16 49⇑*iP* P 03 15 07.9 -0.1
comp=Z,54nm,1.3s,mb4.9
CMB Columbia Colle 83.17 43⇑*iP* P 03 15 07.6 -0.3
CMB pmax pmax
comp=Z,71nm,0.9s,mb5.2
CMB Columbia Colle 83.17 43⇑P P 03 15 07.7 -0.2
baz=83,SNR=113
CMB Columbia Colle 83.17 43⇑*iP* P 03 15 07.6 -0.3
comp=Z,71nm,0.9s,mb5.2
BBRC Big Bear Sol-O 83.22 48⇑P P 03 15 08.3 0.0
baz=83
HELL Mitchell Peak 83.23 45⇓P P 03 15 07.8 -0.5
baz=83,SNR=56
SWSC Sam W. Stewart 83.24 50⇓P P 03 15 08.6 +0.1
baz=83,SNR=22
M01C Crescent City 83.33 38⇑P P 03 15 09.3 +0.7
baz=83,SNR=18
O03C Acorn Hollow, 83.37 41⇓P P 03 15 08.9 0.0
baz=84,SNR=14
LAVA Lava Cap Winer 83.39 42⇑P P 03 15 08.7 -0.3
baz=84,SNR=29
LRMC Laurel Mountai 83.40 47⇑P P 03 15 09.0 -0.1
baz=84,SNR=5.7
S06C San Francisco 83.42 44⇑P P 03 15 08.9 -0.3
baz=84,SNR=47
ORV Oroville 83.42 41⇑P P 03 15 09.0 -0.2
baz=84,SNR=56
KCC Kaiser Creek 83.42 44 P P 03 15 09.2 0.0
baz=84,SNR=52
WDC Whiskeytown Da 83.44 40⇑*iP* P 03 15 09.2 0.0
WDC pmax pmax
comp=Z,84nm,1.1s,mb5.2
WDC Whiskeytown Da 83.44 40 P P 03 15 09.3 +0.1
baz=84,SNR=87
WDC Whiskeytown Da 83.44 40⇑*iP* P 03 15 09.2 0.0
comp=Z,84nm,1.1s,mb5.2
WDC *e*pP pP 03 17 10.2 +7.0
RRX Edison Barstow 83.51 47⇑P P 03 15 09.6 -0.2
baz=84
BELC Belle Mtn. 83.70 49 P P 03 15 11.1 +0.5
baz=84,SNR=62
CWC Cottonwood Cre 83.70 46 P P 03 15 10.6 -0.1
baz=84,SNR=33
K01A Sixes 83.76 38⇓P P 03 15 11.1 +0.3
baz=84,SNR=7.7
M02C Callahan 83.77 39 P P 03 15 11.7 +0.9
baz=84,SNR=73
R05C Kirkwood Meado 83.77 43 P P 03 15 11.1 +0.2
baz=84,SNR=59
KTRM Thompson Ridge 83.80 39 P P 03 15 11.8 +0.8
P05C Yuba Gap, Truc 83.81 42 P P 03 15 11.3 +0.2
baz=84,SNR=72
L02A Cave Junction 83.83 38⇑P P 03 15 11.6 +0.5
baz=84,SNR=24
MPMC Manual Prospec 83.87 46⇑P P 03 15 11.5 0.0
baz=84,SNR=44
112A Yuma 83.87 51⇑P P 03 15 12.2 +0.6
baz=84,SNR=14
BC3 Big Chuckw Mtn 83.88 49 P P 03 15 12.2 +0.6
baz=84,SNR=31
GSC Goldstone 83.89 47⇓*iP* P 03 15 11.5 -0.1
GSC *e* 03 18 30.6
GSC pmax pmax
comp=Z,60nm,0.9s,mb5.1
GSC Goldstone 83.89 47⇑P P 03 15 11.5 -0.1
baz=84,SNR=39
GSC Goldstone 83.89 47⇓*iP* P 03 15 11.5 -0.1
comp=Z,60nm,0.9s,mb5.1
GSC *e*PP PP 03 18 30.6 -4.3
MLAC Mammoth Lakes 83.91 44⇑P P 03 15 12.0 +0.4
baz=84
HEC Hector,Ludlow 83.94 48⇑P P 03 15 11.8 0.0
baz=84,SNR=23
TIN Tinemaha 83.96 45⇑P P 03 15 12.0 +0.1
baz=84,SNR=8.1
GLA Glamis 83.98 50⇑*iP* P 03 15 12.6 +0.5
GLA pmax pmax
comp=Z,126nm,1.0s,mb5.4
GLA Glamis 83.98 50⇓P P 03 15 12.8 +0.7
baz=84,SNR=34
GLA Glamis 83.98 50⇑*iP* P 03 15 12.6 +0.5
comp=Z,126nm,1.0s,mb5.4
O05C Quincy 84.02 41⇓P P 03 15 12.2 +0.1
baz=84,SNR=18
CN2 Changchun 84.03 324 *e*P P 03 15 12.2 +0.1
CN2 *e*AP pP 03 17 04.5 -1.8
CN2 *e*XP sP 03 17 55.3 -4.4
CN2 *e*S S 03 24 53.3 +0.7
CN2 AMB AMB
comp=Z,20nm,1.1s,mb4.6
CN2 AMB AMB
comp=Z,200nm,4.0s
R07C Lee Vining 84.05 44⇓P P 03 15 12.5 +0.2
baz=84
R06C Coleville 84.05 43⇑P P 03 15 12.6 +0.3
baz=84,SNR=41
YBH Yreka Blue Hor 84.07 39 P P 03 15 12.7 +0.4
comp=Z,36nm,0.9s,mb4.9,baz=189,slow=1.5,SNR=113
YBH Yreka Blue Hor 84.07 39⇑*iP* P 03 15 12.6 +0.3
YBH pmax pmax
comp=Z,41nm,0.9s
YBH Yreka Blue Hor 84.07 39⇑P P 03 15 12.7 +0.4
baz=84,SNR=57
YBH Yreka Blue Hor 84.07 39⇑*iP* P 03 15 12.6 +0.3
comp=Z,41nm,0.9s,mb5.0
M03C McCloud 84.12 40⇓P P 03 15 12.7 +0.1
baz=84,SNR=56
O04C Chester 84.14 41⇓P P 03 15 12.8 +0.1
baz=84,SNR=22
HATC Hat Creek Radi 84.22 41⇑P P 03 15 13.3 +0.2
baz=84,SNR=34
S08C White Mtn Res 84.26 45⇑P P 03 15 13.8 +0.4
baz=84,SNR=69
K02A Glendale 84.28 38⇓P P 03 15 13.7 +0.4
baz=84
BEKR Beckwourth 84.31 42 P P 03 15 13.5 0.0
baz=84,SNR=26
WCN Washoe City 84.33 43⇑P P 03 15 13.8 +0.2
baz=84,SNR=13
GMRC Granite Mounta 84.36 48⇓P P 03 15 14.1 +0.2
baz=84,SNR=30
IRM Iron Mountain 84.37 49 P P 03 15 14.5 +0.6
baz=84,SNR=59
P06A Stead Airport, 84.47 42⇓P P 03 15 14.5 +0.2
baz=85,SNR=8.2
HUMO Hull Mountain 84.48 38 P P 03 15 15.0 +0.6
baz=85,SNR=55
HUMO Hull Mountain 84.48 38⇑*iP* P 03 15 14.7 +0.3
comp=Z,89nm,1.1s,mb5.2
GRAC Grapevine Rang 84.49 46 P P 03 15 14.8 +0.3
baz=85,SNR=35
FURC Furnace Creek, 84.52 46 P P 03 15 14.5 -0.2
baz=85,SNR=9.7
ELFS Eagle Lake Fie 84.54 41⇑P P 03 15 14.9 +0.2
baz=85
TUQ Turquoise Mtn. 84.56 47⇓P P 03 15 15.0 +0.1
baz=85,SNR=36
113A Mohawk Valley, 84.57 51⇓P P 03 15 15.3 +0.3
baz=85,SNR=16
Y12C Blythe 84.58 50⇓P P 03 15 15.3 +0.3
baz=85,SNR=30
SHOC Shoshone 84.58 47⇓P P 03 15 14.7 -0.2
baz=85,SNR=22
SNAA Sanae 84.58 179 *e*P P 03 15 14.5 +0.1
SNAA *e* 03 15 19.0
SNAA *e* 03 15 33.2
SNAA *e* pP 03 17 10.7 +2.0
SNAA Sanae 84.58 179 *e*P P 03 15 14.7 +0.3
SNAA pmax pmax
comp=Z,2.0nm,0.4s
SNAA Sanae 84.58 179 *e*P P 03 15 14.7 +0.2
comp=Z,2.2nm,0.4s,mb4.0
SNAA *e*pP pP 03 17 11.0 +2.3
KDAK Kodiak Island 84.59 14 P P 03 15 13.9 -0.6
comp=Z,181nm,1.6s,mb5.3,SNR=6.8
KDAK Kodiak Island 84.59 14 P P 03 15 13.7 -0.8
comp=Z,18nm,0.7s,mb4.7,baz=133,slow=1.3,SNR=14
KDAK Kodiak Island 84.59 14 *e*P P 03 15 13.6 -0.9
comp=Z,48nm,1.2s,mb4.9
M04C Macdoel 84.61 40 P P 03 15 15.2 +0.3
baz=85,SNR=19
J02A Umpqua 84.62 38 P P 03 15 15.4 +0.4
baz=85,SNR=22
KLR Kul'dur 84.67 331 *e*P P 03 15 10.0 -5.0
KLR *e* pP 03 17 03.0 -6.5
Q07A Schurz 84.70 43⇓P P 03 15 15.5 0.0
baz=85
NVAR Mina Array Bea 84.72 44 P P 03 15 15.6 0.0
comp=Z,17nm,0.8s,mb4.6,baz=222,slow=7.5,SNR=92
NVAR PP PP 03 18 45.3 +3.7
comp=Z,1.4nm,0.7s,baz=231,slow=10,SNR=3.8
M05C Lookout 84.75 40 P P 03 15 15.9 +0.2
baz=85,SNR=62
R08A Mina 84.80 44⇓P P 03 15 16.0 0.0
baz=85
PAHR Pah Rah Range 84.81 42⇑*iP* P 03 15 15.8 -0.1
comp=Z,59nm,1.1s,mb5.0
O06A Flanigan 84.81 42 P P 03 15 15.9 -0.1
baz=85,SNR=50
214A Organ Pipe Nat 84.82 52⇑P P 03 15 16.8 +0.5
baz=85,SNR=37
U10A Ash Meadows, A 84.84 46⇓P P 03 15 16.5 +0.2
baz=85
I02A Mapleton 84.89 37 P P 03 15 16.8 +0.5
baz=85,SNR=23
LDFC Landfair 84.91 48⇑*iP* P 03 15 17.0 +0.4
comp=Z,152nm,0.8s,mb5.6
J03A Ideyld Park 84.97 38⇑P P 03 15 17.2 +0.6
baz=85
S09A Goldfield 85.00 45⇑P P 03 15 16.5 -0.5
baz=85,SNR=14
P07A Fallon 85.01 43⇓P P 03 15 16.9 -0.1
baz=85
M06C Likely Place G 85.05 41⇓P P 03 15 17.2 +0.1
baz=85,SNR=18
NEE2 Needles Airpor 85.07 49⇓P P 03 15 17.7 +0.3
baz=85
Y13A Salome 85.10 50 P P 03 15 18.2 +0.6
baz=85,SNR=69
V11A Goodsprings 85.11 47⇓P P 03 15 17.6 +0.1
baz=85,SNR=20
PDMCI Parker Dam,Lak 85.14 49⇓P P 03 15 17.8 +0.1
baz=85,SNR=20
N06A Buffalo Meadow 85.16 41 P P 03 15 17.6 -0.1
baz=85,SNR=44
I03A Eugene 85.18 37 P P 03 15 17.9 +0.3
baz=85,SNR=17
K04A Chilquin 85.19 39⇓P P 03 15 18.0 +0.2
baz=85
W12A Cal Nev Ari 85.19 48⇓P P 03 15 18.2 +0.3
baz=85,SNR=22
TPNV Topopah Spring 85.19 46⇑*iP* P 03 15 17.9 0.0
TPNV pmax pmax
comp=Z,35nm,0.8s,mb4.9
TPNV Topopah Spring 85.19 46⇑P P 03 15 18.0 +0.1
baz=85,SNR=35
TPNV Topopah Spring 85.19 46⇑*iP* P 03 15 17.9 -0.1
comp=Z,35nm,0.8s,mb5.0
TPH Tonopah 85.21 45⇑*iP* P 03 15 17.7 -0.3
TPH pmax pmax
comp=Z,60nm,0.9s,mb5.1
TPH Tonopah 85.21 45⇑*iP* P 03 15 17.7 -0.3
comp=Z,60nm,0.9s,mb5.1
Q08A Gabbs 85.21 44 P P 03 15 17.8 -0.2
baz=85,SNR=36
H02A Toledo 85.24 36⇓P P 03 15 18.4 +0.5
baz=85
L05A Lakeview 85.36 40⇑P P 03 15 19.0 +0.4
baz=86,SNR=48
J04A Umpqua Nationa 85.37 38⇑P P 03 15 19.0 +0.4
baz=86,SNR=26
MPOR Mary's Peak 85.37 37 P P 03 15 19.2 +0.6
O07A Toulon 85.39 42⇑P P 03 15 18.7 -0.1
baz=86,SNR=50
R09A Tonopah 85.40 45 P P 03 15 18.7 -0.2
baz=86,SNR=46
V12A Nelson 85.44 48⇓P P 03 15 19.3 +0.1
baz=86,SNR=28
U11A Corn Creek 85.47 47⇑P P 03 15 19.4 +0.1
baz=86,SNR=6.7
Z14A Wintersburg 85.47 51⇑P P 03 15 19.9 +0.6
baz=86,SNR=22
X13A Yucca 85.52 49⇓P P 03 15 19.8 +0.3
baz=86,SNR=46
S10A Tonopah Range, 85.52 45 P P 03 15 19.5 0.0
baz=86,SNR=129
I04A Tendick Farm, 85.55 38⇑P P 03 15 19.1 -0.4
baz=86,SNR=24
COR Corvallis 85.56 37 *e*P P 03 15 19.7 +0.2
COR pmax pmax
comp=Z,22nm,0.7s,mb4.9
COR Corvallis 85.56 37 *e*P P 03 15 19.7 +0.2
comp=Z,22nm,0.7s,mb4.9
MOD Modoc 85.58 40⇑P P 03 15 19.6 -0.1
baz=86,SNR=14
MOD Modoc 85.58 40 *e*P P 03 15 18.5 -1.2
comp=Z,52nm,0.8s,mb5.2
P08A Dixie Valley 85.61 43⇑P P 03 15 19.8 0.0
baz=86
H03A Soap Creek Ran 85.62 37⇑P P 03 15 20.2 +0.4
baz=86,SNR=14

115A Sonoran Desert 85.63 51 ⇓P P 03 15 20.6 +0.5
baz=86
Q09A Carvers 85.67 44 ⇓P P 03 15 20.1 -0.1
baz=86,SNR=9.5
N07B Gerlach 85.70 42 ⇓P P 03 15 20.1 -0.2
baz=86,SNR=26
HEBO Mount Hebo 85.72 36 eP P 03 15 20.6 +0.4
comp=Z,49nm,0.8s,mb5.2
Y14A Wickenburg 85.74 50 P P 03 15 20.8 +0.2
baz=86,SNR=28
K05A Summer Lake 85.74 39 P P 03 15 21.0 +0.6
baz=86,SNR=48
W13A Hualapai Mount 85.75 49 P P 03 15 21.1 +0.4
baz=86,SNR=34
216A Three Points, 85.82 52 ⇑P P 03 15 22.0 +1.0
baz=86,SNR=36
J05A Fort Rock 85.89 39 ⇑P P 03 15 21.6 +0.5
baz=86,SNR=94
O08A Rochester Mine 85.91 42 ⇓P P 03 15 21.5 +0.2
baz=86
S11A Rachel 85.92 46 ⇑P P 03 15 21.2 -0.2
baz=86,SNR=20
R10A Warm Springs 85.92 45 ⇑P P 03 15 21.5 +0.1
baz=86,SNR=23
116A Eloy 85.93 52 ⇑P P 03 15 22.3 +0.7
baz=86,SNR=26
M07A Soldier Meadow 85.94 41 ⇓P P 03 15 21.6 +0.2
baz=86
Z15A Gila River Ind 85.99 51 ⇑P P 03 15 22.1 +0.2
baz=86,SNR=6.2
T11A Corn Creek, Al 86.04 46 P P 03 15 22.4 +0.4
baz=86,SNR=90
G03A Yamhill 86.04 36 ⇓P P 03 15 22.0 +0.2
baz=86
U12A Valley of Fire 86.04 47 P P 03 15 22.4 +0.4
baz=86,SNR=21
T12A Moapa 86.09 47 ⇓P P 03 15 22.2 0.0
baz=86,SNR=6.7
V13A Grand Canyon W 86.10 48 ⇓P P 03 15 22.5 +0.2
baz=86,SNR=60
X14A Yava 86.10 50 P P 03 15 23.1 +0.7
baz=86,SNR=30
P09A Austin 86.11 44 ⇑P P 03 15 22.1 -0.2
baz=86
K06A Valley Falls 86.16 40 P P 03 15 22.7 +0.3
baz=86,SNR=66
Q10A Clear Creek Ra 86.17 44 ⇑P P 03 15 22.6 0.0
baz=86,SNR=5.5
217A Green Valley 86.17 53 P P 03 15 23.8 +1.0
baz=86,SNR=113
Y15A Casa Rosa Ranc 86.22 50 P P 03 15 23.4 +0.5
baz=86,SNR=44
L07A Adell 86.22 41 P P 03 15 23.2 +0.5
baz=86,SNR=76
H04A Detroit Lake 86.23 37 P P 03 15 22.5 -0.2
baz=86,SNR=28
F03A Seaside 86.29 36 ⇑P P 03 15 23.2 +0.3
baz=86,SNR=5.6
W14A Seligman 86.37 49 P P 03 15 24.4 +0.8
baz=86,SNR=20
U13A Pakoon Wash 86.42 48 P P 03 15 24.4 +0.5
baz=86,SNR=76
I05A Bend 86.42 38 ⇓P P 03 15 23.9 +0.3
baz=86,SNR=12
R11A Troy Canyon, C 86.42 45 P P 03 15 23.4 -0.3
baz=86,SNR=25
O09A Fish Creek Ran 86.44 43 P P 03 15 23.8 -0.1
baz=86,SNR=21
M08A Happy Creek Ra 86.46 41 P P 03 15 24.2 +0.3
baz=87,SNR=36
TUC Tucson 86.47 52⇑iP P 03 15 24.9 +0.8
TUC pmax pmax
comp=Z,85nm,0.9s,mb5.4
TUC Tucson 86.47 52⇑iP P 03 15 24.9 +0.8
comp=Z,85nm,0.9s,mb5.4
S12A Delamar Landin 86.49 46 ⇓P P 03 15 24.7 +0.7
baz=87,SNR=38
J06A Christmas Vall 86.49 39 P P 03 15 23.9 -0.1
baz=87,SNR=65
Z16A Peralta Trail, 86.54 51 ⇓P P 03 15 25.0 +0.5
baz=87,SNR=24
X15A Humboldt 86.57 50 P P 03 15 25.2 +0.7
baz=87,SNR=32
BMN Battle Mountai 86.57 43⇑iP P 03 15 24.3 -0.1
BMN pmax pmax
comp=Z,40nm,0.8s,mb5.1
BMN Battle Mountai 86.57 43⇑iP P 03 15 24.3 -0.2
comp=Z,40nm,0.8s,mb5.1
P10A Eureka 86.58 44 ⇓P P 03 15 24.4 -0.1
baz=87,SNR=7.8
V14A Boquillas Ranc 86.58 49 ⇓P P 03 15 25.1 +0.6
baz=87,SNR=33
318A Bisbee 86.60 54 P P 03 15 26.0 +1.2
baz=87,SNR=131
N09A Rock Creek Ran 86.63 42 ⇑P P 03 15 24.6 -0.1
baz=87,SNR=14
117A Oracle 86.63 52 P P 03 15 25.9 +1.0
baz=87,SNR=73
Q11A Duckwater 86.66 45 P P 03 15 24.8 -0.1
baz=87,SNR=25
K07A Rock Creek Ran 86.68 40 P P 03 15 25.2 +0.3
baz=87,SNR=92
E03A Lebam 86.68 35 ⇑P P 03 15 25.1 +0.3
baz=87,SNR=12
H05A Madras 86.74 38 P P 03 15 25.2 +0.1
baz=87,SNR=12
Y16A Circle Bar Ran 86.78 51 P P 03 15 26.4 +0.8
baz=87,SNR=57
T13A Saint George 86.79 47 P P 03 15 25.9 +0.4
baz=87,SNR=30
BMW Boistfort Moun 86.81 35 eP P 03 15 25.7 +0.3
218A Dragoon 86.83 53 P P 03 15 27.1 +1.3
baz=87,SNR=30
I06A Prineville 86.88 39 ⇓P P 03 15 26.4 +0.6
baz=87,SNR=86
WVOR Wild Horse Val 86.89 41⇑iP P 03 15 25.9 0.0
WVOR pmax pmax
comp=Z,61nm,1.1s,mb5.1
WVOR Wild Horse Val 86.89 41⇑iP P 03 15 25.9 0.0
comp=Z,61nm,1.1s,mb5.1
GYA Guiyang 86.90 301⇑iP P 03 15 26.4 +0.1
GYA AP pP 03 17 23.4 +1.9
GYA XP sP 03 18 15.8 +1.1
GYA PP PP 03 19 01.2 +2.0
GYA SKS 03 25 01.4
GYA S S 03 25 18.6 -2.2
GYA XS sS 03 28 44.6 -1.5
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,140nm,5.7s
F04A Amboy 86.90 36 ⇑P P 03 15 25.7 -0.2
baz=87,SNR=26
W15A Williams 86.92 49 ⇓P P 03 15 26.8 +0.7
baz=87,SNR=6.4
L08A Fields 86.92 41 ⇓P P 03 15 26.1 +0.1
baz=87,SNR=47
HOOD Mount Hood Mea 86.93 37 eP P 03 15 25.8 -0.2
comp=Z,160nm,1.6s,mb5.4
O10A Cortez Mining, 86.94 43 ⇑P P 03 15 26.1 -0.1
baz=87
D03A Wishkah Elem. 86.94 35 ⇓P P 03 15 26.7 +0.7
baz=87,SNR=5.9
U14A Mt Trumbull 86.95 48 ⇑P P 03 15 27.0 +0.7
baz=87,SNR=64
P11A Circle Ranch, 86.99 44 ⇑P P 03 15 26.4 0.0
baz=87,SNR=7.3
VIPM Ingram Point 87.00 38 P P 03 15 26.6 +0.3
M09A Marrel Ranch, 87.01 42 ⇑P P 03 15 26.9 +0.4
baz=87,SNR=18
R12A Pony Springs, 87.05 46 ⇑P P 03 15 26.9 +0.2
baz=87,SNR=30
J07A Hines 87.06 39 P P 03 15 26.9 +0.2
baz=87,SNR=26
G05A Wamic 87.06 37 P P 03 15 26.6 0.0
baz=87,SNR=8.4
NLWA Neilton Lookou 87.07 34 P P 03 15 27.0 +0.4
baz=87,SNR=15
NLWA Neilton Lookou 87.07 34⇑iP P 03 15 26.9 +0.3
comp=Z,51nm,1.1s,mb5.1
C03A Quillayute Air 87.08 34 ⇑P P 03 15 27.5 +0.8
baz=87,SNR=6.3
319A Douglas 87.09 54 ⇓P P 03 15 28.3 +1.2
baz=87,SNR=74
X16A Lo Mia Camp, P 87.09 50 P P 03 15 27.8 +0.7
baz=87,SNR=46
S13A Holt Ranch, En 87.13 47 ⇑P P 03 15 27.5 +0.4
baz=87,SNR=31

Y17A Roosevelt 87.14 51 P P 03 15 27.9 +0.6
baz=87,SNR=26
K08A Mann Creek Ran 87.16 40 ⇓P P 03 15 27.5 +0.4
baz=87
E04A Onalaska 87.16 35 ⇓P P 03 15 27.6 +0.5
baz=87,SNR=9.8
N10A Dunphy 87.18 43 ⇓P P 03 15 27.4 +0.1
baz=87,SNR=7.1
Z17A San Carlos Hig 87.20 52 ⇑P P 03 15 28.3 +0.8
baz=87,SNR=10
L09A Wilkinson Ranc 87.22 41 ⇓P P 03 15 27.6 +0.2
baz=87,SNR=28
118A Homack Ranch, 87.23 52 P P 03 15 28.8 +1.1
baz=87,SNR=66
TDL Tradedollar La 87.27 36 P P 03 15 28.1 +0.5
Q12A Willow Creek R 87.30 45 ⇑P P 03 15 27.9 0.0
baz=87,SNR=15
H06A Lindquist Farm 87.30 38 ⇑P P 03 15 27.8 +0.1
baz=87,SNR=107
V15A Kaibab Nationa 87.32 49 ⇓P P 03 15 28.7 +0.7
baz=87,SNR=35
T14A Hurricane 87.36 47 ⇑P P 03 15 28.5 +0.3
baz=88,SNR=40
I07A Izee 87.37 39 P P 03 15 28.4 +0.4
baz=88,SNR=151
O11A Cowboy Ranch, 87.38 44 P P 03 15 28.4 +0.2
baz=88,SNR=30
R13A O'Grain Ranch, 87.38 46 P P 03 15 28.9 +0.6
baz=88,SNR=11
W16A Flagstaff 87.38 50 ⇓P P 03 15 29.0 +0.6
baz=88,SNR=13
F05A White Salmon 87.39 37 ⇓P P 03 15 28.1 -0.1
baz=88,SNR=13
SEW Seward 87.40 15⇑iP P 03 15 26.4 -1.4
Z18A Geronimo 87.41 52 ⇑P P 03 15 29.3 +0.8
baz=88,SNR=8.9
219A White Tail Can 87.42 53 P P 03 15 29.6 +1.0
baz=88,SNR=60
G06A Carlson Farm, 87.44 37 P P 03 15 28.4 0.0
baz=88,SNR=41
D04A Dobbs Creek Ra 87.45 35 ⇑P P 03 15 29.1 +0.7
baz=88
VTHM Trough 87.45 37 P P 03 15 28.5 0.0
P12A McGill 87.49 45 ⇓P P 03 15 28.8 +0.1
baz=88,SNR=15
X17A Forest Lakes 87.50 51 P P 03 15 29.9 +1.0
baz=88,SNR=22
ARUT Antelope Range 87.52 47 eP P 03 15 29.1 +0.2
J08A Circle Bar Ran 87.53 40 P P 03 15 29.1 +0.2
baz=88,SNR=87
U15A North Rim 87.56 48 P P 03 15 30.0 +0.8
baz=88,SNR=124
SLKM Skilak Lake 87.58 14 eP P 03 15 27.4 -1.3
K09A Rome 87.59 41 ⇓P P 03 15 29.3 +0.2
baz=88,SNR=128
M10A I.L. Ranch, Tu 87.62 42 ⇓P P 03 15 29.8 +0.4
baz=88,SNR=51
H07A Lands Inn, Kim 87.65 38 P P 03 15 29.6 +0.2
baz=88,SNR=121
E05A Randle 87.65 36 P P 03 15 29.2 -0.1
baz=88,SNR=60
S14A Cedar City 87.69 47 ⇓P P 03 15 30.2 +0.5
baz=88,SNR=9.1
F06A Goldendale 87.69 37 ⇑P P 03 15 29.5 0.0
baz=88,SNR=12
B04A Port Angeles 87.69 34 P P 03 15 30.1 +0.6
baz=88,SNR=16
WUAZ Wupatki 87.71 49 P P 03 15 30.4 +0.5
baz=88,SNR=17
WUAZ Wupatki 87.71 49⇑iP P 03 15 30.1 +0.2
comp=Z,75nm,1.3s,mb5.3
N11A Elko Archery C 87.72 43 P P 03 15 29.9 +0.1
baz=88,SNR=7.7
GNW Green Mountain 87.72 35⇑iP P 03 15 29.5 -0.1
comp=Z,72nm,1.0s,mb5.3
LON Longmire 87.74 36⇑iP P 03 15 29.2 -0.6
LON pmax pmax
comp=Z,33nm,0.8s,mb5.1
LON Longmire 87.74 36⇑iP P 03 15 29.2 -0.5
comp=Z,33nm,0.8s,mb5.1
C04A Brinnon 87.75 34 ⇓P P 03 15 30.0 +0.3
baz=88,SNR=29
Y18A Canyon Day Jun 87.76 51 P P 03 15 31.2 +1.0
baz=88,SNR=61
119A Ashpeak Ranch, 87.78 53 P P 03 15 31.2 +1.0
baz=88,SNR=37
Q13A Wheeler Ranch, 87.78 45 ⇓P P 03 15 30.1 0.0
baz=88,SNR=28
I08A Drewsey 87.81 39 ⇓P P 03 15 30.4 +0.3
baz=88,SNR=66
T15A Red Dirt Ranch 87.81 48 ⇑P P 03 15 30.8 +0.5
baz=88,SNR=28
D05A Enumclaw 87.92 35 P P 03 15 31.1 +0.5
baz=88,SNR=45
SQM Sequim 87.94 34 P P 03 15 31.4 +0.7
W17A Winslow 87.95 50 ⇑P P 03 15 31.7 +0.6
baz=88
J09A Fry Pan Ranch, 87.95 40 P P 03 15 31.1 +0.3
baz=88,SNR=110
L10A Juniper Basin 87.98 42 ⇓P P 03 15 31.2 +0.2
baz=88,SNR=115
ELK Elko 87.99 43⇑iP P 03 15 30.8 -0.3
ELK pmax pmax
comp=Z,40nm,1.1s
ELK Elko 87.99 43⇑iP P 03 15 30.8 -0.3
comp=Z,40nm,1.1s,mb5.1
G07A Ruggs Ranch, H 88.00 38 ⇑P P 03 15 31.0 0.0
baz=88,SNR=59
M11A Holland Ranch, 88.03 43 ⇓P P 03 15 31.7 +0.5
baz=88,SNR=37
O12A Currie 88.03 44 ⇓P P 03 15 31.3 0.0
baz=88,SNR=22
P13A Bates Ranch, G 88.05 45 P P 03 15 31.6 +0.2
baz=88,SNR=64
E06A Yakima 88.06 36 P P 03 15 31.4 +0.1
baz=88,SNR=33
Z19A T-Link Ranch, 88.07 52 ⇑P P 03 15 32.4 +0.8
baz=88,SNR=14
R14A James Farms, M 88.07 46 ⇓P P 03 15 31.8 +0.3
baz=88
PGC Sidney 88.10 34⇑iP P 03 15 31.2 -0.2
comp=Z,213nm,1.1s,mb5.8
H08A Prairie City 88.11 39 ⇓P P 03 15 31.5 -0.1
baz=88,SNR=53
PLCA Paso Flores 88.12 134 P P 03 15 33.8 +1.9
comp=Z,11nm,1.2s,mb4.5,baz=254,slow=2.9,SNR=6.7
PLCA Paso Flores 88.12 134 eP P 03 15 33.1 +1.2
PLCA pmax pmax
comp=Z,16nm,1.2s
PLCA Paso Flores 88.12 134 eP P 03 15 33.1 +1.3
comp=Z,16nm,1.2s,mb4.6
K10A MacKenzie Ranc 88.15 41 P P 03 15 32.0 +0.2
baz=88,SNR=90
N12A Clover Valley, 88.17 43 ⇑P P 03 15 32.0 +0.1
baz=88,SNR=31
S15A Panguitch 88.18 47 ⇑P P 03 15 33.4 +1.3
baz=88,SNR=22
X18A Snowflake 88.20 51 ⇓P P 03 15 32.8 +0.5
baz=88,SNR=22
RC01 Rabbit Creek A 88.21 14⇑iP P 03 15 30.4 -1.2
comp=Z,69nm,0.9s,mb5.4
F07A Phinny Hill Vi 88.24 37 ⇓P P 03 15 32.1 0.0
baz=88,SNR=13
Q14A Sevier Lake (B 88.28 46 ⇓P P 03 15 32.8 +0.3
baz=88,SNR=81
I09A Lost Marbles R 88.33 40 ⇑P P 03 15 32.4 -0.2
baz=88,SNR=9.1
T16A Glen Canyon Da 88.39 48 ⇑P P 03 15 33.5 +0.5
baz=88,SNR=25
C05A Tolt Reservoir 88.40 35 ⇓P P 03 15 32.6 -0.2
baz=88,SNR=41
Y19A Nutrioso 88.41 52 ⇓P P 03 15 34.2 +1.0
baz=88,SNR=65
G08A Pilot Rock 88.41 38 P P 03 15 33.1 +0.2
baz=88,SNR=132
O13A Hicks Ranch, I 88.45 44 ⇓P P 03 15 33.4 +0.2
baz=88
L11A Cat Creek Ranc 88.47 42 P P 03 15 33.6 +0.3
baz=89,SNR=112
TWW Teaway 88.49 36 P P 03 15 33.8 +0.5
R15A Junction 88.52 47 ⇑P P 03 15 34.5 +0.9
baz=89,SNR=9.2
A04A Legoe Bay, Lum 88.53 34 P P 03 15 33.8 +0.4
baz=89,SNR=22
D06A Cle Elum 88.54 36 ⇓P P 03 15 33.5 +0.1
baz=89,SNR=22
B05A Bryant 88.55 34 ⇑P P 03 15 33.6 +0.1
baz=89,SNR=42

M12A Wells 88.57 43 ⇑P P 03 15 33.8 +0.1
baz=89,SNR=21
J10A Berg Farm, Mel 88.58 41 ⇓P P 03 15 33.7 0.0
baz=89,SNR=13
JCW Jim Creek 88.59 35 eP P 03 15 33.5 -0.2
X19A St. Johns 88.62 51 P P 03 15 34.8 +0.6
baz=89,SNR=16
K11A Parker Ranch, 88.65 41 P P 03 15 34.4 +0.3
baz=89,SNR=50
W18A Petrified Fore 88.66 50 ⇓P P 03 15 34.5 +0.2
baz=89,SNR=7.6
TTA Tatalina 88.66 11 eP P 03 15 32.6 -1.0
TTA pmax pmax
comp=Z,73nm,1.5s,mb5.3
TTA Tatalina 88.66 11 eP P 03 15 32.6 -1.1
comp=Z,73nm,1.5s,mb5.3
E07A Sunnyside 88.68 37 ⇑P P 03 15 34.3 +0.2
baz=89,SNR=8.9
N13A Wenndover, West 88.70 44 P P 03 15 34.6 +0.2
baz=89,SNR=13
S16A Weppner Ranch, 88.72 47 ⇓P P 03 15 34.6 0.0
baz=89,SNR=22
RSW Rattlesnake Hi 88.73 37 eP P 03 15 34.4 0.0
P14A Drum Mountains 88.74 45 P P 03 15 34.6 0.0
baz=89,SNR=22
MSU Marysvale 88.75 47 eP P 03 15 35.3 +0.6
HAWA Hanford 88.76 37⇑iP P 03 15 34.5 0.0
comp=Z,80nm,0.9s,mb5.5
U17A Shonto 88.77 49 ⇑P P 03 15 35.2 +0.4
baz=89,SNR=16
H09A Durkee 88.78 39 P P 03 15 34.8 +0.1
baz=89,SNR=47
PMR Palmer 88.79 14⇑iP P 03 15 32.8 -1.5
PMR pmax pmax
comp=Z,47nm,0.8s,mb5.4
PMR Palmer 88.79 14⇑iP P 03 15 32.8 -1.5
comp=Z,47nm,0.8s,mb5.4
F08A Pendleton 88.82 38 ⇑P P 03 15 34.7 -0.1
baz=89,SNR=12
V18A Ganado 88.82 50 ⇑P P 03 15 35.4 +0.4
baz=89,SNR=18
RAGM Ragged Mountai 88.83 17⇑iP P 03 15 33.7 -0.8
Q15A Fillmore 88.87 46 ⇓P P 03 15 35.5 +0.2
baz=89,SNR=16
T17A Navajo Res., N 88.88 48 P P 03 15 35.9 +0.5
baz=89,SNR=40
XAN Xi'an 88.89 308 P P 03 15 36.4 +1.0
XAN AMB AMB
comp=Z,22nm,0.7s,mb5.1
XAN AMB AMB
comp=Z,58nm,4.4s
W19A Sanders 88.90 51 ⇑P P 03 15 35.8 +0.3
baz=89
L12A House Creek Ra 88.91 42 ⇑P P 03 15 35.6 +0.2
baz=89,SNR=22
I10A Payette 88.94 40 ⇓P P 03 15 35.7 +0.3
baz=89,SNR=13
C06A Tall Timber Ra 88.96 35 ⇓P P 03 15 35.2 -0.2
baz=89
RPW Rockport 88.97 35 eP P 03 15 35.0 -0.4
M13A Montello 89.01 43 ⇓P P 03 15 35.8 0.0
baz=89,SNR=22
A05A Maple Falls 89.02 34 ⇑P P 03 15 35.1 -0.6
baz=89,SNR=5.4
B06A Marblemount 89.03 34 ⇑P P 03 15 35.1 -0.6
baz=89,SNR=8.7
ETW Entiat 89.06 36 eP P 03 15 35.6 -0.3
G09A Cove 89.07 39 P P 03 15 35.9 -0.1
baz=89,SNR=53
E08A Dider Farm, El 89.08 37 ⇑P P 03 15 35.7 -0.2
baz=89,SNR=19
R16A Teasdale 89.09 47 P P 03 15 37.1 +0.8
baz=89,SNR=42
MFID Camas Ranch 89.14 41 P P 03 15 36.5 +0.1
baz=89,SNR=108
LNOR Lincton Mounta 89.14 38 eP P 03 15 35.5 -0.8
S17A Black Ridge (B 89.21 48 ⇑P P 03 15 36.4 -0.4
baz=89,SNR=35
U18A Rough Rock, Ch 89.22 49 ⇓P P 03 15 37.0 +0.1
baz=89,SNR=19
DUG Dugway 89.23 45⇑iP P 03 15 36.5 -0.4
DUG pmax pmax
comp=Z,32nm,1.3s,mb5.0
DUG Dugway 89.23 45 P P 03 15 36.7 -0.1
baz=89,SNR=28
DUG Dugway 89.23 45⇑iP P 03 15 36.5 -0.4
comp=Z,32nm,1.3s,mb5.0
P15A Leamington 89.24 46 ⇑P P 03 15 37.1 +0.1
baz=89,SNR=16
F09A S2 Ranch, Elgi 89.25 38 ⇑P P 03 15 36.7 -0.1
baz=89,SNR=19
K12A Draper Farm, C 89.26 42 ⇑P P 03 15 37.0 +0.1
baz=89,SNR=48
C07A Waterville 89.26 36 P P 03 15 36.4 -0.4
baz=89,SNR=15
H10A Noah's Angus R 89.27 40 ⇑P P 03 15 36.5 -0.4
baz=89,SNR=39
PPLA Purkeypile 89.33 12 eP P 03 15 35.1 -1.6
comp=Z,13nm,0.9s,mb4.8
BMRM Bremner River 89.34 16⇑iP P 03 15 36.0 -0.8
I11A Placerville 89.34 40 ⇑P P 03 15 37.3 +0.1
baz=89,SNR=60
N14A Grayback Hills 89.35 44 ⇓P P 03 15 37.1 -0.3
baz=89,SNR=21
SEY Seymchan 89.38 348 eP P 03 15 36.3 -0.7
A06A Chilliwack 89.39 34 ⇓P P 03 15 37.1 -0.3
baz=90,SNR=15
KMI Kunming 89.41 298 P P 03 15 38.2 +0.1
KMI AP pP 03 17 37.3 +3.3
KMI XP sP 03 18 27.1 +0.2
KMI PP PP 03 19 18.7 -0.3
KMI SKS 03 25 19.6
KMI S S 03 25 40.3 -3.8
KMI XS sS 03 29 09.0 -1.9
KMI SS SS 03 31 54.2 -1.4
KMI AMB AMB
comp=Z,13nm,0.8s,mb4.8
KMI AMB AMB
comp=Z,99nm,6.2s
V19A Window Rock 89.44 50 ⇓P P 03 15 38.2 +0.2
baz=90,SNR=8.9
G10A Bishop Farm, J 89.46 39 ⇓P P 03 15 37.4 -0.4
baz=90,SNR=40
J12A Stokes Ranch, 89.48 41 P P 03 15 38.2 +0.3
baz=90,SNR=66
BGU Big Grassy Mou 89.49 44⇑iP P 03 15 37.6 -0.4
D08A Wollman Farm, 89.49 37 ⇑P P 03 15 37.9 0.0
baz=90,SNR=32
O15A The Old Anders 89.50 45 ⇓P P 03 15 38.3 +0.2
baz=90,SNR=12
L13A Double Diamond 89.55 43 ⇑P P 03 15 38.5 +0.2
baz=90,SNR=20
NLU North Lily Min 89.58 45⇑iP P 03 15 38.5 0.0
WRAK Wrangell Islan 89.58 24⇑iP P 03 15 37.9 -0.2
comp=Z,91nm,1.2s,mb5.5
T18A Mexican Hat 89.59 49 ⇓P P 03 15 38.9 +0.3
baz=90,SNR=76
E09A Wood Farm, Sta 89.60 37 P P 03 15 37.9 -0.5
baz=90,SNR=24
M14A Sheep Mountain 89.60 44 P P 03 15 38.6 +0.1
baz=90,SNR=78
Q16A Castle Valley 89.63 47 ⇓P P 03 15 39.4 +0.7
baz=90,SNR=32
P16A Fountain Green 89.67 46 ⇓P P 03 15 39.6 +0.7
baz=90
CMAR Chiang Mai Arr 89.67 290 P P 03 15 40.9 +1.4
comp=Z,7.0nm,0.8s,mb4.5,baz=132,slow=3.0,SNR=21
CMAR pP pP 03 17 35.4 +0.1
comp=Z,1.2nm,0.3s,baz=153,slow=3.0,SNR=1.4
CMAR PP PP 03 19 22.1 +1.0
comp=Z,1.1nm,0.3s,baz=126,slow=5.1,SNR=4.4
CMAR PKKP PKKPbc 03 33 10.2 +0.7
comp=Z,1.9nm,0.4s,baz=283,slow=4.1,SNR=5.7
CMAR Chiang Mai Arr 89.67 290 P P 03 15 40.9 +1.5
CMAR *PP pP 03 17 35.4 0.0
CMAR 03 19 22.2
R17A Hanksville Air 89.68 47 P P 03 15 38.9 -0.1
baz=90,SNR=46
B07A Winthrop 89.70 35 ⇑P P 03 15 38.5 -0.3
baz=90,SNR=31
H11A Donnelly 89.76 40 P P 03 15 39.2 0.0
baz=90,SNR=76
K13A Stover Farm, H 89.77 42 ⇑P P 03 15 39.8 +0.5
baz=90,SNR=39
S18A Hurst Farm, Bl 89.79 48 P P 03 15 39.4 -0.1
baz=90,SNR=12
N15A Stansbury Isla 89.79 44 ⇓P P 03 15 39.4 0.0

baz=90,SNR=19
F10A Beach Ranch, E 89.80 38 ⇑P P 03 15 38.7 -0.6
baz=90,SNR=45
TMUT Trail Mountain 89.80 46⇑iP P 03 15 40.3 +0.7
OD2 Odessa Site #2 89.81 37 eP P 03 15 38.9 -0.5
CHTO Chiang Mai 89.83 291 eP P 03 15 41.0 +0.9
CHTO pmax pmax
comp=Z,13nm,0.9s,mb4.8
CHTO Chiang Mai 89.83 291 eP P 03 15 41.0 +0.9
comp=Z,13nm,0.9s,mb4.8
D09A Jones Farm, Ri 89.83 37 P P 03 15 39.3 -0.2
baz=90,SNR=14
C08A Higginbotham F 89.86 36 ⇑P P 03 15 39.1 -0.5
baz=90
MPU Maple Canyon 89.90 45⇑iP P 03 15 40.3 +0.3
comp=Z,44nm,0.9s,mb5.3
NOQ North Oquirrh 89.92 45⇑iP P 03 15 39.7 -0.3
comp=Z,99nm,1.3s,mb5.5
A07A Ashnola River, 89.93 35 ⇑P P 03 15 39.7 -0.1
baz=90,SNR=32
L14A Malta 89.95 43 ⇑P P 03 15 40.1 -0.1
baz=90,SNR=28
G11A Walters Elk Ra 90.01 39 ⇑P P 03 15 39.9 -0.4
baz=90,SNR=56
T19A Beclabito 90.02 49 ⇑P P 03 15 40.7 +0.1
baz=90,SNR=9.3
B08A Colville Reser 90.06 35 ⇑P P 03 15 39.7 -0.8
baz=90,SNR=22
SPUT South Promonto 90.06 44⇑iP P 03 15 40.7 0.0
HLID Hailey 90.07 41 ⇑P P 03 15 40.9 +0.2
baz=90,SNR=79
HLID Hailey 90.07 41⇑iP P 03 15 40.8 +0.1
comp=Z,49nm,1.0s,mb5.3
O16A Springville 90.09 45 P P 03 15 41.1 +0.2
baz=90,SNR=29
HVU Hansel Valley 90.11 44⇑iP P 03 15 40.9 0.0
HVU e 03 19 21.4
HVU pmax pmax
comp=Z,60nm,0.8s,mb5.5
HVU Hansel Valley 90.11 44⇑iP P 03 15 40.9 0.0
comp=Z,60nm,0.8s,mb5.5
HVU ePP PP 03 19 21.4 -2.7
J13A Cove Ranch, Pi 90.12 42 ⇓P P 03 15 41.4 +0.4
baz=90,SNR=96
M15A Larsen Ranch, 90.15 44 P P 03 15 41.0 0.0
baz=90,SNR=94
Y22C IRIS PASSCAL I 90.15 53 ⇓P P 03 15 42.0 +0.7
baz=90,SNR=5.6
LAZ Ladron 90.15 52 eP P 03 15 41.6 +0.3
MNTX Cornudas Mount 90.15 55⇑iP P 03 15 41.5 +0.1
comp=Z,34nm,0.9s,mb5.2
MNTX ePP PP 03 19 23.6 -1.1
E10A Myers Farm, Un 90.16 38 ⇓P P 03 15 40.3 -0.7
baz=90
SRU San Rafael 90.16 47⇑iP P 03 15 41.2 0.0
SRU pmax pmax
comp=Z,56nm,0.8s,mb5.5
SRU San Rafael 90.16 47 P P 03 15 41.4 +0.2
baz=90,SNR=83
SRU San Rafael 90.16 47⇑iP P 03 15 41.2 0.0
comp=Z,56nm,0.8s,mb5.4
KTH Kantishna Hill 90.17 13⇑iP P 03 15 38.1 -2.5
comp=Z,36nm,0.9s,mb5.2
CTU Camp Tracy 90.18 45⇑iP P 03 15 41.0 -0.2
comp=Z,62nm,1.0s,mb5.4
CHUM Lake Minchumin 90.20 12⇑iP P 03 15 38.5 -2.3
comp=Z,32nm,1.1s,mb5.1
P17A Butcher Ranch, 90.20 46 P P 03 15 41.7 +0.3
baz=90,SNR=21
TRF Thorofare Moun 90.20 13⇑iP P 03 15 39.0 -1.8
comp=Z,51nm,0.9s,mb5.4
R18A Canyonlands Na 90.21 48 P P 03 15 41.5 0.0
baz=90,SNR=51
K14A Jones Ranch, D 90.27 43 P P 03 15 41.9 +0.2
baz=90,SNR=32
C09A Chrisman Ranch 90.29 36 ⇑P P 03 15 41.0 -0.6
baz=90,SNR=6.7
DAU Daniels Canyon 90.36 45 eP P 03 15 42.5 +0.4
F11A Grangeville 90.36 39 ⇑P P 03 15 40.1 -1.8
baz=90
H12A Diamond D Ranc 90.36 40 P P 03 15 42.0 0.0
baz=90,SNR=73
TXAR Lajitas Array 90.37 58 P P 03 15 42.8 +0.4
comp=Z,32nm,0.7s,mb5.3,baz=214,slow=6.4,SNR=472
TXAR PP PP 03 19 25.3 -1.1
comp=Z,1.3nm,0.9s,baz=212,slow=8.6,SNR=4.3
TXAR PKKP PKKPbc 03 33 09.6 +1.5
comp=Z,0.5nm,0.6s,baz=76,slow=3.0,SNR=8.1
TXAR Lajitas Array 90.37 58 P P 03 15 42.8 +0.4
TXAR 03 19 25.3
TXAR Lajitas Array 90.37 58 P P 03 15 42.8 +0.4
TXAR PP PP 03 19 25.3 -1.1
TXAR PKKP PKKPbc 03 33 09.6 +1.5
D10A Wagner Farm, O 90.40 37 ⇓P P 03 15 41.4 -0.7
baz=90,SNR=16
BNM Barren Site 90.40 53 eP P 03 15 42.6 +0.2
S19A Harvey Farm, M 90.40 48 P P 03 15 42.3 0.0
baz=90,SNR=18
Q18A Rafter H Ranch 90.42 47 P P 03 15 42.2 -0.2
baz=90,SNR=42
I13A Wildhorse Cree 90.44 41 P P 03 15 42.7 +0.3
baz=90,SNR=23
A08A Turner Farm, O 90.45 35 P P 03 15 42.1 -0.1
baz=90,SNR=17
L15A Malad City 90.47 44 ⇓P P 03 15 42.4 -0.2
baz=91,SNR=49
LPM Los Pinos Moun 90.48 52 eP P 03 15 42.6 -0.1
N16A Rees Ranch, Co 90.49 45 ⇑P P 03 15 42.9 +0.2
baz=91,SNR=14
HHC Hu-ho-hao-te 90.57 315 eP P 03 15 43.7 +0.7
HHC AP pP 03 17 42.4 +3.3
HHC XP sP 03 18 33.5 +1.5
HHC PP PP 03 19 29.4 +1.7
HHC S S 03 25 52.4 -1.3
HHC XS sS 03 29 16.2 -5.0
HHC SS SS 03 32 14.4 +2.9
HHC AMB AMB
comp=Z,13nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,165nm,4.8s
MVCO Mesa Verde 90.57 49 ⇓P P 03 15 42.9 -0.3
baz=91,SNR=5.3
MVCO Mesa Verde 90.57 49 eP P 03 15 42.5 -0.6
comp=Z,15nm,1.0s,mb4.9
M16A Huntsville 90.59 44 P P 03 15 43.0 -0.1
baz=91,SNR=35
R19A Curley Farm, L 90.59 48 ⇓P P 03 15 42.9 -0.3
baz=91,SNR=9.7
E11A Bogner Ranch, 90.59 38 ⇓P P 03 15 41.4 -1.6
baz=91
BPAW Bear Paw Mtn. 90.65 12 eP P 03 15 40.3 -2.6
comp=Z,5.5nm,0.9s,mb4.5
H13A Challis 90.72 41 P P 03 15 43.7 +0.1
baz=91,SNR=41
B09A Rice 90.73 36 ⇑P P 03 15 42.9 -0.7
baz=91,SNR=16
MCK McKinley 90.73 13⇑iP P 03 15 41.6 -1.6
MCK pmax pmax
comp=Z,26nm,1.0s,mb5.1
MCK McKinley 90.73 13⇑iP P 03 15 41.5 -1.7
comp=Z,26nm,1.0s,mb5.1
K15A Arbon 90.75 43 ⇓P P 03 15 43.8 0.0
baz=91
PV10 Paradox Valley 90.78 48 eP P 03 15 43.7 -0.5
F12A Elk City 90.80 39 ⇓P P 03 15 43.4 -0.6
baz=91,SNR=36
A09A Danville 90.82 35 ⇑P P 03 15 43.5 -0.5
baz=91,SNR=10
C10A Spilker Farm, 90.83 37 ⇓P P 03 15 43.4 -0.6
baz=91
SKAG Skagway 90.83 21 eP P 03 15 43.4 -0.3
comp=Z,7.6nm,0.6s,mb4.8
N17A Moffit Pass 90.91 45 P P 03 15 44.9 +0.2
baz=91,SNR=18
ANMO Albuquerque 90.91 52⇑iP P 03 15 44.8 0.0
ANMO pmax pmax
comp=Z,34nm,1.0s
ANMO Albuquerque 90.91 52⇑iP P 03 15 44.8 0.0
comp=Z,34nm,1.0s,mb5.2
D11A Klaveano Farm, 90.92 38 ⇑P P 03 15 43.4 -1.1
baz=91,SNR=13
Q19A Hogan Spring (90.92 47 P P 03 15 44.5 -0.2
baz=91,SNR=27
PV01 Paradox Valley 90.98 48 eP P 03 15 44.5 -0.5
G13A Cobalt 91.03 40 P P 03 15 44.9 -0.2
baz=91,SNR=26
L16A Fish Haven 91.08 44 P P 03 15 45.3 -0.1
baz=91,SNR=74
O18A Roosevelt 91.10 46 ⇓P P 03 15 45.6 +0.1
baz=91,SNR=16
B10A Chitwood Farm, 91.15 36 ⇑P P 03 15 44.9 -0.7
baz=91
NEW Newport 91.19 36⇑iP P 03 15 43.0 -2.7
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 91.19 36⇑iP P 03 15 43.0 -2.7
comp=Z,5.5nm,0.9s,mb4.5
HYT Haines Junctio 91.21 19 eP P 03 15 44.8 -0.7
CD2 Chengdu 91.23 303 eP P 03 15 45.6 -0.8
CD2 AP pP 03 17 45.4 +2.9
CD2 XP sP 03 18 38.5 +3.2
CD2 PP PP 03 19 34.9 +1.8
CD2 S S 03 25 56.0 -4.1
CD2 XS sS 03 29 28.3 +0.3
CD2 SS SS 03 32 20.9 -0.4
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,40nm,6.8s
F13A Darby 91.35 40 P P 03 15 46.0 -0.5
baz=91,SNR=19
A10A Northport 91.37 36 ⇑P P 03 15 46.0 -0.6
baz=92
K16A Soda Springs 91.41 43 ⇓P P 03 15 47.1 +0.2
baz=92,SNR=28
D12A Red Ives Fores 91.47 38 ⇓P P 03 15 46.1 -1.0
baz=92
G14A Jackson 91.57 40 ⇓P P 03 15 47.4 -0.2
baz=92
J16A Bone 91.63 43 ⇓P P 03 15 48.2 +0.3
baz=92
N18A Larsen Ranch, 91.68 45 P P 03 15 47.9 -0.2
baz=92,SNR=31
AHID Auburn Hatcher 91.69 43 eP P 03 15 47.7 -0.5
comp=Z,35nm,0.9s,mb5.4
B11A Sandpoint 91.70 37 ⇓P P 03 15 47.4 -0.6
baz=92,SNR=9.8
MCMT McKenzie Canyo 91.70 41 eP P 03 15 48.1 -0.1
MCMT ePP PP 03 19 32.4 -4.1
E13A Victor 91.80 39 ⇓P P 03 15 47.3 -1.3
baz=92,SNR=7.7
RRI2 Red Ridge 91.85 43⇑iP P 03 15 48.9 0.0
comp=Z,50nm,1.0s,mb5.5
F14A Wisdom 91.93 40 ⇓P P 03 15 48.6 -0.6
baz=92
IMA2 Indian Mountai 91.96 10 eP P 03 15 47.7 -1.1
COLA College 91.97 13⇑iP P 03 15 47.0 -1.9
COLA pmax pmax
comp=Z,12nm,0.8s,mb5.0
COLA College 91.97 13⇑iP P 03 15 47.0 -1.9
comp=Z,12nm,0.8s,mb5.0
A11A Hall Mountain, 92.00 36 ⇑P P 03 15 49.4 -0.1
baz=92
G15A Dillon 92.10 41 P P 03 15 49.9 -0.1
baz=92,SNR=27
B12A Libby 92.14 37 ⇑P P 03 15 49.7 -0.4
baz=92
DLMT Dillon 92.14 41⇑iP P 03 15 50.0 -0.2
comp=Z,34nm,1.4s,mb5.2
REDW Red Top Meadow 92.15 43⇑iP P 03 15 50.0 -0.2
comp=Z,69nm,1.2s,mb5.6
MSO Missoula 92.15 39 eP P 03 15 48.7 -1.5
comp=Z,3.0nm,0.6s,mb4.5
MSO ePP PP 03 19 34.9 -5.0
TPAW Teton Pass 92.16 43⇑iP P 03 15 50.2 -0.1
comp=Z,41nm,1.2s,mb5.3
E14A Clinton 92.19 39 P P 03 15 49.7 -0.6
baz=92,SNR=10
C13A Hot Springs 92.26 38 ⇓P P 03 15 49.3 -1.4
baz=92
SNOW Snow King Moun 92.26 43⇑iP P 03 15 50.6 -0.2
comp=Z,42nm,1.0s,mb5.4
BILL Bilibino 92.32 355 P P 03 15 50.0 -0.5
BILL pmax pmax
comp=Z,36nm,1.2s,mb5.3
A12A Yaak River Ran 92.37 36 ⇓P P 03 15 50.6 -0.5
baz=92,SNR=8.0
IMW Indian Meadow 92.38 42⇑iP P 03 15 51.2 -0.1
comp=Z,45nm,1.2s,mb5.4
IMW ePP PP 03 19 38.4 -3.4
MOOW Moose Ponds 92.42 43 eP P 03 15 51.2 -0.3
comp=Z,27nm,1.4s,mb5.1
LOHW Long Hollow 92.44 43⇑iP P 03 15 51.4 -0.2
comp=Z,9.4nm,0.6s,mb5.0
LOHW ePP PP 03 19 39.8 -2.4
F15A Butte 92.46 40 P P 03 15 51.2 -0.4
baz=92,SNR=9.2
D14A Greenough 92.54 39 ⇓P P 03 15 50.6 -1.3
baz=93,SNR=9.8
QLMT Earthquake Lak 92.56 41 eP P 03 15 52.5 +0.4
CHMT Chamberlain Mo 92.60 39 eP P 03 15 51.2 -1.0
FLWY Flagg Ranch 92.62 42⇑iP P 03 15 52.5 +0.1
comp=Z,29nm,1.0s,mb5.3
BW06 Boulder Array 92.66 44 eP P 03 15 51.8 -0.8
comp=Z,20nm,0.8s,mb5.2
PDAR Pinedale Array 92.66 44 P P 03 15 52.0 -0.7
comp=Z,17nm,0.8s,mb5.1,baz=214,slow=4.3,SNR=103
PDAR PP PP 03 19 40.7 -3.2
comp=Z,2.8nm,1.0s,baz=242,slow=6.2,SNR=7.3
E15A Deer Lodge 92.69 40 ⇓P P 03 15 51.8 -0.9
baz=93,SNR=5.9
B13A Whitefish 92.71 37 ⇓P P 03 15 51.4 -1.3
baz=93,SNR=5.2
YFT Old Faithful 92.73 42 eP P 03 15 54.1 +1.2
C14A Swan Lake 92.78 38 ⇑P P 03 15 51.6 -1.4
baz=93
BOZ Bozeman (W) 92.87 41⇑iP P 03 15 52.9 -0.6
BOZ e 03 19 42.7
BOZ pmax pmax
comp=Z,19nm,1.2s,mb5.0
BOZ Bozeman (W) 92.87 41 ⇑P P 03 15 53.2 -0.3
baz=93
BOZ Bozeman (W) 92.87 41⇑iP P 03 15 52.9 -0.6
comp=Z,19nm,1.2s,mb5.0
BOZ ePP PP 03 19 42.6 -2.8
SDCO Great Sand Dun 92.92 50⇑iP P 03 15 53.5 -0.4
comp=Z,18nm,0.9s,mb5.1
SDCO ePP PP 03 19 42.3 -3.7
A13A Flathead Natio 93.05 37 ⇑P P 03 15 53.5 -0.8
baz=93
D15A Lincoln 93.09 39 ⇑P P 03 15 53.9 -0.6
baz=93
DAWY Dawson 93.27 17⇑iP P 03 15 54.1 -0.8
WALA Waterton Lakes 93.39 37⇑iP P 03 15 55.0 -0.9
comp=Z,12nm,1.0s,mb4.9
EGAK Eagle 93.40 16⇑iP P 03 15 54.4 -1.1
comp=Z,23nm,0.8s,mb5.3
LZH Lanzhou 93.53 308 ⇑P P 03 15 57.5 +0.7
LZH AP pP 03 17 56.0 +2.9
LZH XP sP 03 18 48.5 +2.6
LZH ePP PP 03 19 54.0 +3.2
LZH SKS 03 25 41.6
LZH S S 03 26 17.4 -2.5
LZH XS sS 03 29 50.2 +1.3
LZH SS SS 03 32 54.5 +0.8
LZH AMB AMB
comp=Z,31nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,168nm,8.5s
RWWY Rawlins 93.64 46 eP P 03 15 56.2 -0.9
comp=Z,31nm,1.0s,mb5.4
ISCO Idaho Springs 93.81 48⇑iP P 03 15 57.8 -0.1
ISCO pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
ISCO Idaho Springs 93.81 48⇑iP P 03 15 57.8 -0.2
comp=Z,6.4nm,0.8s,mb4.8
JCT Junction City 93.88 58⇑iP P 03 15 57.4 -1.1
JCT pmax pmax
comp=Z,14nm,0.6s,mb5.3
JCT Junction City 93.88 58⇑iP P 03 15 57.4 -1.1
comp=Z,14nm,0.6s,mb5.3
RLMT Red Lodge 94.03 42 eP P 03 15 58.5 -0.3
comp=Z,12nm,1.0s,mb5.0
GCMT Greycliff 94.12 41 eP P 03 15 58.9 -0.3
PHWY Pilot Hill 94.61 47 eP P 03 16 00.9 -0.7
YAK Yakutsk 94.70 339 eP P 03 16 00.6 -0.8
YAK pmax pmax
comp=Z,15nm,0.8s,mb5.2
TRQA Tornquist 95.14 136 eP P 03 16 05.5 +1.3
EGMT Eagleton 95.20 39 ⇓P P 03 16 03.3 -0.8
baz=95
EDM Edmonton 95.95 34 eP P 03 16 05.6 -1.7
LAO LASA Array 96.65 42 eP P 03 16 10.6 0.0
comp=Z,20nm,1.0s,mb5.3
HKT Hockley 96.78 60 eP P 03 16 11.0 -0.7
HKT pmax pmax
comp=Z,12nm,1.6s,mb4.9
HKT Hockley 96.78 60 eP P 03 16 11.0 -0.7
comp=Z,12nm,1.6s,mb4.9
RSSD Black Hills 96.84 45⇑iP P 03 16 10.6 -0.9
RSSD pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
RSSD Black Hills 96.84 45⇑iP P 03 16 10.6 -0.9
comp=Z,5.8nm,0.8s,mb4.9
SONM Songino Array 97.25 319 P P 03 16 13.8 +0.6
comp=Z,0.5nm,0.4s,mb4.1,baz=127,slow=3.9,SNR=3.6
SONM PP PP 03 20 11.7 -7.2
comp=Z,3.2nm,1.1s,baz=127,slow=6.1,SNR=5.1
SONM PKKPbc PKKPbc 03 32 50.4 -0.5
comp=Z,1.2nm,0.5s,baz=299,slow=3.2,SNR=5.5
CBKS Cedar Bluff 97.45 51 eP P 03 16 14.2 -0.2
CBKS pmax pmax
comp=Z,11nm,0.7s,mb5.2
CBKS Cedar Bluff 97.45 51 eP P 03 16 14.2 -0.3
comp=Z,11nm,0.7s,mb5.2
INK Inuvik 98.07 16 eP Pdif 03 16 15.0 -2.1
ECSD EROS,Sioux Fal 101.56 47 ePdif Pdif 03 16 31.6 -1.0
comp=Z,6.0nm,1.1s
ZALV Zalesovo Beam 112.09 321 PKiKP PKiKP 03 21 10.8 -1.6
comp=Z,3.4nm,0.4s,baz=124,slow=0.6,SNR=14
ZAL Zalesovo 112.11 321 PKIKP PKiKP 03 21 10.8 -1.5
MK31 Makanchi Array 112.30 313 ePKIKP PKiKP 03 21 11.7 -1.3
MKAR Makanchi Array 112.30 313 Pdiff Pdif 03 17 22.6 +2.2
comp=Z,0.4nm,0.5s,baz=108,slow=4.7,SNR=3.6
MKAR PKiKP PKiKP 03 21 11.8 -1.2
comp=Z,3.5nm,0.5s,baz=219,slow=1.3,SNR=27
MKAR SKP 03 23 58.6
comp=Z,1.1nm,0.7s,baz=90,slow=1.2,SNR=3.8
MKAR PKKPbc PKKPbc 03 32 05.2 -0.4
comp=Z,1.7nm,0.7s,baz=289,slow=3.7,SNR=9.9
KURK Kurchatov 115.35 316 ePKIKP PKPdf 03 21 17.2 -1.5
TKM2 Tokmak 2 116.29 308 ePKIKP PKPdf 03 21 19.9 -0.9
AML Almayashu 117.56 306 ePKPdf PKPdf 03 21 22.4 -0.9
EKS2 Erkin-Say 117.58 307 ePKPdf PKPdf 03 21 22.2 -1.0
BDFB Brasilia 118.66 125 PKP PKPdf 03 21 25.5 -0.6
comp=Z,1.8nm,0.5s,baz=233,slow=7.9,SNR=8.9
KBL Kabul 119.99 297 ePKPdf PKPdf 03 21 28.2 +0.1
SUR Sutherland 120.58 200 ePKPdf PKPdf 03 21 30.0 +0.5
BVAR Borovoye Array 120.58 319 PKKPbc PKKPbc 03 31 36.9 -0.2
comp=Z,0.6nm,0.5s,baz=280,slow=4.1,SNR=3.5
BRVK Borovoye 120.65 319 ePKIKP PKPdf 03 21 27.6 -1.2
BOSA Boshof 122.39 206 PKP PKPdf 03 21 33.3 +0.3
comp=Z,6.4nm,0.7s,baz=144,slow=2.3,SNR=12
BOSA PKKPbc PKKPbc 03 31 28.4 -2.4
comp=Z,4.1nm,0.7s,baz=176,slow=2.1,SNR=9.5
BOSA Boshof 122.39 206 ePKPdf PKPdf 03 21 33.4 +0.4
SCHQ Schefferville 122.46 39 PKP PKPdf 03 21 30.6 -1.6
comp=Z,7.6nm,0.9s,baz=258,slow=2.5,SNR=11
LBTB Lobatse 125.41 209 ePKIKP PKPdf 03 21 39.2 +0.3
DAG Danmarks Havn 126.35 5⇑iPKIKP PKPdf 03 21 37.6 -1.5
DAG pmax pmax
comp=Z,4.0nm,0.6s
DAG Danmarks Havn 126.35 5⇑iPKPdf 03 21 37.6 -1.5
comp=Z,4.0nm,0.6s
ARU Arti 127.02 324 iPKIKP PKPdf 03 21 40.8 -0.1
ARU 03 23 44.2
ARU Arti 127.02 324 ePKPdf PKPdf 03 21 40.1 -0.8
KEV Kevo 131.52 348 ep PKPdf 03 21 47.7 -1.4
comp=Z,7.8nm,0.5s
KEV Kevo 131.52 348 ePKIKP PKPdf 03 21 47.7 -1.4
KEV pmax pmax
comp=Z,8.0nm,0.5s
ARCES ARCESS Array B 131.99 348 PKP PKPdf 03 21 49.2 -0.8
comp=Z,17nm,0.6s,baz=46,slow=2.2,SNR=34
ARCES SKPbc SKPbc 03 24 27.1 -0.1
comp=Z,11nm,0.8s,baz=46,slow=3.5,SNR=14
ARCES ARCESS Array B 131.99 348 PKP PKPdf 03 21 49.2 -0.8
ARCES SKPbc SKPbc 03 24 27.1 -0.1
ARE0 ARCESS Array S 131.99 348 ePKPdf PKPdf 03 21 48.5 -1.5
ARE0 eSKP 03 24 26.4
LSZ Lusaka 132.32 218 ePKIKP PKPdf 03 21 52.7 +0.5
TSUM Tsumeb 133.83 203 ePKPdf PKPdf 03 21 55.9 +0.9
KLMR Klimovskoe 134.31 334 ePKHKP 03 21 47.2
KLMR e 03 24 34.3
JOF Joensuu 135.85 340 ep 03 21 46.8
comp=Z,17nm,0.5s
JOF Joensuu 135.85 340 ePKHKP 03 21 46.8
JOF pmax pmax
comp=Z,17nm,0.5s
KMBO Kilima Mbogo 136.17 241 PKP PKPdf 03 22 01.9 +2.3
comp=Z,3.7nm,0.4s,baz=83,slow=23,SNR=11
KMBO SKP 03 24 45.4
comp=Z,7.7nm,1.0s,baz=94,slow=1.0,SNR=7.6
KAF Kangasniemi 137.96 342 ep 03 21 52.0
comp=Z,9.9nm,0.6s
KAF Kangasniemi 137.96 342 ePKHKP 03 21 52.0
KAF pmax pmax
comp=Z,10.0nm,0.6s
MOS Moscow 138.06 329 ePKIKP PKPdf 03 21 57.2 -4.5
MOS e 03 23 55.4
MOS e 03 24 45.1
OBN Obninsk 138.91 329 iPKIKP PKPdf 03 22 03.0 -0.2
OBN pmax pmax
comp=Z,16nm,0.6s
HAKT HAKKARI 140.54 300 iP PKPdf 03 22 01.7 -5.0
ERZM Erzurum 141.95 305 iP PKPdf 03 22 06.6 -2.6
NB2 NORSAR Subarra 142.18 351 PKP 03 22 03.6
comp=Z,6.3nm,0.6s,baz=16,slow=3.2
NB2 NORSAR Subarra 142.18 351 PKP 03 22 03.6
baz=16,slow=3.2
NOA NORSAR Array B 142.18 351 PKhKP 03 22 04.5
comp=Z,21nm,0.9s,baz=16,slow=4.6,SNR=64
NOA SKPbc SKPbc 03 24 57.0 -0.1
comp=Z,4.1nm,0.8s,baz=14,slow=4.2,SNR=7.7
NAO01 NORSAR Array S 142.41 351 ePKPdf 03 22 04.7
KOPT Kop Dagi 142.57 305 iP PKPdf 03 22 09.0 -1.3
MARD Mardin 142.88 301 iP PKPdf 03 22 08.8 -2.1
MNK Minsk 143.20 333⇓ePKHKP 03 22 08.0
ANN Anapa 143.31 314 iPKHKP 03 22 07.5
ANN pmax pmax
comp=Z,99nm,0.7s
RUND Rundenannen 143.41 356 eP PKPdf 03 22 10.9 -0.2
RUND AMb AMB 03 22 11.9
comp=Z,142nm,1.0s
WAL1 Walls 143.73 1⇑eP PKPdf 03 22 09.3 -2.4
LRW Lerwick 143.86 1 P PKPdf 03 22 09.9 -2.0
LRW Lerwick 143.86 1⇑eP PKPdf 03 22 09.8 -2.1
LRW ⇑eP 03 22 09.9
GRSN GIRESUNGRSN 143.99 307 iP PKPdf 03 22 11.5 -1.2
BLS5 Blasjo 144.31 354 eP PKPdf 03 22 12.4 -0.3
BLS5 AMb AMB 03 22 14.1
comp=Z,69nm,1.3s
BLS5 Blasjo 144.31 354 eP PKPdf 03 22 12.7 0.0
MALT Malatya 144.52 303⇓iP PKPdf 03 22 14.6 +0.8
MALT Malatya 144.52 303 ePKPdf PKPdf 03 22 13.5 -0.2
MALT eSKP 03 25 05.2
AKASG Malin Array Be 145.11 327 PKPbc PKPbc 03 22 13.7 -1.5
comp=Z,9.6nm,0.3s,baz=42,slow=4.2,SNR=101
AKASG pPKPbc 03 24 18.1
comp=Z,3.5nm,0.7s,baz=44,slow=3.7,SNR=3.6
AKASG SKPbc SKPbc 03 25 04.6 +0.3
comp=Z,11nm,0.7s,baz=45,slow=2.9,SNR=15
AKASG Malin Array Be 145.11 327 PKPbc PKPbc 03 22 13.7 -1.5
AKASG pPKPbc 03 24 18.1
AKASG SKPbc SKPbc 03 25 04.6 +0.3
AKBB Malin Array Si 145.11 327 ePKPbc PKPbc 03 22 14.1 -1.1
AKBB epPKPdf pPKPdf 03 24 20.3 +2.2
AKBB eSKP 03 25 03.6
KIEV Kiev 145.12 327 ePKPbc PKPbc 03 22 14.0 -1.2
KIEV epPKPdf pPKPdf 03 24 20.4 +2.2
GZT Gaziantep 145.39 302 iP PKPdf 03 22 16.6 +1.4
SUW Suwalki 145.39 336 ePKP PKPdf 03 22 15.3 +0.6
SIM Simferopol' 145.41 316 ePKHKP 03 22 12.5
SIM pmax pmax
comp=Z,48nm,0.9s
RSC Scourie 145.45 5⇑eP PKPdf 03 22 14.9 +0.2
MLA1 Latheron 145.62 3⇑eP PKPdf 03 22 15.3 +0.3
REB Eisgbhrachaidh 145.67 5⇑eP PKPdf 03 22 15.2 +0.1
RRH Rhenigidale 145.74 6⇑eP PKPdf 03 22 15.7 +0.5
RRR Rubha Reidh 145.89 6⇑eP PKPdf 03 22 15.9 +0.5
MVH1 Achvaich 145.95 4⇑eP PKPdf 03 22 16.3 +0.8
KSK Scoval 146.19 7⇑eP PKPdf 03 22 17.4 +1.5
KAC Achnashellach 146.28 5⇑eP PKPdf 03 22 17.7 +1.6
MCD Coleburn Disti 146.34 3⇑eP PKPdf 03 22 17.2 +1.0
KPL Plockton 146.41 6⇑eP PKPdf 03 22 17.7 +1.3
MDO Dochfour 146.41 4⇑eP PKPdf 03 22 17.6 +1.3
KSB Sheil Bridge 146.56 5⇑eP PKPdf 03 22 18.2 +1.6

CTKT Corum 146.60 308 *i* P PKPdf 03 22 17.8 +0.6
MME1 Meikle Cairn 146.62 3⇑ *e*P PKPdf 03 22 17.7 +1.0
ASF Jabal al Asfar 146.68 292 PKPbc PKPbc 03 22 21.2 +0.9
comp=Z,24nm,0.8s,baz=67,slow=2.7,SNR=34
ASF *e*PKP pPKPdf 03 24 21.3 -0.2
comp=Z,10nm,1.0s,baz=287,slow=2.0,SNR=5.4
KAR1 Arisaig 146.81 6⇑ *e*P PKPdf 03 22 18.8 +1.8
BSD Bornholm Skovb 147.03 344⇑ *i*PKIKP PKPbc 03 22 19.6 -0.8
BSD pmax pmax
comp=Z,14nm,0.4s
BSD Bornholm Skovb 147.03 344⇑ *i*P PKPbc 03 22 19.6 -0.8
comp=Z,14nm,0.4s
AVNT Avonos 147.12 305 *i* P PKPdf 03 22 16.8 -1.4
ILGA Ilgaz 147.22 309 *i* P PKPbc 03 22 22.1 +0.7
CDAG Cicekdag 147.22 307 *i* P PKPbc 03 22 21.3 -0.1
BALT Daday 147.28 310 *i* P PKPbc 03 22 21.2 -0.3
RCY Rachaya 147.45 295 *e*P PKPbc 03 22 23.1 +0.9
BHL Bhannes 147.53 296 *e*P PKPbc 03 22 22.8 +0.4
KIS Kishinev 147.56 322 *e*PKP PKPbc 03 22 21.0 -1.1
ELDT Eldivan 147.62 309 *i* P PKPbc 03 22 22.6 +0.1
EBH Black Hill 147.66 4⇑ *e*P PKPbc 03 22 21.3 -0.7
EAB Aberfoyle 147.66 5⇑ *e*P PKPbc 03 22 21.1 -0.9
GKP Gorka Klasztor 148.02 341 *e*PKP PKPbc 03 22 22.8 -0.3
GKP Gorka Klasztor 148.02 341 *e*PKP PKPbc 03 22 22.7 -0.3
PGBU Glenifferbraes 148.03 5⇑ *e*P PKPbc 03 22 21.9 -1.1
ESY Stoneypath 148.04 3⇑ *e*P PKPbc 03 22 22.1 -0.9
EAU Auchinoon 148.06 4⇑ *e*P PKPbc 03 22 22.5 -0.5
EBL Broad Law 148.16 3⇑ *e*P PKPbc 03 22 22.6 -0.7
LVV L'vov 148.17 330 *e*PKHKP 03 22 22.0
XSO Sourhope Farm 148.48 3⇑ *e*P PKPbc 03 22 23.2 -0.9
SGKT Sivrigoynuk 148.57 309 *i* P PKPbc 03 22 24.9 0.0
ESK Eskdalemuir 148.60 4⇑ *e*P PKPbc 03 22 22.9 -1.5
ESK Eskdalemuir 148.60 4 *e*PKPbc PKPbc 03 22 23.2 -1.2
PHNC Paralimni 148.66 298 P PKPbc 03 22 25.3 +0.1
ECK Cauldkaine Hil 148.75 4⇑ *e*P PKPbc 03 22 23.7 -1.1
KWP Kalwaria 148.90 331 *e*PKP PKPbc 03 22 25.3 0.0
KWP Kalwaria 148.90 331⇑ *i*P PKPdf 03 22 20.7 0.0
KWP Kalwaria 148.90 331 ⇑P PKPdf 03 22 20.7 0.0
KWP *e*PKP PKPbc 03 22 25.3 0.0
GAL1 Galloway 148.94 5⇑ *e*P PKPbc 03 22 24.4 -0.9
XAL Allendale 149.11 3⇑ *e*P PKPbc 03 22 24.6 -1.1
BSEG Bad Segeberg 149.12 348 *e*PKPdf PKPdf 03 22 21.0 +0.1
BSEG *e*PKPbc PKPbc 03 22 25.5 -0.2
BSEG *e*PKPab PKPab 03 22 31.3 -0.9
ERMK Ermenek 149.18 302 *i* P PKPbc 03 22 26.8 +0.3
TIRR Tirgusor 149.20 319⇑ *i*P PKPbc 03 22 26.0 -0.2
TIRR Tirgusor 149.20 319 *e*PKPbc PKPbc 03 22 26.0 -0.2
CSS Prodhromos 149.23 298 P PKPbc 03 22 26.6 0.0
comp=Z,1.9nm,0.5s
CSS Prodhromos 149.23 298 *e*PKPbc PKPbc 03 22 26.2 -0.4
KDHN Kadinhani 149.24 306 *i* P PKPbc 03 22 26.2 -0.3
MAMC Mammari 149.28 299 ⇓P PKPbc 03 22 27.0 +0.3
HENT Hendek 149.28 311 *i* P PKPbc 03 22 26.2 -0.4
VRI Vrincioaia 149.39 322⇑ *i*P PKPbc 03 22 26.3 -0.3
VRI Vrincioaia 149.39 322 P PKPbc 03 22 26.2 -0.4
PLOR Plostina 149.44 322 PKHKP PKPbc 03 22 26.5 -0.3
GIM North Isle of 149.53 5 *e*P PKPbc 03 22 25.7 -1.0
KOLS Kolonicke sedl 149.61 331 *i* PKP PKPbc 03 22 27.3 +0.2
KOLS *e* 03 24 34.3
SZAC Souni-Zanaja 149.63 298 P PKPbc 03 22 27.6 0.0
OJC Ojcow 149.66 335 *e*PKPdf PKPbc 03 22 27.0 -0.1
RUE Ruedersdorf 149.70 343 *e*PKPbc PKPbc 03 22 26.6 -0.6
ALFC Alevga 149.78 299 ⇓P PKPbc 03 22 27.4 -0.5
UZH Uzhgorod 149.82 330⇓ *i*PKHKP 03 22 27.4
UZH *i* 03 22 35.2
ESKT Eskisehir 149.82 308 *i* P PKPbc 03 22 27.6 -0.3
CRVS Cervenica-Dubn 149.99 331 *i* PKP PKPbc 03 22 27.8 -0.2
CRVS *e* 03 24 32.8
HPK Haverah Park 150.04 2⇑ *e*P PKPbc 03 22 27.2 -0.7
MLR Muntele Rosu 150.06 322⇑ *i*P PKPbc 03 22 27.8 -0.4
MLR Muntele Rosu 150.06 322 P PKPbc 03 22 27.9 -0.3
NIE Niedzica 150.09 333 *e*PKP PKPbc 03 22 28.7 +0.5
NIE *e* 03 22 31.1
NIE *e* 03 24 34.3
NIE Niedzica 150.09 333 *e*PKP PKPbc 03 22 28.7 +0.5
NIE *e* 03 24 34.3
KSP Ksiaz 150.41 339 *e*PKP PKPbc 03 22 29.2 +0.3
KSP Ksiaz 150.41 339⇑ *i*PKIKP PKPbc 03 22 29.1 +0.2
KSP *e* 03 22 36.7
KSP Ksiaz 150.41 339⇑ *i*PKPdf PKPbc 03 22 29.1 +0.2
KSP *e*PKPab PKPab 03 22 36.7 -1.0
KSP *ep*PKP pPKPdf 03 24 33.2 +6.2
LHO Holmfirth 150.44 2⇑ *e*P PKPbc 03 22 27.9 -1.0
VOIR 150.59 323⇑ *i*P PKPbc 03 22 29.0 -0.5
VOIR 150.59 323 P PKPbc 03 22 29.1 -0.4
OKC Ostrava-Krasne 150.60 336⇑ *e*PKP PKPbc 03 22 29.2 -0.2
OKC *ep*PKP pPKPdf 03 24 35.7 +8.4
KECS Kecovo 150.73 332 *i* PKP PKPbc 03 22 29.0 -0.7
TKTP Tekketepe 150.73 306 *i* P PKPbc 03 22 29.5 -0.5
ULDT Uludag 150.79 310 *i* P PKPbc 03 22 30.1 0.0
UPC Upice 150.79 339 *e*PKPDF PKPdf 03 22 25.0 +1.4
UPC ⇑*e*PKP PKPbc 03 22 29.9 +0.1
UPC *ep*PKP pPKPdf 03 24 32.2 +4.6
MORC Moravsky Berou 150.88 337 *e*PKIKP PKPdf 03 22 23.4 -0.3
MORC *e* 03 22 39.9
MORC Moravsky Berou 150.88 337⇓ *i*P PKPbc 03 22 29.8 -0.2
MORC Moravsky Berou 150.88 337 *e*PKPdf PKPdf 03 22 23.4 -0.3
MORC *e*PKPbc PKPbc 03 22 29.8 -0.2
MORC *e*PKPab PKPab 03 22 39.9 +0.2
MORC *ep*PKPdf pPKPdf 03 24 32.6 +4.9
STNC Stoke 150.88 3⇑ *e*P PKPbc 03 22 29.3 -0.6
DRGR 150.93 327⇓ *i*P PKPbc 03 22 29.8 -0.4
DRGR 150.93 327 P PKPbc 03 22 30.0 -0.2
GDZ Gediz 150.97 308 *i* P PKPbc 03 22 30.3 -0.3
CLL Collm 150.97 343⇑ *e*PKIKP PKPdf 03 22 23.0 -0.8
CLL *i* 03 22 39.4
CLL pmax pmax
comp=Z,115nm,0.9s
CLL pmax pmax
comp=Z,37nm,1.0s
CLL Collm 150.97 343 *e*PKPdf PKPdf 03 22 23.2 -0.6
CLL *e*PKPbc PKPbc 03 22 29.9 -0.2
CLL *e*PKPab PKPab 03 22 39.1 -0.9
CLL Collm 150.97 343 *e*PKPdf PKPdf 03 22 23.0 -0.8
CLL ⇑*i*PKPbc PKPbc 03 22 29.9 -0.2
comp=Z,115nm,0.9s
CLL *i* PKPab PKPab 03 22 39.4 -0.6
comp=Z,37nm,1.0s
CLL *ep*PKPbc pPKPbc 03 24 33.0 +0.1
SBD1 Bryn Du 151.00 4⇑ *e*P PKPbc 03 22 29.3 -0.8
CLZ Clausthal 151.10 347 *e*PKPdf PKPdf 03 22 23.8 -0.2
CLZ *e*PKPbc PKPbc 03 22 30.4 0.0
CLZ *ep*PKPbc pPKPbc 03 24 37.3 +4.1
BRG Berggiesshubel 151.10 342 *i* PKIKP PKPdf 03 22 24.0 0.0
BRG *i* 03 22 40.3
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,6.0nm,0.6s
BRG pmax pmax
comp=Z,44nm,1.0s
BRG pmax pmax
comp=Z,16nm,1.8s
BRG pmax pmax
comp=Z,18nm,0.8s
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG MLR MLR
comp=N,2µm,20.8s
BRG MLR MLR
comp=E,122nm,28.1s
BRG MLR MLR
comp=Z,54nm,19.2s
BRG Berggiesshubel 151.10 342 *e*PKPdf PKPdf 03 22 24.0 0.0
BRG *e*PKPbc PKPbc 03 22 30.4 -0.1
BRG *e*PKPab PKPab 03 22 40.2 -0.4
BRG *ep*PKPbc pPKPbc 03 24 37.3 +4.0
BRG Berggiesshubel 151.10 342 *i* PKP PKPdf 03 22 24.0 -0.1
comp=Z,10.0nm,1.0s
BRG *i* 03 22 30.3
comp=Z,73nm,0.6s
BRG *i* 03 22 40.3
comp=Z,26nm,1.0s
BRG *ep*PKP pPKPdf 03 24 37.2 +9.1
comp=Z,30nm,1.8s
BRG *e* 03 35 02.2
comp=Z,2.7nm,1.1s
BRG
comp=N,204nm,20.8s
BRG
comp=E,90nm,28.1s
BRG
comp=Z,122nm,19.2s
BRG Berggiesshubel 151.10 342 *i* PKP PKPdf 03 22 24.0 -0.1
BRG *i* 03 22 30.3
BRG *i* 03 22 40.3
BRG *ep*PKP pPKPdf 03 24 37.2 +9.1
BRG *e* 03 35 02.2
BRG LR LR
comp=Z,70nm,19.2s
IBBN Ibbenburen 151.13 350 *e*PKPbc PKPbc 03 22 30.1 -0.4
IBBN *e*PKPab PKPab 03 22 39.8 -0.8
IBBN *ep*PKPbc pPKPbc 03 24 37.4 +4.1
PVCC Panska Ves 151.23 341 *e*PKIKP PKPdf 03 22 24.7 +0.5
PVCC *e* 03 22 41.3
PVCC Panska Ves 151.23 341 *e*PKPDF PKPdf 03 22 24.7 +0.5
PVCC ⇑*e*PKP PKPbc 03 22 30.9 +0.2
PVCC *e*PKPAB PKPab 03 22 41.3 +0.2
PVCC *ep*PKP pPKPdf 03 24 33.9 +5.6
KHAL Karahalli 151.23 307 *i* P PKPbc 03 22 31.0 -0.1
AEU East Anglia Un 151.39 359⇑ *e*P PKPbc 03 22 30.3 -0.7
HLM1 Long Mynd 151.41 4⇑ *e*P PKPbc 03 22 30.0 -1.1
PSZ Piszkesteto 151.42 332 *e*PKIKP PKPdf 03 22 24.2 -0.4
PSZ *e* 03 22 42.0
PSZ Piszkesteto 151.42 332 ⇑PKIKP PKPbc 03 22 30.9 -0.4
PSZ Piszkesteto 151.42 332⇑ *e*PKP PKPbc 03 22 30.9 -0.4
PSZ Piszkesteto 151.42 332⇑ *i*P PKPbc 03 22 30.9 -0.4
PSZ Piszkesteto 151.42 332 *e*PKPdf PKPdf 03 22 24.2 -0.4
PSZ *e*PKPbc PKPbc 03 22 30.6 -0.7
PSZ *e*PKPab PKPab 03 22 42.0 0.0
PSZ *ep*PKPdf pPKPdf 03 24 38.0 +9.3
DURS Dursunbey 151.48 310 *i* P PKPbc 03 22 31.1 -0.6
CALA Caldeira 151.52 52 *e*PKP PKPbc 03 22 32.3 +0.5
KOLL Kolacno 151.52 334 *i* PKP PKPbc 03 22 31.5 0.0
DEMI Demirci 151.53 309 *i* P PKPbc 03 22 31.4 -0.4
GOLH Golhisar 151.57 305 *i* P PKPbc 03 22 31.6 -0.3
WTSB Winterswijk 151.60 351⇑ *e*PKiKP PKiKP 03 22 30.9 -0.9
comp=Z,125nm,0.7s
VRAC Vranov 151.61 337⇑ *i*P PKPbc 03 22 31.4 -0.3
VRAC Vranov 151.61 337 P PKPbc 03 22 31.8 +0.1
PRU Pruhonice 151.71 340 *e*PKIKP PKPbc 03 22 31.6 -0.3
PRU *e* 03 22 42.9
PRU Pruhonice 151.71 340⇑ *e*PKP PKPbc 03 22 31.6 -0.3
PRU *e*PKPAB PKPab 03 22 42.9 -0.3
PRU *ep*PKP pPKPdf 03 24 36.5 +7.5
DNZL Cakiroluk 151.80 306 *i* P PKPbc 03 22 32.9 +0.4
ROSA Rosais 151.80 52 *e*PKP PKPbc 03 22 32.4 0.0
HTR Trewern Hill 151.83 4⇑ *e*P PKPbc 03 22 30.8 -1.2
GZR Gura Zlata 151.84 325⇑ *i*P PKPbc 03 22 31.7 -0.6
GZR Gura Zlata 151.84 325 P PKPbc 03 22 31.8 -0.5
MCH1 Michaelchurch 151.93 4 P PKPbc 03 22 31.1 -1.2
MCH1 Michaelchurch 151.93 4⇑ *e*P PKPbc 03 22 31.0 -1.2
MCH1 ⇑*e*P PKPbc 03 22 31.1 -1.2
MOX Moxa 151.93 344 *e*P PKPdf 03 22 24.6 -0.7
MOX *e* 03 22 31.8
comp=Z,45nm,1.4s
MOX *e* 03 22 43.2
MOX Moxa 151.93 344 *e*PKIKP PKPdf 03 22 24.6 -0.7
MOX *e* 03 22 43.2
MOX pmax pmax
comp=Z,45nm,1.4s
MOX Moxa 151.93 344 *e*PKPdf PKPdf 03 22 24.7 -0.6
MOX *e*PKPbc PKPbc 03 22 32.0 -0.3
MOX *e*PKPab PKPab 03 22 43.4 -0.7
PMAN Manadas 151.94 52 *e*PKP PKPbc 03 22 32.5 -0.3
TREC Trest 152.00 338 *e*PKIKP PKPdf 03 22 26.0 +0.6
TREC *e* 03 22 44.2
TREC Trest 152.00 338 *e*PKPDF PKPdf 03 22 26.0 +0.6
TREC ⇑*e*PKP PKPbc 03 22 32.1 -0.4
TREC *e*PKPAB PKPab 03 22 44.2 -0.2
TREC *ep*PKP pPKPdf 03 24 39.5 +10
BALY Balya 152.01 311 *i* P PKPbc 03 22 32.3 -0.6
BUG Bochum--Univer 152.04 350 *e*PKPbc PKPbc 03 22 31.9 -0.6
NKC Novy Kostel 152.09 343 *e*PKIKP PKPdf 03 22 25.4 -0.1
NKC *e* 03 22 44.3
NKC Novy Kostel 152.09 343 *e*PKPDF PKPdf 03 22 25.4 -0.1
NKC ⇑*e*PKP PKPbc 03 22 32.5 -0.2
NKC *e*PKPAB PKPab 03 22 44.3 -0.5
NKC *ep*PKP pPKPdf 03 24 39.2 +10
BUD Budapest 152.13 332⇑ *e*PKP PKPbc 03 22 32.6 -0.3
MODS Modra-Piesok 152.13 335 *i* PKP PKPbc 03 22 32.2 -0.6
MODS *e* 03 24 40.7
MODS Modra-Piesok 152.13 335 *i* PKP PKPbc 03 22 32.3 -0.5
MODS *e* 03 24 40.7
UBBA Unterbreizbach 152.14 347 *e*PKPdf PKPdf 03 22 25.1 -0.5
UBBA *e*PKPbc PKPbc 03 22 31.9 -0.9
UBBA *e*PKPab PKPab 03 22 44.2 -0.7
UBBA *ep*PKPbc pPKPbc 03 24 39.5 +3.8
BZS Buzias 152.29 326⇑ *i*P PKPdf 03 22 25.5 -0.5
BZS Buzias 152.29 326 ⇑P PKPdf 03 22 25.5 -0.5
HGH Gray Hill 152.30 4⇑ *e*P PKPbc 03 22 31.4 -1.7
ZST Bratislava 152.34 335 *i* PKP PKPab 03 22 46.2 +0.3
MANZ Manzenberg 152.41 343 *e*PKPdf PKPdf 03 22 25.4 -0.6
MANZ *e*PKPbc PKPbc 03 22 33.2 -0.2
TURN Turunc 152.41 304 *i* P PKPbc 03 22 33.2 -0.6
SWN1 Swindon 152.47 3 *e*P PKPbc 03 22 32.5 -1.0
ROTZ Rotzenmuhle 152.58 343 *e*PKPbc PKPbc 03 22 33.6 -0.2
ROTZ *e*PKPab PKPab 03 22 46.4 -0.5
WOL Wolverton 152.69 2⇑ *e*P PKPbc 03 22 32.9 -1.1
KHC Kasperske Hory 152.76 341 *e*PKIKP PKPdf 03 22 26.3 -0.3
KHC *e* 03 22 47.8
KHC Kasperske Hory 152.76 341 *e*PKPDF PKPdf 03 22 26.3 -0.3
KHC ⇑*e*PKP PKPbc 03 22 34.0 -0.2
KHC *e*PKPAB PKPab 03 22 47.8 +0.2
KHC *ep*PKP pPKPdf 03 24 34.6 +3.9
HGN Heimansgroeve 152.89 352 *ex* PKPbc 03 22 33.5 -0.9
comp=Z,19nm,1.1s
HGN Heimansgroeve 152.89 352 *e*PKiKP PKPab 03 22 46.7 -1.4
comp=Z,31nm,0.9s
BEBN Eben Emael 152.89 352 PKPab PKPab 03 22 47.2 -0.9
GRA1 Grafenberg Arr 152.91 344 *e*PKPdf PKPdf 03 22 27.2 +0.5
GRA1 *e*PKPbc PKPbc 03 22 34.1 -0.4
GRA1 *e*PKPab PKPab 03 22 48.0 -0.2
GRF Grafenberg Arr 152.91 344 *e*PKPdf PKPdf 03 22 27.2 +0.5
GRF *e*PKPbc PKPbc 03 22 34.1 -0.4
GRF *e*PKPab PKPab 03 22 48.0 -0.2
WET Wettzell 152.96 341 *e*PKIKP PKPdf 03 22 26.1 -0.7
WET *e* 03 22 33.4
WET *e* 03 22 48.5
WET Wettzell 152.96 341 *e*PKPdf PKPdf 03 22 26.1 -0.7
WET *e*PKPbc PKPbc 03 22 33.4 -1.2
WET *e*PKPab PKPab 03 22 48.5 0.0
WET *ep*PKPbc pPKPbc 03 24 41.1 +3.4
SOP Sopron 152.97 335⇑ *e*PKP PKPbc 03 22 34.3 -0.4
GEC2 GERESS Array S 152.98 340 *e*PKPdf PKPdf 03 22 26.0 -0.9
GEC2 *e*PKPbc PKPbc 03 22 34.2 -0.5
GEC2 *e*PKPab PKPab 03 22 48.1 -0.5
GERES GERESS Array B 152.98 340 PKP PKPdf 03 22 25.7 -1.2
comp=Z,2.5nm,1.0s,baz=120,slow=1.9,SNR=18
GERES PKPbc PKPbc 03 22 34.2 -0.4
comp=Z,8.4nm,0.8s,baz=27,slow=2.0,SNR=44
GERES PKPab PKPab 03 22 47.7 -0.8
comp=Z,2.2nm,0.6s,baz=31,slow=5.2,SNR=6.8
TNS Taunus Mts 153.02 348 *e*PKIKP PKPdf 03 22 26.1 -0.8
TNS *e* 03 22 47.9
TNS Taunus Mts 153.02 348 *e*PKPdf PKPdf 03 22 26.1 -0.8
TNS *e*PKPbc PKPbc 03 22 34.3 -0.4
TNS *e*PKPab PKPab 03 22 47.9 -0.8
TNS *ep*PKPbc pPKPbc 03 24 41.7 +3.9
MEM Membach 153.03 352 PKP PKPdf 03 22 27.3 +0.4
MEM PKPbc PKPbc 03 22 34.1 -0.6
MEM PKPab PKPab 03 22 46.5 -2.3
UCC Uccle 153.03 354 PKPbc PKPbc 03 22 34.1 -0.6
CONA Conrad Observa 153.03 336⇑ *i*P PKPbc 03 22 34.6 -0.2
comp=Z,53nm,1.6s
CSNA Conrad Observa 153.03 336⇑ *i*P PKPbc 03 22 34.7 -0.1
comp=Z,53nm,1.6s
BDRM Kayabasi 153.21 305 *i* P PKPbc 03 22 34.8 -0.8
PKSM Moragy 153.28 331⇓ *i*P PKPdf 03 22 26.7 -0.7
PKSM Moragy 153.28 331 ⇓P PKPdf 03 22 26.7 -0.7
BCLA Clavier 153.31 353 PKPbc PKPbc 03 22 34.8 -0.5
BCLA PKPab PKPab 03 22 48.9 -1.0
GIVI Givet 153.67 353 *e*PKIKP PKPdf 03 22 27.2 -0.6
DOU Dourbes 153.70 354 PKPbc PKPbc 03 22 35.7 -0.4
DOU PKPab PKPab 03 22 50.3 -1.3
WLF Walferdange 153.94 351 PKPbc PKPbc 03 22 37.0 +0.3
WLF PKPab PKPab 03 22 52.0 -0.6
WLF Walferdange 153.94 351 *e*PKPdf PKPdf 03 22 27.6 -0.6
WLF *e*PKPbc PKPbc 03 22 36.6 -0.1
WLF *e*PKPab PKPab 03 22 52.0 -0.6
WLF Walferdange 153.94 351 *e*PKPdf PKPdf 03 22 27.8 -0.4
WLF *e*PKPbc PKPbc 03 22 36.7 0.0
WLF *e*PKPab PKPab 03 22 51.7 -1.0
RJOB Jochberg 154.24 340 *e*PKPbc PKPbc 03 22 36.6 -0.8
RJOB *e*PKPab PKPab 03 22 54.3 +0.3
STU Stuttgart 154.25 346 *e*PKPdf PKPdf 03 22 28.2 -0.5
STU *e*PKPbc PKPbc 03 22 37.0 -0.4
STU *e*PKPab PKPab 03 22 53.3 -0.7
STU Stuttgart 154.25 346 *e*PKPdf PKPdf 03 22 28.2 -0.4
STU *e*PKPbc PKPbc 03 22 36.6 -0.8
STU *e*PKPab PKPab 03 22 53.1 -0.8
FUR Furstenfeldbru 154.30 343 *e*PKPab PKPab 03 22 54.2 0.0
SOKA Soboth 154.39 336⇑ *i*P PKPdf 03 22 27.6 -1.4
PERS Pernice 154.39 336 *i* PKPdf PKPdf 03 22 27.5 -1.4
PERS *e*PKPbc PKPbc 03 22 36.6 -1.1
PERS *i* 03 22 54.1
BFO Black Forest 154.85 347 *e*PKIKP PKPdf 03 22 28.4 -1.1
BFO *e* 03 22 37.8
BFO *e* 03 22 55.6
BFO Black Forest 154.85 347 *e*PKPbc PKPdf 03 22 38.0 +8.5
BFO *e*PKPab PKPab 03 22 55.7 -0.9
BFO Black Forest 154.85 347 *e*PKPdf PKPdf 03 22 28.4 -1.1
BFO *e*PKPdif 03 22 37.8
BFO *e*PKPbc PKPdf 03 22 38.0 +8.5
BFO *e*PKPab PKPab 03 22 55.5 -1.0
BFO *e*PKPab PKPab 03 22 55.7 -0.9
CDF Champ du Feu 154.97 349 *e*PKIKP PKPdf 03 22 28.8 -0.9
comp=Z,18nm,1.2s
WTTA Wattenberg 155.01 341⇑ *i*P PKPdf 03 22 28.8 -0.9
comp=Z,19nm,1.4s
RETA Reutte 155.06 343⇑ *i*P PKPdf 03 22 28.6 -1.2
comp=Z,64nm,2.5s
MOTA Moosalm 155.09 342⇑ *i*P PKPdf 03 22 28.7 -1.2
comp=Z,14nm,1.3s
LJU Ljubljana 155.11 336 *i* PKPdf PKPdf 03 22 29.1 -0.8
LJU *i* PKPbc PKPdf 03 22 38.6 +8.7
LJU *i* 03 22 56.9
ABTA Abfaltersbach 155.21 339⇑ *i*P PKPdf 03 22 28.6 -1.5
comp=Z,17nm,1.2s
FLN La Foliniere 155.26 1 *e*PKIKP PKPdf 03 22 29.2 -0.8
BOJS Bojanci 155.28 334 *i* PKPdf PKPdf 03 22 29.6 -0.6
BOJS *i* PKPbc PKPdf 03 22 39.3 +9.2
BOJS *e* 03 22 57.4
BOJS *e* 03 24 46.9
JAVS Javornik 155.41 336 *i* PKPdf PKPdf 03 22 29.1 -1.3
JAVS *i* 03 22 57.7
LDF La Druitiere 155.44 0 *e*PKIKP PKPdf 03 22 29.1 -1.2
comp=Z,33nm,1.3s
FETA Feichten 155.49 342⇑ *i*P PKPdf 03 22 29.6 -0.8
comp=Z,26nm,1.6s
HAU Haudompre 155.52 350 *e*PKIKP PKPdf 03 22 29.8 -0.6
ROSF Rostrenen 155.54 6 *e*PKIKP PKPdf 03 22 29.5 -0.9
comp=Z,27nm,1.1s
HINF Hinteralfeld 155.62 349 *e*PKIKP PKPdf 03 22 29.5 -1.0
comp=Z,31nm,1.5s
GRR Gorron 155.63 2 *e*PKIKP PKPdf 03 22 29.6 -0.9
SGMF Saint Gilles 155.68 4 *e*PKIKP PKPdf 03 22 30.2 -0.4
TUE Stuetta 156.37 344 *e*PKPdf PKPdf 03 22 30.5 -1.1
TUE *e*PKPab PKPab 03 23 02.5 -0.7
LOR Lormes 156.57 354⇑ *i*PKIKP PKPdf 03 22 31.2 -0.6
comp=Z,16nm,1.0s
HYF Humbligny 156.68 356 *e*PKIKP PKPdf 03 22 31.6 -0.3
SSF Saint Saulge 156.81 354⇑ *i*PKIKP PKPdf 03 22 31.4 -0.7
comp=Z,22nm,1.1s
SSF Saint Saulge 156.81 354 *e*PKP2 PKPab 03 23 04.0 -1.1
SSF Saint Saulge 156.81 354⇑ *i*PKPdf PKPdf 03 22 31.4 -0.7
SSF *e*PKPab PKPab 03 23 04.0 -1.1
CABF La Chapelle 156.92 350⇑ *i*PKIKP PKPdf 03 22 32.1 -0.2
comp=Z,47nm,1.2s
AVF Avril sur Loir 157.10 354⇑ *i*PKIKP PKPdf 03 22 31.4 -1.1
comp=Z,23nm,1.3s
SMF Signal de Mont 157.19 353⇑ *i*PKIKP PKPdf 03 22 31.7 -0.9
comp=Z,12nm,1.0s
BGF Bois d'Agland 157.37 355⇑ *i*PKIKP PKPdf 03 22 32.2 -0.6
comp=Z,27nm,1.0s
MFF Saint Martin d 157.43 1 *e*PKIKP PKPdf 03 22 32.2 -0.7
comp=Z,68nm,1.5s
TCF Toulx Ste Croi 157.68 356⇑ *i*PKIKP PKPdf 03 22 32.5 -0.7
comp=Z,43nm,1.2s
LPL La Plagne 157.86 348 *e*PKIKP PKPdf 03 22 33.2 -0.3
comp=Z,6.0nm,1.0s
LPG La Plagne 157.87 348 *e*PKIKP PKPdf 03 22 33.3 -0.2
comp=Z,14nm,1.2s
BNI Bardonecchia 158.32 347 *e*PKIKP PKPdf 03 22 34.0 0.0
BNI *e* 03 23 11.3
ORIF Oris-en-Rattie 158.60 349 *e*PKIKP PKPdf 03 22 33.8 -0.6
comp=Z,9.7nm,0.9s
MBDF Montbardon 158.61 347 *e*PKIKP PKPdf 03 22 33.9 -0.5
comp=Z,13nm,0.8s
RJF Les Rejaudoux 158.70 357⇑ *i*PKIKP PKPdf 03 22 33.8 -0.7
comp=Z,54nm,1.4s
VIVF Saint-Julien-l 158.85 351 *e*PKIKP PKPdf 03 22 34.2 -0.4
comp=Z,34nm,1.5s
CAF Calviac 159.05 356 *e*PKIKP PKPdf 03 22 34.4 -0.5
comp=Z,29nm,1.4s
LFF La Frestale 159.09 359 *e*PKIKP PKPdf 03 22 34.2 -0.7
SBF Sospel 159.28 345 *e*PKIKP PKPdf 03 22 34.3 -0.9
TIP Timpagrande 159.32 321 *e*PKPdf PKPdf 03 22 34.4 -1.0
TIP *e*PKPab PKPab 03 23 16.3 0.0
SMRF Simiane la Rot 159.56 349 *e*PKIKP PKPdf 03 22 35.2 -0.3
FRF La Foret Royal 159.75 346 *e*PKIKP PKPdf 03 22 34.6 -1.1
comp=Z,13nm,0.9s
LMR La Mourre 160.00 346 *e*PKIKP PKPdf 03 22 35.1 -0.9
PGF Pioggiola 160.08 340 *e*PKIKP PKPdf 03 22 35.3 -0.8
comp=Z,35nm,1.1s
MTLF Montolieu 160.62 355 *e*PKIKP PKPdf 03 22 36.2 -0.5
comp=Z,8.7nm,0.9s
SJPF Ste Jean 160.88 3 *e*PKIKP PKPdf 03 22 35.9 -1.1
EPF Esparros 161.00 360 *e*PKIKP PKPdf 03 22 36.7 -0.4
comp=Z,15nm,1.1s
ETSF Etsaut 161.12 2 *e*PKIKP PKPdf 03 22 36.1 -1.1
comp=Z,25nm,1.1s
LIC Lamto 161.66 163⇑ *i*PKIKP PKPdf 03 22 37.8 -0.9
comp=Z,45nm,1.1s
MVO Moncorvo 161.85 18 *e*PKPdf PKPdf 03 22 38.1 +0.1
MVO Moncorvo 161.85 18 *e*PKPab PKPab 03 23 26.6 -0.6
PVIS Viseu 162.00 20 *e*PKPab PKPab 03 23 27.0 -0.9
DBIC Dimbokro 162.13 164 PKP PKPdf 03 22 38.6 -0.5
comp=Z,7.0nm,0.7s,baz=195,slow=1.8,SNR=20
DBIC PKPab PKPab 03 23 30.1 +1.0
comp=Z,2.9nm,0.7s,baz=153,slow=6.3,SNR=3.1
DBIC Dimbokro 162.13 164 *e*PKPdf PKPdf 03 22 38.8 -0.3
DBIC *e*PKPab PKPab 03 23 29.8 +0.7
MTE Manteigas 162.40 20 *e*PKPdf PKPdf 03 22 38.9 +0.3
PCBR Castelo Branco 162.93 20 *e*PKPdf PKPdf 03 22 39.0 -0.1
PCBR Castelo Branco 162.93 20 *e*PKPab PKPab 03 23 31.0 -1.0
PMRV Marv??o 163.33 21 *e*PKPab PKPab 03 23 33.0 -0.8
PESTR Estremoz 163.77 22 *e*PKPdf PKPdf 03 22 40.3 +0.4
PESTR Estremoz 163.77 22 *e*PKPab PKPab 03 23 34.7 -1.1
EVO Evora 163.92 24 *e*PKIKP PKPdf 03 22 40.0 -0.1
comp=Z,43nm,1.1s
EVO Evora 163.92 24 *e*PKPdf PKPdf 03 22 40.7 +0.6
EVO Evora 163.92 24 *e*PKPab PKPab 03 23 35.5 -1.0
ESDC Sonseca Array 163.97 12 PKPab PKPab 03 23 35.7 -0.9
comp=Z,8.9nm,0.9s,baz=344,slow=4.3,SNR=29
PBEJ Beja 164.42 24 *e*PKPdf PKPdf 03 22 40.9 +0.4
PBEJ Beja 164.42 24 *e*PKPab PKPab 03 23 37.7 -1.0
PTEO Sao Teotonio 164.50 27 *e*PKPdf PKPdf 03 22 41.4 +0.8
PBAR Barrancos 164.58 22 *e*PKPdf PKPdf 03 22 40.3 -0.4
PBAR Barrancos 164.58 22 *e*PKPab PKPab 03 23 38.6 -0.8
PFVI Vila Bisbo 164.80 28 *e*PKPdf PKPdf 03 22 41.9 +1.0
PVAQ Vaqueiros 165.02 25 *e*PKPab PKPab 03 23 40.2 -1.2
PBDV Barranco-do-Ve 165.08 26 *e*PKPdf PKPdf 03 22 41.2 +0.1
KEST Kesra 165.84 328 PKPab PKPab 03 23 45.8 +0.7
comp=Z,2.4nm,0.8s,baz=304,slow=7.8,SNR=7.4
CART Cartagena 166.40 4 *e*PKPab PKPab 03 23 45.2 -2.2
TOA0 Torodi Ar. Sit 169.12 188 *e*PKPdf PKPdf 03 22 43.5 -1.2
TOA0 *e*PKPab PKPab 03 24 00.3 +0.4
TOA0 *ep*PKPdf pPKPdf 03 24 52.1 +2.6
TORD Torodi Ar. Bea 169.12 188 PKP PKPdf 03 22 43.7 -1.0
comp=Z,11nm,1.1s,baz=180,slow=1.4,SNR=34
TORD PKPab PKPab 03 24 00.5 +0.6
comp=Z,3.1nm,0.6s,baz=159,slow=4.6,SNR=13
TORD pPKP pPKPdf 03 24 51.0 +1.6
comp=Z,4.6nm,1.1s,baz=324,slow=0.7,SNR=5.0
TORD pPKPab pPKPab 03 25 58.0 +1.3
comp=Z,5.1nm,1.1s,baz=166,slow=4.4,SNR=6.3
TORD PP PP 03 27 51.9 +2.9
comp=Z,2.6nm,1.0s,baz=177,slow=3.6,SNR=4.0
TORD Torodi Ar. Bea 169.12 188 PKP PKPdf 03 22 43.7 -1.0
TORD PKPab PKPab 03 24 00.5 +0.6
TORD pPKP pPKPdf 03 24 51.0 +1.6
TORD pPKPab pPKPab 03 25 58.0 +1.3
TORD PP PP 03 27 51.9 +2.9
TAM Tamanrasset 174.91 258 *e*PKIKP PKPdf 03 22 47.0 -0.1
TAM *e* 03 24 27.1

*NEIC **08** 03:05:56.4, 1089N×6228W, h72km, MD3.7(TRN), After TRN.*

TRN 08 03:05:56.0, 1088N×6234W, h67km, MD3.7, 5C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.60**	**107**	⇓*iP*	Pn	03 06 10.0	+0.4
TCE				*eS*	Sn	03 06 20.3	+0.7
TRN	**Trinidad (W)**	**0.95**	**104**	⇑*iP*	Pn	03 06 14.1	+0.4
TRN				*eS*	Sn	03 06 26.4	-0.5
TPP	**Pointe-a-Pierr**	**1.03**	**122**	⇑*eP*	Pn	03 06 15.2	+0.4
TPP				*eS*	Sn	03 06 28.5	-0.3
TPP	**Pointe-a-Pierr**	**1.03**	**122**	⇑*eP*	Pn	03 06 15.2	+0.4
TPP				*eS*	Sn	03 06 30.6	+1.8
TBH	**Brigand Hill**	**1.31**	**107**	⇑*iP*	Pn	03 06 18.8	+0.4
TBH				*eS*	Sn	03 06 34.3	-0.8
GRW	**Mount Saint Ca**	**1.44**	**27**	⇑*eP*	Pn	03 06 21.2	+1.1
GRW				*eS*	Sn	03 06 38.6	+0.4
GRHS	**Sauteurs**	**1.50**	**27**	*eP*	Pn	03 06 20.7	-0.3
GRHS				*eS*	Sn	03 06 39.3	-0.5
TPR	**Prospect**	**1.56**	**79**	*eP*	Pn	03 06 22.6	+0.9
TPR				*eS*	Sn	03 06 41.9	+0.7
TPR	**Prospect**	**1.56**	**79**	*eP*	Pn	03 06 22.6	+0.9
TPR				*eS*	Sn	03 06 42.7	+1.6
GRSS	**Sisters**	**1.58**	**27**	*eP*	Pn	03 06 21.9	-0.1
GRSS				*eS*	Sn	03 06 41.5	-0.1
GRIC	**Isle de Caille**	**1.58**	**28**	*eP*	Pn	03 06 21.6	-0.4
GRIC				*eS*	Sn	03 06 40.9	-0.7

*ISCJB **08** 03:15:21.7±1.0, 3931N±003×203E±0.1, h1km±13km, Error ellipse: s-maj=14.9km s-min=5.1km az=175.3*
*NEIC **08** 03:15:22.3, 3931N×2022E, h2km, MD3.1(ATH), ML2.5(THE), After THE.*
*ATH **08** 03:15:22.7, 3928N×2028E, h10km, MD3.1/3*
*THE **08** 03:15:22.3, 3931N×2022E, h1km, ML2.5*
*CSEM **08** 03:15:22.6±0.1, 3933N×2029E, h2km, ML2.5, Error ellipse: s-maj=2.3km s-min=1.0km az=80.0*

ISC 08 03:15:22.1±0.9, 3933N±003×203E±01, h10km±9km, n9, σ0°53/14, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.21**	**16**	*eP*g	**Pg**	**03 15 27.4**	**+0.9**
IGT				*eS*g	**Sg**	**03 15 29.2**	**-0.4**
KEK	**Kerkira**	**0.52**	**317**	*eP*B	**Pb**	**03 15 33.7**	**+0.3**
JAN	**Janina**	**0.56**	**54**	*eP*B	**Pb**	**03 15 33.7**	**-0.4**
LKD	**Levkas**	**0.69**	**154**	*eP*g	**Pg**	**03 15 34.5**	**-1.0**
LKD				*eS*g	**Sg**	**03 15 45.0**	**+0.4**
VLS	**Valsamata**	**1.18**	**167**	*eP*g	**Pg**	**03 15 44.4**	**-0.3**
VLS				*eS*g	**Sg**	**03 16 00.4**	**+0.4**
VLS	**Valsamata**	**1.18**	**167**	*eP*b	**Pb**	**03 15 44.2**	**-0.3**
VLS	**Valsamata**	**1.18**	**167**	*eP*g	**Pg**	**03 15 44.4**	**-0.4**
VLS				*eS*g	**Sg**	**03 16 00.4**	**+0.4**
KFL	**Anninata**	**1.28**	**161**	*eP*g	**Pg**	**03 15 46.2**	**-0.6**
KFL				*eS*g	**Sg**	**03 16 04.0**	**+0.5**
AGG	**Agios Georgios**	**1.64**	**100**	*eP*b	**Pb**	**03 15 52.8**	**+0.5**

*IDC **08** 03:28:37.0±0.9, 2799N×6588E, h0km, mb4.0/16, mb1 4.2/16, mb1mx4.1/25, mbtmp4.1/16, MS3.6/11, Ms1 3.6/11, ms1mx3.3/37, Error ellipse: s-maj=22.5km s-min=16.0km az=10.0*
*ISCJB **08** 03:28:38.5±1.3, 2803N±004×6587E±002, h21km±10km, mb4.4/59, MS3.5/13, Error ellipse: s-maj=6.5km s-min=3.5km az=169.0*
*MOS **08** 03:28:38.8±0.9, 2785N×6575E, h27km, mb4.6/31, MS4.0/7, Error ellipse: s-maj=9.7km s-min=4.9km az=128.7*
*NEIC **08** 03:28:41.4±5.7, 2814N×6586E, h25km×39km, mb4.5/35, Error ellipse: s-maj=15.8km s-min=7.7km az=187.0*
*BJI **08** 03:28:47.4, 2895N×6597E, h24km, mB5.0, mb4.4, Ms4.2, Msz3.7*
*SZGRF **08** 03:28:49.1, 2838N×6501E, h33km, mb4.6, Pakistan*
*OMAN **08** 03:29:02.4, 2740N×6395E*

ISC 08 03:28:42.0±1.3, 2803N±004×6584E±002, h31km±10km, n209, σ1°02/221, mb4.4/59, MS3.5/13, 38C-7D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**5.29**	**45**	P	**Pn**	**03 30 02.2**	**+3.3**
BHJ	**Bhuj**	**5.87**	**143**	*eP*	**Pn**	**03 30 10.8**	**+3.9**
BHJ				*eS*	**Sn**	**03 31 15.2**	**+2.1**
THW	**Thamme Wali**	**6.96**	**46**	⇑P	**Pn**	**03 30 22.0**	**+0.2**
THW				S	**Sn**	**03 31 39.0**	**-0.9**
KBL	**Kabul**	**7.04**	**22**	*e*Pn	**Pn**	**03 30 24.7**	**+1.8**
	43nm,0.9s						
SARP	**Sargodha**	**7.08**	**55**	P	**Pn**	**03 30 23.9**	**+0.5**
CEP	**Cherat**	**7.77**	**41**	P	**Pn**	**03 30 32.7**	**-0.3**
CEP				S	**Sn**	**03 32 03.0**	**+3.1**
AJM	**Ajmer**	**7.98**	**99**	*eP*	**Pn**	**03 30 38.7**	**+2.9**
AJM				*eS*	**Sn**	**03 32 03.4**	**-1.7**
AJM				AML	AML	03 32 08.2	
	comp=N,48nm,0.7s						
AJM				AML	AML	03 32 12.4	
	comp=E,99nm,0.3s						
BIDO	**Bidbid**	**8.28**	**239**	P	**Pn**	**03 30 40.1**	**+0.2**
	SNR=7.5						
BIDO	**Bidbid**	**8.28**	**239**	P	**Pn**	**03 30 40.1**	**+0.2**
	SNR=7.5						
BIDO	**Bidbid**	**8.28**	**239**	P	**Pn**	**03 30 40.1**	**+0.2**
	SNR=7.5						
CHCP	**Chirah Chowk**	**8.49**	**47**	P	**Pn**	**03 30 42.8**	**0.0**
BANOM	**Banah**	**8.77**	**258**	P	**Pn**	**03 30 46.0**	**-0.7**
	SNR=30						
BANOM	**Banah**	**8.77**	**258**	P	**Pn**	**03 30 46.0**	**-0.7**
	SNR=30						
BANOM	**Banah**	**8.77**	**258**	P	**Pn**	**03 30 46.0**	**-0.7**
	SNR=30						
HOQ	**Hoqain**	**8.87**	**242**	P	**Pn**	**03 30 47.0**	**-1.1**
	SNR=15						
HOQ	**Hoqain**	**8.87**	**242**	P	**Pn**	**03 30 47.0**	**-1.1**
	SNR=15						
HOQ	**Hoqain**	**8.87**	**242**	P	**Pn**	**03 30 47.0**	**-1.1**
	SNR=15						
JMDO	**Jabal Madar**	**8.99**	**233**	P	**Pn**	**03 30 50.1**	**+0.3**
	SNR=10						
JMDO	**Jabal Madar**	**8.99**	**233**	P	**Pn**	**03 30 50.1**	**+0.3**
	SNR=10						
JMDO	**Jabal Madar**	**8.99**	**233**	P	**Pn**	**03 30 50.1**	**+0.3**
	SNR=10						
ASHO	**Ashiyiah**	**9.39**	**251**	P	**Pn**	**03 30 53.9**	**-1.3**
	SNR=16						
BSY	**Bisya**	**9.42**	**238**	P	**Pn**	**03 30 56.0**	**+0.3**
	SNR=9.8						
BSY	**Bisya**	**9.42**	**238**	P	**Pn**	**03 30 56.0**	**+0.3**
	SNR=9.8						
PONG	**Pong**	**9.59**	**64**	*ex*	**Pn**	**03 30 55.0**	**-2.9**
THN	**Thein Dam**	**9.60**	**60**	*eP*	**Pn**	**03 30 59.4**	**+1.4**
THN				*ex*	**Sn**	**03 32 45.2**	**+0.4**
BHK	**Bhakra**	**9.79**	**67**	*eP*	**Pn**	**03 31 02.0**	**+1.4**
KKR	**Kurukshetra**	**9.80**	**76**	*eP*	**Pn**	**03 31 02.3**	**+1.5**
KKR				*eS*	**Sn**	**03 32 44.1**	**-5.7**
DLH	**Dalhousie**	**9.84**	**60**	*ex*	**Pn**	**03 31 00.0**	**-1.2**
DLH				*ex*	**Sn**	**03 32 50.0**	**-0.6**
SONA	**Sohna**	**9.93**	**86**	*ex*	**Pn**	**03 31 01.8**	**-0.6**
SONA				*eS*	**Sn**	**03 32 46.2**	**-6.6**
AYAN	**Aya Nagar**	**9.96**	**85**	*eP*	**Pn**	**03 31 04.2**	**+1.2**
NDI	**New Delhi**	**10.04**	**84**	*eP*	**Pn**	**03 31 04.0**	**-0.1**
NDI				*eP*		03 31 04.0	
NDI				*eS*	**Sn**	**03 32 47.0**	**-8.6**
NDI				*eS*	**Sn**	**03 32 48.5**	**-7.1**
SDNR	**Sundarnagar**	**10.27**	**68**	*ex*	**Pn**	**03 31 06.0**	**-1.2**
SDNR				*ex*	**Sn**	**03 33 01.0**	**-0.2**
SMLA	**Simla**	**10.33**	**70**	*eP*	**Pn**	**03 31 08.0**	**0.0**
SMLA				*eS*	**Sn**	**03 32 56.1**	**-6.6**
SMLA				*ex*	x	03 33 03.9	
	comp=N,1μm,0.4s						
SMLA				*ex*	x	03 33 10.4	
	comp=E,769nm,0.4s						
DDI	**Dehra Dun**	**10.91**	**75**	*eS*	**Sn**	**03 33 16.3**	**-0.8**
JOSI	**Joshimath**	**12.23**	**75**	*eP*	**Pn**	**03 31 40.0**	**+5.9**
JOSI				*eS*	**Sn**	**03 33 45.2**	**-4.2**
AML	**Almayashu**	**15.45**	**22**	*e*Pn	**Pn**	**03 32 15.5**	**-2.1**
	comp=E,20nm,0.6s						
KOLN	**Koldanda**	**15.70**	**87**	*eP*	**Pn**	**03 32 19.1**	**-1.9**
	comp=E,35nm,0.7s						
DANN	**Dangsing**	**15.80**	**85**	*eP*	**Pn**	**03 32 21.9**	**-0.4**
	comp=E,58nm,0.8s						
DANN				*eS*	Sn	03 35 04.6	-12
EKS2	**Erkin-Say**	**15.95**	**22**	*e*Pn	**Pn**	**03 32 25.1**	**+1.0**
	comp=E,6.5nm,0.7s						
GKN	**Gorkha**	**16.60**	**86**	*eP*	**Pn**	**03 32 31.7**	**-0.7**
	comp=E,28nm,0.9s						
TKM2	**Tokmak 2**	**16.83**	**25**	*eP*	**Pn**	**03 32 32.0**	**-3.1**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TKM2	**Tokmak 2**	**16.83**	**25**	*e*Pn	**Pn**	**03 32 32.0**	**-3.1**
	comp=Z,7.1nm,0.6s						
DMN	**Daman**	**17.05**	**87**	*eP*	**Pn**	**03 32 36.8**	**-1.3**
	comp=Z,34nm,0.7s						
KKN	**Kakani**	**17.18**	**86**	*eP*	**Pn**	**03 32 39.3**	**-0.5**
	comp=Z,27nm,0.6s						
PKI	**Pulchoki**	**17.32**	**87**	*eP*	**Pn**	**03 32 40.6**	**-0.8**
	comp=Z,36nm,0.8s						
GUN	**Gumba**	**17.70**	**86**	*eP*	**Pn**	**03 32 46.5**	**+0.3**
	comp=Z,126nm,0.8s						
JIRN	**Jiri**	**18.00**	**86**	*eP*	**Pn**	**03 32 49.7**	**-0.1**
	comp=Z,88nm,0.8s						
RAMN	**Ramite**	**18.45**	**89**	*eP*	**Pn**	**03 32 55.3**	**0.0**
	comp=Z,64nm,0.7s						
ODAN	**Odare**	**19.16**	**88**	*eP*	**Pn**	**03 33 03.7**	**-0.2**
	comp=Z,52nm,1.0s						
TAPN	**Taplejung**	**19.38**	**87**	*eP*	**Pn**	**03 33 07.0**	**+0.5**
	comp=Z,18nm,0.6s						
GNI	**Garni**	**21.19**	**310**	P	**P**	**03 33 24.9**	**0.0**
	comp=Z,9.9nm,0.6s,mb4.3,baz=194,slow=8.3,SNR=4.3						
GNI	**Garni**	**21.19**	**310**	*eP*	**P**	**03 33 24.7**	**-0.1**
GNI				pmax	pmax		
	comp=Z,21nm,0.9s						
GNI	**Garni**	**21.19**	**310**	*eP*	**P**	**03 33 24.7**	**-0.1**
	comp=Z,21nm,0.9s,mb4.5						
LSA	**Lhasa**	**22.22**	**80**	P	**P**	**03 33 42.0**	**+6.1**
LSA	**Lhasa**	**22.22**	**80**	*eP*	**P**	**03 33 38.3**	**+2.4**
LSA				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.5						
LSA	**Lhasa**	**22.22**	**80**	*eP*	**P**	**03 33 38.3**	**+2.3**
	comp=Z,16nm,0.8s,mb4.5						
MK31	**Makanchi Array**	**22.75**	**30**	*eP*	**P**	**03 33 40.2**	**-1.2**
MKAR	**Makanchi Array**	**22.75**	**30**	P	**P**	**03 33 40.4**	**-1.0**
	comp=Z,4.8nm,0.6s,mb4.1,baz=207,slow=10,SNR=13						
MKAR				LR	LR	03 44 25.1	
	comp=Z,216nm,20.4s,MS3.6,baz=224,slow=42						
AKTK	**Aktyubinsk**	**23.15**	**347**	P	**P**	**03 33 44.7**	**-0.9**
AKTK				LR	LR	03 43 45.6	
AKTO	**Aktyubinsk**	**23.15**	**347**	P	**P**	**03 33 44.7**	**-0.9**
	comp=Z,2.4nm,0.6s,mb3.8,baz=158,slow=10,SNR=12						
AKTO				LR	LR	03 43 45.6	
	comp=Z,63nm,18.6s,MS3.1,baz=155,slow=39						
SHL	**Shillong**	**23.36**	**90**	*ex*	x	03 33 58.0	
SHL				*ex*	x	03 38 15.0	
KIV	**Kislovodsk**	**24.45**	**317**	*eP*	**P**	**03 33 59.4**	**+1.5**
KIV				*eS*	**S**	**03 38 22.2**	**+6.3**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
KIV				MLR	MLR		
	comp=Z,38nm,15.0s,MS3.0						
KIV	**Kislovodsk**	**24.45**	**317**	*eP*	**P**	**03 33 59.1**	**+1.2**
	comp=Z,10nm,0.7s,mb4.4						
KURK	**Kurchatov**	**24.64**	**20**	*eP*	**P**	**03 33 59.1**	**-0.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
KURK	**Kurchatov**	**24.64**	**20**	*eP*	**P**	**03 33 59.1**	**-0.4**
	comp=Z,6.8nm,0.9s,mb4.2						
MALT	**Malatya**	**25.05**	**301**	*eP*	**P**	**03 34 04.7**	**+1.3**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
MALT	**Malatya**	**25.05**	**301**	*eP*	**P**	**03 34 04.7**	**+1.2**
	comp=Z,2.2nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**25.19**	**6**	P	**P**	**03 34 05.3**	**+0.7**
	comp=Z,2.7nm,0.5s,mb4.0,baz=172,slow=9.8,SNR=19						
BRVK	**Borovoye**	**25.22**	**6**	*eP*	**P**	**03 34 06.5**	**+1.8**
BRVK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
BRVK	**Borovoye**	**25.22**	**6**	*eP*	**P**	**03 34 06.5**	**+1.7**
	comp=Z,11nm,0.9s,mb4.4						
ASF	**Jabal al Asfar**	**25.34**	**286**	P	**P**	**03 34 07.9**	**+1.8**
	comp=Z,4.4nm,0.9s,mb4.0,baz=42,slow=8.1,SNR=4.2						
ASF				LR	LR	03 46 16.9	
	comp=Z,92nm,21.1s,MS3.3,baz=326,slow=42						
MMAI	**Mount Meron Ar**	**26.64**	**288**	LR	LR	03 47 04.1	
	comp=Z,109nm,20.2s,MS3.4,baz=115,slow=42						
EIL	**Elat**	**27.07**	**281**	P	**P**	**03 34 25.6**	**+3.7**
	comp=Z,5.7nm,0.8s,mb4.2,baz=68,slow=7.8,SNR=5.6						
EIL				LR	LR	03 47 33.5	
	comp=Z,236nm,18.4s,MS3.8,baz=100,slow=42						
ARU	**Arti**	**28.85**	**352**	*c iP*	**P**	**03 34 39.1**	**+1.7**
ARU				*e*PPP		03 35 36.2	
ARU				*eS*	**S**	**03 39 31.5**	**+6.2**
ARU				*e*SS	SS	03 40 54.0	-34
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**29.38**	**23**	P	**P**	**03 34 45.4**	**+3.3**
ZALV	**Zalesovo Beam**	**29.40**	**23**	P	**P**	**03 34 45.4**	**+3.2**
	comp=Z,2.8nm,0.5s,mb4.3,baz=232,slow=10,SNR=9.7						
ZALV				LR	LR	03 47 30.7	
	comp=Z,93nm,19.2s,MS3.4,baz=230,slow=38						
ZALV	**Zalesovo Beam**	**29.40**	**23**	P	**P**	**03 34 45.4**	**+3.2**
ZALV				LR	LR	03 47 30.7	
HVS	**Khovu-Aksy**	**31.19**	**35**	*i P*	**P**	**03 35 00.4**	**+2.3**
HVS				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
CMAR	**Chiang Mai Arr**	**31.79**	**100**	LR	LR	03 48 59.3	
	comp=Z,71nm,19.3s,MS3.4,baz=190,slow=38						
TIRR	**Tirgusor**	**34.00**	**309**	⇑*iP*	**P**	**03 35 22.4**	**-0.5**
TIRR	**Tirgusor**	**34.00**	**309**	⇑P	**P**	**03 35 22.4**	**-0.4**
OBN	**Obninsk**	**34.34**	**330**	⇑*eP*	**P**	**03 35 26.5**	**+0.9**
OBN				*e*		03 35 30.1	
OBN				S	**S**	**03 40 50.0**	**-1.0**
OBN				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.6						
PLOR	**Plostina**	**35.59**	**311**	⇑*iP*	**P**	**03 35 37.1**	**+0.6**
AKASG	**Malin Array Be**	**35.71**	**319**	P	**P**	**03 35 36.8**	**-0.7**
	comp=Z,1.4nm,0.4s,mb4.2,baz=116,slow=7.1,SNR=11						
MLR	**Muntele Rosu**	**35.97**	**310**	⇑*iP*	**P**	**03 35 41.3**	**+1.5**
MLR	**Muntele Rosu**	**35.97**	**310**	⇑P	**P**	**03 35 41.2**	**+1.5**
ZAK	**Zakamensk**	**36.05**	**41**	*eP*	**P**	**03 35 35.4**	**-5.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
VOIR		**36.56**	**309**	⇓*iP*	**P**	**03 35 45.1**	**+0.2**
VOIR		**36.56**	**309**	⇓P	**P**	**03 35 45.1**	**+0.2**
SONM	**Songino Array**	**37.06**	**47**	P	**P**	**03 35 50.7**	**+1.6**
	comp=Z,1.4nm,0.6s,mb4.0,baz=251,slow=8.8,SNR=7.1						
SONM				LR	LR	03 54 06.7	
	comp=Z,177nm,18.4s,MS3.9,baz=82,slow=41						
SONM	**Songino Array**	**37.06**	**47**	P	**P**	**03 35 50.7**	**+1.6**
SONM				LR	LR	03 54 06.7	
KLMR	**Klimovskoe**	**37.30**	**339**	*eP*	**P**	**03 35 50.5**	**-0.4**
KLMR				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.7						
DRGR		**38.47**	**311**	⇑*iP*	**P**	**03 36 01.3**	**+0.3**
DRGR		**38.47**	**311**	⇑P	**P**	**03 36 01.2**	**+0.3**
BZS	**Buzias**	**38.96**	**309**	⇑*iP*	**P**	**03 36 05.2**	**+0.1**
BZS	**Buzias**	**38.96**	**309**	⇑P	**P**	**03 36 05.2**	**+0.1**
KWP	**Kalwaria**	**39.23**	**315**	*eP*	**P**	**03 36 07.0**	**-0.3**
KWP	**Kalwaria**	**39.23**	**315**	⇑*iP*	**P**	**03 36 07.4**	**+0.1**
KWP	**Kalwaria**	**39.23**	**315**	*eP*	**P**	**03 36 07.0**	**-0.3**
KOLS	**Kolonicke sedl**	**39.30**	**314**	*i P*	**P**	**03 36 07.7**	**-0.2**
CRVS	**Cervenica-Dubn**	**39.81**	**314**	*i P*	**P**	**03 36 12.5**	**+0.3**
KECS	**Kecovo**	**40.33**	**313**	*i P*	**P**	**03 36 16.5**	**0.0**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.9						
KECS	**Kecovo**	**40.33**	**313**	*i P*	**P**	**03 36 16.5**	**0.0**
	comp=Z,2.9nm,1.3s,mb3.9						
PSZ	**Piszkesteto**	**40.59**	**312**	⇑*eP*	**P**	**03 36 19.0**	**+0.4**
PKSM	**Moragy**	**41.11**	**309**	⇓*iP*	**P**	**03 36 23.1**	**+0.2**
PKSM	**Moragy**	**41.11**	**309**	⇓P	**P**	**03 36 23.1**	**+0.2**
JOF	**Joensuu**	**41.50**	**337**	*ep*	**P**	**03 36 25.7**	**-0.2**
	comp=Z,1.3nm,0.4s,mb3.9						
JOF	**Joensuu**	**41.50**	**337**	*eP*	**P**	**03 36 25.7**	**-0.2**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
KOLL	**Kolacno**	**41.70**	**313**	*i P*	**P**	**03 36 28.0**	**+0.2**
OKC	**Ostrava-Krasne**	**42.14**	**314**	*eP*	**P**	**03 36 31.4**	**+0.1**
OKC				AMS	AMS	03 57 50.0	
	comp=Z,100nm,6.3s						
MODS	**Modra-Piesok**	**42.40**	**312**	*eP*	**P**	**03 36 32.9**	**-0.6**
MODS				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
MODS	**Modra-Piesok**	**42.40**	**312**	*eP*	**P**	**03 36 32.9**	**-0.6**
	comp=Z,2.3nm,1.0s,mb3.8						
MORC	**Moravsky Berou**	**42.51**	**314**	⇑*iP*	**P**	**03 36 33.8**	**-0.5**
CUC	**Castrocucco**	**42.65**	**300**	*eP*	**P**	**03 36 35.6**	**0.0**
	comp=Z,19nm,0.8s,mb4.9						
SOP	**Sopron**	**42.76**	**311**	⇓*eP*	**P**	**03 36 36.8**	**+0.4**
KAF	**Kangasniemi**	**42.85**	**334**	*ep*	**P**	**03 36 38.2**	**+1.3**
	comp=Z,1.2nm,0.3s,mb4.1						
KAF	**Kangasniemi**	**42.85**	**334**	*eP*	**P**	**03 36 38.2**	**+1.3**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
ARSA	**Arzberg**	**43.38**	**310**	⇑*iP*	**P**	**03 36 41.7**	**+0.2**
	comp=Z,8.6nm,1.2s,mb4.4						
UPC	**Upice**	**43.62**	**315**	*eP*	**P**	**03 36 43.4**	**+0.1**
SOKA	**Soboth**	**43.64**	**309**	⇑*iP*	**P**	**03 36 42.4**	**-1.1**
TREC	**Trest**	**43.73**	**313**	*eP*	**P**	**03 36 44.0**	**-0.2**
TREC				AMS	AMS	04 01 40.0	
	comp=Z,100nm,6.2s						
OBKA	**Obir**	**43.96**	**309**	⇑*iP*	**P**	**03 36 46.2**	**+0.1**
	comp=Z,12nm,1.2s,mb4.5						
PRU	**Pruhonice**	**44.45**	**314**	*eP*	**P**	**03 36 49.9**	**-0.1**
PRU				*ex*	x	03 45 50.6	
PRU				AMS	AMS	04 00 40.0	
	comp=Z,100nm,7.2s						
PVCC	**Panska Ves**	**44.53**	**315**	*eP*	**P**	**03 36 50.9**	**+0.3**
PVCC				AMS	AMS	04 00 00.0	
	comp=Z,100nm,14.7s						
BOD	**Bodaibo**	**44.73**	**35**	*eP*	**P**	**03 36 55.9**	**+3.9**
GEC2	**GERESS Array S**	**44.82**	**312**	*eP*	**P**	**03 36 52.7**	**-0.2**
GEC2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
GEC2	**GERESS Array S**	**44.82**	**312**	*eP*	**P**	**03 36 52.7**	**-0.2**
	comp=Z,7.0nm,0.9s,mb4.5						
GERES	**GERESS Array B**	**44.82**	**312**	P	**P**	**03 36 52.3**	**-0.6**
	comp=Z,3.2nm,0.7s,mb4.3,baz=95,slow=6.8,SNR=35						
KHC	**Kasperske Hory**	**44.94**	**313**	*eP*	**P**	**03 36 53.6**	**-0.3**
KHC				MLR	MLR		
	comp=E,100nm,7.3s						
KHC				MLR	MLR		
	comp=Z,200nm,6.8s						
KHC	**Kasperske Hory**	**44.94**	**313**	*eP*	**P**	**03 36 53.6**	**-0.3**
KHC				*ex*	x	03 45 54.5	
KHC				AMS	AMS	04 03 20.0	
	comp=Z,200nm,6.8s						
BRG	**Berggiesshubel**	**44.98**	**315**	*eP*	**P**	**03 36 54.8**	**+0.6**
	comp=Z,7.0nm,0.8s,mb4.5						
BRG	**Berggiesshubel**	**44.98**	**315**	*e*	**P**	**03 36 54.8**	**+0.6**
	comp=Z,7.3nm,0.8s,mb4.5						
FBE	**Freiberg**	**45.36**	**315**	*eP*	**P**	**03 36 58.1**	**+0.9**
	comp=Z,11nm,0.9s,mb4.7						
CLL	**Collm**	**45.65**	**316**	*eP*	**P**	**03 37 00.0**	**+0.6**
NKC	**Novy Kostel**	**45.82**	**314**	*eP*	**P**	**03 37 01.3**	**+0.4**
WTTA	**Wattenberg**	**46.02**	**310**	⇑*iP*	**P**	**03 37 01.8**	**-0.6**
	comp=Z,7.0nm,1.0s,mb4.5						
WTTA	**Wattenberg**	**46.02**	**310**	⇑*iP*	**P**	**03 37 01.8**	**-0.6**
WTTA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
MOTA	**Moosalm**	**46.38**	**310**	⇓*iP*	**P**	**03 37 04.3**	**-1.0**
	comp=Z,4.4nm,0.9s,mb4.4						
MOTA	**Moosalm**	**46.38**	**310**	⇓*iP*	**P**	**03 37 04.3**	**-1.0**
MOTA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MOX	**Moxa**	**46.41**	**315**	*eP*	**P**	**03 37 06.0**	**+0.5**
	comp=Z,11nm,0.9s,mb4.8						
MOX				*e*		03 37 09.5	
MOX	**Moxa**	**46.41**	**315**	*eP*	**P**	**03 37 06.0**	**+0.5**
MOX				*e*		03 37 09.5	
MOX				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
MOX	**Moxa**	**46.41**	**315**	*eP*	**P**	**03 37 05.9**	**+0.4**
	comp=Z,9.0nm,0.8s,mb4.8						
GRA1	**Grafenberg Arr**	**46.54**	**313**	*eP*	**P**	**03 37 07.1**	**+0.6**
	comp=Z,6.0nm,0.8s,mb4.6						
GRF	**Grafenberg Arr**	**46.54**	**313**	*eP*	**P**	**03 37 07.1**	**+0.6**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
GRF	**Grafenberg Arr**	**46.54**	**313**	*eP*	**P**	**03 37 07.1**	**+0.6**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
GRF	**Grafenberg Arr**	**46.54**	**313**	*eP*	**P**	**03 37 07.1**	**+0.6**
	comp=Z,6.0nm,0.8s,mb4.6						
FETA	**Feichten**	**46.62**	**309**	⇑*iP*	**P**	**03 37 06.6**	**-0.6**
	comp=Z,15nm,1.1s,mb4.9						
KEV	**Kevo**	**47.32**	**343**	*ep*	**P**	**03 37 12.3**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.0						
KEV

KSRS	**Korea Array**	**52.23**	**63**	P	**P**	**03 37 50.2**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=209,slow=20,SNR=2.8						
KSRS				LR	LR	04 02 21.5	
	comp=Z,52nm,18.4s,MS3.6,baz=320,slow=39						
KSRS	**Korea Array**	**52.23**	**63**	P	**P**	**03 37 50.3**	**+0.1**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
KSRS				MLR	MLR		
	comp=Z,52nm,18.4s,MS3.6						
TCF	**Toulx Ste Croi**	**52.48**	**308**	*e*P	**P**	**03 37 50.8**	**-1.0**
	comp=Z,7.9nm,0.8s,mb4.4						
TCF	**Toulx Ste Croi**	**52.48**	**308**	*e*P	**P**	**03 37 50.8**	**-1.0**
TCF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TCF	**Toulx Ste Croi**	**52.48**	**308**	*e*P	**P**	**03 37 50.8**	**-1.0**
	comp=Z,4.0nm,0.8s,mb4.4						
CAF	**Calviac**	**52.66**	**307**	*e*P	**P**	**03 37 53.0**	**-0.2**
	comp=Z,4.7nm,0.7s,mb4.2						
CAF	**Calviac**	**52.66**	**307**	*e*P	**P**	**03 37 53.0**	**-0.2**
CAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CAF	**Calviac**	**52.66**	**307**	*e*P	**P**	**03 37 53.0**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.2						
MTLF	**Montolieu**	**52.68**	**305**	⇑*i*P	**P**	**03 37 53.0**	**-0.4**
ETSF	**Etsaut**	**54.75**	**304**	*e*P	**P**	**03 38 08.4**	**-0.2**
	comp=Z,6.0nm,0.7s,mb4.4						
ETSF	**Etsaut**	**54.75**	**304**	*e*P	**P**	**03 38 08.4**	**-0.2**
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ETSF	**Etsaut**	**54.75**	**304**	*e*P	**P**	**03 38 08.4**	**-0.2**
	comp=Z,3.0nm,0.7s,mb4.4						
TIXI	**Tiksi**	**55.22**	**20**	*i* P	**P**	**03 38 14.1**	**+2.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
ESDC	**Sonseca Array**	**57.81**	**301**	P	**P**	**03 38 30.0**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=64,slow=7.7,SNR=9.4						
EVO	**Evora**	**61.13**	**301**	⇑*i*P	**P**	**03 38 56.7**	**+3.3**
	comp=Z,34nm,1.2s,mb5.0						
TOA0	**Torodi Ar. Sit**	**61.24**	**270**	*e*P	**P**	**03 38 56.8**	**+2.4**
TORD	**Torodi Ar. Bea**	**61.24**	**270**	P	**P**	**03 38 54.9**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.9,baz=58,slow=5.1,SNR=18						
TORD	**Torodi Ar. Bea**	**61.24**	**270**	P	**P**	**03 38 54.9**	**+0.5**
SEY	**Seymchan**	**63.89**	**31**	*e*P	**P**	**03 39 16.3**	**+4.9**
PETK	**Petropavlovsk-**	**69.16**	**40**	LR	LR	04 12 13.8	
	comp=Z,55nm,19.0s,MS3.8,baz=26,slow=38						
DBIC	**Dimbokro**	**69.87**	**267**	P	**P**	**03 39 53.2**	**+3.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=2.4,slow=7.9,SNR=3.6						
WRA	**Warramunga Arr**	**81.58**	**118**	P	**P**	**03 40 56.7**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=314,slow=4.8,SNR=7.1						
ASAR	**Alice Springs**	**83.33**	**121**	P	**P**	**03 41 04.6**	**-1.4**
	comp=Z,0.6nm,0.6s,mb3.8,baz=305,slow=4.5,SNR=8.5						

*ISCJB **08** 03:38:34.2±0.3, 4405S∧003×16961E±004, h10km, mb3.7/3, Error ellipse: s-maj=4.6km s-min=3.6km az=137.8*
*NEIC **08** 03:38:34.7, 4403S×16962E, h12km, ML4.5(WEL), After WEL.*
NEIC Felt at Lake Ohau and Okarito. Felt in much of South Canterbury to the West Coast.
*IDC **08** 03:38:35.2±0.9, 4409S×16967E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.7/14, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=28.9km s-min=10.6km az=164.0*

ISC 08 03:38:35.0±0.3, 4409S±003×16960E±004, h10km, n34, σ0§97/35, mb3.7/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.52**	**126**	P	**Pg**	**03 38 44.5**	**-0.6**
LBZ				S	**Sg**	**03 38 52.0**	**+0.1**
FOZ	**Fox Glacier**	**0.52**	**7**	P	**Pg**	**03 38 44.2**	**-1.0**
FOZ				S	**Sg**	**03 38 51.3**	**-0.8**
JCZ	**Jackson Bay**	**0.61**	**271**	P	**Pg**	**03 38 46.5**	**-0.3**
JCZ				S	**Sg**	**03 38 53.7**	**-1.1**
WKZ	**Wanaka**	**0.85**	**209**	P	**Pg**	**03 38 50.9**	**-0.6**
RPZ	**Rata Peaks**	**1.11**	**71**	Pg	**Pg**	**03 38 55.3**	**-1.1**
	246nm,0.3s,baz=245,slow=9.3,SNR=196						
RPZ				Lg		03 39 10.8	
	277nm,0.3s,baz=47,slow=17,SNR=19						
RPZ	**Rata Peaks**	**1.11**	**71**	P	**Pb**	**03 38 55.3**	**-1.0**
EAZ	**Earnscleugh**	**1.17**	**190**	P	**Pb**	**03 38 56.2**	**-1.1**
ODZ	**Otahua Downs**	**1.22**	**143**	P	**Pn**	**03 38 57.5**	**-0.6**
WVZ	**Waitaha Valley**	**1.30**	**40**	P	**Pn**	**03 38 57.6**	**-1.6**
MSZ	**Milford Sound**	**1.34**	**243**	P	**Pn**	**03 38 59.4**	**-0.3**
MLZ	**Mavora Lakes**	**1.62**	**218**	P	**Pn**	**03 39 04.8**	**+1.1**
TUZ	**Tuapeka**	**1.87**	**179**	P	**Pn**	**03 39 07.0**	**-0.1**
WHZ	**Wether Hill Ro**	**2.16**	**212**	P	**Pn**	**03 39 10.8**	**-0.2**
DCZ	**Deep Cove**	**2.23**	**231**	P	**Pn**	**03 39 12.4**	**+0.4**
MQZ	**McQueen's Vall**	**2.24**	**81**	P	**Pn**	**03 39 11.7**	**-0.4**
CRLZ	**Canterbury Las**	**2.24**	**78**	P	**Pn**	**03 39 11.4**	**-0.8**
LTZ	**Lake Taylor**	**2.34**	**57**	P	**Pn**	**03 39 13.9**	**+0.4**
DSZ	**Denniston Nort**	**2.84**	**35**	P	**Pn**	**03 39 19.3**	**-1.1**
KHZ	**Kahutara**	**3.32**	**61**	P	**Pn**	**03 39 27.5**	**+0.5**
THZ	**Tophouse**	**3.35**	**47**	P	**Pn**	**03 39 28.0**	**+0.5**
NNZ	**Nelson**	**4.00**	**46**	P	**Pn**	**03 39 37.6**	**+1.3**
TCW	**Tory Channel**	**4.49**	**52**	P	**Pn**	**03 39 44.8**	**+1.8**
CAW	**Cannon Point**	**5.01**	**55**	P	**Pn**	**03 39 50.4**	**+0.2**
KIW	**Kapiti Island**	**5.08**	**52**	P	**Pn**	**03 39 51.3**	**+0.2**
NWEZ	**Newall Road**	**5.77**	**35**	P	**Pn**	**03 40 00.9**	**+0.3**
NEZ	**North Egmont**	**5.87**	**37**	P	**Pn**	**03 40 04.2**	**+2.2**
PKE	**Pukeiti**	**5.89**	**35**	P	**Pn**	**03 40 02.6**	**+0.4**
URZ	**Urewera**	**8.12**	**47**	Pn	**Pn**	**03 40 32.8**	**-0.1**
	0.4nm,0.3s,baz=219,slow=6.5,SNR=2.9						
URZ				Sn	**Sn**	**03 42 00.5**	**-4.1**
	1.3nm,0.3s,baz=41,slow=16,SNR=3.8						
ASAR	**Alice Springs**	**35.58**	**293**	P	**P**	**03 45 33.0**	**+0.5**
	0.6nm,0.9s,mb3.5,baz=133,slow=9.1,SNR=4.0						
ASAR				PcP	PcP	03 48 04.0	+2.6
	0.2nm,0.4s,baz=132,slow=4.5,SNR=4.5						
WRA	**Warramunga Arr**	**37.94**	**298**	P	**P**	**03 45 54.8**	**+2.1**
	0.8nm,0.5s,mb3.7,baz=134,slow=7.9,SNR=12						
WRA				PcP	PcP	03 48 11.4	+2.8
	0.4nm,0.7s,baz=148,slow=3.0,SNR=4.5						
QSPA	**South Pole Qui**	**46.04**	**180**	P	**P**	**03 47 00.7**	**+2.5**
	1.1nm,0.9s,mb3.8,baz=9.5,slow=2.5,SNR=3.5						
MKAR	**Makanchi Array**	**118.72**	**309**	PKP	PKPdf	03 57 24.5	+1.8
	0.4nm,0.8s,baz=106,slow=2.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**147.47**	**202**	PKPbc	PKPbc	03 58 19.4	-0.1
	1.2nm,0.6s,baz=180,slow=2.3,SNR=13						
ARCES	**ARCESS Array B**	**148.68**	**337**	PKPbc	PKPbc	03 58 23.7	+2.6
	1.8nm,0.6s,baz=62,slow=2.5,SNR=12						

*ISCJB **08** 04:06:41.2±0.5, 5137N±003×16.14E±003, h0km, Error ellipse: s-maj=4.0km s-min=2.4km az=19.3*
*NEIC **08** 04:06:41.2±0.6, 5157N×1623E, h5km, ML2.3(BRG), ML2.6(CLL), Error ellipse: s-maj=6.5km s-min=5.5km az=199.0*
*IPEC **08** 04:06:41.7±0.5, 5150N×1645E, h0km, ML2.4/4, Error ellipse: s-maj=3.3km s-min=2.5km az=102.0*
*CSEM **08** 04:06:42.1±0.1, 5149N×1611E, h1km, ML3.3/11, Error ellipse: s-maj=2.4km s-min=1.5km az=38.0*
*WAR **08** 04:06:43, 5146N×1610E, ML2.7, Mining Induced*
*PRU **08** 04:06:43.3, 5141N×1615E, h0km*
*IDC **08** 04:06:43.0±1.0, 5149N×1607E, h0km, mb3.3/1, mb1 3.2/6, mb1mx3.2/25, mbtmp3.1/6, ML2.9/5, Error ellipse: s-maj=17.0km s-min=8.8km az=95.0*
*VIE **08** 04:06:44.8±0.8, 5124N×1615E, h0km, mb2.3/6, ML2.7/6, Error ellipse: s-maj=5.3km s-min=4.7km az=111.0 61 km WNW of Wroclaw Suspected Mining induced.*

ISC 08 04:06:41.7±0.5, 5147N±002×1616E±003, h0km, n44, σ1§09/83, 8C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**172**	*e*Pg	**Pg**	**04 06 54.9**	**+1.1**
KSP				*e*Sg	**Sg**	**04 07 03.4**	**+1.5**
KSP	**Ksiaz**	**0.63**	**172**	*e*Pg	**Pg**	**04 06 54.8**	**+1.0**
KSP				*e*Sg	**Sg**	**04 07 02.8**	**+0.9**
KSP	**Ksiaz**	**0.63**	**172**	⇓*i*Pg	**Pg**	**04 06 54.8**	**+1.0**
KSP				*e*Sg	**Sg**	**04 07 02.8**	**+0.9**
UPC	**Upice**	**0.97**	**186**	*e*PG	**Pg**	**04 07 00.9**	**+0.7**
DPC	**Dobruska-Polom**	**1.12**	**175**	*e*SG	**Sg**	**04 07 18.3**	**+0.6**
	comp=Z,39nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**228**	*e*PG	**Pg**	**04 07 07.9**	**-0.2**
BRG	**Berggiesshubel**	**1.52**	**248**	PN	**Pn**	**04 07 09.2**	**-0.9**
BRG				PG	**Pg**	**04 07 10.6**	**-0.2**
BRG				SG	**Sg**	**04 07 30.6**	**+0.2**
	comp=Z,66nm,0.4s						
PRU	**Pruhonice**	**1.80**	**215**	*e*PN	**Pn**	**04 07 13.6**	**-0.4**
PRU				*e*PG	**Pg**	**04 07 15.4**	**-0.8**
PRU				*e*x	x	04 07 19.8	
PRU				*e*x	x	04 07 32.2	
PRU				*e*SG	**Sg**	**04 07 39.8**	**+0.2**
	comp=Z,32nm,0.6s						
MORC	**Moravsky Berou**	**1.91**	**152**	*e*Pg	**Pg**	**04 07 15.7**	**-2.5**
MORC	**Moravsky Berou**	**1.91**	**152**	*e*Pn	**Pn**	**04 07 15.8**	**+0.4**
MORC				*e*Sg	**Sg**	**04 07 43.5**	**+0.6**
MORC	**Moravsky Berou**	**1.91**	**152**	*e*Pn	**Pn**	**04 07 15.8**	**+0.4**
MORC				*e*Sg	**Sg**	**04 07 43.5**	**+0.6**
CLL	**Collm**	**1.99**	**267**	*e*Pn	**Pn**	**04 07 16.0**	**-0.5**
CLL				*e*Pg	**Pg**	**04 07 19.0**	**-0.7**
CLL				*i* x	x	04 07 23.0	
CLL				*i* x	x	04 07 33.5	
CLL				*e*Sg	**Sg**	**04 07 45.0**	**-0.5**
	comp=Z,21nm,0.4s						
CLL	**Collm**	**1.99**	**267**	*e*Pn	**Pn**	**04 07 16.0**	**-0.5**
CLL				*e*Pg	**Pg**	**04 07 19.0**	**-0.7**
CLL				*e*Sg	**Sg**	**04 07 45.0**	**-0.5**
OKC	**Ostrava-Krasne**	**2.06**	**141**	*e*PG	**Pg**	**04 07 21.2**	**0.0**
OKC				*e*SG	**Sg**	**04 07 47.3**	**-0.6**
	comp=Z,47nm,0.7s						
VRAC	**Vranov**	**2.18**	**173**	Pn	**Pn**	**04 07 20.5**	**+1.3**
	comp=Z,2.4nm,0.3s,baz=343,slow=16,SNR=11						
VRAC				Pg	**Pg**	**04 07 25.7**	**+2.2**
	comp=Z,3.5nm,0.3s,baz=354,slow=17,SNR=7.7						
VRAC				Lg		04 07 51.5	
	comp=Z,4.5nm,0.3s,baz=78,slow=23,SNR=9.6						
VRAC	**Vranov**	**2.18**	**173**	*e*Pg	**Pg**	**04 07 20.8**	**-2.6**
VRAC				*e*Sg	**Sg**	**04 07 51.3**	**-0.4**
	comp=Z,18nm,0.3s						
KRUC	**Moravsky**	**2.41**	**176**	*e*Pg	**Pg**	**04 07 26.8**	**-1.1**
KRUC				*e*Sg	**Sg**	**04 07 57.7**	**-1.5**
	comp=Z,14nm,0.3s						
OJC	**Ojcow**	**2.62**	**117**	*e*Pn	**Pn**	**04 07 24.4**	**-0.8**
OJC				*e*Pg	**Pg**	**04 07 33.6**	**+1.7**
OJC				*e*Sg	**Sg**	**04 08 07.7**	**+1.8**
NKC	**Novy Kostel**	**2.66**	**244**	*e*PN	**Pn**	**04 07 25.9**	**+0.2**
NKC				*e*PG	**Pg**	**04 07 31.9**	**-0.7**
NKC				*e*SG	**Sg**	**04 08 08.5**	**+1.4**
	comp=Z,42nm,0.3s						
JAVC	**Velka Javorina**	**2.79**	**159**	*e*Sg	**Sg**	**04 08 12.0**	**+0.9**
	comp=Z,32nm,1.0s						
KHC	**Kasperske Hory**	**2.87**	**216**	*e*PN	**Pn**	**04 07 29.0**	**+0.4**
KHC				*e*PG	**Pg**	**04 07 34.9**	**-1.7**
KHC				*e*SN	**Sn**	**04 08 02.9**	**-0.8**
KHC				*e*SG	**Sg**	**04 08 14.3**	**+0.6**
	comp=Z,15nm,0.4s						
MOX	**Moxa**	**2.98**	**256**	(PN)	**Pn**	**04 07 31.0**	**+0.8**
MOX				*i* PG	**Pg**	**04 07 38.4**	**-0.5**
MOX				*i* SG	**Sg**	**04 08 18.4**	**+0.9**
GEC2	**GERESS Array S**	**3.06**	**212**	*e*Pn	**Pn**	**04 07 32.1**	**+0.8**
GEC2	**GERESS Array S**	**3.06**	**212**	*e*Pg	**Pg**	**04 07 38.1**	**-2.3**
GEC2	**GERESS Array S**	**3.06**	**212**	*e*Pn	**Pn**	**04 07 32.1**	**+0.8**
GEC2				*e*Pg	**Pg**	**04 07 38.1**	**-2.3**
GEC2				*e*Sg	**Sg**	**04 08 20.8**	**+0.7**
GERES	**GERESS Array B**	**3.06**	**212**	Pn	**Pn**	**04 07 32.6**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=31,slow=13,SNR=27						
GERES				Pg	**Pg**	**04 07 38.2**	**-2.2**
	comp=Z,4.0nm,0.3s,baz=31,slow=17,SNR=60						
GERES				Sn	**Sn**	**04 08 11.4**	**+2.7**
	comp=Z,1.8nm,0.3s,baz=25,slow=26,SNR=4.3						
GERES				Lg		04 08 18.9	
	comp=Z,2.8nm,0.3s,baz=36,slow=29,SNR=7.6						
GERES	**GERESS Array B**	**3.06**	**212**	Pg	**Pg**	**04 07 38.2**	**-2.2**
MODS	**Modra-Piesok**	**3.18**	**166**	*e*PG	**Pg**	**04 07 42.9**	**+0.3**
MODS				*e*SG	**Sg**	**04 08 23.8**	**0.0**
KOLL	**Kolacno**	**3.23**	**153**	*e*PN	**Pn**	**04 07 36.4**	**+2.8**
KOLL				*e*PG	**Pg**	**04 07 43.9**	**+0.3**
KOLL				*e*SG	**Sg**	**04 08 25.1**	**-0.4**
ZST	**Bratislava**	**3.33**	**169**	*e*SG	**Sg**	**04 08 27.5**	**-1.1**
NIE	**Niedzica**	**3.35**	**126**	*e*P	**Pg**	**04 07 45.0**	**-0.9**
NIE				*e*S	**Sg**	**04 08 29.2**	**-0.2**
CONA	**Conrad Observa**	**3.55**	**183**	⇑*i*Pn	**Pn**	**04 07 37.9**	**-0.1**
CONA				⇓*i*Sg	**Sg**	**04 08 34.0**	**-1.6**
	comp=Z,8.4nm,0.3s						
CSNA	**Conrad Observa**	**3.55**	**183**	⇓*i*Pn	**Pn**	**04 07 37.9**	**-0.1**
CSNA				⇑*i*Sg	**Sg**	**04 08 33.9**	**-1.7**
	comp=Z,8.7nm,0.3s						
MOA	**Molln**	**3.83**	**200**	⇑*i*Pn	**Pn**	**04 07 42.5**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**04 08 44.9**	**+0.4**
	comp=Z,16nm,0.6s						
KECS	**Kecovo**	**4.09**	**135**	*e*PG	**Pg**	**04 07 57.3**	**-2.7**
ARSA	**Arzberg**	**4.24**	**186**	⇑*i*Pn	**Pn**	**04 07 48.0**	**+0.5**
ARSA				⇑*i*Sg	**Sg**	**04 08 58.6**	**+0.7**
	comp=Z,5.6nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.26**	**125**	*e*PG	**Pg**	**04 08 05.2**	**+1.8**
KWP	**Kalwaria**	**4.56**	**111**	*e*Pg	**Pg**	**04 08 07.7**	**-1.3**
KWP	**Kalwaria**	**4.56**	**111**	*e*Pg	**Pg**	**04 08 07.7**	**-1.3**
KBA	**Koelnbreinsper**	**4.76**	**204**	⇑*i*Pn	**Pn**	**04 07 55.7**	**+1.0**
KBA				⇑*i*Sg	**Sg**	**04 09 13.7**	**-0.9**
	comp=Z,7.0nm,0.7s						
DAVOX	**Davos/Dischmat**	**6.24**	**224**	Pn	**Pn**	**04 08 17.4**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=17,slow=14,SNR=2.2						
HFS	**Hagfors**	**8.80**	**352**	Pn	**Pn**	**04 08 48.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=160,slow=14,SNR=5.6						
ARCES	**ARCESS Array B**	**18.66**	**10**	Pn	**Pn**	**04 10 56.3**	**-4.7**
	comp=Z,0.2nm,0.3s,baz=193,slow=12,SNR=10						
TORD	**Torodi Ar. Bea**	**39.97**	**202**	P	**P**	**04 14 17.8**	**-0.1**
	comp=Z,0.5nm,1.1s,baz=16,slow=7.0,SNR=2.2						

*ISCJB **08** 04:17:29.7±0.9, 3833N±003×2043E±007, h0km±7km, Error ellipse: s-maj=10.2km s-min=4.2km az=157.9*
*NEIC **08** 04:17:30.3, 3832N×2053E, h5km, MD3.6(ATH), ML3.5(THE), After ATH.*
*ATH **08** 04:17:30.3, 3832N×2053E, h5km±3km, MD3.6/7*
*THE **08** 04:17:30.1, 3832N×2041E, h0km, ML3.5*
*CSEM **08** 04:17:30.7±0.4, 3831N×2046E, h2km, ML3.5, Error ellipse: s-maj=8.7km s-min=2.9km az=68.0*

ISC 08 04:17:30.4±0.8, 3833N±003×2045E±007, h5km±6km, n19, σ1§17/32, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.18**	**144**	*e*Pg	**Pg**	**04 17 33.8**	**-0.2**
VLS				*e*Sg	**Sg**	**04 17 37.0**	**+0.6**
VLS	**Valsamata**	**0.18**	**144**	*e*PG	**Pg**	**04 17 33.5**	**-0.5**
VLS				*e*SG	**Sg**	**04 17 36.2**	**-0.2**
VLS	**Valsamata**	**0.18**	**144**	*e*Pg	**Pg**	**04 17 33.8**	**-0.2**
VLS				*e*Sg	**Sg**	**04 17 37.0**	**+0.6**
KFL	**Anninata**	**0.34**	**129**	*e*Pg	**Pg**	**04 17 36.5**	**-0.4**
KFL				*e*Sg	**Sg**	**04 17 42.6**	**+1.1**
LKD	**Levkas**	**0.41**	**22**	*e*Pg	**Pg**	**04 17 37.5**	**-0.8**
LKD				*e*Sg	**Sg**	**04 17 43.3**	**-0.3**
RLS	**Riolos of Patr**	**0.84**	**108**	*e*PB	**Pb**	**04 17 45.4**	**-2.1**
RLS				*e*SB	**Sb**	**04 17 57.3**	**-1.8**
IGT	**Igoumenitsa**	**1.21**	**356**	*e*Pg	**Pg**	**04 17 53.1**	**-0.4**
IGT				*e*Sg	**Sg**	**04 18 10.5**	**+1.3**
EVR	**Evrytania**	**1.21**	**61**	*e*PN	**Pn**	**04 17 52.0**	**-2.0**
EVR				*e*SB	**Sb**	**04 18 09.1**	**-0.7**
JAN	**Janina**	**1.36**	**13**	*e*PB	**Pb**	**04 17 56.1**	**-0.3**
KEK	**Kerkira**	**1.48**	**340**	*e*PB	**Pb**	**04 17 59.1**	**+0.8**
AGG	**Agios Georgios**	**1.62**	**64**	*e*Pb	**Pb**	**04 18 00.2**	**-0.7**
AGG				*e*Sb	**Sb**	**04 18 22.7**	**+1.1**
ITM	**Ithomi**	**1.64**	**134**	*e*PB	**Pb**	**04 18 01.2**	**+0.2**
THL	**Klokotos Trika**	**1.73**	**44**	*e*Pb	**Pb**	**04 18 02.2**	**-0.4**
THL				*e*Sb	**Sb**	**04 18 26.9**	**+2.1**
LKR	**Lokris**	**2.02**	**80**	*e*Pn	**Pn**	**04 18 05.5**	**+0.4**
LKR	**Lokris**	**2.02**	**80**	*e*PN	**Pn**	**04 18 07.3**	**+2.2**
DID	**Didima**	**2.35**	**110**	*e*Pn	**Pn**	**04 18 09.9**	**+0.4**
DID				*e*Sn	**Sn**	**04 18 41.3**	**+2.5**
FNA	**Florina**	**2.56**	**16**	*e*Pn	**Pn**	**04 18 12.9**	**+0.5**
KRUS	**Krusevo**	**3.10**	**11**	*e*Pn	**Pn**	**04 18 20.9**	**+0.9**
KRUS				*e*Sn	**Sn**	**04 18 54.9**	**-2.4**
KRUS	**Krusevo**	**3.10**	**11**	*e*Pn	**Pn**	**04 18 20.8**	**+0.9**
KRUS				*e*Sn	**Sn**	**04 18 54.8**	**-2.5**

*ISCJB **08** 04:22:49.8±0.4, 5035N±003×1877E±003, h0km, Error ellipse: s-maj=4.3km s-min=2.4km az=10.7*
*NEIC **08** 04:22:52.0±0.8, 5034N×1876E, h5km, MG2.7(WAR), Error ellipse: s-maj=12.8km s-min=6.1km az=195.0*
*IPEC **08** 04:22:51.3±0.2, 5042N×1882E, h0km, ML2.1/4, Error ellipse: s-maj=2.6km s-min=0.8km az=173.0*
*VIE **08** 04:22:52.5±0.9, 4981N×1910E, h0km, mb2.4/2, ML2.6/4, Error ellipse: s-maj=5.4km s-min=5.0km az=139.0, Suspected Mining induced.*
*IDC **08** 04:22:52.7±1.0, 5025N×1881E, h0km, mb3.0/1, mb1 3.0/4, mb1mx3.0/22, mbtmp2.8/4, ML2.8/3, MS2.5/1, Ms1 2.5/1, ms1mx1.9/20, Error ellipse: s-maj=27.8km s-min=8.7km az=156.0*
*WAR **08** 04:22:52.0, 5036N×1886E, ML2.8, Mining Induced*
*CSEM **08** 04:22:52.2±0.1, 5037N×1884E, h1km, ML3.0/8, Error ellipse: s-maj=2.4km s-min=1.1km az=1.0*

ISC 08 04:22:51.3±0.4, 5034N±003×1882E±003, h0km, n46, σ1§32/84, 6C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.48**	**238**	*e*Pg	**Pg**	**04 23 02.4**	**+2.0**
RAC				*e*Sg	**Sg**	**04 23 09.9**	**+3.3**
OJC	**Ojcow**	**0.64**	**100**	*e*Pg	**Pg**	**04 23 03.9**	**+0.4**
OJC				*e*Sg	**Sg**	**04 23 13.0**	**+1.2**
OJC	**Ojcow**	**0.64**	**100**	*e*Pg	**Pg**	**04 23 03.9**	**+0.4**
OJC				*e*Sg	**Sg**	**04 23 12.2**	**+0.5**
OKC	**Ostrava-Krasne**	**0.66**	**221**	*e*Pg	**Pg**	**04 23 05.3**	**+1.3**
OKC				Sg	**Sg**	**04 23 13.8**	**+1.3**
	51nm,0.7s						
OKC	**Ostrava-Krasne**	**0.66**	**221**	*e*PG	**Pg**	**04 23 05.4**	**+1.4**
OKC				*e*SG	**Sg**	**04 23 13.8**	**+1.3**
	comp=Z,51nm,0.7s						
MORC	**Moravsky Berou**	**1.00**	**236**	*e*Pg	**Pg**	**04 23 11.0**	**+0.6**
MORC				*e*Sg	**Sg**	**04 23 24.7**	**+1.4**
MORC	**Moravsky Berou**	**1.00**	**236**	*e*Pg	**Pg**	**04 23 10.8**	**+0.5**
MORC				*e*Sg	**Sg**	**04 23 24.7**	**+1.5**
NIE	**Niedzica**	**1.33**	**133**	*e*Pg	**Pg**	**04 23 17.3**	**+0.5**
NIE				*e*Sg	**Sg**	**04 23 35.6**	**+1.5**
DPC	**Dobruska-Polom**	**1.60**	**271**	*e*SG	**Sg**	**04 23 43.2**	**+0.5**
	comp=Z,19nm,0.5s						
JAVC	**Velka Javorina**	**1.66**	**207**	*e*Sg	**Sg**	**04 23 45.8**	**+1.3**
	comp=Z,9.8nm,0.4s						
KSP	**Ksiaz**	**1.69**	**288**	*e*Pn	**Pn**	**04 23 22.5**	**+0.5**
KSP				*e*Sn	**Sn**	**04 23 47.0**	**+2.7**
KSP				*e*Sg	**Sg**	**04 23 49.4**	**+3.9**
KSP	**Ksiaz**	**1.69**	**288**	*e*Pg	**Pg**	**04 23 23.6**	**0.0**
KSP				*e*Sn	**Sn**	**04 23 46.4**	**+2.1**
KSP				*e*Sg	**Sg**	**04 23 47.9**	**+2.4**
KSP	**Ksiaz**	**1.69**	**288**	*e*Pn	**Pn**	**04 23 22.2**	**+0.2**
KSP				*e*Pg	**Pg**	**04 23 23.6**	**0.0**
KSP				*e*Sn	**Sn**	**04 23 46.4**	**+2.1**
KSP				*e*Sg	**Sg**	**04 23 47.9**	**+2.4**
VRAC	**Vranov**	**1.77**	**235**	Pn	**Pn**	**04 23 23.5**	**+0.3**
	comp=Z,7.2nm,0.3s,baz=50,slow=16,SNR=18						
VRAC				Pg	**Pg**	**04 23 24.7**	**-0.6**
	comp=Z,7.2nm,0.3s,baz=62,slow=15,SNR=17						
VRAC				Lg		04 23 48.8	
	comp=Z,6.8nm,0.3s,baz=144,slow=18,SNR=11						
VRAC	**Vranov**	**1.77**	**235**	*e*Pn	**Pn**	**04 23 23.4**	**+0.2**
VRAC	**Vranov**	**1.77**	**235**	Pg	**Pg**	**04 23 24.7**	**-0.5**
VRAC				*e*Sg	**Sg**	**04 23 48.4**	**+0.2**
	comp=Z,14nm,0.2s						
KOLL	**Kolacno**	**1.78**	**189**	*e*PN	**Pn**	**04 23 24.1**	**+0.8**
KOLL				*e*SN	**Sn**	**04 23 45.2**	**-1.4**
UPC	**Upice**	**1.81**	**276**	*e*PG	**Pg**	**04 23 24.4**	**-1.5**
UPC				*e*SG	**Sg**	**04 23 48.9**	**-0.3**
KRUC	**Moravsky**	**2.03**	**232**	*e*Pn	**Pn**	**04 23 26.9**	**+0.2**
KRUC				*e*Sg	**Sg**	**04 23 55.6**	**-0.8**
	comp=Z,12nm,0.3s						
KECS	**Kecovo**	**2.15**	**149**	*e*PG	**Pg**	**04 23 32.4**	**-0.1**
KECS				*e*SN	**Sn**	**04 23 53.4**	**-2.3**
CRVS	**Cervenica-Dubn**	**2.24**	**129**	*e*Pn	**Pn**	**04 23 30.4**	**+0.8**
CRVS	**Cervenica-Dubn**	**2.24**	**129**	*e*Pn	**Pn**	**04 23 30.5**	**+0.9**
**PS

VLS	**Valsamata**	**1.11**	**168**	*e*Pg	**Pg**	**04 30 05.8**	**-1.8**
VLS				*e*Sg	**Sg**	**04 30 24.2**	**+2.3**
VLS	**Valsamata**	**1.11**	**168**	*e*Pg	**Pg**	**04 30 05.8**	**-1.8**
VLS				*e*Sb	**Sb**	**04 30 20.8**	**-1.7**
KFL	**Anninata**	**1.22**	**162**	*e*Pg	**Pg**	**04 30 10.9**	**+1.3**
KFL				*e*Sg	**Sg**	**04 30 27.1**	**+1.7**
EVR	**Evrytania**	**1.22**	**106**	*e*PB	**Pb**	**04 30 08.7**	**-1.1**
THL	**Klokotos Trika**	**1.36**	**77**	*e*PB	**Pb**	**04 30 11.9**	**-0.2**
RLS	**Riolos of Patr**	**1.51**	**143**	*e*PB	**Pb**	**04 30 13.1**	**-1.6**
KZN	**Kozani**	**1.54**	**47**	*e*PB	**Pb**	**04 30 15.6**	**+0.5**
AGG	**Agios Georgios**	**1.60**	**98**	*e*Pb	**Pb**	**04 30 16.4**	**+0.3**
AGG				*e*Sb	**Sb**	**04 30 37.1**	**+0.6**
FNA	**Florina**	**1.73**	**28**	*e*Pb	**Pb**	**04 30 17.8**	**-0.6**
FNA				*e*Sb	**Sb**	**04 30 42.0**	**+1.7**
FNA	**Florina**	**1.73**	**28**	*i* PG	**Pg**	**04 30 17.8**	**-1.6**
FNA				*i* SG	**Sg**	**04 30 42.0**	**+0.2**
LIT	**Litokhoron**	**1.88**	**63**	*e*Pb	**Pb**	**04 30 18.7**	**-2.3**
BIA	**Bitola**	**1.92**	**24**	*e*Pn	**Pn**	**04 30 22.4**	**+3.0**
KRUS	**Krusevo**	**2.22**	**19**	*e*Pn	**Pn**	**04 30 24.9**	**+1.2**
KRUS	**Krusevo**	**2.22**	**19**	*e*Pn	**Pn**	**04 30 24.8**	**+1.2**

*IDC **08** 04:42:19.9±1.2,288N×127.16E,h0km,mb3.7/6,mb1 3.8/6, mb1mx3.7/18,mbtmp3.7/6,Error ellipse: s-maj=117.3km s-min=19.2km az=71.0*
*ISCJB **08** 04:42:23.4±1.0,28N±02×1270E±05,h33km,mb3.8/7, Error ellipse: s-maj=79.4km s-min=13.3km az=161.1*
*NEIC **08** 04:42:25.2±0.9,287N×12728E,h35km,mb4.0/2,Error ellipse: s-maj=71.9km s-min=12.5km az=71.0*

ISC 08 04:42:25.4±1.0,29N±02×1273E±05,h35km,n9,σ0§98/8, mb3.8/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.89**	**184**	P	**P**	**04 47 05.0**	**+0.2**
	1.3nm,0.8s,baz=19,slow=13,SNR=2.9						
WRAB	**Tennant Creek**	**23.69**	**163**	*e*P	**P**	**04 47 34.3**	**+0.2**
	1.7nm,0.3s,mb4.0						
WRA	**Warramunga Arr**	**23.69**	**163**	P	**P**	**04 47 32.9**	**-1.2**
	0.8nm,0.4s,mb3.5,baz=343,slow=9.9,SNR=20						
ASAR	**Alice Springs**	**27.14**	**167**	P	**P**	**04 48 06.5**	**+1.1**
	0.4nm,0.6s,mb3.1,baz=347,slow=7.0,SNR=6.5						
ASAR				PcP	PcP	04 51 25.9	+0.2
	0.6nm,0.7s,baz=3.9,slow=2.6,SNR=5.6						
STKA	**Stephens Creek**	**37.12**	**160**	P	**P**	**04 49 32.5**	**-0.3**
	2.1nm,0.7s,mb4.1,baz=306,slow=11,SNR=2.8						
SONM	**Songino Array**	**48.30**	**341**	P	**P**	**04 51 03.9**	**+0.7**
	0.7nm,0.5s,mb3.9,baz=150,slow=8.1,SNR=4.6						
MKAR	**Makanchi Array**	**58.59**	**325**	P	**P**	**04 52 16.8**	**-1.9**
	0.3nm,0.4s,mb3.6,baz=131,slow=7.9,SNR=4.9						
KURK	**Kurchatov**	**62.77**	**328**	*e*P	**P**	**04 52 48.1**	**+1.0**
	0.6nm,0.5s,mb4.0						
TORD	**Torodi Ar. Bea**	**123.72**	**288**	PKP	PKPdf	05 01 20.2	-0.3
	0.5nm,1.0s,baz=15,slow=1.0,SNR=2.7						

*NEIC **08** 04:43:27.8,3924N×2018E,h0km,MD3.3(ATH), ML3.1(THE),After THE.*
*THE **08** 04:43:27.8,3924N×2018E,h0km,ML3.1*
*ISCJB **08** 04:43:28.4±0.6,3927N±003×2028E±005,h10km,Error ellipse: s-maj=5.2km s-min=3.7km az=160.6*
*CSEM **08** 04:43:28.3±0.3,3927N×2025E,h5km,ML3.1,Error ellipse: s-maj=7.9km s-min=5.2km az=74.0*
*ATH **08** 04:43:28.4,3930N×2031E,h20km±5km,MD3.3/4*

ISC 08 04:43:28.5±0.8,3927N±003×2025E±005,h5km±6km,n14, σ0§80/25,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.27**	**13**	*e*Pg	**Pg**	**04 43 32.8**	**-0.9**
IGT				*e*Sg	**Sg**	**04 43 37.4**	**+0.1**
KEK	**Kerkira**	**0.57**	**322**	*e*PN	**Pg**	**04 43 39.3**	**-0.1**
KEK				*e*SN	**Sg**	**04 43 48.5**	**+1.8**
JAN	**Janina**	**0.60**	**50**	*e*PN	**Pg**	**04 43 39.0**	**-1.1**
JAN				*e*SN	**Sg**	**04 43 46.9**	**-1.0**
LKD	**Levkas**	**0.64**	**151**	*e*Pg	**Pg**	**04 43 39.5**	**-1.3**
LKD				*e*Sg	**Sg**	**04 43 49.7**	**+0.6**
VLS	**Valsamata**	**1.12**	**166**	*e*PN	**Pn**	**04 43 50.4**	**-0.4**
EVR	**Evrytania**	**1.26**	**106**	*e*PN	**Pn**	**04 43 52.2**	**-0.5**
THL	**Klokotos Trika**	**1.40**	**77**	*e*Pg	**Pg**	**04 43 55.3**	**+0.1**
THL				*e*Sg	**Sg**	**04 44 14.9**	**+1.6**
RLS	**Riolos of Patr**	**1.54**	**141**	*e*PN	**Pn**	**04 43 56.8**	**+0.3**
AGG	**Agios Georgios**	**1.63**	**98**	*e*Pb	**Pb**	**04 43 59.2**	**+0.1**
AGG				*e*Sb	**Sg**	**04 44 21.7**	**+0.7**
FNA	**Florina**	**1.74**	**29**	*e*Pb	**Pb**	**04 44 00.6**	**-0.3**
FNA				*e*Sb	**Sg**	**04 44 24.2**	**-0.2**
FNA	**Florina**	**1.74**	**29**	*e*Pb	**Pb**	**04 44 00.6**	**-0.3**
FNA				*e*Sb	**Sb**	**04 44 24.2**	**+1.1**
LIT	**Litokhoron**	**1.92**	**64**	*e*Pn	**Pn**	**04 44 02.0**	**+0.3**
LIT				*e*Sn	**Sb**	**04 44 28.2**	**+0.1**
KRUS	**Krusevo**	**2.23**	**20**	*e*Pn	**Pn**	**04 44 06.5**	**+0.4**
KRUS				*e*Sn	**Sb**	**04 44 36.0**	**-1.2**
KRUS	**Krusevo**	**2.23**	**20**	*e*Pn	**Pn**	**04 44 06.4**	**+0.3**
KRUS				*e*Sn	**Sb**	**04 44 36.0**	**-1.2**

*MOS **08** 04:56:13.1±1.3,4689N×15569E,h10km,mb4.7/2,Error ellipse: s-maj=22.2km s-min=15.6km az=66.2*
*IDC **08** 04:56:13.4±0.9,4683N×15579E,h0km,mb3.7/7, mb1 3.9/9,mb1mx3.7/23,mbtmp3.7/9,ML4.1/2,Error ellipse: s-maj=26.3km s-min=20.8km az=123.0*
*NEIC **08** 04:56:15.1±0.5,4677N×15581E,h10km,mb4.2/4,Error ellipse: s-maj=13.5km s-min=9.9km az=137.0*
*ISCJB **08** 04:56:16.7±0.8,4683N±008×1558E±02,h33km,mb3.9/10, Error ellipse: s-maj=17.8km s-min=9.1km az=25.4*

ISC 08 04:56:18.9±0.8,4679N±008×1557E±02,h35km,n19, σ0§72/20,mb3.9/10,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.67**	**257**	*e*PN	**Pn**	**04 57 37.4**	**-3.2**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
PETK	**Petropavlovsk-**	**6.46**	**11**	Pn	**Pn**	**04 57 47.1**	**-4.3**
	comp=Z,0.9nm,0.3s,baz=186,slow=12,SNR=5.6						
PETK				Sn	**Sn**	**04 59 03.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=246,slow=43,SNR=2.0						
MJAR	**Matsushiro Arr**	**16.56**	**238**	Pn	**Pn**	**05 00 08.0**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=42,slow=5.6,SNR=9.1						
MJAR	**Matsushiro Arr**	**16.56**	**238**	Pn	**Pn**	**05 00 08.0**	**-0.4**
MAJO	**Matsushiro**	**16.56**	**238**	*e*P	**Pn**	**05 00 08.1**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MAJO	**Matsushiro**	**16.56**	**238**	*e*Pn	**Pn**	**05 00 08.1**	**-0.2**
	comp=Z,7.9nm,0.4s						
ZALV	**Zalesovo Beam**	**44.02**	**307**	P	**P**	**05 04 22.4**	**-0.3**
	comp=Z,0.7nm,0.3s,mb3.8,baz=51,slow=11,SNR=2.9						
ZAL	**Zalesovo**	**44.03**	**307**	P	**P**	**05 04 22.4**	**-0.4**
MKAR	**Makanchi Array**	**48.49**	**298**	P	**P**	**05 04 58.5**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.8,baz=65,slow=6.4,SNR=5.0						
KURK	**Kurchatov**	**48.81**	**305**	*e*P	**P**	**05 05 00.8**	**+0.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
KURK	**Kurchatov**	**48.81**	**305**	*e*P	**P**	**05 05 00.8**	**+0.5**
	comp=Z,4.4nm,0.7s,mb4.6						
BRVK	**Borovoye**	**52.23**	**310**	*e*P	**P**	**05 05 27.2**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**52.23**	**310**	*e*P	**P**	**05 05 27.2**	**+1.1**
	comp=Z,2.6nm,0.6s,mb4.3						
EKS2	**Erkin-Say**	**55.82**	**298**	*e*P	**P**	**05 05 53.3**	**+0.9**
	comp=Z,2.1nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**63.28**	**55**	P	**P**	**05 06 43.5**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.7,baz=259,slow=0.8,SNR=4.8						
WRA	**Warramunga Arr**	**69.16**	**202**	P	**P**	**05 07 21.3**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.3,baz=22,slow=7.0,SNR=5.7						
AKASG	**Malin Array Be**	**72.48**	**328**	P	**P**	**05 07 41.5**	**-0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=35,slow=5.9,SNR=4.3						
ASAR	**Alice Springs**	**72.84**	**201**	P	**P**	**05 07 44.4**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.5,baz=23,slow=5.3,SNR=4.2						
TXAR	**Lajitas Array**	**75.92**	**62**	P	**P**	**05 08 02.0**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=303,slow=4.9,SNR=17						

*CSEM **08** 06:12:34.3±0.1,3966N×3530E,h12km,MD2.9,Error ellipse: s-maj=3.0km s-min=2.4km az=68.0*
*ISK **08** 06:12:34.6,3970N×3534E,h11km,MD2.9*
*ISCJB **08** 06:12:35.4±0.7,3972N±004×3529E±005,h8km±5km, Error ellipse: s-maj=8.0km s-min=5.1km az=141.8*
*DDA **08** 06:12:35.4,3965N×3529E,h7km±1km,Md3.0*

ISC 08 06:12:35.6±0.7,3971N±004×3531E±006,h9km±5km,n12, σ0§80/18,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.07**	**175**	PG	**Pg**	**06 12 37.0**	**-0.6**
YOZ				*e*SG	**Sg**	**06 12 39.0**	**0.0**
CORM	**Corum**	**0.71**	**312**	*e*PG	**Pg**	**06 12 49.3**	**+0.1**
CORM				*e*SG	**Sg**	**06 12 59.8**	**+1.4**
CDAG	**Cicekdag**	**0.73**	**264**	*i* P	**Pg**	**06 12 49.1**	**-0.6**
CDAG				*i* S	**Sg**	**06 12 59.4**	**+0.3**
AVNT	**Avonos**	**0.99**	**201**	*i* P	**Pg**	**06 12 53.2**	**-1.4**
AVNT				*i* S	**Sg**	**06 13 08.0**	**+0.5**
AVNT	**Avonos**	**0.99**	**201**	*i* P	**Pg**	**06 12 53.2**	**-1.4**
AVNT				*i* S	**Sg**	**06 13 08.0**	**+0.5**
CTKT	**Corum**	**1.00**	**337**	*i* P	**Pg**	**06 12 55.4**	**+0.5**
CTKT	**Corum**	**1.00**	**337**	*i* P	**Pg**	**06 12 55.3**	**+0.5**
KAMT	**Kaman**	**1.28**	**255**	*e*PN	**Pn**	**06 12 59.3**	**-0.4**
SVSK	**Karacayir**	**1.32**	**80**	*e*PN	**Pn**	**06 12 59.3**	**-0.9**
PINB	**Pinarbasi**	**1.33**	**140**	*i* P	**Pn**	**06 13 01.3**	**+0.9**
PINB				*i* S	**Sb**	**06 13 19.2**	**+1.3**
TOS	**Tosya**	**1.65**	**324**	*e*PN	**Pn**	**06 13 03.9**	**-0.9**
DIKM	**Dikmen**	**1.94**	**359**	*e*PN	**Pn**	**06 13 08.4**	**-0.4**

*NEIC **08** 06:25:49.0,3205S×7169W,h37km,MD3.9(GUC),After GUC.*

GUC 08 06:25:49.0±0.7,3205S×7169W,h37km±2km,MD3.9, ML3.1,7C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.23**	**44**	⇑*i*P	Pn	06 25 56.0	-0.3
CHNG				*i* S	Sn	06 26 01.1	-0.2
PTCH	**Petorca**	**0.68**	**108**	*e*P	Pn	06 26 02.5	+0.3
PTCH				*i* S	Sn	06 26 12.4	+0.9
PTCH				AML	AML	06 26 13.7	
	comp=N,571nm,0.2s						
PTCH	**Petorca**	**0.68**	**108**	*e*P	Pn	06 26 02.5	+0.3
PTCH				*i* S	Sn	06 26 12.4	+0.9
CMCH	**Combarbala**	**1.06**	**34**	⇑*i*P	Pn	06 26 08.1	+0.8
CMCH				*i* S	Sn	06 26 22.7	+2.0
CMCH				AML	AML	06 26 25.6	
	comp=E,2μm,0.6s						
CMCH	**Combarbala**	**1.06**	**34**	⇑*i*P	Pn	06 26 08.1	+0.8
CMCH				*i* S	Sn	06 26 22.7	+2.0
ROCH	**El Roble**	**1.08**	**148**	*e*P	Pn	06 26 08.8	+1.1
ROCH				*i* S	Sn	06 26 22.6	+1.2
JACH	**Jahuel**	**1.12**	**124**	*e*P	Pn	06 26 08.9	+0.7
JACH				*i* S	Sn	06 26 24.4	+2.0
RCDM	**Rinconada Maip**	**1.61**	**153**	*e*P	Pn	06 26 16.3	+1.3
RCDM				*i* S	Sn	06 26 36.9	+2.3
RCDM				AML	AML	06 26 44.9	
	comp=E,304nm,0.1s						
RCDM	**Rinconada Maip**	**1.61**	**153**	*e*P	Pn	06 26 16.3	+1.3
RCDM				*i* S	Sn	06 26 36.9	+2.3
CLCH	**Cerro Calan**	**1.66**	**144**	⇑*i*P	Pn	06 26 17.1	+1.5
CLCH				*i* S	Sn	06 26 38.1	+2.5
CLCH				AML	AML	06 26 49.4	
	comp=N,326nm,0.5s						
TACH	**Talagante**	**1.72**	**159**	*e*P	Pn	06 26 17.8	+1.4
FCH	**Farellones**	**1.73**	**137**	⇑*e*P	Pn	06 26 18.7	+2.1
FCH				*i* S	Sn	06 26 41.0	+3.4
FCH				AML	AML	06 26 42.6	
	comp=E,259nm,0.2s						
ANTU	**Antumapu**	**1.75**	**150**	⇓*e*P	Pn	06 26 18.6	+1.7
ANTU				*i* S	Sn	06 26 40.7	+2.7
ANTU				AML	AML	06 26 48.7	
	comp=E,191nm,0.7s						
ANTU	**Antumapu**	**1.75**	**150**	⇓*e*P	Pn	06 26 18.6	+1.7
ANTU				*i* S	Sn	06 26 40.7	+2.7
LNV	**Longovilo**	**1.91**	**173**	*e*P	Pn	06 26 18.6	-0.5
SJCH	**San Jose de Ma**	**1.94**	**145**	⇑*e*P	Pn	06 26 21.0	+1.5
SJCH				*i* S	Sn	06 26 45.2	+2.5
SJCH				AML	AML	06 26 50.1	
	comp=N,116nm,0.3s						
SJCH	**San Jose de Ma**	**1.94**	**145**	⇑*e*P	Pn	06 26 21.0	+1.5
SJCH				*i* S	Sn	06 26 45.2	+2.5
TLL	**Tololo Astrono**	**2.03**	**22**	*e*P	Pn	06 26 24.1	+3.4
TLL				*i* S	Sn	06 26 49.4	+4.6
TLL				AML	AML	06 26 56.0	
	comp=E,295nm,0.6s						
TLL	**Tololo Astrono**	**2.03**	**22**	*e*P	Pn	06 26 24.1	+3.4
TLL				*i* S	Sn	06 26 49.4	+4.6
CHCH	**Chadas Angostu**	**2.07**	**155**	*e*P	Pn	06 26 22.8	+1.6
CHCH				*i* S	Sn	06 26 48.2	+2.5
LMEL	**Las Melosas**	**2.18**	**145**	*e*P	Pn	06 26 24.5	+1.7
LMEL				*i* S	Sn	06 26 51.7	+3.1
LMEL				AML	AML	06 27 00.1	
	comp=N,274nm,0.4s						
LMEL	**Las Melosas**	**2.18**	**145**	*e*P	Pn	06 26 24.5	+1.7
LMEL				*i* S	Sn	06 26 51.7	+3.1
LCO	**Las Campanas**	**3.15**	**16**	Pn	Pn	06 26 35.7	-0.4
PLCA	**Paso Flores**	**8.71**	**174**	*e*Pn	Pn	06 27 52.2	-0.2

*DDA **08** 06:38:43.8,3906N×2742E,h7km±2km,Md2.8*
*ISK **08** 06:38:44.6,3912N×2764E,h18km,MD2.9*
*CSEM **08** 06:38:44.5±0.1,3912N×2763E,h8km,MD2.9,Error ellipse: s-maj=3.1km s-min=1.8km az=105.0*
*ISCJB **08** 06:38:45.4±0.7,3911N±003×2757E±006,h9km±8km, Error ellipse: s-maj=7.7km s-min=5.0km az=5.6*

ISC 08 06:38:45.7±0.7,3911N±003×2760E±005,h18km±8km,n9, σ0§89/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.28**	**145**	*e*PG	**Pg**	**06 38 50.9**	**-0.9**
AKS				*e*SG	**Sg**	**06 38 55.8**	**-0.3**
AKHS	**Akhisar**	**0.28**	**145**	*i* P	**Pg**	**06 38 50.9**	**-1.0**
AKHS				*i* S	**Sg**	**06 38 56.8**	**+0.7**
BALB	**Balikesir**	**0.57**	**22**	*e*PG	**Pg**	**06 38 56.0**	**-1.0**
BALY	**Balya**	**0.63**	**1**	*i* P	**Pg**	**06 38 57.3**	**-0.8**
BALY				*i* S	**Sg**	**06 39 07.6**	**+1.1**
IZM	**Izmir**	**0.76**	**201**	*e*PG	**Pg**	**06 38 60.0**	**-0.6**
IZM				*e*SG	**Sg**	**06 39 11.2**	**+0.6**
DURS	**Dursunbey**	**0.83**	**54**	*i* P	**Pg**	**06 39 01.7**	**-0.2**
DURS				*i* S	**Sg**	**06 39 16.5**	**+3.5**
BLCB	**Balcova**	**0.85**	**211**	*e*PG	**Pg**	**06 39 01.8**	**-0.4**
BLCB				*e*SG	**Sg**	**06 39 14.5**	**+1.2**
DEMI	**Demirci**	**0.87**	**94**	*i* P	**Pb**	**06 39 03.5**	**+1.3**
DEMI				*i* S	**Sg**	**06 39 14.6**	**+0.5**
KULA	**Kula-Manisa**	**1.02**	**125**	*e*PG	**Pn**	**06 39 04.3**	**-0.8**

*NIED **08** 06:47:00,2400N×12350E,h29km,Mw3.8 Best double couple: M0:21000×10^14 NP1:φ0=101.00000°,δ85.00000°, λ-154.00000°. NP2:φ0=9.00000°,δ64.00000°,λ-5.00000°.*

JMA 08 06:47:23.4±0.1,2402N×12354E,h22km±2km,M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.24**	**81**	P	Pb	06 47 29.2	-0.2
HATJ				S	Sb	06 47 33.5	+0.1
IRIF	**Iriomote-Funau**	**0.36**	**29**	P	Pb	06 47 31.0	-0.2
IRIF				*e*S	Sb	06 47 36.3	-0.1
JKRS	**Kuro-shima**	**0.48**	**63**	P	Pb	06 47 33.2	0.0
JKRS				S	Sb	06 47 40.3	+0.5
JIJ	**Ishigaki jima**	**0.65**	**58**	P	Pb	06 47 35.5	-0.5
JIJ				S	Sb	06 47 44.5	-0.2
YOJ	**Yonaguni jima**	**0.65**	**312**	P	Pb	06 47 36.0	-0.1
YOJ				S	Sb	06 47 44.4	-0.4
JTJ	**Tarama**	**1.23**	**60**	P	Pn	06 47 45.3	+0.1
JTJ				*e*S	Sn	06 48 01.5	+0.4

*IDC **08** 07:02:54.6±2.0,443N×12685E,h0km,mb3.7/4,mb1 3.9/4, mb1mx3.6/19,mbtmp3.7/4,Error ellipse: s-maj=110.2km s-min=26.6km az=69.0*

NEIC 08 07:02:59.5±1.2,447N×12700E,h35km,mb4.3/2,Error ellipse: s-maj=71.3km s-min=15.5km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.47**	**183**	P	P	07 07 55.4	-0.5
	2.9nm,0.7s,baz=13,slow=11,SNR=7.9						
FITZ	**Fitzroy Crossi**	**22.47**	**183**	*e*P	P	07 07 55.8	0.0
	9.0nm,1.3s						
WRAB	**Tennant Creek**	**25.31**	**164**	*e*P	P	07 08 23.1	+0.1
	33nm,2.2s						
WRA	**Warramunga Arr**	**25.31**	**164**	P	P	07 08 23.2	+0.1
	0.5nm,0.4s,baz=342,slow=10,SNR=13						
WB2	**Warramunga Arr**	**25.32**	**164**	*e*P	P	07 08 23.1	0.0
ASAR	**Alice Springs**	**28.77**	**167**	P	P	07 08 54.1	+0.1
	0.9nm,0.5s,baz=349,slow=7.7,SNR=19						
MKAR	**Makanchi Array**	**57.10**	**325**	P	P	07 12 42.5	+0.1
	0.2nm,0.4s,baz=118,slow=9.8,SNR=3.4						

*NEIC **08** 07:23:06.7,3206S×7168W,h33km,ML2.5(GUC),After GUC.*

GUC 08 07:23:06.7±0.6,3206S×7168W,h33km±1km,MD3.6, ML2.5,6C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.23**	**41**	⇑*i*P	Pb	07 23 13.5	-0.1
CHNG				*i* S	Sb	07 23 18.5	+0.3
CHNG				AML	AML	07 23 19.3	
	comp=E,957nm,0.3s						
CMCH	**Combarbala**	**1.05**	**33**	⇑*i*P	Pn	07 23 25.7	+0.5
CMCH				*i* S	Sn	07 23 40.0	+1.3
CMCH				AML	AML	07 23 45.3	
	comp=E,472nm,0.7s						
CMCH	**Combarbala**	**1.05**	**33**	⇑*i*P	Pn	07 23 25.7	+0.5
CMCH				*i* S	Sn	07 23 40.0	+1.3
JACH	**Jahuel**	**1.11**	**124**	⇑*i*P	Pn	07 23 26.4	+0.5
JACH				*i* S	Sn	07 23 41.8	+1.7
RCDM	**Rinconada Maip**	**1.60**	**153**	⇓*e*P	Pn	07 23 34.1	+1.4
RCDM				*i* S	Sn	07 23 54.8	+2.5
RCDM				AML	AML	07 23 56.3	
	comp=E,78nm,0.2s						
RCDM	**Rinconada Maip**	**1.60**	**153**	⇓*e*P	Pn	07 23 34.1	+1.4
RCDM				*i* S	Sn	07 23 54.8	+2.5
CLCH	**Cerro Calan**	**1.64**	**144**	*e*P	Pn	07 23 34.9	+1.6
CLCH				*i* S	Sn	07 23 56.7	+3.4
CLCH				AML	AML	07 23 59.4	
	comp=N,65nm,0.4s						
TACH	**Talagante**	**1.71**	**159**	⇑*i*P	Pn	07 23 35.6	+1.5
FCH	**Farellones**	**1.72**	**138**	⇑*e*P	Pn	07 23 36.4	+2.0
FCH				*i* S	Sn	07 23 58.9	+3.7
FCH				AML	AML	07 24 00.2	
	comp=E,59nm,0.2s						
ANTU	**Antumapu**	**1.74**	**150**	*i* S	Sn	07 23 58.8	+3.1
ANTU				AML	AML	07 24 07.8	
	comp=E,40nm,0.4s						
PCH	**Pirque**	**1.84**	**148**	*i* S	Sn	07 24 01.2	+3.1
TLL	**Tololo Astrono**	**2.03**	**22**	*e*P	Pn	07 23 40.7	+2.1
TLL				*i* S	Sn	07 24 06.2	+3.4
TLL				AML	AML	07 24 17.0	
	comp=N,59nm,0.6s						
TLL	**Tololo Astrono**	**2.03**	**22**	*e*P	Pn	07 23 40.7	+2.1
TLL				*i* S	Sn	07 24 06.2	+3.4

IDC 08 07:34:20.9±2.2,492N×12611E,h0km,mb3.7/3,mb1 3.8/3, mb1mx3.5/18,mbtmp3.7/3,Error ellipse: s-maj=214.3km s-min=27.2km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.00**	**162**	P	P	07 39 56.4	+0.7
	0.4nm,0.3s,baz=341,slow=10,SNR=12						
STKA	**Stephens Creek**	**39.46**	**159**	P	P	07 41 52.2	-0.8
	1.6nm,0.5s,baz=330,slow=8.1,SNR=5.0						
MKAR	**Makanchi Array**	**56.23**	**325**	P	P	07 44 03.0	0.0
	0.3nm,0.5s,baz=108,slow=7.7,SNR=4.7						

*CSEM **08** 07:53:04.9,1253N×4683E,h9km,ML3.7,After DHMR*

DHMR 08 07:53:04.9±0.9,1253N×4683E,h10km±27km,ML3.7, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**1.89**	**320**	*i* P	Pn	07 53 38.1	+0.8
BDHA				*i* S	Sn	07 54 05.0	+3.8
	478nm,0.3s						
BDHA	**Al Bayda'**	**1.89**	**320**	*i* P	Pn	07 53 38.1	+0.8
BDHA				*i* S	Sn	07 54 05.0	+3.8
BDHA				AML	AML	07 54 07.7	
	comp=N,955nm,0.3s						
LBOS		**2.04**	**311**	*i* P	Pn	07 53 40.8	+1.5
LBOS				*i* S	Sn	07 54 09.1	+4.2
UDYN	**Al 'Udayn**	**3.13**	**298**	*i* P	Pn	07 53 57.4	+3.0
UDYN				*i* S	Sn	07 54 37.1	+5.3

*NEIC **08** 07:54:08.4±6.0,864S×12294E,h35km,mb4.2/2,Error ellipse: s-maj=74.7km s-min=31.9km az=145.0*
*IDC **08** 07:54:25.5±2.8,980S×12331E,h108km±15km,mb4.0/1, mb1 3.7/4,mb1mx3.4/16,mbtmp3.6/4,Error ellipse: s-maj=69.1km s-min=31.9km az=72.0*

ISC 08 07:54:26.2±1.6,97S±01×1235E±01,h108km±12km,n12, σ0§91/22,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.52**	**164**	P	**Pn**	**07 54 43.1**	**+0.1**
	37nm,0.3s,baz=215,slow=18,SNR=16						
FITZ	**Fitzroy Crossi**	**8.60**	**166**	*e*P	**Pn**	**07 56 27.3**	**-0.6**
	3.3nm,0.3s						
FITZ				*e*		07 56 36.1	
FITZ				*e*S	**Sn**	**07 58 03.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**8.60**	**166**	P	**Pn**	**07 56 27.3**	**-0.6**
	1.0nm,0.3s,baz=350,slow=14,SNR=27		

ABRA	**Dolores**	**0.61**	**105**	*e*P	Pb	08 47 04.5 +0.4
ABRA				*e*S	Sb	08 47 13.9 +1.6
PIP	**Pasuquin**	**0.72**	**44**	⇑*i*P	Pb	08 47 06.3 +0.5
PIP				*i* S	Sb	08 47 10.3 -5.0
APYP	**Conner**	**1.10**	**87**	*e*P	Pn	08 47 11.7 -0.3
APYP				*e*S	Sb	08 47 27.1 +0.8
BOLP	**Bolinao**	**1.43**	**187**	*e*P	Pn	08 47 16.9 +0.3
BOLP				*e*S	Sn	08 47 35.2 +0.6
BCPH	**Baguio City Da**	**1.50**	**162**	⇓*i*P	Pn	08 47 17.8 +0.4
BCPH				*i* S	Sn	08 47 36.6 +0.4
CAUP	**Cauayan**	**1.87**	**117**	*e*P	Pn	08 47 25.2 +2.7
CAUP				*e*S	Sn	08 47 51.2 +5.8
BALP	**Baler**	**2.50**	**145**	*e*P	Pn	08 47 33.5 +2.2
BALP				*e*S	Sn	08 48 05.7 +4.6

ISCJB ***08*** *08:47:38.0±0.6, 38.12N±003×2299E±004, h106km±5km, Error ellipse: s-maj=5.5km s-min=4.0km az=160.8*
CSEM ***08*** *08:47:37.3±0.7, 38.15N×2298E, h100km, ML3.8, Error ellipse: s-maj=2.3km s-min=1.7km az=67.0*
ATH ***08*** *08:47:38.0, 38.12N×2299E, h106km±3km, ML3.2*
THE ***08*** *08:47:38.3, 38.11N×2297E, h103km, ML3.8*
NEIC ***08*** *08:47:38.0, 38.12N×2300E, h104km, MG3.2(ATH), After ATH.*

ISC 08 08:47:38.8±0.6,**3812N**±003×**2300E**±004,**h102**km±5km, **n37**,σ0**s52**/62,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.10**	**196**	*e*Pg	**Pn**	**08 47 53.0**	**0.0**
LTK				*e*Sg	**Sn**	**08 48 03.1**	**-0.5**
NAIG	**Nisos Aigina**	**0.53**	**133**	*e*P	**Pn**	**08 47 55.9**	**+0.9**
NAIG				*e*S	**Sn**	**08 48 06.8**	**-0.3**
LKR	**Lokris**	**0.53**	**360**	*e*Pg	**Pn**	**08 47 55.2**	**+0.2**
LKR				*e*Sg	**Sn**	**08 48 07.2**	**0.0**
ATH	**Athens Observa**	**0.58**	**104**	*e*P	**Pn**	**08 47 55.8**	**+0.4**
ATH				*e*S	**Sn**	**08 48 08.2**	**+0.3**
DID	**Didima**	**0.64**	**163**	*e*Pg	**Pn**	**08 47 55.7**	**-0.2**
DID				*e*Sg	**Sn**	**08 48 07.9**	**-0.8**
PTL	**Penteli**	**0.69**	**96**	*e*P	**Pn**	**08 47 56.3**	**+0.1**
VLX	**Vlachokerasia**	**0.90**	**214**	*e*Pg	**Pn**	**08 47 58.8**	**+0.5**
VLX				*e*Sg	**Sn**	**08 48 12.7**	**-0.2**
AGG	**Agios Georgios**	**1.04**	**330**	*e*Pg	**Pn**	**08 48 00.4**	**+0.5**
AGG				*e*Sg	**Sn**	**08 48 16.2**	**+0.5**
NEO	**Neokhori**	**1.20**	**8**	*e*P	**Pn**	**08 48 01.9**	**+0.3**
NEO				*e*S	**Sn**	**08 48 18.4**	**-0.4**
RLS	**Riolos of Patr**	**1.21**	**268**	*e*P	**Pn**	**08 48 02.6**	**+0.9**
RLS				*e*S	**Sn**	**08 48 19.5**	**+0.5**
EVR	**Evrytania**	**1.23**	**311**	*e*P	**Pn**	**08 48 02.5**	**+0.6**
EVR				*e*S	**Sn**	**08 48 20.0**	**+0.6**
XOR	**Xorichti**	**1.25**	**7**	*e*Pg	**Pn**	**08 48 02.5**	**+0.2**
AOS	**Alonnisos**	**1.25**	**33**	*e*Pg	**Pn**	**08 48 02.4**	**+0.2**
ITM	**Ithomi**	**1.27**	**223**	*e*P	**Pn**	**08 48 02.9**	**+0.5**
ITM				*e*S	**Sn**	**08 48 20.3**	**+0.1**
VLI	**Veliai**	**1.40**	**182**	*e*P	**Pn**	**08 48 03.4**	**-0.6**
THL	**Klokotos Trika**	**1.64**	**332**	*e*Pb	**Pn**	**08 48 06.8**	**0.0**
THL				*e*Sb	**Sn**	**08 48 27.9**	**-0.2**
THL	**Klokotos Trika**	**1.64**	**332**	*e*P	**Pn**	**08 48 06.8**	**0.0**
THL				*e*S	**Sn**	**08 48 27.6**	**-0.5**
KFL	**Anninata**	**1.75**	**270**	*e*Pb	**Pn**	**08 48 08.0**	**-0.1**
KYTH	**Kithira**	**1.84**	**179**	*e*P	**Pn**	**08 48 09.0**	**-0.4**
VLS	**Valsamata**	**1.90**	**272**	*e*Pb	**Pn**	**08 48 09.6**	**-0.6**
VLS				*e*Sb	**Sn**	**08 48 33.2**	**-0.9**
VLS	**Valsamata**	**1.90**	**272**	*e*P	**Pn**	**08 48 10.6**	**+0.4**
VLS				*e*Sb	**Sn**	**08 48 33.2**	**-0.9**
LKD	**Levkas**	**1.94**	**288**	*e*Pb	**Pn**	**08 48 11.1**	**+0.4**
LKD				*e*Sb	**Sn**	**08 48 34.6**	**-0.3**
LIT	**Litokhoron**	**2.02**	**349**	*e*Pn	**Pn**	**08 48 11.5**	**-0.1**
LIT				*e*Sn	**Sn**	**08 48 36.3**	**-0.4**
APE	**Apeiranthos**	**2.27**	**117**	*e*Pn	**Pn**	**08 48 15.3**	**+0.5**
JAN	**Janina**	**2.27**	**313**	*e*P	**Pn**	**08 48 16.1**	**+1.1**
OUR	**Ouranopolis**	**2.34**	**19**	*e*Pn	**Pn**	**08 48 15.9**	**+0.1**
HORT	**Hortiatis**	**2.48**	**2**	*e*Pn	**Pn**	**08 48 17.6**	**0.0**
KARN	**Karanos**	**2.81**	**165**	*e*Pn	**Pn**	**08 48 21.5**	**-0.6**
KARN				*e*Sn	**Sn**	**08 48 54.8**	**-0.5**
GRG	**Griva**	**2.87**	**351**	*e*Pn	**Pn**	**08 48 22.4**	**-0.5**
FNA	**Florina**	**2.94**	**335**	*e*Pn	**Pn**	**08 48 23.4**	**-0.4**
FNA				*e*Sn	**Sn**	**08 48 58.1**	**-0.4**
KEK	**Kerkira**	**2.96**	**303**	*e*P	**Pn**	**08 48 24.0**	**0.0**
KRUS	**Krusevo**	**3.52**	**338**	*e*Pn	**Pn**	**08 48 31.4**	**0.0**
KRUS				*e*Sn	**Sn**	**08 49 10.7**	**-1.5**
KRUS	**Krusevo**	**3.52**	**338**	*e*Pn	**Pn**	**08 48 31.4**	**0.0**
KRUS				*e*Sn	**Sn**	**08 49 10.6**	**-1.5**
TIP	**Timpagrande**	**5.00**	**284**	*e*Pn	**Pn**	**08 48 51.1**	**-0.4**
TIP				Sn	**Sn**	**08 49 44.3**	**-3.7**
TIP	**Timpagrande**	**5.00**	**284**	*e*Pn	**Pn**	**08 48 51.1**	**-0.3**
TIP				Sn	**Sn**	**08 49 44.3**	**-3.7**
CUC	**Castrocucco**	**5.90**	**291**	*e*Pn	**Pn**	**08 49 04.0**	**+0.4**
CUC				Sn	**Sn**	**08 50 10.1**	**+0.3**
CUC	**Castrocucco**	**5.90**	**291**	*e*Pn	**Pn**	**08 49 04.0**	**+0.4**
CUC				Sn	**Sn**	**08 50 10.1**	**+0.3**

NIED ***08*** *08:53:00, 27.70N×129.70E, h32km, Mw3.8 Best double couple: M0=4.82000×10^14 NP1:φs=346.00000°, δ82.00000°, λ142.00000°. NP2:φs=83.00000°, δ52.00000°, λ11.00000°.*

JMA 08 08:53:20.2±0.1,**2768N×12967E,h69**km±2km,**M3.8, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.65**	**280**	P	Pn	08 53 34.6	+0.2
JTK				*e*S	Sn	08 53 45.1	+0.2
JZK	**Kikaishima**	**0.69**	**23**	P	Pn	08 53 35.0	+0.1
JZK				S	Sn	08 53 46.5	+0.8
JAM	**Amami Oshima**	**0.73**	**356**	P	Pn	08 53 35.6	+0.2
JAM				S	Sn	08 53 46.5	-0.1
JOW	**Kunigami**	**1.50**	**236**	P	Pn	08 53 45.4	+0.3
JOW				*e*S	Sn	08 54 04.7	+0.7
JIH	**Iheya**	**1.65**	**247**	P	Pn	08 53 48.0	+1.0
JIH				*e*S	Sn	08 54 08.1	+0.7
JNN	**Nakanoshima**	**2.16**	**5**	P	Pn	08 53 54.8	+0.8
JNN				*e*S	Sn	08 54 20.9	+1.1
NAH1	**Naha**	**2.30**	**231**	*e*S	Sn	08 54 23.2	+0.1
JJT2	**Tamagusuku 2**	**2.30**	**229**	*e*S	Sn	08 54 23.4	+0.2
JMZ	**Minamidaito 2**	**2.31**	**143**	P	Pn	08 53 53.8	-2.3
JMZ				*e*S	Sn	08 54 17.4	-6.1
JAGN	**Aguni-jima**	**2.42**	**244**	P	Pn	08 53 58.3	+0.8
JAGN				*e*S	Sn	08 54 26.2	+0.1
JKC	**Kuchinoerabu**	**2.81**	**9**	P	Pn	08 54 03.9	+1.1
JKE	**Kume jima 2**	**2.91**	**243**	P	Pn	08 54 04.9	+0.8
JKE				*e*S	Sn	08 54 37.6	-0.3
JTN	**Tanegashima 3**	**3.18**	**21**	P	Pn	08 54 08.4	+0.6
JTN				*e*S	Sn	08 54 45.1	+0.6

DJA ***08*** *09:09:04, 52.49N×157.47E, h44km, mb5.4/13*
BGS ***08*** *09:09:16.9±1.6, 50.53N×158.90E, h225km, mb5.1*
KRSC ***08*** *09:09:24.2±0.5, 51.50N×156.33E, h243km±32km, ML5.1*
MOS ***08*** *09:09:25.5±0.8, 51.87N×155.65E, h220km, mb5.0/97, Error ellipse: s-maj=6.5km s-min=3.7km az=95.1*
ISCJB ***08*** *09:09:26.1±0.1, 51.85N±002×155.62E±002, h225km, mb4.9/290, Error ellipse: s-maj=2.9km s-min=1.6km az=166.2*
BJI ***08*** *09:09:26.2, 51.86N×155.61E, h225km, mB4.8, mb5.1*
NEIC ***08*** *09:09:27.7±0.5, 51.93N×155.61E, h226km±4km, mb4.9/185, Error ellipse: s-maj=4.0km s-min=2.1km az=176.0*
GCMT ***08*** *09:09:27.7±0.3, 51.77N×156.08E, h223km±2km, MW5.1/69, Moment Tensor Solution. s24,c29; s69,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.01±.16; Mθθ-2.11±.19; Mφφ2.10±.17; Mrθ-2.77±.14; Mrφ-0.27±.13; Mθφ-3.38±.13; Best double couple: M0=4.85700×10^16 NP1:φs130.00000°, δ26.00000°, λ-180.00000°. NP2: φs40.00000°, δ90.00000°, λ-64.00000°. Principal axes: T 4.9190, Plg39.0000°, Azm107.0000°; N -0.1250, Plg26.0000°, Azm220.0000°; P -4.7950, Plg40.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***08*** *09:09:27.3±0.3, 51.92N×155.70E, h223km±2km, mb4.6/30, mb1 4.7/32, mb1mx4.7/33, mbtmp4.6/32 Error ellipse: s-maj=8.8km s-min=5.8km az=138.0*
SZGRF ***08*** *09:09:36.6, 52.94N×155.13E, h237km, mb5.2, Northwest of Kuril Islands, Russia*

ISC 08 09:09:28.2±0.1,**5194N**±002×**15557E**±002,**h227**km, **h227**km±1.2km:**pP-P,n1155**,σ0**s73**/1184,**mb4.9**/290,

229C-286D,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**0.80**	**65**	*i* P	**Pn**	**09 09 58.1**	**-1.5**
MIPR				*i* S	**S**	**09 10 22.1**	**-2.0**
ALID	**Alaid**	**1.07**	**181**	*e*P	**Pn**	**09 09 58.9**	**-2.3**
SKR	**Severo-Kuril's**	**1.30**	**165**	*e*PN	**Pn**	**09 09 58.0**	**-4.8**
SKR				S	**S**	**09 10 22.0**	**-7.8**
SKR	comp=N,2μm,0.5s			pmax	pmax		
SKR	comp=E,2μm,0.5s			pmax	pmax		
SKR	comp=Z,4μm,0.5s			pmax	pmax		
SKR	comp=N,8μm,2.0s			pmax	pmax		
SKR	comp=E,7μm,2.0s			pmax	pmax		
SKR	comp=Z,20μm,2.0s			pmax	pmax		
SKR	comp=E,4μm,0.5s			smax			
SKR	comp=N,5μm,3.0s			smax			
SKR	comp=E,19μm,3.0s			smax			
GRL	**Gorelyy**	**1.65**	**67**	*e*P	**Pn**	**09 10 03.7**	**-1.8**
GRL				*i* S	**S**	**09 10 33.0**	**-1.8**
PETK	**Petropavlovsk-**	**1.75**	**47**	P	**Pn**	**09 10 05.0**	**-1.2**
PETK	comp=E,35nm,0.3s,baz=223,slow=10.0,SNR=87			S	**S**	**09 10 34.5**	**-1.8**
	comp=E,40nm,0.3s,baz=245,slow=17,SNR=5.8						
RUS	**Russkaya**	**1.88**	**74**	*i* P	**Pn**	**09 10 04.5**	**-3.0**
RUS				*i* S	**S**	**09 10 33.3**	**-5.0**
INSR	**Institute**	**2.17**	**57**	*e*P	**Pn**	**09 10 08.5**	**-1.8**
INSR				*i* S	**S**	**09 10 40.5**	**-2.9**
PET	**Petropavlovsk**	**2.17**	**59**κ	*i*PN	**Pn**	**09 10 08.4**	**-1.9**
PET				*e*S	**S**	**09 10 40.4**	**-3.1**
PET	comp=Z,912nm,0.7s			pmax	pmax		
PET	comp=Z,2μm,2.2s			pmax	pmax		
PET	comp=Z,400nm,4.2s			pmax	pmax		
PET	comp=E,7μm,1.9s			smax			
PET	comp=E,3μm,4.0s			smax			
PET	**Petropavlovsk**	**2.17**	**59**	*e*P	**Pn**	**09 10 08.5**	**-1.8**
PET				*i* S	**S**	**09 10 40.7**	**-2.8**
GNL	**Ganaly**	**2.27**	**38**	*e*P	**Pn**	**09 10 11.2**	**-0.1**
AVH	**Avacha**	**2.34**	**54**	*e*P	**Pn**	**09 10 11.4**	**-0.6**
AVH				*i* S	**S**	**09 10 45.5**	**-1.0**
NLC	**Nalytchevo**	**2.61**	**60**	*e*P	**Pn**	**09 10 12.2**	**-2.7**
NLC				*i* S	**S**	**09 10 46.5**	**-5.1**
SPN	**Mys Shipunski**	**2.96**	**65**	*e*P	**Pn**	**09 10 14.5**	**-4.1**
SPN				*i* S	**S**	**09 10 50.9**	**-7.5**
KII	**Karymskiy**	**3.15**	**47**	*e*P	**Pn**	**09 10 20.4**	**-0.4**
KII				*i* S	**S**	**09 11 01.7**	**-0.6**
TUMR	**Tumrok**	**4.32**	**37**	*e*P	**Pn**	**09 10 35.6**	**+1.0**
TUMR				*i* S	**S**	**09 11 27.9**	**+0.6**
MKZ	**Mys Kozlova**	**4.53**	**52**	*e*P	**Pn**	**09 10 34.8**	**-2.5**
MKZ				*i* S	**S**	**09 11 24.7**	**-7.4**
KMNR	**Kamenistaya**	**4.71**	**34**	*i* P	**Pn**	**09 10 40.8**	**+1.3**
KMNR				*i* S	**S**	**09 11 37.8**	**+1.6**
KOZ	**Kozyrevsk**	**4.84**	**30**	*e*P	**Pn**	**09 10 42.3**	**+1.2**
KOZ				*i* S	**S**	**09 11 38.7**	**-0.3**
KOZR	**Kozyr**	**4.86**	**30**	PN	**Pn**	**09 10 42.3**	**+1.0**
KOZR				S	**S**	**09 11 38.7**	**-0.6**
KPT	**Kopyto**	**4.88**	**32**	*e*P	**Pn**	**09 10 42.4**	**+0.9**
KPT				*i* S	**S**	**09 11 39.6**	**-0.2**
KIRR	**Kirishev**	**4.91**	**33**	*e*P	**Pn**	**09 10 42.8**	**+0.9**
KIRR				*i* S	**S**	**09 11 42.1**	**+1.6**
BZMR	**Bezymyannaya**	**4.94**	**34**	*e*P	**Pn**	**09 10 43.4**	**+1.0**
BZMR				*i* S	**S**	**09 11 41.9**	**+0.6**
SRDR	**Sredinnyy**	**5.02**	**27**	*e*P	**Pn**	**09 10 44.9**	**+1.6**
SRDR				*i* S	**S**	**09 11 43.8**	**+0.9**
ZLN	**Zelenaya**	**5.12**	**35**	*e*P	**Pn**	**09 10 45.7**	**+1.2**
ZLN				*i* S	**S**	**09 11 46.0**	**+0.7**
CIRR	**Tsirk**	**5.17**	**34**	*e*P	**Pn**	**09 10 46.5**	**+1.2**
CIRR				*i* S	**S**	**09 11 45.5**	**-1.0**
KRSR	**Krestovskiy**	**5.19**	**32**	*e*P	**Pn**	**09 10 46.1**	**+0.6**
KRSR				*i* S	**S**	**09 11 47.6**	**+0.6**
KLY	**Klyuchi**	**5.30**	**32**	*e*P	**Pn**	**09 10 48.8**	**+2.0**
KLY				*i* S	**S**	**09 11 51.9**	**+2.5**
BDR	**Baidarnaya**	**5.69**	**33**	*e*P	**Pn**	**09 10 52.4**	**+0.7**
BDR				*i* S	**S**	**09 11 58.3**	**0.0**
SRKR	**Sorokina**	**5.75**	**33**	*e*P	**Pn**	**09 10 53.2**	**+0.8**
SRKR				*i* S	**S**	**09 11 58.5**	**-1.0**
KBTR	**Krutoberegovo**	**6.04**	**42**	*e*P	**Pn**	**09 10 55.5**	**-0.6**
KBTR				*i* S	**S**	**09 12 01.4**	**-4.8**
OKH	**Okha**	**7.84**	**287**	*e*S	**S**	**09 12 50.0**	**+1.8**
OKH	comp=N,2μm,6.0s			smax			
OKH	comp=E,2μm,10.0s			smax			
KUR	**Kuril'sk**	**8.43**	**220**	*e*PN	**Pn**	**09 11 20.0**	**-6.9**
KUR				*e*S	**S**	**09 12 55.5**	**-6.7**
KUR	comp=Z,150nm,0.6s			pmax	pmax		
KUR	comp=N,220nm,0.7s			smax			
KUR	comp=E,110nm,0.7s			smax			
UGL	**Uglegorsk**	**9.07**	**257**α	*i*PN	**Pn**	**09 11 38.0**	**+3.0**
UGL				pmax	pmax		
UGL	comp=Z,144nm,0.8s			pmax	pmax		
UGL	comp=Z,500nm,1.0s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**9.72**	**244**	*e*PN	**Pn**	**09 11 44.8**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**10.24**	**223**	*e*PN	**Pn**	**09 11 46.2**	**-3.7**
YUK				*e*S	**S**	**09 13 39.0**	**-5.7**
YUK	comp=N,460nm,0.5s			pmax	pmax		
YUK	comp=E,580nm,0.5s			pmax	pmax		
YUK	comp=Z,2μm,0.5s			pmax	pmax		
YUK	comp=N,1μm,0.8s			smax			
YUK	comp=N,330nm,0.7s			smax			
YUK	comp=E,420nm,0.7s			smax			
SEY	**Seymchan**	**11.15**	**352**	*i* PN	**Pn**	**09 12 04.2**	**+2.9**
SMY	**Shemya**	**11.36**	**79**	*e*PN	**Pn**	**09 12 01.8**	**-2.3**
SMY				pmax	pmax		
SMY	comp=Z,651nm,1.0s						
SMY	**Shemya**	**11.36**	**79**	*e*P	**Pn**	**09 12 01.8**	**-2.3**
ASAJ	**Asahikawa**	**11.68**	**233**	P	**Pn**	**09 12 09.1**	**+0.9**
ASAJ	comp=Z,7.6nm,0.3s,baz=65,slow=11,SNR=104			S	**S**	**09 14 18.2**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=72,slow=19,SNR=3.2						
ASAJ	**Asahikawa**	**11.68**	**233**	PN	**Pn**	**09 12 09.1**	**+0.9**
ASAJ				S	**S**	**09 14 18.2**	**-0.4**
ASAJ	comp=Z,8.0nm,0.3s			pmax	pmax		
ASAJ	comp=N,2.0nm,0.3s			smax			
ERM	**Erimo**	**13.04**	**225**	*e*PN	**Pn**	**09 12 19.7**	**-5.4**
ERM				pmax	pmax		
ERM	comp=Z,58nm,0.4s						
ERM	**Erimo**	**13.04**	**225**	*e*Pn	**Pn**	**09 12 19.7**	**-5.4**
ERM	comp=Z,58nm,0.4s			*e*Sn	**S**	**09 14 33.0**	**-17**
AMKA	**Amchitka**	**14.73**	**83**	*e*Pn	**Pn**	**09 12 42.6**	**-3.1**
KLR	**Kul'dur**	**15.36**	**269**	*e*P	**Pn**	**09 12 51.2**	**-2.1**
KLR				*e*S	**S**	**09 15 43.0**	**+0.1**
KLR	comp=E,220nm,1.8s			pmax	pmax		
KLR	comp=Z,210nm,1.8s			pmax	pmax		
KLR	comp=N,2μm,10.0s			smax			
KLR	comp=E,900nm,10.0s			smax			
KLR	comp=N,900nm,14.0s			MLR	MLR		
KLR	comp=E,500nm,14.0s			MLR	MLR		
BILL	**Bilibino**	**16.96**	**14**κ	*i*P	**P**	**09 13 11.4**	**+0.9**
BILL				S	**S**	**09 16 17.0**	**+1.7**
BILL	comp=Z,68nm,1.0s			pmax	pmax		
BILL	**Bilibino**	**16.96**	**14**	⇓*i*P	**P**	**09 13 11.5**	**+1.0**
BILL	comp=Z,152nm,0.4s						
YAK	**Yakutsk**	**17.23**	**316**α	*i*P	**P**	**09 13 15.4**	**+2.0**
YAK				*e*S	**S**	**09 16 23.2**	**+2.6**
YAK	comp=Z,2μm,0.8s			pmax	pmax		
YAK	comp=E,978nm,1.3s			pmax	pmax		
YAK	comp=N,339nm,1.1s			pmax	pmax		
YAK	comp=N,142nm,1.9s			smax			
YAK	comp=E,7.0nm,0.4s			smax			
YAK	**Yakutsk**	**17.23**	**316**	*e*Pn	**Pn**	**09 13 15.1**	**-0.3**
CLNS	**Chul'man**	**18.43**	**297**	*e*P	**P**	**09 13 29.0**	**+2.5**
CLNS				pmax	pmax		
CLNS	comp=Z,220nm,1.1s			pmax	pmax		
CLNS	comp=N,150nm,0.9s			pmax	pmax		
CLNS	comp=E,141nm,0.9s			pmax	pmax		
MDJ	**Mudanjiang**	**18.71**	**257**	P	**P**	**09 13 29.9**	**+0.2**
MDJ				XP	sP	09 14 33.7	-1.2
MDJ				S	**S**	**09 16 48.3**	**-2.1**
MDJ				SCP	ScP	09 21 01.3	+1.0
MDJ				PCS	PcS	09 21 23.6	+0.1
MDJ	comp=Z,33nm,0.6s			AMB	AMB		
MDJ	comp=Z,77nm,6.6s			AMB	AMB		
MDJ	**Mudanjiang**	**18.71**	**257**	*e*P	**P**	**09 13 30.1**	**+0.4**
MAJO	**Matsushiro**	**19.71**	**225**	*e*P	**P**	**09 13 40.1**	**-0.4**
MAJO	comp=Z,88nm,0.7s			pmax	pmax		
MAJO	**Matsushiro**	**19.71**	**225**	*e*P	**P**	**09 13 40.1**	**-0.4**
MJAR	**Matsushiro Arr**	**19.71**	**225**	P	**P**	**09 13 40.0**	**-0.5**
MJAR	comp=Z,4.1nm,0.3s,baz=23,slow=11,SNR=56			pP		09 14 20.3	
MJAR	baz=23,slow=11,SNR=1.6			ScP	ScP	09 21 03.3	+0.5
MAT	**Matsushiro**	**19.71**	**225**	P	**P**	**09 13 39.5**	**-1.0**
MAT				*e*S	**S**	**09 17 03.0**	**-7.1**
NIKO	**Nikolski**	**21.57**	**73**	*e*P	**P**	**09 13 55.8**	**-3.9**
CN2	**Changchun**	**21.66**	**260**	*e*P	**P**	**09 14 00.1**	**-0.6**
CN2				*e*XP	sP	09 15 08.1	+0.9
CN2				*e*S	**S**	**09 17 40.3**	**-4.0**
CN2	comp=Z,30nm,1.3s,mb4.7			AMB	AMB		
CN2	comp=Z,300nm,6.0s			AMB	AMB		
JHJ	**Hachijo jima 2**	**22.03**	**218**	P	**P**	**09 14 04.5**	**+0.4**
JHJ	comp=Z,44nm,0.7s,mb5.1,baz=191,slow=16,SNR=3.4			pP		09 14 43.5	
	comp=Z,80nm,0.8s,baz=57,slow=5.7,SNR=3.3						
HIA	**Hailar**	**22.76**	**278**	*e*P	**P**	**09 14 11.0**	**+0.4**
HIA	comp=Z,259nm,0.8s			pmax	pmax		
HIA	**Hailar**	**22.76**	**278**	*e*P	**P**	**09 14 11.0**	**+0.3**
UNV	**Unalaska Valle**	**22.78**	**70**	*e*P	**P**	**09 14 07.8**	**-3.0**
TNA	**Tin City**	**22.90**	**39**	*e*P	**P**	**09 14 13.2**	**+1.4**
TIXI	**Tiksi**	**23.06**	**339**α	*i*P	**P**	**09 14 13.7**	**+0.5**
TIXI				*e*		09 15 21.8	
TIXI	comp=Z,77nm,0.6s,mb5.4			pmax	pmax		
TIXI	**Tiksi**	**23.06**	**339**	*e*P	**P**	**09 14 13.6**	**+0.4**
AKUT	**Akutan**	**23.15**	**69**	*e*P	**P**	**09 14 10.8**	**-3.4**
KSRS	**Korea Array**	**24.22**	**244**	P	**P**	**09 14 25.9**	**+1.8**
KSRS	comp=Z,8.2nm,0.5s,mb4.6,baz=41,slow=9.5,SNR=43			pP		09 15 07.0	
	comp=Z,10.0nm,0.9s,baz=44,slow=9.9,SNR=3.6						
KSRS				PcP	PcP	09 17 56.5	-1.1
	comp=Z,2.3nm,0.8s,baz=28,slow=1.5,SNR=4.2						
KSRS	**Korea Array**	**24.22**	**244**	P	**P**	**09 14 25.9**	**+1.8**
KSRS				*PP		09 15 07.0	
KSRS						09 17 56.6	
KSRS	comp=Z,8.0nm,0.5s,mb4.6			pmax	pmax		
KS15	**Wonju Array Si**	**24.25**	**244**	*e*P	**P**	**09 14 26.1**	**+1.8**
BOD	**Bodaibo**	**24.32**	**300**	⇓*i*P	**P**	**09 14 25.2**	**+0.5**
BOD	comp=Z,64nm,1.0s,mb5.2			pmax	pmax		
FALS	**False Pass**	**24.38**	**67**	*e*P	**P**	**09 14 24.3**	**-1.0**
CIT	**Chita**	**25.62**	**287**	*e*P	**P**	**09 14 38.7**	**+2.1**
CIT				*e*	pP	09 15 26.8	+5.7
SDPT	**Sand Point**	**25.95**	**65**	*e*P	**P**	**09 14 36.8**	**-2.6**
TTA	**Tatalina**	**27.59**	**48**	*e*P	**P**	**09 14 53.3**	**-0.6**
SVW2	**Sparrevohn**	**27.83**	**52**	*e*P	**P**	**09 14 55.6**	**-0.5**
IMA2	**Indian Mountai**	**28.73**	**41**	*e*P	**P**	**09 15 03.8**	**-0.2**
CHUM	**Lake Minchumin**	**29.25**	**46**	*e*P	**P**	**09 15 08.8**	**+0.2**
PPLA	**Purkeypile**	**29.34**	**48**	*e*P	**P**	**09 15 10.1**	**+0.7**
BJI	**Beijing**	**29.48**	**262**	P	**P**	**09 15 11.4**	**+0.5**
BJI				XP	sP	09 16 18.4	-4.1
BJI				S	**S**	**09 19 46.8**	**-1.4**
BJI				XS	sS	09 21 11.1	+1.6
BJI	comp=Z,7.0nm,0.7s,mb4.4			AMB	AMB		
BJI	comp=Z,271nm,3.1s			AMB	AMB		
BJT	**Baijiatuau**	**29.50**	**262**	*e*P	**P**	**09 15 11.1**	**0.0**
BJT	comp=Z,22nm,0.6s			pmax	pmax		
BJT	**Baijiatuau**	**29.50**	**262**	*e*P	**P**	**09 15 11.1**	**0.0**
OHAK	**Old Harbor**	**29.51**	**59**	*e*P	**P**	**09 15 08.7**	**-2.3**
KDAK	**Kodiak Island**	**29.77**	**58**	P	**P**	**09 15 11.4**	**-1.8**
KDAK	comp=Z,18nm,0.5s,mb4.9,baz=300,slow=6.1,SNR=40			ScP	ScP	09 21 30.9	+0.3
	comp=Z,20nm,0.8s,baz=280,slow=2.6,SNR=11						
KDAK	**Kodiak Island**	**29.77**	**58**	*e*P	**P**	**09 15 11.0**	**-2.2**
BPAW	**Bear Paw Mtn.**	**29.83**	**45**	*e*P	**P**	**09 15 13.5**	**-0.2**
KTH	**Kantishna Hill**	**29.88**	**46**	⇓*i*P	**P**	**09 15 14.0**	**-0.1**
TRF	**Thorofare Moun**	**30.17**	**46**	⇓*i*P	**P**	**09 15 16.6**	**0.0**
COLD	**Coldfoot**	**30.20**	**39**	⇓*i*P	**P**	**09 15 16.8**	**-0.1**
SLKM	**Skilak Lake**	**30.50**	**52**	*e*P	**P**	**09 15 18.9**	**-0.7**
SLKM				*e*ScP	ScP	09 21 33.3	+0.3
RC01	**Rabbit Creek A**	**30.65**	**51**	*e*P	**P**	**09 15 20.0**	**-1.0**
RC01				*e*PcP	PcP	09 18 12.9	0.0
MCK	**McKinley**	**30.75**	**46**	*e*P	**P**	**09 15 21.4**	**-0.4**
MCK	comp=Z,27nm,0.8s,mb4.9			pmax	pmax		
MCK	**McKinley**	**30.75**	**46**	*e*P	**P**	**09 15 21.4**	**-0.4**
PMR	**Palmer**	**30.88**	**50**	*e*P	**P**	**09 15 22.1**	**-0.8**
PMR	comp=Z,10.0nm,0.5s,mb4.7			pmax	pmax		
PMR	**Palmer**	**30.88**

TLY e 09 25 31.5
TLY pmax pmax
comp=Z,51nm,1.0s,mb5.0
TLY Talaya 31.55 290 eP **P 09 15 29.4 +0.5**
comp=Z,41nm,0.9s,mb5.0
HHC Hu-ho-hao-te 31.85 267 eP **P 09 15 32.1 +0.4**
HHC AP pP 09 16 17.2 -0.1
HHC XP sP 09 16 43.4 0.0
HHC PP PP 09 16 46.9 -1.5
HHC S **S 09 20 24.6 -0.4**
HHC XS sS 09 21 45.5 -1.1
HHC PCS PcS 09 22 02.1 +0.8
HHC SS SS 09 22 34.2 -10
HHC AMB AMB
comp=Z,29nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,117nm,6.3s
ZAK Zakamensk 32.25 288⇓ i P **P 09 15 36.5 +1.4**
ZAK e 09 16 57.5
ZAK e 09 18 16.8
ZAK pmax pmax
comp=Z,27nm,1.2s,mb4.7
ZAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.2
DIV Divide 32.55 50 eP **P 09 15 37.0 -0.5**
comp=Z,35nm,0.7s,mb5.0
MID Middleton Isla 32.62 54 eP **P 09 15 37.3 -0.8**
MOY Mondy 33.08 292 eP **P 09 15 43.7 +1.5**
MOY pmax pmax
comp=Z,76nm,1.3s,mb5.1
BMRM Bremner River 33.14 50⇑ i P **P 09 15 42.3 -0.3**
MENT Mentasta 33.18 47 eP **P 09 15 42.5 -0.5**
RAGM Ragged Mountai 33.23 52⇑ i P **P 09 15 43.4 0.0**
NJ2 Nanjing 33.27 248 eP **P 09 15 45.2 +1.1**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb4.6
EGAK Eagle 34.01 43 eP **P 09 15 49.1 -1.0**
comp=Z,31nm,0.6s,mb5.0
KRAR Krasnoyarsk 35.98 302 eP **P 09 16 06.7 -0.2**
KRAR pmax pmax
comp=Z,129nm,0.6s,mb5.6
INK Inuvik 36.45 36 eP **P 09 16 11.2 +0.4**
HYT Haines Junctio 36.53 49⇑ i P **P 09 16 12.5 +0.9**
HVS Khovu-Aksy 37.46 294 i P **P 09 16 20.0 +0.5**
XAN Xi'an 37.77 260 P **P 09 16 22.4 +0.1**
XAN AMB AMB
comp=Z,21nm,1.3s,mb4.5
XAN AMB AMB
comp=Z,181nm,5.7s
XAN LR LR
comp=N,215nm,12.5s
XAN LR LR
comp=E,277nm,8.2s
SKAG Skagway 38.00 51 eP **P 09 16 25.3 +1.4**
comp=E,40nm,1.5s,mb4.7
SKAG LR LR
comp=Z,100nm,18.0s
LZH Lanzhou 39.55 267⇓ P **P 09 16 37.8 +0.8**
LZH AP pP 09 17 25.0 +0.9
LZH PP PP 09 18 16.7 +4.0
LZH S **S 09 22 23.1 +1.0**
LZH XS sS 09 23 45.9 +0.3
LZH AMB AMB
comp=Z,49nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,127nm,5.5s
GTA Gaotai 39.97 274⇓ P **P 09 16 41.6 +1.2**
GTA AP pP 09 17 28.8 +1.2
GTA XP sP 09 17 54.0 +0.7
GTA PP PP 09 18 21.3 +4.1
GTA PCP PcP 09 18 42.7 +1.9
GTA S **S 09 22 30.1 +1.9**
GTA XS sS 09 23 54.9 +3.0
GTA SS SS 09 25 30.4 -4.3
GTA AMB AMB
comp=Z,46nm,1.2s,mb4.8
GTA AMB AMB
comp=Z,148nm,5.4s
GTA LR LR
comp=N,103nm,14.0s
GTA LR LR
comp=E,138nm,14.6s
GTA LR LR
comp=Z,120nm,14.9s
WRAK Wrangell Islan 40.64 54 eP **P 09 16 47.4 +1.7**
comp=Z,24nm,0.8s,mb4.7
ZAA0 Zalesovo Array 41.06 302 eP **P 09 16 48.8 -0.3**
ZAA0 ePcP PcP 09 18 43.1 -1.0
ZALV Zalesovo Beam 41.06 302 P **P 09 16 49.2 +0.2**
comp=Z,40nm,0.7s,mb5.0,baz=60,slow=7.4,SNR=130
ZALV PcP PcP 09 18 43.8 -0.2
comp=Z,16nm,0.5s,baz=72,slow=3.7,SNR=14
ZALV ScP ScP 09 22 11.8 +0.1
comp=Z,5.2nm,0.9s,baz=48,slow=6.6,SNR=5.3
ZALV Zalesovo Beam 41.06 302 P **P 09 16 49.2 +0.2**
ZALV PcP PcP 09 18 43.8 -0.2
ZALV ScP ScP 09 22 11.8 +0.1
ZAL Zalesovo 41.07 302 P **P 09 16 49.3 +0.1**
ZAL 09 18 43.8
NVS Novosibirsk 41.47 304 i P **P 09 16 52.6 +0.1**
NVS e*PP pP 09 17 40.4 +0.4
NVS i 09 18 07.2
NVS i 09 18 31.8
NVS i PPP 09 19 19.0
NVS eS **S 09 22 54.8 +4.7**
NVS eSSS 09 25 56.8
NVS pmax pmax
comp=Z,22nm,1.0s,mb4.5
NVS pmax pmax
comp=N,49nm,0.9s
NVS pmax pmax
comp=E,183nm,1.3s
NVS pmax pmax
comp=N,19nm,1.4s
NVS pmax pmax
comp=E,52nm,1.4s
NVS pmax pmax
comp=Z,57nm,1.4s,mb4.8
NVS smax
comp=N,39nm,2.4s
CD2 Chengdu 43.08 262 eP **P 09 17 05.6 -0.2**
CD2 AP pP 09 17 53.2 -0.4
CD2 XP sP 09 18 18.2 -1.0
CD2 PP PP 09 18 51.0 +0.4
CD2 S **S 09 23 13.5 -0.7**
CD2 XS sS 09 24 37.3 -1.5
CD2 SS SS 09 26 26.5 -9.2
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.7
CD2 AMB AMB
comp=Z,40nm,5.8s
GYA Guiyang 44.54 254⇓ i P **P 09 17 19.0 +1.6**
GYA AP pP 09 18 06.4 +0.9
GYA XP sP 09 18 31.9 +0.9
GYA PCP PcP 09 18 58.5 +2.2
GYA SCP ScP 09 22 28.8 +2.5
GYA PCS PcS 09 22 51.4 +1.3
GYA S **S 09 23 37.0 +1.7**
GYA XS sS 09 25 01.2 +0.8
GYA SCS ScS 09 26 50.1 -0.1
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.1
GYA AMB AMB
comp=Z,90nm,5.0s
WMQ Urumqi 44.72 288 P **P 09 17 19.4 +0.9**
WMQ AP pP 09 18 07.2 +0.5
WMQ XP sP 09 18 32.2 0.0
WMQ PCP PcP 09 18 57.6 +1.0
WMQ PP PP 09 19 08.0 +0.4
WMQ AMB AMB
comp=Z,125nm,0.8s,mb5.3
RES Resolute Bay 45.40 21 eP **P 09 17 24.5 +1.0**
YKW3 Yellowknife Ar 45.82 40 eP **P 09 17 26.9 0.0**
YKA Yellowknife Ar 45.86 40 P **P 09 17 27.3 +0.1**
comp=Z,25nm,0.6s,mb4.7,baz=300,slow=7.1,SNR=39
YKA PcP PcP 09 18 59.2 -1.0
comp=Z,1.6nm,0.5s,baz=301,slow=3.5,SNR=4.5
YKA ScP ScP 09 22 30.6 -0.5
comp=Z,0.9nm,0.7s,baz=305,slow=3.7,SNR=3.8
YKA Yellowknife Ar 45.86 40 P **P 09 17 27.3 +0.1**
YKA 09 18 59.2
YKA Yellowknife Ar 45.86 40 P **P 09 17 27.3 +0.1**
YKA PcP PcP 09 18 59.2 -1.0
YKA ScP ScP 09 22 30.6 -0.5

KURK Kurchatov 45.97 301 P **P 09 17 28.9 +0.7**
SNR=91
KURK Kurchatov 45.97 301 eP **P 09 17 28.7 +0.5**
KURK epP pP 09 18 17.9 +1.3
MK31 Makanchi Array 46.13 294 eP **P 09 17 30.0 +0.4**
MK31 e*PP pP 09 18 19.8 +1.7
MKAR Makanchi Array 46.13 294 P **P 09 17 30.0 +0.4**
comp=Z,26nm,0.5s,mb4.8,baz=61,slow=7.1,SNR=293
MKAR ScP ScP 09 22 32.0 -0.5
comp=Z,3.4nm,0.8s,baz=45,slow=5.3,SNR=5.8
KBS Kingsbay 47.61 351 eP **P 09 17 40.7 +0.1**
SPB4 Spitsbergen Ar 47.79 350 eP **P 09 17 41.5 -0.4**
KMI Kunming 47.89 257 P **P 09 17 45.0 +1.6**
KMI AP pP 09 18 32.6 +0.4
KMI XP sP 09 18 55.1 -2.4
KMI S **S 09 24 24.5 +1.6**
KMI XS sS 09 25 48.0 -0.9
KMI SS SS 09 27 50.7 -3.7
KMI AMB AMB
comp=Z,66nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,212nm,5.8s
KMI LR LR
comp=N,205nm,17.7s
KMI LR LR
comp=E,202nm,12.9s
KMI LR LR
comp=Z,149nm,13.7s
BVAR Borovoye Array 48.91 307 P **P 09 17 51.0 +0.2**
comp=Z,43nm,0.6s,mb5.0,baz=54,slow=7.9,SNR=224
BVAR PcP PcP 09 19 10.9 -0.5
comp=Z,19nm,0.4s,baz=67,slow=1.6,SNR=18
BVAR ScP ScP 09 22 44.4 +0.2
comp=Z,2.9nm,0.7s,baz=116,slow=3.4,SNR=5.9
BVAR Borovoye Array 48.91 307 P **P 09 17 51.0 +0.2**
BVAR 09 19 10.9
BRVK Borovoye 48.94 307 P **P 09 17 51.5 +0.5**
SNR=32
BRVK Borovoye 48.94 307 eP **P 09 17 50.6 -0.5**
B04A Port Angeles 49.62 60⇑ P **P 09 17 56.0 -0.2**
baz=49
A05A Maple Falls 49.81 59⇓ P **P 09 17 57.0 -0.7**
baz=50,SNR=5.5
NLWA Neilton Lookou 49.82 61⇑ P **P 09 17 57.9 +0.2**
baz=50
NLWA Neilton Lookou 49.82 61 eP **P 09 17 53.2 -4.5**
comp=Z,36nm,1.1s,mb4.6
D03A Wishkah Elem. 50.04 62⇓ P **P 09 17 59.7 +0.3**
baz=50
HDW Hoodsport 50.10 61 P **P 09 17 59.9 0.0**
C04A Brinnon 50.11 61⇓ P **P 09 17 59.7 -0.1**
baz=50,SNR=5.5
B05A Bryant 50.25 59⇑ P **P 09 18 00.7 -0.3**
baz=50,SNR=12
GNW Green Mountain 50.28 61 eP **P 09 18 01.1 -0.1**
JCW Jim Creek 50.38 59 P **P 09 18 01.7 -0.2**
B06A Marblemount 50.42 59⇓ P **P 09 18 01.6 -0.6**
baz=50,SNR=5.3
RPW Rockport 50.44 59⇑ i P **P 09 18 01.9 -0.5**
E03A Lebam 50.50 62⇓ P **P 09 18 02.8 0.0**
baz=50
D04A Dobbs Creek Ra 50.56 61⇑ P **P 09 18 03.5 +0.2**
baz=50
A07A Ashnola River, 50.68 58⇓ P **P 09 18 03.8 -0.3**
baz=50,SNR=11
C05A Tolt Reservoir 50.81 60⇑ P **P 09 18 04.8 -0.3**
baz=51
F03A Seaside 50.88 63⇑ P **P 09 18 05.7 0.0**
baz=51
E04A Onalaska 50.93 62⇑ P **P 09 18 06.3 +0.3**
baz=51
D05A Enumclaw 50.96 61⇑ P **P 09 18 06.5 +0.2**
baz=51,SNR=6.2
SOKR Solikamsk 51.11 320 d i P **P 09 18 06.8 -0.3**
SOKR pmax pmax
comp=Z,70nm,0.7s,mb5.2
B07A Winthrop 51.17 58⇓ P **P 09 18 07.4 -0.5**
baz=51,SNR=7.6
SVE Sverdlovsk 51.19 315 eP **P 09 18 08.3 +0.5**
SVE pmax pmax
comp=Z,184nm,0.9s,mb5.5
A08A Turner Farm, O 51.31 57⇓ P **P 09 18 08.6 -0.3**
baz=51,SNR=9.9
LON Longmire 51.32 61 eP **P 09 18 08.7 -0.3**
LON pmax pmax
comp=Z,7.0nm,1.2s,mb4.0
LON Longmire 51.32 61 eP **P 09 18 08.7 -0.2**
comp=Z,7.5nm,1.2s,mb4.0
G03A Yamhill 51.41 63⇓ P **P 09 18 09.5 -0.2**
baz=51
H02A Toledo 51.41 64⇑ P **P 09 18 10.0 +0.4**
baz=51
E05A Randle 51.47 61⇑ P **P 09 18 09.2 -0.8**
baz=51,SNR=5.7
F04A Amboy 51.50 62⇑ P **P 09 18 09.9 -0.4**
baz=51,SNR=6.7
DAG Danmarks Havn 51.51 358⇑ i P **P 09 18 09.5 -0.4**
DAG pmax pmax
comp=Z,9.0nm,0.6s,mb4.4
DAG Danmarks Havn 51.51 358⇑ i P **P 09 18 09.5 -0.4**
comp=Z,8.7nm,0.6s,mb4.4
D06A Cle Elum 51.57 60⇓ P **P 09 18 10.5 -0.3**
baz=51,SNR=6.9
ETW Entiat 51.59 59 eP **P 09 18 10.9 0.0**
ETW epP pP 09 19 01.5 +1.1
LTY Liberty 51.62 60 P **P 09 18 10.7 -0.5**
EDM Edmonton 51.65 50 eP **P 09 18 11.3 +0.1**
B08A Colville Reser 51.65 58⇓ P **P 09 18 11.0 -0.4**
baz=51,SNR=15
A09A Danville 51.66 57⇓ P **P 09 18 11.2 -0.2**
baz=51,SNR=12
C07A Waterville 51.68 59⇑ P **P 09 18 10.8 -0.8**
baz=51,SNR=7.0
LSA Lhasa 51.71 271 eP **P 09 18 14.1 +2.0**
LSA pmax pmax
comp=Z,33nm,0.8s,mb4.8
LSA Lhasa 51.71 271 eP **P 09 18 14.1 +2.0**
comp=Z,32nm,0.8s,mb4.8
H03A Soap Creek Ran 51.80 64⇑ P **P 09 18 12.7 +0.1**
baz=52
COR Corvallis 51.85 64 eP **P 09 18 13.4 +0.5**
EBG Ellensburg 51.89 60 P **P 09 18 13.1 0.0**
E06A Yakima 51.90 61⇓ P **P 09 18 13.0 -0.2**
baz=52
I02A Mapleton 51.93 65⇓ P **P 09 18 13.6 +0.2**
baz=52,SNR=5.4
F05A White Salmon 52.05 62⇓ P **P 09 18 14.1 -0.2**
baz=52
C08A Higginbotham F 52.16 58⇑ P **P 09 18 14.5 -0.6**
baz=52
A10A Northport 52.19 56⇓ P **P 09 18 15.0 -0.3**
baz=52
B09A Rice 52.23 57⇑ P **P 09 18 15.3 -0.3**
baz=52
I03A Eugene 52.26 64⇓ P **P 09 18 16.2 +0.3**
baz=52,SNR=6.6
TKM2 Tokmak 2 52.26 294 eP **P 09 18 16.5 +0.5**
TKM2 pmax pmax
comp=Z,37nm,0.8s,mb4.9
TKM2 Tokmak 2 52.26 294 P **P 09 18 17.0 +1.0**
SNR=27
TKM2 Tokmak 2 52.26 294 eP **P 09 18 16.5 +0.6**
comp=Z,37nm,0.8s,mb4.9
HOOD Mount Hood Mea 52.30 62 eP **P 09 18 16.6 +0.4**
comp=Z,42nm,0.9s,mb4.9
K01A Sixes 52.32 66⇓ P **P 09 18 16.8 +0.4**
baz=52
ULHL Ulahol 52.33 293 P **P 09 18 17.5 +1.0**
SNR=33
ARU Arti 52.34 316 d i P **P 09 18 16.3 0.0**
ARU e*PP pP 09 19 06.2 +0.2
ARU e 09 19 23.3
ARU e*SP sP 09 19 27.7 -3.4
ARU e 09 20 12.8
ARU PPP 09 21 25.7
ARU eS **S 09 25 24.7 +1.3**
ARU eSS SS 09 29 02.6 -1.0
ARU pmax pmax
comp=Z,343nm,1.2s,mb5.7
ARU Arti 52.34 316 eP **P 09 18 16.2 0.0**
KEBM Edson Butte 52.36 66 eP **P 09 18 17.4 +0.8**
H04A Detroit Lake 52.41 63 P **P 09 18 16.7 -0.3**
baz=52,SNR=9.7
J02A Umpqua 52.47 65⇓ P **P 09 18 18.1 +0.6**
baz=52,SNR=11
F06A Goldendale 52.50 61⇑ P **P 09 18 17.5 -0.1**
baz=52
G05A Wamic 52.53 62⇑ P **P 09 18 17.8 -0.1**
baz=52,SNR=6.8
OD2 Odessa Site #2 52.58 59⇑ i P **P 09 18 17.5 -0.7**
LVZ Lovozero 52.66 336 i P **P 09 18 17.8 -0.7**
LVZ pmax pmax
comp=Z,61nm,1.0s,mb5.0
USP Ospenovka 52.66 295 P **P 09 18 19.8 +0.9**
SNR=52
D08A Wollman Farm, 52.68 59⇓ P **P 09 18 18.2 -0.7**
baz=52
CHMS Chumysh 52.69 294 P **P 09 18 19.9 +0.8**
SNR=13
RSW Rattlesnake Hi 52.74 60 eP **P 09 18 19.2 -0.2**
HAWA Hanford 52.77 60 eP **P 09 18 19.3 -0.4**
KBK Karagaybulak 52.80 294 P **P 09 18 21.1 +1.2**
SNR=9.7
IRO Indian Ridge 52.80 64 P **P 09 18 19.8 -0.1**
A11A Hall Mountain, 52.81 56⇑ P **P 09 18 20.1 +0.2**
baz=52
KBO Bosley Butte 52.84 67 eP **P 09 18 21.3 +1.1**
I04A Tendick Farm, 52.85 64⇑ P **P 09 18 20.2 -0.1**
baz=53,SNR=10
NEW Newport 52.86 57 eP **P 09 18 19.7 -0.5**
FRU Bishkek 52.87 294⇓ eP **P 09 18 21.0 +0.6**
FRU e pP 09 19 11.0 +0.8
FRU pmax pmax
comp=Z,140nm,1.5s,mb5.2
F07A Phinny Hill Vi 52.88 61⇑ P **P 09 18 20.4 0.0**
baz=53,SNR=13
K02A Glendale 52.91 66⇓ P **P 09 18 21.1 +0.4**
baz=53
G06A Carlson Farm, 52.91 62⇑ P **P 09 18 20.3 -0.3**
baz=53
H05A Madras 52.96 63⇓ P **P 09 18 20.9 -0.2**
baz=53,SNR=8.6
E08A Dider Farm, El 52.96 60⇑ P **P 09 18 20.4 -0.6**
baz=53,SNR=5.5
KEV Kevo 52.99 340 ep **P 09 18 19.0 -1.9**
comp=Z,13nm,0.7s,mb4.5
KEV Kevo 52.99 340 eP **P 09 18 19.0 -1.9**
KEV pmax pmax
comp=Z,13nm,0.7s,mb4.5
D09A Jones Farm, Ri 53.00 59⇑ P **P 09 18 20.4 -0.9**
baz=53
KZA Kyzart 53.00 293 P **P 09 18 23.0 +1.7**
SNR=15
C10A Spilker Farm, 53.05 57⇓ P **P 09 18 21.1 -0.5**
baz=53,SNR=6.9
AAK Ala-Archa 53.07 294 P **P 09 18 22.8 +0.9**
SNR=25
M01C Crescent City 53.14 67⇓ P **P 09 18 22.8 +0.4**
baz=53
B11A Sandpoint 53.14 56⇑ P **P 09 18 22.1 -0.1**
baz=53
APA Apatity 53.22 336⇓ i P **P 09 18 22.8 +0.2**
APA i pP 09 19 16.5 +4.1
APA pmax pmax
comp=Z,27nm,1.0s,mb4.6
L02A Cave Junction 53.23 66⇓ P **P 09 18 23.5 +0.5**
baz=53,SNR=16
I05A Bend 53.25 63⇑ P **P 09 18 23.1 0.0**
baz=53
HUMO Hull Mountain 53.31 66⇑ P **P 09 18 24.0 +0.4**
baz=53,SNR=10
HUMO Hull Mountain 53.31 66 eP **P 09 18 24.2 +0.6**
J04A Umpqua Nationa 53.38 64⇑ P **P 09 18 24.6 +0.5**
baz=53,SNR=9.4
VIPM Ingram Point 53.38 62 P **P 09 18 24.1 0.0**
H06A Lindquist Farm 53.40 62⇓ P **P 09 18 23.8 -0.4**
baz=53,SNR=6.8
G07A Ruggs Ranch, H 53.42 61⇓ P **P 09 18 23.9 -0.5**
baz=53,SNR=7.1
E09A Wood Farm, Sta 53.44 59⇑ P **P 09 18 23.9 -0.5**
baz=53,SNR=7.7
EKS2 Erkin-Say 53.46 295 P **P 09 18 25.6 +0.9**
SNR=41
EKS2 Erkin-Say 53.46 295⇓ i P **P 09 18 25.4 +0.7**
comp=Z,81nm,1.0s,mb5.1
ARCES ARCESS Array B 53.49 340 P **P 09 18 23.6 -0.9**
comp=Z,23nm,0.8s,mb4.7,baz=44,slow=7.8,SNR=93
ARCES PcP PcP 09 19 27.6 -0.5
comp=Z,14nm,0.7s,baz=36,slow=4.5,SNR=13
ARCES ScP ScP 09 23 04.6 +0.9
comp=Z,8.1nm,1.1s,baz=54,slow=6.2,SNR=5.5
ARCES ARCESS Array B 53.49 340 P **P 09 18 23.6 -0.9**
ARCES 09 19 27.7
ARCES ARCESS Array B 53.49 340 P **P 09 18 23.6 -0.9**
ARCES PcP PcP 09 19 27.6 -0.5
ARCES ScP ScP 09 23 04.6 +0.9
IMP Imphal 53.51 264 eP **P 09 18 26.0 +0.7**
IMP eS sP 09 19 51.0 +11
KTRM Thompson Ridge 53.52 66 P **P 09 18 25.9 +0.8**
D10A Wagner Farm, O 53.55 58⇑ P **P 09 18 24.5 -0.8**
baz=53,SNR=7.2
F08A Pendleton 53.56 60⇓ P **P 09 18 25.0 -0.4**
baz=53
LNOR Lincton Mounta 53.77 60 eP **P 09 18 26.6 -0.3**
G08A Pilot Rock 53.79 61⇑ P **P 09 18 26.6 -0.4**
baz=54,SNR=8.9
A13A Flathead Natio 53.82 55⇓ P **P 09 18 27.1 -0.1**
baz=54
J05A Fort Rock 53.83 64⇑ P **P 09 18 28.2 +0.8**
baz=54,SNR=41
AML Almayashu 53.85 294 P **P 09 18 29.1 +1.6**
SNR=6.2
AML Almayashu 53.85 294⇓ i P **P 09 18 28.7 +1.2**
comp=Z,51nm,1.1s,mb5.0
JCC Jacoby Creek 53.86 68⇓ P **P 09 18 28.1 +0.5**
baz=54,SNR=7.7
H07A Lands Inn, Kim 53.91 62⇑ P **P 09 18 27.5 -0.4**
baz=54,SNR=7.6
I06A Prineville 53.97 63 P **P 09 18 28.6 +0.2**
baz=54,SNR=6.0
K04A Chilquin 53.99 65⇑ P **P 09 18 29.1 +0.5**
baz=54,SNR=7.6
KHMM Horse Mountain 53.99 68 eP **P 09 18 29.6 +1.1**
WALA Waterton Lakes 53.99 54 eP **P 09 18 28.4 0.0**
E10A Myers Farm, Un 54.00 59⇓ P **P 09 18 27.9 -0.7**
baz=54,SNR=8.8
YBH Yreka Blue Hor 54.02 66 eP **P 09 18 29.7 +1.0**
YBH pmax pmax
comp=Z,29nm,0.7s
YBH Yreka Blue Hor 54.02 66⇓ P **P 09 18 29.6 +0.9**
baz=54,SNR=53
YBH Yreka Blue Hor 54.02 66 eP **P 09 18 29.7 +1.0**
comp=Z,29nm,0.7s,mb4.9
D11A Klaveano Farm, 54.05 58⇓ P **P 09 18 28.0 -0.8**
baz=54,SNR=12
F09A S2 Ranch, Elgi 54.08 60⇓ P **P 09 18 29.0 -0.2**
baz=54,SNR=6.7
B13A Whitefish 54.16 55⇑ P **P 09 18 29.5 -0.1**
baz=54,SNR=6.6
M02C Callahan 54.16 67⇓ P **P 09 18 30.6 +0.8**
baz=54,SNR=25
SHL Shillong 54.20 267⇓ i P **P 09 18 30.0 -0.3**
SHL i x x 09 25 50.0
comp=Z,20nm,0.6s
F10A Beach Ranch, E 54.27 59⇓ P **P 09 18 30.0 -0.4**
baz=54,SNR=6.2
I07A Izee 54.27 62 P **P 09 18 30.7 +0.2**
baz=54,SNR=5.3
N02C Big Bar 54.27 67⇑ P **P 09 18 31.0 +0.4**
baz=54,SNR=17
KTK1 Kautokeino 54.38 341 eP **P 09 18 30.1 -0.9**
KTK1 AMb AMB 09 18 30.8
comp=Z,56nm,0.8s,mb5.2
KTK1 Kautokeino 54.38 341 eP **P 09 18 30.1 -0.9**
comp=Z,56nm,0.8s,mb5.1
K05A Summer Lake 54.39 64⇑ P **P 09 18 32.3 +0.9**
baz=54,SNR=39
O01C Eel River Cons 54.43 68⇑ P **P 09 18 32.6 +0.9**
baz=54
G09A Cove 54.43 60⇓ P **P 09 18 31.4 -0.2**
baz=54,SNR=7.5
H08A Prairie City 54.44 61⇓ P **P 09 18 31.8 0.0**
baz=54,SNR=16
J06A Christmas Vall 54.46 63⇑ P **P 09 18 32.3 +0.5**
baz=54,SNR=47
M04C Macdoel 54.48 66⇓ P **P 09 18 32.6 +0.6**
baz=54,SNR=43
C13A Hot Springs 54.55 56 P **P 09 18 32.7 +0.2**
baz=54,SNR=6.9
D12A Red Ives Fores 54.56 57⇓ P **P 09 18 31.7 -0.8**
baz=54
E11A Bogner Ranch, 54.56 58⇓ P **P 09 18 31.9 -0.7**
baz=54,SNR=8.7

M03C McCloud 54.65 66 ⇓P P 09 18 33.6 +0.4
baz=54,SNR=13
K06A Valley Falls 54.70 64 ⇓P P 09 18 34.4 +0.8
baz=54,SNR=64
G10A Bishop Farm, J 54.77 60 ⇑P P 09 18 34.0 -0.1
baz=54,SNR=25
J07A Hines 54.84 63 ⇓P P 09 18 35.1 +0.5
baz=55,SNR=9.6
L05A Lakeview 54.87 65 ⇓P P 09 18 35.8 +1.0
baz=55,SNR=72
WDC Whiskeytown Da 54.87 67 P P 09 18 35.1 +0.3
baz=55,SNR=18
WDC Whiskeytown Da 54.87 67 eP P 09 18 35.0 +0.2
H09A Durkee 54.89 61 ⇑P P 09 18 35.2 +0.3
baz=55,SNR=17
I08A Drewsey 54.90 62 ⇑P P 09 18 35.4 +0.4
baz=55,SNR=18
F11A Grangeville 54.90 59 ⇑P P 09 18 34.4 -0.5
baz=55,SNR=9.1
C14A Swan Lake 54.92 56 ⇓P P 09 18 35.0 0.0
baz=55
BMO Blue Mountains 54.96 60 eP P 09 18 35.6 +0.1
D13A Huson 54.99 57 ⇑P P 09 18 35.1 -0.5
baz=55,SNR=6.3
O02C Red Bluff 54.99 68 ⇓P P 09 18 36.3 +0.6
baz=55,SNR=17
M05C Lookout 55.15 66 P P 09 18 37.5 +0.7
baz=55,SNR=27
P01C Double 8 Ranch 55.15 69 P P 09 18 37.0 +0.1
baz=55,SNR=6.8
G11A Walters Elk Ra 55.16 59 P P 09 18 36.6 -0.2
baz=55,SNR=16
CMAR Chiang Mai Arr 55.23 255 P P 09 18 38.2 +0.6
comp=Z,30nm,0.7s,mb4.9,baz=31,slow=6.6,SNR=3.7
CMAR Chiang Mai Arr 55.23 255 P P 09 18 38.2 +0.6
MOD Modoc 55.26 65 ⇑P P 09 18 38.1 +0.5
baz=55,SNR=85
MOD Modoc 55.26 65 eP P 09 18 38.2 +0.6
I09A Lost Marbles R 55.30 61 ⇓P P 09 18 38.1 +0.2
baz=55,SNR=7.2
J08A Circle Bar Ran 55.31 62 ⇑P P 09 18 38.4 +0.5
baz=55,SNR=25
K07A Rock Creek Ran 55.33 63 ⇑P P 09 18 38.7 +0.6
baz=55,SNR=39
HATC Hat Creek Radi 55.33 66 P P 09 18 38.7 +0.6
baz=55,SNR=17
GASB Alder Springs 55.38 68 ⇑P P 09 18 39.3 +0.8
baz=55,SNR=16
SUMG Summit 55.40 5⇓iP P 09 18 39.2 +1.1
comp=Z,34nm,1.1s,mb4.8
H10A Noah's Angus R 55.43 60 ⇓P P 09 18 38.6 -0.2
baz=55,SNR=17
MSO Missoula 55.43 56 eP P 09 18 38.6 -0.2
F12A Elk City 55.46 58 ⇑P P 09 18 39.0 0.0
baz=55,SNR=28
D14A Greenough 55.49 56 ⇓P P 09 18 39.0 -0.2
baz=55,SNR=24
TAPN Taplejung 55.50 271 eP P 09 18 40.2 +0.6
comp=Z,118nm,0.7s,mb5.5
O03C Acorn Hollow, 55.55 67 ⇓P P 09 18 39.2 -0.5
baz=55,SNR=5.7
E13A Victor 55.56 57 ⇓P P 09 18 39.6 -0.1
baz=55,SNR=11
HOPS Hopland 55.62 69 ⇓P P 09 18 40.2 0.0
baz=55
M06C Likely Place G 55.62 65 ⇑P P 09 18 40.7 +0.5
baz=55,SNR=11
J09A Fry Pan Ranch, 55.71 62 P P 09 18 41.5 +0.7
baz=56,SNR=43
K08A Mann Creek Ran 55.72 63 P P 09 18 41.6 +0.8
baz=56,SNR=61
L07A Adell 55.72 64 P P 09 18 41.8 +0.9
baz=56,SNR=36
CHMT Chamberlain Mo 55.73 56 eP P 09 18 40.7 -0.2
I10A Payette 55.74 61 P P 09 18 41.6 +0.7
baz=56,SNR=16
H11A Donnelly 55.75 60 ⇑P P 09 18 41.1 0.0
baz=56,SNR=31
WVOR Wild Horse Val 55.83 63 P P 09 18 42.2 +0.5
O04C Chester 55.87 67 P P 09 18 42.6 +0.6
baz=56,SNR=35
ELFS Eagle Lake Fie 55.87 66 ⇓P P 09 18 42.6 +0.6
baz=56,SNR=8.9
F13A Darby 55.92 58 P P 09 18 42.0 -0.3
baz=56,SNR=7.3
E14A Clinton 55.94 57 ⇑P P 09 18 42.4 0.0
baz=56,SNR=12
D15A Lincoln 56.02 56 P P 09 18 43.1 +0.2
baz=56,SNR=6.5
ODAN Odare 56.05 271 eP P 09 18 43.5 0.0
comp=Z,69nm,0.8s,mb5.2
MNRC McLaughlin Nat 56.06 69 ⇓P P 09 18 44.0 +0.6
baz=56,SNR=11
FCC Fort Churchill 56.07 36 eP P 09 18 42.9 -0.2
FCC pmax pmax
comp=Z,55nm,1.1s,mb5.0
FCC Fort Churchill 56.07 36 eP P 09 18 42.9 -0.3
comp=Z,55nm,1.1s,mb5.0
ORV Oroville 56.15 67 ⇓P P 09 18 43.3 -0.7
baz=56,SNR=23
L08A Fields 56.16 63 ⇓P P 09 18 44.5 +0.5
baz=56,SNR=28
K09A Rome 56.16 62 ⇑P P 09 18 44.3 +0.3
baz=56,SNR=26
J10A Berg Farm, Mel 56.19 61 ⇑P P 09 18 44.2 -0.1
baz=56,SNR=9.4
SUTB Sutter Butte 56.20 68 ⇑P P 09 18 43.5 -0.9
baz=56
O05C Quincy 56.21 67 ⇑P P 09 18 44.5 +0.1
baz=56,SNR=16
JIRN Jiri 56.22 273 eP P 09 18 45.2 +0.6
comp=Z,122nm,0.7s,mb5.5
GUN Gumba 56.23 273 eP P 09 18 45.1 +0.4
comp=Z,110nm,0.7s,mb5.5
M07A Soldier Meadow 56.23 64 ⇓P P 09 18 45.3 +0.8
baz=56,SNR=85
N06A Buffalo Meadow 56.29 65 P P 09 18 45.5 +0.5
baz=56,SNR=35
MCCM Marconi Confer 56.30 70 ⇑P P 09 18 44.2 -0.9
baz=56
MCCM Marconi Confer 56.30 70 eP P 09 18 45.0 -0.1
OHCM Honcut 56.30 68 eP P 09 18 44.6 -0.5
I11A Placerville 56.31 60 ⇓P P 09 18 44.9 -0.1
baz=56,SNR=23
E15A Deer Lodge 56.37 56 P P 09 18 45.5 0.0
baz=56,SNR=9.5
F14A Wisdom 56.41 57 ⇑P P 09 18 45.5 -0.2
baz=56
CVS Carmenet Viney 56.41 69 ⇓P P 09 18 45.4 -0.4
baz=56
G13A Cobalt 56.44 58 P P 09 18 45.7 -0.2
baz=56,SNR=17
H12A Diamond D Ranc 56.47 59 ⇓P P 09 18 45.7 -0.4
baz=56
Q03C Winters 56.47 69 ⇑P P 09 18 47.0 +0.8
baz=56
RAMN Ramite 56.48 272 eP P 09 18 46.7 +0.3
comp=Z,474nm,0.8s,mb6.0
KLMR Klimovskoe 56.52 328 diP P 09 18 45.8 -0.4
KLMR e*PP pP 09 19 37.0 +0.3
KLMR e*SP sP 09 19 59.9 -1.8
KLMR pmax pmax
comp=Z,98nm,0.6s,mb5.6
FARB Farallon Islan 56.53 70 ⇓P P 09 18 47.4 +0.7
baz=56
K10A MacKenzie Ranc 56.57 62 ⇑P P 09 18 47.6 +0.7
baz=56,SNR=44
BEKR Beckwourth 56.59 67 ⇑P P 09 18 47.0 -0.1
baz=56,SNR=43
M08A Happy Creek Ra 56.63 64 P P 09 18 48.3 +1.0
baz=56,SNR=21
L09A Wilkinson Ranc 56.65 63 P P 09 18 48.1 +0.7
baz=56,SNR=20
O06A Flanigan 56.69 66 ⇑P P 09 18 48.0 +0.3
baz=56,SNR=26
KKN Kakani 56.69 274 eP P 09 18 48.2 +0.3
comp=Z,154nm,0.6s,mb5.8
Q04C Lincoln 56.70 68 ⇑P P 09 18 47.7 -0.1
baz=56
MFID Camas Ranch 56.71 61 P P 09 18 48.1 +0.3
baz=56,SNR=22
EGMT Eagleton 56.75 53 ⇑P P 09 18 47.7 -0.4
baz=56
EGMT Eagleton 56.75 53 eP P 09 18 48.1 0.0
N07B Gerlach 56.76 65 ⇑P P 09 18 48.6 +0.3
baz=56,SNR=6.0
PKI Pulchoki 56.77 273 eP P 09 18 49.1 +0.6
comp=Z,130nm,0.8s,mb5.6

H13A Challis 56.78 59 ⇑P P 09 18 48.2 -0.1
baz=56,SNR=26
P05C Yuba Gap, Truc 56.83 67 ⇑P P 09 18 48.5 -0.3
baz=57,SNR=5.7
F15A Butte 56.84 57 ⇑P P 09 18 48.7 0.0
baz=57,SNR=5.6
LRM Limekiln Ridge 56.88 57 eP P 09 18 48.9 0.0
DMN Daman 56.93 274 eP P 09 18 50.3 +0.7
comp=Z,248nm,0.8s,mb5.9
GKN Gorkha 56.94 274 eP P 09 18 50.0 +0.3
comp=Z,44nm,1.0s,mb5.1
LOF Lofoten 56.95 344 eP P 09 18 50.2 +1.1
LOF epP pP 09 19 42.2 +2.5
P06A Stead Airport, 56.98 66 ⇑P P 09 18 50.2 +0.4
baz=57,SNR=6.8
BDM Black Diamond 57.02 69 ⇑P P 09 18 49.9 -0.2
baz=57
K11A Parker Ranch, 57.03 61 ⇓P P 09 18 50.4 +0.3
baz=57,SNR=24
DLMT Dillon 57.11 57 eP P 09 18 50.8 +0.2
comp=Z,11nm,1.3s,mb4.3
LAVA Lava Cap Winer 57.12 68 ⇑P P 09 18 50.5 -0.3
baz=57,SNR=12
M09A Marrel Ranch, 57.17 63 ⇑P P 09 18 51.7 +0.6
baz=57,SNR=12
JRSC Jasper Ridge 57.18 70 ⇑P P 09 18 50.6 -0.6
baz=57
J12A Stokes Ranch, 57.22 60 P P 09 18 52.1 +0.7
baz=57,SNR=52
O07A Toulon 57.23 65 P P 09 18 52.1 +0.6
baz=57,SNR=43
DANN Dangsing 57.23 275 eP P 09 18 52.4 +0.7
comp=Z,220nm,0.6s,mb5.9
PAHR Pah Rah Range 57.25 66 eP P 09 18 46.3 -5.4
comp=Z,34nm,1.1s,mb4.9
L10A Juniper Basin 57.26 62 ⇑P P 09 18 52.3 +0.5
baz=57,SNR=21
I13A Wildhorse Cree 57.29 59 ⇓P P 09 18 52.4 +0.5
baz=57,SNR=33
G15A Dillon 57.30 57 ⇓P P 09 18 51.9 -0.1
baz=57,SNR=21
WENL Wente Brothers 57.31 69 ⇓P P 09 18 52.1 0.0
baz=57
WCN Washoe City 57.31 67 ⇓P P 09 18 52.4 +0.3
baz=57,SNR=23
MCMT McKenzie Canyo 57.34 58 eP P 09 18 52.7 +0.4
R04C Big Horse Ranc 57.35 68 ⇓P P 09 18 51.9 -0.5
baz=57
HLID Hailey 57.37 60 ⇑P P 09 18 52.8 +0.3
baz=57,SNR=13
HLID Hailey 57.37 60⇑iP P 09 18 52.6 +0.1
comp=Z,7.2nm,1.0s,mb4.3
JOF Joensuu 57.40 333 ep P 09 18 51.1 -1.3
comp=Z,16nm,0.5s,mb4.9
JOF Joensuu 57.40 333 eP P 09 18 51.1 -1.3
JOF pmax pmax
comp=Z,16nm,0.5s,mb4.9
BNLO Ben Lomond (Sa 57.40 70 ⇑P P 09 18 52.1 -0.7
baz=57
BOZ Bozeman (W) 57.42 56 ⇑P P 09 18 53.4 +0.6
baz=57
BOZ Bozeman (W) 57.42 56 eP P 09 18 53.4 +0.6
N09A Rock Creek Ran 57.51 64 ⇓P P 09 18 54.0 +0.5
baz=57,SNR=32
R05C Kirkwood Meado 57.54 67 ⇓P P 09 18 53.9 +0.2
baz=57,SNR=28
L11A Cat Creek Ranc 57.59 62 P P 09 18 55.0 +0.9
baz=57,SNR=44
M10A I.L. Ranch, Tu 57.60 63 ⇑P P 09 18 54.8 +0.7
baz=57,SNR=11
J13A Cove Ranch, Pi 57.61 60 ⇑P P 09 18 54.7 +0.6
baz=57,SNR=8.6
S04C Ingram Canyon, 57.64 69 ⇓P P 09 18 54.1 -0.3
baz=57
P07A Fallon 57.64 66 ⇓P P 09 18 54.9 +0.5
baz=57
K12A Draper Farm, C 57.74 61 ⇑P P 09 18 55.5 +0.5
baz=58,SNR=28
KOLN Koldanda 57.74 275 eP P 09 18 55.6 +0.3
comp=Z,131nm,0.7s,mb5.7
CMB Columbia Colle 57.82 68 ⇑P P 09 18 55.6 -0.1
baz=58,SNR=14
CMB Columbia Colle 57.82 68 eP P 09 18 55.7 0.0
BMN Battle Mountai 57.97 64 eP P 09 18 57.3 +0.6
P08A Dixie Valley 57.99 65 ⇑P P 09 18 57.7 +0.8
baz=58,SNR=5.3
PACP Pacheco Peak 58.00 70 ⇑P P 09 18 56.9 -0.1
baz=58,SNR=5.9
L12A House Creek Ra 58.01 61 P P 09 18 57.5 +0.5
baz=58,SNR=26
R06C Coleville 58.02 67 ⇓P P 09 18 57.6 +0.6
baz=58,SNR=27
M11A Holland Ranch, 58.08 62 ⇓P P 09 18 58.3 +0.9
baz=58,SNR=18
QLMT Earthquake Lak 58.08 57 eP P 09 18 58.0 +0.6
Q07A Schurz 58.10 66 ⇑P P 09 18 57.9 +0.3
baz=58
O09A Fish Creek Ran 58.16 64 ⇑P P 09 18 58.7 +0.7
baz=58,SNR=19
N10A Dunphy 58.17 63 ⇑P P 09 18 58.6 +0.6
baz=58
K13A Stover Farm, H 58.17 60 ⇓P P 09 18 58.6 +0.5
baz=58
S06C San Francisco 58.23 68 ⇑P P 09 18 58.5 -0.1
baz=58,SNR=40
HAST Hastings Reser 58.27 70 ⇓P P 09 18 58.4 -0.4
baz=58,SNR=6.4
GCMT Greycliff 58.32 55⇑iP P 09 18 59.8 +0.8
S05C Merced 58.32 69 ⇓P P 09 18 58.6 -0.6
baz=58,SNR=9.8
YMR Madison River 58.43 57 eP P 09 19 00.1 +0.3
comp=Z,15nm,0.7s,mb4.7
T05C Eagle Field, D 58.44 69 ⇓P P 09 19 00.2 +0.3
baz=58
O10A Cortez Mining, 58.47 64 ⇑P P 09 19 00.9 +0.8
baz=58,SNR=13
N11A Elko Archery C 58.53 63 ⇑P P 09 19 01.3 +0.7
baz=58,SNR=7.5
R07C Lee Vining 58.55 67 P P 09 19 01.4 +0.7
baz=58,SNR=29
MOR8 Moi Rana 58.55 343 eP P 09 18 58.0 -2.3
MOR8 AMb AMB 09 18 59.3
comp=Z,43nm,0.8s,mb5.1
M12A Wells 58.57 62 ⇑P P 09 19 01.6 +0.8
baz=58,SNR=14
P09A Austin 58.62 65 ⇑P P 09 19 01.9 +0.7
baz=58,SNR=12
L13A Double Diamond 58.63 61 ⇓P P 09 19 02.1 +0.9
baz=58,SNR=9.7
YFT Old Faithful 58.65 57 eP P 09 19 03.6 +2.3
Q08A Gabbs 58.65 66 P P 09 19 01.9 +0.5
baz=58,SNR=47
V03C Hunter Liggett 58.71 70 ⇑P P 09 19 01.8 -0.1
baz=58
K14A Jones Ranch, D 58.73 60 ⇑P P 09 19 02.9 +1.0
baz=58,SNR=29
NVAR Mina Array Bea 58.73 66 P P 09 19 02.5 +0.5
comp=Z,14nm,0.6s,mb4.7,baz=300,slow=6.9,SNR=134
NVAR pP pP 09 19 50.0 -2.9
comp=Z,4.8nm,1.0s,baz=294,slow=7.4,SNR=2.3
NVAR Mina Array Bea 58.73 66 P P 09 19 02.5 +0.5
NVAR pP pP 09 19 50.0 -2.9
U04C Hernandez Rese 58.74 70 ⇑P P 09 19 02.2 +0.1
baz=58
ELK Elko 58.85 63⇑iP P 09 19 03.3 +0.5
ELK pmax pmax
comp=Z,10.0nm,0.8s
ELK Elko 58.85 63⇑iP P 09 19 03.3 +0.5
comp=Z,9.8nm,0.8s,mb4.5
N12A Clover Valley, 58.89 62 P P 09 19 03.9 +0.9
baz=59,SNR=23
R08A Mina 58.90 66 ⇓P P 09 19 03.5 +0.3
baz=59,SNR=6.5
T06C Millerton Lake 58.91 69 P P 09 19 02.8 -0.5
baz=59,SNR=14
KCC Kaiser Creek 58.92 68 ⇑P P 09 19 03.3 0.0
baz=59,SNR=22
P10A Eureka 58.95 64 ⇑P P 09 19 04.0 +0.6
baz=59,SNR=8.8
FLWY Flagg Ranch 58.97 57⇑iP P 09 19 04.7 +1.1
comp=Z,6.6nm,0.6s,mb4.4
IMW Indian Meadow 58.98 57 eP P 09 19 04.2 +0.7
K15A Arbon 58.98 59 ⇑P P 09 19 04.9 +1.3
baz=59
MLAC Mammoth Lakes 58.98 67 ⇑P P 09 19 04.6 +0.9
baz=59
RLMT Red Lodge 58.99 55 eP P 09 19 04.7 +1.0

M13A Montello 59.01 61 ⇓P P 09 19 04.3 +0.5
baz=59,SNR=16
O11A Cowboy Ranch, 59.04 63 ⇑P P 09 19 04.5 +0.4
baz=59,SNR=15
L14A Malta 59.05 60 ⇑P P 09 19 04.9 +0.8
baz=59,SNR=25
J16A Bone 59.05 58 ⇑P P 09 19 05.1 +1.0
baz=59
DCID1 Drake Creek 59.06 58 eP P 09 19 05.1 +1.0
Q09A Carvers 59.09 65 ⇓P P 09 19 04.9 +0.5
baz=59,SNR=5.1
DGMT Dagmar 59.14 50 eP P 09 19 04.8 +0.2
PKD Parkfield 59.17 70 ⇑P P 09 19 04.6 -0.4
baz=59
MOOW Moose Ponds 59.18 57 eP P 09 19 05.9 +0.9
V04C Ramage Ranch, 59.19 70 ⇑P P 09 19 05.3 +0.1
baz=59
TPAW Teton Pass 59.25 58 eP P 09 19 06.6 +1.2
comp=Z,16nm,0.8s,mb4.7
MTUM Tungsten Hills 59.33 68 eP P 09 19 06.5 +0.3
N13A Wendover, West 59.34 62 ⇑P P 09 19 06.5 +0.4
baz=59,SNR=5.1
LOHW Long Hollow 59.35 57⇑iP P 09 19 07.1 +1.0
comp=Z,14nm,1.0s,mb4.5
M14A Sheep Mountain 59.36 61 ⇓P P 09 19 06.8 +0.6
baz=59
SNOW Snow King Moun 59.37 58 eP P 09 19 07.6 +1.3
K16A Soda Springs 59.37 59 ⇑P P 09 19 07.5 +1.1
baz=59,SNR=11
P11A Circle Ranch, 59.39 64 ⇓P P 09 19 07.1 +0.6
baz=59,SNR=5.9
REDW Red Top Meadow 59.39 58⇑iP P 09 19 07.3 +0.9
comp=Z,25nm,1.2s,mb4.7
REDW epP pP 09 19 56.5 -0.9
KAF Kangasniemi 59.41 335 ep P 09 19 04.7 -1.5
comp=Z,16nm,0.8s,mb4.7,baz=33,slow=6.4
KAF Kangasniemi 59.41 335 eP P 09 19 04.7 -1.5
KAF pmax pmax
comp=Z,16nm,0.8s,mb4.7
LAO LASA Array 59.41 52 eP P 09 19 07.2 +0.7
O12A Currie 59.45 63 ⇓P P 09 19 07.4 +0.5
baz=59,SNR=31
S08C White Mtn Res 59.45 67 ⇑P P 09 19 07.6 +0.6
baz=59,SNR=12
HVU Hansel Valley 59.47 60 eP P 09 19 07.9 +0.9
L15A Malad City 59.52 60 ⇑P P 09 19 07.9 +0.6
baz=59,SNR=13
Q10A Clear Creek Ra 59.54 65 P P 09 19 08.0 +0.5
baz=59,SNR=22
HELL Mitchell Peak 59.54 68 ⇑P P 09 19 07.0 -0.5
baz=59,SNR=47
R09A Tonopah 59.56 66 P P 09 19 07.8 +0.1
baz=59,SNR=47
TPH Tonopah 59.59 66 eP P 09 19 08.3 +0.4
V05C Boulder Hill, 59.60 70 ⇑P P 09 19 08.2 +0.3
baz=59
RCTC Rector, Farmer 59.67 69 ⇓P P 09 19 08.8 +0.3
baz=59
TIN Tinemaha 59.73 68 ⇓P P 09 19 09.1 +0.2
baz=60
SFJD Kangerlussuaq 59.75 12⇓iP P 09 19 07.9 -0.5
SFJD pmax pmax
comp=Z,20nm,0.3s,mb5.2
SFJD Kangerlussuaq 59.75 12⇓iP P 09 19 07.9 -0.5
comp=Z,20nm,0.3s,mb5.2
S09A Goldfield 59.84 66 P P 09 19 09.8 +0.3
baz=60,SNR=26
M15A Larsen Ranch, 59.87 60 ⇑P P 09 19 10.1 +0.4
baz=60,SNR=8.1
N14A Grayback Hills 59.90 61 P P 09 19 10.4 +0.5
baz=60,SNR=7.7
P12A McGill 59.92 63 P P 09 19 10.5 +0.5
baz=60,SNR=9.9
SMMC Simmler 59.93 70 ⇓P P 09 19 10.2 0.0
baz=60
Q11A Duckwater 59.94 64 P P 09 19 10.2 0.0
baz=60,SNR=11
R10A Warm Springs 59.96 65 ⇓P P 09 19 10.5 +0.1
baz=60,SNR=12
O13A Hicks Ranch, I 59.97 62 ⇑P P 09 19 10.9 +0.5
baz=60,SNR=5.9
L16A Fish Haven 60.03 59 ⇓P P 09 19 11.4 +0.6
baz=60,SNR=7.1
S10A Tonopah Range, 60.05 66 ⇓P P 09 19 10.9 -0.1
baz=60,SNR=16
VES Vestal, Richgr 60.09 69 ⇑P P 09 19 10.3 -1.0
baz=60,SNR=7.4
N15A Stansbury Isla 60.23 61 ⇑P P 09 19 12.7 +0.5
baz=60
CWC Cottonwood Cre 60.25 68 ⇑P P 09 19 12.3 0.0
baz=60,SNR=12
GRAC Grapevine Rang 60.26 67 ⇑P P 09 19 12.6 +0.2
baz=60,SNR=9.3
Q12A Willow Creek R 60.26 64 ⇑P P 09 19 12.8 +0.4
baz=60,SNR=13
R11A Troy Canyon, C 60.32 65 P P 09 19 12.9 +0.1
baz=60,SNR=24
PKM Peak Mountain 60.33 70 ⇓P P 09 19 13.0 +0.1
baz=60
M16A Huntsville 60.41 60 ⇓P P 09 19 13.7 +0.4
baz=60,SNR=16
P13A Bates Ranch, G 60.42 63 ⇑P P 09 19 13.6 +0.2
baz=60,SNR=13
BW06 Boulder Array 60.49 57 eP P 09 19 14.3 +0.4
PDAR Pinedale Array 60.49 57 P P 09 19 14.2 +0.3
comp=Z,12nm,0.7s,mb4.6,baz=322,slow=1.9,SNR=122
PDAR pP pP 09 20 02.4 -2.6
comp=Z,4.3nm,0.7s,baz=323,slow=2.9,SNR=3.5
DUG Dugway 60.56 62 ⇑P P 09 19 14.9 +0.5
baz=60
ISA Isabella 60.57 69 ⇑P P 09 19 13.4 -1.1
baz=60,SNR=9.1
ISA Isabella 60.57 69 eP P 09 19 13.5 -1.0
O15A The Old Anders 60.69 61 ⇓P P 09 19 15.9 +0.6
baz=60
SBC Santa Barbara 60.71 71 ⇑P P 09 19 15.3 -0.2
baz=60
S11A Rachel 60.73 65 P P 09 19 16.1 +0.5
baz=60,SNR=25
ARVC Arvin 60.74 70 ⇑P P 09 19 15.8 +0.1
baz=60
Q13A Wheeler Ranch, 60.77 63 ⇑P P 09 19 16.3 +0.5
baz=60,SNR=18
N16A Rees Ranch, Co 60.82 60 ⇓P P 09 19 16.6 +0.5
baz=60
P14A Drum Mountains 60.85 62 P P 09 19 16.8 +0.5
baz=61,SNR=15
MPMC Manual Prospec 60.85 68 P P 09 19 16.5 0.0
baz=61,SNR=18
R12A Pony Springs, 60.88 64 P P 09 19 16.8 +0.2
baz=61,SNR=15
FURC Furnace Creek, 60.92 67 ⇓P P 09 19 17.0 +0.1
baz=61,SNR=26
TPNV Topopah Spring 60.93 66 ⇓P P 09 19 17.1 +0.1
baz=61
TPNV Topopah Spring 60.93 66 eP P 09 19 17.1 +0.1
BSC Santa Cruz Isl 61.07 71 ⇓P P 09 19 19.0 +1.1
baz=61
MOS Moscow 61.08 325 eP P 09 19 12.9 -4.7
MOS e pP 09 20 06.5 -2.4
MOS e 09 21 31.0
MOS pmax pmax
comp=Z,76nm,0.6s,mb5.5
N17A Moffit Pass 61.10 60 ⇑P P 09 19 18.2 +0.2
baz=61,SNR=8.9
NLU North Lily Min 61.13 61 eP P 09 19 17.2 -1.0
LRMC Laurel Mountai 61.15 68 ⇓P P 09 19 18.0 -0.4
baz=61
Q14A Sevier Lake (B 61.16 63 ⇓P P 09 19 19.0 +0.6
baz=61,SNR=19
S12A Delamar Landin 61.26 65 ⇓P P 09 19 19.6 +0.5
baz=61,SNR=33
O16A Springville 61.26 61 ⇑P P 09 19 19.6 +0.5
baz=61,SNR=16
U10A Ash Meadows, A 61.26 67 ⇑P P 09 19 19.5 +0.3
baz=61
P15A Leamington 61.29 62 ⇑P P 09 19 19.6 +0.3
baz=61,SNR=6.5
T11A Corn Creek, Al 61.31 65 P P 09 19 19.7 +0.3
baz=61,SNR=45
BLG Laguna Peak 61.32 70 ⇓P P 09 19 18.9 -0.8
baz=61
MPU Maple Canyon 61.33 61 eP P 09 19 20.2 +0.7
R13A O'Grain Ranch, 61.34 64 P P 09 19 19.9 +0.2
baz=61,SNR=11
EDW2 Edwards Air Fo 61.40 69 ⇓P P 09 19 19.8 -0.3
baz=61,SNR=18

ULM **Lac du Bonnet** 61.59 44 P P 09 19 20.5 -0.7
comp=Z,7.7nm,0.6s,mb4.5,baz=315,slow=7.9,SNR=17
P16A **Fountain Green** 61.60 61 ⇑P P 09 19 22.0 +0.6
baz=61,SNR=8.3
Q15A **Fillmore** 61.64 62 ⇓P P 09 19 21.9 +0.2
baz=61,SNR=8.5
DECC **Green Verdugo** 61.65 70 ⇓P P 09 19 21.4 -0.4
baz=61
SHOC **Shoshone** 61.66 67 ⇓P P 09 19 21.5 -0.3
baz=61,SNR=6.8
KBL **Kabul** 61.69 291 eP P 09 19 21.1 -1.0
comp=Z,33nm,0.7s,mb5.1
N18A **Larsen Ranch,** 61.70 59 ⇑P P 09 19 21.8 -0.1
baz=61
GSC **Goldstone** 61.78 68 ⇑P P 09 19 22.4 -0.2
baz=62,SNR=18
GSC **Goldstone** 61.78 68 eP P 09 19 22.5 -0.1
R14A **James Farms, M** 61.79 63 ⇑P P 09 19 23.0 +0.3
baz=62
U11A **Corn Creek** 61.80 66 ⇓P P 09 19 23.1 +0.3
baz=62,SNR=5.3
MWC **Mount Wilson** 61.83 70 eP P 09 19 23.0 0.0
S13A **Holt Ranch, En** 61.83 64 ⇓P P 09 19 23.2 +0.3
baz=62,SNR=19
SHPR **Sheep Range** 61.87 66 eP P 09 19 23.3 +0.2
OBN **Obninsk** 61.94 325 keP P 09 19 22.5 -0.9
OBN e 09 20 01.0
OBN e*PP pP 09 20 16.1 +1.3
OBN 09 21 46.0
OBN PPP 09 23 15.0
OBN pmax pmax
comp=Z,126nm,1.4s,mb5.3
OBN **Obninsk** 61.94 325 eP P 09 19 22.8 -0.6
comp=Z,19nm,0.6s,mb4.9
T12A **Moapa** 61.96 66 ⇑P P 09 19 23.9 +0.1
baz=62,SNR=7.1
O18A **Roosevelt** 62.02 60 ⇓P P 09 19 25.1 +0.9
baz=62,SNR=16
BFSC **Mount Baldy St** 62.05 69 ⇓P P 09 19 24.0 -0.4
baz=62,SNR=11
TMUT **Trail Mountain** 62.07 61 eP P 09 19 25.2 +0.7
S14A **Cedar City** 62.09 64 ⇑P P 09 19 24.8 +0.2
baz=62,SNR=12
V11A **Goodsprings** 62.19 67 ⇑P P 09 19 25.4 +0.1
baz=62,SNR=5.3
TUQ **Turquoise Mtn.** 62.19 67 ⇑P P 09 19 25.3 -0.1
baz=62,SNR=18
P17A **Butcher Ranch,** 62.20 61 P P 09 19 25.9 +0.5
baz=62,SNR=6.0
T13A **Saint George** 62.20 65 ⇓P P 09 19 26.0 +0.6
baz=62,SNR=18
CIS **Catalina Islan** 62.21 71 ⇓P P 09 19 24.7 -0.8
baz=62
R15A **Junction** 62.26 63 ⇑P P 09 19 26.4 +0.6
baz=62,SNR=8.5
U12A **Valley of Fire** 62.27 66 ⇑P P 09 19 26.2 +0.3
baz=62
RSSD **Black Hills** 62.33 53⇑iP P 09 19 26.3 +0.2
RSSD pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
RSSD **Black Hills** 62.33 53⇑iP P 09 19 26.3 +0.2
comp=Z,10nm,0.6s,mb4.6
P18A **Preston Nutter** 62.35 60 P P 09 19 27.1 +0.7
baz=62,SNR=13
VSU **Vasula** 62.35 332 iP P 09 19 25.3 -0.7
Q16A **Castle Valley** 62.36 62 ⇑P P 09 19 26.9 +0.4
baz=62,SNR=7.9
HEC **Hector,Ludlow** 62.39 68 ⇓P P 09 19 26.5 -0.2
baz=62,SNR=16
SCI **San Clemente I** 62.43 71 ⇓P P 09 19 27.3 +0.4
baz=62
BBRC **Big Bear Sol-O** 62.46 69 ⇑P P 09 19 27.0 -0.2
baz=62,SNR=11
SRU **San Rafael** 62.57 61 ⇓P P 09 19 28.2 +0.3
baz=62,SNR=34
SRU **San Rafael** 62.57 61 eP P 09 19 28.3 +0.5
S15A **Panguitch** 62.59 63 ⇑P P 09 19 28.9 +0.9
baz=62,SNR=14
V12A **Nelson** 62.59 66 P P 09 19 28.3 +0.2
baz=62,SNR=15
U13A **Pakoon Wash** 62.60 65 P P 09 19 28.7 +0.6
baz=62,SNR=31
T14A **Hurricane** 62.63 64 P P 09 19 28.8 +0.5
baz=62,SNR=20
R16A **Teasdale** 62.64 62 ⇓P P 09 19 29.2 +0.9
baz=62,SNR=20
MURC **Murrieta** 62.77 70 ⇓P P 09 19 28.6 -0.6
baz=62,SNR=14
Q18A **Rafter H Ranch** 62.79 61 P P 09 19 29.1 -0.2
baz=62,SNR=12
GMRC **Granite Mounta** 62.81 68 ⇓P P 09 19 29.4 -0.1
baz=63,SNR=16
W12A **Cal Nev Ari** 62.89 67 ⇑P P 09 19 30.0 0.0
baz=63,SNR=6.8
KSM **Kuching** 62.90 233 eP P 09 19 31.7 +1.5
LDFC **Landfair** 62.91 67 eP P 09 19 30.0 -0.2
R17A **Hanksville Air** 62.97 62 ⇑P P 09 19 30.4 0.0
baz=63
S16A **Weppner Ranch,** 62.98 63 P P 09 19 31.5 +0.9
baz=63,SNR=33
V13A **Grand Canyon W** 63.00 66 ⇑P P 09 19 31.0 +0.3
baz=63,SNR=36
U14A **Mt Trumbull** 63.04 65 ⇓P P 09 19 31.5 +0.6
baz=63,SNR=24
T15A **Red Dirt Ranch** 63.05 64 P P 09 19 31.6 +0.5
baz=63,SNR=17
AGMN **Agassiz Refuge** 63.06 45 eP P 09 19 29.7 -1.2
comp=Z,6.5nm,0.6s,mb4.4
AGMN ePcP PcP 09 20 06.4 -0.1
MOL **Molde** 63.07 344 eP P 09 19 30.7 0.0
MOL AMb AMB 09 19 32.0
comp=Z,32nm,0.7s,mb5.0
MOL **Molde** 63.07 344 eP P 09 19 30.7 0.0
comp=Z,32nm,0.7s,mb5.1
BELC **Belle Mtn.** 63.18 69 ⇑P P 09 19 31.2 -0.7
baz=63,SNR=14
VRHR **Novokhopersk** 63.19 320 eP P 09 19 31.0 -0.7
VRHR pmax pmax
comp=Z,60nm,0.5s,mb5.5
VRHR pmax pmax
comp=N,50nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.4s
PFO **Pinyon Flat Ob** 63.19 69 ⇑P P 09 19 31.3 -0.7
baz=63,SNR=11
109C **Camp Elliot, M** 63.34 70 ⇑P P 09 19 32.4 -0.6
baz=63
Q19A **Hogan Spring (** 63.37 60 ⇓P P 09 19 32.8 -0.3
baz=63,SNR=36
NEE2 **Needles Airpor** 63.41 67 ⇑P P 09 19 33.0 -0.5
baz=63
R18A **Canyonlands Na** 63.44 61 P P 09 19 33.2 -0.3
baz=63,SNR=32
S17A **Black Ridge (B** 63.48 62 ⇑P P 09 19 34.1 +0.2
baz=63,SNR=65
U15A **North Rim** 63.53 64 P P 09 19 34.8 +0.6
baz=63,SNR=9.7
IRM **Iron Mountain** 63.55 68 P P 09 19 34.3 0.0
baz=63,SNR=24
T16A **Glen Canyon Da** 63.57 63 ⇓P P 09 19 33.8 -0.6
baz=63,SNR=7.4
W13A **Hualapai Mount** 63.59 66 ⇓P P 09 19 34.6 0.0
baz=63,SNR=14
V14A **Boquillas Ranc** 63.65 65 P P 09 19 35.7 +0.7
baz=63,SNR=32
MONP **Monument Peak** 63.73 70 ⇓P P 09 19 35.0 -0.5
baz=64,SNR=5.1
BC3 **Big Chuckw Mtn** 63.74 68 ⇓P P 09 19 35.1 -0.5
baz=64,SNR=12
NB2 **NORSAR Subarra** 63.82 342 P P 09 19 35.0 -0.6
comp=Z,32nm,0.6s,mb5.1,baz=25,slow=6.9
NOA **NORSAR Array B** 63.82 342 P P 09 19 35.0 -0.7
comp=Z,30nm,0.6s,mb5.1,baz=24,slow=6.6,SNR=150
NOA PcP PcP 09 20 08.5 -0.9
comp=Z,6.7nm,0.6s,baz=24,slow=3.4,SNR=8.0
NOA **NORSAR Array B** 63.82 342 P P 09 19 35.0 -0.7
NOA PcP PcP 09 20 08.5 -0.9
R19A **Curley Farm, L** 63.85 61 ⇑P P 09 19 36.1 -0.1
baz=64,SNR=8.5
S18A **Hurst Farm, Bl** 63.88 62 ⇑P P 09 19 36.5 0.0
baz=64
T17A **Navajo Res., N** 63.94 63 ⇓P P 09 19 36.4 -0.4
baz=64,SNR=9.0
W14A **Seligman** 63.97 66 ⇑P P 09 19 37.6 +0.5
baz=64,SNR=28
X13A **Yucca** 63.99 67 ⇓P P 09 19 37.1 -0.1
baz=64,SNR=19

PDMCI **Parker Dam,Lak** 64.03 67 ⇑P P 09 19 37.1 -0.3
baz=64,SNR=8.9
V15A **Kaibab Nationa** 64.04 65 P P 09 19 38.2 +0.8
baz=64,SNR=24
VRSR **Storozhevoye** 64.05 321 diP P 09 19 36.5 -0.8
VRSR pmax pmax
comp=Z,30nm,0.7s,mb5.0
VRSR pmax pmax
comp=N,30nm,0.8s
VRSR pmax pmax
comp=E,20nm,0.8s
SWSC **Sam W. Stewart** 64.06 69 ⇓P P 09 19 36.9 -0.8
baz=64
NAO01 **NORSAR Array S** 64.06 342 eP P 09 19 36.5 -0.8
comp=E,22nm,0.8s,mb4.8
NAO01 ePcP PcP 09 20 09.8 -0.6
DVTC **Desert V Tower** 64.08 70 ⇓P P 09 19 37.5 -0.4
baz=64
Y12C **Blythe** 64.20 68 P P 09 19 38.4 -0.2
baz=64,SNR=13
U17A **Shonto** 64.31 63 ⇓P P 09 19 39.2 0.0
baz=64
S19A **Harvey Farm, M** 64.31 61 ⇓P P 09 19 39.2 -0.1
baz=64,SNR=24
T18A **Mexican Hat** 64.35 62 ⇑P P 09 19 39.1 -0.4
baz=64,SNR=27
SMCO **Snowmass** 64.42 59 eP P 09 19 41.1 +1.2
W15A **Williams** 64.45 65 ⇑P P 09 19 40.7 +0.5
baz=64
GLA **Glamis** 64.54 68 ⇑P P 09 19 40.6 -0.2
baz=64,SNR=8.6
GLA **Glamis** 64.54 68 eP P 09 19 40.8 0.0
Y13A **Salome** 64.56 67 ⇑P P 09 19 40.7 -0.2
baz=64,SNR=8.1
X14A **Yava** 64.61 66 ⇓P P 09 19 41.8 +0.5
baz=64,SNR=16
ISCO **Idaho Springs** 64.68 57⇑iP P 09 19 42.4 +0.8
ISCO e*PP pP 09 20 32.2 -1.3
ISCO pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
ISCO **Idaho Springs** 64.68 57⇑iP P 09 19 42.4 +0.8
comp=Z,9.4nm,0.9s,mb4.4
ISCO epP pP 09 20 32.2 -1.2
WUAZ **Wupatki** 64.70 64 ⇓P P 09 19 42.3 +0.5
baz=64
WUAZ **Wupatki** 64.70 64 eP P 09 19 41.5 -0.3
comp=Z,26nm,1.2s,mb4.7
U18A **Rough Rock, Ch** 64.88 63 P P 09 19 43.0 +0.1
baz=65,SNR=9.0
W16A **Flagstaff** 64.92 65 ⇑P P 09 19 43.6 +0.4
baz=65,SNR=5.4
Y14A **Wickenburg** 64.93 67 ⇑P P 09 19 43.2 -0.1
baz=65,SNR=23
X15A **Humboldt** 64.97 66 ⇓P P 09 19 44.1 +0.6
baz=65,SNR=30
T19A **Beclabito** 65.04 62 ⇑P P 09 19 44.1 +0.1
baz=65,SNR=24
MVCO **Mesa Verde** 65.05 61 ⇑P P 09 19 44.1 +0.1
baz=65
MVCO **Mesa Verde** 65.05 61⇑iP P 09 19 44.0 0.0
comp=Z,7.8nm,0.8s,mb4.4
EYMN **Ely** 65.22 43 eP P 09 19 44.1 -0.8
Y15A **Casa Rosa Ranc** 65.30 66 ⇓P P 09 19 45.9 +0.2
baz=65,SNR=24
113A **Mohawk Valley,** 65.35 68 ⇑P P 09 19 45.5 -0.5
baz=65
V18A **Ganado** 65.36 63 ⇓P P 09 19 46.4 +0.4
baz=65,SNR=19
Z14A **Wintersburg** 65.39 67 ⇑P P 09 19 46.1 -0.2
baz=65
W17A **Winslow** 65.39 64 ⇑P P 09 19 46.5 +0.3
baz=65,SNR=5.2
X16A **Lo Mia Camp, P** 65.47 65 P P 09 19 47.4 +0.6
baz=65,SNR=41
Y16A **Circle Bar Ran** 65.84 66 ⇓P P 09 19 49.3 +0.2
baz=66,SNR=10
V19A **Window Rock** 65.85 63 ⇑P P 09 19 49.7 +0.6
baz=66
X17A **Forest Lakes** 65.88 65 ⇑P P 09 19 50.1 +0.7
baz=66,SNR=17
Z15A **Gila River Ind** 65.89 66 ⇑P P 09 19 49.2 -0.3
baz=66,SNR=7.3
W18A **Petrified Fore** 65.91 64 ⇑P P 09 19 49.9 +0.4
baz=66,SNR=5.0
W19A **Sanders** 66.10 63 ⇓P P 09 19 51.5 +0.7
baz=66
ECSD **EROS,Sioux Fal** 66.19 49⇓iP P 09 19 50.3 -0.8
comp=Z,22nm,0.5s,mb5.0
X18A **Snowflake** 66.22 64 ⇑P P 09 19 52.0 +0.5
baz=66,SNR=19
SDCO **Great Sand Dun** 66.26 59 eP P 09 19 52.0 +0.3
Z16A **Peralta Trail,** 66.27 66 ⇑P P 09 19 51.9 +0.1
baz=66,SNR=18
115A **Sonoran Desert** 66.28 67 ⇓P P 09 19 52.3 +0.4
baz=66,SNR=21
Y17A **Roosevelt** 66.33 65 ⇑P P 09 19 52.6 +0.3
baz=66,SNR=26
214A **Organ Pipe Nat** 66.50 68 P P 09 19 53.0 -0.2
baz=66,SNR=19
X19A **St. Johns** 66.66 64 ⇑P P 09 19 54.9 +0.6
baz=66,SNR=17
116A **Eloy** 66.68 67 ⇑P P 09 19 54.4 0.0
baz=66,SNR=13
Y18A **Canyon Day Jun** 66.73 65 ⇑P P 09 19 55.3 +0.6
baz=66,SNR=20
Z17A **San Carlos Hig** 66.84 65 ⇓P P 09 19 55.9 +0.5
baz=67,SNR=7.4
Y19A **Nutrioso** 67.03 64 ⇑P P 09 19 57.5 +0.9
baz=67,SNR=14
SNART **Snartemo** 67.09 343 eP P 09 19 56.8 +0.2
SUW **Suwalki** 67.19 332 eP P 09 19 56.7 -0.6
SUW **Suwalki** 67.19 332 eP P 09 19 56.7 -0.6
117A **Oracle** 67.22 66 ⇑P P 09 19 58.0 +0.1
baz=67,SNR=19
216A **Three Points,** 67.24 67 P P 09 19 58.1 +0.2
baz=67,SNR=21
Z18A **Geronimo** 67.24 65 ⇓P P 09 19 58.4 +0.4
baz=67
TUC **Tucson** 67.39 66 eP P 09 19 58.8 -0.1
TUC pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
TUC **Tucson** 67.39 66 eP P 09 19 58.8 -0.2
comp=Z,6.2nm,0.8s,mb4.3
Z19A **T-Link Ranch,** 67.52 65 ⇑P P 09 20 00.3 +0.6
baz=67,SNR=5.3
118A **Homack Ranch,** 67.61 65 ⇑P P 09 20 00.6 +0.3
baz=67
217A **Green Valley** 67.77 67 ⇓P P 09 20 01.3 0.0
baz=68,SNR=10
PSI **Prapat** 67.79 244 P P 09 20 01.9 +0.3
comp=Z,28nm,0.5s,mb5.2,baz=22,slow=4.7,SNR=18
ANMO **Albuquerque** 67.83 61⇑iP P 09 20 01.9 +0.3
ANMO e*PP pP 09 20 54.0 0.0
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO **Albuquerque** 67.83 61⇑iP P 09 20 01.9 +0.2
comp=Z,6.6nm,1.0s,mb4.2
ANMO epP pP 09 20 54.0 0.0
LAZ **Ladron** 67.87 62 eP P 09 20 02.6 +0.7
LAZ epP pP 09 20 55.0 +0.7
119A **Ashpeak Ranch,** 67.89 65 ⇓P P 09 20 02.3 +0.3
baz=68,SNR=7.1
SCHQ **Schefferville** 67.91 25 P P 09 20 01.3 -0.4
comp=Z,16nm,0.4s,mb5.0,baz=350,slow=5.9,SNR=74
218A **Dragoon** 68.06 66 ⇓P P 09 20 03.5 +0.4
baz=68,SNR=6.6
AKASG **Malin Array Be** 68.11 326 P P 09 20 01.9 -1.3
comp=Z,30nm,0.6s,mb5.1,baz=31,slow=6.3,SNR=81
AKBB **Malin Array Si** 68.11 326 eP P 09 20 01.8 -1.3
KIEV **Kiev** 68.12 327 eP P 09 20 01.7 -1.5
KIEV pmax pmax
comp=Z,35nm,0.8s,mb5.0
KIEV **Kiev** 68.12 327 eP P 09 20 01.7 -1.5
comp=Z,35nm,0.8s,mb5.0
LPM **Los Pinos Moun** 68.21 62 eP P 09 20 04.4 +0.4
Y22C **IRIS PASSCAL I** 68.23 62 ⇓P P 09 20 04.8 +0.6
baz=68
KIV **Kislovodsk** 68.33 314 eP P 09 20 04.8 +0.3
KIV pmax pmax
comp=Z,24nm,0.6s,mb5.0
KIV **Kislovodsk** 68.33 314 eP P 09 20 05.0 +0.4
comp=Z,27nm,0.6s,mb5.0
KIV epP pP 09 21 00.8 +3.8
BNM **Barren Site** 68.33 62 eP P 09 20 05.0 +0.2
219A **White Tail Can** 68.48 65 ⇑P P 09 20 06.1 +0.4
baz=68,SNR=6.6
318A **Bisbee** 68.49 66 ⇑P P 09 20 05.9 +0.1
baz=68,SNR=21

HYB **Hyderabad** 68.51 271 iP P 09 20 06.5 +0.5
HYB **Hyderabad** 68.51 271 eP P 09 20 05.0 -1.0
319A **Douglas** 68.94 66 ⇑P P 09 20 08.8 +0.3
baz=69,SNR=19
SCIA **State Center** 69.18 48⇓iP P 09 20 09.2 -0.7
comp=Z,40nm,0.6s,mb5.2
SCIA epP pP 09 21 01.0 -1.4
MCD **Coleburn Disti** 69.47 348 eP P 09 20 10.7 -0.6
JFWS **Jewell Farm** 69.72 46 eP P 09 20 11.8 -1.3
JFWS e*PP pP 09 21 03.5 -2.3
JFWS pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
JFWS **Jewell Farm** 69.72 46 eP P 09 20 11.8 -1.3
comp=Z,8.1nm,0.6s,mb4.5
JFWS epP pP 09 21 03.5 -2.3
MDO **Dochfour** 69.75 349 eP P 09 20 12.0 -1.0
KAC **Achnashellach** 69.80 349 eP P 09 20 12.7 -0.7
SOC **Sochi** 69.92 316 eP P 09 20 13.2 -1.1
SOC e 09 22 50.5
SOC eS S 09 29 03.9 -1.3
SOC e 09 29 53.6
SOC eSS SS 09 33 36.4 -1.6
SOC pmax pmax
comp=Z,32nm,0.9s,mb5.0
KPL **Plockton** 70.00 349 eP P 09 20 14.1 -0.5
KPL AMb AMB 09 20 15.4
comp=Z,67nm,1.5s,mb5.0
KSB **Sheil Bridge** 70.10 349 eP P 09 20 14.5 -0.7
GNI **Garni** 70.39 310 P P 09 20 18.7 +1.4
SNR=11
GNI **Garni** 70.39 310 P P 09 20 15.7 -1.5
comp=Z,6.7nm,0.4s,mb4.6,baz=30,slow=6.8,SNR=8.8
GNI **Garni** 70.39 310 eP P 09 20 18.5 +1.3
GNI pmax pmax
comp=Z,13nm,0.6s
GNI **Garni** 70.39 310 eP P 09 20 18.5 +1.3
comp=Z,13nm,0.6s,mb4.7
KAR1 **Arisaig** 70.43 349 eP P 09 20 16.6 -0.6
BSEG **Bad Segeberg** 70.58 339 eP P 09 20 18.0 -0.1
BSEG pmax pmax
comp=Z,20nm,1.2s,mb4.6
BSEG **Bad Segeberg** 70.58 339 eP P 09 20 18.0 -0.1
comp=Z,20nm,1.2s,mb4.6
EBH **Black Hill** 70.80 348 eP P 09 20 18.7 -0.7
MNTX **Cornudas Mount** 70.87 63⇑iP P 09 20 20.1 -0.2
comp=Z,7.8nm,0.6s,mb4.5
MNTX epP pP 09 21 11.3 -1.8
EAB **Aberfoyle** 70.97 348 eP P 09 20 19.6 -0.8
ESY **Stoneypath** 71.00 347 eP P 09 20 19.9 -0.8
RUE **Ruedersdorf** 71.11 336 eP P 09 20 20.8 -0.5
comp=Z,41nm,1.1s,mb5.0
KWP **Kalwaria** 71.17 330 eP P 09 20 21.7 0.0
KWP **Kalwaria** 71.17 330 eP P 09 20 21.7 0.0
EAU **Auchinoon** 71.19 348 eP P 09 20 21.1 -0.6
EBL **Broad Law** 71.20 347 eP P 09 20 21.2 -0.6
PGBU **Glenifferbraes** 71.35 348 eP P 09 20 22.2 -0.6
PGBU AMb AMB 09 20 24.5
comp=Z,144nm,1.4s,mb5.4
XSO **Sourhope Farm** 71.37 347 eP P 09 20 22.1 -0.7
KIS **Kishinev** 71.40 325 eP P 09 20 23.0 -0.2
KIS **Kishinev** 71.40 325 e P 09 20 23.0 -0.2
AFI **Afiamalu** 71.42 146 P P 09 20 21.1 -2.5
comp=Z,14nm,0.5s,mb4.8,baz=281,slow=7.6,SNR=7.0
OJC **Ojcow** 71.53 332 eP P 09 20 23.6 -0.3
ESK **Eskdalemuir** 71.67 347 eP P 09 20 24.0 -0.6
ESK AMb AMB 09 20 25.0
comp=Z,40nm,1.4s,mb4.8
ESK **Eskdalemuir** 71.67 347 eP P 09 20 24.4 -0.2
ESK pmax pmax
comp=Z,14nm,0.6s,mb4.8
ESK **Eskdalemuir** 71.67 347 eP P 09 20 24.4 -0.2
comp=Z,14nm,0.6s,mb4.8
ECK **Cauldkaine Hil** 71.79 347 eP P 09 20 24.7 -0.6
KOLS **Kolonicke sedl** 71.92 330 iP P 09 20 26.0 -0.2
KSP **Ksiaz** 71.95 334 eP P 09 20 26.8 +0.4
KSP **Ksiaz** 71.95 334⇑eP P 09 20 26.7 +0.3
XAL **Allendale** 71.97 347 eP P 09 20 25.6 -0.9
HDIL **Hopedale** 72.04 46 eP P 09 20 25.6 -1.5
comp=Z,13nm,0.6s,mb4.7
WMOK **Wichita Mounta** 72.06 56⇑iP P 09 20 26.3 -1.0
WMOK e*PP pP 09 21 18.9 -1.4
WMOK pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
WMOK **Wichita Mounta** 72.06 56⇑iP P 09 20 26.3 -1.0
comp=Z,8.6nm,0.9s,mb4.4
WMOK epP pP 09 21 18.9 -1.4
UZH **Uzhgorod** 72.18 330 eP P 09 20 26.2 -1.6
CTA **Charters Tower** 72.18 189 eP P 09 20 26.4 -1.6
comp=Z,8.0nm,0.6s,mb4.5
CTA **Charters Tower** 72.18 189 P P 09 20 26.7 -1.3
comp=Z,9.2nm,0.6s,mb4.6,baz=6.4,slow=7.9,SNR=18
CTA **Charters Tower** 72.18 189 P P 09 20 26.7 -1.3
CTA pmax pmax
comp=Z,9.0nm,0.6s
CRVS **Cervenica-Dubn** 72.20 330 iP P 09 20 27.6 -0.3
GAL1 **Galloway** 72.31 348 eP P 09 20 27.8 -0.6
GAL1 AMb AMB 09 20 29.8
comp=Z,69nm,1.7s,mb5.0
UPC **Upice** 72.33 334 eP P 09 20 29.3 +0.7
UPC ex x 09 20 37.4
OKC **Ostrava-Krasne** 72.34 333 eP P 09 20 28.4 -0.3
CLL **Collm** 72.38 336⇓iP P 09 20 28.0 -0.9
CLL e 09 20 44.0
CLL e*PP pP 09 21 24.0 +2.1
CLL pmax pmax
comp=Z,33nm,1.0s,mb4.9
CLL **Collm** 72.38 336 eP P 09 20 27.9 -1.0
comp=Z,34nm,1.1s,mb4.9
CLL epP pP 09 21 23.7 +1.8
CLL **Collm** 72.38 336⇓iP P 09 20 28.0 -0.9
comp=Z,33nm,1.0s,mb4.9
CLL ePcP PcP 09 20 44.0 -1.5
CLL epP pP 09 21 24.0 +2.1
CLZ **Clausthal** 72.51 338 eP P 09 20 29.6 -0.1
CLZ e*PP pP 09 21 23.8 +1.1
CLZ pmax pmax
comp=Z,50nm,1.3s,mb5.0
CLZ **Clausthal** 72.51 338 eP P 09 20 29.6 -0.1
comp=Z,50nm,1.3s,mb5.0
CLZ epP pP 09 21 23.8 +1.1
BRG **Berggiesshubel** 72.54 336 eP P 09 20 29.0 -0.8
comp=Z,19nm,1.3s,mb4.6
BRG **Berggiesshubel** 72.54 336 iP P 09 20 29.8 0.0
comp=Z,19nm,1.3s,mb4.6
MORC **Moravsky Berou** 72.57 333 P P 09 20 30.3 +0.2
MORC **Moravsky Berou** 72.57 333⇓iP P 09 20 29.9 -0.2
MORC **Moravsky Berou** 72.57 333⇓P P 09 20 29.9 -0.1
FBE **Freiberg** 72.64 336 eP P 09 20 30.1 -0.4
comp=Z,37nm,1.4s,mb4.8
PVCC **Panska Ves** 72.69 335 eP P 09 20 31.1 +0.3
HPK **Haverah Park** 72.77 346 eP P 09 20 30.6 -0.5
HPK AMb AMB 09 20 33.0
comp=Z,104nm,1.1s,mb5.4
KECS **Kecovo** 72.87 331 iP P 09 20 31.4 -0.4
KECS ePP PP 09 23 13.3 -3.2
TLCR 72.95 324⇓iP P 09 20 32.3 -0.1
TLCR 72.95 324⇓P P 09 20 32.3 -0.1
AAM **Ann Arbor** 73.04 42 eP P 09 20 32.6 -0.4
AAM pmax pmax
comp=Z,17nm,0.3s,mb5.2
AAM **Ann Arbor** 73.04 42 eP P 09 20 32.6 -0.4
comp=Z,17nm,0.3s,mb5.2
VRI **Vrincioaia** 73.11 325⇑iP P 09 20 33.0 -0.3
VRI **Vrincioaia** 73.11 325⇑P P 09 20 33.0 -0.4
CCM **Cathedral Cave** 73.16 49 eP P 09 20 32.6 -1.1
CCM pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
CCM **Cathedral Cave** 73.16 49 eP P 09 20 32.6 -1.2
comp=Z,3.3nm,0.6s,mb4.1
WTSB **Winterswijk** 73.17 340⇓eP P 09 20 33.1 -0.5
comp=Z,38nm,1.2s,mb4.9
PRU **Pruhonice** 73.19 335 eP P 09 20 33.7 0.0
PRU ex x 09 20 41.7
LHO **Holmfirth** 73.20 346 eP P 09 20 33.2 -0.4
VRAC **Vranov** 73.26 333 P P 09 20 34.6 +0.5
VRAC **Vranov** 73.26 333⇓iP P 09 20 34.3 +0.2
VRAC **Vranov** 73.26 333⇓P P 09 20 34.3 +0.2
MOX **Moxa** 73.33 337 e(P) P 09 20 34.0 -0.5
comp=Z,39nm,1.7s,mb4.8
MOX **Moxa** 73.33 337 eP P 09 20 34.0 -0.5
MOX pmax pmax
comp=Z,39nm,1.7s,mb4.8

MOX Moxa 73.33 337 *eP* **P 09 20 33.9 -0.6**
comp=Z,14nm,1.0s,mb4.5
MOX *epP* pP 09 21 29.8 +2.2
WERD Werda 73.34 336 *eP* **P 09 20 34.2 -0.4**
comp=Z,23nm,1.3s,mb4.7
KOLL Kolacno 73.40 332 *i* P **P 09 20 35.1 +0.2**
GUNZ Gunzen 73.41 336 *eP* **P 09 20 34.6 -0.4**
comp=Z,20nm,1.2s,mb4.6
WERN Wernitzgruen 73.47 336 *eP* **P 09 20 35.0 -0.3**
comp=Z,12nm,0.8s,mb4.6
NKC Novy Kostel 73.50 336 *eP* **P 09 20 35.4 -0.1**
UBBA Unterbreizbach 73.55 338 *eP* **P 09 20 35.2 -0.6**
comp=Z,36nm,1.7s,mb4.7
PSZ Piszkesteto 73.55 331⇓ *eP* **P 09 20 35.9 +0.1**
PSZ Piszkesteto 73.55 331⇓ *iP* **P 09 20 36.4 +0.6**
PSZ Piszkesteto 73.55 331 ⇓ P **P 09 20 36.4 +0.6**
BUG Bochum--Univer 73.57 340 *eP* **P 09 20 35.3 -0.6**
comp=Z,35nm,1.4s,mb4.8
TREC Trest 73.57 334 *eP* **P 09 20 36.0 +0.1**
TXAR Lajitas Array 73.63 63 P **P 09 20 36.5 -0.1**
comp=Z,16nm,0.7s,mb4.8,baz=298,slow=4.5,SNR=235
TXAR pP pP 09 21 27.9 -1.9
comp=Z,6.2nm,0.9s,baz=296,slow=4.6,SNR=3.8
TXAR Lajitas Array 73.63 63 P **P 09 20 36.5 -0.1**
TXAR pP pP 09 21 27.9 -1.9
DRGR 73.67 328 P **P 09 20 36.7 +0.2**
DRGR 73.67 328⇓ *iP* **P 09 20 36.1 -0.4**
DRGR 73.67 328 ⇓ P **P 09 20 36.1 -0.4**
MLR Muntele Rosu 73.71 326⇓ *iP* **P 09 20 37.0 +0.2**
MLR Muntele Rosu 73.71 326 ⇓ P **P 09 20 37.0 +0.2**
TIRR Tirgusor 73.72 324⇓ *iP* **P 09 20 36.3 -0.6**
TIRR Tirgusor 73.72 324 ⇓ P **P 09 20 36.3 -0.6**
MANZ Manzenberg 73.82 336 *eP* **P 09 20 36.9 -0.4**
comp=Z,11nm,1.1s,mb4.4
CWF Charnwood Fore 73.90 346 *eP* **P 09 20 37.5 -0.3**
CWF AMb AMB 09 20 39.7
comp=Z,81nm,0.9s,mb5.4
MODS Modra-Piesok 73.91 333 *i* P **P 09 20 38.2 +0.3**
MODS pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
MODS Modra-Piesok 73.91 333 *i* P **P 09 20 38.2 +0.3**
comp=Z,7.3nm,1.1s,mb4.2
WRAB Tennant Creek 73.93 201 *eP* **P 09 20 36.8 -1.5**
WRAB *e*PP pP 09 21 32.1 +0.5
WRAB pmax pmax
comp=Z,11nm,0.8s,mb4.5
WRAB Tennant Creek 73.93 201 *eP* **P 09 20 36.8 -1.4**
comp=Z,11nm,0.8s,mb4.5
WRAB *epP* pP 09 21 32.1 +0.5
WB2 Warramunga Arr 73.94 201 *eP* **P 09 20 37.1 -1.2**
WB2 *e*PCP PcP 09 20 50.9 -1.5
WB2 *epP* pP 09 21 32.2 +0.6
WRA Warramunga Arr 73.94 201 P **P 09 20 37.2 -1.1**
comp=Z,7.6nm,0.5s,mb4.6,baz=17,slow=6.3,SNR=39
WRA pP pP 09 21 31.6 0.0
comp=Z,7.0nm,1.0s,baz=16,slow=6.2,SNR=4.7
ROTZ Rotzenmuhle 73.99 336 *eP* **P 09 20 38.3 -0.1**
comp=Z,26nm,1.4s,mb4.7
SBD1 Bryn Du 74.03 347 *eP* **P 09 20 37.0 -1.4**
VOIR 74.07 326 P **P 09 20 39.1 +0.2**
VOIR 74.07 326⇑ *iP* **P 09 20 38.9 0.0**
VOIR 74.07 326 ⇑ P **P 09 20 38.9 0.0**
DSB Dublin 74.10 349 *eP* **P 09 20 38.8 -0.1**
comp=Z,29nm,0.8s,mb5.0
BUD Budapest 74.20 331⇓ *eP* **P 09 20 40.0 +0.4**
KHC Kasperske Hory 74.23 335 *eP* **P 09 20 39.8 +0.1**
KHC *ex* x 09 20 46.9
KHC *e*PCP PcP 09 20 53.0 -0.5
GRA1 Grafenberg Arr 74.31 337 *eP* **P 09 20 40.2 0.0**
comp=Z,61nm,1.5s,mb5.0
GRF Grafenberg Arr 74.31 337 *eP* **P 09 20 40.2 0.0**
GRF pmax pmax
comp=Z,61nm,1.5s,mb5.0
GRF Grafenberg Arr 74.31 337 *eP* **P 09 20 40.2 0.0**
GRF pmax pmax
comp=Z,61nm,1.5s,mb5.0
GRF Grafenberg Arr 74.31 337 *eP* **P 09 20 40.2 0.0**
comp=Z,61nm,1.5s,mb5.0
HLM1 Long Mynd 74.35 347 *eP* **P 09 20 40.3 0.0**
WET Wettzell 74.40 336 *eP* **P 09 20 40.7 0.0**
WET *e*PP pP 09 21 36.3 +2.3
WET pmax pmax
comp=Z,42nm,1.7s,mb4.8
WET Wettzell 74.40 336 *eP* **P 09 20 40.7 0.0**
comp=Z,42nm,1.7s,mb4.8
WET *epP* pP 09 21 36.3 +2.3
TNS Taunus Mts 74.46 339 *eP* **P 09 20 40.8 -0.2**
TNS pmax pmax
comp=Z,14nm,0.7s,mb4.7
TNS Taunus Mts 74.46 339 *eP* **P 09 20 40.8 -0.2**
comp=Z,14nm,0.7s,mb4.7
GEC2 GERESS Array S 74.46 335 *eP* **P 09 20 40.7 -0.4**
GEC2 pmax pmax
comp=Z,19nm,1.4s,mb4.5
GEC2 GERESS Array S 74.46 335 *eP* **P 09 20 40.7 -0.4**
comp=Z,19nm,1.4s,mb4.5
GERES GERESS Array B 74.46 335 P **P 09 20 40.7 -0.3**
comp=Z,5.4nm,0.4s,mb4.5,baz=34,slow=5.5,SNR=19
FITZ Fitzroy Crossi 74.47 210 *eP* **P 09 20 41.2 -0.2**
comp=Z,12nm,0.8s,mb4.6
FITZ *e*PCP PcP 09 20 52.8 -1.9
FITZ *epP* pP 09 21 33.3 -1.5
FITZ Fitzroy Crossi 74.47 210 P **P 09 20 41.5 +0.1**
comp=Z,5.7nm,0.6s,mb4.3,baz=5.8,slow=6.4,SNR=16
FITZ pP pP 09 21 33.7 -1.1
comp=Z,8.6nm,0.8s,baz=24,slow=4.1,SNR=7.7
HGN Heimansgroeve 74.49 341⇓ *eP* **P 09 20 40.2 -1.0**
comp=Z,33nm,1.6s,mb4.7
BEBN Eben Emael 74.51 341 P **P 09 20 41.0 -0.3**
LONY Lake Ozonia 74.54 35 *eP* **P 09 20 40.5 -1.2**
comp=Z,6.6nm,0.5s,mb4.5
MEM Membach 74.62 340 P **P 09 20 42.0 0.0**
comp=Z,15nm,1.3s,mb4.5
FRNY Flat Rock 74.70 34 *eP* **P 09 20 41.2 -1.3**
comp=Z,4.9nm,0.7s,mb4.2
CONA Conrad Observa 74.72 333⇓ *iP* **P 09 20 43.0 +0.4**
comp=Z,25nm,1.4s,mb4.6
CSNA Conrad Observa 74.72 333⇓ *iP* **P 09 20 43.1 +0.5**
comp=Z,24nm,1.4s,mb4.6
SOP Sopron 74.74 333⇓ *eP* **P 09 20 43.1 +0.4**
HAE Alders End 74.77 346 *eP* **P 09 20 41.8 -0.9**
MALT Malatya 74.77 313⇑ *iP* **P 09 20 43.7 +0.7**
MALT Malatya 74.77 313 ⇑ P **P 09 20 43.7 +0.7**
HTR Trewern Hill 74.83 347 *eP* **P 09 20 41.8 -1.4**
JCT Junction City 74.84 60⇑ *iP* **P 09 20 42.9 -0.7**
JCT *e*PP pP 09 21 34.9 -2.1
JCT pmax pmax
comp=Z,11nm,0.7s,mb4.6
JCT Junction City 74.84 60⇑ *iP* **P 09 20 42.9 -0.7**
comp=Z,11nm,0.7s,mb4.6
JCT *epP* pP 09 21 34.9 -2.1
MIAR Mount Ida 74.85 53⇑ *iP* **P 09 20 42.8 -0.7**
MIAR pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
MIAR Mount Ida 74.85 53⇑ *iP* **P 09 20 42.8 -0.7**
comp=Z,7.1nm,0.6s,mb4.5
MCH1 Michaelchurch 74.87 346 *eP* **P 09 20 42.5 -0.8**
MCH1 AMb AMB 09 20 45.4
comp=Z,34nm,1.4s,mb4.8
GZR Gura Zlata 74.88 328 P **P 09 20 43.4 -0.1**
GZR Gura Zlata 74.88 328⇑ *iP* **P 09 20 43.0 -0.5**
GZR Gura Zlata 74.88 328 ⇑ P **P 09 20 43.0 -0.5**
BCLA Clavier 74.94 341 P **P 09 20 43.9 +0.1**
TOD Tromm 74.96 338 *eP* **P 09 20 43.2 -0.7**
ALLY Alegheny Colle 75.01 40⇓ *iP* **P 09 20 43.9 -0.5**
comp=Z,39nm,0.6s,mb5.2
ALLY *epP* pP 09 21 37.8 0.0
ACSO Alum Creek Sta 75.05 43 *eP* **P 09 20 44.0 -0.6**
comp=Z,13nm,0.7s,mb4.7
ACSO *epP* pP 09 21 37.3 -0.7
BZS Buzias 75.06 328 P **P 09 20 44.2 -0.4**
BZS Buzias 75.06 328⇑ *iP* **P 09 20 44.0 -0.6**
BZS Buzias 75.06 328 ⇑ P **P 09 20 44.0 -0.5**
SWN1 Swindon 75.16 346 *eP* **P 09 20 45.0 0.0**
SWN1 AMb AMB 09 20 46.8
comp=Z,166nm,0.6s,mb5.8
HGH Gray Hill 75.19 346 *eP* **P 09 20 43.7 -1.5**
MOA Molln 75.22 334⇓ *iP* **P 09 20 45.5 0.0**
comp=Z,29nm,1.9s,mb4.6
NCB Newcomb 75.24 35 *eP* **P 09 20 44.6 -1.0**
comp=Z,16nm,0.9s,mb4.7
WCI Wyandotte Cave 75.28 46⇑ *iP* **P 09 20 45.5 -0.5**
WCI *e*PP pP 09 21 38.3 -1.1
WCI pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
WCI Wyandotte Cave 75.28 46⇑ *iP* **P 09 20 45.5 -0.4**
comp=Z,9.5nm,0.7s,mb4.5
WCI *epP* pP 09 21 38.3 -1.1
GIVF Givet 75.34 341 *eP* **P 09 20 45.5 -0.6**
DOU Dourbes 75.40 341 P **P 09 20 46.3 -0.1**
ARSA Arzberg 75.43 333⇓ *iP* **P 09 20 46.9 +0.3**
comp=Z,76nm,2.1s,mb5.0
PKSM Moragy 75.46 331⇑ *iP* **P 09 20 45.6 -1.2**
PKSM Moragy 75.46 331 ⇑ P **P 09 20 45.6 -1.2**
BAIF Baives 75.51 341⇓ *iP* **P 09 20 46.8 -0.2**
comp=Z,19nm,0.5s,mb4.7
BAIF Baives 75.51 341⇓ *iP* **P 09 20 46.8 -0.2**
BAIF pmax pmax
comp=Z,9.0nm,0.5s,mb4.7
BAIF Baives 75.51 341⇓ *iP* **P 09 20 46.8 -0.2**
comp=Z,9.4nm,0.5s,mb4.7
STU Stuttgart 75.65 338 *eP* **P 09 20 47.3 -0.5**
comp=Z,22nm,0.9s,mb4.8
FUR Furstenfeldbru 75.71 336 *eP* **P 09 20 47.9 -0.3**
FUR pmax pmax
comp=Z,23nm,0.6s,mb5.0
FUR Furstenfeldbru 75.71 336 *eP* **P 09 20 47.9 -0.3**
comp=Z,23nm,0.6s,mb5.0
RJOB Jochberg 75.72 335 *eP* **P 09 20 48.4 +0.1**
comp=Z,10.0nm,0.9s,mb4.5
PKME Peaks-Kenny Pk 75.75 31 *eP* **P 09 20 47.3 -1.2**
comp=Z,21nm,1.0s,mb4.7
PKME *e*PcP PcP 09 20 59.0 -1.1
LANF Langenberg 75.77 339 *eP* **P 09 20 48.3 -0.2**
LBNH Lisbon 75.79 33 *eP* **P 09 20 48.6 -0.2**
LBNH pmax pmax
comp=Z,7.0nm,0.4s,mb4.6
LBNH Lisbon 75.79 33 *eP* **P 09 20 48.6 -0.1**
comp=Z,7.5nm,0.4s,mb4.7
ACCN Adirondack Com 75.94 35 *eP* **P 09 20 48.7 -1.0**
comp=Z,20nm,1.0s,mb4.7
HTL Hartland 76.06 347 *eP* **P 09 20 48.5 -1.6**
HTL AMb AMB 09 20 55.5
comp=Z,92nm,1.6s,mb5.2
SOKA Soboth 76.09 333⇓ *iP* **P 09 20 50.5 +0.1**
HNH Hanover 76.14 34 *eP* **P 09 20 50.1 -0.6**
comp=Z,19nm,0.9s,mb4.7
KBA Koelnbreinsper 76.18 334 *i* P **P 09 20 51.7 +0.8**
comp=Z,100nm,1.8s,mb5.1,SNR=17
KBA Koelnbreinsper 76.18 334 *i* P **P 09 20 51.7 +0.8**
KBA pmax pmax
comp=Z,100nm,1.8s,mb5.1
BFO Black Forest 76.26 338 *eP* **P 09 20 50.7 -0.6**
BFO pmax pmax
comp=Z,16nm,0.8s,mb4.7
BFO Black Forest 76.26 338 *eP* **P 09 20 50.7 -0.6**
comp=Z,16nm,0.8s,mb4.7
SPAK Spaichingen-Ko 76.37 338 *eP* **P 09 20 50.9 -1.0**
OBKA Obir 76.38 333⇓ *iP* **P 09 20 52.0 0.0**
comp=Z,65nm,2.0s,mb4.9
WATA Walderalm 76.40 336⇓ *iP* **P 09 20 52.4 +0.3**
comp=Z,28nm,1.3s,mb4.7
WATA Walderalm 76.40 336⇓ *iP* **P 09 20 52.4 +0.3**
WATA pmax pmax
comp=Z,29nm,1.3s,mb4.8
CDF Champ du Feu 76.42 339⇓ *iP* **P 09 20 51.9 -0.3**
comp=Z,30nm,0.6s,mb4.8
CDF Champ du Feu 76.42 339⇓ *iP* **P 09 20 51.9 -0.3**
CDF pmax pmax
comp=Z,15nm,0.6s,mb4.8
CDF Champ du Feu 76.42 339⇓ *iP* **P 09 20 51.9 -0.3**
comp=Z,15nm,0.6s,mb4.8
WTTA Wattenberg 76.46 336⇓ *iP* **P 09 20 53.0 +0.6**
comp=Z,94nm,1.8s,mb5.1,SNR=9.3
WTTA Wattenberg 76.46 336⇓ *iP* **P 09 20 53.0 +0.6**
WTTA pmax pmax
comp=Z,94nm,1.8s,mb5.1
MYKA Terra Mystica 76.51 334⇑ *iP* **P 09 20 52.5 -0.2**
comp=Z,108nm,1.8s,mb5.2
MOTA Moosalm 76.52 336⇓ *iP* **P 09 20 52.8 0.0**
comp=Z,29nm,1.2s,mb4.8,SNR=7.7
MOTA Moosalm 76.52 336⇓ *iP* **P 09 20 52.8 +0.1**
MOTA pmax pmax
comp=Z,29nm,1.2s,mb4.8
FFD Franklin Falls 76.57 33 *eP* **P 09 20 52.9 -0.3**
comp=Z,11nm,0.3s,mb5.0
ECH Echery 76.64 339 *eP* **P 09 20 53.0 -0.4**
HOQ Hoqain 76.66 291 P **P 09 20 54.2 +0.3**
SNR=5.4
ABTA Abfaltersbach 76.71 335⇓ *iP* **P 09 20 53.3 -0.5**
comp=Z,54nm,2.0s,mb4.8,SNR=5.8
FELD Feldberg im Sc 76.76 338 *eP* **P 09 20 53.5 -0.6**
MEZF Maizieres J'vi 76.82 340 *eP* **P 09 20 54.3 -0.1**
DAVA Damuels 76.87 337⇓ *iP* **P 09 20 54.7 0.0**
comp=Z,49nm,1.7s,mb4.8
THEF They Montfort 76.88 340 *eP* **P 09 20 53.9 -0.9**
OXF Oxford 76.89 50 *eP* **P 09 20 54.4 -0.7**
OXF *e*PP pP 09 21 47.6 -1.2
OXF pmax pmax
comp=Z,25nm,1.0s,mb4.8
OXF Oxford 76.89 50 *eP* **P 09 20 54.4 -0.7**
comp=Z,25nm,1.0s,mb4.8
OXF *epP* pP 09 21 47.6 -1.2
FETA Feichten 76.91 336 *iP* **P 09 20 55.4 +0.4**
comp=Z,57nm,1.8s,mb4.9,SNR=9.8
MOF Molkenrain 76.98 339 *eP* **P 09 20 54.9 -0.5**
HAU Haudompre 77.01 339⇓ *iP* **P 09 20 54.9 -0.6**
comp=Z,15nm,0.6s,mb4.5
HAU Haudompre 77.01 339⇓ *iP* **P 09 20 54.9 -0.6**
HAU pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
HAU Haudompre 77.01 339⇓ *iP* **P 09 20 54.9 -0.6**
comp=Z,7.4nm,0.6s,mb4.5
HINF Hinteralfeld 77.08 339⇓ *iP* **P 09 20 55.1 -0.8**
comp=Z,15nm,0.7s,mb4.4
HINF Hinteralfeld 77.08 339⇓ *iP* **P 09 20 55.1 -0.8**
HINF pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
HINF Hinteralfeld 77.08 339⇓ *iP* **P 09 20 55.1 -0.8**
comp=Z,7.3nm,0.7s,mb4.4
PLAL Pickwick Lake 77.14 49 *eP* **P 09 20 55.5 -1.0**
comp=Z,5.7nm,0.6s,mb4.4
PLAL *epP* pP 09 21 48.8 -1.3
BBS Basel-Blauen 77.27 338 *eP* **P 09 20 55.8 -1.1**
MIB Mutribah 77.29 302 *eP* **P 09 20 56.5 -0.9**
baz=302
MIB AMb AMB 09 20 58.5
comp=Z,221nm,0.6s,mb6.0,baz=302
UMR Umm Al-Rimmam 77.29 302 *eP* **P 09 20 56.4 -1.1**
baz=302
UMR AMb AMB 09 20 58.4
comp=Z,107nm,0.6s,mb5.7,baz=302
BSY Bisya 77.37 291 P **P 09 20 58.2 +0.3**
SNR=7.3
LOMF Lomont 77.53 339 *eP* **P 09 20 58.2 -0.2**
FLN La Foliniere 77.62 344⇓ *iP* **P 09 20 58.3 -0.5**
ASAR Alice Springs 77.64 200 P **P 09 20 59.0 -0.1**
comp=Z,11nm,0.5s,mb4.7,baz=22,slow=5.5,SNR=48
ASAR pP pP 09 21 52.3 -0.7
comp=Z,2.7nm,0.7s,baz=28,slow=4.5,SNR=3.9
LDF La Druitiere 77.72 344 *eP* **P 09 20 59.0 -0.4**
comp=Z,25nm,0.6s,mb4.8
LDF La Druitiere 77.72 344 *eP* **P 09 20 59.0 -0.4**
LDF pmax pmax
comp=Z,13nm,0.6s,mb4.7
LDF La Druitiere 77.72 344 *eP* **P 09 20 59.0 -0.4**
comp=Z,12nm,0.6s,mb4.7
TUE Stuetta 77.76 337 *eP* **P 09 21 00.2 +0.5**
comp=Z,20nm,0.5s,mb5.0
NAY Al-Naaiem 77.78 302 *eP* **P 09 20 58.8 -1.3**
baz=302
NAY AMb AMB 09 21 01.5
comp=Z,58nm,1.0s,mb5.2,baz=302
RDF Al-Radifah 77.88 302 *eP* **P 09 20 59.4 -1.2**
baz=302
RDF AMb AMB 09 21 01.5
comp=Z,136nm,0.7s,mb5.7,baz=302
TZTN Tazewell 77.89 45⇓ *iP* **P 09 20 59.9 -0.7**
comp=Z,10nm,0.6s,mb4.6
TZTN *epP* pP 09 21 53.9 -0.5
SWET Sewanee 77.94 47 *eP* **P 09 20 59.5 -1.4**
SWET *epP* pP 09 21 52.7 -2.0
PAL Palisades 77.94 36 *eP* **P 09 20 59.5 -1.3**
PAL pmax pmax
comp=Z,14nm,0.6s,mb4.8
PAL Palisades 77.94 36 *eP* **P 09 20 59.5 -1.3**
comp=Z,14nm,0.6s,mb4.8
GRR Gorron 78.04 344⇓ *iP* **P 09 21 01.1 -0.1**
LOR Lormes 78.24 341⇓ *iP* **P 09 21 01.8 -0.5**
comp=Z,41nm,0.7s,mb4.9
LOR Lormes 78.24 341⇓ *iP* **P 09 21 01.8 -0.5**
LOR pmax pmax
comp=Z,20nm,0.7s,mb4.9
LOR Lormes 78.24 341⇓ *iP* **P 09 21 01.8 -0.5**
comp=Z,20nm,0.7s,mb4.9
STIP Stip 78.35 326 *eP* **P 09 21 01.9 -1.1**
CPCT Cooper Cave 78.38 46 *eP* **P 09 21 02.2 -1.1**
CPCT *epP* pP 09 21 55.8 -1.3
CABF La Chapelle 78.39 339 *eP* **P 09 21 03.1 0.0**
SGMF Saint Gilles 78.45 345⇓ *iP* **P 09 21 03.4 0.0**
comp=Z,38nm,0.5s,mb5.0
SGMF Saint Gilles 78.45 345⇓ *iP* **P 09 21 03.4 0.0**
SGMF pmax pmax
comp=Z,19nm,0.5s,mb5.0
SGMF Saint Gilles 78.45 345⇓ *iP* **P 09 21 03.4 0.0**
comp=Z,19nm,0.5s,mb5.0
ROSF Rostrenen 78.48 346⇓ *iP* **P 09 21 03.6 0.0**
comp=Z,111nm,0.9s,mb5.2
ROSF Rostrenen 78.48 346⇓ *iP* **P 09 21 03.6 0.0**
ROSF pmax pmax
comp=Z,55nm,0.9s,mb5.2
ROSF Rostrenen 78.48 346⇓ *iP* **P 09 21 03.6 0.0**
comp=Z,55nm,0.9s,mb5.2
HYF Humbligny 78.48 342 *eP* **P 09 21 03.7 +0.1**
SSF Saint Saulge 78.51 341⇓ *iP* **P 09 21 03.3 -0.5**
comp=Z,18nm,0.6s,mb4.5
SSF Saint Saulge 78.51 341⇓ *iP* **P 09 21 03.3 -0.5**
SSF pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
SSF Saint Saulge 78.51 341⇓ *iP* **P 09 21 03.3 -0.5**
comp=Z,8.8nm,0.6s,mb4.6
ELN Prospectdale 78.51 43 *eP* **P 09 21 03.2 -0.8**
ELN *epP* pP 09 21 56.8 -1.1
TKL Tuckaleechee C 78.54 46 *eP* **P 09 21 03.3 -0.8**
TKL *e*PP pP 09 21 57.4 -0.6
VAY Valandovo 78.55 326 *eP* **P 09 21 03.1 -1.0**
BLA Blacksburg 78.67 42 *eP* **P 09 21 04.2 -0.6**
BLA *e*PP pP 09 21 58.1 -0.6
BLA pmax pmax
comp=Z,13nm,0.8s,mb4.6
BLA Blacksburg 78.67 42 *eP* **P 09 21 04.2 -0.7**
comp=Z,14nm,0.8s,mb4.6
BLA *epP* pP 09 21 58.1 -0.6
AVF Avril sur Loir 78.80 341⇓ *iP* **P 09 21 05.1 -0.3**
comp=Z,40nm,0.5s,mb5.0
AVF Avril sur Loir 78.80 341⇓ *iP* **P 09 21 05.1 -0.3**
AVF pmax pmax
comp=Z,20nm,0.5s,mb5.0
AVF Avril sur Loir 78.80 341⇓ *iP* **P 09 21 05.1 -0.3**
comp=Z,20nm,0.5s,mb5.0
SMF Signal de Mont 78.84 341⇓ *iP* **P 09 21 05.2 -0.4**
comp=Z,72nm,0.8s,mb5.0
SMF Signal de Mont 78.84 341⇓ *iP* **P 09 21 05.2 -0.4**
SMF pmax pmax
comp=Z,36nm,0.8s,mb5.0
SMF Signal de Mont 78.84 341⇓ *iP* **P 09 21 05.2 -0.4**
comp=Z,36nm,0.8s,mb5.0
QUIF Quistinic 78.87 346 *eP* **P 09 21 05.1 -0.6**
comp=Z,92nm,1.0s,mb5.1
QUIF Quistinic 78.87 346 *eP* **P 09 21 05.1 -0.6**
QUIF pmax pmax
comp=Z,46nm,1.0s,mb5.1
QUIF Quistinic 78.87 346 *eP* **P 09 21 05.1 -0.6**
comp=Z,46nm,1.0s,mb5.1
KRUS Krusevo 78.96 327 *eP* **P 09 21 06.2 -0.1**
TRAV Traversella 79.05 338 P **P 09 21 07.2 +0.4**
BGF Bois d'Agland 79.12 341 *eP* **P 09 21 07.0 -0.1**
comp=Z,26nm,0.6s,mb4.8
BGF Bois d'Agland 79.12 341 *eP* **P 09 21 07.0 -0.1**
BGF pmax pmax
comp=Z,13nm,0.6s,mb4.7
BGF Bois d'Agland 79.12 341 *eP* **P 09 21 07.0 -0.1**
comp=Z,13nm,0.6s,mb4.7
LSD Lago del Serru 79.24 338 P **P 09 21 09.6 +1.8**
LPL La Plagne 79.28 338⇓ *iP* **P 09 21 08.7 +0.7**
comp=Z,37nm,0.5s,mb5.0
LPL La Plagne 79.28 338⇓ *iP* **P 09 21 08.7 +0.7**
LPL pmax pmax
comp=Z,19nm,0.5s,mb5.0
LPL La Plagne 79.28 338⇓ *iP* **P 09 21 08.7 +0.7**
comp=Z,18nm,0.5s,mb5.0
LPG La Plagne 79.30 338⇓ *iP* **P 09 21 08.9 +0.8**
comp=Z,55nm,0.6s,mb5.1
LPG La Plagne 79.30 338⇓ *iP* **P 09 21 08.9 +0.8**
LPG pmax pmax
comp=Z,28nm,0.6s,mb5.1
LPG La Plagne 79.30 338⇓ *iP* **P 09 21 08.9 +0.8**
comp=Z,28nm,0.6s,mb5.1
RSP Reno Superiore 79.50 338 P **P 09 21 09.5 +0.3**
TCF Toulx Ste Croi 79.51 342⇓ *iP* **P 09 21 09.1 -0.1**
comp=Z,47nm,0.8s,mb4.9
TCF Toulx Ste Croi 79.51 342⇓ *iP* **P 09 21 09.1 -0.1**
TCF pmax pmax
comp=Z,24nm,0.8s,mb4.9
TCF Toulx Ste Croi 79.51 342⇓ *iP* **P 09 21 09.1 -0.1**
comp=Z,24nm,0.8s,mb4.9
PLDF La Plantade 79.53 341 *eP* **P 09 21 10.0 +0.7**
URVA University of 79.54 40 *eP* **P 09 21 08.8 -0.8**
AGO Saint Agoulin 79.55 341 *eP* **P 09 21 09.7 +0.3**
MFF Saint Martin d 79.65 343⇓ *iP* **P 09 21 10.1 +0.2**
comp=Z,67nm,0.5s,mb5.2
MFF Saint Martin d 79.65 343⇓ *iP* **P 09 21 10.1 +0.2**
MFF pmax pmax
comp=Z,33nm,0.5s,mb5.2
MFF Saint Martin d 79.65 343⇓ *iP* **P 09 21 10.1 +0.2**
comp=Z,33nm,0.5s,mb5.2
SC2M Scurtabo 79.65 336 P **P 09 21 10.5 +0.4**
BNI Bardonecchia 79.73 338⇓ *iP* **P 09 21 11.2 +0.8**
BNI pmax pmax
comp=Z,14nm,0.6s,mb4.8
BNI Bardonecchia 79.73 338⇓ *iP* **P 09 21 11.2 +0.7**
comp=Z,14nm,0.6s,mb4.8
PCP Piancastagn 79.77 337 P **P 09 21 10.8 +0.2**
BHB Bricherasio 79.80 338 P **P 09 21 10.5 -0.3**
CSS Prodhromos 79.82 315⇓ *iP* **P 09 21 10.4 -0.7**
comp=Z,47nm,0.7s,mb5.2
RRL Rocca Remolon 79.83 338 P **P 09 21 12.0 +1.0**
PYM Petit Puy Mans 79.86 341 *eP* **P 09 21 11.4 +0.3**
MAIM Mastiano 79.87 335 P **P 09 21 10.6 -0.6**
SSB Saint Sauveur 79.99 340 *eP* **P 09 21 11.7 -0.1**
MBDF Montbardon 80.02 338 *eP* **P 09 21 12.0 0.0**
comp=Z,18nm,0.5s,mb4.7
MBDF Montbardon 80.02 338 *eP* **P 09 21 12.0 0.0**
MBDF pmax pmax
comp=Z,9.0nm,0.5s,mb4.7
MBDF Montbardon 80.02 338 *eP* **P 09 21 12.0 0.0**
comp=Z,8.9nm,0.5s,mb4.7
ORIF Oris-en-Rattie 80.04 339⇓ *iP* **P 09 21 12.5 +0.4**
comp=Z,44nm,0.8s,mb4.8
ORIF Oris-en-Rattie 80.04 339⇓ *iP* **P 09 21 12.5 +0.4**
ORIF pmax pmax
comp=Z,22nm,0.8s,mb4.8
ORIF Oris-en-Rattie 80.04 339⇓ *iP* **P 09 21 12.5 +0.4**
comp=Z,22nm,0.8s,mb4.8
FIN Finale Ligure 80.17 337 P **P 09 21 13.0 +0.2**
ROB Robourent 80.17 337 P **P 09 21 12.2 -0.6**
RORO Rocca Rossa 80.29 337 P **P 09 21 13.4 0.0**
LBL Lubilhac 80.31 341 *eP* **P 09 21 13.0 -0.5**
ENR Entracque 80.34 337 P **P 09 21 13.4 -0.3**
STV Sant Anna di V 80.34 337 P **P 09 21 13.2 -0.5**
VIVF Saint-Julien-l 80.37 339⇓ *iP* **P 09 21 14.1 +0.3**
comp=Z,35nm,0.7s,mb4.8
VIVF Saint-Julien-l 80.37 339⇓ *iP* **P 09 21 14.1 +0.3**
VIVF pmax pmax
comp=Z,17nm,0.7s,mb4.8
VIVF Saint-Julien-l 80.37 339⇓ *iP* **P 09 21 14.1 +0.3**
comp=Z,18nm,0.7s,mb4.8
AQU L'Aquila 80.52 333⇑ *iP* **P 09 21 14.3 -0.4**
AQU L'Aquila 80.52 333 ⇑ P **P 09 21 14.2 -0.4**
MMAI Mount Meron Ar 80.53 313 P **P 09 21 15.1 +0.2**
comp=Z,27nm,0.5s,mb5.2,baz=36,slow=7.3,SNR=43
MMAI pP pP 09 22 10.0 +0.9
comp=Z,8.2nm,0.6s,baz=25,slow=6.5,SNR=3.4
SAOF Saorge 80.53 337 *eP* **P 09 21 14.6 -0.1**
ASF Jabal al Asfar 80.55 311 P **P 09 21 15.2 +0.2**
comp=Z,16nm,0.8s,mb4.7,baz=282,slow=2.5,SNR=23
ASF pP pP 09 22 09.7 +0.5
comp=Z,9.6nm,0.9s,baz=230,slow=2.4,SNR=3.8
AUTN L'Aution 80.56 337 *eP* **P 09 21 14.8 0.0**
TOUF Mont Tournerai 80.58 337 *eP* **P 09 21 15.2 +0.2**
RJF Les Rejaudoux 80.59 342⇓ *iP* **P 09 21 15.0 0.0**
comp=Z,30nm,0.8s,mb4.7
RJF Les Rejaudoux 80.59 342⇓ *iP* **P 09 21 15.0 0.0**
RJF pmax pmax
comp=Z,15nm,0.8s,mb4.7
RJF Les Rejaudoux 80.59 342⇓ *iP* **P 09 21 15.0 0.0**

comp=Z,15nm,0.8s,mb4.7
NEGI Seborga 80.63 337 P **P 09 21 15.4 +0.2**
LUCF Luceram 80.67 337 *eP* **P 09 21 15.9 +0.4**
SBF Sospel 80.68 337 *eP* **P 09 21 14.9 -0.6**
comp=Z,26nm,0.5s,mb4.8
SBF Sospel 80.68 337 *eP* **P 09 21 14.9 -0.6**
SBF pmax pmax
comp=Z,13nm,0.5s,mb4.8
SBF Sospel 80.68 337 *eP* **P 09 21 14.9 -0.6**
comp=Z,13nm,0.5s,mb4.8
MVIF Mont Vial 80.71 337 *eP* **P 09 21 14.8 -0.9**
REVF Revere 80.81 337 *eP* **P 09 21 15.3 -0.9**
CAF Calviac 80.84 341 ⇓*iP* **P 09 21 16.9 +0.6**
comp=Z,31nm,0.5s,mb4.9
CAF Calviac 80.84 341 ⇓*iP* **P 09 21 16.9 +0.6**
CAF pmax pmax
comp=Z,15nm,0.5s,mb4.9
CAF Calviac 80.84 341 ⇓*iP* **P 09 21 16.9 +0.6**
comp=Z,15nm,0.5s,mb4.9
SMRF Simiane la Rot 81.00 339 *eP* **P 09 21 17.6 +0.4**
LFF La Frestale 81.09 342 ⇓*iP* **P 09 21 18.0 +0.4**
comp=Z,90nm,0.6s,mb5.3
LFF La Frestale 81.09 342 ⇓*iP* **P 09 21 18.0 +0.4**
LFF pmax pmax
comp=Z,45nm,0.6s,mb5.3
LFF La Frestale 81.09 342 ⇓*iP* **P 09 21 18.0 +0.4**
comp=Z,45nm,0.6s,mb5.3
FRF La Foret Royal 81.15 338 *eP* **P 09 21 17.5 -0.5**
APE Apeiranthos 81.21 322 ⇑*iP* **P 09 21 16.8 -1.6**
APE Apeiranthos 81.21 322 ⇑P **P 09 21 16.8 -1.6**
LASF Ste Croix 81.29 340 *eP* **P 09 21 19.2 +0.5**
comp=Z,46nm,1.2s,mb4.7
LMR La Mourre 81.40 338 *eP* **P 09 21 18.9 -0.4**
comp=Z,22nm,0.4s,mb4.8
PGF Pioggiola 81.53 336 *eP* **P 09 21 19.5 -0.5**
comp=Z,25nm,0.7s,mb4.6
PGF Pioggiola 81.53 336 *eP* **P 09 21 19.5 -0.5**
PGF pmax pmax
comp=Z,12nm,0.7s,mb4.6
PGF Pioggiola 81.53 336 *eP* **P 09 21 19.5 -0.5**
comp=Z,12nm,0.7s,mb4.7
COW Cow Castle Cre 81.81 45 *eP* **P 09 21 21.1 -0.5**
COW epP pP 09 22 15.4 -0.5
ARMA Armidale 82.08 183 *eP* **P 09 21 22.5 -0.2**
ARMA epP pP 09 22 15.0 -2.2
MTLF Montolieu 82.33 341 ⇓*iP* **P 09 21 24.5 +0.3**
comp=Z,41nm,0.9s,mb4.8
MTLF Montolieu 82.33 341 ⇓*iP* **P 09 21 24.5 +0.3**
MTLF pmax pmax
comp=Z,20nm,0.9s,mb4.8
MTLF Montolieu 82.33 341 ⇓*iP* **P 09 21 24.5 +0.3**
comp=Z,20nm,0.9s,mb4.8
TIP Timpagrande 82.42 329 ⇓*iP* **P 09 21 24.1 -0.5**
comp=Z,14nm,0.8s,mb4.6
EPF Esparros 83.00 342 ⇓*iP* **P 09 21 28.2 +0.6**
comp=Z,26nm,0.6s,mb4.9
EPF Esparros 83.00 342 ⇓*iP* **P 09 21 28.2 +0.6**
EPF pmax pmax
comp=Z,13nm,0.6s,mb4.8
EPF Esparros 83.00 342 ⇓*iP* **P 09 21 28.2 +0.6**
comp=Z,13nm,0.6s,mb4.8
EJON La Jonquera 83.05 340 P **P 09 21 28.9 +1.0**
comp=Z,14nm,0.9s,mb4.7
EALK Alkurruntz 83.16 343 P **P 09 21 28.9 +0.5**
comp=Z,22nm,0.9s,mb4.9
SJPF Ste Jean 83.22 343 *eP* **P 09 21 29.0 +0.3**
comp=Z,13nm,0.6s,mb4.6
SJPF Ste Jean 83.22 343 *eP* **P 09 21 29.0 +0.3**
SJPF pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
SJPF Ste Jean 83.22 343 *eP* **P 09 21 29.0 +0.3**
comp=Z,6.5nm,0.6s,mb4.5
ELIZ Elizondo 83.22 343 P **P 09 21 29.0 +0.3**
ELIZ pmax pmax
comp=Z,15nm,0.8s,mb4.8
ELIZ Elizondo 83.22 343 P **P 09 21 29.0 +0.3**
comp=Z,15nm,0.8s,mb4.8
ETSF Etsaut 83.30 343 *eP* **P 09 21 29.5 +0.4**
comp=Z,19nm,0.6s,mb4.7
ETSF Etsaut 83.30 343 *eP* **P 09 21 29.5 +0.4**
ETSF pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
ETSF Etsaut 83.30 343 *eP* **P 09 21 29.5 +0.4**
comp=Z,9.4nm,0.6s,mb4.7
EBIE Bielsa 83.37 342 P **P 09 21 30.6 +1.1**
comp=Z,9.2nm,0.5s,mb4.8
ELAN Lanestosa 83.48 345 P **P 09 21 30.9 +0.8**
comp=Z,34nm,0.9s,mb5.1
EARI Arriondas 83.69 346 P **P 09 21 31.9 +0.8**
comp=Z,34nm,1.0s,mb5.0
EPON Pontenova 83.94 347 P **P 09 21 32.1 -0.3**
comp=Z,14nm,0.6s,mb4.8
STKA Stephens Creek 84.36 192 *eP* **P 09 21 33.5 -0.8**
comp=Z,2.5nm,0.4s,mb4.3
STKA Stephens Creek 84.36 192 P **P 09 21 33.6 -0.7**
comp=Z,4.3nm,0.6s,mb4.3,baz=286,slow=17,SNR=9.9
ESAC San Caprasio 84.42 342 P **P 09 21 35.6 +0.8**
comp=Z,53nm,1.0s,mb5.2
EMAZ Mazaricos 84.55 349 P **P 09 21 34.4 -1.1**
comp=Z,38nm,0.8s,mb5.2
STS Santiago 84.56 348 P **P 09 21 35.2 -0.3**
STS pmax pmax
comp=Z,30nm,0.6s,mb5.2
STS Santiago 84.56 348 P **P 09 21 35.2 -0.3**
comp=Z,30nm,0.6s,mb5.2
ERUA La Rua 84.86 347 P **P 09 21 37.0 0.0**
ERUA pmax pmax
comp=Z,19nm,0.9s,mb4.8
ERUA La Rua 84.86 347 P **P 09 21 37.0 0.0**
comp=Z,19nm,0.9s,mb4.8
ECAL Calabor 85.24 347 P **P 09 21 38.6 -0.3**
comp=Z,9.2nm,0.5s,mb4.8
PBRG Braganca 85.38 347 *eP* **P 09 21 39.1 -0.5**
comp=Z,30nm,1.9s,mb4.7
ELOB Lobios 85.50 348 P **P 09 21 39.7 -0.5**
comp=Z,18nm,0.8s,mb4.8
ETOR Torete 85.59 343 P **P 09 21 40.4 -0.2**
ETOR pmax pmax
comp=Z,21nm,0.8s,mb4.9
ETOR Torete 85.59 343 P **P 09 21 40.4 -0.2**
comp=Z,21nm,0.8s,mb4.9
ETOS Mallorca 85.63 339 P **P 09 21 40.3 -0.5**
comp=Z,18nm,1.0s,mb4.8
EMOS Mosqueruela 85.74 342 P **P 09 21 42.0 +0.7**
comp=Z,14nm,0.8s,mb4.7
FORT Forrest 85.83 203 *eP* **P 09 21 41.1 -0.6**
comp=Z,23nm,0.6s,mb5.1
FORT epP pP 09 22 34.4 -2.2
MVO Moncorvo 86.05 347 *eP* **P 09 21 42.5 -0.4**
comp=Z,42nm,1.0s,mb5.1
GUD Guadarrama 86.12 345 P **P 09 21 42.4 -0.8**
GUD pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
GUD Guadarrama 86.12 345 P **P 09 21 42.4 -0.8**
comp=Z,6.0nm,0.5s,mb4.6
PVIS Viseu 86.61 347 *eP* **P 09 21 45.1 -0.5**
comp=Z,49nm,1.7s,mb5.0
MTE Manteigas 86.87 347 *eP* **P 09 21 46.1 -0.8**
comp=Z,56nm,0.8s,mb5.3
MTE Manteigas 86.87 347 ⇓*iP* **P 09 21 46.1 -0.7**
comp=Z,31nm,0.8s,mb5.1
ESDC Sonseca Array 87.03 344 P **P 09 21 47.1 -0.6**
comp=Z,17nm,0.6s,mb5.0,baz=4.5,slow=4.0,SNR=67
ESDC Sonseca Array 87.03 344 P **P 09 21 46.8 -0.9**
comp=Z,45nm,0.8s,mb5.2
PAB San Pablo 87.22 345 ⇓*iP* **P 09 21 47.7 -0.9**
PAB pmax pmax
comp=Z,20nm,0.6s,mb5.0
PAB San Pablo 87.22 345 ⇓*iP* **P 09 21 47.7 -0.9**
comp=Z,20nm,0.6s,mb5.0
EBEN Beniarda 87.29 341 P **P 09 21 49.1 +0.2**
comp=Z,17nm,1.2s,mb4.7
PCBR Castelo Branco 87.41 347 *eP* **P 09 21 48.5 -1.0**
comp=Z,26nm,0.7s,mb5.1
CMAH Djebel Manchou 87.51 335 P pP 09 22 49.0 +3.9
ETOB Tobarra 87.61 342 P **P 09 21 49.9 -0.5**
comp=Z,13nm,0.7s,mb4.9
EVIA Vianos 87.79 343 P **P 09 21 51.0 -0.3**
EVIA pmax pmax
comp=Z,12nm,0.5s,mb5.0
EVIA Vianos 87.79 343 P **P 09 21 51.0 -0.3**
comp=Z,12nm,0.5s,mb5.0
PMRV Marv??o 87.80 347 *eP* **P 09 21 50.9 -0.4**
comp=Z,32nm,1.8s,mb4.8
ABSA Djebel Ababsia 87.83 335 P pP 09 22 47.0 +0.4
KEST Kesra 87.83 333 P **P 09 21 51.5 0.0**
comp=Z,5.2nm,0.7s,mb4.5,baz=321,slow=3.6,SNR=12

DFRA Djebel Bou Aff 87.98 336 P pP 09 22 50.0 +2.6
CASM Ain Smara 88.10 335 P pP 09 22 44.0 -3.9
PESTR Estremoz 88.38 347 *eP* **P 09 21 53.0 -1.1**
comp=Z,27nm,1.7s,mb4.8
EBAD Badajoz 88.41 346 P **P 09 21 52.7 -1.5**
comp=Z,6.0nm,0.5s,mb4.7
EBAN Banos Encina 88.47 344 P **P 09 21 54.1 -0.4**
EBAN pmax pmax
comp=Z,11nm,0.6s,mb4.9
EBAN Banos Encina 88.47 344 P **P 09 21 54.1 -0.4**
comp=Z,11nm,0.6s,mb4.9
EHUE Huescar 88.60 343 P **P 09 21 54.4 -0.7**
EHUE pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
EHUE Huescar 88.60 343 P **P 09 21 54.4 -0.7**
comp=Z,7.1nm,0.9s,mb4.5
EADA Adamuz 88.61 344 P **P 09 21 54.3 -0.8**
comp=Z,16nm,1.0s,mb4.8
EVO Evora 88.77 347 *eP* **P 09 21 54.5 -1.4**
comp=Z,22nm,0.8s,mb4.8
EVO Evora 88.77 347 *eP* **P 09 21 54.8 -1.1**
comp=Z,26nm,1.8s,mb4.8
PBAR Barrancos 88.98 346 *eP* **P 09 21 55.9 -1.0**
comp=Z,37nm,1.2s,mb5.1
PBEJ Beja 89.25 347 *eP* **P 09 21 57.3 -0.8**
comp=Z,26nm,1.6s,mb4.8
EMIN Mina Concepcio 89.33 346 P **P 09 21 57.5 -1.0**
comp=Z,14nm,0.6s,mb5.0
ELOJ Sierra Loja 89.53 344 P **P 09 21 58.8 -0.7**
ELOJ pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
ELOJ Sierra Loja 89.53 344 P **P 09 21 58.8 -0.7**
comp=Z,10nm,0.6s,mb4.8
EBER Berja 89.55 343 P **P 09 21 57.6 -1.9**
comp=Z,6.1nm,0.6s,mb4.6
EGUA Guajares 89.73 343 P **P 09 21 59.3 -1.1**
comp=Z,107nm,0.9s,mb5.7
PVAQ Vaqueiros 89.84 347 *eP* **P 09 22 00.3 -0.6**
comp=Z,40nm,1.9s,mb4.9
PBDV Barranco-do-Ve 90.03 347 *eP* **P 09 22 01.6 -0.2**
comp=Z,63nm,1.6s,mb5.2
ESPR Espera 90.08 345 P **P 09 22 00.7 -1.3**
comp=Z,13nm,0.7s,mb4.9
PFVI Vila Bisbo 90.26 348 *eP* **P 09 22 02.1 -0.7**
comp=Z,102nm,1.6s,mb5.4
EJIF Jimena Fronter 90.43 345 P **P 09 22 03.4 -0.3**
EJIF pmax pmax
comp=Z,28nm,0.5s,mb5.3
EJIF Jimena Fronter 90.43 345 P **P 09 22 03.4 -0.3**
comp=Z,28nm,0.5s,mb5.3
TORD Torodi Ar. Bea 111.34 333 Pdiff Pdif 09 23 36.3 -1.5
comp=Z,0.9nm,1.1s,baz=5.9,slow=3.1,SNR=4.0
TORD PKiKP PKiKP 09 27 34.4 -0.7
comp=Z,1.5nm,0.6s,baz=16,slow=2.0,SNR=27
TORD PP PP 09 28 15.8 -2.1
comp=Z,2.2nm,0.8s,baz=4.1,slow=7.5,SNR=8.8
TORD PKKPab PKKPab 09 38 38.6 -4.9
comp=Z,1.4nm,0.8s,baz=213,slow=4.8,SNR=7.1
DBIC Dimbokro 119.26 338 PKP PKPdf 09 27 49.6 -0.7
comp=Z,7.5nm,0.6s,baz=8.5,slow=3.1,SNR=22
TIC Toumodi 119.32 338 *e*PKIKP PKPdf 09 27 49.6 -0.9
comp=Z,44nm,0.7s
KIC Kosan Boka 119.53 337 *e*PKIKP PKPdf 09 27 50.0 -0.9
comp=Z,28nm,0.6s
LIC Lamto 119.73 338 *e*PKIKP PKPdf 09 27 50.0 -1.3
comp=Z,12nm,0.6s
LIC Lamto 119.73 338 *e*PKIKP PKPdf 09 27 50.2 -1.1
comp=Z,20nm,0.6s
LPAZ La Paz 130.44 61 PKP PKPdf 09 28 11.5 0.0
comp=Z,1.2nm,0.7s,baz=36,slow=0.6,SNR=5.1
LPAZ SKPbc SKPbc 09 31 12.4 -0.9
comp=Z,1.3nm,0.9s,baz=258,slow=1.3,SNR=3.0
LPAZ La Paz 130.44 61 PKP PKPdf 09 28 11.5 0.0
LPAZ SKPbc SKPbc 09 31 12.4 -0.9
SIV San Ignacio 133.85 53 PKP PKPdf 09 28 17.4 -0.6
comp=Z,1.5nm,0.7s,baz=56,slow=3.6,SNR=4.7
SIV SKPbc SKPbc 09 31 25.0 -0.2
comp=Z,8.4nm,0.9s,baz=335,slow=1.6,SNR=14
BOSA Boshof 136.58 283 PKhKP 09 28 09.2
comp=Z,1.4nm,0.5s,baz=32,slow=4.1,SNR=4.6
BOSA PKP PKPdf 09 28 22.2 -0.5
comp=Z,4.5nm,0.7s,baz=68,slow=1.5,SNR=9.7
BOSA Boshof 136.58 283 PKIKP PKPdf 09 28 22.2 -0.5
BDFB Brasilia 139.20 36 SKPbc SKPbc 09 31 41.9 +0.7
comp=Z,7.9nm,1.0s,baz=202,slow=4.0,SNR=9.5
CPUP Villa Florida 144.38 57 PKP PKPdf 09 28 35.0 -1.9
comp=Z,5.1nm,0.3s,baz=317,slow=1.7,SNR=9.5
CPUP SKPbc SKPbc 09 31 53.7 -0.3
comp=Z,1.8nm,0.7s,baz=266,slow=5.4,SNR=3.3
CPUP Villa Florida 144.38 57 PKIKP PKPdf 09 28 35.0 -1.9
CPUP 09 31 53.7
CPUP pmax pmax
comp=Z,5.0nm,0.3s
PLCA Paso Flores 146.78 89 PKPbc PKPbc 09 28 42.0 -0.6
comp=Z,13nm,0.8s,baz=326,slow=3.0,SNR=6.3
PLCA pPKPbc pPKPbc 09 29 37.8 -2.2
comp=Z,5.4nm,0.6s,baz=286,slow=2.7,SNR=3.4
PLCA SKPbc SKPbc 09 31 58.9 0.0
comp=Z,2.4nm,0.9s,baz=297,slow=5.3,SNR=3.6

*IDC **08** 09:20:00.1±0.9,2861S×6674W,h0km,mb3.6/2,mb1 4.1/3, mb1mx3.7/16,mbtmp3.7/3,ML5.0/1,Error ellipse: s-maj=29.2km s-min=16.9km az=119.0*
*NEIC **08** 09:20:03.8±0.7,2886S×6645W,h10km,MD4.2(SJA), Error ellipse: s-maj=14.2km s-min=8.5km az=92.0*
NEIC Felt at San Fernando del Valle de Catamarca.
*ISCJB **08** 09:20:05.2±1.0,2885S±007×6644W±0.1,h65km±18km, mb3.4/2,Error ellipse: s-maj=17.6km s-min=10.0km az=19.4*
ISC 08 09:20:07.0±0.8,2885S±006×664W±01,h64km±15km,n14, σ0°52/9,mb3.5/2,Catamarca Province
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 3.18 210 Pn **Pn 09 20 53.5 -1.0**
0.5nm,0.3s,baz=30,slow=14,SNR=14
CFAA Sn **Sn 09 21 32.1 +0.9**
1.9nm,0.3s,baz=122,slow=22,SNR=4.6
CFAA Lg 09 21 44.4
6.1nm,0.3s,baz=122,slow=18,SNR=12
LVC Limon Verde 6.61 339 Pn **Pn 09 21 41.7 +0.1**
2.2nm,0.3s,baz=169,slow=12,SNR=20
CPUP Villa Florida 8.43 75 Pn **Pn 09 22 06.9 +0.5**
3.9nm,0.3s,baz=226,slow=15,SNR=33
CPUP Lg 09 24 35.5
7.9nm,0.3s,baz=330,slow=20,SNR=2.7
TRQA Tornquist 9.89 159 *e*Pn **Pn 09 22 25.9 -0.5**
93nm,0.7s
PLCA Paso Flores 12.34 195 Lg 09 26 42.4
0.2nm,0.3s,baz=135,slow=14,SNR=4.8
LPAZ La Paz 12.60 352 Pn **Pn 09 23 03.2 -0.2**
0.1nm,0.3s,baz=148,slow=9.7,SNR=5.4
SIV San Ignacio 13.71 22 Pn **Pn 09 23 18.5 +0.1**
0.2nm,0.3s,baz=224,slow=14,SNR=5.3
TXAR Lajitas Array 67.94 325 P **P 09 30 59.0 0.0**
0.4nm,0.6s,mb3.6,baz=148,slow=6.8,SNR=8.3
TORD Torodi Ar. Bea 77.86 68 pP pP 09 32 08.4 -7.3
1.0nm,0.7s,baz=261,slow=4.3,SNR=5.2
PDAR Pinedale Array 81.58 329 P **P 09 32 17.6 0.0**
0.3nm,0.5s,mb3.5,baz=129,slow=6.3,SNR=4.3
ASAR Alice Springs 124.25 203 PKP PKPdf 09 39 00.5 +1.4
0.2nm,0.7s,baz=137,slow=2.2,SNR=2.9
WRA Warramunga Arr 127.53 205 PKP PKPdf 09 39 06.9 +1.5
0.5nm,0.6s,baz=161,slow=1.8,SNR=12
ZALV Zalesovo Beam 147.31 32 PKPbc PKPbc 09 39 45.1 +2.2
0.5nm,0.3s,baz=282,slow=2.7,SNR=2.5
MKAR Makanchi Array 149.74 45 PKPbc PKPbc 09 39 51.7 +2.3
0.4nm,0.5s,baz=293,slow=1.1,SNR=5.0

*NEIC **08** 09:29:59.5,1693N×10021W,h5km,MD4.2(MEX),After MEX.*
NEIC Felt at Acapulco.
MEX 08 09:29:59.5±1.1,1693N×10021W,h5km±6km,MD4.2, 1C-3D,Near coast of Guerrero
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CAIG El Cayaco 0.13 333 ⇑*iP* Pg 09 30 01.5 -0.7
CAIG *i* S Sg 09 30 04.3 +0.3
ACX Acapulco 0.28 102 *i* P Pg 09 30 04.0 -1.0
MEIG Mezcala 1.14 29 ⇓*iP* Pg 09 30 17.9 -3.5
MEIG *i* S Sg 09 30 32.8 -3.4
ZIIG Zihuatanejo 1.38 299 *i* P Pn 09 30 21.9 -3.5
ZIIG *i* S Sb 09 30 38.1 -5.6

PLIG Platanillo 1.60 25 ⇓*iP* Pn 09 30 25.8 -2.7
PLIG *i* S Sn 09 30 44.3 -5.3
PNIG Pinotepa 2.06 105 *i* P Pn 09 30 32.6 -2.2
PNIG *i* S Sn 09 30 56.8 -4.1
YAIG Yautepec 2.21 29 *i* P Pn 09 30 34.6 -2.2
YAIG *i* S Sn 09 31 00.1 -4.4
MZVM 2.43 22 *e*P Pn 09 30 39.3 -0.6
MZVM *i* S Sn 09 31 10.3 +0.2
UTMO Huajuapan 2.46 68 *i* P Pn 09 30 37.4 -2.9
UTMO *i* S Sn 09 31 07.0 -3.8
UNM Universidad Na 2.58 22 *i* P Pn 09 30 40.1 -1.8
UNM *i* S Sn 09 31 09.9 -3.8
PPM Popocatepetl 2.60 35 *i* P Pn 09 30 40.0 -2.3
PPM *i* S Sn 09 31 13.5 -0.8
PBVM Pinon 2.72 23 *i* P Pn 09 30 43.1 -0.7
PTVM Pico Tres Padr 2.85 21 *e*P Pn 09 30 46.3 +0.7
PTVM *i* S Sn 09 31 15.2 -5.1
MOIG Morelia 2.89 341 *i* P Pn 09 30 43.2 -3.0
MOIG *i* S Sn 09 31 18.0 -3.4
MOIG Morelia 2.89 341 *i* P Pn 09 30 47.2 +1.0
IIO Organos 3.00 28 *i* P Pn 09 30 46.0 -1.7
IIO *i* S Sn 09 31 21.8 -2.3
TPIG Tehuac#an 3.09 61 ⇓*iP* Pn 09 30 45.5 -3.4
TPIG *i* S Sn 09 31 20.6 -5.7
VHO Vista Hermosa 3.33 87 *i* P Pn 09 30 49.5 -2.7
VHO *i* S Sn 09 31 31.1 -1.0
DEIG Demacu 3.53 18 *i* P Pn 09 30 56.0 +0.9
DEIG *i* S Sn 09 31 35.1 -2.1

*NEIC **08** 09:40:17.8,1938N×6780W,h13km,MD3.7(RSPR),After RSPR.*
RSPR 08 09:40:17.8,1938N×6780W,h13km±21km,MD3.7/10, MD3.7/10,10C,Mona Passage
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LRS Lares 1.41 140 ⇑*e*P Pn 09 40 39.9 -3.3
LRS *e*S Sn 09 40 58.0 -3.6
AOPR Arecibo Observ 1.43 136 ⇑*e*P Pn 09 40 40.0 -3.4
AOPR *e*S Sn 09 40 57.5 -4.5
GBPR Guanica, Bosqu 1.65 148 ⇑*e*P Pn 09 40 43.5 -2.9
GBPR Guanica, Bosqu 1.65 148 *e*S Sn 09 41 03.1 -4.3
CELP Cerrillos 1.74 138 ⇑*e*P Pn 09 40 44.5 -3.2
CELP *e*S Sn 09 41 06.3 -3.4
OBIP Obispado Ponce 1.75 140 ⇑*e*P Pn 09 40 44.4 -3.4
OBIP *e*S Sn 09 41 06.4 -3.5
ICM Isla Caja Muer 1.91 141 ⇑*e*P Pn 09 40 47.9 -2.2
ICM *e*S Sn 09 41 10.4 -3.6
SJG San Juan 2.01 129 ⇑*e*P Pn 09 40 48.9 -2.5
SJG *e*S Sn 09 41 13.5 -2.9
HUMP Col San Antoni 2.22 123 ⇑*e*P Pn 09 40 51.9 -2.4
HUMP *e*S Sn 09 41 17.6 -4.0
CPD Cerro la Pandu 2.23 127 ⇑*e*P Pn 09 40 52.0 -2.5
MTP Monte Pirata 2.48 121 ⇑*e*P Pn 09 40 55.3 -2.6
TBVI Tortola 3.16 107 *e*S Sn 09 41 41.3 -3.5

IDC 08 09:46:46.2±55.0,1629S×17603W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/17,mbtmp4.0/3,Error ellipse: s-maj=1033.0km s-min=175.3km az=78.0,Fiji Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 41.40 240 *e*P P 09 54 34.7 +0.2
5.1nm,1.9s
STKA Stephens Creek 41.40 240 P P 09 54 35.5 +1.0
1.0nm,0.3s,baz=90,slow=10,SNR=6.7
WRA Warramunga Arr 47.18 258 P P 09 55 20.0 -1.0
0.3nm,0.5s,baz=98,slow=7.2,SNR=4.4
ASAR Alice Springs 47.43 253 P P 09 55 22.6 -0.3
2.1nm,0.4s,baz=91,slow=8.5,SNR=49

IDC 08 09:47:53.6±34.0,673N×12700E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.6/20,mbtmp3.8/4,Error ellipse: s-maj=571.9km s-min=129.5km az=164.0,Mindanao
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KAKA Kakadu 20.05 164 *e*P P 09 52 30.7 +2.1
12nm,0.6s
FITZ Fitzroy Crossi 24.71 183 P P 09 53 17.1 +0.4
0.4nm,0.3s,baz=14,slow=12,SNR=5.1
WRA Warramunga Arr 27.47 165 P P 09 53 41.3 -0.3
0.6nm,0.3s,baz=344,slow=9.6,SNR=22
WB2 Warramunga Arr 27.47 165 *e*P P 09 53 46.0 +4.3
ASAR Alice Springs 30.95 168 P P 09 54 12.7 +0.1
0.5nm,0.3s,baz=344,slow=6.7,SNR=26
STKA Stephens Creek 40.84 161 P P 09 55 37.2 0.0
1.5nm,0.7s,baz=341,slow=6.8,SNR=6.4

MAN 08 10:04:09,874N×12254E,h1km,mb4.1,ML2.9,MS2.6,1D, Mindanao
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SNPH Sibulan 0.91 49 ⇓*iP* Pg 10 04 27.0 +0.4
TBP Tagbilaran 1.61 54 *e*P Pn 10 04 39.1 +0.5
TBP *e*S Sn 10 04 57.5 -2.6
GUIM Jordan 1.88 1 *e*P Pn 10 04 43.4 +1.1
GUIM *e*S Sn 10 05 08.1 +1.4
CUYO Cuyo Island 2.58 325 *e*P Pn 10 04 53.3 +1.3

*GII **08** 10:13:56.8±0.0,3472N×3667E,h0km,ML2.3/3, EXPLOSION*
*CSEM **08** 10:13:58.2±0.6,3436N×3679E,h2km,Mc1.4,Error ellipse: s-maj=15.1km s-min=5.1km az=121.0*
*ISCJB **08** 10:14:00.0±0.8,3439N±003×3667E±006,h0km,Error ellipse: s-maj=7.3km s-min=4.3km az=179.8*
*GRAL **08** 10:14:00.7±0.3,3441N×3672E,h14km±865km,MD2.8*
*NSSC **08** 10:14:02.2,3447N×3652E,h15km±37km*
ISC 08 10:14:00.2±0.8,3439N±003×3669E±006,h0km,n23, σ0°82/32,Jordan - Syria region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HAWK Haweek 0.27 300 ⇑P **Pg 10 14 04.7 -0.7**
HAWK ⇑S **Sg 10 14 09.1 +0.3**
HAWK Haweek 0.27 300 ⇑*iP* **Pg 10 14 04.7 -0.6**
HWQ Hawqa 0.62 260 *e*Pg **Pg 10 14 12.4 +0.2**
HWQ *e*Sg **Sg 10 14 21.1 +0.8**
HWQ Hawqa 0.62 260 *e*Pg **Pg 10 14 12.4 +0.3**
HWQ *e*Sg **Sg 10 14 21.0 +0.8**
BIDA Albida 0.69 334 ⇑P **Pg 10 14 14.3 +0.8**
BIDA ⇑S **Sg 10 14 22.6 +0.1**
BIDA Albida 0.69 334 ⇑*iP* **Pg 10 14 14.3 +0.8**
BHL Bhannes 0.98 241 *e*Pg **Pg 10 14 18.5 -0.6**
BHL *e*Sg **Sg 10 14 31.5 -0.3**
RCY Rachaya 1.16 219 *e*Pg **Pg 10 14 20.9 -1.5**
RCY *e*Sg **Sg 10 14 35.8 -1.6**
SLNF Slenfeh 1.26 343 ⇑P **Pg 10 14 24.2 -0.3**
SLNF Slenfeh 1.26 343 ⇑*iP* **Pg 10 14 24.2 -0.2**
HRI Mount Hermon 1.37 216 Pn **Pn 10 14 26.0 -0.6**
HRI Sn **Sn 10 14 49.3 +3.8**
KSHT Keshet 1.58 208 Pn **Pn 10 14 29.4 -0.1**
BTCH Batrach 1.66 354 ⇑P **Pn 10 14 28.6 -1.9**
BTCH Batrach 1.66 354 ⇑*iP* **Pn 10 14 28.6 -1.9**
MMC3 Mount Meron ar 1.73 218 Pn **Pn 10 14 31.7 +0.2**
MMA1 Mount Meron ar 1.73 218 Pn **Pn 10 14 32.1 +0.5**
MMB1 Mount Meron ar 1.73 218 Pn **Pn 10 14 31.4 -0.2**
MMA0 Mount Meron ar 1.74 218 Pn **Pn 10 14 32.2 +0.6**
MMC5 Mount Meron ar 1.74 218 Pn **Pn 10 14 31.6 0.0**
MMA3 Mount Meron ar 1.74 218 Pn **Pn 10 14 32.4 +0.7**
MMC6 Mount Meron ar 1.75 219 Pn **Pn 10 14 32.7 +0.9**
MMLI Mount Malkishu 2.21 209 Pn **Pn 10 14 39.3 +1.1**
MMLI Sn **Sn 10 15 10.9 +4.6**
HMDT Nahal Hemdat 2.34 205 Pn **Pn 10 14 40.7 +0.7**
HMDT Sn **Sn 10 15 15.1 +5.7**

*IDC **08** 10:25:58.9±5.8,3618N×6977E,h102km±52km,mb3.8/13, mb1 3.9/16,mb1mx3.8/26,mbtmp3.8/16,MS2.7/1, Ms1 2.7/1,ms1mx2.0/41,Error ellipse: s-maj=24.2km s-min=15.5km az=6.0*
*MOS **08** 10:26:03.1±0.9,3642N×6972E,h153km,mb3.9/5,Error ellipse: s-maj=14.4km s-min=8.1km az=79.9*

*ISCJB **08** 10:26:04.3±0.5,3650N±003×6981E±006,h162km±6km, mb3.9/12,Error ellipse: s-maj=8.2km s-min=3.6km az=162.8*
*BJI **08** 10:26:06.1,3625N×7014E,h152km*
*NEIC **08** 10:26:10.3±2.5,3690N×6988E,h170km±14km,mb4.5/5, Error ellipse: s-maj=31.8km s-min=11.7km az=173.0*
*NNC **08** 10:26:11.9±6.0,3705N×6972E,h189km±52km,mb3.2, mpv4.5,Error ellipse: s-maj=58.7km s-min=27.6km az=38.0*

ISC 08 10:26:05.3±0.6,3648N±003×6984E±007,h156km±6km, n87,σ1°11/105,mb3.9/12,9C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.15**	**147**	⇓P	**Pn**	**10 26 56.9**	**+2.1**
CEP				S	**Sn**	**10 27 31.0**	**-2.1**
CHCP	**Chirah Chowk**	**3.98**	**134**	P	**Pn**	**10 27 07.5**	**+2.1**
THW	**Thamme Wali**	**4.00**	**156**	⇑P	**Pn**	**10 27 06.9**	**+1.2**
SARP	**Sargodha**	**5.12**	**152**	P	**Pn**	**10 27 22.5**	**+2.1**
KSH	**Kashi**	**5.71**	**56**	*e*P	**Pn**	**10 27 30.6**	**+2.4**
KSH				S	**Sn**	**10 28 32.8**	**-0.2**
KSH				Smax			
	comp=N,661nm,1.0s						
KSH				Smax			
	comp=E,403nm,0.7s						
THN	**Thein Dam**	**6.32**	**128**	*e*P	**Pn**	**10 27 41.0**	**+4.8**
THN				*e*S	**Sn**	**10 28 51.8**	**+4.3**
AML	**Almayashu**	**6.38**	**27**	P	**Pn**	**10 27 37.5**	**+0.5**
	SNR=26						
AML	**Almayashu**	**6.38**	**27**	*e*Pn	**Pn**	**10 27 37.5**	**+0.4**
	comp=E,64nm,0.4s						
AML				*e*Sn	**Sn**	**10 28 47.1**	**-1.9**
DLH	**Dalhousie**	**6.41**	**126**	*e*P	**Pn**	**10 27 37.0**	**-0.4**
DLH				*e*S	**Sn**	**10 28 49.0**	**-0.6**
KK31	**Karatay Array**	**6.63**	**4**	⇑P	**Pn**	**10 27 40.1**	**-0.2**
	comp=E,21nm,0.3s,baz=202,slow=14,SNR=897						
KK31				⇑S	**Sn**	**10 28 50.7**	**-4.2**
	comp=E,75nm,0.6s						
PONG	**Pong**	**6.78**	**130**	*e*P	**Pn**	**10 27 43.0**	**+0.5**
PONG				*e*S	**Sn**	**10 28 56.0**	**-2.7**
UCH	**Uchtor**	**6.79**	**31**	P	**Pn**	**10 27 43.3**	**+0.9**
	SNR=6.3						
UCH	**Uchtor**	**6.79**	**31**	*e*Pn	**Pn**	**10 27 43.1**	**+0.8**
	comp=E,2μm,0.6s						
UCH				*e*Sn	**Sn**	**10 28 56.6**	**-2.0**
EKS2	**Erkin-Say**	**6.88**	**25**	P	**Pn**	**10 27 43.9**	**+0.2**
	SNR=34						
EKS2	**Erkin-Say**	**6.88**	**25**	*e*Pn	**Pn**	**10 27 44.0**	**+0.4**
	comp=E,30nm,0.5s						
KZA	**Kyzart**	**6.99**	**35**	P	**Pn**	**10 27 45.4**	**+0.3**
	SNR=11						
AAK	**Ala-Archa**	**7.12**	**29**	P	**Pn**	**10 27 47.5**	**+0.7**
	SNR=39						
KBK	**Karagaybulak**	**7.32**	**31**	P	**Pn**	**10 27 50.6**	**+1.1**
	SNR=9.0						
FRU	**Bishkek**	**7.33**	**29**	⇓*i*PN	**Pn**	**10 27 50.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,100nm,1.0s						
CHMS	**Chumysh**	**7.53**	**29**	P	**Pn**	**10 27 52.3**	**0.0**
	SNR=52						
ULHL	**Ulahol**	**7.60**	**39**	P	**Pn**	**10 27 54.7**	**+1.6**
	SNR=5.8						
USP	**Ospenovka**	**7.67**	**26**	P	**Pn**	**10 27 53.6**	**-0.4**
	SNR=56						
SDNR	**Sundarnagar**	**7.73**	**128**	*e*P	**Pn**	**10 27 54.6**	**-0.5**
SDNR				*e*S	**Sn**	**10 29 17.0**	**-4.4**
TKM2	**Tokmak 2**	**7.81**	**33**	⇓P	**Pn**	**10 27 56.0**	**0.0**
	comp=Z,12nm,0.6s						
TKM2	**Tokmak 2**	**7.81**	**33**	*e*PN	**Pn**	**10 27 56.2**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,21nm,0.8s						
TKM2	**Tokmak 2**	**7.81**	**33**	P	**Pn**	**10 27 56.3**	**+0.2**
	SNR=18						
TKM2	**Tokmak 2**	**7.81**	**33**	*e*Pn	**Pn**	**10 27 56.1**	**+0.1**
	comp=Z,21nm,0.8s						
SMLA	**Simla**	**8.10**	**129**	*i* P	**Pn**	**10 28 00.0**	**0.0**
SMLA				*i* S	**Sn**	**10 29 27.3**	**-3.1**
SMLA				*i* S	**Sn**	**10 29 28.1**	**-2.3**
SMLA				*e*x	x	10 29 30.8	
	comp=E,1μm,0.3s						
SMLA				*e*x	x	10 29 33.9	
	comp=N,1μm,0.4s						
DDI	**Dehra Dun**	**9.21**	**129**	*e*P	**Pn**	**10 28 16.0**	**+1.2**
DDI				*e*x	x	10 29 57.8	
NDI	**New Delhi**	**9.96**	**139**	*e*P	**Pn**	**10 28 23.5**	**-1.1**
NDI				*e*S	**Sn**	**10 30 08.0**	**-7.0**
KUDL	**Kundal**	**10.04**	**144**	*e*P	**Pn**	**10 28 25.1**	**-0.6**
KUDL				*e*S	**Sn**	**10 30 11.0**	**-5.9**
KUDL				AML	AML	10 30 14.6	
	comp=N,42nm,0.2s						
AYAN	**Aya Nagar**	**10.07**	**140**	*e*P	**Pn**	**10 28 25.3**	**-0.8**
AYAN				*e*S	**Sn**	**10 30 12.0**	**-5.8**
AYAN				AML	AML	10 30 13.9	
	comp=Z,38nm,0.3s						
SONA	**Sohna**	**10.24**	**141**	*e*P	**Pn**	**10 28 28.2**	**-0.1**
SONA				*e*S	**Sn**	**10 30 14.8**	**-7.0**
SONA				AML	AML	10 30 21.0	
	comp=E,112nm,0.3s						
SONA				AML	AML	10 30 22.9	
	comp=N,60nm,0.2s						
AJM	**Ajmer**	**10.78**	**156**	*e*P	**Pn**	**10 28 35.0**	**-0.4**
AJM				*e*S	**Sn**	**10 30 28.5**	**-6.4**
AJM				AML	AML	10 30 30.3	
	comp=N,63nm,0.3s						
AJM				AML	AML	10 30 46.8	
	comp=E,69nm,0.3s						
PTH	**Pithoragarh**	**11.12**	**125**	*e*P	**Pn**	**10 28 41.8**	**+1.9**
PTH				*e*x	x	10 30 29.8	
MK31	**Makanchi Array**	**13.87**	**38**	⇑P	**Pn**	**10 29 19.0**	**+3.8**
	comp=E,4.8nm,1.0s						
MK31	**Makanchi Array**	**13.87**	**38**	*e*Pn	**Pn**	**10 29 15.3**	**+0.2**
MKAR	**Makanchi Array**	**13.87**	**38**	P	**Pn**	**10 29 13.9**	**-1.2**
	comp=E,0.1nm,0.3s,baz=228,slow=12,SNR=8.7						
DANN	**Dangsing**	**14.27**	**121**	*e*P	**Pn**	**10 29 20.0**	**-0.4**
	comp=E,33nm,0.4s						
KOLN	**Koldanda**	**14.53**	**123**	*e*P	**Pn**	**10 29 22.5**	**-1.1**
	comp=E,12nm,0.3s						
AB31	**Akbulak array**	**14.66**	**334**	⇑P	**Pn**	**10 29 24.1**	**-0.9**
	comp=E,3.4nm,0.3s,baz=147,slow=12,SNR=199						
AB31				⇓S	**Sn**	**10 31 58.7**	**-9.2**
	comp=E,3.7nm,0.7s						
GKN	**Gorkha**	**15.10**	**120**	*e*P	**Pn**	**10 29 30.4**	**-0.2**
	comp=E,4.4nm,0.2s						
KURBB	**Kurchatov Arra**	**15.46**	**21**	⇑P	**Pn**	**10 29 32.6**	**-2.3**
	comp=E,1.3nm,0.8s						
KURK	**Kurchatov**	**15.57**	**21**	⇓P	**Pn**	**10 29 32.9**	**-3.3**
	comp=E,6.5nm,0.8s						
KURK	**Kurchatov**	**15.57**	**21**	*e*P	**Pn**	**10 29 34.4**	**-1.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURK	**Kurchatov**	**15.57**	**21**	*e*P	**Pn**	**10 29 34.4**	**-1.8**
	comp=Z,7.7nm,0.9s						
DMN	**Daman**	**15.66**	**120**	*e*P	**Pn**	**10 29 37.5**	**-0.1**
	comp=Z,29nm,0.4s						
KKN	**Kakani**	**15.68**	**119**	*e*P	**Pn**	**10 29 38.5**	**+0.7**
	comp=Z,51nm,0.7s						
PKI	**Pulchoki**	**15.90**	**120**	*e*P	**Pn**	**10 29 40.4**	**-0.1**
	comp=Z,49nm,0.7s						
GUN	**Gumba**	**16.03**	**118**	*e*P	**Pn**	**10 29 43.5**	**+1.4**
	comp=Z,16nm,0.3s						
VOSK	**Vostochnaya**	**16.26**	**2**	⇑P	**Pn**	**10 29 43.3**	**-1.3**
	comp=Z,5.6nm,0.8s						
AKTK	**Aktyubinsk**	**16.34**	**332**	P	**Pn**	**10 29 46.2**	**+0.5**
AKTK				S	**S**	**10 32 39.1**	**-8.2**
AKTO	**Aktyubinsk**	**16.34**	**332**	⇑P	**Pn**	**10 29 45.5**	**-0.1**
	comp=Z,2.6nm,0.9s						
AKTO				⇑S	**S**	**10 32 39.2**	**-8.1**
	comp=Z,0.6nm,0.7s						
AKTO	**Aktyubinsk**	**16.34**	**332**	P	**Pn**	**10 29 46.2**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=142,slow=14,SNR=47						
AKTO				S	**S**	**10 32 39.1**	**-8.2**
	comp=Z,0.1nm,0.3s,baz=177,slow=19,SNR=2.6						
JIRN	**Jiri**	**16.40**	**118**	*e*P	**Pn**	**10 29 47.4**	**+0.8**
	comp=Z,73nm,0.4s						
BVA0	**Borovoye Array**	**16.55**	**1**	P	**Pn**	**10 29 47.3**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=166,slow=15,SNR=19						
BVAR	**Borovoye Array**	**16.55**	**1**	P	**Pn**	**10 29 47.5**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=171,slow=13,SNR=16						
BVAR				LR	LR	10 36 31.5	
	comp=Z,24nm,20.3s,baz=37,slow=38						
BRVK	**Borovoye**	**16.58**	**1**	*e*P	**Pn**	**10 29 48.0**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**16.58**	**1**	*e*P	**Pn**	**10 29 48.0**	**-0.5**
	comp=Z,7.0nm,0.8s						
RAMN	**Ramite**	**17.12**	**119**	*e*P	**Pn**	**10 29 55.5**	**+0.3**
	comp=Z,33nm,0.5s						
TAPN	**Taplejung**	**17.67**	**116**	*e*P	**Pn**	**10 30 03.2**	**+1.3**
	comp=Z,21nm,0.3s						
ODAN	**Odare**	**17.73**	**118**	*e*P	**Pn**	**10 30 02.7**	**+0.1**
	comp=Z,32nm,0.8s						
GNI	**Garni**	**20.01**	**288**	P	**P**	**10 30 30.0**	**+4.3**
	comp=Z,21nm,0.6s,baz=169,slow=5.2,SNR=9.0						
ZAL	**Zalesovo**	**20.32**	**26**	P	**P**	**10 30 29.9**	**+1.0**
ZAA0	**Zalesovo Array**	**20.33**	**26**	*e*P	**P**	**10 30 29.9**	**+0.9**
ZALV	**Zalesovo Beam**	**20.33**	**26**	P	**P**	**10 30 29.9**	**+0.8**
	comp=Z,3.2nm,0.4s,baz=224,slow=10,SNR=13						
NVS	**Novosibirsk**	**20.54**	**22**	*e*P	**P**	**10 30 31.2**	**-0.1**
SONM	**Songino Array**	**29.12**	**56**	P	**P**	**10 31 53.2**	**+2.0**
	comp=Z,1.0nm,0.6s,mb3.7,baz=254,slow=9.4,SNR=7.2						
AKASG	**Malin Array Be**	**32.23**	**309**	P	**P**	**10 32 18.2**	**-0.3**
	comp=Z,1.1nm,0.5s,mb3.9,baz=82,slow=7.1,SNR=8.8						
ARCES	**ARCESS Array B**	**40.81**	**338**	P	**P**	**10 33 31.9**	**+1.1**
	comp=Z,1.3nm,0.5s,mb3.8,baz=108,slow=7.9,SNR=21						
NB2	**NORSAR Subarra**	**43.83**	**323**	P	**P**	**10 33 55.7**	**+0.3**
	comp=Z,1.1nm,0.4s,mb3.8,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**43.83**	**323**	P	**P**	**10 33 55.8**	**+0.4**
	comp=Z,1.3nm,0.5s,mb3.8,baz=98,slow=7.9,SNR=7.0						
KSRS	**Korea Array**	**45.77**	**71**	P	**P**	**10 34 11.3**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.5,baz=279,slow=7.1,SNR=3.3						
KSRS	**Korea Array**	**45.77**	**71**	P	**P**	**10 34 11.3**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
TORD	**Tordrillo Ar. Bea**	**64.78**	**268**	P	**P**	**10 36 26.6**	**-0.9**
	comp=Z,2.8nm,0.7s,mb4.2,baz=50,slow=5.9,SNR=40						
DBIC	**Dimbokro**	**73.76**	**266**	P	**P**	**10 37 21.4**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.0,baz=26,slow=7.3,SNR=4.4						
DBIC	**Dimbokro**	**73.76**	**266**	P	**P**	**10 37 21.4**	**-1.3**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**74.07**	**9**	P	**P**	**10 37 24.8**	**+1.2**
	comp=Z,2.1nm,0.5s,mb4.1,baz=354,slow=9.6,SNR=7.9						
BOSA	**Boshof**	**77.13**	**219**	P	**P**	**10 37 40.3**	**-1.2**
	comp=Z,3.1nm,0.7s,mb4.0,baz=49,slow=9.3,SNR=6.3						
BOSA	**Boshof**	**77.13**	**219**	P	**P**	**10 37 40.3**	**-1.2**
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
YKA	**Yellowknife Ar**	**81.30**	**2**	P	**P**	**10 38 04.5**	**+0.8**
	comp=Z,0.6nm,0.4s,mb3.5,baz=354,slow=5.8,SNR=3.4						
WRA	**Warramunga Arr**	**82.78**	**121**	P	**P**	**10 38 10.7**	**-1.3**
	comp=Z,1.8nm,0.8s,mb3.9,baz=324,slow=4.8,SNR=25						
WRA	**Warramunga Arr**	**82.78**	**121**	P	**P**	**10 38 10.7**	**-1.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**85.02**	**124**	P	**P**	**10 38 22.1**	**-1.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=315,slow=4.3,SNR=19						
ASAR	**Alice Springs**	**85.02**	**124**	P	**P**	**10 38 22.2**	**-1.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PLCA	**Paso Flores**	**148.94**	**250**	PKPbc	PKPbc	10 45 35.2	+0.8
	comp=Z,1.9nm,0.9s,baz=112,slow=5.4,SNR=4.1						
PLCA	**Paso Flores**	**148.94**	**250**	PKP2	PKPbc	10 45 35.2	+0.8
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*ISCJB **08** 10:27:11.7±0.9,514N±0.1×17985W±007,h44km±8km, mb4.1/22,MS3.0/2,Error ellipse: s-maj=21.1km s-min=7.4km az=174.1*
*NEIC **08** 10:27:11.2±1.9,51.12N×17991W,h30km±13km,mb4.1/8, ML3.6(AEIC),Error ellipse: s-maj=23.5km s-min=12.0km az=185.0*
*MOS **08** 10:27:13.4±1.1,5154N×179.73W,h54km,mb4.4/11,Error ellipse: s-maj=20.8km s-min=14.9km az=94.3*
*IDC **08** 10:27:17.9±5.5,5152N×17982W,h80km±49km,mb3.7/15, mb1 3.8/16,mb1mx3.7/29,mbtmp3.6/16,ML3.6/1,MS3.0/2, Ms1 3.0/2,ms1mx2.5/37,Error ellipse: s-maj=35.7km s-min=13.8km az=10.0*

ISC 08 10:27:12.9±0.9,513N±01×17994W±008,h42km±7km,n51, σ0°91/48,mb4.1/22,MS3.0/2,1C,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.48**	**277**	P	**Pn**	**10 27 22.1**	**-1.3**
AMKA				S	**Sn**	**10 27 31.2**	**+0.4**
NIKO	**Nikolski**	**7.02**	**72**	*e*Pn	**Pn**	**10 28 53.5**	**+0.5**
	17nm,0.5s						
UNV	**Unalaska Valle**	**8.56**	**68**	*e*Pn	**Pn**	**10 29 14.5**	**+0.4**
	11nm,0.4s						
PETK	**Petropavlovsk-**	**13.82**	**286**	P	**Pn**	**10 30 30.0**	**+4.2**
	0.3nm,0.3s,baz=86,slow=16,SNR=3.0						
KDAK	**Kodiak Island**	**17.05**	**57**	P	**Pn**	**10 31 03.6**	**-4.3**
	1.8nm,0.3s,baz=267,slow=5.4,SNR=33						
KDAK				S	**S**	**10 34 11.4**	**-13**
	0.2nm,0.3s,baz=329,slow=23,SNR=2.9						
PPLA	**Purkeypile**	**18.83**	**41**	*e*P	**Pn**	**10 31 30.7**	**+1.2**
	8.5nm,0.8s						
CHUM	**Lake Minchumin**	**19.22**	**39**	*e*P	**Pn**	**10 31 34.8**	**+0.6**
	5.3nm,0.8s						
KTH	**Kantishna Hill**	**19.62**	**40**	*e*P	**Pn**	**10 31 38.5**	**-0.5**
	4μm,1.2s						
PMR	**Palmer**	**19.68**	**47**	*e*P	**Pn**	**10 31 37.5**	**-2.3**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PMR	**Palmer**	**19.68**	**47**	*e*P	**Pn**	**10 31 37.5**	**-2.3**
	comp=Z,2.8nm,0.6s						
IMA2	**Indian Mountai**	**19.87**	**32**	*e*P	**Pn**	**10 31 42.2**	**+0.3**
INK	**Inuvik**	**27.91**	**35**	P	**P**	**10 32 58.9**	**+0.4**
	comp=Z,1.2nm,0.6s,mb3.7,baz=216,slow=11,SNR=6.1						
YKA	**Yellowknife Ar**	**35.79**	**46**	P	**P**	**10 34 06.7**	**-0.8**
	comp=Z,1.1nm,0.4s,mb4.2,baz=282,slow=9.4,SNR=9.2						
YKA				LR	LR	10 50 33.1	
	comp=Z,11nm,19.9s,MS2.6,baz=265,slow=39						
BOD	**Bodaibo**	**37.44**	**306**	⇑*i*P	**P**	**10 34 21.7**	**+0.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
YBH	**Yreka Blue Hor**	**39.60**	**81**	P	**P**	**10 34 41.9**	**+2.0**
	comp=Z,1.2nm,0.9s,mb3.6,baz=285,slow=5.5,SNR=4.0						
HLID	**Hailey**	**43.64**	**73**	*e*P	**P**	**10 35 12.8**	**-0.1**
	comp=Z,3.0nm,1.3s,mb3.9						
MCMT	**McKenzie Canyo**	**43.87**	**71**	*e*P	**P**	**10 35 14.4**	**-0.5**
BOZ	**Bozeman (W)**	**44.14**	**69**	*e*P	**P**	**10 35 16.4**	**-0.6**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
BOZ	**Bozeman (W)**	**44.14**	**69**	*e*P	**P**	**10 35 16.4**	**-0.6**
	comp=Z,2.8nm,0.8s,mb4.0						
NVAR	**Mina Array Bea**	**44.27**	**82**	P	**P**	**10 35 19.6**	**+1.6**
	comp=Z,0.2nm,0.6s,mb3.0,baz=302,slow=8.4,SNR=3.4						
RLMT	**Red Lodge**	**45.82**	**69**	*e*P	**P**	**10 35 30.1**	**-0.2**
	comp=Z,7.4nm,1.0s,mb4.6						
SONM	**Songino Array**	**46.03**	**296**	P	**P**	**10 35 33.5**	**+1.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=68,slow=7.6,SNR=5.5						
ZAK	**Zakamensk**	**46.37**	**301**	*e*P	**P**	**10 35 30.6**	**-3.9**
ZAK				*e*		10 37 21.6	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
TPNV	**Topopah Spring**	**46.46**	**82**	*e*P	**P**	**10 35 35.3**	**-0.2**
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
TPNV	**Topopah Spring**	**46.46**	**82**	*e*P	**P**	**10 35 35.2**	**-0.2**
	comp=Z,2.2nm,0.7s,mb4.2						
PDAR	**Pinedale Array**	**47.01**	**72**	P	**P**	**10 35 39.2**	**-0.4**
	comp=Z,1.6nm,0.5s,mb4.2,baz=346,slow=3.0,SNR=16						
KBS	**Kingsbay**	**49.82**	**357**	*e*P	**P**	**10 36 04.6**	**+3.8**
KBS				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
KBS	**Kingsbay**	**49.82**	**357**	*e*P	**P**	**10 36 04.6**	**+3.8**
	comp=Z,8.0nm,0.5s,mb5.0						
SPITS	**Spitsbergen Ar**	**50.38**	**356**	P	**P**	**10 36 05.3**	**+0.2**
	comp=Z,0.8nm,0.3s,mb4.2,baz=75,slow=10,SNR=8.7						
PV01	**Paradox Valley**	**50.44**	**76**	*e*P	**P**	**10 36 05.9**	**-0.1**
ARCES	**ARCESS Array B**	**58.02**	**350**	P	**P**	**10 37 00.3**	**-0.5**
	comp=Z,1.9nm,0.7s,mb4.2,baz=30,slow=7.5,SNR=4.6						
ARCES	**ARCESS Array B**	**58.02**	**350**	P	**P**	**10 37 00.3**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**59.37**	**80**	P	**P**	**10 37 09.5**	**-1.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=305,slow=5.6,SNR=7.5						
MKAR	**Makanchi Array**	**59.51**	**308**	P	**P**	**10 37 11.3**	**-0.1**
	comp=Z,2.3nm,0.5s,mb4.5,baz=53,slow=6.8,SNR=17						
MKAR				LR	LR	11 05 28.0	
	comp=Z,30nm,18.8s,MS3.5,baz=269,slow=38						
MKAR	**Makanchi Array**	**59.51**	**308**	P	**P**	**10 37 11.3**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,31nm,18.8s						
BVAR	**Borovoye Array**	**60.47**	**319**	P	**P**	**10 37 19.1**	**+1.3**
	comp=Z,1.1nm,0.3s,mb4.4,baz=53,slow=7.6,SNR=9.8						
BVAR	**Borovoye Array**	**60.47**	**319**	P	**P**	**10 37 19.1**	**+1.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**67.31**	**324**	P	**P**	**10 38 02.4**	**-0.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=28,slow=8.4,SNR=3.3						
AKTO	**Aktyubinsk**	**67.31**	**324**	P	**P**	**10 38 02.4**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NB2	**NORSAR Subarra**	**67.63**	**354**	P	**P**	**10 38 04.6**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.3,baz=7.2,slow=6.5						
NOA	**NORSAR Array B**	**67.63**	**354**	P	**P**	**10 38 04.5**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.3,baz=7.3,slow=6.3,SNR=6.1						
NOA	**NORSAR Array B**	**67.63**	**354**	P	**P**	**10 38 04.6**	**-0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**75.38**	**341**	P	**P**	**10 38 50.8**	**-0.8**
	comp=Z,0.6nm,0.3s,mb4.0,baz=21,slow=6.4,SNR=3.1						
AKASG	**Malin Array Be**	**75.38**	**341**	P	**P**	**10 38 50.8**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES	**GERESS Array B**	**79.53**	**351**	P	**P**	**10 39 14.3**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.8,baz=10,slow=6.0,SNR=4.4						
GERES	**GERESS Array B**	**79.53**	**351**	P	**P**	**10 39 14.3**	**-0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TSUM	**Tsumeb**	**145.09**	**330**	PKP	PKPdf	10 46 44.7	-0.8
	comp=Z,6.2nm,1.1s,baz=22,slow=4.1,SNR=6.3						
LBTB	**Lobatse**	**147.26**	**314**	PKPbc	PKPbc	10 46 52.9	+1.5
	comp=Z,1.7nm,0.4s,baz=332,slow=1.4,SNR=5.1						
LBTB	**Lobatse**	**147.26**	**314**	PKP2	PKPbc	10 46 52.9	+1.5
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BOSA	**Boshof**	**150.48**	**311**	PKPbc	PKPbc	10 46 59.2	-0.3
	comp=Z,3.6nm,1.0s,baz=334,slow=3.3,SNR=3.6						
BOSA	**Boshof**	**150.48**	**311**	PKIKP	PKPbc	10 46 59.2	-0.3
BOSA				pmax	pmax		
	comp=Z,4.0nm,1.0s						

TAP 08 10:28:07.6,2306N×12151E,h13km,ML3.8,2C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.14**	**286**	⇑*i*P	Pg	10 28 11.6	+0.5
CHKT				S	Sg	10 28 14.2	+0.6
TWF1	**Yuli**	**0.35**	**326**	⇑*i*P	Pg	10 28 15.1	+0.3
TWF1				S	Sg	10 28 21.2	+1.6
TTN	**Taitung**	**0.45**	**228**	*e*P	Pg	10 28 17.0	+0.4
TTN				S	Sg	10 28 24.4	+1.7
TWG	**Pinlang**	**0.47**	**240**	⇓*i*P	Pg	10 28 17.3	+0.4
TWG				S	Sg	10 28 24.9	+1.7
ELDTW	**Lidau**	**0.47**	**286**	⇓*i*P	Pg	10 28 17.1	+0.1
ELDTW				S	Sg	10 28 23.7	+0.4
EHY	**Hungye**	**0.48**	**339**	*i* P	Pg	10 28 17.4	+0.3
EHY				S	Sg	10 28 24.4	+1.0
YUS	**Yu-Shan**	**0.67**	**310**	⇓*i*P	Pg	10 28 21.2	+0.5
YUS				S	Sg	10 28 29.7	+0.2
ECL	**Taimali**	**0.69**	**228**	⇓*i*P	Pg	10 28 20.6	-0.5
ECL				S	Sg	10 28 29.8	-0.3
STYT	**Tauyuan**	**0.70**	**279**	⇓*i*P	Pg	10 28 21.2	0.0
STYT				S	Sg	10 28 30.8	+0.2
ESL	**Shilin**	**0.75**	**355**	P	Pg	10 28 21.6	-0.7
ESL				S	Sg	10 28 31.3	-0.9
ALS	**Alishan**	**0.79**	**305**	⇓P	Pg	10 28 23.4	+0.4
ALS				S	Sg	10 28 34.2	+0.9
WTP	**Ta-pu**	**0.84**	**283**	⇓P	Pg	10 28 24.2	+0.2
WTP				S	Sg	10 28 36.6	+1.5
SGST	**Jiashian**	**0.85**	**272**	⇓*i*P	Pg	10 28 24.6	+0.4
SGST				S	Sg	10 28 36.8	+1.4
SSD	**Sandimen**	**0.87**	**249**	⇓*i*P	Pg	10 28 23.6	-0.8
SSD				S	Sg	10 28 36.4	+0.6
CHN4	**Tsaushan**	**0.89**	**289**	⇓*i*P	Pg	10 28 25.4	+0.5
CHN4				S	Sg	10 28 37.9	+1.4
TAW	**Tawu**	**0.90**	**219**	*e*P	Pg	10 28 24.2	-0.8
TAW				S	Sg	10

σ0°88/20, mb4.1/16, MS3.4/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.30**	**352**	P	**Pn**	**10 33 26.9**	**-1.6**
	9.2nm,0.3s,baz=94,slow=22,SNR=6.1						
CBIJ				S	**Sn**	**10 34 29.4**	**+1.2**
	6.4nm,0.3s,baz=307,slow=20,SNR=3.0						
GUMO	**Guam**	**8.38**	**168**	LR	LR	10 36 17.8	
	comp=Z,46nm,21.4s,baz=277,slow=29						
JHJ	**Hachijo jima 2**	**11.61**	**346**	LR	LR	10 38 57.8	
	comp=Z,132nm,18.4s,baz=144,slow=35						
JOW	**Kunigami**	**14.35**	**293**	LR	LR	10 40 11.3	
	comp=Z,280nm,19.0s,baz=86,slow=33						
MJAR	**Matsushiro Arr**	**15.25**	**345**	P	**Pn**	**10 35 39.0**	**-5.0**
	0.3nm,0.3s,baz=138,slow=13,SNR=3.5						
MJAR				LR	LR	10 41 02.6	
	comp=Z,196nm,21.3s,baz=175,slow=35						
KSRS	**Korea Array**	**20.33**	**323**	P	**P**	**10 36 44.3**	**+0.3**
	4.4nm,0.9s,baz=141,slow=10,SNR=8.6						
KSRS				LR	LR	10 43 30.7	
	comp=Z,114nm,18.6s,MS3.3,baz=160,slow=33						
ASAJ	**Asahikawa**	**22.23**	**359**	LR	LR	10 44 11.2	
	comp=Z,51nm,21.4s,MS2.9,baz=167,slow=32						
PETK	**Petropavlovsk-**	**33.19**	**16**	LR	LR	10 49 59.0	
	comp=Z,56nm,20.6s,MS3.3,baz=10.0,slow=32						
HNR	**Honiara**	**35.22**	**150**	LR	LR	10 51 18.4	
	comp=Z,49nm,20.5s,MS3.2,baz=0.1,slow=32						
SONM	**Songino Array**	**39.16**	**320**	P	**P**	**10 39 35.0**	**+0.3**
	3.0nm,0.8s,mb4.1,baz=129,slow=7.0,SNR=14						
SONM				LR	LR	10 56 03.5	
	comp=Z,89nm,18.2s,MS3.6,baz=248,slow=37						
CMAR	**Chiang Mai Arr**	**41.44**	**274**	P	**P**	**10 39 54.8**	**+0.7**
	1.1nm,0.3s,mb3.9,baz=58,slow=7.6,SNR=4.7						
CMAR				LR	LR	10 55 21.9	
	comp=Z,70nm,19.3s,MS3.5,baz=90,slow=34						
CTA	**Charters Tower**	**41.78**	**175**	P	**P**	**10 39 57.5**	**+0.9**
	8.4nm,1.0s,mb4.3,baz=342,slow=9.6,SNR=3.7						
WRA	**Warramunga Arr**	**42.38**	**192**	P	**P**	**10 40 01.6**	**0.0**
	3.6nm,1.0s,mb4.0,baz=12,slow=8.5,SNR=11						
FITZ	**Fitzroy Crossi**	**43.19**	**205**	LR	LR	10 57 52.5	
	comp=Z,76nm,21.8s,MS3.5,baz=193,slow=36						
ASAR	**Alice Springs**	**46.09**	**192**	P	**P**	**10 40 30.9**	**-0.3**
	1.1nm,0.8s,mb3.9,baz=21,slow=8.7,SNR=10						
PSI	**Prapat**	**46.83**	**252**	LR	LR	11 00 47.2	
	comp=Z,118nm,19.1s,MS3.9,baz=117,slow=37						
ZALV	**Zalesovo Beam**	**54.03**	**322**	P	**P**	**10 41 30.9**	**-0.2**
	3.8nm,0.8s,mb4.4,baz=103,slow=6.7,SNR=10						
MKAR	**Makanchi Array**	**54.52**	**313**	P	**P**	**10 41 35.3**	**+0.6**
	1.3nm,0.8s,mb4.0,baz=94,slow=8.9,SNR=9.3						
BVAR	**Borovoye Array**	**62.49**	**319**	P	**P**	**10 42 30.0**	**-0.2**
	6.0nm,0.7s,mb4.8,baz=90,slow=7.7,SNR=24						
AKTO	**Aktyubinsk**	**70.39**	**317**	P	**P**	**10 43 20.2**	**-0.5**
	1.1nm,0.8s,mb3.9,baz=76,slow=9.9,SNR=4.1						
YKA	**Yellowknife Ar**	**76.40**	**28**	P	**P**	**10 43 55.3**	**-0.5**
	1.8nm,0.5s,mb4.3,baz=292,slow=5.9,SNR=4.6						
YKA				LR	LR	11 14 53.9	
	comp=Z,5.2nm,19.9s,MS2.8,baz=355,slow=34						
PPT	**Papeete**	**76.70**	**115**	*e*LR	LR	11 07 41.7	
	110nm,26.2s,baz=306						
PPT	**Papeete**	**76.70**	**115**	LR	LR	11 12 52.5	
	comp=Z,88nm,18.6s,MS4.1,baz=316,slow=32						
ARCES	**ARCESS Array B**	**78.76**	**341**	P	**P**	**10 44 10.1**	**+1.2**
	2.1nm,0.9s,mb4.1,baz=49,slow=5.5,SNR=4.5						
YBH	**Yreka Blue Hor**	**78.83**	**50**	P	**P**	**10 44 10.7**	**+0.9**
	3.5nm,1.0s,mb4.2,baz=287,slow=3.2,SNR=7.8						
NVAR	**Mina Array Bea**	**83.17**	**51**	P	**P**	**10 44 33.8**	**+0.8**
	1.8nm,0.9s,mb4.1,baz=271,slow=5.3,SNR=15						
AKASG	**Malin Array Be**	**87.33**	**324**	P	**P**	**10 44 51.8**	**-1.8**
	0.7nm,0.6s,mb4.1,baz=47,slow=4.2,SNR=5.0						
PDAR	**Pinedale Array**	**87.39**	**45**	P	**P**	**10 44 53.6**	**-0.4**
	0.6nm,0.8s,mb3.9,baz=289,slow=4.5,SNR=6.1						
PDAR				LR	LR	11 18 43.8	
	comp=Z,29nm,19.6s,MS3.7,baz=260,slow=32						
NOA	**NORSAR Array B**	**88.78**	**339**	P	**P**	**10 44 58.4**	**-1.7**
	0.7nm,0.7s,mb4.1,baz=48,slow=4.7,SNR=2.7						
NOA				LR	LR	11 28 06.2	
	comp=Z,14nm,20.0s,MS3.4,baz=140,slow=38						
LPAZ	**La Paz**	**150.06**	**85**	PKPbc	PKPbc	10 51 58.1	+0.2
	2.0nm,0.8s,baz=333,slow=2.3,SNR=5.1						

JMA 08 10:41:27.8±0.3, 4393N×14819E, h0km, M4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.86**	**253**	P	Pn	10 42 01.5	+0.6
NEM2				*e*S	Sn	10 42 25.8	+0.6
JRA	**Rausu**	**2.22**	**271**	P	Pn	10 42 06.7	+0.9
JRA				*e*S	Sn	10 42 34.9	+1.0
JNK	**Nakash**	**2.54**	**263**	P	Pn	10 42 11.1	+0.9
JNK				*e*S	Sn	10 42 42.5	+0.7
JAK	**Akkeshi**	**2.71**	**251**	P	Pn	10 42 13.8	+1.2
JAK				*e*S	Sn	10 42 46.9	+0.9
JTKR	**Abashiri--Toko**	**3.09**	**272**	P	Pn	10 42 20.1	+2.3
JAR	**Ashorobuto**	**3.27**	**260**	P	Pn	10 42 22.4	+2.1
JAR				*e*S	Sn	10 43 02.3	+2.4
JCH	**Churui**	**3.76**	**251**	P	Pn	10 42 28.5	+1.5
JCH				*e*S	Sn	10 43 13.5	+1.5
JKB	**Kayabe**	**5.64**	**251**	P	Pn	10 42 54.9	+2.1
JKB				*e*S	Sn	10 43 59.6	+1.4

IDC 08 10:53:46.0±2.1, 271N×6646E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, MS3.2/2, Ms1 3.3/2, ms1mx2.9/26, Error ellipse: s-maj=72.1km s-min=27.0km az=64.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.46**	**62**	LR	LR	11 12 20.9	
	comp=Z,33nm,20.1s,baz=245,slow=31						
MKAR	**Makanchi Array**	**46.02**	**15**	P	P	11 02 11.0	-0.2
	0.1nm,0.3s,baz=202,slow=7.2,SNR=2.5						
AKTO	**Aktyubinsk**	**48.09**	**353**	P	P	11 02 26.6	-0.7
	1.6nm,0.7s,baz=176,slow=6.8,SNR=6.7						
BOSA	**Boshof**	**50.32**	**229**	LR	LR	11 24 33.2	
	comp=Z,32nm,18.9s,baz=349,slow=37						
ZALV	**Zalesovo Beam**	**53.26**	**13**	P	P	11 03 05.6	-0.6
	1.4nm,0.7s,baz=212,slow=5.3,SNR=5.0						
SONM	**Songino Array**	**56.59**	**31**	P	P	11 03 31.8	+1.4
	0.7nm,0.8s,baz=237,slow=6.7,SNR=4.5						
WRA	**Warramunga Arr**	**70.25**	**112**	P	P	11 05 01.5	-0.1
	1.2nm,0.9s,baz=287,slow=6.7,SNR=5.8						
ASAR	**Alice Springs**	**70.58**	**116**	P	P	11 05 03.3	-0.2
	0.4nm,0.8s,baz=287,slow=6.6,SNR=4.3						
NVAR	**Mina Array Bea**	**138.83**	**6**	PKP	PKPdf	11 13 14.8	0.0
	0.3nm,0.8s,baz=335,slow=1.3,SNR=2.3						
TXAR	**Lajitas Array**	**146.77**	**344**	PKPbc	PKPbc	11 13 30.7	0.0
	1.8nm,0.9s,baz=62,slow=2.1,SNR=17						

MAN 08 11:02:45, 937N×12615E, h6km, mb4.1, ML2.9, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.65**	**233**	*e*P	Pg	11 02 57.9	+0.3
SCPH	**Surigao**	**0.77**	**302**	*e*P	Pg	11 02 60.0	+0.2
SCPH				*e*S	Sg	11 03 14.3	+4.5
BUKP	**Musuan**	**1.83**	**216**	*e*P	Pn	11 03 17.0	0.0

*IDC **08** 11:04:35.7±4.6, 532S×15177E, h68km±39km, mb4.0/11, mb1 4.2/11, mb1mx4.0/17, mbtmp4.0/11, MS3.2/6, Ms1 3.2/6, ms1mx3.0/27, Error ellipse: s-maj=28.3km s-min=14.8km az=120.0*

*ISCJB **08** 11:04:37.1±3.8, 53S±01×1516E±02, h86km±30km, mb4.1/11, Error ellipse: s-maj=33.7km s-min=21.5km az=15.1*

*NEIC **08** 11:04:38.7±3.6, 536S×15169E, h92km±23km, mb4.5/1, Error ellipse: s-maj=45.5km s-min=16.4km az=94.0*

ISC 08 11:04:36.6±2.4, 53S±01×1517E±02, h71km±18km, n24, σ0°76/16, mb4.1/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.06**	**228**	*e*Pn	**Pn**	**11 06 05.3**	**+1.6**
	133nm,0.9s						
PMG				*e*Sn	**Sn**	**11 07 10.2**	**-1.5**
HNR	**Honiara**	**9.15**	**117**	LR	LR	11 09 42.2	
	comp=Z,118nm,21.0s,baz=357,slow=34						
CTA	**Charters Tower**	**15.61**	**199**	LR	LR	11 12 15.7	
	comp=Z,74nm,19.6s,baz=251,slow=29						
GUMO	**Guam**	**19.96**	**340**	LR	LR	11 15 18.1	
	comp=Z,63nm,20.8s,baz=269,slow=32						
KAKA	**Kakadu**	**20.37**	**248**	*e*P	**P**	**11 09 08.3**	**+0.6**
	17nm,0.4s						
KAKA				*e*		11 09 15.0	
WRAB	**Tennant Creek**	**22.27**	**228**	*e*P	**P**	**11 09 28.3**	**+0.3**
	15nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**22.27**	**228**	*e*P	**P**	**11 09 28.3**	**+0.3**
WB2				*e*		11 09 35.0	
WB2				*e*		11 09 40.3	
WRA	**Warramunga Arr**	**22.28**	**228**	P	**P**	**11 09 27.8**	**-0.4**
	5.1nm,0.6s,mb4.1,baz=51,slow=10,SNR=59						
WRA				S	**S**	**11 13 30.4**	**+1.3**
	1.9nm,1.1s,baz=50,slow=17,SNR=4.9						
ASAR	**Alice Springs**	**25.03**	**221**	P	**P**	**11 09 54.8**	**+0.5**
	7.2nm,0.7s,mb4.2,baz=58,slow=9.0,SNR=74						
STKA	**Stephens Creek**	**28.07**	**198**	P	**P**	**11 10 21.0**	**-0.5**
	5.5nm,1.1s,mb4.0,baz=40,slow=16,SNR=2.5						
FITZ	**Fitzroy Crossi**	**28.45**	**241**	P	**P**	**11 10 24.3**	**-0.8**
	4.6nm,0.7s,mb4.1,baz=64,slow=12,SNR=19						
MJAR	**Matsushiro Arr**	**43.50**	**344**	LR	LR	11 28 56.8	
	comp=Z,68nm,19.2s,baz=240,slow=34						
KSRS	**Korea Array**	**47.97**	**334**	LR	LR	11 31 49.8	
	comp=Z,23nm,20.6s,baz=225,slow=34						
CMAR	**Chiang Mai Arr**	**57.10**	**296**	P	**P**	**11 14 16.5**	**+0.3**
	1.8nm,0.8s,mb4.2,baz=126,slow=5.9,SNR=6.6						
PETK	**Petropavlovsk-**	**58.42**	**4**	LR	LR	11 38 48.5	
	comp=Z,25nm,18.7s,baz=198,slow=35						
SONM	**Songino Array**	**66.17**	**328**	P	**P**	**11 15 17.3**	**+0.6**
	1.8nm,0.5s,mb4.2,baz=139,slow=5.1,SNR=9.7						
MKAR	**Makanchi Array**	**79.98**	**319**	P	**P**	**11 16 37.6**	**-0.7**
	0.4nm,0.5s,mb3.5,baz=99,slow=6.5,SNR=5.4						
ZALV	**Zalesovo Beam**	**80.97**	**327**	P	**P**	**11 16 42.5**	**-0.9**
	1.6nm,0.5s,mb4.1,baz=102,slow=6.2,SNR=7.6						
MAW	**Mawson**	**84.68**	**203**	P	**P**	**11 17 02.4**	**+0.1**
	1.1nm,0.7s,mb3.9,baz=85,slow=15,SNR=3.7						
NVAR	**Mina Array Bea**	**93.27**	**52**	P	**P**	**11 17 43.5**	**-0.2**
	0.6nm,0.7s,mb4.0,baz=260,slow=5.1,SNR=7.4						
PDAR	**Pinedale Array**	**100.01**	**48**	P	Pdif	11 18 12.7	-1.2
	0.5nm,0.8s,baz=294,slow=4.7,SNR=4.6						
GERES	**GERESS Array B**	**123.90**	**328**	PKP	PKPdf	11 23 26.1	-0.6
	1.0nm,0.5s,baz=96,slow=1.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**149.41**	**287**	PKPbc	PKPbc	11 24 17.9	-0.8
	7.7nm,0.6s,baz=98,slow=2.4,SNR=126						
BDFB	**Brasilia**	**151.47**	**137**	PKPbc	PKPbc	11 24 22.4	-1.2
	1.0nm,0.4s,baz=40,slow=26,SNR=4.0						

*NEIC **08** 11:28:55.7, 1460N×9448W, h14km, MD4.5(MEX), After MEX.*

MEX 08 11:28:55.7±1.1, 1460N×9448W, h14km±27km, MD4.5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**2.16**	**81**	*i*P	Pn	11 29 26.8	-4.4
THIG				*i*S	Sn	11 29 54.1	-3.7
CMIG	**Matias Romero**	**2.51**	**351**	*i*P	Pn	11 29 33.3	-2.8
CMIG				*i*S	Sn	11 30 01.5	-5.0
TGIG		**2.53**	**31**	*i*P	Pn	11 29 33.5	-2.8
TGIG				*i*S	Sn	11 30 03.8	-3.2
SCX	**San Cristobal**	**2.77**	**40**	*e*P	Pn	11 29 37.9	-1.8
SCX				*i*S	Sn	11 30 09.3	-3.6
CCIG	**Comitan**	**2.81**	**53**	*i*P	Pn	11 29 38.9	-1.3
CCIG				*i*S	Sn	11 30 09.3	-4.5
VHO	**Vista Hermosa**	**3.28**	**319**	*i*P	Pn	11 29 45.2	-1.5
VHO				*i*S	Sn	11 30 23.1	-2.4
PNIG	**Pinotepa**	**3.95**	**297**	*i*P	Pn	11 29 54.3	-1.5
PNIG				*i*S	Sn	11 30 37.0	-5.0
UTMO	**Huajuapan**	**4.54**	**316**	*i*P	Pn	11 30 02.1	-1.8
UTMO				*i*S	Sn	11 30 53.7	-2.7
PPM	**Popocatepetl**	**5.96**	**319**	*i*P	Pn	11 30 23.4	-0.1
PPM				*i*S	Sn	11 31 32.5	+0.8

*NEIC **08** 11:59:44.4±3.6, 2338S×17975W, h482km±36km, mb4.1/3, Error ellipse: s-maj=39.6km s-min=16.7km az=51.0*

*IDC **08** 11:59:45.0±5.5, 2340S×17977W, h488km±56km, mb3.2/8, mb1 3.4/9, mb1mx3.2/19, mbtmp3.3/9, Error ellipse: s-maj=44.3km s-min=17.6km az=57.0*

*ISCJB **08** 11:59:45.4±4.3, 235S±01×1798W±03, h505km±47km, mb3.7/9, Error ellipse: s-maj=42.8km s-min=16.8km az=156.6*

ISC 08 11:59:45.2±4.5, 235S±02×1798W±03, h488km±46km, n14, σ0°62/14, mb3.7/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.99**	**189**	P	**P**	**12 02 55.5**	**+0.1**
	1.9nm,0.3s,baz=335,slow=7.1,SNR=11						
URZ				S	**S**	**12 05 28.0**	**-4.3**
	0.7nm,0.3s,baz=1.1,slow=21,SNR=6.7						
RPZ	**Rata Peaks**	**21.57**	**198**	P	**P**	**12 03 58.0**	**-0.5**
	8.9nm,0.7s,mb4.4,baz=342,slow=5.9,SNR=5.4						
CTA	**Charters Tower**	**31.65**	**269**	*e*P	**P**	**12 05 29.0**	**+1.4**
	5.0nm,0.4s,mb4.3						
CTA	**Charters Tower**	**31.65**	**269**	P	**P**	**12 05 28.9**	**+1.3**
	5.4nm,0.4s,mb4.3,baz=97,slow=11,SNR=22						
STKA	**Stephens Creek**	**35.05**	**248**	*e*P	**P**	**12 05 57.0**	**+0.7**
	4.4nm,1.6s,mb3.6						
STKA	**Stephens Creek**	**35.05**	**248**	P	**P**	**12 05 56.2**	**-0.1**
	1.2nm,0.5s,mb3.6,baz=91,slow=13,SNR=4.5						
ASAR	**Alice Springs**	**42.28**	**260**	P	**P**	**12 06 54.9**	**-0.4**
	0.5nm,0.7s,mb3.0,baz=89,slow=8.8,SNR=5.1						
WB2	**Warramunga Arr**	**42.60**	**266**	*e*P	**P**	**12 06 57.6**	**-0.2**
WRA	**Warramunga Arr**	**42.61**	**266**	P	**P**	**12 06 57.4**	**-0.5**
	0.6nm,0.3s,mb3.5,baz=90,slow=6.1,SNR=18						
KAKA	**Kakadu**	**46.44**	**275**	*e*P	**P**	**12 07 27.3**	**-0.3**
	2.6nm,0.4s,mb4.0						
VNDA	**Vanda**	**54.84**	**185**	P	**P**	**12 08 28.9**	**+0.9**
	1.1nm,0.8s,mb3.2,baz=350,slow=5.4,SNR=7.0						
MJAR	**Matsushiro Arr**	**71.62**	**325**	P	**P**	**12 10 16.1**	**-0.6**
	1.1nm,0.8s,mb3.4,baz=157,slow=6.5,SNR=3.7						
MAW	**Mawson**	**78.23**	**200**	P	**P**	**12 10 53.5**	**+0.2**
	0.9nm,0.5s,mb3.5,baz=180,slow=3.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**169.65**	**188**	PKPab	PKPab	12 20 13.0	-0.8
	0.4nm,0.8s,baz=162,slow=4.8,SNR=3.8						

*ISCJB **08** 12:03:12.0±0.5, 2299S±004×6633W±006, h230km±6km, mb3.8/11, Error ellipse: s-maj=8.6km s-min=6.3km az=172.4*

*GUC **08** 12:03:12.2±0.5, 2330S×6684W, h280km, ML5.5*

*IDC **08** 12:03:12.7±0.8, 2290S×6631W, h220km±7km, mb3.7/11, mb1 3.8/19, mb1mx3.8/23, mbtmp3.7/19, Error ellipse: s-maj=12.2km s-min=10.5km az=33.0*

*NEIC **08** 12:03:12.9±0.6, 2294S×6637W, h223km±17km, mb4.4/1, Error ellipse: s-maj=13.0km s-min=9.4km az=101.0*

ISC 08 12:03:13.1±0.5, 2293S±004×6637W±006, h226km±6km, n34, σ1°06/40, mb3.8/11, 3C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.37**	**277**	P	**Pn**	**12 03 58.7**	**+1.5**
	198nm,0.3s,baz=96,slow=6.2,SNR=1418						
LVC				S	**S**	**12 04 32.4**	**+0.6**
	158nm,0.3s,baz=246,slow=22,SNR=31						
CEN1	**Los Morros**	**3.56**	**262**	⇑*i*P	**Pn**	**12 04 11.8**	**+1.3**
CEN1				*i*S	**S**	**12 04 56.7**	**+0.9**
CEN1				AML	AML	12 04 58.8	
	comp=N,2μm,0.4s						
ANCH	**Antofagasta**	**3.79**	**258**	⇑*i*P	**Pn**	**12 04 14.9**	**+1.6**
ANCH				*i*S	**S**	**12 05 00.6**	**-0.2**
CPN1	**Cerro Paranal**	**4.07**	**245**	*e*P	**Pn**	**12 04 17.0**	**+0.4**
CPN1				*i*S	**S**	**12 05 04.3**	**-2.5**
CPN1				AML	AML	12 05 06.9	
	comp=E,3μm,0.3s						
CDCH	**Caldera**	**5.78**	**224**	⇓*i*P	**Pn**	**12 04 35.9**	**-2.0**
CDCH				*i*S	**S**	**12 05 39.2**	**-6.2**
LPAZ	**La Paz**	**6.81**	**346**	P	**Pn**	**12 04 52.3**	**+1.2**
	comp=E,14nm,0.3s,baz=153,slow=8.2,SNR=198						
LPAZ				S	**S**	**12 06 08.2**	**-1.1**
	comp=E,2.5nm,0.3s,baz=53,slow=23,SNR=16						
ARE	**Arequipa**	**8.04**	**322**	*e*P	**Pn**	**12 05 05.0**	**-1.9**
ARE				*e*S	**S**	**12 06 30.0**	**-8.1**
TLL	**Tololo Astrono**	**8.23**	**208**	*e*P	**Pn**	**12 05 08.4**	**-0.9**
TLL				*i*S	**S**	**12 06 37.7**	**-4.8**
SIV	**San Ignacio**	**8.51**	**37**	P	**Pn**	**12 05 12.1**	**-0.9**
	comp=E,4.6nm,0.3s,baz=222,slow=13,SNR=70						
SIV				S	**S**	**12 06 42.7**	**-6.6**
	baz=255,slow=19,SNR=3.2						
CFAA	**Coronel Fontan**	**8.80**	**190**	P	**Pn**	**12 05 15.5**	**-1.1**
	comp=E,0.6nm,0.3s,baz=10.0,slow=12,SNR=39						
CFAA				S	**S**	**12 06 48.5**	**-7.4**
	comp=E,0.9nm,0.3s,baz=288,slow=20,SNR=8.4						
CPUP	**Villa Florida**	**8.89**	**114**	P	**Pn**	**12 05 17.4**	**-0.4**
	comp=E,0.3nm,0.3s,baz=268,slow=12,SNR=7.5						
NNA	**Nana**	**14.76**	**316**	P	**Pn**	**12 06 31.7**	**+0.3**
	comp=E,1.6nm,0.3s,baz=173,slow=14,SNR=4.3						
NNA				S	**S**	**12 09 12.2**	**-2.9**
	comp=E,1.2nm,0.3s,baz=259,slow=17,SNR=2.8						
TRQA	**Tornquist**	**15.55**	**167**	*e*P	**Pn**	**12 06 40.3**	**-0.4**
	comp=E,9.3nm,0.6s						
SPB	**Sao Paulo**	**17.41**	**96**	*e*P	**P**	**12 07 01.8**	**+0.9**
PLCA	**Paso Flores**	**18.10**	**190**	P	**P**	**12 07 09.1**	**+1.0**
	comp=E,0.3nm,0.3s,baz=9.4,slow=12,SNR=22						
BDFB	**Brasilia**	**18.77**	**71**	P	**P**	**12 07 16.6**	**+1.0**
	comp=E,0.5nm,0.3s,baz=236,slow=17,SNR=30						
ATAH	**Atahualpa**	**19.61**	**322**	P	**P**	**12 07 25.8**	**+1.1**
	comp=E,0.4nm,0.3s,baz=49,slow=11,SNR=3.0						
TXAR	**Lajitas Array**	**63.15**	**324**	P	**P**	**12 13 17.5**	**+0.4**
	comp=E,0.7nm,0.5s,mb3.5,baz=152,slow=7.9,SNR=17						
DBIC	**Dimbokro**	**66.91**	**72**	P	**P**	**12 13 41.0**	**-0.6**
	comp=E,1.6nm,0.4s,mb4.0,baz=206,slow=9.7,SNR=5.8						
DBIC				pP	pP	12 14 34.9	+1.1
	comp=E,2.6nm,0.8s,baz=161,slow=7.7,SNR=3.1						
SYO	**Syowa Base**	**74.34**	**159**	⇑*e*P	**P**	**12 14 26.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**75.64**	**69**	P	**P**	**12 14 32.8**	**-1.0**
	comp=E,2.4nm,0.5s,mb4.1,baz=259,slow=5.9,SNR=42						
TORD				pP	pP	12 15 28.1	+0.9
	comp=E,0.8nm,0.7s,baz=257,slow=5.1,SNR=3.6						
PDAR	**Pinedale Array**	**76.53**	**329**	P	**P**	**12 14 39.0**	**+0.8**
	comp=E,0.5nm,0.5s,mb3.4,baz=132,slow=8.3,SNR=6.7						
ULM	**Lac du Bonnet**	**77.40**	**341**	P	**P**	**12 14 42.8**	**-0.1**
	comp=E,1.6nm,0.6s,mb3.9,baz=164,slow=7.7,SNR=3.3						
NVAR	**Mina Array Bea**	**78.07**	**321**	P	**P**	**12 14 47.9**	**+1.1**
	comp=E,0.9nm,0.7s,mb3.5,baz=155,slow=5.6,SNR=7.7						
BOSA	**Boshof**	**80.70**	**117**	P	**P**	**12 15 01.5**	**+0.1**
	comp=E,2.4nm,0.8s,mb3.9,baz=136,slow=10.0,SNR=4.4						
MAW	**Mawson**	**82.28**	**163**	P	**P**	**12 15 09.3**	**+0.4**
	comp=E,1.1nm,0.8s,mb3.6,baz=290,slow=7.6,SNR=2.1						
ESDC	**Sonseca Array**	**85.22**	**43**	P	**P**	**12 15 24.5**	**+0.3**
	comp=E,3.3nm,1.0s,mb4.0,baz=235,slow=5.3,SNR=9.2						
KEST	**Kesra**	**92.30**	**52**	P	**P**	**12 15 56.7**	**-1.0**
	comp=E,1.4nm,0.8s,mb3.9,baz=258,slow=14,SNR=8.6						
YKA	**Yellowknife Ar**	**93.32**	**340**	P	**P**	**12 16 00.8**	**-0.9**
	comp=E,0.9nm,0.5s,mb4.0,baz=135,slow=5.7,SNR=3.6						
ASAR	**Alice Springs**	**129.67**	**204**	PKP	PKPdf	12 21 56.6	+0.7
	comp=E,0.5nm,0.7s,baz=123,slow=3.0,SNR=6.4						
ASAR				SKPbc		12 24 56.6	
	comp=E,0.8nm,1.0s,baz=147,slow=2.2,SNR=6.4						
WRA	**Warramunga Arr**	**132.84**	**207**	PKP	PKPdf	12 22 02.3	+0.3
	comp=E,0.5nm,0.5s,baz=159,slow=1.7,SNR=16						
WRA				SKPbc	SKPbc	12 25 08.3	+0.1
	comp=E,4.4nm,1.0s,baz=150,slow=2.9,SNR=14						
ZALV	**Zalesovo Beam**	**142.18**	**28**	PKP	PKPdf	12 22 18.6	+0.5
	comp=E,0.6nm,0.5s,baz=344,slow=42,SNR=2.4						
MKAR	**Makanchi Array**	**145.33**	**39**	PKPbc	PKPbc	12 22 24.3	+0.2
	comp=E,3.4nm,1.0s,baz=316,slow=3.3,SNR=19						
MKAR				SKPbc	SKPbc	12 25 43.0	+1.1
	comp=E,0.8nm,0.7s,baz=321,slow=1.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**165.56**	**105**	PKPab	PKPab	12 23 51.8	+0.6
	comp=E,0.7nm,0.4s,baz=251,slow=2.8,SNR=4.7						

IDC 08 12:09:06.5±2.4, 943S×12217E, h0km, mb3.8/1, mb1 3.5/3, mb1mx3.4/16, mbtmp3.3/3, ML3.0/2, Error ellipse: s-maj=249.2km s-min=31.0km az=53.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.73**	**133**	Pn	Pn	12 12 49.3	-0.3
	0.1nm,0.3s,baz=304,slow=14,SNR=7.2						
WRA				Sn	Sn	12 15 31.1	-14
	0.1nm,0.3s,baz=300,slow=23,SNR=7.1						
ASAR	**Alice Springs**	**18.06**	**143**	P	Pn	12 13 19.6	+0.6
	0.0nm,0.3s,baz=321,slow=12,SNR=4.9

NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Ibaraki and Miyagi Prefectures.

ISC 08 12:27:20.1±0.5,3764N±003×14087E±005,h83km±4km, n26,σ0§75/45,mb3.9/4,8C-4D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	0.23	344	⇓P	Pn	12 27 32.6	+0.1
JMM				S	Sn	12 27 40.8	-0.7
JFK	**Kawauchi**	0.27	180	⇑P	Pn	12 27 33.0	+0.4
JFK				S	Sn	12 27 41.8	0.0
JFT	**Otama**	0.44	254	⇑P	Pn	12 27 33.6	-0.1
JFT				S	Sn	12 27 43.3	-0.5
ONAJ	**Iwakimizuishiy**	0.54	186	⇑P	Pn	12 27 35.0	+0.5
ONAJ				S	Sn	12 27 45.1	-0.1
JOU	**Okura**	0.74	347	⇑P	Pn	12 27 37.0	+0.5
JOU				S	Sn	12 27 49.0	+0.3
JYS	**Shiratake**	0.86	312	⇑P	Pn	12 27 37.9	+0.1
JYS				S	Sn	12 27 51.0	0.0
JIO	**Ouri**	0.90	25	⇓P	Pn	12 27 38.6	+0.4
JIO				S	Sn	12 27 51.4	-0.2
JFY	**Yanaizu**	0.96	256	⇑P	Pn	12 27 38.8	-0.1
JFY				S	Sn	12 27 52.0	-0.9
JNS	**Sasagawa**	1.25	279	⇓P	Pn	12 27 42.3	-0.1
JNS				S	Sn	12 27 58.2	-0.9
JYA	**Atsumi**	1.32	316	⇑P	Pn	12 27 43.7	+0.4
JYA				S	Sn	12 28 00.8	+0.1
JMK	**Ichinoseki**	1.34	12	P	Pn	12 27 44.4	+0.9
JMK				S	Sn	12 28 01.8	+0.7
JYK	**Kaneyama**	1.34	343	⇑P	Pn	12 27 44.2	+0.7
JYK				S	Sn	12 28 01.5	+0.4
JAW	**Awa shima**	1.52	303	P	Pn	12 27 45.9	+0.1
JAW				S	Sn	12 28 04.2	-1.0
JHK	**Hiroka**	1.53	256	⇓P	Pn	12 27 46.2	+0.3
JHK				S	Sn	12 28 05.0	-0.4
MJAR	**Matsushiro Arr**	2.40	244	P	Pn	12 27 58.5	+1.1
	5.3nm,0.3s,baz=57,slow=12,SNR=43						
MJAR				S	Sn	12 28 29.6	+3.7
	7.3nm,0.3s,baz=116,slow=26,SNR=12						
MAJO	**Matsushiro**	2.40	244	*e*Pn	Pn	12 27 58.4	+1.0
MAT	**Matsushiro**	2.40	244	P	Pn	12 27 58.5	+1.1
MAT				*e*S	Sn	12 28 26.2	+0.3
JHJ	**Hachijo jima 2**	4.60	192	P	Pn	12 28 26.4	-0.9
	42nm,0.3s,baz=98,slow=5.1,SNR=35						
JHJ				S	Sn	12 29 19.2	-0.2
	33nm,0.3s,baz=267,slow=23,SNR=8.4						
ASAJ	**Asahikawa**	6.60	11	P	Pn	12 28 53.1	-1.3
	2.3nm,0.3s,baz=227,slow=12,SNR=19						
ASAJ				S	Sn	12 30 06.9	-1.2
	1.5nm,0.3s,baz=355,slow=4.1,SNR=2.6						
KSRS	**Korea Array**	10.29	273	P	Pn	12 29 48.0	+3.2
	0.2nm,0.3s,baz=93,slow=15,SNR=5.1						
KSRS				S	Sn	12 31 33.3	-5.0
	0.1nm,0.3s,baz=215,slow=43,SNR=2.3						
CBIJ	**Chichi jima**	10.57	174	P	Pn	12 29 45.6	-3.0
	6.4nm,0.3s,baz=273,slow=20,SNR=9.1						
CBIJ				S	Sn	12 31 36.0	-9.3
	2.4nm,0.3s,baz=270,slow=20,SNR=2.5						
PETK	**Petropavlovsk-**	19.39	32	LR	LR	12 39 32.2	
	comp=Z,15nm,19.4s,baz=102,slow=38						
YHNB	**Yeheng**	21.06	238	*e*P	P	12 31 57.2	-0.2
	35nm,0.8s,mb4.7						
SONM	**Songino Array**	27.09	303	P	P	12 32 54.8	-0.1
	0.7nm,0.5s,mb3.4,baz=105,slow=9.3,SNR=5.1						
ZALV	**Zalesovo Beam**	41.19	312	P	P	12 34 55.5	-0.8
	0.5nm,0.4s,mb3.7,baz=72,slow=9.7,SNR=3.1						
WRA	**Warramunga Arr**	57.60	187	P	P	12 37 01.7	+0.3
	0.4nm,0.4s,mb3.8,baz=4.4,slow=7.2,SNR=15						

*NEIC **08** 13:16:58.1±0.7,477N×94.13E,h30km,mb4.4/2,Error ellipse: s-maj=21.0km s-min=8.7km az=57.0*

*IDC **08** 13:17:03.2±4.5,531N×9477E,h56km±37km,mb3.9/9, mb1 4.0/10,mb1mx3.7/23,mbtmp3.9/10,MS3.0/2, Ms1 3.0/2,ms1mx2.7/26,Error ellipse: s-maj=48.1km s-min=15.1km az=58.0*

*DJA **08** 13:17:03,524N×9474E,h28km,ML4.2/1*

*ISCJB **08** 13:17:05.1±2.9,5.1N±0.1×947E±02,h97km±23km, mb4.1/11,Error ellipse: s-maj=38.9km s-min=9.8km az=149.2*

ISC 08 13:17:06.4±2.7,51N±01×947E±02,h93km±21km,n24, σ0§85/24,mb4.1/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	4.79	119	P	Pn	13 18 14.8	-1.4
	4.2nm,0.3s,baz=328,slow=12,SNR=22						
PSI				S	Sn	13 19 10.6	0.0
	3.0nm,0.3s,baz=192,slow=15,SNR=3.9						
PSI				LR	LR	13 20 33.5	
	comp=Z,134nm,19.7s,baz=247,slow=43						
PSI	**Prapat**	4.79	119	P	Pn	13 18 14.8	-1.4
PSI				S	Sn	13 19 10.6	0.0
PSI				LR	LR	13 20 33.5	
CMAR	**Chiang Mai Arr**	13.87	17	P	Pn	13 20 19.9	+0.9
	0.7nm,0.3s,baz=211,slow=11,SNR=12						
CHTO	**Chiang Mai**	14.21	17	*e*P	Pn	13 20 25.1	+1.7
FITZ	**Fitzroy Crossi**	38.25	128	P	P	13 24 17.4	-0.4
	1.8nm,1.0s,mb3.9,baz=333,slow=14,SNR=3.3						
TKM2	**Tokmak 2**	41.27	339	*e*P	P	13 24 43.2	+0.7
	3.1nm,0.5s,mb4.4						
AML	**Almayashu**	41.33	336	*e*P	P	13 24 44.0	+1.0
	5.6nm,0.6s,mb4.6						
MK31	**Makanchi Array**	42.87	347	*e*P	P	13 24 54.7	-0.8
MKAR	**Makanchi Array**	42.87	347	P	P	13 24 55.0	-0.4
	1.5nm,0.4s,mb4.0,baz=172,slow=7.5,SNR=25						
MKAR				LR	LR	13 43 28.3	
	comp=Z,27nm,20.1s,baz=74,slow=37						
SONM	**Songino Array**	43.71	11	P	P	13 25 00.2	-2.0
	2.0nm,0.8s,mb3.9,baz=191,slow=8.9,SNR=11						
SONM				PcP	PcP	13 26 48.8	+1.1
	0.6nm,0.4s,baz=185,slow=4.1,SNR=5.5						
KSRS	**Korea Array**	44.19	39	P	P	13 25 05.3	-0.9
	1.5nm,0.8s,mb3.8,baz=222,slow=8.6,SNR=4.4						
WRA	**Warramunga Arr**	46.23	124	P	P	13 25 23.3	+0.7
	3.9nm,0.7s,mb4.3,baz=300,slow=9.8,SNR=48						
WRA				PcP	PcP	13 26 59.6	+2.7
	0.5nm,1.0s,baz=312,slow=3.0,SNR=2.2						
WRAB	**Tennant Creek**	46.24	124	*e*P	P	13 25 23.4	+0.7
WB2	**Warramunga Arr**	46.24	124	*e*P	P	13 25 23.3	+0.6
KURK	**Kurchatov**	47.40	346	*e*P	P	13 25 31.1	-0.1
ASAR	**Alice Springs**	47.74	128	P	P	13 25 35.2	+0.9
	1.3nm,0.5s,mb4.0,baz=298,slow=7.0,SNR=40						
ZAA0	**Zalesovo Array**	49.33	352	*e*P	P	13 25 45.2	-0.8
ZALV	**Zalesovo Beam**	49.33	352	P	P	13 25 45.7	-0.3
	6.2nm,0.5s,mb4.8,baz=177,slow=7.2,SNR=30						
ZALV	**Zalesovo Beam**	49.33	352	P	P	13 25 45.7	-0.3
BRVK	**Borovoye**	51.82	341	*e*P	P	13 26 04.5	-0.3
ARCES	**ARCESS Array B**	78.03	340	P	P	13 28 54.1	-0.3
	0.8nm,0.5s,mb3.7,baz=89,slow=5.6,SNR=19						
GERES	**GERESS Array B**	80.25	319	P	P	13 29 07.3	+0.4
	1.0nm,0.6s,mb3.8,baz=69,slow=4.9,SNR=7.5						
PDAR	**Pinedale Array**	127.48	22	PKP	PKPdf	13 36 02.3	+1.4
	0.3nm,0.6s,baz=107,slow=0.9,SNR=2.9						
TXAR	**Lajitas Array**	141.45	26	PKhKP		13 36 25.2	
	0.1nm,0.3s,baz=44,slow=4.3,SNR=2.8						

*IDC **08** 14:02:25.9±1.4,3741N×13795E,h0km,mb3.6/2, mb1 3.8/4,mb1mx3.5/23,mbtmp3.6/4,ML2.9/2,Error ellipse: s-maj=38.4km s-min=12.5km az=77.0*

*ISCJB **08** 14:02:28.7±0.5,3737N±003×13846E±004,h27km±5km, mb3.6/2,Error ellipse: s-maj=5.3km s-min=4.7km az=25.9*

*JMA **08** 14:02:29.0,3738N×13845E,h18km±1km,M3.4 Broadband fault plane solution: P waves. NP1: ϕ_s=37.00000°,δ74.00000°,λ14.00000°. NP2:ϕ_s=304.00000°, δ77.00000°,λ163.00000°. Principal axes: T Plg21.0000°, Azm260.0000°; N Plg69.0000°, Azm86.0000°; P Plg2.0000°, Azm351.0000°;*

JMA Felt II J1.

ISC 08 14:02:29.0±0.5,3737N±003×13846E±004,h19km±4km, n15,σ0§71/25,mb3.6/2,2C-5D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	0.26	51	⇓P	Pg	14 02 34.9	0.0
JIZZ				S	Sg	14 02 40.1	+1.1
JJN	**Nakama**	0.35	222	⇓P	Pg	14 02 41.0	0.0
JJN				S	Sg	14 02 42.6	+1.1
JHK	**Hiroka**	0.46	105	⇑P	Pg	14 02 37.8	-0.6
JHK				S	Sg	14 02 44.3	-0.4
JSD	**Sado**	0.69	347	⇓P	Pb	14 02 41.6	-0.7
JSD				S	Sb	14 02 51.0	-0.4
JGK	**Kuni**	0.82	170	⇓P	Pb	14 02 44.4	-0.1
JGK				S	Sb	14 02 55.7	+0.6
JNS	**Sasagawa**	0.82	56	⇑P	Pb	14 02 44.1	-0.5
JNS				S	Sb	14 02 55.6	+0.4
MAT	**Matsushiro**	0.85	194	P	Pb	14 02 44.4	-0.6
MAT				S	Sb	14 02 55.7	-0.3
MAT	**Matsushiro**	0.85	194	P	Pb	14 02 44.4	-0.6
MAT				S	Sb	14 02 55.8	-0.2
MJAR	**Matsushiro Arr**	0.85	194	Pg	Pg	14 02 44.4	-1.1
	33nm,0.3s,baz=325,slow=20,SNR=305						
MJAR				Lg		14 02 55.7	
	111nm,0.3s,baz=9.2,slow=27,SNR=45						
JKT	**Katashina**	0.87	133	⇓P	Pb	14 02 45.0	-0.5
JKT				S	Sb	14 02 56.6	-0.1
JSZ	**Suzu**	0.87	276	P	Pb	14 02 44.9	-0.6
JSZ				S	Sb	14 02 57.1	+0.3
JHJ	**Hachijo jima 2**	4.38	165	Pn	Pn	14 03 35.6	+1.2
	2.4nm,0.3s,baz=315,slow=19,SNR=3.7						
KSRS	**Korea Array**	8.38	274	Pn	Pn	14 04 24.2	-5.1
	0.1nm,0.3s,baz=78,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	57.13	185	P	P	14 12 14.0	-0.2
	0.2nm,0.3s,mb3.6,baz=0.2,slow=7.5,SNR=15						
PDAR	**Pinedale Array**	79.09	44	P	P	14 14 33.7	+1.7
	0.4nm,0.6s,mb3.5,baz=262,slow=5.4,SNR=2.9						

*IDC **08** 14:14:14.9±0.5,3247S×7154W,h0km,mb4.8/18, mb1 4.8/23,mb1mx4.8/26,mbtmp4.8/23,ML4.9/4,MS4.7/16, Ms1 4.7/16,ms1mx4.5/23,Error ellipse: s-maj=19.7km s-min=10.6km az=83.0*

*MOS **08** 14:14:18.8±1.1,3245S×7158W,h33km,mb5.3/30, MS4.8/4,Error ellipse: s-maj=15.3km s-min=7.2km az=101.9*

*ISCJB **08** 14:14:19.4±0.1,3245S±002×7168W±003,h33km, mb4.9/82,MS4.7/18,Error ellipse: s-maj=4.5km s-min=2.3km az=148.3*

*GUC **08** 14:14:19.3±0.6,3249S×7170W,h32km±2km,ML5.1*

*GCMT **08** 14:14:20.0±0.2,3266S×7192W,h24km,MW5.3/57, Moment Tensor Solution. s45,c56; s57,c75; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.58±.03; $M_{\theta\theta}$0.07±.02; $M_{\phi\phi}$-0.65±.03; $M_{r\theta}$0.22±.04; $M_{\theta\phi}$0.25±.02; $M_{\phi r}$~1.01±.04; Best double couple: $M_0$1.22600×10^{17} NP1:ϕ_s335.00000°,δ17.00000°,λ78.00000°. NP2: ϕ_s167.00000°,δ74.00000°,λ93.00000°. Principal axes: T 1.1540, Plg61.0000°, Azm82.0000°; N 0.1430, Plg3.0000°, Azm346.0000°; P -1.2970, Plg29.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **08** 14:14:20.0,3250S×7160W,h32km,mB5.0,Ms5.2,Msz5.1*

*NEIC **08** 14:14:20.0±0.5,3248S×7160W,h33km±3km,mb5.0/70, MS5.2/1,ML5.1(GUC),Error ellipse: s-maj=5.6km s-min=2.9km az=75.0*

NEIC Felt [IV] at Zapallar; [III] at Quillota, San Felipe, Santiago, Talagante and Valparaiso; [II] at Canela Baja, Illapel, Los Vilos, Rancagua, Salamanca, San Antonio, San Jose de Maipo and Talca. Felt at Vina del Mar.

ISC 08 14:14:20.0±0.6,3248S±002×7163W±004,h27km±4km, h25km±.4km:pP-P,n526,σ0§75/460,mb4.9/82,MS4.7/18, 101C-101D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	0.17	109	*e*P	Pb	14 14 26.0	+0.4
IHA	**Instituto Hidr**	0.54	181	⇑*i*P	Pb	14 14 29.7	-1.4
CHNG	**Los Chungos**	0.61	11	⇓*i*P	Pb	14 14 31.6	-0.5
CHNG				*i* S	Sb	14 14 40.6	+0.3
CHNG				AML	AML	14 14 44.8	
	comp=E,84μm,0.7s						
PTCH	**Petorca**	0.63	70	*e*P	Pb	14 14 32.6	+0.1
PTCH				*i* S	Sb	14 14 42.1	+1.1
ROCH	**El Roble**	0.72	133	⇑*i*P	Pb	14 14 33.8	-0.1
JACH	**Jahuel**	0.90	103	⇑*i*P	Pn	14 14 36.9	0.0
LCCH	**Las Cruces**	0.99	177	⇓*i*P	Pn	14 14 36.8	-1.3
RCDM	**Rinconada Maip**	1.22	146	⇓*i*P	Pn	14 14 41.1	-0.2
RCDM				*i* S	Sn	14 14 57.5	+0.5
RCDM				AML	AML	14 15 01.6	
	comp=E,49μm,0.8s						
RCDM	**Rinconada Maip**	1.22	146	⇓*i*P	Pn	14 14 41.1	-0.2
RCDM				*i* S	Sn	14 14 57.5	+0.5
SAN	**Santiago**	1.27	140	⇑*i*P	Pn	14 14 42.2	+0.3
SAN				*i* S	Sn	14 14 58.8	+0.7
CLCH	**Cerro Calan**	1.30	135	⇓*i*P	Pn	14 14 42.5	+0.2
CLCH				*i* S	Sn	14 15 00.1	+1.3
CLCH				AML	AML	14 15 07.7	
	comp=E,63μm,0.6s						
TACH	**Talagante**	1.31	154	⇑*i*P	Pn	14 14 42.4	-0.1
FSR	**Penalolen**	1.36	137	*e*P	Pn	14 14 43.3	+0.1
FSR				*i* S	Sn	14 15 01.5	+1.1
ANTU	**Antumapu**	1.37	143	⇓*i*P	Pn	14 14 43.8	+0.4
ANTU				*i* S	Sn	14 15 01.9	+1.2
ANTU				AML	AML	14 15 07.6	
	comp=N,59μm,0.5s						
ANTU	**Antumapu**	1.37	143	⇓*i*P	Pn	14 14 43.8	+0.4
ANTU				*i* S	Sn	14 15 01.9	+1.2
CMCH	**Combarbala**	1.41	23	⇑*i*P	Pn	14 14 44.1	+0.2
CMCH				*i* S	Sn	14 15 03.0	+1.4
FCH	**Farellones**	1.41	127	⇓*i*P	Pn	14 14 44.7	+0.8
FCH				*i* S	Sn	14 15 04.2	+2.6
FCH				AML	AML	14 15 05.3	
	comp=E,62μm,0.3s						
PCH	**Pirque**	1.48	141	⇑*i*P	Pn	14 14 45.2	+0.4
LNV	**Longovilo**	1.48	173	⇓*i*P	Pn	14 14 43.8	-1.1
LMEL	**Las Melosas**	1.82	139	⇓*i*P	Pn	14 14 50.4	+0.9
LMEL				*i* S	Sn	14 15 14.4	+2.8
LMEL				AML	AML	14 15 19.4	
	comp=N,37μm,0.4s						
LMEL	**Las Melosas**	1.82	139	⇓*i*P	Pn	14 14 50.4	+0.9
LMEL				*i* S	Sn	14 15 14.4	+2.8
SFDO	**San Fernando**	2.19	167	⇓*i*P	Pn	14 14 54.9	+0.3
TLL	**Tololo Astrono**	2.41	17	⇑*e*P	Pn	14 14 58.6	+0.9
TLL				AML	AML	14 15 44.0	
	comp=N,24μm,0.4s						
LSCH	**La Serena**	2.59	7	*e*P	Pn	14 15 00.2	+0.1
LSCH				*i* S	Sn	14 15 31.6	+1.0
CFAA	**Coronel Fontan**	3.01	74	Pn	Pn	14 15 09.5	+3.5
	comp=N,29nm,0.3s,baz=249,slow=12,SNR=226						
CFAA				Lg		14 15 50.1	
	comp=N,46nm,0.3s,baz=16,slow=20,SNR=14						
CFAA				LR	LR	14 16 13.7	
	comp=N,880nm,19.2s,baz=341,slow=40						
LCO	**Las Campanas**	3.55	13	*e*P	Pn	14 15 13.5	+0.2
PLCA	**Paso Flores**	8.28	174	Pn	Pn	14 16 17.8	-0.5
	comp=N,4.7nm,0.3s,baz=334,slow=12,SNR=76						
PLCA				Lg		14 18 34.4	
	comp=N,0.8nm,0.3s,baz=279,slow=19,SNR=2.1						
PLCA				LR	LR	14 18 52.9	
	comp=N,307nm,21.6s,baz=350,slow=34						
PLCA	**Paso Flores**	8.28	174	*e*P	Pn	14 16 17.5	-0.8
PLCA				pmax	pmax		
	comp=Z,71nm,1.0s						
PLCA	**Paso Flores**	8.28	174	*e*P	Pn	14 16 17.5	-0.8
	comp=Z,71nm,1.0s						
TRQA	**Tornquist**	9.65	128	*e*P	Pn	14 16 37.5	+0.4
	comp=Z,359nm,2.5s						
LVC	**Limon Verde**	10.12	14	Pn	Pn	14 16 39.6	-3.9
	comp=Z,1.3nm,0.3s,baz=206,slow=8.2,SNR=24						
LVC				Sn	Sn	14 18 38.0	+1.8
	comp=Z,2.0nm,0.3s,baz=179,slow=17,SNR=2.0						
LVC				LR	LR	14 20 31.7	
	comp=Z,5μm,20.9s,baz=211,slow=37						
LVC	**Limon Verde**	10.12	14	*e*P	Pn	14 16 39.4	-4.2
	comp=Z,428nm,1.4s						
CPUP	**Villa Florida**	13.89	67	Pn	Pn	14 17 32.9	-2.1
	comp=Z,1.9nm,0.3s,baz=223,slow=11,SNR=15						
CPUP				Sn	Sn	14 20 05.2	-3.2
	comp=Z,2.1nm,0.3s,baz=186,slow=17,SNR=1.5						
CPUP				Lg		14 21 19.4	
	comp=Z,3.6nm,0.3s,baz=180,slow=13,SNR=3.1						
CPUP				LR	LR	14 23 41.2	
	comp=Z,3μm,20.5s,baz=235,slow=41						
CPUP	**Villa Florida**	13.89	67	*e*P	Pn	14 17 32.1	-3.0
CPUP				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CPUP	**Villa Florida**	13.89	67	*e*P	Pn	14 17 32.1	-2.9
	comp=Z,7.1nm,0.7s						
ARE	**Arequipa**	15.95	0	*e*P	Pn	14 18 08.0	+5.4
LPAZ	**La Paz**	16.43	12	Pn	Pn	14 18 08.8	0.0
	comp=Z,1.6nm,0.3s,baz=185,slow=7.9,SNR=128						
LPAZ				Sn	Sn	14 21 17.2	+6.9
	comp=Z,0.1nm,0.3s,baz=208,slow=17,SNR=1.4						
LPAZ	**La Paz**	16.43	12	*e*P	Pn	14 18 08.6	-0.1
LPAZ				pmax	pmax		
	comp=Z,30nm,0.7s						
LPAZ	**La Paz**	16.43	12	*e*P	Pn	14 18 08.6	-0.2
	comp=Z,30nm,0.7s						
SIV	**San Ignacio**	19.01	33	P	Pn	14 18 38.0	-2.6
	comp=Z,1.5nm,0.3s,baz=221,slow=10,SNR=83						
NNA	**Nana**	20.95	346	P	P	14 19 00.3	-0.6
	comp=Z,15nm,0.8s,baz=230,slow=13,SNR=4.5						
NNA				LR	LR	14 25 14.9	
	comp=Z,923nm,19.3s,MS4.2,baz=169,slow=32						
NNA	**Nana**	20.95	346	*e*P	P	14 19 01.5	+0.7
EFI	**East Falkland**	21.60	157	P	P	14 19 06.5	-1.1
	comp=Z,550nm,0.6s,mb6.2,SNR=6.4						
EFI	**East Falkland**	21.60	157	*e*P	P	14 19 05.8	-1.8
USHA	**Ushuaia**	22.46	175	P	P	14 19 16.6	-0.1
	comp=Z,12nm,0.8s,mb4.4,baz=14,slow=7.3,SNR=4.6						
USHA				LR	LR	14 29 30.7	
	comp=Z,1μm,20.2s,MS4.4,baz=341,slow=41						
SPB	**Sao Paulo**	23.08	74	*e*P	P	14 19 21.2	-2.5
ATAH	**Atahualpa**	26.12	345	P	P	14 19 51.2	-0.6
	comp=Z,5.6nm,0.7s,mb4.2,baz=164,slow=10,SNR=4.1						
ATAH				LR	LR	14 28 30.2	
	comp=Z,899nm,18.1s,MS4.3,baz=7.9,slow=33						
BDFB	**Brasilia**	27.22	58	P	P	14 19 59.9	-1.8
	comp=Z,40nm,1.1s,mb4.9,baz=218,slow=13						
BDFB				LR	LR	14 32 25.8	
	comp=Z,2μm,21.8s,MS4.5,baz=270,slow=40						
PMSA	**Palmer Station**	32.66	174	P	P	14 20 46.7	-2.7
	comp=Z,21nm,1.1s,mb5.0,baz=353,slow=8.1,SNR=2.7						
PMSA				LR	LR	14 33 36.3	
	comp=Z,2μm,21.4s,MS4.7,baz=2.2,slow=36						
OTAV	**Otavalo**	33.17	347	*e*P	P	14 20 54.4	0.0
	comp=Z,22nm,1.4s,mb4.9						
ROSC	**El Rosal**	37.22	356	P	P	14 21 29.1	-0.1
	comp=Z,2.6nm,0.4s,mb4.4,baz=267,slow=21,SNR=1.9						
ROSC	**El Rosal**	37.22	356	*e*P	P	14 21 31.9	+2.7
SDV	**Santo Domingo**	41.14	2	P	P	14 21 60.0	-2.0
	comp=Z,4.6nm,0.7s,mb4.2,baz=262,slow=3.6,SNR=7.5						
SDV				PcP	PcP	14 24 00.3	-0.8
	comp=Z,8.1nm,0.8s,baz=300,slow=3.5,SNR=3.8						
SDV	**Santo Domingo**	41.14	2	*e*P	P	14 21 59.5	-2.5
	comp=Z,24nm,0.8s,mb4.9						
VNA1	**Neumayer--Stat**	50.94	157	*e*P	P	14 23 19.2	+0.7
VNA1				*e*	pP	14 23 26.3	-0.6
VNA1				*e*		14 23 29.3	
VNA2	**Neumayer--Watz**	51.28	158	*e*P	P	14 23 21.1	0.0
VNA2				*e*	pP	14 23 28.5	-0.9
VNA2				*e*		14 23 31.0	
SNAA	**Sanae**	52.86	158	*e*P	P	14 23 32.5	-0.4
SNAA				*e*	pP	14 23 40.1	-1.1
SNAA				*e*		14 23 43.0	
SNAA	**Sanae**	52.86	158	P	P	14 23 32.1	-0.8
	comp=Z,6.2nm,0.8s,mb4.6,baz=286,slow=6.9,SNR=45						
SNAA	**Sanae**	52.86	158	*e*P	P	14 23 32.3	-0.6
SNAA				pmax	pmax		
	comp=Z,29nm,1.0s						
SNAA	**Sanae**	52.86	158	*e*P	P	14 23 32.3	-0.5
	comp=Z,29nm,1.0s,mb5.2						
CMIG	**Matias Romero**	54.08	332	P	P	14 23 41.7	-0.7
	comp=Z,1.6nm,0.8s,mb4.0,baz=218,slow=8.9,SNR=3.1						
CMIG	**Matias Romero**	54.08	332	P	P	14 23 41.7	-0.7
RKT	**Rikitea**	56.10	262	*e*S	S	14 31 49.4	+5.0
	comp=Z,250nm,28.0s						
RKT				*e*LR	LR	14 40 34.2	
	comp=Z,842nm,25.0s						
MAIT	**Maitri**	57.55	157	*e*P	P	14 24 04.7	-1.9
NVL	**N'lazarevskaya**	57.58	157	*e*P	P	14 24 07.0	+0.1
NVL				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.3						
QSPA	**South Pole Qui**	57.75	180	P	P	14 24 07.9	0.0
	comp=Z,17nm,0.9s,mb5.1,baz=159,slow=2.5,SNR=48						
QSPA	**South Pole Qui**	57.75	180	P	P	14 24 07.9	0.0
DWPF	**Disney**	60.97	350	*e*P	P	14 24 30.1	-0.6
	comp=Z,12nm,0.8s,mb5.1						
SYO	**Syowa Base**	67.15	159	⇓*e*P	P	14 25 08.4	-2.5
SYO	**Syowa Base**	67.15	159	⇓*ep*P	pP	14 25 14.1	-5.4
TBI	**Tubuai**	68.01	256	*e*S	S	14 34 19.1	+4.2
	comp=Z,304nm,25.5s						
TBI	**Tubuai**	68.01	256	*e*LR	LR	14 46 08.6	
	comp=Z,2μm,25.5s,baz=110						
JCT	**Junction City**	68.07	334	*e*P	P	14 25 16.2	-0.9
JCT				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
JCT	**Junction City**	68.07	334	*e*P	P	14 25 16.2	-0.9
	comp=Z,13nm,0.7s,mb5.1						
TXAR	**Lajitas Array**	68.58	330	P	P	14 25 20.1	-0.2
	baz=148,slow=8.6						
CPCT	**Cooper Cave**	68.65	349	*e*P	P	14 25 18.9	-1.7
SWET	**Sewanee**	68.67	347	*e*P	P	14 25 19.5	-1.2
OXF	**Oxford**	68.70	344	*e*P	P	14 25 19.8	-1.2
OXF				pmax	pmax		
	comp=Z,62nm,0.8s,mb5.6						
OXF	**Oxford**	68.70	344	*e

comp=Z,442nm,18.4s,MS4.8,baz=213,slow=36
DBIC Dimbokro 74.37 71 *eP* **P 14 25 54.7 -1.0**
DBIC pmax pmax
comp=Z,34nm,0.7s
DBIC Dimbokro 74.37 71 *eP* **P 14 25 54.7 -1.0**
comp=Z,34nm,0.7s,mb5.4
Z19A T-Link Ranch, 74.42 328 ⇓P **P 14 25 56.0 +0.6**
baz=75,SNR=8.9
BINY Binghamton 74.42 357 *eP* **P 14 25 55.0 -0.2**
comp=Z,7.7nm,0.6s,mb4.8
LAZ Ladron 74.43 330 *eP* **P 14 25 55.9 +0.3**
HDIL Hopedale 74.48 346 *eP* **P 14 25 53.9 -1.8**
comp=Z,35nm,0.6s,mb5.5
117A Oracle 74.49 326 P **P 14 25 56.6 +0.7**
baz=75,SNR=5.8
MAW Mawson 74.54 164 *eP* **P 14 25 55.4 -0.4**
comp=Z,16nm,1.0s,mb4.9
MAW Mawson 74.54 164 P **P 14 25 55.6 -0.2**
comp=Z,16nm,0.8s,mb5.0,baz=212,slow=7.3,SNR=20
MAW LR LR 15 00 56.6
comp=Z,692nm,18.1s,MS5.0,baz=225,slow=38
MAW Mawson 74.54 164 *eP* **P 14 25 55.4 -0.4**
MAW pmax pmax
comp=Z,16nm,1.0s
Z18A Geronimo 74.59 327 ⇓P **P 14 25 57.0 +0.6**
baz=75
ANMO Albuquerque 74.62 331 *eP* **P 14 25 55.7 -0.9**
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ANMO Albuquerque 74.62 331 *eP* **P 14 25 55.7 -0.9**
comp=Z,5.1nm,0.8s,mb4.5
Y19A Nutrioso 74.97 328 ⇓P **P 14 25 59.8 +1.2**
baz=75,SNR=55
214A Organ Pipe Nat 74.97 325 ⇓P **P 14 25 59.2 +0.5**
baz=75,SNR=5.5
Y18A Canyon Day Jun 75.17 328 ⇓P **P 14 26 00.2 +0.4**
baz=76
115A Sonoran Desert 75.30 325 ⇑P **P 14 26 01.2 +0.6**
baz=76,SNR=11
X19A St. Johns 75.38 329 P **P 14 26 01.4 +0.4**
baz=76,SNR=7.0
Y17A Roosevelt 75.47 327 P **P 14 26 02.2 +0.7**
baz=76,SNR=23
ACCN Adirondack Com 75.52 358 *eP* **P 14 26 00.7 -0.9**
comp=Z,11nm,0.8s,mb4.8
CBKS Cedar Bluff 75.59 338 *eP* **P 14 26 01.7 -0.4**
CBKS pmax pmax
comp=Z,13nm,0.7s,mb5.0
CBKS Cedar Bluff 75.59 338 *eP* **P 14 26 01.7 -0.4**
comp=Z,13nm,0.7s,mb5.0
X18A Snowflake 75.76 328 ⇑P **P 14 26 03.9 +0.8**
baz=76,SNR=6.6
HNH Hanover 75.82 360 *eP* **P 14 26 02.8 -0.5**
comp=Z,11nm,0.6s,mb5.0
Y16A Circle Bar Ran 75.92 327 P **P 14 26 04.7 +0.6**
baz=76,SNR=9.3
X17A Forest Lakes 75.99 327 ⇓P **P 14 26 05.1 +0.6**
baz=76,SNR=8.9
W19A Sanders 76.00 329 ⇑P **P 14 26 05.2 +0.7**
baz=76
NCB Newcomb 76.12 358 *eP* **P 14 26 02.8 -2.2**
comp=Z,7.9nm,0.7s,mb4.8
MDV Middlebury 76.12 359 *eP* **P 14 26 04.8 -0.2**
W18A Petrified Fore 76.16 329 ⇑P **P 14 26 06.1 +0.6**
baz=76
Z14A Wintersburg 76.19 325 ⇓P **P 14 26 06.2 +0.6**
baz=76
X16A Lo Mia Camp, P 76.34 327 ⇓P **P 14 26 07.2 +0.7**
baz=77,SNR=11
LBNH Lisbon 76.35 360 *eP* **P 14 26 06.3 0.0**
LBNH pmax pmax
comp=Z,11nm,0.7s,mb4.9
LBNH Lisbon 76.35 360 *eP* **P 14 26 06.3 0.0**
comp=Z,12nm,0.7s,mb4.9
V19A Window Rock 76.36 329 ⇑P **P 14 26 07.2 +0.6**
baz=77,SNR=10
Y15A Casa Rosa Ranc 76.38 326 P **P 14 26 07.3 +0.6**
baz=77,SNR=5.9
W17A Winslow 76.56 328 ⇓P **P 14 26 08.4 +0.7**
baz=77,SNR=5.8
SCIA State Center 76.64 344 *eP* **P 14 26 06.8 -1.2**
comp=Z,29nm,0.7s,mb5.3
SDCO Great Sand Dun 76.67 333 *eP* **P 14 26 08.6 +0.4**
comp=Z,8.2nm,0.7s,mb4.8
Y14A Wickenburg 76.68 326 ⇑P **P 14 26 08.9 +0.5**
baz=77
V18A Ganado 76.75 329 P **P 14 26 09.7 +0.9**
baz=77,SNR=5.3
X15A Humboldt 76.77 326 P **P 14 26 09.7 +0.8**
baz=77,SNR=9.5
LONY Lake Ozonia 76.78 358 *eP* **P 14 26 07.4 -1.3**
comp=Z,11nm,0.8s,mb4.8
GLA Glamis 76.86 324 ⇓P **P 14 26 10.0 +0.5**
baz=77
JFWS Jewell Farm 76.95 346 *eP* **P 14 26 08.0 -1.7**
JFWS pmax pmax
comp=Z,22nm,0.6s,mb5.3
JFWS Jewell Farm 76.95 346 *eP* **P 14 26 08.0 -1.7**
comp=Z,22nm,0.6s,mb5.3
W16A Flagstaff 76.95 327 ⇑P **P 14 26 10.4 +0.5**
baz=77,SNR=14
FRNY Flat Rock 76.97 359 *eP* **P 14 26 09.2 -0.6**
comp=Z,14nm,0.8s,mb4.9
Y13A Salome 76.98 325 ⇓P **P 14 26 10.8 +0.7**
baz=77
X14A Yava 77.06 326 P **P 14 26 11.4 +0.8**
baz=77,SNR=6.8
WUAZ Wupatki 77.23 328 ⇑P **P 14 26 12.1 +0.6**
baz=78
WUAZ Wupatki 77.23 328 *eP* **P 14 26 11.7 +0.3**
comp=Z,11nm,0.8s,mb4.8
SWSC Sam W. Stewart 77.25 323 ⇓P **P 14 26 12.3 +0.7**
baz=78
Y12C Blythe 77.27 324 ⇑P **P 14 26 12.3 +0.6**
baz=78
T19A Beclabito 77.30 330 P **P 14 26 12.3 +0.4**
baz=78,SNR=20
U18A Rough Rock, Ch 77.32 329 P **P 14 26 12.7 +0.8**
baz=78,SNR=8.0
W15A Williams 77.35 327 ⇓P **P 14 26 12.6 +0.4**
baz=78,SNR=6.3
MVCO Mesa Verde 77.41 331 ⇑P **P 14 26 13.2 +0.7**
baz=78
MVCO Mesa Verde 77.41 331 *eP* **P 14 26 12.6 +0.2**
comp=Z,10nm,0.7s,mb4.9
MONP Monument Peak 77.53 323 ⇓P **P 14 26 14.0 +0.7**
baz=78
X13A Yucca 77.61 325 P **P 14 26 14.1 +0.5**
baz=78,SNR=15
BC3 Big Chuckw Mtn 77.65 324 P **P 14 26 14.6 +0.7**
baz=78,SNR=9.1
W14A Seligman 77.76 326 P **P 14 26 15.4 +0.9**
baz=78,SNR=8.4
U17A Shonto 77.81 329 P **P 14 26 15.5 +0.8**
baz=78,SNR=13
V15A Kaibab Nationa 77.84 327 ⇓P **P 14 26 15.7 +0.8**
baz=78,SNR=15
IRM Iron Mountain 77.90 324 P **P 14 26 15.8 +0.5**
baz=78,SNR=6.4
T18A Mexican Hat 77.92 330 P **P 14 26 15.6 +0.3**
baz=78,SNR=13
W13A Hualapai Mount 78.05 326 ⇑P **P 14 26 16.8 +0.7**
baz=78,SNR=14
V14A Boquillas Ranc 78.12 327 P **P 14 26 17.4 +0.9**
baz=78,SNR=18
PFO Pinyon Flat Ob 78.12 323 ⇑P **P 14 26 17.3 +0.8**
baz=78
S19A Harvey Farm, M 78.13 330 P **P 14 26 16.9 +0.5**
baz=78,SNR=6.3
BELC Belle Mtn. 78.20 324 ⇑P **P 14 26 17.2 +0.3**
baz=78
T17A Navajo Res., N 78.21 329 ⇓P **P 14 26 17.7 +0.9**
baz=78,SNR=6.7
PV01 Paradox Valley 78.22 331 *eP* **P 14 26 17.7 +0.8**
U15A North Rim 78.39 328 P **P 14 26 18.9 +1.0**
baz=79,SNR=26
S18A Hurst Farm, Bl 78.44 330 P **P 14 26 18.9 +0.7**
baz=79,SNR=31
T16A Glen Canyon Da 78.50 328 ⇓P **P 14 26 19.3 +0.8**
baz=79
ISCO Idaho Springs 78.51 334 *eP* **P 14 26 18.7 +0.2**
ISCO pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ISCO Idaho Springs 78.51 334 *eP* **P 14 26 18.7 +0.2**
comp=Z,8.4nm,0.7s,mb4.8
LDFC Landfair 78.62 325 *eP* **P 14 26 20.3 +1.1**
comp=Z,9.3nm,0.8s,mb4.8
R19A Curley Farm, L 78.64 331 ⇓P **P 14 26 20.0 +0.7**
baz=79
GMRC Granite Mounta 78.65 324 ⇓P **P 14 26 20.1 +0.7**
baz=79,SNR=8.7
V13A Grand Canyon W 78.71 326 ⇑P **P 14 26 20.2 +0.5**
baz=79,SNR=15
S17A Black Ridge (B 78.74 329 ⇑P **P 14 26 20.4 +0.6**
baz=79,SNR=5.9
U14A Mt Trumbull 78.79 327 P **P 14 26 21.1 +1.0**
baz=79,SNR=12
T15A Red Dirt Ranch 78.92 328 ⇑P **P 14 26 21.7 +0.8**
baz=79
R18A Canyonlands Na 78.98 330 ⇑P **P 14 26 21.1 -0.1**
baz=79,SNR=6.9
V12A Nelson 79.02 325 P **P 14 26 21.7 +0.3**
baz=79,SNR=11
HEC Hector,Ludlow 79.02 324 ⇑P **P 14 26 22.0 +0.6**
baz=79,SNR=8.6
U13A Pakoon Wash 79.16 326 ⇑P **P 14 26 22.5 +0.4**
baz=80,SNR=7.1
S16A Weppner Ranch, 79.16 329 ⇑P **P 14 26 22.5 +0.4**
baz=80
Q19A Hogan Spring (79.20 331 ⇓P **P 14 26 23.1 +0.7**
baz=80
ECSD EROS,Sioux Fal 79.21 342 *eP* **P 14 26 21.3 -0.9**
comp=Z,52nm,0.7s,mb5.6
BFSC Mount Baldy St 79.23 323 ⇓P **P 14 26 23.4 +0.9**
baz=80
T14A Hurricane 79.28 327 ⇓P **P 14 26 23.1 +0.4**
baz=80
TSUM Tsumeb 79.30 106 *eP* **P 14 26 23.0 -0.5**
comp=Z,24nm,1.2s,mb5.0
TUQ Turquoise Mtn. 79.31 325 P **P 14 26 23.7 +0.8**
baz=80,SNR=10
R17A Hanksville Air 79.36 330 P **P 14 26 23.4 +0.3**
baz=80,SNR=16
V11A Goodsprings 79.39 325 ⇓P **P 14 26 23.9 +0.5**
baz=80
U12A Valley of Fire 79.44 326 ⇓P **P 14 26 24.3 +0.6**
baz=80
S15A Panguitch 79.46 328 ⇓P **P 14 26 24.3 +0.5**
baz=80
R16A Teasdale 79.58 329 ⇑P **P 14 26 24.8 +0.4**
baz=80
DECC Green Verdugo 79.58 322 ⇓P **P 14 26 25.4 +0.9**
baz=80
T13A Saint George 79.62 327 ⇑P **P 14 26 25.3 +0.7**
baz=80
GSC Goldstone 79.63 324 *eP* **P 14 26 25.3 +0.5**
GSC pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GSC Goldstone 79.63 324 ⇓P **P 14 26 25.3 +0.5**
baz=80,SNR=6.0
GSC Goldstone 79.63 324 *eP* **P 14 26 25.3 +0.5**
comp=Z,5.1nm,0.7s,mb4.6
Q18A Rafter H Ranch 79.69 331 P **P 14 26 25.2 +0.3**
baz=80,SNR=6.2
PHWY Pilot Hill 79.77 335 *eP* **P 14 26 24.1 -1.2**
COWI Conover 79.80 348 *eP* **P 14 26 24.2 -1.2**
comp=Z,6.2nm,0.7s,mb4.7
SRU San Rafael 79.86 330 *eP* **P 14 26 25.4 -0.5**
SRU pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SRU San Rafael 79.86 330 P **P 14 26 26.3 +0.4**
baz=80,SNR=9.0
SRU San Rafael 79.86 330 *eP* **P 14 26 25.4 -0.4**
comp=Z,7.9nm,0.7s,mb4.8
R15A Junction 79.86 329 ⇓P **P 14 26 26.3 +0.4**
baz=80
EDW2 Edwards Air Fo 79.90 323 ⇑P **P 14 26 26.4 +0.2**
baz=80,SNR=5.5
Q16A Castle Valley 79.97 330 ⇑P **P 14 26 26.8 +0.3**
baz=80
ARUT Antelope Range 80.03 328 *eP* **P 14 26 27.1 +0.2**
S13A Holt Ranch, En 80.06 327 ⇓P **P 14 26 27.3 +0.3**
baz=80,SNR=5.8
MSU Marysvale 80.07 329 *eP* **P 14 26 27.5 +0.5**
P18A Preston Nutter 80.18 331 P **P 14 26 28.1 +0.6**
baz=80,SNR=19
LRMC Laurel Mountai 80.22 323 ⇓P **P 14 26 28.2 +0.3**
baz=80,SNR=6.9
P17A Butcher Ranch, 80.25 330 ⇑P **P 14 26 27.9 -0.2**
baz=81
U10A Ash Meadows, A 80.29 325 ⇑P **P 14 26 28.7 +0.4**
baz=81
TMUT Trail Mountain 80.30 330 *eP* **P 14 26 28.8 +0.5**
T11A Corn Creek, Al 80.41 326 ⇓P **P 14 26 29.4 +0.5**
baz=81,SNR=15
BOSA Boshof 80.47 118 P **P 14 26 28.6 -1.1**
comp=Z,18nm,0.7s,mb5.1,baz=238,slow=4.4,SNR=10
BOSA LR LR 14 59 36.4
comp=Z,717nm,18.0s,MS5.1,baz=229,slow=34
BOSA Boshof 80.47 118 *eP* **P 14 26 29.0 -0.7**
BOSA pmax pmax
comp=Z,49nm,1.3s,mb5.3
BOSA Boshof 80.47 118 *eP* **P 14 26 29.0 -0.7**
comp=Z,49nm,1.3s,mb5.3
S12A Delamar Landin 80.54 327 ⇑P **P 14 26 30.3 +0.7**
baz=81
Q15A Fillmore 80.56 329 ⇓P **P 14 26 30.6 +0.9**
baz=81
MPMC Manual Prospec 80.57 324 P **P 14 26 30.3 +0.5**
baz=81,SNR=5.7
FURC Furnace Creek, 80.59 325 ⇑P **P 14 26 30.7 +0.8**
baz=81,SNR=7.3
R13A O'Grain Ranch, 80.59 327 ⇑P **P 14 26 30.6 +0.7**
baz=81
O18A Roosevelt 80.62 331 ⇓P **P 14 26 30.6 +0.7**
baz=81
TPNV Topopah Spring 80.67 325 *eP* **P 14 26 31.0 +0.7**
TPNV pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
TPNV Topopah Spring 80.67 325 ⇑P **P 14 26 30.8 +0.5**
baz=81
TPNV Topopah Spring 80.67 325 *eP* **P 14 26 31.0 +0.7**
comp=Z,6.5nm,0.7s,mb4.7
RWWY Rawlins 80.75 334 *eP* **P 14 26 30.7 +0.1**
comp=Z,8.7nm,0.8s,mb4.7
ISA Isabella 80.76 323 *eP* **P 14 26 30.7 -0.1**
ISA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ISA Isabella 80.76 323 ⇓P **P 14 26 31.6 +0.8**
baz=81,SNR=8.6
ISA Isabella 80.76 323 *eP* **P 14 26 30.6 -0.2**
comp=Z,6.5nm,0.8s,mb4.6
PKM Peak Mountain 80.86 322 ⇑P **P 14 26 32.1 +0.7**
baz=81
Q14A Sevier Lake (B 80.94 328 P **P 14 26 32.5 +0.8**
baz=81,SNR=7.5
S11A Rachel 80.99 326 ⇓P **P 14 26 32.8 +0.8**
baz=81
P15A Leamington 80.99 329 ⇓P **P 14 26 32.6 +0.7**
baz=81
R12A Pony Springs, 81.01 327 ⇓P **P 14 26 32.4 +0.3**
baz=81,SNR=12
N18A Larsen Ranch, 81.09 332 P **P 14 26 32.3 -0.1**
baz=81,SNR=6.5
CWC Cottonwood Cre 81.17 324 ⇑P **P 14 26 33.5 +0.5**
baz=82
O16A Springville 81.19 330 ⇓P **P 14 26 33.5 +0.5**
baz=82
VES Vestal, Richgr 81.20 323 ⇓P **P 14 26 33.7 +0.6**
baz=82
Q13A Wheeler Ranch, 81.25 328 P **P 14 26 34.0 +0.6**
baz=82,SNR=5.4
GRAC Grapevine Rang 81.25 325 ⇑P **P 14 26 33.6 +0.2**
baz=82,SNR=8.1
DAU Daniels Canyon 81.26 330 *eP* **P 14 26 33.3 -0.1**
P14A Drum Mountains 81.35 329 P **P 14 26 34.6 +0.8**
baz=82,SNR=12
R11A Troy Canyon, C 81.48 327 P **P 14 26 35.4 +0.8**
baz=82,SNR=14
N17A Moffit Pass 81.53 331 P **P 14 26 35.5 +0.7**
baz=82,SNR=7.1
CASY Casey 81.54 181 *eP* **P 14 26 34.3 -0.4**
CASY *e* pP 14 26 41.7 -1.7
S10A Tonopah Range, 81.61 326 P **P 14 26 35.6 +0.3**
baz=82,SNR=7.5
P13A Bates Ranch, G 81.66 328 P **P 14 26 36.0 +0.5**
baz=82,SNR=9.1
TIN Tinemaha 81.72 324 ⇑P **P 14 26 36.1 +0.2**
baz=82
DUG Dugway 81.74 329 *eP* **P 14 26 35.6 -0.3**
DUG pmax pmax
comp=Z,17nm,1.3s,mb4.8
DUG Dugway 81.74 329 ⇑P **P 14 26 35.9 +0.1**
baz=82
DUG Dugway 81.74 329 *eP* **P 14 26 35.6 -0.2**
comp=Z,17nm,1.3s,mb4.8
S09A Goldfield 81.76 325 ⇑P **P 14 26 36.7 +0.6**
baz=82
RSSD Black Hills 81.77 337 *eP* **P 14 26 35.9 0.0**
RSSD pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
RSSD Black Hills 81.77 337 *eP* **P 14 26 35.9 -0.1**
comp=Z,10.0nm,0.8s,mb4.8
HELL Mitchell Peak 81.83 323 ⇓P **P 14 26 36.5 0.0**
baz=82,SNR=8.6
Q11A Duckwater 81.91 327 ⇓P **P 14 26 37.1 +0.2**
baz=82,SNR=6.8
V04C Ramage Ranch, 81.98 321 ⇑P **P 14 26 37.8 +0.5**
baz=82
EYMN Ely 82.02 347 *eP* **P 14 26 35.6 -1.6**
comp=Z,10nm,0.6s,mb4.9
TPH Tonopah 82.03 325 *eP* **P 14 26 37.8 +0.3**
TPH pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TPH Tonopah 82.03 325 *eP* **P 14 26 37.8 +0.3**
comp=Z,6.7nm,0.8s,mb4.6
PKD Parkfield 82.04 322 ⇓P **P 14 26 38.0 +0.3**
baz=82
S08C White Mtn Res 82.04 324 ⇑P **P 14 26 37.9 +0.3**
baz=82
P12A McGill 82.07 328 ⇑P **P 14 26 38.0 +0.3**
baz=82
R09A Tonopah 82.09 325 P **P 14 26 38.1 +0.3**
baz=82,SNR=12
Q10A Clear Creek Ra 82.24 326 ⇑P **P 14 26 39.3 +0.7**
baz=82
KCC Kaiser Creek 82.48 324 ⇑P **P 14 26 40.5 +0.6**
baz=83
U04C Hernandez Rese 82.49 322 ⇓P **P 14 26 40.4 +0.5**
baz=83
PDAR Pinedale Array 82.56 333 P **P 14 26 39.7 -0.5**
comp=Z,1.9nm,0.7s,mb4.3,baz=139,slow=5.4,SNR=15
LBTB Lobatse 82.63 115 *eP* **P 14 26 40.3 -0.9**
LBTB pmax pmax
comp=Z,27nm,0.9s,mb5.3
LBTB Lobatse 82.63 115 *eP* **P 14 26 40.3 -0.9**
comp=Z,27nm,0.9s,mb5.3
O12A Currie 82.64 328 P **P 14 26 40.9 +0.3**
baz=83,SNR=7.4
L16A Fish Haven 82.67 331 ⇑P **P 14 26 40.2 -0.6**
baz=83
NVAR Mina Array Bea 82.83 325 P **P 14 26 42.0 +0.3**
comp=Z,4.7nm,0.7s,mb4.6,baz=153,slow=6.3,SNR=33
NVAR Mina Array Bea 82.83 325 P **P 14 26 42.0 +0.3**
P10A Eureka 82.90 327 ⇑P **P 14 26 42.1 +0.1**
baz=83,SNR=5.9
O11A Cowboy Ranch, 82.94 328 ⇓P **P 14 26 42.0 -0.2**
baz=83,SNR=6.2
Q08A Gabbs 82.99 325 ⇑P **P 14 26 42.4 -0.1**
baz=83
HVU Hansel Valley 83.03 330 *eP* **P 14 26 41.9 -0.7**
HVU pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
HVU Hansel Valley 83.03 330 *eP* **P 14 26 41.9 -0.7**
comp=Z,7.8nm,0.7s,mb4.8
M14A Sheep Mountain 83.04 330 P **P 14 26 42.4 -0.3**
baz=83,SNR=6.4
L15A Malad City 83.06 331 ⇓P **P 14 26 42.1 -0.7**
baz=83
S06C San Francisco 83.17 324 ⇓P **P 14 26 43.3 -0.2**
baz=84
N12A Clover Valley, 83.25 328 ⇓P **P 14 26 43.3 -0.5**
baz=84,SNR=6.2
ELK Elko 83.25 328 P **P 14 26 43.7 -0.1**
ELK pmax pmax
comp=Z,6.0nm,0.7s
ELK Elko 83.25 328 P **P 14 26 43.7 -0.1**
comp=Z,6.1nm,0.7s,mb4.7
M13A Montello 83.28 329 ⇓P **P 14 26 43.5 -0.5**
baz=84
AGMN Agassiz Refuge 83.29 344 *eP* **P 14 26 41.9 -1.8**
comp=Z,23nm,0.7s,mb5.3
TOA0 Torodi Ar. Sit 83.37 70 *eP* **P 14 26 44.1 -1.0**
TORD Torodi Ar. Bea 83.37 70 P **P 14 26 44.1 -0.9**
comp=Z,27nm,0.7s,mb5.4,baz=263,slow=4.5,SNR=148
TORD LR LR 15 00 45.1
comp=Z,589nm,21.4s,MS4.9,baz=225,slow=34
K16A Soda Springs 83.42 332 ⇓P **P 14 26 44.5 -0.1**
baz=84
L14A Malta 83.44 330 ⇓P **P 14 26 44.3 -0.4**
baz=84
R06C Coleville 83.47 324 ⇑P **P 14 26 45.0 +0.1**
baz=84
REDW Red Top Meadow 83.57 332 *eP* **P 14 26 43.8 -1.6**
comp=Z,6.3nm,0.9s,mb4.8
M12A Wells 83.65 329 ⇑P **P 14 26 45.4 -0.4**
baz=84,SNR=5.2
O09A Fish Creek Ran 83.68 327 P **P 14 26 46.3 +0.3**
baz=84,SNR=6.0
K15A Arbon 83.68 331 ⇑P **P 14 26 45.8 -0.1**
baz=84
LOHW Long Hollow 83.69 333 *eP* **P 14 26 45.0 -0.9**
comp=Z,2.8nm,0.5s,mb4.7
TPAW Teton Pass 83.72 332 *eP* **P 14 26 45.5 -0.6**
comp=Z,5.5nm,0.7s,mb4.8
RRI2 Red Ridge 83.75 332 *eP* **P 14 26 45.1 -1.1**
comp=Z,12nm,1.3s,mb4.8
L13A Double Diamond 83.78 330 P **P 14 26 46.9 +0.4**
baz=84,SNR=14
K14A Jones Ranch, D 83.83 330 ⇓P **P 14 26 46.6 -0.1**
baz=84
MOOW Moose Ponds 83.86 333 *eP* **P 14 26 45.7 -1.1**
comp=Z,2.9nm,0.8s,mb4.5
R05C Kirkwood Meado 83.92 324 ⇑P **P 14 26 47.4 +0.1**
baz=84
M11A Holland Ranch, 84.05 328 P **P 14 26 48.2 +0.3**
baz=84,SNR=13
IMW Indian Meadow 84.06 333 *eP* **P 14 26 47.5 -0.4**
comp=Z,5.3nm,0.7s,mb4.8
FLWY Flagg Ranch 84.12 333 *eP* **P 14 26 47.9 -0.3**
comp=Z,9.0nm,0.7s,mb5.0
LAVA Lava Cap Winer 84.29 324 ⇑P **P 14 26 49.0 -0.2**
baz=85
M10A I.L. Ranch, Tu 84.46 328 ⇓P **P 14 26 49.8 -0.1**
baz=85
RLMT Red Lodge 84.47 334 *eP* **P 14 26 49.5 -0.4**
comp=Z,4.3nm,0.6s,mb4.8
O07A Toulon 84.47 326 ⇑P **P 14 26 50.1 +0.1**
baz=85
L11A Cat Creek Ranc 84.63 329 ⇓P **P 14 26 50.7 0.0**
baz=85,SNR=5.5
K12A Draper Farm, C 84.64 329 ⇑P **P 14 26 50.6 -0.2**
baz=85
P05C Yuba Gap, Truc 84.65 324 ⇓P **P 14 26 51.0 0.0**
baz=85
L10A Juniper Basin 84.87 328 P **P 14 26 52.1 +0.1**
baz=85,SNR=12
URZ Urewera 84.93 227 LR LR 14 55 22.2
comp=Z,483nm,19.7s,MS4.9,baz=204,slow=29
J13A Cove Ranch, Pi 84.95 330 ⇑P **P 14 26 52.5 +0.2**
baz=85,SNR=8.4
QLMT Earthquake Lak 85.03 333 P **P 14 26 52.8 0.0**
ULM Lac du Bonnet 85.12 345 P **P 14 26 51.7 -1.3**
comp=Z,20nm,0.8s,mb5.3,baz=173,slow=4.5,SNR=27
ULM Lac du Bonnet 85.12 345 *eP* **P 14 26 51.2 -1.9**
comp=Z,16nm,0.7s,mb5.2
GCMT Greycliff 85.18 334 *eP* **P 14 26 52.9 -0.5**
HLID Hailey 85.18 330 P **P 14 26 54.0 +0.4**
baz=86,SNR=6.3
HLID Hailey 85.18 330 *eP* **P 14 26 53.3 -0.2**
comp=Z,7.5nm,1.1s,mb4.7
J12A Stokes Ranch, 85.22 330 ⇓P **P 14 26 53.7 0.0**
baz=86
K11A Parker Ranch, 85.23 329 ⇓P **P 14 26 53.7 -0.1**
baz=86
M08A Happy Creek Ra 85.24 327 ⇓P **P 14 26 53.7 -0.1**
baz=86
ORV Oroville 85.28 324 ⇑P **P 14 26 54.4 +0.3**
baz=86
I13A Wildhorse Cree 85.35 331 ⇑P **P 14 26 54.7 +0.3**
baz=86,SNR=8.8
N06A Buffalo Meadow 85.38 325 P **P 14 26 54.9 +0.3**
baz=86,SNR=7.6
M07A Soldier Meadow 85.56 326 ⇑P **P 14 26 55.5 0.0**
baz=86
MCMT McKenzie Canyo 85.59 332 *eP* **P 14 26 55.7 +0.2**
K10A MacKenzie Ranc 85.61 328 ⇓P **P 14 26 55.7 0.0**
baz=86
MFID Camas Ranch 85.67 329 ⇑P **P 14 26 55.8 -0.2**
baz=86
DGMT Dagmar 85.69 339 *eP* **P 14 26 55.3 -0.6**
comp=Z,30nm,0.7s,mb5.6
ELFS Eagle Lake Fie 85.71 325 ⇓P **P 14 26 56.1 -0.2**
baz=86

G15A	Dillon	85.72	332	⇓P	P	14 26 56.1	0.0
	baz=86						
BOZ	Bozeman (W)	85.80	333	*e*P	P	14 26 55.2	-1.3
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
BOZ	Bozeman (W)	85.80	333	⇓P	P	14 26 55.9	-0.7
	baz=86						
BOZ	Bozeman (W)	85.80	333	*e*P	P	14 26 55.2	-1.3
	comp=Z,2.2nm,0.8s,mb4.4						
L08A	Fields	85.81	327	⇓P	P	14 26 56.1	-0.5
	baz=86,SNR=9.6						
K09A	Rome	85.93	328	P	P	14 26 57.0	-0.2
	baz=86,SNR=6.6						
H13A	Challis	85.94	331	⇑P	P	14 26 57.1	-0.1
	baz=86,SNR=19						
GASB	Alder Springs	85.97	323	⇑P	P	14 26 57.6	0.0
	baz=86,SNR=7.7						
LCCM	Lewis and Clar	86.05	333	P	P	14 26 57.8	+0.1
H12A	Diamond D Ranc	86.17	331	⇑P	P	14 26 58.3	-0.1
	baz=86,SNR=5.2						
HATC	Hat Creek Radi	86.22	324	⇓P	P	14 26 58.7	-0.1
	baz=86						
F15A	Butte	86.29	333	P	P	14 26 59.0	0.0
	baz=87,SNR=14						
K08A	Mann Creek Ran	86.30	327	⇑P	P	14 26 59.3	+0.3
	baz=87						
G13A	Cobalt	86.36	331	P	P	14 26 59.5	+0.2
	baz=87,SNR=15						
O02C	Red Bluff	86.40	323	⇓P	P	14 26 59.6	-0.1
	baz=87						
J09A	Fry Pan Ranch,	86.45	328	⇑P	P	14 26 59.9	0.0
	baz=87						
M05C	Lookout	86.48	325	⇓P	P	14 26 59.9	-0.1
	baz=87						
MOD	Modoc	86.50	326	⇑P	P	14 27 00.1	0.0
	baz=87,SNR=7.2						
MOD	Modoc	86.50	326	*e*P	P	14 27 00.2	+0.2
	comp=Z,4.3nm,0.9s,mb4.7						
LTIM	Timbered Crate	86.51	325	P	P	14 27 00.4	+0.2
WDC	Whiskeytown Da	86.58	324	⇓P	P	14 27 00.2	-0.3
	baz=87						
F14A	Wisdom	86.61	332	⇑P	P	14 27 00.9	+0.3
	baz=87						
K07A	Rock Creek Ran	86.61	327	P	P	14 27 01.2	+0.5
	baz=87,SNR=11						
I10A	Payette	86.62	329	P	P	14 27 01.1	+0.5
	baz=87,SNR=5.6						
H11A	Donnelly	86.78	330	⇑P	P	14 27 01.4	0.0
	baz=87						
E15A	Deer Lodge	86.83	333	⇓P	P	14 27 01.6	0.0
	baz=87						
L05A	Lakeview	86.86	326	P	P	14 27 02.4	+0.6
	baz=87,SNR=5.7						
I09A	Lost Marbles R	86.94	329	⇑P	P	14 27 01.9	-0.3
	baz=87,SNR=16						
F13A	Darby	86.97	332	P	P	14 27 02.0	-0.3
	baz=87,SNR=15						
RAO	Raoul Island	86.98	237	LR	LR	14 57 49.6	
	comp=Z,230nm,19.0s,MS4.6,baz=188,slow=30						
H10A	Noah's Angus R	87.00	330	⇓P	P	14 27 01.9	-0.6
	baz=87,SNR=9.7						
SCHQ	Schefferville	87.05	3	P	P	14 27 01.2	-1.2
	comp=Z,10nm,0.8s,mb5.1,baz=153,slow=4.6,SNR=8.7						
EGMT	Eagleton	87.12	335	⇓P	P	14 27 02.2	-0.7
	baz=87						
N02C	Big Bar	87.15	323	⇑P	P	14 27 03.1	-0.2
	baz=87						
E14A	Clinton	87.16	332	⇑P	P	14 27 02.9	-0.2
	baz=88						
K06A	Valley Falls	87.17	326	P	P	14 27 03.7	+0.4
	baz=88,SNR=6.7						
J07A	Hines	87.18	327	⇑P	P	14 27 03.4	+0.1
	baz=88,SNR=10						
I08A	Drewsey	87.26	328	⇑P	P	14 27 03.8	0.0
	baz=88						
D15A	Lincoln	87.30	333	⇓P	P	14 27 03.7	-0.1
	baz=88,SNR=6.3						
F12A	Elk City	87.32	331	P	P	14 27 03.7	-0.3
	baz=88,SNR=10						
M02C	Callahan	87.35	324	⇑P	P	14 27 04.0	-0.3
	baz=88						
K05A	Summer Lake	87.41	326	⇓P	P	14 27 04.3	-0.2
	baz=88,SNR=5.3						
E13A	Victor	87.45	332	⇓P	P	14 27 04.3	-0.2
	baz=88						
G11A	Walters Elk Ra	87.45	330	P	P	14 27 04.5	-0.2
	baz=88,SNR=37						
J06A	Christmas Vall	87.47	327	⇑P	P	14 27 04.6	-0.2
	baz=88,SNR=10						
JCC	Jacoby Creek	87.51	323	⇑P	P	14 27 05.0	-0.1
	baz=88						
YBH	Yreka Blue Hor	87.53	324	*e*P	P	14 27 03.6	-1.5
YBH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YBH	Yreka Blue Hor	87.53	324	P	P	14 27 04.4	-0.8
	baz=88,SNR=5.6						
YBH	Yreka Blue Hor	87.53	324	*e*P	P	14 27 03.6	-1.6
	comp=Z,3.0nm,0.8s,mb4.6						
D14A	Greenough	87.71	333	⇑P	P	14 27 05.3	-0.6
	baz=88						
G10A	Bishop Farm, J	87.72	330	⇑P	P	14 27 05.8	-0.1
	baz=88,SNR=5.5						
H08A	Prairie City	87.78	328	P	P	14 27 06.2	-0.1
	baz=88,SNR=6.4						
I07A	Izee	87.82	328	⇑P	P	14 27 06.4	0.0
	baz=88,SNR=16						
KTRM	Thompson Ridge	87.99	324	P	P	14 27 08.1	+0.8
G09A	Cove	88.00	329	P	P	14 27 07.1	-0.2
	baz=88,SNR=15						
J05A	Fort Rock	88.00	326	⇓P	P	14 27 07.6	+0.2
	baz=88						
I06A	Prineville	88.03	327	P	P	14 27 08.1	+0.7
	baz=88,SNR=12						
D13A	Huson	88.09	332	⇓P	P	14 27 07.7	+0.1
	baz=88						
E11A	Bogner Ranch,	88.19	331	⇑P	P	14 27 08.2	0.0
	baz=88						
H07A	Lands Inn, Kim	88.24	328	⇑P	P	14 27 08.3	-0.1
	baz=88						
L02A	Cave Junction	88.29	324	⇑P	P	14 27 08.6	-0.1
	baz=89						
HUMO	Hull Mountain	88.31	325	⇓P	P	14 27 08.6	-0.2
	baz=89						
F10A	Beach Ranch, E	88.31	330	⇑P	P	14 27 08.3	-0.4
	baz=89						
J04A	Umpqua Nationa	88.38	326	⇑P	P	14 27 08.8	-0.3
	baz=89						
F09A	S2 Ranch, Elgi	88.39	330	⇑P	P	14 27 08.9	-0.2
	baz=89						
D12A	Red Ives Fores	88.41	332	⇓P	P	14 27 08.9	-0.3
	baz=89						
G08A	Pilot Rock	88.52	329	⇓P	P	14 27 09.2	-0.5
	baz=89						
C13A	Hot Springs	88.61	333	⇑P	P	14 27 09.8	-0.3
	baz=89						
K02A	Glendale	88.69	325	⇑P	P	14 27 10.2	-0.4
	baz=89						
H06A	Lindquist Farm	88.70	328	⇑P	P	14 27 10.3	-0.3
	baz=89,SNR=6.5						
G07A	Ruggs Ranch, H	88.81	328	⇓P	P	14 27 11.0	-0.1
	baz=89,SNR=5.3						
I04A	Tendick Farm,	88.94	326	⇑P	P	14 27 11.8	+0.1
	baz=89						
J02A	Umpqua	89.18	325	⇓P	P	14 27 13.1	+0.2
	baz=90						
A13A	Flathead Natio	89.58	333	⇓P	P	14 27 14.3	-0.3
	baz=90						
HAWA	Hanford	89.63	329	*e*P	P	14 27 14.9	0.0
	comp=Z,6.9nm,0.8s,mb5.0						
D09A	Jones Farm, Ri	89.63	330	⇓P	P	14 27 14.3	-0.6
	baz=90						
D08A	Wollman Farm,	89.89	330	⇑P	P	14 27 15.7	-0.4
	baz=90						
LSZ	Lusaka	89.95	108	*e*P	P	14 27 17.6	+0.3
LSZ				pmax	pmax		
	comp=Z,18nm,1.3s,mb5.2						
LSZ	Lusaka	89.95	108	*e*P	P	14 27 17.6	+0.3
	comp=Z,18nm,1.3s,mb5.2						
OD2	Odessa Site #2	90.06	330	*e*P	P	14 27 16.0	-0.9
A11A	Hall Mountain,	90.35	332	P	P	14 27 17.8	-0.4
	baz=91,SNR=13						
E06A	Yakima	90.38	328	⇓P	P	14 27 17.8	-0.6
	baz=91						
F04A	Amboy	90.56	327	⇓P	P	14 27 18.5	-0.8
	baz=91						
B09A	Rice	90.64	331	⇓P	P	14 27 18.7	-0.9
	baz=91,SNR=10						
A10A	Northport	90.84	332	⇓P	P	14 27 19.2	-1.3
	baz=91,SNR=8.3						
C07A	Waterville	90.86	330	⇓P	P	14 27 20.1	-0.5
	baz=91						
AFI	Afiamalu	90.97	253	LR	LR	14 59 33.7	
	comp=Z,440nm,18.3s,MS4.9,baz=94,slow=30						
B08A	Colville Reser	91.08	330	⇑P	P	14 27 20.7	-0.9
	baz=91						
A09A	Danville	91.25	331	P	P	14 27 21.8	-0.6
	baz=92,SNR=5.7						
B07A	Winthrop	91.49	330	P	P	14 27 23.0	-0.5
	baz=92,SNR=7.3						
A08A	Turner Farm, O	91.52	331	⇑P	P	14 27 23.0	-0.6
	baz=92,SNR=6.6						
A07A	Ashnola River,	92.05	330	⇓P	P	14 27 25.8	-0.3
	baz=92						
ESDC	Sonseca Array	95.28	46	LR	LR	15 13 25.2	
	comp=Z,204nm,18.0s,MS4.6,baz=210,slow=37						
NKC	Novy Kostel	110.71	43	AMS	AMS	15 17 30.0	
	comp=Z,400nm,17.2s						
GERES	GERESS Array B	110.84	45	PKiKP	PKiKP	14 32 48.0	-2.0
	comp=Z,0.3nm,0.2s,baz=216,slow=4.8,SNR=4.4						
KHC	Kasperske Hory	110.89	44	AMS	AMS	15 23 50.0	
	comp=Z,300nm,18.4s						
CLL	Collm	111.50	42	*e*PKIKP	PKiKP	14 32 57.0	+5.8
CLL				MLR	MLR		
	comp=Z,600nm,19.2s,MS5.2						
CLL	Collm	111.50	42	*e*PS	PS	14 43 00.0	-4.9
CLL				*e*PPS		14 44 24.0	
CLL				Lm		15 19 00.0	
	comp=N,200nm,19.6s						
CLL				Lm		15 19 00.0	
	comp=E,400nm,19.4s						
CLL				Lm		15 19 00.0	
	comp=Z,600nm,19.2s						
PRU	Pruhonice	111.83	44	AMS	AMS	15 17 10.0	
	comp=Z,200nm,21.4s						
PVCC	Panska Ves	112.07	43	AMS	AMS	15 18 20.0	
	comp=Z,300nm,20.3s						
TREC	Trest	112.10	45	AMS	AMS	15 23 50.0	
	comp=Z,300nm,20.7s						
DPC	Dobruska-Polom	113.02	44	AMS	AMS	15 19 30.0	
	comp=Z,200nm,17.8s						
OKC	Ostrava-Krasne	113.90	45	AMS	AMS	15 25 40.0	
	comp=Z,200nm,19.9s						
AKASG	Malin Array Be	120.91	47	PKP	PKPdf	14 33 06.5	-2.8
	comp=Z,2.4nm,0.6s,baz=258,slow=3.0,SNR=15						
AKBB	Malin Array Si	120.91	47	*e*PKIKP	PKPdf	14 33 07.5	-1.8
ARCES	ARCESS Array B	122.50	24	PKP	PKPdf	14 33 10.5	-1.3
	comp=Z,0.9nm,0.7s,baz=58,slow=3.0,SNR=4.9						
OBN	Obninsk	126.09	42	⇑*i*PKIKP	PKPdf	14 33 18.2	-0.9
OBN				pmax	pmax		
	comp=Z,20nm,1.6s						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.6						
KIV	Kislovodsk	128.39	57	*e*P	Pdif	14 30 09.1	+0.2
KIV				*i*		14 33 22.8	
KIV				*e*		14 35 26.8	
KIV				*e*		14 40 27.3	
KIV				*e*PS	PS	14 45 40.0	+3.2
KIV				pmax	pmax		
	comp=Z,13nm,1.2s						
KIV				MLR	MLR		
	comp=Z,168nm,20.0s,MS4.7						
BILL	Biiibino	131.61	335	*i* PKIKP	PKPdf	14 33 28.0	-1.2
BILL				*e*		14 33 34.7	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ARU	Arti	138.37	40	*i* PKIKP	PKPdf	14 33 40.9	-1.3
ARU						14 36 31.6	
ARU				MLR	MLR		
	comp=Z,261nm,19.0s,MS5.0						
ARU	Arti	138.37	40	*e*PKPdf	PKPdf	14 33 42.0	-0.2
SEY	Seymchan	138.88	331	*e*PKIKP	PKPdf	14 33 42.9	0.0
PETK	Petropavlovsk-	139.33	315	PKP	PKPdf	14 33 43.0	-1.0
	comp=Z,4.9nm,0.8s,baz=90,slow=5.9,SNR=5.6						
BRVK	Borovoye	145.86	42	*e*PKP2	PKPdf	14 33 54.6	-1.0
BVAR	Borovoye Array	145.93	42	PKPbc	PKPbc	14 33 55.8	-0.7
	comp=Z,10nm,0.5s,baz=292,slow=2.4,SNR=70						
KBL	Kabul	147.29	75	*e*PKPdf	PKPdf	14 33 58.2	-0.4
YAK	Yakutsk	147.41	341*c*	*i*PKP2	PKPdf	14 33 59.2	+1.3
YAK				pmax	pmax		
	comp=Z,63nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
YAK	Yakutsk	147.41	341	*e*PKPdf	PKPdf	14 33 59.0	+1.1
KSM	Kuching	149.10	184	*e*PKPdf	PKPdf	14 34 01.9	-0.4
KSM				*e*		14 34 10.3	
PSI	Prapat	149.17	161	PKPbc	PKPbc	14 34 04.7	-1.9
	comp=Z,15nm,0.6s,baz=336,slow=18,SNR=4.6						
HYB	Hyderabad	149.22	112	*i* PKP	PKPdf	14 34 00.5	-1.8
HYB	Hyderabad	149.22	112	*e*P	PKPbc	14 34 08.0	+1.5
YSS	Yuzh-Sakhalins	150.13	309	⇑*i*PKIKP	PKPbc	14 34 06.2	-1.7
YSS				pmax	pmax		
	comp=E,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS	Yuzh-Sakhalins	150.13	309	*e*PKPdf	PKPdf	14 34 03.0	+0.1
YSS				*e*PKPbc	PKPbc	14 34 06.5	-1.4
EKS2	Erkin-Say	150.94	60	P	PKPbc	14 34 10.1	+0.1
	SNR=18						
EKS2	Erkin-Say	150.94	60	*e*PKPdf	PKPdf	14 34 04.2	0.0
EKS2				*e*PKPbc	PKPbc	14 34 09.8	-0.2
EKS2				*e*PKPab	PKPab	14 34 10.0	-7.5
EKS2				*e*SKPdf	SKPdf	14 37 31.7	-4.1
AML	Almayashu	150.96	61	P	PKPbc	14 34 10.3	+0.3
	SNR=18						
AML	Almayashu	150.96	61	*e*PKPdf	PKPdf	14 34 04.8	+0.5
AML				*e*PKPbc	PKPbc	14 34 09.9	-0.1
USP	Ospenovka	151.36	58	P	PKPbc	14 34 10.8	-0.2
	SNR=14						
AAK	Ala-Archa	151.47	59	P	PKPbc	14 34 11.6	+0.4
	SNR=29						
NVS	Novosibirsk	151.47	31	*e*PKIKP	PKPbc	14 34 09.4	-1.4
NVS				pmax	pmax		
	comp=Z,82nm,1.5s						
FRU	Bishkek	151.52	59	*i* PKIKP	PKPbc	14 34 11.0	-0.3
FRU				pmax	pmax		
	comp=Z,60nm,2.0s						
KURK	Kurchatov	151.53	41	*e*PKIKP	PKPdf	14 34 03.9	-1.0
KURK				*e*		14 34 10.2	
KURK				*e*		14 34 19.1	
UCH	Uchtor	151.54	60	P	PKPbc	14 34 12.5	+1.1
	SNR=6.6						
UCH	Uchtor	151.54	60	*e*PKPbc	PKPbc	14 34 11.9	+0.5
CHMS	Chumysh	151.59	59	P	PKPbc	14 34 11.2	-0.3
	SNR=12						
KBK	Karagaybulak	151.79	59	P	PKPbc	14 34 11.7	-0.2
	SNR=6.0						
KZA	Kyzart	152.11	60	P	PKPbc	14 34 13.3	+0.6
	SNR=9.0						
TKM2	Tokmak 2	152.21	59	P	PKPbc	14 34 12.7	-0.2
	SNR=16						
TKM2	Tokmak 2	152.21	59	*e*PKPdf	PKPdf	14 34 05.7	-0.4
TKM2				*e*PKPbc	PKPbc	14 34 12.5	-0.4
ZAL	Zalesovo	152.76	31	PKIKP	PKPdf	14 34 05.6	-1.0
ZAL						14 34 12.9	
ZAA0	Zalesovo Array	152.76	31	*e*PKPdf	PKPdf	14 34 05.5	-1.1
ZAA0				*e*PKPbc	PKPbc	14 34 12.7	-1.0
ZALV	Zalesovo Beam	152.76	31	PKP	PKPdf	14 34 05.6	-1.0
	comp=Z,2.1nm,0.8s,baz=294,slow=1.5,SNR=8.8						
ZALV				PKPbc	PKPbc	14 34 12.8	-0.9
	comp=Z,30nm,0.6s,baz=300,slow=3.0,SNR=103						
ZALV	Zalesovo Beam	152.76	31	PKP	PKPdf	14 34 05.6	-1.0
ZALV				PKPbc	PKPbc	14 34 12.8	-0.9
ULHL	Ulahol	152.81	60	P	PKPbc	14 34 14.6	+0.4
	SNR=13						
CLNS	Chul'man	153.10	340	*e*PKIKP	PKPdf	14 34 08.5	+1.5
CLNS				pmax	pmax		
	comp=Z,13nm,0.7s						
CLNS				pmax	pmax		
	comp=N,5.0nm,1.0s						
DDI	Dehra Dun	154.08	87	*ex*	x	14 34 16.5	
BOD	Bodaibo	154.37	353	*e*PKIKP	PKPdf	14 34 06.1	-2.7
MJAR	Matsushiro Arr	155.13	288	PKPbc	PKPdf	14 34 19.4	+8.8
	comp=N,1.4nm,0.6s,baz=142,slow=2.6,SNR=4.9						
MAT	Matsushiro	155.13	288	*e*PKP	PKPdf	14 34 03.6	-6.9
MK31	Makanchi Array	155.50	47	*e*PKIKP	PKPdf	14 34 09.7	-1.0
MK31				*e*		14 34 18.4	
MKAR	Makanchi Array	155.50	47	PKP	PKPdf	14 34 09.6	-1.1
	comp=N,1.3nm,0.7s,baz=321,slow=1.6,SNR=9.7						
MKAR				PKPbc	PKPdf	14 34 18.7	+8.0
	comp=N,3.2nm,0.8s,baz=298,slow=2.3,SNR=16						
MKAR				PKPab	PKPab	14 34 35.9	-0.7
	comp=N,6.5nm,0.6s,baz=296,slow=4.2,SNR=17						
MKAR	Makanchi Array	155.50	47	PKIKP	PKPdf	14 34 09.6	-1.1
MKAR						14 34 18.7	
MDJ	Mudanjiang	159.52	312	PKP	PKPdf	14 34 14.2	-1.6
WMQ	Urumqi	160.25	49	*e*PKP	PKPdf	14 34 15.5	-1.1
WMQ				APKP		14 34 26.3	
WMQ				XPKP		14 34 29.9	
WMQ				PKS		14 37 47.5	
WMQ				PP	PP	14 38 40.5	+0.9
WMQ				SKKS	SKKSac	14 45 24.0	-2.1
WMQ				SS	SS	14 58 44.5	-3.8
WMQ				PP	PP		
	comp=Z,42nm,12.1s						
WMQ				LR	LR		
	comp=N,219nm,22.6s						
WMQ				LR	LR		
	comp=E,606nm,24.1s						
WMQ				LR	LR		
	comp=Z,734nm,25.6s						
CN2	Changchun	162.48	315	*e*PKP	PKPdf	14 34 16.8	-2.2
CN2				PP	PP	14 38 52.0	+0.6
CN2				PP	PP		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,610nm,21.0s						
CN2				LR	LR		
	comp=E,420nm,21.0s						
CN2				LR	LR		
	comp=Z,340nm,21.0s						
KSRS	Korea Array	163.23	293	PKPab	PKPab	14 35 09.9	-0.6
	comp=Z,1.6nm,0.9s,baz=94,slow=3.6,SNR=5.0						
CMAR	Chiang Mai Arr	163.66	146	PKP	PKPdf	14 34 19.8	-1.1
	comp=Z,1.1nm,0.5s,baz=253,slow=2.6,SNR=6.2						
SHL	Shillong	164.03	111	*e*P	PKPdf	14 34 20.5	-0.6
SONM	Songino Array	164.59	5	PKPab	PKPab	14 35 15.0	-0.9
	comp=Z,2.3nm,0.8s,baz=329,slow=3.9,SNR=7.4						
GTA	Gaotai	170.21	43	PKP	PKPdf	14 34 25.4	+0.2
GTA				APKP		14 34 36.2	
GTA				XPKP		14 34 39.9	
GTA				PKP2	PKPab	14 35 41.3	+0.1
GTA				LR	LR		
	comp=N,154nm,18.1s						
GTA				LR	LR		
	comp=E,162nm,19.9s						
GTA				LR	LR		
	comp=Z,181nm,18.4s						
KMI	Kunming	171.16	145	PKP	PKPdf	14 34 23.1	-3.0
KMI				APKP		14 34 32.6	
KMI				XPKP		14 34 35.3	
KMI				PKP2	PKPab	14 35 46.3	+0.6
KMI				PP	PP	14 39 37.8	+2.0
KMI				SS	SS	15 00 38.6	-0.1
KMI				PP	PP		
	comp=Z,171nm,4.7s						
KMI				LR	LR		
	comp=N,221nm,11.7s						
KMI				LR	LR		
	comp=E,224nm,12.6s						
KMI				LR	LR		
	comp=Z,301nm,16.2s						
HHC	Hu-ho-hao-te	171.26	344	*e*PKP	PKPdf	14 34 22.5	-3.2
HHC				AP		14 34 33.0	
HHC				XP		14 34 36.5	
HHC				PKS		14 37 54.0	
HHC				PP	PP	14 39 36.2	+0.5
HHC				SKS	SKSdf	14 41 22.1	-5.0
HHC				SKKS	SKKSac	14 46 18.2	-2.9
HHC				SS	SS	15 00 33.6	-5.2
HHC				PP	PP		
	comp=Z,79nm,8.3s						
HHC				LR	LR		
	comp=N,180nm,20.2s						
HHC				LR	LR		
	comp=E,190nm,17.2s						
HHC				LR	LR		
	comp=Z,333nm,21.4s						
GYA	Guiyang	173.82	166	PKP	PKPdf	14 34 27.0	-0.2
GYA				APKP		14 34 34.6	
GYA				PKP2	PKPab	14 35 58.4	+1.1
GYA				PKS		14 37 58.0	
GYA				PP	PP	14 39 51.7	+3.4
GYA				SKKS	SKKSac	14 46 34.2	+0.3
GYA				SS	SS	15 01 04.8	+1.2
GYA				PP	PP		
	comp=Z,120nm,8.9s						
GYA				LR	LR		
	comp=N,150nm,25.5s						
GYA				LR	LR		
	comp=E,110nm,24.6s						
GYA				LR	LR		
	comp=Z,180nm,24.4s						
WHN	Wuhan	174.54	251	PKP	PKPdf	14 34 24.6	-2.8
LZH	Lanzhou	174.81	45	*e*PKP	PKPdf	14 34 24.7	-2.6
LZH				APKP		14 34 35.6	
LZH				XPKP		14 34 39.2	
LZH				PKP2	PKPab	14 36 01.0	-0.7
LZH				*e*PP	PP	14 39 54.6	+0.6
LZH				SKKS	SKKSac	14 46 35.0	-3.6
LZH				*e*SS	SS	15 01 10.2	-4.5
LZH				PP	PP		
	comp=Z,122nm,7.3s						
LZH				LR	LR		
	comp=N,167nm,18.5s						
LZH				LR	LR		
	comp=Z,276nm,20.3s						
CD2	Chengdu	175.77	111	*e*PKP	PKPdf	14 34 24.0	-3.7
CD2				APKP		14 34 32.0	
CD2				XPKP		14 34 37.0	
CD2				PKP2	PKPab	14 36 04.5	-1.7
CD2				PP	PP	14 39 58.7	-0.6
CD2				SKS	SKSdf	14 41 21.7	-7.2
CD2				SKKS	SKKSac	14 46 39.6	-4.0
CD2				SS	SS	15 01 18.9	-6.4
CD2				PP	PP		
	comp=Z,150nm,10.8s						
CD2				LR	LR		
	comp=N,260nm,18.0s						
CD2				LR	LR		
	comp=Z,350nm,21.2s						

IDC ***08*** *14:17:37.1±1.8,3260S×7159W,h0km,mb4.5/4,mb1 4.5/5, mb1mx4.2/14,mbtmp4.4/5,ML4.2/1,Error ellipse: s-maj=67.9km s-min=41.9km az=42.0*

ISCJB ***08*** *14:17:40.9±0.6,3247S±003×7184W±006,h33km,mb4.3/4, Error ellipse: s-maj=7.6km s-min=3.6km az=166.8*

NEIC ***08*** *14:17:41.2,3250S×7175W,h26km,mb4.7/1,ML4.1(GUC), After GUC.*

NEIC Felt [II] at Limache, Petorca and Putaendo.

GUC ***08*** *14:17:41.2±0.9,3250S×7175W,h26km±5km,ML4.1*

ISC 08 14:17:42.2±0.6,3247S±003×7179W±006,h35km,n40, σ1$01/60,mb4.3/4,13C-10D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.30**	**103**	⇓*i*P		**Pn**		**14 17 48.3**	**-1.8**
CHNG	**Los Chungos**	**0.63**	**23**	⇓*i*P		**Pn**		**14 17 53.6**	**-1.0**
CHNG				*i* S		**Sn**		**14 18 02.7**	**-0.7**
PTCH	**Petorca**	**0.75**	**74**	⇓*i*P		**Pn**		**14 17 55.3**	**-0.9**
PTCH				*i* S		**Sn**		**14 18 05.4**	**-1.0**
PTCH				AML	AML			14 18 09.4	
	comp=N,3μm,0.2s								
PTCH	**Petorca**	**0.75**	**74**	⇓*i*P		**Pn**		**14 17 55.3**	**-

TACH	Talagante	1.38 149	⇓	iP	Pn	14 18 04.7	-0.2
CLCH	Cerro Calan	1.40 132	⇑	iP	Pn	14 18 05.1	-0.1
CLCH				i S	Sn	14 18 22.6	+0.2
CLCH				AML	AML	14 18 31.1	
	comp=N,8μm,0.6s						
CMCH	Combarbala	1.45 28	⇑	iP	Pn	14 18 06.4	+0.5
CMCH				i S	Sn	14 18 25.6	+1.9
CMCH				AML	AML	14 18 29.7	
	comp=E,26μm,0.4s						
CMCH	Combarbala	1.45 28	⇑	iP	Pn	14 18 06.4	+0.5
CMCH				i S	Sn	14 18 25.6	+1.9
FSR	Penalolen	1.46 134	⇑	iP	Pn	14 18 06.1	+0.1
FSR				i S	Sn	14 18 24.6	+0.7
FSR				AML	AML	14 18 25.1	
	comp=N,2μm,0.4s						
FSR	Penalolen	1.46 134	⇑	iP	Pn	14 18 06.1	+0.1
FSR				i S	Sn	14 18 24.6	+0.7
ANTU	Antumapu	1.46 139	⇓	iP	Pn	14 18 05.4	-0.6
ANTU				i S	Sn	14 18 24.5	+0.5
ANTU				AML	AML	14 18 25.1	
	comp=E,7μm,0.4s						
ANTU	Antumapu	1.46 139	⇓	iP	Pn	14 18 05.4	-0.6
ANTU				i S	Sn	14 18 24.5	+0.5
FCH	Farellones	1.52 125	⇑	iP	Pn	14 18 06.0	-0.8
FCH				i S	Sn	14 18 26.4	+1.0
FCH				AML	AML	14 18 27.4	
	comp=E,5μm,0.2s						
PCH	Pirque	1.57 137	⇓	iP	Pn	14 18 07.5	+0.1
SJCH	San Jose de Ma	1.68 135		eP	Pn	14 18 08.8	-0.2
SJCH				i S	Sn	14 18 29.9	+0.7
SJCH				AML	AML	14 18 37.0	
	comp=N,2μm,0.8s						
SJCH	San Jose de Ma	1.68 135		eP	Pn	14 18 08.8	-0.2
SJCH				i S	Sn	14 18 29.9	+0.7
LMEL	Las Melosas	1.91 136	⇑	iP	Pn	14 18 12.9	+0.7
LMEL				i S	Sn	14 18 37.4	+2.3
LMEL				AML	AML	14 18 42.9	
	comp=N,6μm,0.3s						
LMEL	Las Melosas	1.91 136	⇑	iP	Pn	14 18 12.9	+0.7
LMEL				i S	Sn	14 18 37.4	+2.3
CICH	Cipreses	2.17 149	⇑	iP	Pn	14 18 16.8	+1.0
CICH				i S	Sn	14 18 43.6	+2.2
SFDO	San Fernando	2.23 163	⇑	iP	Pn	14 18 17.3	+0.7
CFAA	Coronel Fontan	3.13 75		Pn	Pn	14 18 31.8	+2.7
	comp=N,4.6nm,0.3s,baz=239,slow=16,SNR=4.3						
CFAA				Lg		14 19 14.1	
	comp=N,7.6nm,0.3s,baz=150,slow=20,SNR=4.0						
LPAZ	La Paz	16.45 12		Pn	Pn	14 21 31.2	+0.9
	comp=N,0.4nm,0.3s,baz=204,slow=14,SNR=3.4						
LPAZ	La Paz	16.45 12		Pn	Pn	14 21 31.2	+0.9
SWET	Sewanee	68.63 348		eP	P	14 28 41.6	+0.1
DBIC	Dimbokro	74.49 72		P	P	14 29 17.0	-0.3
	comp=N,6.2nm,0.7s,mb4.7,baz=223,slow=8.8,SNR=4.7						
DBIC	Dimbokro	74.49 72		eP	P	14 29 17.1	-0.2
	comp=N,5.9nm,0.7s,mb4.6						
BOSA	Boshof	80.59 118		P	P	14 29 51.0	-0.4
	comp=N,3.5nm,0.8s,mb4.3,baz=272,slow=3.4,SNR=3.1						
BOSA	Boshof	80.59 118		P	P	14 29 51.0	-0.4
NVAR	Mina Array Bea	82.75 325		P	P	14 30 04.2	+1.9
	comp=N,0.7nm,0.8s,mb3.7,baz=154,slow=5.7,SNR=3.9						
TOA0	Torodi Ar. Sit	83.49 70		eP	P	14 30 06.2	-0.5
TORD	Torodi Ar. Bea	83.49 70		P	P	14 30 06.5	-0.1
	comp=N,4.0nm,0.7s,mb4.6,baz=263,slow=4.5,SNR=5.3						
BVAR	Borovoye Array	146.01 41		PKPbc	PKPbc	14 37 18.1	+0.5
	comp=N,1.4nm,0.4s,baz=273,slow=2.2,SNR=10						
ZALV	Zalesovo Beam	152.81 31		PKPbc	PKPbc	14 37 34.8	0.0
	comp=N,4.9nm,0.7s,baz=301,slow=3.0,SNR=3.8						

*IDC **08** 14:27:01.8±3.1, 741S×128.15E, h126km±29km, mb4.0/12, mb1 4.2/15, mb1mx4.2/19, mbtmp4.1/15, Error ellipse: s-maj=24.0km s-min=11.8km az=63.0*
*ISCJB **08** 14:27:03.7±0.7, 756S±004×12832E±006, h174km±8km, mb4.6/29, Error ellipse: s-maj=9.2km s-min=6.5km az=166.6*
*NEIC **08** 14:27:05.9±1.4, 732S×12838E, h168km±14km, mb4.7/8, Error ellipse: s-maj=15.8km s-min=7.4km az=60.0*
*BJI **08** 14:27:05.2, 701S×12921E, h185km, mB5.0, mb4.4*
*DJA **08** 14:27:07, 761S×12829E, h130km, ML5.7/4*
ISC 08 14:27:03.5±0.7, 758S±005×12824E±005, h149km±9km, n66, σ1§23/68, mb4.6/29, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	3.87	359	P		Pn	14 28 05.2	+3.1
	0.0nm,0.0s							
AAI	Ambon	3.87	359	P		Pn	14 28 05.2	+3.1
	0.0nm,0.0s							
TLE	Tual	4.87	67	⇑	eP	Pn	14 28 16.5	+1.3
TLE					eS	Sn	14 29 10.0	-1.1
BATI	Baumata	5.22	240	P		Pn	14 28 22.1	+2.3
	0.0nm,0.0s							
BATI	Baumata	5.22	240	P		Pn	14 28 22.2	+2.4
	157nm,0.3s,baz=135,slow=1.9,SNR=124							
BATI				S		Sn	14 29 16.2	-3.1
	125nm,0.3s,baz=302,slow=0.3,SNR=4.4							
KAKA	Kakadu	6.56	141	eP		Pn	14 28 40.5	+2.8
	317nm,0.6s							
KAKA				eS		Sn	14 29 50.3	-1.2
MNI	Manado	9.59	339	P		Pn	14 29 22.0	+3.9
	0.0nm,0.0s							
FITZ	Fitzroy Crossi	10.76	193	eP		Pn	14 29 32.4	-1.1
	23nm,0.4s							
FITZ				e			14 29 34.9	
FITZ				eS		Sn	14 31 25.5	-7.0
FITZ	Fitzroy Crossi	10.76	193	P		Pn	14 29 32.3	-1.2
	7.3nm,0.3s,baz=26,slow=12,SNR=103							
FITZ				S		Sn	14 31 25.7	-6.9
	9.2nm,0.3s,baz=99,slow=20,SNR=4.3							
WRAB	Tennant Creek	13.63	155	ePn		Pn	14 30 09.7	-1.1
	68nm,0.7s							
WRAB				eSn		Sn	14 32 28.4	-13
WRA	Warramunga Arr	13.64	155	P		Pn	14 30 10.6	-0.3
	3.9nm,0.3s,baz=324,slow=14,SNR=126							
WRA				S		Sn	14 32 33.7	-8.2
	17nm,0.3s,baz=327,slow=24,SNR=7.1							
WB2	Warramunga Arr	13.64	155	eP		Pn	14 30 10.1	-0.8
WB2				e			14 30 18.3	
WB2				eS		Sn	14 32 31.0	-11
PLKI	Palangkaraya	15.20	290	P		Pn	14 30 35.1	+4.6
	0.0nm,0.0s							
MBWA	Marble Bar	15.80	210	ePn		Pn	14 30 38.2	+0.4
MBWA				eP			14 30 40.3	
ASAR	Alice Springs	16.89	162	P		Pn	14 30 53.5	+2.4
	12nm,0.3s,baz=344,slow=10,SNR=895							
ASAR				S		S	14 33 54.4	-4.6
	4.6nm,0.3s,baz=320,slow=16,SNR=9.8							
KKM	Kota Kinabalu	18.09	318	eP		P	14 31 05.8	+1.9
STKI	Sintang	18.36	294	P		P	14 31 09.1	+2.2
	0.0nm,0.0s							
KSM	Kuching	20.02	296	eP		P	14 31 26.2	+1.3
CTA	Charters Tower	21.43	127	eP		P	14 31 43.5	+3.6
	6.7nm,1.3s,mb3.8							
CTA				eS		S	14 36 09.4	+40
CTA	Charters Tower	21.43	127	P		P	14 31 43.3	+3.4
	2.2nm,0.5s,mb3.8,baz=335,slow=11,SNR=4.8							
FORT	Forrest	23.08	180	eP		P	14 31 58.1	+2.1
	18nm,0.5s,mb4.8							
FORT				eS		S	14 36 17.0	+21
KLBR	Kellerberrin	25.81	201	eP		P	14 32 25.5	+4.7
	155nm,1.8s,mb5.3							
KLBR				eS		S	14 37 15.3	+36
MUN	Mundaring	26.73	203	eP		P	14 32 34.2	+5.1
MUN				eS		S	14 37 38.3	+44
STKA	Stephens Creek	27.19	155	eP		P	14 32 35.3	+2.1
	3.6nm,0.7s,mb4.1							
STKA				eS		S	14 37 58.0	+57
STKA	Stephens Creek	27.19	155	P		P	14 32 35.5	+2.3
	3.5nm,0.5s,mb4.2,baz=334,slow=8.4,SNR=13							
PSI	Prapat	31.01	288	P		P	14 33 06.5	-0.8
	15nm,0.7s,mb4.8,baz=102,slow=8.4,SNR=8.0							
PSI	Prapat	31.01	288	P		P	14 33 06.5	-0.8
CMAR	Chiang Mai Arr	38.79	312	P		P	14 34 14.7	+0.7
	3.7nm,0.6s,mb4.2,baz=140,slow=6.7,SNR=22							
CMAR	Chiang Mai Arr	38.79	312	P		P	14 34 14.7	+0.7
CHTO	Chiang Mai	39.02	313	eP		P	14 34 15.6	-0.1
NJ2	Nanjing	40.42	348	eP		P	14 34 23.8	-3.3
NJ2				AMB		AMB		
	comp=Z,20nm,0.7s,mb4.9							
KSRS	Korea Array	44.80	360	P		P	14 35 02.5	+0.1
	comp=Z,3.0nm,0.5s,mb4.2,baz=180,slow=9.3,SNR=14							
MJAR	Matsushiro Arr	44.88	11	P		P	14 35 00.8	-2.3
	comp=Z,1.0nm,0.5s,mb3.7,baz=177,slow=7.5,SNR=4.5							
LSA	Lhasa	51.43	318	eP		P	14 35 54.4	+0.9
	comp=Z,5.0nm,0.5s,mb4.4							
ODAN	Odare	52.34	312	eP		P	14 35 59.8	-0.4
	comp=Z,17nm,0.5s,mb4.9							
TAPN	Taplejung	52.39	313	eP		P	14 35 59.9	-0.7
	comp=Z,21nm,0.6s,mb4.9							
RAMN	Ramite	52.97	312	eP		P	14 36 04.8	-0.1
	comp=Z,55nm,0.6s,mb5.4							
GTA	Gaotai	53.66	333	eP		P	14 36 10.6	+0.9
GTA				AMB		AMB		
	comp=Z,7.0nm,1.1s,mb4.3							
JIRN	Jiri	53.67	312	eP		P	14 36 09.8	-0.2
	comp=Z,14nm,0.5s,mb5.0							
GUN	Gumba	54.04	313	eP		P	14 36 12.4	-0.3
	comp=Z,50nm,0.7s,mb5.3							
PKI	Pulchoki	54.19	312	eP		P	14 36 13.1	-0.7
	comp=Z,16nm,0.5s,mb5.0							
KKN	Kakani	54.41	312	eP		P	14 36 14.9	-0.5
	comp=Z,7.4nm,0.4s,mb4.8							
DMN	Daman	54.44	312	eP		P	14 36 16.1	+0.5
	comp=Z,9.2nm,0.6s,mb4.7							
GKN	Gorkha	55.00	312	eP		P	14 36 19.2	-0.4
	comp=Z,2.4nm,0.3s,mb4.5							
KOLN	Koldanda	55.64	311	eP		P	14 36 23.9	-0.3
	comp=Z,14nm,0.6s,mb5.0							
DANN	Dangsing	55.84	312	eP		P	14 36 25.9	+0.3
	comp=Z,23nm,0.7s,mb5.1							
SONM	Songino Array	58.46	343	P		P	14 36 43.4	-0.2
	comp=Z,4.2nm,0.8s,mb4.3,baz=176,slow=7.2,SNR=11							
CASY	Casey	59.87	188	eP		P	14 36 45.8	-7.3
PETK	Petropavlovsk-	65.43	19	P		P	14 37 30.7	+0.6
	comp=Z,3.4nm,0.9s,mb4.2,baz=190,slow=4.4,SNR=3.6							
MK31	Makanchi Array	67.77	328	eP		P	14 37 44.8	-0.2
MKAR	Makanchi Array	67.77	328	P		P	14 37 44.7	-0.3
	comp=Z,4.0nm,0.5s,mb4.4,baz=122,slow=8.1,SNR=32							
MKAR				PcP		PcP	14 38 09.7	-1.0
	comp=Z,2.9nm,0.7s,baz=134,slow=5.0,SNR=5.2							
MKAR	Makanchi Array	67.77	328	P		P	14 37 44.7	-0.3
MKAR				PcP		PcP	14 38 09.7	-1.0
ZAA0	Zalesovo Array	71.34	335	eP		P	14 38 05.8	-1.0
ZALV	Zalesovo Beam	71.34	335	P		P	14 38 06.1	-0.7
	comp=Z,4.8nm,0.5s,mb4.5,baz=140,slow=5.2,SNR=7.7							
VNDA	Vanda	72.09	173	P		P	14 38 14.4	+3.4
	comp=Z,0.5nm,0.5s,mb3.5,baz=342,slow=6.4,SNR=4.7							
VNDA	Vanda	72.09	173	P		P	14 38 12.1	+1.1
KURK	Kurchatov	72.11	329	eP		P	14 38 10.7	-0.8
	comp=Z,5.5nm,1.0s,mb4.2							
BVAR	Borovoye Array	77.63	328	P		P	14 38 42.2	-1.0
	comp=Z,1.9nm,0.5s,mb4.0,baz=130,slow=8.9,SNR=9.7							
BRVK	Borovoye	77.70	328	eP		P	14 38 42.9	-0.7
ARCES	ARCESS Array B	101.51	340	P		Pdif	14 40 37.9	-0.4
	comp=Z,0.9nm,0.6s,baz=79,slow=6.3,SNR=5.2							
PDAR	Pinedale Array	118.54	45	PKP		PKPdf	14 45 33.2	-0.6
	comp=Z,0.7nm,0.7s,baz=290,slow=1.4,SNR=5.4							
TORD	Torodi Ar. Bea	127.20	281	PKP		PKPdf	14 45 50.8	-0.4
	comp=Z,1.0nm,0.6s,baz=83,slow=1.8,SNR=13							
SCHQ	Schefferville	131.36	12	PKP		PKPdf	14 45 59.4	+1.4
	comp=Z,2.7nm,0.8s,baz=315,slow=5.7,SNR=2.7							
CPUP	Villa Florida	145.86	171	PKPbc		PKPbc	14 46 27.4	+1.3
	comp=Z,0.7nm,0.4s,baz=135,slow=2.5,SNR=4.5							
ATAH	Atahualpa	149.75	118	PKPbc		PKPbc	14 46 39.9	+3.0
	comp=Z,2.3nm,0.5s,baz=51,slow=6.5,SNR=3.6							
LPAZ	La Paz	151.28	146	PKPbc		PKPbc	14 46 41.4	+1.0
	comp=Z,1.0nm,0.4s,baz=58,slow=3.0,SNR=8.0							

*NEIC **08** 14:28:13.9, 3249S×7170W, h28km, ML3.2(GUC), After GUC.*
GUC 08 14:28:13.9±0.6, 3249S×7170W, h28km±2km, MD3.7, ML3.2, 11C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.63	16	⇓	iP	Pb	14 28 25.9	-0.4
CHNG					i S	Sb	14 28 35.0	+0.3
ROCH	El Roble	0.76	130	⇑	iP	Pb	14 28 28.3	-0.2
ROCH					i S	Sb	14 28 39.1	+0.7
JACH	Jahuel	0.96	102	⇑	iP	Pn	14 28 31.6	0.0
JACH					i S	Sb	14 28 44.6	+0.5
LCCH	Las Cruces	0.99	173	⇑	iP	Pn	14 28 31.6	-0.4
LCCH					i S	Sn	14 28 44.5	-0.6
RCDM	Rinconada Maip	1.25	143		eP	Pn	14 28 35.6	0.0
RCDM					i S	Sn	14 28 52.0	+0.5
RCDM					AML	AML	14 28 52.8	
	comp=E,1μm,0.2s							
RCDM	Rinconada Maip	1.25	143		eP	Pn	14 28 35.6	0.0
RCDM					i S	Sn	14 28 52.0	+0.5
SAN	Santiago	1.30	138		eP	Pn	14 28 36.4	+0.2
SAN					i S	Sn	14 28 53.6	+0.9
SAN					AML	AML	14 28 54.5	
	comp=E,824nm,0.2s							
SAN	Santiago	1.30	138		eP	Pn	14 28 36.4	+0.2
SAN					i S	Sn	14 28 53.6	+0.9
TACH	Talagante	1.33	151		eP	Pn	14 28 37.3	+0.6
TACH					i S	Sn	14 28 54.2	+0.8
CLCH	Cerro Calan	1.33	133	⇑	iP	Pn	14 28 37.4	+0.7
CLCH					i S	Sn	14 28 55.0	+1.4
CLCH					AML	AML	14 29 02.9	
	comp=E,471nm,0.4s							
ANTU	Antumapu	1.40	140		eP	Pn	14 28 38.6	+1.0
ANTU					i S	Sn	14 28 56.5	+1.3
ANTU					AML	AML	14 28 57.5	
	comp=E,617nm,0.2s							
ANTU	Antumapu	1.40	140		eP	Pn	14 28 38.6	+1.0
ANTU					i S	Sn	14 28 56.5	+1.3
CMCH	Combarbala	1.44	25	⇑	iP	Pn	14 28 38.5	+0.3
CMCH					i S	Sn	14 28 57.7	+1.5
CMCH					AML	AML	14 29 01.6	
	comp=E,2μm,0.4s							
CMCH	Combarbala	1.44	25	⇑	iP	Pn	14 28 38.5	+0.3
CMCH					i S	Sn	14 28 57.7	+1.5
FCH	Farellones	1.45	126	⇑	iP	Pn	14 28 39.3	+1.0
FCH					i S	Sn	14 28 58.8	+2.3
FCH					AML	AML	14 28 59.5	
	comp=N,458nm,0.1s							
LNV	Longovilo	1.48	171	⇑	iP	Pn	14 28 38.3	-0.4
LNV					i S	Sn	14 28 57.3	+0.1
PCH	Pirque	1.51	139	⇓	iP	Pn	14 28 40.0	+0.9
PCH					eS	Sn	14 28 59.9	+2.1
CHCH	Chadas Angostu	1.69	149		eP	Pn	14 28 42.9	+1.3
CHCH					i S	Sn	14 29 04.7	+2.4
LMEL	Las Melosas	1.85	138	⇑	iP	Pn	14 28 45.6	+1.8
LMEL					i S	Sn	14 29 09.5	+3.2
LMEL					AML	AML	14 29 11.3	
	comp=N,358nm,0.1s							
LMEL	Las Melosas	1.85	138	⇑	iP	Pn	14 28 45.6	+1.8
LMEL					i S	Sn	14 29 09.5	+3.2
CACH	El Canelo	1.87	151		eP	Pn	14 28 46.5	+2.4
CACH					i S	Sn	14 29 11.0	+4.2
CICH	Cipreses	2.12	150	⇑	iP	Pn	14 28 49.2	+1.7
TLL	Tololo Astrono	2.44	19		eP	Pn	14 28 53.2	+1.3
TLL					eS	Sn	14 29 24.1	+3.3
TLL					AML	AML	14 29 33.9	
	comp=N,189nm,0.6s							
TLL	Tololo Astrono	2.44	19		eP	Pn	14 28 53.2	+1.3
TLL					eS	Sn	14 29 24.1	+3.3

*IDC **08** 14:41:26.6±1.1, 647S×147.19E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/18, mbtmp3.9/8, ML3.7/2, Error ellipse: s-maj=37.1km s-min=16.0km az=111.0*
*ISCJB **08** 14:41:31.9±2.8, 65S±01×1470E±01, h51km±25km, mb3.8/6, Error ellipse: s-maj=23.5km s-min=23.0km az=137.2*
*NEIC **08** 14:41:34.0±2.5, 655S×14692E, h46km±18km, mb3.9/1, Error ellipse: s-maj=22.8km s-min=15.5km az=210.0*
ISC 08 14:41:33.3±2.6, 65S±01×1470E±01, h43km±24km, n20, σ0§67/19, mb3.8/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.88	176	ePn		Pn	14 42 17.4	+0.7
PMG				eS		Sn	14 42 55.9	+5.8
CTA	Charters Tower	13.51	183	Pn		Pn	14 44 42.2	-0.2
	0.2nm,0.3s,baz=112,slow=17,SNR=2.4							
KAKA	Kakadu	15.57	246	eP		Pn	14 45 09.7	-0.3
	7.2nm,0.4s							
KAKA	Kakadu	15.57	246	eP		Pn	14 45 09.4	-0.6
WRAB	Tennant Creek	18.10	221	eP		Pn	14 45 42.0	+0.4
WB2	Warramunga Arr	18.11	221	eP		Pn	14 45 40.6	-1.1
WB2	Warramunga Arr	18.11	221	eP		Pn	14 45 41.8	+0.1
WRA	Warramunga Arr	18.11	221	P		Pn	14 45 41.0	-0.8
	0.3nm,0.3s,baz=49,slow=12,SNR=21							
ASAR	Alice Springs	21.17	215	P		P	14 46 15.4	+0.4
	1.3nm,0.4s,mb3.7,baz=56,slow=8.9,SNR=18							
ASAR				S		S	14 50 15.2	+6.9
	0.5nm,0.7s,baz=34,slow=23,SNR=4.4							
FITZ	Fitzroy Crossi	23.76	239	eP		P	14 46 47.5	+5.5
	7.3nm,0.9s,mb4.1							
FITZ	Fitzroy Crossi	23.76	239	P		P	14 46 42.9	+0.9
	1.4nm,0.8s,mb3.4,baz=64,slow=15,SNR=5.6							
STKA	Stephens Creek	25.72	191	P		P	14 46 59.0	-0.7
	2.0nm,0.7s,mb3.8,baz=348,slow=15,SNR=5.0							
STKA	Stephens Creek	25.72	191	eP		P	14 46 59.5	-0.2
CMAR	Chiang Mai Arr	53.45	299	P		P	14 50 50.8	+1.2
	0.3nm,0.5s,mb3.5,baz=112,slow=5.7,SNR=3.0							
PETK	Petropavlovsk-	60.09	7	P		P	14 51 35.2	-0.8
	3.7nm,0.8s,mb4.4,baz=163,slow=6.2,SNR=7.5							
VNDA	Vanda	71.40	177	P		P	14 52 48.6	0.0
	1.2nm,0.7s,mb3.9,baz=336,slow=3.6,SNR=6.9							
VNDA	Vanda	71.40	177	eP		P	14 52 48.8	+0.2
	0.9nm,0.6s,mb3.9							
TORD	Torodi Ar. Bea	145.17	284	PKPbc		PKPbc	15 01 06.7	-0.3
	6.5nm,0.9s,baz=80,slow=3.5,SNR=31							
DBIC	Dimbokro	152.00	272	PKPbc		PKPbc	15 01 24.7	-0.3
	4.0nm,1.2s,baz=153,slow=3.2,SNR=3.3							
DBIC	Dimbokro	152.00	272	PKPbc		PKPbc	15 01 24.7	-0.3

IDC 08 14:47:37.1±4.5, 373S×14254E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.4/16, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=140.6km s-min=29.6km az=97.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.99	206	P		Pn	14 51 48.3	-0.5
	0.1nm,0.3s,baz=25,slow=14,SNR=7.6							
ASAR	Alice Springs	21.50	202	P		P	14 52 28.1	+0.4
	0.4nm,0.6s,baz=36,slow=10,SNR=5.4							
FITZ	Fitzroy Crossi	21.86	228	P		P	14 52 31.9	+0.3
	1.0nm,0.8s,baz=76,slow=13,SNR=2.3							
MKAR	Makanchi Array	72.94	321	P		P	14 59 08.5	0.0
	0.2nm,0.7s,baz=127,slow=3.8,SNR=2.7							

*CSEM **08** 14:51:15.6±0.1, 3769N×4375E, h2km, MD3.7, Error ellipse: s-maj=3.1km s-min=1.8km az=88.0*
*DDA **08** 14:51:15.2, 3769N×4387E, h2km±1km, Md3.5*
*ISCJB **08** 14:51:16.8±0.6, 3768N±003×4372E±005, h10km, Error ellipse: s-maj=5.5km s-min=4.6km az=12.3*
*ISK **08** 14:51:16.1, 3767N×4376E, h5km, MD3.7*
ISC 08 14:51:17.0±0.7, 3769N±003×4373E±005, h2km±6km, n18, σ1§10/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.11	177	PG		Pg	14 51 18.7	-0.5
HAKT	HAKKARI	0.14	189	i P		Pg	14 51 19.4	-0.2
HAKT				i S		Sg	14 51 22.4	+1.0
VANT	Van	0.80	340	ePG		Pg	14 51 32.9	+0.5
TVAN	Van	0.88	343	i P		Pg	14 51 33.1	-0.7
TVAN				i S		Sg	14 51 45.1	-0.1
SIRT	Sirnak	1.05	260	ePG		Pn	14 51 36.8	-1.8
SIRT				eSG		Sn	14 51 52.5	-1.2
CLDR	Caldiran	1.46	6	ePN		Pn	14 51 43.8	-0.5
MSL	Mosul	1.49	200	i x		x	14 51 48.0	
MSL				i x		x	14 52 08.0	
MSL				i x		x	14 52 09.0	
BTMT	Batman	1.84	286	ePN		Pg	14 51 51.4	-1.0
TUTA	Tutak	1.85	337	i P		Pg	14 51 51.1	-1.5
TUTA				i S		Sn	14 52 09.7	-4.1
AGRB	Hanur-Agry	1.97	343	ePN		Pn	14 51 51.5	+0.1
MARD	Mardin	2.38	262	i P		Pn	14 51 57.4	+0.4
MARD				i S		Sg	14 52 33.4	-0.1
GNI	Garni	2.58	17	ePN		Pn	14 52 00.2	+0.5
DIYA	Diyarbakir	2.87	276	i P		Pn	14 52 04.3	+0.5
DIYA				i S		Sg	14 52 51.6	+2.3
ERZM	Erzurum	2.88	321	i P		Pg	14 52 14.7	+2.4
ERZM				i S		Sb	14 52 45.9	+1.1
PTK	Pertek	3.62	291	ePN		Pn	14 52 14.9	+0.9
ELZG	Elazig	3.83	284	i P		Pb	14 52 24.0	-1.3
ELZG				i S		Sg	14 53 18.8	-1.3
URFA	Urfa	3.91	268	ePN		Pn	14 52 19.9	+1.9
GZT	Gaziantep	4.92	268	i P		Pg	14 52 51.1	-0.2
GZT				i S		Sg	14 54 01.3	+6.3

MAN 08 15:08:55, 1418N×12047E, h121km, mb4.0, ML2.8, MS2.5, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.46	100	⇑	iP	Pn	15 09 15.2	+2.4
TGY					i S	Sn	15 09 29.8	+3.6
LUBP	Lubang	0.49	206		eP	Pn	15 09 15.4	+2.4
LUBP					eS	Sn	15 09 29.9	+3.3
NBP	Mount Natib	0.56	355	⇓	eP	Pn	15 09 14.6	+1.1
NBP					eS	Sn	15 09 23.8	-3.6
LBPH	Los

KIV Kislovodsk 23.74 302 *eP* **P 15 15 13.5 0.0**
comp=Z,8.1nm,0.5s,mb4.4
NOA NORSAR Array B 46.04 324 P **P 15 18 24.4 +0.2**
comp=Z,0.6nm,0.6s,mb3.7,baz=97,slow=7.7,SNR=3.3
TORD Torodi Ar. Bea 65.53 270 P **P 15 20 43.9 -0.4**
comp=Z,0.3nm,0.5s,mb3.6,baz=54,slow=4.8,SNR=7.0
ASAR Alice Springs 83.14 125 P **P 15 22 27.3 +0.9**
comp=Z,0.2nm,0.7s,mb3.2,baz=320,slow=4.0,SNR=4.1

NIED ***08*** *15:19:00,2740N×12830E,h38km,Mw5.0 Best double couple: M0:3.56000×10^16 NP1:φs:57.00000°,δ71.00000°, λ100.00000°. NP2:φs:209.00000°,δ21.00000°,λ64.00000°.*
SZGRF ***08*** *15:19:38.5,2740N×12929E,h33km,mb5.7,MS5.1, Ryukyu Islands, Japan*
MOS ***08*** *15:19:39.7±0.9,2744N×12832E,h33km,mb5.5/57, MS4.7/23, Error ellipse: s-maj=8.1km s-min=4.4km az=115.7*
IDC ***08*** *15:19:41.6±1.0,2735N×12829E,h42km±9km,mb4.7/20, mb1 4.8/22,mb1mx4.8/24,mbtmp4.7/22,ML4.2/2,MS4.3/23, Ms1 4.3/23,ms1mx4.1/28, Error ellipse: s-maj=15.1km s-min=11.8km az=85.0*
JMA ***08*** *15:19:42.7±0.1,2731N×12844E,h44km±2km,M5.1*
JMA Felt IV J1.
ISCJB ***08*** *15:19:42.0±0.3,2741N±002×12827E±002,h48km±2km, mb5.3/156,MS4.5/45, Error ellipse: s-maj=3.9km s-min=2.7km az=161.2*
BJI ***08*** *15:19:42.7,2727N×12851E,h79km,mB4.9,mb4.8,Ms4.4, Msz4.2*
GCMT ***08*** *15:19:42.6±0.2,2724N×12856E,h53km,MW5.2/64, Moment Tensor Solution. s57,c82; s64,c110; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr6.69±.26; Mθθ-2.41±.17; Mφφ-4.28±.20; Mrθ1.71±.13; Mφθ-3.52±.12; Mφr1.23±.17; Best double couple: M0:7.15700×10^16 NP1:φs:212.00000°,δ37.00000°,λ82.00000°. NP2: φs:43.00000°,δ53.00000°,λ96.00000°. Principal axes: T 7.0350, Plg80.0000°, Azm340.0000°; N 0.2450, Plg5.0000°, Azm219.0000°; P -7.2790, Plg8.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***08*** *15:19:42.6±0.5,2739N×12835E,h47km±4km,mb5.3/86, MS5.0/7,MW5.0(NIED) Error ellipse: s-maj=4.2km s-min=4.0km az=133.0*
NEIC Felt [III] at Chatan and [II] at Ginowan. Felt at Gushikawa, Naha and Okinawa. Recorded [4 JMA] on Okino-erabu-shima and Yoron-jima; [3 JMA] on Okinawa and Tokuno-shima; [1 JMA] on Amami-oshima.
DJA ***08*** *15:19:58,2742N×12751E,h141km,mb5.2/18*
ISC 08 15:19:43.0±0.3,2740N±002×12830E±002,h45km±2km, h46km±3.6km:pP-P,n750,σ0875/759,mb5.3/155,MS4.5/45, 158C-134D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.47**	**220**	P		**Pn**	**15 19 53.7**	**+0.2**
JIH				S		**Sn**	**15 20 01.3**	**+0.3**
JOW	**Kunigami**	**0.56**	**183**	P		**Pn**	**15 19 53.5**	**-1.2**
JOW				S		**Sn**	**15 20 01.1**	**-2.0**
JOW	**Kunigami**	**0.56**	**183**	P		**Pn**	**15 19 53.5**	**-1.2**
	11μm,0.3s,baz=57,slow=12							
JOW				S		**Sn**	**15 20 01.0**	**-2.1**
	29μm,0.3s,baz=205,slow=29,SNR=177							
JTK	**Tokunoshima**	**0.69**	**56**	P		**Pn**	**15 19 55.7**	**-0.7**
JTK				S		**Sn**	**15 20 04.6**	**-1.5**
JAGN	**Aguni-jima**	**1.24**	**230**	P		**Pn**	**15 20 04.2**	**+0.3**
JAGN				S		**Sn**	**15 20 19.6**	**+0.1**
NAH1	**Naha**	**1.31**	**205**	P		**Pn**	**15 20 05.0**	**+0.2**
NAH1				S		**Sn**	**15 20 20.9**	**-0.2**
JJT2	**Tamagusuku 2**	**1.35**	**202**	P		**Pn**	**15 20 05.8**	**+0.5**
JJT2				*e*S		**Sn**	**15 20 21.3**	**-0.7**
JAM	**Amami Oshima**	**1.53**	**48**	P		**Pn**	**15 20 07.4**	**-0.5**
JKE	**Kume jima 2**	**1.73**	**232**	P		**Pn**	**15 20 10.7**	**+0.2**
JZK	**Kikaishima**	**1.74**	**58**	P		**Pn**	**15 20 10.8**	**+0.1**
JNN	**Nakanoshima**	**2.80**	**29**	P		**Pn**	**15 20 25.3**	**0.0**
JNN				*e*S		**Sn**	**15 20 56.9**	**-0.9**
JKC	**Kuchinoerabu**	**3.48**	**28**	P		**Pn**	**15 20 35.0**	**+0.5**
JTN	**Tanegashima 3**	**4.00**	**35**	P		**Pn**	**15 20 42.4**	**+0.6**
TATO	**Taipei**	**6.58**	**250**	*e*P		**Pn**	**15 21 18.4**	**+1.2**
	204nm,0.8s							
YHNB	**Yeheng**	**6.80**	**248**	*e*P		**Pn**	**15 21 22.1**	**+2.0**
	412nm,1.0s							
NACB	**Ninganchiao**	**6.85**	**244**	*e*P		**Pn**	**15 21 19.9**	**-1.0**
	156nm,0.9s							
SSE	**Sheshan**	**7.23**	**302**	P		**Pn**	**15 21 29.1**	**+3.1**
SSE				AMB		AMB		
	comp=Z,66nm,0.7s							
SSE				AMB		AMB		
	comp=Z,504nm,4.2s							
SSE				LR		LR		
	comp=N,1μm,23.1s							
SSE				LR		LR		
	comp=E,1μm,22.6s							
SSE				LR		LR		
	comp=Z,2μm,23.1s							
QZH	**Quanzhou**	**9.06**	**257**	⇑*i*P		**Pn**	**15 21 53.8**	**+2.6**
NJ2	**Nanjing**	**9.43**	**302**	*e*P		**Pn**	**15 21 59.6**	**+3.3**
NJ2				PP			15 22 08.6	
NJ2				S		**Sn**	**15 23 47.3**	**+6.3**
NJ2				AMB		AMB		
	comp=Z,60nm,1.0s							
NJ2				AMB		AMB		
	comp=Z,490nm,5.8s							
NJ2				LR		LR		
	comp=N,740nm,24.2s							
NJ2				LR		LR		
	comp=E,2μm,25.2s							
NJ2				LR		LR		
	comp=Z,2μm,25.3s							
KSRS	**Korea Array**	**10.03**	**358**	P		**Pn**	**15 22 07.7**	**+3.2**
	comp=Z,1.5nm,0.3s,baz=176,slow=13,SNR=61							
KSRS				LR		LR	15 26 05.1	
	comp=Z,2μm,20.7s,baz=174,slow=38							
INCN	**Inchon**	**10.16**	**352**	P		**Pn**	**15 22 11.3**	**+5.2**
	SNR=5.1							
INCN	**Inchon**	**10.16**	**352**	*e*P		**Pn**	**15 22 09.7**	**+3.6**
	comp=Z,156nm,1.3s							
JHJ	**Hachijo jima 2**	**11.44**	**57**	P		**Pn**	**15 22 24.4**	**+0.6**
	comp=Z,19nm,0.3s,baz=195,slow=12,SNR=11							
JHJ				LR		LR	15 26 26.7	
	comp=Z,1μm,20.9s,baz=73,slow=35							
CBIJ	**Chichi jima**	**12.36**	**88**	P		**Pn**	**15 22 32.1**	**-4.1**
	comp=Z,13nm,0.3s,baz=270,slow=23,SNR=14							
CBIJ				S		**Sn**	**15 24 42.2**	**-10**
	comp=Z,7.0nm,0.3s,baz=253,slow=21,SNR=5.7							
CBIJ				LR		LR	15 26 42.7	
	comp=Z,947nm,19.9s,baz=272,slow=34							
CBIJ				T			15 34 46.1	
	comp=Z,90nm,0.3s,baz=281,slow=17,SNR=8.4							
MAJO	**Matsushiro**	**12.39**	**40**	*e*P		**Pn**	**15 22 35.4**	**-1.3**
MAJO				pmax		pmax		
	comp=Z,81nm,0.9s							
MAJO	**Matsushiro**	**12.39**	**40**	*e*P		**Pn**	**15 22 35.4**	**-1.4**
	comp=Z,81nm,0.9s							
MAJO				*e*			15 22 48.9	
MAT	**Matsushiro**	**12.39**	**40**	P		**Pn**	**15 22 35.8**	**-0.9**
MAT				*e*S		**Sn**	**15 24 58.0**	**+4.6**
MJAR	**Matsushiro Arr**	**12.39**	**40**	P		**Pn**	**15 22 35.6**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=240,slow=13,SNR=11							
MJAR				LR		LR	15 27 46.1	
	comp=Z,608nm,18.1s,baz=215,slow=39							
WHN	**Wuhan**	**12.61**	**288**	⇓P		**Pn**	**15 22 44.4**	**+4.6**
WHN				*e*S		**Sn**	**15 25 02.0**	**+3.2**
WHN				LR		LR		
	comp=N,3μm,14.8s							
WHN				LR		LR		
	comp=E,2μm,18.0s							
WHN				LR		LR		
	comp=Z,3μm,15.0s							
DL2	**Dalian**	**12.76**	**336**	P		**Pn**	**15 22 47.7**	**+6.0**
DL2				PP			15 23 00.3	
DL2				S		**Sn**	**15 25 12.8**	**+10**
DL2				XS			15 25 27.9	
DL2				AMB		AMB		
	comp=Z,30nm,0.9s							
DL2				AMB		AMB		
	comp=Z,230nm,5.6s							
DL2				LR		LR		
	comp=N,550nm,16.6s							
DL2				LR		LR		
	comp=E,570nm,15.8s							
DL2				LR		LR		
	comp=Z,710nm,19.9s							
TIA	**Tai'an**	**12.94**	**316**	*e*P		**Pn**	**15 22 48.2**	**+4.0**
TIA				LR		LR		
	comp=N,663nm,15.0s							
TIA				LR		LR		
	comp=E,708nm,15.0s							
SNY	**Shenyang**	**14.91**	**346**	⇑P		**Pn**	**15 23 16.4**	**+5.7**
SNY				AP		pP	15 23 27.1	+1.0
SNY				AMB		AMB		
	comp=Z,30nm,1.0s							
SNY				AMB		AMB		
	comp=Z,699nm,6.1s							
SNY				LR		LR		
	comp=N,1μm,18.6s							
SNY				LR		LR		
	comp=Z,2μm,20.0s							
VLA	**Vladivostok**	**15.96**	**10**	P		**Pn**	**15 23 18.0**	**-6.3**
VLA				MLR		MLR		
	comp=Z,500nm,15.4s							
BJT	**Baijiatuau**	**16.12**	**324**	*e*P		**Pn**	**15 23 29.0**	**+2.7**
BJT				pmax		pmax		
	comp=Z,142nm,0.7s							
BJT	**Baijiatuau**	**16.12**	**324**	*e*P		**Pn**	**15 23 29.0**	**+2.7**
	comp=Z,142nm,0.7s							
BJI	**Beijing**	**16.13**	**325**	P		**Pn**	**15 23 29.4**	**+2.9**
BJI				S		**S**	**15 26 35.0**	**-0.8**
BJI				AMB		AMB		
	comp=Z,26nm,0.9s							
BJI				LR		LR		
	comp=N,1μm,17.5s							
BJI				LR		LR		
	comp=E,962nm,18.3s							
BJI				LR		LR		
	comp=Z,1μm,28.2s							
CN2	**Changchun**	**16.53**	**353**	*e*P		**Pn**	**15 23 34.1**	**+2.6**
CN2				*e*AP		pP	15 23 44.8	+0.6
CN2				*e*XP		sP	15 23 53.4	+3.5
CN2				*e*S		**S**	**15 26 35.6**	**-8.4**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.3s							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,710nm,18.0s							
CN2				LR		LR		
	comp=E,1μm,18.0s							
CN2				LR		LR		
	comp=Z,980nm,16.0s							
MDJ	**Mudanjiang**	**17.22**	**3**	P		**Pn**	**15 23 39.4**	**-0.6**
MDJ				AP		pP	15 23 52.0	+0.3
MDJ				S		**S**	**15 26 49.2**	**-8.7**
MDJ				XS		sS	15 27 15.5	+0.6
MDJ				SCP		ScP	15 31 51.8	-1.1
MDJ				PCS		PcS	15 31 57.8	+0.2
MDJ				AMB		AMB		
	comp=Z,11nm,2.3s							
MDJ				AMB		AMB		
	comp=Z,86nm,3.0s							
MDJ				LR		LR		
	comp=N,713nm,33.9s							
MDJ				LR		LR		
	comp=E,405nm,23.1s							
MDJ				LR		LR		
	comp=Z,875nm,26.9s							
MDJ	**Mudanjiang**	**17.22**	**3**	*e*P		**Pn**	**15 23 38.1**	**-1.9**
	comp=Z,15nm,0.8s							
XAN	**Xi'an**	**17.92**	**296**	P		**Pn**	**15 23 50.0**	**+1.2**
XAN				AMB		AMB		
	comp=Z,23nm,0.8s							
XAN				AMB		AMB		
	comp=Z,229nm,3.9s							
XAN				LR		LR		
	comp=N,395nm,21.0s							
XAN				LR		LR		
	comp=E,804nm,21.2s							
XAN				LR		LR		
	comp=Z,1μm,23.9s							
QIZ	**Qiongzhong**	**18.89**	**248**	P		**Pn**	**15 24 01.4**	**+0.8**
QIZ				S		**S**	**15 27 30.7**	**-1.4**
QIZ				XS		sS	15 27 52.2	+3.0
QIZ				AMB		AMB		
	comp=Z,14nm,2.3s							
QIZ				LR		LR		
	comp=E,865nm,20.4s							
QIZ				LR		LR		
	comp=Z,784nm,20.7s							
HHC	**Hu-ho-hao-te**	**19.25**	**318**	*e*P		**Pn**	**15 24 05.3**	**+0.5**
HHC				AP		pP	15 24 17.5	+3.3
HHC				S		**S**	**15 27 39.7**	**+0.7**
HHC				SS			15 28 07.1	
HHC				PCP		PcP	15 28 24.9	-0.2
HHC				AMB		AMB		
	comp=Z,25nm,1.1s							
HHC				AMB		AMB		
	comp=Z,373nm,4.6s							
HHC				LR		LR		
	comp=N,1μm,16.7s							
HHC				LR		LR		
	comp=E,1μm,17.3s							
HHC				LR		LR		
	comp=Z,2μm,17.8s							
GYA	**Guiyang**	**19.32**	**272**	⇑*i*P		**Pn**	**15 24 08.2**	**+2.4**
GYA				AP		pP	15 24 19.6	+4.5
GYA				PP			15 24 29.8	
GYA				S		**S**	**15 27 36.6**	**-4.1**
GYA				SS			15 28 04.8	
GYA				AMB		AMB		
	comp=Z,30nm,0.8s							
GYA				AMB		AMB		
	comp=Z,140nm,4.2s							
GYA				LR		LR		
	comp=N,650nm,14.5s							
GYA				LR		LR		
	comp=E,710nm,13.6s							
GYA				LR		LR		
	comp=Z,680nm,14.4s							
BTO	**Baotou**	**20.03**	**316**	*e*P		**P**	**15 24 11.2**	**-0.9**
BTO				AMB		AMB		
	comp=Z,17nm,1.0s							
ASAJ	**Asahikawa**	**20.27**	**31**	P		**P**	**15 24 11.7**	**-2.9**
	comp=Z,14nm,0.8s,baz=221,slow=16,SNR=12							
ASAJ				S		**S**	**15 28 00.8**	**+1.4**
	comp=Z,3.7nm,1.0s,baz=220,slow=26,SNR=3.8							
ASAJ	**Asahikawa**	**20.27**	**31**	P		**P**	**15 24 11.7**	**-2.9**
ASAJ				S		**S**	**15 28 00.8**	**+1.4**
ASAJ				pmax		pmax		
	comp=Z,14nm,0.8s							
ASAJ				smax				
	comp=N,4.0nm,1.0s							
GUMO	**Guam**	**20.69**	**128**	P		**P**	**15 24 18.8**	**-0.5**
	comp=N,81nm,0.7s,baz=186,slow=7.3,SNR=6.4							
GUMO				LR		LR	15 30 52.7	
	comp=N,770nm,18.7s,MS4.1,baz=237,slow=32							
GUMO	**Guam**	**20.69**	**128**	*e*P		**P**	**15 24 19.3**	**0.0**
GUMO				pmax		pmax		
	comp=Z,450nm,1.5s							
GUMO	**Guam**	**20.69**	**128**	*e*P		**P**	**15 24 19.3**	**-0.1**
	comp=Z,450nm,1.5s							
CD2	**Chengdu**	**21.71**	**285**	P		**P**	**15 24 30.1**	**-0.1**
CD2				AP			15 24 43.9	
CD2				PP			15 24 54.3	
CD2				S		**S**	**15 28 20.5**	**-7.5**
CD2				AMB		AMB		
	comp=Z,20nm,0.7s,mb4.7							
CD2				AMB		AMB		
	comp=Z,210nm,3.9s							
CD2				LR		LR		
	comp=E,2μm,12.6s							
CD2				LR		LR		
	comp=Z,940nm,19.8s							
YUK	**Yuzh-Kuril'sk**	**21.81**	**36**	*e*P		**P**	**15 24 29.9**	**-1.3**
YUK				*e*			15 24 55.0	
YUK				S		**S**	**15 28 30.6**	**+1.0**
YUK				pmax		pmax		
	comp=Z,2μm,2.0s,mb6.2							
YUK				pmax		pmax		
	comp=N,2μm,3.0s							
YUK				pmax		pmax		
	comp=E,2μm,2.0s							
YUK				pmax		pmax		
	comp=Z,190nm,0.7s,mb5.6							
YUK				pmax		pmax		
	comp=N,380nm,0.7s							
YUK				pmax		pmax		
	comp=E,330nm,0.9s							
KLR	**Kul'dur**	**21.96**	**6**	*e*P		**P**	**15 24 27.4**	**-5.3**
LZH	**Lanzhou**	**22.49**	**299**	⇓P		**P**	**15 24 42.0**	**+3.5**
LZH				PP			15 25 10.1	
LZH				S		**S**	**15 28 42.2**	**-0.6**
LZH				SS			15 29 24.2	
LZH				AMB		AMB		
	comp=Z,85nm,1.0s,mb5.1							
LZH				AMB		AMB		
	comp=Z,547nm,4.9s							
LZH				LR		LR		
	comp=N,785nm,9.6s							
LZH				LR		LR		
	comp=Z,1μm,12.8s,MS4.6							
YSS	**Yuzh-Sakhalin's**	**22.60**	**26**	⇑*i*P		**P**	**15 24 39.0**	**-0.5**
YSS				*i* *PP			15 24 49.0	
YSS				*e*S		**S**	**15 28 39.0**	**-5.3**
YSS				pmax		pmax		
	comp=N,30nm,1.0s							
YSS				pmax		pmax		
	comp=E,30nm,1.0s							
YSS				pmax		pmax		
	comp=Z,60nm,1.0s,mb5.0							
YSS				MLR		MLR		
	comp=Z,500nm,16.0s,MS4.0							
YSS				MLR		MLR		
	comp=N,400nm,18.0s,MS4.0							
YSS				MLR		MLR		
	comp=E,400nm,18.0s,MS4.0							
YSS	**Yuzh-Sakhalin's**	**22.60**	**26**	*e*P		**P**	**15 24 39.1**	**-0.4**
	comp=E,38nm,0.8s,mb4.9							
HIA	**Hailar**	**22.82**	**345**	*e*P		**P**	**15 24 41.8**	**0.0**
HIA				pmax		pmax		
	comp=Z,15nm,0.8s							
HIA	**Hailar**	**22.82**	**345**	*e*P		**P**	**15 24 41.8**	**0.0**
	comp=Z,15nm,0.8s,mb4.5							
KMI	**Kunming**	**23.03**	**270**	P		**P**	**15 24 45.2**	**+0.9**
KMI				PP			15 25 13.0	
KMI				S		**S**	**15 28 43.7**	**-8.0**
KMI				AMB		AMB		
	comp=Z,48nm,1.0s,mb4.9							
KMI				AMB		AMB		
	comp=Z,221nm,5.1s							
KMI				LR		LR		
	comp=N,683nm,17.1s,MS4.5							
KMI				LR		LR		
	comp=E,965nm,12.5s,MS4.5							
KMI				LR		LR		
	comp=Z,720nm,17.1s,MS4.2							
UGL	**Uglegorsk**	**24.12**	**23**	P		**P**	**15 24 53.0**	**-1.4**
UGL				MLR		MLR		
	comp=Z,600nm,18.0s,MS4.1							
UGL				MLR		MLR		
	comp=N,500nm,17.0s,MS4.2							
UGL				MLR		MLR		
	comp=E,600nm,18.0s,MS4.2							
GTA	**Gaotai**	**26.52**	**304**	P		**P**	**15 25 15.4**	**-0.9**
GTA				PP			15 26 02.2	
GTA				PCP		PcP	15 28 36.7	-3.4
GTA				S		**S**	**15 29 44.5**	**-2.9**
GTA				SS			15 31 01.9	
GTA				AMB		AMB		
	comp=Z,12nm,1.2s,mb4.3							
GTA				AMB		AMB		
	comp=Z,183nm,7.1s							
GTA				LR		LR		
	comp=N,307nm,20.2s,MS4.2							
GTA				LR		LR		
	comp=E,649nm,19.0s,MS4.2							
GTA				LR		LR		
	comp=Z,1μm,19.0s,MS4.4							
SONM	**Songino Array**	**26.62**	**326**	P		**P**	**15 25 16.8**	**-0.3**
	comp=Z,30nm,0.8s,mb4.9,baz=137,slow=9.6,SNR=39							
SONM				ScP		ScP	15 32 15.4	-1.1
	comp=Z,0.9nm,0.9s,baz=132,slow=2.2,SNR=3.5							
SONM				LR		LR	15 37 05.5	
	comp=Z,727nm,20.2s,MS4.2,baz=140,slow=39							
CIT	**Chita**	**26.98**	**340**	*e*P		**P**	**15 25 20.3**	**0.0**
CIT				*e*		pP	15 25 34.4	+2.2
CHTO	**Chiang Mai**	**28.27**	**259**	P		**P**	**15 25 33.5**	**+1.4**
	SNR=7.9							
CHTO	**Chiang Mai**	**28.27**	**259**	*e*P		**P**	**15 25 32.3**	**+0.1**
CHTO				pmax		pmax		
	comp=Z,57nm,1.1s,mb5.1							
CHTO	**Chiang Mai**	**28.27**	**259**	*e*P		**P**	**15 25 32.3**	**+0.1**
	comp=Z,57nm,1.1s,mb5.1							
CMAR	**Chiang Mai Arr**	**28.41**	**258**	P		**P**	**15 25 33.6**	**+0.2**
	comp=Z,10nm,0.8s,mb4.5,baz=56,slow=7.2,SNR=50							
CMAR				PcP		PcP	15 28 44.5	-0.5
	comp=Z,7.3nm,0.8s,baz=38,slow=1.1,SNR=20							
CMAR				LR		LR	15 36 44.8	
	comp=Z,549nm,21.6s,MS4.1,baz=294,slow=36							
CMAR	**Chiang Mai Arr**	**28.41**	**258**	P		**P**	**15 25 33.6**	**+0.2**
CMAR							15 28 44.5	
ZAK	**Zakamensk**	**29.84**	**327**	*e*P		**P**	**15 25 43.2**	**-2.6**
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.3s,mb4.1							
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.2s,mb4.0							
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.3s,mb3.9							
TLY	**Talaya**	**30.54**	**329**	*e*P		**P**	**15 25 52.7**	**+0.8**
TLY				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.3							
TLY				MLR		MLR		
	comp=Z,572nm,17.0s,MS4.3							
TLY	**Talaya**	**30.54**	**329**	*e*P		**P**	**15 25 49.4**	**-2.5**
IRK	**Irkutsk**	**30.66**	**331**	*e*P		**P**	**15 25 52.7**	**-0.2**
IRK				pmax		pmax		
	comp=Z,25nm,2.3s,mb4.6							
MOY	**Mondy**	**31.78**	**327**	*e*P		**P**	**15 26 03.3**	**+0.5**
SHL	**Shillong**	**32.58**	**275**	*e*P		**P**	**15 26 10.0**	**-0.2**
SHL				*e*S		**S**	**15 31 25.0**	**+2.2**
LSA	**Lhasa**	**32.63**	**283**	P		**P**	**15 26 12.0**	**+1.4**
LSA	**Lhasa**	**32.63**	**283**	*e*P		**P**	**15 26 11.4**	**+0.8**
LSA				pmax		pmax		
	comp=Z,19nm,0.8s,mb5.1							
LSA	**Lhasa**	**32.63**	**283**	*e*P		**P**	**15 26 11.4**	**+0.9**
	comp=Z,18nm,0.8s,mb5.1							
PETK	**Petropavlovsk-**	**33.68**	**32**	P		**P**	**15 26 18.4**	**-1.0**
	comp=Z,45nm,0.8s,mb5.5,baz=205,slow=5.0,SNR=38							
PETK				LR		LR	15 40 05.7	
	comp=Z,302nm,21.6s,MS4.0,baz=85,slow=36							
PET	**Petropavlovsk**	**34.08**	**33**	⇑*i*P		**P**	**15 26 21.9**	**-1.0**
PET				*e*S		**S**	**15 31 43.0**	**-2.4**
PET				pmax		pmax		
	comp=Z,106nm,0.8s,mb5.8							
PET				MLR		MLR		
	comp=Z,400nm,12.0s,MS4.4							
PET	**Petropavlovsk**	**34.08**	**33**	*e*P		**P**	**15 26 21.8**	**-1.1**
	comp=Z,38nm,0.6s,mb5.5							
YAK	**Yakutsk**	**34.65**	**1**	*e*P		**P**	**15 26 27.0**	**-0.7**
YAK				*e**PP		pP	15 26 36.6	-3.1
YAK				*e*			15 27 41.7	
YAK				*e*			15 28 58.8	
YAK				*e*S		**S**	**15 31 53.9**	**0.0**
YAK				*e*			15 36 46.3	
YAK				pmax		pmax		
	comp=Z,29nm,0.8s,mb5.3							
YAK				pmax		pmax		
	comp=N,14nm,1.2s							
YAK				pmax		pmax		
	comp=Z,4.0nm,0.4s,mb4.7							
YAK				pmax		pmax		
	comp=N,1.0nm,0.4s							
YAK				smax				
	comp=N,242nm,25.1s							
YAK				smax				
	comp=E,114nm,22.5s							
YAK				MLR		MLR		
	comp=Z,258nm,17.0s,MS4.0							
YAK				MLR		MLR		
	comp=N,298nm,22.0s							
YAK				MLR		MLR		
	comp=E,46nm,9.0s							
YAK	**Yakutsk**	**34.65**	**1**	*e*P		**P**	**15 26 25.4**	**-2.3**
	comp=E,41nm,0.7s,mb5.5							
HVS	**Khovu-Aksy**	**35.26**	**322**	*i* P		**P**	**15 26 31.9**	**-1.2**
HVS				pmax		pmax		
	comp=Z,57nm,1.5s,mb5.3							
TAPN	**Taplejung**	**35.94**	**280**	*e*P		**P**	**15 26 39.7**	**+0.5**
	comp=Z,28nm,0.7s,mb5.3							
ODAN	**Odare**	**36.30**	**279**	*e*P		**P**	**15 26 42.9**	**+0.5**
	comp=Z,160nm,0.6s,mb6.1							
WMQ	**Urumqi**	**36.45**	**308**	P		**P**	**15 26 44.2**	**+0.8**
WMQ				AP		pP	15 26 59.4	+3.9
WMQ				PP		PP	15 28 09.8	+2.9

WMQ PCP PcP 15 29 07.2 +0.5
WMQ S **S** **15 32 21.4 -0.7**
WMQ SCP ScP 15 32 47.4 -2.2
WMQ SS SS 15 34 49.7 -13
WMQ SCS ScS 15 36 52.4 -3.5
WMQ AMB AMB
comp=Z,29nm,0.9s,mb5.2
WMQ AMB AMB
comp=Z,57nm,9.7s
WMQ LR LR
comp=N,221nm,23.8s,MS4.3
WMQ LR LR
comp=E,606nm,25.0s,MS4.3
WMQ LR LR
comp=Z,734nm,26.7s,MS4.3
RAMN Ramite 36.98 279 *e*P **P** **15 26 48.5 +0.4**
comp=Z,43nm,0.7s,mb5.4
JIRN Jiri 37.22 280 *e*P **P** **15 26 51.0 +0.9**
GUN Gumba 37.45 281 *e*P **P** **15 26 53.0 +0.9**
comp=Z,120nm,0.8s,mb5.8
PKI Pulchoki 37.91 280 *e*P **P** **15 26 56.4 +0.4**
comp=Z,140nm,1.0s,mb5.7
KKN Kakani 37.99 281 *e*P **P** **15 26 57.2 +0.5**
comp=Z,121nm,0.9s,mb5.6
DMN Daman 38.17 281 *e*P **P** **15 26 58.6 +0.4**
comp=Z,135nm,1.1s,mb5.6
GKN Gorkha 38.51 281 *e*P **P** **15 27 01.5 +0.4**
comp=Z,71nm,1.0s,mb5.3
SEY Seymchan 38.89 17 *e*P **P** **15 27 02.7 -1.1**
DANN Dangsing 39.22 282 *e*P **P** **15 27 08.0 +1.0**
comp=Z,210nm,0.7s,mb6.0
KOLN Koldanda 39.46 281 *e*P **P** **15 27 09.4 +0.4**
comp=Z,160nm,0.9s,mb5.7
KAKA Kakadu 40.07 174 *e*P pP 15 27 24.4 -1.9
comp=Z,12nm,0.6s
KAKA Kakadu 40.07 174 P **P** **15 27 14.9 +0.9**
comp=Z,25nm,0.6s,mb5.1
KAKA *e* pP 15 27 24.2 -2.1
KAKA *e*P pP 15 27 24.4 -1.9
MK31 Makanchi Array 40.82 311 *e*P **P** **15 27 18.6 -1.4**
MKAR Makanchi Array 40.82 311 P **P** **15 27 19.0 -1.0**
comp=Z,13nm,0.6s,mb4.7,baz=96,slow=9.3,SNR=104
MKAR PcP PcP 15 29 19.4 -0.8
comp=Z,8.6nm,0.8s,baz=74,slow=4.3,SNR=7.4
MKAR ScP ScP 15 33 05.7 -0.6
comp=Z,0.2nm,0.3s,baz=98,slow=5.1,SNR=3.5
MKAR LR LR 15 46 34.8
comp=Z,504nm,18.2s,MS4.4,baz=29,slow=40
MKAR Makanchi Array 40.82 311 P **P** **15 27 19.0 -1.0**
MKAR 15 29 19.5
ZAA0 Zalesovo Array 41.37 322 *e*P **P** **15 27 23.1 -1.3**
ZALV Zalesovo Beam 41.37 322 P **P** **15 27 23.2 -1.2**
comp=Z,13nm,0.6s,mb4.8,baz=108,slow=8.5,SNR=66
ZALV PcP PcP 15 29 20.4 -1.5
comp=Z,9.5nm,0.9s,baz=111,slow=3.3,SNR=6.9
ZALV ScP ScP 15 33 07.5 -0.7
comp=Z,0.6nm,0.5s,baz=90,slow=3.3,SNR=3.6
ZALV LR LR 15 46 37.2
comp=Z,619nm,18.3s,MS4.5,baz=107,slow=39
ZAL Zalesovo 41.37 322 P **P** **15 27 23.2 -1.3**
ZAL 15 29 20.5
PTH Pithoragarh 42.09 285 *ex* **P** **15 27 25.2 -5.5**
NVS Novosibirsk 42.56 323⇓ *i*P **P** **15 27 32.1 -2.0**
NVS *e* 15 29 12.0
NVS pmax pmax
comp=Z,22nm,1.2s,mb4.8
NVS pmax pmax
comp=E,21nm,1.3s
DDI Dehra Dun 43.82 286 *ex* x 15 27 43.8
KURK Kurchatov 44.03 316 P **P** **15 27 44.5 -1.5**
comp=E,286nm,0.7s,mb6.1,SNR=32
KURK Kurchatov 44.03 316 P **P** **15 27 45.3 -0.7**
SNR=16
KURK Kurchatov 44.03 316⇑ *i*P **P** **15 27 44.4 -1.6**
TIXI Tiksi 44.30 0 *e*P **P** **15 27 47.0 -0.9**
TIXI pmax pmax
comp=Z,14nm,1.1s,mb4.6
TIXI MLR MLR
comp=Z,534nm,21.0s,MS4.4
TIXI Tiksi 44.30 0 *e*P **P** **15 27 47.6 -0.2**
comp=Z,8.7nm,0.8s,mb4.5
SMLA Simla 44.45 288 *i* P **P** **15 27 50.0 +0.3**
SMLA *ex* x 15 27 50.6
comp=Z,209nm,0.9s
SMLA *i* S PcS 15 33 38.1 +12
ULHL Ulahol 44.56 303 P **P** **15 27 51.9 +1.4**
SNR=7.6
NDI New Delhi 44.83 284 *e*P **P** **15 27 52.0 -0.7**
TKM2 Tokmak 2 45.07 304 P **P** **15 27 56.0 +1.6**
SNR=90
KZA Kyzart 45.30 303 P **P** **15 27 58.3 +2.0**
SNR=30
FITZ Fitzroy Crossi 45.30 184 *e*P **P** **15 27 54.5 -1.9**
comp=Z,13nm,0.7s,mb4.9
FITZ *e* pP 15 28 07.8 -1.0
KBK Karagaybulak 45.54 304 P **P** **15 27 59.7 +1.5**
SNR=25
CHMS Chumysh 45.69 304 P **P** **15 28 00.4 +1.0**
SNR=32
UCH Uchtor 45.85 303 P **P** **15 28 03.0 +2.4**
SNR=20
UCH Uchtor 45.85 303 *e*P **P** **15 28 02.1 +1.5**
comp=Z,39nm,0.8s,mb5.4
AAK Ala-Archa 45.87 304 P **P** **15 28 02.1 +1.3**
SNR=9.1
USP Ospenovka 45.88 305 P **P** **15 28 01.7 +0.8**
SNR=18
EKS2 Erkin-Say 46.40 304 P **P** **15 28 06.1 +1.2**
SNR=17
AML Almayashu 46.45 303 P **P** **15 28 06.5 +1.0**
SNR=25
BILL Bilibino 46.55 19κ *e*P **P** **15 28 05.4 -0.3**
BILL *e* 15 28 12.0
BILL *e* 15 29 39.5
BILL 15 29 56.0
BILL *e*SSS 15 39 13.5
BILL pmax pmax
comp=Z,40nm,1.5s,mb5.1
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.3
BILL Bilibino 46.55 19 *e*P **P** **15 28 05.2 -0.5**
HYB Hyderabad 46.80 269 *i* P **P** **15 28 08.5 +0.1**
HYB Hyderabad 46.80 269 *e*P **P** **15 28 08.5 +0.1**
WRAB Tennant Creek 47.41 172 P **P** **15 28 12.0 -1.0**
comp=Z,175nm,0.8s,mb6.0,SNR=7.4
WRA Warramunga Arr 47.42 172 P **P** **15 28 10.3 -2.7**
comp=Z,4.9nm,0.6s,mb4.6,baz=352,slow=8.1,SNR=36
WRA PcP PcP 15 29 42.0 -1.1
comp=Z,3.6nm,1.1s,baz=349,slow=7.7,SNR=1.9
WRA LR LR 15 46 59.4
comp=Z,182nm,21.8s,MS4.0,baz=0.0,slow=35
WRA Warramunga Arr 47.42 172 P **P** **15 28 10.3 -2.7**
WRA 15 29 42.0
WB2 Warramunga Arr 47.42 172 *e*P **P** **15 28 11.6 -1.5**
WB2 *e* pP 15 28 22.9 -2.6
BRVK Borovoye 49.52 318 P **P** **15 28 28.5 -0.5**
comp=Z,547nm,0.8s,mb6.6,SNR=52
BRVK Borovoye 49.52 318 P **P** **15 28 28.1 -0.8**
SNR=31
BRVK Borovoye 49.52 318⇑ *i*P **P** **15 28 27.5 -1.5**
CTA Charters Tower 50.30 158 *e*P **P** **15 28 34.7 -0.5**
comp=Z,5.3nm,0.6s,mb4.8
CTA *e* pP 15 28 44.6 -3.1
CTA Charters Tower 50.30 158 *e*P **P** **15 28 34.7 -0.5**
CTA *e* pP 15 28 44.6 -3.1
CTA pmax pmax
comp=Z,5.0nm,0.6s
CTAO Charters Tower 50.30 158 *e*P **P** **15 28 34.8 -0.4**
CTAO pmax pmax
comp=Z,30nm,0.9s,mb5.3
CTAO Charters Tower 50.30 158 *e*P **P** **15 28 34.8 -0.4**
comp=Z,30nm,0.9s,mb5.3
KBL Kabul 50.69 294 *e*P **P** **15 28 38.4 +0.2**
comp=Z,79nm,0.7s,mb5.8
ASAR Alice Springs 51.05 173 P **P** **15 28 39.6 -1.1**
comp=Z,2.4nm,0.7s,mb4.3,baz=5.4,slow=14,SNR=36
SVE Sverdlovsk 55.38 322⇓ *e*P **P** **15 29 12.0 -0.3**
SVE pmax pmax
comp=Z,39nm,0.9s,mb5.4
SVE MLR MLR
comp=Z,851nm,16.0s,MS4.9
ARU Arti 56.52 321 P **P** **15 29 19.5 -0.9**
comp=Z,248nm,1.0s,mb6.2,SNR=10
ARU Arti 56.52 321*c i*P **P** **15 29 19.7 -0.7**
ARU *e* 15 30 15.4
ARU *e*S **S** **15 37 06.3 -2.2**

ARU pmax pmax
comp=Z,50nm,1.2s,mb5.4
ARU MLR MLR
comp=Z,672nm,18.0s,MS4.8
ARU Arti 56.52 321⇑ *i*P **P** **15 29 19.4 -1.0**
SOKR Solikamsk 57.49 325*c i*P **P** **15 29 26.4 -0.8**
SOKR pmax pmax
comp=Z,30nm,1.3s,mb5.2
SOKR MLR MLR
comp=Z,690nm,22.0s,MS4.7
FORT Forrest 57.85 180 *e*P **P** **15 29 28.8 -1.2**
comp=Z,22nm,0.9s,mb5.2
TTA Tatalina 59.50 31 *e*P **P** **15 29 41.5 +0.3**
SVW2 Sparrevohn 59.75 33 *e*P **P** **15 29 43.1 +0.1**
STKA Stephens Creek 60.29 167 *e*P **P** **15 29 45.8 -1.1**
comp=Z,2.9nm,0.6s,mb4.5
STKA *e* pP 15 29 58.8 -0.9
STKA Stephens Creek 60.29 167 P **P** **15 29 45.4 -1.5**
comp=Z,4.1nm,0.6s,mb4.6,baz=356,slow=13,SNR=11
STKA LR LR 15 55 39.9
comp=Z,208nm,21.1s,MS4.2,baz=19,slow=36
IMA2 Indian Mountai 60.45 27 *e*P **P** **15 29 47.8 +0.2**
PPLA Purkeypile 61.25 31 *e*P **P** **15 29 53.7 +0.6**
comp=Z,33nm,0.9s,mb5.5
KDAK Kodiak Island 61.55 37 P **P** **15 29 54.0 -1.2**
comp=Z,670nm,0.8s,SNR=17
KTH Kantishna Hill 61.77 30 *e*P **P** **15 29 56.5 -0.1**
comp=Z,21nm,0.9s,mb5.3
TRF Thorofare Moun 62.06 30 *e*P **P** **15 29 58.1 -0.4**
comp=Z,32nm,1.2s,mb5.3
BIDO Bidbid 62.72 284 P **P** **15 30 04.5 +0.9**
SNR=6.3
SEW Seward 62.86 34 *e*P **P** **15 30 02.6 -1.3**
SMDO Samad 62.94 283 P **P** **15 30 05.8 +0.7**
SNR=8.2
COLA College 62.96 28 *e*P **P** **15 30 03.4 -1.2**
COLA pmax pmax
comp=Z,22nm,0.7s,mb5.4
COLA College 62.96 28 *e*P **P** **15 30 03.4 -1.1**
comp=Z,22nm,0.7s,mb5.4
HOQ Hoqain 63.40 284 P **P** **15 30 08.6 +0.4**
SNR=7.3
BSY Bisya 63.78 283 P **P** **15 30 10.6 -0.1**
SNR=6.6
KLMR Klimovskoe 65.90 328 *e*P **P** **15 30 22.5 -1.3**
KLMR pmax pmax
comp=Z,26nm,1.2s,mb5.1
TOO Toolangi 66.61 165 *e*P **P** **15 30 27.6 -0.9**
APA Apatity 66.83 335⇓ *i*P **P** **15 30 28.5 -1.2**
APA *i* pP 15 30 45.0 +2.3
APA pmax pmax
comp=Z,25nm,1.2s,mb5.1
APA MLR MLR
comp=Z,800nm,7.0s
VRHR Novokhopersk 67.19 317 *e*P **P** **15 30 31.0 -1.2**
VRHR pmax pmax
comp=N,60nm,0.7s
VRHR pmax pmax
comp=Z,50nm,0.7s,mb5.7
VRHR pmax pmax
comp=E,10.0nm,0.5s
SPB4 Spitsbergen Ar 67.71 348 *e*P **P** **15 30 34.2 -0.9**
KBS Kingsbay 68.12 349 *e*P **P** **15 30 37.0 -0.7**
MOS Moscow 68.19 322 *e*P **P** **15 30 36.3 -2.2**
GNI Garni 68.26 305 P **P** **15 30 40.9 +1.7**
SNR=7.6
GNI Garni 68.26 305⇑ *i*P **P** **15 30 40.1 +0.9**
KEV Kevo 68.38 338 *ep* **P** **15 30 37.3 -2.1**
comp=E,21nm,0.7s,mb5.3
KEV Kevo 68.38 338 *e*P **P** **15 30 37.3 -2.1**
KEV pmax pmax
comp=Z,21nm,0.7s,mb5.3
ONI Oni 68.44 308 P **P** **15 30 40.9 +0.6**
KIV Kislovodsk 68.55 309 P **P** **15 30 41.1 +0.1**
comp=Z,443nm,1.3s,mb6.2,SNR=8.4
KIV Kislovodsk 68.55 309 *e*P **P** **15 30 40.1 -0.9**
KIV pmax pmax
comp=Z,96nm,1.2s,mb5.6
KIV MLR MLR
comp=Z,174nm,18.0s,MS4.3
VRSR Storozhevoye 68.62 318 *e*P **P** **15 30 40.2 -1.1**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,6.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.9s
AKH Akhalkalaki 68.77 307 P **P** **15 30 43.6 +1.2**
ARCES ARCESS Array B 68.95 338 P **P** **15 30 42.2 -0.8**
comp=E,17nm,0.8s,mb5.0,baz=70,slow=7.9,SNR=42
ARCES ARCESS Array B 68.95 338 P **P** **15 30 42.2 -0.8**
OBN Obninsk 68.95 322⇑ *e*P **P** **15 30 42.1 -1.1**
OBN *e* pP 15 30 51.8 -4.5
OBN 15 31 06.0
OBN pmax pmax
comp=Z,48nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,700nm,18.0s,MS4.9
OBN Obninsk 68.95 322 *e*P **P** **15 30 42.2 -1.0**
JOF Joensuu 69.06 331 *ep* **P** **15 30 42.6 -1.1**
comp=Z,38nm,0.7s,mb5.4
JOF Joensuu 69.06 331 *e*P **P** **15 30 42.6 -1.1**
JOF pmax pmax
comp=Z,38nm,0.7s,mb5.4
UMR Umm Al-Rimmam 69.44 293 *e*P **P** **15 30 45.3 -1.4**
baz=293
UMR AMb AMB 15 30 47.2
comp=Z,121nm,1.0s,mb5.8,baz=293
MIB Mutribah 69.65 294 *e*P **P** **15 30 47.1 -0.9**
baz=294
MIB AMb AMB 15 30 48.6
comp=Z,131nm,0.8s,mb5.9,baz=294
RDF Al-Radifah 69.79 293 *e*P **P** **15 30 47.5 -1.4**
baz=293
RDF AMb AMB 15 30 49.4
comp=Z,144nm,1.2s,mb5.8,baz=293
NAY Al-Naaiem 69.93 293 *e*P **P** **15 30 48.3 -1.4**
baz=293
NAY AMb AMB 15 30 50.2
comp=Z,87nm,0.8s,mb5.7,baz=293
SKAG Skagway 69.93 33 *e*P **P** **15 30 49.4 +0.2**
comp=Z,33nm,1.0s,mb5.2
SKAG LR LR
comp=Z,100nm,18.0s,MS4.1
MSL Mosul 70.75 301 *ex* x 15 31 01.0
MSL *ex* x 15 40 20.0
BHD Baghdad 70.81 298 *ex* x 15 31 22.0
BHD *ex* x 15 40 44.2
KAF Kangasniemi 71.52 331 *ep* **P** **15 30 57.2 -1.6**
comp=Z,13nm,0.7s,mb5.0,baz=65,slow=5.7
KAF Kangasniemi 71.52 331 *e*P **P** **15 30 57.2 -1.6**
KAF pmax pmax
comp=Z,13nm,0.7s,mb5.0
ANN Anapa 71.83 311 *e*P **P** **15 31 00.3 -0.7**
ANN *e*PP pP 15 31 10.5 -3.6
ANN *e* 15 33 39.2
ANN *e*S S 15 40 16.0 -2.3
ANN *e*SS SS 15 44 52.8 -1.7
ANN pmax pmax
comp=Z,120nm,0.8s,mb5.9
ANN MLR MLR
comp=Z,340nm,22.0s,MS4.6
VSU Vasula 72.80 327 *e*P **P** **15 31 05.5 -1.0**
LOF Lofoten 73.45 339 *e*P **P** **15 31 10.9 +0.7**
LOF *ep*P pP 15 31 22.2 -1.2
VIB Van Inlet 73.69 38 P **P** **15 31 11.7 -0.2**
DIB Dawson Inlet, 73.75 38 P **P** **15 31 11.9 -0.3**
SIM Simferopol' 73.97 313 *i* P **P** **15 31 13.2 -0.5**
SIM MLR MLR
comp=Z,200nm,18.0s,MS4.5
DAG Danmarks Havn 74.11 352⇓ *i*P **P** **15 31 12.8 -1.2**
DAG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
DAG Danmarks Havn 74.11 352⇓ *i*P **P** **15 31 12.8 -1.2**
comp=Z,9.7nm,0.8s,mb4.8
AKASG Malin Array Be 74.69 319 P **P** **15 31 16.3 -1.5**
comp=Z,32nm,0.7s,mb5.3,baz=56,slow=6.0,SNR=106
AKASG LR LR 16 06 45.0
comp=Z,828nm,19.3s,MS5.0,baz=65,slow=38
AKASG Malin Array Be 74.69 319 P **P** **15 31 16.3 -1.5**
AKASG LR LR 16 06 45.0
AKBB Malin Array Si 74.69 319 *e*P **P** **15 31 16.1 -1.7**
KIEV Kiev 74.70 319 *e*P **P** **15 31 15.8 -2.0**
KIEV pmax pmax
comp=Z,37nm,0.7s,mb5.4
KIEV Kiev 74.70 319 *e*P **P** **15 31 15.8 -2.1**

comp=Z,37nm,0.7s,mb5.4
RAO Raoul Island 76.31 133 LR LR 15 59 17.6
comp=Z,420nm,20.2s,MS4.7,slow=31
KIS Kishinev 76.50 316 *e*P **P** **15 31 27.0 -1.2**
KIS MLR MLR
comp=Z,400nm,15.0s,MS4.8
KIS MLR MLR
comp=Z,500nm,15.0s
SUW Suwalki 76.55 324 *e*P **P** **15 31 27.4 -0.9**
SUW LMZ 16 08 30.8
comp=Z,600nm,18.0s
YKA Yellowknife Ar 77.44 25 P **P** **15 31 33.0 -0.2**
comp=Z,17nm,0.7s,mb5.1,baz=306,slow=5.8,SNR=27
YKA LR LR 16 06 03.3
comp=Z,20nm,21.4s,MS3.4,baz=95,slow=36
YKA Yellowknife Ar 77.44 25 P **P** **15 31 33.0 -0.2**
YKA LR LR 16 06 03.3
LVV L'vov 78.07 320 *i* P **P** **15 31 36.8 -0.1**
NB2 NORSAR Subarra 78.30 334 P **P** **15 31 36.9 -1.1**
comp=Z,71nm,0.8s,mb5.7,baz=52,slow=5.6
NOA NORSAR Array B 78.30 334 P **P** **15 31 36.9 -1.1**
comp=Z,56nm,0.8s,mb5.6,baz=51,slow=5.5,SNR=189
NOA LR LR 16 10 03.8
comp=Z,173nm,19.6s,MS4.4,baz=65,slow=39
VRI Vrincioaia 78.30 316⇑ *i*P **P** **15 31 38.4 +0.1**
VRI Vrincioaia 78.30 316 P **P** **15 31 39.3 +1.0**
PLOR Plostina 78.36 316 P **P** **15 31 39.3 +0.7**
BURAR Bucovina Array 78.42 318⇑ *i*P **P** **15 31 38.9 0.0**
BURAR Bucovina Array 78.42 318 ⇑P **P** **15 31 38.9 0.0**
NAO01 NORSAR Array S 78.55 334 *e*P **P** **15 31 37.9 -1.4**
comp=Z,41nm,0.9s,mb5.4
MAMC Mammari 78.59 304⇓P **P** **15 31 40.0 -0.1**
CSS Prodhromos 78.59 303⇓P **P** **15 31 40.0 -0.1**
comp=Z,0.7nm,0.8s
CSS Prodhromos 78.59 303 *e*P **P** **15 31 39.4 -0.8**
comp=Z,59nm,0.7s,mb5.6
MOL Molde 78.75 336 *e*P **P** **15 31 40.2 -0.2**
MOL AMb AMB 15 31 42.7
comp=Z,73nm,1.4s,mb5.4
MOL Molde 78.75 336 *e*P **P** **15 31 40.2 -0.2**
comp=Z,73nm,1.4s,mb5.4
KWP Kalwaria 78.91 320 *e*P **P** **15 31 41.8 +0.2**
KWP LMZ 16 09 05.5
comp=Z,1μm,20.5s
KWP Kalwaria 78.91 320 *e*P **P** **15 31 41.8 +0.2**
MLR Muntele Rosu 78.96 316⇓ *i*P **P** **15 31 41.7 -0.2**
MLR Muntele Rosu 78.96 316 P **P** **15 31 42.6 +0.7**
ALFC Alevga 79.05 304⇓P **P** **15 31 41.8 -0.8**
PRD Provadia 79.09 313 *e*P **P** **15 31 43.0 +0.3**
PPCY Paphos 79.36 304⇓P **P** **15 31 43.8 -0.5**
ISP Isparta 79.39 307 *e*P **P** **15 31 43.2 -1.2**
ISP pmax pmax
comp=Z,26nm,0.8s,mb5.2
ISP Isparta 79.39 307⇑ *i*P **P** **15 31 43.4 -1.0**
ISP Isparta 79.39 307 *e*P **P** **15 31 43.2 -1.2**
comp=Z,26nm,0.8s,mb5.2
KOLS Kolonicke sedl 79.50 320 *i* P **P** **15 31 44.3 -0.5**
VOIR 79.54 316⇓ *i*P **P** **15 31 45.3 +0.2**
VOIR 79.54 316 P **P** **15 31 45.4 +0.3**
UZH Uzhgorod 79.64 320⇑ *i*P **P** **15 31 45.6 0.0**
UZH *e* 15 31 52.2
SUMG Summit 79.88 356 *e*P **P** **15 31 46.6 +0.2**
comp=Z,16nm,1.0s,mb4.9
GKP Gorka Klasztor 79.98 325 *e*P **P** **15 31 47.3 0.0**
GKP LMZ 16 11 04.1
comp=Z,1μm,17.1s
GKP Gorka Klasztor 79.98 325 *e*P **P** **15 31 47.3 0.0**
GKP LR LR
comp=Z,1μm,17.1s,MS5.2
CRVS Cervenica-Dubn 79.98 320 *i* P **P** **15 31 47.2 -0.2**
SZH Strazhica 80.01 314 *e*P **P** **15 31 47.5 -0.2**
BSD Bornholm Skovb 80.11 328⇑ *i*P **P** **15 31 47.4 -0.5**
BSD pmax pmax
comp=Z,72nm,0.7s,mb5.7
BSD Bornholm Skovb 80.11 328⇑ *i*P **P** **15 31 47.4 -0.5**
comp=Z,72nm,0.7s,mb5.7
ZIMR 80.19 314 P **P** **15 31 49.1 +0.5**
OJC Ojcow 80.24 322 *i* P **P** **15 31 48.8 0.0**
DRGR 80.31 318⇓ *i*P **P** **15 31 49.2 0.0**
DRGR 80.31 318 P **P** **15 31 49.5 +0.3**
NIE Niedzica 80.37 321 *i* P **P** **15 31 50.1 +0.6**
KECS Kecovo 80.75 320 *i* P **P** **15 31 51.6 0.0**
KECS pmax pmax
comp=Z,28nm,1.9s,mb4.9
KECS Kecovo 80.75 320 *i* P **P** **15 31 51.6 0.0**
comp=Z,28nm,1.9s,mb4.9
COP Copenhagen 80.94 329 *i* P **P** **15 31 52.8 +0.4**
COP pmax pmax
comp=Z,68nm,0.9s,mb5.6
COP Copenhagen 80.94 329 *i* P **P** **15 31 52.8 +0.4**
comp=Z,68nm,0.9s,mb5.6
GZR Gura Zlata 80.96 317⇓ *i*P **P** **15 31 53.1 +0.4**
GZR Gura Zlata 80.96 317 P **P** **15 31 52.7 0.0**
ALN Alexandroupoli 81.06 311 *e*P **P** **15 31 52.6 -0.7**
RGN Rugen 81.19 328 *e*P **P** **15 31 54.0 +0.3**
comp=Z,121nm,1.0s,mb5.8
NLWA Neilton Lookou 81.32 41⇓P **P** **15 31 54.7 +0.1**
baz=81
OKC Ostrava-Krasne 81.35 322 *e*P **P** **15 31 55.0 +0.3**
OKC AMS AMS 16 11 00.0
comp=Z,500nm,15.1s
PSZ Piszkesteto 81.39 320 *e*P **P** **15 31 54.7 -0.2**
PSZ pmax pmax
comp=Z,77nm,1.8s,mb5.3
PSZ Piszkesteto 81.39 320⇑ *e*P **P** **15 31 54.9 0.0**
PSZ Piszkesteto 81.39 320⇓ *i*P **P** **15 31 55.5 +0.6**
PSZ Piszkesteto 81.39 320 *e*P **P** **15 31 54.7 -0.2**
comp=Z,77nm,1.8s,mb5.3
PGB Panagyurishte 81.50 314 *e*P **P** **15 31 55.5 -0.1**
A05A Maple Falls 81.50 39 ⇑P **P** **15 31 55.1 -0.4**
baz=81
BZS Buzias 81.56 317⇓ *i*P **P** **15 31 55.5 -0.4**
BZS Buzias 81.56 317 P **P** **15 31 55.6 -0.3**
SNART Snartemo 81.57 333 *e*P **P** **15 31 55.2 -0.5**
SNART AMb AMB 15 31 56.8
comp=Z,79nm,0.9s,mb5.7
MORC Moravsky Berou 81.71 322 *e*P **P** **15 31 56.6 0.0**
MORC pmax pmax
comp=Z,26nm,0.9s,mb5.2
MORC Moravsky Berou 81.71 322 *e*P **P** **15 31 56.6 0.0**
comp=Z,26nm,0.9s,mb5.2
A06A Chilliwack 81.78 39⇓P **P** **15 31 56.1 -0.9**
baz=82
KSP Ksiaz 81.80 324 *e*P **P** **15 31 57.5 +0.4**
KSP LMZ 16 11 55.9
comp=Z,1μm,17.9s
KSP Ksiaz 81.80 324⇑ *e*P **P** **15 31 57.3 +0.3**
KSP LR LR
comp=Z,1μm,17.9s,MS5.3
B05A Bryant 81.88 39 ⇑P **P** **15 31 57.6 +0.1**
baz=82
KOLL Kolacno 81.88 321 *i* P **P** **15 31 58.2 +0.7**
MUD Monsted U'grnd 81.93 331 *i* P **P** **15 31 58.4 +0.8**
MUD Monsted U'grnd 81.93 331 *e*P **P** **15 31 58.4 +0.8**
E03A Lebam 81.94 41⇓P **P** **15 31 58.0 +0.1**
baz=82
DPC Dobruska-Polom 82.06 323 *e*P **P** **15 31 58.9 +0.5**
DPC AMS AMS 16 11 50.0
comp=Z,600nm,19.5s
B06A Marblemount 82.09 39⇓P **P** **15 31 58.5 -0.1**
baz=82
VTS Vitosha 82.09 314 *e*P **P** **15 31 58.6 -0.1**
BUD Budapest 82.11 320⇓ *e*P **P** **15 31 59.2 +0.4**
UPC Upice 82.13 323 *e*P **P** **15 31 59.0 +0.2**
RUE Ruedersdorf 82.16 326 *e*P **P** **15 31 59.3 +0.4**
comp=Z,59nm,0.9s,mb5.5
LOS Limnos 82.17 311 *e*P **P** **15 31 58.3 -0.9**
MMB Musomiste 82.25 313 *e*P **P** **15 31 59.0 -0.6**
F03A Seaside 82.26 42 ⇑P **P** **15 31 59.6 0.0**
baz=82
A07A Ashnola River, 82.41 38⇓P **P** **15 31 59.9 -0.4**
baz=82,SNR=10
C05A Tolt Reservoir 82.42 40⇓P **P** **15 32 00.5 +0.1**
baz=82
VRAC Vranov 82.49 322⇓ *i*P **P** **15 32 01.6 +0.9**
VRAC Vranov 82.49 322 P **P** **15 32 01.2 +0.6**
D05A Enumclaw 82.52 40 ⇑P **P** **15 32 01.0 +0.1**
baz=82
MODS Modra-Piesok 82.62 321 *i* P **P** **15 32 02.2 +0.8**
MODS pmax pmax
comp=Z,19nm,1.1s,mb5.0
MODS Modra-Piesok 82.62 321 *i* P **P** **15 32 02.2 +0.8**
comp=Z,19nm,1.1s,mb5.0
G03A Yamhill 82.75 42 ⇑P **P** **15 32 02.4 +0.2**
baz=82

ZST **Bratislava** 82.82 321 *i* P P 15 32 02.8 +0.4
ZST pmax pmax
comp=Z,20nm,0.6s,mb5.3
ZST **Bratislava** 82.82 321 *i* P P 15 32 02.8 +0.4
comp=Z,20nm,0.6s,mb5.3
TDL **Tradedollar La** 82.83 41 P P 15 32 02.9 +0.3
FMW **Mount Fremont** 82.84 40 P P 15 32 02.8 +0.2
B07A **Winthrop** 82.88 39 P P 15 32 02.9 +0.2
baz=83,SNR=7.7
PVCC **Panska Ves** 82.88 324 *e*P P 15 32 03.1 +0.4
PVCC AMS AMS 16 12 20.0
comp=Z,700nm,18.4s
F04A **Amboy** 82.94 42 ⇑P P 15 32 02.7 -0.4
baz=83
BSEG **Bad Segeberg** 82.97 328 *e*P P 15 32 03.4 +0.3
BSEG pmax pmax
comp=Z,93nm,0.9s,mb5.8
BSEG **Bad Segeberg** 82.97 328 *e*P P 15 32 03.4 +0.3
comp=Z,93nm,0.9s,mb5.8
E05A **Randle** 82.99 41 ⇓P P 15 32 02.8 -0.5
baz=83
KNT **Kendrikon** 83.01 313 *e*P P 15 32 03.0 -0.5
BRG **Berggiesshubel** 83.01 324 *i* P P 15 32 03.4 0.0
BRG *i* pP 15 32 18.8 +2.1
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BRG pmax pmax
comp=Z,14nm,1.0s,mb5.0
BRG MLR MLR
comp=N,6μm,19.9s,MS6.1
BRG MLR MLR
comp=E,201nm,14.9s,MS6.1
BRG MLR MLR
comp=Z,303nm,17.2s,MS4.7
BRG **Berggiesshubel** 83.01 324 *e*P P 15 32 03.5 +0.1
comp=Z,24nm,1.0s,mb5.2
BRG **Berggiesshubel** 83.01 324 *i* P P 15 32 03.4 0.0
comp=Z,24nm,1.0s,mb5.2
BRG *i* pP 15 32 18.8 +2.1
comp=Z,11nm,1.0s
BRG
comp=N,336nm,19.9s
BRG
comp=E,506nm,14.9s
BRG
comp=Z,671nm,17.2s
BRG **Berggiesshubel** 83.01 324 *i* P P 15 32 03.4 0.0
comp=Z,14nm,1.0s,mb5.0
BRG *i* pP 15 32 18.8 +2.1
BRG LR LR
comp=Z,400nm,17.2s,MS4.8
A08A **Turner Farm, O** 83.07 38 P P 15 32 03.9 +0.1
baz=83,SNR=6.8
H03A **Soap Creek Ran** 83.08 43 ⇓P P 15 32 04.1 +0.2
baz=83
TREC **Trest** 83.09 323 AMS AMS 16 12 00.0
comp=Z,500nm,17.1s
I02A **Mapleton** 83.11 44 ⇓P P 15 32 04.4 +0.4
baz=83
PAIG **Paliouri** 83.11 311 *e*P P 15 32 03.2 -0.9
VAY **Valandovo** 83.14 313 *i* P P 15 32 02.7 -1.6
D06A **Cle Elum** 83.17 40 ⇓P P 15 32 04.2 0.0
baz=83
STIP **Stip** 83.20 314 *e*P P 15 32 03.3 -1.2
PRU **Pruhonice** 83.20 323 *e*P P 15 32 04.6 +0.2
PRU AMS AMS 16 12 30.0
comp=Z,500nm,16.4s
CLL **Collm** 83.24 325⇑*i*P P 15 32 04.4 -0.1
CLL pmax pmax
comp=Z,65nm,0.9s,mb5.7
CLL MLR MLR
comp=Z,600nm,18.4s,MS5.0
CLL **Collm** 83.24 325 *e*P P 15 32 04.4 -0.1
comp=Z,65nm,0.9s,mb5.7
CLL **Collm** 83.24 325⇑*i*P P 15 32 04.4 -0.1
comp=Z,65nm,0.9s,mb5.7
CLL LmV 15 13 00.0
comp=Z,600nm,18.4s
CLL *e*PPS 15 43 42.0
CLL *e*(SS) 15 49 00.0
CLL *e*(SSS) 15 52 42.0
CLL **Collm** 83.24 325⇑*i*P P 15 32 04.4 -0.1
comp=Z,65nm,0.9s,mb5.7
CLL LR LR
comp=Z,600nm,18.4s,MS5.0
FBE **Freiberg** 83.28 325 *e*P P 15 32 05.4 +0.6
comp=Z,84nm,1.1s,mb5.7
K01A **Sixes** 83.33 45 ⇑P P 15 32 04.9 -0.3
baz=83
C07A **Waterville** 83.34 39 ⇑P P 15 32 04.4 -0.8
baz=83
AOS **Alonnisos** 83.35 311 *e*P P 15 32 04.5 -0.9
B08A **Colville Reser** 83.37 38 P P 15 32 05.4 +0.1
baz=83,SNR=8.4
SOP **Sopron** 83.41 321⇑*e*P P 15 32 05.9 +0.4
A09A **Danville** 83.43 38 ⇑P P 15 32 05.7 +0.1
baz=83,SNR=8.6
GRG **Griva** 83.43 313 *e*P P 15 32 04.8 -1.0
E06A **Yakima** 83.45 41 P P 15 32 06.2 +0.4
baz=83,SNR=9.7
I03A **Eugene** 83.46 44 ⇑P P 15 32 06.1 +0.2
baz=83
EBG **Ellensburg** 83.48 40 P P 15 32 06.2 +0.3
F05A **White Salmon** 83.53 41 ⇓P P 15 32 06.4 +0.2
baz=83
SKO **Skopje** 83.53 314 *e*P P 15 32 06.5 +0.2
J02A **Umpqua** 83.60 44 ⇓P P 15 32 06.7 +0.1
baz=83
CONA **Conrad Observa** 83.66 321⇑*i*P P 15 32 07.3 +0.6
comp=Z,174nm,2.3s,mb5.8,SNR=20
CONA **Conrad Observa** 83.66 321⇑*i*PcP P 15 32 07.3 +0.6
comp=Z,174nm,2.3s,mb5.8,SNR=20
CSNA **Conrad Observa** 83.66 321⇓*i*P P 15 32 07.3 +0.6
comp=Z,163nm,2.3s,mb5.8
CSNA **Conrad Observa** 83.66 321⇓*i*PcP P 15 32 07.3 +0.6
comp=Z,163nm,2.3s,mb5.8
XOR **Xorichti** 83.72 311 *e*P P 15 32 06.0 -1.3
H04A **Detroit Lake** 83.75 43 P P 15 32 07.4 +0.1
baz=84,SNR=7.3
LIT **Litokhoron** 83.81 312 *e*P P 15 32 06.4 -1.3
C08A **Higginbotham F** 83.86 39 P P 15 32 07.8 0.0
baz=84,SNR=7.8
G05A **Wamic** 83.96 42 ⇓P P 15 32 08.5 +0.1
baz=84
K02A **Glendale** 83.97 45 ⇓P P 15 32 08.7 +0.2
baz=84
KRUS **Krusevo** 83.97 314 *e*P P 15 32 07.8 -0.7
A10A **Northport** 83.98 37 ⇑P P 15 32 08.2 -0.2
baz=84,SNR=6.7
B09A **Rice** 83.99 38 ⇑P P 15 32 08.4 0.0
baz=84
F06A **Goldendale** 83.99 41 ⇓P P 15 32 08.5 0.0
baz=84
M01C **Crescent City** 84.05 46 ⇓P P 15 32 09.0 +0.1
baz=84
E07A **Sunnyside** 84.09 40 ⇑P P 15 32 09.3 +0.3
baz=84
I04A **Tendick Farm,** 84.09 43 ⇓P P 15 32 09.0 0.0
baz=84,SNR=14
WERD **Werda** 84.10 325 *e*P P 15 32 09.1 +0.1
comp=Z,40nm,1.1s,mb5.5
GUNZ **Gunzen** 84.14 325 *e*P P 15 32 09.4 +0.2
comp=Z,58nm,0.9s,mb5.7
NKC **Novy Kostel** 84.16 324 *e*P P 15 32 09.7 +0.4
NKC AMS AMS 16 13 20.0
comp=Z,800nm,17.9s
NKC **Novy Kostel** 84.16 324 *e*P P 15 32 09.7 +0.4
WERN **Wernitzgruen** 84.16 325 *e*P P 15 32 09.6 +0.3
comp=Z,70nm,1.0s,mb5.8
KHC **Kasperske Hory** 84.21 323 *e*P P 15 32 10.0 +0.4
KHC AMS AMS 16 13 00.0
comp=Z,600nm,16.5s
L02A **Cave Junction** 84.22 45 ⇑P P 15 32 09.7 0.0
baz=84
CLZ **Clausthal** 84.23 327 *e*P P 15 32 10.2 +0.6
CLZ pmax pmax
comp=Z,142nm,1.0s,mb6.0
CLZ **Clausthal** 84.23 327 *e*P P 15 32 10.2 +0.6
comp=Z,142nm,1.0s,mb6.0
ARSA **Arzberg** 84.23 321⇑*i*P P 15 32 09.5 -0.2
comp=Z,87nm,2.2s,mb5.5
C09A **Chrisman Ranch** 84.28 38 ⇑P P 15 32 09.6 -0.3
baz=84
GEC2 **GERESS Array S** 84.31 323 *e*P P 15 32 10.2 +0.1
GEC2 pmax pmax
comp=Z,32nm,1.1s,mb5.4
GEC2 **GERESS Array S** 84.31 323 *e*P P 15 32 10.2 +0.1
comp=Z,32nm,1.1s,mb5.4
GERES **GERESS Array B** 84.31 323 P P 15 32 09.7 -0.4
comp=Z,11nm,0.8s,mb5.1,baz=55,slow=5.1,SNR=88
GERES PKKPbc PKKPbc 15 50 21.3 -1.2
comp=Z,0.3nm,0.5s,baz=264,slow=1.3,SNR=4.2
GERES LR LR 16 13 11.0
comp=Z,400nm,18.2s,MS4.8,baz=181,slow=38
MOX **Moxa** 84.34 325 *e*P P 15 32 10.3 +0.1
comp=Z,48nm,1.6s,mb5.4
MOX
comp=Z,400nm,19.0s
MOX **Moxa** 84.34 325 *e*P P 15 32 10.3 +0.1
MOX pmax pmax
comp=Z,48nm,1.6s,mb5.4
MOX MLR MLR
comp=Z,400nm,19.0s,MS4.8
MOX **Moxa** 84.34 325 *e*P P 15 32 10.2 0.0
comp=Z,25nm,1.0s,mb5.3
D08A **Wollman Farm,** 84.34 39 ⇑P P 15 32 09.8 -0.4
baz=84,SNR=9.8
H05A **Madras** 84.34 42 ⇑P P 15 32 10.3 0.0
baz=84
HAWA **Hanford** 84.36 40 *e*P P 15 32 10.2 -0.2
comp=Z,34nm,1.4s,mb5.3
G06A **Carlson Farm,** 84.37 41 ⇓P P 15 32 10.3 -0.2
baz=84,SNR=8.2
HUMO **Hull Mountain** 84.39 45 ⇓P P 15 32 10.8 +0.2
baz=84
F07A **Phinny Hill Vi** 84.42 41 ⇑P P 15 32 10.9 +0.2
baz=84
AGG **Agios Georgios** 84.47 311 *e*P P 15 32 09.3 -1.7
MANZ **Manzenberg** 84.48 324 *e*P P 15 32 11.2 +0.3
comp=Z,42nm,1.1s,mb5.5
ROTZ **Rotzenmuhle** 84.56 324 *e*P P 15 32 11.9 +0.6
comp=Z,66nm,1.0s,mb5.7
B10A **Chitwood Farm,** 84.56 38 ⇓P P 15 32 11.2 -0.2
baz=84
J04A **Umpqua Nationa** 84.57 44 ⇓P P 15 32 11.7 +0.2
baz=84
WET **Wettzell** 84.58 323 *e*P P 15 32 11.7 +0.3
WET pmax pmax
comp=Z,22nm,1.2s,mb5.2
WET **Wettzell** 84.58 323 *e*P P 15 32 11.7 +0.3
comp=Z,22nm,1.2s,mb5.2
E08A **Dider Farm, El** 84.58 40 ⇑P P 15 32 11.3 -0.2
baz=84
I05A **Bend** 84.58 43 ⇓P P 15 32 11.6 +0.1
baz=84
MOA **Molln** 84.59 322⇑*i*P P 15 32 11.5 0.0
comp=Z,129nm,2.6s,mb5.6,SNR=13
MOA **Molln** 84.59 322⇑*i*PcP PcP 15 32 11.5 -3.5
comp=Z,129nm,2.6s,mb5.6,SNR=13
NEW **Newport** 84.64 38 *e*P P 15 32 11.5 -0.2
NEW pmax pmax
comp=Z,26nm,1.1s
NEW **Newport** 84.64 38 *e*P P 15 32 11.5 -0.3
comp=Z,26nm,1.1s,mb5.3
A11A **Hall Mountain,** 84.64 37 ⇓P P 15 32 12.7 +0.9
baz=84,SNR=9.5
JCC **Jacoby Creek** 84.65 47 ⇓P P 15 32 12.2 +0.2
baz=84
D09A **Jones Farm, Ri** 84.68 39 ⇓P P 15 32 11.7 -0.3
baz=84
VIPM **Ingram Point** 84.78 42 P P 15 32 12.9 +0.4
C10A **Spilker Farm,** 84.80 38 ⇓P P 15 32 12.4 -0.2
baz=84
PERS **Pernice** 84.81 321 *i* P P 15 32 12.1 -0.5
H06A **Lindquist Farm** 84.82 42 P P 15 32 12.9 +0.2
baz=85,SNR=8.7
SOKA **Soboth** 84.83 321⇑*i*P P 15 32 12.6 -0.2
comp=Z,85nm,1.8s,mb5.6
G07A **Ruggs Ranch, H** 84.92 41 ⇑P P 15 32 13.0 -0.2
baz=85,SNR=6.7
B11A **Sandpoint** 84.94 37 ⇑P P 15 32 13.5 +0.2
baz=85
YBH **Yreka Blue Hor** 85.01 45 P P 15 32 14.3 +0.6
baz=85,SNR=11
UBBA **Unterbreizbach** 85.04 326 *e*P P 15 32 13.8 +0.1
comp=Z,102nm,1.8s,mb5.7
J05A **Fort Rock** 85.08 43 ⇓P P 15 32 14.5 +0.4
baz=85,SNR=27
E09A **Wood Farm, Sta** 85.08 39 ⇓P P 15 32 14.1 +0.1
baz=85
M02C **Callahan** 85.10 46 ⇓P P 15 32 14.5 +0.3
baz=85
GRA1 **Grafenberg Arr** 85.11 325 *e*P P 15 32 14.7 +0.6
comp=Z,94nm,1.1s,mb5.8
GRA1 LR LR
comp=Z,700nm,18.4s,MS5.1
GRF **Grafenberg Arr** 85.11 325 *e*P P 15 32 14.7 +0.6
GRF pmax pmax
comp=Z,94nm,1.1s,mb5.8
GRF MLR MLR
comp=Z,700nm,18.4s,MS5.1
GRF **Grafenberg Arr** 85.11 325 *e*P P 15 32 14.7 +0.6
GRF pmax pmax
comp=Z,94nm,1.1s,mb5.8
GRF MLR MLR
comp=Z,700nm,18.4s,MS5.1
GRF **Grafenberg Arr** 85.11 325 *e*P P 15 32 14.7 +0.6
comp=Z,94nm,1.1s,mb5.8
GRF *e*L 16 14 13.9
comp=Z,668nm,18.4s
N02C **Big Bar** 85.11 46 ⇑P P 15 32 14.4 +0.1
baz=85
F08A **Pendleton** 85.14 40 ⇑P P 15 32 14.5 +0.2
baz=85
O01C **Eel River Cons** 85.14 47 ⇑P P 15 32 14.7 +0.2
baz=85
K04A **Chilquin** 85.14 44 ⇑P P 15 32 14.7 +0.3
baz=85
IBBN **Ibbenburen** 85.19 328 *e*P P 15 32 14.5 +0.1
comp=Z,101nm,1.1s,mb5.9
D10A **Wagner Farm, O** 85.26 39 ⇓P P 15 32 14.6 -0.3
baz=85
G08A **Pilot Rock** 85.32 41 P P 15 32 15.5 +0.3
baz=85,SNR=8.1
I06A **Prineville** 85.34 42 ⇓P P 15 32 15.3 -0.1
baz=85
H07A **Lands Inn, Kim** 85.36 42 ⇑P P 15 32 15.5 +0.1
baz=85,SNR=6.0
BOJS **Bojanci** 85.38 320 *i* P P 15 32 15.2 -0.3
RJOB **Jocberg** 85.46 322 *e*P P 15 32 16.3 +0.5
comp=Z,47nm,1.0s,mb5.6
LJU **Ljubljana** 85.48 320 *i* P P 15 32 15.3 -0.7
IGT **Igoumenitsa** 85.53 312 *e*P P 15 32 15.0 -1.4
KBA **Koelnbreinsper** 85.54 322⇑*i*P P 15 32 15.6 -0.7
comp=Z,100nm,2.5s,mb5.6,SNR=11
KBA **Koelnbreinsper** 85.54 322⇑*i*P P 15 32 15.6 -0.7
KBA pmax pmax
comp=Z,100nm,2.5s,mb5.6
K05A **Summer Lake** 85.60 44 ⇑P P 15 32 17.1 +0.4
baz=85,SNR=15
M03C **McCloud** 85.63 45 ⇑P P 15 32 16.7 -0.2
baz=85
A13A **Flathead Natio** 85.68 36 ⇓P P 15 32 17.5 +0.6
baz=85
I07A **Izee** 85.68 42 P P 15 32 17.6 +0.6
baz=85,SNR=12
F09A **S2 Ranch, Elgi** 85.68 40 ⇓P P 15 32 17.2 +0.2
baz=85
WDC **Whiskeytown Da** 85.73 46 *e*P P 15 32 17.0 -0.4
WDC pmax pmax
comp=Z,13nm,1.1s,mb5.1
WDC **Whiskeytown Da** 85.73 46 ⇓P P 15 32 17.2 -0.2
baz=86,SNR=7.7
WDC **Whiskeytown Da** 85.73 46 *e*P P 15 32 17.0 -0.4
comp=Z,13nm,1.1s,mb5.1
J06A **Christmas Vall** 85.76 43 P P 15 32 17.9 +0.4
baz=86,SNR=17
D11A **Klaveano Farm,** 85.78 38 ⇓P P 15 32 17.1 -0.4
baz=86
O02C **Red Bluff** 85.79 47 P P 15 32 18.3 +0.6
baz=86,SNR=17
P01C **Double 8 Ranch** 85.81 47 ⇓P P 15 32 17.5 -0.3
baz=86
JAVS **Javornik** 85.83 320 *i* P P 15 32 16.7 -1.0
VOY **Vojsko** 85.85 321 *e*P P 15 32 17.3 -0.5
VOY *e* 15 32 24.8
F10A **Beach Ranch, E** 85.92 40 ⇑P P 15 32 18.2 +0.1
baz=86
H08A **Prairie City** 85.93 41 ⇓P P 15 32 18.4 +0.2
baz=86,SNR=10
K06A **Valley Falls** 85.95 43 P P 15 32 19.1 +0.7
baz=86,SNR=17
B13A **Whitefish** 85.99 36 ⇑P P 15 32 19.3 +0.8
baz=86
G09A **Cove** 86.01 40 P P 15 32 19.1 +0.4
baz=86,SNR=17
L05A **Lakeview** 86.01 44 P P 15 32 19.4 +0.6
baz=86,SNR=13
FUR **Furstenfeldbru** 86.02 323 *e*P P 15 32 19.2 +0.6
FUR pmax pmax
comp=Z,99nm,0.9s,mb6.0
FUR **Furstenfeldbru** 86.02 323 *e*P P 15 32 19.2 +0.6
comp=Z,99nm,0.9s,mb6.0
GASB **Alder Springs** 86.12 47 P P 15 32 20.0 +0.7
baz=86,SNR=15
TNS **Taunus Mts** 86.19 326 *e*P P 15 32 19.8 +0.4
TNS pmax pmax
comp=Z,27nm,1.2s,mb5.3
TNS **Taunus Mts** 86.19 326 *e*P P 15 32 19.8 +0.4
comp=Z,27nm,1.2s,mb5.3
M05C **Lookout** 86.20 45 P P 15 32 19.8 +0.1
baz=86,SNR=12
J07A **Hines** 86.20 43 ⇑P P 15 32 19.9 +0.3
baz=86,SNR=11
ABTA **Abfaltersbach** 86.20 322⇓*i*P P 15 32 18.0 -1.6
comp=Z,56nm,1.5s,mb5.6,SNR=11
HOPS **Hopland** 86.24 48 ⇑P P 15 32 19.6 -0.3
baz=86
E11A **Bogner Ranch,** 86.26 39 P P 15 32 19.9 0.0
baz=86,SNR=8.2
HATC **Hat Creek Radi** 86.30 46 P P 15 32 20.6 +0.4
baz=86,SNR=11
D12A **Red Ives Fores** 86.32 38 ⇑P P 15 32 20.2 +0.1
baz=86
I08A **Drewsey** 86.33 42 ⇑P P 15 32 20.5 +0.2
baz=86,SNR=6.9
LBCM **Butte Creek Ri** 86.36 45 P P 15 32 20.4 0.0
C13A **Hot Springs** 86.36 37 ⇑P P 15 32 20.6 +0.3
baz=86
WTTA **Wattenberg** 86.37 322⇓*i*P P 15 32 20.2 -0.2
comp=Z,73nm,1.4s,mb5.7,SNR=14
WTTA **Wattenberg** 86.37 322⇓*i*PcP PcP 15 32 20.2 -2.6
comp=Z,73nm,1.4s,SNR=14
WTTA **Wattenberg** 86.37 322⇓*i*P P 15 32 20.2 -0.2
WTTA pmax pmax
comp=Z,73nm,1.4s,mb5.7
G10A **Bishop Farm, J** 86.38 40 P P 15 32 20.7 +0.2
baz=86,SNR=23
O03C **Acorn Hollow,** 86.38 46 ⇓P P 15 32 19.7 -0.9
baz=86
MOD **Modoc** 86.42 44 ⇓P P 15 32 20.3 -0.4
baz=86,SNR=15
H09A **Durkee** 86.43 41 ⇑P P 15 32 21.0 +0.3
baz=86,SNR=6.6
F11A **Grangeville** 86.57 39 ⇑P P 15 32 20.7 -0.7
baz=86
MOTA **Moosalm** 86.61 323⇑*i*P P 15 32 21.3 -0.3
comp=Z,15nm,0.9s,mb5.2
MOTA **Moosalm** 86.61 323⇑*i*PcP PcP 15 32 21.3 -2.6
comp=Z,15nm,0.9s
MOTA **Moosalm** 86.61 323⇑*i*P P 15 32 21.3 -0.2
MOTA pmax pmax
comp=Z,15nm,0.9s,mb5.2
K07A **Rock Creek Ran** 86.62 43 P P 15 32 22.4 +0.7
baz=86,SNR=22
M06C **Likely Place G** 86.70 45 ⇓P P 15 32 22.7 +0.6
baz=86
MNRC **McLaughlin Nat** 86.72 48 ⇓P P 15 32 22.6 +0.3
baz=86,SNR=9.5
STU **Stuttgart** 86.73 325 *e*P P 15 32 22.1 0.0
comp=Z,43nm,1.2s,mb5.5
C14A **Swan Lake** 86.75 37 ⇓P P 15 32 22.5 +0.3
baz=86
D13A **Huson** 86.78 37 ⇓P P 15 32 22.1 -0.3
baz=86
I09A **Lost Marbles R** 86.79 41 ⇑P P 15 32 22.6 +0.1
baz=86
G11A **Walters Elk Ra** 86.80 40 P P 15 32 22.1 -0.4
baz=86,SNR=15
O04C **Chester** 86.81 46 P P 15 32 23.2 +0.6
baz=87,SNR=26
MCCM **Marconi Confer** 86.82 48 ⇓P P 15 32 22.1 -0.7
baz=87
ELFS **Eagle Lake Fie** 86.87 45 ⇑P P 15 32 23.4 +0.4
baz=87,SNR=5.9
L07A **Adell** 86.95 44 P P 15 32 24.4 +1.1
baz=87,SNR=32
SUTB **Sutter Butte** 86.95 47 ⇑P P 15 32 22.5 -0.9
baz=87
ORV **Oroville** 86.96 47 P P 15 32 22.9 -0.6
baz=87,SNR=12
CVS **Carmenet Viney** 87.00 48 ⇑P P 15 32 23.0 -0.7
baz=87
H10A **Noah's Angus R** 87.01 40 P P 15 32 23.3 -0.2
baz=87,SNR=11
FETA **Feichten** 87.01 323⇑*i*P P 15 32 22.8 -0.7
comp=Z,41nm,1.4s,mb5.5,SNR=8.6
K08A **Mann Creek Ran** 87.06 43 P P 15 32 24.4 +0.6
baz=87,SNR=15
O05C **Quincy** 87.11 46 ⇑P P 15 32 24.1 -0.1
baz=87
Q03C **Winters** 87.13 48 ⇓P P 15 32 24.9 +0.6
baz=87
WVOR **Wild Horse Val** 87.14 43 *e*P P 15 32 24.1 -0.2
WVOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
WVOR **Wild Horse Val** 87.14 43 *e*P P 15 32 24.1 -0.2
comp=Z,7.1nm,0.8s,mb5.0
J09A **Fry Pan Ranch,** 87.14 42 P P 15 32 24.9 +0.7
baz=87,SNR=15
F12A **Elk City** 87.16 39 P P 15 32 24.2 -0.1
baz=87,SNR=32
BEBN **Eben Emael** 87.16 328 P P 15 32 24.1 0.0
I10A **Payette** 87.27 41 ⇓P P 15 32 24.6 -0.2
baz=87
DAVA **Damuels** 87.30 323⇑*i*P P 15 32 24.1 -0.8
comp=Z,46nm,1.2s,mb5.6
D14A **Greenough** 87.30 37 ⇓P P 15 32 24.3 -0.6
baz=87
E13A **Victor** 87.33 38 ⇑P P 15 32 24.4 -0.7
baz=87
H11A **Donnelly** 87.36 40 ⇑P P 15 32 24.7 -0.6
baz=87
N06A **Buffalo Meadow** 87.36 45 P P 15 32 25.7 +0.3
baz=87,SNR=23
M07A **Soldier Meadow** 87.41 44 P P 15 32 26.2 +0.6
baz=87,SNR=15
Q04C **Lincoln** 87.44 47 ⇓P P 15 32 25.1 -0.7
baz=87
BFO **Black Forest** 87.45 325 *e*P P 15 32 25.6 0.0
BFO pmax pmax
comp=Z,27nm,1.4s,mb5.3
BFO **Black Forest** 87.45 325 *e*P P 15 32 25.6 0.0
comp=Z,27nm,1.4s,mb5.3
L08A **Fields** 87.46 43 P P 15 32 26.5 +0.7
baz=87,SNR=24
BEKR **Beckwourth** 87.52 46 P P 15 32 26.1 0.0
baz=87,SNR=26
K09A **Rome** 87.54 42 P P 15 32 26.7 +0.5
baz=87,SNR=12
F13A **Darby** 87.65 38 P P 15 32 25.9 -0.7
baz=87,SNR=5.3
JRSC **Jasper Ridge** 87.65 49 ⇑P P 15 32 25.9 -0.9
baz=87
P05C **Yuba Gap, Truc** 87.68 46 ⇑P P 15 32 26.6 -0.3
baz=87
J10A **Berg Farm, Mel** 87.68 41 ⇑P P 15 32 26.7 -0.1
baz=87
WLF **Walferdange** 87.68 327 P P 15 32 26.4 -0.3
comp=Z,11nm,1.2s,mb5.0
WLF **Walferdange** 87.68 327 *e*P P 15 32 25.7 -1.0
WLF pmax pmax
comp=Z,11nm,0.7s,mb5.2
WLF **Walferdange** 87.68 327 *e*P P 15 32 26.4 -0.3
comp=Z,19nm,0.9s,mb5.2
WLF **Walferdange** 87.68 327 *e*P P 15 32 25.7 -1.0
comp=Z,11nm,0.7s,mb5.2
O06A **Flanigan** 87.69 45 P P 15 32 27.4 +0.4
baz=88,SNR=18
E14A **Clinton** 87.72 38 ⇓P P 15 32 26.7 -0.2
baz=88
UCC **Uccle** 87.78 328 P P 15 32 27.7 +0.5
BNLO **Ben Lomond (Sa** 87.84 49 ⇓P P 15 32 27.3 -0.4
baz=88
D15A **Lincoln** 87.85 37 ⇓P P 15 32 27.4 -0.2
baz=88
WENL **Wente Brothers** 87.85 48 ⇑P P 15 32 27.6 -0.2
baz=88
I11A **Placerville** 87.86 41 ⇓P P 15 32 27.6 -0.1
baz=88
M08A **Happy Creek Ra** 87.86 44 P P 15 32 28.7 +0.9
baz=88,SNR=8.9
N07B **Gerlach** 87.88 45 ⇑P P 15 32 28.3 +0.4

baz=88
LAVA Lava Cap Winer 87.90 47 ⇑P P 15 32 27.8 -0.2
baz=88,SNR=5.4
P06A Stead Airport, 87.92 46 ⇓P P 15 32 28.1 +0.1
baz=88
CDF Champ du Feu 87.94 325 eP P 15 32 27.0 -1.0
comp=Z,19nm,1.0s,mb5.0
CDF Champ du Feu 87.94 325 eP P 15 32 27.0 -1.0
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
CDF Champ du Feu 87.94 325 eP P 15 32 27.0 -1.0
comp=Z,9.4nm,1.0s,mb5.0
L09A Wilkinson Ranc 87.97 43 ⇑P P 15 32 28.8 +0.5
baz=88
K10A MacKenzie Ranc 88.00 42 P P 15 32 28.9 +0.6
baz=88,SNR=8.7
TIP Timpagrande 88.04 314 P P 15 32 27.9 -0.8
comp=Z,7.2nm,0.8s,mb5.0
R04C Big Horse Ranc 88.05 47 ⇓P P 15 32 28.2 -0.4
baz=88
TUE Stuetta 88.09 323 eP P 15 32 27.8 -0.9
comp=Z,20nm,0.9s,mb5.3
H12A Diamond D Ranc 88.11 40 P P 15 32 29.1 +0.2
baz=88,SNR=30
G13A Cobalt 88.13 39 ⇓P P 15 32 28.2 -0.7
baz=88
DOU Dourbes 88.15 328 P P 15 32 27.9 -1.0
F14A Wisdom 88.16 38 ⇑P P 15 32 29.1 0.0
baz=88
E15A Deer Lodge 88.18 37 ⇑P P 15 32 29.3 +0.2
baz=88
S04C Ingram Canyon, 88.20 48 ⇑P P 15 32 29.0 -0.4
baz=88
WCN Washoe City 88.22 46 ⇑P P 15 32 29.7 +0.2
baz=88
MFID Camas Ranch 88.24 41 ⇓P P 15 32 29.6 +0.2
baz=88
O07A Toulon 88.29 45 P P 15 32 30.4 +0.6
baz=88,SNR=9.9
AQU L'Aquila 88.30 318 eP P 15 32 29.8 0.0
AQU pmax pmax
comp=Z,24nm,0.8s,mb5.5
AQU L'Aquila 88.30 318 eP P 15 32 29.8 0.0
comp=Z,24nm,0.8s,mb5.5
R05C Kirkwood Meado 88.36 47 ⇑P P 15 32 30.2 +0.1
baz=88
H13A Challis 88.44 39 ⇓P P 15 32 30.3 -0.1
baz=88,SNR=16
M09A Marrel Ranch, 88.45 43 ⇑P P 15 32 31.2 +0.7
baz=88
G14A Jackson 88.47 39 ⇑P P 15 32 30.0 -0.5
baz=88
K11A Parker Ranch, 88.50 42 ⇑P P 15 32 30.9 +0.2
baz=88,SNR=6.7
PACP Pacheco Peak 88.50 49 ⇓P P 15 32 30.8 -0.1
baz=88
CMB Columbia Colle 88.53 47 ⇓P P 15 32 30.4 -0.6
baz=88,SNR=5.7
F15A Butte 88.62 38 ⇑P P 15 32 31.4 +0.1
baz=88
P07A Fallon 88.64 45 ⇑P P 15 32 31.6 +0.2
baz=88
L10A Juniper Basin 88.66 42 P P 15 32 32.4 +0.9
baz=88,SNR=7.9
EGMT Eagleton 88.66 35 ⇓P P 15 32 31.1 -0.2
baz=88
EGMT Eagleton 88.66 35 eP P 15 32 29.6 -1.7
comp=Z,24nm,1.0s,mb5.5
HAST Hastings Reser 88.67 49 ⇑P P 15 32 31.6 -0.1
baz=88
N09A Rock Creek Ran 88.74 44 ⇑P P 15 32 32.5 +0.7
baz=88
J12A Stokes Ranch, 88.76 41 ⇑P P 15 32 32.1 +0.1
baz=88,SNR=7.2
R06C Coleville 88.86 47 P P 15 32 33.0 +0.5
baz=89,SNR=5.9
DLMT Dillon 88.87 38 eP P 15 32 32.7 +0.3
comp=Z,28nm,0.9s,mb5.6
I13A Wildhorse Cree 88.92 40 P P 15 32 33.7 +1.0
baz=89,SNR=22
M10A I.L. Ranch, Tu 88.94 43 ⇓P P 15 32 33.5 +0.6
baz=89
S05C Merced 88.95 48 ⇑P P 15 32 32.5 -0.4
baz=89
HLID Hailey 88.97 40 P P 15 32 33.9 +1.0
baz=89,SNR=16
HLID Hailey 88.97 40 eP P 15 32 33.2 +0.3
comp=Z,15nm,1.0s,mb5.3
S06C San Francisco 88.97 47 P P 15 32 33.0 -0.1
baz=89,SNR=6.6
MEZF Maizieres J'vi 89.00 326 eP P 15 32 32.0 -0.9
L11A Cat Creek Ranc 89.03 42 P P 15 32 34.2 +1.0
baz=89,SNR=22
G15A Dillon 89.05 38 ⇑P P 15 32 33.7 +0.4
baz=89
P08A Dixie Valley 89.06 45 ⇓P P 15 32 34.1 +0.7
baz=89
V03C Hunter Liggett 89.08 49 ⇓P P 15 32 33.4 -0.2
baz=89
CEL Celeste 89.12 313 eP P 15 32 34.0 +0.2
comp=Z,30nm,1.0s,mb5.6
U04C Hernandez Rese 89.20 49 ⇓P P 15 32 34.3 +0.2
baz=89
J13A Cove Ranch, Pi 89.20 40 ⇑P P 15 32 34.9 +0.9
baz=89,SNR=8.5
BOZ Bozeman (W) 89.21 37 ⇓P P 15 32 34.2 +0.1
baz=89
K12A Draper Farm, C 89.25 41 P P 15 32 35.1 +0.9
baz=89,SNR=5.1
O09A Fish Creek Ran 89.34 44 ⇑P P 15 32 35.1 +0.4
baz=89,SNR=8.3
M11A Holland Ranch, 89.45 43 ⇓P P 15 32 35.6 +0.4
baz=89,SNR=9.6
L12A House Creek Ra 89.48 42 ⇓P P 15 32 35.7 +0.4
baz=89
T06C Millerton Lake 89.55 48 ⇓P P 15 32 35.1 -0.7
baz=89
PKD Parkfield 89.59 49 ⇑P P 15 32 36.2 +0.2
baz=89
NVAR Mina Array Bea 89.65 46 P P 15 32 36.6 +0.3
comp=Z,2.2nm,0.9s,mb4.5,baz=285,slow=5.1,SNR=15
K13A Stover Farm, H 89.72 41 ⇓P P 15 32 37.4 +1.0
baz=90
MLAC Mammoth Lakes 89.77 47 ⇑P P 15 32 37.6 +0.8
baz=90
N11A Elko Archery C 89.85 43 ⇓P P 15 32 38.1 +1.0
baz=90
M12A Wells 89.98 42 ⇓P P 15 32 38.7 +1.0
baz=90,SNR=5.4
V05C Boulder Hill, 90.06 49 ⇑P P 15 32 38.4 +0.2
baz=90
LPL La Plagne 90.11 323 eP P 15 32 37.4 -0.8
comp=Z,11nm,0.8s,mb4.9
LPL La Plagne 90.11 323 eP P 15 32 37.4 -0.8
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
LPL La Plagne 90.11 323 eP P 15 32 37.4 -0.8
comp=Z,5.3nm,0.8s,mb4.9
LPG La Plagne 90.11 323 eP P 15 32 37.6 -0.6
comp=Z,16nm,0.8s,mb5.1
LPG La Plagne 90.11 323 eP P 15 32 37.6 -0.6
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
LPG La Plagne 90.11 323 eP P 15 32 37.6 -0.6
comp=Z,8.2nm,0.8s,mb5.1
P10A Eureka 90.12 44 ⇓P P 15 32 38.9 +0.5
baz=90
Q09A Carvers 90.13 45 ⇑P P 15 32 38.6 +0.1
baz=90
L13A Double Diamond 90.14 41 ⇑P P 15 32 39.4 +1.0
baz=90
ELK Elko 90.19 43 eP P 15 32 39.1 +0.4
ELK pmax pmax
comp=Z,10.0nm,1.3s
ELK Elko 90.19 43 eP P 15 32 39.1 +0.4
comp=Z,10nm,1.3s,mb5.0
N12A Clover Valley, 90.25 43 ⇑P P 15 32 39.5 +0.5
baz=90,SNR=6.8
S08C White Mtn Res 90.28 47 P P 15 32 39.8 +0.6
baz=90,SNR=7.1
K14A Jones Ranch, D 90.31 40 ⇓P P 15 32 40.2 +1.0
baz=90
O11A Cowboy Ranch, 90.31 44 ⇑P P 15 32 40.0 +0.7
baz=90
LOR Lormes 90.42 326 eP P 15 32 39.5 -0.1
M13A Montello 90.46 42 P P 15 32 41.0 +1.0
baz=90,SNR=6.2
R09A Tonopah 90.55 46 ⇓P P 15 32 40.6 +0.1
baz=90,SNR=9.5
L14A Malta 90.59 41 ⇓P P 15 32 41.4 +0.9
baz=90
P11A Circle Ranch, 90.60 44 ⇑P P 15 32 41.1 +0.5
baz=90
MBDF Montbardon 90.60 323 eP P 15 32 39.7 -0.8
comp=Z,14nm,0.9s,mb5.0
MBDF Montbardon 90.60 323 eP P 15 32 39.7 -0.8
MBDF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
MBDF Montbardon 90.60 323 eP P 15 32 39.7 -0.8
comp=Z,7.1nm,0.9s,mb5.0
Q10A Clear Creek Ra 90.63 45 ⇑P P 15 32 41.2 +0.4
baz=90
PKM Peak Mountain 90.67 50 ⇑P P 15 32 40.9 -0.2
baz=90
IMW Indian Meadow 90.71 38 eP P 15 32 41.3 +0.3
comp=Z,17nm,1.2s,mb5.3
FLWY Flagg Ranch 90.73 38 eP P 15 32 42.0 +0.9
comp=Z,20nm,0.4s,mb5.8
FLWY e pP 15 32 57.7 +3.1
J16A Bone 90.74 39 ⇓P P 15 32 42.2 +1.0
baz=90
N13A Wendover, West 90.75 42 ⇑P P 15 32 41.9 +0.6
baz=90
S09A Goldfield 90.75 46 ⇑P P 15 32 41.8 +0.4
baz=90
O12A Currie 90.78 43 P P 15 32 42.3 +0.8
baz=90,SNR=11
SMF Signal de Mont 90.85 325 eP P 15 32 40.5 -1.1
comp=Z,13nm,0.9s,mb4.9
SMF Signal de Mont 90.85 325 eP P 15 32 40.5 -1.1
SMF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
SMF Signal de Mont 90.85 325 eP P 15 32 40.5 -1.1
comp=Z,6.6nm,0.9s,mb5.0
M14A Sheep Mountain 90.86 41 ⇑P P 15 32 42.9 +1.1
baz=91,SNR=14
MOOW Moose Ponds 90.92 38 eP P 15 32 41.4 -0.6
comp=Z,28nm,1.9s,mb5.3
R10A Warm Springs 91.01 45 ⇓P P 15 32 43.3 +0.7
baz=91
K16A Soda Springs 91.03 40 ⇑P P 15 32 43.5 +1.0
baz=91
S10A Tonopah Range, 91.04 46 P P 15 32 43.2 +0.5
baz=91,SNR=7.0
DGMT Dagmar 91.07 32 eP P 15 32 42.3 -0.3
comp=Z,43nm,1.1s,mb5.7
Q11A Duckwater 91.08 45 ⇑P P 15 32 43.3 +0.4
baz=91
GRAC Grapevine Rang 91.09 47 ⇓P P 15 32 43.3 +0.4
baz=91
L15A Malad City 91.10 41 ⇓P P 15 32 43.0 +0.1
baz=91
P12A McGill 91.17 44 P P 15 32 44.1 +0.9
baz=91,SNR=14
PPT Papeete 91.20 109 eLR LR 16 02 06.2
comp=Z,265nm,23.5s,baz=285
PPT Papeete 91.20 109 LR LR 16 04 26.4
comp=Z,142nm,21.8s,MS4.4,baz=302,slow=29
O13A Hicks Ranch, I 91.33 43 ⇑P P 15 32 44.7 +0.7
baz=91
N14A Grayback Hills 91.36 42 ⇑P P 15 32 44.6 +0.5
baz=91,SNR=5.5
LDF La Druitiere 91.41 329 eP P 15 32 42.9 -1.3
comp=Z,20nm,0.8s,mb5.2
LDF La Druitiere 91.41 329 eP P 15 32 42.9 -1.3
LDF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
LDF La Druitiere 91.41 329 eP P 15 32 42.9 -1.3
comp=Z,9.9nm,0.8s,mb5.2
M15A Larsen Ranch, 91.41 41 ⇓P P 15 32 44.4 +0.1
baz=91
R11A Troy Canyon, C 91.42 45 P P 15 32 44.9 +0.4
baz=91,SNR=12
KMBO Kilima Mbogo 91.45 269 P P 15 32 45.5 +0.5
comp=Z,3.6nm,0.9s,mb4.7,baz=60,slow=11,SNR=4.2
KMBO LR LR 16 16 39.1
comp=Z,101nm,18.3s,MS4.3,baz=96,slow=37
MPMC Manual Prospec 91.56 48 P P 15 32 45.4 +0.3
baz=91,SNR=7.6
OSI Osito Adit 91.57 49 ⇑P P 15 32 45.1 -0.1
baz=91
L16A Fish Haven 91.65 40 ⇑P P 15 32 46.1 +0.7
baz=91
P13A Bates Ranch, G 91.72 43 P P 15 32 46.6 +0.7
baz=92,SNR=11
FURC Furnace Creek, 91.73 47 P P 15 32 46.2 +0.3
baz=92,SNR=5.9
N15A Stansbury Isla 91.73 41 ⇓P P 15 32 46.5 +0.7
baz=92
S11A Rachel 91.75 46 ⇓P P 15 32 46.0 0.0
baz=92
LRMC Laurel Mountai 91.76 48 ⇓P P 15 32 46.1 0.0
baz=92
TPNV Topopah Spring 91.84 46 eP P 15 32 45.9 -0.5
TPNV pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
TPNV Topopah Spring 91.84 46 P P 15 32 46.6 +0.2
baz=92,SNR=12
TPNV Topopah Spring 91.84 46 eP P 15 32 45.9 -0.6
comp=Z,9.1nm,0.9s,mb5.1
GRR Gorron 91.90 329 eP P 15 32 45.4 -1.0
comp=Z,50nm,1.1s,mb5.5
GRR Gorron 91.90 329 eP P 15 32 45.4 -1.0
GRR pmax pmax
comp=Z,25nm,1.1s,mb5.5
GRR Gorron 91.90 329 eP P 15 32 45.4 -1.0
comp=Z,25nm,1.1s,mb5.5
EDW2 Edwards Air Fo 91.91 49 ⇑P P 15 32 46.9 +0.1
baz=92
M16A Huntsville 91.98 41 ⇓P P 15 32 47.3 +0.3
baz=92
DUG Dugway 91.99 42 eP P 15 32 46.5 -0.6
DUG pmax pmax
comp=Z,24nm,1.4s,mb5.3
DUG Dugway 91.99 42 P P 15 32 47.9 +0.8
baz=92,SNR=7.3
DUG Dugway 91.99 42 eP P 15 32 46.5 -0.6
comp=Z,24nm,1.4s,mb5.3
Q13A Wheeler Ranch, 92.03 44 ⇑P P 15 32 47.7 +0.5
baz=92,SNR=5.4
R12A Pony Springs, 92.05 44 P P 15 32 48.0 +0.6
baz=92,SNR=8.8
U10A Ash Meadows, A 92.10 47 ⇑P P 15 32 48.4 +0.7
baz=92
P14A Drum Mountains 92.22 43 ⇑P P 15 32 48.4 +0.3
baz=92,SNR=14
PDAR Pinedale Array 92.22 39 P P 15 32 47.1 -0.9
comp=Z,3.5nm,0.9s,mb4.7,baz=318,slow=2.0,SNR=27
T11A Cow Creek, Al 92.32 46 ⇓P P 15 32 48.8 +0.1
baz=92,SNR=8.5
S12A Delamar Landin 92.34 45 ⇓P P 15 32 49.4 +0.7
baz=92
N16A Rees Ranch, Co 92.36 41 ⇑P P 15 32 49.5 +0.7
baz=92
SHOC Shoshone 92.44 47 ⇓P P 15 32 49.5 +0.2
baz=92
GSC Goldstone 92.45 48 ⇓P P 15 32 49.4 +0.1
baz=92,SNR=7.8
Q14A Sevier Lake (B 92.46 43 ⇑P P 15 32 50.0 +0.7
baz=92,SNR=20
CIS Catalina Islan 92.48 50 ⇑P P 15 32 49.4 0.0
baz=92
BFSC Mount Baldy St 92.50 49 ⇓P P 15 32 49.2 -0.4
baz=92
R13A O'Grain Ranch, 92.54 44 ⇑P P 15 32 49.6 0.0
baz=92
N17A Moffit Pass 92.68 41 ⇑P P 15 32 50.5 +0.3
baz=92
P15A Leamington 92.70 42 ⇓P P 15 32 50.6 +0.2
baz=92
TUQ Turquoise Mtn. 92.95 47 ⇓P P 15 32 51.6 0.0
baz=93,SNR=12
S13A Holt Ranch, En 92.97 45 ⇓P P 15 32 52.1 +0.4
baz=93,SNR=8.0
Q15A Fillmore 93.00 43 ⇑P P 15 32 52.2 +0.4
baz=93
HEC Hector,Ludlow 93.05 48 ⇑P P 15 32 52.0 0.0
baz=93,SNR=9.6
U12A Valley of Fire 93.25 46 ⇑P P 15 32 53.4 +0.4
baz=93
T13A Saint George 93.29 45 ⇓P P 15 32 53.7 +0.6
baz=93
N18A Larsen Ranch, 93.33 40 ⇑P P 15 32 53.1 -0.1
baz=93
ULM Lac du Bonnet 93.35 27 P P 15 32 52.1 -1.0
comp=Z,19nm,0.9s,mb5.5,baz=322,slow=4.7,SNR=16
ULM LR LR 16 21 50.4
comp=Z,73nm,18.5s,MS4.2,baz=315,slow=40
ULM Lac du Bonnet 93.35 27 eP P 15 32 52.0 -1.1
comp=Z,19nm,0.9s,mb5.5
V12A Nelson 93.48 47 ⇑P P 15 32 54.5 +0.4
baz=93
GMRC Granite Mounta 93.52 48 P P 15 32 54.7 +0.5
baz=93,SNR=9.1
U13A Pakoon Wash 93.62 46 ⇓P P 15 32 55.0 +0.3
baz=93
P17A Butcher Ranch, 93.68 42 ⇓P P 15 32 55.3 +0.4
baz=93
PFO Pinyon Flat Ob 93.68 49 P P 15 32 55.6 +0.6
comp=Z,126nm,1.0s,mb6.3,SNR=6.0
PFO Pinyon Flat Ob 93.68 49 eP P 15 32 54.3 -0.7
PFO pmax pmax
comp=Z,22nm,1.0s,mb5.5
PFO Pinyon Flat Ob 93.68 49 ⇑P P 15 32 55.1 +0.1
baz=94,SNR=8.3
PFO Pinyon Flat Ob 93.68 49 eP P 15 32 54.3 -0.7
comp=Z,22nm,1.0s,mb5.5
BELC Belle Mtn. 93.76 49 P P 15 32 55.3 0.0
baz=94,SNR=6.3
Q16A Castle Valley 93.78 42 ⇓P P 15 32 55.5 +0.2
baz=94
T14A Hurricane 93.78 45 ⇑P P 15 32 55.9 +0.5
baz=94
P18A Preston Nutter 93.87 41 ⇑P P 15 32 56.1 +0.4
baz=94
V13A Grand Canyon W 93.96 46 ⇑P P 15 32 56.4 +0.2
baz=94
R16A Teasdale 94.00 43 ⇓P P 15 32 57.0 +0.7
baz=94
TBI Tubuai 94.01 114 eLR LR 16 03 12.6
comp=Z,282nm,32.0s,baz=301
SRU San Rafael 94.04 42 ⇑P P 15 32 56.6 0.0
baz=94
U14A Mt Trumbull 94.12 45 ⇑P P 15 32 57.2 +0.3
baz=94
MONP Monument Peak 94.13 50 ⇓P P 15 32 57.0 -0.1
baz=94,SNR=7.1
IRM Iron Mountain 94.23 48 ⇑P P 15 32 57.7 +0.2
baz=94,SNR=11
RSSD Black Hills 94.23 35 eP P 15 32 56.9 -0.4
RSSD pmax pmax
comp=Z,13nm,1.1s,mb5.3
RSSD Black Hills 94.23 35 eP P 15 32 56.9 -0.4
comp=Z,13nm,1.1s,mb5.3
BC3 Big Chuckw Mtn 94.33 49 P P 15 32 58.3 +0.3
baz=94,SNR=8.6
W13A Hualapai Mount 94.48 47 P P 15 32 59.0 +0.4
baz=94,SNR=5.9
SWSC Sam W. Stewart 94.52 49 ⇓P P 15 32 58.8 -0.1
baz=94
V14A Boquillas Ranc 94.65 46 P P 15 33 00.2 +0.8
baz=94,SNR=5.4
U15A North Rim 94.67 45 ⇑P P 15 33 00.0 +0.5
baz=94,SNR=8.1
PDMCI Parker Dam,Lak 94.81 47 ⇓P P 15 33 00.3 +0.1
baz=95
S17A Black Ridge (B 94.83 43 ⇓P P 15 33 00.2 0.0
baz=95
KEST Kesra 94.83 314 P P 15 32 59.9 -0.3
comp=Z,1.8nm,0.7s,mb4.6,baz=332,slow=6.5,SNR=5.0
KEST LR LR 16 21 06.5
comp=Z,66nm,21.4s,MS4.1,baz=349,slow=39
X13A Yucca 94.83 47 P P 15 33 00.8 +0.6
baz=95,SNR=6.5
Y12C Blythe 94.89 48 ⇓P P 15 33 00.8 +0.3
baz=95
GLA Glamis 95.11 49 ⇑P P 15 33 01.7 +0.2
baz=95
V15A Kaibab Nationa 95.13 45 ⇑P P 15 33 01.7 +0.1
baz=95
T17A Navajo Res., N 95.23 44 ⇑P P 15 33 02.2 +0.1
baz=95
S18A Hurst Farm, Bl 95.28 43 ⇓P P 15 33 02.2 0.0
baz=95
Y13A Salome 95.31 48 ⇑P P 15 33 02.3 -0.1
baz=95
W15A Williams 95.47 46 ⇑P P 15 33 03.7 +0.5
baz=95
X14A Yava 95.52 47 ⇑P P 15 33 04.1 +0.8
baz=95
U17A Shonto 95.58 44 ⇓P P 15 33 04.6 +1.0
baz=95
T18A Mexican Hat 95.71 43 ⇑P P 15 33 05.1 +0.8
baz=96
Y14A Wickenburg 95.77 47 ⇓P P 15 33 04.9 +0.4
baz=96
X15A Humboldt 95.92 46 ⇑P P 15 33 06.0 +0.7
baz=96
U18A Rough Rock, Ch 96.18 44 ⇓P P 15 33 07.1 +0.7
baz=96
Y15A Casa Rosa Ranc 96.20 47 ⇑P P 15 33 06.5 0.0
baz=96
V18A Ganado 96.60 44 ⇑P P 15 33 08.7 +0.4
baz=96
EYMN Ely 96.92 26 eP P 15 33 08.8 -0.6
comp=Z,4.6nm,0.8s,mb5.0
SCHQ Schefferville 97.08 9 LR LR 16 20 00.5
comp=Z,154nm,20.9s,MS4.5,baz=272,slow=37
214A Organ Pipe Nat 97.12 49 ⇓P P 15 33 10.6 -0.2
baz=97
ESDC Sonseca Array 99.82 325 P Pdif 15 33 21.4 -1.0
comp=Z,0.3nm,0.3s,baz=27,slow=4.8,SNR=3.7
ESDC LR LR 16 23 56.9
comp=Z,217nm,18.4s,MS4.7,baz=40,slow=39
TORD Torodi Ar. Bea 114.40 301 PKP PKiKP 15 38 16.4 -2.1
comp=Z,2.0nm,0.7s,baz=16,slow=2.9,SNR=10.0
TORD PP PP 15 39 10.9 -3.7
comp=Z,1.8nm,1.0s,baz=55,slow=6.0,SNR=3.8
TORD Torodi Ar. Bea 114.40 301 PKP PKiKP 15 38 16.4 -2.1
TORD PP PP 15 39 10.9 -3.7
SYO Syowa Base 114.82 203 ⇑ePP PP 15 39 20.4 +3.4
DBIC Dimbokro 123.46 300 PKP PKPdf 15 38 33.8 -2.3
comp=Z,4.7nm,0.9s,baz=360,slow=5.9,SNR=5.9
LIC Lamto 123.87 299 ePKIKP PKPdf 15 38 35.8 -1.1
comp=Z,12nm,0.9s
SDV Santo Domingo 139.53 30 ePKPdf PKPdf 15 39 06.3 -0.1
LPAZ La Paz 161.18 57 PKP PKPdf 15 39 39.6 +0.5
comp=Z,3.2nm,1.0s,baz=20,slow=3.0,SNR=10.0
BDFB Brasilia 167.81 343 PKP PKPdf 15 39 43.9 -1.1
comp=Z,3.1nm,0.9s,baz=74,slow=20,SNR=5.3
CPUP Villa Florida 174.86 79 PKP PKPdf 15 39 46.6 -1.6
comp=Z,0.5nm,0.3s,baz=12,slow=1.4,SNR=6.1

MEX 08 15:29:46.4±0.9, 1681N×9974W, h7km±8km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.18	290	i P	Pg	15 29 49.4	-0.7
ACX				i S	Sg	15 29 52.6	+0.1
CAIG	El Cayaco	0.56	296	i P	Pg	15 29 56.5	-0.7
CAIG				i S	Sg	15 30 04.8	+0.3
MEIG	Mezcala	1.12	6	i P	Pg	15 30 04.8	-3.2
MEIG				i S	Sg	15 30 18.5	-4.0
PNIG	Pinotepa	1.60	105	i P	Pn	15 30 11.3	-3.8
PNIG				i S	Sn	15 30 30.7	-5.4
UTMO	Huajuapan	2.12	61	i P	Pn	15 30 20.9	-1.2
UTMO				i S	Sn	15 30 42.8	-5.9

KRSC 08 15:58:12.2±0.5, 5552N×16082E, h203km±23km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	Kamenistaya	0.41	306	i P	Pn	15 58 40.7	+1.5
KMNR				i S	Sn	15 59 01.5	+1.2
TUMR	Tumrok	0.45	239	i P	Pn	15 58 41.4	+2.0
TUMR				i S	Sn	15 59 02.2	+1.7
BZMR	Bezymyannaya	0.46	336	eP	Pn	15 58 40.6	+1.2
BZMR				i S	Sn	15 59 01.5	+0.9
ZLN	Zelenaya	0.50	359	eP	Pn	15 58 41.6	+2.1
ZLN				i S	Sn	15 59 02.5	+1.6
KIRR	Kirishev	0.51	328	eP	Pn	15 58 40.7	+1.1
KIRR				i S	Sn	15 59 01.4	+0.4
KPT	Kopyto	0.56	323	eP	Pn	15 58 40.6	+0.8
KPT				i S	Sn	15 59 01.8	+0.5
CIRR	Tsirk	0.60	356	eP	Pn	15 58 41.4	+1.5
CIRR				i S	Sn	15 59 03.0	+1.4
KRSR	Krestovskiy	0.71	348	i P	Pn	15 58 41.5	+1.0
KRSR				i S	Sn	15 59 02.8	+0.2
KOZ	Kozyrevsk	0.76	316	i P	Pn	15 58 41.4	+0.7

KOZ *i* S Sn 15 59 02.8 -0.2
KLY Klyuchi 0.80 353 *e*P Pn 15 58 42.1 +1.2
KLY *i* S Sn 15 59 03.8 +0.4
SRDR Sredinnyy 1.01 323 *e*P Pn 15 58 42.4 +0.2
SRDR *i* S Sn 15 59 05.0 -0.7
BDR Baidarnaya 1.07 12 *e*P Pn 15 58 44.3 +1.7
BDR *i* S Sn 15 59 07.2 +0.7
MKZ Mys Kozlova 1.10 151 *e*P Pn 15 58 44.7 +1.8
MKZ *i* S Sn 15 59 08.1 +1.4
SMKR Semkarok 1.12 19 *e*P Pn 15 58 44.4 +1.4
SMKR *i* S Sn 15 59 07.4 +0.3
SRKR Sorokina 1.15 10 *e*P Pn 15 58 44.4 +1.2
SRKR *i* S Sn 15 59 07.6 +0.1
KBTR Krutoberegovo 1.32 58 *e*P Pn 15 58 45.8 +1.3
KBTR *i* S Sn 15 59 09.9 +0.2
SPN Mys Shipunski 2.47 191 *e*P Pn 15 58 56.6 +0.7
SPN *i* S Sn 15 59 28.6 -1.4
GNL Ganaly 2.48 224 *e*P Pn 15 58 58.1 +2.1
GNL *i* S Sn 15 59 31.6 +1.5
NLC Nalytchevo 2.51 201 *e*P Pn 15 58 57.9 +1.6
NLC *i* S Sn 15 59 30.8 +0.1
AVH Avacha 2.57 209 *e*P Pn 15 58 59.8 +2.8
AVH *i* S Sn 15 59 34.4 +2.5
PET Petropavlovsk 2.81 208 *e*P Pn 15 59 01.7 +2.0
PET *i* S Sn 15 59 37.4 +0.7
RUS Russkaya 3.38 205 *e*P Pn 15 59 07.8 +1.4
RUS *i* S Sn 15 59 48.3 -0.6

*ISCJB **08** 16:15:55.8±0.3, 70.19N±005×1692E±01, h10km, mb4.1/13, Error ellipse: s-maj=7.6km s-min=4.6km az=153.6*
*MOS **08** 16:15:56.5±1.7, 7036N×16937E, h10km, mb4.7/4, Error ellipse: s-maj=27.8km s-min=16.2km az=82.0*
*IDC **08** 16:15:56.6±0.7, 7045N×16930E, h0km, mb4.0/9, mb1 4.2/11, mb1mx3.9/27, mbtmp4.0/11, ML3.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/37, Error ellipse: s-maj=33.0km s-min=14.3km az=4.0*
*NEIC **08** 16:15:58.0±0.5, 7025N×16931E, h10km, mb4.1/7, Error ellipse: s-maj=16.8km s-min=6.8km az=184.0*
*NERS **08** 16:16:00.0, 6995N×16978E, h33km*
ISC 08 16:15:57.7±0.4,**7021N**±005×**1692E**±01,**h10**km,**n51**, σ1♀**23**/55,**mb4.1**/13,**3D**,**Near north coast of eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**2.41**	**207**	⇓*e*P	**Pn**	**16 16 37.0**	**-0.1**
BILL				*e*P		16 16 37.0	
BILL				Pmax		16 16 37.5	
	30nm,0.3s						
BILL				Pmax		16 16 37.5	
	10.0nm,0.3s						
BILL				Pmax		16 16 37.5	
	40nm,0.3s						
BILL				*e*Pg	**Pg**	**16 16 41.1**	**-2.8**
BILL				Pgmax		16 16 44.0	
	170nm,0.3s						
BILL				Pgmax		16 16 44.0	
	70nm,0.3s						
BILL				Pgmax		16 16 44.0	
	200nm,0.3s						
BILL				*e*S	**Sn**	**16 17 06.1**	**-0.6**
BILL				*e*Sg	**Sg**	**16 17 14.3**	**-0.8**
BILL				Sgmax		16 17 18.1	
	340nm,0.3s						
BILL				Sgmax		16 17 18.1	
	1μm,0.3s						
BILL	**Bilibino**	**2.41**	**207**κ	*i*P	**Pn**	**16 16 37.0**	**-0.1**
BILL				*e*S	**Sn**	**16 17 07.5**	**+0.8**
BILL				pmax	pmax		
	comp=Z,23nm,0.5s						
BILL				smax			
	comp=N,520nm,1.0s						
BILL	**Bilibino**	**2.41**	**207**	*e*Pn	**Pn**	**16 16 36.8**	**-0.3**
BILL				*e*Pg	**Pg**	**16 16 42.6**	**-1.3**
BILL				*e*Sn	**Sn**	**16 17 14.0**	**+7.3**
EVNR	**Evensk**	**9.22**	**211**	*e*Sg	Sx	16 20 38.8	
EVNR				*e*L		16 20 51.0	
TNA	**Tin City**	**9.76**	**107**	*e*P	**Pn**	**16 18 17.0**	**-0.9**
SEY	**Seymchan**	**9.86**	**231**	*e*P	**Pn**	**16 18 20.8**	**+1.6**
SEY				*e*S	**Sn**	**16 20 05.5**	**-4.3**
SEY				*e*Sg	Sn	16 21 09.3	+59
SEY				Sgmax		16 21 32.8	
	comp=N,30nm,0.7s						
TLAR	**Talaya**	**11.38**	**225**	*e*S	Sx	16 21 21.7	
TLAR				*e*L		16 22 04.3	
OCHR	**Omchak**	**12.13**	**236**	*e*P	**Pn**	**16 18 56.2**	**+6.0**
OCHR				*e*		16 21 15.4	
IMA2	**Indian Mountai**	**14.26**	**89**	*e*Pn	**Pn**	**16 19 16.9**	**-2.3**
IMA2				*e*P		16 19 28.3	
COLD	**Coldfoot**	**14.83**	**82**	*e*Pn	**Pn**	**16 19 24.8**	**-2.2**
	comp=N,17nm,0.9s						
COLD				*e*P		16 19 33.5	
TTA	**Tatalina**	**15.42**	**101**	*e*P	**Pn**	**16 19 34.5**	**-0.4**
CHUM	**Lake Minchumin**	**16.04**	**94**	*e*P	**Pn**	**16 19 48.0**	**+5.1**
	comp=N,5.2nm,0.8s						
BPAW	**Bear Paw Mtn.**	**16.35**	**92**	*e*P	**Pn**	**16 19 48.2**	**+1.3**
	comp=N,6.4nm,0.9s						
PPLA	**Purkeypile**	**16.73**	**97**	Pn	**Pn**	**16 19 51.4**	**-0.4**
	comp=N,21nm,1.2s						
SVW2	**Sparrevohn**	**16.87**	**105**	*e*Pn	**Pn**	**16 19 54.8**	**+1.3**
TRF	**Thorofare Moun**	**17.01**	**93**	*e*P	**Pn**	**16 19 55.7**	**+0.5**
	comp=N,4μm,1.2s						
YAK	**Yakutsk**	**17.63**	**262**	*e*P	**Pn**	**16 20 07.7**	**+4.8**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PETK	**Petropavlovsk-**	**17.94**	**203**	P	**Pn**	**16 20 10.5**	**+3.7**
	comp=Z,0.3nm,0.3s,baz=51,slow=10,SNR=6.3						
EGAK	**Eagle**	**19.27**	**82**	*e*P	**Pn**	**16 20 21.8**	**-1.0**
	comp=Z,4.3nm,0.7s						
INK	**Inuvik**	**19.74**	**68**	P	**Pn**	**16 20 27.0**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=305,slow=13,SNR=7.9						
INK				LR	LR	16 28 01.7	
	comp=Z,51nm,21.1s,baz=303,slow=37						
DAWY	**Dawson**	**20.31**	**82**	*e*P	**P**	**16 20 32.8**	**-0.5**
KDAK	**Kodiak Island**	**20.40**	**108**	P	**P**	**16 20 34.0**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=323,slow=10,SNR=3.8						
OHAK	**Old Harbor**	**20.63**	**110**	*e*P	**P**	**16 20 39.1**	**+2.4**
BMRM	**Bremner River**	**20.65**	**93**	*e*P	**P**	**16 20 37.2**	**+0.2**
BOD	**Bodaibo**	**26.06**	**270**	*e*P	**P**	**16 21 29.2**	**-1.6**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
YKA	**Yellowknife Ar**	**29.49**	**66**	P	**P**	**16 22 00.9**	**-0.5**
	comp=Z,1.4nm,0.5s,mb4.0,baz=315,slow=8.3,SNR=6.3						
YKA	**Yellowknife Ar**	**29.49**	**66**	P	**P**	**16 22 00.9**	**-0.5**
ZAK	**Zakamensk**	**35.78**	**272**	*e*P	**P**	**16 22 52.3**	**-4.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
SONM	**Songino Array**	**36.90**	**266**	P	**P**	**16 23 08.1**	**+2.2**
	comp=Z,1.7nm,0.9s,mb3.9,baz=31,slow=8.1,SNR=11						
SONM				PcP	PcP	16 25 28.5	+1.3
	comp=Z,0.5nm,0.5s,baz=11,slow=1.3,SNR=3.6						
SONM				LR	LR	16 37 45.9	
	comp=Z,40nm,21.6s,baz=118,slow=35						
SONM	**Songino Array**	**36.90**	**266**	P	**P**	**16 23 08.1**	**+2.1**
SONM						16 25 28.5	
ZALV	**Zalesovo Beam**	**38.91**	**291**	P	**P**	**16 23 22.5**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.6,baz=38,slow=7.5,SNR=4.8						
ZAL	**Zalesovo**	**38.93**	**291**	P	**P**	**16 23 22.5**	**-0.5**
BVAR	**Borovoye Array**	**44.13**	**301**	P	**P**	**16 24 05.1**	**-0.6**
	comp=Z,2.5nm,0.5s,mb4.2,baz=37,slow=7.5,SNR=18						
BVAR				PcP	PcP	16 25 51.0	+0.6
	comp=Z,0.6nm,0.6s,baz=13,slow=1.9,SNR=3.7						
MCMT	**McKenzie Canyo**	**44.67**	**82**	*e*P	**P**	**16 24 10.9**	**+0.8**
MKAR	**Makanchi Array**	**45.91**	**287**	P	**P**	**16 24 18.6**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=36,slow=6.0,SNR=4.6						
MKAR				PP	PP	16 26 08.0	+0.8
	comp=Z,0.6nm,0.7s,baz=52,slow=10,SNR=4.2						
PDAR	**Pinedale Array**	**47.61**	**80**	P	**P**	**16 24 32.0**	**-1.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=4.1,slow=4.4,SNR=7.5						
NVAR	**Mina Array Bea**	**48.52**	**91**	P	**P**	**16 24 42.0**	**+1.7**
	comp=Z,2.1nm,0.8s,mb4.2,baz=320,slow=6.4,SNR=15						
NVAR	**Mina Array Bea**	**48.52**	**91**	P	**P**	**16 24 42.0**	**+1.7**
AKTK	**Aktyubinsk**	**49.90**	**309**	P	**P**	**16 24 50.5**	**-0.2**
AKTO	**Aktyubinsk**	**49.90**	**309**	P	**P**	**16 24 50.5**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.2,baz=37,slow=12,SNR=5.4						
MSU	**Marysvale**	**50.53**	**85**	*e*P	**P**	**16 24 57.0**	**+1.4**
SRU	**San Rafael**	**50.55**	**83**	*e*P	**P**	**16 24 56.8**	**+1.0**
ARUT	**Antelope Range**	**50.75**	**87**	*e*P	**P**	**16 24 58.1**	**+0.8**
TKM2	**Tokmak 2**	**51.52**	**291**	*e*P	**P**	**16 25 06.6**	**+3.6**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
TKM2	**Tokmak 2**	**51.52**	**291**	*e*P	**P**	**16 25 06.6**	**+3.6**
	comp=Z,5.8nm,1.3s,mb4.3						
PV01	**Paradox Valley**	**52.09**	**82**	*e*P	**P**	**16 25 08.0**	**+0.7**
LSA	**Lhasa**	**58.34**	**270**	*e*P	**P**	**16 25 55.2**	**+2.7**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
LSA	**Lhasa**	**58.34**	**270**	*e*P	**P**	**16 25 55.2**	**+2.7**
	comp=Z,5.8nm,0.8s,mb4.7						
JCT	**Junction City**	**62.01**	**78**	*e*P	**P**	**16 26 17.7**	**0.0**
JCT				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.1						
JCT	**Junction City**	**62.01**	**78**	*e*P	**P**	**16 26 17.7**	**+0.1**
	comp=Z,15nm,0.9s,mb5.1						
VNDA	**Vanda**	**147.58**	**183**	PKPbc	PKPbc	16 35 39.1	-0.8
	comp=Z,0.5nm,0.7s,baz=292,slow=5.1,SNR=3.9						

*NEIC **08** 16:41:58.0, 3145S×6959W, h148km, MG3.5(GUC), After GUC.*
GUC 08 16:41:58.0±0.7,**3145S**×**6959W**,**h148**km±9km,**ML3.5**, **7C-4D**,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.50**	**214**	*e*P	Pn	16 42 27.9	+0.6
JACH				*i* S	Sn	16 42 50.7	+0.9
TLL	**Tololo Astrono**	**1.65**	**320**	⇑*i*P	Pn	16 42 30.2	+1.2
TLL				*i* S	Sn	16 42 53.8	+1.1
CHNG	**Los Chungos**	**1.69**	**255**	*e*P	Pn	16 42 30.0	+0.6
CHNG				*i* S	Sn	16 42 53.5	+0.1
ROCH	**El Roble**	**1.94**	**218**	*e*P	Pn	16 42 32.7	+0.4
ROCH				*i* S	Sn	16 43 00.0	+1.5
FCH	**Farellones**	**1.97**	**197**	*e*P	Pn	16 42 33.9	+1.4
FCH				*i* S	Sn	16 43 00.9	+1.8
FCH				AML	AML	16 43 06.8	
	comp=E,152nm,0.3s						
CLCH	**Cerro Calan**	**2.10**	**202**	⇓*i*P	Pn	16 42 34.5	+0.4
CLCH				*i* S	Sn	16 43 02.8	+0.9
CLCH				AML	AML	16 43 04.7	
	comp=E,270nm,0.5s						
RCDM	**Rinconada Maip**	**2.28**	**206**	⇑*i*P	Pn	16 42 36.8	+0.5
RCDM				*i* S	Sn	16 43 06.4	+0.6
RCDM				AML	AML	16 43 09.4	
	comp=E,309nm,0.4s						
RCDM	**Rinconada Maip**	**2.28**	**206**	⇑*i*P	Pn	16 42 36.8	+0.5
RCDM				*i* S	Sn	16 43 06.4	+0.6
ANTU	**Antumapu**	**2.29**	**202**	⇓*i*P	Pn	16 42 37.1	+0.7
ANTU				*i* S	Sn	16 43 06.4	+0.3
ANTU				AML	AML	16 43 08.7	
	comp=E,254nm,0.4s						
ANTU	**Antumapu**	**2.29**	**202**	⇓*i*P	Pn	16 42 37.1	+0.7
ANTU				*i* S	Sn	16 43 06.4	+0.3
PCH	**Pirque**	**2.30**	**200**	⇑*i*P	Pn	16 42 37.2	+0.6
PCH				*i* S	Sn	16 43 07.1	+0.8
LMEL	**Las Melosas**	**2.45**	**192**	⇓*i*P	Pn	16 42 38.8	+0.5
LMEL				AML	AML	16 43 16.3	
	comp=N,146nm,0.1s						
TACH	**Talagante**	**2.48**	**207**	*e*P	Pn	16 42 38.6	-0.1
TACH				*i* S	Sn	16 43 09.8	-0.3
CHCH	**Chadas Angostu**	**2.64**	**200**	⇑*i*P	Pn	16 42 41.0	+0.3
CHCH				*i* S	Sn	16 43 14.1	+0.5
CACH	**El Canelo**	**2.79**	**197**	⇑*i*P	Pn	16 42 43.9	+1.3
CACH				*i* S	Sn	16 43 19.2	+2.0
CICH	**Cipreses**	**2.95**	**194**	⇑*i*P	Pn	16 42 45.6	+1.0
SFDO	**San Fernando**	**3.38**	**200**	*e*P	Pn	16 42 50.0	0.0
SFDO				*i* S	Sn	16 43 30.0	-0.4

*ISCJB **08** 16:45:29.1±0.3, 4163N±001×169E±002, h13km±2km, Error ellipse: s-maj=2.5km s-min=1.9km az=148.3*
*MRB **08** 16:45:31.4±0.1, 4158N×176E, h5km±1km, ML3.3/1, Error ellipse: s-maj=0.5km s-min=0.2km az=26.0*
*NEIC **08** 16:45:31.2, 4154N×178E, h1km, ML3.7(LDG), ML4.1(STR), MN3.5(MDD), After MDD.*
NEIC Felt [IV] at Capellades, Collbato, Igualada, Piera and Vallbona.
*CSEM **08** 16:45:31.5±0.1, 4159N×176E, h10km, ML3.7/48, Error ellipse: s-maj=1.1km s-min=0.6km az=129.0*
*LDG **08** 16:45:31.8±0.1, 4160N×177E, h3km, Md3.5/4, Ml3.7/33, Error ellipse: s-maj=1.4km s-min=0.9km az=138.0*
*MDD **08** 16:45:31.6±0.2, 4157N×177E, h10km, mbLg3.4/41, Error ellipse: s-maj=2.0km s-min=1.4km az=135.0, PRIMO*
MDD EMS: IV INTENSIDAD MIMA.
*INMG **08** 16:45:31.4±1.5, 4156N×176E, h7km±6km, ML2.9, Error ellipse: s-maj=9.0km s-min=3.3km az=142.0*
*STR **08** 16:45:35.1±0.3, 4184N×164E, h5km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 08 16:45:30.4±0.3,**4164N**±001×**175E**±002,**h9**km±2km,**n243**, σ1♀**30**/467,**12C-1D**,**Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORI	**Orista**	**0.41**	**33**	Pg	**Pg**	**16 45 39.8**	**+1.5**
CORI				Lg		16 45 45.9	
	338nm,0.2s						
CFON	**Fontmartina**	**0.53**	**76**	Pg	**Pg**	**16 45 41.3**	**+0.7**
CFON				S	**Sg**	**16 45 48.7**	**+1.1**
	2μm,0.3s						
CFON	**Fontmartina**	**0.53**	**76**	P	**Pg**	**16 45 41.4**	**+0.8**
CGAR	**Garraf**	**0.57**	**234**	Pg	**Pg**	**16 45 37.0**	**-4.5**
CGAR				Lg		16 45 41.3	
	290nm,0.2s						
EPOB	**Poblet**	**0.58**	**241**	⇑Pg	**Pg**	**16 45 41.6**	**+0.1**
	SNR=18						
EPOB				Lg		16 45 48.9	
	325nm,0.1s,SNR=13						
EPOB	**Poblet**	**0.58**	**241**	Pg	**Pg**	**16 45 41.6**	**0.0**
	SNR=18						
CORG	**Organya**	**0.68**	**332**	Pg	**Pg**	**16 45 44.8**	**+1.4**
CORG				Lg		16 45 54.8	
	281nm,0.3s						
CORG	**Organya**	**0.68**	**332**	P	**Pg**	**16 45 44.9**	**+1.4**
CBRU	**Bruguera**	**0.72**	**26**	Pg	**Pg**	**16 45 45.6**	**+1.2**
CBRU				Lg		16 45 56.1	
	165nm,0.2s						
CBRU	**Bruguera**	**0.72**	**26**	P	**Pg**	**16 45 45.7**	**+1.3**
CAVN	**Les Avellanes**	**0.79**	**289**	Pg	**Pg**	**16 45 46.4**	**+0.9**
CAVN				Lg		16 45 57.4	
	594nm,0.2s						
CAVN	**Les Avellanes**	**0.79**	**289**	P	**Pg**	**16 45 46.5**	**+1.0**
VALF	**Valcebollere**	**0.79**	**14**	Pg	**Pg**	**16 45 47.2**	**+1.6**
VALF				Sg	**Sg**	**16 45 56.3**	**+0.4**
VALF	**Valcebollere**	**0.79**	**14**	Pg	**Pg**	**16 45 47.0**	**+1.4**
VALF				Lg		16 45 58.0	
CLLI	**Llivia**	**0.86**	**11**	Pg	**Pg**	**16 45 48.2**	**+1.3**
CLLI				Lg		16 46 01.4	
	183nm,0.1s						
CLLI	**Llivia**	**0.86**	**11**	P	**Pg**	**16 45 48.3**	**+1.4**
CSOR	**Sort**	**0.87**	**328**	Pg	**Pg**	**16 45 48.4**	**+1.3**
CSOR				Lg		16 46 01.1	
	643nm,0.2s						
CCAS	**Cassa de la Se**	**0.90**	**74**	Pg	**Pg**	**16 45 48.3**	**+0.6**
CCAS				Lg		16 46 00.3	
	571nm,0.2s						
CBEU	**Beuda**	**0.93**	**48**	Pg	**Pg**	**16 45 49.3**	**+1.1**
CBEU				Lg		16 46 02.1	
	929nm,0.2s						
CTRE	**Tremp**	**1.00**	**314**	Pg	**Pg**	**16 45 50.5**	**+0.9**
CTRE				Lg		16 46 05.2	
	2μm,0.3s						
CEST	**Esterri de Car**	**1.03**	**339**	Pg	**Pg**	**16 45 51.8**	**+1.6**
CEST				Lg		16 46 06.5	
	438nm,0.2s						
CEST	**Esterri de Car**	**1.03**	**339**	P	**Pg**	**16 45 51.9**	**+1.7**
FILF	**Fillols**	**1.10**	**33**	Pg	**Pg**	**16 45 52.0**	**+0.4**
FILF				Sg	**Sg**	**16 46 05.5**	**-0.4**
FILF	**Fillols**	**1.10**	**33**	Pg	**Pg**	**16 45 51.5**	**0.0**
FILF				Lg		16 46 05.9	
CARF	**Carcanieres**	**1.11**	**14**	Pg	**Pg**	**16 45 52.9**	**+1.2**
CARF				Sg	**Sg**	**16 46 06.8**	**+0.6**
CARF	**Carcanieres**	**1.11**	**14**	Pg	**Pg**	**16 45 53.0**	**+1.2**
CARF				Lg		16 46 09.4	
EJON	**La Jonquera**	**1.17**	**46**	Pg	**Pg**	**16 45 53.7**	**+0.8**
	48nm,0.1s,SNR=162						
EJON				Lg		16 46 10.0	
	287nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**1.17**	**46**	Pg	**Pg**	**16 45 53.7**	**+0.8**
	48nm,0.1s,SNR=162						
SJAF	**Saint Jean de**	**1.20**	**44**	Pg	**Pg**	**16 45 54.2**	**+0.9**
SJAF				Sg	**Sg**	**16 46 11.2**	**+2.3**
SJAF	**Saint Jean de**	**1.20**	**44**	Pg	**Pg**	**16 45 54.0**	**+0.7**
SJAF				Lg		16 46 10.2	
SALF	**Salau**	**1.20**	**340**	Pg	**Pg**	**16 45 54.6**	**+1.2**
SALF				Lg		16 46 10.7	
GRBF	**Gourbit**	**1.22**	**353**	Pg	**Pg**	**16 45 55.0**	**+1.3**
CPAL	**Palau Saverder**	**1.25**	**57**	Pg	**Pg**	**16 45 54.3**	**-0.1**
CPAL				Lg		16 46 10.8	
	339nm,0.3s						
ERTA	**Horta de San J**	**1.27**	**238**	⇑Pg	**Pg**	**16 45 54.4**	**-0.3**
	224nm,0.1s,SNR=18						
ERTA				Lg		16 46 11.8	
	841nm,0.2s,SNR=42						
ERTA	**Horta de San J**	**1.27**	**238**	Pg	**Pg**	**16 45 54.4**	**-0.2**
	224nm,0.1s,SNR=18						
LPEF	**Le Peyrat**	**1.32**	**5**	Pg	**Pg**	**16 45 57.2**	**+1.5**
LPEF				Lg		16 46 15.5	
MLS	**Moulis**	**1.41**	**340**	Pg	**Pg**	**16 45 58.3**	**+0.9**
MLS				Lg		16 46 18.1	
CMAS	**Mas de Barbera**	**1.41**	**231**	Pg	**Pn**	**16 45 55.6**	**-0.6**
CMAS				Lg		16 46 14.3	
	1μm,0.3s						
CMAS	**Mas de Barbera**	**1.41**	**231**	P	**Pn**	**16 45 55.6**	**-0.6**
CMAS				S	**Sn**	**16 46 14.4**	**-0.5**
	1μm,0.3s						
LRDF	**Laroque-de-Fa**	**1.43**	**24**	Pg	**Pg**	**16 45 58.6**	**+0.9**
LRDF				Lg		16 46 18.0	
MELF	**Melles**	**1.44**	**330**	Pg	**Pg**	**16 45 58.7**	**+0.7**
MELF				Sg	**Sg**	**16 46 14.4**	**-2.3**
MELF	**Melles**	**1.44**	**330**	Pg	**Pg**	**16 45 58.8**	**+0.8**
MELF				Lg		16 46 18.2	
RESF	**Ens**	**1.57**	**319**	Pg	**Pg**	**16 46 01.3**	**+0.8**
RESF				Sg	**Sg**	**16 46 19.7**	**-1.2**
RESF	**Ens**	**1.57**	**319**	Pg	**Pg**	**16 46 00.6**	**+0.1**
RESF				Lg		16 46 22.4	
EBIE	**Bielsa**	**1.59**	**312**	⇑Pg	**Pg**	**16 46 00.6**	**-0.2**
	46nm,0.1s,SNR=18						
EBIE				Lg		16 46 22.8	
	353nm,0.2s,SNR=5.0						
EBIE	**Bielsa**	**1.59**	**312**	Pg	**Pg**	**16 46 00.6**	**-0.3**
	46nm,0.1s,SNR=18						
ESAC	**San Caprasio**	**1.67**	**274**	⇑Pn	**Pn**	**16 46 01.0**	**+1.4**
	33nm,0.1s,SNR=18						
ESAC				Pg	**Pg**	**16 46 02.1**	**-0.2**
	335nm,0.1s,SNR=95						
ESAC				Lg		16 46 25.0	
	2μm,0.2s,SNR=14						
ESAC	**San Caprasio**	**1.67**	**274**	Pn	**Pn**	**16 46 01.0**	**+1.3**
	33nm,0.1s,SNR=18						
ESAC	**San Caprasio**	**1.67**	**274**	Pg	**Pg**	**16 46 02.1**	**-0.2**
	335nm,0.1s,SNR=95						
MTLF	**Montolieu**	**1.74**	**11**	*e*Pg	**Pg**	**16 46 04.7**	**+1.0**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**16 46 23.6**	**+0.7**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**16 46 27.6**	**+1.3**
	252nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**1.74**	**11**	Pn	**Pn**	**16 46 02.8**	**+2.1**
MTLF				Pg	**Pg**	**16 46 04.7**	**+1.0**
MTLF				Sn	**Sn**	**16 46 23.6**	**+0.7**
MTLF				Lg		16 46 27.6	
	126nm,0.3s						
MTLF	**Montolieu**	**1.74**	**11**	*e*Pg	**Pg**	**16 46 04.7**	**+1.0**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**16 46 23.6**	**+0.7**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**16 46 27.6**	**+1.3**
	126nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**1.74**	**11**	*e*Pn	**Pn**	**16 46 02.8**	**+2.1**
MTLF				*e*Pg	**Pg**	**16 46 04.7**	**+1.0**
MTLF				*e*Sn	**Sn**	**16 46 23.6**	**+0.7**
MTLF				*e*Sg	**Sg**	**16 46 27.6**	**+1.3**
EPF	**Esparros**	**1.74**	**324**	*e*Pg	**Pg**	**16 46 05.2**	**+1.4**
EPF				*e*Sn	**Sn**	**16 46 23.9**	**+0.9**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**16 46 28.1**	**+1.7**
	888nm,0.2s,SNR=1.0						
EPF	**Esparros**	**1.74**	**324**	Pn	**Pn**	**16 46 03.2**	**+2.5**
EPF				Pg	**Pg**	**16 46 05.2**	**+1.4**
EPF				Sn	**Sn**	**16 46 23.9**	**+0.9**
EPF				Lg		16 46 28.1	
	444nm,0.2s						
EPF	**Esparros**	**1.74**	**324**	*e*Pg	**Pg**	**16 46 05.2**	**+1.4**
EPF				*e*Sn	**Sn**	**16 46 23.9**	**+0.9**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**16 46 28.1**	**+1.7**
	444nm,0.2s,SNR=1.0						
EPF	**Esparros**	**1.74**	**324**	*e*Pn	**Pn**	**16 46 03.2**	**+2.5**
EPF				*e*Pg	**Pg**	**16 46 05.2**	**+1.4**
EPF				*e*Sn	**Sn**	**16 46 23.9**	**+0.9**
EPF				*e*Sg	**Sg**	**16 46 28.1**	**+1.7**
VIEF	**Viey**	**1.79**	**315**	Pg	**Pg**	**16 46 04.6**	**-0.1**
VIEF				Sg	**Sg**	**16 46 27.5**	**-0.4**
VIEF	**Viey**	**1.79**	**315**	Pg	**Pg**	**16 46 03.5**	**-1.2**
VIEF				Lg		16 46 28.0	
LABF	**Labassere**	**1.88**	**319**	Pg	**Pg**	**16 46 06.5**	**+0.1**
LABF				Sg	**Sg**	**16 46 30.5**	**-0.3**
LABF	**Labassere**	**1.88**	**319**	Pg	**Pg**	**16 46 05.2**	**-1.2**
LABF				Lg		16 46 32.1	
ETOS	**Mallorca**	**2.03**	**156**	⇑Pn	**Pn**	**16 46 02.6**	**-2.1**
	4.5nm,0.1s,SNR=18						
ETOS				Sn	**Sn**	**16 46 26.3**	**-3.9**
	18nm,0.2s,SNR=5.0						
ETOS	**Mallorca**	**2.03**	**156**	Pn	**Pn**	**16 46 02.6**	**-2.1**
	4.5nm,0.1s,SNR=18						
ETOS				Sn	**Sn**	**16 46 26.3**	**-3.9**
	18nm,0.2s,SNR=5.0						
FDAF	**Les Forges d'A**	**2.09**	**305**	Pn	**Pn**	**16 46 07.6**	**+2.1**
FDAF				Lg		16 46 38.2	
EMOS	**Mosqueruela**	**2.11**	**234**	⇑Pn	**Pn**	**16 46 07.2**	**+1.4**
	14nm,0.2s,SNR=18						
EMOS				Pg	**Pg**	**16 46 08.6**	**-2.2**

EORO Pg **Pg** **16 46 19.5 -0.6**
16nm,0.2s,SNR=25
EORO Sn **Sn** **16 46 44.5 +0.5**
36nm,0.2s,SNR=4.0
EORO Lg 16 46 55.0
133nm,0.2s,SNR=11
EORO Oroz-Betelu 2.60 300 Pn **Pn** **16 46 14.2 +1.8**
6.2nm,0.1s,SNR=18
EORO Oroz-Betelu 2.60 300 Pg **Pg** **16 46 19.5 -0.6**
16nm,0.2s,SNR=25
EORO Sn **Sn** **16 46 46.1 +2.0**
36nm,0.2s,SNR=4.0
EIBI Ibiza 2.62 187 Pn **Pn** **16 46 11.0 -1.8**
12nm,0.1s,SNR=17
EIBI Sn **Sn** **16 46 39.9 -4.8**
23nm,0.2s,SNR=5.0
EIBI Ibiza 2.62 187 Pn **Pn** **16 46 11.0 -1.8**
12nm,0.1s,SNR=17
EIBI Sn **Sn** **16 46 40.0 -4.7**
SJPF Ste Jean 2.65 305 *e*Pg **Pg** **16 46 22.0 +0.8**
SJPF *e*Sn **Sn** **16 46 45.3 -0.2**
SNR=1.0
SJPF *e*Sg **Sg** **16 46 55.5 -0.1**
150nm,0.3s,SNR=1.0
SJPF Ste Jean 2.65 305 Pn **Pn** **16 46 15.3 +2.1**
SJPF Pg **Pg** **16 46 22.0 +0.8**
SJPF Sn **Sn** **16 46 45.3 -0.2**
SJPF Lg 16 46 55.5
75nm,0.3s
SJPF Ste Jean 2.65 305 *e*Pg **Pg** **16 46 22.0 +0.8**
SJPF *e*Sn **Sn** **16 46 45.3 -0.2**
SNR=1.0
SJPF *e*Sg **Sg** **16 46 55.5 -0.1**
75nm,0.3s,SNR=1.0
SJPF Ste Jean 2.65 305 *e*Pn **Pn** **16 46 15.3 +2.1**
SJPF *e*Pg **Pg** **16 46 22.0 +0.8**
SJPF *e*Sn **Sn** **16 46 45.3 -0.2**
SJPF *e*Sg **Sg** **16 46 55.5 -0.1**
IUNC Unciti 2.66 296 ⇑Pn **Pn** **16 46 15.2 +1.8**
7.9nm,0.1s,SNR=18
IUNC Pg **Pg** **16 46 21.2 -0.2**
28nm,0.2s,SNR=21
IUNC Sn **Sn** **16 46 47.0 +1.3**
58nm,0.2s,SNR=4.9
IUNC Lg 16 46 56.6
168nm,0.4s,SNR=7.9
IUNC Unciti 2.66 296 Pn **Pn** **16 46 15.2 +1.9**
7.9nm,0.1s,SNR=18
IUNC Unciti 2.66 296 Pg **Pg** **16 46 21.2 -0.2**
28nm,0.2s,SNR=21
IUNC Sn **Sn** **16 46 47.0 +1.3**
58nm,0.2s,SNR=4.9
EARA Aranguren 2.72 296 Pn **Pn** **16 46 15.7 +1.5**
10.0nm,0.2s,SNR=7.9
EARA Pg **Pg** **16 46 22.3 -0.2**
34nm,0.2s,SNR=9.0
EARA Lg 16 46 58.6
113nm,0.4s,SNR=7.0
OSSF Osses 2.76 307 Pn **Pn** **16 46 16.7 +2.1**
OSSF Sg **Sg** **16 46 59.2 +0.3**
OSSF Osses 2.76 307 Pn **Pn** **16 46 16.6 +2.0**
OSSF Lg 16 46 57.5
IUSE Utxeti 2.78 299 Pn **Pn** **16 46 16.5 +1.6**
5.3nm,0.1s,SNR=13
IUSE Pg **Pg** **16 46 23.1 -0.4**
12nm,0.2s,SNR=13
IUSE Lg 16 47 02.1
48nm,0.3s,SNR=8.6
IUSE Utxeti 2.78 299 Pn **Pn** **16 46 16.5 +1.6**
5.3nm,0.1s,SNR=13
IUSE Utxeti 2.78 299 Pg **Pg** **16 46 23.1 -0.5**
12nm,0.2s,SNR=13
ELIZ Elizondo 2.87 303 ⇑Pn **Pn** **16 46 18.3 +2.1**
14nm,0.2s,SNR=18
ELIZ Pg **Pg** **16 46 24.5 -0.8**
37nm,0.2s,SNR=20
ELIZ Lg 16 47 04.7
58nm,0.2s,SNR=5.0
EALK Alkurruntz 2.88 304 ⇑Pn **Pn** **16 46 18.6 +2.2**
13nm,0.1s,SNR=18
EALK Pg **Pg** **16 46 25.6 -0.1**
56nm,0.3s,SNR=11
EALK Sn **Sn** **16 46 52.8 +1.6**
68nm,0.4s,SNR=4.7
EALK Lg 16 47 03.2
368nm,0.3s,SNR=5.0
EALK Alkurruntz 2.88 304 Pg **Pg** **16 46 25.6 0.0**
56nm,0.3s,SNR=11
EALK Sn **Sn** **16 46 52.8 +1.6**
68nm,0.4s,SNR=4.7
LASF Ste Croix 2.89 32 *e*Pg **Pg** **16 46 25.9 +0.2**
LASF *e*Sn **Sn** **16 46 50.6 -0.7**
SNR=1.0
LASF *e*Sg **Sg** **16 47 03.3 +0.1**
90nm,0.6s,SNR=1.0
LASF Ste Croix 2.89 32 Pn **Pn** **16 46 17.5 +1.0**
LASF Pg **Pg** **16 46 25.9 +0.2**
LASF Sn **Sn** **16 46 50.6 -0.7**
LASF Lg 16 47 03.3
45nm,0.6s
LASF Ste Croix 2.89 32 *e*Pg **Pg** **16 46 25.9 +0.2**
LASF *e*Sn **Sn** **16 46 50.6 -0.7**
SNR=1.0
LASF *e*Sg **Sg** **16 47 03.3 +0.1**
45nm,0.6s,SNR=1.0
LASF Ste Croix 2.89 32 *e*Pn **Pn** **16 46 17.5 +1.0**
LASF *e*Pg **Pg** **16 46 25.9 +0.2**
LASF *e*Sn **Sn** **16 46 50.6 -0.7**
LASF *e*Sg **Sg** **16 47 03.3 +0.1**
ETOR Torete 2.98 255 Pn **Pn** **16 46 19.4 +1.6**
36nm,0.3s,SNR=37
ETOR Pg **Pg** **16 46 26.0 -1.5**
258nm,0.3s,SNR=41
ETOR Sn **Sn** **16 46 53.4 -0.3**
112nm,0.2s,SNR=6.6
ETOR Lg 16 47 05.8
230nm,0.2s,SNR=5.0
ETOR Torete 2.98 255 Pg **Pg** **16 46 26.0 -1.5**
258nm,0.3s,SNR=41
ETOR Torete 2.98 255 Pg **Pg** **16 46 26.0 -1.5**
ETOR Sn **Sn** **16 46 53.4 -0.2**
112nm,0.2s,SNR=6.6
EBEN Beniarda 3.30 208 Pn **Pn** **16 46 21.4 -0.7**
4.6nm,0.1s,SNR=22
EBEN Sn **Sn** **16 46 59.0 -2.3**
11nm,0.3s,SNR=5.0
EBEN Beniarda 3.30 208 Pn **Pn** **16 46 21.4 -0.7**
4.6nm,0.1s,SNR=22
EBEN Sn **Sn** **16 46 59.0 -2.3**
11nm,0.3s,SNR=5.0
CAF Calviac 3.30 4 *e*Pg **Pg** **16 46 32.8 -0.7**
CAF *e*Sg **Sg** **16 47 16.2 0.0**
133nm,0.3s,SNR=1.0
CAF Calviac 3.30 4 Pn **Pn** **16 46 22.8 +0.7**
CAF Pg **Pg** **16 46 32.8 -0.7**
CAF Lg 16 47 16.2
66nm,0.3s
CAF Calviac 3.30 4 *e*Pg **Pg** **16 46 32.8 -0.7**
CAF *e*Sg **Sg** **16 47 16.2 0.0**
66nm,0.3s,SNR=1.0
CAF Calviac 3.30 4 *e*Pn **Pn** **16 46 22.8 +0.7**
CAF *e*Pg **Pg** **16 46 32.8 -0.7**
CAF *e*Sg **Sg** **16 47 16.2 0.0**
LFF La Frestale 3.38 348 *e*Pg **Pg** **16 46 35.3 +0.1**
SNR=1.0
LFF *e*Sn **Sn** **16 47 02.9 -0.6**
SNR=1.0
LFF *e*Sg **Sg** **16 47 18.2 -0.8**
175nm,0.4s,SNR=1.0
LFF La Frestale 3.38 348 Pn **Pn** **16 46 24.8 +1.5**
LFF Pg **Pg** **16 46 35.3 +0.1**
LFF Sn **Sn** **16 47 02.9 -0.6**
LFF Lg 16 47 18.2
87nm,0.4s
LFF La Frestale 3.38 348 *e*Pg **Pg** **16 46 35.3 +0.1**
SNR=1.0
LFF *e*Sn **Sn** **16 47 02.9 -0.6**
SNR=1.0
LFF *e*Sg **Sg** **16 47 18.2 -0.8**
87nm,0.4s,SNR=1.0
LFF La Frestale 3.38 348 *e*Pn **Pn** **16 46 24.8 +1.5**
LFF *e*Pg **Pg** **16 46 35.3 +0.1**
LFF *e*Sn **Sn** **16 47 02.9 -0.6**
LFF *e*Sg **Sg** **16 47 18.2 -0.8**
SMRF Simiane la Rot 3.66 49 *e*Pg **Pg** **16 46 40.3 -0.1**
SNR=1.0
SMRF *e*Sg **Sg** **16 47 27.1 -0.7**
34nm,0.4s,SNR=1.0
SMRF Simiane la Rot 3.66 49 Pn **Pn** **16 46 28.8 +1.7**
SMRF Pg **Pg** **16 46 40.3 -0.1**
SMRF Lg 16 47 27.1
34nm,0.4s
SMRF Simiane la Rot 3.66 49 *e*Pg **Pg** **16 46 40.3 -0.1**
SNR=1.0
SMRF *e*Sg **Sg** **16 47 27.1 -0.7**
17nm,0.4s,SNR=1.0
SMRF Simiane la Rot 3.66 49 *e*Pn **Pn** **16 46 28.8 +1.7**
SMRF *e*Pg **Pg** **16 46 40.3 -0.1**
SMRF *e*Sg **Sg** **16 47 27.1 -0.7**
RJF Les Rejaudoux 3.67 357 *e*Pg **Pg** **16 46 40.3 -0.4**
SNR=1.0
RJF *e*Sn **Sn** **16 47 10.0 -0.6**
SNR=1.0
RJF *e*Sg **Sg** **16 47 27.7 -0.5**
56nm,0.4s,SNR=1.0
RJF Les Rejaudoux 3.67 357 Pn **Pn** **16 46 29.1 +1.9**
RJF Pg **Pg** **16 46 40.3 -0.4**
RJF Sn **Sn** **16 47 10.0 -0.6**
RJF Lg 16 47 27.7
28nm,0.4s
RJF Les Rejaudoux 3.67 357 *e*Pg **Pg** **16 46 40.3 -0.4**
SNR=1.0
RJF *e*Sn **Sn** **16 47 10.0 -0.6**
SNR=1.0
RJF *e*Sg **Sg** **16 47 27.7 -0.5**
28nm,0.4s,SNR=1.0
RJF Les Rejaudoux 3.67 357 *e*Pn **Pn** **16 46 29.1 +1.9**
RJF *e*Pg **Pg** **16 46 40.3 -0.4**
RJF *e*Sn **Sn** **16 47 10.0 -0.6**
RJF *e*Sg **Sg** **16 47 27.7 -0.5**
LBL Lubilhac 3.76 16 Pn **Pn** **16 46 30.0 +1.6**
LBL Pg **Pg** **16 46 42.3 0.0**
VIVF Saint-Julien-l 3.86 33 *e*Pg **Pg** **16 46 43.5 -0.8**
SNR=1.0
VIVF *e*Sg **Sg** **16 47 33.5 -0.9**
50nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 3.86 33 Pn **Pn** **16 46 30.8 +1.0**
VIVF Pg **Pg** **16 46 43.5 -0.8**
VIVF Lg 16 47 33.5
25nm,0.4s
VIVF Saint-Julien-l 3.86 33 *e*Pg **Pg** **16 46 43.5 -0.8**
SNR=1.0
VIVF *e*Sg **Sg** **16 47 33.5 -0.9**
25nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 3.86 33 *e*Pn **Pn** **16 46 30.8 +1.0**
VIVF *e*Pg **Pg** **16 46 43.5 -0.8**
VIVF *e*Sg **Sg** **16 47 33.5 -0.9**
LMR La Mourre 3.91 63 *e*Pn **Pn** **16 46 30.8 +0.3**
SNR=1.0
LMR *e*Sn **Sn** **16 47 13.9 -2.5**
11nm,0.2s,SNR=1.0
LMR La Mourre 3.91 63 *e*Pn **Pn** **16 46 30.8 +0.3**
SNR=1.0
LMR *e*Sn **Sn** **16 47 13.9 -2.5**
5.4nm,0.2s,SNR=1.0
ETOB Tobarra 3.91 221 Pn **Pn** **16 46 30.4 -0.1**
3.6nm,0.1s,SNR=15
ETOB Sn **Sn** **16 47 14.4 -2.1**
11nm,0.3s,SNR=5.0
ETOB Tobarra 3.91 221 Pn **Pn** **16 46 30.4 -0.2**
3.6nm,0.1s,SNR=15
ETOB Sn **Sn** **16 47 14.4 -2.2**
11nm,0.3s,SNR=5.0
FRF La Foret Royal 4.09 60 *e*Pn **Pn** **16 46 33.8 +0.8**
SNR=1.0
FRF *e*Sn **Sn** **16 47 19.0 -2.0**
22nm,0.5s,SNR=1.0
FRF La Foret Royal 4.09 60 *e*Pn **Pn** **16 46 33.8 +0.8**
SNR=1.0
FRF *e*Sn **Sn** **16 47 19.0 -2.0**
11nm,0.5s,SNR=1.0
ELAN Lanestosa 4.16 294 ⇑Pn **Pn** **16 46 35.2 +1.3**
9.4nm,0.2s,SNR=18
ELAN Sn **Sn** **16 47 21.4 -1.1**
25nm,0.3s,SNR=4.7
ELAN Lg 16 47 42.8
38nm,0.4s,SNR=5.0
ELAN Lanestosa 4.16 294 Pn **Pn** **16 46 35.2 +1.3**
9.4nm,0.2s,SNR=18
ELAN Sn **Sn** **16 47 21.5 -1.0**
25nm,0.3s,SNR=4.7
PYM Petit Puy Mans 4.21 12 Pn **Pn** **16 46 36.0 +1.3**
PYM Pg **Pg** **16 46 50.5 -0.6**
EVIA Vianos 4.42 229 Pn **Pn** **16 46 37.7 +0.1**
1.5nm,0.1s,SNR=7.9
EVIA Sn **Sn** **16 47 27.3 -1.9**
4.1nm,0.4s,SNR=7.9
EVIA Lg 16 47 51.3
32nm,0.9s,SNR=4.6
EVIA Vianos 4.42 229 Pn **Pn** **16 46 37.7 +0.1**
1.5nm,0.1s,SNR=7.9
EVIA Sn **Sn** **16 47 27.3 -1.9**
4.1nm,0.4s,SNR=7.9
EMUR La Murta 4.43 212 Pn **Pn** **16 46 37.0 -0.7**
8.5nm,0.4s,SNR=7.9
EMUR Sn **Sn** **16 47 26.3 -3.1**
15nm,0.3s,SNR=5.3
EMUR La Murta 4.43 212 Pn **Pn** **16 46 37.0 -0.7**
8.5nm,0.4s,SNR=7.9
EMUR Sn **Sn** **16 47 26.3 -3.1**
15nm,0.3s,SNR=5.3
ORIF Oris-en-Rattie 4.46 41 *e*Pn **Pn** **16 46 40.9 +2.9**
SNR=1.0
ORIF *e*Sg **Sg** **16 47 52.5 -0.9**
15nm,0.7s
ORIF Oris-en-Rattie 4.46 41 *e*Pn **Pn** **16 46 40.9 +2.9**
SNR=1.0
ORIF *e*Sg **Sg** **16 47 52.5 -0.9**
7.7nm,0.7s
PLDF La Plantade 4.54 17 Pn **Pn** **16 46 41.2 +2.1**
PLDF Pg **Pg** **16 46 56.9 -0.4**
GUD Guadarrama 4.57 259 Pn **Pn** **16 46 40.4 +0.8**
6.4nm,0.2s,SNR=18
GUD Sn **Sn** **16 47 30.4 -2.3**
11nm,0.2s,SNR=5.4
GUD Lg 16 47 55.4
17nm,0.4s,SNR=5.0
GUD Guadarrama 4.57 259 Pn **Pn** **16 46 40.4 +0.8**
6.4nm,0.2s,SNR=18
GUD Sn **Sn** **16 47 32.2 -0.5**
11nm,0.2s,SNR=5.4
GUD Guadarrama 4.57 259 Pn **Pn** **16 46 40.4 +0.8**
GUD Sn **Sn** **16 47 32.2 -0.5**
GUD Lg 16 47 55.4
TCF Toulx Ste Croi 4.66 4 *e*Pg **Pg** **16 46 57.4 -2.3**
SNR=1.0
TCF *e*Sn **Sn** **16 47 32.5 -2.5**
SNR=1.0
TCF *e*Sg **Sg** **16 47 58.3 -1.7**
27nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 4.66 4 Pn **Pn** **16 46 40.3 -0.5**
TCF Pg **Pg** **16 46 57.4 -2.3**
TCF Sn **Sn** **16 47 32.5 -2.5**
TCF Lg 16 47 58.3
0.0nm,0.3s
TCF Toulx Ste Croi 4.66 4 *e*Pg **Pg** **16 46 57.4 -2.3**
SNR=1.0
TCF *e*Sn **Sn** **16 47 32.5 -2.5**
SNR=1.0
TCF *e*Sg **Sg** **16 47 58.3 -1.7**
14nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 4.66 4 *e*Pn **Pn** **16 46 40.3 -0.5**
TCF *e*Pg **Pg** **16 46 57.4 -2.3**
TCF *e*Sn **Sn** **16 47 32.5 -2.5**
TCF *e*Sg **Sg** **16 47 58.3 -1.7**
SBF Sospel 4.74 60 *e*Pn **Pn** **16 46 42.3 +0.4**
SNR=1.0
SBF *e*Sn **Sn** **16 47 33.5 -3.4**
SNR=1.0
SBF *e*Sg **Sg** **16 48 00.2 -2.3**
37nm,0.6s,SNR=1.0
SBF Sospel 4.74 60 *e*Pn **Pn** **16 46 42.3 +0.4**
SNR=1.0
SBF *e*Sn **Sn** **16 47 33.5 -3.4**
SNR=1.0
SBF *e*Sg **Sg** **16 48 00.2 -2.3**
18nm,0.6s,SNR=1.0
ESDC Sonseca Array 4.77 248 Pn **Pn** **16 46 42.2 -0.1**
4.8nm,0.1s,SNR=7.9
ESDC Sn **Sn** **16 47 33.9 -3.7**
4.8nm,0.4s,SNR=7.9
ESDC Sonseca Array 4.77 248 Pn **Pn** **16 46 42.2 -0.1**
ESDC Sn **Sn** **16 47 33.9 -3.7**
ESDC Lg 16 47 59.8
MBDF Montbardon 4.80 48 *e*Pn **Pn** **16 46 45.1 +2.4**
SNR=1.0
MBDF *e*Sg **Sg** **16 48 03.2 -1.2**
17nm,0.8s
MBDF Montbardon 4.80 48 *e*Pn **Pn** **16 46 45.1 +2.4**
SNR=1.0
MBDF *e*Sg **Sg** **16 48 03.2 -1.2**
8.6nm,0.8s
BGF Bois d'Agland 4.98 9 *e*Pg **Pg** **16 47 04.4 -1.4**
SNR=1.0
BGF *e*Sn **Sn** **16 47 41.5 -1.4**
SNR=1.0
BGF *e*Sg **Sg** **16 48 09.1 -1.2**
104nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.98 9 Pn **Pn** **16 46 46.2 +0.9**
BGF Pg **Pg** **16 47 04.4 -1.4**
BGF Sn **Sn** **16 47 41.5 -1.4**
BGF Lg 16 48 09.1
52nm,0.4s
BGF Bois d'Agland 4.98 9 *e*Pg **Pg** **16 47 04.4 -1.4**
SNR=1.0
BGF *e*Sn **Sn** **16 47 41.5 -1.4**
SNR=1.0
BGF *e*Sg **Sg** **16 48 09.1 -1.2**
52nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.98 9 *e*Pn **Pn** **16 46 46.2 +0.9**
BGF *e*Pg **Pg** **16 47 04.4 -1.4**
BGF *e*Sn **Sn** **16 47 41.5 -1.4**
BGF *e*Sg **Sg** **16 48 09.1 -1.2**
EHUE Huescar 5.08 223 ⇓Pn **Pn** **16 46 46.8 +0.2**
2.7nm,0.2s,SNR=18
EHUE Sn **Sn** **16 47 42.2 -3.1**
2.0nm,0.2s,SNR=7.9
MFF Saint Martin d 5.15 345 *e*Pg **Pg** **16 47 07.9 -1.1**
SNR=1.0
MFF *e*Sn **Sn** **16 47 44.9 -2.1**
MFF *e*Sg **Sg** **16 48 13.7 -1.9**
26nm,0.4s
MFF Saint Martin d 5.15 345 Pn **Pn** **16 46 48.3 +0.8**
MFF Pg **Pg** **16 47 07.9 -1.1**
MFF Sn **Sn** **16 47 44.9 -2.1**
MFF Lg 16 48 13.7
13nm,0.4s
MFF Saint Martin d 5.15 345 *e*Pg **Pg** **16 47 07.9 -1.1**
SNR=1.0
MFF *e*Sn **Sn** **16 47 44.9 -2.1**
MFF *e*Sg **Sg** **16 48 13.7 -1.9**
13nm,0.4s
MFF Saint Martin d 5.15 345 *e*Pn **Pn** **16 46 48.3 +0.8**
MFF *e*Pg **Pg** **16 47 07.9 -1.1**
MFF *e*Sn **Sn** **16 47 44.9 -2.1**
MFF *e*Sg **Sg** **16 48 13.7 -1.9**
SMF Signal de Mont 5.23 16 *e*Pg **Pg** **16 47 09.2 -1.3**
SNR=1.0
SMF *e*Sg **Sg** **16 48 16.1 -2.1**
26nm,0.4s,SNR=1.0
SMF Signal de Mont 5.23 16 Pn **Pn** **16 46 50.1 +1.5**
SMF Pg **Pg** **16 47 09.2 -1.3**
SMF Lg 16 48 16.1
0.0nm,0.4s
SMF Signal de Mont 5.23 16 *e*Pg **Pg** **16 47 09.2 -1.3**
SNR=1.0
SMF *e*Sg **Sg** **16 48 16.1 -2.1**
13nm,0.4s,SNR=1.0
SMF Signal de Mont 5.23 16 *e*Pn **Pn** **16 46 50.1 +1.5**
SMF *e*Pg **Pg** **16 47 09.2 -1.3**
SMF *e*Sg **Sg** **16 48 16.1 -2.1**
AVF Avril sur Loir 5.28 12 *e*Pg **Pg** **16 47 09.7 -1.8**
SNR=1.0
AVF *e*Sg **Sg** **16 48 18.7 -1.1**
14nm,0.3s,SNR=1.0
AVF Avril sur Loir 5.28 12 Pn **Pn** **16 46 50.2 +0.9**
AVF Pg **Pg** **16 47 09.7 -1.8**
AVF Lg 16 48 18.7
6.8nm,0.3s
AVF Avril sur Loir 5.28 12 *e*Pg **Pg** **16 47 09.7 -1.8**
SNR=1.0
AVF *e*Sg **Sg** **16 48 18.7 -1.1**
6.8nm,0.3s,SNR=1.0
AVF Avril sur Loir 5.28 12 *e*Pn **Pn** **16 46 50.2 +0.9**
AVF *e*Pg **Pg** **16 47 09.7 -1.8**
AVF *e*Sg **Sg** **16 48 18.7 -1.1**
LPG La Plagne 5.30 42 *e*Pn **Pn** **16 46 50.2 +0.6**
SNR=1.0
LPL La Plagne 5.30 41 *e*Pn **Pn** **16 46 50.5 +0.8**
LPL *e*Pg **Pg** **16 47 09.9 -2.0**
EQES Quesada 5.33 226 Pn **Pn** **16 46 50.4 +0.3**
3.1nm,0.3s,SNR=7.9
EQES Sn **Sn** **16 47 48.3 -3.3**
2.6nm,0.5s,SNR=7.9
EQES Lg 16 48 18.1
4.5nm,0.5s,SNR=4.0
EQES Quesada 5.33 226 Pn **Pn** **16 46 50.4 +0.3**
3.1nm,0.3s,SNR=7.9
EQES Sn **Sn** **16 47 48.3 -3.3**
2.6nm,0.5s,SNR=7.9
EARI Arriondas 5.41 290 Pn **Pn** **16 46 52.3 +1.2**
2.5nm,0.1s,SNR=28
EARI Sn **Sn** **16 47 52.6 -0.8**
8.3nm,0.4s,SNR=4.5
EARI Sb **Sb** **16 48 13.4 +3.4**
SNR=5.0
EARI Arriondas 5.41 290 Pn **Pn** **16 46 52.3 +1.2**
2.5nm,0.1s,SNR=28
EARI Sn **Sn** **16 47 52.6 -0.9**
8.3nm,0.4s,SNR=4.5
PGF Pioggiola 5.47 78 *e*Pn **Pn** **16 46 51.4 -0.5**
SNR=1.0
PGF *e*Sn **Sn** **16 47 50.8 -4.1**
28nm,0.4s,SNR=1.0
PGF Pioggiola 5.47 78 *e*Pn **Pn** **16 46 51.4 -0.5**
SNR=1.0
PGF *e*Sn **Sn** **16 47 50.8 -4.1**
14nm,0.4s,SNR=1.0
EBAN Banos Encina 5.49 233 Pn **Pn** **16 46 52.4 +0.2**
1.4nm,0.1s,SNR=7.9
SSF Saint Saulge 5.57 12 *e*Pg **Pg** **16 47 15.1 -1.9**
SNR=1.0
SSF *e*Sg **Sg** **16 48 27.8 -1.3**
12nm,0.4s
SSF Saint Saulge 5.57 12 Pn **Pn** **16 46 54.3 +1.0**
SSF Pg **Pg** **16 47 15.1 -1.9**
SSF Lg 16 48 27.8
5.8nm,0.4s
SSF Saint Saulge 5.57 12 *e*Pg **Pg** **16 47 15.1 -1.9**
SNR=1.0
SSF *e*Sg **Sg** **16 48 27.8 -1.3**
5.8nm,0.4s
SSF Saint Saulge 5.57 12 *e*Pn **Pn** **16 46 54.3 +1.0**
SSF *e*Pg **Pg** **16 47 15.1 -1.9**
SSF *e*Sg **Sg** **16 48 27.8 -1.3**
HYF Humbligny 5.67 6 *e*Pg **Pg** **16 47 17.3 -1.6**
HYF *e*Sg **Sg** **16 48 30.5 -1.8**
LOR Lormes 5.83 14 *e*Pg **Pg** **16 47 20.1 -1.9**
baz=202,SNR=1.0
LOR *e*Sg **Sg** **16 48 35.4 -2.1**
24nm,0.6s,baz=191,SNR=1.0
LOR Lormes 5.83 14 *e*Pg **Pg** **16 47 20.1 -1.9**
SNR=1.0
LOR *e*Sg **Sg** **16 48 35.4 -2.1**
12nm,0.6s,SNR=1.0
CABF La Chapelle 5.87 31 *e*Sg **Sg** **16 48 37.2 -1.6**
31nm,0.7s
CABF La Chapelle 5.87 31 *e*Sg **Sg** **16 48 37.2 -1.6**
15nm,0.7s
EBER Berja 5.94 219 Pn **Pn** **16 46 58.5 +0.1**
1.4nm,0.2s,SNR=7.9
EBER Berja 5.94 219 Pn **Pn** **16 46 58.5 0.0**
1.4nm,0.2s,SNR=7.9
EADA Adamuz 5.97 237 Pn **Pn** **16 46 58.6 -0.2**
0.8nm,0.2s,SNR=7.9
EADA Sn **Sn** **16 48 03.3 -4.0**
2.7nm,0.2s,SNR=7.9
EADA Lg 16 48 39.3
2.9nm,0.3s,SNR=4.6
EADA Adamuz 5.97 237 Pn **Pn** **16 46 58.7 -0.1**
EADA Sn **Sn** **16 48 03.3 -4.0**
2.7nm,0.2s,SNR=7.9
EQUE Quentar 5.98 224 Pn **Pn** **16 46 59.2 +0.3**

2.5nm,0.3s,SNR=7.9
EQUE Lg 16 48 41.2
3.6nm,0.4s,SNR=7.9
ECAL Calabor 6.35 276 Pn Pn 16 47 04.3 +0.2
9.8nm,0.2s,SNR=23
ECAL Sn **Sn 16 48 14.2 -2.5**
9.9nm,0.3s,SNR=4.7
ECAL Calabor 6.35 276 Pn Pn 16 47 04.3 +0.2
9.8nm,0.2s,SNR=23
ECAL Sn **Sn 16 48 15.3 -1.4**
9.9nm,0.3s,SNR=4.7
ECAL Calabor 6.35 276 Pn Pn 16 47 04.3 +0.2
ECAL Sn **Sn 16 48 15.3 -1.4**
PBRG Braganca 6.36 274 *e*Pn **Pn 16 47 04.5 +0.4**
PBRG A 16 49 15.0
8.3nm,0.4s
PBRG Braganca 6.36 274 *e*Pn **Pn 16 47 04.5 +0.4**
8.3nm,0.4s
MVO Moncorvo 6.62 269 *e*Pn **Pn 16 47 08.0 +0.3**
MVO A 16 49 14.6
12nm,0.5s
MVO Moncorvo 6.62 269 *e*Pn **Pn 16 47 08.0 +0.3**
12nm,0.5s
ERUA La Rua 6.67 279 Pn **Pn 16 47 08.9 +0.5**
3.8nm,0.1s,SNR=7.9
EPON Pontenova 6.79 287 Pn **Pn 16 47 08.4 -1.7**
5.3nm,0.2s,SNR=7.0
EPON Sn **Sn 16 48 25.5 -2.1**
3.4nm,0.2s,SNR=17
GRR Gorron 7.00 346 *e*Pn **Pn 16 47 13.9 +1.0**
GRR *e*Pg **Pg 16 47 41.5 -2.8**
LDF La Druitiere 7.08 350 *e*Pn **Pn 16 47 14.8 +0.7**
SNR=1.0
LDF *e*Sn **Sn 16 48 29.7 -4.9**
SNR=1.0
LDF *e*Sg **Sg 16 49 15.8 -1.8**
14nm,0.5s,SNR=1.0
LDF La Druitiere 7.08 350 *e*Pn **Pn 16 47 14.8 +0.7**
SNR=1.0
LDF *e*Sn **Sn 16 48 29.7 -4.9**
SNR=1.0
LDF *e*Sg **Sg 16 49 15.8 -1.8**
6.9nm,0.5s,SNR=1.0
HAU Haudompre 7.16 26 *e*Sg **Sg 16 49 16.7 -3.3**
6.7nm,0.4s
HAU Haudompre 7.16 26 *e*Sg **Sg 16 49 16.7 -3.3**
3.3nm,0.4s
HINF Hinteralfeld 7.17 29 *e*Sg **Sg 16 49 17.4 -2.9**
5.7nm,0.4s
HINF Hinteralfeld 7.17 29 *e*Sg **Sg 16 49 17.4 -2.9**
2.8nm,0.4s
QUIF Quistinic 7.19 333 *e*Pn **Pn 16 47 15.9 +0.4**
SNR=1.0
QUIF *e*Sn **Sn 16 48 33.1 -4.1**
20nm,0.4s,SNR=1.0
QUIF Quistinic 7.19 333 *e*Pn **Pn 16 47 15.9 +0.4**
SNR=1.0
QUIF *e*Sn **Sn 16 48 33.1 -4.1**
9.8nm,0.4s,SNR=1.0
PCBR Castelo Branco 7.23 259 *e*Pn **Pn 16 47 15.6 -0.6**
PCBR *e*Sn **Sn 16 48 35.6 -2.8**
PCBR A 16 49 37.2
5.5nm,0.4s
PCBR Castelo Branco 7.23 259 Pn **Pn 16 47 15.6 -0.6**
PCBR Sn **Sn 16 48 35.6 -2.8**
2.8nm,0.4s
MEZF Maizieres J'vi 7.25 18 *e*Sg **Sg 16 49 20.1 -2.9**
17nm,0.5s
MEZF Maizieres J'vi 7.25 18 *e*Sg **Sg 16 49 20.1 -2.9**
8.4nm,0.5s
SGMF Saint Gilles 7.29 337 *e*Pn **Pn 16 47 18.1 +1.2**
SNR=1.0
SGMF *e*Sn **Sn 16 48 36.1 -3.6**
EBAD Badajoz 7.30 250 Pn **Pn 16 47 14.7 -2.4**
0.4nm,0.1s,SNR=7.9
EBAD Sn **Sn 16 48 33.2 -6.7**
3.1nm,0.2s,SNR=7.9
FLN La Foliniere 7.30 348 *e*Pn **Pn 16 47 17.6 +0.6**
baz=170
FLN *e*Sn **Sn 16 48 35.9 -4.0**
baz=169
FLN *e*Sg **Sg 16 49 20.4 -4.1**
6.2nm,0.3s,SNR=1.0
FLN La Foliniere 7.30 348 *e*Pn **Pn 16 47 17.6 +0.6**
FLN *e*Sn **Sn 16 48 35.9 -4.0**
FLN *e*Sg **Sg 16 49 20.4 -4.1**
3.1nm,0.3s,SNR=1.0
PMRV Marv??o 7.30 255 *e*Pn **Pn 16 47 17.5 +0.4**
PMRV *e*Sn **Sn 16 48 38.0 -2.1**
PMRV A 16 49 31.2
6.4nm,0.6s
PVIS Viseu 7.33 266 *e*Pn **Pn 16 47 17.9 +0.3**
PVIS *e*Sn **Sn 16 48 38.5 -2.4**
ELOB Lobios 7.34 275 Pn **Pn 16 47 17.5 -0.2**
2.2nm,0.2s,SNR=11
ELOB Sn **Sn 16 48 37.0 -4.0**
2.7nm,0.3s,SNR=5.0
ELOB Lobios 7.34 275 Pn **Pn 16 47 17.5 -0.1**
ELOB Sn **Sn 16 48 37.0 -4.0**
EMIN Mina Concepcio 7.55 242 Pn **Pn 16 47 20.7 +0.1**
SNR=7.9
EMIN Lg 16 49 29.7
2.8nm,0.3s,SNR=7.9
EMIN Mina Concepcio 7.55 242 Pn **Pn 16 47 20.7 +0.1**
ROSF Rostrenen 7.59 334 *e*Pn **Pn 16 47 22.0 +1.0**
SNR=1.0
ROSF *e*Sn **Sn 16 48 43.6 -3.4**
10nm,0.5s,SNR=1.0
ROSF Rostrenen 7.59 334 *e*Pn **Pn 16 47 22.0 +1.0**
SNR=1.0
ROSF *e*Sn **Sn 16 48 43.6 -3.4**
5.2nm,0.5s,SNR=1.0
PBAR Barrancos 7.59 246 *e*Pn **Pn 16 47 20.9 -0.1**
PBAR A 16 49 36.7
4.1nm,0.7s
PBAR Barrancos 7.59 246 *e*Pn **Pn 16 47 20.9 -0.1**
4.1nm,0.7s
PESTR Estremoz 7.66 252 *e*Pn **Pn 16 47 21.5 -0.5**
CDF Champ du Feu 7.82 28 *e*Sg Sx 16 49 37.8
4.3nm,0.5s
CDF Champ du Feu 7.82 28 *e*Sg Sx 16 49 37.8
2.2nm,0.5s
EMAZ Mazaricos 8.06 283 Pn **Pn 16 47 27.3 -0.2**
2.3nm,0.1s,SNR=7.9
EMAZ Mazaricos 8.06 283 Pn **Pn 16 47 27.3 -0.2**

ISCJB ***08*** *17:04:56.5±0.1, 607S±002×10757E±002, h292km, mb6.3/167, Error ellipse: s-maj=2.9km s-min=2.2km az=22.2*
IDC ***08*** *17:04:56.6±0.4, 586S×10775E, h276km±4km, mb5.7/36, mb1 5.7/39, mb1mx5.7/39, mbtmp5.7/39, Error ellipse: s-maj=6.9km s-min=6.2km az=47.0*
MOS ***08*** *17:04:56.6±0.9, 586S×10772E, h292km, mb6.4/44, MS6.7/20, Error ellipse: s-maj=8.5km s-min=3.8km az=123.6*
GCMT ***08*** *17:04:57.8±0.1, 603S×10758E, h305km± 1km, MW7.5/111, Moment Tensor Solution. s111,c305; s109,c297; Duration: 14s4 Moment tensor: Scale 10^20Nm; Mrr0.96±.01; Mθθ-1.15±.01; Mφφ0.19±.01; Mrθ2.00±.01; Mrφ0.99±.01; Mθφ0.65±.01; Best double couple: M±2.55500×10^20 NP1:φs330.00000°, δ30.00000°, λ155.00000°. NP2:φs82.00000°, δ78.00000°, λ62.00000°. Principal axes: T 2.6430, Plg49.0000°, Azm321.0000°; N -0.1750, Plg27.0000°, Azm88.0000°; P -2.4670, Plg28.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=150s.*
NEIC ***08*** *17:04:57.8±0.3, 593S×10768E, h291km±2km, mb6.1/116 Error ellipse: s-maj=4.8km s-min=2.9km az=217.0*
BJI ***08*** *17:04:57.8, 590S×10770E, h291km, mB7.3, mb6.5*
DJA ***08*** *17:04:59, 613S×10768E, h284km, Mwp7.8/66*
SZGRF ***08*** *17:05:00.3, 735S×10539E, h278km, Jawa, Indonesia*
ISC 08 17:04:58.0±0.1, 609S±002×10758E±002, h294km, h294km±2.4km; pP-P, n1599, σ1§15/963, mb6.3/167, 137C-65D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang** 0.0nm,0.0s	**0.73**	**177**	P	**Pn**	**17 05 37.9**	**+1.3**
LEM	**Lembang**	**0.73**	**177**	P	**Pn**	**17 05 37.4**	**+0.8**
CBJI	**Citeko** 0.0nm,0.0s	**0.80**	**246**	P	**Pn**	**17 05 38.9**	**+2.0**
CBJI	**Citeko**	**0.80**	**246**	P	**Pn**	**17 05 38.3**	**+1.4**
TNG	**Tangerang** 0.0nm,0.0s	**0.94**	**265**	P	**Pn**	**17 05 39.6**	**+2.2**
TNG	**Tangerang**	**0.94**	**265**	P	**Pn**	**17 05 39.0**	**+1.6**
DBJI	**Dramaga** 0.0nm,0.0s	**0.95**	**241**	P	**Pn**	**17 05 39.2**	**+1.7**
SKJI	**Sukabumi** 0.0nm,0.0s	**1.37**	**228**	P	**Pn**	**17 05 40.8**	**+1.1**
SBJI	**Serang** 0.0nm,0.0s	**1.45**	**269**	P	**Pn**	**17 05 42.5**	**+2.3**
SBJI	**Serang**	**1.45**	**269**	P	**Pn**	**17 05 42.0**	**+1.8**
CLJI	**Cilicap** 0.0nm,0.0s	**2.15**	**139**	P	**Pn**	**17 05 44.7**	**-0.8**
BJII	**Banjamegara** 0.0nm,0.0s	**2.45**	**120**	P	**Pn**	**17 05 48.0**	**-0.1**
BJII	**Banjamegara**	**2.45**	**120**⇑	*e*P	**Pn**	**17 05 48.4**	**+0.3**
BJII				*e*S	**S**	**17 06 27.9**	**0.0**
KLI	**Kotabumi** 0.0nm,0.0s	**2.98**	**294**	P	**Pn**	**17 05 55.8**	**+2.7**
YOGI	**Yogyakarta**	**3.19**	**123**⇑	*e*P	**Pn**	**17 05 53.0**	**-2.3**
YOGI				*e*S	**S**	**17 06 33.0**	**-8.0**
TPI	**Tanjungpandan** 0.0nm,0.0s	**3.31**	**1**	P	**Pn**	**17 05 57.1**	**+0.5**
UGM	**Wanagama**	**3.43**	**122**	P	**Pn**	**17 05 55.9**	**-1.9**
PPBI	**Pangkal Pinang** 0.0nm,0.0s	**4.16**	**340**	P	**Pn**	**17 06 07.5**	**+1.8**
SJI	**Sawahan** 0.0nm,0.0s	**4.46**	**112**	P	**Pn**	**17 06 07.9**	**-1.2**
XMIS	**Christmas Isla**	**4.76**	**204**	*e*P	**Pn**	**17 06 15.2**	**+2.6**
XMIS				*e*S	**S**	**17 07 09.5**	**-2.9**
KRKI	**Karangkates** 0.0nm,0.0s	**5.25**	**113**	P	**Pn**	**17 06 16.1**	**-2.2**
KRKI	**Karangkates**	**5.25**	**113**	P	**Pn**	**17 06 15.5**	**-2.8**
PBKI	**Pangkalan Bun** 0.0nm,0.0s	**5.28**	**51**	P	**Pn**	**17 06 18.4**	**-0.3**
KSI	**Kapahiang** 0.0nm,0.0s	**5.53**	**296**	P	**Pn**	**17 06 24.8**	**+3.2**
JMBI	**JAMBI** 0.0nm,0.0s	**5.92**	**318**	P	**Pn**	**17 06 29.6**	**+3.3**
DSRI	**Dabo** 14μm,1.4s	**6.33**	**332**	P	**Pn**	**17 06 32.4**	**+1.2**
KMMI	**Kalianget** 0.0nm,0.0s	**6.41**	**99**	P	**Pn**	**17 06 31.3**	**-0.9**
KMMI	**Kalianget**	**6.41**	**99**	P	**Pn**	**17 06 31.0**	**-1.2**
STKI	**Sintang** 0.0nm,0.0s	**7.24**	**33**	P	**Pn**	**17 06 43.3**	**+1.0**
NBBI	**Negara** 0.0nm,0.0s	**7.34**	**108**	P	**Pn**	**17 06 40.2**	**-3.3**
NBBI	**Negara**	**7.34**	**108**	P	**Pn**	**17 06 40.5**	**-3.0**
PLKI	**Palangkaraya** 0.0nm,0.0s	**7.41**	**59**	P	**Pn**	**17 06 43.9**	**-0.5**
TPRI	**Tanjung Pinang** 0.0nm,0.0s	**7.60**	**336**	P	**Pn**	**17 06 48.8**	**+2.1**
BBKI	**Banjar Baru** 0.0nm,0.0s	**7.69**	**70**	P	**Pn**	**17 06 48.2**	**+0.4**
RGRI	**Rengat** 0.0nm,0.0s	**7.74**	**317**	P	**Pn**	**17 06 52.1**	**+3.6**
DNP	**Denpasar** 36μm,1.1s	**7.99**	**109**	P	**Pn**	**17 06 48.2**	**-3.2**
KSM	**Kuching**	**7.99**	**20**	⇑P	**Pn**	**17 06 53.3**	**+1.8**
KSM	**Kuching**	**7.99**	**20**	⇓*i*P	**Pn**	**17 06 51.9**	**+0.4**
KHKI	**Kahang-Kahang** 0.0nm,0.0s	**8.28**	**106**	P	**Pn**	**17 06 51.5**	**-3.5**
KHKI	**Kahang-Kahang**	**8.28**	**106**	P	**Pn**	**17 06 51.8**	**-3.2**
MYKOM	**Kota Tinggi**	**8.67**	**334**	⇓P	**Pn**	**17 07 03.4**	**+3.6**
PPI	**Padang Panjang** 0.0nm,0.0s	**9.10**	**308**	P	**Pn**	**17 07 06.0**	**+0.9**
KGM	**Kluang**	**9.11**	**332**	⇓P	**Pn**	**17 07 08.7**	**+3.4**
SBUM	**Sibu**	**9.66**	**29**	⇑P	**Pn**	**17 07 15.0**	**+2.9**
BTM	**Bintulu**	**10.74**	**31**	⇑P	**Pn**	**17 07 28.8**	**+3.4**
FRIM	**Kepong**	**11.01**	**327**	⇑P	**Pn**	**17 07 32.1**	**+3.4**
TRSI	**Tarutung** 0.0nm,0.0s	**11.80**	**313**	P	**Pn**	**17 07 40.5**	**+2.2**
MKS	**Makassar**	**11.86**	**86**⇑	*e*P	**Pn**	**17 07 36.5**	**-2.6**
MKS				*e*S	**S**	**17 09 59.8**	**+8.5**
KAPI	**Kappang** SNR=63	**12.16**	**86**	P	**Pn**	**17 07 43.1**	**+0.4**
KAPI	**Kappang**	**12.16**	**86**	P	**Pn**	**17 07 39.3**	**-3.4**
KAPI				S	**S**	**17 09 55.8**	**-2.2**
KAPI	**Kappang**	**12.16**	**86**	P	**Pn**	**17 07 39.3**	**-3.4**
KTGM	**Kuala Trenggan**	**12.18**	**339**	⇓P	**Pn**	**17 07 47.0**	**+4.0**
COCO	**West Island** SNR=196	**12.22**	**240**	P	**Pn**	**17 07 47.4**	**+4.0**
COCO	**West Island** 2μm,1.2s	**12.22**	**240**	*e*Pn	**Pn**	**17 07 46.1**	**+2.7**
PSI	**Prapat** 51nm,0.3s,baz=146,slow=10,SNR=384	**12.36**	**315**	P	**Pn**	**17 07 42.9**	**-2.2**
PSI	**Prapat**	**12.36**	**315**	S	**S**	**17 10 01.4**	**-1.2**
PSI	217nm,0.3s,baz=346,slow=19,SNR=6.2			ScP	ScP	17 16 14.1	+8.8
PSI	9.6nm,0.3s,baz=204,slow=6.5,SNR=5.9			ScS	ScS	17 19 49.3	+7.4
PSI	**Prapat** 1.4nm,0.3s,baz=210,slow=23,SNR=7.4	**12.36**	**315**	P	**Pn**	**17 07 42.9**	**-2.2**
PSI	**Prapat**	**12.36**	**315**	S	**S**	**17 10 01.4**	**-1.2**
PSI				ScP	ScP	17 16 14.1	+8.8
PSI				ScS	ScS	17 19 49.3	+7.4
IPM	**Ipoh**	**12.37**	**328**	⇑P	**Pn**	**17 07 49.0**	**+3.7**
WSI	**Waingapu**	**13.09**	**107**⇑	*e*P	**Pn**	**17 07 51.0**	**-2.9**
WSI				*e*S	**S**	**17 10 15.5**	**-3.4**
WSI	**Waingapu**	**13.09**	**107**	⇓*e*P	**Pn**	**17 07 50.8**	**-3.1**
TSI	**Tuntungan**	**13.11**	**316**⇑	*i*P	**Pn**	**17 07 52.5**	**-1.7**
KULM	**Kulim**	**13.25**	**328**	⇑P	**Pn**	**17 07 58.5**	**+2.6**
PCI	**Palu** 0.0nm,0.0s	**13.27**	**68**	P	**Pn**	**17 07 57.0**	**+0.9**
PCI	**Palu**	**13.27**	**68**	⇓*i*P	**Pn**	**17 07 57.0**	**+0.9**
TSM	**Tawau**	**14.56**	**45**	⇓P	**Pn**	**17 08 13.4**	**+1.9**
KKM	**Kota Kinabalu**	**14.81**	**36**	⇑P	**Pn**	**17 08 15.9**	**+1.4**
KKM	**Kota Kinabalu**	**14.81**	**36**	⇓*e*P	**Pn**	**17 08 13.8**	**-0.7**
BBSI	**Bau Bau** 0.0nm,0.0s	**14.92**	**88**	P	**Pn**	**17 08 14.2**	**-1.7**
SDKM	**Sandakan**	**15.09**	**40**	⇑P	**Pn**	**17 08 18.7**	**+0.8**
MYLDM	**Lahad Datu**	**15.62**	**44**	⇑P	**Pn**	**17 08 27.4**	**+3.3**
KDM	**Kudat**	**15.88**	**36**	⇑P	**Pn**	**17 08 28.4**	**+1.3**
BATI	**Baumata** 0.0nm,0.0s	**16.43**	**105**	P	**P**	**17 08 31.1**	**-0.1**
BATI	**Baumata** 538nm,0.3s,baz=303,slow=1.8,SNR=390	**16.43**	**105**	P	**P**	**17 08 30.4**	**-0.8**
BATI	3μm,0.3s,baz=21,slow=18,SNR=6.5			S	**S**	**17 11 37.0**	**+8.7**
BSI	**Banda Aceh** 0.0nm,0.0s	**16.82**	**313**	P	**P**	**17 08 34.1**	**-1.3**
BSI	**Banda Aceh**	**16.82**	**313**	⇓*e*P	**P**	**17 08 25.0**	**-10**
BATP	**Bataraza**	**17.96**	**35**	*e*P	**P**	**17 08 49.0**	**+1.3**
MNI	**Manado** 0.0nm,0.0s	**18.78**	**67**	P	**P**	**17 08 55.3**	**-1.3**
MNI	**Manado**	**18.78**	**67**	⇓*e*P	**P**	**17 08 50.5**	**-6.1**
MBWA	**Marble Bar** SNR=367	**19.05**	**143**	P	**P**	**17 09 00.3**	**+1.0**
MBWA	**Marble Bar** 755nm,0.6s	**19.05**	**143**	⇓*i*P	**P**	**17 09 00.0**	**+0.7**
PPR	**Puerto Princes**	**19.28**	**35**	⇓*e*P	**P**	**17 09 03.8**	**+1.9**
IPIL	**Ipil**	**20.34**	**48**⇑	*i*P	**P**	**17 09 13.5**	**+0.5**
LBMI	**Labuha** 0.0nm,0.0s	**20.60**	**76**	P	**P**	**17 09 15.8**	**0.0**
AAI	**Ambon** 0.0nm,0.0s	**20.67**	**84**	P	**P**	**17 09 15.1**	**-1.4**
AAI	**Ambon** 0.0nm,0.0s	**20.67**	**84**	P	**P**	**17 09 13.9**	**-2.6**
ENPP	**El Nido**	**20.83**	**34**	*e*P	**P**	**17 09 18.0**	**0.0**
TNE	**Ternate**	**20.90**	**72**	⇓*e*P	**P**	**17 09 15.0**	**-3.6**
TNE				*e*S	**S**	**17 12 45.0**	**-7.3**
PAGZ	**Pagadian**	**20.98**	**49**	*e*P	**P**	**17 09 21.5**	**+2.2**
GSPH	**General Santos**	**21.14**	**55**	*e*P	**P**	**17 09 24.4**	**+3.6**
CTBH	**Cotabato--PC H**	**21.24**	**52**	⇓*i*P	**P**	**17 09 24.1**	**+2.4**
FITZ	**Fitzroy Crossi** 556nm,0.7s,mb6.0	**21.28**	**126**	⇓*i*P	**P**	**17 09 21.5**	**-0.6**
FITZ	**Fitzroy Crossi** 322nm,0.7s,mb5.7,baz=310,slow=7.5,SNR=462	**21.28**	**126**	P	**P**	**17 09 21.7**	**-0.4**
CUYO	**Cuyo Island**	**21.50**	**39**	*e*P	**P**	**17 09 25.9**	**+1.9**
KCP	**Kidapawan**	**21.78**	**54**	⇓*e*P	**P**	**17 09 30.7**	**+4.0**
SNPH	**Sibulan**	**21.87**	**46**	*e*P	**P**	**17 09 29.0**	**+1.5**
BUSP	**Coron**	**21.92**	**35**	*e*P	**P**	**17 09 28.7**	**+0.8**
DAV	**Davao City (W)**	**22.21**	**54**	⇑*e*P	**P**	**17 09 29.7**	**-0.9**
DAV	**Davao City (W)** 458nm,0.6s,mb6.0	**22.21**	**54**	*e*P	**P**	**17 09 31.6**	**+1.1**
BUKP	**Musuan**	**22.28**	**52**	*e*P	**P**	**17 09 32.0**	**+0.8**
GUIM	**Jordan**	**22.34**	**42**	*e*P	**P**	**17 09 34.7**	**+2.9**
TBP	**Tagbilaran**	**22.56**	**46**	⇓*e*P	**P**	**17 09 34.4**	**+0.6**
MATI	**Mati**	**22.69**	**55**	*e*P	**P**	**17 09 35.8**	**+0.8**
SJMP	**San Jose**	**22.82**	**36**	*e*P	**P**	**17 09 36.5**	**+0.4**
KALP	**Kalibo**	**22.96**	**40**	⇓*e*P	**P**	**17 09 40.3**	**+3.0**
PBA	**Port Blair**	**22.99**	**320**	*ex*	x	17 10 01.2	
PBA				*ex*	x	17 10 01.2	
LLP	**Lapu-Lapu**	**23.06**	**45**	⇓*e*P	**P**	**17 09 39.5**	**+1.2**
OTRP	**Odiongan**	**23.28**	**38**	*e*P	**P**	**17 09 41.8**	**+1.5**
LUBP	**Lubang**	**23.36**	**32**	*e*P	**P**	**17 09 43.3**	**+2.3**
BUTP	**Butuan**	**23.39**	**50**	*e*P	**P**	**17 09 42.4**	**+1.0**
MSLP	**Maasin**	**23.57**	**47**	*e*P	**P**	**17 09 43.8**	**+0.8**
SCPH	**Surigao**	**23.81**	**49**	*e*P	**P**	**17 09 46.2**	**+1.1**
OCLP	**Ormoc**	**24.02**	**45**	*e*P	**P**	**17 09 50.5**	**+3.4**
TGY	**Tagaytay City**	**24.04**	**33**	⇓*e*P	**P**	**17 09 50.3**	**+3.1**
TGY				*e*S		17 10 48.1	
NBP	**Mount Natib**	**24.30**	**31**⇑	*e*P	**P**	**17 09 50.7**	**+1.3**
PLP	**Palo**	**24.36**	**45**	⇓*e*P	**P**	**17 09 50.7**	**+0.6**
GQP	**Guinayangan**	**24.74**	**37**	⇓*i*P	**P**	**17 09 52.9**	**-0.6**
SCZP	**Santa Cruz**	**24.92**	**29**	*e*P	**P**	**17 09 56.3**	**+1.2**
QIZ	**Qiongzhong**	**25.06**	**5**	⇑P	**P**	**17 09 57.4**	**+1.1**
QIZ				AP		17 10 51.1	
QIZ				XP	sP	17 11 24.2	-2.2
QIZ				S	**S**	**17 14 02.0**	**+3.5**
QIZ				PCS	PcS	17 17 05.8	+2.6
QIZ				SCS	ScS	17 20 26.3	+3.9
QIZ	comp=Z,582nm,1.1s,mb5.9			AMB	AMB		
QIZ	comp=Z,178μm,12.2s			AMB	AMB		
QIZ	**Qiongzhong** comp=Z,790nm,1.1s,mb6.1	**25.06**	**5**	*e*P	**P**	**17 09 58.6**	**+2.3**
CNP	**Catarman**	**25.09**	**43**	*e*P	**P**	**17 09 56.3**	**-0.4**
POLP	**Polillo Island**	**25.11**	**34**	*e*P	**P**	**17 09 57.0**	**+0.2**
PPH	**Palayan**	**25.34**	**32**⇑	*i*P	**P**	**17 09 58.0**	**-0.8**
KAKA	**Kakayan** comp=Z,642nm,0.6s,mb6.2	**25.38**	**107**	⇓*i*P	**P**	**17 09 57.3**	**-1.9**
BOLP	**Bolinao**	**25.44**	**28**	*e*P	**P**	**17 10 03.5**	**+3.8**
PVCP	**Virac**	**25.56**	**40**	⇓*e*P	**P**	**17 10 01.4**	**+0.6**
BALP	**Baler**	**25.74**	**32**	*e*P	**P**	**17 10 01.1**	**-1.3**
BCPH	**Baguio City Da**	**25.76**	**30**	⇓*i*P	**P**	**17 10 02.0**	**-0.6**
CMAR	**Chiang Mai Arr** comp=Z,736nm,0.6s,mb6.3,baz=172,slow=8.2,SNR=936	**25.84**	**341**	P	**P**	**17 10 03.7**	**+0.5**
CMAR				P3KP		17 43 41.6	
CHTO	**Chiang Mai** SNR=1194 comp=Z,3.8nm,0.9s,baz=260,slow=3.6,SNR=4.7	**26.17**	**341**	P	**P**	**17 10 07.5**	**+1.3**
CHTO	**Chiang Mai**	**26.17**	**341**	*e*P	**P**	**17 10 07.0**	**+0.8**
CHTO	comp=Z,1μm,0.9s,mb6.4			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,1μm,0.9s,mb6.4	**26.17**	**341**	*e*P	**P**	**17 10 07.0**	**+0.8**
CAUP	**Cauayan**	**26.87**	**31**	*e*P	**P**	**17 10 12.9**	**+0.4**
ABRA	**Dolores**	**26.91**	**29**	*e*P	**P**	**17 10 13.5**	**+0.6**
MUN	**Mundaring**	**26.99**	**164**	⇓*i*P	**P**	**17 10 14.8**	**+1.4**
KLBR	**Kellerberrin** comp=Z,944nm,0.9s,mb6.2	**27.10**	**161**	⇓*i*P	**P**	**17 10 15.4**	**+1.0**
KLBR	**Kellerberrin**	**27.10**	**161**	*e*	pP	17 11 15.7	+5.2
KLBR	**Kellerberrin**	**27.10**	**161**	*e*	pP	17 11 15.7	+5.2
PALP	**Palanan**	**27.28**	**32**	*e*P	**P**	**17 10 20.3**	**+4.2**
SGCP	**Mt. Cagua**	**28.07**	**30**	*e*P	**P**	**17 10 23.1**	**-0.1**
NWAO	**Narrogin (SRO)** SNR=110	**28.17**	**163**	P	**P**	**17 10 25.5**	**+1.6**
NWAO	**Narrogin (SRO)** comp=Z,677nm,0.8s,mb6.1,baz=333,slow=9.8,SNR=212	**28.17**	**163**	P	**P**	**17 10 25.0**	**+1.1**
NWAO	**Narrogin (SRO)**	**28.17**	**163**	P	**P**	**17 10 25.0**	**+1.1**
NWAO	comp=Z,677nm,0.8s			pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,358nm,0.7s,mb5.9	**28.17**	**163**	*e*P	**P**	**17 10 24.9**	**+1.0**
HKC	**Hong Kong Obse**	**28.94**	**13**⇑	*i*P	**P**	**17 10 32.0**	**+1.2**
WRA	**Warramunga Arr** comp=Z,347nm,0.7s,mb5.9,baz=297,slow=10,SNR=1378	**29.41**	**120**	P	**P**	**17 10 34.5**	**-0.5**
WRAB	**Tennant Creek**	**29.42**	**120**	*e*P	**P**	**17 10 34.7**	**-0.3**
WRAB	comp=Z,2μm,1.0s,mb6.5			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,381nm,0.5s,mb6.1	**29.42**	**120**	*e*P	**P**	**17 10 34.6**	**-0.5**
WB2	**Warramunga Arr**	**29.42**	**120**	⇓*i*P	**P**	**17 10 34.6**	**-0.5**
PALK	**Pallekele** SNR=147	**29.92**	**296**	P	**P**	**17 10 41.7**	**+2.2**
PALK	**Pallekele** comp=Z,3μm,1.4s,mb6.7	**29.92**	**296**	*e*P	**P**	**17 10 41.7**	**+2.2**
ASAR	**Alice Springs** comp=Z,241nm,0.7s,mb5.8,baz=301,slow=6.9,SNR=2944	**30.76**	**127**	P	**P**	**17 10 46.9**	**+0.1**
FORT	**Forrest** comp=Z,2μm,0.6s,mb6.8	**31.19**	**144**	⇓*i*P	**P**	**17 10 51.6**	**+1.2**
KMI	**Kunming**	**31.38**	**352**	P	**P**	**17 10 55.0**	**+2.9**
KMI				S	**S**	**17 15 41.7**	**+4.3**
KMI	comp=Z,5μm,1.3s,mb6.9			AMB	AMB		
KMI	comp=Z,132μm,8.4s			AMB	AMB		
KMI	comp=N,157μm,18.6s			LR	LR		
KMI	comp=E,181μm,16.7s			LR	LR		
KMI	comp=Z,108μm,13.0s			LR	LR		
GYA	**Guiyang**	**32.37**	**358**⇑	*i*P	**P**	**17 11 02.1**	**+1.5**
GYA				AP	pP	17 11 58.2	+0.4
GYA				PP	PP	17 12 24.8	+3.9
GYA				XP	sP	17 12 33.9	+2.1
GYA				PCP	PcP	17 13 43.5	+2.7
GYA				S	**S**	**17 15 58.1**	**+5.4**
GYA				SCP	ScP	17 16 58.2	+1.9
GYA				PCS	PcS	17 17 27.5	+1.2
GYA				XS	sS	17 17 37.0	+0.8
GYA				SCS	ScS	17 20 56.6	+0.3
GYA	comp=Z,5μm,1.0s,mb7.0			AMB	AMB		
GYA	comp=Z,129μm,14.4s			AMB	AMB		
GYA	comp=N,304μm,15.3s			LR	LR		
GYA	comp=E,624μm,19.2s			LR	LR		
GYA	comp=Z,625μm,21.2s			LR	LR		
QZH	**Quanzhou**	**32.65**	**19**⇑	*i*P	**P**	**17 11 04.0**	**+0.8**
QZH				AP	pP	17 11 59.6	-0.8
QZH				XP	sP	17 12 36.4	+2.0
QZH				S	**S**	**17 16 03.0**	**+5.9**
QZH	comp=Z,4μm,1.5s,mb6.7			AMB	AMB		
QZH	comp=Z,152μm,11.0s			AMB	AMB		
QZH	comp=N,337μm,15.0s			LR	LR		
QZH	comp=E,830μm,14.8s			LR	LR		
QZH	comp=Z,1428μm,18.2s			LR	LR		
NACB	**Ninganchiao** comp=Z,907nm,1.1s,mb6.2	**33.04**	**24**	*e*P	**P**	**17 11 07.2**	**+0.7**
MDRS	**Chennai**	**33.16**	**305**⇑	*i*P	**P**	**17 11 08.1**	**+0.4**
MDRS	comp=Z,2μm,0.9s,mb6.5			AMb	AMB	17 11 15.4	
JAY	**Jayapura** comp=Z,0.0nm,0.0s	**33.21**	**85**	P	**P**	**17 11 06.4**	**-1.8**
YHNB	**Yeheng** comp=Z,249nm,0.5s,mb6.0	**33.39**	**23**	*e*P	**P**	**17 11 10.4**	**+0.9**
IMP	**Imphal**	**33.44**	**337**	*i* P	**P**	**17 11 10.0**	**0.0**
IMP	**Imphal**	**33.44**	**337**	*i* x	**S**	**17 16 12.0**	**+2.7**
VIS	**Vishakhapatnam**	**33.66**	**315**	*e*P	**P**	**17 11 12.3**	**+0.3**
VIS	comp=Z,3μm,1.2s,mb6.7			AMb	AMB	17 11 21.1	
TATO	**Taipei** SNR=23	**33.71**	**23**	P	**P**	**17 11 14.1**	**+1.9**
TATO	**Taipei** comp=Z,2μm,1.2s,mb6.4	**33.71**	**23**

BOK			ex	x	17 13 11.5	
CD2	**Chengdu**	**36.97 355**	P	**P**	**17 11 40.5 +0.7**	
CD2			AP	pP	17 12 36.8 -1.4	
CD2			XP	sP	17 13 10.7 -1.2	
CD2			PP	PP	17 13 16.1 +4.8	
CD2			PCP	PcP	17 13 55.3 +1.1	
CD2			S	**S**	**17 17 04.8 +2.0**	
CD2			PCS	PcS	17 17 42.8 0.0	
CD2			XS	sS	17 18 46.7 -1.1	
CD2			SCS	ScS	17 21 20.4 -0.6	
CD2			AMB	AMB		comp=Z,7μm,1.2s,mb7.0
CD2			AMB	AMB		comp=Z,24μm,6.4s
CD2			LR	LR		comp=N,415μm,16.8s
CD2			LR	LR		comp=E,347μm,15.6s
CD2			LR	LR		comp=Z,575μm,22.2s
HYB	**Hyderabad**	**36.99 310**	*e*P	**P**	**17 11 39.0 -1.2**	
HYB			pmax	pmax		comp=Z,1μm,1.0s,mb6.2
HYB	**Hyderabad**	**36.99 310**	⇑*i*P	**P**	**17 11 40.0 -0.2**	comp=Z,600nm,1.0s,mb6.0
HYB			*e*S	**S**	**17 17 07.0 +3.6**	
HYB	**Hyderabad**	**36.99 310**	*e*P	**P**	**17 11 39.0 -1.2**	comp=Z,1μm,1.0s,mb6.2
WHN	**Wuhan**	**37.00 10**	⇑P	**P**	**17 11 41.6 +1.6**	
WHN			S	**S**	**17 17 04.0 +0.8**	
WHN			SCP	ScP	17 17 11.8 -1.1	
WHN			AMB	AMB		comp=Z,174μm,7.1s
WHN			LR	LR		comp=N,117μm,10.6s
WHN			LR	LR		comp=E,220μm,10.7s
WHN			LR	LR		comp=Z,401μm,16.8s
MNCY	**Minicoy**	**37.29 292**	*i* x	**P**	**17 11 46.0 +3.2**	
MNCY	**Minicoy**	**37.29 292**	*i* x	**P**	**17 11 46.0 +3.2**	
SLGI	**Shiliguri**	**37.52 331**	*e*x	**P**	**17 11 44.7 +0.3**	
SLGI			*e*x	x	17 11 44.7	
BLSP	**Bilaspur**	**37.52 319**	⇑*i*P	**P**	**17 11 45.0 +0.4**	
BLSP			AMb	AMB	17 11 54.3	comp=Z,4μm,1.4s,mb6.7
BLSP			*e*x	x	17 13 18.3	
MNGI	**Mangalore**	**37.64 300**	*i* x	x	17 14 21.5	
GTK	**Gangtok**	**37.95 332**	*e*x	**P**	**17 11 43.0 -5.1**	
GTK			*e*x	x	17 11 43.0	
GTK	**Gangtok**	**37.95 332**	*e*x	**P**	**17 11 43.0 -5.1**	
GTK			*e*x	x	17 11 43.0	
ODAN	**Odare**	**38.15 330**	*e*P	**P**	**17 11 48.5 -1.2**	
JOW	**Kunigami**	**38.38 31**	P	**P**	**17 11 52.5 +1.0**	comp=Z,641nm,0.9s,mb6.0,baz=233,slow=6.7,SNR=39
TAPN	**Taplejung**	**38.40 331**	*e*P	**P**	**17 11 49.8 -2.0**	
RAMN	**Ramite**	**38.62 329**	*e*P	**P**	**17 11 52.7 -0.9**	
LSA	**Lhasa**	**38.93 337**	*e*P	**P**	**17 11 57.5 +1.4**	
LSA			pmax	pmax		comp=Z,4μm,0.8s,mb6.9
LSA	**Lhasa**	**38.93 337**	*e*P	**P**	**17 11 57.5 +1.4**	comp=Z,4μm,0.8s,mb6.9
NGP	**Nagpur**	**38.95 315**	*i* P	**P**	**17 11 53.4 -3.0**	
NGP			*e*S	**S**	**17 17 28.8 -4.0**	
NGP	**Nagpur**	**38.95 315**	*e*P	**P**	**17 11 59.8 +3.4**	
NGP			*e*x	x	17 17 28.8	
LATR	**Latur**	**39.10 309**	*e*P	**P**	**17 11 57.5 -0.2**	
LATR			*e*x	x	17 17 37.7	
SSE	**Sheshan**	**39.20 19**	P	**P**	**17 11 59.1 +0.8**	
SSE			AP	pP	17 13 00.8 +3.5	
SSE			PP	PP	17 13 38.6 +3.2	
SSE			S	**S**	**17 17 39.2 +3.1**	
SSE			AMB	AMB		comp=Z,5μm,1.3s,mb6.7
SSE			AMB	AMB		comp=Z,102μm,11.0s
SSE			LR	LR		comp=N,117μm,16.1s
SSE			LR	LR		comp=E,123μm,16.2s
SSE			LR	LR		comp=Z,127μm,20.7s
PMG	**Port Moresby**	**39.34 97**	*e*P	**P**	**17 11 59.2 -0.6**	
PMG			pmax	pmax		comp=Z,3μm,0.9s
PMG	**Port Moresby**	**39.34 97**	*e*P	**P**	**17 11 59.2 -0.5**	comp=Z,250nm,0.7s,mb5.8
JIRN	**Jiri**	**39.41 329**	*e*P	**P**	**17 11 58.9 -1.2**	comp=Z,10μm,0.7s,mb7.3
NJ2	**Nanjing**	**39.42 15**	*e*P	**P**	**17 12 01.9 +1.8**	
NJ2			AP	pP	17 13 00.2 +1.0	
NJ2			XP	sP	17 13 31.9 -0.8	
NJ2			XS	sS	17 19 28.0 +2.6	
NJ2			AMB	AMB		comp=Z,900nm,1.0s,mb6.2
NJ2			AMB	AMB		comp=Z,57μm,10.8s
NJ2			LR	LR		comp=N,64μm,19.7s
NJ2			LR	LR		comp=E,400μm,20.4s
NJ2			LR	LR		comp=Z,398μm,20.4s
GOA	**Goa**	**39.72 303**	⇑*i*P	**P**	**17 12 02.0 -0.8**	
GOA			AMb	AMB	17 12 10.9	
GOA			*e*x	x	17 17 30.3	comp=Z,2μm,1.5s,mb6.2
PKI	**Pulchoki**	**39.74 328**	*e*P	**P**	**17 12 01.4 -1.4**	comp=Z,13μm,1.3s,mb7.1
GUN	**Gumba**	**39.77 329**	*e*P	**P**	**17 12 01.9 -1.2**	comp=Z,16μm,0.8s,mb7.4
GUN	**Gumba**	**39.77 329**	*e*P	**P**	**17 12 02.0 -1.1**	
GUN	**Gumba**	**39.77 329**	*e*P	**P**	**17 12 02.0 -1.1**	
DMN	**Daman**	**39.93 328**	*e*P	**P**	**17 12 02.8 -1.6**	
XAN	**Xi'an**	**39.93 2**	P	**P**	**17 12 04.7 +0.4**	
XAN			S	**S**	**17 17 46.8 -0.1**	
XAN			XS	sS	17 19 35.3 +2.3	
XAN			AMB	AMB		comp=Z,2μm,1.0s,mb6.4
XAN			LR	LR		comp=N,122μm,15.6s
XAN			LR	LR		comp=E,119μm,18.0s
XAN			LR	LR		comp=Z,277μm,17.1s
KKN	**Kakani**	**39.98 328**	*e*P	**P**	**17 12 03.4 -1.4**	
ALBI	**Allahabad**	**40.03 322**	*e*P	**P**	**17 12 03.5 -1.7**	comp=Z,15μm,1.1s,mb7.2
CTA	**Charters Tower**	**40.03 114**	⇓*i*P	**P**	**17 12 05.5 +0.2**	comp=Z,159nm,0.8s,mb5.4
CTA	**Charters Tower**	**40.03 114**	P	**P**	**17 12 05.6 +0.2**	comp=Z,221nm,0.9s,mb5.5,baz=286,slow=10,SNR=124
CTA	**Charters Tower**	**40.03 114**	⇓*i*P	**P**	**17 12 05.5 +0.2**	
CTA			pmax	pmax		comp=Z,159nm,0.8s
CTAO	**Charters Tower**	**40.03 114**	*e*P	**P**	**17 12 05.5 +0.2**	
CTAO			pmax	pmax		comp=Z,242nm,0.8s,mb5.6
CTAO	**Charters Tower**	**40.03 114**	*e*P	**P**	**17 12 05.5 +0.1**	comp=Z,242nm,0.8s,mb5.6
AKL	**Akola**	**40.13 312**	*e*P	**P**	**17 12 05.5 -0.7**	
AKL			*i* x	x	17 13 44.4	
KAD	**Karad**	**40.37 306**	⇑*i*x	x	17 12 23.6	
GKN	**Gorkha**	**40.49 328**	*e*P	**P**	**17 12 06.9 -2.1**	
STKA	**Stephens Creek**	**40.83 133**	⇓*i*P	**P**	**17 12 12.3 +0.6**	comp=Z,862nm,0.7s,mb6.1
STKA			*e*S	**S**	**17 18 01.5 +1.1**	
STKA	**Stephens Creek**	**40.83 133**	P	**P**	**17 12 12.3 +0.6**	comp=Z,903nm,0.7s,mb6.1,baz=306,slow=8.1,SNR=1045
STKA			ScP	ScP	17 17 37.6 +10	comp=Z,562nm,0.7s,baz=305,slow=6.9,SNR=5.8
STKA			S	**S**	**17 18 08.4 +8.0**	comp=Z,2μm,1.2s,baz=18,slow=24,SNR=8.5
STKA			ScS	ScS	17 21 29.5 -14	comp=Z,178nm,0.8s,baz=222,slow=23,SNR=2.9
STKA	**Stephens Creek**	**40.83 133**	*e*S	**S**	**17 18 01.5 +1.1**	
KOLN	**Koldanda**	**40.86 327**	*e*P	**P**	**17 12 10.4 -1.6**	comp=Z,11μm,0.9s,mb7.1
DANN	**Dangsing**	**41.23 327**	*e*P	**P**	**17 12 13.2 -1.8**	comp=Z,7μm,0.6s,mb7.1
POO	**Poona**	**41.29 307**	⇑*i*P	**P**	**17 12 15.7 +0.1**	
GUMO	**Guam**	**41.86 62**	P	**P**	**17 12 18.2 -2.0**	comp=Z,412nm,0.7s,mb5.8,baz=190,slow=9.3,SNR=33
GUMO			S	**S**	**17 18 17.4 +1.5**	comp=Z,861nm,1.2s,baz=119,slow=23,SNR=5.2
GUMO			ScS	ScS	17 21 55.5 +4.9	comp=Z,211nm,1.1s,baz=45,slow=21,SNR=6.4
GUMO	**Guam**	**41.86 62**	P	**P**	**17 12 18.2 -2.1**	
GUMO			S	**S**	**17 18 17.4 +1.5**	
GUMO			pmax	pmax		comp=Z,412nm,0.7s,mb5.8
GUMO			smax			comp=N,861nm,1.2s
GUMO	**Guam**	**41.86 62**	*e*P	**P**	**17 12 17.9 -2.4**	comp=N,502nm,0.6s,mb5.9
LZH	**Lanzhou**	**42.10 355**	⇑*i*P	**P**	**17 12 23.4 +1.6**	
LZH			AP	pP	17 13 27.0 +5.4	
LZH			PP	PP	17 14 09.6 +3.3	
LZH			PCP	PcP	17 14 12.0 +1.5	
LZH			SCP	ScP	17 17 32.1 -0.5	
LZH			PCS	PcS	17 18 03.0 +0.3	
LZH			S	**S**	**17 18 20.5 +1.8**	
LZH			SS	SS	17 21 33.2 -6.2	
LZH			SCS	ScS	17 21 50.3 -1.0	
LZH			AMB	AMB		comp=Z,116μm,7.0s
LZH			LR	LR		comp=E,124μm,13.2s
LZH			LR	LR		comp=Z,201μm,16.1s
TIA	**Tai'an**	**43.02 11**	⇑P	**P**	**17 12 29.0 -0.2**	
TIA			AP	pP	17 13 28.4 -0.8	
TIA			PP	PP	17 14 16.4 +0.4	
TIA			S	**S**	**17 18 35.2 +3.1**	
TIA			AMB	AMB		comp=Z,686nm,1.0s,mb5.8
TIA			LR	LR		comp=N,87μm,15.0s
TIA			LR	LR		comp=E,164μm,13.0s
TIY	**Taiyuan**	**43.81 6**	⇑*i*P	**P**	**17 12 38.3 +2.9**	
TIY			S	**S**	**17 18 46.4 +2.9**	
TIY			AMB	AMB		comp=Z,94μm,6.7s
TIY			LR	LR		comp=N,101μm,11.5s
TIY			LR	LR		comp=E,54μm,10.5s
TIY			LR	LR		comp=Z,171μm,22.6s
PTH	**Pithoragarh**	**44.13 325**	*e*P	**P**	**17 12 37.9 -0.2**	
PTH	**Pithoragarh**	**44.13 325**	*e*x	x	17 12 37.9	
PTH			*e*x	x	17 18 23.9	
NDI	**New Delhi**	**45.29 321**	*e*P	**P**	**17 12 45.0 -2.2**	
NDI			*e*S	**S**	**17 19 04.0 -1.0**	
NDI	**New Delhi**	**45.29 321**	*e*P	**P**	**17 12 45.0 -2.2**	
NDI			*e*S	**S**	**17 19 04.0 -1.0**	
AJM	**Ajmer**	**45.47 317**	⇑*i*P	**P**	**17 12 47.7 -1.0**	
GTA	**Gaotai**	**45.84 352**	P	**P**	**17 12 52.8 +1.5**	
GTA			AP	pP	17 13 52.9 +0.7	
GTA			XP	sP	17 14 24.6 -0.6	
GTA			PP	PP	17 14 45.3 +1.8	
GTA			SCP	ScP	17 17 48.0 +0.1	
GTA			PCS	PcS	17 18 16.9 -1.0	
GTA			S	**S**	**17 19 15.9 +3.4**	
GTA			XS	sS	17 21 02.4 +1.4	
GTA			SCS	ScS	17 22 14.4 -0.5	
GTA			AMB	AMB		comp=Z,964nm,1.8s,mb5.8
GTA			AMB	AMB		comp=Z,123μm,7.8s
GTA			LR	LR		comp=N,114μm,19.2s
GTA			LR	LR		comp=E,159μm,21.0s
GTA			LR	LR		comp=Z,130μm,21.0s
DDI	**Dehra Dun**	**45.95 324**	*i* P	**P**	**17 12 49.9 -2.5**	
DDI			*e*x	x	17 17 52.0	
BTO	**Baotou**	**46.52 3**	*e*P	**P**	**17 12 56.9 +0.4**	
BTO			AMB	AMB		comp=Z,564nm,1.0s,mb5.8
BJT	**Baijiatuau**	**46.55 9**	*e*P	**P**	**17 12 57.3 +0.5**	
BJT			pmax	pmax		comp=Z,2μm,0.8s
BJT	**Baijiatuau**	**46.55 9**	*e*P	**P**	**17 12 57.2 +0.4**	comp=Z,2μm,0.8s,mb6.5
TOO	**Toolangi**	**46.57 138**	⇓*i*P	**P**	**17 12 59.1 +2.0**	
BJI	**Beijing**	**46.58 9**	P	**P**	**17 12 57.4 +0.4**	
BJI			XP	sP	17 14 33.0 +1.9	
BJI			PP	PP	17 14 50.9 +0.6	
BJI			S	**S**	**17 19 23.3 +0.4**	
BJI			XS	sS	17 21 12.7 +1.0	
BJI			SCS	ScS	17 22 19.7 0.0	
BJI			AMB	AMB		comp=Z,2μm,0.8s,mb6.5
BJI			AMB	AMB		comp=Z,125μm,8.8s
DL2	**Dalian**	**46.62 15**	⇑*i*P	**P**	**17 12 57.0 -0.4**	
DL2			XP	sP	17 14 33.7 +2.3	
DL2			S	**S**	**17 19 26.5 +2.9**	
DL2			XS	sS	17 21 11.6 -0.8	
DL2			AMB	AMB		comp=Z,1μm,0.8s,mb6.3
DL2			AMB	AMB		comp=Z,46μm,9.8s
HHC	**Hu-ho-hao-te**	**46.85 4**	⇑*i*P	**P**	**17 13 00.0 +0.9**	
HHC			AP	pP	17 14 01.1 +0.9	
HHC			XP	sP	17 14 32.7 -0.5	
HHC			PP	PP	17 14 55.2 +2.5	
HHC			PCS	PcS	17 18 21.0 -1.1	
HHC			S	**S**	**17 19 28.2 +1.5**	
HHC			XS	sS	17 21 14.6 -1.0	
HHC			SCS	ScS	17 22 21.2 -0.3	
HHC			SS	SS	17 22 55.7 -2.2	
HHC			AMB	AMB		comp=Z,1μm,1.2s,mb6.1
HHC			AMB	AMB		comp=Z,117μm,7.8s
INCN	**Inchon**	**46.85 21**	P	**P**	**17 13 00.3 +1.1**	SNR=138
INCN	**Inchon**	**46.85 21**	*e*P	**P**	**17 12 58.6 -0.5**	comp=Z,469nm,0.8s,mb5.9
CBIJ	**Chichi jima**	**47.00 44**	P	**P**	**17 12 57.2 -3.3**	comp=Z,445nm,0.5s,mb6.1,baz=241,slow=3.1,SNR=28
CBIJ			S	**S**	**17 19 30.4 +1.0**	comp=Z,899nm,0.8s,baz=306,slow=22,SNR=10
SMLA	**Simla**	**47.06 324**	*e*P	**P**	**17 13 00.4 -0.5**	
BHJ	**Bhuj**	**47.15 310**	⇑*e*P	**P**	**17 13 02.4 +0.6**	
BHJ			AMb	AMB	17 13 15.5	comp=Z,3μm,1.9s,mb6.4
BHJ			*e*x	x	17 14 38.3	
KS15	**Wonju Array Si**	**47.27 22**	*e*P	**P**	**17 13 03.0 +0.6**	
KSRS	**Korea Array**	**47.29 22**	P	**P**	**17 13 02.5 -0.1**	comp=Z,725nm,0.9s,mb6.0,baz=206,slow=8.6,SNR=358
KSRS			ScP	ScP	17 18 01.9 +7.9	comp=Z,107nm,1.0s,baz=223,slow=3.6,SNR=4.2
KSRS			S	**S**	**17 19 35.7 +2.6**	comp=Z,29nm,1.1s,baz=225,slow=15,SNR=3.3
KSRS	**Korea Array**	**47.29 22**	P	**P**	**17 13 02.5 -0.1**	
KSRS			S	**S**	**17 19 35.7 +2.6**	
KSRS			pmax	pmax		comp=Z,725nm,0.9s,mb6.0
KSRS			smax			comp=N,29nm,1.1s
SDNR	**Sundarnagar**	**47.45 324**	*e*P	**P**	**17 13 03.5 -0.4**	
SDNR			*e*S	**S**	**17 19 34.1 -1.4**	
SDNR	**Sundarnagar**	**47.45 324**	*e*P	**P**	**17 13 03.5 -0.4**	
SDNR			*e*S	**S**	**17 19 33.1 -2.4**	
BHK	**Bhakra**	**47.71 323**	*e*P	**P**	**17 13 03.2 -2.7**	
BHK			*e*x	x	17 14 37.8	
ARMA	**Armidale**	**47.89 126**	⇓*i*P	**P**	**17 13 09.1 +1.8**	
PONG	**Pong**	**48.38 323**	*e*P	**P**	**17 13 08.0 -2.9**	
DLH	**Dalhousie**	**48.79 324**	*e*x	**P**	**17 13 09.0 -5.0**	
DLH			*e*S	**S**	**17 19 56.0 +1.8**	
RIV	**Riverview**	**48.84 130**	⇓*i*P	**P**	**17 13 15.7 +1.2**	
RIV	**Riverview**	**48.84 130**	*e*SCS	ScS	17 22 28.8 -6.5	
RIV	**Riverview**	**48.84 130**	*e*ScS	ScS	17 22 28.8 -6.5	
THN	**Thein Dam**	**48.86 324**	*e*P	**P**	**17 13 16.1 +1.5**	
THN			*e*x	x	17 14 42.3	
JHJ	**Hachijo jima 2**	**49.54 36**	P	**P**	**17 13 17.2 -2.5**	comp=N,771nm,0.9s,mb6.0,baz=196,slow=8.4,SNR=20
JHJ			S	**S**	**17 20 11.9 +7.3**	comp=N,445nm,0.9s,baz=60,slow=23,SNR=8.6
SNY	**Shenyang**	**49.88 16**	⇑P	**P**	**17 13 20.9 -1.1**	
SNY			S	**S**	**17 20 13.6 +4.7**	
SNY			XS	sS	17 21 56.7 -2.4	
SNY			AMB	AMB		comp=Z,961nm,0.6s,mb6.3
SNY			AMB	AMB		comp=Z,89μm,11.0s
SNY			LR	LR		comp=N,151μm,16.9s
SNY			LR	LR		comp=E,180μm,18.2s
SNY			LR	LR		comp=Z,144μm,17.1s
SRNI	**Srinagar**	**50.55 324**	*e*P	**P**	**17 13 28.0 +0.7**	
TAU	**Tasmania Unive**	**50.70 143**	*e*P	**P**	**17 13 29.4 +1.1**	
TAU			pmax	pmax		comp=Z,172nm,0.9s,mb5.4
TAU	**Tasmania Unive**	**50.70 143**	*e*P	**P**	**17 13 29.4 +1.2**	comp=Z,172nm,0.9s,mb5.4
MAJO	**Matsushiro**	**51.19 32**	*e*P	**P**	**17 13 29.4 -2.5**	
MAJO			pmax	pmax		comp=Z,167nm,0.6s,mb5.5
MAJO	**Matsushiro**	**51.19 32**	*e*P	**P**	**17 13 29.4 -2.6**	comp=Z,167nm,0.6s,mb5.5
MAT	**Matsushiro**	**51.19 32**	P	**P**	**17 13 29.4 -2.5**	
MAT			S	**S**	**17 20 29.5 +2.3**	
MJAR	**Matsushiro Arr**	**51.19 32**	P	**P**	**17 13 29.6 -2.4**	comp=Z,410nm,1.0s,mb5.7,baz=208,slow=6.9,SNR=302
MJAR			P4KPbc		17 51 09.2	comp=Z,1.6nm,0.8s,baz=195,slow=4.6,SNR=6.0
MSEY	**Mahe Island**	**51.88 269**	P	**P**	**17 13 40.5 +3.1**	SNR=50
MSEY	**Mahe Island**	**51.88 269**	*e*P	**P**	**17 13 39.7 +2.3**	comp=Z,225nm,0.7s,mb5.6
HNR	**Honiara**	**51.95 97**	P	**P**	**17 13 37.2 -0.8**	comp=Z,425nm,0.8s,mb5.8,baz=251,slow=1.1,SNR=16
HNR			pP	pP	17 14 37.7 -2.8	comp=Z,782nm,0.7s,baz=61,slow=9.7,SNR=1.0
HNR			PcP	PcP	17 14 49.2 +3.0	comp=Z,3μm,0.8s,baz=209,slow=1.0,SNR=4.2
HNR			S	**S**	**17 20 43.6 +5.3**	comp=Z,880nm,1.1s,baz=92,slow=17,SNR=6.1
HNR	**Honiara**	**51.95 97**	P	**P**	**17 13 37.2 -0.8**	
HNR			*PP	pP	17 14 37.7 -2.8	
HNR					17 14 49.2	
HNR			S	**S**	**17 20 43.6 +5.3**	
HNR			pmax	pmax		comp=Z,425nm,0.8s,mb5.8
HNR	**Honiara**	**51.95 97**	*e*P	**P**	**17 13 36.8 -1.2**	comp=Z,362nm,0.8s,mb5.8
CN2	**Changchun**	**52.22 16**	⇑P	**P**	**17 13 38.3 -1.0**	
CN2			*e*AP	pP	17 14 40.1 -1.8	
CN2			*e*XP	sP	17 15 11.4 -3.1	
CN2			*e*S	**S**	**17 20 46.4 +5.6**	
CN2			SCS	ScS	17 22 55.1 -2.9	
CN2			AMB	AMB		comp=Z,980nm,1.3s,mb6.0
CN2			LR	LR		comp=N,152nm,17.0s
CN2			LR	LR		comp=E,670nm,17.0s
CN2			LR	LR		comp=Z,165nm,19.0s
WMQ	**Urumqi**	**52.83 342**	P	**P**	**17 13 44.2 +0.4**	
WMQ			AP	pP	17 14 46.1 -0.5	
WMQ			XP	sP	17 15 17.4 -1.7	
WMQ			PP	PP	17 15 48.5 +1.7	
WMQ			SCP	ScP	17 18 18.2 +0.5	
WMQ			PCS	PcS	17 18 47.7 0.0	
WMQ			S	**S**	**17 20 48.4 -0.7**	
WMQ			SCS	ScS	17 23 00.9 -1.4	
WMQ			SS	SS	17 24 31.1 -1.6	
WMQ			AMB	AMB		comp=Z,7μm,1.4s,mb6.8
WMQ			AMB	AMB		comp=Z,94μm,12.6s
WMQ			LR	LR		comp=N,182μm,35.0s
WMQ			LR	LR		comp=E,281μm,24.1s
WMQ			LR	LR		comp=Z,265μm,25.8s
SONM	**Songino Array**	**53.70 359**	P	**P**	**17 13 50.7 +0.7**	comp=Z,786nm,0.8s,mb6.1,baz=180,slow=8.8,SNR=840
SONM			P4KPbc		17 51 08.4	comp=Z,1.8nm,0.9s,baz=186,slow=2.1,SNR=3.1
VLA	**Vladivostok**	**53.71 22**	*e*P	**P**	**17 13 49.3 -0.9**	
KSH	**Kashi**	**53.96 330**	⇑*i*P	**P**	**17 13 51.8 -0.3**	
KSH			AP	pP	17 14 54.0 -1.1	
KSH			XP	sP	17 15 25.0 -2.6	
KSH			PP	PP	17 15 58.6 +1.6	
KSH			SCP	ScP	17 18 23.4 +0.7	
KSH			PCS	PcS	17 18 52.3 -0.6	
KSH			S	**S**	**17 21 01.2 -3.2**	
KSH			XS	sS	17 22 50.3 -5.9	
KSH			SCS	ScS	17 23 08.9 -1.7	
KSH			AMB	AMB		comp=Z,10μm,1.0s,mb7.1
KSH			AMB	AMB		comp=Z,152μm,6.1s
KSH			LR	LR		comp=N,346μm,10.8s
KSH			LR	LR		comp=E,265μm,11.1s
KSH			LR	LR		comp=Z,795μm,30.5s
MDJ	**Mudanjiang**	**54.22 19**	P	**P**	**17 13 54.0 +0.2**	
MDJ			AP	pP	17 14 54.3 -2.6	
MDJ			XP	sP	17 15 25.5 -3.8	
MDJ			SCP	ScP	17 18 25.2 +1.5	
MDJ			PCS	PcS	17 18 54.7 +0.9	
MDJ			S	**S**	**17 21 11.8 +4.2**	
MDJ			AMB	AMB		comp=Z,397nm,1.4s,mb5.5
MDJ			AMB	AMB		comp=Z,9μm,7.3s
MDJ	**Mudanjiang**	**54.22 19**	*e*P	**P**	**17 13 52.5 -1.2**	comp=Z,476nm,1.0s,mb5.8
KBL	**Kabul**	**54.37 321**	*e*P	**P**	**17 13 53.5 -1.6**	comp=Z,1μm,1.1s,mb6.1
WBK	**Wadi Bani Khal**	**55.44 303**	P	**P**	**17 14 03.8 +0.8**	SNR=386
ULHL	**Ulahol**	**55.94 332**	P	**P**	**17 14 05.5 -0.6**	SNR=439
JMDO	**Jabal Madar**	**56.07 302**	P	**P**	**17 14 08.2 +0.8**	SNR=512
HIA	**Hailar**	**56.14 10**	*e*P	**P**	**17 14 06.4 -0.9**	
HIA			pmax	pmax		comp=Z,783nm,1.1s
HIA	**Hailar**	**56.14 10**	*e*P	**P**	**17 14 06.4 -1.0**	comp=Z,782nm,1.1s,mb6.0
KZA	**Kyzart**	**56.28 331**	P	**P**	**17 14 08.5 0.0**	SNR=817
SMDO	**Samad**	**56.40 303**	P	**P**	**17 14 10.7 +0.9**	SNR=698
AAA	**Alma-Ata**	**56.43 333**	*i* P	**P**	**17 14 03.0 -6.5**	
AAA			*e*S	**S**	**17 21 31.9 -5.0**	
AAA			pmax	pmax		comp=Z,118μm,12.3s
AAA			smax			comp=E,49μm,8.6s
AAA			MLR	MLR		comp=Z,132μm,19.6s
BIDO	**Bidbid**	**56.53 303**	P	**P**	**17 14 11.6 +1.0**	SNR=854
SHAO	**Shalim**	**56.59 296**	P	**P**	**17 14 12.8 +1.7**	SNR=69
UCH	**Uchtor**	**56.74 331**	P	**P**	**17 14 11.8 0.0**	SNR=58
UCH	**Uchtor**	**56.74 331**	*e*P	**P**	**17 14 11.7 -0.1**	comp=Z,207nm,1.2s,mb5.4
TKM2	**Tokmak 2**	**56.76 332**	P	**P**	**17 14 11.4 -0.5**	SNR=1723
KBK	**Karagaybulak**	**56.86 332**	P	**P**	**17 14 12.4 -0.1**	SNR=580
BSY	**Bisya**	**56.98 302**	P	**P**	**17 14 14.8 +1.0**	SNR=532
AAK	**Ala-Archa**	**57.06 331**	P	**P**	**17 14 13.4 -0.5**	SNR=285
AML	**Almayashu**	**57.07 330**	P	**P**	**17 14 14.5 +0.5**	SNR=27
AML	**Almayashu**	**57.07 330**	*e*P	**P**	**17 14 13.4 -0.6**	comp=Z,678nm,0.9s,mb6.1
FRU	**Bishkek**	**57.16 332**	*c i*P	**P**	**17 14 14.0 -0.6**	
FRU			*i*		17 16 30.0	
FRU			*e*		17 23 28.0	
FRU			*i*		17 28 10.0	
FRU			pmax	pmax		comp=Z,2μm,1.2s,mb6.4
CHMS	**Chumysh**	**57.22 332**	P	**P**	**17 14 13.9 -1.1**	SNR=203

HOQ	**Hoqain**	**57.23 303**	P	**P**	**17 14 15.9**	**+0.4**
	SNR=626					
MK31	**Makanchi Array**	**57.23 340**	*e*P	**P**	**17 14 13.6**	**-1.5**
MKAR	**Makanchi Array**	**57.23 340**	P	**P**	**17 14 14.6**	**-0.5**
	comp=Z,447nm,0.3s,mb6.3,baz=156,slow=6.6,SNR=1425					
MKAR			P4KPbc		17 51 26.4	
	comp=Z,1.4nm,0.8s,baz=146,slow=6.9,SNR=3.8					
EKS2	**Erkin-Say**	**57.43 331**	P	**P**	**17 14 16.1**	**-0.4**
	SNR=609					
EKS2	**Erkin-Say**	**57.43 331**	*e*P	**P**	**17 14 16.1**	**-0.4**
	comp=Z,1μm,1.0s,mb6.2					
USP	**Ospenovka**	**57.54 332**	P	**P**	**17 14 16.4**	**-0.9**
	SNR=340					
TLY	**Talaya**	**57.64 357**	P	**P**	**17 14 18.8**	**+1.0**
	SNR=1702					
TLY	**Talaya**	**57.64 357**⇑	*i*P	**P**	**17 14 18.5**	**+0.7**
TLY			*e*PP	sP	17 15 57.5	+3.6
TLY			*e*S	**S**	**17 21 57.9**	**+5.6**
TLY			pmax	pmax		
	comp=Z,3μm,1.2s,mb6.6					
TLY	**Talaya**	**57.64 357**	*e*P	**P**	**17 14 18.5**	**+0.8**
	comp=Z,178nm,0.6s,mb5.7					
RBK	**Rabkut**	**57.69 295**	P	**P**	**17 14 20.1**	**+1.3**
	SNR=597					
MOY	**Mondy**	**57.80 355**	*e*P	**P**	**17 14 19.6**	**+0.7**
MOY			pmax	pmax		
	comp=Z,8μm,1.4s,mb7.0					
CIT	**Chita**	**58.11 4**	*e*P	**P**	**17 14 23.2**	**+2.2**
CIT			*e*		17 22 08.5	
CIT			pmax	pmax		
	comp=Z,14μm,1.5s,mb7.2					
IRK	**Irkutsk**	**58.17 358**⇓	*i*P	**P**	**17 14 23.0**	**+1.6**
IRK			*e*		17 16 36.4	
IRK			*e*		17 22 10.8	
IRK			pmax	pmax		
	comp=Z,6μm,2.6s,mb6.6					
WHFO	**Wadi Hawf**	**58.21 295**	P	**P**	**17 14 23.0**	**+0.6**
	SNR=430					
HVS	**Khovu-Aksy**	**58.24 350**	*i* P	**P**	**17 14 21.4**	**-0.5**
ABTO	**Aybut**	**58.46 295**	P	**P**	**17 14 24.6**	**+0.5**
	SNR=692					
ASHO	**Ashiyiah**	**58.73 304**	P	**P**	**17 14 26.1**	**+0.2**
	SNR=490					
NOUC	**Port Laguerre**	**58.78 112**	*e*P	**P**	**17 14 26.7**	**+0.4**
DZM	**Mont Dzumac**	**58.91 112**	*e*P	**P**	**17 14 28.0**	**+0.8**
DZM			*e*S	pP	17 15 34.1	+2.7
DZM	**Mont Dzumac**	**58.91 112**	*e*P	**P**	**17 14 27.4**	**+0.3**
KLR	**Kul'dur**	**58.99 18**	*e*P	**P**	**17 14 21.8**	**-5.3**
KLR			*e*		17 22 10.4	
BANOM	**Banah**	**59.05 305**	P	**P**	**17 14 29.0**	**+1.0**
	SNR=75					
ASAJ	**Asahikawa**	**59.10 29**	P	**P**	**17 14 26.1**	**-1.9**
	comp=Z,302nm,0.7s,mb5.8,baz=241,slow=7.6,SNR=367					
ASAJ			S	**S**	**17 22 14.1**	**+2.6**
	comp=Z,71nm,1.0s,baz=119,slow=26,SNR=7.1					
ASAJ			PKP2bc		17 44 10.8	
	comp=Z,96nm,1.0s,baz=278,slow=7.4,SNR=12					
ASAJ	**Asahikawa**	**59.10 29**	P	**P**	**17 14 26.1**	**-1.9**
ASAJ			S	**S**	**17 22 14.1**	**+2.7**
ASAJ			pmax	pmax		
	comp=Z,302nm,0.7s					
ASAJ			smax			
	comp=N,71nm,1.0s					
ABPO	**Ambohimpanom**	**60.03 252**	*e*P	**P**	**17 14 36.8**	**+2.0**
	comp=N,367nm,1.0s,mb5.9					
OPO	**Ambohidratompo**	**60.04 252**	P	**P**	**17 14 36.9**	**+2.0**
	comp=N,316nm,0.8s,mb5.9,baz=76,slow=4.4,SNR=151					
CASY	**Casey**	**60.12 179**⇓	*i*P	**P**	**17 14 35.9**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**60.66 31**⇑	*i*P	**P**	**17 14 36.5**	**-2.0**
YUK			*i* S	**S**	**17 22 34.6**	**+3.4**
YUK			pmax	pmax		
	comp=Z,40μm,12.0s					
YUK			pmax	pmax		
	comp=N,37μm,8.0s					
YUK			pmax	pmax		
	comp=E,26μm,7.0s					
YUK			pmax	pmax		
	comp=Z,6μm,1.0s,mb7.1					
YUK			pmax	pmax		
	comp=N,6μm,1.1s					
YUK			pmax	pmax		
	comp=E,11μm,1.5s					
YUK			smax			
	comp=E,78μm,17.0s					
YUK			smax			
	comp=N,70μm,15.0s					
YUK			smax			
	comp=N,3μm,1.2s					
YUK			smax			
	comp=E,7μm,2.0s					
MIR	**Mirnyy**	**61.20 187**κ	*i*P	**P**	**17 14 45.0**	**+3.2**
MIR			*i* S	**S**	**17 22 42.0**	**+4.6**
MIR			pmax	pmax		
	comp=Z,900nm,1.0s,mb6.2					
MIR			pmax	pmax		
	comp=Z,4μm,7.0s					
YSS	**Yuzh-Sakhalins**	**61.31 27**α	*i*P	**P**	**17 14 41.3**	**-1.5**
YSS			*i* PPP		17 18 37.0	
YSS			*i* S	**S**	**17 22 44.0**	**+4.7**
YSS			pmax	pmax		
	comp=N,820nm,1.0s					
YSS			pmax	pmax		
	comp=E,430nm,1.0s					
YSS			pmax	pmax		
	comp=Z,3μm,1.0s,mb6.8					
YSS			pmax	pmax		
	comp=E,4μm,8.0s					
YSS			pmax	pmax		
	comp=Z,8μm,8.0s					
YSS			smax			
	comp=N,59μm,18.0s					
YSS			smax			
	comp=E,39μm,20.0s					
YSS	**Yuzh-Sakhalins**	**61.31 27**	*e*P	**P**	**17 14 41.8**	**-1.0**
	comp=E,3μm,1.1s,mb6.7					
KURK	**Kurchatov**	**61.85 340**	P	**P**	**17 14 46.1**	**-0.2**
	SNR=4256					
KURK	**Kurchatov**	**61.85 340**	*e*P	**P**	**17 14 45.8**	**-0.5**
KURK	**Kurchatov**	**61.85 340**⇑	*i*P	**P**	**17 14 45.8**	**-0.5**
ZAL	**Zalesovo**	**62.80 345**	P	**P**	**17 14 51.3**	**-1.2**
ZAA0	**Zalesovo Array**	**62.80 345**	*e*P	**P**	**17 14 51.3**	**-1.3**
ZALV	**Zalesovo Beam**	**62.80 345**	P	**P**	**17 14 51.3**	**-1.2**
	comp=E,259nm,0.3s,mb6.3,baz=153,slow=6.5,SNR=464					
ZALV			S	**S**	**17 23 01.5**	**+3.9**
	comp=E,64nm,0.9s,baz=142,slow=12,SNR=4.4					
ZALV			ScS	ScS	17 24 17.4	+2.1
	comp=E,76nm,1.1s,baz=178,slow=4.3,SNR=3.7					
ZALV			PKPPKP		17 43 51.5	
ZALV	**Zalesovo Beam**	**62.80 345**	S	**S**	**17 23 01.5**	**+3.9**
ZALV			ScS	ScS	17 24 17.4	+2.1
ZALV			P'P'		17 43 51.5	
KRAR	**Krasnoyarsk**	**63.06 351**	*i* P	**P**	**17 14 54.1**	**-0.1**
MCQ	**Macquarie Isla**	**63.40 149**⇓	*i*P	**P**	**17 14 58.3**	**+1.8**
BOD	**Bodaibo**	**63.91 4**	*e*P	**P**	**17 14 59.9**	**+0.3**
BOD			pmax	pmax		
	comp=Z,4μm,1.4s,mb6.8					
NVS	**Novosibirsk**	**64.02 345**	*e*P	**P**	**17 14 58.6**	**-1.8**
NVS			*i* S	**S**	**17 23 15.1**	**+2.6**
NVS			*e**SS	SKSac	17 24 23.9	-0.6
NVS			pmax	pmax		
	comp=E,2μm,1.4s					
NVS			pmax	pmax		
	comp=Z,4μm,1.4s,mb6.8					
NVS			pmax	pmax		
	comp=N,3μm,1.5s					
NVS			smax			
	comp=E,1μm,1.7s					
CLNS	**Chul'man**	**64.29 10***c*	*i*P	**P**	**17 15 01.7**	**-0.5**
CLNS			*e*		17 15 31.0	
CLNS			*e*		17 17 21.0	
CLNS			*e*S	**S**	**17 23 13.7**	**-2.1**
CLNS			*e*SS	SS	17 27 28.5	-3.3
CLNS			*e*SSS		17 30 20.4	
CLNS			pmax	pmax		
	comp=Z,7μm,1.5s,mb7.0					
CLNS			pmax	pmax		
	comp=E,2μm,1.9s					
CLNS			pmax	pmax		
	comp=N,5μm,1.5s					
CLNS			pmax	pmax		
	comp=Z,1μm,1.7s,mb6.2					
CLNS			pmax	pmax		
	comp=E,220nm,0.8s					
CLNS			pmax	pmax		
	comp=N,1μm,1.6s					
CLNS			smax			
	comp=E,1μm,1.8s					
CLNS			smax			
	comp=N,1μm,1.7s					
BDHA	**Al Bayda'**	**64.68 288**⇑	*e*P	**P**	**17 15 07.4**	**+1.9**
BDHA			AMb	AMB	17 15 08.4	
	comp=Z,3μm,1.9s,mb6.6					
BDHA			*i* S	**S**	**17 23 24.0**	**+1.9**
LBOS		**64.95 288**⇑	*e*P	**P**	**17 15 09.2**	**+1.9**
LBOS			AMb	AMB	17 15 10.4	
	comp=Z,5μm,1.7s,mb6.9					
LBOS			*i* S	**S**	**17 23 27.5**	**+2.1**
ADEN	**Aden**	**64.96 287**⇑	*e*P	**P**	**17 15 08.9**	**+1.6**
ADEN			AMb	AMB	17 15 10.4	
	comp=Z,2μm,2.1s,mb6.3					
JCZ	**Jackson Bay**	**65.25 136**	P	**P**	**17 15 09.6**	**+0.9**
WKZ	**Wanaka**	**65.64 137**	P	**P**	**17 15 11.5**	**+0.3**
DHBB	**Dhamar BB**	**65.93 289**⇑	*e*P	**P**	**17 15 15.6**	**+2.1**
DHBB			AMb	AMB	17 15 17.2	
	comp=Z,7μm,1.5s,mb7.2					
UDYN	**Al 'Udayn**	**66.19 288**⇑	*e*P	**P**	**17 15 16.9**	**+1.7**
UDYN			*i* S	S	17 23 41.8	+1.5
WVZ	**Waitaha Valley**	**66.37 134**	P	**P**	**17 15 15.5**	**-0.3**
TUZ	**Tuapeka**	**66.38 138**	P	**P**	**17 15 16.4**	**+0.6**
BVAR	**Borovoye Array**	**66.76 337**	P	**P**	**17 15 17.2**	**-0.8**
	comp=Z,379nm,0.6s,mb6.3,baz=141,slow=8.3,SNR=575					
BVAR			tx	tx	17 58 23.2	
	comp=Z,1.9nm,0.8s,baz=151,slow=3.4,SNR=5.1					
ODZ	**Otahua Downs**	**66.81 137**	P	**P**	**17 15 18.4**	**-0.2**
BRVK	**Borovoye**	**66.83 337**	P	**P**	**17 15 18.0**	**-0.4**
	SNR=2731					
BRVK	**Borovoye**	**66.83 337**	*e*P	**P**	**17 15 17.5**	**-0.9**
	comp=Z,456nm,0.7s,mb6.3					
HAJJ	**Hajjah**	**66.94 290**⇑	*e*P	**P**	**17 15 21.7**	**+1.9**
HAJJ			*i* S	S	17 23 51.0	+1.8
KBD	**Kabd**	**67.35 305**	*e*P	**P**	**17 15 21.9**	**-0.3**
	baz=305					
KBD			AMb	AMB	17 15 32.0	
	comp=Z,211nm,1.6s,mb5.6,baz=305					
RDF	**Al-Radifah**	**67.37 305**	*e*P	**P**	**17 15 22.1**	**-0.2**
	baz=305					
RDF			AMb	AMB	17 15 32.2	
	comp=Z,12μm,1.6s,mb7.4,baz=305					
UMR	**Umm Al-Rimmam**	**67.46 305**	*e*P	**P**	**17 15 22.6**	**-0.3**
	baz=305					
UMR			AMb	AMB	17 15 34.0	
	comp=Z,11μm,0.9s,baz=305					
THZ	**Tophouse**	**67.63 133**	P	**P**	**17 15 23.9**	**+0.2**
WCZ	**Waipu Caves**	**67.67 126**	P	**P**	**17 15 25.3**	**+1.2**
NAY	**Al-Naaiem**	**67.74 305**	*e*P	**P**	**17 15 24.3**	**-0.4**
	baz=305					
NAY			AMb	AMB	17 15 36.5	
	comp=Z,4μm,0.7s,mb7.2,baz=305					
MIB	**Mutribah**	**67.86 305**	*e*P	**P**	**17 15 24.7**	**-0.7**
	baz=305					
MIB			AMb	AMB	17 15 35.1	
	comp=Z,9μm,1.4s,mb7.3,baz=305					
NNZ	**Nelson**	**67.87 132**	P	**P**	**17 15 24.4**	**-0.8**
RST	**Umm Al-Ruwaisa**	**68.03 305**	*e*P	**P**	**17 15 25.8**	**-0.6**
	baz=305					
RST			AMb	AMB	17 15 38.1	
	comp=Z,347nm,1.4s,mb5.9,baz=305					
KHZ	**Kahutara**	**68.23 133**	P	**P**	**17 15 27.3**	**-0.1**
MAW	**Mawson**	**68.40 197**	*e*P	**P**	**17 15 30.3**	**+2.3**
	comp=Z,127nm,0.6s,mb5.8					
MAW	**Mawson**	**68.40 197**	P	**P**	**17 15 30.4**	**+2.5**
	comp=Z,199nm,0.8s,mb5.9,baz=49,slow=6.4,SNR=239					
MAW			pP	pP	17 16 36.1	+1.8
	comp=Z,144nm,0.8s,baz=84,slow=13,SNR=0.8					
MAW			S	S	17 24 10.7	+5.9
	comp=Z,19nm,1.0s,baz=123,slow=20,SNR=2.2					
MAW			PKP2bc		17 43 44.3	
	comp=Z,127nm,1.1s,baz=178,slow=2.1,SNR=11					
MAW	**Mawson**	**68.40 197**	*e*P	**P**	**17 15 30.3**	**+2.3**
	comp=Z,127nm,0.6s,mb5.8					
HIZ	**Hauiti**	**68.48 129**	P	**P**	**17 15 30.2**	**+1.1**
VRZ	**Vera Road**	**68.51 130**	P	**P**	**17 15 31.1**	**+1.9**
SNZO	**South Karori**	**68.87 132**	P	**P**	**17 15 30.5**	**-0.9**
KUZ	**Kuaotunu**	**68.89 127**	P	**P**	**17 15 32.5**	**+0.9**
FWVZ	**Far West T-bar**	**69.14 130**	P	**P**	**17 15 33.7**	**+0.6**
MRZ	**Mangatainoka R**	**69.40 131**	P	**P**	**17 15 35.0**	**+0.4**
BKZ	**Black Stump Fm**	**69.85 129**	P	**P**	**17 15 36.8**	**-0.6**
YAK	**Yakutsk**	**70.03 11**	*e*P	**P**	**17 15 37.3**	**-0.6**
YAK			*e*		17 15 54.4	
YAK			*e*		17 18 19.5	
YAK			*e*PPP		17 19 53.6	
YAK			*e*S	S	17 24 25.0	+1.1
YAK			*e*		17 25 06.6	
YAK			pmax	pmax		
	comp=Z,2μm,1.0s,mb6.9					
YAK			pmax	pmax		
	comp=N,612nm,1.0s					
YAK			pmax	pmax		
	comp=E,477nm,1.6s					
YAK			pmax	pmax		
	comp=Z,2μm,1.7s,mb6.7					
YAK			pmax	pmax		
	comp=N,3μm,2.0s					
YAK			pmax	pmax		
	comp=E,855nm,1.5s					
YAK			smax			
	comp=E,11μm,2.5s					
YAK			smax			
	comp=N,4μm,2.0s					
YAK	**Yakutsk**	**70.03 11**	*e*P	**P**	**17 15 36.2**	**-1.7**
	comp=N,2μm,0.8s,mb6.9					
URZ	**Urewera**	**70.20 128**	P	**P**	**17 15 38.8**	**-0.7**
SKR	**Severo-Kuril's**	**70.27 30**	*e*P	**P**	**17 15 38.0**	**-1.6**
SKR			*e*		17 15 56.2	
SKR			*e*		17 17 20.0	
SKR			*e*		17 20 06.0	
SKR			*e*S	S	17 24 30.0	+3.0
SKR			*e*PS		17 24 56.0	
SKR			pmax	pmax		
	comp=N,900nm,1.0s					
SKR			pmax	pmax		
	comp=Z,4μm,1.0s,mb7.1					
SKR			pmax	pmax		
	comp=E,3μm,1.5s					
SKR			pmax	pmax		
	comp=N,32μm,12.0s					
SKR			pmax	pmax		
	comp=E,40μm,12.0s					
SKR			pmax	pmax		
	comp=Z,66μm,12.0s					
SKR			smax			
	comp=E,50μm,18.0s					
SKR			smax			
	comp=N,91μm,16.0s					
SKR			smax			
	comp=N,6μm,2.0s					
SKR			smax			
	comp=E,4μm,2.0s					
SKR			MLR	MLR		
	comp=N,22μm,20.0s					
SKR			MLR	MLR		
	comp=E,22μm,20.0s					
SKR			MLR	MLR		
	comp=Z,34μm,20.0s					
KMBO	**Kilima Mbogo**	**70.32 271**	P	**P**	**17 15 43.3**	**+2.6**
	SNR=969					
KMBO	**Kilima Mbogo**	**70.32 271**	P	**P**	**17 15 43.1**	**+2.3**
	comp=Z,470nm,0.9s,mb6.2,baz=83,slow=8.1,SNR=258					
KMBO			S	S	17 24 35.4	+6.3
	comp=Z,12nm,1.0s,baz=12,slow=14,SNR=1.7					
KMBO			PKP2bc		17 43 28.3	
	comp=Z,7.0nm,0.9s,baz=318,slow=3.9,SNR=4.5					
KMBO	**Kilima Mbogo**	**70.32 271**	*e*P	**P**	**17 15 43.0**	**+2.2**
KMBO			pmax	pmax		
	comp=Z,769nm,1.0s					
KMBO	**Kilima Mbogo**	**70.32 271**	*e*P	**P**	**17 15 43.0**	**+2.3**
	comp=Z,769nm,1.0s,mb6.4					
MWZ	**Matawai**	**70.53 128**	P	**P**	**17 15 41.0**	**-0.6**
AKTK	**Aktyubinsk**	**70.64 329**	P	**P**	**17 15 40.9**	**-1.0**
AKTO	**Aktyubinsk**	**70.64 329**	P	**P**	**17 15 40.9**	**-1.0**
	comp=Z,59nm,0.4s,mb5.5,baz=122,slow=6.3,SNR=166					
AKTO			S	S	17 24 35.8	+4.4
	comp=Z,57nm,0.8s,baz=273,slow=21,SNR=15					
AKTO			PKPPKP		17 43 47.2	
	comp=Z,57nm,1.1s,baz=330,slow=1.6,SNR=7.9					
AKTO			tx	tx	17 58 36.6	
	comp=Z,2.3nm,0.8s,baz=154,slow=7.7,SNR=3.7					
FUNA	**Funafuti**	**70.99 97**	*e*P	**P**	**17 15 44.9**	**+0.1**
	comp=Z,211nm,0.9s,mb5.8					
MXZ	**Matakaoa Point**	**71.04 128**	P	**P**	**17 15 44.7**	**+0.1**
PUZ	**Puketiti**	**71.07 128**	P	**P**	**17 15 43.9**	**-0.9**
BHD	**Baghdad**	**71.45 308**	*i* x	x	17 15 46.0	
BHD			*i* x	x	17 18 29.0	
BHD			*i* x	x	17 20 24.0	
BHD			*i* x	x	17 24 43.5	
BHD			*i* x	x	17 25 20.0	
BHD			*i* x	x	17 25 58.0	
PETK	**Petropavlovsk-**	**72.52 29**	P	**P**	**17 15 51.7**	**-1.3**
	comp=Z,152nm,0.8s,mb5.7,baz=167,slow=1.6,SNR=270					
PETK			S	S	17 24 57.9	+5.3
	comp=Z,51nm,1.2s,baz=235,slow=5.2,SNR=5.3					
PETK			PKPPKP		17 43 32.0	
	comp=Z,8.5nm,0.9s,baz=354,slow=4.6,SNR=4.8					
PET	**Petropavlovsk**	**72.93 29**α	*i*P	**P**	**17 15 54.1**	**-1.3**
PET			*i*		17 16 04.7	
PET			*e**PP	pP	17 17 04.6	+2.0
PET			*e*		17 18 48.0	
PET			*e*PPP		17 20 28.8	
PET			*e*S	S	17 24 51.9	-5.3
PET			*e*SPP		17 25 39.6	
PET			pmax	pmax		
	comp=Z,511nm,0.8s,mb6.2					
PET			pmax	pmax		
	comp=Z,35μm,10.6s					
PET			pmax	pmax		
	comp=Z,46μm,9.1s					
PET			pmax	pmax		
	comp=Z,16μm,11.0s					
PET			pmax	pmax		
	comp=Z,345nm,1.4s,mb5.8					
PET			pmax	pmax		
	comp=Z,17μm,13.9s					
PET			smax			
	comp=E,41μm,12.0s					
PET			smax			
	comp=N,77μm,11.3s					
PET			smax			
	comp=E,84μm,24.5s					
PET			smax			
	comp=N,132μm,21.0s					
PET	**Petropavlovsk**	**72.93 29**	*e*P	**P**	**17 15 54.0**	**-1.4**
	comp=N,314nm,0.8s,mb6.0					
MAK	**Makhachkala**	**72.99 318***c*	*i*P	**P**	**17 15 56.2**	**+0.3**
MAK			*e*		17 16 08.9	
MAK			*i* S	S	17 24 55.7	-2.6
MAK			*i*		17 25 41.3	
MAK			pmax	pmax		
	comp=E,3μm,1.9s					
MAK			pmax	pmax		
	comp=Z,4μm,0.6s,mb7.2					
MAK			pmax	pmax		
	comp=N,1μm,1.2s					
SVE	**Sverdlovsk**	**73.43 335**⇑	*e*P	**P**	**17 15 58.1**	**-0.1**
SVE			*e*PPP		17 20 34.9	
SVE			*e*S	S	17 24 58.1	-4.6
SVE			pmax	pmax		
	comp=Z,8μm,1.5s,mb7.1					
SVE			pmax	pmax		
	comp=Z,74μm,13.1s					
HKR	**Hakkari**	**73.48 312**	*e*P	**P**	**17 15 56.8**	**-2.1**
HAKT	**HAKKARI**	**73.50 312**	*i* P	**P**	**17 15 58.6**	**-0.5**
MSL	**Mosul**	**73.53 311**	*i* x	x	17 16 04.0	
MSL			*i* x	x	17 16 14.0	
MSL			*i* x	x	17 18 56.0	
MSL			*i* x	x	17 21 10.0	
MSL			*i* x	x	17 25 11.5	
MSL			*i* x	x	17 25 53.0	
MSL			*i* x	x	17 26 33.0	
GNI	**Garni**	**73.72 315**	*e*P	**P**	**17 15 59.9**	**-0.4**
GNI	**Garni**	**73.72 315**	P	**P**	**17 16 00.4**	**+0.1**
	SNR=316					
GNI	**Garni**	**73.72 315**	P	**P**	**17 16 01.2**	**+0.9**
	comp=Z,196nm,1.1s,mb5.7,baz=163,slow=0.7,SNR=59					
GNI			S	S	17 25 10.5	+3.8
	comp=Z,65nm,1.0s,baz=152,slow=20,SNR=2.7					
GNI	**Garni**	**73.72 315**	P	**P**	**17 16 01.2**	**+0.9**
GNI			S	S	17 25 10.5	+3.8
GNI			pmax	pmax		
	comp=Z,196nm,1.1s					
GNI			smax			
	comp=N,65nm,1.0s					
GNI	**Garni**	**73.72 315**	*e*P	**P**	**17 15 59.3**	**-1.0**
	comp=N,422nm,1.2s,mb6.0					
DGRG	**David-gareji**	**73.80 316**	P	**P**	**17 16 01.0**	**+0.3**
CLDR	**Caldiran**	**73.93 314**	*e*P	**P**	**17 16 00.5**	**-1.0**
ARU	**Arti**	**74.06 334**⇑	*i*P	**P**	**17 16 00.9**	**-0.9**
ARU			*e*		17 16 13.3	
ARU			*e*	pP	17 17 11.9	+2.6
ARU			*e*		17 17 39.1	
ARU			*e*S	S	17 25 09.5	-0.2
ARU			pmax	pmax		
	comp=Z,979nm,1.2s,mb6.3					
TVAN	**Van**	**74.08 313**	*i* P	**P**	**17 16 02.8**	**+0.5**
VANB	**Van**	**74.11 313**	*e*P	**P**	**17 16 02.1**	**-0.5**
DYDN	**Diyadin**	**74.25 314**	*i* P	**P**	**17 16 03.6**	**+0.3**
MTA	**Mtatsminda**	**74.29 316**	P	**P**	**17 16 03.5**	**0.0**
TBLG	**Delisi**	**74.35 316**	P	**P**	**17 16 04.2**	**+0.4**
AGRB	**Hanur-Agry**	**74.76 314**	*e*P	**P**	**17 16 06.5**	**+0.3**
TUTA	**Tutak**	**74.82 313**	*i* P	**P**	**17 16 06.7**	**+0.1**
KARS	**Kars**	**75.07 315**	*e*P	**P**	**17 16 06.1**	**-1.9**
AKH	**Akhalkalaki**	**75.08 316**	P	**P**	**17 16 08.5**	**+0.5**
BTMT	**Batman**	**75.37 312**	*e*P	**P**	**17 16 10.5**	**+0.8**
ONI	**Oni**	**75.56 317**	P	**P**	**17 16 11.2**	**+0.5**
MARD	**Mardin**	**75.60 311**	*i* P	**P**	**17 16 11.0**	**-0.1**
HOMI	**Horasan**	**75.71 314**	*i* P	**P**	**17 16 12.1**	**+0.5**
BNGL	**BINGOL**	**75.88 313**	*i* P	**P**	**17 16 13.0**	**+0.4**
EZM	**Erzurum**	**76.05 314**	*e*P	**P**	**17 16 15.1**	**+1.6**
DIY	**Diyarbakir**	**76.21 311**	*e*P	**P**	**17 16 14.8**	**+0.3**
DIYA	**Diyarbakir**	**76.29 311**	*i* P	**P**	**17 16 14.9**	**0.0**
BINT	**Bingol**	**76.33 312**	*e*P	**P**	**17 16 13.6**	**-1.6**
BCA	**Borcka**	**76.41 315**	*e*P	**P**	**17 16 15.5**	**0.0**
SYO	**Syowa Base**	**76.55 200**⇑	*i*P	**P**	**17 16 16.3**	**+0.5**
KIV	**Kislovodsk**	**76.60 318***c*	*i*P	**P**	**17 16 15.8**	**-0.7**
KIV			*e**SP	sP	17 17 54.1	-1.5
KIV			*e*		17 19 11.4	
KIV			*e*PPP		17 20 59.8	
KIV			*e*S	S	17 25 37.3	-0.7
KIV			*e*SS	SS	17 30 41.0	+0.5
KIV			*e*SSS		17 34 07.3	
KIV			pmax	pmax		
	comp=Z,54μm,9.7s					
KIV			pmax	pmax		
	comp=Z,618nm,0.9s,mb6.3					
KIV			MLR	MLR		
	comp=Z,28μm,19.0s					
KIV	**Kislovodsk**	**76.60 318**	*e*P	**P**	**17 16 15.8**	**-0.7**
	comp=Z,331nm,0.8s,mb6.1					
KOPT	**Kop Dagi**	**76.71 313**	*i* P	**P**	**17 16 17.9**	**+0.7**
SOKR	**Solikamsk**	**76.74 336***c*	*i*P	**P**	**17 16 16.3**	**-0.7**
SOKR			pmax	pmax		
	comp=Z,5μm,1.6s,mb7.0					
VNDA	**Vanda**	**76.75 170**	P	**P**	**17 16 18.3**	**+1.5**
	comp=Z,122nm,0.8s,mb5.7,baz=311,slow=5.8,SNR=468					
VNDA			pP	pP	17 17 25.8	+1.1
	comp=Z,119nm,0.7s,baz=30,slow=4.9,SNR=0.9					
VNDA			S	S	17 25 44.4	+5.8
	comp=Z,40nm,1.1s,baz=95,slow=8.8,SNR=3.3					
VNDA			PKP2ab		17 43 13.4	
	comp=Z,3.0nm,0.9s,baz=189,slow=1.0,SNR=3.5					
VNDA	**Vanda**	**76.75 170**	P	**P**	**17 16 18.3**	**+1.5**
VNDA			*PP	pP	17 17 25.8	+1.1
VNDA			S	S	17 25 44.4	+5.8
VNDA			pmax	pmax		
	comp=Z,122nm,0.8s					
VNDA			smax			
	comp=N,40nm,1.1s					
VNDA	**Vanda**	**76.75 170**	*e*P	**P**	**17 16 17.7**	**+0.9**
	comp=N,138nm,0.8s,mb5.7					
SEY	**Seymchan**	**76.75 19**⇑	*i*P	**P**	**17 16 16.3**	**-0.6**
GOF	**Gofitskoye**	**76.79 319**⇑	*i*P	**P**	**17 16 20.5**	**+3.0**
GOF			*i* S	S	17 25 45.0	+5.0
GOF			pmax	pmax		
	comp=Z,2μm,1.3s,mb6.6					
GOF			smax			
	comp=E,5μm,1.9s					
JHLN	**Al Jahlan**	**76.87 309**⇑	P	**P**	**17 16 18.8**	**+0.6**
JHLN	**Al Jahlan**	**76.87 309**⇑	*i*P	**P**	**17 16 18.8**	**+0.6

MRKH Merkhyat 77.52 287 *i* P **P** **17 16 21.9 -0.3**
MRKH AMb AMB 17 16 34.7
comp=Z,4μm,1.4s,mb6.9
MRKH *i* S S 17 25 49.0 0.0
MACK Trabzon 77.55 314 *i* P **P** **17 16 21.9 +0.1**
KTUT Trabzon 77.56 314 *e*P **P** **17 16 22.1 +0.2**
GUMT Gumushane 77.59 314 *e*P **P** **17 16 23.8 +1.7**
MALT Malatya 77.68 311 *e*P **P** **17 16 22.0 -0.7**
MALT Malatya 77.68 311⇑ *i* P **P** **17 16 23.1 +0.4**
MALT Malatya 77.68 311⇑P **P** **17 16 23.1 +0.5**
MYA Malataya 77.69 311 *e*P **P** **17 16 21.0 -1.7**
SBA Scott Base 77.82 169 *e*P **P** **17 16 25.0 +2.3**
comp=Z,182nm,0.8s,mb5.9
GZT Gaziantep 78.05 310 *i* P **P** **17 16 24.6 -0.1**
EIL Elat 78.09 302 P **P** **17 16 25.3 +0.2**
comp=Z,646nm,1.0s,mb6.3,baz=130,slow=2.5,SNR=169
EIL Elat 78.09 302 P **P** **17 16 25.3 +0.2**
LSZ Lusaka 78.22 256 P **P** **17 16 28.2 +2.2**
SNR=594
LSZ Lusaka 78.22 256 P **P** **17 16 27.9 +1.9**
comp=Z,460nm,0.9s,mb6.2,baz=86,slow=6.2,SNR=301
LSZ pP pP 17 17 32.5 -1.7
comp=Z,177nm,0.5s,baz=106,slow=7.1,SNR=1.1
LSZ S S 17 25 56.2 -0.2
comp=Z,14nm,0.8s,baz=358,slow=6.2,SNR=2.0
LSZ Lusaka 78.22 256 *e*P **P** **17 16 27.9 +1.8**
comp=Z,903nm,1.1s,mb6.4
GAZ Gaziantep 78.26 310 *e*P **P** **17 16 26.0 +0.2**
ESPY Espiye-Giresun 78.28 314 *e*P **P** **17 16 25.6 -0.3**
RCY Rachaya 78.33 306 *e*P **P** **17 16 27.7 +1.4**
DARE Darende-Malaty 78.34 312 *e*P **P** **17 16 27.6 +1.3**
WRDH Warideh 78.41 308⇑P **P** **17 16 26.0 -0.7**
WRDH Warideh 78.41 308⇑ *i* P **P** **17 16 26.0 -0.7**
HWQ Hawqa 78.44 307 *e*P **P** **17 16 27.1 +0.1**
SOC Sochi 78.47 317 *c i* P **P** **17 16 25.9 -0.9**
SOC *e* 17 16 31.8
SOC *e* 17 18 08.6
SOC *i* PPP 17 19 28.7
SOC pmax pmax
comp=Z,781nm,1.2s,mb6.3
SOC Sochi 78.47 317 *i* P **P** **17 16 27.3 +0.5**
DRWC Darouich 78.52 309⇑P **P** **17 16 27.8 +0.5**
DRWC Darouich 78.52 309⇑ *i* P **P** **17 16 27.8 +0.5**
SLNF Slenfeh 78.58 308⇑P **P** **17 16 27.9 +0.3**
SLNF Slenfeh 78.58 308⇑ *i* P **P** **17 16 27.9 +0.3**
KMRS Kahramanmaras 78.60 310 *e*P **P** **17 16 27.6 -0.1**
GRSN GIRESUNGRSN 78.61 314 *i* P **P** **17 16 27.2 -0.4**
TIXI Tiksi 78.84 7 *c i* P **P** **17 16 26.2 -2.0**
TIXI *e**PP pP 17 17 38.6 +2.0
TIXI *e* 17 19 30.9
TIXI *e*S S 17 26 02.2 +1.3
TIXI pmax pmax
comp=Z,592nm,0.9s,mb6.3
TIXI pmax pmax
comp=N,250nm,1.9s
TIXI pmax pmax
comp=E,58nm,0.9s
TIXI pmax pmax
comp=Z,61μm,13.9s
TIXI smax
comp=N,11μm,7.3s
TIXI smax
comp=E,17μm,13.7s
TIXI MLR MLR
comp=N,18μm,17.0s
TIXI MLR MLR
comp=E,19μm,15.0s
TIXI MLR MLR
comp=Z,97μm,22.0s
TIXI Tiksi 78.84 7 *e*P **P** **17 16 26.0 -2.2**
comp=Z,598nm,0.9s,mb6.3
KZIT Kziot 78.85 303 P **P** **17 16 29.8 +0.6**
ARNB Al Arnab 78.85 308⇑P **P** **17 16 29.6 +0.5**
ARNB Al Arnab 78.85 308⇑ *i* P **P** **17 16 29.6 +0.5**
ANDN Andirin 79.04 310 *i* P **P** **17 16 30.3 +0.3**
SARI SarD1z-Kayseri 79.09 311 *e*P **P** **17 16 31.3 +1.0**
RSDY Resadiye-TOKAT 79.13 313 *e*P **P** **17 16 30.1 -0.4**
SVSK Karacayir 79.23 312 *e*P **P** **17 16 31.5 +0.5**
PINB Pinarbasi 79.31 311 *i* P **P** **17 16 31.6 +0.2**
CEYT Ceyhan 79.34 309 *e*P **P** **17 16 32.1 +0.5**
KOZT Kozan 79.41 310 *e*P **P** **17 16 33.9 +1.9**
AFI Afiamalu 79.50 103 P **P** **17 16 34.5 +1.5**
comp=Z,138nm,0.9s,mb5.7,baz=41,slow=5.1,SNR=11
AFI pP pP 17 17 39.0 -2.5
comp=Z,168nm,0.9s,baz=211,slow=10,SNR=1.0
AFI Afiamalu 79.50 103 P **P** **17 16 34.5 +1.5**
AFI Afiamalu 79.50 103 pP pP 17 17 39.0 -2.5
KRTS Karatas 79.51 309 *e*P **P** **17 16 26.2 -6.4**
TOKT Tokat 79.68 313 *e*P **P** **17 16 33.6 +0.2**
BNN Bunyan 79.78 311 *e*P **P** **17 16 33.8 -0.2**
MIDW Midway 79.81 60 *e*P **P** **17 16 32.6 -1.8**
comp=Z,69nm,0.7s,mb5.5
KARA Karaisali 79.94 309 *e*P **P** **17 16 35.0 +0.1**
VRHR Novokhopersk 80.00 324 *c i* P **P** **17 16 33.4 -1.5**
VRHR *e**SP sP 17 18 15.7 +1.2
VRHR *e* 17 19 42.9
VRHR *e*S S 17 26 11.1 -2.6
VRHR *e* 17 26 19.3
VRHR pmax pmax
comp=E,420nm,0.8s
VRHR pmax pmax
comp=Z,660nm,0.8s,mb6.4
VRHR pmax pmax
comp=N,190nm,1.1s
VRHR pmax pmax
comp=Z,27μm,11.1s
VRHR pmax pmax
comp=N,8μm,12.2s
VRHR pmax pmax
comp=E,5μm,7.9s
VRHR smax
comp=N,12μm,7.4s
VRHR smax
comp=Z,3μm,5.1s
VRHR smax
comp=E,7μm,8.9s
PHNC Paralimni 80.16 307 P **P** **17 16 37.9 +1.8**
EREN Erenkoy 80.18 308 *e*P **P** **17 16 36.2 0.0**
LBTB Lobatse 80.21 246 P **P** **17 16 38.5 +1.9**
comp=E,361nm,0.9s,mb6.1,baz=118,slow=5.4,SNR=157
LBTB pP pP 17 17 43.8 -1.4
comp=E,107nm,0.7s,baz=158,slow=22,SNR=1.0
LBTB S S 17 26 21.6 +4.6
comp=E,30nm,1.1s,baz=314,slow=20,SNR=4.8
LBTB Lobatse 80.21 246 P **P** **17 16 38.5 +1.8**
LBTB Lobatse 80.21 246 S S 17 26 21.6 +4.6
LBTB Lobatse 80.21 246 pP pP 17 17 43.8 -1.4
MERS Mersin 80.25 309 *e*P **P** **17 16 36.5 -0.1**
KVT Kavak 80.27 313 *e*P **P** **17 16 36.8 +0.2**
YOZ Yozgat 80.39 312 *e*P **P** **17 16 35.9 -1.3**
BOSA Boshof 80.39 242 P **P** **17 16 39.3 +1.8**
comp=E,195nm,0.9s,mb5.8,baz=93,slow=5.4,SNR=114
BOSA pP pP 17 17 45.5 -0.6
comp=E,77nm,0.6s,baz=82,slow=16,SNR=1.1
BOSA S S 17 26 25.1 +6.3
comp=E,35nm,1.2s,baz=107,slow=10,SNR=1.9
BOSA PKKPbc PKKPbc 17 35 19.3 +1.5
comp=E,10.0nm,0.6s,baz=272,slow=3.7,SNR=3.8
BOSA PKPPKP 17 43 26.9
comp=E,6.9nm,0.9s,baz=178,slow=2.4,SNR=3.6
BOSA Boshof 80.39 242 P **P** **17 16 39.3 +1.8**
BOSA pP pP 17 17 45.5 -0.6
BOSA Boshof 80.39 242 S S 17 26 25.1 +6.3
BOSA PKKPbc PKKPbc 17 35 19.3 +1.5
BOSA P'P' 17 43 26.9
ANN Anapa 80.42 317 *c i* P **P** **17 16 36.3 -1.0**
ANN *i* *PP pP 17 17 46.2 +0.3
ANN *i* 17 19 45.7
ANN *i* S S 17 26 19.9 +1.5
ANN pmax pmax
comp=Z,779nm,1.4s,mb6.2
ANN pmax pmax
comp=N,19μm,8.0s
ANN pmax pmax
comp=E,14μm,8.0s
ANN pmax pmax
comp=Z,67μm,8.0s
ANN smax
comp=E,21μm,8.8s
AVNT Avonos 80.50 311 *i* P **P** **17 16 36.6 -1.2**
NIG Nigde 80.51 310 *e*P **P** **17 16 39.4 +1.6**
LFK Lefkose 80.62 307 *e*P **P** **17 16 39.2 +0.6**
CSS Prodhromos 80.70 307 P **P** **17 16 40.2 +1.2**
comp=E,58nm,1.2s
CSS Prodhromos 80.70 307 *e*P **P** **17 16 38.4 -0.6**
CSS Prodhromos 80.70 307 *e*P **P** **17 16 38.6 -0.4**
comp=E,2μm,1.1s,mb6.7
IKL Isikli 80.74 308 *e*P **P** **17 16 38.9 -0.3**
MAMC Mammari 80.84 307 P **P** **17 16 41.1 +1.4**
SMY Shemya 80.95 34 *e*P **P** **17 16 36.3 -3.5**
SMY pmax pmax
comp=Z,477nm,1.1s,mb6.1
SMY MLR MLR
comp=Z,29μm,21.0s
SMY Shemya 80.95 34 *e*P **P** **17 16 36.3 -3.5**
comp=Z,477nm,1.1s,mb6.1
SMY *e*P 17 16 38.5
SMY LR LR
comp=Z,29μm,21.0s
DIKM Dikmen 81.00 314 *e*P **P** **17 16 40.5 +0.1**
SZAC Souni-Zanaja 81.01 306 P **P** **17 16 42.1 +1.5**
CORM Corum 81.05 312 *e*P **P** **17 16 40.9 +0.2**
CTKT Corum 81.05 313 *i* P **P** **17 16 40.5 -0.2**
CDAG Cicekdag 81.09 312 *i* P **P** **17 16 40.6 -0.4**
LEF Lefka 81.09 307 *e*P **P** **17 16 41.5 +0.4**
BOYT Boyabat 81.19 313 *i* P **P** **17 16 42.9 +1.5**
BYBT Boyabat 81.30 313 *e*P **P** **17 16 42.0 0.0**
ALFC Alevga 81.33 307 P **P** **17 16 42.8 +0.5**
comp=Z,44nm,0.7s
ERMK Ermenek 81.44 308 *i* P **P** **17 16 43.0 +0.2**
VRSR Storozhevoye 81.47 324 *c i* P **P** **17 16 41.1 -1.5**
VRSR *e* 17 19 51.9
VRSR *e*S S 17 26 25.3 -3.6
VRSR *e* 17 26 34.6
VRSR *e*PS 17 27 59.5
VRSR *e*SS SS 17 31 54.8 +1.9
VRSR pmax pmax
comp=Z,130nm,0.7s,mb5.8
VRSR pmax pmax
comp=E,120nm,0.8s
VRSR pmax pmax
comp=Z,4μm,10.7s
VRSR pmax pmax
comp=N,680nm,9.4s
VRSR pmax pmax
comp=E,3μm,16.7s
VRSR smax
comp=E,2μm,7.2s
VRSR smax
comp=Z,530nm,6.0s
VRSR smax
comp=N,1μm,5.1s
PPCY Paphos 81.47 306 P **P** **17 16 43.9 +0.9**
KAMT Kaman 81.51 311 *e*P **P** **17 16 41.4 -1.8**
AKMC Akamas 81.52 307 P **P** **17 16 43.6 +0.3**
VOR Voronezh 81.64 324 *e*P **P** **17 16 42.0 -1.5**
VOR pmax pmax
comp=Z,6μm,2.0s,mb7.0
TOS Tosya 81.72 313 *e*P **P** **17 16 44.8 +0.6**
HDMB Hadim 81.85 309 *e*P **P** **17 16 45.0 0.0**
CANT Cankiri 81.90 312 *e*P **P** **17 16 45.1 -0.1**
ILGA Ilgaz 81.95 313 *i* P **P** **17 16 46.0 +0.6**
BZK Bozkurt 81.98 314 *e*P **P** **17 16 45.8 +0.3**
ELDT Eldivan 82.02 312 *i* P **P** **17 16 45.9 +0.2**
KONT Konya--Tatoy 82.18 310 *e*P **P** **17 16 46.7 0.0**
LADK Ladik-KONYA 82.24 310 *e*P **P** **17 16 45.5 -1.4**
BALT Daday 82.32 313 *i* P **P** **17 16 47.5 +0.3**
KDHN Kadinhani 82.51 310 *i* P **P** **17 16 47.9 -0.5**
SIM Simferopol' 82.72 317 *c i* P **P** **17 16 49.1 -0.1**
SIM *e* 17 19 59.0
SIM *e*S S 17 26 43.0 +1.2
SIM *e**SS 17 28 16.0
SIM pmax pmax
comp=Z,2μm,1.1s,mb6.8
SIM pmax pmax
comp=Z,53μm,13.0s
SIM MLR MLR
comp=Z,38μm,20.0s
SAFT Safranbolu 82.75 313 *e*P **P** **17 16 49.5 0.0**
KIZT Kizilcal 82.77 310 *e*P **P** **17 16 49.4 -0.3**
SGKT Sivrigoynuk 83.05 312 *i* P **P** **17 16 50.5 -0.5**
ANTB Antalya 83.27 308 *e*P **P** **17 16 48.6 -3.6**
BCK Bucak 83.44 309 *e*P **P** **17 16 50.0 -3.1**
BOLV Bolvadin 83.44 310 *i* P **P** **17 16 53.2 +0.1**
AMKA Amchitka 83.49 37 *e*P **P** **17 16 51.8 -1.2**
ISP Isparta 83.58 309 *e*P **P** **17 16 52.9 -1.0**
ISP Isparta 83.58 309⇑P **P** **17 16 53.2 -0.6**
ISP Isparta 83.58 309 *e*P **P** **17 16 53.1 -0.7**
comp=Z,82nm,0.6s,mb5.7
KDZE Karadeniz Ereo 83.68 313 *e*P **P** **17 16 53.7 -0.5**
ESKT Eskisehir 83.70 311 *i* P **P** **17 16 53.9 -0.4**
SHUT Suhut-Afyon 83.71 310 *e*P **P** **17 16 54.6 +0.1**
TKTP Tekketepe 83.77 309 *i* P **P** **17 16 54.1 -0.7**
ELL Elmali 83.82 308 *e*P **P** **17 16 55.3 +0.3**
QSPA South Pole Qui 83.89 180 S S 17 26 46.6 -5.8
comp=Z,34nm,0.8s,baz=43,slow=0.8,SNR=9.5
QSPA PKKPbc PKKPbc 17 35 17.1 +5.0
comp=Z,49nm,0.6s,baz=176,slow=0.8,SNR=17
MOS Moscow 83.92 328 *c i* P **P** **17 16 54.5 -0.6**
MOS *e**PP pP 17 18 04.7 +0.4
MOS *e* 17 20 11.2
MOS *i* S S 17 26 45.8 -7.6
MOS *e* 17 28 12.4
MOS pmax pmax
comp=Z,2μm,1.4s,mb6.8
MOS pmax pmax
comp=Z,74μm,7.8s
MOS MLR MLR
comp=Z,64μm,25.0s
AKAS Kas 83.95 307 *i* P **P** **17 16 54.6 -1.1**
HENT Hendek 83.96 312 *i* P **P** **17 16 55.8 +0.2**
ALT Altintas 84.16 310 *e*P **P** **17 16 56.8 +0.1**
GOLH Golhisar 84.19 308 *i* P **P** **17 16 56.8 -0.1**
OBN Obninsk 84.28 327α *i* P **P** **17 16 56.0 -0.9**
OBN *i* 17 20 12.2
OBN *i* 17 26 51.5
OBN *i* 17 28 25.3
OBN *e*SS SS 17 32 40.5 +6.3
OBN pmax pmax
comp=Z,645nm,1.2s,mb6.3
OBN Obninsk 84.28 327⇑ *i* P **P** **17 16 56.1 -0.8**
OBN LR LR
comp=Z,51μm,23.0s
BILL Bilibino 84.45 19α *i* P **P** **17 16 55.8 -1.6**
BILL *i* 17 20 23.2
BILL *e* 17 26 51.5
BILL *i* 17 28 39.1
BILL pmax pmax
comp=Z,138nm,1.7s,mb5.5
BILL MLR MLR
comp=Z,38μm,16.0s
BILL Bilibino 84.45 19⇑ *e*P **P** **17 16 55.9 -1.6**
comp=Z,45nm,0.5s,mb5.6
KHL Karahalli 84.45 309 *e*P **P** **17 16 58.2 +0.1**
KHAL Karahalli 84.48 309 *i* P **P** **17 16 58.0 -0.3**
GDZ Gediz 84.64 310 *i* P **P** **17 16 58.8 -0.3**
DNZL Cakiroluk 84.69 309 *i* P **P** **17 16 58.8 -0.6**
ADVT Abdulvahap 84.74 311 *e*P **P** **17 16 59.4 -0.1**
DALT Dalyan (Mudla) 84.82 308 *e*P **P** **17 16 56.4 -3.7**
KLMR Klimovskoe 84.84 333 *c i* P **P** **17 16 58.2 -1.3**
KLMR *e**PP pP 17 18 08.7 -0.2
KLMR *e* 17 20 25.5
KLMR *e*S S 17 26 53.8 -8.4
KLMR *e* 17 28 30.6
KLMR pmax pmax
comp=Z,5μm,1.4s,mb7.1
TURN Turunc 84.87 308 *i* P **P** **17 17 01.7 +1.4**
HRT Hereke 84.87 312 *e*P **P** **17 17 01.0 +0.8**
SILT Sile 84.96 312 *e*P **P** **17 17 00.5 -0.1**
YLV Yalova 85.04 312 *e*P **P** **17 16 59.9 -1.1**
ARG Arkhangelos 85.11 307 *e*P **P** **17 17 01.7 +0.2**
ULDT Uludag 85.12 311 *i* P **P** **17 17 01.4 0.0**
GEMT Gemlik 85.15 311 *e*P **P** **17 17 00.5 -1.1**
KULA Kula-Manisa 85.15 309 *e*P **P** **17 17 02.1 +0.5**
YER Yerkesik 85.17 308 *e*P **P** **17 17 02.1 +0.3**
DEMI Demirci 85.22 310 *i* P **P** **17 17 02.0 +0.1**
ISK Istanbul-Kandi 85.38 312 *e*P **P** **17 17 02.5 -0.2**
DST Dursunbey 85.40 310 *e*P **P** **17 17 03.2 +0.4**
KLYT Kilyos 85.43 312 *e*P **P** **17 17 02.8 -0.1**
DURS Dursunbey 85.51 310 *i* P **P** **17 17 03.3 -0.1**
AYDN Tasoluk 85.59 308 *i* P **P** **17 17 04.6 +0.9**
MLSB Milas 85.60 308 *e*P **P** **17 17 02.2 -1.6**
BGKT Bogazkoy 85.61 312 *e*P **P** **17 17 03.4 -0.4**
KARP Karpathos 85.76 306 *e*P **P** **17 17 05.1 +0.4**
KARP Karpathos 85.76 306 P **P** **17 17 06.9 +2.2**
BDRM Kayabasi 85.81 308 *i* P **P** **17 17 04.4 -0.5**
ELBA Catalca 85.86 312 *i* P **P** **17 17 04.4 -0.6**
CTT Catalca 85.86 312 *e*P **P** **17 17 05.2 +0.2**
AKHS Akhisar 85.87 310 *i* P **P** **17 17 05.6 +0.4**
AKS Akhisar 85.87 310 *e*P **P** **17 17 05.2 +0.1**
BTOK Tokmak 85.88 311 *i* P **P** **17 17 05.7 +0.5**
BODT Bodrum 85.92 308 *e*P **P** **17 17 05.6 +0.2**
BALB Balikesir 85.97 310 *e*P **P** **17 17 06.0 +0.4**
BNT Bandirma 86.08 311 *e*P **P** **17 17 07.2 +1.1**
GCAM G?zelcaml? 86.10 308 *i* P **P** **17 17 07.0 +0.8**
EDC Edincik 86.12 311 *e*P **P** **17 17 06.6 +0.3**
BALY Balya 86.19 310 *i* P **P** **17 17 06.5 -0.1**
NVL N'lazarevskaya 86.19 199 *d i* P **P** **17 17 09.1 +3.0**
NVL *e* pP 17 18 22.0 +6.3
NVL *e* 17 20 42.8
NVL *e*S S 17 27 04.0 -11
NVL pmax pmax
comp=Z,196nm,1.2s,mb5.8
IZM Izmir 86.20 309 *e*P **P** **17 17 07.5 +0.7**
MAIT Maitri 86.22 199 *e*P **P** **17 17 07.3 +1.1**
MAIT Maitri 86.22 199 *e*P pP 17 18 20.3 +4.5
MAIT *e*S S 17 27 06.9 -8.5
CRLT Corlu 86.37 312 *e*P **P** **17 17 02.1 -5.4**
BLCB Balcova 86.37 309 *e*P **P** **17 17 08.3 +0.7**
SMG Samos 86.41 308 *e*P **P** **17 17 08.2 +0.4**
TLCR **86.42 316**⇑ *i* P **P** **17 17 08.3 +0.6**
TLCR **86.42 316**⇑P **P** **17 17 08.3 +0.7**
TKR Tekirdag 86.49 312 *e*P **P** **17 17 06.2 -1.9**
TIRR Tirgusor 86.55 315⇑ *i* P **P** **17 17 08.3 0.0**
TIRR Tirgusor 86.55 315 P **P** **17 17 08.0 -0.3**
PSN Preselentsi 86.55 314 *e*P **P** **17 17 08.4 +0.1**
MFN Murefte 86.64 311 *e*P **P** **17 17 06.0 -2.8**
RKY Sarkoy-Tekirda 86.70 311 *e*P **P** **17 17 09.2 +0.1**
KIS Kishinev 86.80 318α *i* P **P** **17 17 08.0 -1.4**
KIS *i* *PP sP 17 18 47.0 -2.9
KIS *i* 17 20 42.0
KIS *i* S S 17 27 11.0 -11
KIS *i* PS PS 17 29 00.0 -2.5
KIS pmax pmax
comp=Z,2μm,2.5s,mb6.4
KIS pmax pmax
comp=Z,68μm,12.0s
KIS pmax pmax
comp=N,5μm,10.0s
KIS pmax pmax
comp=E,22μm,10.0s
KIS pmax pmax
comp=Z,113μm,10.0s
KIS pmax pmax
comp=E,22μm,14.0s
KIS pmax pmax
comp=Z,36μm,14.0s
KIS pmax pmax
comp=N,6μm,12.0s
KIS pmax pmax
comp=Z,43μm,20.0s
KIS smax
comp=N,15μm,12.0s
KIS smax
comp=E,37μm,13.0s
KIS MLR MLR
comp=N,20μm,18.0s
KIS MLR MLR
comp=Z,26μm,18.0s
KIS MLR MLR
comp=E,23μm,20.0s
KIS MLR MLR
comp=Z,34μm,22.0s
KIS Kishinev 86.80 318 *i* P **P** **17 17 08.0 -1.4**
comp=Z,2μm,2.5s,mb6.4
KIS *i* pP sP 17 18 47.0 -2.9
KIS Kishinev 86.80 318 *i* PP PP 17 20 42.0 +5.2
comp=Z,36μm,14.0s
KIS Kishinev 86.80 318 *i* PS PS 17 29 00.0 -2.5
KIS *i* sS sS 17 29 30.0 +5.2
KIS *i* SS PKKPbc 17 35 00.0 -4.3
KIS *i* SSS 17 41 04.0
KIS LRM 17 56 20.0
comp=Z,34μm,22.0s
AYVA Ayvalik 86.81 310 *i* P **P** **17 17 09.9 +0.2**
HARR Harsova 86.93 315 P **P** **17 17 04.0 -6.1**
LPK Lapseki 86.95 311 *e*P **P** **17 17 10.3 0.0**
NPS Neapolis 86.96 306 *e*P **P** **17 17 11.1 +0.6**
PRD Provadia 87.01 314 *e*P **P** **17 17 10.8 +0.3**
PRK Paraskevi 87.12 310 *e*P **P** **17 17 11.1 -0.1**
CHOS Chios island 87.14 309 *e*P **P** **17 17 11.7 +0.4**
EZN Ezine 87.18 310 *e*P **P** **17 17 11.6 +0.2**
EDRB Edirne 87.23 312 *e*P **P** **17 17 11.5 -0.1**
THR1 Thera Island 87.26 307 *e*P **P** **17 17 12.0 +0.1**
THR6 Thira Island, 87.31 307 *e*P **P** **17 17 12.2 +0.1**
APE Apeiranthos 87.32 308 *e*P **P** **17 17 11.5 -0.7**
APE Apeiranthos 87.32 308⇑P **P** **17 17 11.7 -0.5**
APE Apeiranthos 87.32 308 P **P** **17 17 11.9 -0.2**
THR4 Thira Island, 87.33 307 *e*P **P** **17 17 12.5 +0.3**
AKASG Malin Array Be 87.35 321 P **P** **17 17 10.3 -1.7**
comp=Z,118nm,0.8s,mb5.8,baz=84,slow=4.5,SNR=301
AKASG PP PP 17 20 42.4 +1.4
comp=Z,433nm,1.3s,baz=80,slow=6.7,SNR=3.5
AKASG S S 17 27 07.5 -19
comp=Z,43nm,1.3s,baz=115,slow=5.7,SNR=6.0
AKASG PKKPbc PKKPbc 17 35 05.3 +2.1
comp=Z,2.4nm,0.3s,baz=286,slow=3.1,SNR=4.6
AKASG SKKPbc 17 38 19.1
comp=Z,6.8nm,0.6s,baz=277,slow=3.3,SNR=8.5
AKASG PKPPKP 17 43 12.2
comp=Z,5.1nm,0.8s,baz=278,slow=3.0,SNR=7.4
AKASG tx tx 17 59 53.5
comp=Z,0.5nm,0.4s,baz=86,slow=4.1,SNR=7.9
AKASG Malin Array Be 87.35 321 P **P** **17 17 10.3 -1.7**
AKASG Malin Array Be 87.35 321 PP PP 17 20 42.4 +1.4
AKASG S S 17 27 07.5 -19
AKASG PKKPbc PKKPbc 17 35 05.3 +2.1
AKASG SKKPbc 17 38 19.1
AKASG P'P' 17 43 12.2
AKBB Malin Array Si 87.35 321 *e*P **P** **17 17 09.8 -2.1**
KIEV Kiev 87.36 321 *e*P **P** **17 17 10.1 -1.9**
KIEV pmax pmax
comp=Z,167nm,0.8s,mb5.9
KIEV Kiev 87.36 321 *e*P **P** **17 17 10.1 -1.8**
comp=Z,167nm,0.8s,mb5.9
THR5 Thira Island, 87.36 307 *e*P **P** **17 17 12.9 +0.6**
BOZC Bozcaada 87.39 310 *i* P **P** **17 17 12.2 -0.2**
JMB Yambol 87.47 313 *e*P **P** **17 17 13.4 +0.7**
ENEZ Enez 87.47 311 *e*P **P** **17 17 12.4 -0.4**
IDI Anoyia 87.54 306 P **P** **17 17 13.9 +0.6**
comp=Z,861nm,1.2s,mb6.5,baz=82,slow=6.0,SNR=94
ALN Alexandroupoli 87.58 311 *e*P **P** **17 17 13.0 -0.3**
VRI Vrincioaia 87.99 316 P **P** **17 17 15.4 +0.3**
RDO Rodhopi 88.00 312 *e*P **P** **17 17 14.7 -0.6**
TSUM Tsumeb 88.03 251 *e*P **P** **17 17 17.2 +1.3**
comp=Z,385nm,1.0s,mb6.2
PLOR Plostina 88.04 316 P **P** **17 17 16.2 +0.9**
PLOR Plostina 88.04 316⇓ *i* P **P** **17 17 15.3 0.0**
LIA Limnos Island 88.06 310 *e*P **P** **17 17 15.2 -0.4**
LIA Limnos Island 88.06 310 *e*P **P** **17 17 15.1 -0.5**
SZH Strazhica 88.08 314 *e*P **P** **17 17 15.2 -0.4**
VAM Vamos 88.12 306 *e*P **P** **17 17 16.0 0.0**
LOS Limnos 88.14 310 *e*P **P** **17 17 15.8 -0.2**
DIM Dimitrovgrad 88.16 312 *e*P **P** **17 17 16.0 0.0**
BUC1 Bucharest 88.20 315⇑P **P** **17 17 17.9 +1.8**
BUC1 Bucharest 88.20 315 P **P** **17 17 17.4 +1.3**
MLR Muntele Rosu 88.46 316⇑P **P** **17 17 17.4 +0.1**
MLR Muntele Rosu 88.46 316 P **P** **17 17 17.3 0.0**
PVL Pavlikeni 88.50 314 *e*P **P** **17 17 18.4 +0.8**
ZIMR **88.55 314**⇓ *i* P **P** **17 17 19.1 +1.3**
ZIMR **88.55 314** P **P** **17 17 18.6 +0.8**
RZN Rozhen 88.70 312 *e*P **P** **17 17 18.4 -0.1**
SNX Sinaia 88.74 316⇑P **P** **17 17 21.0 +2.4**
PLD Plovdiv 88.78 312 *e*P **P** **17 17 18.4 -0.5**
PTL Penteli 88.78 308 *e*P **P** **17 17 19.0 0.0**
KVR Kavouri 88.83 308 *e*P **P** **17 17 19.0 -0.2**
PUL Pulkovo 88.85 330 *e*P **P** **17 17 18.1 -0.7**
ATH Athens Observa 88.89 308 *e*P **P** **17 17 19.0 -0.5**
AOS Alonnisos 88.94 309 *e*P **P** **17 17 19.5 -0.3**
CRA Chernovtsy 88.97 319 P **P** **17 17 24.0 +4.4**
MNK Minsk 88.99 325 *c e*P **P** **17 17 18.0 -1.6**
MNK *e**PP pP 17 18 30.0 +0.3
MNK *e**SP sP 17 19 00.0 -0.3
MNK *e* 17 20 54.0
MNK *e* 17 27 18.0
MNK *e*S S 17 27 42.0 0.0
MNK *e*SP PS 17 29 18.0 -8.5
MNK *e*SS SS 17 33 40.0 -2.7

MNK			eSSS			17 37 12.0	
MNK			pmax	pmax			
comp=Z,840nm,1.0s,mb6.5							
MNK			pmax	pmax			
comp=Z,128µm,12.0s							
MNK			MLR	MLR			
comp=Z,100µm,18.0s							
NAIG	**Nisos Aigina**	**89.03 308**	eP		**P**	**17 17 20.0**	**-0.2**
OUR	**Ouranopolis**	**89.04 311**	eP		**P**	**17 17 20.1**	**0.0**
VOIR		**89.07 316⇑**	iP		**P**	**17 17 19.6**	**-0.6**
VOIR		**89.07 316**	P		**P**	**17 17 19.8**	**-0.4**
JOF	**Joensuu**	**89.18 334**	ep		**P**	**17 17 19.9**	**-0.4**
comp=Z,252nm,0.6s,mb6.2							
JOF	**Joensuu**	**89.18 334**	eP		**P**	**17 17 19.9**	**-0.4**
JOF			pmax	pmax			
comp=Z,252nm,0.6s,mb6.2							
KYTH	**Kithira**	**89.18 306**	eP		**P**	**17 17 22.5**	**+1.6**
PAIG	**Paliouri**	**89.21 310**	eP		**P**	**17 17 20.1**	**-0.8**
PGB	**Panagyurishte**	**89.24 313**	eP		**P**	**17 17 20.1**	**-0.9**
LVZ	**Lovozero**	**89.26 339⇑**	iP		**P**	**17 17 18.3**	**-2.2**
NVR	**Nevrokopi**	**89.28 312**	eP		**P**	**17 17 20.4**	**-0.9**
NVR	**Nevrokopi**	**89.28 312**	P		**P**	**17 17 23.2**	**+1.9**
VLI	**Veliai**	**89.32 307**	eP		**P**	**17 17 18.7**	**-2.9**
BURAR	**Bucovina Array**	**89.33 318⇑**	iP		**P**	**17 17 21.4**	**+0.1**
BURAR	**Bucovina Array**	**89.33 318**	P		**P**	**17 17 21.8**	**+0.5**
MMB	**Musomiste**	**89.42 312**	eP		**P**	**17 17 21.4**	**-0.5**
PLG	**Polygyros**	**89.45 311**	eP		**P**	**17 17 21.5**	**-0.6**
NEO	**Neokhori**	**89.47 309**	eP		**P**	**17 17 21.1**	**-1.1**
XOR	**Xorichti**	**89.50 310**	eP		**P**	**17 17 21.6**	**-0.7**
LKR	**Lokris**	**89.54 309**	eP		**P**	**17 17 21.0**	**-1.5**
LKR	**Lokris**	**89.54 309**	eP		**P**	**17 17 21.0**	**-1.6**
APA	**Apatity**	**89.61 338⇑**	iP		**P**	**17 17 21.6**	**-0.6**
APA			i *PP		pP	17 18 33.0	+0.7
APA			i S		S	17 27 48.0	+0.7
HORT	**Hortiatis**	**89.74 311**	eP		**P**	**17 17 22.2**	**-1.2**
CRAR	**CRAIOVA**	**89.78 314**	P		**P**	**17 17 24.1**	**+0.6**
THE	**Thessaloniki**	**89.85 311**	eP		**P**	**17 17 22.6**	**-1.3**
THE	**Thessaloniki**	**89.85 311**	P		**P**	**17 17 24.4**	**+0.5**
VTS	**Vitosha**	**89.95 313**	eP		**P**	**17 17 23.7**	**-0.6**
KNT	**Kendrikon**	**89.97 311**	eP		**P**	**17 17 23.3**	**-1.2**
AGG	**Agios Georgios**	**90.11 309**	eP		**P**	**17 17 24.0**	**-1.2**
LIT	**Litokhoron**	**90.14 310**	eP		**P**	**17 17 24.2**	**-1.1**
LIT	**Litokhoron**	**90.14 310**	P		**P**	**17 17 24.2**	**-1.1**
ITM	**Ithomi**	**90.19 307**	eP		**P**	**17 17 25.3**	**-0.3**
ITM	**Ithomi**	**90.19 307**	P		**P**	**17 17 26.2**	**+0.6**
VAY	**Valandovo**	**90.24 311**	i P		**P**	**17 17 24.3**	**-1.5**
VAY	**Valandovo**	**90.24 311**	P		**P**	**17 17 24.8**	**-0.9**
GRG	**Griva**	**90.32 311**	eP		**P**	**17 17 25.1**	**-1.0**
VSU	**Vasula**	**90.37 329⇑**	iP		**P**	**17 17 24.7**	**-1.2**
THL	**Klokotos Trika**	**90.43 310**	eP		**P**	**17 17 24.9**	**-1.7**
THL	**Klokotos Trika**	**90.43 310**	eP		**P**	**17 17 25.0**	**-1.6**
LVV	**L'vov**	**90.45 320**	eP		**P**	**17 17 25.8**	**-0.7**
LVV			e*PP		pP	17 18 39.4	+2.7
LVV			i			17 21 13.6	
LVV			i			17 27 33.2	
LVV			eS		S	17 27 52.2	-3.5
LVV			i PS		PS	17 29 37.0	-5.9
LVV			MLR	MLR			
comp=N,16µm,20.0s							
LVV			MLR	MLR			
comp=E,12µm,20.0s							
LVV			MLR	MLR			
comp=Z,20µm,20.0s							
EVR	**Evrytania**	**90.50 309**	eP		**P**	**17 17 26.7**	**-0.3**
SNAA	**Sanae**	**90.56 197**	eP		**P**	**17 17 29.2**	**+2.6**
SNAA			e			17 17 38.0	
SNAA			e			17 17 45.7	
SNAA			e			17 18 45.3	
SNAA			e			17 18 55.2	
SNAA			e			17 19 07.9	
SNAA			e			17 27 30.1	
SNAA			e			17 27 46.2	
SNAA			eS		S	17 27 57.5	+1.6
SNAA			e			17 34 52.8	
SNAA			e			17 35 00.5	
SNAA			e			17 35 05.5	
SNAA			e			17 43 03.5	
SNAA	**Sanae**	**90.56 197**	S		SKSac	17 27 29.5	+0.3
comp=Z,23nm,1.0s,baz=226,slow=18,SNR=9.4							
SNAA			PKKPbc		PKKPbc	17 34 52.2	-3.5
comp=Z,6.7nm,0.9s,baz=339,slow=5.1,SNR=4.7							
SNAA			PKPPKP			17 42 57.1	
comp=Z,3.8nm,0.9s,baz=55,slow=5.4,SNR=4.8							
SNAA			tx		tx	17 59 59.1	
comp=Z,1.3nm,1.1s,baz=51,slow=4.0,SNR=5.0							
STIP	**Stip**	**90.58 312**	eP		**P**	**17 17 24.9**	**-2.3**
GZR	**Gura Zlata**	**90.65 315⇑**	iP		**P**	**17 17 28.5**	**+1.0**
GZR	**Gura Zlata**	**90.65 315**	P		**P**	**17 17 28.0**	**+0.5**
RLS	**Riolos of Patr**	**90.66 308**	eP		**P**	**17 17 28.3**	**+0.5**
KZN	**Kozani**	**90.71 310**	eP		**P**	**17 17 26.9**	**-1.0**
DJES	**Djerdap**	**90.73 315**	P		**P**	**17 17 28.5**	**+0.6**
DRGR		**90.89 317⇑**	iP		**P**	**17 17 28.5**	**-0.1**
DRGR		**90.89 317**	P		**P**	**17 17 28.3**	**-0.3**
FNA	**Florina**	**91.07 311**	eP		**P**	**17 17 28.2**	**-1.3**
BIA	**Bitola**	**91.14 311**	eP		**P**	**17 17 27.2**	**-2.7**
SKO	**Skopje**	**91.17 312**	i P		**P**	**17 17 29.0**	**-1.0**
SKO	**Skopje**	**91.17 312**	P		**P**	**17 17 31.2**	**+1.2**
KFL	**Anninata**	**91.20 308**	eP		**P**	**17 17 30.6**	**+0.4**
KRUS	**Krusevo**	**91.23 311**	i P		**P**	**17 17 29.4**	**-1.0**
KAF	**Kangasniemi**	**91.27 332**	ep		**P**	**17 17 29.5**	**-0.5**
comp=Z,171nm,0.6s,mb6.0,baz=95,slow=4.2							
KAF	**Kangasniemi**	**91.27 332**	eP		**P**	**17 17 29.5**	**-0.5**
KAF			pmax	pmax			
comp=Z,171nm,0.6s,mb6.0							
KWP	**Kalwaria**	**91.28 320**	eP		**P**	**17 17 30.0**	**-0.3**
KWP			ePcP		PcP	17 17 38.0	+6.9
KWP			epP		pP	17 18 49.9	+9.3
KWP			ePP		PP	17 21 13.4	+1.2
KWP			eS		SKSac	17 27 38.7	+4.8
KWP			eSP		SP	17 29 19.7	+6.2
KWP			ePS		PS	17 29 45.8	-6.2
KWP	**Kalwaria**	**91.28 320⇑**	iP		**P**	**17 17 29.9**	**-0.4**
KWP	**Kalwaria**	**91.28 320**	eP		**P**	**17 17 30.0**	**-0.3**
JAN	**Janina**	**91.33 310**	eP		**P**	**17 17 31.0**	**+0.2**
VLS	**Valsamata**	**91.36 308**	eP		**P**	**17 17 33.0**	**+2.0**
LKD	**Levkas**	**91.38 309**	eP		**P**	**17 17 30.8**	**-0.2**
LKD	**Levkas**	**91.38 309**	P		**P**	**17 17 32.1**	**+1.1**
UZH	**Uzhgorod**	**91.41 319**	eP		**P**	**17 17 31.0**	**0.0**
UZH			i			17 21 16.0	
UZH			i			17 27 34.0	
UZH			eS		S	17 28 03.0	-1.3
UZH			i PS		PS	17 29 48.0	-5.5
UZH			MLR	MLR			
comp=Z,11µm,17.0s							
KOLS	**Kolonicke sedl**	**91.47 319**	i P		**P**	**17 17 31.3**	**+0.1**
KOLS			i			17 21 16.7	
KOLS			eSS		SS	17 34 11.2	-7.4
KOLS	**Kolonicke sedl**	**91.47 319**	i P		**P**	**17 17 31.3**	**+0.1**
KOLS			epP		pP	17 18 47.7	+6.3
KOLS			i PP		PP	17 21 16.7	+3.1
BZS	**Buzias**	**91.49 316⇑**	iP		**P**	**17 17 30.8**	**-0.6**
BZS	**Buzias**	**91.49 316**	P		**P**	**17 17 30.9**	**-0.5**
OHR	**Ohrid**	**91.54 311**	i P		**P**	**17 17 29.7**	**-2.0**
OHR	**Ohrid**	**91.54 311**	P		**P**	**17 17 32.4**	**+0.7**
SUW	**Suwalki**	**91.59 324**	eP		**P**	**17 17 30.3**	**-1.4**
SUW			ePcP		PcP	17 17 37.8	+5.4
SUW			ePP		PP	17 21 15.9	+1.5
SUW			eS		SKSac	17 27 38.9	+3.4
SUW			eSP		SP	17 29 19.0	+2.1
SUW			ePS		PS	17 29 46.0	-9.2
SUW	**Suwalki**	**91.59 324**	eP		**P**	**17 17 30.3**	**-1.4**
IGT	**Igoumenitsa**	**91.72 309**	eP		**P**	**17 17 30.8**	**-1.8**
PHP	**Peshkopia**	**91.87 312**	ePN		**P**	**17 17 32.9**	**-0.4**
CRVS	**Cervenica-Dubn**	**91.99 319**	i P		**P**	**17 17 32.8**	**-0.8**
CRVS			e		pP	17 18 39.8	-4.1
CRVS			i			17 21 17.8	
CRVS	**Cervenica-Dubn**	**91.99 319**	i P		**P**	**17 17 32.8**	**-0.8**
CRVS			epP		pP	17 18 39.8	-4.1
CRVS			i PP		PP	17 21 17.8	0.0
CRVS			i pS			17 29 37.4	
CRVS			i			17 36 16.0	
CRVS			e			17 42 24.9	
SRN	**Sarande**	**92.01 310**	ePN		**P**	**17 17 36.3**	**+2.4**
KEK	**Kerkira**	**92.14 310**	eP		**P**	**17 17 34.1**	**-0.5**
BEO	**Beograd**	**92.20 315**	P		**P**	**17 17 35.1**	**+0.4**
BCI	**Bajram Curri**	**92.22 312**	ePN		**P**	**17 17 35.0**	**+0.1**
QSH	**Qafa e Shtames**	**92.25 311**	ePN		**P**	**17 17 35.5**	**+0.5**
TIR	**Tirane**	**92.27 311**	ePN		**P**	**17 17 35.1**	**0.0**
TIR	**Tirane**	**92.27 311**	P		**P**	**17 17 36.5**	**+1.4**
PVY	**Plav**	**92.32 312⇓**	iP		**P**	**17 17 35.8**	**+0.5**
PUK	**Puka**	**92.32 312**	ePN		**P**	**17 17 34.8**	**-0.5**
IVA	**Berane**	**92.40 313⇓**	iP		**P**	**17 17 36.0**	**+0.3**
KEV	**Kevo**	**92.41 340**	ep		**P**	**17 17 33.6**	**-1.5**
comp=Z,56nm,0.7s,mb5.6							
KEV	**Kevo**	**92.41 340**	eP		**P**	**17 17 33.6**	**-1.5**
KEV			pmax	pmax			
comp=Z,56nm,0.7s,mb5.6							
KECS	**Kecovo**	**92.59 318**	i P		**P**	**17 17 35.0**	**-1.4**
KECS			pmax	pmax			
comp=Z,64nm,0.9s,mb5.5							
KECS	**Kecovo**	**92.59 318⇑**	iSKSp			17 27 44.2	
KECS	**Kecovo**	**92.59 318**	i P		**P**	**17 17 35.0**	**-1.4**
comp=Z,64nm,0.9s,mb5.5							
VNA1	**Neumayer--Stat**	**92.59 197**	eP		**P**	**17 17 39.1**	**+3.1**
VNA1			e			17 17 48.2	
VNA1			e			17 17 55.8	
VNA1			e			17 18 55.9	
VNA1			e			17 19 06.2	
VNA1			e			17 19 19.1	
VNA1			e			17 27 41.4	
VNA1			e			17 28 01.8	
VNA1			eS		S	17 28 13.9	-0.1
VNA1			e			17 34 50.0	
VNA1			e			17 34 56.7	
VNA1			e			17 35 02.2	
VNA1			e			17 43 02.0	
WAR	**Warsaw**	**92.66 322**	eP		**P**	**17 17 38.0**	**+1.3**
WAR			ePcP		PcP	17 17 44.5	+7.4
WAR			epP		pP	17 18 56.0	+9.2
WAR			ePP		PP	17 21 23.8	+1.0
WAR			eS		SKSac	17 27 45.3	+3.8
WAR			eSP		SP	17 29 32.9	+4.2
WAR	**Warsaw**	**92.66 322**	eP		**P**	**17 17 38.0**	**+1.4**
ULC	**Ulcinj**	**92.79 312⇓**	iP		**P**	**17 17 37.6**	**+0.1**
NIE	**Niedzica**	**92.80 319**	eP		**P**	**17 17 36.9**	**-0.5**
NIE			ePP		PP	17 21 24.2	+0.1
PLE	**Pljevlja**	**92.82 313⇓**	iP		**P**	**17 17 38.1**	**+0.5**
TTG	**Podgorica**	**92.83 312⇓**	iP		**P**	**17 17 37.3**	**-0.3**
ARCES	**ARCESS Array B**	**92.89 340**	P		**P**	**17 17 36.0**	**-1.3**
comp=Z,23nm,0.7s,baz=92,slow=5.7,SNR=76							
ARCES			PP		PP	17 21 30.1	+5.8
comp=Z,231nm,1.0s,baz=92,slow=7.3,SNR=8.7							
ARCES			tx		tx	18 00 15.2	
comp=Z,3.2nm,1.1s,baz=112,slow=5.4,SNR=4.1							
AKUT	**Akutan**	**92.92 36**	eP		**P**	**17 17 36.5**	**-1.3**
comp=Z,473nm,0.9s,mb6.4							
AKUT			LR	LR			
comp=Z,60µm,23.0s							
PSZ	**Piszkesteto**	**92.92 318⇑**	eP		**P**	**17 17 37.5**	**-0.5**
PSZ	**Piszkesteto**	**92.92 318⇑**	iP		**P**	**17 17 37.1**	**-0.9**
PSZ	**Piszkesteto**	**92.92 318**	P		**P**	**17 17 37.2**	**-0.7**
NKY	**Niksic**	**93.06 313⇓**	iP		**P**	**17 17 38.8**	**+0.1**
BUM	**Brajici-Budva**	**93.08 312⇓**	iP		**P**	**17 17 39.1**	**+0.3**
UPM	**Unac-Piva**	**93.16 313⇓**	iP		**P**	**17 17 38.2**	**-0.9**
OJC	**Ojcow**	**93.21 320**	i P		**P**	**17 17 38.9**	**-0.3**
OJC			ePP		PP	17 21 26.1	-1.1
OJC			eSKSac		SKSac	17 27 44.1	-0.5
OJC			eS		S	17 28 20.7	+0.5
OJC			eSP		SP	17 29 35.3	+0.4
OJC			epS			17 29 46.5	
OJC			eSS		SS	17 34 42.5	-1.0
OJC			L			18 07 40.8	
comp=Z,45nm,19.1s							
OJC	**Ojcow**	**93.21 320⇑**	iP		**P**	**17 17 38.9**	**-0.3**
OJC			e			17 21 26.1	
OJC			e			17 27 44.1	
OJC			eS		S	17 28 20.7	+0.5
OJC			eSP		SP	17 29 35.3	+0.4
OJC			eSS		SS	17 34 42.5	-1.0
OJC			MLR	MLR			
comp=Z,45µm,19.1s							
HCY	**Herceg Novi**	**93.39 312⇓**	iP		**P**	**17 17 40.3**	**+0.1**
BRY	**Bratogost**	**93.39 313⇓**	iP		**P**	**17 17 39.5**	**-0.8**
BUD	**Budapest**	**93.47 317⇑**	eP		**P**	**17 17 40.1**	**-0.4**
LIKS	**Likavka**	**93.55 319**	eP		**P**	**17 17 41.2**	**+0.4**
LIKS			pmax	pmax			
comp=Z,57nm,0.7s,mb5.7							
LIKS	**Likavka**	**93.55 319**	eP		**P**	**17 17 41.2**	**+0.4**
comp=Z,57nm,0.7s,mb5.7							
KTK1	**Kautokeino**	**93.61 339**	eP		**P**	**17 17 40.4**	**-0.3**
PKSM	**Moragy**	**93.62 316⇑**	iP		**P**	**17 17 40.2**	**-1.0**
PKSM	**Moragy**	**93.62 316**	P		**P**	**17 17 40.7**	**-0.5**
KOLL	**Kolacno**	**93.98 318**	i P		**P**	**17 17 42.4**	**-0.4**
KOLL			i S		SKSac	17 27 53.5	+4.7
KOLL	**Kolacno**	**93.98 318**	i P		**P**	**17 17 42.3**	**-0.5**
KOLL	**Kolacno**	**93.98 318⇑**	iSKSp			17 27 53.5	
STON	**Ston**	**94.01 313**	P		**P**	**17 17 41.5**	**-1.6**
RAC	**Raciborz**	**94.23 320**	eP		**P**	**17 17 43.8**	**-0.1**
RAC			e		PP	17 21 34.6	-0.5
RAC			MLR	MLR			
comp=Z,45µm,17.0s							
RAC	**Raciborz**	**94.23 320**	ePP		PP	17 21 34.6	-0.5
RAC			eSKS		SKSac	17 27 57.0	+6.9
OKC	**Ostrava-Krasne**	**94.24 320**	eP		**P**	**17 17 44.5**	**+0.5**
OKC	**Ostrava-Krasne**	**94.24 320**	eP		**P**	**17 17 44.5**	**+0.5**
TIP	**Timpagrande**	**94.44 309**	eP		**P**	**17 17 45.2**	**0.0**
comp=Z,84nm,1.3s,mb5.6							
MORC	**Moravsky Berou**	**94.63 319**	P		**P**	**17 17 45.4**	**-0.3**
MORC	**Moravsky Berou**	**94.63 319⇑**	iP		**P**	**17 17 45.0**	**-0.7**
MORC	**Moravsky Berou**	**94.63 319⇑**	eP		**P**	**17 17 44.5**	**-1.2**
comp=Z,53nm,0.7s,mb5.8							
MODS	**Modra-Piesok**	**94.71 318**	i P		**P**	**17 17 45.6**	**-0.5**
MODS			i S		SKSac	17 27 56.5	+3.7
MODS			e			17 29 59.6	
MODS			i SS		SS	17 35 10.0	+5.3
MODS			pmax	pmax			
comp=Z,155nm,1.3s,mb6.0							
MODS	**Modra-Piesok**	**94.71 318**	i P		**P**	**17 17 45.5**	**-0.6**
MODS			epP		pP	17 19 07.6	+11
MODS			i PP		PP	17 21 40.4	+1.5
MODS			i SKP			17 25 34.7	
MODS	**Modra-Piesok**	**94.71 318**	i P		**P**	**17 17 45.6**	**-0.5**
comp=Z,155nm,1.3s,mb6.0							
ORI	**Oriolo Calabro**	**94.74 310**	P		**P**	**17 17 48.6**	**+2.1**
ZST	**Bratislava**	**94.81 318**	i P		**P**	**17 17 46.8**	**+0.2**
ZST			e			17 29 57.3	
ZST			pmax	pmax			
comp=Z,374nm,1.7s,mb6.2							
ZST	**Bratislava**	**94.81 318**	i P		**P**	**17 17 46.8**	**+0.2**
ZST			i PP		PP	17 21 38.9	-0.8
ZST	**Bratislava**	**94.81 318**	i P		**P**	**17 17 46.8**	**+0.2**
comp=Z,374nm,1.7s,mb6.2							
ZST	**Bratislava**	**94.81 318**	i PP		PP	17 21 38.9	-0.8
comp=Z,374nm,1.7s							
ZST			i S		SKSac	17 27 53.4	+0.1
ZST			e			17 29 57.3	
SOI	**Samo**	**94.91 308**	P		**P**	**17 17 47.7**	**+0.4**
GKP	**Gorka Klasztor**	**95.04 323**	eP		**P**	**17 17 46.3**	**-1.2**
GKP			ePcP		PcP	17 17 54.6	+6.9
GKP			ePP		PP	17 21 41.1	-0.1
GKP			eS		SKSac	17 27 58.5	+4.2
GKP	**Gorka Klasztor**	**95.04 323**	eP		**P**	**17 17 46.3**	**-1.2**
CEL	**Celeste**	**95.05 308**	eP		**P**	**17 17 48.0**	**0.0**
comp=Z,389nm,1.4s,mb6.3							
PTRP	**Pietrapertosa**	**95.07 310**	P		**P**	**17 17 48.4**	**+0.4**
XMAS	**Kiritimati**	**95.16 88**	P		**P**	**17 17 51.7**	**+2.8**
comp=Z,47nm,0.8s,mb5.7							
SCLL	**Scilla**	**95.19 308**	P		**P**	**17 17 51.7**	**+3.1**
TRO	**Tromso**	**95.19 339⇑**	iP		**P**	**17 17 45.1**	**-2.8**
TRO			eP			17 17 45.3	
TRO			ePP		PP	17 21 45.0	+3.0
TRO			eSKS			17 27 53.4	
TRO	**Tromso**	**95.19 339**	eP		**P**	**17 17 45.3**	**-2.6**
VRAC	**Vranov**	**95.22 319⇑**	iP		**P**	**17 17 47.7**	**-0.7**
VRAC	**Vranov**	**95.22 319**	P		**P**	**17 17 48.0**	**-0.4**
CUC	**Castrocucco**	**95.22 310**	eP		**P**	**17 17 47.2**	**-1.4**
comp=Z,56nm,0.9s,mb5.7							
FGMS	**Monte Sant'Ang**	**95.22 311**	P		**P**	**17 17 49.1**	**+0.5**
BJO	**Bjornoya**	**95.39 344**	eP		**P**	**17 17 44.8**	**-3.9**
BJO			e			17 19 03.4	
BJO			ePP		PP	17 21 48.9	+5.4
BJO1	**Bjornoya**	**95.44 344**	eP		**P**	**17 17 44.8**	**-4.1**
BJO1	**Bjornoya**	**95.44 344**	eP		pP	17 19 03.4	+4.1
BJO1			i		PP	17 21 47.2	+3.3
DPC	**Dobruska-Polom**	**95.45 320**	eP		**P**	**17 17 49.4**	**0.0**
DPC	**Dobruska-Polom**	**95.45 320**	eP		**P**	**17 17 49.4**	**0.0**
KSP	**Ksiaz**	**95.49 320**	eP		**P**	**17 17 49.5**	**-0.2**
KSP			ePcP		PcP	17 17 57.6	+7.8
KSP			ePP		PP	17 21 44.0	-0.8
KSP			eS		SKSac	17 28 01.8	+5.0
KSP			eSP		SP	17 30 06.2	+6.4
KSP			ePS		PS	17 30 40.3	+2.5
KSP	**Ksiaz**	**95.49 320⇑**	eP		**P**	**17 17 49.0**	**-0.6**
KSP			ePP		PP	17 21 42.2	-2.6
KSP			eSKS		SKSac	17 27 58.5	+1.7
KSP			eSS		SS	17 35 13.0	-2.6
KSP	**Ksiaz**	**95.49 320**	epP		pP	17 19 00.4	+0.4
RGNG	**Rignano Grg**	**95.50 311**	P		**P**	**17 17 50.1**	**+0.2**
FG4	**Candela**	**95.52 311**	P		**P**	**17 17 49.8**	**-0.2**
CONA	**Conrad Observa**	**95.63 318⇑**	iP		**P**	**17 17 49.5**	**-0.9**
comp=Z,19µm,9.4s,SNR=13							
CSNA	**Conrad Observa**	**95.63 318⇓**	iP		**P**	**17 17 49.3**	**-1.0**
comp=Z,18µm,9.4s							
UPC	**Upice**	**95.65 320**	eP		**P**	**17 17 51.0**	**+0.6**
UPC	**Upice**	**95.65 320**	ePP		PP	17 21 46.2	+0.1
UPC			eSKS			17 28 02.2	
UPC			ePKPPKP			17 43 05.6	
UPC			ex		x	17 44 15.8	
UPC	**Upice**	**95.65 320**	eP		**P**	**17 17 51.0**	**+0.6**
UPC			eSKS			17 28 02.2	
UPC	**Upice**	**95.65 320**	ePP		PP	17 21 46.2	+0.1
FG2	**Serracapriola**	**95.82 311**	P		**P**	**17 17 52.2**	**+0.9**
ARSA	**Arzberg**	**95.83 317⇑**	iP		**P**	**17 17 50.4**	**-0.8**
comp=Z,13µm,8.6s,SNR=26							
HMDC	**Modica**	**95.86 306**	P		**P**	**17 17 51.8**	**+0.2**
HVZN	**Vizzini**	**95.92 307**	P		**P**	**17 17 55.2**	**+3.3**
BOJS	**Bojanci**	**95.93 315**	eP		**P**	**17 17 50.8**	**-1.0**
BOJS			epP		pP	17 19 03.4	+1.2
BOJS			eSP		sP	17 19 39.4	+6.7
BOJS			ePP		PP	17 21 54.4	+6.0
BOJS			eSKSac		SKSac	17 28 03.9	+4.5
BOJS			eS		S	17 28 46.1	+2.2
BOJS			eSP		SP	17 30 08.2	+3.3
BOJS			ePS		PS	17 30 40.6	-2.2
BOJS			e			17 37 15.2	
TREC	**Trest**	**95.94 319**	eP		**P**	**17 17 52.0**	**+0.3**
TREC			e			17 21 56.3	
TREC			eS		SP	17 30 12.3	+7.5
TREC			eSKS			17 28 05.6	
TREC			eSP		SP	17 30 12.3	+7.5
TREC	**Trest**	**95.94 319**	ePP		PP	17 21 56.3	+8.0
SDPT	**Sand Point**	**96.07 35**	eP		**P**	**17 17 51.6**	**-0.5**
comp=Z,174nm,0.9s,mb6.2							
SDPT			LR	LR			
comp=Z,51µm,23.0s							
PERS	**Pernice**	**96.08 316**	eP		**P**	**17 17 51.5**	**-0.9**
SOKA	**Soboth**	**96.14 316⇑**	iP		**P**	**17 17 52.0**	**-0.7**
comp=Z,15µm,9.9s							
NVLJ	**Novalja**	**96.16 314**	P		**P**	**17 17 52.0**	**-0.9**
SPB4	**Spitsbergen Ar**	**96.17 348**	eP		**P**	**17 17 50.5**	**-1.7**
VAE	**Valguarnera**	**96.18 307**	P		**P**	**17 17 54.3**	**+1.2**
comp=Z,50nm,1.2s,mb5.5,baz=17,slow=5.0,SNR=7.2							
VAE	**Valguarnera**	**96.18 307**	P		**P**	**17 17 54.3**	**+1.2**
RAFF	**Raffo Rosso**	**96.20 307**	P		**P**	**17 17 53.5**	**+0.3**
LJU	**Ljubljana**	**96.46 316**	eP		**P**	**17 17 53.3**	**-0.9**
LJU			e			17 19 11.3	
LJU			e			17 19 42.1	
LJU			ePP		PP	17 21 59.3	+6.9
LJU			eSKSac		SKSac	17 28 05.0	+2.9
LJU			eSP		SP	17 30 11.7	+1.1
LJU			ePS		PS	17 30 28.0	-20
LJU			e			17 37 21.4	
LJU			e			17 40 44.8	
LJU			e			17 44 37.1	
LJU	**Ljubljana**	**96.46 316**	e		pP	17 19 11.3	+6.8
LJU			e			17 19 42.1	
LJU			e			17 21 59.3	
LJU			e			17 28 05.0	
LJU			eSP		SP	17 30 11.7	+1.1
OBKA	**Obir**	**96.46 316⇓**	iP		**P**	**17 17 53.4**	**-0.8**
comp=Z,16µm,10.0s,SNR=13							
BSD	**Bornholm Skovb**	**96.48 325⇑**	iP		**P**	**17 17 52.8**	**-1.2**
BSD			i		PP	17 21 52.3	0.0
BSD			pmax	pmax			
comp=Z,150nm,1.0s,mb6.1							
BSD			MLR	MLR			
comp=Z,35µm,21.0s							
BSD	**Bornholm Skovb**	**96.48 325⇑**	iP		**P**	**17 17 52.8**	**-1.2**
comp=Z,154nm,1.0s,mb6.1							
BSD			i S		SKSac	17 28 09.0	+7.2
BSD							
comp=Z,35µm,21.0s							
BSD	**Bornholm Skovb**	**96.48 325**	i		PP	17 21 52.3	0.0
BSD			i S		SKSac	17 28 09.0	+7.2
BSD	**Bornholm Skovb**	**96.48 325**	i		PP	17 21 52.3	0.0
STEI	**Steigen**	**96.48 338**	eP		**P**	**17 17 52.9**	**-0.8**
STEI			e			17 18 01.1	
GIB	**Gibilmanna**	**96.51 307**	P		**P**	**17 17 56.0**	**+1.4**
PVCC	**Panska Ves**	**96.58 320**	eP		**P**	**17 17 54.9**	**+0.4**
PVCC	**Panska Ves**	**96.58 320**	esP		sP	17 19 39.8	+4.3
PVCC			ePP		PP	17 21 55.8	+2.7
PVCC			eSKS			17 28 07.2	
PVCC			ex

GEC2 GERESS Array S 97.10 318 *e*Pdiff **P** **17 17 54.6 -2.3**
GEC2 *es*P sP 17 19 36.2 -1.7
GEC2 *e*PP PP 17 21 56.2 -1.0
GEC2 *e*SKSac SKSac 17 28 08.6 +3.4
GEC2 *es*SKSac 17 30 17.7
GERES GERESS Array B 97.10 318 P **P** **17 17 56.3 -0.7**
comp=Z,13nm,0.6s,mb5.4,baz=107,slow=3.6,SNR=63
GERES PKKPbc PKKPbc 17 34 34.3 -3.6
comp=Z,3.9nm,0.8s,baz=226,slow=2.4,SNR=6.3
GERES PKPPKP 17 42 55.2
comp=Z,1.2nm,0.8s,baz=168,slow=0.9,SNR=3.1
GERES tx tx 18 00 35.1
comp=Z,6.5nm,1.1s,baz=98,slow=4.0,SNR=22
GERES GERESS Array B 97.10 318 P'P' 17 42 55.2
RUE Ruedersdorf 97.11 322 *e*Pdiff **P** **17 17 54.9 -2.0**
RUE *es*P sP 17 19 36.8 -1.1
RUE *e*PP PP 17 21 54.2 -2.9
RUE *e*SKSac SKSac 17 28 07.3 +2.2
RUE *es*SKSac 17 30 16.1
RUE Ruedersdorf 97.11 322 *e*P **P** **17 17 55.5 -1.3**
comp=Z,22nm,0.5s,mb5.7
LOF Lofoten 97.12 338 *e*P **P** **17 17 57.5 +0.9**
AQU L'Aquila 97.15 312 ⇑*i*P **P** **17 17 56.3 -1.0**
AQU L'Aquila 97.15 312 P **P** **17 17 58.1 +0.8**
KHC Kasperske Hory 97.19 319 *e*P **P** **17 17 56.9 -0.4**
KHC Kasperske Hory 97.19 319 *e*pP pP 17 19 08.5 +0.7
KHC *es*P sP 17 19 39.4 +1.1
KHC *e*PP PP 17 22 03.5 +5.6
KHC *e*SKS 17 28 08.9
KHC *e*SP SP 17 30 17.6 -0.7
KHC *ex* x 17 37 35.4
KHC *e*PKPPKP 17 43 00.1
KHC *ex* x 17 44 14.8
KHC *ex* x 17 44 23.9
KHC Kasperske Hory 97.19 319 *e*P **P** **17 17 56.9 -0.4**
KHC *e* 17 19 39.4
KHC *e*PP PP 17 22 03.5 +5.6
KHC *e*SKS 17 28 08.9
KHC *e* 17 37 35.4
KHC *e* 17 44 23.9
KHC Kasperske Hory 97.19 319 *e*pP pP 17 19 08.5 +0.7
USI Ustica 97.20 308 P **P** **17 17 57.2 -0.5**
FLOS Flostrand 97.23 336 *e*P **P** **17 17 56.0 -1.1**
FLOS *e* 17 18 04.5
PTCC Patocco-Chiusa 97.29 316 P **P** **17 17 56.6 -1.2**
KBA Koelnbreinsper 97.31 317 ⇑*i*P **P** **17 17 56.4 -1.5**
comp=Z,13μm,9.4s,SNR=17
KONS Konsvik 97.33 336 *e*P **P** **17 17 55.9 -1.7**
KONS *e* 17 18 05.9
FBE Freiberg 97.35 320 *e*SKSac SKSac 17 28 14.9 +8.5
GMNA Gemona 97.36 316 P **P** **17 17 57.7 -0.5**
STOK Stokkvaagen 97.38 336 *e*P **P** **17 17 56.7 -1.1**
RGN Rugen 97.39 324 *e*Pdiff **P** **17 17 56.6 -1.5**
RGN *es*P sP 17 19 40.5 +1.4
RGN *e*PP PP 17 22 00.0 +0.7
RGN *e*SKSac SKSac 17 28 11.1 +4.6
RGN *es*SKSac 17 30 17.3
CLL Collm 97.58 321 *e*Pdiff **P** **17 17 57.3 -1.7**
CLL *es*P sP 17 19 39.7 -0.3
CLL *e*PP PP 17 22 00.1 -0.7
CLL *e*SKSac SKSac 17 28 10.0 +2.5
CLL *es*SKSac 17 30 19.2
CLL Collm 97.58 321 *e*Pdif **P** **17 17 59.0 0.0**
CLL *e*Pdiffmlp 17 18 09.0
comp=Z,19μm,28.9s
CLL ⇑*e*Pdiffmax 17 18 10.2
comp=Z,228nm,1.5s
CLL *i* PP PP 17 22 03.4 +2.6
comp=Z,419nm,1.6s
CLL *e*PPP 17 23 57.0
CLL *e*PPPP 17 25 51.0
CLL *i* SKSac SKSac 17 28 10.9 +3.4
CLL *i* SP SP 17 30 23.0 +0.6
CLL *ex* x 17 31 14.0
CLL *e*PPS 17 31 49.0
CLL *es*SS 17 37 36.0
CLL *e*SKKPbcmx 17 37 56.0
CLL *i* SKS 17 28 10.9
CLL Collm 97.58 321 *i* PP PP 17 22 03.4 +2.6
FSSB Fossombrone 97.64 313 P **P** **17 18 01.5 +2.0**
RDP Rocca di Papa 97.64 311 P **P** **17 18 00.8 +1.2**
WET Wettzell 97.64 319 *e*Pdiff **P** **17 17 57.7 -1.7**
WET *es*P sP 17 19 40.2 -0.2
WET *e*PP PP 17 21 59.4 -2.0
WET *e*SKSac SKSac 17 28 11.7 +3.7
WET *es*SKSac 17 30 20.8
WET Wettzell 97.64 319 *es*P sP 17 19 40.2 -0.2
WET *e*PP PP 17 21 59.4 -2.0
WET *e*SKSac SKSac 17 28 11.7 +3.7
RJOB Jochberg 97.69 317 *e*Pdiff **P** **17 17 57.8 -1.8**
RJOB *es*P sP 17 19 38.6 -2.0
RJOB *e*PP PP 17 22 00.1 -1.6
RJOB *e*SKSac SKSac 17 28 09.7 +1.4
ABTA Abfaltersbach 97.87 316 ⇑*i*P **P** **17 17 58.9 -1.5**
comp=Z,11μm,9.5s,SNR=14
NSS Namsos 97.88 334 *e*P **P** **17 17 57.6 -2.4**
NSS *e*PP PP 17 22 03.1 +0.4
NSS Namsos 97.88 334 *e*P **P** **17 17 59.0 -1.1**
NSS LR LR
comp=Z,42μm,25.0s
COP Copenhagen 97.90 325 ⇑*i*P **P** **17 17 59.6 -0.8**
COP *i* PP 17 22 01.4 -1.7
COP pmax pmax
comp=Z,53nm,0.9s,mb5.9
COP MLR MLR
comp=Z,15μm,21.0s
COP Copenhagen 97.90 325 ⇑*i*P **P** **17 17 59.6 -0.8**
comp=Z,53nm,0.9s,mb5.9
COP *i* PP 17 22 01.4 -1.7
COP
comp=Z,15μm,21.0s
COP Copenhagen 97.90 325 *i* PP 17 22 01.4 -1.7
NKC Novy Kostel 97.93 320 *e*P **P** **17 18 00.9 +0.3**
NKC *e* PP 17 22 00.0 -3.5
NKC Novy Kostel 97.93 320 *e*PP PP 17 22 00.0 -3.5
NKC *ex* x 17 30 17.1
NKC *e*PKPPKP 17 43 02.9
NKC *ex* x 17 43 08.1
NKC *ex* x 17 44 04.5
NKC Novy Kostel 97.93 320 *e*PP PP 17 22 00.0 -3.5
WERD Werda 98.02 320 *e*SKSac SKSac 17 28 09.5 -0.3
ROTZ Rotzenmuhle 98.08 319 *e*Pdiff **P** **17 18 00.2 -1.1**
ROTZ *es*P sP 17 19 43.2 +0.8
ROTZ *e*PP PP 17 22 04.5 -0.2
ROTZ *e*SKSac SKSac 17 28 15.0 +4.8
ROTZ *es*SKSac 17 30 21.6
MANZ Manzenberg 98.15 320 *e*Pdiff **P** **17 18 00.3 -1.3**
MANZ *es*P sP 17 19 43.8 +1.1
MANZ *e*PP PP 17 22 06.0 +0.8
MANZ *e*SKSac SKSac 17 28 15.2 +4.7
MANZ *es*SKSac 17 30 22.8
TTA Tatalina 98.31 27 *e*P **P** **17 18 02.9 +0.9**
SFI Santa Sofia 98.32 313 P **P** **17 18 03.7 +1.2**
LATE Laterza 98.34 312 P **P** **17 18 05.6 +3.0**
NB2 NORSAR Subarra 98.38 331 P **P** **17 18 01.1 -1.3**
comp=Z,217nm,1.4s,mb6.3,baz=93,slow=4.4
NOA NORSAR Array B 98.38 331 P **P** **17 18 01.8 -0.6**
comp=Z,18nm,0.9s,mb5.4,baz=79,slow=4.3,SNR=28
NOA PP PP 17 22 07.3 +0.7
comp=Z,82nm,1.0s,baz=94,slow=8.6,SNR=5.2
NOA PKKPbc PKKPbc 17 34 40.4 +5.4
comp=Z,15nm,0.8s,baz=268,slow=2.4,SNR=16
NOA SKKPbc 17 37 53.4
comp=Z,15nm,0.9s,baz=282,slow=2.2,SNR=6.5
NOA tx tx 18 00 38.7
comp=Z,6.5nm,0.9s,baz=84,slow=4.5,SNR=8.7
NOA NORSAR Array B 98.38 331 PP PP 17 22 07.3 +0.7
NOA PKKPbc PKKPbc 17 34 40.4 +5.4
NOA SKKPbc 17 37 53.4
MOX Moxa 98.46 320 *ce*P **P** **17 18 02.8 -0.2**
MOX Moxa 98.46 320 *ce*P **P** **17 18 02.8 -0.2**
MOX pmax pmax
comp=Z,608nm,2.4s,mb6.5
MOX Moxa 98.46 320 *e*Pdiff **P** **17 18 01.8 -1.2**
MOX *e*PP PP 17 22 06.8 -0.7
MOX *e*SKSac SKSac 17 28 15.4 +3.4
MOX *es*SKSac 17 30 21.6
MOX Moxa 98.46 320 ⇑*e*P **P** **17 18 02.8 -0.2**
comp=Z,608nm,2.4s,mb6.5
WTTA Wattenberg 98.47 317 ⇑*i*P **P** **17 18 01.6 -1.5**
comp=Z,5μm,6.8s,SNR=16
WTTA Wattenberg 98.47 317 ⇑*i*P **P** **17 18 01.6 -1.5**
WTTA pmax pmax
comp=Z,5μm,6.8s
WATA Walderalm 98.51 317 ⇓*i*P **P** **17 18 02.8 -0.5**
comp=Z,154nm,1.1s,mb6.2
WATA Walderalm 98.51 317 ⇓*i*P **P** **17 18 02.8 -0.5**
WATA pmax pmax
comp=Z,154nm,1.1s,mb6.2
NAO01 NORSAR Array S 98.55 331 *e*P **P** **17 18 01.1 -2.0**
comp=Z,14nm,0.8s
SVW2 Sparrevohn 98.60 29 *e*P **P** **17 18 03.6 +0.2**
SEI Scarperia 98.67 314 P **P** **17 18 05.6 +1.5**
FUR Furstenfeldbru 98.71 318 *e*P Pdif 17 18 02.6 -1.5
FUR *e* 17 22 08.2
FUR *e* 17 28 15.7
FUR Furstenfeldbru 98.71 318 *e*Pdiff Pdif 17 18 02.6 -1.5
FUR *e*PP PP 17 22 08.2 -1.3
FUR *e*SKSac SKSac 17 28 15.7 +2.3
FUR *es*SKSac 17 30 22.7
FUR Furstenfeldbru 98.71 318 *e*PP PP 17 22 08.2 -1.3
FUR *e*SKSac SKSac 17 28 15.7 +2.3
GRA1 Grafenberg Arr 98.72 319 *e*Pdif Pdif 17 18 03.0 -1.2
GRA1 Grafenberg Arr 98.72 319 *e*PP PP 17 22 09.7 +0.2
GRA1 *e*SKSac SKSac 17 28 17.3 +3.9
GRA1 *e*P'P' 17 42 55.7
GRF Grafenberg Arr 98.72 319 *e*P Pdif 17 18 03.0 -1.2
GRF *e* 17 22 09.7
GRF *e* 17 28 17.3
GRF Grafenberg Arr 98.72 319 *e*Pdiff Pdif 17 18 03.0 -1.2
GRF *e*PP PP 17 22 09.7 +0.2
GRF *e*SKSac SKSac 17 28 17.3 +3.9
GRF *es*SKSac 17 30 21.4
GRF *e*P'P'df 17 42 55.7
GRF Grafenberg Arr 98.72 319 *e*PP PP 17 22 09.7 +0.2
GRF *e*SKS 17 28 17.3
GRF sSKSac 17 30 21.4
GRF P'P' 17 42 55.7
GRFO Grafenberg 98.73 319 Pdiff Pdif 17 18 03.6 -0.6
APPI Appiano 98.76 316 P Pdif 17 18 04.5 +0.2
SQTA Sankt Quirin 98.76 317 P Pdif 17 18 04.2 -0.1
MOTA Moosalm 98.83 317 ⇓*i*P Pdif 17 18 04.4 -0.2
comp=Z,260nm,1.4s,SNR=15
MOTA Moosalm 98.83 317 ⇓*i*P Pdif 17 18 04.4 -0.2
MOTA pmax pmax
comp=Z,260nm,1.4s,mb6.4
RETA Reutte 99.06 317 ⇑*i*P Pdif 17 18 04.6 -1.1
comp=Z,9μm,7.9s,SNR=10.0
IMA2 Indian Mountai 99.08 24 *e*Pdif Pdif 17 18 04.5 -1.2
FETA Feichten 99.09 317 ⇑*i*P Pdif 17 18 04.8 -0.9
comp=Z,10μm,9.2s,SNR=9.4
BSEG Bad Segeberg 99.17 324 *e*P Pdif 17 18 04.7 -1.4
BSEG *e* 17 22 15.6
BSEG *e* 17 28 20.1
BSEG Bad Segeberg 99.17 324 *e*Pdiff Pdif 17 18 04.7 -1.4
BSEG *e*PP PP 17 22 15.6 +2.8
BSEG *e*SKSac SKSac 17 28 20.1 +4.7
BSEG *es*SKSac 17 30 27.2
BSEG Bad Segeberg 99.17 324 *e*PP PP 17 22 15.6 +2.8
BSEG *e*SKSac SKSac 17 28 20.1 +4.7
MAGA Magasa 99.18 315 P Pdif 17 18 07.9 +1.7
CLZ Clausthal 99.21 321 *e*P Pdif 17 18 05.1 -1.2
CLZ *e* 17 22 13.4
CLZ *e* 17 28 19.5
CLZ Clausthal 99.21 321 *e*Pdiff Pdif 17 18 05.1 -1.2
CLZ *e*PP PP 17 22 13.4 +0.3
CLZ *e*SKSac SKSac 17 28 19.5 +3.8
CLZ *es*SKSac 17 30 24.5
CLZ Clausthal 99.21 321 *e*PP PP 17 22 13.4 +0.3
CLZ *e*SKSac SKSac 17 28 19.5 +3.8
MABI Malga Bissina 99.26 316 P Pdif 17 18 10.6 +4.1
MAIM Mastiano 99.30 313 P Pdif 17 18 11.6 +4.9
DOMB Dombas 99.34 332 *e*P Pdif 17 18 06.5 -0.4
ERBM Eremo 99.35 314 P Pdif 17 18 07.9 +1.0
SARO Sassorosso 99.36 314 P Pdif 17 18 12.1 +5.2
SARO Sassorosso 99.36 314 P SKSac 17 28 20.8 +4.0
VLC Villacollemand 99.37 314 *e*Pdif Pdif 17 18 05.7 -1.3
TBI Tubuai 99.40 115 *e*SKSac SKSac 17 28 16.6 -1.4
comp=Z,91μm,28.2s
TBI *e*SP SP 17 30 32.2 -11
comp=Z,137μm,33.0s
TBI *e*SS SS 17 36 16.1 +4.5
comp=Z,158μm,31.0s
TBI Tubuai 99.40 115 *e*Pdif Pdif 17 18 08.0 +0.8
HDH Heidenheim-Cha 99.41 318 P Pdif 17 18 07.8 +0.6
UBBA Unterbreizbach 99.48 320 *e*Pdiff Pdif 17 18 06.1 -1.4
UBBA *e*PP PP 17 22 14.1 -1.1
UBBA *e*SKSac SKSac 17 28 21.1 +4.0
UBBA *es*SKSac 17 30 22.8
VINC Vinca 99.54 314 P Pdif 17 18 13.2 +5.4
VINC Vinca 99.54 314 P SKSac 17 28 20.0 +2.3
DAVA Damuels 99.67 317 ⇑*i*P Pdif 17 18 07.9 -0.5
comp=Z,8μm,7.5s,SNR=15
MUD Monsted U'grnd 99.69 326 *e*P Pdif 17 18 08.2 -0.3
MUD *i* S SKSac 17 28 21.7 +3.8
MUD MLR MLR
comp=Z,33μm,22.0s
MUD Monsted U'grnd 99.69 326 *i* P Pdif 17 18 08.2 -0.3
MUD *i* S SKSac 17 28 21.7 +3.8
MUD
comp=Z,33μm,22.0s
SIND Sindeldorf 99.79 319 P Pdif 17 18 09.9 +1.0
CHUM Lake Minchumin 99.89 26 *e*Pdif Pdif 17 18 08.7 -0.6
BUCH Bad Urach 99.99 318 P Pdif 17 18 10.2 +0.4
MOL Molde 100.00 332 *e*P Pdif 17 18 10.2 +0.4
MOL *e*PP PP 17 22 18.2 -0.6
OHAK Old Harbor 100.03 33 *e*Pdif Pdif 17 18 08.9 -1.1
comp=Z,61nm,0.9s
OHAK *e*P 17 18 09.8
OHAK LR LR
comp=Z,57μm,23.0s
TUE Stuetta 100.06 316 P Pdif 17 18 12.1 +2.0
STU Stuttgart 100.08 318 *e*P Pdif 17 18 08.9 -1.3
STU pmax pmax
comp=Z,13nm,0.6s
STU Stuttgart 100.08 318 *e*Pdiff Pdif 17 18 08.7 -1.5
STU *e*PP PP 17 22 19.3 -0.5
STU *e*SKSac SKSac 17 28 23.1 +3.0
STU *es*SKSac 17 30 23.6
STU Stuttgart 100.08 318 *e*Pdif Pdif 17 18 08.9 -1.3
comp=Z,13nm,0.6s
GUT Gutenstein 100.16 318 P Pdif 17 18 10.9 +0.4
KEST Kesra 100.21 305 P Pdif 17 18 11.8 +1.0
comp=Z,20nm,1.1s,baz=336,slow=1.6,SNR=24
KEST PP PP 17 22 26.1 +4.9
comp=Z,104nm,1.1s,baz=95,slow=1.5,SNR=4.2
KEST tx tx 18 00 50.4
comp=Z,4.9nm,0.9s,baz=344,slow=4.3,SNR=8.6
TOD Tromm 100.30 319 *e*P Pdif 17 18 10.4 -0.8
CORF Corte 100.30 312 *e*P Pdif 17 18 08.9 -2.3
PAE Paea 100.30 109 *e*PKiKP PKiKP 17 22 37.2 -0.4
comp=Z,1μm,1.4s
PPT Papeete 100.32 109 *e*PKiKP PKiKP 17 22 37.0 -0.7
comp=Z,153nm,1.3s
PPT *e*SKSac SKSac 17 28 21.1 -1.5
comp=Z,86μm,26.8s
PPT *e*S Sdif 17 29 21.8 +1.1
comp=Z,189μm,26.8s
PPT *e*SS SS 17 36 20.2 -4.4
comp=Z,117μm,28.2s
PPT Papeete 100.32 109 *e*Pdif Pdif 17 18 11.3 0.0
PPT *e*PKiKP PKiKP 17 22 37.0 -0.7
KDAK Kodiak Island 100.37 32 P Pdif 17 18 10.5 -1.0
comp=Z,40nm,1.0s,baz=6.3,slow=4.3,SNR=17
KDAK PP PP 17 22 22.2 +0.6
comp=Z,68nm,0.9s,baz=336,slow=9.0,SNR=4.1
KDAK PKKPbc PKKPbc 17 34 30.4 +1.2
comp=Z,9.5nm,0.5s,baz=81,slow=2.0,SNR=8.5
KDAK Kodiak Island 100.37 32 *e*Pdif Pdif 17 18 09.6 -1.9
comp=Z,46nm,0.9s
SPAK Spaichingen-Ko 100.38 318 *e*P Pdif 17 18 11.1 -0.4
SPAK P 17 18 14.2
PGF Pioggiola 100.41 312 *e*P Pdif 17 18 11.9 +0.3
comp=Z,514nm,1.5s
PGF Pioggiola 100.41 312 *e*P Pdif 17 18 11.9 +0.3
PGF pmax pmax
comp=Z,257nm,1.5s
PGF Pioggiola 100.41 312 *e*P Pdif 17 18 11.9 +0.3
comp=Z,257nm,1.5s
TNS Taunus Mts 100.50 320 *e*P Pdif 17 18 11.0 -1.0
TNS *e* 17 22 23.7
TNS *e* 17 28 26.8
TNS Taunus Mts 100.50 320 *e*Pdiff Pdif 17 18 11.0 -1.0
TNS *e*PP PP 17 22 23.7 +0.8
TNS *e*SKSac SKSac 17 28 26.8 +4.7
TNS *es*SKSac 17 30 25.8
TNS Taunus Mts 100.50 320 *e*PP PP 17 22 23.7 +0.8
TNS *e*SKSac SKSac 17 28 26.8 +4.7
KTH Kantishna Hill 100.54 27 *e*Pdif Pdif 17 18 13.0 +0.7
TIAR Tiarei 100.54 109 *e*PKiKP PKiKP 17 22 37.4 -0.7
comp=Z,1μm,1.0s
HLG Helgoland 100.59 324 *e*Pdiff Pdif 17 18 11.1 -1.3
HLG *e*PP PP 17 22 28.1 +4.7
HLG *e*SKSac SKSac 17 28 26.8 +4.5
TVO Taravao 100.59 109 *e*PKiKP PKiKP 17 22 38.0 -0.2
comp=Z,1μm,1.1s
BFO Black Forest 100.67 318 *e*P Pdif 17 18 11.3 -1.5
BFO *e* 17 22 24.4
BFO *e* 17 28 25.7
BFO Black Forest 100.67 318 *e*Pdiff Pdif 17 18 11.3 -1.5
BFO *e*PP PP 17 22 24.4 +0.1
BFO *e*SKSac SKSac 17 28 25.7 +2.7
BFO *es*SKSac 17 30 25.0
BFO Black Forest 100.67 318 *e*PP PP 17 22 24.4 +0.1
BFO *e*SKSac SKSac 17 28 25.7 +2.7
PCP Piancastagn 100.68 314 P Pdif 17 18 19.3 +6.4
IBBN Ibbenburen 100.80 322 *e*Pdiff Pdif 17 18 12.2 -1.2
IBBN *e*SKSac SKSac 17 28 27.4 +4.0
BLS5 Blasjo 100.88 329 *e*P Pdif 17 18 14.6 +0.9
FELD Feldberg im Sc 100.91 317 *e*P Pdif 17 18 14.2 +0.3
KIZ Kirchzarten 100.97 318 P Pdif 17 18 14.4 +0.3
LANF Langenberg 100.98 319 *e*P Pdif 17 18 14.4 +0.2
ROB Robourent 101.16 314 P Pdif 17 18 20.9 +5.9
BBS Basel-Blauen 101.27 317 *e*P Pdif 17 18 15.3 -0.2
BER Bergen 101.32 330 *e*P Pdif 17 18 13.8 -1.9
BER Bergen 101.32 330 *e*P Pdif 17 18 09.2 -6.5
BER *e* 17 19 59.9
BER *e*PP PP 17 22 26.9 -1.8
BER Bergen 101.32 330 *i* PP 17 22 15.5 -13
CDF Champ du Feu 101.37 318 *e*P Pdif 17 18 15.4 -0.5
comp=Z,64nm,0.9s
CDF Champ du Feu 101.37 318 *e*P Pdif 17 18 15.4 -0.5
CDF pmax pmax
comp=Z,32nm,0.9s
CDF Champ du Feu 101.37 318 *e*P Pdif 17 18 15.4 -0.5
comp=Z,32nm,0.9s
MCK McKinley 101.39 26 *e*P Pdif 17 18 15.2 -0.8
MCK pmax pmax
comp=Z,80nm,1.1s
MCK McKinley 101.39 26 *e*Pdif Pdif 17 18 15.2 -0.8
comp=Z,80nm,1.1s
SAOF Saorge 101.42 314 *e*P Pdif 17 18 14.8 -1.3
WTSB Winterswijk 101.42 322 *e*P Pdif 17 18 15.3 -0.8
comp=Z,181nm,3.7s
RUP Ruppelstein 101.42 319 *e*P Pdif 17 18 16.0 -0.2
RC01 Rabbit Creek A 101.43 29 *e*Pdif Pdif 17 18 14.5 -1.7
comp=Z,40nm,0.9s
ECH Echery 101.46 318 *e*P Pdif 17 18 15.1 -1.2
ECH Echery 101.46 318 P Pdif 17 18 19.4 +3.1
ECH pmax pmax
comp=Z,4.0nm,1.0s
ECH Echery 101.46 318 *e*Pdif Pdif 17 18 14.3 -2.0
ECH Echery 101.46 318 P Pdif 17 18 19.4 +3.1
comp=Z,3.6nm,1.0s
MOF Molkenrain 101.50 317 *e*P Pdif 17 18 15.4 -1.1
AUTN L'Aution 101.51 314 *e*P Pdif 17 18 15.3 -1.2
SBF Sospel 101.51 313 *e*P Pdif 17 18 16.5 0.0
comp=Z,135nm,0.8s
SBF Sospel 101.51 313 *e*P Pdif 17 18 16.5 0.0
SBF pmax pmax
comp=Z,67nm,0.8s
SBF Sospel 101.51 313 *e*P Pdif 17 18 16.5 0.0
comp=Z,67nm,0.8s
REVF Revere 101.56 313 *e*P Pdif 17 18 16.2 -0.6
RSP Reno Superiore 101.57 315 P Pdif 17 18 16.1 -0.7
LUCF Luceram 101.57 313 *e*P Pdif 17 18 15.6 -1.2
TOUF Mont Tournerai 101.64 314 *e*P Pdif 17 18 15.8 -1.3
PMR Palmer 101.64 28 *e*P Pdif 17 18 15.6 -1.5
PMR pmax pmax
comp=Z,14nm,0.7s
PMR Palmer 101.64 28 *e*Pdif Pdif 17 18 15.6 -1.5
comp=Z,14nm,0.7s
COLA College 101.66 25 Pdiff Pdif 17 18 15.5 -1.7
COLA Sdiff Sdif 17 29 33.8 +1.9
COLA College 101.66 25 *e*P Pdif 17 18 16.0 -1.2
HINF Hinteralfeld 101.69 317 *e*P Pdif 17 18 17.9 +0.6
MVIF Mont Vial 101.71 313 *e*P Pdif 17 18 15.9 -1.5
SEW Seward 101.71 30 *e*Pdif Pdif 17 18 16.3 -1.1
CMAH Djebel Manchou 101.76 306 P Pdif 17 18 20.0 +2.4
CALN Calern 101.91 313 *e*P Pdif 17 18 17.0 -1.3
LPG La Plagne 101.91 315 *e*P Pdif 17 18 18.6 +0.3
comp=Z,174nm,0.9s
LPG La Plagne 101.91 315 *e*P Pdif 17 18 18.6 +0.3
LPG pmax pmax
comp=Z,87nm,0.9s
LPG La Plagne 101.91 315 *e*P Pdif 17 18 18.6 +0.3
comp=Z,87nm,0.9s
LPL La Plagne 101.92 315 *e*P Pdif 17 18 18.6 +0.2
comp=Z,295nm,1.3s
LPL La Plagne 101.92 315 *e*P Pdif 17 18 18.6 +0.2
LPL pmax pmax
comp=Z,148nm,1.3s
LPL La Plagne 101.92 315 *e*P Pdif 17 18 18.6 +0.2
comp=Z,148nm,1.3s
SURF Saint Ours 101.92 314 *e*P Pdif 17 18 17.2 -1.2
BNI Bardonecchia 101.99 315 *e*P Pdif 17 18 17.9 -0.8
BNI pmax pmax
comp=Z,18nm,1.3s
BNI Bardonecchia 101.99 315 *e*Pdif Pdif 17 18 17.9 -0.7
comp=Z,18nm,1.3s
WLF Walferdange 102.01 319 P Pdif 17 18 18.6 -0.2
comp=Z,94nm,2.6s
WLF Walferdange 102.01 319 *e*P Pdif 17 18 18.0 -0.8
WLF pmax pmax
comp=Z,9.0nm,0.9s
WLF Walferdange 102.01 319 *e*Pdiff Pdif 17 18 18.3 -0.5
WLF *e*PP PP 17 22 34.7 +0.5
WLF *e*SKSac SKSac 17 28 33.7 +4.4
WLF Walferdange 102.01 319 *e*Pdif Pdif 17 18 18.0 -0.7
comp=Z,8.9nm,0.9s
MEM Membach 102.03 320 P Pdif 17 18 19.6 +0.8
HGN Heimansgroeve 102.06 321 *e*P Pdif 17 18 16.5 -2.5
HGN Heimansgroeve 102.06 321 *e*P Pdif 17 18 13.4 -5.6
comp=Z,123nm,3.8s
HGN Heimansgroeve 102.06 321 *e*PP PP 17 22 28.7 -5.8
FRF La Foret Royal 102.09 313 *e*P Pdif 17 18 19.4 +0.3
comp=Z,420nm,1.4s
FRF La Foret Royal 102.09 313 *e*P Pdif 17 18 19.4 +0.3
FRF pmax pmax
comp=Z,210nm,1.4s
FRF La Foret Royal 102.09 313 *e*P Pdif 17 18 19.4 +0.3
comp=Z,210nm,1.4s
LMR La Mourre 102.21 313 *e*P Pdif 17 18 19.7 +0.1
comp=Z,414nm,1.7s
LMR La Mourre 102.21 313 *e*P Pdif 17 18 19.7 +0.1
LMR pmax pmax
comp=Z,207nm,1.7s
LMR La Mourre 102.21 313 *e*P Pdif 17 18 19.7 +0.1
comp=Z,207nm,1.7s
THEF They Montfort 102.24 318 *e*P Pdif 17 18 17.5 -2.3
CABF La Chapelle 102.30 316 *e*P Pdif 17 18 20.1 +0.1
comp=Z,478nm,1.4s
CABF La Chapelle 102.30 316 *e*P Pdif 17 18 20.1 +0.1
CABF pmax pmax
comp=Z,239nm,1.4s
CABF La Chapelle 102.30 316 *e*P Pdif 17 18 20.1 +0.1
comp=Z,239nm,1.4s
CKFL Kef-Lekhel 102.33 306 P Pdif 17 18 23.5 +3.3
PMOR Pomariorio Ree 102.35 107 *e*PKiKP PKiKP 17 22 41.0 -0.4
comp=Z,377nm,1.4s
BCLA Clavier 102.49 320 P Pdif 17 18 21.3 +0.4
ORIF Oris-en-Rattie 102.56 315 *e*P Pdif 17 18 21.5 +0.3
comp=Z,207nm,1.3s
ORIF *e*MLR MLR
comp=Z,35μm,19.0s
ORIF Oris-en-Rattie 102.56 315 *e*P Pdif 17 18 21.5 +0.3
ORIF pmax pmax
comp=Z,104nm,1.3s
ORIF Oris-en-Rattie 102.56 315 *e*P Pdif 17 18 21.5 +0.3
comp=Z,104nm,1.3s
GRN Grenoble 102.63 315 *e*P Pdif 17 18 19.1 -2.4
GIVF Givet 102.83 320 *e*P Pdif 17 18 22.0 -0.4
MEZF Maizieres J'vi 102.84 318 *e*P Pdif 17 18 22.2 -0.2
comp=Z,103nm,1.1s
MEZF Maizieres J'vi 102.84 318 *e*P Pdif 17 18 22.2 -0.2
comp=Z,103nm,1.1s
SMRF Simiane la Rot 102.84 314 *e*P Pdif 17 18 23.1 +0.6
comp=Z,341nm,1.6s
SMRF Simiane la Rot 102.84 314 *e*P Pdif 17 18 23.1 +0.6

comp=Z,341nm,1.6s
DOU Dourbes 102.98 320 P Pdif 17 18 23.3 +0.3
OCF Saint Nazaire 103.00 314 *e*P Pdif 17 18 22.8 -0.3
OG26 St.-Nazaire-De 103.00 314 *e*P Pdif 17 18 22.8 -0.3
UCC Uccle 103.05 321 P Pdif 17 18 22.2 -1.2
DIV Divide 103.32 29 *e*Pdif Pdif 17 18 24.1 -0.5
comp=Z,40nm,1.1s
VIVF Saint-Julien-l 103.42 315 *e*P Pdif 17 18 25.1 +0.1
comp=Z,240nm,1.6s
VIVF Saint-Julien-l 103.42 315 *e*P Pdif 17 18 25.1 +0.1
VIVF pmax pmax
comp=Z,120nm,1.6s
VIVF Saint-Julien-l 103.42 315 *e*P Pdif 17 18 25.1 +0.1
comp=Z,120nm,1.6s
EYAK Cordova Ski Ar 103.45 29 *e*Pdif Pdif 17 18 24.7 -0.4
comp=Z,52nm,0.9s
SSB Saint Sauveur 103.48 315 *e*P Pdif 17 18 24.2 -1.1
SSB Saint Sauveur 103.48 315 *e*Pdif Pdif 17 18 24.7 -0.6
LOR Lormes 103.76 317 *e*P Pdif 17 18 26.3 -0.2
comp=Z,112nm,0.9s
LOR *e*MLR MLR
comp=Z,25μm,22.5s
LOR Lormes 103.76 317 *e*P Pdif 17 18 26.3 -0.2
LOR pmax pmax
comp=Z,56nm,0.9s
LOR MLR MLR
comp=Z,25μm,22.5s
LOR Lormes 103.76 317 *e*P Pdif 17 18 26.3 -0.2
LOR pmax pmax
comp=Z,56nm,0.9s
LOR LR LR
comp=Z,25μm,22.5s
DAG Danmarks Havn 103.76 349α *i*P Pdif 17 18 25.2 -1.4
DAG pmax pmax
comp=Z,6.0nm,1.0s
DAG Danmarks Havn 103.76 349α *i*P Pdif 17 18 25.2 -1.4
comp=Z,6.0nm,1.0s
DAG Danmarks Havn 103.76 349 *i*P Pdif 17 18 25.2 -1.4
comp=Z,6.0nm,1.0s
SMF Signal de Mont 103.83 316 *e*P Pdif 17 18 26.7 -0.2
comp=Z,144nm,1.0s
SMF Signal de Mont 103.83 316 *e*P Pdif 17 18 26.7 -0.2
SMF pmax pmax
comp=Z,72nm,1.0s
SMF Signal de Mont 103.83 316 *e*P Pdif 17 18 26.7 -0.2
comp=Z,72nm,1.0s
BMRM Bremner River 103.91 29 *e*Pdif Pdif 17 18 26.6 -0.6
SSF Saint Saulge 104.02 317 *e*P Pdif 17 18 27.5 -0.2
comp=Z,48nm,0.9s
SSF Saint Saulge 104.02 317 *e*P Pdif 17 18 27.5 -0.2
SSF pmax pmax
comp=Z,24nm,0.9s
SSF Saint Saulge 104.02 317 *e*P Pdif 17 18 27.5 -0.2
comp=Z,24nm,0.9s
COLF Collangettes 104.05 315 *e*P Pdif 17 18 26.1 -1.7
PLDF La Plantade 104.06 316 *e*P Pdif 17 18 26.2 -1.7
JMIC Jan Mayen 104.06 342 *e*P Pdif 17 18 27.8 0.0
JMIC *e* 17 20 13.6
JMIC *e*PP PP 17 22 50.5 +1.8
JMIC Jan Mayen 104.06 342 *i* PP 17 22 56.3 +7.5
AVF Avril sur Loir 104.15 317 *e*P Pdif 17 18 28.1 -0.2
comp=Z,206nm,1.5s
AVF Avril sur Loir 104.15 317 *e*P Pdif 17 18 28.1 -0.2
AVF pmax pmax
comp=Z,103nm,1.5s
AVF Avril sur Loir 104.15 317 *e*P Pdif 17 18 28.1 -0.2
comp=Z,103nm,1.5s
AGO Saint Agoulin 104.39 316 *e*P Pdif 17 18 28.3 -1.0
LBL Lubilhac 104.39 315 *e*P Pdif 17 18 27.4 -2.0
EGAK Eagle 104.46 24 *e*Pdif Pdif 17 18 28.7 -1.0
comp=Z,4.9nm,0.8s
PYM Petit Puy Mans 104.50 316 *e*P Pdif 17 18 28.1 -1.8
BGF Bois d'Agland 104.53 316 *e*P Pdif 17 18 30.2 +0.3
comp=Z,176nm,1.2s
BGF Bois d'Agland 104.53 316 *e*P Pdif 17 18 30.2 +0.3
BGF pmax pmax
comp=Z,88nm,1.2s
BGF Bois d'Agland 104.53 316 *e*P Pdif 17 18 30.2 +0.3
comp=Z,88nm,1.2s
LRW Lerwick 104.55 331 *e*P Pdif 17 18 28.2 -1.9
LRW AMS AMS 17 23 39.4
comp=Z,26μm,18.9s
AKET Djebel Ketaf 104.63 306 P Pdif 17 18 30.0 -0.4
EJON La Jonquera 104.93 312 P Pdif 17 18 31.4 -0.3
TCF Toulx Ste Croi 105.00 316 *e*P Pdif 17 18 32.3 +0.3
comp=Z,225nm,1.6s
TCF Toulx Ste Croi 105.00 316 *e*P Pdif 17 18 32.3 +0.3
TCF pmax pmax
comp=Z,113nm,1.6s
TCF Toulx Ste Croi 105.00 316 *e*P Pdif 17 18 32.3 +0.3
comp=Z,113nm,1.6s
TFO1 Folkestone 105.02 321 *e*P Pdif 17 18 30.6 -1.6
TFO1 AMS AMS 17 25 16.0
comp=Z,11μm,19.3s
CAF Calviac 105.26 315 *e*P Pdif 17 18 33.7 +0.5
comp=Z,134nm,1.4s
CAF Calviac 105.26 315 *e*P Pdif 17 18 33.7 +0.5
CAF pmax pmax
comp=Z,67nm,1.4s
CAF Calviac 105.26 315 *e*P Pdif 17 18 33.7 +0.5
comp=Z,67nm,1.4s
MTLF Montolieu 105.33 313 *e*P Pdif 17 18 33.8 +0.3
comp=Z,141nm,1.4s
MTLF Montolieu 105.33 313 *e*P Pdif 17 18 33.8 +0.3
MTLF pmax pmax
comp=Z,71nm,1.4s
MTLF Montolieu 105.33 313 *e*P Pdif 17 18 33.8 +0.3
comp=Z,71nm,1.4s
DAWY Dawson 105.41 25 *e*Pdif Pdif 17 18 33.2 -0.7
RJF Les Rejaudoux 105.60 315 *e*P Pdif 17 18 33.9 -0.8
RJF *e*MLR MLR
comp=Z,33μm,22.8s
RJF Les Rejaudoux 105.60 315 *e*P Pdif 17 18 33.9 -0.8
RJF LR LR
comp=Z,33μm,22.8s
INK Inuvik 106.05 20 Pdiff Pdif 17 18 36.0 -0.7
comp=Z,7.8nm,1.0s,baz=204,slow=5.7,SNR=4.4
INK PKiKP PKiKP 17 22 46.5 -0.2
comp=Z,34nm,1.0s,baz=158,slow=0.4,SNR=3.5
INK PP PP 17 23 07.2 +3.8
comp=Z,110nm,0.9s,baz=311,slow=13,SNR=7.8
INK PKKPbc PKKPbc 17 34 18.6 +5.8
comp=Z,60nm,1.0s,baz=103,slow=6.6,SNR=10.0
INK tx tx 18 01 14.0
comp=Z,15nm,1.1s,baz=286,slow=7.7,SNR=3.6
INK Inuvik 106.05 20 Pdif Pdif 17 18 36.0 -0.7
INK PKPdf PKiKP 17 22 46.5 -0.2
INK Inuvik 106.05 20 PP PP 17 23 07.2 +3.8
INK PKKPbc PKKPbc 17 34 18.6 +5.8
HPK Haverah Park 106.16 324 *e*P Pdif 17 18 35.2 -2.0
HPK AMS AMS 17 25 22.8
comp=Z,15μm,18.8s
XSO Sourhope Farm 106.18 326 *e*P Pdif 17 18 34.9 -2.4
LFF La Frestale 106.19 315 *e*P Pdif 17 18 38.0 +0.7
CWF Charnwood Fore 106.23 323 *e*P Pdif 17 18 35.8 -1.7
CWF AMS AMS 17 25 23.0
comp=Z,14μm,19.5s
LDF La Druitiere 106.24 319 *e*P Pdif 17 18 37.2 -0.3
comp=Z,52nm,1.0s
LDF La Druitiere 106.24 319 *e*P Pdif 17 18 37.2 -0.3
LDF pmax pmax
comp=Z,26nm,1.0s
LDF La Druitiere 106.24 319 *e*P Pdif 17 18 37.2 -0.3
comp=Z,26nm,1.0s
ESY Stoneypath 106.28 327 *e*P Pdif 17 18 37.2 -0.6
XAL Allendale 106.30 325 *e*P Pdif 17 18 36.3 -1.6
EPOB Poblet 106.38 311 P Pdif 17 18 39.3 +1.1
comp=Z,4μm,7.1s
EIBI Ibiza 106.42 309 P Pdif 17 18 39.9 +1.5
comp=Z,4μm,6.6s
FLN La Foliniere 106.44 319 *e*P Pdif 17 18 38.1 -0.4
comp=Z,68nm,1.1s
FLN *e*MLR MLR
comp=Z,45μm,22.5s
FLN La Foliniere 106.44 319 *e*P Pdif 17 18 38.1 -0.4
FLN pmax pmax
comp=Z,34nm,1.1s
FLN MLR MLR
comp=Z,45μm,22.5s
FLN La Foliniere 106.44 319 *e*P Pdif 17 18 38.1 -0.4
comp=Z,34nm,1.1s
FLN LR LR
comp=Z,45μm,22.5s
WOL Wolverton 106.45 322 *e*P Pdif 17 18 37.0 -1.5
WOL AMS AMS 17 25 25.3
comp=Z,12μm,19.5s
EBL Broad Law 106.55 327 *e*P Pdif 17 18 38.2 -0.7

MFF Saint Martin d 106.57 317 *e*P Pdif 17 18 38.9 -0.1
comp=Z,170nm,1.5s
MFF Saint Martin d 106.57 317 *e*P Pdif 17 18 38.9 -0.1
MFF pmax pmax
comp=Z,85nm,1.5s
MFF Saint Martin d 106.57 317 *e*P Pdif 17 18 38.9 -0.1
comp=Z,85nm,1.5s
EDI Edinburgh 106.59 327 *e*P Pdif 17 18 38.3 -0.9
STNC Stoke 106.69 324 *e*P Pdif 17 18 38.5 -1.0
STNC AMS AMS 17 25 26.3
comp=Z,13μm,18.9s
EBH Black Hill 106.69 327 *e*P Pdif 17 18 39.3 -0.3
EKA Eskdalemuir Ar 106.72 326 PKKPbc PKKPbc 17 34 07.0 -3.3
comp=Z,4.4nm,0.8s,baz=248,slow=3.4,SNR=4.9
EKA SKKPbc 17 37 32.1
comp=Z,16nm,1.0s,baz=259,slow=2.8,SNR=6.6
EKA tx tx 18 01 17.0
comp=Z,12nm,1.0s,baz=82,slow=6.0,SNR=16
ESK Eskdalemuir 106.75 326 *e*P Pdif 17 18 37.0 -2.8
ESK AMS AMS 17 25 27.3
comp=Z,15μm,19.0s
ESK Eskdalemuir 106.75 326 P Pdif 17 18 41.4 +1.6
ESK pmax pmax
comp=Z,5.0nm,0.9s
ESK Eskdalemuir 106.75 326 Pdif Pdif 17 18 41.4 +1.6
comp=Z,5.0nm,0.9s
GRR Gorron 106.75 319 *e*P Pdif 17 18 39.8 0.0
comp=Z,170nm,1.6s
GRR Gorron 106.75 319 *e*P Pdif 17 18 39.8 0.0
GRR pmax pmax
comp=Z,85nm,1.6s
GRR Gorron 106.75 319 *e*P Pdif 17 18 39.8 0.0
comp=Z,85nm,1.6s
EAU Auchinoon 106.76 327 *e*P Pdif 17 18 37.8 -2.0
SWN1 Swindon 106.77 322 *e*P Pdif 17 18 39.1 -0.8
SWN1 AMS AMS 17 25 27.0
comp=Z,13μm,19.4s
TOA0 Torodi Ar. Sit 106.80 282 *e*Pdif Pdif 17 18 41.0 +1.0
TORD Torodi Ar. Bea 106.80 282 Pdiff Pdif 17 18 41.6 +1.6
comp=Z,4.1nm,0.7s,baz=79,slow=3.0,SNR=24
TORD PKiKP PKiKP 17 22 49.8 +0.2
comp=Z,42nm,0.5s,baz=57,slow=1.3,SNR=35
TORD PP PP 17 23 09.8 -0.8
comp=Z,125nm,1.0s,baz=66,slow=1.9,SNR=6.1
TORD PKKPbc PKKPbc 17 34 14.4 +6.0
comp=Z,12nm,0.9s,baz=292,slow=4.1,SNR=8.8
TORD PKPPKP 17 42 34.6
comp=Z,2.4nm,0.9s,baz=260,slow=2.7,SNR=2.9
TORD tx tx 18 01 20.9
comp=Z,10nm,1.1s,baz=89,slow=5.6,SNR=13
TORD Torodi Ar. Bea 106.80 282 Pdif Pdif 17 18 41.6 +1.6
TORD PKPdf PKiKP 17 22 49.8 +0.2
TORD Torodi Ar. Bea 106.80 282 PP PP 17 23 09.8 -0.8
TORD PKKPbc PKKPbc 17 34 14.4 +6.0
TORD P'P' 17 42 34.6
EBIE Bielsa 106.92 313 P Pdif 17 18 41.8 +1.3
comp=Z,3μm,6.8s
ERTA Horta de San J 106.99 311 P Pdif 17 18 40.6 -0.3
comp=Z,3μm,6.6s
EAB Aberfoyle 107.15 327 *e*P Pdif 17 18 41.6 0.0
HYT Haines Junctio 107.28 28 *e*Pdif Pdif 17 18 43.6 +1.4
PGBU Glenifferbraes 107.33 327 *e*P Pdif 17 18 40.9 -1.5
PGBU AMS AMS 17 25 31.6
comp=Z,15μm,19.0s
MCH1 Michaelchurch 107.39 323 *e*P Pdif 17 18 41.5 -1.2
MCH1 AMS AMS 17 25 31.5
comp=Z,14μm,19.3s
ESAC San Caprasio 107.49 312 P Pdif 17 18 44.2 +1.1
comp=Z,4μm,7.0s
KPL Plockton 107.53 328 *e*P Pdif 17 18 42.0 -1.3
KPL AMS AMS 17 24 00.7
comp=Z,17μm,19.2s
EMOS Mosqueruela 107.67 310 P Pdif 17 18 45.4 +1.4
comp=Z,4μm,7.2s
EBEN Beniarda 107.67 309 P Pdif 17 18 45.8 +1.9
comp=Z,5μm,8.7s
GAL1 Galloway 107.70 326 *e*P Pdif 17 18 44.4 +0.3
GAL1 AMS AMS 17 24 01.9
comp=Z,16μm,18.2s
EALK Alkurruntz 108.04 313 P Pdif 17 18 46.3 +0.7
comp=Z,3μm,6.6s
DYA Yadsworthy 108.31 321 *e*P Pdif 17 18 45.8 -1.0
DYA AMS AMS 17 25 38.0
comp=Z,12μm,20.4s
CART Cartagena 108.41 307 *e*PKPdf PKiKP 17 22 51.1 -0.9
CART Cartagena 108.41 307 *e*PKPdf PKiKP 17 22 57.0 +5.0
HTL Hartland 108.53 322 *e*P Pdif 17 18 47.5 -0.2
HTL AMS AMS 17 24 07.9
comp=Z,15μm,19.1s
EMUR La Murta 108.57 308 P Pdif 17 18 48.1 +0.2
comp=Z,3μm,8.6s
ETOB Tobarra 108.71 309 P Pdif 17 18 49.3 +0.8
comp=Z,4μm,7.8s
ETOR Torete 108.80 311 P Pdif 17 18 51.2 +2.3
ETOR pmax pmax
comp=Z,8.0nm,0.7s
ETOR Torete 108.80 311 P Pdif 17 18 51.2 +2.2
comp=Z,8.0nm,0.7s
PMSA Palmer Station 109.05 184 PKKPbc PKKPbc 17 34 06.3 +3.0
comp=Z,30nm,1.0s,baz=50,slow=3.2,SNR=6.0
DSB Dublin 109.08 324 *e*PKiKP PKiKP 17 22 53.5 +0.7
ELAN Lanestosa 109.43 314 P Pdif 17 18 52.1 +0.4
EHUE Huescar 109.63 308 P Pdif 17 18 53.3 +0.7
EBER Berja 109.99 307 P Pdif 17 18 55.5 +1.3
EQES Quesada 110.01 308 P Pdif 17 18 55.5 +1.2
EALB Alboran 110.23 306 P Pdif 17 18 55.5 +0.2
RES Resolute Bay 110.23 6 PKiKP PKiKP 17 22 53.3 -1.1
GUD Guadarrama 110.40 311 P Pdif 17 18 58.2 +2.1
ESDC Sonseca Array 110.42 310 Pdiff Pdif 17 18 59.8 +3.6
comp=Z,0.2nm,0.2s,baz=267,slow=29,SNR=4.1
ESDC PKiKP PKiKP 17 22 57.0 +1.3
comp=Z,28nm,1.0s,baz=58,slow=3.4,SNR=6.4
ESDC PP PP 17 23 39.9 +4.0
comp=Z,73nm,1.0s,baz=74,slow=5.4,SNR=6.4
ESDC PKKPbc PKKPbc 17 33 57.9 0.0
comp=Z,3.8nm,0.6s,baz=278,slow=3.5,SNR=12
ESDC SKKPbc 17 37 22.2
comp=Z,16nm,1.0s,baz=284,slow=2.7,SNR=5.3
ESDC PKPPKP 17 42 29.4
comp=Z,0.5nm,0.4s,baz=282,slow=1.6,SNR=3.6
ESDC tx tx 18 01 34.8
comp=Z,1.4nm,0.7s,baz=67,slow=4.7,SNR=6.8
ESDC Sonseca Array 110.42 310 Pdif Pdif 17 18 59.8 +3.6
ESDC PKPdf PKiKP 17 22 57.0 +1.3
ESDC PKKPbc PKKPbc 17 33 57.9 0.0
ESDC SKKPbc 17 37 22.2
ESDC P'P' 17 42 29.4
ESDC Sonseca Array 110.42 310 PP PP 17 23 39.9 +4.0
SUMG Summit 110.42 350 Pdif Pdif 17 18 53.6 -2.6
EARI Arriondas 110.69 314 P Pdif 17 18 58.2 +0.9
PAB San Pablo 110.73 310 *e*PKiKP PKiKP 17 22 57.1 +0.8
TAOE Nuku Hiva Isla 110.87 102 *e*SKSac SKSac 17 29 09.1 -0.6
comp=Z,121μm,26.6s
TAOE *e*SP SP 17 32 38.6 -2.3
comp=Z,205μm,30.1s
TAOE *e*SS SS 17 38 46.4 -1.7
comp=Z,434μm,29.7s
TAOE Nuku Hiva Isla 110.87 102 *e*Pdif Pdif 17 18 58.9 +0.7
TAOE PKiKP PKiKP 17 22 56.7 -0.6
TAOE Nuku Hiva Isla 110.87 102 *e*SKSac SKSac 17 29 09.1 -0.6
TAOE *e*SP SP 17 32 38.6 -2.3
TAOE *e*SS SS 17 38 46.4 -1.7
EADA Adamuz 111.13 308 P Pdif 17 18 59.5 +0.2
EMIJ Mijas 111.53 307 P Pdif 17 19 00.9 -0.2
MDT Midelt 111.91 303 PKiKP PKiKP 17 22 58.3 -0.4
comp=Z,41nm,1.1s,baz=82,slow=0.9,SNR=6.3
MDT PP PP 17 23 49.2 +2.3
comp=Z,83nm,0.8s,baz=92,slow=15,SNR=2.4
MDT PKKPbc PKKPbc 17 33 54.6 +1.9
comp=Z,4.4nm,0.7s,baz=286,slow=6.4,SNR=4.7
MDT SKKPbc 17 37 16.6
comp=Z,15nm,0.8s,baz=246,slow=5.6,SNR=6.0
MDT Midelt 111.91 303 PKPdf PKiKP 17 22 58.3 -0.4
EPON Pontenova 112.07 314 P Pdif 17 19 03.7 +0.2
PBRG Braganca 112.10 313 *e*PP PP 17 23 53.6 +5.7
ESPR Espera 112.34 307 P Pdif 17 19 04.5 -0.2
RKT Rikitea 112.38 118 *e*PKiKP PKiKP 17 22 59.3 -0.6
comp=Z,102nm,0.9s
RKT *e*SP SP 17 32 53.2 -1.0
comp=Z,86μm,30.5s
RKT *e*SS SS 17 39 05.9 -1.4
comp=Z,86μm,29.0s
MVO Moncorvo 112.44 312 *e*Pdif Pdif 17 19 06.3 +1.1
MVO Moncorvo 112.44 312 *e*PP PP 17 23 50.5 +0.2
DBIC Dimbokro 112.91 275 PKiKP PKiKP 17 23 00.7 -0.5

comp=Z,56nm,0.5s,baz=79,slow=2.6,SNR=30
DBIC PP PP 17 23 55.4 +0.9
comp=Z,76nm,0.7s,baz=92,slow=8.8,SNR=2.1
DBIC PKKPab PKKPab 17 33 58.9 +1.1
comp=Z,31nm,0.8s,baz=238,slow=4.2,SNR=8.7
DBIC PKPPKP 17 42 23.8
comp=Z,4.4nm,0.9s,baz=270,slow=2.0,SNR=2.2
DBIC Dimbokro 112.91 275 PKiKP PKiKP 17 23 00.7 -0.5
DBIC PKKPab PKKPab 17 33 58.9 +1.1
DBIC P'P' 17 42 23.8
DBIC Dimbokro 112.91 275 PP PP 17 23 55.4 +0.9
MTE Manteigas 112.99 311 *e*PP PP 17 23 57.9 +3.7
PBAR Barrancos 113.04 309 *e*Pdif Pdif 17 19 11.5 +3.7
PBAR Barrancos 113.04 309 *e*PP PP 17 23 56.0 +1.3
LIC Lamto 113.05 274 *e*PKP1 Pdif 17 19 13.1 +5.3
comp=Z,550nm,0.5s
PCBR Castelo Branco 113.05 311 *e*PP PP 17 23 56.9 +2.2
TIC Toumodi 113.07 275 *e*PKP1 Pdif 17 19 13.2 +5.3
comp=Z,11μm,2.1s
PMRV Marv??o 113.07 310 *e*Pdif Pdif 17 19 12.8 +4.9
PMRV Marv??o 113.07 310 *e*PP PP 17 23 57.4 +2.6
PVIS Viseu 113.18 312 *e*PP PP 17 23 55.0 -0.6
PESTR Estremoz 113.33 310 *e*Pdif Pdif 17 19 14.1 +5.0
PESTR Estremoz 113.33 310 *e*PP PP 17 24 00.1 +3.4
PBEJ Beja 113.71 309 *e*PP PP 17 24 01.7 +2.3
PVAQ Vaqueiros 113.71 308 *e*Pdif Pdif 17 19 16.6 +5.8
PVAQ Vaqueiros 113.71 308 *e*PP PP 17 24 01.4 +1.9
EVO Evora 113.72 309 *e*PKIKP PKiKP 17 23 03.1 +1.0
comp=Z,351nm,0.8s
EVO *e*MLR MLR
comp=Z,34μm,23.0s
EVO Evora 113.72 309 *e*PP PP 17 23 54.9 -4.6
PTOM Tomar 113.80 311 *e*PP PP 17 24 02.2 +2.2
PBDV Barranco-do-Ve 113.91 308 *e*Pdif Pdif 17 19 12.6 +0.9
PBDV Barranco-do-Ve 113.91 308 *e*PP PP 17 24 02.8 +2.0
MORF Marmelete 114.46 308 *e*PP PP 17 24 09.7 +5.0
PTEO Sao Teotonio 114.47 308 *e*PP PP 17 24 07.2 +2.4
PMAFR Mafra 114.61 310 *e*PP PP 17 24 08.9 +3.3
PFVI Vila Bisbo 114.64 308 *e*Pdif Pdif 17 19 16.8 +1.9
PFVI Vila Bisbo 114.64 308 *e*PP PP 17 24 08.9 +3.0
BBB Bella Bella 115.35 34 PKP PKPdf 17 23 05.0 +0.3
comp=Z,23nm,0.9s,baz=321,slow=2.0,SNR=14
BBB SKP 17 26 18.5
comp=Z,53nm,1.0s,baz=318,slow=1.8,SNR=3.4
BBB PKKPab PKKPab 17 33 49.0 +2.8
comp=Z,18nm,0.8s,baz=326,slow=2.4,SNR=7.9
BBB Bella Bella 115.35 34 SKP 17 26 18.5
BBB PKKPab PKKPab 17 33 49.0 +2.8
YKA Yellowknife Ar 115.81 20 PKP PKPdf 17 23 04.3 -1.0
comp=Z,25nm,0.8s,baz=318,slow=2.9,SNR=23
YKA PP PP 17 24 17.1 +4.1
comp=Z,53nm,0.8s,baz=322,slow=6.6,SNR=7.4
YKA SKP 17 26 19.5
comp=Z,48nm,0.9s,baz=313,slow=2.5,SNR=4.1
YKA PKKPbc PKKPbc 17 33 41.0 +0.2
comp=Z,8.1nm,0.8s,baz=118,slow=3.8,SNR=5.5
YKA PKKPab PKKPab 17 33 48.8 +4.9
comp=Z,20nm,0.9s,baz=128,slow=3.5,SNR=14
YKA SKKPbc 17 37 03.6
comp=Z,25nm,1.1s,baz=127,slow=2.6,SNR=4.8
YKA Yellowknife Ar 115.81 20 PKIKP PKPdf 17 23 04.3 -1.0
YKA PKKPbc PKKPbc 17 33 41.0 +0.2
YKA PKKPab PKKPab 17 33 48.9 +4.9
YKA SKKPbc 17 37 03.6
YKA Yellowknife Ar 115.81 20 SKP 17 26 19.6
YKA Yellowknife Ar 115.81 20 PP PP 17 24 17.1 +4.1
SFJD Kangerlussuaq 117.37 351 PKP PKPdf 17 23 09.0 +0.8
comp=Z,35nm,0.8s,baz=20,slow=3.8,SNR=5.4
SFJD PP PP 17 24 16.7 -6.9
comp=Z,93nm,1.1s,baz=8.4,slow=8.9,SNR=5.2
SFJD Kangerlussuaq 117.37 351 *i*P Pdif 17 19 25.8 -1.3
SFJD *i* 17 24 29.7
SFJD MLR MLR
comp=Z,24μm,20.0s
SFJD Kangerlussuaq 117.37 351 *i*P Pdif 17 19 25.8 -1.3
SFJD *i* 17 21 10.0
SFJD *i* 17 24 29.7
SFJD *e* 17 25 57.4
SFJD *e* 17 34 23.6
SFJD
comp=Z,24μm,20.0s
SFJD PP PP 17 24 16.7 -6.9
SFJD *i* 17 24 29.7
SFJD *e* 17 25 57.4
SFJD *e* 17 34 23.6
SFJD Kangerlussuaq 117.37 351 PKP PKPdf 17 23 09.0 +0.8
USHA Ushuaia 119.21 183 PKKPbc PKKPbc 17 33 26.1 -2.6
comp=Z,23nm,1.0s,baz=289,slow=1.9,SNR=2.7
OBC Olympics--Boni 119.48 37 P PKPdf 17 23 14.1 +1.2
PGC Sidney 119.58 36 *e*PKPdf PKPdf 17 23 14.2 +1.2
OSD Olympics--Snow 119.80 37 P PKPdf 17 23 14.7 +1.2
NLWA Neilton Lookou 119.89 38 *e*PKPdf PKPdf 17 23 14.2 +0.5
VDB Vedder Mountai 120.19 35 P PKPdf 17 23 13.7 -0.4
GNW Green Mountain 120.45 37 *e*PKPdf PKPdf 17 23 15.1 +0.4
JCW Jim Creek 120.69 36 *e*PKPdf PKPdf 17 23 15.1 0.0
BMW Boistfort Moun 120.69 39 *e*PKIKP PKPdf 17 23 15.6 +0.4
RPW Rockport 120.81 36 P PKPdf 17 23 15.0 -0.3
TDL Tradedollar La 121.37 38 P PKPdf 17 23 17.3 +0.8
LON Longmire 121.44 38 *e*PKIKP PKPdf 17 23 16.7 +0.1
COR Corvallis 121.47 41 *e*PKIKP PKPdf 17 23 17.1 +0.3
KEBM Edson Butte 121.49 43 *e*PKPdf PKPdf 17 23 18.1 +1.3
PMPS Porto Santo 121.55 305 *e*PP PP 17 24 57.9 +4.3
ETW Entiat 121.91 36 *e*PKPdf PKPdf 17 23 17.6 +0.1
PMAR Madeira 122.10 305 *e*PP PP 17 25 00.4 +3.0
KRMB Red Mountain 122.31 44 *e*PKPdf PKPdf 17 23 19.1 +0.6
EDM Edmonton 122.41 28 *e*PKIKP PKPdf 17 23 17.3 -1.0
EPH Ephrata 122.47 36 P PKPdf 17 23 18.7 +0.1
KTRM Thompson Ridge 122.52 43 P PKPdf 17 23 20.6 +1.8
HUMO Hull Mountain 122.53 43 *e*PKPdf PKPdf 17 23 17.9 -1.0
RSW Rattlesnake Hi 122.95 37 *e*PKPdf PKPdf 17 23 20.4 +0.8
HAWA Hanford 122.99 37 *e*PKPdf PKPdf 17 23 19.9 +0.3
YBH Yreka Blue Hor 123.05 43 PKP PKPdf 17 23 20.8 +0.9
comp=Z,27nm,0.9s,baz=138,slow=0.8,SNR=13
YBH PP PP 17 25 02.9 -0.3
comp=Z,47nm,0.9s,baz=104,slow=11,SNR=3.4
YBH PKKPbc PKKPbc 17 33 14.9 +1.2
comp=Z,5.4nm,0.7s,baz=69,slow=3.6,SNR=4.5
YBH Yreka Blue Hor 123.05 43 PKIKP PKPdf 17 23 20.8 +0.9
YBH PKKPbc PKKPbc 17 33 14.9 +1.2
YBH Yreka Blue Hor 123.05 43 PP PP 17 25 02.9 -0.3
KIPM Iron Peak 123.27 46 *e*PKPdf PKPdf 17 23 21.3 +0.9
NEW Newport 123.41 34 *e*PKIKP PKPdf 17 23 21.4 +1.0
WDC Whiskeytown Da 123.63 45 *e*PKIKP PKPdf 17 23 21.3 +0.3
HOPS Hopland 123.87 47 *e*PKPdf PKPdf 17 23 22.5 +1.0
LNOR Lincton Mounta 124.00 37 *e*PKIKP PKPdf 17 23 21.0 -0.6
MCCM Marconi Confer 124.33 47 *e*PKPdf PKPdf 17 23 23.8 +1.3
NSHM Saint Helena R 124.39 47 *e*PKPdf PKPdf 17 23 23.3 +0.8
BBTS Babate 124.50 284 PP PP 17 25 13.8 -0.2
comp=Z,132nm,1.0s,baz=45,slow=18,SNR=1.7
MOD Modoc 124.61 42 *e*PKPdf PKPdf 17 23 23.8 +0.9
WALA Waterton Lakes 124.70 32 *e*PKPdf PKPdf 17 23 23.6 +0.7
FCC Fort Churchill 124.86 14 *e*PKIKP PKPdf 17 23 22.2 -0.6
OHCM Honcut 124.88 46 *e*PKPdf PKPdf 17 23 23.7 +0.2
BMO Blue Mountains 125.11 38 *e*PKIKP PKPdf 17 23 24.1 +0.4
WVOR Wild Horse Val 125.46 41 *e*PKIKP PKPdf 17 23 25.3 +0.8
SAO San Andreas Ge 125.90 48 *e*PKIKP PKPdf 17 23 27.1 +1.6
CMB Columbia Colle 126.19 47 *e*PKIKP PKPdf 17 23 26.5 +0.5
PAHR Pah Rah Range 126.20 44 *e*PKPdf PKPdf 17 23 26.9 +1.0
PSMN Pico do Norte, 127.05 312 *e*PKP PKPdf 17 23 27.8 +0.1
CMLA Cha da Macela 127.07 314 *e*PKP PKPdf 17 23 27.3 -0.4
CMLA Cha da Macela 127.07 314 *e*PP PP 17 25 29.9 -0.2
CMLA Cha da Macela 127.07 314 *e*LQ 17 58 40.0
CMLA *e*LR LR 18 03 24.1
PDA Ponta Delgada 127.18 314 *e*PKP PKPdf 17 23 26.1 -1.8
PDA Ponta Delgada 127.18 314 *i*PP PP 17 25 34.4 +3.6
PDA Ponta Delgada 127.18 314 *i*P PS 17 35 38.0 -2.1
PDA *i*SS SS 17 42 22.0 +6.3
PDA Ponta Delgada 127.18 314 *i*LQ 17 58 43.0
PSET Sete Cidades 127.19 314 *e*PKP PKPdf 17 23 29.9 +2.0
PSET Sete Cidades 127.19 314 *e*PP PP 17 25 28.8 -2.0
BMN Battle Mountai 127.35 43 *e*PKIKP PKPdf 17 23 29.2 +1.0
EGMT Eagleton 127.51 31 *e*PKPdf PKPdf 17 23 28.5 +0.3
NVAR Mina Array Bea 127.51 45 PKhKP 17 23 24.3
comp=Z,5.3nm,0.8s,baz=274,slow=2.7,SNR=5.6
NVAR PKP PKPdf 17 23 30.6 +2.1
comp=Z,52nm,1.0s,baz=267,slow=1.8,SNR=28
NVAR SKP 17 26 40.3
comp=Z,72nm,0.8s,baz=264,slow=4.4,SNR=5.3
NVAR Mina Array Bea 127.51 45 PKP PKPdf 17 23 24.3 -4.2
HLID Hailey 127.56 38 *e*PKPdf PKPdf 17 23 29.8 +1.4
MCMT McKenzie Canyo 127.78 36 *e*PKPdf PKPdf 17 23 30.2 +1.4
MTUM Tungsten Hills 127.78 47 *e*PKPdf PKPdf 17 23 30.8 +1.7

PSCM Serra do Cume 127.80 315 *e*PKP PKPdf 17 23 31.7 +2.6
PSCM Serra do Cume 127.80 315 *e*PP PP 17 25 38.1 +3.3
ADH Angra Heroismo 127.91 315 *e*PKP PKPdf 17 23 30.9 +1.6
BOZ Bozeman (W) 127.99 34 *e*PKIKP PKPdf 17 23 28.7 -0.5
SRBC Serra Branca 128.29 316 *e*PKP PKPdf 17 23 33.4 +3.4
TPH Tonopah 128.43 45 *e*PKIKP PKPdf 17 23 31.7 +1.4
ELK Elko 128.51 41 PKP PKPdf 17 23 30.2 -0.2
comp=Z,111nm,1.0s,baz=320,slow=0.2,SNR=54
ISA Isabella 128.54 49 *e*PKIKP PKPdf 17 23 29.6 -1.0
ROSA Rosais 128.58 316 *e*PKP PKPdf 17 23 33.6 +3.0
GCMT Greycliff 128.99 33 *e*PKPdf PKPdf 17 23 33.0 +1.9
YNR Norris Junctio 129.09 35 *e*PKPdf PKPdf 17 23 34.7 +3.4
YFT Old Faithful 129.16 35 *e*PKPdf PKPdf 17 23 34.9 +3.4
LKWY Lake 129.34 35 *e*PKIKP PKPdf 17 23 35.6 +3.8
MWC Mount Wilson 129.43 50 *e*PKIKP PKPdf 17 23 31.4 -0.9
IMW Indian Meadow 129.44 36 *e*PKPdf PKPdf 17 23 31.9 -0.1
FLWY Flagg Ranch 129.47 35 *e*PKPdf PKPdf 17 23 32.5 +0.4
DCID1 Drake Creek 129.47 36 *e*PKPdf PKPdf 17 23 33.8 +1.7
TPNV Topopah Spring 129.62 46 *e*PKIKP PKPdf 17 23 32.3 -0.3
MOOW Moose Ponds 129.64 36 *e*PKPdf PKPdf 17 23 33.2 +0.8
TPAW Teton Pass 129.67 36 *e*PKPdf PKPdf 17 23 35.0 +2.5
LOHW Long Hollow 129.80 36 *e*PKPdf PKPdf 17 23 34.0 +1.2
SNOW Snow King Moun 129.80 36 *e*PKPdf PKPdf 17 23 34.2 +1.4
REDW Red Top Meadow 129.81 36 *e*PKPdf PKPdf 17 23 33.7 +0.9
BGU Big Grassy Mou 129.85 40 *e*PKPdf PKPdf 17 23 33.6 +0.7
DGMT Dagmar 129.88 27 *e*PKPdf PKPdf 17 23 27.6 -5.1
DGMT *e*PKPdf PKPdf 17 23 33.1 +0.4
GSC Goldstone 129.93 48 *e*PKIKP PKPdf 17 23 32.4 -0.8
SPUT South Promonto 130.01 39 *e*PKPdf PKPdf 17 23 34.9 +1.7
AHID Auburn Hatcher 130.01 37 *e*PKPdf PKPdf 17 23 35.2 +2.1
LAIL LASA Array 130.19 30 *e*PKPdf PKPdf 17 23 33.5 +0.2
DUG Dugway 130.38 41 *e*PKIKP PKPdf 17 23 30.3 -3.6
PFO Pinyon Flat Ob 130.89 50 PKP PKPdf 17 23 34.2 -0.9
comp=Z,29nm,1.0s,baz=250,slow=1.7,SNR=6.7
PFO PP PP 17 25 58.2 +3.2
comp=Z,35nm,0.8s,baz=328,slow=4.0,SNR=2.6
PFO SKPbc SKPbc 17 26 39.3 +7.8
comp=Z,717nm,1.1s,baz=279,slow=2.7,SNR=16
PFO SKKPbc 17 36 16.7
comp=Z,31nm,1.1s,baz=110,slow=4.6,SNR=4.5
PFO Pinyon Flat Ob 130.89 50 PKP PKPdf 17 23 34.2 -0.9
PFO Pinyon Flat Ob 130.89 50 SKPbc SKPbc 17 26 39.3 +7.8
PFO SKKPbc 17 36 16.7
PFO Pinyon Flat Ob 130.89 50 PP PP 17 25 58.2 +3.2
PDAR Pinedale Array 130.92 36 PKhKP 17 23 27.3
comp=Z,3.1nm,0.6s,baz=354,slow=0.4,SNR=4.5
PDAR PKP PKPdf 17 23 34.7 -0.2
comp=Z,20nm,0.7s,baz=207,slow=0.7,SNR=28
PDAR SKKPbc 17 36 13.4
comp=Z,35nm,1.1s,baz=110,slow=6.9,SNR=5.6
PDAR Pinedale Array 130.92 36 PKP PKPdf 17 23 34.7 -0.2
PDAR Pinedale Array 130.92 36 PKP PKPdf 17 23 27.3 -7.6
NLU North Lily Min 130.99 41 *e*PKPdf PKPdf 17 23 34.0 -1.1
SCHQ Schefferville 131.19 356 PKhKP 17 23 27.3
comp=Z,11nm,0.6s,baz=13,slow=4.0,SNR=12
SCHQ PKP PKPdf 17 23 36.0 +1.0
comp=Z,33nm,0.6s,baz=41,slow=2.5,SNR=26
SCHQ SKKPbc 17 36 14.3
comp=Z,11nm,0.8s,baz=275,slow=12,SNR=2.8
SCHQ Schefferville 131.19 356 PKP PKPdf 17 23 36.0 +1.0
ARUT Antelope Range 131.20 44 *e*PKIKP PKPdf 17 23 37.3 +1.7
DAU Daniels Canyon 131.26 40 *e*PKIKP PKPdf 17 23 30.3 -5.3
LDFC Landfair 131.28 48 *e*PKPdf PKPdf 17 23 38.2 +2.4
MSU Marysvale 131.69 42 *e*PKIKP PKPdf 17 23 38.6 +2.1
ULM Lac du Bonnet 131.79 20 PKP PKPdf 17 23 36.0 -0.2
comp=Z,63nm,0.8s,baz=330,slow=4.3,SNR=21
ULM PP PP 17 26 02.9 +3.3
comp=Z,81nm,0.9s,baz=306,slow=6.0,SNR=2.4
ULM SKPbc SKPbc 17 26 40.0 +5.8
comp=Z,2μm,0.9s,baz=336,slow=4.5,SNR=29
ULM SKKPbc 17 36 07.8
comp=Z,63nm,1.0s,baz=171,slow=5.3,SNR=4.6
ULM Lac du Bonnet 131.79 20 PKP PKPdf 17 23 36.0 -0.2
ULM *e*PKPdf PKPdf 17 23 37.5 +1.2
ULM SKPbc SKPbc 17 26 40.0 +5.8
ULM SKKPbc 17 36 07.8
ULM Lac du Bonnet 131.79 20 PP PP 17 26 02.9 +3.3
GLA Glamis 132.36 50 *e*PKIKP PKPdf 17 23 37.0 -0.9
SRU San Rafael 132.45 41 *e*PKIKP PKPdf 17 23 39.0 +1.1
RWWY Rawlins 132.96 36 *e*PKPdf PKPdf 17 23 38.6 -0.2
RSSD Black Hills 133.08 31 *e*PKIKP PKPdf 17 23 38.4 -0.5
PLCA Paso Flores 133.38 182 PKhKP 17 23 29.2
comp=Z,3.5nm,0.8s,baz=141,slow=2.0,SNR=5.5
AGMN Agassiz Refuge 133.44 21 *e*PKPdf PKPdf 17 23 28.0 -12
WUAZ Wupatki 133.77 45 *e*PKPpre 17 23 31.1
PV10 Paradox Valley 133.82 41 *e*PKPpre 17 23 30.4
PHWY Pilot Hill 134.22 35 *e*PKPdf PKPdf 17 23 42.2 +1.1
PV01 Paradox Valley 134.26 41 *e*PKPdf PKPdf 17 23 39.8 -1.6
MVCO Mesa Verde 134.84 42 *e*PKPdf PKPdf 17 23 40.8 -1.6
TRQA Tornquist 135.02 192 *e*PKPpre 17 23 30.4
ISCO Idaho Springs 135.09 37 *e*PKIKP PKPdf 17 23 41.2 -1.6
EYMN Ely 135.22 18 *e*PKPpre 17 23 28.2
TUC Tucson 135.75 49 *e*PKHKP 17 23 34.1
SDCO Great Sand Dun 136.45 39 *e*PKPdf PKPdf 17 23 47.1 +1.7
ECSD EROS,Sioux Fal 136.90 26 *e*PKPpre 17 23 34.9
LPA La Plata 137.00 198 *de*PKP PKPdf 17 23 42.0 -4.6
LPA PKIKP PKPdf 17 23 49.0 +2.4
LPA *e*SKP 17 26 52.0
LPA *e*SKP 17 26 54.0
LPA
comp=Z,45μm,18.0s
LAZ Ladron 137.31 44 *e*PKPpre 17 23 42.3
ANMO Albuquerque 137.47 43 PKhKP 17 23 40.0
comp=Z,8.6nm,0.8s,baz=310,slow=3.8,SNR=5.3
ANMO PP PP 17 26 39.1 +2.9
comp=Z,27nm,0.8s,baz=138,slow=1.8,SNR=2.9
ANMO SKKPbc 17 35 50.2
comp=Z,30nm,1.1s,baz=137,slow=7.8,SNR=3.8
CCHI Chillan 137.53 180 *e*P PKPdf 17 23 44.4 -3.1
COWI Conover 137.59 17 *e*PKPpre 17 23 44.5
LPM Los Pinos Moun 137.71 44 *e*PKPpre 17 23 41.6
BNM Barren Site 137.81 44 *e*PKPpre 17 23 42.1
CAM3 Guarapari 138.87 229 *e*P 17 23 36.8
CAM3 *i* 17 23 41.7
CAM3 *i* PKPdf 17 23 48.7 -1.7
CAM3 *i* 17 23 54.6
CAM3 *i* 17 24 06.1
CAM3 *i* 17 24 19.0
CAM3 *i* 17 27 05.8
CAM3 *i* 17 27 11.0
CAM3 *i* 17 27 15.1
CBKS Cedar Bluff 139.11 33 *e*PKHKP 17 23 42.4
LPIG La Paz 139.46 60 PKhKP 17 23 43.4
comp=Z,28nm,0.3s,baz=54,slow=3.6,SNR=2.2
LPIG PP PP 17 26 52.9 +3.8
comp=Z,39nm,0.4s,baz=62,slow=6.1,SNR=1.9
LPIG La Paz 139.46 60 *e*P 17 23 39.8
LPIG PKP PKPdf 17 23 43.4 -7.9
LPIG PP PP 17 26 52.9 +3.8
SCIA State Center 139.82 24 *e*PKPpre 17 23 43.6
MNTX Cornudas Mount 140.02 46 *e*PKPpre 17 23 45.5
JFWS Jewell Farm 140.08 21 *e*PKHKP 17 23 44.6
LMEL Las Melosas 140.23 183 *e*P PKPdf 17 23 46.1 -6.4
KSU1 Kansas State U 140.53 30 *e*PKPpre 17 23 46.5
FCH Farellones 140.75 183 *e*P PKPdf 17 23 46.8 -6.6
PKME Peaks-Kenny Pk 140.88 357 *e*PKPpre 17 23 47.3
SADO Sadowa 141.03 8 PKhKP 17 23 46.0
SADO PP PP 17 26 58.8 +2.0
FRNY Flat Rock 141.39 1 *e*PKPpre 17 23 44.7
LONY Lake Ozonia 141.57 2 *e*PKPpre 17 23 48.4
LONY *e*PKPdf PKPdf 17 23 57.1 +2.5
SPB Sao Paulo 141.72 219 *e*PKPpre 17 23 54.3
LBNH Lisbon 142.00 359 *e*PKIKP PKPdf 17 23 51.1 -4.2
NCB Newcomb 142.24 2 *e*PKPpre 17 23 47.9
CFAA Coronel Fontan 142.31 186 PKhKP 17 23 52.1
comp=Z,5.3nm,0.5s,baz=190,slow=3.5,SNR=38
CFAA pPKP pPKPdf 17 25 09.6 -0.7
comp=Z,7.4nm,0.6s,baz=128,slow=4.3,SNR=0.6
CFAA PP PP 17 27 07.8 +3.3
comp=Z,16nm,0.8s,baz=211,slow=1.7,SNR=3.3
CFAA SKKPbc 17 35 27.9
comp=Z,4.6nm,0.9s,baz=336,slow=3.1,SNR=3.4
CFAA Coronel Fontan 142.31 186 pPKP pPKPdf 17 25 09.6 -0.7
CFAA PP PP 17 27 07.8 +3.3
CFAA SKKPbc 17 35 27.9
HDIL Hopedale 142.50 21 *e*PKPdf PKPdf 17 23 52.2 -4.1
WMOK Wichita Mounta 142.52 37 *e*PKIKP PKPdf 17 23 53.1 -3.4
HNH Hanover 142.54 360 *e*PKPpre PKPdf 17 23 52.9 -3.4
AAM Ann Arbor 142.58 14 *e*PKIKP PKPdf 17 23 53.0 -3.4
FFD Franklin Falls 142.76 359 *e*PKPdf PKPdf 17 23 53.8 -2.9
ACCN Adirondack Com 142.84 2 *e*PKPpre PKPdf 17 23 52.5 -4.4
CMCH Combarbala 142.92 182 *e*P PKPdf 17 23 56.0 -1.4
MAIG Mazatlaan 143.11 59 *e*P PKPdf 17 23 52.2 -5.7
HRV Adam Dziewonsk 143.73 359 PKPdf PKPdf 17 23 54.1 -4.3
HRV pPKPdf pPKPdf 17 25 19.9 +7.4
HRV SS SS 17 45 31.5 +1.2
HRV Adam Dziewonsk 143.73 359 *e*PKHKP PKPdf 17 23 55.6 -2.8
HRV Adam Dziewonsk 143.73 359 *e*PKPpre PKPdf 17 23 55.6 -2.8
SLM Saint Louis 143.80 24 *e*PKIKP PKPdf 17 23 55.8 -2.9
WES Weston 143.84 359 *e*PKIKP PKPdf 17 23 56.0 -2.6
CCM Cathedral Cave 143.87 26 *e*PKIKP PKPdf 17 23 55.2 -3.6
BINY Binghamton 143.90 5 *e*PKPpre PKPdf 17 23 54.6 -4.1
TLL Tololo Astrono 143.92 182[]*i*P PKPdf 17 23 59.3 +0.1
ALLY Alegheny Colle 143.93 10 *e*PKPpre PKPdf 17 23 55.9 -2.9
QUA2 Belchertown 143.96 360 *e*PKPdf PKPdf 17 23 57.3 -1.5
FVM French Village 144.28 25 *e*PKIKP PKPdf 17 23 57.1 -2.4
BRYW Bryant College 144.31 359 *e*PKPdf PKPdf 17 23 57.3 -2.1
CPUP Villa Florida 144.61 204 PKP PKPdf 17 24 01.1 +0.6
comp=Z,103nm,0.5s,baz=134,slow=2.0,SNR=149
CPUP PP PP 17 27 21.1 +2.5
comp=Z,454nm,0.8s,baz=97,slow=1.6,SNR=7.7
CPUP Villa Florida 144.61 204 PP PP 17 27 21.1 +2.5
JCT Junction City 144.63 43 *e*PKIKP PKPdf 17 23 59.4 -1.0
BLO Bloomington 144.69 19 *e*PKIKP PKPdf 17 23 58.5 -1.7
ACSO Alum Creek Sta 144.71 14 *e*PKPpre PKPdf 17 23 58.3 -1.8
LCO Las Campanas 145.06 183 *e*PKPdf PKPdf 17 24 02.9 +1.7
PAL Palisades 145.21 2 *e*PKIKP PKPdf 17 24 00.0 -1.0
CPNY Central Park 145.42 2 *e*PKPdf PKPdf 17 24 01.9 +0.5
VACH Vallenar 145.50 183 *e*P PKPdf 17 24 02.1 +0.1
BRNJ Basking Ridge 145.50 3 *e*PKPdf PKPdf 17 24 02.2 +0.7
MIAR Mount Ida 145.59 32 *e*PKHKP PKPdf 17 24 01.7 -0.2
WCI Wyandotte Cave 145.61 20 *e*PKPdf PKPdf 17 24 01.5 -0.3
UALR University of 146.04 30 *e*PKPdf PKPdf 17 24 02.8 +0.1
UTMT University of 146.33 24 *e*PKPdf PKPdf 17 24 04.4 +1.3
MET Memphis--Engin 146.90 27 *e*PKPdf PKPdf 17 24 06.6 +2.5
SFJM Santa Fe 147.03 61 *i*P PKPdf 17 24 03.0 -1.7
NATX Nacogdoches 147.06 36 *e*PKPdf PKPdf 17 24 04.3 -0.1
BDFB Brasilia 147.59 228 PKPbc PKPbc 17 24 08.0 -0.8
comp=Z,93nm,0.6s,baz=142,slow=1.9,SNR=28
BDFB pPKP pPKPdf 17 25 14.5 -5.3
comp=Z,108nm,0.8s,baz=90,slow=24,SNR=0.7
HKT Hockley 147.60 40 *e*PKP2 PKPbc 17 24 07.1 -1.4
OXF Oxford 147.65 27 *e*PKIKP PKPdf 17 24 04.9 -0.4
KVTX Kingsville 147.73 46 *e*PKPdf PKPdf 17 24 07.1 +1.4
TZTN Tazewell 148.02 17 *e*PKPdf PKPdf 17 24 05.8 -0.1
BLA Blacksburg 148.17 12 *e*PKIKP PKPdf 17 24 06.4 +0.3
SWET Sewanee 148.45 21 *e*PKPdf PKPdf 17 24 05.2 -1.4
TKL Tuckaleechee C 148.77 18 PKP PKPdf 17 24 08.0 +0.9
comp=Z,456nm,0.9s,baz=148,slow=3.1,SNR=38
TKL PKPbc PKPbc 17 24 10.9 -0.4
comp=Z,414nm,0.8s,baz=144,slow=1.4,SNR=112
TKL Tuckaleechee C 148.77 18 PKP PKPdf 17 24 08.0 +0.9
TKL PKPbc PKPbc 17 24 10.9 -0.4
VBMS Vicksburg 148.99 31 *e*PKPdf PKPdf 17 24 08.6 +1.0
ZIIG Zihuatanejo 149.41 65 *e*P PKPdf 17 24 08.7 +0.1
CNNC Cliffs of the 150.56 9 *e*PKPdf PKPdf 17 24 11.4 +1.5
CAIG El Cayaco 150.67 66 *e*P PKPdf 17 24 09.5 -1.1
UNM Universidad Na 150.83 61 *e*PKIKP PKPdf 17 24 11.9 +1.1
PLIG Platanillo 150.90 63 *i*P PKPdf 17 24 11.3 +0.3
GOGA Godfrey 150.94 19 *e*PKIKP PKPdf 17 24 10.8 +0.2
ACX Acapulco 151.04 66 *i*P PKPdf 17 24 13.0 +1.8
YAIG Yautepec 151.10 62 *i*P PKPdf 17 24 10.9 -0.4
LVC Limon Verde 151.27 187 PKP PKPdf 17 24 13.5 +2.1
comp=Z,51nm,0.9s,baz=279,slow=1.4,SNR=34
LVC PKPbc PKPbc 17 24 20.3 +2.6
comp=Z,278nm,0.8s,baz=204,slow=1.9,SNR=80
LVC pPKPbc pPKPbc 17 25 26.5 -4.6
comp=Z,142nm,0.7s,baz=235,slow=16,SNR=0.8
LVC Limon Verde 151.27 187 PKP PKPdf 17 24 13.5 +2.1
LVC Limon Verde 151.27 187 PKPbc PKPbc 17 24 20.3 +2.6
LVC pPKPbc pPKPbc 17 25 26.5 -4.7
PPM Popocatepetl 151.41 61 *i*PKIKP PKPdf 17 24 12.3 +0.6
PPM *e* 17 24 14.0
BRAL Brewton 151.66 27 *e*PKPdf PKPdf 17 24 12.8 +1.0
COW Cow Castle Cre 151.77 15 *e*PKPdf PKPdf 17 24 13.2 +1.4
NHSC New Hope 152.16 14 *e*PKPdf PKPdf 17 24 13.8 +1.3
PNIG Pinotepa 152.82 66 *e*P PKPdf 17 24 14.7 +0.9
BBSR BB Station 152.88 346 *e*PKPdf PKPdf 17 24 14.4 +0.9
BBSR BB Station 152.88 346 *e*PKPbc PKPbc 17 24 21.1 +0.1
LVIG Laguna Verde 153.02 58 *i*P PKPdf 17 24 14.2 +0.1
VHO Vista Hermosa 153.83 63 *e*P PKPdf 17 24 16.4 +1.1
OXX Oaxaca 153.84 63 *i*P PKPdf 17 24 18.5 +3.2
HUIG Huatulco 154.86 66 *e*P PKPdf 17 24 16.9 +0.2
SIV San Ignacio 155.35 207 PKP PKPdf 17 24 18.5 +1.1
comp=Z,51nm,1.0s,baz=145,slow=1.7,SNR=75
CMIG Matias Romero 155.46 62 PKP PKPdf 17 24 18.1 +0.6
comp=Z,49nm,0.9s
CMIG Matias Romero 155.46 62 PKP PKPdf 17 24 18.1 +0.6
TUIG Tuzandepetl 155.46 59 *i*P PKPdf 17 24 17.6 +0.2
DWPF Disney 156.49 20 PKPdf PKPdf 17 24 18.2 -0.4
DWPF Disney 156.49 20 *e*PKPdf PKPdf 17 24 19.4 +0.8
LPAZ La Paz 157.37 191 PKP PKPdf 17 24 21.4 +1.4
comp=Z,52nm,0.9s,baz=67,slow=2.4,SNR=64
LPAZ pPKP pPKPdf 17 25 30.4 -3.8
comp=Z,35nm,0.7s,baz=27,slow=22,SNR=0.7
LPAZ La Paz 157.37 191 PKP PKPdf 17 24 21.4 +1.4
LPAZ La Paz 157.37 191 pPKP pPKPdf 17 25 30.4 -3.8
SCX San Cristobal 157.56 60 *e*P PKPdf 17 24 19.0 -1.2
ARE Arequipa 157.58 182 *e*PKIKP PKPdf 17 24 23.0 +2.7
CCIG Comitan 158.19 61 *i*P PKPdf 17 24 20.1 -0.8
TEIG Tepich 159.15 46 PKP PKPdf 17 24 20.1 -2.0
comp=Z,66nm,1.0s,baz=324,slow=3.5,SNR=1.7
TEIG PKPab PKPab 17 25 03.2 +2.7
comp=Z,74nm,0.7s,baz=336,slow=10.0,SNR=5.9
TEIG pPKP pPKPdf 17 25 32.4 -4.0
comp=Z,37nm,0.6s,baz=291,slow=17,SNR=0.9
TEIG PP PP 17 28 46.4 +4.4
comp=Z,39nm,0.7s,baz=280,slow=15,SNR=2.4
TEIG Tepich 159.15 46 PKPab PKPab 17 25 03.2 +2.7
TEIG pPKP pPKPdf 17 25 32.4 -4.0
TEIG PP PP 17 28 46.4 +4.4
SOR Soroa 160.50 31 *e*P PKPdf 17 24 30.4 +6.9
PAYG Puerto Ayora 160.94 110 *e*PKPdf PKPdf 17 24 26.3 +2.1
SBLS San Blas 161.40 64 *e*P x 17 24 25.8
NNA Nana 161.51 166 PKP PKPdf 17 24 26.3 +1.5
comp=Z,102nm,1.0s,baz=307,slow=2.2,SNR=20
NNA pPKP pPKPdf 17 25 34.7 -4.5
comp=Z,194nm,1.0s,baz=195,slow=7.2,SNR=1.3
NNA Nana 161.51 166 PKP PKPdf 17 24 26.3 +1.5
NNA Nana 161.51 166 pPKP pPKPdf 17 25 34.7 -4.5
MGV Manicaragua 162.47 24 *e*P PKPdf 17 24 26.9 +1.3
TGUH Tegucigalpa,Un 163.38 60[]*e*P PKPdf 17 24 25.0 -1.6
TGUH Tegucigalpa,Un 163.38 60[]*e*PKPdf PKPdf 17 24 26.8 +0.2
CCCC Cccc 164.11 19 *e*P PKPdf 17 24 24.0 -3.1
CRIN San Cristobal 164.15 64 *e*P PKPdf 17 24 25.4 -2.0
TEL3 Telica 3 164.38 65 *e*P PKPdf 17 24 26.5 -1.0
LEON Leon 164.40 65 *e*P PKPdf 17 24 26.3 -1.2
CNGN Cerro Negro 164.54 65 *e*P PKPdf 17 24 27.2 -0.5
CPB Codrington 164.54 319 *e*P PKPdf 17 24 29.3 +1.7
MOMN Momotombo 164.72 65 *e*P PKPdf 17 24 27.7 -0.2
COPN Copaltepe 164.76 66 *e*P PKPdf 17 24 28.3 +0.5
CSAN 164.91 65 *e*P PKPdf 17 24 27.7 -0.3
BPA Boggy Peak 164.99 317 *e*P PKPdf 17 24 27.4 -0.6
XAVN Gruta Xavier 165.01 65 *e*P PKPdf 17 24 27.0 -1.1
HUEN 165.07 64 *e*P PKPdf 17 24 27.6 -0.6
MGAN Managua 165.08 65 *e*P PKPdf 17 24 25.9 -2.2
CRUN El Crucero 165.09 66 *e*P PKPdf 17 24 27.3 -0.8
LMGC Las Mercedes 165.41 17 *e*P PKPdf 17 24 29.8 +1.5
BOAB BOACO BROADBAND 166.48 63[]*e*P PKPdf 17 24 28.6 +0.1
DWS Wesley 165.60 312 *e*P PKPdf 17 24 28.6 +0.1
ATAH Atahualpa 165.69 155 PKP PKPdf 17 24 30.5 +1.8
comp=Z,80nm,1.0s,baz=350,slow=1.7,SNR=25
ATAH pPKP pPKPdf 17 25 40.7 -2.5
comp=Z,64nm,0.9s,baz=260,slow=13,SNR=1.3
DBCT Belle View Cho 165.81 311 *e*P PKPdf 17 24 30.0 +1.4
MDN Morne-Daniel 165.81 311 *e*P PKPdf 17 24 27.0 -1.7
MDN Morne-Daniel 165.81 311 *e* PKPab 17 25 29.7 -0.2
CONN Concepcion 165.86 66 *e*P PKPdf 17 24 28.8 0.0
DSHT Scott's Head 165.87 311 *e*P PKPdf 17 24 33.1 +4.4
MASC Masc 165.89 7 *e*P PKPdf 17 24 26.9 -1.8
MVM Montagne Vaucl 165.89 307 *e*P PKPdf 17 24 32.8 +4.0
FDF Fort de France 165.99 309 *e*P PKPdf 17 24 29.5 +0.7
FDF Fort de France 165.99 309 *e*PKPdf PKPdf 17 24 29.3 +0.5
MAON Villa Maderas 166.00 67 *e*P PKPdf 17 24 27.3 -1.6
MTP Monte Pirata 166.31 331 *e*PKPdf PKPdf 17 24 29.5 +0.5
VCR Vista de Mar 166.32 72 *e*P PKPdf 17 24 29.9 +0.7
MCLT Moule a Chique 166.40 305 *e*P PKPdf 17 24 32.2 +3.0
HUMP Col San Antoni 166.41 332 *e*PKPdf PKPdf 17 24 29.0 -0.1
SLB Belfond 166.42 305 *e*P PKPdf 17 24 31.2 +2.0
SLB Belfond 166.42 305 *e* PKPab 17 25 24.7 -7.9
SLB Belfond 166.42 305 *e* PKPab 17 25 34.9 +2.3
SLB *e*P PKPab 17 25 34.9 +2.3
SLB Belfond 166.42 305 *e*P PKPab 17 25 24.7 -7.9
CPD Cerro la Pandu 166.54 332 *e*PKIKP PKPdf 17 24 29.3 +0.1
SJG San Juan 166.58 333 *e*PKIKP PKPdf 17 24 29.5 +0.3
AOPR Arecibo Observ 166.62 336 *e*PKPdf PKPdf 17 24 28.7 -0.6
JCR Jicaral 166.88 73 *e*P PKPdf 17 24 29.9 +0.3
BBJ Bamboo Saint A 166.90 21[]*e*P PKPdf 17 24 30.6 +1.2
FCV Fort Charlotte 166.94 303 *e*P PKPdf 17 24 30.1 +0.5
FCV Fort Charlotte 166.94 303 *e* PKPab 17 25 27.1 -7.9
FCV Fort Charlotte 166.94 303 *e*P PKPab 17 25 27.1 -7.9
SDDR Presa de Saban 167.14 355 *e*PKPdf PKPdf 17 24 30.2 +0.6
STH Stony Hill 167.34 19[]*e*P PKPdf 17 24 31.1 +1.3
GWJ Greenwich 167.37 19[]*e*P PKPdf 17 24 30.4 +0.6
HOJ Hope 167.42 19[]*e*P PKPdf 17 24 31.1 +1.2
TPR Prospect 167.43 295 *e*P PKPdf 17 24 31.2 +1.2
CGA2 Cerro Gallo 2 167.45 71 *e*P PKPdf 17 24 30.5 +0.5
PCJ Portland Cotta 167.53 21[]*e*P PKPdf 17 24 31.6 +1.7
PRS1 Puriscal 167.60 71 *e*P PKPdf 17 24 30.4 +0.3
YHJ Yallahs 167.61 18[]*e*P PKPdf 17 24 31.6 +1.6
GRSS Sisters 167.68 301 *e*P PKPdf 17 24 30.6 +0.4
GRSS Sisters 167.68 301 *e* PKPab 17 25 40.0 +1.7
GRW Mount Saint Ca 167.79 300 *e* PKPab 17 25 39.7 +1.0
GRW Mount Saint Ca 167.79 300 *e*P PKPab 17 25 39.7 +1.0
QCR Quepos 167.90 73 *e*P PKPdf 17 24 31.1 +0.8
TBH Brigand Hill 167.95 292 *e*P PKPdf 17 24 32.8 +2.4
TBH Brigand Hill 167.95 292 *e* PKPab 17 25 43.9 +4.3
LCR2 La Lucha 2 167.96 72 *e*P PKPdf 17 24 30.7 +0.4
TRN Trinidad (W) 168.20 293 *e*P PKPdf 17 24 32.2 +1.7
TRN Trinidad (W) 168.20 293 *e* PKPab 17 25 43.6 +3.0
BUS Buena Vista 168.25 72 *e*P PKPdf 17 24 31.7 +1.1
TCE Chacachacare 168.50 294 *e*P PKPdf 17 24 32.6 +1.9
BAR1 168.76 73 *e*P PKPdf 17 24 31.7 +0.8
PCRV Puerto La Cruz 171.29 298 PKP PKPdf 17 24 31.4 -1.0
comp=Z,19nm,0.5s,baz=7.4,slow=1.0,SNR=12
PCRV PKPab PKPab 17 25 50.4 -3.9
comp=Z,39nm,0.8s,baz=160,slow=4.6,SNR=1.1
PCRV PP PP 17 29 43.9 -1.6
comp=Z,12nm,0.7s,baz=62,slow=12,SNR=2.2
PCRV Puerto La Cruz 171.29 298 PKPab PKPab 17 25 50.4 -3.9
PCRV PP PP 17 29 43.9 -1.6
OTAV Otavalo 171.63 134 *e*PKPdf PKPdf 17 24 33.4 +0.8
BCIP Isla Barro Col 172.03 67 *e*PKPdf PKPdf 17 24 32.6 0.0
SDV Santo Domingo 176.71 328 PKP PKPdf 17 24 33.7 -0.5
comp=Z,17nm,0.3s,baz=357,slow=0.9,SNR=19
SDV pPKP pPKPdf 17 25 46.7 -2.1
comp=Z,31nm,0.4s,baz=280,slow=6.1,SNR=1.1
SDV PKPab PKPab 17 26 20.0 +1.9
comp=Z,82nm,0.7s,baz=88,slow=1.3,SNR=4.2
SDV PKPab PKPab 17 26 20.0 +1.9
SDV Santo Domingo 176.71 328 pPKP pPKPdf 17 25 46.7 -2.1
ROSC El Rosal 177.74 123 PKP PKPdf 17 24 33.3 -1.1
comp=Z,55nm,0.9s,baz=158,slow=1.9,SNR=33

NEIC ***08*** *17:05:04.9±0.1,586S×107.42E,h280km,mb6.5/55,ME7.2, MW7.4,Error ellipse: s-maj=6.4km s-min=4.5km az=51.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^{20}Nm; M_{rr}0.78; $M_{\theta\theta}$-1.02; $M_{\phi\phi}$0.24; $M_{r\theta}$1.43; $M_{\phi\phi}$0.58; $M_{\theta\phi}$0.41; Best double couple: $M_0$1.80000×10^{20} NP1: ϕ_s81.00000°,δ76.00000°,λ65.00000°. NP2:ϕ_s323.00000°, δ28.00000°,λ149.00000°. Principal axes: T 1.8300, Plg52.0000°, Azm321.0000°; N 0.0300, Plg24.0000°, Azm87.0000°; P -1.8600, Plg27.0000°, Azm190.0000°; Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [V] at Serpong; [IV] at Bandung, Bekasi, Bogor, Cicurug, Depok, Jakarta, Sleman, Tangerang and Yogyakarta; [III] at Citeko, Kebumen, Malang and Pacitan; [II] at Blitar and Tretes. Felt at Baki, Banjar, Banjaran, Bantul, Ciawi, Cibadak, Cilacap, Cilegon, Cimanggis, Ciputat, Cirebon, Dayeuhkolot, Garut, Karangasem, Karawang, Kediri, Kuningan, Lembang, Madiun, Pelabuhanratu, Pondok Aren, Pondokgede, Purwokerto, Salatiga, Semarang, Sewon, Sukabumi, Teluknaga, Tulungagung and Weleri. Felt [IV] at Kuta; [III] at Denpasar and Ubud; [II] at Bali; felt at Klungkung, Bali. Felt [III] at Liwa and Padang; felt at Bandar Lampung, Sumatra. Also felt [III] at Kuala Lumpur; felt at Petaling Jaya and Sungai Ara, Malaysia.

ISCJB ***08*** *17:05:05.0±0.2,588S±004×10745E±004,h294km, mb6.4/50 Error ellipse: s-maj=6.0km s-min=3.7km az=137.1*

MOS ***08*** *17:05:05.3±1.2,582S×107.52E,h296km,mb6.7/14,Error ellipse: s-maj=12.0km s-min=7.0km az=123.3*

ISC 08 17:05:06.7±0.2,**589S**±003×**10745E**±004,**h296**km, **h296**km±3.2km:**pP-P,n852,σ1**9**17**/244,**mb6.4**/48, **196C-205D,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**7.85**	**21**	*e*P	**Pn**	**17 06 59.8**	**+1.3**
COCO	**West Island**	**12.21**	**238**	*e*Pn	**Pn**	**17 07 50.9**	**-1.0**
WSI	**Waingapu**	**13.27**	**107**	*e*S	**Pn**	**17 08 01.0**	**-3.7**
KKM	**Kota Kinabalu**	**14.73**	**37**	*e*P	**Pn**	**17 08 22.8**	**+0.6**
MBWA	**Marble Bar**	**19.29**	**143**	*e*P	**P**	**17 09 09.0**	**-1.4**
	4μm,0.9s						
IPIL	**Ipil**	**20.30**	**48**	*i*S	**P**	**17 09 24.4**	**+3.3**
FITZ	**Fitzroy Crossi**	**21.51**	**126**	*e*P	**P**	**17 09 33.0**	**+0.4**
	556nm,0.7s,mb6.0						
FITZ				*e*S	**S**	**17 13 08.1**	**-2.2**
FITZ				*e*		17 13 16.4	
FITZ				*e*ScP	ScP	17 16 33.8	+1.7
FITZ				*e*ScS	ScS	17 20 17.2	+0.4
FITZ	**Fitzroy Crossi**	**21.51**	**126**	S	**S**	**17 13 07.6**	**-2.8**
	441nm,0.6s,baz=333,slow=18,SNR=3.2						
FITZ				*e*S	**S**	**17 13 08.1**	**-2.2**
FITZ				*e*		17 13 16.4	
FITZ				*e*SCP	ScP	17 16 33.8	+1.7
FITZ				*e*SCS	ScS	17 20 17.2	+0.4
FITZ	**Fitzroy Crossi**	**21.51**	**126**	*e*	**P**	**17 09 33.0**	**+0.4**
AAP	**Anini-y**	**21.70**	**42**	*e*P	**P**	**17 09 38.3**	**+3.9**
DAV	**Davao City (W)**	**22.20**	**55**	P	**P**	**17 09 38.2**	**-0.8**
	SNR=91						
DAV	**Davao City (W)**	**22.20**	**55**	*e*P	**P**

WB2				*e*S	**S**	**17 15 15.3**	**-3.6**
WB2				*es*S	sS	17 16 52.1	-10
WB2				*e*ScS	ScS	17 20 49.0	-2.3
WB2				*e*		17 11 40.4	
WB2				*e*S	**S**	**17 15 15.3**	**-3.6**
WB2				*es*S	sS	17 16 52.1	-10
WB2				*e*SCS	ScS	17 20 49.0	-2.3
WB2	**Warramunga Arr**	**29.64**	**121**	*e*	**P**	**17 10 47.9**	**+2.4**
ASAR	**Alice Springs**	**30.98**	**127**	PcP	PcP	17 13 47.8	+2.2
ASAR				S	**S**	**17 15 37.0**	**-2.8**
ASAR				ScP	ScP	17 17 02.0	+2.0
ASAR				*e*		17 42 28.2	
ASAR				S	**S**	**17 15 37.0**	**-2.8**
	comp=Z,2µm,1.0s,baz=294,slow=13,SNR=16						
ASAR				ScP	ScP	17 17 02.0	+2.0
	comp=Z,1µm,1.0s,baz=310,slow=1.5,SNR=11						
ASAR				P3KPbc		17 42 28.2	
	comp=Z,2.9nm,0.7s,baz=143,slow=6.5,SNR=8.3						
ASAR	**Alice Springs**	**30.98**	**127**	PcP	PcP	17 13 47.8	+2.2
	comp=Z,358nm,0.7s,baz=304,slow=1.7,SNR=6.6						
FORT	**Forrest**	**31.43**	**144**	*e*P	**P**	**17 11 02.5**	**+1.5**
	comp=Z,2µm,0.6s,mb6.8						
FORT				*e*S	**S**	**17 15 47.0**	**+0.5**
FORT				*e*S	**S**	**17 15 47.0**	**+0.5**
FORT	**Forrest**	**31.43**	**144**	*e*	**P**	**17 11 02.5**	**+1.5**
NACB	**Ninganchiao**	**32.91**	**24**	*e*P	**P**	**17 11 13.5**	**-0.4**
	comp=Z,3µm,1.2s,mb6.7						
MDRS	**Chennai**	**32.94**	**305**	*e*P	**P**	**17 11 13.7**	**-0.6**
YHNB	**Yeheng**	**33.27**	**24**	*e*P	**P**	**17 11 17.6**	**+0.6**
	comp=Z,6µm,1.4s,mb6.9						
VIS	**Vishakhapatnam**	**33.43**	**315**	*e*P	**P**	**17 11 18.3**	**-0.2**
TATO	**Taipei**	**33.58**	**23**	*e*P	**P**	**17 11 20.1**	**+0.4**
	comp=Z,7µm,1.5s,mb7.0						
TRD	**Trivandrum**	**33.60**	**295**	*i* P	**P**	**17 11 19.2**	**-0.8**
TRD				AMb	AMB	17 11 25.1	
	comp=Z,5µm,1.1s,mb7.0						
CAL	**Calcutta**	**33.89**	**327**	*e*P	**P**	**17 11 22.1**	**-0.2**
CAL				*ex*	x	17 16 47.2	
BOK	**Bokaro**	**36.24**	**325**	*e*P	**P**	**17 11 42.3**	**0.0**
HYB	**Hyderabad**	**36.76**	**310**	*e*S	**S**	**17 17 04.0**	**-4.4**
HYB				*e*		17 28 40.0	
BLSP	**Bilaspur**	**37.29**	**319**	*e*P	**P**	**17 11 50.6**	**-0.5**
JOW	**Kunigami**	**38.27**	**31**	S	**S**	**17 17 33.5**	**+2.6**
JOW	**Kunigami**	**38.27**	**31**	S	**S**	**17 17 33.5**	**+2.6**
	comp=Z,150nm,1.0s,baz=74,slow=26,SNR=7.4						
LSA	**Lhasa**	**38.70**	**337**	*e*P	**P**	**17 12 04.3**	**+1.6**
LSA				pmax	pmax		
	comp=Z,1µm,0.9s,mb6.4						
LSA	**Lhasa**	**38.70**	**337**	*e*P	**P**	**17 12 04.3**	**+1.6**
	comp=Z,1µm,0.9s,mb6.4						
LATR	**Latur**	**38.88**	**309**	*e*P	**P**	**17 12 03.8**	**-0.6**
LATR				AMb	AMB	17 12 10.2	
	comp=Z,7µm,1.7s,mb6.8						
PMG	**Port Moresby**	**39.49**	**98**	*e*P	**P**	**17 12 08.2**	**-1.3**
PMG				pmax	pmax		
	comp=Z,3µm,0.9s						
PMG	**Port Moresby**	**39.49**	**98**	*e*P	**P**	**17 12 08.2**	**-1.4**
	comp=Z,3µm,0.9s,mb6.8						
GOA	**Goa**	**39.51**	**303**	*e*P	**P**	**17 12 09.4**	**-0.2**
GOA				AMb	AMB	17 12 14.5	
	comp=Z,2µm,1.4s,mb6.3						
ALBI	**Allahabad**	**39.79**	**322**	*ex*	**P**	**17 12 10.0**	**-1.8**
AKL	**Akola**	**39.90**	**312**	*e*P	**P**	**17 12 12.8**	**0.0**
AKL				AMb	AMB	17 12 18.5	
	comp=Z,4µm,1.8s,mb6.4						
CTA	**Charters Tower**	**40.23**	**114**	*e*P	**P**	**17 12 16.7**	**+1.2**
CTA				*e*	pP	17 13 15.7	+0.6
CTA				*e*		17 14 14.6	
CTA				*e*S	**S**	**17 17 59.7**	**-0.5**
CTA				*e**SS	sS	17 19 41.6	-5.4
CTA				*es*S	SS	17 21 06.9	-5.1
CTA				pmax	pmax		
	comp=Z,159nm,0.8s						
CTA	**Charters Tower**	**40.23**	**114**	*e*P	**P**	**17 12 16.7**	**+1.2**
	comp=Z,159nm,0.8s,mb5.4						
CTA				*e*	pP	17 13 15.7	+0.6
CTA				*e*		17 14 14.6	
CTA				*e*ScP	ScP	17 17 34.6	+0.7
CTA				*e*S	**S**	**17 17 59.7**	**-0.5**
CTA				*es*S	sS	17 19 41.6	-5.4
CTA				*e*SS	SS	17 21 06.9	-5.1
CTA				*e*	pP	17 13 15.7	+0.6
CTA				*e*		17 14 14.6	
CTA				*e*SCP	ScP	17 17 34.6	+0.7
CTA				*e*S	**S**	**17 17 59.7**	**-0.5**
CTA				*es*S	sS	17 19 41.6	-5.4
CTA				*e*SS	SS	17 21 06.9	-5.1
CTA	**Charters Tower**	**40.23**	**114**	*e*	**P**	**17 12 16.7**	**+1.2**
CTAO	**Charters Tower**	**40.23**	**114**	*e*P	**P**	**17 12 14.4**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,4µm,1.2s,mb6.6						
CTAO	**Charters Tower**	**40.23**	**114**	*e*P	**P**	**17 12 14.4**	**-1.1**
	comp=Z,4µm,1.2s,mb6.6						
STKA	**Stephens Creek**	**41.06**	**133**	*e*P	**P**	**17 12 22.6**	**+0.6**
	comp=Z,862nm,0.7s,mb6.1						
STKA				*e*	pP	17 13 20.7	-1.2
STKA				*e*ScP	ScP	17 17 37.3	+0.4
STKA				*e*		17 18 11.4	
STKA				*e*SS	SS	17 21 23.8	-4.0
STKA				*e*ScS	ScS	17 21 51.1	-2.3
STKA				*e*	pP	17 13 20.7	-1.2
STKA				*e*SCP	ScP	17 17 37.3	+0.4
STKA				*e*		17 18 11.4	
STKA				*e*SS	SS	17 21 23.8	-4.0
STKA				*e*SCS	ScS	17 21 51.1	-2.3
STKA	**Stephens Creek**	**41.06**	**133**	*e*	**P**	**17 12 22.6**	**+0.6**
POO	**Poona**	**41.07**	**307**	⇑*i*P	**P**	**17 12 21.7**	**-0.6**
GUMO	**Guam**	**41.89**	**62**	*e*P	**P**	**17 12 26.5**	**-2.5**
GUMO				pmax	pmax		
	comp=Z,2µm,0.6s,mb6.5						
GUMO	**Guam**	**41.89**	**62**	*e*P	**P**	**17 12 26.5**	**-2.5**
	comp=Z,2µm,0.6s,mb6.5						
BOM	**Bombay**	**42.09**	**307**	*ex*	x	17 12 27.0	
BOM				*ex*	x	17 23 04.1	
AJM	**Ajmer**	**45.24**	**317**	*i* P	**P**	**17 12 56.1**	**+0.7**
AJM				AMb	AMB	17 13 00.1	
	comp=Z,4µm,1.3s,mb6.5						
AJM				*ex*	x	17 14 31.2	
BJT	**Baijiatuau**	**46.38**	**9**	*e*P	**P**	**17 13 05.3**	**+1.3**
BJT	**Baijiatuau**	**46.38**	**9**	*e*P	**P**	**17 13 05.3**	**+1.3**
	comp=Z,2µm,3.3s						
INCN	**Inchon**	**46.71**	**21**	*e*P	**P**	**17 13 06.2**	**-0.4**
TOO	**Toolangi**	**46.81**	**138**	*e*P	**P**	**17 13 07.4**	**0.0**
TOO				*e*S	**S**	**17 19 36.7**	**+2.0**
TOO	**Toolangi**	**46.81**	**138**	*e*P	**P**	**17 13 07.4**	**0.0**
TOO				*e*		17 18 02.6	
TOO				*e*S	**S**	**17 19 36.7**	**+2.0**
TOO				*e*		17 18 02.6	
TOO				*e*S	**S**	**17 19 36.7**	**+2.0**
TOO	**Toolangi**	**46.81**	**138**	*e*	**P**	**17 13 07.4**	**0.0**
SMLA	**Simla**	**46.83**	**324**	*e*P	**P**	**17 13 07.5**	**-0.1**
SMLA				AMb	AMB	17 13 13.7	
	comp=Z,11µm,1.0s,mb7.1						
BHJ	**Bhuj**	**46.93**	**309**	*e*P	**P**	**17 13 09.1**	**+0.6**
ARMA	**Armidale**	**48.11**	**126**	*e*P	**P**	**17 13 20.6**	**+3.1**
ARMA				*e*		17 14 15.8	
ARMA				*e*ScP	ScP	17 18 08.6	+2.6
ARMA				*e*S	**S**	**17 19 55.7**	**+2.4**
ARMA				*e*ScS	ScS	17 22 41.6	+2.8
ARMA				*e*		17 14 15.8	
ARMA				*e*SCP	ScP	17 18 08.6	+2.6
ARMA				*e*S	**S**	**17 19 55.7**	**+2.4**
ARMA				*e*SCS	ScS	17 22 41.6	+2.8
ARMA	**Armidale**	**48.11**	**126**	*e*	**P**	**17 13 20.6**	**+3.1**
RIV	**Riverview**	**49.07**	**130**	*e*P	**P**	**17 13 26.7**	**+2.0**
RIV				*e*	pP	17 14 28.4	+1.6
RIV				*e*S	**S**	**17 20 08.0**	**+1.5**
RIV	**Riverview**	**49.07**	**130**	*e*P	**P**	**17 13 26.7**	**+2.0**
RIV				*e*	pP	17 14 28.4	+1.6
RIV				*e*		17 15 49.9	
RIV				*e*ScP	ScP	17 18 12.1	+2.1
RIV				*e*S	**S**	**17 20 08.0**	**+1.5**
RIV				*e*	pP	17 14 28.4	+1.6
RIV				*e*		17 15 49.9	
RIV				*e*SCP	ScP	17 18 12.1	+2.1
RIV				*e*S	**S**	**17 20 08.0**	**+1.5**
RIV	**Riverview**	**49.07**	**130**	*e*	**P**	**17 13 26.7**	**+2.0**
JMU	**Jammu**	**49.30**	**323**	*ex*	**P**	**17 13 26.0**	**-0.4**
SRNI	**Srinagar**	**50.32**	**324**	*ex*	**P**	**17 13 38.0**	**+4.0**
TAU	**Tasmania Unive**	**50.94**	**143**	P	**P**	**17 13 39.5**	**+1.0**
MAJO	**Matsushiro**	**51.10**	**32**	*e*P	**P**	**17 13 37.8**	**-1.9**
MAJO	**Matsushiro**	**51.10**	**32**	*e*P	**P**	**17 13 37.8**	**-1.9**
MJAR	**Matsushiro Arr**	**51.10**	**32**	ScP	ScP	17 18 18.2	-0.3
MJAR				S	**S**	**17 20 40.1**	**+6.0**
MJAR				⇑*e*		17 44 06.8	
MJAR				S	**S**	**17 20 40.1**	**+5.9**
	comp=Z,102nm,1.2s,baz=218,slow=14,SNR=5.8						
MJAR				PKP2bc		17 44 06.8	
	comp=Z,11nm,1.0s,baz=346,slow=3.2,SNR=6.4						
MJAR	**Matsushiro Arr**	**51.10**	**32**	ScP	ScP	17 18 18.2	-0.3
	comp=Z,127nm,0.9s,baz=192,slow=4.1,SNR=4.7						
MSEY	**Mahe Island**	**51.75**	**269**	*e*P	**P**	**17 13 45.9**	**+0.9**
HNR	**Honiara**	**52.11**	**97**	*e*P	**P**	**17 13 44.6**	**-3.0**
HNR	**Honiara**	**52.11**	**97**	*e*P	**P**	**17 13 44.6**	**-3.0**
	comp=Z,54nm,0.3s,mb5.4						
SONM	**Songino Array**	**53.50**	**359**	ScP	ScP	17 18 30.2	+1.5
SONM				S	**S**	**17 21 09.2**	**+3.0**
SONM				P'P'		17 44 03.1	
SONM				S	**S**	**17 21 09.2**	**+3.0**
	comp=Z,59nm,1.1s,baz=157,slow=8.0,SNR=3.3						
SONM				PKPPKP		17 44 03.1	
	comp=Z,11nm,0.8s,baz=285,slow=1.2,SNR=6.3						
SONM	**Songino Array**	**53.50**	**359**	ScP	ScP	17 18 30.2	+1.5
	comp=Z,292nm,0.8s,baz=171,slow=4.4,SNR=3.8						
MDJ	**Mudanjiang**	**54.08**	**19**	*e*P	**P**	**17 14 01.1**	**-0.2**
	comp=Z,255nm,1.9s						
KBL	**Kabul**	**54.13**	**321**	*e*P	**P**	**17 14 00.5**	**-1.4**
	comp=Z,184nm,0.6s,mb5.6						
HIA	**Hailar**	**55.97**	**10**	*e*P	**P**	**17 14 14.6**	**0.0**
HIA	**Hailar**	**55.97**	**10**	*e*P	**P**	**17 14 14.6**	**0.0**
	comp=Z,45nm,1.7s						
UCH	**Uchtor**	**56.51**	**331**	*e*P	**P**	**17 14 18.4**	**-0.2**
	comp=Z,1µm,1.4s,mb6.2						
AML	**Almayashu**	**56.83**	**330**	*e*P	**P**	**17 14 20.7**	**-0.2**
	comp=Z,2µm,0.8s,mb6.5						
FRU	**Bishkek**	**56.92**	**332**	*e*S	**S**	**17 22 00.0**	**+8.4**
MK31	**Makanchi Array**	**57.01**	**340**	*e*P	**P**	**17 14 21.8**	**-0.1**
MK31	**Makanchi Array**	**57.01**	**340**	*e*P	**P**	**17 14 21.8**	**-0.1**
MKAR	**Makanchi Array**	**57.01**	**340**	S	**S**	**17 21 57.2**	**+4.6**
MKAR				P'P'		17 44 02.4	
MKAR				PKPPKP		17 44 02.4	
	comp=Z,8.8nm,0.8s,baz=301,slow=2.6,SNR=5.0						
MKAR	**Makanchi Array**	**57.01**	**340**	S	**S**	**17 21 57.2**	**+4.6**
	comp=Z,72nm,0.9s,baz=156,slow=12,SNR=5.4						
EKS2	**Erkin-Say**	**57.19**	**331**	*e*P	**P**	**17 14 23.2**	**-0.1**
	comp=Z,3µm,1.0s,mb6.7						
TLY	**Talaya**	**57.44**	**357**	*e*P	**P**	**17 14 26.3**	**+1.5**
TLY				pmax	pmax		
	comp=Z,3µm,1.2s,mb6.6						
TLY	**Talaya**	**57.44**	**357**	*e*P	**P**	**17 14 26.3**	**+1.5**
	comp=Z,3µm,1.2s,mb6.6						
NOUC	**Port Laguerre**	**58.98**	**112**	*e*S	**P**	**17 14 37.0**	**+0.9**
DZM	**Mont Dzumac**	**59.11**	**112**	*e*P	**P**	**17 14 36.2**	**-0.8**
ABPO	**Ambohimpanom**	**59.97**	**252**	*e*P	**P**	**17 14 43.6**	**+0.7**
	comp=Z,2.1nm,1.2s						
OPO	**Ambohidratompo**	**59.98**	**252**	ScP	ScP	17 18 56.4	-1.7
OPO				⇑*e*		17 44 08.9	
OPO				P'P'ab		17 44 14.5	
OPO				PKP2bc		17 44 08.9	
	comp=Z,8.8nm,0.9s,baz=343,slow=0.9,SNR=5.8						
OPO				PKP2ab		17 44 14.5	
	comp=Z,10nm,0.9s,baz=271,slow=5.2,SNR=6.3						
OPO	**Ambohidratompo**	**59.98**	**252**	ScP	ScP	17 18 56.4	-1.7
	comp=Z,137nm,0.9s,baz=83,slow=4.0,SNR=4.1						
CASY	**Casey**	**60.32**	**179**	*e*P	**P**	**17 14 43.2**	**-1.2**
CASY				*e*ScP	ScP	17 18 54.1	-4.5
CASY				*e*S	**S**	**17 22 34.7**	**+0.1**
CASY				*e*ScS	ScS	17 24 05.3	+0.8
CASY				*e*SCP	ScP	17 18 54.1	-4.5
CASY				*e*S	**S**	**17 22 34.7**	**+0.1**
CASY				*e*SCS	ScS	17 24 05.3	+0.8
CASY	**Casey**	**60.32**	**179**	*e*	**P**	**17 14 43.2**	**-1.2**
YSS	**Yuzh-Sakhalins**	**61.19**	**27**	*e*P	**P**	**17 14 51.3**	**+0.8**
ZAA0	**Zalesovo Array**	**62.58**	**345**	*e*P	**P**	**17 14 58.6**	**-0.9**
MCQ	**Macquarie Isla**	**63.64**	**149**	*e*P	**P**	**17 15 06.9**	**+0.4**
MCQ				*e*	pP	17 16 15.8	+3.5
MCQ				*e*S	**S**	**17 23 22.7**	**+6.4**
MCQ				*e*		17 24 34.6	
MCQ	**Macquarie Isla**	**63.64**	**149**	*e*P	**P**	**17 15 06.9**	**+0.4**
MCQ				*e*	pP	17 16 15.8	+3.5
MCQ				*e*S	**S**	**17 23 22.7**	**+6.4**
MCQ				*e*		17 24 34.6	
MCQ				*e*	pP	17 16 15.8	+3.5
MCQ				*e*S	**S**	**17 23 22.7**	**+6.4**
MCQ				*e*		17 24 34.6	
MCQ	**Macquarie Isla**	**63.64**	**149**	*e*	**P**	**17 15 06.9**	**+0.4**
DRV				S	**S**	**17 23 38.0**	**+9.2**
DRV				SS	SS	17 27 55.0	+9.2
DRV				L		17 32 00.0	
DRV	**Dumont d'Urvil**	**64.69**	**166**	P	**P**	**17 15 21.0**	**+7.9**
WHZ	**Wether Hill Ro**	**65.47**	**138**	P	**P**	**17 15 18.5**	**0.0**
BVAR	**Borovoye Array**	**66.53**	**337**	S	S	17 23 49.9	-1.4
BVAR				P'P'		17 43 39.0	
BVAR				PKPPKP		17 43 39.0	
	comp=Z,17nm,0.7s,baz=310,slow=3.4,SNR=18						
BVAR	**Borovoye Array**	**66.53**	**337**	S	S	17 23 49.9	-1.4
	comp=Z,32nm,0.9s,baz=108,slow=9.3,SNR=3.1						
BRVK	**Borovoye**	**66.60**	**337**	*e*P	**P**	**17 15 25.1**	**-0.3**
BRVK	**Borovoye**	**66.60**	**337**	*e*P	**P**	**17 15 25.1**	**-0.3**
MQZ	**McQueen's Vall**	**68.11**	**135**	P	**P**	**17 15 33.6**	**-1.5**
WTAZ	**Waiatarua**	**68.23**	**127**	*e*P	**P**	**17 15 38.3**	**+2.3**
MAW	**Mawson**	**68.55**	**197**	*e*P	**P**	**17 15 38.3**	**+1.0**
	comp=Z,127nm,0.6s,mb5.8						
MAW				*e*S	S	17 24 10.4	-4.4
MAW				*e*S	S	17 24 10.4	-4.4
MAW	**Mawson**	**68.55**	**197**	*e*	**P**	**17 15 38.3**	**+1.0**
MKAZ	**Moumakai**	**68.73**	**127**	P	**P**	**17 15 36.6**	**-2.5**
TCW	**Tory Channel**	**68.76**	**132**	P	**P**	**17 15 39.6**	**+0.4**
MRW	**Makara Radio**	**69.08**	**132**	P	**P**	**17 15 40.2**	**-0.9**
KIW	**Kapiti Island**	**69.16**	**131**	P	**P**	**17 15 42.4**	**+0.7**
MOVZ	**Moawhango**	**69.55**	**130**	*e*P	**P**	**17 15 44.8**	**+0.8**
PAWZ	**Paruwai Farm**	**69.64**	**132**	*e*P	**P**	**17 15 45.6**	**+1.0**
MTW	**Mount Morrison**	**69.66**	**132**	P	**P**	**17 15 45.9**	**+1.2**
YAK	**Yakutsk**	**69.86**	**11**	*e*P	**P**	**17 15 44.9**	**-0.5**
YAK				pmax	pmax		
	comp=Z,599nm,1.4s,mb6.1						
YAK	**Yakutsk**	**69.86**	**11**	*e*P	**P**	**17 15 44.9**	**-0.5**
	comp=Z,599nm,1.4s,mb6.1						
KMBO	**Kilima Mbogo**	**70.19**	**271**	*e*P	**P**	**17 15 50.5**	**+2.1**
KMBO	**Kilima Mbogo**	**70.19**	**271**	*e*P	**P**	**17 15 50.5**	**+2.1**
AKTK	**Aktyubinsk**	**70.41**	**329**	S	S	17 24 35.8	-1.2
AKTK				P'P'		17 43 47.2	
FUNA	**Funafuti**	**71.14**	**97**	*e*P	**P**	**17 15 54.0**	**-0.1**
	comp=Z,2µm,1.1s,mb6.6						
PET	**Petropavlovsk**	**72.83**	**30**	*e*P	**P**	**17 16 02.5**	**-0.7**
PET	**Petropavlovsk**	**72.83**	**30**	*e*P	**P**	**17 16 02.5**	**-0.8**
GNI	**Garni**	**73.49**	**315**	*e*P	**P**	**17 16 07.2**	**-0.2**
GNI	**Garni**	**73.49**	**315**	*e*P	**P**	**17 16 07.2**	**-0.2**
KIV	**Kislovodsk**	**76.36**	**318**	*e*P	**P**	**17 16 23.1**	**-0.6**
KIV				pmax	pmax		
	comp=Z,935nm,0.6s,mb6.6						
KIV	**Kislovodsk**	**76.36**	**318**	*e*P	**P**	**17 16 23.1**	**-0.5**
	comp=Z,936nm,0.6s,mb6.6						
JHLN	**Al Jahlan**	**76.65**	**309**	⇑S	**P**	**17 16 25.6**	**+0.1**
JHLN	**Al Jahlan**	**76.65**	**309**	⇑*i*S	**P**	**17 16 25.5**	**+0.1**
VNDA	**Vanda**	**76.97**	**170**	*e*P	**P**	**17 16 25.7**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,298nm,1.3s						
VNDA	**Vanda**	**76.97**	**170**	*e*P	**P**	**17 16 25.7**	**-0.7**
	comp=Z,298nm,1.3s,mb5.9						
SBA	**Scott Base**	**78.04**	**169**	*e*P	**P**	**17 16 33.1**	**+0.7**
SBA	**Scott Base**	**78.04**	**169**	*e*P	**P**	**17 16 33.1**	**+0.8**
LSZ	**Lusaka**	**78.14**	**256**	*e*P	**P**	**17 16 36.4**	**+2.3**
LSZ	**Lusaka**	**78.14**	**256**	*e*P	**P**	**17 16 36.4**	**+2.4**
WRDH	**Warideh**	**78.19**	**308**	⇑*i*S	**P**	**17 16 41.2**	**+7.3**
WRDH	**Warideh**	**78.19**	**308**	⇑S	**P**	**17 16 41.1**	**+7.2**
TIXI	**Tiksi**	**78.66**	**7**	*e*P	**P**	**17 16 34.2**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,2µm,0.8s,mb6.9						
TIXI	**Tiksi**	**78.66**	**7**	*e*P	**P**	**17 16 34.2**	**-1.5**
	comp=Z,2µm,0.8s,mb6.9						
MIDW	**Midway**	**79.83**	**60**	*e*P	**P**	**17 16 42.1**	**-0.8**
	comp=Z,705nm,1.1s,mb6.3						
CSS	**Prodhromos**	**80.48**	**307**	*e*P	**P**	**17 16 46.0**	**-0.3**
	comp=Z,7µm,0.9s						
SMY	**Shemya**	**80.86**	**34**	*e*P	**P**	**17 16 46.7**	**-1.1**
ISP	**Isparta**	**83.36**	**309**	*e*P	**P**	**17 17 00.1**	**-1.0**
ISP	**Isparta**	**83.36**	**309**	*e*P	**P**	**17 17 00.1**	**-1.0**
AMKA	**Amchitka**	**83.41**	**37**	*e*P	**P**	**17 16 59.8**	**-1.3**
BILL	**Bilibino**	**84.30**	**19**	*e*P	**P**	**17 17 03.9**	**-1.3**
BILL				pmax	pmax		
	comp=Z,433nm,0.8s,mb6.3						
BILL	**Bilibino**	**84.30**	**19**	*e*P	**P**	**17 17 03.9**	**-1.3**
	comp=Z,433nm,0.8s,mb6.3						
MAIT	**Maitri**	**86.37**	**199**	*e*pP	**P**	**17 17 16.0**	**+0.6**
AKBB	**Malin Array Si**	**87.11**	**321**	*e*P	**P**	**17 17 17.7**	**-1.6**
AKBB	**Malin Array Si**	**87.11**	**321**	*e*P	**P**	**17 17 17.7**	**-1.6**
KIEV	**Kiev**	**87.12**	**321**	*e*P	**P**	**17 17 17.6**	**-1.7**
KIEV				pmax	pmax		
	comp=Z,406nm,0.8s,mb6.3						
KIEV	**Kiev**	**87.12**	**321**	*e*P	**P**	**17 17 17.6**	**-1.8**
	comp=Z,406nm,0.8s,mb6.3						
BRD	**Bordesti**	**87.49**	**316**	⇑*i*P	**P**	**17 17 23.5**	**+2.3**
VAM	**Vamos**	**87.90**	**306**	P	**P**	**17 17 27.2**	**+3.8**
TSUM	**Tsumeb**	**87.97**	**251**	*e*P	**P**	**17 17 25.9**	**+1.9**
	comp=Z,658nm,0.7s,mb6.6						
TIM	**Timisoara**	**91.55**	**316**	⇑*i*P	**P**	**17 17 41.2**	**+1.1**
KTK1	**Kautokeino**	**93.38**	**339**	*e*P	**P**	**17 17 49.6**	**+1.6**
KTK1	**Kautokeino**	**93.38**	**339**	*e*	**P**	**17 17 49.6**	**+1.6**
OKC	**Ostrava-Krasne**	**94.01**	**320**	*e*P	**P**	**17 17 52.1**	**+0.8**
OKC				*ep*P	pP	17 19 02.5	+0.4
OKC				*es*P	sP	17 19 32.3	-0.6
OKC				*e*PP	PP	17 21 40.3	-1.6
OKC				*e*SKS		17 27 55.6	
OKC				*e*SP	SP	17 29 56.9	+5.0
OKC				*ex*	x	17 36 52.7	
OKC				*ex*	x	17 43 34.4	
OKC				*ex*	x	17 44 19.2	
OKC	**Ostrava-Krasne**	**94.01**	**320**	*e*P	**P**	**17 17 52.1**	**+0.8**
OKC				*ep*P	pP	17 19 02.5	+0.4
OKC				*e*		17 19 32.3	
OKC				*e*PP	PP	17 21 40.3	-1.6
OKC				*e*SKS		17 27 55.6	
OKC				*e*S	SP	17 29 56.9	+5.0
OKC				*e*		17 36 52.7	
OKC				*e*		17 43 34.4	
TIP	**Timpagrande**	**94.22**	**309**	*e*P	**P**	**17 17 52.6**	**+0.1**
	comp=Z,556nm,1.4s,mb6.4						
MORC	**Moravsky Berou**	**94.39**	**319**	*e*P	**P**	**17 17 52.3**	**-0.8**
MORC				pmax	pmax		
	comp=Z,128nm,0.8s,mb6.0						
MORC	**Moravsky Berou**	**94.39**	**319**	*e*P	**P**	**17 17 52.3**	**-0.8**
	comp=Z,128nm,0.8s,mb6.0						
CEL	**Celeste**	**94.83**	**308**	*e*P	**P**	**17 17 56.4**	**+1.0**
	comp=Z,2µm,1.4s,mb7.0						
TRO	**Tromso**	**94.96**	**339**	*e*P	**P**	**17 17 53.6**	**-1.7**
TRO	**Tromso**	**94.96**	**339**	*e*P	**P**	**17 17 53.5**	**-1.7**
TRO	**Tromso**	**94.96**	**339**	*e*	**P**	**17 17 53.5**	**-1.7**
CUC	**Castrocucco**	**95.00**	**310**	*e*P	**P**	**17 17 55.6**	**-0.5**
	comp=Z,301nm,1.1s,mb6.3						
DPC	**Dobruska-Polom**	**95.21**	**320**	*e*P	**P**	**17 17 58.0**	**+1.2**
DPC				*ep*P	pP	17 19 08.1	+0.5
DPC				*es*P	sP	17 19 33.2	-5.2
DPC				*e*PP	PP	17 21 46.9	-4.3
DPC				*e*SKS		17 28 03.1	
DPC				*e*SP	SP	17 30 09.3	+4.2
DPC				*ex*	x	17 37 11.0	
DPC				*e*PKPPKP		17 43 02.6	
DPC				*ex*	x	17 44 02.6	
DPC				*ex*	x	17 44 10.7	
DPC	**Dobruska-Polom**	**95.21**	**320**	*e*P	**P**	**17 17 58.0**	**+1.2**
DPC				*ep*P	pP	17 19 08.1	+0.5
DPC				*e*		17 19 33.2	
DPC				*e*PP	PP	17 21 46.9	-4.3
DPC				*e*SKS		17 28 03.1	
DPC				*e*		17 37 11.0	
DPC				*e*		17 44 02.6	
KSP	**Ksiaz**	**95.25**	**320**	*e*P	**P**	**17 17 55.7**	**-1.3**
KSP				*e*PPP		17 23 24.1	
KSP				*e*SP	SP	17 30 04.0	-1.5
XMAS	**Kiritimati**	**95.28**	**88**	*e*P	**P**	**17 17 58.4**	**+0.4**
	comp=Z,502nm,1.1s,mb6.6						
UPC	**Upice**	**95.42**	**320**	*e*P	**P**	**17 17 58.8**	**+1.0**
UPC	**Upice**	**95.42**	**320**	*e*P	**P**	**17 17 58.8**	**+1.0**
TREC	**Trest**	**95.70**	**319**	*e*P	**P**	**17 18 00.0**	**+0.9**
TREC				*es*P	sP	17 19 39.8	-0.9
TREC				*ex*

IMA2	Indian Mountai	98.95	24	Pdif	Pdif	17 18 13.1	-0.5
DOMB	Dombas	99.11	332	eP	Pdif	17 18 14.9	+0.6
DOMB	Dombas	99.11	332	e	Pdif	17 18 14.9	+0.6
VLC	Villacollemand	99.14	314	ePdif	Pdif	17 18 13.4	-1.0
VALM	Valbona	99.24	314	P	Pdif	17 18 14.1	-0.8
BACM	Baccana	99.36	314	P	Pdif	17 18 13.6	-1.8
BACM				P		17 28 20.7	
GRAM	Graiana	99.36	314	P	Pdif	17 18 14.3	-1.1
MUD	Monsted U'grnd	99.46	326	i	PP	17 22 23.9	+0.6
MUD	Monsted U'grnd	99.46	326	i	PP	17 22 23.9	+0.6
CODM	Codolo	99.52	314	P	Pdif	17 18 14.7	-1.5
SC2M	Scurtabo	99.75	314	P	Pdif	17 18 15.2	-1.9
MOL	Molde	99.77	332	eP	Pdif	17 18 18.5	+1.3
CHUM	Lake Minchumin	99.77	26	ePdif	Pdif	17 18 16.8	-0.4
	comp=Z,416nm,1.0s						
STU	Stuttgart	99.84	318	eP	Pdif	17 18 16.2	-1.4
STU				pmax	pmax		
	comp=Z,190nm,1.4s,mb6.3						
STU	Stuttgart	99.84	318	ePdif	Pdif	17 18 16.2	-1.4
	comp=Z,190nm,1.4s						
OHAK	Old Harbor	99.94	33	ePdif	Pdif	17 18 16.8	-1.2
	comp=Z,122nm,0.4s						
GENL	Genova Univers	100.15	314	P	Pdif	17 18 17.6	-1.4
KDAK	Kodiak Island	100.27	32	ePdif	Pdif	17 18 18.5	-1.0
	comp=Z,546nm,1.1s						
KTH	Kantishna Hill	100.42	26	ePdif	Pdif	17 18 18.9	-1.3
	comp=Z,54nm,1.0s						
FIN	Finale Ligure	100.70	314	P	Pdif	17 18 20.2	-1.2
RORO	Rocca Rossa	100.81	314	P	Pdif	17 18 21.2	-0.6
RORO				P		17 28 28.5	
NEGI	Seborga	101.08	313	P	Pdif	17 18 22.1	-1.0
NEGI				P		17 28 30.4	
ECH	Echery	101.23	318	ePdif	Pdif	17 18 21.9	-1.8
ENR	Entracque	101.27	314	P	Pdif	17 18 23.4	-0.5
MCK	McKinley	101.27	26	eP	Pdif	17 18 22.4	-1.5
MCK				pmax	pmax		
	comp=Z,62nm,1.0s						
MCK	McKinley	101.27	26	ePdif	Pdif	17 18 22.4	-1.5
	comp=Z,62nm,1.0s						
RC01	Rabbit Creek A	101.32	29	ePdif	Pdif	17 18 22.5	-1.6
	comp=Z,4µm,1.2s						
RSP	Reno Superiore	101.33	315	P	Pdif	17 18 24.9	+0.7
RSP						17 28 30.7	
RSP	Reno Superiore	101.33	315	P	Pdif	17 18 24.9	+0.7
RSP				P		17 28 30.7	
STV	Sant Anna di V	101.34	314	P	Pdif	17 18 23.6	-0.6
BHB	Bricherasio	101.35	314	P	Pdif	17 18 23.4	-0.9
LSD	Lago del Serru	101.41	315	P	Pdif	17 18 24.8	+0.3
LSD						17 28 32.8	
ABSA	Djebel Ababsia	101.50	306	P	Pdif	17 18 22.0	-2.9
PMR	Palmer	101.53	28	eP	Pdif	17 18 23.8	-1.3
PMR				pmax	pmax		
	comp=Z,57nm,0.8s						
PMR	Palmer	101.53	28	ePdif	Pdif	17 18 23.8	-1.3
	comp=Z,57nm,0.8s						
SEW	Seward	101.61	30	ePdif	Pdif	17 18 24.2	-1.2
RRL	Rocca Remolon	101.68	315	P	Pdif	17 18 25.2	-0.6
BNI	Bardonecchia	101.75	315	eP	Pdif	17 18 25.1	-1.0
BNI				pmax	pmax		
	comp=Z,98nm,1.2s						
BNI	Bardonecchia	101.75	315	ePdif	Pdif	17 18 25.1	-0.9
	comp=Z,98nm,1.2s						
WLF	Walferdange	101.78	319	eP	Pdif	17 18 25.1	-1.1
WLF				pmax	pmax		
	comp=Z,165nm,1.6s						
WLF	Walferdange	101.78	319	ePdif	Pdif	17 18 25.1	-1.1
	comp=Z,165nm,1.6s						
BEBN	Eben Emael	101.98	321	P	Pdif	17 18 23.9	-3.2
CAEH	'Ain El Ouahch	101.99	306	P	Pdif	17 18 29.0	+1.9
CASM	Ain Smara	102.29	306	P	Pdif	17 18 29.0	+0.5
CTEI	Djebel Teioual	102.37	305	P	Pdif	17 18 31.0	+2.2
DFRA	Djebel Bou Aff	102.78	306	P	Pdif	17 18 30.0	-0.6
CMER	Merouana	102.79	305	P	Pdif	17 18 33.0	+2.3
SET	Setif	103.18	306	P	Pdif	17 18 34.0	+1.6
DIV	Divide	103.21	29	ePdif	Pdif	17 18 32.0	-0.5
	comp=Z,2µm,0.6s						
SSB	Saint Sauveur	103.25	315	eP	Pdif	17 18 31.6	-1.1
SSB	Saint Sauveur	103.25	315	ePdif	Pdif	17 18 31.6	-1.1
EYAK	Cordova Ski Ar	103.34	29	ePdif	Pdif	17 18 33.1	0.0
	comp=Z,392nm,1.2s						
BMRM	Bremner River	103.80	29	ePdif	Pdif	17 18 34.8	-0.3
EGAK	Eagle	104.33	24	ePdif	Pdif	17 18 36.4	-1.2
	comp=Z,101nm,1.5s						
ETOS	Mallorca	104.99	309	P	Pdif	17 18 40.2	-0.2
	comp=Z,6µm,7.3s						
ABA	Alger-Bouzarea	105.05	306	P	Pdif	17 18 43.0	+2.3
EMHD	Djebel Mahouad	105.15	306	P	Pdif	17 18 43.0	+1.8
DAWY	Dawson	105.28	25	ePdif	Pdif	17 18 41.0	-0.8
ECHA	Ech Chlef	106.44	306	P	Pdif	17 18 55.0	+8.1
ESK	Eskdalemuir	106.51	326	ePdif	Pdif	17 18 46.6	-0.6
	comp=Z,34nm,1.0s						
ETRT	Tiaret	106.55	305	P	Pdif	17 18 47.0	-0.4
TOA0	Torodi Ar. Sit	106.63	282	ePdif	Pdif	17 18 48.3	+0.6
EANR	'Ain N'Sour	106.67	306	P	Pdif	17 18 50.0	+2.1
HYT	Haines Junctio	107.17	28	ePdif	Pdif	17 18 51.5	+1.4
DHAK	Deception Hill	107.39	30	ePdif	Pdif	17 18 50.7	-0.5
DSB	Dublin	108.84	324	ePKiKP	PKiKP	17 23 01.1	+0.3
ENIJ	Nijar	109.21	307	P	Pdif	17 19 01.5	+2.3
EVIA	Vianos	109.22	309	P	Pdif	17 18 59.3	0.0
SIT	Sitka	109.51	31	eP	Pdif	17 18 57.5	-3.1
RES	Resolute Bay	110.05	6	PKiKP	PKiKP	17 23 01.8	-0.7
ESDC	Sonseca Array	110.19	310	P	Pdif	17 19 04.5	+1.0
SUMG	Summit	110.21	350	ePdif	Pdif	17 19 02.7	-1.0
EGUA	Guajares	110.31	307	P	Pdif	17 19 03.4	-0.7
ERON	Agron	110.47	307	P	Pdif	17 19 08.5	+3.7
PAB	San Pablo	110.51	310	ePdif	Pdif	17 19 04.9	-0.1
PAB				ePKiKP	PKiKP	17 23 05.3	+1.0
TAOE	Nuku Hiva Isla	111.04	102	ePdif	PKiKP	17 23 05.7	-0.4
WRAK	Wrangell Islan	111.28	31	ePdif	Pdif	17 19 08.0	-0.4
DLBC	Dease Lake	111.59	28	ePKiKP	PKiKP	17 23 04.7	-1.1
MDT	Midelt	111.70	303	Pdiff	Pdif	17 19 12.3	+2.0
	comp=Z,13nm,1.3s,baz=101,slow=3.8,SNR=6.7						
PBRG	Braganca	111.87	313	ePdif	Pdif	17 19 10.5	-0.5
KIC	Kosan Boka	112.62	274	ePKP1	Pdif	17 19 12.1	-2.3
	comp=Z,899nm,0.9s						
DBIC	Dimbokro	112.76	275	Pdif	Pdif	17 19 15.3	+0.3
DBIC	Dimbokro	112.76	275	Pdiff	Pdif	17 19 15.3	+0.3
	comp=Z,6.4nm,0.8s,baz=65,slow=4.7,SNR=8.2						
MTE	Manteigas	112.76	311	ePdif	Pdif	17 19 14.9	-0.1
PCBR	Castelo Branco	112.82	311	ePdif	Pdif	17 19 14.4	-0.9
LIC	Lamto	112.90	274	eP	Pdif	17 19 15.0	-0.6
	comp=Z,323nm,1.9s						
LIC				eMLR	MLR		
	comp=Z,55µm,20.5s						
LIC	Lamto	112.90	274	eP	Pdif	17 19 15.0	-0.6
LIC				LR	LR		
	comp=Z,27µm,20.5s						
PVIS	Viseu	112.95	312	ePdif	Pdif	17 19 17.4	+1.5
EVO	Evora	113.50	309	ePdif	Pdif	17 19 18.8	+0.5
PTOM	Tomar	113.57	311	ePdif	Pdif	17 19 18.0	-0.6
MORF	Marmelete	114.24	308	ePdif	Pdif	17 19 19.8	-1.8
LIS	Lisbon	114.33	310	eP	Pdif	17 19 21.6	-0.3
LIS	Lisbon	114.33	310	eP	Pdif	17 19 21.6	-0.4
PMAFR	Mafra	114.38	310	ePdif	Pdif	17 19 23.9	+1.7
YKA	Yellowknife Ar	115.67	20	Pdif	Pdif	17 19 33.2	+5.2
YKA	Yellowknife Ar	115.67	20	Pdiff	Pdif	17 19 33.2	+5.2
	comp=Z,2.0nm,0.7s,baz=312,slow=3.6,SNR=4.3						
SFJD	Kangerlussuaq	117.16	351	Pdif	Pdif	17 19 34.0	-0.5
SFJD	Kangerlussuaq	117.16	351	Pdiff	Pdif	17 19 34.0	-0.5
	comp=Z,5.5nm,0.5s,baz=359,slow=6.7,SNR=2.5						
C03A	Quillayute Air	119.15	37	⇑Pdiff	Pdif	17 19 44.3	+0.9
	baz=119						
PGC	Sidney	119.50	36	ePKPdf	PKPdf	17 23 21.9	+0.6
B04A	Port Angeles	119.74	37	⇑Pdiff	Pdif	17 19 45.7	-0.3
	baz=120						
NLWA	Neilton Lookou	119.82	38	⇑Pdiff	Pdif	17 19 46.2	-0.2
	baz=120						
NLWA	Neilton Lookou	119.82	38	ePKPdf	PKPdf	17 23 22.0	+0.1
A04A	Legoe Bay, Lum	119.90	36	⇓Pdiff	Pdif	17 19 47.0	+0.2
	baz=120						
D03A	Wishkah Elem.	120.00	38	⇓Pdiff	Pdif	17 19 47.4	+0.3
	baz=120						
A05A	Maple Falls	120.13	35	⇓Pdiff	Pdif	17 19 48.3	+0.5
	baz=120						
C04A	Brinnon	120.21	37	⇓Pdiff	Pdif	17 19 48.7	+0.6
	baz=120						
GNW	Green Mountain	120.37	37	ePKPdf	PKPdf	17 23 22.4	-0.6
E03A	Lebam	120.38	38	⇑Pdiff	Pdif	17 19 49.1	+0.2
	baz=120						
A06A	Chilliwack	120.42	35	⇑Pdiff	Pdif	17 19 49.8	+0.7
	baz=120						
B05A	Bryant	120.47	36	⇓Pdiff	Pdif	17 19 50.1	+0.9
	baz=120						
D04A	Dobbs Creek Ra	120.59	38	⇑Pdiff	Pdif	17 19 50.7	+0.8
	baz=121						
JCW	Jim Creek	120.60	36	ePKPdf	PKPdf	17 23 23.9	+0.5
BMW	Boistfort Moun	120.62	38	ePKiKP	PKPdf	17 23 24.1	+0.6
BMW	Boistfort Moun	120.62	38	ePKPdf	PKPdf	17 23 24.1	+0.6
F03A	Seaside	120.66	39	⇓Pdiff	Pdif	17 19 50.5	+0.4
	baz=121						
B06A	Marblemount	120.71	36	⇑Pdiff	Pdif	17 19 50.3	0.0
	baz=121						
E04A	Ornaska	120.88	38	⇓Pdiff	Pdif	17 19 51.5	+0.4
	baz=121						
H02A	Toledo	120.91	41	⇑Pdiff	Pdif	17 19 51.0	-0.3
	baz=121						
C05A	Tolt Reservoir	120.99	37	⇑Pdiff	Pdif	17 19 52.0	+0.4
	baz=121						
D05A	Enumclaw	121.05	37	⇓Pdiff	Pdif	17 19 52.7	+0.9
	baz=121						
A07A	Ashnola River,	121.07	35	⇓Pdiff	Pdif	17 19 52.5	+0.5
	baz=121						
G03A	Yamhill	121.10	40	⇓Pdiff	Pdif	17 19 52.5	+0.4
	baz=121						
I02A	Mapleton	121.31	41	⇑Pdiff	Pdif	17 19 53.2	+0.2
	baz=121						
C06A	Tall Timber Ra	121.34	36	⇓Pdiff	Pdif	17 19 53.9	+0.7
	baz=121						
LON	Longmire	121.36	38	ePKiKP	PKPdf	17 23 24.1	-0.8
LON	Longmire	121.36	38	ePKPdf	PKPdf	17 23 24.1	-0.8
F04A	Amboy	121.37	39	⇑Pdiff	Pdif	17 19 53.0	-0.2
	baz=121						
K01A	Sixes	121.37	43	⇑Pdiff	Pdif	17 19 54.2	+1.0
	baz=121						
H03A	Soap Creek Ran	121.37	40	⇑Pdiff	Pdif	17 19 53.6	+0.4
	baz=121						
COR	Corvallis	121.40	40	ePKiKP	PKPdf	17 23 25.2	+0.1
COR	Corvallis	121.40	40	ePKPdf	PKPdf	17 23 25.2	+0.1
KEBM	Edson Butte	121.43	43	ePKPdf	PKPdf	17 23 25.0	-0.2
E05A	Randle	121.48	38	⇓Pdiff	Pdif	17 19 53.9	+0.1
	baz=122						
B07A	Winthrop	121.52	35	⇓Pdiff	Pdif	17 19 54.2	+0.3
	baz=122						
I03A	Eugene	121.68	41	⇑Pdiff	Pdif	17 19 54.5	-0.1
	baz=122						
D06A	Cle Elum	121.73	37	⇓Pdiff	Pdif	17 19 54.9	+0.1
	baz=122						
J02A	Umpqua	121.74	42	⇑Pdiff	Pdif	17 19 55.5	+0.6
	baz=122						
A08A	Turner Farm, O	121.75	34	⇓Pdiff	Pdif	17 19 55.3	+0.3
	baz=122						
ETW	Entiat	121.83	36	ePKPdf	PKPdf	17 23 26.4	+0.6
C07A	Waterville	121.95	36	⇑Pdiff	Pdif	17 19 55.9	+0.1
	baz=122						
E06A	Yakima	121.96	37	⇓Pdiff	Pdif	17 19 56.0	+0.1
	baz=122						
F05A	White Salmon	121.98	38	⇓Pdiff	Pdif	17 19 56.3	+0.3
	baz=122						
M01C	Crescent City	121.99	44	⇑Pdiff	Pdif	17 19 56.3	+0.3
	baz=122						
B08A	Colville Reser	122.03	35	⇑Pdiff	Pdif	17 19 56.4	+0.2
	baz=122						
K02A	Glendale	122.05	42	⇓Pdiff	Pdif	17 19 56.4	+0.1
	baz=122						
H04A	Detroit Lake	122.08	40	⇑Pdiff	Pdif	17 19 56.8	+0.4
	baz=122						
A09A	Danville	122.12	34	⇓Pdiff	Pdif	17 19 57.8	+1.2
	baz=122						
L02A	Cave Junction	122.22	43	⇓Pdiff	Pdif	17 19 57.6	+0.6
	baz=122						
KRMB	Red Mountain	122.26	44	ePKPdf	PKPdf	17 23 27.0	+0.2
EDM	Edmonton	122.30	28	ePKiKP	PKPdf	17 23 25.6	-0.9
EDM	Edmonton	122.30	28	ePKPdf	PKPdf	17 23 25.6	-0.9
I04A	Tendick Farm,	122.32	41	⇓Pdiff	Pdif	17 19 57.8	+0.3
	baz=122						
G05A	Wamic	122.37	39	⇑Pdiff	Pdif	17 19 58.5	+0.8
	baz=122						
JCC	Jacoby Creek	122.45	45	⇓Pdiff	Pdif	17 19 57.8	-0.3
	baz=122						
F06A	Goldendale	122.46	38	⇓Pdiff	Pdif	17 19 59.0	+0.9
	baz=122						
HUMO	Hull Mountain	122.47	42	⇓Pdiff	Pdif	17 19 58.7	+0.6
	baz=122						
HUMO	Hull Mountain	122.47	42	ePKPdf	PKPdf	17 23 27.2	0.0
C08A	Higginbotham F	122.49	35	⇓Pdiff	Pdif	17 19 58.8	+0.5
	baz=122						
E07A	Sunnyside	122.63	37	⇑Pdiff	Pdif	17 19 59.0	+0.1
	baz=123						
B09A	Rice	122.66	34	⇑Pdiff	Pdif	17 19 59.4	+0.4
	baz=123						
A10A	Northport	122.69	34	⇓Pdiff	Pdif	17 20 00.7	+1.5
	baz=123						
H05A	Madras	122.70	40	⇑Pdiff	Pdif	17 19 59.8	+0.6
	baz=123						
J04A	Umpqua Nationa	122.76	41	⇑Pdiff	Pdif	17 20 00.5	+1.0
	baz=123						
G06A	Carlson Farm,	122.80	39	⇓Pdiff	Pdif	17 20 00.3	+0.6
	baz=123						
O01C	Eel River Cons	122.86	45	⇓Pdiff	Pdif	17 20 01.0	+1.1
	baz=123						
RSW	Rattlesnake Hi	122.87	37	ePKPdf	PKPdf	17 23 29.5	+1.7
I05A	Bend	122.90	40	⇓Pdiff	Pdif	17 20 00.7	+0.7
	baz=123						
HAWA	Hanford	122.91	37	ePKPdf	PKPdf	17 23 27.4	-0.5
F07A	Phinny Hill Vi	122.92	38	⇓Pdiff	Pdif	17 20 01.4	+1.2
	baz=123						
C09A	Chrisman Ranch	122.92	35	⇓Pdiff	Pdif	17 20 01.1	+0.9
	baz=123						
D08A	Wollman Farm,	122.94	36	⇓Pdiff	Pdif	17 20 00.8	+0.6
	baz=123						
N02C	Big Bar	122.96	44	⇓Pdiff	Pdif	17 20 00.8	+0.5
	baz=123						
YBH	Yreka Blue Hor	123.00	43	⇓Pdiff	Pdif	17 20 01.2	+0.7
	baz=123						
YBH	Yreka Blue Hor	123.00	43	Pdif	Pdif	17 20 02.2	+1.7
YBH				ePKPdf	PKPdf	17 23 29.1	+0.9
YBH	Yreka Blue Hor	123.00	43	Pdiff	Pdif	17 20 02.2	+1.7
	comp=Z,0.5nm,0.3s,baz=233,slow=7.1,SNR=3.8						
M02C	Callahan	123.04	44	⇓Pdiff	Pdif	17 20 01.6	+0.9
	baz=123						
E08A	Dider Farm, El	123.14	37	⇑Pdiff	Pdif	17 20 02.4	+1.3
	baz=123						
H06A	Lindquist Farm	123.22	39	⇓Pdiff	Pdif	17 20 02.0	+0.4
	baz=123						
KIPM	Iron Peak	123.23	46	ePKPdf	PKPdf	17 23 29.7	+1.0
B10A	Chitwood Farm,	123.25	34	⇓Pdiff	Pdif	17 20 02.9	+1.3
	baz=123						
K04A	Chilquin	123.28	42	⇑Pdiff	Pdif	17 20 01.8	0.0
	baz=123						
D09A	Jones Farm, Ri	123.29	36	⇓Pdiff	Pdif	17 20 02.4	+0.6
	baz=123						
J05A	Fort Rock	123.31	41	⇑Pdiff	Pdif	17 20 02.4	+0.5
	baz=123						
NEW	Newport	123.32	34	ePKiKP	PKPdf	17 23 27.9	-0.7
NEW	Newport	123.32	34	ePKPdf	PKPdf	17 23 27.9	-0.7
A11A	Hall Mountain,	123.35	33	⇓Pdiff	Pdif	17 20 03.1	+1.0
	baz=123						
G07A	Ruggs Ranch, H	123.38	38	⇑Pdiff	Pdif	17 20 03.8	+1.5
	baz=123						
P01C	Double 8 Ranch	123.46	46	⇓Pdiff	Pdif	17 20 02.7	+0.1
	baz=123						
C10A	Spilker Farm,	123.46	35	⇓Pdiff	Pdif	17 20 03.6	+1.0
	baz=123						
O02C	Red Bluff	123.57	45	⇑Pdiff	Pdif	17 20 04.1	+1.0
	baz=124						
WDC	Whiskeytown Da	123.58	44	ePKiKP	PKPdf	17 23 28.9	-0.5
WDC	Whiskeytown Da	123.58	44	⇓Pdiff	Pdif	17 20 03.8	+0.7
	baz=124						
WDC	Whiskeytown Da	123.58	44	ePKPdf	PKPdf	17 23 28.9	-0.5
M03C	McCloud	123.59	44	⇓Pdiff	Pdif	17 20 02.9	-0.2
	baz=124						
B11A	Sandpoint	123.65	34	⇓Pdiff	Pdif	17 20 04.9	+1.5
	baz=124						
F08A	Pendleton	123.66	37	⇑Pdiff	Pdif	17 20 03.7	+0.2
	baz=124						
E09A	Wood Farm, Sta	123.67	36	⇑Pdiff	Pdif	17 20 04.0	+0.5
	baz=124						
I06A	Prineville	123.67	40	⇓Pdiff	Pdif	17 20 04.3	+0.8
	baz=124						
A12A	Yaak River Ran	123.75	33	⇑Pdiff	Pdif	17 20 04.5	+0.6
	baz=124						
H07A	Lands Inn, Kim	123.78	39	⇑Pdiff	Pdif	17 20 03.9	-0.1
	baz=124						
K05A	Summer Lake	123.79	41	⇓Pdiff	Pdif	17 20 04.2	+0.2
	baz=124						
G08A	Pilot Rock	123.81	38	⇑Pdiff	Pdif	17 20 04.0	-0.1
	baz=124						
GASB	Alder Springs	123.83	46	⇑Pdiff	Pdif	17 20 04.9	+0.7
	baz=124						
HOPS	Hopland	123.83	46	⇑Pdiff	Pdif	17 20 04.3	+0.1
	baz=124						
HOPS	Hopland	123.83	46	ePKPdf	PKPdf	17 23 29.9	-0.1
D10A	Wagner Farm, O	123.89	35	⇑Pdiff	Pdif	17 20 04.7	+0.2
	baz=124						
LNOR	Lincton Mounta	123.92	37	ePKiKP	PKPdf	17 23 30.8	+0.9
LNOR	Lincton Mounta	123.92	37	ePKPdf	PKPdf	17 23 30.8	+0.9
J06A	Christmas Vall	124.03	41	⇑Pdiff	Pdif	17 20 04.7	-0.4
	baz=124						
B12A	Libby	124.05	33	⇑Pdiff	Pdif	17 20 06.8	+1.6
	baz=124						
I07A	Izee	124.06	39	⇑Pdiff	Pdif	17 20 05.6	+0.4
	baz=124						
L05A	Lakeview	124.13	42	⇓Pdiff	Pdif	17 20 05.5	-0.1
	baz=124						
O03C	Acorn Hollow,	124.18	45	⇑Pdiff	Pdif	17 20 05.0	-0.8
	baz=124						
K06A	Valley Falls	124.18	41	⇓Pdiff	Pdif	17 20 06.5	+0.7
	baz=124						
M05C	Lookout	124.22	43	⇑Pdiff	Pdif	17 20 05.6	-0.3
	baz=124						
F09A	S2 Ranch, Elgi	124.23	37	⇓Pdiff	Pdif	17 20 07.2	+1.2
	baz=124						
HATC	Hat Creek Radi	124.24	44	⇓Pdiff	Pdif	17 20 05.7	-0.3
	baz=124						
MCCM	Marconi Confer	124.29	47	⇑Pdiff	Pdif	17 20 05.5	-0.8
	baz=124						
MCCM	Marconi Confer	124.29	47	ePKPdf	PKPdf	17 23 31.7	+0.9
MNRC	McLaughlin Nat	124.33	46	⇑Pdiff	Pdif	17 20 05.8	-0.6
	baz=124						
NSHM	Saint Helena R	124.35	47	ePKPdf	PKPdf	17 23 32.4	+1.5
H08A	Prairie City	124.37	39	⇑Pdiff	Pdif	17 20 07.4	+0.8
	baz=124						
FARB	Farallon Islan	124.37	48	⇑Pdiff	Pdif	17 20 06.2	-0.4
	baz=124						
D11A	Klaveano Farm,	124.44	35	⇑Pdiff	Pdif	17 20 07.0	+0.1
	baz=124						
F10A	Beach Ranch, E	124.50	37	⇓Pdiff	Pdif	17 20 07.7	+0.5
	baz=124						
J07A	Hines	124.52	40	⇑Pdiff	Pdif	17 20 07.4	+0.1
	baz=124						
CVS	Carmenet Viney	124.52	47	⇓Pdiff	Pdif	17 20 07.1	-0.2
	baz=124						
G09A	Cove	124.53	37	⇑Pdiff	Pdif	17 20 07.4	+0.1
	baz=124						
MOD	Modoc	124.55	42	⇓Pdiff	Pdif	17 20 06.9	-0.5
	baz=124						
MOD	Modoc	124.55	42	ePKPdf	PKPdf	17 23 32.4	+1.2
WALA	Waterton Lakes	124.61	32	ePKPdf	PKPdf	17 23 30.4	-0.7
SUTB	Sutter Butte	124.66	46	⇑Pdiff	Pdif	17 20 06.8	-1.1
	baz=125						
FCC	Fort Churchill	124.70	13	ePKiKP	PKPdf	17 23 29.3	-1.7
FCC	Fort Churchill	124.70	13	ePKPdf	PKPdf	17 23 29.3	-1.6
O04C	Chester	124.70	44	⇓Pdiff	Pdif	17 20 07.8	-0.3
	baz=125						
B13A	Whitefish	124.72	33	⇓Pdiff	Pdif	17 20 08.7	+0.5
	baz=125						
ORV	Oroville	124.73	45	⇓Pdiff	Pdif	17 20 07.2	-1.0
	baz=125						
I08A	Drewsey	124.73	39	⇓Pdiff	Pdif	17 20 09.0	+0.8
	baz=125						
Q03C	Winters	124.73	46	⇓Pdiff	Pdif	17 20 08.1	-0.1
	baz=125						
M06C	Likely Place G	124.74	43	⇑Pdiff	Pdif	17 20 08.1	-0.1
	baz=125						
ELFS	Eagle Lake Fie	124.82	44	⇑Pdiff	Pdif	17 20 07.1	-1.5
	baz=125						
OHCM	Honcut	124.83	45	ePKPdf	PKPdf	17 23 31.1	-0.7
K07A	Rock Creek Ran	124.88	41	⇑Pdiff	Pdif	17 20 09.0	+0.1
	baz=125						
E11A	Bogner Ranch,	124.89	36	⇑Pdiff	Pdif	17 20 08.4	-0.5
	baz=125						
H09A	Durkee	124.92	38	⇓Pdiff	Pdif	17 20 09.4	+0.3
	baz=125						
G10A	Bishop Farm, J	124.92	37	⇓Pdiff	Pdif	17 20 08.5	-0.6
	baz=125						
O05C	Quincy	124.97	45	⇓Pdiff	Pdif	17 20 08.6	-0.7
	baz=125						
BMO	Blue Mountains	125.04	38	ePKiKP	PKPdf	17 23 32.4	+0.4
BMO	Blue Mountains	125.04	38	ePKPdf	PKPdf	17 23 32.4	+0.3
JRSC	Jasper Ridge	125.04	48	⇑Pdiff	Pdif	17 20 08.4	-1.2
	baz=125						
J08A	Circle Bar Ran	125.06	40	⇓Pdiff	Pdif	17 20 09.3

O07A	Toulon	126.30	43	⇓Pdiff	Pdif	17 20 14.4	-0.8
	baz=126						
V03C	Hunter Liggett	126.31	49	⇓Pdiff	Pdif	17 20 14.4	-0.8
	baz=126						
I11A	Placerville	126.35	38	⇑Pdiff	Pdif	17 20 15.7	+0.3
	baz=126						
K10A	MacKenzie Ranc	126.37	40	⇓Pdiff	Pdif	17 20 16.3	+0.8
	baz=126						
T05C	Eagle Field, D	126.39	48	⇓Pdiff	Pdif	17 20 16.3	+0.7
	baz=126						
E14A	Clinton	126.41	34	⇑Pdiff	Pdif	17 20 16.1	+0.4
	baz=126						
S05C	Merced	126.46	47	⇑Pdiff	Pdif	17 20 15.9	0.0
	baz=126						
U04C	Hernandez Rese	126.52	49	⇑Pdiff	Pdif	17 20 16.6	+0.4
	baz=126						
P07A	Fallon	126.56	44	⇓Pdiff	Pdif	17 20 16.7	+0.3
	baz=126						
D15A	Lincoln	126.57	33	⇓Pdiff	Pdif	17 20 17.6	+1.2
	baz=126						
S06C	San Francisco	126.59	46	⇓Pdiff	Pdif	17 20 17.3	+0.8
	baz=126						
R06C	Coleville	126.61	46	⇓Pdiff	Pdif	17 20 16.8	+0.2
	baz=126						
M09A	Marrel Ranch,	126.66	41	⇓Pdiff	Pdif	17 20 17.5	+0.7
	baz=127						
H12A	Diamond D Ranc	126.68	37	⇓Pdiff	Pdif	17 20 17.8	+0.9
	baz=127						
MFID	Camas Ranch	126.70	39	⇓Pdiff	Pdif	17 20 18.4	+1.5
	baz=127						
V04C	Ramage Ranch,	126.73	49	⇓Pdiff	Pdif	17 20 18.2	+1.1
	baz=127						
O08A	Rochester Mine	126.73	43	⇓Pdiff	Pdif	17 20 18.5	+1.4
	baz=127						
G13A	Cobalt	126.74	36	⇑Pdiff	Pdif	17 20 17.3	+0.2
	baz=127						
F14A	Wisdom	126.83	35	⇓Pdiff	Pdif	17 20 18.4	+0.9
	baz=127						
PKD	Parkfield	126.86	49	⇓Pdiff	Pdif	17 20 17.5	-0.1
	baz=127						
E15A	Deer Lodge	126.87	34	⇓Pdiff	Pdif	17 20 18.8	+1.0
	baz=127						
Q07A	Schurz	126.89	45	⇓Pdiff	Pdif	17 20 17.9	+0.1
	baz=127						
N09A	Rock Creek Ran	126.89	42	⇑Pdiff	Pdif	17 20 18.2	+0.4
	baz=127						
K11A	Parker Ranch,	126.90	39	⇓Pdiff	Pdif	17 20 18.5	+0.6
	baz=127						
L10A	Juniper Basin	126.98	40	⇑Pdiff	Pdif	17 20 19.6	+1.4
	baz=127						
U05C	Westside ANR,	127.02	48	⇓Pdiff	Pdif	17 20 19.0	+0.6
	baz=127						
H13A	Challis	127.03	37	⇑Pdiff	Pdif	17 20 20.0	+1.5
	baz=127						
P08A	Dixie Valley	127.05	44	⇓Pdiff	Pdif	17 20 18.8	+0.3
	baz=127						
T06C	Millerton Lake	127.06	47	⇓Pdiff	Pdif	17 20 18.5	-0.1
	baz=127						
R07C	Lee Vining	127.08	46	⇑Pdiff	Pdif	17 20 19.2	+0.5
	baz=127						
G14A	Jackson	127.11	35	⇑Pdiff	Pdif	17 20 19.5	+0.7
	baz=127						
KCC	Kaiser Creek	127.21	47	⇑Pdiff	Pdif	17 20 19.1	-0.1
	baz=127						
M10A	I.L. Ranch, Tu	127.21	41	⇓Pdiff	Pdif	17 20 19.7	+0.5
	baz=127						
J12A	Stokes Ranch,	127.23	38	⇓Pdiff	Pdif	17 20 19.5	+0.1
	baz=127						
BMN	Battle Mountai	127.29	42	*e*PKIKP	PKPdf	17 23 37.2	+0.7
BMN	Battle Mountai	127.29	42	*e*PKPdf	PKPdf	17 23 37.1	+0.7
F15A	Butte	127.31	34	⇓Pdiff	Pdif	17 20 19.6	-0.1
	baz=127						
V05C	Boulder Hill,	127.36	49	⇑Pdiff	Pdif	17 20 19.7	-0.2
	baz=127						
L11A	Cat Creek Ranc	127.39	40	⇓Pdiff	Pdif	17 20 21.5	+1.5
	baz=127						
EGMT	Eagleton	127.41	31	⇑Pdiff	Pdif	17 20 21.3	+1.2
	baz=127						
MLAC	Mammoth Lakes	127.43	46	⇓Pdiff	Pdif	17 20 21.3	+1.1
	baz=127						
O09A	Fish Creek Ran	127.44	43	⇓Pdiff	Pdif	17 20 21.9	+1.7
	baz=127						
NVAR	Mina Array Bea	127.46	45	Pdiff	Pdif	17 20 20.8	+0.5
	comp=Z,0.2nm,0.5s,baz=17,slow=6.6,SNR=2.2						
I13A	Wildhorse Cree	127.47	37	⇓Pdiff	Pdif	17 20 22.9	+2.5
	baz=127						
HLID	Hailey	127.48	38	⇑Pdiff	Pdif	17 20 22.9	+2.5
	baz=127						
SMMC	Simmler	127.51	49	⇑Pdiff	Pdif	17 20 21.5	+0.9
	baz=127						
Q08A	Gabbs	127.53	44	⇑Pdiff	Pdif	17 20 22.1	+1.4
	baz=128						
N10A	Dunphy	127.63	42	⇑Pdiff	Pdif	17 20 22.6	+1.5
	baz=128						
R08A	Mina	127.64	45	⇓Pdiff	Pdif	17 20 22.3	+1.2
	baz=128						
RCTC	Rector, Farmer	127.68	48	⇓Pdiff	Pdif	17 20 22.4	+1.0
	baz=128						
K12A	Draper Farm, C	127.68	39	⇑Pdiff	Pdif	17 20 22.7	+1.4
	baz=128						
HELL	Mitchell Peak	127.69	47	⇓Pdiff	Pdif	17 20 23.0	+1.6
	baz=128						
MCMT	McKenzie Canyo	127.70	36	*e*PKPdf	PKPdf	17 23 37.4	+0.3
G15A	Dillon	127.71	35	⇑Pdiff	Pdif	17 20 23.1	+1.6
	baz=128						
J13A	Cove Ranch, Pi	127.72	38	⇓Pdiff	Pdif	17 20 23.7	+2.2
	baz=128						
MTUM	Tungsten Hills	127.74	46	*e*PKPdf	PKPdf	17 23 38.8	+1.3
M11A	Holland Ranch,	127.74	41	⇑Pdiff	Pdif	17 20 23.4	+1.8
	baz=128						
P09A	Austin	127.76	43	⇑Pdiff	Pdif	17 20 23.7	+2.0
	baz=128						
PKM	Peak Mountain	127.80	50	⇓Pdiff	Pdif	17 20 22.9	+1.0
	baz=128						
O10A	Cortez Mining,	127.84	42	⇓Pdiff	Pdif	17 20 23.0	+0.9
	baz=128						
L12A	House Creek Ra	127.87	40	⇑Pdiff	Pdif	17 20 23.7	+1.5
	baz=128						
BOZ	Bozeman (W)	127.91	34	*e*PKIKP	PKPdf	17 23 37.5	0.0
BOZ	Bozeman (W)	127.91	34	⇑Pdiff	Pdif	17 20 23.4	+1.1
	baz=128						
BOZ	Bozeman (W)	127.91	34	*e*PKPdf	PKPdf	17 23 37.5	0.0
S08C	White Mtn Res	127.96	46	⇑Pdiff	Pdif	17 20 23.5	+0.9
	baz=128						
VES	Vestal, Richgr	127.99	48	⇓Pdiff	Pdif	17 20 22.7	0.0
	baz=128						
SBC	Santa Barbara	128.05	50	⇑Pdiff	Pdif	17 20 22.5	-0.5
	baz=128						
Q09A	Carvers	128.07	44	⇑Pdiff	Pdif	17 20 24.0	+1.0
	baz=128						
N11A	Elko Archery C	128.09	41	⇑Pdiff	Pdif	17 20 24.1	+0.9
	baz=128						
TIN	Tinemaha	128.11	47	⇑Pdiff	Pdif	17 20 22.9	-0.4
	baz=128						
K13A	Stover Farm, H	128.19	38	⇑Pdiff	Pdif	17 20 23.6	+0.1
	baz=128						
P10A	Eureka	128.19	43	⇑Pdiff	Pdif	17 20 24.2	+0.7
	baz=128						
PMAN	Manadas	128.28	316	*e*PKP	PKPdf	17 23 35.9	-2.5
BSC	Santa Cruz Isl	128.28	51	⇑Pdiff	Pdif	17 20 25.0	+1.0
	baz=128						
M12A	Wells	128.32	40	⇓Pdiff	Pdif	17 20 25.4	+1.2
	baz=128						
TPH	Tonopah	128.38	45	*e*PKIKP	PKPdf	17 23 40.9	+2.2
TPH	Tonopah	128.38	45	*e*PKPdf	PKPdf	17 23 40.9	+2.2
R09A	Tonopah	128.41	45	⇑Pdiff	Pdif	17 20 25.0	+0.4
	baz=128						
ELK	Elko	128.45	41	PP	PP	17 25 44.2	-3.1
ELK	Elko	128.45	41	PP	PP	17 25 44.2	-3.1
	comp=Z,52nm,1.1s,baz=5.7,slow=1,9,SNR=3.6						
ARVC	Arvin	128.46	49	⇑Pdiff	Pdif	17 20 25.0	+0.2
	baz=128						
CWC	Cottonwood Cre	128.48	47	⇓Pdiff	Pdif	17 20 25.4	+0.5
	baz=128						
O11A	Cowboy Ranch,	128.48	42	⇓Pdiff	Pdif	17 20 25.7	+0.8
	baz=128						
ISA	Isabella	128.51	48	⇓Pdiff	Pdif	17 20 25.7	+0.7
	baz=128						
N12A	Clover Valley,	128.53	41	⇓Pdiff	Pdif	17 20 26.1	+1.0
	baz=128						
S09A	Goldfield	128.54	45	⇓Pdiff	Pdif	17 20 26.4	+1.3
	baz=128						
PICO	Pico	128.57	316	*e*PKP	PKPdf	17 23 43.3	+4.3
L13A	Double Diamond	128.58	39	⇓Pdiff	Pdif	17 20 26.5	+1.2
	baz=128						
Q10A	Clear Creek Ra	128.61	44	⇓Pdiff	Pdif	17 20 25.6	+0.2
	baz=128						
BLG	Laguna Peak	128.68	50	⇓Pdiff	Pdif	17 20 25.2	-0.6
	baz=129						
P11A	Circle Ranch,	128.70	43	⇑Pdiff	Pdif	17 20 26.1	+0.2
	baz=129						
CALA	Caldeira	128.73	316	*e*PKP	PKPdf	17 23 39.9	+0.6
OSI	Osito Adit	128.74	50	⇑Pdiff	Pdif	17 20 26.5	+0.4
	baz=129						
GRAC	Grapevine Rang	128.75	46	⇓Pdiff	Pdif	17 20 25.6	-0.5
	baz=129						
K14A	Jones Ranch, D	128.80	38	⇑Pdiff	Pdif	17 20 27.8	+1.5
	baz=129						
M13A	Montello	128.83	40	⇑Pdiff	Pdif	17 20 26.7	+0.2
	baz=129						
S10A	Tonopah Range,	128.89	45	⇑Pdiff	Pdif	17 20 27.1	+0.3
	baz=129						
R10A	Warm Springs	128.93	44	⇓Pdiff	Pdif	17 20 27.7	+0.9
	baz=129						
O12A	Currie	129.02	41	⇑Pdiff	Pdif	17 20 28.8	+1.5
	baz=129						
L14A	Malta	129.05	39	⇓Pdiff	Pdif	17 20 29.2	+1.8
	baz=129						
N13A	Wendover, West	129.07	40	⇓Pdiff	Pdif	17 20 29.2	+1.7
	baz=129						
MPMC	Manual Prospec	129.07	47	⇑Pdiff	Pdif	17 20 29.5	+2.0
	baz=129						
YFT	Old Faithful	129.08	35	*e*PKPdf	PKPdf	17 23 42.2	+2.5
Q11A	Duckwater	129.11	43	⇑Pdiff	Pdif	17 20 28.4	+0.7
	baz=129						
K15A	Arbon	129.12	38	⇑Pdiff	Pdif	17 20 30.2	+2.5
	baz=129						
LRMC	Laurel Mountai	129.17	48	⇓Pdiff	Pdif	17 20 29.4	+1.4
	baz=129						
DECC	Green Verdugo	129.18	50	⇓Pdiff	Pdif	17 20 28.8	+0.8
	baz=129						
EDW2	Edwards Air Fo	129.19	49	⇓Pdiff	Pdif	17 20 30.0	+2.0
	baz=129						
M14A	Sheep Mountain	129.27	39	⇓Pdiff	Pdif	17 20 30.2	+1.8
	baz=129						
P12A	McGill	129.31	42	⇑Pdiff	Pdif	17 20 30.0	+1.4
	baz=129						
J16A	Bone	129.33	37	⇑Pdiff	Pdif	17 20 30.9	+2.2
	baz=129						
FURC	Furnace Creek,	129.35	47	⇑Pdiff	Pdif	17 20 29.7	+1.0
	baz=129						
R11A	Troy Canyon, C	129.40	44	⇓Pdiff	Pdif	17 20 30.1	+1.2
	baz=129						
FMP	Fort Macarthur	129.42	51	⇑Pdiff	Pdif	17 20 29.6	+0.5
	baz=129						
CIS	Catalina Islan	129.45	51	⇓Pdiff	Pdif	17 20 29.3	+0.1
	baz=129						
SCI	San Clemente I	129.50	52	⇓Pdiff	Pdif	17 20 29.7	+0.3
	baz=129						
Q12A	Willow Creek R	129.58	43	⇓Pdiff	Pdif	17 20 29.6	-0.2
	baz=130						
TPNV	Topopah Spring	129.58	46	*e*PKIKP	PKPdf	17 23 41.4	+0.4
TPNV	Topopah Spring	129.58	46	⇓Pdiff	Pdif	17 20 31.4	+1.6
	baz=130						
TPNV	Topopah Spring	129.58	46	*e*PKPdf	PKPdf	17 23 41.4	+0.4
O13A	Hicks Ranch, I	129.59	41	⇓Pdiff	Pdif	17 20 31.4	+1.6
	baz=130						
L15A	Malad City	129.59	38	⇑Pdiff	Pdif	17 20 30.8	+1.0
	baz=130						
K16A	Soda Springs	129.60	37	⇑Pdiff	Pdif	17 20 32.6	+2.7
	baz=130						
S11A	Rachel	129.62	45	⇓Pdiff	Pdif	17 20 30.5	+0.6
	baz=130						
BFSC	Mount Baldy St	129.70	50	⇑Pdiff	Pdif	17 20 31.0	+0.7
	baz=130						
SNOW	Snow King Moun	129.72	36	*e*PKPdf	PKPdf	17 23 41.4	+0.4
N14A	Grayback Hills	129.72	40	⇓Pdiff	Pdif	17 20 32.2	+1.8
	baz=130						
REDW	Red Top Meadow	129.73	36	*e*PKPdf	PKPdf	17 23 42.1	+1.1
U10A	Ash Meadows, A	129.76	47	⇑Pdiff	Pdif	17 20 31.1	+0.5
	baz=130						
M15A	Larsen Ranch,	129.86	39	⇓Pdiff	Pdif	17 20 31.6	+0.6
	baz=130						
GSC	Goldstone	129.90	48	⇓Pdiff	Pdif	17 20 32.0	+0.8
	baz=130						
P13A	Bates Ranch, G	129.92	42	⇑Pdiff	Pdif	17 20 31.7	+0.4
	baz=130						
RRX	Edison Barstow	129.93	49	⇑Pdiff	Pdif	17 20 32.0	+0.7
	baz=130						
AHID	Auburn Hatcher	129.93	37	*e*PKPdf	PKPdf	17 23 43.8	+2.3
SHOC	Shoshone	130.03	47	⇑Pdiff	Pdif	17 20 31.9	+0.1
	baz=130						
R12A	Pony Springs,	130.08	44	⇓Pdiff	Pdif	17 20 33.2	+1.2
	baz=130						
N15A	Stansbury Isla	130.13	40	⇓Pdiff	Pdif	17 20 32.7	+0.5
	baz=130						
Q13A	Wheeler Ranch,	130.17	43	⇓Pdiff	Pdif	17 20 33.1	+0.7
	baz=130						
L16A	Fish Haven	130.17	38	⇑Pdiff	Pdif	17 20 33.7	+1.3
	baz=130						
T11A	Corn Creek, Al	130.18	45	⇑Pdiff	Pdif	17 20 33.7	+1.2
	baz=130						
BBRC	Big Bear Sol-O	130.25	49	⇑Pdiff	Pdif	17 20 33.2	+0.5
	baz=130						
S12A	Delamar Landin	130.26	44	⇑Pdiff	Pdif	17 20 32.9	+0.1
	baz=130						
MURC	Murrieta	130.30	50	⇑Pdiff	Pdif	17 20 33.9	+0.9
	baz=130						
DUG	Dugway	130.32	40	⇓Pdiff	Pdif	17 20 33.0	0.0
	baz=130						
U11A	Corn Creek	130.44	46	⇓Pdiff	Pdif	17 20 33.9	+0.3
	baz=130						
M16A	Huntsville	130.45	39	⇑Pdiff	Pdif	17 20 34.2	+0.6
	baz=130						
HEC	Hector,Ludlow	130.45	48	⇑Pdiff	Pdif	17 20 33.9	+0.2
	baz=130						
P14A	Drum Mountains	130.47	41	⇑Pdiff	Pdif	17 20 33.9	+0.2
	baz=130						
O15A	The Old Anders	130.49	40	⇑Pdiff	Pdif	17 20 34.3	+0.4
	baz=130						
TUQ	Turquoise Mtn.	130.49	48	⇑Pdiff	Pdif	17 20 34.3	+0.4
	baz=130						
R13A	O'Grain Ranch,	130.59	43	⇑Pdiff	Pdif	17 20 34.5	+0.2
	baz=130						
Q14A	Sevier Lake (B	130.65	42	⇑Pdiff	Pdif	17 20 35.2	+0.6
	baz=131						
109C	Camp Elliot, M	130.66	51	⇑Pdiff	Pdif	17 20 34.0	-0.6
	baz=131						
V11A	Goodsprings	130.67	47	⇑Pdiff	Pdif	17 20 35.2	+0.6
	baz=131						
T12A	Moapa	130.78	45	⇓Pdiff	Pdif	17 20 34.8	-0.3
	baz=131						
N16A	Rees Ranch, Co	130.81	39	⇑Pdiff	Pdif	17 20 36.7	+1.4
	baz=131						
PDAR	Pinedale Array	130.84	36	Pdif	Pdif	17 20 36.8	+1.4
PDAR				PP	PP	17 26 01.6	-1.0
PDAR				SKPbc	SKPbc	17 26 38.8	-0.5
PDAR				PP	PP	17 26 01.6	-1.0
	comp=Z,23nm,0.8s,baz=349,slow=3.2,SNR=3.4						
PDAR				SKPbc	SKPbc	17 26 38.8	-0.5
	comp=Z,299nm,0.9s,baz=295,slow=0.6,SNR=11						
PDAR	Pinedale Array	130.84	36	Pdif	Pdif	17 20 36.8	+1.4
	comp=Z,0.2nm,0.3s,baz=223,slow=36,SNR=2.1						
PFO	Pinyon Flat Ob	130.87	50	⇑Pdiff	Pdif	17 20 35.9	+0.4
	baz=131						
S13A	Holt Ranch, En	130.96	44	⇓Pdiff	Pdif	17 20 36.1	+0.1
	baz=131						
GMRC	Granite Mounta	130.97	48	⇑Pdiff	Pdif	17 20 35.8	-0.2
	baz=131						
SCHQ	Schefferville	130.99	356	PP	PP	17 26 02.3	-0.4
SCHQ				SKPbc	SKPbc	17 26 38.6	-0.8
SCHQ				SKPbc	SKPbc	17 26 38.6	-0.8
	comp=Z,914nm,0.7s,baz=29,slow=3.2,SNR=20						
SCHQ	Schefferville	130.99	356	PP	PP	17 26 02.3	-0.4
	comp=Z,540nm,1.1s,baz=9.7,slow=8.1,SNR=13						
P15A	Leamington	131.00	41	⇑Pdiff	Pdif	17 20 36.7	+0.6
	baz=131						
U12A	Valley of Fire	131.04	46	⇓Pdiff	Pdif	17 20 37.1	+0.8
	baz=131						
BELC	Belle Mtn.	131.05	49	⇑Pdiff	Pdif	17 20 35.9	-0.4
	baz=131						
V12A	Nelson	131.14	47	⇑Pdiff	Pdif	17 20 37.3	+0.6
	baz=131						
O16A	Springville	131.15	40	⇑Pdiff	Pdif	17 20 36.7	0.0
	baz=131						
N17A	Moffit Pass	131.15	39	⇑Pdiff	Pdif	17 20 37.0	+0.2
	baz=131						
R14A	James Farms, M	131.17	43	⇓Pdiff	Pdif	17 20 37.1	+0.2
	baz=131						
MONP	Monument Peak	131.19	51	⇓Pdiff	Pdif	17 20 37.7	+0.7
	baz=131						
T13A	Saint George	131.20	45	⇑Pdiff	Pdif	17 20 38.0	+1.0
	baz=131						
Q15A	Fillmore	131.24	42	⇓Pdiff	Pdif	17 20 37.5	+0.3
	baz=131						
LDFC	Landfair	131.25	48	*e*PKPdf	PKPdf	17 23 46.2	+2.0
W12A	Cal Nev Ari	131.32	47	⇑Pdiff	Pdif	17 20 37.0	-0.5
	baz=131						
S14A	Cedar City	131.35	43	⇓Pdiff	Pdif	17 20 36.8	-0.9
	baz=131						
P16A	Fountain Green	131.38	41	⇑Pdiff	Pdif	17 20 38.6	+0.9
	baz=131						
U13A	Pakoon Wash	131.46	45	⇑Pdiff	Pdif	17 20 38.2	+0.1
	baz=131						
DVTC	Desert V Tower	131.52	51	⇓Pdiff	Pdif	17 20 38.6	+0.2
	baz=131						
BC3	Big Chuckw Mtn	131.61	49	⇑Pdiff	Pdif	17 20 38.2	-0.6
	baz=132						
IRM	Iron Mountain	131.62	49	⇓Pdiff	Pdif	17 20 39.1	+0.2
	baz=132						
SWSC	Sam W. Stewart	131.64	50	⇑Pdiff	Pdif	17 20 39.1	+0.2
	baz=132						
ULM	Lac du Bonnet	131.65	20	*e*P	PKPdf	17 23 44.2	-0.2
V13A	Grand Canyon W	131.71	46	⇑Pdiff	Pdif	17 20 40.4	+1.2
	baz=132						
R15A	Junction	131.72	42	⇑Pdiff	Pdif	17 20 40.5	+1.2
	baz=132						
NEE2	Needles Airpor	131.75	48	⇑Pdiff	Pdif	17 20 39.6	+0.2
	baz=132						
T14A	Hurricane	131.76	44	⇓Pdiff	Pdif	17 20 39.9	+0.5
	baz=132						
N18A	Larsen Ranch,	131.85	38	⇓Pdiff	Pdif	17 20 40.1	+0.3
	baz=132						
S15A	Panguitch	131.94	43	⇓Pdiff	Pdif	17 20 40.6	+0.3
	baz=132						
U14A	Mt Trumbull	132.01	45	⇓Pdiff	Pdif	17 20 42.2	+1.6
	baz=132						
P17A	Butcher Ranch,	132.05	40	⇓Pdiff	Pdif	17 20 41.4	+0.6
	baz=132						
O18A	Roosevelt	132.06	39	⇓Pdiff	Pdif	17 20 41.7	+0.9
	baz=132						
Q16A	Castle Valley	132.07	41	⇓Pdiff	Pdif	17 20 42.0	+1.2
	baz=132						
W13A	Hualapai Mount	132.13	47	⇓Pdiff	Pdif	17 20 42.1	+1.0
	baz=132						
R16A	Teasdale	132.21	42	⇑Pdiff	Pdif	17 20 42.3	+0.8
	baz=132						
T15A	Red Dirt Ranch	132.26	44	⇓Pdiff	Pdif	17 20 42.7	+1.0
	baz=132						
Y12C	Blythe	132.27	49	⇑Pdiff	Pdif	17 20 43.0	+1.3
	baz=132						
P18A	Preston Nutter	132.27	40	⇓Pdiff	Pdif	17 20 43.0	+1.3
	baz=132						
PDMCI	Parker Dam,Lak	132.31	48	⇓Pdiff	Pdif	17 20 42.5	+0.6
	baz=132						
GLA	Glamis	132.34	50	⇓Pdiff	Pdif	17 20 42.5	+0.5
	baz=132						
SRU	San Rafael	132.39	40	*e*PKIKP	PKPdf	17 23 48.3	+2.1
SRU	San Rafael	132.39	40	⇑Pdiff	Pdif	17 20 43.8	+1.6
	baz=132						
SRU	San Rafael	132.39	40	*e*PKPdf	PKPdf	17 23 48.3	+2.1
X13A	Yucca	132.40	47	⇑Pdiff	Pdif	17 20 43.5	+1.2
	baz=132						
S16A	Weppner Ranch,	132.44	43	⇑Pdiff	Pdif	17 20 43.6	+1.1
	baz=132						
V14A	Boquillas Ranc	132.44	46	⇓Pdiff	Pdif	17 20 43.9	+1.4
	baz=132						
U15A	North Rim	132.62	44	⇑Pdiff	Pdif	17 20 44.3	+0.9
	baz=133						
Q18A	Rafter H Ranch	132.64	40	⇓Pdiff	Pdif	17 20 44.3	+0.9
	baz=133						
R17A	Hanksville Air	132.65	41	⇑Pdiff	Pdif	17 20 45.2	+1.8
	baz=133						
W14A	Seligman	132.66	46	⇓Pdiff	Pdif	17 20 44.6	+1.2
	baz=133						
112A	Yuma	132.74	50	⇑Pdiff	Pdif	17 20 44.5	+0.7
	baz=133						
Y13A	Salome	132.76	48	⇑Pdiff	Pdif	17 20 44.8	+0.9
	baz=133						
T16A	Glen Canyon Da	132.88	43	⇑Pdiff	Pdif	17 20 45.0	+0.6
	baz=133						
V15A	Kaibab Nationa	133.01	45	⇑Pdiff	Pdif	17 20 45.3	+0.2
	baz=133						
S17A	Black Ridge (B	133.01	42	⇑Pdiff	Pdif	17 20 46.8	+1.7
	baz=133						
X14A	Yava	133.15	47	⇑Pdiff	Pdif	17 20 46.7	+1.1
	baz=133						
R18A	Canyonlands Na	133.20	41	⇓Pdiff	Pdif	17 20 46.2	+0.4
	baz=133						
W15A	Williams	133.26	46	⇓Pdiff	Pdif	17 20 47.5	+1.4
	baz=133						
113A	Mohawk Valley,	133.26	50	⇓Pdiff	Pdif	17 20 46.6	+0.5
	baz=133						
Q19A	Hogan Spring (	133.28	40	⇓Pdiff	Pdif	17 20 47.3	+1.0
	baz=133						
Y14A	Wickenburg	133.31	48	⇓Pdiff	Pdif	17 20 47.3	+1.0
	baz=133						
T17A	Navajo Res., N	133.35	43	⇓Pdiff	Pdif	17 20 46.8	+0.3
	baz=133						
S18A	Hurst Farm, Bl	133.52	42	⇑Pdiff	Pdif	17 20 47.4	+0.1
	baz=134						
PLCA	Paso Flores	133.57	182	PP	PP	17 26 20.0	+1.0
PLCA	Paso Flores	133.57	182	PP	PP	17 26 20.0	+1.0
	comp=Z,90nm,1.0s,baz=170,slow=7.0,SNR=4.5						
X15A	Humboldt	133.62	47	⇓Pdiff	Pdif	17 20 48.2	+0.5
	baz=134						
Z14A	Wintersburg	133.62	49	⇓Pdiff	Pdif	17 20 48.2	+0.5
	baz=134						
U17A	Sh

118A	Homack Ranch, baz=136	136.16	48	⇓Pdiff	Pdif	17 21 00.1	+1.1
Z19A	T-Link Ranch, baz=136	136.35	47	⇑Pdiff	Pdif	17 21 01.6	+1.8
218A	Dragoon baz=136	136.43	49	⇓Pdiff	Pdif	17 21 00.9	+0.7
119A	Ashpeak Ranch, baz=136	136.59	47	⇑Pdiff	Pdif	17 21 01.5	+0.5
318A	Bisbee baz=137	136.72	49	⇓Pdiff	Pdif	17 21 03.2	+1.7
219A	White Tail Can baz=137	137.00	48	⇑Pdiff	Pdif	17 21 04.0	+1.3
319A	Douglas baz=137	137.29	49	⇓Pdiff	Pdif	17 21 05.1	+1.1
Y22C	IRIS PASSCAL I baz=138	137.60	44	⇓Pdiff	Pdif	17 21 07.7	+2.3
HRV	Adam Dziewonsk	143.53	359	ePKIKP	PKPdf	17 24 04.2	-2.3
HRV	Adam Dziewonsk	143.53	359	ePKPdf	PKPdf	17 24 04.2	-2.3
HRV				SKPdf	SKPdf	17 27 16.3	+3.8
HRV	Adam Dziewonsk	143.53	359	Pdiff	Pdif	17 21 33.6	+1.8
ACSO	Alum Creek Sta	144.55	14	ePKPdf	PKPdf	17 24 07.6	-0.8
LCO	Las Campanas	145.25	183	ePKPdf	PKPdf	17 24 12.0	+2.1
BRNJ	Basking Ridge	145.31	3	ePKPdf	PKPdf	17 24 09.3	-0.4
WCI	Wyandotte Cave	145.47	19	ePKP2	PKPab	17 24 10.8	-0.4
WCI	Wyandotte Cave	145.47	19	ePKHKP		17 24 01.5	
WCI	Wyandotte Cave	145.47	19	ePKPdf	PKPdf	17 24 10.8	+0.8
MIAR	Mount Ida	145.49	32	ePKP2	PKPab	17 24 11.2	-0.3
UALR	University of	145.94	30	ePKPdf	PKPdf	17 24 12.2	+1.2
ANCH	Antofagasta	150.53	184	eP	PKPdf	17 24 17.4	-1.3
SIV	San Ignacio	155.47	207	PKPab	PKPab	17 24 52.3	-0.7
SIV	San Ignacio	155.47	207	PKPab	PKPab	17 24 52.3	-0.7
	comp=Z,373nm,0.7s,baz=151,slow=3.8,SNR=13						
CMIG	Matias Romero	155.48	61	PKPbc	PKPdf	17 24 25.9	0.0
	comp=Z,131nm,0.8s,baz=254,slow=1.3,SNR=2.4						
CMIG	Matias Romero	155.48	61	PKPbc	PKPdf	17 24 25.9	0.0
DWPF	Disney	156.35	20	PP	PP	17 28 33.5	-0.6
LPAZ	La Paz	157.53	191	PP	PP	17 28 40.5	+0.1
LPAZ	La Paz	157.53	191	PP	PP	17 28 40.5	+0.1
	comp=Z,64nm,1.1s,baz=157,slow=18,SNR=2.1						
PAYG	Puerto Ayora	161.13	110	ePKPdf	PKPdf	17 24 35.0	+2.1
NNA	Nana	161.73	166	PKPab	PKPab	17 25 19.2	-1.0
NNA	Nana	161.73	166	PKPab	PKPab	17 25 19.2	-1.0
	comp=Z,238nm,1.0s,baz=237,slow=4.1,SNR=5.8						
BPA	Boggy Peak	164.76	318	e	PKPab	17 25 34.2	+0.6
BBGH	Gun Hill	165.31	300	ePKPdf	PKPdf	17 24 38.2	+1.4
DWS	Wesley	165.37	312	e	PKPab	17 25 37.5	+1.2
DBCT	Belle View Cho	165.58	311	e	PKPab	17 25 38.1	+0.8
SLW	Petit Monier	166.01	306	e	PKPab	17 25 40.2	+0.9
SLW	Petit Monier	166.01	306	eP	PKPdf	17 24 40.3	+3.0
SLW				eP		17 25 40.2	
MCLT	Moule a Chique	166.18	305	e	PKPab	17 25 40.3	+0.3
SLB	Belfond	166.20	306	eP	PKPdf	17 24 39.4	+1.9
SLB	Belfond	166.20	306	e	PKPab	17 25 40.0	-0.1
SLB	Belfond	166.20	306	eP	PKPdf	17 24 39.4	+1.9
SLB				eP	PKPab	17 25 40.0	-0.1
SLDE	Delcer	166.22	306	eP	PKPdf	17 24 38.2	+0.7
FCV	Fort Charlotte	166.72	304	e	PKPdf	17 24 38.7	+0.8
FCV	Fort Charlotte	166.72	304	eP	PKPdf	17 24 38.7	+0.8
TPR	Prospect	167.23	295	e	PKPab	17 25 47.1	+2.3
TPR	Prospect	167.23	295	eP	PKPdf	17 24 41.1	+2.8
TPR				eP		17 25 47.1	
GRW	Mount Saint Ca	167.58	301	eP	PKPdf	17 24 39.4	+0.9
GRW	Mount Saint Ca	167.58	301	e	PKPab	17 25 47.0	+0.7
GRW	Mount Saint Ca	167.58	301	eP	PKPdf	17 24 38.9	+0.4
GRW				eP		17 25 47.0	
TPP	Pointe-a-Pierr	168.17	293	ePKIKP	PKPdf	17 24 36.2	-2.7
TPP				e		17 25 47.9	
TCE	Chacachacare	168.30	295	e	PKPab	17 25 52.5	+2.9
SDV	Santo Domingo	176.47	328	PP	PP	17 30 18.0	+0.4
SDV	Santo Domingo	176.47	328	PP	PP	17 30 18.0	+0.4
	comp=Z,150nm,1.1s,baz=44,slow=8.0,SNR=4.2						
ROSC	El Rosal	177.95	120	PP	PP	17 30 28.0	+2.3
ROSC	El Rosal	177.95	120	PP	PP	17 30 28.0	+2.3
	comp=Z,54nm,1.0s,baz=99,slow=11,SNR=3.8						

IGQ 08 17:34:44.6, 175S×7769W, h12km±3km, Mb4.1, Ms3.9, 2C-15D, Error ellipse: s-maj=3.1km s-min=1.0km az=60.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	Ulba	0.78	293	⇓P	Pg	17 35 00.2	+0.4
PATA	Patacocha	0.79	288	⇓P	Pg	17 35 00.2	+0.3
ARRY	Arrayan	0.81	288	⇓P	Pg	17 35 00.2	-0.1
RUN5	Runtun	0.81	294	⇓P	Pg	17 35 00.6	+0.2
RETU	Refugio	0.82	291	⇓P	Pg	17 35 00.7	+0.2
RETU	Refugio	0.82	291	⇓S	Sg	17 35 11.8	+0.6
JUI6	Juive	0.85	293	⇓P	Pg	17 35 00.9	-0.1
JUI6	Juive	0.85	293	⇓S	Sg	17 35 12.2	0.0
BILB	Tungurahua vol	0.87	291	⇓P	Pg	17 35 01.5	0.0
PISA	Pisayambo	0.98	315	⇑P	Pg	17 35 04.3	+0.7
IGUA	Igualata	0.99	285	⇓P	Pb	17 35 04.1	+0.4
TAMB	Tambo	1.25	327	⇓P	Pn	17 35 09.2	+1.2
VC1	Cotopaxi 1	1.32	327	⇓P	Pn	17 35 10.4	+1.5
CAMI	Rancho Maria	1.35	322	⇓P	Pn	17 35 10.9	+1.6
ANTI	Antisana	1.38	340	⇑P	Pn	17 35 11.1	+1.4
LAV3	Lava3-Reventad	1.65	2	⇓P	Pn	17 35 15.1	+1.7
CONE	Cono NE Rev Vo	1.67	1	P	Pn	17 35 15.4	+1.7
JUA2	San Juan 2	1.78	329	P	Pn	17 35 18.6	+3.3
JUA2	San Juan 2	1.78	329	S	Sn	17 35 44.3	+6.4
PINO	Pino	1.83	330	P	Pn	17 35 19.9	+3.9
CAYA	Cayambe	1.84	350	⇓P	Pn	17 35 19.1	+3.0
COTA	Cotacachi	2.17	343	P	Pn	17 35 28.1	+7.4
CHIS	Cerro-Chispas-	3.12	283	P	Pn	17 35 37.2	+3.5

*ISCJB **08** 17:35:19.8±0.8, 5151N±004×1597E±005, h0km, Error ellipse: s-maj=6.2km s-min=3.8km az=34.2*
*IPEC **08** 17:35:20.8±0.3, 5158N×1647E, h0km, ML2.0/3, Error ellipse: s-maj=3.5km s-min=1.9km az=92.0*
*NEIC **08** 17:35:20.2±0.6, 5160N×1608E, h5km, ML2.8(SZGRF), Error ellipse: s-maj=7.6km s-min=4.8km az=48.0*
*WAR **08** 17:35:21.3, 5157N×1601E, ML2.7, Mining Induced*
*PRU **08** 17:35:21.4, 5152N×1603E, h0km*
*CSEM **08** 17:35:21.8±0.2, 5152N×1602E, h1km, ML3.4/6, Error ellipse: s-maj=3.9km s-min=2.2km az=24.0*

ISC 08 17:35:20.3±0.7, 5156N±004×1602E±005, h0km, n24, σ0°79/42, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.73	167	ePg	Pg	17 35 35.0	+0.7
KSP				eSg	Sg	17 35 44.9	+1.2
KSP	Ksiaz	0.73	167	⇓iPg	Pg	17 35 35.0	+0.7
KSP				eSg	Sg	17 35 45.0	+1.2
UPC	Upice	1.05	180	ePG	Pg	17 35 40.8	+0.5
DPC	Dobruska-Polom	1.22	171	ePG	Pg	17 35 43.9	+0.3
DPC				eSG	Sg	17 35 59.7	+0.3
	comp=Z,107nm,0.7s						
PVCC	Panska Ves	1.38	222	ePG	Pg	17 35 47.1	+0.5
PRU	Pruhonice	1.83	212	ePN	Pn	17 35 52.7	-0.2
PRU				ePG	Pg	17 35 54.5	-0.8
PRU				eSG	Sg	17 36 18.8	-0.2
	comp=Z,32nm,0.3s						
CLL	Collm	1.91	264	i Pn	Pn	17 35 53.1	-0.9
CLL				ePg	Pg	17 35 56.0	-0.8
CLL				i x	x	17 36 00.0	
CLL				eSg	Sg	17 36 23.0	+1.5
CLL	Collm	1.91	264	i Pn	Pn	17 35 53.1	-0.9
CLL				ePg	Pg	17 35 56.0	-0.8
MORC	Moravsky Berou	2.03	151	⇑iP	Pn	17 35 56.2	+0.6
MORC	Moravsky Berou	2.03	151	ePn	Pn	17 35 55.4	-0.2
MORC				eSg	Sg	17 36 21.0	-4.3
MORC	Moravsky Berou	2.03	151	⇑P	Pn	17 35 56.2	+0.6
OKC	Ostrava-Krasne	2.19	141	ePG	Pg	17 36 01.9	-0.2
OKC				eSG	Sg	17 36 30.8	+0.4
	comp=Z,42nm,0.6s						
VRAC	Vranov	2.28	171	⇓iP	Pn	17 35 59.3	+0.2
VRAC	Vranov	2.28	171	ePn	Pn	17 35 59.7	+0.6
VRAC				eSg	Sg	17 36 32.7	-0.7
	comp=Z,6.3nm,0.1s						
VRAC	Vranov	2.28	171	⇓P	Pn	17 35 59.3	+0.3
KRUC	Moravsky	2.51	174	ePn	Pn	17 36 02.9	+0.7
KRUC				eSg	Sg	17 36 39.2	-1.6
	comp=Z,4.8nm,0.1s						
NKC	Novy Kostel	2.62	241	ePN	Pn	17 36 03.8	0.0
NKC				ePG	Pg	17 36 10.6	+0.1
NKC				eSG	Sg	17 36 45.3	+0.8
	comp=Z,50nm,0.3s						
KHC	Kasperske Hory	2.89	214	ePN	Pn	17 36 07.4	-0.1
KHC				ePG	Pg	17 36 14.3	-1.3
KHC				eSN	Sn	17 36 42.3	-0.6
KHC				eSG	Sg	17 36 51.6	-1.4
GEC2	GERESS Array S	3.10	210	ePn	Pn	17 36 11.2	+0.9
WET	Wettzell	3.14	221	ePn	Pn	17 36 11.5	+0.5
CLZ	Clausthal	3.53	277	ePn	Pn	17 36 16.8	+0.6
GRA1	Grafenberg Arr	3.58	240	ePn	Pn	17 36 17.4	+0.4
GRF	Grafenberg Arr	3.58	240	ePn	Pn	17 36 17.4	+0.4
BSD	Bornholm Skovb	3.63	350	i P	Pn	17 36 16.0	-1.6
BSD				i S	Sn	17 36 54.2	-6.8

*ISCJB **08** 17:37:20.0±0.8, 477N±004×12751E±009, h94km±7km, mb4.6/20, Error ellipse: s-maj=15.6km s-min=5.4km az=167.5*
*NEIC **08** 17:37:21.7±1.4, 475N×12747E, h94km±12km, mb4.7/7, Error ellipse: s-maj=17.3km s-min=7.4km az=73.0*
*MAN **08** 17:37:22, 469N×12710E, h98km, mb5.5, ML4.5, MS4.9*
*IDC **08** 17:37:24.5±5.5, 477N×12752E, h118km±52km, mb4.3/16, mb1 4.4/17, mb1mx4.3/23, mbtmp4.3/17, Error ellipse: s-maj=32.1km s-min=12.7km az=71.0*
*DJA **08** 17:37:53, 215N×12640E, h10km, ML5.0/4*

ISC 08 17:37:21.6±0.7, 475N±004×12743E±009, h91km±7km, n45, σ1°18/49, mb4.6/20, 1C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	2.48	332	eP	Pn	17 37 58.7	-1.5
MATI				eS	Sn	17 38 30.6	+0.8
GSPH	General Santos	2.81	298	eP	Pn	17 38 00.8	-3.8
DAV	Davao City (W)	2.95	322	eP	Pn	17 38 07.0	+0.5
KCP	Kidapawan	3.23	314	⇓eP	Pn	17 38 09.5	-0.8
KCP				i S	Sn	17 38 51.4	+3.5
BUKP	Musuan	3.90	323	eP	Pn	17 38 19.5	+0.2
BUKP				eS	Sn	17 39 10.1	+6.0
TNE	Ternate	3.94	181	⇓eP	Pn	17 38 18.5	-1.3
TNE				eS	Sn	17 39 07.0	+2.1
CTBH	Cotabato--PC H	4.01	308	⇑eP	Pn	17 38 19.0	-1.8
MNI	Manado	4.18	218	⇓eP	Pn	17 38 17.0	-6.1
BUTP	Butuan	4.56	337	eP	Pn	17 38 30.8	+2.5
SCPH	Surigao	5.36	339	eP	Pn	17 38 39.3	+0.1
SCPH				eS	Sn	17 39 40.1	+0.5
IPIL	Ipil	5.70	302	eP	Pn	17 38 43.3	-0.4
IPIL				eS	Sn	17 39 45.0	-2.8
TBP	Tagbilaran	6.05	324	eP	Pn	17 38 49.5	+0.9
TBP				eS	Sn	17 39 44.2	-12
KKM	Kota Kinabalu	11.24	277	eP	Pn	17 40 00.5	+1.2
KAPI	Kappang baz=96,slow=13	12.36	218	P	Pn	17 40 13.1	-1.3
BATI	Baumata 8.5nm,0.3s,baz=22,slow=2.2,SNR=14	15.32	194	P	Pn	17 40 56.2	+3.3
KSM	Kuching	17.40	260	eP	Pn	17 41 18.7	0.0
KAKA	Kakadu 30nm,0.8s	18.05	164	eP	Pn	17 41 26.9	+0.4
FITZ	Fitzroy Crossi 42nm,1.5s,mb4.5	22.77	184	eP	P	17 42 15.5	-1.2
FITZ	Fitzroy Crossi 8.7nm,0.5s,mb4.4,baz=10,slow=12,SNR=13	22.77	184	P	P	17 42 15.9	-0.7
WRAB	Tennant Creek	25.45	165	eP	P	17 42 35.6	-5.6
WRA	Warramunga Arr 48nm,0.6s,mb5.1,baz=344,slow=10,SNR=76	25.46	165	P	P	17 42 40.8	-0.5
WB2	Warramunga Arr	25.46	165	eP	P	17 42 36.0	-5.3
MBWA	Marble Bar 66nm,1.5s,mb4.9	26.83	196	eP	P	17 42 54.9	+1.3
ASAR	Alice Springs 3.5nm,0.6s,mb4.2,baz=356,slow=6.8,SNR=14	28.94	168	P	P	17 43 12.3	0.0
CMAR	Chiang Mai Arr 1.9nm,0.6s,mb4.0,baz=116,slow=7.3,SNR=9.2	30.98	298	P	P	17 43 30.9	+0.3
KSRS	Korea Array 2.5nm,0.8s,mb4.1,baz=180,slow=9.4,SNR=4.7	32.55	1	P	P	17 43 44.1	0.0
MAJO	Matsushiro 5.2nm,0.7s,mb4.5	33.16	16	eP	P	17 43 48.4	-1.0
FORT	Forrest 29nm,0.6s,mb5.3	35.33	179	eP	P	17 44 08.3	+0.1
STKA	Stephens Creek 16nm,0.4s,mb5.2	38.84	161	eP	P	17 44 37.7	-0.2
STKA	Stephens Creek 24nm,0.6s,mb5.2,baz=335,slow=10,SNR=28	38.84	161	P	P	17 44 39.9	+2.0
LSA	Lhasa 8.3nm,0.8s,mb4.5	42.31	310	P	P	17 45 08.4	+1.8
SONM	Songino Array 9.1nm,1.1s,mb4.4,baz=164,slow=9.7,SNR=3.7	46.57	341	P	P	17 45 41.0	+0.7
PETK	Petropavlovsk- 11nm,1.0s,mb4.8,baz=114,slow=6.6,SNR=3.5	54.23	22	P	P	17 46 36.7	-1.2
MKAR	Makanchi Array 3.9nm,0.5s,mb4.7,baz=121,slow=7.8,SNR=16	57.13	325	P	P	17 46 59.6	+0.8
ZALV	Zalesovo Beam 17nm,1.0s,mb5.0,baz=134,slow=6.7,SNR=5.3	60.01	332	P	P	17 47 19.1	+0.4
BVAR	Borovoye Array 22nm,0.9s,mb5.0,baz=125,slow=7.0,SNR=13	66.86	327	P	P	17 48 04.4	+0.6
AKTK	Aktyubinsk	73.30	321	P	P	17 48 43.9	+0.6
AKTO	Aktyubinsk 13nm,0.9s,mb4.7,baz=74,slow=5.4,SNR=8.0	73.30	321	P	P	17 48 43.9	+0.6
ASF	Jabal al Asfar 3.8nm,0.8s,mb4.5,baz=51,slow=0.9,SNR=3.9	87.95	302	P	P	17 50 02.4	+0.6
ARCES	ARCESS Array B 1.2nm,0.5s,mb4.3,baz=82,slow=6.1,SNR=14	89.74	340	P	P	17 50 08.2	-1.3
ARCES				pP	pP	17 50 32.1	-1.5
	4.2nm,0.7s,baz=76,slow=5.1,SNR=7.2						
AKASG	Malin Array Be 0.4nm,0.5s,mb3.9,baz=70,slow=4.5,SNR=4.5	91.55	321	P	P	17 50 16.6	-1.7
AKASG				pP	pP	17 50 41.8	-0.7
	1.7nm,0.8s,baz=68,slow=4.6,SNR=6.0						
HFS	Hagfors 1.9nm,0.8s,mb4.5,baz=109,slow=3.5,SNR=4.9	97.45	332	P	P	17 50 42.7	-2.3
NOA	NORSAR Array B 0.6nm,0.6s,baz=65,slow=4.6,SNR=4.3	98.19	334	pP	pP	17 51 17.9	+5.3
TORD	Torodi Ar. Bea 1.2nm,0.7s,baz=63,slow=1.8,SNR=5.0	123.26	289	PKP	PKPdf	17 56 08.5	-0.5
TORD	Torodi Ar. Bea	123.26	289	PKP	PKPdf	17 56 08.5	-0.5

*IDC **08** 17:40:03.6±1.0, 1522N×9453W, h0km, mb4.3/17, mb1 4.5/18, mb1mx4.3/27, mbtmp4.3/18, ML4.6/1, Error ellipse: s-maj=32.1km s-min=15.7km az=58.0*
*ISCJB **08** 17:40:05.6±0.5, 1511N±004×9492W±002, h33km, mb4.3/21, Error ellipse: s-maj=5.4km s-min=3.1km az=10.9*
*NEIC **08** 17:40:06.9, 1501N×9491W, h18km, mb4.8/4, MD4.6(MEX), After MEX.*
*MEX **08** 17:40:06.6±0.5, 1502N×9493W, h15km, MD4.6*

ISC 08 17:40:07.2±0.5, 1510N±004×9491W±002, h35km, n54, σ1°26/85, mb4.3/21, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.33	300	i P	Pn	17 40 27.8	-1.5
HUIG				i S	Sn	17 40 43.5	-2.3
CMIG	Matias Romero 61nm,0.3s,baz=166,slow=12,SNR=496	1.98	1	Pn	Pn	17 40 37.3	-1.0
CMIG				Sn	Sn	17 41 01.6	-0.2
	120nm,0.3s,baz=136,slow=8.5,SNR=11						
CMIG	Matias Romero	1.98	1	i P	Pn	17 40 37.2	-1.1
CMIG				i S	Sn	17 41 01.6	-0.3
TGIG		2.40	46	i P	Pn	17 40 44.0	-0.1
TGIG				i S	Sn	17 41 12.0	-0.2
THIG		2.56	94	i P	Pn	17 40 44.5	-1.8
THIG				i S	Sn	17 41 14.0	-2.3
VHO	Vista Hermosa	2.63	318	i P	Pn	17 40 46.5	-0.6
VHO				i S	Sn	17 41 17.3	-0.6
VHO	Vista Hermosa	2.63	318	i P	Pn	17 40 48.4	+1.3
VHO				i S	Sn	17 41 19.4	+1.5
OXX	Oaxaca	2.63	319	i P	Pn	17 40 46.3	-0.9
OXX				i S	Sn	17 41 15.1	-2.8
OXX	Oaxaca	2.63	319	i P	Pn	17 40 47.3	+0.1
OXX				i S	Sn	17 41 18.6	+0.8
SCX	San Cristobal	2.73	53	i P	Pn	17 40 48.0	-0.6
SCX				i S	Sn	17 41 20.8	+0.5
CCIG	Comitan	2.92	66	eP	Pn	17 40 51.3	+0.1
CCIG				i S	Sn	17 41 24.6	-0.5
CCIG	Comitan	2.92	66	eP	Pn	17 40 51.3	+0.1
CCIG				i S	Sn	17 41 25.8	+0.7
TUIG	Tuzandepetl	2.95	9	i P	Pn	17 40 51.5	-0.2
TUIG				i S	Sn	17 41 26.4	+0.5
PNIG	Pinotepa	3.35	293	i P	Pn	17 40 56.9	-0.3
PNIG				i S	Sn	17 41 32.8	-2.9
PNIG	Pinotepa	3.35	293	i P	Pn	17 40 58.0	+0.8
PNIG				i S	Sn	17 41 31.8	-4.0
ACX	Acapulco	5.12	291	eP	Pn	17 41 19.9	-1.6
ACX				i S	Sn	17 42 10.9	-8.5
ACX	Acapulco	5.12	291	eP	Pn	17 41 21.7	+0.2
ACX				i S	Sn	17 42 12.2	-7.3
SCIG	Sabancuy	5.24	42	eP	Pn	17 41 21.9	-1.2
SCIG				i S	Sn	17 42 22.1	-0.3
PPM	Popocatepetl	5.31	319	eP	Pn	17 41 22.8	-1.2
PPM				eP		17 41 23.6	
PPM				i S	Sn	17 42 23.6	-0.3
PPM				i S	Sn	17 42 23.8	-0.1
PPM	Popocatepetl	5.31	319	eP	Pn	17 41 24.6	+0.6
PPM				eP		17 41 30.4	
PPM				i S	Sn	17 42 22.5	-1.4
PPM				i S	Sn	17 42 33.9	+10
MEIG	Mezcala	5.32	303	i S	Sn	17 42 22.9	-1.3
PLIG	Platanillo	5.48	307	eP	Pn	17 41 25.5	-0.9
PLIG				i S	Sn	17 42 27.4	-0.8
PLIG	Platanillo	5.48	307	eP	Pn	17 41 25.2	-1.2
PLIG				i S	Sn	17 42 27.0	-1.3
CAIG	El Cayaco	5.50	291	eP	Pn	17 41 24.8	-1.9
CAIG				i S	Sn	17 42 23.8	-4.9
CAIG	El Cayaco	5.50	291	eP	Pn	17 41 27.3	+0.6
CAIG				i S	Sn	17 42 22.8	-5.9
IIO	Organos	5.76	321	i P	Pn	17 41 31.2	+1.0
IIO				i S	Sn	17 42 36.2	+1.0
MZVM		5.79	315	eP	Pn	17 41 29.9	-0.8
MZVM				i S	Sn	17 42 36.2	+0.2
PTVM	Pico Tres Padr	6.00	319	eP	Pn	17 41 33.3	-0.3
PTVM				i S	Sn	17 42 42.9	+1.7
ZIIG	Zihuatanejo	6.76	292	eP	Pn	17 41 47.2	+3.1
ZIIG				i S	Sn	17 42 56.5	-3.5
TEIG	Tepich	8.12	50	Pn	Pn	17 41 59.3	-3.4
	8.0nm,0.3s,baz=134,slow=2.0,SNR=18						
TEIG				Sn	Sn	17 43 33.2	-0.1
	1.1nm,0.3s,baz=265,slow=20,SNR=4.5						
BNM	Barren Site	21.72	333	eP	P	17 44 58.3	+2.9
ANMO	Albuquerque	22.33	334	P	P	17 45 04.1	+2.2
	2.2nm,0.6s,mb3.8,baz=148,slow=11,SNR=3.8						
TUC	Tucson	22.41	323	eP	P	17 45 06.3	+3.5
	9.1nm,1.3s,mb4.0						
WUAZ	Wupatki	25.12	327	eP	P	17 45 34.3	+5.4
	49nm,1.4s,mb4.8						
PDAR	Pinedale Array	30.31	338	P	P	17 46 17.6	+2.4
	1.3nm,0.9s,mb3.7,baz=150,slow=9.2,SNR=3.1						
NVAR	Mina Array Bea	31.07	323	P	P	17 46 24.9	+2.9
	1.5nm,0.8s,mb3.9,baz=133,slow=7.3,SNR=4.8						
NVAR	Mina Array Bea	31.07	323	P	P	17 46 24.9	+2.9
ELK	Elko	31.07	329	P	P	17 46 24.9	+2.8
	2.1nm,0.8s,mb4.0,baz=152,slow=9.2,SNR=4.7						
AGMN	Agassiz Refuge	33.11	359	eP	P	17 46 39.5	-0.3
	5.8nm,0.6s,mb4.7						
ULM	Lac du Bonnet	35.06	359	P	P	17 46 57.1	+0.4
	4.9nm,0.8s,mb4.5,baz=177,slow=13,SNR=2.9						
SCHQ	Schefferville	45.23	23	P	P	17 48 18.8	-2.1
	4.6nm,0.8s,mb4.4,baz=154,slow=8.0,SNR=4.4						
SIV	San Ignacio	45.51	131	P	P	17 48 23.0	-0.7
	4.0nm,1.0s,mb4.3,baz=299,slow=14,SNR=3.9						
YKA	Yellowknife Ar	49.34	348	P	P	17 48 53.8	+1.1
	4.1nm,0.8s,mb4.5,baz=151,slow=7.3,SNR=5.8						
INK	Inuvik	58.60	344	P	P	17 50 01.8	+1.4
	4.9nm,0.7s,mb4.6,baz=113,slow=11,SNR=4.7						
PLCA	Paso Flores	59.98	159	P	P	17 50 11.9	+1.8
	4.7nm,1.1s,mb4.4,baz=325,slow=9.7,SNR=4.3						
ESK	Eskdalemuir	78.70	36	eP	P	17 52 06.0	+0.2
	12nm,1.0s,mb4.8						
EKA	Eskdalemuir Ar	78.72	36	P	P	17 52 06.3	+0.4
	5.3nm,0.8s,mb4.5,baz=283,slow=5.5,SNR=23						
ESDC	Sonseca Array	81.24	51	P	P	17 52 20.9	+1.0
	5.0nm,0.9s,mb4.5,baz=292,slow=5.2,SNR=16						
MDT	Midelt	82.22	58	P	P	17 52 25.2	0.0
	3.3nm,0.9s,mb4.3,baz=284,slow=4.4,SNR=3.5						
NB2	NORSAR Subarra	84.52	28	P	P	17 52 37.9	+1.5
	comp=Z,1.2nm,0.7s,mb4.1,baz=293,slow=4.8						
NOA	NORSAR Array B	84.52	28	P	P	17 52 37.5	+1.0
	comp=Z,2.4nm,0.8s,mb4.4,baz=293,slow=4.8,SNR=5.1						
ARCES	ARCESS Array B	85.97	18	P	P	17 52 43.2	-0.3
	comp=Z,1.3nm,0.7s,mb4.3,baz=286,slow=4.4,SNR=4.4						
DBIC	Dimbokro	88.34	84	P	P	17 52 55.9	-0.3
	comp=Z,3.3nm,0.9s,mb4.6,baz=321,slow=3.2,SNR=3.2						
GERES	GERESS Array B	90.53	39	P	P	17 53 06.7	+1.0
	comp=Z,0.8nm,1.0s,mb4.0,baz=308,slow=3.2,SNR=5.5						

IDC 08 17:50:15.6±1.1, 749S×15605E, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.9/18, mbtmp4.0/8, ML4.3/1, Error ellipse: s-maj=33.2km s-min=25.8km az=65.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara 16nm,0.3s,baz=90,slow=14,SNR=13	4.31	117	Pn	Pn	17 51 23.6	+1.2
HNR				Sn	Sn	17 52 24.0	+11
	62nm,0.3s,baz=277,slow=17,SN

IMW	Indian Meadow	4.18	274	*e*Pn	Pn	18 02 27.3 +0.6
TPAW	Teton Pass	4.21	268	*e*Pn	Pn	18 02 26.7 -0.4
AHID	Auburn Hatcher	4.45	259	*e*Pn	Pn	18 02 30.4 +0.1
RRI2	Red Ridge	4.49	267	*e*Pn	Pn	18 02 30.9 -0.1
QLMT	Earthquake Lak	4.62	286	Pn	Pn	18 02 31.6 -1.2
DGMT	Dagmar	4.76	8	*e*Pn	Pn	18 02 35.0 +0.3
EGMT	Eagleton 38nm,0.4s	5.33	325	*e*Pn	Pn	18 02 42.5 0.0
DAU	Daniels Canyon	5.63	236	*e*Pn	Pn	18 02 46.9 +0.2
HLID	Hailey 2.8nm,0.5s	6.71	272	*e*Pn	Pn	18 03 02.7 +1.2
ELK	Elko 0.2nm,0.3s,baz=75,slow=9.6,SNR=5.5	8.05	251	Pn	Pn	18 03 19.7 -0.2
ULM	Lac du Bonnet 3.7nm,0.3s,baz=226,slow=11,SNR=13	9.08	41	Pn	Pn	18 03 33.3 -0.6
NVAR	Mina Array Bea 0.1nm,0.3s,baz=113,slow=34,SNR=2.9	11.25	246	Pn	Pn	18 04 02.8 -0.8
YBH	Yreka Blue Hor 0.2nm,0.3s,baz=152,slow=3.8,SNR=3.5	13.05	267	Pn	Pn	18 04 31.9 +3.5
YKA	Yellowknife Ar 0.3nm,0.3s,baz=158,slow=11,SNR=4.6	19.56	347	P	Pn	18 05 52.8 +0.8
ARCES	ARCESS Array B 1.1nm,0.5s,mb4.3,baz=332,slow=6.2,SNR=26	61.38	18	P	P	18 11 38.8 -0.1
AKASG	Malin Array Be 0.3nm,0.3s,mb3.9,baz=323,slow=4.7,SNR=3.6	77.90	28	P	P	18 13 20.6 -0.5
ZALV	Zalesovo Beam 1.0nm,0.5s,mb4.2,baz=347,slow=6.1,SNR=4.4	82.29	354	P	P	18 13 44.2 -0.6
SONM	Songino Array 0.3nm,0.5s,mb3.8,baz=19,slow=3.4,SNR=4.0	84.64	339	P	P	18 13 57.5 +0.5
MKAR	Makanchi Array 0.4nm,0.6s,mb3.8,baz=14,slow=7.4,SNR=3.6	89.59	355	P	P	18 14 21.4 +0.4

*CSEM **08** 18:02:51.9±0.8, 3917N×2552W, h10km, ML2.4, Error ellipse: s-maj=5.8km s-min=2.4km az=42.0, After PDA*

PDA 08 18:02:51.9±0.8, 3917N×2552W, h10km, MD3.6, ML2.4, Error ellipse: s-maj=5.8km s-min=2.4km az=42.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCM	Serra do Cume	1.33	250	*e*P	Pn	18 03 11.5	-5.0
PSCM				*e*S	Sb	18 03 26.6	-7.4
PSCM				A		18 03 27.9	
	47nm,0.2s						
PSCM	Serra do Cume	1.33	250	*e*P	Pn	18 03 11.5	-5.0
PSCM				*e*S	Sb	18 03 26.6	-7.4
PSET	Sete Cidades	1.35	187	*e*P	Pn	18 03 12.4	-4.4
PSET				*e*S	Sb	18 03 27.7	-6.9
PSET				A		18 03 29.6	
	10nm,0.2s						
PSET	Sete Cidades	1.35	187	*e*P	Pn	18 03 12.4	-4.4
PSET				*e*S	Sb	18 03 27.7	-6.9
CMLA	Cha da Macela	1.40	180	*e*P	Pn	18 03 12.7	-4.8
CMLA				*e*S	Sn	18 03 28.5	-7.5
CMLA				A		18 03 35.1	
	18nm,0.2s						
CMLA	Cha da Macela	1.40	180	*e*P	Pn	18 03 12.7	-4.8
CMLA				*e*S	Sn	18 03 28.5	-7.5
PDA	Ponta Delgada	1.42	185	*e*P	Pn	18 03 26.9	+9.1
SRBC	Serra Branca	1.96	267	*e*P	Pn	18 03 28.6	+3.4
PMAN	Manadas	2.07	256	*e*P	Pn	18 03 22.2	-4.5
PMAN				*e*S	Sn	18 03 45.0	-7.6
PMAN				A		18 03 47.5	
	36nm,0.2s						
PMAN	Manadas	2.07	256	*e*P	Pn	18 03 22.2	-4.5
PMAN				*e*S	Sn	18 03 45.0	-7.6
ROSA	Rosais	2.17	259	*e*P	Pn	18 03 23.7	-4.3
ROSA				*e*S	Sn	18 03 47.2	-7.7
PSMN	Pico do Norte,	2.19	170	*e*P	Pn	18 03 23.8	-4.5
PSMN				*e*S	Sn	18 03 47.0	-8.5
PICO	Pico	2.36	255	*e*P	Pn	18 03 26.6	-4.1
PICO				*e*S	Sn	18 03 52.3	-7.4
CALA	Caldeira	2.55	258	*e*P	Pn	18 03 29.1	-4.2
CALA				*e*S	Sn	18 03 56.9	-7.5

*NEIC **08** 18:09:40.5, 3249S×7169W, h25km, ML3.5(GUC), After GUC.*

GUC 08 18:09:40.5±0.7, 3249S×7169W, h25km±6km, MD4.0, ML3.5, 18C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.53	176	⇑*i*P	Pb	18 09 50.9	-0.4
IHA				*i*S	Sb	18 09 59.0	+0.4
CHNG	Los Chungos	0.63	15	⇓*i*P	Pb	18 09 52.3	-0.5
CHNG				*i*S	Sb	18 10 01.1	-0.1
PTCH	Petorca	0.68	71	*e*P	Pb	18 09 53.6	-0.1
PTCH				*i*S	Sb	18 10 02.9	+0.3
ROCH	El Roble	0.74	130	⇑*i*P	Pb	18 09 54.5	-0.2
ROCH				*i*S	Sb	18 10 05.2	+0.7
JACH	Jahuel	0.94	102	⇑*i*P	Pn	18 09 57.6	-0.6
JACH				*i*S	Sb	18 10 10.1	-0.1
LCCH	Las Cruces	0.98	174	*e*P	Pn	18 09 57.8	-0.9
LCCH				*i*S	Sb	18 10 11.1	-0.4
PEL	Peldehue	1.06	128	⇑*i*P	Pn	18 09 59.7	-0.1
PEL				*i*S	Sb	18 10 13.7	0.0
PEL				AML	AML	18 10 15.1	
	comp=E,4μm,0.4s						
RCDM	Rinconada Maip	1.24	144	⇑*i*P	Pn	18 10 01.9	-0.3
RCDM				*i*S	Sn	18 10 18.3	+0.1
RCDM				AML	AML	18 10 19.8	
	comp=N,2μm,0.4s						
RCDM	Rinconada Maip	1.24	144	⇑*i*P	Pn	18 10 01.9	-0.3
RCDM				*i*S	Sn	18 10 18.3	+0.1
SAN	Santiago	1.29	138	⇑*i*P	Pn	18 10 03.3	+0.4
SAN				*i*S	Sn	18 10 19.8	+0.5
SAN				AML	AML	18 10 25.7	
	comp=E,1μm,0.7s						
SAN	Santiago	1.29	138	⇑*i*P	Pn	18 10 03.3	+0.4
SAN				*i*S	Sn	18 10 19.8	+0.5
TACH	Talagante	1.32	152	⇓*i*P	Pn	18 10 03.4	+0.1
TACH				*i*S	Sn	18 10 20.1	0.0
CLCH	Cerro Calan	1.32	133	*e*P	Pn	18 10 03.4	+0.1
CLCH				*i*S	Sn	18 10 21.0	+0.8
CLCH				AML	AML	18 10 23.4	
	comp=N,1μm,0.8s						
ANTU	Antumapu	1.39	141	⇑*i*P	Pn	18 10 04.6	+0.3
ANTU				*i*S	Sn	18 10 22.8	+0.9
ANTU				AML	AML	18 10 27.7	
	comp=N,1μm,0.4s						
ANTU	Antumapu	1.39	141	⇑*i*P	Pn	18 10 04.6	+0.3
ANTU				*i*S	Sn	18 10 22.8	+0.9
CMCH	Combarbala	1.44	24	⇑*i*P	Pn	18 10 05.1	+0.1
CMCH				*i*S	Sn	18 10 24.3	+1.2
CMCH				AML	AML	18 10 28.9	
	comp=N,3μm,0.9s						
CMCH	Combarbala	1.44	24	⇑*i*P	Pn	18 10 05.1	+0.1
CMCH				*i*S	Sn	18 10 24.3	+1.2
FCH	Farellones	1.44	126	*i*P	Pn	18 10 04.0	-1.0
FCH				*i*S	Sn	18 10 23.9	+0.8
FCH				AML	AML	18 10 25.5	
	comp=N,1μm,0.3s						
LNV	Longovilo	1.48	171	⇑*i*P	Pn	18 10 04.5	-1.0
LNV				*i*S	Sn	18 10 23.3	-0.7
PCH	Pirque	1.50	139	*e*P	Pn	18 10 06.2	+0.4
PCH				*i*S	Sn	18 10 26.1	+1.6
CHCH	Chadas Angostu	1.68	149	⇑*i*P	Pn	18 10 09.2	+0.9
CHCH				*i*S	Sn	18 10 31.3	+2.3
LMEL	Las Melosas	1.84	138	⇑*i*P	Pn	18 10 11.4	+1.0
LMEL				*i*S	Sn	18 10 35.6	+2.7
LMEL				AML	AML	18 10 40.8	
	comp=N,1μm,0.1s						
LMEL	Las Melosas	1.84	138	⇑*i*P	Pn	18 10 11.4	+1.0
LMEL				*i*S	Sn	18 10 35.6	+2.7
CACH	El Canelo	1.86	151	⇑*i*P	Pn	18 10 12.6	+1.9
CACH				*e*S	Sn	18 10 37.5	+4.1
OVCH	Ovalle	1.92	13	*e*P	Pn	18 10 13.2	+1.5
OVCH				*i*S	Sn	18 10 37.9	+2.9
OVCH				AML	AML	18 10 43.2	
	comp=N,690nm,0.5s						
OVCH	Ovalle	1.92	13	*e*P	Pn	18 10 13.2	+1.5
OVCH				*i*S	Sn	18 10 37.9	+2.9
CICH	Cipreses	2.11	150	⇑*i*P	Pn	18 10 15.6	+1.4
TLL	Tololo Astrono	2.44	18	*e*P	Pn	18 10 19.5	+0.8
TLL				*i*S	Sn	18 10 49.6	+1.9
TLL				AML	AML	18 11 03.7	
	comp=N,242nm,0.6s						
TLL	Tololo Astrono	2.44	18	*e*P	Pn	18 10 19.5	+0.8
TLL				*i*S	Sn	18 10 49.6	+1.9

2007 AUG

*ATH **08** 18:18:07.8, 4161N×2016E, h5km, MD3.8/8*
*CSEM **08** 18:18:10.7±0.0, 4158N×2021E, h5km, ML4.1, Error ellipse: s-maj=1.2km s-min=0.9km az=9.0*
*ISCJB **08** 18:18:10.9±0.3, 4153N±001×20.19E±002, h15km±2km, mb3.3/3, Error ellipse: s-maj=2.5km s-min=1.7km az=41.8*
*TIR **08** 18:18:11.0±3.0, 4149N×2024E, h22km±7km, ML3.6*
*NEIC **08** 18:18:11.3, 4153N×2025E, h2km, ML3.6(ATH), ML4.1(THE), After THE.*
*THE **08** 18:18:11.3, 4153N×2025E, h2km, ML4.1*
*PDG **08** 18:18:11.0±0.5, 4149N×2026E, h11km±1km, MD3.7/10, ML3.8/10, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
*SKO **08** 18:18:12.0, 4151N×2022E, h11km, M3.4, ML3.6*
*IDC **08** 18:18:14.5±2.0, 4145N×2006E, h45km±25km, mb3.1/4, mb1 3.5/10, mb1mx3.4/28, mbtmp3.5/10, ML3.7/6, Error ellipse: s-maj=25.2km s-min=19.6km az=68.0*
*ROM **08** 18:18:15.1±0.3, 4146N×2004E, h53km±3km, Ml3.6/11, Error ellipse: s-maj=7.0km s-min=3.1km az=160.0*
*BEO **08** 18:18:30.7±0.7, 4292N×2087E*

ISC 08 18:18:11.1±0.3, 4149N±001×2019E±002, h4km±2km, n197, σ1§17/267, mb3.3/3, 33C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSH	Qafa e Shtames	0.21	278	*e*PG	Pg	18 18 17.8	+2.5
PHP	Peshkopia	0.27	45	*e*PG	Pg	18 18 17.5	+1.1
PHP				*i*SG	Sg	18 18 22.5	+2.6
TIR	Tirane	0.28	239	*e*Pg	Pg	18 18 18.1	+1.5
TIR				*e*Sg	Sg	18 18 23.9	+3.6
TIR	Tirane	0.28	239	*e*PG	Pg	18 18 18.2	+1.6
TIR				*i*SG	Sg	18 18 23.3	+3.0
PUK	Puka	0.59	338	*e*PG	Pg	18 18 23.1	+0.6
PUK				*i*SG	Sg	18 18 32.0	+1.8
OHR	Ohrid	0.60	129	*e*Pg	Pg	18 18 23.1	+0.5
OHR				*e*Sg	Sg	18 18 32.5	+2.2
OHR	Ohrid	0.60	129	*i*PN	Pg	18 18 23.1	+0.5
OHR				*i*SN	Sg	18 18 32.5	+2.2
OHR	Ohrid	0.60	129	*i*Pg	Pg	18 18 23.1	+0.5
OHR				*e*Sg	Sg	18 18 32.1	+1.8
OHR				*e*Lg		18 18 32.9	
	comp=N,4μm,0.5s						
OHR				*e*Lg		18 18 33.0	
	comp=E,3μm,0.7s						
OHR	Ohrid	0.60	129	*i*Pg	Pg	18 18 23.0	+0.4
OHR				*e*Sg	Sg	18 18 32.5	+2.2
KRUS	Krusevo	0.81	98	*e*Pg	Pg	18 18 26.2	-0.4
KRUS				*e*Sg	Sg	18 18 38.4	+1.4
KRUS				*e*Lg		18 18 38.6	
	comp=E,1μm,0.4s						
KRUS				*e*Lg		18 18 38.6	
	comp=N,2μm,0.7s						
KRUS	Krusevo	0.81	98	*e*Pg	Pg	18 18 26.2	-0.4
KRUS				*e*Sg	Sg	18 18 38.4	+1.3
ULC	Ulcinj	0.85	304	⇓*i*Pg	Pg	18 18 27.0	-0.4
ULC				*e*Sg		18 18 41.7	
ULC	Ulcinj	0.85	304	*i*PN	Pg	18 18 27.0	-0.4
ULC				*i*SN		18 18 41.7	
BIA	Bitola	0.98	119	*e*Pg	Pg	18 18 28.4	-1.5
BIA				*e*Sg	Sg	18 18 43.1	+0.5
BIA	Bitola	0.98	119	*e*Pg	Pg	18 18 29.3	-0.6
BIA				*e*Sg	Sg	18 18 43.0	+0.5
BIA				*e*Lg		18 18 43.5	
	comp=N,573nm,0.5s						
BIA				*e*Lg		18 18 44.1	
	comp=E,1μm,0.6s						
BIA	Bitola	0.98	119	*e*Pg	Pg	18 18 29.3	-0.6
BIA				*e*Sg	Sg	18 18 43.1	+0.5
SKO	Skopje	1.05	62	*i*PN	Pg	18 18 29.4	-1.9
SKO				*i*SN	Sg	18 18 45.8	+0.9
SKO	Skopje	1.05	62	*e*Pg	Pg	18 18 30.6	-0.7
SKO				*e*Sg	Sg	18 18 44.7	-0.2
SKO				*e*Lg		18 18 45.5	
	comp=E,2μm,0.6s						
SKO				*e*Lg		18 18 45.7	
	comp=N,5μm,0.4s						
SKO	Skopje	1.05	62	*e*Pg	Pg	18 18 29.4	-1.9
SKO				*e*Sg	Sg	18 18 45.8	+0.9
PVY	Plav	1.11	352	⇑*i*Pg	Pg	18 18 31.9	-0.6
PVY				*e*Sg	Sn	18 18 49.2	-0.1
PVY	Plav	1.11	352	*i*PN	Pn	18 18 31.0	-2.5
PVY				*i*SN	Sn	18 18 49.2	-0.1
FNA	Florina	1.14	128	*e*Pg	Pg	18 18 32.7	-0.3
FNA				*e*Sg	Sg	18 18 48.8	+0.9
FNA	Florina	1.14	128	*i*PN	Pn	18 18 32.7	-1.2
FNA				*i*SN	Sn	18 18 48.8	-1.2
PDG	Podgorica	1.16	324	*i*PN	Pg	18 18 32.5	-1.0
PDG				*i*SN	Sn	18 18 52.1	+1.5
PDG	Podgorica	1.16	324	⇑*i*Pg	Pg	18 18 32.5	-1.0
PDG				*e*Sg	Sn	18 18 52.1	+1.5
TTG	Podgorica	1.16	324	⇑*i*Pg	Pg	18 18 32.5	-1.0
TTG				*e*Sg	Sn	18 18 52.1	+1.5
BUM	Brajici-Budva	1.26	310	⇑*i*Pg	Pg	18 18 34.6	-0.6
BUM				*e*Sg	Sn	18 18 55.2	+2.2
BUM	Brajici-Budva	1.26	310	*i*PN	Pg	18 18 34.6	-0.6
BUM				*i*SN	Sn	18 18 55.0	+2.2
BEY	Berane	1.40	351	*i*PN	Pn	18 18 37.2	-0.2
BEY				*i*SN	Sn	18 18 58.2	+1.9
BEY	Berane	1.40	351	⇓*i*Pg	Pg	18 18 37.1	-0.8
BEY				*e*Sg	Sn	18 18 58.2	+1.9
IVA	Berane	1.40	351	⇓*i*Pg	Pg	18 18 37.1	-0.8
IVA				*e*Sg	Sn	18 18 58.2	+1.9
STIP	Stip	1.51	82	*e*Pg	Pg	18 18 38.7	-1.4
STIP				*e*Sg	Sg	18 18 58.8	-0.9
STIP	Stip	1.51	82	*e*Pg	Pg	18 18 38.7	-1.4
STIP				*e*Sg	Sg	18 18 59.2	-0.5
STIP				*e*Lg		18 18 59.3	
	comp=N,340nm,0.7s						
STIP				*e*Lg		18 18 59.5	
	comp=E,234nm,0.7s						
STIP	Stip	1.51	82	*e*Pg	Pg	18 18 38.6	-1.5
STIP				*e*Sg	Sg	18 18 59.2	-0.5
HCY	Herceg Novi	1.58	308	⇑*i*Pn	Pn	18 18 40.0	+0.1
HCY				*e*Sn	Sn	18 19 03.8	+3.0
HCY	Herceg Novi	1.58	308	*i*PN	Pn	18 18 40.0	+0.1
HCY				*i*SN	Sn	18 19 03.8	+3.0
NKY	Niksic	1.59	327	⇑*i*Pn	Pn	18 18 40.3	+0.2
NKY				*e*Sn	Sn	18 19 03.8	+2.8
NKY	Niksic	1.59	327	*i*PN	Pn	18 18 40.3	+0.2
NKY				*i*SN	Sn	18 19 03.8	+2.8
SRN	Sarande	1.62	185	*e*PN	Pn	18 18 43.2	+2.8
KZN	Kozani	1.69	134	*e*PN	Pn	18 18 41.5	+0.1
GRG	Griva	1.75	107	*e*Pb	Pb	18 18 41.8	-2.0
GRG				*e*Sb	Sb	18 19 07.2	+1.0
SJES	Sjenica	1.77	355	*e*Pn	Pn	18 18 45.3	+2.7
SJES	Sjenica	1.77	355	*e*Pn	Pn	18 18 43.6	+1.0
SJES				*e*Sn	Sn	18 19 06.4	+0.8
BARS	Barje	1.79	42	*e*Pn	Pn	18 18 45.2	+2.3
VAY	Valandovo	1.80	95	*e*Pb	Pb	18 18 41.6	-3.1
VAY				*e*Sb	Sb	18 19 04.5	-3.0
VAY	Valandovo	1.80	95	*e*Pg	Pg	18 18 43.9	-1.7
VAY				*e*Sg	Sg	18 19 07.8	-1.1
VAY				*e*Lg		18 19 07.9	
	comp=E,490nm,0.7s						
VAY				*e*Lg		18 19 07.9	
	comp=N,1μm,1.0s						
VAY	Valandovo	1.80	95	*e*Pg	Pg	18 18 43.9	-1.7
VAY				*e*Sg	Sg	18 19 07.8	-1.1
KEK	Kerkira	1.80	190	Pn	Pn	18 18 43.9	+0.9
	comp=N,567nm,0.9s						
KEK	Kerkira	1.80	190	*e*Pn	Pn	18 18 43.4	+0.4
TREB	Trebinje	1.83	312	*e*Pn	Pn	18 18 44.2	+0.8
BRY	Bratogost	1.86	320	⇑*i*Pn	Pn	18 18 44.6	+0.8
BRY				*e*Sn	Sn	18 19 10.8	+3.0
BRY	Bratogost	1.86	320	*i*PN	Pn	18 18 44.6	+0.8
BRY				*i*SN	Sn	18 19 10.8	+3.0
JAN	Janina	1.90	164	*e*PG	Pg	18 18 45.6	-2.0
PLE	Pljevlja	1.93	342	⇓*i*Pn	Pn	18 18 45.2	+0.5
PLE				*e*Sn	Sn	18 19 11.8	+2.4
SCTE	Santa Cesarea comp=N,483nm,0.8s	1.93	223	Pn	Pn	18 18 44.0	-0.7
UPM	Unac-Piva	1.95	331	⇑*i*Pn	Pn	18 18 46.5	+1.4
UPM				*e*Sn	Sn	18 19 13.1	+3.0
IGT	Igoumenitsa	1.96	177	*e*Pn	Pn	18 18 46.0	+0.8
IGT				*e*Sn	Sn	18 19 10.8	+0.6
IGT	Igoumenitsa	1.96	177	*i*PN	Pn	18 18 46.0	+0.8
IGT				*i*SN	Sn	18 19 10.8	+0.6
KNT	Kendrikon	2.07	98	*e*Pn	Pn	18 18 45.9	-0.7
PE1	Pezze di Greco	2.20	253	*e*Pn	Pn	18 18 47.7	-0.7
LIT	Litokhoron	2.23	128	*e*Pn	Pn	18 18 49.1	+0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT				*e*Sn	Sn	18 19 17.9	+0.9
THE	Thessaloniki	2.27	111	*e*Pn	Pn	18 18 48.7	-0.7
HORT	Hortiatis	2.38	111	*e*Pn	Pn	18 18 50.2	-0.7
HORT				*e*Sn	Sn	18 19 22.1	+1.6
HORT	Hortiatis	2.38	111	*e*Pn	Pn	18 18 50.2	-0.7
HORT				S	Sn	18 19 22.0	+1.5
THL	Klokotos Trika	2.38	144	*e*Pn	Pn	18 18 51.3	+0.4
THL	Klokotos Trika	2.38	144	*e*PN	Pn	18 18 51.0	+0.1
GRUS	Gruza	2.43	9	*e*Pn	Pn	18 18 51.5	-0.1
NOCI	Noci comp=N,284nm,0.5s	2.46	254	Pn	Pn	18 18 51.2	-0.9
VTS	Vitosha	2.50	63	*i*P	Pn	18 18 52.9	+0.3
BAI	Bari	2.52	262	*e*Pn	Pn	18 18 52.0	-0.9
ZAPS	Zavoj	2.54	45	*e*Pn	Pn	18 18 56.4	+3.3
DIVS	Divibare	2.61	357	*e*Pn	Pn	18 18 54.1	+0.1
DIVS				*e*Sn	Sn	18 19 26.4	+0.2
DIVS	Divibare	2.61	357	*e*Pn	Pn	18 18 56.4	+2.3
DIVS	Divibare	2.61	357	*e*Pn	Pn	18 18 54.2	+0.1
DIVS				*e*Sn	Sn	18 19 26.4	+0.2
MMB	Musomiste	2.66	87	*i*P	Pn	18 18 54.7	-0.1
BOLS	Boljevac	2.67	29	*i*Pn	Pn	18 18 54.3	-0.7
PLG	Polygyros	2.71	113	*e*Pn	Pn	18 18 55.3	-0.1
PLG	Polygyros	2.71	113	*e*PN	Pn	18 18 55.7	+0.3
SG1	Sgolgore (BA)	2.73	257	*e*Pn	Pn	18 18 55.6	-0.1
NVR	Nevrokopi	2.77	92	*e*PN	Pn	18 18 56.0	-0.2
NVR	Nevrokopi	2.77	92	P	Pn	18 19 00.1	+3.9
AMUR	Altamura	2.77	259	Pn	Pn	18 18 55.5	-0.8
LKD	Levkas	2.81	173	*e*Pn	Pn	18 18 56.9	+0.1
LKD				*e*Sn	Sn	18 19 31.4	+0.4
EVR	Evrytania	2.86	154	*e*PN	Pn	18 18 59.0	+1.5
EVR	Evrytania	2.86	154	*e*Pn	Pn	18 19 00.7	+3.2
SVIS	Svilajnac	2.87	15	*e*Pn	Pn	18 18 57.4	-0.3
AGG	Agios Georgios	2.96	146	*e*Pn	Pn	18 18 59.2	+0.3
AGG				*e*Sn	Sn	18 19 36.0	+1.1
AGG	Agios Georgios	2.96	146	*e*Pn	Pn	18 18 59.2	+0.3
AGG				S	Sn	18 19 36.0	+1.1
MIGL	Miglionico	2.97	254	Pn	Pn	18 18 58.7	-0.3
MRVN	Minervino Murg comp=N,92nm,0.5s	3.04	263	Pn	Pn	18 18 59.3	-0.7
PAIG	Paliouri	3.08	119	*e*Pn	Pn	18 18 59.8	-0.8
OUR	Ouranopolis	3.10	111	*e*Pn	Pn	18 19 00.4	-0.4
XOR	Xorichti	3.12	132	*e*Pn	Pn	18 19 01.6	+0.4
PGB	Panagyurishte	3.15	69	*i*P	Pg	18 19 09.9	-1.5
FGMS	Monte Sant'Ang comp=N,53nm,0.3s	3.18	275	Pn	Pn	18 19 01.2	-0.8
NEO	Neokhori	3.18	132	*e*PN	Pn	18 19 03.2	+1.2
BEO	Beograd	3.32	3	*e*Pn	Pn	18 19 05.0	+1.1
VLS	Valsamata	3.33	175	*e*Pn	Pn	18 19 03.0	-0.9
SCHR	S. Chirico Rap comp=N,270nm,1.7s	3.38	249	Pn	Pn	18 19 04.4	-0.2
RZN	Rozhen	3.40	85	*i*P	Pg	18 19 14.5	-1.8
KFL	Anninata	3.41	172	*e*Pn	Pn	18 19 04.6	-0.5
RGNG	Rignano Grg	3.46	275	Pn	Pn	18 19 04.8	-0.9
TIP	Timpagrande	3.50	230	P	Pn	18 19 05.8	-0.5
FG4	Candela comp=N,133nm,0.5s	3.54	266	Pn	Pn	18 19 06.8	0.0
LKR	Lokris	3.56	142	*e*Pn	Pn	18 19 06.6	-0.6
LKR	Lokris	3.56	142	*e*PB	Pb	18 19 09.3	-5.5
MTSN	Montesano sull comp=N,98nm,0.5s	3.58	251	Pn	Pn	18 19 07.6	+0.2
DJES	Djerdap	3.60	28	*e*Pn	Pn	18 19 07.0	-0.7
MRLC	Muro Lucano	3.63	260	Pn	Pn	18 19 09.5	+1.4
CUC	Castrocucco	3.64	247	P	Pn	18 19 09.8	+1.5
FGSL	Fruska Gora	3.67	356	*e*Pn	Pn	18 19 09.9	+1.2
FGSL	Fruska Gora	3.67	356	*e*Pn	Pn	18 19 08.4	-0.3
FGSL				*e*Sn	Sn	18 19 51.0	-1.4
CARO	Carolei comp=N,102nm,0.7s	3.77	235	Pn	Pn	18 19 10.3	+0.3
MGR	Morigerati	3.77	250	Pn	Pn	18 19 10.3	+0.3
CDRU	Civita di Ruta comp=N,30nm,0.3s	3.83	256	Pn	Pn	18 19 10.6	-0.3
MCRV	Calabrutti - M comp=N,362nm,0.9s	3.86	261	Pn	Pn	18 19 11.1	-0.1
BULG	Bulgheria - Ca	3.92	250	Pn	Pn	18 19 12.0	-0.1
BLY	Banja Luka	3.93	327	*e*Pn	Pn	18 19 13.5	+1.3
LOS	Limnos	4.03	111	*e*Pn	Pn	18 19 12.6	-1.0
RDO	Rodhopi	4.04	93	*e*Pn	Pn	18 19 13.1	-0.7
LIA	Limnos Island	4.12	111	*e*Pn	Pn	18 19 13.6	-1.2
LIA	Limnos Island	4.12	111	*e*Pn	Pn	18 19 14.2	-0.6
BZS	Buzias	4.25	14	⇑*i*P	Pn	18 19 16.7	+0.1
BZS	Buzias	4.25	14	⇑P	Pn	18 19 16.7	+0.1
PTRJ	Pietraroja comp=N,70nm,0.5s	4.26	270	Pn	Pn	18 19 16.7	0.0
GZR	Gura Zlata	4.33	25	⇑*i*P	Pn	18 19 17.6	-0.1
GZR	Gura Zlata	4.33	25	⇑P	Pn	18 19 17.6	-0.1
ALN	Alexandroupoli	4.46	96	*e*Pn	Pn	18 19 19.1	-0.4
VAGA	Valle Agricola comp=N,97

APPI	Appiano	8.16 311	Pn	Pn	18 20 09.8	-0.5
	comp=N,2μm,9.3s					
WTTA	Wattenberg	8.41 316	⇑i Pn	Pn	18 20 14.0	+0.3
WATA	Walderalm	8.49 316	⇓i Pn	Pn	18 20 15.0	+0.2
GERES	GERESS Array B	8.66 330	P	Pn	18 20 17.8	+0.7
	comp=N,0.2nm,0.3s,baz=150,slow=14,SNR=11					
MOTA	Moosalm	8.74 315	⇓i Pn	Pn	18 20 18.6	+0.3
MOTA			⇑i Sn	Sn	18 21 57.3	0.0
KHC	Kasperske Hory	8.94 331	eP	Pn	18 20 22.0	+1.0
DAVOX	Davos/Dischmat	9.10 304	P	Pn	18 20 22.5	-0.7
	comp=N,0.8nm,0.3s,baz=126,slow=22,SNR=8.3					
FRF	La Foret Royal	10.21 286	eP	Pn	18 20 37.9	-0.5
MBDF	Montbardon	10.33 293	eP	Pn	18 20 38.0	-2.0
LPL	La Plagne	10.57 297	eP	Pn	18 20 41.9	-1.4
CABF	La Chapelle	11.36 301	eP	Pn	18 20 52.5	-1.6
	comp=N,4.3nm,0.5s					
HINF	Hinteralfeld	11.40 308	eP	Pn	18 20 53.8	-0.9
	comp=N,3.5nm,0.4s					
SMF	Signal de Mont	12.83 299	eP	Pn	18 21 12.8	-1.4
LOR	Lormes	13.02 302	eP	Pn	18 21 13.7	-3.1
	comp=N,3.0nm,0.4s					
SSF	Saint Saulge	13.18 301	eP	Pn	18 21 17.1	-1.9
MMAI	Mount Meron Ar	14.76 120	P	Pn	18 21 42.4	+1.7
	comp=N,1.3nm,0.3s,baz=330,slow=9.7,SNR=6.5					
HFS	Hagfors	19.09 350	P	Pn	18 22 33.5	-1.8
	comp=N,0.3nm,0.3s,baz=170,slow=8.8,SNR=8.6					
NB2	NORSAR Subarra	20.33 347	P	P	18 22 47.1	-0.9
	comp=Z,0.8nm,0.6s,baz=160,slow=11					
NOA	NORSAR Array B	20.33 347	P	P	18 22 47.3	-0.7
	comp=Z,1.0nm,0.7s,baz=153,slow=10,SNR=3.7					
ARCES	ARCESS Array B	28.25 4	P	P	18 24 01.8	-3.1
	comp=Z,0.4nm,0.5s,mb3.3,baz=185,slow=12,SNR=3.8					
TORD	Torodi Ar. Bea	32.52 215	P	P	18 24 40.5	-2.7
	comp=Z,0.2nm,0.5s,mb3.3,baz=24,slow=10.0,SNR=2.4					
MKAR	Makanchi Array	43.86 61	P	P	18 26 17.5	-0.8
	comp=Z,0.3nm,0.5s,mb3.3,baz=270,slow=7.6,SNR=3.8					

*FUNV **08** 18:21:37.5,9.18N×6022W,h36km,MW3.5*
*ISCJB **08** 18:21:42.5±1.1,9.10N±005×6086W±006,h33km,Error ellipse: s-maj=9.5km s-min=7.0km az=20.3*

ISC 08 18:21:39.6±1.2,922N±004×608W±01,h5km±14km,n24, σ0§94/35,2C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	Pointe-a-Pierr	1.29	328	eP	Pg	18 22 12.3	+7.9
TBH	Brigand Hill	1.30	347	eP	Pg	18 22 09.4	+4.9
RIOV	Rio Grande	1.54	223	eP	Pn	18 22 07.2	-0.6
RIOV				eS	Sn	18 22 29.2	+1.0
TRN	Trinidad (W)	1.56	336	e	Pg	18 22 09.8	+0.3
TCE	Chacachacare	1.77	327	eP	Pn	18 22 11.6	+0.7
TPR	Prospect	1.96	360	e	Pg	18 22 17.2	0.0
GUIV	Guiria	2.02	315	⇑i P	Pn	18 22 14.8	+0.4
GUIV				eS	Sn	18 22 40.3	+0.2
GUNV	Guanoco	2.35	294	⇑eP	Pn	18 22 20.5	+1.7
GUNV				eS	Sn	18 22 50.9	+2.8
ORIV	Oritupano	2.62	267	eP	Pn	18 22 23.4	+0.8
GURV	El Guri	2.72	238	eP	Pn	18 22 23.9	0.0
GURV				eS	Sn	18 22 58.6	+1.4
CRUV	Carupano	2.84	301	eP	Pn	18 22 25.2	-0.4
CRUV				eS	Sn	18 22 59.8	-0.4
GRHS	Sauteurs	3.11	344	e	Pn	18 22 20.7	-8.7
GRHS	Sauteurs	3.11	344	e	Pn	18 22 26.2	-3.2
GRIC	Isle de Caille	3.16	345	e	Pn	18 22 24.6	-5.4
ITEV	Isla Los Testi	3.16	313	eP	Pn	18 22 29.5	-0.5
ITEV				eS	Sn	18 23 08.3	+0.2
GRSS	Sisters	3.18	345	e	Pn	18 22 24.8	-5.5
LUEV	Luepa	3.42	192	eP	Pn	18 22 28.0	-5.6
PCRV	Puerto La Cruz	3.94	284	eP	Pn	18 22 40.5	-0.3
PCRV				eS	Sn	18 23 27.2	-0.2
IBAV	Isla La Blanqu	4.56	305	eP	Pn	18 22 48.7	-0.6
CUPV	Cœpira	5.03	280	eP	Pn	18 22 56.6	+0.8
CUPV				eS	Sn	18 23 54.0	-0.2
MERV	Las Mercedes	5.47	271	eP	Pn	18 23 01.9	+0.2
MERV				eS	Sn	18 24 04.3	-0.8
CAOV	Caicara del Or	5.81	252	eP	Pn	18 23 06.2	-0.4
CAOV				eS	Sn	18 24 11.8	-1.9
TURV	Turiamo	7.08	281	eP	Pn	18 23 22.6	-1.4
BAUV	El Baul	7.20	268	eP	Pn	18 23 25.2	-0.4
BAUV				eS	Sn	18 24 44.4	-3.3

*NEIC **08** 18:28:08.5,1737N×9597W,h104km,MD4.3(MEX),After MEX.*

MEX 08 18:28:08.2±0.9,1739N×9598W,h108km±8km,MD4.3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	Oaxaca	0.77	247	iP	Pn	18 28 25.3	-1.7
OXX				iS	Sn	18 28 39.5	-1.6
VHO	Vista Hermosa	0.79	246	iP	Pn	18 28 26.6	-0.5
VHO				iS	Sn	18 28 40.1	-1.3
CMIG	Matias Romero	1.09	106	iP	Pn	18 28 29.1	-1.0
CMIG				iS	Sn	18 28 44.4	-2.4
CMIG	Matias Romero	1.09	106	iP	Pn	18 28 29.1	-1.0
CMIG				iS	Sn	18 28 43.9	-2.9
HUIG	Huatulco	1.62	184	eP	Pn	18 28 35.5	-0.8
HUIG				iS	Sn	18 28 55.7	-2.0
TUIG	Tuzandepetl	1.62	66	iP	Pn	18 28 35.5	-0.8
TUIG				iS	Sn	18 28 55.7	-2.0
PNIG	Pinotepa	2.28	245	iP	Pn	18 28 42.9	-1.8
PNIG				iS	Sn	18 29 10.6	-2.1
PNIG	Pinotepa	2.28	245	iP	Pn	18 28 42.8	-2.0
PNIG				iS	Sn	18 29 10.4	-2.3
LVIG	Laguna Verde	2.36	350	iP	Pn	18 28 43.2	-2.5
LVIG				iS	Sn	18 29 09.6	-4.8
LVIG	Laguna Verde	2.36	350	iP	Pn	18 28 43.1	-2.5
TGIG	Popocatepetl	2.80	102	eP	Pn	18 28 50.2	-1.3
TGIG				iS	Sn	18 29 22.4	-2.5
PPM	Popocatepetl	3.02	304	iP	Pn	18 28 55.7	+1.3
PPM				iP		18 28 56.0	
PPM				iS	Sn	18 29 28.3	-1.6
PPM	Popocatepetl	3.02	304	iP	Pn	18 28 55.7	+1.3
PPM				iP		18 28 57.2	
SCX	San Cristobal	3.27	101	iP	Pn	18 28 56.7	-1.0
SCX				iS	Sn	18 29 34.6	-1.4
YAIG	Yautepec	3.28	297	iP	Pn	18 28 58.2	+0.4
YAIG				iS	Sn	18 29 34.7	-1.5
YAIG	Yautepec	3.28	297	iP	Pn	18 28 59.4	+1.6
YAIG				iS	Sn	18 29 34.7	-1.5
IIO	Organos	3.40	311	iP	Pn	18 29 01.0	+1.6
IIO				iS	Sn	18 29 38.3	-0.8
PLIG	Platanillo	3.50	287	iP	Pn	18 29 01.1	+0.3
PLIG				iS	Sn	18 29 39.2	-2.3
PLIG	Platanillo	3.50	287	iP	Pn	18 29 02.2	+1.5
PLIG				iS	Sn	18 29 39.2	-2.3
MEIG	Mezcala	3.51	279	iP	Pn	18 29 01.4	+0.5
MEIG				iS	Sn	18 29 39.0	-2.7
ACX	Acapulco	3.80	263	eP	Pn	18 29 01.7	-3.1
CCIG	Comitan	3.84	106	iP	Pn	18 29 05.5	+0.1
CCIG				iS	Sn	18 29 49.4	-0.4
CCIG	Comitan	3.84	106	iP	Pn	18 29 06.1	+0.6
CCIG				iS	Sn	18 29 49.4	-0.4
DEIG	Demacu	4.09	316	iP	Pn	18 29 08.2	-0.5
DEIG				iS	Sn	18 30 01.1	+5.4
CAIG	El Cayaco	4.11	266	eP	Pn	18 29 07.7	-1.3
CAIG				iS	Sn	18 29 53.9	-2.3
CAIG	El Cayaco	4.11	266	eP	Pn	18 29 07.7	-1.3
CAIG				iS	Sn	18 29 53.0	-3.2
THIG		4.34	124	iS	Sn	18 30 01.5	-0.3
ZIIG	Zihuatanejo	5.24	273	iP	Pn	18 29 24.1	-0.1
ZIIG				iS	Sn	18 30 23.2	-0.2
ZIIG	Zihuatanejo	5.24	273	iP	Pn	18 29 20.8	-3.5
ZIIG				iS	Sn	18 30 20.0	-3.4
R15V		7.80	284	iP	Pn	18 29 45.7	-13

*TIR **08** 18:32:28.7±1.1,3916N×2039E,h11km±38km*
*ISCJB **08** 18:32:30.2±0.8,3927N±002×2017E±005,h4km±5km, Error ellipse: s-maj=6.6km s-min=4.2km az=175.2*
*NEIC **08** 18:32:31.6,3927N×2019E,h0km,MD3.2(ATH), ML3.0(THE),After THE.*
*CSEM **08** 18:32:31.6±0.1,3923N×2029E,h2km,ML3.0,Error ellipse: s-maj=3.2km s-min=2.1km az=73.0*
*ATH **08** 18:32:31.5,3930N×2032E,h25km±1km,MD3.2/5*
*THE **08** 18:32:31.6,3927N×2019E,h0km,ML3.0*

ISC 08 18:32:31.5±0.7,3923N±003×2032E±005,h0km±6km,n17, σ0§86/31,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.30	1	ePg	Pg	18 32 36.4	-0.9
IGT				eSg	Sg	18 32 40.9	-0.2
IGT	Igoumenitsa	0.30	1	iPG	Pg	18 32 36.4	-0.8
IGT				iSG	Sg	18 32 42.2	+1.1
LKD	Levkas	0.58	154	ePg	Pg	18 32 43.1	+0.4
JAN	Janina	0.59	44	ePN	Pg	18 32 42.2	-0.6
JAN				eSN	Sg	18 32 50.7	+0.3
KEK	Kerkira	0.63	320	ePN	Pg	18 32 42.8	-0.7
KEK				eSN	Sg	18 32 52.0	+0.3
SRN	Sarande	0.69	339	ePG	Pg	18 32 43.4	-1.4
SRN				iSG	Sg	18 32 55.6	+1.9
VLS	Valsamata	1.08	169	ePg	Pg	18 32 53.1	+1.0
VLS				eSg	Sg	18 33 10.0	+3.9
VLS	Valsamata	1.08	169	ePn	Pn	18 32 53.4	-0.4
VLS				eSn	Sn	18 33 09.9	+0.5
EVR	Evrytania	1.20	105	ePN	Pn	18 32 54.7	-0.8
EVR				eSN	Sn	18 33 11.5	-0.9
THL	Klokotos Trika	1.35	75	ePg	Pg	18 32 57.3	-0.1
THL				eSg	Sg	18 33 18.9	+4.0
THL	Klokotos Trika	1.35	75	ePN	Pn	18 32 56.7	-0.9
AGG	Agios Georgios	1.57	97	ePb	Pb	18 33 01.9	+0.4
AGG				eSb	Sb	18 33 25.4	+3.5
FNA	Florina	1.75	27	ePb	Pb	18 33 03.8	-0.6
FNA				eSb	Sb	18 33 27.9	+1.0
FNA	Florina	1.75	27	iPG	Pg	18 33 03.8	-1.2
FNA				iSG	Sg	18 33 27.9	+0.3
LIT	Litokhoron	1.88	62	ePb	Pb	18 33 05.9	-0.9
LIT				eSb	Sb	18 33 31.1	+0.3
KRUS	Krusevo	2.25	18	iPn	Pn	18 33 10.6	+0.7
KRUS				eSn	Sn	18 33 38.7	+0.4
GRG	Griva	2.34	42	ePn	Pn	18 33 11.0	-0.2

*IDC **08** 18:36:42.5±1.2,499S×15233E,h0km,mb4.2/9,mb1 4.4/9, mb1mx4.2/18,mbtmp4.2/9,Error ellipse: s-maj=45.7km s-min=21.1km az=123.0*
*ISCJB **08** 18:36:53.0±3.4,5.1S±02×1522E±02,h93km±31km, mb4.1/13,Error ellipse: s-maj=35.6km s-min=19.8km az=44.7*
*NEIC **08** 18:36:54.7±1.9,520S×15229E,h100km±17km,mb4.3/6, Error ellipse: s-maj=21.4km s-min=11.4km az=133.0*

ISC 08 18:36:55.0±2.9,52S±02×1523E±02,h100km±26km,n23, σ0§68/20,mb4.0/12,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.57	230	eP	Pn	18 38 29.3	+0.4
	19nm,0.4s						
KAKA	Kakadu	20.94	248	eP	P	18 41 29.2	-0.8
	10.0nm,0.6s						
WRAB	Tennant Creek	22.77	228	eP	P	18 41 48.9	-0.4
	5.8nm,0.7s,mb4.0						
WB2	Warramunga Arr	22.77	228	eP	P	18 41 49.4	+0.1
WRA	Warramunga Arr	22.78	228	P	P	18 41 49.3	-0.1
	2.4nm,0.4s,mb3.9,baz=52,slow=10.0,SNR=64						
ASAR	Alice Springs	25.50	222	P	P	18 42 15.2	+1.0
	1.8nm,0.5s,mb3.8,baz=63,slow=9.6,SNR=25						
FITZ	Fitzroy Crossi	29.00	242	eP	P	18 42 45.3	-0.3
	15nm,1.5s,mb4.4						
FITZ	Fitzroy Crossi	29.00	242	P	P	18 42 45.2	-0.4
	2.0nm,0.5s,mb4.0,baz=58,slow=8.4,SNR=10						
MBWA	Marble Bar	35.31	240	eP	P	18 43 40.2	-0.5
SONM	Songino Array	66.37	328	P	P	18 47 33.1	0.0
	0.4nm,0.4s,mb3.6,baz=143,slow=5.8,SNR=5.3						
MKAR	Makanchi Array	80.26	319	P	P	18 48 54.7	-0.1
	1.5nm,0.9s,mb3.8,baz=106,slow=6.8,SNR=6.8						
BPAW	Bear Paw Mtn.	80.85	22	eP	P	18 48 55.7	-1.8
ZALV	Zalesovo Beam	81.18	326	P	P	18 48 59.3	-0.2
	1.7nm,0.6s,mb4.1,baz=118,slow=5.8,SNR=7.2						
KURK	Kurchatov	83.74	322	eP	P	18 49 13.2	+0.4
	3.7nm,1.2s,mb4.1						
TKM2	Tokmak 2	83.81	314	P	P	18 49 14.6	+1.2
	7.2nm,1.4s,mb4.3						
HYT	Haines Junctio	85.03	28	eP	P	18 49 19.2	+0.1
BVAR	Borovoye Array	89.23	323	P	P	18 49 40.3	+0.7
	2.1nm,0.7s,mb4.3,baz=103,slow=5.7,SNR=12						
NVAR	Mina Array Bea	92.75	52	P	P	18 49 57.2	+0.9
	1.1nm,0.8s,mb4.2,baz=263,slow=5.9,SNR=7.7						
NVAR	Mina Array Bea	92.75	52	P	P	18 49 57.2	+0.9
BMO	Blue Mountains	93.93	45	eP	P	18 50 01.1	-0.5
	1.2nm,1.0s,mb4.2						
PDAR	Pinedale Array	99.51	48	P	Pdif	18 50 26.4	-0.2
	0.8nm,0.6s,baz=232,slow=1.7,SNR=5.8						
GERES	GERESS Array B	124.10	328	PKP	PKPdf	18 55 42.1	+0.2
	0.7nm,0.5s,baz=80,slow=1.5,SNR=7.9						
TORD	Torodi Ar. Bea	149.91	287	PKPbc	PKPbc	18 56 34.4	-0.3
	3.9nm,0.7s,baz=91,slow=2.2,SNR=36						

*BJI **08** 18:40:32.8,2343N×6388E,h20km,mB4.9,mb4.7*
*IDC **08** 18:40:36.0±1.1,2337N×6448E,h0km,mb3.9/11, mb1 4.0/11,mb1mx3.8/25,mbtmp3.9/11,Error ellipse: s-maj=26.3km s-min=21.0km az=39.0*
*CSEM **08** 18:40:36.1±0.1,2351N×6440E,h10km,mb4.7/1,Error ellipse: s-maj=6.0km s-min=3.3km az=18.0*
*NEIC **08** 18:40:37.5±0.7,2339N×6447E,h10km,mb4.7/1,Error ellipse: s-maj=15.5km s-min=12.6km az=45.0*
*ISCJB **08** 18:40:39.9±0.8,236N±0.1×6447E±008,h33km,mb4.0/15, Error ellipse: s-maj=15.6km s-min=9.1km az=18.0*
*MOS **08** 18:40:39.3±0.7,2344N×6446E,h33km,mb4.5/3,Error ellipse: s-maj=19.0km s-min=12.4km az=65.8*

ISC 08 18:40:42.3±0.8,2358N±010×6450E±007,h35km,n40, σ0§94/42,mb4.0/15,Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	Thamme Wali	11.18	33	P	Pn	18 43 17.5	-2.1
CEP	Cherat	12.10	31	P	Pn	18 43 29.8	-2.3
SMLA	Simla	13.53	54	iP	Pn	18 43 50.2	-1.6
SMLA				iS	Sn	18 46 12.8	-8.0
SMLA				iS	Sn	18 46 15.5	-5.3
SMLA				ex	x	18 46 20.0	
	comp=E,105nm,0.4s						
SMLA				ex	x	18 46 23.6	
	comp=N,96nm,0.4s						
DDI	Dehra Dun	13.82	58	ex	Pn	18 43 56.2	+0.4
KOLN	Koldanda	17.71	72	eP	Pn	18 44 46.2	0.0
	comp=N,31nm,1.0s						
DANN	Dangsing	17.95	71	eP	Pn	18 44 49.9	+0.7
	comp=N,44nm,1.0s						
GKN	Gorkha	18.66	72	eP	Pn	18 44 57.6	-0.2
	comp=N,6.2nm,0.8s						
DMN	Daman	19.01	73	eP	Pn	18 45 01.7	-0.4
	comp=N,52nm,1.1s						
KKN	Kakani	19.19	73	eP	Pn	18 45 03.9	-0.3
	comp=N,46nm,0.8s						
PKI	Pulchoki	19.27	74	eP	Pn	18 45 05.4	+0.2
	comp=N,36nm,0.8s						
GUN	Gumba	19.73	73	eP	Pn	18 45 10.3	-0.3
	comp=N,109nm,0.8s						
JIRN	Jiri	19.97	74	eP	Pn	18 45 12.8	-0.7
	comp=N,54nm,0.9s						
RAMN	Ramite	20.26	76	eP	P	18 45 15.5	+0.7
	comp=N,50nm,1.1s						
FRU	Bishkek	20.95	21	eP	P	18 45 23.0	+0.9
FRU				e		18 45 45.0	
FRU				pmax	pmax		
	comp=Z,30nm,2.0s						
ODAN	Odare	20.96	76	eP	P	18 45 23.7	+1.3
	comp=Z,88nm,1.0s						
TAPN	Taplejung	21.28	75	eP	P	18 45 27.1	+1.3
	comp=Z,70nm,0.9s,mb5.0						
SHL	Shillong	24.97	80	ex	P	18 46 05.5	+2.8
KIV	Kislovodsk	27.09	324	P	P	18 46 27.3	+5.7
	comp=Z,7.4nm,0.4s,mb4.6						
MK31	Makanchi Array	27.22	27	eP	P	18 46 22.3	-0.5
MK31	Makanchi Array	27.22	27	eP	P	18 46 22.3	-0.5
MKAR	Makanchi Array	27.22	27	P	P	18 46 22.6	-0.2
	comp=Z,1.9nm,0.8s,mb3.7,baz=209,slow=9.7,SNR=12						
AKTK	Aktyubinsk	27.28	351	P	P	18 46 23.5	+0.2
AKTK	Aktyubinsk	27.28	351	P	P	18 46 23.5	+0.3
AKTO	Aktyubinsk	27.28	351	P	P	18 46 23.5	+0.3
	comp=Z,1.3nm,0.7s,mb3.6,baz=177,slow=6.8,SNR=6.6						
AKTO	Aktyubinsk	27.28	351	P	P	18 46 23.5	+0.2
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
KURK	Kurchatov	29.23	19	eP	P	18 46 40.9	+0.3
KURK	Kurchatov	29.23	19	eP	P	18 46 40.9	+0.2
BVAR	Borovoye Array	29.74	7	P	P	18 46 45.8	+0.7
	comp=Z,0.8nm,0.7s,mb3.6,baz=168,slow=10,SNR=4.5						

CMAR	Chiang Mai Arr	32.50	92	P	P	18 47 09.8	-0.1
	comp=Z,0.6nm,0.3s,mb4.0,baz=297,slow=9.1,SNR=4.9					
GTA	Gaotai	33.75	54	eP	P	18 47 20.8	+0.3
GTA				AP	pP	18 47 26.0	-4.6
GTA				XP	sP	18 47 28.9	-6.0
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.0						
ZAL	Zalesovo	33.94	22	P	P	18 47 22.5	+0.5
ZALV	Zalesovo Beam	33.96	22	P	P	18 47 22.5	+0.3
	comp=Z,1.6nm,0.5s,mb4.2,baz=231,slow=11,SNR=8.6						
LZH	Lanzhou	36.10	61	eP	P	18 47 41.0	+0.1
LZH				AP	pP	18 47 47.2	-3.8
LZH				XP	sP	18 47 49.5	-5.8
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,83nm,4.2s						
AKASG	Malin Array Be	38.44	324	P	P	18 48 01.1	+0.7
	comp=Z,0.3nm,0.3s,mb3.5,baz=120,slow=7.3,SNR=5.6						
AKASG	Malin Array Be	38.44	324	P	P	18 48 01.1	+0.6
SONM	Songino Array	41.06	43	P	P	18 48 23.3	+1.0
	comp=Z,1.2nm,1.0s,mb3.5,baz=238,slow=8.5,SNR=7.8						
ARCES	ARCESS Array B	51.45	344	P	P	18 49 43.8	+0.1
	comp=Z,1.3nm,0.8s,mb3.9,baz=67,slow=14,SNR=5.1						
TORD	Torodi Ar. Bea	60.11	272	P	P	18 50 45.6	-1.0
	comp=Z,3.1nm,0.9s,mb4.3,baz=62,slow=6.9,SNR=6.4						
WRA	Warramunga Arr	80.64	116	P	P	18 52 49.5	-2.4
	comp=Z,1.1nm,1.1s,mb3.7,baz=319,slow=4.3,SNR=4.5						
ASAR	Alice Springs	82.12	120	P	P	18 52 58.7	-0.9
	comp=Z,0.8nm,0.9s,mb3.6,baz=270,slow=3.8,SNR=5.1						

*ISCJB **08** 18:44:47.5±0.3,5153N±002×769E±003,h0km,Error ellipse: s-maj=3.5km s-min=2.4km az=144.6*
*NEIC **08** 18:44:49.0,5166N×770E,h1km,ML2.6(LDG),After LDG.*
*CSEM **08** 18:44:49.6±0.1,5162N×768E,h1km,ML2.7/6,Error ellipse: s-maj=1.9km s-min=1.2km az=141.0*
*LDG **08** 18:44:49.0±0.2,5166N×770E,h1km,Ml2.6/6,Error ellipse: s-maj=4.1km s-min=3.0km az=42.0,Suspected Mining induced.*

ISC 08 18:44:48.6±0.3,5159N±002×767E±003,h0km,n47, σ0§85/72,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAHL	Ahlen	0.17	33	Pg	Pg	18 44 52.0	0.0
BAHL				Sg	Sg	18 44 54.6	+0.4
HOBG	Hohbusch	0.64	199	Pg	Pg	18 45 02.7	+1.8
WTSB	Winterswijk	0.66	305	ePg	Pg	18 45 01.8	+0.6
BNS	Bensberg	0.70	206	Pg	Pg	18 45 05.5	+3.5
IBBN	Ibbenburen	0.72	4	Pg	Pg	18 45 02.9	+0.5
	SNR=3.3						
IBBN				Sg	Sg	18 45 12.9	+1.2
	SNR=2.5						
RODG	Roetgen-Dahlhe	1.03	245	Pg	Pg	18 45 09.3	+0.9
STB	Steinbach	1.13	208	Pg	Pg	18 45 11.6	+1.4
STB				Sg	Sg	18 45 27.5	+2.7
	33nm,0.4s						
KOE	Koeppel	1.17	178	Pg	Pg	18 45 12.2	+1.2
KLL	Kalltalsperre	1.27	223	Pg	Pg	18 45 13.1	+0.1
DREG	Dreilaegerbach	1.30	225	Pg	Pg	18 45 13.6	+0.1
DREG				Sg	Sg	18 45 31.6	+1.3
HGN	Heimansgroeve	1.37	234	ePg	Pg	18 45 14.5	-0.4
HGN				eSg	Sg	18 45 33.6	+1.0
HGN	Heimansgroeve	1.37	234	ePg	Pg	18 45 14.5	-0.3
HGN				eSg	Sg	18 45 33.6	+0.9
GTTG	Gvttingen	1.43	91	Pg	Pg	18 45 16.2	+0.1
	SNR=3.3						
GTTG				Sg	Sg	18 45 34.6	0.0
	SNR=4.0						
MEM	Membach	1.44	227	P	Pn	18 45 15.4	-0.4
TNS	Taunus Mts	1.46	160	Pg	Pg	18 45 16.0	-0.5
	SNR=7.9						
UBBA	Unterbreizbach	1.66	117	Pg	Pg	18 45 19.9	-0.5
	SNR=3.2						
CLZ	Clausthal	1.70	80	Pg	Pg	18 45 20.4	-0.8
	SNR=8.6						
BCLA	Clavier	1.90	233	P	Pn	18 45 22.0	-0.3
BCLA	Clavier	1.90	233	P	Pn	18 45 21.9	-0.3
WLF	Walferdange	2.16	207	P	Pn	18 45 29.9	+4.2
WLF	Walferdange	2.16	207	Pg	Pg	18 45 29.8	-0.1
	SNR=4.1						
GIVF	Givet	2.34	232	ePg	Pg	18 45 33.4	0.0
GIVF				eSg	Sg	18 46 04.2	+0.5
	8.4nm,0.3s						
GIVF	Givet	2.34	232	ePg	Pg	18 45 33.4	0.0
GIVF				eSg	Sg	18 46 04.2	+0.5
	4.2nm,0.3s						
DOU	Dourbes	2.46	234	P	Pn	18 45 29.8	-0.1
DOU	Dourbes	2.46	234	P	Pn	18 45 29.7	-0.2
MOX	Moxa	2.66	109	Pn	Pn	18 45 33.2	+0.5
	SNR=2.2						
BAIF	Baives	2.68	236	ePg	Pg	18 45 39.7	-0.2
BAIF				eSn	Sn	18 46 04.0	-2.0
BAIF				eSg	Sg	18 46 14.4	-0.2
	5.2nm,0.4s						
BAIF	Baives	2.68	236	ePg	Pg	18 45 39.7	-0.2
BAIF				eSn	Sn	18 46 04.0	-2.0
BAIF				eSg	Sg	18 46 14.4	-0.2
	2.6nm,0.4s						
BAIF	Baives	2.68	236	ePn	Pn	18 45 32.4	-0.5
BAIF				ePg	Pg	18 45 39.7	-0.2
BAIF				eSn	Sn	18 46 04.0	-2.0
BAIF				eSg	Sg	18 46 14.4	-0.2
WERD	Werda	3.15	110	Pn	Pn	18 45 39.6	+0.3
	SNR=1.7						
CDF	Champ du Feu	3.19	185	ePn	Pn	18 45 39.3	-0.7
CDF				eSg

MKZ	**Mys Kozlova**	**6.24**	**26**	*e*P	Pn	18 56 57.0	+1.9
MKZ				*i* S	Sn	18 58 06.7	0.0
TUMR	**Tumrok**	**6.54**	**16**	P	Pn	18 57 02.2	+3.0
KMNR	**Kamenistaya**	**7.01**	**15**	P	Pn	18 57 07.6	+2.0
KBTR	**Krutoberegovo**	**7.99**	**24**	*e*P	Pn	18 57 22.2	+3.1

*MOS **08** 19:04:34.6±0.8, 5163N×16.15E, h10km, mb3.7/1, Error ellipse: s-maj=8.3km s-min=4.6km az=89.7*
*LDG **08** 19:04:35.1±0.2, 5156N×1607E, h1km, Ml4.1/12, Error ellipse: s-maj=4.7km s-min=1.9km az=7.0, Suspected Mining induced.*
*ISCJB **08** 19:04:35.8±0.4, 5138N±002×1607E±002, h0km, Error ellipse: s-maj=3.0km s-min=1.9km az=8.3*
*NEIC **08** 19:04:35.6±0.7, 5159N×1609E, h5km, ML3.1(BRA), ML3.7(SZGRF), Error ellipse: s-maj=9.3km s-min=4.4km az=195.0*
*IPEC **08** 19:04:36.0±0.3, 5151N×16.19E, h0km, ML3.1/4, Error ellipse: s-maj=4.1km s-min=2.0km az=81.0*
*BGR **08** 19:04:36.3±0.4, 5153N×16.14E, h1km, ML3.7/14, Error ellipse: s-maj=5.6km s-min=2.2km az=17.0*
*PRU **08** 19:04:36.7, 5150N×1613E, h0km, Felt In Harrachov*
*CSEM **08** 19:04:37.6±0.1, 5144N×1608E, h1km, ML4.1/24, Error ellipse: s-maj=2.2km s-min=1.2km az=7.0*
*WAR **08** 19:04:37.0, 5152N×1611E, ML3.2, Mining Induced*
*VIE **08** 19:04:39.2±1.0, 5125N×1605E, h0km±5km, mb3.0/8, ML3.3/9, Error ellipse: s-maj=5.1km s-min=2.6km az=6.0*
69 km WNW of Wroclaw Suspected Mining induced.

ISC 08 19:04:36.0±0.4, 5150N±002×1612E±002, h0km, n119, σ1§07/200, 21C-20D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg	**Pg**	**19 04 49.5**	**+0.8**
KSP				*e*Sg	**Sg**	**19 04 58.7**	**+1.5**
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg	**Pg**	**19 04 49.5**	**+0.8**
KSP				*e*Sg	**Sg**	**19 04 59.5**	**+2.2**
KSP	**Ksiaz**	**0.66**	**170**	⇓*i*P	**Pg**	**19 04 49.5**	**+0.8**
KSP				*e*		19 04 58.6	
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg	**Pg**	**19 04 49.3**	**+0.6**
KSP				*e*Sg	**Sg**	**19 04 58.6**	**+1.3**
KSP	**Ksiaz**	**0.66**	**170**	⇓*i*Pg	**Pg**	**19 04 49.5**	**+0.8**
KSP				*e*Sg	**Sg**	**19 04 58.6**	**+1.3**
KSP				*e*		19 05 02.0	
UPC	**Upice**	**0.99**	**184**	*e*PG	**Pg**	**19 04 55.6**	**+0.6**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*Pg	**Pg**	**19 04 58.3**	**+0.2**
DPC				*e*Sg	**Sg**	**19 05 14.3**	**+1.3**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*P	**Pg**	**19 04 58.5**	**+0.4**
DPC				*e*		19 05 14.0	
DPC				smax			
	comp=N,259nm,0.5s						
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*Pg	**Pg**	**19 04 58.2**	**+0.1**
DPC				*e*Sg	**Sg**	**19 05 13.2**	**+0.2**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**19 04 58.5**	**+0.4**
DPC				*e*SG	**Sg**	**19 05 14.0**	**+1.0**
	comp=Z,259nm,0.5s						
PVCC	**Panska Ves**	**1.38**	**226**	*e*PG	**Pg**	**19 05 02.4**	**+0.1**
BRG	**Berggiesshubel**	**1.50**	**246**	*e*Pn	**Pn**	**19 05 04.0**	**-0.1**
BRG				*e*Sg	**Sg**	**19 05 25.6**	**+1.4**
BRG	**Berggiesshubel**	**1.50**	**246**	P	**Pn**	**19 05 03.2**	**-1.0**
BRG						19 05 25.3	
BRG				smax			
	comp=N,15nm,0.8s						
BRG	**Berggiesshubel**	**1.50**	**246**	PN	**Pn**	**19 05 03.2**	**-1.0**
BRG				PG	**Pg**	**19 05 04.9**	**+0.1**
BRG				SG	**Sg**	**19 05 25.3**	**+1.1**
	comp=N,645nm,0.8s						
RUE	**Ruedersdorf**	**1.75**	**305**	*e*P	**Pn**	**19 05 06.0**	**-1.5**
RUE	**Ruedersdorf**	**1.75**	**305**	*e*P	**Pn**	**19 05 06.0**	**-1.6**
PRA	**Prague**	**1.78**	**217**	PG	**Pg**	**19 05 07.0**	**-3.1**
PRA				SG	**Sg**	**19 05 33.0**	**-0.2**
PRU	**Pruhonice**	**1.81**	**214**	*e*P	**Pn**	**19 05 08.0**	**-0.4**
PRU				*e*		19 05 33.6	
PRU				smax			
	comp=N,275nm,0.4s						
PRU	**Pruhonice**	**1.81**	**214**	*e*PN	**Pn**	**19 05 08.0**	**-0.4**
PRU				*e*PG	**Pg**	**19 05 10.2**	**-0.5**
PRU				*e*SG	**Sg**	**19 05 33.6**	**-0.5**
	comp=Z,274nm,0.4s						
PRU	**Pruhonice**	**1.81**	**214**	*e*Pn	**Pn**	**19 05 08.0**	**-0.4**
PRU				*e*Pg	**Pg**	**19 05 10.2**	**-0.5**
PRU				*e*Sg	**Sg**	**19 05 33.6**	**-0.5**
RAC	**Raciborz**	**1.93**	**136**	*e*Pg	**Pg**	**19 05 12.5**	**-0.5**
RAC				*e*S	**Sg**	**19 05 38.9**	**+0.8**
RAC				*e*Sg	**Sg**	**19 05 38.9**	**+0.8**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**19 05 09.8**	**-0.4**
MORC				*e*Sg	**Sg**	**19 05 38.5**	**0.0**
MORC	**Moravsky Berou**	**1.95**	**152**	⇑*i*P	**Pn**	**19 05 10.3**	**+0.1**
MORC	**Moravsky Berou**	**1.95**	**152**	⇑P	**Pn**	**19 05 10.3**	**+0.1**
MORC				Sg	**Sg**	**19 05 38.5**	**0.0**
CLL	**Collm**	**1.96**	**266**	*e*Pn	**Pn**	**19 05 09.4**	**-1.1**
CLL				*e*Sg	**Sg**	**19 05 39.7**	**+0.8**
CLL	**Collm**	**1.96**	**266**	*e*Pn	**Pn**	**19 05 09.0**	**-1.4**
CLL				*e*Pg	**Pg**	**19 05 13.0**	**-0.5**
CLL				*i* Sg	**Sg**	**19 05 39.7**	**+0.8**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*Pn	**Pn**	**19 05 11.8**	**-0.6**
OKC				*e*Sg	**Sg**	**19 05 43.5**	**0.0**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*P	**Pn**	**19 05 11.7**	**-0.7**
OKC				*e*		19 05 43.6	
OKC				smax			
	comp=N,401nm,1.0s						
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PN	**Pn**	**19 05 11.7**	**-0.7**
OKC				*e*PG	**Pg**	**19 05 16.2**	**-0.1**
OKC				*e*SG	**Sg**	**19 05 43.6**	**0.0**
	comp=Z,401nm,1.0s						
VRAC	**Vranov**	**2.21**	**172**	⇓*i*P	**Pn**	**19 05 14.9**	**+1.0**
VRAC	**Vranov**	**2.21**	**172**	*e*Pn	**Pn**	**19 05 14.3**	**+0.4**
VRAC				*e*Sg	**Sg**	**19 05 44.6**	**-2.4**
	comp=Z,94nm,0.3s						
VRAC	**Vranov**	**2.21**	**172**	⇓P	**Pn**	**19 05 14.8**	**+1.0**
TREC	**Trest**	**2.24**	**191**	*e*PG	**Pg**	**19 05 18.0**	**-0.9**
TREC				*e*SG	**Sg**	**19 05 47.5**	**-0.4**
KRUC	**Moravsky**	**2.44**	**176**	*e*Sg	**Sg**	**19 05 52.8**	**-1.6**
	comp=Z,51nm,0.3s						
WERD	**Werda**	**2.63**	**248**	*e*Pn	**Pn**	**19 05 19.4**	**-0.2**
WERD				*e*Sg	**Sg**	**19 06 01.1**	**+0.8**
NKC	**Novy Kostel**	**2.65**	**243**	*e*P	**Pn**	**19 05 20.2**	**+0.3**
NKC				*e*		19 06 02.6	
NKC				smax			
	comp=N,455nm,0.6s						
NKC	**Novy Kostel**	**2.65**	**243**	*e*PN	**Pn**	**19 05 20.2**	**+0.3**
NKC				*e*PG	**Pg**	**19 05 26.2**	**-0.5**
NKC				*e*SG	**Sg**	**19 06 02.6**	**+1.7**
	comp=Z,455nm,0.6s						
OJC	**Ojcow**	**2.66**	**117**	*e*Pn	**Pn**	**19 05 18.1**	**-2.0**
OJC				*e*Pg	**Pg**	**19 05 27.0**	**0.0**
OJC				*e*Sn	**Sn**	**19 05 50.1**	**-2.9**
OJC				*e*Sg	**Sg**	**19 06 02.0**	**+0.6**
OJC	**Ojcow**	**2.66**	**117**	*e*P	**Pn**	**19 05 18.1**	**-2.0**
OJC				*e*		19 05 50.1	
KHC	**Kasperske Hory**	**2.87**	**215**	Pg	**Pg**	**19 05 29.2**	**-1.8**
KHC				*e*S	**Sn**	**19 05 57.6**	**-0.6**
	comp=Z,96nm,0.6s						
KHC				Sg	**Sg**	**19 06 07.8**	**-0.4**
	comp=Z,96nm,0.6s						
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**19 05 23.1**	**+0.1**
KHC				*e*PG	**Pg**	**19 05 29.2**	**-1.8**
KHC				*e*SN	**Sn**	**19 05 57.6**	**-0.6**
KHC				*e*SG	**Sg**	**19 06 07.8**	**-0.4**
	comp=Z,96nm,0.6s						
MGBB	**Grossbuechelbe**	**2.91**	**240**	⇓*i*Pn	**Pn**	**19 05 23.5**	**0.0**
MANZ	**Manzenberg**	**2.96**	**241**	*e*Pn	**Pn**	**19 05 24.2**	**0.0**
MOX	**Moxa**	**2.96**	**255**	*e*Pn	**Pn**	**19 05 24.1**	**-0.1**
MOX				*e*Sg	**Sg**	**19 06 12.0**	**+0.9**
MOX	**Moxa**	**2.96**	**255**	*e*PN	**Pn**	**19 05 24.3**	**+0.1**
MOX				*i* PG	**Pg**	**19 05 32.6**	**-0.2**
MOX				*i* SG	**Sg**	**19 06 12.2**	**+1.1**
	comp=Z,628nm,0.9s						
ROTZ	**Rotzenmuhle**	**3.03**	**237**	*e*Pn	**Pn**	**19 05 25.3**	**+0.1**
ROTZ				*e*Sg	**Sg**	**19 06 12.5**	**-0.8**
GEC2	**GERESS Array S**	**3.07**	**211**	*e*Pn	**Pn**	**19 05 26.4**	**+0.7**
GEC2				*e*Sg	**Sg**	**19 06 13.2**	**-1.5**
GEC2	**GERESS Array S**	**3.07**	**211**	*e*Pn	**Pn**	**19 05 26.4**	**+0.7**
GEC2				*e*Sg	**Sg**	**19 06 13.1**	**-1.6**
LIKS	**Likavka**	**3.11**	**141**	*e*PN	**Pn**	**19 05 28.3**	**+2.0**
LIKS				*e*SG	**Sg**	**19 06 17.4**	**+1.5**
WET	**Wettzell**	**3.14**	**223**	*e*Pn	**Pn**	**19 05 26.7**	**+0.1**
WET				*e*Sg	**Sg**	**19 06 15.8**	**-1.0**
WET	**Wettzell**	**3.14**	**223**	*e*Pn	**Pn**	**19 05 26.7**	**+0.1**
WET				*e*Sg	**Sg**	**19 06 15.8**	**-0.9**
MODS	**Modra-Piesok**	**3.21**	**166**	*e*P	**Pg**	**19 05 37.5**	**-0.1**
MODS				pmax	pmax		
	comp=N,40nm,0.7s						
MODS	**Modra-Piesok**	**3.21**	**166**	*e*PG	**Pg**	**19 05 37.5**	**-0.1**
MODS				*e*SG	**Sg**	**19 06 21.7**	**+2.5**
KOLL	**Kolacno**	**3.27**	**152**	*e*PN	**Pn**	**19 05 28.5**	**0.0**
KOLL				*e*PG	**Pg**	**19 05 39.4**	**+0.7**
KOLL				*e*SG	**Sg**	**19 06 18.1**	**-2.9**
ZST	**Bratislava**	**3.36**	**169**	*e*P	**Pg**	**19 05 40.1**	**-0.3**
ZST				pmax	pmax		
	comp=N,63nm,0.8s						
ZST	**Bratislava**	**3.36**	**169**	*e*Pg	**Pg**	**19 05 40.1**	**-0.3**
ZST				*e*Sg	**Sg**	**19 06 23.9**	**-0.1**
ZST				*e*SG	**Sg**	**19 06 23.9**	**-0.1**
ZST	**Bratislava**	**3.36**	**169**	*e*PG	**Pg**	**19 05 40.1**	**-0.3**
NIE	**Niedzica**	**3.39**	**126**	*e*Pn	**Pn**	**19 05 30.5**	**+0.4**
NIE				*e*Pg	**Pg**	**19 05 40.7**	**-0.3**
NIE				*e*Sg	**Sg**	**19 06 24.3**	**-0.7**
CONA	**Conrad Observa**	**3.58**	**183**	⇑*i*Pn	**Pn**	**19 05 33.2**	**+0.6**
CONA				⇓*i*Pg	**Pg**	**19 05 43.5**	**-0.9**
CONA				⇓*i*Sg	**Sg**	**19 06 30.0**	**-0.7**
	comp=N,86nm,0.5s						
CSNA	**Conrad Observa**	**3.58**	**183**	⇓*i*Pn	**Pn**	**19 05 33.2**	**+0.6**
CSNA				⇑*i*Sg	**Sg**	**19 06 29.6**	**-1.2**
	comp=N,76nm,0.4s						
CLZ	**Clausthal**	**3.59**	**278**	*e*Pn	**Pn**	**19 05 33.2**	**+0.3**
CLZ	**Clausthal**	**3.59**	**278**	*e*Pn	**Pn**	**19 05 33.2**	**+0.3**
GRA1	**Grafenberg Arr**	**3.60**	**242**	Pn	**Pn**	**19 05 33.2**	**+0.2**
GRA1				Sg	**Sg**	**19 06 32.5**	**+0.8**
GRA1	**Grafenberg Arr**	**3.60**	**242**	*e*Pn	**Pn**	**19 05 33.2**	**+0.2**
GRA1				*e*Sg	**Sg**	**19 06 32.5**	**+0.8**
GRF	**Grafenberg Arr**	**3.60**	**242**	*e*Pn	**Pn**	**19 05 33.2**	**+0.2**
GRF				*e*Sg	**Sg**	**19 06 32.5**	**+0.8**
SOP	**Sopron**	**3.83**	**176**	⇓*e*Pn	**Pn**	**19 05 37.1**	**+1.0**
SOP				*e*SB	**Sg**	**19 06 41.5**	**+2.6**
MOA	**Molln**	**3.84**	**199**	⇓*i*Pn	**Pn**	**19 05 36.5**	**+0.2**
MOA				⇓*i*Sg	**Sg**	**19 06 39.3**	**-0.1**
	comp=N,88nm,0.6s						
HROE	**Hohe Rhon--Fla**	**3.88**	**258**	⇓*i*Pn	**Pn**	**19 05 36.5**	**-0.4**
KECS	**Kecovo**	**4.13**	**135**	*e*P	**Pn**	**19 05 39.0**	**-1.2**
KECS				pmax	pmax		
	comp=N,15nm,0.7s						
KECS	**Kecovo**	**4.13**	**135**	*e*PN	**Pn**	**19 05 39.0**	**-1.2**
KECS				*e*SG	**Sg**	**19 06 47.3**	**-1.2**
PENC	**Penc**	**4.24**	**150**	⇓*e*P	**Pn**	**19 05 42.6**	**+0.8**
ARSA	**Arzberg**	**4.27**	**185**	⇑*i*Pn	**Pn**	**19 05 43.1**	**+1.0**
ARSA				⇑*i*Sg	**Sg**	**19 06 51.8**	**-1.2**
	comp=N,115nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.30**	**125**	*e*Pn	**Pn**	**19 05 42.2**	**-0.5**
CRVS				*e*PG	**Pg**	**19 05 57.4**	**-1.1**
CRVS				*e*SG	**Sg**	**19 06 53.0**	**-1.2**
PSZ	**Piszkesteto**	**4.34**	**144**	⇑*e*Pn	**Pn**	**19 05 43.7**	**+0.6**
PSZ				*e*SB	**Sb**	**19 06 48.5**	**+2.6**
PSZ	**Piszkesteto**	**4.34**	**144**	⇑*i*P	**Pn**	**19 05 44.3**	**+1.2**
PSZ	**Piszkesteto**	**4.34**	**144**	⇑P	**Pn**	**19 05 44.2**	**+1.1**
KWP	**Kalwaria**	**4.60**	**111**	⇓*i*P	**Pg**	**19 06 00.8**	**-3.3**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*PN	**Pn**	**19 05 46.9**	**-1.4**
KBA	**Koelnbreinsper**	**4.78**	**203**	⇓*i*Pn	**Pn**	**19 05 49.6**	**+0.5**
KBA				⇓*i*Sg	**Sg**	**19 07 08.5**	**-0.9**
	comp=N,53nm,0.5s						
SOKA	**Soboth**	**4.87**	**189**	⇑*i*Pn	**Pn**	**19 05 51.3**	**+0.8**
SOKA				⇑*i*Sg	**Sg**	**19 07 12.2**	**-0.3**
	comp=N,26nm,0.8s						
UZH	**Uzhgorod**	**4.90**	**123**	*e*P	**Pn**	**19 05 50.8**	**-0.1**
UZH				*e*S	**Sn**	**19 06 50.8**	**+2.5**
PERS	**Pernice**	**4.91**	**188**	*i* Pn	**Pn**	**19 05 52.2**	**+1.2**
GROS	**Grobnik**	**5.05**	**185**	*i* Pn	**Pn**	**19 05 53.9**	**+0.9**
WATA	**Walderalm**	**5.11**	**217**	⇑*i*Pn	**Pn**	**19 05 54.8**	**+1.1**
WATA				⇑*i*Sg	**Sg**	**19 07 19.1**	**-1.0**
	comp=N,51nm,0.7s						
ZAVS	**Zavodnje**	**5.12**	**188**	*i* Pn	**Pn**	**19 05 54.4**	**+0.6**
WTTA	**Wattenberg**	**5.15**	**216**	⇑*i*Pn	**Pn**	**19 05 54.9**	**+0.6**
WTTA				⇓*i*Sg	**Sg**	**19 07 20.9**	**-0.3**
	comp=N,60nm,0.7s						
MOTA	**Moosalm**	**5.29**	**220**	⇑*i*Pn	**Pn**	**19 05 56.7**	**+0.5**
MOTA				⇑*i*Sg	**Sg**	**19 07 26.9**	**+1.2**
	comp=N,53nm,0.8s						
PKSM	**Moragy**	**5.54**	**162**	⇑*i*P	**Pn**	**19 06 00.3**	**+0.6**
PKSM	**Moragy**	**5.54**	**162**	*e*Pn	**Pn**	**19 06 01.0**	**+1.3**
PKSM	**Moragy**	**5.54**	**162**	⇑P	**Pn**	**19 06 00.3**	**+0.6**
DAVA	**Damuels**	**5.86**	**226**	⇓*i*Pn	**Pn**	**19 06 03.9**	**-0.1**
DAVA				⇑*i*Sg	**Sg**	**19 07 45.7**	**+1.7**
	comp=N,65nm,0.8s						
DAVA	**Damuels**	**5.86**	**226**	Pn	**Pn**	**19 06 03.9**	**-0.1**
DAVA				Sg	**Sg**	**19 07 45.7**	**+1.7**
	comp=N,65nm,0.8s						
BOJS	**Bojanci**	**6.02**	**186**	*i* Pn	**Pn**	**19 06 07.5**	**+1.2**
DRGR		**6.39**	**135**	⇑*i*P	**Pn**	**19 06 14.6**	**+3.3**
DRGR		**6.39**	**135**	⇑P	**Pn**	**19 06 14.6**	**+3.2**
CDF	**Champ du Feu**	**6.49**	**245**	*e*Pn	**Pn**	**19 06 10.1**	**-2.5**
CDF				*e*Sg	**Sg**	**19 07 58.1**	**-6.0**
	comp=N,118nm,1.1s						
CDF	**Champ du Feu**	**6.49**	**245**	*e*Pn	**Pn**	**19 06 10.1**	**-2.5**
CDF				*e*Sg	**Sg**	**19 07 58.1**	**-6.0**
	comp=N,59nm,1.1s						
HINF	**Hinteralfeld**	**7.05**	**242**	*e*Pn	**Pn**	**19 06 17.0**	**-3.3**
HINF				*e*Sg	**Sg**	**19 08 15.9**	**-6.3**
	comp=N,54nm,0.8s						
HINF	**Hinteralfeld**	**7.05**	**242**	*e*Pn	**Pn**	**19 06 17.0**	**-3.3**
HINF				*e*Sg	**Sg**	**19 08 15.9**	**-6.3**
	comp=N,27nm,0.8s						
BURAR	**Bucovina Array**	**7.08**	**120**	⇓*i*P	**Pn**	**19 06 21.7**	**+0.9**
BURAR	**Bucovina Array**	**7.08**	**120**	⇓P	**Pn**	**19 06 21.7**	**+0.9**
HAU	**Haudompre**	**7.23**	**245**	*e*Pn	**Pn**	**19 06 19.9**	**-2.9**
HAU				*e*Sg	**Sg**	**19 08 21.0**	**-6.9**
	comp=N,60nm,0.8s						
HAU	**Haudompre**	**7.23**	**245**	*e*Pn	**Pn**	**19 06 19.9**	**-2.9**
HAU				*e*Sg	**Sg**	**19 08 21.0**	**-6.9**
	comp=N,30nm,0.8s						
GIVF	**Givet**	**7.29**	**263**	*e*Sg	**Sg**	**19 08 22.4**	**-7.6**
	comp=N,64nm,1.0s						
GIVF	**Givet**	**7.29**	**263**	*e*Sg	**Sg**	**19 08 22.4**	**-7.6**
	comp=N,32nm,1.0s						
BAIF	**Baives**	**7.69**	**264**	*e*Sg	**Sg**	**19 08 34.7**	**-8.0**
	comp=N,27nm,0.8s						
BAIF	**Baives**	**7.69**	**264**	*e*Sg	**Sg**	**19 08 34.7**	**-8.0**
	comp=N,13nm,0.8s						
MEZF	**Maizieres J'vi**	**7.73**	**252**	*e*Sg	**Sg**	**19 08 36.9**	**-7.3**
	comp=N,32nm,0.9s						
MEZF	**Maizieres J'vi**	**7.73**	**252**	*e*Sg	**Sg**	**19 08 36.9**	**-7.3**
	comp=N,16nm,0.9s						
CABF	**La Chapelle**	**8.20**	**237**	*e*Sg	**Sg**	**19 08 52.9**	**-6.2**
	comp=N,103nm,1.1s						
CABF	**La Chapelle**	**8.20**	**237**	*e*Sg	**Sg**	**19 08 52.9**	**-6.2**
	comp=N,51nm,1.1s						
LOR	**Lormes**	**9.04**	**247**	*e*Pn	**Pn**	**19 06 44.3**	**-3.4**
	baz=70						
LOR				*e*Sg	**Sg**	**19 09 19.4**	**-6.7**
	comp=N,18nm,0.9s						
LOR	**Lormes**	**9.04**	**247**	*e*Pn	**Pn**	**19 06 44.3**	**-3.4**
	comp=N,11nm,0.7s						
LOR				*e*Sg	**Sg**	**19 09 19.4**	**-6.7**
	comp=N,9.2nm,0.9s						
SSF	**Saint Saulge**	**9.36**	**247**	*e*Sg	Sx	19 09 28.7	
	comp=N,17nm,0.9s						
SSF	**Saint Saulge**	**9.36**	**247**	*e*Sg	Sx	19 09 28.7	
	comp=N,8.3nm,0.9s						
SMF	**Signal de Mont**	**9.40**	**244**	*e*Sg	Sx	19 09 28.9	
	comp=N,22nm,0.7s						
SMF	**Signal de Mont**	**9.40**	**244**	*e*Sg	Sx	19 09 28.9	
	comp=N,11nm,0.7s						
SBF	**Sospel**	**9.62**	**221**	*e*P	**Pn**	**19 06 56.7**	**+1.2**
SBF				*e*Sg	Sx	19 09 36.6	
	comp=N,46nm,0.9s						

*IDC **08** 19:11:18.6±18.0, 2099S×17926W, h586km±179km, mb3.3/4, mb1 3.5/4, mb1mx3.1/16, mbtmp3.3/4, Error ellipse: s-maj=143.5km s-min=81.0km az=103.0*

NEIC 08 19:11:08.3±1.9, 2159S×17854W, h500km, mb4.0/4, Error ellipse: s-maj=83.5km s-min=22.7km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.90**	**266**	*e*P	P	19 17 01.6	+1.0
	2.8nm,0.4s						
CTA	**Charters Tower**	**32.90**	**266**	P	P	19 17 01.0	+0.3
	22nm,1.3s,baz=102,slow=8.8,SNR=7.2						
CTAO	**Charters Tower**	**32.90**	**266**	*e*P	P	19 17 01.1	+0.5
	6.5nm,0.9s						
STKA	**Stephens Creek**	**36.87**	**245**	*e*P	P	19 17 33.8	+0.1
	4.3nm,1.2s						
STKA	**Stephens Creek**	**36.87**	**245**	P	P	19 17 35.5	+1.8
	2.5nm,0.7s,baz=85,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**43.79**	**258**	P	P	19 18 29.9	+0.5
	2.5nm,0.5s,baz=95,slow=8.6,SNR=46						
ASAR				PcP	PcP	19 20 05.7	+0.5
	0.3nm,0.5s,baz=109,slow=4.2,SNR=5.1						
WB2	**Warramunga Arr**	**43.95**	**263**	*e*P	P	19 18 30.2	-0.4
WRAB	**Tennant Creek**	**43.96**	**263**	*e*P	P	19 18 29.8	-0.9
WRA	**Warramunga Arr**	**43.97**	**263**	P	P	19 18 30.2	-0.5
	1.3nm,0.3s,baz=97,slow=7.5,SNR=71						
FITZ	**Fitzroy Crossi**	**52.40**	**263**	*e*P	P	19 19 33.8	0.0
	4.2nm,1.0s						
AKASG	**Malin Array Be**	**143.71**	**330**	PKP	PKPdf	19 29 44.1	-1.6
	1.2nm,0.4s,baz=43,slow=4.1,SNR=14						
GERES	**GERESS Array B**	**151.10**	**343**	PKPbc	PKPbc	19 30 04.9	+0.6
	0.2nm,0.4s,baz=54,slow=5.0,SNR=4.4						

*TIR **08** 19:17:58.7±0.9, 3920N×2036E, h8km±110km*
*NEIC **08** 19:18:00.9, 3927N×2016E, h0km, MD3.5(ATH), ML3.3(THE), After THE.*
*THE **08** 19:18:00.9, 3927N×2016E, h0km, ML3.3*
*ISCJB **08** 19:18:01.3±0.5, 3927N±002×2027E±004, h10km, Error ellipse: s-maj=4.3km s-min=2.8km az=165.3*
*ATH **08** 19:18:01.0, 3922N×2029E, h14km, MD3.5/5*
*CSEM **08** 19:18:01.7±0.2, 3928N×2026E, h2km, ML3.3, Error ellipse: s-maj=5.0km s-min=3.4km az=64.0*

ISC 08 19:18:01.5±0.6, 3926N±002×2026E±004, h7km±6km, n21, σ1§17/38, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**12**	*e*Pg	**Pg**	**19 18 06.0**	**-1.0**
IGT				*e*Sg	**Sg**	**19 18 10.5**	**-0.2**
IGT	**Igoumenitsa**	**0.28**	**12**	*i* PG	**Pg**	**19 18 06.0**	**-1.0**
IGT				*i* SG	**Sg**	**19 18 10.5**	**-0.2**
KEK	**Kerkira**	**0.58**	**322**	*e*PB	**Pg**	**19 18 12.3**	**-0.4**
KEK				*e*SB	**Sg**	**19 18 22.5**	**+2.3**
JAN	**Janina**	**0.60**	**49**	*e*PB	**Pg**	**19 18 11.8**	**-1.4**
JAN				*e*SB	**Sg**	**19 18 20.7**	**-0.4**
LKD	**Levkas**	**0.63**	**151**	*e*Pg	**Pg**	**19 18 12.7**	**-1.0**
LKD				*e*Sg	**Sg**	**19 18 23.2**	**+1.4**
SRN	**Sarande**	**0.65**	**342**	*e*PG	**Pg**	**19 18 12.6**	**-1.5**
SRN				*i* SG	**Sg**	**19 18 24.1**	**+1.5**
VLS	**Valsamata**	**1.11**	**166**	*e*Pg	**Pg**	**19 18 22.4**	**-0.4**
VLS				*e*Sg	**Sg**	**19 18 39.8**	**+2.6**
VLS	**Valsamata**	**1.11**	**166**	*e*PG	**Pg**	**19 18 20.9**	**-1.9**
VLS				*e*SB	**Sb**	**19 18 37.0**	**-0.8**
VLS	**Valsamata**	**1.11**	**166**	*e*Pg	**Pg**	**19 18 22.4**	**-0.4**
VLS				*e*Sb	**Sb**	**19 18 37.0**	**-0.8**
EVR	**Evrytania**	**1.25**	**105**	*e*PB	**Pb**	**19 18 24.9**	**-0.6**
THL	**Klokotos Trika**	**1.39**	**77**	*e*Pg	**Pg**	**19 18 27.3**	**-1.0**
THL				*e*Sg	**Sg**	**19 18 49.0**	**+2.7**
THL	**Klokotos Trika**	**1.39**	**77**	*e*PB	**Pb**	**19 18 27.4**	**-0.5**
THL				*e*SB	**Sb**	**19 18 46.6**	**+0.7**
RLS	**Riolos of Patr**	**1.53**	**141**	*e*PG	**Pn**	**19 18 28.4**	**-0.9**
KZN	**Kozani**	**1.56**	**48**	*e*PB	**Pb**	**19 18 31.2**	**+0.4**
AGG	**Agios Georgios**	**1.63**	**98**	*e*Pb	**Pb**	**19 18 31.0**	**-0.9**
AGG				*e*Sb	**Sg**	**19 18 55.3**	**+1.5**
FNA	**Florina**	**1.75**	**29**	*e*Pb	**Pb**	**19 18 33.2**	**-0.8**
FNA				*e*Sb	**Sg**	**19 18 57.9**	**+0.2**
FNA	**Florina**	**1.75**	**29**	*i* PG	**Pn**	**19 18 33.2**	**+0.9**
FNA				*i* SG	**Sg**	**19 18 57.9**	**+0.2**
BIA	**Bitola**	**1.94**	**25**	*e*Pn	**Pg**	**19 18 37.5**	**-1.2**
BIA				*e*Sn	**Sg**	**19 19

CMCH	**Combarbala**	**1.45**	**25**⇑	*i*P	Pn	19 22 23.4	+1.4
CMCH				*i*S	Sn	19 22 42.7	+2.8
CMCH				AML	AML	19 22 47.4	
	comp=N,5μm,0.8s						
CMCH	**Combarbala**	**1.45**	**25**⇑	*i*P	Pn	19 22 23.4	+1.4
CMCH				*i*S	Sn	19 22 42.7	+2.8
FCH	**Farellones**	**1.47**	**125**⇓	*i*P	Pn	19 22 23.3	+1.1
FCH				*i*S	Sn	19 22 43.4	+3.2
FCH				AML	AML	19 22 44.4	
	comp=N,2μm,0.1s						
LNV	**Longovilo**	**1.48**	**170**⇑	*i*P	Pn	19 22 23.5	+1.0
PCH	**Pirque**	**1.52**	**138**⇓	*i*P	Pn	19 22 24.8	+1.8
PCH				*i*S	Sn	19 22 44.3	+2.8
SJCH	**San Jose de Ma**	**1.62**	**135**	*i*P	Pn	19 22 25.8	+1.4
SJCH				*i*S	Sn	19 22 46.8	+2.7
SJCH				AML	AML	19 22 56.5	
	comp=N,726nm,0.6s						
SJCH	**San Jose de Ma**	**1.62**	**135**	*i*P	Pn	19 22 25.8	+1.4
SJCH				*i*S	Sn	19 22 46.8	+2.7
CHCH	**Chadas Angostu**	**1.69**	**148**	*e*P	Pn	19 22 27.5	+2.2
LMEL	**Las Melosas**	**1.86**	**137**	*e*P	Pn	19 22 29.8	+2.1
LMEL				*e*S	Sn	19 22 53.2	+3.3
LMEL				AML	AML	19 22 59.0	
	comp=N,2μm,0.2s						
LMEL	**Las Melosas**	**1.86**	**137**	*e*P	Pn	19 22 29.8	+2.1
LMEL				*e*S	Sn	19 22 53.2	+3.3
CACH	**El Canelo**	**1.87**	**150**	*e*P	Pn	19 22 30.7	+2.9
CACH				*i*S	Sn	19 22 54.0	+3.7
OVCH	**Ovalle**	**1.93**	**14**	*e*P	Pn	19 22 29.8	+1.2
OVCH				*i*S	Sn	19 22 54.4	+2.7
OVCH				AML	AML	19 23 01.9	
	comp=N,970nm,0.5s						
OVCH	**Ovalle**	**1.93**	**14**	*e*P	Pn	19 22 29.8	+1.2
OVCH				*i*S	Sn	19 22 54.4	+2.7
CICH	**Cipreses**	**2.12**	**149**⇑	*i*P	Pn	19 22 34.1	+2.9
SFDO	**San Fernando**	**2.20**	**164**	*e*P	Pn	19 22 34.0	+1.7
SFDO				*e*S	Sn	19 23 00.5	+2.3
TLL	**Tololo Astrono**	**2.45**	**19**	*e*P	Pn	19 22 37.8	+2.0
TLL				AML	AML	19 23 22.3	
	comp=N,372nm,0.6s						
LCO	**Las Campanas**	**3.58**	**15**	*e*Pn	Pn	19 22 51.8	+0.5

IDC 08 19:22:49.7±9.5, 270N×6411E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=302.1km s-min=29.3km az=72.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.69**	**17**	P	P	19 31 19.5	-0.6
	0.7nm,0.8s,baz=190,slow=6.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**53.84**	**15**	P	P	19 32 14.4	+0.2
	2.1nm,0.8s,baz=215,slow=7.2,SNR=9.4						
SONM	**Songino Array**	**57.83**	**32**	P	P	19 32 43.5	+0.5
	0.7nm,0.7s,baz=216,slow=6.7,SNR=5.2						
WRA	**Warramunga Arr**	**72.42**	**112**	P	P	19 34 18.4	0.0
	1.8nm,0.9s,baz=289,slow=5.4,SNR=11						
ASAR	**Alice Springs**	**72.69**	**116**	P	P	19 34 20.2	+0.3
	0.7nm,0.8s,baz=290,slow=4.6,SNR=5.7						

MAN 08 19:51:41, 729N×12359E, h23km, mb4.1, ML2.9, MS2.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.59**	**339**	*e*P	Pb	19 51 54.6	+1.8
PAGZ				*e*S	Sb	19 52 04.4	+3.7
CTBH	**Cotabato--PC H**	**0.65**	**96**⇓	*i*P	Pb	19 51 53.7	0.0
CTBH				*i*S	Sb	19 52 02.6	+0.2
IPIL	**Ipil**	**1.13**	**296**⇑	*i*P	Pn	19 52 02.6	+1.2
IPIL				*i*S	Sb	19 52 18.4	+2.3
BUKP	**Musuan**	**1.57**	**68**	*e*P	Pn	19 52 09.1	+1.6

BJI 08 19:57:20.0, 2422N×9991E, h27km, ML3.7, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.73**	**70**	PG	Pn	19 58 07.3	+5.3
KMI				SG	Sn	19 58 41.9	+7.8
KMI				Smax			
	comp=N,190nm,0.8s						
KMI				Smax			
	comp=E,114nm,0.6s						
CD2	**Chengdu**	**7.49**	**26**	*e*P	Pn	19 59 10.7	+3.3
CD2				S	Sn	20 00 38.4	+7.0
CD2				SG	Sn	20 01 21.5	+50
CD2				Smax			
	comp=N,30nm,1.2s						
CD2				Smax			
	comp=E,30nm,1.6s						

*ISCJB **08** 20:06:32.9±1.5, 37.11N±006×716E±02, h158km±46km, Error ellipse: s-maj=30.5km s-min=9.0km az=170.9*
*NNC **08** 20:06:39.1±5.4, 3751N×7138E, h160km±69km, mb2.8, mpv3.8, Error ellipse: s-maj=47.4km s-min=27.0km az=16.0*

ISC 08 20:06:31.1±1.1, 3709N±006×712E±02, h141km±40km, n8, σ1§12/12, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.95**	**140**	*e*P	**Pn**	**20 07 57.8**	**+0.7**
THN				*e*S	**Sn**	**20 09 03.9**	**-0.3**
KK31	**Karatay Array**	**6.03**	**355**	⇑P	**Pn**	**20 08 01.1**	**+3.0**
	6.6nm,0.3s,baz=177,slow=12,SNR=290						
KK31				⇑S	**Sn**	**20 09 05.3**	**-0.7**
	5.6nm,0.3s,baz=170,slow=21,SNR=4.1						
TKM2	**Tokmak 2**	**6.73**	**29**	⇓P	**Pn**	**20 08 08.7**	**+1.2**
	1.8nm,0.5s						
TKM2				⇑S	**Sn**	**20 09 22.4**	**-0.5**
	7.0nm,1.2s						
SMLA	**Simla**	**7.73**	**138**	*i*P	**Pn**	**20 08 19.6**	**-1.4**
SMLA				*i*S	**Sn**	**20 09 38.6**	**-8.5**
SMLA				*ex*	x	20 09 44.7	
	comp=N,356nm,0.2s						
SMLA				*ex*	x	20 09 46.5	
	comp=E,282nm,0.5s						
KLP	**Kalpa**	**8.04**	**131**	*e*P	Px	20 08 10.3	
KLP				*e*S	Sx	20 09 41.7	
KLP				AML	AML	20 09 52.9	
	comp=E,62nm,0.3s						
KLP				AML	AML	20 09 53.2	
	comp=N,54nm,0.7s						
KUDL	**Kundal**	**9.97**	**152**	*e*S	Sx	20 10 23.9	
AB31	**Akbulak array**	**14.65**	**330**	⇑P	**Pn**	**20 09 55.0**	**+3.6**
	comp=N,0.5nm,0.3s,baz=149,slow=12,SNR=37						
AB31				⇑S	**Sn**	**20 12 32.9**	**-0.7**
	comp=N,1.2nm,0.6s						
AKTO	**Aktyubinsk**	**16.36**	**329**	⇓P	**Pn**	**20 10 18.2**	**+5.8**
	comp=N,0.2nm,0.5s						
AKTO				⇑S	**S**	**20 13 14.1**	**-0.3**
	comp=N,0.4nm,1.1s						

*ISCJB **08** 20:13:49.9±0.4, 2726S±004×6330W±005, h564km±5km, mb4.5/75, Error ellipse: s-maj=7.3km s-min=5.6km az=178.6*
*NEIC **08** 20:13:50.3±0.2, 2728S×6328W, mb4.6/47, Error ellipse: s-maj=5.3km s-min=5.1km az=160.0*
*IDC **08** 20:13:50.1±0.5, 2725S×6335W, h556km±5km, mb3.9/18, mb1 4.0/26, mb1mx3.9/28, mbtmp3.9/26, Error ellipse: s-maj=10.6km s-min=8.2km az=78.0*
*BJI **08** 20:13:53.5, 2730S×6330W, h560km*
*LDG **08** 20:13:55.0±1.0, 2649S×6322W, h592km±9km, Mb4.6/21, Error ellipse: s-maj=42.4km s-min=36.5km az=95.0*

ISC 08 20:13:50.1±0.4, 2726S±004×6331W±005, h555km±5km, h555km±6.6km: pP-P, n162, σ0§79/140, mb4.5/73, 4C-6D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**5.42**	**82**	P	**P**	**20 15 25.5**	**+1.6**
	20nm,0.3s,baz=235,slow=8.7,SNR=462						
CPUP				ScP	ScP	20 23 57.0	0.0
	0.3nm,0.3s,baz=5.9,slow=4.9,SNR=2.9						
CFAA	**Coronel Fontan**	**6.10**	**224**	P	**P**	**20 15 30.6**	**+0.9**
	8.1nm,0.3s,baz=46,slow=8.7,SNR=712						
CFAA				S	**S**	**20 16 50.1**	**-1.3**
	1.1nm,0.3s,baz=311,slow=22,SNR=16						
LCO	**Las Campanas**	**6.76**	**253**	*e*P	**P**	**20 15 36.2**	**+0.3**
	194nm,0.6s						
LVC	**Limon Verde**	**6.87**	**311**	P	**P**	**20 15 38.1**	**+1.0**
	26nm,0.3s,baz=124,slow=6.8,SNR=150						
LVC				S	**S**	**20 17 03.2**	**-1.5**
	74nm,0.3s,baz=311,slow=21,SNR=41						
LVC	**Limon Verde**	**6.87**	**311**	P	**P**	**20 15 38.1**	**+1.0**
LVC				S	**S**	**20 17 03.2**	**-1.5**
CPN1	**Cerro Paranal**	**6.90**	**291**⇑	*i*P	**P**	**20 15 38.1**	**+0.8**
CPN1				*i*S	**S**	**20 17 04.5**	**-0.6**
TLL	**Tololo Astrono**	**7.19**	**244**⇓	*i*P	**P**	**20 15 41.1**	**+1.1**
TLL				*i*S	**S**	**20 17 10.4**	**+0.3**
CEN1	**Los Morros**	**7.33**	**300**⇓	*i*P	**P**	**20 15 42.4**	**+1.0**
CEN1				*i*S	**S**	**20 17 11.6**	**-1.0**
ANCH	**Antofagasta**	**7.34**	**297**⇑	*i*P	**P**	**20 15 42.0**	**+0.5**
ANCH				*i*S	**S**	**20 17 12.2**	**-0.6**
PEL	**Peldehue**	**8.67**	**226**⇑	*i*P	**P**	**20 15 54.8**	**+0.3**
PEL				*i*S	**S**	**20 17 36.2**	**-0.4**
CLCH	**Cerro Calan**	**8.74**	**224**	*i*P	**P**	**20 15 55.2**	**+0.1**
CLCH				*i*S	**S**	**20 17 38.7**	**+0.8**
LMEL	**Las Melosas**	**8.86**	**220**⇓	*i*P	**P**	**20 15 57.3**	**+1.0**
TRQA	**Tornquist**	**10.83**	**174**	*e*Pn	**P**	**20 16 15.0**	**-1.3**
	29nm,1.0s						
SIV	**San Ignacio**	**11.40**	**11**	P	**P**	**20 16 23.1**	**+0.5**
	2.6nm,0.3s,baz=202,slow=9.4,SNR=190						
LPAZ	**La Paz**	**11.80**	**337**	P	**P**	**20 16 27.5**	**+0.8**
	1.5nm,0.3s,baz=146,slow=6.2,SNR=38						
LPAZ				S	**S**	**20 18 33.2**	**-2.2**
	0.6nm,0.3s,baz=291,slow=22,SNR=7.6						
LPAZ				ScP	ScP	20 24 04.8	+0.7
	0.2nm,0.3s,baz=260,slow=5.0,SNR=3.5						
LPAZ	**La Paz**	**11.80**	**337**	P	**P**	**20 16 27.5**	**+0.8**
LPAZ				S	**S**	**20 18 33.2**	**-2.2**
LPAZ				ScP	ScP	20 24 04.8	+0.7
PLCA	**Paso Flores**	**14.71**	**202**	P	**P**	**20 16 55.1**	**-1.2**
	0.9nm,0.3s,baz=21,slow=10,SNR=26						
PLCA				S	**S**	**20 19 27.0**	**-2.6**
	0.0nm,0.3s,baz=308,slow=22,SNR=1.7						
PLCA				PcP	PcP	20 21 27.2	+0.4
	0.3nm,0.3s,baz=304,slow=3.0,SNR=6.4						
PLCA				ScP	ScP	20 24 08.1	-0.4
	0.2nm,0.3s,baz=83,slow=0.4,SNR=10						
PLCA	**Paso Flores**	**14.71**	**202**	P	**P**	**20 16 55.1**	**-1.2**
PLCA				S	**S**	**20 19 27.0**	**-2.6**
PLCA				PcP	PcP	20 21 27.2	+0.4
PLCA				ScP	ScP	20 24 08.1	-0.4
SPB	**Sao Paulo**	**14.80**	**79**	*e*P	**P**	**20 16 56.4**	**-1.1**
BDFB	**Brasilia**	**18.32**	**54**	P	**P**	**20 17 31.6**	**+0.9**
	7.1nm,0.3s,baz=224,slow=15,SNR=77						
BDFB				S	**S**	**20 20 29.8**	**-0.3**
	baz=230,slow=27,SNR=3.9						
NNA	**Nana**	**19.80**	**317**	P	**P**	**20 17 44.7**	**+0.5**
	1.1nm,0.3s,baz=184,slow=9.4,SNR=2.6						
ROSC	**El Rosal**	**33.65**	**340**	P	**P**	**20 19 47.9**	**+2.5**
	7.4nm,0.4s,mb4.6,baz=76,slow=19,SNR=2.8						
SDV	**Santo Domingo**	**36.62**	**348**	P	**P**	**20 20 08.7**	**-1.4**
	14nm,0.3s,mb4.9,baz=133,slow=0.7,SNR=6.0						
PCRV	**Puerto La Cruz**	**37.23**	**358**	P	**P**	**20 20 15.5**	**+0.5**
	14nm,0.4s,mb4.8,baz=152,slow=1.6,SNR=10.0						
JTS	**JuntasAbangare**	**42.82**	**328**	P	**P**	**20 20 59.7**	**-0.1**
	3.1nm,0.6s,mb4.0,baz=334,slow=22,SNR=3.2						
TEIG	**Tepich**	**53.04**	**330**	P	**P**	**20 22 15.3**	**-0.5**
	7.0nm,0.4s,mb4.4,baz=66,slow=1.3,SNR=9.3						
SNAA	**Sanae**	**55.18**	**160**	*e*	**P**	**20 22 30.6**	**+0.4**
SNAA				*e*		20 22 32.2	
SNAA	**Sanae**	**55.18**	**160**	P	**P**	**20 22 30.4**	**+0.2**
	1.5nm,0.6s,mb3.4,baz=301,slow=6.3,SNR=17						
SNAA				PcP	PcP	20 23 23.1	+0.3
	0.8nm,0.6s,baz=245,slow=4.6,SNR=5.2						
SNAA				pP	pP	20 24 18.2	+1.6
	5.0nm,1.1s,baz=298,slow=6.5,SNR=14						
LIC	**Lamto**	**65.40**	**68**	*e*P	**P**	**20 23 38.0**	**-0.6**
	30nm,0.8s,mb4.5,baz=260						
LIC	**Lamto**	**65.40**	**68**⇓	*i*P	**P**	**20 23 38.0**	**-0.6**
	46nm,0.8s,mb5.0						
LIC	**Lamto**	**65.40**	**68**	*e*P	**P**	**20 23 38.0**	**-0.6**
	15nm,0.8s,mb4.5						
TKL	**Tuckaleechee C**	**65.49**	**342**	P	**P**	**20 23 38.1**	**-0.5**
	9.3nm,0.8s,mb4.3,baz=161,slow=9.3,SNR=1.7						
TIC	**Toumodi**	**65.64**	**68**⇓	*i*P	**P**	**20 23 39.6**	**-0.5**
	38nm,0.7s,mb5.1						
KIC	**Kosan Boka**	**65.71**	**68**⇓	*i*P	**P**	**20 23 40.2**	**-0.4**
	144nm,0.8s						
DBIC	**Dimbokro**	**65.79**	**68**	P	**P**	**20 23 40.8**	**-0.3**
	26nm,0.6s,mb4.9,baz=210,slow=7.2,SNR=56						
DBIC				PcP	PcP	20 24 06.2	-0.6
	1.4nm,0.5s,baz=214,slow=6.4,SNR=4.7						
DBIC	**Dimbokro**	**65.79**	**68**	P	**P**	**20 23 40.8**	**-0.3**
DBIC				PcP	PcP	20 24 06.2	-0.6
MIAR	**Mount Ida**	**67.82**	**333**	*e*P	**P**	**20 23 52.6**	**-0.5**
	3.7nm,0.4s,mb4.3						
SYO	**Syowa Base**	**69.31**	**158**⇑	*e*P	pP	20 25 55.5	+0.3
FVM	**French Village**	**69.70**	**337**	*e*P	**P**	**20 24 03.2**	**-1.1**
	12nm,0.8s,mb4.5						
CCM	**Cathedral Cave**	**70.05**	**337**	*e*P	**P**	**20 24 05.3**	**-1.1**
	12nm,0.6s,mb4.6						
VNDA	**Vanda**	**72.06**	**189**	P	**P**	**20 24 18.6**	**+0.9**
	0.7nm,0.9s,baz=169,slow=2.9,SNR=4.2						
VNDA				pP	pP	20 26 12.3	-0.1
	1.4nm,1.0s,baz=155,slow=4.9,SNR=3.7						
CBKS	**Cedar Bluff**	**74.03**	**331**	*e*P	**P**	**20 24 30.1**	**+0.7**
	48nm,1.1s,mb4.8						
JFWS	**Jewell Farm**	**74.10**	**340**	*e*P	**P**	**20 24 29.6**	**-0.1**
	37nm,0.6s,mb5.0						
TOA0	**Torodi Ar. Sit**	**74.72**	**66**	*e*P	**P**	**20 24 33.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**74.72**	**66**	P	**P**	**20 24 33.4**	**-0.5**
	31nm,0.6s,mb4.9,baz=274,slow=6.1,SNR=406						
TORD				pP	pP	20 26 31.7	+1.8
	3.1nm,0.9s,baz=249,slow=5.2,SNR=6.2						
TORD				PKiKP	PKiKP	20 30 17.9	-1.2
	0.3nm,0.7s,baz=269,slow=1.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**74.72**	**66**	P	**P**	**20 24 33.4**	**-0.5**
TORD				pP	pP	20 26 31.7	+1.8
BOSA	**Boshof**	**76.31**	**115**	P	**P**	**20 24 42.5**	**-0.1**
	13nm,0.6s,mb4.5,baz=258,slow=4.4,SNR=41						
MAW	**Mawson**	**77.33**	**162**	P	**P**	**20 24 46.8**	**-0.5**
	1.5nm,0.5s,mb3.7,baz=230,slow=6.3,SNR=6.4						
LBTB	**Lobatse**	**78.06**	**112**	*e*P	**P**	**20 24 51.9**	**-0.2**
	22nm,1.0s,mb4.4						
EYMN	**Ely**	**79.03**	**341**	*e*P	**P**	**20 24 55.6**	**-0.9**
	9.3nm,0.7s,mb4.2						
MSU	**Marysvale**	**79.81**	**323**	*e*P	**P**	**20 25 02.6**	**+1.7**
ARUT	**Antelope Range**	**79.97**	**322**	*e*P	**P**	**20 25 03.7**	**+1.9**
PDAR	**Pinedale Array**	**81.65**	**327**	P	**P**	**20 25 10.8**	**+0.4**
	3.9nm,0.7s,mb4.0,baz=123,slow=8.5,SNR=9.1						
SCHQ	**Schefferville**	**81.81**	**358**	P	**P**	**20 25 11.2**	**+0.4**
	11nm,0.7s,mb4.4,baz=190,slow=5.4,SNR=11						
ULM	**Lac du Bonnet**	**82.39**	**340**	P	**P**	**20 25 13.9**	**0.0**
	8.4nm,0.7s,mb4.3,baz=155,slow=7.3,SNR=8.0						
PBDV	**Barranco-do-Ve**	**82.58**	**41**	*e*P	**P**	**20 25 15.1**	**-0.1**
	37nm,1.5s,mb4.7						
PVAQ	**Vaqueiros**	**82.81**	**41**	*e*P	**P**	**20 25 16.7**	**+0.3**
	3.4nm,0.6s,mb4.0						
RRI2	**Red Ridge**	**82.94**	**327**	*e*P	**P**	**20 25 17.9**	**+1.0**
	3.4nm,0.6s,mb4.0						
TAM	**Tamanrasset**	**83.04**	**60**	*e*P	**P**	**20 25 18.5**	**+0.7**
EGRO	**El Granado**	**83.04**	**41**	P	**P**	**20 25 16.6**	**-0.9**
	59nm,2.0s,mb4.8						
PBEJ	**Beja**	**83.15**	**41**	*e*P	**P**	**20 25 18.5**	**+0.5**
	15nm,1.9s,mb4.2						
NVAR	**Mina Array Bea**	**83.16**	**320**	P	**P**	**20 25 17.5**	**-0.6**
	0.8nm,0.8s,baz=125,slow=5.6,SNR=4.3						
EVO	**Evora**	**83.40**	**40**	*e*P	**P**	**20 25 18.6**	**-0.7**
	26nm,0.9s,mb4.5						
ESPR	**Espera**	**83.57**	**43**	P	**P**	**20 25 20.4**	**+0.2**
	21nm,0.6s,mb4.8						
EMIN	**Mina Concepcio**	**83.67**	**42**	P	**P**	**20 25 20.7**	**0.0**
	23nm,0.8s,mb4.8						
PBAR	**Barrancos**	**83.73**	**41**	*e*P	**P**	**20 25 21.0**	**+0.1**
	25nm,1.5s,mb4.5						
PESTR	**Estremoz**	**83.87**	**40**	*e*P	**P**	**20 25 21.4**	**-0.2**
	18nm,1.8s,mb4.3						
PTOM	**Tomar**	**83.91**	**39**	*e*P	**P**	**20 25 22.7**	**+0.9**
	49nm,1.3s,mb4.9						
EMIJ	**Mijas**	**84.04**	**44**	P	**P**	**20 25 22.0**	**-0.5**
	20nm,1.1s,mb4.6						
EBAD	**Badajoz**	**84.13**	**41**	P	**P**	**20 25 22.8**	**-0.1**
	35nm,1.2s,mb4.8						
PMRV	**Marv??o**	**84.36**	**40**	*e*P	**P**	**20 25 23.9**	**-0.1**
	18nm,1.4s,mb4.4						
LSZ	**Lusaka**	**84.44**	**104**	*e*P	**P**	**20 25 26.5**	**+1.5**
	37nm,1.4s,mb4.7						
PCBR	**Castelo Branco**	**84.59**	**40**	*e*P	**P**	**20 25 25.0**	**-0.1**
	26nm,1.3s,mb4.6						
HLID	**Hailey**	**84.63**	**325**	*e*P	**P**	**20 25 26.4**	**+1.2**
	12nm,1.1s,mb4.3						
MCMT	**McKenzie Canyo**	**84.78**	**327**	*e*P	**P**	**20 25 27.3**	**+1.4**
ELOJ	**Sierra Loja**	**84.79**	**44**	P	**P**	**20 25 26.6**	**+0.5**
	3.4nm,0.5s,mb4.1						
PTO	**Porto**	**84.84**	**38**	*e*P	**P**	**20 25 26.9**	**+0.6**
ERON	**Agron**	**84.92**	**44**	P	**P**	**20 25 26.8**	**0.0**
	1.9nm,0.8s,mb3.7						
MTE	**Manteigas**	**84.93**	**39**	*e*P	**P**	**20 25 26.6**	**-0.1**
	26nm,1.8s,mb4.5						
PVIS	**Viseu**	**84.94**	**39**	*e*P	**P**	**20 25 26.8**	**0.0**
	29nm,1.5s,mb4.6						
ELUQ	**Luque**	**84.99**	**43**	P	**P**	**20 25 27.2**	**+0.1**
	7.2nm,0.4s,mb4.6						
EADA	**Adamuz**	**85.19**	**43**	P	**P**	**20 25 27.4**	**-0.6**
	13nm,1.4s,mb4.3						
ECOG	**Cogollos-Vega**	**85.23**	**44**	P	**P**	**20 25 28.0**	**-0.3**
	8.7nm,0.9s,mb4.3						
EBAN	**Banos Encina**	**85.67**	**43**	P	**P**	**20 25 30.2**	**-0.2**
	8.0nm,0.6s,mb4.5						
MVO	**Moncorvo**	**85.73**	**39**	*e*P	**P**	**20 25 30.6**	**0.0**
	24nm,2.3s,mb4.4						
EQES	**Quesada**	**85.87**	**44**	P	**P**	**20 25 30.0**	**-1.3**
	16nm,1.7s,mb4.4						
EHUE	**Huescar**	**86.17**	**44**	P	**P**	**20 25 32.8**	**0.0**
	3.6nm,0.8s,mb4.0						
PBRG	**Braganca**	**86.32**	**39**	*e*P	**P**	**20 25 34.0**	**+0.7**
	16nm,1.5s,mb4.4						
ERUA	**La Rua**	**86.49**	**38**	P	**P**	**20 25 32.3**	**-1.8**
	3.2nm,0.5s,mb4.2						
ESDC	**Sonseca Array**	**86.52**	**42**	P	**P**	**20 25 34.4**	**+0.1**
	1.4nm,0.5s,mb3.9,baz=237,slow=4.4,SNR=14						
EVIA	**Vianos**	**86.75**	**43**	P	**P**	**20 25 34.9**	**-0.5**
	4.4nm,0.5s,mb4.3						
GUD	**Guadarrama**	**87.03**	**41**	P	**P**	**20 25 36.9**	**+0.2**
	2.5nm,0.6s,mb4.0						
ETOR	**Torete**	**88.38**	**42**	P	**P**	**20 25 43.5**	**+0.5**
	12nm,0.6s,mb4.8						
SJPF	**Ste Jean**	**90.29**	**40**	*e*P	**P**	**20 25 52.3**	**+0.5**
	12nm,0.9s,mb4.4						
SJPF	**Ste Jean**	**90.29**	**40**	*e*P	**P**	**20 25 52.3**	**+0.5**
	5.9nm,0.9s,mb4.4						
ETSF	**Etsaut**	**90.54**	**41**	*e*P	**P**	**20 25 53.4**	**+0.4**
	7.4nm,0.7s,mb4.4						
ETSF	**Etsaut**	**90.54**	**41**	*e*P	**P**	**20 25 53.4**	**+0.4**
	3.7nm,0.7s,mb4.4						
EPF	**Esparros**	**91.14**	**41**	*e*P	**P**	**20 25 55.9**	**+0.1**
	12nm,1.0s,mb4.5						
EPF	**Esparros**	**91.14**	**41**	*e*P	**P**	**20 25 55.9**	**+0.1**
	5.8nm,1.0s,mb4.5						
ROSF	**Rostrenen**	**92.44**	**35**	*e*P	**P**	**20 26 00.9**	**-0.7**
	13nm,0.8s,mb4.7						
ROSF	**Rostrenen**	**92.44**	**35**	*e*P	**P**	**20 26 00.9**	**-0.7**
	6.4nm,0.8s,mb4.7						
LFF	**La Frestale**	**92.52**	**40**	*e*P	**P**	**20 26 01.9**	**-0.2**
	13nm,0.6s,mb4.8						
LFF	**La Frestale**	**92.52**	**40**	*e*P	**P**	**20 26 01.9**	**-0.2**
	6.7nm,0.6s,mb4.8						
KEST	**Kesra**	**92.80**	**51**	P	**P**	**20 26 03.9**	**+0.3**
	0.7nm,0.7s,mb3.8,baz=251,slow=18,SNR=3.6						
MFF	**Saint Martin d**	**93.03**	**38**	*e*P	**P**	**20 26 04.0**	**-0.3**
	13nm,0.9s,mb4.6						
MFF	**Saint Martin d**	**93.03**	**38**	*e*P	**P**	**20 26 04.0**	**-0.3**
	6.4nm,0.9s,mb4.7						
CAF	**Calviac**	**93.27**	**40**	*e*P	**P**	**20 26 05.4**	**-0.1**
	2.8nm,0.6s,mb4.2						
CAF	**Calviac**	**93.27**	**40**	*e*P	**P**	**20 26 05.4**	**-0.1**
	1.4nm,0.6s,mb4.2						
TCF	**Toulx Ste Croi**	**94.15**	**39**	*e*P	**P**	**20 26 09.0**	**-0.5**
	3.2nm,0.5s,mb4.4						
TCF	**Toulx Ste Croi**	**94.15**	**39**	*e*P	**P**	**20 26 09.0**	**-0.5**
	1.6nm,0.5s,mb4.4						
BGF	**Bois d'Agland**	**94.67**	**39**	*e*P	**P**	**20 26 11.5**	**-0.3**
	8.8nm,0.8s,mb4.7						
AVF	**Avril sur Loir**	**95.09**	**39**	*e*P	**P**	**20 26 13.3**	**-0.4**
	4.5nm,0.6s,mb4.5						
AVF	**Avril sur Loir**	**95.09**	**39**	*e*P	**P**	**20 26 13.3**	**-0.4**
	2.3nm,0.6s,mb4.5						
SMF	**Signal de Mont**	**95.28**	**40**	*e*P	**P**	**20 26 14.5**	**-0.1**
	14nm,0.7s,mb4.9						
SMF	**Signal de Mont**	**95.28**	**40**	*e*P	**P**	**20 26 14.5**	**-0.1**
	6.6nm,0.7s,mb4.9						
SSF	**Saint Saulge**	**95.33**	**39**	*e*P	**P**	**20 26 14.1**	**-0.7**
	4.9nm,0.6s,mb4.5						
SSF	**Saint Saulge**	**95.33**	**39**	*e*P	**P**	**20 26 14.1**	**-0.7**
	2.5nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**95.50**	**42**	*e*P	**P**	**20 26 16.2**	**+0.6**
	14nm,0.8s,mb5.0						
**

1.6nm,0.8s,baz=264,slow=1.3,SNR=14
SONM PKPab PKPab 20 33 20.7 +0.7
1.8nm,0.6s,baz=307,slow=4.0,SNR=10
GTA Gaotai 161.44 45 PKP PKPdf 20 32 48.5 +1.0

*MOS **08** 20:17:38.4±0.9, 4908N×15595E, h5km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=17.4km az=75.3*
KRSC 08 20:17:38.4±1.3, 4908N×15595E, h5km±5km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.61**	**4**	*e*PN	Pn	20 18 08.0	+0.6
SKR				*e*S	Sn	20 18 27.4	-1.1
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,170nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
ALID	**Alaid**	**1.81**	**352**	*e*P	Pn	20 18 10.4	+0.2
ALID				*i* S	Sn	20 18 33.8	+0.3
MIPR	**Malaya Ipel'ka**	**3.24**	**9**	P	Pn	20 18 31.7	+1.9
RUS	**Russkaya**	**3.73**	**25**	*e*P	Pn	20 18 38.3	+1.7
RUS				*i* S	Sn	20 19 22.9	+2.1
PET	**Petropavlovsk**	**4.30**	**22**	*e*PN	Pg	20 19 05.7	+4.9
PET				*e*S	Sn	20 19 38.5	+3.6
PET				smax			
	comp=N,30nm,0.5s						
AVH	**Avacha**	**4.54**	**22**	*e*P	Pn	20 18 50.3	+2.6
NLC	**Nalytchevo**	**4.62**	**26**	*e*P	Pn	20 18 50.0	+1.2
SPN	**Mys Shipunski**	**4.77**	**31**	*e*P	Pn	20 18 53.4	+2.5
SPN				*i* S	Sn	20 19 49.1	+2.6
GNL	**Ganaly**	**4.79**	**14**	*e*P	Pn	20 18 53.9	+2.8
MKZ	**Mys Kozlova**	**6.55**	**31**	*e*P	Pn	20 19 16.0	+0.7
MKZ				*i* S	Sn	20 20 28.2	-2.0

*ISCJB **08** 20:24:50.9±0.8, 2257S±007×678W±02, h138km±15km, mb3.8/2, Error ellipse: s-maj=23.7km s-min=11.4km az=179.7*
*IDC **08** 20:24:51.9±0.8, 2253S×6778W, h128km±18km, mb3.8/2, mb1 3.5/6, mb1mx3.4/18, mbtmp3.5/6, Error ellipse: s-maj=30.3km s-min=16.8km az=97.0*
ISC 08 20:24:52.0±0.8, 2258S±007×677W±01, h129km±15km, n7, σ0§92/10, mb3.8/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.08**	**268**	P	**Pn**	**20 25 16.0**	**+0.5**
	77nm,0.3s,baz=70,slow=6.0,SNR=1422						
LVC				S	**Sn**	**20 25 33.4**	**0.0**
	124nm,0.3s,baz=254,slow=19,SNR=86						
LPAZ	**La Paz**	**6.27**	**357**	P	**Pn**	**20 26 23.2**	**+1.1**
	1.0nm,0.3s,baz=157,slow=12,SNR=25						
LPAZ				S	**Sn**	**20 27 31.9**	**-0.6**
	baz=230,slow=24,SNR=2.3						
CFAA	**Coronel Fontan**	**9.00**	**183**	P	**Pn**	**20 26 57.5**	**-1.4**
	0.1nm,0.3s,baz=358,slow=10,SNR=6.1						
SIV	**San Ignacio**	**9.08**	**45**	P	**Pn**	**20 26 58.7**	**-1.4**
	8.1nm,0.3s,baz=241,slow=11,SNR=74						
SIV				S	**Sn**	**20 28 30.9**	**-10**
	0.8nm,0.3s,baz=242,slow=16,SNR=3.5						
CPUP	**Villa Florida**	**10.19**	**114**	P	**Pn**	**20 27 16.4**	**+1.4**
	0.5nm,0.3s,baz=279,slow=13,SNR=5.9						
DBIC	**Dimbokro**	**68.01**	**72**	P	**P**	**20 35 38.2**	**+0.4**
	1.0nm,0.5s,mb3.8,baz=227,slow=11,SNR=4.8						
TORD	**Torodi Ar. Bea**	**76.70**	**70**	P	**P**	**20 36 29.4**	**+0.1**
	1.6nm,0.7s,mb3.8,baz=255,slow=5.4,SNR=35						

*ISCJB **08** 20:34:48.3±2.7, 356N±0.1×688E±02, h11km±20km, Error ellipse: s-maj=29.9km s-min=7.6km az=147.3*
*NNC **08** 20:34:53.1±4.8, 3601N×6894E, h0km, mb3.4, mpv3.4, Error ellipse: s-maj=66.0km s-min=35.5km az=103.0*
ISC 08 20:34:48.7±3.5, 355N±01×688E±02, h7km±27km, n7, σ0§96/12, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.08**	**122**	P	**Pn**	**20 35 38.2**	**+0.4**
CEP				S	**Sn**	**20 36 16.0**	**+1.1**
THW	**Thamme Wali**	**3.66**	**137**	P	**Pn**	**20 35 45.7**	**0.0**
CHCP	**Chirah Chowk**	**4.14**	**115**	P	**Pn**	**20 35 51.8**	**-0.5**
KK31	**Karatay Array**	**7.71**	**10**	⇑Pn	**Pn**	**20 36 41.8**	**+0.5**
	0.9nm,0.4s,baz=197,slow=15,SNR=3.3						
KK31				⇓Sn	**Sn**	**20 38 08.3**	**-0.6**
	2.3nm,0.5s,baz=190,slow=21,SNR=3.6						
KK31				⇓Lg		20 38 39.5	
	4.6nm,0.6s						
SMLA	**Simla**	**8.27**	**119**	*i* P	**Pn**	**20 36 46.3**	**-2.7**
SMLA				*i* S	**Sn**	**20 38 15.7**	**-7.1**
SMLA				*i* S	**Sn**	**20 38 18.3**	**-4.5**
SMLA				*ex*	x	20 38 19.1	
	comp=E,482nm,0.3s						
SMLA				*ex*	x	20 38 19.8	
	comp=N,542nm,0.3s						
AB31	**Akbulak array**	**15.20**	**337**	⇑Pn	**Pn**	**20 38 23.7**	**+0.1**
	comp=N,0.4nm,0.3s						
AB31				⇓Sn	**Sn**	**20 41 11.5**	**-0.5**
	comp=N,0.1nm,0.3s						
BVA0	**Borovoye Array**	**17.56**	**3**	Pn	**Pn**	**20 38 55.2**	**+1.5**
	comp=N,0.6nm,1.5s,baz=160,slow=11,SNR=7.0						

*IDC **08** 20:45:48.9±1.9, 2432S×17989E, h510km±18km, mb3.4/6, mb1 3.6/6, mb1mx3.3/14, mbtmp3.4/6, Error ellipse: s-maj=25.6km s-min=18.9km az=0.0*
*ISCJB **08** 20:45:49.2±1.5, 244S±0.1×1798E±0.1, h519km±18km, mb3.9/7, Error ellipse: s-maj=20.3km s-min=17.3km az=149.1*
*NEIC **08** 20:45:50.5±1.5, 2458S×17990E, h532km±17km, mb4.1/3, Error ellipse: s-maj=26.3km s-min=15.1km az=185.0*
ISC 08 20:45:50.9±1.5, 246S±01×1798E±01, h528km±18km, n26, σ0§83/14, mb3.9/7, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.07**	**157**	P	**P**	**20 47 20.4**	**+0.4**
	135nm,0.3s,baz=81,slow=22,SNR=14						
URZ	**Urewera**	**13.84**	**189**	P	**P**	**20 48 45.2**	**-3.2**
	5.6nm,0.3s,baz=6.3,slow=4.2,SNR=19						
URZ				S	**S**	**20 51 14.4**	**-0.2**
	2.2nm,0.3s,baz=199,slow=22,SNR=13						
RPZ	**Rata Peaks**	**20.41**	**199**	P	**P**	**20 49 52.2**	**+0.6**
	17nm,0.6s,baz=8.5,slow=7.4,SNR=8.0						
CTA	**Charters Tower**	**31.33**	**271**	*e*P	**P**	**20 51 29.0**	**+0.8**
	6.9nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**34.34**	**249**	*e*P	**P**	**20 51 54.6**	**+1.1**
	4.7nm,1.8s,mb3.7						
STKA	**Stephens Creek**	**34.34**	**249**	P	**P**	**20 51 54.1**	**+0.6**
	1.6nm,0.5s,mb3.8,baz=87,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**41.78**	**261**	P	**P**	**20 52 54.5**	**+0.2**
	0.9nm,0.5s,mb3.6,baz=100,slow=7.4,SNR=21						
ASAR				ScP	ScP	20 57 40.3	+2.1
	0.3nm,0.8s,baz=105,slow=5.2,SNR=4.7						
WB2	**Warramunga Arr**	**42.20**	**267**	*e*P	**P**	**20 52 56.9**	**-0.7**
WRAB	**Tennant Creek**	**42.21**	**267**	*e*P	**P**	**20 52 56.7**	**-1.0**
WRA	**Warramunga Arr**	**42.21**	**267**	P	**P**	**20 52 57.0**	**-0.7**
	4.5nm,0.6s,mb4.2,baz=99,slow=8.3,SNR=34						
WRA				ScP	ScP	20 57 43.4	+3.4
	3.3nm,0.9s,baz=99,slow=4.1,SNR=14						
FITZ	**Fitzroy Crossi**	**50.63**	**266**	*e*P	**P**	**20 54 02.3**	**+0.8**
	4.2nm,0.6s,mb4.0						
PLCA	**Paso Flores**	**87.91**	**134**	P	**P**	**20 57 45.0**	**+0.6**
	1.3nm,0.8s,mb3.7,baz=344,slow=11,SNR=3.5						
PDAR	**Pinedale Array**	**93.28**	**44**	P	**P**	**20 58 08.4**	**-0.6**
	0.6nm,1.0s,mb3.6,baz=219,slow=3.8,SNR=3.9						
MKAR	**Makanchi Array**	**112.50**	**313**	PKiKP	PKiKP	21 03 25.3	-1.5
	0.2nm,0.5s,baz=153,slow=2.5,SNR=4.0						
BVAR	**Borovoye Array**	**120.84**	**318**	PKP	PKPdf	21 03 41.8	-0.9
	1.0nm,0.5s,baz=111,slow=2.5,SNR=8.7						
BOSA	**Boshof**	**121.73**	**206**	PKP	PKPdf	21 03 45.1	-0.2
	2.1nm,0.7s,baz=187,slow=14,SNR=3.7						
AKTK	**Aktyubinsk**	**128.68**	**316**	PKP	PKPdf	21 03 57.1	-0.7
AKTO	**Aktyubinsk**	**128.68**	**316**	PKP	PKPdf	21 03 57.1	-0.7
	1.0nm,0.7s,baz=16,slow=3.8,SNR=5.3						
ARCES	**ARCESS Array B**	**132.51**	**348**	PKP	PKPdf	21 04 03.5	-1.0
	1.1nm,0.7s,baz=90,slow=1.2,SNR=10.0						
NB2	**NORSAR Subarra**	**142.72**	**351**	PKP	PKPdf	21 04 19.5	-3.9
	comp=Z,1.5nm,1.1s,baz=21,slow=4.1						
NOA	**NORSAR Array B**	**142.72**	**351**	PKhKP		21 04 19.6	
	comp=Z,1.4nm,0.8s,baz=17,slow=4.8,SNR=4.7						
AKASG	**Malin Array Be**	**145.45**	**327**	PKPbc	PKPbc	21 04 28.1	-1.6
	comp=Z,1.3nm,0.4s,baz=45,slow=3.8,SNR=11						
CLL	**Collm**	**151.45**	**343**	⇑*i*PKPbc	PKPbc	21 04 44.3	-0.5
	comp=Z,8.0nm,0.9s						
BRG	**Berggiesshubel**	**151.57**	**341**	*i* P	PKPbc	21 04 45.1	0.0
	comp=Z,4.7nm,0.7s						
GERES	**GERESS Array B**	**153.43**	**339**	PKPbc	PKPbc	21 04 48.5	-0.7
	comp=Z,0.8nm,0.9s,baz=197,slow=3.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**168.50**	**189**	PKPab	PKPab	21 06 10.8	+0.2
	comp=Z,1.0nm,0.7s,baz=179,slow=2.1,SNR=5.9						

*BJI **08** 20:59:08.2, 878N×9361E, h34km, mb4.2*
*ISCJB **08** 20:59:11.4±2.0, 895N±008×937E±01, h47km±19km, mb4.1/20, Error ellipse: s-maj=18.2km s-min=11.6km az=157.0*
*NEIC **08** 20:59:14.0±1.7, 905N×9388E, h49km±17km, mb4.3/3, Error ellipse: s-maj=22.1km s-min=9.1km az=79.0*
*IDC **08** 20:59:14.9±3.7, 9.10N×9407E, h61km±34km, mb3.5/10, mb1 3.7/12, mb1mx3.5/24, mbtmp3.6/12, ML4.2/1, Error ellipse: s-maj=33.5km s-min=14.9km az=69.0*
ISC 08 20:59:07.6±7.6, 87N±01×936E±01, h13km±45km, n41, σ1§09/39, mb4.2/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.90**	**138**	P	**Pn**	**21 01 08.9**	**+6.7**
	1.5nm,0.3s,baz=337,slow=13,SNR=4.6						
CMAR	**Chiang Mai Arr**	**10.95**	**28**	P	**Pn**	**21 01 43.1**	**-1.0**
	0.5nm,0.3s,baz=212,slow=15,SNR=19						
SHL	**Shillong**	**16.82**	**355**	*e*P	**Pn**	**21 03 04.4**	**+1.5**
KMI	**Kunming**	**18.46**	**27**	P	**Pn**	**21 03 24.6**	**+1.3**
KMI				AP	pP	21 03 30.2	+3.3
KMI				XP	sP	21 03 33.6	+5.0
KMI				AMB	AMB		
	comp=Z,12nm,1.0s						
ODAN	**Odare**	**18.97**	**343**	*e*P	**Pn**	**21 03 28.8**	**-0.7**
	comp=Z,6.6nm,0.6s						
RAMN	**Ramite**	**19.30**	**341**	*e*P	**Pn**	**21 03 34.4**	**+1.0**
	comp=Z,38nm,0.7s						
TAPN	**Taplejung**	**19.34**	**344**	*e*P	**Pn**	**21 03 26.1**	**-7.8**
JIRN	**Jiri**	**20.10**	**340**	*e*P	**P**	**21 03 36.8**	**-4.2**
DMN	**Daman**	**20.43**	**338**	*e*P	**P**	**21 03 44.8**	**+0.1**
	comp=Z,27nm,1.0s						
GUN	**Gumba**	**20.43**	**340**	*e*P	**P**	**21 03 37.6**	**-7.1**
KKN	**Kakani**	**20.53**	**338**	*e*P	**P**	**21 03 43.2**	**-2.6**
GKN	**Gorkha**	**20.96**	**337**	*e*P	**P**	**21 03 46.7**	**-3.7**
LSA	**Lhasa**	**20.99**	**354**	P	**P**	**21 03 50.6**	**-0.1**
LSA	**Lhasa**	**20.99**	**354**	*e*P	**P**	**21 03 50.4**	**-0.3**
	comp=Z,9.1nm,0.7s						
KOLN	**Koldanda**	**21.17**	**335**	*e*P	**P**	**21 03 54.3**	**+1.6**
	comp=Z,15nm,0.8s,mb4.3						
DANN	**Dangsing**	**21.62**	**336**	*e*P	**P**	**21 03 52.6**	**-4.9**
	comp=Z,19nm,0.6s,mb4.7						
GTA	**Gaotai**	**31.04**	**9**	*e*P	**P**	**21 05 25.1**	**0.0**
GTA				AP	pP	21 05 30.2	+1.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.2						
BJT	**Baijiatuau**	**37.08**	**29**	*e*P	**P**	**21 06 17.7**	**+0.2**
BJI	**Beijing**	**37.10**	**29**	P	**P**	**21 06 17.9**	**+0.2**
BJI				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.9						
AML	**Almayashu**	**37.62**	**335**	*e*P	**P**	**21 06 23.8**	**+1.7**
	comp=Z,6.2nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**39.15**	**348**	P	**P**	**21 06 33.6**	**-1.2**
	comp=Z,1.4nm,0.9s,mb3.7,baz=166,slow=9.0,SNR=11						
SONM	**Songino Array**	**40.44**	**13**	P	**P**	**21 06 44.3**	**-1.4**
	comp=Z,0.9nm,0.9s,mb3.5,baz=190,slow=7.7,SNR=7.6						
SONM				PcP	PcP	21 08 48.2	-0.2
	comp=Z,0.6nm,0.8s,baz=157,slow=4.1,SNR=3.9						
KURK	**Kurchatov**	**43.66**	**346**	*e*P	**P**	**21 07 11.6**	**-0.2**
	comp=Z,3.6nm,1.1s,mb4.0						
ZAA0	**Zalesovo Array**	**45.64**	**353**	*e*P	**P**	**21 07 27.4**	**-0.2**
ZALV	**Zalesovo Beam**	**45.64**	**353**	P	**P**	**21 07 27.1**	**-0.5**
	comp=Z,3.4nm,0.7s,mb4.4,baz=175,slow=8.1,SNR=18						
RDF	**Al-Radifah**	**47.65**	**301**	*e*P	**P**	**21 07 45.5**	**+1.7**
	baz=277						
RDF				AMb	AMB	21 07 55.4	
	comp=Z,54nm,1.4s,mb5.4,baz=277						
NAY	**Al-Naaiem**	**48.00**	**302**	*e*P	**P**	**21 07 46.1**	**-0.4**
	baz=278						
NAY				AMb	AMB	21 07 41.0	
	comp=Z,20nm,1.6s,mb4.9,baz=278						
BVAR	**Borovoye Array**	**48.02**	**341**	P	**P**	**21 07 45.5**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=138,slow=5.4,SNR=6.0						
BVAR				PcP	PcP	21 09 14.7	+0.6
	comp=Z,0.5nm,0.7s,baz=123,slow=10,SNR=3.1						
MIB	**Mutribah**	**48.07**	**302**	*e*P	**P**	**21 07 46.1**	**-1.0**
	baz=279						
MIB				AMb	AMB	21 07 58.3	
	comp=Z,18nm,1.0s,mb5.1,baz=279						
RST	**Umm Al-Ruwaisa**	**48.27**	**302**	*e*P	**P**	**21 07 46.5**	**-2.1**
	baz=278						
RST				AMb	AMB	21 08 03.8	
	comp=Z,1.0nm,1.6s,mb3.6,baz=278						
WRA	**Warramunga Arr**	**49.17**	**126**	P	**P**	**21 07 54.8**	**-0.8**
	comp=Z,0.4nm,0.9s,mb3.5,baz=309,slow=8.4,SNR=2.7						
ASAR	**Alice Springs**	**50.85**	**130**	P	**P**	**21 08 08.9**	**+0.6**
	comp=Z,0.3nm,0.8s,mb3.3,baz=310,slow=5.9,SNR=3.4						
AKTK	**Aktyubinsk**	**50.96**	**331**	P	**P**	**21 08 08.6**	**-0.2**
AKTO	**Aktyubinsk**	**50.96**	**331**	P	**P**	**21 08 08.6**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.9,baz=149,slow=6.9,SNR=4.2						
ARCES	**ARCESS Array B**	**74.29**	**340**	P	**P**	**21 10 46.5**	**+2.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=104,slow=5.1,SNR=5.1						
BOSA	**Boshof**	**75.62**	**238**	P	**P**	**21 10 57.0**	**+4.3**
	comp=Z,2.5nm,0.8s,mb4.2,baz=112,slow=9.6,SNR=4.4						
GERES	**GERESS Array B**	**76.86**	**318**	P	**P**	**21 11 00.6**	**+1.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=80,slow=6.3,SNR=5.1						
NOA	**NORSAR Array B**	**78.74**	**331**	P	**P**	**21 11 09.7**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=94,slow=5.3,SNR=2.6						
BPAW	**Bear Paw Mtn.**	**92.90**	**23**	*e*P	**P**	**21 12 20.2**	**+0.2**
PLCA	**Paso Flores**	**145.17**	**201**	PKPbc	PKPbc	21 18 47.4	+2.6
	comp=Z,2.4nm,0.8s,baz=146,slow=6.0,SNR=6.8						
CPUP	**Villa Florida**	**147.37**	**234**	PKPbc	PKPbc	21 18 54.8	+3.0
	comp=Z,0.8nm,0.6s,baz=93,slow=7.7,SNR=3.2						

*IDC **08** 21:26:25.9±0.7, 3599N×008E, h0km, mb4.0/12, mb1 4.1/19, mb1mx4.0/33, mbtmp4.0/19, ML4.0/7, Error ellipse: s-maj=20.4km s-min=14.4km az=123.0*
*ISCJB **08** 21:26:26.3±0.2, 3603N±002×002E±001, h10km, mb4.1/17, Error ellipse: s-maj=2.6km s-min=1.7km az=178.2*
*CSEM **08** 21:26:26.0±0.1, 3601N×009E, h10km, mb4.4/5, ML3.9/4, Error ellipse: s-maj=1.6km s-min=1.2km az=169.0*
*NEIC **08** 21:26:27.7±0.3, 3592N×006E, h10km, mb4.2/6, Error ellipse: s-maj=4.9km s-min=3.6km az=162.0*
*MDD **08** 21:26:27.9±0.3, 3599N×009E, h0km, mb4.5/43, Error ellipse: s-maj=4.6km s-min=2.8km az=4.0, PRIMO*
*INMG **08** 21:26:27.0±1.1, 3597N×030E, h20km±12km, ML3.4, Error ellipse: s-maj=10.6km s-min=3.6km az=135.0*
*SFS **08** 21:26:28.0, 3592N×0.18E, h20km, ML4.5*
*MOS **08** 21:26:28.8±1.0, 3601N×0.10E, h33km, mb4.5/4, Error ellipse: s-maj=6.8km s-min=3.5km az=83.3*
*LDG **08** 21:26:30.0±0.2, 3609N×000W, h50km, Ml3.8/10, Error ellipse: s-maj=4.5km s-min=3.0km az=153.0*
*CRAAG **08** 21:26:30.6, 3608N×037E, Ml5.1*
*CNRM **08** 21:26:34.7, 3580N×0.11W, h30km, MD4.6*
*SZGRF **08** 21:26:42.1, 3664N×099E, h33km, Northern Algeria*
ISC 08 21:26:28.2±0.2, 3600N±002×000E±001, h10km, n275, σ1§32/401, mb4.1/17, 6C-5D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKGL	**Djebel Kef Gue**	**0.52**	**85**	P	**Pg**	**21 26 36.1**	**-2.2**
OJGS	**Djebel Guires**	**0.78**	**129**	P	**Pg**	**21 26 43.8**	**+0.6**
EANR	**`Ain N'Sour**	**0.89**	**93**	P	**Pg**	**21 26 42.5**	**-2.8**
ECHF	**Ech Chlef**	**1.09**	**81**	P	**Pb**	**21 26 45.7**	**-3.5**
ECHA	**Ech Chlef**	**1.11**	**82**	P	**Pb**	**21 26 45.7**	**-3.8**
ETRT	**Tiaret**	**1.22**	**119**	P	**Pn**	**21 26 48.0**	**-3.2**
EBNR	**Beni Rached**	**1.27**	**76**	P	**Pn**	**21 26 49.5**	**-2.5**
CART	**Cartagena**	**1.78**	**333**	⇓P	**Pn**	**21 26 57.1**	**-1.9**
CART				S	**Sn**	**21 27 17.3**	**-4.4**
CART	**Cartagena**	**1.78**	**333**	*i* P	**Pn**	**21 26 57.1**	**-1.9**
CART				*e*S	**Sn**	**21 27 17.3**	**-4.4**
CART	**Cartagena**	**1.78**	**333**	*e*Pn	**Pn**	**21 26 57.2**	**-1.8**
ENIJ	**Nijar**	**2.03**	**299**	P	**Pn**	**21 27 01.7**	**-0.7**
	18nm,0.1s,SNR=31						
ENIJ				S	**Sn**	**21 27 28.7**	**+0.9**
	47nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.10**	**332**	P	**Pn**	**21 27 02.1**	**-1.2**
	46nm,0.1s,SNR=7.9						
EMUR				S	**Sn**	**21 27 27.8**	**-1.6**
	89nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.10**	**332**	P	**Pn**	**21 27 02.1**	**-1.2**
	46nm,0.1s,SNR=7.9						
EMUR				S	**Sn**	**21 27 27.8**	**-1.7**
	89nm,0.2s,SNR=7.9						
EMHD	**Djebel Mahouad**	**2.40**	**84**	P	**Pn**	**21 27 05.0**	**-2.5**
EALB	**Alboran**	**2.46**	**270**	P	**Pn**	**21 27 08.0**	**-0.4**
	30nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**21 27 39.8**	**+1.2**
	29nm,0.2s,SNR=7.9						
EALB	**Alboran**	**2.46**	**270**	P	**Pn**	**21 27 08.0**	**-0.4**
	30nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**21 27 39.8**	**+1.3**
	29nm,0.2s,SNR=7.9						
ZAI	**Zaio**	**2.47**	**246**	*i* P	**Pn**	**21 27 08.5**	**+0.1**
ZAI				*i* S	**Sn**	**21 27 37.0**	**-1.6**
MELI	**Melilla**	**2.49**	**255**	P	**Pn**	**21 27 02.5**	**-6.3**
MELI				S	**Sn**	**21 27 34.8**	**-4.5**
MELI	**Melilla**	**2.49**	**255**	*e*P	**Pn**	**21 27 02.5**	**-6.3**
MELI				*e*S	**Sn**	**21 27 34.8**	**-4.4**
EBER	**Berja**	**2.50**	**292**	P	**Pn**	**21 27 08.6**	**-0.3**
	SNR=7.9						
EBER				S	**Sn**	**21 27 41.9**	**+2.4**
	55nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.50**	**292**	P	**Pn**	**21 27 08.6**	**-0.3**
	SNR=7.9						
EBER				S	**Sn**	**21 27 41.9**	**+2.5**
	55nm,0.2s,SNR=7.9						
ABA	**Alger-Bouzarea**	**2.58**	**71**	P	**Pn**	**21 27 09.0**	**-0.9**
EBEN	**Beniarda**	**2.71**	**356**	P	**Pn**	**21 27 10.3**	**-1.5**
	12nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**21 27 44.3**	**-0.3**
	28nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**2.71**	**356**	P	**Pn**	**21 27 10.3**	**-1.5**
	12nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**21 27 44.3**	**-0.3**
	28nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**2.71**	**356**	P	**Pn**	**21 27 10.3**	**-1.5**
EBEN				S	**Sn**	**21 27 44.3**	**-0.3**
EHUE	**Huescar**	**2.76**	**312**	P	**Pn**	**21 27 13.5**	**+1.0**
	11nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**21 27 45.9**	**0.0**
	18nm,0.2s,SNR=7.9						
ABMS	**Boumerdes**	**2.91**	**74**	P	**Pn**	**21 27 12.5**	**-1.9**
ETOB	**Tobarra**	**2.92**	**335**	P	**Pn**	**21 27 14.9**	**+0.3**
	126nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**21 27 49.5**	**-0.2**
	163nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**2.92**	**335**	P	**Pn**	**21 27 14.9**	**+0.3**
	126nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**21 27 49.5**	**-0.3**
	163nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**3.00**	**287**	P	**Pn**	**21 27 16.0**	**+0.3**
	25nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**21 27 50.4**	**-1.3**
	22nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.02**	**295**	P	**Pn**	**21 27 17.5**	**+1.4**
	17nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**21 27 52.8**	**+0.5**
	8.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.06**	**307**	P	**Pn**	**21 27 18.7**	**+2.2**
	46nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**21 27 53.4**	**+0.3**
	80nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.06**	**307**	P	**Pn**	**21 27 18.7**	**+2.2**
	46nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**21 27 53.4**	**+0.3**
	80nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.14**	**295**	P	**Pn**	**21 27 19.4**	**+1.7**
	9.5nm,0.1s,SNR=7.9						
ECOG				S	**Sn**	**21 27 56.1**	**+0.8**
	12nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.21**	**19**	P	**Pn**	**21 27 17.4**	**-1.2**
	26nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**21 27 54.2**	**-2.7**
	65nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.21**	**19**	P	**Pn**	**21 27 17.4**	**-1.2**
	26nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**21 27 54.2**	**-2.7**
	65nm,0.1s,SNR=7.9						
ERON	**Agron**	**3.23**	**290**	P	**Pn**	**21 27 20.1**	**+1.2**
	10nm,0.2s,SNR=7.9						
TOU	**Touzarine**	**3.23**	**253**	*e*P	**Pn**	**21 27 21.0**	**+2.0**
TOU				*e*S	**Sn**	**21 27 54.5**	**-3.0**
MPAL	**Palemas**	**3.31**	**258**	*e*P	**Pn**	**21 27 21.0**	**+1.1**
MPAL				*i* S	**Sn**	**21 27 55.0**	**-4.3**
EVIA	**Vianos**	**3.31**	**324**	P	**Pn**	**21 27 20.1**	**+0.1**
	27nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**21 27 59.9**	**+0.5**
	111nm,0.1s,SNR=7.9						
**

ESDC Sonseca Array 4.83 321 P **Pn** **21 27 40.7 -0.2**
12nm,0.1s,SNR=7.9
ESDC S **Sn** **21 28 33.9 -3.0**
0.4nm,0.1s,SNR=7.9
RSA Sarsar 4.89 259 P **Pn** **21 27 42.0 +0.3**
RSA S **Sn** **21 28 34.0 -4.4**
RSA Sarsar 4.89 259 *e*P **Pn** **21 27 42.0 +0.3**
PAB San Pablo 4.95 317 *e*P **Pn** **21 27 43.4 +0.9**
PAB *e* 21 28 34.6
PAB pmax pmax
comp=Z,42nm,0.7s
PAB San Pablo 4.95 317 *e*Pn **Pn** **21 27 43.4 +0.9**
comp=Z,42nm,0.7s
PAB *e*Sn **Sn** **21 28 34.6 -5.1**
PAB San Pablo 4.95 317 *e*Pn **Pn** **21 27 43.4 +1.0**
comp=Z,42nm,0.7s
PAB *e*Sn **Sn** **21 28 34.6 -5.1**
ERTA Horta de San J 4.96 3 P **Pn** **21 27 42.1 -0.6**
comp=Z,3.1nm,0.2s,SNR=7.9
ERTA S **Sn** **21 28 35.0 -5.1**
comp=Z,5.7nm,0.2s,SNR=7.9
ERTA Horta de San J 4.96 3 P **Pn** **21 27 42.1 -0.6**
comp=Z,3.1nm,0.2s,SNR=7.9
ERTA S **Sn** **21 28 35.0 -5.1**
comp=Z,5.7nm,0.2s,SNR=7.9
MDT Midelt 4.96 232 Pn **Pn** **21 27 43.5 +0.8**
comp=Z,3.9nm,0.3s,baz=62,slow=16,SNR=156
MDT Sn **Sn** **21 28 41.2 +1.1**
comp=Z,3.1nm,0.3s,baz=83,slow=23,SNR=4.4
MIF Mishlifen 5.02 241 P **Pn** **21 27 46.0 +2.4**
MIF S **Sn** **21 28 35.0 -6.7**
MIF Mishlifen 5.02 241 *i*P **Pn** **21 27 46.0 +2.4**
ETOR Torete 5.08 342 P **Pn** **21 27 45.7 +1.3**
comp=Z,14nm,0.2s,SNR=7.9
ETOR S **Sn** **21 28 40.0 -3.1**
comp=Z,41nm,0.2s,SNR=7.9
ETOR Torete 5.08 342 P **Pn** **21 27 45.7 +1.4**
ETOR S **Sn** **21 28 40.0 -3.0**
comp=Z,41nm,0.2s,SNR=7.9
ETOR S **Sn** **21 28 40.0 -3.0**
CZD Col de Zad 5.11 236 P **Pn** **21 27 47.0 +2.3**
CZD S **Sn** **21 28 38.0 -5.7**
CZD Col de Zad 5.11 236 *i*P **Pn** **21 27 47.0 +2.3**
CTEI Djebel Teioual 5.19 87 P **Pn** **21 27 46.0 +0.2**
CASM Ain Smara 5.26 85 P **Pn** **21 27 45.0 -1.8**
ZFT Errachidia 5.36 224 P **Pn** **21 27 49.0 +0.9**
ZFT S **Sn** **21 28 43.0 -6.9**
ZFT Errachidia 5.36 224 *i*P **Pn** **21 27 49.0 +0.9**
EPOB Poblet 5.42 9 P **Pn** **21 27 48.0 -0.9**
comp=Z,20nm,0.1s,SNR=7.9
EPOB S **Sn** **21 28 46.4 -4.9**
comp=Z,11nm,0.2s,SNR=7.9
EPOB Poblet 5.42 9 P **Pn** **21 27 48.0 -0.9**
comp=Z,20nm,0.1s,SNR=7.9
CKFL Kef-Lekhel 5.45 84 P **Pn** **21 27 49.5 +0.1**
CAEH 'Ain El Ouahch 5.58 80 P **Pn** **21 27 50.0 -1.2**
EMIN Mina Concepcio 5.64 290 P **Pn** **21 27 51.9 -0.1**
comp=Z,2.7nm,0.2s,SNR=7.9
EMIN S **Sn** **21 28 54.4 -2.4**
comp=Z,0.8nm,0.2s,SNR=7.9
EMIN Mina Concepcio 5.64 290 P **Pn** **21 27 51.9 -0.1**
comp=Z,2.7nm,0.2s,SNR=7.9
GUD Guadarrama 5.68 326 P **Pn** **21 27 54.0 +1.5**
comp=Z,6.9nm,0.2s,SNR=7.9
GUD S **Sn** **21 28 56.1 -1.7**
comp=Z,3.0nm,0.2s,SNR=7.9
ESAC San Caprasio 5.73 356 P **Pn** **21 27 53.7 +0.4**
comp=Z,7.8nm,0.2s,SNR=7.3
ESAC S **Sn** **21 28 56.1 -2.9**
comp=Z,20nm,0.2s,SNR=7.9
ESAC San Caprasio 5.73 356 P **Pn** **21 27 53.7 +0.4**
comp=Z,7.8nm,0.2s,SNR=7.3
CMAH Djebel Manchou 6.02 82 P **Pn** **21 27 54.0 -3.3**
PBAR Barrancos 6.04 293 *e*Pn **Pn** **21 27 57.9 +0.4**
PBAR *e*Sn **Sn** **21 29 06.4 -0.2**
PBAR A 21 29 40.9
comp=Z,20nm,0.4s
PBAR Barrancos 6.04 293 P **Pn** **21 27 57.9 +0.4**
PBAR S **Sn** **21 29 06.4 -0.2**
comp=Z,9.9nm,0.4s
KIB El Ksiba 6.05 237 P **Pn** **21 28 00.0 +2.3**
KIB S **Sn** **21 29 02.0 -5.0**
KIB El Ksiba 6.05 237 *i*P **Pn** **21 28 00.0 +2.3**
ABSA Djebel Ababsia 6.05 85 P **Pn** **21 27 56.5 -1.2**
CABS Djebel Ababsia 6.05 85 P **Pn** **21 27 56.5 -1.2**
EGRO El Granado 6.20 287 P **Pn** **21 28 00.0 +0.3**
comp=Z,1.8nm,0.1s,SNR=7.9
EGRO S **Sn** **21 29 08.4 -2.4**
comp=Z,0.7nm,0.1s,SNR=7.9
EGRO El Granado 6.20 287 P **Pn** **21 28 00.0 +0.2**
comp=Z,1.8nm,0.1s,SNR=7.9
EGRO El Granado 6.20 287 P **Pn** **21 28 00.0 +0.3**
EGRO S **Sn** **21 29 08.4 -2.4**
EBAD Badajoz 6.23 298 P **Pn** **21 28 00.9 +0.8**
comp=Z,3.7nm,0.2s,SNR=7.9
EBAD S **Sn** **21 29 08.4 -2.9**
comp=Z,0.3nm,0.3s,SNR=7.9
EBAD Badajoz 6.23 298 P **Pn** **21 28 00.9 +0.8**
comp=Z,3.7nm,0.2s,SNR=7.9
PVAQ Vaqueiros 6.36 285 *e*Pn **Pn** **21 28 02.1 +0.2**
PVAQ *e*Sn **Sn** **21 29 12.3 -2.3**
PVAQ A 21 29 38.0
comp=Z,10nm,0.7s
PVAQ Vaqueiros 6.36 285 P **Pn** **21 28 02.1 +0.2**
PVAQ S **Sn** **21 29 12.3 -2.3**
comp=Z,5.2nm,0.7s
PBDV Barranco-do-Ve 6.50 283 *e*Pn **Pn** **21 28 04.7 +0.8**
PBDV *e*Sn **Sn** **21 29 18.0 -0.1**
PBDV A 21 29 48.9
comp=Z,8.7nm,0.5s
PBDV Barranco-do-Ve 6.50 283 P **Pn** **21 28 04.7 +0.8**
PBDV S **Sn** **21 29 18.0 -0.1**
comp=Z,4.3nm,0.5s
VALF Valcebollere 6.59 13 *e*P **Pn** **21 28 06.2 +1.2**
PBEJ Beja 6.62 290 *e*Pn **Pn** **21 28 05.9 +0.5**
PBEJ *e*Sn **Sn** **21 29 21.0 +0.1**
PBEJ A 21 29 38.5
comp=Z,9.1nm,0.7s
PBEJ Beja 6.62 290 P **Pn** **21 28 05.9 +0.5**
PBEJ S **Sn** **21 29 21.0 +0.1**
comp=Z,4.6nm,0.7s
EBIE Bielsa 6.68 1 P **Pn** **21 28 07.5 +1.2**
comp=Z,0.7nm,0.2s,SNR=7.9
EBIE S **Sn** **21 29 15.8 -6.7**
comp=Z,0.6nm,0.2s,SNR=7.9
EBIE Bielsa 6.68 1 P **Pn** **21 28 07.5 +1.2**
comp=Z,0.7nm,0.2s,SNR=7.9
PESTR Estremoz 6.69 298 *e*Pn **Pn** **21 28 07.1 +0.7**
PESTR *e*Sn **Sn** **21 29 20.1 -2.5**
PESTR A 21 30 16.7
comp=Z,23nm,0.4s
PMRV Marv??o 6.79 303 *e*Pn **Pn** **21 28 08.7 +0.9**
PMRV *e*Sn **Sn** **21 29 23.9 -1.3**
PMRV A 21 29 59.9
comp=Z,35nm,0.3s
RESF Ens 6.81 2 *e*P **Pn** **21 28 10.5 +2.4**
EJON La Jonquera 6.82 18 P **Pn** **21 28 07.9 -0.3**
comp=Z,0.1nm,0.2s,SNR=7.9
EJON S **Sn** **21 29 18.1 -7.8**
comp=Z,1.4nm,0.2s,SNR=7.9
EJON La Jonquera 6.82 18 P **Pn** **21 28 07.9 -0.3**
comp=Z,0.1nm,0.2s,SNR=7.9
FILF Fillols 6.85 16 *e*P **Pn** **21 28 08.2 -0.4**
IUNC Unciti 6.85 351 P **Pn** **21 28 10.4 +1.8**
comp=Z,2.9nm,0.1s,SNR=7.9
IUNC Unciti 6.85 351 P **Pn** **21 28 10.4 +1.8**
comp=Z,2.9nm,0.1s,SNR=7.9
EVO Evora 6.88 294 *e*P **Pn** **21 28 10.1 +1.1**
EVO *e*Sn **Sn** **21 29 20.2 -7.1**
comp=Z,47nm,0.7s
EVO Evora 6.88 294 *e*Pn **Pn** **21 28 09.2 +0.2**
EVO A 21 30 11.8
comp=Z,18nm,1.1s
EARA Aranguren 6.88 350 P **Pn** **21 28 08.8 -0.2**
comp=Z,2.3nm,0.2s,SNR=7.9
VIEF Viey 6.88 0 *e*P **Pn** **21 28 10.1 +1.1**
MELF Melles 6.89 5 *e*P **Pn** **21 28 10.7 +1.5**
ETSF Etsaut 6.91 357 *e*P **Pn** **21 28 10.3 +0.9**
SNR=1.0
ETSF *e*Sn **Sn** **21 29 18.5 -10**
comp=Z,29nm,0.6s
ETSF Etsaut 6.91 357 P **Pn** **21 28 10.3 +0.9**
ETSF S **Sn** **21 29 18.5 -10**
comp=Z,15nm,0.6s
EVOP Sao Brissos 6.96 294 *e*P **Pn** **21 28 10.1 0.0**
EVOP *e*Sn **Sn** **21 29 20.2 -9.1**
comp=Z,24nm,0.7s
EORO Oroz-Betelu 6.96 352 P **Pn** **21 28 10.5 +0.3**
comp=Z,3.3nm,0.3s,SNR=7.9
EORO S **Sn** **21 29 24.2 -5.2**
comp=Z,4.7nm,0.3s,SNR=7.9
EORO Oroz-Betelu 6.96 352 P **Pn** **21 28 10.5 +0.3**
comp=Z,3.3nm,0.3s,SNR=7.9
EPF Esparros 7.03 2 *e*P **Pn** **21 28 11.8 +0.7**
SNR=1.0
EPF *e*Sn **Sn** **21 29 21.8 -9.3**
comp=Z,14nm,0.3s
EPF Esparros 7.03 2 *e*P **Pn** **21 28 11.8 +0.7**
SNR=1.0
EPF *e*Sn **Sn** **21 29 21.8 -9.3**
comp=Z,6.8nm,0.3s
LABF Labassere 7.04 0 *e*P **Pn** **21 28 12.9 +1.6**
IUSE Utxeti 7.05 351 P **Pn** **21 28 12.7 +1.4**
comp=Z,1.0nm,0.2s,SNR=7.9
IUSE Utxeti 7.05 351 P **Pn** **21 28 12.7 +1.4**
comp=Z,1.0nm,0.2s,SNR=7.9
PCBR Castelo Branco 7.05 305 *e*Pn **Pn** **21 28 11.9 +0.5**
PCBR *e*Sn **Sn** **21 29 29.4 -2.1**
PCBR A 21 29 32.4
comp=Z,38nm,0.9s
PCBR Castelo Branco 7.05 305 P **Pn** **21 28 11.9 +0.5**
PCBR S **Sn** **21 29 29.4 -2.1**
comp=Z,19nm,0.9s
REYF Montagne du Re 7.07 358 *e*P **Pn** **21 28 13.5 +1.8**
LARF Larrau 7.08 354 *e*P **Pn** **21 28 13.3 +1.6**
ATE Arette 7.10 356 *e*P **Pn** **21 28 13.6 +1.5**
SJPF Ste Jean 7.17 353 *e*P **Pn** **21 28 14.8 +1.8**
SNR=1.0
SJPF *e*Sn **Sn** **21 29 25.6 -8.9**
comp=Z,17nm,0.4s,SNR=1.0
SJPF Ste Jean 7.17 353 *e*P **Pn** **21 28 14.8 +1.8**
SNR=1.0
SJPF *e*Sn **Sn** **21 29 25.6 -8.9**
comp=Z,8.5nm,0.4s,SNR=1.0
PTEO Sao Teotonio 7.17 285 *e*Pn **Pn** **21 28 13.9 +0.8**
PTEO *e*Sn **Sn** **21 29 33.5 -1.1**
PTEO A 21 29 44.4
comp=Z,16nm,0.3s
PTEO Sao Teotonio 7.17 285 P **Pn** **21 28 13.9 +0.8**
PTEO S **Sn** **21 29 33.5 -1.1**
comp=Z,8.0nm,0.3s
PFVI Vila Bisbo 7.20 282 *e*Pn **Pn** **21 28 14.5 +1.1**
PFVI *e*Sn **Sn** **21 29 34.3 -0.9**
PFVI A 21 29 49.3
comp=Z,16nm,0.6s
PFVI Vila Bisbo 7.20 282 P **Pn** **21 28 14.5 +1.1**
PFVI S **Sn** **21 29 34.3 -0.9**
comp=Z,7.8nm,0.6s
ELIZ Elizondo 7.26 351 P **Pn** **21 28 15.7 +1.5**
comp=Z,9.5nm,0.2s,SNR=7.9
ELIZ S **Sn** **21 29 32.4 -4.2**
comp=Z,1.7nm,0.2s,SNR=7.9
EALK Alkurruntz 7.31 351 P **Pn** **21 28 16.6 +1.6**
comp=Z,6.7nm,0.2s,SNR=7.9
EALK S **Sn** **21 29 33.2 -4.7**
comp=Z,2.8nm,0.2s,SNR=7.9
OSSF Osses 7.32 353 *e*P **Pn** **21 28 16.3 +1.3**
MTE Manteigas 7.39 309 *e*Sn **Sn** **21 29 38.3 -1.7**
MTE A 21 30 18.2
comp=Z,34nm,0.4s
MTE Manteigas 7.39 309 S **Sn** **21 29 38.3 -1.7**
comp=Z,17nm,0.4s
MTE Manteigas 7.39 309 *e*Pn **Pn** **21 28 17.4 +1.3**
MTE *e*Sn **Sn** **21 29 38.6 -1.3**
ALMR Almeirim 7.51 297 *e*P **Pn** **21 28 18.3 +0.7**
MTLF Montolieu 7.53 12 *e*P **Pn** **21 28 18.7 +0.7**
SNR=1.0
MTLF *e*Sn **Sn** **21 29 33.8 -10**
comp=Z,4.6nm,0.3s,SNR=1.0
MTLF Montolieu 7.53 12 *e*P **Pn** **21 28 18.7 +0.7**
SNR=1.0
MTLF *e*Sn **Sn** **21 29 33.8 -10**
comp=Z,2.3nm,0.3s,SNR=1.0
MVO Moncorvo 7.55 315 *e*Pn **Pn** **21 28 19.6 +1.4**
MVO *e*Sn **Sn** **21 29 41.5 -2.3**
MVO A 21 30 32.6
comp=Z,25nm,0.6s
MVO Moncorvo 7.55 315 P **Pn** **21 28 19.6 +1.4**
MVO S **Sn** **21 29 41.5 -2.3**
comp=Z,13nm,0.6s
PTOM Tomar 7.58 301 *e*Pn **Pn** **21 28 19.3 +0.7**
PTOM *e*Sn **Sn** **21 29 42.7 -1.9**
PTOM A 21 30 35.2
comp=Z,41nm,0.7s
PTOM Tomar 7.58 301 P **Pn** **21 28 19.3 +0.7**
PTOM S **Sn** **21 29 42.7 -1.9**
comp=Z,20nm,0.7s
KEST Kesra 7.59 89 Pn **Pn** **21 28 18.1 -0.7**
comp=Z,0.8nm,0.3s,baz=278,slow=2.4,SNR=41
KEST Sn **Sn** **21 29 39.2 -5.6**
comp=Z,0.7nm,0.3s,baz=305,slow=14,SNR=2.7
ELAN Lanestosa 7.70 341 P **Pn** **21 28 21.5 +1.2**
comp=Z,7.1nm,0.2s,SNR=7.9
ELAN S **Sn** **21 29 41.9 -5.6**
comp=Z,1.9nm,0.3s,SNR=7.9
ELAN Lanestosa 7.70 341 P **Pn** **21 28 21.5 +1.2**
comp=Z,7.1nm,0.2s,SNR=7.9
PVIS Viseu 7.79 310 *e*Pn **Pn** **21 28 22.4 +0.9**
PVIS *e*Sn **Sn** **21 29 48.5 -1.3**
PVIS A 21 30 28.8
comp=Z,19nm,0.7s
PVIS Viseu 7.79 310 P **Pn** **21 28 22.4 +0.9**
PVIS S **Sn** **21 29 48.5 -1.3**
comp=Z,9.4nm,0.7s
PBRG Braganca 7.83 320 *e*Pn **Pn** **21 28 23.2 +1.1**
PBRG *e*Sn **Sn** **21 29 47.8 -2.9**
PBRG A 21 30 26.9
comp=Z,17nm,0.5s
PBRG Braganca 7.83 320 P **Pn** **21 28 23.2 +1.1**
PBRG S **Sn** **21 29 47.8 -2.9**
comp=Z,8.4nm,0.5s
ECAL Calabor 7.92 321 P **Pn** **21 28 24.9 +1.5**
comp=Z,6.1nm,0.3s,SNR=7.9
ECAL S **Sn** **21 29 47.4 -5.6**
comp=Z,2.1nm,0.2s,SNR=7.9
ECAL Calabor 7.92 321 P **Pn** **21 28 24.9 +1.5**
comp=Z,6.1nm,0.3s,SNR=7.9
PMAFR Mafra 7.95 295 *e*Pn **Pn** **21 28 24.6 +0.8**
PMAFR *e*Sn **Sn** **21 29 53.0 -0.8**
PMAFR A 21 30 27.9
comp=Z,23nm,0.5s
PMAFR Mafra 7.95 295 P **Pn** **21 28 24.6 +0.8**
PMAFR S **Sn** **21 29 53.0 -0.8**
comp=Z,12nm,0.5s
EARI Arriondas 8.33 333 P **Pn** **21 28 30.0 +1.1**
comp=Z,2.0nm,0.2s,SNR=7.9
EARI S **Sn** **21 29 57.0 -6.0**
comp=Z,0.6nm,0.3s,SNR=7.9
EARI Arriondas 8.33 333 P **Pn** **21 28 30.0 +1.1**
comp=Z,2.0nm,0.2s,SNR=7.9
ELOB Lobios 8.59 315 P **Pn** **21 28 33.7 +1.2**
comp=Z,0.8nm,0.1s,SNR=7.9
ELOB S **Sn** **21 30 03.7 -5.8**
comp=Z,0.5nm,0.3s,SNR=7.9
ELOB Lobios 8.59 315 P **Pn** **21 28 33.7 +1.2**
comp=Z,0.8nm,0.1s,SNR=7.9
LASF Ste Croix 8.59 19 *e*P **Pn** **21 28 33.4 +0.9**
SNR=1.0
LMR La Mourre 8.88 32 *e*P **Pn** **21 28 36.4 0.0**
SNR=1.0
LMR *e*Sn **Sn** **21 30 07.8 -8.7**
comp=Z,9.5nm,0.7s,SNR=1.0
LMR La Mourre 8.88 32 P **Pn** **21 28 36.4 0.0**
LMR S **Sn** **21 30 07.8 -8.7**
comp=Z,4.8nm,0.7s
LFF La Frestale 8.95 3 *e*P **Pn** **21 28 37.9 +0.4**
SNR=1.0
LFF *e*Sn **Sn** **21 30 07.1 -11**
comp=Z,9.5nm,0.4s
LFF La Frestale 8.95 3 *e*P **Pn** **21 28 37.9 +0.4**
SNR=1.0
LFF *e*Sn **Sn** **21 30 07.1 -11**
comp=Z,4.8nm,0.4s
SMRF Simiane la Rot 9.04 26 *e*P **Pn** **21 28 40.0 +1.3**
CAF Calviac 9.06 9 *e*P **Pn** **21 28 38.9 0.0**
SNR=1.0
CAF *e*Sn **Sn** **21 30 10.3 -11**
comp=Z,8.6nm,0.5s,SNR=1.0
CAF Calviac 9.06 9 *e*P **Pn** **21 28 38.9 0.0**
SNR=1.0
CAF *e*Sn **Sn** **21 30 10.3 -11**
comp=Z,4.3nm,0.5s,SNR=1.0
FRF La Foret Royal 9.12 32 *e*P **Pn** **21 28 39.4 -0.4**
SNR=1.0
FRF *e*Sn **Sn** **21 30 14.3 -8.1**
comp=Z,5.2nm,0.3s,SNR=1.0
FRF La Foret Royal 9.12 32 P **Pn** **21 28 39.4 -0.4**
FRF S **Sn** **21 30 14.3 -8.1**
comp=Z,2.6nm,0.3s
EPON Pontenova 9.16 325 P **Pn** **21 28 41.0 +0.7**
comp=Z,2.8nm,0.2s,SNR=7.9
EPON S **Sn** **21 30 17.0 -6.5**
comp=Z,2.6nm,0.2s,SNR=7.9
EPON Pontenova 9.16 325 P **Pn** **21 28 41.0 +0.6**
comp=Z,2.8nm,0.2s,SNR=7.9
EPON Pontenova 9.16 325 P **Pn** **21 28 41.0 +0.7**
EPON S **Sn** **21 30 17.0 -6.5**
VIVF Saint-Julien-l 9.54 20 *e*P **Pn** **21 28 45.8 +0.3**
LBL Lubilhac 9.55 14 *e*P **Pn** **21 28 46.2 +0.6**
PGF Pioggiola 9.56 44 *e*P **Pn** **21 28 44.6 -1.2**
PGF *e*Sn **Sn** **21 30 24.2 -9.0**
comp=Z,3.0nm,0.5s
PGF Pioggiola 9.56 44 P **Pn** **21 28 44.6 -1.2**
PGF S **Sn** **21 30 24.2 -9.0**
comp=Z,1.5nm,0.5s
SBF Sospel 9.71 34 *e*P **Pn** **21 28 48.8 +1.0**
ORIF Oris-en-Rattie 9.97 25 *e*P **Pn** **21 28 52.3 +0.9**
PYM Petit Puy Mans 10.01 12 *e*P **Pn** **21 28 53.1 +1.2**
AGO Saint Agoulin 10.32 12 *e*P **Pn** **21 28 57.1 +0.9**
PLDF La Plantade 10.33 14 *e*P **Pn** **21 28 56.4 +0.1**
TCF Toulx Ste Croi 10.42 8 *e*P **Pn** **21 28 56.5 -1.0**
SNR=1.0
MFF Saint Martin d 10.60 359 *e*P **Pn** **21 28 59.5 -0.5**
SNR=1.0
BGF Bois d'Agland 10.77 11 *e*P **Pn** **21 29 02.5 +0.2**
SNR=1.0
LPL La Plagne 10.79 26 *e*P **Pn** **21 29 03.7 +1.1**
SMF Signal de Mont 11.02 14 *e*P **Pn** **21 29 07.5 +1.7**
SNR=1.0
AVF Avril sur Loir 11.07 12 *e*P **Pn** **21 29 07.5 +1.0**
SNR=1.0
CABF La Chapelle 11.55 21 *e*P **Pn** **21 29 13.7 +0.7**
QUIF Quistinic 12.14 350 *e*P **Pn** **21 29 20.8 -0.3**
SNR=1.0
SGMF Saint Gilles 12.40 352 *e*P **Pn** **21 29 25.1 +0.5**
SNR=1.0
GRR Gorron 12.40 357 *e*P **Pn** **21 29 24.4 -0.2**
ROSF Rostrenen 12.57 350 *e*P **Pn** **21 29 27.6 +0.7**
SNR=1.0
LDF La Druitiere 12.59 360 *e*P **Pn** **21 29 27.4 +0.2**
FLN La Foliniere 12.77 359 *e*P **Pn** **21 29 29.4 -0.2**
DAVOX Davos/Dischmat 13.07 31 Pn **Pn** **21 29 34.7 +1.0**
comp=Z,0.1nm,0.3s,baz=338,slow=23,SNR=2.2
DAVOS Davos 13.08 31 P **Pn** **21 29 34.8 +0.9**
TIP Timpagrande 13.66 72 Pn **Pn** **21 29 42.3 +0.4**
GRA1 Grafenberg Arr 15.95 27 *e*P **Pn** **21 30 17.6 +5.2**
GRF Grafenberg Arr 15.95 27 *e*P **Pn** **21 30 17.6 +5.2**
WET Wettzell 16.17 32 *e*P **Pn** **21 30 18.7 +3.3**
WET pmax pmax
comp=Z,7.0nm,1.0s
WET Wettzell 16.17 32 *e*P **Pn** **21 30 18.7 +3.3**
comp=Z,7.0nm,1.0s
GEC2 GERESS Array S 16.31 34 *e*P **Pn** **21 30 19.9 +2.7**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s
GEC2 GERESS Array S 16.31 34 *e*P **Pn** **21 30 19.9 +2.7**
comp=Z,6.0nm,1.0s
GERES GERESS Array B 16.31 34 Pn **Pn** **21 30 17.2 0.0**
comp=Z,0.2nm,0.3s,baz=215,slow=11,SNR=18
ROTZ Rotzenmuhle 16.38 29 *e*P **Pn** **21 30 21.7 +3.6**
comp=Z,4.0nm,1.0s
KHC Kasperske Hory 16.47 33 *e*P **Pn** **21 30 16.0 -3.2**
KHC *e*pP pP 21 30 22.0 -2.7
MODS Modra-Piesok 17.75 40 *e*P **Pn** **21 30 36.4 +1.2**
MODS *e*PP 22 04 42.6
VRAC Vranov 18.00 37 P **Pn** **21 30 39.1 +0.8**
comp=Z,0.4nm,0.3s,baz=114,slow=20,SNR=3.1
EKA Eskdalemuir Ar 19.46 355 P **Pn** **21 30 56.1 +0.1**
comp=Z,0.2nm,0.3s,baz=157,slow=9.5,SNR=7.0
PGB Panagyurishte 19.78 63 *i*P **Pn** **21 30 57.9 -2.1**
CRVS Cervenica-Dubn 20.34 44 *i*P **P** **21 31 05.8 +1.4**
KOLS Kolonicke sedl 20.81 45 *e*P **P** **21 31 10.6 +1.1**
VOIR 21.13 56⇑ *i*P **P** **21 31 15.5 +2.5**
VOIR 21.13 56⇑ P **P** **21 31 15.5 +2.5**
MLR Muntele Rosu 21.74 56 P **P** **21 31 19.5 -0.1**
comp=Z,10nm,1.1s,mb4.2,baz=297,slow=9.0
MLR Muntele Rosu 21.74 56 P **P** **21 31 19.5 -0.1**
MLR pmax pmax
comp=Z,10.0nm,1.1s
MLR Muntele Rosu 21.74 56⇑ *i*P **P** **21 31 19.4 -0.2**
MLR Muntele Rosu 21.74 56⇑ P **P** **21 31 19.4 -0.2**
BURAR Bucovina Array 21.99 50⇓ *i*P **P** **21 31 24.6 +2.4**
BURAR Bucovina Array 21.99 50⇓ P **P** **21 31 24.6 +2.4**
VRI Vrincioaia 22.38 56⇓ *i*P **P** **21 31 28.2 +1.8**
VRI Vrincioaia 22.38 56⇓ P **P** **21 31 28.2 +1.9**
TOA0 Torodi Ar. Sit 22.80 176 *e*P **P** **21 31 30.6 -0.5**
TORD Torodi Ar. Bea 22.80 176 P **P** **21 31 31.1 +0.1**
comp=Z,14nm,1.1s,mb4.3,baz=358,slow=9.3,SNR=32
SUW Suwalki 24.17 35 *e*P **P** **21 31 43.8 -0.5**
SUW pmax pmax
comp=Z,34nm,1.0s,mb4.7
SUW Suwalki 24.17 35 *e*P **P** **21 31 43.8 -0.5**
comp=Z,34nm,1.0s,mb4.7
SUW Suwalki 24.17 35 *e*P **P** **21 31 43.8 -0.5**
comp=Z,34nm,1.0s,mb4.7
AKASG Malin Array Be 25.62 46 P **P** **21 31 55.1 -2.6**
comp=Z,0.6nm,0.4s,mb3.5,baz=243,slow=12,SNR=3.5
HFS Hagfors 25.72 16 P **P** **21 31 57.3 -1.1**
comp=Z,1.8nm,0.6s,mb3.8,baz=199,slow=7.8,SNR=13
NAO01 NORSAR Array S 25.82 12 P **P** **21 31 58.8 -0.5**
DBIC Dimbokro 29.52 190 P **P** **21 32 31.2 -1.6**
comp=Z,2.5nm,1.0s,mb3.9,baz=321,slow=6.5,SNR=3.8
DBIC Dimbokro 29.52 190 P **P** **21 32 31.2 -1.6**
DBIC pmax pmax
comp=Z,3.0nm,1.0s
DBIC Dimbokro 29.52 190 *e*P **P** **21 32 31.1 -1.8**
ARCES ARCESS Array B 36.37 15 P **P** **21 33 30.8 -1.3**
comp=Z,0.7nm,0.6s,mb3.8,baz=216,slow=7.5,SNR=8.8
ARU Arti 43.82 43 P **P** **21 34 32.2 -1.8**
ARU Arti 43.82 43 *e*P **P** **21 34 31.9 -2.1**
comp=Z,5.5nm,0.8s,mb4.3
BVAR Borovoye Array 50.90 47 P **P** **21 35 28.8 -0.3**
comp=Z,0.5nm,0.6s,mb3.6,baz=294,slow=7.1,SNR=3.1
EKS2 Erkin-Say 55.79 59 *e*P **P** **21 36 05.1 -0.2**
comp=Z,1.2nm,0.6s,mb4.1
EKS2 Erkin-Say 55.79 59 *e*P **P** **21 36 05.0 -0.2**
comp=Z,1.2nm,0.6s,mb4.1
KURK Kurchatov 56.40 48 *e*P **P** **21 36 08.1 -1.4**
KURK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KURK Kurchatov 56.40 48 *e*P **P** **21 36 08.1 -1.4**
comp=Z,5.6nm,1.0s,mb4.5
KURK Kurchatov 56.40 48 *e*P **P** **21 36 08.1 -1.4**
comp=Z,5.6nm,1.0s,mb4.5
TKM2 Tokmak 2 56.96 58 P **P** **21 36 11.2 -2.4**
TKM2 Tokmak 2 56.96 58 P **P** **21 36 11.2 -2.4**
NVS Novosibirsk 57.82 43 *e*P **P** **21 36 16.6 -2.9**
ZAL Zalesovo 58.98 43 P **P** **21 36 25.3 -2.3**
ZALV Zalesovo Beam 58.98 43 P **P** **21 36 25.2 -2.4**
comp=Z,1.6nm,0.8s,mb4.1,baz=290,slow=6.1,SNR=5.7
MK31 Makanchi Array 60.01 52 *e*P **P** **21 36 33.0 -1.8**
MKAR Makanchi Array 60.01 52 P **P** **21 36 33.9 -0.9**
comp=Z,1.3nm,0.6s,mb4.1,baz=277,slow=7.4,SNR=9.5
LBTB Lobatse 65.32 154 P **P** **21 37 08.0 -2.4**
LBTB Lobatse 65.32 154 P **P** **21 37 08.0 -2.4**
ULM Lac du Bonnet 66.72 316 P **P** **21 37 18.3 -0.9**
comp=Z,3.0nm,0.8s,mb4.4,baz=72,slow=10.0,SNR=3.1
ZAK Zakamensk 70.72 41⇑ *e*P **P** **21 37 43.8 -0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.8s,mb3.8
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ZAK Zakamensk 70.72 41 *e*P **P** **21 37 43.8 -0.3**
comp=Z,3.0nm,0.9s,mb4.2
SONM Songino Array 73.85 42 P **P** **21 38 02.2 -0.7**
comp=Z,1.0nm,1.0s,mb3.7,baz=278,slow=4.0,SNR=5.8
PDAR Pinedale Array 78.70 315 P **P** **21 38 30.9 +0.3**
comp=Z,1.2nm,0.9s,mb3.8,baz=54,slow=7.7,SNR=8.9
STKA Stephens Creek 148.01 94 PKPbc PKPbc 21 46 12.9 -1.0
comp=Z,6.5nm,1.0s,baz=322,slow=8.9,SNR=7.7

*MOS **08** 21:28:55.8± 1.1, 34.43N×25.20E, h20km, mb4.3/22, Error ellipse: s-maj=6.5km s-min=3.2km az=108.0*
*CSEM **08** 21:28:56.2± 0.1, 34.40N×25.33E, h10km, mb4.3/3, Error*

ellipse: s-maj=2.8km s-min=1.0km az=50.0
THE ***08*** *21:28:58.6, 3453N.2525E, h0km, ML4.3*
ISCJB ***08*** *21:28:59.0±0.3, 3449N±002×2525E±003, h49km±3km, mb4.2/39, Error ellipse: s-maj=4.2km s-min=2.7km az=136.3*
IDC ***08*** *21:29:00.2±1.6, 3464N×2529E, h33km±11km, mb4.1/18, mb1 4.1/25, mb1mx4.0/34, mbtmp4.0/25, ML4.1/6, Error ellipse: s-maj=14.1km s-min=12.4km az=12.0*
HLW ***08*** *21:29:01.8, 3452N×2557E, h33km, Mb4.0*
ATH ***08*** *21:29:02.3, 3483N×2523E, h35km±2km, MD4.1/13, ML4.2*
NEIC ***08*** *21:29:02.4, 3483N×2524E, h37km, mb4.1/40, ML4.2(ATH), ML4.3(THE), After ATH.*
ISC 08 21:29:00.2±0.6, 3453N±002×2525E±002, h33km±4km, n302, σ1§14/318, mb4.2/39, 4C-21D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.61**	**323**	*e*Pg	**Pb**	**21 29 11.4**	**-1.1**
SIVA				*e*Sg	**Sb**	**21 29 20.0**	**-0.9**
LAST	**Lasithi**	**0.66**	**16**	*e*Pg	**Pn**	**21 29 11.4**	**-1.7**
LAST				*e*Sg	**Sb**	**21 29 22.1**	**-0.2**
LAST	**Lasithi**	**0.66**	**16**	*e*Pg	**Pn**	**21 29 11.4**	**-1.8**
LAST				*e*Sg	**Sb**	**21 29 22.1**	**-0.2**
NPS	**Neapolis**	**0.79**	**22**	*e*PN	**Pn**	**21 29 13.6**	**-1.4**
IDI	**Anoyia**	**0.81**	**339**	Pg	**Pn**	**21 29 14.2**	**-1.1**
	170nm,0.3s,baz=152,slow=17,SNR=80						
IDI				Lg		21 29 26.9	
	835nm,0.3s,baz=230,slow=18,SNR=25						
ZKR	**Zakros**	**0.99**	**53**	*e*Pg	**Pn**	**21 29 17.9**	**+0.2**
ZKR				*e*Sg	**Sn**	**21 29 33.0**	**+2.5**
VAM	**Vamos**	**1.23**	**316**	*e*PN	**Pn**	**21 29 22.0**	**+1.0**
VAM				*e*SN	**Sn**	**21 29 36.0**	**-0.5**
KARN	**Karanos**	**1.40**	**309**	*e*Pg	**Pn**	**21 29 25.0**	**+1.6**
KARN				*e*Sg	**Sn**	**21 29 44.2**	**+3.5**
THR6	**Thira Island,**	**1.83**	**4**	*e*Pb	**Pb**	**21 29 29.6**	**-3.4**
THR1	**Thera Island**	**1.84**	**5**	*e*Pb	**Pb**	**21 29 30.0**	**-3.3**
THR1				*e*Sb	**Sb**	**21 29 55.5**	**-0.5**
KARP	**Karpathos**	**1.87**	**57**	*e*PB	**Pb**	**21 29 32.3**	**-1.4**
KARP				*e*SN	**Sn**	**21 29 54.0**	**+1.8**
THR3	**Thira Island,**	**1.88**	**4**	*e*Pb	**Pb**	**21 29 30.4**	**-3.4**
THR5	**Thira Island,**	**1.89**	**2**	*e*Pb	**Pb**	**21 29 30.7**	**-3.3**
THR4	**Thira Island,**	**1.93**	**4**	*e*Pb	**Pb**	**21 29 31.4**	**-3.4**
KYTH	**Kithira**	**2.52**	**315**	*e*PN	**Pn**	**21 29 40.0**	**+1.3**
APE	**Apeiranthos**	**2.54**	**5**	*e*Pn	**Pn**	**21 29 39.2**	**0.0**
APE				*e*Sn	**Sn**	**21 30 10.5**	**+1.6**
APE	**Apeiranthos**	**2.54**	**5**	*e*PN	**Pn**	**21 29 39.3**	**+0.2**
VLI	**Veliai**	**2.88**	**320**	*e*PN	**Pn**	**21 29 44.5**	**+0.7**
ARG	**Arkhangelos**	**2.89**	**54**	*e*PN	**Pn**	**21 29 45.3**	**+1.4**
SLUM		**3.03**	**181**	⦀P	**Pn**	**21 29 47.8**	**+2.0**
SLUM				S	**Sn**	**21 30 20.8**	**-0.1**
DID	**Didima**	**3.39**	**332**	*e*Pn	**Pn**	**21 29 50.8**	**+0.1**
SMG	**Samos**	**3.42**	**22**	*e*PN	**Pn**	**21 29 51.4**	**+0.2**
KVR	**Kavouri**	**3.50**	**340**	*e*PN	**Pn**	**21 29 53.5**	**+1.2**
NAIG	**Nisos Aigina**	**3.52**	**337**	*e*PN	**Pn**	**21 29 53.5**	**+0.9**
NAIG	**Nisos Aigina**	**3.52**	**337**	*e*Pn	**Pn**	**21 29 55.0**	**+2.4**
ATH	**Athens Observa**	**3.65**	**341**	*e*PN	**Pn**	**21 29 55.3**	**+1.0**
VLX	**Vlachokerasia**	**3.67**	**321**	*e*Pn	**Pn**	**21 29 55.4**	**+0.9**
PTL	**Penteli**	**3.69**	**343**	*e*PN	**Pn**	**21 29 55.3**	**+0.5**
HMAT	**Matruh**	**3.76**	**155**	⦀*e*P	**Pn**	**21 29 56.2**	**+0.3**
ITM	**Ithomi**	**3.78**	**315**	*e*PN	**Pn**	**21 29 57.2**	**+1.1**
CHOS	**Chios island**	**3.90**	**9**	*e*Pn	**Pn**	**21 29 58.2**	**+0.4**
LTK	**Loutraki**	**3.94**	**333**	*e*Pn	**Pn**	**21 29 59.0**	**+0.6**
BLCB	**Balcova**	**4.11**	**20**	*e*Pn	**Pn**	**21 30 01.2**	**+0.6**
LKR	**Lokris**	**4.49**	**337**	*e*Pn	**Pn**	**21 30 02.1**	**-3.8**
RLS	**Riolos of Patr**	**4.66**	**320**	*e*PN	**Pn**	**21 30 09.8**	**+1.6**
PRK	**Paraskevi**	**4.78**	**10**	*e*Pn	**Pn**	**21 30 10.2**	**+0.4**
NEO	**Neokhori**	**5.04**	**342**	*e*PN	**Pn**	**21 30 14.1**	**+0.7**
AGG	**Agios Georgios**	**5.06**	**333**	*e*Pn	**Pn**	**21 30 14.4**	**+0.7**
XOR	**Xorichti**	**5.10**	**342**	*e*Pn	**Pn**	**21 30 14.6**	**+0.4**
EVR	**Evrytania**	**5.18**	**329**	*e*Pn	**Pn**	**21 30 16.3**	**+1.0**
EVR				P		21 30 20.4	
VLS	**Valsamata**	**5.23**	**315**	*e*Pn	**Pn**	**21 30 16.4**	**+0.3**
VLS	**Valsamata**	**5.23**	**315**	*e*PN	**Pn**	**21 30 18.3**	**+2.2**
VLS	**Valsamata**	**5.23**	**315**	*e*Pn	**Pn**	**21 30 18.3**	**+2.2**
VLS	**Valsamata**	**5.23**	**315**	*e*Pn	**Pn**	**21 30 18.3**	**+2.2**
SWA2		**5.27**	**178**	⦀P	**Pn**	**21 30 18.1**	**+1.5**
LIA	**Limnos Island**	**5.36**	**359**	*e*Pn	**Pn**	**21 30 17.7**	**-0.1**
LIA	**Limnos Island**	**5.36**	**359**	*e*PN	**Pn**	**21 30 18.2**	**+0.4**
PAIG	**Paliouri**	**5.53**	**347**	*e*Pn	**Pn**	**21 30 21.2**	**+1.1**
LKD	**Levkas**	**5.57**	**320**	*e*Pn	**Pn**	**21 30 22.6**	**+1.9**
LKD				*e*Sn	**Sn**	**21 31 26.0**	**+2.4**
THL	**Klokotos Trika**	**5.65**	**334**	*e*Pn	**Pn**	**21 30 23.1**	**+1.3**
THL	**Klokotos Trika**	**5.65**	**334**	*e*PN	**Pn**	**21 30 23.2**	**+1.4**
THL	**Klokotos Trika**	**5.65**	**334**	*e*Pn	**Pn**	**21 30 23.1**	**+1.3**
LIT	**Litokhoron**	**5.98**	**339**	*e*Pn	**Pn**	**21 30 28.1**	**+1.8**
LIT	**Litokhoron**	**5.98**	**339**	*e*Pn	**Pn**	**21 30 28.1**	**+1.8**
LIT	**Litokhoron**	**5.98**	**339**	P	**Pn**	**21 30 28.1**	**+1.8**
PLG	**Polygyros**	**6.01**	**347**	*e*Pn	**Pn**	**21 30 27.6**	**+0.9**
JAN	**Janina**	**6.21**	**327**	P	**Pn**	**21 30 32.6**	**+3.1**
IGT	**Igoumenitsa**	**6.36**	**323**	*e*Pn	**Pn**	**21 30 31.9**	**+0.4**
ALN	**Alexandroupoli**	**6.39**	**5**	*e*PN	**Pn**	**21 30 33.1**	**+1.2**
RDO	**Rodhopi**	**6.61**	**2**	*e*PN	**Pn**	**21 30 36.6**	**+1.6**
CSS	**Prodhromos**	**6.67**	**84**	*e*Pn	**Pn**	**21 30 36.1**	**+0.4**
HNAT	**Natroun**	**6.67**	**136**	⦀P	**Pn**	**21 30 35.3**	**-0.6**
KEK	**Kerkira**	**6.76**	**322**	P	**Pn**	**21 30 38.2**	**+1.1**
KNT	**Kendrikon**	**6.88**	**345**	*e*Pn	**Pn**	**21 30 40.0**	**+1.4**
AWBH		**6.93**	**152**	P	**Pn**	**21 30 39.6**	**+0.2**
FNA	**Florina**	**6.96**	**335**	*e*Pn	**Pn**	**21 30 40.0**	**+0.2**
VAY	**Valandovo**	**7.10**	**343**	*e*Pn	**Pn**	**21 30 48.1**	**+6.4**
KDZ	**Kurdzhali**	**7.11**	**1**	*i* P	**Pn**	**21 30 42.4**	**+0.6**
MMB	**Musomiste**	**7.15**	**351**	*i* P	**Pn**	**21 30 46.8**	**+4.4**
RZN	**Rozhen**	**7.16**	**357**	*i* P	**Pn**	**21 30 42.9**	**+0.4**
KOT	**Kottamia**	**7.22**	**128**	⦀P	**Pn**	**21 30 43.5**	**+0.1**
KOT				S	**Sn**	**21 31 56.7**	**-7.5**
HSAF	**As Saff**	**7.25**	**131**	⦀P	**Pn**	**21 30 43.3**	**-0.5**
GLL	**Jalalah**	**7.38**	**130**	⦀P	**Pn**	**21 30 44.9**	**-0.6**
HHAG	**Hagoal**	**7.38**	**126**	⦀P	**Pn**	**21 30 45.1**	**-0.4**
DIM	**Dimitrovgrad**	**7.51**	**2**	*i* P	**Pn**	**21 30 48.8**	**+1.5**
KRUS	**Krusevo**	**7.52**	**336**	*e*Pn	**Pn**	**21 30 48.3**	**+0.8**
HBNS	**Bani Suwayf**	**7.53**	**136**	⦀P	**Pn**	**21 30 47.3**	**-0.3**
HFRF	**Wahat Farafira**	**7.81**	**160**	⦀P	**Pn**	**21 30 52.6**	**+1.1**
SUZ		**7.94**	**124**	⦀P	**Pn**	**21 30 52.8**	**-0.5**
RSH		**7.97**	**114**	P	**Pn**	**21 30 52.4**	**-1.3**
VTS	**Vitosha**	**8.21**	**349**	*i* P	**Pn**	**21 31 04.3**	**+7.4**
TIP	**Timpagrande**	**8.24**	**307**	P	**Pn**	**21 30 56.9**	**-0.4**
CEL	**Celeste**	**8.41**	**299**	P	**Pn**	**21 31 00.5**	**+0.8**
HRSH	**Kfar Ka'horesh**	**8.56**	**99**	P	**Pn**	**21 30 52.4**	**-9.4**
MMAI	**Mount Meron Ar**	**8.59**	**97**	Pn	**Pn**	**21 31 01.5**	**-0.6**
	2.9nm,0.3s,baz=304,slow=12,SNR=12						
MMAI				Sn	**Sn**	**21 32 32.2**	**-5.6**
	10nm,0.3s,baz=262,slow=25,SNR=9.2						
HNKL	**Nakhl**	**8.70**	**119**	⦀P	**Pn**	**21 31 03.1**	**-0.5**
VAE	**Valguarnera**	**9.26**	**292**	Pn	**Pn**	**21 31 18.8**	**+7.4**
	1.2nm,0.3s,baz=97,slow=5.7,SNR=3.8						
VAE				Sn	**Sn**	**21 32 47.4**	**-6.9**
	3.0nm,0.3s,baz=354,slow=3.3,SNR=4.8						
VAE	**Valguarnera**	**9.26**	**292**	Pn	**Pn**	**21 31 18.8**	**+7.4**
VAE				Sn	**Sn**	**21 32 47.4**	**-6.9**
CUC	**Castrocucco**	**9.29**	**309**	P	**Pn**	**21 31 12.1**	**+0.4**
EIL	**Elat**	**9.55**	**118**	Pn	**Pn**	**21 31 15.4**	**+0.2**
	1.4nm,0.3s,baz=280,slow=11,SNR=15						
EIL				Sn	**Sn**	**21 32 55.0**	**-6.4**
	3.8nm,0.3s,baz=272,slow=22,SNR=9.1						
EIL	**Elat**	**9.55**	**118**	Pn	**Pn**	**21 31 15.4**	**+0.1**
EIL				Sn	**Sn**	**21 32 55.0**	**-6.4**
HDK1	**Dakhla**	**9.65**	**157**	⦀P	**Pn**	**21 31 17.6**	**+0.9**
ASF	**Jabal al Asfar**	**10.02**	**100**	Pn	**Pn**	**21 31 23.5**	**+1.7**
	0.4nm,0.3s,baz=140,slow=7.0,SNR=3.4						
ASF				Sn	**Sn**	**21 33 06.4**	**-6.6**
	0.4nm,0.3s,baz=38,slow=18,SNR=3.1						
AKRG	**Al Kharijah**	**10.08**	**152**	⦀P	**Pn**	**21 31 23.3**	**+0.7**
TIRR	**Tirgusor**	**10.21**	**13**	⦀*i*P	**Pn**	**21 31 28.8**	**+4.5**
HSFG		**10.90**	**134**	P	**Pn**	**21 31 33.5**	**-0.3**
MALT	**Malatya**	**11.27**	**67**	⦀*i*P	**Pn**	**21 31 39.6**	**+0.8**
MALT	**Malatya**	**11.27**	**67**	*e*Pn	**Pn**	**21 31 38.6**	**-0.1**
	5.0nm,1.0s						
PLOR	**Plostina**	**11.36**	**5**	⦀*i*P	**Pn**	**21 31 40.8**	**+0.8**
BZS	**Buzias**	**11.42**	**347**	⦀*i*P	**Pn**	**21 31 42.0**	**+1.2**
BZS	**Buzias**	**11.42**	**347**	⦀P	**Pn**	**21 31 42.0**	**+1.1**
PKSM	**Moragy**	**12.70**	**339**	⦀*i*P	**Pn**	**21 32 05.6**	**+7.2**
PKSM	**Moragy**	**12.70**	**339**	⦀P	**Pn**	**21 32 05.6**	**+7.2**
PSZ	**Piszkesteto**	**13.96**	**345**	*e*P	**Pn**	**21 32 17.7**	**+2.1**
PSZ	**Piszkesteto**	**13.96**	**345**	*e*Pn	**Pn**	**21 32 17.7**	**+2.1**
KOLS	**Kolonicke sedl**	**14.56**	**352**	*i* PN	**Pn**	**21 32 28.4**	**+4.7**
MSL	**Mosul**	**14.66**	**78**	*ex*	x	21 32 41.0	
ARSA	**Arzberg**	**14.67**	**333**	⦀*i*P	**Pn**	**21 32 31.6**	**+6.5**
	comp=Z,3.9nm,0.6s						
KWP	**Kalwaria**	**15.21**	**354**	P	**Pn**	**21 32 37.0**	**+4.7**
MOA	**Molln**	**15.64**	**332**	⦀*i*P	**Pn**	**21 32 42.3**	**+4.3**
	comp=Z,5.3nm,0.6s						
BHD	**Baghdad**	**15.94**	**89**	*ex*	x	21 32 52.0	
VRAC	**Vranov**	**16.09**	**339**	Pn	**Pn**	**21 32 44.4**	**+0.6**
	0.4nm,0.3s,baz=171,slow=10,SNR=6.1						
MORC	**Moravsky Berou**	**16.26**	**342**	P	**Pn**	**21 32 43.7**	**-2.2**
MORC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MORC	**Moravsky Berou**	**16.26**	**342**	P	**Pn**	**21 32 43.7**	**-2.2**
	comp=Z,1.2nm,0.5s						
MORC	**Moravsky Berou**	**16.26**	**342**	Pn	**Pn**	**21 32 43.7**	**-2.2**
	comp=Z,1.2nm,0.5s						
KIEV	**Kiev**	**16.41**	**9**	*e*P	**Pn**	**21 32 48.3**	**+0.5**
KIEV				pmax	pmax		
	comp=Z,50nm,0.8s						
KIEV	**Kiev**	**16.41**	**9**	*e*P	**Pn**	**21 32 48.3**	**+0.5**
	comp=Z,50nm,0.8s						
KIEV	**Kiev**	**16.41**	**9**	*e*Pn	**Pn**	**21 32 48.3**	**+0.5**
	comp=Z,50nm,0.8s						
AKASG	**Malin Array Be**	**16.42**	**9**	Pn	**Pn**	**21 32 48.1**	**+0.2**
	comp=Z,9.5nm,0.3s,baz=201,slow=11,SNR=43						
AKBB	**Malin Array Si**	**16.42**	**9**	*e*P	**Pn**	**21 32 48.2**	**+0.3**
AKBB	**Malin Array Si**	**16.42**	**9**	*e*Pn	**Pn**	**21 32 48.2**	**+0.3**
KIV	**Kislovodsk**	**16.43**	**50**	*e*P	**Pn**	**21 32 47.5**	**-0.7**
KIV				pmax	pmax		
	comp=Z,55nm,1.1s						
KIV	**Kislovodsk**	**16.43**	**50**	*e*P	**Pn**	**21 32 47.5**	**-0.7**
	comp=Z,55nm,1.1s						
KIV	**Kislovodsk**	**16.43**	**50**	*e*P	**Pn**	**21 32 51.1**	**+2.9**
	comp=Z,53nm,1.0s						
GNI	**Garni**	**16.47**	**64**	Pn	**Pn**	**21 32 49.6**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=95,slow=2.4,SNR=5.1						
GNI	**Garni**	**16.47**	**64**	*e*P	**Pn**	**21 32 49.2**	**+0.5**
GNI	**Garni**	**16.47**	**64**	*e*P	**Pn**	**21 32 49.2**	**+0.5**
GEC2	**GERESS Array S**	**16.67**	**333**	*e*P	**Pn**	**21 32 53.6**	**+2.4**
GEC2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GEC2	**GERESS Array S**	**16.67**	**333**	*e*P	**Pn**	**21 32 53.6**	**+2.4**
	comp=Z,3.0nm,0.6s						
GERES	**GERESS Array B**	**16.67**	**333**	Pn	**Pn**	**21 32 52.2**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=148,slow=11,SNR=26						
DAVOX	**Davos/Dischmat**	**16.87**	**321**	Pn	**Pn**	**21 32 54.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=135,slow=17,SNR=3.8						
DAVOS	**Davos**	**16.95**	**321**	P	**Pn**	**21 32 54.4**	**-0.2**
KHC	**Kasperske Hory**	**16.95**	**333**	*e*P	**Pn**	**21 32 56.7**	**+2.0**
KHC				*ep*P	pP	21 33 06.5	+1.5
KHC	**Kasperske Hory**	**16.95**	**333**	*e*P	**Pn**	**21 32 56.7**	**+2.0**
KHC				*e*		21 33 06.5	
DPC	**Dobruska-Polom**	**17.11**	**340**	*e*P	**Pn**	**21 33 03.5**	**+6.9**
WET	**Wettzell**	**17.23**	**332**	*e*P	**Pn**	**21 32 59.7**	**+1.5**
WET				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WET	**Wettzell**	**17.23**	**332**	*e*P	**Pn**	**21 32 59.7**	**+1.5**
	comp=Z,4.0nm,0.8s						
PRU	**Pruhonice**	**17.33**	**336**	*e*P	**Pn**	**21 33 06.8**	**+7.4**
MBDF	**Montbardon**	**17.47**	**311**	*e*P	**Pn**	**21 32 59.7**	**-1.4**
	comp=Z,8.3nm,0.8s						
MBDF	**Montbardon**	**17.47**	**311**	*e*P	**Pn**	**21 32 59.7**	**-1.4**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MBDF	**Montbardon**	**17.47**	**311**	*e*P	**Pn**	**21 32 59.7**	**-1.4**
	comp=Z,4.2nm,0.8s						
BNI	**Bardonecchia**	**17.68**	**312**	*e*P	**Pn**	**21 33 04.9**	**+1.1**
BNI				pmax	pmax		
	comp=Z,10.0nm,1.4s						
BNI	**Bardonecchia**	**17.68**	**312**	*e*P	**Pn**	**21 33 04.9**	**+1.1**
	comp=Z,10.0nm,1.4s						
BNI	**Bardonecchia**	**17.68**	**312**	*e*Pn	**Pn**	**21 33 04.9**	**+1.2**
	comp=Z,10nm,1.4s						
PVCC	**Panska Ves**	**17.79**	**337**	*e*P	**Pn**	**21 33 01.4**	**-3.6**
LPL	**La Plagne**	**17.89**	**313**	*e*P	**Pn**	**21 33 02.8**	**-3.5**
MANZ	**Manzenberg**	**18.21**	**332**	*e*P	**Pn**	**21 33 10.0**	**-0.2**
	comp=Z,4.0nm,0.6s						
NKC	**Novy Kostel**	**18.28**	**333**	*e*P	**Pn**	**21 33 11.5**	**+0.5**
BRG	**Berggiesshubel**	**18.29**	**337**	*e*P	**Pn**	**21 33 11.0**	**-0.1**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRG	**Berggiesshubel**	**18.29**	**337**	*e*(P)	**Pn**	**21 33 11.0**	**-0.1**
	comp=Z,4.2nm,1.0s						
GRA1	**Grafenberg Arr**	**18.33**	**330**	*e*P	**Pn**	**21 33 11.4**	**-0.3**
	comp=Z,8.0nm,0.8s						
GRF	**Grafenberg Arr**	**18.33**	**330**	*e*P	**Pn**	**21 33 11.4**	**-0.3**
GRF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GRF	**Grafenberg Arr**	**18.33**	**330**	*e*P	**Pn**	**21 33 11.4**	**-0.3**
GRF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GRF	**Grafenberg Arr**	**18.33**	**330**	*e*P	**Pn**	**21 33 11.4**	**-0.3**
	comp=Z,8.0nm,0.8s						
BFO	**Black Forest**	**18.68**	**323**	*e*P	**Pn**	**21 33 14.7**	**-1.2**
BFO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BFO	**Black Forest**	**18.68**	**323**	*e*P	**Pn**	**21 33 14.7**	**-1.2**
	comp=Z,9.0nm,1.2s						
CABF	**La Chapelle**	**18.85**	**316**	*e*P	**Pn**	**21 33 15.4**	**-2.6**
MOX	**Moxa**	**18.93**	**332**	*e*P	**Pn**	**21 33 19.0**	**+0.1**
	comp=Z,4.0nm,0.6s						
CLL	**Collm**	**18.97**	**336**	*e*P	**Pn**	**21 33 19.0**	**-0.4**
RST	**Umm Al-Ruwaisa**	**19.10**	**99**	*e*P	**Pn**	**21 33 22.4**	**+1.3**
	baz=86						
RST				AMb	AMB	21 33 27.5	
	comp=Z,0.6nm,1.1s,baz=86						
HINF	**Hinteralfeld**	**19.12**	**320**	*e*P	**Pn**	**21 33 19.7**	**-1.5**
	comp=Z,7.6nm,0.8s						
HINF	**Hinteralfeld**	**19.12**	**320**	*e*P	**Pn**	**21 33 19.7**	**-1.5**
HINF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HINF	**Hinteralfeld**	**19.12**	**320**	*e*P	**Pn**	**21 33 19.7**	**-1.5**
	comp=Z,3.8nm,0.8s						
ECH	**Echery**	**19.20**	**321**	*e*P	**Pn**	**21 33 20.6**	**-1.6**
ECH	**Echery**	**19.20**	**321**	*e*P	**Pn**	**21 33 20.6**	**-1.6**
CDF	**Champ du Feu**	**19.27**	**321**	*e*P	**Pn**	**21 33 22.2**	**-0.8**
	comp=Z,36nm,1.0s						
CDF	**Champ du Feu**	**19.27**	**321**	*e*P	**Pn**	**21 33 22.2**	**-0.8**
CDF				pmax	pmax		
	comp=Z,18nm,1.0s						
CDF	**Champ du Feu**	**19.27**	**321**	*e*P	**Pn**	**21 33 22.2**	**-0.8**
	comp=Z,18nm,1.0s						
MIB	**Mutribah**	**19.27**	**98**	*e*P	**Pn**	**21 33 23.7**	**+0.5**
	baz=85						
MIB				AMb	AMB	21 33 25.9	
	comp=Z,19nm,0.5s,baz=85						
NAY	**Al-Naaiem**	**19.39**	**100**	*e*P	**Pn**	**21 33 25.3**	**+0.7**
	baz=86						
NAY				AMb	AMB	21 33 27.4	
	comp=Z,23nm,1.0s,baz=86						
VRSR	**Storozhevoye**	**19.50**	**27**	*e*P	**Pn**	**21 33 23.8**	**-1.9**
VRSR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VRSR				pmax	pmax		
	comp=N,1.0nm,1.1s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.7s						
VRSR	**Storozhevoye**	**19.50**	**27**	*e*P	**Pn**	**21 33 23.8**	**-1.9**
	comp=E,1.0nm,1.1s						
HAU	**Haudompre**	**19.50**	**319**	*e*P	**Pn**	**21 33 24.2**	**-1.6**
	comp=E,9.4nm,0.5s						
HAU	**Haudompre**	**19.50**	**319**	*e*P	**Pn**	**21 33 24.2**	**-1.6**
HAU				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HAU	**Haudompre**	**19.50**	**319**	*e*P	**Pn**	**21 33 24.2**	**-1.6**
	comp=Z,4.7nm,0.5s						
SUW	**Suwalki**	**19.53**	**356**	P	**Pn**	**21 33 22.1**	**-4.0**
SUW				pmax	pmax		
	comp=Z,21nm,0.4s						
SUW	**Suwalki**	**19.53**	**356**	P	**Pn**	**21 33 22.1**	**-4.0**
	comp=Z,21nm,0.4s						
MTLF	**Montolieu**	**19.91**	**303**	*e*P	**Pn**	**21 33 28.7**	**-2.0**
	comp=Z,4.4nm,0.7s						
MTLF	**Montolieu**	**19.91**	**303**	*e*P	**Pn**	**21 33 28.7**	**-2.0**
MTLF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MTLF	**Montolieu**	**19.91**	**303**	*e*P	**Pn**	**21 33 28.7**	**-2.0**
	comp=Z,2.2nm,0.7s						
TNS	**Taunus Mts**	**19.93**	**327**	*e*P	**Pn**	**21 33 30.5**	**-0.3**
TNS				pmax	pmax		
	comp=Z,15nm,1.0s						
TNS	**Taunus Mts**	**19.93**	**327**	*e*P	**Pn**	**21 33 30.5**	**-0.3**
	comp=Z,15nm,1.0s						
SMF	**Signal de Mont**	**20.20**	**313**	*e*P	**P**	**21 33 31.4**	**-0.5**
CLZ	**Clausthal**	**20.35**	**333**	*e*P	**P**	**21 33 32.3**	**-1.3**
CLZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CLZ	**Clausthal**	**20.35**	**333**	*e*P	**P**	**21 33 32.3**	**-1.3**
	comp=Z,8.0nm,0.8s						
VRHR	**Novokhopersk**	**20.38**	**31**	*c i*P	**P**	**21 33 32.7**	**-1.2**
VRHR				pmax	pmax		
	comp=Z,30nm,0.4s						
VRHR				pmax	pmax		
	comp=N,20nm,0.5s						
VRHR				pmax	pmax		
	comp=E,30nm,0.9s						
VRHR	**Novokhopersk**	**20.38**	**31**	*i* P	**P**	**21 33 32.7**	**-1.2**
	comp=E,20nm,0.5s						
LOR	**Lormes**	**20.50**	**315**	*e*P	**P**	**21 33 34.9**	**-0.3**
	comp=E,5.3nm,0.5s						
LOR	**Lormes**	**20.50**	**315**	*e*P	**P**	**21 33 34.9**	**-0.3**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
LOR	**Lormes**	**20.50**	**315**	*e*P	**P**	**21 33 34.9**	**-0.3**
	comp=Z,2.7nm,0.5s						
MEZF	**Maizieres J'vi**	**20.50**	**319**	*e*P	**P**	**21 33 35.3**	**+0.1**
	comp=Z,39nm,0.9s						
MEZF	**Maizieres J'vi**	**20.50**	**319**	*e*P	**P**	**21 33 35.3**	**+0.1**
	comp=Z,19nm,0.9s						
AVF	**Avril sur Loir**	**20.56**	**313**	*e*P	**P**	**21 33 34.2**	**-1.7**
	comp=Z,7.3nm,0.9s						
AVF	**Avril sur Loir**	**20.56**	**313**	*e*P	**P**	**21 33 34.2**	**-1.7**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AVF	**Avril sur Loir**	**20.56**	**313**	*e*P	**P**	**21 33 34.2**	**-1.7**
	comp=Z,3.7nm,0.9s						
CAF	**Calviac**	**20.57**	**307**	*e*P	**P**	**21 33 36.1**	**+0.1**
	comp=Z,6.8nm,0.7s						
CAF	**Calviac**	**20.57**	**307**	*e*P	**P**	**21 33 36.1**	**+0.1**
CAF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CAF	**Calviac**	**20.57**	**307**	*e*P	**P**	**21 33 36.1**	**+0.1**
	comp=Z,3.4nm,0.7s						
SSF	**Saint Saulge**	**20.60**	**314**	*e*P	**P**	**21 33 36.0**	**-0.3**
	comp=Z,20nm,0.9s						
SSF	**Saint Saulge**	**20.60**	**314**	*e*P	**P**	**21 33 36.0**	**-0.3**
SSF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SSF	**Saint Saulge**	**20.60**	**314**	*e*P	**P**	**21 33 36.0**	**-0.3**
	comp=Z,9.9nm,0.9s						
WLF	**Walferdange**	**20.64**	**323**	P	**P**	**21 33 37.0**	**+0.3**
	comp=Z,8.7nm,1.2s						
WLF	**Walferdange**	**20.64**	**323**	*e*P	**P**	**21 33 37.0**	**+0.3**
WLF				pmax	pmax		
	comp=Z,11nm,0.9s						
WLF	**Walferdange**	**20.64**	**323**	*e*P	**P**	**21 33 36.6**	**-0.1**
	comp=Z,15nm,0.8s						
WLF	**Walferdange**	**20.64**	**323**	*e*P	**P**	**21 33 37.0**	**+0.3**
	comp=Z,11nm,0.9s						
WLF	**Walferdange**	**20.64**	**323

ARU	**Arti**	**31.52**	**36**	*e*P	**P**	**21 35 17.5**	**-1.4**
	comp=Z,4.9nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**35.06**	**0**	P	**P**	**21 35 46.6**	**-2.9**
	comp=Z,2.1nm,0.5s,mb4.4,baz=173,slow=9.5,SNR=50						
KEV	**Kevo**	**35.29**	**1**	*e*p	**P**	**21 35 49.8**	**-1.8**
	comp=Z,0.8nm,0.3s,mb4.1						
KEV	**Kevo**	**35.29**	**1**	*e*P	**P**	**21 35 49.8**	**-1.8**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
BRVK	**Borovoye**	**36.67**	**46**	*e*P	**P**	**21 36 03.2**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
BRVK	**Borovoye**	**36.67**	**46**	*e*P	**P**	**21 36 03.2**	**-0.4**
	comp=Z,1.9nm,0.6s,mb4.1						
BRVK	**Borovoye**	**36.67**	**46**	*e*P	**P**	**21 36 03.1**	**-0.4**
	comp=Z,1.9nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**36.73**	**46**	P	**P**	**21 36 02.1**	**-1.9**
	comp=Z,2.7nm,1.0s,mb4.0,baz=255,slow=5.8,SNR=8.8						
EKS2	**Erkin-Say**	**38.34**	**63**	*e*P	**P**	**21 36 18.4**	**+0.5**
	comp=Z,2.0nm,0.6s,mb4.0						
UCH	**Uchtor**	**38.92**	**64**	*e*P	**P**	**21 36 22.0**	**-0.7**
UCH	**Uchtor**	**38.92**	**64**	*e*P	**P**	**21 36 22.0**	**-0.7**
DBIC	**Dimbokro**	**39.23**	**232**	P	**P**	**21 36 25.7**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.0,baz=181,slow=23,SNR=4.9						
TKM2	**Tokmak 2**	**39.66**	**62**	*e*P	**P**	**21 36 29.5**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
TKM2	**Tokmak 2**	**39.66**	**62**	*e*P	**P**	**21 36 29.4**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.0						
JMIC	**Jan Mayen**	**40.71**	**344**	P	**P**	**21 36 35.5**	**-1.7**
	comp=Z,4.5nm,0.3s,mb4.5,baz=325,slow=2.7,SNR=2.5						
KURK	**Kurchatov**	**41.52**	**50**	*e*P	**P**	**21 36 44.3**	**+0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
KURK	**Kurchatov**	**41.52**	**50**	*e*P	**P**	**21 36 44.2**	**+0.1**
	comp=Z,2.9nm,0.5s,mb4.2						
KURK	**Kurchatov**	**41.52**	**50**	*e*P	**P**	**21 36 44.2**	**+0.1**
	comp=Z,2.9nm,0.5s,mb4.2						
MK31	**Makanchi Array**	**44.06**	**56**	*e*P	**P**	**21 37 05.2**	**+0.4**
MKAR	**Makanchi Array**	**44.06**	**56**	P	**P**	**21 37 05.0**	**+0.2**
	comp=Z,2.7nm,0.5s,mb4.2,baz=272,slow=7.8,SNR=20						
NVS	**Novosibirsk**	**44.48**	**44**	*e*P	**P**	**21 37 07.7**	**-0.3**
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
NVS				pmax	pmax		
	comp=E,3.0nm,0.8s						
ZAL	**Zalesovo**	**45.38**	**46**	P	**P**	**21 37 14.5**	**-0.6**
ZAA0	**Zalesovo Array**	**45.39**	**46**	*e*P	**P**	**21 37 14.5**	**-0.7**
ZAA0	**Zalesovo Array**	**45.39**	**46**	*e*P	**P**	**21 37 14.5**	**-0.8**
ZALV	**Zalesovo Beam**	**45.39**	**46**	P	**P**	**21 37 14.4**	**-0.8**
	comp=E,5.0nm,0.5s,mb4.6,baz=268,slow=8.4,SNR=23						
SUMG	**Summit**	**49.59**	**339**	P	**P**	**21 37 48.0**	**+0.3**
SUMG	**Summit**	**49.59**	**339**	P	**P**	**21 37 48.0**	**+0.3**
SUMG				*e*PcP	PcP	21 39 10.6	+1.8
SONM	**Songino Array**	**59.83**	**50**	P	**P**	**21 39 02.9**	**+0.8**
	comp=E,2.6nm,0.6s,mb4.5,baz=291,slow=6.9,SNR=28						
BOD	**Bodaibo**	**60.91**	**38**	*e*P	**P**	**21 39 06.5**	**-2.8**
BOSA	**Boshof**	**62.80**	**180**	P	**P**	**21 39 24.3**	**+2.0**
	comp=E,1.3nm,0.8s,mb4.1,baz=93,slow=19,SNR=3.1						
BOSA	**Boshof**	**62.80**	**180**	P	**P**	**21 39 24.3**	**+2.0**
SCHQ	**Schefferville**	**63.72**	**320**	P	**P**	**21 39 27.3**	**-0.9**
	comp=E,1.6nm,0.4s,mb4.4,baz=27,slow=10,SNR=7.2						
CMAR	**Chiang Mai Arr**	**66.57**	**83**	P	**P**	**21 39 47.2**	**-0.1**
	comp=E,1.6nm,1.0s,mb4.0,baz=301,slow=9.3,SNR=4.4						
KSRS	**Korea Array**	**78.61**	**52**	P	**P**	**21 40 58.4**	**-0.3**
	comp=E,1.3nm,0.6s,mb4.0,baz=303,slow=4.2,SNR=3.9						
KSRS	**Korea Array**	**78.61**	**52**	P	**P**	**21 40 58.4**	**-0.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
MJAR	**Matsushiro Arr**	**85.69**	**48**	P	**P**	**21 41 36.0**	**+0.2**
	comp=Z,0.4nm,0.4s,mb4.0,baz=318,slow=5.2,SNR=4.9						

ISCJB ***08*** *21:46:41.9±0.9, 14.15N±003×14528E±002, h75km±8km, mb5.2/145, Error ellipse: s-maj=5.0km s-min=3.9km az=15.7*
DJA ***08*** *21:46:42, 1434N×14597E, h70km, mb5.1/12*
BJI ***08*** *21:46:42.7, 1425N×14584E, h98km, mB5.5, mb5.2*
MOS ***08*** *21:46:44.7±1.1, 1418N×14532E, h105km, mb5.4/43, Error ellipse: s-maj=8.6km s-min=5.3km az=99.1*
IDC ***08*** *21:46:45.9±0.5, 1412N×14546E, h103km±3km, mb4.7/24, mb1 4.7/26, mb1mx4.7/28, mbtmp4.7/26, MS4.2/7, Ms1 4.2/7, ms1mx3.7/21, Error ellipse: s-maj=12.0km s-min=7.3km az=96.0*
NEIC ***08*** *21:46:45.5±0.1, 14.15N×14534E, mb5.3/83, Error ellipse: s-maj=4.7km s-min=3.7km az=116.0*
NEIC Felt [III] on Tinian. Felt on Saipan. Felt [IV] at Hagatna; [III] at Barrigada, Santa Rita and Yigo; felt at Tamuning, Guam.

ISC 08 21:46:46.5±0.5, 1415N±003×14533E±002, h102km±4km, h102km±.7km:pP-P,n706,σ0°69/674, mb5.2/145, 130C-111D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.72**	**219**	P	**Pn**	**21 47 05.1**	**+0.8**
	3μm,0.3s,baz=341,slow=1.5,SNR=897						
GUMO				S	**Sn**	**21 47 19.1**	**+1.5**
	20μm,0.3s,baz=31,slow=20,SNR=86						
GUMO	**Guam**	**0.72**	**219**	*e*Pn	**Pn**	**21 47 04.8**	**+0.5**
GUMO				*e*Sn	**Sn**	**21 47 17.9**	**+0.2**
CBIJ	**Chichi jima**	**13.21**	**348**	P	**Pn**	**21 49 49.6**	**-0.4**
	6.4nm,0.3s,baz=94,slow=22,SNR=8.7						
JHJ	**Hachijo jima 2**	**19.55**	**346**	P	**P**	**21 51 06.2**	**+0.1**
	12nm,0.3s,baz=62,slow=20,SNR=11						
JHJ				LR	LR	21 58 23.4	
	comp=Z,482nm,19.2s,baz=138,slow=36						
JOW	**Kunigami**	**20.33**	**311**	P	**P**	**21 51 16.4**	**+1.8**
	96nm,0.4s,baz=139,slow=12,SNR=34						
JOW				LR	LR	21 59 15.1	
	comp=Z,1μm,18.5s,baz=71,slow=37						
MJAR	**Matsushiro Arr**	**23.19**	**345**	P	**P**	**21 51 42.9**	**-1.3**
	79nm,1.1s,mb4.9,baz=167,slow=10,SNR=91						
MJAR				LR	LR	22 00 08.1	
	comp=Z,638nm,20.6s,baz=165,slow=34						
MJAR	**Matsushiro Arr**	**23.19**	**345**	P	**P**	**21 51 42.9**	**-1.3**
MJAR				LR	LR	22 00 08.1	
MAJO	**Matsushiro**	**23.19**	**345**	*e*P	**P**	**21 51 42.9**	**-1.4**
MAT	**Matsushiro**	**23.19**	**345**	P	**P**	**21 51 42.9**	**-1.4**
MAT				S	**S**	**21 55 42.0**	**-6.2**
PMG	**Port Moresby**	**23.48**	**175**	*e*P	**P**	**21 51 45.3**	**-1.7**
PMG				pmax	pmax		
	comp=Z,260nm,1.2s						
PMG	**Port Moresby**	**23.48**	**175**	*e*P	**P**	**21 51 45.3**	**-1.8**
	comp=Z,259nm,1.2s,mb5.4						
NACB	**Ningancliao**	**24.50**	**298**	*e*P	**P**	**21 51 55.0**	**-1.3**
	comp=Z,125nm,1.4s,mb5.2						
YHNB	**Yeheng**	**24.86**	**299**	P	**P**	**21 52 00.2**	**+0.6**
	comp=Z,8.8nm,0.5s,mb4.5						
HNR	**Honiara**	**27.55**	**147**	P	**P**	**21 52 22.4**	**-1.5**
	comp=Z,37nm,0.3s,mb5.4,baz=230,slow=5.2,SNR=2.6						
HNR				LR	LR	22 01 09.6	
	comp=Z,398nm,21.6s,baz=0.7,slow=31						
KSRS	**Korea Array**	**27.91**	**329**	P	**P**	**21 52 27.4**	**+0.5**
	comp=Z,14nm,0.5s,mb4.7,baz=142,slow=9.7,SNR=38						
KSRS				pP	pP	21 52 49.9	+0.3
	comp=Z,21nm,1.0s,baz=145,slow=10,SNR=4.4						
KS15	**Wonju Array Si**	**27.91**	**329**	*e*P	**P**	**21 52 28.1**	**+1.2**
INCN	**Inchon**	**28.58**	**328**	*e*P	**P**	**21 52 32.4**	**-0.4**
	comp=Z,72nm,1.3s,mb5.2						
KAKA	**Kakadu**	**29.59**	**206**	*e*P	**P**	**21 52 41.3**	**-0.7**
	comp=Z,57nm,0.9s,mb5.2						
KAKA	**Kakadu**	**29.59**	**206**	*e*P	**P**	**21 52 41.2**	**-0.8**
ASAJ	**Asahikawa**	**29.95**	**356**	P	**P**	**21 52 43.8**	**-1.2**
	comp=Z,17nm,0.9s,mb4.7,baz=221,slow=16,SNR=8.4						
NJ2	**Nanjing**	**30.05**	**311**	*e*P	**P**	**21 52 47.9**	**+2.0**
NJ2				AP	pP	21 53 07.9	-0.8
NJ2				XP	sP	21 53 21.0	+0.4
NJ2				S	**S**	**21 57 36.5**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,510nm,4.8s						
NJ2				LR	LR		
	comp=N,350nm,20.9s						
NJ2				LR	LR		
	comp=E,340nm,19.4s						
NJ2				LR	LR		
	comp=Z,370nm,15.6s						
VLA	**Vladivostok**	**31.10**	**341**	*e*P	**P**	**21 52 54.2**	**-0.8**
VLA				*e*	pP	21 53 15.5	-2.4
VLA				pmax	pmax		
	comp=Z,147nm,1.9s,mb5.4						
DL2	**Dalian**	**32.33**	**324**	⇑*i*P	**P**	**21 53 06.8**	**+0.9**
DL2				AP	pP	21 53 29.2	+0.3
DL2				S	**S**	**21 58 14.4**	**+2.0**
DL2				AMB	AMB		
	comp=Z,90nm,0.6s,mb5.7						
DL2				AMB	AMB		
	comp=Z,250nm,5.6s						
YSS	**Yuzh-Sakhalins**	**32.77**	**357**	*e*P	**P**	**21 53 07.7**	**-1.9**
YSS	**Yuzh-Sakhalins**	**32.77**	**357**	*e*P	**P**	**21 53 07.9**	**-1.7**
	comp=Z,21nm,1.1s,mb4.9						
WHN	**Wuhan**	**32.83**	**305**	⇑P	**P**	**21 53 11.7**	**+1.3**
WHN				AMB	AMB		
	comp=Z,235nm,2.0s,mb5.7						
MDJ	**Mudanjiang**	**33.19**	**339**	P	**P**	**21 53 13.4**	**+0.1**
MDJ				AP	pP	21 53 35.9	-0.4
MDJ				XP	sP	21 53 47.7	-0.4
MDJ				PP	PP	21 54 30.6	+0.3
MDJ				S	**S**	**21 58 24.5**	**-1.0**
MDJ				XS	sS	21 59 06.4	+1.0
MDJ				SCP	ScP	21 59 28.5	-0.5
MDJ				PCS	PcS	21 59 39.1	-0.2
MDJ				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,139nm,3.0s						
MDJ				LR	LR		
	comp=E,490nm,26.4s						
MDJ				LR	LR		
	comp=Z,1μm,39.9s						
TIA	**Tai'an**	**33.47**	**316**	*e*P	**P**	**21 53 16.3**	**+0.5**
CTA	**Charters Tower**	**34.04**	**178**	*e*P	**P**	**21 53 20.5**	**-0.4**
	comp=Z,34nm,1.6s,mb4.9						
CTA				*e*pP	pP	21 53 46.2	+2.2
CTA				*e*sP	sP	21 54 09.9	+14
CTA	**Charters Tower**	**34.04**	**178**	*e*P	**P**	**21 53 20.5**	**-0.4**
CTA				*e**PP	pP	21 53 46.2	+2.2
CTA				pmax	pmax		
	comp=Z,34nm,1.6s						
CTAO	**Charters Tower**	**34.04**	**178**	*e*P	**P**	**21 53 20.6**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,140nm,1.5s,mb5.6						
CTAO	**Charters Tower**	**34.04**	**178**	*e*P	**P**	**21 53 20.6**	**-0.3**
	comp=Z,137nm,1.5s,mb5.6						
CN2	**Changchun**	**34.10**	**334**	*e*P	**P**	**21 53 21.7**	**+0.5**
CN2				*e*AP	pP	21 53 46.5	+2.2
CN2				*e*XP	sP	21 53 59.7	+3.6
CN2				*e*S	**S**	**21 58 39.2**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,7.0s						
WRAB	**Tennant Creek**	**35.55**	**198**	*e*P	**P**	**21 53 33.0**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,56nm,0.9s,mb5.5						
WRAB	**Tennant Creek**	**35.55**	**198**	*e*P	**P**	**21 53 33.0**	**-1.0**
	comp=Z,56nm,0.9s,mb5.5						
WB2	**Warramunga Arr**	**35.56**	**198**	⇓*i*P	**P**	**21 53 32.8**	**-1.2**
WB2				*e*pP	pP	21 53 56.0	-1.2
WB2				*e*sP	sP	21 54 10.6	+1.7
WB2				*e*PCP	PcP	21 55 40.6	-20
WB2				*e*S	**S**	**21 58 58.9**	**-3.6**
WB2				*e*SCP	ScP	21 59 36.7	-1.1
WRA	**Warramunga Arr**	**35.57**	**198**	P	**P**	**21 53 33.1**	**-1.0**
	comp=Z,27nm,0.6s,mb5.3,baz=23,slow=9.3,SNR=158						
WRA				pP	pP	21 53 55.4	-1.8
	comp=Z,13nm,0.9s,baz=20,slow=9.7,SNR=3.6						
WRA				ScP	ScP	21 59 36.5	-1.4
	comp=Z,9.4nm,1.0s,baz=17,slow=3.8,SNR=12						
WRA				LR	LR	22 08 25.1	
	comp=Z,468nm,19.4s,baz=55,slow=36						
WRA	**Warramunga Arr**	**35.57**	**198**	P	**P**	**21 53 33.1**	**-1.0**
WRA				*PP	pP	21 53 55.4	-1.8
BJT	**Baijiatuau**	**36.28**	**321**	*e*P	**P**	**21 53 40.9**	**+0.9**
BJT				*e*	pP	21 54 05.4	+2.2
BJT				pmax	pmax		
	comp=Z,118nm,1.2s						
BJT	**Baijiatuau**	**36.28**	**321**	*e*P	**P**	**21 53 40.9**	**+0.9**
	comp=Z,118nm,1.2s,mb5.7						
BJT				*e*	pP	21 54 05.4	+2.1
BJI	**Beijing**	**36.29**	**321**	P	**P**	**21 53 40.3**	**+0.2**
BJI				AP	pP	21 54 02.3	-1.0
BJI				XP	sP	21 54 14.5	-0.6
BJI				PP	PP	21 55 04.1	-0.5
BJI				S	**S**	**21 59 11.8**	**-1.5**
BJI				AMB	AMB		
	comp=Z,87nm,1.4s,mb5.5						
BJI				AMB	AMB		
	comp=Z,505nm,4.3s						
KLR	**Kul'dur**	**36.72**	**345**	*e*P	**P**	**21 53 38.0**	**-5.6**
KLR				pmax	pmax		
	comp=Z,130nm,1.8s,mb5.6						
KSM	**Kuching**	**36.84**	**253**	*e*P	**P**	**21 53 43.7**	**-1.4**
FITZ	**Fitzroy Crossi**	**37.48**	**212**	*e*P	**P**	**21 53 49.8**	**-0.5**
	comp=Z,25nm,0.9s,mb5.1						
FITZ				*e*pP	pP	21 54 06.7	-7.0
FITZ				*e*sP	sP	21 54 25.6	+0.2
FITZ				*e*PCP	PcP	21 55 37.4	-29
FITZ				*e*S	sS	22 00 45.5	+33
GYA	**Guiyang**	**38.13**	**295**	⇑*i*P	**P**	**21 53 56.8**	**+0.9**
GYA				AP	pP	21 54 20.8	+1.6
GYA				XP	sP	21 54 32.0	+1.0
GYA				PP	PP	21 55 29.4	+4.4
GYA				PCP	PcP	21 56 10.2	+1.3
GYA				S	**S**	**21 59 41.7**	**+0.1**
GYA				SCP	ScP	21 59 47.8	+0.4
GYA				PCS	PcS	21 59 58.2	+0.1
GYA				XS	sS	22 00 23.4	+1.4
GYA				SCS	ScS	22 03 55.6	-1.8
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,140nm,4.8s						
GYA				LR	LR		
	comp=N,1μm,18.4s						
GYA				LR	LR		
	comp=E,970nm,19.6s						
GYA				LR	LR		
	comp=Z,760nm,18.6s						
XAN	**Xi'an**	**38.41**	**307**	P	**P**	**21 53 58.3**	**+0.2**
XAN				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.2						
XAN				AMB	AMB		
	comp=Z,229nm,3.9s						
ASAR	**Alice Springs**	**39.21**	**197**	P	**P**	**21 54 04.5**	**-0.3**
	comp=Z,8.7nm,0.9s,mb4.6,baz=42,slow=5.8,SNR=52						
ASAR				ScP	ScP	21 59 51.0	-0.5
	comp=Z,1.5nm,1.0s,baz=77,slow=1.7,SNR=5.0						
ASAR				S	**S**	**21 59 57.0**	**-0.7**
	comp=Z,4.5nm,1.3s,baz=24,slow=19,SNR=5.0						
HHC	**Hu-ho-hao-te**	**39.64**	**319**	*e*P	**P**	**21 54 09.5**	**+1.2**
HHC				AP	pP	21 54 31.1	-0.7
HHC				XP	sP	21 54 42.9	-0.6
HHC				PP	PP	21 55 44.8	+3.5
HHC				S	**S**	**22 00 05.2**	**+1.2**
HHC				SS	SS	22 02 57.7	-5.5
HHC				SCS	ScS	22 04 05.5	-0.1
HHC				AMB	AMB		
	comp=Z,67nm,1.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,538nm,4.4s						
HHC				LR	LR		
	comp=N,292nm,21.4s						
HHC				LR	LR		
	comp=E,171nm,20.2s						
HHC				LR	LR		
	comp=Z,1μm,22.6s						
PETK	**Petropavlovsk-**	**40.08**	**12**	P	**P**	**21 54 11.0**	**-0.7**
	comp=Z,31nm,1.0s,mb5.1,baz=177,slow=7.4,SNR=18						
PET	**Petropavlovsk**	**40.20**	**12**	⇑*i*P	**P**	**21 54 11.5**	**-1.1**
PET				*e*		21 55 46.4	
PET				*e*S	**S**	**22 00 15.1**	**+3.3**
PET				pmax	pmax		
	comp=Z,700nm,2.3s,mb6.1						
PET				pmax	pmax		
	comp=Z,112nm,1.2s,mb5.6						
PET				pmax	pmax		
	comp=Z,36nm,2.2s,mb4.8						
PET	**Petropavlovsk**	**40.20**	**12**	*e*P	**P**	**21 54 11.8**	**-0.8**
BTO	**Baotou**	**40.52**	**317**	*e*P	**P**	**21 54 16.0**	**+0.5**
HIA	**Hailar**	**40.83**	**334**	*e*P	**P**	**21 54 18.3**	**+0.4**
HIA				*e*	pP	21 54 39.0	-2.5
HIA				*e*		21 55 53.2	
HIA				pmax	pmax		
	comp=Z,202nm,1.3s						
HIA	**Hailar**	**40.83**	**334**	*e*P	**P**	**21 54 18.2**	**+0.3**
	comp=Z,202nm,1.3s,mb5.8						
HIA				*e*	pP	21 54 39.0	-2.5
HIA				*e*PP	PP	21 55 53.2	-0.8
KMI	**Kunming**	**41.42**	**292**	P	**P**	**21 54 25.1**	**+2.0**
KMI				AP	pP	21 54 50.2	+3.4
KMI				XP	sP	21 55 01.0	+2.6
KMI				PP	PP	21 56 04.2	+3.5
KMI				S	**S**	**22 00 30.1**	**-0.7**
KMI				XS	sS	22 01 12.5	+0.9
KMI				AMB	AMB		
	comp=Z,16nm,1.5s,mb4.6						
KMI				AMB	AMB		
	comp=Z,391nm,4.8s						
KMI				LR	LR		
	comp=N,333nm,18.1s						
KMI				LR	LR		
	comp=E,358nm,18.8s						
KMI				LR	LR		
	comp=Z,652nm,42.6s						
DZM	**Mont Dzumac**	**41.53**	**150**	*e*P	**P**	**21 54 23.2**	**-0.7**
LZH	**Lanzhou**	**43.02**	**308**	⇑P	**P**	**21 54 37.6**	**+1.6**
LZH				AP	pP	21 55 01.0	+1.2
LZH				XP	sP	21 55 12.3	+0.9
LZH				PP	PP	21 56 21.5	+3.7
LZH				S	**S**	**22 00 55.2**	**+1.1**
LZH				XS	sS	22 01 34.1	-1.0
LZH				SS	SS	22 04 03.3	-6.7
LZH				AMB	AMB		
	comp=Z,155nm,1.4s,mb5.5						
LZH				AMB	AMB		
	comp=Z,387nm,4.3s						
LZH				LR	LR		
	comp=E,798nm,14.2s						
LZH				LR	LR		
	comp=Z,1μm,18.0s						
MBWA	**Marble Bar**	**43.17**	**216**	*e*P	**P**	**21 54 37.1**	**-0.2**
	comp=Z,34nm,1.0s,mb5.0						
CM31	**Chiang Mai Arr**	**44.64**	**282**	*e*P	**P**	**21 54 49.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**44.64**	**282**	P	**P**	**21 54 51.0**	**+1.8**
	comp=Z,5.6nm,0.7s,mb4.4,baz=86,slow=5.8,SNR=19						
CMAR				pP	pP	21 55 14.0	+0.9
	comp=Z,8.7nm,0.9s,baz=74,slow=6.2,SNR=5.1						
ARMA	**Armidale**	**44.72**	**172**	*e*P	**P**	**21 54 49.4**	**-0.2**
ARMA				*e*pP	pP	21 55 10.9	-2.6
ARMA				*e*sP	sP	21 55 25.4	+0.3
SMY	**Shemya**	**44.76**	**25**	*e*P	**P**	**21 54 49.3**	**-0.3**
SMY				*e**PP	pP	21 55 13.2	-0.4
CLNS	**Chul'man**	**45.37**	**344**	*e*P	**P**	**21 54 53.4**	**-0.9**
CLNS				*e*		21 56 30.7	
CLNS				*e*		21 56 40.0	
CLNS				*e*S	**S**	**22 01 25.4**	**-2.1**
CLNS				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.1						
CLNS				pmax	pmax		
	comp=N,37nm,1.2s						
CLNS				pmax	pmax		
	comp=E,13nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
CLNS				pmax	pmax		
	comp=N,5.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.9s						
CIT	**Chita**	**45.53**	**333**	*e*P	**P**	**21 54 56.3**	**+0.6**
CIT				pmax	pmax		
	comp=Z,322nm,1.8s,mb5.8						
STKA	**Stephens Creek**	**45.91**	**184**	⇓*i*P	**P**	**21 54 57.9**	**-1.0**
	comp=Z,14nm,1.0s,mb4.7						
STKA				*e*sP	sP	21 55 33.3	-1.1
STKA	**Stephens Creek**	**45.91**	**184**	P	**P**	**21 54 57.9**	**-1.0**
	comp=Z,21nm,1.0s,mb4.8,baz=357,slow=8.3,SNR=18						
AMKA	**Amchitka**	**46.09**	**29**	*e*P	**P**	**21 55 00.3**	**+0.1**
SONM	**Songino Array**	**46.54**	**324**	P	**P**	**21 55 05.0**	**+1.3**
	comp=Z,8.2nm,0.4s,mb4.8,baz=135,slow=9.0,SNR=74						
SONM				pP	pP	21 55 28.3	+0.5
	comp=Z,7.2nm,0.9s,baz=130,slow=7.1,SNR=2.4						
GTA	**Gaotai**	**47.14**	**311**	P	**P**	**21 55 10.5**	**+1.9**
GTA				AP	pP	21 55 34.0	+1.3
GTA				XP	sP	21 55 44.7	+0.5
GTA				PP	PP	21 57 02.8	+2.5
GTA				S	**S**	**22 01 55.8**	**+2.4**
GTA				XS	sS	22 02 36.3	+1.4
GTA				SS	SS	22 05 18.6	-3.2
GTA				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.9						
GTA				AMB	AMB		
	comp=Z,417nm,6.0s						
GTA				LR	LR		
	comp=N,439nm,17.1s						
GTA				LR	LR		
	comp=E,374nm,18.3s						
GTA				LR	LR		
	comp=Z,710nm,18.0s						
FORT	**Forrest**	**47.66**	**200**	⇓*i*P	**P**	**21 55 12.4**	**-0.2**
	comp=Z,47nm,1.0s,mb5.3						
SEY	**Seymchan**	**48.97**	**4**	*i* P	**P**	**21 55 19.9**	**-2.3**
YAK	**Yakutsk**	**49.11**	**350**	*e*P	**P**	**21 55 20.7**	**-2.6**
YAK				pmax	pmax		
	comp=Z,117nm,1.0s,mb5.8						
YAK				pmax	pmax		
	comp=N,60nm,1.1s						
YAK				pmax	pmax		
	comp=E,20nm,1.2s						
YAK	**Yakutsk**	**49.11**	**350**	*e*P	**P**	**21 55 21.7**	**-1.5**
	comp=E,141nm,0.9s,mb5.9						
YAK				*e*PcP	PcP	21 56 45.2	-0.1
BOD	**Bodaibo**	**49.56**	**339**	*e*P	**P**	**21 55 26.0**	**-0.8**
BOD				pmax	pmax		
	comp=Z,62nm,1.3s,mb5.4						
ZAK	**Zakamensk**	**49.63**	**326**	⇑*i*P	**P**	**21 55 28.0**	**+0.6**
ZAK				*e*	pP	21 55 50.3	-1.5
ZAK				*e*		22 02 25.8	
ZAK				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.2						
ZAK				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.3						
IRK	**Irkutsk**	**50.11**	**328**	⇑*i*P	**P**	**21 55 31.3**	**+0.3**
IRK				pmax	pmax		
	comp=Z,110nm,1.2s,mb5.7						
TLY	**Talaya**	**50.12**	**327**	*e*P	**P**	**21 55 31.6**	**+0.4**
TLY				*e*S	**S**	**22 02 46.4**	**+12**
TLY				pm

HVS pmax pmax
comp=Z,300nm,1.3s,mb6.2
BILL Bilibino 55.53 9α *i*P **P 21 56 09.3 -1.4**
BILL 21 57 08.0
BILL 21 58 14.0
BILL pmax pmax
comp=Z,123nm,1.2s,mb5.8
BILL MLR MLR
comp=Z,200nm,21.0s
BILL Bilibino 55.53 9 *e*P **P 21 56 09.3 -1.4**
comp=Z,151nm,1.1s,mb5.9
RAMN Ramite 56.02 293 *e*P **P 21 56 15.1 +0.2**
JIRN Jiri 56.39 294 *e*P **P 21 56 18.3 +0.8**
comp=Z,22nm,0.5s,mb5.5
POHA Pohakuloa 56.61 76 P **P 21 56 19.4 +0.2**
GUN Gumba 56.67 294 *e*P **P 21 56 19.7 +0.2**
comp=Z,30nm,0.5s,mb5.6
FALS False Pass 56.68 33 *e*P **P 21 56 18.2 -0.8**
WMQ Urumqi 57.08 313 P **P 21 56 25.3 +3.2**
WMQ AP pP 21 56 49.3 +2.3
WMQ XP sP 21 57 00.3 +1.9
WMQ PCP PcP 21 57 18.5 +2.6
WMQ PP PP 21 58 35.1 +5.2
WMQ AMB AMB
comp=Z,41nm,1.4s,mb5.3
WMQ LR LR
comp=N,1μm,33.0s
PKI Pulchoki 57.09 294 *e*P **P 21 56 22.5 +0.1**
comp=N,12nm,0.5s,mb5.2
KKN Kakani 57.20 294 *e*P **P 21 56 23.2 -0.1**
comp=N,11nm,0.5s,mb5.1
DMN Daman 57.35 294 *e*P **P 21 56 24.5 +0.2**
comp=N,12nm,0.4s,mb5.2
GKN Gorkha 57.77 294 *e*P **P 21 56 27.2 -0.1**
KRAR Krasnoyarsk 57.79 328 *e*P **P 21 56 26.3 -0.6**
KRAR pmax pmax
comp=Z,38nm,1.5s,mb5.2
TIXI Tiksi 58.32 354 *e*P **P 21 56 27.4 -2.9**
TIXI pmax pmax
comp=Z,20nm,1.0s,mb5.1
TIXI Tiksi 58.32 354 *e*P **P 21 56 28.6 -1.7**
comp=Z,19nm,0.9s,mb5.1
SDPT Sand Point 58.42 33 *e*P **P 21 56 29.7 -1.6**
comp=Z,218nm,0.8s,mb6.2
SDPT LR LR
comp=Z,200nm,22.0s
DANN Dangsing 58.55 295 *e*P **P 21 56 33.0 +0.3**
comp=Z,28nm,0.5s,mb5.5
KOLN Koldanda 58.69 294 *e*P **P 21 56 33.1 -0.6**
TNA Tin City 60.16 20 *e*P **P 21 56 41.9 -1.2**
MK31 Makanchi Array 61.40 316 *e*P **P 21 56 52.0 +0.2**
MKAR Makanchi Array 61.40 316 P **P 21 56 52.0 +0.2**
comp=Z,4.8nm,0.4s,mb4.9,baz=90,slow=8.1,SNR=77
MKAR pP pP 21 57 18.1 +1.0
comp=Z,5.9nm,0.5s,baz=92,slow=9.1,SNR=3.8
MKAR PKPPKP 22 26 12.1
comp=Z,1.1nm,0.9s,baz=270,slow=1.2,SNR=8.3
MKAR Makanchi Array 61.40 316 P **P 21 56 52.0 +0.2**
MKAR *PP pP 21 57 18.1 +1.0
ZAA0 Zalesovo Array 61.43 324 *e*P **P 21 56 50.9 -1.0**
ZAA0 *e* pP 21 57 17.2 +0.1
ZALV Zalesovo Beam 61.43 324 P **P 21 56 52.1 +0.3**
comp=Z,5.1nm,0.4s,mb4.9,baz=102,slow=7.2,SNR=41
ZAL Zalesovo 61.44 324 P **P 21 56 52.2 +0.2**
NVS Novosibirsk 62.56 325 ⇑*i*P **P 21 56 58.6 -0.8**
NVS *e**PP pP 21 57 25.8 +1.0
NVS *e*S **S 22 05 19.7 +0.6**
NVS *e**SS sS 22 05 55.9 -6.6
NVS *e*SS SS 22 09 23.9 -0.9
NVS pmax pmax
comp=Z,132nm,1.7s,mb5.6
NVS pmax pmax
comp=N,40nm,1.6s
NVS pmax pmax
comp=E,84nm,1.4s
NVS smax
comp=N,59nm,2.3s
OHAK Old Harbor 62.83 32 *e*P **P 21 57 00.4 -0.7**
comp=N,125nm,0.9s,mb5.8
SVW2 Sparrevohn 62.97 28 *e*P **P 21 57 01.8 -0.2**
KDAK Kodiak Island 63.35 32 P **P 21 57 04.1 -0.5**
comp=N,23nm,0.3s,mb5.5,baz=258,slow=3.5,SNR=67
TTA Tatalina 63.45 26 *e*P **P 21 57 04.3 -0.9**
TTA *e* 21 57 40.2
TTA pmax pmax
comp=Z,235nm,1.6s,mb5.9
TTA Tatalina 63.45 26 *e*P **P 21 57 04.3 -0.9**
comp=Z,235nm,1.6s,mb5.9
TTA *e*PcP PcP 21 57 40.2 -0.9
DDI Dehra Dun 63.51 297 *e*x **P 21 57 05.9 -0.3**
PALK Pallekele 63.71 271 P **P 21 57 07.4 -0.4**
HYB Hyderabad 64.06 283 *i*P **P 21 57 10.5 +0.5**
HYB Hyderabad 64.06 283 *e*P **P 21 57 08.0 -2.0**
NDI New Delhi 64.30 295 *e*P pP 21 57 36.0 -0.8
RAR Rarotonga 64.33 122 P **P 21 57 10.5 -1.2**
comp=Z,27nm,0.8s,mb5.1,baz=261,slow=9.7,SNR=4.0
RAR LR LR 22 22 23.8
comp=Z,161nm,19.7s,baz=360,slow=33
KURK Kurchatov 64.45 320 *e*P **P 21 57 11.6 -0.3**
KURK *e* pP 21 57 38.2 +0.8
KURK pmax pmax
comp=Z,135nm,1.2s,mb5.7
KURK Kurchatov 64.45 320 *e*P **P 21 57 11.6 -0.4**
comp=Z,135nm,1.2s,mb5.7
KURK *e* pP 21 57 38.2 +0.8
PPLA Purkeypile 65.08 27 *e*P **P 21 57 15.6 -0.2**
comp=Z,91nm,0.9s,mb5.6
KSH Kashi 65.26 307 P **P 21 57 20.1 +2.6**
KSH *e*AP pP 21 57 47.8 +4.9
KSH PCP PcP 21 57 50.2 +1.2
KSH XP sP 21 57 59.6 +5.5
KSH PP PP 21 59 47.5 +5.4
KSH SCP 22 01 41.9
KSH PCS 22 01 53.5
KSH S S 22 05 54.3 +1.2
KSH XS sS 22 06 42.5 +5.7
KSH SCS ScS 22 07 01.7 -1.7
KSH SS SS 22 10 12.3 +4.7
KSH AMB AMB
comp=Z,464nm,3.2s
KSH LR LR
comp=N,654nm,6.6s
KSH LR LR
comp=E,552nm,6.6s
SLKM Skilak Lake 65.28 29 *e*P **P 21 57 16.2 -0.9**
CHUM Lake Minchumin 65.35 26 *e*P **P 21 57 17.4 -0.1**
comp=E,73nm,1.0s,mb5.5
CHUM *e* pP 21 57 42.6 -0.4
CHUM *e*PcP PcP 21 57 49.4 +0.5
CHUM *e*PP PP 21 59 39.9 -2.4
FIB Fire Island 65.48 29 *e*P **P 21 57 17.6 -0.8**
FIB *e* pP 21 57 43.3 -0.6
FIB pmax pmax
comp=Z,215nm,1.0s,mb5.9
FIB Fire Island 65.48 29 *e*P **P 21 57 17.6 -0.9**
comp=Z,215nm,1.0s,mb5.9
FIB *e* pP 21 57 43.3 -0.6
SEW Seward 65.55 30 *e*P **P 21 57 17.9 -1.0**
SEW *e* pP 21 57 43.3 -1.1
IMA2 Indian Mountai 65.56 23 *e*P **P 21 57 18.1 -0.7**
RC01 Rabbit Creek A 65.66 29 *e*P **P 21 57 18.5 -1.1**
comp=Z,189nm,0.9s,mb5.9
TKM2 Tokmak 2 65.69 311 *e*P **P 21 57 20.5 +0.3**
TKM2 *e* pP 21 57 42.9 -2.8
TKM2 *e* pP 21 57 50.0 +4.3
TKM2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
TKM2 Tokmak 2 65.69 311 *e*P **P 21 57 20.5 +0.3**
comp=Z,5.9nm,0.7s,mb4.5
TKM2 *e* pP 21 57 42.9 -2.8
TKM2 *e*PcP PcP 21 57 50.0 -0.8
BPAW Bear Paw Mtn. 65.97 26 *e*P **P 21 57 20.4 -1.1**
comp=Z,130nm,1.1s,mb5.7
BPAW *e*PcP PcP 21 57 53.7 +2.3
TRF Thorofare Moun 66.08 26 *e*P **P 21 57 20.8 -1.4**
comp=Z,138nm,1.2s,mb5.7
PMR Palmer 66.08 28 *e*P **P 21 57 20.8 -1.4**
FRU Bishkek 66.41 311 *e*P **P 21 57 25.0 +0.3**
FRU *e* pP 21 57 51.0 +0.7
FRU pmax pmax
comp=Z,40nm,2.0s,mb4.9
UCH Uchtor 66.46 310 P **P 21 57 26.3 +1.2**
comp=Z,23nm,1.4s,mb4.8
MCK McKinley 66.73 26 *e*P **P 21 57 24.8 -1.6**
comp=Z,10μm,0.6s
EKS2 Erkin-Say 67.02 311 *e*P **P 21 57 27.7 -0.9**
comp=Z,21nm,1.7s,mb4.7
AML Almayashu 67.07 310 *e*P **P 21 57 29.4 +0.5**
comp=Z,14nm,0.9s,mb4.8
AML *e*PcP PcP 21 57 57.0 +0.6
AML *e*PP PP 21 59 57.4 -0.4
COLD Coldfoot 67.26 22 *e*P **P 21 57 29.2 -0.4**
comp=Z,72nm,1.0s,mb5.5
EYAK Cordova Ski Ar 67.44 30 *e*P **P 21 57 30.1 -0.8**
comp=Z,28nm,0.4s,mb5.4
COLA College 67.50 25 *e*P **P 21 57 29.3 -1.9**
COLA pmax pmax
comp=Z,31nm,0.9s,mb5.1
COLA College 67.50 25 *e*P **P 21 57 29.3 -1.9**
comp=Z,31nm,0.9s,mb5.1
DIV Divide 67.55 29 *e*P **P 21 57 31.4 -0.2**
comp=Z,129nm,1.1s,mb5.7
BMRM Bremner River 68.07 30 *e*P **P 21 57 34.4 -0.5**
BMRM *e*PP PP 21 59 59.4 -6.6
BRVK Borovoye 69.83 322 *e*P **P 21 57 45.7 -0.2**
BRVK pmax pmax
comp=Z,15nm,0.8s,mb4.9
BRVK Borovoye 69.83 322 *e*P **P 21 57 45.7 -0.2**
comp=Z,15nm,0.8s,mb4.9
EGAK Eagle 70.27 26 *e*P **P 21 57 47.0 -1.4**
comp=Z,97nm,1.2s,mb5.5
KBL Kabul 70.92 302 *e*P **P 21 57 53.0 +0.1**
comp=Z,14nm,0.9s,mb4.8
DAWY Dawson 70.94 27 *e*P **P 21 57 51.2 -1.3**
HYT Haines Junctio 71.49 30 *e*P **P 21 57 55.8 -0.1**
SIT Sitka 72.45 34 *e*P **P 21 58 01.1 -0.6**
SIT pmax pmax
comp=Z,99nm,1.5s,mb5.4
SIT Sitka 72.45 34 *e*P **P 21 58 01.1 -0.6**
comp=Z,99nm,1.5s,mb5.4
SKAG Skagway 72.51 32 *e*P **P 21 58 01.3 -0.6**
comp=Z,64nm,0.8s,mb5.5
INK Inuvik 73.68 23 *e*P **P 21 58 07.6 -1.1**
comp=Z,3μm,1.2s
INK PcP PcP 21 58 23.8 -0.1
WRAK Wrangell Islan 74.09 35 *e*P **P 21 58 11.7 +0.4**
comp=Z,116nm,1.3s,mb5.5
DLBC Dease Lake 75.27 33 *e*P **P 21 58 18.2 +0.1**
DLBC *e* pP 21 58 43.9 -0.3
SVE Sverdlovsk 75.39 326 ⇓*e*P **P 21 58 18.2 -0.6**
SVE *e* 22 01 08.2
SVE *e*S S 22 07 47.0 -3.3
SVE pmax pmax
comp=Z,45nm,1.8s,mb4.9
ARU Arti 76.56 325 P **P 21 58 25.7 +0.2**
comp=Z,99nm,0.5s,mb5.8,SNR=6.9
ARU Arti 76.56 325 *c i*P **P 21 58 24.4 -1.1**
ARU *e* 21 58 34.2
ARU *e**PP pP 21 58 47.5 -4.1
ARU *e**SP sP 21 59 00.7 -2.0
ARU *e* 22 01 16.4
ARU PPP 22 03 03.4
ARU *e*S S 22 08 04.7 +1.5
ARU *e*SS SS 22 13 01.3 +1.4
ARU pmax pmax
comp=Z,54nm,2.5s,mb4.8
ARU Arti 76.56 325 *e*P **P 21 58 24.2 -1.3**
comp=Z,18nm,0.9s,mb4.8
ARU *e*PP PP 22 01 18.0 -0.6
AKTK Aktyubinsk 77.54 319 P **P 21 58 29.8 -1.3**
AKTO Aktyubinsk 77.54 319 P **P 21 58 29.8 -1.3**
comp=Z,1.3nm,0.5s,baz=98,slow=9.2,SNR=4.5
NLWA Neilton Lookou 80.26 44 P **P 21 58 46.8 +0.8**
baz=80,SNR=6.9
NLWA Neilton Lookou 80.26 44 *e*P **P 21 58 46.8 +0.7**
comp=Z,11nm,0.6s,mb4.8
NLWA *e*PcP PcP 21 58 52.3 -0.6
PGC Sidney 80.32 42 *e*P **P 21 58 46.5 +0.2**
comp=Z,94nm,1.4s,mb5.4
PGC *e* pP 21 59 12.5 -0.2
D03A Wishkah Elem. 80.38 44 ⇓P **P 21 58 47.4 +0.8**
baz=80
B04A Port Angeles 80.39 43 ⇑P **P 21 58 47.1 +0.4**
baz=80
E03A Lebam 80.62 44 P **P 21 58 48.7 +0.8**
baz=80,SNR=5.4
H02A Toledo 80.67 46 ⇑P **P 21 58 48.7 +0.5**
baz=80
K01A Sixes 80.67 48 ⇑P **P 21 58 48.5 +0.2**
baz=80
F03A Seaside 80.74 45 ⇓P **P 21 58 48.9 +0.3**
baz=81
HDW Hoodsport 80.76 43 P **P 21 58 49.4 +0.7**
A04A Legoe Bay, Lum 80.79 42 ⇓P **P 21 58 49.0 +0.2**
baz=81
C04A Brinnon 80.80 43 P **P 21 58 49.6 +0.7**
baz=81,SNR=5.6
BMW Boistfort Moun 80.86 44 *e*P **P 21 58 49.0 -0.3**
I02A Mapleton 80.91 47 ⇑P **P 21 58 49.9 +0.4**
baz=81
GNW Green Mountain 80.93 43 P **P 21 58 49.7 +0.2**
MPOR Mary's Peak 81.01 46 P **P 21 58 50.6 +0.6**
G03A Yamhill 81.05 46 ⇓P **P 21 58 50.2 0.0**
baz=81
M01C Crescent City 81.11 49 ⇑P **P 21 58 50.8 +0.2**
baz=81
A05A Maple Falls 81.14 42 ⇑P **P 21 58 50.4 -0.2**
baz=81
H03A Soap Creek Ran 81.16 46 P **P 21 58 51.6 +0.8**
baz=81,SNR=13
J02A Umpqua 81.21 48 P **P 21 58 51.7 +0.6**
baz=81,SNR=5.1
B05A Bryant 81.28 42 ⇓P **P 21 58 51.7 +0.3**
baz=81
MBW Mount Baker 81.30 42 P **P 21 58 51.5 -0.1**
I03A Eugene 81.31 47 P **P 21 58 52.1 +0.5**
baz=81,SNR=6.3
JCC Jacoby Creek 81.37 50 ⇓P **P 21 58 52.6 +0.6**
baz=81
JCW Jim Creek 81.40 43 *e*P **P 21 58 52.5 +0.4**
JCW *e*PcP PcP 21 58 57.4 -0.5
JCW *e* pP 21 59 19.0 +0.5
L02A Cave Junction 81.43 49 ⇑P **P 21 58 52.8 +0.4**
baz=81
A06A Chilliwack 81.51 42 ⇓P **P 21 58 52.4 -0.2**
baz=81
F04A Amboy 81.52 45 ⇑P **P 21 58 52.7 0.0**
baz=81
D05A Enumclaw 81.56 44 ⇑P **P 21 58 52.8 -0.1**
baz=81
TDL Tradedollar La 81.58 44 P **P 21 58 53.5 +0.5**
RPW Rockport 81.62 42 *e*P **P 21 58 53.2 0.0**
RPW PcP PcP 21 58 59.1 +0.3
RPW *e* pP 21 59 19.4 -0.2
B06A Marblemount 81.62 42 ⇓P **P 21 58 52.5 -0.7**
baz=82
C05A Tolt Reservoir 81.66 43 ⇑P **P 21 58 53.2 -0.2**
baz=82
O01C Eel River Cons 81.66 51 ⇑P **P 21 58 54.6 +1.0**
baz=82
HUMO Hull Mountain 81.81 48 ⇑P **P 21 58 54.8 +0.4**
baz=82,SNR=10
HUMO Hull Mountain 81.81 48 *e*P **P 21 58 54.1 -0.2**
comp=Z,10nm,0.8s,mb4.7
HUMO *e*PcP PcP 21 58 58.8 -1.0
HUMO *e* pP 21 59 20.8 0.0
E05A Randle 81.84 44 ⇑P **P 21 58 54.2 -0.2**
baz=82
N02C Big Bar 81.91 50 ⇓P **P 21 58 55.4 +0.5**
baz=82
KCPM Cahto Peak 81.93 51 *e*P **P 21 58 55.6 +0.6**
KCPM *e* pP 21 59 20.3 -1.2
H04A Detroit Lake 81.93 46 ⇓P **P 21 58 54.5 -0.4**
baz=82
I04A Tendick Farm, 81.96 47 P **P 21 58 54.9 -0.2**
baz=82,SNR=14
KIPM Iron Peak 81.98 51 *e*P **P 21 58 55.3 0.0**
IRO Indian Ridge 82.03 47 P **P 21 58 55.4 0.0**
M02C Callahan 82.13 49 P **P 21 58 56.9 +0.8**
baz=82,SNR=15
C06A Tall Timber Ra 82.13 43 ⇑P **P 21 58 55.7 -0.2**
baz=82
YKA Yellowknife Ar 82.15 27 P **P 21 58 54.4 -1.3**
comp=Z,11nm,0.5s,mb5.0,baz=287,slow=5.4,SNR=30
P01C Double 8 Ranch 82.16 51 ⇑P **P 21 58 56.4 +0.1**
baz=82
YBH Yreka Blue Hor 82.16 49 P **P 21 58 56.7 +0.5**
comp=Z,16nm,0.9s,mb4.8,baz=300,slow=2.3,SNR=32
YBH Yreka Blue Hor 82.16 49 P **P 21 58 56.9 +0.7**
baz=82,SNR=23
HOOD Mount Hood Mea 82.17 45 *e*P **P 21 58 55.4 -0.8**
HOOD *e* pP 21 59 24.0 +1.4
F05A White Salmon 82.19 45 ⇑P **P 21 58 56.5 +0.2**
baz=82
A07A Ashnola River, 82.22 41 P **P 21 58 56.5 +0.1**
baz=82,SNR=22
J04A Umpqua Nationa 82.29 47 ⇑P **P 21 58 56.8 -0.1**
baz=82
D06A Cle Elum 82.32 43 ⇓P **P 21 58 56.7 -0.3**
baz=82
E06A Yakima 82.37 44 P **P 21 58 57.4 +0.2**
baz=82,SNR=9.6
G05A Wamic 82.42 45 ⇓P **P 21 58 57.3 -0.2**
baz=82
O02C Red Bluff 82.43 51 P **P 21 58 58.5 +0.9**
baz=82,SNR=9.9
HOPS Hopland 82.46 52 ⇑P **P 21 58 57.7 -0.1**
baz=82
B07A Winthrop 82.52 42 P **P 21 58 57.9 0.0**
baz=82,SNR=7.5
WDC Whiskeytown Da 82.53 50 *e*P **P 21 58 57.6 -0.5**
WDC *e* pP 21 59 24.2 -0.4
WDC pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
WDC Whiskeytown Da 82.53 50 P **P 21 58 58.4 +0.2**
baz=82,SNR=5.4
WDC Whiskeytown Da 82.53 50 *e*P **P 21 58 57.6 -0.6**
comp=Z,9.9nm,1.0s,mb4.6
WDC *e* pP 21 59 24.1 -0.5
LHEM Herd Peak 82.55 49 P **P 21 58 58.5 +0.3**
ETW Entiat 82.57 43 *e*P **P 21 58 57.8 -0.4**
ETW *e*PcP PcP 21 59 03.7 +0.7
ETW *e* pP 21 59 25.2 +0.4
GASB Alder Springs 82.59 51 ⇑P **P 21 58 59.0 +0.5**
baz=82
H05A Madras 82.61 46 ⇑P **P 21 58 58.4 0.0**
baz=82
L04A Klamath Falls 82.67 48 P **P 21 58 59.1 +0.3**
baz=82,SNR=5.5
F06A Goldendale 82.67 45 ⇓P **P 21 58 58.7 0.0**
baz=82
I05A Bend 82.69 46 ⇓P **P 21 58 59.1 +0.2**
baz=82
K04A Chilquin 82.69 48 ⇓P **P 21 58 59.0 +0.1**
baz=82
M03C McCloud 82.69 49 ⇑P **P 21 58 58.9 -0.1**
baz=82
C07A Waterville 82.73 43 ⇓P **P 21 58 58.3 -0.8**
baz=83
FARB Farallon Islan 82.78 53 ⇓P **P 21 58 59.0 -0.5**
baz=83
G06A Carlson Farm, 82.89 45 ⇑P **P 21 58 59.6 -0.3**
baz=83
J05A Fort Rock 82.90 47 P **P 21 59 00.3 +0.3**
baz=83,SNR=24
A08A Turner Farm, O 82.96 41 P **P 21 59 00.2 +0.1**
baz=83,SNR=10
MNRC McLaughlin Nat 82.96 52 P **P 21 59 01.2 +0.8**
baz=83,SNR=11
O03C Acorn Hollow, 83.03 51 ⇓P **P 21 59 00.8 0.0**
baz=83
VIPM Ingram Point 83.06 46 P **P 21 59 00.9 +0.1**
CVS Carmenet Viney 83.07 52 ⇑P **P 21 59 00.7 -0.3**
baz=83
E07A Sunnyside 83.12 44 ⇓P **P 21 59 01.2 +0.1**
baz=83
H06A Lindquist Farm 83.21 46 P **P 21 59 01.4 -0.1**
baz=83,SNR=18
F07A Phinny Hill Vi 83.23 44 ⇑P **P 21 59 01.3 -0.3**
baz=83
K05A Summer Lake 83.27 48 ⇑P **P 21 59 01.8 -0.1**
baz=83,SNR=21
HATC Hat Creek Radi 83.28 50 P **P 21 59 02.4 +0.4**
baz=83,SNR=6.5
RSW Rattlesnake Hi 83.34 44 *e*P **P 21 59 01.8 -0.4**
RSW *e*PcP PcP 21 59 06.0 -0.4
RSW *e* pP 21 59 29.0 +0.3
Q03C Winters 83.34 52 ⇑P **P 21 59 02.5 +0.1**
baz=83
C08A Higginbotham F 83.38 43 ⇑P **P 21 59 01.8 -0.5**
baz=83
HAWA Hanford 83.38 44 *e*P **P 21 59 01.9 -0.5**
comp=Z,12nm,1.1s,mb4.6
HAWA *e*PcP PcP 21 59 06.0 -0.6
HAWA *e* pP 21 59 27.9 -1.0
SUTB Sutter Butte 83.39 51 ⇑P **P 21 59 01.6 -1.0**
baz=83
M05C Lookout 83.39 49 ⇑P **P 21 59 02.6 0.0**
baz=83
A09A Danville 83.39 41 P **P 21 59 02.5 +0.1**
baz=83,SNR=10
JRSC Jasper Ridge 83.44 53 ⇓P **P 21 59 01.8 -1.1**
baz=83
L05A Lakeview 83.46 48 P **P 21 59 03.4 +0.5**
baz=83,SNR=9.3
I06A Prineville 83.48 46 ⇓P **P 21 59 03.0 +0.1**
baz=83
ORV Oroville 83.53 51 P **P 21 59 03.1 -0.3**
baz=83,SNR=9.2
G07A Ruggs Ranch, H 83.55 45 P **P 21 59 03.0 -0.3**
baz=83,SNR=8.5
BNLO Ben Lomond (Sa 83.55 53 ⇓P **P 21 59 02.8 -0.7**
baz=83
OHCM Honcut 83.59 51 *e*P **P 21 59 03.7 +0.1**
OHCM *e* pP 21 59 28.8 -1.4
D08A Wollman Farm, 83.63 43 ⇓P **P 21 59 03.4 -0.3**
baz=84
E08A Dider Farm, El 83.67 44 ⇓P **P 21 59 03.7 -0.2**
baz=84
J06A Christmas Vall 83.68 47 P **P 21 59 03.7 -0.3**
baz=84,SNR=16
OD2 Odessa Site #2 83.69 43 *e*P **P 21 59 03.4 -0.5**
OD2 *e* pP 21 59 30.1 -0.4
K06A Valley Falls 83.71 48 P **P 21 59 04.3 +0.2**
baz=84,SNR=18
WENL Wente Brothers 83.77 53 ⇓P **P 21 59 04.7 +0.1**
baz=84
H07A Lands Inn, Kim 83.78 46 P **P 21 59 04.3 -0.2**
baz=84,SNR=5.5
Q04C Lincoln 83.78 52 ⇑P **P 21 59 04.9 +0.2**
baz=84
B09A Rice 83.81 42 P **P 21 59 04.5 -0.1**
baz=84,SNR=9.4
ELFS Eagle Lake Fie 83.87 50 ⇑P **P 21 59 05.1 +0.1**
baz=84,SNR=6.5
O05C Quincy 83.88 50 ⇑P **P 21 59 04.6 -0.5**
baz=84
C09A Chrisman Ranch 83.88 42 ⇑P **P 21 59 04.5 -0.4**
baz=84
MOD Modoc 83.88 48 ⇓P **P 21 59 04.5 -0.6**
baz=84,SNR=16
MOD Modoc 83.88 48 *e*P **P 21 59 04.7 -0.4**
MOD *e* pP 21 59 30.6 -1.1
M06C Likely Place G 83.92 49 ⇓P **P 21 59 05.1 -0.1**
baz=84
I07A Izee 83.94 46 P **P 21 59 05.4 +0.1**
baz=84,SNR=9.6
G08A Pilot Rock 84.03 45 ⇓P **P 21 59 05.8 +0.1**
baz=84,SNR=9.7
F08A Pendleton 84.03 44 P **P 21 59 06.0 +0.3**
baz=84,SNR=8.6
D09A Jones Farm, Ri 84.04 43 P **P 21 59 05.7 -0.1**
baz=84,SNR=15
A10A Northport 84.05 41 P **P 21 59 05.9 +0.1**
baz=84,SNR=12
S04C Ingram Canyon, 84.12 53 ⇓P **P 21 59 06.6 +0.2**
baz=84,SNR=9.2
HAST Hastings Reser 84.20 54 P **P 21 59 07.2 +0.4**
baz=84,SNR=6.0
J07A Hines 84.25 47 ⇑P **P 21 59 06.9 0.0**
baz=84,SNR=6.2
R04C Big Horse Ranc 84.25 52 ⇑P **P 21 59 06.6 -0.4**
baz=84
CASY Casey 84.26 193 *e*P **P 21 59 05.7 -0.6**
comp=Z,58nm,1.6s,mb5.2
PACP Pacheco Peak 84.27 53 ⇓P **P 21 59 07.0 -0.2**
baz=84
E09A Wood Farm, Sta 84.28 44 ⇓P **P 21 59 06.8 -0.2**
baz=84
LAVA Lava Cap Winer 84.29 52 P **P 21 59 07.2 +0.1**
baz=84,SNR=6.9
BEKR Beckwourth 84.32 50 P **P 21 59 07.4 +0.1**
baz=84,SNR=12
LNOR Lincton Mounta 84.35 44 *e*P **P 21 59 06.9 -0.4**
H08A Prairie City 84.42 46 P **P 21 59 07.8 0.0**
baz=84,SNR=8.9
K07A Rock Creek Ran 84.46 48 P **P 21 59 08.2 +0.2**

baz=84,SNR=21
N06A Buffalo Meadow 84.50 50 P P 21 59 08.3 +0.1
baz=84,SNR=18
C10A Spilker Farm, 84.50 42 ⇑P P 21 59 07.9 -0.2
baz=84
NEW Newport 84.51 42 P P 21 59 07.8 -0.3
LVZ Lovozero 84.53 339 *eP* **P 21 59 05.8 -2.0**
LVZ pmax pmax
comp=Z,28nm,1.3s,mb5.0
V03C Hunter Liggett 84.54 54 ⇑P P 21 59 08.3 -0.2
baz=84
L07A Adell 84.55 48 P P 21 59 09.1 +0.6
baz=84,SNR=21
I08A Drewsey 84.64 46 P P 21 59 08.9 0.0
baz=84,SNR=6.1
O06A Flanigan 84.64 50 P P 21 59 09.2 +0.2
baz=84,SNR=21
F09A S2 Ranch, Elgi 84.64 44 ⇓P P 21 59 08.7 -0.1
baz=84
P06A Stead Airport, 84.70 51 ⇑P P 21 59 09.5 +0.2
baz=84
D10A Wagner Farm, O 84.72 43 ⇑P P 21 59 08.9 -0.3
baz=84
CMB Columbia Colle 84.73 52 *eP* **P 21 59 09.2 -0.2**
CMB *e* pP 21 59 35.6 -0.4
CMB pmax pmax
comp=Z,16nm,1.0s,mb4.9
CMB Columbia Colle 84.73 52 P P 21 59 09.8 +0.4
baz=84,SNR=9.8
CMB Columbia Colle 84.73 52 *eP* **P 21 59 09.2 -0.2**
comp=Z,16nm,1.0s,mb4.9
CMB *e* pP 21 59 35.6 -0.4
T05C Eagle Field, D 84.77 53 ⇑P P 21 59 10.2 +0.6
baz=85
R05C Kirkwood Meado 84.81 52 ⇓P P 21 59 10.1 +0.3
baz=85
A11A Hall Mountain, 84.81 41 P P 21 59 10.3 +0.7
baz=85,SNR=24
U04C Hernandez Rese 84.81 54 P P 21 59 10.9 +1.1
baz=85,SNR=7.8
M07A Soldier Meadow 84.83 49 P P 21 59 10.6 +0.7
baz=85,SNR=7.3
G09A Cove 84.84 45 P P 21 59 09.9 +0.1
baz=85,SNR=13
J08A Circle Bar Ran 84.84 47 P P 21 59 10.1 +0.2
baz=85,SNR=9.5
WCN Washoe City 84.90 51 ⇑P P 21 59 10.4 +0.1
baz=85
S05C Merced 84.93 53 ⇓P P 21 59 09.8 -0.7
baz=85
B11A Sandpoint 84.95 41 P P 21 59 10.8 +0.5
baz=85,SNR=8.8
K08A Mann Creek Ran 84.99 47 P P 21 59 10.7 +0.1
baz=85,SNR=33
F10A Beach Ranch, E 85.03 44 P P 21 59 10.9 +0.1
baz=85,SNR=9.5
H09A Durkee 85.08 45 ⇑P P 21 59 11.2 +0.1
baz=85
PKD Parkfield 85.10 54 P P 21 59 11.9 +0.6
baz=85,SNR=6.3
APA Apatity 85.11 339 *⇓iP* **P 21 59 09.6 -1.1**
APA *i* *PP pP 21 59 35.0 -2.3
APA *eS* S 22 09 26.0 -5.6
APA pmax pmax
comp=Z,50nm,1.2s,mb5.3
N07B Gerlach 85.12 49 P P 21 59 11.6 +0.2
baz=85,SNR=26
S06C San Francisco 85.18 52 ⇑P P 21 59 11.2 -0.4
baz=85
I09A Lost Marbles R 85.20 46 ⇓P P 21 59 11.3 -0.4
baz=85
L08A Fields 85.23 48 P P 21 59 12.2 +0.4
baz=85,SNR=17
KLMR Klimovskoe 85.27 332 *eP* **P 21 59 09.0 -2.6**
KLMR pmax pmax
comp=Z,36nm,2.1s,mb4.9
A12A Yaak River Ran 85.27 41 ⇑P P 21 59 12.2 +0.3
baz=85,SNR=15
BMO Blue Mountains 85.27 45 *eP* **P 21 59 11.5 -0.5**
BMO *e* pP 21 59 37.0 -1.7
BMO pmax pmax
comp=Z,49nm,1.3s,mb5.3
BMO Blue Mountains 85.27 45 *eP* **P 21 59 11.5 -0.5**
comp=Z,49nm,1.3s,mb5.3
BMO *e* pP 21 59 37.0 -1.7
BMO *ePP* PP 22 02 29.8 -1.0
G10A Bishop Farm, J 85.29 45 P P 21 59 11.9 -0.1
baz=85,SNR=16
R06C Coleville 85.32 52 ⇑P P 21 59 12.6 +0.2
baz=85,SNR=6.2
D11A Klaveano Farm, 85.34 43 P P 21 59 12.2 -0.1
baz=85,SNR=5.9
O07A Toulon 85.35 50 P P 21 59 12.6 +0.1
baz=85,SNR=8.4
J09A Fry Pan Ranch, 85.35 47 P P 21 59 12.5 +0.1
baz=85,SNR=20
M08A Happy Creek Ra 85.39 49 ⇓P P 21 59 12.4 -0.3
baz=85
EDM Edmonton 85.43 36 *eP* **P 21 59 11.9 -0.7**
EDM *e* pP 21 59 39.0 -0.2
PTRM Twissleman Ran 85.43 55 P P 21 59 11.1 -2.0
B12A Libby 85.44 41 ⇑P P 21 59 12.7 -0.1
baz=85,SNR=9.1
P07A Fallon 85.50 51 ⇑P P 21 59 13.4 +0.2
baz=85
T06C Millerton Lake 85.50 53 ⇑P P 21 59 13.0 -0.3
baz=85,SNR=8.2
K09A Rome 85.54 47 P P 21 59 13.2 -0.2
baz=85,SNR=15
E11A Bogner Ranch, 85.62 43 P P 21 59 13.2 -0.5
baz=85,SNR=20
V05C Boulder Hill, 85.62 54 ⇓P P 21 59 14.2 +0.3
baz=85
SMMC Simmler 85.68 55 ⇓P P 21 59 14.8 +0.5
baz=86
Q07A Schurz 85.71 51 ⇑P P 21 59 15.0 +0.7
baz=86
KCC Kaiser Creek 85.72 53 P P 21 59 14.8 +0.4
baz=86,SNR=7.4
H10A Noah's Angus R 85.73 45 P P 21 59 13.8 -0.5
baz=86,SNR=22
R07C Lee Vining 85.74 52 P P 21 59 15.4 +0.9
baz=86,SNR=5.5
L09A Wilkinson Ranc 85.76 48 ⇓P P 21 59 14.2 -0.3
baz=86
F11A Grangeville 85.78 44 P P 21 59 13.6 -0.9
baz=86,SNR=7.4
I10A Payette 85.82 46 ⇓P P 21 59 14.9 +0.1
baz=86
G11A Walters Elk Ra 85.84 44 P P 21 59 14.1 -0.7
baz=86,SNR=22
O08A Rochester Mine 85.85 50 ⇑P P 21 59 15.5 +0.6
baz=86
PKM Peak Mountain 85.93 55 ⇓P P 21 59 15.8 +0.3
baz=86
MLAC Mammoth Lakes 86.02 52 ⇑P P 21 59 16.4 +0.5
baz=86
J10A Berg Farm, Mel 86.03 46 ⇓P P 21 59 15.3 -0.5
baz=86
P08A Dixie Valley 86.06 50 ⇑P P 21 59 16.5 +0.4
baz=86
M09A Marrel Ranch, 86.07 48 ⇑P P 21 59 15.9 -0.2
baz=86,SNR=8.2
HELL Mitchell Peak 86.11 53 ⇑P P 21 59 15.9 -0.5
baz=86,SNR=6.7
K10A MacKenzie Ranc 86.13 47 P P 21 59 16.5 +0.2
baz=86,SNR=24
KEV Kevo 86.13 342 *eP* **P 21 59 14.1 -1.6**
KEV pmax pmax
comp=Z,13nm,0.6s,mb5.0
KEV Kevo 86.13 342 *eP* **P 21 59 14.1 -1.6**
comp=Z,13nm,0.6s,mb5.0
N09A Rock Creek Ran 86.17 49 P P 21 59 17.1 +0.5
baz=86,SNR=13
B13A Whitefish 86.18 41 P P 21 59 16.6 +0.2
baz=86,SNR=30
H11A Donnelly 86.20 45 ⇓P P 21 59 16.1 -0.5
baz=86
NVAR Mina Array Bea 86.22 51 P P 21 59 16.5 -0.3
comp=Z,3.5nm,0.4s,mb4.6,baz=263,slow=6.1,SNR=28
NVAR pP pP 21 59 42.6 -0.9
comp=Z,4.4nm,0.7s,baz=265,slow=5.7,SNR=5.3
VES Vestal, Richgr 86.28 54 ⇓P P 21 59 16.4 -0.7
baz=86
MTUM Tungsten Hills 86.30 53 *eP* **P 21 59 17.1 -0.1**
MTUM *e* pP 21 59 44.0 +0.1
C13A Hot Springs 86.32 42 P P 21 59 16.9 -0.1
baz=86,SNR=11
WALA Waterton Lakes 86.33 40 *eP* **P 21 59 16.7 -0.4**
comp=Z,140nm,1.4s,mb5.7
Q08A Gabbs 86.39 51 ⇓P P 21 59 17.9 +0.3
baz=86
R08A Mina 86.39 52 ⇓P P 21 59 18.2 +0.5
baz=86
F12A Elk City 86.42 44 P P 21 59 17.1 -0.5
baz=86,SNR=17
I11A Placerville 86.46 46 P P 21 59 17.7 -0.1
baz=86,SNR=13
S08C White Mtn Res 86.56 52 ⇑P P 21 59 18.6 0.0
baz=86,SNR=10
D13A Huson 86.56 42 P P 21 59 17.6 -0.7
baz=86,SNR=14
O09A Fish Creek Ran 86.59 50 P P 21 59 19.1 +0.5
baz=86,SNR=11
L10A Juniper Basin 86.60 48 P P 21 59 18.9 +0.3
baz=86,SNR=24
TIN Tinemaha 86.63 53 ⇓P P 21 59 19.3 +0.4
baz=86
ARVC Arvin 86.66 55 ⇓P P 21 59 18.6 -0.5
baz=86
MFID Camas Ranch 86.69 46 P P 21 59 19.3 +0.3
baz=86,SNR=17
ARCES ARCESS Array B 86.69 342 P P 21 59 16.9 -1.6
comp=Z,15nm,0.9s,mb4.9,baz=72,slow=7.8,SNR=71
M10A I.L. Ranch, Tu 86.70 48 ⇑P P 21 59 19.3 +0.2
baz=86
K11A Parker Ranch, 86.72 47 P P 21 59 19.4 +0.2
baz=86,SNR=22
BLG Laguna Peak 86.73 56 ⇓P P 21 59 18.8 -0.6
baz=86
P09A Austin 86.80 50 ⇓P P 21 59 19.3 -0.3
baz=87
ISA Isabella 86.80 54 *eP* **P 21 59 19.4 -0.3**
ISA *e* pP 21 59 48.0 +1.6
ISA pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ISA Isabella 86.80 54 ⇑P P 21 59 19.0 -0.7
baz=87
ISA Isabella 86.80 54 *eP* **P 21 59 19.4 -0.4**
comp=Z,7.2nm,1.1s,mb4.5
ISA *e* pP 21 59 48.0 +1.6
CWC Cottonwood Cre 86.91 53 ⇑P P 21 59 19.6 -0.6
baz=87
E13A Victor 86.93 43 ⇑P P 21 59 18.8 -1.4
baz=87
N10A Dunphy 86.95 49 ⇓P P 21 59 20.4 +0.1
baz=87
Q09A Carvers 86.96 51 ⇓P P 21 59 20.4 -0.1
baz=87
MSO Missoula 86.98 42 *eP* **P 21 59 20.1 -0.3**
comp=Z,15nm,1.4s,mb4.7
MSO *e* pP 21 59 47.7 +0.6
F13A Darby 87.03 44 P P 21 59 20.0 -0.6
baz=87,SNR=25
O10A Cortez Mining, 87.07 49 ⇑P P 21 59 20.7 -0.2
baz=87
L11A Cat Creek Ranc 87.09 47 P P 21 59 21.1 +0.1
baz=87,SNR=24
TPH Tonopah 87.13 52 *eP* **P 21 59 20.7 -0.6**
TPH pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
TPH Tonopah 87.13 52 *eP* **P 21 59 20.7 -0.6**
comp=Z,6.1nm,0.6s,mb4.7
D14A Greenough 87.19 42 P P 21 59 20.3 -1.0
baz=87,SNR=9.0
R09A Tonopah 87.20 51 P P 21 59 21.7 +0.1
baz=87,SNR=8.0
J12A Stokes Ranch, 87.25 46 P P 21 59 22.1 +0.4
baz=87,SNR=9.8
M11A Holland Ranch, 87.27 48 P P 21 59 22.4 +0.6
baz=87,SNR=9.9
DECC Green Verdugo 87.28 56 ⇑P P 21 59 22.1 0.0
baz=87
P10A Eureka 87.28 50 ⇑P P 21 59 22.1 +0.2
baz=87
G13A Cobalt 87.30 44 P P 21 59 21.3 -0.6
baz=87,SNR=40
GRAC Grapevine Rang 87.31 53 ⇓P P 21 59 22.1 -0.1
baz=87
EDW2 Edwards Air Fo 87.39 55 ⇓P P 21 59 22.4 -0.1
baz=87,SNR=5.5
E14A Clinton 87.40 43 ⇑P P 21 59 21.5 -0.9
baz=87
CHMT Chamberlain Mo 87.41 42 *eP* **P 21 59 21.8 -0.6**
CHMT *ePP* pP 21 59 47.5 -1.7
FMP Fort Macarthur 87.45 56 ⇓P P 21 59 22.6 -0.3
baz=87
LRMC Laurel Mountai 87.47 54 ⇑P P 21 59 22.8 -0.1
baz=87
MPMC Manual Prospec 87.47 54 ⇓P P 21 59 22.8 -0.1
baz=87,SNR=16
N11A Elko Archery C 87.48 49 ⇓P P 21 59 23.0 0.0
baz=87
Q10A Clear Creek Ra 87.55 51 ⇓P P 21 59 23.2 -0.1
baz=87
K12A Draper Farm, C 87.56 47 P P 21 59 23.6 +0.3
baz=87,SNR=9.5
L12A House Creek Ra 87.62 47 ⇑P P 21 59 23.6 +0.1
baz=87,SNR=20
HLID Hailey 87.63 46 P P 21 59 23.6 +0.1
baz=87,SNR=22
HLID Hailey 87.63 46 *eP* **P 21 59 23.6 0.0**
HLID *ePcP* PcP 21 59 25.7 +0.4
S10A Tonopah Range, 87.65 52 P P 21 59 24.3 +0.5
baz=88,SNR=12
F14A Wisdom 87.67 43 ⇑P P 21 59 23.0 -0.6
baz=88
I13A Wildhorse Cree 87.73 45 P P 21 59 24.3 +0.3
baz=88,SNR=26
O11A Cowboy Ranch, 87.73 49 P P 21 59 24.6 +0.5
baz=88,SNR=8.4
R10A Warm Springs 87.77 51 P P 21 59 24.9 +0.5
baz=88,SNR=6.4
G14A Jackson 87.78 44 ⇓P P 21 59 23.3 -0.9
baz=88
P11A Circle Ranch, 87.83 50 ⇑P P 21 59 24.1 -0.5
baz=88
D15A Lincoln 87.84 42 ⇑P P 21 59 23.8 -0.6
baz=88
FURC Furnace Creek, 87.85 53 ⇓P P 21 59 24.2 -0.5
baz=88
J13A Cove Ranch, Pi 87.85 46 P P 21 59 25.1 +0.5
baz=88,SNR=8.9
ELK Elko 87.86 49 *eP* **P 21 59 24.6 -0.1**
ELK pmax pmax
comp=Z,39nm,1.0s
ELK Elko 87.86 49 *eP* **P 21 59 24.6 -0.1**
comp=Z,39nm,1.0s,mb5.4
M12A Wells 87.91 48 P P 21 59 25.4 +0.5
baz=88,SNR=15
E15A Deer Lodge 87.96 43 P P 21 59 24.8 -0.3
baz=88,SNR=20
JOF Joensuu 87.98 335 *ep* **P 21 59 22.3 -2.5**
comp=Z,5.9nm,0.5s,mb4.9
JOF Joensuu 87.98 335 *eP* **P 21 59 22.3 -2.5**
JOF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
N12A Clover Valley, 87.98 48 P P 21 59 25.8 +0.5
baz=88,SNR=10.0
Q11A Duckwater 88.10 51 P P 21 59 26.2 +0.3
baz=88,SNR=11
K13A Stover Farm, H 88.13 47 ⇑P P 21 59 26.5 +0.6
baz=88
TPNV Topopah Spring 88.19 52 *eP* **P 21 59 26.4 +0.1**
TPNV *e* pP 21 59 54.5 +1.4
TPNV *e* 22 02 50.9
TPNV pmax pmax
comp=Z,23nm,1.2s,mb5.1
TPNV Topopah Spring 88.19 52 ⇑P P 21 59 26.6 +0.2
baz=88,SNR=9.6
TPNV Topopah Spring 88.19 52 *eP* **P 21 59 26.4 +0.1**
comp=Z,23nm,1.2s,mb5.1
TPNV *e* pP 21 59 54.5 +1.4
TPNV *ePP* PP 22 02 50.9 -3.6
GSC Goldstone 88.21 54 P P 21 59 26.9 +0.4
GSC pmax pmax
comp=Z,13nm,0.6s,mb5.1
GSC Goldstone 88.21 54 ⇓P P 21 59 26.3 -0.1
baz=88
GSC Goldstone 88.21 54 P P 21 59 26.9 +0.4
comp=Z,13nm,0.6s,mb5.1
F15A Butte 88.24 43 P P 21 59 26.4 0.0
baz=88,SNR=21
U10A Ash Meadows, A 88.27 53 ⇑P P 21 59 26.4 -0.4
baz=88
R11A Troy Canyon, C 88.30 51 P P 21 59 27.2 +0.4
baz=88,SNR=13
DLMT Dillon 88.32 44 *eP* **P 21 59 26.6 -0.1**
comp=Z,57nm,1.5s,mb5.4
DLMT *e* pP 21 59 53.5 -0.1
MURC Murrieta 88.36 56 ⇑P P 21 59 26.8 -0.4
baz=88
O12A Currie 88.36 49 P P 21 59 27.5 +0.4
baz=88,SNR=11
S11A Rachel 88.37 52 ⇑P P 21 59 26.9 -0.3
baz=88
L13A Double Diamond 88.40 47 P P 21 59 28.0 +0.8
baz=88,SNR=7.2
BBRC Big Bear Sol-O 88.40 55 ⇑P P 21 59 27.5 +0.1
baz=88
SHOC Shoshone 88.45 53 ⇓P P 21 59 27.4 -0.3
baz=88
G15A Dillon 88.45 44 P P 21 59 27.4 0.0
baz=88,SNR=8.8
M13A Montello 88.46 48 P P 21 59 27.7 +0.2
baz=88,SNR=27
P12A McGill 88.48 50 P P 21 59 28.1 +0.5
baz=88,SNR=5.8
N13A Wendover, West 88.58 48 ⇑P P 21 59 28.3 +0.1
baz=88
109C Camp Elliot, M 88.63 57 ⇑P P 21 59 28.3 -0.2
baz=88
Q12A Willow Creek R 88.66 50 P P 21 59 29.2 +0.6
baz=88,SNR=11
HEC Hector,Ludlow 88.71 55 P P 21 59 29.0 +0.1
baz=88,SNR=5.7
K14A Jones Ranch, D 88.80 46 ⇑P P 21 59 29.6 +0.5
baz=89
TUQ Turquoise Mtn. 88.86 54 ⇑P P 21 59 29.4 -0.2
baz=89
BOZ Bozeman (W) 88.87 43 *eP* **P 21 59 29.1 -0.3**
BOZ *e* pP 21 59 55.9 -0.3
BOZ pmax pmax
comp=Z,40nm,1.8s,mb5.2
BOZ Bozeman (W) 88.87 43 P P 21 59 29.8 +0.4
baz=89,SNR=11
BOZ Bozeman (W) 88.87 43 *eP* **P 21 59 29.1 -0.2**
comp=Z,40nm,1.8s,mb5.2
BOZ *e* pP 21 59 55.9 -0.3
OBN Obninsk 88.88 327 *⇓eP* **P 21 59 27.5 -1.7**
OBN *e* 22 00 05.9
OBN *e* 22 03 01.3
OBN pmax pmax
comp=Z,41nm,1.9s,mb5.1
T11A Corn Creek, Al 88.89 52 P P 21 59 29.9 +0.2
baz=89,SNR=6.8
L14A Malta 88.92 47 P P 21 59 30.4 +0.8
baz=89,SNR=6.5
PFO Pinyon Flat Ob 88.95 56 *eP* **P 21 59 29.7 -0.3**
PFO *e* pP 21 59 56.5 -0.4
PFO pmax pmax
comp=Z,15nm,1.3s,mb4.9
PFO Pinyon Flat Ob 88.95 56 ⇓P P 21 59 29.8 -0.2
baz=89
PFO Pinyon Flat Ob 88.95 56 *eP* **P 21 59 29.6 -0.4**
comp=Z,15nm,1.3s,mb4.9
PFO *e* pP 21 59 56.5 -0.4
O13A Hicks Ranch, I 88.96 49 ⇓P P 21 59 30.2 +0.3
baz=89
U11A Corn Creek 89.00 53 ⇓P P 21 59 30.9 +0.7
baz=89
M14A Sheep Mountain 89.00 47 P P 21 59 30.6 +0.5
baz=89,SNR=11
R12A Pony Springs, 89.04 51 P P 21 59 30.9 +0.6
baz=89,SNR=5.8
S12A Delamar Landin 89.07 52 P P 21 59 31.6 +1.1
baz=89,SNR=7.2
V11A Goodsprings 89.13 53 P P 21 59 31.6 +0.8
baz=89,SNR=5.4
P13A Bates Ranch, G 89.14 50 P P 21 59 31.2 +0.5
baz=89,SNR=24
KIV Kislovodsk 89.16 315 *eP* **P 21 59 24.7 -6.1**
KIV pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
MONP Monument Peak 89.18 56 P P 21 59 31.8 +0.6
baz=89,SNR=5.5
BELC Belle Mtn. 89.21 55 P P 21 59 31.5 +0.3
baz=89,SNR=5.3
K15A Arbon 89.21 46 ⇓P P 21 59 31.1 0.0
baz=89
GMRC Granite Mounta 89.26 54 P P 21 59 31.8 +0.4
baz=89,SNR=11
QLMT Earthquake Lak 89.27 44 *eP* **P 21 59 32.4 +1.1**
QLMT *e* pP 21 59 58.2 +0.1
EGMT Eagleton 89.28 40 ⇑P P 21 59 30.2 -1.0
baz=89
Q13A Wheeler Ranch, 89.29 50 ⇑P P 21 59 31.5 0.0
baz=89,SNR=5.8
N14A Grayback Hills 89.32 48 P P 21 59 31.9 +0.3
baz=89,SNR=6.5
HVU Hansel Valley 89.33 47 *eP* **P 21 59 31.8 +0.2**
HVU *e* pP 21 59 58.5 +0.1
BGU Big Grassy Mou 89.41 48 *eP* **P 21 59 31.6 -0.4**
BGU *e* pP 21 59 58.8 0.0
T12A Moapa 89.43 52 ⇓P P 21 59 32.1 0.0
baz=89
L15A Malad City 89.53 47 P P 21 59 32.6 +0.1
baz=89,SNR=8.7
R13A O'Grain Ranch, 89.56 51 ⇑P P 21 59 33.0 +0.2
baz=89,SNR=7.2
LDFC Landfair 89.60 54 *eP* **P 21 59 33.6 +0.6**
LDFC *e* pP 22 00 01.1 +1.2
V12A Nelson 89.62 53 P P 21 59 33.7 +0.6
baz=89,SNR=9.9
YMR Madison River 89.64 44 *eP* **P 21 59 34.1 +1.1**
comp=Z,12nm,0.8s,mb5.1
YMR *e* pP 22 00 00.4 +0.6
U12A Valley of Fire 89.65 53 ⇑P P 21 59 33.6 +0.3
baz=90
M15A Larsen Ranch, 89.66 47 P P 21 59 33.3 +0.2
baz=90,SNR=9.9
J16A Bone 89.66 45 ⇑P P 21 59 33.6 +0.5
baz=90
SWSC Sam W. Stewart 89.67 56 ⇓P P 21 59 33.0 -0.4
baz=90
SPUT South Promonto 89.71 47 *eP* **P 21 59 33.6 +0.2**
SPUT *e* pP 22 00 00.8 +0.6
W12A Cal Nev Ari 89.73 54 ⇓P P 21 59 34.0 +0.4
baz=90
BC3 Big Chuckw Mtn 89.74 55 P P 21 59 34.4 +0.7
baz=90,SNR=5.7
N15A Stansbury Isla 89.79 48 ⇓P P 21 59 33.9 +0.1
baz=90
DUG Dugway 89.80 49 *eP* **P 21 59 33.5 -0.3**
DUG *e* pP 22 00 00.6 -0.1
DUG *e* 22 03 05.6
DUG pmax pmax
comp=Z,36nm,1.2s,mb5.4
DUG Dugway 89.80 49 P P 21 59 34.2 +0.4
baz=90,SNR=13
DUG Dugway 89.80 49 *eP* **P 21 59 33.5 -0.3**
comp=Z,36nm,1.2s,mb5.4
DUG *e* pP 22 00 00.6 -0.1
DUG *ePP* PP 22 03 05.6 -1.6
P14A Drum Mountains 89.80 49 P P 21 59 34.4 +0.6
baz=90,SNR=15
YFT Old Faithful 89.80 44 *eP* **P 21 59 36.1 +2.4**
YFT *e* pP 22 00 01.1 +0.5
YNR Norris Junctio 89.82 44 *eP* **P 21 59 36.1 +2.3**
YNR *e* pP 22 00 02.2 +1.5
K16A Soda Springs 89.82 46 ⇑P P 21 59 34.3 +0.4
baz=90
S13A Holt Ranch, En 89.82 51 ⇓P P 21 59 35.0 +1.0
baz=90
Q14A Sevier Lake (B 89.83 50 P P 21 59 34.3 +0.3
baz=90,SNR=18
RRI2 Red Ridge 89.84 45 *eP* **P 21 59 33.8 -0.2**
comp=Z,65nm,1.7s,mb5.5
RRI2 *e* pP 22 00 01.5 +0.7
RRI2 *ePP* PP 22 03 06.8 -0.6
IRM Iron Mountain 89.84 55 P P 21 59 34.7 +0.6
baz=90,SNR=7.2
IMW Indian Meadow 89.92 45 *eP* **P 21 59 34.4 +0.1**
comp=Z,50nm,1.5s,mb5.4
IMW *e* pP 22 00 02.0 +0.8
T13A Saint George 89.96 52 P P 21 59 35.6 +1.0
baz=90,SNR=6.6
FLWY Flagg Ranch 90.02 44 *eP* **P 21 59 35.3 +0.5**
comp=Z,32nm,1.1s,mb5.4
FLWY *e* pP 22 00 00.5 -1.1
FLWY *ePP* PP 22 03 08.6 -0.2

O15A	The Old Anders	90.02	48	⇓P	P	21 59 35.1	+0.2
	baz=90						
TPAW	Teton Pass	90.04	45	eP	P	21 59 35.3	+0.4
	comp=Z,53nm,1.6s,mb5.4						
TPAW				e	pP	22 00 02.6	+0.8
TPAW				ePP	PP	22 03 09.3	+0.3
NEE2	Needles Airpor	90.08	54	⇓P	P	21 59 35.5	+0.2
	baz=90						
U13A	Pakoon Wash	90.10	52	P	P	21 59 36.0	+0.7
	baz=90,SNR=17						
MOOW	Moose Ponds	90.10	45	eP	P	21 59 35.2	0.0
	comp=Z,15nm,1.3s,mb5.0						
MOOW				e	pP	22 00 01.4	-0.6
MOOW				ePP	PP	22 03 08.8	-0.7
GCMT	Greycliff	90.12	43	eP	P	21 59 35.7	+0.5
GCMT				e	pP	22 00 02.8	+0.7
GCMT				ePP	PP	22 03 12.8	+3.3
REDW	Red Top Meadow	90.16	45	eP	P	21 59 35.6	+0.2
	comp=Z,44nm,1.6s,mb5.3						
REDW				e	pP	22 00 01.6	-0.7
SNOW	Snow King Moun	90.19	45	eP	P	21 59 35.8	+0.2
SNOW				e	pP	22 00 02.1	-0.3
L16A	Fish Haven	90.20	47	⇑P	P	21 59 35.9	+0.3
	baz=90						
CCUT	Cedar City	90.21	51	P	P	21 59 36.9	+1.1
R14A	James Farms, M	90.23	50	⇓P	P	21 59 36.0	+0.1
	baz=90						
LOHW	Long Hollow	90.24	45	eP	P	21 59 36.0	+0.2
	comp=Z,12nm,1.1s,mb4.9						
V13A	Grand Canyon W	90.25	53	P	P	21 59 36.7	+0.6
	baz=90,SNR=8.1						
M16A	Huntsville	90.29	47	⇓P	P	21 59 35.6	-0.5
	baz=90						
S14A	Cedar City	90.29	51	⇓P	P	21 59 36.6	+0.5
	baz=90						
P15A	Leamington	90.38	49	P	P	21 59 37.1	+0.5
	baz=90,SNR=8.1						
KAF	Kangasniemi	90.39	336	ep	P	21 59 32.9	-3.2
	comp=Z,6.5nm,0.5s,mb5.0,baz=55,slow=4.5						
KAF	Kangasniemi	90.39	336	eP	P	21 59 32.9	-3.2
KAF				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
CTU	Camp Tracy	90.41	48	eP	P	21 59 37.0	+0.3
	comp=Z,36nm,1.2s,mb5.4						
CTU				e	pP	22 00 03.7	+0.2
CTU				ePP	PP	22 03 11.3	-0.7
NLU	North Lily Min	90.41	49	eP	P	21 59 37.2	+0.5
NLU				e	pP	22 00 04.9	+1.4
NLU				ePP	PP	22 03 11.4	-0.7
GLA	Glamis	90.42	56	eP	P	21 59 36.1	-0.8
GLA				e	pP	22 00 02.2	-1.5
GLA				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.3						
GLA	Glamis	90.42	56	⇑P	P	21 59 36.9	0.0
	baz=90						
GLA	Glamis	90.42	56	eP	P	21 59 36.1	-0.8
	comp=Z,30nm,1.3s,mb5.3						
GLA				e	pP	22 00 02.2	-1.6
Y12C	Blythe	90.46	55	⇓P	P	21 59 37.5	+0.4
	baz=90						
Q15A	Fillmore	90.49	50	⇑P	P	21 59 37.4	+0.3
	baz=90						
W13A	Hualapai Mount	90.56	54	P	P	21 59 38.2	+0.7
	baz=90,SNR=5.3						
N16A	Rees Ranch, Co	90.57	48	⇑P	P	21 59 37.9	+0.5
	baz=90						
T14A	Hurricane	90.57	52	⇑P	P	21 59 37.8	+0.3
	baz=90						
RLMT	Red Lodge	90.62	43	eP	P	21 59 38.8	+1.3
	comp=Z,105nm,1.9s,mb5.6						
RLMT				e	pP	22 00 05.0	+0.6
U14A	Mt Trumbull	90.70	52	P	P	21 59 38.9	+0.7
	baz=90,SNR=14						
O16A	Springville	90.74	48	⇓P	P	21 59 38.1	-0.2
	baz=90						
X13A	Yucca	90.75	54	P	P	21 59 38.9	+0.5
	baz=90,SNR=11						
MSU	Marysvale	90.80	50	eP	P	21 59 39.1	+0.6
R15A	Junction	90.82	50	⇑P	P	21 59 39.2	+0.6
	baz=91						
P16A	Fountain Green	90.82	49	⇑P	P	21 59 39.0	+0.3
	baz=91						
S15A	Panguitch	90.92	51	⇑P	P	21 59 39.8	+0.7
	baz=91						
N17A	Moffit Pass	90.98	47	⇑P	P	21 59 39.2	-0.2
	baz=91						
Y13A	Salome	90.99	55	⇓P	P	21 59 39.9	+0.4
	baz=91						
V14A	Boquillas Ranc	91.00	53	P	P	21 59 40.5	+1.0
	baz=91,SNR=22						
T15A	Red Dirt Ranch	91.12	51	⇓P	P	21 59 40.5	+0.4
	baz=91						
W14A	Seligman	91.15	53	P	P	21 59 41.1	+0.9
	baz=91,SNR=9.8						
BW06	Boulder Array	91.25	45	eP	P	21 59 39.8	-0.8
	comp=Z,13nm,1.2s,mb4.9						
PDAR	Pinedale Array	91.25	45	P	P	21 59 39.9	-0.6
	comp=Z,2.0nm,0.5s,mb4.5,baz=194,slow=2.5,SNR=9.3						
113A	Mohawk Valley,	91.36	56	⇓P	P	21 59 41.1	-0.1
	baz=91						
U15A	North Rim	91.38	52	P	P	21 59 42.1	+0.9
	baz=91,SNR=12						
R16A	Teasdale	91.39	50	⇑P	P	21 59 42.1	+0.8
	baz=91,SNR=6.4						
Q16A	Castle Valley	91.41	49	⇑P	P	21 59 41.9	+0.6
	baz=91						
S16A	Weppner Ranch,	91.49	51	⇓P	P	21 59 41.9	+0.2
	baz=91,SNR=9.5						
X14A	Yava	91.53	54	⇓P	P	21 59 42.5	+0.5
	baz=91,SNR=9.6						
P17A	Butcher Ranch,	91.54	49	⇑P	P	21 59 42.0	+0.1
	baz=91						
Y14A	Wickenburg	91.60	55	⇓P	P	21 59 42.5	+0.1
	baz=91,SNR=10						
V15A	Kaibab Nationa	91.66	53	P	P	21 59 43.6	+1.1
	baz=92,SNR=10.0						
W15A	Williams	91.79	53	⇓P	P	21 59 43.6	+0.4
	baz=92						
N18A	Larsen Ranch,	91.79	47	⇓P	P	21 59 42.4	-0.7
	baz=92,SNR=9.0						
T16A	Glen Canyon Da	91.79	51	⇓P	P	21 59 43.0	-0.2
	baz=92						
O18A	Roosevelt	91.80	48	⇓P	P	21 59 43.1	-0.1
	baz=92						
SRU	San Rafael	91.82	49	P	P	21 59 43.4	+0.2
	baz=92,SNR=5.4						
Z14A	Wintersburg	91.83	55	⇑P	P	21 59 43.8	+0.4
	baz=92						
P18A	Preston Nutter	91.85	48	⇑P	P	21 59 43.7	+0.3
	baz=92						
R17A	Hanksville Air	91.92	50	⇑P	P	21 59 43.6	-0.1
	baz=92						
VNDA	Vanda	92.00	176	P	P	21 59 43.2	+0.1
	comp=Z,4.3nm,0.9s,mb4.7,baz=321,slow=5.4,SNR=16						
VNDA	Vanda	92.00	176	P	P	21 59 43.2	+0.1
X15A	Humboldt	92.04	54	⇓P	P	21 59 44.9	+0.5
	baz=92,SNR=8.3						
Q18A	Rafter H Ranch	92.11	49	⇑P	P	21 59 44.0	-0.6
	baz=92						
S17A	Black Ridge (B	92.11	50	⇓P	P	21 59 44.2	-0.5
	baz=92						
Y15A	Casa Rosa Ranc	92.13	54	⇑P	P	21 59 45.0	+0.3
	baz=92,SNR=7.8						
T17A	Navajo Res., N	92.32	51	⇑P	P	21 59 45.3	-0.3
	baz=92						
214A	Organ Pipe Nat	92.37	56	⇑P	P	21 59 46.5	+0.5
	baz=92,SNR=7.2						
WUAZ	Wupatki	92.37	53	⇑P	P	21 59 46.3	+0.4
	baz=92						
WUAZ	Wupatki	92.37	53	eP	P	21 59 46.0	+0.1
	comp=Z,9.6nm,0.9s,mb5.0						
W16A	Flagstaff	92.39	53	⇓P	P	21 59 46.6	+0.6
	baz=92						
R18A	Canyonlands Na	92.53	50	P	P	21 59 46.5	-0.1
	baz=92,SNR=8.7						
U17A	Shonto	92.56	51	⇑P	P	21 59 47.0	+0.3
	baz=92						
115A	Sonoran Desert	92.61	56	⇑P	P	21 59 47.1	+0.1
	baz=92						
SBA	Scott Base	92.65	176	eP	P	21 59 47.1	+1.0
SBA				pmax	pmax		
	comp=Z,44nm,1.8s,mb5.5						
SBA	Scott Base	92.65	176	eP	P	21 59 47.1	+1.0
	comp=Z,44nm,1.8s,mb5.5						
X16A	Lo Mia Camp, P	92.68	54	⇑P	P	21 59 47.9	+0.6
	baz=92						
S18A	Hurst Farm, Bl	92.69	50	⇓P	P	21 59 47.3	0.0
	baz=92						
Y16A	Circle Bar Ran	92.83	54	⇑P	P	21 59 48.5	+0.5
	baz=93,SNR=7.1						
FCC	Fort Churchill	92.86	27	P	P	21 59 46.9	-0.7
T18A	Mexican Hat	92.97	51	⇓P	P	21 59 48.5	-0.1
	baz=93						
W17A	Winslow	93.03	53	⇓P	P	21 59 48.9	0.0
	baz=93						
Z16A	Peralta Trail,	93.04	55	⇑P	P	21 59 49.2	+0.2
	baz=93						
116A	Eloy	93.07	55	⇑P	P	21 59 49.3	+0.1
	baz=93						
PV10	Paradox Valley	93.16	49	eP	P	21 59 49.5	0.0
X17A	Forest Lakes	93.20	54	⇓P	P	21 59 50.2	+0.5
	baz=93						
U18A	Rough Rock, Ch	93.22	51	⇑P	P	21 59 50.3	+0.5
	baz=93						
S19A	Harvey Farm, M	93.31	50	⇑P	P	21 59 50.3	+0.1
	baz=93						
Y17A	Roosevelt	93.39	54	⇓P	P	21 59 51.2	+0.6
	baz=93						
V18A	Ganado	93.42	52	⇑P	P	21 59 51.2	+0.5
	baz=93						
216A	Three Points,	93.45	56	⇑P	P	21 59 51.4	+0.5
	baz=93						
PV01	Paradox Valley	93.59	49	eP	P	21 59 51.4	-0.1
PV01				e	pP	22 00 17.5	-0.8
T19A	Beclabito	93.72	51	P	P	21 59 52.4	+0.4
	baz=94,SNR=7.7						
W18A	Petrified Fore	93.77	53	⇓P	P	21 59 52.8	+0.5
	baz=94						
X18A	Snowflake	93.81	53	⇑P	P	21 59 53.0	+0.5
	baz=94						
117A	Oracle	93.84	55	⇓P	P	21 59 53.1	+0.5
	baz=94,SNR=5.2						
TUC	Tucson	93.89	55	eP	P	21 59 52.6	-0.3
TUC				e	pP	22 00 19.8	0.0
TUC				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb4.1						
TUC	Tucson	93.89	55	eP	P	21 59 52.6	-0.3
	comp=Z,1.4nm,1.0s,mb4.2						
TUC				e	pP	22 00 19.8	-0.1
MVCO	Mesa Verde	93.98	50	⇓P	P	21 59 53.5	+0.2
	baz=94						
Y18A	Canyon Day Jun	93.99	54	⇑P	P	21 59 53.8	+0.5
	baz=94						
217A	Green Valley	94.04	56	⇑P	P	21 59 54.0	+0.3
	baz=94,SNR=7.9						
V19A	Window Rock	94.09	52	⇑P	P	21 59 54.6	+0.8
	baz=94						
X19A	St. Johns	94.35	53	⇓P	P	21 59 55.6	+0.6
	baz=94						
118A	Homack Ranch,	94.43	55	P	P	21 59 56.1	+0.7
	baz=94,SNR=5.2						
RSSD	Black Hills	94.45	43	eP	P	21 59 53.9	-1.3
Y19A	Nutrioso	94.54	53	⇓P	P	21 59 56.7	+0.8
	baz=94,SNR=7.4						
218A	Dragoon	94.59	56	⇓P	P	21 59 57.0	+0.8
	baz=94						
Z19A	T-Link Ranch,	94.76	54	⇑P	P	21 59 58.0	+1.0
	baz=95						
318A	Bisbee	94.82	56	⇑P	P	21 59 57.6	+0.4
	baz=95						
AKASG	Malin Array Be	94.82	325	PP	PP	22 03 44.8	-1.3
	comp=Z,0.1nm,0.3s,baz=50,slow=7.5,SNR=6.2						
119A	Ashpeak Ranch,	94.91	55	⇓P	P	21 59 58.3	+0.7
	baz=95						
ISCO	Idaho Springs	95.11	47	eP	P	21 59 58.7	+0.3
219A	White Tail Can	95.21	55	⇓P	P	21 59 59.4	+0.4
	baz=95						
319A	Douglas	95.41	56	⇓P	P	22 00 00.3	+0.4
	baz=95						
SDCO	Great Sand Dun	95.99	49	eP	P	22 00 02.2	-0.2
	comp=Z,15nm,2.0s,mb5.1						
SUW	Suwalki	96.23	330	P	P	22 00 02.6	-0.5
ANMO	Albuquerque	96.34	52	eP	P	22 00 04.2	+0.1
ULM	Lac du Bonnet	96.53	34	P	P	22 00 02.9	-1.6
	comp=Z,7.5nm,1.0s,mb5.1,baz=314,slow=8.3,SNR=6.0						
NB2	NORSAR Subarra	96.69	339	P	P	22 00 02.3	-2.7
	comp=Z,2.3nm,0.7s,mb4.7,baz=41,slow=5.1						
NOA	NORSAR Array B	96.69	339	P	P	22 00 02.2	-2.8
	comp=Z,1.6nm,0.6s,mb4.6,baz=44,slow=4.7,SNR=9.1						
NOA				PP	PP	22 04 00.1	-0.1
	comp=Z,1.4nm,0.8s,baz=43,slow=8.0,SNR=3.5						
NOA				LR	LR	22 43 36.4	
	comp=Z,83nm,21.4s,baz=35,slow=35						
NOA	NORSAR Array B	96.69	339	P	P	22 00 02.2	-2.8
NOA						22 04 00.1	
MNTX	Cornudas Mount	98.40	54	eP	P	22 00 13.3	-0.1
	comp=Z,1.9nm,1.1s,mb4.5						
KWP	Kalwaria	98.94	326	eP	P	22 00 15.1	-0.3
KOLS	Kolonicke sedl	99.57	326	eP	Pdif	22 00 14.7	-3.4
KOLS				i		22 04 21.1	
KOLS	Kolonicke sedl	99.57	326	PDIF	Pdif	22 00 14.7	-3.4
KOLS				i PP	PP	22 04 21.1	-1.6
KOLS				i		22 06 08.6	
KOLS	Kolonicke sedl	99.57	326	eP	Pdif	22 00 14.7	-3.4
KOLS				i PP	PP	22 04 21.1	-1.6
KOLS				e		22 06 08.6	
CRVS	Cervenica-Dubn	100.03	326	PDIF	Pdif	22 00 19.2	-1.0
CRVS	Cervenica-Dubn	100.03	326	eP	Pdif	22 00 19.2	-1.0
DPC	Dobruska-Polom	101.81	329	ePP	PP	22 04 39.6	+0.2
UPC	Upice	101.86	330	ePP	PP	22 04 40.2	+0.4
WMOK	Wichita Mounta	102.18	49	P	Pdif	22 00 29.3	-0.4
BRG	Berggiesshubel	102.61	331	eP	PP	22 04 44.0	-1.5
	comp=Z,4.3nm,1.1s						
CLL	Collm	102.76	332	ePP	PP	22 04 42.0	-4.5
CLL				e(sPP)		22 05 25.0	
ZST	Bratislava	102.77	327	ePP	PP	22 04 34.3	-12
TREC	Trest	102.90	329	ePP	PP	22 04 48.5	+0.9
PRU	Pruhonice	102.92	330	ePP	PP	22 04 42.1	-5.6
MOX	Moxa	103.86	332	e(P)	PP	22 04 55.4	+0.7
	comp=Z,36nm,1.7s						
MOX	Moxa	103.86	332	eP	PP	22 04 54.5	-0.2
	comp=Z,35nm,1.6s						
KHC	Kasperske Hory	103.95	330	ePP	PP	22 04 51.8	-3.6
KHC				ex	x	22 04 56.5	
MANZ	Manzenberg	104.08	331	eP	PP	22 04 54.8	-1.5
	comp=Z,24nm,1.6s						
GERES	GERESS Array B	104.08	329	PKiKP	PKiKP	22 04 54.0	-1.0
	comp=Z,1.2nm,1.0s,baz=57,slow=4.9,SNR=4.5						
WET	Wettzell	104.29	330	eP	PP	22 04 58.2	+0.3
	comp=Z,12nm,1.5s						
UBBA	Unterbreizbach	104.47	333	eP	PP	22 04 58.3	-0.9
	comp=Z,28nm,1.7s						
GRF	Grafenberg Arr	104.70	331	eP	PP	22 05 01.1	+0.2
	comp=Z,35nm,1.6s						
TNS	Taunus Mts	105.58	333	eP	PP	22 05 07.3	-0.1
	comp=Z,29nm,1.5s						
HGN	Heimansgroeve	106.27	335	ePP	PP	22 05 11.8	-0.5
STU	Stuttgart	106.29	331	eP	PP	22 05 13.0	+0.3
	comp=Z,85nm,1.8s						
BFO	Black Forest	107.01	332	eP	PP	22 05 17.7	-0.2
	comp=Z,47nm,1.6s						
KEST	Kesra	115.24	321	PKP	PKPdf	22 05 16.2	-0.2
	comp=Z,1.8nm,1.1s,baz=297,slow=4.5,SNR=2.9						
ESDC	Sonseca Array	119.29	333	PKP	PKPdf	22 05 22.0	-2.1
	comp=Z,0.2nm,0.4s,baz=23,slow=2.4,SNR=4.0						
ESDC				PP	PP	22 06 41.7	-3.4
	comp=Z,14nm,1.2s,baz=32,slow=7.1,SNR=13						
LSZ	Lusaka	119.39	260	ePKIKP	PKPdf	22 05 25.4	+0.6
MTE	Manteigas	120.17	336	ePKPdf	PKPdf	22 05 24.9	-0.8
LBTB	Lobatse	122.60	249	PKP	PKPdf	22 05 30.6	-0.2
	comp=Z,2.9nm,0.7s,baz=63,slow=2.9,SNR=7.7						
LBTB	Lobatse	122.60	249	ePKPdf	PKPdf	22 05 30.6	-0.1
BOSA	Boshof	122.90	245	PKP	PKPdf	22 05 30.8	-0.5
	comp=Z,4.3nm,0.9s,baz=26,slow=6.1,SNR=4.0						
TOA0	Torodi Ar. Sit	134.91	305	ePKPdf	PKPdf	22 05 54.5	+0.1
TORD	Torodi Ar. Bea	134.91	305	PKP	PKPdf	22 05 54.5	+0.1
	comp=Z,1.8nm,0.6s,baz=65,slow=2.0,SNR=11						
TORD				SKPbc	SKPbc	22 09 13.6	-2.3
	comp=Z,5.6nm,1.2s,baz=19,slow=3.1,SNR=6.8						
ROSC	El Rosal	136.36	67	SKPbc	SKPbc	22 09 20.2	-0.3
	comp=Z,2.6nm,0.3s,baz=270,slow=9.1,SNR=5.4						
SDV	Santo Domingo	137.61	59	ePKPdf	PKPdf	22 05 59.6	+0.1
PLCA	Paso Flores	139.04	137	PKP	PKPdf	22 05 58.9	-2.4
	comp=Z,1.6nm,1.0s,baz=338,slow=18,SNR=2.4						
PLCA	Paso Flores	139.04	137	PKP	PKPdf	22 05 58.9	-2.5
DBIC	Dimbokro	143.90	303	PKP	PKPdf	22 06 07.8	-3.1
	comp=Z,7.6nm,0.6s,baz=37,slow=2.9,SNR=20						
DBIC	Dimbokro	143.90	303	ePKPdf	PKPdf	22 06 08.3	-2.6
KIC	Kosan Boka	143.99	303	ePKP1	PKPdf	22 06 07.9	-3.1
	comp=Z,76nm,0.8s						
TIC	Toumodi	144.05	303	ePKP1	PKPdf	22 06 07.9	-3.3
	comp=Z,63nm,0.7s						
LIC	Lamto	144.30	303	ePKP1	PKPdf	22 06 08.9	-2.7
	comp=Z,84nm,0.8s						
TRQA	Tornquist	146.05	140	ePKPdf	PKPdf	22 06 14.3	+0.4
LVC	Limon Verde	146.50	110	PKP	PKPdf	22 06 15.1	+0.1
LPAZ	La Paz	147.66	98	PKPbc	PKPbc	22 06 17.7	-2.4
	comp=Z,1.4nm,0.4s,baz=340,slow=3.0,SNR=11						
LPAZ	La Paz	147.66	98	ePKPdf	PKPdf	22 06 17.8	+0.7
LPAZ				ePKPab	PKPab	22 06 23.9	+1.4
CPUP	Villa Florida	155.58	123	PKP	PKPdf	22 06 29.7	+0.9
	comp=Z,0.3nm,0.4s,baz=357,slow=7.3,SNR=3.1						
CPUP				PKPab	PKPab	22 06 55.4	+0.1
	comp=Z,2.5nm,0.8s,baz=240,slow=4.4,SNR=5.8						
CPUP	Villa Florida	155.58	123	PKP	PKPdf	22 06 29.7	+0.9
CPUP				ePKPab	PKPab	22 06 55.2	0.0
CPUP				PKPab	PKPab	22 06 55.4	+0.1

*ISCJB **08** 21:54:02.7±0.4, 2016S±007×6618E±008, h10km, mb4.3/20, Error ellipse: s-maj=11.3km s-min=10.1km az=158.0*
*IDC **08** 21:54:02.6±0.6, 2021S×6616E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/24, mbtmp4.1/14, Error ellipse: s-maj=20.6km s-min=17.2km az=126.0*
*NEIC **08** 21:54:04.7±0.2, 2013S×6619E, h10km, mb4.7/10, Error ellipse: s-maj=7.7km s-min=6.8km az=62.0*

ISC 08 21:54:04.8±0.4, 2018S±007×6617E±008, h10km, n38, σ0°66/37, mb4.3/20, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	34.03	300	P	P	22 00 49.5	+0.3
LBTB	Lobatse	37.67	255	P	P	22 01 20.9	+0.5
	4.9nm,0.9s,mb4.2,baz=81,slow=4.9,SNR=5.4						
LBTB	Lobatse	37.67	255	eP	P	22 01 21.5	+1.1
	12nm,1.2s,mb4.5						
BOSA	Boshof	38.05	249	P	P	22 01 21.7	-1.9
	2.6nm,0.9s,mb4.0,baz=65,slow=11,SNR=3.5						
BOSA	Boshof	38.05	249	eP	P	22 01 24.0	+0.4
	20nm,1.4s,mb4.7						
NWAO	Narrogin (SRO)	47.00	117	eP	P	22 02 36.5	+0.2
	19nm,1.1s,mb4.9						
MAW	Mawson	47.46	182	P	P	22 02 37.8	-1.6
	4.1nm,0.7s,mb4.5,baz=5.4,slow=13,SNR=5.3						
MAW	Mawson	47.46	182	eP	P	22 02 39.3	0.0
	5.8nm,0.7s,mb4.6						
MBWA	Marble Bar	49.92	101	P	P	22 02 59.1	+0.1
CMAR	Chiang Mai Arr	50.07	42	P	P	22 02 59.6	-0.4
	0.9nm,0.8s,mb3.9,baz=227,slow=7.6,SNR=5.0						
SHL	Shillong	51.88	30	eP	P	22 03 15.0	+1.4
LSA	Lhasa	55.12	27	eP	P	22 03 37.9	+0.6
	16nm,1.8s,mb4.8						
KKM	Kota Kinabalu	55.66	67	P	P	22 03 41.8	+0.3
ASAR	Alice Springs	62.40	107	P	P	22 04 27.4	-0.9
	2.6nm,1.0s,mb4.3,baz=235,slow=5.8,SNR=9.6						
EKS2	Erkin-Say	62.91	6	eP	P	22 04 31.7	+0.6
	5.1nm,1.0s,mb4.6						
GNI	Garni	63.25	342	P	P	22 04 33.7	+0.3
TKM2	Tokmak 2	63.38	8	eP	P	22 04 33.8	-0.4
	6.7nm,1.0s,mb4.7						
WRA	Warramunga Arr	63.58	103	P	P	22 04 36.2	0.0
	5.7nm,1.1s,mb4.5,baz=259,slow=6.1,SNR=12						
WB2	Warramunga Arr	63.59	103	eP	P	22 04 35.5	-0.7
WRAB	Tennant Creek	63.59	103	eP	P	22 04 35.7	-0.5
	16nm,1.3s,mb4.9						
SNAA	Sanae	64.42	199	P	P	22 04 40.7	-0.1
	1.1nm,0.8s,mb3.9,baz=80,slow=3.4,SNR=5.7						
SNAA	Sanae	64.42	199	eP	P	22 04 41.2	+0.4
	2.6nm,0.7s,mb4.4						
KIV	Kislovodsk	67.35	342	P	P	22 04 59.3	-0.6
STKA	Stephens Creek	67.58	117	eP	P	22 05 01.7	-0.1
MKAR	Makanchi Array	68.23	12	P	P	22 05 05.5	+0.1
	1.4nm,0.9s,mb4.0,baz=179,slow=4.9,SNR=6.4						
QSPA	South Pole Qui	69.93	180	P	P	22 05 15.4	-0.3
	4.5nm,1.1s,mb4.3,baz=353,slow=4.6,SNR=3.2						
KURK	Kurchatov	71.43	8	eP	P	22 05 24.9	-0.1
	7.6nm,1.1s,mb4.5						
TORD	Torodi Ar. Bea	71.53	292	P	P	22 05 26.1	-0.3
	0.7nm,0.9s,mb3.6,baz=122,slow=1.9,SNR=3.7						
VNDA	Vanda	71.67	167	P	P	22 05 28.1	+1.8
SBA	Scott Base	72.63	167	eP	P	22 05 32.4	+0.4
ZAA0	Zalesovo Array	75.55	11	eP	P	22 05 48.2	-1.0
ZALV	Zalesovo Beam	75.55	11	P	P	22 05 49.3	+0.1
	3.2nm,0.9s,mb4.2,baz=195,slow=4.6,SNR=10						
ARU	Arti	76.58	356	eP	P	22 05 55.1	+0.1
SONM	Songino Array	76.71	27	P	P	22 05 55.9	0.0
	1.1nm,0.8s,mb3.8,baz=227,slow=6.0,SNR=6.1						
AKASG	Malin Array Be	77.72	337	P	P	22 06 00.7	-0.9
	1.2nm,0.7s,mb3.9,baz=146,slow=4.6,SNR=8.8						
PMG	Port Moresby	78.41	96	P	P	22 06 07.0	+0.7
MJAR	Matsushiro Arr	88.28	50	P	P	22 06 56.2	-0.4
	4.5nm,1.1s,mb4.6,baz=239,slow=4.4,SNR=6.9						
ULM	Lac du Bonnet	146.78	339	PKPbc	PKPbc	22 13 44.8	-2.2
	5.9nm,0.8s,baz=340,slow=6.8,SNR=3.0						

*TIR **08** 22:12:19.7±20.0, 4031N×2174E, h5km±999km*
*ISCJB **08** 22:12:46.4±0.8, 3928N±002×2011E±005, h0km±5km, Error ellipse: s-maj=6.8km s-min=3.6km az=178.3*
*ATH **08** 22:12:47.9, 3926N×2028E, h20km±4km, MD3.4/7*
*CSEM **08** 22:12:48.5±0.3, 3931N×2021E, h10km, ML3.1, Error ellipse: s-maj=7.1km s-min=3.7km az=83.0*
*THE **08** 22:12:48.1, 3929N×2016E, h0km, ML3.1*
*

KSRS	Korea Array	46.98	22	LR	LR	22 57 23.4	
	comp=Z,108nm,20.9s,baz=25,slow=34						
MKAR	Makanchi Array	56.76	340	P	P	22 40 57.5	0.0
	0.3nm,0.5s,baz=142,slow=7.6,SNR=4.4						

ATH 08 22:45:53.8, 3921N×2023E, h3km, MD3.5/7
ISCJB 08 22:45:54.1±0.8, 3926N±002×20.14E±007, h10km, Error ellipse: s-maj=7.4km s-min=3.6km az=176.3
THE 08 22:45:54.1, 3927N×2011E, h0km, ML3.2
NEIC 08 22:45:54.1, 3927N×2011E, h0km, MD3.5(ATH), ML3.2(THE), After THE.
CSEM 08 22:45:54.4±0.6, 3927N×2008E, h5km, ML3.2, Error ellipse: s-maj=12.1km s-min=4.8km az=91.0

ISC 08 22:45:54.4±0.8, 3928N±003×2016E±007, h2km±7km, n20, σ1§17/29, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.29	27	ePg	Pg	22 45 59.2	-0.6
IGT				eSg	Sg	22 46 04.0	+0.4
IGT	Igoumenitsa	0.29	27	ePg	Pg	22 45 59.2	-0.7
IGT				eSg	Sg	22 46 04.0	+0.4
KEK	Kerkira	0.52	327	ePG	Pg	22 46 05.5	+1.2
JAN	Janina	0.65	54	ePG	Pg	22 46 05.2	-1.7
LKD	Levkas	0.69	146	ePg	Pg	22 46 07.0	-0.4
LKD				eSg	Sg	22 46 18.6	+2.3
VLS	Valsamata	1.15	163	ePg	Pg	22 46 14.2	-2.2
VLS				eSg	Sg	22 46 32.8	+1.6
KFL	Anninata	1.27	157	ePg	Pg	22 46 18.4	-0.2
KFL				eSg	Sg	22 46 35.7	+0.7
EVR	Evrytania	1.33	105	ePB	Pb	22 46 17.9	-2.1
THL	Klokotos Trika	1.46	78	ePg	Pg	22 46 22.1	-0.3
THL				eSg	Sg	22 46 42.8	+1.4
THL	Klokotos Trika	1.46	78	ePN	Pn	22 46 21.7	0.0
THL	Klokotos Trika	1.46	78	ePg	Pg	22 46 22.1	-0.3
THL				eSg	Sg	22 46 42.8	+1.4
RLS	Riolos of Patr	1.59	140	ePB	Pb	22 46 22.6	-1.8
KZN	Kozani	1.61	50	ePB	Pb	22 46 24.5	-0.3
AGG	Agios Georgios	1.71	98	ePb	Pb	22 46 25.5	-0.9
AGG				eSb	Sb	22 46 48.2	0.0
FNA	Florina	1.77	31	ePb	Pb	22 46 26.3	-1.1
FNA				eSb	Sb	22 46 51.0	+0.9
BIA	Bitola	1.96	27	ePn	Pn	22 46 28.4	0.0
BIA	Bitola	1.96	27	ePn	Pn	22 46 29.9	+1.5
LIT	Litokhoron	1.98	65	ePn	Pn	22 46 29.7	+1.0
KRUS	Krusevo	2.25	21	i Pn	Pn	22 46 33.7	+1.2
KRUS	Krusevo	2.25	21	i Pn	Pn	22 46 33.6	+1.1

ISCJB 08 22:59:03.0±0.6, 3766N±003×2127E±003, h2km±5km, Error ellipse: s-maj=5.9km s-min=3.4km az=31.8
NEIC 08 22:59:03.8, 3771N×2128E, h14km, ML3.6(ATH), ML3.9(THE), After ATH.
ATH 08 22:59:03.8, 3771N×2128E, h14km±1km, MD3.8/18, ML3.6
THE 08 22:59:03.3, 3762N×2126E, h0km, ML3.9
CSEM 08 22:59:04.1±0.1, 3769N×2126E, h2km, ML3.9, Error ellipse: s-maj=2.2km s-min=1.4km az=41.0

ISC 08 22:59:03.8±0.6, 3767N±003×2126E±003, h2km±4km, n50, σ1§05/65, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.42	23	ePB	Pg	22 59 11.6	-0.3
RLS				eSB	Sg	22 59 17.2	-0.2
KFL	Anninata	0.58	320	ePg	Pg	22 59 15.1	+0.2
ITM	Ithomi	0.72	132	ePB	Pb	22 59 18.0	-1.1
VLS	Valsamata	0.73	314	ePg	Pg	22 59 18.1	+0.2
VLS				eSg	Sg	22 59 29.2	+1.7
VLS	Valsamata	0.73	314	ePb	Pb	22 59 17.8	-1.5
VLS	Valsamata	0.73	314	ePg	Pg	22 59 18.1	+0.2
VLS				eSg	Sg	22 59 29.2	+1.8
VLX	Vlachokerasia	0.94	108	ePg	Pg	22 59 21.6	-0.2
VLX				eSg	Sg	22 59 33.5	-0.4
VLX	Vlachokerasia	0.94	108	ePg	Pg	22 59 21.6	-0.2
VLX				eSg	Sg	22 59 33.5	-0.5
LKD	Levkas	1.14	335	ePg	Pg	22 59 24.5	-1.2
LKD				eSg	Sg	22 59 44.1	+3.5
EVR	Evrytania	1.32	19	ePB	Pb	22 59 28.0	-1.3
LTK	Loutraki	1.40	75	ePg	Pn	22 59 28.4	-1.9
LTK				eSg	Sg	22 59 50.4	+1.7
DID	Didima	1.58	95	ePg	Pg	22 59 33.8	-0.3
DID				eSg	Sg	22 59 54.3	-0.3
AGG	Agios Georgios	1.59	32	ePb	Pb	22 59 32.2	-1.8
AGG				eSb	Sb	22 59 55.0	+0.6
VLI	Veliai	1.64	125	ePG	Pg	22 59 35.1	-0.2
LKR	Lokris	1.69	54	ePb	Pn	22 59 33.2	-1.1
LKR				eSb	Sb	22 59 57.1	-0.1
NAIG	Nisos Aigina	1.77	86	ePN	Pn	22 59 36.1	+0.7
ATH	Athens Observa	1.97	80	ePN	Pn	22 59 38.6	+0.4
THL	Klokotos Trika	1.98	17	ePn	Pn	22 59 39.0	+0.7
THL				eSn	Sn	23 00 05.2	+1.4
THL	Klokotos Trika	1.98	17	ePN	Pn	22 59 38.9	+0.5
KYTH	Kithira	1.99	134	ePN	Pn	22 59 40.0	+1.6
IGT	Igoumenitsa	2.00	339	ePn	Pn	22 59 38.2	-0.4
JAN	Janina	2.01	351	ePN	Pn	22 59 39.5	+0.8
PTL	Penteli	2.10	79	ePN	Pn	22 59 40.0	+0.1
NEO	Neokhori	2.25	43	ePB	Pn	22 59 41.5	-0.5
XOR	Xorichti	2.27	41	ePn	Pn	22 59 42.0	-0.3
KEK	Kerkira	2.34	331	ePB	Pn	22 59 43.0	-0.3
AOS	Alonnisos	2.54	53	ePn	Pn	22 59 46.6	+0.5
LIT	Litokhoron	2.61	21	ePn	Pn	22 59 47.4	+0.4
KZN	Kozani	2.66	8	ePN	Pn	22 59 48.8	+1.1
PAIG	Paliouri	2.94	39	ePn	Pn	22 59 51.1	-0.4
FNA	Florina	3.11	2	ePn	Pn	22 59 53.7	-0.2
KARN	Karanos	3.11	136	ePn	Pn	22 59 51.8	-2.1
PLG	Polygyros	3.19	32	ePn	Pn	22 59 54.7	-0.3
PLG	Polygyros	3.19	32	ePN	Pn	22 59 55.3	+0.3
VAM	Vamos	3.27	133	ePn	Pn	22 59 57.0	+0.9
VAM				P		23 00 06.9	
OUR	Ouranopolis	3.40	38	ePn	Pn	22 59 57.4	-0.5
APE	Apeiranthos	3.45	99	ePn	Pn	22 59 58.9	+0.3
APE	Apeiranthos	3.45	99	ePn	Pn	22 59 59.4	+0.8
SOH	Sokhos	3.54	27	ePn	Pn	22 59 59.8	0.0
KRUS	Krusevo	3.69	360	ePg	Pn	23 00 02.1	+0.2
KRUS				eSn	Sn	23 00 41.9	-4.0
TIP	Timpagrande	3.84	294	P	Pn	23 00 05.7	+1.8
CHOS	Chios island	3.85	78	ePn	Pn	23 00 04.1	+0.1
CEL	Celeste	4.28	280	P	Pn	23 00 11.6	+1.6
SMG	Samos	4.42	88	P	Pn	23 00 13.6	+1.7
ZKR	Zakros	4.74	121	P	Pn	23 00 18.4	+2.1
CUC	Castrocucco	4.84	300	ePn	Pn	23 00 17.1	-0.6
CUC				eSn	Sn	23 01 11.7	-2.6
CUC	Castrocucco	4.84	300	ePn	Pn	23 00 17.1	-0.6
CUC				eSn	Sn	23 01 11.7	-2.6
BOJS	Bojanci	9.03	332	ePn	Pn	23 01 15.2	+0.1
BOJS				i Sn	Sn	23 02 50.9	-6.3
PERS	Pernice	10.05	335	ePn	Pn	23 01 28.5	-0.6
MK31	Makanchi Array	45.07	58	P	P	23 07 18.5	-2.5

ISCJB 08 23:21:59.8±1.0, 4562N±004×2653E±007, h115km±9km, Error ellipse: s-maj=8.5km s-min=7.0km az=170.8
NEIC 08 23:21:59.8, 4564N×2651E, h117km, MD3.5(BUC), After BUC.

ISC 08 23:22:00.4±1.0, 4563N±004×2653E±007, h115km±9km, n12, σ0§53/20, 9C-3D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.28	29	⇑P	Pn	23 22 16.6	+0.1
VRI				S	Sn	23 22 29.0	+0.3
MLR	Muntele Rosu	0.43	252	⇑P	Pn	23 22 17.4	+0.1
MLR				S	Sn	23 22 30.1	+0.1
ISR	Istrita	0.51	179	⇑P	Pn	23 22 18.5	+0.8
VOIR		1.06	260	⇓P	Pn	23 22 22.0	-0.5
BUC1	Bucharest	1.33	196	⇑P	Pn	23 22 25.7	+0.3
BUC1				S	Sn	23 22 44.5	+0.1
HARR	Harsova	1.36	133	⇓P	Pn	23 22 26.3	+0.5
HARR				S	Sn	23 22 44.7	-0.4
CVD	Cernavoda	1.69	140	⇑P	Pn	23 22 30.1	+0.4
CVD				S	Sn	23 22 52.2	+0.2
IAS	Iasi	1.72	24	⇑P	Pn	23 22 29.8	-0.2
IAS				S	Sn	23 22 51.5	-1.2
TIRR	Tirgusor	1.77	131	⇓P	Pn	23 22 31.2	+0.5
TIRR				S	Sn	23 22 53.3	-0.5
ZIMR		2.14	203	⇑P	Pn	23 22 34.9	-0.4
ZIMR				S	Sn	23 23 00.8	-1.2
BURAR	Bucovina Array	2.19	336	⇑P	Pn	23 22 36.5	+0.7
GZR	Gura Zlata	2.65	266	⇑P	Pn	23 22 42.0	+0.2

BJI 08 23:33:42.7, 3795S×7830E, h6km, mB5.3, mb4.9, Ms5.2, Msz5.0
ISCJB 08 23:33:45.2±0.3, 3758S±006×7805E±008, h10km, mb4.8/39, MS4.9/16, Error ellipse: s-maj=8.9km s-min=8.1km az=12.6
IDC 08 23:33:45.3±0.6, 3754S×7797E, h0km, mb4.3/18, mb1 4.4/18, mb1mx4.4/23, mbtmp4.3/18, MS4.9/15, Ms1 4.9/15, ms1mx4.8/22, Error ellipse: s-maj=18.7km s-min=16.0km az=173.0
NEIC 08 23:33:46.9±0.2, 3754S×7804E, h10km, mb4.9/18, Error ellipse: s-maj=6.9km s-min=6.4km az=186.0
DJA 08 23:34:28, 3805S×7815E, h388km, mb4.4/11

ISC 08 23:33:47.1±0.3, 3758S±006×7802E±008, h10km, n80, σ0§74/69, mb4.8/39, MS4.9/16, 1C-1D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	West Island	30.38	39	eP	P	23 39 57.5	-1.8
	26nm,0.3s,mb5.4						
MAW	Mawson	31.26	191	P	P	23 40 07.8	+1.2
	4.3nm,0.8s,mb4.3,baz=337,slow=13,SNR=2.6						
MAW				LR	LR	23 50 31.0	
	comp=Z,2μm,18.3s,MS4.7,baz=18,slow=32						
MAW	Mawson	31.26	191	eP	P	23 40 06.0	-0.6
	3.4nm,0.6s,mb4.3						
MAW				LR	LR	23 50 30.9	
NWAO	Narrogin (SRO)	32.20	94	LR	LR	23 50 18.6	
	comp=Z,5μm,20.6s,MS5.2,baz=259,slow=31						
CASY	Casey	34.27	157	eP	P	23 40 33.7	+0.8
	25nm,1.4s,mb5.0						
SYO	Syowa Base	37.74	201	⇓eP	P	23 41 01.4	-1.3
SYO	Syowa Base	37.74	201	⇑eP	P	23 41 06.3	+3.6
BOSA	Boshof	44.60	265	P	P	23 41 57.9	-1.8
	3.3nm,0.9s,mb4.2,baz=90,slow=15,SNR=3.1						
BOSA				LR	LR	23 56 36.1	
	comp=Z,1μm,19.6s,MS4.8,baz=122,slow=31						
BOSA	Boshof	44.60	265	eP	P	23 41 59.4	-0.2
	8.0nm,1.1s,mb4.5						
BOSA				LR	LR	23 56 36.1	
PSI	Prapat	44.62	30	LR	LR	23 57 00.1	
	comp=Z,1μm,20.8s,MS4.8,baz=199,slow=31						
FITZ	Fitzroy Crossi	45.82	78	eP	P	23 42 09.3	-0.1
FITZ				ePcP	PcP	23 43 47.1	+0.3
LBTB	Lobatse	45.98	270	P	P	23 42 09.8	-0.7
	1.6nm,0.7s,mb4.0,baz=216,slow=19,SNR=1.7						
SUR	Sutherland	46.55	258	LR	LR	23 57 45.5	
	comp=Z,2μm,19.2s,MS5.2,baz=83,slow=31						
SUR	Sutherland	46.55	258	P	P	23 42 15.3	+0.3
LSZ	Lusaka	49.19	283	P	P	23 42 34.5	-1.1
	5.0nm,0.9s,mb4.5,baz=109,slow=6.8,SNR=7.4						
LSZ	Lusaka	49.19	283	eP	P	23 42 35.9	+0.3
LSZ				ePcP	PcP	23 44 00.6	+1.7
ASAR	Alice Springs	49.39	90	P	P	23 42 37.4	+0.3
	5.1nm,1.1s,mb4.5,baz=221,slow=6.4,SNR=12						
WRA	Warramunga Arr	51.66	87	P	P	23 42 53.3	-0.9
	14nm,1.2s,mb4.8,baz=237,slow=6.5,SNR=12						
WRA				LR	LR	00 02 23.2	
	comp=Z,2μm,18.8s,MS5.2,baz=235,slow=33						
WB2	Warramunga Arr	51.66	87	eP	P	23 42 54.4	+0.1
WRAB	Tennant Creek	51.67	87	eP	P	23 42 54.0	-0.3
	54nm,1.5s,mb5.2						
STKA	Stephens Creek	51.69	104	P	P	23 42 53.7	-0.7
	6.3nm,1.0s,mb4.5,baz=330,slow=11,SNR=3.0						
STKA	Stephens Creek	51.69	104	eP	P	23 42 53.3	-1.1
	11nm,1.0s,mb4.7						
SNAA	Sanae	51.97	203	P	P	23 42 56.2	+0.3
	1.9nm,0.9s,mb4.0,baz=50,slow=8.5,SNR=3.1						
SNAA	Sanae	51.97	203	eP	P	23 42 55.9	0.0
	8.0nm,0.9s,mb4.7						
KMBO	Kilima Mbogo	52.16	304	P	P	23 42 57.4	-0.6
	1.4nm,0.8s,mb4.0,baz=229,slow=19,SNR=2.8						
KMBO				LR	LR	00 01 48.5	
	comp=Z,323nm,20.8s,MS4.3,baz=103,slow=32						
VNDA	Vanda	52.31	164	P	P	23 42 58.2	-0.2
	1.5nm,1.0s,mb3.9,baz=260,slow=5.4,SNR=3.3						
VNDA				LR	LR	00 03 16.3	
	comp=Z,2μm,19.2s,MS5.1,baz=224,slow=34						
VNDA	Vanda	52.31	164	eP	P	23 42 58.1	-0.3
	11nm,1.5s,mb4.6						
VNDA				LR	LR	00 03 16.3	
QSPA	South Pole Qui	52.58	180	P	P	23 43 00.6	+0.3
	9.0nm,1.0s,mb4.7,baz=277,slow=3.3,SNR=7.5						
SBA	Scott Base	53.33	165	eP	P	23 43 07.2	+1.3
	22nm,1.9s,mb4.8						
TSUM	Tsumeb	55.32	272	P	P	23 43 21.3	+0.1
	3.1nm,0.8s,mb4.4,baz=82,slow=8.8,SNR=6.1						
TSUM				LR	LR	00 03 12.6	
	comp=Z,3μm,20.9s,MS5.4,baz=113,slow=32						
TSUM	Tsumeb	55.32	272	eP	P	23 43 22.2	+1.1
	5.4nm,0.9s,mb4.6						
TSUM				LR	LR	00 03 12.6	
CMAR	Chiang Mai Arr	59.12	23	P	P	23 43 48.0	+0.1
	1.7nm,0.4s,mb4.5,baz=197,slow=7.2,SNR=8.5						
CMAR				LR	LR	00 05 35.5	
	comp=Z,310nm,21.1s,MS4.4,baz=195,slow=32						
CTAO	Charters Tower	61.04	94	P	P	23 44 00.0	-1.2
SHL	Shillong	64.15	14	eP	P	23 44 23.0	+1.3
RAMN	Ramite	64.69	8	eP	P	23 44 25.7	+0.5
	87nm,1.3s,mb5.6						
ODAN	Odare	64.70	9	eP	P	23 44 25.7	+0.4
	68nm,1.2s,mb5.5						
PKI	Pulchoki	65.18	7	eP	P	23 44 28.7	+0.3
DMN	Daman	65.19	7	eP	P	23 44 28.1	-0.3
KOLN	Koldanda	65.22	5	eP	P	23 44 28.7	+0.1
	113nm,1.5s,mb5.7						
TAPN	Taplejung	65.23	9	eP	P	23 44 29.6	+0.9
	84nm,1.0s,mb5.7						
JIRN	Jiri	65.35	8	eP	P	23 44 30.1	+0.6
KKN	Kakani	65.38	7	eP	P	23 44 29.4	-0.3
	41nm,1.1s,mb5.3						
GKN	Gorkha	65.53	6	eP	P	23 44 30.8	+0.1
GUN	Gumba	65.56	8	eP	P	23 44 32.1	+1.3
	254nm,1.4s,mb6.1						
DANN	Dangsing	65.81	6	eP	P	23 44 32.5	+0.1
DDI	Dehra Dun	67.55	0	ex	x	23 44 43.5	
PMG	Port Moresby	67.81	85	P	P	23 44 45.5	-0.1
LSA	Lhasa	68.05	12	P	P	23 44 48.0	+1.3
LSA	Lhasa	68.05	12	eP	P	23 44 47.1	+0.4
	34nm,1.4s,mb5.2						
KBL	Kabul	72.24	352	eP	P	23 45 12.7	+0.5
	36nm,1.4s,mb5.1						
NACB	Ninganchiao	73.84	41	P	P	23 45 21.4	-0.5
XAN	Xi'an	76.84	26	P	P	23 45 39.2	+0.2
XAN				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH	Lanzhou	77.11	21	eP	P	23 45 41.3	+0.8
LZH				AP	pP	23 45 46.1	+2.3
LZH				XP	sP	23 45 48.5	+3.5
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,97nm,5.2s						
LZH				LR	LR		
	comp=N,276nm,13.5s						
LZH				LR	LR		
	comp=Z,407nm,17.8s,MS4.8						
GTA	Gaotai	79.20	17	eP	P	23 45 52.8	+0.8
GTA				AP	pP	23 45 56.5	+1.2
GTA				XP	sP	23 45 57.8	+1.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
AML	Almayashu	79.43	357	eP	P	23 45 51.5	-1.7
	comp=Z,14nm,1.2s,mb4.8						
EKS2	Erkin-Say	79.96	357	eP	P	23 45 56.5	+0.5
	comp=Z,86nm,0.7s,mb5.8						
TKM2	Tokmak 2	80.16	358	eP	P	23 45 56.5	-0.6
	comp=Z,14nm,1.6s,mb4.6						
WMQ	Urumqi	81.50	7	eP	P	23 46 03.5	-0.7
BTO	Baotou	83.15	24	eP	P	23 46 13.7	+0.7
GNI	Garni	83.16	335	eP	P	23 46 13.2	+0.1
	comp=Z,36nm,1.5s,mb5.2						
MALT	Malatya	83.88	330	eP	P	23 46 15.7	-1.1
MKAR	Makanchi Array	84.08	3	P	P	23 46 17.1	-0.5
	comp=Z,8.3nm,1.0s,mb4.8,baz=175,slow=6.0,SNR=24						
MKAR				LR	LR	00 21 05.2	
	comp=Z,741nm,20.5s,MS5.0,baz=265,slow=34						
MKAR	Makanchi Array	84.08	3	P	P	23 46 17.1	-0.5
MKAR				LR	LR	00 21 05.2	
KIV	Kislovodsk	87.25	335	P	P	23 46 33.4	0.0
TOA0	Torodi Ar. Sit	87.38	289	P	P	23 46 35.2	+0.5
TORD	Torodi Ar. Bea	87.38	289	P	P	23 46 34.6	-0.2
	comp=Z,2.3nm,1.2s,mb4.3,baz=222,slow=2.0,SNR=4.9						
TORD				LR	LR	00 25 11.8	
	comp=Z,1μm,18.4s,MS5.3,baz=135,slow=35						
KURK	Kurchatov	87.92	0	eP	P	23 46 36.4	-0.1
	comp=Z,11nm,1.2s,mb5.0						
DBIC	Dimbokro	88.41	280	LR	LR	00 24 38.2	
	comp=Z,927nm,18.3s,MS5.2,baz=142,slow=34						
SONM	Songino Array	88.73	19	P	P	23 46 40.2	-0.2
	comp=Z,1.4nm,1.0s,mb4.2,baz=233,slow=4.3,SNR=6.6						
SONM				LR	LR	00 26 19.3	
	comp=Z,486nm,21.4s,MS4.9,baz=234,slow=36						
BRVK	Borovoye	90.52	355	eP	P	23 46 48.9	+0.3
	comp=Z,2.4nm,0.7s,mb4.6						
ZALV	Zalesovo Beam	91.35	4	P	P	23 46 51.2	-1.3
	comp=Z,0.3nm,0.2s,mb4.2,baz=192,slow=4.0,SNR=2.9						
MJAR	Matsushiro Arr	92.41	44	P	P	23 46 58.6	+0.8
	comp=Z,0.5nm,0.3s,mb4.3,baz=214,slow=4.1,SNR=5.1						
MJAR				LR	LR	00 25 20.9	
	comp=Z,200nm,19.6s,MS4.6,baz=210,slow=34						
MJAR	Matsushiro Arr	92.41	44	P	P	23 46 58.6	+0.8
MJAR				LR	LR	00 25 20.9	
ARU	Arti	95.10	349	eP	P	23 47 09.6	-0.1
BMRM	Bremner River	144.62	35	ePKPdf	PKPdf	23 53 22.2	-0.8
DAWY	Dawson	145.38	28	ePKPbc	PKPbc	23 53 24.6	+0.4
YKA	Yellowknife Ar	153.88	13	PKPbc	PKPbc	23 53 47.3	+1.6
	comp=Z,4.2nm,1.0s,baz=351,slow=2.8,SNR=5.5						
YKA	Yellowknife Ar	153.88	13	PKPbc	PKPbc	23 53 47.3	+1.6
PDAR	Pinedale Array	172.23	46	PKP	PKPdf	23 53 55.2	-0.7
	comp=Z,0.4nm,0.9s,baz=99,slow=4.7,SNR=2.4						
LAZ	Ladron	174.75	126	PKPdf	PKPdf	23 53 57.5	+0.4

TIR 08 23:44:43.5±2.4, 3920N×2061E, h4km±999km
THE 08 23:44:47.1, 3925N×2016E, h0km, ML2.7
CSEM 08 23:44:47.7±0.3, 3922N×2014E, h2km, MD3.2, Error ellipse: s-maj=8.4km s-min=4.2km az=80.0
ISCJB 08 23:44:47.5±0.6, 3927N±002×2023E±005, h10km, Error ellipse: s-maj=5.9km s-min=3.5km az=169.8
ATH 08 23:44:48.5, 3928N×2032E, h5km, MD3.2/5
NEIC 08 23:44:48.6, 3928N×2031E, h5km, MD3.2(ATH), ML2.7(THE), After ATH.

ISC 08 23:44:47.9±0.6, 3926N±002×2024E±006, h0km±9km, n19, σ0§90/33, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.28	16	ePg	Pg	23 44 52.6	-0.7
IGT				eSg	Sg	23 44 57.2	+0.2
IGT	Igoumenitsa	0.28	16	i PG	Pg	23 44 52.6	-0.7
IGT				i SG	Sg	23 44 57.1	+0.2
KEK	Kerkira	0.56	323	ePB	Pg	23 44 59.4	+0.7
KEK				eSB	Sg	23 45 09.3	+3.3
JAN	Janina	0.62	50	ePB	Pg	23 44 58.9	-0.9
LKD	Levkas	0.64	150	ePg	Pg	23 44 59.3	-0.9
LKD				eSg	Sg	23 45 09.4	+1.0
LKD	Levkas	0.64	150	ePg	Pg	23 44 59.3	-0.9
LKD				eSg	Sg	23 45 09.4	+0.9
SRN	Sarande	0.64	344	ePG	Pg	23 44 59.7	-0.5
SRN				i SG	Sg	23 45 14.9	+6.3
VLS	Valsamata	1.12	166	ePg	Pg	23 45 07.6	-1.7
VLS				eSg	Sg	23 45 24.5	+0.7
VLS	Valsamata	1.12	166	ePB	Pb	23 45 10.3	+0.2
VLS				eSB	Sb	23 45 26.2	+1.0
VLS	Valsamata	1.12	166	ePb	Pb	23 45 10.3	+0.2
VLS				eSg	Sg	23 45 24.5	+0.7
KFL	Anninata	1.23	159	ePg	Pg	23 45 10.3	-1.1
EVR	Evrytania	1.27	105	ePB	Pb	23 45 12.1	-0.6
EVR	Evrytania	1.27	105	ePb	Pg	23 45 13.1	+0.8
THL	Klokotos Trika	1.41	77	ePg	Pg	23 45 15.1	+0.1
THL				eSg	Sg	23 45 35.1	+1.8
THL	Klokotos Trika	1.41	77	ePB	Pb	23 45 15.4	+0.3
AGG	Agios Georgios	1.65	98	ePb	Pb	23 45 18.2	-0.9
AGG				eSb	Sb	23 45 40.3	-0.1
FNA	Florina	1.75	30	ePb	Pn	23 45 19.1	-0.4
FNA				eSb	Sg	23 45 43.9	-0.4
FNA	Florina	1.75	30	i PG	Pn	23 45 19.1	-0.4
FNA				i SG	Sg	23 45 44.0	-0.3
FNA	Florina	1.75	30	ePb	Pn	23 45 19.1	-0.4
FNA				eSb	Sg	23 45 43.9	-0.4

ISCJB 09 00:21:55.3±1.9, 656S±008×1467E±0.1, h76km±17km, mb3.9/8, Error ellipse: s-maj=20.0km s-min=13.8km az=168.4
NEIC 09 00:21:57.5±1.2, 654S×14659E, h80km±11km, mb4.0/7, Error ellipse: s-maj=13.1km s-min=8.2km az=86.0
IDC 09 00:21:58.1±4.5, 657S×14677E, h90km±45km, mb3.5/4, mb1 3.7/6, mb1mx3.5/17, mbtmp3.5/6, Error ellipse: s-maj=53.3km s-min=18.3km az=108.0

ISC 09 00:21:56.3±1.5, 655S±007×1467E±01, h68km±14km, n26, σ0§65/26, mb3.9/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.88	170	ePn	Pn	00 22 41.0	+1.1
PMG				eSn	Sn	00 23 12.3	-1.1
CTA	Charters Tower	13.46	182	P	Pn	00 25 06.9	+2.5
	0.9nm,0.3s,baz=358,slow=14,SNR=5.1						
CTAO	Charters Tower	13.46	182	ePn	Pn	00 25 05.7	+1.3
KAKA	Kakadu	15.28	245	ePn	Pn	00 25 28.0	-0.2
WRAB	Tennant Creek	17.88	221	eP	Pn	00 26 00.2	-0.3
	1.4nm,0.4s						
WB2	Warramunga Arr	17.88	221	eP	Pn	00 26 00.4	-0.2
WRA	Warramunga Arr	17.89	221	P	Pn	00 26 00.3	-0.3
	0.4nm,0.3s,baz=48,slow=11,S

*ISCJB **09** 00:55:48.9±0.2, 2269N±001×121.19E±002, h10km, mb4.9/115, MS5.1/48, Error ellipse: s-maj=2.1km s-min=1.9km az=24.8*
*MOS **09** 00:55:51.5±2.2, 2251N×121.25E, h33km, mb5.3/46, MS5.2/35, Error ellipse: s-maj=8.5km s-min=4.6km az=118.4*
*NEIC **09** 00:55:52.3±2.7, 2258N×121.10E, h21km±17km, mb5.0/55, MS5.3/6, ML5.7(TAP), Error ellipse: s-maj=13.6km s-min=7.0km az=153.0*
NEIC Felt at Feng-yuan, Kao-hsiung, Tai-chung and Taipei. Recorded [5 TAP] in T'ai-tung; [3 TAP] in Hua-lien and P'ing-tung; [2 TAP] in Chia-i, Kao-hsiung and T'ai-nan Counties.
*BJI **09** 00:55:54.0, 2311N×12081E, h15km, mB5.4, mb4.8, ML5.3, Ms5.6, Msz5.3*
*DJA **09** 00:55:54, 2288N×12098E, h10km, mb5.2/13*
*SZGRF **09** 00:55:56.6, 2262N×12079E, h33km, mb5.2, MS5.3, Taiwan*

ISC 09 00:55:50.6±0.2, 2274N±001×12118E±002, h10km, (h28km±3.1km:pP-P), n440, σ19 49/503, mb4.9/115, MS5.1/48, 33C-44D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.03**	**302**	⇑iP	**Pg**	**00 55 51.8**	**-0.7**
TWG	**Pinlang**	**0.13**	**311**	iP	**Pg**	**00 55 51.8**	**-1.9**
TWG				S	**Sg**	**00 55 54.8**	**-1.0**
ECL	**Taimali**	**0.25**	**236**	⇓iP	**Pg**	**00 55 50.7**	**-5.0**
CHKT	**Chengkung**	**0.40**	**26**	⇓iP	**Pg**	**00 55 58.9**	**+0.3**
CHKT				S	**Sg**	**00 56 07.9**	**+4.1**
TAW	**Tawu**	**0.46**	**214**	⇑iP	**Pg**	**00 55 54.9**	**-4.7**
TAW				S	**Sg**	**00 56 00.6**	**-5.0**
ELDTW	**Lidau**	**0.47**	**342**	⇓iP	**Pg**	**00 55 58.7**	**-1.2**
ELDTW				S	**Sg**	**00 56 05.8**	**-0.4**
STYT	**Tauyuan**	**0.57**	**318**	⇓iP	**Pg**	**00 55 59.8**	**-1.9**
TWF1	**Yuli**	**0.62**	**10**	⇓iP	**Pg**	**00 56 00.9**	**-1.8**
TWF1				S	**Sg**	**00 56 12.1**	**+1.3**
SCZT	**Fangliau**	**0.63**	**235**	⇑iP	**Pg**	**00 55 58.0**	**-4.8**
SCZT				S	**Sg**	**00 56 05.1**	**-5.9**
SGLT	**Jiouru**	**0.63**	**269**	⇓iP	**Pg**	**00 55 59.6**	**-3.3**
SGLT				S	**Sg**	**00 56 07.8**	**-3.4**
SGST	**Jiashian**	**0.65**	**302**	⇓iP	**Pg**	**00 56 00.8**	**-2.3**
SGST				S	**Sg**	**00 56 11.1**	**-0.5**
TWM1	**Shoushan**	**0.70**	**277**	⇓iP	**Pg**	**00 56 01.5**	**-2.6**
WTP	**Ta-pu**	**0.72**	**314**	⇓iP	**Pg**	**00 56 03.1**	**-1.5**
CHN1	**Nanshi**	**0.74**	**307**	⇓iP	**Pg**	**00 56 03.3**	**-1.7**
EHY	**Hungye**	**0.78**	**10**	eP	**Pg**	**00 56 02.9**	**-2.7**
EHY				S	**Sg**	**00 56 17.0**	**+1.2**
LAY	**Lan-yu**	**0.78**	**153**	⇑P	**Pg**	**00 56 01.9**	**-3.7**
LAY				S	**Sg**	**00 56 14.8**	**-1.0**
YUS	**Yu-Shan**	**0.78**	**345**	⇓iP	**Pg**	**00 56 04.3**	**-1.3**
CHN4	**Tsaushan**	**0.81**	**319**	⇓iP	**Pg**	**00 56 05.1**	**-1.2**
CHN4				S	**Sg**	**00 56 17.6**	**+0.7**
KAU	**Kaohsiung**	**0.82**	**258**	eP	**Pg**	**00 56 05.2**	**-1.2**
TWK	**Hsinying**	**0.82**	**310**	⇓iP	**Pg**	**00 56 05.1**	**-1.4**
TWK				S	**Sg**	**00 56 18.2**	**+0.9**
HEN	**Hengchun**	**0.83**	**209**	⇑iP	**Pg**	**00 56 02.5**	**-4.2**
ALS	**Alishan**	**0.84**	**336**	⇓iP	**Pg**	**00 56 05.5**	**-1.4**
ALS				S	**Sg**	**00 56 17.8**	**-0.1**
TSEB	**Hengchuen, Pin**	**0.87**	**197**	eP	**Pg**	**00 56 02.8**	**-4.6**
TAI1	**Yung-k'ang**	**0.93**	**289**	eP	**Pg**	**00 56 07.2**	**-1.2**
CHN5	**Tsauling**	**0.97**	**332**	⇓iP	**Pg**	**00 56 08.1**	**-1.3**
SCLT	**Jiali**	**1.00**	**296**	eP	**Pg**	**00 56 08.5**	**-1.5**
SCLT				S	**Sg**	**00 56 24.8**	**+1.8**
CHN2	**Minshiung**	**1.02**	**321**	⇓iP	**Pg**	**00 56 09.3**	**-1.0**
TEGC	**Jichi Village**	**1.02**	**19**	eP	**Pg**	**00 56 09.2**	**-1.2**
CHY	**Chiayi**	**1.03**	**318**	⇓iP	**Pg**	**00 56 09.3**	**-1.1**
CHN8	**Yiju**	**1.08**	**304**	⇓iP	**Pg**	**00 56 09.4**	**-2.0**
CHN8				S	**Sg**	**00 56 25.8**	**+0.5**
ESL	**Shilin**	**1.10**	**12**	eP	**Pb**	**00 56 07.6**	**-4.1**
ESL				S	**Sg**	**00 56 27.9**	**+1.9**
WGK	**Gukeng**	**1.10**	**329**	⇓iP	**Pb**	**00 56 11.0**	**-0.7**
WGK				S	**Sg**	**00 56 27.7**	**+1.6**
SMLT	**Sun Moon Lake**	**1.17**	**347**	⇓P	**Pb**	**00 56 11.4**	**-1.5**
SMLT				S	**Sb**	**00 56 30.8**	**+2.7**
ESF	**Shoufeng Towns**	**1.17**	**15**	eP	**Pb**	**00 56 11.2**	**-1.8**
TYC	**Yuchr**	**1.20**	**346**	⇓P	**Pb**	**00 56 12.0**	**-1.5**
WNT	**Mingjian**	**1.22**	**338**	⇓iP	**Pn**	**00 56 13.2**	**-0.6**
WNT				S	**Sb**	**00 56 32.6**	**+2.9**
WSF	**Szhu**	**1.25**	**316**	⇓iP	**Pn**	**00 56 12.2**	**-2.0**
WSF				S	**Sb**	**00 56 31.0**	**+0.4**
HWA	**Hwalien**	**1.29**	**18**	eP	**Pn**	**00 56 11.6**	**-3.1**
TWD	**Chiawan**	**1.39**	**16**	eP	**Pn**	**00 56 13.3**	**-2.8**
TWD				S	**Sn**	**00 56 36.0**	**+1.4**
WTCT	**Ta-ch'eng**	**1.39**	**324**	P	**Pn**	**00 56 14.6**	**-1.5**
WTCT				S	**Sn**	**00 56 35.3**	**+0.8**
WHF	**Hehuan Shan**	**1.40**	**3**	eP	**Pn**	**00 56 13.9**	**-2.4**
TCU	**Taichung**	**1.48**	**342**	⇓P	**Pn**	**00 56 17.2**	**-0.1**
TCU				S	**Sn**	**00 56 39.1**	**+2.5**
NACB	**Ninganchiao**	**1.48**	**15**	ePn	**Pn**	**00 56 14.4**	**-2.9**
NACB				eSn	**Sg**	**00 56 41.8**	**+3.4**
TWT	**Tachien**	**1.51**	**360**	eP	**Pn**	**00 56 16.0**	**-1.7**
TWT				S	**Sg**	**00 56 40.4**	**+1.2**
TWQ1	**Liyutan**	**1.65**	**347**	P	**Pn**	**00 56 19.6**	**0.0**
TWQ1				S	**Sg**	**00 56 44.5**	**+0.9**
NNS	**Nan Shan**	**1.71**	**6**	eP	**Pn**	**00 56 18.1**	**-2.3**
NNS				S	**Sg**	**00 56 45.2**	**-0.3**
PNG	**Penghu**	**1.71**	**299**	P	**Pn**	**00 56 16.8**	**-3.6**
PNG				S	**Sn**	**00 56 38.6**	**-3.7**
NSY	**Sanyi**	**1.71**	**347**	eP	**Pn**	**00 56 20.7**	**+0.2**
NSY				S	**Sg**	**00 56 47.2**	**+1.5**
ENA	**Nanau**	**1.76**	**17**	eP	**Pn**	**00 56 18.2**	**-3.0**
NSTT	**Nanjuang**	**1.89**	**355**	eP	**Pn**	**00 56 22.7**	**-0.3**
NSTT				S	**Sg**	**00 56 51.4**	**-0.1**
ENTT	**Nioudou**	**1.93**	**11**	eP	**Pn**	**00 56 21.2**	**-2.2**
YHNB	**Yeheng**	**1.93**	**5**	ePn	**Pn**	**00 56 22.1**	**-1.5**
YHNB				eSn	**Sg**	**00 56 54.9**	**+2.1**
NSK	**Sanguang**	**1.94**	**5**	eP	**Pn**	**00 56 21.5**	**-2.1**
TWC	**Suao**	**1.96**	**18**	eP	**Pn**	**00 56 22.4**	**-1.5**
TWE	**Neicheng**	**2.02**	**13**	eP	**Pn**	**00 56 22.8**	**-2.0**
HSN	**Hsinchu**	**2.06**	**355**	eP	**Pn**	**00 56 27.4**	**+2.0**
ILA	**Ilan**	**2.09**	**14**	eP	**Pn**	**00 56 27.1**	**+1.5**
NCU	**National Centr**	**2.22**	**0**	eP	**Pn**	**00 56 29.1**	**+1.5**
NCU				S	**Sn**	**00 56 59.4**	**+4.3**
TATO	**Taipei**	**2.25**	**7**	ePn	**Pn**	**00 56 31.0**	**+3.2**
TATO				eSn	**Sg**	**00 57 01.8**	**-1.1**
TWA	**Mucha**	**2.26**	**9**	eP	**Pn**	**00 56 28.3**	**+0.2**
TAP1	**Taipei**	**2.31**	**8**	eP	**Pn**	**00 56 29.9**	**+1.2**
TWS1	**Kuangyinshan**	**2.36**	**5**	eP	**Pn**	**00 56 30.0**	**+0.5**
TWS1				S	**Sg**	**00 57 04.7**	**-1.9**
TWB1	**Santiao Chiao**	**2.38**	**18**	eP	**Pn**	**00 56 28.6**	**-1.1**
NWF	**Wu-fen Shan**	**2.39**	**13**	eP	**Pn**	**00 56 29.8**	**0.0**
YOJ	**Yonaguni jima**	**2.40**	**44**	P	**Pn**	**00 56 28.2**	**-1.8**
YOJ				eS	**Sn**	**00 57 00.3**	**+0.8**
YOJ	**Yonaguni jima**	**2.40**	**44**	P	**Pn**	**00 56 28.5**	**-1.5**
YOJ				S	**Sn**	**00 57 00.2**	**+0.7**
TWY	**Chenhua**	**2.56**	**9**	eP	**Pn**	**00 56 32.6**	**+0.4**
HATJ	**Hateruma jima**	**2.75**	**61**	P	**Pn**	**00 56 32.5**	**-2.3**
HATJ				eS	**Sn**	**00 57 07.7**	**-0.4**
IRIF	**Iriomote-Funau**	**2.83**	**55**	P	**Pn**	**00 56 34.0**	**-1.9**
IRIF				eS	**Sn**	**00 57 09.4**	**-0.7**
PCYT	**Pengchaiyu**	**2.99**	**16**	eP	**Pn**	**00 56 36.6**	**-1.5**
JKRS	**Kuro-shima**	**3.00**	**60**	P	**Pn**	**00 56 36.6**	**-1.6**
JKRS				eS	**Sn**	**00 57 14.0**	**-0.2**
KNM	**Kinmen**	**3.02**	**304**	eP	**Pn**	**00 56 36.7**	**-1.8**
JIJ	**Ishigaki jima**	**3.17**	**59**	P	**Pn**	**00 56 38.2**	**-2.3**
JIJ				eS	**Sn**	**00 57 17.1**	**-1.3**
QZH	**Quanzhou**	**3.23**	**313**	⇓iP	**Pn**	**00 56 39.1**	**-2.3**
QZH				S	**Sn**	**00 57 21.8**	**+1.9**
QZH				Smax			
	comp=N,10μm,0.9s						
QZH				Smax			
	comp=E,11μm,0.9s						
QZH				LR	LR		
	comp=N,51μm,10.6s						
QZH				LR	LR		
	comp=E,65μm,8.8s						
QZH				LR	LR		
	comp=Z,78μm,12.2s						
JTJ	**Tarama**	**3.75**	**59**	P	**Pn**	**00 56 46.7**	**-1.8**
JTJ				eS	**Sn**	**00 57 31.4**	**-1.3**
JMJ	**Miyako jima 2**	**4.30**	**60**	P	**Pn**	**00 56 54.6**	**-1.5**
JMJ				eS	**Sn**	**00 57 46.2**	**-0.2**
JMJ	**Miyako jima 2**	**4.30**	**60**	eP	**Pn**	**00 56 54.6**	**-1.5**
HKC	**Hong Kong Obse**	**6.49**	**268**	Pn	**Pn**	**00 57 22.0**	**-4.2**
HKC	**Hong Kong Obse**	**6.49**	**268**	eP	**Pn**	**00 57 22.0**	**-4.2**
GZH	**Guangzhou**	**7.23**	**274**	P	**Pn**	**00 57 36.0**	**-0.4**
GZH				S	**Sn**	**00 58 50.4**	**-8.2**
GZH				Smax			
	comp=N,2μm,1.1s						
GZH				Smax			
	comp=E,1μm,1.3s						
JOW	**Kunigami**	**7.63**	**56**	Pn	**Pn**	**00 57 38.0**	**-3.8**
	comp=E,8.7nm,0.3s,baz=106,slow=28,SNR=9.4						
JOW				Sn	**Sn**	**00 59 13.0**	**+4.6**
	comp=E,2.5nm,0.3s,baz=122,slow=26,SNR=3.3						
JOW				LR	LR	01 00 57.1	
	comp=E,7μm,18.3s,baz=236,slow=39						
JOW	**Kunigami**	**7.63**	**56**	eP	**Pn**	**00 57 38.3**	**-3.6**
SSE	**Sheshan**	**8.32**	**0**	P	**Pn**	**00 57 53.8**	**+2.4**
SSE				AMB	AMB		
	comp=Z,44nm,0.8s						
SSE				AMB	AMB		
	comp=Z,357nm,5.0s						
SSE				LR	LR		
	comp=N,10μm,7.5s						
SSE				LR	LR		
	comp=E,12μm,7.5s						
SSE				LR	LR		
	comp=Z,20μm,8.0s						
WHN	**Wuhan**	**9.88**	**323**	P	**Pn**	**00 58 09.6**	**-3.2**
WHN				AP		00 58 16.4	
WHN				S	**Sn**	**01 00 00.0**	**-3.8**
WHN				LR	LR		
	comp=N,50μm,9.6s						
WHN				LR	LR		
	comp=E,57μm,7.6s						
WHN				LR	LR		
	comp=Z,82μm,9.8s						
QIZ	**Qiongzhong**	**11.22**	**253**	ePn	**Pn**	**00 58 29.6**	**-1.5**
	comp=Z,60nm,0.9s						
QIZ				eSn	**Sn**	**01 00 31.8**	**-4.9**
GYA	**Guiyang**	**13.71**	**289**	⇑iP	**Pn**	**00 59 04.6**	**-0.6**
GYA				AP		00 59 12.4	
GYA				S	**Sn**	**01 01 31.0**	**-6.6**
GYA				XS		01 01 43.2	
GYA				SS		01 01 47.8	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,160nm,4.2s						
GYA				LR	LR		
	comp=N,10μm,11.4s						
GYA				LR	LR		
	comp=E,8μm,12.8s						
GYA				LR	LR		
	comp=Z,9μm,13.4s						
TIA	**Tai'an**	**13.88**	**346**	eP	**Pn**	**00 59 08.0**	**+0.6**
TIA				AP		00 59 15.0	
TIA				AMB	AMB		
	comp=Z,716nm,5.0s						
TIA				LR	LR		
	comp=N,24μm,11.0s						
TIA				LR	LR		
	comp=E,12μm,9.0s						
INCN	**Inchon**	**15.43**	**17**	ePn	**Pn**	**00 59 32.5**	**+4.2**
	comp=E,87nm,1.0s						
XAN	**Xi'an**	**15.57**	**319**	P	**Pn**	**00 59 28.2**	**-2.1**
XAN				AMB	AMB		
	comp=Z,27nm,2.3s						
XAN				AMB	AMB		
	comp=Z,750nm,6.7s						
XAN				LR	LR		
	comp=N,11μm,9.1s						
XAN				LR	LR		
	comp=E,11μm,11.3s						
XAN				LR	LR		
	comp=Z,23μm,12.4s						
KS15	**Wonju Array Si**	**15.76**	**20**	ePn	**Pn**	**00 59 36.9**	**+4.3**
KSRS	**Korea Array**	**15.78**	**20**	Pn	**Pn**	**00 59 34.8**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=202,slow=12,SNR=21						
KSRS				LR	LR	01 06 23.7	
	comp=Z,5μm,19.7s,baz=196,slow=40						
DL2	**Dalian**	**16.12**	**1**	⇑iP	**Pn**	**00 59 37.5**	**+0.2**
DL2				S	**Sn**	**01 02 40.0**	**+3.8**
DL2				AMB	AMB		
	comp=Z,40nm,1.3s						
DL2				AMB	AMB		
	comp=Z,1μm,6.3s						
DL2				LR	LR		
	comp=N,8μm,11.3s						
DL2				LR	LR		
	comp=E,3μm,12.1s						
DL2				LR	LR		
	comp=Z,8μm,10.7s						
KDM	**Kudat**	**16.28**	**196**	⇓P	**Pn**	**00 59 43.7**	**+4.3**
TIY	**Taiyuan**	**16.71**	**335**	⇑iP	**Pn**	**00 59 47.2**	**+2.3**
TIY				AMB	AMB		
	comp=Z,2μm,5.9s						
TIY				LR	LR		
	comp=N,29μm,11.4s						
TIY				LR	LR		
	comp=E,11μm,10.6s						
TIY				LR	LR		
	comp=Z,29μm,11.8s						
KMI	**Kunming**	**17.02**	**282**	P	**Pn**	**00 59 47.5**	**-1.4**
KMI				AP	pP	00 59 55.4	+1.9
KMI				XP	sP	01 00 00.4	+5.6
KMI				PP		01 00 01.4	
KMI				S	**Sn**	**01 02 48.0**	**-10**
KMI				SS		01 03 09.3	
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s						
KMI				AMB	AMB		
	comp=Z,313nm,4.1s						
KMI				LR	LR		
	comp=N,7μm,8.8s						
KMI				LR	LR		
	comp=E,8μm,7.9s						
KMI				LR	LR		
	comp=Z,8μm,9.0s						
KKM	**Kota Kinabalu**	**17.27**	**197**	⇑P	**Pn**	**00 59 54.7**	**+2.7**
KKM	**Kota Kinabalu**	**17.27**	**197**	Pn	**Pn**	**00 59 46.2**	**-5.9**
SDKM	**Sandakan**	**17.43**	**193**	⇑P	**Pn**	**00 59 57.9**	**+4.0**
CD2	**Chengdu**	**17.53**	**301**	P	**Pn**	**00 59 53.6**	**-1.6**
CD2				AP	pP	01 00 01.5	+2.3
CD2				XP	sP	01 00 06.1	+5.6
CD2				PP		01 00 08.9	
CD2				S	**Sn**	**01 03 00.3**	**-10**
CD2				XS	sS	01 03 12.6	-10
CD2				SS		01 03 21.3	
CD2				AMB	AMB		
	comp=Z,80nm,4.2s						
CD2				LR	LR		
	comp=N,6μm,7.8s						
CD2				LR	LR		
	comp=E,8μm,8.0s						
CD2				LR	LR		
	comp=Z,12μm,10.2s						
MYLDM	**Lahad Datu**	**17.64**	**189**	⇑P	**Pn**	**01 00 03.4**	**+6.8**
BJT	**Baijiatuau**	**17.74**	**347**	eP	**Pn**	**00 59 58.2**	**+0.5**
BJT				e		01 03 23.6	
BJT				pmax	pmax		
	comp=Z,415nm,1.8s						
BJT	**Baijiatuau**	**17.74**	**347**	ePn	**Pn**	**00 59 58.2**	**+0.4**
	comp=Z,415nm,1.8s						
BJT				eSn	**Sn**	**01 03 23.6**	**+8.1**
BJI	**Beijing**	**17.76**	**347**	P	**Pn**	**00 59 58.2**	**+0.2**
BJI				AMB	AMB		
	comp=Z,111nm,1.7s						
BJI				AMB	AMB		
	comp=Z,5μm,6.5s						
BJI				LR	LR		
	comp=N,15μm,12.5s						
BJI				LR	LR		
	comp=E,4μm,14.2s						
BJI				LR	LR		
	comp=Z,7μm,14.4s						
TSM	**Tawau**	**18.61**	**190**	⇑P	**Pn**	**01 00 10.2**	**+1.7**
SNY	**Shenyang**	**19.14**	**5**	⇑P	**Pn**	**01 00 12.3**	**-2.5**
SNY				AP	pP	01 00 18.8	+2.0
SNY				XP	sP	01 00 28.2	+10
SNY				S	**Sn**	**01 03 50.7**	**+1.4**
SNY				AMB	AMB		
	comp=Z,43nm,2.2s						
SNY				AMB	AMB		
	comp=Z,1μm,5.2s						
SNY				LR	LR		
	comp=N,7μm,9.4s						
SNY				LR	LR		
	comp=Z,7μm,10.1s						
JHJ	**Hachijo jima 2**	**19.39**	**54**	P	**Pn**	**01 00 16.6**	**-1.3**
	comp=Z,3.8nm,0.3s,baz=98,slow=7.1,SNR=3.4						
CBIJ	**Chichi jima**	**19.54**	**73**	P	**Pn**	**01 00 18.6**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=135,slow=21,SNR=5.7						
HHC	**Hu-ho-hao-te**	**19.80**	**338**	eP	**Pn**	**01 00 21.9**	**-0.7**
HHC				AP	pP	01 00 30.3	+6.4
HHC				XP	sP	01 00 33.9	+8.7
HHC				PP		01 00 39.2	
HHC				XS	sS	01 04 08.6	0.0
HHC				SS		01 04 19.9	
HHC				PCP	PcP	01 04 40.1	+1.1
HHC				AMB	AMB		
	comp=Z,103nm,1.6s						
HHC				AMB	AMB		
	comp=Z,2μm,6.1s						
HHC				LR	LR		
	comp=N,14μm,12.5s						
HHC				LR	LR		
	comp=E,8μm,11.9s						
HHC				LR	LR		
	comp=Z,10μm,13.7s						
LZH	**Lanzhou**	**20.08**	**315**	⇑P	**P**	**01 00 24.7**	**+0.4**
LZH				AP		01 00 30.8	
LZH				XP	sP	01 00 31.9	+3.5
LZH				S	**S**	**01 04 00.0**	**-10**
LZH				XS	sS	01 04 08.2	-6.2
LZH				SS		01 04 27.5	
LZH				AMB	AMB		
	comp=Z,216nm,1.2s						
LZH				AMB	AMB		
	comp=Z,2μm,6.0s						
LZH				LR	LR		
	comp=E,12μm,11.9s						
LZH				LR	LR		
	comp=Z,16μm,12.4s,MS5.6						
BTO	**Baotou**	**20.15**	**335**	eP	**P**	**01 00 24.3**	**-0.7**
BTO				S	**S**	**01 03 59.6**	**-12**
BTO				LR	LR		
	comp=N,7μm,13.5s,MS5.2						
BTO				LR	LR		
	comp=E,4μm,12.9s,MS5.2						
MAJO	**Matsushiro**	**20.16**	**43**	eP	**P**	**01 00 25.3**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,49nm,0.9s						
MAJO	**Matsushiro**	**20.16**	**43**	eP	**P**	**01 00 25.3**	**+0.1**
	comp=Z,49nm,0.9s						
MAT	**Matsushiro**	**20.16**	**43**	P	**P**	**01 00 24.7**	**-0.5**
MAT				S	**S**	**01 04 12.0**	**+0.4**
MJAR	**Matsushiro Arr**	**20.17**	**43**	P	**P**	**01 00 25.9**	**+0.7**
	comp=Z,11nm,0.8s,baz=233,slow=7.8,SNR=9.9						
MJAR				ScP	ScP	01 08 17.4	+1.1
	comp=Z,0.6nm,0.3s,baz=169,slow=1.3,SNR=4.2						
MJAR				LR	LR	01 08 42.7	
	comp=Z,1μm,18.9s,MS4.3,baz=220,slow=38						
BTM	**Bintulu**	**20.95**	**203**	⇓P	**P**	**01 00 30.5**	**-3.3**
CHTO	**Chiang Mai**	**21.15**	**263**	ePn	**P**	**01 00 35.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.24**	**263**	P	**P**	**01 00 36.5**	**-0.4**
	comp=Z,6.6nm,0.4s,mb4.3,baz=62,slow=7.9,SNR=13						
CMAR				PcP	PcP	01 04 43.1	+1.0
	comp=Z,1.6nm,0.4s,baz=18,slow=1.5,SNR=4.7						
CMAR				LR	LR	01 10 15.4	
	comp=Z,3μm,18.2s,MS4.8,baz=75,slow=41						
CMAR	**Chiang Mai Arr**	**21.24**	**263**	P	**P**	**01 00 36.6**	**-0.3**
CMAR						01 04 43.2	
CM31	**Chiang Mai Arr**	**21.24**	**263**	eP	**P**	**01 00 37.3**	**+0.3**
SBUM	**Sibu**	**21.96**	**205**	⇑P	**P**	**01 00 43.0**	**-1.7**
VLA	**Vladivostok**	**22.19**	**21**	P	**P**	**01 00 43.0**	**-3.9**
VLA				eS	**S**	**01 04 49.8**	**-1.5**
VLA				MLR	MLR		
	comp=Z,4μm,18.6s,MS4.9						
MDJ	**Mudanjiang**	**22.89**	**16**	P	**P**	**01 00 59.5**	**+5.1**
MDJ				S	**S**	**01 05 07.7**	**+3.5**
MDJ				PCS	PcS	01 08 24.3	+0.5
MDJ				SCS	ScS	01 12 05.1	-3.4
MDJ				AMB	AMB		
	comp=Z,28nm,1.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,304nm,6.7s						
MDJ				LR	LR		
	comp=N,6μm,16.0s,MS5.3						
MDJ				LR	LR		
	comp=E,5μm,13.6s,MS5.3						
MDJ				LR	LR		
	comp=Z,8μm,16.2s,MS5.2						
MDJ	**Mudanjiang**	**22.89**	**16**	eP	**P**	**01 00 52.6**	**-1.7**
	comp=Z,157nm,1.8s,mb5.1						
KSM	**Kuching**	**23.63**	**208**	⇓P	**P**	**01 01 00.9**	**-1.3**
KSM	**Kuching**	**23.63**	**208**	eP	**P**	**01 00 57.7**	**-4.5**
GUMO	**Guam**	**24.25**	**108**	P	**P**	**01 01 09.9**	**+1.9**
	comp=Z,28nm,0.4s,mb5.0,baz=357,slow=23,SNR=4.8						
GUMO	**Guam**	**24.25**	**108**	eP	**P**	**01 01 03.5**	**-4.4**
KTGM	**Kuala Trenggan**	**24.56**	**228**	⇑P	**P**	**01 01 08.8**	**-2.0**
GTA	**Gaotai**	**24.62**	**317**	P	**P**	**01 01 10.4**	**-0.7**
GTA				AP		01 01 20.0	
GTA				XP	sP	01 01 24.2	+8.8
GTA				PP		01 01 47.0	
GTA				S	**S**	**01 05 26.9**	**-5.5**
GTA				XS	sS	01 05 41.5	+4.1
GTA				AMB	AMB		
	comp=Z,35nm,2.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,1μm,6.0s						
GTA				LR	LR		
	comp=N,6μm,13.4s,MS5.4						
GTA				LR	LR		
	comp=E,6μm,16.8s,MS5.4						
GTA				LR	LR		
	comp=Z,7μm,15.6s,MS5.3						
KULM	**Kulim**	**26.34**	**232**	⇓P	**P**	**01 01 27.0**	**0.0**
HIA	**Hailar**	**26.50**	**358**	eP	**P**	**01 01 27.6**	**-0.5**
HIA				e		01 01 41.7	
HIA				pmax	pmax		
	comp=Z,72nm,1.4s						
HIA	**Hailar**	**26.50**	**358**	eP	**P**	**01 01 27.6**	**-0.5**
	comp=Z,72nm,1.4s,mb5.0						
HIA				e		01 01 41.7	
ERM	**Erimo**	**26.59**	**39**	eP	**P**	**01 01 29.1**	**+0.1**
ERM				pmax	pmax		
	comp=Z,43nm,1.0s,mb4.9						
ERM	**Erimo**	**26.59**	**39**	eP	**P**	**01 01 29.1**	**+0.2**
	comp=Z,43nm,1.0s,mb4.9						
MYKOM	**Kota Tinggi**	**26.77**	**221**	⇑P	**P**	**01 01 35.2**	**+4.4**
SHL	**Shillong**	**26.85**	**282**	eP	**P**	**01 01 31.0**	**-0.5**
SHL				*i* S	**S**	**01 06 17.0**	**+8.9**
FRIM	**Kepong**	**27.11**	**227**	⇑P	**P**	**01 01 29.8**	**-4.1**
KAPI	**Kappang**	**27.62**	**183**	P	**P**	**01 01 37.5**	**-0.9**
	comp=Z,7.9nm,0.5s,mb4.6						
KAPI	**Kappang**	**27.62**	**183**	eP	**P**	**01 01 42.8**	**+4.4**
ASAJ	**Asahikawa**	**27.67**	**34**	P	**P**	**01 01 39.9**	**+1.2**
	comp=Z,7.1nm,0.7s,mb4.4,baz=254,slow=25,SNR=5.4						
ASAJ				LR	LR	01 13 18.9	
	comp=Z,3μm,19.9s,MS4.8,baz=231,slow=38						
SONM	**Songino Array**	**27.70**	**338**	P	**P**	**01 01 37.8**	**-1.0**
	comp=Z,5.8nm,0.8s,mb4.2,baz=158,slow=9.1,SNR=25

comp=N,82nm,1.1s,mb5.4
TAPN Taplejung 30.61 286 *e*P **P 01 02 10.1 +5.1**
comp=N,98nm,1.2s,mb5.5
ODAN Odare 30.89 285 *e*P **P 01 02 12.2 +4.7**
comp=N,70nm,1.1s,mb5.4
ZAK Zakamensk 30.94 338 *e*P **P 01 02 04.2 -3.4**
ZAK pmax pmax
comp=Z,11nm,1.9s,mb4.4
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.2
ZAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
RAMN Ramite 31.60 285 *e*P **P 01 02 18.9 +5.2**
TLY Talaya 31.92 339 *e*P **P 01 02 18.2 +2.0**
TLY *e* 01 03 24.5
TLY *e*S **S 01 07 23.8 -3.3**
TLY pmax pmax
comp=Z,49nm,2.0s,mb5.0
TLY MLR MLR
comp=Z,7µm,15.0s,MS5.5
TLY Talaya 31.92 339 *e*P **P 01 02 16.8 +0.6**
JIRN Jiri 31.97 286 *e*P **P 01 02 21.4 +4.5**
comp=Z,50nm,0.7s,mb5.4
IRK Irkutsk 32.20 340 *e*P **P 01 02 17.1 -1.6**
IRK *e* 01 03 25.5
IRK *e* 01 12 46.2
IRK pmax pmax
comp=Z,96nm,1.9s,mb5.3
GUN Gumba 32.25 287 *e*Pn **P 01 02 23.0 +3.6**
GUN Gumba 32.25 287 *e*P **P 01 02 24.2 +4.8**
comp=Z,61nm,0.8s,mb5.5
PKI Pulchoki 32.66 286 *e*P **P 01 02 26.5 +3.5**
KKN Kakani 32.77 286 *e*P **P 01 02 28.2 +4.2**
MOY Mondy 32.82 337 *e*P **P 01 02 23.0 -1.1**
MOY pmax pmax
comp=Z,101nm,1.9s,mb5.4
DMN Daman 32.93 286 *e*P **P 01 02 29.0 +3.6**
comp=Z,34nm,0.8s,mb5.3
GKN Gorkha 33.35 287 *e*P **P 01 02 32.5 +3.5**
DANN Dangsing 34.12 287 *e*P **P 01 02 38.2 +2.4**
comp=Z,68nm,1.0s,mb5.5
CLNS Chul'man 34.17 4 *e*P **P 01 02 33.0 -2.8**
CLNS *e**PP pP 01 02 40.6 +1.7
CLNS *e*PPP 01 03 54.7
CLNS *e* 01 05 15.4
CLNS *e*SSS 01 10 39.8
CLNS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.7s
CLNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS MLR MLR
comp=Z,2µm,10.0s,MS5.2
CLNS MLR MLR
comp=N,3µm,13.0s,MS5.2
CLNS MLR MLR
comp=E,1µm,12.0s,MS5.2
KOLN Koldanda 34.26 286 *e*P **P 01 02 39.0 +2.0**
comp=E,60nm,0.8s,mb5.6
WMQ Urumqi 34.66 315 P **P 01 02 42.9 +2.6**
WMQ AP pP 01 02 52.6 +9.3
WMQ XP sP 01 02 56.5 +12
WMQ PCP PcP 01 05 18.9 +4.6
WMQ S **S 01 08 07.0 -2.9**
WMQ SCP ScP 01 08 59.9 +0.1
WMQ SS SS 01 10 17.9 -22
WMQ SCS ScS 01 13 00.9 -1.9
WMQ AMB AMB
comp=Z,56nm,1.6s,mb5.2
WMQ AMB AMB
comp=Z,202nm,11.0s
WMQ LR LR
comp=N,2µm,16.0s,MS5.0
WMQ LR LR
comp=E,1µm,16.4s,MS5.0
WMQ LR LR
comp=Z,2µm,16.4s,MS4.8
BOD Bodaibo 35.43 353 *e*P **P 01 02 47.0 +0.3**
BOD pmax pmax
comp=Z,6.0nm,1.9s,mb4.2
HVS Khovu-Aksy 35.46 330⇑ *i*P **P 01 02 46.2 -0.9**
HVS pmax pmax
comp=Z,200nm,1.8s,mb5.8
MK31 Makanchi Array 39.38 317 *e*P **P 01 03 19.4 -0.9**
MKAR Makanchi Array 39.38 317 P **P 01 03 19.3 -1.0**
comp=Z,6.9nm,0.7s,mb4.5,baz=110,slow=10,SNR=38
MKAR LR LR 01 22 09.4
comp=Z,499nm,18.2s,MS4.4,baz=111,slow=40
MKAR Makanchi Array 39.38 317 P **P 01 03 19.3 -1.0**
MKAR LR LR 01 22 09.4
YAK Yakutsk 39.70 6 *e*P **P 01 03 26.0 +3.2**
YAK *e**PP pP 01 03 36.0 +10
YAK *e* 01 04 54.6
YAK *e*PPP 01 05 23.2
YAK *e* 01 05 35.5
YAK *e*S **S 01 09 28.8 +2.7**
YAK *e*SS SS 01 12 20.2 -1.3
YAK *e*SSS 01 12 50.7
YAK *e* 01 13 26.9
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.6
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,14nm,0.9s,mb4.7
YAK pmax pmax
comp=N,34nm,1.5s
YAK pmax pmax
comp=E,23nm,1.5s
YAK smax
comp=N,48nm,2.2s
YAK smax
comp=E,71nm,3.2s
YAK MLR MLR
comp=Z,3µm,13.0s,MS5.3
YAK MLR MLR
comp=N,3µm,17.0s,MS5.3
YAK MLR MLR
comp=E,1µm,14.0s,MS5.3
YAK Yakutsk 39.70 6 *e*P **P 01 03 24.5 +1.7**
NDI New Delhi 39.88 288 *e*P **P 01 03 26.0 +1.2**
HYB Hyderabad 40.28 270 *i*P **P 01 03 28.5 +0.3**
HYB *e*S **S 01 09 34.0 -1.9**
HYB Hyderabad 40.28 270 *e*P **P 01 03 25.0 -3.2**
HYB *e*S **S 01 09 38.0 +2.1**
FITZ Fitzroy Crossi 40.82 173 *e*P **P 01 03 26.8 -5.7**
comp=E,13nm,1.2s,mb4.4
FITZ *e*pP pP 01 03 35.9 +0.3
FITZ Fitzroy Crossi 40.82 173 P **P 01 03 26.9 -5.6**
comp=E,2.9nm,0.8s,mb4.0,baz=358,slow=11,SNR=3.9
PETK Petropavlovsk- 41.07 33 LR LR 01 21 59.3
comp=E,1µm,19.0s,MS4.8,baz=224,slow=38
ZAA0 Zalesovo Array 41.46 328 *e*P **P 01 03 35.6 -1.8**
ZALV Zalesovo Beam 41.46 328 P **P 01 03 35.9 -1.5**
comp=E,16nm,0.8s,mb4.7,baz=117,slow=8.5,SNR=50
ZALV LR LR 01 23 21.6
comp=E,714nm,19.6s,MS4.5,baz=128,slow=40
ZAL Zalesovo 41.46 328 P **P 01 03 35.9 -1.5**
PET Petropavlovsk 41.51 34 *e*P **P 01 03 40.8 +2.9**
PET *e*S **S 01 09 50.3 -3.0**
PET MLR MLR
comp=Z,1µm,17.0s,MS4.9
PET Petropavlovsk 41.51 34 *e*P **P 01 03 42.8 +4.9**
KSH Kashi 41.69 304 P **P 01 03 43.7 +4.1**
KSH PP PP 01 05 23.6 +7.7
KSH PCP PcP 01 05 41.5 +5.3
KSH SCP ScP 01 09 27.3 +0.7
KSH PCS PcS 01 09 31.7 +4.1
KSH S **S 01 09 57.7 +1.3**
KSH SS SS 01 12 57.2 -4.6
KSH SCS ScS 01 13 42.0 -1.2
KSH AMB AMB
comp=Z,196nm,1.2s,mb5.6
KSH AMB AMB
comp=Z,952nm,3.4s
KSH LR LR
comp=N,5µm,9.2s
KSH LR LR
comp=E,9µm,13.2s
KSH LR LR
comp=Z,6µm,12.0s,MS5.7
AAA Alma-Ata 41.78 310 *e*P **P 01 03 39.2 -1.1**
AAA pmax pmax
comp=Z,400nm,5.5s
AAA MLR MLR
comp=Z,1µm,13.2s,MS5.0
PALK Pallekele 41.84 255 *e*P **P 01 03 43.2 +2.2**
comp=Z,25nm,1.2s,mb4.7
TKM2 Tokmak 2 42.66 309 *e*P **P 01 03 47.6 +0.2**
TKM2 pmax pmax
comp=Z,49nm,1.1s,mb5.2
TKM2 Tokmak 2 42.66 309 P **P 01 03 50.3 +2.9**
SNR=17
TKM2 Tokmak 2 42.66 309 *e*P **P 01 03 47.6 +0.2**
comp=Z,49nm,1.1s,mb5.2
NVS Novosibirsk 42.72 328⇑ *i*P **P 01 03 45.1 -2.6**
NVS *e*S **S 01 10 10.0 -1.2**
NVS pmax pmax
comp=Z,198nm,1.9s,mb5.5
NVS pmax pmax
comp=N,151nm,1.8s
NVS pmax pmax
comp=E,137nm,1.8s
NVS smax
comp=E,181nm,3.5s
KBK Karagaybulak 43.06 309 P **P 01 03 55.4 +4.7**
SNR=9.6
KURK Kurchatov 43.20 321*c i*P **P 01 03 50.3 -1.4**
KURK pmax pmax
comp=Z,169nm,2.0s,mb5.4
KURK Kurchatov 43.20 321 *e*P **P 01 03 50.0 -1.6**
comp=Z,138nm,1.4s,mb5.5
CHMS Chumysh 43.28 309 P **P 01 03 55.4 +3.0**
SNR=7.8
UCH Uchtor 43.29 308 *e*P **P 01 03 53.7 +1.2**
comp=Z,42nm,1.3s,mb5.0
FRU Bishkek 43.34 309 *e*P **P 01 03 53.0 +0.1**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.0
FRU MLR MLR
comp=Z,3µm,15.0s,MS5.3
USP Ospenovka 43.52 309 P **P 01 03 59.3 +5.0**
SNR=7.1
MBWA Marble Bar 43.65 182 *e*P **P 01 03 51.5 -4.0**
comp=Z,7.4nm,0.8s,mb4.5
AML Almayashu 43.87 308 P **P 01 03 58.0 +0.9**
SNR=11
AML Almayashu 43.87 308 *e*P **P 01 03 57.5 +0.3**
comp=Z,72nm,1.3s,mb5.2
AML PcP PcP 01 05 42.5 -0.9
EKS2 Erkin-Say 43.91 308 P **P 01 03 57.8 +0.3**
SNR=5.3
EKS2 Erkin-Say 43.91 308 *e*P **P 01 03 57.8 +0.3**
comp=Z,54nm,1.6s,mb5.0
EKS2 *e*PcP PcP 01 05 44.4 +0.9
WRAB Tennant Creek 44.32 162 *e*P **P 01 03 55.4 -5.5**
WRAB pmax pmax
comp=Z,22nm,1.2s,mb4.8
WRAB Tennant Creek 44.32 162 *e*P **P 01 03 55.4 -5.5**
comp=Z,22nm,1.2s,mb4.8
WRA Warramunga Arr 44.32 162 P **P 01 03 54.8 -6.1**
comp=Z,4.7nm,0.8s,mb4.3,baz=344,slow=8.6,SNR=16
WB2 Warramunga Arr 44.33 162 *e*P **P 01 03 55.3 -5.7**
WB2 *e*pP pP 01 04 06.6 +2.5
WB2 Warramunga Arr 44.33 162 *e*P **P 01 03 55.8 -5.2**
WB2 *e* 01 04 05.1
SEY Seymchan 45.34 19 *e*P **P 01 04 11.7 +3.1**
SEY Seymchan 45.34 19 *e*P **P 01 04 11.8 +3.2**
KBL Kabul 46.79 297 *e*P **P 01 04 20.7 +0.2**
comp=Z,53nm,1.1s,mb5.4
KBL *e*PcP PcP 01 05 53.6 -0.1
ASAR Alice Springs 47.76 164 P **P 01 04 22.4 -5.6**
comp=Z,1.8nm,0.9s,mb4.1,baz=354,slow=4.3,SNR=11
ASAR ScP ScP 01 09 51.4 -0.2
comp=Z,0.7nm,0.8s,baz=348,slow=4.1,SNR=4.1
BVAR Borovoye Array 48.79 322 P **P 01 04 34.5 -1.2**
comp=Z,4.5nm,0.6s,mb4.7,baz=106,slow=11,SNR=40
BVAR PcP PcP 01 05 59.5 -1.0
comp=Z,3.2nm,0.8s,baz=108,slow=4.7,SNR=2.6
BRVK Borovoye 48.86 322 *e*P **P 01 04 34.6 -1.6**
CTA Charters Tower 49.10 148 *e*P **P 01 04 32.9 -5.5**
comp=Z,4.2nm,0.8s,mb4.5
CTA *e*pP pP 01 04 45.9 +4.3
CTA Charters Tower 49.10 148 *e*P **P 01 04 32.9 -5.5**
CTA *e**PP pP 01 04 45.9 +4.3
CTA pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 49.13 3 *e*P **P 01 04 39.8 +1.7**
TIXI *e*S **S 01 11 35.2 -7.8**
TIXI pmax pmax
comp=Z,36nm,2.3s,mb5.0
TIXI MLR MLR
comp=Z,5µm,17.0s,MS5.6
TIXI Tiksi 49.13 3 *e*P **P 01 04 40.0 +2.0**
comp=Z,7.5nm,0.6s,mb4.9
BILL Bilibino 53.04 19 *e*P **P 01 05 11.3 +3.8**
BILL pmax pmax
comp=Z,16nm,1.1s,mb4.9
FORT Forrest 53.62 173 *e*P **P 01 05 15.6 +3.5**
comp=Z,25nm,0.9s,mb5.2
SVE Sverdlovsk 55.21 324⇑ *e*P **P 01 05 22.6 -0.8**
SVE *e*S **S 01 13 05.9 -0.8**
SVE *e*SSS 01 18 55.7
SVE pmax pmax
comp=Z,17nm,0.3s,mb5.5
SVE MLR MLR
comp=Z,2µm,14.0s,MS5.4
AKTK Aktyubinsk 55.80 316 P **P 01 05 27.1 -0.8**
AKTO Aktyubinsk 55.80 316 P **P 01 05 27.1 -0.8**
comp=Z,6.1nm,0.9s,mb4.6,baz=117,slow=11,SNR=19
ARU Arti 56.26 324 P **P 01 05 29.1 -1.9**
comp=Z,167nm,0.9s,mb6.1,SNR=12
ARU Arti 56.26 324*c i*P **P 01 05 29.1 -1.9**
ARU *e* 01 06 28.4
ARU *e*S **S 01 13 09.6 -11**
ARU pmax pmax
comp=Z,83nm,2.5s,mb5.3
ARU MLR MLR
comp=Z,1µm,16.0s,MS5.0
ARU Arti 56.26 324 *e*P **P 01 05 29.2 -1.8**
comp=Z,36nm,1.0s,mb5.4
STKA Stephens Creek 57.72 159 *e*P **P 01 05 52.2 +11**
comp=Z,5.2nm,0.9s,mb4.6
STKA *e*sP sP 01 06 10.2 +24
STKA Stephens Creek 57.72 159 P **P 01 05 37.7 -3.9**
comp=Z,4.1nm,1.1s,mb4.4,baz=230,slow=11,SNR=2.1
STKA Stephens Creek 57.72 159 P **P 01 05 40.8 -0.7**
STKA *e*sP sP 01 06 10.2 +24
SOKR Solikamsk 57.73 327*d i*P **P 01 05 43.3 +1.9**
SOKR S **S 01 13 40.0 0.0**
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.2
SOKR MLR MLR
comp=Z,3µm,20.0s,MS5.4
MAK Makhachkala 63.16 308 *e*P **P 01 06 18.1 -0.7**
MAK *e* 01 07 00.1
MAK *e*PPP 01 10 16.5
MAK *e*S **S 01 14 40.4 -10**
MAK *e* 01 16 09.1
MAK pmax pmax
comp=Z,347nm,1.8s,mb6.2
MAK MLR MLR
comp=Z,1µm,14.0s,MS5.2
DGRG David-gareji 64.94 306 P **P 01 06 31.0 +0.4**
DGRG S **S 01 15 18.4 +6.2**
MTA Mtatsminda 65.33 307 P **P 01 06 31.4 -1.6**
MTA S S 01 15 20.2 +3.1
GNI Garni 65.62 305 *e*P **P 01 06 35.9 +0.9**
GNI pmax pmax
comp=Z,56nm,1.2s
GNI Garni 65.62 305 *e*P **P 01 06 35.9 +0.9**
comp=Z,56nm,1.2s,mb5.5
ONI Oni 66.17 308 P **P 01 06 36.0 -2.5**
ONI S S 01 15 31.2 +3.9
VRHR Novokhopersk 66.18 317 *e*P **P 01 06 39.4 +1.0**
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.9s
AKH Akhalkalaki 66.34 307 P **P 01 06 39.4 -0.1**
AKH S S 01 15 33.6 +4.3
KLMR Klimovskoe 66.38 328*c i*P **P 01 06 36.7 -2.8**
KLMR *i*S S 01 15 26.5 -2.7
KLMR pmax pmax
comp=Z,105nm,1.4s,mb5.7
KLMR MLR MLR
comp=Z,2µm,13.0s,MS5.5
KIV Kislovodsk 66.49 309 P **P 01 06 40.5 0.0**
comp=Z,340nm,1.1s,SNR=7.1
KIV Kislovodsk 66.49 309 *e*P **P 01 06 39.7 -0.8**
KIV *e* 01 07 16.0
KIV *e*S S 01 15 22.5 -8.7
KIV pmax pmax
comp=Z,42nm,0.8s,mb5.5
KIV pmax pmax
comp=Z,150nm,6.6s
KIV MLR MLR
comp=Z,417nm,19.0s,MS4.7
KIV Kislovodsk 66.49 309 *e*P **P 01 06 39.7 -0.8**
comp=Z,61nm,1.0s,mb5.6
HAKT HAKKARI 66.89 302 *i*P **P 01 06 43.2 0.0**
SVW2 Sparrevohn 67.13 32 *e*P **P 01 06 49.3 +5.1**
TUTA Tutak 67.22 305 *i*P **P 01 06 45.9 +0.7**
BHD Baghdad 67.26 298 *e*x x 01 06 45.0
BHD *i*x x 01 15 40.0
IMA2 Indian Mountai 67.49 26 *e*P **P 01 06 51.4 +4.9**
MSL Mosul 67.64 301 *e*x x 01 06 52.5
MSL *e*x x 01 15 50.0
VRSR Storozhevoye 67.68 318 *e*P **P 01 06 48.8 +0.9**
VRSR pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
VRSR pmax pmax
comp=N,3.0nm,1.5s
VRSR pmax pmax
comp=E,8.0nm,1.9s
LVZ Lovozero 67.86 336 *e*P **P 01 06 49.9 +1.1**
LVZ pmax pmax
comp=Z,35nm,2.2s,mb5.0
MOS Moscow 67.94 323 *e*P **P 01 06 42.3 -7.2**
MOS *e*S S 01 15 39.2 -9.0
MOS pmax pmax
comp=Z,44nm,1.0s,mb5.4
MOS MLR MLR
comp=Z,1µm,12.0s,MS5.3
CHUM Lake Minchumin 68.32 28 *e*P **P 01 06 51.8 +0.1**
comp=Z,14µm,0.6s
APA Apatity 68.37 336⇓ *i*P **P 01 06 57.5 +5.5**
APA *i* 01 07 21.5
APA *i*S S 01 15 50.0 -2.9
APA pmax pmax
comp=Z,16nm,1.0s,mb5.0
APA MLR MLR
comp=Z,500nm,14.0s,MS4.9
PPLA Purkeypile 68.50 29 P **P 01 06 49.9 -2.9**
OBN Obninsk 68.63 322 *e*P **P 01 06 54.2 +0.4**
OBN *e* 01 07 22.2
OBN *e* 01 09 24.9
OBN pmax pmax
comp=Z,64nm,1.4s,mb5.4
OBN MLR MLR
comp=Z,800nm,15.0s,MS5.1
OBN Obninsk 68.63 322 *e*P **P 01 06 58.1 +4.3**
comp=Z,44nm,1.2s,mb5.3
SOC Sochi 68.68 310 *e*P **P 01 06 56.8 +2.5**
SOC *e*S S 01 15 51.3 -6.1
SOC *e* 01 16 50.5
SOC *e*SSS 01 23 23.4
SOC pmax pmax
comp=Z,30nm,0.8s,mb5.3
SOC MLR MLR
comp=Z,401nm,12.0s,MS4.9
COLD Coldfoot 68.74 25 *e*P **P 01 06 53.7 -0.5**
comp=Z,7.9nm,1.3s,mb4.5
BPAW Bear Paw Mtn. 68.87 28 *e*P **P 01 06 55.3 +0.2**
comp=Z,12nm,1.1s,mb4.7
KTH Kantishna Hill 68.98 29 *e*P **P 01 06 54.6 -1.2**
comp=Z,4.6nm,0.7s,mb4.5
KDAK Kodiak Island 69.09 35 P **P 01 06 57.1 +0.5**
comp=Z,8.7nm,0.7s,mb4.8,baz=271,slow=2.9,SNR=8.0
MARD Mardin 69.22 303 *i*P **P 01 06 58.3 +0.4**
TRF Thorofare Moun 69.27 29 P **P 01 06 58.5 +0.8**
comp=Z,3.5nm,0.7s,mb4.4
MCK McKinley 69.82 28 *e*P **P 01 07 01.8 +0.8**
MCK pmax pmax
comp=Z,13nm,0.9s,mb4.9
MCK McKinley 69.82 28 *e*P **P 01 07 01.8 +0.8**
comp=Z,12nm,0.9s,mb4.8
JOF Joensuu 69.96 331 *e*p **P 01 07 01.3 -0.6**
comp=Z,9.8nm,0.7s,mb4.8
JOF Joensuu 69.96 331 *e*P **P 01 07 01.3 -0.6**
JOF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ANN Anapa 70.03 311 *e*P **P 01 07 03.4 +0.7**
ANN *e*S S 01 16 05.3 -8.1
ANN pmax pmax
comp=Z,99nm,1.1s,mb5.7
ANN MLR MLR
comp=N,939nm,18.0s,MS5.2
ANN MLR MLR
comp=E,603nm,18.0s,MS5.2
ANN MLR MLR
comp=Z,907nm,18.0s,MS5.1
COLA College 70.07 27 *e*P **P 01 07 07.5 +4.9**
PMR Palmer 70.13 31 *e*P **P 01 07 04.9 +1.9**
KEV Kevo 70.31 338 *e*p **P 01 07 04.1 +0.1**
comp=Z,5.2nm,0.6s,mb4.6
KEV Kevo 70.31 338 *e*P **P 01 07 04.1 +0.1**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MALT Malatya 70.80 304 *e*P **P 01 07 07.6 +0.1**
MALT pmax pmax
comp=Z,31nm,1.1s,mb5.2
MALT Malatya 70.80 304⇑ *i*P **P 01 07 06.7 -0.8**
MALT Malatya 70.80 304 *e*P **P 01 07 07.6 +0.1**
comp=Z,31nm,1.1s,mb5.2
ARCES ARCESS Array B 70.87 338 P **P 01 07 07.7 +0.3**
comp=Z,2.9nm,0.8s,mb4.2,baz=61,slow=5.7,SNR=9.1
GZT Gaziantep 71.70 303 *i*P **P 01 07 10.0 -3.0**
DIV Divide 71.81 31 *e*P **P 01 07 15.0 +1.8**
comp=Z,20nm,1.2s,mb4.9
SIM Simferopol' 72.29 312*de*P **P 01 07 17.1 +0.7**
SIM *i*S S 01 16 39.8 +0.3
SIM pmax pmax
comp=Z,19nm,0.7s,mb5.1
BMRM Bremner River 72.40 31 *e*P **P 01 07 17.1 +0.4**
KAF Kangasniemi 72.40 331 *e*p **P 01 07 16.7 0.0**
comp=Z,5.3nm,0.7s,mb4.6
KAF Kangasniemi 72.40 331 *e*P **P 01 07 16.7 0.0**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ANDN Andirin 72.58 304 *i*P **P 01 07 20.6 +2.4**
EGAK Eagle 72.88 26 *e*P **P 01 07 23.4 +3.9**
CTKT Corum 72.93 307 *i*P **P 01 07 20.3 0.0**
VSU Vasula 73.18 327 *e*P **P 01 07 22.4 +1.0**
AVNT Avonos 73.38 306 *i*P **P 01 07 22.9 -0.1**
ILGA Ilgaz 73.60 308 *i*P **P 01 07 26.3 +2.1**
MNK Minsk 73.69 323 *e*P **P 01 07 26.0 +1.5**
BALT Daday 73.71 309 *i*P **P 01 07 22.6 -2.3**
DAWY Dawson 73.82 27 *e*P **P 01 07 30.0 +4.9**
AKASG Malin Array Be 73.94 319 P **P 01 07 23.9 -2.1**
comp=Z,5.9nm,0.8s,mb4.5,baz=62,slow=5.8,SNR=10.0
AKASG LR LR 01 44 17.4
comp=Z,384nm,19.3s,MS4.7,baz=25,slow=39
AKASG Malin Array Be 73.94 319 *i*P **P 01 07 24.0 -2.0**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 73.94 319 *e*P **P 01 07 21.1 -4.9**
KIEV Kiev 73.95 319 *e*P **P 01 07 22.7 -3.4**
KIEV pmax pmax
comp=Z,22nm,1.1s,mb5.0
KIEV Kiev 73.95 319 *e*P **P 01 07 22.7 -3.4**
comp=Z,22nm,1.1s,mb5.0
INK Inuvik 74.56 22 P **P 01 07 28.4 -0.9**
comp=Z,3.0nm,0.8s,mb4.3,baz=16,slow=28,SNR=3.2
INK Inuvik 74.56 22 *e*P **P 01 07 33.0 +3.7**
SGKT Sivrigoynuk 74.94 308 *i*P **P 01 07 36.7 +4.6**
KIS Kishinev 75.28 315 *e*P **P 01 07 35.0 +1.1**
KIS *e*S S 01 17 10.0 -3.2
KIS MLR MLR
comp=Z,900nm,17.0s,MS5.1
KIS MLR MLR
comp=Z,800nm,18.0s
KIS Kishinev 75.28 315 *e*P **P 01 07 35.0 +1.1**
KIS *e*S S 01 17 10.0 -3.2
KIS LRM 01 44 58.0

comp=Z,800nm,18.0s
KDHN Kadinhani 75.51 306 *i* P **P 01 07 30.0 -5.4**
TLCR 75.83 313 ⇓*i*P **P 01 07 37.2 +0.1**
ESKT Eskisehir 76.14 307 *i* P **P 01 07 39.3 +0.3**
TIRR Tirgusor 76.33 313 ⇓*i*P **P 01 07 43.0 +3.1**
SUW Suwalki 76.44 323 *e*P **P 01 07 41.6 +1.2**
SUW LMZ 01 45 39.7
comp=Z,2μm,18.8s
ISP Isparta 76.92 306 *e*P **P 01 07 44.1 +0.7**
VRI Vrincioaia 77.00 314 ⇓*i*P **P 01 07 44.0 +0.3**
ULDT Uludag 77.20 308 *i* P **P 01 07 44.9 0.0**
LVV L'vov 77.39 319 *e*P **P 01 07 47.2 +1.4**
LVV *e* 01 17 33.8
MLR Muntele Rosu 77.65 314 P **P 01 07 47.4 0.0**
comp=Z,5.6nm,0.9s,mb4.5,baz=45,slow=0.7,SNR=7.8
MLR Muntele Rosu 77.65 314 ⇑*i*P **P 01 07 46.9 -0.4**
DAG Danmarks Havn 77.79 351 ⇑*i*P **P 01 07 50.5 +2.9**
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
DAG Danmarks Havn 77.79 351 ⇑*i*P **P 01 07 50.5 +2.9**
comp=Z,5.9nm,0.9s,mb4.5
KWP Kalwaria 78.25 319 *e*P **P 01 07 52.5 +1.9**
KWP LMZ 01 48 46.4
comp=Z,1μm,17.0s
KWP Kalwaria 78.25 319 ⇓*i*P **P 01 07 50.0 -0.6**
KWP Kalwaria 78.25 319 *e*P **P 01 07 52.5 +1.9**
SART Tekirdag 78.43 309 *i* P **P 01 07 48.6 -3.1**
KOLS Kolonicke sedl 78.78 318 *e*P **P 01 07 57.0 +3.5**
KOLS *e*pP pP 01 08 03.9 +7.1
UZH Uzhgorod 78.87 318 *e*P **P 01 07 55.2 +1.1**
UZH *i* 01 08 01.0
UZH *e*S S 01 17 46.0 -6.3
UZH *i* PS 01 18 34.0
UZH *e*SS SS 01 23 00.0 +3.5
DIM Dimitrovgrad 79.12 311 *i* P **P 01 07 56.7 +1.2**
CRVS Cervenica-Dubn 79.28 319 *e*P **P 01 07 56.8 +0.5**
CRVS *e*pP pP 01 08 06.9 +7.3
DRGR 79.29 316 ⇑*i*P **P 01 07 59.3 +2.9**
NB2 NORSAR Subarra 79.59 332 P **P 01 07 54.8 -2.4**
comp=Z,22nm,1.1s,mb5.0,baz=62,slow=5.6
NOA NORSAR Array B 79.50 332 P **P 01 07 54.6 -2.6**
comp=Z,1.9nm,0.8s,mb4.1,baz=249,slow=20,SNR=13
NOA LR LR 01 46 23.0
comp=Z,2μm,19.9s,MS5.4,baz=70,slow=38
PLD Plovdiv 79.67 311 *i* P **P 01 07 59.8 +1.2**
NAO01 NORSAR Array S 79.73 332 *e*P **P 01 08 00.6 +2.1**
comp=Z,4.2nm,0.8s,mb4.4
OJC Ojcow 79.78 320 *e*P **P 01 07 57.2 -1.7**
OJC *e*sP sP 01 08 10.7 +7.2
OJC *e*S S 01 17 54.0 -7.8
OJC L 01 45 15.3
comp=Z,0.7nm,19.0s
NIE Niedzica 79.78 319 *e*P **P 01 07 58.2 -0.8**
RZN Rozhen 79.82 311 *i* P **P 01 08 00.8 +1.4**
KECS Kecovo 80.04 318 *e*P **P 01 07 59.9 -0.5**
KECS *e*pP pP 01 08 05.9 +2.2
JMIC Jan Mayen 80.22 345 P **P 01 08 00.7 -0.3**
comp=Z,5.9nm,0.5s,mb4.8,baz=145,slow=8.1,SNR=3.0
BZS Buzias 80.44 315 ⇑*i*P **P 01 08 04.0 +1.4**
VTS Vitosha 80.53 312 *i* P **P 01 08 02.2 -1.0**
MMB Musomiste 80.54 311 *e*P **P 01 08 02.0 -1.3**
PSZ Piszkesteto 80.63 318 ⇓*e*P **P 01 08 05.2 +1.6**
PSZ Piszkesteto 80.63 318 ⇓*i*P **P 01 08 03.2 -0.4**
PSZ Piszkesteto 80.63 318 *e*P **P 01 08 04.8 +1.2**
OKC Ostrava-Krasne 80.90 320 *e*P **P 01 08 06.3 +1.3**
OKC *e*S S 01 18 09.2 -4.5
OKC AMS AMS 01 46 30.0
comp=Z,900nm,13.6s
OKC Ostrava-Krasne 80.90 320 *e*P **P 01 08 06.3 +1.3**
OKC *e*S S 01 18 09.2 -4.5
KOLL Kolacno 81.27 319 *e*P **P 01 08 11.8 +4.8**
MORC Moravsky Berou 81.28 320 *e*P **P 01 08 07.4 +0.3**
MORC pmax pmax
comp=Z,11nm,1.1s,mb4.7
MORC Moravsky Berou 81.28 320 ⇓*i*P **P 01 08 08.5 +1.4**
MORC Moravsky Berou 81.28 320 *e*P **P 01 08 07.4 +0.4**
comp=Z,11nm,1.1s,mb4.7
BUD Budapest 81.34 318 *e*P **P 01 08 06.8 -0.6**
VAY Valandovo 81.45 311 *i* P **P 01 08 08.9 +0.8**
KSP Ksiaz 81.56 322 *e*P **P 01 08 10.5 +2.0**
KSP LMZ 01 46 15.9
comp=Z,1μm,22.2s
KSP Ksiaz 81.56 322 ⇓*e*P **P 01 08 10.1 +1.6**
KSP *e*S S 01 18 16.5 -3.9
KSP LR LR
comp=Z,2μm,17.2s,MS5.5
STIP Stip 81.57 312 *e*P **P 01 08 08.8 0.0**
DPC Dobruska-Polom 81.75 321 *e*P **P 01 08 08.4 -1.1**
DPC *e*S S 01 18 20.2 -2.3
DPC AMS AMS 01 49 10.0
comp=Z,900nm,16.3s
UPC Upice 81.86 321 *e*P **P 01 08 10.0 -0.1**
SKO Skopje 81.97 312 *i* P **P 01 08 13.0 +2.1**
MODS Modra-Piesok 82.04 319 *e*P **P 01 08 13.1 +2.0**
MODS *e* 01 08 18.9
MODS pmax pmax
comp=Z,26nm,2.3s,mb4.8
MODS Modra-Piesok 82.04 319 *e*P **P 01 08 13.1 +2.0**
MODS *e*pP pP 01 08 18.8 +4.4
MODS Modra-Piesok 82.04 319 *e*P **P 01 08 13.1 +2.0**
comp=Z,26nm,2.3s,mb4.7
MODS *e* 01 08 18.9
PKSM Moragy 82.10 317 ⇑*i*P **P 01 08 12.8 +1.3**
ZST Bratislava 82.22 319 *e*P **P 01 08 14.9 +2.9**
ZST pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ZST Bratislava 82.22 319 *e*P **P 01 08 14.8 +2.8**
ZST Bratislava 82.22 319 *e*P **P 01 08 14.9 +2.9**
comp=Z,2.8nm,0.6s,mb4.4
KRUS Krusevo 82.34 312 *e*P **P 01 08 11.7 -1.2**
PVCC Panska Ves 82.68 322 *e*P **P 01 08 13.3 -1.1**
PVCC *e*S S 01 18 31.1 -0.9
PVCC AMS AMS 01 48 20.0
comp=Z,1μm,15.7s
TREC Trest 82.70 321 *e*P **P 01 08 14.4 -0.1**
TREC *e*S S 01 18 30.0 -2.3
TREC AMS AMS 01 49 00.0
comp=Z,900nm,16.8s
SOP Sopron 82.77 319 *e*P **P 01 08 16.8 +1.9**
BRG Berggiesshubel 82.88 322 *e*P **P 01 08 17.4 +2.0**
BRG S S 01 18 34.0 0.0
BRG pmax pmax
comp=Z,2.0nm,1.9s,mb3.8
BRG pmax pmax
comp=Z,15nm,1.2s,mb4.9
BRG MLR MLR
comp=N,8μm,13.0s,MS6.2
BRG MLR MLR
comp=E,586nm,14.4s,MS6.2
BRG MLR MLR
comp=Z,746nm,13.3s,MS5.2
BRG Berggiesshubel 82.88 322 *e*P **P 01 08 17.5 +2.1**
comp=Z,13nm,1.1s,mb4.9
BRG *e*PP PP 01 11 27.6 +2.4
BRG Berggiesshubel 82.88 322 *e*P **P 01 08 17.4 +2.0**
comp=Z,24nm,1.9s,mb4.9
BRG *e* pP 01 08 22.0 +3.3
comp=Z,13nm,1.1s
BRG S S 01 18 34.0 0.0
BRG SS SS 01 23 45.0 -11
BRG
comp=N,979nm,13.0s
BRG
comp=E,1μm,14.4s
BRG
comp=Z,2μm,13.3s
BRG Berggiesshubel 82.88 322 *e*P **P 01 08 17.4 +2.0**
comp=Z,15nm,1.9s,mb4.7
BRG *e* pP 01 08 22.0 +3.3
BRG S S 01 18 34.0 0.0
BRG SS SS 01 23 45.0 -11
BRG LR LR
comp=Z,1μm,13.3s,MS5.4
PRU Pruhonice 82.94 321 *e*P **P 01 08 17.6 +1.9**
PRU *e*S S 01 18 33.9 -0.8
PRU AMS AMS 01 47 20.0
comp=Z,900nm,13.1s
CLL Collm 83.20 323 ⇓*i*P **P 01 08 17.9 +0.8**
CLL *i* 01 08 23.8
CLL *i* 01 08 31.3
CLL *e*S S 01 18 36.0 -1.2
CLL pmax pmax
comp=Z,180nm,3.2s
CLL MLR MLR
comp=Z,2μm,19.0s,MS5.5
CLL Collm 83.20 323 *e*P **P 01 08 18.7 +1.6**
comp=Z,18nm,1.1s,mb5.0
CLL *e*PP PP 01 11 29.5 +1.6
CLL Collm 83.20 323 ⇓*i*P **P 01 08 17.9 +0.8**
comp=Z,180nm,3.2s
CLL *i* pP pP 01 08 23.8 +3.4
CLL *i* sPcP 01 08 31.3
CLL *e*PP PP 01 11 28.0 +0.1
comp=Z,40nm,1.9s
CLL *i* x x 01 12 03.3
CLL *e*S S 01 18 36.0 -1.2
CLL *e*SS SS 01 24 09.0 +8.2
CLL *e*SSSS 01 30 23.0
CLL Lm 01 50 00.0
comp=Z,2μm,19.0s
CLL Collm 83.20 323 ⇓*i*P **P 01 08 17.9 +0.8**
comp=Z,180nm,3.2s
CLL *i* 01 08 23.8
CLL *i* 01 08 31.3
CLL *e*S S 01 18 36.0 -1.2
CLL LR LR
comp=Z,2μm,19.0s,MS5.5
BSEG Bad Segeberg 83.36 326 *e*PP PP 01 11 32.0 +2.8
ARSA Arzberg 83.59 319 ⇑*i*P **P 01 08 21.0 +1.8**
comp=Z,9.5nm,1.4s,mb4.7
ARSA Arzberg 83.59 319 ⇓*e*P **P 01 08 19.1 -0.1**
comp=Z,9.5nm,1.4s,mb4.7
KHC Kasperske Hory 83.89 321 *e*P **P 01 08 19.2 -1.5**
KHC *e*pP pP 01 08 31.5 +7.5
KHC *e*S S 01 18 39.5 -4.8
KHC AMS AMS 01 47 30.0
comp=Z,1μm,18.5s
SUMG Summit 83.93 354 *e*P **P 01 08 21.5 +1.0**
GEC2 GERESS Array S 83.95 321 *e*P **P 01 08 23.1 +2.1**
GEC2 pmax pmax
comp=Z,13nm,1.0s,mb5.0
GEC2 GERESS Array S 83.95 321 *e*P **P 01 08 23.1 +2.1**
comp=Z,13nm,1.0s,mb5.0
GERES GERESS Array B 83.95 321 P **P 01 08 20.1 -0.9**
comp=Z,4.0nm,0.8s,mb4.6,baz=64,slow=6.1,SNR=26
GERES LR LR 01 48 05.6
comp=Z,688nm,21.0s,MS5.0,baz=68,slow=37
NKC Novy Kostel 84.02 322 *e*P **P 01 08 19.2 -2.1**
NKC *e*S S 01 18 41.1 -4.5
NKC AMS AMS 01 50 30.0
comp=Z,2μm,13.5s
NKC Novy Kostel 84.02 322 *e*P **P 01 08 19.2 -2.1**
NKC *e*S S 01 18 41.1 -4.5
SOKA Soboth 84.15 318 ⇑*i*P **P 01 08 23.8 +1.8**
SOKA Soboth 84.15 318 ⇑*i*PcP PcP 01 08 23.8 -2.1
MOX Moxa 84.29 323 *e*P **P 01 08 27.1 +4.4**
comp=Z,21nm,1.5s,mb5.0
MOX *e* 01 11 37.6
MOX
comp=Z,2μm,18.0s
MOX Moxa 84.29 323 *e*P **P 01 08 27.1 +4.4**
MOX *e* 01 11 37.6
MOX pmax pmax
comp=Z,21nm,1.5s,mb5.0
MOX MLR MLR
comp=Z,2μm,18.0s,MS5.5
MOX Moxa 84.29 323 *e*P **P 01 08 24.7 +2.0**
comp=Z,11nm,1.1s,mb4.9
WET Wettzell 84.29 321 *e*P **P 01 08 25.0 +2.3**
WET *e* 01 11 37.8
WET pmax pmax
comp=Z,106nm,2.6s,mb5.5
WET Wettzell 84.29 321 *e*P **P 01 08 25.0 +2.3**
comp=Z,106nm,2.6s,mb5.5
WET *e*PP PP 01 11 37.8 +0.9
YKA Yellowknife Ar 84.30 23 P **P 01 08 22.8 +0.4**
comp=Z,5.3nm,1.1s,mb4.6,baz=317,slow=4.4,SNR=3.1
YKA Yellowknife Ar 84.30 23 P **P 01 08 22.8 +0.4**
MANZ Manzenberg 84.33 322 *e*P **P 01 08 25.3 +2.4**
comp=Z,19nm,1.4s,mb5.0
MANZ *e*PP PP 01 11 39.1 +2.0
CLZ Clausthal 84.38 324 *e*P **P 01 08 25.7 +2.6**
CLZ pmax pmax
comp=Z,17nm,1.1s,mb5.1
CLZ Clausthal 84.38 324 *e*P **P 01 08 25.7 +2.6**
comp=Z,17nm,1.1s,mb5.1
ROTZ Rotzenmuhle 84.38 322 *e*P **P 01 08 25.8 +2.7**
comp=Z,19nm,1.2s,mb5.1
BOJS Bojanci 84.55 317 *e*P **P 01 08 25.8 +1.8**
LJU Ljubljana 84.75 318 *i* P **P 01 08 26.8 +1.7**
KMBO Kilima Mbogo 84.83 267 P **P 01 08 26.2 +0.1**
comp=Z,1.5nm,0.9s,mb4.1,baz=45,slow=12,SNR=3.8
KMBO LR LR 01 49 55.7
comp=Z,234nm,18.9s,MS4.6,baz=99,slow=38
KMBO Kilima Mbogo 84.83 267 *e*P **P 01 08 27.4 +1.3**
KMBO pmax pmax
comp=Z,37nm,1.7s
KMBO Kilima Mbogo 84.83 267 *e*P **P 01 08 27.4 +1.3**
comp=Z,37nm,1.7s,mb5.2
KMBO LR LR 01 49 55.6
GRA1 Grafenberg Arr 84.97 322 *e*P **P 01 08 28.7 +2.6**
comp=Z,42nm,1.6s,mb5.3
GRA1 *e*PP PP 01 11 45.1 +2.7
GRA1 *e*S S 01 18 56.7 +1.6
GRA1 LR LR
comp=Z,1μm,19.0s,MS5.3
GRF Grafenberg Arr 84.97 322 *e*P **P 01 08 28.7 +2.6**
GRF *e* 01 11 45.1
GRF *e*S S 01 18 56.7 +1.6
GRF pmax pmax
comp=Z,42nm,1.6s,mb5.3
GRF MLR MLR
comp=Z,1μm,19.0s,MS5.3
GRF Grafenberg Arr 84.97 322 *e*P **P 01 08 28.7 +2.6**
comp=Z,42nm,1.6s,mb5.3
GRF *e*PP PP 01 11 45.1 +2.7
GRF *e*S S 01 18 56.7 +1.6
GRF *e*L 01 51 13.2
comp=Z,1μm,19.0s
RJOB Jochberg 85.01 320 *e*P **P 01 08 28.7 +2.3**
comp=Z,11nm,0.9s,mb5.0
UBBA Unterbreizbach 85.09 324 *e*P **P 01 08 28.7 +2.0**
comp=Z,30nm,1.7s,mb5.2
JAVS Javornik 85.11 318 *i* P **P 01 08 28.2 +1.4**
VOY Vojsko 85.15 318 *e*P **P 01 08 30.8 +3.7**
VOY *e* pP 01 08 33.6 +3.2
FUR Furstenfeldbru 85.69 321 *e*P **P 01 08 32.4 +2.6**
FUR pmax pmax
comp=Z,33nm,1.1s,mb5.5
FUR Furstenfeldbru 85.69 321 *e*P **P 01 08 32.4 +2.6**
comp=Z,33nm,1.1s,mb5.5
TNS Taunus Mts 86.25 324 *e*P **P 01 08 34.5 +2.0**
TNS *e* 01 11 56.5
TNS pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
TNS Taunus Mts 86.25 324 *e*P **P 01 08 34.5 +2.0**
comp=Z,10.0nm,1.2s,mb4.9
TNS *e*PP PP 01 11 56.5 +3.8
AQU L'Aquila 87.19 315 ⇑*i*P **P 01 08 45.1 +7.8**
DAVOX Davos/Dischmat 87.21 320 P **P 01 08 37.8 +0.6**
comp=Z,2.2nm,0.6s,mb4.6,baz=272,slow=6.5,SNR=3.4
DAVOS Davos 87.23 320 P **P 01 08 37.8 +0.5**
BFO Black Forest 87.31 322 *e*P **P 01 08 38.9 +1.2**
CEL Celeste 87.40 311 *e*P **P 01 08 40.3 +1.9**
comp=Z,41nm,1.2s,mb5.5
WLF Walferdange 87.80 324 *e*P **P 01 08 42.6 +2.6**
comp=Z,34nm,1.6s,mb5.3
BORG Borgarnes 88.11 345 P **P 01 08 41.7 +0.5**
RPW Rockport 89.73 36 P **P 01 08 47.2 -1.9**
LPG La Plagne 89.73 320 *e*P **P 01 08 51.7 +2.5**
comp=Z,17nm,0.9s,mb5.1
SMF Signal de Mont 90.78 322 *e*P **P 01 08 56.8 +2.7**
comp=Z,44nm,1.4s,mb5.3
SMF Signal de Mont 90.78 322 *e*P **P 01 08 56.8 +2.7**
SMF pmax pmax
comp=Z,22nm,1.4s,mb5.3
SMF Signal de Mont 90.78 322 *e*P **P 01 08 56.8 +2.7**
comp=Z,22nm,1.4s,mb5.3
AVF Avril sur Loir 90.97 323 *e*P **P 01 08 56.9 +1.9**
comp=Z,14nm,1.0s,mb5.0
AVF Avril sur Loir 90.97 323 *e*P **P 01 08 56.9 +1.9**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
AVF Avril sur Loir 90.97 323 *e*P **P 01 08 56.9 +1.9**
comp=Z,7.2nm,1.0s,mb5.0
NEW Newport 92.19 35 *e*P **P 01 09 01.7 +1.1**
KEST Kesra 93.20 311 P **P 01 09 09.5 +3.9**
comp=Z,2.4nm,1.0s,mb4.6,baz=98,slow=1.0,SNR=4.8
KEST LR LR 01 59 01.0
comp=Z,120nm,19.9s,MS4.3,baz=343,slow=41
BMO Blue Mountains 94.20 37 *e*P **P 01 09 09.7 -0.2**
comp=Z,2.6nm,1.0s,mb4.6
CMB Columbia Colle 96.39 44 P **P 01 09 20.6 +0.5**
HLID Hailey 96.62 37 *e*P **P 01 09 21.6 +0.5**
NVAR Mina Array Bea 97.49 43 P **P 01 09 27.7 +2.7**
comp=Z,0.4nm,0.6s,mb4.0,baz=317,slow=4.9,SNR=3.9
ESDC Sonseca Array 99.54 320 LR LR 02 00 21.5
comp=Z,386nm,19.1s,MS4.9,baz=350,slow=39
ANMO Albuquerque 106.97 39 *e*PKiKP PKiKP 01 14 17.2 +0.1
GRGR Grenville 145.24 5 *e*PKPdf PKPdf 01 15 29.6 +0.1
SDV Santo Domingo 146.51 22 PKPdf PKPdf 01 15 30.4 -1.3
ROSC El Rosal 148.66 31 PKPbc PKPbc 01 15 39.0 +0.1
comp=Z,3.6nm,0.4s,baz=287,slow=12,SNR=3.7
BDFB Brasilia 167.59 303 PKP PKPdf 01 15 59.1 +1.2
comp=Z,0.8nm,0.6s,baz=113,slow=26,SNR=2.0
BDFB PKPab PKPab 01 17 05.5 +1.7
comp=Z,2.9nm,0.9s,baz=166,slow=27,SNR=4.8
LPAZ La Paz 169.13 55 PKP PKPdf 01 16 01.9 +2.9
comp=Z,0.4nm,0.6s,baz=312,slow=2.1,SNR=3.2

TAP 09 00:57:03.8, 2345N×12048E, h9km±1km, ML3.9, Taiwan

*CSEM **09** 01:04:29.9±0.3, 3704N×1435W, h10km, ML4.3/9, Error ellipse: s-maj=5.2km s-min=3.9km az=50.0*
*MDD **09** 01:04:35.6±1.2, 3756N×1414W, h0km, mb4.6/19, Error ellipse: s-maj=11.5km s-min=8.5km az=82.0, PRIMO*
*NEIC **09** 01:04:36.1, 3763N×1413W, h0km, MG4.6(MDD), After MDD.*
*IGIL **09** 01:04:36.9, 3744N×1443W, h50km, ML3.2*
*LDG **09** 01:04:38.1±0.3, 3761N×1416W, h10km, Ml3.7/3, Error ellipse: s-maj=5.8km s-min=4.0km az=49.0*
*CNRM **09** 01:04:38.0, 3729N×1435W, h33km, MD4.2*
*INMG **09** 01:04:38.6±0.8, 3744N×1443W, h10km, ML3.2, Error ellipse: s-maj=4.0km s-min=2.6km az=122.0*
ISC 09 01:04:41.3±0.6, 3777N±003×1365W±004, h10km, n111, σ1§06/189, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.63**	**70**	*e*Pn	**Pn**	**01 05 38.8**	**+1.2**
PMAFR				*e*Sn	**Sn**	**01 06 23.3**	**+2.9**
PMAFR				A		01 06 30.7	
65nm,0.3s							
PMAFR	**Mafra**	**3.63**	**70**	*e*Pn	**Pn**	**01 05 38.8**	**+1.2**
PMAFR				*e*Sn	**Sn**	**01 06 23.3**	**+2.9**
65nm,0.3s							
PFVI	**Vila Bisbo**	**3.89**	**98**	*e*Pn	**Pn**	**01 05 40.4**	**-0.7**
PFVI				*e*Sn	**Sn**	**01 06 26.5**	**-0.3**
PFVI				A		01 06 31.1	
27nm,0.7s							
PFVI	**Vila Bisbo**	**3.89**	**98**	*e*Pn	**Pn**	**01 05 40.4**	**-0.7**
PFVI				*e*Sn	**Sn**	**01 06 26.5**	**-0.3**
27nm,0.7s							
PTEO	**Sao Teotonio**	**3.91**	**92**	*e*Pn	**Pn**	**01 05 41.1**	**-0.3**
PTEO				*e*Sn	**Sn**	**01 06 27.8**	**+0.4**
ALMR	**Almeirim**	**4.21**	**69**	*e*P	**Pn**	**01 05 46.4**	**+0.8**
ALMR				*e*S	**Sn**	**01 06 37.1**	**+2.2**
ALMR				*e*S	**Sn**	**01 06 37.2**	**+2.4**
ALMR				AML	AML	01 06 38.9	
comp=E,34nm,0.3s							
ALMR	**Almeirim**	**4.21**	**69**	*e*P	**Pn**	**01 05 46.4**	**+0.8**
ALMR				*e*S	**Sn**	**01 06 37.1**	**+2.3**
EVOP	**Sao Brissos**	**4.42**	**78**	*e*Pn	**Pn**	**01 05 48.4**	**0.0**
EVOP				*e*Sn	**Sn**	**01 06 40.4**	**+0.5**
comp=E,22nm,0.2s							
PTOM	**Tomar**	**4.49**	**64**	*e*Pn	**Pn**	**01 05 50.6**	**+1.2**
PTOM				*e*Sn	**Sn**	**01 06 44.5**	**+2.8**
PTOM				A		01 06 49.8	
comp=E,30nm,0.1s							
PTOM	**Tomar**	**4.49**	**64**	*e*Pn	**Pn**	**01 05 50.6**	**+1.2**
PTOM				*e*Sn	**Sn**	**01 06 44.5**	**+2.8**
comp=E,30nm,0.1s							
EVO	**Evora**	**4.50**	**78**	*e*Pn	**Pn**	**01 05 48.4**	**-1.2**
EVO				*e*Sn	**Sn**	**01 06 40.4**	**-1.6**
comp=E,44nm,0.2s							
EVO	**Evora**	**4.50**	**78**	*e*Pn	**Pn**	**01 05 50.1**	**+0.5**
EVO				*e*Sn	**Sn**	**01 06 43.6**	**+1.6**
EVO				A		01 06 48.0	
comp=E,36nm,0.1s							
EVO	**Evora**	**4.50**	**78**	*e*Pn	**Pn**	**01 05 50.1**	**+0.5**
EVO				*e*Sn	**Sn**	**01 06 43.6**	**+1.6**
comp=E,36nm,0.1s							
PBDV	**Barranco-do-Ve**	**4.57**	**95**	*e*Pn	**Pn**	**01 05 50.1**	**-0.4**
PBDV				*e*Sn	**Sn**	**01 06 43.7**	**0.0**
PBDV				A		01 06 51.8	
comp=E,23nm,0.1s							
PBDV	**Barranco-do-Ve**	**4.57**	**95**	P	**Pn**	**01 05 50.1**	**-0.4**
PBDV				S	**Sn**	**01 06 43.7**	**0.0**
comp=E,12nm,0.1s							
PBEJ	**Beja**	**4.58**	**85**	*e*Pn	**Pn**	**01 05 51.1**	**+0.5**
PBEJ				*e*Sn	**Sn**	**01 06 45.3**	**+1.5**
PBEJ				A		01 06 49.9	
comp=E,19nm,0.3s							
PBEJ	**Beja**	**4.58**	**85**	P	**Pn**	**01 05 51.1**	**+0.5**
PBEJ				S	**Sn**	**01 06 45.3**	**+1.5**
comp=E,9.4nm,0.3s							
PVAQ	**Vaqueiros**	**4.72**	**93**	*e*Pn	**Pn**	**01 05 52.1**	**-0.5**
PVAQ				*e*Sn	**Sn**	**01 06 47.5**	**+0.1**
PVAQ				A		01 06 52.5	
comp=E,32nm,0.2s							
PVAQ	**Vaqueiros**	**4.72**	**93**	P	**Pn**	**01 05 52.1**	**-0.5**
PVAQ				S	**Sn**	**01 06 47.5**	**+0.1**
comp=E,16nm,0.2s							
PESTR	**Estremoz**	**4.89**	**75**	*e*Pn	**Pn**	**01 05 55.1**	**+0.3**
PESTR				*e*Sn	**Sn**	**01 06 52.9**	**+1.5**
PESTR				A		01 07 01.1	
comp=E,17nm,0.4s							
PESTR	**Estremoz**	**4.89**	**75**	*e*Pn	**Pn**	**01 05 55.1**	**+0.3**
PESTR				*e*Sn	**Sn**	**01 06 52.9**	**+1.5**
comp=E,17nm,0.4s							
EGRO	**El Granado**	**4.90**	**91**	P	**Pn**	**01 05 54.6**	**-0.3**
comp=E,3.9nm,0.1s,SNR=39							
EGRO				S	**Sn**	**01 06 51.1**	**-0.5**
comp=E,21nm,0.2s,SNR=5.4							
EGRO	**El Granado**	**4.90**	**91**	P	**Pn**	**01 05 54.6**	**-0.4**
comp=E,3.9nm,0.1s,SNR=39							
EGRO				S	**Sn**	**01 06 51.1**	**-0.6**
comp=E,21nm,0.2s,SNR=5.4							
ERIP	**Rio Piedras**	**5.09**	**92**	P	**Pn**	**01 05 58.0**	**+0.3**
SNR=7.9							
ERIP				S	**Sn**	**01 06 56.5**	**0.0**
SNR=7.9							
PTO	**Porto**	**5.16**	**48**	*e*Pn	**Pn**	**01 05 58.9**	**+0.4**
PTO				*e*Sn	**Sn**	**01 06 59.3**	**+1.3**
PTO				A		01 07 01.1	
comp=E,22nm,0.1s							
PTO	**Porto**	**5.16**	**48**	*e*Pn	**Pn**	**01 05 58.9**	**+0.4**
PTO				*e*Sn	**Sn**	**01 06 59.3**	**+1.3**
comp=E,22nm,0.1s							
PMRV	**Marv??o**	**5.17**	**69**	*e*Pn	**Pn**	**01 05 59.3**	**+0.5**
PMRV				*e*Sn	**Sn**	**01 07 00.2**	**+1.7**
PMRV				A		01 07 02.0	
comp=E,20nm,0.3s							
PMRV	**Marv??o**	**5.17**	**69**	*e*Pn	**Pn**	**01 05 59.3**	**+0.5**
PMRV				*e*Sn	**Sn**	**01 07 00.2**	**+1.7**
comp=E,20nm,0.3s							
PMPS	**Porto Santo**	**5.18**	**206**	*e*Pn	Px	01 05 41.5	
PMPS				*e*Sn	Sx	01 06 28.3	
PMPS				A		01 06 32.3	
comp=E,24nm,0.3s							
PMPS	**Porto Santo**	**5.18**	**206**	P	Px	01 05 41.5	
PMPS				S	Sx	01 06 28.3	
comp=E,12nm,0.3s							
PBAR	**Barrancos**	**5.24**	**84**	*e*Pn	**Pn**	**01 06 00.3**	**+0.7**
PBAR				*e*Sn	**Sn**	**01 07 00.7**	**+0.7**
PBAR				A		01 07 03.0	
comp=E,15nm,0.4s							
PBAR	**Barrancos**	**5.24**	**84**	P	**Pn**	**01 06 00.3**	**+0.7**
PBAR				S	**Sn**	**01 07 00.7**	**+0.7**
comp=E,7.6nm,0.4s							
PCBR	**Castelo Branco**	**5.24**	**65**	*e*Pn	**Pn**	**01 06 00.3**	**+0.6**
PCBR				*e*Sn	**Sn**	**01 07 01.8**	**+1.6**
PCBR				A		01 07 07.9	
comp=E,8.3nm,0.4s							
PCBR	**Castelo Branco**	**5.24**	**65**	*e*Pn	**Pn**	**01 06 00.3**	**+0.6**
PCBR				*e*Sn	**Sn**	**01 07 01.8**	**+1.6**
comp=E,8.3nm,0.4s							
EBAD	**Badajoz**	**5.31**	**77**	P	**Pn**	**01 06 01.0**	**+0.4**
comp=E,1.8nm,0.1s,SNR=25							

EBAD S Sn 01 07 02.7 +0.8
comp=E,3.3nm,0.1s,SNR=5.8
EBAD Badajoz 5.31 77 P Pn 01 06 01.0 +0.3
comp=E,1.8nm,0.1s,SNR=25
PVIS Viseu 5.35 55 *e*Pn Pn 01 06 01.6 +0.4
PVIS *e*Sn Sn 01 07 04.1 +1.3
MTE Manteigas 5.43 59 *e*Pn Pn 01 06 03.0 +0.8
MTE *e*Sn Sn 01 07 07.0 +2.3
EMIN Mina Concepcio 5.53 88 P Pn 01 06 03.3 -0.3
comp=E,0.6nm,0.1s,SNR=18
EMIN S Sn 01 07 07.2 +0.1
comp=E,7.0nm,0.2s,SNR=6.8
EMIN Mina Concepcio 5.53 88 P Pn 01 06 03.3 -0.3
comp=E,0.6nm,0.1s,SNR=18
PMAR Madeira 5.70 209 *e*Sn Sx 01 06 42.5
PMAR A 01 06 46.0
comp=E,34nm,0.2s
PMAR Madeira 5.70 209 S Sx 01 06 42.5
comp=E,17nm,0.2s
ELOB Lobios 5.94 45 P Pn 01 06 08.7 -0.5
comp=E,0.5nm,0.1s,SNR=12
ELOB S Sn 01 07 17.7 +0.4
comp=E,5.5nm,0.2s
MVO Moncorvo 6.14 54 *e*Pn Pn 01 06 12.3 +0.2
MVO *e*Sn Sn 01 07 22.9 +0.6
MVO A 01 07 25.3
comp=E,14nm,0.3s
MVO Moncorvo 6.14 54 *e*Pn Pn 01 06 12.3 +0.2
MVO *e*Sn Sn 01 07 22.9 +0.6
comp=E,14nm,0.3s
ESPR Espera 6.27 96 P Pn 01 06 14.2 +0.4
comp=E,13nm,0.2s,SNR=19
ESPR S Sn 01 07 26.2 +0.6
comp=E,21nm,0.2s
ESPR Espera 6.27 96 P Pn 01 06 14.2 +0.3
comp=E,13nm,0.2s,SNR=19
ESPR S Sn 01 07 26.2 +0.6
comp=E,21nm,0.2s
EMAZ Mazaricos 6.29 33 P Pn 01 06 12.2 -1.9
comp=E,2.2nm,0.1s,SNR=7.9
EMAZ S Sn 01 07 22.2 -3.7
comp=E,2.7nm,0.1s,SNR=7.9
STS Santiago 6.43 36 P Pn 01 06 14.6 -1.3
comp=E,3.9nm,0.2s,SNR=7.9
STS S Sn 01 07 27.4 -1.9
comp=E,2.9nm,0.1s,SNR=7.9
ECAB El Cabril 6.51 85 P Pn 01 06 17.6 +0.5
comp=E,2.6nm,0.1s,SNR=7.9
ECAB S Sn 01 07 30.6 -0.9
comp=E,6.8nm,0.2s,SNR=7.9
ECAB El Cabril 6.51 85 P Pn 01 06 17.6 +0.4
comp=E,2.6nm,0.1s,SNR=7.9
EJIF Jimena Fronter 6.67 99 P Pn 01 06 19.0 -0.3
comp=E,0.7nm,0.2s,SNR=7.9
EJIF S Sn 01 07 34.4 -0.8
comp=E,0.9nm,0.2s,SNR=7.9
PBRG Braganca 6.67 51 *e*Pn Pn 01 06 19.6 +0.2
PBRG *e*Sn Sn 01 07 35.2 -0.2
PBRG A 01 07 37.8
comp=E,4.2nm,0.1s
PBRG Braganca 6.67 51 P Pn 01 06 19.6 +0.2
PBRG S Sn 01 07 35.2 -0.2
comp=E,2.1nm,0.1s
ECAL Calabor 6.75 50 P Pn 01 06 20.9 +0.4
comp=E,15nm,0.3s,SNR=28
ECAL S Sn 01 07 36.4 -1.0
comp=E,3.7nm,0.2s
ECAL Calabor 6.75 50 P Pn 01 06 20.9 +0.4
comp=E,15nm,0.3s,SNR=28
ERUA La Rua 6.80 45 P Pn 01 06 21.6 +0.5
comp=E,8.8nm,0.1s,SNR=7.9
ERUA S Sn 01 07 38.2 -0.3
comp=E,2.2nm,0.2s,SNR=7.9
JHA Jbel Lahdid 6.93 149 P Pn 01 06 16.0 -7.0
JHA S Sn 01 07 28.0 -14
JHA Jbel Lahdid 6.93 149 *e*P Pn 01 06 16.0 -7.0
EADA Adamuz 7.18 84 P Pn 01 06 26.9 +0.6
comp=E,2.3nm,0.1s,SNR=25
EADA S Sn 01 07 47.3 -0.5
comp=E,2.1nm,0.1s
EADA Adamuz 7.18 84 P Pn 01 06 26.9 +0.6
comp=E,2.3nm,0.1s,SNR=25
EADA S Sn 01 07 47.3 -0.5
comp=E,2.1nm,0.1s
EMIJ Mijas 7.19 97 P Pn 01 06 24.5 -1.9
comp=E,0.2nm,0.1s,SNR=7.9
EMIJ S Sn 01 07 45.6 -2.5
comp=E,2.9nm,0.3s,SNR=7.9
CIA Chichaoua 7.38 146 P Pn 01 06 23.5 -5.6
CIA S Sn 01 07 41.0 -12
CIA Chichaoua 7.38 146 *i* P Pn 01 06 23.5 -5.6
EPON Pontenova 7.44 40 P Pn 01 06 29.0 -0.8
comp=E,2.9nm,0.2s,SNR=7.9
EPON S Sn 01 07 50.1 -4.1
comp=E,2.1nm,0.2s,SNR=7.9
EPON Pontenova 7.44 40 P Pn 01 06 29.0 -0.8
comp=E,2.9nm,0.2s,SNR=7.9
ELOJ Sierra Loja 7.58 92 P Pn 01 06 31.4 -0.4
comp=E,0.7nm,0.2s,SNR=7.9
ELOJ S Sn 01 07 58.2 +0.5
comp=E,1.6nm,0.2s,SNR=7.9
EBAN Banos Encina 7.80 84 P Pn 01 06 35.4 +0.5
comp=E,1.3nm,0.2s,SNR=7.9
EBAN S Sn 01 08 01.3 -1.9
comp=E,2.0nm,0.2s,SNR=7.9
ESDC Sonseca Array 7.81 73 P Pn 01 06 35.1 +0.2
comp=E,5.3nm,0.2s,baz=254,slow=13,SNR=34
ESDC S Sn 01 08 03.0 -0.3
comp=E,1.1nm,0.6s,baz=259,slow=23,SNR=9.1
ESDC Sonseca Array 7.81 73 P Pn 01 06 35.1 +0.2
comp=E,5.3nm,0.2s,SNR=34
ESDC S Sn 01 08 03.0 -0.3
comp=E,1.1nm,0.6s,SNR=9.1
GUD Guadarrama 7.91 66 P Pn 01 06 36.6 +0.3
comp=E,0.6nm,0.2s,SNR=7.9
GUD S Sn 01 08 06.3 +0.4
comp=E,0.4nm,0.1s,SNR=7.9
EGUA Guajares 8.09 94 P Pn 01 06 40.5 +1.7
comp=E,2.4nm,0.2s,SNR=7.9
EGUA S Sn 01 08 07.9 -2.4
comp=E,7.7nm,0.6s,SNR=7.9
OUK Oukaimeden 8.09 142 P Pn 01 06 33.5 -5.4
OUK S Sn 01 08 00.0 -10
OUK Oukaimeden 8.09 142 *i* P Pn 01 06 33.5 -5.4
EQUE Quentar 8.13 91 P Pn 01 06 40.4 +1.0
comp=E,0.6nm,0.2s,SNR=7.9
EQUE S Sn 01 08 11.9 +0.5
comp=E,2.1nm,0.2s,SNR=7.9
EQES Quesada 8.37 87 P Pn 01 06 42.3 -0.4
comp=E,0.2nm,0.1s,SNR=11
EQES S Sn 01 08 16.8 -0.5
comp=E,2.9nm,0.2s
EQES Quesada 8.37 87 P Pn 01 06 42.3 -0.4
comp=E,0.2nm,0.1s,SNR=11
EQES S Sn 01 08 16.8 -0.5
comp=E,2.9nm,0.2s
CZD Col de Zad 8.46 121 *e*P Pn 01 06 42.0 -1.9
CZD *i* S Sn 01 08 14.0 -5.5
EARI Arriondas 8.47 47 P Pn 01 06 45.2 +1.2
comp=E,1.5nm,0.1s,SNR=21
EARI S Sn 01 08 19.0 -0.7
comp=E,0.0nm,0.2s,SNR=7.9
EARI Arriondas 8.47 47 P Pn 01 06 45.2 +1.2
comp=E,1.5nm,0.1s,SNR=21
EBER Berja 8.61 92 P Pn 01 06 46.6 +0.6
comp=E,0.4nm,0.1s,SNR=7.9
EBER S Sn 01 08 22.0 -1.2
comp=E,2.3nm,0.5s,SNR=7.9
EBER Berja 8.61 92 S Sn 01 08 22.0 -1.2
comp=E,2.3nm,0.5s,SNR=7.9
EALB Alboran 8.70 99 P Pn 01 06 47.3 +0.1
comp=E,4.3nm,0.4s,SNR=7.9
EALB S Sn 01 08 21.5 -3.8
comp=E,1.6nm,0.1s,SNR=7.9
EHUE Huescar 8.75 86 P Pn 01 06 48.5 +0.6
comp=E,0.1nm,0.2s,SNR=7.9
EHUE S Sn 01 08 25.5 -1.0
comp=E,0.3nm,0.2s,SNR=7.9
EVIA Vianos 8.82 81 P Pn 01 06 49.1 +0.3
comp=E,0.9nm,0.2s,SNR=7.9
EVIA S Sn 01 08 27.2 -0.9
comp=E,0.6nm,0.1s,SNR=7.9
CFUE Fuerteventura 9.10 182 S Sx 01 08 08.1
SNR=7.9
ETOR Torete 9.49 68 P Pn 01 06 58.9 +0.9
comp=E,4.1nm,0.2s,SNR=10
ETOR S Sn 01 08 44.0 -0.7
comp=E,3.0nm,0.4s,SNR=7.9
ELAN Lanestosa 9.50 52 P Pn 01 06 59.4 +1.3
comp=E,1.7nm,0.2s,SNR=10.0
ELAN S Sn 01 08 43.8 -1.1
comp=E,0.2nm,0.1s,SNR=7.9
ELAN Lanestosa 9.50 52 P Pn 01 06 59.4 +1.3
comp=E,1.7nm,0.2s,SNR=10.0
ETOB Tobarra 9.56 81 P Pn 01 06 58.8 -0.2
comp=E,2.7nm,0.4s,SNR=9.1
ETOB S Sn 01 08 45.6 -1.0
SNR=7.9
ETOB Tobarra 9.56 81 P Pn 01 06 58.8 -0.2
comp=E,2.7nm,0.4s,SNR=9.1
ETOB S Sn 01 08 45.6 -0.9
SNR=7.9
EMOS Mosqueruela 10.57 72 P Pn 01 07 13.9 +1.1
comp=E,0.0nm,0.0s,SNR=7.9
EMOS S Sn 01 09 09.6 -1.6
comp=E,0.9nm,0.2s,SNR=7.9
ELIZ Elizondo 10.69 56 P Pn 01 07 14.9 +0.5
comp=E,1.1nm,0.2s,SNR=7.9
EALK Alkurruntz 10.73 56 P Pn 01 07 16.3 +1.4
comp=E,0.2nm,0.2s,SNR=7.9
EALK S Sn 01 09 13.4 -1.6
SNR=7.9
SJPF Ste Jean 10.87 57 *e*Pn Pn 01 07 17.7 +0.9
SJPF *e*Sn Sn 01 09 16.3 -2.1
comp=E,1.4nm,0.3s
SJPF Ste Jean 10.87 57 *e*Pn Pn 01 07 17.7 +0.9
SJPF *e*Sn Sn 01 09 16.3 -2.1
comp=E,0.7nm,0.3s
ESAC San Caprasio 10.89 65 S Sn 01 09 18.5 -0.4
comp=E,12nm,0.4s,SNR=7.9
ETSF Etsaut 11.22 59 *e*Pn Pn 01 07 22.9 +1.2
ETSF *e*Sn Sn 01 09 26.7 -0.5
comp=E,2.1nm,0.5s
ETSF Etsaut 11.22 59 *e*Pn Pn 01 07 22.9 +1.2
ETSF *e*Sn Sn 01 09 26.7 -0.5
comp=E,1.0nm,0.5s
EBIE Bielsa 11.63 61 P Pn 01 07 28.1 +0.9
comp=E,1.3nm,0.3s,SNR=7.9
EBIE S Sn 01 09 34.7 -2.4
comp=E,1.7nm,0.6s,SNR=7.9
EPF Esparros 11.88 59 *e*Pn Pn 01 07 31.7 +0.9
LFF La Frestale 12.96 52 *e*Pn Pn 01 07 44.1 -1.3
ROSF Rostrenen 12.99 32 *e*Pn Pn 01 07 44.1 -1.8
MFF Saint Martin d 13.33 44 *e*Pn Pn 01 07 49.4 -1.1
RJF Les Rejaudoux 13.61 52 *e*Pn Pn 01 07 54.4 0.0
CAF Calviac 13.79 54 *e*Pn Pn 01 07 55.9 -0.9
GRR Gorron 14.12 37 *e*Pn Pn 01 07 59.7 -1.6
TCF Toulx Ste Croi 14.52 49 *e*Pn Pn 01 08 05.6 -1.1
FLN La Foiniere 14.56 37 *e*Pn Pn 01 08 05.4 -1.9
LDF La Druitiere 14.62 38 *e*Pn Pn 01 08 06.7 -1.4
LOR Lormes 15.99 48 *e*Pn Pn 01 08 27.5 +1.3

MAN 09 01:14:42.885N×12637E,h29km,mb4.1,ML3.0,MS2.7, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.67**	**181**	⇑*i*P	Pb	01 14 55.6	+0.5
BIPH				*i* S	Sb	01 15 05.7	+1.6
BUTP	**Butuan**	**0.75**	**279**	*e*P	Pb	01 14 57.1	+0.6
BUTP				*e*S	Sb	01 15 08.3	+1.8
SCPH	**Surigao**	**1.27**	**317**	*e*P	Pn	01 15 04.2	+0.4
SCPH				*e*S	Sn	01 15 18.1	-1.8
BUKP	**Musuan**	**1.62**	**233**	*e*P	Pn	01 15 10.9	+2.3
BUKP				*e*S	Sn	01 15 35.1	+6.6

TIR ***09*** *01:34:37.2±1.6,3930N×2055E,h6km±92km*
CSEM ***09*** *01:34:38.9±0.4,3928N×2010E,h2km,ML2.6,Error ellipse: s-maj=10.5km s-min=6.0km az=83.0*
ATH ***09*** *01:34:38.5,3943N×2043E,h40km±15km,MD3.1/3*
ISCJB ***09*** *01:34:39.5±0.6,3930N±002×2021E±005,h10km,Error ellipse: s-maj=6.1km s-min=3.5km az=170.8*
NEIC ***09*** *01:34:39.3,3929N×2017E,h0km,MD3.1(ATH), ML2.6(THE),After THE.*
THE ***09*** *01:34:39.3,3929N×2017E,h0km,ML2.6*
ISC 09 01:34:39.7±0.7,3932N±003×2022E±006,h10km±8km,n13, σ1°15/26,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**22**	*e*Pg	**Pg**	**01 34 43.9**	**-0.5**
IGT				*e*Sg	**Sg**	**01 34 48.0**	**+0.4**
IGT	**Igoumenitsa**	**0.23**	**22**	*i* PG	**Pg**	**01 34 43.9**	**-0.5**
IGT				*i* SG	**Sg**	**01 34 48.0**	**+0.4**
KEK	**Kerkira**	**0.51**	**320**	*e*P	**Pg**	**01 34 50.2**	**+0.5**
KEK				*e*S	**Sg**	**01 35 00.0**	**+3.6**
SRN	**Sarande**	**0.58**	**343**	*e*PG	**Pg**	**01 34 51.1**	**0.0**
SRN				*i* SG	**Sg**	**01 35 03.7**	**+4.9**
JAN	**Janina**	**0.59**	**55**	*e*P	**Pg**	**01 34 48.2**	**-3.0**
LKD	**Levkas**	**0.70**	**151**	*e*Pg	**Pg**	**01 34 51.7**	**-1.5**
LKD				*e*Sg	**Sg**	**01 35 03.2**	**+0.9**
VLS	**Valsamata**	**1.18**	**166**	*e*Pg	**Pg**	**01 35 01.7**	**-0.6**
VLS				*e*Sg	**Sg**	**01 35 18.5**	**+0.9**
VLS	**Valsamata**	**1.18**	**166**	*e*P	**Pb**	**01 35 01.0**	**-1.1**
VLS				*e*S	**Sb**	**01 35 18.2**	**+0.8**
VLS	**Valsamata**	**1.18**	**166**	*e*Pg	**Pg**	**01 35 01.7**	**-0.6**
VLS				*e*S	**Sb**	**01 35 18.2**	**+0.8**
VLS				*e*Sg	**Sg**	**01 35 18.5**	**+0.9**
THL	**Klokotos Trika**	**1.41**	**79**	*e*Pg	**Pg**	**01 35 06.7**	**0.0**
THL				*e*Sg	**Sg**	**01 35 27.8**	**+2.8**
AGG	**Agios Georgios**	**1.66**	**100**	*e*Pb	**Pb**	**01 35 08.6**	**-1.8**
AGG				*e*Sb	**Sb**	**01 35 32.7**	**+1.3**
FNA	**Florina**	**1.71**	**31**	*e*Pb	**Pb**	**01 35 11.4**	**+0.3**
FNA				*e*Sg	**Sg**	**01 35 34.8**	**+0.2**
FNA	**Florina**	**1.71**	**31**	*i* PG	**Pg**	**01 35 11.4**	**-1.1**
FNA				*i* SG	**Sg**	**01 35 34.8**	**+0.2**

JMA 09 01:40:53.5±0.4,4699N×14167E,h15km,M3.5,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.68**	**175**	P	Pn	01 41 22.8	+0.5
JWK2				*e*S	Sn	01 41 43.9	+0.3
JRR	**Rishiri**	**1.87**	**188**	P	Pn	01 41 24.9	0.0
JSE	**Soyaes**	**2.13**	**162**	P	Pn	01 41 28.5	0.0
JMP	**Maruseppu**	**3.21**	**158**	P	Pn	01 41 45.0	+1.7
JHR	**Hokuryu**	**3.25**	**179**	P	Pn	01 41 45.1	+1.3
JTKR	**Abashiri--Toko**	**3.41**	**152**	P	Pn	01 41 45.4	-0.6

ISCJB ***09*** *01:41:11.9±0.4,2.16N±005×10151W±005,h10km, mb4.7/76,MS4.5/21,Error ellipse: s-maj=8.6km s-min=5.8km az=40.8*
IDC ***09*** *01:41:11.7±0.6,229N×10161W,h0km,mb4.3/14, mb1 4.5/16,mb1mx4.5/22,mbtmp4.4/16,ML3.3/2,MS4.4/19, Ms1 4.4/19,ms1mx4.2/30,Error ellipse: s-maj=25.4km s-min=12.8km az=60.0*
MOS ***09*** *01:41:12.0±1.1,222N×10160W,h10km,mb4.9/26,Error ellipse: s-maj=15.0km s-min=6.4km az=98.8*
NEIC ***09*** *01:41:12.8±0.3,2.10N×10160W,h10km,mb4.8/70,Error ellipse: s-maj=7.4km s-min=5.0km az=60.0*
BJI ***09*** *01:41:12.5,271N×10248W,h10km,mB5.2,Ms5.1,Msz4.9*
ISC 09 01:41:13.5±0.4,212N±005×10152W±005,h10km,n443, σ0°65/390,mb4.7/76,MS4.5/21,108C-107D,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**16.24**	**23**	Pn	**Pn**	**01 45 01.9**	**-0.1**
CMIG				LR	LR	01 49 45.3	
JTS	**JuntasAbangare**	**18.35**	**63**	P	**Pn**	**01 45 29.1**	**+0.8**
JTS	**JuntasAbangare**	**18.35**	**63**	*e*P	**Pn**	**01 45 27.9**	**-0.5**
TGUH	**Tegucigalpa,Un**	**18.41**	**49**	*e*P	**Pn**	**01 45 29.6**	**+0.6**
TEIG	**Tepich**	**22.16**	**35**	P	**P**	**01 46 08.6**	**-1.1**
TEIG				LR	LR	01 53 24.6	
TEIG	**Tepich**	**22.16**	**35**	*e*P	**P**	**01 46 07.9**	**-1.9**
BCIP	**Isla Barro Col**	**22.67**	**71**	*e*P	**P**	**01 46 14.9**	**-0.4**
OTAV	**Otavalo**	**23.14**	**94**	*e*P	**P**	**01 46 22.3**	**+2.0**
LPIG	**La Paz**	**23.44**	**339**	LR	LR	01 53 28.6	
ATAH	**Atahualpa**	**24.80**	**112**	P	**P**	**01 46 43.9**	**+7.9**
ATAH				LR	LR	01 52 42.3	
ROSC	**El Rosal**	**27.28**	**84**	P	**P**	**01 47 04.4**	**+5.9**
HKT	**Hockley**	**28.20**	**10**	*e*P	**P**	**01 47 07.5**	**+1.1**
HKT				pmax	pmax		
HKT	**Hockley**	**28.20**	**10**	*e*P	**P**	**01 47 07.5**	**+1.1**
JCT	**Junction City**	**28.25**	**3**	*e*P	**P**	**01 47 07.2**	**+0.3**
JCT				pmax	pmax		
JCT	**Junction City**	**28.25**	**3**	*e*P	**P**	**01 47 07.2**	**+0.3**
NNA	**Nana**	**28.25**	**120**	LR	LR	01 55 39.3	
319A	**Douglas**	**30.00**	**347**	⇑P	**P**	**01 47 23.5**	**+1.0**
NATX	**Nacogdoches**	**30.18**	**12**	*e*P	**P**	**01 47 24.4**	**+0.4**
318A	**Bisbee**	**30.23**	**346**	P	**P**	**01 47 25.2**	**+0.7**
219A	**White Tail Can**	**30.60**	**347**	⇑P	**P**	**01 47 28.5**	**+0.8**
218A	**Dragoon**	**30.76**	**346**	⇓P	**P**	**01 47 29.2**	**0.0**
217A	**Green Valley**	**30.77**	**344**	P	**P**	**01 47 29.8**	**+0.5**
216A	**Three Points,**	**31.16**	**344**	⇓P	**P**	**01 47 33.1**	**+0.4**
TUC	**Tucson**	**31.27**	**345**	*e*P	**P**	**01 47 33.5**	**-0.1**
TUC				*e*		01 50 27.5	
TUC				pmax	pmax		
TUC	**Tucson**	**31.27**	**345**	*e*P	**P**	**01 47 33.5**	**-0.1**
TUC				*e*PcP	PcP	01 50 27.5	-0.5
119A	**Ashpeak Ranch,**	**31.34**	**347**	⇑P	**P**	**01 47 34.5**	**+0.2**
118A	**Homack Ranch,**	**31.38**	**346**	⇑P	**P**	**01 47 35.0**	**+0.4**
SDV	**Santo Domingo**	**31.45**	**76**	*e*P	**P**	**01 47 36.6**	**+1.1**
SDV				*e*PcP	PcP	01 50 28.7	-0.3
117A	**Oracle**	**31.50**	**345**	P	**P**	**01 47 36.7**	**+1.0**
214A	**Organ Pipe Nat**	**31.52**	**341**	⇓P	**P**	**01 47 36.2**	**+0.3**
115A	**Sonoran Desert**	**32.04**	**343**	⇓P	**P**	**01 47 40.5**	**+0.1**
BNM	**Barren Site**	**32.22**	**352**	*e*P	**P**	**01 47 43.1**	**+1.2**
BNM				*e*PcP	PcP	01 50 30.3	-0.3
Y18A	**Canyon Day Jun**	**32.48**	**347**	P	**P**	**01 47 44.9**	**+0.6**
Y19A	**Nutrioso**	**32.48**	**348**	⇓P	**P**	**01 47 44.9**	**+0.5**
LAZ	**Ladron**	**32.54**	**351**	*e*P	**P**	**01 47 44.4**	**-0.4**
LAZ				*e*PcP	PcP	01 50 29.2	-2.3
WMOK	**Wichita Mounta**	**32.55**	**4**	*e*P	**P**	**01 47 44.3**	**-0.6**
WMOK				*e*		01 50 30.2	
113A	**Mohawk Valley,**	**32.58**	**341**	⇓P	**P**	**01 47 45.3**	**+0.1**
Y17A	**Roosevelt**	**32.60**	**345**	⇓P	**P**	**01 47 45.5**	**+0.1**
Z14A	**Wintersburg**	**32.87**	**342**	⇑P	**P**	**01 47 48.3**	**+0.6**
Y16A	**Circle Bar Ran**	**32.94**	**345**	⇓P	**P**	**01 47 48.5**	**+0.3**
X19A	**St. Johns**	**32.95**	**348**	⇑P	**P**	**01 47 48.9**	**+0.5**
ANMO	**Albuquerque**	**32.98**	**353**	*e*P	**P**	**01 47 48.5**	**-0.2**
ANMO				pmax	pmax		
ANMO	**Albuquerque**	**32.98**	**353**	*e*P	**P**	**01 47 48.5**	**-0.1**
MIAR	**Mount Ida**	**33.10**	**12**	*e*P	**P**	**01 47 49.0**	**-0.7**
MIAR				pmax	pmax		
MIAR	**Mount Ida**	**33.10**	**12**	*e*P	**P**	**01 47 49.0**	**-0.7**
X18A	**Snowflake**	**33.18**	**347**	⇓P	**P**	**01 47 51.0**	**+0.5**
X17A	**Forest Lakes**	**33.20**	**346**	⇑P	**P**	**01 47 51.0**	**+0.4**
GLA	**Glamis**	**33.20**	**339**	*e*P	**P**	**01 47 50.8**	**+0.2**
GLA				pmax	pmax		
GLA	**Glamis**	**33.20**	**339**	⇓P	**P**	**01 47 51.4**	**+0.8**
GLA	**Glamis**	**33.20**	**339**	*e*P	**P**	**01 47 50.8**	**+0.2**
Y15A	**Casa Rosa Ranc**	**33.24**	**343**	⇓P	**P**	**01 47 51.3**	**+0.4**
Y14A	**Wickenburg**	**33.42**	**343**	⇑P	**P**	**01 47 53.1**	**+0.6**
X16A	**Lo Mia Camp, P**	**33.43**	**345**	⇓P	**P**	**01 47 53.4**	**+0.8**
SWSC	**Sam W. Stewart**	**33.45**	**338**	⇓P	**P**	**01 47 53.1**	**+0.3**
Y13A	**Salome**	**33.56**	**341**	⇓P	**P**	**01 47 54.1**	**+0.3**
W19A	**Sanders**	**33.63**	**348**	⇓P	**P**	**01 47 55.1**	**+0.8**
W18A	**Petrified Fore**	**33.70**	**348**	⇑P	**P**	**01 47 55.1**	**+0.2**
X15A	**Humboldt**	**33.71**	**344**	⇓P	**P**	**01 47 55.1**	**0.0**
Y12C	**Blythe**	**33.73**	**340**	⇓P	**P**	**01 47 55.2**	**0.0**
X14A	**Yava**	**33.88**	**343**	⇑P	**P**	**01 47 56.6**	**+0.1**
109C	**Camp Elliot, M**	**33.92**	**336**	⇓P	**P**	**01 47 56.7**	**-0.2**
BC3	**Big Chuckw Mtn**	**33.97**	**339**	⇓P	**P**	**01 47 57.5**	**+0.2**
W16A	**Flagstaff**	**34.10**	**345**	⇑P	**P**	**01 47 58.7**	**+0.3**
PDMCI	**Parker Dam,Lak**	**34.11**	**341**	⇑P	**P**	**01 47 58.9**	**+0.4**
X13A	**Yucca**	**34.28**	**342**	⇑P	**P**	**01 47 59.7**	**-0.3**
PFO	**Pinyon Flat Ob**	**34.30**	**338**	P	**P**	**01 48 00.3**	**+0.2**
PFO	**Pinyon Flat Ob**	**34.30**	**338**	⇑P	**P**	**01 48 00.1**	**-0.1**
PFO	**Pinyon Flat Ob**	**34.30**	**338**	P	**P**	**01 48 00.3**	**+0.1**
V18A	**Ganado**	**34.32**	**348**	⇑P	**P**	**01 48 00.7**	**+0.4**
IRM	**Iron Mountain**	**34.32**	**340**	⇓P	**P**	**01 48 00.5**	**+0.2**
W15A	**Williams**	**34.37**	**344**	⇑P	**P**	**01 48 01.1**	**+0.4**
WUAZ	**Wupatki**	**34.46**	**346**	⇓P	**P**	**01 48 01.6**	**0.0**
WUAZ	**Wupatki**	**34.46**	**346**	*e*P	**P**	**01 48 02.2**	**+0.7**
BELC	**Belle Mtn.**	**34.48**	**338**	⇓P	**P**	**01 48 01.8**	**+0.1**
W14A	**Seligman**	**34.63**	**343**	⇓P	**P**	**01 48 03.1**	**+0.1**
W13A	**Hualapai Mount**	**34.77**	**342**	⇓P	**P**	**01 48 04.7**	**+0.5**
CIS	**Catalina Islan**	**34.91**	**335**	⇓P	**P**	**01 48 05.7**	**+0.2**
V15A	**Kaibab Nationa**	**34.95**	**345**	⇓P	**P**	**01 48 06.3**	**+0.5**
U18A	**Rough Rock, Ch**	**34.99**	**348**	⇓P	**P**	**01 48 06.5**	**+0.4**
PLAL	**Pickwick Lake**	**35.01**	**19**	*e*P	**P**	**01 48 05.3**	**-0.9**
PLAL				*e*PcP	PcP	01 50 37.1	-1.3
V14A	**Boquillas Ranc**	**35.03**	**343**	⇑P	**P**	**01 48 06.7**	**+0.2**
GMRC	**Granite Mounta**	**35.06**	**340**	⇑P	**P**	**01 48 06.4**	**-0.3**
LDFC	**Landfair**	**35.14**	**340**	*e*P	**P**	**01 48 08.7**	**+1.3**
T19A	**Beclabito**	**35.22**	**350**	⇑P	**P**	**01 48 08.0**	**-0.1**
BFSC	**Mount Baldy St**	**35.32**	**337**	⇓P	**P**	**01 48 08.9**	**-0.1**

U17A **Shonto** 35.33 347 ⇓P P 01 48 09.1 0.0
baz=36
V13A **Grand Canyon W** 35.49 342 ⇑P P 01 48 10.6 +0.1
baz=36,SNR=7.4
MVCO **Mesa Verde** 35.50 350 ⇓P P 01 48 10.8 +0.3
baz=36,SNR=5.4
MVCO **Mesa Verde** 35.50 350 eP P 01 48 11.1 +0.6
comp=Z,33nm,1.5s,mb5.0
U15A **North Rim** 35.56 345 ⇓P P 01 48 11.1 +0.1
baz=36
SDCO **Great Sand Dun** 35.64 355 eP P 01 48 13.1 +1.5
comp=Z,9.6nm,1.4s,mb4.5
SDCO ePP PP 01 49 32.1 -0.6
SDCO ePcP PcP 01 50 39.9 -0.4
V12A **Nelson** 35.65 341 ⇓P P 01 48 11.6 -0.2
baz=36
T18A **Mexican Hat** 35.68 349 ⇑P P 01 48 12.0 -0.1
baz=36,SNR=10
T17A **Navajo Res., N** 35.74 347 ⇓P P 01 48 13.0 +0.4
baz=36,SNR=8.0
U14A **Mt Trumbull** 35.79 344 ⇓P P 01 48 13.5 +0.5
baz=36
GSC **Goldstone** 35.94 338 eP P 01 48 15.0 +0.7
GSC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
GSC **Goldstone** 35.94 338 ⇓P P 01 48 14.7 +0.4
baz=36,SNR=5.5
GSC **Goldstone** 35.94 338 eP P 01 48 14.9 +0.7
comp=Z,8.3nm,1.1s,mb4.6
SWET **Sewanee** 35.98 22 eP P 01 48 14.7 +0.1
SWET ePcP PcP 01 50 39.4 -2.0
U13A **Pakoon Wash** 36.01 343 ⇑P P 01 48 15.0 +0.1
baz=36,SNR=6.1
EDW2 **Edwards Air Fo** 36.02 337 ⇓P P 01 48 14.9 -0.1
baz=36
S19A **Harvey Farm, M** 36.13 350 ⇑P P 01 48 16.2 +0.3
baz=36
T15A **Red Dirt Ranch** 36.14 345 ⇓P P 01 48 16.1 +0.1
baz=36,SNR=7.2
U12A **Valley of Fire** 36.20 342 ⇑P P 01 48 17.0 +0.5
baz=36
S18A **Hurst Farm, Bl** 36.24 349 ⇓P P 01 48 17.1 +0.3
baz=36,SNR=15
SHOC **Shoshone** 36.28 340 ⇑P P 01 48 17.5 +0.3
baz=36
S17A **Black Ridge (B** 36.35 348 ⇑P P 01 48 17.7 -0.1
baz=36
T14A **Hurricane** 36.36 344 P P 01 48 18.4 +0.5
baz=36,SNR=7.0
PV01 **Paradox Valley** 36.41 351 eP P 01 48 19.2 +0.9
T13A **Saint George** 36.55 343 ⇑P P 01 48 20.0 +0.5
baz=37
S16A **Weppner Ranch,** 36.62 347 ⇑P P 01 48 20.4 +0.4
baz=37
R19A **Curley Farm, L** 36.69 350 ⇑P P 01 48 20.9 +0.3
baz=37
CPCT **Cooper Cave** 36.73 24 eP P 01 48 20.1 -0.9
CPCT ePcP PcP 01 50 42.5 -1.0
PV10 **Paradox Valley** 36.73 350 eP P 01 48 20.8 -0.2
PV10 ePcP PcP 01 50 43.0 -0.5
U10A **Ash Meadows, A** 36.77 340 ⇑P P 01 48 21.8 +0.5
baz=37
MPMC **Manual Prospec** 36.86 338 ⇑P P 01 48 22.6 +0.4
baz=37,SNR=9.4
ISA **Isabella** 36.89 337 eP P 01 48 22.7 +0.3
ISA pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
ISA **Isabella** 36.89 337 ⇓P P 01 48 22.9 +0.5
baz=37
ISA **Isabella** 36.89 337 eP P 01 48 22.7 +0.3
comp=Z,8.8nm,1.1s,mb4.5
R18A **Canyonlands Na** 36.89 349 ⇑P P 01 48 22.6 +0.2
baz=37,SNR=19
CCM **Cathedral Cave** 36.98 14 eP P 01 48 22.3 -0.8
CCM e 01 50 42.5
CCM pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
CCM **Cathedral Cave** 36.98 14 eP P 01 48 22.3 -0.9
comp=Z,9.0nm,1.0s,mb4.5
CCM ePcP PcP 01 50 42.5 -1.8
FURC **Furnace Creek,** 37.00 339 ⇓P P 01 48 23.5 +0.2
baz=37
S13A **Holt Ranch, En** 37.06 344 ⇓P P 01 48 24.2 +0.4
baz=37
R17A **Hanksville Air** 37.09 348 ⇓P P 01 48 24.4 +0.3
baz=37,SNR=12
FVM **French Village** 37.11 15 eP P 01 48 23.7 -0.6
FVM pmax pmax
comp=Z,23nm,1.2s,mb4.9
FVM **French Village** 37.11 15 eP P 01 48 23.7 -0.6
comp=Z,23nm,1.2s,mb4.9
R16A **Teasdale** 37.13 347 ⇑P P 01 48 24.5 +0.2
baz=37,SNR=6.0
T11A **Corn Creek, Al** 37.15 342 ⇓P P 01 48 24.7 +0.1
baz=37,SNR=9.6
SIUC **Southern Illin** 37.18 16 eP P 01 48 24.4 -0.5
comp=Z,40nm,0.9s,mb5.2
TKL **Tuckaleechee C** 37.21 24 eP P 01 48 24.9 -0.2
SMMC **Simmler** 37.22 335 ⇑P P 01 48 25.6 +0.4
baz=37
TPNV **Topopah Spring** 37.22 340 eP P 01 48 26.2 +1.0
TPNV pmax pmax
comp=Z,30nm,1.7s,mb4.8
TPNV **Topopah Spring** 37.22 340 ⇓P P 01 48 25.4 +0.2
baz=37
TPNV **Topopah Spring** 37.22 340 eP P 01 48 26.1 +0.9
comp=Z,30nm,1.7s,mb4.8
Q19A **Hogan Spring (** 37.33 350 P P 01 48 26.4 +0.3
baz=38,SNR=10.0
MSU **Marysvale** 37.51 346 eP P 01 48 28.2 +0.6
MSU e 01 50 45.6
Q18A **Rafter H Ranch** 37.63 349 ⇓P P 01 48 29.0 +0.3
baz=38
R13A **O'Grain Ranch,** 37.65 344 ⇓P P 01 48 29.1 +0.3
baz=38
Q16A **Castle Valley** 37.66 348 ⇑P P 01 48 29.0 +0.1
baz=38
ISCO **Idaho Springs** 37.68 355 eP P 01 48 29.9 +0.8
ISCO e 01 50 46.5
ISCO pmax pmax
comp=Z,24nm,1.5s,mb4.7
ISCO **Idaho Springs** 37.68 355 eP P 01 48 29.9 +0.9
comp=Z,24nm,1.5s,mb4.7
ISCO ePcP PcP 01 50 46.5 +0.1
S11A **Rachel** 37.69 341 ⇓P P 01 48 29.8 +0.6
baz=38
SRU **San Rafael** 37.72 349 eP P 01 48 29.9 +0.5
SRU e 01 50 45.7
SRU pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
SRU **San Rafael** 37.72 349 ⇓P P 01 48 29.2 -0.2
baz=38
SRU **San Rafael** 37.72 349 eP P 01 48 29.9 +0.6
comp=Z,4.6nm,0.6s,mb4.4
SRU ePcP PcP 01 50 45.7 -0.8
LPAZ **La Paz** 37.72 120 P P 01 48 33.0 +3.3
comp=Z,3.4nm,1.1s,mb4.0,baz=283,slow=11,SNR=6.2
LPAZ PcP PcP 01 50 47.2 +0.3
comp=Z,7.4nm,1.2s,baz=0.2,slow=9.2,SNR=5.7
LPAZ LR LR 02 00 16.2
comp=Z,132nm,20.8s,MS3.7,baz=91,slow=30
LPAZ **La Paz** 37.72 120 P P 01 48 33.0 +3.3
LPAZ 01 50 47.3
LPAZ pmax pmax
comp=Z,3.0nm,1.1s
LPAZ pmax pmax
comp=Z,7.0nm,1.2s
LPAZ **La Paz** 37.72 120 eP P 01 48 34.0 +4.3
comp=Z,13nm,1.4s,mb4.5
R12A **Pony Springs,** 37.97 343 ⇓P P 01 48 31.9 +0.4
baz=38
PKD **Parkfield** 37.99 335 ⇑P P 01 48 31.6 -0.1
baz=38
HELL **Mitchell Peak** 37.99 337 ⇓P P 01 48 31.8 0.0
baz=38,SNR=15
TZTN **Tazewell** 38.06 24 eP P 01 48 31.9 -0.4
comp=Z,56nm,1.5s,mb5.1
TZTN ePcP PcP 01 50 47.4 -0.3
S10A **Tonopah Range,** 38.22 341 P P 01 48 34.3 +0.6
baz=38,SNR=18
Q14A **Sevier Lake (B** 38.23 345 ⇑P P 01 48 34.5 +0.8
baz=38,SNR=8.2
S09A **Goldfield** 38.25 340 ⇑P P 01 48 34.4 +0.5
baz=38,SNR=5.7
R11A **Troy Canyon, C** 38.28 342 ⇓P P 01 48 34.8 +0.6
baz=38,SNR=6.9
S08C **White Mtn Res** 38.39 338 ⇓P P 01 48 35.1 +0.1
baz=38,SNR=7.9
Q13A **Wheeler Ranch,** 38.39 344 ⇑P P 01 48 35.5 +0.4
baz=39,SNR=7.6
MTUM **Tungsten Hills** 38.41 338 eP P 01 48 36.0 +0.8
U04C **Hernandez Rese** 38.44 335 ⇑P P 01 48 35.4 -0.1
baz=39
OLIL **Olney** 38.45 17 eP P 01 48 35.0 -0.5
comp=Z,24nm,0.9s,mb4.9
R10A **Warm Springs** 38.45 341 ⇑P P 01 48 36.1 +0.5
baz=39
P15A **Leamington** 38.54 347 ⇑P P 01 48 36.5 +0.2
baz=39
T06C **Millerton Lake** 38.55 336 ⇓P P 01 48 36.5 0.0
baz=39
WCI **Wyandotte Cave** 38.55 19 eP P 01 48 36.8 +0.4
WCI pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
WCI **Wyandotte Cave** 38.55 19 eP P 01 48 36.8 +0.4
comp=Z,10nm,0.8s,mb4.6
R09A **Tonopah** 38.66 340 ⇑P P 01 48 37.7 +0.3
baz=39
Q12A **Willow Creek R** 38.70 343 ⇑P P 01 48 38.3 +0.6
baz=39
O18A **Roosevelt** 38.74 350 ⇓P P 01 48 39.2 +1.2
baz=39
P14A **Drum Mountains** 38.74 346 ⇓P P 01 48 38.8 +0.8
baz=39,SNR=11
Q11A **Duckwater** 38.76 342 ⇑P P 01 48 39.1 +0.9
baz=39,SNR=6.9
P13A **Bates Ranch, G** 38.86 345 ⇓P P 01 48 39.4 +0.4
baz=39,SNR=8.1
O16A **Springville** 38.97 348 ⇑P P 01 48 40.9 +0.9
baz=39
DAU **Daniels Canyon** 39.12 348 eP P 01 48 41.6 +0.4
DUG **Dugway** 39.26 346 eP P 01 48 43.0 +0.7
DUG pmax pmax
comp=Z,25nm,1.5s,mb4.7
DUG **Dugway** 39.26 346 ⇓P P 01 48 42.8 +0.5
baz=39,SNR=8.8
DUG **Dugway** 39.26 346 eP P 01 48 43.0 +0.7
comp=Z,25nm,1.5s,mb4.7
O15A **The Old Anders** 39.26 347 ⇑P P 01 48 42.7 +0.4
baz=39
NVAR **Mina Array Bea** 39.26 339 P P 01 48 41.2 -1.2
comp=Z,2.8nm,0.9s,mb4.0,baz=157,slow=7.5,SNR=4.5
NVAR PcP PcP 01 50 50.8 -0.6
comp=Z,0.6nm,0.8s,baz=133,slow=3.9,SNR=4.0
NVAR **Mina Array Bea** 39.26 339 P P 01 48 41.2 -1.2
NVAR PcP PcP 01 50 50.8 -0.6
S06C **San Francisco** 39.36 337 ⇑P P 01 48 43.5 +0.3
baz=40
N18A **Larsen Ranch,** 39.37 350 ⇑P P 01 48 43.3 +0.1
baz=40,SNR=9.2
Q08A **Gabbs** 39.52 340 ⇑P P 01 48 45.2 +0.7
baz=40,SNR=10
N17A **Moffit Pass** 39.55 349 ⇑P P 01 48 45.3 +0.6
baz=40
N16A **Rees Ranch, Co** 39.61 348 ⇓P P 01 48 45.6 +0.3
baz=40
S04C **Ingram Canyon,** 39.64 335 ⇓P P 01 48 45.8 +0.2
baz=40
BNLO **Ben Lomond (Sa** 39.69 334 ⇑P P 01 48 46.0 0.0
baz=40
CMB **Columbia Colle** 39.71 336 ⇑P P 01 48 46.0 -0.1
baz=40
P10A **Eureka** 39.72 342 ⇓P P 01 48 46.2 0.0
baz=40
R06C **Coleville** 39.77 338 ⇓P P 01 48 47.4 +0.8
baz=40
O12A **Currie** 39.82 344 ⇑P P 01 48 47.6 +0.6
baz=40,SNR=5.9
ELN **Prospectdale** 39.83 26 eP P 01 48 47.3 +0.2
HDIL **Hopedale** 39.83 15 eP P 01 48 46.5 -0.5
comp=Z,80nm,1.3s,mb5.3
N15A **Stansbury Isla** 39.85 347 ⇑P P 01 48 47.7 +0.4
baz=40
O11A **Cowboy Ranch,** 39.95 343 ⇓P P 01 48 48.3 +0.3
baz=40,SNR=6.2
N14A **Grayback Hills** 39.97 346 ⇓P P 01 48 48.4 +0.2
baz=40
BGU **Big Grassy Mou** 40.00 346 eP P 01 48 48.4 -0.1
TAOE **Nuku Hiva Isla** 40.01 254 eLR LR 01 59 36.4
comp=Z,2μm,25.5s
LVC **Limon Verde** 40.20 130 P P 01 48 53.3 +2.8
comp=Z,7.7nm,1.2s,mb4.3,baz=61,slow=4.6,SNR=3.4
LVC **Limon Verde** 40.20 130 eP P 01 48 51.1 +0.6
comp=Z,22nm,1.3s,mb4.7
O10A **Cortez Mining,** 40.35 342 ⇑P P 01 48 51.5 +0.1
baz=40
M15A **Larsen Ranch,** 40.38 347 P P 01 48 52.1 +0.5
baz=41,SNR=11
N12A **Clover Valley,** 40.44 344 ⇓P P 01 48 52.2 0.0
baz=41,SNR=6.5
O09A **Fish Creek Ran** 40.45 341 P P 01 48 52.7 +0.5
baz=41,SNR=5.7
M14A **Sheep Mountain** 40.62 346 ⇓P P 01 48 54.0 +0.3
baz=41,SNR=21
M13A **Montello** 40.69 345 P P 01 48 54.9 +0.7
baz=41,SNR=7.1
L16A **Fish Haven** 40.70 349 ⇓P P 01 48 54.6 +0.3
baz=41
PAHR **Pah Rah Range** 40.78 339 eP P 01 48 55.0 0.0
comp=Z,16nm,1.3s,mb4.5
CVS **Camenet Viney** 40.83 335 ⇑P P 01 48 55.4 0.0
baz=41
MCCM **Marconi Confer** 40.85 334 ⇑P P 01 48 56.0 +0.5
baz=41
L15A **Malad City** 40.88 348 P P 01 48 56.1 +0.4
baz=41,SNR=9.0
P05C **Yuba Gap, Truc** 40.89 337 ⇑P P 01 48 56.3 +0.4
baz=41
O07A **Toulon** 41.01 340 ⇑P P 01 48 57.2 +0.3
baz=41
BW06 **Boulder Array** 41.10 351 eP P 01 48 56.8 -0.7
comp=Z,33nm,1.5s,mb4.8
PDAR **Pinedale Array** 41.10 351 P P 01 48 57.1 -0.4
comp=Z,9.3nm,1.0s,mb4.4,baz=161,slow=6.3,SNR=48
PDAR LR LR 02 05 22.3
comp=Z,527nm,18.6s,MS4.4,baz=165,slow=35
L14A **Malta** 41.10 347 ⇓P P 01 48 57.5 -0.1
baz=41,SNR=20
RKT **Rikitea** 41.13 230 eLQ 01 58 37.1
comp=Z,2μm,33.8s
RKT eLR LR 02 00 14.5
comp=Z,844nm,28.0s
N09A **Rock Creek Ran** 41.18 341 ⇓P P 01 48 58.2 0.0
baz=41
M11A **Holland Ranch,** 41.19 344 ⇓P P 01 48 58.2 -0.1
baz=41,SNR=12
BEKR **Beckwourth** 41.28 338 ⇓P P 01 48 59.4 +0.3
baz=41
N08A **GE Springer Mi** 41.31 341 ⇑P P 01 48 59.7 +0.4
baz=42
L13A **Double Diamond** 41.32 346 ⇓P P 01 48 59.8 +0.4
baz=42
O06A **Flanigan** 41.35 339 ⇑P P 01 49 00.1 +0.4
baz=42,SNR=8.2
ORV **Oroville** 41.46 336 ⇑P P 01 49 01.1 +0.5
baz=42,SNR=5.3
M10A **I.L. Ranch, Tu** 41.49 343 ⇓P P 01 49 00.9 +0.1
baz=42
K16A **Soda Springs** 41.52 349 ⇓P P 01 49 01.1 +0.1
baz=42
K14A **Jones Ranch, D** 41.57 347 ⇓P P 01 49 01.3 -0.2
baz=42
O05C **Quincy** 41.58 337 ⇑P P 01 49 01.8 +0.3
baz=42
N07B **Gerlach** 41.59 340 ⇓P P 01 49 01.8 +0.2
baz=42,SNR=8.0
L12A **House Creek Ra** 41.65 345 ⇑P P 01 49 02.6 +0.5
baz=42
ECSD **EROS,Sioux Fal** 41.66 5 eP P 01 49 01.8 -0.4
comp=Z,15nm,1.2s,mb4.5
ECSD ePcP PcP 01 50 56.9 -2.0
JFWS **Jewell Farm** 41.84 12 eP P 01 49 02.5 -1.2
JFWS pmax pmax
comp=Z,31nm,1.2s,mb4.8
JFWS **Jewell Farm** 41.84 12 eP P 01 49 02.5 -1.2
comp=Z,31nm,1.2s,mb4.8
L11A **Cat Creek Ranc** 41.86 344 ⇓P P 01 49 04.2 +0.4
baz=42,SNR=16
RSSD **Black Hills** 41.88 357 eP P 01 49 04.5 +0.6
RSSD pmax pmax
comp=Z,20nm,1.4s,mb4.5
RSSD **Black Hills** 41.88 357 eP P 01 49 04.5 +0.6
comp=Z,20nm,1.4s,mb4.6
K13A **Stover Farm, H** 41.88 346 ⇑P P 01 49 04.2 +0.2
baz=42,SNR=11
REDW **Red Top Meadow** 41.89 350 eP P 01 49 03.7 -0.4
comp=Z,31nm,1.4s,mb4.8
J16A **Bone** 41.95 349 ⇓P P 01 49 04.8 +0.3
baz=42
O04C **Chester** 41.95 337 ⇓P P 01 49 05.0 +0.4
baz=42
RRI2 **Red Ridge** 41.96 349 eP P 01 49 04.5 -0.1
comp=Z,12nm,1.1s,mb4.4
SNOW **Snow King Moun** 41.97 350 eP P 01 49 04.4 -0.3
comp=Z,9.2nm,0.8s,mb4.5
L10A **Juniper Basin** 41.98 343 ⇓P P 01 49 05.2 +0.4
baz=42
M08A **Happy Creek Ra** 41.99 341 ⇑P P 01 49 05.1 +0.2
baz=42
TPAW **Teton Pass** 42.03 350 eP P 01 49 04.8 -0.5
comp=Z,18nm,1.3s,mb4.5
TPAW ePcP PcP 01 50 59.9 -0.3
GASB **Alder Springs** 42.04 335 ⇑P P 01 49 06.1 +0.8
baz=42,SNR=5.2
K12A **Draper Farm, C** 42.07 345 ⇓P P 01 49 05.5 -0.1
baz=42
LOHW **Long Hollow** 42.09 350 eP P 01 49 05.0 -0.7
comp=Z,24nm,1.3s,mb4.7
M07A **Soldier Meadow** 42.20 340 ⇓P P 01 49 07.0 +0.3
baz=42,SNR=6.3
MOOW **Moose Ponds** 42.25 350 eP P 01 49 06.2 -0.8
comp=Z,12nm,1.4s,mb4.3
L09A **Wilkinson Ranc** 42.28 342 ⇑P P 01 49 07.8 +0.5
baz=42
IMW **Indian Meadow** 42.43 350 eP P 01 49 07.9 -0.5
comp=Z,28nm,1.4s,mb4.7
IMW ePcP PcP 01 51 00.9 -0.5
M06C **Likely Place G** 42.50 339 ⇑P P 01 49 09.3 +0.3
baz=43,SNR=8.3
K11A **Parker Ranch,** 42.50 344 ⇑P P 01 49 09.0 0.0
baz=43
HATC **Hat Creek Radi** 42.52 337 ⇑P P 01 49 09.3 0.0
baz=43
FLWY **Flagg Ranch** 42.57 350 eP P 01 49 08.3 -1.2
comp=Z,16nm,1.1s,mb4.7
FLWY ePcP PcP 01 51 01.5 -0.4
J13A **Cove Ranch, Pi** 42.61 346 ⇑P P 01 49 09.9 -0.1
baz=43,SNR=6.0
L08A **Fields** 42.65 341 ⇑P P 01 49 10.1 -0.1
baz=43,SNR=8.8
J12A **Stokes Ranch,** 42.70 345 P P 01 49 10.5 -0.2
baz=43,SNR=5.3
K10A **MacKenzie Ranc** 42.74 343 ⇓P P 01 49 10.6 -0.4
baz=43,SNR=11
WDC **Whiskeytown Da** 42.75 336 ⇑P P 01 49 10.1 -1.0
baz=43
L07A **Adell** 42.82 340 ⇑P P 01 49 11.9 +0.2
baz=43
HLID **Hailey** 42.83 346 ⇑P P 01 49 11.8 +0.2
baz=43,SNR=9.2
HLID **Hailey** 42.83 346 eP P 01 49 11.9 +0.3
comp=Z,25nm,1.8s,mb4.7
M05C **Lookout** 42.88 338 ⇓P P 01 49 12.2 +0.1
baz=43,SNR=7.9
K09A **Rome** 42.92 342 P P 01 49 12.4 0.0
baz=43,SNR=9.7
WVOR **Wild Horse Val** 42.96 341 eP P 01 49 12.8 0.0
WVOR pmax pmax
comp=Z,15nm,1.3s,mb4.6
WVOR **Wild Horse Val** 42.96 341 eP P 01 49 12.8 0.0
comp=Z,14nm,1.3s,mb4.5
MFID **Camas Ranch** 43.04 345 ⇑P P 01 49 13.2 -0.2
baz=43,SNR=6.9
MOD **Modoc** 43.05 339 ⇓P P 01 49 13.6 +0.1
baz=43
I13A **Wildhorse Cree** 43.09 347 P P 01 49 14.2 +0.4
baz=43,SNR=15
M03C **McCloud** 43.17 337 ⇓P P 01 49 14.1 -0.5
baz=43
K08A **Mann Creek Ran** 43.18 342 ⇑P P 01 49 14.3 -0.3
baz=43,SNR=16
N02C **Big Bar** 43.26 336 ⇑P P 01 49 15.1 -0.1
baz=43,SNR=5.3
J10A **Berg Farm, Mel** 43.31 344 ⇓P P 01 49 15.2 -0.4
baz=44
RLMT **Red Lodge** 43.36 352 eP P 01 49 15.9 -0.1
comp=Z,25nm,1.8s,mb4.6
L05A **Lakeview** 43.36 339 ⇓P P 01 49 16.4 +0.3
baz=44,SNR=8.2
K07A **Rock Creek Ran** 43.39 341 ⇑P P 01 49 16.2 0.0
baz=44,SNR=15
QLMT **Earthquake Lak** 43.42 350 eP P 01 49 16.9 +0.5
J09A **Fry Pan Ranch,** 43.52 343 ⇑P P 01 49 17.0 -0.2
baz=44
I11A **Placerville** 43.54 345 ⇑P P 01 49 17.2 -0.2
baz=44
JCC **Jacoby Creek** 43.56 335 ⇑P P 01 49 17.5 -0.1
baz=44
M02C **Callahan** 43.56 337 ⇓P P 01 49 17.2 -0.5
baz=44
MCMT **McKenzie Canyo** 43.69 348 eP P 01 49 19.2 +0.6
H13A **Challis** 43.74 347 ⇑P P 01 49 19.2 +0.2
baz=44
YBH **Yreka Blue Hor** 43.79 337 P P 01 49 17.1 -2.4
comp=Z,2.4nm,0.8s,mb4.0,baz=175,slow=8.9,SNR=4.2
YBH **Yreka Blue Hor** 43.79 337 P P 01 49 17.1 -2.4
YBH pmax pmax
comp=Z,2.0nm,0.8s
YBH **Yreka Blue Hor** 43.79 337 ⇑P P 01 49 18.8 -0.7
baz=44
YBH **Yreka Blue Hor** 43.79 337 eP P 01 49 18.4 -1.1
comp=Z,6.6nm,1.3s,mb4.2
K06A **Valley Falls** 43.82 340 ⇓P P 01 49 19.9 +0.2
baz=44
H12A **Diamond D Ranc** 43.86 346 ⇑P P 01 49 20.0 -0.1
baz=44
G15A **Dillon** 43.94 349 ⇑P P 01 49 20.1 -0.5
baz=44,SNR=5.2
K05A **Summer Lake** 43.98 339 P P 01 49 21.4 +0.4
baz=44,SNR=9.5
J07A **Hines** 44.02 341 ⇓P P 01 49 21.3 0.0
baz=44
GCMT **Greycliff** 44.07 352 eP P 01 49 21.2 -0.5
KRMB **Red Mountain** 44.10 336 eP P 01 49 22.4 +0.5
DLMT **Dillon** 44.15 349 eP P 01 49 20.5 -1.8
comp=Z,20nm,0.7s,mb5.0
J06A **Christmas Vall** 44.19 340 P P 01 49 22.8 +0.1
baz=44,SNR=21
G13A **Cobalt** 44.23 347 P P 01 49 22.8 -0.2
baz=44,SNR=21
BOZ **Bozeman (W)** 44.24 350 eP P 01 49 22.1 -1.0
BOZ e 01 51 07.2
BOZ pmax pmax
comp=Z,6.0nm,1.3s,mb4.2
BOZ **Bozeman (W)** 44.24 350 ⇑P P 01 49 22.0 -1.0
baz=44
BOZ **Bozeman (W)** 44.24 350 eP P 01 49 22.1 -0.9
comp=Z,5.7nm,1.3s,mb4.1
BOZ ePcP PcP 01 51 07.2 -0.4
H11A **Donnelly** 44.29 345 P P 01 49 23.1 -0.3
baz=44,SNR=6.7
F15A **Butte** 44.59 349 P P 01 49 25.4 -0.4
baz=45,SNR=6.8
J05A **Fort Rock** 44.59 339 ⇑P P 01 49 26.0 +0.1
baz=45,SNR=7.1
I07A **Izee** 44.72 342 ⇑P P 01 49 27.1 +0.2
baz=45
I06A **Prineville** 44.82 341 ⇑P P 01 49 27.7 0.0
baz=45,SNR=11
H08A **Prairie City** 44.86 343 ⇑P P 01 49 27.9 -0.1
baz=45
J04A **Umpqua Nationa** 44.86 339 ⇓P P 01 49 28.1 +0.1
baz=45
F13A **Darby** 44.92 347 P P 01 49 27.8 -0.7
baz=45,SNR=6.4
K02A **Glendale** 44.98 337 ⇓P P 01 49 28.6 -0.3
baz=45
G11A **Walters Elk Ra** 45.01 345 P P 01 49 28.4 -0.8
baz=45,SNR=7.9
F12A **Elk City** 45.09 346 P P 01 49 29.2 -0.7
baz=45,SNR=6.4
COWI **Conover** 45.12 12 eP P 01 49 29.2 -0.8
comp=Z,16nm,1.3s,mb4.7
E15A **Deer Lodge** 45.18 349 ⇓P P 01 49 29.7 -0.8
baz=45
H07A **Lands Inn, Kim** 45.20 342 ⇓P P 01 49 30.4 -0.2
baz=45,SNR=14
E14A **Clinton** 45.34 348 ⇑P P 01 49 31.2 -0.5
baz=46
I05A **Bend** 45.37 340 ⇑P P 01 49 32.1 0.0
baz=46
I04A **Tendick Farm,** 45.45 339 ⇓P P 01 49 31.6 -1.2
baz=46

E13A	**Victor**	45.51	348	⇑P		P	01 49 32.1	-1.0
	baz=46,SNR=5.2							
J02A	**Umpqua**	45.52	337	⇓P		P	01 49 32.9	-0.3
	baz=46							
G08A	**Pilot Rock**	45.65	343	⇓P		P	01 49 33.9	-0.4
	baz=46,SNR=6.9							
D15A	**Lincoln**	45.75	350	⇓P		P	01 49 34.6	-0.4
	baz=46							
CHMT	**Chamberlain Mo**	45.77	349	*e*P		P	01 49 34.8	-0.4
G07A	**Ruggs Ranch, H**	45.84	342	⇓P		P	01 49 35.3	-0.5
	baz=46,SNR=5.1							
E11A	**Bogner Ranch,**	45.89	346	⇑P		P	01 49 35.7	-0.4
	baz=46							
I03A	**Eugene**	45.92	338	⇑P		P	01 49 36.5	+0.1
	baz=46							
D14A	**Greenough**	45.98	349	⇑P		P	01 49 36.2	-0.7
	baz=46,SNR=9.1							
CROR	**Criterion Ridg**	46.00	341	P		P	01 49 37.4	+0.3
CFAA	**Coronel Fontan**	46.09	139	P		P	01 49 39.4	+1.4
	comp=Z,0.5nm,1.0s,baz=311,slow=10,SNR=5.9							
G06A	**Carlson Farm,**	46.11	341	⇑P		P	01 49 37.9	0.0
	baz=46							
H04A	**Detroit Lake**	46.15	340	⇓P		P	01 49 37.4	-0.8
	baz=46,SNR=6.4							
DGMT	**Dagmar**	46.23	358	*e*P		P	01 49 38.1	-0.6
	comp=Z,22nm,1.1s,mb5.0							
AGMN	**Agassiz Refuge**	46.26	5	*e*P		P	01 49 38.1	-0.9
	comp=Z,38nm,1.5s,mb5.1							
EGMT	**Eagleton**	46.27	352	⇑P		P	01 49 38.2	-0.9
	baz=46,SNR=6.3							
EGMT	**Eagleton**	46.27	352	*e*P		P	01 49 38.5	-0.6
	comp=Z,15nm,1.1s,mb4.8							
EYMN	**Ely**	46.46	9	*e*P		P	01 49 39.8	-0.8
	comp=Z,27nm,1.0s,mb5.1							
HOOD	**Mount Hood Mea**	46.52	340	*e*P		P	01 49 41.0	-0.2
	comp=Z,23nm,1.0s,mb5.1							
E09A	**Wood Farm, Sta**	46.53	344	⇑P		P	01 49 40.7	-0.5
	baz=47							
H03A	**Soap Creek Ran**	46.53	339	⇓P		P	01 49 41.2	-0.1
	baz=47							
D11A	**Klaveano Farm,**	46.56	346	⇑P		P	01 49 40.4	-1.1
	baz=47							
C14A	**Swan Lake**	46.68	349	⇓P		P	01 49 41.8	-0.5
	baz=47							
D10A	**Wagner Farm, O**	46.80	345	⇓P		P	01 49 42.6	-0.7
	baz=47							
HAWA	**Hanford**	46.81	343	*e*P		P	01 49 42.2	-1.2
	comp=Z,12nm,1.1s,mb4.7							
RSW	**Rattlesnake Hi**	46.83	343	*e*P		P	01 49 43.8	+0.2
F05A	**White Salmon**	46.95	341	⇓P		P	01 49 43.8	-0.8
	baz=47							
E06A	**Yakima**	47.39	342	⇓P		P	01 49 47.6	-0.2
	baz=48							
B13A	**Whitefish**	47.40	348	P		P	01 49 47.4	-0.6
	baz=48,SNR=8.1							
OD2	**Odessa Site #2**	47.49	344	*e*P		P	01 49 47.5	-1.1
FL2	**Flat Top 2**	47.52	340	P		P	01 49 49.2	+0.2
EBG	**Ellensburg**	47.59	342	P		P	01 49 50.4	+1.0
E05A	**Randle**	47.65	341	⇑P		P	01 49 49.1	-0.9
	baz=48,SNR=5.3							
NEW	**Newport**	47.89	346	*e*P		P	01 49 50.6	-1.2
NEW				pmax	pmax			
	comp=Z,5.0nm,1.0s							
NEW	**Newport**	47.89	346	*e*P		P	01 49 50.6	-1.2
	comp=Z,4.8nm,1.0s,mb4.5							
A13A	**Flathead Natio**	47.93	349	⇑P		P	01 49 51.6	-0.4
	baz=48							
ULM	**Lac du Bonnet**	48.19	5	P		P	01 49 51.9	-2.2
	comp=Z,10.0nm,1.0s,mb4.8,baz=192,slow=9.6,SNR=6.8							
ULM				LR	LR		02 09 42.7	
	comp=Z,449nm,20.4s,MS4.4,baz=340,slow=36							
ULM	**Lac du Bonnet**	48.19	5	*e*P		P	01 49 52.2	-1.9
	comp=Z,14nm,1.1s,mb4.9							
E03A	**Lebam**	48.24	340	⇑P		P	01 49 54.0	-0.5
	baz=48							
A11A	**Hall Mountain,**	48.36	347	⇓P		P	01 49 54.4	-1.0
	baz=48							
B08A	**Colville Reser**	48.55	344	⇑P		P	01 49 56.2	-0.6
	baz=49							
RPW	**Rockport**	49.25	343	*e*P		P	01 50 01.0	-1.2
B05A	**Bryant**	49.27	342	⇑P		P	01 50 01.4	-1.0
	baz=49							
A07A	**Ashnola River,**	49.46	344	⇓P		P	01 50 03.3	-0.6
	baz=50							
PLCA	**Paso Flores**	51.16	150	P		P	01 50 19.1	+2.2
	comp=Z,6.1nm,1.2s,mb4.4,baz=329,slow=7.9,SNR=4.1							
PLCA				PcP	PcP		01 51 33.2	+0.9
	comp=Z,2.1nm,1.0s,baz=344,slow=6.9,SNR=2.9							
PLCA				LR	LR		02 07 02.1	
	comp=Z,970nm,18.1s,MS4.9,baz=291,slow=30							
PLCA	**Paso Flores**	51.16	150	P		P	01 50 19.1	+2.3
PLCA							01 51 33.2	
PLCA				pmax	pmax			
	comp=Z,6.0nm,1.2s							
PLCA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
PLCA	**Paso Flores**	51.16	150	*e*P		P	01 50 17.1	+0.3
	comp=Z,19nm,1.4s,mb4.8							
CPUP	**Villa Florida**	51.19	127	P		P	01 50 17.8	+0.5
	comp=Z,5.8nm,0.9s,mb4.5,baz=281,slow=8.2,SNR=12							
CPUP	**Villa Florida**	51.19	127	P		P	01 50 17.8	+0.5
CPUP				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CPUP	**Villa Florida**	51.19	127	*e*P		P	01 50 17.6	+0.3
	comp=Z,42nm,1.1s,mb5.3							
PPT	**Papeete**	51.23	246	*e*LQ			02 02 53.7	
	comp=Z,653nm,25.8s							
PPT				*e*LR	LR		02 04 56.5	
	comp=Z,691nm,26.2s							
PPT	**Papeete**	51.23	246	LR	LR		02 06 18.8	
	comp=Z,217nm,18.2s,MS4.2,baz=190,slow=29							
TBI	**Tubuai**	53.07	239	*e*S		S	01 58 00.5	-1.4
	comp=Z,230nm,28.8s							
TBI				*e*LR	LR		02 05 46.7	
	comp=Z,567nm,25.0s,baz=66							
BDFB	**Brasilia**	55.76	110	P		P	01 50 50.7	-0.4
	comp=Z,7.3nm,1.0s,mb4.7,baz=125,slow=25,SNR=8.9							
SCHQ	**Schefferville**	59.64	22	P		P	01 51 15.1	-2.6
	comp=Z,13nm,1.0s,mb4.9,baz=215,slow=5.3,SNR=5.6							
SCHQ				LR	LR		02 17 35.8	
	comp=Z,278nm,18.0s,MS4.4,baz=219,slow=37							
SCHQ	**Schefferville**	59.64	22	*e*P		P	01 51 16.6	-1.1
	comp=Z,26nm,1.3s,mb5.1							
YKA	**Yellowknife Ar**	61.02	353	P		P	01 51 25.3	-1.7
	comp=Z,12nm,1.1s,mb4.9,baz=163,slow=6.6,SNR=9.2							
YKA				LR	LR		02 18 02.5	
	comp=Z,194nm,18.1s,MS4.3,baz=215,slow=36							
KDAK	**Kodiak Island**	68.44	333	LR	LR		02 14 29.7	
	comp=Z,322nm,20.6s,MS4.5,baz=114,slow=29							
EGAK	**Eagle**	68.71	343	*e*P		P	01 52 16.3	-0.8
	comp=Z,9.7nm,1.1s,mb4.7							
SLKM	**Skilak Lake**	69.00	337	*e*P		P	01 52 16.8	-2.2
PMR	**Palmer**	69.23	338	*e*P		P	01 52 19.6	-0.8
PMR				pmax	pmax			
	comp=Z,4.0nm,0.3s,mb4.8							
PMR	**Palmer**	69.23	338	*e*P		P	01 52 19.6	-0.8
	comp=Z,3.5nm,0.3s,mb4.8							
INK	**Inuvik**	69.56	348	LR	LR		02 23 15.5	
	comp=Z,576nm,18.8s,MS4.8,baz=134,slow=36							
INK	**Inuvik**	69.56	348	*e*P		P	01 52 20.5	-1.8
INK				pmax	pmax			
	comp=Z,499nm,1.3s							
INK	**Inuvik**	69.56	348	*e*P		P	01 52 20.5	-1.7
	comp=Z,499nm,1.3s							
CHGN	**Chignik**	70.44	330	*e*P		P	01 52 24.7	-3.2
COLA	**College**	70.86	341	*e*P		P	01 52 28.9	-1.4
COLA	**College**	70.86	341	*e*P		P	01 52 30.3	0.0
SDPT	**Sand Point**	71.06	329	*e*P		P	01 52 28.7	-3.0
	comp=Z,64nm,1.4s,mb5.4							
SVW2	**Sparrevohn**	71.51	335	*e*P		P	01 52 31.7	-2.6
PMSA	**Palmer Station**	72.14	164	*e*P		P	01 52 37.1	-0.9
	comp=Z,23nm,0.7s,mb5.2							
TTA	**Tatalina**	72.64	337	*e*P		P	01 52 39.2	-1.9
TTA				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.5							
TTA	**Tatalina**	72.64	337	*e*P		P	01 52 39.2	-1.9
	comp=Z,2.7nm,0.5s,mb4.4							
IMA2	**Indian Mountai**	73.52	340	*e*P		P	01 52 44.3	-1.9
BORG	**Borgarnes**	83.90	25	LR	LR		02 27 17.8	
	comp=Z,191nm,19.5s,MS4.5,baz=90,slow=33							
BILL	**Bilibino**	88.87	338	*e*P		P	01 54 06.7	-1.0
BILL				pmax	pmax			
	comp=Z,10.0nm,1.4s,mb5.0							
VNDA	**Vanda**	93.50	193	LR	LR		02 27 30.0	
	comp=Z,373nm,20.6s,MS4.8,baz=18,slow=30							
VNDA	**Vanda**	93.50	193	*e*P		P	01 54 29.5	+0.5
VNDA				pmax	pmax			
	comp=Z,5.0nm,1.4s							
VNDA	**Vanda**	93.50	193	*e*P		P	01 54 29.5	+0.4
	comp=Z,5.2nm,1.4s,mb4.8							
MDT	**Midelt**	94.67	57	LR	LR		02 29 42.7	
	comp=Z,254nm,19.1s,MS4.7,baz=338,slow=31							
PETK	**Petropavlovsk-**	94.78	324	LR	LR		02 27 49.2	
	comp=Z,91nm,22.0s,MS4.2,baz=351,slow=30							
SEY	**Seymchan**	95.39	334	*e*P		P	01 54 37.0	-1.0
NOA	**NORSAR Array B**	98.97	27	LR	LR		02 36 22.8	
	comp=Z,168nm,21.8s,MS4.5,baz=290,slow=34							
CN2	**Changchun**	117.93	323	*e*PKP	PKPdf		02 00 02.4	+1.6
ASAR	**Alice Springs**	122.32	243	PKP	PKPdf		02 00 08.7	-1.1
	comp=Z,3.2nm,1.1s,baz=141,slow=4.4,SNR=9.8							
WRAB	**Tennant Creek**	122.68	248	*i* PKIKP	PKPdf		02 00 07.0	-3.6
WRA	**Warramunga Arr**	122.69	248	PKP	PKPdf		02 00 09.2	-1.4
	comp=Z,3.9nm,1.1s,baz=99,slow=1.0,SNR=10.0							
ZALV	**Zalesovo Beam**	123.88	355	PKP	PKPdf		02 00 09.6	-2.3
	comp=Z,0.5nm,0.4s,baz=27,slow=4.8,SNR=3.5							
ZAL	**Zalesovo**	123.89	356	PKIKP	PKPdf		02 00 09.6	-2.3
SONM	**Songino Array**	124.59	337	PKP	PKPdf		02 00 12.7	-0.7
	comp=Z,1.7nm,1.0s,baz=345,slow=1.0,SNR=8.2							
BVAR	**Borovoye Array**	124.63	6	PKP	PKPdf		02 00 13.0	-0.4
	comp=Z,1.2nm,0.7s,baz=325,slow=2.3,SNR=6.8							
KURK	**Kurchatov**	127.36	360	*i* PKIKP	PKPdf		02 00 16.9	-1.8
KURK	**Kurchatov**	127.36	360	*e*PKPdf	PKPdf		02 00 17.3	-1.4
HHC	**Hu-ho-hao-te**	127.67	328	*e*PKP	PKPdf		02 00 13.3	-6.3
HHC				PP	PP		02 02 17.4	-2.6
HHC				PKS			02 03 48.3	
HHC				SKKS	SKKSac		02 09 05.9	-13
HHC				SS	SS		02 19 22.1	-9.1
HHC				LR	LR			
	comp=N,227nm,25.0s,MS4.9							
HHC				LR	LR			
	comp=E,209nm,21.4s,MS4.9							
HHC				LR	LR			
	comp=Z,329nm,23.8s,MS4.9							
MK31	**Makanchi Array**	131.17	357	*e*PKIKP	PKPdf		02 00 24.1	-1.9
MKAR	**Makanchi Array**	131.17	357	PKP	PKPdf		02 00 24.8	-1.3
	comp=Z,4.7nm,1.2s,baz=349,slow=2.6,SNR=12							
MKAR	**Makanchi Array**	131.17	357	PKP	PKPdf		02 00 24.8	-1.3
WMQ	**Urumqi**	133.52	351	*e*PKP	PKPdf		02 00 28.9	-1.7
TKM2	**Tokmak 2**	135.09	3	*e*PKIKP	PKPdf		02 00 33.1	-0.4
EKS2	**Erkin-Say**	135.22	5	*e*PKPdf	PKPdf		02 00 33.3	-0.5
LZH	**Lanzhou**	135.22	330	*e*PKP	PKPdf		02 00 31.2	-2.8
LZH				XPKP			02 00 34.7	
LZH				LR	LR			
	comp=E,123nm,18.2s							
LZH				LR	LR			
	comp=Z,187nm,20.3s,MS4.8							
CD2	**Chengdu**	139.27	326	*e*PKP	PKPdf		02 00 38.8	-2.8
GYA	**Guiyang**	140.65	318	*e*PKP	PKPdf		02 00 43.0	-1.3
GYA				PKS			02 04 17.8	
GYA				SKS	SKSdf		02 07 50.2	-4.8
GYA				PP	PP			
	comp=Z,90nm,7.2s							
GYA				LR	LR			
	comp=N,180nm,21.4s,MS4.9							
GYA				LR	LR			
	comp=E,170nm,22.8s,MS4.9							
GYA				LR	LR			
	comp=Z,140nm,23.4s,MS4.6							
KMI	**Kunming**	144.13	321	PKP	PKPdf		02 00 48.1	-2.4
LSA	**Lhasa**	146.11	340	PKP	PKPbc		02 00 55.0	+0.4
LSA	**Lhasa**	146.11	340	*e*PKPbc	PKPbc		02 00 54.6	0.0
DDI	**Dehra Dun**	147.73	1	*ex*	PKPbc		02 00 58.8	-0.4
KSM	**Kuching**	147.97	276	*e*PKPbc	PKPbc		02 00 58.9	-1.5
DANN	**Dangsing**	149.28	351	*e*P	PKPbc		02 01 02.6	-0.7
	comp=Z,85nm,1.0s							
GUN	**Gumba**	149.30	347	*e*P	PKPbc		02 01 02.5	-0.9
	comp=Z,183nm,1.1s							
NDI	**New Delhi**	149.34	2	*e*P	PKPbc		02 01 02.0	-1.5
TAPN	**Taplejung**	149.38	344	*e*P	PKPbc		02 01 02.2	-1.4
	comp=Z,134nm,1.3s							
GKN	**Gorkha**	149.47	349	*e*P	PKPbc		02 01 02.4	-1.4
	comp=Z,23nm,1.1s							
JIRN	**Jiri**	149.47	346	*e*P	PKPbc		02 01 02.3	-1.5
KKN	**Kakani**	149.55	348	*e*P	PKPbc		02 01 03.0	-1.0
	comp=Z,116nm,1.2s							
PKI	**Pulchoki**	149.73	348	*e*P	PKPbc		02 01 02.9	-1.6
DMN	**Daman**	149.76	348	*e*P	PKPbc		02 01 02.9	-1.6
	comp=Z,58nm,1.3s							
KOLN	**Koldanda**	149.87	351	*e*P	PKPbc		02 01 03.5	-1.3
	comp=Z,78nm,1.2s							
ODAN	**Odare**	149.93	344	*e*P	PKPbc		02 01 03.6	-1.4
	comp=Z,68nm,1.3s							
RAMN	**Ramite**	150.05	345	*e*P	PKPbc		02 01 03.3	-2.0
	comp=Z,113nm,1.4s							
CHTO	**Chiang Mai**	151.05	317	*e*PKIKP	PKPdf		02 01 00.7	-1.4
CHTO				*e*			02 01 07.3	
CMAR	**Chiang Mai Arr**	151.29	316	PKP	PKPdf		02 01 02.9	+0.4
	comp=Z,1.6nm,0.6s,baz=342,slow=1.8,SNR=11							
CMAR				PKPbc	PKPbc		02 01 08.6	+0.2
	comp=Z,12nm,1.1s,baz=341,slow=1.1,SNR=20							
CMAR				PKPab	PKPab		02 01 15.9	-0.3
	comp=Z,7.2nm,1.0s,baz=23,slow=2.3,SNR=8.6							
CMAR	**Chiang Mai Arr**	151.29	316	PKIKP	PKPdf		02 01 02.9	+0.5
CMAR							02 01 08.6	

*CSEM **09** 01:42:47.6±0.7, 3850N×3021W, h0km, ML2.8, Error ellipse: s-maj=16.7km s-min=5.1km az=170.0, After PDA*

PDA 09 01:42:47.6±0.7, 3850N×3021W, h0km, MD3.6, ML2.8, Error ellipse: s-maj=16.7km s-min=5.1km az=170.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	1.19	86	*e*P	Pg	01 43 06.5	-3.9
CALA				*e*S	Sg	01 43 21.2	-4.6
PCED	**Cedros**	1.19	83	*e*P	Pg	01 43 06.7	-3.7
PCED				*e*S	Sg	01 43 20.6	-5.3
PCED				A		01 43 23.4	
	70nm,0.3s						
PCED	**Cedros**	1.19	83	*e*P	Pg	01 43 06.7	-3.7
PCED				*e*S	Sg	01 43 20.6	-5.3
HOR	**Horta**	1.24	88	*e*P	Pg	01 43 07.3	-4.1
HOR				*e*S	Sg	01 43 22.1	-5.4
PICO	**Pico**	1.40	89	*e*P	Pn	01 43 09.3	-5.1
PICO				*e*S	Sg	01 43 26.3	-6.4
ROSA	**Rosais**	1.56	81	*e*P	Pn	01 43 12.0	-4.6
ROSA				*e*S	Sn	01 43 29.8	-7.7
PMAN	**Manadas**	1.67	85	*e*P	Pn	01 43 13.5	-4.6
PMAN				*e*S	Sn	01 43 32.5	-7.7
PMAN				A		01 43 33.5	
	24nm,0.2s						
PMAN	**Manadas**	1.67	85	*e*P	Pn	01 43 13.5	-4.6
PMAN				*e*S	Sn	01 43 32.5	-7.7
CMLA	**Cha da Macela**	3.77	100	*e*P	Pn	01 43 42.5	-4.4

*MOS **09** 01:45:58.8±2.5, 4707N×14167E, h11km, mb4.1/4, Error ellipse: s-maj=17.8km s-min=9.9km az=101.5*
MOS Felt (III) at Kholmsk, Pravda.
*JMA **09** 01:45:58.3±0.4, 4695N×14171E, h2km, M4.3*
*SKHL **09** 01:45:58.5±0.3, 4671N×14160E, h10km, mb4.2/4*
SKHL Felt (III) at Kholmsk, Pravda.
*ISCJB **09** 01:45:60.0±0.3, 4686N±002×14149E±005, h10km, mb3.7/12, Error ellipse: s-maj=5.0km s-min=3.0km az=166.1*
*IDC **09** 01:46:00.1±0.8, 4698N×14159E, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.8/21, mbtmp3.6/10, ML3.9/2, Error ellipse: s-maj=25.0km s-min=18.6km az=71.0*
*NEIC **09** 01:46:01.4±0.4, 4696N×14173E, h10km, mb3.8/1, Error ellipse: s-maj=11.7km s-min=8.2km az=6.0*

ISC 09 01:46:00.4±0.8, 4685N±002×14170E±004, h2km±5km, n40, σ1§12/59, mb3.7/12, 1C-2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	0.73	81	*i*/*e*Pg	Pg	01 46 14.1	-0.2
YSS				*e*Sg	Sg	01 46 25.1	+1.3
YSS				A		01 46 27.4	
	3μm,0.3s						
YSS				AMS	AMS	01 46 50.0	
	6μm,6.0s						
YSS				AMS	AMS	01 46 50.0	
	4μm,6.0s						
YSS				AMS	AMS	01 46 50.0	
	4μm,6.0s						
YSS	**Yuzh-Sakhalins**	0.73	81	*e*Pg	Pg	01 46 14.3	0.0
YSS				*e*Sg	Sg	01 46 22.8	-0.9
JWK2	**Keihoku**	1.54	175	P	Pn	01 46 28.2	-0.6
JWK2				*e*S	Sn	01 46 49.6	+0.3
JRR	**Rishiri**	1.73	189	P	Pn	01 46 31.6	+0.2
JRR				*e*S	Sn	01 46 55.6	+1.5
JSE	**Soyaes**	1.99	162	P	Pn	01 46 34.1	-0.8
UGL	**Uglegorsk**	2.25	6	PN	Pn	01 46 38.0	-0.5
UGL				*e*		01 47 06.0	
UGL				pmax	pmax		
	comp=Z,65nm,0.5s						
UGL				smax			
	comp=E,460nm,0.5s						
UGL				smax			
	comp=N,130nm,0.7s						
UGL				smax			
	comp=Z,210nm,0.7s						
UGL	**Uglegorsk**	2.25	6	*e*P	Pn	01 46 38.0	-0.5
UGL				AMB	AMB	01 46 43.0	
	comp=Z,65nm,0.5s						
UGL				*e*Pg	Pg	01 46 46.0	+2.6
UGL				*e*S	Sn	01 47 08.0	+1.3
UGL				*e*Sb	Sb	01 47 10.5	+0.7
UGL				A		01 47 13.5	
	comp=Z,130nm,0.6s						
UGL				A		01 47 13.5	
	comp=Z,460nm,0.6s						
UGL				A		01 47 13.5	
	comp=Z,210nm,0.6s						
UGL				*e*Sg	Sg	01 47 19.0	+6.6
UGL				A		01 47 23.0	
	comp=Z,398nm,0.6s						
JYG	**Yagishiri**	2.43	185	P	Pn	01 46 41.2	+0.2
JYG				*e*S	Sn	01 47 12.3	+1.0
JSS	**Shosan**	2.45	177	P	Pn	01 46 41.6	+0.3
ASAJ	**Asahikawa**	2.80	167	Pn	Pn	01 46 49.0	+2.9
	comp=Z,12nm,0.3s,baz=5.2,slow=11,SNR=12						
ASAJ				Sn	Sn	01 47 27.0	+6.5
	comp=Z,8.0nm,0.3s,baz=129,slow=32,SNR=7.4						
ASAJ	**Asahikawa**	2.80	167	PN	Pn	01 46 49.0	+2.9
ASAJ						01 47 27.0	
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ				smax			
	comp=N,8.0nm,0.3s						
JKK2	**Kamakawa 2**	3.06	166	P	Pn	01 46 49.8	+0.1
JMP	**Maruseppu**	3.07	157	P	Pn	01 46 49.8	0.0
JTKR	**Abashiri--Toko**	3.27	151	P	Pn	01 46 51.4	-1.2
TEY	**Ternei**	3.99	245	*e*Pg	Pg	01 47 14.0	-2.8
TEY				*e*S	Sn	01 47 43.5	-6.3
TEY				A		01 47 46.5	
	comp=N,35nm,0.4s						
TEY				*e*Sg	Sg	01 48 08.0	-0.5
TEY				A		01 48 16.5	
	comp=N,65nm,0.6s						
TYV	**Tymovskoe**	4.07	9	*e*P	Pn	01 47 02.2	-1.3
TYV				AMB	AMB	01 47 29.5	
	comp=N,9.0nm,0.8s						
TYV				AMB	AMB	01 47 29.5	
	comp=N,19nm,0.8s						
KUR	**Kuril'sk**	4.59	108	*e*P	Pn	01 47 10.3	-0.4
KUR				AMB	AMB	01 47 12.5	
	comp=N,65nm,0.8s						
KUR				*e*S	Sn	01 48 01.8	-2.7
KUR				A		01 48 08.0	
	comp=N,76nm,0.5s						
KUR				A		01 48 08.0	
	comp=N,61nm,0.5s						
ERM	**Erimo**	4.94	167	*e*PN	Pn	01 47 19.9	+4.3
ERM				pmax	pmax		
	comp=Z,36nm,0.9s						
ERM	**Erimo**	4.94	167	*e*Pn	Pn	01 47 19.9	+4.4
	comp=Z,36nm,0.9s						
GRNR	**Gornyy**	5.25	320	*e*P	Pn	01 47 15.0	-4.7
GRNR				*e*S	Sn	01 48 17.0	-3.8
GRNR				*e*Sg	Sg	01 48 50.0	+1.1
GRNR				A		01 49 03.0	
	comp=Z,58nm,0.7s						
NKL	**Nikolayevsk**	6.34	354	*e*P	Pn	01 47 30.0	-4.8
NKL				*e*Pg	Pg	01 48 07.5	+5.7
KLR	**Kul'dur**	7.08	293	*e*Pg	Pg	01 48 09.0	-7.0
EKMR	**Ekimchan**	8.40	321	*e*P	Pn	01 48 02.3	-0.7
EKMR				AMB	AMB	01 48 12.7	
	comp=Z,4.0nm,0.5s						
EKMR				*e*S	Sn	01 49 40.0	+1.7
EKMR				*e*Sg	Sg	01 50 36.5	+6.7
EKMR				A		01 50 45.1	
	comp=Z,64nm,1.1s						
MJAR	**Matsushiro Arr**	10.62	195	Pn	Pn	01 48 35.5	+2.0
	comp=Z,0.7nm,0.3s,baz=227,slow=40,SNR=2.9						
SONM	**Songino Array**	23.82	285	P	P	01 51 14.7	+0.2
	comp=Z,0.8nm,0.9s,mb3.1,baz=80,slow=9.4,SNR=3.8						
BILL	**Bilibino**	24.68	22	*i* P	P	01 51 17.4	-4.8
ZAK	**Zakamensk**	25.45	292	*e*P	P	01 51 30.0	+0.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.6						
HVS	**Khovu-Aksy**	31.34	296	*e*P	P	01 52 18.1	-3.8
HVS				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
MK31	**Makanchi Array**	39.79	292	*e*P	P	01 53 34.2	-0.3
MKAR	**Makanchi Array**	39.79	292	P	P	01 53 33.1	-1.3
	comp=Z,0.7nm,0.6s,mb3.6,baz=69,slow=8.4,SNR=6.9						
KURK	**Kurchatov**	40.63	299	‖ *i*P	P	01 53 34.6	-6.8
KURK				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.5						
KURK	**Kurchatov**	40.63	299	*e*P	P	01 53 40.9	-0.5
	comp=Z,1.4nm,

BIA				*e*Sn	**Sb**	**01 53 56.9**	**+1.3**
KRUS	**Krusevo**	**2.25**	**20**	*e*Pn	**Pb**	**01 53 35.7**	**-0.6**
KRUS				*e*Sn	**Sb**	**01 54 04.0**	**-0.3**
KRUS	**Krusevo**	**2.25**	**20**	*e*Pn	**Pb**	**01 53 35.6**	**-0.7**
KRUS				*e*Sn	**Sb**	**01 54 03.9**	**-0.3**

*IDC **09** 02:11:23.9±1.1, 153N×12392E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, Error ellipse: s-maj=221.4km s-min=16.9km az=64.0*
*ISCJB **09** 02:11:26.7±0.7, 14N±03×1236E±06, h33km, mb4.1/10, Error ellipse: s-maj=92.8km s-min=11.1km az=153.9*
*NEIC **09** 02:11:28.9±0.7, 145N×12378E, h35km, mb4.4/4, Error ellipse: s-maj=86.2km s-min=10.9km az=64.0*

ISC 09 02:11:28.9±0.7, 15N±03×1238E±06, h35km, n15, σ1§03/14, mb4.1/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**23.66**	**154**	*e*P	**P**	**02 16 37.5**	**+0.1**
	7.9nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**23.66**	**154**	P	**P**	**02 16 37.5**	**+0.1**
	9.0nm,0.7s,mb4.3,baz=344,slow=10,SNR=43						
WB2	**Warramunga Arr**	**23.67**	**154**	*e*P	**P**	**02 16 37.4**	**0.0**
WB2	**Warramunga Arr**	**23.67**	**154**	*e*P	**P**	**02 16 37.0**	**-0.5**
ASAR	**Alice Springs**	**26.85**	**159**	P	**P**	**02 17 07.6**	**+1.3**
	0.5nm,0.5s,mb3.3,baz=353,slow=7.6,SNR=10.0						
STKA	**Stephens Creek**	**37.22**	**154**	*e*P	**P**	**02 18 35.3**	**-1.7**
	6.6nm,1.6s,mb4.2						
STKA	**Stephens Creek**	**37.22**	**154**	P	**P**	**02 18 35.2**	**-1.9**
	1.8nm,0.3s,mb4.3,baz=339,slow=10,SNR=5.2						
MK31	**Makanchi Array**	**57.79**	**327**	*e*P	**P**	**02 21 16.5**	**-0.1**
MKAR	**Makanchi Array**	**57.79**	**327**	P	**P**	**02 21 16.5**	**-0.2**
	0.7nm,0.5s,mb4.0,baz=116,slow=8.1,SNR=9.2						
ZALV	**Zalesovo Beam**	**61.32**	**335**	P	**P**	**02 21 40.5**	**-0.3**
	0.5nm,0.3s,mb4.1,baz=117,slow=8.3,SNR=2.3						
KURK	**Kurchatov**	**62.11**	**329**	*e*P	**P**	**02 21 44.5**	**-1.8**
	1.9nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**67.64**	**328**	P	**P**	**02 22 23.0**	**+0.8**
	0.3nm,0.4s,mb3.7,baz=106,slow=11,SNR=2.4						
CASY	**Casey**	**68.24**	**186**	*e*P	**P**	**02 22 25.8**	**+0.2**
	2.4nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**91.54**	**340**	P	**P**	**02 24 33.9**	**+2.3**
	1.1nm,0.8s,mb4.2,baz=72,slow=5.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**120.74**	**286**	PKP	PKPdf	02 30 19.3	+1.0
	0.6nm,0.6s,baz=40,slow=1.6,SNR=5.1						

*CSEM **09** 02:30:52.9±0.2, 4153N×2023E, h8km, ML3.0, Error ellipse: s-maj=5.2km s-min=2.3km az=32.0*
*NEIC **09** 02:30:53.4, 4155N×2027E, h2km, ML3.0(THE), After THE.*
*TIR **09** 02:30:53.8±3.1, 4142N×2002E, h33km±17km, ML2.4*
*THE **09** 02:30:53.4, 4155N×2027E, h1km, ML3.0*
*ISCJB **09** 02:30:53.5±0.4, 4148N±003×2022E±003, h10km, Error ellipse: s-maj=4.1km s-min=2.1km az=32.2*
*SKO **09** 02:30:54.6, 4150N×2023E, h3km, M1.9, ML2.1*
*PDG **09** 02:30:56.2±0.3, 4151N×1992E, h8km, ML2.4/10, Error ellipse: s-maj=1.2km s-min=1.4km az=0.0*

ISC 09 02:30:53.8±0.4, 4148N±003×2022E±003, h4km±4km, n39, σ1§20/74, 8C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSH	**Qafa e Shtames**	**0.24**	**281**	*e*PG	**Pg**	**02 30 59.5**	**+0.9**
TIR	**Tirane**	**0.30**	**245**	*e*Pg	**Pg**	**02 30 59.8**	**+0.2**
TIR				*e*Sg	**Sg**	**02 31 05.7**	**+2.2**
TIR	**Tirane**	**0.30**	**245**	*e*PG	**Pg**	**02 31 00.1**	**+0.5**
TIR				*i* SG	**Sg**	**02 31 05.5**	**+2.0**
PUK	**Puka**	**0.62**	**337**	*e*PG	**Pg**	**02 31 04.6**	**-1.1**
PUK				*i* SG	**Sg**	**02 31 14.5**	**+0.8**
KRUS	**Krusevo**	**0.78**	**98**	*e*Pg	**Pg**	**02 31 08.7**	**-0.1**
KRUS				*e*Sg	**Sg**	**02 31 19.8**	**+1.0**
KRUS				*e*Lg		02 31 20.1	
	comp=N,56nm,0.6s						
KRUS				*e*Lg		02 31 20.1	
	comp=E,36nm,0.2s						
KRUS	**Krusevo**	**0.78**	**98**	*e*Pg	**Pg**	**02 31 08.6**	**-0.2**
KRUS				*e*Sg	**Sg**	**02 31 19.8**	**+1.0**
ULC	**Ulcinj**	**0.88**	**304**	⇓*i*Pg	**Pg**	**02 31 09.2**	**-1.5**
ULC				*e*Sg	**Sg**	**02 31 19.7**	**-2.3**
ULC	**Ulcinj**	**0.88**	**304**	*i* PN	**Pg**	**02 31 09.2**	**-1.5**
ULC				*i* SN	**Sg**	**02 31 19.7**	**-2.3**
BCI	**Bajram Curri**	**0.90**	**353**	*e*PG	**Pg**	**02 31 13.4**	**+2.3**
BIA	**Bitola**	**0.95**	**118**	*e*Pg	**Pg**	**02 31 10.9**	**-1.1**
BIA				*e*Sg	**Sg**	**02 31 25.1**	**+0.8**
BIA	**Bitola**	**0.95**	**118**	*e*Pg	**Pg**	**02 31 11.3**	**-0.7**
BIA				*e*Sg	**Sg**	**02 31 25.0**	**+0.8**
BIA				*e*Lg		02 31 25.2	
	comp=N,37nm,0.4s						
BIA				*e*Lg		02 31 25.6	
	comp=E,36nm,0.3s						
BIA	**Bitola**	**0.95**	**118**	*e*Pg	**Pg**	**02 31 11.3**	**-0.7**
BIA				*e*Sg	**Sg**	**02 31 25.1**	**+0.9**
SKO	**Skopje**	**1.04**	**61**	*e*Pg	**Pg**	**02 31 12.9**	**-0.8**
SKO				*e*Sg	**Sg**	**02 31 27.3**	**+0.2**
SKO				*e*Lg		02 31 27.6	
	comp=N,108nm,0.3s						
SKO				*e*Lg		02 31 27.7	
	comp=E,60nm,0.4s						
SKO	**Skopje**	**1.04**	**61**	*e*Pg	**Pg**	**02 31 12.9**	**-0.8**
SKO				*e*Sg	**Sg**	**02 31 27.3**	**+0.2**
FNA	**Florina**	**1.11**	**128**	*e*Pg	**Pg**	**02 31 14.6**	**-0.5**
FNA				*e*Sg	**Sg**	**02 31 31.1**	**+1.5**
PVY	**Plav**	**1.13**	**351**	⇑*i*Pg	**Pg**	**02 31 17.3**	**+1.7**
PVY				*e*Sg	**Sg**	**02 31 33.4**	**+3.1**
PVY	**Plav**	**1.13**	**351**	*i* PG	**Pg**	**02 31 17.3**	**+1.7**
PVY				*i* SG	**Sg**	**02 31 33.4**	**+3.1**
PDG	**Podgorica**	**1.19**	**323**	*i* PG	**Pg**	**02 31 14.9**	**-1.8**
PDG				*i* SG	**Sg**	**02 31 32.2**	**0.0**
PDG	**Podgorica**	**1.19**	**323**	⇑*i*Pg	**Pg**	**02 31 14.9**	**-1.8**
PDG				*e*Sg	**Sg**	**02 31 32.2**	**0.0**
TTG	**Podgorica**	**1.19**	**323**	⇑*i*Pg	**Pg**	**02 31 14.9**	**-1.8**
TTG				*e*Sg	**Sg**	**02 31 32.2**	**0.0**
BUM	**Brajici-Budva**	**1.29**	**310**	⇑*i*Pg	**Pg**	**02 31 16.4**	**-2.1**
BUM				*e*Sg	**Sg**	**02 31 33.9**	**-1.3**
BUM	**Brajici-Budva**	**1.29**	**310**	*i* PG	**Pg**	**02 31 16.4**	**-2.1**
BUM				*i* SG	**Sg**	**02 31 33.9**	**-1.3**
BEY	**Berane**	**1.42**	**350**	*i* PG	**Pg**	**02 31 21.3**	**+0.3**
BEY				*i* SG	**Sg**	**02 31 42.9**	**+3.6**
IVA	**Berane**	**1.42**	**350**	⇓*i*Pg	**Pg**	**02 31 21.3**	**+0.3**
IVA				*e*Sg	**Sg**	**02 31 42.9**	**+3.6**
STIP	**Stip**	**1.49**	**81**	*e*Pg	**Pn**	**02 31 20.1**	**-1.3**
STIP				*e*Sg	**Sn**	**02 31 39.7**	**-1.5**
STIP	**Stip**	**1.49**	**81**	*e*Pn	**Pn**	**02 31 21.2**	**-0.1**
STIP				*e*Sg	**Sg**	**02 31 40.9**	**-0.7**
STIP				*e*Lg		02 31 41.1	
	comp=N,6.4nm,0.4s						
STIP				*e*Lg		02 31 41.5	
	comp=E,7.5nm,0.7s						
STIP	**Stip**	**1.49**	**81**	*e*Pn	**Pn**	**02 31 21.2**	**-0.1**
STIP				*e*Sg	**Sg**	**02 31 40.9**	**-0.7**
HCY	**Herceg Novi**	**1.61**	**308**	⇑*i*Pg	**Pn**	**02 31 21.5**	**-1.5**
HCY				*e*Sg	**Sg**	**02 31 44.4**	**-1.2**
HCY	**Herceg Novi**	**1.61**	**308**	*i* PG	**Pn**	**02 31 21.5**	**-1.5**
HCY				*i* SG	**Sg**	**02 31 44.4**	**-1.2**
NKY	**Niksic**	**1.62**	**326**	⇑*i*Pg	**Pn**	**02 31 22.6**	**-0.5**
NKY				*e*Sg	**Sg**	**02 31 45.9**	**+0.1**
GRG	**Griva**	**1.72**	**107**	*e*Pb	**Pn**	**02 31 23.8**	**-0.8**
GRG				*e*Sb	**Sb**	**02 31 46.6**	**-1.4**
VAY	**Valandovo**	**1.77**	**94**	*e*Pn	**Pn**	**02 31 26.3**	**+1.1**
VAY				*e*Sn	**Sb**	**02 31 49.8**	**+0.4**
VAY				*e*Lg		02 31 49.9	
	comp=N,14nm,0.6s						
VAY				*e*Lg		02 31 50.4	
	comp=E,13nm,0.5s						
VAY	**Valandovo**	**1.77**	**94**	*e*Pn	**Pn**	**02 31 26.3**	**+1.1**
VAY				*e*Sn	**Sb**	**02 31 49.8**	**+0.4**
BRY	**Bratogost**	**1.89**	**319**	⇑*i*Pn	**Pn**	**02 31 27.6**	**+0.7**
BRY				*e*Sn	**Sn**	**02 31 52.0**	**+0.8**
BRY	**Bratogost**	**1.89**	**319**	*i* PG	**Pn**	**02 31 27.6**	**+0.7**
BRY				*i* SG	**Sn**	**02 31 52.0**	**+0.8**
IGT	**Igoumenitsa**	**1.94**	**178**	*e*Pn	**Pn**	**02 31 28.4**	**+0.8**
PLE	**Pljevlja**	**1.95**	**342**	⇓*i*Pn	**Pb**	**02 31 29.6**	**-0.3**
PLE				*e*Sn	**Sb**	**02 31 55.6**	**+1.0**
UPM	**Unac-Piva**	**1.98**	**331**	⇑*i*Pn	**Pn**	**02 31 29.2**	**+1.1**
UPM				*e*Sn	**Sn**	**02 31 55.3**	**+1.9**
KNT	**Kendrikon**	**2.04**	**98**	*e*Pn	**Pn**	**02 31 27.9**	**-1.0**

KRSC 09 02:45:14.7±1.2, 5249N×16053E, h11km±11km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.68**	**333**	*i* P	Pg	02 45 29.0	+1.1
SPN				*i* S	Sg	02 45 39.4	+2.5
NLC	**Nalytchevo**	**0.99**	**314**	*e*P	Pg	02 45 33.8	0.0
NLC				*i* S	Sg	02 45 48.3	+1.6
RUS	**Russkaya**	**1.23**	**268**	*i* P	Pn	02 45 36.7	-1.2
RUS				*i* S	Sb	02 45 53.3	-0.6
PET	**Petropavlovsk**	**1.26**	**296**	*e*P	Pn	02 45 37.6	-0.6
PET				*i* S	Sb	02 45 54.5	-0.1
AVH	**Avacha**	**1.33**	**306**	*e*P	Pn	02 45 39.7	+0.5
AVH				*i* S	Sb	02 45 57.9	+1.1
GRL	**Gorelyy**	**1.50**	**273**	*e*P	Pn	02 45 42.2	+0.7
GNL	**Ganaly**	**1.97**	**309**	*e*P	Pn	02 45 49.7	+1.7
GNL				*i* S	Sn	02 46 15.3	+2.6
MKZ	**Mys Kozlova**	**2.19**	**19**	*e*P	Pn	02 45 50.2	-0.8
MKZ				*i* S	Sn	02 46 16.1	-2.0
MIPR	**Malaya Ipel'ka**	**2.32**	**266**	P	Pn	02 45 53.6	+0.8
MIPR				*i* S	Sn	02 46 22.3	+1.0
TUMR	**Tumrok**	**2.81**	**356**	*e*P	Pn	02 46 01.3	+1.8
KMNR	**Kamenistaya**	**3.28**	**357**	P	Pn	02 46 07.8	+1.9
KBTR	**Krutoberegovo**	**3.96**	**19**	P	Pn	02 46 16.0	+0.7

*NEIC **09** 03:01:28.6, 17.17N×101.19W, h6km, MD3.9(MEX), After MEX.*

MEX 09 03:01:28.6±0.7, 1717N×10119W, h6km±20km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.51**	**329**	*i* P	Pg	03 01 38.1	-0.4
ZIIG				*i* S	Sg	03 01 45.6	+0.5
CAIG	**El Cayaco**	**0.89**	**98**	*i* P	Pg	03 01 43.6	-2.1
CAIG				*i* S	Sg	03 01 55.0	-2.4
ACX	**Acapulco**	**1.26**	**104**	*i* P	Pn	03 01 51.0	-1.6
ACX				*i* S	Sg	03 02 05.0	-4.0
MEIG	**Mezcala**	**1.68**	**63**	*e*P	Pn	03 01 54.6	-3.9
MEIG				*i* S	Sn	03 02 15.1	-5.2
PLIG	**Platanillo**	**2.02**	**53**	*i* P	Pn	03 01 59.6	-3.5
PLIG				*i* S	Sn	03 02 24.1	-4.5
MOIG	**Morelia**	**2.50**	**0**	*e*P	Pn	03 02 07.5	-2.2
MOIG				*i* S	Sn	03 02 37.0	-3.4
MZVM		**2.74**	**43**	*i* P	Pn	03 02 14.1	+1.0
MZVM				*i* S	Sn	03 02 45.2	-1.3
PNIG	**Pinotepa**	**3.04**	**104**	*e*P	Pn	03 02 15.2	-2.0
PNIG				*i* S	Sn	03 02 52.4	-1.3
EZ5V		**3.24**	**315**	*e*P	Pn	03 02 15.2	-4.8
EZ5V				*i* S	Sn	03 02 57.2	-1.7
UTMO	**Huajuapan**	**3.30**	**78**	*e*P	Pn	03 02 17.8	-2.9
UTMO				*i* S	Sn	03 02 56.3	-3.9
R15V		**3.32**	**307**	*e*P	Pn	03 02 17.3	-3.8
R15V				*i* S	Sn	03 03 01.2	+0.5
IIO	**Organos**	**3.36**	**44**	*i* P	Pn	03 02 25.1	+3.5
IIO				*i* S	Sn	03 03 07.4	+5.6

*NEIC **09** 03:02:37.4, 3248S×7169W, h28km, ML2.5(GUC), After GUC.*

GUC 09 03:02:37.4±0.9, 3248S×7169W, h28km±6km, MD3.5, ML2.5, 3C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.61**	**15**	⇓*i*P	Pb	03 02 49.3	-0.3
CHNG				*i* S	Sb	03 02 58.3	+0.4
CHNG				AML	AML	03 03 02.4	
	comp=N,106nm,0.2s						
ROCH	**El Roble**	**0.76**	**131**	*i* S	Sb	03 03 02.3	+0.4
JACH	**Jahuel**	**0.95**	**103**	⇑*i*P	Pn	03 02 54.9	0.0
JACH				*i* S	Sb	03 03 07.1	-0.3
LCCH	**Las Cruces**	**1.00**	**174**	*e*P	Pn	03 02 55.0	-0.6
PEL	**Peldehue**	**1.08**	**129**	⇑*i*P	Pn	03 02 56.9	+0.2
PEL				*i* S	Sn	03 03 11.6	+0.9
PEL				AML	AML	03 03 12.8	
	comp=E,390nm,0.3s						
RCDM	**Rinconada Maip**	**1.25**	**144**	⇓*i*P	Pn	03 02 59.2	+0.1
RCDM				*i* S	Sn	03 03 16.0	+1.0
RCDM				AML	AML	03 03 17.4	
	comp=E,199nm,0.2s						
RCDM	**Rinconada Maip**	**1.25**	**144**	⇓*i*P	Pn	03 02 59.2	+0.1
RCDM				*i* S	Sn	03 03 16.0	+1.0
TACH	**Talagante**	**1.33**	**152**	*e*P	Pn	03 03 00.5	+0.3
CLCH	**Cerro Calan**	**1.34**	**134**	⇑*i*P	Pn	03 03 01.0	+0.8
CLCH				*i* S	Sn	03 03 18.8	+1.8
CLCH				AML	AML	03 03 21.7	
	comp=E,83nm,0.5s						
CMCH	**Combarbala**	**1.42**	**24**	⇓*i*P	Pn	03 03 01.6	+0.2
CMCH				*i* S	Sn	03 03 20.6	+1.4
CMCH				AML	AML	03 03 24.2	
	comp=E,287nm,0.6s						
CMCH	**Combarbala**	**1.42**	**24**	⇓*i*P	Pn	03 03 01.6	+0.2
CMCH				*i* S	Sn	03 03 20.6	+1.4
PCH	**Pirque**	**1.51**	**139**	*e*P	Pn	03 03 03.4	+0.8
PCH				*i* S	Sn	03 03 23.4	+2.1
CHCH	**Chadas Angostu**	**1.69**	**149**	*i* S	Sn	03 03 27.6	+1.8
LMEL	**Las Melosas**	**1.85**	**138**	⇓*i*P	Pn	03 03 08.8	+1.5
LMEL				*i* S	Sn	03 03 33.4	+3.6
LMEL				AML	AML	03 03 37.8	
	comp=N,109nm,0.1s						
LMEL	**Las Melosas**	**1.85**	**138**	⇓*i*P	Pn	03 03 08.8	+1.5
LMEL				*i* S	Sn	03 03 33.4	+3.6
CICH	**Cipreses**	**2.12**	**150**	*e*P	Pn	03 03 12.6	+1.6

*ISCJB **09** 03:26:08.6±0.6, 29N±0.1×664E±0.1, h10km, mb4.2/13, MS3.7/3, Error ellipse: s-maj=18.9km s-min=15.2km az=177.9*
*IDC **09** 03:26:08.9±0.8, 293N×6641E, h0km, mb4.1/9, mb1 4.3/9, mb1mx3.9/24, mbtmp4.1/9, MS3.7/3, Ms1 3.7/3, ms1mx3.2/26, Error ellipse: s-maj=23.5km s-min=21.6km az=79.0*
*NEIC **09** 03:26:10.5±0.5, 289N×6639E, h10km, mb4.5/5, Error ellipse: s-maj=16.4km s-min=13.3km az=92.0*

ISC 09 03:26:10.7±0.6, 29N±01×664E±01, h10km, n18, σ1§82/15, mb4.2/13, MS3.7/3, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.42**	**62**	LR	LR	03 47 00.7	
	comp=Z,68nm,18.9s,MS3.4,baz=306,slow=35						
EKS2	**Erkin-Say**	**40.14**	**8**	*e*P	**P**	**03 33 49.1**	**+2.4**
	3.4nm,0.9s,mb4.1						
GNI	**Garni**	**41.96**	**335**	*e*P	**P**	**03 34 01.4**	**-0.4**
	3.6nm,0.4s,mb4.3						
AKTK	**Aktyubinsk**	**47.90**	**353**	P	**P**	**03 34 49.9**	**+0.9**
AKTO	**Aktyubinsk**	**47.90**	**353**	P	**P**	**03 34 49.9**	**+0.9**
	3.9nm,0.7s,mb4.5,baz=164,slow=8.6,SNR=20						
LBTB	**Lobatse**	**48.33**	**233**	P	**P**	**03 34 53.2**	**+0.5**
	3.0nm,0.8s,mb4.4,baz=69,slow=10.0,SNR=4.6						
LBTB	**Lobatse**	**48.33**	**233**	*e*P	**P**	**03 34 53.1**	**+0.3**
	9.1nm,1.2s,mb4.7						
KURK	**Kurchatov**	**48.76**	**10**	*e*P	**P**	**03 34 54.8**	**-0.8**
	4.2nm,1.2s,mb4.3						
BOSA	**Boshof**	**50.41**	**229**	P	**P**	**03 35 08.7**	**+0.2**
	5.1nm,0.9s,mb4.5,baz=68,slow=7.7,SNR=5.3						
BOSA				LR	LR	03 54 39.9	
	comp=Z,179nm,21.5s,MS4.0,baz=95,slow=34						
ZALV	**Zalesovo Beam**	**53.09**	**14**	P	**P**	**03 35 27.1**	**-1.1**
	0.8nm,0.3s,mb4.2,baz=207,slow=6.2,SNR=5.3						
SONM	**Songino Array**	**56.45**	**31**	P	**P**	**03 35 52.4**	**-0.2**
	0.5nm,0.4s,mb3.9,baz=222,slow=6.7,SNR=8.5						
KSRS	**Korea Array**	**65.83**	**50**	LR	LR	04 06 30.7	
	comp=Z,38nm,19.1s,MS3.6,baz=336,slow=37						
WRA	**Warramunga Arr**	**70.37**	**112**	P	**P**	**03 37 25.2**	**-0.1**
	4.0nm,0.8s,mb4.4,baz=288,slow=5.9,SNR=15						
WRAB	**Tennant Creek**	**70.38**	**112**	*e*P	**P**	**03 37 25.3**	**-0.1**
	4.3nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**70.70**	**116**	P	**P**	**03 37 27.5**	**+0.2**
	1.3nm,0.7s,mb4.0,baz=291,slow=5.2,SNR=13						
NOA	**NORSAR Array B**	**71.26**	**335**	P	**P**	**03 37 29.1**	**-0.9**
	0.9nm,0.8s,mb3.8,baz=114,slow=6.6,SNR=4.2						
ESDC	**Sonseca Array**	**73.09**	**311**	P	**P**	**03 37 40.6**	**-0.8**
	0.6nm,0.6s,mb3.7,baz=85,slow=4.5,SNR=6.6						
PDAR	**Pinedale Array**	**134.41**	**356**	PKP	PKPdf	03 45 29.1	-0.3
	0.7nm,0.8s,baz=29,slow=3.4,SNR=5.6						

*NIED **09** 03:34:00, 4700N×14170E, h5km, Mw4.5 Best double couple: M0 7.14000×10^15 NP1:φs 197.00000°, δ56.00000°, λ91.00000°. NP2:φs 16.00000°, δ34.00000°, λ89.00000°.*
*SZGRF **09** 03:34:42.4, 4498N×14357E, h33km, mb4.6, Hokkaido, Japan, region*
*JMA **09** 03:34:47.3±0.4, 4700N×14169E, h11km, M4.9*
*IDC **09** 03:34:48.8±0.4, 4690N×14176E, h0km, mb4.3/20, mb1 4.5/23, mb1mx4.5/26, mbtmp4.3/23, ML3.9/2, MS3.8/8, Ms1 3.9/8, ms1mx3.4/39, Error ellipse: s-maj=14.0km s-min=10.3km az=80.0*
*MOS **09** 03:34:48.8±0.8, 4684N×14178E, h11km, mb4.9/55, MS3.9/14, Error ellipse: s-maj=8.5km s-min=4.5km az=104.7*
MOS Felt (III-IV) at Nevel'sk; (III) at Kholmsk.
*SKHL **09** 03:34:48.1±0.1, 4680N×14160E, h10km, mb4.5/9, mbh5.9/1, mbv6.1/1, ms4.6/3, msh5.4/3*
*ISCJB **09** 03:34:48.4±0.6, 4687N±002×14177E±003, h7km±3km, mb4.5/111, MS4.1/17, Error ellipse: s-maj=3.1km s-min=2.9km az=4.2*
*NEIC **09** 03:34:50.6±0.1, 4691N×14174E, h10km, mb4.7/70, Error ellipse: s-maj=3.7km s-min=2.9km az=181.0*
*BJI **09** 03:34:50.9, 4708N×14145E, h15km, mB4.9, mb4.7, ML4.7, Ms4.5, Msz4.2*

ISC 09 03:34:50.7±0.6, 4684N±002×14176E±003, h11km±3km, h16km±3km; pP-P, n467, σ0§66/483, mb4.5/111, MS4.1/17, 132C-91D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.69**	**80**	⇓*i*Pg	**Pg**	**03 35 03.5**	**-0.6**
YSS				⇓*i*Pg	**Pg**	**03 35 03.5**	**-0.6**
YSS				*i* Sg	**Sg**	**03 35 14.3**	**+1.1**
YSS				A		03 35 16.4	
	22μm,0.5s						
YSS				AMS	AMS	03 35 38.0	
	47μm,6.0s						
YSS				AMS	AMS	03 35 38.0	
	41μm,6.0s						
YSS				AMS	AMS	03 35 38.0	
	39μm,6.0s						
YSS	**Yuzh-Sakhalins**	**0.69**	**80**	*e*Pg	**Pg**	**03 35 03.7**	**-0.4**
YSS				*e*Sg	**Sg**	**03 35 12.5**	**-0.7**
JWK2	**Keihoku**	**1.52**	**176**	P	**Pn**	**03 35 17.3**	**-0.5**
JWK2				*e*S	**Sn**	**03 35 38.1**	**+0.6**
JRR	**Rishiri**	**1.73**	**191**	P	**Pn**	**03 35 20.1**	**-0.5**
JRR				*e*S	**Sn**	**03 35 44.1**	**+1.5**
JSE	**Soyaes**	**1.96**	**163**	P	**Pn**	**03 35 22.8**	**-1.0**
JSE				*e*S	**Sn**	**03 35 50.1**	**+1.7**
UGL	**Uglegorsk**	**2.25**	**5**	*e*PN	**Pn**	**03 35 26.6**	**-1.2**
UGL				*i* S	**Sn**	**03 35 55.5**	**-0.1**
UGL				pmax	pmax		
	comp=Z,180nm,0.8s						
UGL				smax			
	comp=N,790nm,0.6s						
UGL				smax			
	comp=E,2μm,0.6s						
UGL				smax			
	comp=Z,1μm,0.8s						
UGL				smax			
	comp=N,6μm,3.0s						
UGL				smax			
	comp=E,10μm,3.0s						
UGL	**Uglegorsk**	**2.25**	**5**	*e*P	**Pn**	**03 35 26.6**	**-1.2**
UGL				AMB	AMB	03 35 30.0	
	comp=E,180nm,0.8s						
UGL				*e*Pg	**Pg**	**03 35 34.5**	**+0.6**
UGL				*e*S	**Sn**	**03 35 55.5**	**-0.1**
UGL				A		03 36 02.5	
	comp=E,790nm,0.7s						
UGL				A		03 36 02.5	
	comp=E,2μm,0.7s						
UGL				A		03 36 02.5	
	comp=E,1μm,0.7s						
UGL				*e*Sg	**Sg**	**03 36 07.0**	**+3.9**
UGL				A		03 36 08.0	
	comp=E,6μm,3.0s						
UGL				A		03 36 08.0	
	comp=E,10μm,3.0s						
UGL				A		03 36 12.0	
	comp=E,3μm,0.3s						
JYG	**Yagishiri**	**2.42**	**186**	P	**Pn**	**03 35 30.2**	**+0.1**
JSS	**Shosan**	**2.44**	**178**	P	**Pn**	**03 35 30.1**	**-0.3**
ASAJ	**Asahikawa**	**2.78**	**167**	P	**Pn**	**03 35 34.9**	**-0.2**
ASAJ	**Asahikawa**	**2.78**	**167**	Pn	**Pn**	**03 35 34.7**	**-0.4**
	comp=E,16nm,0.3s,baz=358,slow=11,SNR=65						
ASAJ				Pg	**Pg**	**03 35 42.2**	**-1.8**
	comp=E,70nm,0.3s,baz=338,slow=12,SNR=37						
ASAJ				Sn	**Sn**	**03 36 11.4**	**+2.8**
	comp=E,41nm,0.3s,baz=92,slow=30,SNR=6.9						
ASAJ				Lg		03 36 19.0	
	comp=E,52nm,0.3s,baz=134,slow=33,SNR=9.3						
ASAJ	**Asahikawa**	**2.78**	**167**	PN	**Pn**	**03 35 34.7**	**-0.4**
ASAJ						03 36 11.5	
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
ASAJ				pmax	pmax		
	comp=Z,70nm,0.3s						
ASAJ				smax			
	comp=N,41nm,0.3s						
JKK2	**Kamakawa 2**	**3.04**	**166**	P	**Pn**	**03 35 38.4**	**-0.3**
JMP	**Maruseppu**	**3.05**	**158**	P	**Pn**	**03 35 37.3**	**-1.4**
JHR	**Hokuryu**	**3.09**	**180**	P	**Pn**	**03 35 39.6**	**+0.2**
JTKR	**Abashiri--Toko**	**3.24**	**151**	P	**Pn**	**03 35 39.8**	**-1.6**
TEY	**Ternei**	**4.02**	**245**	*

TYV AMB AMB 03 36 32.0
comp=E,92nm,0.9s
TYV AMB AMB 03 36 32.0
comp=E,24nm,0.9s
TYV AMB AMB 03 36 32.0
comp=E,132nm,0.9s
TYV eSg **Sg** **03 37 08.2 +6.8**
TYV A 03 37 35.2
comp=E,200nm,1.0s
TYV A 03 37 35.2
comp=E,290nm,1.0s
TYV A 03 37 54.0
comp=E,2μm,7.0s
TYV A 03 37 54.0
comp=E,4μm,7.0s
KUR Kuril'sk 4.55 108 ePN **Pn** **03 35 58.5 -0.8**
KUR pmax pmax
comp=N,140nm,0.9s
KUR pmax pmax
comp=E,140nm,0.9s
KUR pmax pmax
comp=Z,210nm,0.9s
KUR MLR MLR
comp=N,3μm,8.0s
KUR MLR MLR
comp=E,3μm,8.0s
KUR MLR MLR
comp=Z,3μm,8.0s
KUR Kuril'sk 4.55 108 eP **Pn** **03 35 57.7 -1.6**
KUR AMB AMB 03 36 13.8
comp=Z,142nm,0.9s
KUR AMB AMB 03 36 13.8
comp=Z,213nm,0.9s
KUR eS **Sn** **03 36 50.0 -2.1**
KUR A 03 37 04.0
comp=Z,3μm,1.6s
KUR A 03 37 04.0
comp=Z,2μm,1.6s
KUR A 03 37 04.0
comp=Z,754nm,1.0s
KUR A 03 37 04.0
comp=Z,377nm,1.0s
ERM Erimo 4.92 168 ePN **Pn** **03 36 04.0 -0.5**
ERM Erimo 4.92 168 ePn **Pn** **03 36 07.9 +3.4**
comp=Z,79nm,0.6s
GRNR Gornyy 5.28 320 eP **Pn** **03 36 04.0 -5.4**
GRNR AMB AMB 03 36 05.8
comp=Z,38nm,0.6s
GRNR AMB AMB 03 36 05.8
comp=Z,39nm,0.6s
GRNR AMB AMB 03 36 05.8
comp=Z,25nm,0.6s
GRNR eSg **Sg** **03 37 40.0 -0.2**
GRNR A 03 37 52.0
comp=Z,21nm,0.6s
NKL Nikolayevsk 6.36 354⇓ iP **Pn** **03 36 19.6 -4.6**
NKL AMB AMB 03 36 20.4
comp=Z,40nm,0.8s
NKL ePg **Pg** **03 36 53.5 +1.1**
NKL eS **Sn** **03 37 31.8 -4.9**
NKL eSg **Sg** **03 38 18.0 +3.3**
NKL AMS AMS 03 39 32.0
comp=Z,1μm,12.0s
NKL AMS AMS 03 39 32.0
comp=Z,1μm,12.0s
KLR Kul'dur 7.12 293 eP **Pn** **03 36 32.0 -2.7**
VLA Vladivostok 7.92 246 PN **Pn** **03 36 41.0 -4.6**
VLA MLR MLR
comp=Z,1μm,12.3s
EKMR Ekimchan 8.43 321 eP **Pn** **03 36 50.2 -2.4**
EKMR ePg Pn 03 37 14.5 +22
EKMR AMB AMB 03 37 16.9
comp=Z,4.0nm,0.6s
EKMR AMB AMB 03 37 16.9
comp=Z,3.0nm,0.6s
EKMR AMB AMB 03 37 16.9
comp=Z,5.0nm,0.6s
EKMR eSg Sn 03 39 18.5 +51
EKMR A 03 39 34.5
comp=Z,760nm,1.4s
EKMR A 03 39 34.5
comp=Z,480nm,1.4s
EKMR A 03 39 34.5
comp=Z,360nm,1.4s
MDJ Mudanjiang 8.80 260 P **Pn** **03 36 57.0 -0.7**
MDJ S **Sn** **03 38 39.6 +2.9**
MDJ PCP PcP 03 43 28.1 +4.4
MDJ SCP ScP 03 47 00.0 +4.6
MDJ AMB AMB
comp=Z,10.0nm,1.7s
MDJ AMB AMB
comp=Z,166nm,4.0s
MDJ LR LR
comp=N,1μm,10.2s
MDJ LR LR
comp=E,429nm,6.7s
MDJ LR LR
comp=Z,1μm,12.7s
MAJO Matsushiro 10.62 196 ePN **Pn** **03 37 24.3 +1.6**
MAT Matsushiro 10.62 196 P **Pn** **03 37 24.7 +2.0**
MJAR Matsushiro Arr 10.62 196 Pn **Pn** **03 37 23.9 +1.2**
comp=Z,0.5nm,0.3s,baz=15,slow=13,SNR=7.6
BMKR Bomnak 11.34 319 eP **Pn** **03 37 28.5 -4.0**
BMKR eSg 03 40 57.5
BMKR A 03 41 02.6
comp=Z,366nm,1.5s
ZEA Zeya 11.56 312 erx rx 03 40 18.0
ZEA AMS AMS 03 42 33.0
comp=Z,1μm,8.0s
ZEA AMS AMS 03 42 33.0
comp=Z,600nm,8.0s
CN2 Changchun 11.88 261 eP **Pn** **03 37 40.0 +0.2**
CN2 eS **Sn** **03 39 51.5 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,15.0s
CN2 LR LR
comp=E,1μm,15.0s
CN2 LR LR
comp=Z,2μm,16.0s
PETK Petropavlovsk- 12.02 53 Pn **Pn** **03 37 39.7 -2.0**
baz=253,slow=29,SNR=2.2
PETK LR LR 03 42 42.9
comp=Z,119nm,18.7s,baz=77,slow=40
KROS Kirovskiy 12.06 314 eP **Pn** **03 37 34.8 -7.5**
KROS AMB AMB 03 37 39.6
comp=Z,3.0nm,0.5s
KROS eSg Sn 03 41 05.2 +69
KROS A 03 41 27.0
comp=Z,660nm,2.0s
JHJ Hachijo jima 2 13.78 187 LR LR 03 44 22.7
comp=Z,184nm,18.0s,baz=310,slow=42
KSRS Korea Array 13.88 232 Pn **Pn** **03 38 10.7 +3.5**
comp=Z,0.3nm,0.3s,baz=43,slow=13,SNR=3.8
HIA Hailar 14.92 287 eP **Pn** **03 38 22.2 +0.9**
YAK Yakutsk 16.72 340 eP **Pn** **03 38 46.4 +1.8**
YAK eS **Sn** **03 41 58.8 +8.8**
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,20nm,1.2s
YAK pmax pmax
comp=N,17nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.6s
YAK smax
comp=N,15nm,1.8s
YAK smax
comp=E,29nm,2.3s
YAK MLR MLR
comp=Z,180nm,10.0s
YAK MLR MLR
comp=N,163nm,10.0s
YAK MLR MLR
comp=E,184nm,11.0s
SEY Seymchan 17.21 17 eP **Pn** **03 38 50.3 -0.4**
BJI Beijing 19.73 259 P **Pn** **03 39 19.9 -1.7**
BJI AMB AMB
comp=Z,8.0nm,1.0s
BJI LR LR
comp=N,1μm,12.7s
BJI LR LR
comp=E,399nm,13.7s
BJI LR LR
comp=Z,382nm,17.2s
BOD Bodaibo 20.06 313 eP **P** **03 39 24.4 +0.9**
BOD pmax pmax
comp=Z,7.0nm,1.0s
HHC Hu-ho-hao-te 22.50 266 eP **P** **03 39 50.1 +0.1**
HHC PP 03 40 18.2
HHC PCP PcP 03 43 44.6 +0.9
HHC S **S** **03 43 54.7 -2.1**
HHC SS 03 44 34.5
HHC PCS PcS 03 47 22.2 -0.2
HHC AMB AMB
comp=Z,11nm,0.5s,mb4.5
HHC AMB AMB
comp=Z,162nm,6.3s
HHC LR LR
comp=N,668nm,13.7s,MS4.3
HHC LR LR
comp=E,505nm,14.9s,MS4.3
HHC LR LR
comp=Z,548nm,15.5s,MS4.1
SONM Songino Array 23.86 285 P **P** **03 40 03.8 0.0**
comp=Z,1.9nm,0.7s,mb3.7,baz=78,slow=10,SNR=15
SONM PcP PcP 03 43 48.3 +1.9
comp=Z,1.3nm,0.9s,baz=127,slow=0.7,SNR=4.5
SONM LR LR 03 50 19.1
comp=Z,315nm,19.6s,MS3.8,baz=173,slow=39
SONM Songino Array 23.86 285 P **P** **03 40 03.8 -0.1**
SONM 03 43 48.3
BILL Bilibino 24.68 22 eP **P** **03 40 12.1 +1.0**
BILL pmax pmax
comp=Z,45nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,200nm,18.0s,MS3.7
BILL Bilibino 24.68 22 eP **P** **03 40 12.0 +0.9**
comp=Z,25nm,0.4s,mb5.1
IRK Irkutsk 24.72 297 eP **P** **03 40 11.4 -0.2**
IRK pmax pmax
comp=Z,57nm,2.5s,mb4.7
TLY Talaya 25.14 295 eP **P** **03 40 16.8 +1.4**
TLY e 03 40 58.6
TLY ePPP 03 41 06.6
TLY pmax pmax
comp=Z,11nm,1.4s,mb4.2
TLY MLR MLR
comp=Z,402nm,18.0s,MS4.0
ZAK Zakamensk 25.49 292 eP **P** **03 40 18.6 -0.1**
ZAK pmax pmax
comp=Z,11nm,1.2s,mb4.3
TIXI Tiksi 25.63 351 eP **P** **03 40 20.8 +1.1**
TIXI pmax pmax
comp=Z,18nm,1.6s,mb4.3
TIXI MLR MLR
comp=Z,220nm,13.0s,MS3.9
MOY Mondy 26.79 296 eP **P** **03 40 31.2 +0.9**
MOY pmax pmax
comp=Z,30nm,3.4s
LZH Lanzhou 30.11 263 eP **P** **03 41 04.8 +4.7**
LZH AP pP 03 41 09.5 +5.9
LZH XP sP 03 41 12.0 +7.0
LZH PP PP 03 42 02.6 -5.3
LZH eS **S** **03 46 01.5 +3.1**
LZH XS sS 03 46 08.4 +4.2
LZH AMB AMB
comp=Z,26nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,105nm,4.7s
LZH LR LR
comp=N,672nm,13.4s
LZH LR LR
comp=Z,973nm,17.2s,MS4.5
HVS Khovu-Aksy 31.38 296 eP **P** **03 41 10.7 -0.4**
HVS pmax pmax
comp=Z,33nm,1.3s,mb5.0
HVS MLR MLR
comp=Z,2μm,17.0s,MS4.8
CD2 Chengdu 33.21 255 eP **P** **03 41 27.5 0.0**
CD2 AP pP 03 41 31.9 +0.9
CD2 XP sP 03 41 34.8 +2.4
CD2 PP PP 03 42 38.7 -3.8
CD2 S **S** **03 46 45.8 -1.3**
CD2 XS sS 03 46 53.1 +0.3
CD2 SS SS 03 48 47.0 -23
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,6.2s
CD2 LR LR
comp=N,210nm,12.8s,MS4.1
CD2 LR LR
comp=E,160nm,14.5s,MS4.1
CD2 LR LR
comp=Z,250nm,16.4s,MS4.0
GYA Guiyang 34.33 246⇑ iP **P** **03 41 39.2 +2.0**
GYA PP PP 03 42 54.7 -0.2
GYA PCP PcP 03 44 15.6 +2.5
GYA S **S** **03 47 05.3 +0.8**
GYA SCP ScP 03 48 01.2 +3.3
GYA SCS ScS 03 52 01.4 +0.9
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,90nm,4.8s
GYA LR LR
comp=N,480nm,17.4s,MS4.4
GYA LR LR
comp=E,470nm,18.8s,MS4.4
GYA LR LR
comp=Z,440nm,17.4s,MS4.2
ZALV Zalesovo Beam 36.11 303 P **P** **03 41 51.5 -0.8**
comp=Z,2.3nm,0.5s,mb4.3,baz=81,slow=9.2,SNR=9.2
ZALV PcP PcP 03 44 17.5 -0.4
comp=Z,1.4nm,0.6s,baz=113,slow=3.4,SNR=5.0
ZALV Zalesovo Beam 36.11 303 P **P** **03 41 51.5 -0.8**
ZALV PcP PcP 03 44 17.5 -0.4
ZAL Zalesovo 36.13 303 P **P** **03 41 51.5 -0.9**
ZAL 03 44 17.5
WMQ Urumqi 37.50 286 P **P** **03 42 04.2 0.0**
WMQ AP pP 03 42 08.7 +1.0
WMQ XP sP 03 42 11.2 +2.0
WMQ PP PP 03 43 32.0 +2.4
WMQ PCP PcP 03 44 23.4 +1.2
WMQ AMB AMB
comp=Z,8.0nm,0.6s,mb4.6
WMQ LR LR
comp=N,208nm,18.2s,MS4.1
WMQ LR LR
comp=E,138nm,17.4s,MS4.1
WMQ LR LR
comp=Z,253nm,16.6s,MS4.1
KMI Kunming 37.77 249 P **P** **03 42 07.8 +1.2**
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.6
IMA2 Indian Mountai 38.36 36 eP **P** **03 42 11.1 0.0**
MK31 Makanchi Array 39.83 292 eP **P** **03 42 23.4 -0.3**
MKAR Makanchi Array 39.83 292 P **P** **03 42 23.3 -0.4**
comp=Z,5.0nm,0.7s,mb4.4,baz=78,slow=8.8,SNR=54
MKAR LR LR 03 59 56.9
comp=Z,350nm,19.3s,MS4.2,baz=36,slow=38
MKAR Makanchi Array 39.83 292 P **P** **03 42 23.3 -0.4**
MKAR LR LR 03 59 56.9
KDAK Kodiak Island 40.04 49 P **P** **03 42 24.8 -0.6**
comp=Z,8.0nm,0.6s,mb4.6,baz=316,slow=10,SNR=12
KDAK Kodiak Island 40.04 49 eP **P** **03 42 24.7 -0.6**
comp=Z,28nm,1.4s,mb4.8
KURK Kurchatov 40.67 300 eP **P** **03 42 30.3 -0.3**
KURK pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
KURK Kurchatov 40.67 300 eP **P** **03 42 30.2 -0.4**
comp=Z,6.9nm,0.6s,mb4.5
COLA College 40.90 38 eP **P** **03 42 32.1 -0.2**
COLA pmax pmax
comp=Z,34nm,1.1s,mb4.9
COLA College 40.90 38 eP **P** **03 42 32.1 -0.2**
comp=Z,34nm,1.1s,mb4.9
PMR Palmer 40.92 43 eP **P** **03 42 32.4 -0.1**
PMR pmax pmax
comp=Z,8.0nm,0.4s,mb4.7
PMR Palmer 40.92 43 eP **P** **03 42 32.4 -0.1**
comp=Z,8.3nm,0.4s,mb4.7
BVAR Borovoye Array 44.61 305 P **P** **03 43 02.4 -0.1**
comp=Z,1.7nm,0.5s,mb4.1,baz=88,slow=9.2,SNR=10
BVAR PcP PcP 03 44 44.7 -0.5
comp=Z,2.5nm,0.6s,baz=115,slow=2.1,SNR=7.5
DAWY Dawson 44.65 38 eP **P** **03 43 02.6 -0.1**
BRVK Borovoye 44.65 305 eP **P** **03 42 59.7 -3.2**
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
BRVK Borovoye 44.65 305 eP **P** **03 42 59.7 -3.2**
comp=Z,6.2nm,1.0s,mb4.4
CMAR Chiang Mai Arr 45.02 246 LR LR 04 02 38.1
comp=Z,78nm,19.6s,MS3.6,baz=165,slow=37
INK Inuvik 45.70 31 P **P** **03 43 10.9 -0.1**
comp=Z,7.3nm,0.8s,mb4.7,baz=280,slow=6.4,SNR=11
TKM2 Tokmak 2 45.80 290 eP **P** **03 43 12.1 -0.1**
TKM2 pmax pmax
comp=Z,15nm,1.3s,mb4.8
TKM2 Tokmak 2 45.80 290 eP **P** **03 43 12.1 0.0**
comp=Z,15nm,1.3s,mb4.8
HYT Haines Junctio 46.53 42 eP **P** **03 43 18.8 +1.1**
EKS2 Erkin-Say 47.09 291 eP **P** **03 43 22.0 -0.3**
comp=Z,1.9nm,0.6s,mb4.2
ARU Arti 49.48 313 c iP **P** **03 43 40.0 -0.5**
ARU e 03 45 29.4
ARU eS **S** **03 50 47.0 -0.4**
ARU SS SS 03 54 16.0 -2.7
ARU pmax pmax
comp=Z,23nm,1.7s,mb4.9
ARU Arti 49.48 313 eP **P** **03 43 40.2 -0.3**
comp=Z,18nm,1.2s,mb5.0
AKTK Aktyubinsk 52.64 307 P **P** **03 44 04.0 -0.4**
AKTK LR LR 04 08 22.9
AKTO Aktyubinsk 52.64 307 P **P** **03 44 04.0 -0.4**
comp=Z,3.8nm,0.9s,mb4.3,baz=50,slow=6.0,SNR=12
AKTO LR LR 04 08 22.9
comp=Z,159nm,19.8s,MS4.1,baz=40,slow=38
KEV Kevo 54.44 337 ep **P** **03 44 17.3 0.0**
comp=Z,3.0nm,0.6s,mb4.4
KEV Kevo 54.44 337 eP **P** **03 44 17.3 0.0**
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ARCES ARCESS Array B 54.98 337 P **P** **03 44 21.1 -0.1**
comp=Z,1.0nm,0.6s,mb4.1,baz=52,slow=6.3,SNR=10
YKA Yellowknife Ar 55.33 33 P **P** **03 44 23.4 -0.4**
comp=Z,6.1nm,0.9s,mb4.6,baz=306,slow=6.5,SNR=5.9
YKA Yellowknife Ar 55.33 33 P **P** **03 44 23.4 -0.4**
JOF Joensuu 57.54 329 ep **P** **03 44 38.8 -0.8**
comp=Z,4.9nm,0.6s,mb4.7
JOF Joensuu 57.54 329 eP **P** **03 44 38.8 -0.8**
JOF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KAF Kangasniemi 59.80 331 ep **P** **03 44 54.6 -0.7**
comp=Z,2.5nm,0.5s,mb4.5
KAF Kangasniemi 59.80 331 eP **P** **03 44 54.6 -0.7**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
OBN Obninsk 60.54 320 eP **P** **03 44 59.7 -0.8**
OBN e 03 45 43.8
OBN eS **S** **03 53 16.7 +0.9**
OBN eSS SS 03 57 13.3 +0.2
OBN pmax pmax
comp=Z,21nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.0
EDM Edmonton 61.65 41 eP **P** **03 45 08.0 0.0**
A09A Danville 61.90 47⇓P **P** **03 45 09.9 +0.1**
baz=62
C07A Waterville 61.96 49⇓P **P** **03 45 10.0 -0.3**
baz=62
B09A Rice 62.47 48⇑P **P** **03 45 13.9 +0.2**
baz=62
I03A Eugene 62.60 54⇑P **P** **03 45 14.8 +0.2**
baz=62
HOOD Mount Hood Mea 62.63 52 eP **P** **03 45 15.7 +0.9**
comp=Z,18nm,0.8s,mb5.3
H04A Detroit Lake 62.75 53⇓P **P** **03 45 15.8 +0.2**
baz=62
A11A Hall Mountain, 63.02 46⇓P **P** **03 45 17.6 +0.3**
baz=63
NEW Newport 63.10 47 eP **P** **03 45 17.3 -0.5**
NEW pmax pmax
comp=Z,5.0nm,1.2s
NEW Newport 63.10 47 eP **P** **03 45 17.3 -0.5**
comp=Z,5.5nm,1.2s,mb4.6
I04A Tendick Farm, 63.20 54⇓P **P** **03 45 18.3 -0.2**
baz=63
B11A Sandpoint 63.36 47⇓P **P** **03 45 19.6 +0.1**
baz=63
E09A Wood Farm, Sta 63.72 49⇑P **P** **03 45 22.1 +0.1**
baz=63
G07A Ruggs Ranch, H 63.73 51⇓P **P** **03 45 22.5 +0.4**
baz=64
A13A Flathead Natio 64.00 45⇑P **P** **03 45 23.8 0.0**
baz=64
G08A Pilot Rock 64.10 51⇑P **P** **03 45 24.9 +0.4**
baz=64
J05A Fort Rock 64.18 54⇑P **P** **03 45 25.9 +0.8**
baz=64
D11A Klaveano Farm, 64.30 48⇓P **P** **03 45 25.6 -0.2**
baz=64
B13A Whitefish 64.35 46⇓P **P** **03 45 25.9 -0.2**
baz=64
YBH Yreka Blue Hor 64.36 56 eP **P** **03 45 26.8 +0.5**
YBH pmax pmax
comp=Z,14nm,1.4s
YBH Yreka Blue Hor 64.36 56⇓P **P** **03 45 25.9 -0.3**
baz=64
YBH Yreka Blue Hor 64.36 56 eP **P** **03 45 26.8 +0.5**
comp=Z,14nm,1.4s,mb4.8
M02C Callahan 64.50 56⇑P **P** **03 45 26.5 -0.7**
baz=64
F10A Beach Ranch, E 64.56 49⇑P **P** **03 45 27.5 0.0**
baz=64
I07A Izee 64.60 52⇓P **P** **03 45 27.6 -0.2**
baz=64
K05A Summer Lake 64.73 54⇑P **P** **03 45 28.8 +0.1**
baz=64
H08A Prairie City 64.76 51⇑P **P** **03 45 29.1 +0.3**
baz=64
C13A Hot Springs 64.77 47⇓P **P** **03 45 28.4 -0.4**
baz=64
J06A Christmas Vall 64.80 53⇑P **P** **03 45 29.5 +0.5**
baz=64
E11A Bogner Ranch, 64.83 48⇓P **P** **03 45 28.3 -0.9**
baz=64
KIV Kislovodsk 64.87 308 eP **P** **03 45 30.4 +0.9**
KIV pmax pmax
comp=Z,31nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,97nm,19.0s,MS4.0
M03C McCloud 65.00 56⇑P **P** **03 45 31.0 +0.5**
baz=65
K06A Valley Falls 65.04 54⇑P **P** **03 45 30.9 +0.2**
baz=65
G10A Bishop Farm, J 65.07 50⇑P **P** **03 45 31.1 +0.3**
baz=65
C14A Swan Lake 65.11 46⇓P **P** **03 45 30.6 -0.4**
baz=65
L05A Lakeview 65.22 54⇓P **P** **03 45 32.2 +0.4**
baz=65
WDC Whiskeytown Da 65.22 57 eP **P** **03 45 31.4 -0.4**
WDC pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
WDC Whiskeytown Da 65.22 57⇓P **P** **03 45 32.1 +0.3**
baz=65
WDC Whiskeytown Da 65.22 57 eP **P** **03 45 31.4 -0.5**
comp=Z,7.9nm,1.2s,mb4.6
D13A Huson 65.22 47⇑P **P** **03 45 30.8 -0.9**
baz=65
I08A Drewsey 65.22 52⇓P **P** **03 45 32.3 +0.4**
baz=65
BMO Blue Mountains 65.27 50 eP **P** **03 45 31.8 -0.3**
comp=Z,7.4nm,1.3s,mb4.6
NB2 NORSAR Subarra 65.29 336 P **P** **03 45 31.2 -0.8**
comp=Z,3.0nm,0.6s,mb4.5,baz=36,slow=6.5
NOA NORSAR Array B 65.29 336 P **P** **03 45 31.5 -0.5**
comp=Z,2.8nm,0.7s,mb4.4,baz=35,slow=6.4,SNR=16
NOA LR LR 04 17 57.8
comp=Z,70nm,20.3s,MS3.9,baz=0.0,slow=40
O02C Red Bluff 65.34 57⇑P **P** **03 45 32.8 +0.2**
baz=65
G11A Walters Elk Ra 65.44 49 P **P** **03 45 33.3 +0.1**
baz=65,SNR=8.5
MOD Modoc 65.61 54⇑P **P** **03 45 34.7 +0.4**
baz=65
MOD Modoc 65.61 54 eP **P** **03 45 34.5 +0.2**
comp=Z,6.6nm,1.1s,mb4.6
J08A Circle Bar Ran 65.64 52⇓P **P** **03 45 34.9 +0.3**

baz=65
MSO Missoula 65.66 47 *e*P **P 03 45 34.9 +0.3**
comp=Z,7.5nm,1.2s,mb4.6
K07A Rock Creek Ran 65.67 53 ⇓P **P 03 45 34.5 -0.2**
baz=65
D14A Greenough 65.70 46 ⇑P **P 03 45 34.7 -0.2**
baz=65
F12A Elk City 65.72 48 P **P 03 45 35.7 +0.7**
baz=65,SNR=12
H10A Noah's Angus R 65.74 50 ⇑P **P 03 45 35.1 -0.1**
baz=66
E13A Victor 65.80 47 ⇓P **P 03 45 35.4 -0.2**
baz=66
J09A Fry Pan Ranch, 66.04 52 ⇓P **P 03 45 37.5 +0.4**
baz=66
H11A Donnelly 66.05 50 ⇑P **P 03 45 37.3 +0.1**
baz=66
K08A Mann Creek Ran 66.06 53 ⇑P **P 03 45 37.0 -0.2**
baz=66,SNR=5.3
L07A Adell 66.06 54 ⇓P **P 03 45 37.2 -0.1**
baz=66,SNR=8.3
WVOR Wild Horse Val 66.17 53 *e*P **P 03 45 38.5 +0.5**
WVOR pmax pmax
comp=Z,12nm,1.3s,mb4.8
WVOR Wild Horse Val 66.17 53 *e*P **P 03 45 38.5 +0.6**
comp=Z,12nm,1.3s,mb4.8
F13A Darby 66.17 48 ⇑P **P 03 45 37.8 -0.1**
baz=66
O04C Chester 66.22 56 ⇑P **P 03 45 38.7 +0.4**
baz=66
D15A Lincoln 66.22 46 ⇑P **P 03 45 37.8 -0.4**
baz=66
GNI Garni 66.25 304 *e*P **P 03 45 39.3 +0.7**
GNI pmax pmax
comp=Z,12nm,1.5s
GNI MLR MLR
comp=Z,100nm,20.0s
K09A Rome 66.49 52 ⇑P **P 03 45 40.5 +0.5**
baz=66
ORV Oroville 66.49 57 ⇑P **P 03 45 39.3 -0.8**
baz=66
L08A Fields 66.50 53 ⇓P **P 03 45 40.7 +0.6**
baz=66
M07A Soldier Meadow 66.58 54 ⇑P **P 03 45 40.6 0.0**
baz=66
E15A Deer Lodge 66.59 47 ⇓P **P 03 45 39.9 -0.7**
baz=66
N06A Buffalo Meadow 66.64 55 ⇓P **P 03 45 41.3 +0.3**
baz=66
G13A Cobalt 66.70 48 ⇓P **P 03 45 41.1 -0.3**
baz=66
H12A Diamond D Ranc 66.75 49 ⇑P **P 03 45 41.7 0.0**
baz=66
WRAB Tennant Creek 66.79 188 *e*P **P 03 45 42.5 +0.5**
WRAB pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
WRAB Tennant Creek 66.79 188 *e*P **P 03 45 42.5 +0.5**
comp=Z,10nm,1.2s,mb4.7
WB2 Warramunga Arr 66.80 188 *e*P **P 03 45 41.5 -0.6**
WRA Warramunga Arr 66.80 188 P **P 03 45 40.8 -1.2**
comp=Z,3.1nm,1.1s,mb4.2,baz=1.7,slow=6.8,SNR=8.6
AKASG Malin Array Be 66.81 320 P **P 03 45 41.0 -0.9**
comp=Z,6.2nm,0.7s,mb4.8,baz=41,slow=6.7,SNR=25
AKBB Malin Array Si 66.81 320 *e*P **P 03 45 41.1 -0.8**
EGMT Eagleton 66.87 44 *e*P **P 03 45 43.7 +1.3**
comp=Z,14nm,1.2s,mb4.9
K10A MacKenzie Ranc 66.90 52 P **P 03 45 43.2 +0.6**
baz=67,SNR=6.9
BEKR Beckwourth 66.94 56 ⇑P **P 03 45 42.8 -0.1**
baz=67
M08A Happy Creek Ra 66.98 54 ⇓P **P 03 45 42.8 -0.4**
baz=67
MFID Camas Ranch 67.02 51 ⇓P **P 03 45 43.6 +0.2**
baz=67
H13A Challis 67.06 49 ⇓P **P 03 45 43.2 -0.4**
baz=67
F15A Butte 67.07 47 ⇓P **P 03 45 43.6 0.0**
baz=67
N07B Gerlach 67.10 54 ⇓P **P 03 45 43.8 -0.1**
baz=67
DLMT Dillon 67.35 47 *e*P **P 03 45 45.7 +0.2**
comp=Z,22nm,1.3s,mb5.0
J12A Stokes Ranch, 67.52 50 ⇑P **P 03 45 47.2 +0.7**
baz=67
G15A Dillon 67.54 47 ⇓P **P 03 45 46.8 +0.1**
baz=67,SNR=14
N08A GE Springer Mi 67.57 54 ⇓P **P 03 45 47.2 +0.3**
baz=67
O07A Toulon 67.58 55 ⇑P **P 03 45 47.1 +0.1**
baz=67
I13A Wildhorse Cree 67.58 49 P **P 03 45 47.6 +0.7**
baz=67,SNR=23
L10A Juniper Basin 67.59 52 ⇓P **P 03 45 47.5 +0.5**
baz=67
MCMT McKenzie Canyo 67.59 48 *e*P **P 03 45 47.0 0.0**
BOZ Bozeman (W) 67.64 47 *e*P **P 03 45 47.6 +0.4**
BOZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
BOZ Bozeman (W) 67.64 47 ⇓P **P 03 45 47.5 +0.2**
baz=67,SNR=7.8
BOZ Bozeman (W) 67.64 47 *e*P **P 03 45 47.5 +0.3**
comp=Z,8.1nm,1.3s,mb4.6
HLID Hailey 67.67 50 ⇓P **P 03 45 47.8 +0.3**
baz=67
HLID Hailey 67.67 50 *e*P **P 03 45 48.1 +0.6**
comp=Z,4.6nm,1.4s,mb4.3
R05C Kirkwood Meado 67.89 57 ⇓P **P 03 45 49.1 +0.2**
baz=68
J13A Cove Ranch, Pi 67.91 50 ⇑P **P 03 45 49.0 0.0**
baz=68
L11A Cat Creek Ranc 67.92 52 ⇓P **P 03 45 49.2 +0.1**
baz=68,SNR=11
M10A I.L. Ranch, Tu 67.94 53 ⇓P **P 03 45 49.8 +0.6**
baz=68
K12A Draper Farm, C 68.05 51 ⇓P **P 03 45 50.2 +0.3**
baz=68
CMB Columbia Colle 68.16 57 *e*P **P 03 45 50.7 0.0**
CMB pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
CMB Columbia Colle 68.16 57 ⇑P **P 03 45 50.8 +0.1**
baz=68
CMB Columbia Colle 68.16 57 *e*P **P 03 45 50.7 0.0**
comp=Z,10nm,1.2s,mb4.7
L12A House Creek Ra 68.33 51 ⇑P **P 03 45 51.6 -0.1**
baz=68
R06C Coleville 68.37 57 ⇓P **P 03 45 51.9 -0.1**
baz=68
M11A Holland Ranch, 68.41 52 ⇑P **P 03 45 52.5 +0.3**
baz=68
O09A Fish Creek Ran 68.51 54 ⇑P **P 03 45 53.0 +0.1**
baz=68
S06C San Francisco 68.57 57 ⇓P **P 03 45 53.4 +0.1**
baz=68
Q08A Gabbs 69.00 55 ⇓P **P 03 45 55.8 -0.1**
baz=69
K14A Jones Ranch, D 69.03 50 ⇓P **P 03 45 56.2 +0.2**
baz=69
NVAR Mina Array Bea 69.08 56 P **P 03 45 57.0 +0.6**
comp=Z,2.3nm,0.8s,mb4.2,baz=298,slow=5.4,SNR=14
RLMT Red Lodge 69.18 46 *e*P **P 03 45 57.2 +0.3**
comp=Z,13nm,1.4s,mb4.7
N12A Clover Valley, 69.22 52 ⇓P **P 03 45 58.0 +0.7**
baz=69
IMW Indian Meadow 69.22 48 *e*P **P 03 45 57.9 +0.7**
comp=Z,8.7nm,1.2s,mb4.6
K15A Arbon 69.26 49 ⇑P **P 03 45 57.9 +0.4**
baz=69
P10A Eureka 69.29 54 ⇓P **P 03 45 58.0 +0.3**
baz=69
J16A Bone 69.32 48 ⇑P **P 03 45 58.6 +0.8**
baz=69
M13A Montello 69.33 51 ⇓P **P 03 45 58.5 +0.6**
baz=69
L14A Malta 69.35 50 ⇑P **P 03 45 58.2 +0.2**
baz=69
RRI2 Red Ridge 69.42 48 *e*P **P 03 45 58.7 +0.3**
comp=Z,19nm,1.3s,mb4.9
MOOW Moose Ponds 69.43 48 *e*P **P 03 45 58.8 +0.3**
comp=Z,7.4nm,1.2s,mb4.5
PKD Parkfield 69.50 59 ⇓P **P 03 45 59.1 0.0**
baz=69
TPAW Teton Pass 69.51 48 *e*P **P 03 45 60.0 +1.0**
comp=Z,16nm,1.4s,mb4.8
LOHW Long Hollow 69.59 48 *e*P **P 03 46 00.8 +1.3**
comp=Z,11nm,1.3s,mb4.6
REDW Red Top Meadow 69.65 48 *e*P **P 03 46 00.5 +0.7**
comp=Z,15nm,1.4s,mb4.7
M14A Sheep Mountain 69.67 51 ⇑P **P 03 46 00.4 +0.4**
baz=69
O12A Currie 69.79 52 ⇑P **P 03 46 01.1 +0.4**
baz=70
S08C White Mtn Res 69.80 57 ⇑P **P 03 46 01.0 +0.1**
baz=70
L15A Malad City 69.82 50 ⇓P **P 03 46 01.4 +0.4**
baz=70
HELL Mitchell Peak 69.88 58 ⇑P **P 03 46 00.8 -0.6**
baz=70
TPH Tonopah 69.94 56 *e*P **P 03 46 01.6 -0.2**
M15A Larsen Ranch, 70.17 50 ⇓P **P 03 46 03.0 -0.1**
baz=70
S09A Goldfield 70.19 56 ⇓P **P 03 46 03.3 +0.1**
baz=70
N14A Grayback Hills 70.22 51 ⇓P **P 03 46 03.5 +0.1**
baz=70
P12A McGill 70.26 53 ⇓P **P 03 46 03.8 +0.1**
baz=70
Q11A Duckwater 70.28 54 ⇑P **P 03 46 03.9 0.0**
baz=70
KWP Kalwaria 70.39 323 *e*P **P 03 46 04.7 +0.4**
KWP Kalwaria 70.39 323 ⇑*i*P **P 03 46 04.5 +0.2**
KWP Kalwaria 70.39 323 *e*P **P 03 46 04.7 +0.4**
S10A Tonopah Range, 70.40 55 ⇓P **P 03 46 04.4 -0.2**
baz=70
ASAR Alice Springs 70.53 188 P **P 03 46 05.5 +0.2**
comp=Z,3.4nm,0.8s,mb4.3,baz=6.6,slow=5.0,SNR=27
N15A Stansbury Isla 70.54 51 ⇓P **P 03 46 05.6 +0.2**
baz=70
R11A Troy Canyon, C 70.67 54 ⇓P **P 03 46 06.4 +0.2**
baz=70
BW06 Boulder Array 70.73 48 *e*P **P 03 46 05.5 -1.0**
comp=Z,8.1nm,1.2s,mb4.5
PDAR Pinedale Array 70.73 48 P **P 03 46 05.9 -0.6**
comp=Z,2.6nm,0.9s,mb4.2,baz=281,slow=2.4,SNR=12
P13A Bates Ranch, G 70.76 53 ⇓P **P 03 46 06.7 0.0**
baz=70
BURAR Bucovina Array 70.86 320 ⇑*i*P **P 03 46 07.0 -0.2**
BURAR Bucovina Array 70.86 320 ⇑P **P 03 46 07.0 -0.2**
DUG Dugway 70.88 51 *e*P **P 03 46 07.2 -0.3**
DUG pmax pmax
comp=Z,11nm,1.3s,mb4.6
DUG Dugway 70.88 51 ⇑P **P 03 46 07.2 -0.2**
baz=71
DUG Dugway 70.88 51 *e*P **P 03 46 07.2 -0.3**
comp=Z,11nm,1.3s,mb4.6
MALT Malatya 71.07 306 ⇑*i*P **P 03 46 09.5 +0.9**
MALT Malatya 71.07 306 ⇑P **P 03 46 09.5 +0.9**
KOLS Kolonicke sedl 71.11 323 *e*P **P 03 46 08.7 0.0**
Q13A Wheeler Ranch, 71.11 53 ⇑P **P 03 46 09.0 +0.1**
baz=71
P14A Drum Mountains 71.18 52 ⇓P **P 03 46 09.4 +0.1**
baz=71
MPMC Manual Prospec 71.20 57 ⇑P **P 03 46 09.1 -0.4**
baz=71
ULM Lac du Bonnet 71.25 35 P **P 03 46 08.5 -0.9**
comp=Z,2.4nm,0.5s,mb4.4,baz=21,slow=6.0,SNR=6.5
ULM Lac du Bonnet 71.25 35 P **P 03 46 08.5 -1.0**
FURC Furnace Creek, 71.27 57 ⇓P **P 03 46 09.7 -0.1**
baz=71
TPNV Topopah Spring 71.28 56 *e*P **P 03 46 09.8 -0.1**
TPNV pmax pmax
comp=Z,13nm,1.3s,mb4.7
TPNV Topopah Spring 71.28 56 ⇓P **P 03 46 09.5 -0.5**
baz=71
TPNV Topopah Spring 71.28 56 *e*P **P 03 46 09.8 -0.2**
comp=Z,13nm,1.3s,mb4.7
N17A Moffit Pass 71.40 50 ⇑P **P 03 46 10.5 -0.1**
baz=71
CRVS Cervenica-Dubn 71.47 323 *e*P **P 03 46 10.7 -0.2**
Q14A Sevier Lake (B 71.49 53 ⇑P **P 03 46 11.3 +0.1**
baz=71
NIE Niedzica 71.53 324 *e*P **P 03 46 11.6 +0.4**
DAU Daniels Canyon 71.56 50 *e*P **P 03 46 12.6 +1.1**
T11A Corn Creek, Al 71.66 55 ⇓P **P 03 46 12.1 -0.1**
baz=71
TIRR Tirgusor 71.78 316 ⇓*i*P **P 03 46 12.4 -0.4**
TIRR Tirgusor 71.78 316 ⇓P **P 03 46 12.4 -0.4**
OKC Ostrava-Krasne 72.06 325 *e*P **P 03 46 14.6 +0.2**
OKC AMS AMS 04 21 40.0
comp=Z,100nm,13.5s
KECS Kecovo 72.20 323 *e*P **P 03 46 14.6 -0.7**
KECS pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
KECS Kecovo 72.20 323 *e*P **P 03 46 14.6 -0.7**
comp=Z,1.4nm,0.8s,mb3.9
UPC Upice 72.33 327 *e*P **P 03 46 16.1 +0.1**
MORC Moravsky Berou 72.34 326 *e*P **P 03 46 15.4 -0.7**
MORC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MORC Moravsky Berou 72.34 326 ⇑*i*P **P 03 46 16.3 +0.2**
MORC Moravsky Berou 72.34 326 *e*P **P 03 46 15.4 -0.7**
comp=Z,7.9nm,1.1s,mb4.6
DPC Dobruska-Polom 72.34 327 *e*P **P 03 46 16.6 +0.5**
DPC AMS AMS 04 20 30.0
BFSC Mount Baldy St 72.38 59 ⇓P **P 03 46 16.6 0.0**
baz=72
MSU Marysvale 72.43 52 *e*P **P 03 46 16.8 0.0**
RSSD Black Hills 72.44 44 *e*P **P 03 46 16.0 -0.8**
RSSD pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
RSSD Black Hills 72.44 44 *e*P **P 03 46 16.0 -0.7**
comp=Z,10.0nm,1.3s,mb4.6
T13A Saint George 72.55 54 ⇑P **P 03 46 18.1 +0.6**
baz=72
DRGR 72.59 321 ⇓*i*P **P 03 46 18.0 +0.4**
DRGR 72.59 321 ⇓P **P 03 46 18.0 +0.4**
VOIR 72.60 319 ⇑*i*P **P 03 46 17.7 0.0**
VOIR 72.60 319 ⇑P **P 03 46 17.7 0.0**
P18A Preston Nutter 72.66 50 ⇑P **P 03 46 18.6 +0.5**
baz=72
CLL Collm 72.77 329 *i* P **P 03 46 18.2 -0.4**
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CLL Collm 72.77 329 *e*P **P 03 46 18.2 -0.4**
comp=Z,8.0nm,1.0s,mb4.6
CLL Collm 72.77 329 *i* P **P 03 46 18.2 -0.4**
comp=Z,8.0nm,1.0s,mb4.6
BRG Berggiesshubel 72.79 328 *e*P **P 03 46 26.7 +8.0**
BRG pmax pmax
comp=Z,1.0nm,1.4s,mb3.5
BRG MLR MLR
comp=N,4μm,20.8s
BRG MLR MLR
comp=E,65nm,13.9s
BRG MLR MLR
comp=Z,73nm,15.7s
BRG Berggiesshubel 72.79 328 *e*P **P 03 46 18.3 -0.4**
comp=Z,3.0nm,1.0s,mb4.2
BRG Berggiesshubel 72.79 328 *e*(P) **P 03 46 26.7 +7.9**
comp=Z,6.5nm,1.4s,mb4.4
BRG
comp=N,109nm,20.8s
BRG
comp=E,122nm,13.9s
BRG
comp=Z,142nm,15.7s
PVCC Panska Ves 72.85 328 *e*P **P 03 46 19.3 +0.2**
PVCC AMS AMS 04 21 10.0
comp=Z,200nm,12.8s
SRU San Rafael 72.89 51 *e*P **P 03 46 19.8 +0.3**
SRU pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
SRU San Rafael 72.89 51 ⇑P **P 03 46 19.6 +0.1**
baz=73
SRU San Rafael 72.89 51 *e*P **P 03 46 19.8 +0.3**
comp=Z,4.4nm,1.0s,mb4.3
V12A Nelson 72.94 56 ⇑P **P 03 46 20.0 +0.1**
baz=73
U13A Pakoon Wash 72.95 55 ⇑P **P 03 46 20.1 +0.2**
baz=73
R16A Teasdale 72.97 52 ⇓P **P 03 46 20.7 +0.6**
baz=73
GMRC Granite Mounta 73.16 57 ⇓P **P 03 46 21.2 0.0**
baz=73
CLZ Clausthal 73.22 331 *e*P **P 03 46 21.6 +0.3**
CLZ pmax pmax
comp=Z,13nm,1.3s,mb4.7
CLZ Clausthal 73.22 331 *e*P **P 03 46 21.6 +0.3**
comp=Z,13nm,1.3s,mb4.7
LDFC Landfair 73.26 57 *e*P **P 03 46 21.5 -0.3**
comp=Z,19nm,1.3s,mb4.9
R17A Hanksville Air 73.29 51 ⇑P **P 03 46 21.8 -0.1**
baz=73
PRU Pruhonice 73.30 328 *e*P **P 03 46 22.5 +0.7**
PRU AMS AMS 04 21 30.0
comp=Z,100nm,16.6s
S16A Weppner Ranch, 73.32 52 ⇑P **P 03 46 22.5 +0.4**
baz=73
V13A Grand Canyon W 73.34 55 ⇓P **P 03 46 22.7 +0.5**
baz=73
U14A Mt Trumbull 73.39 54 ⇑P **P 03 46 23.0 +0.4**
baz=73
T15A Red Dirt Ranch 73.40 53 ⇑P **P 03 46 22.7 +0.2**
baz=73
TREC Trest 73.52 327 *e*P **P 03 46 23.4 +0.3**
TREC AMS AMS 04 21 30.0
comp=Z,100nm,17.0s
Q19A Hogan Spring (73.67 50 ⇑P **P 03 46 24.0 -0.2**
baz=73
R18A Canyonlands Na 73.75 51 ⇓P **P 03 46 23.9 -0.8**
baz=74
GUNZ Gunzen 73.79 329 *e*P **P 03 46 24.8 +0.2**
comp=Z,3.0nm,0.7s,mb4.3
MOX Moxa 73.81 330 *e*P **P 03 46 24.3 -0.4**
comp=Z,6.0nm,1.2s,mb4.4
S17A Black Ridge (B 73.81 52 ⇑P **P 03 46 24.6 -0.4**
baz=74
WERN Wernitzgruen 73.84 329 *e*P **P 03 46 24.9 0.0**
comp=Z,3.0nm,0.7s,mb4.3
NKC Novy Kostel 73.86 329 AMS AMS 04 19 00.0
comp=Z,200nm,5.3s
U15A North Rim 73.88 54 ⇑P **P 03 46 25.3 -0.1**
baz=74
IRM Iron Mountain 73.89 57 ⇓P **P 03 46 25.3 -0.2**
baz=74
W13A Hualapai Mount 73.94 56 ⇓P **P 03 46 25.7 -0.1**
baz=74
BZS Buzias 73.98 321 ⇓*i*P **P 03 46 25.5 -0.3**
BZS Buzias 73.98 321 ⇓P **P 03 46 25.5 -0.3**
V14A Boquillas Ranc 74.00 55 ⇓P **P 03 46 26.1 0.0**
baz=74
S18A Hurst Farm, Bl 74.21 52 ⇑P **P 03 46 26.1 -1.2**
baz=74
PV10 Paradox Valley 74.21 50 *e*P **P 03 46 28.1 +0.8**
T17A Navajo Res., N 74.28 53 ⇓P **P 03 46 27.1 -0.6**
baz=74
W14A Seligman 74.31 55 ⇓P **P 03 46 27.6 -0.4**
baz=74
ROTZ Rotzenmuhle 74.33 329 *e*P **P 03 46 27.9 +0.1**
comp=Z,6.0nm,1.1s,mb4.4
X13A Yucca 74.34 56 ⇑P **P 03 46 27.7 -0.4**
baz=74
KHC Kasperske Hory 74.37 328 *e*P **P 03 46 28.5 +0.5**
KHC *ex* x 03 46 37.0
KHC AMS AMS 04 21 50.0
comp=Z,200nm,13.0s
V15A Kaibab Nationa 74.38 54 ⇑P **P 03 46 27.9 -0.4**
baz=74
CONA Conrad Observa 74.49 326 ⇑*i*P **P 03 46 29.6 +0.8**
comp=Z,6.3nm,0.7s,mb4.7
CONA Conrad Observa 74.49 326 ⇑*i*pP pP 03 46 29.6 -2.9
comp=Z,6.3nm,0.7s
CSNA Conrad Observa 74.49 326 ⇑*i*P **P 03 46 29.6 +0.8**
comp=Z,6.4nm,0.7s,mb4.7
CSNA Conrad Observa 74.49 326 ⇑*i*pP pP 03 46 29.6 -3.0
comp=Z,6.4nm,0.7s
Y12C Blythe 74.55 57 ⇓P **P 03 46 29.1 -0.2**
baz=74
GEC2 GERESS Array S 74.56 327 *e*P **P 03 46 29.0 -0.1**
GEC2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
GEC2 GERESS Array S 74.56 327 *e*P **P 03 46 29.0 -0.1**
comp=Z,3.0nm,1.0s,mb4.2
GERES GERESS Array B 74.56 327 P **P 03 46 29.4 +0.2**
comp=Z,1.9nm,0.6s,mb4.2,baz=37,slow=5.8,SNR=21
GERES LR LR 04 22 30.9
comp=Z,114nm,20.1s,MS4.2,baz=184,slow=38
WET Wettzell 74.61 328 *e*P **P 03 46 30.0 +0.6**
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WET Wettzell 74.61 328 *e*P **P 03 46 30.0 +0.6**
comp=Z,6.0nm,0.9s,mb4.5
S19A Harvey Farm, M 74.63 51 ⇑P **P 03 46 29.2 -0.5**
baz=74
PV01 Paradox Valley 74.64 50 *e*P **P 03 46 28.7 -1.1**
T18A Mexican Hat 74.68 52 ⇑P **P 03 46 29.7 -0.4**
baz=74
GRA1 Grafenberg Arr 74.75 329 *e*P **P 03 46 30.4 +0.2**
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 74.75 329 *e*P **P 03 46 30.4 +0.2**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 74.75 329 *e*P **P 03 46 30.4 +0.2**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 74.75 329 *e*P **P 03 46 30.4 +0.2**
comp=Z,12nm,0.9s,mb4.8
GLA Glamis 74.88 58 ⇑P **P 03 46 31.2 -0.1**
baz=75
Y13A Salome 74.90 57 ⇑P **P 03 46 31.3 -0.1**
baz=75
X14A Yava 74.96 56 ⇓P **P 03 46 31.4 -0.4**
baz=75
U18A Rough Rock, Ch 75.21 52 ⇓P **P 03 46 32.8 -0.3**
baz=75
TNS Taunus Mts 75.24 331 *e*P **P 03 46 33.2 +0.1**
TNS pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
TNS Taunus Mts 75.24 331 *e*P **P 03 46 33.2 +0.1**
comp=Z,10.0nm,1.5s,mb4.5
Y14A Wickenburg 75.28 56 ⇑P **P 03 46 33.1 -0.5**
baz=75
X15A Humboldt 75.32 55 ⇑P **P 03 46 33.5 -0.3**
baz=75
Y15A Casa Rosa Ranc 75.65 56 ⇑P **P 03 46 36.1 +0.4**
baz=75
MEM Membach 75.70 333 P **P 03 46 34.7 -0.9**
RJOB Jochberg 75.82 327 *e*P **P 03 46 35.9 -0.5**
comp=Z,6.0nm,1.0s,mb4.5
X16A Lo Mia Camp, P 75.82 55 ⇓P **P 03 46 36.9 +0.2**
baz=76
SCHQ Schefferville 75.86 17 P **P 03 46 35.6 -0.9**
comp=Z,5.2nm,0.9s,mb4.5,baz=9.3,slow=6.4,SNR=8.1
BCLA Clavier 76.08 333 P **P 03 46 37.2 -0.7**
comp=Z,14nm,2.4s,mb4.5
ECSD EROS,Sioux Fal 76.12 39 *e*P **P 03 46 37.3 -0.9**
comp=Z,15nm,1.5s,mb4.7
Y16A Circle Bar Ran 76.19 55 ⇑P **P 03 46 38.9 +0.1**
baz=76
WLF Walferdange 76.47 332 P **P 03 46 40.3 +0.2**
GIVF Givet 76.51 333 *e*P **P 03 46 39.0 -1.3**
SDCO Great Sand Dun 76.54 49 *e*P **P 03 46 40.5 -0.2**
comp=Z,4.4nm,1.3s,mb4.2
DOU Dourbes 76.59 333 P **P 03 46 40.5 -0.2**
comp=Z,6.7nm,1.8s,mb4.3
Y17A Roosevelt 76.68 55 ⇓P **P 03 46 41.2 -0.4**
baz=76
BAIF Baives 76.74 333 *e*P **P 03 46 41.3 -0.3**
MOTA Moosalm 76.77 328 ⇑*i*P **P 03 46 42.3 +0.5**
comp=Z,7.1nm,0.8s,mb4.7
MOTA Moosalm 76.77 328 ⇑*i*pP **P 03 46 42.3 +0.5**
comp=Z,7.1nm,0.8s,mb4.7
MOTA Moosalm 76.77 328 ⇑*i*P **P 03 46 42.3 +0.5**
MOTA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BFO Black Forest 76.91 330 *e*P **P 03 46 41.3 -1.3**
BFO pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BFO Black Forest 76.91 330 *e*P **P 03 46 41.3 -1.3**
comp=Z,6.0nm,1.1s,mb4.4
X19A St. Johns 77.00 53 ⇓P **P 03 46 43.3 0.0**
baz=77
116A Eloy 77.03 56 ⇑P **P 03 46 43.6 0.0**
baz=77
Y18A Canyon Day Jun 77.08 54 ⇓P **P 03 46 43.8 0.0**
baz=77
FETA Feichten 77.18 328 ⇑*i*P **P 03 46 44.6 +0.5**
comp=Z,12nm,1.2s,mb4.7
FETA Feichten 77.18 328 ⇑*i*pP **P 03 46 44.6 +0.5**
comp=Z,12nm,1.2s,mb4.7
CDF Champ du Feu 77.19 331 ⇑*i*P **P 03 46 43.9 -0.3**
comp=Z,9.6nm,0.9s,mb4.4
CDF Champ du Feu 77.19 331 ⇑*i*P **P 03 46 43.9 -0.3**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CDF Champ du Feu 77.19 331 ⇑*i*P **P 03 46 43.9 -0.3**
comp=Z,4.8nm,0.9s,mb4.4
DAVA Damuels 77.26 329 ⇑*i*P **P 03 46 44.9 +0.4**
comp=Z,11nm,0.7s,mb4.9
DAVA Damuels 77.26 329 ⇑*i*pP **P 03 46 44.9 +0.4**
comp=Z,11nm,0.7s,mb4.9
Y19A Nutrioso 77.37 54 ⇓P **P 03 46 45.3 -0.2**

baz=77
ECH Echery 77.40 331 eP P 03 46 44.2 -1.2
MEZF Maizieres J'vi 77.84 332 eP P 03 46 47.8 0.0
HAU Haudompre 77.85 331 eP P 03 46 47.6 -0.3
118A Homack Ranch, 77.95 55 ⇓P P 03 46 48.9 +0.1
baz=78
ANMO Albuquerque 78.15 51 eP P 03 46 49.8 0.0
ANMO pmax pmax
comp=Z,8.0nm,1.5s
ANMO Albuquerque 78.15 51 eP P 03 46 49.8 0.0
comp=Z,7.9nm,1.5s,mb4.4
LAZ Ladron 78.20 52 eP P 03 46 50.2 +0.2
218A Dragoon 78.41 56 ⇑P P 03 46 51.2 -0.1
baz=78
219A White Tail Can 78.83 55 ⇓P P 03 46 54.0 +0.4
baz=79
318A Bisbee 78.84 56 ⇓P P 03 46 54.0 +0.4
baz=79
FLN La Foliniere 79.28 336 eP P 03 46 55.1 -0.6
LOR Lormes 79.31 332⇑iP P 03 46 55.4 -0.5
comp=Z,13nm,0.7s,mb4.7
LOR Lormes 79.31 332⇑iP P 03 46 55.4 -0.5
LOR pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LOR Lormes 79.31 332⇑iP P 03 46 55.4 -0.5
comp=Z,6.6nm,0.7s,mb4.7
LDF La Druitiere 79.33 335 eP P 03 46 55.3 -0.7
SSF Saint Saulge 79.61 332⇑iP P 03 46 57.0 -0.5
comp=Z,11nm,0.9s,mb4.5
SSF Saint Saulge 79.61 332⇑iP P 03 46 57.0 -0.5
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
SSF Saint Saulge 79.61 332⇑iP P 03 46 57.0 -0.5
comp=Z,5.6nm,0.9s,mb4.5
GRR Gorron 79.72 336 eP P 03 46 57.8 -0.4
SMF Signal de Mont 79.87 332⇑iP P 03 46 58.6 -0.4
comp=Z,17nm,0.8s,mb4.8
SMF Signal de Mont 79.87 332⇑iP P 03 46 58.6 -0.4
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SMF Signal de Mont 79.87 332⇑iP P 03 46 58.6 -0.4
comp=Z,8.6nm,0.8s,mb4.7
LPL La Plagne 79.89 330⇑iP P 03 46 59.6 +0.5
comp=Z,10nm,0.8s,mb4.5
LPL La Plagne 79.89 330⇑iP P 03 46 59.6 +0.5
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPL La Plagne 79.89 330⇑iP P 03 46 59.6 +0.5
comp=Z,5.2nm,0.8s,mb4.5
AVF Avril sur Loir 79.89 332⇑iP P 03 46 58.7 -0.4
comp=Z,24nm,1.0s,mb4.8
AVF Avril sur Loir 79.89 332⇑iP P 03 46 58.7 -0.4
AVF pmax pmax
comp=Z,12nm,1.0s,mb4.8
AVF Avril sur Loir 79.89 332⇑iP P 03 46 58.7 -0.4
comp=Z,12nm,1.0s,mb4.8
LPG La Plagne 79.90 330⇑iP P 03 46 59.7 +0.5
comp=Z,18nm,0.8s,mb4.7
LPG La Plagne 79.90 330⇑iP P 03 46 59.7 +0.5
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPG La Plagne 79.90 330⇑iP P 03 46 59.7 +0.5
comp=Z,9.2nm,0.8s,mb4.8
BGF Bois d'Agland 80.26 333 eP P 03 47 00.7 -0.4
SGMF Saint Gilles 80.32 337 eP P 03 47 01.2 -0.2
ROSF Rostrenen 80.44 337 eP P 03 47 02.1 +0.1
MBDF Montbardon 80.56 329 eP P 03 47 03.0 +0.2
comp=Z,5.9nm,0.5s,mb4.5
MBDF Montbardon 80.56 329 eP P 03 47 03.0 +0.2
MBDF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
MBDF Montbardon 80.56 329 eP P 03 47 03.0 +0.2
comp=Z,3.0nm,0.5s,mb4.5
TCF Toulx Ste Croi 80.70 333⇑iP P 03 47 03.3 -0.2
comp=Z,7.0nm,0.8s,mb4.3
TCF Toulx Ste Croi 80.70 333⇑iP P 03 47 03.3 -0.2
TCF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TCF Toulx Ste Croi 80.70 333⇑iP P 03 47 03.3 -0.2
comp=Z,3.5nm,0.8s,mb4.3
ORIF Oris-en-Rattie 80.71 330 eP P 03 47 03.6 +0.1
MFF Saint Martin d 81.14 334⇑iP P 03 47 05.9 +0.1
comp=Z,14nm,0.9s,mb4.6
MFF Saint Martin d 81.14 334⇑iP P 03 47 05.9 +0.1
MFF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MFF Saint Martin d 81.14 334⇑iP P 03 47 05.9 +0.1
comp=Z,7.2nm,0.9s,mb4.6
VIVF Saint-Julien-l 81.17 331 eP P 03 47 06.1 +0.1
RJF Les Rejaudoux 81.80 333 eP P 03 47 09.4 +0.1
comp=Z,7.3nm,0.9s,mb4.3
RJF Les Rejaudoux 81.80 333 eP P 03 47 09.4 +0.1
RJF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
RJF Les Rejaudoux 81.80 333 eP P 03 47 09.4 +0.1
comp=Z,3.7nm,0.9s,mb4.3
CAF Calviac 81.96 332⇑iP P 03 47 10.7 +0.5
comp=Z,10nm,0.9s,mb4.4
CAF Calviac 81.96 332⇑iP P 03 47 10.7 +0.5
CAF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CAF Calviac 81.96 332⇑iP P 03 47 10.7 +0.5
comp=Z,5.2nm,0.9s,mb4.5
LASF Ste Croix 82.13 331 eP P 03 47 11.2 +0.1
comp=Z,5.8nm,0.6s,mb4.4
LFF La Frestale 82.37 333 eP P 03 47 12.6 +0.3
comp=Z,17nm,0.9s,mb4.7
LFF La Frestale 82.37 333 eP P 03 47 12.6 +0.3
LFF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LFF La Frestale 82.37 333 eP P 03 47 12.6 +0.3
comp=Z,8.4nm,0.9s,mb4.7
MTLF Montolieu 83.33 332⇑iP P 03 47 17.7 +0.3
comp=Z,4.3nm,0.7s,mb4.3
MTLF Montolieu 83.33 332⇑iP P 03 47 17.7 +0.3
MTLF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MTLF Montolieu 83.33 332⇑iP P 03 47 17.7 +0.3
comp=Z,2.2nm,0.6s,mb4.4
EPF Esparros 84.21 333⇑iP P 03 47 21.7 -0.2
comp=Z,6.8nm,0.8s,mb4.5
EPF Esparros 84.21 333⇑iP P 03 47 21.7 -0.2
EPF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
EPF Esparros 84.21 333⇑iP P 03 47 21.7 -0.2
comp=Z,3.4nm,0.8s,mb4.5
ETSF Etsaut 84.61 333⇑iP P 03 47 24.7 +0.8
SJPF Ste Jean 84.62 334 eP P 03 47 23.4 -0.6
KEST Kesra 87.36 323 P P 03 47 37.2 -0.5
comp=Z,1.1nm,0.7s,mb4.2,baz=78,slow=14,SNR=4.5
ESDC Sonseca Array 88.60 334 P P 03 47 43.3 -0.2
comp=Z,2.1nm,0.6s,mb4.6,baz=17,slow=4.3,SNR=18
VNDA Vanda 124.71 175 PKP PKPdf 03 53 49.6 +1.0
comp=Z,0.9nm,0.9s,baz=260,slow=2.6,SNR=3.4
LPAZ La Paz 140.74 49 PKP PKPdf 03 54 26.7 +6.1
comp=Z,1.2nm,0.9s,baz=335,slow=1.9,SNR=3.7
LPAZ La Paz 140.74 49 PKP PKPdf 03 54 26.7 +6.1
SIV San Ignacio 143.87 39 PKP PKPdf 03 54 25.4 -0.7
comp=Z,0.9nm,0.7s,baz=302,slow=0.7,SNR=7.5
NVL N'lazarevskaya 146.31 207 PKIKP PKPdf 03 54 26.2 -2.4
NVL pmax pmax
comp=Z,19nm,1.4s
BDFB Brasilia 147.85 18 PKPbc PKPbc 03 54 35.1 -0.7
comp=Z,3.2nm,0.9s,baz=144,slow=19,SNR=7.5
SNAA Sanae 150.09 202 PKPbc PKPbc 03 54 40.9 +1.1
comp=Z,2.6nm,0.7s,baz=190,slow=4.4,SNR=3.3
SNAA PKPab PKPab 03 54 46.0 +0.1
comp=Z,2.4nm,0.6s,baz=167,slow=6.9,SNR=16
PLCA Paso Flores 156.00 87 PKPab PKPab 03 55 12.4 +0.7
comp=Z,2.6nm,1.0s,baz=200,slow=4.7,SNR=3.2

*ISCJB **09** 03:38:56.8±1.3, 132N±03×503E±0.1, h10km, mb3.6/3, MS3.2/2, Error ellipse: s-maj=46.4km s-min=15.0km az=180.0*
*IDC **09** 03:38:56.7±1.6, 1309N×5039E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/21, mbtmp3.6/3, MS3.4/3, Ms1 3.4/3, ms1mx3.0/21, Error ellipse: s-maj=61.6km s-min=34.7km az=169.0*
ISC 09 03:38:58.3±1.3, 131N±03×504E±01, h10km, n7, σ0§05/5, mb3.6/3, MS3.2/2, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	Al Bayda'	4.75	281	eP	Pn	03 40 10.1	0.0
BDHA				e		03 40 10.4	
	baz=109,slow=14						
BDHA				i S	Pb	03 40 16.2	-5.6
BDHA				AML	AML	03 40 16.5	
	comp=Z,25nm,0.4s						
KMBO	Kilima Mbogo	19.22	224	LR	LR	03 50 39.5	
	comp=Z,91nm,19.9s,baz=75,slow=37						
EIL	Elat	21.82	321	LR	LR	03 51 42.2	
	comp=Z,62nm,19.4s,MS3.0,baz=15,slow=35						
GNI	Garni	27.39	351	LR	LR	03 57 25.7	
	comp=Z,111nm,19.2s,MS3.5,baz=106,slow=40						
MKAR	Makanchi Array	42.95	32	P	P	03 46 57.4	0.0
	comp=Z,0.3nm,0.5s,mb3.3,baz=222,slow=8.0,SNR=4.3						
TORD	Torodi Ar. Bea	47.35	276	P	P	03 47 32.9	0.0
	comp=Z,0.3nm,0.5s,mb3.5,baz=97,slow=8.1,SNR=7.9						
WRA	Warramunga Arr	88.86	111	P	P	03 51 53.3	0.0
	comp=Z,0.7nm,0.7s,mb4.1,baz=293,slow=3.9,SNR=5.0						

*MAN **09** 04:09:48, 834N×12692E, h1km, mb4.6, ML3.5, MS3.4*
*ISCJB **09** 04:09:49.1±1.7, 829N±006×12691E±007, h3km±10km, Error ellipse: s-maj=12.3km s-min=10.1km az=19.1*
ISC 09 04:09:50.1±1.9, 826N±006×12689E±008, h4km±10km, n10, σ1§06/17, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.53	262	⇓eP	Pg	04 10 01.1	+0.9
BIPH				eS	Sg	04 10 06.8	-0.3
BUTP	Butuan	1.44	299	eP	Pn	04 10 14.7	-2.2
BUTP				eS	Sb	04 10 35.3	-0.8
MATI	Mati	1.45	206	eP	Pn	04 10 16.0	-1.1
BUKP	Musuan	1.85	258	eP	Pn	04 10 23.0	+0.4
BUKP				eS	Sn	04 10 47.2	+0.8
SCPH	Surigao	2.05	318	eP	Pn	04 10 24.0	-1.3
SCPH				eS	Sn	04 10 50.1	-1.2
MSLP	Maasin	2.73	313	eP	Pn	04 10 35.0	+0.3
MSLP				eS	Sn	04 11 09.2	+0.9
TBP	Tagbilaran	3.31	296	eP	Pn	04 10 42.2	-0.4
TBP				eS	Sn	04 11 12.8	-10
PAGZ	Pagadian	3.50	263	eP	Pn	04 10 46.4	+1.2
BESP	Borongan	3.61	337	eP	Pn	04 10 49.3	+2.5
BESP				eS	Sn	04 11 30.8	+0.8
CNP	Catarman	4.75	333	eP	Pn	04 11 02.5	-0.1

*ISCJB **09** 04:12:14.8±2.8, 2197S±006×7075W±008, h15km±21km, mb3.9/15, Error ellipse: s-maj=12.8km s-min=7.9km az=151.7*
*IDC **09** 04:12:21.0±2.3, 2204S×7067W, h50km±21km, mb3.7/7, mb1 3.8/11, mb1mx3.7/19, mbtmp3.7/11, ML3.7/5, Error ellipse: s-maj=20.9km s-min=16.9km az=50.0*
*NEIC **09** 04:12:22.2±1.3, 2210S×7047W, h64km±14km, mb3.9/9, Error ellipse: s-maj=17.0km s-min=9.2km az=88.0*
ISC 09 04:12:18.7±2.8, 2199S±006×7068W±008, h26km±20km, n31, σ0§95/32, mb3.9/15, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.75	111	P	Pn	04 12 47.7	+0.4
	189nm,0.3s,baz=277,slow=11,SNR=2800						
LVC				S	Sn	04 13 10.1	+1.3
	287nm,0.3s,baz=331,slow=23,SNR=28						
LVC	Limon Verde	1.75	111	ePn	Pn	04 12 47.6	+0.3
LVC				eSn	Sn	04 13 10.0	+1.3
ARE	Arequipa	5.55	352	⇓iP	Pn	04 13 39.8	+0.1
ARE				i S	Sn	04 14 41.8	-0.9
LPAZ	La Paz	6.17	23	P	Pn	04 13 52.3	+4.2
	6.9nm,0.3s,baz=207,slow=7.1,SNR=159						
LPAZ	La Paz	6.17	23	ePn	Pn	04 13 53.2	+5.1
	16nm,0.4s						
CFAA	Coronel Fontan	9.82	168	P	Pn	04 14 39.4	+1.2
	0.0nm,0.3s,baz=357,slow=15,SNR=6.8						
CFAA				S	Sn	04 16 20.2	-7.3
	0.1nm,0.3s,baz=187,slow=15,SNR=3.2						
SIV	San Ignacio	10.87	58	P	Pn	04 14 52.4	-0.3
	0.7nm,0.3s,baz=240,slow=11,SNR=18						
CPUP	Villa Florida	12.93	112	P	Pn	04 15 19.9	-0.9
	0.2nm,0.3s,baz=282,slow=14,SNR=4.0						
CPUP	Villa Florida	12.93	112	ePn	Pn	04 15 18.8	-1.9
	8.6nm,0.8s						
TRQA	Tornquist	17.68	157	eP	Pn	04 16 20.8	-2.2
	4.5nm,0.6s						
PLCA	Paso Flores	18.68	180	P	Pn	04 16 35.2	0.0
	0.0nm,0.3s,baz=304,slow=12,SNR=2.6						
BDFB	Brasilia	22.35	77	P	P	04 17 15.4	+0.6
	0.8nm,0.5s,mb3.4,baz=257,slow=20,SNR=6.1						
OTAV	Otavalo	23.36	340	eP	P	04 17 27.5	+2.1
	2.5nm,0.9s,mb3.6						
RKT	Rikitea	58.94	256	eLR	LR	04 21 44.7	
	240nm,25.0s						
JCT	Junction City	59.20	331	eP	P	04 22 17.1	-0.5
	2.1nm,0.6s,mb4.3						
MIAR	Mount Ida	60.29	338	eP	P	04 22 24.1	-0.9
	7.1nm,1.4s,mb4.5						
ANMO	Albuquerque	66.03	328	eP	P	04 23 03.5	+0.5
	1.0nm,0.9s,mb3.9						
SDCO	Great Sand Dun	67.85	331	eP	P	04 23 15.3	+0.7
	2.0nm,1.1s,mb4.1						
DBIC	Dimbokro	70.45	74	P	P	04 23 32.2	+0.9
	4.4nm,1.0s,mb4.3,baz=299,slow=3.0,SNR=3.2						
RSSD	Black Hills	72.54	335	eP	P	04 23 43.7	+0.6
	1.0nm,0.6s,mb3.9						
DUG	Dugway	73.27	328	eP	P	04 23 47.8	+0.2
	1.7nm,0.9s,mb4.0						
PDAR	Pinedale Array	73.73	331	P	P	04 23 50.5	+0.3
	0.3nm,0.6s,mb3.4,baz=118,slow=7.5,SNR=2.9						
NVAR	Mina Array Bea	74.88	323	P	P	04 23 57.5	+0.5
	0.4nm,0.8s,mb3.4,baz=134,slow=4.3,SNR=3.6						
ULM	Lac du Bonnet	75.31	344	P	P	04 23 58.0	-1.2
	1.7nm,0.5s,mb4.2,baz=308,slow=17,SNR=3.1						
VNDA	Vanda	76.08	190	P	P	04 24 02.9	-0.6
	0.6nm,0.9s,mb3.5,baz=72,slow=3.2,SNR=3.7						
HLID	Hailey	76.60	329	eP	P	04 24 06.9	+0.2
	1.6nm,1.0s,mb3.9						
BOZ	Bozeman (W)	76.92	332	eP	P	04 24 09.3	+0.8
TOA0	Torodi Ar. Sit	79.07	71	eP	P	04 24 20.0	-1.2
TORD	Torodi Ar. Bea	79.07	71	P	P	04 24 19.8	-1.4
	2.4nm,0.8s,mb4.2,baz=254,slow=4.9,SNR=26						
ASAR	Alice Springs	128.70	209	PKP	PKPdf	04 31 22.2	-2.1
	0.2nm,0.8s,baz=135,slow=2.1,SNR=4.1						
MKAR	Makanchi Array	146.99	35	PKPbc	PKPbc	04 31 58.1	-0.8
	1.7nm,0.7s,baz=336,slow=2.7,SNR=16						

*SOF **09** 04:21:08.2, 4001N×2442E, h2km, MD2.7*
*ATH **09** 04:21:11.8, 4003N×2447E, h36km±1km, MD3.4/5*
*NEIC **09** 04:21:12.1, 4003N×2443E, h4km, MD3.4(ATH), ML3.3(THE), After THE.*
*ISCJB **09** 04:21:12.4±0.4, 4004N±002×2448E±003, h25km±4km, Error ellipse: s-maj=4.3km s-min=3.2km az=17.0*
*CSEM **09** 04:21:12.7±0.1, 4004N×2445E, h25km, ML3.3, Error ellipse: s-maj=1.3km s-min=1.1km az=7.0*
*THE **09** 04:21:12.1, 4003N×2443E, h3km, ML3.3*
ISC 09 04:21:12.0±0.4, 4005N±002×2444E±002, h15km±3km, n33, σ0§86/55, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.45	309	ePg	Pg	04 21 21.9	+0.9
LOS	Limnos	0.51	103	ePg	Pg	04 21 21.8	-0.1
LIA	Limnos Island	0.59	105	ePg	Pg	04 21 23.5	0.0
LIA				eSg	Sg	04 21 31.7	+0.3
LIA	Limnos Island	0.59	105	ePn	Pg	04 21 23.8	+0.2
LIA				eSg	Sg	04 21 31.7	+0.3
LIA				eSn	Sg	04 21 32.4	+1.0
PAIG	Paliouri	0.60	258	ePg	Pg	04 21 24.2	+0.5
PAIG				eSg	Sg	04 21 32.6	+1.0
PLG	Polygyros	0.83	293	ePg	Pg	04 21 28.7	+0.6
PLG				eSg	Sg	04 21 39.5	+0.6
PLG	Polygyros	0.83	293	⇑iPN	Pn	04 21 28.6	-0.5
PLG				eSN	Sn	04 21 39.8	-1.3
AOS	Alonnisos	0.98	206	ePg	Pg	04 21 30.8	-0.1
AOS				eSg	Sg	04 21 44.8	+1.1
SOH	Sokhos	1.13	313	ePg	Pg	04 21 33.5	-0.4
SOH				eSg	Sg	04 21 48.7	+0.1
HORT	Hortiatis	1.16	298	ePg	Pg	04 21 33.9	-0.5
HORT				eSg	Sg	04 21 49.6	0.0
XOR	Xorichti	1.18	235	ePg	Pg	04 21 33.6	-1.1
XOR				eSg	Sg	04 21 49.2	-0.9
XOR	Xorichti	1.18	235	ePg	Pg	04 21 33.6	-1.1
XOR				eSg	Sg	04 21 49.2	-0.9
NEO	Neokhori	1.20	232	ePN	Pn	04 21 34.1	-0.1
NEO				eSN	Sn	04 21 49.7	-0.5
NVR	Nevrokopi	1.37	341	ePN	Pn	04 21 36.6	0.0
NVR				eSN	Sn	04 21 54.8	+0.3
RDO	Rodhopi	1.38	37	ePB	Pb	04 21 36.2	-1.2
RDO				eSN	Sn	04 21 54.4	-0.2
ALN	Alexandroupoli	1.49	55	ePg	Pn	04 21 37.6	-0.6
ALN				eSg	Sg	04 21 59.9	0.0
LIT	Litokhoron	1.50	273	ePg	Pn	04 21 38.4	+0.1
LIT				eSg	Sg	04 21 58.8	-1.5
KNT	Kendrikon	1.62	314	ePb	Pb	04 21 40.5	-1.0
KNT				eSb	Sb	04 22 03.8	+2.1
PRK	Paraskevi	1.63	119	ePb	Pb	04 21 40.6	-1.1
PRK				eSb	Sb	04 22 03.1	+1.1
PRK	Paraskevi	1.63	119	ePB	Pb	04 21 39.9	-1.8
MMB	Musomiste	1.63	341	P	Pn	04 21 39.2	-1.0
RZN	Rozhen	1.65	7	i P	Pn	04 21 40.9	+0.5
KDZ	Kurdzhali	1.76	25	i P	Pn	04 21 41.2	-0.8
LKR	Lokris	1.79	219	ePb	Pn	04 21 42.1	-0.3
GRG	Griva	1.80	301	ePb	Pb	04 21 43.4	-1.2
GRG				eSb	Sb	04 22 08.4	+1.4
VAY	Valandovo	1.91	312	ePn	Pn	04 21 44.6	+0.6
VAY				eSn	Sg	04 22 12.9	-0.4
VAY	Valandovo	1.91	312	ePn	Pn	04 21 44.5	+0.5
VAY				eSn	Sg	04 22 12.9	-0.4
AGG	Agios Georgios	1.93	238	ePb	Pn	04 21 44.0	-0.2
CHOS	Chios island	2.08	142	ePn	Pn	04 21 46.6	+0.3
CHOS				eSn	Sn	04 22 15.2	+3.2
VTS	Vitosha	2.70	340	P	Pn	04 21 55.4	+0.5
DID	Didima	2.71	201	ePn	Pn	04 21 54.7	-0.3
KRUS	Krusevo	2.76	300	ePn	Pn	04 21 57.7	+2.0
BARS	Barje	3.40	325	ePn	Pn	04 22 05.2	+0.8

*IDC **09** 04:36:17.1±3.3, 430S×1354E, h0km, mb3.9/1, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=149.7km s-min=30.6km az=80.0*
*ISCJB **09** 04:36:24.4±1.2, 468S±009×1338E±02, h33km, mb3.9/2, Error ellipse: s-maj=32.1km s-min=12.3km az=173.2*
*NEIC **09** 04:36:27.6±1.1, 479S×1334 1E, h35km, mb3.8/3, Error ellipse: s-maj=45.1km s-min=11.2km az=80.0*
ISC 09 04:36:27.2±1.2, 472S±009×1336E±02, h35km, n8, σ0§97/8, mb3.9/2, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	1.27	224	⇓eP	Pn	04 36 48.0	-0.4
KAKA	Kakadu	8.03	188	eP	Pn	04 38 23.0	+1.6
	6.7nm,0.5s						
WRAB	Tennant Creek	15.14	177	eP	Pn	04 39 59.2	+0.7
	2.4nm,0.6s						
WRA	Warramunga Arr	15.15	177	Pn	Pn	04 39 56.2	-2.4
	0.2nm,0.3s,baz=3.2,slow=12,SNR=7.4						
WRA				Sn	Sx	04 42 38.4	
	0.2nm,0.3s,baz=348,slow=24,SNR=4.8						
ASAR	Alice Springs	18.84	179	P	Pn	04 40 44.8	-0.2
	0.3nm,0.3s,baz=8.6,slow=11,SNR=21						
MK31	Makanchi Array	68.38	325	eP	P	04 47 25.2	0.0
MKAR	Makanchi Array	68.38	325	P	P	04 47 25.2	0.0
	0.6nm,0.4s,mb4.0,baz=122,slow=7.0,SNR=8.0						
KURK	Kurchatov	72.52	327	eP	P	04 47 50.5	+0.1
	0.8nm,0.7s,mb3.8						

*IDC **09** 05:06:50.2±0.8, 534S×1462 0E, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.3/16, mbtmp4.2/9, ML4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/20, Error ellipse: s-maj=30.1km s-min=18.7km az=82.0*
*ISCJB **09** 05:06:53.3±1.0, 539S±009×1463E±02, h33km, mb4.2/10, MS3.2/1, Error ellipse: s-maj=26.7km s-min=11.7km az=10.8*
*NEIC **09** 05:06:55.5±0.8, 539S×1462 5E, h35km, mb4.7/6, Error ellipse: s-maj=21.0km s-min=9.3km az=99.0*
*DJA **09** 05:07:07, 568S×1460 0E, h140km, ML4.8/2*
ISC 09 05:06:55.6±1.0, 540S±009×1462E±02, h35km, n27, σ0§71/19, mb4.2/10, MS3.2/1, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	15.42	241	eP	Pn	05 10 31.6	+1.0
	81nm,1.4s						
WRAB	Tennant Creek	18.50	218	eP	Pn	05 11 09.1	-0.1
	15nm,1.0s						
WB2	Warramunga Arr	18.50	218	eP	Pn	05 11 09.3	0.0
WRA	Warramunga Arr	18.51	218	P	Pn	05 11 09.5	+0.1
	0.6nm,0.3s,baz=31,slow=9.3,SNR=34						
WRA				PcP	PcP	05 15 38.4	+0.1
	0.1nm,0.3s,baz=26,slow=1.9,SNR=9.1						
WRA	Warramunga Arr	18.51	218	P	Pn	05 11 09.5	+0.1
WRA				PcP	PcP	05 15 38.4	+0.1
ASAR	Alice Springs	21.70	212	P	P	05 11 44.0	+0.4
	2.7nm,0.6s,mb3.8,baz=54,slow=7.8,SNR=29						
FITZ	Fitzroy Crossi	23.74	236	eP	P	05 12 04.1	-0.8
	33nm,0.9s,mb4.8						
FITZ	Fitzroy Crossi	23.74	236	P	P	05 12 03.0	-1.9
	22nm,0.9s,mb4.6,baz=60,slow=9.0,SNR=32						
STKA	Stephens Creek	26.70	189	eP	P	05 12 32.2	+0.6
	7.0nm,0.9s,mb4.2						
STKA	Stephens Creek	26.70	189	P	P	05 12 32.5	+0.9
	7.2nm,0.8s,mb4.3,baz=5.0,slow=6.5,SNR=7.9						
FORT	Forrest	30.48	212	eP	P	05 13 05.1	-0.2
	13nm,0.8s,mb4.7						
KLBR	Kellerberrin	37.28	222	eP	P	05 14 03.0	-1.4
	10nm,0.5s,mb4.9						
KSRS	Korea Array	45.92	340	LR	LR	05 32 23.2	
	comp=Z,26nm,18.7s,MS3.2,baz=248,slow=33						
CMAR	Chiang Mai Arr	52.28	298	P	P	05 16 04.7	+0.7
	3.3nm,0.7s,mb4.4,baz=122,slow=5.7,SNR=13						
SONM	Songino Array	63.50	331	P	P	05 17 23.1	+0.9
	0.4nm,0.6s,mb3.7,baz=155,slow=4.9,SNR=3.7						
VNDA	Vanda	72.56	176	P	P	05 18 18.9	+0.2
	2.1nm,0.7s,mb4.2,baz=331,slow=7.2,SNR=13						
MK31	Makanchi Array	76.54	321	eP	P	05 18 41.9	-0.3
MKAR	Makanchi Array	76.54	321	P	P	05 18 42.3	0.0
	1.3nm,0.6s,mb4.0,baz=98,slow=7.0,SNR=10						
ZALV	Zalesovo Beam	78.09	328	P	P	05 18 49.9	-0.9
	0.5nm,0.4s,mb3.8,baz=121,slow=7.1,SNR=4.3						
ZALV	Zalesovo Beam	78.09	328	P	P	05 18 49.9	-0.9
PLCA	Paso Flores	123.05	147	PKP	PKPdf	05 25 49.3	+0.6
	1.4nm,0.7s,baz=192,slow=12,SNR=5.0						
CPUP	Villa Florida	141.07	145	PKhKP		05 26 16.5	
	0.5nm,0.6s,baz=186,slow=5.6,SNR=3.0						
SDV	Santo Domingo	143.28	82	PKP	PKPdf	05 26 25.2	-2.1
	2.3nm,0.3s,baz=290,slow=4.7,SNR=3.9						
TORD	Torodi Ar. Bea	144.19	285	PKP	PKPdf	05 26 26.3	-2.6
	3.9nm,0.8s,baz=77,slow=3.6,SNR=20						
SIV	San Ignacio	145.63	129	PKPbc	PKPbc	05 26 32.4	+0.8
	12nm,0.7s,baz=239,slow=3.5,SNR=74						
DBIC	Dimbokro	151.21	274	PKPbc	PKPbc	05 26 45.7	-0.7
	14nm,0.8s,baz=102,slow=1.9,SNR=15						
DBIC				PKPab	PKPab	05 26 53.8	-0.6
	3.9nm,0.7s,baz=290,slow=4.1,SNR=5.0						
BDFB	Brasilia	154.79	146	PKPbc	PKPbc	05 26 54.5	+0.2
	0.8nm,0.5s,baz=213,slow=24,SNR=3.8						

*ISCJB **09** 05:27:52.9±1.0, 29N±02×663E±02, h10km, mb4.0/8, MS3.9/12, Error ellipse: s-maj=29.1km s-min=22.0km az=144.0*
*IDC **09** 05:27:53.1±1.1, 287N×6634E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/22, mbtmp3.9/7, MS3.9/12, Ms1 3.9/12, ms1mx3.5/40, Error ellipse: s-maj=35.3km s-min=24.1km az=47.0*
*NEIC **09** 05:27:54.6±0.8, 283N×6631E, h10km, mb4.5/1, Error ellipse: s-maj=23.1km s-min=17.9km az=55.0*
**ISC 09 05:27:54.9±1.0, 29N±02×663E±02, h10km, n19, σ0§53/9

comp=Z,146nm,19.7s,MS4.0,baz=244,slow=35
ZALV Zalesovo Beam 53.15 14 P **P 05 37 12.3 -0.5**
1.3nm,0.6s,mb4.0,baz=205,slow=6.6,SNR=6.2
ZALV LR LR 06 01 10.6
comp=Z,60nm,18.2s,MS3.7,baz=279,slow=38
SUR Sutherland 55.55 227 LR LR 05 58 25.7
comp=Z,408nm,19.1s,MS4.5,baz=218,slow=33
SONM Songino Array 56.53 31 P **P 05 37 37.0 -0.4**
1.5nm,0.9s,mb4.0,baz=215,slow=6.4,SNR=10
SONM LR LR 06 01 58.8
comp=Z,185nm,20.6s,MS4.2,baz=171,slow=36
TORD Torodi Ar. Bea 64.67 283 P **P 05 38 34.0 +0.4**
2.3nm,1.3s,mb4.0,baz=90,slow=0.3,SNR=4.4
KSRS Korea Array 65.91 50 LR LR 06 10 14.4
comp=Z,60nm,18.2s,MS3.8,baz=169,slow=39
WRA Warramunga Arr 70.41 112 P **P 05 39 10.0 +0.1**
3.8nm,0.9s,mb4.3,baz=288,slow=5.8,SNR=12
ASAR Alice Springs 70.74 116 P **P 05 39 11.8 -0.1**
1.3nm,0.9s,mb3.9,baz=296,slow=5.2,SNR=8.3
NOA NORSAR Array B 71.27 335 P **P 05 39 13.5 -0.9**
1.0nm,0.8s,mb3.8,baz=112,slow=6.3,SNR=3.2
MJAR Matsushiro Arr 73.77 53 LR LR 06 14 14.2
comp=Z,67nm,18.3s,MS4.0,baz=190,slow=38
JHJ Hachijo jima 2 74.59 57 LR LR 06 15 03.6
comp=Z,45nm,19.4s,MS3.8,baz=254,slow=38
ASAJ Asahikawa 78.16 46 LR LR 06 17 42.2
comp=Z,54nm,19.1s,MS3.9,baz=155,slow=38
PETK Petropavlovsk- 88.56 37 LR LR 06 22 59.7
comp=Z,88nm,18.5s,MS4.2,baz=303,slow=37
PDAR Pinedale Array 134.44 356 PKP PKPdf 05 47 13.0 -0.7
0.3nm,0.9s,baz=349,slow=2.8,SNR=3.5

*ATH **09** 05:52:06.3, 3946N×2035E, h84km±3km*
*NEIC **09** 05:52:08.8, 3929N×2009E, h2km, ML2.8(THE), After THE.*
*THE **09** 05:52:08.8, 3929N×2009E, h2km, ML2.8*
*ISCJB **09** 05:52:09.7±0.8, 3929N±003×2024E±006, h10km, Error ellipse: s-maj=7.0km s-min=3.9km az=3.2*
*CSEM **09** 05:52:09.6±0.3, 3930N×2020E, h10km, ML2.8, Error ellipse: s-maj=6.2km s-min=4.1km az=75.0*
ISC 09 05:52:09.9±1.0, 3929N±003×2019E±007, h5km±13km, n9, σ1§14/19, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.26**	**25**	*e*Pg	**Pg**	**05 52 14.6**	**-0.4**
IGT				*e*Sg	**Sg**	**05 52 19.1**	**+0.6**
KEK	**Kerkira**	**0.52**	**324**	*e*P	**Pg**	**05 52 21.3**	**+1.5**
KEK				*e*S	**Sg**	**05 52 31.6**	**+5.1**
JAN	**Janina**	**0.63**	**54**	*e*P	**Pg**	**05 52 20.2**	**-1.7**
JAN				*e*S	**Sg**	**05 52 30.6**	**+0.5**
LKD	**Levkas**	**0.69**	**148**	*e*Pg	**Pg**	**05 52 21.7**	**-1.3**
LKD				*e*Sg	**Sg**	**05 52 33.1**	**+1.2**
VLS	**Valsamata**	**1.16**	**164**	*e*Pg	**Pg**	**05 52 31.5**	**-0.5**
VLS				*e*Sg	**Sg**	**05 52 47.8**	**+0.8**
VLS	**Valsamata**	**1.16**	**164**	*e*P	**Pg**	**05 52 30.3**	**-1.7**
VLS				*e*S	**Sg**	**05 52 48.2**	**+1.2**
VLS	**Valsamata**	**1.16**	**164**	*e*Pg	**Pg**	**05 52 31.5**	**-0.5**
VLS				*e*Sg	**Sg**	**05 52 47.8**	**+0.8**
VLS				*e*S	**Sg**	**05 52 48.2**	**+1.2**
THL	**Klokotos Trika**	**1.44**	**79**	*e*Pg	**Pg**	**05 52 36.0**	**-1.4**
THL				*e*Sg	**Sg**	**05 52 56.9**	**+0.8**
AGG	**Agios Georgios**	**1.69**	**99**	*e*Pb	**Pb**	**05 52 40.0**	**-1.4**
AGG				*e*Sb	**Sb**	**05 53 04.1**	**+1.2**

*NEIC **09** 05:54:17.3±0.8, 2545S×3637E, h10km, mb4.1/1, Error ellipse: s-maj=32.7km s-min=11.3km az=119.0*
*ISCJB **09** 05:54:18.5±0.6, 2735S±009×3611E±0.1, h10km, mb4.2/10, MS3.9/11, Error ellipse: s-maj=23.3km s-min=7.4km az=30.1*
*IDC **09** 05:54:18.6±1.0, 2705S×3614E, h0km, mb4.1/6, mb1 4.1/7, mb1mx3.8/24, mbtmp4.1/7, ML3.9/1, MS3.9/11, Ms1 3.9/11, ms1mx3.7/24, Error ellipse: s-maj=32.3km s-min=12.0km az=122.0*
ISC 09 05:54:19.8±0.6, 2735S±009×3622E±01, h10km, n30, σ1§11/26, mb4.2/10, MS3.9/11, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**1.94**	**35**	Pn	**Pn**	**05 54 45.6**	**-7.2**
	1.3nm,0.3s,baz=227,slow=22,SNR=12						
KMBO				Pg	**Pg**	**05 54 52.9**	**-4.1**
	162nm,0.3s,baz=217,slow=19,SNR=274						
KMBO				Lg		05 55 18.6	
	810nm,0.3s,baz=297,slow=19,SNR=23						
KMBO	**Kilima Mbogo**	**1.94**	**35**	Pn	**Pn**	**05 54 45.6**	**-7.2**
KMBO				Pg	**Pg**	**05 54 52.9**	**-4.1**
KMBO				*e*Sn	**Sn**	**05 55 17.6**	**+0.3**
KMBO				Lg		05 55 18.6	
KMBO	**Kilima Mbogo**	**1.94**	**35**	*e*P	**Pn**	**05 54 53.0**	**+0.2**
LSZ	**Lusaka**	**14.73**	**212**	Pn	**Pn**	**05 57 46.9**	**-1.4**
	0.6nm,0.3s,baz=47,slow=11,SNR=5.7						
LSZ				Lg		06 01 59.1	
	0.6nm,0.3s,baz=330,slow=16,SNR=7.0						
LSZ	**Lusaka**	**14.73**	**212**	*e*Pn	**Pn**	**05 57 48.2**	**-0.2**
LSZ				Lg		06 01 59.1	
LSZ	**Lusaka**	**14.73**	**212**	*e*P	**Pn**	**05 57 43.2**	**-5.1**
LSZ				AMb	AMB	05 58 06.8	
	comp=Z,79nm,1.4s						
LBTB	**Lobatse**	**24.38**	**204**	P	**P**	**05 59 38.4**	**+0.1**
	comp=Z,3.3nm,0.8s,mb3.8,baz=36,slow=7.9,SNR=4.8						
LBTB				LR	LR	06 09 40.7	
	comp=Z,212nm,18.6s,MS3.7,baz=71,slow=38						
LBTB	**Lobatse**	**24.38**	**204**	P	**P**	**05 59 38.4**	**+0.1**
LBTB				LR	LR	06 09 40.7	
LBTB	**Lobatse**	**24.38**	**204**	*e*P	**P**	**05 59 36.7**	**-1.6**
LBTB				AMb	AMB	06 00 14.1	
	comp=Z,18nm,1.9s,mb4.2						
TSUM	**Tsumeb**	**24.45**	**227**	P	**P**	**05 59 38.7**	**-0.3**
	comp=Z,3.3nm,0.8s,mb3.8						
TSUM	**Tsumeb**	**24.45**	**227**	*e*P	**P**	**05 59 39.7**	**+0.7**
TSUM				AMb	AMB	06 00 17.5	
	comp=Z,71nm,1.6s,mb4.8						
KSR	**Koster**	**24.65**	**200**	*e*P	**P**	**05 59 39.1**	**-1.6**
KSR				AMb	AMB	06 00 08.2	
	comp=Z,22nm,1.9s,mb4.4						
PRYS	**Parys**	**25.49**	**198**	*e*P	**P**	**05 59 49.9**	**+1.5**
PRYS				AMb	AMB	06 00 46.2	
	comp=Z,28nm,1.9s,mb4.5						
SWZ	**Schweizer**	**26.43**	**202**	*e*P	**P**	**05 59 56.4**	**-0.5**
SWZ				AMb	AMB	06 00 20.5	
	comp=Z,27nm,1.8s,mb4.5						
BOSA	**Boshof**	**27.75**	**201**	P	**P**	**06 00 09.3**	**+0.5**
	comp=Z,5.0nm,0.7s,mb4.2,baz=45,slow=9.7,SNR=8.4						
BOSA				LR	LR	06 10 31.3	
	comp=Z,98nm,18.2s,MS3.4,baz=157,slow=35						
BOSA	**Boshof**	**27.75**	**201**	P	**P**	**06 00 09.3**	**+0.5**
BOSA				LR	LR	06 10 31.3	
BOSA	**Boshof**	**27.75**	**201**	*e*P	**P**	**06 00 08.3**	**-0.5**
BOSA				AMb	AMB	06 00 14.5	
	comp=Z,16nm,2.0s,mb4.3						
SUR	**Sutherland**	**32.83**	**204**	P	**P**	**06 00 55.0**	**+1.4**
	comp=Z,7.4nm,0.9s,mb4.6,baz=340,slow=8.3,SNR=2.9						
SUR	**Sutherland**	**32.83**	**204**	P	**P**	**06 00 55.0**	**+1.4**
TORD	**Torodi Ar. Bea**	**37.67**	**296**	P	**P**	**06 01 34.9**	**-0.7**
	comp=Z,0.9nm,0.9s,mb3.5,baz=111,slow=7.6,SNR=4.2						
TORD				LR	LR	06 17 07.5	
	comp=Z,330nm,19.3s,MS4.2,baz=125,slow=36						
DBIC	**Dimbokro**	**41.99**	**283**	LR	LR	06 20 04.8	
	comp=Z,437nm,18.6s,MS4.4,baz=99,slow=37						
KEST	**Kesra**	**45.75**	**329**	LR	LR	06 22 39.7	
	comp=Z,81nm,19.7s,MS3.7,baz=189,slow=37						
GERES	**GERESS Array B**	**54.95**	**342**	LR	LR	06 31 15.9	
	comp=Z,24nm,20.1s,MS3.3,baz=137,slow=40						
ESDC	**Sonseca Array**	**55.98**	**323**	P	**P**	**06 03 59.5**	**+0.9**
	comp=Z,0.2nm,0.3s,mb3.6,baz=127,slow=8.2,SNR=4.2						
ESDC				LR	LR	06 28 36.0	
	comp=Z,87nm,19.7s,MS3.9,baz=140,slow=37						
MK31	**Makanchi Array**	**63.82**	**34**	P	**P**	**06 04 49.0**	**-3.3**
MKAR	**Makanchi Array**	**63.82**	**34**	P	**P**	**06 04 53.6**	**+1.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=236,slow=5.7,SNR=7.9						
ZALV	**Zalesovo Beam**	**69.40**	**28**	LR	LR	06 38 16.9	
	comp=Z,22nm,18.7s,MS3.4,baz=104,slow=38						
NWAO	**Narrogin (SRO)**	**81.03**	**123**	LR	LR	06 34 42.7	
	comp=Z,156nm,19.2s,MS4.4,baz=172,slow=30						
VNDA	**Vanda**	**94.62**	**170**	LR	LR	06 46 24.4	
	comp=Z,177nm,21.1s,MS4.5,baz=251,slow=33						
WRA	**Warramunga Arr**	**96.76**	**110**	LR	LR	06 47 39.2	
	comp=Z,132nm,21.4s,MS4.4,baz=240,slow=33						

*ISCJB **09** 05:59:24.0±1.6, 1755S×04×1789W±02, h552km±25km, mb4.0/9, Error ellipse: s-maj=67.5km s-min=16.8km az=150.9*
*NEIC **09** 05:59:24.8±1.2, 1755S×17882W, h553km±17km, mb4.4/2, Error ellipse: s-maj=49.8km s-min=13.4km az=151.0*
*IDC **09** 05:59:25.9±1.9, 1750S×17886W, h568km±27km, mb3.4/7, mb1 3.7/8, mb1mx3.4/17, mbtmp3.5/8, Error ellipse: s-maj=49.0km s-min=13.2km az=150.0*
ISC 09 05:59:24.9±1.5, 175S±04×1789W±02, h552km±22km, n11, σ0§75/12, mb4.0/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.72**	**63**	P	**P**	**06 01 19.7**	**-0.3**
	3.2nm,0.3s,baz=184,slow=9.9,SNR=4.8						
STKA	**Stephens Creek**	**38.42**	**241**	P	**P**	**06 06 00.5**	**+0.7**
	5.1nm,0.6s,mb4.3,baz=81,slow=7.4,SNR=9.6						
WRA	**Warramunga Arr**	**44.27**	**259**	P	**P**	**06 06 45.7**	**-0.4**
	1.0nm,0.6s,mb3.6,baz=98,slow=6.9,SNR=19						
ASAR	**Alice Springs**	**44.47**	**254**	P	**P**	**06 06 47.8**	**+0.2**
	5.6nm,0.4s,mb4.5,baz=92,slow=8.4,SNR=96						
ASAR				S	**S**	**06 12 40.4**	**-2.6**
	0.4nm,0.8s,baz=91,slow=16,SNR=4.5						
MJAR	**Matsushiro Arr**	**67.34**	**324**	P	**P**	**06 09 24.9**	**-0.5**
	2.5nm,0.7s,mb3.9,baz=153,slow=6.3,SNR=6.7						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**06 10 34.2**	**-0.2**
	1.6nm,0.7s,mb3.5,baz=225,slow=9.9,SNR=13						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**06 10 34.2**	**-0.2**
PMR	**Palmer**	**82.34**	**14**	*e*P	**P**	**06 10 49.8**	**+1.0**
	11nm,0.6s,mb4.5						
IMW	**Indian Meadow**	**87.01**	**42**	*e*P	**P**	**06 11 11.8**	**0.0**
	4.7nm,1.0s,mb4.1						
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**06 11 12.9**	**-0.7**
	1.1nm,0.6s,mb3.7,baz=211,slow=3.2,SNR=12						
CMAR	**Chiang Mai Arr**	**88.34**	**290**	P	**P**	**06 11 19.6**	**+1.0**
	0.6nm,0.3s,mb3.9,baz=93,slow=2.9,SNR=4.1						

IDC 09 06:14:53.5±3.0, 3024S×13860E, h0km, mb1 3.1/3, mb1mx3.1/15, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=73.7km s-min=15.4km az=45.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.05**	**123**	Pn	Pn	06 15 43.1	+0.2
	0.3nm,0.3s,baz=302,slow=13,SNR=7.0						
STKA				Pg	Pg	06 15 50.5	-1.5
	0.9nm,0.3s,baz=302,slow=15,SNR=11						
STKA				Lg		06 16 28.7	
	1.9nm,0.3s,baz=212,slow=22,SNR=6.6						
ASAR	**Alice Springs**	**7.77**	**326**	Pn	Pn	06 16 49.0	+1.1
	0.1nm,0.3s,baz=152,slow=11,SNR=4.8						
ASAR				Sn	Sn	06 18 18.0	+1.4
	0.1nm,0.3s,baz=148,slow=21,SNR=4.7						
WRA	**Warramunga Arr**	**10.95**	**338**	Pn	Pn	06 17 30.2	-1.3
	0.1nm,0.3s,baz=154,slow=13,SNR=2.3						
WRA				Sn	Sn	06 19 35.1	+0.2
	0.0nm,0.3s,baz=162,slow=25,SNR=2.7						

*IDC **09** 06:39:34.7±4.5, 3662N×14148E, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.4/21, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=93.8km s-min=26.3km az=165.0*
*NEIC **09** 06:39:40.2, 3672N×14124E, h43km, MG3.4(JMA), After JMA.*
*JMA **09** 06:39:40.2±0.1, 3672N×14124E, h43km±1km, M3.4*
ISC 09 06:39:39.4±1.4, 3671N±005×14131E±008, h23km±6km, n14, σ0§81/26, mb3.5/2, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.57**	**313**	⇓P	**Pb**	**06 39 51.1**	**+0.4**
ONAJ				*e*S	**Sb**	**06 39 58.7**	**+0.4**
JHO	**Hitachi**	**0.61**	**260**	⇓P	**Pb**	**06 39 51.5**	**+0.1**
JHO				S	**Sb**	**06 39 59.7**	**+0.2**
JFK	**Kawauchi**	**0.74**	**332**	⇓P	**Pb**	**06 39 53.6**	**0.0**
JFK				*e*S	**Sb**	**06 40 03.0**	**-0.3**
JYT	**Yasato**	**1.02**	**242**	P	**Pn**	**06 39 57.5**	**-0.9**
JYT				S	**Sb**	**06 40 10.3**	**-1.2**
JFT	**Otama**	**1.12**	**316**	⇓P	**Pn**	**06 39 59.9**	**+0.2**
JFT				S	**Sb**	**06 40 13.9**	**-0.3**
JSB	**Shiboa**	**1.15**	**283**	P	**Pn**	**06 40 00.2**	**+0.2**
JSB				S	**Sb**	**06 40 15.2**	**+0.2**
JMM	**Marumori**	**1.22**	**340**	P	**Pn**	**06 40 00.7**	**-0.4**
JMM				*e*S	**Sn**	**06 40 15.6**	**-1.3**
JFY	**Yanaizu**	**1.46**	**299**	P	**Pn**	**06 40 05.0**	**+0.6**
JFY				*e*S	**Sn**	**06 40 23.4**	**+0.6**
JAG	**Ashikaga**	**1.52**	**260**	P	**Pn**	**06 40 04.9**	**-0.3**
JAG				*e*S	**Sn**	**06 40 23.1**	**-1.3**
MJAR	**Matsushiro Arr**	**2.50**	**267**	Pn	**Pn**	**06 40 18.7**	**0.0**
	6.2nm,0.3s,baz=89,slow=15,SNR=15						
MJAR				Sn	**Sn**	**06 40 50.5**	**+2.0**
	6.9nm,0.3s,baz=102,slow=20,SNR=12						
MJAR				Lg		06 40 57.4	
	6.6nm,0.3s,baz=309,slow=30,SNR=7.7						
MAJO	**Matsushiro**	**2.50**	**267**	*e*Pn	**Pn**	**06 40 19.9**	**+1.1**
MAJO				*e*Sn	**Sn**	**06 40 46.6**	**-2.0**
MAT	**Matsushiro**	**2.50**	**267**	P	**Pn**	**06 40 19.9**	**+1.2**
MAT				S	**Sn**	**06 40 49.1**	**+0.6**
SONM	**Songino Array**	**27.90**	**304**	P	**P**	**06 45 27.6**	**+0.1**
	0.8nm,0.6s,mb3.5,baz=111,slow=8.6,SNR=5.8						
MKAR	**Makanchi Array**	**44.22**	**302**	P	**P**	**06 47 46.8**	**+0.1**
	0.5nm,0.7s,mb3.4,baz=93,slow=8.9,SNR=4.6						

*TIR **09** 07:07:20.7±1.6, 3922N×2057E, h6km±11km*
*ROM **09** 07:07:22.3±0.7, 3914N×2053E, h10km, Md3.2/9, Ml3.5/6, Error ellipse: s-maj=9.9km s-min=7.2km az=74.0*
*THE **09** 07:07:24.6, 3927N×2020E, h0km, ML4.1*
*NEIC **09** 07:07:24.6, 3927N×2020E, h0km, MD3.8(ATH), ML4.1(THE), After THE.*
*ISCJB **09** 07:07:24.0±0.4, 3930N±002×2019E±002, h6km±3km, mb3.6/6, Error ellipse: s-maj=2.6km s-min=2.6km az=176.0*
*ATH **09** 07:07:25.3, 3928N×2025E, h17km±2km, MD3.8/10*
*IDC **09** 07:07:26.7±6.8, 3933N×2019E, h28km±53km, mb3.5/6, mb1 3.7/9, mb1mx3.5/27, mbtmp3.6/9, ML3.8/3, MS2.9/2, Ms1 2.9/2, ms1mx2.3/30, Error ellipse: s-maj=22.1km s-min=20.7km az=57.0*
*CSEM **09** 07:07:26.1±0.1, 3930N×2025E, h13km±1km, ML4.1, Error ellipse: s-maj=1.8km s-min=1.3km az=18.0*
ISC 09 07:07:25.1±0.4, 3929N±002×2022E±002, h5km±3km, n103, σ1§26/143, mb3.6/6, 6C-5D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.26**	**20**	*e*Pg	**Pg**	**07 07 29.9**	**-0.3**
IGT				*e*Sg	**Sg**	**07 07 34.2**	**+0.6**
IGT	**Igoumenitsa**	**0.26**	**20**	*i* PG	**Pg**	**07 07 29.9**	**-0.3**
IGT				*i* SG	**Sg**	**07 07 34.2**	**+0.5**
KEK	**Kerkira**	**0.54**	**323**	*e*PN	**Pg**	**07 07 36.3**	**+0.8**
JAN	**Janina**	**0.61**	**53**	*e*PB	**Pb**	**07 07 36.0**	**-2.3**
JAN				*e*SN	**Sg**	**07 07 45.5**	**+0.6**
SRN	**Sarande**	**0.62**	**344**	*e*PG	**Pg**	**07 07 37.2**	**+0.2**
SRN				*i* SG	**Sg**	**07 07 48.9**	**+3.9**
LKD	**Levkas**	**0.67**	**150**	*e*Pg	**Pg**	**07 07 36.5**	**-1.5**
LKD				*e*Sg	**Sg**	**07 07 48.0**	**+1.3**
VLS	**Valsamata**	**1.15**	**165**	*e*Pg	**Pg**	**07 07 44.9**	**-2.2**
VLS				*e*Sg	**Sg**	**07 08 03.5**	**+1.6**
VLS	**Valsamata**	**1.15**	**165**	*e*Pn	**Pn**	**07 07 46.5**	**-1.2**
VLS				*e*Sn	**Sn**	**07 08 03.5**	**-0.3**
KFL	**Anninata**	**1.26**	**159**	*e*Pg	**Pg**	**07 07 47.1**	**-2.1**
KFL				*e*Sg	**Sg**	**07 08 06.7**	**+1.1**
EVR	**Evrytania**	**1.29**	**106**	*e*PB	**Pb**	**07 07 48.4**	**-1.4**
THL	**Klokotos Trika**	**1.42**	**78**	*e*Pg	**Pg**	**07 07 52.2**	**-0.1**
THL				*e*Sg	**Sg**	**07 08 11.9**	**+1.2**
THL	**Klokotos Trika**	**1.42**	**78**	*e*Pn	**Pn**	**07 07 52.5**	**+1.0**
THL				*e*Sn	**Sn**	**07 08 11.4**	**+0.9**
SCTE	**Santa Cesarea**	**1.56**	**301**	Pn	**Pn**	**07 07 53.8**	**+0.3**
SCTE				Sn	**Sn**	**07 08 18.7**	**+4.6**
RLS	**Riolos of Patr**	**1.57**	**141**	*e*PN	**Pn**	**07 07 53.3**	**-0.3**
RLS				*e*SN	**Sn**	**07 08 15.7**	**+1.5**
KZN	**Kozani**	**1.57**	**49**	*e*PN	**Pn**	**07 07 55.0**	**+1.4**
AGG	**Agios Georgios**	**1.66**	**98**	*e*Pb	**Pb**	**07 07 54.4**	**-1.8**
AGG				*e*Sb	**Sb**	**07 08 17.9**	**+0.5**
FNA	**Florina**	**1.74**	**30**	*e*Pb	**Pb**	**07 07 55.5**	**-2.0**
FNA				*e*Sb	**Sb**	**07 08 21.3**	**+1.7**
FNA	**Florina**	**1.74**	**30**	*i* PG	**Pg**	**07 07 55.5**	**-3.0**
FNA				*i* SG	**Sg**	**07 08 21.3**	**+0.3**
OHR	**Ohrid**	**1.88**	**14**	*e*Pb	**Pb**	**07 07 57.2**	**-2.6**
OHR	**Ohrid**	**1.88**	**14**	*e*Pn	**Pn**	**07 07 57.0**	**-0.8**
OHR				*e*Sn	**Sn**	**07 08 21.1**	**-0.7**
OHR	**Ohrid**	**1.88**	**14**	*e*Pn	**Pn**	**07 07 56.9**	**-0.9**
OHR				*e*Sn	**Sn**	**07 08 21.1**	**-0.7**
BIA	**Bitola**	**1.93**	**26**	*e*Pn	**Pn**	**07 08 01.4**	**+2.9**
BIA				*e*Sn	**Sn**	**07 08 26.3**	**+3.2**
BIA	**Bitola**	**1.93**	**26**	*e*Pn	**Pn**	**07 08 01.3**	**+2.8**
BIA				*e*Sn	**Sn**	**07 08 26.2**	**+3.1**
LIT	**Litokhoron**	**1.93**	**64**	*e*Pb	**Pb**	**07 07 58.4**	**-2.3**
LIT				*e*Sb	**Sb**	**07 08 24.2**	**-1.0**
TIR	**Tirane**	**2.08**	**353**	*e*Pn	**Pn**	**07 08 02.2**	**+1.6**
TIR	**Tirane**	**2.08**	**353**	*e*Pn	**Pn**	**07 08 02.1**	**+1.6**
KRUS	**Krusevo**	**2.22**	**20**	*e*Pn	**Pn**	**07 08 04.0**	**+1.4**
KRUS				*e*Sn	**Sn**	**07 08 30.0**	**-0.4**
KRUS	**Krusevo**	**2.22**	**20**	*e*Pn	**Pn**	**07 08 03.9**	**+1.3**
KRUS				*e*Sn	**Sn**	**07 08 30.0**	**-0.4**
LKR	**Lokris**	**2.26**	**105**	*e*Pn	**Pn**	**07 08 03.0**	**-0.1**
LKR	**Lokris**	**2.26**	**105**	*e*Pb	**Pb**	**07 08 03.3**	**-3.0**
XOR	**Xorichti**	**2.31**	**87**	*e*Pn	**Pn**	**07 08 03.6**	**-0.1**
NEO	**Neokhori**	**2.33**	**89**	*e*PN	**Pn**	**07 08 05.0**	**+0.9**
GRG	**Griva**	**2.36**	**44**	*e*Pn	**Pn**	**07 08 05.6**	**+1.1**
PHP	**Peshkopia**	**2.40**	**4**	*e*PN	**Pn**	**07 08 05.2**	**+0.2**
LTK	**Loutraki**	**2.49**	**120**	*e*Pn	**Pn**	**07 08 05.8**	**-0.5**
ITM	**Ithomi**	**2.50**	**147**	*e*PN	**Pn**	**07 08 07.0**	**+0.7**
HORT	**Hortiatis**	**2.57**	**58**	*e*Pn	**Pn**	**07 08 07.6**	**+0.2**
HORT				*e*Sn	**Sn**	**07 08 40.2**	**+1.2**
PE1	**Pezze di Greco**	**2.63**	**306**	*e*Pn	**Pn**	**07 08 09.4**	**+1.3**
TIP	**Timpagrande**	**2.69**	**269**	Pn	**Pn**	**07 08 09.7**	**+0.7**
	38nm,0.8s						
PLG	**Polygyros**	**2.71**	**65**	*e*PB	**Pb**	**07 08 10.7**	**-3.4**
VAY	**Valandovo**	**2.71**	**41**	*e*Pn	**Pn**	**07 08 11.9**	**+2.6**
VAY				*e*Sn	**Sn**	**07 08 41.9**	**-0.6**
VAY	**Valandovo**	**2.71**	**41**	*e*Pn	**Pn**	**07 08 11.9**	**+2.6**
VAY				*e*Sn	**Sn**	**07 08 41.8**	**-0.7**
SERS	**Sersale**	**2.76**	**266**	Pn	**Pn**	**07 08 10.2**	**+0.3**
SERS				Sn	**Sn**	**07 08 45.6**	**+2.1**
	50nm,0.5s						
PUK	**Puka**	**2.76**	**355**	*e*PN	**Pn**	**07 08 10.1**	**+0.1**
KNT	**Kendrikon**	**2.78**	**47**	*e*Pn	**Pn**	**07 08 11.2**	**+1.0**
STIP	**Stip**	**2.83**	**31**	*e*Pn	**Pn**	**07 08 11.6**	**+0.6**
STIP				*e*Sn	**Sn**	**07 08 46.9**	**+1.4**
STIP	**Stip**	**2.83**	**31**	*e*Pn	**Pn**	**07 08 11.5**	**+0.5**
STIP				*e*Sn	**Sn**	**07 08 46.8**	**+1.3**
SKO	**Skopje**	**2.84**	**19**	*e*Pn	**Pn**	**07 08 11.8**	**+0.8**
SKO				*e*Sn	**Sn**	**07 08 46.1**	**+0.5**
AOS	**Alonnisos**	**2.85**	**91**	*e*Pn	**Pn**	**07 08 10.3**	**-0.8**
SOH	**Sokhos**	**2.85**	**56**	*e*Pn	**Pn**	**07 08 11.9**	**+0.7**
SOH				*e*Sn	**Sn**	**07 08 46.5**	**+0.6**
DID	**Didima**	**2.96**	**126**	*e*Pn	**Pn**	**07 08 11.7**	**-1.0**
DID				*e*Sn	**Sn**	**07 08 49.0**	**+0.3**
BCI	**Bajram Curri**	**3.08**	**358**	*e*PN	**Pn**	**07 08 15.3**	**+1.0**
PTL	**Penteli**	**3.11**	**112**	*e*PN	**Pn**	**07 08 15.0**	**+0.2**
SG1	**Sgolgore (BA)**	**3.13**	**301**	*e*Pn	**Pn**	**07 08 15.2**	**+0.2**
VLI	**Veliai**	**3.34**	**139**	*e*PN	**Pn**	**07 08 20.0**	**+2.0**
JOPP	**Joppolo**	**3.45**	**260**	Pn	**Pn**	**07 08 19.8**	**+0.4**
JOPP				Sn	**Sn**	**07 08 59.6**	**-1.0**
NVR	**Nevrokopi**	**3.46**	**52**	*e*PN	**Pn**	**07 08 20.1**	**+0.5**
CUC	**Castrocucco**	**3.47**	**283**	*e*Pn	**Pn**	**07 08 17.4**	**-2.3**
CUC	**Castrocucco**	**3.47**	**283**	*e*Pn	**Pn**	**07 08 17.4**	**-2.4**
SIRI	**Monte Sirino -**	**3.47**	**286**	Pn	**Pn**	**07 08 21.0**	**+1.3**
	90nm,0.8s						
SOI	**Samo**	**3.48**	**251**	Pn	**Pn**	**07 08 19.6**	**-0.2**
SOI				Sn	**Sn**	**07 09 00.7**	**-0.6**
CEL	**Celeste**	**3.53**	**254**	Pn	**Pn**	**07 08 20.7**	**+0.1**
CEL				Sn	**Sn**	**07 09 01.1**	**-1.6**
CEL	**Celeste**	**3.53**	**254**	P	**Pn**	**07 08 21.5**	**+0.9**
CEL				Sn	**Sn**	**07 09 01.1**	**-1.6**
CEL	**Celeste**	**3.53**	**254**	P	**Pn**	**07 08 21.5**	**+0.9**
MRVN	**Minervino Murg**	**3.56**	**301**	Pn	**Pn**	**07 08 21.1**	**+0.2**
MCEL	**Monticello**	**3.56**	**288**	Pn	**Pn**	**07 08 22.6**	**+1.7**
BARS	**Barje**	**3.73**	**18**	⇓*i*Pn	**Pn**	**07 08 23.5**	**+0.3**
BARS				*e*Sg	**Sn**	**07 09 06.6**	**-0.9**
BULG	**Bulgheria - Ca**	**3.82**	**283**	Pn	**Pn**	**07 08 27.2**	**+2.7**
CMPR	**Campora**

JOM	**Ohasama**	**2.50**	**250**	P	**Pn**	**07 34 56.3**	**-0.3**
JAK	**Akkeshi**	**2.65**	**6**	P	**Pn**	**07 34 59.2**	**+0.6**
JAK				*e*S	**Sn**	**07 35 29.4**	**-0.1**
JMK	**Ichinoseki**	**2.78**	**241**	P	**Pn**	**07 35 00.1**	**-0.4**
JKB	**Kayabe**	**2.92**	**303**	P	**Pn**	**07 35 01.9**	**-0.5**
JAR	**Ashorobuto**	**2.96**	**352**	P	**Pn**	**07 35 02.4**	**-0.6**
JAR				*e*S	**Sn**	**07 35 36.1**	**-1.2**
NEM2	**Nemuro 2**	**3.18**	**19**	P	**Pn**	**07 35 05.9**	**-0.1**
NEM2				*e*S	**Sn**	**07 35 41.0**	**-1.7**
JTKR	**Abashiri--Toko**	**3.62**	**355**	P	**Pn**	**07 35 12.0**	**0.0**
JTKR				*e*S	**Sn**	**07 35 53.2**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**3.84**	**17**	P	**Pn**	**07 35 15.0**	**-0.1**
YUK				*e*S	**Sn**	**07 35 56.5**	**-2.5**
YUK				smax			
	comp=E,2μm,2.0s						
YUK				smax			
	comp=N,250nm,0.5s						
YUK				smax			
	comp=E,400nm,0.6s						
JHR	**Hokuryu**	**3.90**	**331**	P	**Pn**	**07 35 17.5**	**+1.7**
JHR				*e*S	**Sn**	**07 36 02.8**	**+2.5**
ASAJ	**Asahikawa**	**3.97**	**342**	Pn	**Pn**	**07 35 18.3**	**+1.5**
	comp=E,2.2nm,0.3s,baz=182,slow=10,SNR=7.6						
ASAJ				Sn	**Sn**	**07 36 02.9**	**+0.8**
	comp=E,3.1nm,0.3s,baz=35,slow=31,SNR=7.1						
ASAJ	**Asahikawa**	**3.97**	**342**	P	**Pn**	**07 35 18.3**	**+1.5**
ASAJ						07 36 02.9	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
KUR	**Kuril'sk**	**5.52**	**27**	P	**Pn**	**07 35 46.5**	**+8.4**
MJAR	**Matsushiro Arr**	**6.13**	**233**	Pn	**Pn**	**07 35 46.5**	**0.0**
	comp=N,0.8nm,0.3s,baz=40,slow=12,SNR=10						
MAJO	**Matsushiro**	**6.13**	**234**	*e*P	**Pn**	**07 35 46.4**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,12nm,0.5s						
MAJO	**Matsushiro**	**6.13**	**234**	*e*Pn	**Pn**	**07 35 46.4**	**-0.1**
	comp=Z,12nm,0.5s						
JHJ	**Hachijo jima 2**	**8.10**	**208**	LR	LR	07 38 50.5	
	comp=Z,77nm,21.8s,baz=104,slow=34						
KLR	**Kul'dur**	**12.57**	**319**	*e*P	**Pn**	**07 37 13.1**	**-1.6**
KSRS	**Korea Array**	**13.11**	**262**	LR	LR	07 42 40.6	
	comp=Z,88nm,18.9s,baz=75,slow=38						
SONM	**Songino Array**	**28.03**	**298**	P	**P**	**07 40 08.2**	**+2.2**
	comp=Z,0.8nm,0.6s,mb3.5,baz=86,slow=7.5,SNR=5.3						
ZALV	**Zalesovo Beam**	**41.45**	**310**	P	**P**	**07 42 06.0**	**+4.4**
	comp=Z,2.7nm,0.5s,mb4.2,baz=81,slow=7.8,SNR=7.9						
ZAL	**Zalesovo**	**41.47**	**310**	P	**P**	**07 42 06.0**	**+4.4**
MK31	**Makanchi Array**	**44.37**	**300**	*e*P	**P**	**07 42 27.1**	**+1.9**
MKAR	**Makanchi Array**	**44.37**	**300**	P	**P**	**07 42 27.2**	**+2.0**
	comp=Z,1.4nm,0.9s,mb3.7,baz=80,slow=10.0,SNR=5.6						
KURK	**Kurchatov**	**45.75**	**306**	*e*P	**P**	**07 42 37.5**	**+1.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KURK	**Kurchatov**	**45.75**	**306**	*e*P	**P**	**07 42 37.5**	**+1.4**
	comp=Z,4.6nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**50.08**	**311**	P	**P**	**07 43 11.0**	**+1.4**
	comp=Z,0.5nm,0.5s,mb3.9,baz=80,slow=8.1,SNR=3.5						
WRA	**Warramunga Arr**	**60.71**	**191**	P	**P**	**07 44 27.4**	**+1.1**
	comp=Z,0.8nm,1.0s,mb3.8,baz=8.1,slow=7.1,SNR=4.9						
PV10	**Paradox Valley**	**76.89**	**51**	*e*P	**P**	**07 46 03.9**	**-3.0**

HLW ***09*** *07:36:37.0, 3488N×2702E, h33km, Mb3.3*
ATH ***09*** *07:36:45.4, 3522N×2659E, h10km, MD3.6/3*
CSEM 09 07:36:37.6±0.2, 3452N×2709E, h15km, MD3.6, 1C-1D, Error ellipse: s-maj=16.0km s-min=4.7km az=72.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.03**	**3**	*e*PB	Pb	07 36 56.3	-0.8
NPS	**Neapolis**	**1.42**	**302**	*e*PB	Pn	07 37 00.4	-2.5
APE	**Apeiranthos**	**2.84**	**334**	*e*PN	Pn	07 37 22.2	-0.2
HMAT	**Matruh**	**3.41**	**180**	P	Pn	07 37 32.7	+2.5
SWA2		**5.44**	**195**	P	Pn	07 37 59.9	+1.8
HNAT	**Natroun**	**5.72**	**147**	P	Pn	07 38 04.6	+2.7
GLL	**Jalalah**	**6.30**	**140**	P	Pn	07 38 12.2	+2.3
SUZ		**6.74**	**132**	⇑P	Pn	07 38 18.3	+2.3
HFRF	**Wahat Farafira**	**7.42**	**172**	⇓P	Pn	07 38 28.5	+3.2
HDK1	**Dakhla**	**9.16**	**167**	P	Pn	07 38 52.6	+3.3

IDC ***09*** *07:48:09.6±0.5, 5343N×163.12E, h0km, mb4.2/24, mb1 4.4/26, mb1mx4.3/31, mbtmp4.2/26, ML4.1/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/40, Error ellipse: s-maj=17.9km s-min=10.7km az=163.0*
BJI ***09*** *07:48:10.7, 5339N×16352E, h30km, mB4.8, mb4.7, Ms4.5, Msz3.9*
MOS ***09*** *07:48:11.4±1.0, 5326N×163.14E, h30km, mb4.8/27, Error ellipse: s-maj=8.9km s-min=6.4km az=96.9*
ISCJB ***09*** *07:48:12.7±0.6, 5331N±003×163.10E±004, h36km±5km, mb4.5/70, MS3.9/9, Error ellipse: s-maj=5.1km s-min=3.8km az=144.4*
KRSC ***09*** *07:48:12.5±0.7, 5331N×16294E, h43km±42km, ML4.9*
NEIC ***09*** *07:48:13.3±0.2, 5341N×163.13E, mb4.6/30, Error ellipse: s-maj=8.0km s-min=3.8km az=173.0*
ISC 09 07:48:13.6±1.1, 5331N±003×16308E±003, h29km±7km, h26km±2.6km; pP-P, n159, σ1§00/186, mb4.5/70, MS3.9/9, 2C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.49**	**328**	*i* P	**Pn**	**07 48 37.4**	**-0.9**
MKZ				*i* S	**Sn**	**07 48 56.1**	**-0.6**
SPN	**Mys Shipunski**	**1.85**	**265**	*i* P	**Pn**	**07 48 42.3**	**-1.0**
SPN				*i* S	**Sn**	**07 49 03.7**	**-2.0**
NLC	**Nalytchevo**	**2.25**	**268**	*i* P	**Pn**	**07 48 48.1**	**-0.7**
NLC				*i* S	**Sn**	**07 49 13.9**	**-1.6**
KII	**Karymskiy**	**2.28**	**290**	*e*P	**Pn**	**07 48 49.3**	**+0.1**
KII				*i* S	**Sn**	**07 49 16.0**	**-0.3**
AVH	**Avacha**	**2.61**	**271**	*i* P	**Pn**	**07 48 54.0**	**+0.3**
AVH				*i* S	**Sn**	**07 49 24.2**	**-0.1**
TUMR	**Tumrok**	**2.62**	**320**	*e*P	**Pn**	**07 48 54.7**	**+0.8**
TUMR				*i* S	**Sn**	**07 49 25.7**	**+1.0**
PET	**Petropavlovsk**	**2.68**	**266**	*e*P	**Pn**	**07 48 54.4**	**-0.3**
PET				*i* S	**Sn**	**07 49 25.6**	**-0.5**
PET	**Petropavlovsk**	**2.68**	**266**	*e*Pn	**Pn**	**07 48 54.1**	**-0.5**
PET				*e*Sn	**Sn**	**07 49 26.5**	**+0.4**
RUS	**Russkaya**	**2.90**	**254**	*i* P	**Pn**	**07 48 56.5**	**-1.2**
RUS				*i* S	**Sn**	**07 49 28.5**	**-3.1**
KBTR	**Krutoberegovo**	**2.91**	**357**	*e*P	**Pn**	**07 48 56.3**	**-1.6**
KBTR				*i* S	**Sn**	**07 49 28.2**	**-3.7**
KMNR	**Kamenistaya**	**2.96**	**327**	*i* P	**Pn**	**07 48 59.2**	**+0.6**
KMNR				*i* S	**Sn**	**07 49 33.7**	**+0.6**
ZLN	**Zelenaya**	**3.02**	**335**	*e*P	**Pn**	**07 49 00.3**	**+0.9**
ZLN				*i* S	**Sn**	**07 49 35.4**	**+0.8**
GNL	**Ganaly**	**3.09**	**279**	*i* P	**Pn**	**07 49 01.0**	**+0.6**
GNL				*i* S	**Sn**	**07 49 36.4**	**+0.1**
GRL	**Gorelyy**	**3.12**	**258**	*e*P	**Pn**	**07 49 00.9**	**+0.1**
GRL				*i* S	**Sn**	**07 49 35.4**	**-1.6**
KPT	**Kopyto**	**3.14**	**329**	*i* P	**Pn**	**07 49 02.0**	**+1.0**
KPT				*i* S	**Sn**	**07 49 38.3**	**+0.8**
PETK	**Petropavlovsk-**	**3.24**	**269**	Pn	**Pn**	**07 49 03.0**	**+0.5**
	86nm,0.3s,baz=85,slow=20,SNR=1056						
PETK				Sn	**Sn**	**07 49 41.1**	**+1.1**
	100nm,0.3s,baz=268,slow=20,SNR=14						
PETK				LR	LR	07 50 12.1	
	comp=Z,218nm,21.0s,baz=274,slow=38						
KRSR	**Krestovskiy**	**3.26**	**334**	*e*P	**Pn**	**07 49 02.8**	**+0.1**
KRSR				*i* S	**Sn**	**07 49 38.6**	**-1.9**
KLY	**Klyuchi**	**3.33**	**336**	*e*P	**Pn**	**07 49 03.7**	**+0.1**
KLY				*i* S	**Sn**	**07 49 40.4**	**-1.6**
KOZR	**Kozyr**	**3.33**	**328**	PN	**Pn**	**07 49 04.7**	**+1.1**
KOZR				S	**Sn**	**07 49 43.2**	**+1.1**
KOZ	**Kozyrevsk**	**3.33**	**327**	*i* P	**Pn**	**07 49 04.7**	**+1.1**
KOZ				*i* S	**Sn**	**07 49 43.2**	**+1.1**
SRKR	**Sorokina**	**3.53**	**343**	*e*P	**Pn**	**07 49 07.1**	**+0.7**
SRKR				*i* S	**Sn**	**07 49 47.1**	**0.0**
SRDR	**Sredinnyy**	**3.59**	**329**	*e*P	**Pn**	**07 49 07.4**	**+0.2**
SRDR				*i* S	**Sn**	**07 49 47.2**	**-1.4**
MIPR	**Malaya Ipel'ka**	**3.97**	**258**	*e*P	**Pn**	**07 49 12.9**	**+0.4**
SKR	**Severo-Kuril's**	**5.04**	**241**	*e*PN	**Pn**	**07 49 24.5**	**-2.6**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SMY	**Shemya**	**6.68**	**91**	*e*PN	**Pn**	**07 49 46.9**	**-2.7**
SMY				pmax	pmax		
	comp=Z,184nm,0.7s						
SMY	**Shemya**	**6.68**	**91**	*e*Pn	**Pn**	**07 49 46.9**	**-2.6**
	comp=Z,184nm,0.7s						
SMY				*e*Sn	**Sn**	**07 50 56.8**	**-7.7**
YSS	**Yuzh-Sakhalins**	**14.48**	**252**	*i* P	**Pn**	**07 51 39.6**	**+3.4**
BILL	**Bilibino**	**14.86**	**5⇑**	*e*P	**Pn**	**07 51 43.5**	**+2.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	**Asahikawa**	**16.30**	**244**	Pn	**Pn**	**07 52 00.5**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=76,slow=19,SNR=4.6						
ASAJ	**Asahikawa**	**16.30**	**244**	P	**Pn**	**07 52 00.5**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**19.93**	**271**	*e*P	**Pn**	**07 52 41.8**	**-2.8**
CLNS	**Chul'man**	**21.95**	**295**	*e*P	**P**	**07 53 02.5**	**-2.0**
CLNS				*e**PP		07 53 12.2	
CLNS				*e*		07 53 15.9	
CLNS				*e*S	**S**	**07 56 57.6**	**-7.4**
CLNS				*e*		07 57 09.0	
CLNS				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
CLNS				pmax	pmax		
	comp=N,11nm,0.8s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.8s						
CLNS				smax			
	comp=N,6.0nm,0.8s						
CLNS				smax			
	comp=E,9.0nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,180nm,15.0s,MS3.6						
CLNS				MLR	MLR		
	comp=N,58nm,13.0s,MS3.6						
CLNS				MLR	MLR		
	comp=E,173nm,15.0s,MS3.6						
TTA	**Tatalina**	**23.25**	**49**	*e*P	**P**	**07 53 18.5**	**+0.3**
TTA				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.6						
TTA	**Tatalina**	**23.25**	**49**	*e*P	**P**	**07 53 18.4**	**+0.2**
	comp=Z,30nm,1.2s,mb4.6						
SVW2	**Sparrevohn**	**23.36**	**54**	*e*P	**P**	**07 53 18.9**	**-0.4**
TIXI	**Tiksi**	**23.67**	**334**	*e*P	**P**	**07 53 21.3**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,146nm,17.0s,MS3.5						
TIXI	**Tiksi**	**23.67**	**334**	*e*P	**P**	**07 53 21.5**	**-0.7**
	comp=Z,20nm,0.9s,mb4.6						
MAJO	**Matsushiro**	**24.12**	**236**	*e*P	**P**	**07 53 27.4**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**24.12**	**236**	*e*P	**P**	**07 53 27.4**	**+0.8**
	comp=Z,18nm,0.8s,mb4.5						
MAT	**Matsushiro**	**24.12**	**236**	P	**P**	**07 53 25.6**	**-1.0**
MAT				S	**S**	**07 57 54.0**	**+12**
MJAR	**Matsushiro Arr**	**24.12**	**236**	P	**P**	**07 53 29.6**	**+3.0**
	comp=Z,1.4nm,0.3s,mb3.8,baz=36,slow=9.2,SNR=6.7						
IMA2	**Indian Mountai**	**24.68**	**42**	*e*P	**P**	**07 53 31.0**	**-0.4**
KDAK	**Kodiak Island**	**25.12**	**62**	P	**P**	**07 53 34.1**	**-1.4**
	comp=Z,12nm,0.9s,mb4.5,baz=306,slow=3.0,SNR=14						
KDAK	**Kodiak Island**	**25.12**	**62**	*e*P	**P**	**07 53 33.4**	**-2.2**
	comp=Z,10nm,0.8s,mb4.4						
CN2	**Changchun**	**26.38**	**264**	*e*P	**P**	**07 53 49.4**	**+2.3**
CN2				*e*AP	pP	07 53 56.4	+0.9
CN2				*e*S	**S**	**07 58 19.3**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,970nm,20.0s,MS4.4						
CN2				LR	LR		
	comp=E,300nm,20.0s,MS4.4						
CN2				LR	LR		
	comp=Z,280nm,17.0s,MS3.9						
COLA	**College**	**26.98**	**45**	*e*P	**P**	**07 53 51.8**	**-0.5**
COLA				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.5						
COLA	**College**	**26.98**	**45**	*e*P	**P**	**07 53 51.8**	**-0.5**
	comp=Z,16nm,1.0s,mb4.5						
HIA	**Hailar**	**27.09**	**279**	P	**P**	**07 53 53.3**	**-0.1**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HIA	**Hailar**	**27.09**	**279**	P	**P**	**07 53 53.3**	**-0.1**
	comp=Z,5.5nm,0.5s,mb4.3						
KSRS	**Korea Array**	**28.97**	**251**	P	**P**	**07 54 11.5**	**+1.2**
	comp=Z,1.3nm,0.6s,mb3.8,baz=339,slow=35,SNR=2.5						
KSRS	**Korea Array**	**28.97**	**251**	P	**P**	**07 54 11.5**	**+1.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
EGAK	**Eagle**	**29.84**	**45**	*e*P	**P**	**07 54 16.7**	**-1.1**
	comp=Z,10nm,0.9s,mb4.5						
DAWY	**Dawson**	**30.67**	**47**	*e*P	**P**	**07 54 25.0**	**-0.1**
DAWY				*e*pP	pP	07 54 32.0	-1.5
HYT	**Haines Junctio**	**32.12**	**52**	*e*P	**P**	**07 54 38.4**	**+0.5**
INK	**Inuvik**	**32.60**	**38**	P	**P**	**07 54 41.1**	**-0.9**
	comp=Z,6.7nm,1.0s,mb4.5,baz=306,slow=7.1,SNR=4.3						
SKAG	**Skagway**	**33.54**	**54**	*e*P	**P**	**07 54 51.1**	**+0.8**
	comp=Z,13nm,0.8s,mb4.9						
SONM	**Songino Array**	**35.59**	**285**	P	**P**	**07 55 08.8**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=55,slow=49,SNR=3.1						
SONM				PcP	PcP	07 57 36.8	+0.4
	comp=Z,1.4nm,0.8s,baz=41,slow=1.2,SNR=5.6						
SONM				LR	LR	08 12 11.0	
	comp=Z,96nm,18.4s,MS3.6,baz=48,slow=40						
SONM	**Songino Array**	**35.59**	**285**	P	**P**	**07 55 08.8**	**+0.6**
SONM						07 57 36.8	
WRAK	**Wrangell Islan**	**36.08**	**58**	*e*P	**P**	**07 55 13.5**	**+1.3**
	comp=Z,16nm,1.1s,mb4.9						
HHC	**Hu-ho-hao-te**	**36.44**	**271**	*e*P	**P**	**07 55 16.5**	**+1.0**
HHC				AP	pP	07 55 23.2	-0.8
HHC				XP	sP	07 55 26.8	-0.7
HHC				PP	PP	07 56 40.5	+2.0
HHC				S	**S**	**08 00 53.9**	**-1.2**
HHC				PCS	PcS	08 01 27.2	+0.5
HHC				SS	SS	08 03 21.3	-13
HHC				SCS	ScS	08 05 29.1	-0.3
HHC				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,88nm,5.1s						
HHC				LR	LR		
	comp=N,153nm,19.0s,MS4.1						
HHC				LR	LR		
	comp=E,294nm,21.4s,MS4.1						
HHC				LR	LR		
	comp=Z,211nm,20.2s,MS3.9						
NJ2	**Nanjing**	**38.03**	**254**	*e*P	**P**	**07 55 31.2**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
LZH	**Lanzhou**	**44.13**	**272**	*e*P	**P**	**07 56 23.5**	**+4.3**
LZH				AP	pP	07 56 31.2	+3.3
LZH				XP	sP	07 56 34.4	+3.0
LZH				*e*PP	PP	07 58 08.3	+6.2
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,72nm,6.3s						
LZH				LR	LR		
	comp=N,415nm,14.6s						
LZH				LR	LR		
	comp=Z,576nm,18.2s,MS4.5						
ZALV	**Zalesovo Beam**	**44.16**	**304**	P	**P**	**07 56 18.7**	**-0.5**
	comp=Z,1.4nm,0.5s,mb4.0,baz=52,slow=6.6,SNR=5.5						
ZALV				PcP	PcP	07 58 03.9	+0.3
	comp=Z,1.2nm,0.4s,baz=38,slow=2.6,SNR=4.7						
ZAL	**Zalesovo**	**44.18**	**304**	P	**P**	**07 56 18.7**	**-0.6**
ZAL						07 58 03.9	
GTA	**Gaotai**	**44.36**	**278**	*e*P	**P**	**07 56 27.6**	**+6.6**
GTA				AP	pP	07 56 31.2	+1.5
GTA				XP	sP	07 56 32.7	-0.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.9						
NVS	**Novosibirsk**	**44.46**	**306**	*e*P	**P**	**07 56 20.7**	**-0.9**
NVS				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
NVS				pmax	pmax		
	comp=E,13nm,1.1s						
EDM	**Edmonton**	**47.19**	**55**	*e*P	**P**	**07 56 42.9**	**-0.2**
SPITS	**Spitsbergen Ar**	**47.22**	**351**	P	**P**	**07 56 42.6**	**-0.5**
	comp=E,9.8nm,0.8s,mb4.8,baz=96,slow=5.9,SNR=6.8						
SPB4	**Spitsbergen Ar**	**47.22**	**351**	*e*P	**P**	**07 56 42.5**	**-0.6**
CD2	**Chengdu**	**47.77**	**267**	*e*P	**P**	**07 56 49.1**	**+1.1**
CD2				AP	pP	07 56 56.0	-0.7
CD2				XP	sP	07 56 59.8	-0.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CD2				AMB	AMB		
	comp=Z,20nm,4.8s						
WMQ	**Urumqi**	**48.58**	**291**	*e*P	**P**	**07 56 56.5**	**+2.5**
WMQ				AP	pP	07 57 04.0	+1.2
WMQ				XP	sP	07 57 07.3	+1.0
WMQ				PP	PP	07 58 49.2	+2.4
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.5						
WMQ				LR	LR		
	comp=N,879nm,19.2s						
WMQ				LR	LR		
	comp=Z,102nm,18.7s,MS3.8						
KURK	**Kurchatov**	**49.13**	**303**	*e*P	**P**	**07 56 58.0**	**-0.2**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
KURK	**Kurchatov**	**49.13**	**303**	*e*P	**P**	**07 56 58.0**	**-0.2**
	comp=Z,9.9nm,0.5s,mb5.1						
YBH	**Yreka Blue Hor**	**49.26**	**72**	P	**P**	**07 56 59.6**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=346,slow=6.7,SNR=6.6						
GYA	**Guiyang**	**49.30**	**260**	P	**P**	**07 57 01.8**	**+2.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
MK31	**Makanchi Array**	**49.67**	**297**	*e*P	**P**	**07 57 02.1**	**-0.2**
MKAR	**Makanchi Array**	**49.67**	**297**	P	**P**	**07 57 02.1**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.4,baz=56,slow=7.6,SNR=29						
MKAR	**Makanchi Array**	**49.67**	**297**	*i* P	**P**	**07 57 02.0**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHMT	**Chamberlain Mo**	**51.12**	**61**	*e*P	**P**	**07 57 13.0**	**-0.2**
CHMT				*e*pP	pP	07 57 21.3	-0.8
BVAR	**Borovoye Array**	**51.65**	**310**	P	**P**	**07 57 17.4**	**+0.2**
	comp=Z,3.5nm,0.5s,mb4.5,baz=59,slow=8.5,SNR=15						
BVAR				LR	LR	08 21 47.5	
	comp=Z,72nm,19.6s,MS3.7,baz=281,slow=39						
BRVK	**Borovoye**	**51.68**	**310**	*e*P	**P**	**07 57 17.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.68**	**310**	*e*P	**P**	**07 57 17.0**	**-0.3**
	comp=Z,3.1nm,0.6s,mb4.4						
KMI	**Kunming**	**52.63**	**262**	P	**P**	**07 57 27.8**	**+3.0**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
BOZ	**Bozeman (W)**	**52.80**	**61**	P	**P**	**07 57 23.5**	**-2.3**
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
BOZ	**Bozeman (W)**	**52.80**	**61**	P	**P**	**07 57 23.5**	**-2.3**
	comp=Z,3.2nm,1.2s,mb4.1						
QLMT	**Earthquake Lak**	**53.45**	**62**	*e*P	**P**	**07 57 30.9**	**+0.4**
ARCES	**ARCESS Array B**	**53.63**	**343**	P	**P**	**07 57 30.2**	**-1.3**
	comp=Z,1.4nm,0.6s,mb4.0,baz=17,slow=8.9,SNR=7.4						
NVAR	**Mina Array Bea**	**53.98**	**72**	P	**P**	**07 57 35.1**	**+0.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=300,slow=8.0,SNR=11						
ELK	**Elko**	**54.12**	**68**	P	**P**	**07 57 36.1**	**+0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=297,slow=6.0,SNR=8.2						
IMW	**Indian Meadow**	**54.33**	**63**	*e*P	**P**	**07 57 37.8**	**+0.7**
	comp=Z,5.4nm,1.1s,mb4.4						
RLMT	**Red Lodge**	**54.39**	**60**	*e*P	**P**	**07 57 37.8**	**+0.4**
	comp=Z,7.2nm,0.8s,mb4.7						
ARU	**Arti**	**54.44**	**319**	*d* iP	**P**	**07 57 37.9**	**+0.3**
ARU				*e*		07 59 35.9	
ARU				*e*S	**S**	**08 05 15.5**	**+1.5**
ARU				*e*SS	SS	08 08 54.9	-0.8
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
LOHW	**Long Hollow**	**54.70**	**63**	*e*P	**P**	**07 57 39.4**	**-0.3**
	comp=Z,3.2nm,1.1s,mb4.3						
PDAR	**Pinedale Array**	**55.84**	**63**	P	**P**	**07 57 48.4**	**+0.5**
	comp=Z,4.8nm,0.8s,mb4.6,baz=322,slow=2.5,SNR=48						
TPNV	**Topopah Spring**	**56.17**	**72**	*e*P	**P**	**07 57 50.5**	**+0.1**
TPNV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
TPNV	**Topopah Spring**	**56.17**	**72**	*e*P	**P**	**07 57 50.5**	**+0.1**
	comp=Z,4.9nm,1.0s,mb4.5						
EKS2	**Erkin-Say**	**56.94**	**298**	*e*P	**P**	**07 57 56.1**	**+0.3**
	comp=Z,5.2nm,0.9s,mb4.6						
EKS2				*e*pP	pP	07 58 08.3	+3.6
ULM	**Lac du Bonnet**	**57.35**	**48**	P	**P**	**07 57 58.5**	**-0.1**
	comp=Z,7.2nm,0.8s,mb4.7,baz=300,slow=8.6,SNR=8.5						
ULM	**Lac du Bonnet**	**57.35**	**48**	P	**P**	**07 57 58.5**	**-0.1**
SRU	**San Rafael**	**57.87**	**66**	*e*P	**P**	**07 58 03.0**	**+0.6**
SRU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
SRU	**San Rafael**	**57.87**	**66**	*e*P	**P**	**07 58 03.0**	**+0.6**
	comp=Z,5.5nm,0.7s,mb4.7						
JOF	**Joensuu**	**58.12**	**336**	*e*p	**P**	**07 58 03.6**	**-0.1**
	comp=Z,6.2nm,0.5s,mb4.9						
JOF	**Joensuu**	**58.12**	**336**	*e*P	**P

CDF	Champ du Feu	76.60	344	eP	P	08 00 00.7	-0.2
	comp=Z,3.2nm,0.8s,mb4.3						
WRA	Warramunga Arr	77.06	208	P	P	08 00 04.9	+1.2
	comp=Z,2.1nm,0.6s,mb4.2,baz=21,slow=6.1,SNR=15						
WRA	Warramunga Arr	77.06	208	i P	P	08 00 04.9	+1.2
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HAU	Haudompre	77.15	344	eP	P	08 00 03.6	-0.4
	comp=Z,3.6nm,0.5s,mb4.3						
HAU	Haudompre	77.15	344	eP	P	08 00 03.6	-0.4
HAU				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
HAU	Haudompre	77.15	344	eP	P	08 00 03.6	-0.4
	comp=Z,1.8nm,0.5s,mb4.3						
FLN	La Foliniere	77.36	349	eP	P	08 00 04.3	-0.8
GRR	Gorron	77.77	349	eP	P	08 00 07.0	-0.4
	comp=Z,41nm,1.2s,mb4.9						
GRR	Gorron	77.77	349	eP	P	08 00 07.0	-0.4
GRR				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
GRR	Gorron	77.77	349	eP	P	08 00 07.0	-0.4
	comp=Z,20nm,1.2s,mb4.9						
LOR	Lormes	78.25	346	eP	P	08 00 09.9	-0.3
	comp=Z,8.1nm,0.9s,mb4.3						
LOR	Lormes	78.25	346	eP	P	08 00 09.9	-0.3
LOR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
LOR	Lormes	78.25	346	eP	P	08 00 09.9	-0.3
	comp=Z,4.1nm,0.9s,mb4.4						
AVF	Avril sur Loir	78.79	346	eP	P	08 00 12.5	-0.6
	comp=Z,16nm,1.1s,mb4.6						
AVF	Avril sur Loir	78.79	346	eP	P	08 00 12.5	-0.6
AVF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
AVF	Avril sur Loir	78.79	346	eP	P	08 00 12.5	-0.6
	comp=Z,8.0nm,1.1s,mb4.6						
SMF	Signal de Mont	78.86	346	eP	P	08 00 13.1	-0.4
LPL	La Plagne	79.50	343	eP	P	08 00 16.6	-0.4
ASAR	Alice Springs	80.72	207	P	P	08 00 23.4	-0.2
	comp=Z,1.7nm,0.6s,mb4.2,baz=26,slow=5.3,SNR=20						
ETSF	Etsaut	83.14	348	eP	P	08 00 37.7	+1.3
	comp=Z,14nm,0.9s,mb4.7						
ETSF	Etsaut	83.14	348	eP	P	08 00 37.7	+1.3
ETSF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
ETSF	Etsaut	83.14	348	eP	P	08 00 37.7	+1.3
	comp=Z,7.1nm,0.9s,mb4.7						
ESDC	Sonseca Array	86.72	350	P	P	08 00 55.0	+0.5
	comp=Z,2.0nm,0.6s,mb4.5,baz=13,slow=4.0,SNR=6.0						
QSPA	South Pole Qui	143.05	180	PKhKP		08 07 38.5	
	comp=Z,2.0nm,0.8s,baz=289,slow=3.8,SNR=9.4						

*ISCJB **09** 07:58:47.8±0.4,3426N×001×11865W±001,h8km±2km, mb4.5/37,MS4.1/4,Error ellipse: s-maj=2.5km s-min=1.7km az=34.7*

*BJI **09** 07:58:47.3,3430N×11879W,h11km,mB5.4,mb5.0,Ms4.9, Msz4.7*

*IDC **09** 07:58:48.2±0.7,3422N×11853W,h0km,mb4.3/15, mb1 4.4/19,mb1mx4.3/28,mbtmp4.3/19,ML3.9/4,MS3.7/5, Ms1 3.7/5,ms1mx3.2/33,Error ellipse: s-maj=12.1km s-min=7.6km az=54.0*

*NEIC **09** 07:58:49.0,3430N×11862W,h5km,mb4.5/20, MW4.4(PAS),After PAS.*

NEIC Cucamonga, Rancho Palos Verdes, Riverside, Rosamond, Rosemead, Rowland Heights, San Gabriel, San Marino, Seal Beach, Sierra Madre, South Gate, South Pasadena, Tehachapi and West Covina. Felt from Santa Barbara to the northwest, San Diego to the south and Barstow to the east. Felt [V] at Chatsworth, Northridge, Simi Valley, Stevenson Ranch and Winnetka; [IV] at Agoura Hills, Beverly Hills, Calabasas, Camarillo, Canoga Park, Canyon Country, Castaic, Encino, Fillmore, Glendale, Granada Hills, Inglewood, Laguna Hills, Los Angeles, Mission Hills, Moorpark, Newhall, North Hills, North Hollywood, Oak Park, Panorama City, Point Mugu Nawc, Reseda, Santa Clarita, Santa Monica, Sherman Oaks, Somis, Sun Valley, Sylmar, Tarzana, Temple City, Thousand Oaks, Valencia, Van Nuys, West Hills, Westlake Village and Woodland Hills; [III] at Acton, Alhambra, Altadena, Bellflower, Burbank, California City, Culver City, Downey, Frazier Park, Fullerton, Harbor City, Hawthorne, Hermosa Beach, Irvine, La Canada Flintridge, La Crescenta, Lake Hughes, Lakewood, Lancaster, Lawndale, Lomita, Long Beach, Malibu, Manhattan Beach, Marina del Rey, Montebello, Monterey Park, Montrose, Newbury Park, Ojai, Oxnard, Pacific Palisades, Pacoima, Palmdale, Palos Verdes Estates, Pasadena, Playa Del Rey, Port Hueneme, Redondo Beach, San Fernando, San Pedro, Santa Ana, Santa Barbara, Santa Paula, Studio City, Sunland, Sunset Beach, Topanga, Torrance, Tujunga, Valley Village, Venice, Ventura, West Hollywood, Whittier and Wilmington; [II] at Aliso Viejo, Arcadia, Azusa, Carpenteria, Carson, Claremont, Cypress, Duarte, El Monte, El Segundo, Fountain Valley, Gardena, Goleta, Huntington Beach, Huntington Park, Indio, Laguna Beach, La Habra, La Mirada, La Verne, Monrovia, Norwalk, Rancho.

ISC 09 07:58:48.9±0.3,3425N±001×11866W±001,h8km±2km, n296,σ1§10/346,mb4.5/37,MS4.1/4,96C-72D,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DECC	Green Verdugo	0.27	89	⇓P	Pg	07 58 54.5	+0.2
	baz=0.2,SNR=1000						
DECC				⇑S	Sg	07 58 58.2	+0.3
	baz=0.2						
BLG	Laguna Peak	0.36	248	P	Pg	07 58 56.9	+0.8
	baz=0.4,SNR=1000						
BLG				⇓S	Sg	07 59 03.1	+2.2
	baz=0.4						
OSI	Osito Adit	0.37	352	⇑P	Pg	07 58 55.8	-0.4
	baz=0.3,SNR=1000						
OSI				⇓S	Sg	07 59 01.4	+0.2
	baz=0.3						
MWC	Mount Wilson	0.50	92	ePg	Pg	07 58 58.4	-0.1
MWC				eSg	Sg	07 59 05.7	+0.6
FMP	Fort Macarthur	0.61	150	P	Pg	07 59 01.2	+0.5
FMP				⇓S	Sg	07 59 10.5	+1.7
	baz=0.6						
BFSC	Mount Baldy St	0.83	90	⇑P	Pg	07 59 04.0	-0.9
	baz=0.8,SNR=1000						
BFSC				⇑S	Sg	07 59 15.6	-0.1
	baz=0.8						
EDW2	Edwards Air Fo	0.84	41	P	Pg	07 59 03.6	-1.5
	baz=0.8,SNR=1000						
EDW2				⇑S	Sg	07 59 15.0	-0.9
	baz=0.8						
BSC	Santa Cruz Isl	0.85	253	P	Pg	07 59 04.7	-0.5
	baz=0.9,SNR=1000						
BSC				⇑S	Sg	07 59 17.1	+0.9
	baz=0.9						
CIS	Catalina Islan	0.86	166	P	Pg	07 59 05.8	+0.3
	baz=0.9,SNR=1000						
CIS				⇑S	Sg	07 59 18.4	+1.6
	baz=0.9						
ARVC	Arvin	0.89	351	P	Pg	07 59 05.0	-1.1
	baz=0.8,SNR=1000						
ARVC				⇑S	Sg	07 59 17.5	-0.1
	baz=0.8						
SBC	Santa Barbara	0.90	283	⇑P	Pg	07 59 06.3	+0.2
	baz=0.9,SNR=145						
SBC				⇓S	Sg	07 59 19.3	+1.5
	baz=0.9						
PKM	Peak Mountain	1.16	304	⇓P	Pg	07 59 10.2	-1.0
	baz=1.1,SNR=679						
PKM				⇑S	Sg	07 59 26.4	+0.2
	baz=1.1						
SCI	San Clemente I	1.27	176	⇓P	Pn	07 59 11.4	-1.5
	baz=1.3,SNR=58						
SCI				⇓S	Sb	07 59 29.8	+0.4
	baz=1.3						
MURC	Murrieta	1.37	118	⇓P	Pn	07 59 12.5	-1.8
	baz=1.4,SNR=720						
MURC				⇓S	Sb	07 59 32.3	-0.2
	baz=1.4						
ISA	Isabella	1.42	6	P	Pn	07 59 14.0	-1.1
	baz=1.4,SNR=1000						
ISA				⇑S	Sn	07 59 32.9	-1.0
	baz=1.4						
ISA	Isabella	1.42	6	ePn	Pn	07 59 14.0	-1.0
ISA				eSn	Sn	07 59 33.8	-0.1
BBRC	Big Bear Sol-O	1.44	89	P	Pn	07 59 14.7	-0.6
	baz=1.4,SNR=1000						
BBRC				⇓S	Sn	07 59 34.8	+0.4
	baz=1.4						
LRMC	Laurel Mountai	1.46	33	⇑P	Pn	07 59 14.3	-1.3
	baz=1.4,SNR=331						
LRMC				⇓S	Sn	07 59 33.9	-1.1
	baz=1.4						
RRX	Edison Barstow	1.51	65	⇑P	Pn	07 59 15.1	-1.1
	baz=1.5,SNR=552						
RRX				⇓S	Sn	07 59 36.3	+0.3
	baz=1.5						
SMMC	Simmler	1.53	314	⇓P	Pn	07 59 16.0	-0.6
	baz=1.5,SNR=1000						
SMMC				⇑S	Sn	07 59 36.1	-0.5
	baz=1.5						
VES	Vestal, Richgr	1.63	348	⇑P	Pn	07 59 16.7	-1.2
	baz=1.6,SNR=1000						
VES				⇑S	Sn	07 59 37.8	-1.2
	baz=1.6						
GSC	Goldstone	1.85	55	P	Pn	07 59 20.0	-1.0
	baz=1.8,SNR=480						
GSC				⇑S	Sn	07 59 43.7	-0.9
	baz=1.8						
GSC	Goldstone	1.85	55	ePn	Pn	07 59 20.0	-1.0
GSC				eSn	Sn	07 59 46.7	+2.1
109C	Camp Elliot, M	1.88	136	⇓P	Pn	07 59 19.5	-1.7
	baz=1.9,SNR=56						
109C				⇑S	Sn	07 59 44.1	-1.0
	baz=1.9						
PTRM	Twissleman Ran	1.90	318	ePn	Pn	07 59 20.6	-1.0
V05C	Boulder Hill,	1.91	328	⇓P	Pn	07 59 20.9	-0.9
	baz=1.9,SNR=64						
V05C				⇑Sb	Sb	07 59 48.9	+0.9
	baz=1.9						
PFO	Pinyon Flat Ob	1.94	109	Pg	Pg	07 59 21.5	-4.6
	30nm,0.3s,baz=292,slow=12,SNR=204						
PFO				Lg		07 59 48.1	
	206nm,0.3s,baz=217,slow=16,SNR=7.8						
PFO	Pinyon Flat Ob	1.94	109	⇑P	Pn	07 59 21.0	-1.1
	baz=1.9,SNR=216						
PFO				⇑Sb	Sb	07 59 49.9	+1.1
	baz=1.9						
PFO	Pinyon Flat Ob	1.94	109	ePn	Pn	07 59 21.2	-0.9
PFO				eSn	Sn	07 59 49.1	+2.5
HEC	Hector,Ludlow	2.01	73	P	Pn	07 59 21.9	-1.2
	baz=2.0,SNR=191						
HEC				⇓S	Sn	07 59 47.2	-1.2
	baz=2.0						
MPMC	Manual Prospec	2.05	28	P	Pn	07 59 22.4	-1.2
	baz=2.0,SNR=1000						
RCTC	Rector, Farmer	2.11	347	⇑P	Pn	07 59 23.4	-1.1
	baz=2.1,SNR=54						
RCTC				⇓S	Sn	07 59 50.2	-0.8
	baz=2.1						
BELC	Belle Mtn.	2.22	96	⇓P	Pn	07 59 24.9	-1.1
	baz=2.2						
CWC	Cottonwood Cre	2.24	12	⇑P	Pn	07 59 25.2	-1.1
	baz=2.2						
CWC				⇓Sb	Sb	07 59 58.6	+1.2
	baz=2.2						
BAR	Barrett	2.28	133	ePn	Pn	07 59 26.1	-0.8
BAR				eSn	Sn	07 59 53.7	-1.3
V04C	Ramage Ranch,	2.29	308	P	Pn	07 59 25.6	-1.3
	baz=2.3,SNR=578						
PKD	Parkfield	2.29	318	P	Pn	07 59 25.9	-1.1
	baz=2.3,SNR=1000						
MONP	Monument Peak	2.31	125	P	Pn	07 59 26.4	-0.8
	baz=2.3,SNR=225						
U05C	Westside ANR,	2.40	331	⇑P	Pn	07 59 27.6	-0.9
	baz=2.4						
U05C				⇑Sb	Sb	08 00 03.3	+1.1
	baz=2.4						
HELL	Mitchell Peak	2.45	353	⇑P	Pn	07 59 28.7	-0.5
	baz=2.4,SNR=168						
GMRC	Granite Mounta	2.53	77	⇑P	Pn	07 59 28.6	-1.7
	baz=2.5,SNR=56						
GMRC				⇑Sb	Sb	08 00 07.5	+1.6
	baz=2.5						
TUQ	Turquoise Mtn.	2.54	61	⇑P	Pn	07 59 29.2	-1.2
	baz=2.5,SNR=158						
TUQ				⇑Sb	Sb	08 00 07.5	+1.3
	baz=2.5						
SHOC	Shoshone	2.55	49	⇓P	Pn	07 59 29.5	-1.1
	baz=2.5,SNR=86						
SHOC				⇓Sb	Sb	08 00 07.8	+1.2
	baz=2.5						
DVTC	Desert V Tower	2.66	126	⇑P	Pn	07 59 31.8	-0.3
	baz=2.7						
DVTC				⇑Sb	Sb	08 00 11.0	+1.5
	baz=2.7						
FURC	Furnace Creek,	2.66	33	⇑P	Pn	07 59 30.7	-1.3
	baz=2.6						
SWSC	Sam W. Stewart	2.72	118	⇑P	Pn	07 59 31.6	-1.2
	baz=2.7,SNR=22						
SWSC				⇑Sb	Sb	08 00 12.8	+1.4
	baz=2.7						
BC3	Big Chuckw Mtn	2.73	102	⇑P	Pn	07 59 31.7	-1.3
	baz=2.7,SNR=36						
U04C	Hernandez Rese	2.73	321	⇑P	Pn	07 59 31.9	-1.2
	baz=2.7,SNR=284						
V03C	Hunter Liggett	2.76	311	P	Pn	07 59 31.9	-1.5
	baz=2.7,SNR=1000						
TIN	Tinemaha	2.82	7	⇓P	Pn	07 59 33.8	-0.5
	baz=2.8						
T06C	Millerton Lake	2.88	343	⇑P	Pn	07 59 34.0	-1.2
	baz=2.8,SNR=49						
U10A	Ash Meadows, A	2.88	41	⇓P	Pn	07 59 34.4	-0.7
	baz=2.8,SNR=161						
IRM	Iron Mountain	2.91	91	⇑P	Pn	07 59 33.9	-1.6
	baz=2.9,SNR=41						
GRAC	Grapevine Rang	2.94	21	⇓P	Pn	07 59 35.7	-0.2
	baz=2.9						
LDFC	Landfair	3.04	73	ePn	Pn	07 59 36.0	-1.3
V11A	Goodsprings	3.09	58	⇑P	Pn	07 59 37.3	-0.7
	baz=3.0,SNR=30						
MTUM	Tungsten Hills	3.10	1	ePn	Pn	07 59 38.7	+0.6
MTUM				eSn	Sn	08 00 23.3	+7.9
T05C	Eagle Field, D	3.11	329	⇑P	Pn	07 59 37.5	-0.8
	baz=3.1,SNR=17						
KCC	Kaiser Creek	3.12	350	⇑P	Pn	07 59 38.2	-0.1
	baz=3.1,SNR=48						
HAST	Hastings Reser	3.19	313	P	Pn	07 59 37.6	-1.7
	baz=3.2,SNR=534						
HAST				⇑S	Sn	08 00 17.0	-0.5
	baz=3.2						
S08C	White Mtn Res	3.27	7	⇓P	Pn	07 59 40.4	0.0
	baz=3.2,SNR=46						
W12A	Cal Nev Ari	3.29	70	⇑P	Pn	07 59 39.7	-1.0
	baz=3.2						
TPNV	Topopah Spring	3.33	35	⇓P	Pn	07 59 40.9	-0.5
	baz=3.3						
TPNV	Topopah Spring	3.33	35	ePn	Pn	07 59 41.1	-0.2
NEE2	Needles Airpor	3.38	80	⇓P	Pn	07 59 40.7	-1.2
	baz=3.3,SNR=50						
S05C	Merced	3.38	337	P	Pn	07 59 41.1	-0.8
	baz=3.3,SNR=231						
MLAC	Mammoth Lakes	3.38	358	⇓P	Pn	07 59 40.6	-1.3
	baz=3.3						
SAO	San Andreas Ge	3.39	319	ePn	Pn	07 59 41.0	-1.1
GLA	Glamis	3.41	109	⇓P	Pn	07 59 41.6	-0.8
	baz=3.4						
GLA	Glamis	3.41	109	ePn	Pn	07 59 43.1	+0.8
U11A	Corn Creek	3.45	50	⇓P	Pn	07 59 42.3	-0.6
	baz=3.4,SNR=20						
V12A	Nelson	3.46	64	⇑P	Pn	07 59 42.4	-0.6
	baz=3.4,SNR=655						
V12A				⇓S	Sn	08 00 23.2	-0.9
	baz=3.4						
Y12C	Blythe	3.47	97	⇑P	Pn	07 59 42.1	-1.1
	baz=3.4,SNR=18						
PACP	Pacheco Peak	3.49	323	⇓P	Pn	07 59 42.3	-1.2
	baz=3.5,SNR=99						
S09A	Goldfield	3.66	18	⇓P	Pn	07 59 45.7	-0.1
	baz=3.6,SNR=198						
PDMCI	Parker Dam,Lak	3.74	88	⇑P	Pn	07 59 45.9	-1.1
	baz=3.7						
S06C	San Francisco	3.75	345	⇓P	Pn	07 59 47.0	-0.1
	baz=3.7,SNR=77						
S06C				⇑S	Sn	08 00 31.2	-0.2
	baz=3.7						
R07C	Lee Vining	3.85	355	⇓Sb	Sb	08 00 46.1	+2.3
	baz=3.8						
S04C	Ingram Canyon,	3.91	327	⇓P	Pn	07 59 48.0	-1.2
	baz=3.9,SNR=50						
TPH	Tonopah	3.99	16	ePn	Pn	07 59 51.0	+0.7
TPH				eSg	Sg	08 00 59.9	+2.7
X13A	Yucca	4.00	84	⇑P	Pn	07 59 49.6	-1.0
	baz=4.0,SNR=345						
X13A				⇑S	Sn	08 00 36.8	-0.8
	baz=4.0						
U12A	Valley of Fire	4.01	56	⇓P	Pn	07 59 50.3	-0.3
	baz=4.0,SNR=150						
W13A	Hualapai Mount	4.02	76	P	Pn	07 59 50.1	-0.7
	baz=4.0,SNR=735						
W13A				⇓S	Sn	08 00 37.4	-0.8
	baz=4.0						
CMB	Columbia Colle	4.03	340	⇓P	Pn	07 59 51.0	+0.1
	baz=4.0,SNR=30						
CMB	Columbia Colle	4.03	340	ePn	Pn	07 59 51.2	+0.3
CMB				eSn	Sn	08 00 40.2	+1.9
S10A	Tonopah Range,	4.03	24	⇓P	Pn	07 59 50.8	-0.1
	baz=4.0,SNR=17						
Y13A	Salome	4.03	95	⇑P	Pn	07 59 50.3	-0.6
	baz=4.0,SNR=11						
BNLO	Ben Lomond (Sa	4.06	316	P	Pn	07 59 49.0	-2.3
	baz=4.0,SNR=434						
BNLO				⇓S	Sn	08 00 35.6	-3.4
	baz=4.0						
T12A	Moapa	4.06	51	⇑P	Pn	07 59 51.2	-0.1
	baz=4.0						
T11A	Corn Creek, Al	4.09	42	⇓P	Pn	07 59 51.6	-0.2
	baz=4.0,SNR=90						
S11A	Rachel	4.13	34	⇓P	Pn	07 59 51.8	-0.5
	baz=4.1						
V13A	Grand Canyon W	4.16	66	⇑P	Pn	07 59 52.1	-0.5
	baz=4.1,SNR=66						
NVAR	Mina Array Bea	4.18	4	Pn	Pn	07 59 55.5	+2.4
	1.5nm,0.3s,baz=192,slow=15,SNR=35						
NVAR				Pg	Pg	08 00 03.3	-5.8
	27nm,0.3s,baz=201,slow=18,SNR=134						
NVAR				Lg		08 01 02.3	
	28nm,0.3s,baz=64,slow=12,SNR=5.1						
R09A	Tonopah	4.19	17	⇓P	Pn	07 59 52.9	-0.1
	baz=4.1,SNR=22						
WENL	Wente Brothers	4.20	324	⇓P	Pn	07 59 52.6	-0.7
	baz=4.2						
JRSC	Jasper Ridge	4.29	318	P	Pn	07 59 52.5	-1.9
	baz=4.3,SNR=185						
113A	Mohawk Valley,	4.34	108	⇑P	Pn	07 59 54.5	-0.8
	baz=4.3						
U13A	Pakoon Wash	4.40	59	⇑P	Pn	07 59 55.5	-0.5
	baz=4.3,SNR=440						
R04C	Big Horse Ranc	4.41	336	⇑P	Pn	07 59 55.7	-0.3
	baz=4.4,SNR=37						
R10A	Warm Springs	4.46	25	⇓P	Pn	07 59 57.2	+0.4
	baz=4.4						
BDM	Black Diamond	4.52	326	⇑P	Pn	07 59 57.3	-0.3
	baz=4.5						
S12A	Delamar Landin	4.56	42	⇑P	Pn	07 59 57.9	-0.2
	baz=4.5						
R05C	Kirkwood Meado	4.59	346	⇑P	Pn	07 59 58.9	+0.2
	baz=4.6,SNR=39						
W14A	Seligman	4.69	77	⇑P	Pn	07 59 59.1	-0.9
	baz=4.6,SNR=74						
Y14A	Wickenburg	4.70	92	⇓P	Pn	07 59 59.0	-1.1
	baz=4.7,SNR=86						
T13A	Saint George	4.76	53	⇑P	Pn	08 00 00.8	-0.1
	baz=4.7,SNR=43						
V14A	Boquillas Ranc	4.77	72	⇑P	Pn	08 00 00.6	-0.5
	baz=4.7,SNR=82						
X14A	Yava	4.78	86	⇑P	Pn	08 00 00.3	-0.9
	baz=4.7,SNR=187						
R11A	Troy Canyon, C	4.79	30	⇑P	Pn	08 00 01.0	-0.3
	baz=4.7,SNR=14						
LAVA	Lava Cap Winer	4.80	340	⇓P	Pn	08 00 01.6	+0.1
	baz=4.8						
Z14A	Wintersburg	4.84	99	⇑P	Pn	08 00 01.2	-0.8
	baz=4.8						
FARB	Farallon Islan	4.93	316	P	Pn	08 00 00.7	-2.5
	baz=4.9,SNR=46						
U14A	Mt Trumbull	4.97	63	⇑P	Pn	08 00 04.2	+0.4
	baz=4.9,SNR=116						
Q04C	Lincoln	5.08	335	⇓P	Pn	08 00 05.3	0.0
	baz=5.0,SNR=12						
CVS	Carmenet Viney	5.11	324	⇑P	Pn	08 00 04.9	-0.9
	baz=5.1,SNR=71						
S13A	Holt Ranch, En	5.12	48	⇑P	Pn	08 00 06.2	+0.3
	baz=5.1,SNR=41						
WCN	Washoe City	5.12	350	⇓P	Pn	08 00 05.2	-0.7
	baz=5.1						
Q03C	Winters	5.15	329	⇑P	Pn	08 00 05.7	-0.5
	baz=5.1						
MCCM	Marconi Confer	5.17	320	⇑P	Pn	08 00 04.6	-2.0
	baz=5.2,SNR=57						
MCCM	Marconi Confer	5.17	320	ePn	Pn	08 00 04.9	-1.7
	155nm,0.9s						
MCCM				eSn	Sn	08 01 13.2	+6.7
R12A	Pony Springs,	5.22	38	⇓P	Pn	08 00 07.1	-0.2
	baz=5.2,SNR=12						
Y15A	Casa Rosa Ranc	5.25	91	P	Pn	08 00 07.0	-0.7
	baz=5.2,SNR=218						
P05C	Yuba Gap, Truc	5.28	343	⇓P	Pn	08 00 07.7	-0.4
	baz=5.2,SNR=5.4						
X15A	Humboldt	5.32	86	⇓P	Pn	08 00 07.9	-0.6
	baz=5.3,SNR=77						
NSHM	Saint Helena R	5.32	324	ePn	Pn	08 00 07.8	-0.8
NSHM				eSn	Sn	08 01 09.1	-1.0
T14A	Hurricane	5.34	57	⇓P	Pn	08 00 09.5	+0.6
	baz=5.3,SNR=72						
W15A	Williams	5.34	78	⇓P	Pn	08 00 08.7	-0.3
	baz=5.3						
214A	Organ Pipe Nat	5.41	113	⇓P	Pn	08 00 09.1	-0.8
	baz=5.4						
CCUT	Cedar City	5.42	51	ePn	Pb	08 00 20.0	-3.7
CCUT				eSg	Sg	08 01 45.2	+2.4
R13A	O'Grain Ranch,	5.46	43	⇑P	Pn	08 00 11.1	+0.6
	baz=5.4,SNR=43						
PAHR	Pah Rah Range	5.48	354	ePn	Pn	08 00 13.2	+2.3
	168nm,0.9s						
PAHR				eSg	Sg	08 01 38.7	-6.1
Z15A	Gila River Ind	5.50	98	⇑P	Pn	08 00 10.6	-0.5
	baz=5.5						
ARUT	Antelope Range	5.51	49	ePn	Pn	08 00 12.0	+0.7
ARUT				eSg	Sg	08 01 51.9	+6.0
MNRC	McLaughlin Nat	5.54	328	⇑P	Pn	08 00 11.1	-0.4
	baz=5.5						
V15A	Kaibab Nationa	5.55	72	⇑P	Pn	08 00 11.6	-0.1
	baz=5.5						
OHCM	Honcut	5.56	337	ePn	Pn	08 00 12.7	+0.7
SUTB	Sutter Butte	5.57	334	⇑P	Pn	08 00 11.3	-0.7
	baz=5.5,SNR=12						
115A	Sonoran Desert	5.59	104	⇓P	Pn	08 00 11.3	-1.0
	baz=5.6						
U15A	North Rim	5.64	65	⇑P	Pn	08 00 13.4	+0.4
	baz=5.6						
P10A	Eureka	5.64	17	⇑P	Pn	08 00 12.7	-0.4
	baz=5.6						
S14A	Cedar City	5.66	50	⇑P	Pn	08 00 14.1	+0.7
	baz=5.6,SNR=37						
Q12A	Willow Creek R	5.69	32	⇑P	Pn	08 00 14.3	+0.6
	baz=5.6						
ORV	Oroville	5.77	338	⇑P	Pn	08 00 15.0	+0.2
	baz=5.7						
BEKR	Beckwourth	5.77	347	⇑P	Pn	08 00 15.2	+0.4
	baz=5.7,SNR=10						
P11A	Circle Ranch,	5.78	23	⇑P	Pn	08 00 15.2	+0.2
	baz=5.7						
T15A	Red Dirt Ranch	5.81	60	⇑P	Pn	08 00 16.4	+1.0
	baz=5.7

baz=6.1
WUAZ Wupatki 6.12 76 *e*Pn **Pn 08 00 19.7 +0.1**
166nm,0.8s
WUAZ *e*Sg **Sg 08 02 03.1 -2.3**
S15A Panguitch 6.14 54 ⇑P **Pn 08 00 20.5 +0.5**
baz=6.1,SNR=9.2
O10A Cortez Mining, 6.27 15 ⇑P **Pn 08 00 22.4 +0.7**
baz=6.2
BMN Battle Mountai 6.28 10 *e*Pn **Pn 08 00 21.6 -0.1**
168nm,1.2s
P13A Bates Ranch, G 6.39 34 ⇓P **Pn 08 00 23.4 +0.1**
baz=6.3
Q14A Sevier Lake (B 6.41 41 ⇑P **Pn 08 00 24.0 +0.4**
baz=6.3
P01C Double 8 Ranch 6.42 326 ⇑P **Pn 08 00 24.0 +0.2**
baz=6.4
T16A Glen Canyon Da 6.43 63 ⇓P **Pn 08 00 25.3 +1.4**
baz=6.4,1.0s
R15A Junction 6.50 51 ⇓P **Pn 08 00 26.4 +1.6**
baz=6.4,SNR=9.2
X17A Forest Lakes 6.50 87 ⇑P **Pn 08 00 24.8 0.0**
baz=6.5
Y17A Roosevelt 6.51 93 ⇑P **Pn 08 00 24.4 -0.6**
baz=6.5,SNR=95
N07B Gerlach 6.53 358 ⇑P **Pn 08 00 25.1 -0.1**
baz=6.5
KCPM Cahto Peak 6.71 325 *e*Pn **Pn 08 00 28.3 +0.6**
MSU Marysvale 6.74 49 *e*Pn **Pn 08 00 29.7 +1.5**
MSU *e*Sg **Sg 08 02 23.8 -1.5**
KIPM Iron Peak 6.76 327 *e*Pn **Pn 08 00 29.7 +1.3**
117A Oracle 6.83 102 ⇓P **Pn 08 00 28.2 -1.2**
baz=6.8
TUC Tucson 6.87 104 *e*Pn **Pn 08 00 30.4 +0.4**
25nm,0.8s
Z17A San Carlos Hig 6.88 96 ⇑P **Pn 08 00 29.6 -0.5**
baz=6.8
ELK Elko 7.03 22 Pn **Pn 08 00 33.8 +1.7**
1.9nm,0.3s,baz=210,slow=11,SNR=23
ELK Lg 08 02 29.6
2.9nm,0.3s,baz=228,slow=19,SNR=3.1
ELK LR LR 08 03 49.8
comp=Z,1μm,19.3s,baz=191,slow=43
ELK Elko 7.03 22 *e*Pn **Pn 08 00 33.6 +1.5**
79nm,0.9s
WDC Whiskeytown Da 7.04 335 *e*Pn **Pn 08 00 31.6 -0.6**
17nm,0.8s
Y18A Canyon Day Jun 7.18 91 ⇓P **Pn 08 00 34.2 0.0**
baz=7.1
N12A Clover Valley, 7.19 22 ⇓P **Pn 08 00 35.1 +0.8**
baz=7.1
X18A Snowflake 7.20 85 ⇓P **Pn 08 00 35.0 +0.4**
baz=7.2
S17A Black Ridge (B 7.21 60 ⇓P **Pn 08 00 35.2 +0.6**
baz=7.1
LTIM Timbered Crate 7.27 343 P **Pn 08 00 39.4 +4.0**
DUG Dugway 7.55 36 *e*Pn **Pn 08 00 41.7 +2.5**
202nm,0.8s
NLU North Lily Min 7.75 41 *e*Pn **Pn 08 00 47.0 +5.0**
X19A St. Johns 7.75 86 ⇑P **Pn 08 00 42.6 +0.5**
baz=7.7
MOD Modoc 7.75 351 *e*Pn **Pn 08 00 43.4 +1.4**
42nm,0.9s
Y19A Nutrioso 7.81 89 ⇓P **Pn 08 00 43.5 +0.7**
baz=7.8
TMUT Trail Mountain 7.82 48 *e*Pn **Pn 08 00 47.9 +5.0**
BGU Big Grassy Mou 8.02 32 *e*Pn **Pn 08 00 48.9 +3.1**
MPU Maple Canyon 8.04 42 Pn **Pn 08 00 48.5 +2.6**
78nm,1.0s
YBH Yreka Blue Hor 8.13 338 Pn **Pn 08 00 50.6 +3.4**
0.3nm,0.3s,baz=130,slow=6.3,SNR=18
YBH Lg 08 02 56.8
0.2nm,0.3s,baz=49,slow=6.8,SNR=4.9
YBH LR LR 08 04 04.8
comp=Z,227nm,21.2s,baz=266,slow=39
YBH Yreka Blue Hor 8.13 338 *e*Pn **Pn 08 00 50.3 +3.1**
10nm,0.8s
SRU San Rafael 8.14 51 *e*Pn **Pn 08 00 50.8 +3.5**
8.5nm,1.1s
WVOR Wild Horse Val 8.17 0 *e*Pn **Pn 08 00 52.1 +4.3**
20nm,0.9s
NOQ North Oquirrh 8.24 37 *e*Pn **Pn 08 00 55.4 +6.7**
419nm,1.5s
CTU Camp Tracy 8.46 38 *e*Pn **Pn 08 00 56.5 +4.8**
97nm,0.9s
DAU Daniels Canyon 8.52 42 *e*Pn **Pn 08 00 58.4 +5.9**
SPUT South Promonto 8.59 33 *e*Pn **Pn 08 00 57.7 +4.2**
SPUT *e*Sn Sn 08 03 21.4 +51
MVCO Mesa Verde 8.77 67 *e*Pn **Pn 08 00 59.0 +3.0**
6.5nm,0.9s
PV10 Paradox Valley 8.79 59 *e*Pn **Pn 08 00 58.8 +2.6**
HVU Hansel Valley 8.84 30 *e*Pn **Pn 08 01 00.4 +3.5**
49nm,0.8s
HUMO Hull Mountain 9.00 339 *e*Pn **Pn 08 01 04.0 +4.8**
13nm,1.0s
PV01 Paradox Valley 9.03 62 *e*Pn **Pn 08 01 02.1 +2.6**
LAZ Ladron 9.53 86 *e*Pn **Pn 08 01 09.9 +3.5**
LENM Lemitar 9.68 87 *e*Pn **Pn 08 01 11.4 +3.0**
HLID Hailey 9.87 18 *e*Pn **Pn 08 01 15.7 +4.7**
14nm,0.8s
LPM Los Pinos Moun 9.95 86 *e*Pn **Pn 08 01 16.2 +4.0**
BNM Barren Site 9.96 87 *e*Pn **Pn 08 01 15.9 +3.6**
ANMO Albuquerque 10.08 83 Pn **Pn 08 01 16.9 +3.0**
0.2nm,0.3s,baz=272,slow=13,SNR=9.0
ANMO Pg Pn 08 01 55.8 +42
0.3nm,0.3s,baz=268,slow=12,SNR=8.4
ANMO Lg 08 04 03.0
0.3nm,0.3s,baz=329,slow=22,SNR=4.6
ANMO Albuquerque 10.08 83 *e*Pn **Pn 08 01 18.2 +4.3**
38nm,1.0s
AHID Auburn Hatcher 10.36 33 *e*Pn **Pn 08 01 22.4 +4.6**
20nm,1.0s
VIPM Ingram Point 10.36 352 P **Pn 08 01 26.8 +9.1**
RRI2 Red Ridge 10.73 30 *e*Pn **Pn 08 01 28.9 +6.0**
17nm,0.8s
REDW Red Top Meadow 10.95 31 *e*Pn **Pn 08 01 29.4 +3.7**
31nm,1.1s
TPAW Teton Pass 11.01 31 *e*Pn **Pn 08 01 30.9 +4.3**
15nm,0.8s
SNOW Snow King Moun 11.07 31 *e*Pn **Pn 08 01 33.2 +5.8**
31nm,1.1s
PDAR Pinedale Array 11.09 37 Pn **Pn 08 01 31.0 +3.2**
0.2nm,0.3s,baz=238,slow=13,SNR=21
PDAR Lg 08 04 34.0
baz=205,slow=30,SNR=3.1
SDCO Great Sand Dun 11.21 68 *e*Pn **Pn 08 01 32.8 +3.4**
11nm,0.9s
LOHW Long Hollow 11.25 31 *e*Pn **Pn 08 01 34.8 +4.9**
16nm,0.9s
MOOW Moose Ponds 11.30 31 *e*Pn **Pn 08 01 35.2 +4.5**
9.4nm,0.9s
IMW Indian Meadow 11.34 30 *e*Pn **Pn 08 01 30.2 -1.0**
12nm,1.2s
MCMT McKenzie Canyo 11.47 21 *e*Pn **Pn 08 01 39.1 +6.1**
FLWY Flagg Ranch 11.60 30 *e*Pn **Pn 08 01 40.3 +5.7**
31nm,1.0s
LNOR Lincton Mounta 11.61 1 Pn **Pn 08 01 40.3 +5.4**
RWWY Rawlins 11.69 47 *e*Pn **Pn 08 01 39.9 +4.0**
23nm,0.8s
ISCO Idaho Springs 11.80 58 *e*Pn **Pn 08 01 42.5 +5.0**
6.5nm,0.9s
QLMT Earthquake Lak 11.95 26 *e*Pn **Pn 08 01 47.5 +8.0**
DLMT Dillon 12.04 21 *e*Pn **Pn 08 01 46.2 +5.5**
24nm,1.1s
HAWA Hanford 12.15 357 *e*Pn **Pn 08 01 50.2 +8.0**
27nm,1.3s
RSW Rattlesnake Hi 12.15 357 *e*Pn **Pn 08 01 50.2 +7.9**
LPIG La Paz 12.46 142 LR LR 08 06 13.3
comp=Z,337nm,20.4s,baz=145,slow=36
PHWY Pilot Hill 12.59 52 *e*Pn **Pn 08 01 52.9 +4.7**
BOZ Bozeman (W) 12.59 23 *e*Pn **Pn 08 01 53.4 +5.1**
7.4nm,1.0s
LON Longmire 12.72 350 *e*Pn **Pn 08 01 56.7 +6.8**
5.6nm,0.9s
OD2 Odessa Site #2 13.13 360 *e*Pn **Pn 08 02 02.6 +7.0**
CHMT Chamberlain Mo 13.30 16 *e*Pn **Pn 08 02 05.7 +7.8**
GCMT Greycliff 13.42 28 *e*Pn **Pn 08 02 08.6 +9.0**
NEW Newport 14.05 4 *e*Pn **Pn 08 02 13.9 +5.7**
9.1nm,1.1s
EGMT Eagleton 15.29 23 *e*P **Pn 08 02 28.8 +3.8**
58nm,1.1s
LAO LASA Array 15.59 33 *e*Pn **Pn 08 02 30.7 +1.7**
67nm,1.0s
CBKS Cedar Bluff 15.87 68 *e*P **Pn 08 02 37.4 +4.8**
26nm,1.0s
JCT Junction City 16.37 98 *e*Pn **Pn 08 02 42.0 +3.0**
23nm,1.0s
WMOK Wichita Mounta 16.40 83 *e*Pn **Pn 08 02 45.3 +5.9**
6.5nm,1.0s
DGMT Dagmar 17.84 33 *e*Pn **Pn 08 02 59.8 +2.4**
56nm,1.0s
EDM Edmonton 19.34 10 *e*P **Pn 08 03 16.0 +0.4**
ECSD EROS,Sioux Fal 19.53 54 *e*P **Pn 08 03 15.3 -2.6**
21nm,0.8s
MIAR Mount Ida 20.69 82 *e*P **P 08 03 30.8 +1.4**
32nm,1.1s
SCIA State Center 21.39 62 *e*P **P 08 03 37.3 +0.5**
38nm,0.6s,mb4.9
AGMN Agassiz Refuge 22.04 44 *e*P **P 08 03 44.0 +0.2**
43nm,1.1s,mb4.8
CCM Cathedral Cave 22.43 72 *e*P **P 08 03 48.5 +0.5**
8.8nm,1.1s,mb4.1
ULM Lac du Bonnet 23.10 39 P **P 08 03 54.6 -0.4**
36nm,0.8s,mb4.8,baz=241,slow=9.8,SNR=23
ULM LR LR 08 13 09.1
comp=Z,189nm,18.1s,MS3.6,baz=276,slow=37
ULM Lac du Bonnet 23.10 39 *e*P **P 08 03 54.8 -0.2**
34nm,0.9s,mb4.8
JFWS Jewell Farm 23.75 60 P **P 08 04 01.9 +0.3**
9.1nm,1.0s,mb4.2
WRAK Wrangell Islan 24.08 341 *e*P **P 08 04 04.2 -0.3**
7.1nm,0.8s,mb4.2
EYMN Ely 24.47 48 *e*P **P 08 04 08.8 +0.6**
15nm,1.1s,mb4.3
COWI Conover 25.32 53 *e*P **P 08 04 16.1 +0.1**
15nm,0.8s,mb4.6
CMIG Matias Romero 27.30 123 P **P 08 04 38.0 +3.9**
4.6nm,1.0s,mb4.0,baz=270,slow=12,SNR=8.7
MCWV Mont Chateau 31.31 69 *e*P **P 08 05 15.2 +5.7**
8.2nm,0.3s,mb5.0
DAWY Dawson 32.46 343 *e*P **P 08 05 21.6 +2.3**
KDAK Kodiak Island 32.73 326 P **P 08 05 24.2 +2.4**
3.2nm,0.9s,mb4.2,baz=20,slow=15,SNR=2.5
EGAK Eagle 33.48 343 *e*P **P 08 05 30.3 +2.0**
5.2nm,0.9s,mb4.5
INK Inuvik 35.15 350 P **P 08 05 44.5 +1.9**
7.9nm,1.0s,mb4.6,baz=154,slow=7.1,SNR=5.0
IMA2 Indian Mountai 37.99 338 *e*P **P 08 06 07.5 +0.6**
SCHQ Schefferville 41.14 44 LR LR 08 24 26.2
comp=Z,203nm,20.5s,MS4.0,baz=333,slow=37
SFJD Kangerlussuaq 50.44 28 P **P 08 07 50.9 +4.3**
20nm,0.9s,mb5.2,baz=208,slow=4.3,SNR=6.0
SFJD Kangerlussuaq 50.44 28 P **P 08 07 50.9 +4.3**
OTAV Otavalo 50.58 123 *e*P **P 08 07 51.4 +3.0**
5.5nm,1.0s,mb4.4
PETK Petropavlovsk- 59.85 316 P **P 08 08 55.6 +0.9**
3.4nm,0.7s,mb4.5,baz=81,slow=14,SNR=5.3
LPAZ La Paz 69.54 128 P **P 08 09 59.4 +1.0**
3.0nm,1.0s,mb4.2,baz=324,slow=8.1,SNR=9.6
ARCES ARCESS Array B 73.25 12 P **P 08 10 20.6 +0.4**
2.0nm,0.8s,mb4.1,baz=318,slow=4.9,SNR=4.4
NB2 NORSAR Subarra 76.65 23 P **P 08 10 40.4 +0.5**
comp=Z,1.2nm,0.8s,mb3.9,baz=318,slow=5.6
NOA NORSAR Array B 76.65 23 P **P 08 10 40.6 +0.7**
comp=Z,1.8nm,0.9s,mb4.0,baz=319,slow=5.7,SNR=4.8
KAF Kangasniemi 79.89 16 *e*p **P 08 10 57.9 +0.1**
comp=Z,3.0nm,0.8s,mb4.3
JOF Joensuu 80.22 13 *e*p **P 08 11 00.1 +0.5**
comp=Z,2.4nm,0.7s,mb4.2
LDF La Druitiere 81.01 36 *e*P **P 08 11 04.6 +0.5**
GIVF Givet 82.28 33 *e*P **P 08 11 11.4 +0.6**
CN2 Changchun 82.85 319 *e*P **P 08 11 15.3 +1.4**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,200nm,3.0s
CPUP Villa Florida 83.71 128 P **P 08 11 18.7 +0.3**
comp=Z,2.2nm,0.8s,mb4.3,baz=286,slow=5.8,SNR=5.6
SSF Saint Saulge 83.84 36 *e*P **P 08 11 19.4 +0.5**
comp=Z,4.2nm,0.5s,mb4.5
LOR Lormes 83.86 35 *e*P **P 08 11 19.6 +0.6**
comp=Z,8.8nm,0.7s,mb4.7
AVF Avril sur Loir 83.96 36 *e*P **P 08 11 19.6 +0.1**
comp=Z,6.1nm,0.8s,mb4.5
CAF Calviac 84.63 38 *e*P **P 08 11 23.4 +0.4**
comp=Z,9.0nm,0.8s,mb4.7
ESDC Sonseca Array 84.89 45 P **P 08 11 24.6 +0.3**
comp=Z,0.2nm,0.3s,mb3.8,baz=298,slow=2.8,SNR=3.5
BRG Berggiesshubel 85.52 28 *e*P **P 08 11 28.3 +1.0**
comp=Z,4.5nm,0.9s,mb4.7
KSRS Korea Array 85.57 313 P **P 08 11 28.2 +0.4**
comp=Z,1.1nm,0.7s,mb4.2,baz=65,slow=5.9,SNR=5.0
PLCA Paso Flores 86.78 145 P **P 08 11 33.9 +0.5**
comp=Z,4.6nm,1.0s,mb4.7,baz=333,slow=6.2,SNR=7.6
SONM Songino Array 88.87 332 P **P 08 11 45.3 +1.7**
comp=Z,0.9nm,0.8s,mb4.2,baz=10,slow=9.0,SNR=5.3
ZALV Zalesovo Beam 89.85 346 P **P 08 11 48.4 +0.4**
comp=Z,1.0nm,0.6s,mb4.3,baz=18,slow=10,SNR=3.6
AKASG Malin Array Be 90.79 20 P **P 08 11 52.1 -0.4**
comp=Z,0.2nm,0.3s,mb3.9,baz=333,slow=3.6,SNR=4.7
HHC Hu-ho-hao-te 92.13 324 *e*P **P 08 12 00.5 +1.6**
HHC AMB AMB
comp=Z,12nm,0.5s,mb5.5
HHC AMB AMB
comp=Z,129nm,5.2s
HHC LR LR
comp=N,155nm,22.6s,MS4.7
HHC LR LR
comp=E,253nm,23.8s,MS4.7
HHC LR LR
comp=Z,184nm,23.8s,MS4.5
BVAR Borovoye Array 92.74 355 P **P 08 12 02.4 +1.0**
comp=Z,2.5nm,0.8s,mb4.7,baz=28,slow=3.5,SNR=13
WMQ Urumqi 98.67 341 *e*P **P 08 12 30.1 +1.4**
WMQ AMB AMB
comp=Z,4.0nm,1.4s,mb4.8
WMQ LR LR
comp=N,97nm,28.0s
WMQ LR LR
comp=Z,129nm,26.7s,MS4.3
GYA Guiyang 105.90 318 *e*PDIF Pdif 08 13 02.1 +1.3
GYA PKP PKiKP 08 17 12.6 -1.1
GYA PP PP 08 17 26.4 +3.0
GYA PP PP
comp=Z,90nm,7.2s
BOSA Boshof 148.81 90 PKPbc PKPbc 08 18 37.5 +0.2
comp=Z,3.7nm,0.8s,baz=315,slow=6.3,SNR=5.0

BJI ***09*** *07:59:12.5, 1520S×17360W, h8km, mB5.3, mb5.1, Ms5.3, Msz4.8*
IDC ***09*** *07:59:13.1±0.5, 1509S×17363W, h0km, mb4.8/14, mb1 4.9/16, mb1mx4.7/22, mbtmp4.8/16, ML4.3/2, MS4.4/17, Ms1 4.4/17, ms1mx4.2/23, Error ellipse: s-maj=20.6km s-min=13.6km az=119.0*
NEIC ***09*** *07:59:15.5±0.2, 15.17S×17360W, h10km, mb5.2/49, MS4.8/158, Error ellipse: s-maj=9.5km s-min=5.4km az=139.0*
NEIC Felt at Apia, Samoa.
ISCJB ***09*** *07:59:17.1±0.2, 1509S±.005×17375W±.004, h33km, mb5.0/68, MS4.8/182, Error ellipse: s-maj=7.4km s-min=5.0km az=151.7*
MOS ***09*** *07:59:19.0±1.4, 15.15S×17320W, h33km, mb5.3/26, MS4.8/32, Error ellipse: s-maj=15.6km s-min=8.2km az=59.0*
SZGRF ***09*** *07:59:22.4, 1488S×17322W, h44km, mb4.9, Samoa Islands region*
ISC 09 07:59:17.4±3.6, 1514S±.005×17370W±.004, h23km±24km, h43km±.9km:pP-P, n756, σ0.9 46/499, mb5.0/68, MS4.8/182, 153C-157D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.23**	**57**	Pn	**Pn**	**07 59 49.2**	**-3.8**
	1μm,0.3s,baz=119,slow=0.7,SNR=667						
AFI				Sn	**Sn**	**08 00 09.1**	**-11**
	13μm,0.3s,baz=188,slow=16,SNR=45						
AFI				LR	LR	08 00 33.0	
	comp=Z,7μm,19.8s,baz=161,slow=37						
AFI	**Afiamalu**	**2.23**	**57**	P	**Pn**	**07 59 49.2**	**-3.8**
AFI				*e*		08 00 09.6	
AFI	**Afiamalu**	**2.23**	**57**	Pn	**Pn**	**07 59 49.2**	**-3.8**
AFI				Sn	**Sn**	**08 00 09.1**	**-11**
AFI				*e*Sn	**Sn**	**08 00 09.6**	**-10**
AFI				LR	LR	08 00 33.0	
FUNA	**Funafuti**	**9.57**	**313**	Pn	**Pn**	**08 01 34.9**	**+1.1**
FUNA				*e*Sn	**Sn**	**08 03 20.1**	**-0.5**
RAR	**Rarotonga**	**14.54**	**117**	Pn	**Pn**	**08 02 38.9**	**-2.9**
	5.7nm,0.3s,baz=236,slow=3.9,SNR=8.2						
RAR				LR	LR	08 07 30.2	
	comp=Z,474nm,18.7s,baz=333,slow=34						
DZM	**Mont Dzumac**	**20.03**	**247**	*e*P	**P**	**08 03 50.7**	**+1.9**
PPT	**Papeete**	**23.27**	**99**	*e*LQ		08 08 54.3	
	2μm,30.0s						
PPT				*e*LR	LR	08 09 44.0	
	1μm,28.0s,baz=264						
XMAS	**Kiritimati**	**23.46**	**45**	PFAKE		08 04 40.0	+14
XMAS				LR	LR		
	comp=Z,3μm,19.0s,MS4.7						
TBI	**Tubuai**	**24.27**	**113**	*e*LQ		08 09 18.3	
	comp=Z,1μm,27.5s						
TBI				*e*LR	LR	08 10 17.5	
	comp=Z,2μm,27.8s,baz=284						
URZ	**Urewera**	**24.41**	**198**	P	**P**	**08 04 35.8**	**+1.6**
	comp=Z,10nm,0.4s,mb4.6,baz=315,slow=2.2,SNR=18						
URZ				LR	LR	08 13 20.1	
	comp=Z,2μm,19.9s,MS4.6,baz=36,slow=35						
HNR	**Honiara**	**26.35**	**279**	LR	LR	08 12 07.1	
	comp=Z,211nm,20.6s,MS3.7,baz=179,slow=29						
SNZO	**South Karori**	**27.94**	**199**	PFAKE		08 05 20.0	+14
SNZO				LR	LR		
	comp=Z,2μm,20.0s,MS4.6						
RPZ	**Rata Peaks**	**31.31**	**202**	P	**P**	**08 05 35.6**	**-0.2**
	comp=Z,4.7nm,0.4s,mb4.7,baz=353,slow=8.2,SNR=6.3						
RPZ				LR	LR	08 17 38.8	
	comp=Z,2μm,19.8s,MS4.7,baz=53,slow=35						
RPZ	**Rata Peaks**	**31.31**	**202**	P	**P**	**08 05 35.6**	**-0.2**
RPZ				LR	LR	08 17 38.8	
RKT	**Rikitea**	**37.35**	**108**	*e*LR	LR	08 16 16.3	
	comp=Z,654nm,29.5s						
PMG	**Port Moresby**	**38.62**	**274**	PFAKE		08 06 50.0	+11
PMG				LR	LR		
	comp=Z,466nm,22.0s,MS4.3						
POHA	**Pohakuloa**	**39.02**	**28**	PFAKE		08 06 50.0	+7.6
POHA				LR	LR		
	comp=Z,1μm,22.0s,MS4.7						
KIP	**Kipapa**	**39.47**	**23**	*e*P	**P**	**08 06 45.4**	**-0.7**
KIP				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.7						
MIDW	**Midway**	**43.25**	**355**	PFAKE		08 07 30.0	+13
MIDW				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
STKA	**Stephens Creek**	**43.91**	**240**	*e*P	**P**	**08 07 22.4**	**-0.1**
	comp=Z,8.4nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**43.91**	**240**	P	**P**	**08 07 22.0**	**-0.6**
	comp=Z,3.8nm,0.4s,mb4.5,baz=95,slow=12,SNR=5.7						
STKA				LR	LR	08 24 35.3	
	comp=Z,287nm,20.8s,MS4.2,baz=52,slow=35						
WB2	**Warramunga Arr**	**49.61**	**257**	*e*P	**P**	**08 08 06.1**	**-1.2**
WB2	**Warramunga Arr**	**49.61**	**257**	*e*P	**P**	**08 08 06.1**	**-1.2**
WRAB	**Tennant Creek**	**49.61**	**257**	*e*P	**P**	**08 08 06.4**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.2						
WRAB	**Tennant Creek**	**49.61**	**257**	*e*P	**P**	**08 08 06.4**	**-1.0**
	comp=Z,29nm,1.3s,mb5.1						
WRA	**Warramunga Arr**	**49.62**	**257**	P	**P**	**08 08 06.2**	**-1.2**
	comp=Z,3.5nm,0.3s,mb4.8,baz=96,slow=7.7,SNR=86						
WRA				LR	LR	08 27 48.7	
	comp=Z,272nm,18.1s,MS4.3,baz=90,slow=34						
ASAR	**Alice Springs**	**49.91**	**252**	P	**P**	**08 08 08.4**	**-1.1**
	comp=Z,29nm,0.8s,mb5.4,baz=86,slow=8.6,SNR=210						
GUMO	**Guam**	**49.95**	**303**	LR	LR	08 23 31.6	
	comp=Z,405nm,22.0s,MS4.4,baz=91,slow=29						
MBWA	**Marble Bar**	**63.15**	**254**	P	**P**	**08 09 44.9**	**+1.0**
	comp=Z,1.2nm,0.4s,mb4.4						
SBA	**Scott Base**	**63.48**	**185**	*e*P	**P**	**08 09 46.2**	**+1.1**
SBA				pmax	pmax		
	comp=Z,50nm,1.7s,mb5.4						
SBA	**Scott Base**	**63.48**	**185**	*e*P	**P**	**08 09 46.2**	**+1.1**
	comp=Z,50nm,1.7s,mb5.4						
VNDA	**Vanda**	**63.60**	**186**	P	**P**	**08 09 46.6**	**+0.7**
	comp=Z,7.6nm,0.9s,mb4.7,baz=4.4,slow=6.8,SNR=33						
VNDA				LR	LR	08 34 29.4	
	comp=Z,203nm,18.1s,MS4.3,baz=291,slow=33						
NWAO	**Narrogin (SRO)**	**64.49**	**240**	LR	LR	08 36 04.7	
	comp=Z,439nm,21.7s,MS4.6,baz=34,slow=34						
KAPI	**Kappang**	**66.08**	**271**	PFAKE		08 10 20.0	+17
KAPI				LR	LR		
	comp=Z,216nm,20.0s,MS4.3						
ADK	**Adak**	**66.79**	**358**	PFAKE		08 10 20.0	+13
ADK				LR	LR		
	comp=Z,628nm,21.0s,MS4.8						
SMY	**Shemya**	**68.41**	**352**	PFAKE		08 10 30.0	+13
SMY				LR	LR		
	comp=Z,1μm,22.0s,MS5.0						
MJAR	**Matsushiro Arr**	**68.56**	**320**	P	**P**	**08 10 18.5**	**+0.1**
	comp=Z,2.7nm,0.5s,mb4.4,baz=151,slow=6.6,SNR=9.0						
MAJO	**Matsushiro**	**68.56**	**320**	PFAKE		08 10 30.0	+12
MAJO				LR	LR		
	comp=Z,483nm,21.0s,MS4.7						
MAT	**Matsushiro**	**68.56**	**320**	P	**P**	**08 10 18.8**	**+0.5**
MAT				S	S	08 19 14.0	-5.5
CASY	**Casey**	**70.52**	**205**	*e*P	**P**	**08 10 29.3**	**-0.7**
	comp=Z,29nm,1.7s,mb4.9						
SNCC	**San Nicolas Is**	**70.61**	**46**	PFAKE		08 10 40.0	+8.9
SNCC				LR	LR		
	comp=Z,748nm,21.0s,MS4.9						
HAST	**Hastings Reser**	**71.05**	**42**	⇓P	**P**	**08 10 34.0**	**+0.4**
	baz=71,SNR=5.8						
SCI	**San Clemente I**	**71.15**	**47**	⇓P	**P**	**08 10 34.5**	**+0.1**
	baz=71						
JRSC	**Jasper Ridge**	**71.21**	**41**	⇓P	**P**	**08 10 34.5**	**-0.2**
	baz=71						
MCCM	**Marconi Confer**	**71.26**	**40**	PFAKE		08 10 50.0	+15
MCCM				LR	LR		
	comp=Z,450nm,20.0s,MS4.7						
PKM	**Peak Mountain**	**71.33**	**44**	⇓P	**P**	**08 10 35.8**	**+0.3**
	baz=72						
SAO	**San Andreas Ge**	**71.34**	**42**	*e*P	**P**	**08 10 35.5**	**+0.1**
SAO				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
SAO				MLR	MLR		
	comp=Z,524nm,21.0s,MS4.8						
SAO	**San Andreas Ge**	**71.34**	**42**	*e*P	**P**	**08 10 35.5**	**+0.1**
	comp=Z,23nm,1.0s,mb5.1						
SAO				LR	LR		
	comp=Z,524nm,21.0s,MS4.8						
BLG	**Laguna Peak**	**71.41**	**46**	⇑P	**P**	**08 10 36.7**	**+0.7**
	baz=72						
SMMC	**Simmler**	**71.45**	**44**	⇓P	**P**	**08 10 36.3**	**+0.2**
	baz=72						
PKD	**Parkfield**	**71.45**	**43**	⇓P	**P**	**08 10 36.2**	**+0.1**
	baz=72						
U04C	**Hernandez Rese**	**71.53**	**43**	⇑P	**P**	**08 10 37.2**	**+0.6**
	baz=72,SNR=8.4						
PACP	**Pacheco Peak**	**71.58**	**42**	⇓P	**P**	**08 10 37.0**	**+0.1**
	baz=72,SNR=13						
CVS	**Carmenet Viney**	**71.64**	**40**	⇑P	**P**	**08 10 37.1**	**-0.1**
	baz=72						
WENL	**Wente Brothers**	**71.65**	**41**	⇑P	**P**	**08 10 37.4**	**+0.1**
	baz=72						
NSHM	**Saint Helena R**	**71.66**	**40**	*e*P	**P**	**08 10 37.0**	**-0.4**
HOPS	**Hopland**	**71.66**	**39**	⇑P	**P**	**08 10 37.4**	**+0.1**
	baz=72,SNR=5.7						
HOPS	**Hopland**	**71.66**	**39**	*e*P	**P**	**08 10 37.9**	**+0.6**
HOPS				LR	LR		
	comp=Z,600nm,21.0s,MS4.8						
BDM	**Black Diamond**	**71.78**	**41**	⇑P	**P**	**08 10 38.5**	**+0.4**
	baz=72						
P01C	**Double 8 Ranch**	**71.79**	**39**	⇑P	**P**	**08 10 38.3**	**+0.2**
	baz=72						
V05C	**Boulder Hill,**	**71.83**	**44**	⇓P	**P**	**08 10 38.9**	**+0.4**
	baz=72						
S04C	**Ingram Canyon,**	**71.85**	**42**	⇓P	**P**	**08 10 38.3**	**-0.3**
	baz=72,SNR=9.9						
PET	**Petropavlovsk**	**71.95**	**343**	*e*P	**P**	**08 10 42.9**	**+4.2**
PET				*e*PP	pP	08 10 57.2	+11
PET				*e*S	S	08 19 59.2	+0.7
PET				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
PET	**Petropavlovsk**	**71.95**	**343**	PFAKE		08 10 50.0	+11
PET				LR	LR		
	comp=Z,434nm,20.0s,MS4.7						
MNRC	**McLaughlin Nat**	**71.98**	**40**	P	**P**	**08 10 39.8**	**+0.5**
	baz=72,SNR=14						
Q03C	**Winters**	**72.09**	**40**	⇑P	**P**	**08 10 40.8**	**+0.9**
	baz=72						
ARVC	**Arvin**	**72.14**	**45**	⇑P	**P**	**08 10 39.7**	**-0.6**
	baz=72						
MWC	**Mount Wilson**	**72.17**	**46**	*e*P	**P**	**08 10 39.5**	**-1.0**
MWC				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
MWC				MLR	MLR		
	comp=Z,623nm,20.0s,MS4.9						
MWC	**Mount Wilson**	**72.17**	**46**	*e*P	**P**	**08 10 39.5**	**-1.0**
	comp=Z,20nm,1.1s,mb5.0						
MWC				LR	LR		
	comp=Z,623nm,20.0s,MS4.9						
GASB	**Alder Springs**	**72.28**	**39**	⇑P	**P**	**08 10 42.0**	**+0.9**

baz=72,SNR=14
PETK **Petropavlovsk-** 72.30 342 P P 08 10 40.9 +0.1
comp=Z,7.0nm,0.7s,mb4.7,baz=124,slow=7.9,SNR=11
PETK LR LR 08 35 32.1
comp=Z,126nm,21.2s,MS4.2,baz=136,slow=30
BAR **Barrett** 72.32 48 PFAKE 08 10 50.0 +8.6
BAR LR LR
comp=Z,541nm,20.0s,MS4.8
VES **Vestal, Richgr** 72.36 44 ⇑P P 08 10 41.0 -0.6
baz=72,SNR=11
S05C **Merced** 72.40 42 ⇓P P 08 10 41.3 -0.5
baz=73,SNR=5.9
MURC **Murrieta** 72.43 47 ⇑P P 08 10 41.9 -0.2
baz=73
KHMM **Horse Mountain** 72.44 38 eP P 08 10 42.5 +0.5
BFSC **Mount Baldy St** 72.45 46 ⇓P P 08 10 41.7 -0.5
baz=73
RCTC **Rector, Farmer** 72.52 44 ⇓P P 08 10 42.0 -0.6
baz=73
R04C **Big Horse Ranc** 72.55 41 ⇑P P 08 10 42.0 -0.7
baz=73
O02C **Red Bluff** 72.56 39 P P 08 10 43.4 +0.7
baz=73,SNR=14
EDW2 **Edwards Air Fo** 72.57 45 ⇑P P 08 10 42.6 -0.3
baz=73,SNR=9.2
SUTB **Sutter Butte** 72.59 40 ⇑P P 08 10 42.4 -0.5
baz=73
T06C **Millerton Lake** 72.61 43 ⇑P P 08 10 42.7 -0.4
baz=73,SNR=18
MONP **Monument Peak** 72.61 48 ⇑P P 08 10 43.0 -0.2
baz=73
Q04C **Lincoln** 72.61 40 ⇑P P 08 10 42.7 -0.4
baz=73
N02C **Big Bar** 72.65 38 ⇑P P 08 10 43.5 +0.2
baz=73
ISA **Isabella** 72.67 44 eP P 08 10 43.6 +0.1
ISA pmax pmax
comp=Z,23nm,1.2s,mb5.0
ISA MLR MLR
comp=Z,590nm,21.0s,MS4.8
ISA **Isabella** 72.67 44 ⇓P P 08 10 43.5 0.0
baz=73,SNR=10
ISA **Isabella** 72.67 44 eP P 08 10 43.6 +0.1
comp=Z,22nm,1.2s,mb5.0
ISA LR LR
comp=Z,590nm,21.0s,MS4.8
CMB **Columbia Colle** 72.77 42 P P 08 10 43.9 -0.1
baz=73,SNR=15
CMB **Columbia Colle** 72.77 42 PFAKE 08 11 00.0 +16
CMB LR LR
comp=Z,509nm,22.0s,MS4.8
M01C **Crescent City** 72.83 37 ⇓P P 08 10 44.8 +0.6
baz=73
OHCM **Honcut** 72.85 40 eP P 08 10 44.3 -0.1
OHCM epP pP 08 10 56.4 +4.6
HELL **Mitchell Peak** 72.88 43 ⇑P P 08 10 44.2 -0.4
baz=73,SNR=13
WDC **Whiskeytown Da** 72.96 38 ⇑P P 08 10 45.1 0.0
baz=73,SNR=11
WDC **Whiskeytown Da** 72.96 38 eP P 08 10 45.5 +0.4
WDC LR LR
comp=Z,545nm,20.0s,MS4.8
PFO **Pinyon Flat Ob** 72.96 47 ⇓P P 08 10 45.1 -0.2
baz=73
PFO **Pinyon Flat Ob** 72.96 47 eP P 08 10 45.2 -0.1
PFO LR LR
comp=Z,686nm,22.0s,MS4.9
LAVA **Lava Cap Winer** 72.97 41 ⇑P P 08 10 44.9 -0.2
baz=73,SNR=6.1
ORV **Oroville** 72.97 40 ⇑P P 08 10 44.9 -0.2
baz=73,SNR=10.0
BBRC **Big Bear Sol-O** 72.98 46 ⇑P P 08 10 45.4 0.0
baz=73
S06C **San Francisco** 73.02 42 ⇑P P 08 10 45.1 -0.4
baz=73,SNR=9.0
KCC **Kaiser Creek** 73.05 43 ⇓P P 08 10 45.6 -0.1
baz=73,SNR=11
SWSC **Sam W. Stewart** 73.08 48 ⇓P P 08 10 45.8 -0.2
baz=73
LRMC **Laurel Mountai** 73.11 45 ⇓P P 08 10 46.3 +0.2
baz=73,SNR=5.4
YSS **Yuzh-Sakhalins** 73.12 330 PFAKE 08 11 00.0 +14
YSS LR LR
comp=Z,137nm,19.0s,MS4.2
M02C **Callahan** 73.28 38 ⇑P P 08 10 47.5 +0.6
baz=74,SNR=5.5
R05C **Kirkwood Meado** 73.35 41 P P 08 10 47.6 +0.1
baz=74,SNR=21
P05C **Yuba Gap, Truc** 73.37 40 P P 08 10 47.6 +0.1
baz=74,SNR=8.4
BELC **Belle Mtn.** 73.49 47 ⇑P P 08 10 48.2 -0.2
baz=74,SNR=5.9
MTUM **Tungsten Hills** 73.56 43 eP P 08 10 49.0 +0.3
MTUM epP pP 08 11 01.2 +5.1
MPMC **Manual Prospec** 73.56 45 P P 08 10 48.8 +0.1
baz=74,SNR=19
O05C **Quincy** 73.57 40 ⇑P P 08 10 48.8 +0.1
baz=74
YBH **Yreka Blue Hor** 73.57 37 eP P 08 10 49.2 +0.5
YBH e*PP pP 08 11 01.7 +5.6
YBH pmax pmax
comp=Z,29nm,1.0s
YBH MLR MLR
comp=Z,499nm,22.0s
YBH **Yreka Blue Hor** 73.57 37 P P 08 10 49.3 +0.6
baz=74,SNR=16
YBH **Yreka Blue Hor** 73.57 37 eP P 08 10 49.2 +0.5
comp=Z,30nm,1.0s,mb5.2
YBH epP pP 08 11 01.7 +5.6
YBH LR LR
comp=Z,499nm,22.0s,MS4.8
DAC **Darwin (Calif)** 73.61 44 PFAKE 08 11 00.0 +11
DAC LR LR
comp=Z,774nm,21.0s,MS5.0
GSC **Goldstone** 73.62 46 eP P 08 10 49.1 0.0
GSC pmax pmax
comp=Z,29nm,1.3s,mb5.0
GSC MLR MLR
comp=Z,630nm,20.0s,MS4.9
GSC **Goldstone** 73.62 46 ⇑P P 08 10 48.9 -0.1
baz=74,SNR=9.0
GSC **Goldstone** 73.62 46 eP P 08 10 49.1 0.0
comp=Z,29nm,1.3s,mb5.0
GSC LR LR
comp=Z,630nm,20.0s,MS4.9
M03C **McCloud** 73.64 38 ⇓P P 08 10 49.1 +0.1
baz=74,SNR=7.6
R06C **Coleville** 73.65 42 ⇑P P 08 10 49.4 +0.2
baz=74,SNR=11
R07C **Lee Vining** 73.66 42 ⇓P P 08 10 49.3 0.0
baz=74
O04C **Chester** 73.68 39 ⇓P P 08 10 49.2 -0.2
baz=74,SNR=12
HEC **Hector,Ludlow** 73.70 46 ⇑P P 08 10 48.9 -0.6
baz=74,SNR=7.4
BC3 **Big Chuckw Mtn** 73.70 48 ⇓P P 08 10 49.6 0.0
baz=74
HATC **Hat Creek Radi** 73.75 39 ⇓P P 08 10 49.8 0.0
baz=74,SNR=8.1
112A **Yuma** 73.76 49 ⇓P P 08 10 49.9 -0.1
baz=74
K02A **Glendale** 73.77 36 ⇓P P 08 10 50.1 +0.3
baz=74
LBCM **Butte Creek Ri** 73.83 39 P P 08 10 50.0 -0.2
GLA **Glamis** 73.84 48 eP P 08 10 50.3 -0.1
GLA pmax pmax
comp=Z,25nm,1.2s,mb5.0
GLA MLR MLR
comp=Z,463nm,20.0s,MS4.8
GLA **Glamis** 73.84 48 ⇓P P 08 10 50.4 0.0
baz=74
GLA **Glamis** 73.84 48 eP P 08 10 50.3 -0.1
comp=Z,25nm,1.2s,mb5.0
GLA LR LR
comp=Z,463nm,20.0s,MS4.8
BEKR **Beckwourth** 73.86 40 ⇑P P 08 10 50.4 0.0
baz=74,SNR=28
S08C **White Mtn Res** 73.90 43 P P 08 10 51.2 +0.6
baz=74,SNR=17
WCN **Washoe City** 73.91 41 P P 08 10 51.0 +0.4
baz=74,SNR=31
HUMO **Hull Mountain** 73.98 36 ⇓P P 08 10 51.5 +0.5
baz=74,SNR=7.5
HUMO **Hull Mountain** 73.98 36 eP P 08 10 51.4 +0.4
comp=Z,39nm,1.4s,mb5.1
HUMO LR LR
comp=Z,463nm,22.0s,MS4.7

P06A **Stead Airport,** 74.04 40 ⇑P P 08 10 51.7 +0.3
baz=74
ELFS **Eagle Lake Fie** 74.08 39 ⇓P P 08 10 51.9 +0.3
baz=74
J02A **Umpqua** 74.11 36 P P 08 10 51.2 -0.5
baz=74,SNR=5.6
GMRC **Granite Mounta** 74.14 47 P P 08 10 52.0 -0.1
baz=74,SNR=8.0
GRAC **Grapevine Rang** 74.16 44 ⇓P P 08 10 52.4 +0.2
baz=74
IRM **Iron Mountain** 74.18 47 ⇑P P 08 10 52.3 -0.1
baz=74,SNR=7.2
BUOR **Burton Butte** 74.18 37 P P 08 10 52.9 +0.7
FURC **Furnace Creek,** 74.21 45 ⇓P P 08 10 52.0 -0.5
baz=74
M05C **Lookout** 74.27 38 P P 08 10 53.1 +0.3
baz=74,SNR=10.0
TUQ **Turquoise Mtn.** 74.30 46 ⇑P P 08 10 52.7 -0.3
baz=74,SNR=8.4
SHOC **Shoshone** 74.30 45 ⇑P P 08 10 52.7 -0.4
baz=74,SNR=5.6
L04A **Klamath Falls** 74.33 37 P P 08 10 53.5 +0.4
baz=74,SNR=14
I02A **Mapleton** 74.37 35 ⇓P P 08 10 53.5 +0.2
baz=75
PAHR **Pah Rah Range** 74.38 41 eP P 08 10 53.9 +0.5
comp=Z,32nm,1.2s,mb5.1
Y12C **Blythe** 74.41 48 ⇑P P 08 10 53.6 -0.1
baz=75
R08A **Mina** 74.42 42 ⇑P P 08 10 54.1 +0.4
baz=75
113A **Mohawk Valley,** 74.47 49 ⇓P P 08 10 53.9 -0.2
baz=75
HOG **Hogback Mounta** 74.48 37 P P 08 10 54.6 +0.7
U10A **Ash Meadows, A** 74.54 45 ⇓P P 08 10 54.7 +0.2
baz=75,SNR=6.6
M06C **Likely Place G** 74.58 39 P P 08 10 54.9 +0.3
baz=75,SNR=17
P07A **Fallon** 74.59 41 ⇑P P 08 10 54.4 -0.3
baz=75
S09A **Goldfield** 74.65 43 P P 08 10 54.8 -0.2
baz=75,SNR=18
I03A **Eugene** 74.66 35 ⇑P P 08 10 55.2 +0.3
baz=75
LDFC **Landfair** 74.68 47 eP P 08 10 55.8 +0.6
comp=Z,65nm,1.4s,mb5.4
K04A **Chiloquin** 74.69 37 ⇑P P 08 10 55.3 +0.2
baz=75
N06A **Buffalo Meadow** 74.70 40 ⇑P P 08 10 55.6 +0.3
baz=75
KDAK **Kodiak Island** 74.73 12 P P 08 10 54.7 -0.3
comp=Z,4.9nm,0.7s,mb4.6,baz=193,slow=8.8,SNR=12
KDAK LR LR 08 36 37.9
comp=Z,488nm,21.7s,MS4.8,baz=217,slow=30
214A **Organ Pipe Nat** 74.78 50 ⇓P P 08 10 55.7 -0.2
baz=75,SNR=9.2
Q08A **Gabbs** 74.82 42 ⇑P P 08 10 55.8 -0.1
baz=75,SNR=17
TPH **Tonopah** 74.84 43 eP P 08 10 56.3 +0.1
TPH pmax pmax
comp=Z,56nm,1.3s,mb5.3
TPH MLR MLR
comp=Z,499nm,20.0s,MS4.8
TPH **Tonopah** 74.84 43 eP P 08 10 56.2 +0.1
comp=Z,56nm,1.3s,mb5.3
TPH LR LR
comp=Z,499nm,20.0s,MS4.8
V11A **Goodsprings** 74.85 46 P P 08 10 56.4 +0.1
baz=75,SNR=5.7
J04A **Umpqua Nationa** 74.86 36 ⇓P P 08 10 56.3 +0.2
baz=75,SNR=7.0
NEE2 **Needles Airpor** 74.86 47 ⇓P P 08 10 56.2 -0.2
baz=75
L05A **Lakeview** 74.87 38 ⇓P P 08 10 56.5 +0.3
baz=75,SNR=21
TPNV **Topopah Spring** 74.88 44 eP P 08 10 56.6 +0.2
TPNV pmax pmax
comp=Z,32nm,1.7s,mb5.0
TPNV MLR MLR
comp=Z,742nm,22.0s,MS4.9
TPNV **Topopah Spring** 74.88 44 ⇑P P 08 10 56.3 -0.1
baz=75
TPNV **Topopah Spring** 74.88 44 eP P 08 10 56.6 +0.2
comp=Z,32nm,1.7s,mb5.0
TPNV LR LR
comp=Z,742nm,22.0s,MS4.9
QSPA **South Pole Qui** 74.90 180 P P 08 10 56.1 +0.3
comp=Z,35nm,0.9s,mb5.3,baz=34,slow=1.8,SNR=56
QSPA **South Pole Qui** 74.90 180 P P 08 10 56.1 +0.3
Y13A **Salome** 74.94 48 ⇓P P 08 10 56.7 -0.1
baz=75,SNR=6.8
O07A **Toulon** 74.95 40 P P 08 10 56.9 +0.1
baz=75,SNR=23
W12A **Cal Nev Ari** 74.96 46 ⇑P P 08 10 56.7 -0.2
baz=75
PDMCI **Parker Dam,Lak** 74.97 48 ⇑P P 08 10 56.7 -0.3
baz=75,SNR=7.0
I04A **Tendick Farm,** 75.03 36 P P 08 10 56.7 -0.4
baz=75,SNR=6.2
COR **Corvallis** 75.03 35 PFAKE 08 11 10.0 +13
COR LR LR
comp=Z,422nm,22.0s,MS4.7
R09A **Tonopah** 75.03 43 P P 08 10 57.2 0.0
baz=75,SNR=18
MOD **Modoc** 75.10 38 ⇑P P 08 10 57.3 -0.2
baz=75,SNR=19
MOD **Modoc** 75.10 38 eP P 08 10 58.0 +0.4
comp=Z,57nm,1.4s,mb5.3
MOD LR LR
comp=Z,458nm,20.0s,MS4.8
S10A **Tonopah Range,** 75.17 43 P P 08 10 58.1 +0.1
baz=75,SNR=16
U11A **Corn Creek** 75.19 45 ⇓P P 08 10 58.5 +0.3
baz=75
P08A **Dixie Valley** 75.19 41 ⇓P P 08 10 58.5 +0.4
baz=75,SNR=6.3
V12A **Nelson** 75.19 46 ⇓P P 08 10 58.3 0.0
baz=75,SNR=12
K05A **Summer Lake** 75.25 37 ⇑P P 08 10 58.9 +0.5
baz=75,SNR=26
N07B **Gerlach** 75.25 40 P P 08 10 58.6 +0.2
baz=75,SNR=18
Q09A **Carvers** 75.29 42 ⇓P P 08 10 58.7 0.0
baz=76
X13A **Yucca** 75.33 48 P P 08 10 59.1 0.0
baz=76,SNR=12
Z14A **Wintersburg** 75.36 49 ⇓P P 08 10 59.2 -0.1
baz=76
SHPR **Sheep Range** 75.39 45 eP P 08 10 59.5 +0.2
J05A **Fort Rock** 75.39 37 P P 08 10 59.6 +0.5
baz=76,SNR=24
M07A **Soldier Meadow** 75.48 39 ⇓P P 08 11 00.0 +0.3
baz=76,SNR=6.7
G03A **Yamhill** 75.51 34 ⇑P P 08 10 59.9 0.0
baz=76
W13A **Hualapai Mount** 75.55 47 P P 08 11 00.6 +0.2
baz=76,SNR=12
115A **Sonoran Desert** 75.57 50 ⇓P P 08 11 00.4 -0.1
baz=76
R10A **Warm Springs** 75.57 43 ⇓P P 08 11 00.6 +0.3
baz=76,SNR=17
S11A **Rachel** 75.59 44 ⇓P P 08 11 00.2 -0.3
baz=76
Y14A **Wickenburg** 75.60 48 P P 08 11 00.6 0.0
baz=76,SNR=12
K06A **Valley Falls** 75.67 38 P P 08 11 01.0 +0.2
baz=76,SNR=18
H04A **Detroit Lake** 75.71 35 ⇓P P 08 11 00.5 -0.5
baz=76,SNR=7.3
P09A **Austin** 75.71 42 ⇓P P 08 11 01.1 -0.1
baz=76
T11A **Corn Creek, Al** 75.73 45 P P 08 11 01.4 +0.1
baz=76,SNR=31
L07A **Adell** 75.75 39 P P 08 11 01.8 +0.5
baz=76,SNR=26
F03A **Seaside** 75.76 34 ⇓P P 08 11 01.0 -0.2
baz=76
N08A **GE Springer Mi** 75.78 40 P P 08 11 01.4 0.0
baz=76,SNR=20
U12A **Valley of Fire** 75.78 46 P P 08 11 01.7 +0.2
baz=76,SNR=16
Q10A **Clear Creek Ra** 75.79 43 ⇓P P 08 11 01.5 -0.1
baz=76,SNR=8.3
216A **Three Points,** 75.81 51 ⇓P P 08 11 02.0 +0.1
baz=76,SNR=11
T12A **Moapa** 75.81 45 ⇓P P 08 11 01.5 -0.2
baz=76
V13A **Grand Canyon W** 75.86 46 P P 08 11 02.0 -0.1

baz=76,SNR=9.7
116A **Eloy** 75.89 50 ⇑P P 08 11 02.1 -0.2
baz=76
Z15A **Gila River Ind** 75.90 49 ⇑P P 08 11 02.0 -0.4
baz=76
I05A **Bend** 75.91 36 ⇑P P 08 11 02.3 +0.2
baz=76
X14A **Yava** 75.94 48 ⇓P P 08 11 02.6 0.0
baz=76,SNR=7.6
J06A **Christmas Vall** 76.00 37 ⇑P P 08 11 02.5 -0.1
baz=76,SNR=22
M08A **Happy Creek Ra** 76.00 40 ⇓P P 08 11 03.1 +0.4
baz=76,SNR=10
O09A **Fish Creek Ran** 76.03 41 ⇓P P 08 11 02.8 -0.1
baz=76
R11A **Troy Canyon, C** 76.08 43 ⇓P P 08 11 03.0 -0.2
baz=76,SNR=13
Y15A **Casa Rosa Ranc** 76.09 49 P P 08 11 03.6 +0.2
baz=76,SNR=27
BMN **Battle Mountai** 76.15 41 eP P 08 11 04.1 +0.5
BMN pmax pmax
comp=Z,21nm,1.1s,mb5.0
BMN MLR MLR
comp=Z,373nm,20.0s,MS4.7
BMN **Battle Mountai** 76.15 41 eP P 08 11 04.1 +0.5
comp=Z,21nm,1.1s,mb5.0
BMN LR LR
comp=Z,373nm,20.0s,MS4.7
E03A **Lebam** 76.15 33 ⇓P P 08 11 03.4 0.0
baz=76
U13A **Pakoon Wash** 76.16 46 P P 08 11 04.1 +0.3
baz=76,SNR=26
W14A **Seligman** 76.18 47 P P 08 11 04.3 +0.4
baz=76,SNR=16
S12A **Delamar Landin** 76.18 44 ⇓P P 08 11 04.0 +0.2
baz=76,SNR=15
217A **Green Valley** 76.18 51 P P 08 11 04.1 +0.1
baz=76,SNR=12
P10A **Eureka** 76.19 42 P P 08 11 03.8 -0.1
baz=76,SNR=7.4
N09A **Rock Creek Ran** 76.20 40 P P 08 11 04.1 +0.2
baz=76,SNR=8.8
K07A **Rock Creek Ran** 76.20 38 ⇓P P 08 11 04.1 +0.3
baz=76
H05A **Madras** 76.23 36 ⇓P P 08 11 03.8 -0.1
baz=76,SNR=9.5
Q11A **Duckwater** 76.30 43 ⇓P P 08 11 04.6 +0.2
baz=76,SNR=23
F04A **Amboy** 76.37 34 ⇓P P 08 11 04.7 -0.1
baz=77
V14A **Boquillas Ranc** 76.37 47 ⇓P P 08 11 05.4 +0.4
baz=76,SNR=9.3
I06A **Prineville** 76.38 37 ⇓P P 08 11 05.2 +0.4
baz=77,SNR=24
HOOD **Mount Hood Mea** 76.41 35 eP P 08 11 04.6 -0.4
comp=Z,28nm,1.1s,mb5.1
D03A **Wishkah Elem.** 76.41 33 ⇑P P 08 11 05.3 +0.3
baz=77
WVOR **Wild Horse Val** 76.42 39 eP P 08 11 04.9 -0.2
WVOR pmax pmax
comp=Z,39nm,1.4s,mb5.1
WVOR MLR MLR
comp=Z,546nm,20.0s,MS4.9
WVOR **Wild Horse Val** 76.42 39 eP P 08 11 04.9 -0.2
comp=Z,39nm,1.4s,mb5.2
WVOR LR LR
comp=Z,546nm,20.0s,MS4.9
X15A **Humboldt** 76.42 48 P P 08 11 05.7 +0.3
baz=77,SNR=16
L08A **Fields** 76.45 39 P P 08 11 05.5 +0.2
baz=77,SNR=20
TUC **Tucson** 76.46 51 eP P 08 11 05.5 0.0
TUC pmax pmax
comp=Z,18nm,1.3s,mb4.8
TUC MLR MLR
comp=Z,417nm,19.0s,MS4.8
TUC **Tucson** 76.46 51 eP P 08 11 05.5 0.0
comp=Z,18nm,1.3s,mb4.8
TUC LR LR
comp=Z,417nm,19.0s,MS4.8
Z16A **Peralta Trail,** 76.46 50 P P 08 11 05.7 +0.2
baz=77,SNR=8.6
VIPM **Ingram Point** 76.49 36 P P 08 11 05.7 +0.3
VFP **Flag Point** 76.51 35 P P 08 11 05.8 +0.2
T13A **Saint George** 76.51 45 ⇓P P 08 11 05.9 +0.2
baz=77,SNR=19
O10A **Cortez Mining,** 76.53 41 ⇓P P 08 11 05.7 -0.1
baz=77,SNR=6.2
NLWA **Neilton Lookou** 76.54 32 ⇓P P 08 11 05.9 +0.2
baz=77
NLWA **Neilton Lookou** 76.54 32 PFAKE 08 11 20.0 +14
NLWA LR LR
comp=Z,344nm,20.0s,MS4.7
G05A **Wamic** 76.54 35 ⇑P P 08 11 06.0 +0.3
baz=77
C03A **Quillayute Air** 76.55 32 ⇑P P 08 11 06.1 +0.4
baz=77
J07A **Hines** 76.56 38 ⇑P P 08 11 05.9 0.0
baz=77,SNR=10.0
M09A **Marrel Ranch,** 76.56 40 ⇓P P 08 11 06.3 +0.3
baz=77,SNR=9.5
117A **Oracle** 76.61 51 ⇑P P 08 11 06.6 +0.2
baz=77,SNR=13
P11A **Circle Ranch,** 76.61 42 ⇓P P 08 11 05.8 -0.5
baz=77
E04A **Onalaska** 76.63 33 ⇑P P 08 11 06.6 +0.4
baz=77
318A **Bisbee** 76.65 52 ⇑P P 08 11 06.7 0.0
baz=77,SNR=13
INCN **Inchon** 76.66 315 PFAKE 08 11 20.0 +13
INCN LR LR
comp=Z,372nm,20.0s,MS4.7
K08A **Mann Creek Ran** 76.68 38 P P 08 11 06.7 +0.2
baz=77,SNR=25
U14A **Mt Trumbull** 76.71 46 P P 08 11 07.3 +0.4
baz=77,SNR=31
R12A **Pony Springs,** 76.72 44 P P 08 11 07.0 +0.1
baz=77,SNR=21
W15A **Williams** 76.74 48 ⇑P P 08 11 07.6 +0.5
baz=77
N10A **Dunphy** 76.76 41 ⇑P P 08 11 07.0 -0.1
baz=77
L09A **Wilkinson Ranc** 76.77 39 ⇑P P 08 11 07.0 0.0
baz=77,SNR=9.8
H06A **Lindquist Farm** 76.78 36 ⇓P P 08 11 06.9 -0.2
baz=77,SNR=16
S13A **Holt Ranch, En** 76.83 45 P P 08 11 07.9 +0.3
baz=77,SNR=24
218A **Dragoon** 76.86 51 ⇑P P 08 11 07.9 +0.1
baz=77
F05A **White Salmon** 76.86 35 ⇓P P 08 11 07.3 -0.2
baz=77
I07A **Izee** 76.87 37 P P 08 11 07.8 +0.2
baz=77,SNR=15
G06A **Carlson Farm,** 76.92 35 ⇑P P 08 11 07.6 -0.2
baz=77,SNR=6.2
Q12A **Willow Creek R** 76.94 43 ⇓P P 08 11 08.1 0.0
baz=77,SNR=7.1
X16A **Lo Mia Camp, P** 76.97 49 ⇓P P 08 11 08.6 +0.3
baz=77,SNR=17
O11A **Cowboy Ranch,** 76.99 42 ⇓P P 08 11 08.4 +0.1
baz=77,SNR=12
J08A **Circle Bar Ran** 77.05 38 ⇑P P 08 11 08.4 -0.3
baz=77,SNR=17
Y17A **Roosevelt** 77.06 50 P P 08 11 09.2 +0.3
baz=77,SNR=8.5
R13A **O'Grain Ranch,** 77.07 44 ⇓P P 08 11 09.2 +0.3
baz=77,SNR=8.1
T14A **Hurricane** 77.10 46 P P 08 11 09.1 +0.1
baz=77,SNR=14
K09A **Rome** 77.12 39 P P 08 11 09.1 0.0
baz=77,SNR=32
E05A **Randle** 77.12 34 ⇑P P 08 11 08.7 -0.3
baz=77
P12A **McGill** 77.12 43 ⇑P P 08 11 09.1 0.0
baz=77
V15A **Kaibab Nationa** 77.12 47 P P 08 11 09.9 +0.7
baz=77,SNR=24
H07A **Lands Inn, Kim** 77.14 36 ⇑P P 08 11 08.8 -0.3
baz=77,SNR=8.3
Z17A **San Carlos Hig** 77.15 50 ⇓P P 08 11 09.8 +0.4
baz=77
B04A **Port Angeles** 77.16 32 ⇑P P 08 11 09.4 +0.2
baz=77
F06A **Goldendale** 77.16 35 ⇓P P 08 11 09.1 -0.1
baz=77
319A **Douglas** 77.17 52 ⇑P P 08 11 09.6 0.0
baz=77,SNR=8.8

M10A	I.L. Ranch, Tu	77.19	40	P	P	08 11 09.8	+0.3
	baz=77,SNR=14						
GNW	Green Mountain	77.19	33	eP	P	08 11 09.5	+0.1
	comp=Z,20nm,1.4s,mb4.8						
GNW				epP	pP	08 11 22.7	+5.9
C04A	Brinnon	77.22	32	⇓P	P	08 11 09.6	+0.1
	baz=77						
118A	Homack Ranch,	77.22	51	P	P	08 11 10.2	+0.4
	baz=77,SNR=7.7						
ARUT	Antelope Range	77.23	45	eP	P	08 11 08.7	-1.0
W16A	Flagstaff	77.23	48	⇑P	P	08 11 10.1	+0.3
	baz=77,SNR=6.9						
N11A	Elko Archery C	77.31	41	⇓P	P	08 11 10.3	+0.2
	baz=78,SNR=5.8						
I08A	Drewsey	77.31	37	⇑P	P	08 11 09.9	-0.2
	baz=78,SNR=9.0						
U15A	North Rim	77.34	47	⇓P	P	08 11 10.9	+0.5
	baz=78,SNR=22						
Z18A	Geronimo	77.37	50	⇓P	P	08 11 10.7	0.0
	baz=78						
X17A	Forest Lakes	77.39	49	⇑P	P	08 11 11.0	+0.3
	baz=78,SNR=9.8						
D05A	Enumclaw	77.39	33	⇑P	P	08 11 10.6	+0.1
	baz=78						
S14A	Cedar City	77.40	45	⇓P	P	08 11 10.8	+0.1
	baz=78,SNR=8.2						
Q13A	Wheeler Ranch,	77.44	44	P	P	08 11 10.8	0.0
	baz=78,SNR=16						
219A	White Tail Can	77.46	52	P	P	08 11 11.5	+0.3
	baz=78,SNR=8.7						
J09A	Fry Pan Ranch,	77.47	38	P	P	08 11 10.9	-0.1
	baz=78,SNR=17						
G07A	Ruggs Ranch, H	77.48	36	P	P	08 11 10.9	-0.1
	baz=78,SNR=8.6						
E06A	Yakima	77.53	34	⇑P	P	08 11 11.1	-0.2
	baz=78,SNR=5.9						
L10A	Juniper Basin	77.54	40	P	P	08 11 11.4	0.0
	baz=78,SNR=18						
WUAZ	Wupatki	77.54	48	⇑P	P	08 11 11.8	+0.2
	baz=78						
WUAZ	Wupatki	77.54	48	eP	P	08 11 12.5	+0.9
	comp=Z,32nm,1.4s,mb5.1						
WUAZ				LR	LR		
	comp=Z,400nm,20.0s,MS4.7						
T15A	Red Dirt Ranch	77.57	46	⇑P	P	08 11 12.1	+0.4
	baz=78,SNR=17						
ELK	Elko	77.58	42	eP	P	08 11 11.7	0.0
ELK				pmax	pmax		
	comp=Z,17nm,1.3s						
ELK				MLR	MLR		
	comp=Z,444nm,20.0s						
ELK	Elko	77.58	42	eP	P	08 11 11.7	0.0
	comp=Z,17nm,1.3s,mb4.8						
ELK				LR	LR		
	comp=Z,444nm,20.0s,MS4.8						
M11A	Holland Ranch,	77.61	41	⇑P	P	08 11 11.8	0.0
	baz=78,SNR=9.9						
H08A	Prairie City	77.61	37	⇓P	P	08 11 11.2	-0.5
	baz=78,SNR=8.3						
O12A	Currie	77.65	42	⇓P	P	08 11 11.9	-0.1
	baz=78,SNR=11						
K10A	MacKenzie Ranc	77.68	39	P	P	08 11 12.1	-0.1
	baz=78,SNR=23						
Y18A	Canyon Day Jun	77.69	50	P	P	08 11 13.1	+0.6
	baz=78,SNR=13						
P13A	Bates Ranch, G	77.70	43	⇓P	P	08 11 12.1	-0.2
	baz=78,SNR=16						
R14A	James Farms, M	77.77	45	⇓P	P	08 11 12.8	0.0
	baz=78						
N12A	Clover Valley,	77.77	42	⇓P	P	08 11 12.5	-0.2
	baz=78,SNR=8.6						
119A	Ashpeak Ranch,	77.78	51	⇓P	P	08 11 13.1	+0.1
	baz=78						
W17A	Winslow	77.81	48	⇑P	P	08 11 13.2	+0.1
	baz=78						
I09A	Lost Marbles R	77.84	38	⇑P	P	08 11 12.4	-0.6
	baz=78						
C05A	Tolt Reservoir	77.87	33	⇓P	P	08 11 12.8	-0.3
	baz=78						
G08A	Pilot Rock	77.90	36	P	P	08 11 13.3	-0.1
	baz=78,SNR=12						
S15A	Panguitch	77.91	45	⇑P	P	08 11 14.6	+1.1
	baz=78,SNR=11						
Q14A	Sevier Lake (B	77.95	44	P	P	08 11 13.8	0.0
	baz=78,SNR=22						
A04A	Legoe Bay, Lum	78.00	32	⇓P	P	08 11 13.9	+0.1
	baz=78						
D06A	Cle Elum	78.01	34	⇑P	P	08 11 14.1	+0.2
	baz=78						
B05A	Bryant	78.02	32	⇑P	P	08 11 13.6	-0.3
	baz=78						
L11A	Cat Creek Ranc	78.03	40	P	P	08 11 14.1	-0.1
	baz=78,SNR=22						
Z19A	T-Link Ranch,	78.04	51	⇓P	P	08 11 14.6	+0.2
	baz=78						
O13A	Hicks Ranch, I	78.07	43	⇓P	P	08 11 14.6	+0.1
	baz=78						
X18A	Snowflake	78.11	49	⇑P	P	08 11 14.9	+0.2
	baz=78,SNR=6.9						
J10A	Berg Farm, Mel	78.11	39	⇑P	P	08 11 14.4	-0.1
	baz=78						
M12A	Wells	78.15	41	⇓P	P	08 11 14.6	-0.2
	baz=78,SNR=12						
E07A	Sunnyside	78.16	35	⇓P	P	08 11 14.7	0.0
	baz=78						
T16A	Glen Canyon Da	78.16	46	⇓P	P	08 11 15.3	+0.3
	baz=78,SNR=6.9						
K11A	Parker Ranch,	78.19	39	⇓P	P	08 11 15.0	-0.1
	baz=78,SNR=15						
RSW	Rattlesnake Hi	78.20	35	eP	P	08 11 15.2	+0.2
R15A	Junction	78.23	45	⇓P	P	08 11 16.1	+0.7
	baz=78						
HAWA	Hanford	78.23	35	eP	P	08 11 14.8	-0.4
	comp=Z,33nm,1.6s,mb5.0						
HAWA				LR	LR		
	comp=Z,383nm,21.0s,MS4.7						
H09A	Durkee	78.28	37	⇑P	P	08 11 15.0	-0.5
	baz=78						
F08A	Pendleton	78.30	36	⇓P	P	08 11 15.6	0.0
	baz=78						
N13A	Wendover, West	78.31	42	⇓P	P	08 11 15.5	-0.2
	baz=78						
Y19A	Nutrioso	78.35	50	⇑P	P	08 11 16.7	+0.6
	baz=78,SNR=16						
P14A	Drum Mountains	78.40	43	P	P	08 11 16.4	+0.2
	baz=79,SNR=23						
MVU	Marysvale	78.42	45	PFAKE		08 11 30.0	+14
MVU				LR	LR		
	comp=Z,603nm,20.0s,MS4.9						
MSU	Marysvale	78.45	45	eP	P	08 11 17.2	+0.6
S16A	Weppner Ranch,	78.46	46	⇓P	P	08 11 16.8	+0.1
	baz=79,SNR=12						
I10A	Payette	78.46	38	⇓P	P	08 11 16.7	+0.3
	baz=79						
L12A	House Creek Ra	78.48	40	⇑P	P	08 11 16.6	0.0
	baz=79,SNR=7.3						
W18A	Petrified Fore	78.53	49	⇑P	P	08 11 17.5	+0.4
	baz=79						
X19A	St. Johns	78.54	50	⇓P	P	08 11 17.4	+0.2
	baz=79,SNR=8.9						
Q15A	Fillmore	78.56	44	⇓P	P	08 11 17.1	0.0
	baz=79						
U17A	Shonto	78.57	47	⇑P	P	08 11 17.7	+0.5
	baz=79,SNR=12						
G09A	Cove	78.57	37	P	P	08 11 16.8	-0.3
	baz=79,SNR=7.4						
BMO	Blue Mountains	78.60	37	eP	P	08 11 17.0	-0.2
	comp=Z,41nm,1.9s,mb5.0						
BMO				LR	LR		
	comp=Z,357nm,20.0s,MS4.7						
M13A	Montello	78.60	41	⇑P	P	08 11 17.3	0.0
	baz=79						
MDJ	Mudanjiang	78.64	322	PFAKE		08 11 30.0	+13
MDJ				LR	LR		
	comp=Z,513nm,20.0s,MS4.9						
T17A	Navajo Res., N	78.66	47	⇑P	P	08 11 17.9	+0.2
	baz=79,SNR=23						
V18A	Ganado	78.67	48	⇑P	P	08 11 17.7	-0.1
	baz=79,SNR=15						
MFID	Camas Ranch	78.67	39	⇓P	P	08 11 17.1	-0.5
	baz=79,SNR=5.5						
SIT	Sitka	78.68	20	PFAKE		08 11 30.0	+13
SIT				LR	LR		
	comp=Z,734nm,20.0s,MS5.0						
F09A	S2 Ranch, Elgi	78.74	36	⇑P	P	08 11 17.4	-0.6
	baz=79						
H10A	Noah's Angus R	78.78	38	⇓P	P	08 11 17.5	-0.7
	baz=79,SNR=7.2						
W19A	Sanders	78.78	49	⇑P	P	08 11 18.6	+0.1
	baz=79						
R16A	Teasdale	78.81	45	⇓P	P	08 11 19.2	+0.7
	baz=79,SNR=9.5						
K12A	Draper Farm, C	78.82	40	⇓P	P	08 11 18.2	-0.3
	baz=79,SNR=6.0						
I11A	Placerville	78.87	39	P	P	08 11 18.5	-0.2
	baz=79,SNR=6.6						
DUG	Dugway	78.87	43	eP	P	08 11 18.6	-0.2
DUG				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
DUG				MLR	MLR		
	comp=Z,490nm,22.0s,MS4.8						
DUG	Dugway	78.87	43	⇓P	P	08 11 18.6	-0.2
	baz=79						
DUG	Dugway	78.87	43	eP	P	08 11 18.6	-0.3
	comp=Z,19nm,1.3s,mb4.9						
DUG				LR	LR		
	comp=Z,490nm,22.0s,MS4.8						
P15A	Leamington	78.91	44	⇓P	P	08 11 19.0	-0.1
	baz=79						
PMR	Palmer	78.93	12	eP	P	08 11 18.3	-0.3
PMR				MLR	MLR		
	comp=Z,260nm,20.0s,MS4.6						
G10A	Bishop Farm, J	78.96	37	⇓P	P	08 11 18.5	-0.6
	baz=79,SNR=7.8						
N14A	Grayback Hills	78.97	42	⇓P	P	08 11 19.1	-0.2
	baz=79,SNR=7.8						
S17A	Black Ridge (B	78.97	46	⇑P	P	08 11 18.8	-0.6
	baz=79,SNR=15						
D08A	Wollman Farm,	78.97	35	⇓P	P	08 11 18.9	-0.3
	baz=79						
J12A	Stokes Ranch,	79.03	39	P	P	08 11 19.6	0.0
	baz=79,SNR=11						
TTA	Tatalina	79.04	8	eP	P	08 11 19.3	+0.1
TTA				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
TTA	Tatalina	79.04	8	eP	P	08 11 19.3	+0.1
	comp=Z,12nm,1.0s,mb4.8						
U18A	Rough Rock, Ch	79.05	48	⇓P	P	08 11 20.2	+0.4
	baz=79,SNR=12						
E09A	Wood Farm, Sta	79.08	35	⇓P	P	08 11 19.1	-0.7
	baz=79						
L13A	Double Diamond	79.12	41	⇑P	P	08 11 20.0	-0.2
	baz=79,SNR=8.3						
O15A	The Old Anders	79.14	43	⇑P	P	08 11 20.4	+0.1
	baz=79						
B07A	Winthrop	79.17	33	⇓P	P	08 11 19.7	-0.6
	baz=79						
M14A	Sheep Mountain	79.20	42	P	P	08 11 20.6	0.0
	baz=79,SNR=32						
WRAK	Wrangell Islan	79.22	22	PFAKE		08 11 30.0	+10
WRAK				LR	LR		
	comp=Z,395nm,20.0s,MS4.8						
H11A	Donnelly	79.28	38	⇓P	P	08 11 20.3	-0.6
	baz=80,SNR=11						
F10A	Beach Ranch, E	79.28	36	P	P	08 11 20.1	-0.8
	baz=80,SNR=8.1						
D09A	Jones Farm, Ri	79.31	35	⇓P	P	08 11 20.5	-0.5
	baz=80						
V19A	Window Rock	79.31	48	⇑P	P	08 11 21.5	+0.1
	baz=80						
K13A	Stover Farm, H	79.33	40	⇑P	P	08 11 21.3	0.0
	baz=80,SNR=5.5						
Q16A	Castle Valley	79.33	45	⇑P	P	08 11 21.8	+0.4
	baz=80						
C08A	Higginbotham F	79.34	34	⇑P	P	08 11 20.7	-0.5
	baz=80						
P16A	Fountain Green	79.34	44	⇑P	P	08 11 22.0	+0.5
	baz=80						
T18A	Mexican Hat	79.38	47	P	P	08 11 22.1	+0.5
	baz=80,SNR=41						
R17A	Hanksville Air	79.41	45	⇑P	P	08 11 21.6	-0.2
	baz=80,SNR=17						
N15A	Stansbury Isla	79.42	43	⇓P	P	08 11 21.5	-0.3
	baz=80						
TMUT	Trail Mountain	79.50	44	eP	P	08 11 22.2	-0.1
G11A	Walters Elk Ra	79.51	37	⇑P	P	08 11 21.5	-0.8
	baz=80,SNR=8.9						
B08A	Colville Reser	79.53	33	⇓P	P	08 11 21.3	-0.9
	baz=80,SNR=5.5						
L14A	Malta	79.54	41	⇑P	P	08 11 22.1	-0.4
	baz=80,SNR=7.6						
S18A	Hurst Farm, B	79.56	46	⇑P	P	08 11 22.4	-0.3
	baz=80,SNR=7.0						
MPU	Maple Canyon	79.56	44	PFAKE		08 11 30.0	+7.4
MPU				LR	LR		
	comp=Z,990nm,21.0s,MS5.1						
HLID	Hailey	79.62	39	P	P	08 11 23.0	+0.2
	baz=80,SNR=18						
HLID	Hailey	79.62	39	PFAKE		08 11 30.0	+7.2
HLID				LR	LR		
	comp=Z,278nm,20.0s,MS4.6						
J13A	Cove Ranch, Pi	79.67	40	⇓P	P	08 11 23.4	+0.3
	baz=80,SNR=6.4						
SPUT	South Promonto	79.68	42	eP	P	08 11 23.7	+0.5
HVU	Hansel Valley	79.71	42	eP	P	08 11 23.5	+0.1
HVU				e*PP	pP	08 11 35.8	+4.9
HVU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
HVU	Hansel Valley	79.71	42	eP	P	08 11 23.5	+0.1
	comp=Z,4.9nm,0.8s,mb4.5						
HVU				epP	pP	08 11 35.8	+5.0
O16A	Springville	79.75	44	⇓P	P	08 11 23.4	-0.2
	baz=80						
M15A	Larsen Ranch,	79.76	42	P	P	08 11 23.4	-0.2
	baz=80,SNR=9.7						
T19A	Beclabito	79.84	47	P	P	08 11 24.4	+0.2
	baz=80,SNR=17						
K14A	Jones Ranch, D	79.85	41	P	P	08 11 24.3	+0.2
	baz=80,SNR=17						
SRU	San Rafael	79.87	45	eP	P	08 11 23.6	-0.7
SRU				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
SRU	San Rafael	79.87	45	⇑P	P	08 11 23.9	-0.4
	baz=80,SNR=12						
SRU	San Rafael	79.87	45	eP	P	08 11 23.6	-0.7
	comp=Z,18nm,1.6s,mb4.8						
H12A	Diamond D Ranc	79.88	38	⇑P	P	08 11 24.0	-0.2
	baz=80						
P17A	Butcher Ranch,	79.90	44	⇓P	P	08 11 24.7	+0.2
	baz=80,SNR=8.7						
A08A	Turner Farm, O	79.92	33	⇓P	P	08 11 23.8	-0.5
	baz=80						
R18A	Canyonlands Na	79.95	46	P	P	08 11 24.8	0.0
	baz=80,SNR=12						
I13A	Wildhorse Cree	79.99	39	⇑P	P	08 11 24.7	-0.1
	baz=80,SNR=5.2						
DAU	Daniels Canyon	80.01	43	eP	P	08 11 25.6	+0.6
L15A	Malad City	80.07	42	⇓P	P	08 11 25.0	-0.3
	baz=80,SNR=6.1						
E11A	Bogner Ranch,	80.08	36	⇓P	P	08 11 24.2	-1.1
	baz=80						
N16A	Rees Ranch, Co	80.13	43	⇓P	P	08 11 25.7	+0.1
	baz=80						
Q18A	Rafter H Ranch	80.13	45	⇓P	P	08 11 25.5	-0.2
	baz=80,SNR=11						
S19A	Harvey Farm, M	80.18	47	P	P	08 11 26.3	+0.2
	baz=80,SNR=9.4						
M16A	Huntsville	80.21	42	P	P	08 11 25.9	-0.2
	baz=80,SNR=6.3						
H13A	Challis	80.25	39	⇑P	P	08 11 25.9	-0.4
	baz=80,SNR=7.0						
A09A	Danville	80.29	33	⇓P	P	08 11 26.3	-0.1
	baz=80						
F12A	Elk City	80.30	37	P	P	08 11 26.0	-0.5
	baz=80,SNR=12						
P18A	Preston Nutter	80.31	45	⇑P	P	08 11 27.0	+0.3
	baz=80						
K15A	Arbon	80.33	41	⇓P	P	08 11 26.1	-0.6
	baz=80						
R19A	Curley Farm, L	80.35	46	⇓P	P	08 11 27.1	+0.2
	baz=80						
MVCO	Mesa Verde	80.39	47	PFAKE		08 11 40.0	+13
MVCO				LR	LR		
	comp=Z,521nm,20.0s,MS4.9						
BNM	Barren Site	80.39	51	eP	P	08 11 27.5	+0.2
D11A	Klaveano Farm,	80.40	36	⇓P	P	08 11 26.0	-1.0
	baz=81						
LPM	Los Pinos Moun	80.46	51	eP	P	08 11 28.2	+0.6
G13A	Cobalt	80.55	38	P	P	08 11 27.5	-0.3
	baz=81,SNR=6.2						
SKAG	Skagway	80.59	19	eP	P	08 11 28.0	+0.3
	comp=Z,66nm,2.2s,mb5.2						
Q19A	Hogan Spring (	80.66	45	⇓P	P	08 11 28.6	0.0
	baz=81,SNR=8.2						
NEW	Newport	80.66	34	PFAKE		08 11 40.0	+12
NEW				LR	LR		
	comp=Z,283nm,20.0s,MS4.6						
L16A	Fish Haven	80.69	42	⇑P	P	08 11 28.0	-0.6
	baz=81,SNR=5.4						
CN2	Changchun	80.70	320	eP	P	08 11 30.4	+1.7
CN2				eS	S	08 21 33.6	-1.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,490nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=E,390nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=Z,320nm,22.0s,MS4.6						
PV01	Paradox Valley	80.76	46	eP	P	08 11 29.3	+0.2
A10A	Northport	80.84	34	⇓P	P	08 11 28.5	-0.8
	baz=81						
ANMO	Albuquerque	80.86	50	P	P	08 11 29.1	-0.6
	comp=Z,3.0nm,0.9s,mb4.2,baz=222,slow=6.4,SNR=9.5						
ANMO	Albuquerque	80.86	50	eP	P	08 11 29.8	+0.1
ANMO				pmax	pmax		
	comp=Z,79nm,2.5s						
ANMO				MLR	MLR		
	comp=Z,520nm,22.0s						
ANMO	Albuquerque	80.86	50	eP	P	08 11 29.8	+0.1
	comp=Z,79nm,2.5s,mb5.2						
ANMO				LR	LR		
	comp=Z,520nm,22.0s,MS4.8						
F13A	Darby	80.86	38	⇓P	P	08 11 28.8	-0.7
	baz=81,SNR=5.4						
D12A	Red Ives Fores	80.96	36	⇓P	P	08 11 29.3	-0.7
	baz=81						
K16A	Soda Springs	81.00	41	⇑P	P	08 11 30.2	-0.1
	baz=81,SNR=6.9						
HYT	Haines Junctio	81.05	17	eP	P	08 11 30.1	0.0
G14A	Jackson	81.09	38	⇓P	P	08 11 31.0	+0.3
	baz=81						
B11A	Sandpoint	81.17	35	⇓P	P	08 11 31.0	-0.1
	baz=81						
J16A	Bone	81.21	41	⇓P	P	08 11 31.8	+0.4
	baz=81						
MCMT	McKenzie Canyo	81.24	39	eP	P	08 11 31.5	0.0
MCMT				epP	pP	08 11 44.7	+5.6
AHID	Auburn Hatcher	81.28	41	PFAKE		08 11 40.0	+8.2
AHID				LR	LR		
	comp=Z,259nm,21.0s,MS4.6						
E13A	Victor	81.30	37	P	P	08 11 31.2	-0.6
	baz=82,SNR=6.4						
GDL2	Guadalupe Moun	81.30	53	eP	P	08 11 32.9	+0.7
N18A	Larsen Ranch,	81.34	44	⇑P	P	08 11 31.5	-0.6
	baz=82						
RRI2	Red Ridge	81.43	41	eP	P	08 11 33.1	+0.5
	comp=Z,31nm,1.5s,mb5.0						
RRI2				epP	pP	08 11 45.6	+5.5
A11A	Hall Mountain,	81.47	34	⇑P	P	08 11 32.5	-0.2
	baz=82						
D13A	Huson	81.50	36	⇓P	P	08 11 31.6	-1.2
	baz=82,SNR=7.8						
G15A	Dillon	81.63	39	⇓P	P	08 11 33.5	-0.1
	baz=82,SNR=8.8						
MSO	Missoula	81.65	37	eP	P	08 11 32.9	-0.7
MSO				epP	pP	08 11 45.9	+4.7
MSO				LR	LR		
	comp=Z,213nm,20.0s,MS4.5						
E14A	Clinton	81.69	37	⇓P	P	08 11 33.2	-0.6
	baz=82						
REDW	Red Top Meadow	81.73	41	eP	P	08 11 34.4	+0.3
	comp=Z,25nm,1.3s,mb5.0						
TPAW	Teton Pass	81.73	41	eP	P	08 11 34.7	+0.5
	comp=Z,18nm,1.2s,mb4.9						
C13A	Hot Springs	81.75	36	⇓P	P	08 11 33.7	-0.4
	baz=82						
SNOW	Snow King Moun	81.84	41	eP	P	08 11 35.3	+0.5
A12A	Yaak River Ran	81.85	34	⇑P	P	08 11 34.2	-0.4
	baz=82						
IMW	Indian Meadow	81.94	40	eP	P	08 11 35.5	+0.2
	comp=Z,15nm,1.0s,mb4.9						
F15A	Butte	81.98	38	⇓P	P	08 11 35.2	-0.2
	baz=82						
LRM	Limekiln Ridge	82.00	38	eP	P	08 11 36.6	+1.2
LOHW	Long Hollow	82.01	41	eP	P	08 11 35.4	-0.2
D14A	Greenough	82.04	37	⇑P	P	08 11 35.0	-0.7
	baz=82						
CHMT	Chamberlain Mo	82.10	37	eP	P	08 11 35.5	-0.5
CHMT				epP	pP	08 11 48.1	+4.6
CHMT				esP	sP	08 11 51.7	+5.5
QLMT	Earthquake Lak	82.11	39	eP	P	08 11 36.3	+0.2
COLA	College	82.17	11	eP	P	08 11 35.3	-0.6
COLA				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
COLA				MLR	MLR		
	comp=Z,512nm,20.0s,MS4.9						
COLA	College	82.17	11	eP	P	08 11 35.3	-0.7
	comp=Z,21nm,0.8s,mb5.1						
COLA				LR	LR		
	comp=Z,512nm,20.0s,MS4.9						
FLWY	Flagg Ranch	82.19	40	eP	P	08 11 36.5	-0.1
	comp=Z,51nm,1.1s,mb5.4						
B13A	Whitefish	82.19	35	⇓P	P	08 11 35.6	-0.9
	baz=82						
SEY	Seymchan	82.20	345	⇓eP	P	08 11 35.8	-0.3
E15A	Deer Lodge	82.20	38	⇑P	P	08 11 36.1	-0.5
	baz=82						
C14A	Swan Lake	82.27	36	⇓P	P	08 11 36.4	-0.4
	baz=82						
BW06	Boulder Array	82.27	42	eP	P	08 11 36.8	-0.2
BW06				LR	LR		
	comp=Z,441nm,20.0s,MS4.8						
PDAR	Pinedale Array	82.27	42	P	P	08 11 36.7	-0.3
	comp=Z,3.1nm,0.9s,mb4.2,baz=222,slow=3.6,SNR=22						
PDAR				LR	LR	08 42 30.3	
	comp=Z,373nm,19.4s,MS4.8,baz=251,slow=32						
YMR	Madison River	82.31	40	PFAKE		08 11 50.0	+13
YMR				LR	LR		
	comp=Z,561nm,20.0s,MS4.9						
IMA2	Indian Mountai	82.35	8	eP	P	08 11 37.2	+0.3
BOZ	Bozeman (W)	82.40	39	eP	P	08 11 37.2	-0.4
BOZ				pmax	pmax		
	comp=Z,31nm,1.9s,mb4.9						
BOZ				MLR	MLR		
	comp=Z,341nm,21.0s,MS4.7						
BOZ	Bozeman (W)	82.40	39	⇑P	P	08 11 37.1	-0.5
	baz=83						
BOZ	Bozeman (W)	82.40	39	eP	P	08 11 37.2	-0.4
	comp=Z,31nm,1.9s,mb4.9						
BOZ				LR	LR		
	comp=Z,341nm,21.0s,MS4.7						
QIZ	Qiongzhong	82.54	292	P	P	08 11 38.6	-0.3
QIZ				S	S	08 21 54.1	-0.9
QIZ				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.9						
QIZ				AMB	AMB		
	comp=Z,121nm,4.4s						
QIZ				LR	LR		
	comp=E,152nm,32.4s						
QIZ				LR	LR		
	comp=Z,384nm,26.8s						
QIZ	Qiongzhong	82.54	292	PFAKE		08 11 50.0	+11
QIZ				LR	LR		
	comp=Z,303nm,21.0s,MS4.6						
D15A	Lincoln	82.59	37	⇑P	P	08 11 38.3	-0.3
	baz=83						
LKWY	Lake	82.61	40	PFAKE		08 11 50.0	+11
LKWY				LR	LR		
	comp=Z,203nm,21.0s,MS4.5						
SDCO	Great Sand Dun	82.76	48	PFAKE		08 11 50.0	+10
SDCO				LR	LR		
	comp=Z,327nm,20.0s,MS4.7						

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ISCO                                LR    LR
     comp=Z,319nm,20.0s,MS4.7
RLMT Red Lodge      83.59  40 eP    P     08 11 43.9 +0.1
     comp=Z,13nm,1.1s,mb5.0
RLMT                                LR    LR
     comp=Z,227nm,19.0s,MS4.6
GCMT Greycliff      83.66  39 eP    P     08 11 44.3 +0.2
BILL Bilibino       84.22 353⇑eP    P     08 11 46.6 +0.1
BILL                                pmax  pmax
     comp=Z,11nm,0.7s,mb5.1
BILL Bilibino       84.22 353       PFAKE 08 12 00.0 +14
BILL                                LR    LR
     comp=Z,627nm,20.0s,MS5.0
JCT  Junction City  84.25  56       PFAKE 08 12 00.0 +12
JCT                                 LR    LR
     comp=Z,279nm,19.0s,MS4.7
PHWY Pilot Hill     84.32  45 eP    P     08 11 47.4 -0.2
AMTX Amarillo       84.42  52       PFAKE 08 12 00.0 +12
AMTX                                LR    LR
     comp=Z,388nm,20.0s,MS4.8
EGMT Eagleton       84.70  37       PFAKE 08 12 00.0 +11
EGMT                                LR    LR
     comp=Z,364nm,20.0s,MS4.8
KVTX Kingsville     84.79  60       PFAKE 08 12 00.0 +10
KVTX                                LR    LR
     comp=Z,202nm,20.0s,MS4.5
BJT  Baijiatuau     85.08 314       PFAKE 08 12 00.0 +8.5
BJT                                 LR    LR
     comp=Z,280nm,22.0s,MS4.6
BJI  Beijing        85.08 314       P     P     08 11 50.1 -1.4
BJI                                 LR    LR
     comp=N,86nm,25.2s,MS4.4
BJI                                 LR    LR
     comp=E,180nm,25.2s,MS4.4
BJI                                 LR    LR
     comp=Z,234nm,25.7s,MS4.5
LAO  LASA Array     86.20  40 eP    P     08 11 58.7 +1.8
     comp=Z,23nm,1.1s,mb5.3
LAO                                 LR    LR
     comp=Z,256nm,20.0s,MS4.6
WMOK Wichita Mounta 86.58  53       PFAKE 08 12 10.0 +11
WMOK                                LR    LR
     comp=Z,312nm,22.0s,MS4.7
HIA  Hailar         86.82 323 iP    P     08 12 00.8 +1.0
HIA  Hailar         86.82 323       PFAKE 08 12 10.0 +10
HIA                                 LR    LR
     comp=Z,500nm,21.0s,MS4.9
HKT  Hockley        87.30  58       PFAKE 08 12 10.0 +7.3
HKT                                 LR    LR
     comp=Z,252nm,19.0s,MS4.6
CBKS Cedar Bluff    87.34  49       PFAKE 08 12 10.0 +7.3
CBKS                                LR    LR
     comp=Z,291nm,19.0s,MS4.7
GYA  Guiyang        87.67 298⇑iP    P     08 12 03.2 -1.3
GYA                                 AMB   AMB
     comp=Z,20nm,1.0s,mb5.3
GYA                                 AMB   AMB
     comp=Z,130nm,5.2s
GYA                                 LR    LR
     comp=N,580nm,22.4s,MS5.1
GYA                                 LR    LR
     comp=E,570nm,24.8s,MS5.1
GYA                                 LR    LR
     comp=Z,540nm,23.4s,MS4.9
MAW  Mawson         87.94 199       P     P     08 12 04.6 -0.5
     comp=Z,11nm,0.8s,mb5.2,baz=142,slow=6.2,SNR=8.7
MAW                                 LR    LR    08 48 46.0
     comp=Z,601nm,18.4s,MS5.0,baz=309,slow=34
MAW  Mawson         87.94 199 eP    P     08 12 05.1  0.0
MAW                                 pmax  pmax
     comp=Z,48nm,1.6s
MAW  Mawson         87.94 199 eP    P     08 12 05.1  0.0
     comp=Z,48nm,1.6s,mb5.5
MAW                                 LR    LR    08 48 46.0
DGMT Dagmar         88.21  39 eP    P     08 12 06.5 -0.1
     comp=Z,68nm,2.2s,mb5.5
DGMT                                LR    LR
     comp=Z,577nm,20.0s,MS5.0
HHC  Hu-ho-hao-te   88.64 313 eP    P     08 12 09.3 +0.5
HHC                                 PP    PP    08 15 40.3 +2.6
HHC                                 S     S     08 22 50.8 -3.4
HHC                                 SS    SS    08 28 45.5 -0.5
HHC                                 AMB   AMB
     comp=Z,13nm,0.5s,mb5.5
HHC                                 AMB   AMB
     comp=Z,129nm,5.6s
HHC                                 LR    LR
     comp=N,155nm,21.4s,MS4.6
HHC                                 LR    LR
     comp=E,214nm,20.2s,MS4.6
HHC                                 LR    LR
     comp=Z,244nm,21.4s,MS4.6
YAK  Yakutsk        88.76 337       PFAKE 08 12 20.0 +11
YAK                                 LR    LR
     comp=Z,282nm,22.0s,MS4.6
NATX Nacogdoches    88.83  57       PFAKE 08 12 20.0 +10
NATX                                LR    LR
     comp=Z,259nm,20.0s,MS4.7
KSU1 Kansas State U 89.73  49       PFAKE 08 12 30.0 +16
KSU1                                LR    LR
     comp=Z,482nm,21.0s,MS4.9
PLCA Paso Flores    89.90 132       PFAKE 08 12 30.0 +15
PLCA                                LR    LR
     comp=Z,1µm,19.0s,MS5.3
YKA  Yellowknife Ar 89.98  23       P     P     08 12 13.8 -0.7
     comp=Z,4.1nm,1.0s,mb4.7,baz=234,slow=3.4,SNR=4.3
YKA                                 LR    LR    08 47 17.3
     comp=Z,70nm,19.3s,MS4.1,baz=195,slow=32
TGUH Tegucigalpa,Un 90.25  76       PFAKE 08 12 30.0 +13
TGUH                                LR    LR
     comp=Z,126nm,19.0s,MS4.4
MIAR Mount Ida      90.57  54       PFAKE 08 12 30.0 +12
MIAR                                LR    LR
     comp=Z,250nm,22.0s,MS4.6
KMI  Kunming        90.65 296       P     P     08 12 19.6 +1.0
KMI                                 AMB   AMB
     comp=Z,6.0nm,0.6s,mb5.1
KMI                                 LR    LR
     comp=N,332nm,3.8s
KMI                                 LR    LR
     comp=E,338nm,4.6s
KMI                                 LR    LR
     comp=Z,230nm,6.5s
KMI  Kunming        90.65 296       PKP   PKiKP 08 17 17.5 +4.5
TEIG Tepich         90.97  69       PFAKE 08 12 30.0 +10
TEIG                                LR    LR
     comp=Z,162nm,21.0s,MS4.4
ECSD EROS,Sioux Fal 91.28  45       PFAKE 08 12 30.0 +8.9
ECSD                                LR    LR
     comp=Z,735nm,22.0s,MS5.1
CD2  Chengdu        91.43 302 eP    P     08 12 22.2 +0.1
CD2                                 PP    PP    08 16 03.3 +3.1
CD2                                 SKS   SKS   08 22 48.9
CD2                                 S     S     08 23 15.3 -5.1
CD2                                 AMB   AMB
     comp=Z,10.0nm,0.8s,mb5.2
CD2                                 AMB   AMB
     comp=Z,30nm,5.8s
CD2                                 LR    LR
     comp=N,250nm,12.8s,MS5.0
CD2                                 LR    LR
     comp=E,310nm,14.2s,MS5.0
CD2                                 LR    LR
     comp=Z,180nm,14.6s,MS4.7
JTS  JuntasAbangare 91.45  80       PFAKE 08 12 30.0 +7.5
JTS                                 LR    LR
     comp=Z,157nm,20.0s,MS4.5
CMAR Chiang Mai Arr 92.26 288       LR    LR    08 48 04.3
     comp=Z,167nm,21.7s,MS4.5,baz=148,slow=32
VBMS Vicksburg      92.33  57       PFAKE 08 12 40.0 +14
VBMS                                LR    LR
     comp=Z,234nm,22.0s,MS4.6
CHTO Chiang Mai     92.35 289       PFAKE 08 12 40.0 +13
CHTO                                LR    LR
     comp=Z,221nm,21.0s,MS4.6
SYO  Syowa Base     92.79 191⇑eP    P     08 12 24.8 -2.9
LZH  Lanzhou        92.84 306 eP    P     08 12 32.3 +3.8
LZH                                 AMB   AMB
     comp=Z,19nm,1.5s,mb5.3
LZH                                 AMB   AMB
     comp=Z,107nm,8.7s
LZH                                 LR    LR
     comp=N,217nm,17.3s
LZH                                 LR    LR
     comp=Z,352nm,20.0s,MS4.8
SCIA State Center   93.07  47       PFAKE 08 12 40.0 +11
SCIA                                LR    LR
     comp=Z,540nm,22.0s,MS5.0
SNAA Sanae          93.18 177 eP    P     08 12 28.3 -1.1
SNAA                                pmax  pmax
     comp=Z,4.0nm,1.0s
SNAA Sanae          93.18 177 eP    P     08 12 28.3 -1.1
     comp=Z,4.0nm,1.0s,mb4.8
AGMN Agassiz Refuge 93.29  41       PFAKE 08 12 40.0 +10
AGMN                                LR    LR
     comp=Z,465nm,20.0s,MS4.9
CCM  Cathedral Cave 93.40  52       PFAKE 08 12 40.0 +9.0
CCM                                 LR    LR
     comp=Z,379nm,22.0s,MS4.8
VNA1 Neumayer--Stat 93.83 175 eP    P     08 12 32.9 +0.5
VNA1                                e     08 12 46.4
VNA1                                e     08 12 49.8
OXF  Oxford         93.85  55       PFAKE 08 12 40.0 +6.8
OXF                                 LR    LR
     comp=Z,318nm,20.0s,MS4.8
ULM  Lac du Bonnet  93.92  39       LR    LR    08 49 30.0
     comp=Z,512nm,19.7s,MS5.0,baz=115,slow=32
ULM  Lac du Bonnet  93.92  39       PFAKE 08 12 40.0 +6.9
ULM                                 LR    LR
     comp=Z,710nm,20.0s,MS5.1
TIXI Tiksi          94.68 344       PFAKE 08 12 50.0 +14
TIXI                                LR    LR
     comp=Z,266nm,21.0s,MS4.7
BRAL Brewton        94.85  59       PFAKE 08 12 50.0 +12
BRAL                                LR    LR
     comp=Z,218nm,21.0s,MS4.6
PLAL Pickwick Lake  95.03  55       PFAKE 08 12 50.0 +11
PLAL                                LR    LR
     comp=Z,229nm,19.0s,MS4.7
OTAV Otavalo        95.13  91       PFAKE 08 12 50.0 +10
OTAV                                LR    LR
     comp=Z,119nm,20.0s,MS4.4
JFWS Jewell Farm    95.47  47       PFAKE 08 12 50.0 +10
JFWS                                LR    LR
     comp=Z,584nm,22.0s,MS5.0
HDIL Hopedale       95.53  50       PFAKE 08 12 50.0 +9.3
HDIL                                LR    LR
     comp=Z,400nm,20.0s,MS4.9
EYMN Ely            95.98  42       PFAKE 08 12 50.0 +7.4
EYMN                                LR    LR
     comp=Z,283nm,20.0s,MS4.7
BCIP Isla Barro Col 96.05  82       PFAKE 08 12 50.0 +6.3
BCIP                                LR    LR
     comp=Z,131nm,19.0s,MS4.4
COWI Conover        97.06  44       PFAKE 08 13 00.0 +12
COWI                                LR    LR
     comp=Z,637nm,20.0s,MS5.1
WCI  Wyandotte Cave 97.22  52       PFAKE 08 13 00.0 +12
WCI                                 LR    LR
     comp=Z,296nm,20.0s,MS4.8
TLY  Talaya         97.25 322       PFAKE 08 13 00.0 +12
TLY                                 LR    LR
     comp=Z,258nm,21.0s,MS4.7
GOGA Godfrey        98.37  58       PFAKE 08 13 00.0 +6.2
GOGA                                LR    LR
     comp=Z,438nm,21.0s,MS4.9
DWPF Disney         98.94  63       PFAKE 08 13 10.0 +14
DWPF                                LR    LR
     comp=Z,123nm,20.0s,MS4.4
TZTN Tazewell       98.97  55       PFAKE 08 13 10.0 +14
TZTN                                LR    LR
     comp=Z,246nm,20.0s,MS4.7
GLMI Grayling       99.87  46       PFAKE 08 13 10.0 +10
GLMI                                LR    LR
     comp=Z,338nm,20.0s,MS4.8
AAM  Ann Arbor      100.06 49       PFAKE 08 13 10.0 +9.1
AAM                                 LR    LR
     comp=Z,278nm,20.0s,MS4.8
ACSO Alum Creek Sta 100.16 51       PFAKE 08 13 10.0 +8.7
ACSO                                LR    LR
     comp=Z,409nm,21.0s,MS4.9
LPAZ La Paz         100.17 110      PFAKE 08 13 10.0 +8.6
LPAZ                                LR    LR
     comp=Z,230nm,20.0s,MS4.7
NHSC New Hope       101.01 59       PFAKE 08 13 20.0 +15
NHSC                                LR    LR
     comp=Z,200nm,21.0s,MS4.6
BLA  Blacksburg     101.56 54       PFAKE 08 13 20.0 +12
BLA                                 LR    LR
     comp=Z,239nm,21.0s,MS4.7
LSA  Lhasa          101.73 298      PFAKE 08 13 20.0 +12
LSA                                 LR    LR
     comp=Z,265nm,22.0s,MS4.7
MCWV Mont Chateau   102.43 52       PFAKE 08 13 20.0 +8.6
MCWV                                LR    LR
     comp=Z,520nm,22.0s,MS5.0
CNNC Cliffs of the  103.25 57       PFAKE 08 13 30.0 +15
CNNC                                LR    LR
     comp=Z,289nm,22.0s,MS4.8
SDV  Santo Domingo  104.81 85       PFAKE 08 13 30.0 +8.0
SDV                                 LR    LR
     comp=Z,57nm,20.0s,MS4.1
BINY Binghamton     105.67 50       PFAKE 08 17 50.0 +11
BINY                                LR    LR
     comp=Z,367nm,20.0s,MS4.9
SDDR Presa de Saban 106.28 74       PFAKE 08 17 50.0 +9.1
SDDR                                LR    LR
     comp=Z,205nm,20.0s,MS4.7
LONY Lake Ozonia    106.92 47       PFAKE 08 17 50.0 +8.7
LONY                                LR    LR
     comp=Z,384nm,19.0s,MS5.0
NCB  Newcomb        107.12 48       PFAKE 08 17 50.0 +8.3
NCB                                 LR    LR
     comp=Z,462nm,22.0s,MS5.0
LBNH Lisbon         108.79 48       PFAKE 08 18 00.0 +15
LBNH                                LR    LR
     comp=Z,604nm,19.0s,MS5.2
HRV  Adam Dziewonsk 108.97 50       PFAKE 08 18 00.0 +15
HRV                                 LR    LR
     comp=Z,476nm,20.0s,MS5.1
WES  Weston         109.13 50       PFAKE 08 18 00.0 +14
WES                                 LR    LR
     comp=Z,1µm,22.0s,MS5.5
PKME Peaks-Kenny Pk 110.70 47       PFAKE 08 18 00.0 +12
PKME                                LR    LR
     comp=Z,340nm,21.0s,MS4.9
SJG  San Juan       110.93 76       PFAKE 08 18 00.0 +10
SJG                                 LR    LR
     comp=Z,156nm,20.0s,MS4.6
SCHQ Schefferville  111.95 37       PFAKE 08 18 00.0 +10
SCHQ                                LR    LR
     comp=Z,267nm,20.0s,MS4.8
KURK Kurchatov      112.76 319      PFAKE 08 18 00.0 +7.9
KURK                                LR    LR
     comp=Z,205nm,20.0s,MS4.7
BBSR BB Station     113.86 61       PFAKE 08 18 10.0 +15
BBSR                                LR    LR
     comp=Z,140nm,21.0s,MS4.5
TKM2 Tokmak 2       115.27 311      PFAKE 08 18 10.0 +13
TKM2                                LR    LR
     comp=Z,174nm,21.0s,MS4.6
UCH  Uchtor         116.11 310      PFAKE 08 18 10.0 +11
UCH                                 LR    LR
     comp=Z,73nm,20.0s,MS4.3
KBS  Kingsbay       116.14 359      PFAKE 08 18 10.0 +12
KBS                                 LR    LR
     comp=Z,167nm,21.0s,MS4.6
SFJD Kangerlussuaq  116.48  22       PFAKE 08 18 10.0 +11
SFJD                                LR    LR
     comp=Z,412nm,22.0s,MS5.0
EKS2 Erkin-Say      116.62 310      PFAKE 08 18 10.0 +10
EKS2                                LR    LR
     comp=Z,200nm,22.0s,MS4.7
AML  Almayashu      116.72 310      PFAKE 08 18 10.0 +10
AML                                 LR    LR
     comp=Z,212nm,21.0s,MS4.7
BVAR Borovoye Array 117.50 322      PKP   PKPdf 08 17 59.6 -1.6
     comp=Z,0.5nm,0.5s,baz=57,slow=5.5,SNR=3.6
BRVK Borovoye       117.56 322      PFAKE 08 18 10.0 +8.7
BRVK                                LR    LR
     comp=Z,255nm,22.0s,MS4.8
ARU  Arti           122.97 328      PFAKE 08 18 20.0 +8.4
ARU                                 LR    LR
     comp=Z,225nm,22.0s,MS4.8
KEV  Kevo           123.90 351      PFAKE 08 18 20.0 +7.0
KEV                                 LR    LR
     comp=Z,220nm,20.0s,MS4.8
ARCES ARCESS Array B 124.32 352     PKP   PKPdf 08 18 12.1 -1.7
     comp=Z,4.6nm,0.8s,baz=321,slow=1.6,SNR=16
KLMR Klimovskoe     128.45 340 ePKIKP PKPdf 08 18 18.7 -3.2
OBN  Obninsk        133.76 336 ePKIKP PKPdf 08 18 30.7 -1.4
OBN                                 eSS   SKSdf 08 25 35.3 -6.6
OBN                                 eSS   SS    08 38 48.7 +2.7
OBN                                 pmax  pmax
     comp=Z,3.0nm,0.7s
OBN                                 MLR   MLR
     comp=Z,100nm,21.0s,MS4.5
OBN  Obninsk        133.76 336      PFAKE 08 18 40.0 +7.9
OBN                                 LR    LR
     comp=Z,203nm,22.0s,MS4.8
NOA  NORSAR Array B 134.03 357      PKP   PKPdf 08 18 31.4 -1.1
     comp=Z,0.6nm,0.8s,baz=14,slow=4.0,SNR=3.6
KIV  Kislovodsk     137.82 320      PFAKE 08 18 50.0 +10
KIV                                 LR    LR
     comp=Z,234nm,22.0s,MS4.9
GNI  Garni          138.29 314      PFAKE 08 18 50.0 +8.9
GNI                                 LR    LR
     comp=Z,176nm,21.0s,MS4.8
ESK  Eskdalemuir    139.24  8       PFAKE 08 18 50.0 +7.7
ESK                                 LR    LR
     comp=Z,386nm,19.0s,MS5.2
AKASG Malin Array Be 139.99 337     PKP   PKPdf 08 18 42.9 -1.0
     comp=Z,0.3nm,0.3s,baz=35,slow=2.0,SNR=6.8
AKASG Malin Array Be 139.99 337 iPKIKP PKPdf 08 18 42.9 -0.9
KIEV Kiev           140.00 337      PFAKE 08 19 00.0 +16
KIEV                                LR    LR
     comp=Z,202nm,19.0s,MS4.9
LSZ  Lusaka         142.83 217      PFAKE 08 19 00.0 +10
LSZ                                 LR    LR
     comp=Z,340nm,22.0s,MS5.1
KWP  Kalwaria       143.09 342      PFAKE 08 19 00.0 +11
KWP                                 LR    LR
     comp=Z,528nm,22.0s,MS5.3
MALT Malatya        143.48 315      PFAKE 08 19 00.0 +10
MALT                                LR    LR
     comp=Z,226nm,22.0s,MS4.9
CLL  Collm          143.53 353 ePKIKP PKPdf 08 18 50.0 -0.1
CLL                                 pmax  pmax
     comp=Z,5.0nm,0.9s
CLL                                 MLR   MLR
     comp=Z,200nm,23.4s,MS4.8
CLL  Collm          143.53 353 ePKPdf PKPdf 08 18 50.0 -0.1
     comp=Z,5.0nm,0.9s
CLL                                 epPKPdf pPKPdf 08 19 02.0 +4.1
CLL                                 e(PP) 08 22 30.0
CLL                                 eSS   SS    08 41 00.0 +19
CLL                                 eSSS  08 46 18.0
DPC  Dobruska-Polom 143.96 349 ePKP PKPdf 08 18 49.7 -1.2
DPC                                 AMS   AMS   09 18 10.0
     comp=Z,400nm,26.3s
OKC  Ostrava-Krasne 144.08 347      AMS   AMS   09 17 30.0
     comp=Z,300nm,19.9s
PVCC Panska Ves     144.08 351      AMS   AMS   09 21 00.0
     comp=Z,400nm,24.5s
CRVS Cervenica-Dubn 144.11 343 ePKP PKPdf 08 18 48.1 -3.1
MOX  Moxa           144.33 354 ePKP 08 19 04.1
     comp=Z,20nm,1.6s
MOX
     comp=Z,100nm,22.0s
PRU  Pruhonice      144.61 351 epPKP pPKPdf 08 19 05.5 +5.7
PRU                                 AMS   AMS   09 21 50.0
     comp=Z,400nm,21.2s
NKC  Novy Kostel    144.65 353 epPKP pPKPdf 08 19 03.8 +3.9
NKC                                 AMS   AMS   09 20 10.0
     comp=Z,200nm,22.2s
KECS Kecovo         144.76 344 ePKP PKPdf 08 18 52.1 -0.3
KECS                                e     08 19 05.1
CFR  Carcaliu       144.84 333      PKIKP PKPdf 08 18 53.1 +0.5
VRI  Vrincioaia     144.89 335⇓iP   PKPdf 08 18 52.0 -0.7
VRI  Vrincioaia     144.89 335⇓P    PKPdf 08 18 52.0 -0.7
MANZ Manzenberg     144.93 353 epPKPbc 08 19 05.3
TNS  Taunus Mts     144.97 358 ePKPbc PKPdf 08 18 53.8 +1.1
TNS                                 epPKPbc 08 19 05.2
GIVF Givet          145.11  2 ePKP1 PKPbc 08 18 53.2 +0.8
TREC Trest          145.12 349 epPKP pPKPdf 08 19 05.9 +5.1
TREC                                AMS   AMS   09 20 50.0
     comp=Z,300nm,20.3s
BAIF Baives         145.14  2 ePKP1 PKPbc 08 18 52.4 -0.1
     comp=Z,34nm,1.0s
ROTZ Rotzenmuhle    145.14 353 ePKPdf PKPdf 08 18 46.1 -6.9
ROTZ                                epPKPbc PKPbc 08 18 53.5 +1.0
ROTZ                                epPKPbc pPKPbc 08 19 06.3 +6.1
TIRR Tirgusor       145.27 332      PKIKP PKPdf 08 18 53.5 +0.1
TIRR Tirgusor       145.27 332⇓iP   PKPbc 08 18 53.3 +0.2
TIRR Tirgusor       145.27 332 ePKPdf PKPdf 08 18 53.2 -0.2
GRF  Grafenberg Arr 145.31 354 epPKPbc pPKPbc 08 19 06.6 +5.8
GRF                                 eL    09 24 59.7
     comp=Z,215nm,20.2s
HARR Harsova        145.31 332      PKP2  PKPab 08 18 54.3 +1.0
KMBO Kilima Mbogo   145.38 245      PKPbc PKPbc 08 18 55.0 +0.6
     comp=Z,1.8nm,0.3s,baz=52,slow=23,SNR=4.3
KMBO Kilima Mbogo   145.38 245 iPKIKP PKPdf 08 18 55.0 +0.5
KMBO                                pmax  pmax
     comp=Z,2.0nm,0.3s
KMBO Kilima Mbogo   145.38 245      PKPbc PKPbc 08 18 55.0 +0.5
KMBO                                LR    LR
     comp=Z,159nm,19.0s,MS4.8
PSZ  Piszkesteto    145.44 344      PKP2  PKPab 08 18 54.6 +0.9
PSZ  Piszkesteto    145.44 344⇓ePKP PKPdf 08 18 53.8 +0.2
PSZ  Piszkesteto    145.44 344 ePKPdf PKPdf 08 18 54.2 +0.7
PSZ                                 LR    LR
     comp=Z,176nm,20.0s,MS4.8
MLR  Muntele Rosu   145.51 335⇑iP   PKPdf 08 18 53.9 +0.1
MLR  Muntele Rosu   145.51 335      P     PKPdf 08 18 54.9 +1.1
RUP  Ruppelstein    145.53 359      PKP2  PKPab 08 18 55.5 +1.5
TOD  Tromm          145.57 357      PKP2  PKPab 08 18 54.9 +0.8
WLF  Walferdange    145.57  0       PKPdf PKPdf 08 18 51.1 -2.7
WLF                                 PKP   PKPdf 08 18 54.7 +1.0
WLF                                 APKP  08 19 07.5
WLF  Walferdange    145.57  0 ePKPdf PKPdf 08 18 46.8 -6.9
WLF                                 epPKPbc PKPbc 08 18 55.3 +1.4
WLF                                 epPKPbc pPKPbc 08 19 07.7 +6.1
WLF  Walferdange    145.57  0 ePKPdf PKPdf 08 18 55.0 +1.2
WLF                                 LR    LR
     comp=Z,273nm,21.0s,MS5.0
KHC  Kasperske Hory 145.59 352 ePKP PKPdf 08 18 54.0 +0.2
KHC                                 epPKP pPKPdf 08 19 07.6 +6.0
KHC                                 ex    x     08 19 16.0
KHC                                 AMS   AMS   09 22 20.0
     comp=Z,400nm,22.9s
DRGR                145.60 340⇓iP   PKPdf 08 18 53.9  0.0
DRGR                145.60 340      P     PKPdf 08 18 54.4 +0.5
MODS Modra-Piesok   145.65 347 ePKP PKPdf 08 18 55.7 +1.8
MODS                                e     08 19 08.7
WET  Wettzell       145.67 352 epPKPbc pPKPbc 08 19 07.9 +6.0
GEC2 GERESS Array S 145.85 351 ePKPbc PKPbc 08 18 54.5 -0.3
GEC2                                epPKPbc pPKPbc 08 19 08.2 +5.7
GERES GERESS Array B 145.85 351     PKPbc PKPbc 08 18 54.1 -0.7
     comp=Z,2.0nm,0.7s,baz=10,slow=3.0,SNR=18
ZST  Bratislava     145.85 347 ePKP PKPab 08 18 59.7 +4.5
ZST                                 e     08 19 09.4
VOIR                145.91 336⇓iP   PKPdf 08 18 56.1 +1.6
VOIR                145.91 336      P     PKPdf 08 18 55.8 +1.4
FLN  La Foliniere   146.01  8 ePKP1 PKPbc 08 18 54.0 -1.3
FLN                                 eMLR  MLR
     comp=Z,499nm,21.8s,MS5.0
FLN  La Foliniere   146.01  8 ePKP PKPdf 08 18 54.0 -0.5
FLN                                 LR    LR
     comp=Z,500nm,21.8s,MS5.2
ANTO Ankara         146.19 322      PFAKE 08 19 10.0 +15
ANTO                                LR    LR
     comp=Z,138nm,20.0s,MS4.7
LDF  La Druitiere   146.23  8 ePKP1 PKPbc 08 18 54.2 -1.7
LANF Langenberg     146.24 358      PKP   PKPdf 08 18 56.6 +1.7
LANF Langenberg     146.24 358      PKP   PKPdf 08 18 55.9 +1.0
GRR  Gorron         146.33  9 ePKP1 PKPbc 08 18 55.7 -0.5
CONA Conrad Observa 146.37 348⇑iP   08 19 10.5
     comp=Z,71nm,1.6s
CONA Conrad Observa 146.37 348⇑iPKPab PKPab 08 18 55.5 -1.6
     comp=Z,23nm,1.5s
CONA                                ⇑ipPKiKP 08 19 10.5
     comp=Z,71nm,1.6s
CSNA Conrad Observa 146.37 348⇑iP   08 19 10.5
     comp=Z,68nm,1.6s
CSNA Conrad Observa 146.37 348⇑iPKPab PKPab 08 18 55.8 -1.4
     comp=Z,22nm,1.5s
CSNA                                ⇑ipPKiKP 08 19 10.5
     comp=Z,68nm,1.6s
STU  Stuttgart      146.38 357 epPKPbc pPKPbc 08 19 10.1 +6.0
SOP  Sopron         146.46 347⇓ePKP PKPdf 08 18 56.6 +1.3
MOA  Molln          146.73 350⇑iP   pPKPab 08 19 11.2 +4.9
     comp=Z,35nm,1.4s
MOA  Molln          146.73 350⇑iPKPab PKPab 08 18 57.0 -1.5
     comp=Z,15nm,1.2s
MOA                                 ⇑ipPKPab pPKPab 08 19 11.2 +4.9
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	comp=Z,35nm,1.4s						
GZR	Gura Zlata	146.80	339	⇑iP	PKPdf	08 18 57.8	+1.9
GZR	Gura Zlata	146.80	339	P	PKPdf	08 18 57.8	+1.9
CDF	Champ du Feu	146.82	359	ePKP1	PKPbc	08 18 57.3	-0.4
	comp=Z,16nm,0.8s						
FUR	Furstenfeldbru	146.82	354	epPKPbc	pPKPbc	08 19 12.0	+6.6
BFO	Black Forest	146.87	358	ePKPbc	PKPbc	08 18 57.1	-0.7
BFO				epPKPbc	pPKPbc	08 19 11.5	+6.0
BFO	Black Forest	146.87	358	ePKPbc	PKPbc	08 18 57.1	-0.7
BFO				epPKPbc	pPKPbc	08 19 11.5	+6.0
BFO				LR	LR		
	comp=Z,231nm,22.0s,MS4.9						
BZS	Buzias	147.00	340	⇑iP	PKPdf	08 18 58.1	+1.8
BZS	Buzias	147.00	340	P	PKPdf	08 18 58.3	+2.0
THEF	They Montfort	147.01	0	PKP	PKPbc	08 18 59.0	+0.8
THEF	They Montfort	147.01	0	PKP	PKPbc	08 18 58.3	+0.1
ECH	Echery	147.01	359	PKP	PKPbc	08 18 58.8	+0.6
ECH	Echery	147.01	359	ePKPbc	PKPbc	08 18 58.0	-0.2
RJOB	Jochberg	147.06	352	ePKPbc	PKPbc	08 18 58.7	+0.3
RJOB				epPKPbc	pPKPbc	08 19 12.1	+6.0
SPAK	Spaichingen-Ko	147.07	357	PKP	PKPdf	08 18 55.9	-0.4
ARSA	Arzberg	147.08	348	⇑iP		08 19 12.4	
	comp=Z,17nm,1.2s						
ARSA	Arzberg	147.08	348	⇑iPKPbc	PKPbc	08 18 56.6	-1.8
	comp=Z,16nm,1.5s						
ARSA				⇑iPKiKP		08 19 12.4	
	comp=Z,17nm,1.2s						
HAU	Haudompre	147.23	360	ePKP1	PKPbc	08 18 58.5	-0.4
	comp=Z,14nm,0.7s						
HAU				eMLR	MLR		
	comp=Z,187nm,22.2s,MS4.5						
HAU	Haudompre	147.23	360	ePKP	PKPdf	08 18 58.5	+1.9
HAU				LR	LR		
	comp=Z,190nm,22.3s,MS4.8						
FELD	Feldberg im Sc	147.33	358	PKP	PKPdf	08 18 56.4	-0.4
MOF	Molkenrain	147.38	359	PKP	PKPbc	08 18 59.8	+0.5
HINF	Hinteralfeld	147.42	359	ePKP1	PKPbc	08 18 58.8	-0.6
MOTA	Moosalm	147.65	354	⇑iP	pPKPab	08 19 13.4	+3.5
	comp=Z,41nm,1.3s						
MOTA	Moosalm	147.65	354	⇑iPKPab	PKPab	08 19 00.6	-1.6
	comp=Z,9.4nm,0.9s						
MOTA				⇑ipPKPab	pPKPab	08 19 13.4	+3.5
	comp=Z,41nm,1.3s						
WTTA	Wattenberg	147.67	353	⇓iP	pPKPab	08 19 14.5	+4.5
	comp=Z,36nm,1.3s						
WTTA	Wattenberg	147.67	353	⇑iPKPab	PKPab	08 19 00.4	-1.9
	comp=Z,16nm,1.0s						
WTTA				⇓iPKiKP		08 19 14.5	
	comp=Z,36nm,1.3s						
SOKA	Soboth	147.72	349	⇑iP	PKPdf	08 18 59.8	+2.4
DAVA	Damuels	147.81	355	⇑iP	pPKPab	08 19 14.6	+4.1
	comp=Z,62nm,1.6s						
DAVA	Damuels	147.81	355	⇓iPKPab	PKPab	08 19 00.8	-2.0
	comp=Z,22nm,1.4s						
DAVA				⇑ipPKPab	pPKPab	08 19 14.6	+4.1
	comp=Z,62nm,1.6s						
LOR	Lormes	147.91	3	ePKP1	PKPbc	08 19 00.3	-0.4
	comp=Z,13nm,0.7s						
LOR				eMLR	MLR		
	comp=Z,444nm,20.8s,MS4.9						
LOR	Lormes	147.91	3	ePKP	PKPdf	08 19 00.3	+2.6
LOR				LR	LR		
	comp=Z,440nm,20.8s,MS5.2						
MYKA	Terra Mystica	148.01	350	⇑iP	pPKPab	08 19 14.0	+2.7
	comp=Z,40nm,1.1s						
MYKA	Terra Mystica	148.01	350	⇑iPKPbc	PKPbc	08 19 00.3	-0.8
	comp=Z,16nm,1.0s						
MYKA				⇑iPKPab	pPKPab	08 19 14.0	+2.7
	comp=Z,40nm,1.1s						
ABTA	Abfaltersbach	148.07	352	⇑iP	pPKPab	08 19 14.1	+2.6
	comp=Z,35nm,1.3s						
ABTA	Abfaltersbach	148.07	352	⇑iPKPdf	PKPdf	08 18 57.9	-0.2
	comp=Z,17nm,1.0s						
ABTA				⇑iPKPab	pPKPab	08 19 14.1	+2.6
	comp=Z,35nm,1.3s						
SSF	Saint Saulge	148.09	4	ePKP1	PKPbc	08 19 00.9	-0.3
	comp=Z,27nm,1.0s						
MFF	Saint Martin d	148.18	8	ePKP1	PKPbc	08 19 01.1	-0.4
MMAI	Mount Meron Ar	148.18	309	PKPbc	PKPbc	08 19 00.6	-1.3
	comp=Z,8.0nm,1.0s,baz=57,slow=3.1,SNR=4.2						
AVF	Avril sur Loir	148.35	4	ePKP1	PKPbc	08 19 01.1	-0.8
	comp=Z,6.1nm,0.6s						
SMF	Signal de Mont	148.53	3	ePKP1	PKPbc	08 19 01.5	-0.9
BGF	Bois d'Agland	148.55	5	ePKP1	PKPbc	08 19 01.9	-0.5
CABF	La Chapelle	148.63	0	ePKP1	PKPbc	08 19 02.8	+0.2
	comp=Z,44nm,1.0s						
TUE	Stuetta	148.66	356	ePKPbc	PKPbc	08 19 03.2	+0.4
TCF	Toulx Ste Croi	148.76	5	ePKP1	PKPbc	08 19 02.2	-0.8
ISP	Isparta	148.86	321	PFAKE		08 19 10.0	+10
ISP				LR	LR		
	comp=Z,201nm,22.0s,MS4.9						
PLDF	La Plantade	149.19	4	PKP	PKPbc	08 19 05.7	+1.6
PYM	Petit Puy Mans	149.36	5	PKP	PKPbc	08 19 04.6	+0.1
RJF	Les Rejaudoux	149.67	7	ePKP1	PKPbc	08 19 04.7	-0.6
RJF				eMLR	MLR		
	comp=Z,400nm,22.8s,MS4.9						
RJF	Les Rejaudoux	149.67	7	ePKP	PKPbc	08 19 04.7	-0.6
RJF				LR	LR		
	comp=Z,400nm,22.8s,MS5.2						
LPL	La Plagne	149.72	359	ePKP1	PKPbc	08 19 06.0	+0.6
	comp=Z,41nm,1.1s						
LPG	La Plagne	149.74	359	ePKP1	PKPbc	08 19 06.2	+0.7
	comp=Z,36nm,0.9s						
LBL	Lubilhac	149.90	4	PKP	PKPbc	08 19 06.4	+0.5
SSB	Saint Sauveur	149.92	2	ePKIKP	PKPdf	08 19 00.5	-0.6
LFF	La Frestale	149.93	8	ePKP1	PKPbc	08 19 05.5	-0.4
CAF	Calviac	150.10	6	ePKP1	PKPbc	08 19 04.8	-1.6
BNI	Bardonecchia	150.19	359	ePKIKP	PKPbc	08 19 07.4	+0.8
BNI				MLR	MLR		
	comp=Z,454nm,20.0s,MS5.3						
ORIF	Oris-en-Rattie	150.32	1	ePKP1	PKPbc	08 19 07.0	+0.1
	comp=Z,40nm,1.3s						
ORIF				eMLR	MLR		
	comp=Z,246nm,20.0s,MS4.7						
VIVF	Saint-Julien-l	150.35	2	ePKP1	PKPbc	08 19 06.9	-0.1
	comp=Z,58nm,1.2s						
MBDF	Montbardon	150.51	359	ePKP1	PKPbc	08 19 07.4	+0.1
	comp=Z,17nm,0.9s						
VLC	Villacollemand	150.87	354	PFAKE		08 19 10.0	+7.4
VLC				LR	LR		
	comp=Z,360nm,19.0s,MS5.2						
LASF	Ste Croix	151.09	4	ePKP1	PKPbc	08 19 08.7	0.0
	comp=Z,34nm,1.1s						
SMRF	Simiane la Rot	151.26	1	ePKP1	PKPbc	08 19 09.5	+0.4
	comp=Z,52nm,1.0s						
SJPF	Ste Jean	151.39	12	ePKP1	PKPbc	08 19 09.3	-0.2
ETSF	Etsaut	151.72	11	ePKP1	PKPbc	08 19 10.2	0.0
	comp=Z,27nm,1.2s						
MTE	Manteigas	152.09	23	PFAKE		08 19 20.0	+15
MTE				LR	LR		
	comp=Z,326nm,21.0s,MS5.1						
AQU	L'Aquila	152.20	349	PFAKE		08 19 20.0	+15
AQU				LR	LR		
	comp=Z,321nm,21.0s,MS5.1						
PAB	San Pablo	153.96	19	PFAKE		08 19 20.0	+13
PAB				LR	LR		
	comp=Z,184nm,20.0s,MS4.9						
ESDC	Sonseca Array	153.96	18	PKPab	PKPab	08 19 31.1	+2.6
	comp=Z,2.8nm,0.8s,baz=347,slow=3.1,SNR=7.4						
SFS	San Fernando	156.01	25	PFAKE		08 19 20.0	+10
SFS				LR	LR		
	comp=Z,589nm,22.0s,MS5.4						
DBIC	Dimbokro	166.19	126	PKP	PKPdf	08 19 20.0	-1.7
	comp=Z,7.9nm,1.2s,baz=310,slow=4.2,SNR=3.3						
DBIC	Dimbokro	166.19	126	PKP	PKPdf	08 19 20.0	-1.7
DBIC				LR	LR		
	comp=Z,298nm,19.0s						
TORD	Torodi Ar. Bea	175.12	113	PKP	PKPdf	08 19 25.3	-1.2
	comp=Z,3.4nm,1.2s,baz=294,slow=2.4,SNR=7.9						
TORD				PKPab	PKPab	08 20 59.6	-2.5
	comp=Z,1.3nm,0.9s,baz=265,slow=5.8,SNR=4.4						
TORD	Torodi Ar. Bea	175.12	113	PKP	PKPdf	08 19 25.3	-1.2
TORD				PKPab	PKPab	08 20 59.6	-2.5

KRSC 09 08:02:46.2±0.6, 5332N×16300E, h42km±41km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	1.45	329	iP	Pn	08 03 11.5	+1.6
MKZ				iS	Sn	08 03 30.0	+2.4
SPN	Mys Shipunski	1.80	264	iP	Pn	08 03 16.5	+1.8
SPN				iS	Sn	08 03 38.2	+1.8
NLC	Nalytchevo	2.20	268	eP	Pn	08 03 22.1	+1.9
NLC				iS	Sn	08 03 48.7	+2.6
KII	Karymskiy	2.23	290	eP	Pn	08 03 23.2	+2.6
KII				iS	Sn	08 03 50.9	+4.0
AVH	Avacha	2.56	270	iP	Pn	08 03 28.1	+3.0
AVH				iS	Sn	08 03 58.2	+3.3
TUMR	Tumrok	2.58	321	P	Pn	08 03 28.5	+3.1
TUMR				iS	Sn	08 03 59.7	+4.2
PET	Petropavlovsk	2.63	265	eP	Pn	08 03 28.7	+2.6
PET				iS	Sn	08 04 00.1	+3.3
RUS	Russkaya	2.86	254	eP	Pn	08 03 31.0	+1.8
RUS				iS	Sn	08 03 04.4	+1.0
KBTR	Krutoberegovo	2.90	358	eP	Pn	08 03 30.9	+1.2
KBTR				iS	Sn	08 04 03.7	+0.5
KMNR	Kamenistaya	2.92	328	eP	Pn	08 03 33.4	+3.3
KMNR				iS	Sn	08 04 08.0	+4.1
ZLN	Zelenaya	2.99	336	P	Pn	08 03 34.2	+3.2
ZLN				iS	Sn	08 04 09.3	+3.8
GNL	Ganaly	3.04	279	iP	Pn	08 03 35.2	+3.5
GNL				iS	Sn	08 04 10.8	+3.9
KPT	Kopyto	3.10	330	P	Pn	08 03 35.9	+3.3
KPT				iS	Sn	08 04 12.0	+3.6
KRSR	Krestovskiy	3.23	335	P	Pn	08 03 36.9	+2.6
KRSR				iS	Sn	08 04 13.6	+2.2
KOZ	Kozyrevsk	3.29	328	P	Pn	08 03 38.6	+3.5
KOZ				iS	Sn	08 04 16.5	+3.6
SRKR	Sorokina	3.50	343	P	Pn	08 03 41.0	+2.9
SRKR				iS	Sn	08 04 20.6	+2.4

*IDC **09** 08:03:16.1±0.9, 3435N×8148E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.7/24, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=28.8km s-min=19.9km az=56.0*
*ISCJB **09** 08:03:19.5±1.5, 3444N±007×8171E±007, h39km±15km, mb3.9/7, Error ellipse: s-maj=12.5km s-min=9.3km az=21.9*
*MOS **09** 08:03:19.1±1.3, 3444N×8172E, h33km, mb4.9/2, Error ellipse: s-maj=22.5km s-min=8.9km az=107.1*
*BJI **09** 08:03:22.0, 3447N×8182E, h50km, mb4.4, ML3.2*
*NEIC **09** 08:03:22.6±1.1, 3449N×8172E, h48km±10km, mb4.4/3, Error ellipse: s-maj=12.7km s-min=9.1km az=223.0*

ISC 09 08:03:22.9±1.0, 3449N±007×8175E±007, h54km±11km, n29, σ1°10/28, mb3.9/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	9.30	118	P	Pn	08 05 34.0	-0.2
LSA	Lhasa	9.30	118	eP	Pn	08 05 33.7	-0.5
LSA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
LSA	Lhasa	9.30	118	ePn	Pn	08 05 33.7	-0.5
	comp=Z,6.5nm,0.4s						
TKM2	Tokmak 2	9.69	332	eP	Pn	08 05 40.3	+0.8
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TKM2	Tokmak 2	9.69	332	ePn	Pn	08 05 40.2	+0.8
	comp=Z,4.0nm,0.7s						
AML	Almayashu	9.90	323	ePn	Pn	08 05 43.4	+0.9
	comp=Z,10nm,1.0s						
FRU	Bishkek	10.02	328	eP	Pn	08 05 46.0	+2.0
KBL	Kabul	10.48	274	Pn	Pn	08 05 50.8	+0.4
	comp=Z,4.3nm,0.4s						
KBL				eSn	Sn	08 07 45.8	-0.5
MK31	Makanchi Array	12.30	2	eP	Pn	08 06 14.0	-1.1
MKAR	Makanchi Array	12.30	2	Pn	Pn	08 06 14.3	-0.8
	comp=Z,0.7nm,0.3s,baz=181,slow=13,SNR=58						
KURK	Kurchatov	16.37	353	P	Pn	08 07 07.9	-1.0
KURK				pmax	pmax		
	comp=Z,12nm,0.9s						
KURK	Kurchatov	16.37	353	Pn	Pn	08 07 07.9	-1.0
	comp=Z,12nm,0.9s						
ZAL	Zalesovo	19.56	5	P	Pn	08 07 46.8	-0.9
ZALV	Zalesovo Beam	19.57	5	P	Pn	08 07 46.8	-1.1
	baz=175,slow=7.2,SNR=3.6						
BVAR	Borovoye Array	20.21	340	P	P	08 07 54.0	+0.9
	comp=Z,7.8nm,0.7s,baz=146,slow=11,SNR=32						
BRVK	Borovoye	20.27	340	eP	P	08 07 54.3	+0.6
BRVK				pmax	pmax		
	comp=Z,20nm,0.9s						
BRVK	Borovoye	20.27	340	eP	P	08 07 54.3	+0.6
	comp=Z,20nm,0.9s						
CMAR	Chiang Mai Arr	22.13	132	P	P	08 08 11.1	-2.8
	comp=Z,9.1nm,0.8s,mb4.2,baz=312,slow=11,SNR=19						
SONM	Songino Array	22.73	47	P	P	08 08 21.8	+1.7
	comp=Z,1.0nm,0.8s,mb3.3,baz=238,slow=8.5,SNR=3.5						
AKTK	Aktyubinsk	23.52	320	P	P	08 08 27.7	-0.2
AKTO	Aktyubinsk	23.52	320	P	P	08 08 27.7	-0.2
	comp=Z,4.3nm,0.8s,mb3.9,baz=114,slow=10,SNR=15						
KWP	Kalwaria	45.20	308	P	P	08 11 33.0	-1.3
KWP				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.8						
KWP	Kalwaria	45.20	308	P	P	08 11 33.0	-1.3
	comp=Z,7.3nm,0.4s,mb4.9						
SPB4	Spitsbergen Ar	51.50	346	eP	P	08 12 22.6	+0.2
WRA	Warramunga Arr	73.69	129	P	P	08 14 52.3	+1.3
	comp=Z,0.5nm,0.5s,mb3.7,baz=327,slow=5.5,SNR=10						
TORD	Torodi Ar. Bea	74.55	275	P	P	08 14 55.1	-1.1
	comp=Z,1.6nm,0.7s,mb4.1,baz=44,slow=5.2,SNR=16						
ASAR	Alice Springs	76.14	132	P	P	08 15 06.8	+1.7
	comp=Z,0.4nm,0.5s,mb3.6,baz=323,slow=4.9,SNR=7.2						
LPAZ	La Paz	147.48	296	PKPbc	PKPbc	08 23 03.2	+1.9
	comp=Z,0.6nm,0.5s,baz=72,slow=5.5,SNR=6.6						
LPAZ	La Paz	147.48	296	PKPbc	PKPbc	08 23 03.2	+1.9

*IDC **09** 08:11:26.0±5.3, 5305×15139E, h76km±37km, mb4.0/4, mb1 4.2/4, mb1mx3.6/16, mbtmp4.0/4, MS4.2/3, Ms1 4.2/3, ms1mx3.3/24, Error ellipse: s-maj=53.6km s-min=39.9km az=136.0*
*NEIC **09** 08:11:27.6±4.0, 5045×15119E, h95km±27km, mb4.3/4, Error ellipse: s-maj=35.1km s-min=27.7km az=202.0*

ISC 09 08:11:29.3±4.9, 51S±03×1510E±02, h98km±31km, n16, σ0°76/12, mb4.1/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.73	221	ePn	Pn	08 12 51.8	-0.3
	90nm,0.8s						
PMG				eSn	Sn	08 13 56.3	-0.2
CTA	Charters Tower	15.63	197	eP	Pn	08 15 05.4	+1.3
	8.0nm,1.3s						
CTA	Charters Tower	15.63	197	P	Pn	08 15 05.1	+1.0
	0.1nm,0.3s,baz=37,slow=7.9,SNR=3.6						
KAKA	Kakadu	19.80	246	eP	Pn	08 15 54.0	-0.6
	9.5nm,0.5s						
WRAB	Tennant Creek	21.91	226	eP	P	08 16 15.2	+0.5
	10nm,0.9s,mb4.2						
WB2	Warramunga Arr	21.91	226	eP	P	08 16 15.2	+0.4
WRA	Warramunga Arr	21.92	226	P	P	08 16 15.1	+0.3
	5.8nm,0.6s,mb4.1,baz=52,slow=9.7,SNR=52						
WRA				PcP	PcP	08 20 10.4	-0.1
	0.5nm,0.7s,baz=44,slow=2.7,SNR=4.9						
WRA				ScP	ScP	08 23 40.6	+1.6
	0.4nm,0.8s,baz=50,slow=2.7,SNR=6.3						
ASAR	Alice Springs	24.75	220	P	P	08 16 41.6	-0.2
	5.8nm,0.6s,mb4.2,baz=60,slow=9.2,SNR=47						
FITZ	Fitzroy Crossi	27.93	240	eP	P	08 17 11.1	+0.5
	3.1nm,0.3s,mb4.3						
FITZ	Fitzroy Crossi	27.93	240	P	P	08 17 11.3	+0.7
	3.1nm,0.6s,mb4.0,baz=58,slow=11,SNR=11						
STKA	Stephens Creek	28.09	197	P	P	08 17 09.9	-1.8
	1.2nm,0.4s,mb3.8,baz=40,slow=12,SNR=3.3						
MKAR	Makanchi Array	79.32	319	LR	LR	09 00 32.6	
	comp=Z,96nm,21.7s,baz=30,slow=37						
ZALV	Zalesovo Beam	80.35	327	LR	LR	09 00 42.7	
	comp=Z,131nm,20.5s,baz=96,slow=37						
BVAR	Borovoye Array	88.35	323	LR	LR	09 04 28.7	
	comp=Z,201nm,22.0s,baz=66,slow=36						
TORD	Torodi Ar. Bea	148.63	287	PKPbc	PKPbc	08 31 06.0	0.0
	2.2nm,0.8s,baz=87,slow=2.6,SNR=11						
BDFB	Brasilia	152.15	138	PKPbc	PKPbc	08 31 12.9	-1.5
	1.2nm,0.6s,baz=4.9,slow=23,SNR=3.7						

IDC 09 08:25:52.9±2.7, 589S×12759E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=320.0km s-min=30.6km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.43	155	Pn	Pn	08 29 34.0	+2.0
	0.2nm,0.3s,baz=333,slow=13,SNR=11						
ASAR	Alice Springs	18.69	162	P	Pn	08 30 11.8	-1.2
	0.3nm,0.3s,baz=348,slow=11,SNR=20						
MKAR	Makanchi Array	66.01	328	P	P	08 36 41.4	+0.2
	0.2nm,0.3s,baz=118,slow=7.7,SNR=4.4						

BJI 09 08:27:32.9, 2470N×9900E, h17km, ML3.5, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.42	82	P	Pn	08 28 27.0	+1.5
KMI				PG	Pg	08 28 36.1	-2.4
KMI				SG	Sg	08 29 20.2	-2.7
KMI				Smax			
	comp=N,191nm,0.7s						
KMI				Smax			
	comp=E,183nm,0.6s						
CD2	Chengdu	7.48	33	eP	Pn	08 29 22.0	+0.7
CD2				S	Sn	08 30 42.1	-3.7
CD2				SG	Sn	08 31 27.8	+42
CD2				Smax			
	comp=N,20nm,1.0s						
CD2				Smax			
	comp=E,20nm,1.4s						

*ISCJB **09** 08:41:15.4±1.2, 192S±02×1776W±02, h546km±24km, mb3.7/6, Error ellipse: s-maj=29.9km s-min=19.5km az=138.4*
*NEIC **09** 08:41:16.9±1.2, 1915S×17755W, h560km±16km, Error ellipse: s-maj=27.9km s-min=15.9km az=138.0*
*IDC **09** 08:41:16.7±1.4, 1911S×17762W, h555km±18km, mb3.2/6, mb1 3.5/8, mb1mx3.3/19, mbtmp3.4/8, Error ellipse: s-maj=20.5km s-min=13.7km az=143.0*

ISC 09 08:41:15.9±1.2, 192S±02×1776W±02, h538km±23km, n12, σ0°91/12, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.64	48	P	P	08 43 11.2	+1.4
	13nm,0.3s,baz=216,slow=1.3,SNR=22						
AFI				S	S	08 44 42.0	-1.1
	2.2nm,0.3s,baz=243,slow=20,SNR=4.2						
AFI	Afiamalu	7.64	48	P	P	08 43 11.2	+1.4
AFI				S	S	08 44 42.0	-1.1
URZ	Urewera	19.57	193	P	P	08 45 07.4	-1.1
	5.7nm,0.3s,baz=354,slow=2.1,SNR=13						
CTA	Charters Tower	34.03	262	P	P	08 47 16.1	+0.6
	5.1nm,0.6s,mb4.2,baz=97,slow=8.9,SNR=6.2						
STKA	Stephens Creek	38.73	243	P	P	08 47 54.6	+0.6
	5.3nm,0.9s,mb4.1,baz=68,slow=6.3,SNR=4.4						
WRA	Warramunga Arr	45.18	261	P	P	08 48 44.6	-0.5
	0.9nm,0.4s,mb3.7,baz=98,slow=7.4,SNR=49						
WRA				PcP	PcP	08 50 12.1	-1.9
	0.7nm,0.8s,baz=90,slow=3.8,SNR=4.6						
ASAR	Alice Springs	45.21	255	P	P	08 48 45.0	-0.3
	1.6nm,0.7s,mb3.6,baz=87,slow=9.3,SNR=16						
ASAR				PcP	PcP	08 50 12.7	-1.4
	1.0nm,0.6s,baz=97,slow=5.3,SNR=8.0						
ASAR				S	S	08 54 42.9	-3.3
	1.6nm,0.8s,baz=95,slow=17,SNR=12						
VNDA	Vanda	59.26	185	P	P	08 50 26.0	+0.9
	2.8nm,0.9s,mb3.5,baz=4.8,slow=4.9,SNR=9.9						
PDAR	Pinedale Array	87.73	43	P	P	08 53 07.6	+0.1
	0.5nm,0.8s,mb3.3,baz=225,slow=1.3,SNR=4.4						
MKAR	Makanchi Array	110.57	314	PKiKP	PKiKP	08 58 44.1	-3.2
	0.3nm,0.5s,baz=66,slow=3.0,SNR=3.9						
ARCES	ARCESS Array B	127.69	350	PKP	PKPdf	08 59 18.1	-1.3
	1.5nm,0.8s,baz=28,slow=2.9,SNR=4.9						
GERES	GERESS Array B	149.03	345	PKPbc	PKPbc	09 00 02.5	-0.8
	2.1nm,0.9s,baz=328,slow=1.7,SNR=7.9						

GUC 09 09:00:56.6±0.5, 3465S×7023W, h18km±1km, MD3.5, ML2.1, 4C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	Cipreses	0.36	334	⇓iP	Pg	09 01 04.1	-0.2
CICH				iS	Sg	09 01 09.6	+0.3
CACH	El Canelo	0.61	329	⇑iP	Pb	09 01 08.2	-0.5
CACH				iS	Sg	09 01 16.7	-0.2
SFDO	San Fernando	0.65	272	⇑iP	Pb	09 01 09.0	-0.3
SFDO				iS	Sb	09 01 18.1	+0.1
CHCH	Chadas Angostu	0.79	333	⇓eP	Pb	09 01 11.5	-0.3
CHCH				iS	Sb	09 01 22.7	+0.5
LMEL	Las Melosas	0.80	1	⇑iP	Pb	09 01 11.5	-0.3
LMEL				iS	Sb	09 01 23.1	+0.9
LMEL				AML	AML	09 01 24.2	
	comp=N,118nm,0.2s						
PCH	Pirque	1.05	347	eP	Pb	09 01 16.0	-0.2
PCH				iS	Sb	09 01 30.7	+1.1
ANTU	Antumapu	1.12	342	⇓iP	Pn	09 01 17.6	+0.2
ANTU				iS	Sb	09 01 33.1	+1.4
ANTU				AML	AML	09 01 33.8	
	comp=E,64nm,0.4s						
TACH	Talagante	1.15	329	iP	Pn	09 01 17.8	0.0
TACH				iS	Sb	09 01 33.7	+1.2
LNV	Longovilo	1.20	305	eP	Pn	09 01 18.1	-0.3
LNV				iS	Sb	09 01 34.7	+0.9
RCDM	Rinconada Maip	1.25	337	⇑iP	Pn	09 01 19.2	+0.1
RCDM				iS	Sb	09 01 36.6	+1.3
RCDM				AML	AML	09 01 37.4	
	comp=N,94nm,0.4s						

*DJA **09** 09:03:39, 721S×10539E, h33km, ML4.0/4*

IDC 09 09:03:33.1±3.0, 680S×10553E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=153.2km s-min=26.6km az=52.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.85	118	P	P	09 09 50.9	-0.4
	0.4nm,0.5s,baz=290,slow=11,SNR=7.9						
ASAR	Alice Springs

ML2.8(LDG), After LDG.
*STR **09** 10:06:12.3±0.2, 4936N×685E, h1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 09 10:06:11.8±0.3, 4936N±002×678E±003, h0km, n49, σ0§94/86, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.39**	**28**	*e*Pg	**Pg**	**10 06 19.5**	**+0.2**
	SNR=10.0						
RUP	**Ruppelstein**	**0.39**	**28**	Pg	**Pg**	**10 06 19.2**	**-0.1**
RUP				Sg	**Sg**	**10 06 24.3**	**-0.1**
WLF	**Walferdange**	**0.51**	**307**	*e*Pg	**Pg**	**10 06 22.8**	**+1.2**
	SNR=5.5						
WLF				*e*Sg	**Sg**	**10 06 28.6**	**+0.4**
	SNR=6.0						
WLF				SG	**Sg**	**10 06 30.1**	**+1.9**
WLF	**Walferdange**	**0.51**	**307**	PG	**Pg**	**10 06 22.7**	**+1.1**
LANF	**Langenberg**	**0.77**	**119**	Pg	**Pg**	**10 06 26.4**	**-0.2**
LANF				Sg	**Sg**	**10 06 36.4**	**-0.2**
LANF	**Langenberg**	**0.77**	**119**	*e*Pg	**Pg**	**10 06 26.4**	**-0.2**
	SNR=8.2						
KTD	**Kalmit**	**0.86**	**92**	*e*Pg	**Pg**	**10 06 28.6**	**+0.4**
	SNR=5.9						
KTD	**Kalmit**	**0.86**	**92**	Pg	**Pg**	**10 06 28.4**	**+0.2**
CDF	**Champ du Feu**	**1.00**	**161**	*e*Pn	**Pn**	**10 06 31.5**	**-1.6**
CDF				*e*Sg	**Sg**	**10 06 46.0**	**+2.1**
	44nm,0.5s						
CDF	**Champ du Feu**	**1.00**	**161**	*e*Pn	**Pn**	**10 06 31.5**	**-1.6**
CDF				*e*Sg	**Sg**	**10 06 46.0**	**+2.1**
	22nm,0.5s						
CDF	**Champ du Feu**	**1.00**	**161**	*e*Pg	**Pg**	**10 06 30.7**	**-0.3**
CDF				*e*Pn	**Pn**	**10 06 31.5**	**-1.6**
CDF				*e*Sg	**Sg**	**10 06 46.0**	**+2.1**
ECH	**Echery**	**1.17**	**167**	Pg	**Pg**	**10 06 34.8**	**+0.6**
ECH				Sg	**Sg**	**10 06 50.0**	**+0.7**
ECH	**Echery**	**1.17**	**167**	*e*Pg	**Pg**	**10 06 34.7**	**+0.5**
	SNR=6.9						
ECH	**Echery**	**1.17**	**167**	Pg	**Pg**	**10 06 34.7**	**+0.5**
	SNR=6.9						
ECH				Sg	**Sg**	**10 06 50.0**	**+0.7**
THEF	**They Montfort**	**1.25**	**205**	Pg	**Pg**	**10 06 36.6**	**+0.9**
THEF				Sg	**Sg**	**10 06 53.0**	**+1.2**
THEF	**They Montfort**	**1.25**	**205**	*e*Pg	**Pg**	**10 06 36.8**	**+1.1**
	SNR=4.0						
TOD	**Tromm**	**1.35**	**79**	Pg	**Pg**	**10 06 36.6**	**-1.0**
TOD				Sg	**Sg**	**10 06 53.9**	**-1.1**
MEM	**Membach**	**1.35**	**339**	P	**Pg**	**10 06 37.7**	**0.0**
MEM				S	**Sg**	**10 06 55.5**	**+0.3**
	comp=N,13nm,0.0s						
MEM	**Membach**	**1.35**	**339**	P	**Pg**	**10 06 37.7**	**0.0**
MEM				S	**Sg**	**10 06 55.4**	**+0.2**
HAU	**Haudompre**	**1.38**	**192**	*e*Pn	**Pn**	**10 06 38.7**	**+0.4**
HAU				*e*Sg	**Sg**	**10 06 56.0**	**-0.2**
	comp=N,28nm,0.3s						
HAU	**Haudompre**	**1.38**	**192**	*e*Pn	**Pn**	**10 06 38.7**	**+0.4**
HAU				*e*Sg	**Sg**	**10 06 56.0**	**-0.2**
	comp=N,14nm,0.3s						
MEZF	**Maizieres J'vi**	**1.42**	**234**	*e*Sg	**Sg**	**10 06 59.4**	**+1.9**
	comp=N,16nm,0.3s,baz=60						
MEZF	**Maizieres J'vi**	**1.42**	**234**	*e*Sg	**Sg**	**10 06 59.4**	**+1.9**
	comp=N,7,9nm,0.3s						
BFO	**Black Forest**	**1.45**	**134**	*e*Pg	**Pg**	**10 06 39.6**	**-0.1**
	SNR=4.4						
BFO				*e*Sg	**Sg**	**10 06 58.1**	**-0.4**
	SNR=4.5						
BFO	**Black Forest**	**1.45**	**134**	*e*Pg	**Pg**	**10 06 38.5**	**-1.2**
BFO				*e*Sg	**Sg**	**10 07 00.0**	**+1.6**
GIVF	**Givet**	**1.47**	**301**	*e*Pn	**Pn**	**10 06 38.7**	**-0.9**
GIVF				*e*Sg	**Sg**	**10 06 59.4**	**+0.3**
	comp=N,58nm,0.6s						
GIVF	**Givet**	**1.47**	**301**	*e*Pn	**Pn**	**10 06 38.7**	**-0.9**
GIVF				*e*Sg	**Sg**	**10 06 59.4**	**+0.3**
	comp=N,29nm,0.6s						
HGN	**Heimansgroeve**	**1.51**	**339**	*e*Pg	**Pg**	**10 06 40.3**	**-0.5**
HGN				*e*Sg	**Sg**	**10 06 59.7**	**-0.7**
HGN	**Heimansgroeve**	**1.51**	**339**	*e*Rg		10 07 23.1	
MOF	**Molkenrain**	**1.52**	**171**	Pg	**Pg**	**10 06 41.4**	**+0.4**
MOF				Sg	**Sg**	**10 07 01.4**	**+0.6**
MOF	**Molkenrain**	**1.52**	**171**	*e*Pg	**Pg**	**10 06 41.4**	**+0.4**
	SNR=7.6						
HINF	**Hinteralfeld**	**1.54**	**178**	*e*Pn	**Pn**	**10 06 41.5**	**+1.0**
HINF				*e*Sg	**Sg**	**10 07 01.2**	**-0.1**
	comp=N,34nm,0.3s						
HINF	**Hinteralfeld**	**1.54**	**178**	*e*Pn	**Pn**	**10 06 41.5**	**+1.0**
HINF				*e*Sg	**Sg**	**10 07 01.2**	**-0.1**
	comp=N,17nm,0.3s						
DOU	**Dourbes**	**1.60**	**298**	PN	**Pn**	**10 06 41.2**	**-0.1**
DOU				SN	**Sn**	**10 07 03.2**	**+0.6**
DOU	**Dourbes**	**1.60**	**298**	Pn	**Pn**	**10 06 41.1**	**-0.2**
DOU				Sn	**Sn**	**10 07 03.1**	**+0.5**
FELD	**Feldberg im Sc**	**1.69**	**151**	*e*Pg	**Pg**	**10 06 44.4**	**+0.2**
	SNR=4.0						
FELD	**Feldberg im Sc**	**1.69**	**151**	Pg	**Pg**	**10 06 43.6**	**-0.6**
BAIF	**Baives**	**1.81**	**294**	*e*Pn	**Pn**	**10 06 45.5**	**+1.3**
BAIF				*e*Sg	**Sg**	**10 07 09.9**	**0.0**
	comp=N,14nm,0.4s						
BAIF	**Baives**	**1.81**	**294**	*e*Pn	**Pn**	**10 06 45.5**	**+1.3**
BAIF				*e*Sg	**Sg**	**10 07 09.9**	**0.0**
	comp=N,6.9nm,0.4s						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pg	**Pg**	**10 07 05.4**	**+0.2**
CABF				*e*Sg	**Sg**	**10 07 41.3**	**0.0**
	comp=N,15nm,0.6s						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pg	**Pg**	**10 07 05.4**	**+0.2**
CABF				*e*Sg	**Sg**	**10 07 41.3**	**0.0**
	comp=N,7.3nm,0.6s						
LOR	**Lormes**	**2.86**	**224**	*e*Pn	**Pn**	**10 06 57.9**	**-0.7**
	baz=45						
LOR				*e*Sn	**Sn**	**10 07 31.9**	**-1.7**
LOR				*e*Sg	**Sg**	**10 07 42.1**	**-1.4**
	comp=N,12nm,0.6s,baz=48						
LOR	**Lormes**	**2.86**	**224**	*e*Pn	**Pn**	**10 06 57.9**	**-0.7**
LOR				*e*Sn	**Sn**	**10 07 31.9**	**-1.7**
LOR				*e*Sg	**Sg**	**10 07 42.1**	**-1.4**
	comp=N,6.2nm,0.6s						
SSF	**Saint Saulge**	**3.17**	**225**	*e*Pn	**Pn**	**10 07 02.4**	**-0.5**
SMF	**Signal de Mont**	**3.35**	**217**	*e*Pn	**Pn**	**10 07 05.0**	**-0.4**
SMF				*e*Sn	**Sn**	**10 07 43.6**	**-2.3**
SMF				*e*Sg	**Sg**	**10 07 58.0**	**-1.5**
	comp=N,11nm,0.6s						
SMF	**Signal de Mont**	**3.35**	**217**	*e*Pn	**Pn**	**10 07 05.0**	**-0.4**
SMF				*e*Sn	**Sn**	**10 07 43.6**	**-2.3**
SMF				*e*Sg	**Sg**	**10 07 58.0**	**-1.5**
	comp=N,5.6nm,0.6s						
AVF	**Avril sur Loir**	**3.44**	**223**	*e*Pn	**Pn**	**10 07 05.6**	**-1.1**
BRG	**Berggiesshubel**	**4.86**	**69**	*i* P	**Pb**	**10 07 39.7**	**+2.0**
	comp=N,8.5nm,0.4s						
BRG				*i*		10 07 60.0	
	comp=N,7.5nm,0.3s						
MFF	**Saint Martin d**	**5.40**	**242**	*e*Pn	**Pn**	**10 07 33.5**	**-0.1**

*NSSP **09** 10:09:12.9, 4097N×4338E, h15km, ML2.6*
*ISK **09** 10:09:13.7, 4105N×4330E, h5km, MD2.9*
*CSEM **09** 10:09:13.2±0.2, 4107N×4343E, h5km, ML2.6, Error ellipse: s-maj=6.5km s-min=4.4km az=177.0*
*ISCJB **09** 10:09:14.8±0.6, 4102N±003×4338E±004, h1km±6km, Error ellipse: s-maj=5.4km s-min=3.7km az=44.4*
*TIF **09** 10:09:14.7, 4100N×4343E, h14km±1km*
ISC 09 10:09:15.3±0.6, 4103N±003×4338E±004, h2km±7km, n16, σ0§90/25, 2C, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.39**	**13**	P	**Pg**	**10 09 23.2**	**+0.3**
AKH				S	**Sg**	**10 09 29.1**	**+1.1**
KARS	**Kars**	**0.47**	**208**	*e*PG	**Pg**	**10 09 23.7**	**-0.4**
KARS				*e*SG	**Sg**	**10 09 31.5**	**+1.3**
KAMZ	**Kamo**	**0.48**	**115**	⇑P	**Pg**	**10 09 23.1**	**-1.4**
HARI	**Harich**	**0.63**	**131**	⇑P	**Pg**	**10 09 26.4**	**-1.0**
STE	**Stepanavan**	**0.75**	**92**	P	**Pg**	**10 09 29.0**	**-0.7**
STE				S	**Sg**	**10 09 40.4**	**+0.9**
TBLG	**Delisi**	**1.25**	**55**	P	**Pg**	**10 09 37.7**	**-1.4**
TBLG				S	**Sg**	**10 09 55.2**	**-0.1**
MTA	**Mtatsminda**	**1.26**	**57**	P	**Pg**	**10 09 38.2**	**-1.2**
MTA				S	**Sg**	**10 09 56.1**	**+0.4**
GNI	**Garni**	**1.36**	**130**	S	**Sg**	**10 09 58.5**	**-0.4**
BCA	**Borcka**	**1.39**	**288**	*e*PN	**Pn**	**10 09 40.5**	**-1.2**
BCA				*e*SN	**Sn**	**10 09 59.2**	**-1.4**
AGRB	**Hanur-Agry**	**1.48**	**192**	*e*PN	**Pn**	**10 09 42.0**	**-0.3**
AGRB				*e*SN	**Sg**	**10 10 04.0**	**+1.3**
HOMI	**Horasan**	**1.49**	**229**	*i* P	**Pn**	**10 09 43.5**	**+0.4**
ONI	**Oni**	**1.55**	**2**	P	**Pn**	**10 09 44.2**	**+0.2**
ONI				S	**Sn**	**10 10 05.9**	**+1.2**
DGRG	**David-gareji**	**1.57**	**74**	P	**Pn**	**10 09 44.9**	**+0.8**
DGRG				S	**Sg**	**10 10 06.5**	**+0.9**
TUTA	**Tutak**	**1.68**	**195**	*i* P	**Pn**	**10 09 46.5**	**+0.8**
ERZM	**Erzurum**	**1.90**	**235**	*i* P	**Pg**	**10 09 51.9**	**+0.3**
EZM	**Erzurum**	**1.90**	**235**	*e*PN	**Pn**	**10 09 48.2**	**-0.6**

CSEM 09 10:23:07.3±0.6, 3941N×307W, h0km, ML3.5/2, Error ellipse: s-maj=6.0km s-min=3.6km az=99.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**0.74**	**291**	Pg	Pg	10 23 21.0	-0.4
	0.7nm,0.3s,baz=111,SNR=4.5						
ESDC				Lg		10 23 33.0	
	0.8nm,0.2s,SNR=7.1						
EVIA	**Vianos**	**0.89**	**150**	Pg	Pg	10 23 23.2	-1.1
	SNR=7.9						
EVIA				Lg		10 23 37.6	
	13nm,0.5s,SNR=8.7						
EBAN	**Banos Encina**	**1.36**	**204**	Lg		10 23 49.1	
	4.2nm,0.3s,SNR=6.2						
ETOB	**Tobarra**	**1.41**	**122**	Pg	Pg	10 23 32.4	-2.0
	4.5nm,0.8s,SNR=7.8						
ETOB				Lg		10 23 51.7	
	6.8nm,0.3s,SNR=9.1						
GUD	**Guadarrama**	**1.48**	**326**	Lg		10 23 53.6	
	5.7nm,0.3s,SNR=10						
ETOR	**Torete**	**1.61**	**29**	P	Pn	10 23 36.4	-0.5
	29nm,0.5s,SNR=16						
ETOR				Lg		10 23 57.2	
	8.0nm,0.5s,SNR=5.0						
EHUE	**Huescar**	**1.64**	**167**	Lg		10 23 58.5	
	SNR=7.9						

*DJA **09** 10:34:12, 605N×12425E, h500km, ML5.1/4*
*NEIC **09** 10:34:14.7±2.5, 581N×124.15E, h513km±33km, mb4.6/3, Error ellipse: s-maj=37.2km s-min=7.9km az=58.0*
*ISCJB **09** 10:34:15.3±1.5, 574N±008×124.1E±02, h541km±20km, mb4.0/18, Error ellipse: s-maj=25.8km s-min=9.0km az=157.0*
*IDC **09** 10:34:15.9±1.4, 573N×12400E, h526km±15km, mb3.5/15, mb1 3.6/17, mb1mx3.5/25, mbtmp3.5/17, Error ellipse: s-maj=23.2km s-min=7.1km az=70.0*
ISC 09 10:34:16.0±1.3, 573N±008×1240E±02, h530km±18km, n30, σ0§80/30, mb4.0/18, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**9.73**	**188**	*e*P	**P**	**10 36 31.0**	**+0.1**
KDI				*e*S	S	10 38 47.4	+26
KAPI	**Kappang**	**11.50**	**202**	P	**P**	**10 36 48.9**	**-0.4**
	baz=96,slow=4.1						
KAPI	**Kappang**	**11.50**	**202**	P	**P**	**10 36 48.9**	**-0.4**
BATI	**Baumata**	**15.84**	**181**	P	**P**	**10 37 34.4**	**0.0**
	13nm,0.3s,baz=1.2,slow=2.1,SNR=12						
KAKA	**Kakadu**	**20.13**	**156**	*e*P	**P**	**10 38 14.1**	**-0.2**
	20nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.73**	**176**	P	**P**	**10 38 46.8**	**+0.2**
	1.5nm,0.4s,mb4.0,baz=36,slow=9.3,SNR=14						
WRAB	**Tennant Creek**	**27.44**	**159**	*e*P	**P**	**10 39 19.3**	**-0.1**
	8.6nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**27.45**	**159**	P	**P**	**10 39 19.0**	**-0.4**
	13nm,0.5s,mb4.8,baz=340,slow=9.2,SNR=206						
WRA				S	**S**	**10 43 21.7**	**-1.1**
	1.2nm,0.7s,baz=335,slow=16,SNR=3.5						
WRA				ScP	ScP	10 45 13.2	+1.9
	1.5nm,0.5s,baz=342,slow=3.2,SNR=16						
WB2	**Warramunga Arr**	**27.45**	**159**	*e*P	**P**	**10 39 19.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**27.56**	**300**	P	**P**	**10 39 21.2**	**+0.8**
	1.0nm,0.5s,mb3.7,baz=109,slow=6.5,SNR=6.2						
QIS	**Mount Isa**	**30.27**	**150**	*e*P	**P**	**10 39 42.0**	**-2.0**
	5.3nm,0.3s,mb4.5						
ASAR	**Alice Springs**	**30.76**	**162**	P	**P**	**10 39 49.0**	**+0.9**
	18nm,0.5s,mb4.8,baz=348,slow=6.7,SNR=466						
ASAR				PcP	PcP	10 42 30.2	+0.9
	1.0nm,0.4s,baz=7.2,slow=2.1,SNR=6.5						
ASAR				S	**S**	**10 44 15.4**	**+1.4**
	2.2nm,0.8s,baz=354,slow=24,SNR=12						
ASAR				ScP	ScP	10 45 24.1	+2.2
	0.4nm,0.4s,baz=359,slow=2.7,SNR=6.1						
FORT	**Forrest**	**36.50**	**174**	*e*P	**P**	**10 40 36.9**	**+0.5**
	9.2nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**40.97**	**157**	*e*P	**P**	**10 41 13.9**	**+1.3**
	3.0nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**40.97**	**157**	P	**P**	**10 41 14.2**	**+1.6**
	5.8nm,0.7s,mb4.2,baz=324,slow=9.0,SNR=6.2						
ASAJ	**Asahikawa**	**41.56**	**20**	P	**P**	**10 41 17.2**	**+0.1**
	5.1nm,1.0s,mb4.0,baz=271,slow=17,SNR=4.6						
SONM	**Songino Array**	**44.59**	**343**	P	**P**	**10 41 41.0**	**+0.4**
	1.7nm,0.7s,mb3.7,baz=157,slow=7.7,SNR=7.9						
SONM				PcP	PcP	10 43 12.5	+0.3
	0.9nm,0.5s,baz=147,slow=3.1,SNR=6.9						
MK31	**Makanchi Array**	**54.40**	**326**	*e*P	**P**	**10 42 53.1**	**+0.2**
MKAR	**Makanchi Array**	**54.40**	**326**	P	**P**	**10 42 53.1**	**+0.1**
	4.6nm,0.5s,mb4.1,baz=122,slow=8.2,SNR=38						
MKAR				PcP	PcP	10 43 48.4	-0.2
	3.4nm,0.6s,baz=116,slow=3.8,SNR=17						
PETK	**Petropavlovsk-**	**54.66**	**24**	P	**P**	**10 42 55.2**	**+0.6**
	1.2nm,0.5s,mb3.4,baz=199,slow=6.3,SNR=6.6						
ZALV	**Zalesovo Beam**	**57.61**	**334**	P	**P**	**10 43 14.0**	**-1.1**
	3.0nm,0.9s,mb3.5,baz=101,slow=7.7,SNR=3.6						
BVAR	**Borovoye Array**	**64.20**	**327**	P	**P**	**10 43 58.5**	**+0.1**
	1.4nm,0.4s,mb3.7,baz=134,slow=6.4,SNR=10						
BVAR				PcP	PcP	10 44 27.4	-0.4
	1.4nm,0.7s,baz=116,slow=6.6,SNR=3.5						
AKTK	**Aktyubinsk**	**70.44**	**322**	P	**P**	**10 44 36.8**	**+0.1**
AKTO	**Aktyubinsk**	**70.44**	**322**	P	**P**	**10 44 36.8**	**+0.1**
	2.3nm,0.5s,mb4.0,baz=94,slow=7.3,SNR=13						
ARCES	**ARCESS Array B**	**87.66**	**340**	P	**P**	**10 46 08.9**	**+1.3**
	0.8nm,0.6s,mb3.6,baz=81,slow=5.8,SNR=12						
AKASG	**Malin Array Be**	**88.66**	**321**	P	**P**	**10 46 11.0**	**-1.6**
	0.7nm,0.4s,mb3.9,baz=68,slow=4.6,SNR=6.4						
AKASG	**Malin Array Be**	**88.66**	**321**	P	**P**	**10 46 11.0**	**-1.6**
NOA	**NORSAR Array B**	**95.81**	**333**	P	**P**	**10 46 44.0**	**-1.3**
	0.5nm,0.7s,mb3.9,baz=76,slow=4.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**119.75**	**289**	PKP	PKPdf	10 52 06.8	-0.1
	0.8nm,0.4s,baz=77,slow=1.7,SNR=14						
PLCA	**Paso Flores**	**142.77**	**162**	PKP	PKPdf	10 52 49.1	-0.2
	1.7nm,0.8s,baz=202,slow=6.2,SNR=3.9						

NEIC 09 10:44:29.4, 5418N×16254W, h8km, ML3.5(AEIC), After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.85**	**323**	P	Pg	10 44 45.1	-0.6
FALS				S	Sg	10 44 57.2	+0.5
SDPT	**Sand Point**	**1.68**	**45**	*e*Pn	Pn	10 44 56.4	-2.5
SDPT				*e*Sn	Sn	10 45 19.1	-1.5
SDPT				S	Sn	10 45 19.2	-1.4
AKUT	**Akutan**	**1.90**	**270**	*e*Pn	Pn	10 44 59.7	-2.4
AKUT				S	Sn	10 45 24.0	-2.1
AKUT				*e*Sn	Sn	10 45 25.2	-0.9
AKLV	**Akutan Long Va**	**2.01**	**271**	P	Pn	10 45 01.6	-1.9
AKGG	**Akutan Green G**	**2.03**	**272**	P	Pn	10 45 01.8	-1.9
UNV	**Unalaska Valle**	**2.36**	**263**	P	Pn	10 45 06.5	-1.9
UNV				S	Sn	10 45 34.1	-3.3
OKCD	**Okmok Cone D**	**3.39**	**259**	P	Pn	10 45 21.5	-1.0

*ISCJB **09** 11:07:03.4±0.3, 6302N±003×15056W±007, h118km±3km, mb4.0/7, Error ellipse: s-maj=5.6km s-min=4.4km az=171.3*
*IDC **09** 11:07:04.1±3.1, 6292N×150.11W, h115km±49km, mb3.7/7, mb1 3.8/9, mb1mx3.5/21, mbtmp3.7/9, Error ellipse: s-maj=61.6km s-min=17.6km az=127.0*
*NEIC **09** 11:07:05.3, 6305N×15050W, h106km, MG3.4(AEIC), After AEIC.*
ISC 09 11:07:04.7±0.3, 6302N±003×15055W±007, h110km±4km, n46, σ0§73/55, mb4.0/7, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.45**	**15**	P	**Pn**	**11 07 21.3**	**+0.1**
TRF				S	**Sn**	**11 07 33.8**	**+0.2**
KTH	**Kantishna Hill**	**0.56**	**343**	P	**Pn**	**11 07 21.7**	**-0.3**
KTH				S	**Sn**	**11 07 34.5**	**-0.4**
MCK	**McKinley**	**1.02**	**45**	P	**Pn**	**11 07 26.1**	**+0.1**
MCK				S	**Sn**	**11 07 42.3**	**0.0**
BPAW	**Bear Paw Mtn.**	**1.10**	**350**	P	**Pn**	**11 07 26.6**	**-0.3**
CHUM	**Lake Minchumin**	**1.18**	**318**	P	**Pn**	**11 07 28.0**	**+0.3**
GHO	**Glory Hole Cre**	**1.46**	**148**	P	**Pn**	**11 07 32.0**	**+1.0**
PMR	**Palmer**	**1.58**	**154**	*e*Pn	**Pn**	**11 07 32.6**	**+0.2**
PMR				*e*Sn	**Sn**	**11 07 53.8**	**+0.3**
FIB	**Fire Island**	**1.87**	**174**	P	**Pn**	**11 07 37.6**	**+1.6**
RC01	**Rabbit Creek A**	**1.97**	**168**	P	**Pn**	**11 07 37.7**	**+0.4**
COLA	**College**	**2.21**	**31**	P	**Pn**	**11 07 40.1**	**-0.1**
ILB	**Eielson Array**	**2.39**	**41**	P	**Pn**	**11 07 42.3**	**-0.3**
IL1	**Eielson Array**	**2.39**	**41**	P	**Pn**	**11 07 42.3**	**-0.3**
TTA	**Tatalina**	**2.49**	**270**	*e*Pn	**Pn**	**11 07 44.2**	**+0.3**
TTA				*e*Sn	**Sn**	**11 08 14.2**	**+0.1**
TT01	**Tatalina**	**2.50**	**270**	P	**Pn**	**11 07 43.8**	**-0.3**
SLKM	**Skilak Lake**	**2.52**	**176**	*e*Pn	**Pn**	**11 07 45.8**	**+1.4**
SLKM				*e*Sn	**Sn**	**11 08 14.0**	**-0.8**
HARP	**HAARP**	**2.56**	**101**	P	**Pn**	**11 07 45.6**	**+0.8**
DIV	**Divide**	**2.94**	**128**	P	**Pn**	**11 07 49.0**	**-0.8**
SEW	**Seward**	**2.97**	**169**	P	**Pn**	**11 07 50.8**	**+0.5**
SVW2	**Sparrevohn**	**3.05**	**233**	*e*Pn	**Pn**	**11 07 51.5**	**+0.2**
MENT	**Mentasta**	**3.12**	**88**	*e*P	**Pn**	**11 07 52.8**	**+0.6**
IM3	**Indian Mountai**	**3.28**	**337**	P	**Pn**	**11 07 54.2**	**-0.1**
IMA2	**Indian Mountai**	**3.35**	**338**	*e*Pn	**Pn**	**11 07 55.0**	**-0.2**
IMA2				*e*Sn	**Sn**	**11 08 34.7**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.37**	**135**	P	**Pn**	**11 07 55.5**	**0.0**
BMRM	**Bremner River**	**3.48**	**124**	P	**Pn**	**11 07 56.1**	**-0.8**
RAGM	**Ragged Mountai**	**3.85**	**131**	P	**Pn**	**11 08 01.6**	**-0.3**
AUL	**Augustine Lava**	**3.91**	**202**	P	**Pn**	**11 08 07.3**	**+4.6**
BCA3	**Beaver Creek A**	**3.99**	**85**	P	**Pn**	**11 08 03.6**	**-0.2**
COLD	**Coldfoot**	**4.23**	**2**	P	**Pn**	**11 08 07.0**	**+0.1**
EGAK	**Eagle**	**4.51**	**63**	P	**Pn**	**11 08 10.9**	**+0.1**
BM3	**Burnt Mountain**	**5.08**	**27**	P	**Pn**	**11 08 18.2**	**-0.2**
DAWY	**Dawson**	**5.10**	**73**	P	**Pn**	**11 08 18.6**	**-0.2**
KDAK	**Kodiak Island**	**5.35**	**192**	P	**Pn**	**11 08 21.5**	**-0.6**
	5.2nm,0.3s,baz=40,slow=7.5,SNR=78						
KDAK				S	**Sn**	**11 09 20.7**	**-1.7**
	9.6nm,0.3s,baz=206,slow=21,SNR=10						
KDAK	**Kodiak Island**	**5.35**	**192**	P	**Pn**	**11 08 21.6**	**-0.6**
OHAK	**Old Harbor**	**5.97**	**194**	*e*Pn	**Pn**	**11 08 29.5**	**-1.1**
OHAK				*e*Sn	**Sn**	**11 09 32.9**	**-4.6**
INK	**Inuvik**	**8.79**	**45**	P	**Pn**	**11 09 06.5**	**-2.1**
	1.9nm,0.3s,baz=240,slow=16,SNR=38						
YKA	**Yellowknife Ar**	**16.34**	**76**	P	**Pn**	**11 10 49.2**	**+2.0**
	0.2nm,0.3s,baz=284,slow=9.6,SNR=4.5						
YKA	**Yellowknife Ar**	**16.34**	**76**	P	**Pn**	**11 10 49.2**	**+2.0**
ARCES	**ARCESS Array B**	**47.70**	**2**	P	**P**	**11 15 29.4**	**0.0**
	1.3nm,0.5s,mb4.0,baz=2.7,slow=8.5,SNR=12						
ARCES	**ARCESS Array B**	**47.70**	**2**	P	**P**	**11 15 29.4**	**0.0**
KSRS	**Korea Array**	**53.67**	**282**	P	**P**	**11 16 15.4**	**+0.8**
	0.9nm,0.5s,mb4.1,baz=24,slow=5.9,SNR=4.2						
SONM	**Songino Array**	**53.97**	**306**	P	**P**	**11 16 18.2**	**+1.6**
	1.7nm,0.7s,mb4.2,baz=27,slow=6.6,SNR=13						
NOA	**NORSAR Array B**	**55.49**	**11**	P	**P**	**11 16 27.1**	**-0.3**
	0.4nm,0.7s,mb3.6,baz=165,slow=6.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**55.63**	**324**	P	**P**	**11 16 27.9**	**-0.6**
	2.0nm,0.6s,mb4.4,baz=23,slow=7.8,SNR=9.3						
MKAR	**Makanchi Array**	**62.79**	**322**	P	**P**	**11 17 17.3**	**-0.5**
	1.5nm,0.5s,mb4.2,baz=47,slow=6.9,SNR=22						
AKASG	**Malin Array Be**	**66.63**	**0**	P	**P**	**11 17 42.0**	**-0.7**
	0.8nm,0.4s,mb3.9,baz=5.6,slow=6.2,SNR=3.9						
AKASG	**Malin Array Be**	**66.63**	**0**	P	**P**	**11 17 42.0**	**-0.7**

*CSEM **09** 11:07:30.3±0.1, 3984N×2781E, h5km, MD2.8, Error ellipse: s-maj=2.7km s-min=2.0km az=78.0*
*ISK **09** 11:07:30.7, 3981N×2789E, h13km, MD2.7*
*ISCJB **09** 11:07:31.3±0.6, 3985N±003×2783E±004, h2km±7km, Error ellipse: s-maj=6.8km s-min=4.6km az=44.5*
*DDA **09** 11:07:31.6, 3979N×2782E, h4km±2km, Md2.8*
ISC 09 11:07:31.7±0.6, 3983N±004×2782E±005, h8km±6km, n10, σ1§04/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.18**	**239**	*i* P	**Pg**	**11 07 34.8**	**-0.6**
BALY				*i* S	**Sg**	**11 07 38.1**	**+0.2**
BTOK	**Tokmak**	**0.18**	**113**	*i* P	**Pg**	**11 07 35.2**	**-

*SKHL **09** 11:20:19.6±0.3, 4670N×14160E, h10km, mb4.2/6, msh4.8/1*
*JMA **09** 11:20:20.9±0.4, 4700N×14177E, h14km, M4.4*
*IDC **09** 11:20:21.6±0.8, 4686N×14177E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.9/21, mbtmp3.8/10, ML3.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.5/39, Error ellipse: s-maj=24.1km s-min=17.3km az=59.0*
*MOS **09** 11:20:22.2±1.4, 4691N×14169E, h11km, mb4.3/5, Error ellipse: s-maj=14.5km s-min=9.4km az=102.1*
MOS Felt (III-IV) at Nevel'sk, Gornozavodsk; (II) at Kholmsk.
*ISCJB **09** 11:20:22.4±0.8, 4687N±002×14166E±005, h10km±5km, mb4.0/16, MS3.4/4, Error ellipse: s-maj=6.4km s-min=3.9km az=166.1*
*NEIC **09** 11:20:25.4±2.2, 4703N×14186E, h21km±18km, mb4.4/1, Error ellipse: s-maj=16.1km s-min=12.0km az=126.0*

ISC 09 11:20:24.3±0.8, 4682N±003×14174E±006, h14km±6km, n48, σ1§09/61, mb4.0/16, MS3.4/4, 4C-2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.71**	**79⇑**	*i*PN		**Pg**		**11 20 36.2**	**-1.9**
YSS				*e*				11 20 47.6	
YSS				smax					
	comp=E,3μm,0.3s								
YSS	**Yuzh-Sakhalins**	**0.71**	**79⇑**	*i*Pg		**Pg**		**11 20 36.2**	**-1.9**
YSS				AMB		AMB		11 20 40.0	
	comp=E,425nm,0.3s								
YSS				*e*Sg		**Sg**		**11 20 47.6**	**+0.2**
YSS				A				11 20 49.2	
	comp=E,3μm,0.3s								
YSS				AMS		AMS		11 21 18.0	
	comp=E,4μm,6.0s								
YSS				AMS		AMS		11 21 18.0	
	comp=E,4μm,6.0s								
YSS				AMS		AMS		11 21 18.0	
	comp=E,2μm,6.0s								
YSS	**Yuzh-Sakhalins**	**0.71**	**79**	*e*Pg		**Pg**		**11 20 36.7**	**-1.4**
JWK2	**Keihoku**	**1.51**	**176**	P		**Pn**		**11 20 50.5**	**-0.3**
JWK2				*e*S		**Sn**		**11 21 11.8**	**+1.5**
JRR	**Rishiri**	**1.71**	**190**	P		**Pn**		**11 20 53.3**	**-0.3**
JRR				*e*S		**Sn**		**11 21 17.4**	**+2.2**
JSE	**Soyaes**	**1.95**	**162**	P		**Pn**		**11 20 56.2**	**-0.8**
UGL	**Uglegorsk**	**2.27**	**5**	PN		**Pn**		**11 21 00.5**	**-0.9**
UGL				*e*S		**Sn**		**11 21 32.0**	**+2.9**
UGL				pmax		pmax			
	comp=Z,42nm,0.7s								
UGL				smax					
	comp=E,2μm,2.0s								
UGL				smax					
	comp=N,1μm,1.5s								
UGL				smax					
	comp=N,230nm,0.4s								
UGL				smax					
	comp=E,540nm,0.5s								
UGL				smax					
	comp=Z,200nm,0.4s								
UGL	**Uglegorsk**	**2.27**	**5**	*e*P		**Pn**		**11 21 00.5**	**-0.9**
UGL				AMB		AMB		11 21 03.0	
	comp=Z,42nm,0.7s								
UGL				*e*Pg		**Pg**		**11 21 09.0**	**+1.2**
UGL				*e*S		**Sn**		**11 21 30.0**	**+0.9**
UGL				A				11 21 34.0	
	comp=Z,1μm,2.0s								
UGL				A				11 21 34.0	
	comp=Z,2μm,2.0s								
UGL				A				11 21 35.0	
	comp=Z,230nm,0.4s								
UGL				A				11 21 35.0	
	comp=Z,540nm,0.4s								
UGL				A				11 21 35.0	
	comp=Z,200nm,0.4s								
UGL				*e*Sg		**Sg**		**11 21 41.7**	**+4.5**
UGL				A				11 21 45.0	
	comp=Z,385nm,0.5s								
JYG	**Yagishiri**	**2.40**	**185**	P		**Pn**		**11 21 03.8**	**+0.6**
ASAJ	**Asahikawa**	**2.77**	**167**	P		**Pn**		**11 21 08.1**	**-0.1**
ASAJ	**Asahikawa**	**2.77**	**167**	Pn		**Pn**		**11 21 08.0**	**-0.3**
	comp=Z,4.9nm,0.3s,baz=134,slow=26,SNR=35								
ASAJ				Sn		**Sn**		**11 21 43.0**	**+1.6**
	comp=Z,11nm,0.3s,baz=350,slow=27,SNR=4.4								
ASAJ	**Asahikawa**	**2.77**	**167**	PN		**Pn**		**11 21 08.0**	**-0.2**
ASAJ								11 21 43.0	
ASAJ				pmax		pmax			
	comp=Z,5.0nm,0.3s								
ASAJ				smax					
	comp=N,11nm,0.3s								
JKK2	**Kamakawa 2**	**3.03**	**166**	P		**Pn**		**11 21 11.9**	**+0.1**
JHR	**Hokuryu**	**3.08**	**180**	P		**Pn**		**11 21 13.5**	**+1.1**
JTKR	**Abashiri--Toko**	**3.23**	**151**	P		**Pn**		**11 21 13.2**	**-1.4**
TEY	**Ternei**	**4.00**	**245**	*e*P		**Pn**		**11 21 23.5**	**-1.7**
TEY				*e*Pg		**Pg**		**11 21 36.5**	**-4.4**
TEY				AMB		AMB		11 21 41.5	
	comp=N,35nm,0.5s								
TEY				*e*S		**Sn**		**11 22 06.0**	**-5.8**
TEY				A				11 22 08.0	
	comp=N,35nm,0.4s								
TYV	**Tymovskoe**	**4.09**	**8**	*e*P		**Pn**		**11 21 25.8**	**-0.6**
TYV				*e*Pg		**Pg**		**11 21 44.0**	**+1.4**
TYV				AMB		AMB		11 21 46.8	
	comp=N,13nm,0.9s								
TYV				AMB		AMB		11 21 46.8	
	comp=N,26nm,0.9s								
TYV				AMB		AMB		11 21 46.8	
	comp=N,24nm,0.9s								
TYV				*e*S		**Sn**		**11 22 14.5**	**+0.5**
TYV				*e*Sg		**Sg**		**11 22 43.0**	**+7.4**
TYV				A				11 22 44.0	
	comp=N,86nm,1.0s								
KUR	**Kuril'sk**	**4.55**	**108**	*e*S		**Sn**		**11 22 22.0**	**-3.4**
KUR				A				11 22 37.0	
	comp=N,110nm,0.8s								
GRNR	**Gornyy**	**5.29**	**320**	*e*P		**Pn**		**11 21 37.2**	**-5.6**
GRNR				AMB		AMB		11 21 38.2	
	comp=N,25nm,0.8s								
GRNR				*e*Sg		**Sg**		**11 23 15.5**	**+1.6**
GRNR				A				11 23 25.0	
	comp=N,124nm,0.9s								
KLR	**Kul'dur**	**7.12**	**293**	*e*PN		**Pn**		**11 22 05.6**	**-2.3**
KLR				*e*				11 23 40.0	
EKMR	**Ekimchan**	**8.44**	**321**	*e*P		**Pn**		**11 22 22.8**	**-3.2**
EKMR				AMB		AMB		11 22 30.0	
	comp=N,4.0nm,0.6s								
EKMR				*e*Sg		Sn		11 24 56.5	+56
EKMR				A				11 25 07.3	
	comp=N,130nm,1.3s								
EKMR				A				11 25 07.3	
	comp=N,54nm,1.3s								
EKMR				A				11 25 07.3	
	comp=N,42nm,1.3s								
MAJO	**Matsushiro**	**10.60**	**196**	*e*PN		**Pn**		**11 23 00.8**	**+5.1**
MAJO				pmax		pmax			
	comp=Z,5.0nm,0.7s								
MAJO	**Matsushiro**	**10.60**	**196**	*e*Pn		**Pn**		**11 23 00.8**	**+5.1**
	comp=Z,5.3nm,0.7s								
MJAR	**Matsushiro Arr**	**10.60**	**196**	Pn		**Pn**		**11 22 59.9**	**+4.2**
	comp=Z,0.2nm,0.3s,baz=3.2,slow=14,SNR=8.6								
SEY	**Seymchan**	**17.23**	**17**	*i* P		**Pn**		**11 24 28.0**	**+3.8**
SONM	**Songino Array**	**23.86**	**285**	P		**P**		**11 25 36.8**	**-0.2**
	comp=Z,1.6nm,0.8s,mb3.5,baz=65,slow=8.2,SNR=6.3								
SONM	**Songino Array**	**23.86**	**285**	P		**P**		**11 25 36.8**	**-0.2**
BILL	**Bilibino**	**24.70**	**22⇑**	*e*P		**P**		**11 25 45.9**	**+1.4**
BILL				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.4								
BILL				MLR		MLR			
	comp=Z,100nm,22.0s,MS3.3								
TLY	**Talaya**	**25.13**	**295**	*e*P		**P**		**11 25 48.4**	**-0.2**
TLY				pmax		pmax			
	comp=Z,3.0nm,1.1s,mb3.7								
TLY				MLR		MLR			
	comp=Z,59nm,16.0s,MS3.2								
ZAK	**Zakamensk**	**25.49**	**292**	*e*P		**P**		**11 25 52.3**	**+0.5**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb3.9								
HVS	**Khovu-Aksy**	**31.37**	**296⇓**	*e*P		**P**		**11 26 44.4**	**+0.1**
HVS				pmax		pmax			
	comp=Z,23nm,2.1s,mb4.6								
ZALV	**Zalesovo Beam**	**36.11**	**303**	P		**P**		**11 27 25.9**	**+0.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=69,slow=8.1,SNR=4.5								
ZALV				LR		LR		11 43 11.7	
	comp=Z,31nm,19.2s,MS3.1,baz=288,slow=38								
ZALV	**Zalesovo Beam**	**36.11**	**303**	P		**P**		**11 27 25.9**	**+0.4**
ZALV				LR		LR		11 43 11.7	
ZAL	**Zalesovo**	**36.13**	**303**	P		**P**		**11 27 25.9**	**+0.3**
MK31	**Makanchi Array**	**39.83**	**293**	*e*P		**P**		**11 27 56.9**	**0.0**
MKAR	**Makanchi Array**	**39.83**	**293**	P		**P**		**11 27 56.7**	**-0.2**
	comp=Z,1.7nm,0.7s,mb3.9,baz=79,slow=8.9,SNR=16								
KURK	**Kurchatov**	**40.67**	**300⇑**	*e*P		**P**		**11 28 03.4**	**-0.4**
KURK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb3.8								
COLA	**College**	**40.92**	**38⇓**	*e*P		**P**		**11 28 06.0**	**+0.3**
EGAK	**Eagle**	**43.74**	**37**	*e*P		**P**		**11 28 28.2**	**-0.5**
	comp=Z,5.9nm,0.8s,mb4.4								
BVAR	**Borovoye Array**	**44.61**	**305**	P		**P**		**11 28 35.6**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.7,baz=72,slow=4.8,SNR=4.3								
OBN	**Obninsk**	**60.55**	**320**	*e*P		**P**		**11 30 32.6**	**-1.1**
OBN				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
SOC	**Sochi**	**66.71**	**309**	*i* P		**P**		**11 31 05.9**	**-8.7**
WRA	**Warramunga Arr**	**66.78**	**188**	P		**P**		**11 31 14.6**	**-0.5**
	comp=Z,1.2nm,1.1s,mb3.8,baz=2.1,slow=7.0,SNR=5.3								
AKASG	**Malin Array Be**	**66.81**	**320**	P		**P**		**11 31 12.8**	**-2.4**
	comp=Z,0.4nm,0.2s,mb4.0,baz=40,slow=6.5,SNR=7.5								
NVAR	**Mina Array Bea**	**69.11**	**56**	P		**P**		**11 31 30.0**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=58,slow=32,SNR=7.8								
ASAR	**Alice Springs**	**70.51**	**188**	P		**P**		**11 31 38.5**	**+0.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=1.0,slow=4.5,SNR=12								
PDAR	**Pinedale Array**	**70.76**	**48**	P		**P**		**11 31 39.5**	**-0.3**
	comp=Z,0.6nm,0.9s,mb3.5,baz=29,slow=3.4,SNR=4.4								
VRAC	**Vranov**	**73.09**	**326**	LR		LR		12 05 48.5	
	comp=Z,54nm,18.7s,MS3.9,baz=86,slow=37								

JMA 09 11:31:04.8±0.5, 4693N×14175E, h1km, M3.5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.62**	**176**	P			Pn	11 31 34.5	+0.1
JWK2				*e*S			Sn	11 31 55.6	-0.3
JRR	**Rishiri**	**1.82**	**190**	P			Pn	11 31 37.6	+0.4
JRR				*e*S			Sn	11 32 02.1	+1.3
JSE	**Soyaes**	**2.06**	**163**	P			Pn	11 31 40.2	-0.2
ASAJ	**Asahikawa**	**2.88**	**168**	P			Pn	11 31 52.5	+0.8
JTKR	**Abashiri--Toko**	**3.33**	**152**	P			Pn	11 31 57.1	-0.8

GUC 09 11:50:08.8±0.5, 3498S×7042W, h20km±3km, MD3.6, ML2.3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.66**	**0**	*e*P			Pb	11 50 21.2	-0.3
CICH				*i* S			Sb	11 50 31.1	+0.9
CACH	**El Canelo**	**0.87**	**350**	*e*P			Pb	11 50 24.9	-0.3
CACH				*i* S			Sb	11 50 37.1	+0.7
LMEL	**Las Melosas**	**1.14**	**9**	*e*P			Pn	11 50 29.9	+0.3
LMEL				*i* S			Sb	11 50 46.1	+1.9
LNV	**Longovilo**	**1.31**	**321**	*e*P			Pn	11 50 32.5	+0.6
LNV				*i* S			Sn	11 50 50.2	+1.5
RCDM	**Rinconada Maip**	**1.52**	**348**	*e*P			Pn	11 50 35.8	+1.0
RCDM				*i* S			Sn	11 50 56.2	+2.3
RCDM				AML			AML	11 51 04.8	
	comp=E,75nm,0.6s								

*NIED **09** 12:00:00, 3260N×14130E, h38km, Mw4.0 Best double couple: M0 1.04000×10^15 NP1:φs 308.00000°, δ81.00000°, λ72.00000°. NP2:φs 192.00000°, δ20.00000°, λ153.00000°.*
*ISCJB **09** 12:00:18.8±0.7, 3233N±004×1414E±0.1, h33km, mb3.8/3, Error ellipse: s-maj=13.7km s-min=4.6km az=159.8*
*IDC **09** 12:00:19.8±1.5, 3195N×14033E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/32, Error ellipse: s-maj=59.9km s-min=14.1km az=74.0*
*JMA **09** 12:00:20.0±0.3, 3258N×14133E, h13km, M3.6*

ISC 09 12:00:21.0±0.7, 3237N±004×1414E±0.1, h35km, n15, σ1§07/23, mb3.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.51**	**300**	P			**Pn**	**12 00 44.9**	**-0.6**
JHJ	**Hachijo jima 2**	**1.54**	**300**	Pn			**Pn**	**12 00 44.8**	**-1.1**
	56nm,0.3s,baz=164,slow=16,SNR=60								
JHJ				Sn			**Sn**	**12 01 02.5**	**-2.2**
	79nm,0.3s,baz=270,slow=20,SNR=8.6								
BSO1	**Boso 1**	**2.31**	**352**	P			**Pn**	**12 00 55.5**	**-0.9**
BSO1				*e*S			**Sn**	**12 01 22.6**	**-1.0**
BSO3	**Boso 3**	**2.54**	**344**	P			**Pn**	**12 00 58.5**	**-1.1**
JKO	**Kozu shima**	**2.61**	**315**	P			**Pn**	**12 01 00.4**	**-0.3**
JKO				*e*S			**Sn**	**12 01 33.3**	**+2.1**
JOD2	**Odawara 2**	**3.46**	**327**	P			**Pn**	**12 01 13.5**	**+1.2**
JOD2				*e*S			**Sn**	**12 01 52.1**	**0.0**
JRY	**Ryogami san**	**4.18**	**331**	P			**Pn**	**12 01 23.8**	**+1.6**
JRY				*e*S			**Sn**	**12 02 10.8**	**+1.0**
JAG	**Ashikaga**	**4.35**	**339**	P			**Pn**	**12 01 24.9**	**+0.3**
JAG				*e*S			**Sn**	**12 02 11.5**	**-2.5**
MJAR	**Matsushiro Arr**	**4.92**	**329**	Pn			**Pn**	**12 01 33.2**	**+0.9**
	1.8nm,0.3s,baz=155,slow=10,SNR=11								
MJAR				Sn			**Sn**	**12 02 32.6**	**+4.5**
	1.6nm,0.3s,baz=290,slow=3.0,SNR=4.5								
MAT	**Matsushiro**	**4.92**	**329**	P			**Pn**	**12 01 33.4**	**+1.0**
MAT				S			**Sn**	**12 02 28.4**	**+0.3**
CBIJ	**Chichi jima**	**5.30**	**172**	Pn			**Pn**	**12 01 37.8**	**+0.2**
	6.2nm,0.3s,baz=306,slow=18,SNR=3.1								
CBIJ				Sn			**Sn**	**12 02 36.9**	**-0.5**
	8.1nm,0.3s,baz=322,slow=18,SNR=3.5								
DAV	**Davao City (W)**	**29.15**	**214**	LR			LR	12 15 13.9	
	comp=Z,47nm,19.4s,baz=208,slow=32								
MKAR	**Makanchi Array**	**46.70**	**306**	P			**P**	**12 08 46.7**	**+0.5**
	0.7nm,0.6s,mb3.8,baz=91,slow=9.3,SNR=8.4								
WRA	**Warramunga Arr**	**52.45**	**188**	P			**P**	**12 09 30.6**	**+0.5**
	1.4nm,0.7s,mb4.0,baz=6.7,slow=7.8,SNR=8.7								
ASAR	**Alice Springs**	**56.17**	**188**	P			**P**	**12 09 57.2**	**0.0**
	0.3nm,0.6s,mb3.5,baz=16,slow=6.9,SNR=3.1								

*NIED **09** 12:03:00, 2730N×12670E, h5km, Mw4.4 Best double couple: M0 4.44000×10^15 NP1:φs 111.00000°, δ88.00000°, λ-54.00000°. NP2:φs 203.00000°, δ36.00000°, λ-177.00000°.*
*JMA **09** 12:03:19.8±0.3, 2734N×12665E, h19km±4km, M3.6*
*IDC **09** 12:03:20.4±0.9, 2757N×12698E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/22, mbtmp3.8/6, MS3.5/7, Ms1 3.6/7, ms1mx3.3/33, Error ellipse: s-maj=46.0km s-min=14.4km az=48.0*
*NEIC **09** 12:03:21.8±0.7, 2760N×12703E, h10km, MG4.5(JMA), Error ellipse: s-maj=36.7km s-min=10.7km az=51.0*
*ISCJB **09** 12:03:22.6±0.6, 2726N±005×12670E±005, h33km, mb3.8/6, MS3.5/4, Error ellipse: s-maj=8.1km s-min=5.7km az=40.1*

ISC 09 12:03:23.8±0.6, 2721N±005×12675E±006, h35km, n20, σ1§02/20, mb3.8/6, MS3.5/4, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.76**	**144**	P			**Pn**	**12 03 36.7**	**-1.4**
JAGN				S			**Sn**	**12 03 48.5**	**+0.2**
JKE	**Kume jima 2**	**0.88**	**178**	P			**Pn**	**12 03 38.2**	**-1.5**
JKE				*e*S			**Sn**	**12 03 51.2**	**-0.1**
JIH	**Iheya**	**1.10**	**99**	P			**Pn**	**12 03 41.3**	**-1.5**
JIH				*e*S			**Sn**	**12 03 56.7**	**0.0**
NAH1	**Naha**	**1.31**	**140**	P			**Pn**	**12 03 45.7**	**+0.1**
NAH1				*e*S			**Sn**	**12 04 04.1**	**+2.2**
JJT2	**Tamagusuku 2**	**1.39**	**140**	P			**Pn**	**12 03 47.2**	**+0.4**
JOW	**Kunigami**	**1.41**	**105**	P			**Pn**	**12 03 46.3**	**-0.8**
JOW				*e*S			**Sn**	**12 04 05.5**	**+1.0**
JOW	**Kunigami**	**1.41**	**105**	Pn			**Pn**	**12 03 46.5**	**-0.6**
	49nm,0.3s,baz=307,slow=8.6,SNR=42								
JOW				Sn			**Sn**	**12 04 07.3**	**+2.9**
	153nm,0.3s,baz=133,slow=19,SNR=22								
JTK	**Tokunoshima**	**2.04**	**73**	P			**Pn**	**12 03 54.7**	**-1.0**
KSRS	**Korea Array**	**10.26**	**5**	LR			LR	12 09 52.7	
	comp=Z,220nm,19.6s,baz=184,slow=40								
JHJ	**Hachijo jima 2**	**12.72**	**59**	LR			LR	12 10 48.4	
	comp=Z,208nm,18.1s,baz=278,slow=36								
CBIJ	**Chichi jima**	**13.75**	**87**	LR			LR	12 10 39.9	
	comp=Z,118nm,20.0s,baz=141,slow=32								
SONM	**Songino Array**	**26.02**	**328**	P			**P**	**12 08 54.3**	**+0.9**
	3.1nm,0.9s,mb3.8,baz=140,slow=10,SNR=12								
SONM				LR			LR	12 20 06.3	
	comp=Z,146nm,19.6s,MS3.5,baz=337,slow=39								
CMAR	**Chiang Mai Arr**	**27.02**	**257**	LR			LR	12 21 15.5	
	comp=Z,154nm,18.6s,MS3.6,baz=132,slow=39								
PETK	**Petropavlovsk-**	**34.58**	**33**	LR			LR	12 26 01.2	
	comp=Z,41nm,18.0s,MS3.2,baz=117,slow=40								
MKAR	**Makanchi Array**	**39.89**	**311**	P			**P**	**12 10 54.4**	**+0.2**
	1.0nm,0.5s,mb3.8,baz=101,slow=8.7,SNR=9.3								
ZALV	**Zalesovo Beam**	**40.67**	**323**	P			**P**	**12 11 00.8**	**+0.3**
	0.8nm,0.4s,mb3.7,baz=95,slow=9.1,SNR=4.8								
WRA	**Warramunga Arr**	**47.45**	**170**	P			**P**	**12 12 00.3**	**+5.1**
	0.8nm,0.8s,mb3.7,baz=352,slow=8.6,SNR=5.2								
BVAR	**Borovoye Array**	**48.66**	**318**	P			**P**	**12 12 04.9**	**+0.6**
	1.6nm,0.6s,mb4.2,baz=87,slow=6.4,SNR=6.6								
ASAR	**Alice Springs**	**51.05**	**172**	P			**P**	**12 12 26.6**	**+4.0**
	0.7nm,0.6s,mb3.8,baz=1.3,slow=15,SNR=8.0								
NOA	**NORSAR Array B**	**77.85**	**333**	LR			LR	12 52 41.1	
	comp=Z,46nm,19.3s,MS3.8,baz=15,slow=38								

*THE **09** 12:13:17.1, 3561N×2169E, h31km, ML3.5*
*CSEM **09** 12:13:17.1, 3561N×2169E, h31km, ML3.5, After THE*
*NEIC **09** 12:13:17.1, 3561N×2169E, h31km, MD3.6(ATH), ML3.5(THE), After THE.*
*ATH **09** 12:13:33.9, 3636N×2331E, h21km±4km, MD3.6/5*

ISC 09 12:13:15.9±1.7, 3569N±008×217E±01, h10km, n11, σ1§05/16, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.21**	**60**	*e*PB			**Pn**	**12 13 39.5**	**+0.6**
VLI	**Veliai**	**1.42**	**43**	*e*PB			**Pn**	**12 13 43.0**	**+1.3**
VLI				*e*SB			**Sn**	**12 13 50.5**	**-10**
ITM	**Ithomi**	**1.50**	**6**	*e*PN			**Sn**	**12 14 00.5**	**-1.9**
KARN	**Karanos**	**1.80**	**98**	*e*Pb			**Pn**	**12 13 45.9**	**-1.1**
KARN				*e*Sb			**Sn**	**12 14 08.4**	**-1.6**
VAM	**Vamos**	**2.03**	**97**	*e*PN			**Pg**	**12 13 57.0**	**+2.2**
DID	**Didima**	**2.18**	**33**	*e*Pn			**Pn**	**12 13 52.5**	**+0.2**
DID				*e*Sn			**Sn**	**12 14 19.6**	**+0.3**
LTK	**Loutraki**	**2.53**	**23**	*e*Pn			**Pn**	**12 13 58.1**	**+1.1**
LKR	**Lokris**	**3.13**	**18**	*e*Pn			**Pn**	**12 14 04.9**	**-0.3**
LKR				*e*Sn			**Sn**	**12 14 42.8**	**+0.2**
LKD	**Levkas**	**3.14**	**344**	*e*Pn			**Pn**	**12 14 04.6**	**-0.7**
APE	**Apeiranthos**	**3.36**	**65**	*e*PN			**Pn**	**12 14 07.5**	**-0.9**
AGG	**Agios Georgios**	**3.36**	**8**	*e*Pn			**Pn**	**12 14 09.2**	**+0.8**
AGG				*e*Sn			**Sn**	**12 14 48.5**	**+0.1**

*ISCJB **09** 12:51:57.9±4.3, 3057S±008×1782W±02, h23km±33km, mb4.0/3, Error ellipse: s-maj=32.1km s-min=8.8km az=17.8*
*IDC **09** 12:52:01.0±4.6, 3051S×178.18W, h33km±36km, mb3.9/3, mb1 4.0/4, mb1mx3.7/15, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=50.4km s-min=18.3km az=119.0*

ISC 09 12:52:00.3±4.5, 3051S±007×1782W±02, h30km±35km, n10, σ0§86/9, mb4.0/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.27**	**9**	Pn			**Pn**	**12 52 23.1**	**+1.1**
	413nm,0.3s,baz=291,slow=21,SNR=40								
RAO				Sn			**Sn**	**12 52 37.4**	**-0.7**
	425nm,0.3s,baz=90,slow=20,SNR=6.3								
URZ	**Urewera**	**8.67**	**206**	Pn			**Pn**	**12 54 02.5**	**-1.1**
	0.4nm,0.3s,baz=318,slow=23,SNR=6.5								
URZ				Sn			**Sn**	**12 55 40.6**	**+0.3**
	2.3nm,0.3s,baz=111,slow=21,SNR=10.0								
STKA	**Stephens Creek**	**34.33**	**257**	P			**P**	**12 58 46.0**	**+1.7**
	5.2nm,0.7s,mb4.6,baz=86,slow=8.1,SNR=12								
ASAR	**Alice Springs**	**42.98**	**267**	P			**P**	**12 59 56.4**	**-0.6**
	0.4nm,0.5s,mb3.4,baz=102,slow=8.4,SNR=9.7								
WRA	**Warramunga Arr**	**43.98**	**272**	P			**P**	**13 00 04.3**	**-0.8**
	1.2nm,0.3s,mb4.1,baz=111,slow=8.1,SNR=58								
VNA3	**Neumayer Olymp**	**78.20**	**176**	*e*			**P**	**13 03 56.4**	**-0.1**
VNA3				*e*				13 04 02.7	
VNA2	**Neumayer--Watz**	**78.64**	**177**	*e*			**P**	**13 03 59.1**	**+0.2**
VNA2				*e*				13 04 04.4	
NB2	**NORSAR Subarra**	**148.84**	**351**	PKP			PKPbc	13 11 45.4	+1.2
	comp=Z,0.1nm,0.5s,baz=32,slow=2.9								
NOA	**NORSAR Array B**	**148.84**	**351**	PKPbc			PKPbc	13 11 45.5	+1.3
	comp=Z,0.6nm,0.6s,baz=12,slow=4.2,SNR=4.3								
HFS	**Hagfors**	**149.33**	**348**	PKPbc			PKPbc	13 11 43.3	-2.2
	comp=Z,2.4nm,0.9s,baz=29,slow=3.4,SNR=3.0								

*CSEM **09** 12:55:11.7, 3624N×2255E, h28km, MD3.6, After ATH*

ATH 09 12:55:11.6, 3623N×2254E, h27km, MD3.6/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.40**	**83**	*e*PB			Pb	12 55 20.5	+0.2
VLI	**Veliai**	**0.58**	**33**	*e*PN			Pn	12 55 23.7	-0.4
ITM	**Ithomi**	**1.07**	**333**	*e*PN			Pn	12 55 32.1	+1.3
VAM	**Vamos**	**1.58**	**121**	*e*PN			Pn	12 55 40.0	+2.2

*ISCJB **09** 13:06:50.7±0.2, 4934N±001×675E±002, h0km, Error ellipse: s-maj=2.2km s-min=1.8km az=7.3*
*NEIC **09** 13:06:52.6, 4936N×680E, h1km, ML2.8(STR), ML3.2(LDG), After STR.*
*STR **09** 13:06:52.

THEF	**They Montfort**	**1.25 205**	Pg	**Pg**	**13 07 16.4**	**+0.6**
THEF			Sg	**Sg**	**13 07 33.3**	**+1.4**
THEF	**They Montfort**	**1.25 205**	*e*Pg	**Pg**	**13 07 17.0**	**+1.2**
	SNR=12					
THEF	**They Montfort**	**1.25 205**	Pg	**Pg**	**13 07 17.0**	**+1.2**
	SNR=12					
THEF			Sg	**Sg**	**13 07 33.3**	**+1.4**
MEM	**Membach**	**1.35 339**	P	**Pg**	**13 07 18.3**	**+0.6**
TOD	**Tromm**	**1.35 79**	*e*Pg	**Pg**	**13 07 17.5**	**-0.3**
	SNR=10					
TOD	**Tromm**	**1.35 79**	Pg	**Pg**	**13 07 17.1**	**-0.7**
HAU	**Haudompre**	**1.38 192**	*e*Pg	**Pg**	**13 07 19.4**	**+1.0**
HAU			*e*Sn	**Sn**	**13 07 36.3**	**-1.1**
	SNR=1.0					
HAU			*e*Sg	**Sg**	**13 07 37.5**	**+1.2**
	77nm,0.3s					
HAU	**Haudompre**	**1.38 192**	*e*Pg	**Pg**	**13 07 19.4**	**+1.0**
HAU			*e*Sn	**Sn**	**13 07 36.3**	**-1.1**
	SNR=1.0					
HAU			*e*Sg	**Sg**	**13 07 37.5**	**+1.2**
	39nm,0.3s					
HAU	**Haudompre**	**1.38 192**	*e*Pn	**Pn**	**13 07 18.3**	**-0.2**
HAU			*e*Pg	**Pg**	**13 07 19.4**	**+1.0**
HAU			*e*Sn	**Sn**	**13 07 36.3**	**-1.1**
HAU			*e*Sg	**Sg**	**13 07 37.5**	**+1.2**
TNS	**Taunus Mts**	**1.39 51**	*e*Pg	**Pg**	**13 07 17.0**	**-1.5**
TNS			*e*Sg	**Sg**	**13 07 36.3**	**-0.2**
TNS	**Taunus Mts**	**1.39 51**	Pg	**Pg**	**13 07 17.0**	**-1.6**
TNS			Sg	**Sg**	**13 07 36.3**	**-0.3**
TNS	**Taunus Mts**	**1.39 51**	*e*Pg	**Pg**	**13 07 17.0**	**-1.6**
TNS			*e*Sg	**Sg**	**13 07 36.3**	**-0.3**
MEZF	**Maizieres J'vi**	**1.42 234**	*e*Pg	**Pg**	**13 07 20.4**	**+1.2**
	baz=54,SNR=1.0					
MEZF			*e*Sn	**Sn**	**13 07 37.8**	**-0.6**
	SNR=1.0					
MEZF			*e*Sg	**Sg**	**13 07 39.6**	**+2.0**
	35nm,0.3s,SNR=1.0					
MEZF	**Maizieres J'vi**	**1.42 234**	*e*Pg	**Pg**	**13 07 20.4**	**+1.2**
	SNR=1.0					
MEZF			*e*Sn	**Sn**	**13 07 37.8**	**-0.6**
	SNR=1.0					
MEZF			*e*Sg	**Sg**	**13 07 39.6**	**+2.0**
	17nm,0.3s,SNR=1.0					
BFO	**Black Forest**	**1.46 134**	*e*Pg	**Pg**	**13 07 19.1**	**-0.8**
	SNR=13					
BFO			*e*Sg	**Sg**	**13 07 38.9**	**+0.2**
	SNR=5.9					
BFO	**Black Forest**	**1.46 134**	*e*Pg	**Pg**	**13 07 19.0**	**-0.9**
BFO			*e*Sg	**Sg**	**13 07 39.0**	**+0.3**
GIVF	**Givet**	**1.47 301**	*e*Pg	**Pg**	**13 07 20.0**	**-0.1**
	SNR=1.0					
GIVF			*e*Sn	**Sn**	**13 07 38.6**	**-0.9**
	58nm,0.5s,SNR=1.0					
GIVF	**Givet**	**1.47 301**	*e*Pg	**Pg**	**13 07 20.0**	**-0.1**
	SNR=1.0					
GIVF			*e*Sn	**Sn**	**13 07 38.6**	**-0.9**
	29nm,0.5s,SNR=1.0					
GIVF	**Givet**	**1.47 301**	*e*Pn	**Pn**	**13 07 19.0**	**-0.6**
GIVF			*e*Pg	**Pg**	**13 07 20.0**	**-0.1**
GIVF			*e*Sn	**Sn**	**13 07 38.6**	**-0.9**
HGN	**Heimansgroeve**	**1.51 339**	*e*Pg	**Pg**	**13 07 20.7**	**-0.1**
HGN			*e*Sg	**Sg**	**13 07 40.8**	**+0.4**
HGN	**Heimansgroeve**	**1.51 339**	*e*Rg		13 08 06.9	
MOF	**Molkenrain**	**1.53 171**	Pg	**Pg**	**13 07 21.7**	**+0.5**
MOF			Sg	**Sg**	**13 07 42.2**	**+1.2**
MOF	**Molkenrain**	**1.53 171**	*e*Pg	**Pg**	**13 07 21.8**	**+0.6**
	SNR=20					
MOF	**Molkenrain**	**1.53 171**	Pg	**Pg**	**13 07 21.8**	**+0.6**
	SNR=20					
MOF			Sg	**Sg**	**13 07 42.2**	**+1.2**
HINF	**Hinteralfeld**	**1.54 178**	*e*Pg	**Pg**	**13 07 22.0**	**+0.5**
	SNR=1.0					
HINF			*e*Sg	**Sg**	**13 07 42.4**	**+0.9**
	132nm,0.3s					
HINF	**Hinteralfeld**	**1.54 178**	*e*Pg	**Pg**	**13 07 22.0**	**+0.5**
	SNR=1.0					
HINF			*e*Sg	**Sg**	**13 07 42.4**	**+0.9**
	66nm,0.3s					
DOU	**Dourbes**	**1.59 298**	P	**Pn**	**13 07 22.1**	**+0.7**
DOU	**Dourbes**	**1.59 298**	P	**Pn**	**13 07 22.0**	**+0.6**
SFTF	**Sexfontaines**	**1.63 225**	*e*Pg	**Pg**	**13 07 23.1**	**0.0**
HOBG	**Hohbusch**	**1.67 12**	*e*Pg	**Pg**	**13 07 23.0**	**-0.9**
FELD	**Feldberg im Sc**	**1.69 151**	*e*Pg	**Pg**	**13 07 24.5**	**+0.1**
	SNR=7.5					
FELD	**Feldberg im Sc**	**1.69 151**	Pg	**Pg**	**13 07 24.8**	**+0.4**
FELD			Sg	**Sg**	**13 07 47.3**	**+0.9**
BAIF	**Baives**	**1.81 294**	*e*Pg	**Pg**	**13 07 27.4**	**+0.9**
BAIF			*e*Sg	**Sg**	**13 07 51.3**	**+1.4**
	34nm,0.6s					
BAIF	**Baives**	**1.81 294**	*e*Pg	**Pg**	**13 07 27.4**	**+0.9**
BAIF			*e*Sg	**Sg**	**13 07 51.3**	**+1.4**
	17nm,0.6s					
BAIF	**Baives**	**1.81 294**	*e*Pn	**Pn**	**13 07 25.0**	**+0.7**
BAIF			*e*Pg	**Pg**	**13 07 27.4**	**+0.9**
BAIF			*e*Sg	**Sg**	**13 07 51.3**	**+1.4**
SPAK	**Spaichingen-Ko**	**1.83 133**	*e*Pg	**Pg**	**13 07 27.4**	**+0.3**
	SNR=3.5					
SLE	**Schleitheim**	**1.96 144**	*e*Pg	**Pg**	**13 07 29.8**	**+0.2**
	SNR=6.9					
SLE			*e*Sn	**Sn**	**13 07 49.5**	**-2.3**
	SNR=1.5					
UBBA	**Unterbreizbach**	**2.54 54**	*e*Sg	**Sg**	**13 08 11.6**	**-2.0**
CABF	**La Chapelle**	**2.79 190**	*e*Pg	**Pg**	**13 07 46.5**	**+1.2**
	SNR=1.0					
CABF			*e*Sg	**Sg**	**13 08 22.3**	**+0.8**
	22nm,0.5s					
CABF	**La Chapelle**	**2.79 190**	*e*Pg	**Pg**	**13 07 46.5**	**+1.2**
	SNR=1.0					
CABF			*e*Sg	**Sg**	**13 08 22.3**	**+0.8**
	11nm,0.5s					
CABF	**La Chapelle**	**2.79 190**	*e*Pn	**Pn**	**13 07 36.9**	**-0.9**
CABF			*e*Pg	**Pg**	**13 07 46.5**	**+1.2**
CABF			*e*Sg	**Sg**	**13 08 22.3**	**+0.8**
LOR	**Lormes**	**2.85 224**	*e*Pn	**Pn**	**13 07 37.9**	**-0.8**
	baz=43,SNR=1.0					
LOR			*e*Sn	**Sn**	**13 08 11.1**	**-2.6**
	SNR=1.0					
LOR			*e*Sg	**Sg**	**13 08 23.6**	**0.0**
	15nm,0.3s,baz=52,SNR=1.0					
LOR	**Lormes**	**2.85 224**	*e*Pn	**Pn**	**13 07 37.9**	**-0.8**
	SNR=1.0					
LOR			*e*Sn	**Sn**	**13 08 11.1**	**-2.6**
	SNR=1.0					
LOR			*e*Sg	**Sg**	**13 08 23.6**	**0.0**
	7.3nm,0.3s,SNR=1.0					
SSF	**Saint Saulge**	**3.17 225**	*e*Pn	**Pn**	**13 07 41.9**	**-1.1**
	SNR=1.0					
SSF			*e*Sn	**Sn**	**13 08 20.1**	**-1.4**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**13 08 33.9**	**+0.2**
	11nm,0.4s,SNR=1.0					
SSF	**Saint Saulge**	**3.17 225**	*e*Pn	**Pn**	**13 07 41.9**	**-1.1**
	SNR=1.0					
SSF			*e*Sn	**Sn**	**13 08 20.1**	**-1.4**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**13 08 33.9**	**+0.2**
	5.3nm,0.4s,SNR=1.0					
SMF	**Signal de Mont**	**3.35 217**	*e*Pn	**Pn**	**13 07 45.0**	**-0.5**
SMF			*e*Sn	**Sn**	**13 08 23.6**	**-2.4**
	SNR=1.0					
SMF			*e*Sg	**Sg**	**13 08 39.3**	**-0.3**
	21nm,0.6s					
SMF	**Signal de Mont**	**3.35 217**	*e*Pn	**Pn**	**13 07 45.0**	**-0.5**
SMF			*e*Sn	**Sn**	**13 08 23.6**	**-2.4**
	SNR=1.0					
SMF			*e*Sg	**Sg**	**13 08 39.3**	**-0.3**
	10nm,0.6s					
AVF	**Avril sur Loir**	**3.44 223**	*e*Pn	**Pn**	**13 07 45.9**	**-0.9**
	SNR=1.0					
AVF			*e*Sn	**Sn**	**13 08 25.9**	**-2.3**
	SNR=1.0					
AVF			*e*Sg	**Sg**	**13 08 42.7**	**+0.2**
	8.3nm,0.4s,SNR=1.0					
AVF	**Avril sur Loir**	**3.44 223**	*e*Pn	**Pn**	**13 07 45.9**	**-0.9**
	SNR=1.0					
AVF			*e*Sn	**Sn**	**13 08 25.9**	**-2.3**
	SNR=1.0					
AVF			*e*Sg	**Sg**	**13 08 42.7**	**+0.2**
	4.2nm,0.4s,SNR=1.0					
GUNZ	**Gunzen**	**3.74 72**	*e*Pg	**Pg**	**13 08 02.6**	**-0.9**
	SNR=1.9					
LPL	**La Plagne**	**3.84 180**	*e*Pg	**Pg**	**13 08 04.9**	**-0.7**
BGF	**Bois d'Agland**	**3.85 225**	*e*Pn	**Pn**	**13 07 52.5**	**+0.2**
	SNR=1.0					
BGF			*e*Sn	**Sn**	**13 08 36.7**	**-1.5**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**13 08 55.3**	**-0.2**
	28nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**3.85 225**	*e*Pn	**Pn**	**13 07 52.5**	**+0.2**
	SNR=1.0					
BGF			*e*Sn	**Sn**	**13 08 36.7**	**-1.5**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**13 08 55.3**	**-0.2**
	14nm,0.4s,SNR=1.0					
CLL	**Collm**	**4.44 62**	*e*Sg	**Sg**	**13 09 17.0**	**+2.4**
ORIF	**Oris-en-Rattie**	**4.48 188**	*e*Sg	**Sg**	**13 09 15.4**	**-0.5**
	5.1nm,0.4s,SNR=1.0					
ORIF	**Oris-en-Rattie**	**4.48 188**	*e*Sg	**Sg**	**13 09 15.4**	**-0.5**
	2.5nm,0.4s,SNR=1.0					
GEC2	**GERESS Array S**	**4.58 94**	*e*Pn	**Pn**	**13 08 02.8**	**+0.4**
	SNR=6.8					
GEC2	**GERESS Array S**	**4.58 94**	*e*Pn	**Pn**	**13 08 02.2**	**-0.3**
GEC2	**GERESS Array S**	**4.58 94**	*e*Pn	**Pn**	**13 08 02.1**	**-0.3**
LDF	**La Druitiere**	**4.60 263**	*e*Pn	**Pn**	**13 08 01.9**	**-0.8**
VIVF	**Saint-Julien-l**	**4.73 198**	*e*Pn	**Pn**	**13 08 03.4**	**-1.0**
GRR	**Gorron**	**5.13 262**	*e*Pn	**Pn**	**13 08 09.2**	**-0.7**
CAF	**Calviac**	**5.47 218**	*e*Pn	**Pn**	**13 08 14.6**	**-0.1**
	SNR=1.0					

*ISCJB **09** 13:42:23.6±0.9, 3380N∧004×3583E±009, h0km, Error ellipse: s-maj=11.5km s-min=4.6km az=165.1*
*GRAL **09** 13:42:23.0±0.3, 3376N×3560E, h21km±2km, MD2.8*
*GII **09** 13:42:23.4±1.3, 3379N×3577E, h0km, EXPLOSION*
*CSEM **09** 13:42:23.0, 3376N×3560E, h20km, ML2.8, After GRAL*

ISC 09 13:42:24.0±0.9, 3380N±004×3582E±009, h0km, n14, σ0s76/18, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.17**	**306**	*i* P	**Pg**	**13 42 27.3**	**0.0**
BHL				*e*Sg	**Sg**	**13 42 30.4**	**+0.9**
RCY	**Rachaya**	**0.32**	**180**	*i* Pg	**Pg**	**13 42 29.8**	**-0.4**
RCY				*e*Sg	**Sg**	**13 42 34.7**	**+0.4**
HWQ	**Hawqa**	**0.48**	**12**	*e*Pg	**Pg**	**13 42 33.7**	**+0.4**
HRI	**Mount Hermon**	**0.54**	**188**	Pg	**Pg**	**13 42 34.4**	**0.0**
KSHT	**Keshet**	**0.82**	**181**	Pg	**Pg**	**13 42 39.6**	**-0.1**
KSHT				Sg	**Sg**	**13 42 52.7**	**+2.3**
MMA1	**Mount Meron ar**	**0.86**	**204**	Pg	**Pg**	**13 42 40.0**	**-0.4**
MMA0	**Mount Meron ar**	**0.86**	**204**	Pg	**Pg**	**13 42 40.0**	**-0.5**
MMA2	**Mount Meron ar**	**0.86**	**204**	Pg	**Pg**	**13 42 40.0**	**-0.5**
MMC4	**Mount Meron ar**	**0.86**	**203**	Pg	**Pg**	**13 42 40.5**	**0.0**
OFRI	**'Ofer**	**1.37**	**211**	Pn	**Pn**	**13 42 49.0**	**-1.4**
OFRI				Sn	**Sn**	**13 43 09.1**	**-0.2**
MMLI	**Mount Malkishu**	**1.40**	**194**	Pn	**Pn**	**13 42 49.7**	**-1.1**
HMDT	**Nahal Hemdat**	**1.57**	**189**	Sn	**Sn**	**13 43 14.9**	**+0.8**
SLTI	**Sal'it**	**1.69**	**203**	Pn	**Pn**	**13 42 55.4**	**+0.6**
DSI	**Dead Sea**	**2.26**	**190**	Pn	**Pn**	**13 43 02.4**	**-0.2**

*ISCJB **09** 13:43:03.6±0.8, 1045S±006×123.16E±006, h65km±11km, mb3.4/2, Error ellipse: s-maj=11.7km s-min=8.2km az=135.7*
*IDC **09** 13:43:06.1±2.6, 1028S×12342E, h59km±28km, mb3.2/2, mb1 3.7/5, mb1mx3.5/16, mbtmp3.5/5, ML3.8/3, MS3.8/1, Ms1 3.8/1, ms1mx3.0/11, Error ellipse: s-maj=87.8km s-min=17.8km az=79.0*
*NEIC **09** 13:43:08.6±3.0, 1038S×12348E, h91km±37km, Error ellipse: s-maj=29.4km s-min=20.5km az=170.0*

ISC 09 13:43:04.9±0.9, 1039S±006×12317E±006, h52km±13km, n11, σ1s18/14, mb3.5/2, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.52**	**69**	P	**Pn**	**13 43 16.9**	**+0.4**
	baz=256,slow=3.2						
WSI	**Waingapu**	**2.92**	**284**	*e*S	**Sn**	**13 44 22.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**8.03**	**163**	P	**Pn**	**13 45 02.5**	**+3.6**
	0.6nm,0.3s,baz=358,slow=8.8,SNR=25						
FITZ				S	**Sn**	**13 46 29.7**	**+1.4**
	2.6nm,0.3s,baz=139,slow=11,SNR=23						
KAKA	**Kakadu**	**9.37**	**105**	*e*Pn	**Pn**	**13 45 17.2**	**-0.1**
	22nm,0.5s						
MBWA	**Marble Bar**	**11.20**	**197**	*e*Pn	**Pn**	**13 45 46.6**	**+4.2**
MBWA				*e*Sn	**Sn**	**13 47 45.5**	**-0.7**
WRA	**Warramunga Arr**	**14.36**	**133**	P	**Pn**	**13 46 23.5**	**-1.8**
	0.6nm,0.3s,baz=306,slow=14,SNR=41						
WRA				S	**Sn**	**13 48 57.0**	**-6.1**
	1.6nm,0.3s,baz=296,slow=22,SNR=12						
WRAB	**Tennant Creek**	**14.36**	**133**	*e*Pn	**Pn**	**13 46 23.5**	**-1.8**
	26nm,1.4s						
ASAR	**Alice Springs**	**16.71**	**144**	P	**Pn**	**13 46 57.0**	**+1.5**
	0.6nm,0.3s,baz=319,slow=11,SNR=31						
ASAR				S	**S**	**13 49 56.2**	**-13**
	0.6nm,0.3s,baz=315,slow=21,SNR=9.4						
NWAO	**Narrogin (SRO)**	**23.08**	**193**	LR	LR	13 58 38.3	
	comp=Z,212nm,20.2s,baz=213,slow=40						
SONM	**Songino Array**	**59.85**	**347**	P	**P**	**13 53 06.0**	**+1.0**
	0.2nm,0.5s,mb3.4,baz=160,slow=5.8,SNR=2.3						
MKAR	**Makanchi Array**	**67.61**	**331**	P	**P**	**13 53 55.8**	**-0.4**
	0.3nm,0.5s,mb3.6,baz=128,slow=7.9,SNR=3.5						

IDC 09 13:59:53.0±8.0, 2234S×17517W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/17, mbtmp4.1/4, MS3.7/1, Ms1 3.7/1, ms1mx2.9/19, Error ellipse: s-maj=338.0km s-min=52.3km az=146.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.97**	**266**	LR	LR	14 18 30.6	
	comp=Z,113nm,20.2s,baz=124,slow=31						
ASAR	**Alice Springs**	**46.69**	**258**	P	P	14 08 23.1	-0.8
	1.3nm,0.8s,baz=101,slow=6.5,SNR=15						
WRA	**Warramunga Arr**	**46.98**	**263**	P	P	14 08 24.8	-1.4
	1.4nm,0.7s,baz=100,slow=7.8,SNR=13						
FITZ	**Fitzroy Crossi**	**55.41**	**263**	P	P	14 09 31.2	+1.7
	3.3nm,1.0s,baz=95,slow=11,SNR=3.3						
CMAR	**Chiang Mai Arr**	**93.20**	**289**	P	P	14 13 11.6	+1.7
	1.1nm,0.5s,baz=140,slow=6.7,SNR=4.5						
AKASG	**Malin Array Be**	**145.88**	**332**	PKPbc	PKPbc	14 19 32.2	-1.9
	0.3nm,0.3s,baz=37,slow=4.0,SNR=7.2						

IDC 09 14:18:49.2±2.6, 1877S×16949E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=122.6km s-min=41.4km az=148.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.35**	**220**	*e*P	Pn	14 20 09.7	+13
DZM				*e*S	Sn	14 20 52.2	+4.1
STKA	**Stephens Creek**	**28.30**	**237**	P	P	14 24 44.6	+0.1
	1.8nm,0.7s,baz=76,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**33.15**	**262**	P	P	14 25 27.2	-0.3
	0.3nm,0.7s,baz=92,slow=8.3,SNR=8.0						
ASAR	**Alice Springs**	**33.47**	**255**	P	P	14 25 30.6	+0.3
	2.0nm,0.4s,baz=87,slow=9.5,SNR=114						
ARCES	**ARCESS Array B**	**124.67**	**345**	PKP	PKPdf	14 37 50.2	+0.1
	2.3nm,0.9s,baz=35,slow=3.0,SNR=5.4						
GERES	**GERESS Array B**	**144.19**	**332**	PKP	PKPdf	14 38 25.9	-1.1
	0.7nm,0.5s,baz=68,slow=4.6,SNR=6.8						

FUNV 09 14:41:22.2, 1138N×7001W, h16km, MW3.7, 2C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIQV	**Siquisique**	**0.75**	**165**	‖ *i* P	Pg	14 41 35.6	-1.3
SIQV				*e*S	Sg	14 41 46.7	-0.1
DABV	**Dabajuro**	**0.77**	**234**	*e*P	Pb	14 41 35.6	-1.5
DABV				*e*S	Sg	14 41 47.5	+0.2
JACV	**Jacura**	**1.19**	**104**	*e*P	Pn	14 41 44.5	+0.3
JACV				*e*S	Sb	14 41 59.8	+0.2
QARV	**Quebrada Arrib**	**1.27**	**204**	*e*P	Pn	14 41 44.5	-0.8
QARV				*e*S	Sb	14 42 02.6	+0.7
IMOV	**Isla Los Monje**	**1.31**	**318**	‖ *e*P	Pn	14 41 45.6	-0.2
IMOV				*e*S	Sn	14 42 03.0	0.0
CURV	**Curarigua**	**1.36**	**178**	*e*P	Pn	14 41 45.9	-0.6
CURV				*e*S	Sn	14 42 04.4	+0.2
TEPV	**Terepaima**	**1.62**	**150**	*e*P	Pn	14 41 49.6	-0.4
TEPV				*e*S	Sn	14 42 10.7	+0.1
SANV	**Sanarito**	**1.92**	**166**	*e*P	Pn	14 41 54.2	-0.1
SANV				*e*S	Sn	14 42 17.1	-1.0
TURV	**Turiamo**	**2.32**	**113**	*e*P	Pn	14 41 58.4	-1.4
TURV				*e*S	Sn	14 42 25.9	-2.0
VIRV	**Villa del Rosa**	**2.51**	**250**	↑ *e*P	Pn	14 42 01.5	-0.9
VIRV				*e*S	Sn	14 42 30.6	-2.1
VIGV	**El Vigia**	**2.85**	**208**	*e*P	Pn	14 42 07.1	0.0
VIGV				*e*S	Sn	14 42 38.6	-2.5
BAUV	**El Baul**	**3.10**	**141**	*e*P	Pn	14 42 10.3	-0.1
BAUV				*e*S	Sn	14 42 44.3	-2.8
SOCV	**Socops**	**3.19**	**195**	*e*P	Pn	14 42 11.1	-0.6
SOCV				*e*S	Sn	14 42 45.9	-3.5
ORCV	**Isla La Orchil**	**3.76**	**83**	↑ *i* P	Pn	14 42 18.2	-1.4
BIRV	**Birongo**	**3.78**	**103**	‖ *e*P	Pn	14 42 18.7	-1.1
CAPV	**Capacho**	**4.17**	**213**	*e*P	Pn	14 42 24.5	-0.6
MERV	**Las Mercedes**	**4.22**	**120**	*e*P	Pn	14 42 25.0	-0.9
CUPV	**Cepira**	**4.35**	**107**	*e*P	Pn	14 42 26.9	-0.8
ELOV	**Elorza**	**4.38**	**173**	*e*P	Pn	14 42 27.0	-1.1
IBAV	**Isla La Blanqu**	**5.34**	**85**	*e*P	Pn	14 42 39.5	-1.8
PCRV	**Puerto La Cruz**	**5.41**	**102**	*e*P	Pn	14 42 40.8	-1.5
CAOV	**Caicara del Or**	**5.42**	**138**	*e*P	Pn	14 42 41.2	-1.2

*NEIC **09** 14:52:21.0, 3425N×2343E, h10km, ML3.1(ATH), ML3.7(THE), After ATH.*
*THE **09** 14:52:30.4, 3507N×2389E, h0km, ML3.7*
*ISCJB **09** 14:52:33.4±1.6, 352N±01×240E±01, h30km±8km, Error ellipse: s-maj=22.7km s-min=7.7km az=37.0*
*CSEM **09** 14:52:34.4±0.2, 3524N×2411E, h30km, ML3.7, Error ellipse: s-maj=5.5km s-min=2.3km az=29.0*
*ATH **09** 14:52:35.3, 3532N×2423E, h29km, MD3.5/4*

ISC 09 14:52:34.2±1.5, 353N±01×241E±01, h25km±8km, n16, σ0s84/17, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.18**	**36**	*e*Pb	**Pb**	**14 52 40.7**	**+1.0**
VAM				P		14 52 51.3	
SIVA	**Sivas**	**0.65**	**111**	*e*Pg	**Pb**	**14 52 44.4**	**-2.6**
SIVA				*e*Sg	**Sb**	**14 52 57.0**	**+1.3**
IDI	**Anoyia**	**0.67**	**87**	P	**Pb**	**14 52 47.5**	**+0.2**
LAST	**Lasithi**	**1.16**	**94**	P	**Pn**	**14 52 54.5**	**-0.3**
NPS	**Neapolis**	**1.26**	**89**	*e*PN	**Pn**	**14 52 56.3**	**0.0**
KYTH	**Kithira**	**1.32**	**321**	*e*PN	**Pn**	**14 53 01.0**	**+3.9**
THR6	**Thira Island,**	**1.54**	**44**	*e*Pb	**Pb**	**14 53 01.9**	**-0.1**
THR5	**Thira Island,**	**1.55**	**42**	*e*Pb	**Pb**	**14 53 01.7**	**-0.7**
THR3	**Thira Island,**	**1.58**	**43**	*e*Pb	**Pb**	**14 53 02.0**	**-0.7**
VLI	**Veliai**	**1.72**	**328**	*e*PB	**Pb**	**14 53 04.7**	**-0.5**
ZKR	**Zakros**	**1.76**	**94**	P	**Pn**	**14 53 02.9**	**-0.3**
APE	**Apeiranthos**	**2.16**	**33**	*e*Pn	**Pn**	**14 53 09.5**	**+0.9**
DID	**Didima**	**2.34**	**344**	*e*Pn	**Pn**	**14 53 11.7**	**+0.6**
KARP	**Karpathos**	**2.54**	**83**	P	**Pn**	**14 53 14.2**	**+0.3**
LTK	**Loutraki**	**2.90**	**343**	*e*Pn	**Pn**	**14 53 18.2**	**-0.6**
LKD	**Levkas**	**4.40**	**323**	*e*Pn	**Pn**	**14 53 39.8**	**+0.4**

IDC 09 14:57:39.5±6.0, 1889S×17704W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.9/17, mbtmp4.2/4, ML4.3/1, Error ellipse: s-maj=113.9km s-min=51.5km az=63.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.97**	**194**	P	Pn	15 02 13.6	-1.4
	0.8nm,0.3s,baz=356,slow=18,SNR=5.4						
STKA	**Stephens Creek**	**39.32**	**243**	P	P	15 05 09.3	-1.2
	3.2nm,1.0s,baz=105,slow=16,SNR=3.3						
WB2	**Warramunga Arr**	**45.73**	**260**	*e*P	P	15 06 03.3	+0.4
WRA	**Warramunga Arr**	**45.74**	**260**	P	P	15 06 03.6	+0.6
	1.5nm,0.3s,baz=96,slow=7.4,SNR=131						
ASAR	**Alice Springs**	**45.79**	**255**	P	P	15 06 03.2	0.0
	1.8nm,0.5s,baz=89,slow=9.6,SNR=63						
AKASG	**Malin Array Be**	**142.02**	**333**	PKP	PKPdf	15 17 11.9	-1.5
	0.4nm,0.4s,baz=43,slow=4.2,SNR=5.0						

*IDC **09** 15:02:02.6±0.5, 7905×10900E, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.3/21, mbtmp4.3/15, ML4.2/2, MS3.1/3, Ms1 3.2/3, ms1mx2.9/29, Error ellipse: s-maj=23.2km s-min=13.9km az=52.0*
*NEIC **09** 15:02:05.9±3.7, 7933S×10901E, h22km±26km, mb4.5/10, Error ellipse: s-maj=12.5km s-min=8.0km az=219.0*
NEIC Felt [III] at Cilacap and Pangandaran; [II] at Ciamis.
*DJA **09** 15:02:11, 847S×10905E, h26km, ML4.9/9*
*ISCJB **09** 15:02:13.0±0.6, 7905S±008×10913E±006, h100km±5km, mb4.3/20, Error ellipse: s-maj=14.8km s-min=7.2km az=28.3*

ISC 09 15:02:13.8±0.6, 795S±008×10911E±006, h91km±5km, n54, σ0s94/47, mb4.3/20, 1C, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**0.25**	**339**	P	**Pn**	**15 02 25.5**	**-1.6**
	0.0nm,0.0s						
BJII	**Banjamegara**	**0.86**	**44**	P	**Pn**	**15 02 33.1**	**+1.1**
	0.0nm,0.0s						
LEM	**Lembang**	**1.85**	**307**	P	**Pn**	**15 02 45.7**	**+1.6**
	0.0nm,0.0s						
LEM	**Lembang**	**1.85**	**307**	↑ *e*P	**Pn**	**15 02 44.0**	**-0.1**
SJI	**Sawahan**	**2.65**	**86**	P	**Pn**	**15 02 54.8**	**+0.2**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**2.70**	**290**	P	**Pn**	**15 02 55.5**	**+0.2**
	0.0nm,0.0s						
CBJI	**Citeko**	**2.71**	**304**	P	**Pn**	**15 02 53.9**	**-1.6**

MK31	**Makanchi Array**	59.50 339	*e*P	P	P	15 12 06.8	-0.6
MKAR	**Makanchi Array**	59.50 339	P	P	P	15 12 07.2	-0.2
	1.8nm,0.3s,mb4.5,baz=152,slow=7.5,SNR=32						
MKAR			PcP	PcP	PcP	15 12 55.4	+1.3
	1.3nm,0.7s,baz=140,slow=6.3,SNR=5.6						
EKS2	**Erkin-Say**	59.78 330	*e*P	P	P	15 12 10.1	+0.6
	1.9nm,0.7s,mb4.2						
KURK	**Kurchatov**	64.11 339	*e*P	P	P	15 12 36.9	-1.4
	2.3nm,0.4s,mb4.4						
ZALV	**Zalesovo Beam**	64.98 344	P	P	P	15 12 42.9	-1.0
	1.9nm,0.3s,mb4.3,baz=149,slow=6.3,SNR=9.9						
ZALV	**Zalesovo Beam**	64.98 344	P	P	P	15 12 42.9	-1.0
YAK	**Yakutsk**	71.58 10	*e*P	P	P	15 13 23.9	-1.0
	12nm,0.8s,mb4.8						
PETK	**Petropavlovsk-**	73.42 28	P	P	P	15 13 36.5	+0.4
	1.4nm,0.5s,mb4.0,baz=199,slow=4.0,SNR=5.1						
VNDA	**Vanda**	74.66 170	*e*P	P	P	15 13 42.9	-0.1
LSZ	**Lusaka**	79.23 256	P	P	P	15 14 10.8	+1.1
	1.2nm,0.4s,mb4.1,baz=118,slow=9.4,SNR=2.9						
BOSA	**Boshof**	80.86 242	P	P	P	15 14 19.0	+0.6
	3.1nm,0.9s,mb4.1,baz=228,slow=6.2,SNR=5.5						
AKASG	**Malin Array Be**	89.74 321	P	P	P	15 15 01.9	-0.1
	0.6nm,0.5s,mb4.0,baz=82,slow=4.8,SNR=3.6						
ARCES	**ARCESS Array B**	95.15 339	P	P	P	15 15 26.8	+0.2
	1.3nm,0.9s,mb4.4,baz=86,slow=7.9,SNR=3.8						
YKA	**Yellowknife Ar**	117.01 21	PKP	PKPdf		15 20 47.2	-0.6
	0.8nm,0.6s,baz=312,slow=0.6,SNR=4.2						
YKA	**Yellowknife Ar**	117.01 21	PKP	PKPdf		15 20 47.2	-0.6
NVAR	**Mina Array Bea**	127.70 47	PKP	PKPdf		15 21 10.2	+1.1
	0.2nm,0.4s,baz=346,slow=33,SNR=3.1						
PDAR	**Pinedale Array**	131.49 38	PKP	PKPdf		15 21 17.5	+1.4
	0.2nm,0.5s,baz=48,slow=1.3,SNR=2.5						
JCT	**Junction City**	144.88 46	*e*PKPdf	PKPdf		15 21 41.4	+0.4
MIAR	**Mount Ida**	146.30 35	*e*PKPdf	PKPdf		15 21 45.2	+1.9
BDFB	**Brasilia**	147.39 224	PKPbc	PKPbc		15 21 48.4	+0.2
	1.1nm,0.5s,baz=39,slow=25,SNR=2.7						

IDC ***09*** *15:33:52.2±5.4, 236S×14147E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/16, mbtmp3.9/4, ML4.0/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/23, Error ellipse: s-maj=217.0km s-min=25.7km az=91.0*

DJA ***09*** *15:33:59, 234S×13983E, h0km, mb4.7/2*

NEIC ***09*** *15:33:59.9±1.5, 240S×13973E, h10km, mb3.9/1, Error ellipse: s-maj=56.6km s-min=11.3km az=93.0*

ISCJB ***09*** *15:34:03.9±1.9, 249S±008×1391E±05, h33km, mb3.8/3, MS3.7/2, Error ellipse: s-maj=67.8km s-min=10.4km az=3.4*

ISC 09 15:34:11.9±2.7, 262S±008×1373E±08, h35km, n11, σ1§01/10, mb3.7/3, MS3.7/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	11.11 205		*e*P	Pn	15 36 57.9	+10
	10nm,0.6s						
WRAB	**Tennant Creek**	17.44 189		*e*Pn	Pn	15 38 14.0	+1.4
	8.4nm,0.8s						
WRAB				*e*Sn	Sn	15 41 25.4	-0.4
WB2	**Warramunga Arr**	17.45 189		*e*P	Pn	15 38 13.2	+0.5
WRA	**Warramunga Arr**	17.45 189		P	Pn	15 38 12.2	-0.5
	0.5nm,0.3s,baz=15,slow=12,SNR=34						
WRA				S	S	15 41 28.8	-4.5
	0.1nm,0.3s,baz=13,slow=22,SNR=4.7						
ASAR	**Alice Springs**	21.18 189		P	P	15 38 53.6	-0.7
	2.3nm,0.8s,mb3.6,baz=30,slow=10,SNR=28						
RPZ	**Rata Peaks**	50.70 149		LR	LR	15 59 12.9	
	comp=Z,61nm,21.3s,MS3.6,slow=31						
URZ	**Urewera**	50.81 139		LR	LR	15 59 52.2	
	comp=Z,94nm,19.0s,MS3.8,slow=32						
MK31	**Makanchi Array**	68.85 323		P	P	15 45 14.2	+1.3
MKAR	**Makanchi Array**	68.85 323		P	P	15 45 13.0	+0.1
	0.8nm,0.7s,mb3.8,baz=108,slow=7.8,SNR=9.0						
BVAR	**Borovoye Array**	78.42 325		P	P	15 46 07.1	-1.8
	0.9nm,0.6s,mb3.9,baz=111,slow=8.1,SNR=7.7						
DBIC	**Dimbokro**	142.05 277		*e*PKPbc	PKPdf	15 53 36.5	-4.9

NEIC ***09*** *15:47:30.1, 1698N×9219W, h50km, MD4.0(MEX), After MEX.*

MEX 09 15:47:30.2±1.0, 1699N×9218W, h48km±17km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	0.50 240		*i* P	Pn	15 47 40.0	-1.3
SCX				*i* S	Sn	15 47 48.0	-1.2
CCIG	**Comitan**	0.70 176		*i* P	Pn	15 47 42.3	-1.7
CCIG				*i* S	Sn	15 47 53.2	-0.7
TGIG		0.92 257		*i* P	Pn	15 47 44.2	-2.6
TGIG				*i* S	Sn	15 47 57.7	-1.3
THIG		2.07 182		*e*P	Pn	15 48 01.2	-1.4
THIG				*i* S	Sn	15 48 25.6	-1.6
SCIG	**Sabancuy**	2.18 26		*i* P	Pn	15 48 02.7	-1.4
SCIG				*i* S	Sn	15 48 29.7	-0.2
CMIG	**Matias Romero**	2.59 273		*i* P	Pn	15 48 09.8	+0.3
CMIG				*i* S	Sn	15 48 39.7	-0.1
VHO	**Vista Hermosa**	4.35 272		*e*P	Pn	15 48 33.8	0.0
VHO				*i* S	Sn	15 49 23.2	-0.2

IDC ***09*** *15:48:26.6±0.6, 365S×13968E, h0km, mb4.4/9, mb1 4.6/13, mb1mx4.5/17, mbtmp4.5/13, ML4.5/4, MS3.7/11, Ms1 3.7/11, ms1mx3.5/19, Error ellipse: s-maj=21.9km s-min=14.2km az=59.0*

MOS ***09*** *15:48:28.7±1.2, 370S×13960E, h24km, mb4.7/11, Error ellipse: s-maj=14.4km s-min=7.9km az=119.1*

NEIC ***09*** *15:48:29.5±4.1, 374S×13970E, h21km±29km, mb4.7/18, Error ellipse: s-maj=11.7km s-min=8.7km az=216.0*

ISCJB ***09*** *15:48:31.6±1.5, 393S±005×13978E±005, h57km±14km, mb4.7/41, MS3.9/11, Error ellipse: s-maj=8.8km s-min=8.1km az=151.0*

BJI ***09*** *15:48:31.0, 4.16S×14003E, h73km, mB5.1, mb4.8, Ms4.7, Msz4.4*

DJA ***09*** *15:48:33, 362S×13961E, h10km, mb5.2/11*

ISC 09 15:48:33.9±1.4, 400S±006×13976E±005, h63km±14km, h56km±2.7km: pP-P, n111, σ1§21/110, mb4.7/41, 7C-5D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	7.18 257		⇑*e*P	Pn	15 50 08.0	-8.4
TLE	**Tual**	7.18 257		⇓*e*P	Sn	15 51 26.0	-11
PMG	**Port Moresby**	9.10 127		*e*P	Pn	15 50 46.5	+3.9
PMG				pmax	pmax		
	comp=Z,74nm,0.8s						
PMG	**Port Moresby**	9.10 127		*e*Pn	Pn	15 50 46.5	+3.9
	comp=Z,74nm,0.8s						
KAKA	**Kakadu**	11.28 219		*e*P	Pn	15 51 11.9	-0.5
	comp=Z,130nm,0.4s						
KAKA				*e*S	Sn	15 53 12.9	-4.0
WRAB	**Tennant Creek**	16.69 198		*e*P	Pn	15 52 23.0	-0.8
WRAB				pmax	pmax		
	comp=Z,54nm,0.8s						
WRAB	**Tennant Creek**	16.69 198		*e*Pn	Pn	15 52 23.0	-0.7
	comp=Z,54nm,0.8s						
WRAB				*e*		15 52 29.0	
WRAB				*e*Sn	Sn	15 55 19.6	-8.8
WB2	**Warramunga Arr**	16.70 198		*e*P	Pn	15 52 23.7	-0.2
WRA	**Warramunga Arr**	16.70 198		Pn	Pn	15 52 24.2	+0.3
	comp=Z,0.9nm,0.3s,baz=21,slow=12,SNR=28						
WRA				Sn	Sn	15 55 26.3	-2.5
	comp=Z,1.0nm,0.3s,baz=30,slow=23,SNR=4.1						
WRA				LR	LR	15 59 43.2	
	comp=Z,113nm,20.4s,baz=0.0,slow=40						
WRA	**Warramunga Arr**	16.70 198		P	Pn	15 52 24.2	+0.3
WRA						15 55 26.3	
BATI	**Baumata**	17.11 248		Pn	Pn	15 52 29.8	+0.7
	comp=Z,4.5nm,0.3s,baz=252,slow=4.1,SNR=12						
BATI				Sn	Sn	15 55 35.4	-3.4
	comp=Z,1.7nm,0.3s,baz=111,slow=18,SNR=2.8						
CTA	**Charters Tower**	17.20 159		*e*P	Pn	15 52 34.8	+4.7
	comp=Z,11nm,0.6s						
CTA	**Charters Tower**	17.20 159		Pn	Pn	15 52 33.9	+3.8
	comp=Z,1.2nm,0.3s,baz=336,slow=12,SNR=14						
CTA				LR	LR	15 59 13.4	
	comp=Z,288nm,21.7s,baz=351,slow=37						
CTA	**Charters Tower**	17.20 159		*e*P	Pn	15 52 34.8	+4.7
CTA				pmax	pmax		
	comp=Z,11nm,0.6s						
CTAO	**Charters Tower**	17.20 159		*e*P	Pn	15 52 34.3	+4.2
CTAO				pmax	pmax		
	comp=Z,18nm,0.8s						
CTAO	**Charters Tower**	17.20 159		*e*Pn	Pn	15 52 34.3	+4.3
	comp=Z,18nm,0.8s						
CTAO				*e*		15 52 45.9	
GUMO	**Guam**	18.20 16		LR	LR	15 57 47.7	
	comp=Z,131nm,18.7s,baz=307,slow=31						
MSSI	**Masamba**	19.45 274		P	Pn	15 52 55.6	-1.9
	comp=Z,536nm,1.0s						
FITZ	**Fitzroy Crossi**	19.68 224		*e*P	Pn	15 52 59.7	-0.4
	comp=Z,11nm,0.4s						
FITZ	**Fitzroy Crossi**	19.68 224		P	Pn	15 52 59.7	-0.3
	comp=Z,1.1nm,0.3s,baz=43,slow=12,SNR=25						
FITZ				S	S	15 56 28.4	-8.5
	comp=Z,0.9nm,0.3s,baz=51,slow=15,SNR=3.8						
FITZ				LR	LR	16 01 34.0	
	comp=Z,151nm,19.1s,baz=31,slow=40						
PCI	**Palu**	20.14 278		P	P	15 53 05.8	+2.7
	comp=Z,0.0nm,0.0s						
ASAR	**Alice Springs**	20.35 196		P	P	15 53 08.7	+3.4
	comp=Z,12nm,0.5s,baz=29,slow=11,SNR=343						
ASAR				S	S	15 56 56.8	+6.7
	comp=Z,3.7nm,0.7s,baz=12,slow=28,SNR=4.4						
HNR	**Honiara**	20.76 106		P	P	15 53 10.9	+1.1
	comp=Z,114nm,0.9s,baz=252,slow=0.0,SNR=4.1						
HNR	**Honiara**	20.76 106		P	P	15 53 10.9	+1.1
HNR				pmax	pmax		
	comp=Z,114nm,0.9s						
HNR	**Honiara**	20.76 106		*e*P	P	15 53 09.9	+0.1
	comp=Z,156nm,1.0s						
MYLDM	**Lahad Datu**	23.11 293		⇑P	P	15 53 38.3	+3.4
TSM	**Tawau**	23.37 290		⇑P	P	15 53 39.6	+2.3
SDKM	**Sandakan**	24.49 293		⇓P	P	15 53 49.6	+2.1
KDM	**Kudat**	25.32 295		⇑P	P	15 53 58.3	+3.2
KKM	**Kota Kinabalu**	25.54 293		⇓P	P	15 53 59.9	+2.8
KKM	**Kota Kinabalu**	25.54 293		*e*P	P	15 53 57.2	+0.2
MBWA	**Marble Bar**	25.88 227		*e*P	P	15 54 01.2	+1.2
	comp=Z,10nm,0.8s,mb4.4						
BTM	**Bintulu**	27.60 285		⇓P	P	15 54 17.3	+1.6
STKA	**Stephens Creek**	27.78 177		P	P	15 54 19.1	+2.1
	comp=Z,1.1nm,0.4s,mb3.9,baz=295,slow=22,SNR=6.5						
STKA				LR	LR	16 06 33.7	
	comp=Z,318nm,19.7s,baz=10,slow=39						
STKA	**Stephens Creek**	27.78 177		*e*P	P	15 54 14.6	-2.4
	comp=Z,4.0nm,0.9s,mb4.0						
STKA				*e*P		15 54 14.8	
STKA				P		15 54 19.1	
STKA				LR	LR	16 06 33.7	
KGM	**Kluang**	36.90 279		⇑P	P	15 55 39.4	+2.3
QIZ	**Qiongzhong**	37.29 309		P	P	15 55 38.9	-1.3
QIZ				S	S	16 01 22.5	-1.0
QIZ				AMB	AMB		
	comp=Z,18nm,2.0s,mb4.5						
FRIM	**Kepong**	38.78 280		⇑P	P	15 55 53.9	+1.0
PPI	**Padang Panjang**	39.48 274		P	P	15 55 58.5	-0.2
	comp=Z,0.0nm,0.0s						
KSRS	**Korea Array**	42.69 346		P	P	15 56 22.6	-2.1
	comp=Z,2.6nm,0.6s,mb4.1,baz=161,slow=9.1,SNR=9.5						
KSRS				LR	LR	16 11 23.5	
	comp=Z,50nm,19.9s,baz=330,slow=32						
GYA	**Guiyang**	44.07 315		P	P	15 56 38.2	+2.2
GYA				AP	pP	15 56 54.4	+2.5
GYA				XP	sP	15 57 01.8	+2.6
GYA				PP	PP	15 58 22.9	+3.1
GYA				SCP	ScP	16 02 07.0	-0.1
GYA				S	S	16 03 04.2	0.0
GYA				XS	sS	16 03 32.7	+1.5
GYA				SS	SS	16 06 15.5	-8.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,18.4s						
GYA				LR	LR		
	comp=E,470nm,17.8s						
GYA				LR	LR		
	comp=Z,440nm,18.4s						
CMAR	**Chiang Mai Arr**	45.99 300		P	P	15 56 50.9	-0.5
	comp=Z,6.6nm,0.9s,mb4.6,baz=118,slow=6.1,SNR=24						
CMAR				LR	LR	16 17 44.8	
	comp=Z,26nm,19.9s,baz=130,slow=38						
CMAR	**Chiang Mai Arr**	45.99 300		*i* P	P	15 56 51.0	-0.3
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	46.14 301		*e*P	P	15 56 51.8	-0.7
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
CHTO	**Chiang Mai**	46.14 301		*e*P	P	15 56 51.8	-0.8
	comp=Z,5.9nm,0.8s,mb4.6						
KMI	**Kunming**	46.15 311		P	P	15 56 56.6	+4.1
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
RAO	**Raoul Island**	47.29 127		P	P	15 57 05.3	+3.9
	comp=Z,95nm,0.3s,baz=83,slow=23,SNR=2.5						
AFI	**Afiamalu**	48.78 105		P	P	15 57 14.7	+1.6
	comp=Z,22nm,0.7s,mb5.3,baz=292,slow=19,SNR=6.7						
CD2	**Chengdu**	48.84 318		*e*P	P	15 57 13.7	+0.4
CD2				AP	pP	15 57 29.3	-0.1
CD2				XP	sP	15 57 36.3	-0.3
CD2				S	S	16 04 11.2	-1.0
CD2				SS	SS	16 07 37.7	-6.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,210nm,12.8s						
CD2				LR	LR		
	comp=E,160nm,11.8s						
CD2				LR	LR		
	comp=Z,250nm,14.8s						
BJI	**Beijing**	48.89 336		P	P	15 57 12.5	-1.0
BJI				S	S	16 04 12.1	-0.6
BJI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
BJI				LR	LR		
	comp=Z,107nm,44.4s						
CN2	**Changchun**	49.30 346		*e*P	P	15 57 18.1	+1.5
HHC	**Hu-ho-hao-te**	51.55 333		*e*P	P	15 57 35.3	+1.7
HHC				AP	pP	15 57 51.3	+1.4
HHC				XP	sP	15 57 57.3	+0.2
HHC				PP	PP	15 59 36.0	+4.4
HHC				PCS	PcS	16 02 43.9	-0.9
HHC				S	S	16 04 51.2	+1.5
HHC				SS	SS	16 08 24.8	-1.9
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,95nm,7.1s						
HHC				LR	LR		
	comp=N,195nm,23.8s						
HHC				LR	LR		
	comp=E,198nm,21.4s						
HHC				LR	LR		
	comp=Z,139nm,22.6s						
GTA	**Gaotai**	56.72 323		*e*P	P	15 58 15.5	+4.2
GTA				AP	pP	15 58 31.7	+3.9
GTA				XP	sP	15 58 38.5	+3.6
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.5						
LSA	**Lhasa**	57.34 309		P	P	15 58 17.0	+1.2
LSA	**Lhasa**	57.34 309		*e*P	P	15 58 15.9	+0.1
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
LSA	**Lhasa**	57.34 309		*e*Pn	P	15 58 15.9	+0.1
	comp=Z,5.9nm,0.6s,mb4.8						
PETK	**Petropavlovsk-**	58.88 13		LR	LR	16 20 03.4	
	comp=Z,52nm,20.5s,baz=294,slow=32						
TAPN	**Taplejung**	59.07 305		*e*P	P	15 58 28.4	+0.4
	comp=Z,17nm,0.6s,mb5.2						
ODAN	**Odare**	59.14 304		*e*P	P	15 58 28.6	+0.1
	comp=Z,21nm,0.7s,mb5.3						
SONM	**Songino Array**	59.33 334		P	P	15 58 28.1	-1.2
	comp=Z,0.6nm,0.8s,mb3.6,baz=148,slow=6.1,SNR=3.9						
SONM				LR	LR	16 22 36.2	
	comp=Z,75nm,20.1s,baz=68,slow=35						
RAMN	**Ramite**	59.82 304		*e*P	P	15 58 33.6	+0.4
	comp=Z,22nm,0.7s,mb5.3						
JIRN	**Jiri**	60.43 305		*e*P	P	15 58 37.5	+0.1
	comp=Z,14nm,0.5s,mb5.2						
GUN	**Gumba**	60.78 305		*e*P	P	15 58 40.3	+0.6
	comp=Z,17nm,0.5s,mb5.4						
PKI	**Pulchoki**	61.04 304		*e*P	P	15 58 41.4	-0.1
KKN	**Kakani**	61.23 305		*e*P	P	15 58 42.9	+0.1
	comp=Z,24nm,0.7s,mb5.4						
DMN	**Daman**	61.30 304		*e*P	P	15 58 43.7	+0.4
	comp=Z,19nm,0.6s,mb5.4						
GKN	**Gorkha**	61.83 305		*e*P	P	15 58 47.2	+0.4
	comp=Z,9.1nm,0.7s,mb5.0						
ZAK	**Zakamensk**	62.59 335		*e*P	P	15 58 50.8	-0.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.1						
KOLN	**Koldanda**	62.60 304		*e*P	P	15 58 52.1	+0.1
	comp=Z,20nm,0.7s,mb5.4						
DANN	**Dangsing**	62.68 305		*e*P	P	15 58 52.6	+0.1
	comp=Z,23nm,0.6s,mb5.5						
CASY	**Casey**	65.44 193		*e*Pn	P	15 59 12.5	+2.6
YAK	**Yakutsk**	66.30 355		⇑*e*P	P	15 59 15.0	-0.4
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
YAK	**Yakutsk**	66.30 355		*e*P	P	15 59 14.4	-1.1
	comp=Z,18nm,0.8s,mb5.2						
WMQ	**Urumqi**	66.67 322		*e*P	P	15 59 18.4	+0.2
HVS	**Khovu-Aksy**	67.52 331		*i* P	P	15 59 22.8	-0.6
PPT	**Papeete**	70.38 107		LR	LR	16 27 19.3	
	comp=Z,78nm,20.6s,baz=245,slow=33						
MK31	**Makanchi Array**	71.44 322		*e*P	P	15 59 46.7	-1.0
MK31				*e*	pP	16 00 00.4	-4.4
MKAR	**Makanchi Array**	71.44 322		P	P	15 59 46.7	-1.0
	comp=Z,1.0nm,0.4s,mb4.1,baz=99,slow=8.2,SNR=14						
MKAR	**Makanchi Array**	71.44 322		*i* P	P	15 59 47.5	-0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	71.44 322		P	P	15 59 46.7	-1.0
ZALV	**Zalesovo Beam**	73.57 330		P	P	15 59 59.1	-1.1
	comp=Z,0.6nm,0.4s,mb3.9,baz=113,slow=3.7,SNR=2.9						
ZAL	**Zalesovo**	73.58 330		P	P	15 59 59.1	-1.1
TKM2	**Tokmak 2**	74.20 317		*e*P	P	16 00 03.8	-0.3
TKM2				*e*	pP	16 00 17.4	-3.9
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
TKM2	**Tokmak 2**	74.20 317		*e*P	P	16 00 03.8	-0.3
	comp=Z,2.1nm,0.4s,mb4.4						
TKM2				*e*	pP	16 00 17.4	-3.9
BILL	**Bilibino**	74.24 10		*e*P	P	16 00 01.8	-2.1
BILL				*e*		16 02 49.3	
BILL				*e*S	S	16 09 31.0	-1.4
BILL				*e*SS	SS	16 14 15.9	-3.4
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
VNDA	**Vanda**	74.41 175		P	P	16 00 05.2	+0.4
	comp=Z,0.7nm,0.3s,mb4.0,baz=339,slow=5.1,SNR=6.9						
VNDA	**Vanda**	74.41 175		*e*P	P	16 00 04.5	-0.2
VNDA				*e*	pP	16 00 18.8	-3.1
AML	**Almayashu**	75.24 315		*e*P	P	16 00 10.5	+0.3
	comp=Z,6.9nm,0.9s,mb4.6						
AML				*e*	pP	16 00 24.7	-2.7
EKS2	**Erkin-Say**	75.36 316		*e*P	P	16 00 11.2	+0.3
	comp=Z,2.4nm,0.9s,mb4.1						
KURK	**Kurchatov**	75.37 325		⇓*e*P	P	16 00 10.9	+0.2
KURK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
KURK	**Kurchatov**	75.37 325		*e*P	P	16 00 10.5	-0.2
KBL	**Kabul**	76.53 307		*e*P	P	16 00 17.5	-0.2
KBL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
KBL	**Kabul**	76.53 307		*e*P	P	16 00 17.5	-0.3
	comp=Z,8.8nm,0.9s,mb4.7						
SDPT	**Sand Point**	76.70 30		*e*P	P	16 00 16.9	-1.2
	comp=Z,23nm,0.8s,mb5.2						
BVAR	**Borovoye Array**	80.96 325		P	P	16 00 40.7	-0.9
	comp=Z,0.7nm,0.4s,mb3.9,baz=100,slow=7.9,SNR=5.5						
MAW	**Mawson**	81.33 202		LR	LR	16 34 41.1	
	comp=Z,148nm,21.8s,baz=141,slow=34						
SVW2	**Sparrevohn**	81.56 26		*e*P	P	16 00 43.7	-0.8
KDAK	**Kodiak Island**	81.69 30		*e*P	P	16 00 44.6	-0.7
KDAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
KDAK	**Kodiak Island**	81.69 30		*e*P	P	16 00 44.6	-0.7
	comp=Z,7.3nm,0.9s,mb4.6						
SEW	**Seward**	84.01 28		*e*P	P	16 00 56.1	-1.2
RC01	**Rabbit Creek A**	84.19 27		*e*P	P	16 00 54.8	-3.4
	comp=Z,9.8nm,0.8s,mb5.0						
IMA2	**Indian Mountai**	84.34 22		*e*P	P	16 00 58.5	-0.3
DIV	**Divide**	86.04 28		*e*P	P	16 01 07.1	-0.4
	comp=Z,18nm,0.6s,mb5.5						
PLCA	**Paso Flores**	127.55 151		PKP	PKPdf	16 07 35.2	+2.9
	comp=Z,1.1nm,0.6s,baz=188,slow=1.5,SNR=6.2						
PLCA	**Paso Flores**	127.55 151		PKP	PKPdf	16 07 35.2	+2.8
TORD	**Torodi Ar. Bea**	137.61 285		PKP	PKPdf	16 07 52.9	+0.9
	comp=Z,0.3nm,0.5s,baz=113,slow=2.2,SNR=2.4						
DBIC	**Dimbokro**	144.68 276		PKP	PKPdf	16 08 05.3	+0.6
	comp=Z,5.4nm,0.7s,baz=317,slow=3.4,SNR=5.7						
DBIC	**Dimbokro**	144.68 276		PKIKP	PKPdf	16 08 05.3	+0.6
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DBIC	**Dimbokro**	144.68 276		*e*P	PKPdf	16 08 04.4	-0.3
CPUP	**Villa Florida**	145.61 152		PKPbc	PKPbc	16 08 08.5	+2.3
	comp=Z,3.5nm,0.6s,baz=213,slow=1.6,SNR=13						
LPAZ	**La Paz**	145.84 127		PKPbc	PKPbc	16 08 10.2	+3.0
	comp=Z,8.1nm,0.7s,baz=268,slow=1.5,SNR=51						

ISCJB ***09*** *16:07:20.7±0.6, 824S±007×2144E±009, h10km, mb4.0/6, Error ellipse: s-maj=14.0km s-min=8.5km az=149.0*

IDC ***09*** *16:07:21.9±1.2, 806S×2149E, h0km, mb4.0/6, mb1 3.9/7, mb1mx3.7/23, mbtmp4.0/7, ML3.4/1, Error ellipse: s-maj=32.3km s-min=26.7km az=25.0*

NEIC ***09*** *16:07:22.7±0.5, 8.14S×2137E, h10km, mb4.2/3, Error ellipse: s-maj=13.6km s-min=9.6km az=74.0*

ISC 09 16:07:22.8±0.6, 818S±007×2144E±009, h10km, n15, σ1§00/17, mb4.0/6, Angola

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	9.66 138		*e*Pn	Pn	16 09 44.2	+2.2
	16nm,0.4s						
LSZ				*e*Sn	Sn	16 11 29.4

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCDM	Rinconada Maip	1.25	143	⇑iP	Pn	16 12 14.5	0.0
RCDM				iS	Sn	16 12 30.7	+0.2
RCDM				AML	AML	16 12 33.0	
	comp=E,1μm,0.4s						
RCDM	Rinconada Maip	1.25	143	⇑iP	Pn	16 12 14.5	0.0
RCDM				iS	Sn	16 12 30.7	+0.2
SAN	Santiago	1.30	137	eP	Pn	16 12 15.7	+0.5
SAN				iS	Sn	16 12 32.2	+0.5
SAN				AML	AML	16 12 33.1	
	comp=E,1μm,0.3s						
SAN	Santiago	1.30	137	eP	Pn	16 12 15.7	+0.5
SAN				iS	Sn	16 12 32.2	+0.5
DSCH	Colegio Aleman	1.31	133	⇑iP	Pn	16 12 15.3	-0.2
DSCH				iS	Sn	16 12 33.0	+0.9
TACH	Talagante	1.32	151	eP	Pn	16 12 16.0	+0.4
TACH				iS	Sn	16 12 32.7	+0.3
ANTU	Antumapu	1.40	140	⇑iP	Pn	16 12 17.1	+0.5
ANTU				iS	Sn	16 12 35.5	+1.2
ANTU				AML	AML	16 12 36.5	
	comp=E,884nm,0.5s						
ANTU	Antumapu	1.40	140	⇑iP	Pn	16 12 17.1	+0.5
ANTU				iS	Sn	16 12 35.5	+1.2
LNV	Longovilo	1.47	170	eP	Pn	16 12 17.1	-0.6
LNV				iS	Sn	16 12 36.1	0.0
PCH	Pirque	1.50	138	⇓iP	Pn	16 12 18.9	+0.8
PCH				iS	Sn	16 12 38.6	+1.8
SJCH	San Jose de Ma	1.61	135	eP	Pn	16 12 19.9	+0.4
SJCH				eS	Sn	16 12 41.2	+1.7
SJCH				AML	AML	16 12 50.5	
	comp=N,362nm,0.5s						
SJCH	San Jose de Ma	1.61	135	eP	Pn	16 12 19.9	+0.4
SJCH				eS	Sn	16 12 41.2	+1.7
CHCH	Chadas Angostu	1.68	148	eP	Pn	16 12 21.8	+1.2
LMEL	Las Melosas	1.84	137	⇑iP	Pn	16 12 24.0	+1.2
LMEL				iS	Sn	16 12 47.9	+2.6
LMEL				AML	AML	16 12 53.0	
	comp=N,679nm,0.1s						
LMEL	Las Melosas	1.84	137	⇑iP	Pn	16 12 24.0	+1.2
LMEL				iS	Sn	16 12 47.9	+2.6
CACH	El Canelo	1.86	150	⇓iP	Pn	16 12 25.4	+2.4
CACH				iS	Sn	16 12 50.1	+4.4
CICH	Cipreses	2.11	150	⇑iP	Pn	16 12 28.1	+1.7
SFDO	San Fernando	2.19	165	eP	Pn	16 12 28.5	+1.0
SFDO				eS	Sn	16 12 56.3	+2.6
TLL	Tololo Astrono	2.45	19	⇓iP	Pn	16 12 32.1	+0.9
TLL				eS	Sn	16 13 02.6	+2.3
TLL				AML	AML	16 13 15.6	
	comp=E,259nm,0.3s						
TLL	Tololo Astrono	2.45	19	⇓iP	Pn	16 12 32.1	+0.9
TLL				eS	Sn	16 13 02.6	+2.3
LCO	Las Campanas	3.59	14	ePn	Pn	16 12 46.7	-0.1
LCO				eSn	Sn	16 13 34.4	+6.1

*NEIC **09** 16:29:41.8, 3152S×6964W, h148km, MD3.6(GUC), After GUC.*

GUC 09 16:29:41.8±0.6, 3152S×6964W, h148km±6km, MD3.6, ML3.7, 9C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	Jahuel	1.42	215	⇑iP	Pn	16 30 10.9	+0.6
JACH				iS	Sn	16 30 32.9	+0.7
OVCH	Ovalle	1.62	304	eP	Pn	16 30 13.1	+0.6
OVCH				iS	Sn	16 30 36.5	+0.5
CHNG	Los Chungos	1.63	257	⇑iP	Pn	16 30 13.1	+0.6
CHNG				iS	Sn	16 30 36.2	+0.1
TLL	Tololo Astrono	1.68	323	⇑iP	Pn	16 30 14.2	+1.1
TLL				iS	Sn	16 30 38.2	+1.1
TLL				AML	AML	16 30 41.1	
	comp=N,340nm,0.7s						
TLL	Tololo Astrono	1.68	323	⇑iP	Pn	16 30 14.2	+1.1
TLL				iS	Sn	16 30 38.2	+1.1
PEL	Peldehue	1.85	208	⇑iP	Pn	16 30 15.4	+0.4
PEL				iS	Sn	16 30 40.9	+0.3
PEL				AML	AML	16 30 43.2	
	comp=N,780nm,0.3s						
ROCH	El Roble	1.86	218	⇓iP	Pn	16 30 15.9	+0.7
ROCH				iS	Sn	16 30 41.7	+0.9
FCH	Farellones	1.89	197	⇓iP	Pn	16 30 16.6	+1.1
FCH				iS	Sn	16 30 43.3	+1.8
FCH				AML	AML	16 30 47.5	
	comp=E,315nm,0.5s						
RCDM	Rinconada Maip	2.20	206	⇑iP	Pn	16 30 19.8	+0.6
RCDM				iS	Sn	16 30 48.7	+0.8
RCDM				AML	AML	16 30 50.0	
	comp=E,670nm,0.1s						
RCDM	Rinconada Maip	2.20	206	⇑iP	Pn	16 30 19.8	+0.6
RCDM				iS	Sn	16 30 48.7	+0.8
ANTU	Antumapu	2.21	202	eP	Pn	16 30 19.7	+0.5
ANTU				eS	Sn	16 30 48.9	+0.7
ANTU				AML	AML	16 30 50.3	
	comp=E,398nm,0.2s						
ANTU	Antumapu	2.21	202	eP	Pn	16 30 19.7	+0.5
ANTU				eS	Sn	16 30 48.9	+0.7
PCH	Pirque	2.22	199	eP	Pn	16 30 20.4	+1.0
PCH				iS	Sn	16 30 49.4	+0.9
LMEL	Las Melosas	2.37	191	eP	Pn	16 30 22.0	+0.8
LMEL				iS	Sn	16 30 53.1	+1.4
LMEL				AML	AML	16 31 01.0	
	comp=N,305nm,0.2s						
LMEL	Las Melosas	2.37	191	eP	Pn	16 30 22.0	+0.8
LMEL				iS	Sn	16 30 53.1	+1.4
TACH	Talagante	2.40	207	⇓iP	Pn	16 30 21.7	+0.2
TACH				iS	Sn	16 30 52.9	+0.7
LCCH	Las Cruces	2.54	219	⇑iP	Pn	16 30 23.9	+0.5
LCCH				iS	Sn	16 30 55.9	+0.5
CHCH	Chadas Angostu	2.56	199	eP	Pn	16 30 24.1	+0.6
CHCH				iS	Sn	16 30 56.4	+0.7
LCO	Las Campanas	2.66	340	ePn	Pn	16 30 25.3	+0.5
LCO				eSn	Sn	16 30 55.4	-2.7
CACH	El Canelo	2.72	197	eP	Pn	16 30 26.7	+1.2
CACH				iS	Sn	16 31 00.8	+1.6
CICH	Cipreses	2.87	193	⇑iP	Pn	16 30 28.5	+1.1
CICH				iS	Sn	16 31 03.9	+1.1
SFDO	San Fernando	3.30	200	⇓iP	Pn	16 30 33.2	+0.3
SFDO				iS	Sn	16 31 12.8	+0.4

*IDC **09** 16:32:02.9±8.7, 534N×9505E, h159km±77km, mb3.4/8, mb1 3.5/9, mb1mx3.3/22, mbtmp3.3/9, Error ellipse: s-maj=48.8km s-min=14.6km az=58.0*

*ISCJB **09** 16:32:06.3±5.9, 54N±02×952E±03, h206km±50km, mb3.4/9, Error ellipse: s-maj=61.0km s-min=16.6km az=147.3*

*NEIC **09** 16:32:08.5±6.1, 547N×9527E, h209km±51km, mb3.8/1, Error ellipse: s-maj=60.9km s-min=10.4km az=57.0*

ISC 09 16:32:06.3±6.2, 54N±02×951E±03, h190km±53km, n13, σ0°47/12, mb3.6/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	13.51	16	P	Pn	16 35 10.9	+0.3
	0.1nm,0.3s,baz=211,slow=12,SNR=6.9						
MK31	Makanchi Array	42.72	347	eP	P	16 39 44.0	-0.5
MKAR	Makanchi Array	42.72	347	P	P	16 39 43.6	-0.9
	1.1nm,0.5s,mb3.8,baz=166,slow=8.0,SNR=15						
SONM	Songino Array	43.38	11	P	P	16 39 49.8	-0.1
	0.5nm,0.6s,mb3.3,baz=188,slow=7.8,SNR=5.2						
KSRS	Korea Array	43.73	39	P	P	16 39 53.2	+0.4
	0.7nm,0.8s,mb3.4,baz=209,slow=41,SNR=3.2						
WRA	Warramunga Arr	46.04	124	P	P	16 40 11.3	0.0
	1.4nm,0.6s,mb3.8,baz=301,slow=9.8,SNR=16						
WRAB	Tennant Creek	46.04	124	eP	P	16 40 11.2	-0.1
	3.8nm,0.9s,mb4.0						
ASAR	Alice Springs	47.58	129	P	P	16 40 22.9	-0.3
	0.3nm,0.4s,mb3.2,baz=293,slow=6.7,SNR=12						
ZAA0	Zalesovo Array	49.14	352	eP	P	16 40 34.4	-0.2
ZALV	Zalesovo Beam	49.14	352	P	P	16 40 34.3	-0.3
	2.6nm,0.4s,mb4.2,baz=180,slow=7.2,SNR=16						
ARCES	ARCESS Array B	77.92	340	P	P	16 43 43.6	+0.7
	1.9nm,0.9s,mb3.7,baz=95,slow=7.3,SNR=4.2						
GERES	GERESS Array B	80.33	318	P	P	16 43 57.1	+0.8
	0.5nm,0.7s,mb3.2,baz=123,slow=7.2,SNR=4.0						
DWPF	Disney	146.53	354	ePKPbc	PKPbc	16 51 27.8	+1.8

*ISCJB **09** 16:45:02.6±0.8, 3635N×005×710E±0.1, h216km±21km, Error ellipse: s-maj=16.1km s-min=6.4km az=157.5*

*NNC **09** 16:45:10.4±5.7, 3691N×7078E, h186km±83km, mb2.7, mpv3.5, Error ellipse: s-maj=54.0km s-min=30.0km az=15.0*

ISC 09 16:45:04.2±0.9, 3640N±005×710E±01, h148km±23km, n12, σ0°88/20, 8C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.68	163	⇑P	Pn	16 45 48.2	+0.8
CEP				S	Sn	16 46 20.0	-0.8
CHCP	Chirah Chowk	3.31	145	P	Pn	16 46 00.5	+5.0
SARP	Sargodha	4.68	162	P	Pn	16 46 13.7	+0.4
THN	Thein Dam	5.56	134	eP	Pn	16 46 25.1	+0.1
THN				eS	Sn	16 47 29.7	+1.6
DLH	Dalhousie	5.63	132	eP	Pn	16 46 30.0	+4.0
DLH				eS	Sn	16 47 35.0	+5.2
KK31	Karatay Array	6.71	357	⇑P	Pn	16 46 39.4	-0.8
	1.8nm,0.4s,baz=180,slow=13,SNR=32						
KK31				⇑S	Sn	16 47 51.2	-4.2
	5.0nm,0.7s,baz=177,slow=22,SNR=8.0						
SMLA	Simla	7.36	134	⇑iP	Pn	16 46 48.9	0.0
SMLA				iS	Sn	16 48 09.8	-1.4
SMLA				ex	x	16 48 11.1	
	comp=E,362nm,0.3s						
SMLA				ex	x	16 48 11.2	
	comp=N,325nm,0.3s						
TKM2	Tokmak 2	7.42	27	⇑P	Pn	16 46 51.1	+1.3
	comp=N,1.9nm,0.6s						
TKM2				⇑S	Sn	16 48 12.3	-0.2
	comp=N,2.5nm,0.7s						
KLP	Kalpa	7.74	127	eP	Pn	16 46 54.4	+0.2
KLP				eS	Sn	16 48 19.7	-0.7
KLP				AML	AML	16 48 26.7	
	comp=E,71nm,0.6s						
KLP				AML	AML	16 48 27.8	
	comp=N,77nm,0.7s						
KUDL	Kundal	9.46	149	eS	Sn	16 48 57.5	-4.3
SONA	Sohna	9.62	146	eS	Sn	16 49 00.2	-5.6
SONA				AML	AML	16 49 15.0	
	comp=E,14nm,0.3s						
SONA				AML	AML	16 49 17.2	
	comp=N,9.4nm,0.1s						
AB31	Akbulak array	15.17	331	⇑P	Pn	16 48 30.2	-0.3
	comp=N,0.7nm,0.3s,baz=160,slow=12,SNR=39						
AB31				⇑S	S	16 51 09.4	-15
	comp=N,1.2nm,0.7s,baz=164,slow=21,SNR=5.8						

*NEIC **09** 17:02:06.9, 1082N×6005W, h51km, MD3.8(TRN), After TRN.*

TRN 09 17:02:07.0, 1082N×6005W, h51km, MD3.8, 6C, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOSP	Speyside	0.67	315	⇑iP	Pn	17 02 21.1	+0.8
TOSP				eS	Sn	17 02 32.2	+2.1
TPR	Prospect	0.80	297	⇑iP	Pn	17 02 23.2	+1.2
TPR				eS	Sn	17 02 35.6	+2.6
TBH	Brigand Hill	1.05	251	⇑iP	Pn	17 02 27.2	+1.8
TBH				eS	Sn	17 02 40.6	+1.5
TRN	Trinidad (W)	1.34	263	⇑iP	Pn	17 02 30.1	+0.9
TRN				eS	Sn	17 02 47.1	+1.1
TPP	Pointe-a-Pierr	1.47	250	eP	Pn	17 02 32.8	+1.8
TCE	Chacachacare	1.68	266	⇑iP	Pn	17 02 35.6	+1.7
TCE				eS	Sn	17 02 56.2	+2.0
GRW	Mount Saint Ca	2.06	310	eP	Pn	17 02 40.6	+1.5
GRHS	Sauteurs	2.09	312	eS	Sn	17 03 05.1	+0.7
GRIC	Isle de Caille	2.09	314	eP	Pn	17 02 41.3	+1.7
GRIC				eS	Sn	17 03 06.2	+1.8
GRSS	Sisters	2.12	314	eP	Pn	17 02 41.5	+1.6
GRSS				eS	Sn	17 03 07.5	+2.4
GRCU	Cariacou	2.14	320	eP	Pn	17 02 41.6	+1.5
GRCU				eS	Sn	17 03 07.0	+1.4
GRCU	Cariacou	2.14	320	eP	Pn	17 02 41.6	+1.5
GRCU				eS	Sn	17 03 09.9	+4.4
SVB	Belmont	2.70	334	⇑iP	Pn	17 02 48.8	+0.9
SVB				eS	Sn	17 03 20.4	+1.0

*IDC **09** 17:04:37.7±2.0, 3738N×13877E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/22, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=45.8km s-min=17.4km az=119.0*

*ISCJB **09** 17:04:40.2±0.5, 3739N±003×13856E±004, h29km±4km, mb3.7/2, Error ellipse: s-maj=5.6km s-min=4.8km az=170.4*

*JMA **09** 17:04:40.7, 3740N×13855E, h18km±1km, M3.2*

JMA Felt II J1.

ISC 09 17:04:40.7±0.5, 3738N±003×13856E±003, h20km±4km, n14, σ0°62/24, mb3.7/2, 3C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIZZ	Izumozaki	0.19	37	P	Pg	17 04 45.7	0.0
JIZZ				S	Sg	17 04 49.9	+0.8
JHK	Hiroka	0.39	109	⇓P	Pg	17 04 48.5	-0.3
JHK				S	Sg	17 04 54.1	-0.2
JJN	Nakama	0.42	229	⇑P	Pg	17 04 49.3	-0.1
JJN				S	Sg	17 04 55.9	+0.6
JSD	Sado	0.70	340	⇑P	Pb	17 04 53.5	-0.7
JSD				S	Sb	17 05 03.0	-0.4
JNS	Sasagawa	0.74	54	⇓P	Pb	17 04 54.6	-0.3
JNS				S	Sb	17 05 04.9	+0.3
JKT	Katashina	0.82	138	⇑P	Pb	17 04 56.2	0.0
JKT				S	Sb	17 05 07.3	+0.5
MAT	Matsushiro	0.88	199	P	Pb	17 04 56.9	-0.4
MAT				S	Sb	17 05 08.7	+0.1
MAT	Matsushiro	0.88	199	P	Pb	17 04 56.8	-0.5
MAT				S	Sb	17 05 08.5	-0.1
MJAR	Matsushiro Arr	0.88	199	Pg	Pg	17 04 56.8	-1.1
	48nm,0.3s,baz=350,slow=9.3,SNR=378						
MJAR				Lg		17 05 09.0	
	76nm,0.3s,baz=311,slow=22,SNR=49						
JFY	Yanaizu	0.91	88	P	Pb	17 04 57.4	-0.4
JFY				S	Sb	17 05 09.6	+0.2
JSZ	Suzu	0.96	275	⇓P	Pb	17 04 58.0	-0.6
JSZ				S	Sb	17 05 10.9	+0.1
KSRS	Korea Array	8.47	274	Pn	Pn	17 06 44.9	+2.7
	0.5nm,0.3s,baz=88,slow=14,SNR=7.1						
WRA	Warramunga Arr	57.15	185	P	P	17 14 26.0	0.0
	1.1nm,0.7s,mb4.0,baz=0.1,slow=7.2,SNR=11						
ASAR	Alice Springs	60.88	185	P	P	17 14 52.1	+0.4
	0.2nm,0.7s,mb3.4,baz=6.7,slow=15,SNR=5.1						

*ISCJB **09** 17:25:03.6±0.2, 2598N±004×4504W±001, h10km, mb5.2/248, MS5.0/197, Error ellipse: s-maj=5.9km s-min=1.7km az=173.7*

*IDC **09** 17:25:03.3±0.4, 2594N×4503W, h0km, mb4.8/25, mb1 4.9/25, mb1mx4.8/29, mbtmp4.7/25, MS4.8/25, Ms1 4.8/25, ms1mx4.7/28, Error ellipse: s-maj=14.1km s-min=11.3km az=142.0*

*MOS **09** 17:25:04.0±0.8, 2592N×4501W, h13km, mb5.3/108, MS4.9/57, Error ellipse: s-maj=6.4km s-min=3.3km az=135.5*

*IGIL **09** 17:25:05.0, 2591N×4498W, h10km, MS5.1*

*NEIC **09** 17:25:05.2±0.2, 2592N×4500W, h10km, mb5.2/179, MS5.1/152, MW5.6, Error ellipse: s-maj=5.1km s-min=2.0km az=173.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.13; $M_{\theta\theta}$-2.92; $M_{\phi\phi}$3.05; $M_{r\theta}$-0.67; $M_{\theta\phi}$0.40; $M_{\phi r}$-0.18; Best double couple: $M_0$3.10000×10^{17} NP1:ϕ_s48.00000°, δ84.00000°, λ-12.00000°. NP2:ϕ_s139.00000°, δ78.00000°, λ-174.00000°. Principal axes: T 3.1000, Plg4.0000°, Azm94.0000°; N 0.0000, Plg77.0000°, Azm202.0000°; P -3.0900, Plg12.0000°, Azm3.0000°;*

*SZGRF **09** 17:25:05.1, 2540N×4511W, h33km, mb5.4, MS4.8, Northern Mid-Atlantic Ridge*

*BJI **09** 17:25:05.1, 2567N×4452W, h13km, mB5.7, mb5.6, Ms5.4, Msz5.1*

*GCMT **09** 17:25:05.2±0.1, 2595N×4503W, h12km, MW5.5/98, Moment Tensor Solution. s60,c92; s98,c210; Duration: 1±4 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.24±.03; $M_{\theta\theta}$0.20±.03; $M_{\phi\phi}$2.04±.03; $M_{r\theta}$-0.14±.08; $M_{\theta\phi}$0.59±.03; $M_{\phi r}$-0.19±.07; Best double couple: $M_0$2.23900×10^{17} NP1:ϕ_s194.00000°, δ42.00000°, λ-93.00000°. NP2: ϕ_s18.00000°, δ48.00000°, λ-87.00000°. Principal axes: T 2.2240, Plg3.0000°, Azm106.0000°; N 0.0290, Plg2.0000°, Azm197.0000°; P -2.2540, Plg87.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 09 17:25:05.6±0.2, 2595N×004×4501W×001, h10km, (h13km±2.3km; pP-P), n1116, σ0°78/1086, mb5.2/248, MS5.0/197, 191C-233D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPA	Boggy Peak	17.99	244	eP	Pn	17 29 16.6	+0.6
BBSR	BB Station	18.33	295	⇑eP	Pn	17 29 18.3	-1.7
	87nm,1.4s						
BBSR				eS	Sn	17 32 54.0	+9.1
FDF	Fort de France	18.78	237	P	Pn	17 29 22.7	-2.9
PDA	Ponta Delgada	20.16	50	iP	P	17 29 48.0	+7.9
PDA				iLQ		17 33 45.0	
PDA				iLR	LR	17 34 40.8	
CMLA	Cha da Macela	20.27	50	eP	P	17 29 45.1	+3.9
	510nm,1.4s						
CMLA				eLQ		17 33 09.2	
CMLA				eS	S	17 33 42.0	+13
CMLA				eLR	LR	17 34 02.9	
CMLA	Cha da Macela	20.27	50	PFAKE		17 29 50.0	+8.8
CMLA				LR	LR		
	comp=Z,6μm,21.0s,MS4.9						
MTP	Monte Pirata	20.57	252	eP	P	17 29 44.0	-0.6
HUMP	Col San Antoni	20.80	252	P	P	17 29 44.7	-2.5
	comp=Z,96nm,1.3s						
GRGR	Grenville	20.86	232	P	P	17 29 53.2	+5.4
	comp=Z,212nm,1.0s						
GRGR				LR	LR		
	comp=Z,2μm,21.0s,MS4.4						
SJG	San Juan	21.07	253	P	P	17 29 50.0	-0.1
SJG				pmax	pmax		
	comp=Z,139nm,1.9s						
SJG				MLR	MLR		
	comp=Z,5μm,20.0s						
SJG	San Juan	21.07	253	P	P	17 29 50.0	-0.1
	comp=Z,139nm,1.9s,mb5.0						
SJG				LR	LR		
	comp=Z,5μm,20.0s,MS4.9						
AOPR	Arecibo Observ	21.50	254	P	P	17 29 54.0	-0.7
	comp=Z,154nm,1.8s,mb5.0						
PCRV	Puerto La Cruz	24.32	233	LR	LR	17 38 18.6	
	comp=Z,2μm,21.6s,MS4.6,baz=53,slow=33						
SDDR	Presa de Saban	25.23	259	eP	P	17 30 31.4	-0.4
	comp=Z,54nm,1.1s,mb5.0						
SDDR				LR	LR		
	comp=Z,3μm,20.0s,MS4.8						
HRV	Adam Dziewonsk	27.31	314	PFAKE		17 31 00.0	+10
HRV				LR	LR		
	comp=Z,5μm,22.0s,MS5.0						
PKME	Peaks-Kenny Pk	27.41	321	PFAKE		17 31 00.0	+8.7
PKME				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
MOAC	Moa	27.97	265	eP	P	17 30 54.8	-1.8
LBNH	Lisbon	28.40	317	PFAKE		17 31 10.0	+10
LBNH				LR	LR		
	comp=Z,5μm,21.0s,MS5.1						
BBTS	Babate	28.91	107	LR	LR	17 39 29.1	
	comp=Z,4μm,20.0s,MS5.0,baz=132,slow=30						
SDV	Santo Domingo	29.66	240	P	P	17 31 10.8	-0.8
	comp=Z,3.2nm,0.5s,mb4.3,baz=2.3,slow=10,SNR=6.3						
SDV				LR	LR	17 41 18.8	
	comp=Z,2μm,21.7s,MS4.8,baz=68,slow=33						
SDV	Santo Domingo	29.66	240	eP	P	17 31 11.3	-0.4
	comp=Z,12nm,1.1s,mb4.5						
SDV				LR	LR		
	comp=Z,655nm,22.0s,MS4.2						
CNNC	Cliffs of the	29.67	296	PFAKE		17 31 20.0	+8.5
CNNC				LR	LR		
	comp=Z,5μm,21.0s,MS5.1						
NCB	Newcomb	29.72	315	PFAKE		17 31 20.0	+8.2
NCB				LR	LR		
	comp=Z,4μm,20.0s,MS5.0						
FRNY	Flat Rock	29.73	317	eP	P	17 31 08.9	-3.1
	comp=Z,52nm,1.3s,mb5.1						
BINY	Binghamton	30.14	310	PFAKE		17 31 30.0	+14
BINY				LR	LR		
	comp=Z,4μm,21.0s,MS5.0						
LONY	Lake Ozonia	30.25	316	P	P	17 31 13.9	-2.6
LONY				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
NHSC	New Hope	31.31	292	PFAKE		17 31 40.0	+14
NHSC				LR	LR		
	comp=Z,4μm,21.0s,MS5.1						
BLA	Blacksburg	32.02	299	eP	P	17 31 32.5	+0.2
	comp=Z,40nm,1.1s,mb5.2						
BLA				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
MCWV	Mont Chateau	32.10	304	PFAKE		17 31 40.0	+7.1
MCWV				LR	LR		
	comp=Z,4μm,21.0s,MS5.1						
ELN	Prospectdale	32.28	299	P	P	17 31 34.4	-0.1
DWPF	Disney	32.44	282	PFAKE		17 31 50.0	+14
DWPF				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
PMAFR	Mafra	32.60	58	eP	P	17 31 38.3	+0.9
	comp=Z,78nm,1.4s,mb5.4						
PMAFR				eS	S	17 36 57.1	+4.0
PMAFR				eLR	LR	17 39 16.5	
	comp=Z,3μm,20.0s						
PFVI	Vila Bisbo	32.61	61	eS	S	17 36 57.3	+4.1
PFVI				eLR	LR	17 39 34.0	
	comp=Z,2μm,20.0s						
LIS	Lisbon	32.66	58	eP	P	17 31 38.1	+0.3
LIS				eS	S	17 36 51.5	-2.3
LIS				eS	S	17 36 51.8	-2.1
LIS				AMS	AMS	17 41 44.0	
	comp=Z,3μm,19.8s,MS5.0						
LIS	Lisbon	32.66	58	eP	P	17 31 38.1	+0.3
LIS				eS	S	17 36 51.5	-2.4
LIS				eS	S	17 36 51.8	-2.1
LIS				A		17 41 44.0	
	comp=Z,3μm,19.8s						
MORF	Marmelete	32.78	61	eP	P	17 31 39.5	+0.6
	comp=Z,65nm,2.2s,mb5.2						
MORF				eS	S	17 37 00.8	+5.0
MORF				eLR	LR	17 39 59.7	
	comp=Z,3μm,20.0s						
SCHQ	Schefferville	33.01	337	LR	LR	17 43 50.0	
	comp=Z,2μm,19.0s,MS4.7,baz=139,slow=34						
SCHQ	Schefferville	33.01	337	PFAKE		17 31 50.0	+9.3
SCHQ				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
PBDV	Barranco-do-Ve	33.33	61	eP	P	17 31 44.4	+0.7
	comp=Z,89nm,1.5s,mb5.5						
PBDV				eS	S	17 37 08.0	+3.6
PBDV				eLR	LR	17 39 50.9	
	comp=Z,3μm,20.0s						
EVO	Evora	33.49	59	eP	P	17 31 45.0	-0.1
	comp=Z,44nm,1.4s,mb4.9						
EVO				eMLR	MLR		
	comp=Z,4μm,20.8s,MS4.8						
EVO	Evora	33.49	59	eP	P	17 31 46.2	+1.1
	comp=Z,29nm,1.6s,mb5.0						
PBEJ	Beja	33.51	60	eP	P	17 31 46.0	+0.7
	comp=Z,52nm,1.5s,mb5.2						
PVAQ	Vaqueiros	33.53	61	eP	P	17 31 45.8	+0.4
	comp=Z,52nm,1.4s,mb5.3						
PVAQ				eS	S	17 37 11.3	+3.9
PVAQ				eLR	LR	17 39 59.1	
	comp=Z,3μm,20.0s						
EGRO	El Granado	33.73	61	P	P	17 31 46.5	-0.7
	comp

comp=Z,28nm,1.5s,mb5.0
PBAR Barrancos 34.18 60 *e*P **P 17 31 52.5 +1.4**
comp=Z,28nm,1.6s,mb4.9
PBAR *e*S **S 17 37 25.1 +7.5**
PBAR *e*LR LR 17 40 35.3
comp=Z,3μm,20.0s
ELOB Lobios 34.23 53 P **P 17 31 48.9 -2.6**
comp=Z,192nm,3.1s
MTE Manteigas 34.24 56 *e*P **P 17 31 52.0 +0.4**
comp=Z,96nm,1.5s,mb5.5
MTE *e*S **S 17 37 21.9 +3.5**
MTE *e*LR LR 17 40 40.1
comp=Z,3μm,22.0s
MTE Manteigas 34.24 56 *e*P **P 17 31 51.0 -0.6**
comp=Z,78nm,1.4s,mb5.5
MTE LR LR
comp=Z,3μm,21.0s,MS5.0
EBAD Badajoz 34.30 59 P **P 17 31 51.2 -1.0**
comp=Z,385nm,3.1s
TZTN Tazewell 34.40 297 *e*P **P 17 31 53.3 +0.3**
comp=Z,67nm,1.5s,mb5.3
EMIN Mina Concepcio 34.40 60 P **P 17 31 52.6 -0.4**
comp=Z,243nm,2.9s,mb5.6
TKL Tuckaleechee C 34.48 296 P **P 17 31 52.8 -1.0**
comp=Z,21nm,1.2s,mb5.0,baz=109,slow=9.5,SNR=12
TKL Tuckaleechee C 34.48 296 P **P 17 31 54.1 +0.3**
ACSO Alum Creek Sta 34.58 304 *e*P **P 17 31 53.2 -1.3**
comp=Z,241nm,0.5s,mb6.4
ACSO LR LR
comp=Z,3μm,20.0s,MS5.0
SFS San Fernando 34.60 63 PFAKE 17 32 10.0 +15
SFS LR LR
comp=Z,3μm,22.0s,MS5.1
SOR Soroa 34.68 273 *e*P **P 17 31 56.8 +1.3**
MVO Moncorvo 34.80 55 *e*P **P 17 31 56.6 +0.2**
comp=Z,34nm,1.5s,mb5.1
MVO *e*S **S 17 37 29.5 +2.5**
MVO *e*LR LR 17 40 46.1
comp=Z,2μm,20.0s
ESPR Espera 34.92 62 P **P 17 31 57.7 +0.1**
comp=Z,544nm,3.4s
ROSC El Rosal 35.04 238 LR LR 17 46 00.1
comp=Z,1μm,19.6s,MS4.7,baz=254,slow=36
EJIF Jimena Fronter 35.19 63 P **P 17 32 00.4 +0.5**
EJIF pmax pmax
comp=Z,87nm,1.6s,mb5.4
EJIF Jimena Fronter 35.19 63 P **P 17 32 00.4 +0.5**
comp=Z,87nm,1.6s,mb5.4
ECAL Calabor 35.20 53 P **P 17 31 59.0 -0.9**
comp=Z,360nm,2.6s,mb5.8
ECAB El Cabril 35.43 60 P **P 17 32 02.3 +0.5**
comp=Z,335nm,2.9s,mb5.8
AAM Ann Arbor 35.56 307 PFAKE 17 32 10.0 +7.0
AAM LR LR
comp=Z,4μm,22.0s,MS5.1
EMIJ Mijas 35.76 63 P **P 17 32 03.5 -1.3**
comp=Z,243nm,4.0s
EADA Adamuz 36.10 60 P **P 17 32 06.3 -1.4**
comp=Z,350nm,4.7s
SWET Sewanee 36.21 295 *e*P **P 17 32 09.5 +0.9**
ELUQ Luque 36.27 61 P **P 17 32 08.0 -1.1**
ELUQ pmax pmax
comp=Z,32nm,1.4s,mb5.1
ELUQ Luque 36.27 61 P **P 17 32 08.0 -1.1**
comp=Z,32nm,1.4s,mb5.0
ELOJ Sierra Loja 36.31 62 P **P 17 32 10.2 +0.7**
ELOJ pmax pmax
comp=Z,25nm,1.2s,mb5.0
ELOJ Sierra Loja 36.31 62 P **P 17 32 10.2 +0.7**
comp=Z,24nm,1.2s,mb5.0
PAB San Pablo 36.48 58 *e*P **P 17 32 10.3 -0.6**
PAB pmax pmax
comp=Z,32nm,1.4s,mb5.1
PAB MLR MLR
comp=Z,2μm,20.0s,MS4.9
PAB San Pablo 36.48 58 *e*P **P 17 32 10.3 -0.6**
comp=Z,32nm,1.4s,mb5.0
PAB LR LR
comp=Z,2μm,20.0s,MS4.9
ERON Agron 36.57 62 P **P 17 32 12.2 +0.5**
comp=Z,21nm,1.1s,mb4.9
EBAN Banos Encina 36.72 60 P **P 17 32 12.4 -0.5**
EBAN pmax pmax
comp=Z,23nm,1.4s,mb4.8
EBAN Banos Encina 36.72 60 P **P 17 32 12.4 -0.5**
comp=Z,23nm,1.4s,mb4.8
EGUA Guajares 36.75 63 P **P 17 32 13.2 0.0**
EGUA pmax pmax
comp=Z,347nm,1.9s,mb5.9
EGUA Guajares 36.75 63 P **P 17 32 13.2 0.0**
comp=Z,347nm,1.9s,mb5.9
ECOG Cogollos-Vega 36.79 62 P **P 17 32 14.0 +0.4**
ECOG pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
ECOG Cogollos-Vega 36.79 62 P **P 17 32 14.0 +0.4**
comp=Z,8.1nm,1.2s,mb4.4
ESDC Sonseca Array 36.79 58 P **P 17 32 12.2 -1.4**
comp=Z,2.3nm,0.8s,mb4.1,baz=264,slow=8.1,SNR=12
ESDC PcP PcP 17 34 33.8 -1.9
comp=Z,0.4nm,0.5s,baz=291,slow=3.6,SNR=6.6
ESDC LR LR 17 44 03.2
comp=Z,1μm,18.5s,MS4.8,baz=250,slow=31
ESDC Sonseca Array 36.79 58 P **P 17 32 12.0 -1.6**
comp=Z,21nm,1.4s,mb4.8
GUD Guadarrama 36.81 56 P **P 17 32 13.0 -0.7**
GUD pmax pmax
comp=Z,21nm,1.0s,mb4.9
GUD Guadarrama 36.81 56 P **P 17 32 13.0 -0.7**
comp=Z,21nm,1.0s,mb4.9
GLMI Grayling 36.93 311 PFAKE 17 32 30.0 +15
GLMI LR LR
comp=Z,4μm,21.0s,MS5.2
BCIP Isla Barro Col 37.00 250 PFAKE 17 32 30.0 +14
BCIP LR LR
comp=Z,869nm,20.0s,MS4.5
EALB Alboran 37.11 64 P **P 17 32 16.0 -0.3**
comp=Z,557nm,3.1s
BRAL Brewton 37.14 288 P **P 17 32 15.8 -0.9**
BRAL LR LR
comp=Z,3μm,22.0s,MS5.1
EQES Quesada 37.24 61 P **P 17 32 17.0 -0.3**
comp=Z,383nm,4.8s
EBER Berja 37.29 63 P **P 17 32 18.3 +0.5**
comp=Z,180nm,2.1s,mb5.5
EHUE Huescar 37.61 61 P **P 17 32 20.1 -0.5**
EHUE pmax pmax
comp=Z,22nm,1.4s,mb4.7
EHUE Huescar 37.61 61 P **P 17 32 20.1 -0.5**
comp=Z,22nm,1.4s,mb4.7
EVIA Vianos 37.77 60 P **P 17 32 21.7 -0.2**
EVIA pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
EVIA Vianos 37.77 60 P **P 17 32 21.7 -0.2**
comp=Z,8.3nm,0.8s,mb4.5
ELAN Lanestosa 37.88 52 P **P 17 32 20.3 -2.4**
comp=Z,263nm,2.4s,mb5.5
PLAL Pickwick Lake 37.95 294 *e*P **P 17 32 23.3 -0.1**
comp=Z,39nm,1.1s,mb5.0
PLAL LR LR
comp=Z,4μm,22.0s,MS5.2
ETOR Torete 38.42 56 P **P 17 32 27.0 -0.3**
ETOR pmax pmax
comp=Z,27nm,1.9s,mb4.7
ETOR Torete 38.42 56 P **P 17 32 27.0 -0.3**
comp=Z,27nm,1.9s,mb4.7
ETOB Tobarra 38.52 60 P **P 17 32 26.9 -1.3**
comp=Z,463nm,4.4s
EMUR La Murta 38.68 61 P **P 17 32 28.4 -1.1**
comp=Z,432nm,3.4s
GLAT Glass 38.99 296 P **P 17 32 34.8 +2.6**
HALT Halls 39.02 296 *e*P **P 17 32 32.8 +0.4**
SIUC Southern Illin 39.02 299 *e*P **P 17 32 33.3 +0.9**
comp=Z,38nm,1.0s,mb5.1
OXF Oxford 39.05 293 *e*P **P 17 32 32.1 -0.6**
OXF pmax pmax
comp=Z,48nm,0.9s,mb5.2
OXF MLR MLR
comp=Z,2μm,21.0s,MS5.0
OXF Oxford 39.05 293 *e*P **P 17 32 32.1 -0.5**
comp=Z,48nm,0.9s,mb5.2
OXF LR LR
comp=Z,2μm,21.0s,MS5.0
EALK Alkurruntz 39.25 53 P **P 17 32 33.2 -1.1**
comp=Z,245nm,2.6s,mb5.5
QUIF Quistinic 39.35 45 *e*P **P 17 32 34.6 -0.5**
comp=Z,77nm,1.4s,mb4.9
QUIF Quistinic 39.35 45 *e*P **P 17 32 34.6 -0.5**
QUIF pmax pmax
comp=Z,38nm,1.4s,mb4.9
QUIF Quistinic 39.35 45 *e*P **P 17 32 34.6 -0.5**
comp=Z,38nm,1.4s,mb4.9
HDIL Hopedale 39.38 303 PFAKE 17 32 50.0 +15
HDIL LR LR
comp=Z,2μm,20.0s,MS5.0
ROSF Rostrenen 39.42 44 *e*P **P 17 32 35.2 -0.4**
comp=Z,49nm,1.3s,mb4.8
ROSF Rostrenen 39.42 44 *e*P **P 17 32 35.2 -0.4**
ROSF pmax pmax
comp=Z,24nm,1.3s,mb4.8
ROSF Rostrenen 39.42 44 *e*P **P 17 32 35.2 -0.4**
comp=Z,24nm,1.3s,mb4.8
SJPF Ste Jean 39.43 53 *e*P **P 17 32 35.7 -0.1**
comp=Z,97nm,1.4s,mb5.0
SJPF Ste Jean 39.43 53 *e*P **P 17 32 35.7 -0.1**
SJPF pmax pmax
comp=Z,48nm,1.4s,mb5.0
SJPF Ste Jean 39.43 53 *e*P **P 17 32 35.7 -0.1**
comp=Z,48nm,1.4s,mb5.0
GNAR Gosnell 39.57 296 *e*P **P 17 32 36.3 -0.7**
comp=Z,1μm,1.1s
ESAC San Caprasio 39.74 55 P **P 17 32 38.0 -0.3**
comp=Z,422nm,2.4s,mb5.7
SGMF Saint Gilles 39.85 45 *e*P **P 17 32 39.0 -0.2**
comp=Z,209nm,1.8s,mb5.2
SGMF Saint Gilles 39.85 45 *e*P **P 17 32 39.0 -0.2**
SGMF pmax pmax
comp=Z,105nm,1.8s,mb5.3
SGMF Saint Gilles 39.85 45 *e*P **P 17 32 39.0 -0.2**
comp=Z,105nm,1.8s,mb5.3
ETSF Etsaut 39.87 53 *e*P **P 17 32 39.6 +0.2**
comp=Z,130nm,1.7s,mb5.1
ETSF Etsaut 39.87 53 *e*P **P 17 32 39.6 +0.2**
ETSF pmax pmax
comp=Z,65nm,1.7s,mb5.1
ETSF Etsaut 39.87 53 *e*P **P 17 32 39.6 +0.2**
comp=Z,65nm,1.7s,mb5.1
SLM Saint Louis 39.89 300 *e*P **P 17 32 40.5 +0.8**
VBMS Vicksburg 40.03 290 *e*P **P 17 32 42.4 +1.5**
TEIG Tepich 40.07 271 P **P 17 32 41.2 -0.2**
comp=Z,8.6nm,0.8s,mb4.5,baz=61,slow=10.0,SNR=7.2
TEIG PcP PcP 17 34 44.8 -1.3
comp=Z,0.5nm,0.3s,baz=62,slow=4.4,SNR=2.0
ERTA Horta de San J 40.23 57 P **P 17 32 40.4 -2.0**
comp=Z,214nm,1.9s,mb5.5
COWI Conover 40.34 312 *e*P **P 17 32 43.6 +0.4**
comp=Z,11nm,0.8s,mb4.6
COWI LR LR
comp=Z,3μm,21.0s,MS5.2
EBIE Bielsa 40.34 54 P **P 17 32 42.7 -0.7**
comp=Z,419nm,3.9s
JFWS Jewell Farm 40.45 306 *e*P **P 17 32 44.2 0.0**
JFWS pmax pmax
comp=Z,15nm,0.7s,mb4.8
JFWS MLR MLR
comp=Z,3μm,21.0s,MS5.2
JFWS Jewell Farm 40.45 306 *e*P **P 17 32 44.1 0.0**
comp=Z,14nm,0.7s,mb4.8
JFWS LR LR
comp=Z,3μm,21.0s,MS5.2
EPF Esparros 40.55 53 *e*P **P 17 32 45.1 +0.1**
comp=Z,110nm,1.6s,mb4.9
EPF Esparros 40.55 53 *e*P **P 17 32 45.1 +0.1**
EPF pmax pmax
comp=Z,55nm,1.6s,mb4.9
EPF Esparros 40.55 53 *e*P **P 17 32 45.1 +0.1**
comp=Z,55nm,1.6s,mb4.9
CCM Cathedral Cave 40.64 299 *e*P **P 17 32 46.6 +0.7**
CCM pmax pmax
comp=Z,29nm,0.9s,mb4.9
CCM MLR MLR
comp=Z,4μm,21.0s,MS5.2
CCM Cathedral Cave 40.64 299 *e*P **P 17 32 46.6 +0.7**
comp=Z,29nm,0.9s,mb4.9
CCM LR LR
comp=Z,4μm,21.0s,MS5.2
MFF Saint Martin d 40.95 48 *e*P **P 17 32 48.2 -0.1**
GRR Gorron 40.97 45 *e*P **P 17 32 48.1 -0.3**
comp=Z,107nm,1.7s,mb4.9
GRR Gorron 40.97 45 *e*P **P 17 32 48.1 -0.3**
GRR pmax pmax
comp=Z,54nm,1.7s,mb4.9
GRR Gorron 40.97 45 *e*P **P 17 32 48.1 -0.3**
comp=Z,54nm,1.7s,mb4.9
OTAV Otavalo 41.15 237 *e*P **P 17 32 51.0 +0.7**
comp=Z,34nm,1.3s,mb4.8
OTAV LR LR
comp=Z,1μm,21.0s,MS4.8
LFF La Frestale 41.19 51 *e*P **P 17 32 50.0 -0.3**
comp=Z,132nm,1.5s,mb5.0
LFF La Frestale 41.19 51 *e*P **P 17 32 50.0 -0.3**
LFF pmax pmax
comp=Z,66nm,1.5s,mb5.0
LFF La Frestale 41.19 51 *e*P **P 17 32 50.0 -0.3**
comp=Z,66nm,1.5s,mb5.0
SFJD Kangerlussuaq 41.20 357 *i* P **P 17 32 51.2 +1.1**
SFJD *i* S **S 17 39 12.7 +9.4**
SFJD *i* 17 42 01.9
SFJD
comp=Z,760nm,21.0s
TGUH Tegucigalpa,Un 41.27 262 *e*P **P 17 32 52.2 +0.9**
FLN La Foliniere 41.32 45 *e*P **P 17 32 50.8 -0.5**
comp=Z,17nm,0.7s,mb4.5
FLN *e*MLR MLR
comp=Z,3μm,20.2s,MS4.8
FLN La Foliniere 41.32 45 *e*P **P 17 32 50.8 -0.5**
FLN pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
FLN MLR MLR
comp=Z,3μm,20.3s,MS5.1
FLN La Foliniere 41.32 45 *e*P **P 17 32 50.8 -0.5**
comp=Z,8.4nm,0.7s,mb4.5
FLN LR LR
comp=Z,3μm,20.3s,MS5.1
BDFB Brasilia 41.45 184 P **P 17 32 51.8 -0.8**
comp=Z,5.5nm,0.8s,mb4.3,baz=340,slow=16,SNR=12
BDFB LR LR 17 48 21.7
comp=Z,886nm,18.8s,MS4.7,baz=329,slow=34
UALR University of 41.46 294 *e*P **P 17 32 52.8 +0.1**
comp=Z,38nm,1.4s,mb4.8
LDF La Druitiere 41.50 45 *e*P **P 17 32 52.2 -0.6**
comp=Z,40nm,1.2s,mb4.6
LDF La Druitiere 41.50 45 *e*P **P 17 32 52.2 -0.6**
LDF pmax pmax
comp=Z,20nm,1.2s,mb4.6
LDF La Druitiere 41.50 45 *e*P **P 17 32 52.2 -0.6**
comp=Z,20nm,1.2s,mb4.6
BORG Borgarnes 41.68 15 P **P 17 32 55.9 +1.9**
comp=Z,25nm,1.1s,mb4.8,baz=190,slow=3.0,SNR=4.8
BORG Borgarnes 41.68 15 P **P 17 32 55.9 +1.9**
BORG LR LR
comp=Z,934nm,21.0s,MS4.6
RJF Les Rejaudoux 41.80 50 *e*P **P 17 32 54.6 -0.7**
comp=Z,139nm,1.7s,mb5.0
RJF *e*MLR MLR
comp=Z,3μm,19.2s,MS4.9
RJF Les Rejaudoux 41.80 50 *e*P **P 17 32 54.6 -0.7**
RJF pmax pmax
comp=Z,69nm,1.7s,mb5.0
RJF MLR MLR
comp=Z,3μm,19.3s,MS5.2
RJF Les Rejaudoux 41.80 50 *e*P **P 17 32 54.6 -0.7**
comp=Z,69nm,1.7s,mb5.0
RJF LR LR
comp=Z,3μm,19.3s,MS5.2
MTLF Montolieu 41.95 53 *e*P **P 17 32 56.1 -0.5**
comp=Z,36nm,1.1s,mb4.6
MTLF Montolieu 41.95 53 *e*P **P 17 32 56.1 -0.5**
MTLF pmax pmax
comp=Z,18nm,1.1s,mb4.6
MTLF Montolieu 41.95 53 *e*P **P 17 32 56.1 -0.5**
comp=Z,18nm,1.1s,mb4.6
CAF Calviac 42.10 51 *e*P **P 17 32 57.3 -0.5**
comp=Z,54nm,1.3s,mb4.7
CAF Calviac 42.10 51 *e*P **P 17 32 57.3 -0.5**
CAF pmax pmax
comp=Z,27nm,1.3s,mb4.7
CAF Calviac 42.10 51 *e*P **P 17 32 57.3 -0.5**
comp=Z,27nm,1.3s,mb4.7
ESK Eskdalemuir 42.20 35 *e*P **P 17 32 58.4 0.0**
ESK MLR MLR
comp=Z,3μm,20.0s,MS5.1
EYMN Ely 42.36 314 *e*P **P 17 32 57.1 -2.7**
comp=Z,29nm,1.3s,mb4.8
EYMN LR LR
comp=Z,3μm,20.0s,MS5.2
TCF Toulx Ste Croi 42.47 49 *e*P **P 17 33 00.5 -0.3**
comp=Z,106nm,1.7s,mb4.9
TCF Toulx Ste Croi 42.47 49 *e*P **P 17 33 00.5 -0.3**
TCF pmax pmax
comp=Z,53nm,1.7s,mb4.9
TCF Toulx Ste Croi 42.47 49 *e*P **P 17 33 00.5 -0.3**
comp=Z,53nm,1.7s,mb4.9
SCIA State Center 42.48 305 PFAKE 17 33 10.0 +9.1
SCIA LR LR
comp=Z,3μm,19.0s,MS5.2
MIAR Mount Ida 42.48 294 *e*P **P 17 33 01.6 +0.6**
MIAR pmax pmax
comp=Z,117nm,2.0s,mb5.2
MIAR MLR MLR
comp=Z,2μm,20.0s,MS4.9
MIAR Mount Ida 42.48 294 *e*P **P 17 33 01.6 +0.6**
comp=Z,117nm,2.0s,mb5.2
MIAR LR LR
comp=Z,2μm,20.0s,MS4.9
TIC Toumodi 42.67 110 *e*P **P 17 33 02.2 -0.6**
comp=Z,34nm,0.2s,mb5.7
TIC Toumodi 42.67 110 *e*P **P 17 33 02.2 -0.6**
TIC pmax pmax
comp=Z,34nm,0.2s,mb5.7
DBIC Dimbokro 42.80 109 P **P 17 33 03.3 -0.5**
comp=Z,39nm,1.1s,mb5.0,baz=283,slow=10,SNR=9.8
DBIC LR LR 17 47 38.7
comp=Z,4μm,21.1s,MS5.3,baz=275,slow=32
DBIC Dimbokro 42.80 109 P **P 17 33 03.9 +0.1**
DBIC pmax pmax
comp=Z,110nm,1.2s
LIC Lamto 42.88 110 *e*P **P 17 33 03.8 -0.7**
comp=Z,304nm,1.4s,mb5.5
LIC *e*MLR MLR
comp=Z,7μm,22.2s,MS5.2
LIC Lamto 42.88 110 *e*P **P 17 33 04.0 -0.5**
comp=Z,288nm,1.4s,mb5.8
LIC Lamto 42.88 110 *e*P **P 17 33 03.8 -0.7**
comp=Z,152nm,1.4s,mb5.5
LIC LR LR
comp=Z,4μm,22.3s,MS5.2
PYM Petit Puy Mans 42.91 50 *e*P **P 17 33 05.3 +1.0**
BGF Bois d'Agland 42.95 49 *e*P **P 17 33 04.3 -0.4**
comp=Z,128nm,1.7s,mb5.1
BGF Bois d'Agland 42.95 49 *e*P **P 17 33 04.3 -0.4**
BGF pmax pmax
comp=Z,64nm,1.7s,mb5.1
BGF Bois d'Agland 42.95 49 *e*P **P 17 33 04.3 -0.4**
comp=Z,64nm,1.7s,mb5.1
LBL Lubilhac 42.98 51 *e*P **P 17 33 05.8 +0.9**
AGO Saint Agoulin 43.05 49 *e*P **P 17 33 06.4 +0.9**
KIC Kosan Boka 43.06 110 *e*P **P 17 33 05.3 -0.6**
comp=Z,374nm,1.2s,mb6.0
LASF Ste Croix 43.23 52 *e*P **P 17 33 07.1 +0.1**
comp=Z,134nm,1.5s,mb5.1
AVF Avril sur Loir 43.34 48 *e*P **P 17 33 07.4 -0.4**
comp=Z,141nm,1.7s,mb5.1
AVF Avril sur Loir 43.34 48 *e*P **P 17 33 07.4 -0.4**
AVF pmax pmax
comp=Z,70nm,1.7s,mb5.1
AVF Avril sur Loir 43.34 48 *e*P **P 17 33 07.4 -0.4**
comp=Z,70nm,1.7s,mb5.1
COLF Collangettes 43.34 50 *e*P **P 17 33 08.3 +0.5**
PLDF La Plantade 43.37 50 *e*P **P 17 33 09.0 +0.9**
MENF Mencas 43.48 43 *e*P **P 17 33 08.9 +0.1**
SSF Saint Saulge 43.50 48 *e*P **P 17 33 08.6 -0.5**
comp=Z,106nm,1.7s,mb5.0
SSF Saint Saulge 43.50 48 *e*P **P 17 33 08.6 -0.5**
SSF pmax pmax
comp=Z,53nm,1.7s,mb5.0
SSF Saint Saulge 43.50 48 *e*P **P 17 33 08.6 -0.5**
comp=Z,53nm,1.7s,mb5.0
NATX Nacogdoches 43.57 290 *e*P **P 17 33 11.1 +1.2**
NATX LR LR
comp=Z,3μm,20.0s,MS5.2
SMF Signal de Mont 43.65 49 *e*P **P 17 33 10.1 -0.2**
comp=Z,146nm,1.6s,mb5.2
SMF Signal de Mont 43.65 49 *e*P **P 17 33 10.1 -0.2**
SMF pmax pmax
comp=Z,73nm,1.6s,mb5.2
SMF Signal de Mont 43.65 49 *e*P **P 17 33 10.1 -0.2**
comp=Z,73nm,1.6s,mb5.2
LOR Lormes 43.78 48 *e*P **P 17 33 10.9 -0.4**
comp=Z,108nm,1.7s,mb5.0
LOR *e*MLR MLR
comp=Z,873nm,21.8s,MS4.3
LOR Lormes 43.78 48 *e*P **P 17 33 10.9 -0.4**
LOR pmax pmax
comp=Z,54nm,1.7s,mb5.0
LOR MLR MLR
comp=Z,870nm,21.8s,MS4.6
LOR Lormes 43.78 48 *e*P **P 17 33 10.9 -0.4**
comp=Z,54nm,1.7s,mb5.0
LOR LR LR
comp=Z,870nm,21.8s,MS4.6
VIVF Saint-Julien-l 43.92 51 *e*P **P 17 33 12.7 +0.2**
comp=Z,136nm,1.8s,mb5.1
VIVF Saint-Julien-l 43.92 51 *e*P **P 17 33 12.7 +0.2**
VIVF pmax pmax
comp=Z,68nm,1.8s,mb5.1
VIVF Saint-Julien-l 43.92 51 *e*P **P 17 33 12.7 +0.2**
comp=Z,68nm,1.8s,mb5.1
BAIF Baives 44.62 44 *e*P **P 17 33 17.4 -0.6**
comp=Z,96nm,1.7s,mb5.1
BAIF Baives 44.62 44 *e*P **P 17 33 17.4 -0.6**
BAIF pmax pmax
comp=Z,48nm,1.7s,mb5.0
BAIF Baives 44.62 44 *e*P **P 17 33 17.4 -0.6**
comp=Z,48nm,1.7s,mb5.0
HKT Hockley 44.78 287 *e*P **P 17 33 19.8 +0.2**
HKT pmax pmax
comp=Z,23nm,1.4s,mb4.8
HKT MLR MLR
comp=Z,2μm,20.0s,MS5.0
HKT Hockley 44.78 287 *e*P **P 17 33 19.8 +0.2**
comp=Z,23nm,1.4s,mb4.8
HKT LR LR
comp=Z,2μm,20.0s,MS5.0
MEZF Maizieres J'vi 44.81 46 *e*P **P 17 33 19.3 -0.3**
comp=Z,243nm,1.6s,mb5.5
MEZF Maizieres J'vi 44.81 46 *e*P **P 17 33 19.3 -0.3**
comp=Z,243nm,1.6s,mb5.8
DOU Dourbes 44.87 44 P **P 17 33 21.6 +1.6**
KSU1 Kansas State U 44.88 300 PFAKE 17 33 30.0 +10
KSU1 LR LR
comp=Z,4μm,21.0s,MS5.3
UCC Uccle 44.89 43 P **P 17 33 19.8 -0.4**
ASCN Ascension 44.96 134 PFAKE 17 33 30.0 +8.8
ASCN LR LR
comp=Z,2μm,20.0s,MS4.9
GIVF Givet 45.01 44 *e*P **P 17 33 20.6 -0.6**
ECSD EROS,Sioux Fal 45.16 307 *e*P **P 17 33 22.2 -0.2**
comp=Z,15nm,1.2s,mb4.7
ECSD LR LR
comp=Z,2μm,20.0s,MS5.1
CABF La Chapelle 45.16 49 *e*P **P 17 33 22.4 0.0**
comp=Z,164nm,1.6s,mb5.3
CABF La Chapelle 45.16 49 *e*P **P 17 33 22.4 0.0**
CABF pmax pmax
comp=Z,82nm,1.6s,mb5.3
CABF La Chapelle 45.16 49 *e*P **P 17 33 22.4 0.0**
comp=Z,82nm,1.6s,mb5.3
BNI Bardonecchia 45.36 51 *e*P **P 17 33 25.5 +1.5**
BNI pmax pmax
comp=Z,121nm,1.6s,mb5.5
BNI MLR MLR
comp=Z,3μm,20.0s,MS5.2
BNI Bardonecchia 45.36 51 *e*P **P 17 33 25.5 +1.5**
comp=Z,121nm,1.6s,mb5.5
BNI LR LR
comp=Z,3μm,20.0s,MS5.2
THEF They Montfort 45.37 47 *e*P **P 17 33 24.5 +0.5**
BCLA Clavier 45.38 44 P **P 17 33 24.3 +0.2**
comp=Z,31nm,2.3s,mb4.7
MBDF Montbardon 45.39 52 *e*P **P 17 33 23.8 -0.4**
comp=Z,191nm,1.6s,mb5.4
MBDF Montbardon 45.39 52 *e*P **P 17 33 23.8 -0.4**
MBDF pmax pmax
comp=Z,95nm,1.6s,mb5.4
MBDF Montbardon 45.39 52 *e*P **P 17 33 23.8 -0.4**
comp=Z,95nm,1.6s,mb5.4
LPL La Plagne 45.45 51 *e*P **P 17 33 25.6 +0.9**
LPG La Plagne 45.47 51 *e*P **P 17 33 25.6 +0.8**
comp=Z,171nm,1.8s,mb5.3
LPG La Plagne 45.47 51 *e*P **P 17 33 25.6 +0.8**
LPG pmax pmax

comp=Z,85nm,1.8s,mb5.3
LPG La Plagne 45.47 51 *e*P **P 17 33 25.6 +0.8**
comp=Z,85nm,1.8s,mb5.3
HAU Haudompre 45.57 47 *e*P **P 17 33 25.0 -0.6**
comp=Z,30nm,0.8s,mb5.0
HAU *e*MLR MLR
comp=Z,1μm,22.8s,MS4.5
HAU Haudompre 45.57 47 *e*P **P 17 33 25.0 -0.6**
HAU pmax pmax
comp=Z,15nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,1μm,22.8s,MS4.8
HAU Haudompre 45.57 47 *e*P **P 17 33 25.0 -0.6**
comp=Z,15nm,0.8s,mb5.0
HAU LR LR
comp=Z,1μm,22.8s,MS4.8
TOA0 Torodi Ar. Sit 45.59 97 *e*P **P 17 33 25.4 -0.8**
TORD Torodi Ar. Bea 45.59 97 P **P 17 33 25.2 -0.9**
comp=Z,16nm,1.0s,mb4.9,baz=299,slow=7.7,SNR=45
TORD LR LR 17 51 40.5
comp=Z,3μm,18.5s,MS5.3,baz=285,slow=35
ULM Lac du Bonnet 45.69 316 P **P 17 33 25.2 -1.3**
comp=Z,17nm,0.9s,mb5.0,baz=93,slow=6.6,SNR=15
ULM LR LR 17 50 14.7
comp=Z,2μm,20.6s,MS5.1,baz=102,slow=33
BEBN Eben Emael 45.70 43 P **P 17 33 27.0 +0.4**
WLF Walferdange 45.76 45 P **P 17 33 27.0 -0.1**
comp=Z,45nm,2.3s,mb5.0
WLF Walferdange 45.76 45 *e*P **P 17 33 27.4 +0.3**
WLF pmax pmax
comp=Z,89nm,1.8s,mb5.4
WLF Walferdange 45.76 45 *e*P **P 17 33 27.1 0.0**
comp=Z,129nm,1.9s,mb5.5
WLF *e*S **S 17 40 10.0 -0.4**
WLF Walferdange 45.76 45 *e*P **P 17 33 27.4 +0.3**
comp=Z,89nm,1.8s,mb5.4
MEM Membach 45.87 44 P **P 17 33 28.1 +0.2**
comp=Z,19nm,2.0s,mb4.7
HINF Hinteralfeld 45.87 48 *e*P **P 17 33 27.2 -0.8**
comp=Z,32nm,1.2s,mb4.8
HINF Hinteralfeld 45.87 48 *e*P **P 17 33 27.2 -0.8**
HINF pmax pmax
comp=Z,16nm,1.2s,mb4.8
HINF Hinteralfeld 45.87 48 *e*P **P 17 33 27.2 -0.8**
comp=Z,16nm,1.2s,mb4.8
TAM Tamanrasset 45.91 83 P **P 17 33 30.1 +1.4**
TAM Tamanrasset 45.91 83 *e*P **P 17 33 29.9 +1.3**
MOF Molkenrain 46.06 48 *e*P **P 17 33 28.2 -1.3**
ECH Echery 46.14 47 *e*P **P 17 33 30.6 +0.5**
ECH Echery 46.14 47 P **P 17 33 30.0 -0.1**
ECH Echery 46.14 47 *e*P **P 17 33 29.0 -1.1**
CDF Champ du Feu 46.25 47 *e*P **P 17 33 30.6 -0.4**
comp=Z,161nm,1.8s,mb5.4
CDF Champ du Feu 46.25 47 *e*P **P 17 33 30.6 -0.4**
CDF pmax pmax
comp=Z,81nm,1.8s,mb5.3
CDF Champ du Feu 46.25 47 *e*P **P 17 33 30.6 -0.4**
comp=Z,81nm,1.8s,mb5.3
BBS Basel-Blauen 46.26 48 *e*P **P 17 33 31.2 +0.2**
RUP Ruppelstein 46.34 45 *e*P **P 17 33 31.7 0.0**
FELD Feldberg im Sc 46.65 48 *e*P **P 17 33 33.0 -1.1**
LANF Langenberg 46.69 46 *e*P **P 17 33 33.8 -0.6**
WMOK Wichita Mounta 46.76 294 P **P 17 33 35.1 -0.1**
WMOK pmax pmax
comp=Z,42nm,1.0s,mb5.3
WMOK Wichita Mounta 46.76 294 *e*P **P 17 33 34.7 -0.5**
comp=Z,42nm,1.0s,mb5.3
SUMG Summit 46.80 3 *e*P **P 17 33 35.6 +0.7**
comp=Z,117nm,2.6s,mb5.3
BFO Black Forest 46.93 47 P **P 17 33 36.3 0.0**
BFO pmax pmax
comp=Z,39nm,1.3s,mb5.2
BFO Black Forest 46.93 47 *e*P **P 17 33 36.2 -0.1**
comp=Z,109nm,1.8s,mb5.5
BFO Black Forest 46.93 47 *e*P **P 17 33 35.8 -0.6**
BFO LR LR
comp=Z,838nm,21.0s,MS4.7
KVTX Kingsville 46.95 284 PFAKE 17 33 50.0 +13
KVTX LR LR
comp=Z,3μm,20.0s,MS5.3
KEST Kesra 47.16 64 P **P 17 33 38.4 0.0**
comp=Z,5.3nm,1.0s,mb4.4,baz=214,slow=2.0,SNR=6.3
KEST LR LR 17 50 33.9
comp=Z,531nm,21.8s,MS4.5,baz=211,slow=32
SPAK Spaichingen-Ko 47.20 47 *e*P **P 17 33 37.9 -0.5**
IBBN Ibbenburen 47.31 42 *e*P **P 17 33 39.4 +0.2**
TNS Taunus Mts 47.32 45 *e*P **P 17 33 42.0 +2.7**
TNS *e*S **S 17 40 36.5 +3.7**
TNS Taunus Mts 47.32 45 *e*P **P 17 33 39.7 +0.4**
TNS *e*P pP 17 33 42.0 -0.5
TNS *e*S **S 17 40 36.5 +3.7**
CBKS Cedar Bluff 47.32 300 PFAKE 17 33 50.0 +10
CBKS LR LR
comp=Z,4μm,22.0s,MS5.3
TUE Stuetta 47.38 50 *e*P **P 17 33 41.0 +1.1**
comp=Z,98nm,1.8s,mb5.4
TOD Tromm 47.44 45 *e*P **P 17 33 39.7 -0.6**
STU Stuttgart 47.56 47 *e*P **P 17 33 40.8 -0.5**
comp=Z,42nm,1.3s,mb5.3
STU *e*S **S 17 40 37.8 +1.5**
STU Stuttgart 47.56 47 *e*P **P 17 33 41.0 -0.3**
LPAZ La Paz 47.63 211 P **P 17 33 42.3 +0.2**
comp=Z,24nm,1.1s,mb5.2,baz=20,slow=8.6,SNR=37
LPAZ LR LR 17 52 21.9
comp=Z,1μm,19.4s,MS4.8,baz=21,slow=34
LPAZ La Paz 47.63 211 P **P 17 33 42.0 -0.1**
LPAZ pmax pmax
comp=Z,35nm,1.2s
DAVA Damuels 47.83 49⇓ *i*P **P 17 33 43.9 +0.5**
comp=Z,483nm,3.5s,SNR=11
JCT Junction City 48.10 289 *e*P **P 17 33 44.4 -1.3**
JCT pmax pmax
comp=Z,19nm,1.1s,mb5.0
JCT MLR MLR
comp=Z,2μm,22.0s,MS5.0
JCT Junction City 48.10 289 *e*P **P 17 33 44.4 -1.3**
comp=Z,20nm,1.1s,mb5.0
JCT LR LR
comp=Z,2μm,22.0s,MS5.0
FETA Feichten 48.38 49⇓ *i*P **P 17 33 48.2 +0.6**
comp=Z,323nm,3.1s,SNR=12
FETA Feichten 48.38 49⇓ *i*pP pP 17 33 48.2 -2.5
comp=Z,323nm,3.1s,SNR=12
UBBA Unterbreizbach 48.40 44 *e*P **P 17 33 47.6 -0.1**
comp=Z,62nm,1.9s,mb5.3
UBBA *e*PcP PcP 17 35 15.0 +1.0
RETA Reutte 48.45 49⇓ *i*P **P 17 33 48.6 +0.5**
comp=Z,295nm,2.7s,mb5.8,SNR=12
MOTA Moosalm 48.66 49⇓ *i*P **P 17 33 50.0 +0.3**
comp=Z,142nm,2.0s,mb5.7
MOTA Moosalm 48.66 49⇓ *i*P **P 17 33 50.0 +0.2**
MOTA pmax pmax
comp=Z,142nm,2.0s,mb5.7
CLZ Clausthal 48.80 43 *e*P **P 17 33 50.9 +0.1**
CLZ *e* 17 35 15.8
CLZ *e*S **S 17 40 58.1 +4.4**
CLZ pmax pmax
comp=Z,67nm,2.0s,mb5.3
CLZ Clausthal 48.80 43 *e*P **P 17 33 50.9 +0.1**
comp=Z,67nm,2.0s,mb5.3
CLZ *e*PcP PcP 17 35 15.8 +0.4
CLZ *e*S **S 17 40 58.1 +4.4**
NNA Nana 48.81 223 LR LR 17 53 18.8
comp=Z,909nm,21.9s,MS4.7,baz=23,slow=35
NNA Nana 48.81 223 PFAKE 17 34 00.0 +8.8
NNA LR LR
comp=Z,1μm,22.0s,MS4.8
FUR Furstenfeldbru 48.86 48 *e*P **P 17 33 51.5 +0.2**
FUR *e*PcP PcP 17 35 17.2 +1.4
FUR *e*S **S 17 40 57.5 +2.8**
WATA Walderalm 48.98 49⇓ *i*P **P 17 33 52.4 +0.1**
comp=Z,44nm,1.4s,mb5.3
WATA Walderalm 48.98 49⇓ *i*P **P 17 33 52.4 +0.2**
WATA pmax pmax
comp=Z,44nm,1.4s,mb5.3
GRFO Grafenberg 49.01 46 *e*S **S 17 40 59.8 +3.1**
GRA1 Grafenberg Arr 49.01 46 *e*P **P 17 33 52.3 -0.1**
comp=Z,23nm,1.0s,mb5.2
GRA1 *e*S **S 17 41 00.0 +3.3**
GRA1 LR LR
comp=Z,1μm,21.5s,MS4.8
GRF Grafenberg Arr 49.01 46 *e*P **P 17 33 52.3 -0.1**
GRF *e*S **S 17 41 00.0 +3.3**
GRF pmax pmax
comp=Z,23nm,1.0s,mb5.2
GRF MLR MLR
comp=Z,1μm,21.5s,MS4.8
GRF Grafenberg Arr 49.01 46 *e*P **P 17 33 52.3 -0.1**
comp=Z,23nm,1.0s,mb5.2
GRF *e*S **S 17 41 00.0 +3.3**
GRF *e*L 17 50 15.6
comp=Z,1μm,21.5s
WTTA Wattenberg 49.02 49 *i*P **P 17 33 52.9 +0.4**
comp=Z,444nm,3.0s,mb6.0,SNR=10
WTTA Wattenberg 49.02 49 *i*P **P 17 33 52.9 +0.4**
WTTA pmax pmax
comp=Z,444nm,3.0s
MUD Monsted U'grnd 49.12 37 *e*P **P 17 33 58.0 +4.9**
MUD *i*S **S 17 41 05.0 +6.9**
MUD MLR MLR
comp=Z,8μm,20.0s,MS5.7
MUD Monsted U'grnd 49.12 37 *i*P **P 17 33 58.0 +4.9**
MUD *i*S **S 17 41 05.0 +6.9**
MUD
comp=Z,8μm,20.0s
MUD Monsted U'grnd 49.12 37 *e*P **P 17 33 58.0 +4.9**
MUD *i*S **S 17 41 05.0 +6.9**
AMTX Amarillo 49.12 295 *e*P **P 17 33 53.1 -0.4**
comp=Z,57nm,1.1s,mb5.5
AMTX LR LR
comp=Z,2μm,19.0s,MS5.2
BSEG Bad Segeberg 49.17 40 *e*P **P 17 33 53.7 +0.2**
BSEG *e*S **S 17 40 59.7 +0.9**
BSEG pmax pmax
comp=Z,182nm,1.6s,mb5.9
BSEG Bad Segeberg 49.17 40 *e*P **P 17 33 53.7 +0.2**
comp=Z,182nm,1.6s,mb5.9
BSEG *e*S **S 17 40 59.7 +0.9**
MOX Moxa 49.39 44 *e*P **P 17 33 55.4 +0.1**
comp=Z,80nm,2.1s,mb5.4
MOX
comp=Z,500nm,21.0s
MOX Moxa 49.39 44 *e*P **P 17 33 55.4 +0.1**
MOX pmax pmax
comp=Z,80nm,2.1s,mb5.4
MOX MLR MLR
comp=Z,500nm,21.0s,MS4.5
MOX Moxa 49.39 44 *e*P **P 17 33 55.1 -0.2**
comp=Z,44nm,1.7s,mb5.2
MOX *e*PcP PcP 17 35 18.2 +0.6
MOX *e*S **S 17 41 04.5 +2.5**
ABTA Abfaltersbach 49.58 50⇓ *i*P **P 17 33 56.6 -0.2**
comp=Z,208nm,3.0s,mb5.6,SNR=11
JMIC Jan Mayen 49.58 15 P **P 17 33 57.6 +1.2**
comp=Z,34nm,1.2s,mb5.3,baz=122,slow=12,SNR=5.3
MANZ Manzenberg 49.61 45 *e*P **P 17 33 57.1 +0.1**
comp=Z,133nm,2.2s,mb5.6
MANZ *e*S **S 17 41 08.5 +3.3**
ROTZ Rotzenmuhle 49.65 46 *e*P **P 17 33 57.3 0.0**
comp=Z,41nm,1.8s,mb5.2
ROTZ *e*PcP PcP 17 35 18.6 0.0
ROTZ *e*S **S 17 41 09.0 +3.3**
GUNZ Gunzen 49.80 45 *e*P **P 17 33 59.1 +0.7**
comp=Z,109nm,2.1s,mb5.5
WERN Wernitzgruen 49.82 45 *e*P **P 17 33 58.7 +0.1**
comp=Z,92nm,1.7s,mb5.5
WERN *e*PcP PcP 17 35 17.8 -1.4
RJOB Jochberg 49.84 48 *e*P **P 17 33 58.6 -0.2**
comp=Z,81nm,2.1s,mb5.4
RJOB *e*PcP PcP 17 35 18.8 -0.5
RJOB *e*S **S 17 41 10.7 +2.3**
NKC Novy Kostel 49.86 45 *e*P **P 17 33 59.6 +0.7**
NKC *e*S **S 17 41 14.6 +5.9**
NKC MLR MLR
comp=Z,2μm,28.9s,MS5.0
NKC Novy Kostel 49.86 45 *e*P **P 17 33 59.6 +0.7**
NKC *e*S **S 17 41 14.6 +5.9**
NKC *e*SS SS 17 44 49.6 +8.5
NKC AMS AMS 17 49 20.0
comp=Z,2μm,28.9s
NKC Novy Kostel 49.86 45 *e*P **P 17 33 59.6 +0.7**
NKC *e*S **S 17 41 14.6 +5.9**
NKC *e*SS SS 17 44 49.6 +8.5
WET Wettzell 50.02 47 *e*P **P 17 33 59.8 -0.3**
WET *e*S **S 17 41 12.5 +1.6**
WET pmax pmax
comp=Z,128nm,2.4s,mb5.5
WET Wettzell 50.02 47 *e*P **P 17 33 59.8 -0.3**
comp=Z,128nm,2.4s,mb5.5
WET *e*S **S 17 41 12.5 +1.6**
AQU L'Aquila 50.08 55 PFAKE 17 34 10.0 +9.3
AQU LR LR
comp=Z,1μm,19.0s,MS5.0
KBA Koelnbreinsper 50.17 49⇑ *i*P **P 17 34 00.8 -0.5**
comp=Z,297nm,4.1s
KBA Koelnbreinsper 50.17 49⇑ *i*P **P 17 34 00.8 -0.5**
KBA pmax pmax
comp=Z,297nm,4.1s
CLL Collm 50.34 44⇓ *i*P **P 17 34 02.2 -0.3**
CLL *i* pP 17 34 04.5 -1.2
CLL *e*S **S 17 41 22.0 +6.7**
CLL pmax pmax
comp=Z,20nm,1.2s,mb5.0
CLL MLR MLR
comp=Z,2μm,24.0s,MS5.0
CLL Collm 50.34 44 *e*P **P 17 34 02.3 -0.2**
comp=Z,138nm,2.4s,mb5.6
CLL *e*PcP PcP 17 35 18.5 -2.6
CLL *e*S **S 17 41 17.7 +2.4**
CLL Collm 50.34 44⇓ *i*P **P 17 34 02.2 -0.3**
comp=Z,20nm,1.2s,mb5.0
CLL *i* (pP) pP 17 34 04.5 -1.2
CLL *e*x x 17 35 11.0
CLL *e*PP PP 17 35 48.0 -10
CLL *e*S **S 17 41 22.0 +6.7**
CLL *e*SS SS 17 44 57.0 +8.2
CLL Collm 50.34 44⇓ *i*P **P 17 34 02.2 -0.3**
comp=Z,20nm,1.2s,mb5.0
CLL *i* pP 17 34 04.5 -1.2
CLL *e*S **S 17 41 22.0 +6.7**
CLL LR LR
comp=Z,2μm,24.0s,MS5.0
MYKA Terra Mystica 50.34 50⇓ *i*P **P 17 34 02.2 -0.4**
comp=Z,3μm,3.6s
KHC Kasperske Hory 50.48 47 *e*P **P 17 34 03.4 -0.2**
KHC *e* pP 17 34 07.5 +0.8
KHC *e*S **S 17 41 21.1 +3.8**
KHC MLR MLR
comp=Z,1μm,24.6s,MS4.8
KHC Kasperske Hory 50.48 47 *e*P **P 17 34 03.4 -0.2**
KHC *e*pP pP 17 34 07.5 +0.8
KHC *e*S **S 17 41 21.1 +3.8**
KHC *e*SS SS 17 45 01.6 +11
KHC AMS AMS 17 49 40.0
comp=Z,1μm,24.6s
VOY Vojsko 50.49 51 *e*P **P 17 34 03.9 +0.2**
VOY *e* 17 34 42.5
GEC2 GERESS Array S 50.53 47 *e*P **P 17 34 03.8 -0.2**
comp=Z,81nm,1.8s,mb5.3
GEC2 *e*S **S 17 41 19.2 +1.1**
GERES GERESS Array B 50.53 47 P **P 17 34 03.2 -0.8**
comp=Z,5.6nm,0.9s,mb4.5,baz=271,slow=7.5,SNR=30
GERES LR LR 17 53 30.0
comp=Z,394nm,20.3s,MS4.4,baz=256,slow=34
RSSD Black Hills 50.53 307 *e*P **P 17 34 04.1 0.0**
RSSD pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
RSSD MLR MLR
comp=Z,2μm,21.0s,MS5.2
RSSD Black Hills 50.53 307 *e*P **P 17 34 04.0 0.0**
comp=Z,7.4nm,1.1s,mb4.5
RSSD LR LR
comp=Z,2μm,21.0s,MS5.2
JAVS Javornik 50.60 51 *i*P **P 17 34 04.5 -0.1**
COP Copenhagen 50.72 38⇑ *i*P **P 17 34 06.4 +1.1**
COP *i*S **S 17 41 28.1 +7.6**
COP pmax pmax
comp=Z,49nm,1.3s,mb5.3
COP MLR MLR
comp=Z,640nm,20.0s,MS4.6
COP Copenhagen 50.72 38⇑ *i*P **P 17 34 06.4 +1.1**
comp=Z,49nm,1.3s,mb5.3
COP *i*S **S 17 41 28.1 +7.6**
COP
comp=Z,640nm,20.0s
DGMT Dagmar 50.82 312 *e*P **P 17 34 06.3 +0.1**
comp=Z,28nm,1.2s,mb5.1
DGMT LR LR
comp=Z,4μm,21.0s,MS5.4
MOA Molln 50.84 48⇓ *i*P **P 17 34 05.6 -0.7**
comp=Z,358nm,4.3s
BRG Berggiesshubel 50.88 44 *e*P **P 17 34 06.6 0.0**
BRG S **S 17 41 29.0 +6.2**
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BRG MLR MLR
comp=N,8μm,15.3s
BRG MLR MLR
comp=E,292nm,22.6s
BRG MLR MLR
comp=Z,817nm,21.7s
BRG Berggiesshubel 50.88 44 *e*P **P 17 34 06.6 0.0**
comp=Z,185nm,2.5s,mb5.6
BRG *e*S **S 17 41 26.4 +3.6**
BRG Berggiesshubel 50.88 44 *e*P **P 17 34 06.5 0.0**
comp=Z,14nm,1.1s,mb4.8
BRG S **S 17 41 29.0 +6.2**
BRG SS SS 17 45 10.0 +13
BRG
comp=N,488nm,15.3s
BRG
comp=E,1μm,22.6s
BRG
comp=Z,2μm,21.7s
LJU Ljubljana 50.93 51 *e*P **P 17 34 07.0 -0.1**
OBKA Obir 50.96 50 *i*P **P 17 34 07.1 -0.2**
comp=Z,361nm,2.5s,mb5.9,SNR=15
RUE Ruedersdorf 50.97 42 *e*P **P 17 34 07.6 +0.3**
comp=Z,56nm,1.2s,mb5.4
RUE *e*S **S 17 41 26.1 +2.0**
PAYG Puerto Ayora 51.07 246 PFAKE 17 34 20.0 +11
PAYG LR LR
comp=Z,1μm,21.0s,MS5.0
PRA Prague 51.11 45 P **P 17 34 08.0 -0.4**
VISS Visnje 51.14 51 *e*P **P 17 34 08.5 -0.1**
PRU Pruhonice 51.18 46 *e*P **P 17 34 08.9 +0.1**
PRU *e*S **S 17 41 32.0 +5.1**
PRU MLR MLR
comp=Z,1μm,23.5s,MS4.8
PRU Pruhonice 51.18 46 *e*P **P 17 34 08.9 +0.1**
PRU *e*S **S 17 41 32.0 +5.1**
PRU *e*SS SS 17 45 12.4 +10
PRU AMS AMS 17 50 10.0
comp=Z,1μm,23.5s
NAO01 NORSAR Array S 51.19 31 *e*P **P 17 34 09.3 +0.5**
comp=Z,42nm,1.4s,mb5.2
NAO01 LR LR
comp=Z,1μm,19.0s,MS5.0
PVCC Panska Ves 51.24 45 *e*P **P 17 34 09.4 +0.1**
PVCC *e*S **S 17 41 33.0 +5.2**
PVCC MLR MLR
comp=Z,2μm,23.7s,MS5.0
PVCC Panska Ves 51.24 45 *e*P **P 17 34 09.4 +0.1**
PVCC *e*S **S 17 41 33.0 +5.2**
PVCC *e*SS SS 17 45 13.7 +11
PVCC AMS AMS 17 50 30.0
comp=Z,2μm,23.7s
SOKA Soboth 51.30 50⇓ *i*P **P 17 34 08.8 -1.0**
comp=Z,210nm,3.7s
NB2 NORSAR Subarra 51.40 31 P **P 17 34 10.4 0.0**
comp=Z,0.6nm,0.7s,baz=252,slow=7.9
NOA NORSAR Array B 51.40 31 P **P 17 34 10.7 +0.3**
comp=Z,6.8nm,0.8s,mb4.6,baz=254,slow=7.8,SNR=21
NOA LR LR 17 52 30.9
comp=Z,1μm,19.6s,MS5.0,baz=265,slow=32
BOJS Bojanci 51.43 51 *e*P **P 17 34 10.7 -0.1**
PHWY Pilot Hill 51.63 303 *e*P **P 17 34 13.3 +1.0**
ARSA Arzberg 51.66 49⇓ *i*P **P 17 34 11.7 -0.8**
comp=Z,253nm,2.6s,mb5.7,SNR=15
TREC Trest 51.74 47 *e*P **P 17 34 15.6 +2.6**
TREC *e*S **S 17 41 38.7 +4.0**
TREC AMS AMS 17 50 10.0
comp=Z,1μm,33.0s
ISCO Idaho Springs 51.83 301 *e*P **P 17 34 15.5 +1.6**
ISCO pmax pmax
comp=Z,22nm,1.5s,mb4.9
ISCO MLR MLR
comp=Z,3μm,21.0s,MS5.2
ISCO Idaho Springs 51.83 301 *e*P **P 17 34 15.5 +1.5**
comp=Z,22nm,1.5s,mb4.9
ISCO LR LR
comp=Z,3μm,21.0s,MS5.2
CSNA Conrad Observa 51.91 48⇓ *i*P **P 17 34 13.8 -0.6**
comp=Z,231nm,3.0s
CONA Conrad Observa 51.91 48 *i*P **P 17 34 13.9 -0.5**
comp=Z,244nm,3.0s,SNR=11
SDCO Great Sand Dun 51.91 299 *e*P **P 17 34 15.5 +1.0**
comp=Z,12nm,1.4s,mb4.6
SDCO LR LR
comp=Z,5μm,21.0s,MS5.5
LAO LASA Array 52.11 310 PFAKE 17 34 30.0 +14
LAO LR LR
comp=Z,3μm,21.0s,MS5.3
UPC Upice 52.16 45 *e*P **P 17 34 16.6 +0.4**
DPC Dobruska-Polom 52.34 45 *e*P **P 17 34 18.0 +0.4**
DPC *e*S **S 17 41 48.4 +5.4**
DPC *e*SS SS 17 45 25.3 +4.8
DPC AMS AMS 17 51 50.0
comp=Z,1μm,20.6s
KSP Ksiaz 52.36 45 *e*P **P 17 34 17.9 +0.3**
KSP Ksiaz 52.36 45 *e*P **P 17 34 18.0 +0.3**
KSP *e*S **S 17 41 46.0 +2.8**
KSP LR LR
comp=Z,4μm,24.9s,MS5.4
DAG Danmarks Havn 52.46 7⇑ *i*P **P 17 34 18.0 0.0**
DAG pmax pmax
comp=Z,51nm,1.4s,mb5.3
DAG Danmarks Havn 52.46 7⇑ *i*P **P 17 34 18.0 0.0**
comp=Z,51nm,1.4s,mb5.3
VRAC Vranov 52.46 47⇑ *i*P **P 17 34 18.7 +0.3**
VRAC Vranov 52.46 47 P **P 17 34 18.4 0.0**
ZST Bratislava 52.75 48 *e*P **P 17 34 20.3 -0.3**
ZST pmax pmax
comp=Z,141nm,2.2s,mb5.5
ZST Bratislava 52.75 48 *e*P **P 17 34 20.3 -0.3**
comp=Z,141nm,2.2s,mb5.5
MODS Modra-Piesok 52.88 48 *i*P **P 17 34 21.7 +0.2**
MODS pmax pmax
comp=Z,268nm,3.5s
MODS Modra-Piesok 52.88 48 *i*P **P 17 34 21.7 +0.2**
comp=Z,268nm,3.5s
RWWY Rawlins 52.92 304 *e*P **P 17 34 21.9 -0.1**
comp=Z,30nm,1.1s,mb5.1
ANMO Albuquerque 53.01 295⇓ *e*P **P 17 34 23.5 +0.7**
ANMO pmax pmax
comp=Z,49nm,1.8s
ANMO MLR MLR
comp=Z,3μm,20.0s
ANMO Albuquerque 53.01 295⇓ *e*P **P 17 34 23.5 +0.8**
comp=Z,50nm,1.8s,mb5.1
ANMO LR LR
comp=Z,3μm,20.0s,MS5.3
MORC Moravsky Berou 53.10 46 P **P 17 34 22.9 -0.2**
MORC pmax pmax
comp=Z,490nm,0.9s,mb6.4
MORC Moravsky Berou 53.10 46⇑ *i*P **P 17 34 23.5 +0.4**
MORC Moravsky Berou 53.10 46 *e*P **P 17 34 21.9 -1.3**
comp=Z,486nm,0.9s,mb6.4
GKP Gorka Klasztor 53.14 42 *e*P **P 17 34 24.0 +0.6**
GKP Gorka Klasztor 53.14 42 *e*P **P 17 34 24.0 +0.6**
LPM Los Pinos Moun 53.24 295 *e*P **P 17 34 24.0 -0.5**
BNM Barren Site 53.27 294 *e*P **P 17 34 25.8 +1.2**
CPUP Villa Florida 53.32 194 P **P 17 34 23.9 -1.1**
comp=Z,4.9nm,0.8s,mb4.5,baz=356,slow=7.8,SNR=7.9
CPUP LR LR 17 55 13.0
comp=Z,436nm,20.6s,MS4.5,baz=348,slow=34
CPUP Villa Florida 53.32 194 P **P 17 34 24.1 -0.8**
CPUP pmax pmax
comp=Z,70nm,1.2s
CPUP Villa Florida 53.32 194 *e*P **P 17 34 23.3 -1.6**
comp=Z,70nm,1.3s,mb5.4
OKC Ostrava-Krasne 53.49 46 *e*P **P 17 34 26.5 +0.5**
OKC *e*S **S 17 42 02.9 +4.2**
OKC MLR MLR
comp=Z,700nm,26.6s,MS4.6
OKC Ostrava-Krasne 53.49 46 *e*P **P 17 34 26.5 +0.5**
OKC *e*S **S 17 42 02.9 +4.2**
OKC *e*SS SS 17 45 45.5 +6.9
OKC AMS AMS 17 51 30.0
comp=Z,700nm,26.6s
OKC Ostrava-Krasne 53.49 46 *e*P **P 17 34 26.5 +0.5**
OKC *e*S **S 17 42 02.9 +4.2**
OKC *e*SS SS 17 45 45.5 +6.9
Y22C IRIS PASSCAL I 53.52 294⇓ P **P 17 34 27.7 +1.2**
baz=54
LVC Limon Verde 53.55 208 LR LR 17 57 03.2

comp=Z,1µm,19.9s,MS5.0,baz=10,slow=36
LVC Limon Verde 53.55 208 eP P 17 34 25.9 -0.8
comp=Z,31nm,1.2s,mb5.1
LVC LR LR
comp=Z,1µm,21.0s,MS5.0
LENM Lemitar 53.55 295 eP P 17 34 28.6 +1.8
RW3 Ridgway 53.58 300 P P 17 34 21.8 -5.1
RW3 Ridgway 53.58 300 eP P 17 34 20.9 -6.0
KOLL Kolacno 53.63 48 eP P 17 34 27.1 0.0
LAZ Ladron 53.65 295 eP P 17 34 28.8 +1.3
PKSM Moragy 53.80 50 ⇑P P 17 34 27.9 -0.4
PKSM Moragy 53.80 50 P P 17 34 28.1 -0.3
BUD Budapest 54.04 49 eP P 17 34 29.4 -0.7
RLMT Red Lodge 54.25 308 eP P 17 34 32.4 +0.7
comp=Z,28nm,1.1s,mb5.1
RLMT LR LR
comp=Z,2µm,20.0s,MS5.2
PV01 Paradox Valley 54.28 300 eP P 17 34 33.2 +1.2
MVCO Mesa Verde 54.34 298 ⇑P P 17 34 33.5 +1.1
baz=54
MVCO Mesa Verde 54.34 298 eP P 17 34 33.9 +1.4
comp=Z,26nm,1.1s,mb5.1
MVCO LR LR
comp=Z,3µm,20.0s,MS5.4
GCMT Greycliff 54.51 309 eP P 17 34 34.2 +0.7
EGMT Eagleton 54.52 312 ⇑P P 17 34 33.2 -0.4
baz=54
EGMT Eagleton 54.52 312 eP P 17 34 33.9 +0.3
comp=Z,83nm,1.4s,mb5.6
EGMT LR LR
comp=Z,4µm,22.0s,MS5.5
OJC Ojcow 54.57 46 eP P 17 34 34.1 +0.2
OJC eS S 17 42 19.0 +5.8
OJC eSS SS 17 45 57.9 +2.3
OJC L 17 58 03.3
comp=Z,0.6nm,16.7s
BW06 Boulder Array 54.59 305 PFAKE 17 34 50.0 +16
BW06 LR LR
comp=Z,3µm,20.0s,MS5.3
PDAR Pinedale Array 54.59 305 P P 17 34 34.1 -0.1
comp=Z,9.0nm,0.9s,mb4.8,baz=91,slow=8.9,SNR=32
PDAR LR LR 17 56 07.6
comp=Z,2µm,19.7s,MS5.2,baz=101,slow=34
PSZ Piszkesteto 54.62 48 eP P 17 34 34.2 -0.1
PSZ pmax pmax
comp=Z,93nm,2.0s,mb5.5
PSZ MLR MLR
comp=Z,795nm,20.0s,MS4.8
PSZ Piszkesteto 54.62 48 eP P 17 34 34.1 -0.2
PSZ Piszkesteto 54.62 48 eP P 17 34 34.2 -0.1
comp=Z,93nm,2.0s,mb5.5
PSZ LR LR
comp=Z,795nm,20.0s,MS4.8
Q19A Hogan Spring (54.73 301 P P 17 34 35.7 +0.5
baz=55,SNR=9.8
S19A Harvey Farm, M 54.78 299 ⇓P P 17 34 36.3 +0.7
baz=55
R19A Curley Farm, L 54.81 300 ⇑P P 17 34 36.2 +0.3
baz=55
T19A Beclabito 54.81 298 ⇑P P 17 34 36.9 +1.0
baz=55,SNR=9.3
N18A Larsen Ranch, 54.83 303 ⇑P P 17 34 35.7 -0.2
baz=55,SNR=9.6
V19A Window Rock 54.99 297 ⇓P P 17 34 37.7 +0.5
baz=55
KECS Kecovo 55.01 48 eP P 17 34 40.0 +2.9
KECS pmax pmax
comp=Z,16nm,1.9s,mb4.7
KECS Kecovo 55.01 48 eP P 17 34 40.0 +2.9
comp=Z,16nm,1.9s,mb4.7
LKWY Lake 55.09 308 eP P 17 34 39.4 +1.7
LKWY pmax pmax
comp=Z,27nm,1.2s,mb5.2
LKWY MLR MLR
comp=Z,4µm,20.0s,MS5.5
LKWY Lake 55.09 308 eP P 17 34 39.4 +1.6
comp=Z,27nm,1.2s,mb5.2
LKWY LR LR
comp=Z,4µm,20.0s,MS5.5
O18A Roosevelt 55.15 302 ⇓P P 17 34 38.6 +0.3
baz=55
R18A Canyonlands Na 55.29 300 ⇑P P 17 34 40.0 +0.7
baz=55,SNR=13
LOHW Long Hollow 55.30 306 eP P 17 34 39.4 +0.1
comp=Z,33nm,1.3s,mb5.2
FLWY Flagg Ranch 55.33 307 eP P 17 34 40.0 +0.5
comp=Z,187nm,2.0s,mb5.8
W19A Sanders 55.36 296 ⇓P P 17 34 40.3 +0.4
baz=55,SNR=8.1
WAR Warsaw 55.38 43 eP P 17 34 41.6 +1.9
WAR Warsaw 55.38 43 eP P 17 34 41.6 +1.9
Q18A Rafter H Ranch 55.38 301 ⇓P P 17 34 40.1 +0.1
baz=55,SNR=11
MOOW Moose Ponds 55.39 307 eP P 17 34 39.9 -0.1
comp=Z,39nm,1.8s,mb5.1
X19A St. Johns 55.40 295 ⇓P P 17 34 41.1 +1.0
baz=55
P18A Preston Nutter 55.41 302 P P 17 34 40.8 +0.6
baz=55,SNR=8.5
SNOW Snow King Moun 55.42 306 eP P 17 34 41.1 +0.9
comp=Z,27nm,1.0s,mb5.2
T18A Mexican Hat 55.44 299 P P 17 34 41.1 +0.7
baz=55,SNR=10
Y19A Nutrioso 55.45 295 ⇑P P 17 34 42.0 +1.5
baz=55,SNR=11
S18A Hurst Farm, Bl 55.46 299 ⇓P P 17 34 41.2 +0.7
baz=55
YMR Madison River 55.48 308 eP P 17 34 41.5 +0.9
comp=Z,126nm,1.9s,mb5.6
REDW Red Top Meadow 55.49 306 eP P 17 34 39.7 -1.0
comp=Z,121nm,1.9s,mb5.6
IMW Indian Meadow 55.52 307 eP P 17 34 41.3 +0.5
comp=Z,71nm,1.5s,mb5.5
U18A Rough Rock, Ch 55.54 298 P P 17 34 42.1 +1.0
baz=56,SNR=11
TPAW Teton Pass 55.56 306 eP P 17 34 41.6 +0.5
comp=Z,34nm,1.3s,mb5.2
Z19A T-Link Ranch, 55.58 294 ⇓P P 17 34 42.2 +0.7
baz=56
W18A Petrified Fore 55.64 296 ⇑P P 17 34 42.5 +0.6
baz=56
CRVS Cervenica-Dubn 55.65 47 eP P 17 34 42.8 +1.1
SRU San Rafael 55.68 301 eP P 17 34 42.6 +0.5
SRU pmax pmax
comp=Z,15nm,0.9s,mb5.0
SRU San Rafael 55.68 301 ⇓P P 17 34 42.7 +0.6
baz=56
SRU San Rafael 55.68 301 eP P 17 34 42.5 +0.4
comp=Z,15nm,0.9s,mb5.0
119A Ashpeak Ranch, 55.70 293 ⇑P P 17 34 43.2 +0.8
baz=56
V18A Ganado 55.70 297 ⇑P P 17 34 42.7 +0.4
baz=56
N17A Moffit Pass 55.71 303 ⇑P P 17 34 42.3 0.0
baz=56
AHID Auburn Hatcher 55.73 305 eP P 17 34 42.2 -0.1
comp=Z,49nm,1.5s,mb5.3
AHID LR LR
comp=Z,2µm,20.0s,MS5.2
QLMT Earthquake Lak 55.80 308 eP P 17 34 45.0 +2.1
P17A Butcher Ranch, 55.80 301 ⇑P P 17 34 43.2 +0.2
baz=56
219A White Tail Can 55.82 292 ⇑P P 17 34 44.0 +0.8
baz=56,SNR=8.1
RRI2 Red Ridge 55.84 306 eP P 17 34 43.3 +0.2
comp=Z,59nm,1.3s,mb5.5
BOZ Bozeman (W) 55.89 309 eP P 17 34 43.9 +0.4
BOZ pmax pmax
comp=Z,19nm,1.4s,mb4.9
BOZ MLR MLR
comp=Z,2µm,19.0s,MS5.1
BOZ Bozeman (W) 55.89 309 ⇓P P 17 34 43.5 0.0
baz=56
BOZ Bozeman (W) 55.89 309 eP P 17 34 43.9 +0.4
comp=Z,19nm,1.4s,mb4.9
BOZ LR LR
comp=Z,2µm,19.0s,MS5.1
BZS Buzias 55.89 51 ⇑i/P P 17 34 43.7 +0.2
BZS Buzias 55.89 51 P P 17 34 44.2 +0.7
X18A Snowflake 55.92 295 ⇓P P 17 34 44.9 +1.0
baz=56
R17A Hanksville Air 55.92 300 ⇓P P 17 34 44.3 +0.4
baz=56,SNR=9.8
319A Douglas 55.96 292 ⇓P P 17 34 44.8 +0.5
baz=56
L16A Fish Haven 56.04 305 ⇑P P 17 34 44.5 -0.2
baz=56,SNR=6.6

J16A Bone 56.05 306 ⇑P P 17 34 45.3 +0.6
baz=56
SKO Skopje 56.06 55 eP P 17 34 45.6 +0.8
K16A Soda Springs 56.08 306 ⇓P P 17 34 45.2 +0.3
baz=56
DAU Daniels Canyon 56.09 303 P P 17 34 46.3 +1.3
DAU Daniels Canyon 56.09 303 eP P 17 34 45.9 +0.9
S17A Black Ridge (B 56.10 299 ⇓P P 17 34 45.7 +0.6
baz=56,SNR=8.1
Y18A Canyon Day Jun 56.12 295 P P 17 34 46.9 +1.5
baz=56,SNR=9.5
U17A Shonto 56.15 298 ⇓P P 17 34 46.7 +1.1
baz=56
N16A Rees Ranch, Co 56.17 303 ⇓P P 17 34 45.2 -0.4
baz=56
KOLS Kolonicke sedl 56.19 47 eP P 17 34 46.4 +0.8
TMUT Trail Mountain 56.19 301 eP P 17 34 46.9 +1.1
T17A Navajo Res., N 56.20 299 ⇓P P 17 34 47.1 +1.3
baz=56
Q16A Castle Valley 56.21 301 ⇑P P 17 34 46.0 +0.1
baz=56
UZH Uzhgorod 56.21 47 eP P 17 34 45.8 +0.1
UZH eS S 17 42 33.0 -2.2
UZH i SP 17 42 47.0
Z18A Geronimo 56.25 294 ⇓P P 17 34 46.7 +0.4
baz=56
M16A Huntsville 56.26 304 ⇓P P 17 34 46.0 -0.2
baz=56
118A Homack Ranch, 56.28 293 P P 17 34 47.5 +0.9
baz=56,SNR=9.9
O16A Springville 56.30 302 ⇓P P 17 34 47.0 +0.5
baz=56
MPU Maple Canyon 56.42 302 eP P 17 34 47.9 +0.5
comp=Z,22nm,1.3s,mb5.0
MPU LR LR
comp=Z,4µm,20.0s,MS5.5
D15A Lincoln 56.42 311 ⇓P P 17 34 47.0 -0.3
baz=56
W17A Winslow 56.44 296 ⇑P P 17 34 47.9 +0.2
baz=56
KWP Kalwaria 56.45 46 eP P 17 34 48.4 +1.0
KWP Kalwaria 56.45 46 eP P 17 34 48.4 +1.0
KWP LR LR
comp=Z,917nm,19.0s,MS4.9
218A Dragoon 56.48 292 ⇑P P 17 34 48.5 +0.5
baz=56
F15A Butte 56.48 309 ⇓P P 17 34 47.7 0.0
baz=56
P16A Fountain Green 56.49 302 ⇑P P 17 34 48.9 +1.0
baz=56
G15A Dillon 56.52 308 ⇑P P 17 34 48.1 0.0
baz=56
R16A Teasdale 56.54 300 ⇑P P 17 34 49.0 +0.7
baz=56
318A Bisbee 56.54 292 ⇑P P 17 34 49.2 +0.8
baz=56,SNR=8.8
E15A Deer Lodge 56.54 310 ⇑P P 17 34 48.0 -0.2
baz=56
Z17A San Carlos Hig 56.57 294 ⇓P P 17 34 49.4 +0.8
baz=56
DRGR 56.58 50 ⇓i/P P 17 34 48.8 +0.4
DRGR 56.58 50 P P 17 34 48.8 +0.3
DLMT Dillon 56.59 309 eP P 17 34 49.0 +0.5
comp=Z,25nm,1.3s,mb5.1
X17A Forest Lakes 56.65 295 ⇑P P 17 34 49.9 +0.8
baz=57
S16A Weppner Ranch, 56.71 299 ⇓P P 17 34 49.4 -0.1
baz=57
SUW Suwalki 56.72 41 eP P 17 34 48.5 -0.7
GZR Gura Zlata 56.72 51 ⇑i/P P 17 34 49.8 +0.3
GZR Gura Zlata 56.72 51 P P 17 34 50.1 +0.6
L15A Malad City 56.75 305 ⇑P P 17 34 49.3 -0.5
baz=57,SNR=7.7
T16A Glen Canyon Da 56.76 299 ⇑P P 17 34 49.9 0.0
baz=57
K15A Arbon 56.78 305 ⇓P P 17 34 50.1 +0.2
baz=57
Y17A Roosevelt 56.80 295 ⇓P P 17 34 51.0 +0.8
baz=57,SNR=11
EDM Edmonton 56.80 318 P P 17 34 49.5 -0.4
EDM Edmonton 56.80 318 eP P 17 34 49.1 -0.8
MCMT McKenzie Canyo 56.81 308 eP P 17 34 50.3 +0.2
M15A Larsen Ranch, 56.86 304 ⇓P P 17 34 50.1 -0.4
baz=57
SPUT South Promonto 56.88 304 P P 17 34 51.0 +0.3
WUAZ Wupatki 56.90 297 ⇑P P 17 34 52.0 +1.1
baz=57
WUAZ Wupatki 56.90 297 eP P 17 34 52.1 +1.3
comp=Z,35nm,1.3s,mb5.2
117A Oracle 56.93 293 ⇓P P 17 34 51.8 +0.7
baz=57
CHMT Chamberlain Mo 56.93 311 eP P 17 34 50.9 0.0
P15A Leamington 56.97 302 ⇓P P 17 34 51.8 +0.5
baz=57
VAY Valandovo 56.98 56 eP P 17 34 51.0 -0.4
N15A Stansbury Isla 56.98 303 ⇑P P 17 34 50.5 -0.9
baz=57
TUC Tucson 57.02 293 eP P 17 34 52.8 +1.0
TUC pmax pmax
comp=Z,16nm,1.3s,mb4.9
TUC Tucson 57.02 293 eP P 17 34 52.8 +1.0
comp=Z,16nm,1.3s,mb4.9
O15A The Old Anders 57.02 303 ⇓P P 17 34 51.5 -0.1
baz=57
MSU Marysvale 57.05 300 P P 17 34 53.4 +1.5
MSU Marysvale 57.05 300 eP P 17 34 53.3 +1.4
HVU Hansel Valley 57.06 304 P P 17 34 52.3 +0.4
HVU pmax pmax
comp=Z,15nm,1.2s,mb4.9
HVU Hansel Valley 57.06 304 eP P 17 34 50.4 -1.5
comp=Z,15nm,1.2s,mb4.9
MVU Marysvale 57.07 300 PFAKE 17 35 00.0 +7.9
MVU LR LR
comp=Z,4µm,21.0s,MS5.5
D14A Greenough 57.09 311 ⇓P P 17 34 51.7 -0.3
baz=57
F14A Wisdom 57.09 309 ⇓P P 17 34 52.3 +0.3
baz=57
W16A Flagstaff 57.10 296 ⇓P P 17 34 53.6 +1.4
baz=57
E14A Clinton 57.13 310 ⇓P P 17 34 51.9 -0.5
baz=57
Q15A Fillmore 57.13 301 ⇑P P 17 34 52.9 +0.5
baz=57
X16A Lo Mia Camp, P 57.15 296 ⇑P P 17 34 53.8 +1.1
baz=57
217A Green Valley 57.16 292 ⇑P P 17 34 53.2 +0.4
baz=57
R15A Junction 57.17 300 ⇓P P 17 34 53.3 +0.6
baz=57
G14A Jackson 57.20 309 ⇑P P 17 34 53.7 +0.9
baz=57
WALA Waterton Lakes 57.25 313 eP P 17 34 52.8 -0.3
comp=Z,28nm,1.4s,mb5.1
K14A Jones Ranch, D 57.27 305 ⇓P P 17 34 53.1 -0.3
baz=57
Y16A Circle Bar Ran 57.28 295 ⇓P P 17 34 54.6 +1.0
baz=57
DUG Dugway 57.29 303 eP P 17 34 53.9 +0.3
DUG pmax pmax
comp=Z,18nm,1.0s,mb5.1
DUG MLR MLR
comp=Z,2µm,19.0s,MS5.3
DUG Dugway 57.29 303 ⇑P P 17 34 53.8 +0.2
baz=57
DUG Dugway 57.29 303 eP P 17 34 53.9 +0.3
comp=Z,18nm,1.0s,mb5.1
DUG LR LR
comp=Z,2µm,19.0s,MS5.3
LVV L'vov 57.30 46 eP P 17 34 53.6 +0.1
LVV e 17 42 49.9
LVV MLR MLR
comp=E,200nm,17.0s,MS4.6
LVV MLR MLR
comp=N,300nm,16.0s,MS4.6
LVV MLR MLR
comp=Z,600nm,17.0s,MS4.8
S15A Panguitch 57.32 300 ⇓P P 17 34 54.0 +0.2
baz=57
Z16A Peralta Trail, 57.34 294 ⇑P P 17 34 54.6 +0.6
baz=57
BGU Big Grassy Mou 57.36 303 eP P 17 34 53.9 -0.1
L14A Malta 57.38 305 ⇑P P 17 34 52.7 -1.5
baz=57
MSO Missoula 57.41 310 eP P 17 34 51.3 -3.0
comp=Z,8.2nm,1.2s,mb4.6
MSO LR LR

comp=Z,2µm,22.0s,MS5.2
T15A Red Dirt Ranch 57.44 299 ⇑P P 17 34 54.9 +0.1
baz=57
U15A North Rim 57.47 298 ⇑P P 17 34 55.5 +0.6
baz=58,SNR=12
V15A Kaibab Nationa 57.48 297 P P 17 34 56.2 +1.2
baz=58,SNR=11
N14A Grayback Hills 57.49 303 ⇑P P 17 34 55.0 0.0
baz=58,SNR=8.1
M14A Sheep Mountain 57.52 304 ⇓P P 17 34 54.0 -1.2
baz=58
P14A Drum Mountains 57.57 302 ⇑P P 17 34 55.1 -0.5
baz=58
E13A Victor 57.61 310 ⇓P P 17 34 55.0 -0.7
baz=58
216A Three Points, 57.64 293 ⇓P P 17 34 56.0 -0.2
baz=58
B13A Whitefish 57.66 312 ⇓P P 17 34 54.2 -1.8
baz=58
W15A Williams 57.67 297 ⇓P P 17 34 57.3 +1.0
baz=58
116A Eloy 57.73 293 ⇓P P 17 34 56.6 -0.2
baz=58
R14A James Farms, M 57.73 300 ⇑P P 17 34 57.3 +0.6
baz=58
D13A Huson 57.74 311 ⇓P P 17 34 56.2 -0.5
baz=58
G13A Cobalt 57.76 308 P P 17 34 57.7 +0.9
baz=58,SNR=8.3
F13A Darby 57.77 309 ⇓P P 17 34 56.7 -0.1
baz=58
C13A Hot Springs 57.77 312 ⇓P P 17 34 56.5 -0.3
baz=58
X15A Humboldt 57.78 296 ⇓P P 17 34 58.2 +1.1
baz=58
I13A Wildhorse Cree 57.80 307 ⇑P P 17 34 57.3 +0.2
baz=58
Q14A Sevier Lake (B 57.82 301 P P 17 34 58.0 +0.6
baz=58,SNR=10
H13A Challis 57.83 308 ⇓P P 17 34 57.5 +0.2
baz=58
L13A Double Diamond 57.89 305 ⇑P P 17 34 57.4 -0.3
baz=58
J13A Cove Ranch, Pi 57.90 306 ⇑P P 17 34 58.1 +0.3
baz=58
YKA Yellowknife Ar 57.91 329 P P 17 34 55.5 -2.1
comp=Z,3.2nm,0.7s,mb4.5,baz=92,slow=7.0,SNR=6.3
YKA LR LR 17 58 14.4
comp=Z,364nm,21.2s,MS4.5,baz=170,slow=34
YKA Yellowknife Ar 57.91 329 P P 17 34 55.5 -2.1
YKA LR LR 17 58 14.4
K13A Stover Farm, H 57.92 306 ⇑P P 17 34 58.0 0.0
baz=58
S14A Cedar City 57.94 300 ⇓P P 17 34 58.3 +0.2
baz=58
Z15A Gila River Ind 57.95 294 ⇓P P 17 34 58.9 +0.6
baz=58
Y15A Casa Rosa Ranc 57.96 295 ⇓P P 17 34 58.4 0.0
baz=58
T14A Hurricane 57.99 299 ⇓P P 17 34 58.3 -0.2
baz=58
HLID Hailey 58.05 307 ⇓P P 17 34 58.8 -0.1
baz=58
HLID Hailey 58.05 307 eP P 17 34 59.1 +0.2
comp=Z,11nm,0.9s,mb4.9
HLID LR LR
comp=Z,3µm,20.0s,MS5.3
115A Sonoran Desert 58.13 294 ⇓P P 17 35 00.3 +0.7
baz=58
M13A Montello 58.15 304 ⇓P P 17 34 58.1 -1.5
baz=58
U14A Mt Trumbull 58.18 298 ⇑P P 17 35 00.8 +0.9
baz=58,SNR=8.8
O13A Hicks Ranch, I 58.19 303 ⇑P P 17 35 00.5 +0.6
baz=58
BURAR Bucovina Array 58.23 48 ⇓i/P P 17 35 00.4 +0.4
BURAR Bucovina Array 58.23 48 ⇓P P 17 35 00.4 +0.4
N13A Wendover, West 58.25 304 ⇓P P 17 35 00.1 -0.3
baz=58
H12A Diamond D Ranc 58.26 308 P P 17 35 00.2 -0.1
baz=58,SNR=9.4
V14A Boquillas Ranc 58.26 297 ⇑P P 17 35 01.3 +0.9
baz=58,SNR=14
X14A Yava 58.31 296 ⇑P P 17 35 01.9 +1.1
baz=58
VOIR 58.31 51 ⇓i/P P 17 35 00.4 -0.3
VOIR 58.31 51 P P 17 35 00.6 -0.1
P13A Bates Ranch, G 58.32 302 P P 17 35 01.3 +0.5
baz=58,SNR=11
W14A Seligman 58.32 297 ⇑P P 17 35 02.0 +1.1
baz=58
B12A Libby 58.39 313 ⇓P P 17 35 01.1 -0.1
baz=58
A12A Yaak River Ran 58.40 313 ⇓P P 17 35 00.4 -0.8
baz=58
Q13A Wheeler Ranch, 58.40 301 ⇑P P 17 35 01.5 +0.1
baz=58
F12A Elk City 58.41 309 ⇓P P 17 35 01.3 0.0
baz=58,SNR=8.3
R13A O'Grain Ranch, 58.49 300 ⇓P P 17 35 02.6 +0.5
baz=58
S13A Holt Ranch, En 58.51 300 ⇓P P 17 35 02.4 +0.3
baz=58
Y14A Wickenburg 58.51 295 ⇑P P 17 35 02.8 +0.6
baz=58
K12A Draper Farm, C 58.53 306 ⇑P P 17 35 02.4 +0.2
baz=58
KBS Kingsbay 58.54 11 eP P 17 35 03.2 +1.5
KBS pmax pmax
comp=Z,170nm,2.1s,mb5.7
KBS Kingsbay 58.54 11 eP P 17 35 01.9 +0.2
comp=Z,172nm,2.1s,mb5.7
KBS LR LR
comp=Z,254nm,20.0s,MS4.3
Z14A Wintersburg 58.58 295 ⇑P P 17 35 03.0 +0.2
baz=59
J12A Stokes Ranch, 58.59 306 ⇑P P 17 35 02.4 -0.2
baz=59,SNR=12
T13A Saint George 58.64 299 ⇑P P 17 35 03.3 +0.1
baz=59
L12A House Creek Ra 58.67 305 ⇓P P 17 35 03.3 0.0
baz=59
KAF Kangasniemi 58.69 31 ep P 17 35 01.6 -1.4
comp=Z,6.7nm,0.7s,mb4.8
KAF Kangasniemi 58.69 31 eP P 17 35 01.6 -1.4
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
M12A Wells 58.70 304 ⇓P P 17 35 03.0 -0.5
baz=59
O12A Currie 58.75 303 ⇓P P 17 35 03.1 -0.7
baz=59
VSU Vasula 58.77 36 d/P P 17 35 02.8 -0.8
214A Organ Pipe Nat 58.78 293 ⇓P P 17 35 04.8 +0.7
baz=59,SNR=7.8
U13A Pakoon Wash 58.80 298 ⇓P P 17 35 05.1 +0.9
baz=59
A11A Hall Mountain, 58.87 313 ⇑P P 17 35 04.2 -0.3
baz=59
N12A Clover Valley, 58.88 304 ⇑P P 17 35 04.3 -0.4
baz=59
B11A Sandpoint 58.91 313 ⇑P P 17 35 04.6 -0.2
baz=59
V13A Grand Canyon W 58.92 298 ⇓P P 17 35 05.9 +0.9
baz=59
MLR Muntele Rosu 58.93 51 ⇓i/P P 17 35 05.6 +0.6
MLR Muntele Rosu 58.93 51 P P 17 35 06.4 +1.4
R12A Pony Springs, 58.96 301 ⇓P P 17 35 06.1 +0.8
baz=59
W13A Hualapai Mount 58.99 297 ⇓P P 17 35 06.4 +0.8
baz=59
P12A McGill 59.00 302 ⇑P P 17 35 05.7 +0.2
baz=59
E11A Bogner Ranch, 59.01 310 ⇓P P 17 35 04.6 -0.9
baz=59
Q12A Willow Creek R 59.01 301 ⇓P P 17 35 06.1 +0.4
baz=59
SPB4 Spitsbergen Ar 59.01 12 eP P 17 35 05.9 +0.9
D11A Klaveano Farm, 59.02 311 ⇓P P 17 35 04.7 -0.9
baz=59
F11A Grangeville 59.02 310 ⇓P P 17 35 05.0 -0.6
baz=59
ELK Elko 59.05 304 eP P 17 35 05.8 -0.1
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK MLR MLR
comp=Z,3µm,20.0s
ELK Elko 59.05 304 eP P 17 35 05.8 -0.1
comp=Z,9.4nm,1.0s,mb4.8

ELK LR LR
comp=Z,3µm,20.0s,MS5.4
X13A Yucca 59.05 296 ⇑P **P 17 35 06.2 +0.2**
baz=59,SNR=11
H11A Donnelly 59.06 308 ⇓P **P 17 35 05.8 0.0**
baz=59
MFID Camas Ranch 59.09 307 P **P 17 35 06.0 -0.1**
baz=59,SNR=9.2
I11A Placerville 59.12 307 ⇑P **P 17 35 05.5 -0.8**
baz=59
ARCES ARCESS Array B 59.13 23 P **P 17 35 05.0 -1.0**
comp=Z,13nm,0.7s,mb5.1,baz=269,slow=4.1,SNR=7.0
ARCES ARCESS Array B 59.13 23 P **P 17 35 05.0 -1.0**
G11A Walters Elk Ra 59.16 309 ⇓P **P 17 35 06.0 -0.5**
baz=59,SNR=6.6
Y13A Salome 59.21 295 ⇑P **P 17 35 07.5 +0.4**
baz=59
L11A Cat Creek Ranc 59.22 305 P **P 17 35 07.5 +0.5**
baz=59,SNR=7.6
U12A Valley of Fire 59.25 298 ⇑P **P 17 35 08.2 +0.9**
baz=59
S12A Delamar Landin 59.27 300 ⇓P **P 17 35 08.3 +0.8**
baz=59
K11A Parker Ranch, 59.33 306 ⇓P **P 17 35 07.6 -0.2**
baz=59,SNR=9.0
T12A Moapa 59.33 299 ⇓P **P 17 35 08.8 +0.9**
baz=59
M11A Holland Ranch, 59.35 304 ⇑P **P 17 35 07.3 -0.6**
baz=59
PDMCI Parker Dam,Lak 59.36 296 ⇓P **P 17 35 08.2 +0.1**
baz=59
PLOR Plostina 59.38 50 ⇓*i*P **P 17 35 07.7 -0.4**
113A Mohawk Valley, 59.38 294 ⇑P **P 17 35 08.1 -0.2**
baz=59
N11A Elko Archery C 59.41 304 ⇓P **P 17 35 08.1 -0.3**
baz=59
NEW Newport 59.43 312 *e*P **P 17 35 08.5 +0.1**
NEW pmax pmax
comp=Z,67nm,1.3s
NEW MLR MLR
comp=Z,3µm,20.0s
NEW Newport 59.43 312 *e*P **P 17 35 08.5 +0.1**
comp=Z,67nm,1.3s,mb5.5
NEW LR LR
comp=Z,3µm,20.0s,MS5.5
VRI Vrincioaia 59.44 50 ⇓*i*P **P 17 35 08.7 +0.2**
VRI Vrincioaia 59.44 50 P **P 17 35 11.2 +2.7**
MNK Minsk 59.44 40 ⇑*e*P **P 17 35 00.0 -8.3**
O11A Cowboy Ranch, 59.46 303 ⇑P **P 17 35 08.7 0.0**
baz=59,SNR=8.1
B10A Chitwood Farm, 59.49 312 ⇓P **P 17 35 08.5 -0.3**
baz=60
H10A Noah's Angus R 59.60 308 ⇓P **P 17 35 08.2 -1.4**
baz=60
C10A Spilker Farm, 59.60 312 ⇑P **P 17 35 08.8 -0.7**
baz=60
P11A Circle Ranch, 59.63 302 ⇓P **P 17 35 10.0 +0.1**
baz=60
T11A Corn Creek, Al 59.63 300 ⇑P **P 17 35 11.0 +1.0**
baz=60,SNR=11
V12A Nelson 59.64 298 ⇑P **P 17 35 10.5 +0.5**
baz=60
A10A Northport 59.65 313 ⇓P **P 17 35 09.4 -0.4**
baz=60
NEE2 Needles Airpor 59.65 297 ⇓P **P 17 35 10.6 +0.5**
baz=60
D10A Wagner Farm, O 59.66 311 ⇓P **P 17 35 09.0 -1.0**
baz=60
Q11A Duckwater 59.68 301 ⇓P **P 17 35 10.4 +0.2**
baz=60
KEV Kevo 59.68 23 P **P 17 35 09.7 -0.1**
KEV pmax pmax
comp=Z,29nm,1.0s,mb5.3
KEV Kevo 59.68 23 *e*P **P 17 35 09.0 -0.8**
comp=Z,17nm,0.7s,mb5.2
KEV LR LR
comp=Z,299nm,20.0s,MS4.4
I10A Payette 59.70 308 ⇑P **P 17 35 10.3 -0.1**
baz=60
R11A Troy Canyon, C 59.71 301 ⇑P **P 17 35 10.5 0.0**
baz=60,SNR=6.8
W12A Cal Nev Ari 59.74 297 ⇑P **P 17 35 11.1 +0.3**
baz=60
L10A Juniper Basin 59.76 305 ⇑P **P 17 35 11.0 +0.2**
baz=60,SNR=12
F10A Beach Ranch, E 59.76 310 ⇓P **P 17 35 10.3 -0.4**
baz=60
G10A Bishop Farm, J 59.77 309 ⇑P **P 17 35 10.1 -0.7**
baz=60
J10A Berg Farm, Mel 59.77 307 ⇓P **P 17 35 10.5 -0.3**
baz=60
Y12C Blythe 59.79 295 ⇓P **P 17 35 11.4 +0.3**
baz=60
BOZC Bozcaada 59.82 57 *i*P **P 17 35 11.8 +0.5**
M10A I.L. Ranch, Tu 59.89 305 ⇑P **P 17 35 11.8 +0.1**
baz=60
U11A Corn Creek 59.92 299 ⇑P **P 17 35 12.7 +0.7**
baz=60
K10A MacKenzie Ranc 59.94 306 ⇑P **P 17 35 11.3 -0.7**
baz=60
BMO Blue Mountains 59.96 308 *e*P **P 17 35 11.8 -0.3**
BMO pmax pmax
comp=Z,15nm,1.3s,mb4.9
BMO MLR MLR
comp=Z,2µm,22.0s,MS5.1
BMO Blue Mountains 59.96 308 *e*P **P 17 35 11.8 -0.3**
comp=Z,15nm,1.3s,mb4.9
BMO LR LR
comp=Z,2µm,22.0s,MS5.1
LCO Las Campanas 59.96 206 PFAKE 17 35 20.0 +7.9
LCO LR LR
comp=Z,863nm,21.0s,MS4.9
S11A Rachel 59.97 300 ⇑P **P 17 35 13.2 +0.9**
baz=60
N10A Dunphy 60.00 304 ⇓P **P 17 35 11.6 -0.9**
baz=60
O10A Cortez Mining, 60.07 303 ⇑P **P 17 35 12.3 -0.7**
baz=60
B09A Rice 60.09 313 ⇓P **P 17 35 12.5 -0.5**
baz=60
112A Yuma 60.10 294 ⇓P **P 17 35 13.4 0.0**
baz=60
P10A Eureka 60.16 302 ⇓P **P 17 35 13.4 -0.2**
baz=60
GLA Glamis 60.19 295 P **P 17 35 20.9 +7.0**
GLA pmax pmax
comp=Z,16nm,1.1s,mb5.0
GLA Glamis 60.19 295 ⇓P **P 17 35 14.1 +0.2**
baz=60
GLA Glamis 60.19 295 PFAKE 17 35 30.0 +16
GLA LR LR
comp=Z,1µm,20.0s,MS5.1
IRM Iron Mountain 60.21 296 ⇓P **P 17 35 14.6 +0.7**
baz=60
G09A Cove 60.23 309 ⇓P **P 17 35 13.3 -0.7**
baz=60
H09A Durkee 60.23 308 ⇓P **P 17 35 13.1 -0.9**
baz=60
C09A Chrisman Ranch 60.25 312 ⇑P **P 17 35 13.3 -0.7**
baz=60
Q10A Clear Creek Ra 60.25 301 ⇑P **P 17 35 14.3 0.0**
baz=60
F09A S2 Ranch, Elgi 60.26 310 ⇓P **P 17 35 13.9 -0.3**
baz=60
R10A Warm Springs 60.28 301 ⇓P **P 17 35 13.6 -0.8**
baz=60
E09A Wood Farm, Sta 60.32 310 ⇓P **P 17 35 13.8 -0.8**
baz=60
A09A Danville 60.32 313 ⇑P **P 17 35 14.2 -0.3**
baz=60,SNR=9.5
D09A Jones Farm, Ri 60.36 311 ⇑P **P 17 35 14.2 -0.6**
baz=60
I09A Lost Marbles R 60.39 308 ⇓P **P 17 35 15.1 0.0**
baz=60
GMRC Granite Mounta 60.48 297 ⇑P **P 17 35 16.3 +0.4**
baz=60
J09A Fry Pan Ranch, 60.49 307 ⇑P **P 17 35 15.4 -0.3**
baz=60
TPNV Topopah Spring 60.50 299 P **P 17 35 17.3 +1.4**
TPNV pmax pmax
comp=Z,28nm,1.4s,mb5.1
TPNV Topopah Spring 60.50 299 ⇑P **P 17 35 16.2 +0.3**
baz=60
TPNV Topopah Spring 60.50 299 *e*P **P 17 35 17.0 +1.1**
comp=Z,28nm,1.4s,mb5.1
LNOR Lincton Mounta 60.50 310 P **P 17 35 16.1 +0.3**
LNOR Lincton Mounta 60.50 310 *e*P **P 17 35 15.9 +0.1**
SART Tekirdag 60.52 56 *i*P **P 17 35 15.6 -0.4**

KIEV Kiev 60.55 45 *e*P **P 17 35 15.1 -0.9**
KIEV pmax pmax
comp=Z,17nm,0.9s,mb5.2
KIEV MLR MLR
comp=Z,783nm,20.0s,MS4.8
KIEV Kiev 60.55 45 *e*P **P 17 35 15.1 -0.9**
comp=Z,17nm,0.9s,mb5.2
KIEV LR LR
comp=Z,783nm,20.0s,MS4.8
TUQ Turquoise Mtn. 60.55 298 ⇑P **P 17 35 16.9 +0.6**
baz=60
AKASG Malin Array Be 60.56 45 P **P 17 35 14.7 -1.4**
comp=Z,19nm,0.8s,mb5.3,baz=275,slow=6.0,SNR=34
AKASG LR LR 17 59 37.4
comp=Z,763nm,19.9s,MS4.8,baz=265,slow=34
AKBB Malin Array Si 60.56 45 *e*P **P 17 35 15.0 -1.1**
BC3 Big Chuckw Mtn 60.56 296 ⇑P **P 17 35 16.2 -0.2**
baz=60
K09A Rome 60.58 306 ⇑P **P 17 35 16.2 -0.1**
baz=61,SNR=13
S10A Tonopah Range, 60.58 301 ⇑P **P 17 35 16.7 +0.3**
baz=60
M09A Marrel Ranch, 60.58 305 ⇓P **P 17 35 16.3 -0.1**
baz=61
BMN Battle Mountai 60.59 303 PFAKE 17 35 30.0 +14
BMN LR LR
comp=Z,2µm,20.0s,MS5.2
OD2 Odessa Site #2 60.59 312 *e*P **P 17 35 16.1 -0.2**
O09A Fish Creek Ran 60.61 303 ⇓P **P 17 35 16.8 +0.2**
baz=61
L09A Wilkinson Ranc 60.64 305 ⇑P **P 17 35 16.9 +0.1**
baz=61
U10A Ash Meadows, A 60.67 299 ⇓P **P 17 35 17.7 +0.6**
baz=61
P09A Austin 60.68 302 ⇓P **P 17 35 17.0 -0.2**
baz=61
KIS Kishinev 60.73 49 *e*P **P 17 35 15.0 -2.3**
KIS *e* 17 37 28.0
KIS *e*S **S 17 43 30.0 -4.2**
KIS pmax pmax
comp=E,150nm,2.0s
KIS pmax pmax
comp=Z,160nm,2.0s,mb5.8
KIS MLR MLR
comp=Z,500nm,14.0s,MS4.8
KIS MLR MLR
comp=Z,500nm,14.0s
KIS Kishinev 60.73 49 *e*P **P 17 35 15.0 -2.3**
comp=Z,200nm,2.0s,mb5.9
KIS Kishinev 60.73 49 *e*PP PP 17 37 28.0 -2.9
KIS *e*S **S 17 43 30.0 -4.2**
KIS Kishinev 60.73 49 *e*PS 17 43 40.0
KIS *e*LQ 17 55 06.0
KIS LRM 18 06 00.0
comp=Z,500nm,14.0s
SHOC Shoshone 60.74 298 ⇓P **P 17 35 17.9 +0.3**
baz=61
N09A Rock Creek Ran 60.74 304 ⇑P **P 17 35 17.6 +0.1**
baz=61
C08A Higginbotham F 60.77 312 ⇓P **P 17 35 16.5 -1.1**
baz=61
A08A Turner Farm, O 60.77 313 ⇑P **P 17 35 17.4 -0.2**
baz=61
D08A Wollman Farm, 60.78 311 ⇑P **P 17 35 17.1 -0.5**
baz=61,SNR=9.2
Q09A Carvers 60.85 302 ⇑P **P 17 35 18.1 -0.2**
baz=61
F08A Pendleton 60.85 310 ⇓P **P 17 35 17.0 -1.2**
baz=61
R09A Tonopah 60.88 301 ⇓P **P 17 35 17.9 -0.6**
baz=61
B08A Colville Reser 60.89 313 ⇑P **P 17 35 17.4 -1.0**
baz=61
BELC Belle Mtn. 60.93 296 ⇓P **P 17 35 19.2 +0.3**
baz=61
E08A Dider Farm, El 60.95 311 ⇑P **P 17 35 18.4 -0.4**
baz=61
PNT Pentticton 60.96 314 P **P 17 35 18.8 0.0**
H08A Prairie City 60.97 308 ⇑P **P 17 35 19.2 +0.2**
baz=61
I08A Drewsey 60.99 308 ⇓P **P 17 35 18.9 -0.2**
baz=61
SWSC Sam W. Stewart 61.01 295 ⇓P **P 17 35 19.3 -0.2**
baz=61
HEC Hector,Ludlow 61.01 297 ⇑P **P 17 35 19.7 +0.2**
baz=61
J08A Circle Bar Ran 61.01 307 ⇓P **P 17 35 18.8 -0.5**
baz=61
JOF Joensuu 61.02 31 *e*p **P 17 35 17.4 -1.6**
comp=Z,4.2nm,0.7s,mb4.7
JOF Joensuu 61.02 31 *e*P **P 17 35 17.4 -1.6**
JOF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
BALY Balya 61.03 57 *i*P **P 17 35 19.4 0.0**
G08A Pilot Rock 61.05 309 ⇑P **P 17 35 18.9 -0.7**
baz=61
FURC Furnace Creek, 61.08 299 ⇓P **P 17 35 20.9 +1.0**
baz=61
S09A Goldfield 61.10 300 ⇓P **P 17 35 20.3 +0.3**
baz=61
L08A Fields 61.11 306 ⇑P **P 17 35 19.9 -0.1**
baz=61
K08A Mann Creek Ran 61.12 306 ⇑P **P 17 35 19.7 -0.4**
baz=61,SNR=13
EPH Ephrata 61.19 312 P **P 17 35 20.6 +0.1**
N08A GE Springer Mi 61.21 304 ⇑P **P 17 35 20.6 0.0**
baz=61
M08A Happy Creek Ra 61.27 305 ⇓P **P 17 35 21.1 0.0**
baz=61
WVOR Wild Horse Val 61.28 306 *e*P **P 17 35 21.5 +0.3**
WVOR pmax pmax
comp=Z,5.0nm,0.4s,mb5.0
GSC Goldstone 61.29 298 *e*P **P 17 35 21.8 +0.5**
GSC pmax pmax
comp=Z,34nm,1.6s,mb5.2
GSC MLR MLR
comp=Z,3µm,20.0s,MS5.4
GSC Goldstone 61.29 298 ⇑P **P 17 35 21.9 +0.6**
baz=61
GSC Goldstone 61.29 298 *e*P **P 17 35 21.8 +0.5**
comp=Z,34nm,1.6s,mb5.2
GSC LR LR
comp=Z,3µm,20.0s,MS5.4
HAWA Hanford 61.29 310 *e*P **P 17 35 20.7 -0.4**
comp=Z,46nm,1.3s,mb5.5
HAWA LR LR
comp=Z,3µm,21.0s,MS5.4
O08A Rochester Mine 61.31 303 ⇓P **P 17 35 21.9 +0.4**
baz=61
DVTC Desert V Tower 61.32 295 ⇑P **P 17 35 22.5 +0.9**
baz=61
AKHS Akhisar 61.34 58 *i*P **P 17 35 21.8 +0.2**
GRAC Grapevine Rang 61.37 300 ⇑P **P 17 35 22.8 +1.0**
baz=61
P08A Dixie Valley 61.37 303 ⇑P **P 17 35 22.2 +0.4**
baz=61
PFO Pinyon Flat Ob 61.39 296 ⇓P **P 17 35 22.5 +0.4**
baz=61
PFO Pinyon Flat Ob 61.39 296 PFAKE 17 35 30.0 +8.0
PFO LR LR
comp=Z,2µm,22.0s,MS5.2
B07A Winthrop 61.39 313 ⇑P **P 17 35 20.9 -0.9**
baz=61,SNR=6.6
Q08A Gabbs 61.42 302 ⇓P **P 17 35 21.6 -0.6**
baz=61
C07A Waterville 61.46 312 ⇑P **P 17 35 21.5 -0.7**
baz=61
D07A Quincy 61.47 311 ⇓P **P 17 35 21.6 -0.8**
baz=62
E07A Sunnyside 61.48 311 ⇓P **P 17 35 22.8 +0.3**
baz=62
A07A Ashnola River, 61.49 314 ⇓P **P 17 35 22.7 +0.3**
baz=62
MONP Monument Peak 61.53 295 ⇑P **P 17 35 24.1 +1.0**
baz=62
RRX Edison Barstow 61.54 297 ⇑P **P 17 35 23.7 +0.7**
baz=62
G07A Ruggs Ranch, H 61.55 309 ⇓P **P 17 35 22.2 -0.7**
baz=62
H07A Lands Inn, Kim 61.59 308 ⇓P **P 17 35 23.0 -0.2**
baz=62
J07A Hines 61.61 307 ⇑P **P 17 35 23.2 -0.1**
baz=62
BBRC Big Bear Sol-O 61.61 297 ⇓P **P 17 35 23.9 +0.3**
baz=62
I07A Izee 61.63 308 ⇑P **P 17 35 23.4 -0.1**
baz=62

F07A Phinny Hill Vi 61.63 310 ⇓P **P 17 35 23.7 +0.2**
baz=62
R08A Mina 61.66 301 ⇑P **P 17 35 23.8 0.0**
baz=62
MPMC Manual Prospec 61.66 299 ⇑P **P 17 35 24.8 +1.0**
baz=62
K07A Rock Creek Ran 61.68 306 P **P 17 35 24.3 +0.4**
baz=62,SNR=12
DAC Darwin (Calif) 61.70 299 PFAKE 17 35 40.0 +16
DAC LR LR
comp=Z,3µm,22.0s,MS5.3
BAR Barrett 61.79 295 PFAKE 17 35 40.0 +15
BAR LR LR
comp=Z,2µm,22.0s,MS5.2
NVAR Mina Array Bea 61.79 301 P **P 17 35 24.5 -0.2**
comp=Z,0.4nm,0.5s,mb3.9,baz=70,slow=5.9,SNR=6.0
N07B Gerlach 61.83 304 ⇓P **P 17 35 24.5 -0.4**
baz=62
M07A Soldier Meadow 61.86 305 ⇑P **P 17 35 24.7 -0.4**
baz=62
L07A Adell 61.87 306 ⇑P **P 17 35 25.3 +0.1**
baz=62,SNR=7.7
APA Apatity 61.88 25 ⇓*i*P **P 17 35 20.5 -4.3**
APA *i* 17 35 28.0
APA *i* 17 37 42.0
APA *i* PPP 17 39 14.0
APA *e*S **S 17 43 46.0 -2.2**
O07A Toulon 61.88 303 ⇓P **P 17 35 25.2 -0.1**
baz=62
S08C White Mtn Res 61.88 300 ⇓P **P 17 35 25.9 +0.6**
baz=62
TBM Table Mountain 61.90 311 P **P 17 35 25.2 0.0**
LRMC Laurel Mountai 61.95 298 ⇓P **P 17 35 26.5 +0.7**
baz=62
C06A Tall Timber Ra 61.98 312 ⇓P **P 17 35 25.0 -0.8**
baz=62
MURC Murrieta 61.99 296 ⇓P **P 17 35 26.3 +0.2**
baz=62
P07A Fallon 62.01 303 ⇓P **P 17 35 25.1 -1.1**
baz=62
TIN Tinemaha 62.02 300 ⇑P **P 17 35 26.3 0.0**
baz=62
CWC Cottonwood Cre 62.04 299 ⇓P **P 17 35 26.1 -0.3**
baz=62
D06A Cle Elum 62.06 312 ⇑P **P 17 35 25.3 -1.0**
baz=62
Q07A Schurz 62.07 302 ⇑P **P 17 35 25.0 -1.6**
baz=62
109C Camp Elliot, M 62.09 295 ⇑P **P 17 35 27.1 +0.3**
baz=62
ULDT Uludag 62.09 57 *i*P **P 17 35 27.3 +0.6**
H06A Lindquist Farm 62.10 309 ⇓P **P 17 35 27.2 +0.5**
baz=62
I06A Prineville 62.15 308 ⇓P **P 17 35 26.8 -0.2**
baz=62
A06A Chilliwack 62.20 314 ⇓P **P 17 35 26.6 -0.6**
baz=62
BFSC Mount Baldy St 62.21 297 ⇓P **P 17 35 28.3 +0.7**
baz=62
MTUM Tungsten Hills 62.22 300 *e*P **P 17 35 28.4 +0.9**
J06A Christmas Vall 62.24 307 ⇓P **P 17 35 27.5 -0.1**
baz=62
F06A Goldendale 62.24 310 ⇓P **P 17 35 27.0 -0.6**
baz=62
E06A Yakima 62.25 311 ⇓P **P 17 35 26.8 -0.8**
baz=62,SNR=13
B06A Marblemount 62.28 313 ⇓P **P 17 35 26.2 -1.6**
baz=62
RPW Rockport 62.31 313 *e*P **P 17 35 27.1 -0.9**
EDW2 Edwards Air Fo 62.33 297 ⇓P **P 17 35 28.7 +0.3**
baz=62
LVZ Lovozero 62.35 25 PFAKE 17 35 40.0 +12
LVZ LR LR
comp=Z,318nm,19.0s,MS4.5
PAHR Pah Rah Range 62.35 303 *e*P **P 17 35 27.8 -0.7**
comp=Z,30nm,1.4s,mb5.2
MLAC Mammoth Lakes 62.37 301 ⇓P **P 17 35 29.0 +0.4**
baz=62
K06A Valley Falls 62.39 307 ⇓P **P 17 35 28.7 +0.1**
baz=62
R07C Lee Vining 62.44 301 ⇓P **P 17 35 29.6 +0.6**
baz=62
N06A Buffalo Meadow 62.48 304 ⇑P **P 17 35 28.7 -0.6**
baz=62
ISA Isabella 62.53 298 *e*P **P 17 35 30.6 +0.9**
ISA pmax pmax
comp=Z,49nm,1.5s,mb5.4
ISA MLR MLR
comp=Z,2µm,20.0s,MS5.3
ISA Isabella 62.53 298 ⇑P **P 17 35 29.6 0.0**
baz=62
ISA Isabella 62.53 298 *e*P **P 17 35 30.6 +0.9**
comp=Z,49nm,1.5s,mb5.4
ISA LR LR
comp=Z,2µm,20.0s,MS5.3
DNZL Cakiroluk 62.54 59 *i*P **P 17 35 29.9 +0.2**
MWC Mount Wilson 62.54 297 PFAKE 17 35 40.0 +10
MWC LR LR
comp=Z,2µm,19.0s,MS5.3
C05A Tolt Reservoir 62.55 312 ⇓P **P 17 35 27.7 -1.9**
baz=62
GDZ Gediz 62.57 58 *i*P **P 17 35 29.9 0.0**
O06A Flanigan 62.59 304 ⇑P **P 17 35 29.7 -0.3**
baz=63
MOD Modoc 62.60 306 ⇑P **P 17 35 29.9 -0.2**
baz=63
MOD Modoc 62.60 306 *e*P **P 17 35 29.9 -0.1**
comp=Z,45nm,1.4s,mb5.4
MOD LR LR
comp=Z,2µm,19.0s,MS5.3
A05A Maple Falls 62.60 314 ⇓P **P 17 35 28.5 -1.5**
baz=63
R06C Coleville 62.65 302 ⇓P **P 17 35 30.2 -0.2**
baz=63
F05A White Salmon 62.69 310 ⇑P **P 17 35 30.6 +0.1**
baz=63
G05A Wamic 62.70 309 ⇓P **P 17 35 30.7 0.0**
baz=63
WCN Washoe City 62.72 303 ⇓P **P 17 35 30.0 -0.8**
baz=63
B05A Bryant 62.73 313 ⇓P **P 17 35 28.6 -2.1**
baz=63
HELL Mitchell Peak 62.73 300 ⇑P **P 17 35 30.5 -0.5**
baz=63
KHAL Karahalli 62.73 58 *i*P **P 17 35 31.3 +0.4**
H05A Madras 62.75 309 ⇑P **P 17 35 30.5 -0.5**
baz=63
P06A Stead Airport, 62.75 303 ⇑P **P 17 35 31.1 0.0**
baz=63
DECC Green Verdugo 62.75 297 ⇓P **P 17 35 30.1 -1.0**
baz=63
E05A Randle 62.78 311 ⇑P **P 17 35 30.1 -1.0**
baz=63
KCC Kaiser Creek 62.81 300 ⇑P **P 17 35 31.8 +0.2**
baz=63
D05A Emumclaw 62.83 312 ⇑P **P 17 35 30.1 -1.4**
baz=63
FMP Fort Macarthur 62.85 296 ⇑P **P 17 35 32.4 +0.5**
baz=63
I05A Bend 62.86 308 ⇑P **P 17 35 32.8 +1.0**
baz=63
M06C Likely Place G 62.87 305 ⇓P **P 17 35 32.0 +0.2**
baz=63
K05A Summer Lake 62.87 307 P **P 17 35 32.3 +0.5**
baz=63,SNR=14
ARVC Arvin 62.94 298 ⇓P **P 17 35 32.7 +0.3**
baz=63
L05A Lakeview 62.96 306 P **P 17 35 33.0 +0.6**
baz=63,SNR=6.7
VES Vestal, Richgr 62.97 299 ⇓P **P 17 35 32.6 0.0**
baz=63
OSI Osito Adit 62.98 297 ⇑P **P 17 35 32.7 +0.1**
baz=63
RCTC Rector, Farmer 62.98 299 ⇑P **P 17 35 32.8 +0.1**
baz=63
J05A Fort Rock 63.01 307 ⇓P **P 17 35 33.2 +0.5**
baz=63,SNR=8.0
CIS Catalina Islan 63.02 296 ⇓P **P 17 35 33.9 +1.0**
baz=63
GOLH Golhisar 63.04 60 *i*P **P 17 35 33.9 +0.8**
A04A Legoe Bay, Lum 63.05 313 ⇓P **P 17 35 31.7 -1.2**
baz=63
BEKR Beckwourth 63.05 303 ⇑P **P 17 35 32.3 -0.8**
baz=63
R05C Kirkwood Meado 63.09 302 ⇓P **P 17 35 33.5 +0.1**
baz=63
S06C San Francisco 63.10 301 ⇓P **P 17 35 34.1 +0.6**

baz=63
ELFS Eagle Lake Fie 63.17 304 ⇓P **P 17 35 34.1 +0.2**
baz=63
T06C Millerton Lake 63.19 300 ⇓P **P 17 35 33.7 -0.4**
baz=63
SCI San Clemente I 63.24 295 ⇑P **P 17 35 33.9 -0.6**
baz=63
M05C Lookout 63.33 305 ⇑P **P 17 35 35.0 +0.1**
baz=63,SNR=6.8
F04A Amboy 63.34 310 ⇑P **P 17 35 34.1 -0.8**
baz=63
P05C Yuba Gap, Truc 63.36 303 ⇑P **P 17 35 35.6 +0.4**
baz=63
BLG Laguna Peak 63.37 297 ⇓P **P 17 35 35.3 -0.1**
baz=63
D04A Dobbs Creek Ra 63.39 312 ⇑P **P 17 35 34.0 -1.2**
baz=63
C04A Brinnon 63.40 312 ⇑P **P 17 35 33.3 -1.9**
baz=63
H04A Detroit Lake 63.41 309 ⇑P **P 17 35 34.8 -0.6**
baz=63
TKTP Tekketepe 63.44 59 *i* P **P 17 35 36.8 +1.1**
O05C Quincy 63.45 304 ⇑P **P 17 35 34.7 -1.1**
baz=63
CMB Columbia Colle 63.48 301 P **P 17 35 37.1 +1.1**
CMB pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
CMB MLR MLR
comp=Z,4μm,20.0s,MS5.5
CMB Columbia Colle 63.48 301 ⇓P **P 17 35 35.8 -0.1**
baz=63
CMB Columbia Colle 63.48 301 P **P 17 35 37.1 +1.2**
comp=Z,6.4nm,0.8s,mb4.8
CMB LR LR
comp=Z,4μm,20.0s,MS5.5
K04A Chilquin 63.50 307 ⇓P **P 17 35 35.5 -0.5**
baz=64
O04C Chester 63.50 304 ⇑P **P 17 35 35.1 -0.9**
baz=64
ESKT Eskisehir 63.51 57 *i* P **P 17 35 36.8 +0.6**
LAVA Lava Cap Winer 63.59 302 ⇑P **P 17 35 36.5 -0.1**
baz=64
LBCM Butte Creek Ri 63.59 305 P **P 17 35 36.7 +0.1**
S05C Merced 63.59 301 ⇑P **P 17 35 36.1 -0.6**
baz=64
ISP Isparta 63.63 59 PFAKE 17 35 50.0 +13
ISP LR LR
comp=Z,471nm,21.0s,MS4.6
J04A Umpqua Nationa 63.64 307 ⇓P **P 17 35 36.8 -0.1**
baz=64
U05C Westside ANR, 63.67 299 ⇑P **P 17 35 36.6 -0.7**
baz=64
B04A Port Angeles 63.69 313 ⇓P **P 17 35 36.6 -0.5**
baz=64
L04A Klamath Falls 63.70 306 ⇓P **P 17 35 36.8 -0.5**
baz=64
PKM Peak Mountain 63.78 298 ⇑P **P 17 35 37.7 -0.3**
baz=64
SBC Santa Barbara 63.81 297 ⇓P **P 17 35 38.5 +0.3**
baz=64
SMMC Simmler 63.82 298 ⇑P **P 17 35 38.8 +0.5**
baz=64
R04C Big Horse Ranc 63.85 302 ⇓P **P 17 35 38.8 +0.4**
baz=64
BSC Santa Cruz Isl 63.86 297 ⇓P **P 17 35 38.6 +0.1**
baz=64
T05C Eagle Field, D 63.97 300 ⇑P **P 17 35 39.2 0.0**
baz=64
ORV Oroville 63.98 303 ⇓P **P 17 35 38.8 -0.5**
baz=64
E03A Lebam 64.01 311 ⇑P **P 17 35 38.6 -0.7**
baz=64
OHCM Honcut 64.02 303 *eP* **P 17 35 39.6 +0.2**
D03A Wishkah Elem. 64.04 312 ⇑P **P 17 35 38.3 -1.2**
baz=64
Q04C Lincoln 64.05 302 ⇑P **P 17 35 39.9 +0.1**
baz=64
G03A Yamhill 64.05 310 ⇑P **P 17 35 38.9 -0.7**
baz=64
NLWA Neilton Lookou 64.05 312 ⇑P **P 17 35 39.5 0.0**
baz=64
NLWA Neilton Lookou 64.05 312 *eP* **P 17 35 37.1 -2.4**
comp=Z,46nm,1.2s,mb5.4
NLWA LR LR
comp=Z,4μm,20.0s,MS5.5
LHEM Herd Peak 64.06 306 P **P 17 35 39.9 +0.2**
M03C McCloud 64.06 305 ⇓P **P 17 35 39.3 -0.4**
baz=64
PKD Parkfield 64.09 299 ⇑P **P 17 35 39.3 -0.8**
baz=64
F03A Seaside 64.12 311 ⇓P **P 17 35 39.5 -0.6**
baz=64
U04C Hernandez Rese 64.18 300 ⇑P **P 17 35 40.7 +0.1**
baz=64
SGKT Sivrigoynuk 64.18 56 *i* P **P 17 35 42.1 +1.6**
H03A Soap Creek Ran 64.19 309 ⇑P **P 17 35 40.6 +0.1**
baz=64
COR Corvallis 64.21 309 PFAKE 17 35 50.0 +9.3
COR LR LR
comp=Z,991nm,21.0s,MS5.0
SUTB Sutter Butte 64.27 303 ⇓P **P 17 35 41.1 -0.1**
baz=64
O03C Acorn Hollow, 64.28 304 ⇑P **P 17 35 40.1 -1.1**
baz=64
I03A Eugene 64.32 308 ⇓P **P 17 35 41.1 -0.2**
baz=64
S04C Ingram Canyon, 64.33 301 ⇑P **P 17 35 41.9 +0.4**
baz=64
HUMO Hull Mountain 64.38 307 ⇓P **P 17 35 40.4 -1.4**
baz=64
HUMO Hull Mountain 64.38 307 *eP* **P 17 35 40.3 -1.5**
comp=Z,9.5nm,1.1s,mb4.7
HUMO LR LR
comp=Z,2μm,20.0s,MS5.2
YBH Yreka Blue Hor 64.39 306 *eP* **P 17 35 40.9 -1.0**
YBH pmax pmax
comp=Z,23nm,1.4s
YBH Yreka Blue Hor 64.39 306 *eP* **P 17 35 40.9 -1.0**
comp=Z,23nm,1.4s,mb5.0
OBN Obninsk 64.41 39 *d i* P **P 17 35 41.6 -0.1**
OBN *eS* **S 17 44 19.4 -0.7**
OBN pmax pmax
comp=Z,200nm,2.1s,mb5.8
OBN MLR MLR
comp=Z,900nm,20.0s,MS5.0
OBN Obninsk 64.41 39 *eP* **P 17 35 41.8 +0.1**
comp=Z,86nm,1.1s,mb5.7
OBN LR LR
comp=Z,952nm,20.0s,MS5.0
PACP Pacheco Peak 64.42 300 ⇓P **P 17 35 41.8 -0.4**
baz=64
V04C Ramage Ranch, 64.43 299 ⇓P **P 17 35 41.5 -0.8**
baz=64
M02C Callahan 64.58 305 ⇓P **P 17 35 41.7 -1.4**
baz=64
Q03C Winters 64.58 302 ⇓P **P 17 35 43.3 +0.1**
baz=65
SAO San Andreas Ge 64.60 300 PFAKE 17 36 00.0 +17
SAO LR LR
comp=Z,3μm,22.0s,MS5.4
V03C Hunter Liggett 64.62 299 ⇓P **P 17 35 43.5 0.0**
baz=65
WENL Wente Brothers 64.63 301 ⇓P **P 17 35 44.3 +0.7**
baz=65
BDM Black Diamond 64.63 302 ⇓P **P 17 35 44.3 +0.7**
baz=65
J02A Umpqua 64.66 308 ⇑P **P 17 35 42.2 -1.4**
baz=65
KDHN Kadinhani 64.70 58 *i* P **P 17 35 44.6 +0.6**
I02A Mapleton 64.71 308 ⇓P **P 17 35 43.8 -0.1**
baz=65
SIM Simferopol' 64.72 50 *eP* **P 17 35 44.5 +0.5**
SIM *eS* **S 17 44 28.8 +4.5**
SIM pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
K02A Glendale 64.73 307 ⇓P **P 17 35 43.3 -0.8**
baz=65
HAST Hastings Reser 64.78 300 ⇑P **P 17 35 43.8 -0.7**
baz=65
O02C Red Bluff 64.80 304 ⇑P **P 17 35 44.2 -0.5**
baz=65
MNRC McLaughlin Nat 64.85 303 ⇓P **P 17 35 44.1 -0.9**
baz=65
GASB Alder Springs 64.87 304 ⇓P **P 17 35 44.4 -0.7**
baz=65
ANTO Ankara 64.89 56 *eP* **P 17 35 45.8 +0.6**
ANTO pmax pmax
comp=Z,27nm,1.2s,mb5.2
ANTO MLR MLR
comp=Z,620nm,21.0s,MS4.8
ANTO Ankara 64.89 56 *eP* **P 17 35 45.8 +0.6**
comp=Z,27nm,1.2s,mb5.2
ANTO LR LR
comp=Z,620nm,21.0s,MS4.8
MOS Moscow 64.90 38 *eP* **P 17 35 43.0 -1.9**
MOS pmax pmax
comp=Z,104nm,1.4s,mb5.7
MOS MLR MLR
comp=Z,2μm,20.0s,MS5.3
BALT Daday 64.95 54 *i* P **P 17 35 45.4 -0.2**
L02A Cave Junction 64.95 306 ⇑P **P 17 35 45.5 0.0**
baz=65
CVS Carmenet Viney 64.99 302 ⇑P **P 17 35 45.3 -0.6**
baz=65
N02C Big Bar 65.04 305 ⇓P **P 17 35 45.3 -0.8**
baz=65
JRSC Jasper Ridge 65.06 301 ⇑P **P 17 35 46.0 -0.3**
baz=65
KLMR Klimovskoe 65.07 33 *d i* P **P 17 35 45.1 -0.8**
KLMR *eS* S 17 44 30.6 +2.5
KLMR pmax pmax
comp=Z,106nm,1.7s,mb5.6
KLMR pmax pmax
comp=Z,160μm,11.0s
KLMR MLR MLR
comp=Z,563nm,19.0s,MS4.8
BNLO Ben Lomond (Sa 65.07 301 ⇑P **P 17 35 46.6 +0.2**
baz=65
HOPS Hopland 65.30 303 ⇑P **P 17 35 48.1 +0.3**
baz=65
HOPS Hopland 65.30 303 *eP* **P 17 35 47.9 0.0**
comp=Z,136nm,1.5s,mb5.8
HOPS LR LR
comp=Z,2μm,19.0s,MS5.3
MCCM Marconi Confer 65.36 302 ⇓P **P 17 35 48.0 -0.3**
baz=65
MCCM Marconi Confer 65.36 302 PFAKE 17 36 00.0 +12
MCCM LR LR
comp=Z,1μm,21.0s,MS5.1
P01C Double 8 Ranch 65.38 304 ⇑P **P 17 35 48.4 0.0**
baz=65
M01C Crescent City 65.40 306 ⇑P **P 17 35 49.5 +1.1**
baz=65
K01A Sixes 65.42 307 ⇓P **P 17 35 48.8 +0.2**
baz=65
FARB Farallon Islan 65.57 302 ⇓P **P 17 35 50.4 +0.7**
baz=66
JCC Jacoby Creek 65.57 305 ⇓P **P 17 35 49.5 -0.1**
baz=66
O01C Eel River Cons 65.58 304 ⇑P **P 17 35 50.1 +0.4**
baz=66
INK Inuvik 65.62 336 *eP* **P 17 35 48.5 -0.9**
INK pmax pmax
comp=Z,584nm,1.1s
INK Inuvik 65.62 336 *eP* **P 17 35 48.5 -0.9**
comp=Z,584nm,1.1s,mb6.5
DLBC Dease Lake 65.71 325 *eP* **P 17 35 49.2 -1.0**
CDAG Cicekdag 66.13 56 *i* P **P 17 35 53.1 -0.2**
CTKT Corum 66.19 55 *i* P **P 17 35 53.8 +0.2**
VOR Voronezh 66.59 42 *eP* **P 17 35 55.0 -0.9**
VOR pmax pmax
comp=Z,140nm,2.0s,mb5.7
VRSR Storozhevoye 66.70 43 *eP* **P 17 35 55.9 -0.7**
VRSR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
VRSR pmax pmax
comp=N,4.0nm,1.9s
VRSR pmax pmax
comp=E,7.0nm,1.0s
VRSR MLR MLR
comp=Z,210nm,24.0s,MS4.3
AVNT Avonos 66.71 57 *i* P **P 17 35 56.6 -0.3**
ANN Anapa 67.05 50 *eP* **P 17 35 57.4 -1.6**
ANN *eS* S 17 44 51.2 -1.6
ANN pmax pmax
comp=Z,54nm,1.2s,mb5.5
ANN MLR MLR
comp=Z,552nm,19.0s,MS4.8
PINB Pinarbasi 67.91 57 *i* P **P 17 36 04.3 -0.3**
ANDN Andirin 68.17 58 *i* P **P 17 36 06.3 +0.1**
SKAG Skagway 68.18 327 P **P 17 36 04.9 -1.0**
comp=Z,54nm,2.2s,mb5.2
VRHR Novokhopersk 68.21 43 *eP* **P 17 36 06.2 0.0**
VRHR pmax pmax
comp=Z,20nm,0.8s,mb5.2
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,5.0nm,0.4s
VRHR MLR MLR
comp=Z,1μm,23.0s,MS5.0
BHL Bhannes 68.71 62 *eP* **P 17 36 10.2 +0.6**
SIT Sitka 68.79 324 PFAKE 17 36 20.0 +10
SIT LR LR
comp=Z,2μm,22.0s,MS5.3
DAWY Dawson 68.86 332 *eP* **P 17 36 08.9 -1.1**
HYT Haines Junctio 68.89 328 *eP* **P 17 36 09.7 -0.5**
SOC Sochi 68.95 51 *eP* **P 17 36 11.0 0.0**
SOC *e**SP sP 17 36 13.9 -1.6
SOC *e* 17 38 43.5
SOC *e*PPP 17 40 22.1
SOC *eS* S 17 45 13.7 -1.9
SOC *e* 17 46 08.7
SOC *e*SS SS 17 49 40.1 -0.5
SOC pmax pmax
comp=Z,26nm,0.8s,mb5.2
GZT Gaziantep 69.16 58 *i* P **P 17 36 13.2 +0.7**
EGAK Eagle 69.39 333 *eP* **P 17 36 10.8 -2.5**
comp=Z,9.3nm,1.1s,mb4.6
EGAK LR LR
comp=Z,2μm,19.0s,MS5.4
MALT Malatya 69.53 57 P **P 17 36 14.7 0.0**
MALT pmax pmax
comp=Z,30nm,1.1s,mb5.1
MALT Malatya 69.53 57 ⇑*i* P **P 17 36 14.9 +0.2**
MALT Malatya 69.53 57 ⇑P **P 17 36 14.9 +0.3**
MALT LR LR
comp=Z,519nm,21.0s,MS4.8
PLCA Paso Flores 70.46 200 P **P 17 36 19.5 -0.6**
comp=Z,14nm,1.1s,mb4.8,baz=33,slow=7.8,SNR=23
PLCA LR LR 18 10 07.9
comp=Z,364nm,19.7s,MS4.6,baz=17,slow=38
PLCA Paso Flores 70.46 200 P **P 17 36 19.5 -0.6**
PLCA LR LR 18 10 07.9
KIV Kislovodsk 70.90 50 *eP* **P 17 36 21.3 -1.7**
KIV *eS* S 17 45 36.8 -1.7
KIV pmax pmax
comp=Z,43nm,1.1s,mb5.3
KIV pmax pmax
comp=Z,107nm,4.7s
KIV MLR MLR
comp=Z,253nm,18.0s,MS4.5
KIV Kislovodsk 70.90 50 *eP* **P 17 36 21.4 -1.6**
comp=Z,69nm,1.3s,mb5.4
KIV LR LR
comp=Z,283nm,19.0s,MS4.5
DIYA Diyarbakir 70.92 56 *i* P **P 17 36 24.2 +0.9**
BNGL BINGOL 71.36 55 *i* P **P 17 36 27.3 +1.5**
MARD Mardin 71.61 57 *i* P **P 17 36 27.9 +0.5**
ONI Oni 71.86 51 P **P 17 36 29.4 +0.6**
COLD Coldfoot 72.00 337 *eP* **P 17 36 28.7 -0.4**
comp=Z,15nm,1.0s,mb4.9
COLA College 72.05 334 PFAKE 17 36 40.0 +10
COLA LR LR
comp=Z,1μm,20.0s,MS5.2
BMRM Bremner River 72.14 330 *eP* **P 17 36 29.6 -0.4**
AKH Akhalkalaki 72.27 52 P **P 17 36 31.7 +0.5**
TUTA Tutak 72.44 54 *i* P **P 17 36 33.4 +1.1**
EYAK Cordova Ski Ar 72.81 329 *eP* **P 17 36 34.2 0.0**
comp=Z,49nm,1.2s,mb5.3
TBLG Delisi 73.05 51 P **P 17 36 36.7 +0.8**
GNI Garni 73.59 53 P **P 17 36 40.1 +0.9**
comp=Z,19nm,0.8s,mb5.1
GNI Garni 73.59 53 *d i* P **P 17 36 40.1 +1.0**
GNI pmax pmax
comp=Z,128nm,2.1s
GNI MLR MLR
comp=Z,600nm,22.0s
GNI Garni 73.59 53 P **P 17 36 40.0 +0.9**
GNI LR LR
comp=Z,341nm,21.0s,MS4.6
BPAW Bear Paw Mtn. 73.61 334 *eP* **P 17 36 37.2 -1.6**
comp=Z,85nm,1.8s,mb5.4
SOKR Solikamsk 73.69 31 *eP* **P 17 36 39.4 +0.1**
SOKR pmax pmax
comp=Z,30nm,1.2s,mb5.1
HAKT HAKKARI 73.73 56 *i* P **P 17 36 39.8 -0.2**
IMA2 Indian Mountai 73.75 336 *eP* **P 17 36 39.3 -0.3**
PMR Palmer 73.91 331 PFAKE 17 36 50.0 +9.4
PMR LR LR
comp=Z,2μm,20.0s,MS5.4
CHUM Lake Minchumin 74.23 334 *eP* **P 17 36 41.6 -0.8**
comp=Z,38nm,1.0s,mb5.3
RC01 Rabbit Creek A 74.39 331 *eP* **P 17 36 42.7 -0.6**
comp=Z,16nm,1.0s,mb4.9
MAK Makhachkala 74.54 50 *eP* **P 17 36 43.2 -1.4**
MAK *i* 17 36 55.8
MAK *eS* S 17 46 23.9 +3.9
MAK *e* 17 46 52.5
MAK pmax pmax
comp=Z,105nm,1.2s,mb5.6
MAK MLR MLR
comp=Z,530nm,17.0s,MS4.9
PPLA Purkeypile 74.63 333 *eP* **P 17 36 44.0 -0.7**
comp=Z,332nm,2.3s,mb5.9
SLKM Skilak Lake 74.85 330 P **P 17 36 45.9 -0.2**
SLKM Skilak Lake 74.85 330 *eP* **P 17 36 43.9 -2.1**
ARU Arti 75.85 34 *d i* P **P 17 36 51.8 -0.1**
ARU *e* 17 37 07.8
ARU *e* 17 39 37.3
ARU *e*PPP 17 41 26.4
ARU *eS* S 17 46 33.7 -0.3
ARU pmax pmax
comp=Z,97nm,2.5s,mb5.3
ARU Arti 75.85 34 *eP* **P 17 36 51.4 -0.5**
comp=Z,82nm,1.5s,mb5.4
ARU LR LR
comp=Z,654nm,19.0s,MS5.0
TTA Tatalina 76.15 334 *eP* **P 17 36 51.3 -2.2**
TTA pmax pmax
comp=Z,11nm,1.3s,mb4.6
TTA Tatalina 76.15 334 *eP* **P 17 36 51.3 -2.2**
comp=Z,11nm,1.4s,mb4.6
SVE Sverdlovsk 76.70 33 ⇑*eP* **P 17 36 57.1 +0.4**
SVE *eS* S 17 46 51.4 +8.0
SVE *e*SS SS 17 51 33.9 -4.2
SVE *e*SSS 17 54 56.4
SVE pmax pmax
comp=Z,66nm,1.7s,mb5.3
SVW2 Sparrevohn 76.89 332 *eP* **P 17 36 56.5 -1.2**
KDAK Kodiak Island 77.18 328 *eP* **P 17 36 58.5 -0.9**
comp=Z,18nm,1.0s,mb5.0
KDAK LR LR
comp=Z,202nm,22.0s,MS4.4
AKTK Aktyubinsk 78.18 40 P **P 17 37 04.9 -0.2**
AKTO Aktyubinsk 78.18 40 P **P 17 37 04.9 -0.2**
comp=Z,16nm,0.9s,mb5.0,baz=304,slow=5.5,SNR=40
LSZ Lusaka 82.11 111 *eP* **P 17 37 27.3 +0.4**
comp=Z,23nm,1.4s,mb4.9
LSZ LR LR
comp=Z,1μm,22.0s,MS5.2
SDPT Sand Point 82.17 329 *eP* **P 17 37 26.2 -0.3**
comp=Z,216nm,1.4s,mb5.9
TIXI Tiksi 82.57 2 *d i* P **P 17 37 28.3 -0.1**
TIXI pmax pmax
comp=Z,60nm,2.3s,mb5.2
TIXI Tiksi 82.57 2 *eP* **P 17 37 28.1 -0.3**
comp=Z,52nm,1.4s,mb5.4
BRVK Borovoye 83.41 33 *eP* **P 17 37 33.0 0.0**
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BRVK MLR MLR
comp=Z,613nm,20.0s,MS5.0
BRVK Borovoye 83.41 33 *eP* **P 17 37 33.0 -0.1**
comp=Z,10nm,0.8s,mb4.9
BRVK LR LR
comp=Z,613nm,20.0s,MS5.0
BILL Bilibino 83.46 349 ⇑*eP* **P 17 37 33.3 +0.3**
BILL pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
BILL MLR MLR
comp=Z,300nm,18.0s,MS4.7
BILL Bilibino 83.46 349 P **P 17 37 32.7 -0.3**
comp=Z,140nm,2.3s,mb5.6
BILL LR LR
comp=Z,474nm,19.0s,MS4.9
BVAR Borovoye Array 83.48 33 P **P 17 37 33.8 +0.5**
comp=Z,9.5nm,0.8s,mb4.9,baz=293,slow=4.5,SNR=56
KMBO Kilima Mbogo 83.53 94 P **P 17 37 36.7 +2.4**
comp=Z,38nm,1.4s,mb5.3
KMBO LR LR
comp=Z,3μm,19.0s,MS5.7
LBTB Lobatse 84.94 121 PFAKE 17 37 50.0 +8.8
LBTB LR LR
comp=Z,2μm,19.0s,MS5.5
BOSA Boshof 86.56 124 P **P 17 37 49.4 +0.1**
comp=Z,2.1nm,0.8s,mb4.4,baz=239,slow=4.3,SNR=4.3
BOSA LR LR 18 08 54.4
comp=Z,888nm,20.4s,MS5.2,baz=322,slow=30
NVS Novosibirsk 88.13 27 *eP* **P 17 37 54.7 -1.7**
NVS pmax pmax
comp=N,18nm,2.1s
NVS pmax pmax
comp=E,16nm,2.1s
NVS pmax pmax
comp=Z,60nm,2.1s,mb5.5
KURK Kurchatov 88.91 32 *d i* P **P 17 38 00.0 -0.2**
KURK pmax pmax
comp=Z,28nm,1.7s,mb5.3
KURK MLR MLR
comp=Z,600nm,30.0s,MS4.8
KURK Kurchatov 88.91 32 ⇓*eP* **P 17 37 59.6 -0.5**
comp=Z,42nm,1.8s,mb5.5
KURK LR LR
comp=Z,445nm,19.0s,MS4.9
ZAA0 Zalesovo Array 89.42 27 *eP* **P 17 38 01.8 -0.7**
ZAL Zalesovo 89.42 27 P **P 17 38 02.1 -0.4**
ZALV Zalesovo Beam 89.42 27 P **P 17 38 02.0 -0.4**
comp=Z,7.9nm,0.9s,mb5.0,baz=306,slow=5.3,SNR=30
ZALV LR LR 18 16 25.1
comp=Z,327nm,20.3s,MS4.8,baz=141,slow=34
SEY Seymchan 90.34 352 ⇑*eP* **P 17 38 06.9 +0.3**
EKS2 Erkin-Say 91.49 40 *eP* **P 17 38 13.3 +0.9**
comp=Z,5.5nm,1.0s,mb4.8
EKS2 LR LR
comp=Z,169nm,20.0s,MS4.5
AML Almayashu 91.76 41 *eP* **P 17 38 14.4 +0.8**
comp=Z,36nm,1.7s,mb5.4
AML LR LR
comp=Z,1μm,20.0s,MS5.3
FRU Bishkek 91.87 40 *eP* **P 17 38 14.0 -0.1**
FRU pmax pmax
comp=Z,80nm,2.2s,mb5.7
YAK Yakutsk 92.22 3 *eP* **P 17 38 14.1 -1.3**
YAK pmax pmax
comp=Z,142nm,2.8s,mb5.8
YAK pmax pmax
comp=N,92nm,3.3s
YAK pmax pmax
comp=E,36nm,2.8s
TKM2 Tokmak 2 92.37 39 P **P 17 38 17.4 +0.9**
TKM2 pmax pmax
comp=Z,21nm,1.6s,mb5.2
TKM2 Tokmak 2 92.37 39 *eP* **P 17 38 17.3 +0.8**
comp=Z,21nm,1.6s,mb5.2
MKAR Makanchi Array 93.36 33 P **P 17 38 18.9 -2.0**
comp=Z,1.2nm,1.0s,mb4.3,baz=306,slow=4.2,SNR=6.2
MKAR PKKPbc PKKPbc 17 55 25.2 -3.1
comp=Z,0.4nm,0.7s,baz=73,slow=4.1,SNR=3.6
MKAR LR LR 18 21 41.4
comp=Z,391nm,18.1s,MS4.9,baz=303,slow=36
MKAR Makanchi Array 93.36 33 *i* P **P 17 38 20.2 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,1.0s
SMY Shemya 94.55 337 PFAKE 17 38 40.0 +14
SMY LR LR
comp=Z,744nm,21.0s,MS5.1
BOD Bodaibo 94.71 11 *eP* **P 17 38 25.1 -1.8**
BOD pmax pmax
comp=Z,10.0nm,1.9s,mb4.9
KSH Kashi 94.74 42 *eP* **P 17 38 29.0 +1.5**
KSH *e*AP pP 17 38 34.2 +3.4
KSH *e*XP sP 17 38 36.3 +4.3
KSH *e*PP PP 17 42 20.6 +5.4
KSH SKS 17 49 03.0
KSH S S 17 49 40.4 -0.7
KSH AMB AMB
comp=Z,523nm,3.9s
KSH LR LR
comp=N,1μm,14.0s

KSH				LR	LR		
	comp=E,472nm,6.4s						
KSH				LR	LR		
	comp=Z,3μm,21.7s						
TLY	**Talaya**	**97.94**	**19**	*e*P	**P**	**17 38 42.0**	**+0.3**
TLY				*e*		17 51 39.9	
TLY				pmax	pmax		
	comp=Z,9.0nm,2.4s,mb4.9						
TLY				MLR	MLR		
	comp=Z,303nm,24.0s,MS4.7						
WMQ	**Urumqi**	**98.14**	**33**	*e*P	**P**	**17 38 43.3**	**+0.5**
WMQ				AP	pP	17 38 48.1	+1.9
WMQ				XP	sP	17 38 50.3	+3.0
WMQ				PP	PP	17 42 46.1	+4.9
WMQ				SKS		17 49 19.5	
WMQ				S	S	17 50 07.1	-3.2
WMQ				XS	sS	17 50 15.3	-0.5
WMQ				SS	SS	17 56 54.3	+3.0
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,16nm,6.0s						
WMQ				LR	LR		
	comp=N,263nm,22.5s,MS4.9						
WMQ				LR	LR		
	comp=E,331nm,20.8s,MS4.9						
WMQ				LR	LR		
	comp=Z,314nm,24.8s,MS4.7						
POHA	**Pohakuloa**	**98.69**	**297**	PFAKE		17 39 00.0	+14
POHA				LR	LR		
	comp=Z,786nm,19.0s,MS5.2						
PET	**Petropavlovsk**	**98.70**	**346**	*e*P	**P**	**17 38 40.0**	**-5.1**
PET				*e*		17 42 41.3	
PET				*e*		17 49 21.1	
PET				*e*S	S	17 50 00.6	-14
PET				pmax	pmax		
	comp=Z,100nm,11.0s						
PET				MLR	MLR		
	comp=Z,500nm,21.0s,MS5.0						
PET	**Petropavlovsk**	**98.70**	**346**	PFAKE		17 39 00.0	+15
PET				LR	LR		
	comp=Z,586nm,22.0s,MS5.0						
PETK	**Petropavlovsk-**	**98.83**	**346**	LR	LR	18 25 58.7	
	comp=Z,248nm,22.0s,MS4.7,baz=35,slow=37						
RKT	**Rikitea**	**99.75**	**249**	*e*LR	LR	18 11 30.2	
	comp=Z,866nm,36.8s						
KIP	**Kipapa**	**99.78**	**300**	PFAKE		17 39 00.0	+10
KIP				LR	LR		
	comp=Z,657nm,19.0s,MS5.2						
ABPO	**Ambohimpanom**	**100.03**	**106**	PFAKE		17 39 00.0	+8.9
ABPO				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
MSEY	**Mahe Island**	**101.45**	**90**	PFAKE		17 39 10.0	+13
MSEY				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
HIA	**Hailar**	**103.89**	**10**	PFAKE		17 39 20.0	+12
HIA				LR	LR		
	comp=Z,418nm,20.0s,MS5.0						
MIDW	**Midway**	**109.31**	**316**	PFAKE		17 43 50.0	+13
MIDW				LR	LR		
	comp=Z,766nm,19.0s,MS5.3						
MDJ	**Mudanjiang**	**109.60**	**4**	PFAKE		17 43 50.0	+13
MDJ				LR	LR		
	comp=Z,249nm,20.0s,MS4.8						
CN2	**Changchun**	**110.04**	**7**	*e*PDIF	Pdif	17 39 37.7	+2.1
CN2				PP	PP	17 44 15.6	+6.3
CN2				PP	PP		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,450nm,21.0s,MS5.1						
CN2				LR	LR		
	comp=E,300nm,21.0s,MS5.1						
CN2				LR	LR		
	comp=Z,440nm,17.0s,MS5.1						
HHC	**Hu-ho-hao-te**	**110.07**	**19**	PDIF	Pdif	17 39 37.2	+1.5
HHC				PP	PP	17 44 13.1	+3.4
HHC				SKS	SKSdf	17 50 49.0	-0.9
HHC				PP	PP		
	comp=Z,132nm,11.9s						
HHC				LR	LR		
	comp=N,287nm,19.0s,MS5.0						
HHC				LR	LR		
	comp=E,321nm,19.0s,MS5.0						
HHC				LR	LR		
	comp=Z,224nm,21.4s,MS4.7						
PPT	**Papeete**	**110.28**	**260**	*e*PS	PS	17 53 42.9	-0.1
	comp=Z,504nm,24.2s						
PPT	**Papeete**	**110.28**	**260**	*e*LR	LR	18 16 15.5	
	comp=Z,1μm,32.5s						
LSA	**Lhasa**	**110.51**	**40**	PFAKE		17 43 50.0	+11
LSA				LR	LR		
	comp=Z,532nm,21.0s,MS5.1						
LZH	**Lanzhou**	**111.65**	**27**	*e*PKP	PKiKP	17 43 37.2	-3.6
LZH				XPKP		17 43 41.7	
LZH				*e*PP	PP	17 44 23.5	+2.2
LZH				SKKS	SKKSac	17 51 14.3	-11
LZH				SS	SS	17 59 53.6	-2.4
LZH				PP	PP		
	comp=Z,156nm,7.8s						
LZH				LR	LR		
	comp=N,496nm,18.1s						
LZH				LR	LR		
	comp=Z,673nm,20.3s,MS5.2						
BJT	**Baijiatuau**	**112.07**	**16**	PFAKE		17 43 50.0	+8.6
BJT				LR	LR		
	comp=Z,464nm,20.0s,MS5.1						
TBI	**Tubuai**	**112.21**	**254**	*e*PS	PS	17 54 01.7	+1.0
	comp=Z,155nm,29.2s						
TBI				*e*SS	SS	18 00 11.8	+5.2
	comp=Z,444nm,29.2s						
TBI	**Tubuai**	**112.21**	**254**	*e*LR	LR	18 17 08.7	
	comp=Z,737nm,32.5s						
MDRS	**Chennai**	**114.12**	**61**	*e*x	x	17 40 54.0	
QSPA	**South Pole Qui**	**115.87**	**180**	PKP	PKPdf	17 43 47.6	+0.2
	comp=Z,2.1nm,1.0s,baz=254,slow=3.3,SNR=4.1						
QSPA				PKKPbc	PKKPbc	17 54 18.7	-2.6
	comp=Z,1.3nm,0.9s,baz=326,slow=1.7,SNR=5.6						
QSPA	**South Pole Qui**	**115.87**	**180**	PKP	PKPdf	17 43 47.6	+0.2
QSPA				PKKPbc	PKKPbc	17 54 18.7	-2.6
CD2	**Chengdu**	**116.05**	**30**	*e*PKP	PKPdf	17 43 47.7	-1.6
CD2				XPKP		17 43 55.2	
CD2				PP	PP	17 44 57.1	+4.4
CD2				PKS		17 47 23.1	
CD2				SKS	SKSdf	17 50 54.9	-6.9
CD2				SKKS	SKKSac	17 51 46.4	-9.0
CD2				SS	SS	18 00 53.1	-1.3
CD2				LR	LR		
	comp=N,120nm,21.8s						
CD2				LR	LR		
	comp=Z,150nm,22.8s,MS4.5						
INCN	**Inchon**	**116.42**	**7**	PFAKE		17 44 00.0	+10
INCN				LR	LR		
	comp=Z,284nm,20.0s,MS4.9						
MAJO	**Matsushiro**	**117.77**	**357**	PFAKE		17 44 00.0	+7.5
MAJO				LR	LR		
	comp=Z,315nm,22.0s,MS4.9						
PALK	**Pallekele**	**117.81**	**66**	PFAKE		17 44 00.0	+6.9
PALK				LR	LR		
	comp=Z,715nm,19.0s,MS5.3						
NJ2	**Nanjing**	**120.30**	**16**	*e*PKP	PKPdf	17 43 59.8	+2.3
KMI	**Kunming**	**120.43**	**34**	PKP	PKPdf	17 43 57.6	-0.3
KMI				PP	PP	17 45 24.4	+1.2
KMI				SKKS	SKKSac	17 52 18.9	-5.6
KMI				S	Sdif	17 53 12.2	-3.8
KMI				SS	SS	18 01 51.4	0.0
KMI				PP	PP		
	comp=Z,122nm,5.1s						
KMI				LR	LR		
	comp=Z,184nm,21.3s,MS4.7						
GYA	**Guiyang**	**121.17**	**30**	PDIF	Pdif	17 40 25.9	+0.8
GYA				PKP	PKPdf	17 43 59.8	+0.5
GYA				PP	PP	17 45 32.2	+4.1
GYA				PKS		17 47 34.0	
GYA				SKS	SKSdf	17 51 08.6	-3.1
GYA				SKKS	SKKSac	17 52 23.7	-5.6
GYA				SS	SS	18 02 01.4	+0.7
GYA				PP	PP		
	comp=Z,150nm,7.4s						
GYA				LR	LR		
	comp=N,460nm,23.4s,MS5.2						
GYA				LR	LR		
	comp=E,420nm,25.8s,MS5.2						
GYA				LR	LR		
	comp=Z,470nm,24.4s,MS5.0						
CHTO	**Chiang Mai**	**123.37**	**42**	PFAKE		17 44 10.0	+6.3
CHTO				LR	LR		
	comp=Z,463nm,19.0s,MS5.2						
CMAR	**Chiang Mai Arr**	**123.64**	**42**	PKP	PKPdf	17 44 02.0	-2.2
	comp=Z,2.5nm,0.8s,baz=300,slow=3.0,SNR=12						
VNDA	**Vanda**	**126.84**	**187**	PKP	PKPdf	17 44 07.6	-0.9
	comp=Z,4.4nm,1.1s,baz=230,slow=0.3,SNR=12						
QIZ	**Qiongzhong**	**129.04**	**31**	PKP	PKPdf	17 44 11.2	-3.3
QIZ				PP	PP	17 46 20.8	0.0
QIZ				PP	PP		
	comp=Z,280nm,4.0s						
QIZ				LR	LR		
	comp=E,183nm,26.1s						
QIZ				LR	LR		
	comp=Z,552nm,23.2s,MS5.2						
QIZ	**Qiongzhong**	**129.04**	**31**	PFAKE		17 44 30.0	+15
QIZ				LR	LR		
	comp=Z,272nm,20.0s,MS4.9						
CASY	**Casey**	**136.85**	**166**	PFAKE		17 44 40.0	+12
CASY				LR	LR		
	comp=Z,471nm,20.0s,MS5.2						
KKM	**Kota Kinabalu**	**143.34**	**32**	PFAKE		17 44 50.0	+8.9
KKM				LR	LR		
	comp=Z,395nm,22.0s,MS5.1						
DAV	**Davao City (W)**	**145.93**	**17**	PFAKE		17 45 00.0	+14
DAV				LR	LR		
	comp=Z,597nm,21.0s,MS5.3						
DZM	**Mont Dzumac**	**151.05**	**271**	*e*PKPbc	PKPbc	17 44 59.5	0.0
HNR	**Honiara**	**151.19**	**300**	PFAKE		17 45 00.0	+5.9
HNR				LR	LR		
	comp=Z,645nm,20.0s,MS5.4						
KAPI	**Kappang**	**154.58**	**38**	PFAKE		17 45 10.0	+11
KAPI				LR	LR		
	comp=Z,465nm,22.0s,MS5.3						
PMG	**Port Moresby**	**159.90**	**323**	PFAKE		17 45 20.0	+14
PMG				LR	LR		
	comp=Z,855nm,22.0s,MS5.5						
NWAO	**Narrogin (SRO)**	**163.05**	**118**	PFAKE		17 45 20.0	+11
NWAO				LR	LR		
	comp=Z,817nm,19.0s						
MBWA	**Marble Bar**	**165.22**	**74**	PFAKE		17 45 20.0	+9.2
MBWA				LR	LR		
	comp=Z,902nm,21.0s						
CTAO	**Charters Tower**	**168.10**	**297**	PFAKE		17 45 20.0	+7.0
CTAO				LR	LR		
	comp=Z,819nm,20.0s						
WRA	**Warramunga Arr**	**173.99**	**6**	PKPab	PKPab	17 46 46.1	-0.6
	comp=Z,3.5nm,1.0s,baz=358,slow=4.9,SNR=14						
ASAR	**Alice Springs**	**177.52**	**24**	PKP	PKPdf	17 45 15.2	-1.6
	comp=Z,0.7nm,0.9s,baz=132,slow=1.9,SNR=4.7						
ASAR				PKPab	PKPab	17 47 01.8	-0.6
	comp=Z,1.3nm,0.9s,baz=19,slow=5.6,SNR=8.9						

*IDC **09** 17:35:03.0±2.0,2850N×9537E,h0km,mb3.2/4,mb1 3.5/4, mb1mx3.4/22,mbtmp3.3/4,Error ellipse: s-maj=80.7km s-min=25.7km az=71.0*
*ISCJB **09** 17:35:06.5±1.0,286N±0.1×956E±0.1,h33km,mb3.6/2, Error ellipse: s-maj=22.3km s-min=11.0km az=41.2*
ISC 09 17:35:09.1±1.0,286N±01×956E±01,h35km,n5,σ1°22/6, mb3.6/2,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.51**	**228**	*e*P	**Pn**	**17 36 16.0**	**+1.0**
SHL				*e*S	**Sn**	**17 37 06.0**	**-0.2**
MKAR	**Makanchi Array**	**20.91**	**334**	P	**P**	**17 39 47.1**	**-1.2**
	0.4nm,0.6s,baz=156,slow=9.3,SNR=4.3						
SONM	**Songino Array**	**20.91**	**21**	P	**P**	**17 39 49.7**	**+1.3**
	0.7nm,0.5s,baz=206,slow=12,SNR=7.3						
WRA	**Warramunga Arr**	**61.09**	**138**	P	**P**	**17 45 19.3**	**-0.5**
	0.6nm,0.8s,mb3.8,baz=327,slow=7.6,SNR=7.0						
ASAR	**Alice Springs**	**63.76**	**141**	P	**P**	**17 45 37.1**	**-0.4**
	0.2nm,0.5s,mb3.4,baz=333,slow=6.5,SNR=6.0						

IDC 09 17:58:12.2±6.8,1249S×16825E,h0km,mb3.7/4, mb1 3.7/4,mb1mx3.5/16,mbtmp3.6/4,Error ellipse: s-maj=191.8km s-min=41.1km az=127.0,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.35**	**253**	P	P	18 04 51.3	-1.0
	0.3nm,0.8s,baz=83,slow=9.3,SNR=3.8						
ASAR	**Alice Springs**	**34.40**	**246**	P	P	18 05 01.7	+0.3
	0.2nm,0.3s,baz=76,slow=11,SNR=6.5						
BATI	**Baumata**	**43.74**	**268**	P	P	18 06 20.6	+0.8
	26nm,1.0s,baz=90,slow=9.1,SNR=3.3						
SONM	**Songino Array**	**81.28**	**323**	P	P	18 10 30.6	+0.3
	0.2nm,0.4s,baz=138,slow=6.4,SNR=4.5						
MKAR	**Makanchi Array**	**96.25**	**316**	P	P	18 11 42.2	-0.3
	0.5nm,0.5s,baz=98,slow=6.0,SNR=6.4						

IDC 09 18:09:12.7±3.6,839S×12206E,h246km±17km,mb3.5/1, mb1 3.0/5,mb1mx2.8/18,mbtmp2.8/5,Error ellipse: s-maj=69.8km s-min=41.2km az=53.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.40**	**139**	P	Pn	18 09 59.4	+0.8
	4.7nm,0.3s,baz=304,slow=3.6,SNR=7.8						
BATI				S	S	18 10 34.8	-0.1
	8.4nm,0.3s,baz=357,slow=5.9,SNR=4.5						
FITZ	**Fitzroy Crossi**	**10.26**	**161**	P	Pn	18 11 36.4	+1.7
	0.0nm,0.3s,baz=13,slow=14,SNR=2.3						
FITZ				S	S	18 13 31.5	+1.6
	0.1nm,0.3s,baz=108,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**16.53**	**135**	P	P	18 12 47.7	-1.9
	0.1nm,0.3s,baz=318,slow=12,SNR=6.4						
WRA				S	S	18 15 49.1	-0.8
	0.0nm,0.3s,baz=300,slow=23,SNR=3.2						
ASAR	**Alice Springs**	**18.96**	**145**	P	P	18 13 17.4	+1.5
	0.1nm,0.3s,baz=328,slow=10,SNR=5.4						
VNDA	**Vanda**	**72.13**	**172**	P	P	18 20 09.6	-0.4
	0.7nm,0.4s,baz=319,slow=6.8,SNR=6.7						

*ROM **09** 18:32:24.1±0.1,4143N×1586E,h2km,Md2.5/28,Ml2.7/16, Error ellipse: s-maj=1.5km s-min=1.1km az=88.0*
*CSEM **09** 18:32:24.0±0.1,4144N×1586E,h15km,ML3.6/4,Error ellipse: s-maj=1.3km s-min=1.1km az=78.0*
*ISCJB **09** 18:32:25.5±0.3,4146N±002×1586E±003,h16km±8km, Error ellipse: s-maj=3.5km s-min=3.3km az=3.2*
ISC 09 18:32:25.1±0.4,4145N±002×1587E±002,h17km±4km,n35, σ0°93/53,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MS1	**Monte Sant'Ang**	**0.26**	**12**	*e*Pg	**Pg**	**18 32 31.1**	**+0.2**
MS1				*e*Sg	**Sg**	**18 32 35.4**	**+0.5**
MSAG	**Monte S. Angel**	**0.26**	**7**	Pg	**Pg**	**18 32 30.8**	**-0.2**
MSAG				Sg	**Sg**	**18 32 35.0**	**0.0**
	2μm,0.2s						
FGMS	**Monte Sant'Ang**	**0.26**	**14**	Pg	**Pg**	**18 32 30.9**	**-0.1**
FGMS				Sg	**Sg**	**18 32 36.0**	**+1.0**
RGNG	**Rignano Grg**	**0.31**	**316**	Pg	**Pg**	**18 32 30.7**	**-1.0**
SGRT	**San Giovanni R**	**0.32**	**343**	Pg	**Pg**	**18 32 31.2**	**-0.7**
SGRT				Sg	**Sg**	**18 32 36.4**	**-0.1**
	676nm,0.2s						
FG4	**Candela**	**0.41**	**220**	Pg	**Pg**	**18 32 32.6**	**-1.0**
FG4				Sg	**Sg**	**18 32 38.9**	**-0.4**
MRVN	**Minervino Murg**	**0.46**	**148**	Pg	**Pg**	**18 32 33.5**	**-1.0**
MRVN				Sg	**Sg**	**18 32 41.1**	**+0.3**
	174nm,0.1s						
CDT	**Castel del Mon**	**0.48**	**140**	*e*Pg	**Pg**	**18 32 31.8**	**-3.0**
FG5	**Orsara di Pugl**	**0.48**	**250**	Pg	**Pg**	**18 32 33.9**	**-0.9**
FG5				Sg	**Sg**	**18 32 43.1**	**+1.7**
SGTA	**Sant Agata di**	**0.49**	**230**	Pg	**Pg**	**18 32 33.9**	**-1.1**
SGTA				Sg	**Sg**	**18 32 42.2**	**+0.5**
	396nm,0.3s						
PALZ	**Palazzo San Ge**	**0.51**	**172**	Pg	**Pg**	**18 32 34.4**	**-1.0**
VULT	**Monte Vulture**	**0.53**	**201**	Pg	**Pg**	**18 32 35.9**	**+0.2**
VULT				Sg	**Sg**	**18 32 42.9**	**0.0**
	757nm,0.3s						
FG2	**Serracapriola**	**0.64**	**304**	Pg	**Pg**	**18 32 37.0**	**-0.7**
	148nm,0.2s						
CAFE	**Carife**	**0.64**	**228**	Pg	**Pg**	**18 32 37.7**	**0.0**
CAFE				Sg	**Sg**	**18 32 47.2**	**+1.0**
	308nm,0.6s						
SNAL	**S. Angelo Dei**	**0.72**	**224**	Pg	**Pg**	**18 32 37.6**	**-1.7**
SNAL				Sg	**Sg**	**18 32 49.1**	**+0.2**
MRLC	**Muro Lucano**	**0.75**	**202**	Pg	**Pg**	**18 32 39.9**	**+0.1**
MRLC				Sg	**Sg**	**18 32 50.9**	**+1.1**
	229nm,0.3s						
AMUR	**Altamura**	**0.78**	**134**	Pg	**Pg**	**18 32 39.5**	**-0.8**
AMUR				Sg	**Sg**	**18 32 51.4**	**+0.8**
	279nm,0.4s						
PSB1	**Pescosannita**	**0.83**	**254**	Pg	**Pg**	**18 32 40.5**	**-0.8**
	105nm,0.9s						
BAI	**Bari**	**0.84**	**114**	*e*Pg	**Pg**	**18 32 42.5**	**+1.1**
BAI				*e*Sg	**Sg**	**18 32 54.6**	**+2.1**
MCRV	**Calabrutti - M**	**0.85**	**219**	Pg	**Pg**	**18 32 41.3**	**-0.4**
MCRV				Sg	**Sg**	**18 32 53.9**	**+0.9**
	329nm,0.4s						
SG1	**Sgolgore (BA)**	**0.87**	**135**	*e*Pg	**Pg**	**18 32 41.2**	**-0.8**
SG1				*e*Sg	**Sg**	**18 32 54.3**	**+0.9**
CSSN	**Cassano Irpino**	**0.87**	**227**	Pg	**Pg**	**18 32 41.0**	**-1.1**
	104nm,0.6s						
PTRP	**Pietrapertosa**	**0.94**	**171**	Pg	**Pg**	**18 32 44.2**	**+0.8**
	596nm,0.7s						
MIGL	**Miglionico**	**0.95**	**153**	Pg	**Pg**	**18 32 42.4**	**-1.2**
	447nm,0.6s						
BSSO	**Busso**	**0.96**	**276**	Pg	**Pg**	**18 32 44.1**	**+0.3**
BSSO				Sg	**Sg**	**18 32 58.0**	**+1.6**
PTRJ	**Pietraroja**	**1.01**	**265**	Pg	**Pg**	**18 32 44.2**	**-0.5**
PTRJ				Sg	**Sg**	**18 32 59.6**	**+1.6**
	230nm,0.9s						
NOCI	**Noci**	**1.12**	**126**	Pg	**Pg**	**18 32 46.0**	**-0.8**
	135nm,0.3s						
SGG	**Gregorio Mates**	**1.12**	**267**	Pg	**Pg**	**18 32 46.3**	**-0.5**
	154nm,0.7s						
MCEL	**Monticello**	**1.13**	**183**	Pg	**Pg**	**18 32 46.1**	**-0.8**
CMPR	**Campora**	**1.21**	**201**	Pg	**Pn**	**18 32 47.1**	**-0.1**
VAGA	**Valle Agricola**	**1.23**	**269**	Pg	**Pn**	**18 32 47.7**	**+0.2**
SIRI	**Monte Sirino -**	**1.27**	**180**	Pg	**Pn**	**18 32 48.0**	**0.0**
	91nm,0.3s						
MOCO	**Biccari - m.te**	**1.29**	**267**	Pg	Px	18 32 36.0	
PE1	**Pezze di Greco**	**1.34**	**118**	*e*Pg	**Pg**	**18 32 50.6**	**-0.4**
PE1				*e*Sg	**Sg**	**18 33 10.1**	**+1.6**
SDI	**San Donato**	**1.56**	**280**	Pg	**Pn**	**18 32 53.8**	**+1.7**
	31nm,0.4s						

IDC 09 18:32:54.5±8.7,2591S×17928W,h646km±139km, mb3.0/3,mb1 3.2/4,mb1mx2.9/15,mbtmp3.1/4,Error ellipse: s-maj=265.6km s-min=71.8km az=78.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.54**	**160**	P	P	18 34 20.4	0.0
	86nm,0.3s,baz=71,slow=15,SNR=12						
URZ	**Urewera**	**12.69**	**193**	P	P	18 35 38.8	-0.6
	0.8nm,0.3s,baz=340,slow=7.7,SNR=5.6						
STKA	**Stephens Creek**	**34.64**	**251**	P	P	18 38 53.0	+0.1
	2.8nm,1.0s,baz=81,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**42.40**	**263**	P	P	18 39 55.5	+0.3
	1.2nm,0.4s,baz=97,slow=8.6,SNR=34						
WRA	**Warramunga Arr**	**42.96**	**268**	P	P	18 39 59.5	-0.1
	1.2nm,0.3s,baz=105,slow=7.9,SNR=81						

*NDI **09** 18:47:21.5±2.9,3163N×7180E,h12km±152km,ML3.8*
ISC 09 18:47:06.8±1.8,319N±01×715E±01,h10km,n17,σ1°23/21, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.66**	**80**	*e*P	**Pb**	**18 48 13.2**	**+1.7**
THN				*e*S	**Sb**	**18 48 54.6**	**-1.2**
DLH	**Dalhousie**	**3.88**	**79**	*e*x	**Sn**	**18 48 53.0**	**+0.9**
SDNR	**Sundarnagar**	**4.71**	**93**	*e*P	**Pb**	**18 48 29.0**	**-0.5**
SDNR				*e*S	**Sn**	**18 49 16.0**	**+3.3**
SMLA	**Simla**	**4.93**	**97**	*i* P	**Pn**	**18 48 26.0**	**+5.0**
SMLA				*i* S	**Sn**	**18 49 16.9**	**-1.2**
SMLA				*e*x	x	18 49 25.1	
	comp=N,554nm,0.4s						
SMLA				*e*x	x	18 49 26.9	
	comp=E,456nm,0.3s						
KLP	**Kalpa**	**5.80**	**92**	*e*P	**Pb**	**18 48 44.5**	**-3.5**
KLP				*e*S	**Sn**	**18 49 43.4**	**+3.9**
KLP				AML	AML	18 50 04.1	
	comp=E,120nm,0.6s						
KLP				AML	AML	18 50 05.9	
	comp=N,70nm,0.8s						
DDI	**Dehra Dun**	**5.87**	**104**	*e*x	**Sb**	**18 49 57.0**	**-2.6**
NDI	**New Delhi**	**5.91**	**121**	*e*S	**Sn**	**18 49 43.0**	**+0.7**
SONA	**Sohna**	**6.07**	**125**	*e*S	**Sn**	**18 49 46.8**	**+0.6**
DANN	**Dangsing**	**11.22**	**105**	*e*P	**Pn**	**18 49 48.5**	**+1.3**
	comp=N,4.6nm,0.2s						
KOLN	**Koldanda**	**11.31**	**108**	*e*P	**Pn**	**18 49 49.4**	**+0.9**
	comp=N,4.2nm,0.3s						
DMN	**Daman**	**12.60**	**106**	*e*P	**Pn**	**18 50 05.9**	**-0.2**
KKN	**Kakani**	**12.67**	**105**	*e*P	**Pn**	**18 50 07.1**	**0.0**
	comp=N,18nm,0.7s						
PKI	**Pulchoki**	**12.86**	**106**	*e*P	**Pn**	**18 50 09.8**	**+0.1**
GUN	**Gumba**	**13.12**	**104**	*e*P	**Pn**	**18 50 12.6**	**-0.6**
	comp=N,15nm,0.3s						
JIRN	**Jiri**	**13.47**	**104**	*e*P	**Pn**	**18 50 17.9**	**-0.1**
RAMN	**Ramite**	**14.08**	**107**	*e*Pn	**Pn**	**18 50 24.4**	**-1.9**
ODAN	**Odare**	**14.76**	**106**	*e*P	**Pn**	**18 50 34.3**	**-1.3**

*BJI **09** 19:01:52.0,2530N×107.11E,h14km,mB4.6,mb4.3,ML4.0, Ms3.8,Msz3.8*
*ISCJB **09** 19:01:53.6±3.3,2528N±006×107.1E±0.1,h27km±25km, mb4.0/11,Error ellipse: s-maj=18.2km s-min=10.0km az=172.5*
*NEIC **09** 19:01:53.4±0.5,2534N×107.18E,h10km,mb4.4/3,Error ellipse: s-maj=15.7km s-min=9.5km az=78.0*
*MOS **09** 19:01:54.5±0.9,2526N×10704E,h33km,mb4.2/3,Error ellipse: s-maj=23.6km s-min=14.6km az=99.1*
*IDC **09** 19:01:56.9±5.1,2531N×10706E,h35km±45km,mb3.6/7, mb1 3.7/8,mb1mx3.5/21,mbtmp3.6/8,ML3.3/1,Error ellipse: s-maj=27.5km s-min=17.3km az=74.0*
ISC 09 19:01:56.6±3.3,2534N±006×1071E±01,h31km±25km,n23, σ0°80/25,mb4.0/11,1C,Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**1.19**	**340**	*i* PG	**Pn**	**19 02 15.6**	**-1.5**
GYA				SG	**Sn**	**19 02 31.9**	**-0.3**
GYA				Smax			
	comp=N,3μm,0.6s						
GYA				Smax			
	comp=E,4μm,0.7s						
KMI	**Kunming**	**3.97**	**268**	P	**Pn**	**19 02 55.7**	**+0.3**
KMI				PG	**Pn**	**19 03 06.4**	**+11**
KMI				SG	**Sn**	**19 03 51.3**	**+10**
KMI				Smax			
	comp=N,206nm,0.8s						
KMI				Smax			
	comp=E,120nm,1.0s						
KMI				LR	LR		
	comp=N,637nm,4.7s						
KMI				LR	LR		
	comp=E,714nm,5.7s						
CD2	**Chengdu**	**6.29**	**333**	P	**Pn**	**19 03 28.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**10.22**	**230**	Pn	**Pn**	**19 04 21.2**	**0.0**
	comp=E,0.1nm,0.3s,baz=36,slow=14,SNR=2.6						
CMAR				Pg	Pn	19 05 02.9	+42
	comp=E,0.1nm,0.3s,baz=49,slow=18,SNR=5.9						
CMAR				Lg		19 07 18.1	
	comp=E,0.1nm,0.3s,baz=41,slow=29,SNR=3.7						
LZH	**Lanzhou**	**11.08**	**346**	*e*P	**Pn**	**19 04 33.5**

ZAK	**Zakamensk**	**25.18**	**354**	*e*P	**P**	**19 07 20.9**	**+1.8**
ZAK				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.2							
MKAR	**Makanchi Array**	**29.13**	**324**	P	**P**	**19 07 55.2**	**+0.6**
comp=Z,0.9nm,0.9s,mb3.5,baz=118,slow=12,SNR=1.9							
EKS2	**Erkin-Say**	**32.33**	**311**	*e*P	**P**	**19 08 23.4**	**+0.5**
comp=Z,5.7nm,1.0s,mb4.4							
ZAL	**Zalesovo**	**33.05**	**336**	P	**P**	**19 08 28.8**	**-0.3**
ZAA0	**Zalesovo Array**	**33.05**	**336**	*e*P	**P**	**19 08 29.3**	**+0.2**
ZALV	**Zalesovo Beam**	**33.05**	**336**	P	**P**	**19 08 28.8**	**-0.2**
comp=Z,5.4nm,0.7s,mb4.6,baz=123,slow=10,SNR=4.5							
KURK	**Kurchatov**	**33.48**	**327**	*e*P	**P**	**19 08 32.8**	**0.0**
KURK				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
KURK	**Kurchatov**	**33.48**	**327**	*e*P	**P**	**19 08 32.8**	**0.0**
comp=Z,2.6nm,0.8s,mb4.2							
ARU	**Arti**	**46.64**	**325**	P	**P**	**19 10 21.6**	**-0.2**
ARU	**Arti**	**46.64**	**325**	*e*P	**P**	**19 10 21.9**	**+0.1**
comp=Z,8.8nm,1.3s,mb4.5							
WRA	**Warrarmunga Arr**	**52.21**	**147**	P	**P**	**19 11 04.4**	**-0.4**
comp=Z,0.9nm,1.0s,mb3.6,baz=324,slow=11,SNR=7.0							
ASAR	**Alice Springs**	**55.19**	**150**	P	**P**	**19 11 26.6**	**0.0**
comp=Z,0.4nm,0.8s,mb3.5,baz=347,slow=7.6,SNR=6.8							
AKASG	**Malin Array Be**	**63.31**	**316**	P	**P**	**19 12 21.2**	**-1.2**
comp=Z,0.3nm,0.3s,mb3.8,baz=70,slow=6.0,SNR=5.8							
SDV	**Santo Domingo**	**145.91**	**356**	*e*P	PKPdf	19 21 33.3	+0.1

NEIC ***09*** *19:07:21.5±1.5, 052N×98.16E, h30km, Error ellipse: s-maj=43.8km s-min=13.4km az=68.0*
DJA ***09*** *19:07:25, 154N×98.11E, h151km, ML3.8/4*
ISCJB ***09*** *19:07:30.0±2.8, 12N±02×992E±04, h89km±16km, mb4.0/6, Error ellipse: s-maj=71.2km s-min=17.4km az=153.0*
IDC ***09*** *19:07:31.9±2.7, 1.17N×99.16E, h88km±16km, mb3.7/6, mb1 3.7/7, mb1mx3.5/21, mbtmp3.6/7, Error ellipse: s-maj=57.4km s-min=16.0km az=63.0*
ISC 09 19:07:30.8±2.7, 12N±02×992E±04, h78km±17km, n10, σ0°60/11, mb4.0/6, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.64**	**350**	P		**Pn**	**19 07 58.5**	**+0.6**
26nm,0.3s,baz=180,slow=6.4,SNR=42								
PSI				S		**Sn**	**19 08 17.7**	**-0.7**
17nm,0.3s,baz=160,slow=14,SNR=12								
PSI	**Prapat**	**1.64**	**350**	||*e*P	**Pn**	**19 07 58.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**17.18**	**359**	P		**Pn**	**19 11 26.4**	**+0.5**
0.2nm,0.3s,baz=189,slow=10,SNR=5.2								
WRA	**Warramunga Arr**	**40.32**	**123**	P		**P**	**19 15 01.0**	**+0.1**
1.3nm,0.4s,mb4.1,baz=305,slow=9.0,SNR=28								
WRA				PcP		PcP	19 17 02.9	-0.3
0.1nm,0.4s,baz=314,slow=2.6,SNR=4.8								
WRAB	**Tennant Creek**	**40.33**	**123**	*e*P		**P**	**19 15 00.1**	**-0.9**
ASAR	**Alice Springs**	**41.78**	**128**	P		**P**	**19 15 13.3**	**+0.4**
0.3nm,0.4s,mb3.4,baz=304,slow=6.3,SNR=4.7								
ASAR				PcP		PcP	19 17 08.0	+0.1
0.3nm,0.8s,baz=302,slow=2.0,SNR=3.7								
KSRS	**Korea Array**	**44.75**	**33**	P		**P**	**19 15 36.5**	**-0.1**
1.7nm,0.7s,mb3.9,baz=222,slow=8.8,SNR=7.1								
SONM	**Songino Array**	**46.89**	**7**	P		**P**	**19 15 54.2**	**+1.0**
1.5nm,0.4s,mb4.1,baz=191,slow=9.2,SNR=29								
SONM				PcP		PcP	19 17 24.8	-0.1
0.3nm,0.4s,baz=189,slow=5.3,SNR=4.6								
MKAR	**Makanchi Array**	**47.78**	**344**	P		**P**	**19 15 60.0**	**-0.2**
0.5nm,0.4s,mb3.7,baz=156,slow=8.1,SNR=8.8								
ZALV	**Zalesovo Beam**	**53.93**	**350**	P		**P**	**19 16 45.5**	**-0.6**
2.2nm,0.4s,mb4.5,baz=170,slow=7.4,SNR=12								

ISCJB ***09*** *19:14:47.6±0.8, 3750N±004×2720E±006, h5km±9km, Error ellipse: s-maj=8.9km s-min=6.0km az=154.4*
CSEM ***09*** *19:14:47.5±0.1, 3748N×2728E, h2km, MD3.4, Error ellipse: s-maj=2.0km s-min=1.1km az=70.0*
NEIC ***09*** *19:14:47.0, 3748N×2726E, h5km, MD2.8(ISK), MD3.4(ATH), After ISK.*
ATH ***09*** *19:14:48.0, 3746N×27.16E, h22km±1km, MD3.4/4*
ISK ***09*** *19:14:48.0, 3749N×2726E, h7km, MD3.0*
ISC 09 19:14:48.4±0.6, 3749N±004×2723E±006, h9km±6km, n12, σ0°67/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.38**	**305**	*e*PB		**Pg**	**19 14 56.2**	**+0.3**
SMG				*e*SB		**Sg**	**19 15 01.2**	**+0.2**
BODT	**Bodrum**	**0.43**	**171**	*e*PG		**Pg**	**19 14 56.8**	**-0.1**
BODT				*e*SG		**Sg**	**19 15 03.3**	**+0.8**
MLSB	**Milas**	**0.48**	**114**	*e*PG		**Pg**	**19 14 57.2**	**-0.5**
MLSB				*e*SG		**Sg**	**19 15 04.3**	**+0.3**
BLCB	**Balcova**	**0.91**	**351**	*e*PG		**Pg**	**19 15 05.8**	**-0.1**
IZM	**Izmir**	**0.91**	**2**	*e*PG		**Pg**	**19 15 06.1**	**+0.2**
YER	**Yerkesik**	**0.91**	**112**	*e*PG		**Pg**	**19 15 05.5**	**-0.4**
DALT	**Dalyan (Mudla)**	**1.34**	**122**	*e*PN		**Pn**	**19 15 13.3**	**+0.1**
APE	**Apeiranthos**	**1.42**	**253**	*e*PN		**Pn**	**19 15 13.8**	**-0.6**
AKS	**Akhisar**	**1.46**	**18**	*e*PN		**Pn**	**19 15 15.8**	**+0.8**
KULA	**Kula-Manisa**	**1.53**	**47**	*e*PN		**Pn**	**19 15 16.0**	**+0.1**
PRK	**Paraskevi**	**1.91**	**337**	*e*PB		**Pb**	**19 15 21.2**	**-2.2**
PRK				*e*SN		**Sn**	**19 15 46.2**	**+0.9**
KARP	**Karpathos**	**1.94**	**182**	*e*PN		**Pn**	**19 15 21.4**	**-0.2**

MOS ***09*** *19:52:46.1±1.9, 5522N×111.78E, h10km, mb4.2/1, Error ellipse: s-maj=27.7km s-min=17.6km az=60.6*
BYKL 09 19:52:45.7±0.2, 5507N×11169E, h6km±6km, 6C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.36**	**238**	⇑*i*Pg		Pg	19 52 52.6	-0.1
YLYR				*i* Sg		Sg	19 52 58.0	+0.6
YLYR				Pmax				
95nm,0.1s								
YLYR				Smax				
1μm,0.1s								
KMO	**Kumora**	**0.86**	**341**	*i* Sg		Sg	19 53 12.8	-0.7
KMO				Smax				
307nm,1.1s								
YOA	**Uoyan**	**1.07**	**1**	⇓*i*PG		Pg	19 53 05.5	-0.6
YOA				*i*			19 53 19.8	
YOA				pmax		pmax		
comp=Z,167nm,0.2s								
YOA				smax				
comp=E,757nm,0.4s								
YOA	**Uoyan**	**1.07**	**1**	*e*Pg		Pg	19 53 05.3	-0.8
YOA				*e*Sg		Sg	19 53 19.8	-0.1
YOA				Pmax				
comp=E,146nm,0.2s								
YOA				Smax				
comp=E,737nm,0.6s								
UKT	**Uakit**	**1.19**	**68**	⇑*i*PG		Pg	19 53 06.5	-1.9
UKT				*e*			19 53 22.4	
UKT				pmax		pmax		
comp=Z,83nm,0.4s								
UKT				smax				
comp=N,529nm,0.3s								
UKT	**Uakit**	**1.19**	**68**	⇑*i*Pg		Pg	19 53 06.7	-1.7
comp=N,32nm,0.5s								
UKT				⇑*i*Pg		Pg	19 53 06.7	-1.7
comp=N,132nm,0.5s								
UKT				⇑*i*Pg		Pg	19 53 06.7	-1.7
comp=N,86nm,0.5s								
UKT				*i* Sg		Sg	19 53 22.5	-1.3
UKT				Pmax				
comp=N,58nm,0.3s								
UKT				Smax				
comp=N,534nm,0.3s								
NIZ	**Nizh Angarsk**	**1.41**	**301**	⇑*i*Pg		Pg	19 53 11.1	-1.7
NIZ				*e*Sg		Sg	19 53 30.5	-0.6
NIZ				Pmax				
comp=N,95nm,0.3s								
NIZ				Smax				
comp=N,234nm,0.7s								
SYVR	**Suvo**	**1.73**	**216**	⇓*i*Pg		Pg	19 53 16.9	-1.9
SYVR				*e*			19 53 21.9	
SYVR				*e*Sg		Sg	19 53 40.1	-1.0
SYVR				max				
comp=N,40nm,0.7s								
SYVR				Smax				
comp=N,278nm,1.2s								
MXMB	**Maximikha**	**2.50**	**225**	*e*Pg		Pg	19 53 29.6	-4.1
MXMB				*e*Sg		Sg	19 54 04.5	-1.6
MXMB				Pmax				
comp=N,24nm,0.8s								
MXMB				Smax				
comp=N,284nm,0.8s								
NLYR	**Nelyaty**	**2.68**	**56**	*e*PN		Pn	19 53 29.0	-0.3
NLYR				*e*			19 53 32.8	
NLYR				*e*			19 54 07.7	
NLYR				pmax		pmax		
comp=Z,43nm,0.2s								
NLYR				smax				
comp=N,156nm,1.2s								
NLYR	**Nelyaty**	**2.68**	**56**	*e*Pg		Pg	19 53 32.8	-4.1
NLYR				*i* Sg		Sg	19 54 08.8	-2.8
NLYR				Pmax				
comp=N,45nm,0.3s								
NLYR				Smax				
comp=N,158nm,1.4s								
OGRR	**Ongureny**	**2.79**	**241**	⇓*i*Pn		Pn	19 53 31.3	+0.5
OGRR				*e*Pg		Pg	19 53 35.0	-4.1
OGRR				*e*Sn		Sn	19 54 06.0	+1.3
OGRR				*e*Sg		Sg	19 54 12.5	-2.7
OGRR				Pmax				
comp=N,20nm,0.7s								
OGRR				Smax				
comp=N,79nm,0.9s								
BOD	**Bodaibo**	**3.04**	**24**	*e*Pn		Pn	19 53 33.8	-0.5
BOD				*e*Pg		Pg	19 53 39.7	-4.2
BOD				*e*Sn		Sn	19 54 10.3	-0.6
BOD				*e*Sg		Sg	19 54 18.7	-4.6
BOD				Pmax				
comp=N,14nm,0.5s								
BOD				Smax				
comp=N,107nm,0.5s								
CIT	**Chita**	**3.25**	**159**	*e*Sg		Sg	19 54 25.4	-4.6
CIT				Smax				
comp=N,138nm,0.9s								
ZRHB	**Zarechye**	**3.69**	**229**	*e*Sg		Sg	19 54 40.3	-3.7
ZRHB				Smax				
comp=N,113nm,1.0s								
TRG	**Tyrgan**	**3.92**	**236**	*e*Pn		Pn	19 53 46.3	0.0
TRG				*e*Pg		Pg	19 53 54.5	-6.2
TRG				*e*Sn		Sn	19 54 31.5	-1.0
TRG				*e*Sg		Sg	19 54 45.9	-5.4
TRG				Pmax				
comp=N,5.0nm,0.6s								
TRG				Smax				
comp=N,38nm,1.1s								
UUDB	**Ulan-Yde**	**4.01**	**219**	*i* Sg		Sg	19 54 50.3	-4.1
UUDB				Smax				
comp=N,14nm,1.5s								
CRS	**Chara**	**4.12**	**61**	*e*PN		Pn	19 53 48.3	-0.8
CRS				*e*			19 53 58.8	
CRS				*e*			19 54 53.0	
CRS				pmax		pmax		
comp=Z,28nm,1.0s								
CRS				smax				
comp=E,135nm,1.2s								
CRS	**Chara**	**4.12**	**61**	*e*Pg		Pg	19 53 59.4	-5.3
CRS				*e*Sg		Sg	19 54 53.7	-4.4
CRS				Pmax				
comp=E,17nm,0.9s								
CRS				Smax				
comp=E,135nm,1.2s								
HRMR	**Khuramsha**	**4.46**	**221**	*e*Pg		Pg	19 54 05.1	-6.1
HRMR				*e*Sg		Sg	19 55 05.1	-3.9
HRMR				Pmax				
comp=E,10.0nm,0.5s								
HRMR				Smax				
comp=E,138nm,0.6s								
TUP	**Tupik**	**4.83**	**94**	*e*Pn		Pn	19 54 01.2	+2.3
TUP				*e*Pg		Pg	19 54 10.4	-7.8
TUP				*e*Sg		Sg	19 55 14.8	-5.9
TUP				Pmax				
comp=E,8.0nm,0.6s								
TUP				Smax				
comp=E,60nm,0.7s								
LSTR	**Listvyanka**	**5.20**	**235**	*e*Sg		Sg	19 55 25.7	-6.9
LSTR				Smax				
comp=E,27nm,1.3s								
IRK	**Irkutsk**	**5.24**	**240**	*e*Sg		Sg	19 55 27.4	-6.5
IRK				Smax				
comp=E,86nm,0.5s								
KPC	**Khapcheranga**	**5.39**	**175**	*e*Pn		Pn	19 54 08.0	+1.4
KPC				*e*			19 54 25.8	
KPC				*e*Sg		Sg	19 55 32.7	-6.0
KPC				max				
comp=E,4.0nm,0.6s								
KPC				Smax				
comp=E,36nm,0.9s								
TLY	**Talaya**	**5.89**	**238**	*e*Sg		Sg	19 55 47.2	-7.5
TLY				Smax				
comp=E,19nm,1.1s								
ARS	**Arshan**	**6.37**	**244**	*e*		Pg	19 54 40.0	-7.5
ARS				*e*Sg		Sg	19 56 01.2	-8.7
ARS				Smax				
comp=E,82nm,0.9s								
ZAK	**Zakamensk**	**6.94**	**231**	*e*PN		Pn	19 54 34.8	+7.1
ZAK				pmax		pmax		
comp=Z,1.0nm,2.0s								
MOY	**Mondy**	**7.25**	**246**	*e*Sg		Sg	19 56 30.1	-8.1
MOY				Smax				
comp=Z,25nm,1.3s								
ORL	**Orlik**	**7.48**	**255**	*e*PN		Pn	19 54 36.5	+1.3
ORL				*e*			19 55 01.1	
ORL				*e*			19 56 37.4	
ORL				pmax		pmax		
comp=Z,2.0nm,0.8s								
ORL				smax				
comp=N,30nm,1.8s								
ORL	**Orlik**	**7.48**	**255**	*e*Pn		Pn	19 54 36.2	+1.0
ORL				*e*Sn		Sn	19 55 57.2	-3.0
ORL				*e*Sg		Sg	19 56 37.1	-8.4
ORL				max				
comp=N,2.0nm,1.3s								
ORL				Smax				
comp=N,30nm,1.9s								
IENR	**Ienga**	**7.55**	**76**	*e*Sg		Sg	19 56 39.1	-8.6
TDJR	**Todzha**	**9.62**	**260**	*e*Sg		Sn	19 57 42.8	+50

ISCJB ***09*** *19:56:27.3±3.6, 142S±01×1663E±02, h74km±30km, mb3.9/11, Error ellipse: s-maj=30.0km s-min=16.3km az=164.7*
IDC ***09*** *19:56:30.6±4.7, 14.11S×166.19E, h87km±40km, mb3.6/9, mb1 3.7/10, mb1mx3.6/18, mbtmp3.7/10, MS3.5/3, Ms1 3.5/3, ms1mx3.0/31, Error ellipse: s-maj=33.8km s-min=16.9km az=83.0*
NEIC ***09*** *19:56:30.1±2.8, 1407S×16624E, h85km±22km, mb4.5/2, Error ellipse: s-maj=27.5km s-min=15.0km az=83.0*
ISC 09 19:56:30.0±3.1, 141S±01×1663E±02, h84km±25km, n16, σ0°78/15, mb3.9/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.74**	**306**	P		**Pn**	**19 58 19.7**	**-0.4**
4.4nm,0.3s,baz=129,slow=0.9,SNR=5.0								
HNR				S		**Sn**	**19 59 46.9**	**+0.6**
3.8nm,0.3s,baz=90,slow=20,SNR=2.4								
HNR				LR		LR	20 00 57.1	
comp=Z,126nm,18.1s,baz=176,slow=35								
STKA	**Stephens Creek**	**28.67**	**228**	P		**P**	**20 02 19.2**	**+0.2**
1.0nm,0.6s,mb3.6,baz=72,slow=13,SNR=3.4								
RPZ	**Rata Peaks**	**29.78**	**173**	P		**P**	**20 02 28.6**	**-0.2**
5.3nm,0.3s,mb4.6,baz=347,slow=12,SNR=2.8								
WRAB	**Tennant Creek**	**31.03**	**255**	P		**P**	**20 02 40.8**	**+0.7**
17nm,1.7s,mb4.5								
WRA	**Warramunga Arr**	**31.04**	**255**	P		**P**	**20 02 39.4**	**-0.7**
0.9nm,0.9s,mb3.5,baz=86,slow=9.5,SNR=4.1								
ASAR	**Alice Springs**	**31.99**	**248**	P		**P**	**20 02 47.5**	**-1.0**
0.3nm,0.6s,mb3.2,baz=79,slow=10.0,SNR=7.1								
MJAR	**Matsushiro Arr**	**56.92**	**333**	P		**P**	**20 06 04.5**	**-2.0**
1.0nm,0.7s,mb4.0,baz=165,slow=12,SNR=4.7								
VNDA	**Vanda**	**63.45**	**181**	P		**P**	**20 06 51.5**	**+0.9**
0.6nm,0.8s,mb3.6,baz=0.0,slow=5.1,SNR=4.9								
VNDA	**Vanda**	**63.45**	**181**	P		**P**	**20 06 51.5**	**+0.9**
PETK	**Petropavlovsk-**	**67.35**	**354**	P		**P**	**20 07 16.3**	**+0.4**
1.8nm,0.8s,mb4.0,baz=163,slow=6.0,SNR=3.6								
KDAK	**Kodiak Island**	**79.24**	**21**	LR		LR	20 37 45.2	
comp=Z,36nm,19.1s,baz=284,slow=31								
SONM	**Songino Array**	**81.43**	**324**	P		**P**	**20 08 38.6**	**+0.8**
0.6nm,0.9s,mb3.4,baz=136,slow=4.1,SNR=3.6								
PFO	**Pinyon Flat Ob**	**87.43**	**55**	LR		LR	20 40 39.3	
comp=Z,45nm,18.7s,baz=78,slow=30								
MKAR	**Makanchi Array**	**96.09**	**317**	P		**P**	**20 09 48.7**	**+0.4**
0.8nm,0.9s,mb4.2,baz=96,slow=5.0,SNR=4.7								
MKAR	**Makanchi Array**	**96.09**	**317**	P		**P**	**20 09 48.7**	**+0.4**
KURK	**Kurchatov**	**99.31**	**320**	P		**P**	**20 10 02.5**	**-0.1**
0.8nm,0.7s,mb4.4								

IDC 09 20:04:46.2±1.7, 763S×15533E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, Error ellipse: s-maj=37.5km s-min=32.4km az=38.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.74**	**237**	P		P	20 10 00.4	0.0
0.7nm,0.8s,baz=61,slow=9.8,SNR=9.3								
ASAR	**Alice Springs**	**26.01**	**230**	P		P	20 10 20.9	-0.1
0.4nm,0.8s,baz=62,slow=10,SNR=4.5								
URZ	**Urewera**	**36.30**	**150**	P		P	20 11 51.4	-0.2
4.0nm,0.3s,baz=330,slow=9.0,SNR=9.2								
MKAR	**Makanchi Array**	**84.10**	**319**	P		P	20 17 19.3	+0.3
0.4nm,0.4s,baz=106,slow=5.1,SNR=7.7								

ISCJB ***09*** *20:21:26.2±0.6, 4420N±005×10528W±006, h0km, Error ellipse: s-maj=7.9km s-min=6.5km az=159.3*
NEIC ***09*** *20:21:27.7±0.4, 4418N×10527W, h0km, ML2.9, Error ellipse: s-maj=6.5km s-min=5.4km az=158.0, Suspected Mining explosion.*
NEIC 25 km [15 miles] ESE of Gillette.
IDC ***09*** *20:21:31.2±3.1, 4430N×10578W, h24km±24km, mb1 3.6/3, mb1mx3.2/24, mbtmp3.3/3, ML2.7/2, Error ellipse: s-maj=63.0km s-min=9.6km az=143.0*
ISC 09 20:21:27.8±0.6, 4418N±005×10528W±007, h0km, n24, σ0°76/24, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**93**	*e*Pn		**Pn**	**20 21 45.9**	**-1.8**
LAO	**LASA Array**	**2.59**	**346**	*e*Pn		**Pn**	**20 22 11.8**	**+0.8**
RWWY	**Rawlins**	**2.87**	**210**	*e*Pn		**Pn**	**20 22 15.1**	**+0.3**
PHWY	**Pilot Hill**	**2.88**	**183**	*e*Pn		**Pn**	**20 22 14.9**	**-0.1**
RLMT	**Red Lodge**	**3.00**	**290**	*e*Pn		**Pn**	**20 22 15.6**	**-0.9**
PDAR	**Pinedale Array**	**3.42**	**247**	Pn		**Pn**	**20 22 21.5**	**-0.8**
1.6nm,0.3s,baz=69,slow=17,SNR=37								
PDAR				Lg			20 23 09.2	
5.0nm,0.3s,baz=64,slow=34,SNR=9.5								
GCMT	**Greycliff**	**3.50**	**299**	*e*Pn		**Pn**	**20 22 22.8**	**-0.7**
LOHW	**Long Hollow**	**3.89**	**263**	Pn		**Pn**	**20 22 28.7**	**-0.1**
FLWY	**Flagg Ranch**	**3.90**	**270**	Pn		**Pn**	**20 22 28.6**	**-0.4**
MOOW	**Moose Ponds**	**3.97**	**266**	*e*Pn		**Pn**	**20 22 30.6**	**+0.7**
SNOW	**Snow King Moun**	**4.03**	**262**	*e*Pn		**Pn**	**20 22 31.1**	**+0.5**
IMW	**Indian Meadow**	**4.09**	**268**	Pn		**Pn**	**20 22 32.4**	**+0.8**
REDW	**Red Top Meadow**	**4.12**	**260**	Pn		**Pn**	**20 22 32.5**	**+0.6**
TPAW	**Teton Pass**	**4.16**	**262**	*e*Pn		**Pn**	**20 22 32.3**	**-0.2**
ISCO	**Idaho Springs**	**4.39**	**183**	*e*Pn		**Pn**	**20 22 36.2**	**+0.6**
RRI2	**Red Ridge**	**4.45**	**261**	*e*Pn		**Pn**	**20 22 36.3**	**-0.3**
BOZ	**Bozeman (W)**	**4.74**	**290**	*e*Pn		**Pn**	**20 22 39.3**	**-1.2**
EGMT	**Eagleton**	**4.94**	**323**	*e*Pn		**Pn**	**20 22 43.5**	**+0.3**
MCMT	**McKenzie Canyo**	**5.45**	**279**	Pn		**Pn**	**20 22 50.5**	**+0.2**
HVU	**Hansel Valley**	**6.00**	**249**	*e*Pn		**Pn**	**20 22 56.5**	**-1.3**
SRU	**San Rafael**	**6.41**	**220**	*e*Pn		**Pn**	**20 23 03.5**	**+0.1**
2.2nm,0.4s								
AGMN	**Agassiz Refuge**	**7.72**	**54**	*e*Pn		**Pn**	**20 23 22.0**	**+0.6**
3.0nm,0.3s								
ULM	**Lac du Bonnet**	**8.82**	**43**	Pn		**Pn**	**20 23 37.0**	**+0.6**
1.2nm,0.3s,baz=234,slow=14,SNR=8.0								
ULM				Lg			20 26 08.7	
0.2nm,0.3s,baz=125,slow=18,SNR=4.1								
NVAR	**Mina Array Bea**	**11.35**	**244**	Pn		**Pn**	**20 24 12.6**	**+1.4**
0.1nm,0.3s,baz=56,slow=12,SNR=2.8								

DJA ***09*** *20:29:55, 3304N×13221E, h10km, mb5.1/10*
NIED ***09*** *20:30:00, 3000N×13140E, h20km, Mw5.0 Best double couple: M0:3.64000×10^16 NP1:φ=20.00000°, δ=63.00000°, λ=72.00000°. NP2:φ=236.00000°, δ=32.00000°, λ=122.00000°.*
JMA ***09*** *20:30:09.7±0.2, 2996N×13143E, h41km±3km, M4.8*
JMA Felt I J1.
ISCJB ***09*** *20:30:10.6±0.2, 3001N±003×131.18E±003, h31km, mb4.7/96, MS4.8/36, Error ellipse: s-maj=4.6km s-min=3.5km az=32.5*
BJI ***09*** *20:30:10.5, 2980N×13144E, h51km, mB4.9, mb4.5, Ms4.9, Msz4.8*
MOS ***09*** *20:30:11.2±1.4, 3006N×13108E, h33km, mb5.0/34, MS4.8/13, Error ellipse: s-maj=9.3km s-min=5.2km az=110.9*
GCMT ***09*** *20:30:12.4±0.4, 2996N×13153E, h31km±1km, MW5.0/56, Moment Tensor Solution. s32,c44; s56,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.48±.22; Mθθ-0.79±.13; Mφφ-2.70±.15; Mrθ1.51±.17; Mrφ-1.26±.08; Mθφ2.16±.16; Best double couple: M0:4.30300×10^16 NP1:φ=202.00000°, δ=26.00000°, λ=81.00000°. NP2: φ=31.00000°, δ=64.00000°, λ=94.00000°. Principal axes: T 4.3940, Plg71.0000°, Azm311.0000°; N -0.1880, Plg4.0000°, Azm210.0000°; P -4.2130, Plg19.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***09*** *20:30:12.4±0.2, 3007N×131.15E, mb4.9/36, MW5.0(NIED) Error ellipse: s-maj=6.8km s-min=5.9km az=137.0*
NEIC Felt on Okinawa. Recorded [1 JMA] on Tanega-shima and Yaku-shima.
IDC ***09*** *20:30:12.5±3.9, 3006N×13105E, h33km±29km, mb4.1/24, mb1 4.2/28, mb1mx4.2/34, mbtmp4.1/28, ML3.6/4, MS4.4/15, Ms1 4.4/15, ms1mx4.2/29, Error ellipse: s-maj=13.9km s-min=12.1km az=88.0*
SZGRF ***09*** *20:30:21.8, 3075N×12940E, h32km, mb5.0, MS5.2, Kyushu, Japan*
ISC 09 20:30:12.8±0.2, 3004N±003×13114E±004, h32km, h32km±.9km: pP-P, n232, σ1°09/235, mb4.7/96, MS4.8/36, 13C-10D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.62**	**347**	P		**Pb**	**20 30 24.5**	**-0.9**
JTN				S		**Sb**	**20 30 35.8**	**+1.8**
JKC	**Kuchinoerabu**	**0.92**	**297**	P		**Pn**	**20 30 30.3**	**+0.9**
JNN	**Nakanoshima**	**1.12**	**260**	P		**Pn**	**20 30 32.8**	**+0.6**
JNN				*e*S		**Sn**	**20 30 50.2**	**+3.8**
JTSR	**Tashiro 2**	**1.14**	**350**	P		**Pn**	**20 30 31.7**	**-0.7**
JTSR				S		**Sn**	**20 30 48.6**	**+1.7**
JNAR	**Kushima--Naru**	**1.48**	**4**	P		**Pn**	**20 30 36.3**	**-0.9**
JSU	**Suzuyama**	**1.57**	**338**	P		**Pn**	**20 30 38.2**	**-0.3**
JTZ	**Takazaki**	**1.85**	**359**	P		**Pn**	**20 30

NJ2			S	Sn	20 34 47.0	+3.9
NJ2			XS		20 35 02.0	
NJ2			AMB	AMB		
	comp=Z,40nm,1.0s					
NJ2			AMB	AMB		
	comp=Z,470nm,3.6s					
NJ2			LR	LR		
	comp=N,1μm,18.4s					
NJ2			LR	LR		
	comp=E,4μm,14.9s					
NJ2			LR	LR		
	comp=Z,4μm,13.2s					
DL2	**Dalian**	**11.81 321**	*e*P	**Pn**	**20 32 59.2**	**+0.2**
DL2			*e*XP		20 33 18.5	
DL2			AMB	AMB		
	comp=Z,20nm,1.1s					
DL2			AMB	AMB		
	comp=Z,120nm,5.3s					
DL2			LR	LR		
	comp=N,2μm,15.0s					
DL2			LR	LR		
	comp=E,2μm,13.3s					
DL2			LR	LR		
	comp=Z,3μm,14.6s					
SNY	**Shenyang**	**13.25 335**	⇑P	**Pn**	**20 33 21.1**	**+2.5**
SNY			S	**Sn**	**20 35 51.3**	**+6.6**
SNY			AMB	AMB		
	comp=Z,30nm,1.7s					
SNY			AMB	AMB		
	comp=Z,335nm,5.2s					
SNY			LR	LR		
	comp=N,5μm,15.7s					
SNY			LR	LR		
	comp=Z,7μm,16.2s					
WHN	**Wuhan**	**14.52 276**	P	**Pn**	**20 33 42.7**	**+6.7**
WHN			*e*S	**Sn**	**20 36 20.5**	**+4.7**
WHN			LR	LR		
	comp=N,1μm,5.1s					
WHN			LR	LR		
	comp=E,8μm,13.1s					
WHN			LR	LR		
	comp=Z,7μm,13.5s					
MDJ	**Mudanjiang**	**14.60 356**	P	**Pn**	**20 33 41.7**	**+4.7**
MDJ			PCP	PcP	20 38 50.6	+1.4
MDJ			SCP	ScP	20 42 17.5	-3.1
MDJ			PCS	PcS	20 42 24.6	+0.6
MDJ			SCS	ScS	20 45 56.4	-1.7
MDJ			AMB	AMB		
	comp=Z,12nm,1.5s					
MDJ			AMB	AMB		
	comp=Z,142nm,3.5s					
MDJ			LR	LR		
	comp=N,1μm,11.5s					
MDJ			LR	LR		
	comp=E,2μm,15.9s					
MDJ			LR	LR		
	comp=Z,2μm,18.3s					
BJT	**Baijiatuau**	**15.77 313**	*e*P	**Pn**	**20 33 54.6**	**+2.1**
BJT			pmax	pmax		
	comp=Z,78nm,1.3s					
BJT	**Baijiatuau**	**15.77 313**	*e*P	**Pn**	**20 33 54.6**	**+2.2**
	comp=Z,78nm,1.3s					
BJI	**Beijing**	**15.78 313**	P	**Pn**	**20 33 53.1**	**+0.5**
BJI			S	**Sn**	**20 36 51.9**	**+5.5**
BJI			PCP	PcP	20 38 48.0	-2.9
BJI			PCS	PcS	20 42 19.4	-6.9
BJI			AMB	AMB		
	comp=Z,18nm,1.2s					
BJI			AMB	AMB		
	comp=Z,600nm,10.2s					
BJI			LR	LR		
	comp=N,5μm,14.6s					
BJI			LR	LR		
	comp=E,6μm,13.4s					
BJI			LR	LR		
	comp=Z,4μm,15.2s					
ASAJ	**Asahikawa**	**16.73 30**	Pn	**Pn**	**20 34 04.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=243,slow=11,SNR=1.6					
ASAJ			LR	LR	20 41 05.4	
	comp=Z,2μm,18.1s,baz=64,slow=39					
TIY	**Taiyuan**	**17.30 301**	*i* P	**Pn**	**20 34 16.0**	**+4.2**
TIY			S	**Sn**	**20 37 27.7**	**+4.5**
TIY			AMB	AMB		
	comp=Z,364nm,9.0s					
TIY			LR	LR		
	comp=N,2μm,12.7s					
TIY			LR	LR		
	comp=E,4μm,13.1s					
TIY			LR	LR		
	comp=Z,5μm,13.3s					
YSS	**Yuzh-Sakhalins**	**19.14 25**	*i* P	**Pn**	**20 34 36.8**	**+2.6**
YSS			MLR	MLR		
	comp=Z,500nm,21.0s					
KLR	**Kul'dur**	**19.17 1**	*e*P	**Pn**	**20 34 30.3**	**-4.2**
KLR			*e*S	**Sn**	**20 38 04.0**	**-4.2**
KLR			MLR	MLR		
	comp=Z,800nm,13.5s					
XAN	**Xi'an**	**19.25 288**	P	**Pn**	**20 34 33.9**	**-1.7**
XAN			AMB	AMB		
	comp=Z,13nm,1.3s					
XAN			AMB	AMB		
	comp=Z,324nm,7.0s					
XAN			LR	LR		
	comp=N,2μm,15.1s					
XAN			LR	LR		
	comp=E,1μm,15.5s					
XAN			LR	LR		
	comp=Z,3μm,12.9s					
BTO	**Baotou**	**20.15 307**	*e*P	**P**	**20 34 45.5**	**+1.2**
GUMO	**Guam**	**20.71 139**	P	**P**	**20 34 50.7**	**+0.2**
	comp=Z,49nm,0.7s,baz=247,slow=7.7,SNR=3.9					
GUMO			LR	LR	20 42 09.6	
	comp=Z,873nm,18.5s,MS4.2,baz=151,slow=34					
GUMO	**Guam**	**20.71 139**	P	**P**	**20 34 50.7**	**+0.2**
GUMO			pmax	pmax		
	comp=Z,49nm,0.7s					
GUMO			MLR	MLR		
	comp=Z,873nm,18.5s,MS4.2					
HIA	**Hailar**	**21.07 339**	*e*P	**P**	**20 34 53.5**	**-0.5**
HIA			pmax	pmax		
	comp=Z,33nm,1.1s					
HIA	**Hailar**	**21.07 339**	*e*P	**P**	**20 34 53.5**	**-0.6**
	comp=Z,33nm,1.1s,mb4.6					
GYA	**Guiyang**	**21.84 267**	⇑*i*P	**P**	**20 35 03.0**	**+0.4**
GYA			AP		20 35 19.8	
GYA			PP		20 35 31.2	
GYA			S	**S**	**20 38 55.0**	**-7.3**
GYA			XS	sS	20 39 21.3	+5.0
GYA			SS		20 39 36.0	
GYA			AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5					
GYA			AMB	AMB		
	comp=Z,120nm,4.2s					
GYA			LR	LR		
	comp=N,2μm,14.0s,MS4.8					
GYA			LR	LR		
	comp=E,3μm,15.2s,MS4.8					
GYA			LR	LR		
	comp=Z,2μm,14.2s,MS4.7					
QIZ	**Qiongzhong**	**22.22 245**	P	**P**	**20 35 06.3**	**-0.4**
QIZ			AP		20 35 18.8	
QIZ			XP	sP	20 35 27.1	+7.6
QIZ			S	**S**	**20 39 07.2**	**-2.6**
QIZ			AMB	AMB		
	comp=Z,44nm,2.0s,mb4.5					
QIZ			AMB	AMB		
	comp=Z,571nm,3.0s					
QIZ			LR	LR		
	comp=E,2μm,19.6s					
QIZ			LR	LR		
	comp=Z,3μm,19.9s,MS4.7					
LZH	**Lanzhou**	**23.61 292**	*e*P	**P**	**20 35 20.3**	**-0.7**
LZH			AP		20 35 37.1	
LZH			PP		20 35 55.4	
LZH			*e*S	**S**	**20 39 25.5**	**-7.7**
LZH			XS	sS	20 39 54.3	+5.8
LZH			SS		20 40 18.6	
LZH			AMB	AMB		
	comp=Z,31nm,1.0s,mb4.7					
LZH			AMB	AMB		
	comp=Z,105nm,4.7s					
LZH			LR	LR		
	comp=N,5μm,12.4s					
LZH			LR	LR		
	comp=Z,6μm,15.2s,MS5.2					
KMI	**Kunming**	**25.61 266**	P	**P**	**20 35 37.9**	**-1.4**
KMI			AP	pP	20 35 54.2	+5.6
KMI			XP	sP	20 36 01.4	+8.8
KMI			S	**S**	**20 39 56.5**	**-8.9**
KMI			XS	sS	20 40 28.2	+7.3
KMI			SS		20 41 05.7	
KMI			AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7					
KMI			AMB	AMB		
	comp=Z,205nm,4.4s					
KMI			LR	LR		
	comp=N,2μm,15.8s,MS4.8					
KMI			LR	LR		
	comp=E,2μm,15.1s,MS4.8					
KMI			LR	LR		
	comp=Z,2μm,13.7s,MS4.8					
SONM	**Songino Array**	**26.02 320**	P	**P**	**20 35 41.2**	**-1.6**
	comp=Z,12nm,1.0s,mb4.4,baz=129,slow=6.8,SNR=43					
GTA	**Gaotai**	**27.28 298**	*e*P	**P**	**20 35 52.7**	**-1.5**
GTA			AP	pP	20 36 08.9	+5.3
GTA			XP	sP	20 36 17.1	+10
GTA			PP		20 36 40.8	
GTA			S	**S**	**20 40 24.4**	**-7.0**
GTA			AMB	AMB		
	comp=Z,4.0nm,1.7s,mb3.7					
GTA			AMB	AMB		
	comp=Z,166nm,6.3s					
GTA			LR	LR		
	comp=N,2μm,16.1s,MS4.9					
GTA			LR	LR		
	comp=E,2μm,15.2s,MS4.9					
GTA			LR	LR		
	comp=Z,3μm,15.8s,MS5.0					
ZAK	**Zakamensk**	**29.14 322**	⇓*i*P	**P**	**20 36 08.2**	**-2.5**
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.1					
ZAK			pmax	pmax		
	comp=Z,3.0nm,2.1s,mb3.6					
TLY	**Talaya**	**29.69 325**	*e*P	**P**	**20 36 15.3**	**-0.3**
TLY			*e*		20 37 32.8	
TLY			*e*S	**S**	**20 41 02.1**	**-7.1**
TLY			pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.3					
TLY			MLR	MLR		
	comp=Z,2μm,15.0s,MS4.8					
IRK	**Irkutsk**	**29.72 326**	*e*P	**P**	**20 36 14.3**	**-1.5**
IRK			pmax	pmax		
	comp=Z,32nm,2.1s,mb4.7					
PETK	**Petropavlovsk-**	**30.11 32**	P	**P**	**20 36 19.0**	**-0.2**
	comp=Z,3.8nm,1.0s,mb4.1,baz=162,slow=5.7,SNR=4.0					
BOD	**Bodaibo**	**30.20 342**	*e*P	**P**	**20 36 29.1**	**+9.1**
PET	**Petropavlovsk**	**30.51 33**	*e*P	**P**	**20 36 25.6**	**+2.8**
PET			*e*S	**S**	**20 41 21.9**	**-0.1**
PET			MLR	MLR		
	comp=Z,900nm,20.0s,MS4.4					
MOY	**Mondy**	**31.05 323**	*e*P	**P**	**20 36 26.9**	**-0.6**
MOY			pmax	pmax		
	comp=Z,18nm,2.3s,mb4.5					
CHTO	**Chiang Mai**	**31.27 256**	*e*P	**P**	**20 36 29.0**	**-0.8**
CHTO			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7					
CHTO	**Chiang Mai**	**31.27 256**	*e*P	**P**	**20 36 29.0**	**-0.8**
	comp=Z,12nm,1.0s,mb4.7					
CMAR	**Chiang Mai Arr**	**31.43 256**	P	**P**	**20 36 30.8**	**-0.5**
	comp=Z,3.6nm,1.0s,mb4.2,baz=49,slow=6.9,SNR=12					
CMAR			LR	LR	20 51 47.1	
	comp=Z,1μm,18.7s,MS4.6,baz=65,slow=41					
CMAR	**Chiang Mai Arr**	**31.43 256**	*i* P	**P**	**20 36 31.2**	**-0.1**
CMAR			pmax	pmax		
	comp=Z,4.0nm,1.0s					
YAK	**Yakutsk**	**32.01 359**	*e*P	**P**	**20 36 34.9**	**-0.9**
YAK			*e**PP	pP	20 36 44.6	-0.7
YAK			*e*		20 37 39.4	
YAK			*e*		20 39 25.4	
YAK			*e*S	**S**	**20 41 40.5**	**-4.7**
YAK			*e*SS	SS	20 43 31.5	-32
YAK			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3					
YAK			pmax	pmax		
	comp=N,6.0nm,1.1s					
YAK			pmax	pmax		
	comp=E,1.0nm,0.9s					
YAK			pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7					
YAK			pmax	pmax		
	comp=N,4.0nm,0.9s					
YAK			pmax	pmax		
	comp=E,1.0nm,0.6s					
YAK			smax			
	comp=N,64nm,3.1s					
YAK			smax			
	comp=E,59nm,3.4s					
YAK			MLR	MLR		
	comp=Z,509nm,19.0s,MS4.2					
YAK			MLR	MLR		
	comp=N,314nm,16.0s,MS4.2					
YAK			MLR	MLR		
	comp=E,276nm,18.0s,MS4.2					
KSM	**Kuching**	**34.63 219**	P	**P**	**20 36 57.8**	**-1.3**
HVS	**Khovu-Aksy**	**34.85 318**	*c i* P	**P**	**20 37 00.0**	**-0.8**
SEY	**Seymchan**	**35.64 17**	⇑*e*P	**P**	**20 37 09.0**	**+1.6**
WMQ	**Urumqi**	**36.93 304**	P	**P**	**20 37 20.5**	**+1.9**
WMQ			AP	pP	20 37 35.7	+7.5
WMQ			XP	sP	20 37 42.9	+11
WMQ			PP	PP	20 38 48.3	+5.3
WMQ			PCP	PcP	20 39 40.8	+1.2
WMQ			S	**S**	**20 43 01.1**	**-0.4**
WMQ			SCP	ScP	20 43 21.3	-2.8
WMQ			SS	SS	20 45 33.0	-11
WMQ			SCS	ScS	20 47 27.3	-3.9
WMQ			AMB	AMB		
	comp=Z,21nm,1.2s,mb4.8					
WMQ			AMB	AMB		
	comp=Z,96nm,10.1s					
WMQ			LR	LR		
	comp=N,794nm,19.0s,MS4.7					
WMQ			LR	LR		
	comp=E,721nm,16.0s,MS4.7					
WMQ			LR	LR		
	comp=Z,938nm,16.8s,MS4.7					
KRAR	**Krasnoyarsk**	**37.39 325**	⇑*e*P	**P**	**20 37 22.3**	**-0.1**
KRAR			pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7					
KRAR			MLR	MLR		
	comp=Z,600nm,15.0s,MS4.5					
ZAA0	**Zalesovo Array**	**40.91 319**	*e*P	**P**	**20 37 50.5**	**-1.3**
ZAA0			*e*	pP	20 37 59.9	-1.5
ZALV	**Zalesovo Beam**	**40.91 319**	P	**P**	**20 37 50.4**	**-1.4**
	comp=Z,1.5nm,0.4s,mb4.0,baz=103,slow=6.7,SNR=21					
ZALV			PcP	PcP	20 39 51.7	-0.1
	comp=Z,4.3nm,0.8s,baz=98,slow=4.4,SNR=4.5					
ZALV			LR	LR	20 56 10.6	
	comp=Z,643nm,20.2s,MS4.5,baz=107,slow=38					
ZAL	**Zalesovo**	**40.92 319**	P	**P**	**20 37 50.4**	**-1.5**
ZAL					20 39 51.7	
MKAR	**Makanchi Array**	**41.06 308**	P	**P**	**20 37 52.3**	**-0.9**
	comp=Z,2.1nm,0.4s,mb4.1,baz=90,slow=11,SNR=18					
MKAR			PcP	PcP	20 39 51.6	-0.9
	comp=Z,3.8nm,1.0s,baz=93,slow=3.0,SNR=4.2					
MKAR			LR	LR	20 55 52.4	
	comp=Z,397nm,19.9s,MS4.3,baz=96,slow=38					
MKAR	**Makanchi Array**	**41.06 308**	*i* P	**P**	**20 37 52.7**	**-0.5**
MKAR			pmax	pmax		
	comp=Z,2.0nm,0.4s					
NVS	**Novosibirsk**	**42.05 320**	*e*P	**P**	**20 37 58.9**	**-2.2**
NVS			pmax	pmax		
	comp=N,17nm,1.6s					
NVS			pmax	pmax		
	comp=E,25nm,1.6s					
NVS			pmax	pmax		
	comp=Z,27nm,1.6s,mb4.6					
BILL	**Bilibino**	**43.26 18**	⇑*e*P	**P**	**20 38 11.8**	**+1.0**
BILL			pmax	pmax		
	comp=Z,14nm,1.2s,mb4.6					
BILL			MLR	MLR		
	comp=Z,1μm,30.0s,MS4.6					
KURK	**Kurchatov**	**43.95 313**	P	**P**	**20 38 12.6**	**-4.0**
	comp=Z,88nm,1.1s,mb5.4,SNR=10					
ULHL	**Ulahol**	**45.26 301**	P	**P**	**20 38 28.1**	**+0.9**
	SNR=5.9					
TKM2	**Tokmak 2**	**45.70 302**	*e*P	**P**	**20 38 31.2**	**+0.5**
TKM2			pmax	pmax		
	comp=Z,55nm,1.0s,mb5.4					
TKM2	**Tokmak 2**	**45.70 302**	P	**P**	**20 38 31.5**	**+0.8**
	SNR=20					
TKM2	**Tokmak 2**	**45.70 302**	*e*P	**P**	**20 38 31.2**	**+0.5**
	comp=Z,54nm,1.0s,mb5.4					
KZA	**Kyzart**	**46.01 301**	P	**P**	**20 38 34.6**	**+1.5**
	SNR=7.2					
KBK	**Karagaybulak**	**46.20 302**	P	**P**	**20 38 35.0**	**+0.5**
	SNR=8.1					
CHMS	**Chumysh**	**46.32 302**	P	**P**	**20 38 35.5**	**0.0**
	SNR=13					
FRU	**Bishkek**	**46.43 302**	*e*P	**P**	**20 38 35.5**	**-0.9**
FRU			*e*	pP	20 38 46.0	-0.1
FRU			pmax	pmax		
	comp=Z,70nm,1.8s,mb5.3					
FRU			MLR	MLR		
	comp=N,1μm,14.0s,MS5.3					
FRU			MLR	MLR		
	comp=E,2μm,14.0s,MS5.3					
FRU			MLR	MLR		
	comp=Z,1μm,14.0s,MS5.1					
USP	**Ospenovka**	**46.49 303**	P	**P**	**20 38 37.1**	**+0.2**
	SNR=10					
AAK	**Ala-Archa**	**46.53 302**	P	**P**	**20 38 37.6**	**+0.4**
	SNR=5.1					
UCH	**Uchtor**	**46.54 301**	P	**P**	**20 38 39.5**	**+2.2**
	SNR=6.7					
UCH	**Uchtor**	**46.54 301**	*e*P	**P**	**20 38 38.9**	**+1.6**
	comp=Z,23nm,0.9s,mb5.1					
UCH			*e*	pP	20 38 48.0	+1.0
EKS2	**Erkin-Say**	**47.06 302**	P	**P**	**20 38 41.6**	**+0.3**
	SNR=8.8					
EKS2	**Erkin-Say**	**47.06 302**	*e*P	**P**	**20 38 40.4**	**-0.9**
	comp=Z,16nm,1.0s,mb4.9					
EKS2			*e*	pP	20 38 50.4	-0.6
AML	**Almayashu**	**47.16 301**	P	**P**	**20 38 43.0**	**+0.9**
	SNR=9.1					
AML	**Almayashu**	**47.16 301**	*e*P	**P**	**20 38 42.8**	**+0.7**
	comp=Z,28nm,1.2s,mb5.1					
AML			*e*	pP	20 38 53.3	+1.5
HNR	**Honiara**	**48.04 140**	LR	LR	20 55 38.6	
	comp=Z,196nm,18.0s,MS4.1,baz=0.3,slow=32					
FITZ	**Fitzroy Crossi**	**48.16 187**	*e*P	**P**	**20 38 52.4**	**+2.4**
	comp=Z,6.8nm,0.8s,mb4.7					
BVAR	**Borovoye Array**	**49.24 316**	P	**P**	**20 38 57.3**	**-0.7**
	comp=Z,7.5nm,0.5s,mb5.0,baz=101,slow=7.5,SNR=30					
BVAR			LR	LR	21 02 48.0	
	comp=Z,984nm,18.0s,MS4.8,baz=98,slow=40					
BRVK	**Borovoye**	**49.30 316**	*e*P	**P**	**20 38 57.6**	**-0.9**
BRVK			*e*	pP	20 39 07.2	-1.1
BRVK			pmax	pmax		
	comp=Z,41nm,0.9s,mb5.5					
BRVK	**Borovoye**	**49.30 316**	*e*P	**P**	**20 38 57.6**	**-0.9**
	comp=Z,41nm,0.9s,mb5.5					
BRVK			*e*	pP	20 39 07.2	-1.1
WRAB	**Tennant Creek**	**49.78 176**	*i* P	pP	20 39 12.5	+0.3
WRA	**Warramunga Arr**	**49.79 176**	P	**P**	**20 39 01.3**	**-1.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=355,slow=8.5,SNR=8.9					
WB2	**Warramunga Arr**	**49.79 176**	*e*P	**P**	**20 39 04.5**	**+2.0**
ASAR	**Alice Springs**	**53.47 177**	P	**P**	**20 39 29.6**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=14,slow=12,SNR=9.7					
SVE	**Sverdlovsk**	**54.89 321**	⇑*e*P	**P**	**20 39 39.6**	**-0.3**
SVE			pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2					
SVE			MLR	MLR		
	comp=Z,1μm,14.0s,MS5.2					
TTA	**Tatalina**	**55.95 32**	*e*P	**P**	**20 39 46.7**	**-0.8**
TTA			pmax	pmax		
	comp=Z,20nm,1.8s,mb4.8					
TTA	**Tatalina**	**55.95 32**	*e*P	**P**	**20 39 46.7**	**-0.8**
	comp=Z,20nm,1.8s,mb4.8					
ARU	**Arti**	**56.05 320**	*d i* P	**P**	**20 39 46.6**	**-1.7**
ARU			*e*		20 40 44.8	
ARU			*e*		20 41 52.5	
ARU			*e*S	**S**	**20 47 28.3**	**-6.3**
ARU			pmax	pmax		
	comp=Z,43nm,1.7s,mb5.2					
ARU			MLR	MLR		
	comp=Z,3μm,18.0s,MS5.4					
ARU	**Arti**	**56.05 320**	*e*P	**P**	**20 39 47.3**	**-1.0**
	comp=Z,37nm,1.1s,mb5.3					
ARU			*e*	pP	20 39 56.8	-1.4
SOKR	**Solikamsk**	**56.78 324**	*d i* P	**P**	**20 39 53.2**	**-0.3**
SOKR			pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8					
SOKR			MLR	MLR		
	comp=Z,480nm,11.0s,MS4.8					
IMA2	**Indian Mountai**	**56.95 28**	*e*P	**P**	**20 39 54.4**	**-0.2**
AKTK	**Aktyubinsk**	**57.05 313**	P	**P**	**20 39 54.3**	**-1.2**
AKTO	**Aktyubinsk**	**57.05 313**	P	**P**	**20 39 54.3**	**-1.2**
	comp=Z,3.2nm,0.6s,mb4.5,baz=85,slow=12,SNR=6.3					
KDAK	**Kodiak Island**	**57.94 38**	P	**P**	**20 40 00.9**	**-0.7**
	comp=Z,5.6nm,0.5s,mb4.9,baz=257,slow=3.7,SNR=11					
KTH	**Kantishna Hill**	**58.23 31**	*e*P	**P**	**20 40 01.9**	**-1.7**
	comp=Z,8.1nm,1.3s,mb4.6					
RC01	**Rabbit Creek A**	**59.01 34**	*e*P	**P**	**20 40 08.7**	**-0.4**
	comp=Z,10nm,1.1s,mb4.8					
BMRM	**Bremner River**	**61.50 34**	*e*P	**P**	**20 40 26.0**	**-0.1**
STKA	**Stephens Creek**	**62.38 170**	*e*P	**P**	**20 40 37.7**	**+5.5**
	comp=Z,5.0nm,1.5s,mb4.4					
STKA	**Stephens Creek**	**62.38 170**	P	**P**	**20 40 32.0**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.2,baz=6.3,slow=9.2,SNR=3.7					
STKA			LR	LR	21 09 06.3	
	comp=Z,191nm,18.8s,MS4.3,baz=205,slow=37					
INK	**Inuvik**	**64.38 24**	P	**P**	**20 40 44.0**	**-1.2**
	comp=Z,5.4nm,0.8s,mb4.6,baz=309,slow=6.1,SNR=4.6					
INK	**Inuvik**	**64.38 24**	P	**P**	**20 40 44.0**	**-1.2**
HYT	**Haines Junctio**	**64.90 33**	*e*P	**P**	**20 40 48.8**	**+0.2**
KLMR	**Klimovskoe**	**65.02 327**	*e*P	**P**	**20 40 48.4**	**-1.0**
KLMR			pmax	pmax		
	comp=Z,27nm,1.4s,mb5.1					
APA	**Apatity**	**65.47 335**	⇓*i*P	**P**	**20 40 52.0**	**-0.2**
APA			*e*	pP	20 41 00.0	-2.3
APA			MLR	MLR		
	comp=Z,700nm,14.0s,MS5.0					
SPB4	**Spitsbergen Ar**	**65.64 348**	*e*P	**P**	**20 40 53.1**	**-0.1**
SKAG	**Skagway**	**66.36 34**	*e*P	**P**	**20 40 57.5**	**-0.6**
	comp=Z,9.4nm,0.6s,mb5.0					
VRHR	**Novokhopersk**	**66.97 317**	*e*P	**P**	**20 41 01.1**	**-1.0**
VRHR			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0					
VRHR			pmax	pmax		
	comp=N,10.0nm,0.5s					
VRHR			pmax	pmax		
	comp=E,10.0nm,0.9s					
VRHR			MLR	MLR		
	comp=Z,1μm,18.0s,MS5.2					
VRHR			MLR	MLR		
	comp=N,470nm,16.0s,MS5.1					
VRHR			MLR	MLR		
	comp=E,690nm,15.0s,MS5.1					
ARCES	**ARCESS Array B**	**67.41 338**	P	**P**	**20 41 04.2**	**-0.4**
	comp=E,2.0nm,0.6s,mb4.3,baz=69,slow=7.3,SNR=11					
ARCES	**ARCESS Array B**	**67.41 338**	P	**P**	**20 41 04.2**	**-0.4**
MOS	**Moscow**	**67.62 322**	*e*P	**P**	**20 41 05.4**	**-0.8**
MOS			*e*	pP	20 41 14.2	-2.0
MOS			pmax	pmax		
	comp=Z,50nm,1.0s,mb5.5					
MOS			MLR	MLR		
	comp=Z,2μm,16.0s,MS5.3					
JOF	**Joensuu**	**67.97 331**	*e*p	**P**	**20 41 07.0**	**-1.2**
	comp=Z,6.1nm,0.4s,mb5.0					
JOF	**Joensuu**	**67.97 331**	*e*P	**P**	**20 41 07.0**	**-1.2**
JOF			pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.0					
VRSR	**Storozhevoye**	**68.36 317**	*e*P	**P**	**20 41 10.0**	**-0.9**
VRSR			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6					
VRSR			pmax	pmax		
	comp=N,4.0nm,1.2s					
VRSR			pmax	pmax		
	comp=E,4.0nm,0.9s					
VRSR			MLR	MLR		
	comp=Z,210nm,14.0s,MS4.5					
VRSR			MLR	MLR		
	comp=N,150nm,17.0s,MS4.5					
VRSR			MLR	MLR		
	comp=E,160nm,14.0s,MS4.5					
OBN	**Obninsk**	**68.41 322**	⇓*e*P	**P**	**20 41 10.7**	**-0.4**
OBN			*e*		20 43 38.6	
OBN			*e*S	S	20 50 05.4	-4.8
OBN			pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1					
OBN			MLR	MLR		
	comp=Z,1μm,13.0s,MS5.2					
GNI	**Garni**	**68.80 305**	⇑*e*P	**P**	**20 41 15.5**	**+1.7**
GNI			pmax	pmax		
	comp=Z,33nm,1.5s					
GNI			MLR	MLR		
	comp=Z,300nm,18.0s					
GNI	**Garni**	**68.80 305**	*e*P	**P**	**20 41 15.1**	**+1.3**

comp=Z,36nm,1.3s,mb5.1
KIV Kislovodsk 68.81 309 P **P 20 41 14.2 +0.3**
comp=Z,282nm,1.2s,SNR=9.5
KIV Kislovodsk 68.81 309*c i*P **P 20 41 13.6 -0.3**
KIV *e*S S 20 50 11.5 -3.9
KIV pmax pmax
comp=Z,61nm,1.1s,mb5.4
KIV pmax pmax
comp=Z,59nm,5.8s
KIV MLR MLR
comp=Z,614nm,18.0s,MS4.9
KIV Kislovodsk 68.81 309 *e*P **P 20 41 14.4 +0.6**
comp=Z,70nm,1.1s,mb5.5
DLBC Dease Lake 69.29 34 P **P 20 41 17.8 +1.2**
baz=299,slow=13
KAF Kangasniemi 70.41 331 *e*p **P 20 41 23.0 -0.4**
comp=Z,1.2nm,0.4s,mb4.2
KAF Kangasniemi 70.41 331 *e*P **P 20 41 23.0 -0.4**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
UMR Umm Al-Rimmam 70.67 293 *e*P **P 20 41 25.4 -0.2**
baz=294
UMR AMb AMB 20 41 26.9
comp=Z,61nm,1.2s,mb5.4,baz=294
MIB Mutribah 70.87 294 *e*P **P 20 41 26.6 -0.2**
baz=294
MIB AMb AMB 20 41 28.1
comp=Z,58nm,1.1s,mb5.4,baz=294
RDF Al-Radifah 71.06 293 *e*P **P 20 41 27.6 -0.4**
baz=293
RDF AMb AMB 20 41 29.2
comp=Z,43nm,0.7s,mb5.5,baz=293
NAY Al-Naaiem 71.17 293 *e*P **P 20 41 28.1 -0.6**
baz=293
NAY AMb AMB 20 41 29.9
comp=Z,35nm,1.2s,mb5.2,baz=293
DAG Danmarks Havn 71.81 353⇑*i*P **P 20 41 31.1 -0.6**
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
DAG Danmarks Havn 71.81 353⇑*i*P **P 20 41 31.1 -0.6**
comp=Z,3.4nm,0.9s,mb4.3
VSU Vasula 71.92 328⇓*e*P **P 20 41 32.3 -0.3**
ANN Anapa 71.95 312 *e*P **P 20 41 31.1 -1.9**
ANN pmax pmax
comp=Z,53nm,1.1s,mb5.4
YKA Yellowknife Ar 73.99 26 P **P 20 41 44.6 -0.1**
comp=Z,2.6nm,0.9s,mb4.1,baz=360,slow=7.4,SNR=3.6
YKA LR LR 21 20 46.4
comp=Z,50nm,18.6s,MS3.8,baz=280,slow=41
SIM Simferopol' 74.01 313*de*P **P 20 41 44.7 -0.5**
SIM pmax pmax
comp=Z,16nm,1.1s,mb4.9
MALT Malatya 74.02 305 *e*P **P 20 41 46.1 +0.7**
MALT pmax pmax
comp=Z,12nm,1.1s,mb4.7
MALT Malatya 74.02 305 *e*P **P 20 41 46.1 +0.7**
comp=Z,12nm,1.1s,mb4.7
AKASG Malin Array Be 74.30 320 P **P 20 41 45.7 -1.1**
comp=Z,1.8nm,0.5s,mb4.3,baz=51,slow=6.0,SNR=28
AKASG LR LR 21 19 54.4
comp=Z,310nm,18.2s,MS4.6,baz=65,slow=40
AKASG Malin Array Be 74.30 320 P **P 20 41 45.7 -1.1**
AKASG LR LR 21 19 54.4
AKBB Malin Array Si 74.30 320 *e*P **P 20 41 45.8 -1.0**
KIEV Kiev 74.31 320 *e*P **P 20 41 45.9 -1.0**
KIEV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KIEV Kiev 74.31 320 *e*P **P 20 41 45.9 -1.0**
comp=Z,5.7nm,0.9s,mb4.5
SUW Suwalki 75.86 325 *e*P **P 20 41 55.2 -0.5**
SUW pmax pmax
comp=Z,14nm,0.4s,mb5.2
SUW Suwalki 75.86 325 *e*P **P 20 41 55.2 -0.5**
comp=Z,14nm,0.4s,mb5.2
NB2 NORSAR Subarra 77.02 334 P **P 20 42 00.5 -1.7**
comp=Z,5.7nm,0.6s,mb4.7,baz=50,slow=5.9
NOA NORSAR Array B 77.02 334 P **P 20 42 01.0 -1.2**
comp=Z,5.0nm,0.7s,mb4.5,baz=50,slow=5.7,SNR=18
ANTO Ankara 77.22 309 *e*P **P 20 42 03.6 -0.1**
ANTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ANTO Ankara 77.22 309 *e*P **P 20 42 03.6 -0.1**
comp=Z,6.3nm,0.8s,mb4.6
ASF Jabal al Asfar 77.90 300 P **P 20 42 06.6 -1.1**
comp=Z,5.2nm,1.1s,mb4.4,baz=18,slow=4.7,SNR=5.1
MMAI Mount Meron Ar 78.62 301 P **P 20 42 11.6 0.0**
comp=Z,1.3nm,0.5s,mb4.1,baz=31,slow=8.9,SNR=3.4
KOLS Kolonicke sedl 79.07 321 *e*P **P 20 42 14.7 +0.9**
KOLS Kolonicke sedl 79.07 321 *e*P **P 20 42 14.7 +0.9**
CRVS Cervenica-Dubn 79.54 321 *e*P **P 20 42 17.5 +1.2**
CRVS Cervenica-Dubn 79.54 321 *e*P **P 20 42 17.5 +1.2**
ETW Entiat 79.61 41 P **P 20 42 16.0 -0.7**
OJC Ojcow 79.69 323 *e*P **P 20 42 18.2 +1.1**
NIE Niedzica 79.87 322 *e*P **P 20 42 18.6 +0.5**
EDM Edmonton 80.01 33 *e*P **P 20 42 18.7 -0.1**
KECS Kecovo 80.31 321 *e*P **P 20 42 22.8 +2.3**
KECS Kecovo 80.31 321 *e*P **P 20 42 22.8 +2.3**
comp=Z,5.4nm,1.6s,mb4.2
OKC Ostrava-Krasne 80.78 323 *e*P **P 20 42 24.6 +1.6**
OKC AMS AMS 21 25 50.0
comp=Z,700nm,14.6s
RUE Ruedersdorf 81.35 327 *e*P **P 20 42 27.4 +1.4**
comp=Z,8.0nm,0.6s,mb4.8
YBH Yreka Blue Hor 81.38 47 P **P 20 42 27.0 +0.6**
comp=Z,0.9nm,0.4s,mb4.0,baz=342,slow=9.6,SNR=2.6
DPC Dobruska-Polom 81.41 324 *e*P **P 20 42 28.3 +1.9**
DPC AMS AMS 21 21 50.0
comp=Z,1μm,14.6s
MODS Modra-Piesok 82.11 322 *e*P **P 20 42 31.7 +1.7**
MODS pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
MODS Modra-Piesok 82.11 322 *e*P **P 20 42 31.7 +1.7**
comp=Z,9.1nm,1.6s,mb4.5
PVCC Panska Ves 82.19 325 *e*P **P 20 42 31.7 +1.3**
PVCC AMS AMS 21 23 50.0
comp=Z,1μm,15.5s
BRG Berggiesshubel 82.28 325 *i* P **P 20 42 32.2 +1.3**
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
BRG Berggiesshubel 82.28 325 *e*P **P 20 42 31.5 +0.6**
comp=Z,10.0nm,1.4s,mb4.5
BRG Berggiesshubel 82.28 325 *i* P **P 20 42 32.2 +1.3**
comp=Z,9.4nm,1.4s,mb4.5
CLL Collm 82.47 326⇓*i*P **P 20 42 32.3 +0.4**
CLL *i* pP 20 42 42.3 +0.1
CLL pmax pmax
comp=Z,14nm,1.2s,mb4.8
CLL MLR MLR
comp=Z,2μm,15.8s,MS5.5
CLL Collm 82.47 326 *e*P **P 20 42 32.1 +0.2**
comp=Z,14nm,1.2s,mb4.8
CLL Collm 82.47 326⇓*i*P **P 20 42 32.3 +0.4**
comp=Z,14nm,1.2s,mb4.8
CLL *i* (pP) pP 20 42 42.3 +0.1
CLL *e*S S 20 52 57.0 +11
CLL *e*SS SS 20 58 12.0 +5.6
CLL *e*x x 20 59 18.0
CLL Collm 82.47 326⇓*i*P **P 20 42 32.3 +0.4**
comp=Z,14nm,1.2s,mb4.8
CLL *i* pP 20 42 42.3 +0.1
CLL *e*S S 20 52 57.0 +11
CLL LR LR
comp=Z,2μm,15.8s,MS5.5
TREC Trest 82.49 323 *e*P **P 20 42 27.7 -4.3**
TREC AMS AMS 21 22 20.0
comp=Z,900nm,16.0s
PRU Pruhonice 82.54 324 AMS AMS 21 22 30.0
comp=Z,1μm,14.6s
FBE Freiberg 82.54 326 *e*P **P 20 42 33.5 +1.2**
comp=Z,18nm,1.6s,mb4.8
CLZ Clausthal 83.37 328 *e*P **P 20 42 37.8 +1.3**
CLZ pmax pmax
comp=Z,17nm,1.2s,mb5.0
CLZ Clausthal 83.37 328 *e*P **P 20 42 37.8 +1.3**
comp=Z,17nm,1.2s,mb5.0
GUNZ Gunzen 83.40 326 *e*P **P 20 42 37.8 +1.1**
comp=Z,35nm,1.9s,mb5.1
GUNZ *e*pP pP 20 42 47.1 +0.1
NKC Novy Kostel 83.43 325 AMS AMS 21 23 20.0
comp=Z,1μm,15.6s
KHC Kasperske Hory 83.57 324⇑*e*P **P 20 42 37.4 -0.2**
KHC Kasperske Hory 83.57 324 AMS AMS 21 23 00.0
comp=Z,1μm,14.9s
MOX Moxa 83.57 326 *e*P **P 20 42 38.3 +0.7**
comp=Z,26nm,1.9s,mb5.0
GERES GERESS Array B 83.69 324 P **P 20 42 37.8 -0.4**
comp=Z,0.3nm,0.5s,mb3.7,baz=53,slow=5.0,SNR=4.0
GERES LR LR 21 26 18.9
comp=Z,803nm,18.3s,MS5.1,baz=44,slow=40
MANZ Manzenberg 83.75 325 *e*pP pP 20 42 48.8 -0.1
ROTZ Rotzenmuhle 83.85 325 *e*P **P 20 42 39.1 +0.1**
comp=Z,15nm,1.5s,mb4.9
ROTZ *e*pP pP 20 42 48.7 -0.6
SOKA Soboth 84.35 322⇑*i*P **P 20 42 42.3 +0.6**
comp=Z,8.0nm,1.4s,mb4.7
SOKA Soboth 84.35 322⇑*i*PcP PcP 20 42 42.3 -3.0
comp=Z,8.0nm,1.4s
GRA1 Grafenberg Arr 84.38 326 *e*P **P 20 42 42.5 +0.7**
comp=Z,25nm,1.3s,mb5.2
GRA1 *e*pP pP 20 42 52.0 -0.1
GRA1 LR LR
comp=Z,900nm,18.5s,MS5.2
GRF Grafenberg Arr 84.38 326 *e*P **P 20 42 42.5 +0.7**
GRF *e**PP pP 20 42 52.0 -0.1
GRF pmax pmax
comp=Z,25nm,1.3s,mb5.2
GRF MLR MLR
comp=Z,900nm,18.5s,MS5.2
GRF Grafenberg Arr 84.38 326 *e*P **P 20 42 42.5 +0.7**
GRF *e**PP pP 20 42 52.1 0.0
GRF pmax pmax
comp=Z,25nm,1.3s,mb5.2
GRF MLR MLR
comp=Z,900nm,18.5s,MS5.2
GRF Grafenberg Arr 84.38 326 *e*P **P 20 42 42.5 +0.7**
comp=Z,25nm,1.3s,mb5.2
GRF *e*pP pP 20 42 52.0 -0.1
GRF *e*L 21 24 02.7
comp=Z,870nm,18.5s
GRF Grafenberg Arr 84.38 326 *e*P **P 20 42 42.5 +0.7**
comp=Z,25nm,1.3s,mb5.2
GRF *e*pP pP 20 42 52.1 0.0
GRF LR LR
comp=Z,900nm,18.5s,MS5.2
RJOB Jochberg 84.86 323 *e*P **P 20 42 45.6 +1.4**
comp=Z,13nm,1.6s,mb4.8
DLMT Dillon 85.25 39 *e*P **P 20 42 46.6 +0.4**
comp=Z,4.5nm,0.8s,mb4.7
HLID Hailey 85.34 42 *e*P **P 20 42 47.3 +0.6**
comp=Z,2.2nm,0.8s,mb4.3
TNS Taunus Mts 85.36 327 *e*P **P 20 42 48.2 +1.5**
TNS pmax pmax
comp=Z,12nm,1.5s,mb4.8
TNS Taunus Mts 85.36 327 *e*P **P 20 42 48.2 +1.5**
comp=Z,12nm,1.5s,mb4.8
BMN Battle Mountai 85.54 45 *e*P **P 20 42 48.6 +0.8**
NVAR Mina Array Bea 86.03 47 P **P 20 42 50.6 +0.3**
comp=Z,1.1nm,0.7s,mb4.2,baz=297,slow=6.4,SNR=7.5
MEM Membach 86.22 329 P **P 20 42 51.9 +1.0**
comp=Z,8.2nm,1.9s,mb4.6
ELK Elko 86.57 44 P **P 20 42 53.7 +0.9**
comp=Z,0.9nm,0.8s,mb4.1,baz=262,slow=2.2,SNR=3.6
BFO Black Forest 86.71 326 *e*P **P 20 42 54.3 +0.9**
BFO *e**PP pP 20 43 02.9 -0.8
BFO pmax pmax
comp=Z,20nm,1.6s,mb5.1
BFO Black Forest 86.71 326 *e*P **P 20 42 54.3 +0.9**
comp=Z,20nm,1.6s,mb5.1
BFO *e*pP pP 20 43 02.9 -0.8
WLF Walferdange 86.82 328 P **P 20 42 53.4 -0.4**
comp=Z,11nm,2.7s,mb4.6
WLF Walferdange 86.82 328 *e*P **P 20 42 55.5 +1.6**
comp=Z,12nm,1.2s,mb5.0
RLMT Red Lodge 87.21 38 *e*P **P 20 42 56.8 +0.9**
comp=Z,4.5nm,1.0s,mb4.7
DOU Dourbes 87.22 329 P **P 20 42 53.2 -2.6**
comp=Z,9.8nm,2.7s,mb4.6
PDAR Pinedale Array 88.60 40 P **P 20 43 02.1 -0.4**
comp=Z,2.2nm,1.1s,mb4.4,baz=318,slow=2.0,SNR=9.3
PPT Papeete 89.75 110 *e*SS SS 20 59 54.5 -1.4
comp=Z,99nm,25.8s
PPT Papeete 89.75 110 *e*LR LR 21 11 32.3
comp=Z,116nm,22.0s
PPT Papeete 89.75 110 LR LR 21 19 58.4
comp=Z,138nm,18.8s,MS4.4,baz=322,slow=33
ULM Lac du Bonnet 89.86 28 LR LR 21 29 07.7
comp=Z,174nm,18.8s,MS4.5,baz=14,slow=39
SRU San Rafael 90.42 43 *e*P **P 20 43 12.5 +1.4**
SRU pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
SRU San Rafael 90.42 43 *e*P **P 20 43 12.5 +1.4**
comp=Z,1.7nm,0.6s,mb4.5
PV10 Paradox Valley 91.77 43 *e*P **P 20 43 19.3 +1.8**
TBI Tubuai 92.85 115 *e*S S 20 54 25.2 -0.8
comp=Z,168nm,26.2s
TBI *e*SS SS 21 00 38.7 -1.8
comp=Z,157nm,28.0s
TBI Tubuai 92.85 115 *e*LR LR 21 13 09.9
comp=Z,123nm,24.2s
SCHQ Schefferville 94.07 10 LR LR 21 26 57.8
comp=Z,273nm,21.1s,MS4.7,baz=8.7,slow=36
TORD Torodi Ar. Bea 115.09 304 PKP PKiKP 20 48 50.9 -0.5
comp=Z,0.3nm,0.5s,baz=15,slow=1.2,SNR=5.0
QSPA South Pole Qui 119.81 180 PKP PKPdf 20 48 58.1 -0.3
comp=Z,2.3nm,1.0s,baz=339,slow=1.6,SNR=3.1
SDV Santo Domingo 135.99 32 PKP PKPdf 20 49 31.6 +0.3
comp=Z,1.9nm,0.3s,baz=342,slow=3.2,SNR=3.1
PCRV Puerto La Cruz 137.23 23 PKP PKPdf 20 49 32.3 -1.3
comp=Z,27nm,1.0s,baz=321,slow=6.5,SNR=2.0

JMA 09 20:30:33.7±0.4,3341N×13841E,h315km±4km,M3.6,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.22**	**104**	P	Pn	20 31 17.5	+0.8
JHMK	**Hamakita**	**1.50**	**339**	P	Pn	20 31 18.3	0.0
HMMJ	**Hamamatsu 2**	**1.55**	**339**	P	Pn	20 31 19.2	+0.6
HMMJ				*e*S	S	20 31 53.3	-1.1
JIE	**Ise**	**1.72**	**305**	P	Pn	20 31 20.1	+0.4
JOD2	**Odawara 2**	**1.93**	**17**	P	Pn	20 31 21.9	+0.7
JOD2				*e*S	S	20 31 59.7	+0.6
JKN2	**Miekihoku**	**1.96**	**296**	P	Pn	20 31 20.7	-0.7
JNY	**Yasuok**	**2.00**	**347**	P	Pn	20 31 22.9	+1.2
JNY				S	S	20 32 00.1	+0.1
JAO	**Obara**	**2.08**	**333**	P	Pn	20 31 22.2	-0.1
JAO				*e*S	S	20 32 00.0	-1.2
JYN	**Shimob**	**2.09**	**3**	P	Pn	20 31 23.4	+1.1
BSO3	**Boso 3**	**2.23**	**51**	P	Pn	20 31 24.9	+1.4
BSO3				S	S	20 32 02.5	-0.8
BSO4	**Boso 4**	**2.24**	**45**	P	Pn	20 31 23.7	+0.1
BSO4				*e*S	S	20 32 01.7	-1.9
JWZ	**Kozaga**	**2.26**	**274**	P	Pn	20 31 23.3	-0.5
BSO1	**Boso 1**	**2.47**	**59**	P	Pn	20 31 25.2	-0.3
BSO1				*e*S	S	20 32 05.1	-1.9
JWY	**Kouya**	**2.48**	**290**	P	Pn	20 31 26.1	+0.4
JHU	**Hanno**	**2.54**	**16**	P	Pn	20 31 26.7	+0.6
JHU				*e*S	S	20 32 06.0	-2.1
JRY	**Ryogami san**	**2.63**	**9**	P	Pn	20 31 28.3	+1.3
JRY				*e*S	S	20 32 08.5	-1.1
JGM	**Miyama**	**2.68**	**329**	P	Pn	20 31 28.4	+1.0
JWT	**Wachi**	**3.11**	**308**	P	Pn	20 31 31.9	+0.4
JAG	**Ashikaga**	**3.13**	**16**	P	Pn	20 31 31.7	+0.1
JAG				S	S	20 32 15.0	-3.0
MAT	**Matsushiro**	**3.13**	**357**	P	Pn	20 31 32.6	+1.0
MAT				S	S	20 32 18.1	+0.1
MAT	**Matsushiro**	**3.13**	**357**	P	Pn	20 31 32.6	+1.0
MAT				*e*S	S	20 32 16.5	-1.5
JKG	**Kaga**	**3.33**	**330**	P	Pn	20 31 34.0	+0.4
JHO	**Hitachi**	**3.65**	**28**	P	Pn	20 31 36.7	-0.2
JHO				S	S	20 32 24.5	-3.1
JFK	**Kawauchi**	**4.43**	**26**	P	Pn	20 31 45.3	0.0
JFK				S	S	20 32 38.8	-4.0

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*IDC **09** 20:33:44.4±0.9,3126N×80.19E,h0km,mb3.8/10,*
mb1 4.0/11,mb1mx3.9/26,mbtmp3.9/11,ML3.8/1,Error
ellipse: s-maj=26.3km s-min=16.9km az=49.0
*ISCJB **09** 20:33:45.8±1.0,3139N×003×8028E×003,h15km±7km,*
mb4.0/12,Error ellipse: s-maj=5.2km s-min=3.8km
az=26.1
*NEIC **09** 20:33:46.2±0.4,3134N×80.16E,h10km,mb4.5/3,Error*
ellipse: s-maj=10.2km s-min=6.7km az=58.0
*NDI **09** 20:33:46.3±3.1,3140N×8037E,h10km,ML4.4,*
mb4.5(NEIC)
*DMN **09** 20:33:47.5±0.4,3160N×8017E,h10km,Ml4.5/7,Error*
ellipse: s-maj=18.6km s-min=8.1km az=39.0
*BJI **09** 20:33:47.5,3159N×8019E,h10km,mb4.1*
*MOS **09** 20:33:48.0±1.5,3137N×8028E,h33km,mb4.6/4,Error*
ellipse: s-maj=14.9km s-min=8.1km az=116.0

ISC 09 20:33:46.8±1.0,3139N±003×8028E±003,h9km±7km,n66,
σ1⇕26/83,mb4.0/12,2D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**1.03**	**217**	*e*P	**Pg**	**20 34 03.2**	**-3.5**
JOSI				*e*S	**Sg**	**20 34 17.6**	**-2.6**
JOSI				AML	AML	20 34 19.6	
	comp=E,15μm,0.6s						
JOSI				AML	AML	20 34 19.7	
	comp=N,8μm,0.4s						
KLP	**Kalpa**	**1.74**	**275**	*e*P	**Pn**	**20 34 16.7**	**-0.4**
KLP				*e*S	**Sg**	**20 34 42.3**	**-0.4**
PTH	**Pithoragarh**	**1.83**	**182**	*e*P	**Pn**	**20 34 17.8**	**-0.7**
PTH				*e*x	**Sn**	**20 34 36.2**	**-5.6**
DDI	**Dehra Dun**	**2.19**	**241**	*e*P	**Pn**	**20 34 23.2**	**-0.1**
DDI				*e*S	**Sn**	**20 34 52.2**	**+1.8**
SMLA	**Simla**	**2.67**	**265**⇓*i*P		**Pn**	**20 34 31.3**	**+1.3**
SMLA				*e*S	**Sn**	**20 35 05.1**	**+2.6**
SMLA				*e*x	x	20 35 14.0	
	comp=E,2μm,0.4s						
SMLA				*e*x	x	20 35 15.6	
	comp=N,2μm,0.4s						
SDNR	**Sundarnagar**	**2.83**	**273**	*e*P	**Pn**	**20 34 33.6**	**+1.5**
SDNR				*e*x	**Sg**	**20 35 19.0**	**+1.4**
BHK	**Bhakra**	**3.30**	**271**	*e*P	**Pn**	**20 34 38.8**	**+0.2**
BHK				*e*x	**Sn**	**20 35 24.0**	**+6.1**
PONG	**Pong**	**3.73**	**280**	*e*x	**Pn**	**20 34 42.0**	**-2.5**
NDI	**New Delhi**	**3.78**	**225**	*e*x	**Pg**	**20 34 51.0**	**-8.3**
NDI				*e*x	**Sn**	**20 35 21.0**	**-8.9**
DLH	**Dalhousie**	**3.84**	**289**	*e*P	**Pn**	**20 34 46.0**	**0.0**
DLH				*e*x	x	20 34 56.0	
AYAN	**Aya Nagar**	**3.98**	**224**	*e*P	**Pn**	**20 34 47.6**	**-0.5**
AYAN				*e*x	**Sn**	**20 35 30.0**	**-4.8**
THN	**Thein Dam**	**4.01**	**286**	*e*P	**Pn**	**20 34 48.1**	**-0.3**
THN				*e*x	**Sg**	**20 36 02.2**	**+6.5**
SONA	**Sohna**	**4.18**	**222**⇓*e*x		**Pn**	**20 34 55.0**	**+4.2**
SONA				*e*S	**Sn**	**20 35 39.0**	**-0.7**
DANN	**Dangsing**	**4.28**	**134**	*e*Pn	**Pn**	**20 34 53.8**	**+1.7**
DANN				*e*Sn	**Sn**	**20 35 43.1**	**+0.9**
	comp=N,522nm,0.7s						
KOLN	**Koldanda**	**4.63**	**140**	*e*Pn	**Pn**	**20 34 58.2**	**+1.3**
KOLN				*e*Sn	**Sn**	**20 35 51.7**	**+1.0**
	comp=N,342nm,0.7s						
GKN	**Gorkha**	**5.08**	**131**	*e*Pn	**Pn**	**20 35 04.9**	**+1.8**
KKN	**Kakani**	**5.64**	**128**	*e*Pn	**Pn**	**20 35 12.1**	**+1.2**
DMN	**Daman**	**5.65**	**131**	*e*Pn	**Pn**	**20 35 12.9**	**+2.0**
PKI	**Pulchoki**	**5.87**	**129**	*e*Pn	**Pn**	**20 35 15.8**	**+1.8**
PKI				*e*Sn	**Sn**	**20 36 20.7**	**-0.8**
	comp=N,93nm,0.6s						
GUN	**Gumba**	**5.98**	**124**	*e*Pn	**Pn**	**20 35 17.1**	**+1.6**
CHCP	**Chirah Chowk**	**6.34**	**293**	P	**Pn**	**20 35 20.1**	**-0.3**
JIRN	**Jiri**	**6.35**	**124**	*e*Pn	**Pn**	**20 35 22.2**	**+1.6**
JIRN				*e*Sn	**Sn**	**20 36 32.4**	**-0.9**
	comp=N,141nm,0.7s						
AJM	**Ajmer**	**6.95**	**227**	*e*x	**Pn**	**20 35 34.0**	**+5.2**
RAMN	**Ramite**	**7.08**	**127**	*e*Pn	**Pn**	**20 35 30.9**	**+0.3**
RAMN				*e*Sn	**Sn**	**20 36 49.3**	**-1.9**
	comp=N,174nm,0.9s						
CEP	**Cherat**	**7.46**	**291**	P	**Pn**	**20 35 35.2**	**-0.6**
TAPN	**Taplejung**	**7.63**	**120**	*e*Pn	**Pn**	**20 35 39.1**	**+0.9**
TAPN				*e*Sn	**Sn**	**20 37 02.5**	**-2.3**
	comp=N,266nm,1.2s						
ODAN	**Odare**	**7.69**	**124**	*e*Pn	**Pn**	**20 35 39.5**	**+0.6**
ODAN				*e*Sn	**Sn**	**20 37 04.1**	**-2.0**
	comp=N,98nm,0.8s						
LSA	**Lhasa**	**9.53**	**97**	P	**Pn**	**20 36 09.0**	**+4.8**
LSA	**Lhasa**	**9.53**	**97**	*e*P	**Pn**	**20 36 07.1**	**+2.9**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LSA	**Lhasa**	**9.53**	**97**	*e*Pn	**Pn**	**20 36 07.1**	**+2.9**
	comp=Z,9.7nm,0.7s						
KBL	**Kabul**	**9.95**	**291**	*e*P	**Pn**	**20 36 08.6**	**-1.2**
	comp=Z,6.8nm,0.5s						
SHL	**Shillong**	**11.74**	**117**	*e*P	**Pn**	**20 36 33.0**	**-1.5**
AML	**Almayashu**	**11.94**	**336**	*e*Pn	**Pn**	**20 36 37.6**	**+0.4**
	comp=Z,6.7nm,0.5s						
HYB	**Hyderabad**	**14.00**	**187**	*i* P	**Pn**	**20 37 04.0**	**-1.4**
HYB	**Hyderabad**	**14.00**	**187**	*e*P	**Pn**	**20 37 04.0**	**-1.4**
MK31	**Makanchi Array**	**15.46**	**5**	*e*P	**Pn**	**20 37 23.8**	**-1.1**
MKAR	**Makanchi Array**	**15.46**	**5**	Pn	**Pn**	**20 37 23.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=195,slow=14,SNR=17						
MDRS	**Chennai**	**18.23**	**180**	*e*x	x	20 50 35.0	
KURK	**Kurchatov**	**19.35**	**357**	*e*P	**Pn**	**20 38 11.7**	**-1.7**
KURK				pmax	pmax		
	comp=Z,31nm,1.2s						
KURK	**Kurchatov**	**19.35**	**357**	*e*P	**Pn**	**20 38 11.7**	**-1.7**
KURK				pmax	pmax		
	comp=Z,31nm,1.2s						
KURK	**Kurchatov**	**19.35**	**357**	*e*P	**Pn**	**20 38 11.7**	**-1.7**
	comp=Z,31nm,1.2s						
CHTO	**Chiang Mai**	**21.00**	**122**	*e*P	**P**	**20 38 30.0**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,19nm,1.1s						
CHTO	**Chiang Mai**	**21.00**	**122**	*e*P	**P**	**20 38 30.0**	**-0.6**
	comp=Z,19nm,1.1s						
CMAR	**Chiang Mai Arr**	**21.23**	**123**	P	**P**	**20 38 33.0**	**-0.1**
	comp=Z,14nm,0.8s,mb4.3,baz=312,slow=9.3,SNR=21						
ZAL	**Zalesovo**	**22.77**	**7**	P	**P**	**20 38 49.4**	**+0.2**
ZAA0	**Zalesovo Array**	**22.78**	**7**	Pn	**P**	**20 38 49.3**	**-0.1**
ZALV	**Zalesovo Beam**	**22.78**	**7**	P	**P**	**20 38 49.4**	**0.0**
	comp=Z,5.5nm,0.6s,mb4.2,baz=187,slow=10,SNR=5.0						
BVAR	**Borovoye Array**	**22.78**	**344**	P	**P**	**20 38 49.8**	**+0.4**
	comp=Z,2.1nm,0.4s,mb3.9,baz=156,slow=13,SNR=22						
BVAR	**Borovoye Array**	**22.78**	**344**	P	**P**	**20 38 49.8**	**+0.4**
BVAR	**Borovoye Array**	**22.78**	**344**	P	**P**	**20 38 49.8**	**+0.4**
AKTK	**Aktyubinsk**	**25.23**	**325**	P	**P**	**20 39 12.8**	**0.0**
AKTO	**Aktyubinsk**	**25.23**	**325**	P	**P**	**20 39 12.8**	**0.0**
	comp=Z,2.1nm,0.5s,mb3.9,baz=113,slow=11,SNR=10						
SONM	**Songino Array**	**25.80**	**43**	P	**P**	**20 39 19.1**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.3,baz=258,slow=8.2,SNR=4.7						
AKASG	**Malin Array Be**	**42.11**	**312**	P	**P**	**20 41 37.5**	**-1.5**
	comp=Z,0.5nm,0.5s,mb3.4,baz=81,slow=7.7,SNR=6.0						
AKASG	**Malin Array Be**	**42.11**	**312**	P	**P**	**20 41 37.5**	**-1.5**
AKASG	**Malin Array Be**	**42.11**	**312**	P	**P**	**20 41 37.5**	**-1.5**
LPG	**La Plagne**	**57.38**	**307**	*e*P	**P**	**20 43 38.6**	**+3.2**
	comp=Z,13nm,0.9s,mb4.7						
LPG	**La Plagne**	**57.38**	**307**	*e*P	**P**	**20 43 38.6**	**+3.2**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
LPG	**La Plagne**	**57.38**	**307**	*e*P	**P**	**20 43 38.6**	**+3.2**
	comp=Z,6.7nm,0.9s,mb4.7						
LPL	**La Plagne**	**57.39**	**307**	*e*P	**P**	**20 43 38.7**	**+3.2**
	comp=Z,6.6nm,0.6s,mb4.5						
LPL	**La Plagne**	**57.39**	**307**	*e*P	**P**	**20 43 38.7**	**+3.2**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
LPL	**La Plagne**	**57.39**	**307**	*e*P	**P**	**20 43 38.7**	**+3.2**
	comp=Z,3.3nm,0.6s,mb4.5						
PETK	**Petropavlovsk-**	**58.28**	**44**	P	**P**	**20 43 41.1**	**-0.5**
	comp=Z,2.7nm,1.1s,mb4.2,baz=316,slow=4.0,SNR=2.6						
WRA	**Warramunga Arr**	**72.76**	**127**	P	**P**	**20 45 14.1**	**-1.5**
	comp=Z,1.6nm,0.8s,mb4.0,baz=322,slow=5.7,SNR=11						
TORD	**Torodi Ar. Bea**	**73.61**	**276**	P	**P**	**20 45 20.2**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=47,slow=5.3,SNR=3.8						
ASAR	**Alice Springs**	**75.04**	**130**	P	**P**	**20 45 28.2**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.6,baz=321,slow=5.2,SNR=4.9						

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*ISCJB **09** 21:25:42.5±0.5,4569N±003×2678E±003,h85km±5km,*
Error ellipse: s-maj=4.4km s-min=3.8km az=166.9
*BUC **09** 21:25:42.5±0.8,4574N×2677E,h86km±9km,MD3.7/3,*
Error ellipse: s-maj=6.2km s-min=4.8km az=344.0
*CSEM **09** 21:25:42.2±0.1,4568N×2676E,h80km,MD3.4,Error*
ellipse: s-maj=3.6km s-min=2.6km az=23.0
*NEIC **09** 21:25:43.3,4568N×2678E,h79km,MD3.4(BUC),After*
BUC.

ISC 09 21:25:43.2±0.5,4569N±003×2679E±003,h82km±5km,n48,
σ0⇕85/91,23C-22D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.18**	**346**⇑*i*P		**Pn**	**21 25 54.7**	**-0

ODB				S	Sn	21 26 05.0	+0.9
ODB	**Odobesti**	**0.20**	**65**	⇓*i*P	**Pn**	21 25 55.4	+0.2
ODB				S	Sn	21 26 05.0	+0.8
PETR		**0.31**	**83**	⇓*i*P	**Pn**	21 25 56.0	+0.2
PETR				*i* S	Sn	21 26 05.7	+0.7
ISR	**Istrita**	**0.59**	**197**	⇑*i*P	**Pn**	21 25 58.8	+0.8
ISR				*i* S	Sn	21 26 07.3	-1.6
ISR	**Istrita**	**0.59**	**197**	⇑P	**Pn**	21 25 58.8	+0.8
MLR	**Muntele Rosu**	**0.63**	**252**	⇑*i*P	**Pn**	21 25 58.4	+0.1
MLR				*i* S	Sn	21 26 09.3	-0.2
MLR	**Muntele Rosu**	**0.63**	**252**	⇑P	**Pn**	21 25 58.6	+0.3
MLR				S	Sn	21 26 09.5	0.0
MLR	**Muntele Rosu**	**0.63**	**252**	⇑P	**Pn**	21 25 58.6	+0.3
MLR				S	Sn	21 26 09.5	0.0
VARR		**0.77**	**75**	⇓*i*P	**Pn**	21 26 00.0	+0.2
VARR				*i* S	Sn	21 26 12.2	+0.1
TESR		**0.83**	**353**	⇓*i*P	**Pn**	21 25 59.4	-1.0
TESR				*i* S	Sn	21 26 11.1	-2.1
FULR		**0.84**	**197**	⇓*i*P	**Pn**	21 26 01.5	+1.0
FULR				*i* S	Sn	21 26 15.8	+2.4
ONCR	**Oncesti**	**0.84**	**23**	⇓*i*P	**Pn**	21 25 59.8	-0.8
ONCR				*i* S	Sn	21 26 12.0	-1.5
SNX	**Sinaia**	**0.96**	**250**	⇓*i*P	**Pn**	21 26 02.6	+0.7
SNX				*i* S	Sn	21 26 17.3	+1.5
SNX	**Sinaia**	**0.96**	**250**	⇑P	**Pn**	21 26 02.6	+0.7
SNX	**Sinaia**	**0.96**	**250**	⇑P	**Pn**	21 26 02.6	+0.8
BERR	**Berezeni**	**1.16**	**54**	⇓*i*P	**Pn**	21 26 04.3	0.0
BERR				*i* S	Sn	21 26 19.8	-0.3
VOIR		**1.25**	**259**	⇑*i*P	**Pn**	21 26 05.0	-0.4
VOIR				*i* S	Sn	21 26 21.1	-1.0
VOIR				*i* S	Sn	21 26 21.9	-0.2
VOIR		**1.25**	**259**	⇑P	**Pn**	21 26 05.0	-0.4
VOIR				S	Sn	21 26 21.9	-0.2
VOIR		**1.25**	**259**	⇑P	**Pn**	21 26 05.0	-0.4
VOIR				S	Sn	21 26 21.9	-0.2
HARR	**Harsova**	**1.28**	**141**	⇓*i*P	**Pn**	21 26 06.2	+0.4
HARR				*i* S	Sn	21 26 22.6	-0.2
HARR	**Harsova**	**1.28**	**141**	⇓P	**Pn**	21 26 06.2	+0.4
HARR				S	Sn	21 26 22.6	-0.2
BUC1	**Bucharest**	**1.45**	**202**	⇑*i*P	**Pn**	21 26 08.0	+0.1
BUC1				*i* S	Sn	21 26 26.8	+0.3
BUC1	**Bucharest**	**1.45**	**202**	⇑P	**Pn**	21 26 08.0	+0.1
BUC1				S	Sn	21 26 26.8	+0.3
TLCR		**1.51**	**109**	⇑*i*P	**Pn**	21 26 09.4	+0.7
TLCR				*i* S	Sn	21 26 28.6	+0.6
TLCR		**1.51**	**109**	⇑P	**Pn**	21 26 09.4	+0.7
TLCR				S	Sn	21 26 28.6	+0.6
CVD	**Cernavoda**	**1.63**	**147**	⇓*i*P	**Pn**	21 26 09.7	-0.6
CVD				*i* S	Sn	21 26 30.0	-0.8
CVD	**Cernavoda**	**1.63**	**147**	⇓P	**Pn**	21 26 09.7	-0.6
CVD				S	Sn	21 26 30.1	-0.7
TIRR	**Tirgusor**	**1.68**	**136**	⇓*i*P	**Pn**	21 26 11.2	+0.2
TIRR				*i* S	Sn	21 26 31.2	-0.8
TIRR	**Tirgusor**	**1.68**	**136**	⇓P	**Pn**	21 26 11.2	+0.2
TIRR				S	Sn	21 26 31.2	-0.8
KIS	**Kishinev**	**1.92**	**46**	*e*P	**Pn**	21 26 14.4	+0.3
KIS	100nm,0.5s			*e*S	Sn	21 26 38.8	+1.2
	200nm,0.8s						
BURAR	**Bucovina Array**	**2.21**	**331**	⇓*i*P	**Pn**	21 26 18.3	+0.3
BURAR				*i* S	Sn	21 26 45.5	+1.0
BURAR	**Bucovina Array**	**2.21**	**331**	⇓P	**Pn**	21 26 18.3	+0.3
BURAR				S	Sn	21 26 45.5	+1.0
ZIMR		**2.27**	**207**	*i* S	Sn	21 26 44.7	-1.2
CRAR	**CRAIOVA**	**2.52**	**238**	*i* S	Sn	21 26 51.3	-0.6
GZR	**Gura Zlata**	**2.84**	**265**	⇓*i*P	**Pn**	21 26 26.6	+0.3
GZR				*i* S	Sn	21 27 00.3	+0.8
GZR	**Gura Zlata**	**2.84**	**265**	⇑P	**Pn**	21 26 26.6	+0.3
GZR				S	Sn	21 27 00.3	+0.8
GZR	**Gura Zlata**	**2.84**	**265**	⇑P	**Pn**	21 26 26.6	+0.3
GZR				S	Sn	21 27 00.3	+0.8
DRGR		**3.04**	**293**	⇓*i*P	**Pn**	21 26 28.5	-0.6
DRGR				*i* S	Sn	21 27 05.4	+1.0
DRGR		**3.04**	**293**	⇓P	**Pn**	21 26 28.5	-0.6
DRGR				S	Sn	21 27 05.4	+1.0
BZS	**Buzias**	**3.63**	**271**	⇓*i*P	**Pn**	21 26 36.9	-0.2
BZS				*i* S	Sn	21 27 18.2	-0.6
BZS	**Buzias**	**3.63**	**271**	⇑P	**Pn**	21 26 36.9	-0.2
BZS				S	Sn	21 27 18.2	-0.6
BZS	**Buzias**	**3.63**	**271**	⇑P	**Pn**	21 26 36.9	-0.2
BZS				S	Sn	21 27 18.2	-0.6
VTS	**Vitosha**	**4.03**	**221**	⇑*i*P	**Pn**	21 26 42.1	-0.4
VTS				*i* S	Sn	21 27 25.2	-3.3
VTS	**Vitosha**	**4.03**	**221**	⇑P	**Pn**	21 26 42.1	-0.4

*ISCJB **09** 21:54:01.5±1.5, 699S±007×12964E±008, h190km±15km, mb4.0/7, Error ellipse: s-maj=14.9km s-min=8.9km az=135.1*
*NEIC **09** 21:54:01.4±1.7, 692S×12965E, h171km±18km, mb4.0/8, Error ellipse: s-maj=17.7km s-min=12.3km az=87.0*
*IDC **09** 21:54:01.4±6.8, 695S×12965E, h171km±66km, mb3.7/2, mb1 3.5/6, mb1mx3.2/17, mbtmp3.4/6, MS4.4/1, Ms1 4.4/1, ms1mx3.0/27, Error ellipse: s-maj=62.0km s-min=17.9km az=47.0*

ISC 09 21:54:01.9±1.5, 704S±009×12971E±007, h176km±15km, n23, σ1°12/29, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.24**	**155**	*e*P	**Pn**	**21 55 33.6**	**+1.6**
KAKA	9.2nm,0.2s			*e*S	**Sn**	**21 56 41.9**	**-1.1**
BATI	**Baumata**	**6.75**	**242**	P	**Pn**	**21 55 39.9**	**+1.2**
BATI	12nm,0.3s,baz=137,slow=2.0,SNR=31			S	**Sn**	**21 56 54.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.68**	**199**	*e*P	**Pn**	**21 56 44.7**	**+1.3**
FITZ	16nm,0.3s,baz=255,slow=23,SNR=8.1 4.3nm,1.0s			*e*S	**Sn**	**21 58 47.3**	**-5.8**
FITZ	**Fitzroy Crossi**	**11.68**	**199**	P	**Pn**	**21 56 43.5**	**+0.2**
FITZ	0.2nm,0.3s,baz=34,slow=13,SNR=16			S	**Sn**	**21 58 48.5**	**-4.6**
WRAB	**Tennant Creek**	**13.58**	**161**	*e*Pn	**Pn**	**21 57 08.8**	**+1.3**
WRAB	0.6nm,0.3s,baz=120,slow=20,SNR=7.0			*e*Sn	**Sn**	**21 59 37.3**	**-1.3**
WRA	**Warramunga Arr**	**13.59**	**161**	P	**Pn**	**21 57 07.0**	**-0.6**
WRA	0.2nm,0.3s,baz=338,slow=12,SNR=11 0.7nm,0.3s,baz=337,slow=23,SNR=6.6			S	**Sn**	**21 59 35.9**	**-2.8**
WB2	**Warramunga Arr**	**13.59**	**161**	*e*P	**Pn**	**21 57 12.7**	**+5.1**
WB2				*e*S	**Sn**	**21 59 30.9**	**-7.9**
ASAR	**Alice Springs**	**17.01**	**167**	P	**Pn**	**21 57 51.5**	**+1.9**
MBWA	**Marble Bar**	**17.03**	**214**	*e*P	**Pn**	**21 57 49.9**	**+0.1**
GUMO	**Guam**	**25.43**	**36**	P	**P**	**21 59 13.7**	**+0.2**
STKA	**Stephens Creek**	**27.08**	**157**	*e*P	**P**	**21 59 29.5**	**+1.3**
STKA	**Stephens Creek**	**27.08**	**157**	P	**P**	**21 59 29.6**	**+1.4**
STKA	**Stephens Creek**	**27.08**	**157**	*e*P	**P**	**21 59 29.6**	**+1.4**
PALK	**Pallekele**	**50.90**	**285**	P	**P**	**22 02 40.4**	**-5.1**
RPZ	**Rata Peaks**	**51.38**	**142**	LR	LR	22 22 24.9	
CASY	**Casey**	**60.62**	**189**	*e*P	**P**	**22 03 54.1**	**+0.4**
MK31	**Makanchi Array**	**68.10**	**327**	*e*P	**P**	**22 04 41.4**	**-1.2**
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**22 04 41.7**	**-0.9**
MKAR	**Makanchi Array**	**68.10**	**327**	*i* P	**P**	**22 04 41.5**	**-1.1**
TKM2	**Tokmak 2**	**69.83**	**321**	*e*P	**P**	**22 04 52.5**	**-0.9**
EKS2	**Erkin-Say**	**70.86**	**320**	*e*P	**P**	**22 04 59.1**	**-0.5**
VNDA	**Vanda**	**72.44**	**173**	*e*P	**P**	**22 05 09.4**	**+0.9**
KIV	**Kislovodsk**	**92.69**	**314**	P	**P**	**22 06 53.7**	**-0.3**

*MOS **09** 21:56:07.1±1.1, 4970N×15642E, h49km, mb4.0/1, Error ellipse: s-maj=50.3km s-min=9.9km az=75.2*
*KRSC **09** 21:56:08.2±0.5, 4979N×15702E, h10km±10km, ML4.5*

ISC 09 21:56:09.9±1.5, 497N±01×1566E±02, h70km±26km, n15, σ0°99/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.04**	**342**	*e*PN	**Pn**	**21 56 24.6**	**-4.3**
SKR				*i* S	**Sn**	**21 56 37.9**	**-5.1**
SKR	comp=Z,320nm,0.5s			pmax	pmax		
SKR	comp=N,230nm,0.4s			pmax	pmax		
SKR	comp=E,130nm,0.4s			pmax	pmax		
SKR	comp=Z,1μm,2.0s			pmax	pmax		
SKR	comp=N,8μm,1.0s			smax			
SKR	comp=E,6μm,1.0s			smax			
SKR	comp=N,7μm,0.2s			smax			
SKR	comp=E,6μm,0.2s			smax			
ALID	**Alaid**	**1.36**	**330**	*e*P	**Pn**	**21 56 32.4**	**-0.6**
ALID				*i* S	**Sn**	**21 56 49.3**	**-1.1**
MIPR	**Malaya Ipel'ka**	**2.58**	**2**	P	**Pn**	**21 56 49.6**	**+0.2**
MIPR				*i* S	**Sn**	**21 57 20.4**	**+0.7**
RUS	**Russkaya**	**2.99**	**23**	*e*P	**Pn**	**21 56 54.6**	**-0.3**
RUS				*i* S	**Sn**	**21 57 29.2**	**-0.3**
GRL	**Gorelyy**	**3.00**	**17**	*e*P	**Pn**	**21 56 55.9**	**+0.8**
GRL				*i* S	**Sn**	**21 57 31.4**	**+1.5**
PET	**Petropavlovsk**	**3.57**	**20**	*i* PN	**Pn**	**21 57 04.1**	**+1.3**
PET				*i* S	**Sn**	**21 57 48.7**	**+5.0**
PET	**Petropavlovsk**	**3.57**	**20**	P	**Pn**	**21 57 03.7**	**+0.9**
PET				*i* S	**Sn**	**21 57 44.7**	**+1.1**
SDLR	**Sedlovina**	**3.85**	**21**	*e*P	**Pn**	**21 57 07.5**	**+0.8**
SDLR				*e*S	**Sn**	**21 57 51.6**	**+0.9**
NLC	**Nalytchevo**	**3.87**	**25**	*e*P	**Pn**	**21 57 06.2**	**-0.7**
NLC				*i* S	**Sn**	**21 57 49.7**	**-1.5**
SPN	**Mys Shipunski**	**4.02**	**31**	*e*P	**Pn**	**21 57 08.7**	**-0.2**
SPN				*i* S	**Sn**	**21 57 53.7**	**-0.9**
GNL	**Ganaly**	**4.09**	**11**	P	**Pn**	**21 57 13.1**	**+3.2**
GNL				*i* S	**Sn**	**21 58 01.1**	**+4.7**
KII	**Karymskiy**	**4.69**	**21**	P	**Pn**	**21 57 18.3**	**+0.3**
KII				*i* S	**Sn**	**21 58 11.3**	**+0.3**
MKZ	**Mys Kozlova**	**5.79**	**31**	P	**Pn**	**21 57 32.5**	**-0.6**
MKZ				*i* S	**Sn**	**21 58 35.4**	**-2.7**
KBTR	**Krutoberegovo**	**7.52**	**27**	P	**Pn**	**21 57 57.1**	**+0.4**
BILL	**Bilibino**	**19.02**	**11**	*e*P	**Pn**	**22 00 26.5**	**-0.6**
BILL	comp=Z,3.0nm,0.8s			pmax	pmax		
BILL	comp=Z,5.0nm,1.0s			pmax	pmax		

*IDC **09** 21:59:23.7±2.4, 685S×14740E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML3.4/1, MS3.7/7, Ms1 3.7/7, ms1mx3.3/30, Error ellipse: s-maj=56.1km s-min=30.5km az=91.0*
*ISCJB **09** 21:59:28.1±2.2, 682S±008×1473E±01, h40km±19km, mb4.0/7, MS3.7/6, Error ellipse: s-maj=22.7km s-min=13.2km az=166.6*
*NEIC **09** 21:59:29.3±3.7, 685S×14726E, h35km±25km, mb4.2/7, Error ellipse: s-maj=17.3km s-min=10.2km az=75.0*

ISC 09 21:59:28.3±4.1, 684S±007×1473E±01, h26km±29km, n30, σ0°83/24, mb4.0/7, MS3.7/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.56**	**182**	*e*Pn	**Pn**	**22 00 09.0**	**+0.9**
PMG				*e*Sn	**Sn**	**22 00 38.9**	**+0.5**
HNR	**Honiara**	**12.81**	**102**	LR	LR	22 06 45.5	
CTAO	**Charters Tower**	**13.21**	**184**	Pn	**Pn**	**22 02 32.8**	**-1.5**
KAKA	**Kakadu**	**15.73**	**247**	*e*P	**Pn**	**22 03 08.1**	**-0.2**
WRAB	**Tennant Creek**	**18.07**	**223**	*e*Pn	**Pn**	**22 03 38.0**	**+0.3**
WB2	**Warramunga Arr**	**18.08**	**223**	*e*P	**Pn**	**22 03 42.5**	**+4.7**
WRA	**Warramunga Arr**	**18.09**	**223**	P	**Pn**	**22 03 37.8**	**-0.1**
GUMO	**Guam**	**20.43**	**353**	P	**P**	**22 04 04.5**	**+0.7**
ASAR	**Alice Springs**	**21.09**	**216**	P	**P**	**22 04 12.6**	**+1.7**
FITZ	**Fitzroy Crossi**	**23.87**	**240**	*e*P	**P**	**22 04 41.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**23.87**	**240**	P	**P**	**22 04 39.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**23.87**	**240**	*e*P	**P**	**22 04 39.7**	**-0.2**
STKA	**Stephens Creek**	**25.47**	**191**	*e*P	**P**	**22 04 53.5**	**-0.8**
STKA	**Stephens Creek**	**25.47**	**191**	P	**P**	**22 04 53.3**	**-1.0**
KKM	**Kota Kinabalu**	**33.52**	**292**	P	**P**	**22 06 04.4**	**-1.7**
TAU	**Tasmania Unive**	**35.93**	**180**	P	**P**	**22 06 25.8**	**-0.7**
NWAO	**Narrogin (SRO)**	**38.10**	**223**	P	**P**	**22 06 44.5**	**-0.6**
RAO	**Raoul Island**	**39.66**	**129**	LR	LR	22 20 07.4	
URZ	**Urewera**	**41.33**	**144**	LR	LR	22 20 40.3	
KSRS	**Korea Array**	**47.62**	**339**	LR	LR	22 25 16.5	
COCO	**West Island**	**49.97**	**260**	P	**P**	**22 08 20.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**53.88**	**299**	P	**P**	**22 08 50.0**	**+0.3**
CHTO	**Chiang Mai**	**54.02**	**299**	*e*P	**P**	**22 08 51.7**	**+1.0**
PPT	**Papeete**	**62.41**	**106**	*e*LR	LR	22 28 27.2	
SONM	**Songino Array**	**65.26**	**331**	LR	LR	22 38 33.8	
VNDA	**Vanda**	**71.07**	**177**	P	**P**	**22 10 38.7**	**-5.0**
SBA	**Scott Base**	**71.71**	**176**	*e*P	**P**	**22 10 47.9**	**+0.4**
MAW	**Mawson**	**81.58**	**203**	*e*P	**P**	**22 11 43.5**	**0.0**
EKS2	**Erkin-Say**	**82.63**	**315**	*e*P	**P**	**22 11 49.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**145.55**	**283**	PKPbc	PKPbc	22 19 04.5	-0.9

*ISCJB **09** 22:06:00.0±0.3, 4829N±002×656E±002, h10km, Error ellipse: s-maj=2.3km s-min=2.0km az=172.7*
*CSEM **09** 22:06:02.2±0.1, 4834N×668E, h12km, ML2.5/19, Error ellipse: s-maj=1.0km s-min=0.8km az=178.0*
*BGR **09** 22:06:02.4±0.4, 4835N×670E, h10km, ML1.9/2, Error ellipse: s-maj=5.6km s-min=3.3km az=51.0*
*NEIC **09** 22:06:02.4, 4832N×665E, h8km, ML2.2(STR), ML2.2(SZGRF), ML2.6(LDG), After LDG.*
*STR **09** 22:06:02.1±0.2, 4834N×669E, h10km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **09** 22:06:02.4±0.1, 4832N×665E, h8km, Md2.6/3, Ml2.6/21, Error ellipse: s-maj=1.9km s-min=1.6km az=175.0*

ISC 09 22:06:01.3±0.2, 4830N±001×663E±002, h14km±3km, n86, σ0°91/164, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.35**	**212**	*e*Pg	**Pg**	**22 06 10.0**	**+1.5**
HAU	49nm,0.2s			*e*Sg	**Sg**	**22 06 14.3**	**+1.0**
HAU	**Haudompre**	**0.35**	**212**	*e*Pg	**Pg**	**22 06 10.0**	**+1.5**
HAU	24nm,0.2s			*e*Sg	**Sg**	**22 06 14.3**	**+1.0**
ECH	**Echery**	**0.36**	**104**	Pg	**Pg**	**22 06 09.4**	**+0.7**
ECH				Sg	**Sg**	**22 06 13.9**	**+0.2**
ECH	**Echery**	**0.36**	**104**	*e*Pg	**Pg**	**22 06 09.4**	**+0.7**
THEF	**They Montfort**	**0.44**	**260**	Pg	**Pg**	**22 06 11.1**	**+1.1**
THEF	**They Montfort**	**0.44**	**260**	*e*Pg	**Pg**	**22 06 11.2**	**+1.2**
CDF	**Champ du Feu**	**0.45**	**76**	*e*Pg	**Pg**	**22 06 10.4**	**+0.2**
CDF	63nm,0.2s			*e*Sg	**Sg**	**22 06 16.1**	**0.0**
CDF	**Champ du Feu**	**0.45**	**76**	*e*Pg	**Pg**	**22 06 10.4**	**+0.2**
CDF	32nm,0.2s			*e*Sg	**Sg**	**22 06 16.1**	**0.0**
HINF	**Hinteralfeld**	**0.51**	**163**	*e*P	**Pg**	**22 06 13.4**	**+2.1**
HINF	**Hinteralfeld**	**0.51**	**163**	*e*Pn	**Pg**	**22 06 13.9**	**+2.6**
HINF	54nm,0.1s			*e*Sg	**Sg**	**22 06 19.5**	**+1.3**
HINF				*e*Sn	**Sg**	**22 06 22.2**	**+4.0**
HINF	**Hinteralfeld**	**0.51**	**163**	*e*P	**Pg**	**22 06 13.4**	**+2.1**
HINF	**Hinteralfeld**	**0.51**	**163**	*e*Pn	**Pg**	**22 06 13.9**	**+2.6**
HINF				*e*Sg	**Sg**	**22 06 19.5**	**+1.3**
HINF	27nm,0.1s			*e*Sn	**Sg**	**22 06 22.2**	**+4.0**
HINF	**Hinteralfeld**	**0.51**	**163**	*e*Pg	**Pg**	**22 06 12.6**	**+1.3**
HINF				*e*P		22 06 13.4	
HINF				*e*Pn	**Pg**	**22 06 13.9**	**+2.6**
HINF				*e*Sg	**Sg**	**22 06 19.5**	**+1.3**
HINF				*e*Sn	**Sg**	**22 06 22.2**	**+4.0**
MOF	**Molkenrain**	**0.56**	**143**	*e*Pg	**Pg**	**22 06 13.5**	**+1.1**
FELD	SNR=25 **Feldberg im Sc**	**1.02**	**114**	*e*Pg	**Pg**	**22 06 21.0**	**+0.1**
FELD	SNR=4.6 **Feldberg im Sc**	**1.02**	**114**	Pg	**Pg**	**22 06 21.0**	**+0.1**
FELD	SNR=4.6			Sg	**Sg**	**22 06 34.5**	**+0.3**
FELD	**Feldberg im Sc**	**1.02**	**114**	Pg	**Pg**	**22 06 20.9**	**0.0**
FELD				Sg	**Sg**	**22 06 34.5**	**+0.3**
BBS	**Basel-Blauen**	**1.03**	**144**	*e*Pg	**Pg**	**22 06 22.1**	**+1.0**
BBS	SNR=3.1 **Basel-Blauen**	**1.03**	**144**	Pg	**Pg**	**22 06 22.0**	**+0.9**
BBS				Sg	**Sg**	**22 06 36.0**	**+1.5**
LANF	**Langenberg**	**1.03**	**49**	Pg	**Pg**	**22 06 20.6**	**-0.6**
LANF				Sg	**Sg**	**22 06 34.0**	**-0.7**
LANF	**Langenberg**	**1.03**	**49**	*e*Pg	**Pg**	**22 06 20.6**	**-0.6**
SFTF	SNR=9.3 **Sexfontaines**	**1.07**	**265**	*e*Pg	**Pg**	**22 06 23.3**	**+1.4**
SFTF	baz=82			*e*Sg	**Sg**	**22 06 36.7**	**+0.9**
SFTF	27nm,0.2s **Sexfontaines**	**1.07**	**265**	*e*Pg	**Pg**	**22 06 23.3**	**+1.4**
SFTF	13nm,0.2s			*e*Sg	**Sg**	**22 06 36.7**	**+0.9**
SFTF	**Sexfontaines**	**1.07**	**265**	*e*Pn	**Pn**	**22 06 22.4**	**+0.7**
SFTF				*e*Pg	**Pg**	**22 06 23.3**	**+1.4**
SFTF				*e*Sg	**Sg**	**22 06 36.7**	**+0.9**
MEZF	**Maizieres J'vi**	**1.07**	**281**	*e*Pg	**Pg**	**22 06 22.8**	**+0.9**
MEZF	baz=101 38nm,0.3s			*e*Sg	**Sg**	**22 06 36.9**	**+1.1**
MEZF	**Maizieres J'vi**	**1.07**	**281**	*e*Pg	**Pg**	**22 06 22.8**	**+0.9**
MEZF	19nm,0.3s			*e*Sg	**Sg**	**22 06 36.9**	**+1.1**
MEZF	**Maizieres J'vi**	**1.07**	**281**	*e*Pn	**Pn**	**22 06 21.9**	**+0.1**
MEZF				*e*Pg	**Pg**	**22 06 22.8**	**+0.9**
MEZF				*e*Sg	**Sg**	**22 06 36.9**	**+1.1**
BFO	**Black Forest**	**1.14**	**88**	*e*Pg	**Pg**	**22 06 23.4**	**+0.2**
BFO	SNR=7.8 SNR=13			*e*Sg	**Sg**	**22 06 35.9**	**-2.1**
BFO	**Black Forest**	**1.14**	**88**	*e*Pg	**Pg**	**22 06 23.3**	**+0.1**
BFO				*e*Sg	**Sg**	**22 06 36.0**	**-2.0**
WLF	**Walferdange**	**1.40**	**347**	*e*Pg	**Pg**	**22 06 28.3**	**+0.1**
WLF	SNR=1.8 SNR=5.3			*e*Sg	**Sg**	**22 06 45.5**	**-0.8**
WLF	**Walferdange**	**1.40**	**347**	P	**Pn**	**22 06 28.3**	**+2.1**
WLF				S	**Sn**	**22 06 45.8**	**+1.4**
RUP	**Ruppelstein**	**1.43**	**11**	*e*Pg	**Pg**	**22 06 28.7**	**0.0**
SPAK	SNR=2.3 **Spaichingen-Ko**	**1.46**	**97**	Pg	**Pg**	**22 06 29.5**	**+0.2**
CABF	**La Chapelle**	**1.73**	**192**	*e*Pg	**Pg**	**22 06 35.6**	**+1.1**
CABF				*e*Sg	**Sg**	**22 06 56.3**	**-0.7**
CABF	**La Chapelle**	**1.73**	**192**	*e*Pg	**Pg**	**22 06 35.6**	**+1.1**
CABF	comp=N,7.4nm,0.2s			*e*Sg	**Sg**	**22 06 56.3**	**-0.7**
CABF	**La Chapelle**	**1.73**	**192**	*e*Pn	**Pn**	**22 06 31.7**	**+0.8**
CABF	comp=N,3.7nm,0.2s			*e*Pg	**Pg**	**22 06 35.6**	**+1.1**
CABF				*e*Sg	**Sg**	**22 06 56.3**	**-0.7**
LOR	**Lormes**	**2.14**	**242**	*e*Pn	**Pn**	**22 06 36.7**	**+0.3**
LOR	baz=67 **Lormes**	**2.14**	**242**	*e*Pg	**Pg**	**22 06 42.5**	**+0.3**
LOR	baz=69 comp=N,8.6nm,0.2s			*e*Sg	**Sg**	**22 07 09.1**	**-0.8**
LOR	**Lormes**	**2.14**	**242**	*e*Pg	**Pg**	**22 06 42.5**	**+0.3**
LOR	comp=N,4.3nm,0.2s			*e*Sg	**Sg**	**22 07 09.1**	**-0.8**
LOR	**Lormes**	**2.14**	**242**	*e*Pn	**Pn**	**22 06 36.7**	**+0.3**
LOR				*e*Pg	**Pg**	**22 06 42.5**	**+0.3**
LOR				*e*Sg	**Sg**	**22 07 09.1**	**-0.8**
GIVF	**Givet**	**2.15**	**327**	*e*Pg	**Pg**	**22 06 42.3**	**-0.3**
GIVF	comp=N,6.1nm,0.2s			*e*Sg	**Sg**	**22 07 10.4**	**-0.1**
GIVF	**Givet**	**2.15**	**327**	*e*Pg	**Pg**	**22 06 42.3**	**-0.3**
GIVF	comp=N,3.0nm,0.2s			*e*Sg	**Sg**	**22 07 10.4**	**-0.1**
DOU	**Dourbes**	**2.23**	**324**	P	**Pn**	**22 06 43.5**	**+5.8**
DOU				S	**Sn**	**22 07 13.1**	**+8.0**
TNS	**Taunus Mts**	**2.26**	**31**	*e*Pg	**Pg**	**22 06 40.6**	**-4.0**
TNS				*e*Sg	**Sg**	**22 07 10.8**	**-3.1**
TNS	**Taunus Mts**	**2.26**	**31**	*e*Pg	**Pg**	**22 06 40.6**	**-4.0**
TNS				*e*Sg	**Sg**	**22 07 10.8**	**-3.1**
MEM	**Membach**	**2.34**	**350**	P	**Pn**	**22 06 45.2**	**+5.9**
MEM	**Membach**	**2.34**	**350**	P	**Pn**	**22 06 45.1**	**+5.8**
BAIF	**Baives**	**2.37**	**319**	*e*Pg	**Pg**	**22 06 46.3**	**-0.4**
BAIF				*e*Sg	**Sg**	**22 07 16.7**	**-0.7**
BAIF	**Baives**	**2.37**	**319**	*e*Pg	**Pg**	**22 06 46.3**	**-0.4**
BAIF	comp=N,5.3nm,0.5s			*e*Sg	**Sg**	**22 07 16.7**	**-0.7**
SSF	**Saint Saulge**	**2.45**	**241**	*e*Pg	**Pg**	**22 06 48.7**	**+0.5**
SSF	comp=N,2.7nm,0.5s			*e*Sg	**Sg**	**22 07 20.4**	**+0.5**
SSF	**Saint Saulge**	**2.45**	**241**	*e*Pg	**Pg**	**22 06 48.7**	**+0.5**
SSF	comp=N,4.3nm,0.2s			*e*Sg	**Sg**	**22 07 20.4**	**+0.5**
SSF	**Saint Saulge**	**2.45**	**241**	*e*Pg	**Pg**	**22 06 48.7**	**+0.5**
SSF	comp=N,2.2nm,0.2s			*e*Sg	**Sg**	**22 07 20.4**	**+0.5**
SSF	**Saint Saulge**	**2.45**	**241**	*e*Pn	**Pn**	**22 06 40.9**	**+0.2**
SSF				*e*Pg	**Pg**	**22 06 48.7**	**+0.5**
SSF				*e*Sg	**Sg**	**22 07 20.4**	**+0.5**
SMF	**Signal de Mont**	**2.52**	**230**	*e*Pg	**Pg**	**22 06 50.1**	**+0.6**
SMF	comp=N,3.9nm,0.2s			*e*Sg	**Sg**	**22 07 21.4**	**-0.7**
SMF	**Signal de Mont**	**2.52**	**230**	*e*Pg	**Pg**	**22 06 50.1**	**+0.6**
SMF	comp=N,2.0nm,0.2s			*e*Sg	**Sg**	**22 07 21.4**	**-0.7**
SMF	**Signal de Mont**	**2.52**	**230**	*e*Pn	**Pn**	**22 06 41.2**	**-0.4**
SMF				*e*Pg	**Pg**	**22 06 50.1**	**+0.6**
SMF				*e*Sg	**Sg**	**22 07 21.4**	**-0.7**
AVF	**Avril sur Loir**	**2.69**	**237**	*e*Pg	**Pg**	**22 06 52.2**	**-0.5**
AVF				*e*Sg	**Sg**	**22 07 26.8**	**-0.7**
AVF	**Avril sur Loir**	**2.69**	**237**	*e*Pg	**Pg**	**22 06 52.2**	**-0.5**
AVF	comp=N,2.3nm,0.2s	

ORIF			*e*Pg	**Pg**	**22 07 06.0 -0.9**
ORIF			*e*Sg	**Sg**	**22 07 49.7 -1.6**
TCF	**Toulx Ste Croi**	**3.62 238**	*e*Pg	**Pg**	**22 07 09.9 -0.7**
TCF			*e*Sg	**Sg**	**22 07 56.5 -1.0**
comp=N,1.5nm,0.2s					
TCF	**Toulx Ste Croi**	**3.62 238**	*e*Pg	**Pg**	**22 07 09.9 -0.7**
TCF			*e*Sg	**Sg**	**22 07 56.5 -1.0**
comp=N,0.8nm,0.2s					
TCF	**Toulx Ste Croi**	**3.62 238**	*e*Pn	**Pn**	**22 06 56.5 -0.3**
TCF			*e*Pg	**Pg**	**22 07 09.9 -0.7**
TCF			*e*Sg	**Sg**	**22 07 56.5 -1.0**
VIVF	**Saint-Julien-l**	**3.70 202**	*e*Pg	**Pg**	**22 07 12.0 -0.2**
VIVF			*e*Sg	**Sg**	**22 07 57.7 -2.4**
comp=N,2.9nm,0.2s					
VIVF	**Saint-Julien-l**	**3.70 202**	*e*Pg	**Pg**	**22 07 12.0 -0.2**
VIVF			*e*Sg	**Sg**	**22 07 57.7 -2.4**
comp=N,1.5nm,0.2s					
VIVF	**Saint-Julien-l**	**3.70 202**	*e*Pn	**Pn**	**22 06 58.2 +0.2**
VIVF			*e*Pg	**Pg**	**22 07 12.0 -0.2**
VIVF			*e*Sg	**Sg**	**22 07 57.7 -2.4**
LDF	**La Druitiere**	**4.50 276**	*e*Sg	**Sg**	**22 08 26.0 +0.3**
comp=N,1.8nm,0.2s					
LDF	**La Druitiere**	**4.50 276**	*e*Sg	**Sg**	**22 08 26.0 +0.3**
comp=N,0.9nm,0.2s					
CAF	**Calviac**	**4.62 225**	*e*Pg	**Pg**	**22 07 29.0 -0.6**
CAF			*e*Sg	**Sg**	**22 08 28.4 -1.0**
comp=N,0.7nm,0.2s					
CAF	**Calviac**	**4.62 225**	*e*Pg	**Pg**	**22 07 29.0 -0.6**
CAF			*e*Sg	**Sg**	**22 08 28.4 -1.0**
comp=N,0.3nm,0.2s					
LASF	**Ste Croix**	**4.65 205**	*e*Sg	**Sg**	**22 08 30.0 -0.4**
comp=N,0.8nm,0.2s					
LASF	**Ste Croix**	**4.65 205**	*e*Sg	**Sg**	**22 08 30.0 -0.4**
comp=N,0.4nm,0.2s					
GEC2	**GERESS Array S**	**4.73 81**	*e*Sn	**Sn**	**22 08 05.4 -1.1**
SNR=3.0					
MFF	**Saint Martin d**	**4.90 252**	*e*Sg	**Sg**	**22 08 35.5 -3.0**
comp=N,1.2nm,0.3s					
MFF	**Saint Martin d**	**4.90 252**	*e*Sg	**Sg**	**22 08 35.5 -3.0**
comp=N,0.6nm,0.3s					

NIED ***09*** *22:16:00, 44.00N×148.10E, h53km, Mw3.6 Best double couple: M0=2.61000×10^14 NP1:φ=155.00000°, δ=83.00000°, λ=-58.00000°. NP2:φ=256.00000°, δ=33.00000°, λ=-168.00000°.*

JMA 09 22:16:53.2±0.2, 4399N×14814E, h7km, M4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.85**	**251**	P	Pn	22 17 25.8	+0.5
NEM2				*e*S	Sn	22 17 49.3	+0.4
JRA	**Rausu**	**2.18**	**270**	P	Pn	22 17 30.5	+0.7
JNK	**Nakash**	**2.51**	**262**	P	Pn	22 17 35.1	+0.7
JNK				*e*S	Sn	22 18 05.8	+0.6
JAK	**Akkeshi**	**2.70**	**250**	P	Pn	22 17 37.9	+1.0
JAK				*e*S	Sn	22 18 10.7	+0.9
JAR	**Ashorobuto**	**3.25**	**259**	P	Pn	22 17 46.2	+1.7
JCH	**Churui**	**3.75**	**250**	P	Pn	22 17 52.9	+1.5
JNBK	**Urakawa-nobuka**	**4.30**	**248**	P	Pn	22 18 00.6	+1.7
JKB	**Kayabe**	**5.62**	**251**	P	Pn	22 18 18.9	+1.7
JKB				*e*S	Sn	22 19 23.1	+1.1
JANG	**Nango**	**6.11**	**236**	P	Pn	22 18 25.1	+1.3

ISCJB ***09*** *22:20:24.3±1.9, 72S×01×15590E±007, h60km±18km, mb4.3/14, MS3.4/3, Error ellipse: s-maj=18.3km s-min=11.3km az=0.3*
IDC ***09*** *22:20:24.7±0.7, 7.18S×15589E, h48km±6km, mb4.0/8, mb1 4.1/9, mb1mx4.0/17, mbtmp4.1/9, MS3.5/5, Ms1 3.5/5, ms1mx3.1/29, Error ellipse: s-maj=21.2km s-min=12.4km az=39.0*
NEIC ***09*** *22:20:25.9±1.2, 722S×15596E, h64km±10km, mb4.4/7, Error ellipse: s-maj=11.6km s-min=9.1km az=175.0*

ISC 09 22:20:26.2±1.5, 72S±01×15590E±007, h63km±15km, h48km±1.2km: pP-P, n30, σ0=73/24, mb4.3/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.58**	**119**	P	**Pn**	**22 21 31.8**	**-1.2**
20nm,0.3s,baz=265,slow=3.5,SNR=9.3							
HNR				S	**Sn**	**22 22 25.9**	**+1.0**
44nm,0.3s,baz=102,slow=18,SNR=5.6							
HNR				LR	LR	22 23 12.7	
comp=Z,532nm,21.1s,baz=181,slow=36							
PMG	**Port Moresby**	**8.92**	**255**	Pn	**Pn**	**22 22 32.6**	**+0.1**
57nm,0.7s							
CTA	**Charters Tower**	**15.86**	**215**	LR	LR	22 29 22.4	
comp=Z,162nm,20.4s,baz=36,slow=34							
GUMO	**Guam**	**23.38**	**332**	LR	LR	22 34 04.4	
comp=Z,71nm,18.2s,baz=233,slow=35							
KAKA	**Kakadu**	**23.73**	**255**	*e*P	**P**	**22 25 32.0**	**-0.9**
7.5nm,0.6s,mb4.3							
WRAB	**Tennant Creek**	**24.43**	**237**	*e*P	**P**	**22 25 39.7**	**+0.5**
11nm,0.7s,mb4.4							
WB2	**Warramunga Arr**	**24.43**	**237**	*e*P	**P**	**22 25 39.4**	**+0.2**
WRA	**Warramunga Arr**	**24.44**	**237**	P	**P**	**22 25 39.9**	**+0.7**
8.3nm,0.7s,mb4.3,baz=60,slow=9.4,SNR=82							
WRA				PcP	PcP	22 29 16.6	-0.4
0.3nm,0.3s,baz=60,slow=2.9,SNR=6.6							
ASAR	**Alice Springs**	**26.71**	**230**	P	**P**	**22 25 59.6**	**-0.2**
0.9nm,0.5s,mb3.5,baz=62,slow=10,SNR=13							
ASAR				PcP	PcP	22 29 22.1	-0.1
0.5nm,0.4s,baz=66,slow=3.3,SNR=5.9							
STKA	**Stephens Creek**	**27.93**	**207**	*e*P	**P**	**22 26 10.3**	**-0.4**
8.9nm,1.2s,mb4.3							
STKA	**Stephens Creek**	**27.93**	**207**	P	**P**	**22 26 10.7**	**0.0**
3.6nm,0.9s,mb4.0,baz=57,slow=13,SNR=5.8							
STKA				LR	LR	22 36 44.0	
comp=Z,240nm,21.0s,baz=27,slow=35							
FITZ	**Fitzroy Crossi**	**31.39**	**247**	*e*P	**P**	**22 26 41.8**	**+0.3**
11nm,0.6s,mb4.9							
FITZ	**Fitzroy Crossi**	**31.39**	**247**	*e*P	**P**	**22 26 42.2**	**+0.8**
11nm,0.6s,mb4.9							
FITZ				*e*	pP	22 26 55.6	-1.2
MBWA	**Marble Bar**	**37.59**	**245**	*e*P	**P**	**22 27 34.4**	**-0.6**
KSRS	**Korea Array**	**51.54**	**332**	LR	LR	22 46 42.2	
comp=Z,24nm,21.0s,baz=145,slow=31							
CMAR	**Chiang Mai Arr**	**61.68**	**295**	P	**P**	**22 30 40.0**	**+1.7**
0.9nm,0.3s,mb4.3,baz=133,slow=6.6,SNR=4.1							
CMAR				pP	pP	22 30 53.0	-1.9
3.6nm,0.9s,baz=126,slow=5.5,SNR=3.2							
CHTO	**Chiang Mai**	**61.80**	**296**	P	**P**	**22 30 38.0**	**-1.0**
CASY	**Casey**	**66.67**	**198**	*e*P	**P**	**22 31 09.6**	**-0.5**
2.4nm,0.6s,mb4.4							
SONM	**Songino Array**	**70.00**	**327**	P	**P**	**22 31 32.3**	**+1.2**
1.1nm,0.5s,mb4.0,baz=142,slow=6.8,SNR=10							
SONM				pP	pP	22 31 45.2	-3.0
1.3nm,0.4s,baz=142,slow=6.4,SNR=7.1							
VNDA	**Vanda**	**70.35**	**179**	P	**P**	**22 31 32.8**	**-0.1**
1.5nm,0.8s,mb4.0,baz=338,slow=6.0,SNR=10							
MK31	**Makanchi Array**	**84.15**	**319**	*e*P	**P**	**22 32 51.0**	**+0.4**
MKAR	**Makanchi Array**	**84.15**	**319**	P	**P**	**22 32 50.9**	**+0.3**
2.1nm,0.4s,mb4.6,baz=90,slow=8.3,SNR=34							
MKAR				pP	pP	22 33 04.2	-3.9
3.1nm,0.6s,baz=105,slow=5.8,SNR=11							
ZALV	**Zalesovo Beam**	**84.85**	**326**	P	**P**	**22 32 53.0**	**-0.9**
1.4nm,0.4s,mb4.5,baz=116,slow=6.8,SNR=7.9							
ZALV				pP	pP	22 33 06.8	-4.6
1.6nm,0.6s,baz=113,slow=5.0,SNR=5.0							
KURK	**Kurchatov**	**87.55**	**322**	*e*P	**P**	**22 33 06.6**	**-0.7**
1.1nm,0.4s,mb4.4							
TKM2	**Tokmak 2**	**87.81**	**314**	*e*P	**P**	**22 33 08.6**	**-0.2**
2.5nm,0.8s,mb4.5							
EKS2	**Erkin-Say**	**89.07**	**313**	P	**P**	**22 33 14.5**	**-0.2**
KIV	**Kislovodsk**	**111.63**	**314**	PKiKP	PKiKP	22 38 53.6	-0.3
GERES	**GERESS Array B**	**127.69**	**329**	PKP	PKPdf	22 39 24.6	+0.1
0.4nm,0.5s,baz=64,slow=3.1,SNR=5.0							
BDFB	**Brasilia**	**147.19**	**134**	PKPbc	PKPbc	22 40 02.6	-0.8
2.3nm,0.6s,baz=164,slow=7.4,SNR=7.1							
TORD	**Torodi Ar. Bea**	**153.94**	**285**	PKPbc	PKPbc	22 40 18.2	-1.5
0.8nm,0.7s,baz=83,slow=2.1,SNR=9.0							

IDC 09 22:25:25.0±76.0, 1895S×16659E, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.8/14, mbtmp4.2/3, Error ellipse: s-maj=1270.0km s-min=108.8km az=73.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**25.92**	**235**	P	P	22 30 59.3	+0.4
1.9nm,0.6s,baz=78,slow=12,SNR=5.3							
WRA	**Warramunga Arr**	**30.41**	**263**	P	P	22 31 38.7	-0.5
0.3nm,0.5s,baz=93,slow=8.9,SNR=8.2							
ASAR	**Alice Springs**	**30.77**	**255**	P	P	22 31 42.7	+0.3
5.1nm,0.6s,baz=87,slow=9.4,SNR=54							

ISCJB ***09*** *22:50:09.2±0.3, 5821N±003×14307W±005, h10km, mb3.6/7, MS3.3/8, Error ellipse: s-maj=5.1km s-min=2.9km az=26.3*
PGC ***09*** *22:50:13.8±10.0, 58.19N×14282W, h10km, ML3.9/3, 227km Wsw of Yakutat, Ak Gulf Of Alaska*
IDC ***09*** *22:50:13.9±0.9, 5869N×14259W, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/23, mbtmp3.8/9, ML3.9/1, MS3.3/10, Ms1 3.3/10, ms1mx3.1/34, Error ellipse: s-maj=28.2km s-min=11.7km az=21.0*
NEIC ***09*** *22:50:15.3±0.5, 5833N×14308W, h35km, ML3.8(AEIC), Error ellipse: s-maj=7.6km s-min=4.6km az=192.0*

ISC 09 22:50:11.6±0.3, 5824N±003×14305W±005, h10km, n77, σ1=21/101, mb3.6/7, MS3.3/8, 8D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**2.09**	**306**	P	**Pn**	**22 50 45.8**	**-0.8**
YKU2	**Yakutat**	**2.17**	**52**	P	**Pn**	**22 50 48.1**	**+0.4**
RAGM	**Ragged Mountai**	**2.31**	**340**	P	**Pn**	**22 50 49.6**	**-0.1**
RAGM				*e*S	**Sn**	**22 51 22.4**	**+4.2**
DHAK	**Deception Hill**	**2.67**	**69**	P	**Pn**	**22 50 54.2**	**-0.3**
DHAK				*e*Sn	**Sn**	**22 51 22.7**	**-4.2**
EYAK	**Cordova Ski Ar**	**2.70**	**330**	P	**Pn**	**22 50 54.7**	**-0.3**
EYAK				*e*Sn	**Sn**	**22 51 31.8**	**+4.1**
BMRM	**Bremner River**	**2.85**	**345**	P	**Pn**	**22 50 56.8**	**-0.4**
DIV	**Divide**	**3.22**	**336**	P	**Pn**	**22 51 01.6**	**-0.5**
PLBC	**Pleasant Camp**	**3.68**	**68**	⇓Pn	**Pn**	**22 51 08.6**	**+0.1**
PLBC				⇓Sn	**Sn**	**22 51 49.4**	**-2.4**
SEW	**Seward**	**3.79**	**302**	P	**Pn**	**22 51 09.1**	**-0.9**
SEW				*e*Sn	**Sn**	**22 51 50.6**	**-4.0**
HYT	**Haines Junctio**	**3.84**	**45**	⇑Pn	**Pn**	**22 51 11.5**	**+0.9**
HYT	**Haines Junctio**	**3.84**	**45**	*e*Pn	**Pn**	**22 51 11.1**	**+0.5**
HYT				Sn	**Sn**	**22 52 00.8**	**+5.2**
SKAG	**Skagway**	**4.19**	**70**	*e*P	**Pn**	**22 51 15.9**	**+0.4**
SKAG				*e*Sn	**Sn**	**22 52 04.1**	**-0.4**
SIT	**Sitka**	**4.31**	**103**	*e*P	**Pn**	**22 51 16.9**	**-0.3**
HARP	**HAARP**	**4.32**	**347**	P	**Pn**	**22 51 18.0**	**+0.8**
SLKM	**Skilak Lake**	**4.32**	**305**	P	**Pn**	**22 51 17.2**	**-0.1**
SLKM				*e*Sn	**Sn**	**22 52 04.3**	**-3.3**
RC01	**Rabbit Creek A**	**4.44**	**313**	P	**Pn**	**22 51 18.0**	**-0.8**
PMR	**Palmer**	**4.55**	**320**	P	**Pn**	**22 51 20.0**	**-0.4**
PMR				*e*Sn	**Sn**	**22 52 17.6**	**+4.3**
GHO	**Glory Hole Cre**	**4.61**	**323**	P	**Pn**	**22 51 21.3**	**0.0**
FIB	**Fire Island**	**4.66**	**312**	*e*Pn	**Pn**	**22 51 23.6**	**+1.7**
FIB				Sn	**Sn**	**22 52 13.6**	**-2.3**
MENT	**Mentasta**	**4.73**	**356**	*e*P	**Pn**	**22 51 24.7**	**+1.8**
WHY	**Whitehorse**	**4.82**	**56**	⇓Pn	**Pn**	**22 51 25.0**	**+0.8**
WHY	**Whitehorse**	**4.82**	**56**	P	**Pn**	**22 51 24.9**	**+0.8**
BCA3	**Beaver Creek A**	**4.89**	**7**	P	**Pn**	**22 51 25.6**	**+0.6**
KDAK	**Kodiak Island**	**5.09**	**269**	Pn	**Pn**	**22 51 29.5**	**+1.7**
9.0nm,0.3s,baz=83,slow=6.7,SNR=149							
KDAK				Sn	**Sn**	**22 52 23.9**	**-2.7**
2.4nm,0.3s,baz=90,slow=24,SNR=5.7							
KDAK	**Kodiak Island**	**5.09**	**269**	P	**Pn**	**22 51 28.2**	**+0.3**
KDAK				*e*Sn	**Sn**	**22 52 23.9**	**-2.7**
OHAK	**Old Harbor**	**5.58**	**264**	P	**Pn**	**22 51 33.9**	**-0.7**
WRAK	**Wrangell Islan**	**6.08**	**103**	*e*Pn	**Pn**	**22 51 41.5**	**+0.1**
41nm,0.3s							
WRAK				*e*Sn	**Sn**	**22 52 56.9**	**+6.1**
CRAG	**Craig**	**6.11**	**113**	*e*P	**Pn**	**22 51 41.3**	**-0.5**
CRAG				*e*Sn	**Sn**	**22 52 42.8**	**-8.8**
DAWY	**Dawson**	**6.11**	**15**	⇑Pn	**Pn**	**22 51 43.1**	**+1.3**
DAWY	**Dawson**	**6.11**	**15**	*e*Pn	**Pn**	**22 51 43.3**	**+1.5**
DAWY				*e*Sn	**Sn**	**22 52 50.0**	**-1.7**
MCK	**McKinley**	**6.21**	**335**	P	**Pn**	**22 51 43.8**	**+0.6**
MCK				*e*Sn	**Sn**	**22 52 52.7**	**-1.5**
TRF	**Thorofare Moun**	**6.32**	**329**	P	**Pn**	**22 51 45.0**	**+0.4**
PPLA	**Purkeypile**	**6.49**	**320**	P	**Pn**	**22 51 48.1**	**+1.1**
PPLA				*e*Sn	**Sn**	**22 52 56.7**	**-4.3**
KTH	**Kantishna Hill**	**6.57**	**328**	P	**Pn**	**22 51 48.4**	**+0.2**
EGAK	**Eagle**	**6.63**	**7**	*e*Pn	**Pn**	**22 51 50.5**	**+1.6**
17nm,0.7s							
EGAK				*e*Sn	**Sn**	**22 53 06.8**	**+2.4**
ILB	**Eielson Array**	**6.81**	**346**	P	**Pn**	**22 51 51.0**	**-0.4**
IL1	**Eielson Array**	**6.81**	**346**	P	**Pn**	**22 51 51.0**	**-0.5**
DLBC	**Dease Lake**	**6.86**	**83**	Pn	**Pn**	**22 51 52.2**	**+0.1**
DLBC				Sn	**Sn**	**22 53 07.0**	**-3.1**
DLBC	**Dease Lake**	**6.86**	**83**	⇑Pn	**Pn**	**22 51 52.5**	**+0.4**
DLBC				⇓Sn	**Sn**	**22 53 03.8**	**-6.4**
SVW2	**Sparrevohn**	**6.97**	**300**	P	**Pn**	**22 51 53.1**	**-0.5**
SVW2				*e*Sn	**Sn**	**22 53 09.3**	**-3.4**
BPAW	**Bear Paw Mtn.**	**7.02**	**330**	P	**Pn**	**22 51 54.0**	**-0.3**
COLA	**College**	**7.04**	**343**	*e*Pn	**Pn**	**22 51 53.9**	**-0.7**
10nm,0.5s							
NDB	**Naden**	**7.09**	**123**	⇓Pn	**Pn**	**22 51 54.0**	**-1.3**
NDB				⇓Sn	**Sn**	**22 53 09.2**	**-6.6**
CHUM	**Lake Minchumin**	**7.23**	**325**	*e*Pn	**Pn**	**22 51 56.7**	**-0.4**
46nm,0.4s							
CHUM				*e*Sn	**Sn**	**22 53 15.7**	**-3.5**
VIB	**Van Inlet**	**7.75**	**126**	Pn	**Pn**	**22 52 04.5**	**+0.2**
SNR=869							
VIB				Sn	**Sn**	**22 53 24.5**	**-7.4**
SNR=27							
VIB	**Van Inlet**	**7.75**	**126**	⇑Pn	**Pn**	**22 52 03.1**	**-1.2**
VIB				⇑Sn	**Sn**	**22 53 24.2**	**-7.7**
DIB	**Dawson Inlet,**	**7.81**	**126**	Pn	**Pn**	**22 52 02.9**	**-2.3**
DIB				Sn	**Sn**	**22 53 27.9**	**-5.6**
DIB	**Dawson Inlet,**	**7.81**	**126**	⇑Pn	**Pn**	**22 52 04.4**	**-0.7**
DIB				⇑Sn	**Sn**	**22 53 24.6**	**-8.9**
TT01	**Tatalina**	**7.92**	**312**	P	**Pn**	**22 52 05.9**	**-0.7**
TTA	**Tatalina**	**7.92**	**312**	*e*P	**Pn**	**22 52 06.7**	**0.0**
MOBC	**Moresby Island**	**8.07**	**124**	⇑Pn	**Pn**	**22 52 08.2**	**-0.5**
MOBC				⇑Sn	**Sn**	**22 53 33.0**	**-6.8**
RUBB	**Prince Rupert**	**8.12**	**113**	⇑Pn	**Pn**	**22 52 09.7**	**+0.3**
BNAB	**Bonilla**	**8.44**	**119**	⇓Pn	**Pn**	**22 52 14.1**	**+0.4**
CHGN	**Chignik**	**8.55**	**263**	*e*P	**Pn**	**22 52 17.0**	**+1.7**
BNB	**Barry Inlet**	**8.56**	**127**	⇓Pn	**Pn**	**22 52 14.9**	**-0.6**
IM3	**Indian Mountai**	**9.24**	**332**	P	**Pn**	**22 52 24.1**	**-0.5**
BM3	**Burnt Mountain**	**9.25**	**356**	P	**Pn**	**22 52 23.3**	**-1.5**
IMA2	**Indian Mountai**	**9.29**	**332**	P	**Pn**	**22 52 24.8**	**-0.5**
IMA2				*e*Sn	**Sn**	**22 54 11.7**	**+1.9**
COLD	**Coldfoot**	**9.60**	**343**	*e*Pn	**Pn**	**22 52 28.9**	**-0.7**
6.9nm,0.8s							
SDPT	**Sand Point**	**9.99**	**261**	*e*P	**Pn**	**22 52 37.2**	**+2.3**
42nm,0.9s							
BBB	**Bella Bella**	**10.45**	**119**	Pn	**Pn**	**22 52 44.2**	**+2.8**
0.6nm,0.3s,baz=312,slow=16,SNR=9.3							
BBB				LR	LR	22 56 05.0	
comp=Z,185nm,20.2s,baz=253,slow=34							
BBB	**Bella Bella**	**10.45**	**119**	Pn	**Pn**	**22 52 44.2**	**+2.8**
BBB				LR	LR	22 56 05.0	
INK	**Inuvik**	**10.96**	**19**	LR	LR	22 57 25.3	
comp=Z,110nm,20.8s,baz=173,slow=41							
YKA	**Yellowknife Ar**	**14.63**	**61**	Pn	**Pn**	**22 53 38.3**	**0.0**
0.1nm,0.3s,baz=258,slow=11,SNR=2.6							
YKA	**Yellowknife Ar**	**14.63**	**61**	Pn	**Pn**	**22 53 38.3**	**0.0**
YBH	**Yreka Blue Hor**	**20.93**	**133**	P	**P**	**22 55 00.4**	**+6.2**
4.1nm,0.8s,baz=6.1,slow=5.0,SNR=6.5							
YBH				LR	LR	23 01 10.9	
comp=Z,173nm,20.5s,MS3.4,baz=6.3,slow=31							
ELK	**Elko**	**24.87**	**123**	P	**P**	**22 55 39.3**	**+5.2**
1.8nm,0.9s,mb3.6,baz=301,slow=6.1,SNR=4.3							
ELK				LR	LR	23 04 45.7	
comp=Z,60nm,18.1s,MS3.1,baz=314,slow=35							
NVAR	**Mina Array Bea**	**25.50**	**130**	P	**P**	**22 55 45.2**	**+5.5**
0.6nm,0.6s,mb3.3,baz=319,slow=7.6,SNR=5.2							
PDAR	**Pinedale Array**	**25.97**	**112**	P	**P**	**22 55 47.8**	**+3.8**
0.2nm,0.5s,mb3.0,baz=347,slow=7.4,SNR=2.9							
PFO	**Pinyon Flat Ob**	**30.42**	**132**	LR	LR	23 07 23.6	
comp=Z,61nm,18.2s,MS3.3,baz=134,slow=34							
PETK	**Petropavlovsk-**	**32.85**	**287**	P	**P**	**22 56 48.2**	**+3.2**
1.7nm,0.8s,mb4.0,baz=68,slow=12,SNR=3.5							
ANMO	**Albuquerque**	**33.60**	**118**	LR	LR	23 12 09.7	
comp=Z,36nm,18.5s,MS3.1,baz=150,slow=39							
SCHQ	**Schefferville**	**40.08**	**61**	LR	LR	23 15 56.9	
comp=Z,33nm,19.8s,MS3.2,baz=315,slow=39							
NOA	**NORSAR Array B**	**59.38**	**14**	LR	LR	23 26 28.9	
comp=Z,20nm,21.9s,MS3.2,baz=200,slow=37							
SONM	**Songino Array**	**59.87**	**313**	P	**P**	**23 00 20.4**	**+3.4**
0.8nm,0.6s,mb3.9,baz=43,slow=5.5,SNR=6.6							
SONM				LR	LR	23 27 56.5	
comp=Z,46nm,20.9s,MS3.6,baz=12,slow=38							
ZALV	**Zalesovo Beam**	**61.66**	**330**	P	**P**	**23 00 31.5**	**+2.5**
1.3nm,0.8s,mb4.1,baz=26,slow=7.0,SNR=3.3							
ZALV				LR	LR	23 29 02.6	
comp=Z,24nm,21.1s,MS3.3,baz=50,slow=38							
MKAR	**Makanchi Array**	**68.83**	**328**	P	**P**	**23 01 17.9**	**+2.3**
0.8nm,0.9s,mb3.6,baz=8.9,slow=8.6,SNR=3.9							

IDC 09 22:50:24.4±8.8, 2192N×14275E, h226km±86km, mb3.0/7, mb1 3.2/7, mb1mx3.1/20, mbtmp3.0/7, Error ellipse: s-maj=52.2km s-min=16.6km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.09**	**324**	P	P	22 54 41.1	+0.3
1.6nm,0.7s,baz=134,slow=11,SNR=4.7							
SONM	**Songino Array**	**38.91**	**321**	P	P	22 57 27.4	-0.6
0.8nm,0.7s,baz=119,slow=5.6,SNR=5.0							
WRA	**Warramunga Arr**	**42.41**	**192**	P	P	22 57 57.7	+0.8
0.4nm,0.5s,baz=20,slow=9.2,SNR=5.4							
ASAR	**Alice Springs**	**46.12**	**191**	P	P	22 58 25.4	-0.8
0.5nm,0.6s,baz=23,slow=9.9,SNR=6.4							
ZALV	**Zalesovo Beam**	**53.78**	**322**	P	P	22 59 24.1	+0.6
0.4nm,0.4s,baz=103,slow=6.4,SNR=4.3							
MKAR	**Makanchi Array**	**54.25**	**313**	P	P	22 59 26.9	0.0
0.6nm,0.9s,baz=91,slow=9.7,SNR=4.0							
NVAR	**Mina Array Bea**	**83.32**	**51**	P	P	23 02 26.4	+0.3
0.5nm,0.8s,baz=297,slow=8.0,SNR=3.8							

IDC 09 22:50:26.8±9.4, 2527S×18000W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.1/16, mbtmp4.3/5, Error ellipse: s-maj=244.8km s-min=26.4km az=39.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.51**	**272**	*e*P	P	22 56 52.5	+1.8
5.4nm,0.4s							
CTA	**Charters Tower**	**31.51**	**272**	P	P	22 56 52.7	+2.0
6.3nm,0.4s,baz=96,slow=9.6,SNR=10							
ASAR	**Alice Springs**	**41.83**	**262**	P	P	22 58 18.6	0.0
1.5nm,0.7s,baz=100,slow=7.8,SNR=13							
WB2	**Warramunga Arr**	**42.33**	**268**	*e*P	P	22 58 20.5	-2.2
WRA	**Warramunga Arr**	**42.34**	**268**	P	P	22 58 21.2	-1.6
3.6nm,0.6s,baz=101,slow=8.5,SNR=40							
FITZ	**Fitzroy Crossi**	**50.74**	**267**	*e*P	P	22 59 25.5	-3.3
3.6nm,0.7s							
VNDA	**Vanda**	**53.02**	**185**	P	P	22 59 43.1	-1.8
0.5nm,0.3s,baz=3.6,slow=9.5,SNR=14							
QSPA	**South Pole Qui**	**64.82**	**180**	P	P	23 01 08.6	+1.8
2.5nm,0.7s,baz=16,slow=2.9,SNR=18							

ISCJB ***09*** *23:05:32.5±0.5, 4095N±003×3076E±003, h6km±5km, Error ellipse: s-maj=5.4km s-min=4.4km az=8.7*
CSEM ***09*** *23:05:32.3±0.1, 4094N×3076E, h8km, MD2.5, Error ellipse: s-maj=1.9km s-min=1.2km az=22.0*
DDA ***09*** *23:05:32.8, 4094N×3077E, h7km±1km, Md2.5*
ISK ***09*** *23:05:32.1, 4094N×3075E, h5km, MD3.0*
NEIC ***09*** *23:05:32.4, 4094N×3075E, h7km, MD2.8(ISK), After ISK.*

ISC 09 23:05:33.0±0.5, 4094N±003×3077E±004, h10km±4km, n33, σ0=75/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.15**	**141**	*i* P	**Pg**	**23 05 36.5**	**+0.1**
HENT				*i* S	**Sg**	**23 05 39.0**	**+0.2**
MDU	**Mudurnu**	**0.58**	**145**	*e*PG	**Pg**	**23 05 44.2**	**-0.2**
MDU				*e*SG	**Sg**	**23 05 52.3**	**+0.3**
MDU	**Mudurnu**	**0.58**	**145**	Pg	**Pg**	**23 05 44.1**	**-0.2**
MDU				*e*Sg	**Sg**	**23 05 52.3**	**+0.3**
MDU	**Mudurnu**	**0.58**	**145**	Pg	**Pg**	**23 05 44.1**	**-0.2**
MDU				Sg	**Sg**	**23 05 53.1**	**+1.1**
KDZE	**Karadeniz Ereo**	**0.63**	**54**	*e*PG	**Pg**	**23 05 44.8**	**-0.4**
KDZE				*e*SG	**Sg**	**23 05 53.4**

0.5nm,0.1s,SNR=7.9
EOSO Osorio 5.36 203 S Sn 23 16 23.0 -8.6
0.5nm,0.1s,SNR=7.9
PFVI Vila Bisbo 5.42 40 *e*Pn Pn 23 15 24.0 -6.6
PFVI *e*Sn Sn 23 16 20.4 -13
PFVI A 23 16 25.1
3.1nm,0.2s
PFVI Vila Bisbo 5.42 40 P Pn 23 15 24.0 -6.6
PFVI S Sn 23 16 20.4 -13
1.6nm,0.2s
PFVI Vila Bisbo 5.42 40 *e*P Pn 23 15 24.0 -6.6
PFVI *e*S Sn 23 16 18.5 -15
CCAN Las Canadas 5.64 212 S Sn 23 16 27.6 -11
0.3nm,0.2s,SNR=7.9
CHIO Chio 5.72 214 S Sn 23 16 28.9 -11
4.5nm,0.1s,SNR=7.9
TZC Tazercounte 5.73 97 P Pn 23 15 36.0 +1.1
TZC S Sn 23 16 36.5 -4.2
EGOM La Gomera 5.98 216 P Pn 23 15 32.3 -5.9
0.3nm,0.1s,SNR=7.9
EGOM S Sn 23 16 35.0 -12
1.2nm,0.1s,SNR=7.9
EGOM La Gomera 5.98 216 P Pn 23 15 32.3 -5.9
0.3nm,0.1s,SNR=7.9
EGOM S Sn 23 16 35.0 -12
1.2nm,0.1s,SNR=7.9
PBDV Barranco-do-Ve 6.01 44 *e*Pn Pn 23 15 32.5 -6.1
PBDV *e*Sn Sn 23 16 35.0 -12
KIB El Ksiba 6.05 93 P Pn 23 15 38.0 -1.2
KIB S Sn 23 16 41.5 -7.0
KIB El Ksiba 6.05 93 *e*P Pn 23 15 38.0 -1.2
PVAQ Vaqueiros 6.24 44 *e*Pn Pn 23 15 35.5 -6.3
PVAQ *e*Sn Sn 23 16 40.5 -13
PVAQ A 23 16 42.6
3.9nm,0.1s
PVAQ Vaqueiros 6.24 44 *e*Pn Pn 23 15 35.5 -6.3
PVAQ *e*Sn Sn 23 16 40.5 -13
3.9nm,0.1s
EGRO El Granado 6.47 45 P Pn 23 15 39.1 -5.9
1.5nm,0.1s,SNR=13
EGRO S Sn 23 16 45.7 -13
1.4nm,0.1s,SNR=7.9
EGRO El Granado 6.47 45 P Pn 23 15 39.1 -5.8
1.5nm,0.1s,SNR=13
EGRO S Sn 23 16 45.7 -13
1.4nm,0.1s,SNR=7.9
PBEJ Beja 6.60 40 *e*Pn Pn 23 15 40.1 -6.6
PBEJ *e*Sn Sn 23 16 48.3 -14
PBEJ A 23 16 51.8
1.2nm,0.3s
PBEJ Beja 6.60 40 P Pn 23 15 40.1 -6.6
PBEJ S Sn 23 16 48.3 -14
0.6nm,0.3s
PBEJ Beja 6.60 40 *e*P Pn 23 15 40.1 -6.6
MIF Mishlifen 6.69 85 P Pn 23 15 48.0 0.0
MIF S Sn 23 16 58.0 -6.2
MIF Mishlifen 6.69 85 *i*P Pn 23 15 48.0 0.0
PMAFR Mafra 6.69 27 *e*Pn Pn 23 15 40.1 -7.9
PMAFR *e*Sn Sn 23 16 47.7 -17
PMAFR A 23 16 52.0
8.9nm,0.3s
PMAFR Mafra 6.69 27 P Pn 23 15 40.1 -7.9
PMAFR S Sn 23 16 47.7 -17
4.4nm,0.3s
MOE Montemor 6.73 34 *e*Pn Pn 23 15 43.0 -5.6
MOE *e*Sn Sn 23 16 50.8 -14
CZD Col de Zad 6.85 88 P Pn 23 15 45.0 -1.2
CZD S Sn 23 17 01.0 -7.2
CZD Col de Zad 6.85 88 *e*P Pn 23 15 49.0 -1.2
EMIN Mina Concepcio 7.11 47 P Pn 23 15 48.4 -5.3
0.8nm,0.1s,SNR=16
EMIN S Sn 23 17 01.1 -13
0.7nm,0.1s,SNR=7.9
EMIN Mina Concepcio 7.11 47 P Pn 23 15 48.4 -5.3
0.8nm,0.1s,SNR=16
EMIN S Sn 23 17 01.1 -13
0.7nm,0.1s,SNR=7.9
ESPR Espera 7.13 56 P Pn 23 15 49.8 -4.2
3.5nm,0.2s,SNR=11
ESPR S Sn 23 17 05.3 -10
0.6nm,0.1s,SNR=7.9
ESPR Espera 7.13 56 P Pn 23 15 49.8 -4.2
3.5nm,0.2s,SNR=11
ESPR S Sn 23 17 05.3 -10
0.6nm,0.1s,SNR=7.9
PBAR Barrancos 7.16 43 *e*Pn Pn 23 15 48.2 -6.2
PBAR *e*Sn Sn 23 17 02.0 -14
PBAR A 23 17 07.7
1.2nm,0.2s
PBAR Barrancos 7.16 43 P Pn 23 15 48.2 -6.2
PBAR S Sn 23 17 02.0 -14
0.6nm,0.2s
PESTR Estremoz 7.37 36 *e*Pn Pn 23 15 51.5 -5.8
PESTR *e*Sn Sn 23 17 07.2 -14
PESTR A 23 17 13.8
3.0nm,0.7s
ZFT Errachidia 7.54 95 P Pn 23 16 00.0 +0.3
ZFT S Sn 23 17 21.0 -4.2
ZFT Errachidia 7.54 95 *e*P Pn 23 16 00.0 +0.3
EBAD Badajoz 7.59 40 P Pn 23 15 54.3 -6.0
0.8nm,0.1s,SNR=13
EBAD S Sn 23 17 10.8 -15
0.5nm,0.1s,SNR=7.9
EBAD Badajoz 7.59 40 P Pn 23 15 54.3 -6.0
0.8nm,0.1s,SNR=13
EBAD S Sn 23 17 10.8 -16
0.5nm,0.1s,SNR=7.9
EMIJ Mijas 7.76 61 P Pn 23 15 58.4 -4.4
0.6nm,0.2s,SNR=7.9
EMIJ S Sn 23 17 20.5 -10
0.4nm,0.2s,SNR=7.9
PMRV Marv??o 7.90 35 *e*Pn Pn 23 15 57.8 -6.8
PMRV *e*Sn Sn 23 17 16.9 -17
PMRV A 23 17 21.1
1.3nm,0.1s
PMRV Marv??o 7.90 35 *e*P Pn 23 15 57.8 -6.8
ECAB El Cabril 8.08 49 P Pn 23 16 01.0 -6.1
0.8nm,0.1s,SNR=8.2
ECAB S Sn 23 17 25.6 -13
0.7nm,0.1s,SNR=7.9
ECAB El Cabril 8.08 49 P Pn 23 16 01.0 -6.1
0.8nm,0.1s,SNR=8.2
ECAB S Sn 23 17 25.6 -13
0.7nm,0.1s,SNR=7.9
EADA Adamuz 8.68 52 P Pn 23 16 09.5 -5.7
0.5nm,0.1s,SNR=7.9
EADA S Sn 23 17 40.6 -13
0.3nm,0.1s,SNR=7.9
EADA Adamuz 8.68 52 P Pn 23 16 09.5 -5.8
0.5nm,0.1s,SNR=7.9
EADA S Sn 23 17 40.7 -12
0.3nm,0.1s,SNR=7.9
PVIS Viseu 8.75 28 *e*Sn Sn 23 17 38.4 -16
PVIS A 23 17 46.8
2.1nm,0.3s
PVIS Viseu 8.75 28 S Sn 23 17 38.4 -16
1.1nm,0.3s
EQUE Quentar 9.00 60 P Pn 23 16 15.9 -3.8
0.4nm,0.2s,SNR=7.9
EQUE S Sn 23 17 49.7 -11
0.0nm,0.2s,SNR=7.9
EBAN Banos Encina 9.21 54 S Sn 23 17 52.0 -14
0.5nm,0.1s,SNR=7.9
EBER Berja 9.29 63 P Pn 23 16 20.0 -3.7
0.1nm,0.2s,SNR=7.9
EBER S Sn 23 17 57.3 -11
0.1nm,0.1s,SNR=7.9
EBER Berja 9.29 63 P Pn 23 16 20.0 -3.6
0.1nm,0.2s,SNR=7.9
EBER S Sn 23 17 57.3 -11
0.1nm,0.1s,SNR=7.9
EBER Berja 9.29 63 P Pn 23 16 19.9 -3.7
EBER S Sn 23 17 57.3 -11
MVO Moncorvo 9.48 30 *e*Sn Sn 23 17 54.5 -18
EQES Quesada 9.53 57 P Pn 23 16 21.1 -5.7
0.2nm,0.1s,SNR=7.9
EQES S Sn 23 18 00.7 -13
0.2nm,0.2s,SNR=7.9
EQES Quesada 9.53 57 P Pn 23 16 21.1 -5.8
0.2nm,0.1s,SNR=7.9
EQES S Sn 23 18 00.7 -13
0.2nm,0.2s,SNR=7.9
ELOB Lobios 9.70 23 S Sn 23 17 59.2 -19
1.0nm,0.1s,SNR=7.9
ELOB Lobios 9.70 23 S Sn 23 17 59.2 -19
1.0nm,0.1s,SNR=7.9
EHUE Huescar 9.87 58 P Pn 23 16 26.3 -5.3
0.3nm,0.1s,SNR=7.9
EHUE S Sn 23 18 09.9 -13
0.1nm,0.1s,SNR=7.9
ESDC Sonseca Array 9.95 46 P Pn 23 16 26.0 -6.8
0.2nm,0.2s,SNR=7.9
ESDC Sonseca Array 9.95 46 P Pn 23 16 26.0 -6.7
0.2nm,0.2s,SNR=7.9
ECAL Calabor 10.25 28 S Sn 23 18 12.7 -19
0.8nm,0.2s,SNR=7.9
EMAZ Mazaricos 10.43 17 S Sn 23 18 17.5 -18
1.8nm,0.1s,SNR=7.9
EMAZ Mazaricos 10.43 17 S Sn 23 18 17.5 -19
1.8nm,0.1s,SNR=7.9
ETOB Tobarra 10.98 56 P Pn 23 16 42.5 -4.3
0.5nm,0.1s,SNR=7.9
ETOB S Sn 23 18 35.6 -14
0.4nm,0.2s,SNR=7.9
ETOB Tobarra 10.98 56 P Pn 23 16 42.5 -4.2
0.5nm,0.1s,SNR=7.9
ETOB S Sn 23 18 35.6 -14
0.4nm,0.2s,SNR=7.9
EPON Pontenova 11.30 23 S Sn 23 18 38.4 -19
0.2nm,0.2s,SNR=7.9
EPON Pontenova 11.30 23 S Sn 23 18 38.4 -19
0.2nm,0.2s,SNR=7.9
ETOR Torete 11.81 46 P Pn 23 16 52.4 -5.7
0.9nm,0.2s,SNR=7.9
ETOR S Sn 23 18 52.9 -17
0.4nm,0.1s,SNR=7.9

IDC 09 23:21:06.4±3.4, 038S×9768E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.6/21, mbtmp3.5/6, ML3.8/1, Error ellipse: s-maj=128.8km s-min=23.7km az=59.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.76**	**4**	P	Pn	23 25 28.6	+1.0
	0.1nm,0.3s,baz=199,slow=12,SNR=6.5						
WRA	**Warramunga Arr**	**40.81**	**121**	P	P	23 28 49.9	-0.1
	0.5nm,1.0s,baz=297,slow=8.5,SNR=2.7						
ASAR	**Alice Springs**	**42.08**	**126**	P	P	23 29 00.6	+0.2
	0.2nm,0.5s,baz=306,slow=7.9,SNR=3.1						
SONM	**Songino Array**	**48.62**	**8**	P	P	23 29 50.6	-1.2
	0.4nm,0.8s,baz=186,slow=12,SNR=2.7						
MKAR	**Makanchi Array**	**48.88**	**346**	P	P	23 29 54.0	+0.2
	0.9nm,0.7s,baz=156,slow=8.6,SNR=8.9						
ZALV	**Zalesovo Beam**	**55.18**	**351**	P	P	23 30 40.8	+0.1
	0.4nm,0.3s,baz=151,slow=7.1,SNR=2.6						

*ISCJB **09** 23:49:05.9±1.0, 3789N×004×2748E±005, h5km±7km, Error ellipse: s-maj=7.2km s-min=5.9km az=166.6*
*DDA **09** 23:49:06.6, 3794N×2753E, h7km±1km, Md2.7*
*ATH **09** 23:49:06.8, 3791N×2754E, h12km±2km, MD3.3/4*
*NEIC **09** 23:49:06.8, 3791N×2754E, h12km, MD3.3(ATH), After ATH.*
*CSEM **09** 23:49:10.3±0.3, 3786N×2741E, h20km, MD2.7, Error ellipse: s-maj=8.5km s-min=7.7km az=104.0*
ISC 09 23:49:07.4±0.8, 3793N±003×2753E±005, h3km±7km, n9, σ1§36/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.52**	**337**	*i*P	**Pg**	**23 49 16.9**	**-0.4**
KDAG				*i*S	**Sg**	**23 49 24.1**	**0.0**
SMG	**Samos**	**0.59**	**249**	*e*PB	**Pg**	**23 49 18.2**	**-0.4**
SMG				*e*SB	**Sg**	**23 49 26.7**	**+0.4**
BDRM	**Kayabasi**	**0.86**	**184**	*i*P	**Pn**	**23 49 21.3**	**-5.1**
BDRM				*i*S	**Sn**	**23 49 36.1**	**-3.4**
AKHS	**Akhisar**	**0.98**	**13**	*i*P	**Pn**	**23 49 25.0**	**-3.1**
AKHS				*i*S	**Sn**	**23 49 39.1**	**-3.3**
PRK	**Paraskevi**	**1.65**	**324**	*e*PB	**Pn**	**23 49 38.3**	**+1.1**
PRK				*e*SB	**Sn**	**23 50 00.4**	**+1.5**
ARG	**Arkhangelos**	**1.77**	**164**	*e*PN	**Pn**	**23 49 38.8**	**-0.1**
ARG				*e*SN	**Sn**	**23 50 03.0**	**+1.1**
APE	**Apeiranthos**	**1.80**	**242**	*e*PN	**Pn**	**23 49 39.8**	**+0.5**
TKTP	**Tekketepe**	**2.21**	**86**	*e*P	**Pg**	**23 49 48.3**	**-1.4**
TKTP				*i*S	**Sg**	**23 50 21.5**	**+3.1**
ULDT	**Uludag**	**2.54**	**29**	*i*P	**Pg**	**23 49 52.5**	**-3.7**
ULDT				*i*S	**Sb**	**23 50 26.6**	**+1.3**

*ISCJB **09** 23:54:19.3±1.4, 2332S±006×705W±0.1, h45km±12km, mb4.4/8, MS3.7/3, Error ellipse: s-maj=16.3km s-min=9.5km az=12.9*
*NEIC **09** 23:54:20.4±1.0, 2327S×7045W, h40km±9km, mb4.5/6, Error ellipse: s-maj=14.4km s-min=7.4km az=98.0*
*IDC **09** 23:54:22.5±2.5, 2329S×7033W, h55km±20km, mb4.1/5, mb1 4.1/8, mb1mx3.8/18, mbtmp4.0/8, ML3.8/4, MS3.7/7, Ms1 3.7/7, ms1mx3.4/27, Error ellipse: s-maj=28.5km s-min=22.0km az=88.0*
ISC 09 23:54:20.9±1.2, 2328S±006×704W±01, h41km±11km, n35, σ0§99/33, mb4.4/8, MS3.7/3, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.54**	**65**	P	**Pn**	**23 54 47.6**	**+1.8**
	834nm,0.3s,baz=253,slow=12,SNR=2564						
LVC				S	**Sn**	**23 55 11.5**	**+6.9**
	2µm,0.3s,baz=5.8,slow=13,SNR=54						
LVC	**Limon Verde**	**1.54**	**65**	P	**Pn**	**23 54 47.6**	**+1.8**
LVC				S	**Sn**	**23 55 11.5**	**+6.9**
LCO	**Las Campanas**	**5.71**	**183**	Pn	**Pn**	**23 55 41.0**	**-2.1**
	64nm,0.7s						
LCO				*e*Sn	**Sn**	**23 56 54.2**	**+6.7**
ARE	**Arequipa**	**6.86**	**351**	*e*P	**Pn**	**23 55 53.0**	**-6.0**
ARE				*e*S	**Sn**	**23 57 05.0**	**-11**
LPAZ	**La Paz**	**7.28**	**18**	P	**Pn**	**23 56 05.0**	**+0.2**
	1.5nm,0.3s,baz=200,slow=7.9,SNR=28						
LPAZ				LR	LR	23 59 06.7	
	comp=Z,570nm,20.3s,baz=41,slow=39						
LPAZ	**La Paz**	**7.28**	**18**	P	**Pn**	**23 56 05.0**	**+0.2**
LPAZ				LR	LR	23 59 06.7	
CFAA	**Coronel Fontan**	**8.51**	**167**	P	**Pn**	**23 56 21.4**	**-0.3**
	0.1nm,0.3s,baz=346,slow=14,SNR=4.8						
CFAA				S	**Sn**	**23 58 13.9**	**+18**
	0.5nm,0.3s,baz=91,slow=21,SNR=19						
SIV	**San Ignacio**	**11.40**	**52**	P	**Pn**	**23 56 59.2**	**-2.1**
	1.0nm,0.3s,baz=247,slow=13,SNR=30						
SIV				S	**Sn**	**23 59 13.6**	**+6.2**
	0.2nm,0.3s,baz=140,slow=20,SNR=3.1						
SIV				LR	LR	00 02 15.6	
	comp=Z,748nm,18.1s,baz=241,slow=42						
CPUP	**Villa Florida**	**12.27**	**107**	P	**Pn**	**23 57 14.1**	**+1.0**
	0.3nm,0.3s,baz=266,slow=8.1,SNR=5.4						
CPUP				LR	LR	00 02 55.9	
	comp=Z,436nm,19.1s,baz=269,slow=42						
CPUP	**Villa Florida**	**12.27**	**107**	Pn	**Pn**	**23 57 12.9**	**-0.1**
TRQA	**Tornquist**	**16.40**	**156**	*e*Pn	**Pn**	**23 58 08.6**	**+0.5**
	34nm,1.3s						
PLCA	**Paso Flores**	**17.40**	**180**	P	**Pn**	**23 58 22.1**	**+1.6**
	0.1nm,0.3s,baz=321,slow=13,SNR=3.9						
PLCA				LR	LR	00 04 49.2	
	comp=Z,264nm,21.6s,baz=4.4,slow=36						
PLCA	**Paso Flores**	**17.40**	**180**	*e*Pn	**Pn**	**23 58 21.8**	**+1.3**
	13nm,1.3s						
PLCA				LR	LR	00 04 49.1	
BDFB	**Brasilia**	**22.43**	**74**	P	**P**	**23 59 15.5**	**-0.8**
	5.2nm,0.8s,mb4.0,baz=247,slow=11,SNR=9.8						
BDFB				LR	LR	00 07 46.6	
	comp=Z,57nm,22.0s,MS3.0,baz=52,slow=36						
BDFB	**Brasilia**	**22.43**	**74**	P	**P**	**23 59 21.6**	**+5.3**
OTAV	**Otavalo**	**24.65**	**340**	*e*P	**P**	**23 59 38.1**	**+0.2**
BBSR	**BB Station**	**55.61**	**6**	P	**P**	**00 03 53.3**	**+0.8**
SNAA	**Sanae**	**61.07**	**160**	*e*P	**P**	**00 04 29.9**	**-0.3**
	11nm,1.4s,mb4.8						
SDCO	**Great Sand Dun**	**69.09**	**331**	*e*P	**P**	**00 05 21.6**	**-1.0**
	4.5nm,1.1s,mb4.3						
DBIC	**Dimbokro**	**70.58**	**74**	P	**P**	**00 05 32.0**	**-0.4**
	11nm,0.8s,mb4.8,baz=146,slow=2.3,SNR=6.8						
DBIC				LR	LR	00 36 17.7	
	comp=Z,108nm,18.0s,MS4.2,baz=113,slow=36						
DBIC	**Dimbokro**	**70.58**	**74**	*e*P	**P**	**00 05 32.0**	**-0.3**
	16nm,0.9s,mb4.9						
VNDA	**Vanda**	**74.86**	**190**	*e*P	**P**	**00 05 57.2**	**+0.5**
PDAR	**Pinedale Array**	**74.97**	**331**	P	**P**	**00 05 58.8**	**+1.1**
	0.2nm,0.4s,mb3.4,baz=190,slow=10,SNR=2.6						
TOA0	**Torodi Ar. Sit**	**79.26**	**71**	*e*P	**P**	**00 06 21.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**79.26**	**71**	P	**P**	**00 06 21.6**	**-0.9**
	10.0nm,0.8s,mb4.8,baz=252,slow=5.1,SNR=38						
TSUM	**Tsumeb**	**80.86**	**107**	*e*P	**P**	**00 06 32.0**	**+0.9**
	5.2nm,0.8s,mb4.5						
BOSA	**Boshof**	**83.84**	**118**	P	**P**	**00 06 46.4**	**-0.2**
	4.9nm,0.8s,mb4.7,baz=262,slow=7.7,SNR=5.8						
KEST	**Kesra**	**95.48**	**54**	LR	LR	00 55 51.1	
	comp=Z,40nm,18.2s,MS3.9,baz=4.4,slow=39						
ZAA0	**Zalesovo Array**	**144.15**	**25**	PKPdf	PKPdf	00 13 48.2	-3.7
ZALV	**Zalesovo Beam**	**144.15**	**25**	PKP	PKPdf	00 13 51.4	-0.5
	2.5nm,0.8s,baz=298,slow=3.2,SNR=10						
EKS2	**Erkin-Say**	**144.63**	**48**	*e*PKPdf	PKPdf	00 13 52.2	-1.0
AML	**Almayashu**	**144.77**	**49**	*e*PKPdf	PKPdf	00 13 53.4	0.0
MK31	**Makanchi Array**	**147.89**	**36**	*e*PKPdf	PKPdf	00 13 58.2	-0.3
MKAR	**Makanchi Array**	**147.89**	**36**	PKPbc	PKPbc	00 14 00.8	-0.7
	2.7nm,0.8s,baz=316,slow=3.3,SNR=14						
SONM	**Songino Array**	**155.37**	**5**	PKPbc	PKPdf	00 14 17.4	+7.6
	0.3nm,0.4s,baz=158,slow=1.6,SNR=2.6						
SONM				PKPab	PKPab	00 14 34.3	-0.9
	0.8nm,0.9s,baz=0.0,slow=0.6,SNR=3.8						

*NEIC **10** 00:08:12.8±0.6, 6.17S×9885E, h10km, mb4.3/6, Error ellipse: s-maj=25.7km s-min=9.7km az=54.0*
*ISCJB **10** 00:08:14.1±0.7, 62S±0.1×988E±02, h33km, mb4.2/12, Error ellipse: s-maj=27.5km s-min=10.1km az=144.9*
*IDC **10** 00:08:20.9±3.0, 436S×10137E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/19, mbtmp4.1/6, Error ellipse: s-maj=128.6km s-min=19.8km az=56.0*
ISC 10 00:08:16.5±0.7, 62S±01×988E±02, h35km, n20, σ1§07/20, mb4.2/12, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**22.51**	**306**	P	**P**	**00 13 12.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**24.50**	**0**	P	**P**	**00 13 25.9**	**-6.8**
	1.1nm,0.6s,mb3.6,baz=183,slow=9.6,SNR=3.9						
FITZ	**Fitzroy Crossi**	**28.69**	**117**	*e*P	**P**	**00 14 10.5**	**0.0**
	15nm,1.2s,mb4.6						
NWAO	**Narrogin (SRO)**	**31.62**	**150**	*e*P	**P**	**00 14 36.0**	**-0.3**
LSA	**Lhasa**	**36.45**	**349**	*e*P	**P**	**00 15 16.5**	**-1.7**
	2.1nm,0.3s,mb4.5						
WRA	**Warramunga Arr**	**37.07**	**115**	P	**P**	**00 15 19.6**	**-4.0**
	0.6nm,0.6s,mb3.6,baz=299,slow=9.0,SNR=4.3						
WRAB	**Tennant Creek**	**37.08**	**115**	*e*P	**P**	**00 15 22.1**	**-1.6**
	2.9nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**37.08**	**115**	P	**P**	**00 15 24.5**	**+0.8**
ENH	**Enshi**	**37.68**	**15**	P	**P**	**00 15 27.7**	**-0.9**
ASAR	**Alice Springs**	**37.91**	**121**	P	**P**	**00 15 31.8**	**+1.1**
	0.7nm,0.4s,mb3.8,baz=299,slow=6.8,SNR=14						
STKA	**Stephens Creek**	**47.35**	**128**	*e*P	**P**	**00 16 46.7**	**-0.5**
	2.0nm,0.8s,mb4.1						
EKS2	**Erkin-Say**	**53.71**	**337**	*e*P	**P**	**00 17 41.8**	**+6.7**
	2.8nm,0.9s,mb4.2						
SONM	**Songino Array**	**54.22**	**6**	P	**P**	**00 17 33.1**	**-5.5**
	2.9nm,0.6s,mb4.4,baz=185,slow=9.4,SNR=22						
SONM				PcP	PcP	00 18 43.3	+0.6
	0.3nm,0.4s,baz=168,slow=3.8,SNR=2.3						
SONM	**Songino Array**	**54.22**	**6**	P	**P**	**00 17 33.1**	**-5.5**
SONM				PcP	PcP	00 18 43.3	+0.6
MK31	**Makanchi Array**	**54.77**	**346**	*e*P	**P**	**00 17 43.2**	**+0.5**
MKAR	**Makanchi Array**	**54.77**	**346**	P	**P**	**00 17 44.9**	**+2.2**
	2.2nm,0.6s,mb4.4,baz=146,slow=8.8,SNR=17						
KURK	**Kurchatov**	**59.32**	**345**	*e*P	**P**	**00 18 16.5**	**+1.7**
	1.4nm,0.7s,mb4.1						
CASY	**Casey**	**60.52**	**175**	*e*P	**P**	**00 18 23.2**	**+0.3**
ZAA0	**Zalesovo Array**	**61.08**	**351**	*e*P	**P**	**00 18 26.7**	**-0.1**
ZALV	**Zalesovo Beam**	**61.08**	**351**	P	**P**	**00 18 27.0**	**+0.2**
	4.3nm,0.6s,mb4.8,baz=177,slow=5.5,SNR=21						

*ISCJB **10** 00:16:34.0±0.4, 3304N±002×11645W±002, h0km±4km, Error ellipse: s-maj=3.5km s-min=3.0km az=37.3*
*NEIC **10** 00:16:35.4, 3302N×11648W, h8km, ML2.9(PAS), After PAS.*
NEIC Felt in the Julian area.
ISC 10 00:16:34.6±0.3, 3301N±002×11645W±002, h8km±3km, n27, σ1§16/52, 13C-16D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONP	**Monument Peak**	**0.13**	**170**	P	**Pg**	**00 16 38.2**	**+0.9**
	baz=0.1,SNR=1000						
MONP				⇑S	**Sg**	**00 16 40.4**	**+1.2**
	baz=0.1						
BAR	**Barrett**	**0.38**	**210**	*e*P	**Pg**	**00 16 42.1**	**+0.1**
BAR				*e*S	**Sg**	**00 16 46.8**	**-0.2**
DVTC	**Desert V Tower**	**0.46**	**140**	P	**Pg**	**00 16 44.2**	**+0.8**
	baz=0.5,SNR=48						
DVTC				⇑S	**Sg**	**00 16 50.1**	**+0.7**
	baz=0.5						
SWSC	**Sam W. Stewart**	**0.55**	**97**	P	**Pg**	**00 16 45.9**	**+0.7**
	baz=0.6,SNR=155						
SWSC				⇓S	**Sg**	**00 16 52.9**	**+0.5**
	baz=0.6						
109C	**Camp Elliot, M**	**0.57**	**257**	P	**Pg**	**00 16 45.4**	**-0.1**
	baz=0.5,SNR=65						
109C				⇓S	**Sg**	**00 16 52.8**	**-0.1**
	baz=0.5						
PFO	**Pinyon Flat Ob**	**0.59**	**359**	⇑P	**Pg**	**00 16 46.2**	**+0.2**
	baz=0.6,SNR=194						
PFO				⇓S	**Sg**	**00 16 53.6**	**-0.2**
	baz=0.6						
PFO	**Pinyon Flat Ob**	**0.59**	**359**	*e*P	**Pg**	**00 16 46.3**	**+0.3**
PFO				*e*S	**Sg**	**00 16 53.5**	**-0.2**
MURC	**Murrieta**	**0.86**	**313**	⇓P	**Pg**	**00 16 50.4**	**-0.7**
	baz=0.8,SNR=72						
MURC				⇑S	**Sg**	**00 17 01.8**	**-0.5**
	baz=0.8						
BC3	**Big Chuckw Mtn**	**1.05**	**52**	⇓P	**Pg**	**00 16 53.7**	**-1.0**
	baz=1.1,SNR=22						
BC3				⇓S	**Sg**	**00 17 07.1**	**-1.2**
	baz=1.1						
BELC	**Belle Mtn.**	**1.05**	**21**	⇓P	**Pg**	**00 16 54.0**	**-0.7**
	baz=1.1,SNR=77						
BBRC	**Big Bear Sol-O**	**1.31**	**342**	⇓S	**Sb**	**00 17 15.2**	**-1.1**
	baz=1.3						
GLA	**Glamis**	**1.36**	**88**	⇑P	**Pn**	**00 16 58.3**	**-1.6**
	baz=1.4						
GLA				⇓S	**Sb**	**00 17 15.6**	**-2.3**
	baz=1.4						
GLA	**Glamis**	**1.36**	**88**	*e*P	**Pn**	**00 16 58.1**	**-1.7**
GLA				*e*S	**Sb**	**00 17 18.8**	**+0.9**
IRM	**Iron Mountain**	**1.57**	**43**	⇓Sb	**Sb**	**00 17 23.7**	**-0.3**
	baz=1.6						
BFSC	**Mount Baldy St**	**1.59**	**321**	⇑Pb	**Pb**	**00 17 02.8**	**-1.3**
	baz=1.6						
BFSC				⇓Sb	**Sb**	**00 17 23.3**	**-1.0**
	baz=1.6						
112A	**Yuma**	**1.64**	**106**	⇓P	**Pn**	**00 17 01.9**	**-1.9**
	baz=1.7						
112A				⇑S	**Sn**	**00 17 22.5**	**-2.6**
	baz=1.7						
CIS	**Catalina Islan**	**1.69**	**284**	⇓Pb	**Pb**	**00 17 04.7**	**-1.2**
	baz=1.7						
CIS				⇑Sb	**Sb**	**00 17 26.6**	**-0.6**
	baz=1.7						
MWC	**Mount Wilson**	**1.81**	**312**	*e*Pn	**Pn**	**00 17 06.3**	**+0.3**
MWC				*e*Sn	**Sn**	**00 17 29.9**	**+0.8**
HEC	**Hector,Ludlow**	**1.81**	**3**	⇑Pg	**Pg**	**00 17 08.7**	**-0.7**
	baz=1.8						
HEC				⇓Sg	**Sg**	**00 17 33.8**	**+0.9**
	baz=1.8						
GMRC	**Granite Mounta**	**1.88**	**20**	⇑Pg	**Pg**	**00 17 09.8**	**-0.8**
	baz=1.9						
EDW2	**Edwards Air Fo**	**2.26**	**326**	⇓Pb	**Pb**	**00 17 15.4**	**-0.2**
	baz=2.2						
EDW2				⇑Sb	**Sb**	**00 17 43.7**	**0.0**
	baz=2.2						
113A	**Mohawk Valley,**	**2.27**	**95**	⇑S	**Sn**	**00 17 38.5**	**-2.0**
	baz=2.3						
GSC	**Goldstone**	**2.30**	**353**	⇓Sb	**Sb**	**00 17 47.0**	**+2.1**
	baz=2.3						
GSC	**Goldstone**	**2.30**	**353**	*e*Pn	**Pn**	**00 17 14.3**	**+1.5**
GSC				*e*Pg	**Pg**	**00 17 18.9**	**+0.2**
GSC				*e*Sn	**Sn**	**00 17 43.7**	**+2.4**
GSC				*e*Sg	**Sg**	**00 17 48.1**	**-0.4**
Y13A	**Salome**	**2.33**	**69**	⇑Sb	**Sb**	**00 17 46.2**	**+0.4**
	baz=2.4						
LDFC	**Landfair**	**2.34**	**28**	*e*Pn	**Pn**	**00 17 15.4**	**+2.0**
LDFC				*e*Pg	**Pg**	**00 17 20.7**	**+1.4**
LDFC				Sn	**Sn**	**00 17 44.6**	**+2.3**
ISA	**Isabella**	**3.13**	**328**	*e*Pn	**Pn**	**00 17 26.3**	**+2.1**
ISA				*e*Pg	**Pg

SZGRF ***10*** *00:20:33.5, 3095S×17592W, h33km, Kermadec Islands region*
IDC ***10*** *00:20:41.0±2.2, 2901S×17726W, h19km±12km, mb4.7/19, mb1 4.9/20, mb1mx4.9/21, mbtmp4.7/20, MS4.2/13, Ms1 4.3/13, ms1mx4.0/21, Error ellipse: s-maj=15.3km s-min=11.0km az=154.0*
MOS ***10*** *00:20:42.6±1.1, 2904S×17741W, h33km, mb5.1/22, Error ellipse: s-maj=12.7km s-min=10.3km az=139.2*
NEIC ***10*** *00:20:45.1±2.0, 2916S×17741W, h48km±17km, mb5.0/32, Error ellipse: s-maj=9.5km s-min=7.3km az=158.0*
ISCJB ***10*** *00:20:45.2±0.7, 2921S±006×17751W±005, h62km±5km, mb5.0/51, Error ellipse: s-maj=10.5km s-min=6.3km az=150.8*
BJI ***10*** *00:20:45.0, 2920S×17740W, h55km, mB5.5, mb5.2, Ms5.3, Msz4.8*
DJA ***10*** *00:21:09, 3237S×17844E, h10km, mb5.5/13*
ISC 10 00:20:45.5±0.7, 2924S±005×17745W±005, h52km±6km, h61km±1.0km: pP-P, n476, σ0°63/352, mb5.0/51, MS4.4/21, 116C-101D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.41**	**269**	Pn	**Pn**	**00 20 56.0**	**+0.1**
	13μm,0.3s,baz=84,slow=3.6,SNR=1431						
RAO				Sn	**Sn**	**00 21 06.3**	**+3.0**
	23μm,0.3s,baz=45,slow=13,SNR=29						
RAO	**Raoul Island**	**0.41**	**269**	∥iPn	**Pn**	**00 20 56.0**	**+0.2**
RAO				eSn	**Sn**	**00 21 04.1**	**+0.7**
URZ	**Urewera**	**10.07**	**205**	Pn	**Pn**	**00 23 01.2**	**-6.1**
	1.4nm,0.3s,baz=124,slow=13,SNR=9.9						
URZ				Sn	**Sn**	**00 24 56.5**	**-2.2**
	16nm,0.3s,baz=182,slow=24,SNR=15						
SNZO	**South Karori**	**13.63**	**206**	ePn	**Pn**	**00 23 54.5**	**-1.4**
DZM	**Mont Dzumac**	**16.18**	**293**	Pn	**Pn**	**00 24 35.9**	**+6.6**
RPZ	**Rata Peaks**	**17.12**	**209**	P	**Pn**	**00 24 37.8**	**-3.3**
	6.4nm,0.3s,baz=354,slow=1.3,SNR=7.2						
RAR	**Rarotonga**	**17.86**	**67**	P	**Pn**	**00 24 44.5**	**-5.8**
	baz=263,slow=3.4,SNR=5.9						
RAR				LR	LR	00 30 01.5	
	comp=Z,420nm,20.7s,baz=272,slow=32						
TBI	**Tubuai**	**25.73**	**83**	eLR	LR	00 32 20.4	
	1μm,26.8s,baz=250						
ARMA	**Armidale**	**26.81**	**260**	eP	**P**	**00 26 24.6**	**+3.8**
PPT	**Papeete**	**28.02**	**72**	eLQ		00 31 53.6	
	388nm,25.5s						
PPT				eLR	LR	00 33 28.2	
	baz=238						
PPT	**Papeete**	**28.02**	**72**	LR	LR	00 34 31.7	
	comp=Z,409nm,18.1s,MS4.1,baz=239,slow=30						
CAN	**Canberra**	**28.92**	**249**	eP	**P**	**00 26 41.5**	**+1.9**
TAU	**Tasmania Unive**	**31.33**	**235**	P	**P**	**00 27 03.6**	**+2.8**
CTA	**Charters Tower**	**34.11**	**277**	eP	**P**	**00 27 27.7**	**+2.4**
	25nm,0.8s,mb5.2						
CTA	**Charters Tower**	**34.11**	**277**	P	**P**	**00 27 26.2**	**+0.9**
	34nm,0.7s,mb5.4,baz=106,slow=10,SNR=31						
CTA	**Charters Tower**	**34.11**	**277**	eP	**P**	**00 27 27.7**	**+2.4**
CTA				pmax	pmax		
	comp=Z,25nm,0.8s						
CTAO	**Charters Tower**	**34.11**	**277**	eP	**P**	**00 27 27.1**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,29nm,0.7s,mb5.3						
CTAO	**Charters Tower**	**34.11**	**277**	eP	**P**	**00 27 27.1**	**+1.7**
	comp=Z,28nm,0.7s,mb5.3						
STKA	**Stephens Creek**	**35.22**	**255**	eP	**P**	**00 27 35.9**	**+1.1**
	comp=Z,20nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**35.22**	**255**	P	**P**	**00 27 34.9**	**0.0**
	comp=Z,19nm,0.6s,mb5.2,baz=97,slow=10.0,SNR=33						
STKA				LR	LR	00 41 10.9	
	comp=Z,546nm,18.2s,MS4.3,baz=284,slow=35						
STKA	**Stephens Creek**	**35.22**	**255**	eP	**P**	**00 27 36.0**	**+1.1**
	comp=Z,24nm,0.7s,mb5.2						
RKT	**Rikitea**	**38.45**	**91**	eLR	LR	00 38 11.2	
	comp=Z,823nm,26.8s						
PMG	**Port Moresby**	**38.57**	**294**	P	**P**	**00 28 03.8**	**+0.4**
ASAR	**Alice Springs**	**43.66**	**265**	P	**P**	**00 28 45.0**	**-0.2**
	comp=Z,12nm,0.6s,mb4.8,baz=102,slow=7.4,SNR=153						
ASAR				ScP	ScP	00 34 20.8	+1.8
	comp=Z,0.9nm,0.7s,baz=119,slow=5.7,SNR=4.3						
WB2	**Warramunga Arr**	**44.54**	**271**	eP	**P**	**00 28 51.9**	**-0.4**
WB2				eS	**S**	**00 35 24.3**	**0.0**
WB2	**Warramunga Arr**	**44.54**	**271**	eP	**P**	**00 28 52.2**	**-0.1**
WRAB	**Tennant Creek**	**44.54**	**271**	P	**P**	**00 28 52.0**	**-0.3**
	comp=Z,152nm,0.5s,mb6.1,SNR=30						
WRAB	**Tennant Creek**	**44.54**	**271**	eP	**P**	**00 28 51.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**44.54**	**271**	eP	**P**	**00 28 51.9**	**-0.4**
	comp=Z,19nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**44.55**	**271**	P	**P**	**00 28 52.4**	**+0.1**
	comp=Z,12nm,0.4s,mb5.1,baz=108,slow=7.9,SNR=49						
WRA				ScP	ScP	00 34 26.3	+3.7
	comp=Z,1.9nm,0.9s,baz=112,slow=4.1,SNR=5.2						
WRA				LR	LR	00 47 22.7	
	comp=Z,246nm,19.5s,MS4.1,baz=135,slow=36						
FORT	**Forrest**	**46.82**	**254**	eP	**P**	**00 29 09.2**	**-1.0**
	comp=Z,44nm,0.6s,mb5.6						
KAKA	**Kakadu**	**49.22**	**279**	eP	**P**	**00 29 28.4**	**-0.5**
	comp=Z,7.4nm,0.4s,mb5.1						
SBA	**Scott Base**	**49.22**	**184**	eP	**P**	**00 29 31.1**	**+3.0**
SBA				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
SBA	**Scott Base**	**49.22**	**184**	eP	**P**	**00 29 31.1**	**+3.0**
	comp=Z,18nm,0.9s,mb5.1						
VNDA	**Vanda**	**49.29**	**186**	P	**P**	**00 29 29.8**	**+1.2**
	comp=Z,2.2nm,0.9s,mb4.2,baz=356,slow=7.4,SNR=7.5						
VNDA				ScP	ScP	00 34 46.0	+4.5
	comp=Z,0.9nm,0.7s,baz=33,slow=3.5,SNR=4.1						
VNDA	**Vanda**	**49.29**	**186**	eP	**P**	**00 29 30.3**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VNDA	**Vanda**	**49.29**	**186**	eP	**P**	**00 29 30.3**	**+1.7**
	comp=Z,2.7nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.85**	**269**	eP	**P**	**00 29 56.0**	**-0.1**
	comp=Z,15nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.85**	**269**	P	**P**	**00 29 56.2**	**+0.1**
	comp=Z,8.6nm,0.8s,mb4.7,baz=142,slow=8.9,SNR=18						
FITZ				LR	LR	00 52 24.8	
	comp=Z,247nm,19.6s,MS4.3,baz=286,slow=36						
HKL	**Haleakala**	**53.70**	**25**	eP	**P**	**00 30 08.3**	**+6.1**
KLBR	**Kellerberrin**	**55.19**	**250**	eP	**P**	**00 30 11.6**	**-1.4**
	comp=Z,36nm,1.0s,mb5.4						
NWAO	**Narrogin (SRO)**	**55.26**	**248**	LR	LR	00 54 31.2	
	comp=Z,267nm,18.6s,MS4.3,baz=75,slow=37						
NWAO	**Narrogin (SRO)**	**55.26**	**248**	eP	**P**	**00 30 11.9**	**-1.6**
NWAO				pmax	pmax		
	comp=Z,43nm,1.2s						
NWAO	**Narrogin (SRO)**	**55.26**	**248**	eP	**P**	**00 30 11.9**	**-1.6**
	comp=Z,43nm,1.2s,mb5.3						
GUMO	**Guam**	**56.01**	**314**	P	**P**	**00 30 17.3**	**-1.7**
	comp=Z,20nm,0.3s,mb5.7,baz=18,slow=22,SNR=3.6						
GUMO	**Guam**	**56.01**	**314**	eP	**P**	**00 30 18.9**	**-0.1**
GUMO				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.6						
GUMO	**Guam**	**56.01**	**314**	eP	**P**	**00 30 18.9**	**-0.1**
	comp=Z,40nm,0.6s,mb5.6						
CASY	**Casey**	**56.38**	**208**	eP	**P**	**00 30 20.5**	**-0.5**
MBWA	**Marble Bar**	**56.84**	**263**	eP	**P**	**00 30 21.7**	**-3.3**
MIDW	**Midway**	**57.13**	**0**	P	**P**	**00 30 25.9**	**-0.8**
BATI	**Baumata**	**57.99**	**276**	LR	LR	00 54 12.2	
	comp=Z,815nm,20.2s,MS4.8,baz=115,slow=35						
QSPA	**South Pole Qui**	**60.86**	**180**	P	**P**	**00 30 53.8**	**+1.8**
	comp=Z,25nm,0.8s,mb5.4,baz=37,slow=2.3,SNR=63						
QSPA	**South Pole Qui**	**60.86**	**180**	P	**P**	**00 30 53.8**	**+1.8**
MAW	**Mawson**	**73.56**	**200**	eP	**P**	**00 32 14.1**	**+1.6**
	comp=Z,10nm,0.4s,mb5.1						
MAW	**Mawson**	**73.56**	**200**	P	**P**	**00 32 13.6**	**+1.2**
	comp=Z,8.8nm,0.7s,mb4.8,baz=155,slow=7.1,SNR=12						
MAW	**Mawson**	**73.56**	**200**	eP	**P**	**00 32 14.1**	**+1.6**
MAW				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MJAR	**Matsushiro Arr**	**77.57**	**325**	P	**P**	**00 32 34.7**	**-1.1**
	comp=Z,12nm,0.9s,mb4.8,baz=163,slow=5.8,SNR=8.3						
MJAR	**Matsushiro Arr**	**77.57**	**325**	P	**P**	**00 32 34.7**	**-1.1**
MAJO	**Matsushiro**	**77.57**	**325**	eP	**P**	**00 32 34.8**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
MAJO	**Matsushiro**	**77.57**	**325**	eP	**P**	**00 32 34.8**	**-1.0**
	comp=Z,18nm,1.0s,mb5.0						
MAT	**Matsushiro**	**77.57**	**325**	P	**P**	**00 32 34.6**	**-1.2**
SYO	**Syowa Base**	**78.35**	**193**	∥eP	**P**	**00 32 38.4**	**-1.3**
SYO	**Syowa Base**	**78.35**	**193**	∥ePcP	PcP	00 32 47.0	-1.9
SYO	**Syowa Base**	**78.35**	**193**	∥epP	pP	00 32 52.2	-2.4
SNAA	**Sanae**	**79.30**	**178**	eP	**P**	**00 32 44.5**	**-0.4**
SNAA				e		00 32 52.9	
SNAA				e		00 33 05.5	
SNAA	**Sanae**	**79.30**	**178**	eP	**P**	**00 32 45.0**	**+0.1**
SNAA				e		00 32 52.6	
SNAA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SNAA	**Sanae**	**79.30**	**178**	eP	**P**	**00 32 45.0**	**+0.1**
	comp=Z,7.7nm,0.8s,mb4.7						
SNAA				ePcP	PcP	00 32 52.6	-0.4
MAIT	**Maitri**	**80.05**	**183**	eP	**P**	**00 32 53.3**	**+4.3**
VNA1	**Neumayer--Stat**	**80.09**	**176**	eP	**P**	**00 32 49.7**	**+0.5**
VNA1				e		00 32 56.9	
COCO	**West Island**	**80.46**	**261**	eP	**P**	**00 32 50.7**	**-1.5**
ASAJ	**Asahikawa**	**81.64**	**332**	P	**P**	**00 32 56.9**	**-0.8**
	comp=Z,15nm,0.8s,mb5.0,baz=292,slow=8.1,SNR=8.4						
NIKO	**Nikolski**	**82.21**	**5**	P	**P**	**00 33 04.1**	**+3.6**
PLCA	**Paso Flores**	**82.94**	**133**	P	**P**	**00 33 05.5**	**+0.6**
	comp=Z,8.1nm,1.1s,mb4.7,baz=213,slow=5.1,SNR=10						
PLCA				LR	LR	01 00 10.3	
	comp=Z,234nm,20.2s,MS4.5,baz=198,slow=29						
UNV	**Unalaska Valle**	**83.28**	**7**	P	**P**	**00 33 05.6**	**-0.4**
KSRS	**Korea Array**	**83.78**	**319**	P	**P**	**00 33 08.7**	**-0.3**
	comp=Z,0.9nm,0.6s,mb4.1,baz=293,slow=28,SNR=4.5						
KSRS				LR	LR	01 06 47.7	
	comp=Z,76nm,19.6s,MS4.1,baz=332,slow=33						
YSS	**Yuzh-Sakhalins**	**83.92**	**334**	∥eP	**P**	**00 33 10.4**	**+1.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.4						
YSS	**Yuzh-Sakhalins**	**83.92**	**334**	eP	**P**	**00 33 10.7**	**+1.3**
PKD	**Parkfield**	**84.08**	**43**	⇑P	**P**	**00 33 10.4**	**-0.1**
	baz=84						
U04C	**Hernandez Rese**	**84.22**	**43**	⇓P	**P**	**00 33 11.3**	**+0.1**
	baz=84						
PACP	**Pacheco Peak**	**84.36**	**42**	⇑P	**P**	**00 33 12.5**	**+0.6**
	baz=85						
PET	**Petropavlovsk**	**84.53**	**346**	eP	**P**	**00 33 12.0**	**-0.4**
PET				eS	S	00 43 36.4	+1.7
PET				eSS	SS	00 49 11.3	+4.0
PET				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.1						
PET				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.2						
CVS	**Carmenet Viney**	**84.61**	**40**	⇓P	**P**	**00 33 12.7**	**-0.5**
	baz=85						
MONP	**Monument Peak**	**84.63**	**48**	⇑P	**P**	**00 33 13.4**	**0.0**
	baz=85						
S04C	**Ingram Canyon,**	**84.67**	**42**	⇓P	**P**	**00 33 13.5**	**0.0**
	baz=85						
BFSC	**Mount Baldy St**	**84.71**	**46**	⇓P	**P**	**00 33 13.9**	**+0.2**
	baz=85						
HOPS	**Hopland**	**84.71**	**40**	⇓P	**P**	**00 33 13.7**	**0.0**
	baz=85						
PETK	**Petropavlovsk-**	**84.82**	**345**	P	**P**	**00 33 13.0**	**-0.8**
	comp=Z,11nm,0.7s,mb5.1,baz=131,slow=7.4,SNR=28						
VES	**Vestal, Richgr**	**84.89**	**44**	⇓P	**P**	**00 33 14.4**	**-0.2**
	baz=85						
EDW2	**Edwards Air Fo**	**84.92**	**45**	⇓P	**P**	**00 33 14.5**	**-0.4**
	baz=85						
MNRC	**McLaughlin Nat**	**84.98**	**40**	⇑P	**P**	**00 33 15.0**	**0.0**
	baz=85						
ISA	**Isabella**	**85.14**	**44**	eP	**P**	**00 33 16.2**	**+0.3**
ISA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
ISA	**Isabella**	**85.14**	**44**	⇑P	**P**	**00 33 15.6**	**-0.2**
	baz=85,SNR=5.3						
ISA	**Isabella**	**85.14**	**44**	eP	**P**	**00 33 16.2**	**+0.3**
	comp=Z,6.4nm,0.8s,mb4.8						
T06C	**Millerton Lake**	**85.29**	**43**	P	**P**	**00 33 16.6**	**0.0**
	baz=86,SNR=6.6						
GASB	**Alder Springs**	**85.37**	**39**	⇑P	**P**	**00 33 17.0**	**+0.1**
	baz=86						
HELL	**Mitchell Peak**	**85.48**	**43**	⇓P	**P**	**00 33 17.5**	**-0.1**
	baz=86						
CMB	**Columbia Colle**	**85.58**	**42**	eP	**P**	**00 33 17.5**	**-0.5**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
CMB	**Columbia Colle**	**85.58**	**42**	⇓P	**P**	**00 33 17.4**	**-0.6**
	baz=86,SNR=8.1						
CMB	**Columbia Colle**	**85.58**	**42**	eP	**P**	**00 33 17.5**	**-0.5**
	comp=Z,5.1nm,0.7s,mb4.9						
SUTB	**Sutter Butte**	**85.60**	**40**	⇑P	**P**	**00 33 17.9**	**-0.2**
	baz=86						
BELC	**Belle Mtn.**	**85.61**	**47**	⇑P	**P**	**00 33 17.9**	**-0.3**
	baz=86						
O02C	**Red Bluff**	**85.70**	**39**	⇓P	**P**	**00 33 18.8**	**+0.3**
	baz=86						
KCC	**Kaiser Creek**	**85.73**	**43**	⇓P	**P**	**00 33 18.6**	**-0.2**
	baz=86,SNR=5.5						
BC3	**Big Chuckw Mtn**	**85.74**	**48**	⇓P	**P**	**00 33 19.0**	**0.0**
	baz=86						
GLA	**Glamis**	**85.77**	**48**	⇑P	**P**	**00 33 18.8**	**-0.3**
	baz=86						
S06C	**San Francisco**	**85.79**	**42**	⇓P	**P**	**00 33 18.4**	**-0.6**
	baz=86						
PSI	**Prapat**	**85.80**	**276**	LR	LR	01 12 14.0	
	comp=Z,160nm,18.1s,MS4.5,baz=301,slow=36						
LAVA	**Lava Cap Winer**	**85.86**	**41**	⇑P	**P**	**00 33 19.1**	**-0.4**
	baz=86						
N02C	**Big Bar**	**85.87**	**38**	⇑P	**P**	**00 33 19.4**	**0.0**
	baz=86						
HEC	**Hector,Ludlow**	**85.93**	**46**	⇓P	**P**	**00 33 19.3**	**-0.6**
	baz=86,SNR=6.9						
GSC	**Goldstone**	**85.94**	**46**	eP	**P**	**00 33 20.2**	**+0.3**
GSC				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0						
GSC	**Goldstone**	**85.94**	**46**	⇓P	**P**	**00 33 19.6**	**-0.2**
	baz=86						
GSC	**Goldstone**	**85.94**	**46**	eP	**P**	**00 33 20.1**	**+0.3**
	comp=Z,9.8nm,1.0s,mb5.0						
ORV	**Oroville**	**85.98**	**40**	⇑P	**P**	**00 33 19.2**	**-0.8**
	baz=86						
O03C	**Acorn Hollow,**	**85.99**	**39**	⇓P	**P**	**00 33 19.4**	**-0.6**
	baz=86						
MPMC	**Manual Prospec**	**86.00**	**45**	⇑P	**P**	**00 33 19.7**	**-0.5**
	baz=86,SNR=13						
WDC	**Whiskeytown Da**	**86.11**	**39**	⇓P	**P**	**00 33 20.7**	**+0.1**
	baz=86						
WDC	**Whiskeytown Da**	**86.11**	**39**	eP	**P**	**00 33 20.8**	**+0.2**
MTUM	**Tungsten Hills**	**86.20**	**43**	eP	**P**	**00 33 21.1**	**0.0**
R05C	**Kirkwood Meado**	**86.21**	**41**	⇓P	**P**	**00 33 20.7**	**-0.5**
	baz=86						
IRM	**Iron Mountain**	**86.26**	**47**	⇑P	**P**	**00 33 21.6**	**+0.1**
	baz=86						
113A	**Mohawk Valley,**	**86.29**	**49**	⇓P	**P**	**00 33 21.4**	**-0.3**
	baz=86						
P05C	**Yuba Gap, Truc**	**86.31**	**41**	⇑P	**P**	**00 33 21.4**	**-0.2**
	baz=86						
GMRC	**Granite Mounta**	**86.32**	**47**	⇑P	**P**	**00 33 21.5**	**-0.2**
	baz=86						
R07C	**Lee Vining**	**86.40**	**42**	⇑P	**P**	**00 33 22.2**	**+0.2**
	baz=87						
Y12C	**Blythe**	**86.41**	**48**	⇑P	**P**	**00 33 21.9**	**-0.3**
	baz=87						
214A	**Organ Pipe Nat**	**86.43**	**50**	⇑P	**P**	**00 33 21.7**	**-0.6**
	baz=87						
R06C	**Coleville**	**86.45**	**42**	⇓P	**P**	**00 33 22.4**	**+0.1**
	baz=87						
S08C	**White Mtn Res**	**86.53**	**43**	⇑P	**P**	**00 33 22.8**	**+0.1**
	baz=87,SNR=9.5						
SHOC	**Shoshone**	**86.65**	**45**	⇑P	**P**	**00 33 22.9**	**-0.4**
	baz=87						
FURC	**Furnace Creek,**	**86.66**	**45**	⇑P	**P**	**00 33 23.3**	**-0.1**
	baz=87						
GRAC	**Grapevine Rang**	**86.69**	**44**	⇑P	**P**	**00 33 23.9**	**+0.3**
	baz=87						
YBH	**Yreka Blue Hor**	**86.83**	**38**	P	**P**	**00 33 23.3**	**-0.7**
	comp=Z,3.3nm,0.8s,mb4.6,baz=302,slow=2.0,SNR=5.6						
YBH	**Yreka Blue Hor**	**86.83**	**38**	eP	**P**	**00 33 24.1**	**0.0**
YBH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YBH	**Yreka Blue Hor**	**86.83**	**38**	⇓P	**P**	**00 33 23.9**	**-0.2**
	baz=87						
YBH	**Yreka Blue Hor**	**86.83**	**38**	eP	**P**	**00 33 24.1**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.6						
Y13A	**Salome**	**86.90**	**48**	⇑P	**P**	**00 33 24.5**	**-0.1**
	baz=87						
U10A	**Ash Meadows, A**	**86.95**	**45**	⇓P	**P**	**00 33 24.8**	**0.0**
	baz=87						
PDMCI	**Parker Dam,Lak**	**87.00**	**48**	⇑P	**P**	**00 33 25.1**	**0.0**
	baz=87						
NVAR	**Mina Array Bea**	**87.06**	**42**	P	**P**	**00 33 24.8**	**-0.5**
	comp=Z,4.3nm,0.7s,mb4.8,baz=222,slow=8.7,SNR=33						
NVAR	**Mina Array Bea**	**87.06**	**42**	P	**P**	**00 33 24.8**	**-0.5**
V11A	**Goodsprings**	**87.14**	**46**	⇓P	**P**	**00 33 25.7**	**0.0**
	baz=87						
K02A	**Glendale**	**87.14**	**37**	⇑P	**P**	**00 33 25.5**	**0.0**
	baz=87						
W12A	**Cal Nev Ari**	**87.15**	**47**	⇑P	**P**	**00 33 26.2**	**+0.3**
	baz=87						
Z14A	**Wintersburg**	**87.20**	**49**	⇑P	**P**	**00 33 26.3**	**+0.2**
	baz=87						
S09A	**Goldfield**	**87.25**	**44**	⇓P	**P**	**00 33 26.4**	**+0.2**
	baz=88						
115A	**Sonoran Desert**	**87.27**	**50**	⇑P	**P**	**00 33 26.0**	**-0.5**
	baz=88						
HUMO	**Hull Mountain**	**87.31**	**37**	⇓P	**P**	**00 33 26.8**	**+0.4**
	baz=88						
HUMO	**Hull Mountain**	**87.31**	**37**	eP	**P**	**00 33 27.0**	**+0.6**
O06A	**Flanigan**	**87.34**	**40**	⇓P	**P**	**00 33 26.3**	**-0.3**
	baz=88						
TPNV	**Topopah Spring**	**87.34**	**45**	eP	**P**	**00 33 27.1**	**+0.4**
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.0						
TPNV	**Topopah Spring**	**87.34**	**45**	eP	**P**	**00 33 27.1**	**+0.5**
	comp=Z,8.4nm,0.8s,mb5.0						
X13A	**Yucca**	**87.38**	**48**	⇓P	**P**	**00 33 26.8**	**-0.1**
	baz=88,SNR=5.3						
M05C	**Lookout**	**87.42**	**39**	⇑P	**P**	**00 33 26.8**	**-0.2**
	baz=88						
V12A	**Nelson**	**87.43**	**46**	⇓P	**P**	**00 33 27.3**	**+0.1**
	baz=88						
TPH	**Tonopah**	**87.47**	**43**	eP	**P**	**00 33 27.7**	**+0.4**
TPH				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.1						
TPH	**Tonopah**	**87.47**	**43**	eP	**P**	**00 33 27.6**	**+0.3**
	comp=Z,12nm,1.0s,mb5.1						
Y14A	**Wickenburg**	**87.51**	**49**	⇑P	**P**	**00 33 27.3**	**-0.3**
	baz=88						
J02A	**Umpqua**	**87.52**	**36**	⇓P	**P**	**00 33 27.7**	**+0.3**
	baz=88						
116A	**Eloy**	**87.54**	**50**	⇓P	**P**	**00 33 27.9**	**+0.1**
	baz=88						
Q08A	**Gabbs**	**87.57**	**42**	⇑P	**P**	**00 33 27.5**	**-0.2**
	baz=88						
L04A	**Klamath Falls**	**87.57**	**38**	⇑P	**P**	**00 33 27.2**	**-0.5**
	baz=88						
W13A	**Hualapai Mount**	**87.66**	**47**	⇑P	**P**	**00 33 28.3**	**+0.1**
	baz=88,SNR=5.4						
R09A	**Tonopah**	**87.67**	**43**	P	**P**	**00 33 28.1**	**-0.2**
	baz=88,SNR=8.8						
217A	**Green Valley**	**87.67**	**51**	⇑P	**P**	**00 33 28.3**	**-0.1**
	baz=88						
N06A	**Buffalo Meadow**	**87.73**	**40**	⇓P	**P**	**00 33 28.3**	**-0.1**
	baz=88						
S10A	**Tonopah Range,**	**87.75**	**44**	P	**P**	**00 33 28.5**	**-0.1**
	baz=88,SNR=13						
O07A	**Toulon**	**87.88**	**41**	⇓P	**P**	**00 33 28.8**	**-0.3**
	baz=88						
X14A	**Yava**	**87.91**	**48**	⇑P	**P**	**00 33 29.4**	**-0.1**
	baz=88,SNR=5.4						
MDJ	**Mudanjiang**	**87.95**	**325**	eP	**P**	**00 33 28.6**	**-0.7**
	comp=Z,20nm,1.3s,mb5.2						
Y15A	**Casa Rosa Ranc**	**87.96**	**49**	⇑P	**P**	**00 33 30.0**	**+0.2**
	baz=88,SNR=5.6						
TUC	**Tucson**	**88.01**	**51**	eP	**P**	**00 33 30.6**	**+0.6**
WHN	**Wuhan**	**88.04**	**307**	eP	**P**	**00 33 34.1**	**+3.9**
318A	**Bisbee**	**88.04**	**52**	⇓P	**P**	**00 33 30.1**	**0.0**
	baz=88						
L05A	**Lakeview**	**88.06**	**38**	⇑P	**P**	**00 33 30.2**	**+0.2**
	baz=88						
V13A	**Grand Canyon W**	**88.06**	**47**	⇓P	**P**	**00 33 29.9**	**-0.2**
	baz=88,SNR=6.7						
U12A	**Valley of Fire**	**88.07**	**46**	⇓P	**P**	**00 33 30.5**	**+0.3**
	baz=88,SNR=5.8						
S11A	**Rachel**	**88.09**	**44**	⇓P	**P**	**00 33 29.8**	**-0.4**
	baz=88						
I03A	**Eugene**	**88.10**	**36**	⇑P	**P**	**00 33 29.9**	**-0.2**
	baz=88						
T11A	**Corn Creek, Al**	**88.16**	**45**	⇑P	**P**	**00 33 30.9**	**+0.3**
	baz=88,SNR=12						
R10A	**Warm Springs**	**88.17**	**44**	⇑P	**P**	**00 33 30.5**	**-0.1**
	baz=88						
Z16A	**Peralta Trail,**	**88.20**	**50**	⇓P	**P**	**00 33 31.3**	**+0.5**
	baz=88						
117A	**Oracle**	**88.20**	**51**	⇑P	**P**	**00 33 31.3**	**+0.4**
	baz=88						
N07B	**Gerlach**	**88.23**	**40**	⇓P	**P**	**00 33 31.1**	**+0.2**
	baz=88						
W14A	**Seligman**	**88.24**	**48**	P	**P**	**00 33 31.7**	**+0.7**
	baz=88,SNR=6.5						
MOD	**Modoc**	**88.25**	**39**	⇑P	**P**	**00 33 31.1**	**+0.2**
	baz=88						
218A	**Dragoon**	**88.32**	**52**	⇓P	**P**	**00 33 31.7**	**+0.2**
	baz=88						
X15A	**Humboldt**	**88.35**	**49**	⇓P	**P**	**

baz=90
Q12A Willow Creek R 89.53 44 ⇑P P 00 33 36.9 -0.1
baz=90
WUAZ Wupatki 89.54 48 eP P 00 33 37.8 +0.7
comp=Z,13nm,1.1s,mb5.2
H05A Madras 89.63 36 ⇓P P 00 33 37.3 +0.1
baz=90
I06A Prineville 89.68 37 ⇓P P 00 33 37.7 +0.2
baz=90
O11A Cowboy Ranch, 89.73 43 ⇑P P 00 33 37.8 -0.1
baz=90,SNR=5.3
P12A McGill 89.76 43 ⇑P P 00 33 38.3 +0.3
baz=90
E03A Lebam 89.78 34 ⇓P P 00 33 38.3 +0.4
baz=90
J07A Hines 89.78 38 ⇑P P 00 33 38.1 +0.1
baz=90
L09A Wilkinson Ranc 89.79 40 ⇑P P 00 33 37.8 -0.3
baz=90
T15A Red Dirt Ranch 89.80 47 ⇓P P 00 33 38.3 0.0
baz=90
K08A Mann Creek Ran 89.80 39 ⇓P P 00 33 38.5 +0.3
baz=90
X18A Snowflake 89.89 50 ⇑P P 00 33 39.2 +0.4
baz=90,SNR=5.7
TRQA Tornquist 89.90 135 eP P 00 33 38.7 -0.4
comp=Z,9.1nm,1.1s,mb5.0
F04A Amboy 89.91 35 ⇑P P 00 33 38.3 -0.3
baz=90
Q13A Wheeler Ranch, 89.97 44 ⇑P P 00 33 39.0 -0.1
baz=90
G05A Wamic 89.99 36 ⇓P P 00 33 39.0 0.0
baz=90
M10A I.L. Ranch, Tu 90.11 41 ⇑P P 00 33 39.7 +0.1
baz=90
I07A Izee 90.15 38 P P 00 33 39.8 0.0
baz=90,SNR=6.8
H06A Lindquist Farm 90.15 37 P P 00 33 39.9 +0.2
baz=90,SNR=5.0
S15A Panguitch 90.21 46 ⇓P P 00 33 40.9 +0.7
baz=90
J08A Circle Bar Ran 90.22 39 ⇓P P 00 33 40.3 +0.2
baz=90
NLWA Neilton Lookou 90.23 33 ⇑P P 00 33 40.5 +0.4
baz=90
NLWA Neilton Lookou 90.23 33 eP P 00 33 40.7 +0.7
X19A St. Johns 90.27 50 ⇑P P 00 33 40.7 +0.1
baz=90
KLR Kul'dur 90.28 329 eP P 00 33 36.2 -4.0
P13A Bates Ranch, G 90.28 44 P P 00 33 41.0 +0.5
baz=90,SNR=6.0
O12A Currie 90.36 43 ⇑P P 00 33 41.0 +0.2
baz=91
ELK Elko 90.36 42 eP P 00 33 40.8 0.0
ELK pmax pmax
comp=Z,14nm,1.8s
ELK Elko 90.36 42 eP P 00 33 40.8 0.0
comp=Z,14nm,1.8s,mb5.0
Q14A Sevier Lake (B 90.44 45 ⇓P P 00 33 41.3 +0.1
baz=91,SNR=5.7
H07A Lands Inn, Kim 90.46 37 ⇓P P 00 33 41.1 -0.1
baz=91
M11A Holland Ranch, 90.48 41 ⇓P P 00 33 41.0 -0.4
baz=91
L10A Juniper Basin 90.50 41 P P 00 33 41.3 -0.1
baz=91,SNR=7.5
I08A Drewsey 90.54 38 ⇓P P 00 33 41.2 -0.3
baz=91
N12A Clover Valley, 90.55 42 ⇓P P 00 33 41.8 +0.1
baz=91
J09A Fry Pan Ranch, 90.61 39 ⇑P P 00 33 41.7 -0.3
baz=91
E05A Randle 90.68 35 ⇓P P 00 33 42.1 0.0
baz=91
S16A Weppner Ranch, 90.72 46 ⇑P P 00 33 42.4 -0.2
baz=91
K10A MacKenzie Ranc 90.73 40 ⇓P P 00 33 42.3 -0.2
baz=91,SNR=7.3
T17A Navajo Res., N 90.79 47 ⇓P P 00 33 42.9 0.0
baz=91
MSU Marysvale 90.83 45 eP P 00 33 43.7 +0.6
G07A Ruggs Ranch, H 90.86 37 P P 00 33 42.8 -0.2
baz=91,SNR=5.7
C04A Brinnon 90.89 33 ⇑P P 00 33 43.1 0.0
baz=91
P14A Drum Mountains 90.94 44 ⇑P P 00 33 43.6 +0.1
baz=91
L11A Cat Creek Ranc 90.97 41 ⇑P P 00 33 43.4 -0.3
baz=91,SNR=6.3
D05A Enumclaw 91.00 34 ⇑P P 00 33 43.6 -0.1
baz=91
E06A Yakima 91.06 35 ⇑P P 00 33 43.8 -0.1
baz=91
R16A Teasdale 91.13 46 ⇓P P 00 33 44.6 +0.1
baz=91
K11A Parker Ranch, 91.20 40 ⇑P P 00 33 44.2 -0.4
baz=91
G08A Pilot Rock 91.25 37 P P 00 33 44.8 -0.1
baz=92,SNR=15
M13A Montello 91.38 42 ⇑P P 00 33 45.6 0.0
baz=92
GYA Guiyang 91.40 300 P P 00 33 48.0 +2.0
GYA AP pP 00 34 04.2 +3.0
GYA XP sP 00 34 12.6 +5.7
GYA PP PP 00 37 28.9 +4.4
GYA SKS 00 44 13.2
GYA S S 00 44 40.6 -0.7
GYA XS sS 00 45 07.0 0.0
GYA SS SS 00 50 51.7 +3.2
GYA AMB AMB
comp=Z,20nm,0.9s,mb5.5
GYA AMB AMB
comp=Z,120nm,5.2s
GYA LR LR
comp=N,520nm,20.0s,MS5.1
GYA LR LR
comp=E,450nm,21.2s,MS5.1
GYA LR LR
comp=Z,580nm,20.4s,MS5.0
T18A Mexican Hat 91.47 48 P P 00 33 46.2 +0.1
baz=92,SNR=12
C05A Tolt Reservoir 91.50 34 ⇑P P 00 33 45.5 -0.4
baz=92
H09A Durkee 91.53 38 ⇓P P 00 33 46.2 +0.1
baz=92
N14A Grayback Hills 91.65 43 ⇑P P 00 33 46.2 -0.6
baz=92
RSW Rattlesnake Hi 91.66 36 eP P 00 33 46.2 -0.5
HAWA Hanford 91.69 36 eP P 00 33 47.2 +0.3
comp=Z,9.0nm,1.0s,mb5.0
MFID Camas Ranch 91.73 40 ⇑P P 00 33 46.8 -0.2
baz=92
K12A Draper Farm, C 91.75 41 ⇑P P 00 33 47.0 -0.3
baz=92
BMO Blue Mountains 91.84 38 eP P 00 33 47.4 -0.2
G09A Cove 91.86 38 ⇑P P 00 33 47.5 -0.2
baz=92
TMUT Trail Mountain 91.91 45 eP P 00 33 48.8 +0.7
M14A Sheep Mountain 91.95 43 P P 00 33 48.2 0.0
baz=92,SNR=6.0
L13A Double Diamond 91.97 42 ⇓P P 00 33 48.2 -0.1
baz=92
I11A Placerville 91.97 39 ⇑P P 00 33 48.0 -0.2
baz=92
H10A Noah's Angus R 91.97 39 P P 00 33 47.9 -0.4
baz=92,SNR=5.1
E08A Dider Farm, El 92.00 36 ⇑P P 00 33 47.5 -0.8
baz=92
J12A Stokes Ranch, 92.03 40 P P 00 33 48.6 +0.1
baz=92,SNR=7.2
SLKM Skilak Lake 92.17 13 eP P 00 33 48.5 -0.2
R18A Canyonlands Na 92.19 47 ⇑P P 00 33 49.1 -0.3
baz=92
SRU San Rafael 92.22 46 ⇑P P 00 33 49.5 -0.1
baz=92
SRU San Rafael 92.22 46 eP P 00 33 49.8 +0.3
G10A Bishop Farm, J 92.23 38 ⇑P P 00 33 49.3 0.0
baz=92
S19A Harvey Farm, M 92.30 47 ⇑P P 00 33 49.6 -0.4
baz=92
P17A Butcher Ranch, 92.31 45 ⇓P P 00 33 49.9 0.0
baz=92
L14A Malta 92.34 42 ⇓P P 00 33 49.9 -0.1
baz=93
SPUT South Promonto 92.37 43 eP P 00 33 50.7 +0.6
BJI Beijing 92.44 315 P P 00 33 52.6 +2.1
BJI S S 00 44 52.6 +2.5
BJI AMB AMB
comp=Z,6.0nm,0.9s,mb4.9
BJI LR LR
comp=Z,279nm,33.2s,MS4.5
D08A Wollman Farm, 92.45 36 ⇑P P 00 33 50.2 -0.1
baz=93
H11A Donnelly 92.45 39 ⇓P P 00 33 50.1 -0.3
baz=93,SNR=5.8
HVU Hansel Valley 92.46 43 eP P 00 33 50.5 0.0
M15A Larsen Ranch, 92.46 43 ⇑P P 00 33 50.0 -0.5
baz=93,SNR=8.9
Q18A Rafter H Ranch 92.47 46 ⇓P P 00 33 50.3 -0.4
baz=93
ANMO Albuquerque 92.48 51 eP P 00 33 49.6 -1.2
ANMO pmax pmax
comp=Z,9.0nm,1.4s
ANMO Albuquerque 92.48 51 eP P 00 33 49.6 -1.2
comp=Z,8.8nm,1.4s,mb4.9
E09A Wood Farm, Sta 92.48 36 ⇓P P 00 33 50.1 -0.5
baz=93
R19A Curley Farm, L 92.54 47 ⇑P P 00 33 50.7 -0.3
baz=93
F10A Beach Ranch, E 92.61 37 P P 00 33 50.6 -0.5
baz=93,SNR=8.8
HLID Hailey 92.62 40 P P 00 33 51.3 +0.1
baz=93,SNR=10
HLID Hailey 92.62 40 eP P 00 33 51.2 0.0
comp=Z,4.7nm,0.8s,mb5.0
J13A Cove Ranch, Pi 92.65 41 ⇑P P 00 33 51.6 +0.2
baz=93
K14A Jones Ranch, D 92.70 42 ⇓P P 00 33 51.5 -0.1
baz=93
PV10 Paradox Valley 92.73 47 P P 00 33 51.7 -0.2
G11A Walters Elk Ra 92.75 38 P P 00 33 51.4 -0.4
baz=93,SNR=16
D09A Jones Farm, Ri 92.76 36 ⇑P P 00 33 51.7 0.0
baz=93
RC01 Rabbit Creek A 92.80 13 eP P 00 33 51.6 0.0
L15A Malad City 92.83 43 ⇑P P 00 33 51.8 -0.4
baz=93,SNR=5.4
M16A Huntsville 92.86 43 ⇑P P 00 33 52.1 -0.3
baz=93
PV01 Paradox Valley 92.89 47 eP P 00 33 52.3 -0.3
H12A Diamond D Ranc 92.99 39 P P 00 33 52.6 -0.2
baz=93,SNR=12
I13A Wildhorse Cree 93.00 40 ⇑P P 00 33 52.7 -0.3
baz=93
K15A Arbon 93.16 42 ⇑P P 00 33 53.8 0.0
baz=93
C09A Chrisman Ranch 93.27 35 ⇑P P 00 33 54.0 -0.1
baz=94
E11A Bogner Ranch, 93.40 37 ⇓P P 00 33 54.4 -0.4
baz=94
CMAR Chiang Mai Arr 93.48 289 P P 00 33 57.8 +2.0
comp=Z,0.9nm,0.3s,mb4.6,baz=222,slow=45,SNR=4.7
CMAR LR LR 01 11 57.7
comp=Z,73nm,18.8s,MS4.2,baz=210,slow=33
F12A Elk City 93.53 38 P P 00 33 55.1 -0.3
baz=94,SNR=7.8
G13A Cobalt 93.67 39 P P 00 33 56.0 -0.1
baz=94,SNR=7.2
KMI Kunming 93.73 297 P P 00 33 58.1 +1.3
KMI S S 00 45 00.9 -1.3
KMI SS SS 00 51 26.2 +4.1
KMI AMB AMB
comp=Z,6.0nm,0.5s,mb5.3
KMI LR LR
comp=Z,72nm,19.9s,MS4.1
J16A Bone 94.05 42 ⇑P P 00 33 57.8 0.0
baz=94
F13A Darby 94.05 39 ⇓P P 00 33 57.2 -0.6
baz=94
LVC Limon Verde 94.07 119 eP P 00 33 58.6 +0.1
comp=Z,4.7nm,0.8s,mb5.0
RRI2 Red Ridge 94.27 42 eP P 00 33 59.0 +0.2
MCMT McKenzie Canyo 94.28 40 eP P 00 33 55.2 -3.6
TPAW Teton Pass 94.57 42 eP P 00 34 00.6 +0.4
comp=Z,4.1nm,0.6s,mb5.0
SDCO Great Sand Dun 94.68 49 P P 00 34 00.9 0.0
G15A Dillon 94.69 40 ⇑P P 00 34 00.1 -0.6
baz=95
DLMT Dillon 94.75 40 eP P 00 34 01.1 +0.1
TRF Thorofare Moun 94.86 12 eP P 00 34 00.4 -0.7
comp=Z,4.4nm,0.8s,mb4.9
SEY Seymchan 94.96 347 ⇓eP P 00 34 01.1 -0.4
PDAR Pinedale Array 94.97 43 P P 00 34 00.9 -1.1
comp=Z,1.5nm,0.8s,mb4.5,baz=180,slow=2.7,SNR=11
PDAR PKKP PKKPbc 00 50 57.3 -1.1
comp=Z,0.6nm,0.7s,baz=83,slow=4.6,SNR=4.9
PDAR LR LR 01 12 29.8
comp=Z,75nm,18.2s,MS4.2,baz=242,slow=33
FLWY Flagg Ranch 95.06 42 eP P 00 34 02.9 +0.4
MCK McKinley 95.37 12 eP P 00 34 02.4 -0.9
BOZ Bozeman (W) 95.46 40 eP P 00 34 03.8 -0.4
BOZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
BOZ Bozeman (W) 95.46 40 eP P 00 34 03.8 -0.4
comp=Z,3.7nm,1.1s,mb4.7
CD2 Chengdu 95.88 302 eP P 00 34 05.4 -1.1
CD2 AP pP 00 34 22.6 +0.9
CD2 XP sP 00 34 29.3 +1.8
CD2 PP PP 00 38 00.8 +1.2
CD2 SKS 00 44 35.2
CD2 S S 00 45 15.7 -5.0
CD2 XS sS 00 45 45.3 -1.1
CD2 SS SS 00 51 51.6 -0.9
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,30nm,6.8s
CD2 LR LR
comp=N,230nm,12.8s,MS5.0
CD2 LR LR
comp=E,320nm,14.8s,MS5.0
CD2 LR LR
comp=Z,250nm,14.6s,MS4.8
COLA College 96.61 12 i P P 00 34 09.5 +0.5
EGMT Eagleton 97.90 39 ePdif P 00 34 18.9 +3.6
LPAZ La Paz 98.17 114 P P 00 34 18.3 +1.0
comp=Z,1.3nm,0.8s,mb4.5,baz=214,slow=5.7,SNR=6.8
LPAZ LR LR 01 07 18.3
comp=Z,106nm,20.4s,MS4.3,baz=178,slow=28
LZH Lanzhou 98.42 307 eP P 00 34 21.0 +3.1
LZH AP pP 00 34 38.5 +5.4
LZH XP sP 00 34 45.2 +6.4
LZH ePP PP 00 38 25.0 +6.0
LZH SKS 00 44 53.1
LZH eS S 00 45 42.2 0.0
LZH XS sS 00 46 11.5 +3.5
LZH AMB AMB
comp=Z,18nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,103nm,8.9s
LZH LR LR
comp=N,209nm,18.0s
LZH LR LR
comp=Z,337nm,19.9s,MS4.8
RSSD Black Hills 99.06 44 eP P 00 34 19.8 -0.7
LHS Liberty Hill 110.94 61 ePdif Pdif 00 35 05.9 -7.6
WMQ Urumqi 112.89 308 ePKP PKiKP 00 39 15.7 -0.6
WMQ LR LR
comp=N,46nm,19.6s,MS4.2
WMQ LR LR
comp=E,51nm,23.2s,MS4.2
WMQ LR LR
comp=Z,61nm,20.6s,MS4.2
RES Resolute Bay 116.00 17 ePKPdf PKPdf 00 39 21.6 +0.1
MK31 Makanchi Array 117.39 310 ePKIKP PKPdf 00 39 23.8 -1.1
MKAR Makanchi Array 117.39 310 PKP PKPdf 00 39 24.0 -0.9
comp=Z,2.5nm,0.5s,baz=160,slow=1.3,SNR=16
MKAR Makanchi Array 117.39 310 PKP PKPdf 00 39 24.0 -0.9
ZALV Zalesovo Beam 117.49 319 PKP PKPdf 00 39 23.4 -1.4
comp=Z,2.2nm,0.7s,baz=123,slow=2.5,SNR=5.3
ZALV Zalesovo Beam 117.49 319 PKP PKPdf 00 39 23.4 -1.4
ZAL Zalesovo 117.50 319 PKIKP PKPdf 00 39 23.4 -1.4
BOSA Boshof 118.51 203 PKP PKPdf 00 39 29.4 +1.6
comp=Z,3.4nm,0.9s,baz=59,slow=5.5,SNR=4.8
KURK Kurchatov 120.59 314 ePKIKP PKPdf 00 39 29.8 -1.1
AML Almayashu 122.34 304 ePKPdf PKPdf 00 39 35.0 +0.5
KBL Kabul 124.20 294 ePKPdf PKPdf 00 39 38.8 +0.5
BVAR Borovoye Array 125.91 316 PKP PKPdf 00 39 41.1 0.0
comp=Z,7.7nm,0.6s,baz=162,slow=1.3,SNR=16
BRVK Borovoye 125.97 316 ePKIKP PKPdf 00 39 40.4 -0.7
SPITS Spitsbergen Ar 130.58 356 PKP PKPdf 00 39 49.4 0.0
comp=Z,1.9nm,0.6s,baz=304,slow=0.7,SNR=5.9
ARU Arti 132.50 321 i PKIKP PKPdf 00 39 54.0 +0.6
ARU 00 42 16.4
ARU SS SS 00 59 50.7 -2.7
ARU Arti 132.50 321 ePKPdf PKPdf 00 39 53.2 -0.2
AKTK Aktyubinsk 133.67 313 PKP PKPdf 00 39 56.1 +0.2
AKTK SKPbc SKPbc 00 43 23.7 +3.5
AKTO Aktyubinsk 133.67 313 PKP PKPdf 00 39 56.1 +0.2
comp=Z,7.7nm,0.8s,baz=46,slow=1.9,SNR=5.5
AKTO SKPbc SKPbc 00 43 23.7 +3.5
comp=Z,1.8nm,0.8s,baz=41,slow=14,SNR=5.8
KMBO Kilima Mbogo 135.15 234 PKP PKPdf 00 40 00.3 +0.4
comp=Z,0.4nm,0.3s,baz=48,slow=22,SNR=3.2
KMBO Kilima Mbogo 135.15 234 ⇑i PKIKP PKPdf 00 40 01.6 +1.8
ARCES ARCESS Array B 137.56 348 PKhKP PKPdf 00 39 55.9 -6.7
comp=Z,6.3nm,1.0s,baz=73,slow=1.2,SNR=5.7
JOF Joensuu 141.52 339 ep PKPdf 00 40 02.1 -7.8
comp=Z,3.8nm,0.6s
JOF Joensuu 141.52 339 ePKHKP PKPdf 00 40 02.1 -7.8
JOF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 143.62 341 ep PKPdf 00 40 08.4 -5.3
comp=Z,2.9nm,0.5s
KAF Kangasniemi 143.62 341 ePKHKP PKPdf 00 40 08.4 -5.3
KAF pmax pmax
comp=Z,3.0nm,0.5s
MOS Moscow 143.64 327 ePKIKP PKiKP 00 40 20.9 +3.6
GNI Garni 143.95 299 PKP PKiKP 00 40 19.3 +0.8
comp=Z,6.0nm,0.6s,baz=18,slow=11,SNR=7.2
GNI Garni 143.95 299 ePKPdf PKPdf 00 40 13.9 -1.1
GNI PKP PKiKP 00 40 19.3 +0.8
OBN Obninsk 144.49 326 ⇑i PKIKP PKPdf 00 40 13.3 -2.1
OBN e 00 43 28.2
OBN eSS SS 01 02 16.6 +2.1
OBN pmax pmax
comp=Z,26nm,0.6s
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.7
OBN Obninsk 144.49 326 ePKPdf PKPdf 00 40 13.4 -2.0
KIV Kislovodsk 144.96 306 ePKIKP PKPdf 00 40 14.7 -1.9
KIV pmax pmax
comp=Z,22nm,1.1s
KIV Kislovodsk 144.96 306 ePKP PKPdf 00 40 15.9 -0.7
VRSR Storozhevoye 144.98 319 i PKIKP PKPdf 00 40 15.0 -1.4
VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR pmax pmax
comp=E,4.0nm,0.7s
VRSR pmax pmax
comp=Z,8.0nm,0.7s
VSU Vasula 146.36 337 c i PKP2 PKPab 00 40 19.1 -1.6
NB2 NORSAR Subarra 147.68 352 PKP PKPbc 00 40 22.6 -0.9
comp=Z,12nm,0.6s,baz=12,slow=2.9
NOA NORSAR Array B 147.68 352 PKPbc PKPbc 00 40 22.6 -0.8
comp=Z,12nm,0.6s,baz=14,slow=4.4,SNR=52
NAO01 NORSAR Array S 147.91 352 ePKPbc PKPbc 00 40 23.5 -0.6
HFS Hagfors 148.20 349 PKPbc PKPbc 00 40 24.0 -0.9
comp=Z,24nm,0.7s,baz=79,slow=3.1,SNR=45
ANN Anapa 148.40 309 i PKP2 PKPbc 00 40 24.9 -1.0
ANN pmax pmax
comp=Z,38nm,0.8s
MALT Malatya 149.00 296 ⇑i P PKPbc 00 40 28.6 +0.9
MALT Malatya 149.00 296 ePKPab PKPab 00 40 28.7 -3.2
ASF Jabal al Asfar 150.40 284 PKPbc PKPbc 00 40 32.6 +1.3
comp=Z,18nm,0.8s,baz=356,slow=2.2,SNR=38
SIM Simferopol' 150.57 311 i PKIKP PKPbc 00 40 31.1 -0.2
SIM e 00 40 41.3
SIM pmax pmax
comp=Z,28nm,0.7s
SIM MLR MLR
comp=Z,50nm,18.0s,MS4.4
AKASG Malin Array Be 150.66 324 PKPbc PKPbc 00 40 30.8 -0.5
comp=Z,23nm,0.6s,baz=45,slow=3.0,SNR=104
AKBB Malin Array Si 150.66 324 ePKIKP PKPbc 00 40 30.8 -0.5
AKBB e 00 40 37.5
KIEV Kiev 150.67 324 ePKIKP PKPbc 00 40 30.7 -0.6
KIEV e 00 40 37.5
SUW Suwalki 151.05 335 ePKP PKPbc 00 40 31.8 -0.3
MMAI Mount Meron Ar 151.69 286 PKPbc PKPbc 00 40 35.0 +0.7
comp=Z,50nm,0.7s,baz=76,slow=7.0,SNR=72
ANTO Ankara 153.05 301 ⇓i P PKPbc 00 40 37.5 +0.4
ANTO Ankara 153.05 301 ePKPbc PKPbc 00 40 37.5 +0.4
CSS Prodhromos 153.38 290 ePKPbc PKPbc 00 40 37.8 -0.2
GKP Gorka Klasztor 153.68 340 ePKP PKPbc 00 40 38.2 +0.2
TLCR 153.88 315 ⇓i P PKPbc 00 40 38.9 +0.2
TLCR 153.88 315 P PKPbc 00 40 38.9 +0.2
TIRR Tirgusor 154.48 314 ⇓i P PKPbc 00 40 39.9 -0.1
TIRR Tirgusor 154.48 314 ePKPbc PKPbc 00 40 39.5 -0.5
KWP Kalwaria 154.52 329 ePKP PKPbc 00 40 40.0 +0.1
KWP Kalwaria 154.52 329 ePKP PKPbc 00 40 40.0 +0.1
BURAR Bucovina Array 154.63 323 ⇓i P PKPbc 00 40 41.7 +1.5
BURAR Bucovina Array 154.63 323 P PKPbc 00 40 41.7 +1.5
HARR Harsova 154.67 314 ⇓i P PKPbc 00 40 40.1 -0.3
HARR Harsova 154.67 314 P PKPbc 00 40 40.1 -0.3
VRI Vrincioaia 154.80 318 ⇓i P PKPbc 00 40 46.7 +6.1
VRI Vrincioaia 154.80 318 ePKPbc PKPbc 00 40 46.7 +6.0
KOLS Kolonicke sedl 155.22 328 i PKP PKPdf 00 40 38.9 +6.5
UZH Uzhgorod 155.42 327 ePKIKP PKPdf 00 40 35.0 +2.3
UZH e 00 40 41.2
CRVS Cervenica-Dubn 155.61 329 i PKP PKPab 00 40 59.4 +0.2
KSP Ksiaz 156.08 338 ePKP PKPab 00 41 01.2 0.0
KSP Ksiaz 156.08 338 ePKP PKPab 00 41 01.0 -0.1
KECS Kecovo 156.36 329 i PKP PKPab 00 41 00.7 -1.7
UPC Upice 156.46 338 ePKPab PKPab 00 41 02.8 0.0
DRGR 156.47 324 ⇓i P PKPab 00 41 02.9 -0.1
DRGR 156.47 324 ⇓P PKPab 00 41 02.9 -0.1
DBIC Dimbokro 156.48 161 PKPab PKPab 00 41 02.9 -0.9
comp=Z,3.8nm,0.7s,baz=178,slow=2.5,SNR=3.8
DPC Dobruska-Polom 156.49 338 ePKPab PKPab 00 41 02.9 0.0
MORC Moravsky Berou 156.54 335 ⇑i P PKPab 00 41 03.1 -0.1
MORC Moravsky Berou 156.54 335 ⇑P PKPab 00 41 03.1 -0.1
CLL Collm 156.61 343 ePKPab PKPab 00 41 01.7 -1.7
CLL Collm 156.61 343 i PKPdif 00 40 45.2
CLL i PKPab PKPab 00 41 01.9 -1.5
comp=Z,8.0nm,0.8s
CLZ Clausthal 156.68 348 ePKPdf PKPdf 00 40 29.6 -4.7
CLZ ePKPab PKPab 00 41 03.6 -0.1
PVCC Panska Ves 156.89 340 ePKPab PKPab 00 41 04.5 -0.1
PSZ Piszkesteto 157.04 329 ⇑i P PKPab 00 41 06.2 +0.8
KOLL Kolacno 157.17 332 i PKP PKPab 00 41 06.0 0.0
VRAC Vranov 157.28 336 ⇓i P PKPab 00 41 06.3 -0.1
PRU Pruhonice 157.37 340 ePKPab PKPab 00 41 06.5 -0.2
PRU AMS AMS 01 52 30.0
comp=Z,100nm,23.1s
MOX Moxa 157.56 345 ePKPab PKPab 00 41 06.7 -0.8
WERD Werda 157.57 344 ePKPdf PKPdf 00 40 29.8 -5.7
GUNZ Gunzen 157.65 343 ePKPdf PKPdf 00 40 29.8 -5.8
GUNZ ePKPab PKPab 00 41 07.6 -0.3
WERN Wernitzgruen 157.71 343 ePKPab PKPab 00 41 07.5 -0.7
NKC Novy Kostel 157.74 343 ePKPab PKPab 00 41 08.1 -0.2
MODS Modra-Piesok 157.79 333 ePKP PKPab 00 41 07.8 -0.8
ROTZ Rotzenmuhle 158.23 343 ePKPdf PKPdf 00 40 31.2 -5.1
KHC Kasperske Hory 158.42 340 ePKPab PKPab 00 41 11.2 -0.1
GRF Grafenberg Arr 158.54 344 ePKPab PKPab 00 41 11.7 -0.1
TNS Taunus Mts 158.58 350 ePKPab PKPab 00 41 11.0 -0.9
WET Wettzell 158.62 341 ePKPab PKPab 00 41 11.7 -0.4
GEC2 GERESS Array S 158.64 339 ePKPab PKPab 00 41 11.7 -0.6
GERES GERESS Array B 158.64 339 PKP PKPdf 00 40 38.1 +1.3
comp=Z,0.5nm,0.8s,baz=10,slow=6.0,SNR=3.8
GERES PKPab PKPab 00 41 11.8 -0.5
comp=Z,1.5nm,0.6s,baz=44,slow=5.9,SNR=21
VTS Vitosha 158.69 314 ⇓i P PKPab 00 41 13.9 +1.1
VTS Vitosha 158.69 314 ⇓P PKPab 00 41 13.9 +1.1
PKSM Moragy 158.88 328 ⇓i P PKPdf 00 40 40.8 +3.6
PKSM Moragy 158.88 328 P PKPdf 00 40 40.9 +3.6
WLF Walferdange 159.42 353 ePKPdf PKPdf 00 40 32.5 -5.2
RJOB Jochberg 159.90 340 ePKPdf PKPdf 00 40 34.3 -4.0
RJOB ePKPab PKPab 00 41 17.9 +0.1
FUR Furstenfeldbru 159.94 343 ePKPab PKPab 00 41 17.7 -0.2
SOKA Soboth 160.05 334 ⇑i P PKPab 00 41 16.1 -2.3
BFO Black Forest 160.43 348 ePKPab PKPab 00 41 17.9 -2.1
WTTA Wattenberg 160.67 341 ⇓i P PKPab 00 41 20.2 -0.9
comp=Z,11nm,0.6s,SNR=8.1
MOTA Moosalm 160.74 342 ⇑i P PKPab 00 41 20.5 -0.9
comp=Z,7.2nm,0.8s
ABTA Abfaltersbach 160.87 339 ⇑i P PKPab 00 41 20.7 -1.3
comp=Z,7.4nm,0.8s,SNR=7.4
DAVA Damuels 161.10 344 ⇑i P PKPab 00 41 23.0 -0.1
comp=Z,5.9nm,0.7s
LOR Lormes 161.97 357 ePKIKP PKPdf 00 40 44.5 +3.9
comp=Z,12nm,1.2s
SSF Saint Saulge 162.19 358 ePKIKP PKPdf 00 40 45.7 +4.9
comp=Z,14nm,1.2s
SMF Signal de Mont 162.60 357 ePKIKP PKPdf 00 40 46.1 +4.9
TCF Toulx Ste Croi 162.98 1 ePKIKP PKPdf 00 40 46.7 +5.1

comp=Z,7.6nm,1.0s
TORD Torodi Ar. Bea 163.96 177 PKP PKPdf 00 40 43.5 +0.1
comp=Z,3.1nm,0.8s,baz=262,slow=2.2,SNR=6.3
TORD PKPab PKPab 00 41 36.0 -0.3
comp=Z,3.0nm,0.7s,baz=187,slow=3.9,SNR=7.9
ESDC Sonseca Array 168.29 26 PKP PKPdf 00 40 44.5 -1.6
comp=Z,0.1nm,0.3s,baz=64,slow=3.0,SNR=3.7
ESDC PKPab PKPab 00 41 54.0 -0.9
comp=Z,0.4nm,0.7s,baz=329,slow=3.9,SNR=4.4

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*MOS **10** 00:28:20.1±1.0,3640N×7136E,h91km,mb4.5/43,Error ellipse: s-maj=7.8km s-min=4.4km az=125.2*
*ISCJB **10** 00:28:21.3±0.4,3640N±002×7144E±003,h107km±4km, mb4.4/76,Error ellipse: s-maj=4.3km s-min=3.0km az=160.8*
*IDC **10** 00:28:21.4±3.7,3636N×7126E,h92km±33km, mb4.0/17, mb1 4.1/21,mb1mx4.0/28,mbtmp4.0/21,MS2.9/5, Ms1 2.9/5,ms1mx2.8/29,Error ellipse: s-maj=14.4km s-min=12.4km az=5.0*
*NEIC **10** 00:28:23.0±0.7,3644N×7139E,h103km±6km,mb4.5/43, Error ellipse: s-maj=6.5km s-min=4.7km az=186.0*
*BJI **10** 00:28:23.1,3662N×7130E,h101km,mB5.0,mb4.6*
*NNC **10** 00:28:28.9±2.4,3696N×7109E,h190km±18km,mb3.6, mpv5.1,Error ellipse: s-maj=18.6km s-min=14.6km az=11.0*
ISC 10 00:28:22.8±0.3,3639N±002×7142E±003,h105km±4km, h95km±7.6km:pP-P,n266,σ1§15/301,mb4.4/75,35C-16D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.59**	**171**	⇑P	**Pn**	**00 29 05.3**	**+2.1**
CEP				S	**Sn**	**00 29 38.0**	**+3.8**
KBL	**Kabul**	**2.67**	**227**	*e*Pn	**Pn**	**00 29 04.8**	**+0.5**
KBL				*e*Sn	**Sn**	**00 29 35.6**	**-0.7**
CHCP	**Chirah Chowk**	**3.12**	**150**	⇑P	**Pn**	**00 29 13.4**	**+3.2**
SARP	**Sargodha**	**4.57**	**167**	P	**Pn**	**00 29 31.5**	**+1.7**
KSH	**Kashi**	**4.77**	**48**	*e*P	**Pn**	**00 29 36.4**	**+4.1**
KSH				S	**Sn**	**00 30 31.0**	**+4.6**
KSH				Smax			
	comp=N,2μm,0.4s						
KSH				Smax			
	comp=E,2μm,0.6s						
THN	**Thein Dam**	**5.31**	**137**	*e*P	**Pn**	**00 29 41.9**	**+2.2**
THN				*e*S	**Sn**	**00 30 40.2**	**+0.6**
DLH	**Dalhousie**	**5.37**	**134**	*e*P	**Pn**	**00 29 43.0**	**+2.5**
DLH				*ex*	x	00 30 45.0	
PONG	**Pong**	**5.80**	**138**	*e*P	**Pn**	**00 29 46.0**	**-0.4**
PONG				*e*S	**Sn**	**00 30 51.0**	**-0.6**
AML	**Almayashu**	**6.00**	**16**	P	**Pn**	**00 29 49.5**	**+0.5**
	SNR=318						
AML	**Almayashu**	**6.00**	**16**	*e*Pn	**Pn**	**00 29 49.4**	**+0.4**
	comp=E,382nm,0.5s						
AML				*e*Sn	**Sn**	**00 30 55.7**	**-0.6**
UCH	**Uchtor**	**6.31**	**21**	P	**Pn**	**00 29 54.4**	**+1.2**
	SNR=11						
UCH	**Uchtor**	**6.31**	**21**	*e*Pn	**Pn**	**00 29 54.0**	**+0.8**
	comp=E,31nm,0.6s						
UCH				*e*Sn	**Sn**	**00 31 02.6**	**-1.2**
KZA	**Kyzart**	**6.41**	**26**	P	**Pn**	**00 29 55.4**	**+0.8**
	SNR=164						
BHK	**Bhakra**	**6.47**	**139**	*e*P	**Pn**	**00 29 57.2**	**+1.8**
BHK				*e*S	**Sn**	**00 31 06.6**	**-1.2**
EKS2	**Erkin-Say**	**6.53**	**15**	P	**Pn**	**00 29 56.6**	**+0.4**
	SNR=167						
EKS2	**Erkin-Say**	**6.53**	**15**	*e*Pn	**Pn**	**00 29 56.5**	**+0.3**
	comp=E,186nm,0.6s						
EKS2				*e*Sn	**Sn**	**00 31 08.0**	**-1.1**
AAK	**Ala-Archa**	**6.68**	**20**	P	**Pn**	**00 29 59.0**	**+0.8**
	SNR=168						
SDNR	**Sundarnagar**	**6.71**	**135**	*e*P	**Pn**	**00 30 00.0**	**+1.3**
SDNR				*e*S	**Sn**	**00 31 12.0**	**-1.7**
KK31	**Karatay Array**	**6.75**	**354**	⇑P	**Pn**	**00 29 57.8**	**-1.3**
	comp=E,91nm,0.3s,baz=176,slow=13,SNR=3364						
KK31				⇓S	**Sn**	**00 31 09.1**	**-5.3**
	comp=E,177nm,0.5s,baz=176,slow=20,SNR=15						
KBK	**Karagaybulak**	**6.83**	**22**	P	**Pn**	**00 30 01.2**	**+0.9**
	SNR=36						
FRU	**Bishkek**	**6.89**	**20**	*e*PN	**Pn**	**00 30 01.0**	**-0.2**
FRU				pmax	pmax		
	comp=Z,130nm,2.0s						
ULHL	**Ulahol**	**6.94**	**31**	P	**Pn**	**00 30 02.6**	**+0.8**
	SNR=42						
CHMS	**Chumysh**	**7.08**	**20**	P	**Pn**	**00 30 04.1**	**+0.4**
	SNR=71						
SMLA	**Simla**	**7.10**	**136**	⇑*i*P	**Pn**	**00 30 04.8**	**+0.8**
SMLA				*i* S	**Sn**	**00 31 21.7**	**-1.5**
SMLA				*i* S	**Sn**	**00 31 22.3**	**-0.9**
USP	**Ospenovka**	**7.27**	**18**	P	**Pn**	**00 30 06.8**	**+0.6**
	SNR=154						
TKM2	**Tokmak 2**	**7.28**	**25**	⇓P	**Pn**	**00 30 06.8**	**+0.5**
	comp=Z,45nm,0.5s						
TKM2				⇑S	**Sn**	**00 31 27.0**	**-0.3**
	comp=Z,63nm,0.9s						
TKM2	**Tokmak 2**	**7.28**	**25**	*e*PN	**Pn**	**00 30 07.2**	**+0.8**
TKM2				*e*		00 31 28.6	
TKM2				pmax	pmax		
	comp=Z,75nm,0.5s						
TKM2	**Tokmak 2**	**7.28**	**25**	P	**Pn**	**00 30 07.1**	**+0.7**
	SNR=121						
TKM2	**Tokmak 2**	**7.28**	**25**	*e*Pn	**Pn**	**00 30 07.2**	**+0.9**
	comp=Z,75nm,0.5s						
TKM2				*e*Sn	**Sn**	**00 31 28.6**	**+1.3**
KLP	**Kalpa**	**7.46**	**129**	*e*P	**Pn**	**00 30 11.2**	**+2.3**
KLP				*e*S	**Sn**	**00 31 28.2**	**-3.6**
KLP				AML	AML	00 31 35.6	
	comp=N,581nm,0.5s						
KLP				AML	AML	00 31 37.3	
	comp=E,772nm,0.5s						
DDI	**Dehra Dun**	**8.21**	**136**	*e*P	**Pn**	**00 30 20.2**	**+1.1**
DDI				*ex*	x	00 31 50.0	
JOSI	**Joshimath**	**8.94**	**128**	*e*P	**Pn**	**00 30 31.0**	**+1.9**
JOSI				*e*S	**Sn**	**00 32 06.4**	**-1.6**
JOSI				AML	AML	00 32 08.0	
	comp=E,651nm,0.6s						
JOSI				AML	AML	00 32 09.6	
	comp=N,467nm,0.7s						
NDI	**New Delhi**	**9.11**	**146**	*e*P	**Pn**	**00 30 32.0**	**+0.7**
NDI				*e*P		00 30 32.0	
NDI				*ex*	x	00 32 05.5	
NDI				*e*S	**Sn**	**00 32 05.5**	**-6.5**
AYAN	**Aya Nagar**	**9.24**	**147**	*e*P	**Pn**	**00 30 31.7**	**-1.4**
AYAN				*e*S	**Sn**	**00 32 08.6**	**-6.6**
SONA	**Sohna**	**9.42**	**148**	*e*P	**Pn**	**00 30 37.3**	**+1.7**
SONA				*e*S	**Sn**	**00 32 13.1**	**-6.5**
SONA				AML	AML	00 32 16.8	
	comp=N,80nm,0.3s						
SONA				AML	AML	00 32 18.3	
	comp=E,250nm,0.7s						
PTH	**Pithoragarh**	**10.05**	**130**	*e*P	**Pn**	**00 30 45.0**	**+0.9**
PTH				*ex*	x	00 32 31.4	
AJM	**Ajmer**	**10.25**	**164**	*e*P	**Pn**	**00 30 45.6**	**-1.3**
AJM				*e*S	**Sn**	**00 32 31.5**	**-8.4**
AJM				AML	AML	00 32 35.7	
	comp=E,148nm,0.5s						
AJM				AML	AML	00 32 37.9	
	comp=N,97nm,0.6s						
DANN	**Dangsing**	**13.14**	**124**	*e*P	**Pn**	**00 31 23.6**	**-1.8**
	comp=N,62nm,0.4s						
MK31	**Makanchi Array**	**13.19**	**35**	P	**Pn**	**00 31 24.7**	**-1.2**
	comp=N,8.3nm,0.6s,baz=221,slow=9.1,SNR=36						
MK31	**Makanchi Array**	**13.19**	**35**	*e*Pn	**Pn**	**00 31 25.0**	**-0.8**
MK31				*e*		00 31 32.2	
MKAR	**Makanchi Array**	**13.19**	**35**	P	**Pn**	**00 31 24.4**	**-1.4**
	comp=N,0.4nm,0.3s,baz=223,slow=14,SNR=35						
KOLN	**Koldanda**	**13.42**	**126**	*e*P	**Pn**	**00 31 27.3**	**-1.8**
	comp=N,26nm,0.3s						
GKN	**Gorkha**	**13.96**	**123**	*e*P	**Pn**	**00 31 33.6**	**-2.4**
DMN	**Daman**	**14.53**	**123**	*e*P	**Pn**	**00 31 41.9**	**-1.4**
	comp=N,36nm,0.4s						
KKN	**Kakani**	**14.53**	**122**	*e*P	**Pn**	**00 31 41.6**	**-1.7**
	comp=N,56nm,0.6s						
PKI	**Pulchoki**	**14.76**	**123**	*e*P	**Pn**	**00 31 44.1**	**-2.1**
GUN	**Gumba**	**14.87**	**121**	*e*P	**Pn**	**00 31 45.6**	**-2.0**
	comp=N,28nm,0.4s						
KURBB	**Kurchatov Arra**	**15.12**	**18**	⇑P	**Pn**	**00 31 46.0**	**-4.7**
	comp=N,3.0nm,0.6s						
KURBB				⇑S	**S**	**00 34 30.3**	**-17**
	comp=N,3.1nm,0.8s						
KURK	**Kurchatov**	**15.23**	**18**	⇑P	**Pn**	**00 31 46.3**	**-5.7**
	comp=N,12nm,0.7s						
KURK				⇑S	**S**	**00 34 32.6**	**-17**
	comp=N,12nm,0.9s						
KURK	**Kurchatov**	**15.23**	**18**	*e*P	**Pn**	**00 31 47.9**	**-4.1**
KURK				*e*		00 34 36.3	
KURK				pmax	pmax		
	comp=Z,13nm,0.8s						
KURK	**Kurchatov**	**15.23**	**18**	*e*Pn	**Pn**	**00 31 47.9**	**-4.1**
	comp=Z,13nm,0.8s						
KURK				*e*		00 31 53.9	
KURK				*e*Sn	**Sn**	**00 34 36.3**	**-3.8**
JIRN	**Jiri**	**15.24**	**121**	*e*P	**Pn**	**00 31 50.7**	**-1.6**
	comp=Z,57nm,0.4s						
AB31	**Akbulak array**	**15.35**	**330**	⇓P	**Pn**	**00 31 48.4**	**-5.0**
	comp=Z,3.6nm,0.3s,baz=139,slow=12,SNR=212						
AB31				⇑S	S	00 34 27.9	-24
	comp=Z,23nm,0.6s,baz=147,slow=24,SNR=9.5						
RAMN	**Ramite**	**15.97**	**122**	*e*P	**Pn**	**00 31 59.3**	**-2.1**
	comp=Z,53nm,0.5s						
VOSK	**Vostochnaya**	**16.34**	**359**	⇓P	**Pn**	**00 32 02.4**	**-3.4**
	comp=Z,9.1nm,0.6s						
VOSK				⇑S	**S**	**00 34 55.5**	**-17**
	comp=Z,26nm,1.6s						
TAPN	**Taplejung**	**16.50**	**119**	*e*P	**Pn**	**00 32 05.6**	**-2.3**
	comp=Z,129nm,0.6s						
ODAN	**Odare**	**16.57**	**120**	*e*P	**Pn**	**00 32 06.7**	**-2.2**
	comp=Z,43nm,0.5s						
BVA0	**Borovoye Array**	**16.65**	**358**	⇑P	**Pn**	**00 32 05.9**	**-3.7**
	comp=Z,1.9nm,0.7s,baz=182,slow=14,SNR=89						
BVA0				⇓S	**S**	**00 35 04.5**	**-14**
	comp=Z,3.4nm,1.4s,baz=167,slow=22,SNR=5.5						
BVAR	**Borovoye Array**	**16.65**	**358**	P	**Pn**	**00 32 07.3**	**-2.4**
	comp=Z,2.1nm,0.3s,baz=166,slow=14,SNR=55						
BVAR				S	**S**	**00 35 05.4**	**-13**
	comp=Z,1.3nm,0.3s,baz=168,slow=23,SNR=6.9						
BRVK	**Borovoye**	**16.69**	**358**	*e*P	**Pn**	**00 32 08.3**	**-1.8**
BRVK				*e*		00 35 09.3	
BRVK				pmax	pmax		
	comp=Z,23nm,0.7s						
BRVK	**Borovoye**	**16.69**	**358**	*e*Pn	**Pn**	**00 32 08.3**	**-1.8**
	comp=Z,23nm,0.7s						
BRVK				*e*Sn	**Sn**	**00 35 09.3**	**-5.9**
BLSP	**Bilaspur**	**16.99**	**144**	*ex*	x	00 32 25.0	
BLSP				*ex*	x	00 35 03.2	
AKTK	**Aktyubinsk**	**17.05**	**330**	P	**Pn**	**00 32 11.7**	**-2.7**
AKTK				S	**S**	**00 35 12.0**	**-13**
AKTK				LR	LR	00 39 33.9	
AKTO	**Aktyubinsk**	**17.05**	**330**	⇓P	**Pn**	**00 32 10.3**	**-4.1**
	comp=Z,4.3nm,0.8s						
AKTO				⇑S	**S**	**00 35 09.3**	**-15**
	comp=Z,6.7nm,0.9s						
AKTO	**Aktyubinsk**	**17.05**	**330**	P	**Pn**	**00 32 11.7**	**-2.7**
	comp=Z,2.9nm,0.3s,baz=134,slow=13,SNR=41						
AKTO				S	**S**	**00 35 12.0**	**-13**
	comp=Z,1.7nm,0.3s,baz=214,slow=22,SNR=10						
AKTO				LR	LR	00 39 33.9	
	comp=Z,19nm,21.1s,baz=232,slow=40						
AKTO	**Aktyubinsk**	**17.05**	**330**	P	**Pn**	**00 32 11.7**	**-2.8**
AKTO				S	**S**	**00 35 12.0**	**-13**
BOK	**Bokaro**	**17.70**	**131**	*e*P	**Pn**	**00 32 23.1**	**+0.5**
BOK				*ex*	x	00 35 27.1	
LSA	**Lhasa**	**17.82**	**106**	P	**Pn**	**00 32 26.0**	**+1.9**
LSA	**Lhasa**	**17.82**	**106**	*e*P	**Pn**	**00 32 25.9**	**+1.8**
LSA				pmax	pmax		
	comp=Z,19nm,0.8s						
LSA	**Lhasa**	**17.82**	**106**	*e*P	**Pn**	**00 32 25.9**	**+1.8**
	comp=Z,19nm,0.8s						
ZAL	**Zalesovo**	**19.86**	**24**	P	**P**	**00 32 45.3**	**-0.1**
ZAL				S	**S**	**00 36 23.7**	**+5.6**
ZAA0	**Zalesovo Array**	**19.88**	**24**	*e*P	**P**	**00 32 45.2**	**-0.3**
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	**P**	**00 32 45.2**	**-0.3**
	comp=Z,4.6nm,0.3s,baz=223,slow=10,SNR=94						
ZALV				S	**S**	**00 36 23.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=103,slow=31,SNR=2.7						
ZALV				LR	LR	00 42 01.7	
	comp=Z,21nm,20.1s,baz=202,slow=41						
HYB	**Hyderabad**	**19.92**	**160**	*i* P	**P**	**00 32 50.5**	**+4.2**
NVS	**Novosibirsk**	**20.17**	**20**	⇓*i*P	**P**	**00 32 47.5**	**-1.2**
NVS				*e*S	**S**	**00 36 18.0**	**-11**
NVS				pmax	pmax		
	comp=N,15nm,0.8s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,18nm,0.8s						
NVS				smax			
	comp=N,17nm,1.5s						
NVS				smax			
	comp=E,11nm,1.5s						
SHL	**Shillong**	**20.56**	**116**	*ex*	x	00 32 56.5	
UMR	**Umm Al-Rimmam**	**20.99**	**258**	*e*P	**P**	**00 32 55.6**	**-2.1**
	baz=257						
UMR				AMb	AMB	00 33 01.5	
	comp=Z,41nm,0.8s,baz=257						
MIB	**Mutribah**	**21.19**	**259**	*e*P	**P**	**00 32 57.8**	**-2.0**
	baz=258						
MIB				AMb	AMB	00 33 08.2	
	comp=Z,51nm,0.7s,mb5.0,baz=258						
GNI	**Garni**	**21.25**	**288**	P	**P**	**00 33 02.3**	**+1.9**
	comp=Z,14nm,0.6s,mb4.5,baz=41,slow=1.2,SNR=21						
GNI				LR	LR	00 42 02.3	
	comp=Z,35nm,18.0s,baz=241,slow=39						
GNI	**Garni**	**21.25**	**288**	⇓*e*P	**P**	**00 33 01.8**	**+1.4**
GNI				pmax	pmax		
	comp=Z,14nm,0.7s						
RDF	**Al-Radifah**	**21.39**	**256**	*e*P	**P**	**00 32 59.6**	**-2.4**
	baz=256						
RDF				AMb	AMB	00 33 04.8	
	comp=Z,44nm,1.1s,mb4.7,baz=256						
NAY	**Al-Naaiem**	**21.50**	**258**	*e*P	**P**	**00 33 00.2**	**-2.9**
	baz=257						
NAY				AMb	AMB	00 33 05.3	
	comp=Z,22nm,0.9s,mb4.5,baz=257						
RST	**Umm Al-Ruwaisa**	**21.58**	**258**	*e*P	**P**	**00 33 01.6**	**-2.4**
	baz=258						
RST				AMb	AMB	00 33 03.5	
	comp=Z,1.0nm,0.7s,mb3.2,baz=258						
SVE	**Sverdlovsk**	**21.70**	**344**	⇓*e*P	**P**	**00 33 04.3**	**-0.7**
SVE				*e*S	**S**	**00 36 56.8**	**-2.0**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.3						
HVS	**Khovu-Aksy**	**21.70**	**40**	⇑*e*P	**P**	**00 33 06.8**	**+1.7**
ARU	**Arti**	**21.85**	**341**	*c i*P	**P**	**00 33 06.2**	**-0.4**
ARU				*e*		00 33 32.1	
ARU				*e*S	**S**	**00 37 01.5**	**-0.3**
ARU				*e*SS		00 37 31.7	
ARU				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.4						
ARU	**Arti**	**21.85**	**341**	*e*P	**P**	**00 33 05.8**	**-0.8**
	comp=Z,14nm,0.8s,mb4.3						
ARU				*e*S	**S**	**00 37 00.3**	**-1.5**
GTA	**Gaotai**	**22.57**	**74**	P	**P**	**00 33 18.0**	**+3.6**
GTA				AP		00 33 33.2	
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.2						
GTA				AMB	AMB		
	comp=Z,91nm,6.0s						
GTA				LR	LR		
	comp=N,92nm,15.6s						
GTA				LR	LR		
	comp=E,110nm,15.0s						
GTA				LR	LR		
	comp=Z,109nm,17.7s						
KIV	**Kislovodsk**	**23.14**	**298**	⇑*i*P	**P**	**00 33 19.1**	**-0.7**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.1						
KIV	**Kislovodsk**	**23.14**	**298**	*e*P	**P**	**00 33 18.9**	**-0.8**
	comp=Z,9.3nm,0.9s,mb4.1						
SOKR	**Solikamsk**	**25.06**	**342**	*c i*P	**P**	**00 33 38.3**	**+1.2**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
LZH	**Lanzhou**	**26.09**	**81**	*e*P	**P**	**00 33 52.6**	**+5.9**
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.4						
LZH				AMB	AMB		
	comp=Z,83nm,4.2s						
MALT	**Malatya**	**26.22**	**284**	*e*P	**P**	**00 33 48.1**	**+0.3**
ZAK	**Zakamensk**	**26.81**	**49**	*e*P	**P**	**00 33 54.4**	**+1.4**
ZAK				*e*		00 34 45.8	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.4						
ANN	**Anapa**	**26.98**	**299**	*e*P	**P**	**00 33 52.5**	**-2.1**
ANN				pmax	pmax		
	comp=Z,88nm,2.0s,mb4.9						
VRSR	**Storozhevoye**	**27.31**	**313**	*e*P	**P**	**00 33 57.0**	**-0.4**
VRSR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
VRSR				pmax	pmax		
	comp=N,2.0nm,1.4s						
VRSR				pmax	pmax		
	comp=E,5.0nm,0.8s						
SONM	**Songino Array**	**28.12**	**55**	P	**P**	**00 34 05.9**	**+1.2**
	comp=E,0.8nm,0.5s,mb3.5,baz=266,slow=9.2,SNR=4.8						
CMAR	**Chiang Mai Arr**	**30.11**	**119**	P	**P**	**00 34 23.9**	**+1.4**
	comp=E,1.7nm,0.5s,mb4.0,baz=303,slow=8.2,SNR=5.6						
OBN	**Obninsk**	**30.24**	**319**	⇑*e*P	**P**	**00 34 23.5**	**+0.1**
OBN				*e*PP	pP	00 34 44.5	-2.1
OBN				*e*		00 35 25.3	
OBN				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.8						
OBN	**Obninsk**	**30.24**	**319**	*e*P	**P**	**00 34 23.4**	**0.0**
	comp=Z,22nm,0.6s,mb5.0						
HHC	**Hu-ho-hao-te**	**31.49**	**69**	*e*P	**P**	**00 34 34.5**	**0.0**
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,120nm,4.6s						
HHC				LR	LR		
	comp=N,149nm,11.9s						
HHC				LR	LR		
	comp=E,177nm,12.5s						
HHC				LR	LR		
	comp=Z,137nm,11.3s						
KLMR	**Klimovskoe**	**31.75**	**331**	*e*P	**P**	**00 34 34.9**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.6						
AKASG	**Malin Array Be**	**33.28**	**309**	P	**P**	**00 34 49.6**	**-0.4**
	comp=Z,12nm,0.7s,mb4.8,baz=78,slow=7.3,SNR=70						
AKBB	**Malin Array Si**	**33.28**	**309**	*e*P	**P**	**00 34 48.5**	**-1.5**
AKBB				*e*		00 36 06.6	
KIEV	**Kiev**	**33.29**	**309**	*e*P	**P**	**00 34 49.4**	**-0.7**
KIEV				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
KIEV	**Kiev**	**33.29**	**309**	*e*P	**P**	**00 34 49.4**	**-0.7**
	comp=Z,10nm,0.6s,mb4.8						
MLR	**Muntele Rosu**	**35.13**	**299**	⇓*i*P	**P**	**00 35 07.8**	**+1.7**
MLR	**Muntele Rosu**	**35.13**	**299**	⇓P	**P**	**00 35 07.8**	**+1.7**
JOF	**Joensuu**	**36.13**	**330**	*e*p	**P**	**00 35 14.2**	**-0.2**
	comp=Z,15nm,0.4s,mb5.3						
JOF	**Joensuu**	**36.13**	**330**	*e*P	**P**	**00 35 14.2**	**-0.2**
JOF				pmax	pmax		
	comp=Z,15nm,0.4s,mb5.3						
DRGR		**37.34**	**302**	⇑*i*P	**P**	**00 35 26.1**	**+1.2**
DRGR		**37.34**	**302**	⇑P	**P**	**00 35 26.1**	**+1.2**
KWP	**Kalwaria**	**37.35**	**306**	*e*P	**P**	**00 35 26.2**	**+1.3**
KWP	**Kalwaria**	**37.35**	**306**	⇓*i*P	**P**	**00 35 25.0**	**+0.1**
KWP	**Kalwaria**	**37.35**	**306**	*e*P	**P**	**00 35 26.2**	**+1.3**
SUW	**Suwalki**	**37.44**	**314**	*e*P	**P**	**00 35 26.4**	**+0.8**
SUW	**Suwalki**	**37.44**	**314**	*e*P	**P**	**00 35 26.4**	**+0.8**
KOLS	**Kolonicke sedl**	**37.62**	**305**	*e*P	**P**	**00 35 28.1**	**+0.9**
KAF	**Kangasniemi**	**37.90**	**327**	*e*p	**P**	**00 35 29.1**	**-0.3**
	comp=Z,2.5nm,0.5s,mb4.3,baz=111,slow=8.4						
KAF	**Kangasniemi**	**37.90**	**327**	*e*P	**P**	**00 35 29.1**	**-0.3**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
CRVS	**Cervenica-Dubn**	**38.15**	**305**	*e*P	**P**	**00 35 31.7**	**0.0**
BZS	**Buzias**	**38.16**	**300**	⇑*i*P	**P**	**00 35 32.8**	**+1.0**
BZS	**Buzias**	**38.16**	**300**	⇑P	**P**	**00 35 32.8**	**+1.0**
KECS	**Kecovo**	**38.80**	**304**	*e*P	**P**	**00 35 37.8**	**+0.7**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
KECS	**Kecovo**	**38.80**	**304**	*e*P	**P**	**00 35 37.8**	**+0.7**
KECS				*e*		06 35 11.9	
KECS	**Kecovo**	**38.80**	**304**	*e*P	**P**	**00 35 37.8**	**+0.7**
	comp=Z,1.8nm,0.7s,mb4.0						
NIE	**Niedzica**	**38.91**	**306**	*e*P	**P**	**00 35 39.3**	**+1.3**
PSZ	**Piszkesteto**	**39.22**	**304**	*e*P	**P**	**00 35 40.0**	**-0.6**
PSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
PSZ	**Piszkesteto**	**39.22**	**304**	*e*P	**P**	**00 35 40.0**	**-0.6**
	comp=Z,3.2nm,0.8s,mb4.2						
OJC	**Ojcow**	**39.24**	**307**	*e*P	**P**	**00 35 40.8**	**0.0**
KOLL	**Kolacno**	**40.18**	**305**	*e*P	**P**	**00 35 50.5**	**+1.9**
PKSM	**Moragy**	**40.18**	**301**	⇑*i*P	**P**	**00 35 49.6**	**+1.0**
PKSM	**Moragy**	**40.18**	**301**	⇑P	**P**	**00 35 49.6**	**+1.0**
MORC	**Moravsky Berou**	**40.70**	**307**	⇓*i*P	**P**	**00 35 53.3**	**+0.5**
MORC	**Moravsky Berou**	**40.70**	**307**	⇓P	**P**	**00 35 53.3**	**+0.4**
GKP	**Gorka Klasztor**	**40.90**	**312**	*e*P	**P**	**00 35 55.1**	**+0.7**
GKP	**Gorka Klasztor**	**40.90**	**312**	*e*P	**P**	**00 35 55.1**	**+0.7**
VRAC	**Vranov**	**41.34**	**306**	⇑*i*P	**P**	**00 35 59.2**	**+1.1**
VRAC	**Vranov**	**41.34**	**306**	⇑P	**P**	**00 35 59.2**	**+1.2**
ARCES	**ARCESS Array B**	**41.38**	**338**	P	**P**	**00 35 57.8**	**-0.4**
	comp=Z,6.8nm,0.8s,mb4.5,baz=12,slow=16,SNR=5.9						
ARCES				LR	LR	00 55 40.5	
	comp=Z,28nm,21.0s,baz=1.5,slow=40						
DPC	**Dobruska-Polom**	**41.47**	**307**	*e*P	**P**	**00 35 59.5**	**+0.4**
UPC	**Upice**	**41.66**	**308**	*e*P	**P**	**00 36 01.5**	**+0.8**
CONA	**Conrad Observa**	**41.92**	**304**	⇓*i*P	**P**	**00 36 03.7**	**+0.9**
	comp=Z,6.1nm,0.8s,mb4.4						
CSNA	**Conrad Observa**	**41.92**	**304**	⇑*i*P	**P**	**00 36 03.7**	**+0.9**
	comp=Z,5.8nm,0.8s,mb4.3						
TREC	**Trest**	**42.06**	**306**	*e*P	**P**	**00 36 04.8**	**+0.8**
ARSA	**Arzberg**	**42.22**	**303**	⇑*i*P	**P**	**00 36 05.8**	**+0.6**
	comp=Z,3.2nm,1.3s,mb3.9						
PERS	**Pernice**	**42.56**	**302**	*i* P	**P**	**00 36 08.8**	**+0.7**
SOKA	**Soboth**	**42.62**	**302**	⇑*i*P	**P**	**00 36 09.3**	**+0.8**
PRU	**Pruhonice**	**42.63**	**307**	*e*P	**P**	**00 36 09.1**	**+0.5

comp=Z,3.0nm,0.7s,mb4.2
HAU Haudompre 48.24 305 eP **P 00 36 52.4 -0.4**
comp=Z,2.5nm,0.7s,mb4.2
LPG La Plagne 48.49 302 eP **P 00 36 55.5 +0.7**
LPL La Plagne 48.50 302 eP **P 00 36 55.0 +0.1**
MBDF Montbardon 48.66 301 eP **P 00 36 56.2 +0.1**
comp=Z,12nm,0.8s,mb4.6
MBDF Montbardon 48.66 301 eP **P 00 36 56.2 +0.1**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MBDF Montbardon 48.66 301 eP **P 00 36 56.2 +0.1**
comp=Z,6.2nm,0.8s,mb4.6
CABF La Chapelle 48.70 303 eP **P 00 36 56.3 0.0**
GIVF Givet 48.83 308 eP **P 00 36 57.6 +0.3**
MEZF Maizieres J'vi 48.99 306 eP **P 00 36 58.6 +0.1**
comp=Z,11nm,0.7s,mb4.6
MEZF Maizieres J'vi 48.99 306 eP **P 00 36 58.6 +0.1**
comp=Z,11nm,0.7s,mb4.9
BAIF Baives 49.23 308 eP **P 00 37 00.8 +0.5**
comp=Z,25nm,1.0s,mb4.8
BAIF Baives 49.23 308 eP **P 00 37 00.8 +0.5**
BAIF pmax pmax
comp=Z,13nm,1.0s,mb4.8
BAIF Baives 49.23 308 eP **P 00 37 00.8 +0.5**
comp=Z,13nm,1.0s,mb4.8
LOR Lormes 50.04 305 eP **P 00 37 06.3 -0.2**
VIVF Saint-Julien-l 50.08 302 eP **P 00 37 07.1 +0.3**
comp=Z,9.7nm,0.8s,mb4.5
VIVF Saint-Julien-l 50.08 302 eP **P 00 37 07.1 +0.3**
VIVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
VIVF Saint-Julien-l 50.08 302 eP **P 00 37 07.1 +0.3**
comp=Z,4.8nm,0.8s,mb4.5
SMF Signal de Mont 50.20 304 eP **P 00 37 07.2 -0.5**
comp=Z,13nm,0.8s,mb4.6
SMF Signal de Mont 50.20 304 eP **P 00 37 07.2 -0.5**
SMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SMF Signal de Mont 50.20 304 eP **P 00 37 07.2 -0.5**
comp=Z,6.3nm,0.8s,mb4.6
AVF Avril sur Loir 50.49 304 eP **P 00 37 09.4 -0.5**
comp=Z,11nm,0.7s,mb4.6
AVF Avril sur Loir 50.49 304 eP **P 00 37 09.4 -0.5**
AVF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
AVF Avril sur Loir 50.49 304 eP **P 00 37 09.4 -0.5**
comp=Z,5.6nm,0.7s,mb4.6
BGF Bois d'Agland 50.88 304 eP **P 00 37 12.9 0.0**
comp=Z,3.5nm,0.6s,mb4.2
BGF Bois d'Agland 50.88 304 eP **P 00 37 12.9 0.0**
BGF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BGF Bois d'Agland 50.88 304 eP **P 00 37 12.9 0.0**
comp=Z,1.8nm,0.6s,mb4.3
TCF Toulx Ste Croi 51.38 304 eP **P 00 37 16.5 -0.1**
comp=Z,10nm,0.9s,mb4.5
TCF Toulx Ste Croi 51.38 304 eP **P 00 37 16.5 -0.1**
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
TCF Toulx Ste Croi 51.38 304 eP **P 00 37 16.5 -0.1**
comp=Z,5.2nm,0.9s,mb4.6
CAF Calviac 51.84 302 eP **P 00 37 20.1 0.0**
comp=Z,5.6nm,0.7s,mb4.4
CAF Calviac 51.84 302 eP **P 00 37 20.1 0.0**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CAF Calviac 51.84 302 eP **P 00 37 20.1 0.0**
comp=Z,2.8nm,0.7s,mb4.4
RJF Les Rejaudoux 52.11 303 eP **P 00 37 22.2 +0.1**
comp=Z,3.8nm,0.7s,mb4.2
RJF Les Rejaudoux 52.11 303 eP **P 00 37 22.2 +0.1**
RJF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
RJF Les Rejaudoux 52.11 303 eP **P 00 37 22.2 +0.1**
comp=Z,1.9nm,0.7s,mb4.2
MTLF Montolieu 52.19 300 eP **P 00 37 21.9 -0.8**
comp=Z,8.7nm,0.9s,mb4.5
MTLF Montolieu 52.19 300 eP **P 00 37 21.9 -0.8**
MTLF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MTLF Montolieu 52.19 300 eP **P 00 37 21.9 -0.8**
comp=Z,4.3nm,0.9s,mb4.5
LDF La Druitiere 52.31 307 eP **P 00 37 22.8 -0.7**
comp=Z,3.7nm,0.6s,mb4.3
LDF La Druitiere 52.31 307 eP **P 00 37 22.8 -0.7**
LDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LDF La Druitiere 52.31 307 eP **P 00 37 22.8 -0.7**
comp=Z,1.9nm,0.6s,mb4.3
FLN La Foliniere 52.50 308 eP **P 00 37 24.8 -0.1**
comp=Z,8.8nm,0.7s,mb4.6
FLN La Foliniere 52.50 308 eP **P 00 37 24.8 -0.1**
FLN pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
FLN La Foliniere 52.50 308 eP **P 00 37 24.8 -0.1**
comp=Z,4.4nm,0.7s,mb4.6
MAJO Matsushiro 52.68 69 eP **P 00 37 27.8 +1.4**
MAJO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MAJO Matsushiro 52.68 69 eP **P 00 37 27.8 +1.3**
comp=Z,4.9nm,0.8s,mb4.6
MJAR Matsushiro Arr 52.68 69 P **P 00 37 28.5 +2.1**
comp=Z,1.7nm,0.5s,mb4.3,baz=300,slow=9.4,SNR=5.5
LFF La Frestale 52.74 303 eP **P 00 37 26.6 -0.1**
comp=Z,8.3nm,0.6s,mb4.7
LFF La Frestale 52.74 303 eP **P 00 37 26.6 -0.1**
LFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LFF La Frestale 52.74 303 eP **P 00 37 26.6 -0.1**
comp=Z,4.2nm,0.6s,mb4.7
GRR Gorron 52.84 307 eP **P 00 37 26.7 -0.7**
comp=Z,9.8nm,0.8s,mb4.6
GRR Gorron 52.84 307 eP **P 00 37 26.7 -0.7**
GRR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
GRR Gorron 52.84 307 eP **P 00 37 26.7 -0.7**
comp=Z,4.9nm,0.8s,mb4.6
EPF Esparros 53.60 300 eP **P 00 37 32.4 -0.6**
comp=Z,2.9nm,0.6s,mb4.2
EPF Esparros 53.60 300 eP **P 00 37 32.4 -0.6**
EPF pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
EPF Esparros 53.60 300 eP **P 00 37 32.4 -0.6**
comp=Z,1.5nm,0.6s,mb4.2
SGMF Saint Gilles 53.97 307 eP **P 00 37 35.2 -0.4**
comp=Z,7.6nm,0.8s,mb4.5
SGMF Saint Gilles 53.97 307 eP **P 00 37 35.2 -0.4**
SGMF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
SGMF Saint Gilles 53.97 307 eP **P 00 37 35.2 -0.4**
comp=Z,3.8nm,0.8s,mb4.5
ETSF Etsaut 54.26 301 eP **P 00 37 37.8 -0.1**
comp=Z,12nm,0.7s,mb4.7
ETSF Etsaut 54.26 301 eP **P 00 37 37.8 -0.1**
ETSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ETSF Etsaut 54.26 301 eP **P 00 37 37.8 -0.1**
comp=Z,5.8nm,0.7s,mb4.7
ROSF Rostrenen 54.40 308 eP **P 00 37 38.2 -0.6**
comp=Z,10nm,0.7s,mb4.6
ROSF Rostrenen 54.40 308 eP **P 00 37 38.2 -0.6**
ROSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ROSF Rostrenen 54.40 308 eP **P 00 37 38.2 -0.6**
comp=Z,5.1nm,0.7s,mb4.7
QUIF Quistinic 54.46 307 eP **P 00 37 38.4 -0.8**
comp=Z,10nm,0.8s,mb4.6
QUIF Quistinic 54.46 307 eP **P 00 37 38.4 -0.8**
QUIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
QUIF Quistinic 54.46 307 eP **P 00 37 38.4 -0.8**
comp=Z,5.1nm,0.8s,mb4.6
DAG Danmarks Havn 54.93 344⇑iP **P 00 37 43.0 +0.8**
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
DAG Danmarks Havn 54.93 344⇑iP **P 00 37 43.0 +0.8**
comp=Z,4.8nm,0.7s,mb4.6
ESDC Sonseca Array 57.81 298 P **P 00 38 02.3 -0.9**
comp=Z,0.5nm,0.5s,mb3.8,baz=62,slow=7.0,SNR=7.2
BILL Bilibino 58.56 26⇑eP **P 00 38 08.1 +0.1**
BILL e*PP pP 00 38 28.8 -4.6
BILL eS **S 00 46 10.2 +6.9**
BILL pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
TORD Torodi Ar. Bea 66.05 269 P **P 00 38 56.7 -2.0**
comp=Z,7.2nm,0.6s,mb4.7,baz=46,slow=5.6,SNR=37
TORD Torodi Ar. Bea 66.05 269 P **P 00 38 56.7 -2.0**

BOSA Boshof 77.88 220 P **P 00 40 08.0 -1.0**
comp=Z,3.3nm,0.8s,mb4.1,baz=50,slow=3.2,SNR=4.2
KDAK Kodiak Island 79.18 22 P **P 00 40 16.5 +0.8**
comp=Z,2.8nm,0.7s,mb4.2,baz=280,slow=6.1,SNR=3.9
YKA Yellowknife Ar 81.34 3 P **P 00 40 27.9 +0.7**
comp=Z,2.4nm,0.5s,mb4.3,baz=351,slow=5.4,SNR=8.7
YKA Yellowknife Ar 81.34 3 iP **P 00 40 28.0 +0.7**
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 81.34 3 P **P 00 40 27.9 +0.7**
WRA Warramunga Arr 81.64 122 P **P 00 40 29.5 0.0**
comp=Z,1.0nm,0.5s,mb3.9,baz=325,slow=5.0,SNR=6.2
WRA Warramunga Arr 81.64 122 iP **P 00 40 31.2 +1.7**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRAB Tennant Creek 81.65 122 eP **P 00 40 30.3 +0.8**
WRAB pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
WRAB Tennant Creek 81.65 122 eP **P 00 40 30.3 +0.8**
comp=Z,2.7nm,0.7s,mb4.2
WB2 Warramunga Arr 81.65 122 eP **P 00 40 29.0 -0.5**
ASAR Alice Springs 83.91 125 P **P 00 40 41.1 0.0**
comp=Z,1.1nm,0.8s,mb3.8,baz=317,slow=4.2,SNR=7.7
PLCA Paso Flores 150.10 250 PKPbc PKPbc 00 48 00.2 -0.8
comp=Z,2.0nm,0.8s,baz=166,slow=4.2,SNR=5.8
PLCA Paso Flores 150.10 250 PKPbc PKPbc 00 48 00.2 -0.8

ISK ***10*** *00:37:51.1, 3872N×2796E, h5km, MD2.7*
ISCJB ***10*** *00:37:52.1±0.5, 3872N±003×2791E±003, h10km, Error ellipse: s-maj=4.5km s-min=3.8km az=157.9*
CSEM ***10*** *00:37:52.1±0.1, 3875N×2789E, h5km, MD2.8, Error ellipse: s-maj=2.5km s-min=1.4km az=131.0*
DDA ***10*** *00:37:53.6, 3884N×2794E, h6km±3km, Md2.8*
ISC 10 00:37:52.5±0.6, 3872N±003×2794E±003, h2km±8km, n10, σ0°75/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.19**	**329**	*i* P	**Pg**	**00 37 55.4**	**-0.7**
AKHS				*i* S	**Sg**	**00 37 58.4**	**-0.1**
AKS	**Akhisar**	**0.19**	**329**	*e*PG	**Pg**	**00 37 55.3**	**-0.8**
AKS				*e*SG	**Sg**	**00 37 58.2**	**-0.4**
KULA	**Kula-Manisa**	**0.60**	**110**	*e*PG	**Pg**	**00 38 03.3**	**-0.7**
KULA				*e*SG	**Sg**	**00 38 11.0**	**-0.8**
IZM	**Izmir**	**0.62**	**239**	*e*PG	**Pg**	**00 38 04.0**	**-0.3**
IZM				*e*SG	**Sg**	**00 38 13.0**	**+0.6**
BLCB	**Balcova**	**0.78**	**245**	*e*PG	**Pg**	**00 38 07.2**	**-0.1**
BLCB				*e*SG	**Sg**	**00 38 18.4**	**+0.9**
BALB	**Balikesir**	**0.92**	**357**	*e*PG	**Pg**	**00 38 10.0**	**-0.1**
BALB				*e*SG	**Sg**	**00 38 22.3**	**+0.3**
DST	**Dursunbey**	**1.03**	**31**	*e*PG	**Pg**	**00 38 12.0**	**-0.3**
GDZ	**Gediz**	**1.26**	**72**	*i* P	**Pg**	**00 38 17.1**	**+0.5**
GDZ				*i* S	**Sg**	**00 38 34.8**	**+1.9**
ULDT	**Uludag**	**1.70**	**33**	*i* P	**Pn**	**00 38 23.5**	**+0.4**
ULDT				*i* S	**Sn**	**00 38 45.7**	**+0.3**
BOZC	**Bozcaada**	**1.84**	**308**	*i* P	**Pn**	**00 38 23.8**	**-1.4**
BOZC				*i* S	**Sg**	**00 38 52.8**	**+1.1**

DJA ***10*** *00:39:56, 373N×128.14E, h0km, ML4.9/1*
IDC ***10*** *00:40:04.3±0.6, 296N×12730E, h0km, mb4.4/19, mb1 4.5/19, mb1mx4.5/22, mbtmp4.4/19, MS3.6/1, Ms1 3.6/1, ms1mx3.0/23, Error ellipse: s-maj=29.5km s-min=11.8km az=78.0*
MOS ***10*** *00:40:08.4±1.2, 292N×12727E, h40km, mb5.1/15, Error ellipse: s-maj=15.5km s-min=7.0km az=106.7*
BJI ***10*** *00:40:09.2, 290N×12730E, h51km, mB5.0, mb4.5*
ISCJB ***10*** *00:40:10.6±1.0, 290N±004×12728E±007, h61km±9km, mb4.7/44, Error ellipse: s-maj=12.4km s-min=6.5km az=165.5*
NEIC ***10*** *00:40:11.2±1.4, 291N×12730E, h52km±12km, mb4.7/18, Error ellipse: s-maj=11.6km s-min=5.8km az=75.0*
ISC 10 00:40:12.1±1.0, 287N±004×12729E±007, h58km±9km, n96, σ1°03/91, mb4.7/43, MS3.5/2, 5C-3D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.07**	**178**⇓	*e*P	**Pn**	**00 40 42.5**	**-2.0**
MNI	**Manado**	**2.83**	**240**	P	**Pn**	**00 40 55.4**	**+0.6**
	0.0nm,0.0s						
LBMI	**Labuha**	**3.49**	**176**	P	**Pn**	**00 41 06.2**	**+2.3**
	0.0nm,0.0s						
DAV	**Davao City (W)**	**4.50**	**338**	Pn	**Pn**	**00 41 18.3**	**+0.5**
	47nm,0.3s,baz=324,slow=3.1,SNR=2.6						
DAV				Sn	**Sn**	**00 42 19.3**	**+10**
	57nm,0.3s,baz=270,slow=20,SNR=4.5						
STKI	**Sintang**	**16.05**	**260**	P	**Pn**	**00 43 57.7**	**+3.5**
	0.0nm,0.0s						
KAKA	**Kakadu**	**16.30**	**162**	*e*P	**Pn**	**00 44 02.7**	**+5.3**
	8.0nm,0.5s						
KSM	**Kuching**	**17.02**	**266**	*e*Pn	**Pn**	**00 44 05.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.90**	**184**	*e*P	**P**	**00 44 49.7**	**-0.1**
	11nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.90**	**184**	P	**P**	**00 44 48.9**	**-0.9**
	3.4nm,0.4s,baz=72,slow=11,SNR=12						
YHNB	**Yeheng**	**22.41**	**346**	*e*P	**P**	**00 45 04.8**	**-1.0**
WRAB	**Tennant Creek**	**23.70**	**163**	*e*P	**P**	**00 45 18.3**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5						
WRAB	**Tennant Creek**	**23.70**	**163**	*e*P	**P**	**00 45 18.3**	**-0.5**
	comp=Z,21nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**23.71**	**163**	P	**P**	**00 45 17.9**	**-0.9**
	comp=Z,6.0nm,0.5s,mb4.3,baz=341,slow=10,SNR=28						
WB2	**Warramunga Arr**	**23.71**	**163**	*e*P	**P**	**00 45 17.9**	**-1.0**
WB2				*e*		00 49 34.6	
MBWA	**Marble Bar**	**25.00**	**197**	*e*P	**P**	**00 45 30.7**	**0.0**
	comp=Z,60nm,1.3s,mb5.0						
ASAR	**Alice Springs**	**27.15**	**167**	P	**P**	**00 45 49.1**	**-1.0**
	comp=Z,1.2nm,0.4s,mb3.8,baz=345,slow=6.5,SNR=23						
ASAR				PcP	PcP	00 49 11.4	+1.8
	comp=Z,1.7nm,0.9s,baz=88,slow=0.9,SNR=7.2						
CBIJ	**Chichi jima**	**27.99**	**29**	LR	LR	00 56 52.7	
	comp=Z,115nm,19.8s,MS3.5,baz=117,slow=36						
CMAR	**Chiang Mai Arr**	**31.79**	**301**	P	**P**	**00 46 30.1**	**-1.1**
	comp=Z,1.8nm,0.6s,mb4.1,baz=119,slow=7.8,SNR=8.3						
CMAR	**Chiang Mai Arr**	**31.79**	**301**⇑	*e*P	**P**	**00 46 31.1**	**-0.1**
COCO	**West Island**	**33.76**	**243**	*e*P	**P**	**00 46 48.9**	**+0.4**
COCO				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.0						
COCO	**West Island**	**33.76**	**243**	*e*P	**P**	**00 46 48.9**	**+0.4**
	comp=Z,9.4nm,0.4s,mb5.1						
KSRS	**Korea Array**	**34.42**	**1**	P	**P**	**00 46 52.6**	**-1.4**
	comp=Z,4.4nm,1.0s,mb4.3,baz=176,slow=10,SNR=9.7						
KSRS	**Korea Array**	**34.42**	**1**	P	**P**	**00 46 52.6**	**-1.4**
KSRS				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
HNR	**Honiara**	**34.76**	**111**	*e*P	**P**	**00 46 56.9**	**-0.4**
HNR				pmax	pmax		
	comp=Z,22nm,0.5s,mb5.3						
HNR	**Honiara**	**34.76**	**111**	*e*P	**P**	**00 46 56.9**	**-0.4**
	comp=Z,22nm,0.5s,mb5.3						
MAJO	**Matsushiro**	**34.99**	**15**	*e*P	**P**	**00 46 58.9**	**0.0**
MJAR	**Matsushiro Arr**	**34.99**	**15**	P	**P**	**00 46 57.2**	**-1.7**
	comp=Z,2.9nm,0.7s,mb4.3,baz=179,slow=9.1,SNR=7.4						
NWAO	**Narrogin (SRO)**	**36.85**	**194**	P	**P**	**00 47 16.5**	**+1.6**
	comp=Z,33nm,1.1s,mb5.1,baz=18,slow=8.7,SNR=4.1						
NWAO	**Narrogin (SRO)**	**36.85**	**194**	P	**P**	**00 47 16.5**	**+1.6**
NWAO				pmax	pmax		
	comp=Z,33nm,1.1s						
NWAO	**Narrogin (SRO)**	**36.85**	**194**	*e*P	**P**	**00 47 15.8**	**+1.0**
STKA	**Stephens Creek**	**37.14**	**160**	*e*P	**P**	**00 47 17.5**	**+0.2**
	comp=Z,5.5nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**37.14**	**160**	P	**P**	**00 47 17.2**	**-0.1**
	comp=Z,6.2nm,0.6s,mb4.6,baz=336,slow=9.0,SNR=7.7						
STKA				PcP	PcP	00 49 38.1	+1.4
	comp=Z,2.5nm,0.4s,baz=335,slow=3.9,SNR=3.3						
BJT	**Baijiatuau**	**38.33**	**346**	*e*P	**P**	**00 47 26.3**	**-0.9**
BJT				pmax	pmax		
	comp=Z,59nm,1.0s						
BJT	**Baijiatuau**	**38.33**	**346**	*e*P	**P**	**00 47 26.3**	**-1.0**
	comp=Z,59nm,1.0s,mb5.3						
BJI	**Beijing**	**38.34**	**346**	P	**P**	**00 47 27.8**	**+0.4**
BJI				AMB	AMB		
	comp=Z,48nm,1.0s,mb5.2						
LZH	**Lanzhou**	**39.52**	**330**	*e*P	**P**	**00 47 38.0**	**+0.7**
LZH				AP	pP	00 47 47.0	-5.0
LZH				XP	sP	00 47 51.3	-7.5
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,83nm,4.7s						

SHL Shillong 40.83 307 *e*P **P 00 47 48.0 -0.3**
LSA Lhasa 43.42 312 P **P 00 48 09.4 0.0**
KLR Kul'dur 46.34 4 *e*P **P 00 48 27.3 -5.0**
HIA Hailar 46.67 353 *i* P **P 00 48 36.2 +1.4**
SONM Songino Array 48.28 341 P **P 00 48 47.0 -0.4**
comp=Z,7.4nm,0.7s,mb4.8,baz=159,slow=8.2,SNR=44
SONM PcP PcP 00 50 15.2 +1.6
comp=Z,2.4nm,0.7s,baz=159,slow=4.6,SNR=5.1
TAU Tasmania Unive 49.03 161 P **P 00 48 51.3 -1.9**
ZAK Zakamensk 51.51 341⇑iP **P 00 49 12.4 +0.6**
ZAK *e* 00 50 26.2
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
TLY Talaya 52.51 342 *e*P **P 00 49 19.1 -0.1**
TLY pmax pmax
comp=Z,13nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,33nm,13.0s,MS3.6
TLY Talaya 52.51 342 *e*P **P 00 49 19.0 -0.2**
comp=Z,6.5nm,0.8s,mb4.6
MOY Mondy 53.37 340 *e*P **P 00 49 27.2 +1.6**
MOY pmax pmax
comp=Z,39nm,1.6s,mb5.1
HVS Khovu-Aksy 55.75 335⇓*e*P **P 00 49 43.1 +0.3**
BOD Bodaibo 55.79 351 *e*P **P 00 49 43.5 +0.5**
PETK Petropavlovsk- 56.01 22 P **P 00 49 45.3 +0.7**
comp=Z,2.5nm,0.8s,mb4.3,baz=203,slow=6.4,SNR=5.9
PETK Petropavlovsk- 56.01 22 P **P 00 49 45.3 +0.6**
PETK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MK31 Makanchi Array 58.57 325 *e*P **P 00 50 02.0 -0.8**
MKAR Makanchi Array 58.57 325 P **P 00 50 02.4 -0.5**
comp=Z,2.9nm,0.6s,mb4.5,baz=124,slow=9.1,SNR=19
YAK Yakutsk 59.05 1 *e*P **P 00 50 07.9 +2.1**
YAK pmax pmax
comp=Z,13nm,0.7s,mb5.1
ZAA0 Zalesovo Array 61.60 333 *e*P **P 00 50 22.1 -1.3**
ZALV Zalesovo Beam 61.60 333 P **P 00 50 22.8 -0.7**
comp=Z,2.2nm,0.6s,mb4.5,baz=116,slow=6.8,SNR=12
ZALV Zalesovo Beam 61.60 333 P **P 00 50 22.8 -0.7**
ZAL Zalesovo 61.60 333 P **P 00 50 22.8 -0.6**
AML Almayashu 61.69 317 *e*P **P 00 50 24.5 +0.2**
comp=Z,7.0nm,1.3s,mb4.6
AML PcP PcP 00 51 06.2 +1.0
EKS2 Erkin-Say 61.85 318 *e*P **P 00 50 25.1 -0.2**
comp=Z,3.5nm,1.2s,mb4.4
KBL Kabul 62.48 308 *e*P **P 00 50 28.1 -1.7**
KBL pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
KBL Kabul 62.48 308 *e*P **P 00 50 28.1 -1.6**
comp=Z,4.7nm,0.8s,mb4.7
SEY Seymchan 62.74 13⇑*e*P **P 00 50 33.7 +2.8**
KURK Kurchatov 62.76 328 *e*P **P 00 50 30.3 -1.0**
KURK pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
KURK Kurchatov 62.76 328 *e*P **P 00 50 30.3 -1.0**
comp=Z,6.8nm,0.8s,mb4.8
NVS Novosibirsk 62.88 333 *e*P **P 00 50 30.6 -1.4**
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=E,11nm,1.4s
NVS pmax pmax
comp=Z,15nm,1.4s,mb4.9
BRVK Borovoye 68.41 327 *e*P **P 00 51 07.6 -0.1**
BRVK pmax pmax
comp=Z,22nm,1.3s,mb5.0
BRVK Borovoye 68.41 327 *e*P **P 00 51 07.5 -0.1**
comp=Z,22nm,1.3s,mb5.0
TIXI Tiksi 68.69 1 *i* P **P 00 51 10.6 +1.5**
CASY Casey 70.04 187 *e*P **P 00 51 18.1 +0.7**
comp=Z,18nm,1.6s,mb4.8
BILL Bilibino 70.24 15 *i* P **P 00 51 19.3 +0.6**
SVE Sverdlovsk 74.98 328⇓*e*P **P 00 51 47.3 +0.3**
SVE *e*SS SS 01 06 17.6 +7.9
SVE pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ARU Arti 75.95 328*c i*P **P 00 51 52.0 -0.6**
ARU *e* 00 54 38.5
ARU *e*S S 01 01 31.8 +0.8
ARU *e*SS SS 01 06 23.4 -1.1
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ARU Arti 75.95 328 *e*P **P 00 51 52.3 -0.3**
comp=Z,5.5nm,0.7s,mb4.6
VNDA Vanda 82.51 173 P **P 00 52 29.1 +1.1**
comp=Z,2.1nm,0.8s,mb4.2,baz=310,slow=5.4,SNR=11
IMA2 Indian Mountai 82.94 24 *e*P **P 00 52 31.5 +1.1**
SBA Scott Base 83.42 172 P **P 00 52 34.3 +1.6**
COLD Coldfoot 84.46 23 *e*P **P 00 52 39.8 +1.6**
comp=Z,5.9nm,1.0s,mb4.7
MCK McKinley 84.68 26 *e*P **P 00 52 39.2 -0.2**
VRHR Novokhopersk 85.05 321 *e*P **P 00 52 41.5 0.0**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.4
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
KLMR Klimovskoe 86.42 331 *e*P **P 00 52 47.7 -0.4**
KLMR pmax pmax
comp=Z,14nm,1.1s,mb5.1
VRSR Storozhevoye 86.59 321 *e*P **P 00 52 49.2 +0.1**
VRSR pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
VRSR pmax pmax
comp=N,2.0nm,1.4s
VRSR pmax pmax
comp=E,2.0nm,1.2s
MALT Malatya 87.34 308 *e*P **P 00 52 53.6 +0.5**
MALT pmax pmax
comp=Z,7.0nm,1.4s,mb4.7
MALT Malatya 87.34 308 *e*P **P 00 52 53.6 +0.5**
comp=Z,7.1nm,1.4s,mb4.7
ANN Anapa 87.89 315 *e*P **P 00 52 52.2 -3.4**
OBN Obninsk 88.08 325⇓*e*P **P 00 52 56.4 +0.2**
OBN *e* 00 56 25.7
OBN *e*S S 01 03 38.2 +2.6
OBN pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
ASF Jabal al Asfar 88.82 302 P **P 00 53 01.2 +0.9**
comp=Z,3.4nm,0.8s,mb4.7,baz=286,slow=4.1,SNR=8.4
MMAI Mount Meron Ar 90.03 303 P **P 00 53 06.3 +0.4**
comp=Z,2.7nm,0.7s,mb4.7,baz=110,slow=9.8,SNR=3.9
KMBO Kilima Mbogo 90.09 269 P **P 00 53 08.3 +1.8**
comp=Z,1.5nm,0.8s,mb4.4,baz=41,slow=12,SNR=3.5
ARCES ARCESS Array B 91.44 340 P **P 00 53 09.9 -1.7**
comp=Z,3.2nm,0.7s,mb4.8,baz=74,slow=6.4,SNR=8.4
AKASG Malin Array Be 92.91 321 P **P 00 53 17.8 -1.0**
comp=Z,0.5nm,0.5s,mb4.2,baz=76,slow=5.0,SNR=4.9
AKASG Malin Array Be 92.91 321 P **P 00 53 17.8 -1.0**
NOA NORSAR Array B 99.80 334 P Pdif 00 53 48.9 -1.1
comp=Z,0.4nm,0.6s,baz=66,slow=4.7,SNR=3.5
TOA0 Torodi Ar. Sit 123.71 288 *e*PKPdf PKPdf 00 59 05.0 +0.6
TORD Torodi Ar. Bea 123.71 288 PKP PKPdf 00 59 05.0 +0.6
comp=Z,1.5nm,0.9s,baz=61,slow=2.0,SNR=6.2
PLCA Paso Flores 139.01 159 PKP PKPdf 00 59 35.4 +2.9
comp=Z,1.5nm,0.8s,baz=199,slow=5.7,SNR=3.4
PLCA Paso Flores 139.01 159 PKP PKPdf 00 59 35.4 +2.9

ISCJB ***10*** *01:39:18.6±1.6, 85S±02×1584E±02, h160km±18km, mb3.8/9, Error ellipse: s-maj=32.9km s-min=20.0km az=138.9*
IDC ***10*** *01:39:19.7±1.6, 846S×1584E, h156km±17km, mb3.6/8, mb1 3.8/8, mb1mx3.7/17, mbtmp3.6/8, Error ellipse: s-maj=25.4km s-min=18.4km az=137.0*
NEIC ***10*** *01:39:20.1±1.4, 846S×1585E, h167km±14km, mb3.9/2, Error ellipse: s-maj=24.9km s-min=16.0km az=142.0*
ISC 10 01:39:19.4±1.6, 84S±02×1584E±02, h153km±19km, n13, σ0°64/13, mb3.8/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.84**	**124**	P	**Pn**	**01 39 53.2**	**+0.3**
	446nm,0.3s,baz=243,slow=2.5,SNR=68						
HNR				S	**Sn**	**01 40 18.4**	**-0.3**
	375nm,0.3s,baz=91,slow=20,SNR=27						
WRAB	**Tennant Creek**	**25.93**	**241**	*e*P	**P**	**01 44 38.1**	**+0.5**
	3.3nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**25.95**	**241**	P	**P**	**01 44 38.0**	**+0.1**

0.9nm,0.4s,mb3.8,baz=67,slow=9.1,SNR=8.1
WRA pP pP 01 45 15.3 +5.7
0.6nm,0.6s,baz=65,slow=9.6,SNR=2.3
ASAR Alice Springs 27.93 234 P **P 01 44 54.9 -0.6**
0.8nm,0.6s,mb3.6,baz=66,slow=10,SNR=8.7
STKA Stephens Creek 28.09 211 P **P 01 44 57.8 +0.9**
2.3nm,0.7s,mb4.0,baz=11,slow=10,SNR=4.0
FITZ Fitzroy Crossi 33.25 250 P **P 01 45 41.9 -0.5**
1.1nm,0.5s,mb3.9,baz=78,slow=14,SNR=4.7
VNDA Vanda 69.11 179 P **P 01 50 08.5 0.0**
1.0nm,0.7s,mb3.6,baz=336,slow=5.2,SNR=6.3
VNDA Vanda 69.11 179 *eP* **P 01 50 07.7 -0.7**
1.1nm,0.8s,mb3.6
SONM Songino Array 72.36 326 P **P 01 50 29.8 +1.2**
2.0nm,0.6s,mb4.0,baz=136,slow=5.6,SNR=15
SONM pP pP 01 51 10.0 +4.3
0.7nm,0.6s,baz=138,slow=5.0,SNR=1.8
MK31 Makanchi Array 86.69 318 *eP* **P 01 51 45.1 -0.9**
MKAR Makanchi Array 86.69 318 P **P 01 51 45.3 -0.7**
0.6nm,0.6s,mb3.6,baz=101,slow=6.0,SNR=6.2
NVAR Mina Array Bea 89.96 51 P **P 01 52 02.0 +0.3**
1.2nm,0.8s,mb3.9,baz=258,slow=7.0,SNR=6.3
BDFB Brasilia 144.57 132 PKP PKPdf 01 58 36.0 -2.8
1.0nm,0.6s,baz=345,slow=26,SNR=4.1

IDC 10 01:40:45.0±5.2,2456S×17720W,h0km,mb4.2/4, mb1 4.4/4,mb1mx4.0/18,mbtmp4.2/4,Error ellipse: s-maj=229.0km s-min=53.6km az=154.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.04**	**270**	P	P	01 47 32.2	+1.2
	4.5nm,0.4s,baz=100,slow=9.6,SNR=6.2						
ASAR	**Alice Springs**	**44.45**	**261**	P	P	01 48 58.6	+0.6
	1.0nm,0.7s,baz=103,slow=7.8,SNR=7.4						
WRA	**Warramunga Arr**	**44.91**	**266**	P	P	01 49 00.5	-1.3
	1.4nm,0.4s,baz=103,slow=8.4,SNR=4.8						
FITZ	**Fitzroy Crossi**	**53.33**	**265**	P	P	01 50 05.6	-0.7
	2.1nm,0.8s,baz=121,slow=12,SNR=6.0						
AKASG	**Malin Array Be**	**146.88**	**329**	PKPbc	PKPbc	02 00 28.4	-0.6
	1.1nm,0.5s,baz=46,slow=3.9,SNR=8.2						

*CSEM **10** 01:42:17.2±0.1,3645N×2659E,h123km±1km,MD3.2, Error ellipse: s-maj=1.9km s-min=1.5km az=142.0*
*ISCJB **10** 01:42:18.3±0.4,3642N±003×2647E±003,h132km±5km, Error ellipse: s-maj=4.6km s-min=3.6km az=161.8*
*ATH **10** 01:42:19.5,3648N×2645E,h120km±2km*
*ISK **10** 01:42:19.4,3653N×2639E,h114km,MD3.5*
*THE **10** 01:42:20.8,3645N×2645E,h138km,ML3.8*
*NEIC **10** 01:42:20.8,3645N×2645E,h138km,MG3.8(THE),After THE.*
*HLW **10** 01:42:22.4,3617N×2667E,h29km,Mb4.2*
*DDA **10** 01:42:29.6,3639N×2756E,h12km±3km,Md3.2*
ISC 10 01:42:19.2±0.4,3642N±003×2647E±003,h128km±5km, n56,σ0§92/76,2C-2D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR1	**Thera Island**	**0.81**	**267**	*e*Pg	**Pn**	**01 42 40.5**	**+0.2**
THR3	**Thira Island,**	**0.86**	**269**	*e*Pg	**Pn**	**01 42 40.9**	**+0.2**
THR4	**Thira Island,**	**0.86**	**273**	*e*Pg	**Pn**	**01 42 40.9**	**+0.2**
THR6	**Thira Island,**	**0.86**	**266**	*e*Pg	**Pn**	**01 42 41.1**	**+0.4**
THR5	**Thira Island,**	**0.90**	**270**	*e*Pg	**Pn**	**01 42 41.4**	**+0.4**
BODT	**Bodrum**	**0.93**	**46**	PG	**Pn**	**01 42 40.8**	**-0.5**
BODT				*e*SG	**Sn**	**01 42 55.9**	**-2.1**
APE	**Apeiranthos**	**0.99**	**311**	*e*Pg	**Pn**	**01 42 41.8**	**0.0**
APE				*e*Sg	**Sn**	**01 42 57.8**	**-1.2**
APE	**Apeiranthos**	**0.99**	**311**	*e*P	**Pn**	**01 42 41.9**	**+0.1**
APE				*e*S	**Sn**	**01 42 58.1**	**-0.9**
BDRM	**Kayabasi**	**1.01**	**50**	*i* P	**Pn**	**01 42 42.8**	**+0.7**
BDRM				*i* S	**Sn**	**01 42 54.0**	**-5.4**
KARP	**Karpathos**	**1.04**	**147**	*e*P	**Pn**	**01 42 43.2**	**+0.9**
KARP				*e*S	**Sn**	**01 43 00.0**	**+0.2**
SMG	**Samos**	**1.32**	**13⇑**	*i* P	**Pn**	**01 42 45.0**	**-0.1**
NPS	**Neapolis**	**1.35**	**211**	*e*P	**Pn**	**01 42 46.2**	**+0.7**
NPS				*e*S	**Sn**	**01 43 05.6**	**+0.1**
ARG	**Arkhangelos**	**1.36**	**98**	*e*P	**Pn**	**01 42 46.6**	**+1.0**
ARG				*e*S	**Sn**	**01 43 06.0**	**+0.4**
MLSB	**Milas**	**1.36**	**50**	PN	**Pn**	**01 42 45.4**	**-0.2**
MLSB				*e*SN	**Sn**	**01 43 04.6**	**-1.2**
LAST	**Lasithi**	**1.49**	**213**	*e*Pg	**Pn**	**01 42 47.4**	**+0.3**
LAST				*e*Sg	**Sn**	**01 43 07.8**	**-0.5**
YER	**Yerkesik**	**1.62**	**63**	*e*PN	**Pn**	**01 42 48.9**	**+0.4**
IDI	**Anoyia**	**1.71**	**229**	P	**Pn**	**01 42 50.1**	**+0.5**
DALT	**Dalyan (Mudla)**	**1.78**	**78**	*e*PN	**Pn**	**01 42 51.6**	**+1.2**
SIVA	**Sivas**	**1.94**	**224**	*e*Pb	**Pn**	**01 42 53.3**	**+0.9**
SIVA				*e*Sb	**Sn**	**01 43 18.2**	**+0.4**
CHOS	**Chios island**	**1.99**	**351**	*e*Pb	**Pn**	**01 42 52.7**	**-0.2**
CHOS				*e*Sb	**Sn**	**01 43 17.9**	**-0.9**
BLCB	**Balcova**	**2.01**	**13**	*e*PN	**Pn**	**01 42 52.8**	**-0.4**
BLCB	**Balcova**	**2.01**	**13**	*e*Pn	**Pn**	**01 42 53.2**	**0.0**
IZM	**Izmir**	**2.07**	**18**	*e*PN	**Pn**	**01 42 53.1**	**-0.8**
VAM	**Vamos**	**2.10**	**242**	*e*P	**Pn**	**01 42 55.4**	**+1.1**
VAM				P		01 43 05.3	
KARN	**Karanos**	**2.31**	**245**	*e*Pn	**Pn**	**01 42 57.5**	**+0.6**
KARN				*e*Sn	**Sn**	**01 43 24.5**	**-1.2**
AKAS	**Kas**	**2.54**	**93**	*i* P	**Pn**	**01 43 01.4**	**+1.6**
AKAS				*i* S	**Sn**	**01 43 28.2**	**-2.9**
GOLH	**Golhisar**	**2.61**	**71**	*i* P	**Pn**	**01 43 02.3**	**+1.6**
GOLH				*i* S	**Sn**	**01 43 28.8**	**-3.8**
AKS	**Akhisar**	**2.67**	**23**	*e*PN	**Pn**	**01 43 01.3**	**-0.3**
KULA	**Kula-Manisa**	**2.72**	**39**	*e*PN	**Pn**	**01 43 01.9**	**-0.2**
KYTH	**Kithira**	**2.77**	**268**	*e*P	**Pn**	**01 43 03.0**	**+0.2**
ELL	**Elmali**	**2.79**	**82**	*e*PN	**Pn**	**01 43 03.7**	**+0.7**
DID	**Didima**	**2.80**	**294**	*e*Pn	**Pn**	**01 43 03.2**	**+0.1**
PRK	**Paraskevi**	**2.82**	**357**	*e*Pn	**Pn**	**01 43 03.0**	**-0.4**
VLI	**Veliai**	**2.86**	**277**	*e*P	**Pn**	**01 43 04.5**	**+0.6**
VLX	**Vlachokerasia**	**3.41**	**287**	*e*Pn	**Pn**	**01 43 11.4**	**+0.3**
BCK	**Bucak**	**3.46**	**71**	*e*PN	**Pn**	**01 43 12.0**	**+0.3**
TKTP	**Tekketepe**	**3.47**	**61**	*i* P	**Pn**	**01 43 13.0**	**+1.1**
TKTP				*i* S	**Sn**	**01 43 53.3**	**+0.6**
LKR	**Lokris**	**3.54**	**310**	P	**Pn**	**01 43 13.7**	**+0.9**
ITM	**Ithomi**	**3.72**	**283**	*e*P	**Pn**	**01 43 15.9**	**+0.7**
RLS	**Riolos of Patr**	**4.31**	**294**	P	**Pn**	**01 43 25.0**	**+2.0**
KFL	**Anninata**	**4.83**	**292**	*e*Pn	**Pn**	**01 43 29.7**	**-0.3**
VLS	**Valsamata**	**5.00**	**292**	*e*Pn	**Pn**	**01 43 31.1**	**-1.2**
VLS	**Valsamata**	**5.00**	**292**	*e*Pn	**Pn**	**01 43 31.0**	**-1.3**
SLUM		**5.03**	**192**	P	**Pn**	**01 43 32.4**	**-0.3**
LKD	**Levkas**	**5.15**	**298**	*e*Pn	**Pn**	**01 43 33.9**	**-0.3**
LKD				*e*Sn	**Sn**	**01 44 29.5**	**-3.2**
ERMK	**Ermenek**	**5.20**	**86**	*i* P	**Pn**	**01 43 37.6**	**+2.8**
ERMK				*i* S	**Sn**	**01 44 34.6**	**+0.8**
HMAT	**Matruh**	**5.34**	**174**	P	**Pn**	**01 43 36.0**	**-0.9**
HMAT				S	**Sn**	**01 44 30.4**	**-6.9**
IGT	**Igoumenitsa**	**5.75**	**304**	*e*Pn	**Pn**	**01 43 41.9**	**-0.5**
IGT				*e*Sn	**Sn**	**01 44 42.3**	**-4.8**
IGT	**Igoumenitsa**	**5.75**	**304**	*e*Pn	**Pn**	**01 43 41.8**	**-0.6**
SWA2		**7.21**	**187**	P	**Pn**	**01 44 01.1**	**-1.0**
SWA2				S	**Sn**	**01 45 14.5**	**-7.9**
KOT	**Kottamia**	**7.88**	**144**	⇑P	**Pn**	**01 44 10.0**	**-1.2**
HSAF	**As Saff**	**8.02**	**146**	⇓P	**Pn**	**01 44 11.7**	**-1.2**
SUZ		**8.46**	**139**	P	**Pn**	**01 44 17.8**	**-1.1**
HNKL	**Nakhl**	**9.03**	**134**	P	**Pn**	**01 44 25.3**	**-1.3**
HFRF	**Wahat Farafira**	**9.38**	**170**	⇓P	**Pn**	**01 44 30.4**	**-0.8**
HBST	**Basata**	**10.00**	**134**	P	**Pn**	**01 44 38.8**	**-0.8**

*ISCJB **10** 01:47:10.5±0.8,2425N±008×9430E±006,h104km±8km, mb4.0/12,Error ellipse: s-maj=14.5km s-min=7.1km az=25.2*
*NEIC **10** 01:47:11.2±0.9,2434N×9479E,h101km±9km,mb4.0/6, Error ellipse: s-maj=19.1km s-min=6.4km az=57.0*
*IDC **10** 01:47:11.8±3.7,2433N×9477E,h108km±35km,mb3.8/6, mb1 3.8/7,mb1mx3.4/24,mbtmp3.7/7,Error ellipse: s-maj=39.5km s-min=15.2km az=64.0*
ISC 10 01:47:10.8±0.7,2425N±007×9439E±006,h91km±7km,n28, σ1§30/40,mb4.0/12,1C,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.67**	**322**	*i* P	**Pn**	**01 47 27.0**	**-0.1**
IMP				*e*S	**Sn**	**01 47 36.0**	**-3.3**
SHL	**Shillong**	**2.62**	**300**	⇑*i*PN	**Pn**	**01 47 52.6**	**+1.3**
SHL				*i* SN	**Sn**	**01 48 22.0**	**-0.4**
LSA	**Lhasa**	**6.15**	**333**	*e*Pn	**Pn**	**01 48 40.5**	**+1.4**
LSA				*e*Sn	**Sn**	**01 49 46.5**	**-1.3**
TAPN	**Taplejung**	**6.76**	**299**	*e*Pn	**Pn**	**01 48 49.3**	**+1.9**
TAPN				*e*Sn	**Sn**	**01 50 03.0**	**+0.1**
	163nm,0.5s						
ODAN	**Odare**	**6.83**	**294**	*e*Pn	**Pn**	**01 48 49.6**	**+1.3**
ODAN				*e*Sn	**Sn**	**01 50 04.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**7.16**	**143**	P	**Pn**	**01 48 52.0**	**-0.9**
	0.8nm,0.3s,baz=333,slow=16,SNR=4.8						
RAMN	**Ramite**	**7.52**	**293**	*e*Pn	**Pn**	**01 48 59.1**	**+1.3**
JIRN	**Jiri**	**8.12**	**296**	*e*Pn	**Pn**	**01 49 07.6**	**+1.7**
JIRN				*e*Sn	**Sn**	**01 50 35.2**	**-0.8**
	98nm,0.3s						
GUN	**Gumba**	**8.47**	**297**	*e*Pn	**Pn**	**01 49 11.9**	**+1.2**
GUN				*e*Sn	**Sn**	**01 50 44.1**	**-0.5**
	110nm,0.6s						
PKI	**Pulchoki**	**8.73**	**294**	*e*Pn	**Pn**	**01 49 15.5**	**+1.3**
PKI				*e*Sn	**Sn**	**01 50 49.9**	**-1.1**
	44nm,0.5s						
KKN	**Kakani**	**8.91**	**295**	*e*Pn	**Pn**	**01 49 17.4**	**+0.6**
KKN				*e*Sn	**Sn**	**01 50 54.0**	**-1.5**
	61nm,0.4s						
DMN	**Daman**	**9.00**	**294**	*e*Pn	**Pn**	**01 49 18.5**	**+0.6**
DMN				*e*Sn	**Sn**	**01 50 55.8**	**-1.6**
	57nm,0.5s						
GKN	**Gorkha**	**9.52**	**295**	*e*Pn	**Pn**	**01 49 25.7**	**+0.7**
GKN				*e*Sn	**Sn**	**01 51 08.4**	**-1.9**
KOLN	**Koldanda**	**10.31**	**292**	*e*Pn	**Pn**	**01 49 35.9**	**+0.1**
KOLN				*e*Sn	**Sn**	**01 51 26.5**	**-3.0**
	49nm,0.4s						
DANN	**Dangsing**	**10.37**	**295**	*e*Pn	**Pn**	**01 49 36.9**	**+0.3**
TKM2	**Tokmak 2**	**24.23**	**325**	*e*P	**P**	**01 52 21.1**	**+2.0**
	4.9nm,0.8s,mb3.9						
KBL	**Kabul**	**24.28**	**301**	*e*P	**P**	**01 52 21.8**	**+2.2**
	2.4nm,0.6s,mb3.7						
MK31	**Makanchi Array**	**24.49**	**340**	*e*P	**P**	**01 52 21.6**	**+0.2**
MKAR	**Makanchi Array**	**24.49**	**340**	P	**P**	**01 52 21.6**	**+0.2**
	4.7nm,0.6s,mb4.0,baz=144,slow=9.4,SNR=52						
EKS2	**Erkin-Say**	**25.04**	**322**	*e*P	**P**	**01 52 28.2**	**+1.7**
	3.5nm,0.9s,mb3.8						
SONM	**Songino Array**	**25.40**	**19**	P	**P**	**01 52 27.6**	**-2.0**
	1.0nm,0.6s,mb3.4,baz=200,slow=9.7,SNR=6.9						
KURK	**Kurchatov**	**29.10**	**339**	*e*P	**P**	**01 53 02.3**	**-0.4**
	2.3nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**33.98**	**334**	P	**P**	**01 53 45.2**	**-0.3**
	1.2nm,0.5s,mb4.0,baz=139,slow=12,SNR=7.5						
ARU	**Arti**	**41.34**	**331**	*e*P	**P**	**01 54 47.6**	**+0.1**
	3.5nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**58.68**	**135**	P	**P**	**01 56 56.8**	**-2.3**
	1.7nm,0.5s,mb4.4,baz=325,slow=7.3,SNR=27						
WRAB	**Tennant Creek**	**58.68**	**135**	*e*P	**P**	**01 56 56.6**	**-2.4**
	2.8nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**61.15**	**138**	P	**P**	**01 57 13.9**	**-1.9**
	0.8nm,0.4s,mb4.1,baz=322,slow=6.2,SNR=10						
BOSA	**Boshof**	**84.76**	**236**	P	**P**	**01 59 36.1**	**+1.0**
	3.5nm,1.0s,mb4.2,baz=96,slow=7.8,SNR=4.6						

*ATH **10** 01:47:50.6,3852N×2230E,h28km,MD3.5/13,ML3.3*
*ISCJB **10** 01:47:51.2±0.4,3853N±002×2231E±003,h22km±5km, Error ellipse: s-maj=3.9km s-min=3.2km az=153.3*
*CSEM **10** 01:47:51.5±0.1,3854N×2231E,h20km,ML3.2,Error ellipse: s-maj=1.4km s-min=1.3km az=45.0*
*THE **10** 01:47:51.4,3853N×2232E,h16km,ML3.2*
*NEIC **10** 01:47:51.4,3853N×2232E,h17km,ML3.2(THE), ML3.3(ATH),After THE.*
ISC 10 01:47:50.5±0.4,3851N±002×2228E±003,h12km±3km,n41, σ0§99/59,1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.52**	**5**	*e*Pg	**Pg**	**01 48 00.7**	**+0.1**
AGG				*e*Sg	**Sg**	**01 48 08.0**	**+0.5**
EVR	**Evrytania**	**0.55**	**318**	*e*PN	**Pg**	**01 48 01.9**	**+0.7**
EVR				*e*SN	**Sg**	**01 48 10.7**	**+2.2**
LKR	**Lokris**	**0.58**	**75**	*e*Pg	**Pg**	**01 48 01.3**	**-0.5**
LKR				*e*Sg	**Sg**	**01 48 11.1**	**+1.5**
LKR	**Lokris**	**0.58**	**75**	*e*PN	**Pg**	**01 48 01.6**	**-0.3**
LKR				*e*SN	**Sg**	**01 48 10.7**	**+1.1**
LKR	**Lokris**	**0.58**	**75**	*e*Pn	**Pg**	**01 48 01.6**	**-0.3**
LKR				*e*Sn	**Sg**	**01 48 10.7**	**+1.1**
LKR				*e*Sg	**Sg**	**01 48 11.1**	**+1.5**
LTK	**Loutraki**	**0.73**	**131**	*e*Pg	**Pg**	**01 48 04.8**	**+0.3**
LTK				*e*Sg	**Sg**	**01 48 14.8**	**+0.7**
RLS	**Riolos of Patr**	**0.78**	**235**	⇓*i*PN	**Pn**	**01 48 06.1**	**-1.1**
RLS				*e*SN	**Sn**	**01 48 18.5**	**-0.3**
THL	**Klokotos Trika**	**1.08**	**349**	*e*Pg	**Pg**	**01 48 11.1**	**-0.1**
THL				*e*Sg	**Sg**	**01 48 25.2**	**-0.1**
THL	**Klokotos Trika**	**1.08**	**349**	*e*Pn	**Pn**	**01 48 11.3**	**-0.1**
THL				*e*Sn	**Sn**	**01 48 25.4**	**-0.8**
NEO	**Neokhori**	**1.09**	**42**	*e*PN	**Pn**	**01 48 10.9**	**-0.6**
NEO				*e*SN	**Sn**	**01 48 26.0**	**-0.5**
XOR	**Xorichti**	**1.12**	**39**	*e*Pg	**Pg**	**01 48 11.3**	**-0.7**
VLX	**Vlachokerasia**	**1.14**	**176**	*e*Pg	**Pg**	**01 48 11.8**	**-0.5**
VLX				*e*Sg	**Sg**	**01 48 27.9**	**+0.8**
NAIG	**Nisos Aigina**	**1.21**	**128**	*e*PN	**Pn**	**01 48 13.6**	**+0.4**
KFL	**Anninata**	**1.24**	**252**	*e*Pg	**Pg**	**01 48 14.1**	**-0.1**
ATH	**Athens Observa**	**1.25**	**115**	*e*PN	**Pn**	**01 48 13.6**	**-0.2**
ATH				*e*SN	**Sn**	**01 48 31.1**	**+0.6**
DID	**Didima**	**1.25**	**142**	*e*Pg	**Pg**	**01 48 13.6**	**-1.0**
DID				*e*Sg	**Sg**	**01 48 31.5**	**+0.6**
LKD	**Levkas**	**1.29**	**280**	*e*Pg	**Pg**	**01 48 15.4**	**+0.2**
LKD				*e*Sg	**Sg**	**01 48 32.0**	**0.0**
PTL	**Penteli**	**1.33**	**110**	*e*PN	**Pn**	**01 48 15.0**	**+0.2**
ITM	**Ithomi**	**1.35**	**192**	*e*PN	**Pn**	**01 48 15.9**	**+0.8**
VLS	**Valsamata**	**1.37**	**257**	*e*Pg	**Pg**	**01 48 15.6**	**-1.1**
VLS				*e*Sg	**Sg**	**01 48 34.1**	**-0.3**
VLS	**Valsamata**	**1.37**	**257**	*e*PN	**Pn**	**01 48 15.9**	**+0.6**
AOS	**Alonnisos**	**1.42**	**62**	*e*Pg	**Pg**	**01 48 14.8**	**-2.9**
JAN	**Janina**	**1.60**	**316**	*e*PN	**Pn**	**01 48 19.1**	**+0.6**
JAN	**Janina**	**1.60**	**316**	*e*Pn	**Pn**	**01 48 20.7**	**+2.2**
LIT	**Litokhoron**	**1.60**	**6**	*e*Pg	**Pg**	**01 48 18.2**	**-3.0**
LIT				*e*Sg	**Sg**	**01 48 38.1**	**-3.9**
PAIG	**Paliouri**	**1.79**	**37**	*e*Pb	**Pb**	**01 48 20.4**	**-2.8**
KZN	**Kozani**	**1.84**	**348**	*e*PN	**Pn**	**01 48 22.9**	**+1.0**
VLI	**Veliai**	**1.86**	**163**	*e*PB	**Pb**	**01 48 22.5**	**-1.9**
PLG	**Polygyros**	**2.07**	**26**	*e*Pn	**Pn**	**01 48 24.2**	**-0.9**
PLG	**Polygyros**	**2.07**	**26**	*e*Pn	**Pn**	**01 48 24.7**	**-0.4**
OUR	**Ouranopolis**	**2.25**	**35**	*e*Pn	**Pn**	**01 48 26.8**	**-0.8**
KEK	**Kerkira**	**2.27**	**303**	*e*PB	**Pb**	**01 48 29.3**	**-2.1**
KEK	**Kerkira**	**2.27**	**303**	*e*Pb	**Pb**	**01 48 30.3**	**-1.1**
FNA	**Florina**	**2.38**	**343**	*e*Pn	**Pn**	**01 48 30.0**	**+0.7**
FNA				*e*Sn	**Sn**	**01 48 58.6**	**+0.2**
BIA	**Bitola**	**2.62**	**344**	*e*Pn	**Pn**	**01 48 37.0**	**+4.5**
BIA	**Bitola**	**2.62**	**344**	*e*Pn	**Pn**	**01 48 36.9**	**+4.4**
APE	**Apeiranthos**	**2.95**	**118**	*e*PN	**Pn**	**01 48 38.0**	**+0.9**
KRUS	**Krusevo**	**2.97**	**345**	*e*Pn	**Pn**	**01 48 39.6**	**+2.3**
NVR	**Nevrokopi**	**3.09**	**23**	*e*PN	**Pn**	**01 48 39.8**	**+0.8**
STIP	**Stip**	**3.19**	**359**	*e*Pn	**Pn**	**01 48 41.1**	**+0.7**
STIP	**Stip**	**3.19**	**359**	*e*Pn	**Pn**	**01 48 41.0**	**+0.7**

MAN 10 01:51:50,1785N×11994E,h33km,mb3.5,ML2.2,MS1.6, 2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.50**	**82**	⇓*i*P	Pb	01 52 05.2	+4.7
SIPP				*i* S	Sb	01 52 15.2	+7.3
ABRA	**Dolores**	**0.76**	**105**	*e*P	Pn	01 52 05.4	+0.9
ABRA				*e*S	Sn	01 52 16.3	+1.5
PIP	**Pasuquin**	**0.80**	**54**	⇓*i*P	Pn	01 52 05.9	+0.9

*IDC **10** 02:52:08.6±1.1,1465N×147.15E,h0km,mb4.1/10, mb1 4.2/11,mb1mx4.0/22,mbtmp4.1/11,MS3.4/4, Ms1 3.4/4,ms1mx2.8/36,Error ellipse: s-maj=29.5km s-min=16.2km az=92.0*
*ISCJB **10** 02:52:11.2±0.8,1466N±008×1473E±0.1,h33km,mb4.2/17, MS3.4/4,Error ellipse: s-maj=16.2km s-min=9.5km az=26.0*
*BJI **10** 02:52:13.0,1530N×14735E,h30km,mb4.8*
*NEIC **10** 02:52:14.6±0.5,1456N×14701E,h35km,mb4.5/6,Error ellipse: s-maj=16.1km s-min=9.2km az=91.0*
ISC 10 02:52:13.5±0.8,1465N±008×1473E±01,h35km,n35, σ0§91/22,mb4.2/17,MS3.4/4,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.58**	**246**	Pn	**Pn**	**02 52 48.9**	**-3.9**
	90nm,0.3s,baz=128,slow=5.0,SNR=16						
GUMO				Sn	**Sn**	**02 53 23.1**	**+0.2**
	76nm,0.3s,baz=206,slow=22,SNR=7.6						
MJAR	**Matsushiro Arr**	**23.26**	**341**	P	**P**	**02 57 15.6**	**-2.4**
	1.1nm,0.6s,mb3.5,baz=163,slow=10,SNR=3.2						
KSRS	**Korea Array**	**28.50**	**326**	P	**P**	**02 58 03.6**	**-1.9**
	2.0nm,0.8s,mb3.8,baz=150,slow=9.3,SNR=7.2						
WRAB	**Tennant Creek**	**36.65**	**201**	*e*P	**P**	**02 59 17.9**	**+1.0**
	2.9nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**36.66**	**201**	P	**P**	**02 59 16.6**	**-0.4**
	1.7nm,0.7s,mb4.0,baz=22,slow=9.6,SNR=5.5						
FITZ	**Fitzroy Crossi**	**38.92**	**214**	P	**P**	**02 59 35.0**	**-1.1**
	1.3nm,0.6s,mb3.8,baz=45,slow=14,SNR=3.3						
FITZ				LR	LR	03 14 54.0	
	comp=Z,55nm,19.7s,MS3.4,baz=350,slow=35						
ASAR	**Alice Springs**	**40.27**	**199**	P	**P**	**02 59 46.9**	**-0.4**
	1.0nm,0.7s,mb3.6,baz=28,slow=9.6,SNR=8.1						
CMAR	**Chiang Mai Arr**	**46.40**	**282**	P	**P**	**03 00 36.0**	**-0.9**
	1.1nm,0.6s,mb4.0,baz=83,slow=7.4,SNR=5.3						
SONM	**Songino Array**	**47.26**	**323**	P	**P**	**03 00 43.5**	**+0.2**
	2.3nm,0.8s,mb4.2,baz=136,slow=7.3,SNR=13						
GTA	**Gaotai**	**48.27**	**310**	*e*P	**P**	**03 00 52.4**	**+1.2**
GTA				AP	pP	03 00 59.2	-2.4
GTA				XP	sP	03 01 02.1	-3.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
LSA	**Lhasa**	**53.63**	**296**	*e*P	**P**	**03 01 31.8**	**+0.1**
	comp=Z,7.9nm,0.6s,mb4.8						
ZAA0	**Zalesovo Array**	**62.15**	**324**	*e*P	**P**	**03 02 31.1**	**0.0**
ZALV	**Zalesovo Beam**	**62.15**	**324**	P	**P**	**03 02 31.0**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.4,baz=132,slow=8.2,SNR=7.0						
ZALV				LR	LR	03 31 46.7	
	comp=Z,20nm,18.8s,MS3.3,baz=44,slow=38						
ZALV	**Zalesovo Beam**	**62.15**	**324**	P	**P**	**03 02 31.0**	**0.0**
ZALV				LR	LR	03 31 46.7	
MK31	**Makanchi Array**	**62.38**	**315**	*e*P	**P**	**03 02 33.4**	**+0.7**
MKAR	**Makanchi Array**	**62.38**	**315**	P	**P**	**03 02 33.5**	**+0.8**
	comp=Z,5.0nm,0.5s,mb4.9,baz=90,slow=8.3,SNR=49						
KURK	**Kurchatov**	**65.31**	**319**	*e*P	**P**	**03 02 52.0**	**+0.1**
	comp=Z,13nm,1.0s,mb4.9						
TKM2	**Tokmak 2**	**66.81**	**311**	*e*P	**P**	**03 03 02.5**	**+0.7**
	comp=Z,1.4nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**70.56**	**321**	P	**P**	**03 03 25.1**	**+0.2**
	comp=Z,3.9nm,0.7s,mb4.5,baz=99,slow=7.7,SNR=21						
BRVK	**Borovoye**	**70.63**	**321**	*e*P	**P**	**03 03 26.4**	**+1.1**
	comp=Z,3.2nm,0.6s,mb4.4						
KBL	**Kabul**	**72.27**	**302**	*e*P	**P**	**03 03 35.7**	**+0.1**
	comp=Z,3.2nm,0.6s,mb4.4						
YKA	**Yellowknife Ar**	**80.83**	**28**	LR	LR	03 39 49.9	
	comp=Z,16nm,20.1s,MS3.4,baz=320,slow=35						
PDAR	**Pinedale Array**	**89.55**	**46**	LR	LR	03 43 18.5	
	comp=Z,24nm,19.9s,MS3.6,baz=75,slow=34						
TORD	**Torodi Ar. Bea**	**136.15**	**307**	PKP	PKPdf	03 11 34.3	+2.2
	comp=Z,0.9nm,1.1s,baz=13,slow=3.3,SNR=3.3						
DBIC	**Dimbokro**	**145.19**	**306**	PKPbc	PKPbc	03 11 49.1	+1.0
	comp=Z,9.0nm,0.7s,baz=78,slow=4.0,SNR=16						
KIC	**Kosan Boka**	**145.29**	**305**	*e*PKP1	PKPbc	03 11 49.5	+1.1
	comp=Z,20nm,0.6s						
KIC	**Kosan Boka**	**145.29**	**305**	*e*P	PKPbc	03 11 49.7	+1.3
	comp=Z,20nm,0.6s						
KIC	**Kosan Boka**	**145.29**	**305**	*e*P	PKPbc	03 11 49.7	+1.3
TIC	**Toumodi**	**145.34**	**306**	*e*PKP1	PKPbc	03 11 49.5	+1.0
	comp=Z,452nm,2.2s						
TIC	**Toumodi**	**145.34**	**306**	*e*P	PKPbc	03 11 48.8	+0.3
	comp=Z,452nm,2.2s						
TIC	**Toumodi**	**145.34**	**306**	*e*P	PKPbc	03 11 48.8	+0.3
LIC	**

0.0nm,0.0s
BJII Banjamegara 2.71 118 P **Pn 03 16 47.6 -1.1**
0.0nm,0.0s
TPI Tanjungpandan 3.28 6 P **Pn 03 16 54.6 +0.1**
0.0nm,0.0s
PPBI Pangkal Pinang 4.03 343 P **Pn 03 17 03.9 +1.3**
0.0nm,0.0s
XMIS Christmas Isla 4.70 200 *e*Pn **Pn 03 17 08.7 -1.5**
XMIS *e*Sn **S 03 18 01.6 -7.6**
SJI Sawahan 4.74 111 P **Pn 03 17 09.5 -1.2**
0.0nm,0.0s
PSI Prapat 12.13 316 P **Pn 03 18 40.2 -1.0**
1.0nm,0.3s,baz=166,slow=12,SNR=4.0
BATI Baumata 16.72 105 P **P 03 19 34.3 +0.9**
4.1nm,0.3s,baz=170,slow=6.1,SNR=2.8
FITZ Fitzroy Crossi 21.54 125 P **P 03 20 24.0 +0.3**
2.8nm,0.9s,mb3.6,baz=336,slow=14,SNR=13
NWAO Narrogin (SRO) 28.30 162 P **P 03 21 25.6 +1.2**
3.3nm,0.3s,mb4.2,baz=315,slow=8.6,SNR=4.9
WRA Warramunga Arr 29.68 120 P **P 03 21 36.8 +0.1**
1.0nm,0.5s,mb3.6,baz=287,slow=10,SNR=13
WRA S **S 03 26 13.6 +2.5**
0.2nm,0.3s,baz=341,slow=29,SNR=7.2
WRA ScP ScP 03 27 48.1 +0.3
0.3nm,0.4s,baz=318,slow=2.6,SNR=6.5
WB2 Warramunga Arr 29.69 120 *e*P **P 03 21 36.3 -0.5**
ASAR Alice Springs 31.01 127 P **P 03 21 49.0 +0.7**
1.3nm,0.4s,mb3.8,baz=300,slow=6.9,SNR=28
ASAR S **S 03 26 30.1 -1.7**
0.4nm,0.8s,baz=304,slow=14,SNR=4.6
FORT Forrest 31.39 144 *e*P **P 03 21 51.8 +0.2**
0.6nm,0.4s,mb3.5
STKA Stephens Creek 41.06 133 *e*P **P 03 23 14.0 +1.0**
3.3nm,0.5s,mb3.8
STKA Stephens Creek 41.06 133 P **P 03 23 14.2 +1.2**
6.6nm,0.8s,mb3.9,baz=304,slow=12,SNR=9.3
KSRS Korea Array 47.36 22 P **P 03 24 02.1 -0.4**
1.4nm,0.7s,mb3.4,baz=272,slow=40,SNR=4.0
MJAR Matsushiro Arr 51.30 32 P **P 03 24 30.7 -1.4**
0.8nm,0.4s,mb3.4,baz=208,slow=7.9,SNR=2.8
SONM Songino Array 53.65 359 P **P 03 24 50.4 +1.3**
2.7nm,0.7s,mb3.7,baz=177,slow=8.0,SNR=14
KBL Kabul 54.15 321 *e*P **P 03 24 53.3 +0.3**
1.9nm,0.5s,mb3.7
TKM2 Tokmak 2 56.59 332 *e*P **P 03 25 09.7 -0.5**
1.8nm,0.4s,mb3.9
MK31 Makanchi Array 57.09 340 *e*P **P 03 25 13.2 -0.3**
MKAR Makanchi Array 57.09 340 P **P 03 25 13.4 -0.1**
4.4nm,0.5s,mb4.2,baz=151,slow=8.4,SNR=48
KURK Kurchatov 61.71 340 *e*P **P 03 25 44.5 -0.3**
4.5nm,0.9s,mb4.1
ZALV Zalesovo Beam 62.69 345 P **P 03 25 50.7 -0.6**
2.5nm,0.3s,mb4.3,baz=146,slow=6.1,SNR=14
ZALV Zalesovo Beam 62.69 345 P **P 03 25 50.7 -0.6**
BVAR Borovoye Array 66.61 337 P **P 03 26 16.5 0.0**
1.7nm,0.4s,mb4.2,baz=146,slow=9.5,SNR=18
BRVK Borovoye 66.68 337 *e*P **P 03 26 16.1 -0.8**
3.3nm,0.8s,mb4.1
CPUP Villa Florida 144.53 204 PKP PKPdf 03 35 01.0 +1.1
0.7nm,0.4s,baz=169,slow=3.6,SNR=5.1
CPUP Villa Florida 144.53 204 PKP PKPdf 03 35 01.0 +1.1

ISCJB ***10*** *03:35:37.9±0.3,3700N±002×454W±002,h76km±3km, Error ellipse: s-maj=3.3km s-min=2.1km az=171.7*
MDD ***10*** *03:35:37.6±0.4,3696N×453W,h76km±3km,mb3.6/33, Error ellipse: s-maj=2.8km s-min=1.7km az=163.0,PRIMO*
CSEM ***10*** *03:35:38.1±0.1,3697N×449W,h59km±1km,mb3.9/24, Error ellipse: s-maj=1.3km s-min=0.9km az=159.0*
SFS ***10*** *03:35:39.0,3690N×450W,h0km,ML3.8*
NEIC ***10*** *03:35:39.6,3690N×450W,h66km,MG3.9(MDD),After MDD.*
INMG ***10*** *03:35:39.4±1.2,3693N×452W,h67km±4km,MD3.1,ML2.9, Error ellipse: s-maj=2.5km s-min=1.7km az=7.0*
LDG ***10*** *03:35:39.6±0.1,3690N×450W,h40km,Ml3.2/3,Error ellipse: s-maj=2.8km s-min=1.7km az=171.0*
IGIL ***10*** *03:35:40.2,3690N×450W,h65km,ML3.0*
CNRM ***10*** *03:35:43.7,3676N×474W,h32km,MD3.3*
ISC 10 03:35:39.3±0.3,3700N±002×455W±002,h66km±4km,n157,
σ1°22/269,9C-7D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.26**	**159**	⇑P	**Pn**	**03 35 52.0**	**+2.3**
	38nm,0.1s,SNR=18						
EMAL				S	**Sn**	**03 35 58.8**	**+1.6**
	132nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.26**	**159**	S	**Sn**	**03 35 58.8**	**+1.5**
	132nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.26**	**159**	⇑P	**Pn**	**03 35 52.0**	**+2.3**
EMAL				S	**Sn**	**03 35 58.8**	**+1.6**
ELOJ	**Sierra Loja**	**0.35**	**65**	⇑P	**Pn**	**03 35 50.4**	**+0.1**
	61nm,0.2s,SNR=18						
ELOJ				S	**Sn**	**03 35 58.9**	**+0.6**
	37nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**0.47**	**203**	P	**Pn**	**03 35 50.5**	**-1.0**
	11nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**03 35 58.4**	**-1.9**
	171nm,0.2s,SNR=7.9						
ERON	**Agron**	**0.59**	**88**	P	**Pn**	**03 35 52.3**	**-0.3**
	35nm,0.1s,SNR=7.9						
ERON				S	**Sn**	**03 36 01.8**	**-0.7**
	123nm,0.3s,SNR=7.9						
ERON	**Agron**	**0.59**	**88**	P	**Pn**	**03 35 52.3**	**-0.4**
	35nm,0.1s,SNR=7.9						
ERON				S	**Sn**	**03 36 01.8**	**-0.7**
	123nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**0.60**	**22**	⇑P	**Pn**	**03 35 53.8**	**+1.1**
	57nm,0.1s,SNR=18						
ELUQ				S	**Sn**	**03 36 03.9**	**+1.3**
	269nm,0.2s,SNR=7.5						
LIJA	**Lijar**	**0.69**	**262**	⇑P	**Pn**	**03 35 55.4**	**+1.6**
LIJA				S	**Sn**	**03 36 05.9**	**+1.4**
LIJA	**Lijar**	**0.69**	**262**	*i* P	**Pn**	**03 35 55.4**	**+1.6**
LIJA				*e*S	**Sn**	**03 36 05.9**	**+1.4**
REAL	**Reales**	**0.74**	**226**	P	**Pn**	**03 35 55.0**	**+0.7**
REAL				S	**Sn**	**03 36 03.8**	**-1.7**
REAL	**Reales**	**0.74**	**226**	*i* P	**Pn**	**03 35 55.0**	**+0.6**
REAL				*e*S	**Sn**	**03 36 03.8**	**-1.7**
EGUA	**Guajares**	**0.80**	**102**	P	**Pn**	**03 35 54.4**	**-0.7**
	24nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**03 36 05.8**	**-1.0**
	163nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**0.83**	**70**	P	**Pn**	**03 35 55.7**	**+0.3**
	27nm,0.2s,SNR=111						
ECOG				S	**Sn**	**03 36 07.4**	**+0.1**
	57nm,0.2s,SNR=8.6						
ECOG	**Cogollos-Vega**	**0.83**	**70**	P	**Pn**	**03 35 55.7**	**+0.3**
	27nm,0.2s,SNR=111						
ECOG				S	**Sn**	**03 36 07.4**	**+0.1**
	57nm,0.2s,SNR=8.6						
EQUE	**Quentar**	**0.91**	**77**	⇑P	**Pn**	**03 35 56.5**	**+0.1**
	5.1nm,0.1s,SNR=18						
EQUE				S	**Sn**	**03 36 09.0**	**0.0**
	60nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.92**	**234**	P	**Pn**	**03 35 56.5**	**-0.1**
	4.0nm,0.1s,SNR=7.9						
EJIF				S	**Sn**	**03 36 08.5**	**-0.9**
	4.2nm,0.4s,SNR=7.9						
ESPR	**Espera**	**1.06**	**263**	P	**Pn**	**03 35 58.6**	**+0.3**
	11nm,0.3s,SNR=7.9						
ESPR				S	**Sn**	**03 36 12.4**	**-0.1**
	15nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.06**	**263**	P	**Pn**	**03 35 58.6**	**+0.3**
	11nm,0.3s,SNR=7.9						
ESPR				S	**Sn**	**03 36 12.4**	**-0.1**
	15nm,0.1s,SNR=7.9						
GIBL	**Gibalbin**	**1.15**	**262**	⇓P	**Pn**	**03 36 00.8**	**+1.3**
GIBL				S	**Sn**	**03 36 13.3**	**-1.3**
GIBL	**Gibalbin**	**1.15**	**262**	*i* P	**Pn**	**03 36 00.8**	**+1.3**
GIBL				*e*S	**Sn**	**03 36 13.3**	**-1.3**
MOMI	**Momias**	**1.16**	**235**	S	**Sn**	**03 36 17.6**	**+2.9**
MOMI	**Momias**	**1.16**	**235**	*e*S	**Sn**	**03 36 17.6**	**+2.9**
EADA	**Adamuz**	**1.16**	**359**	P	**Pn**	**03 36 00.9**	**+1.3**
	10nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**03 36 15.8**	**+1.0**
	146nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.16**	**359**	P	**Pn**	**03 36 00.9**	**+1.2**
	10nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**03 36 15.8**	**+0.9**
	146nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**1.28**	**327**	P	**Pn**	**03 36 02.0**	**+0.8**
	38nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**03 36 18.2**	**+0.7**
	144nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**1.28**	**327**	P	**Pn**	**03 36 02.0**	**+0.8**
	38nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**03 36 18.2**	**+0.7**
	144nm,0.1s,SNR=7.9						
ECEU	**Ceuta**	**1.29**	**212**	P	**Pn**	**03 36 01.0**	**-0.4**
	4.7nm,0.1s,SNR=7.9						
ECEU				S	**Sn**	**03 36 15.7**	**-2.2**
	7.1nm,0.2s,SNR=7.9						
ECEU	**Ceuta**	**1.29**	**212**	P	**Pn**	**03 36 01.0**	**-0.3**
	4.7nm,0.1s,SNR=7.9						
ECEU				S	**Sn**	**03 36 15.7**	**-2.1**
	7.1nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**1.31**	**27**	P	**Pn**	**03 36 02.3**	**+0.7**
	32nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**03 36 18.3**	**+0.1**
	43nm,0.1s,SNR=7.9						
EBER	**Berja**	**1.33**	**94**	P	**Pn**	**03 36 01.2**	**-0.6**
	3.5nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**03 36 18.0**	**-0.7**
	88nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.33**	**94**	P	**Pn**	**03 36 01.2**	**-0.6**
	3.5nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**03 36 18.0**	**-0.8**
	88nm,0.3s,SNR=7.9						
CNIL	**Conil**	**1.37**	**243**	S	**Sn**	**03 36 20.5**	**+0.9**
CNIL	**Conil**	**1.37**	**243**	*e*S	**Sn**	**03 36 20.5**	**+0.8**
EQES	**Quesada**	**1.42**	**55**	⇑P	**Pn**	**03 36 03.4**	**+0.4**
	3.9nm,0.1s,SNR=18						
EQES				S	**Sn**	**03 36 20.8**	**-0.1**
	19nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.42**	**55**	P	**Pn**	**03 36 03.4**	**+0.4**
	3.9nm,0.1s,SNR=18						
EQES				S	**Sn**	**03 36 20.8**	**-0.1**
	19nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.61**	**131**	P	**Pn**	**03 36 02.8**	**-2.8**
	2.3nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**03 36 20.5**	**-5.1**
	28nm,0.2s,SNR=7.9						
DKH	**Dar Kharkhour**	**1.65**	**204**	P	**Pn**	**03 36 06.0**	**-0.1**
DKH				S	**Sn**	**03 36 21.0**	**-5.4**
DKH	**Dar Kharkhour**	**1.65**	**204**	*e*P	**Pn**	**03 36 06.0**	**-0.1**
EHUE	**Huescar**	**1.75**	**62**	P	**Pn**	**03 36 07.7**	**+0.2**
	5.5nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**03 36 28.6**	**-0.2**
	8.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.86**	**295**	P	**Pn**	**03 36 09.2**	**+0.3**
	10nm,0.0s,SNR=7.9						
EMIN				S	**Sn**	**03 36 30.7**	**-0.7**
	8.8nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.86**	**295**	P	**Pn**	**03 36 09.2**	**+0.3**
	10nm,0.0s,SNR=7.9						
EMIN				S	**Sn**	**03 36 30.7**	**-0.7**
	8.8nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**1.87**	**90**	P	**Pn**	**03 36 08.4**	**-0.7**
	1.0nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**03 36 29.6**	**-2.1**
	6.7nm,0.2s,SNR=7.9						
ERIP	**Rio Piedras**	**2.20**	**281**	P	**Pn**	**03 36 13.3**	**-0.2**
	22nm,0.1s,SNR=7.9						
ERIP				S	**Sn**	**03 36 38.2**	**-1.4**
	107nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.30**	**44**	P	**Pn**	**03 36 14.8**	**-0.1**
	2.5nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**03 36 40.0**	**-2.1**
	12nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**2.30**	**301**	*e*P	**Pn**	**03 36 15.4**	**+0.5**
PBAR				*e*S	**Sn**	**03 36 42.5**	**+0.4**
PBAR				A		03 36 44.9	
	18nm,0.1s						
PBAR	**Barrancos**	**2.30**	**301**	*e*P	**Pn**	**03 36 15.4**	**+0.5**
PBAR				*e*S	**Sn**	**03 36 42.5**	**+0.4**
	18nm,0.1s						
EGRO	**El Granado**	**2.40**	**284**	⇓P	**Pn**	**03 36 16.4**	**+0.1**
	20nm,0.1s,SNR=18						
EGRO				S	**Sn**	**03 36 43.8**	**-0.8**
	63nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.40**	**284**	P	**Pn**	**03 36 16.4**	**+0.1**
	20nm,0.1s,SNR=18						
EGRO				S	**Sn**	**03 36 43.8**	**-0.8**
	63nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**2.56**	**280**	*i* P	**Pn**	**03 36 18.5**	**0.0**
PVAQ				*e*S	**Sn**	**03 36 46.6**	**-2.0**
PVAQ				A		03 36 49.2	
	122nm,0.1s						
PVAQ	**Vaqueiros**	**2.56**	**280**	⇓P	**Pn**	**03 36 18.5**	**0.0**
PVAQ				S	**Sn**	**03 36 46.6**	**-2.0**
	61nm,0.1s						
EBAD	**Badajoz**	**2.62**	**313**	⇓P	**Pn**	**03 36 20.3**	**+1.0**
	15nm,0.2s,SNR=18						
EBAD				S	**Sn**	**03 36 49.8**	**-0.1**
	38nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.62**	**313**	⇓P	**Pn**	**03 36 20.2**	**+0.9**
EBAD				S	**Sn**	**03 36 49.8**	**-0.2**
	38nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**2.71**	**10**	P	**Pn**	**03 36 21.5**	**+1.1**
	12nm,0.1s,baz=188,slow=12,SNR=32						
ESDC				S	**Sn**	**03 36 51.3**	**-0.7**
	8.0nm,0.1s,baz=188,slow=22,SNR=7.9						
ESDC	**Sonseca Array**	**2.71**	**10**	P	**Pn**	**03 36 21.5**	**+1.1**
	12nm,0.1s,SNR=32						
ESDC				S	**Sn**	**03 36 51.3**	**-0.7**
	8.0nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.72**	**276**	*e*P	**Pn**	**03 36 20.6**	**0.0**
PBDV				*e*S	**Sn**	**03 36 50.6**	**-1.7**
PBDV				A		03 36 53.9	
	33nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.72**	**276**	⇓P	**Pn**	**03 36 20.6**	**0.0**
PBDV				S	**Sn**	**03 36 50.6**	**-1.7**
	16nm,0.1s						
EMUR	**La Murta**	**2.76**	**71**	P	**Pn**	**03 36 20.7**	**-0.4**
	1.9nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**03 36 51.5**	**-1.9**
	10nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.76**	**71**	P	**Pn**	**03 36 20.7**	**-0.5**
	1.9nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.76**	**71**	P	**Pn**	**03 36 20.7**	**-0.4**
EMUR				S	**Sn**	**03 36 50.0**	**-3.3**
PBEJ	**Beja**	**2.83**	**292**	*e*P	**Pn**	**03 36 22.5**	**+0.4**
PBEJ				*e*S	**Sn**	**03 36 53.9**	**-1.2**
PBEJ				A		03 36 55.7	
	16nm,0.1s						
PBEJ	**Beja**	**2.83**	**292**	*e*P	**Pn**	**03 36 22.5**	**+0.4**
PBEJ				*e*S	**Sn**	**03 36 53.9**	**-1.2**
	16nm,0.1s						
ETOB	**Tobarra**	**2.88**	**54**	⇑P	**Pn**	**03 36 22.8**	**-0.1**
	34nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**03 36 53.5**	**-2.9**
	14nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**2.88**	**54**	P	**Pn**	**03 36 22.8**	**0.0**
	34nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**2.92**	**174**	*i* P	**Pn**	**03 36 24.0**	**+0.6**
TZK				*i* S	**Sn**	**03 36 54.5**	**-2.8**
PESTR	**Estremoz**	**3.04**	**309**	*e*P	**Pn**	**03 36 25.9**	**+0.9**
PESTR				*e*S	**Sn**	**03 37 00.6**	**+0.3**
PESTR				A		03 37 01.5	
	13nm,0.2s						
PESTR	**Estremoz**	**3.04**	**309**	*e*P	**Pn**	**03 36 25.9**	**+0.9**
PESTR				*e*S	**Sn**	**03 37 00.6**	**+0.3**
	13nm,0.2s						
EVO	**Evora**	**3.14**	**300**	*e*Pn	**Pn**	**03 36 28.2**	**+1.8**
EVO				*e*Sn	**Sn**	**03 37 04.5**	**+1.8**
	18nm,0.2s						
EVO	**Evora**	**3.14**	**300**	*e*P	**Pn**	**03 36 27.2**	**+0.8**
EVO				*e*S	**Sn**	**03 37 02.8**	**+0.1**
EVO				A		03 37 04.9	
	26nm,0.1s						
EVO	**Evora**	**3.14**	**300**	*e*P	**Pn**	**03 36 27.2**	**+0.8**
EVO				*e*S	**Sn**	**03 37 02.8**	**+0.1**
	26nm,0.1s						
EVOP	**Sao Brissos**	**3.22**	**299**	*e*Pn	**Pn**	**03 36 28.2**	**+0.8**
EVOP				*e*Sn	**Sn**	**03 37 04.5**	**0.0**
	8.8nm,0.2s						
PMRV	**Marv??o**	**3.30**	**318**	*e*P	**Pn**	**03 36 29.6**	**+1.1**
PMRV				*e*S	**Sn**	**03 37 06.0**	**-0.5**
PMRV				A		03 37 06.8	
	8.6nm,0.1s						
PMRV	**Marv??o**	**3.30**	**318**	*e*P	**Pn**	**03 36 29.6**	**+1.1**
PMRV				*e*S	**Sn**	**03 37 06.0**	**-0.5**
	8.6nm,0.1s						
MOE	**Montemor**	**3.38**	**298**	*e*P	**Pn**	**03 36 30.8**	**+1.3**
MOE				*e*S	**Sn**	**03 37 07.2**	**-1.2**
PTEO	**Sao Teotonio**	**3.38**	**280**	*e*P	**Pn**	**03 36 29.8**	**+0.2**
PTEO				*e*S	**Sn**	**03 37 06.0**	**-2.4**
PTEO				A		03 37 09.4	
	37nm,0.2s						
PTEO	**Sao Teotonio**	**3.38**	**280**	⇓P	**Pn**	**03 36 29.8**	**+0.2**
PTEO				S	**Sn**	**03 37 06.0**	**-2.4**
	18nm,0.2s						
PFVI	**Vila Bisbo**	**3.43**	**273**	*e*P	**Pn**	**03 36 30.0**	**-0.2**
PFVI				*e*S	**Sn**	**03 37 07.2**	**-2.5**
PFVI				A		03 37 10.3	
	26nm,0.1s						
PFVI	**Vila Bisbo**	**3.43**	**273**	*e*P	**Pn**	**03 36 30.0**	**-0.2**
PFVI				*e*S	**Sn**	**03 37 07.2**	**-2.5**
	26nm,0.1s						
MIF	**Mishlifen**	**3.63**	**189**	*e*P	**Pn**	**03 36 33.0**	**0.0**
MIF				*i* S	**Sn**	**03 37 10.0**	**-4.6**
GUD	**Guadarrama**	**3.65**	**5**	P	**Pn**	**03 36 35.0**	**+1.7**
	1.3nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**03 37 14.3**	**-0.8**
	5.5nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.65**	**322**	*e*P	**Pn**	**03 36 34.5**	**+1.2**
PCBR				*e*S	**Sn**	**03 37 14.0**	**-1.1**
PCBR				A		03 37 15.2	
	13nm,0.3s						
PCBR	**Castelo Branco**	**3.65**	**322**	*e*P	**Pn**	**03 36 34.5**	**+1.2**
PCBR				*e*S	**Sn**	**03 37 14.0**	**-1.1**
	13nm,0.3s						
EBEN	**Beniarda**	**3.82**	**62**	P	**Pn**	**03 36 34.6**	**-1.0**
	0.3nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**03 37 15.6**	**-3.6**
	1.3nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**3.82**	**62**	P	**Pn**	**03 36 34.6**	**-1.0**
	0.3nm,0.1s,SNR=7.9						
ALMR	**Almeirim**	**3.84**	**305**	*e*P	**Pn**	**03 36 36.8**	**+0.9**
ALMR				*e*S	**Sn**	**03 37 17.8**	**-1.9**
ALMR				*e*S	**Sn**	**03 37 17.8**	**-1.9**
ALMR				AML	AML	03 37 21.5	
	comp=N,34nm,0.3s						
ALMR	**Almeirim**	**3.84**	**305**	*e*P	**Pn**	**03 36 36.8**	**+0.9**
ALMR				*e*S	**Sn**	**03 37 17.8**	**-1.9**
CZD	**Col de Zad**	**3.98**	**186**	*i* P	**Pn**	**03 36 38.0**	**+0.2**
CZD				*i* S	**Sn**	**03 37 19.0**	**-4.2**
PTOM	**Tomar**	**4.01**	**312**	*e*P	**Pn**	**03 36 39.2**	**+1.0**
PTOM				*e*S	**Sn**	**03 37 23.0**	**-0.9**
PTOM				A		03 37 24.7	
	comp=N,13nm,0.2s						
PTOM	**Tomar**	**4.01**	**312**	*e*P	**Pn**	**03 36 39.2**	**+1.0**
PTOM				*e*S	**Sn**	**03 37 23.0**	**-0.9**
	comp=N,13nm,0.2s						
MTE	**Manteigas**	**4.12**	**326**	*e*P	**Pn**	**03 36 41.2**	**+1.4**
MTE				*e*S	**Sn**	**03 37 25.3**	**-1.4**
MTE				A		03 37 28.7	
	comp=N,24nm,0.6s						
MTE	**Manteigas**	**4.12**	**326**	*e*P	**Pn**	**03 36 41.2**	**+1.4**
MTE				*e*S	**Sn**	**03 37 25.3**	**-1.4**
	comp=N,24nm,0.6s						
PMAFR	**Mafra**	**4.22**	**299**	*e*P	**Pn**	**03 36 41.9**	**+0.8**
PMAFR				*e*S	**Sn**	**03 37 28.3**	**-0.8**
PMAFR				A		03 37 30.5	
	comp=N,16nm,0.4s						
PMAFR	**Mafra**	**4.22**	**299**	⇑P	**Pn**	**03 36 41.9**	**+0.8**
PMAFR				S	**Sn**	**03 37 28.3**	**-0.8**
	comp=N,8.1nm,0.4s						
ETOR	**Torete**	**4.28**	**26**	P	**Pn**	**03 36 42.9**	**+1.0**
	comp=N,46nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**03 37 29.5**	**-1.0**
	comp=N,38nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.54**	**326**	*e*P	**Pn**	**03 36 47.2**	**+1.8**
PVIS				*e*S	**Sn**	**03 37 36.1**	**-0.7**
PVIS				A		03 37 37.8	
	comp=N,16nm,0.1s						
PVIS	**Viseu**	**4.54**	**326**	*e*P	**Pn**	**03 36 47.2**	**+1.8**
PVIS				*e*S	**Sn**	**03 37 36.1**	**-0.7**
	comp=N,16nm,0.1s						
MVO	**Moncorvo**	**4.58**	**336**	*e*P	**Pn**	**03 36 47.7**	**+1.7**
MVO				*e*S	**Sn**	**03 37 37.4**	**-0.5**
MVO				A		03 37 39.0	
	comp=N,18nm,0.2s						
MVO	**Moncorvo**	**4.58**	**336**	*e*P	**Pn**	**03 36 47.7**	**+1.7**
MVO				*e*S	**Sn**	**03 37 37.4**	**-0.5**
	comp=N,18nm,0.2s						
EMOS	**Mosqueruela**	**4.63**	**42**	P	**Pn**	**03 36 47.6**	**+1.0**
	comp=N,3.8nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**03 37 36.4**	**-2.6**
	comp=N,4.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.63**	**42**	P	**Pn**	**03 36 47.6**	**+1.0**
	comp=N,3.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**5.07**	**65**	P	**Pn**	**03 36 51.8**	**-0.9**
	comp=N,0.7nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**03 37 44.7**	**-5.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**5.07**	**65**	P	**Pn**	**03 36 51.8**	**-0.9**
	comp=N,0.7nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**5.07**	**65**	P	**Pn**	**03 36 51.8**	**-0.9**
EIBI				S	**Sn**	**03 37 44.7**	**-5.2**
PBRG	**Braganca**	**5.09**	**341**	*e*P	**Pn**	**03 36 54.6**	**+1.7**
PBRG				*e*S	**Sn**	**03 37 47.9**	**-2.4**
PBRG				A		03 37 50.5	
	comp=N,6.8nm,0.1s						
PBRG	**Braganca**	**5.09**	**341**	P	**Pn**	**03 36 54.6**	**+1.7**
PBRG				S	**Sn**	**03 37 47.9**	**-2.4**
	comp=N,3.4nm,0.1s						
ECAL	**Calabor**	**5.22**	**342**	P	**Pn**	**03 36 56.6**	**+1.9**
	comp=N,1.0nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**03 37 51.8**	**-1.7**
	comp=N,7.8nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.22**	**342**	P	**Pn**	**03 36 56.6**	**+1.9**
	comp=N,1.0nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**5.48**	**42**	P	**Pn**	**03 36 59.3**	**+1.0**
	comp=N,0.7nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**03 37 57.2**	**-2.7**
	comp=N,2.1nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.48**	**42**	P	**Pn**	**03 36

comp=N,1.8nm,0.2s,SNR=7.9
EPON S Sn 03 38 25.4 -2.6
comp=N,0.8nm,0.1s,SNR=7.9
EPON Pontenova 6.62 343 P Pn 03 37 15.5 +1.6
comp=N,1.8nm,0.2s,SNR=7.9
EALK Alkurruntz 6.63 20 P Pn 03 37 15.4 +1.4
comp=N,4.5nm,0.2s,SNR=7.9
EALK S Sn 03 38 26.1 -2.0
comp=N,12nm,0.4s,SNR=7.9
STS Santiago 6.63 334 S Sn 03 38 26.0 -2.2
comp=N,1.7nm,0.1s,SNR=7.9
ETSF Etsaut 6.64 26 *e*Pn 03 37 15.3 +1.2
EBIE Bielsa 6.72 31 P Pn 03 37 16.1 +0.8
comp=N,0.4nm,0.1s,SNR=7.9
EBIE S Sn 03 38 27.4 -3.0
comp=N,0.1nm,0.0s,SNR=7.9
EBIE Bielsa 6.72 31 P Pn 03 37 16.1 +0.8
comp=N,0.4nm,0.1s,SNR=7.9
EMIR Miracle 6.79 42 P Pn 03 37 17.0 +0.8
comp=N,0.3nm,0.0s,SNR=7.9
EMIR S Sn 03 38 28.0 -4.0
comp=N,0.2nm,0.1s,SNR=7.9
EMIR Miracle 6.79 42 P Pn 03 37 17.0 +0.8
EPF Esparros 7.09 30 *e*Pn Pn 03 37 21.3 +1.0
EPF *e*Sn Sn 03 38 35.8 -3.6
comp=N,3.0nm,0.3s
EPF Esparros 7.09 30 P Pn 03 37 21.3 +1.0
EPF S Sn 03 38 35.8 -3.6
comp=N,1.5nm,0.3s
LFF La Frestale 8.88 25 *e*Pn Pn 03 37 45.8 +1.1
CAF Calviac 9.36 30 *e*Pn Pn 03 37 51.4 +0.1
RJF Les Rejaudoux 9.47 27 *e*Pn Pn 03 37 52.4 -0.4
MFF Saint Martin d 10.14 17 *e*Pn Pn 03 38 02.8 +0.9
MFF Saint Martin d 10.14 17 *e*P Pn 03 38 09.3 +7.4
TCF Toulx Ste Croi 10.56 26 *e*Pn Pn 03 38 07.3 -0.4
TCF Toulx Ste Croi 10.56 26 *e*P Pn 03 38 12.7 +5.0
QUIF Quistinic 10.96 5 *e*Pn Pn 03 38 14.3 +1.2
BGF Bois d'Agland 11.02 28 *e*Pn Pn 03 38 13.4 -0.6
SGMF Saint Gilles 11.34 7 *e*Pn Pn 03 38 19.0 +0.7
ROSF Rostrenen 11.37 4 *e*Pn Pn 03 38 19.6 +0.9
ROSF Rostrenen 11.37 4 *e*P Pn 03 38 25.0 +6.3
AVF Avril sur Loir 11.41 29 *e*Pn Pn 03 38 19.4 +0.2
SMF Signal de Mont 11.48 30 *e*Pn Pn 03 38 19.6 -0.6
SSF Saint Saulge 11.69 28 *e*Pn Pn 03 38 23.0 -0.1
GRR Gorron 11.70 12 *e*Pn Pn 03 38 24.3 +1.1
LOR Lormes 12.00 29 *e*Pn Pn 03 38 27.4 +0.1

*NEIC **10** 03:42:26.7, 1569N×9704W, h10km, MD3.6(MEX), After MEX.*
MEX 10 03:42:27.0±0.5, 1571N×9704W, h11km±7km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.90**	**86**	*i* P	Pg	03 42 41.8	-2.6
HUIG				*i* S	Sg	03 42 53.0	-3.1
PNIG	**Pinotepa**	**1.25**	**303**	*i* P	Pn	03 42 46.3	-4.0
PNIG				*i* S	Sb	03 43 02.4	-4.2
VHO	**Vista Hermosa**	**1.39**	**12**	*i* P	Pn	03 42 48.9	-3.4
VHO				*i* S	Sn	03 43 05.5	-5.1
UTMO	**Huajuapan**	**2.23**	**341**	*i* P	Pn	03 43 01.4	-2.5
UTMO				*i* S	Sn	03 43 28.1	-3.4
CMIG	**Matias Romero**	**2.48**	**56**	*i* P	Pn	03 43 04.3	-3.1
CMIG				*i* S	Sn	03 43 34.0	-3.8

*IDC **10** 03:47:23.8±0.9, 1458N×14678E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/21, mbtmp4.0/10, ML4.1/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/29, Error ellipse: s-maj=27.7km s-min=19.0km az=90.0*
*NEIC **10** 03:47:29.3±2.3, 1458N×14672E, h37km±19km, mb4.4/4, Error ellipse: s-maj=18.8km s-min=12.3km az=84.0*
*ISCJB **10** 03:47:30.8±2.8, 146N±0.1×1466E±0.2, h63km±24km, mb4.2/13, Error ellipse: s-maj=28.5km s-min=19.4km az=172.3*
ISC 10 03:47:31.5±3.0, 145N±01×1466E±02, h54km±26km, n23, σ0°65/18, mb4.2/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.93**	**243**	Pn	Pn	03 48 02.0	+0.1
	66nm,0.3s,baz=110,slow=6.4,SNR=16						
GUMO				LR	LR	03 48 25.7	
	comp=Z,279nm,18.5s,baz=63,slow=29						
GUMO				Sn	Sn	03 48 32.6	+7.6
	56nm,0.3s,baz=171,slow=23,SNR=8.5						
GUMO	**Guam**	**1.93**	**243**	*e*Pn	Pn	03 48 02.0	+0.1
MJAR	**Matsushiro Arr**	**23.22**	**343**	P	P	03 52 30.0	-4.0
	0.5nm,0.4s,mb3.3,baz=179,slow=7.3,SNR=3.0						
MJAR				LR	LR	04 00 53.3	
	comp=Z,38nm,19.3s,baz=275,slow=35						
WRA	**Warramunga Arr**	**36.28**	**200**	P	P	03 54 29.3	-0.6
	1.7nm,0.8s,mb4.0,baz=22,slow=9.5,SNR=10						
ASAR	**Alice Springs**	**39.91**	**198**	P	P	03 55 00.3	-0.1
	0.2nm,0.4s,mb3.2,baz=35,slow=7.9,SNR=5.2						
CMAR	**Chiang Mai Arr**	**45.80**	**282**	P	P	03 55 49.2	+0.9
	1.3nm,0.3s,mb4.3,baz=68,slow=5.5,SNR=4.2						
SONM	**Songino Array**	**47.01**	**323**	P	P	03 55 57.1	-0.2
	1.5nm,0.6s,mb4.1,baz=145,slow=7.1,SNR=11						
ZALV	**Zalesovo Beam**	**61.91**	**324**	P	P	03 57 44.1	-1.2
	1.2nm,0.5s,mb4.3,baz=120,slow=8.2,SNR=4.4						
MK31	**Makanchi Array**	**62.05**	**315**	*e*P	P	03 57 46.8	+0.4
MKAR	**Makanchi Array**	**62.05**	**315**	P	P	03 57 47.0	+0.5
	3.5nm,0.5s,mb4.8,baz=91,slow=7.8,SNR=44						
KURK	**Kurchatov**	**65.01**	**319**	*e*P	P	03 58 05.2	-0.8
	4.3nm,0.7s,mb4.6						
TKM2	**Tokmak 2**	**66.43**	**311**	*e*P	P	03 58 16.3	+1.1
	3.0nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**70.29**	**321**	P	P	03 58 39.0	-0.1
	3.3nm,0.7s,mb4.4,baz=92,slow=7.7,SNR=13						
BRVK	**Borovoye**	**70.36**	**321**	*e*P	P	03 58 38.8	-0.7
	1.1nm,0.4s,mb4.1						
HYT	**Haines Junctio**	**70.58**	**30**	*e*P	P	03 58 40.8	+0.1
NVAR	**Mina Array Bea**	**85.03**	**52**	P	P	04 00 02.0	+0.5
	0.7nm,0.7s,mb3.9,baz=274,slow=6.2,SNR=5.7						
IMW	**Indian Meadow**	**88.80**	**45**	*e*P	P	04 00 20.0	+0.3
	0.9nm,0.4s,mb4.5						
TORD	**Torodi Ar. Bea**	**135.74**	**307**	PKP	PKPdf	04 06 47.6	+0.6
	0.4nm,0.8s,baz=10.0,slow=0.6,SNR=3.8						
DBIC	**Dimbokro**	**144.76**	**305**	PKP	PKPdf	04 07 02.8	-0.6
	5.5nm,0.5s,baz=62,slow=4.4,SNR=16						
KIC	**Kosan Boka**	**144.85**	**304**	*e*PKP1	PKPdf	04 07 02.8	-0.7
	143nm,1.4s						
TIC	**Toumodi**	**144.91**	**305**	*e*PKP1	PKPdf	04 07 02.7	-0.9
	129nm,1.5s						
LIC	**Lamto**	**145.16**	**304**	*e*PKP1	PKPbc	04 07 03.6	-0.1
	30nm,0.5s						
LPAZ	**La Paz**	**146.46**	**98**	PKPbc	PKPbc	04 07 08.0	+0.4
	1.9nm,0.8s,baz=214,slow=1.5,SNR=8.5						

IDC 10 03:57:07.0±1.7, 398S×14399E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/17, mbtmp3.9/6, ML4.1/1, Error ellipse: s-maj=54.0km s-min=25.4km az=94.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.45**	**210**	P	Pn	04 01 25.3	+1.1
	0.6nm,0.3s,baz=29,slow=11,SNR=34						
ASAR	**Alice Springs**	**21.86**	**206**	P	P	04 02 02.1	+0.7
	1.0nm,0.5s,baz=34,slow=12,SNR=15						
FITZ	**Fitzroy Crossi**	**22.79**	**231**	P	P	04 02 10.5	-1.0
	2.1nm,0.3s,baz=52,slow=12,SNR=24						
MKAR	**Makanchi Array**	**74.04**	**321**	P	P	04 08 44.9	+0.1
	0.5nm,0.6s,baz=110,slow=7.0,SNR=5.0						
VNDA	**Vanda**	**74.11**	**176**	P	P	04 08 44.3	-0.3
	0.5nm,0.5s,baz=359,slow=3.0,SNR=2.4						
BVAR	**Borovoye Array**	**83.38**	**324**	P	P	04 09 36.6	+0.6
	0.8nm,0.5s,baz=79,slow=7.5,SNR=4.2						

*ISCJB **10** 04:20:23.1±1.1, 189N±03×6969W±007, h103km±19km, Error ellipse: s-maj=49.3km s-min=6.9km az=10.1*
*NEIC **10** 04:20:24.1, 1882N×6971W, h102km, MD4.0(RSPR), After RSPR.*
*SSNC **10** 04:21:19.9±0.3, 1830N×7394W, h0km, MD2.5, ML2.2*
ISC 10 04:20:24.4±1.2, 190N±04×6968W±009, h90km±35km, n13, σ0°65/22, 12C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDO	**Santo Domingo**	**0.55**	**206**	*e*P	Pn	04 20 39.0	-0.5
STDO				*e*S	Sn	04 20 50.6	-0.1
SDDR	**Presa de Saban**	**1.52**	**272**	*e*P	Pn	04 20 50.2	-0.2
SDDR				*e*S	Sn	04 21 10.3	+0.2
AGPR	**Aguadilla, PR**	**2.48**	**101**	*e*P	Pn	04 21 03.1	+0.2
AGPR				*e*S	Sn	04 21 33.4	+0.9
CRPR	**Cabo Rojo, PR**	**2.61**	**111**	*e*P	Pn	04 21 05.9	+1.2
CRPR				*e*S	Sn	04 21 35.9	+0.2
LRS	**Lares**	**2.76**	**103**	*e*P	Pn	04 21 06.9	+0.2
LRS				*e*S	Sn	04 21 39.5	+0.2
AOPR	**Arecibo Observ**	**2.84**	**102**	*e*P	Pn	04 21 08.1	+0.4
AOPR				*e*S	Sn	04 21 41.4	+0.4
CELP	**Cerrillos**	**3.06**	**106**	*e*P	Pn	04 21 10.8	+0.1
CELP				*e*S	Sn	04 21 47.1	+0.6
SJG	**San Juan**	**3.45**	**103**	*e*P	Pn	04 21 15.9	-0.1
CPD	**Cerro la Pandu**	**3.68**	**104**	*e*P	Pn	04 21 19.4	+0.3
CBYP	**Canovanas**	**3.69**	**100**	*e*P	Pn	04 21 18.7	-0.5
CBYP				*e*S	Sn	04 22 00.5	-1.1
HUMP	**Col San Antoni**	**3.72**	**102**	*e*P	Pn	04 21 19.1	-0.5
HUMP				*e*S	Sn	04 22 00.3	-2.1
MTP	**Monte Pirata**	**4.00**	**102**	*e*P	Pn	04 21 23.2	-0.2
MASC	**Masc**	**4.46**	**287**	*e*P	Px	04 21 50.9	
	baz=172						
MASC				*e*S	Sn	04 22 13.8	-6.7
	comp=N,177nm,0.1s						
MASC				*e*			
	comp=E,199nm,0.1s						

MAN 10 04:40:40, 1420N×12023E, h69km, mb4.0, ML2.8, MS2.4, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBP	**Mount Natib**	**0.57**	**18**	*e*P	Pn	04 40 56.2	+2.8
NBP				*e*S	Sn	04 41 07.0	+3.7
TGY	**Tagaytay City**	**0.69**	**98**	*e*P	Pn	04 40 57.6	+2.8
TGY				*e*S	Sn	04 41 11.9	+6.2
QVPH	**Quezon City--P**	**0.92**	**61**	*e*P	Pn	04 40 57.7	+0.3
QVPH				*e*S	Sn	04 41 13.1	+2.6
LBPH	**Los Banos**	**0.92**	**93**	*i*P	Pn	04 40 58.9	+1.4
NZB	**Bigte**	**1.07**	**52**	*e*P	Pn	04 40 59.0	-0.4

TAP 10 05:00:46.8, 2209N×12036E, h54km±1km, ML3.5, Taiwan

*SZGRF **10** 05:16:22.5, 1967S×171.17E, h33km, Vanuatu Islands region*
*NEIC **10** 05:16:38.4±1.4, 1935S×169.17E, h141km±12km, mb4.4/12, Error ellipse: s-maj=10.8km s-min=9.2km az=49.0*
*ISCJB **10** 05:16:39.1±1.3, 1944S±007×16902E±007, h156km±12km, mb4.2/18, Error ellipse: s-maj=12.6km s-min=10.5km az=135.2*
*IDC **10** 05:16:41.6±6.1, 1937S×169.16E, h169km±55km, mb3.8/10, mb1 4.0/10, mb1mx3.9/16, mbtmp3.8/10, Error ellipse: s-maj=25.4km s-min=19.0km az=27.0*
ISC 10 05:16:39.4±1.3, 1941S±007×16908E±007, h145km±12km, n186, σ0°49/166, mb4.2/18, 59C-63D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.62**	**222**	*e*P	Pn	05 17 34.7	+0.2
DZM				*e*S	Sn	05 18 17.1	-0.2
DZM	**Mont Dzumac**	**3.62**	**222**	*e*Pn	Pn	05 17 34.3	-0.3
DZM				*e*Sn	Sn	05 18 17.7	+0.3
HNR	**Honiara**	**13.28**	**317**	*e*Pn	Pn	05 19 41.9	-0.6
	526nm,0.4s						
URZ	**Urewra**	**20.04**	**161**	P	P	05 21 01.5	+0.3
	18nm,0.6s,baz=275,slow=3.9,SNR=12						
CTA	**Charters Tower**	**21.50**	**264**	*e*P	P	05 21 19.0	+2.2
	5.1nm,1.0s,mb3.8						
CTA	**Charters Tower**	**21.50**	**264**	P	P	05 21 19.0	+2.2
	3.2nm,0.5s,mb3.9,baz=79,slow=12,SNR=5.0						
CTAO	**Charters Tower**	**21.50**	**264**	*e*P	P	05 21 15.6	-1.3
	24nm,1.4s,mb4.3						
SNZO	**South Karori**	**22.36**	**169**	P	P	05 21 25.3	-0.3
	21nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**27.63**	**238**	*e*P	P	05 22 14.6	+1.1
	5.2nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**27.63**	**238**	P	P	05 22 14.8	+1.3
	6.3nm,0.5s,mb4.6,baz=72,slow=9.2,SNR=22						
STKA				PcP	PcP	05 25 26.9	-0.4
	2.6nm,0.9s,baz=98,slow=7.1,SNR=3.6						
WB2	**Warramunga Arr**	**32.67**	**263**	*e*P	P	05 22 57.2	-0.9
WRAB	**Tennant Creek**	**32.68**	**263**	*e*P	P	05 22 57.5	-0.6
	11nm,1.3s,mb4.4						
WRA	**Warramunga Arr**	**32.69**	**263**	P	P	05 22 57.7	-0.5
	1.9nm,0.7s,mb3.9,baz=90,slow=8.5,SNR=26						
WRA				PcP	PcP	05 25 40.2	-0.4
	0.4nm,0.6s,baz=92,slow=3.3,SNR=5.1						
ASAR	**Alice Springs**	**32.94**	**256**	P	P	05 23 00.7	+0.3
	9.4nm,0.5s,mb4.8,baz=87,slow=9.6,SNR=144						
FITZ	**Fitzroy Crossi**	**41.08**	**264**	*e*P	P	05 24 10.3	+1.2
	7.1nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**46.18**	**259**	*e*P	P	05 24 50.4	+0.5
	13nm,1.0s,mb4.5						
VNDA	**Vanda**	**58.26**	**182**	P	P	05 26 17.7	-0.5
	0.9nm,0.7s,mb3.7,baz=13,slow=6.8,SNR=6.5						
SBA	**Scott Base**	**58.50**	**181**	*e*P	P	05 26 20.3	+0.4
	9.5nm,1.2s,mb4.5						
SBA				*e*		05 26 29.1	
PETK	**Petropavlovsk-**	**72.88**	**353**	P	P	05 27 51.3	-0.9
	3.2nm,0.9s,mb4.0,baz=167,slow=7.4,SNR=5.1						
JRSC	**Jasper Ridge**	**85.78**	**48**	P	P	05 29 02.8	+0.3
	baz=86						
O02C	**Red Bluff**	**86.72**	**45**	P	P	05 29 07.7	+0.7
	baz=87						
WDC	**Whiskeytown Da**	**87.08**	**45**	P	P	05 29 08.2	-0.6
	baz=87						
S05C	**Merced**	**87.11**	**49**	P	P	05 29 08.7	-0.2
	baz=87						
O03C	**Acorn Hollow,**	**87.15**	**46**	P	P	05 29 09.0	-0.1
	baz=87						
SONM	**Songino Array**	**87.26**	**323**	P	P	05 29 09.3	-0.1
	0.9nm,0.7s,mb3.7,baz=156,slow=5.9,SNR=6.1						
M02C	**Callahan**	**87.26**	**44**	P	P	05 29 09.4	-0.2
	baz=87						
ORV	**Oroville**	**87.30**	**46**	P	P	05 29 09.2	-0.7
	baz=87						
VES	**Vestal, Richgr**	**87.33**	**51**	P	P	05 29 09.2	-0.9
	baz=87						
CMB	**Columbia Colle**	**87.38**	**48**	P	P	05 29 09.6	-0.6
	baz=88						
CMB	**Columbia Colle**	**87.38**	**48**	*e*P	P	05 29 08.3	-1.9
	3.4nm,0.9s,mb4.2						
T06C	**Millerton Lake**	**87.39**	**49**	P	P	05 29 09.8	-0.5
	baz=88						
LAVA	**Lava Cap Winer**	**87.46**	**47**	P	P	05 29 10.1	-0.5
	baz=88						
YBH	**Yreka Blue Hor**	**87.52**	**44**	P	P	05 29 11.0	+0.2
	baz=88						
S06C	**San Francisco**	**87.69**	**49**	P	P	05 29 11.4	-0.4
	baz=88						
M03C	**McCloud**	**87.69**	**45**	P	P	05 29 11.4	-0.3
	baz=88						
BFSC	**Mount Baldy St**	**87.69**	**53**	P	P	05 29 11.3	-0.5
	baz=88						
ISA	**Isabella**	**87.70**	**51**	P	P	05 29 11.7	-0.2
	baz=88						
ISA	**Isabella**	**87.70**	**51**	*e*P	P	05 29 11.1	-0.8
	2.5nm,0.9s,mb4.0						
EDW2	**Edwards Air Fo**	**87.72**	**52**	P	P	05 29 11.4	-0.5
	baz=88						
HELL	**Mitchell Peak**	**87.74**	**50**	P	P	05 29 11.2	-0.9
	baz=88						
HUMO	**Hull Mountain**	**87.78**	**43**	P	P	05 29 12.2	+0.2
	baz=88						
P05C	**Yuba Gap, Truc**	**87.80**	**47**	P	P	05 29 12.2	-0.1
	baz=88						
KCC	**Kaiser Creek**	**87.81**	**49**	P	P	05 29 11.6	-0.8
	baz=88						
R05C	**Kirkwood Meado**	**87.90**	**48**	P	P	05 29 12.4	-0.3
	baz=88						
HATC	**Hat Creek Radi**	**87.92**	**45**	P	P	05 29 13.0	+0.2
	baz=88						
O04C	**Chester**	**87.94**	**46**	P	P	05 29 13.2	+0.3
	baz=88						
MONP	**Monument Peak**	**88.06**	**54**	P	P	05 29 13.6	0.0
	baz=88						
BEKR	**Beckwourth**	**88.23**	**47**	P	P	05 29 13.9	-0.3
	baz=88						
R06C	**Coleville**	**88.25**	**48**	P	P	05 29 14.3	-0.1
	baz=88						
PFO	**Pinyon Flat Ob**	**88.34**	**54**	P	P	05 29 14.2	-0.7
	baz=88						
M05C	**Lookout**	**88.38**	**45**	P	P	05 29 14.3	-0.6
	baz=88						
MPMC	**Manual Prospec**	**88.59**	**51**	P	P	05 29 16.0	-0.1
	baz=89						
S08C	**White Mtn Res**	**88.71**	**49**	P	P	05 29 16.9	+0.3
	baz=89						
O06A	**Flanigan**	**88.73**	**46**	P	P	05 29 16.6	0.0
	baz=89						
M06C	**Likely Place G**	**88.76**	**45**	P	P	05 29 16.6	-0.1
	baz=89						
BELC	**Belle Mtn.**	**88.84**	**53**	P	P	05 29 17.1	-0.2
	baz=89						
L05A	**Lakeview**	**88.91**	**44**	P	P	05 29 17.5	+0.1
	baz=89						
N06A	**Buffalo Meadow**	**88.98**	**46**	P	P	05 29 17.6	-0.1
	baz=89						
SNAA	**Sanae**	**88.99**	**183**	*e*	P	05 29 15.5	-1.9
SNAA				*e*		05 29 19.1	
SNAA	**Sanae**	**88.99**	**183**	*e*P	P	05 29 15.5	-1.9
	2.6nm,0.7s,mb4.3						
NVAR	**Mina Array Bea**	**89.02**	**49**	P	P	05 29 17.4	-0.6
	1.4nm,0.8s,mb3.9,baz=228,slow=6.7,SNR=8.4						
GRAC	**Grapevine Rang**	**89.08**	**50**	P	P	05 29 18.0	-0.3
	baz=89						
K05A	**Summer Lake**	**89.18**	**44**	P	P	05 29 18.8	+0.2
	baz=89						
MOD	**Modoc**	**89.19**	**45**	P	P	05 29 18.6	-0.1
	baz=89						
MOD	**Modoc**	**89.19**	**45**	*e*P	P	05 29 18.1	-0.6
	4.4nm,1.0s,mb4.3						
J05A	**Fort Rock**	**89.22**	**43**	P	P	05 29 19.1	+0.3
	baz=89,SNR=7.4						
FURC	**Furnace Creek,**	**89.22**	**51**	P	P	05 29 18.3	-0.7
	baz=89						
H04A	**Detroit Lake**	**89.27**	**42**	P	P	05 29 18.6	-0.4
	baz=89						
GLA	**Glamis**	**89.35**	**55**	P	P	05 29 19.6	-0.1
	baz=89						
O07A	**Toulon**	**89.38**	**47**	P	P	05 29 19.5	-0.2
	baz=90						
SHOC	**Shoshone**	**89.42**	**52**	P	P	05 29 19.7	-0.2
	baz=90						
GMRC	**Granite Mounta**	**89.42**	**53**	P	P	05 29 19.9	0.0
	baz=90						
Q08A	**Gabbs**	**89.47**	**48**	P	P	05 29 20.0	-0.1
	baz=90						
S09A	**Goldfield**	**89.49**	**50**	P	P	05 29 20.0	-0.2
	baz=90						
U10A	**Ash Meadows, A**	**89.59**	**51**	P	P	05 29 21.1	+0.3
	baz=90						
K06A	**Valley Falls**	**89.63**	**44**	P	P	05 29 21.0	+0.2
	baz=90						
F04A	**Amboy**	**89.72**	**40**	P	P	05 29 21.4	+0.3
	baz=90						
M07A	**Soldier Meadow**	**89.72**	**46**	P	P	05 29 21.3	+0.1
	baz=90						
R09A	**Tonopah**	**89.82**	**49**	P	P	05 29 21.1	-0.6
	baz=90						
TPNV	**Topopah Spring**	**89.87**	**51**	P	P	05 29 22.2	+0.2
	baz=90,SNR=6.9						
L07A	**Adell**	**89.89**	**45**	P	P	05 29 22.6	+0.6
	baz=90,SNR=6.5						
J06A	**Christmas Vall**	**89.90**	**44**	P	P	05 29 21.9	-0.1
	baz=90						
V11A	**Goodsprings**	**90.02**	**52**	P	P	05 29 22.5	-0.2
	baz=90						
S10A	**Tonopah Range,**	**90.03**	**50**	P	P	05 29 23.0	+0.3
	baz=90,SNR=7.6						
113A	**Mohawk Valley,**	**90.06**	**55**	P	P	05 29 22.5	-0.5
	baz=90						
N08A	**GE Springer Mi**	**90.16**	**46**	P	P	05 29 23.4	+0.2
	baz=90						
VNA1	**Neumayer--Stat**	**90.17**	**181**	*e*	P	05 29 21.6	-1.3
VNA1				*e*		05 29 25.2	
I06A	**Prineville**	**90.18**	**43**	P	P	05 29 23.4	+0.2
	baz=90,SNR=6.2						
K07A	**Rock Creek Ran**	**90.25**	**44**	P	P	05 29 23.9	+0.3
	baz=90,SNR=6.6						
M08A	**Happy Creek Ra**	**90.28**	**46**	P	P	05 29 23.9	+0.1
	baz=90						
PDMCI	**Parker Dam,Lak**	**90.37**	**54**	P	P	05 29 24.3	-0.1
	baz=90						
R10A	**Warm Springs**	**90.39**	**49**	P	P	05 29 24.4	0.0
	baz=90						
V12A	**Nelson**	**90.41**	**52**	P	P	05 29 24.5	-0.1
	baz=90						
E05A	**Randle**	**90.42**	**40**	P	P	05 29 24.0	-0.4
	baz=90						
H06A	**Lindquist Farm**	**90.46**	**42**	P	P	05 29 24.1	-0.5
	baz=91,SNR=8.7						
J07A	**Hines**	**90.51**	**44**	P	P	05 29 24.6	-0.2
	baz=91						
S11A	**Rachel**	**90.52**	**50**	P	P	05 29 25.2	+0.1
	baz=91						
O09A	**Fish Creek Ran**	**90.55**	**47**	P	P	05 29 25.2	+0.1
	baz=91						
D05A	**Enumclaw**	**90.58**	**40**	P	P	05 29 26.0	+1.0
	baz=91						
L08A	**Fields**	**90.62**	**45**	P	P	05 29 25.3	-0.1
	baz=91						
X13A	**Yucca**	**90.72**	**54**	P	P	05 29 25.8	-0.3
	baz=91						
T11A	**Corn Creek, Al**	**90.74**	**51**	P	P	05 29 26.1	0.0
	baz=91,SNR=6.9						
K08A	**Mann Creek Ran**	**90.77**	**45**	P	P	05 29 26.0	-0.1
	baz=91						
W13A	**Hualapai Mount**	**90.88**	**53**	P	P	05 29 26.6	-0.2
	baz=91						
H07A	**Lands Inn, Kim**	**90.89**	**43**	P	P	05 29 26.6	0.0
	baz=91,SNR=6.2						
E06A	**Yakima**	**90.89**	**40**	P	P	05 29 26.6	+0.1
	baz=91						
M09A	**Marrel Ranch,**	**90.90**	**46**	P	P	05 29 26.8	+0.1
	baz=91						
R11A	**Troy Canyon, C**	**90.92**	**50**	P	P	05 29 26.6	-0.3
	baz=91						
C05A	**Tolt Reservoir**	**91.00**	**39**	P	P	05 29 27.2	+0.2
	baz=91						
L09A	**Wilkinson Ranc**	**91.01**	**46**	P	P	05 29 27.1	-0.1
	baz=91,SNR=5.5						
J08A	**Circle Bar Ran**	**91.05**	**44**	P	P	05 29 27.5	+0.2
	baz=91,SNR=5.6						
Q11A	**Duckwater**	**91.08**	**49**	P	P	05 29 27.9	+0.3
	baz=91						
V13A	**Grand Canyon W**	**91.10**	**52**	P	P	05 29 27.6	-0.2
	baz=91						
G07A	**Ruggs Ranch, H**	**91.12**	**42**	P	P	05 29 26.9	-0.8
	baz=91						
S12A	**Delamar Landin**	**91.16**	**50**	P	P	05 29 28.4	+0.4
	baz=91						
K09A	**Rome**	**91.26**	**45**	P	P	05 29 28.2	-0.1
	baz=91,SNR=5.3						
D06A	**Cle Elum**	**91.27**	**40**	P	P	05 29 28.8	+0.5
	baz=91						
U13A	**Pakoon Wash**	**91.34**	**52**	P	P	05 29 29.0	+0.2
	baz=91	

U14A	Mt Trumbull baz=92,SNR=5.1	91.92	52	P	P	05 29 32.2	+0.6
217A	Green Valley baz=92	92.00	57	⇑P	P	05 29 31.9	-0.1
M11A	Holland Ranch, baz=92	92.04	47	⇑P	P	05 29 32.3	+0.3
Y16A	Circle Bar Ran baz=92	92.25	55	⇓P	P	05 29 33.5	+0.3
Q13A	Wheeler Ranch, baz=92	92.29	49	⇑P	P	05 29 33.4	+0.2
O12A	Currie baz=92	92.29	48	⇓P	P	05 29 33.0	-0.1
117A	Oracle baz=92	92.35	56	⇑P	P	05 29 34.1	+0.5
L11A	Cat Creek Ranc baz=92	92.36	46	⇑P	P	05 29 33.8	+0.3
A07A	Ashnola River, baz=92	92.39	38	⇓P	P	05 29 33.2	-0.2
V15A	Kaibab Nationa baz=92	92.45	53	⇑P	P	05 29 34.5	+0.5
X16A	Lo Mia Camp, P baz=92,SNR=5.0	92.48	54	P	P	05 29 34.9	+0.7
P13A	Bates Ranch, G baz=93	92.49	49	⇓P	P	05 29 34.4	+0.3
318A	Bisbee baz=93	92.53	58	⇑P	P	05 29 35.3	+0.8
U15A	North Rim baz=93	92.59	52	⇓P	P	05 29 35.4	+0.7
Y17A	Roosevelt baz=93	92.68	55	⇓P	P	05 29 36.0	+0.8
T15A	Red Dirt Ranch baz=93	92.74	52	⇑P	P	05 29 36.0	+0.7
Q14A	Sevier Lake (B baz=93	92.84	50	⇓P	P	05 29 35.3	-0.4
X17A	Forest Lakes baz=93	92.94	55	⇑P	P	05 29 37.1	+0.8
118A	Homack Ranch, baz=93	92.98	57	⇓P	P	05 29 37.0	+0.5
319A	Douglas baz=93	93.08	58	⇑P	P	05 29 37.6	+0.6
M13A	Montello baz=93	93.13	47	⇑P	P	05 29 36.5	-0.5
J12A	Stokes Ranch, baz=93	93.24	45	⇑P	P	05 29 37.4	-0.1
219A	White Tail Can baz=93	93.31	57	⇑P	P	05 29 38.4	+0.3
Y18A	Canyon Day Jun baz=93	93.34	55	⇓P	P	05 29 38.4	+0.2
G11A	Walters Elk Ra baz=93	93.34	43	⇓P	P	05 29 38.2	+0.3
HLID	Hailey baz=94	93.82	45	⇓P	P	05 29 40.3	+0.2
T17A	Navajo Res., N baz=94	93.91	52	⇑P	P	05 29 40.7	0.0
S17A	Black Ridge (B baz=94	94.14	52	⇑P	P	05 29 41.4	-0.3
I13A	Wildhorse Cree baz=94	94.16	45	⇓P	P	05 29 41.7	0.0
PDAR	Pinedale Array 0.2nm,0.4s,mb3.8,baz=194,slow=1.9,SNR=2.9	96.84	47	P	P	05 29 53.5	-0.3
ARCES	ARCESS Array B 6.0nm,1.0s,baz=4.4,slow=1.6,SNR=7.1	125.19	345	PKP	PKPdf	05 35 20.3	-1.7
EKA	Eskdalemuir Ar 0.5nm,0.5s,baz=2.1,slow=2.7,SNR=4.7	143.65	353	PKhKP		05 35 52.4	
EKA				PKP	PKPdf	05 35 55.6	-1.1
	0.5nm,0.5s,baz=2.7,slow=3.0,SNR=4.5						
WERD	Werda	143.95	335	*e*PKPbc	PKPdf	05 35 55.0	-2.5
GUNZ	Gunzen	144.00	335	*e*PKPbc	PKPdf	05 35 55.6	-2.0
WERN	Wernitzgruen	144.05	334	*e*PKPbc	PKPdf	05 35 55.0	-2.6
KHC	Kasperske Hory	144.41	332	*e*PKP	PKPdf	05 35 56.5	-1.8
ROTZ	Rotzenmuhle	144.52	334	*e*PKPbc	PKPdf	05 35 57.1	-1.4
UBBA	Unterbreizbach	144.55	337	*e*PKPbc	PKPdf	05 35 56.5	-2.0
GEC2	GERESS Array S	144.57	332	*e*PKPbc	PKPdf	05 35 57.1	-1.5
GERES	GERESS Array B 2.4nm,0.6s,baz=28,slow=3.6,SNR=19	144.57	332	PKP	PKPdf	05 35 57.4	-1.2
WET	Wettzell	144.71	333	*e*PKPbc	PKPdf	05 35 58.1	-0.7
GRA1	Grafenberg Arr	144.98	335	*e*PKPbc	PKPdf	05 35 59.0	-0.3
GRF	Grafenberg Arr	144.98	335	*e*PKPbc	PKPdf	05 35 59.0	-0.3
TNS	Taunus Mts	145.60	338	*e*PKPbc	PKPbc	05 36 00.1	-0.7
RJOB	Jochberg	145.79	331	*e*PKPbc	PKPbc	05 36 01.4	-0.1
BFO	Black Forest	147.21	336	*e*PKPbc	PKPbc	05 36 04.9	-0.6
CDF	Champ du Feu 14nm,1.0s	147.53	337	*e*PKP1	PKPbc	05 36 05.8	-0.6
HAU	Haudompre 3.9nm,0.5s	148.21	338	*e*PKP1	PKPbc	05 36 07.6	-0.6
LOR	Lormes 10nm,1.0s	149.70	340	*e*PKP1	PKPbc	05 36 11.3	-0.7
SSF	Saint Saulge	150.00	340	*e*PKP1	PKPbc	05 36 12.1	-0.6
LPL	La Plagne 9.0nm,0.8s	150.14	335	*e*PKP1	PKPbc	05 36 13.2	+0.1
ORIF	Oris-en-Rattie 14nm,1.0s	150.98	335	*e*PKP1	PKPbc	05 36 14.1	-1.0

*ISCJB **10** 05:41:48.7±0.4,4936S×006×1208E±02,h10km,mb4.6/20, MS4.3/18,Error ellipse: s-maj=15.9km s-min=7.3km az=13.9*
*IDC **10** 05:41:48.7±0.7,4934S×12085E,h0km,mb4.5/10, mb1 4.6/11,mb1mx4.5/16,mbtmp4.5/11,ML2.9/1,MS4.3/18, Ms1 4.3/18,ms1mx4.2/23,Error ellipse: s-maj=35.4km s-min=14.4km az=105.0*
*NEIC **10** 05:41:49.7±0.3,4934S×12078E,h10km,mb4.8/11,Error ellipse: s-maj=15.1km s-min=7.4km az=105.0*
*GCMT **10** 05:41:49.7±0.2,4934S×12085E,h12km,MW5.1/67, Moment Tensor Solution. s31,c39; s67,c105; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.74±.16; Mθθ5.79±.12; Mφφ-1.05±.20; Mrθ-1.98±.41; Mrφ-0.84±.12; Mθφ1.62±.53; Best double couple: M0 5.94700×10¹⁶ NP1:φs259.00000°,δ37.00000°,λ-118.00000°. NP2: φs113.00000°,δ58.00000°,λ-71.00000°. Principal axes: T 6.3220, Plg11.0000°, Azm189.0000°; N -0.7500, Plg16.0000°, Azm282.0000°; P -5.5720, Plg70.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **10** 05:41:49.0,4930S×12080E,h10km,mB5.5,mb4.8,Ms5.0, Msz4.7*

ISC 10 05:41:50.4±0.4,4935S±006×1208E±02,h10km,n66, σ0§95/35,mb4.6/20,MS4.3/18,2C-2D,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO) 2.2nm,0.3s,baz=142,slow=9.2,SNR=17	16.61	350	Pn	Pn	05 45 44.1	+0.8
NWAO				LR	LR	05 50 36.9	
	comp=Z,3μm,19.8s,baz=173,slow=32						
NWAO	Narrogin (SRO) 45nm,1.2s	16.61	350	*e*Pn	Pn	05 45 43.3	0.0
CASY	Casey	17.78	194	*e*P	Pn	05 45 56.9	-0.8
TOO	Toolangi	21.37	66	*e*P	P	05 46 39.4	+1.6
STKA	Stephens Creek 11nm,0.9s,mb4.3	23.43	50	*e*P	P	05 46 59.7	-0.1
STKA	Stephens Creek 8.5nm,0.8s,mb4.2,baz=213,slow=10.0,SNR=12	23.43	50	P	P	05 46 59.7	-0.1
STKA				LR	LR	05 54 24.4	
	comp=Z,1μm,18.2s,MS4.3,baz=212,slow=32						
ASAR	Alice Springs 6.3nm,0.9s,mb4.2,baz=193,slow=9.6,SNR=30	27.64	27	P	P	05 47 37.1	-1.1
WRA	Warramunga Arr 3.1nm,0.9s,mb4.1,baz=199,slow=8.1,SNR=9.1	31.29	25	P	P	05 48 10.0	-0.6
WRA				LR	LR	05 59 37.3	
	comp=Z,758nm,20.5s,MS4.3,baz=200,slow=34						
WB2	Warramunga Arr	31.30	25	*e*P	P	05 48 09.1	-1.5
WRAB	Tennant Creek 22nm,1.3s,mb4.8	31.30	25	*e*P	P	05 48 09.4	-1.3
FITZ	Fitzroy Crossi 17nm,0.9s,mb4.9	31.42	9	*e*P	P	05 48 11.5	-0.1
VNDA	Vanda 4.1nm,0.8s,mb4.3,baz=303,slow=9.1,SNR=24	32.27	164	P	P	05 48 18.6	+0.1
VNDA				LR	LR	06 00 28.8	
	comp=Z,2μm,18.8s,MS4.8,baz=319,slow=35						
VNDA	Vanda 5.5nm,0.9s,mb4.4	32.27	164	*e*P	P	05 48 18.5	-0.1
SBA	Scott Base 9.1nm,1.3s,mb4.5	33.33	164	P	P	05 48 28.8	+0.9
MAW	Mawson 14nm,1.0s,mb4.8,baz=70,slow=14,SNR=11	33.70	216	P	P	05 48 31.6	+0.5
MAW				LR	LR	06 00 39.1	
	comp=Z,481nm,18.6s,MS4.2,baz=76,slow=34						
KAKA	Kakadu 15nm,0.9s,mb4.7	37.78	19	*e*P	P	05 49 06.3	-0.4
QSPA	South Pole Qui	40.78	180	P	P	05 49 31.3	+0.3
QSPA	South Pole Qui 9.8nm,1.1s,mb4.3,baz=332,slow=4.1,SNR=14	40.78	180	P	P	05 49 31.3	+0.3
SYO	Syowa Base	42.11 212		*e*P	P	05 49 40.3	-1.8
SYO	Syowa Base	42.11 212		⇑pP	pP	05 49 42.8	-2.4
RAO	Raoul Island comp=Z,85nm,18.2s,MS3.8,baz=334,slow=34	50.06	90	LR	LR	06 09 44.3	
HNR	Honiara comp=Z,243nm,18.8s,MS4.2,baz=178,slow=35	51.45	53	LR	LR	06 11 27.5	
SNAA	Sanae	52.90	199	*e*	P	05 51 05.4	-0.5
SNAA				*e*		05 51 13.8	
SNAA				*e*		05 51 20.2	
SNAA	Sanae 12nm,1.0s,mb4.8,baz=146,slow=9.1,SNR=65	52.90	199	P	P	05 51 05.8	-0.2
SNAA	Sanae 68nm,1.1s,mb5.5	52.90	199	*e*P	P	05 51 05.7	-0.2
SNAA				*e*		05 51 13.4	
VNA1	Neumayer--Stat	54.83	198	*e*	P	05 51 20.2	+0.2
VNA1				*e*		05 51 28.8	
VNA1				*e*		05 51 35.1	
GUMO	Guam comp=Z,344nm,20.0s,MS4.6,baz=240,slow=34	66.19	26	LR	LR	06 19 08.8	
RAR	Rarotonga comp=Z,82nm,18.3s,MS4.0,baz=190,slow=32	67.45	97	LR	LR	06 17 17.6	
CMAR	Chiang Mai Arr 1.5nm,0.7s,mb4.0,baz=169,slow=7.0,SNR=6.6	70.23	338	P	P	05 53 03.9	+0.5
CMAR				LR	LR	06 24 59.8	
	comp=Z,180nm,18.2s,MS4.4,baz=329,slow=37						
BOSA	Boshof comp=Z,286nm,19.4s,MS4.6,baz=154,slow=31	72.22	247	LR	LR	06 19 05.6	
TBI	Tubuai 82nm,24.2s	72.52	106	*e*LR	LR	06 15 25.3	
KMI	Kunming	75.85	343	P	P	05 53 39.8	+3.2
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
KMI				LR	LR		
	comp=N,377nm,10.8s						
KMI				LR	LR		
	comp=E,346nm,17.6s						
KMI				LR	LR		
	comp=Z,461nm,20.7s						
PPT	Papeete	76.67	101	*e*LR	LR	06 17 20.7	
	comp=Z,118nm,29.5s						
PPT	Papeete comp=Z,80nm,18.1s,MS4.1,baz=278,slow=31	76.67	101	LR	LR	06 21 57.3	
SHL	Shillong	78.89	334	*e*P	P	05 53 53.0	-0.6
WHN	Wuhan	79.73	354	P	P	05 54 00.0	+1.9
LSZ	Lusaka comp=Z,24nm,1.5s,mb4.9	80.22	258	*e*P	P	05 54 00.7	-0.6
LSA	Lhasa	83.00	334	P	P	05 54 15.0	-0.5
LSA	Lhasa comp=Z,20nm,0.9s,mb5.2	83.00	334	*e*P	P	05 54 15.8	+0.4
TSUM	Tsumeb comp=Z,15nm,1.4s,mb4.9	83.88	248	P	P	05 54 21.4	+1.0
KMBO	Kilima Mbogo comp=Z,82nm,21.6s,MS4.1,baz=103,slow=31	84.90	274	LR	LR	06 25 35.9	
LZH	Lanzhou	86.37	346	*e*P	P	05 54 32.5	+0.2
LZH				AP	pP	05 54 37.2	+1.6
LZH				XP	sP	05 54 39.6	+2.8
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,87nm,4.2s						
LZH				LR	LR		
	comp=E,231nm,13.9s						
LZH				LR	LR		
	comp=Z,309nm,18.2s,MS4.7						
KSRS	Korea Array comp=Z,54nm,18.7s,MS4.0,baz=5.8,slow=36	86.66	6	LR	LR	06 33 29.9	
MJAR	Matsushiro Arr comp=Z,139nm,18.7s,MS4.4,baz=90,slow=34	86.91	14	LR	LR	06 31 45.1	
PLCA	Paso Flores comp=Z,2.5nm,0.9s,mb4.5,baz=153,slow=2.3,SNR=3.7	89.75	171	P	P	05 54 48.6	-0.1
PLCA				LR	LR	06 35 33.8	
	comp=Z,270nm,19.3s,MS4.7,baz=90,slow=36						
GTA	Gaotai	90.29	344	*e*P	P	05 54 52.7	+1.8
GTA				AP	pP	05 54 59.2	+5.0
GTA				XP	sP	05 55 02.2	+6.8
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.5						
ASAJ	Asahikawa comp=Z,129nm,21.9s,MS4.3,baz=180,slow=34	95.02	16	LR	LR	06 35 54.5	
SONM	Songino Array comp=Z,0.2nm,0.5s,mb3.9,baz=180,slow=6.6,SNR=2.7	97.59	350	P	P	05 55 23.5	-0.6
SONM				LR	LR	06 41 36.6	
	comp=Z,79nm,18.1s,MS4.2,baz=276,slow=37						
DLMT	Dillon	144.27	76	*e*PKPdf	PKPdf	06 01 24.9	-0.9
DLMT				*e*		06 01 32.6	
TPAW	Teton Pass	144.47	79	*e*PKPdf	PKPdf	06 01 23.9	-2.3
REDW	Red Top Meadow	144.47	80	*e*PKPdf	PKPdf	06 01 24.2	-2.0
CHMT	Chamberlain Mo	144.52	73	*e*PKPdf	PKPdf	06 01 23.3	-2.8
SNOW	Snow King Moun	144.58	80	*e*PKPdf	PKPdf	06 01 25.1	-1.3
IMW	Indian Meadow	144.67	79	*e*PKPdf	PKPdf	06 01 24.9	-1.6
MOOW	Moose Ponds	144.72	79	*e*PKPdf	PKPdf	06 01 25.3	-1.4
LOHW	Long Hollow	144.75	79	*e*PKPdf	PKPdf	06 01 25.1	-1.5
LOHW				*e*		06 01 34.6	
BOZ	Bozeman (W)	145.00	76	*e*PKPdf	PKPdf	06 01 26.3	-0.7
PDAR	Pinedale Array comp=Z,1.9nm,0.9s,baz=202,slow=3.2,SNR=14	145.02	81	PKP	PKPdf	06 01 25.6	-1.5
RWWY	Rawlins	146.02	84	*e*PKPdf	PKPdf	06 01 29.2	+0.3
RWWY				*e*		06 01 38.5	
HKT	Hockley	146.26	111	*e*PKPdf	PKPdf	06 01 30.1	+0.4
HKT				*e*		06 01 38.7	
YKA	Yellowknife Ar comp=Z,2.7nm,0.8s,baz=267,slow=3.6,SNR=5.1	147.42	45	PKPbc	PKPbc	06 01 32.3	-0.8
YKA	Yellowknife Ar	147.42	45	PKPbc	PKPbc	06 01 32.3	-0.8
WMOK	Wichita Mounta	147.62	102	*e*PKPdf	PKPdf	06 01 30.2	-1.6
DAG	Danmarks Havn comp=Z,2.2nm,0.8s	148.27	343	⇓*j*P	PKPdf	06 01 34.5	+2.8
DAG	Danmarks Havn	148.27	343	⇓*e*P	PKPdf	06 01 34.5	+2.8
RSSD	Black Hills	149.22	82	*e*PKPbc	PKPbc	06 01 38.6	+0.2

IDC 10 06:09:13.1±31.0,1890S×17853W,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.9/17,mbtmp4.1/4,Error ellipse: s-maj=586.6km s-min=150.9km az=86.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 3.6nm,0.9s,baz=72,slow=3.2,SNR=3.0	38.06	242	P	P	06 16 33.7	+0.1
WRA	Warramunga Arr 0.3nm,0.4s,baz=97,slow=7.7,SNR=11	44.35	261	P	P	06 17 25.6	+0.1
ASAR	Alice Springs 2.5nm,0.5s,baz=93,slow=9.0,SNR=36	44.42	255	P	P	06 17 26.4	+0.3
FITZ	Fitzroy Crossi 3.0nm,1.0s,baz=100,slow=7.6,SNR=5.4	52.76	261	P	P	06 18 29.5	-0.8

*NEIC **10** 06:34:11.7±1.1,5029N×1877E,h5km,MG2.6(WAR), Error ellipse: s-maj=18.5km s-min=8.4km az=181.0*
*PRU **10** 06:34:12.2,5034N×1873E,h0km*

WAR 10 06:34:11.2,5027N×1887E,ML2.5,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.60	94	*e*Pg	Pg	06 34 23.1	+0.4
OJC				*e*Sg	Sg	06 34 31.5	+1.1
OKC	Ostrava-Krasne	0.64	227	*e*PG	Pg	06 34 22.9	-0.4
OKC				*e*SG	Sg	06 34 32.5	+0.9
	comp=Z,18nm,0.4s						
MORC	Moravsky Berou	0.99	241	*e*Pg	Pg	06 34 29.1	-1.0
MORC				*e*Sg	Sg	06 34 43.2	+0.3
NIE	Niedzica	1.26	132	*e*Pg	Pg	06 34 36.2	+0.8
NIE				*e*Sg	Sg	06 34 53.8	+2.0
DPC	Dobruska-Polom	1.64	274	*e*PG	Pg	06 34 40.3	-2.2
DPC				*e*SG	Sg	06 35 01.5	-2.2
	comp=Z,19nm,0.4s						
KOLL	Kolacno	1.72	190	*e*SN	Sn	06 35 08.4	+3.4
KSP	Ksiaz	1.74	290	*e*Pn	Pn	06 34 42.0	-0.6
KSP				*e*Pg	Pg	06 34 43.7	-0.8
KSP				*e*Sg	Sg	06 35 06.6	-0.5
UPC	Upice	1.84	279	*e*SG	Sg	06 35 08.0	-2.4
KECS	Kecovo	2.08	149	*e*SN	Sn	06 35 19.1	+5.3
CRVS	Cervenica-Dubn	2.17	128	*e*PN	Pn	06 34 51.7	+3.1
CRVS				*e*SN	Sn	06 35 21.4	+5.3
PRU	Pruhonice comp=Z,4.2nm,0.3s	2.80	266	*e*SG	Sg	06 35 37.1	-4.0
KHC	Kasperske Hory comp=Z,5.1nm,0.4s	3.62	254	*e*SG	Sg	06 36 03.9	-3.5

MAN 10 06:35:47,1764N×12052E,h31km,mb3.5,ML2.2,MS1.6, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.18	87	*e*P	Pb	06 35 55.2	+2.1
ABRA				*e*S	Sb	06 35 58.4	+1.1
SIPP	Brgy, Tapao	0.29	348	⇓*j*P	Pb	06 35 56.2	+1.8
SIPP				*j*S	Sb	06 36 02.0	+2.6
PIP	Pasuquin	0.69	8	⇑*e*P	Pb	06 36 02.5	+1.9

*ISCJB **10** 06:51:23.2±0.7,365S±007×1310E±02,h10km,mb4.2/10, Error ellipse: s-maj=30.1km s-min=7.9km az=165.3*
*NEIC **10** 06:51:24.5±0.9,365S×131.18E,h10km,mb4.3/7,Error ellipse: s-maj=36.8km s-min=10.2km az=77.0*
*IDC **10** 06:51:24.8±1.2,359S×13080E,h0km,mb4.0/6,mb1 4.1/7, mb1mx4.0/16,mbtmp4.0/7,ML4.0/1,MS3.1/2,Ms1 3.1/2, ms1mx2.6/28,Error ellipse: s-maj=103.5km s-min=18.9km az=71.0*

ISC 10 06:51:22.9±3.7,365S±007×1313E±02,h0km±22km,n25, σ1§24/24,mb4.4/10,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu 18nm,0.6s	9.07	173	*e*P	Pn	06 53 38.4	+3.2
KAKA				*e*S	Sn	06 55 17.5	-0.6
BATI	Baumata 9.5nm,0.3s,baz=59,slow=5.9,SNR=7.5	10.00	229	Pn	Pn	06 53 53.9	+6.0
BATI				LR	LR	06 57 16.6	
	comp=Z,172nm,18.4s,baz=114,slow=36						
FITZ	Fitzroy Crossi 2.5nm,0.3s	15.40	201	*e*P	Pn	06 55 00.4	-1.2
FITZ				*e*S	Sx	06 57 43.9	
FITZ	Fitzroy Crossi 0.5nm,0.3s,baz=67,slow=14,SNR=17	15.40	201	Pn	Pn	06 55 00.4	-1.2
FITZ				Sn	Sx	06 57 43.6	
	0.1nm,0.3s,baz=72,slow=19,SNR=1.9						
WRAB	Tennant Creek 6.5nm,0.8s	16.45	170	*e*Pn	Pn	06 55 14.2	-1.0
WRAB				*e*Sn	Sx	06 58 11.0	
WRA	Warramunga Arr 0.3nm,0.3s,baz=351,slow=13,SNR=21	16.46	170	Pn	Pn	06 55 14.3	-1.0
WRA				Sn	Sx	06 58 12.5	
	0.5nm,0.3s,baz=358,slow=23,SNR=6.1						
WB2	Warramunga Arr	16.46	170	*e*P	Pn	06 55 14.7	-0.7
WB2				*e*S	Sx	06 58 08.0	
WB2	Warramunga Arr	16.46	170	*e*Pn	Pn	06 55 14.5	-0.8
WB2				*e*S	Sx	06 58 08.0	
WB2				*e*Sn	Sx	06 58 09.4	
ASAR	Alice Springs 6.7nm,0.6s,baz=354,slow=12,SNR=79	20.05	173	P	P	06 56 02.2	+4.5
ASAR				S	S	06 59 43.2	-0.8
	0.7nm,0.6s,baz=2.1,slow=28,SNR=4.7						
MBWA	Marble Bar 5.5nm,0.6s	20.73	212	*e*P	P	06 56 05.6	+0.5
FORT	Forrest 24nm,0.7s,mb5.0	27.16	186	*e*P	P	06 57 11.1	+3.1
STKA	Stephens Creek 1.4nm,0.6s,mb4.0,baz=31,slow=5.9,SNR=2.5	29.70	162	P	P	06 57 34.3	+3.7
KLBR	Kellerberrin 82nm,1.5s,mb5.4	30.58	203	*e*P	P	06 57 39.9	+1.4
CHTO	Chiang Mai	38.90	306	P	P	06 58 47.1	-3.5
KSRS	Korea Array comp=Z,15nm,21.2s,baz=200,slow=36	41.02	356	LR	LR	07 15 54.3	
MK31	Makanchi Array	66.19	325	*e*P	P	07 02 12.4	0.0
MKAR	Makanchi Array 1.0nm,0.5s,mb4.3,baz=122,slow=6.5,SNR=15	66.19	325	P	P	07 02 12.7	+0.3
TKM2	Tokmak 2 1.6nm,0.6s,mb4.4	68.28	319	P	P	07 02 26.2	+0.4
ZALV	Zalesovo Beam 0.4nm,0.3s,mb4.1,baz=123,slow=5.5,SNR=4.1	69.20	333	P	P	07 02 30.6	-0.6
EKS2	Erkin-Say 1.9nm,0.8s,mb4.4	69.36	318	*e*P	P	07 02 32.3	-0.2
KURK	Kurchatov 3.8nm,1.0s,mb4.5	70.38	328	*e*P	P	07 02 37.0	-1.6
VNDA	Vanda 0.5nm,0.5s,mb3.9,baz=310,slow=5.5,SNR=4.3	75.60	173	P	P	07 03 11.7	+2.6
BVAR	Borovoye Array 1.1nm,0.7s,mb4.1,baz=117,slow=5.9,SNR=5.7	75.96	327	P	P	07 03 11.7	+0.2
TORD	Torodi Ar. Bea 0.4nm,0.7s,baz=74,slow=2.4,SNR=3.1	129.36	284	PKP	PKPdf	07 10 35.5	+1.0
CPUP	Villa Florida 1.0nm,0.7s,baz=225,slow=4.3,SNR=3.2	149.04	165	PKPbc	PKPbc	07 11 15.2	+1.3

*IDC **10** 07:10:35.2±1.5,108S×12758E,h0km,mb3.6/3,mb1 3.8/4, mb1mx3.7/16,mbtmp3.7/4,ML3.7/1,Error ellipse: s-maj=132.9km s-min=22.6km az=70.0*

NEIC 10 07:10:40.4±0.7,128S×12717E,h35km,mb3.9/2,Error ellipse: s-maj=116.0km s-min=8.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu 8.0nm,0.6s	12.50	156	*e*P	Pn	07 13 35.4	-0.5
WRAB	Tennant Creek 5.1nm,1.0s	19.82	160	*e*P	Pn	07 15 08.6	-1.4
WRA	Warramunga Arr 0.2nm,0.3s,baz=341,slow=12,SNR=19	19.83	160	P	Pn	07 15 08.1	-1.9
WB2	Warramunga Arr	19.83	160	*e*P	Pn	07 15 08.5	-1.6
ASAR	Alice Springs 1.6nm,0.7s,baz=347,slow=9.8,SNR=17	23.19	164	P	P	07 15 44.9	+0.5
SONM	Songino Array 0.2nm,0.5s,baz=146,slow=8.0,SNR=3.9	52.16	342	P	P	07 19 48.1	+0.6
MKAR	Makanchi Array 0.3nm,0.4s,baz=116,slow=8.2,SNR=4.0	61.93	327	P	P	07 20 56.3	-0.3
KURK	Kurchatov 1.4nm,0.8s	66.20	329	*e*P	P	07 21 24.5	-0.1

*ISK **10** 07:21:11.8,3966N×2948E,h9km,MD2.8*
*CSEM **10** 07:21:11.1±0.2,3965N×2949E,h3km±1km,MD2.9,Error ellipse: s-maj=2.2km s-min=1.7km az=51.0*
*ISCJB **10** 07:21:12.7±0.3,3967N±002×2946E±003,h10km,Error ellipse: s-maj=4.1km s-min=2.9km az=137.8*
*DDA **10** 07:21:12.5,3965N×2941E,h7km±4km,Md2.9*

ISC 10 07:21:12.6±0.5,3967N±003×2948E±003,h5km±5km,n26, σ0§71/37,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	Uludag	0.54	331	*j*P	Pg	07 21 22.8	-0.2
ULDT				*j*S	Sg	07 21 30.6	+0.6
GDZ	Gediz	0.58	180	*j*P	Pg	07 21 23.6	-0.2
GDZ				*j*S	Sg	07 21 30.9	-0.5
DST	Dursunbey	0.66	264	*e*PG	Pg	07 21 25.2	-0.1
DST				*e*SG	Sg	07 21 35.1	+1.3
DURS	Dursunbey	0.78	265	*j*P	Pg	07 21 26.8	-0.7
DURS				*j*S	Sg	07 21 38.3	+0.7
ADVT	Abdulvahap	0.79	15	*e*PG	Pg	07 21 27.4	-0.2
ALT	Altintas	0.79	141	*e*PG	Pg	07 21 26.0	-1.6
ALT				*e*SG	Sg	07 21 38.6	+0.7
GEMT	Gemlik	0.79	344	*e*PG	Pg	07 21 27.7	-0.1
KCT	Karacabey	1.05	305	*e*PG	Pg	07 21 32.3	-0.3
ESKT	Eskisehir	1.07	98	*j*P	Pg	07 21 33.1	0.0

az=162.1
NEIC ***10*** *07:30:10.7±1.2,569N×12619E,h99km±12km,mb4.3/6, Error ellipse: s-maj=50.0km s-min=8.9km az=70.0*
IDC ***10*** *07:30:11.6±1.5,564N×12626E,h108km±12km,mb3.7/7, mb1 3.9/7,mb1mx3.6/19,mbtmp3.7/7,Error ellipse: s-maj=89.7km s-min=12.3km az=71.0*
ISC 10 07:30:12.0±1.2,58N±01×1264E±03,h112km±11km,n22,
σ1§21/23,mb4.0/10,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.52**	**328**	P	**Pn**	**07 30 38.3**	**-0.9**
	151nm,0.3s,baz=0.0,slow=3.0,SNR=5.5						
DAV				S	**Sn**	**07 31 00.4**	**+0.5**
	132nm,0.3s,baz=240,slow=21,SNR=8.2						
DAV	**Davao City (W)**	**1.52**	**328**	Pn	**Pn**	**07 30 36.6**	**-2.6**
DAV				S	**Sn**	**07 31 00.4**	**+0.5**
BATI	**Baumata**	**16.11**	**190**	P	**Pn**	**07 33 53.9**	**+1.7**
	6.6nm,0.3s,baz=321,slow=3.4,SNR=3.3						
KAKA	**Kakadu**	**19.32**	**162**	*e*P	**P**	**07 34 30.3**	**+1.7**
	5.3nm,0.5s						
KAKA	**Kakadu**	**19.32**	**162**	*e*P	**P**	**07 34 29.7**	**+1.1**
	11nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.74**	**182**	*e*P	**P**	**07 35 13.3**	**-0.8**
	5.2nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**23.74**	**182**	P	**P**	**07 35 13.1**	**-1.0**
	2.3nm,0.5s,mb3.7,baz=6.3,slow=7.9,SNR=12						
WRAB	**Tennant Creek**	**26.72**	**163**	*e*P	**P**	**07 35 42.1**	**+1.1**
	3.2nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**26.73**	**163**	P	**P**	**07 35 40.0**	**-1.1**
	2.8nm,0.6s,mb4.0,baz=344,slow=9.9,SNR=23						
WB2	**Warramunga Arr**	**26.73**	**163**	*e*P	**P**	**07 35 43.1**	**+2.0**
WB2	**Warramunga Arr**	**26.73**	**163**	*e*P	**P**	**07 35 40.3**	**-0.9**
MBWA	**Marble Bar**	**27.55**	**194**	P	**P**	**07 35 46.8**	**-1.7**
	9.1nm,1.1s,mb4.2						
ASAR	**Alice Springs**	**30.17**	**166**	P	**P**	**07 36 11.2**	**-0.4**
	0.9nm,0.6s,mb3.6,baz=347,slow=6.4,SNR=11						
ASAR				PcP	PcP	07 39 10.9	+0.5
	0.3nm,0.5s,baz=9.2,slow=2.0,SNR=4.3						
STKA	**Stephens Creek**	**40.15**	**160**	*e*P	**P**	**07 37 36.9**	**-0.2**
STKA	**Stephens Creek**	**40.15**	**160**	P	**P**	**07 37 35.7**	**-1.5**
	2.7nm,0.6s,mb4.3,baz=19,slow=8.7,SNR=5.8						
STKA	**Stephens Creek**	**40.15**	**160**	P	**P**	**07 37 36.7**	**-0.4**
	3.4nm,0.6s,mb4.3						
SONM	**Songino Array**	**45.26**	**341**	P	**P**	**07 38 19.4**	**+1.2**
	0.4nm,0.6s,mb3.4,baz=157,slow=7.8,SNR=3.3						
SONM				PcP	PcP	07 39 56.9	+0.7
	0.3nm,0.5s,baz=166,slow=3.6,SNR=3.1						
MKAR	**Makanchi Array**	**55.70**	**325**	P	**P**	**07 39 36.4**	**-0.4**
	1.9nm,0.4s,mb4.5,baz=116,slow=7.5,SNR=17						
EKS2	**Erkin-Say**	**59.13**	**317**	P	**P**	**07 40 02.9**	**+2.0**
KURK	**Kurchatov**	**59.85**	**327**	*e*P	**P**	**07 40 04.7**	**-1.0**
	2.2nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**88.42**	**340**	P	**P**	**07 42 50.8**	**-0.4**
	2.2nm,0.9s,mb4.2,baz=81,slow=8.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**121.95**	**289**	PKP	PKPdf	07 48 54.0	-0.2
	0.6nm,0.3s,baz=66,slow=1.6,SNR=16						

ISK ***10*** *07:35:10.0,3695N×2773E,h17km,MD2.9*
NEIC ***10*** *07:35:10.6,3696N×2784E,h56km,MD3.3(ATH),After ATH.*
CSEM ***10*** *07:35:10.0±0.1,3695N×2773E,h15km,MD2.8,Error ellipse: s-maj=1.9km s-min=1.5km az=77.0*
ISCJB ***10*** *07:35:10.9±0.5,3694N±003×2774E±003,h10km±4km, Error ellipse: s-maj=4.6km s-min=3.6km az=37.2*
ATH ***10*** *07:35:10.6,3696N×2784E,h56km±6km,MD3.3/4*
DDA ***10*** *07:35:11.8,3701N×2773E,h10km±4km,Md2.8*
ISC 10 07:35:11.3±0.4,3695N±003×2772E±003,h15km±4km,n19,
σ0§93/31,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.25**	**298**	*i* P	**Pg**	**07 35 16.6**	**-0.2**
BDRM				*i* S	**Sg**	**07 35 20.8**	**+0.4**
BODT	**Bodrum**	**0.34**	**289**	*e*PG	**Pg**	**07 35 17.5**	**-0.9**
BODT				*e*SG	**Sg**	**07 35 23.7**	**+0.5**
MLSB	**Milas**	**0.35**	**8**	*e*PG	**Pg**	**07 35 17.5**	**-1.0**
MLSB				*e*SG	**Sg**	**07 35 23.2**	**-0.1**
YER	**Yerkesik**	**0.49**	**68**	*e*PG	**Pg**	**07 35 20.2**	**-0.9**
NISR	**Nisiros**	**0.58**	**235**	*e*P	**Pg**	**07 35 25.0**	**+2.3**
TURN	**Turunc**	**0.71**	**96**	*i* P	**Pg**	**07 35 19.0**	**-6.3**
TURN				*i* S	**Sg**	**07 35 25.5**	**-9.2**
AYDN	**Tasoluk**	**0.72**	**10**	*i* P	**Pg**	**07 35 24.9**	**-0.6**
AYDN				*i* S	**Sg**	**07 35 34.7**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.76**	**103**	*e*PG	**Pg**	**07 35 25.0**	**-1.1**
ARG	**Arkhangelos**	**0.80**	**156**	*e*P	**Pb**	**07 35 26.1**	**-0.9**
ARG				*e*S	**Sb**	**07 35 38.2**	**+0.6**
GCAM	**G?zelcaml?**	**0.84**	**333**	*i* P	**Pb**	**07 35 27.7**	**0.0**
GCAM				*i* S	**Sb**	**07 35 40.8**	**+2.0**
SMG	**Samos**	**1.03**	**318**	*e*P	**Pb**	**07 35 30.8**	**-0.1**
SMG				*e*S	**Sb**	**07 35 45.3**	**+1.0**
DNZL	**Cakiroluk**	**1.29**	**55**	*i* P	**Pn**	**07 35 35.0**	**+0.2**
DNZL				*i* S	**Sb**	**07 35 52.9**	**+1.2**
KARP	**Karpathos**	**1.47**	**198**	*e*P	**Pn**	**07 35 36.8**	**-0.5**
KARP				*e*S	**Sn**	**07 35 55.5**	**-0.7**
IZM	**Izmir**	**1.49**	**346**	*e*PN	**Pn**	**07 35 37.0**	**-0.6**
GOLH	**Golhisar**	**1.50**	**78**	*i* P	**Pg**	**07 35 40.9**	**+0.6**
GOLH				*i* S	**Sg**	**07 36 00.8**	**+1.0**
BLCB	**Balcova**	**1.53**	**340**	*e*PN	**Pn**	**07 35 37.1**	**-1.1**
AKAS	**Kas**	**1.68**	**115**	*i* P	**Pg**	**07 35 43.3**	**-0.3**
AKAS				*i* S	**Sg**	**07 36 08.3**	**+2.8**
KULA	**Kula-Manisa**	**1.73**	**25**	*e*PN	**Pn**	**07 35 39.9**	**-1.0**
AKS	**Akhisar**	**1.93**	**2**	*e*PN	**Pn**	**07 35 43.5**	**-0.1**

ISCJB ***10*** *07:56:19.9±0.4,5140N±002×16.12E±002,h0km,Error ellipse: s-maj=3.3km s-min=2.0km az=18.9*
NEIC ***10*** *07:56:20.3±0.4,5154N×1618E,h5km,ML3.1(SZGRF), Error ellipse: s-maj=5.8km s-min=4.5km az=222.0*
IPEC ***10*** *07:56:21.2±0.3,5148N×1619E,h8km±1km,ML2.6/3,Error ellipse: s-maj=2.0km s-min=0.7km az=30.0*
IDC ***10*** *07:56:21.7±0.8,5148N×1601E,h0km,mb1 3.3/6, mb1mx3.2/25,mbtmp3.2/6,ML3.3/6,Error ellipse: s-maj=14.9km s-min=8.0km az=101.0*
BGR ***10*** *07:56:21.9±0.5,5145N×1610E,h1km,ML3.1/12,Error ellipse: s-maj=7.8km s-min=3.3km az=18.0*
PRU ***10*** *07:56:22.8,5141N×1606E,h0km*
WAR ***10*** *07:56:22.3,5146N×1610E,ML3.0,Mining Induced*
CSEM ***10*** *07:56:22.2±0.1,5142N×1609E,h0km,ML3.7/11,Error ellipse: s-maj=2.1km s-min=1.2km az=29.0*
VIE ***10*** *07:56:23.2±0.7,5129N×1610E,h0km,mb2.7/5,ML3.1/5, Error ellipse: s-maj=4.9km s-min=3.9km az=33.0, Suspected Mining induced.*
ISC 10 07:56:20.7±0.4,5147N±002×1613E±002,h0km,n76,
σ1§00/132,7C-10D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**171**	*e*Pg	**Pg**	**07 56 33.7**	**+0.9**
KSP				*e*Sg	**Sg**	**07 56 41.5**	**+0.5**
KSP	**Ksiaz**	**0.64**	**171**	*e*Pg	**Pg**	**07 56 33.8**	**+1.0**
KSP				*e*Sg	**Sg**	**07 56 42.3**	**+1.2**
KSP	**Ksiaz**	**0.64**	**171**	*e*Pg	**Pg**	**07 56 33.5**	**+0.7**
KSP				*e*Sg	**Sg**	**07 56 41.1**	**+0.1**
KSP	**Ksiaz**	**0.64**	**171**	⇓*i*Pg	**Pg**	**07 56 33.7**	**+0.9**
KSP				*e*Sg	**Sg**	**07 56 41.5**	**+0.5**
KSP				*e*		07 56 46.3	
UPC	**Upice**	**0.96**	**184**	*e*Pg	**Pg**	**07 56 39.6**	**+0.4**
UPC	**Upice**	**0.96**	**184**	*e*PG	**Pg**	**07 56 39.7**	**+0.5**
DPC	**Dobruska-Polom**	**1.13**	**174**	Pg	**Pg**	**07 56 42.5**	**+0.3**
DPC				*e*Sg	**Sg**	**07 56 56.6**	**-0.2**
DPC	**Dobruska-Polom**	**1.13**	**174**	*e*PG	**Pg**	**07 56 42.5**	**+0.3**
DPC				*e*SG	**Sg**	**07 56 56.9**	**+0.1**
	comp=Z,94nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**227**	*e*PG	**Pg**	**07 56 46.9**	**+0.1**
PVCC				*e*SG	**Sg**	**07 57 04.7**	**+0.3**
	comp=Z,269nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**247**	*e*Pg	**Pg**	**07 56 48.0**	**-1.4**
BRG	**Berggiesshubel**	**1.50**	**247**	Pg	**Pg**	**07 56 49.4**	**0.0**
BRG				*e*Sg	**Sg**	**07 57 08.8**	**0.0**
BRG	**Berggiesshubel**	**1.50**	**247**	PN	**Pn**	**07 56 48.0**	**-0.8**
BRG				PG	**Pg**	**07 56 49.4**	**0.0**
BRG				SG	**Sg**	**07 57 09.5**	**+0.7**
	comp=Z,132nm,0.4s						
PRA	**Prague**	**1.77**	**218**	PG	**Pg**	**07 56 53.0**	**-1.5**
PRA				SG	**Sg**	**07 57 18.0**	**+0.6**
RUE	**Ruedersdorf**	**1.77**	**306**	*e*Pn	**Pn**	**07 56 50.3**	**-2.3**
RUE				*e*Sn	**Sn**	**07 57 17.8**	**+2.0**
PRU	**Pruhonice**	**1.79**	**215**	*e*Pn	**Pn**	**07 56 52.3**	**-0.5**
PRU	**Pruhonice**	**1.79**	**215**	*e*PN	**Pn**	**07 56 52.5**	**-0.3**
PRU				*e*PG	**Pg**	**07 56 54.2**	**-0.8**
PRU				*e*SG	**Sg**	**07 57 17.6**	**-0.6**
	comp=Z,70nm,0.6s						
FBE	**Freiberg**	**1.83**	**254**	*e*Pn	**Pn**	**07 56 55.0**	**+1.7**
FBE				*e*Sg	**Sg**	**07 57 18.8**	**-0.6**
RAC	**Raciborz**	**1.91**	**136**	*e*Pg	**Pg**	**07 56 57.6**	**+0.4**
RAC				*e*Sg	**Sg**	**07 57 22.1**	**+0.2**
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	**Pn**	**07 56 54.6**	**0.0**
MORC				*e*Sg	**Sg**	**07 57 21.9**	**-0.3**
MORC	**Moravsky Berou**	**1.92**	**151**	⇓*i*P	**Pn**	**07 56 54.5**	**0.0**
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	**Pn**	**07 56 54.3**	**-0.2**
MORC				*e*Sn	**Sn**	**07 57 17.5**	**-1.8**
MORC				Sg	**Sg**	**07 57 21.9**	**-0.3**
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	**Pn**	**07 56 54.3**	**-0.3**
MORC				*e*Sn	**Sn**	**07 57 17.6**	**-1.8**
CLL	**Collm**	**1.97**	**267**	*e*Pn	**Pn**	**07 56 55.0**	**-0.2**
CLL				*e*Pg	**Pg**	**07 56 58.0**	**-0.3**
CLL				*i* Sg	**Sg**	**07 57 23.8**	**0.0**
CLL	**Collm**	**1.97**	**267**	*e*Pn	**Pn**	**07 56 55.0**	**-0.2**
CLL				*e*Pg	**Pg**	**07 56 58.0**	**-0.3**
CLL				*i* x	x	07 57 01.4	
CLL				*e*x	x	07 57 12.0	
CLL				*i* Sg	**Sg**	**07 57 23.8**	**0.0**
	comp=Z,45nm,0.9s						
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*PG	**Pg**	**07 57 00.0**	**-0.5**
OKC				*e*SG	**Sg**	**07 57 25.9**	**-1.5**
	comp=Z,113nm,0.6s						
VRAC	**Vranov**	**2.18**	**172**	Pn	**Pn**	**07 56 60.0**	**+1.8**
	comp=Z,5.1nm,0.3s,baz=344,slow=15,SNR=12						
VRAC				Lg		07 57 30.2	
	comp=Z,8.8nm,0.3s,baz=73,slow=19,SNR=10						
VRAC	**Vranov**	**2.18**	**172**	⇓*i*P	**Pn**	**07 56 59.5**	**+1.3**
VRAC	**Vranov**	**2.18**	**172**	*e*Pn	**Pn**	**07 56 59.3**	**+1.1**
VRAC				*e*Sg	**Sg**	**07 57 29.8**	**-1.0**
	comp=Z,36nm,0.3s						
TREC	**Trest**	**2.21**	**191**	*e*Pn	**Pn**	**07 56 59.6**	**+1.0**
TREC	**Trest**	**2.21**	**191**	*e*PN	**Pn**	**07 56 59.7**	**+1.1**
TREC				*e*PG	**Pg**	**07 57 02.6**	**-0.5**
KRUC	**Moravsky**	**2.42**	**176**	*e*Pn	**Pn**	**07 57 02.4**	**+1.0**
KRUC				*e*Sg	**Sg**	**07 57 37.0**	**-1.2**
	comp=Z,27nm,0.3s						
WERD	**Werda**	**2.62**	**249**	*e*Pn	**Pn**	**07 57 04.4**	**+0.1**
WERD				*e*Sg	**Sg**	**07 57 45.7**	**+0.8**
OJC	**Ojcow**	**2.64**	**117**	*e*Pn	**Pn**	**07 57 02.9**	**-1.6**
OJC				*e*Pg	**Pg**	**07 57 12.2**	**+0.9**
OJC				*e*Sg	**Sg**	**07 57 47.4**	**+1.9**
OJC	**Ojcow**	**2.64**	**117**	*e*Pg	**Pg**	**07 57 10.4**	**-0.9**
OJC				*e*Sg	**Sg**	**07 57 46.5**	**+1.0**
OJC	**Ojcow**	**2.64**	**117**	Pg	**Pg**	**07 57 10.4**	**-0.9**
OJC				Sg	**Sg**	**07 57 46.5**	**+1.0**
NKC	**Novy Kostel**	**2.64**	**244**	*e*Pn	**Pn**	**07 57 04.6**	**+0.1**
NKC	**Novy Kostel**	**2.64**	**244**	*e*PN	**Pn**	**07 57 04.8**	**+0.3**
NKC				*e*PG	**Pg**	**07 57 10.9**	**-0.4**
NKC				*e*SG	**Sg**	**07 57 45.9**	**+0.4**
	comp=Z,85nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	**Pn**	**07 57 07.8**	**+0.4**
KHC				*e*PG	**Pg**	**07 57 13.8**	**-1.6**
KHC				*e*SN	**Sn**	**07 57 41.0**	**-1.5**
KHC				*e*SG	**Sg**	**07 57 52.0**	**-0.4**
	comp=Z,34nm,0.5s						
MGBB	**Grossbuechelbe**	**2.90**	**240**	⇑*i*Pn	**Pn**	**07 57 08.6**	**+0.5**
MOX	**Moxa**	**2.96**	**256**	*e*Pn	**Pn**	**07 57 09.0**	**0.0**
MOX				⇑*i*Pg	**Pg**	**07 57 17.2**	**-0.3**
MOX				⇑*i*Sg	**Sg**	**07 57 57.0**	**+1.1**
MOX	**Moxa**	**2.96**	**256**	*e*PN	**Pn**	**07 57 09.2**	**+0.3**
MOX				*i* PG	**Pg**	**07 57 17.2**	**-0.3**
MOX				*i* SG	**Sg**	**07 57 57.0**	**+1.1**
MOX	**Moxa**	**2.96**	**256**	Pg	**Pg**	**07 57 17.2**	**-0.3**
MOX				*e*Sg	**Sg**	**07 57 55.6**	**-0.3**
ROTZ	**Rotzenmuhle**	**3.02**	**237**	*e*Pn	**Pn**	**07 57 10.4**	**+0.7**
GEC2	**GERESS Array S**	**3.06**	**212**	*e*Pn	**Pn**	**07 57 10.2**	**0.0**
GERES	**GERESS Array B**	**3.06**	**212**	Pn	**Pn**	**07 57 10.1**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=22,slow=14,SNR=24						
GERES				Pg	**Pg**	**07 57 17.0**	**-2.2**
	comp=Z,8.3nm,0.3s,baz=31,slow=17,SNR=46						
GERES				Lg		07 57 57.8	
	comp=Z,7.6nm,0.3s,baz=32,slow=26,SNR=6.6						
GERES	**GERESS Array B**	**3.06**	**212**	Pg	**Pg**	**07 57 17.0**	**-2.2**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**07 57 11.6**	**+0.4**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**07 57 11.1**	**0.0**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**07 57 11.6**	**+0.5**
MODS	**Modra-Piesok**	**3.19**	**166**	*e*PG	**Pg**	**07 57 23.0**	**+1.3**
MODS				*e*SG	**Sg**	**07 58 02.0**	**-1.0**
KOLL	**Kolacno**	**3.24**	**152**	*e*Pg	**Pg**	**07 57 22.3**	**-0.5**
KOLL				*e*Sg	**Sg**	**07 58 06.0**	**+1.2**
KOLL				*e*SG	**Sg**	**07 58 06.0**	**+1.2**
KOLL	**Kolacno**	**3.24**	**152**	*e*PG	**Pg**	**07 57 22.3**	**-0.5**
ZST	**Bratislava**	**3.34**	**169**	*e*PG	**Pg**	**07 57 22.8**	**-1.8**
ZST				*e*SG	**Sg**	**07 58 09.8**	**+2.0**
NIE	**Niedzica**	**3.37**	**126**	*e*P	**Pg**	**07 57 24.9**	**-0.3**
NIE				*e*S	**Sg**	**07 58 08.2**	**-0.7**
CONA	**Conrad Observa**	**3.55**	**183**	⇑*i*Pn	**Pn**	**07 57 17.7**	**+0.7**
CONA				⇓*i*Sg	**Sg**	**07 58 15.1**	**+0.5**
	comp=Z,46nm,0.6s						
CSNA	**Conrad Observa**	**3.55**	**183**	⇓*i*Pn	**Pn**	**07 57 18.1**	**+1.1**
CSNA				⇓*i*Sg	**Sg**	**07 58 12.9**	**-1.7**
	comp=Z,21nm,0.3s						
GRA1	**Grafenberg Arr**	**3.60**	**242**	Pn	**Pn**	**07 57 18.3**	**+0.7**
GRA1	**Grafenberg Arr**	**3.60**	**242**	*e*Pn	**Pn**	**07 57 18.3**	**+0.7**
GRF	**Grafenberg Arr**	**3.60**	**242**	*e*Pn	**Pn**	**07 57 18.3**	**+0.6**
CLZ	**Clausthal**	**3.60**	**278**	*e*Pn	**Pn**	**07 57 18.5**	**+0.8**
CLZ	**Clausthal**	**3.60**	**278**	*e*Pn	**Pn**	**07 57 18.4**	**+0.7**
CLZ	**Clausthal**	**3.60**	**278**	*e*Pn	**Pn**	**07 57 18.5**	**+0.8**
MOA	**Molln**	**3.82**	**199**	⇑*i*Pn	**Pn**	**07 57 21.1**	**+0.5**
MOA				⇓*i*Sg	**Sg**	**07 58 23.9**	**+0.6**
	comp=Z,34nm,0.5s						
HROE	**Hohe Rhon--Fla**	**3.89**	**258**	⇓*i*Pn	**Pn**	**07 57 21.6**	**0.0**
KECS	**Kecovo**	**4.10**	**135**	*e*Pg	**Pg**	**07 57 40.7**	**+1.4**
KECS				*e*		07 58 30.0	
KECS				*e*		07 58 30.0	
KECS	**Kecovo**	**4.10**	**135**	*e*PG	**Pg**	**07 57 40.7**	**+1.4**
ARSA	**Arzberg**	**4.24**	**186**	⇑*i*Pn	**Pn**	**07 57 27.8**	**+1.4**
ARSA				⇓*i*Sg	**Sg**	**07 58 37.1**	**+0.2**
	comp=Z,17nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.28**	**125**	*e*PN	**Pn**	**07 57 28.4**	**+1.4**
CRVS				*e*PG	**Pg**	**07 57 42.6**	**-0.1**
CRVS				*e*SG	**Sg**	**07 58 43.1**	**+4.9**
KOLS	**Kolonicke sedl**	**4.69**	**120**	*e*PN	**Pn**	**07 57 33.6**	**+0.9**
KOLS				*e*PG	**Pg**	**07 57 52.0**	**+1.5**
DRGR		**6.37**	**135**	⇓*i*P	**Pn**	**07 58 03.0**	**+7.3**
BURAR	**Bucovina Array**	**7.06**	**120**	⇑*i*P	**Pn**	**07 58 05.4**	**+0.3**
AKASG	**Malin Array Be**	**8.28**	**90**	Pn	**Pn**	**07 58 20.4**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=278,slow=12,SNR=4.2						
AKASG	**Malin Array Be**	**8.28**	**90**	Pn	**Pn**	**07 58 20.4**	**-1.5**
HFS	**Hagfors**	**8.79**	**352**	Pn	**Pn**	**07 58 27.6**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=174,slow=14,SNR=5.9						
NOA	**NORSAR Array B**	**9.97**	**346**	Pn	**Pn**	**07 58 42.6**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=175,slow=13,SNR=2.6						
ARCES	**ARCESS Array B**	**18.66**	**10**	Pn	**Pn**	**08 00 35.8**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=191,slow=12,SNR=12						

ISCJB ***10*** *08:01:42.2±0.6,3794N±003×2143E±004,h3km±7km, Error ellipse: s-maj=6.2km s-min=4.2km az=38.2*
NEIC ***10*** *08:01:42.9,3800N×2139E,h16km,MD3.4(ATH),After ATH.*
ATH ***10*** *08:01:42.9,3800N×2139E,h16km±1km,MD3.4/7*
CSEM ***10*** *08:01:43.3±0.2,3796N×2137E,h15km,MD3.4,Error ellipse: s-maj=4.7km s-min=3.0km az=28.0*
THE ***10*** *08:01:43.2,3784N×2130E,h17km,ML3.0*
ISC 10 08:01:42.9±0.5,3792N±004×2141E±004,h9km±6km,n14,
σ1§17/24,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.15**	**19**	*e*PB	**Pg**	**08 01 46.2**	**0.0**
RLS				*e*SB	**Sg**	**08 01 48.9**	**+0.5**
KFL	**Anninata**	**0.53**	**292**	*e*Pg	**Pg**	**08 01 52.4**	**-0.7**
KFL				*e*Sg	**Sg**	**08 02 00.4**	**+0.4**
VLS	**Valsamata**	**0.69**	**292**	*e*Pg	**Pg**	**08 01 55.1**	**-1.3**
VLS				*e*Sg	**Sg**	**08 02 05.7**	**+0.3**
ITM	**Ithomi**	**0.84**	**150**	*e*PB	**Pb**	**08 01 59.8**	**+0.1**
ITM				*e*SN	**Sn**	**08 02 13.7**	**+0.2**
VLX	**Vlachokerasia**	**0.95**	**125**	*e*Pg	**Pg**	**08 02 01.6**	**+0.5**
VLX				*e*Sg	**Sg**	**08 02 14.9**	**+1.6**
VLX	**Vlachokerasia**	**0.95**	**125**	*e*Pg	**Pg**	**08 02 01.6**	**+0.5**
VLX				*e*Sg	**Sg**	**08 02 14.9**	**+1.5**
LKD	**Levkas**	**0.99**	**323**	*e*Pg	**Pg**	**08 02 00.6**	**-1.4**
LKD				*e*Sg	**Sg**	**08 02 17.0**	**+2.2**
EVR	**Evrytania**	**1.05**	**17**	*e*PN	**Pn**	**08 02 01.3**	**-2.5**
AGG	**Agios Georgios**	**1.32**	**33**	*e*Pg	**Pg**	**08 02 08.0**	**-0.3**
AGG				*e*Sg	**Sg**	**08 02 26.4**	**+0.9**
AGG	**Agios Georgios**	**1.32**	**33**	*e*Pg	**Pg**	**08 02 07.9**	**-0.4**
AGG				*e*Sg	**Sg**	**08 02 26.4**	**+0.9**
LKR	**Lokris**	**1.45**	**59**	*e*PN	**Pn**	**08 02 09.6**	**+0.2**
DID	**Didima**	**1.51**	**105**	*e*Pg	**Pg**	**08 02 10.5**	**-1.3**
DID				*e*Sg	**Sg**	**08 02 29.4**	**-2.0**
VLI	**Veliai**	**1.71**	**134**	*e*PN	**Pn**	**08 02 15.5**	**+2.6**
THL	**Klokotos Trika**	**1.71**	**16**	*e*PN	**Pn**	**08 02 13.4**	**+0.4**

ISCJB ***10*** *08:09:19.0±0.7,3929N±002×20.14E±005,h8km±4km, Error ellipse: s-maj=6.6km s-min=4.0km az=177.3*
CSEM ***10*** *08:09:20.7±0.2,3930N×2026E,h12km,ML3.2,Error ellipse: s-maj=3.9km s-min=2.7km az=76.0*
ATH ***10*** *08:09:20.0,3928N×2027E,h24km±1km,MD3.4/6*
THE ***10*** *08:09:20.4,3928N×2020E,h0km,ML3.2*
NEIC ***10*** *08:09:20.4,3928N×2020E,h0km,MD3.4(ATH), ML3.2(THE),After THE.*
ISC 10 08:09:20.7±0.6,3928N±002×2023E±005,h10km±4km,n18,
σ0§97/35,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**17**	*e*Pg	**Pg**	**08 09 24.8**	**-1.2**
IGT				*e*Sg	**Sg**	**08 09 29.2**	**-0.3**
KEK	**Kerkira**	**0.54**	**322**	*e*PN	**Pg**	**08 09 31.1**	**-0.2**
KEK				*e*SN	**Sg**	**08 09 39.9**	**+1.4**
JAN	**Janina**	**0.61**	**52**	*e*PN	**Pg**	**08 09 31.1**	**-1.4**
JAN				*e*SN	**Sg**	**08 09 40.3**	**-0.1**
LKD	**Levkas**	**0.66**	**150**	*e*Pg	**Pg**	**08 09 32.0**	**-1.5**
LKD				*e*Sg	**Sg**	**08 09 43.4**	**+1.3**
VLS	**Valsamata**	**1.14**	**166**	*e*Pg	**Pg**	**08 09 42.2**	**-0.4**
VLS				*e*Sg	**Sg**	**08 09 58.9**	**+1.5**
VLS	**Valsamata**	**1.14**	**166**	*e*Pn	**Pn**	**08 09 42.3**	**-0.4**
VLS				*e*Sn	**Sn**	**08 09 57.5**	**-0.9**
KFL	**Anninata**	**1.25**	**159**	*e*Pg	**Pg**	**08 09 44.6**	**-0.1**
KFL				*e*Sg	**Sg**	**08 10 02.1**	**+1.2**
EVR	**Evrytania**	**1.28**	**106**	*e*PN	**Pn**	**08 09 44.0**	**-0.7**
EVR				*e*SN	**Sn**	**08 10 01.3**	**-0.6**
THL	**Klokotos Trika**	**1.41**	**78**	*e*Pg	**Pg**	**08 09 47.7**	**-0.1**
THL				*e*Sg	**Sg**	**08 10 06.6**	**+0.6**
THL	**Klokotos Trika**	**1.41**	**78**	*e*PN	**Pn**	**08 09 45.8**	**-0.6**
THL				*e*SN	**Sn**	**08 10 04.4**	**-0.7**
THL	**Klokotos Trika**	**1.41**	**78**	*e*Pg	**Pg**	**08 09 47.7**	**0.0**
THL				*e*Sn	**Sn**	**08 10 04.4**	**-0.7**
THL				*e*Sg	**Sg**	**08 10 06.6**	**+0.6**
KZN	**Kozani**	**1.56**	**49**	*e*PN	**Pn**	**08 09 48.3**	**-0.3**
KZN	**Kozani**	**1.56**	**49**	*e*Pn	**Pn**	**08 09 48.2**	**-0.4**
AGG	**Agios Georgios**	**1.65**	**98**	*e*Pb	**Pb**	**08 09 50.4**	**-0.9**
AGG				*e*Sb	**Sb**	**08 10 13.8**	**+1.6**
FNA	**Florina**	**1.74**	**30**	*e*Pb	**Pb**	**08 09 52.3**	**-0.4**
FNA				*e*Sb	**Sb**	**08 10 15.9**	**+1.4**
LIT	**Litokhoron**	**1.92**	**64**	*e*Pb	**Pb**	**08 09 54.5**	**-1.4**
LIT				*e*Sb	**Sb**	**08 10

ARA0				Lg		09 17 49.8	
	baz=121,slow=37						
ARA0	**ARCESS Array S**	**3.67**	**306**	*e*P	Pn	09 16 57.0	-3.3
ARA0				*e*S	Sn	09 17 38.8	-5.4
ARA0				*e*SB	Sb	09 17 49.8	-3.2
HEF	**Hetta**	**3.96**	**287**	*e*SG	Sg	09 18 03.0	-6.4
FIA0	**FINESS Array S**	**7.01**	**213**	*e*S	Sn	09 19 02.9	-3.6
FIA0				*e*SG	Sg	09 19 35.3	-12
FIA0	**FINESS Array S**	**7.01**	**213**	Sn	Sn	09 19 02.9	-3.6
	baz=42,slow=22						
FIA0				Lg		09 19 35.3	
	baz=18,slow=28						

ISCJB ***10*** *09:22:28.3±0.9, 3930N±003×20.16E±007, h14km±6km, Error ellipse: s-maj=9.0km s-min=5.6km az=173.5*
THE ***10*** *09:22:29.4, 3929N×2017E, h0km, ML2.6*
CSEM ***10*** *09:22:29.8±0.4, 3926N×2021E, h2km, ML2.6, Error ellipse: s-maj=8.3km s-min=5.5km az=74.0*
ATH ***10*** *09:22:29.4, 3934N×2029E, h32km±16km, MD3.1/3*

ISC 10 09:22:30.3±0.7, 3929N±003×2024E±006, h0km±16km, n8, σ0:95/16, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**16**	*e*Pg	**Pg**	**09 22 34.1**	**-1.1**
IGT				*e*Sg	**Sg**	**09 22 38.7**	**+0.2**
KEK	**Kerkira**	**0.55**	**321**	*e*PN	**Pg**	**09 22 40.7**	**-0.1**
KEK				*e*SN	**Sg**	**09 22 49.3**	**+1.4**
JAN	**Janina**	**0.60**	**52**	*e*PN	**Pg**	**09 22 40.7**	**-1.1**
JAN				*e*SN	**Sg**	**09 22 49.0**	**-0.5**
JAN	**Janina**	**0.60**	**52**	*e*Pn	**Pg**	**09 22 40.7**	**-1.1**
JAN				*e*Sn	**Sg**	**09 22 49.8**	**+0.3**
LKD	**Levkas**	**0.66**	**151**	*e*Pg	**Pg**	**09 22 41.6**	**-1.3**
LKD				*e*Sg	**Sg**	**09 22 51.8**	**+0.3**
VLS	**Valsamata**	**1.14**	**166**	*e*Pg	**Pg**	**09 22 51.9**	**-0.3**
VLS				*e*Sg	**Sg**	**09 23 07.9**	**+1.0**
THL	**Klokotos Trika**	**1.40**	**78**	*e*Pg	**Pg**	**09 22 57.3**	**+0.2**
THL				*e*Sg	**Sg**	**09 23 16.9**	**+1.6**
AGG	**Agios Georgios**	**1.64**	**99**	*e*Pb	**Pb**	**09 22 60.0**	**-1.5**
AGG				*e*Sb	**Sb**	**09 23 23.5**	**+0.8**

IDC 10 09:24:56.8±28.0, 2496S×17392W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.1/4, Error ellipse: s-maj=518.2km s-min=141.7km az=81.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.02**	**269**	P	P	09 32 09.2	+0.7
	1.2nm,0.3s,baz=99,slow=16,SNR=4.4						
STKA	**Stephens Creek**	**39.52**	**250**	P	P	09 32 28.2	-1.2
	21nm,1.4s,baz=94,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**47.33**	**260**	P	P	09 33 33.1	+0.5
	0.3nm,0.4s,baz=98,slow=8.0,SNR=11						
WRA	**Warramunga Arr**	**47.86**	**265**	P	P	09 33 36.6	-0.2
	0.8nm,0.5s,baz=102,slow=8.1,SNR=28						

DJA ***10*** *10:11:11, 3283S×17974W, h113km, mb5.6/17*
MOS ***10*** *10:11:29.5±1.1, 3235S×17968E, h282km, mb5.2/13, Error ellipse: s-maj=12.7km s-min=10.5km az=57.7*
ISCJB ***10*** *10:11:29.1±0.5, 3240S±004×17960E±004, h276km±4km, mb4.8/44, Error ellipse: s-maj=7.4km s-min=4.4km az=144.0*
GCMT ***10*** *10:11:30.2±0.4, 3209S×17988E, h300km±2km, MW5.3/52, Moment Tensor Solution. s52,c73; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.37±.03; $M_{\theta\theta}$-0.57±.06; $M_{\phi\phi}$0.93±.05; $M_{r\theta}$-0.53±.04; $M_{\theta\phi}$0.45±.05; $M_{\phi r}$0.53±.05; Best double couple: $M_0$1.19100×10^{17} NP1:ϕ_s54.00000°, δ51.00000°, λ-19.00000°. NP2: ϕ_s156.00000°, δ75.00000°, λ-139.00000°. Principal axes: T 1.1630, Plg16.0000°, Azm280.0000°; N 0.0560, Plg47.0000°, Azm173.0000°; P -1.2190, Plg39.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s.*
BJI ***10*** *10:11:30.0, 3250S×17970E, h282km, mB5.0, mb4.6*
NEIC ***10*** *10:11:30.2±0.7, 3250S×17973E, h282km±6km, mb5.0/22, Error ellipse: s-maj=8.5km s-min=6.4km az=131.0*
IDC ***10*** *10:11:32.1±1.1, 3224S×17982E, h303km±10km, mb4.4/17, mb1 4.5/19, mb1mx4.5/20, mbtmp4.5/19, Error ellipse: s-maj=10.4km s-min=9.1km az=21.0*

ISC 10 10:11:29.9±0.4, 3238S±004×17964E±004, h271km±4km, h277km±5.4km; pP-P, n540, σ0:73/436, mb4.8/42, 134C-130D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.76**	**35**	P	**Pn**	**10 12 31.8**	**-0.2**
	72nm,0.3s,baz=98,slow=19,SNR=8.8						
RAO				S	**S**	**10 13 18.5**	**-2.9**
	221nm,0.3s,baz=96,slow=21,SNR=5.8						
RAO	**Raoul Island**	**3.76**	**35**	*e*Pn	**Pn**	**10 12 32.5**	**+0.5**
RAO				*e*S	**S**	**10 13 21.0**	**-0.5**
MXZ	**Matakaoa Point**	**5.29**	**192**	P	**Pn**	**10 12 51.6**	**+2.0**
KUZ	**Kuaotunu**	**5.42**	**215**	P	**Pn**	**10 12 57.5**	**+6.2**
WIZ	**White Island**	**5.51**	**201**	P	**Pn**	**10 12 58.4**	**+6.0**
WCZ	**Waipu Caves**	**5.64**	**230**	*e*P	**Pn**	**10 13 00.0**	**+6.0**
OUZ	**Omahuta**	**5.77**	**239**	P	**Pn**	**10 13 01.9**	**+6.3**
PUZ	**Puketiti**	**5.79**	**191**	P	**Pn**	**10 12 55.8**	**0.0**
OTAZ	**Otara**	**5.99**	**219**	*e*P	**Pn**	**10 13 05.1**	**+6.9**
EDRZ	**Edgecumbe**	**6.19**	**202**	P	**Pn**	**10 13 05.9**	**+5.3**
MWZ	**Matawai**	**6.19**	**196**	P	**Pn**	**10 13 01.0**	**+0.4**
URZ	**Urewera**	**6.22**	**199**	P	**Pn**	**10 13 01.2**	**+0.2**
	19nm,0.3s,baz=272,slow=3.0,SNR=56						
URZ				S	**S**	**10 14 16.0**	**+1.7**
	164nm,0.3s,baz=139,slow=22,SNR=21						
URZ	**Urewera**	**6.22**	**199**	P	**Pn**	**10 13 01.2**	**+0.2**
KARZ	**Kaharoa**	**6.28**	**205**	P	**Pn**	**10 13 05.6**	**+3.9**
KNZ	**Kokohu**	**6.82**	**193**	P	**Pn**	**10 13 07.0**	**-1.4**
BKZ	**Black Stump Fm**	**7.24**	**200**	P	**Pn**	**10 13 13.3**	**-0.3**
HIZ	**Hauiti**	**7.26**	**211**	P	**Pn**	**10 13 18.6**	**+4.8**
RITZ	**Rihia Road**	**7.27**	**204**	P	**Pn**	**10 13 17.7**	**+3.8**
WTVZ	**West Tongariro**	**7.48**	**205**	P	**Pn**	**10 13 18.0**	**+1.4**
WPVZ	**Whakapapa**	**7.58**	**205**	P	**Pn**	**10 13 22.0**	**+4.2**
FWVZ	**Far West T-bar**	**7.62**	**205**	P	**Pn**	**10 13 19.3**	**+0.9**
FWVZ				S	**S**	**10 14 48.0**	**+2.1**
WNVZ	**Wahianoa**	**7.67**	**204**	P	**Pn**	**10 13 22.2**	**+3.2**
MOVZ	**Moawhango**	**7.69**	**203**	P	**Pn**	**10 13 19.5**	**+0.3**
VRZ	**Vera Road**	**7.81**	**209**	P	**Pn**	**10 13 23.7**	**+3.0**
RAEZ	**Rainy Point**	**8.10**	**210**	P	**Pn**	**10 13 29.5**	**+5.2**
PKE	**Pukeiti**	**8.20**	**212**	P	**Pn**	**10 13 31.9**	**+6.3**
NEZ	**North Egmont**	**8.22**	**212**	P	**Pn**	**10 13 32.1**	**+6.3**
TSZ	**Takapari Road**	**8.22**	**200**	P	**Pn**	**10 13 24.2**	**-1.6**
WAZ	**Wanganui**	**8.27**	**206**	P	**Pn**	**10 13 28.1**	**+1.7**
MRZ	**Mangatainoka R**	**8.89**	**200**	P	**Pn**	**10 13 32.0**	**-2.1**
KIW	**Kapiti Island**	**9.28**	**203**	P	**Pn**	**10 13 38.5**	**-0.5**
MTW	**Mount Morrison**	**9.37**	**200**	P	**Pn**	**10 13 40.8**	**+0.7**
CAW	**Cannon Point**	**9.45**	**202**	P	**Pn**	**10 13 39.2**	**-2.0**
PAWZ	**Paruwai Farm**	**9.60**	**199**	P	**Pn**	**10 13 42.6**	**-0.4**
MRW	**Makara Radio**	**9.68**	**203**	P	**Pn**	**10 13 43.5**	**-0.5**
MSWZ	**Moikau Station**	**9.68**	**200**	P	**Pn**	**10 13 41.9**	**-2.1**
SNZO	**South Karori**	**9.75**	**202**	P	**Pn**	**10 13 42.8**	**-2.1**
BHW	**Baring Head**	**9.78**	**202**	P	**Pn**	**10 13 44.0**	**-1.3**
TCW	**Tory Channel**	**9.80**	**204**	P	**Pn**	**10 13 44.0**	**-1.6**
NNZ	**Nelson**	**10.14**	**208**	P	**Pn**	**10 13 49.5**	**-0.3**
BSWZ	**Blackbirch Sta**	**10.39**	**205**	P	**Pn**	**10 13 53.0**	**+0.1**
THZ	**Tophouse**	**10.79**	**208**	P	**Pn**	**10 13 57.7**	**-0.2**
KHZ	**Kahutara**	**11.13**	**204**	P	**Pn**	**10 14 00.4**	**-1.6**
DSZ	**Denniston Nort**	**11.24**	**212**	P	**Pn**	**10 14 03.0**	**-0.5**
LTZ	**Lake Taylor**	**11.91**	**207**	P	**Pn**	**10 14 11.3**	**-0.4**
CRLZ	**Canterbury Las**	**12.47**	**204**	P	**Pn**	**10 14 17.6**	**-0.9**
MQZ	**McQueen's Vall**	**12.57**	**204**	P	**Pn**	**10 14 18.2**	**-1.6**
WVZ	**Waitaha Valley**	**12.78**	**211**	P	**Pn**	**10 14 21.1**	**-1.3**
RPZ	**Rata Peaks**	**13.17**	**208**	P	**Pn**	**10 14 26.6**	**-0.5**
	14nm,0.3s,baz=343,slow=3.9,SNR=14						
RPZ				S	**S**	**10 16 43.5**	**-9.5**
	9.8nm,0.3s,baz=83,slow=20,SNR=12						
LBZ	**Lake Benmore**	**14.08**	**209**	P	**Pn**	**10 14 37.3**	**-0.8**
ODZ	**Otahua Downs**	**14.45**	**206**	P	**Pn**	**10 14 43.0**	**+0.5**
JCZ	**Jackson Bay**	**14.45**	**213**	P	**Pn**	**10 14 42.6**	**0.0**
DZM	**Mont Dzumac**	**15.58**	**308**	*e*P	**Pn**	**10 14 58.9**	**+2.7**
DZM				*e*S	**S**	**10 17 54.4**	**+9.3**
DZM	**Mont Dzumac**	**15.58**	**308⇑**	*e*P	**Pn**	**10 14 58.6**	**+2.4**
AFI	**Afiamalu**	**19.99**	**25**	P	**P**	**10 15 40.2**	**-2.3**
	18nm,0.3s,baz=230,slow=17,SNR=20						
AFI				S	**S**	**10 19 01.8**	**-10**
	2.5nm,0.3s,baz=235,slow=21,SNR=2.7						
AFI	**Afiamalu**	**19.99**	**25**	*e*P	**P**	**10 15 40.1**	**-2.4**
AFI				*e*S	**S**	**10 19 07.0**	**-5.2**
AFI				pmax	pmax		
	comp=Z,591nm,1.3s						
AFI	**Afiamalu**	**19.99**	**25**	*e*P	**P**	**10 15 40.1**	**-2.4**
	comp=Z,591nm,1.3s						
AFI				*e*S	**S**	**10 19 07.0**	**-5.2**
ARMA	**Armidale**	**23.96**	**267⇑**	*i*P	**P**	**10 16 23.8**	**+3.9**
CAN	**Canberra**	**25.57**	**255**	*e*P	**P**	**10 16 35.3**	**+1.0**
TOO	**Toolangi**	**28.36**	**250**	*e*P	**P**	**10 17 01.4**	**+2.3**
TOO				*e*SCP	ScP	10 23 13.7	-5.5
HNR	**Honiara**	**29.21**	**317**	P	**P**	**10 17 07.3**	**+0.4**
	comp=Z,56nm,0.3s,mb5.4,baz=108,slow=4.3,SNR=2.7						
STKA	**Stephens Creek**	**32.11**	**261⇑**	*i*P	**P**	**10 17 34.2**	**+2.1**
	comp=Z,42nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**32.11**	**261**	P	**P**	**10 17 34.1**	**+2.0**
	comp=Z,57nm,1.0s,mb5.1,baz=94,slow=8.9,SNR=35						
STKA	**Stephens Creek**	**32.11**	**261⇑**	*e*P	**P**	**10 17 34.1**	**+2.0**
	comp=Z,79nm,1.0s,mb5.2						
CTA	**Charters Tower**	**32.22**	**284⇑**	*i*P	**P**	**10 17 35.2**	**+2.1**
	comp=Z,104nm,0.6s,mb5.5						
CTA				*e*S	**S**	**10 22 27.2**	**+1.4**
CTA	**Charters Tower**	**32.22**	**284**	P	**P**	**10 17 34.2**	**+1.1**
	comp=Z,131nm,0.7s,mb5.6,baz=109,slow=10,SNR=136						
CTA				S	**S**	**10 22 26.8**	**+0.9**
	comp=Z,27nm,1.0s,baz=353,slow=21,SNR=13						
CTA	**Charters Tower**	**32.22**	**284⇑**	*i*P	**P**	**10 17 35.2**	**+2.1**
CTA				*e*S	**S**	**10 22 27.2**	**+1.4**
CTA				pmax	pmax		
	comp=Z,104nm,0.6s						
CTAO	**Charters Tower**	**32.22**	**284⇑**	*i*P	**P**	**10 17 35.2**	**+2.1**
PMG	**Port Moresby**	**37.73**	**300⇑**	*e*P	**P**	**10 18 21.1**	**+1.0**
COEN	**Coen**	**37.96**	**290⇑**	*i*P	**P**	**10 18 23.5**	**+1.5**
	comp=Z,36nm,0.7s,mb4.9						
ASAR	**Alice Springs**	**41.04**	**270**	P	**P**	**10 18 47.9**	**+0.7**
	comp=Z,73nm,0.8s,mb5.0,baz=105,slow=8.3,SNR=614						
ASAR				ScP	ScP	10 24 00.2	-4.8
	comp=Z,1.5nm,0.8s,baz=111,slow=5.2,SNR=5.6						
ASAR				S	**S**	**10 24 37.0**	**-2.0**
	comp=Z,13nm,1.1s,baz=116,slow=17,SNR=20						
WB2	**Warramunga Arr**	**42.20**	**276⇑**	*i*P	**P**	**10 18 56.9**	**+0.2**
WB2				*e*SCP	ScP	10 24 04.6	-5.1
WB2				*e*S	**S**	**10 24 52.7**	**-3.5**
WRAB	**Tennant Creek**	**42.21**	**276**	P	**P**	**10 18 57.0**	**+0.3**
	comp=Z,1μm,0.7s,SNR=83						
WRAB	**Tennant Creek**	**42.21**	**276⇑**	*e*P	**P**	**10 18 57.0**	**+0.2**
WRA	**Warramunga Arr**	**42.21**	**276**	P	**P**	**10 18 57.1**	**+0.3**
	comp=Z,135nm,0.7s,mb5.3,baz=113,slow=8.0,SNR=738						
WRA				ScP	ScP	10 24 04.1	-5.6
	comp=Z,8.9nm,0.8s,baz=119,slow=4.2,SNR=16						
WRA				S	**S**	**10 24 52.9**	**-3.4**
	comp=Z,7.7nm,0.9s,baz=110,slow=14,SNR=9.1						
FORT	**Forrest**	**43.62**	**258**	*e*P	**P**	**10 19 07.7**	**-0.2**
	comp=Z,42nm,0.8s,mb4.7						
SBA	**Scott Base**	**45.93**	**184**	*e*P	**P**	**10 19 27.7**	**+2.4**
SBA				pmax	pmax		
	comp=Z,208nm,3.0s						
SBA	**Scott Base**	**45.93**	**184**	*e*P	**P**	**10 19 27.7**	**+2.4**
	comp=Z,208nm,3.0s						
VNDA	**Vanda**	**45.94**	**185**	P	**P**	**10 19 27.0**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=3.1,slow=5.6,SNR=5.3						
VNDA				ScP	ScP	10 24 18.7	-5.3
	comp=Z,3.2nm,0.9s,baz=333,slow=4.2,SNR=8.4						
KAKA	**Kakadu**	**47.35**	**283⇑**	*i*P	**P**	**10 19 36.5**	**-0.6**
	comp=Z,42nm,0.7s,mb4.9						
KAKA				*e*SCP	ScP	10 24 25.2	-5.7
KAKA				*e*S	**S**	**10 26 09.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**50.38**	**273⇑**	*i*P	**P**	**10 20 00.0**	**0.0**
	comp=Z,37nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**50.38**	**273**	P	**P**	**10 20 00.1**	**+0.1**
	comp=Z,19nm,0.9s,mb4.4,baz=123,slow=6.6,SNR=28						
FITZ				S	**S**	**10 26 52.4**	**+0.3**
	comp=Z,4.9nm,1.1s,baz=359,slow=17,SNR=2.5						
KLBR	**Kellerberrin**	**51.82**	**253⇓**	*i*P	**P**	**10 20 09.8**	**-0.7**
	comp=Z,65nm,1.1s,mb4.9						
MBWA	**Marble Bar**	**54.04**	**266**	*e*P	**P**	**10 20 24.9**	**-1.9**
BATI	**Baumata**	**55.95**	**280**	P	**P**	**10 20 40.1**	**-0.4**
	comp=Z,30nm,0.6s,mb4.9,baz=88,slow=1.3,SNR=4.3						
QSPA	**South Pole Qui**	**57.73**	**180**	P	**P**	**10 20 52.9**	**+0.9**
	comp=Z,62nm,0.8s,mb5.1,baz=28,slow=1.7,SNR=176						
QSPA				ScP	ScP	10 25 10.3	-4.6
	comp=Z,4.9nm,1.1s,baz=32,slow=1.9,SNR=3.3						
MIR	**Mirnyy**	**59.44**	**208⇓**	*i*P	**P**	**10 21 03.5**	**-0.4**
MIR				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.2						
MAW	**Mawson**	**69.74**	**201**	P	**P**	**10 22 09.6**	**-0.6**
	comp=Z,11nm,0.9s,mb4.6,baz=118,slow=7.4,SNR=11						
KKM	**Kota Kinabalu**	**71.29**	**290**	*e*P	**P**	**10 22 19.0**	**-1.4**
KSM	**Kuching**	**73.44**	**283**	*e*P	**P**	**10 22 31.6**	**-1.4**
SYO	**Syowa Base**	**74.73**	**194⇑**	*i*X	**P**	**10 22 36.4**	**-3.1**
SNAA	**Sanae**	**76.22**	**179**	*e*P	**P**	**10 22 47.0**	**-1.0**
SNAA				*e*		10 22 54.3	
SNAA	**Sanae**	**76.22**	**179**	P	**P**	**10 22 47.2**	**-0.8**
	comp=Z,14nm,1.0s,mb4.6,baz=200,slow=5.5,SNR=84						
SNAA	**Sanae**	**76.22**	**179**	*e*P	**P**	**10 22 46.9**	**-1.1**
VNA1	**Neumayer--Stat**	**77.11**	**177**	*e*P	**P**	**10 22 52.9**	**0.0**
VNA1				*e*		10 23 00.0	
MJAR	**Matsushiro Arr**	**78.76**	**327**	P	**P**	**10 23 00.6**	**-1.7**
	comp=Z,5.7nm,1.0s,mb4.3,baz=161,slow=5.3,SNR=12						
MAJO	**Matsushiro**	**78.76**	**327**	*e*P	**P**	**10 23 02.1**	**-0.3**
MAT	**Matsushiro**	**78.76**	**327**	P	**P**	**10 23 01.1**	**-1.3**
MAT				S	S	10 32 42.0	+5.2
PLCA	**Paso Flores**	**82.62**	**134**	P	**P**	**10 23 22.3**	**-0.6**
	comp=Z,6.2nm,0.9s,mb4.4,baz=234,slow=8.7,SNR=9.2						
KSRS	**Korea Array**	**84.58**	**321**	P	**P**	**10 23 31.1**	**-1.6**
	comp=Z,4.9nm,0.8s,mb4.4,baz=139,slow=6.1,SNR=6.2						
YSS	**Yuzh-Sakhalins**	**85.68**	**336**	*e*P	**P**	**10 23 37.3**	**-0.5**
YSS				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
YSS	**Yuzh-Sakhalins**	**85.68**	**336**	*e*P	**P**	**10 23 38.6**	**+0.8**
	comp=Z,20nm,0.8s,mb5.0						
UNV	**Unalaska Valle**	**86.71**	**8**	*e*P	**P**	**10 23 41.2**	**-1.4**
	comp=Z,38nm,1.4s,mb5.0						
PETK	**Petropavlovsk-**	**87.25**	**347**	P	**P**	**10 23 44.6**	**-0.7**
	comp=Z,14nm,0.9s,mb4.8,baz=115,slow=7.0,SNR=19						
V04C	**Ramage Ranch,**	**87.66**	**45**	⇑P	**P**	**10 23 48.0**	**+0.3**
	baz=88						
CIS	**Catalina Islan**	**87.67**	**48**	⇓P	**P**	**10 23 47.6**	**-0.1**
	baz=88						
V03C	**Hunter Liggett**	**87.71**	**44**	⇑P	**P**	**10 23 48.4**	**+0.5**
	baz=88						
HAST	**Hastings Reser**	**87.78**	**44**	⇑P	**P**	**10 23 48.4**	**+0.2**
	baz=88,SNR=5.2						
PKM	**Peak Mountain**	**87.79**	**46**	⇓P	**P**	**10 23 49.0**	**+0.7**
	baz=88,SNR=5.6						
FARB	**Farallon Islan**	**87.85**	**42**	⇓P	**P**	**10 23 49.1**	**+0.6**
	baz=88						
BNLO	**Ben Lomond (Sa**	**87.93**	**43**	⇑P	**P**	**10 23 49.0**	**+0.2**
	baz=88						
FMP	**Fort Macarthur**	**87.94**	**47**	⇓P	**P**	**10 23 49.1**	**+0.1**
	baz=88						
SMMC	**Simmler**	**87.96**	**45**	⇓P	**P**	**10 23 49.6**	**+0.5**
	baz=88						
PKD	**Parkfield**	**88.07**	**45**	⇓P	**P**	**10 23 49.8**	**+0.2**
	baz=88,SNR=5.2						
PTRM	**Twissleman Ran**	**88.07**	**45**	*e*P	**P**	**10 23 49.7**	**+0.1**
109C	**Camp Elliot, M**	**88.15**	**49**	⇓P	**P**	**10 23 50.0**	**-0.1**
	baz=88						
U04C	**Hernandez Rese**	**88.21**	**44**	⇓P	**P**	**10 23 50.8**	**+0.5**
	baz=88,SNR=8.2						
BAR	**Barrett**	**88.29**	**49**	*e*P	**P**	**10 23 51.2**	**+0.5**
	comp=Z,34nm,1.4s,mb5.0						
PACP	**Pacheco Peak**	**88.36**	**43**	P	**P**	**10 23 51.3**	**+0.4**
	baz=89,SNR=6.6						
V05C	**Boulder Hill,**	**88.40**	**45**	⇓P	**P**	**10 23 51.9**	**+0.7**
	baz=89						
MWC	**Mount Wilson**	**88.42**	**47**	*e*P	**P**	**10 23 51.9**	**+0.6**
MWC				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.1						
MWC	**Mount Wilson**	**88.42**	**47**	*e*P	**P**	**10 23 51.9**	**+0.6**
	comp=Z,40nm,1.4s,mb5.1						
WENL	**Wente Brothers**	**88.51**	**43**	⇓P	**P**	**10 23 51.6**	**0.0**
	baz=89						
ARVC	**Arvin**	**88.55**	**46**	⇑P	**P**	**10 23 51.8**	**-0.1**
	baz=89,SNR=5.3						
MURC	**Murrieta**	**88.55**	**48**	⇓P	**P**	**10 23 52.0**	**+0.1**
	baz=89,SNR=10						
MONP	**Monument Peak**	**88.58**	**49**	⇓P	**P**	**10 23 52.7**	**+0.6**
	baz=89,SNR=12						
CVS	**Carmenet Viney**	**88.61**	**42**	⇑P	**P**	**10 23 52.2**	**+0.2**
	baz=89						
T05C	**Eagle Field, D**	**88.64**	**44**	⇑P	**P**	**10 23 52.8**	**+0.6**
	baz=89						
DVTC	**Desert V Tower**	**88.64**	**49**	⇓P	**P**	**10 23 52.9**	**+0.5**
	baz=89,SNR=5.5						
S04C	**Ingram Canyon,**	**88.67**	**43**	⇓P	**P**	**10 23 52.5**	**+0.1**
	baz=89,SNR=6.7						
BFSC	**Mount Baldy St**	**88.68**	**47**	⇓P	**P**	**10 23 52.5**	**0.0**
	baz=89,SNR=14						
VES	**Vestal, Richgr**	**88.87**	**45**	P	**P**	**10 23 53.0**	**-0.3**
	baz=89,SNR=9.5						
EDW2	**Edwards Air Fo**	**88.90**	**47**	⇓P	**P**	**10 23 53.6**	**+0.1**
	baz=89,SNR=16						
P01C	**Double 8 Ranch**	**88.91**	**41**	⇓P	**P**	**10 23 53.4**	**0.0**
	baz=89						
MNRC	**McLaughlin Nat**	**88.99**	**41**	⇓P	**P**	**10 23 54.2**	**+0.4**
	baz=89,SNR=6.0						
SWSC	**Sam W. Stewart**	**89.02**	**49**	⇑P	**P**	**10 23 54.3**	**+0.3**
	baz=89,SNR=7.2						
PFO	**Pinyon Flat Ob**	**89.03**	**49**	P	**P**	**10 23 54.3**	**+0.2**
	comp=Z,95nm,1.1s,mb5.5,SNR=5.8						
PFO	**Pinyon Flat Ob**	**89.03**	**49**	⇑P	**P**	**10 23 54.4**	**+0.2**
	baz=89,SNR=9.4						
Q03C	**Winters**	**89.06**	**42**	⇑P	**P**	**10 23 55.0**	**+0.9**
	baz=89						
O01C	**Eel River Cons**	**89.12**	**40**	⇑P	**P**	**10 23 54.6**	**+0.2**
	baz=89						
ISA	**Isabella**	**89.12**	**46**	*e*P	**P**	**10 23 55.3**	**+0.8**
ISA				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.0						
ISA	**Isabella**	**89.12**	**46**	P	**P**	**10 23 54.9**	**+0.3**
	baz=89,SNR=21						
ISA	**Isabella**	**89.12**	**46**	*e*P	**P**	**10 23 55.2**	**+0.7**
	comp=Z,27nm,1.1s,mb5.0						
S05C	**Merced**	**89.15**	**44**	⇓P	**P**	**10 23 54.3**	**-0.2**
	baz=89						
BBRC	**Big Bear Sol-O**	**89.16**	**48**	⇓P	**P**	**10 23 54.9**	**+0.2**
	baz=89						
T06C	**Millerton Lake**	**89.28**	**44**	P	**P**	**10 23 55.0**	**-0.2**
	baz=90,SNR=15						
GASB	**Alder Springs**	**89.38**	**41**	⇓P	**P**	**10 23 56.4**	**+0.8**
	baz=90,SNR=11						
R04C	**Big Horse Ranc**	**89.42**	**43**	⇑P	**P**	**10 23 54.9**	**-0.9**
	baz=90						
HELL	**Mitchell Peak**	**89.47**	**45**	⇓P	**P**	**10 23 55.3**	**-0.8**
	baz=90,SNR=7.9						
LRMC	**Laurel Mountai**	**89.48**	**46**	⇓P	**P**	**10 23 56.2**	**+0.1**
	baz=90,SNR=5.9						
JCC	**Jacoby Creek**	**89.48**	**39**	⇑P	**P**	**10 23 56.4**	**+0.3**
	baz=90						
RRX	**Edison Barstow**	**89.51**	**47**	⇑P	**P**	**10 23 56.5**	**+0.2**
	baz=90						
112A	**Yuma**	**89.55**	**50**	⇑P	**P**	**10 23 57.3**	**+0.7**
	baz=90						
Q04C	**Lincoln**	**89.56**	**42**	⇓P	**P**	**10 23 55.8**	**-0.7**
	baz=90						
BELC	**Belle Mtn.**	**89.57**	**49**	P	**P**	**10 23 57.4**	**+0.7**
	baz=90,SNR=25						
CMB	**Columbia Colle**	**89.58**	**43**	*e*P	**P**	**10 23 56.2**	**-0.4**
CMB				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.0						
CMB	**Columbia Colle**	**89.58**	**43**	⇑P	**P**	**10 23 56.1**	**-0.5**
	baz=90,SNR=19						
CMB	**Columbia Colle**	**89.58**	**43**	*e*P	**P**	**10 23 56.2**	**-0.4**
	comp=Z,26nm,1.1s,mb5.0						
SUTB	**Sutter Butte**	**89.60**	**42**	⇑P	**P**	**10 23 55.9**	**-0.7**
	baz=90,SNR=5.9						
BC3	**Big Chuckw Mtn**	**89.70**	**49**	⇑P	**P**	**10 23 58.1**	**+0.8**
	baz=90,SNR=18						
O02C	**Red Bluff**	**89.70**	**40**	P	**P**	**10 23 57.9**	**+0.8**
	baz=90,SNR=17						
GLA	**Glamis**	**89.71**	**50**	P	**P**	**10 23 58.4**	**+1.1

PDMCI **Parker Dam,Lak** 90.95 49 ⇑P P 10 24 03.4 +0.4
baz=91,SNR=5.2
NVAR **Mina Array Bea** 91.06 44 P P 10 24 03.0 -0.5
comp=Z,4.5nm,0.8s,mb4.3,baz=221,slow=7.1,SNR=36
NVAR **Mina Array Bea** 91.06 44 P P 10 24 03.0 -0.5
LTIM **Timbered Crate** 91.11 40 P P 10 24 03.6 0.0
V11A **Goodsprings** 91.11 47 ⇓P P 10 24 04.0 +0.3
baz=91
W12A **Cal Nev Ari** 91.12 48 ⇑P P 10 24 04.1 +0.3
baz=91
R08A **Mina** 91.12 44 ⇓P P 10 24 03.4 -0.4
baz=91
Z14A **Wintersburg** 91.13 51 ⇓P P 10 24 04.6 +0.7
baz=91
ELFS **Eagle Lake Fie** 91.15 41 ⇓P P 10 24 03.7 -0.1
baz=91
K02A **Glendale** 91.15 38 ⇑P P 10 24 03.8 +0.1
baz=91,SNR=13
115A **Sonoran Desert** 91.19 52 ⇑P P 10 24 04.8 +0.5
baz=91,SNR=5.8
S09A **Goldfield** 91.23 45 ⇑P P 10 24 03.7 -0.6
baz=91,SNR=5.4
216A **Three Points,** 91.28 52 ⇑P P 10 24 05.3 +0.7
baz=92,SNR=6.2
HUMO **Hull Mountain** 91.32 38 P P 10 24 04.9 +0.4
baz=92,SNR=13
HUMO **Hull Mountain** 91.32 38 *e*P P 10 24 04.8 +0.3
TPNV **Topopah Spring** 91.32 46 *e*P P 10 24 04.7 0.0
TPNV pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
TPNV **Topopah Spring** 91.32 46 P P 10 24 04.9 +0.2
baz=92,SNR=11
TPNV **Topopah Spring** 91.32 46 *e*P P 10 24 04.7 0.0
comp=Z,3.5nm,0.7s,mb4.3
X13A **Yucca** 91.33 49 ⇑P P 10 24 05.1 +0.3
baz=92,SNR=11
O06A **Flanigan** 91.34 42 P P 10 24 04.4 -0.3
baz=92,SNR=9.5
V12A **Nelson** 91.40 48 ⇑P P 10 24 05.2 +0.1
baz=92
M05C **Lookout** 91.42 40 P P 10 24 04.9 -0.1
baz=92,SNR=11
Y14A **Wickenburg** 91.45 50 ⇓P P 10 24 05.5 +0.1
baz=92,SNR=7.8
116A **Eloy** 91.46 52 ⇓P P 10 24 06.0 +0.6
baz=92,SNR=5.6
TPH **Tonopah** 91.47 45 *e*P P 10 24 05.3 0.0
TPH pmax pmax
comp=Z,37nm,1.4s,mb5.0
TPH **Tonopah** 91.47 45 *e*P P 10 24 05.3 0.0
comp=Z,37nm,1.4s,mb5.0
U11A **Corn Creek** 91.51 47 ⇑P P 10 24 05.8 +0.2
baz=92
J02A **Umpqua** 91.53 38 ⇓P P 10 24 05.4 0.0
baz=92,SNR=7.9
Q08A **Gabbs** 91.56 44 ⇑P P 10 24 05.2 -0.5
baz=92,SNR=9.6
217A **Green Valley** 91.57 53 P P 10 24 06.9 +0.9
baz=92,SNR=13
L04A **Klamath Falls** 91.58 39 ⇑P P 10 24 05.7 -0.1
baz=92,SNR=12
Z15A **Gila River Ind** 91.61 51 ⇓P P 10 24 06.1 0.0
baz=92
W13A **Hualapai Mount** 91.61 49 ⇓P P 10 24 06.6 +0.6
baz=92
R09A **Tonopah** 91.66 45 ⇓P P 10 24 06.0 -0.3
baz=92,SNR=15
M06C **Likely Place G** 91.69 41 ⇓P P 10 24 06.0 -0.3
baz=92,SNR=12
HOG **Hogback Mounta** 91.73 39 P P 10 24 06.8 +0.3
N06A **Buffalo Meadow** 91.73 41 ⇑P P 10 24 06.0 -0.5
baz=92,SNR=11
S10A **Tonopah Range,** 91.74 45 ⇓P P 10 24 06.4 -0.2
baz=92,SNR=15
I02A **Mapleton** 91.85 37 ⇑P P 10 24 06.9 -0.1
baz=92
X14A **Yava** 91.86 50 ⇓P P 10 24 07.7 +0.4
baz=92,SNR=6.9
O07A **Toulon** 91.88 42 ⇓P P 10 24 06.8 -0.4
baz=92,SNR=7.1
Y15A **Casa Rosa Ranc** 91.90 50 ⇓P P 10 24 07.8 +0.4
baz=92,SNR=7.3
TUC **Tucson** 91.92 53 *e*P P 10 24 08.1 +0.5
TUC pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
TUC **Tucson** 91.92 53 *e*P P 10 24 08.1 +0.5
comp=Z,10nm,1.2s,mb4.6
318A **Bisbee** 91.93 54 ⇑P P 10 24 08.2 +0.6
baz=92,SNR=14
K04A **Chilquin** 91.97 39 ⇓P P 10 24 07.3 -0.2
baz=92
Q09A **Carvers** 91.99 44 ⇓P P 10 24 07.3 -0.4
baz=92
V13A **Grand Canyon W** 92.03 48 ⇓P P 10 24 08.1 +0.1
baz=92,SNR=8.6
P08A **Dixie Valley** 92.03 43 ⇓P P 10 24 07.7 -0.2
baz=92
U12A **Valley of Fire** 92.04 47 ⇓P P 10 24 08.4 +0.3
baz=92,SNR=8.0
L05A **Lakeview** 92.06 40 P P 10 24 08.2 +0.3
baz=92,SNR=12
117A **Oracle** 92.11 52 ⇑P P 10 24 09.2 +0.8
baz=92,SNR=7.2
I03A **Eugene** 92.11 37 ⇓P P 10 24 08.0 -0.1
baz=92
Z16A **Peralta Trail,** 92.12 51 ⇑P P 10 24 08.9 +0.5
baz=92,SNR=7.6
T12A **Moapa** 92.12 47 ⇓P P 10 24 08.7 +0.3
baz=92
T11A **Corn Creek, Al** 92.14 46 P P 10 24 08.9 +0.5
baz=92,SNR=19
R10A **Warm Springs** 92.16 45 ⇓P P 10 24 08.6 +0.1
baz=92,SNR=6.7
CMAR **Chiang Mai Arr** 92.17 290 P P 10 24 09.8 +0.7
comp=Z,0.6nm,0.5s,mb3.8,baz=210,slow=31,SNR=2.7
CMAR PP PP 10 27 51.5 -2.1
comp=Z,5.7nm,1.1s,baz=140,slow=6.3,SNR=11
W14A **Seligman** 92.20 49 P P 10 24 09.7 +0.9
baz=92,SNR=9.9
J04A **Umpqua Nationa** 92.20 38 ⇑P P 10 24 08.7 +0.1
baz=92,SNR=12
218A **Dragoon** 92.21 53 ⇑P P 10 24 09.5 +0.6
baz=92,SNR=10
H02A **Toledo** 92.24 36 ⇓P P 10 24 09.2 +0.5
baz=92
N07B **Gerlach** 92.24 42 ⇑P P 10 24 08.3 -0.5
baz=92,SNR=6.1
MOD **Modoc** 92.26 40 P P 10 24 08.6 -0.2
baz=92,SNR=12
MOD **Modoc** 92.26 40 *e*P P 10 24 08.6 -0.2
X15A **Humboldt** 92.29 50 ⇑P P 10 24 09.8 +0.6
baz=92,SNR=6.0
319A **Douglas** 92.38 54 ⇓P P 10 24 10.2 +0.5
baz=93
U13A **Pakoon Wash** 92.39 48 ⇑P P 10 24 10.0 +0.3
baz=93,SNR=7.3
Y16A **Circle Bar Ran** 92.41 51 ⇓P P 10 24 10.4 +0.6
baz=93,SNR=13
I04A **Tendick Farm,** 92.43 38 P P 10 24 09.0 -0.6
baz=93,SNR=8.8
Q10A **Clear Creek Ra** 92.44 45 ⇓P P 10 24 09.4 -0.4
baz=93,SNR=7.2
V14A **Boquillas Ranc** 92.44 49 ⇑P P 10 24 10.5 +0.6
baz=93,SNR=7.8
P09A **Austin** 92.48 44 ⇑P P 10 24 09.6 -0.4
baz=93
K05A **Summer Lake** 92.50 39 P P 10 24 10.2 +0.3
baz=93,SNR=14
M07A **Soldier Meadow** 92.53 41 ⇓P P 10 24 10.0 -0.2
baz=93
H03A **Soap Creek Ran** 92.59 37 ⇓P P 10 24 10.4 +0.1
baz=93,SNR=5.0
S12A **Delamar Landin** 92.60 46 ⇑P P 10 24 11.0 +0.4
baz=93,SNR=11
R11A **Troy Canyon, C** 92.62 45 ⇑P P 10 24 10.2 -0.5
baz=93
118A **Homack Ranch,** 92.67 53 ⇑P P 10 24 11.7 +0.6
baz=93,SNR=12
J05A **Fort Rock** 92.70 39 ⇑P P 10 24 10.8 -0.1
baz=93,SNR=16
W15A **Williams** 92.70 50 ⇑P P 10 24 11.8 +0.7
baz=93
N08A **GE Springer Mi** 92.72 42 P P 10 24 10.7 -0.3
baz=93,SNR=13
Y17A **Roosevelt** 92.72 51 ⇓P P 10 24 11.6 +0.3
baz=93,SNR=6.7
Z17A **San Carlos Hig** 92.73 52 ⇑P P 10 24 11.7 +0.4
baz=93

219A **White Tail Can** 92.76 54 ⇓P P 10 24 11.8 +0.3
baz=93
X16A **Lo Mia Camp, P** 92.77 51 ⇓P P 10 24 11.8 +0.4
baz=93,SNR=6.0
T13A **Saint George** 92.81 47 ⇓P P 10 24 11.7 +0.2
baz=93
O09A **Fish Creek Ran** 92.86 43 P P 10 24 11.3 -0.4
baz=93,SNR=7.0
L07A **Adell** 92.86 41 P P 10 24 11.8 +0.1
baz=93,SNR=18
U14A **Mt Trumbull** 92.89 48 ⇓P P 10 24 12.4 +0.4
baz=93,SNR=10
K06A **Valley Falls** 92.89 40 P P 10 24 11.7 -0.1
baz=93,SNR=23
Q11A **Duckwater** 92.90 45 P P 10 24 11.6 -0.3
baz=93,SNR=6.8
KMI **Kunming** 92.93 298 P P 10 24 14.7 +2.3
KMI AP pP 10 25 19.4 +1.7
KMI PP PP 10 28 02.6 +3.1
KMI S S 10 34 51.7 -2.7
KMI XS sS 10 36 48.1 -2.0
KMI SS SS 10 41 18.4 +2.4
KMI AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
KMI LR LR
comp=Z,39nm,23.0s
BJI **Beijing** 92.94 317 P P 10 24 11.9 -0.2
BJI XP sP 10 25 46.9 +1.3
BJI S S 10 34 55.5 +1.8
BJI XS sS 10 36 51.8 +2.3
BJI AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
BJI LR LR
comp=Z,162nm,47.1s
BMN **Battle Mountai** 93.01 43 *e*P P 10 24 12.2 -0.2
BMN pmax pmax
comp=Z,21nm,1.4s,mb4.9
BMN **Battle Mountai** 93.01 43 *e*P P 10 24 12.2 -0.2
comp=Z,21nm,1.4s,mb4.9
M08A **Happy Creek Ra** 93.02 42 ⇑P P 10 24 12.2 -0.2
baz=93,SNR=9.1
G03A **Yamhill** 93.05 36 ⇓P P 10 24 12.1 -0.4
baz=93
N09A **Rock Creek Ran** 93.11 43 P P 10 24 12.8 -0.1
baz=93,SNR=5.9
W16A **Flagstaff** 93.12 50 ⇓P P 10 24 13.4 +0.3
baz=93
X17A **Forest Lakes** 93.14 51 ⇑P P 10 24 13.7 +0.6
baz=93
V15A **Kaibab Nationa** 93.15 49 ⇑P P 10 24 13.7 +0.5
baz=93,SNR=6.5
H04A **Detroit Lake** 93.17 37 ⇓P P 10 24 12.2 -0.8
baz=93,SNR=7.4
S13A **Holt Ranch, En** 93.19 47 ⇓P P 10 24 13.6 +0.3
baz=93,SNR=6.9
119A **Ashpeak Ranch,** 93.19 53 ⇓P P 10 24 13.8 +0.4
baz=93
R12A **Pony Springs,** 93.20 46 P P 10 24 13.5 +0.2
baz=93,SNR=9.8
J06A **Christmas Vall** 93.25 39 P P 10 24 12.9 -0.5
baz=94,SNR=15
I05A **Bend** 93.28 38 ⇑P P 10 24 13.5 0.0
baz=94
P11A **Circle Ranch,** 93.30 44 ⇑P P 10 24 13.4 -0.3
baz=94
Y18A **Canyon Day Jun** 93.31 52 ⇑P P 10 24 14.5 +0.6
baz=94,SNR=7.5
O10A **Cortez Mining,** 93.34 43 ⇑P P 10 24 13.6 -0.3
baz=94
T14A **Hurricane** 93.35 48 ⇓P P 10 24 14.2 +0.1
baz=94
K07A **Rock Creek Ran** 93.37 40 ⇓P P 10 24 13.6 -0.4
baz=94,SNR=12
U15A **North Rim** 93.45 49 ⇑P P 10 24 15.1 +0.5
baz=94,SNR=11
WUAZ **Wupatki** 93.48 50 *e*P P 10 24 15.5 +0.8
R13A **O'Grain Ranch,** 93.50 46 ⇓P P 10 24 15.3 +0.6
baz=94
Q12A **Willow Creek R** 93.52 45 ⇓P P 10 24 14.6 -0.2
baz=94
M09A **Marrel Ranch,** 93.53 42 P P 10 24 14.9 +0.2
baz=94,SNR=13
WVOR **Wild Horse Val** 93.53 41⇓*e*P P 10 24 14.1 -0.6
WVOR pmax pmax
comp=Z,14nm,1.4s,mb4.8
WVOR **Wild Horse Val** 93.53 41⇓*e*P P 10 24 14.1 -0.7
comp=Z,14nm,1.4s,mb4.8
L08A **Fields** 93.53 41 P P 10 24 14.7 -0.1
baz=94,SNR=9.2
Z19A **T-Link Ranch,** 93.53 53 ⇓P P 10 24 15.6 +0.6
baz=94
N10A **Dunphy** 93.61 43 ⇑P P 10 24 14.9 -0.2
baz=94
H05A **Madras** 93.64 38 ⇓P P 10 24 14.7 -0.4
baz=94
I06A **Prineville** 93.69 39 P P 10 24 15.3 -0.1
baz=94,SNR=18
O11A **Cowboy Ranch,** 93.72 44 ⇓P P 10 24 15.5 -0.2
baz=94,SNR=8.4
P12A **McGill** 93.75 45 ⇑P P 10 24 15.7 -0.1
baz=94
T15A **Red Dirt Ranch** 93.76 48 ⇓P P 10 24 16.2 +0.2
baz=94
E03A **Lebam** 93.78 35 ⇓P P 10 24 15.5 -0.2
baz=94
J07A **Hines** 93.79 40 ⇓P P 10 24 15.6 -0.2
baz=94,SNR=8.2
L09A **Wilkinson Ranc** 93.80 42 ⇑P P 10 24 15.6 -0.4
baz=94,SNR=10.0
K08A **Mann Creek Ran** 93.81 41 ⇓P P 10 24 15.8 -0.2
baz=94,SNR=8.8
X18A **Snowflake** 93.81 51 ⇓P P 10 24 16.0 -0.3
baz=94
F04A **Amboy** 93.91 36 ⇓P P 10 24 15.8 -0.6
baz=94
Y19A **Nutrioso** 93.93 52 ⇓P P 10 24 17.1 +0.3
baz=94
CROR **Criterion Ridg** 93.99 38 P P 10 24 16.7 -0.1
M10A **I.L. Ranch, Tu** 94.11 43 ⇑P P 10 24 17.3 -0.1
baz=94,SNR=8.0
I07A **Izee** 94.16 39 P P 10 24 17.5 0.0
baz=94,SNR=12
H06A **Lindquist Farm** 94.16 38 P P 10 24 17.1 -0.5
baz=94,SNR=16
S15A **Panguitch** 94.18 48 ⇓P P 10 24 18.1 +0.2
baz=94
K09A **Rome** 94.21 41 P P 10 24 17.6 -0.2
baz=94,SNR=16
J08A **Circle Bar Ran** 94.23 40 P P 10 24 17.6 -0.3
baz=94,SNR=10
P13A **Bates Ranch, G** 94.27 45 P P 10 24 18.0 -0.2
baz=94,SNR=8.1
T16A **Glen Canyon Da** 94.29 48 ⇑P P 10 24 18.4 0.0
baz=94
Q14A **Seier Lake (B** 94.43 46 ⇓P P 10 24 18.8 -0.1
baz=95,SNR=6.9
H07A **Lands Inn, Kim** 94.47 39 ⇑P P 10 24 18.5 -0.5
baz=95,SNR=12
M11A **Holland Ranch,** 94.48 43 ⇓P P 10 24 19.1 0.0
baz=95,SNR=6.3
L10A **Juniper Basin** 94.51 42 ⇓P P 10 24 18.9 -0.3
baz=95,SNR=13
V18A **Ganado** 94.53 50 ⇑P P 10 24 19.8 +0.3
baz=95
I08A **Drewsey** 94.55 40 ⇓P P 10 24 18.9 -0.4
baz=95,SNR=7.1
N12A **Clover Valley,** 94.55 44 ⇓P P 10 24 19.2 -0.3
baz=95,SNR=5.6
J09A **Fry Pan Ranch,** 94.62 41 ⇑P P 10 24 19.2 -0.5
baz=95,SNR=9.4
K10A **MacKenzie Ranc** 94.74 41 ⇓P P 10 24 19.7 -0.5
baz=95,SNR=13
G07A **Ruggs Ranch, H** 94.87 38 ⇑P P 10 24 20.2 -0.6
baz=95
L11A **Cat Creek Ranc** 94.97 42 ⇓P P 10 24 21.1 -0.2
baz=95,SNR=7.6
M12A **Wells** 94.98 43 ⇑P P 10 24 21.1 -0.3
baz=95
D05A **Enumclaw** 95.00 36 ⇓P P 10 24 21.3 0.0
baz=95
I09A **Lost Marbles R** 95.04 40 ⇓P P 10 24 20.8 -0.8
baz=95
N13A **Wendover, West** 95.04 44 ⇓P P 10 24 20.9 -0.8
baz=95
E06A **Yakima** 95.06 37 ⇓P P 10 24 21.3 -0.3
baz=95
R16A **Teasdale** 95.10 47 ⇓P P 10 24 22.3 +0.3
baz=95

S17A **Black Ridge (B** 95.13 48 ⇓P P 10 24 21.5 -0.7
baz=95
K11A **Parker Ranch,** 95.20 42 ⇓P P 10 24 22.1 -0.3
baz=95,SNR=5.0
J10A **Berg Farm, Mel** 95.22 41 ⇓P P 10 24 21.7 -0.7
baz=95
G08A **Pilot Rock** 95.26 38 ⇓P P 10 24 22.3 -0.2
baz=96
M13A **Montello** 95.38 44 ⇑P P 10 24 22.7 -0.5
baz=96,SNR=9.5
L12A **House Creek Ra** 95.38 43 ⇑P P 10 24 23.0 -0.2
baz=96,SNR=6.4
P15A **Leamington** 95.40 46 ⇓P P 10 24 23.2 -0.2
baz=96
T18A **Mexican Hat** 95.42 49 ⇓P P 10 24 23.7 +0.1
baz=96
CD2 **Chengdu** 95.45 303 *e*P P 10 24 23.6 -0.2
CD2 AP pP 10 25 34.6 +5.4
CD2 XP sP 10 26 05.2 +7.8
CD2 PP PP 10 28 20.9 +2.0
CD2 SKS 10 34 30.2
CD2 S S 10 35 11.9 -4.1
CD2 XS sS 10 37 16.5 +4.4
CD2 SS SS 10 41 51.5 -0.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,30nm,6.4s
DUG **Dugway** 95.46 45 ⇑P P 10 24 23.2 -0.4
baz=96
H09A **Durkee** 95.53 40 ⇓P P 10 24 23.2 -0.6
baz=96
R17A **Hanksville Air** 95.66 48 ⇓P P 10 24 24.0 -0.6
baz=96
MFID **Camas Ranch** 95.73 41 ⇓P P 10 24 24.2 -0.5
baz=96
K12A **Draper Farm, C** 95.76 42 ⇓P P 10 24 24.7 -0.2
baz=96
G09A **Cove** 95.87 39 ⇑P P 10 24 24.9 -0.5
baz=96
M14A **Sheep Mountain** 95.95 44 ⇑P P 10 24 25.3 -0.6
baz=96
L13A **Double Diamond** 95.97 43 ⇑P P 10 24 25.3 -0.5
baz=96
H10A **Noah's Angus R** 95.98 40 ⇑P P 10 24 24.8 -1.1
baz=96
J12A **Stokes Ranch,** 96.04 42 ⇑P P 10 24 26.1 -0.1
baz=96
R18A **Canyonlands Na** 96.16 48 ⇑P P 10 24 26.5 -0.4
baz=96
HHC **Hu-ho-hao-te** 96.17 315 *e*P P 10 24 26.5 -0.3
HHC AP pP 10 25 35.4 +3.2
HHC XP sP 10 26 04.0 +3.6
HHC PP PP 10 28 25.5 +1.2
HHC SKS 10 34 33.5
HHC S S 10 35 18.2 -3.6
HHC XS sS 10 37 21.2 +3.2
HHC SS SS 10 42 01.3 -0.2
HHC AMB AMB
comp=Z,11nm,0.7s,mb5.1
HHC AMB AMB
comp=Z,128nm,8.8s
SRU **San Rafael** 96.20 47 ⇓P P 10 24 26.5 -0.5
baz=96
SRU **San Rafael** 96.20 47 *e*P P 10 24 27.0 0.0
G10A **Bishop Farm, J** 96.23 39 ⇑P P 10 24 26.6 -0.4
baz=96
K13A **Stover Farm, H** 96.24 43 ⇑P P 10 24 26.9 -0.1
baz=96
L14A **Malta** 96.34 44 ⇑P P 10 24 27.0 -0.6
baz=96
ANMO **Albuquerque** 96.39 53⇑*e*P P 10 24 28.1 +0.2
Q18A **Rafter H Ranch** 96.44 47 ⇑P P 10 24 27.4 -0.6
baz=97
D08A **Wollman Farm,** 96.45 37 ⇑P P 10 24 27.5 -0.4
baz=97
H11A **Donnelly** 96.45 40 ⇑P P 10 24 27.3 -0.7
baz=97
E09A **Wood Farm, Sta** 96.49 38 ⇑P P 10 24 27.5 -0.7
baz=97
F10A **Beach Ranch, E** 96.62 39 ⇑P P 10 24 28.3 -0.5
baz=97
HLID **Hailey** 96.62 42 ⇓P P 10 24 28.1 -0.6
baz=97
HLID **Hailey** 96.62 42 *e*P P 10 24 28.7 -0.1
J13A **Cove Ranch, Pi** 96.65 42 ⇑P P 10 24 28.6 -0.4
baz=97
K14A **Jones Ranch, D** 96.70 43 ⇓P P 10 24 28.7 -0.4
baz=97
G11A **Walters Elk Ra** 96.76 40 ⇓P P 10 24 28.5 -0.9
baz=97
B07A **Winthrop** 96.79 36 ⇓P P 10 24 28.8 -0.6
baz=97
L15A **Malad City** 96.83 44 ⇓P P 10 24 29.3 -0.5
baz=97
H12A **Diamond D Ranc** 97.00 41 ⇓P P 10 24 29.7 -0.7
baz=97
SEY **Seymchan** 97.46 348 *e*P P 10 24 28.4 -3.7
BMRM **Bremner River** 97.49 17 *e*P P 10 24 31.0 -1.2
MCMT **McKenzie Canyo** 98.29 42 *e*P P 10 24 36.3 +0.1
LZH **Lanzhou** 98.30 307 P P 10 24 39.1 +2.6
LZH AP pP 10 25 43.7 +1.7
LZH XP sP 10 26 12.6 +2.4
LZH *e*PP PP 10 28 45.5 +4.9
LZH SKS 10 34 49.8
LZH *e*S S 10 35 40.0 -0.1
LZH AMB AMB
comp=Z,17nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,95nm,9.2s
TRF **Thorofare Moun** 98.46 13 *e*P P 10 24 34.9 -1.6
SMCO **Snowmass** 98.47 49 *e*P P 10 24 39.0 +1.8
comp=Z,6.4nm,0.7s,mb5.1
SNOW **Snow King Moun** 98.66 44 *e*P P 10 24 38.3 +0.3
G15A **Dillon** 98.70 42 ⇓P P 10 24 39.0 +0.9
baz=99
PDAR **Pinedale Array** 98.96 45 P Pdif 10 24 36.4 -3.1
comp=Z,0.7nm,0.8s,baz=222,slow=2.0,SNR=7.1
LPAZ **La Paz** 99.14 116 P Pdif 10 24 40.1 -0.2
comp=Z,0.3nm,0.3s,baz=259,slow=5.2,SNR=3.3
BILL **Bilibino** 100.61 355 *e*P Pdif 10 24 46.9 0.0
SONM **Songino Array** 103.27 318 PKKPbc PKKPbc 10 40 51.4 -1.8
comp=Z,0.9nm,0.8s,baz=288,slow=2.9,SNR=4.8
TLY **Talaya** 106.83 321 *e*PKPdf PKiKP 10 29 15.0 -7.5
WMQ **Urumqi** 112.86 308 *e*P PKiKP 10 29 32.5 -1.6
COWI **Conover** 113.29 49 *e*PKPdf PKiKP 10 29 35.8 +0.9
MK31 **Makanchi Array** 117.49 310 *e*PKIKP PKPdf 10 29 39.9 -3.0
MKAR **Makanchi Array** 117.49 310 PKP PKPdf 10 29 40.3 -2.6
comp=Z,1.8nm,0.9s,baz=78,slow=3.0,SNR=12
MKAR PP PP 10 30 56.8 -2.9
comp=Z,1.0nm,0.7s,baz=118,slow=7.5,SNR=4.5
MKAR PKKPbc PKKPbc 10 40 02.2 -4.7
comp=Z,0.2nm,0.3s,baz=77,slow=6.5,SNR=3.2
MKAR **Makanchi Array** 117.49 310 PKIKP PKPdf 10 29 40.4 -2.5
MKAR 10 30 56.8
MKAR **Makanchi Array** 117.49 310 PKP PKPdf 10 29 40.4 -2.6
MKAR PP PP 10 30 56.8 -2.9
MKAR PKKPbc PKKPbc 10 40 02.2 -4.7
KURK **Kurchatov** 120.94 313⇑*i*PKIKP PKPdf 10 29 46.6 -2.8
KURK **Kurchatov** 120.94 313 *e*PKPdf PKPdf 10 29 46.5 -2.9
EKS2 **Erkin-Say** 122.03 303 *e*PKPdf PKPdf 10 29 49.0 -2.8
KBL **Kabul** 123.13 293 *e*PKPdf PKPdf 10 29 52.6 -1.6
SCHQ **Schefferville** 129.06 43 SKPbc 10 32 55.2
comp=Z,22nm,0.7s,baz=282,slow=2.8,SNR=27
SFJD **Kangerlussuaq** 134.64 25 *i*P PKPdf 10 30 14.0 -1.0
ARCES **ARCESS Array B** 140.06 346 PKhKP 10 30 16.4
comp=Z,2.3nm,0.8s,baz=60,slow=2.9,SNR=5.0
ARCES SKPbc SKPbc 10 33 29.9 -4.8
comp=Z,6.8nm,1.0s,baz=25,slow=3.2,SNR=4.8
JOF **Joensuu** 143.46 336 *e*pKp PKPdf 10 30 27.3 -3.9
VRHR **Novokhopersk** 144.12 314 *i*PKIKP PKPdf 10 30 29.6 -3.1
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.4s
GOF **Gofitskoye** 144.27 304 *e*PKHKP 10 30 14.0
KIV **Kislovodsk** 144.61 302 *e*PKIKP PKPdf 10 30 30.9 -2.9
KIV pmax pmax
comp=Z,22nm,1.6s
MOS **Moscow** 144.75 323 *e*PKHKP PKPdf 10 30 30.1 -3.6
MOS pmax pmax
comp=Z,118nm,1.3s
MOS pmax pmax
comp=Z,200nm,1.5s

VRSR	**Storozhevoye**	**145.56**	**315**	*i* PKIKP	PKPdf	10 30 34.1	-1.1
VRSR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VRSR				pmax	pmax		
	comp=N,2.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,5.0nm,0.8s						
OBN	**Obninsk**	**145.57**	**322⇑**	*i* PKIKP	PKPdf	10 30 33.7	-1.4
OBN				*e*		10 33 56.0	
OBN				*e*SS	SS	10 52 24.4	-4.4
OBN				pmax	pmax		
	comp=Z,59nm,1.4s						
KAF	**Kangasniemi**	**145.68**	**338**	*e*pkp	PKPdf	10 30 32.3	-2.7
MALT	**Malatya**	**147.98**	**292**	⇓*i* P	PKPdf	10 30 42.1	+2.4
MALT	**Malatya**	**147.98**	**292**	*e*PKPdf	PKPdf	10 30 41.1	+1.5
ASF	**Jabal al Asfar**	**148.60**	**280**	PKPbc	PKPbc	10 30 43.2	-1.7
	comp=Z,7.1nm,0.8s,baz=356,slow=1.3,SNR=15						
EIL	**Elat**	**149.70**	**274**	PKPbc	PKPbc	10 30 45.9	-1.9
	comp=Z,18nm,0.8s,baz=335,slow=2.8,SNR=16						
MMAI	**Mount Meron Ar**	**149.98**	**281**	PKP	PKPdf	10 30 42.0	-1.1
	comp=Z,1.0nm,0.3s,baz=331,slow=41,SNR=2.4						
MMAI				PKPbc	PKPbc	10 30 46.6	-1.7
	comp=Z,21nm,0.8s,baz=70,slow=4.8,SNR=13						
MNK	**Minsk**	**150.21**	**326⇑**	*e*PKIKP	PKPbc	10 30 45.0	-3.1
MNK				pmax	pmax		
	comp=Z,100nm,1.5s						
NB2	**NORSAR Subarra**	**150.34**	**349**	PKP	PKPbc	10 30 46.1	-2.1
	comp=Z,63nm,1.4s,baz=19,slow=2.6						
NOA	**NORSAR Array B**	**150.34**	**349**	PKP	PKPdf	10 30 40.8	-1.9
	comp=Z,1.9nm,0.7s,baz=334,slow=20,SNR=5.8						
NOA				PKPbc	PKPbc	10 30 46.4	-1.8
	comp=Z,12nm,0.7s,baz=15,slow=4.1,SNR=39						
NOA				PKPab	PKPab	10 30 54.2	-1.4
	comp=Z,4.9nm,0.8s,baz=24,slow=4.4,SNR=7.8						
NOA	**NORSAR Array B**	**150.34**	**349**	PKP	PKPdf	10 30 40.8	-1.9
NOA				PKPbc	PKPbc	10 30 46.4	-1.8
NOA				PKPab	PKPab	10 30 54.2	-1.4
SIM	**Simferopol'**	**150.52**	**305**	*i* PKIKP	PKPbc	10 30 47.9	-1.3
SIM						10 30 55.1	
SIM				pmax	pmax		
	comp=Z,16nm,0.7s						
NAO01	**NORSAR Array S**	**150.58**	**349**	*e*PKPbc	PKPbc	10 30 47.0	-1.8
NAO01				*e*PKPab	PKPab	10 30 54.9	-1.7
AKASG	**Malin Array Be**	**151.55**	**319**	PKP	PKPdf	10 30 42.8	-2.1
	comp=Z,0.2nm,0.2s,baz=352,slow=6.3,SNR=2.5						
AKASG				PKPbc	PKPbc	10 30 48.8	-2.5
	comp=Z,6.1nm,0.7s,baz=64,slow=2.0,SNR=24						
AKASG				PKPab	PKPab	10 30 59.5	-1.5
	comp=Z,3.0nm,0.6s,baz=45,slow=3.7,SNR=5.8						
AKBB	**Malin Array Si**	**151.55**	**319**	*e*PKIKP	PKPbc	10 30 49.3	-2.0
KIEV	**Kiev**	**151.56**	**319**	*e*PKIKP	PKPbc	10 30 49.2	-2.2
LIC	**Lamto**	**153.62**	**170**	*e*PKP2	PKPab	10 31 09.3	-1.3
	comp=Z,54nm,1.0s						
LIC	**Lamto**	**153.62**	**170**	*e*P	PKPdf	10 30 48.1	-1.0
	comp=Z,73nm,1.0s						
LIC	**Lamto**	**153.62**	**170**	*e*P	PKPdf	10 30 48.1	-1.0
LIC				*e*PKPab	PKPab	10 31 09.3	-1.3
KIC	**Kosan Boka**	**153.79**	**170**	*e*P	PKPdf	10 30 48.3	-1.0
	comp=Z,93nm,1.0s						
TIC	**Toumodi**	**154.03**	**169**	*e*P	PKPdf	10 30 46.3	-3.4
	comp=Z,182nm,1.4s						
DBIC	**Dimbokro**	**154.08**	**170**	PKP	PKPdf	10 30 48.2	-1.5
	comp=Z,7.1nm,0.8s,baz=237,slow=7.1,SNR=4.7						
DBIC				PKPbc	PKPbc	10 30 57.1	-0.9
	comp=Z,9.5nm,0.9s,baz=152,slow=4.1,SNR=4.8						
DBIC				PKPab	PKPab	10 31 11.4	-1.2
	comp=Z,3.4nm,0.8s,baz=142,slow=3.5,SNR=3.7						
DBIC	**Dimbokro**	**154.08**	**170**	PKP	PKPdf	10 30 48.2	-1.5
DBIC				PKPbc	PKPbc	10 30 57.1	-0.9
DBIC				PKPab	PKPab	10 31 11.4	-1.2
VRI	**Vrincioaia**	**155.18**	**311**	⇓*i* P	PKPab	10 31 16.1	-0.5
BURAR	**Bucovina Array**	**155.34**	**316**	⇑*i* P	PKPab	10 31 17.0	-0.2
MLR	**Muntele Rosu**	**155.83**	**310**	⇓*i* P	PKPab	10 31 19.9	+0.5
CRVS	**Cervenica-Dubn**	**156.75**	**322**	*e*PKP	PKPab	10 31 22.7	-0.5
KECS	**Kecovo**	**157.52**	**322**	*e*PKP	PKPab	10 31 25.2	-1.4
DPC	**Dobruska-Polom**	**158.20**	**330**	*e*PKPab	PKPab	10 31 29.0	-0.4
CLL	**Collm**	**158.69**	**336**	⇑*i*PKP2	PKPab	10 31 30.6	-0.9
CLL				pmax	pmax		
	comp=Z,14nm,1.2s						
CLL	**Collm**	**158.69**	**336**	*e*PKPab	PKPab	10 31 30.6	-0.9
CLL				*e*PP	PP	10 35 05.8	-6.9
CLL	**Collm**	**158.69**	**336**	⇑*i*PKPab	PKPab	10 31 30.6	-0.9
	comp=Z,14nm,1.2s						
BRG	**Berggiesshubel**	**158.72**	**334**	*e*PKP2	PKPab	10 31 30.9	-0.8
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BRG	**Berggiesshubel**	**158.72**	**334**	*e*PKPab	PKPab	10 31 31.0	-0.7
BRG	**Berggiesshubel**	**158.72**	**334**	*e*P	PKPab	10 31 30.9	-0.7
	comp=Z,8.3nm,1.1s						
FBE	**Freiberg**	**158.89**	**335**	*e*PKPab	PKPab	10 31 32.0	-0.4
FBE				*e*PP	PP	10 35 06.6	-7.3
CLZ	**Clausthal**	**159.03**	**341**	*e*PKPab	PKPab	10 31 31.8	-1.2
CLZ				*e*PP	PP	10 35 12.3	-2.2
NEUB	**Neuenburg**	**159.18**	**338**	*e*PKPab	PKPab	10 31 33.3	-0.3
MODS	**Modra-Piesok**	**159.20**	**325**	*e*PKP	PKPdf	10 30 53.5	-1.7
MODS				*e*		10 31 33.0	
PRU	**Pruhonice**	**159.21**	**332**	*e*PKPab	PKPab	10 31 33.4	-0.4
IBBN	**Ibbenburen**	**159.23**	**346**	*e*PKPab	PKPab	10 31 32.7	-1.1
WERD	**Werda**	**159.65**	**336**	*e*PKPab	PKPab	10 31 35.4	-0.3
MOX	**Moxa**	**159.71**	**338**	*e*PKPab	PKPab	10 31 35.8	-0.2
MOX				*e*PP	PP	10 35 14.7	-3.5
GUNZ	**Gunzen**	**159.72**	**336**	*e*PKPab	PKPab	10 31 35.7	-0.3
WERN	**Wernitzgruen**	**159.76**	**336**	*e*PKPab	PKPab	10 31 35.9	-0.3
NKC	**Novy Kostel**	**159.78**	**336**	*e*PKPab	PKPab	10 31 35.4	-0.9
UBBA	**Unterbreizbach**	**160.05**	**340**	*e*PKPab	PKPab	10 31 36.2	-1.2
MANZ	**Manzenberg**	**160.11**	**336**	*e*PKPab	PKPab	10 31 37.6	-0.1
BUG	**Bochum--Univer**	**160.15**	**346**	*e*PP	PP	10 35 21.5	+1.1
CONA	**Conrad Observa**	**160.19**	**326**	⇑*i* P	PKPab	10 31 37.2	-1.0
	comp=Z,8.8nm,1.3s						
CSNA	**Conrad Observa**	**160.19**	**326**	⇑*i* P	PKPab	10 31 37.4	-0.8
	comp=Z,8.5nm,1.2s						
ROTZ	**Rotzenmuhle**	**160.26**	**335**	*e*PKPab	PKPab	10 31 38.5	+0.1
KHC	**Kasperske Hory**	**160.27**	**332**	*e*PKPab	PKPab	10 31 38.1	-0.4
GEC2	**GERESS Array S**	**160.44**	**331**	*e*PKPab	PKPab	10 31 38.1	-1.2
GERES	**GERESS Array B**	**160.44**	**331**	PKP	PKPdf	10 30 54.0	-2.5
	comp=Z,0.2nm,0.4s,baz=241,slow=1.4,SNR=3.8						
GERES				PKPab	PKPab	10 31 37.1	-2.1
	comp=Z,0.6nm,0.6s,baz=29,slow=3.0,SNR=6.3						
WET	**Wettzell**	**160.53**	**333**	*e*PKPab	PKPab	10 31 37.4	-2.2
WET				*e*PP	PP	10 35 15.5	-7.2
GRF	**Grafenberg Arr**	**160.66**	**337**	*e*PKPab	PKPab	10 31 39.9	-0.3
GRF				*e*PP	PP	10 35 16.8	-6.6
GRFO	**Taunus Mts**	**160.66**	**337**	*e*PP	PP	10 35 17.9	-5.5
TOA0	**Torodi Ar. Sit**	**160.76**	**186**	*e*PKPdf	PKPdf	10 30 56.3	-1.7
TORD	**Torodi Ar. Bea**	**160.76**	**186**	PKP	PKPdf	10 30 56.3	-1.6
	comp=Z,4.3nm,1.0s,baz=260,slow=1.3,SNR=14						
TORD				PKPab	PKPab	10 31 39.8	-1.6
	comp=Z,7.0nm,0.9s,baz=186,slow=2.9,SNR=13						
TNS	**Taunus Mts**	**161.01**	**342**	*e*PP	PP	10 35 26.8	+1.7
RJOB	**Jochberg**	**161.69**	**331**	*e*PKPab	PKPab	10 31 44.0	-0.7
GIVF	**Givet**	**161.88**	**349**	*e*PKP2	PKPab	10 31 44.0	-1.4
BAIF	**Baives**	**162.01**	**350**	⇑*i*PKP2	PKPab	10 31 44.5	-1.5
BFO	**Black Forest**	**162.76**	**340**	*e*PKPab	PKPab	10 31 46.8	-2.6
CDF	**Champ du Feu**	**162.98**	**342**	⇑*i*PKP2	PKPab	10 31 49.1	-1.2
	comp=Z,22nm,1.4s						
DAVA	**Damuels**	**163.19**	**335**	⇑*i* P	PKPab	10 31 49.8	-1.5
	comp=Z,16nm,1.3s						
HINF	**Hinteralfeld**	**163.64**	**343**	*e*PKP2	PKPab	10 31 51.9	-1.3
LDF	**La Druitiere**	**163.80**	**359**	*e*PKP2	PKPab	10 31 52.5	-1.4
ROSF	**Rostrenen**	**163.91**	**7**	⇑*i*PKP2	PKPab	10 31 52.6	-1.8
	comp=Z,24nm,1.1s						
GRR	**Gorron**	**164.00**	**1**	⇑*i*PKP2	PKPab	10 31 54.2	-0.6
	comp=Z,57nm,1.4s						
SGMF	**Saint Gilles**	**164.06**	**5**	⇑*i*PKP2	PKPab	10 31 53.3	-1.7
	comp=Z,60nm,1.4s						
QUIF	**Quistinic**	**164.34**	**7**	⇑*i*PKP2	PKPab	10 31 54.5	-1.8
	comp=Z,38nm,1.3s						
LOR	**Lormes**	**164.78**	**349**	⇑*i*PKP2	PKPab	10 31 56.6	-1.7
SSF	**Saint Saulge**	**165.04**	**350**	⇑*i*PKP2	PKPab	10 31 57.9	-1.5
	comp=Z,33nm,1.4s						
AVF	**Avril sur Loir**	**165.33**	**350**	⇑*i*PKP2	PKPab	10 31 59.0	-1.7
	comp=Z,43nm,1.4s						
SMF	**Signal de Mont**	**165.39**	**348**	⇑*i*PKP2	PKPab	10 31 59.4	-1.6
	comp=Z,46nm,1.4s						
BGF	**Bois d'Agland**	**165.63**	**351**	⇑*i*PKP2	PKPab	10 32 00.7	-1.3
LPL	**La Plagne**	**165.78**	**339**	⇑*i*PKP2	PKPab	10 32 02.4	-0.3
	comp=Z,12nm,1.0s						
LPG	**La Plagne**	**165.79**	**339**	⇑*i*PKP2	PKPab	10 32 02.5	-0.3
	comp=Z,63nm,1.6s						
TCF	**Toulx Ste Croi**	**165.97**	**353**	⇑*i*PKP2	PKPab	10 32 02.0	-1.5
	comp=Z,27nm,1.4s						
RJF	**Les Rejaudoux**	**167.01**	**354**	⇑*i*PKP2	PKPab	10 32 06.5	-1.7
CAF	**Calviac**	**167.33**	**352**	⇑*i*PKP2	PKPab	10 32 08.5	-1.1
	comp=Z,32nm,1.6s						
LFF	**La Frestale**	**167.43**	**356**	*e*PKP2	PKPab	10 32 08.5	-1.5
PCAB	**Cabril**	**168.86**	**31**	*e*PKPdf	PKPdf	10 31 04.4	+0.3
MVO	**Moncorvo**	**169.74**	**29**	*e*PKPdf	PKPdf	10 31 04.8	+0.2
PCBR	**Castelo Branco**	**170.59**	**36**	*e*PKPdf	PKPdf	10 31 05.2	0.0
EVO	**Evora**	**171.25**	**43**	*e*PKIKP	PKPdf	10 31 04.3	-1.3
	comp=Z,37nm,1.2s						
EVO	**Evora**	**171.25**	**43**	*e*PKPdf	PKPdf	10 31 05.5	-0.1
PTEO	**Sao Teotonio**	**171.42**	**51**	*e*PKPdf	PKPdf	10 31 05.6	-0.1
PFVI	**Vila Bisbo**	**171.58**	**53**	*e*PKPdf	PKPdf	10 31 05.9	+0.1
MORF	**Marmelete**	**171.60**	**52**	*e*PKPdf	PKPdf	10 31 06.1	+0.3
PBEJ	**Beja**	**171.67**	**45**	*e*PKPdf	PKPdf	10 31 06.2	+0.4
PBAR	**Barrancos**	**172.05**	**41**	*e*PKPdf	PKPdf	10 31 06.2	+0.2
PBDV	**Barranco-do-Ve**	**172.11**	**50**	*e*PKPdf	PKPdf	10 31 06.7	+0.7
PAB	**San Pablo**	**172.16**	**23**	*e*PKIKP	PKPdf	10 31 05.3	-0.7
ESDC	**Sonseca Array**	**172.16**	**21**	PKP	PKPdf	10 31 05.3	-0.7
	comp=Z,0.3nm,0.3s,baz=352,slow=2.4,SNR=12						
ESDC				PKPab	PKPab	10 32 29.9	-1.2
	comp=Z,0.2nm,0.3s,baz=332,slow=4.4,SNR=8.3						

IDC 10 10:22:18.1±57.0, 1725S×17801E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=1023.0km s-min=149.0km az=76.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.99**	**239**	P	P	10 29 21.4	+0.5
	3.8nm,1.1s,baz=81,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**41.39**	**259**	P	P	10 30 06.0	-0.4
	0.2nm,0.4s,baz=93,slow=7.7,SNR=6.8						
ASAR	**Alice Springs**	**41.69**	**254**	P	P	10 30 08.7	-0.1
	1.4nm,0.5s,baz=91,slow=8.6,SNR=24						

*ISCJB **10** 10:45:14.6±0.6, 3529N±003×2428E±003, h7km±3km, mb4.0/19, Error ellipse: s-maj=4.6km s-min=3.6km az=31.7*
*NEIC **10** 10:45:14.0, 3489N×2432E, h10km, mb3.6/1, ML3.8(ATH), After ATH.*
*IDC **10** 10:45:14.7±0.8, 3532N×24.19E, h0km, mb4.0/16, mb1 4.1/19, mb1mx4.0/29, mbtmp4.0/19, Error ellipse: s-maj=19.9km s-min=7.5km az=9.0*
*ATH **10** 10:45:15.7, 3544N×2427E, h7km±1km, MD4.0/17, ML3.8*
*CSEM **10** 10:45:16.9±0.1, 3527N×2424E, h20km, ML3.8, Error ellipse: s-maj=2.1km s-min=1.5km az=19.0*
*MOS **10** 10:45:16.8±1.1, 3528N×2422E, h22km, mb4.3/13, Error ellipse: s-maj=10.2km s-min=6.8km az=86.5*
*THE **10** 10:45:18.9, 3547N×2429E, h3km, ML4.2*
*HLW **10** 10:45:20.6, 3522N×2446E, h26km, Mb3.3*
ISC 10 10:45:16.0±0.6, 3532N±003×2428E±003, h5km±3km, n103, σ1$05/126, mb4.0/19, 7C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.11**	**324**	*e*PG	**Pg**	**10 45 17.5**	**-0.8**
VAM				*e*SG	**Sg**	**10 45 19.1**	**-0.7**
VAM	**Vamos**	**0.11**	**324**	*e*Pg	**Pg**	**10 45 17.5**	**-0.8**
VAM				*e*Sg	**Sg**	**10 45 19.1**	**-0.7**
IDI	**Anoyia**	**0.50**	**93**	Pg	**Pg**	**10 45 25.7**	**0.0**
	130nm,0.3s,baz=275,slow=16,SNR=280						
IDI				Lg		10 45 33.8	
	840nm,0.3s,baz=12,slow=20,SNR=92						
IDI	**Anoyia**	**0.50**	**93**	Pg	**Pg**	**10 45 25.6**	**-0.1**
NPS	**Neapolis**	**1.09**	**92**	*e*PG	**Pg**	**10 45 36.5**	**-0.5**
NPS				*e*SB	**Sb**	**10 45 51.2**	**-0.8**
NPS	**Neapolis**	**1.09**	**92**	P	**Pg**	**10 45 37.9**	**+0.9**
NPS				*e*Sb	**Sb**	**10 45 51.2**	**-0.8**
NPS	**Neapolis**	**1.09**	**92**	P	**Pg**	**10 45 37.9**	**+0.9**
THR6	**Thira Island,**	**1.38**	**41**	*e*Pg	**Pg**	**10 45 42.5**	**0.0**
THR6				*e*Sg	**Sg**	**10 46 00.8**	**+0.4**
KYTH	**Kithira**	**1.39**	**314**	*e*PB	**Pb**	**10 45 41.0**	**-1.6**
THR5	**Thira Island,**	**1.40**	**38**	*e*Pg	**Pg**	**10 45 42.5**	**-0.3**
THR5				*e*Sg	**Sg**	**10 46 01.0**	**0.0**
THR1	**Thera Island**	**1.42**	**42**	*e*Pg	**Pg**	**10 45 43.8**	**+0.4**
THR1				*e*Sg	**Sg**	**10 46 01.1**	**-0.6**
VLI	**Veliai**	**1.77**	**323**	*e*PG	**Pn**	**10 45 46.5**	**-0.8**
VLI				*e*SB	**Sb**	**10 46 09.7**	**-1.8**
APE	**Apeiranthos**	**2.02**	**30**	*e*Pb	**Pn**	**10 45 50.0**	**-0.8**
APE				*e*Sb	**Sb**	**10 46 16.3**	**-2.4**
APE	**Apeiranthos**	**2.02**	**30**	*e*PN	**Pn**	**10 45 50.2**	**-0.6**
APE				*e*SN	**Sn**	**10 46 16.3**	**-0.1**
APE	**Apeiranthos**	**2.02**	**30**	*e*Pn	**Pn**	**10 45 50.2**	**-0.6**
APE				*e*Sn	**Sn**	**10 46 16.4**	**0.0**
DID	**Didima**	**2.34**	**339**	*e*Pn	**Pn**	**10 45 54.4**	**-0.8**
DID				*e*Sn	**Sn**	**10 46 23.1**	**-1.2**
DID	**Didima**	**2.34**	**339**	*e*Pn	**Pn**	**10 45 54.4**	**-0.8**
DID				*e*Sn	**Sn**	**10 46 23.1**	**-1.2**
KARP	**Karpathos**	**2.37**	**84**	*e*PN	**Pn**	**10 45 56.7**	**+1.2**
KARP				*e*SN	**Sn**	**10 46 27.3**	**+2.4**
KARP	**Karpathos**	**2.37**	**84**	*e*Pn	**Pn**	**10 45 56.7**	**+1.2**
KARP	**Karpathos**	**2.37**	**84**	P	**Pn**	**10 45 52.3**	**-3.2**
KARP				*e*Pn	**Pn**	**10 45 56.7**	**+1.2**
KARP				*e*Sn	**Sn**	**10 46 27.3**	**+2.4**
NAIG	**Nisos Aigina**	**2.52**	**346**	*e*PN	**Pn**	**10 45 58.0**	**+0.4**
VLX	**Vlachokerasia**	**2.56**	**324**	*e*Pn	**Pn**	**10 45 59.2**	**+1.1**
VLX				*e*Sn	**Sn**	**10 46 30.8**	**+1.1**
VLX	**Vlachokerasia**	**2.56**	**324**	*e*Pn	**Pn**	**10 45 59.2**	**+1.0**
VLX				*e*Sn	**Sn**	**10 46 30.8**	**+1.1**
ITM	**Ithomi**	**2.66**	**315**	*e*PN	**Pn**	**10 46 01.0**	**+1.5**
ITM	**Ithomi**	**2.66**	**315**	P	**Pn**	**10 46 02.5**	**+3.0**
ITM	**Ithomi**	**2.66**	**315**	P	**Pn**	**10 46 02.5**	**+3.0**
ATH	**Athens Observa**	**2.69**	**350**	P	**Pb**	**10 46 04.8**	**+0.2**
ATH	**Athens Observa**	**2.69**	**350**	*e*Pb	**Pn**	**10 45 59.4**	**-0.5**
ATH				P	**Pb**	**10 46 04.8**	**+0.2**
PTL	**Penteli**	**2.75**	**353**	*e*PN	**Pn**	**10 46 01.0**	**+0.2**
LTK	**Loutraki**	**2.90**	**339**	*e*Pn	**Pn**	**10 46 02.9**	**0.0**
LTK				*e*Sn	**Sn**	**10 46 36.9**	**-1.2**
LTK	**Loutraki**	**2.90**	**339**	*e*Pn	**Pn**	**10 46 02.9**	**+0.1**
LTK				*e*Sn	**Sn**	**10 46 36.8**	**-1.3**
SMG	**Samos**	**3.15**	**40**	*e*PB	**Pn**	**10 46 08.2**	**+1.9**
ARG	**Arkhangelos**	**3.25**	**73**	*e*PB	**Pn**	**10 46 10.1**	**+2.4**
CHOS	**Chios island**	**3.38**	**24**	*e*Pn	**Pn**	**10 46 08.7**	**-0.7**
LKR	**Lokris**	**3.48**	**343**	*e*Pn	**Pn**	**10 46 10.7**	**-0.2**
RLS	**Riolos of Patr**	**3.55**	**321**	*e*PN	**Pn**	**10 46 12.6**	**+0.8**
SLUM		**3.90**	**168**	⇑P	**Pn**	**10 46 16.6**	**+0.1**
AGG	**Agios Georgios**	**4.01**	**338**	*e*Pn	**Pn**	**10 46 19.7**	**+1.6**
NEO	**Neokhori**	**4.07**	**348**	*e*PN	**Pn**	**10 46 20.0**	**+1.1**
EVR	**Evrytania**	**4.10**	**332**	*e*PN	**Pn**	**10 46 20.7**	**+1.4**
XOR	**Xorichti**	**4.13**	**348**	*e*Pn	**Pn**	**10 46 20.3**	**+0.5**
HMAT	**Matruh**	**4.83**	**150**	P	**Pn**	**10 46 28.8**	**-0.6**
HMAT				S	**Sn**	**10 47 19.5**	**-6.2**
PLG	**Polygyros**	**5.09**	**353**	*e*Pn	**Pn**	**10 46 33.4**	**+0.4**
PLG	**Polygyros**	**5.09**	**353**	P	**Pn**	**10 46 37.4**	**+4.4**
PLG	**Polygyros**	**5.09**	**353**	*e*Pn	**Pn**	**10 46 34.0**	**+1.0**
PLG				P		10 46 37.4	
RDO	**Rodhopi**	**5.90**	**9**	*e*PN	**Pn**	**10 46 46.3**	**+2.2**
SWA2		**6.14**	**170**	P	**Pn**	**10 46 47.3**	**-0.1**
TIP	**Timpagrande**	**7.13**	**305**	P	**Pn**	**10 47 01.5**	**+0.6**
CUC	**Castrocucco**	**8.17**	**307**	P	**Pn**	**10 47 17.8**	**+2.5**
GLL	**Jalalah**	**8.49**	**130**	P	**Pn**	**10 47 18.1**	**-1.6**
SUZ		**9.05**	**125**	P	**Pn**	**10 47 26.0**	**-1.3**
EIL	**Elat**	**10.62**	**119**	Pn	**Pn**	**10 47 49.0**	**+0.1**
	0.3nm,0.3s,baz=331,slow=10,SNR=4.7						
SBF	**Sospel**	**15.52**	**308**	*e*P	**Pn**	**10 48 56.5**	**+1.0**
	11nm,1.2s						
GERES	**GERESS Array B**	**15.61**	**333**	Pn	**Pn**	**10 48 57.8**	**+1.2**
	0.3nm,0.3s,baz=149,slow=11,SNR=15						
AKASG	**Malin Array Be**	**15.79**	**12**	Pn	**Pn**	**10 48 58.9**	**-0.1**
	3.2nm,0.3s,baz=201,slow=11,SNR=10						
AKASG	**Malin Array Be**	**15.79**	**12**	*i* P	**Pn**	**10 49 01.9**	**+2.9**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KHC	**Kasperske Hory**	**15.89**	**334**	⇑*e*P	**Pn**	**10 49 05.5**	**+5.2**
KHC	**Kasperske Hory**	**15.89**	**334**	*e*P	**Pn**	**10 49 04.5**	**+4.2**
KIV	**Kislovodsk**	**16.57**	**53**	⇑*i* P	**Pn**	**10 49 12.6**	**+3.5**
KIV				pmax	pmax		
	comp=Z,27nm,1.3s						
GNI	**Garni**	**16.88**	**67**	⇑*e*P	**Pn**	**10 49 18.9**	**+5.9**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SMF	**Signal de Mont**	**19.07**	**313**	*e*P	**Pn**	**10 49 41.8**	**+1.8**
AVF	**Avril sur Loir**	**19.44**	**312**	*e*P	**Pn**	**10 49 45.1**	**+0.7**
SSF	**Saint Saulge**	**19.48**	**313**	*e*P	**Pn**	**10 49 43.7**	**-1.2**
	comp=Z,5.0nm,0.8s						
SSF	**Saint Saulge**	**19.48**	**313**	*e*P	**Pn**	**10 49 43.7**	**-1.2**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SSF	**Saint Saulge**	**19.48**	**313**	*e*P	**Pn**	**10 49 43.7**	**-1.2**
	comp=Z,2.5nm,0.8s						
MFF	**Saint Martin d**	**21.53**	**309**	*e*P	**P**	**10 50 06.9**	**+1.0**
OBN	**Obninsk**	**21.55**	**19⇑**	*e*P	**P**	**10 50 05.1**	**-0.9**
OBN				*e*S	**S**	**10 54 03.0**	**-2.0**
OBN				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.2						
FLN	**La Foliniere**	**22.65**	**314**	*e*P	**P**	**10 50 17.9**	**0.0**
ESDC	**Sonseca Array**	**22.78**	**289**	P	**P**	**10 50 18.2**	**-1.1**
	comp=Z,1.2nm,0.7s,mb3.5,baz=87,slow=9.0,SNR=32						
VSU	**Vasula**	**23.21**	**3**	*e*P	**P**	**10 50 24.4**	**+0.7**
MDT	**Midelt**	**24.03**	**272**	P	**P**	**10 50 31.1**	**-0.9**
	comp=Z,2.1nm,0.8s,mb3.6,baz=74,slow=8.8,SNR=6.9						
HFS	**Hagfors**	**25.77**	**348**	P	**P**	**10 50 46.6**	**-0.8**
	comp=Z,0.9nm,0.3s,mb3.7,baz=156,slow=11,SNR=7.5						
HFS	**Hagfors**	**25.77**	**348**	P	**P**	**10 50 46.6**	**-0.8**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**27.07**	**346**	P	**P**	**10 50 58.2**	**-1.0**
	comp=Z,26nm,2.0s,mb4.4,baz=158,slow=9.3						
NOA	**NORSAR Array B**	**27.07**	**346**	P	**P**	**10 50 58.5**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.4,baz=152,slow=10,SNR=6.1						
NOA	**NORSAR Array B**	**27.07**	**346**	P	**P**	**10 50 58.5**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTO	**Aktyubinsk**	**28.68**	**48**	P	**P**	**10 51 13.7**	**0.0**
	comp=Z,1.6nm,0.7s,mb3.9,baz=250,slow=9.1,SNR=5.9						
AKTO	**Aktyubinsk**	**28.68**	**48**	P	**P**	**10 51 13.7**	**0.0**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
TORD	**Torodi Ar. Bea**	**30.05**	**228**	P	**P**	**10 51 25.1**	**-1.0**
	comp=Z,1.3nm,0.6s,mb3.8,baz=32,slow=8.6,SNR=16						
ARCES	**ARCESS Array B**	**34.28**	**1**	P	**P**	**10 52 00.2**	**-2.6**
	comp=Z,3.2nm,0.9s,mb4.3,baz=185,slow=9.0,SNR=3.8						
ARCES	**ARCESS Array B**	**34.28**	**1**	P	**P**	**10 52 00.2**	**-2.5**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**36.76**	**47**	P	**P**	**10 52 24.3**	**+0.1**
	comp=Z,0.8nm,0.8s,mb3.6,baz=276,slow=5.2,SNR=4.3						
BVAR	**Borovoye Array**	**

s-min=10.8km az=128.0
BJI **10** 11:46:58.3, 46.66N, 153.20E, h9km, mB5.5, mb5.2, Ms5.1, Msz4.9
JMA **10** 11:46:59.1±1.0, 46.59N, 153.64E, h30km, M5.6
MOS **10** 11:47:00.4±1.1, 46.57N, 153.14E, h22km, mb5.5/95, MS4.9/40, Error ellipse: s-maj=6.5km s-min=4.0km az=101.7
NEIC **10** 11:47:00.2±0.2, 46.55N, 153.15E, h10km, mb5.4/134, MS4.8/14, Error ellipse: s-maj=6.2km s-min=3.2km az=170.0
GCMT **10** 11:47:00.2±0.2, 46.56N, 153.59E, h18km, MW5.2/86, Moment Tensor Solution. s50, c82; s86, c149; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.68±.02; $M_{\theta\theta}$-0.13±.01; $M_{\phi\phi}$-0.54±.01; $M_{r\theta}$0.08±.03; $M_{\theta\phi}$-0.35±.01; $M_{\phi r}$0.55±.03; Best double couple: $M_0$0.90200×10^{17} NP1:ϕ_s224.00000°, δ29.00000°, λ114.00000°. NP2: ϕ_s16.00000°, δ64.00000°, λ77.00000°. Principal axes: T 0.8860, Plg68.0000°, Azm262.0000°; N 0.0320, Plg11.0000°, Azm22.0000°; P -0.9180, Plg18.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
SZGRF **10** 11:47:04.1, 46.41N, 152.08E, h33km, mb5.4, MS4.8, Kuril Islands, Russia
DJA **10** 11:47:06, 46.67N, 154.08E, h74km, mb5.4/12
ISC 10 11:47:02.0±0.7, **46.55N**±0.03 **153.22E**±0.02, **h20**km±5km, **h16**km±1.1km: **pP-P, n1191**, σ**59**/4.1193, **mb5.3**/246, **MS4.9**/77, **317C-176D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.96**	**252**	⇑*i*PN		**Pn**	**11 47 59.8**	**-1.7**
KUR				*e*S		**Sn**	**11 48 48.0**	**+0.7**
KUR				pmax		pmax		
	comp=N,1μm,0.9s							
KUR				pmax		pmax		
	comp=E,990nm,0.9s							
KUR				pmax		pmax		
	comp=Z,3μm,0.9s							
KUR				pmax		pmax		
	comp=N,8μm,6.0s							
KUR				pmax		pmax		
	comp=E,14μm,6.0s							
KUR				pmax		pmax		
	comp=Z,14μm,6.0s							
KUR				smax				
	comp=N,21μm,4.0s							
KUR				smax				
	comp=E,9μm,4.0s							
KUR				smax				
	comp=N,3μm,1.0s							
KUR				smax				
	comp=E,6μm,1.0s							
KUR				MLR		MLR		
	comp=N,21μm,16.0s							
KUR				MLR		MLR		
	comp=E,25μm,16.0s							
KUR				MLR		MLR		
	comp=Z,14μm,16.0s							
KUR	**Kuril'sk**	**3.96**	**252**	⇑*i*P		**Pn**	**11 47 59.8**	**-1.7**
KUR				AMB		AMB	11 48 06.0	
	comp=Z,13μm,6.0s							
KUR				AMB		AMB	11 48 06.0	
	comp=Z,6μm,6.0s							
KUR				AMB		AMB	11 48 06.0	
	comp=Z,14μm,6.0s							
KUR				*e*S		**Sn**	**11 48 48.0**	**+0.7**
KUR				A			11 48 52.0	
	comp=Z,20μm,4.0s							
KUR				A			11 48 52.0	
	comp=Z,12μm,4.0s							
KUR				A			11 49 05.0	
	comp=Z,25μm,1.0s							
KUR				A			11 49 07.0	
	comp=Z,5μm,0.9s							
KUR				A			11 49 07.0	
	comp=Z,2μm,0.9s							
KUR				AMS		AMS	11 49 32.0	
	comp=Z,28μm,16.0s							
KUR				AMS		AMS	11 49 32.0	
	comp=Z,24μm,16.0s							
KUR				AMS		AMS	11 49 32.0	
	comp=Z,12μm,16.0s							
SKR	**Severo-Kuril's**	**4.56**	**24**	*e*P		**Pn**	**11 48 07.0**	**-2.7**
SKR				AMB		AMB	11 48 10.0	
	comp=Z,80nm,0.5s							
SKR				AMB		AMB	11 48 10.0	
	comp=Z,150nm,0.5s							
SKR				AMB		AMB	11 48 12.0	
	comp=Z,2μm,4.0s							
SKR				AMB		AMB	11 48 12.0	
	comp=Z,2μm,4.0s							
SKR				*i* S		**Sn**	**11 48 59.5**	**-2.5**
SKR				A			11 49 11.0	
	comp=Z,4μm,6.0s							
SKR				A			11 49 11.0	
	comp=Z,3μm,1.0s							
SKR				A			11 49 11.0	
	comp=Z,900nm,1.0s							
SKR				A			11 49 11.0	
	comp=Z,15μm,8.0s							
SKR				A			11 49 11.0	
	comp=Z,9μm,8.0s							
SKR				A			11 49 11.0	
	comp=Z,15μm,8.0s							
SKR				A			11 49 11.0	
	comp=Z,8μm,8.0s							
SKR				A			11 49 11.0	
	comp=Z,550nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.77**	**247**	⇑*i*PN		**Pn**	**11 48 27.2**	**+0.9**
YUK				*i* S		**Sn**	**11 49 35.7**	**+3.9**
YUK				pmax		pmax		
	comp=N,370nm,0.5s							
YUK				pmax		pmax		
	comp=Z,460nm,0.5s							
YUK				pmax		pmax		
	comp=E,230nm,0.3s							
YUK				pmax		pmax		
	comp=E,8μm,5.0s							
YUK				pmax		pmax		
	comp=Z,6μm,5.0s							
YUK				pmax		pmax		
	comp=N,4μm,4.0s							
YUK				smax				
	comp=N,18μm,3.0s							
YUK				smax				
	comp=E,10μm,3.0s							
YUK				smax				
	comp=N,4μm,0.8s							
YUK				smax				
	comp=E,4μm,0.8s							
YUK				MLR		MLR		
	comp=N,14μm,15.0s							
YUK				MLR		MLR		
	comp=Z,14μm,15.0s							
YUK				MLR		MLR		
	comp=E,8μm,13.0s							
YUK	**Yuzh-Kuril'sk**	**5.77**	**247**	⇑*i*P		**Pn**	**11 48 27.2**	**+0.9**
YUK				AMB		AMB	11 48 32.0	
	comp=E,230nm,0.2s							
YUK				AMB		AMB	11 48 32.0	
	comp=E,370nm,0.5s							
YUK				AMB		AMB	11 48 32.0	
	comp=E,460nm,0.5s							
YUK				AMB		AMB	11 48 33.0	
	comp=E,4μm,4.0s							
YUK				AMB		AMB	11 48 33.0	
	comp=E,8μm,5.0s							
YUK				AMB		AMB	11 48 33.0	
	comp=E,6μm,5.0s							
YUK				*i* S		**Sn**	**11 49 35.7**	**+3.9**
YUK				A			11 49 45.0	
	comp=E,18μm,3.0s							
YUK				A			11 49 45.0	
	comp=E,10μm,3.0s							
NEM2	**Nemuro 2**	**6.18**	**242**	P		**Pn**	**11 48 31.1**	**-1.0**
NEM2				*e*S		**Sn**	**11 49 39.5**	**-2.6**
JRA	**Rausu**	**6.28**	**248**	P		**Pn**	**11 48 34.7**	**+1.3**
JNK	**Nakash**	**6.71**	**247**	P		**Pn**	**11 48 40.1**	**+0.9**
JAK	**Akkeshi**	**7.03**	**243**	P		**Pn**	**11 48 42.6**	**-1.0**
JAK				*e*S		**Sn**	**11 50 00.6**	**-2.3**
JTKR	**Abashiri--Toko**	**7.06**	**252**	⇑P		**Pn**	**11 48 46.2**	**+2.2**
PETK	**Petropavlovsk-**	**7.17**	**22**	Pn		**Pn**	**11 48 44.4**	**-1.2**
	comp=E,4.2nm,0.3s,baz=179,slow=11,SNR=79							
PETK				Sn		**Sn**	**11 50 04.9**	**-1.5**
	baz=193,slow=13,SNR=1.7							
YSS	**Yuzh-Sakhalins**	**7.20**	**277**	*e*PN		**Pn**	**11 48 50.0**	**+4.1**
YSS				*e*S		**Sn**	**11 50 12.0**	**+5.0**
YSS				pmax		pmax		
	comp=Z,230nm,1.2s							
YSS				pmax		pmax		
	comp=E,180nm,1.1s							
YSS				pmax		pmax		
	comp=E,2μm,6.0s							
YSS				pmax		pmax		
	comp=Z,2μm,6.0s							
YSS				MLR		MLR		
	comp=E,10μm,16.0s							
YSS				MLR		MLR		
	comp=Z,11μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.20**	**277**	⇑*e*P		**Pn**	**11 48 50.0**	**+4.1**
YSS				AMB		AMB	11 48 52.5	
	comp=Z,180nm,1.1s							
YSS				AMB		AMB	11 48 52.5	
	comp=Z,230nm,1.2s							
YSS				AMB		AMB	11 48 57.0	
	comp=Z,2μm,6.0s							
YSS				AMB		AMB	11 48 57.0	
	comp=Z,2μm,6.0s							
YSS	**Yuzh-Sakhalins**	**7.20**	**277**	*e*Pn		**Pn**	**11 48 50.0**	**+4.1**
PET	**Petropavlovsk**	**7.37**	**27**	*e*PN		**Pn**	**11 48 48.2**	**-0.1**
PET				pmax		pmax		
	comp=Z,600nm,1.5s							
PET				pmax		pmax		
	comp=Z,257nm,1.3s							
PET				MLR		MLR		
	comp=Z,2μm,19.0s							
JMP	**Maruseppu**	**7.40**	**253**	⇑P		**Pn**	**11 48 51.2**	**+2.4**
JAR	**Ashorobuto**	**7.45**	**247**	P		**Pn**	**11 48 50.7**	**+1.3**
JSE	**Soyaes**	**7.61**	**262**	P		**Pn**	**11 48 55.9**	**+4.4**
JOB	**Onbets**	**7.61**	**245**	P		**Pn**	**11 48 51.6**	**0.0**
JOB				*e*S		**Sn**	**11 50 14.0**	**-3.2**
JKK2	**Kamakawa 2**	**7.86**	**254**	P		**Pn**	**11 48 57.9**	**+2.8**
ASAJ	**Asahikawa**	**7.87**	**256**	P		**Pn**	**11 48 58.6**	**+3.4**
ASAJ	**Asahikawa**	**7.87**	**256**	Pn		**Pn**	**11 48 57.0**	**+1.9**
	comp=Z,4.7nm,0.3s,baz=88,slow=14,SNR=107							
ASAJ				Sn		**Sn**	**11 50 36.7**	**+13**
	baz=41,slow=8.5,SNR=1.5							
ASAJ				LR		LR	11 51 51.5	
	comp=Z,5μm,18.4s,baz=69,slow=37							
ASAJ	**Asahikawa**	**7.87**	**256**	PN		**Pn**	**11 48 57.1**	**+1.9**
ASAJ							11 50 36.7	
ASAJ				pmax		pmax		
	comp=Z,5.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,5μm,18.4s							
UGL	**Uglegorsk**	**7.92**	**293**	⇑*i*PN		**Pn**	**11 49 01.7**	**+5.9**
UGL				pmax		pmax		
	comp=N,241nm,1.1s							
UGL				pmax		pmax		
	comp=E,361nm,1.1s							
UGL				pmax		pmax		
	comp=Z,753nm,1.1s							
UGL				pmax		pmax		
	comp=Z,3μm,6.0s							
UGL				MLR		MLR		
	comp=E,12μm,15.0s							
UGL				MLR		MLR		
	comp=Z,12μm,15.0s							
UGL				MLR		MLR		
	comp=N,4μm,14.0s							
UGL	**Uglegorsk**	**7.92**	**293**	⇑*i*P		**Pn**	**11 49 01.7**	**+5.9**
UGL				*e*P			11 49 01.7	
UGL				AMB		AMB	11 49 04.0	
	comp=N,241nm,1.1s							
UGL				AMB		AMB	11 49 04.0	
	comp=N,361nm,1.1s							
UGL				AMB		AMB	11 49 04.0	
	comp=N,753nm,1.1s							
UGL				AMB		AMB	11 49 08.0	
	comp=N,3μm,6.0s							
JWK2	**Keihoku**	**7.99**	**265**	P		**Pn**	**11 49 03.9**	**+7.1**
JCH	**Churui**	**8.06**	**244**	⇑P		**Pn**	**11 48 57.6**	**-0.2**
JCH				*e*S		**Sn**	**11 50 25.7**	**-2.5**
TYV	**Tymovskoe**	**8.21**	**306**	*e*P		**Pn**	**11 49 03.0**	**+3.2**
TYV				AMB		AMB	11 49 10.0	
	comp=N,2μm,6.0s							
TYV				AMB		AMB	11 49 10.0	
	comp=N,2μm,6.0s							
JFR	**Furan**	**8.27**	**250**	P		**Pn**	**11 49 02.1**	**+1.4**
JSS	**Shosan**	**8.27**	**259**	P		**Pn**	**11 49 06.1**	**+5.4**
JAB	**Ashibetsu**	**8.36**	**253**	⇑P		**Pn**	**11 49 04.8**	**+2.9**
JEM	**Erimo**	**8.52**	**241**	P		**Pn**	**11 49 04.2**	**+0.1**
JHR	**Hokuryu**	**8.59**	**255**	P		**Pn**	**11 49 08.4**	**+3.3**
JBT2	**Biratori 2**	**8.60**	**248**	P		**Pn**	**11 49 05.3**	**+0.1**
JNBK	**Urakawa-nobuka**	**8.62**	**244**	P		**Pn**	**11 49 04.5**	**-1.0**
JEW	**Eniwo**	**9.16**	**250**	P		**Pn**	**11 49 13.7**	**+0.8**
JNB	**Noboribetsu**	**9.61**	**249**	P		**Pn**	**11 49 19.3**	**+0.3**
OKH	**Okha**	**9.62**	**320**	⇑*i*PN		**Pn**	**11 49 25.4**	**+6.2**
OKH				*e*S		**Sn**	**11 51 18.2**	**+12**
OKH				pmax		pmax		
	comp=Z,4μm,6.0s							
OKH				smax				
	comp=N,3μm,8.0s							
OKH	**Okha**	**9.62**	**320**	⇑*i*P		**Pn**	**11 49 25.4**	**+6.2**
OKH				AMB		AMB	11 49 28.2	
	comp=N,3μm,6.0s							
OKH				AMB		AMB	11 49 28.2	
	comp=N,2μm,6.0s							
OKH				AMB		AMB	11 49 28.2	
	comp=N,4μm,6.0s							
JKB	**Kayabe**	**9.91**	**246**	P		**Pn**	**11 49 22.4**	**-0.7**
JSH	**Shimam**	**10.17**	**252**	P		**Pn**	**11 49 28.0**	**+1.3**
JYM2	**Yakumo 2**	**10.21**	**249**	P		**Pn**	**11 49 27.2**	**-0.1**
NKL	**Nikolayevsk**	**10.44**	**314**	*i* P		**Pn**	**11 49 31.0**	**+0.7**
NKL				AMB		AMB	11 49 37.8	
	comp=N,70nm,1.2s							
NKL				AMB		AMB	11 49 37.8	
	comp=N,220nm,1.2s							
NKL				AMB		AMB	11 49 38.0	
	comp=N,1μm,6.0s							
NKL				AMB		AMB	11 49 38.0	
	comp=N,2μm,6.0s							
NKL				AMB		AMB	11 49 38.0	
	comp=N,2μm,8.0s							
JSR	**Shiriuchi**	**10.49**	**246**	P		**Pn**	**11 49 30.0**	**-1.1**
JANG	**Nango**	**10.51**	**238**	P		**Pn**	**11 49 27.5**	**-3.8**
JANG				*e*S		**Sn**	**11 51 18.7**	**-10**
JTM	**Tenmabayashi**	**10.51**	**241**	P		**Pn**	**11 49 29.2**	**-2.2**
JTH	**Tanohata**	**10.59**	**235**	P		**Pn**	**11 49 28.4**	**-4.0**
JTH				*e*S		**Sn**	**11 51 18.1**	**-12**
JOSM	**Okushiri--Mats**	**10.81**	**251**	P		**Pn**	**11 49 35.0**	**-0.4**
OFUJ	**Ofunato**	**11.29**	**233**	P		**Pn**	**11 49 36.9**	**-5.2**
OFUJ				*e*S		**Sn**	**11 51 36.3**	**-11**
JRG	**Rokugo**	**11.66**	**237**	P		**Pn**	**11 49 43.9**	**-3.1**
TEY	**Ternei**	**11.70**	**269**	*e*P		**Pn**	**11 49 52.0**	**+4.4**
JOG2	**Oga 2**	**11.82**	**241**	P		**Pn**	**11 49 47.4**	**-1.9**
JIO	**Ouri**	**11.91**	**231**	P		**Pn**	**11 49 46.2**	**-4.4**
JYA	**Atsumi**	**12.73**	**236**	P		**Pn**	**11 49 58.4**	**-3.3**
JFY	**Yanaizu**	**13.57**	**232**	P		**Pn**	**11 50 10.7**	**-2.4**
KLR	**Kul'dur**	**14.64**	**288**	*e*P		**Pn**	**11 50 25.8**	**-1.9**
KLR				*e*			11 53 16.0	
KLR				pmax		pmax		
	comp=E,260nm,1.6s							
KLR				pmax		pmax		
	comp=Z,180nm,1.6s							
KLR				pmax		pmax		
	comp=E,2μm,9.0s							
KLR				pmax		pmax		
	comp=Z,2μm,9.0s							
KLR				MLR		MLR		
	comp=Z,6μm,15.0s							
SMY	**Shemya**	**14.85**	**58**	*e*P		**Pn**	**11 50 25.5**	**-5.0**
SMY	**Shemya**	**14.85**	**58**	*e*Pn		**Pn**	**11 50 25.6**	**-4.9**
MAJO	**Matsushiro**	**15.02**	**234**	*e*P		**Pn**	**11 50 30.0**	**-2.9**
MAJO				pmax		pmax		
	comp=Z,250nm,1.6s							
MAJO	**Matsushiro**	**15.02**	**234**	*e*Pn		**Pn**	**11 50 30.0**	**-2.9**
	comp=Z,254nm,1.6s							
MAT	**Matsushiro**	**15.02**	**234**	P		**Pn**	**11 50 29.5**	**-3.4**
MAT				S		**Sn**	**11 53 20.2**	**+1.6**
MJAR	**Matsushiro Arr**	**15.02**	**234**	Pn		**Pn**	**11 50 29.2**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=32,slow=11,SNR=30							
MJAR				Sn		**Sn**	**11 53 24.1**	**+5.5**
	comp=Z,0.2nm,0.3s,baz=37,slow=10.0,SNR=3.2							
VLA	**Vladivostok**	**15.50**	**265**	*e*P		**Pn**	**11 50 37.8**	**-1.4**
VLA				pmax		pmax		
	comp=Z,197nm,1.3s							
VLA				MLR		MLR		
	comp=Z,4μm,18.5s							
SEY	**Seymchan**	**16.42**	**359**	⇑*e*P		**Pn**	**11 50 52.3**	**+1.4**
HMMJ	**Hamamatsu 2**	**16.53**	**231**	P		**Pn**	**11 50 56.6**	**+4.1**
MDJ	**Mudanjiang**	**16.64**	**272**	P		**Pn**	**11 50 54.0**	**+0.2**
MDJ				AP		pP	11 50 58.5	-3.3
MDJ				XP		sP	11 51 00.6	-3.8
MDJ				S		**Sn**	**11 53 55.4**	**-2.5**
MDJ				SCP		ScP	11 59 18.4	+2.2
MDJ				PCS		PcS	11 59 19.7	+1.1
MDJ				AMB		AMB		
	comp=Z,94nm,1.2s							
MDJ				AMB		AMB		
	comp=Z,524nm,6.9s							
MDJ				LR		LR		
	comp=N,508nm,12.6s							
MDJ				LR		LR		
	comp=E,3μm,15.8s							
MDJ				LR		LR		
	comp=Z,4μm,15.4s							
MDJ	**Mudanjiang**	**16.64**	**272**	*e*P		**Pn**	**11 50 54.5**	**+0.7**
	comp=Z,164nm,1.3s							
JHJ	**Hachijo jima 2**	**16.89**	**222**	Pn		**Pn**	**11 50 55.1**	**-1.9**
	comp=Z,2.0nm,0.3s,baz=66,slow=20,SNR=2.7							
AMKA	**Amchitka**	**17.75**	**65**	*e*Pn		**Pn**	**11 51 07.4**	**-0.2**
CN2	**Changchun**	**19.73**	**272**	*e*P		**Pn**	**11 51 27.7**	**-3.9**
CN2				*e*AP		pP	11 51 31.5	-4.3
CN2				*e*XP		sP	11 51 34.7	-3.8
CN2				*e*S		**Sn**	**11 55 02.1**	**-10**
CN2				AMB		AMB		
	comp=Z,70nm,1.0s							
CN2				AMB		AMB		
	comp=Z,600nm,9.0s							
CN2				LR		LR		
	comp=N,2μm,17.0s							
CN2				LR		LR		
	comp=E,3μm,17.0s							
CN2				LR		LR		
	comp=Z,4μm,17.0s							
CLNS	**Chul'man**	**20.20**	**311**	*e*P		**P**	**11 51 35.4**	**+0.2**
CLNS				*e**PP			11 51 44.0	
CLNS				*e*			11 51 52.4	
CLNS				*e*S		**S**	**11 55 25.5**	**+4.8**
CLNS				*e*			11 55 45.8	
CLNS				pmax		pmax		
	comp=Z,64nm,1.3s							
CLNS				pmax		pmax		
	comp=E,45nm,1.3s							
CLNS				pmax		pmax		
	comp=N,39nm,1.0s							
CLNS				pmax		pmax		
	comp=Z,72nm,1.5s							
CLNS				pmax		pmax		
	comp=N,67nm,1.3s							
CLNS				pmax		pmax		
	comp=E,103nm,1.6s							
CLNS				smax				
	comp=E,264nm,12.6s							
CLNS				smax				
	comp=N,142nm,12.6s							
CLNS				MLR		MLR		
	comp=N,4μm,13.0s,MS5.1							
CLNS				MLR		MLR		
	comp=E,4μm,13.0s,MS5.1							
CLNS				MLR		MLR		
	comp=Z,5μm,12.0s,MS5.0							
YAK	**Yakutsk**	**20.52**	**328**	*d*P		**P**	**11 51 39.0**	**+0.4**
YAK				*e**PP			11 51 46.0	
YAK				*e*			11 51 58.2	
YAK				*e*S		**S**	**11 55 27.1**	**0.0**
YAK				*e**SS		sS	11 55 40.4	+4.2
YAK				*e*SS			11 55 49.4	
YAK				*e*SSS			11 56 01.3	
YAK				*e*			12 03 05.1	
YAK				pmax		pmax		
	comp=E,38nm,1.6s							
YAK				pmax		pmax		
	comp=Z,52nm,0.8s							
YAK				pmax		pmax		
	comp=N,19nm,1.0s							
YAK				pmax		pmax		
	comp=N,199nm,2.5s							
YAK				pmax		pmax		
	comp=Z,211nm,2.6s							
YAK				pmax		pmax		
	comp=E,149nm,1.4s							
YAK				smax				
	comp=E,618nm,3.9s							
YAK				smax				
	comp=N,428nm,2.6s							
YAK				MLR		MLR		
	comp=N,1μm,14.0s,MS4.7							
YAK				MLR		MLR		
	comp=Z,2μm,15.0s,MS4.7							
YAK				MLR		MLR		
	comp=E,2μm,17.0s,MS4.7							
YAK	**Yakutsk**	**20.52**	**328**	*e*Pn		**P**	**11 51 39.2**	**+0.5**
YAK				*e*Sn		**S**	**11 55 29.8**	**+2.7**
KSRS	**Korea Array**	**20.81**	**253**	P		**P**	**11 51 42.4**	**+0.5**
	comp=E,58nm,0.9s,baz=59,slow=8.9,SNR=35							
KSRS				LR		LR	11 58 43.0	
	comp=E,1μm,20.9s,MS4.3,baz=64,slow=34							
KSRS	**Korea Array**	**20.81**	**253**	P		**P**	**11 51 42.4**	**+0.5**
KSRS				pmax		pmax		
	comp=Z,58nm,0.9s							
KSRS				MLR		MLR		
	comp=Z,1μm,20.9s,MS4.3							
KS15	**Wonju Array Si**	**20.84**	**253**	*e*P		**P**	**11 51 43.4**	**+1.2**
INCN	**Inchon**	**21.65**	**255**	P		**P**	**11 51 53.0**	**+2.1**
	SNR=7.9							
INCN	**Inchon**	**21.65**	**255**	*e*P		**P**	**11 51 48.5**	**-2.4**
	comp=Z,139nm,0.9s,mb5.4							
SNY	**Shenyang**	**21.70**	**268**	⇓P		**P**	**11 51 51.8**	**+0.3**
SNY				AMB		AMB		
	comp=Z,72nm,1.0s,mb5.1							
SNY				LR		LR		
	comp=N,1μm,14.4s,MS4.7							
SNY				LR		LR		
	comp=E,2μm,17.4s,MS4.7							
SNY				LR		LR		
	comp=Z,3μm,17.7s,MS4.7							
HIA	**Hailar**	**22.50**	**289**	*e*P		**P**	**11 51 57.6**	**-2.3**
HIA				pmax		pmax		
	comp=Z,72nm,1.3s							
HIA	**Hailar**	**22.50**	**289**	*e*P		**P**	**11 51 57.6**	**-2.3**
	comp=Z,72nm,1.3s,mb4.9							
BILL	**Bilibino**	**22.57**	**13**	*d*P		**P**	**11 52 01.2**	**+0.7**
BILL				pmax		pmax		
	comp=Z,27nm,1.0s,mb4.6							
BILL				MLR		MLR		
	comp=Z,2μm,18.0s,MS4.6							
BILL	**Bilibino**	**22.57**	**13**	*e*P		**P**	**11 51 58.7**	**-1.8**
	comp=Z,35nm,0.6s,mb5.0							
DL2	**Dalian**	**24.31**	**263**	⇑*i*P		**P**	**11 52 18.6**	**+0.7**
DL2				S		**S**	**11 56 36.1**	**+0.2**
DL2				AMB		AMB		
	comp=Z,80nm,1.2s,mb5.0							
DL2				AMB		AMB		
	comp=Z,700nm,5.9s							
DL2				LR		LR		
	comp=N,410nm,13.3s,MS4.3							
DL2				LR		LR		
	comp=E,540nm,13.7s,MS4.3							
DL2				LR		LR		
	comp=Z,640nm,15.6s,MS4.2							
BOD	**Bodaibo**	**26.17**	**310**	*e*P		**P**	**11 52 33.1**	**-1.5**
BOD				pmax		pmax		
	comp=Z,34nm,1.4s,mb4.7							
BJI	**Beijing**	**27.55**	**270**	P		**P**	**11 52 47.8**	**+0.6**
BJI				S		**S**	**11 57 26.4**	**-0.8**
BJI				AMB		AMB		
	comp=Z,37nm,1.1s,mb4.9							
BJI				AMB		AMB		
	comp=Z,1μm,8.4s							
BJI				LR		LR		
	comp=N,1μm,16.7s,MS4.7							
BJI				LR		LR		
	comp=E,930nm,17.4s,MS4.7							
BJI				LR		LR		
	comp=Z,815nm,24.8s							
BJT	**Baijiatuau**	**27.56**	**270**	*e*P		**P**	**11 52 47.8**	**+0.5**
BJT				pmax		pmax		
	comp=Z,28nm,0.8s							
BJT	**Baijiatuau**	**27.56**	**270**	*e*P		**P**	**11 52 47.8**	**+0.5**
	comp=Z,28nm,0.8s,mb5.0							
TIXI	**Tiksi**	**27.68**	**344**	*d*P		**P**	**11 52 46.5**	**-1.6**
TIXI				pmax		pmax		
	comp=Z,13nm,1.5s,mb4.3							

TIXI MLR MLR
comp=Z,2μm,13.0s,MS4.9
TIXI Tiksi 27.68 344 *e*P **P 11 52 46.7 -1.4**
comp=Z,18nm,1.5s,mb4.5
JOW Kunigami 27.86 234 P **P 11 52 50.0 -0.1**
comp=Z,50nm,1.0s,mb5.1,baz=122,slow=27,SNR=3.8
TIA Tai'an 28.76 262 *e*P **P 11 52 58.2 +0.2**
TIA AMB AMB
comp=Z,117nm,1.8s,mb5.3
TIA LR LR
comp=E,2μm,17.0s
SSE Sheshan 29.09 249 *e*P **P 11 53 00.0 -1.1**
SSE S **S 11 57 50.4 -1.3**
SSE AMB AMB
comp=Z,36nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,85nm,3.8s
SSE LR LR
comp=N,658nm,20.3s,MS4.5
SSE LR LR
comp=E,1μm,20.3s,MS4.5
SSE LR LR
comp=Z,1μm,18.1s,MS4.5
NJ2 Nanjing 30.01 253 *e*P **P 11 53 10.5 +1.3**
NJ2 S **S 11 58 08.0 +2.0**
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,330nm,7.8s
NJ2 LR LR
comp=N,2μm,24.8s,MS4.7
NJ2 LR LR
comp=E,2μm,24.2s,MS4.7
NJ2 LR LR
comp=Z,2μm,24.2s,MS4.6
HHC Hu-ho-hao-te 30.38 274 *e*P **P 11 53 13.2 +0.8**
HHC XP sP 11 53 19.2 -1.9
HHC PP PP 11 54 11.5 -9.4
HHC PCP PcP 11 56 12.8 +1.0
HHC S **S 11 58 15.3 +3.6**
HHC SS SS 11 59 49.3 -32
HHC PCS PcS 11 59 57.6 +2.2
HHC AMB AMB
comp=Z,100nm,1.1s,mb5.5
HHC AMB AMB
comp=Z,739nm,4.3s
HHC LR LR
comp=N,2μm,16.1s,MS5.0
HHC LR LR
comp=E,2μm,15.5s,MS5.0
HHC LR LR
comp=Z,3μm,17.2s,MS5.0
TIY Taiyuan 31.21 268⇑ *i*P **P 11 53 21.7 +1.9**
TIY PP PP 11 54 23.4 -6.8
TIY S **S 11 58 22.4 -2.4**
TIY XS sS 11 58 37.3 +2.3
TIY AMB AMB
comp=Z,531nm,3.8s
TIY LR LR
comp=N,1μm,17.2s,MS4.8
TIY LR LR
comp=E,2μm,17.0s,MS4.8
TIY LR LR
comp=Z,1μm,15.9s,MS4.7
SONM Songino Array 31.47 290 P **P 11 53 20.6 -1.3**
comp=Z,5.1nm,0.9s,mb4.3,baz=71,slow=8.6,SNR=28
SONM PcP PcP 11 56 14.8 +0.2
comp=Z,4.9nm,0.9s,baz=159,slow=2.1,SNR=5.9
SONM ScP ScP 11 59 56.1 -0.3
comp=Z,0.6nm,0.8s,baz=150,slow=6.8,SNR=6.4
SONM LR LR 12 07 07.1
comp=Z,4μm,18.8s,MS5.1,baz=64,slow=38
SONM Songino Array 31.47 290 P **P 11 53 20.6 -1.3**
SONM 11 56 14.8
BTO Baotou 31.54 275 *e*P **P 11 53 22.3 -0.3**
IRK Irkutsk 31.85 299 *e*P **P 11 53 23.6 -1.6**
IRK *e* 11 56 15.2
IRK pmax pmax
comp=Z,31nm,1.2s,mb5.0
TLY Talaya 32.33 298 P **P 11 53 29.3 -0.1**
SNR=9.9
TLY Talaya 32.33 298 *e*P **P 11 53 28.9 -0.5**
TLY pmax pmax
comp=Z,37nm,1.4s,mb5.0
TLY MLR MLR
comp=Z,5μm,15.0s,MS5.3
TLY Talaya 32.33 298 *e*P **P 11 53 28.8 -0.7**
comp=Z,39nm,1.3s,mb5.1
TTA Tatalina 32.52 41 *e*P **P 11 53 30.0 -1.0**
SVW2 Sparrevohn 32.58 45 *e*P **P 11 53 32.0 +0.5**
ZAK Zakamensk 32.83 295⇑ *i*P **P 11 53 33.4 -0.4**
ZAK pmax pmax
comp=Z,21nm,1.3s,mb4.9
OHAK Old Harbor 33.84 52 *e*P **P 11 53 41.3 -1.3**
comp=Z,108nm,1.9s,mb5.5
OHAK LR LR
comp=Z,1μm,19.0s,MS4.7
IMA2 Indian Mountai 33.92 36 *e*P **P 11 53 41.9 -1.3**
WHN Wuhan 33.95 256⇑ P **P 11 53 44.0 +0.2**
WHN S **S 11 59 11.8 +4.3**
WHN AMB AMB
comp=Z,77nm,0.8s,mb5.7
WHN LR LR
comp=N,2μm,17.8s,MS5.0
WHN LR LR
comp=E,2μm,17.0s,MS5.0
WHN LR LR
comp=Z,3μm,15.1s,MS5.1
MOY Mondy 33.95 298 *e*P **P 11 53 43.3 -0.3**
MOY pmax pmax
comp=Z,41nm,2.7s,mb4.9
KDAK Kodiak Island 34.17 51 P **P 11 53 44.0 -1.4**
comp=Z,214nm,0.8s,mb6.1,SNR=8.2
KDAK Kodiak Island 34.17 51 P **P 11 53 43.5 -1.9**
comp=Z,27nm,0.8s,mb5.2,baz=308,slow=3.8,SNR=21
KDAK Kodiak Island 34.17 51 *e*P **P 11 53 44.0 -1.4**
comp=Z,27nm,0.8s,mb5.2
CHUM Lake Minchumin 34.26 40 *e*P **P 11 53 46.2 +0.1**
comp=Z,14nm,1.0s,mb4.9
PPLA Purkeypile 34.27 42 *e*P **P 11 53 46.3 +0.1**
comp=Z,79nm,1.4s,mb5.5
BPAW Bear Paw Mtn. 34.86 39 *e*P **P 11 53 50.2 -1.1**
comp=Z,18nm,1.0s,mb5.0
KTH Kantishna Hill 34.87 40 *e*P **P 11 53 51.0 -0.3**
comp=Z,100nm,1.3s,mb5.6
TRF Thorofare Moun 35.15 41 *e*P **P 11 53 53.0 -0.7**
comp=Z,2.4nm,0.7s,mb4.2
RC01 Rabbit Creek A 35.42 45 *e*P **P 11 53 56.0 -0.1**
comp=Z,16nm,0.9s,mb5.0
COLD Coldfoot 35.46 34 *e*P **P 11 53 56.4 0.0**
comp=Z,15nm,0.8s,mb5.0
XAN Xi'an 35.57 266 P **P 11 53 58.4 +0.7**
XAN AMB AMB
comp=Z,39nm,1.7s,mb5.1
XAN AMB AMB
comp=Z,485nm,7.7s
XAN LR LR
comp=N,562nm,14.6s,MS4.8
XAN LR LR
comp=E,1μm,14.2s,MS4.8
XAN LR LR
comp=Z,2μm,16.3s,MS4.9
SEW Seward 35.62 46 *e*P **P 11 53 56.0 -1.8**
PMR Palmer 35.69 44 *e*P **P 11 53 57.8 -0.7**
MCK McKinley 35.76 40 *e*P **P 11 53 58.6 -0.4**
comp=Z,15nm,1.0s,mb4.9
COLA College 36.25 38 *e*P **P 11 54 02.3 -0.9**
COLA pmax pmax
comp=Z,31nm,0.9s,mb5.2
COLA College 36.25 38 *e*P **P 11 54 02.3 -0.9**
comp=Z,31nm,0.9s,mb5.2
MID Middleton Isla 37.25 47 *e*P **P 11 54 13.1 +1.3**
DIV Divide 37.34 44 *e*P **P 11 54 12.7 +0.2**
comp=Z,9.8nm,0.6s,mb4.8
EYAK Cordova Ski Ar 37.41 45 *e*P **P 11 54 12.8 -0.3**
comp=Z,50nm,1.0s,mb5.3
KRAR Krasnoyarsk 37.76 307 *e*P **P 11 54 14.8 -1.4**
KRAR pmax pmax
comp=Z,19nm,0.9s,mb4.8
BMRM Bremner River 37.92 45 *e*P **P 11 54 16.4 -1.0**
RAGM Ragged Mountai 37.96 46 *e*P **P 11 54 18.7 +0.9**
LZH Lanzhou 37.97 272⇑⇑P **P 11 54 20.0 +1.9**
LZH PP PP 11 55 50.2 +5.3
LZH S **S 12 00 08.1 -0.8**
LZH XS sS 12 00 24.5 +5.3
LZH SS SS 12 02 44.7 -11
LZH AMB AMB
comp=Z,163nm,1.3s,mb5.6
LZH AMB AMB
comp=Z,534nm,6.5s
LZH LR LR
comp=E,2μm,13.2s
LZH LR LR
comp=Z,3μm,17.8s,MS5.1
HVS Khovu-Aksy 38.50 299 *d i*P **P 11 54 21.8 -0.7**
GTA Gaotai 39.07 279⇑⇑P **P 11 54 28.8 +1.4**
GTA AP pP 11 54 33.0 -0.6
GTA XP sP 11 54 35.8 -0.3
GTA PP PP 11 56 03.1 +6.2
GTA PCP PcP 11 56 37.9 +0.9
GTA S **S 12 00 29.0 +3.5**
GTA XS sS 12 00 37.3 +1.5
GTA AMB AMB
comp=Z,55nm,1.4s,mb5.1
GTA AMB AMB
comp=Z,632nm,6.9s
GTA LR LR
comp=N,1μm,15.0s,MS5.0
GTA LR LR
comp=E,1μm,13.8s,MS5.0
GTA LR LR
comp=Z,2μm,15.6s,MS5.0
EGAK Eagle 39.11 38 *e*P **P 11 54 26.2 -1.1**
comp=Z,24nm,0.8s,mb5.0
DAWY Dawson 39.95 39 *e*P **P 11 54 34.2 -0.2**
CD2 Chengdu 40.93 265 P **P 11 54 43.8 +0.9**
CD2 AP pP 11 54 48.3 -0.9
CD2 XP sP 11 54 51.0 -0.7
CD2 PP PP 11 56 21.6 +4.3
CD2 PCP PcP 11 56 45.4 +2.3
CD2 S **S 12 00 54.0 +0.4**
CD2 XS sS 12 01 01.2 -2.7
CD2 SS SS 12 03 51.8 -3.5
CD2 SCS ScS 12 04 46.5 -0.1
CD2 AMB AMB
comp=Z,90nm,1.3s,mb5.2
CD2 AMB AMB
comp=Z,530nm,6.5s
CD2 LR LR
comp=N,2μm,10.2s,MS5.3
CD2 LR LR
comp=E,2μm,12.8s,MS5.3
CD2 LR LR
comp=Z,1μm,15.0s,MS5.0
HYT Haines Junctio 41.37 44 *e*P **P 11 54 46.4 +0.3**
GYA Guiyang 41.74 258⇑ *i*P **P 11 54 49.3 -0.3**
GYA PP PP 11 56 30.2 +4.1
GYA PCP PcP 11 56 48.7 +2.9
GYA SCP ScP 12 00 37.8 +3.1
GYA S **S 12 01 05.5 -0.1**
GYA SS SS 12 04 05.2 -6.3
GYA AMB AMB
comp=Z,130nm,1.1s,mb5.5
GYA AMB AMB
comp=Z,610nm,7.2s
GYA LR LR
comp=N,1μm,15.0s,MS5.0
GYA LR LR
comp=E,1μm,13.2s,MS5.0
GYA LR LR
comp=Z,1μm,13.5s,MS4.9
INK Inuvik 41.78 32 P **P 11 54 47.8 -1.6**
comp=Z,9.4nm,0.9s,mb4.4,baz=271,slow=9.1,SNR=9.6
INK Inuvik 41.78 32 P **P 11 54 47.8 -1.6**
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 41.78 32 *e*P **P 11 54 47.5 -1.9**
SKAG Skagway 42.75 45 *e*P **P 11 54 59.5 +2.1**
comp=Z,64nm,2.0s,mb5.0
SKAG LR LR
comp=Z,500nm,20.0s,MS4.4
ZAA0 Zalesovo Array 42.78 306 *e*P **P 11 54 56.4 -1.4**
ZALV Zalesovo Beam 42.78 306 P **P 11 54 55.5 -2.3**
comp=Z,5.8nm,0.7s,mb4.4,baz=67,slow=6.7,SNR=29
ZALV PcP PcP 11 56 49.0 +0.2
comp=Z,14nm,1.0s,baz=77,slow=3.3,SNR=10.0
ZALV LR LR 12 13 58.8
comp=Z,2μm,19.6s,MS5.1,baz=73,slow=38
ZAL Zalesovo 42.80 306 P **P 11 54 55.5 -2.4**
ZAL 11 56 49.0
NVS Novosibirsk 43.37 308 *e*P **P 11 54 59.7 -2.8**
NVS *e* 11 56 47.5
NVS *eS* **S 12 01 21.9 -7.0**
NVS pmax pmax
comp=Z,49nm,1.9s,mb4.9
NVS pmax pmax
comp=N,26nm,1.8s
NVS pmax pmax
comp=E,41nm,1.8s
NVS smax
comp=N,16nm,1.7s
SIT Sitka 43.45 49 *e*P **P 11 55 04.1 +1.0**
SIT pmax pmax
comp=Z,77nm,1.5s,mb5.2
SIT Sitka 43.45 49 *e*P **P 11 55 08.8 +5.7**
comp=Z,143nm,2.4s,mb5.3
SIT LR LR
comp=Z,400nm,18.0s,MS4.4
QIZ Qiongzhong 44.84 247 P **P 11 55 13.5 -1.1**
QIZ S **S 12 01 50.5 -0.6**
QIZ AMB AMB
comp=Z,727nm,6.4s
QIZ LR LR
comp=N,1μm,20.5s
QIZ LR LR
comp=Z,1μm,24.2s,MS4.7
WMQ Urumqi 45.06 291 P **P 11 55 15.9 -0.3**
WMQ AP pP 11 55 20.4 -2.1
WMQ XP sP 11 55 22.9 -2.1
WMQ PP PP 11 57 01.9 +0.5
WMQ SCP ScP 12 00 48.3 +0.4
WMQ S **S 12 01 52.7 -1.2**
WMQ XS sS 12 02 00.5 -3.8
WMQ SS SS 12 05 04.5 -11
WMQ SCS ScS 12 05 10.5 -1.4
WMQ AMB AMB
comp=Z,26nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,91nm,9.8s
WMQ LR LR
comp=N,2μm,17.6s,MS5.1
WMQ LR LR
comp=E,1μm,16.8s,MS5.1
WMQ LR LR
comp=Z,2μm,17.0s,MS5.0
CRAG Craig 45.13 50 *e*P **P 11 55 17.2 +0.6**
WRAK Wrangell Islan 45.21 49 *e*P **P 11 55 19.0 +1.9**
comp=Z,18nm,0.9s,mb4.9
KMI Kunming 45.28 260 P **P 11 55 19.2 +1.1**
KMI AP pP 11 55 22.3 -2.1
KMI XP sP 11 55 23.3 -3.6
KMI PP PP 11 57 05.0 +1.0
KMI S **S 12 01 59.5 +2.1**
KMI SS SS 12 05 10.7 -10
KMI AMB AMB
comp=Z,61nm,1.0s,mb5.4
KMI AMB AMB
comp=Z,667nm,4.0s
KMI LR LR
comp=N,1μm,14.6s,MS5.0
KMI LR LR
comp=E,668nm,14.6s,MS5.0
KMI LR LR
comp=Z,847nm,13.1s,MS4.9
DLBC Dease Lake 45.68 46 *e*P **P 11 55 22.0 +1.1**
MK31 Makanchi Array 47.09 298 *e*P **P 11 55 31.6 -0.6**
MK31 *e*pP pP 11 55 35.8 -2.7
MKAR Makanchi Array 47.09 298 P **P 11 55 30.7 -1.5**
comp=Z,33nm,0.9s,mb5.3,baz=64,slow=8.5,SNR=178
MKAR PcP PcP 11 57 03.6 -0.2
comp=Z,7.1nm,0.8s,baz=57,slow=4.5,SNR=4.7
MKAR LR LR 12 16 31.7
comp=Z,5μm,18.1s,MS5.5,baz=78,slow=38
MKAR Makanchi Array 47.09 298 P **P 11 55 30.7 -1.5**
MKAR 11 57 03.6
MKAR Makanchi Array 47.09 298 P **P 11 55 30.7 -1.5**
MKAR PcP PcP 11 57 03.6 -0.2
MKAR LR LR 12 16 31.7
KURK Kurchatov 47.53 304 P **P 11 55 34.0 -1.5**
comp=Z,322nm,0.8s,mb6.4,SNR=41
KURK Kurchatov 47.53 304 P **P 11 55 34.4 -1.1**
SNR=26
KURK Kurchatov 47.53 304 *c i*P **P 11 55 34.0 -1.5**
KURK pmax pmax
comp=Z,78nm,1.3s,mb5.6
KURK Kurchatov 47.53 304 *e*P **P 11 55 34.0 -1.6**
comp=Z,50nm,0.9s,mb5.5
LSA Lhasa 50.35 273 P **P 11 56 01.0 +3.6**
LSA Lhasa 50.35 273 *e*P **P 11 56 00.2 +2.8**
LSA *e*PP pP 11 56 05.3 +1.5
LSA pmax pmax
comp=Z,54nm,0.8s,mb5.6
LSA Lhasa 50.35 273 *e*P **P 11 56 00.2 +2.7**
comp=Z,54nm,0.8s,mb5.6
LSA *e*pP pP 11 56 05.2 +1.4
YKW3 Yellowknife Ar 51.01 37 *e*P **P 11 56 01.5 -0.3**
BVAR Borovoye Array 51.04 310 LR LR 12 19 52.4
comp=Z,2μm,18.2s,MS5.2,baz=63,slow=39
YKA Yellowknife Ar 51.04 37 P **P 11 56 00.9 -1.2**
comp=Z,12nm,0.7s,mb4.9,baz=296,slow=7.0,SNR=13
YKA LR LR 12 19 56.2
comp=Z,124nm,19.3s,MS3.9,baz=265,slow=39
YKA Yellowknife Ar 51.04 37 P **P 11 56 00.9 -1.2**
YKA LR LR 12 19 56.2
BRVK Borovoye 51.08 310 P **P 11 56 01.7 -0.9**
comp=Z,245nm,0.8s,mb6.2,SNR=13
BRVK Borovoye 51.08 310 P **P 11 56 02.0 -0.6**
SNR=16
BRVK Borovoye 51.08 310 *e*P **P 11 56 01.3 -1.3**
BRVK *e*PP pP 11 56 06.0 -3.0
BRVK pmax pmax
comp=Z,25nm,0.7s,mb5.2
BRVK Borovoye 51.08 310 *e*P **P 11 56 01.3 -1.3**
comp=Z,25nm,0.7s,mb5.3
BRVK *e*pP pP 11 56 06.0 -3.0
CHTO Chiang Mai 52.14 257 P **P 11 56 12.7 +1.8**
SNR=13
CHTO Chiang Mai 52.14 257 P **P 11 56 12.1 +1.2**
CHTO pmax pmax
comp=Z,95nm,1.0s,mb5.7
CHTO Chiang Mai 52.14 257 *e*P **P 11 56 12.2 +1.3**
comp=Z,65nm,0.9s,mb5.6
CHTO *e*pP pP 11 56 18.4 +1.0
CMAR Chiang Mai Arr 52.39 257 P **P 11 56 13.0 +0.2**
comp=Z,25nm,0.8s,mb5.2,baz=34,slow=7.6,SNR=86
CMAR PcP PcP 11 57 24.6 +1.0
comp=Z,7.4nm,1.0s,baz=43,slow=2.7,SNR=4.9
CMAR LR LR 12 21 44.9
comp=Z,613nm,18.4s,MS4.7,baz=53,slow=40
CMAR Chiang Mai Arr 52.39 257 P **P 11 56 13.0 +0.2**
CMAR 11 57 24.6
SHL Shillong 52.44 269 *i* P **P 11 56 14.5 +1.4**
KBS Kingsbay 52.70 351 *e*P **P 11 56 15.1 +0.7**
KBS AMS AMS 12 19 18.3
comp=Z,384nm,18.8s,MS4.5
KBS Kingsbay 52.70 351 *e*P **P 11 56 14.2 -0.2**
KBS pmax pmax
comp=Z,29nm,1.1s,mb5.1
KBS Kingsbay 52.70 351 *e*P **P 11 56 14.2 -0.1**
comp=Z,29nm,1.1s,mb5.1
SPITS Spitsbergen Ar 52.82 350 LR LR 12 21 20.5
comp=Z,404nm,18.2s,MS4.5,baz=65,slow=39
ULHL Ulahol 53.11 295 P **P 11 56 18.5 +0.6**
SNR=24
TKM2 Tokmak 2 53.15 296 *e*P **P 11 56 18.2 +0.1**
TKM2 pmax pmax
comp=Z,27nm,1.1s,mb5.1
TKM2 Tokmak 2 53.15 296 P **P 11 56 18.4 +0.3**
SNR=18
TKM2 Tokmak 2 53.15 296 *e*P **P 11 56 18.2 +0.1**
comp=Z,27nm,1.1s,mb5.1
CHMS Chumysh 53.63 297 P **P 11 56 21.8 +0.1**
SNR=12
USP Ospenovka 53.64 297 P **P 11 56 22.0 +0.3**
SNR=49
KBK Karagaybulak 53.69 296 P **P 11 56 22.6 +0.5**
SNR=11
B04A Port Angeles 53.78 56⇓P **P 11 56 23.4 +0.8**
baz=54
FRU Bishkek 53.80 297 *e*P **P 11 56 22.0 -0.9**
FRU pmax pmax
comp=Z,60nm,1.2s,mb5.4
FRU MLR MLR
comp=Z,4μm,16.0s,MS5.5
KZA Kyzart 53.82 296 P **P 11 56 24.4 +1.4**
SNR=14
A04A Legoe Bay, Lum 53.89 55⇑P **P 11 56 24.2 +0.7**
baz=54
NLWA Neilton Lookou 53.93 57⇓P **P 11 56 24.4 +0.6**
baz=54,SNR=8.9
NLWA Neilton Lookou 53.93 57 *e*P **P 11 56 23.8 0.0**
AAK Ala-Archa 53.99 297 P **P 11 56 24.8 +0.5**
SNR=13
SVE Sverdlovsk 54.02 317⇑ *e*P **P 11 56 23.8 -0.5**
SVE *e*SSS 12 09 33.9
SVE pmax pmax
comp=Z,29nm,0.8s,mb5.3
SVE MLR MLR
comp=Z,1μm,16.0s,MS5.0
A05A Maple Falls 54.09 54⇓P **P 11 56 26.0 +1.1**
baz=54
D03A Wishkah Elem. 54.13 57⇓P **P 11 56 26.5 +1.3**
baz=54
TAPN Taplejung 54.18 273 *e*P **P 11 56 27.5 +1.6**
C04A Brinnon 54.27 56⇑P **P 11 56 26.5 +0.3**
baz=54
SOKR Solikamsk 54.30 321 *c i*P **P 11 56 25.1 -1.1**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb5.0
SOKR MLR MLR
comp=Z,1μm,20.0s,MS5.0
A06A Chilliwack 54.37 54⇓P **P 11 56 26.8 -0.2**
baz=54
EKS2 Erkin-Say 54.41 297 P **P 11 56 27.8 +0.5**
SNR=26
EKS2 Erkin-Say 54.41 297 *e*P **P 11 56 27.6 +0.3**
comp=Z,35nm,0.9s,mb5.3
EKS2 *e*pP pP 11 56 32.0 -1.8
GNW Green Mountain 54.43 56 *e*P **P 11 56 26.4 -1.1**
comp=Z,43nm,1.7s,mb5.1
B05A Bryant 54.47 55⇑P **P 11 56 26.6 -1.1**
baz=54
E03A Lebam 54.56 57⇓P **P 11 56 27.9 -0.5**
baz=54
JCW Jim Creek 54.60 55 *e*P **P 11 56 29.2 +0.6**
B06A Marblemount 54.68 54⇓P **P 11 56 30.2 +1.0**
baz=54
RPW Rockport 54.70 54 *e*P **P 11 56 30.9 +1.5**
ODAN Odare 54.71 273 *e*P **P 11 56 31.1 +1.4**
comp=Z,230nm,1.4s,mb6.0
AML Almayashu 54.76 296 P **P 11 56 31.1 +1.2**
SNR=6.8
AML Almayashu 54.76 296 *e*P **P 11 56 30.9 +1.0**
comp=Z,24nm,0.9s,mb5.2
A07A Ashnola River, 55.01 53⇑P **P 11 56 32.0 +0.5**
baz=55,SNR=7.7
C05A Tolt Reservoir 55.01 55⇑P **P 11 56 32.3 +0.7**
baz=55
E04A Onalaska 55.02 57⇓P **P 11 56 31.8 +0.1**
baz=55
JIRN Jiri 55.03 275 *e*P **P 11 56 33.8 +1.7**
comp=Z,180nm,0.8s,mb6.2
GUN Gumba 55.09 275 *e*P **P 11 56 33.9 +1.4**
comp=Z,257nm,1.1s,mb6.2
D05A Enumclaw 55.12 56⇓P **P 11 56 32.9 +0.5**
baz=55
RAMN Ramite 55.20 274 *e*P **P 11 56 34.6 +1.3**
comp=Z,143nm,0.8s,mb6.1
BJO Bjornoya 55.38 346 AMS AMS 12 26 04.9
comp=Z,786nm,16.9s,MS4.9
B07A Winthrop 55.47 54⇑P **P 11 56 35.3 +0.3**
baz=55,SNR=5.4
F04A Amboy 55.56 57⇑P **P 11 56 36.5 +0.9**
baz=55
KKN Kakani 55.58 276 *e*P **P 11 56 37.4 +1.4**
comp=Z,163nm,0.8s,mb6.1
E05A Randle 55.59 56⇑P **P 11 56 36.1 +0.3**
baz=55
PKI Pulchoki 55.62 275 *e*P **P 11 56 37.8 +1.5**
A08A Turner Farm, O 55.67 53⇑⇑P **P 11 56 36.8 +0.4**
baz=55,SNR=8.3
H03A Soap Creek Ran 55.74 59⇓P **P 11 56 38.0 +1.1**
baz=56
D06A Cle Elum 55.76 55⇓P **P 11 56 37.8 +0.7**
baz=56
COR Corvallis 55.79 59 *e*P **P 11 56 37.4 +0.1**
COR pmax pmax
comp=Z,37nm,1.2s,mb5.3

COR Corvallis 55.79 59 eP P 11 56 37.4 +0.1
comp=Z,37nm,1.2s,mb5.3
I02A Mapleton 55.80 60 ⇑P P 11 56 38.2 +0.8
baz=56
DMN Daman 55.81 275 eP P 11 56 39.4 +1.7
comp=Z,248nm,0.9s,mb6.2
ETW Entiat 55.83 55 eP P 11 56 36.5 -1.0
GKN Gorkha 55.88 276 eP P 11 56 39.7 +1.5
comp=Z,114nm,1.0s,mb5.8
TBM Table Mountain 55.92 55 P P 11 56 40.8 +2.6
G04A Mulino 55.93 58 ⇓P P 11 56 38.9 +0.7
baz=56
C07A Waterville 55.93 55 ⇓P P 11 56 38.8 +0.6
baz=56,SNR=5.8
B08A Colville Reser 55.97 54 ⇑P P 11 56 39.3 +0.8
baz=56,SNR=10
A09A Danville 56.04 53 ⇓P P 11 56 39.3 +0.3
baz=56,SNR=17
E06A Yakima 56.05 56 ⇓P P 11 56 39.2 +0.1
baz=56
HNR Honiara 56.05 172 LR LR 12 19 59.9
comp=Z,222nm,18.6s,MS4.3,baz=360,slow=35
KEBM Edson Butte 56.13 61 eP P 11 56 40.9 +1.2
I03A Eugene 56.15 60 ⇓P P 11 56 39.7 -0.2
baz=56,SNR=6.1
D07A Quincy 56.26 55 ⇑P P 11 56 40.7 +0.1
baz=56
DANN Dangsing 56.27 277 eP P 11 56 42.9 +2.0
comp=Z,242nm,0.8s,mb6.3
J02A Umpqua 56.31 60 ⇑P P 11 56 40.9 -0.2
baz=56,SNR=8.2
HOOD Mount Hood Mea 56.35 58 eP P 11 56 41.6 +0.4
comp=Z,27nm,0.8s,mb5.3
H04A Detroit Lake 56.39 59 P P 11 56 41.3 -0.3
baz=56,SNR=17
EDM Edmonton 56.40 46 eP P 11 56 41.0 -0.5
B09A Rice 56.59 53 ⇑P P 11 56 43.3 +0.4
baz=56,SNR=7.8
G05A Wamic 56.59 58 ⇑P P 11 56 43.5 +0.5
baz=56,SNR=9.5
A10A Northport 56.59 52 ⇓P P 11 56 43.6 +0.7
baz=56,SNR=6.3
F06A Goldendale 56.60 57 ⇓P P 11 56 43.4 +0.4
baz=56
E07A Sunnyside 56.68 56 ⇑P P 11 56 43.7 +0.1
baz=56
K02A Glendale 56.71 61 ⇑P P 11 56 44.8 +1.0
baz=56
IRO Indian Ridge 56.74 59 P P 11 56 44.2 +0.1
KOLN Koldanda 56.74 277 eP P 11 56 46.0 +1.7
comp=Z,119nm,0.8s,mb6.0
I04A Tendick Farm, 56.77 59 P P 11 56 44.0 -0.2
baz=57,SNR=14
DAG Danmarks Havn 56.85 358 ⇓iP P 11 56 43.7 -0.7
DAG pmax pmax
comp=Z,52nm,1.2s,mb5.4
DAG Danmarks Havn 56.85 358 ⇓iP P 11 56 43.7 -0.7
comp=Z,52nm,1.2s,mb5.4
M01C Crescent City 56.85 62 ⇑P P 11 56 44.5 -0.4
baz=57
OD2 Odessa Site #2 56.86 54 P P 11 56 46.9 +2.0
C09A Chrisman Ranch 56.87 54 ⇓P P 11 56 44.9 0.0
baz=57,SNR=6.5
CROR Criterion Ridg 56.92 58 P P 11 56 45.4 0.0
RSW Rattlesnake Hi 56.93 56 eP P 11 56 45.4 +0.1
D08A Wollman Farm, 56.93 55 ⇓P P 11 56 45.6 +0.2
baz=57
HAWA Hanford 56.96 56 eP P 11 56 46.1 +0.5
comp=Z,56nm,1.8s,mb5.3
H05A Madras 56.98 58 ⇓P P 11 56 46.0 +0.3
baz=57,SNR=6.2
F07A Phinny Hill Vi 57.02 56 ⇓P P 11 56 46.5 +0.5
baz=57
HUMO Hull Mountain 57.12 61 ⇑P P 11 56 47.1 +0.3
baz=57
HUMO Hull Mountain 57.12 61 eP P 11 56 47.4 +0.6
B10A Chitwood Farm, 57.16 53 ⇓P P 11 56 47.5 +0.6
baz=57
E08A Dider Farm, El 57.17 55 ⇑P P 11 56 47.7 +0.6
baz=57
I05A Bend 57.23 59 ⇓P P 11 56 48.1 +0.5
baz=57
NEW Newport 57.24 53 eP P 11 56 50.0 +2.5
NEW pmax pmax
comp=Z,69nm,1.8s
A11A Hall Mountain, 57.26 52 ⇑P P 11 56 47.9 +0.3
baz=57,SNR=9.4
J04A Umpqua Nationa 57.26 60 ⇓P P 11 56 48.3 +0.6
baz=57,SNR=5.3
D09A Jones Farm, Ri 57.27 54 ⇓P P 11 56 48.6 +0.8
baz=57
C10A Spilker Farm, 57.39 53 ⇑P P 11 56 49.1 +0.4
baz=57
VIPM Ingram Point 57.41 58 P P 11 56 48.9 +0.1
H06A Lindquist Farm 57.45 58 ⇓P P 11 56 49.3 +0.3
baz=57,SNR=15
JCC Jacoby Creek 57.50 63 ⇓P P 11 56 50.5 +1.0
baz=57
G07A Ruggs Ranch, H 57.53 57 ⇑P P 11 56 50.1 +0.5
baz=57,SNR=6.6
APA Apatity 57.55 337 ⇓iP pP 11 56 57.0 +1.1
APA pmax pmax
comp=Z,36nm,1.2s,mb5.3
APA MLR MLR
comp=Z,2μm,17.0s,MS5.2
B11A Sandpoint 57.55 52 ⇓P P 11 56 50.3 +0.5
baz=57
A12A Yaak River Ran 57.65 51 ⇓P P 11 56 51.0 +0.5
baz=57
KHMM Horse Mountain 57.65 63 eP P 11 56 50.9 +0.3
E09A Wood Farm, Sta 57.68 55 ⇓P P 11 56 51.2 +0.6
baz=58,SNR=9.6
F08A Pendleton 57.73 56 ⇓P P 11 56 51.7 +0.6
baz=58
J05A Fort Rock 57.76 59 P P 11 56 51.8 +0.6
baz=58,SNR=17
YBH Yreka Blue Hor 57.78 62 ⇓P P 11 56 51.6 +0.2
baz=58,SNR=5.7
YBH Yreka Blue Hor 57.78 62 eP P 11 56 51.8 +0.4
D10A Wagner Farm, O 57.85 54 ⇓P P 11 56 52.6 +0.7
baz=58,SNR=6.5
K04A Chilquin 57.85 60 ⇓P P 11 56 51.8 -0.2
baz=58
M02C Callahan 57.89 62 ⇓P P 11 56 52.6 +0.4
baz=58,SNR=5.8
G08A Pilot Rock 57.92 56 ⇑P P 11 56 52.3 -0.1
baz=58,SNR=8.3
N02C Big Bar 57.95 63 ⇓P P 11 56 52.4 -0.2
baz=58
B12A Libby 57.96 52 ⇓P P 11 56 52.9 +0.3
baz=58
LNOR Lincoln Mounta 57.97 55 eP P 11 56 55.5 +2.8
H07A Lands Inn, Kim 57.98 57 ⇑P P 11 56 52.7 -0.1
baz=58,SNR=12
I06A Prineville 57.98 58 P P 11 56 53.1 +0.3
baz=58,SNR=14
L04A Klamath Falls 58.01 61 ⇓P P 11 56 52.5 -0.5
baz=58
O01C Eel River Cons 58.03 64 ⇑P P 11 56 52.6 -0.6
baz=58
ARCES ARCESS Array B 58.06 341 P P 11 56 51.6 -1.4
comp=Z,13nm,0.9s,mb4.9,baz=28,slow=5.9,SNR=11
ARCES LR LR 12 25 14.2
comp=Z,893nm,20.1s,MS4.9,baz=241,slow=40
LHEM Herd Peak 58.13 61 P P 11 56 53.9 0.0
F09A S2 Ranch, Elgi 58.28 55 ⇑P P 11 56 54.5 -0.4
baz=58
K05A Summer Lake 58.29 60 P P 11 56 55.6 +0.6
baz=58,SNR=7.1
I07A Izee 58.31 58 ⇓P P 11 56 56.0 +0.9
baz=58,SNR=10
A13A Flathead Natio 58.32 51 ⇑P P 11 56 55.4 +0.3
baz=58,SNR=12
D11A Klaveano Farm, 58.38 53 ⇑P P 11 56 56.0 +0.4
baz=58,SNR=8.6
KSM Kuching 58.41 233 eP P 11 56 56.8 +0.7
J06A Christmas Vall 58.42 59 ⇓P P 11 56 55.4 -0.4
baz=58,SNR=10.0
F10A Beach Ranch, E 58.51 55 ⇓P P 11 56 56.2 -0.3
baz=58,SNR=11
WALA Waterton Lakes 58.51 50 eP P 11 56 57.2 +0.8
comp=Z,101nm,1.8s,mb5.5
H08A Prairie City 58.54 57 P P 11 56 56.9 +0.1
baz=58,SNR=22
LASM Arnica Sink 58.54 61 P P 11 56 59.9 +3.1
WDC Whiskeytown Da 58.56 63 P P 11 56 59.9 +3.0
WDC pmax pmax
comp=Z,11nm,1.1s,mb4.8
WDC Whiskeytown Da 58.56 63 ⇑P P 11 56 57.2 +0.3
baz=58
WDC Whiskeytown Da 58.56 63 eP P 11 56 59.8 +2.9
G09A Cove 58.60 56 ⇑P P 11 56 57.4 +0.2
baz=58,SNR=10
B13A Whitefish 58.62 51 ⇓P P 11 56 57.9 +0.6
baz=58,SNR=18
K06A Valley Falls 58.63 59 P P 11 56 57.5 +0.2
baz=58,SNR=20
O02C Red Bluff 58.64 63 ⇓P P 11 56 58.0 +0.5
baz=58
L05A Lakeview 58.72 60 P P 11 56 58.6 +0.6
baz=58,SNR=9.2
P01C Double 8 Ranch 58.73 64 ⇑P P 11 56 58.9 +0.8
baz=58
J07A Hines 58.84 58 ⇑P P 11 56 59.1 +0.3
baz=59,SNR=6.5
E11A Boner Ranch, 58.85 54 ⇓P P 11 56 59.6 +0.7
baz=59,SNR=12
AKTO Aktyubinsk 58.91 312 LR LR 12 22 50.3
comp=Z,911nm,20.5s,MS4.9,baz=230,slow=36
DDI Dehra Dun 58.91 283 eP P 11 57 00.0 +0.5
DDI ex x 11 57 33.0
D12A Red Ives Fores 58.92 53 ⇓P P 11 56 59.6 +0.3
baz=59
M05C Lookout 58.94 61 ⇓P P 11 56 59.6 0.0
baz=59,SNR=6.0
I08A Drewsey 58.96 57 ⇓P P 11 57 00.0 +0.4
baz=59,SNR=8.8
C13A Hot Springs 58.97 52 ⇓P P 11 57 00.2 +0.5
baz=59,SNR=6.5
G10A Bishop Farm, J 58.97 55 P P 11 56 59.8 0.0
baz=59,SNR=23
GASB Alder Springs 59.00 64 ⇑P P 11 57 00.4 +0.4
baz=59
SMLA Simla 59.01 284 iP P 11 57 01.0 +0.9
SMLA ex x 11 57 05.3
comp=Z,31nm,0.7s
SMLA iX x 12 04 55.0
H09A Durkee 59.03 56 ⇓P P 11 57 00.1 0.0
baz=59
HATC Hat Creek Radi 59.08 62 ⇑P P 11 57 00.9 +0.4
baz=59,SNR=6.1
BMO Blue Mountains 59.13 56 eP P 11 57 00.8 0.0
comp=Z,33nm,1.4s,mb5.2
MOD Modoc 59.13 60 P P 11 57 00.8 0.0
baz=59,SNR=7.8
MOD Modoc 59.13 60 eP P 11 57 00.8 -0.1
F11A Grangeville 59.16 54 ⇓P P 11 57 01.5 +0.5
baz=59,SNR=10
THN Thein Dam 59.16 286 eP P 11 57 00.8 -0.4
O03C Acorn Hollow, 59.22 63 ⇑P P 11 57 01.4 -0.1
baz=59
K07A Rock Creek Ran 59.28 59 P P 11 57 02.1 +0.2
baz=59,SNR=18
J08A Circle Bar Ran 59.34 58 ⇑P P 11 57 03.0 +0.7
baz=59,SNR=11
C14A Swan Lake 59.37 52 ⇓P P 11 57 02.8 +0.4
baz=59
D13A Huson 59.38 52 ⇓P P 11 57 02.7 +0.2
baz=59,SNR=12
G11A Walters Elk Ra 59.39 55 ⇓P P 11 57 02.6 0.0
baz=59,SNR=14
TRO Tromso 59.39 343 eP P 11 57 01.7 -0.5
TRO eS S 12 05 09.8 +0.3
TRO AMS AMS 12 27 27.2
comp=Z,440nm,18.2s,MS4.6
TRO Tromso 59.39 343 iP P 11 57 01.5 -0.7
TRO e 12 00 49.5
TRO LR LR
comp=Z,440nm,18.2s,MS4.6
I09A Lost Marbles R 59.40 57 ⇑P P 11 57 03.1 +0.4
baz=59,SNR=8.3
M06C Likely Place G 59.44 61 ⇑P P 11 57 03.0 0.0
baz=59
O04C Chester 59.60 62 ⇓P P 11 57 04.3 +0.1
baz=59,SNR=5.3
H10A Noah's Angus R 59.60 56 ⇓P P 11 57 04.2 +0.1
baz=59,SNR=17
L07A Adell 59.63 60 P P 11 57 04.6 +0.3
baz=59,SNR=8.0
MNRC McLaughlin Nat 59.64 64 ⇓P P 11 57 04.8 +0.4
baz=59
ELFS Eagle Lake Fie 59.64 62 ⇑P P 11 57 04.6 +0.2
baz=59
K08A Mann Creek Ran 59.71 59 P P 11 57 05.2 +0.3
baz=60,SNR=16
F12A Elk City 59.75 54 ⇓P P 11 57 05.0 0.0
baz=60,SNR=24
J09A Fry Pan Ranch, 59.77 58 P P 11 57 05.5 +0.3
baz=60,SNR=19
WVOR Wild Horse Val 59.80 59 eP P 11 57 04.5 -1.0
WVOR pmax pmax
comp=Z,16nm,0.9s,mb5.0
WVOR Wild Horse Val 59.80 59 eP P 11 57 04.5 -1.0
comp=Z,16nm,0.9s,mb5.0
ORV Oroville 59.81 63 ⇑P P 11 57 05.9 +0.3
baz=60,SNR=6.7
SUTB Sutter Butte 59.83 64 ⇑P P 11 57 06.1 +0.4
baz=60
I10A Payette 59.87 56 ⇑P P 11 57 06.2 +0.2
baz=60,SNR=6.1
D14A Greenough 59.91 52 ⇑P P 11 57 06.5 +0.3
baz=60,SNR=22
O05C Quincy 59.92 62 ⇑P P 11 57 06.6 +0.3
baz=60
E13A Victor 59.92 53 ⇑P P 11 57 06.2 -0.1
baz=60,SNR=14
OHCM Honcut 59.95 63 eP P 11 57 05.7 -0.9
H11A Donnelly 59.95 55 ⇓P P 11 57 06.4 -0.1
baz=60,SNR=20
FARB Farallon Islan 60.00 66 ⇓P P 11 57 07.3 +0.3
baz=60
Q03C Winters 60.05 64 ⇓P P 11 57 07.4 +0.2
baz=60
N06A Buffalo Meadow 60.10 61 ⇓P P 11 57 08.1 +0.5
baz=60,SNR=6.6
M07A Soldier Meadow 60.11 60 ⇓P P 11 57 07.6 0.0
baz=60
L08A Fields 60.12 59 ⇑P P 11 57 07.7 +0.1
baz=60,SNR=8.6
CHMT Chamberlain Mo 60.15 52 eP P 11 57 09.4 +1.6
K09A Rome 60.18 58 ⇓P P 11 57 07.6 -0.5
baz=60
F13A Darby 60.24 54 ⇓P P 11 57 08.3 -0.2
baz=60,SNR=16
J10A Berg Farm, Mel 60.29 57 ⇑P P 11 57 08.7 -0.1
baz=60
KLMR Klimovskoe 60.31 329 eP P 11 57 07.6 -1.1
KLMR eS S 12 05 11.7 -10
KLMR pmax pmax
comp=Z,54nm,1.5s,mb5.4
KLMR MLR MLR
comp=Z,1μm,20.0s,MS5.1
Q04C Lincoln 60.32 64 ⇓P P 11 57 09.5 +0.4
baz=60
E14A Clinton 60.32 53 ⇑P P 11 57 09.0 +0.1
baz=60
O06A Flanigan 60.46 62 ⇓P P 11 57 09.5 -0.5
baz=60,SNR=5.9
I11A Placerville 60.47 56 ⇓P P 11 57 10.3 +0.2
baz=60,SNR=6.5
D15A Lincoln 60.47 52 ⇑P P 11 57 10.4 +0.4
baz=60,SNR=12
NDI New Delhi 60.51 282 eP P 11 57 09.6 -1.0
P05C Yuba Gap, Truc 60.51 63 ⇑P P 11 57 10.2 -0.2
baz=60
M08A Happy Creek Ra 60.55 60 P P 11 57 10.8 +0.2
baz=60,SNR=11
BDM Black Diamond 60.56 65 ⇑P P 11 57 10.9 +0.2
baz=60
N07B Gerlach 60.60 61 ⇓P P 11 57 10.9 -0.2
baz=60
L09A Wilkinson Ranc 60.62 59 ⇓P P 11 57 10.3 -0.8
baz=60,SNR=11
K10A MacKenzie Ranc 60.63 58 P P 11 57 10.9 -0.2
baz=60,SNR=24
JRSC Jasper Ridge 60.66 65 ⇑P P 11 57 12.2 +0.7
baz=60
H12A Diamond D Ranc 60.70 55 ⇑P P 11 57 11.4 -0.3
baz=60,SNR=14
P06A Stead Airport, 60.72 62 ⇑P P 11 57 11.7 -0.1
baz=60
G13A Cobalt 60.72 54 P P 11 57 11.4 -0.3
baz=60,SNR=52
F14A Wisdom 60.76 53 ⇓P P 11 57 11.9 -0.1
baz=60
LAVA Lava Cap Winer 60.77 63 ⇑P P 11 57 12.4 +0.3
baz=61,SNR=6.9
E15A Deer Lodge 60.78 52 ⇑P P 11 57 11.8 -0.3
baz=60,SNR=19
WENL Wente Brothers 60.83 65 ⇑P P 11 57 12.8 +0.2
baz=61
MFID Camas Ranch 60.84 57 ⇑P P 11 57 13.2 +0.6
baz=61,SNR=11
BNLO Ben Lomond (Sa 60.87 66 ⇑P P 11 57 12.6 -0.3
baz=61
SUMG Summit 60.89 4 eP P 11 57 12.5 0.0
comp=Z,24nm,1.0s,mb5.3
R04C Big Horse Ranc 60.95 64 ⇓P P 11 57 12.3 -1.2
baz=61
H13A Challis 61.03 55 P P 11 57 13.7 -0.2
baz=61,SNR=19
O07A Toulon 61.04 61 ⇑P P 11 57 13.6 -0.4
baz=61,SNR=9.4
G14A Jackson 61.06 54 ⇓P P 11 57 13.9 -0.2
baz=61
N08A GE Springer Mi 61.11 60 ⇓P P 11 57 14.5 +0.1
baz=61,SNR=7.9
M09A Marrel Ranch, 61.12 59 ⇓P P 11 57 14.6 +0.1
baz=61,SNR=6.6
K11A Parker Ranch, 61.12 57 ⇓P P 11 57 14.9 +0.4
baz=61,SNR=15
S04C Ingram Canyon, 61.17 65 ⇓P P 11 57 15.0 +0.1
baz=61
R05C Kirkwood Meado 61.21 63 ⇑P P 11 57 14.9 -0.2
baz=61
F15A Butte 61.23 53 ⇑P P 11 57 15.8 +0.7
baz=61,SNR=21
LRM Limekiln Ridge 61.26 53 eP P 11 57 16.2 +0.8
L10A Juniper Basin 61.29 58 ⇑P P 11 57 15.8 +0.2
baz=61,SNR=10.0
EGMT Eagleton 61.34 49 ⇓P P 11 57 15.4 -0.5
baz=61
EGMT Eagleton 61.34 49 eP P 11 57 18.6 +2.8
comp=Z,63nm,1.2s,mb5.6
J12A Stokes Ranch, 61.36 56 ⇓P P 11 57 15.8 -0.4
baz=61,SNR=16
P07A Fallon 61.41 62 ⇑P P 11 57 16.8 +0.2
baz=61
N09A Rock Creek Ran 61.43 60 ⇑P P 11 57 16.3 -0.3
baz=61,SNR=8.5
CMB Columbia Colle 61.43 64 P P 11 57 16.1 -0.6
CMB pmax pmax
comp=Z,11nm,1.0s,mb4.9
CMB Columbia Colle 61.43 64 ⇑P P 11 57 16.6 -0.1
baz=61,SNR=6.9
CMB Columbia Colle 61.43 64 eP P 11 57 16.2 -0.5
DLMT Dillon 61.47 53 eP P 11 57 18.3 +1.6
comp=Z,74nm,1.8s,mb5.5
I13A Wildhorse Cree 61.51 55 ⇑P P 11 57 17.6 +0.5
baz=61,SNR=26
JOF Joensuu 61.54 334 ep P 11 57 15.4 -1.6
comp=Z,26nm,1.0s,mb5.3
JOF Joensuu 61.54 334 eP P 11 57 15.4 -1.6
JOF pmax pmax
comp=Z,26nm,1.0s,mb5.3
HLID Hailey 61.56 56 ⇑P P 11 57 18.0 +0.5
baz=61,SNR=14
M10A I.L. Ranch, Tu 61.59 59 ⇓P P 11 57 17.9 +0.2
baz=61,SNR=14
G15A Dillon 61.65 53 ⇑P P 11 57 18.1 +0.1
baz=61,SNR=12
L11A Cat Creek Ranc 61.66 58 P P 11 57 18.4 +0.3
baz=61,SNR=31
MCMT McKenzie Canyo 61.66 54 P P 11 57 20.8 +2.7
R06C Coleville 61.70 63 ⇑P P 11 57 17.8 -0.7
baz=62,SNR=18
HAST Hastings Reser 61.72 66 ⇓P P 11 57 19.0 +0.3
baz=62
J13A Cove Ranch, Pi 61.80 56 ⇑P P 11 57 19.2 +0.1
baz=62,SNR=18
P08A Dixie Valley 61.81 61 ⇑P P 11 57 20.4 +1.2
baz=62
BOZ Bozeman (W) 61.82 52 ⇓P P 11 57 20.0 +0.8
baz=62
BOZ Bozeman (W) 61.82 52 eP P 11 57 19.9 +0.7
Q07A Schurz 61.84 62 ⇑P P 11 57 20.6 +1.2
baz=62
S06C San Francisco 61.86 64 ⇓P P 11 57 20.6 +1.0
baz=62,SNR=8.5
K12A Draper Farm, C 61.86 57 ⇑P P 11 57 19.5 0.0
baz=62,SNR=9.5
BMN Battle Mountai 61.87 60 P P 11 57 22.6 +3.0
BMN pmax pmax
comp=Z,14nm,0.9s,mb5.1
BMN Battle Mountai 61.87 60 eP P 11 57 19.9 +0.3
KAKA Kakadu 61.87 203 eP P 11 57 17.9 -1.9
comp=Z,13nm,0.9s,mb5.0
S05C Merced 61.89 64 ⇑P P 11 57 20.8 +1.1
baz=62,SNR=9.7
T05C Eagle Field, D 61.96 65 ⇓P P 11 57 21.7 +1.4
baz=62
JMIC Jan Mayen 62.03 353 LR LR 12 22 19.1
comp=Z,231nm,18.9s,MS4.4,baz=170,slow=34
JMIC Jan Mayen 62.03 353 eS S 12 05 51.4 +8.2
JMIC AMS AMS 12 22 32.4
comp=Z,197nm,19.4s,MS4.3
O09A Fish Creek Ran 62.05 60 ⇑P P 11 57 21.9 +1.1
baz=62,SNR=9.4
M11A Holland Ranch, 62.09 58 ⇑P P 11 57 20.9 -0.2
baz=62,SNR=11
L12A House Creek Ra 62.10 57 ⇑P P 11 57 20.7 -0.3
baz=62,SNR=20
N10A Dunphy 62.11 59 ⇓P P 11 57 21.7 +0.4
baz=62
KBL Kabul 62.21 292 eP P 11 57 21.6 -0.3
comp=Z,99nm,1.2s,mb5.8
R07C Lee Vining 62.22 63 ⇓P P 11 57 21.9 -0.1
baz=62,SNR=7.6
U04C Hernandez Rese 62.22 66 ⇑P P 11 57 22.1 +0.1
baz=62
K13A Stover Farm, H 62.32 56 ⇑P P 11 57 22.2 -0.4
baz=62
BATI Baumata 62.38 213 LR LR 12 20 44.3
comp=Z,228nm,20.2s,MS4.3,baz=120,slow=32
O10A Cortez Mining, 62.38 60 ⇓P P 11 57 23.4 +0.3
baz=62
Q08A Gabbs 62.42 62 P P 11 57 23.2 -0.1
baz=62,SNR=22
QLMT Earthquake Lak 62.44 53 eP P 11 57 26.6 +3.2
NVAR Mina Array Bea 62.46 62 P P 11 57 22.9 -0.7
comp=Z,8.3nm,0.9s,mb4.9,baz=290,slow=6.5,SNR=36
NVAR Mina Array Bea 62.46 62 P P 11 57 22.9 -0.7
P09A Austin 62.47 61 ⇓P P 11 57 23.3 -0.3
baz=62
T06C Millerton Lake 62.49 64 ⇓P P 11 57 23.1 -0.7
baz=62
N11A Elko Archery C 62.51 59 ⇓P P 11 57 23.6 -0.3
baz=62
KCC Kaiser Creek 62.53 64 ⇑P P 11 57 23.9 -0.2
baz=62,SNR=7.5
M12A Wells 62.61 58 ⇓P P 11 57 24.1 -0.5
baz=62,SNR=11
V04C Ramage Ranch, 62.62 66 ⇓P P 11 57 24.8 +0.1
baz=62
R08A Mina 62.63 62 ⇑P P 11 57 24.5 -0.2
baz=62
PKD Parkfield 62.64 66 ⇓P P 11 57 24.2 -0.6
baz=62
L13A Double Diamond 62.75 57 ⇓P P 11 57 25.4 -0.1
baz=62,SNR=10
GCMT Greycliff 62.79 51 eP P 11 57 26.2 +0.5
YMR Madison River 62.80 53 eP P 11 57 28.6 +2.8
comp=Z,49nm,1.4s,mb5.5
P10A Eureka 62.83 60 ⇓P P 11 57 25.7 -0.3
baz=63,SNR=6.4
ELK Elko 62.85 59 P P 11 57 29.1 +3.0
ELK pmax pmax
comp=Z,21nm,1.2s
ELK Elko 62.85 59 eP P 11 57 28.9 +2.7
Q09A Carvers 62.89 61 ⇓P P 11 57 26.7 +0.2
baz=63
N12A Clover Valley, 62.90 58 ⇑P P 11 57 26.5 +0.1
baz=63
K14A Jones Ranch, D 62.91 56 ⇑P P 11 57 26.2 -0.2
baz=63,SNR=9.2
MTUM Tungsten Hills 62.98 63 eP P 11 57 30.0 +3.0
O11A Cowboy Ranch, 62.99 59 ⇑P P 11 57 26.6 -0.4
baz=63,SNR=6.6
YFT Old Faithful 63.01 53 eP P 11 57 30.9 +3.8
PTRM Twissleman Ran 63.03 66 eP P 11 57 26.4 -1.0
M13A Montello 63.09 57 ⇑P P 11 57 27.9 +0.2
baz=63,SNR=18

V05C Boulder Hill, 63.09 65 ⇊P P 11 57 28.1 +0.3
baz=63
HELL Mitchell Peak 63.12 64 ⇊P P 11 57 28.5 +0.4
baz=63,SNR=24
S08C White Mtn Res 63.13 63 ⇊P P 11 57 28.2 +0.2
baz=63,SNR=7.6
LKWY Lake 63.18 53 eP P 11 57 32.8 +4.5
LKWY pmax pmax
comp=Z,19nm,1.1s,mb5.1
LKWY Lake 63.18 53 eP P 11 57 32.8 +4.5
comp=Z,19nm,1.1s,mb5.1
K15A Arbon 63.19 55 ⇑P P 11 57 28.6 +0.2
baz=63
L14A Malta 63.19 56 ⇑P P 11 57 28.3 -0.1
baz=63,SNR=22
IMW Indian Meadow 63.31 54 eP P 11 57 31.1 +2.0
comp=Z,35nm,1.3s,mb5.3
J16A Bone 63.33 54 ⇑P P 11 57 29.0 -0.3
baz=63
R09A Tonopah 63.33 62 P P 11 57 28.8 -0.6
baz=63,SNR=41
TPH Tonopah 63.35 62 eP P 11 57 29.9 +0.4
TPH pmax pmax
comp=Z,22nm,1.0s,mb5.2
TPH Tonopah 63.35 62 eP P 11 57 29.9 +0.4
comp=Z,22nm,1.0s,mb5.2
Q10A Clear Creek Ra 63.37 61 ⇊P P 11 57 29.2 -0.4
baz=63,SNR=7.1
SMMC Simmler 63.38 66 ⇊P P 11 57 29.9 +0.1
baz=63
N13A Wendover, West 63.38 58 ⇑P P 11 57 29.2 -0.5
baz=63,SNR=11
RLMT Red Lodge 63.44 52 eP P 11 57 31.6 +1.6
O12A Currie 63.44 59 ⇑P P 11 57 29.6 -0.4
baz=63,SNR=22
RRI2 Red Ridge 63.45 54 eP P 11 57 33.4 +3.3
M14A Sheep Mountain 63.47 57 ⇑P P 11 57 30.3 0.0
baz=63,SNR=7.4
MOOW Moose Ponds 63.51 54 eP P 11 57 31.5 +1.1
comp=Z,118nm,2.1s,mb5.5
TPAW Teton Pass 63.56 54 eP P 11 57 32.5 +1.7
S09A Goldfield 63.57 62 ⇑P P 11 57 30.5 -0.5
baz=63,SNR=8.6
VES Vestal, Richgr 63.62 65 ⇑P P 11 57 31.9 +0.6
baz=63
HVU Hansel Valley 63.62 56 eP P 11 57 33.9 +2.6
K16A Soda Springs 63.63 55 ⇑P P 11 57 31.5 +0.2
baz=63,SNR=12
KAF Kangasniemi 63.65 335 ep P 11 57 29.7 -1.4
comp=Z,44nm,0.9s,mb5.5,baz=38,slow=6.2
KAF Kangasniemi 63.65 335 eP P 11 57 29.7 -1.4
KAF pmax pmax
comp=Z,44nm,0.9s,mb5.5
AJM Ajmer 63.67 281 eP P 11 57 32.0 +0.2
LOHW Long Hollow 63.68 54 eP P 11 57 32.9 +1.3
SNOW Snow King Moun 63.69 54 eP P 11 57 33.3 +1.7
comp=Z,64nm,1.4s,mb5.5
REDW Red Top Meadow 63.70 54 eP P 11 57 33.1 +1.4
comp=Z,47nm,1.0s,mb5.5
L15A Malad City 63.70 56 ⇑P P 11 57 32.1 +0.4
baz=64
PKM Peak Mountain 63.76 66 ⇑P P 11 57 32.9 +0.7
baz=64
R10A Warm Springs 63.77 61 ⇊P P 11 57 32.8 +0.5
baz=64,SNR=8.7
Q11A Duckwater 63.81 60 ⇊P P 11 57 32.4 -0.1
baz=64
S10A Tonopah Range, 63.83 62 P P 11 57 32.4 -0.2
baz=64,SNR=22
P12A McGill 63.85 60 ⇑P P 11 57 32.1 -0.7
baz=64
CWC Cottonwood Cre 63.86 64 ⇊P P 11 57 33.0 +0.1
baz=64,SNR=5.7
DGMT Dagmar 63.89 46 eP P 11 57 33.1 +0.2
GRAC Grapevine Rang 63.94 63 ⇑P P 11 57 33.0 -0.4
baz=64,SNR=8.4
AHID Auburn Hatcher 63.94 55 eP P 11 57 35.5 +2.2
comp=Z,78nm,1.9s,mb5.4
O13A Hicks Ranch, I 63.98 58 ⇊P P 11 57 34.2 +0.6
baz=64
N14A Grayback Hills 63.98 57 ⇊P P 11 57 34.0 +0.4
baz=64
LAO LASA Array 64.03 49 eP P 11 57 34.2 +0.4
ISA Isabella 64.11 65 P P 11 57 33.2 -1.4
ISA pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ISA Isabella 64.11 65 ⇊P P 11 57 34.4 -0.2
baz=64,SNR=6.8
ISA Isabella 64.11 65 eP P 11 57 33.4 -1.1
R11A Troy Canyon, C 64.17 61 P P 11 57 33.7 -1.2
baz=64,SNR=25
Q12A Willow Creek R 64.17 60 ⇑P P 11 57 34.4 -0.5
baz=64,SNR=7.1
ARVC Arvin 64.23 65 ⇊P P 11 57 35.6 +0.2
baz=64
L16A Fish Haven 64.24 55 ⇑P P 11 57 35.5 +0.2
baz=64
P13A Bates Ranch, G 64.39 59 ⇊P P 11 57 36.2 -0.2
baz=64
MPMC Manual Prospec 64.47 64 P P 11 57 36.4 -0.5
baz=64,SNR=27
M16A Huntsville 64.58 56 ⇊P P 11 57 37.1 -0.5
baz=64,SNR=10
FURC Furnace Creek, 64.59 63 P P 11 57 37.0 -0.7
baz=64,SNR=34
DUG Dugway 64.62 58 eP P 11 57 38.4 +0.6
DUG pmax pmax
comp=Z,28nm,1.1s,mb5.2
DUG Dugway 64.62 58 ⇊P P 11 57 37.9 0.0
baz=64
MOS Moscow 64.64 326 eP P 11 57 34.0 -3.7
MOS pmax pmax
comp=Z,57nm,0.9s,mb5.6
MOS MLR MLR
comp=Z,1μm,16.0s,MS5.1
TPNV Topopah Spring 64.66 62 ⇑P P 11 57 38.8 +0.7
baz=64
TPNV Topopah Spring 64.66 62 eP P 11 57 37.8 -0.4
Q13A Wheeler Ranch, 64.71 59 ⇑P P 11 57 38.3 -0.2
baz=64,SNR=10
NOQ North Oquirrh 64.73 57 eP P 11 57 39.8 +1.3
comp=Z,53nm,1.2s,mb5.4
BLG Laguna Peak 64.74 66 ⇊P P 11 57 38.1 -0.6
baz=65
O15A The Old Anders 64.77 57 ⇑P P 11 57 38.7 -0.1
baz=64
R12A Pony Springs, 64.77 60 ⇑P P 11 57 38.3 -0.5
baz=65,SNR=11
BW06 Boulder Array 64.81 54 eP P 11 57 39.1 +0.1
comp=Z,89nm,1.9s,mb5.5
PDAR Pinedale Array 64.81 54 P P 11 57 38.6 -0.4
comp=Z,13nm,0.8s,mb5.0,baz=264,slow=1.5,SNR=74
PDAR LR LR 12 23 26.2
comp=Z,228nm,20.7s,MS4.3,baz=339,slow=34
P14A Drum Mountains 64.86 58 ⇑P P 11 57 38.5 -0.9
baz=65,SNR=18
EDW2 Edwards Air Fo 64.92 65 ⇑P P 11 57 39.3 -0.5
baz=65,SNR=10
U10A Ash Meadows, A 64.95 63 ⇑P P 11 57 39.5 -0.6
baz=65,SNR=10.0
N16A Rees Ranch, Co 64.97 56 ⇑P P 11 57 41.2 +1.1
baz=65
S12A Delamar Landin 65.09 61 ⇊P P 11 57 40.5 -0.4
baz=65,SNR=14
T11A Corn Creek, Al 65.10 62 P P 11 57 40.3 -0.7
baz=65,SNR=36
Q14A Sevier Lake (B 65.13 59 ⇊P P 11 57 41.1 0.0
baz=65,SNR=21
NLU North Lily Min 65.21 58 eP P 11 57 44.6 +2.9
R13A O'Grain Ranch, 65.24 60 ⇑P P 11 57 41.9 0.0
baz=65
N17A Moffit Pass 65.28 56 ⇑P P 11 57 42.5 +0.4
baz=65,SNR=13
MWC Mount Wilson 65.30 66 eP P 11 57 44.8 +2.5
MWC pmax pmax
comp=Z,62nm,1.7s,mb5.4
MWC Mount Wilson 65.30 66 eP P 11 57 44.8 +2.4
comp=Z,62nm,1.8s,mb5.3
P15A Leamington 65.34 58 ⇑P P 11 57 43.1 +0.6
baz=65,SNR=7.1
O16A Springville 65.38 57 ⇑P P 11 57 43.0 +0.3
baz=65,SNR=17
DAU Daniels Canyon 65.38 57 eP P 11 57 45.6 +2.8
GSC Goldstone 65.38 64 ⇑P P 11 57 43.1 +0.2
baz=65,SNR=9.9
GSC Goldstone 65.38 64 eP P 11 57 41.5 -1.4
MPU Maple Canyon 65.42 57 eP P 11 57 44.1 +1.1
comp=Z,15nm,0.8s,mb5.1
OBN Obninsk 65.51 326⇑eP P 11 57 41.7 -1.7
OBN eS S 12 06 22.1 -4.8
OBN eSS SS 12 10 41.4 +1.8
OBN pmax pmax
comp=Z,117nm,2.5s,mb5.5
OBN MLR MLR
comp=Z,1μm,16.0s,MS5.2
BFSC Mount Baldy St 65.54 66 ⇊P P 11 57 43.9 0.0
baz=65
CIS Catalina Islan 65.61 67 ⇊P P 11 57 45.0 +0.6
baz=65
P16A Fountain Green 65.67 58 ⇊P P 11 57 44.6 -0.1
baz=66
S13A Holt Ranch, En 65.70 61 ⇊P P 11 57 44.6 -0.3
baz=66,SNR=14
ARUT Antelope Range 65.82 60 eP P 11 57 48.2 +2.6
TUQ Turquoise Mtn. 65.84 63 ⇊P P 11 57 45.5 -0.3
baz=66,SNR=10
V11A Goodsprings 65.88 63 ⇊P P 11 57 46.4 +0.3
baz=66,SNR=7.6
N18A Larsen Ranch, 65.92 55 ⇑P P 11 57 46.0 -0.3
baz=66,SNR=10.0
HEC Hector,Ludlow 65.99 64 ⇑P P 11 57 46.0 -0.8
baz=66,SNR=10
BBRC Big Bear Sol-O 65.99 65 ⇑P P 11 57 46.5 -0.3
baz=66,SNR=5.7
CCUT Cedar City 66.02 60 eP P 11 57 55.4 +8.4
T13A Saint George 66.04 61 ⇊P P 11 57 46.8 -0.2
baz=66,SNR=7.7
U12A Valley of Fire 66.04 62 ⇊P P 11 57 47.2 +0.1
baz=66
MSU Marysvale 66.09 59 eP P 11 57 48.6 +1.2
TMUT Trail Mountain 66.14 58 eP P 11 57 48.8 +1.1
O18A Roosevelt 66.20 56 ⇑P P 11 57 47.9 -0.1
baz=66,SNR=10
R15A Junction 66.23 59 ⇑P P 11 57 49.2 +1.0
baz=66
MURC Murrieta 66.25 66 ⇑P P 11 57 49.1 +0.6
baz=66
P17A Butcher Ranch, 66.30 57 ⇑P P 11 57 48.5 -0.2
baz=66,SNR=9.3
V12A Nelson 66.31 63 ⇊P P 11 57 48.9 0.0
baz=66,SNR=6.8
U13A Pakoon Wash 66.40 62 P P 11 57 49.2 -0.2
baz=66,SNR=39
Q16A Castle Valley 66.42 58 ⇑P P 11 57 49.5 +0.1
baz=66,SNR=10
GMRC Granite Mounta 66.44 64 ⇑P P 11 57 49.0 -0.7
baz=66,SNR=7.8
P18A Preston Nutter 66.48 57 ⇑P P 11 57 49.8 -0.1
baz=66,SNR=11
T14A Hurricane 66.51 61 ⇊P P 11 57 49.6 -0.5
baz=66,SNR=10
S15A Panguitch 66.53 60 ⇑P P 11 57 50.2 0.0
baz=66
LDFC Landfair 66.58 63 eP P 11 57 49.9 -0.6
W12A Cal Nev Ari 66.58 63 ⇊P P 11 57 49.6 -0.9
baz=66,SNR=8.9
CTA Charters Tower 66.62 187 eP P 11 57 49.2 -1.6
comp=Z,6.3nm,0.9s,mb4.7
CTA Charters Tower 66.62 187 P P 11 57 50.2 -0.6
comp=Z,7.1nm,1.0s,mb4.7,baz=343,slow=5.5,SNR=3.0
CTA Charters Tower 66.62 187 eP P 11 57 49.2 -1.6
CTA pmax pmax
comp=Z,6.0nm,0.9s
ULM Lac du Bonnet 66.63 41 P P 11 57 49.0 -1.6
comp=Z,5.7nm,0.8s,mb4.7,baz=303,slow=5.1,SNR=5.8
ULM PKKP 12 17 53.4
comp=Z,3.8nm,0.7s,baz=133,slow=3.3,SNR=3.6
ULM LR LR 12 30 39.7
comp=Z,316nm,18.1s,MS4.6,baz=278,slow=39
ULM Lac du Bonnet 66.63 41 P P 11 57 49.0 -1.6
ULM PKKP 12 17 53.4
ULM LR LR 12 30 39.7
R16A Teasdale 66.65 59 ⇑P P 11 57 50.9 -0.1
baz=66,SNR=20
SRU San Rafael 66.67 57 P P 11 57 51.6 +0.6
SRU pmax pmax
comp=Z,19nm,0.9s,mb5.1
SRU San Rafael 66.67 57 ⇑P P 11 57 50.5 -0.6
baz=66,SNR=18
SRU San Rafael 66.67 57 eP P 11 57 51.8 +0.7
PFO Pinyon Flat Ob 66.71 65 eP P 11 57 53.1 +1.7
PFO e pP 11 58 00.7 +2.7
PFO Pinyon Flat Ob 66.71 65 ⇑P P 11 57 50.6 -0.8
baz=66
PFO Pinyon Flat Ob 66.71 65 eP P 11 57 53.1 +1.7
BELC Belle Mtn. 66.74 65 ⇑P P 11 57 50.9 -0.6
baz=66,SNR=7.0
V13A Grand Canyon W 66.76 62 ⇊P P 11 57 51.1 -0.6
baz=67,SNR=14
109C Camp Elliot, M 66.78 66 ⇊P P 11 57 52.1 +0.3
baz=67
RWWY Rawlins 66.83 53 eP P 11 57 53.6 +1.6
comp=Z,13nm,1.0s,mb4.9
U14A Mt Trumbull 66.87 61 ⇊P P 11 57 52.2 -0.2
baz=67,SNR=15
Q18A Rafter H Ranch 66.90 57 ⇊P P 11 57 52.1 -0.5
baz=67,SNR=7.5
RSSD Black Hills 66.90 50 eP P 11 57 51.2 -1.2
T15A Red Dirt Ranch 66.96 60 ⇊P P 11 57 52.7 -0.3
baz=67,SNR=14
S16A Weppner Ranch, 66.96 59 ⇑P P 11 57 52.6 -0.3
baz=67,SNR=10
R17A Hanksville Air 67.02 58 ⇑P P 11 57 51.2 -2.0
baz=67,SNR=23
HYB Hyderabad 67.07 271 i P P 11 57 54.5 +0.6
HYB Hyderabad 67.07 271 eP P 11 57 54.5 +0.6
IRM Iron Mountain 67.16 64 ⇑P P 11 57 53.5 -0.8
baz=67,SNR=11
BAR Barrett 67.19 66 eP P 11 57 56.6 +2.2
comp=Z,84nm,2.3s,mb5.4
MONP Monument Peak 67.21 66 ⇑P P 11 57 53.6 -1.0
baz=67
VRSR Storozhevoye 67.30 321 eP P 11 57 54.0 -0.9
VRSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
VRSR pmax pmax
comp=N,4.0nm,0.7s
VRSR pmax pmax
comp=E,2.0nm,0.5s
VRSR MLR MLR
comp=Z,180nm,15.0s,MS4.4
VRSR MLR MLR
comp=N,150nm,16.0s,MS4.5
VRSR MLR MLR
comp=E,230nm,19.0s,MS4.5
BC3 Big Chuckw Mtn 67.31 65 ⇑P P 11 57 54.4 -0.8
baz=67,SNR=8.6
W13A Hualapai Mount 67.32 63 ⇑P P 11 57 54.6 -0.7
baz=67,SNR=6.6
U15A North Rim 67.40 61 ⇑P P 11 57 55.2 -0.6
baz=67,SNR=18
V14A Boquillas Ranc 67.44 62 ⇊P P 11 57 55.7 -0.3
baz=67,SNR=43
S17A Black Ridge (B 67.48 59 ⇊P P 11 57 55.7 -0.5
baz=67,SNR=20
Q19A Hogan Spring (67.50 57 P P 11 57 56.5 +0.1
baz=67,SNR=24
T16A Glen Canyon Da 67.50 60 ⇊P P 11 57 55.5 -0.9
baz=67,SNR=9.6
R18A Canyonlands Na 67.52 58 ⇊P P 11 57 55.8 -0.7
baz=67,SNR=19
DVTC Desert V Tower 67.56 66 ⇑P P 11 57 56.8 0.0
baz=67
SWSC Sam W. Stewart 67.56 65 ⇑P P 11 57 56.4 -0.5
baz=67
X13A Yucca 67.69 63 ⇊P P 11 57 56.7 -0.9
baz=68,SNR=13
PDMCI Parker Dam,Lak 67.69 63 ⇑P P 11 57 56.6 -1.1
baz=68,SNR=7.2
W14A Seligman 67.73 62 P P 11 57 57.6 -0.2
baz=68,SNR=39
Y12C Blythe 67.82 64 ⇊P P 11 57 56.9 -1.5
baz=68,SNR=7.4
V15A Kaibab Nationa 67.88 61 ⇊P P 11 57 58.2 -0.6
baz=68,SNR=18
T17A Navajo Res., N 67.91 59 ⇊P P 11 57 57.9 -1.0
baz=68,SNR=7.3
S18A Hurst Farm, Bl 67.92 58 ⇑P P 11 57 58.1 -0.9
baz=68,SNR=23
R19A Curley Farm, L 67.95 57 ⇑P P 11 57 57.6 -1.6
baz=68,SNR=15
PV10 Paradox Valley 68.02 57 eP P 11 58 00.7 +1.0
AGMN Agassiz Refuge 68.03 42 eP P 11 57 58.3 -1.2
PHWY Pilot Hill 68.06 53 eP P 11 57 59.4 -0.4
GLA Glamis 68.10 65 ⇊P P 11 57 59.5 -0.8
baz=68,SNR=7.6
GLA Glamis 68.10 65 eP P 11 58 02.9 +2.6
Y13A Salome 68.21 64 ⇑P P 11 57 59.9 -1.0
baz=68
W15A Williams 68.25 62 ⇑P P 11 58 00.9 -0.2
baz=68,SNR=6.7
U17A Shonto 68.26 59 ⇑P P 11 58 00.3 -0.9
baz=68
WRAB Tennant Creek 68.34 199 P P 11 58 00.6 -1.0
comp=E,194nm,0.9s,mb6.1,SNR=9.4
WRAB Tennant Creek 68.34 199 eP P 11 58 00.1 -1.5
WRAB pmax pmax
comp=Z,32nm,1.0s,mb5.3
WRAB Tennant Creek 68.34 199 eP P 11 58 00.1 -1.5
comp=Z,32nm,1.0s,mb5.3
WB2 Warramunga Arr 68.35 199⇑i P P 11 57 59.5 -2.2
X14A Yava 68.35 62 ⇑P P 11 58 02.5 +0.8
baz=68,SNR=11
WRA Warramunga Arr 68.35 199 P P 11 57 59.8 -1.9
comp=Z,25nm,0.9s,mb5.2,baz=17,slow=6.7,SNR=91
T18A Mexican Hat 68.37 59 P P 11 58 02.6 +0.8
baz=68,SNR=18
S19A Harvey Farm, M 68.39 58 ⇑P P 11 58 01.5 -0.4
baz=68,SNR=40
NB2 NORSAR Subarra 68.44 341 P P 11 58 01.4 -0.5
comp=Z,56nm,0.8s,mb5.7,baz=28,slow=6.5
NOA NORSAR Array B 68.44 341 P P 11 58 00.7 -1.2
comp=Z,32nm,0.8s,mb5.4,baz=27,slow=6.4,SNR=96
NOA LR LR 12 32 47.3
comp=Z,746nm,18.0s,MS5.0,baz=15,slow=40
PV01 Paradox Valley 68.45 57 eP P 11 58 04.1 +1.7
WUAZ Wupatki 68.56 61 ⇑P P 11 58 03.0 -0.1
baz=68
WUAZ Wupatki 68.56 61 eP P 11 58 04.9 +1.8
Y14A Wickenburg 68.63 63 ⇑P P 11 58 03.2 -0.3
baz=68,SNR=11
SMCO Snowmass 68.66 55 eP P 11 58 06.1 +2.5
NAO01 NORSAR Array S 68.69 341⇑eP P 11 58 02.4 -1.0
comp=Z,28nm,0.9s,mb5.2
X15A Humboldt 68.73 62 ⇊P P 11 58 03.5 -0.7
baz=68,SNR=14
W16A Flagstaff 68.75 61 ⇊P P 11 58 03.8 -0.5
baz=68
113A Mohawk Valley, 68.95 64 ⇑P P 11 58 04.4 -1.1
baz=69
BORG Borgarnes 68.96 357 eP P 11 58 06.7 +1.7
ISCO Idaho Springs 69.00 54 eP P 11 58 05.9 +0.2
ISCO pmax pmax
comp=Z,23nm,1.1s,mb5.0
ISCO Idaho Springs 69.00 54 eP P 11 58 05.9 +0.2
comp=Z,22nm,1.1s,mb5.0
FITZ Fitzroy Crossi 69.00 208⇑i P P 11 58 05.2 -0.6
comp=Z,29nm,0.9s,mb5.2
FITZ Fitzroy Crossi 69.00 208 P P 11 58 05.3 -0.6
comp=Z,18nm,0.9s,mb5.0,baz=17,slow=7.8,SNR=23
Y15A Casa Rosa Ranc 69.03 63 ⇊P P 11 58 05.0 -1.1
baz=69,SNR=16
Z14A Wintersburg 69.06 63 ⇑P P 11 58 04.3 -1.9
baz=69
T19A Beclabito 69.07 58 ⇑P P 11 58 05.3 -0.9
baz=69,SNR=12
MVCO Mesa Verde 69.12 58 ⇑P P 11 58 04.2 -2.3
baz=69
MVCO Mesa Verde 69.12 58 eP P 11 58 08.0 +1.5
MNK Minsk 69.22 329⇊eP P 11 58 06.0 -0.8
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.2
MNK MLR MLR
comp=Z,3μm,18.0s,MS5.6
MAK Makhachkala 69.25 311c i P P 11 58 05.2 -2.0
MAK e 11 58 33.0
MAK e 12 00 40.2
MAK ePPP 12 02 22.7
MAK eS S 12 07 13.4 +1.2
MAK MLR MLR
comp=Z,3μm,17.0s,MS5.7
W17A Winslow 69.26 61 ⇑P P 11 58 05.8 -1.6
baz=69
X16A Lo Mia Camp, P 69.27 62 ⇑P P 11 58 07.1 -0.3
baz=69,SNR=17
V18A Ganado 69.30 60 ⇊P P 11 58 06.4 -1.3
baz=69
Y16A Circle Bar Ran 69.61 62 ⇑P P 11 58 09.1 -0.4
baz=69,SNR=5.2
X17A Forest Lakes 69.71 61 ⇊P P 11 58 09.2 -1.0
baz=70,SNR=11
W18A Petrified Fore 69.82 60 ⇊P P 11 58 08.9 -2.0
baz=70
V19A Window Rock 69.82 59 ⇊P P 11 58 09.0 -1.9
baz=70,SNR=6.4
115A Sonoran Desert 69.95 63 ⇊P P 11 58 10.2 -1.5
baz=70,SNR=5.3
Z16A Peralta Trail, 70.00 62 ⇊P P 11 58 09.1 -2.9
baz=70,SNR=6.7
W19A Sanders 70.03 60 ⇊P P 11 58 09.8 -2.4
baz=70
X18A Snowflake 70.09 61 ⇑P P 11 58 10.3 -2.2
baz=70,SNR=5.8
214A Organ Pipe Nat 70.09 64 ⇊P P 11 58 11.2 -1.4
baz=70
Y17A Roosevelt 70.12 62 ⇑P P 11 58 10.7 -2.1
baz=70,SNR=13
BER Bergen 70.26 344 eP P 11 58 13.4 +0.3
BER eS S 12 07 24.6 +1.2
BER AMS AMS 12 35 36.5
comp=Z,487nm,16.5s,MS4.8
BER Bergen 70.26 344 eP P 11 58 13.6 +0.5
BER LR LR
comp=Z,490nm,16.5s,MS4.8
EYMN Ely 70.28 40 eP P 11 58 12.4 -1.0
SDCO Great Sand Dun 70.48 56 eP P 11 58 16.8 +1.9
Y18A Canyon Day Jun 70.56 61 ⇊P P 11 58 14.7 -0.7
baz=70,SNR=13
X19A St. Johns 70.56 60 ⇊P P 11 58 13.6 -1.8
baz=70,SNR=23
Z17A San Carlos Hig 70.62 62 ⇑P P 11 58 14.5 -1.3
baz=70
216A Three Points, 70.90 64 ⇑P P 11 58 16.0 -1.5
baz=71,SNR=5.6
Y19A Nutrioso 70.90 61 ⇑P P 11 58 16.7 -0.8
baz=71,SNR=16
117A Oracle 70.95 63 ⇑P P 11 58 16.7 -1.2
baz=71,SNR=7.8
ECSD EROS,Sioux Fal 70.97 46 eP P 11 58 16.6 -1.1
KIV Kislovodsk 70.99 314⇊i P P 11 58 19.2 +1.3
KIV i 11 58 36.1
KIV i S S 12 07 30.4 -2.1
KIV pmax pmax
comp=Z,102nm,2.0s,mb5.4
KIV Kislovodsk 70.99 314 eP P 11 58 19.4 +1.6
comp=Z,105nm,1.5s,mb5.5
TUC Tucson 71.10 63 eP P 11 58 18.0 -0.8
TUC pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TUC Tucson 71.10 63 eP P 11 58 18.0 -0.8
comp=Z,5.6nm,1.0s,mb4.5
SUW Suwalki 71.20 331 eP P 11 58 18.3 -0.7
SUW LMZ 12 33 21.4
comp=Z,800nm,18.2s
SUW Suwalki 71.20 331 eP P 11 58 17.8 -1.2
SUW pmax pmax
comp=Z,114nm,1.1s,mb5.7
SUW Suwalki 71.20 331 eP P 11 58 17.8 -1.2
comp=Z,114nm,1.1s,mb5.7
Z19A T-Link Ranch, 71.35 61 ⇑P P 11 58 16.9 -3.4
baz=71
118A Homack Ranch, 71.38 62 ⇊P P 11 58 17.5 -2.9
baz=71,SNR=17
DGRG David-gareji 71.44 311 P P 11 58 22.9 +2.2
217A Green Valley 71.45 63 ⇑P P 11 58 19.8 -1.1
baz=71,SNR=7.2
TBLG Delisi 71.57 312 P P 11 58 22.2 +0.8
ONI Oni 71.61 313 P P 11 58 22.3 +0.7
AKASG Malin Array Be 71.75 326 P P 11 58 21.6 -0.7
comp=Z,58nm,0.8s,mb5.5,baz=34,slow=6.1,SNR=178
AKASG LR LR 12 32 52.5
comp=Z,759nm,18.4s,MS5.0,baz=35,slow=38
AKASG Malin Array Be 71.75 326 i P P 11 58 21.6 -0.7
AKASG pmax pmax
comp=Z,58nm,0.8s
AKBB Malin Array Si 71.75 326 eP P 11 58 21.6 -0.7
218A Dragoon 71.79 63 ⇊P P 11 58 22.3 -0.6
baz=72,SNR=14
LAZ Ladron 71.86 59 eP P 11 58 24.1 +0.8
ANMO Albuquerque 71.88 58 eP P 11 58 22.5 -0.9

ANMO Albuquerque 71.88 58 *e*P **P 11 58 24.1 +0.8**
ASAR Alice Springs 72.04 199 P **P 11 58 23.9 -0.4**
comp=Z,22nm,1.0s,mb5.0,baz=16,slow=5.4,SNR=147
318A Bisbee 72.19 63 ⇑P **P 11 58 24.7 -0.6**
baz=72,SNR=11
LPM Los Pinos Moun 72.22 59 *e*P **P 11 58 27.2 +1.7**
219A White Tail Can 72.25 62 ⇑P **P 11 58 25.9 +0.3**
baz=72,SNR=18
BNM Barren Site 72.33 59 *e*P **P 11 58 28.8 +2.6**
AKH Akhalkalaki 72.44 312 P **P 11 58 28.2 +1.5**
319A Douglas 72.67 63 ⇓P **P 11 58 28.5 +0.3**
baz=72,SNR=17
SOC Sochi 72.71 316*c i*P **P 11 58 28.5 +0.3**
SOC *e* 11 58 31.7
SOC *e**PP pP 11 58 37.3 +2.5
SOC *e**SP sP 11 58 39.7 +2.4
SOC *e*S S 12 07 47.4 -4.9
SOC *e*SS SS 12 12 37.2 +6.2
SOC pmax pmax
comp=Z,79nm,1.7s,mb5.4
SOC MLR MLR
comp=Z,1μm,21.0s,MS5.1
GNI Garni 72.71 310 *e*P **P 11 58 30.1 +1.8**
GNI pmax pmax
comp=Z,119nm,1.4s
GNI Garni 72.71 310 *e*P **P 11 58 30.1 +1.8**
comp=Z,119nm,1.4s,mb5.6
COWI Conover 72.73 40 *e*P **P 11 58 27.1 -1.2**
PALK Pallekele 72.74 262 *e*P **P 11 58 29.7 +0.9**
comp=Z,55nm,1.1s,mb5.4
ANN Anapa 72.87 318 *e*P **P 11 58 29.5 +0.3**
ANN *e*S S 12 07 54.5 +0.4
ANN pmax pmax
comp=Z,72nm,1.4s,mb5.4
BCA Borcka 73.37 313 *e*P **P 11 58 32.3 +0.1**
SCHQ Schefferville 73.47 23 P **P 11 58 31.5 -0.9**
comp=Z,6.5nm,1.0s,mb4.5,baz=347,slow=14,SNR=3.4
SCHQ LR LR 12 34 59.8
comp=Z,340nm,20.1s,MS4.6,baz=104,slow=39
SCHQ Schefferville 73.47 23 P **P 11 58 31.5 -0.9**
SCHQ LR LR 12 34 59.9
RGN Rugen 73.70 337 *e*P **P 11 58 34.7 +0.8**
comp=Z,116nm,0.9s,mb5.8
CLDR Caldiran 73.88 310 *e*P **P 11 58 37.0 +1.8**
SCIA State Center 74.00 45 *e*P **P 11 58 35.2 -0.7**
AGRB Hanur-Agry 74.05 311 *e*P **P 11 58 37.5 +1.3**
SIM Simferopol' 74.26 320 *e*P **P 11 58 37.0 -0.3**
SIM *e*S S 12 08 10.0 +0.2
SIM pmax pmax
comp=Z,45nm,0.9s,mb5.4
SIM MLR MLR
comp=Z,900nm,16.0s,MS5.2
LVV L'vov 74.40 329 *e*P **P 11 58 37.9 -0.1**
LVV MLR MLR
comp=N,600nm,20.0s,MS5.0
LVV MLR MLR
comp=E,400nm,20.0s,MS5.0
LVV MLR MLR
comp=Z,600nm,20.0s,MS4.9
EZM Erzurum 74.64 312 *e*P **P 11 58 41.5 +1.8**
AMTX Amarillo 74.68 55 *e*P **P 11 58 39.6 -0.4**
KIS Kishinev 74.89 324α *i*P **P 11 58 40.0 -0.9**
KIS *i* 11 58 44.0
KIS *e*S S 12 08 12.0 -4.7
KIS pmax pmax
comp=Z,315nm,1.3s,mb6.1
KIS MLR MLR
comp=N,1μm,16.0s,MS5.3
KIS MLR MLR
comp=E,600nm,16.0s,MS5.3
KIS MLR MLR
comp=Z,2μm,16.0s,MS5.4
KIS MLR MLR
comp=Z,1μm,16.0s
KIS Kishinev 74.89 324 *i*P **P 11 58 40.0 -0.9**
comp=Z,300nm,1.3s,mb6.1
KIS *e*S S 12 08 12.0 -4.7
KIS *e*L 12 28 20.0
KIS LRM 12 34 46.0
comp=Z,1μm,16.0s
KWP Kalwaria 75.03 329 *e*P **P 11 58 42.2 +0.6**
KWP LMZ 12 34 50.4
comp=Z,1μm,19.4s
KWP Kalwaria 75.03 329 *e*P **P 11 58 41.9 +0.2**
KWP pmax pmax
comp=Z,230nm,1.3s,mb6.0
KWP Kalwaria 75.03 329⇑*i*P **P 11 58 41.9 +0.2**
KWP Kalwaria 75.03 329 *e*P **P 11 58 42.2 +0.5**
BSEG Bad Segeberg 75.04 338 *e*P **P 11 58 42.1 +0.4**
comp=Z,32nm,1.0s,mb5.2
GUMT Gumushane 75.18 314 *e*P **P 11 58 44.0 +1.3**
RUE Ruedersdorf 75.41 336 *e*P **P 11 58 43.6 -0.2**
comp=Z,70nm,1.1s,mb5.5
RUE Ruedersdorf 75.41 336 *e*P **P 11 58 43.7 -0.1**
OJC Ojcow 75.53 331 *e*P **P 11 58 44.5 0.0**
OJC *e*PcP PcP 11 58 55.5 -2.0
OJC *e*S S 12 08 19.5 -4.2
OJC *e*SS SS 12 13 11.2 -2.1
OJC L 12 35 22.3
comp=Z,0.6nm,20.8s
KOLS Kolonicke sedl 75.77 329 *e*P **P 11 58 45.8 -0.1**
BURAR Bucovina Array 75.79 327⇓*i*P **P 11 58 46.1 0.0**
BURAR Bucovina Array 75.79 327 ⇓P **P 11 58 46.1 0.0**
UZH Uzhgorod 76.02 329⇓*i*P **P 11 58 46.8 -0.6**
UZH *i* 11 58 50.8
UZH *i* 11 58 58.2
UZH *e*S S 12 08 26.0 -3.2
CRVS Cervenica-Dubn 76.08 330 *e*P **P 11 58 47.7 0.0**
KSP Ksiaz 76.11 334 *e*P **P 11 58 47.9 +0.1**
KSP LMZ 12 37 16.1
comp=Z,2μm,18.8s
KSP Ksiaz 76.11 334 *e*P **P 11 58 47.1 -0.8**
KSP *e*S S 12 08 28.0 -2.1
KSP LR LR
comp=Z,3μm,17.8s,MS5.7
BANOM Banah 76.12 293 P **P 11 58 49.2 +0.8**
SNR=8.6
RSDY Resadiye-TOKAT 76.29 315 *e*P **P 11 58 50.2 +1.2**
DIKM Dikmen 76.31 317 *e*P **P 11 58 50.0 +0.9**
KVT Kavak 76.38 316 *e*P **P 11 58 50.8 +1.2**
OKC Ostrava-Krasne 76.40 332 *e*P **P 11 58 49.5 0.0**
OKC *e*S S 12 08 28.4 -4.9
OKC AMS AMS 12 38 10.0
comp=Z,700nm,14.6s
OKC Ostrava-Krasne 76.40 332 *e*P **P 11 58 49.5 0.0**
OKC *e* 12 08 28.4
PTK Pertek 76.41 313 *e*P **P 11 58 51.2 +1.4**
WMOK Wichita Mounta 76.42 54 *e*P **P 11 58 48.8 -1.1**
UPC Upice 76.49 334 *e*P **P 11 58 49.9 -0.1**
UPC *e*pP pP 11 58 55.3 -1.4
DPC Dobruska-Polom 76.53 333 *e*P **P 11 58 50.3 0.0**
DPC AMS AMS 12 36 50.0
comp=Z,1μm,16.9s
ESK Eskdalemuir 76.57 346 *e*P **P 11 58 52.2 +1.8**
ARMA Armidale 76.62 181 *e*P **P 11 58 50.8 0.0**
MORC Moravsky Berou 76.65 332 P **P 11 58 51.0 +0.1**
MORC pmax pmax
comp=Z,43nm,1.0s,mb5.3
MORC Moravsky Berou 76.65 332⇑*i*P **P 11 58 50.9 0.0**
MORC Moravsky Berou 76.65 332 P **P 11 58 51.1 +0.2**
VRI Vrincioaia 76.65 325⇓*i*P **P 11 58 51.4 +0.4**
VRI Vrincioaia 76.65 325 P **P 11 58 51.3 +0.3**
CLL Collm 76.67 336⇑*i*P **P 11 58 50.5 -0.5**
CLL *i* pP 11 58 55.3 -2.4
CLL *e*S S 12 08 37.0 +0.7
CLL pmax pmax
comp=Z,51nm,0.8s,mb5.5
CLL MLR MLR
comp=Z,800nm,18.2s,MS5.1
CLL Collm 76.67 336 *e*P **P 11 58 50.5 -0.5**
comp=Z,51nm,0.8s,mb5.5
CLL Collm 76.67 336⇑*i*P **P 11 58 50.5 -0.5**
comp=Z,51nm,0.8s,mb5.5
CLL *i* sP sP 11 58 55.3 -4.8
CLL *e*PcP PcP 11 59 03.0 +0.6
CLL *e*PP PP 12 01 48.0 +5.3
CLL *e*PPP 12 03 37.0
CLL *e*S S 12 08 37.0 +0.7
CLL *e*PS 12 09 17.0
CLL *e*(SS) 12 14 13.0
CLL *e*SSS 12 17 18.0
CLL LmH 12 32 00.0
comp=N,400nm,20.8s
CLL LmH 12 32 00.0
comp=E,600nm,18.3s
CLL LmV 12 38 00.0
comp=Z,800nm,18.2s
CLL Collm 76.67 336⇑*i*P **P 11 58 50.5 -0.5**
comp=Z,51nm,0.8s,mb5.5
CLL *i* pP 11 58 55.3 -2.4
CLL *e*S S 12 08 37.0 +0.7
CLL LR LR
comp=Z,800nm,18.2s,MS5.1
BYBT Boyabat 76.68 317 *e*P **P 11 58 52.0 +0.7**
PLOR Plostina 76.69 325 P **P 11 58 52.1 +0.9**
KECS Kecovo 76.78 330 *e*P **P 11 58 51.7 0.0**
KECS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KECS Kecovo 76.78 330 *e*P **P 11 58 51.7 0.0**
comp=Z,9.7nm,0.9s,mb4.7
BRG Berggiesshubel 76.79 335 *e*P **P 11 58 51.3 -0.4**
BRG S S 12 08 41.0 +3.4
BRG pmax pmax
comp=Z,15nm,1.2s,mb4.8
BRG MLR MLR
comp=N,398nm,15.1s,MS4.9
BRG MLR MLR
comp=E,259nm,15.1s,MS4.9
BRG MLR MLR
comp=Z,496nm,14.3s,MS5.0
BRG Berggiesshubel 76.79 335 *e*P **P 11 58 51.3 -0.4**
comp=Z,25nm,1.2s,mb5.0
BRG S S 12 08 41.0 +3.4
BRG
comp=N,665nm,15.1s
BRG
comp=E,433nm,15.1s
BRG
comp=Z,828nm,14.3s
SVSK Karacayir 76.82 315 *e*P **P 11 58 52.6 +0.5**
PVCC Panska Ves 76.91 334 *e*P **P 11 58 52.2 -0.2**
PVCC *e*pP pP 11 58 57.0 -2.0
PVCC AMS AMS 12 38 40.0
comp=Z,600nm,14.4s
FBE Freiberg 76.92 335 *e*P **P 11 58 52.2 -0.2**
comp=Z,32nm,0.9s,mb5.2
CLZ Clausthal 76.92 337 *e*P **P 11 58 52.6 +0.2**
CLZ pmax pmax
comp=Z,53nm,1.1s,mb5.4
CLZ Clausthal 76.92 337 *e*P **P 11 58 52.6 +0.2**
comp=Z,53nm,1.1s,mb5.4
HDIL Hopedale 76.94 44 *e*P **P 11 58 51.7 -1.0**
HATD Hatta, Dubai 77.01 292 P **P 11 58 54.2 +0.8**
SNR=12
TIRR Tirgusor 77.11 323 *e*P **P 11 58 53.6 0.0**
TIRR pmax pmax
comp=Z,69nm,1.2s,mb5.5
TIRR Tirgusor 77.11 323⇑*i*P **P 11 58 53.5 -0.1**
TIRR Tirgusor 77.11 323 *e*P **P 11 58 53.6 0.0**
comp=Z,70nm,1.2s,mb5.5
HARR Harsova 77.12 323⇓*i*P **P 11 58 54.2 +0.5**
HARR Harsova 77.12 323 P **P 11 58 54.3 +0.6**
HOQ Hoqain 77.13 291 P **P 11 58 55.4 +1.3**
SNR=7.3
ASHO Ashiyiah 77.15 292 P **P 11 58 55.0 +0.8**
SNR=10.0
IBBN Ibbenburen 77.16 339 *e*P **P 11 58 53.8 0.0**
comp=Z,45nm,1.1s,mb5.3
MLR Muntele Rosu 77.27 325⇓*i*P **P 11 58 55.2 +0.7**
MLR Muntele Rosu 77.27 325 ⇓P **P 11 58 55.2 +0.7**
MYA Malataya 77.33 313 *e*P **P 11 58 56.8 +1.8**
MALT Malatya 77.34 313 *e*P **P 11 58 56.5 +1.5**
MALT Malatya 77.34 313⇑*i*P **P 11 58 56.7 +1.7**
MALT Malatya 77.34 313 *e*P **P 11 58 56.7 +1.7**
PRA Prague 77.36 334 P **P 11 58 56.0 +1.1**
VRAC Vranov 77.36 333⇑*i*P **P 11 58 55.5 +0.6**
VRAC Vranov 77.36 333 P **P 11 58 55.5 +0.6**
TOS Tosya 77.37 317 *e*P **P 11 58 56.8 +1.7**
PRU Pruhonice 77.40 334 *e*P **P 11 58 55.3 +0.2**
PRU *e* 11 58 59.0
PRU MLR MLR
comp=Z,800nm,15.9s,MS5.1
PRU Pruhonice 77.40 334 *e*P **P 11 58 55.3 +0.2**
PRU *e*pP pP 11 58 59.0 -2.8
PRU *e*x x 12 08 30.6
PRU AMS AMS 12 36 40.0
comp=Z,800nm,15.9s
KOLL Kolacno 77.41 331 *e*P **P 11 58 55.5 +0.3**
DRGR 77.42 328⇑*i*P **P 11 58 55.4 +0.1**
DRGR 77.42 328 P **P 11 58 55.7 +0.3**
PSZ Piszkesteto 77.47 330⇑*e*P **P 11 58 56.1 +0.5**
PSZ Piszkesteto 77.47 330⇑*i*P **P 11 58 55.7 +0.1**
PSZ Piszkesteto 77.47 330 *e*P **P 11 58 55.9 +0.4**
JMDO Jabal Madar 77.47 289 P **P 11 58 57.5 +1.5**
SNR=5.2
WERD Werda 77.64 336 *e*P **P 11 58 56.4 -0.1**
comp=Z,37nm,1.6s,mb5.1
MOX Moxa 77.66 336 *e*P **P 11 58 56.5 -0.1**
comp=Z,48nm,1.6s,mb5.2
MOX *e* 11 59 18.0
MOX
comp=Z,400nm,21.0s
MOX Moxa 77.66 336 *e*P **P 11 58 56.5 -0.1**
MOX pmax pmax
comp=Z,48nm,1.6s,mb5.2
MOX MLR MLR
comp=Z,400nm,21.0s,MS4.7
MOX Moxa 77.66 336 *e*P **P 11 58 56.3 -0.3**
comp=Z,31nm,1.1s,mb5.2
VOIR 77.66 325⇑*i*P **P 11 58 57.3 +0.6**
VOIR 77.66 325 P **P 11 58 57.5 +0.7**
GUNZ Gunzen 77.71 336 *e*P **P 11 58 56.9 0.0**
comp=Z,26nm,1.1s,mb5.1
WTSB Winterswijk 77.71 339 *e*P **P 11 58 56.4 -0.5**
comp=Z,36nm,0.9s,mb5.3
TREC Trest 77.72 333 *e*P **P 11 58 57.0 +0.1**
TREC *e*pP pP 11 59 01.2 -2.4
TREC AMS AMS 12 37 40.0
comp=Z,2μm,17.0s
CORM Corum 77.76 316 *e*P **P 11 58 58.2 +0.9**
WERN Wernitzgruen 77.77 336 *e*P **P 11 58 57.2 0.0**
comp=Z,26nm,1.0s,mb5.1
BSY Bisya 77.79 290 P **P 11 58 59.4 +1.6**
SNR=5.8
NKC Novy Kostel 77.79 335 *e*P **P 11 58 57.4 +0.1**
NKC *e*pP pP 11 59 00.9 -3.1
NKC AMS AMS 12 39 10.0
comp=Z,700nm,16.5s
NKC Novy Kostel 77.79 335 *e*P **P 11 58 57.4 +0.1**
NKC *e* 11 59 00.9
URFA Urfa 77.81 312 *e*P **P 11 58 59.5 +1.8**
SAFT Safranbolu 77.83 318 *e*P **P 11 58 58.7 +1.0**
CANT Cankiri 77.90 317 *e*P **P 11 58 58.4 +0.3**
CCM Cathedral Cave 77.92 47 *e*P **P 11 58 56.2 -2.0**
CCM pmax pmax
comp=Z,64nm,1.6s,mb5.3
CCM Cathedral Cave 77.92 47 *e*P **P 11 58 56.2 -2.1**
comp=Z,64nm,1.6s,mb5.3
SARI SarD1z-Kayseri 77.92 314 *e*P **P 11 59 01.3 +3.0**
UBBA Unterbreizbach 77.94 337 *e*P **P 11 58 57.8 -0.4**
comp=Z,37nm,1.6s,mb5.1
MODS Modra-Piesok 77.95 332 *e*P **P 11 58 58.8 +0.5**
BUG Bochum--Univer 78.08 339 *e*P **P 11 58 58.8 -0.1**
comp=Z,55nm,1.4s,mb5.3
MANZ Manzenberg 78.11 336 *e*P **P 11 58 58.9 -0.2**
comp=Z,27nm,1.2s,mb5.0
BUD Budapest 78.14 330⇑*e*P **P 11 58 59.9 +0.6**
ZST Bratislava 78.17 332 *e*P **P 11 59 00.4 +0.9**
ZST pmax pmax
comp=Z,35nm,1.2s,mb5.2
ZST MLR MLR
comp=Z,300nm,18.9s,MS4.6
ZST Bratislava 78.17 332 *e*P **P 11 59 00.4 +0.9**
comp=Z,34nm,1.2s,mb5.2
ZST LR LR
comp=Z,300nm,18.9s,MS4.6
BNN Bunyan 78.21 315 *e*P **P 11 59 00.4 +0.5**
ROTZ Rotzenmuhle 78.28 335 *e*P **P 11 59 00.2 +0.1**
comp=Z,23nm,1.0s,mb5.1
FVM French Village 78.38 46 *e*P **P 11 58 59.7 -1.1**
KHC Kasperske Hory 78.45 334 *e*P **P 11 59 01.3 +0.3**
KHC *e* 11 59 05.1
KHC *e* 12 08 47.4
KHC MLR MLR
comp=Z,900nm,18.3s,MS5.1
KHC Kasperske Hory 78.45 334 *e*P **P 11 59 01.3 +0.3**
KHC *e*pP pP 11 59 05.1 -2.5
KHC *e*x x 11 59 19.0
KHC *e*x x 12 08 47.4
KHC AMS AMS 12 37 00.0
comp=Z,900nm,18.3s
PRD Provadia 78.56 323 *i*P **P 11 59 02.1 +0.4**
GZR Gura Zlata 78.58 327 P **P 11 59 02.1 +0.3**
GRA1 Grafenberg Arr 78.63 336 *e*P **P 11 59 02.2 +0.2**
comp=Z,58nm,1.1s,mb5.4
GRA1 *e*S S 12 08 57.5 0.0
GRA1 LR LR
comp=Z,500nm,19.2s,MS4.9
GRF Grafenberg Arr 78.63 336 *e*P **P 11 59 02.2 +0.2**
GRF *e*S S 12 08 57.5 0.0
GRF pmax pmax
comp=Z,58nm,1.1s,mb5.4
GRF MLR MLR
comp=Z,500nm,19.2s,MS4.9
GRF Grafenberg Arr 78.63 336 *e*P **P 11 59 02.2 +0.2**
GRF *e*S S 12 08 57.5 0.0
GRF pmax pmax
comp=Z,58nm,1.1s,mb5.4
GRF MLR MLR
comp=Z,500nm,19.2s,MS4.9
GRF Grafenberg Arr 78.63 336 *e*P **P 11 59 02.2 +0.2**
comp=Z,58nm,1.1s,mb5.4
GRF *e*S S 12 08 57.5 0.0
GRF *e*L 12 36 35.4
comp=Z,480nm,19.2s
WET Wettzell 78.64 335 *e*P **P 11 59 02.3 +0.2**
WET pmax pmax
comp=Z,31nm,1.1s,mb5.2
WET Wettzell 78.64 335 *e*P **P 11 59 02.3 +0.2**
comp=Z,31nm,1.1s,mb5.2
GEC2 GERESS Array S 78.67 334 *e*P **P 11 59 01.9 -0.3**
GEC2 pmax pmax
comp=Z,17nm,1.3s,mb4.8
GEC2 GERESS Array S 78.67 334 *e*P **P 11 59 01.9 -0.3**
comp=Z,17nm,1.3s,mb4.8
GERES GERESS Array B 78.67 334 P **P 11 59 01.5 -0.7**
comp=Z,7.5nm,0.7s,mb4.7,baz=34,slow=5.0,SNR=20
GERES LR LR 12 37 27.8
comp=Z,810nm,18.4s,MS5.1,baz=184,slow=38
KMRS Kahramanmaras 78.73 313 *e*P **P 11 59 03.5 +0.8**
STKA Stephens Creek 78.77 190 *e*P **P 11 59 02.0 -0.7**
comp=Z,5.0nm,0.8s,mb4.5
STKA Stephens Creek 78.77 190 P **P 11 59 01.7 -1.0**
comp=Z,6.7nm,0.8s,mb4.6,baz=308,slow=13,SNR=6.5
STKA LR LR 12 30 42.8
comp=Z,267nm,20.0s,MS4.6,baz=21,slow=33
UMR Umm Al-Rimmam 78.79 301 *e*P **P 11 59 03.2 0.0**
baz=301
UMR AMb AMB 11 59 05.8
comp=Z,160nm,0.8s,mb6.0,baz=301
SOP Sopron 78.79 332⇑*e*P **P 11 59 03.7 +0.8**
CONA Conrad Observa 78.80 332 *i*P **P 11 59 03.5 +0.6**
comp=Z,89nm,1.7s,mb5.4,SNR=29
CONA Conrad Observa 78.80 332 *i*pP **P 11 59 03.5 +0.6**
comp=Z,89nm,1.7s,mb5.4,SNR=29
CSNA Conrad Observa 78.81 332⇑*i*P **P 11 59 03.6 +0.6**
comp=Z,83nm,1.7s,mb5.4
CSNA Conrad Observa 78.81 332⇑*i*pP **P 11 59 03.6 +0.6**
comp=Z,83nm,1.7s,mb5.4
BZS Buzias 78.82 328⇓*i*P **P 11 59 02.4 -0.7**
BZS Buzias 78.82 328 P **P 11 59 03.1 0.0**
MIB Mutribah 78.83 302 *e*P **P 11 59 03.6 +0.2**
baz=302
MIB AMb AMB 11 59 05.7
comp=Z,203nm,0.8s,mb6.1,baz=302
GAZ Gaziantep 78.83 313 *e*P **P 11 59 04.4 +1.1**
ANTO Ankara 78.86 317 *e*P **P 11 59 04.3 +0.9**
ANTO Ankara 78.86 317 P **P 11 59 04.8 +1.3**
SNR=18
ANTO Ankara 78.86 317 P **P 11 59 04.5 +1.0**
ANTO pmax pmax
comp=Z,38nm,0.9s,mb5.3
ANTO Ankara 78.86 317⇑*i*P **P 11 59 04.2 +0.7**
TNS Taunus Mts 78.90 338 *e*P **P 11 59 03.6 +0.2**
TNS pmax pmax
comp=Z,34nm,1.0s,mb5.2
TNS Taunus Mts 78.90 338 *e*P **P 11 59 03.6 +0.2**
comp=Z,34nm,1.0s,mb5.2
JCT Junction City 78.98 57 *e*P **P 11 59 03.3 -0.9**
JCT pmax pmax
comp=Z,29nm,1.0s,mb5.2
JCT Junction City 78.98 57 *e*P **P 11 59 03.3 -0.9**
comp=Z,29nm,1.0s,mb5.2
ZIMR 79.02 324 P **P 11 59 04.2 0.0**
HGN Heimansgroeve 79.03 340 *e*P **P 11 59 03.8 -0.4**
comp=Z,55nm,1.6s,mb5.2
HGN Heimansgroeve 79.03 340 *e*S S 12 09 04.0 +2.2
HGN Heimansgroeve 79.03 340 *e*SS SS 12 14 28.0 +22
BEBN Eben Emael 79.06 340 P **P 11 59 04.3 -0.1**
comp=Z,13nm,1.0s,mb4.8
MDU Mudurnu 79.12 319 *e*P **P 11 59 05.2 +0.4**
MEM Membach 79.16 339 P **P 11 59 04.8 0.0**
comp=Z,37nm,1.1s,mb5.2
SIUC Southern Illin 79.19 46 *e*P **P 11 59 04.4 -0.9**
comp=Z,29nm,1.1s,mb5.1
SILT Sile 79.27 320 *e*P **P 11 59 05.7 0.0**
KOZT Kozan 79.28 314 *e*P **P 11 59 09.1 +3.3**
NAY Al-Naaiem 79.29 301 *e*P **P 11 59 06.0 0.0**
baz=301
NAY AMb AMB 11 59 08.6
comp=Z,78nm,1.4s,mb5.5,baz=301
RDF Al-Radifah 79.35 301 *e*P **P 11 59 05.9 -0.3**
baz=301
RDF AMb AMB 11 59 09.2
comp=Z,206nm,1.3s,mb5.9,baz=301
TOD Tromm 79.37 337 *e*P **P 11 59 05.9 -0.1**
PKSM Moragy 79.37 330⇓*i*P **P 11 59 05.3 -0.8**
PKSM Moragy 79.37 330 P **P 11 59 05.5 -0.7**
MOA Molln 79.38 333⇑*i*P **P 11 59 06.2 +0.1**
comp=Z,26nm,1.2s,mb5.0,SNR=10
MOA Molln 79.38 333⇑*i*pP **P 11 59 06.2 +0.1**
comp=Z,26nm,1.2s,mb5.0,SNR=10
MIAR Mount Ida 79.40 51 P **P 11 59 05.4 -1.1**
MIAR pmax pmax
comp=Z,25nm,1.1s,mb5.1
MIAR Mount Ida 79.40 51 *e*P **P 11 59 05.5 -1.0**
comp=Z,23nm,1.1s,mb5.0
KLYT Kilyos 79.45 321 *e*P **P 11 59 05.5 -1.1**
BCLA Clavier 79.50 340 P **P 11 59 06.9 +0.2**
comp=Z,30nm,1.4s,mb5.0
ARSA Arzberg 79.51 332⇑*i*P **P 11 59 07.2 +0.3**
comp=Z,56nm,1.7s,mb5.2,SNR=6.2
ARSA Arzberg 79.51 332⇑*i*pP **P 11 59 07.2 +0.3**
comp=Z,56nm,1.7s,mb5.2,SNR=6.2
BGKT Bogazkoy 79.63 321 *e*P **P 11 59 07.3 -0.3**
PARMO Parma 79.74 47 *e*P **P 11 59 07.6 -0.8**
ADVT Abdulvahap 79.81 320 *e*P **P 11 59 08.3 -0.3**
KARA Karaisali 79.84 314 *e*P **P 11 59 09.2 +0.4**
GIVF Givet 79.91 340⇑*i*P **P 11 59 08.7 -0.3**
comp=Z,30nm,0.9s,mb4.9
GIVF Givet 79.91 340⇑*i*P **P 11 59 08.7 -0.3**
GIVF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GIVF Givet 79.91 340⇑*i*P **P 11 59 08.7 -0.3**
comp=Z,15nm,0.9s,mb4.9
RJOB Jochberg 79.93 334 *e*P **P 11 59 09.5 +0.4**
comp=Z,31nm,1.0s,mb5.2
EDRB Edirne 79.95 322 *e*P **P 11 59 08.7 -0.6**
DOU Dourbes 79.97 340 P **P 11 59 09.1 -0.2**
comp=Z,9.6nm,1.3s,mb4.6
FUR Furstenfeldbru 79.99 335 *e*P **P 11 59 10.1 +0.7**
FUR pmax pmax
comp=Z,55nm,1.1s,mb5.4
FUR Furstenfeldbru 79.99 335 *e*P **P 11 59 10.1 +0.7**
comp=Z,55nm,1.1s,mb5.4
WLF Walferdange 80.00 339 P **P 11 59 10.1 +0.6**
WLF Walferdange 80.00 339 *e*P **P 11 59 10.7 +1.3**
comp=Z,47nm,1.5s,mb5.2
STU Stuttgart 80.03 337 *e*P **P 11 59 09.9 +0.3**
comp=Z,37nm,1.0s,mb5.3
KIZT Kizilcal 80.08 317 *e*P **P 11 59 10.3 +0.2**
MENF Mencas 80.09 342 *e*P **P 11 59 09.3 -0.6**
BAIF Baives 80.10 340 *e*P **P 11 59 09.7 -0.3**
HBAR Harrisburg 80.15 48 *e*P **P 11 59 09.9 -0.6**
SOKA Soboth 80.17 332⇑*i*P **P 11 59 10.4 0.0**
comp=Z,51nm,1.3s,mb5.3
SOKA Soboth 80.17 332⇑*i*pP **P 11 59 10.4 0.0**
comp=Z,51nm,1.3s,mb5.3
PERS Pernice 80.18 332 *i*P **P 11 59 10.5 0.0**
LANF Langenberg 80.20 338 *e*P **P 11 59 10.2 -0.4**
GROS Grobnik 80.21 332 *i*P **P 11 59 10.3 -0.3**
GLAT Glass 80.28 47 *e*P **P 11 59 10.4 -0.9**
DIM Dimitrovgrad 80.29 323 *i*P **P 11 59 09.0 -2.2**
KBA Koelnbreinsper 80.35 333⇑*i*P **P 11 59 11.9 +0.5**
comp=Z,81nm,1.2s,mb5.5

KBA **Koelnbreinsper 80.35 333⇑*i*pP P 11 59 11.9 +0.5**
comp=Z,81nm,1.2s,mb5.5
KBA **Koelnbreinsper 80.35 333⇑*i*P P 11 59 11.9 +0.5**
KBA pmax pmax
comp=Z,81nm,1.2s,mb5.5
LADK **Ladik-KONYA 80.40 317 *e*P P 11 59 11.5 -0.3**
MERS **Mersin 80.41 314 *e*P P 11 59 11.6 -0.3**
KONT **Konya--Tatoy 80.60 317 *e*P P 11 59 12.8 -0.1**
WATA **Walderalm 80.65 335⇑*i*P P 11 59 13.4 +0.4**
comp=Z,48nm,1.2s,mb5.3
WATA **Walderalm 80.65 335⇑*i*pP P 11 59 13.4 +0.4**
comp=Z,48nm,1.2s,mb5.3
WATA **Walderalm 80.65 335⇑*i*P P 11 59 13.4 +0.4**
WATA pmax pmax
comp=Z,48nm,1.2s,mb5.3
MYKA **Terra Mystica 80.66 333⇑*i*P P 11 59 12.6 -0.4**
comp=Z,119nm,1.6s,mb5.6
BFO **Black Forest 80.66 337 P P 11 59 12.4 -0.6**
comp=Z,174nm,1.0s,mb5.9,SNR=10
BFO **Black Forest 80.66 337 P P 11 59 12.9 -0.1**
BFO pmax pmax
comp=Z,37nm,1.1s,mb5.2
BFO **Black Forest 80.66 337 *e*P P 11 59 12.9 -0.1**
comp=Z,36nm,1.0s,mb5.3
WTTA **Wattenberg 80.70 335⇑*i*P P 11 59 13.8 +0.6**
comp=Z,108nm,1.3s,mb5.6,SNR=18
WTTA **Wattenberg 80.70 335⇑*i*pP P 11 59 13.8 +0.6**
comp=Z,108nm,1.3s,mb5.6,SNR=18
WTTA **Wattenberg 80.70 335⇑*i*P P 11 59 13.8 +0.5**
WTTA pmax pmax
comp=Z,108nm,1.3s,mb5.6
RKY **Sarkoy-Tekirda 80.72 321 *e*P P 11 59 12.7 -0.9**
SPAK **Spaichingen-Ko 80.75 337 *e*P P 11 59 13.3 -0.2**
RETA **Reutte 80.75 335⇑*i*P P 11 59 14.0 +0.5**
comp=Z,77nm,1.5s,mb5.4,SNR=10
RETA **Reutte 80.75 335⇑*i*pP P 11 59 14.0 +0.5**
comp=Z,77nm,1.5s,mb5.4,SNR=10
VTS **Vitosha 80.77 325 *i* P P 11 59 14.0 +0.2**
VTS **Vitosha 80.77 325⇓*i*P P 11 59 14.1 +0.3**
VTS **Vitosha 80.77 325 P P 11 59 14.3 +0.6**
MOTA **Moosalm 80.78 335⇑*i*P P 11 59 14.1 +0.4**
comp=Z,58nm,1.1s,mb5.4,SNR=23
MOTA **Moosalm 80.78 335⇑*i*pP P 11 59 14.1 +0.4**
comp=Z,58nm,1.1s,mb5.4,SNR=23
MOTA **Moosalm 80.78 335⇑*i*P P 11 59 14.1 +0.4**
MOTA pmax pmax
comp=Z,58nm,1.1s,mb5.4
CDF **Champ du Feu 80.87 338⇑*i*P P 11 59 14.0 -0.1**
comp=Z,93nm,1.2s,mb5.3
CDF **Champ du Feu 80.87 338⇑*i*P P 11 59 14.0 -0.1**
CDF pmax pmax
comp=Z,47nm,1.2s,mb5.3
CDF **Champ du Feu 80.87 338⇑*i*P P 11 59 14.0 -0.1**
comp=Z,47nm,1.2s,mb5.3
ABTA **Abfaltersbach 80.90 334⇑*i*P P 11 59 13.6 -0.7**
comp=Z,38nm,1.5s,mb5.1,SNR=6.2
RZN **Rozhen 80.92 324 *i* P P 11 59 14.7 +0.1**
NATX **Nacogdoches 80.93 53 *e*P P 11 59 14.8 0.0**
SHUT **Suhut-Afyon 80.96 318 *e*P P 11 59 15.5 +0.7**
RDO **Rodhopi 81.04 323 *e*P P 11 59 15.2 0.0**
RDO **Rodhopi 81.04 323 *e*P P 11 59 15.1 -0.1**
ECH **Echery 81.08 338 *e*P P 11 59 14.8 -0.5**
ECH **Echery 81.08 338 *e*P P 11 59 14.8 -0.5**
ENEZ **Enez 81.12 322 *e*P P 11 59 14.9 -0.7**
BOJS **Bojanci 81.14 332 *i* P P 11 59 15.2 -0.5**
FELD **Feldberg im Sc 81.17 337 *e*P P 11 59 15.7 0.0**
JAVS **Javornik 81.18 332 *i* P P 11 59 13.9 -2.0**
FETA **Feichten 81.18 335 *i* P P 11 59 16.2 +0.3**
comp=Z,38nm,1.5s,mb5.1,SNR=9.9
FETA **Feichten 81.18 335 *i* pP P 11 59 16.2 +0.3**
comp=Z,38nm,1.5s,mb5.1,SNR=9.9
DAVA **Damuels 81.19 336⇑*i*P P 11 59 16.1 +0.2**
comp=Z,49nm,1.4s,mb5.2,SNR=8.7
DAVA **Damuels 81.19 336⇑*i*pP P 11 59 16.1 +0.2**
comp=Z,49nm,1.4s,mb5.2,SNR=8.7
IKL **Isikli 81.32 315 *e*P P 11 59 15.4 -1.3**
HDMB **Hadim 81.32 316 *e*P P 11 59 16.3 -0.5**
MEZF **Maizieres J'vi 81.35 339⇑*i*P P 11 59 16.7 0.0**
comp=Z,100nm,1.1s,mb5.4
MEZF **Maizieres J'vi 81.35 339⇑*i*P P 11 59 16.7 0.0**
comp=Z,100nm,1.1s,mb5.7
THEF **They Montfort 81.37 339 *e*P P 11 59 16.7 -0.1**
MMB **Musomiste 81.41 324 *i* P P 11 59 17.4 +0.2**
MOF **Molkenrain 81.42 338 *e*P P 11 59 16.7 -0.4**
HAU **Haudompre 81.48 338⇑*i*P P 11 59 17.0 -0.4**
comp=Z,100nm,1.2s,mb5.3
HAU *e*MLR MLR
comp=Z,819nm,17.2s,MS4.8
HAU **Haudompre 81.48 338⇑*i*P P 11 59 17.0 -0.4**
HAU pmax pmax
comp=Z,50nm,1.2s,mb5.3
HAU MLR MLR
comp=Z,820nm,17.3s,MS5.2
HAU **Haudompre 81.48 338⇑*i*P P 11 59 17.0 -0.4**
comp=Z,50nm,1.2s,mb5.3
HAU LR LR
comp=Z,820nm,17.3s,MS5.2
HINF **Hinteralfeld 81.53 338⇑*i*P P 11 59 17.1 -0.6**
comp=Z,57nm,1.2s,mb5.1
HINF **Hinteralfeld 81.53 338⇑*i*P P 11 59 17.1 -0.6**
HINF pmax pmax
comp=Z,29nm,1.2s,mb5.1
HINF **Hinteralfeld 81.53 338⇑*i*P P 11 59 17.1 -0.6**
comp=Z,28nm,1.2s,mb5.1
ISP **Isparta 81.55 318 *e*P P 11 59 17.2 -0.8**
ISP **Isparta 81.55 318⇑*i*P P 11 59 17.8 -0.2**
ISP **Isparta 81.55 318 ⇑P P 11 59 17.8 -0.2**
NVR **Nevrokopi 81.56 324 *e*P P 11 59 17.9 0.0**
NVR **Nevrokopi 81.56 324 *e*P P 11 59 17.8 -0.1**
BBS **Basel-Blauen 81.68 337 *e*P P 11 59 18.5 0.0**
KULA **Kula-Manisa 81.85 319 *e*P P 11 59 19.0 -0.5**
PLAL **Pickwick Lake 81.91 47 *e*P P 11 59 18.1 -1.8**
comp=Z,21nm,1.6s,mb4.8
PPT **Papeete 81.98 126 *e*LR LR 12 23 55.9**
comp=Z,1μm,24.0s,baz=330
SKO **Skopje 81.99 326 *e*P P 11 59 20.3 +0.1**
TUE **Stuetta 82.08 336 *e*P P 11 59 21.0 +0.4**
comp=Z,32nm,1.0s,mb5.2
VAY **Valandovo 82.10 325 *e*P P 11 59 20.0 -0.8**
LFK **Lefkose 82.16 314 *e*P P 11 59 20.3 -0.9**
EMMW **East Machias 82.29 28 *e*P P 11 59 16.4 -5.4**
PRK **Paraskevi 82.31 321 *e*P P 11 59 21.1 -0.8**
PRK **Paraskevi 82.31 321 *e*P P 11 59 21.1 -0.8**
FLN **La Foliniere 82.34 343⇑*i*P P 11 59 21.5 -0.4**
comp=Z,60nm,1.0s,mb5.2
FLN *e*MLR MLR
comp=Z,791nm,18.0s,MS4.8
FLN **La Foliniere 82.34 343⇑*i*P P 11 59 21.5 -0.4**
FLN pmax pmax
comp=Z,30nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,790nm,18.0s,MS5.1
FLN **La Foliniere 82.34 343⇑*i*P P 11 59 21.5 -0.4**
comp=Z,30nm,1.0s,mb5.2
FLN LR LR
comp=Z,790nm,18.0s,MS5.1
LDF **La Druitiere 82.43 343⇑*i*P P 11 59 21.8 -0.6**
comp=Z,74nm,1.3s,mb5.2
LDF **La Druitiere 82.43 343⇑*i*P P 11 59 21.8 -0.6**
LDF pmax pmax
comp=Z,37nm,1.3s,mb5.2
LDF **La Druitiere 82.43 343⇑*i*P P 11 59 21.8 -0.6**
comp=Z,37nm,1.3s,mb5.2
CSS **Prodhromos 82.51 314 *e*P P 11 59 22.8 -0.3**
comp=Z,28nm,0.8s,mb5.3
PLG **Polygyros 82.55 324 *e*P P 11 59 22.4 -0.8**
KRUS **Krusevo 82.58 326 *e*P P 11 59 23.2 -0.2**
ELL **Elmali 82.72 317 *e*P P 11 59 22.7 -1.4**
GRR **Gorron 82.78 343⇑*i*P P 11 59 23.9 -0.3**
comp=Z,136nm,1.1s,mb5.6
GRR **Gorron 82.78 343⇑*i*P P 11 59 23.9 -0.3**
GRR pmax pmax
comp=Z,68nm,1.1s,mb5.6
GRR **Gorron 82.78 343⇑*i*P P 11 59 23.9 -0.3**
comp=Z,68nm,1.1s,mb5.6
SWET **Sewanee 82.78 45 *e*P P 11 59 23.2 -1.3**
LOR **Lormes 82.79 340⇑*i*P P 11 59 24.0 -0.3**
comp=Z,124nm,1.3s,mb5.5
LOR *e*MLR MLR
comp=Z,698nm,18.8s,MS4.8
LOR **Lormes 82.79 340⇑*i*P P 11 59 24.0 -0.3**
LOR pmax pmax
comp=Z,62nm,1.3s,mb5.5
LOR MLR MLR
comp=Z,700nm,18.8s,MS5.0
LOR **Lormes 82.79 340⇑*i*P P 11 59 24.0 -0.3**
comp=Z,62nm,1.3s,mb5.5
LOR LR LR
comp=Z,700nm,18.8s,MS5.0
CABF **La Chapelle 82.84 338⇑*i*P P 11 59 24.6 0.0**
comp=Z,32nm,1.0s,mb5.0
CABF **La Chapelle 82.84 338⇑*i*P P 11 59 24.6 0.0**
CABF pmax pmax
comp=Z,16nm,1.0s,mb5.0
CABF **La Chapelle 82.84 338⇑*i*P P 11 59 24.6 0.0**
comp=Z,16nm,1.0s,mb5.0
SSF **Saint Saulge 83.06 340⇑*i*P P 11 59 25.5 -0.2**
comp=Z,38nm,1.1s,mb5.0
SSF **Saint Saulge 83.06 340⇑*i*P P 11 59 25.5 -0.2**
SSF pmax pmax
comp=Z,19nm,1.1s,mb5.0
SSF **Saint Saulge 83.06 340⇑*i*P P 11 59 25.5 -0.2**
comp=Z,19nm,1.1s,mb5.0
HYF **Humbligny 83.08 340 *e*P P 11 59 26.0 +0.2**
YER **Yerkesik 83.15 319 *e*P P 11 59 26.6 +0.2**
SGMF **Saint Gilles 83.24 344⇑*i*P P 11 59 26.4 -0.2**
comp=Z,68nm,1.0s,mb5.3
SGMF **Saint Gilles 83.24 344⇑*i*P P 11 59 26.4 -0.2**
SGMF pmax pmax
comp=Z,34nm,1.0s,mb5.3
SGMF **Saint Gilles 83.24 344⇑*i*P P 11 59 26.4 -0.2**
comp=Z,34nm,1.0s,mb5.3
MLSB **Milas 83.25 319 *e*P P 11 59 26.5 -0.4**
CPCT **Cooper Cave 83.28 44 *e*P P 11 59 26.1 -1.0**
ROSF **Rostrenen 83.30 344⇑*i*P P 11 59 26.7 -0.2**
comp=Z,110nm,1.1s,mb5.5
ROSF **Rostrenen 83.30 344⇑*i*P P 11 59 26.7 -0.2**
ROSF pmax pmax
comp=Z,55nm,1.1s,mb5.5
ROSF **Rostrenen 83.30 344⇑*i*P P 11 59 26.7 -0.2**
comp=Z,55nm,1.1s,mb5.5
SMG **Samos 83.33 320 *e*P P 11 59 26.4 -0.9**
SMG **Samos 83.33 320 *e*P P 11 59 26.3 -1.0**
AVF **Avril sur Loir 83.36 340⇑*i*P P 11 59 27.1 -0.1**
comp=Z,115nm,1.1s,mb5.5
AVF **Avril sur Loir 83.36 340⇑*i*P P 11 59 27.1 -0.1**
AVF pmax pmax
comp=Z,58nm,1.1s,mb5.5
AVF **Avril sur Loir 83.36 340⇑*i*P P 11 59 27.1 -0.1**
comp=Z,58nm,1.1s,mb5.5
SMF **Signal de Mont 83.37 339⇑*i*P P 11 59 27.3 0.0**
comp=Z,237nm,1.1s,mb5.8
SMF **Signal de Mont 83.37 339⇑*i*P P 11 59 27.3 0.0**
SMF pmax pmax
comp=Z,118nm,1.1s,mb5.8
SMF **Signal de Mont 83.37 339⇑*i*P P 11 59 27.3 0.0**
comp=Z,118nm,1.1s,mb5.8
TKL **Tuckaleechee C 83.47 43 *e*P P 11 59 26.5 -1.5**
NEO **Neokhori 83.54 323 *e*P P 11 59 27.1 -1.2**
NEO **Neokhori 83.54 323 *e*P P 11 59 27.0 -1.3**
ELN **Prospectdale 83.57 41 *e*P P 11 59 27.6 -0.9**
QUIF **Quistinic 83.68 344 *e*P P 11 59 28.3 -0.6**
comp=Z,78nm,1.4s,mb5.3
QUIF **Quistinic 83.68 344 *e*P P 11 59 28.3 -0.6**
QUIF pmax pmax
comp=Z,39nm,1.4s,mb5.3
QUIF **Quistinic 83.68 344 *e*P P 11 59 28.3 -0.6**
comp=Z,39nm,1.4s,mb5.3
LPL **La Plagne 83.68 337⇑*i*P P 11 59 29.6 +0.7**
comp=Z,60nm,1.1s,mb5.3
LPL **La Plagne 83.68 337⇑*i*P P 11 59 29.6 +0.7**
LPL pmax pmax
comp=Z,30nm,1.1s,mb5.3
LPL **La Plagne 83.68 337⇑*i*P P 11 59 29.6 +0.7**
comp=Z,30nm,1.1s,mb5.3
LPG **La Plagne 83.69 337⇑*i*P P 11 59 29.9 +0.9**
comp=Z,66nm,1.1s,mb5.4
LPG **La Plagne 83.69 337⇑*i*P P 11 59 29.9 +0.9**
LPG pmax pmax
comp=Z,33nm,1.1s,mb5.4
LPG **La Plagne 83.69 337⇑*i*P P 11 59 29.9 +0.9**
comp=Z,33nm,1.1s,mb5.4
BGF **Bois d'Agland 83.69 340⇑*i*P P 11 59 28.9 -0.1**
BLA **Blacksburg 83.74 40 *e*P P 11 59 27.5 -1.9**
BLA pmax pmax
comp=Z,19nm,1.0s,mb5.2
BLA **Blacksburg 83.74 40 *e*P P 11 59 27.5 -1.9**
comp=Z,19nm,1.0s,mb5.2
ARG **Arkhangelos 83.98 318 *e*P P 11 59 30.5 -0.1**
PLDF **La Plantade 84.06 339 *e*P P 11 59 31.3 +0.5**
TCF **Toulx Ste Croi 84.10 340⇑*i*P P 11 59 30.9 -0.1**
comp=Z,49nm,1.1s,mb5.2
TCF **Toulx Ste Croi 84.10 340⇑*i*P P 11 59 30.9 -0.1**
TCF pmax pmax
comp=Z,25nm,1.1s,mb5.3
TCF **Toulx Ste Croi 84.10 340⇑*i*P P 11 59 30.9 -0.1**
comp=Z,24nm,1.1s,mb5.2
AGO **Saint Agoulin 84.10 340 *e*P P 11 59 32.0 +0.9**
BNI **Bardonecchia 84.12 337 *e*P P 11 59 31.5 +0.3**
BNI pmax pmax
comp=Z,19nm,1.1s,mb5.1
BNI **Bardonecchia 84.12 337 *e*P P 11 59 31.5 +0.3**
comp=Z,19nm,1.1s,mb5.2
LKR **Lokris 84.19 323 *e*P P 11 59 30.0 -1.7**
LKR **Lokris 84.19 323 *e*P P 11 59 30.0 -1.7**
JAN **Janina 84.20 325 *e*P P 11 59 31.5 -0.2**
JAN **Janina 84.20 325 *e*P P 11 59 31.5 -0.2**
MFF **Saint Martin d 84.33 342 *e*P P 11 59 32.1 -0.1**
comp=Z,20nm,0.9s,mb5.0
MFF **Saint Martin d 84.33 342 *e*P P 11 59 32.1 -0.1**
MFF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
MFF **Saint Martin d 84.33 342 *e*P P 11 59 32.1 -0.1**
comp=Z,10nm,0.9s,mb5.0
MBDF **Montbardon 84.40 337⇑*i*P P 11 59 32.6 0.0**
comp=Z,22nm,0.8s,mb5.0
MBDF **Montbardon 84.40 337⇑*i*P P 11 59 32.6 0.0**
MBDF pmax pmax
comp=Z,11nm,0.8s,mb5.0
MBDF **Montbardon 84.40 337⇑*i*P P 11 59 32.6 0.0**
comp=Z,11nm,0.8s,mb5.0
PYM **Petit Puy Mans 84.42 340 *e*P P 11 59 33.3 +0.6**
APE **Apeiranthos 84.44 321⇑*i*P P 11 59 30.4 -2.5**
EVR **Evrytania 84.45 324 *e*P P 11 59 37.7 +4.7**
EVR **Evrytania 84.45 324 *e*P P 11 59 37.7 +4.7**
ORIF **Oris-en-Rattie 84.46 337⇑*i*P P 11 59 33.5 +0.6**
comp=Z,52nm,0.9s,mb5.4
ORIF *e*MLR MLR
comp=Z,615nm,23.0s,MS4.6
ORIF **Oris-en-Rattie 84.46 337⇑*i*P P 11 59 33.5 +0.6**
ORIF pmax pmax
comp=Z,26nm,0.9s,mb5.4
ORIF **Oris-en-Rattie 84.46 337⇑*i*P P 11 59 33.5 +0.6**
comp=Z,26nm,0.9s,mb5.4
SSB **Saint Sauveur 84.48 338 *e*P P 11 59 32.4 -0.6**
AQU **L'Aquila 84.55 331 *e*P P 11 59 33.3 -0.1**
AQU pmax pmax
comp=Z,25nm,0.8s,mb5.4
AQU **L'Aquila 84.55 331⇓*i*P P 11 59 33.0 -0.4**
AQU **L'Aquila 84.55 331 *e*P P 11 59 33.3 -0.1**
comp=Z,25nm,0.8s,mb5.4
KEK **Kerkira 84.57 326 *e*P P 11 59 34.5 +1.0**
KEK **Kerkira 84.57 326 *e*P P 11 59 34.4 +0.9**
VIVF **Saint-Julien-l 84.84 338 *e*P P 11 59 35.2 +0.4**
comp=Z,90nm,1.2s,mb5.5
VIVF **Saint-Julien-l 84.84 338 *e*P P 11 59 35.2 +0.4**
VIVF pmax pmax
comp=Z,45nm,1.2s,mb5.5
VIVF **Saint-Julien-l 84.84 338 *e*P P 11 59 35.2 +0.4**
comp=Z,45nm,1.2s,mb5.5
LBL **Lubilhac 84.84 339 *e*P P 11 59 34.8 0.0**
SBF **Sospel 85.01 336 *e*P P 11 59 35.2 -0.5**
comp=Z,237nm,1.4s,mb5.8
SBF **Sospel 85.01 336 *e*P P 11 59 35.2 -0.5**
SBF pmax pmax
comp=Z,119nm,1.4s,mb5.8
SBF **Sospel 85.01 336 *e*P P 11 59 35.2 -0.5**
comp=Z,119nm,1.4s,mb5.8
RJF **Les Rejaudoux 85.19 340 *e*P P 11 59 35.9 -0.7**
comp=Z,61nm,1.4s,mb5.2
RJF *e*MLR MLR
comp=Z,707nm,20.2s,MS4.8
RJF **Les Rejaudoux 85.19 340 *e*P P 11 59 35.9 -0.7**
RJF pmax pmax
comp=Z,30nm,1.4s,mb5.2
RJF MLR MLR
comp=Z,710nm,20.3s,MS5.0
RJF **Les Rejaudoux 85.19 340 *e*P P 11 59 35.9 -0.7**
comp=Z,30nm,1.4s,mb5.2
RJF LR LR
comp=Z,710nm,20.3s,MS5.0
RLS **Riolos of Patr 85.33 324 *e*P P 11 59 36.9 -0.5**
RLS **Riolos of Patr 85.33 324 *e*P P 11 59 36.8 -0.6**
CAF **Calviac 85.42 340⇑*i*P P 11 59 37.5 -0.2**
comp=Z,32nm,1.0s,mb5.1
CAF **Calviac 85.42 340⇑*i*P P 11 59 37.5 -0.2**
CAF pmax pmax
comp=Z,16nm,1.0s,mb5.1
CAF **Calviac 85.42 340⇑*i*P P 11 59 37.5 -0.2**
comp=Z,16nm,1.0s,mb5.1
SMRF **Simiane la Rot 85.42 337 *e*P P 11 59 38.4 +0.7**
comp=Z,98nm,1.4s,mb5.5
SMRF **Simiane la Rot 85.42 337 *e*P P 11 59 38.4 +0.7**
comp=Z,98nm,1.4s,mb5.8
FRF **La Foret Royal 85.51 336⇑*i*P P 11 59 37.9 -0.3**
comp=Z,128nm,1.4s,mb5.7
FRF **La Foret Royal 85.51 336⇑*i*P P 11 59 37.9 -0.3**
FRF pmax pmax
comp=Z,64nm,1.4s,mb5.7
FRF **La Foret Royal 85.51 336⇑*i*P P 11 59 37.9 -0.3**
comp=Z,64nm,1.4s,mb5.7
VLS **Valsamata 85.58 324 *e*P P 11 59 37.3 -1.3**
LFF **La Frestale 85.71 341 *e*P P 11 59 38.6 -0.6**
LMR **La Mourre 85.76 336⇑*i*P P 11 59 39.3 -0.1**
comp=Z,124nm,1.2s,mb5.7
LMR **La Mourre 85.76 336⇑*i*P P 11 59 39.3 -0.1**
LMR pmax pmax
comp=Z,62nm,1.2s,mb5.7
LMR **La Mourre 85.76 336⇑*i*P P 11 59 39.3 -0.1**
comp=Z,62nm,1.2s,mb5.7
PGF **Pioggiola 85.76 334⇑*i*P P 11 59 39.1 -0.4**
comp=Z,121nm,1.3s,mb5.7
PGF **Pioggiola 85.76 334⇑*i*P P 11 59 39.1 -0.4**
PGF pmax pmax
comp=Z,60nm,1.3s,mb5.7
PGF **Pioggiola 85.76 334⇑*i*P P 11 59 39.1 -0.4**
comp=Z,60nm,1.3s,mb5.7
LASF **Ste Croix 85.77 338 *e*P P 11 59 39.2 -0.3**
comp=Z,54nm,1.3s,mb5.3
VLI **Veliai 85.85 322 *e*P P 11 59 36.2 -3.8**
VLI **Veliai 85.85 322 *e*P P 11 59 36.1 -3.9**
ITM **Ithomi 85.89 323 *e*P P 11 59 38.9 -1.3**
ITM **Ithomi 85.89 323 *e*P P 11 59 38.8 -1.4**
TIP **Timpagrande 86.19 328 *e*P P 11 59 40.8 -0.9**
comp=Z,32nm,1.1s,mb5.5
TBI **Tubuai 86.72 129 *e*LR LR 12 25 59.8**
comp=Z,619nm,34.2s,baz=322
MTLF **Montolieu 86.87 339⇑*i*P P 11 59 44.3 -0.6**
comp=Z,34nm,1.2s,mb5.1
MTLF **Montolieu 86.87 339⇑*i*P P 11 59 44.3 -0.6**
MTLF pmax pmax
comp=Z,17nm,1.2s,mb5.2
MTLF **Montolieu 86.87 339⇑*i*P P 11 59 44.3 -0.6**
comp=Z,17nm,1.2s,mb5.2
SJPF **Ste Jean 87.89 342 *e*P P 11 59 50.0 +0.2**
ETSF **Etsaut 87.94 341 *e*P P 11 59 50.0 -0.1**
comp=Z,19nm,1.0s,mb5.0
ETSF **Etsaut 87.94 341 *e*P P 11 59 50.0 -0.1**
ETSF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
ETSF **Etsaut 87.94 341 *e*P P 11 59 50.0 -0.1**
comp=Z,9.5nm,1.0s,mb5.0
MVO **Moncorvo 90.91 345 *e*P P 12 00 03.5 -0.5**
comp=Z,23nm,1.2s,mb5.4
MVO **Moncorvo 90.91 345 *e*LR LR 12 41 15.0**
comp=Z,285nm,18.0s
PVIS **Viseu 91.50 346 *e*P P 12 00 05.9 -0.9**
comp=Z,29nm,1.7s,mb5.3
MTE **Manteigas 91.74 345 *e*P P 12 00 07.1 -0.8**
comp=Z,36nm,1.6s,mb5.5
MTE **Manteigas 91.74 345 *e*LR LR 12 41 24.2**
comp=Z,304nm,20.0s
ESDC **Sonseca Array 91.76 343 P P 12 00 07.1 -0.9**
comp=Z,0.7nm,0.4s,mb4.4,baz=11,slow=3.8,SNR=17
ESDC LR LR 12 49 09.9
comp=Z,454nm,18.3s,MS5.0,baz=10.0,slow=41
ESDC **Sonseca Array 91.76 343 P P 12 00 07.1 -0.9**
ESDC LR LR 12 49 09.9
KEST **Kesra 91.88 331 P P 12 00 08.4 -0.2**
comp=Z,3.7nm,1.0s,mb4.7,baz=10.0,slow=2.6,SNR=5.6
KEST LR LR 12 45 59.0
comp=Z,234nm,18.2s,MS4.7,baz=11,slow=38
PCBR **Castelo Branco 92.28 345 *e*P P 12 00 09.2 -1.2**
comp=Z,25nm,1.7s,mb5.3
PMRV **Marv??o 92.66 345 *e*LR LR 12 41 42.2**
comp=Z,487nm,18.0s
PESTR **Estremoz 93.24 345 *e*LR LR 12 42 59.3**
comp=Z,453nm,16.0s
PMAFR **Mafra 93.44 346 *e*LR LR 12 37 08.7**
comp=Z,202nm,18.0s
EVO **Evora 93.64 345 *e*P P 12 00 15.3 -1.4**
comp=Z,16nm,1.4s,mb5.3
PBAR **Barrancos 93.81 345 *e*P P 12 00 16.3 -1.2**
comp=Z,17nm,1.5s,mb5.3
PBAR **Barrancos 93.81 345 *e*LR LR 12 43 55.0**
comp=Z,302nm,16.0s
PBEJ **Beja 94.11 345 *e*P P 12 00 18.4 -0.5**
comp=Z,20nm,1.6s,mb5.3
PVAQ **Vaqueiros 94.69 345 *e*LR LR 12 43 12.6**
comp=Z,269nm,16.0s
RKT **Rikitea 94.83 119 *e*LR LR 12 29 53.2**
comp=Z,692nm,32.2s,baz=322
PBDV **Barranco-do-Ve 94.88 345 *e*P P 12 00 22.1 -0.3**
comp=Z,27nm,1.8s,mb5.4
PBDV **Barranco-do-Ve 94.88 345 *e*LR LR 12 44 49.6**
comp=Z,277nm,18.0s
MORF **Marmelete 94.95 346 *e*P P 12 00 24.5 +1.8**
comp=Z,46nm,2.0s,mb5.6
MORF **Marmelete 94.95 346 A 12 50 56.7**
comp=Z,575nm,16.0s
PFVI **Vila Bisbo 95.14 346 *e*LR LR 12 38 00.7**
comp=Z,449nm,18.0s
TORD **Torodi Ar. Bea 115.30 329 PKP PKPdf 12 05 40.5 -1.8**
comp=Z,1.4nm,0.7s,baz=28,slow=1.8,SNR=7.9
PAF **Port-aux-Franc 119.51 228 P Pdif 12 02 12.8 +0.5**
DBIC **Dimbokro 123.53 334 PKP PKPdf 12 05 56.5 -1.6**
comp=Z,7.5nm,0.9s,baz=338,slow=2.7,SNR=4.8
VNDA **Vanda 123.91 178 PKP PKPdf 12 05 55.3 -1.6**
comp=Z,1.6nm,0.8s,baz=322,slow=1.6,SNR=7.1
LSZ **Lusaka 124.87 286 *e*PKIKP PKPdf 12 06 00.0 -0.5**
MAW **Mawson 132.07 211 PKP PKPdf 12 06 11.7 -0.9**
comp=Z,3.7nm,1.0s,baz=79,slow=4.3,SNR=4.7
LPAZ **La Paz 134.37 63 PKP PKPdf 12 06 18.7 +0.2**
comp=Z,1.0nm,0.7s,baz=346,slow=3.8,SNR=4.7
BOSA **Boshof 135.89 275 PKP PKPdf 12 06 21.6 +0.6**
comp=Z,7.1nm,1.1s,baz=97,slow=3.9,SNR=3.1
BDFB **Brasilia 144.46 37 PKP PKPdf 12 06 35.8 -1.1**
comp=Z,2.5nm,0.9s,baz=205,slow=27,SNR=2.7
PLCA **Paso Flores 148.12 96 PKPbc PKPbc 12 06 44.4 -1.2**
comp=Z,12nm,1.0s,baz=313,slow=3.7,SNR=14
CPUP **Villa Florida 148.50 61 PKPbc PKPbc 12 06 45.8 -1.3**
comp=Z,10nm,0.8s,baz=323,slow=2.7,SNR=13
NVL **N'lazarevskaya 149.48 204 PKP PKPbc 12 06 47.5 -0.7**
NVL pmax pmax
comp=Z,30nm,1.5s
SNAA **Sanae 152.38 196 *e*PKPdf PKPbc 12 06 53.2 -1.7**
SNAA *e* 12 07 06.7
SNAA *e* 12 07 12.1
SNAA **Sanae 152.38 196 *e*PKPdf PKPbc 12 06 53.1 -1.9**
VNA1 **Neumayer--Stat 154.21 194 *e*PKPdf PKPbc 12 06 58.1 -0.9**
VNA1 *e* 12 07 12.7
VNA1 *e* 12 07 16.5

*ISCJB **10** 11:59:32.1±0.3,6.42S±.005×15.495E±.004,h41km, mb4.7/30,MS3.8/4,Error ellipse: s-maj=7.3km s-min=5.9km az=146.7*
*IDC **10** 11:59:33.2±0.5,6.55S×155.01E,h40km±3km,mb4.4/20, mb1 4.5/21,mb1mx4.5/22,mbtmp4.4/21,ML4.2/1,MS3.7/6, Ms1 3.7/6,ms1mx3.4/24,Error ellipse: s-maj=15.7km s-min=11.7km az=96.0*
*NEIC **10** 11:59:37.4±1.1,6.52S×154.99E,h80km±10km,mb4.6/14, Error ellipse: s-maj=8.5km s-min=6.4km az=136.0*
ISC 10 11:59:33.7±0.3,6.48S±.006×155.07E±.006,h43km, h43km±1.8km:pP-P,n63,σ0.93/58,mb4.7/30,MS3.8/4,
Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.65	122	Pn	Pn	12 00 59.5	+4.3
39nm,0.3s,baz=263,slow=1.8,SNR=13							
HNR				Sn	Sn	12 02 05.4	+6.5
7.0nm,0.3s,baz=100,slow=22,SNR=3.4							
HNR				LR	LR	12 02 36.3	
comp=Z,164nm,18.5s,baz=360,slow=32							
PMG	Port Moresby	8.35	249	*e*Pn	Pn	12 01 34.3	+2.1

110nm,0.6s
PMG eSn Sn 12 03 06.6 +1.2
CTA Charters Tower 16.00 211 eP Pn 12 03 17.2 +1.4
9.1nm,0.8s
CTA Charters Tower 16.00 211 Pn Pn 12 03 15.2 -0.7
0.6nm,0.3s,baz=34,slow=14,SNR=10
CTA LR LR 12 08 31.5
comp=Z,277nm,21.5s,baz=10,slow=34
KAKA Kakadu 23.14 253 eP P 12 04 35.1 -1.4
7.8nm,0.5s,mb4.4
KAKA epP 12 04 47.1
KAKA e 12 04 47.2
ARMA Armidale 24.03 187 eP P 12 04 45.6 +0.9
ARMA epP 12 04 57.7
WRAB Tennant Creek 24.15 234 eP P 12 04 46.3 +0.3
10nm,0.6s,mb4.4
WB2 Warramunga Arr 24.16 234 eP P 12 04 46.3 +0.3
WB2 epP 12 04 58.6
WB2 ePCS PcS 12 12 05.3 -0.9
WB2 e 12 12 18.0
WRA Warramunga Arr 24.17 234 P P 12 04 45.5 -0.6
11nm,0.5s,mb4.5,baz=58,slow=9.9,SNR=97
WRA PcP PcP 12 08 26.4 +0.1
3.6nm,0.6s,baz=61,slow=2.3,SNR=12
WRA pPcP 12 08 38.4
2.0nm,0.6s,baz=59,slow=2.3,SNR=7.8
WRA S S 12 09 03.9 +2.4
2.8nm,1.2s,baz=55,slow=16,SNR=5.2
ASAR Alice Springs 26.56 228 P P 12 05 07.5 -0.3
7.0nm,0.6s,mb4.4,baz=64,slow=9.7,SNR=144
ASAR PcP PcP 12 08 31.4 -0.3
2.7nm,0.7s,baz=79,slow=3.0,SNR=10
ASAR pPcP 12 08 43.5
1.2nm,0.7s,baz=74,slow=2.5,SNR=5.0
RIV Riverview 27.45 187 eP P 12 05 15.6 0.0
STKA Stephens Creek 28.23 205 eP P 12 05 21.8 -0.8
5.0nm,0.7s,mb4.2
STKA Stephens Creek 28.23 205 P P 12 05 21.7 -0.9
4.2nm,0.6s,mb4.2,baz=26,slow=10,SNR=12
STKA PcP PcP 12 08 35.1 -0.4
3.0nm,0.6s,baz=2.7,slow=22,SNR=4.1
STKA pPcP 12 08 46.7
4.1nm,0.9s,baz=349,slow=5.7,SNR=3.6
STKA LR LR 12 15 32.2
comp=Z,273nm,21.9s,MS3.8,baz=19,slow=34
FITZ Fitzroy Crossi 30.93 245 eP P 12 05 45.9 -0.8
15nm,0.7s,mb4.9
FITZ epP pP 12 05 55.6 -2.8
FITZ Fitzroy Crossi 30.93 245 P P 12 05 45.8 -0.9
6.9nm,0.6s,mb4.7,baz=95,slow=8.4,SNR=30
FITZ pP pP 12 05 55.3 -3.1
6.3nm,0.7s,baz=79,slow=7.2,SNR=7.1
FITZ PcP PcP 12 08 43.1 +0.4
3.7nm,0.8s,baz=39,slow=4.8,SNR=3.9
FITZ LR LR 12 18 22.7
comp=Z,121nm,21.1s,MS3.5,baz=269,slow=37
BATI Baumata 31.28 261 P P 12 05 50.4 +0.5
9.6nm,0.5s,mb4.9,baz=294,slow=20,SNR=2.0
FORT Forrest 35.01 223 eP P 12 06 21.5 -0.7
17nm,0.6s,mb5.2
URZ Urewera 37.42 151 P P 12 06 42.8 +0.2
7.2nm,0.6s,mb4.7,baz=275,slow=5.3,SNR=6.9
KLBR Kellerberrin 42.87 229 eP P 12 07 26.9 -1.1
8.5nm,0.5s,mb4.7
NWAO Narrogin (SRO) 43.88 228 LR LR 12 25 26.1
comp=Z,119nm,18.4s,MS3.8,baz=47,slow=36
MJAR Matsushiro Arr 45.62 341 P P 12 07 49.3 -0.6
1.3nm,0.6s,mb4.0,baz=168,slow=8.5,SNR=6.9
KSRS Korea Array 50.52 332 P P 12 08 27.2 -0.5
1.5nm,0.6s,mb4.1,baz=148,slow=7.1,SNR=6.9
PSI Prapat 56.80 278 P P 12 09 12.5 -1.7
4.1nm,0.5s,mb4.7,baz=81,slow=5.9,SNR=5.2
PSI Prapat 56.80 278 P P 12 09 12.5 -1.7
PETK Petropavlovsk- 59.41 2 P P 12 09 33.0 +1.4
7.7nm,0.7s,mb4.9,baz=172,slow=7.3,SNR=16
PETK LR LR 12 31 25.3
comp=Z,131nm,21.6s,MS4.0,baz=358,slow=32
CM31 Chiang Mai Arr 60.63 295 eP P 12 09 41.5 +0.8
22nm,0.8s,mb5.3
CMAR Chiang Mai Arr 60.63 295 P P 12 09 41.5 +0.8
15nm,0.7s,mb5.2,baz=123,slow=5.3,SNR=65
CMAR pP pP 12 09 53.4 +0.2
9.7nm,0.8s,baz=119,slow=4.9,SNR=14
CHTO Chiang Mai 60.74 296 eP P 12 09 41.8 +0.4
14nm,1.0s,mb5.0
CASY Casey 67.10 198 eP P 12 10 21.8 -0.6
SONM Songino Array 68.95 327 P P 12 10 34.9 +0.6
3.3nm,0.8s,mb4.3,baz=136,slow=5.9,SNR=19
VNDA Vanda 71.09 178 P P 12 10 46.6 -0.3
2.0nm,0.7s,mb4.2,baz=331,slow=5.2,SNR=9.1
SVW2 Sparrevohn 77.50 22 eP P 12 11 25.6 +1.2
TTA Tatalina 78.52 21 eP P 12 11 30.8 +0.6
3.1nm,0.4s,mb4.6
SLKM Skilak Lake 79.25 24 eP P 12 11 34.0 -0.2
RC01 Rabbit Creek A 79.77 24 eP P 12 11 37.5 +0.5
4μm,1.2s
PPLA Purkeypile 79.88 22 eP P 12 11 34.6 -2.9
34nm,0.9s,mb5.3
IMA2 Indian Mountai 81.30 19 eP P 12 11 45.1 +0.1
DIV Divide 81.42 25 eP P 12 11 45.7 -0.1
25μm,1.2s
BMRM Bremner River 81.84 25 eP P 12 11 48.5 +0.5
COLA College 82.58 21 eP P 12 11 51.3 -0.6
3.1nm,0.6s,mb4.5
MK31 Makanchi Array 83.07 319 eP P 12 11 53.2 -1.6
MKAR Makanchi Array 83.07 319 P P 12 11 54.5 -0.3
2.3nm,0.7s,mb4.3,baz=102,slow=5.6,SNR=19
MKAR pP pP 12 12 06.3 -1.4
4.4nm,0.8s,baz=103,slow=5.2,SNR=12
QSPA South Pole Qui 83.49 180 P P 12 11 56.1 -0.2
11nm,0.6s,mb5.0,baz=338,slow=1.2,SNR=51
QSPA pP pP 12 12 08.6 -0.7
7.9nm,0.6s,baz=83,slow=2.1,SNR=9.1
QSPA South Pole Qui 83.49 180 P P 12 11 56.1 -0.2
QSPA pP pP 12 12 08.6 -0.7
ZALV Zalesovo Beam 83.80 326 P P 12 11 56.5 -1.8
2.8nm,0.2s,mb5.0,baz=83,slow=17,SNR=15
ZALV pP pP 12 12 10.3 -1.0
5.5nm,0.5s,baz=81,slow=27,SNR=7.2
ZALV Zalesovo Beam 83.80 326 P P 12 11 56.5 -1.8
ZALV pP pP 12 12 10.3 -1.0
HYT Haines Junctio 84.89 27 eP P 12 12 05.2 +1.4
MAW Mawson 84.89 203 eP P 12 12 03.6 -0.1
4.6nm,1.4s,mb4.4
MAW Mawson 84.89 203 P P 12 12 02.7 -1.0
5.2nm,0.6s,mb4.8,baz=109,slow=5.7,SNR=11
EGAK Eagle 85.02 23 eP P 12 12 03.9 -0.4
5.2nm,0.8s,mb4.7
DAWY Dawson 85.40 24 eP P 12 12 05.6 -0.6
DLBC Dease Lake 87.67 31 eP P 12 12 18.2 +0.8
NVAR Mina Array Bea 91.35 52 P P 12 12 36.2 +1.0
1.8nm,0.7s,mb4.5,baz=261,slow=6.6,SNR=15
NVAR pP pP 12 12 48.7 +0.4
0.6nm,0.8s,baz=143,slow=35,SNR=3.4
YKA Yellowknife Ar 95.85 28 P P 12 12 55.7 +0.4
5.1nm,0.8s,mb5.0,baz=267,slow=4.5,SNR=8.6
YKA pP pP 12 13 08.3 -0.1
0.9nm,0.6s,baz=335,slow=20,SNR=1.8
YKA Yellowknife Ar 95.85 28 P P 12 12 55.7 +0.4
YKA pP pP 12 13 08.3 -0.1
PDAR Pinedale Array 98.31 48 P P 12 13 06.4 -0.5
0.5nm,0.6s,mb4.2,baz=113,slow=1.9,SNR=4.1
PDAR pP pP 12 13 19.9 -0.1
0.3nm,0.7s,baz=291,slow=2.5,SNR=2.1
BOSA Boshof 120.39 232 PKP PKPdf 12 18 20.9 -0.2
2.1nm,0.6s,baz=301,slow=14,SNR=4.7
BOSA pPKP pPKPdf 12 18 33.2 -1.4
2.2nm,0.8s,baz=170,slow=6.1,SNR=1.4
BOSA Boshof 120.39 232 PKP PKPdf 12 18 20.9 -0.2
BOSA pPKP pPKPdf 12 18 33.2 -1.4
GERES GERESS Array B 126.65 329 PKP PKPdf 12 18 31.4 -1.0
0.4nm,0.6s,baz=49,slow=4.1,SNR=5.0
GERES pPKP pPKPdf 12 18 45.0 -0.9
0.8nm,0.7s,baz=29,slow=3.0,SNR=3.1
BDFB Brasilia 148.28 134 PKPbc PKPbc 12 19 13.8 -2.5
1.5nm,0.4s,baz=108,slow=25,SNR=4.1
TOA0 Torodi Ar. Sit 152.96 286 ePKPbc PKPbc 12 19 25.9 -1.4
TOA0 ePKPab PKPab 12 19 37.9 -0.8
TORD Torodi Ar. Bea 152.96 286 PKP PKPdf 12 19 19.3 -0.8
0.6nm,0.7s,baz=39,slow=1.6,SNR=3.1
TORD PKPbc PKPbc 12 19 26.2 -1.2
5.5nm,0.7s,baz=67,slow=2.4,SNR=29
TORD PKPab PKPab 12 19 38.9 +0.2
4.0nm,0.6s,baz=80,slow=2.4,SNR=9.0
DBIC Dimbokro 160.05 272 PKPab PKPab 12 20 08.7 -0.7
8.2nm,0.8s,baz=126,slow=5.0,SNR=7.4

*ISCJB **10** 12:35:15.0±1.2,2670N±008×97.16E±006,h34km±13km, mb3.8/10,Error ellipse: s-maj=13.2km s-min=9.2km az=4.3*
*BJI **10** 12:35:16.0,2679N×97.11E,h23km,mB4.9,mb4.3,ML3.9*
*NEIC **10** 12:35:17.3±0.5,2675N×9727E,h35km,mb4.4/1,Error ellipse: s-maj=14.8km s-min=8.6km az=55.0*
*IDC **10** 12:35:17.1±4.2,2672N×9722E,h35km±36km,mb3.5/9, mb1 3.6/10,mb1mx3.6/23,mbtmp3.5/10,ML3.6/1,Error ellipse: s-maj=29.4km s-min=15.9km az=61.0*
ISC 10 12:35:17.8±0.9,2676N±007×9718E±006,h40km±10km, n31,σ1°01/36,mb3.8/10,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**3.53**	**237**	*e*P	**Pn**	**12 36 12.0**	**+1.9**
IMP				*e*S	**Sn**	**12 37 04.0**	**+13**
SHL	**Shillong**	**4.90**	**257**	*e*P	**Pn**	**12 36 29.8**	**+0.8**
SHL				*e*S	**Sn**	**12 37 26.5**	**+2.0**
KMI	**Kunming**	**5.27**	**107**	PG	**Pn**	**12 36 52.2**	**+18**
KMI				SG	**Sn**	**12 37 54.6**	**+21**
KMI				Smax			
	comp=N,61nm,1.0s						
KMI				Smax			
	comp=E,56nm,0.9s						
LSA	**Lhasa**	**6.07**	**300**	P	**Pn**	**12 36 48.2**	**+3.2**
LSA	**Lhasa**	**6.07**	**300**	*e*Pn	**Pn**	**12 36 47.5**	**+2.5**
	comp=E,16nm,0.6s						
LSA				*e*Sn	**Sn**	**12 37 59.4**	**+6.2**
CD2	**Chengdu**	**7.10**	**53**	*e*P	**Pn**	**12 36 59.7**	**+0.5**
CD2				S	**Sn**	**12 38 12.7**	**-5.8**
CD2				SG	Sn	12 39 03.0	+44
CD2				Smax			
	comp=N,20nm,1.0s						
CD2				Smax			
	comp=E,20nm,1.4s						
CMAR	**Chiang Mai Arr**	**8.43**	**168**	Pn	**Pn**	**12 37 17.6**	**+0.2**
	comp=E,0.2nm,0.3s,baz=344,slow=13,SNR=5.0						
CMAR				Pg	Pn	12 37 51.2	+34
	comp=E,0.2nm,0.3s,baz=349,slow=16,SNR=3.5						
CMAR				Lg		12 39 42.7	
	comp=E,0.2nm,0.3s,baz=314,slow=31,SNR=3.6						
TAPN	**Taplejung**	**8.46**	**276**	*e*P	**Pn**	**12 37 17.5**	**-0.4**
	comp=E,23nm,0.3s						
ODAN	**Odare**	**8.74**	**273**	*e*P	**Pn**	**12 37 21.7**	**-0.1**
	comp=E,41nm,0.4s						
RAMN	**Ramite**	**9.45**	**274**	*e*P	**Pn**	**12 37 31.0**	**-0.4**
	comp=E,46nm,0.4s						
JIRN	**Jiri**	**9.82**	**278**	*e*P	**Pn**	**12 37 36.4**	**-0.1**
	comp=E,38nm,0.3s						
GUN	**Gumba**	**10.11**	**279**	*e*P	**Pn**	**12 37 40.7**	**+0.2**
	comp=E,42nm,0.3s						
PKI	**Pulchoki**	**10.51**	**277**	*e*P	**Pn**	**12 37 45.5**	**-0.4**
	comp=E,38nm,0.6s						
KKN	**Kakani**	**10.63**	**278**	*e*P	**Pn**	**12 37 46.5**	**-1.1**
	comp=E,24nm,0.3s						
DMN	**Daman**	**10.78**	**277**	*e*P	**Pn**	**12 37 48.9**	**-0.7**
GKN	**Gorkha**	**11.21**	**279**	*e*P	**Pn**	**12 37 54.3**	**-1.3**
DANN	**Dangsing**	**12.01**	**281**	*e*P	**Pn**	**12 38 04.1**	**-2.3**
KOLN	**Koldanda**	**12.12**	**278**	*e*P	**Pn**	**12 38 05.2**	**-2.8**
	comp=E,12nm,0.3s						
SONM	**Songino Array**	**22.24**	**17**	P	**Pn**	**12 40 11.2**	**+0.2**
	comp=E,0.5nm,0.6s,mb3.1,baz=199,slow=13,SNR=4.2						
MK31	**Makanchi Array**	**23.20**	**333**	*e*P	**P**	**12 40 21.8**	**+0.7**
MKAR	**Makanchi Array**	**23.20**	**333**	P	**P**	**12 40 21.6**	**+0.4**
	comp=E,1.2nm,0.4s,mb3.7,baz=144,slow=11,SNR=8.7						
KBL	**Kabul**	**25.36**	**295**	*e*P	**P**	**12 40 41.9**	**+0.7**
	comp=E,8.0nm,0.7s,mb4.4						
MJAR	**Matsushiro Arr**	**36.03**	**64**	P	**P**	**12 42 15.4**	**0.0**
	comp=E,0.4nm,0.6s,mb3.5,baz=267,slow=8.1,SNR=4.6						
AKASG	**Malin Array Be**	**56.01**	**315**	P	**P**	**12 44 52.5**	**+0.2**
	comp=E,0.6nm,0.4s,mb4.0,baz=78,slow=6.2,SNR=3.5						
WRA	**Warramunga Arr**	**58.77**	**138**	P	**P**	**12 45 11.5**	**-0.5**
	comp=E,0.8nm,0.6s,mb3.9,baz=325,slow=7.4,SNR=15						
ASAR	**Alice Springs**	**61.43**	**141**	P	**P**	**12 45 29.2**	**-1.0**
	comp=E,0.3nm,0.5s,mb3.7,baz=328,slow=5.1,SNR=8.6						
NB2	**NORSAR Subarra**	**65.05**	**328**	P	**P**	**12 45 53.9**	**+0.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=82,slow=6.9						
NOA	**NORSAR Array B**	**65.05**	**328**	P	**P**	**12 45 54.0**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=81,slow=6.6,SNR=5.2						
GERES	**GERESS Array B**	**66.21**	**314**	P	**P**	**12 46 02.2**	**+0.7**
	comp=Z,0.5nm,0.3s,mb4.0,baz=46,slow=3.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**88.97**	**284**	P	**P**	**12 48 08.1**	**-0.8**
	comp=Z,0.7nm,0.7s,mb4.1,baz=79,slow=4.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**88.97**	**284**	P	**P**	**12 48 08.1**	**-0.8**

*ISCJB **10** 12:48:54.3±0.5,2361N±001×12186E±002,h12km±3km, Error ellipse: s-maj=2.9km s-min=2.0km az=42.2*
*TAP **10** 12:48:55.6,2364N×12177E,h21km,ML3.9*
TAP Felt I J at Hungye, I J at Hualien, I J at Shilin.
*JMA **10** 12:48:56.0±0.2,2363N×12180E,h60km,M3.4*
ISC 10 12:48:54.8±0.4,2362N±001×12184E±002,h15km±2km, n65,σ0°70/117,7C-14D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.28**	**287**	P	**Pg**	**12 49 01.4**	**+0.6**
TEGC				S	**Sg**	**12 49 05.8**	**+0.9**
ESF	**Shoufeng Towns**	**0.39**	**309**	P	**Pg**	**12 49 02.5**	**-0.2**
ESF				S	**Sg**	**12 49 07.9**	**-0.1**
HWA	**Hwalien**	**0.41**	**329**	*e*P	**Pg**	**12 49 03.5**	**+0.4**
HWA				S	**Sg**	**12 49 09.4**	**+0.7**
ESL	**Shilin**	**0.42**	**297**	*i*P	**Pg**	**12 49 03.0**	**-0.2**
ESL				S	**Sg**	**12 49 08.3**	**-0.5**
EHY	**Hungye**	**0.49**	**256**	*i*P	**Pg**	**12 49 04.9**	**+0.5**
EHY				S	**Sg**	**12 49 12.0**	**+1.0**
TWD	**Chiawan**	**0.51**	**334**	*i* P	**Pg**	**12 49 04.9**	**+0.1**
TWD				S	**Sg**	**12 49 11.7**	**+0.1**
TWF1	**Yuli**	**0.56**	**241**	*i*P	**Pg**	**12 49 06.3**	**+0.4**
TWF1				S	**Sg**	**12 49 14.6**	**+1.2**
CHKT	**Chengkung**	**0.68**	**220**	*i*P	**Pg**	**12 49 07.6**	**-0.4**
WHF	**Hehuan Shan**	**0.74**	**315**	*i*P	**Pg**	**12 49 08.6**	**-0.5**
WHF				S	**Sg**	**12 49 18.7**	**-0.2**
ENA	**Nanau**	**0.81**	**354**	*i*P	**Pg**	**12 49 10.2**	**-0.3**
ENA				S	**Sg**	**12 49 21.0**	**-0.1**
YUS	**Yu-Shan**	**0.82**	**261**	*i*P	**Pg**	**12 49 10.9**	**+0.1**
YUS				S	**Sg**	**12 49 20.6**	**-1.0**
ELDTW	**Lidau**	**0.87**	**240**	*i*P	**Pb**	**12 49 10.7**	**-0.9**
TWT	**Tachien**	**0.87**	**316**	*i* P	**Pb**	**12 49 11.3**	**-0.3**
TWT				S	**Sb**	**12 49 21.8**	**-1.3**
SMLT	**Sun Moon Lake**	**0.90**	**287**	*i*P	**Pb**	**12 49 11.4**	**-0.7**
SMLT				S	**Sb**	**12 49 23.0**	**-0.8**
NNS	**Nan Shan**	**0.92**	**333**	P	**Pb**	**12 49 11.9**	**-0.5**
NNS				S	**Sb**	**12 49 23.2**	**-1.2**
TYC	**Yuchr**	**0.94**	**287**	*i*P	**Pb**	**12 49 11.9**	**-0.9**
TYC				S	**Sb**	**12 49 24.4**	**-0.7**
ALS	**Alishan**	**0.95**	**263**	*i*P	**Pb**	**12 49 13.0**	**0.0**
ALS				S	**Sb**	**12 49 25.2**	**-0.3**
TWC	**Suao**	**0.98**	**1**	*i*P	**Pb**	**12 49 13.4**	**-0.1**
TWC				S	**Sb**	**12 49 26.1**	**-0.2**
ENTT	**Nioudou**	**1.04**	**346**	*e*P	**Pb**	**12 49 14.1**	**-0.5**
ENTT				S	**Sb**	**12 49 28.0**	**0.0**
CHN5	**Tsauling**	**1.06**	**269**	*i* P	**Pb**	**12 49 14.9**	**0.0**
CHN5				S	**Sb**	**12 49 28.2**	**-0.4**
TWG	**Pinlang**	**1.06**	**222**	*i*P	**Pb**	**12 49 13.3**	**-1.6**
TWG				S	**Sb**	**12 49 26.1**	**-2.6**
TTN	**Taitung**	**1.07**	**216**	*e*P	**Pb**	**12 49 14.4**	**-0.7**
TTN				S	**Sb**	**12 49 29.1**	**+0.2**
WNT	**Mingjian**	**1.09**	**284**	*e*P	**Pb**	**12 49 15.2**	**-0.1**
WNT				S	**Sb**	**12 49 29.6**	**+0.3**
STYT	**Tauyuan**	**1.09**	**245**	*i*P	**Pb**	**12 49 15.0**	**-0.4**
STYT				S	**Sb**	**12 49 28.7**	**-0.8**
TWE	**Neicheng**	**1.10**	**352**	P	**Pb**	**12 49 15.0**	**-0.6**
TWE				S	**Sb**	**12 49 29.7**	**-0.1**
NSK	**Sanguang**	**1.14**	**337**	*i*P	**Pb**	**12 49 15.4**	**-0.7**
NSK				S	**Sb**	**12 49 29.0**	**-1.7**
ILA	**Ilan**	**1.14**	**356**	*e*P	**Pb**	**12 49 15.9**	**-0.3**
ILA				S	**Sb**	**12 49 31.9**	**+1.0**
WGK	**Gukeng**	**1.17**	**273**	P	**Pn**	**12 49 16.7**	**+0.1**
WGK				S	**Sb**	**12 49 31.9**	**+0.2**
CHN4	**Tsaushan**	**1.17**	**257**	P	**Pn**	**12 49 16.9**	**+0.2**
CHN4				S	**Sb**	**12 49 32.4**	**+0.5**
TCU	**Taichung**	**1.18**	**296**	P	**Pn**	**12 49 17.1**	**+0.2**
TCU				S	**Sb**	**12 49 32.5**	**+0.5**
WTP	**Ta-pu**	**1.18**	**252**	*i*P	**Pn**	**12 49 16.8**	**0.0**
WTP				S	**Sb**	**12 49 32.5**	**+0.4**
TWQ1	**Liyutan**	**1.21**	**307**	*i*P	**Pn**	**12 49 17.7**	**+0.5**
TWQ1				S	**Sb**	**12 49 33.0**	**+0.1**
CHN2	**Minshiung**	**1.25**	**266**	*e*P	**Pn**	**12 49 18.5**	**+0.8**
CHN2				S	**Sb**	**12 49 34.6**	**+0.6**
NSTT	**Nanjuang**	**1.26**	**323**	P	**Pn**	**12 49 17.8**	**-0.1**
NSTT				S	**Sb**	**12 49 33.9**	**-0.4**
NSY	**Sanyi**	**1.26**	**309**	*e*P	**Pn**	**12 49 17.9**	**0.0**
NSY				S	**Sb**	**12 49 34.7**	**+0.4**
SGST	**Jiashian**	**1.27**	**245**	*i*P	**Pn**	**12 49 18.3**	**+0.3**
SGST				S	**Sb**	**12 49 35.5**	**+0.9**
CHN1	**Nanshi**	**1.28**	**250**	*i*P	**Pn**	**12 49 18.5**	**+0.4**
CHN1				S	**Sb**	**12 49 35.5**	**+0.7**
TWK	**Hsinying**	**1.29**	**254**	P	**Pn**	**12 49 18.4**	**+0.2**
TWK				S	**Sb**	**12 49 35.6**	**+0.4**
CHY	**Chiayi**	**1.30**	**265**	*e*P	**Pn**	**12 49 18.9**	**+0.4**
CHY				S	**Sb**	**12 49 35.9**	**+0.4**
ECL	**Taimali**	**1.31**	**219**	*e*P	**Pn**	**12 49 16.3**	**-2.2**
YOJ	**Yonaguni jima**	**1.36**	**52**	P	**Pn**	**12 49 19.6**	**+0.4**
YOJ				S	**Sn**	**12 49 37.1**	**+0.1**
YOJ	**Yonaguni jima**	**1.36**	**52**	*i*P	**Pn**	**12 49 19.6**	**+0.3**
TWA	**Mucha**	**1.37**	**350**	*e*P	**Pn**	**12 49 19.6**	**+0.2**
TWA				S	**Sn**	**12 49 36.3**	**-1.0**
TWB1	**Santiao Chiao**	**1.39**	**6**	P	**Pn**	**12 49 19.5**	**-0.1**
TWB1				S	**Sn**	**12 49 37.6**	**-0.1**
HSN	**Hsinchu**	**1.42**	**326**	*e*P	**Pn**	**12 49 21.4**	**+1.3**
HSN				S	**Sn**	**12 49 39.6**	**+1.2**
NWF	**Wu-fen Shan**	**1.44**	**358**	*e*P	**Pn**	**12 49 21.3**	**+0.9**
NWF				S	**Sn**	**12 49 39.3**	**+0.3**
WTCT	**Ta-ch'eng**	**1.45**	**280**	*e*P	**Pn**	**12 49 20.7**	**+0.3**
WTCT				S	**Sn**	**12 49 39.6**	**+0.5**
NCU	**National Centr**	**1.47**	**336**	*e*P	**Pn**	**12 49 20.9**	**+0.2**
NCU				S	**Sn**	**12 49 39.5**	**-0.2**
WSF	**Szhu**	**1.48**	**271**	*e*P	**Pn**	**12 49 20.7**	**-0.3**
WSF				S	**Sn**	**12 49 40.4**	**+0.3**
CHN8	**Yiju**	**1.52**	**260**	P	**Pn**	**12 49 21.8**	**+0.4**
CHN8				S	**Sn**	**12 49 41.5**	**+0.5**
TWS1	**Kuangyinshan**	**1.52**	**346**	*e*P	**Pn**	**12 49 22.0**	**+0.5**
TWS1				S	**Sn**	**12 49 41.0**	**0.0**
TWM1	**Shoushan**	**1.52**	**239**	*e*P	**Pn**	**12 49 23.0**	**+1.5**
TAW	**Tawu**	**1.53**	**215**	*e*P	**Pn**	**12 49 20.1**	**-1.5**
EAST	**Anshuo**	**1.53**	**217**	*i*P	**Pn**	**12 49 20.2**	**-1.4**
SCLT	**Jiali**	**1.57**	**254**	*e*P	**Pn**	**12 49 22.6**	**+0.4**
SCLT				S	**Sn**	**12 49 43.4**	**+1.1**
LAY	**Lan-yu**	**1.60**	**190**	*e*P	**Pn**	**12 49 21.1**	**-1.4**
SCZT	**Fangliau**	**1.68**	**222**	*e*P	**Pn**	**12 49 23.7**	**+0.1**
SCZT				S	**Sn**	**12 49 45.4**	**+0.5**
HATJ	**Hateruma jima**	**1.85**	**76**	S	**Sn**	**12 49 49.0**	**-0.2**
IRIF	**Iriomote-Funau**	**1.87**	**67**	P	**Pn**	**12 49 27.1**	**+0.8**
IRIF				S	**Sn**	**12 49 50.3**	**+0.6**
HEN	**Hengchun**	**1.90**	**212**	*e*P	**Pn**	**12 49 26.9**	**+0.2**
JKRS	**Kuro-shima**	**2.08**	**72**	S	**Sn**	**12 49 55.6**	**+0.8**
PNG	**Penghu**	**2.09**	**269**	*e*P	**Pn**	**12 49 28.9**	**-0.4**
PNG				S	**Sn**	**12 49 54.1**	**-1.0**
JIJ	**Ishigaki jima**	**2.23**	**70**	P	**Pn**	**12 49 31.7**	**+0.4**
JIJ				S	**Sn**	**12 49 58.0**	**-0.6**
JTJ	**Tarama**	**2.81**	**68**	S	**Sn**	**12 50 13.5**	**+0.7**
KNM	**Kinmen**	**3.21**	**285**	*e*P	**Pn**	**12 49 46.0**	**+1.3**

*TRN **10** 12:59:35.7,1149N×6154W,h3km,MD2.8*
*ISCJB **10** 12:59:38.0±1.6,1158N±006×6155W±005,h81km±16km, Error ellipse: s-maj=9.9km s-min=8.9km az=6.6*
*FUNV **10** 12:59:38.5,1167N×6165W,h16km,MW2.6*
ISC 10 12:59:38.4±1.7,1159N±006×6155W±005,h80km±17km,n7, σ0°74/14,1C-1D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	**Mount Saint Ca**	**0.58**	**349**	*e*P	**Pn**	**12 59 53.2**	**+0.3**
GRW				*e*S	**Sn**	**13 00 04.1**	**+0.5**
TRN	**Trinidad (W)**	**0.94**	**171**	*e*P	**Pn**	**12 59 55.8**	**-1.0**
TRN				*e*S	**Sn**	**13 00 10.6**	**+0.1**
TOSP	**Speyside**	**1.03**	**106**	*e*P	**Pn**	**12 59 58.5**	**+0.7**
TOSP				*e*S	**Sn**	**13 00 11.5**	**-1.0**
GUIV	**Guiria**	**1.14**	**215**	*i*P	**Pn**	**12 59 59.1**	**-0.1**
GUIV				*e*S	**Sn**	**13 00 15.6**	**+0.8**
ITEV	**Isla Los Testi**	**1.57**	**262**	*i*P	**Pn**	**13 00 04.4**	**-0.1**
ITEV				*e*S	**Sn**	**13 00 23.2**	**-1.3**
CRUV	**Carupano**	**1.89**	**241**	*e*P	**Pn**	**13 00 08.6**	**-0.2**
CRUV				*e*S	**Sn**	**13 00 31.2**	**-0.7**
GUNV	**Guanoco**	**1.97**	**224**	*e*P	**Pn**	**13 00 11.2**	**+1.3**
GUNV				*e*S	**Sn**	**13 00 34.5**	**+0.6**

*NIED **10** 13:11:00,4670N×15350E,h11km,Mw4.0 Best double couple: M0:1.27000×10^15 NP1:φ0=234.00000°,δ73.00000°, λ128.00000°. NP2:φ0=344.00000°,δ41.00000°,λ26.00000°.*
*SKHL **10** 13:11:32.7±0.7,4592N×15381E,h122km±19km,mb5.2/2, msh5.9/2*
*IDC **10** 13:11:32.1±0.8,4654N×15342E,h0km,mb4.0/12, mb1 4.1/14,mb1mx4.0/23,mbtmp4.0/14,ML3.3/2,MS2.9/1, Ms1 2.9/1,ms1mx2.5/37,Error ellipse: s-maj=24.8km s-min=17.2km az=126.0*
*JMA **10** 13:11:33.6±0.8,4666N×15355E,h30km,M4.4*
*NEIC **10** 13:11:33.5±0.6,4653N×15339E,h10km,mb4.3/2,Error ellipse: s-maj=13.8km s-min=7.6km az=135.0*
*BJI **10** 13:11:33.2,47.10N×15384E,h26km,mB4.9,mb4.4*
*ISCJB **10** 13:11:35.7±1.1,4645N±009×153.19E±009,h39km±11km, mb4.2/20,Error ellipse: s-maj=16.3km s-min=7.6km az=147.7*
*MOS **10** 13:11:38.1±1.3,4659N×15303E,h53km,mb4.7/5,Error ellipse: s-maj=12.8km s-min=11.1km az=59.4*
ISC 10 13:11:37.0±1.6,4651N±008×15328E±009,h33km±12km, h17km±2.6km:pP-P,n70,σ1°22/86,mb4.2/20,1C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.99**	**253**	*i*PN	**Pn**	**13 12 34.0**	**-1.7**
KUR				*e*S	**Sn**	**13 13 20.5**	**-0.8**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=E,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,300nm,0.6s						
KUR				smax			
	comp=N,430nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
KUR	**Kuril'sk**	**3.99**	**253**	*i*P	**Pn**	**13 12 34.0**	**-1.7**
KUR				AMB	AMB	13 12 35.0	
	comp=E,76nm,0.6s						
KUR				AMB	AMB	13 12 35.0	
	comp=E,304nm,0.6s			

PET	**Petropavlovsk**	**7.39**	**26**	*e*PN	**Pn**	**13 13 20.8**	**-1.7**
PET				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PET	**Petropavlovsk**	**7.39**	**26**	*e*Pn	**Pn**	**13 13 20.8**	**-1.7**
	comp=Z,8.8nm,0.6s						
JMP	**Maruseppu**	**7.43**	**254**	P	**Pn**	**13 13 25.5**	**+2.5**
JAR	**Ashorobuto**	**7.47**	**248**	P	**Pn**	**13 13 25.0**	**+1.4**
JAR				*e*S	**Sn**	**13 14 47.2**	**+0.1**
JOB	**Onbets**	**7.63**	**245**	P	**Pn**	**13 13 26.4**	**+0.7**
JOB				*e*S	**Sn**	**13 14 50.1**	**-0.8**
JKK2	**Kamakawa 2**	**7.89**	**254**	P	**Pn**	**13 13 32.1**	**+2.8**
ASAJ	**Asahikawa**	**7.90**	**256**	Pn	**Pn**	**13 13 32.9**	**+3.5**
	comp=Z,1.3nm,0.3s,baz=88,slow=16,SNR=14						
ASAJ	**Asahikawa**	**7.90**	**256**	PN	**Pn**	**13 13 32.9**	**+3.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
UGL	**Uglegorsk**	**7.98**	**293**	*e*P	**Pn**	**13 13 35.0**	**+4.5**
JCH	**Churui**	**8.08**	**245**	P	**Pn**	**13 13 31.6**	**-0.3**
JCH				*e*S	**Sn**	**13 14 58.5**	**-3.5**
JBT2	**Biratori 2**	**8.62**	**248**	P	**Pn**	**13 13 40.2**	**+0.8**
JBT2				*e*S	**Sn**	**13 15 15.6**	**+0.1**
JNBK	**Urakawa-nobuka**	**8.64**	**245**	P	**Pn**	**13 13 38.5**	**-1.1**
JNBK				*e*S	**Sn**	**13 15 11.9**	**-3.8**
JNB	**Noboribetsu**	**9.63**	**250**	P	**Pn**	**13 13 53.9**	**+0.7**
JNB				*e*S	**Sn**	**13 15 39.2**	**-0.9**
JKB	**Kayabe**	**9.93**	**247**	P	**Pn**	**13 13 56.3**	**-1.0**
JKB				*e*S	**Sn**	**13 15 41.9**	**-5.5**
JANG	**Nango**	**10.52**	**239**	P	**Pn**	**13 14 02.0**	**-3.3**
JTM	**Tenmabayashi**	**10.53**	**241**	P	**Pn**	**13 14 03.6**	**-1.9**
JTH	**Tanohata**	**10.60**	**236**	*e*S	**Sn**	**13 15 53.2**	**-11**
JIO	**Ouri**	**11.92**	**232**	*e*S	**Sn**	**13 16 24.3**	**-12**
MJAR	**Matsushiro Arr**	**15.02**	**234**	Pn	**Pn**	**13 15 06.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=38,slow=11,SNR=5.1						
MAJO	**Matsushiro**	**15.02**	**234**	*e*P	**Pn**	**13 15 06.4**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAJO	**Matsushiro**	**15.02**	**234**	*e*Pn	**Pn**	**13 15 06.3**	**-0.4**
	comp=Z,7.1nm,0.6s						
MAT	**Matsuhiro**	**15.02**	**234**	P	**Pn**	**13 15 06.3**	**-0.5**
YAK	**Yakutsk**	**20.59**	**328**	*e*P	**P**	**13 16 13.5**	**+0.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK	**Yakutsk**	**20.59**	**328**	P	**P**	**13 16 13.2**	**+0.5**
	comp=Z,6.8nm,0.4s						
KSRS	**Korea Array**	**20.83**	**253**	P	**P**	**13 16 17.8**	**+2.1**
	comp=Z,2.4nm,0.7s,baz=55,slow=10.0,SNR=5.6						
KSRS	**Korea Array**	**20.83**	**253**	P	**P**	**13 16 17.8**	**+2.1**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BILL	**Bilibino**	**22.61**	**13**	*e*P	**P**	**13 16 39.8**	**+5.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb3.7						
SONM	**Songino Array**	**31.52**	**290**	P	**P**	**13 17 55.4**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.5,baz=97,slow=11,SNR=3.3						
SONM				PcP	PcP	13 20 48.7	+0.9
	comp=Z,0.3nm,0.7s,baz=63,slow=1.9,SNR=3.8						
ZAK	**Zakamensk**	**32.88**	**295**	*e*P	**P**	**13 18 07.0**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
IMA2	**Indian Mountai**	**33.94**	**36**	*e*P	**P**	**13 18 16.5**	**-0.1**
KDAK	**Kodiak Island**	**34.17**	**51**	P	**P**	**13 18 17.0**	**-1.7**
	comp=Z,2.3nm,0.8s,mb4.2,baz=251,slow=12,SNR=2.9						
COLA	**College**	**36.26**	**38**	*e*P	**P**	**13 18 37.6**	**+1.0**
LZH	**Lanzhou**	**38.01**	**272**	*e*P	**P**	**13 18 53.5**	**+1.7**
LZH				AP	pP	13 18 58.0	-3.5
LZH				XP	sP	13 19 02.1	-3.5
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,94nm,4.8s						
HVS	**Khovu-Aksy**	**38.56**	**299**	*e*P	**P**	**13 18 55.7**	**-0.6**
HVS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
GTA	**Gaotai**	**39.12**	**279**	*e*P	**P**	**13 19 03.4**	**+2.3**
GTA				AP	pP	13 19 07.1	-3.8
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
ZALV	**Zalesovo Beam**	**42.85**	**306**	P	**P**	**13 19 30.5**	**-1.0**
	comp=Z,0.8nm,0.5s,mb3.7,baz=52,slow=9.5,SNR=3.4						
ZALV				PcP	PcP	13 21 23.2	+1.1
	comp=Z,0.4nm,0.3s,baz=67,slow=4.8,SNR=3.1						
ZAL	**Zalesovo**	**42.86**	**306**	P	**P**	**13 19 30.5**	**-1.2**
ZAL						13 21 23.2	
MKAR	**Makanchi Array**	**47.15**	**298**	P	**P**	**13 20 06.0**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.3,baz=64,slow=8.5,SNR=22						
MKAR	**Makanchi Array**	**47.15**	**298**	*e*P	**P**	**13 20 05.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**47.15**	**298**	P	**P**	**13 20 06.0**	**+0.1**
KURK	**Kurchatov**	**47.59**	**304**	*e*P	**P**	**13 20 08.9**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
YKA	**Yellowknife Ar**	**51.05**	**37**	P	**P**	**13 20 35.5**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=287,slow=6.4,SNR=3.4						
CMAR	**Chiang Mai Arr**	**52.42**	**257**	P	**P**	**13 20 48.8**	**+2.5**
	comp=Z,1.8nm,0.6s,mb4.2,baz=37,slow=7.1,SNR=12						
CMAR	**Chiang Mai Arr**	**52.42**	**257**	*e*P	**P**	**13 20 48.7**	**+2.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARU	**Arti**	**55.27**	**318***c*	*i*P	**P**	**13 21 06.4**	**-0.2**
ARU				*e*		13 23 07.0	
ARU				*e*S	**S**	**13 28 34.1**	**-14**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
JOF	**Joensuu**	**61.60**	**334**	*e*p	**P**	**13 21 49.3**	**-1.3**
OBN	**Obninsk**	**65.58**	**326**⇓	*e*P	**P**	**13 22 16.3**	**-0.7**
OBN				*e*		13 24 40.8	
OBN				*e*S	S	13 30 49.0	-11
OBN				*e*SS	SS	13 35 11.9	-0.9
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
WRA	**Warramunga Arr**	**68.32**	**199**	P	**P**	**13 22 34.4**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.7,baz=24,slow=7.1,SNR=5.6						
NB2	**NORSAR Subarra**	**68.50**	**341**	P	**P**	**13 22 35.5**	**+0.1**
	comp=Z,4.2nm,0.7s,mb4.6,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.50**	**341**	P	**P**	**13 22 36.2**	**+0.8**
	comp=Z,3.2nm,0.6s,mb4.5,baz=27,slow=6.4,SNR=17						
NOA	**NORSAR Array B**	**68.50**	**341**	*e*P	**P**	**13 22 36.4**	**+1.0**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**13 22 55.8**	**-0.1**
	comp=Z,2.2nm,0.4s,mb4.5,baz=33,slow=6.1,SNR=21						
AKASG	**Malin Array Be**	**71.81**	**326**	*e*P	**P**	**13 22 55.8**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASAR	**Alice Springs**	**72.01**	**199**	P	**P**	**13 22 58.0**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=16,slow=5.4,SNR=9.9						
ASAR	**Alice Springs**	**72.01**	**199**	*e*P	**P**	**13 23 00.6**	**+3.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CLL	**Collm**	**76.73**	**336**	*i* P	**P**	**13 23 25.3**	**+0.8**
CLL				*i*	pP	13 23 31.6	-3.4
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
CLL	**Collm**	**76.73**	**336**	*i* P	**P**	**13 23 25.3**	**+0.8**
	comp=Z,6.0nm,0.7s,mb4.6						
CLL				*i* sP	pP	13 23 31.6	-3.4
	comp=Z,4.0nm,0.6s						
KHC	**Kasperske Hory**	**78.51**	**334**	*e*P	**P**	**13 23 35.5**	**+1.0**
GERES	**GERESS Array B**	**78.73**	**334**	P	**P**	**13 23 36.1**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=35,slow=4.9,SNR=7.4						

ISCJB ***10*** *13:17:55.0±0.2, 678S±003×10492E±003, h44km, mb5.2/88, MS4.4/25, Error ellipse: s-maj=4.4km s-min=3.1km az=34.3*
MOS ***10*** *13:17:54.5±1.2, 636S×10528E, h33km, mb5.5/25, Error ellipse: s-maj=11.2km s-min=6.1km az=114.7*
NEIC ***10*** *13:17:57.8±0.9, 652S×105.14E, h52km±8km, mb5.2/28, Error ellipse: s-maj=7.8km s-min=5.3km az=55.0*
NEIC Felt [IV] at Bayah and Carita; [III] at Bogor, Lebak, Malingping, Pandeglang and Pelabuhanratu; [II] at Jakarta. Also felt at Cilegon.
GCMT ***10*** *13:17:57.8±0.4, 679S×10525E, h61km±2km, MW5.0/42, Moment Tensor Solution. s42,c59; s40,c61; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.43±.18; $M_{\theta\theta}$3.73±.15; $M_{\phi\phi}$-0.29±.19; $M_{r\theta}$-1.20±.15; $M_{\theta\phi}$-2.09±.12; $M_{\phi r}$-0.32±.15; Best double couple: $M_0$4.25400×10^{16} NP1:ϕ_s310.00000°, δ41.00000°, λ-65.00000°. NP2: ϕ_s98.00000°, δ54.00000°, λ-110.00000°. Principal axes:*

T 4.7370, Plg7.0000°, Azm202.0000°; N -0.9640, Plg16.0000°, Azm110.0000°; P -3.7700, Plg72.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI ***10*** *13:17:57.7, 650S×105.10E, h51km, mB5.1, mb4.9, Ms4.7, Msz4.5*
DJA ***10*** *13:17:57, 683S×10499E, h30km, ML5.4/22*
IDC ***10*** *13:17:58.7±1.9, 646S×10527E, h56km±16km, mb4.6/21, mb1 4.6/22, mb1mx4.6/23, mbtmp4.5/22, ML5.2/2, MS4.3/12, Ms1 4.3/12, ms1mx4.0/28, Error ellipse: s-maj=12.5km s-min=7.8km az=40.0*
ISC 10 13:17:57.1±0.2, 673S±003×10496E±003, h46km, h46km±1.9km: pP-P, n282, σ1§45/240, mb5.2/88, MS4.4/25, 18C-24D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**1.31**	**63**	P	**Pn**	**13 18 17.8**	**-1.2**
	0.0nm,0.0s						
BLSI	**Bandar Lampung**	**1.38**	**12**	P	**Pn**	**13 18 20.5**	**+0.5**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**1.61**	**100**	P	**Pn**	**13 18 22.2**	**-0.9**
	0.0nm,0.0s						
TNG	**Tangerang**	**1.76**	**72**	P	**Pn**	**13 18 24.5**	**-0.7**
	0.0nm,0.0s						
DBJI	**Dramaga**	**1.78**	**85**	P	**Pn**	**13 18 25.0**	**-0.5**
	0.0nm,0.0s						
KLI	**Kotabumi**	**1.85**	**357**	P	**Pn**	**13 18 28.5**	**+2.0**
	0.0nm,0.0s						
CBJI	**Citeko**	**1.90**	**81**	P	**Pn**	**13 18 27.9**	**+0.8**
	0.0nm,0.0s						
XMIS	**Christmas Isla**	**3.79**	**170**	*e*Pn	**Pn**	**13 18 49.9**	**-3.3**
XMIS				*e*Sn	**Sn**	**13 19 26.9**	**-10**
KSI	**Kapahiang**	**3.86**	**322**	P	**Pn**	**13 18 57.5**	**+3.5**
	0.0nm,0.0s						
CLJI	**Cilicap**	**4.14**	**104**	P	**Pn**	**13 19 02.4**	**+4.5**
	0.0nm,0.0s						
PPBI	**Pangkal Pinang**	**4.68**	**15**	P	**Pn**	**13 19 07.1**	**+1.8**
	0.0nm,0.0s						
BJII	**Banjamegara**	**4.75**	**98**	P	**Pn**	**13 19 09.0**	**+2.7**
	0.0nm,0.0s						
BJII	**Banjamegara**	**4.75**	**98**⇓	*e*P	**Pn**	**13 19 07.1**	**+0.8**
BJII				*e*S	**Sn**	**13 19 54.5**	**-5.6**
TPI	**Tanjungpandan**	**4.77**	**34**	P	**Pn**	**13 19 06.8**	**+0.3**
	0.0nm,0.0s						
JMBI	**JAMBI**	**5.23**	**345**	P	**Pn**	**13 19 17.2**	**+4.4**
	1μm,0.8s						
DSRI	**Dabo**	**6.22**	**356**	P	**Pn**	**13 19 29.6**	**+3.2**
	198nm,0.8s						
SJI	**Sawahan**	**6.82**	**99**	P	**Pn**	**13 19 38.0**	**+3.3**
	254nm,0.6s						
KRKI	**Karangkates**	**7.56**	**101**	P	**Pn**	**13 19 47.3**	**+2.4**
	682nm,0.8s						
TPRI	**Tanjung Pinang**	**7.61**	**357**	P	**Pn**	**13 19 49.0**	**+3.5**
	150nm,0.8s						
TRT	**Tretes**	**7.67**	**98**⇑	*e*P	**Pn**	**13 19 47.0**	**+0.6**
PPI	**Padang Panjang**	**7.71**	**324**	P	**Pn**	**13 19 48.8**	**+1.8**
	104nm,0.6s						
PBKI	**Pangkalan Bun**	**7.79**	**59**	P	**Pn**	**13 19 48.9**	**+1.0**
	316nm,0.9s						
MYKOM	**Kota Tinggi**	**8.53**	**352**	⇑P	**Pn**	**13 20 01.4**	**+3.2**
KGM	**Kluang**	**8.84**	**349**	⇑P	**Pn**	**13 20 05.0**	**+2.6**
KMMI	**Kalianget**	**8.95**	**93**	P	**Pn**	**13 20 11.7**	**+7.9**
	179nm,0.7s						
STKI	**Sintang**	**9.37**	**44**	P	**Pn**	**13 20 11.3**	**+1.7**
	182nm,1.0s						
COCO	**West Island**	**9.68**	**235**	*e*Pn	**Pn**	**13 20 16.1**	**+2.2**
COCO				*e*Sn	**Sn**	**13 21 53.6**	**-7.8**
KSM	**Kuching**	**9.73**	**33**	⇓P	**Pn**	**13 20 16.2**	**+1.5**
KSM	**Kuching**	**9.73**	**33**	*e*Pn	**Pn**	**13 20 14.1**	**-0.6**
IGBI	**Denpasar**	**10.30**	**102**	P	**Pn**	**13 20 23.5**	**+1.1**
	796nm,1.1s						
FRIM	**Kepong**	**10.44**	**341**	⇑P	**Pn**	**13 20 26.6**	**+2.2**
KHKI	**Kahang-Kahang**	**10.68**	**99**	P	**Pn**	**13 20 27.2**	**-0.4**
	214nm,0.8s						
PSI	**Prapat**	**11.22**	**327**	P	**Pn**	**13 20 34.7**	**-0.3**
	1.9nm,0.3s,baz=136,slow=6.6,SNR=6.2						
PSI				LR	LR	13 25 51.9	
	comp=Z,917nm,20.2s,baz=141,slow=43						
PSI	**Prapat**	**11.22**	**327**	P	**Pn**	**13 20 34.7**	**-0.3**
PSI				LR	LR	13 25 51.9	
SBUM	**Sibu**	**11.64**	**39**	⇓P	**Pn**	**13 20 44.5**	**+3.7**
KTGM	**Kuala Trenggan**	**12.11**	**351**	⇓P	**Pn**	**13 20 53.0**	**+5.8**
BTM	**Bintulu**	**12.76**	**40**	⇑P	**Pn**	**13 20 59.3**	**+3.2**
KAPI	**Kappang**	**14.81**	**84**	Pn	**Pn**	**13 21 22.1**	**-1.7**
	181nm,0.5s,SNR=5.7						
KAPI	**Kappang**	**14.81**	**84**	*e*Pn	**Pn**	**13 21 22.9**	**-0.8**
BSI	**Banda Aceh**	**15.51**	**321**	P	**Pn**	**13 21 40.0**	**+7.1**
	98nm,0.9s						
PCI	**Palu**	**15.92**	**69**	P	**Pn**	**13 21 40.4**	**+2.2**
	163nm,1.4s						
PCI	**Palu**	**15.92**	**69**⇓	*e*P	**Pn**	**13 21 41.0**	**+2.8**
TSM	**Tawau**	**16.91**	**50**	⇓P	**Pn**	**13 21 52.2**	**+1.5**
KKM	**Kota Kinabalu**	**16.94**	**42**	⇑P	**Pn**	**13 21 51.9**	**+0.8**
KKM	**Kota Kinabalu**	**16.94**	**42**	*e*Pn	**Pn**	**13 21 50.1**	**-1.0**
SDKM	**Sandakan**	**17.32**	**45**	⇑P	**Pn**	**13 21 56.0**	**+0.3**
BBSI	**Bau Bau**	**17.55**	**87**	P	**Pn**	**13 22 00.0**	**+1.4**
	149nm,0.9s						
KDI	**Kendari**	**17.79**	**82**	P	**Pn**	**13 22 01.4**	**-0.2**
	58nm,1.1s						
KDI	**Kendari**	**17.79**	**82**⇓	*e*P	**Pn**	**13 21 59.8**	**-1.8**
KDI				*e*S	**S**	**13 25 17.7**	**-6.5**
MYLDM	**Lahad Datu**	**17.95**	**49**	⇑P	**Pn**	**13 22 06.5**	**+2.9**
KDM	**Kudat**	**18.00**	**41**	⇑P	**Pn**	**13 22 05.4**	**+1.4**
BATI	**Baumata**	**18.82**	**102**	P	**Pn**	**13 22 13.5**	**-0.5**
	240nm,0.6s						
BATI	**Baumata**	**18.82**	**102**	P	**Pn**	**13 22 12.6**	**-1.5**
	61nm,0.3s,baz=328,slow=1.5,SNR=49						
BATI				S	**S**	**13 25 40.6**	**-4.3**
	20nm,0.3s,baz=284,slow=3.2,SNR=4.8						
MBWA	**Marble Bar**	**20.25**	**137**	*e*Pn	**P**	**13 22 29.7**	**+0.9**
FITZ	**Fitzroy Crossi**	**23.11**	**121**	*e*P	**P**	**13 22 58.1**	**-1.3**
	38nm,0.9s,mb4.8						
FITZ				*e*S	**S**	**13 27 09.8**	**+2.5**
FITZ	**Fitzroy Crossi**	**23.11**	**121**	P	**P**	**13 22 58.7**	**-0.6**
	12nm,0.7s,mb4.4,baz=294,slow=6.5,SNR=34						
FITZ				S	**S**	**13 27 08.4**	**+1.1**
	5.1nm,0.7s,baz=114,slow=19,SNR=3.9						
FITZ				LR	LR	13 31 15.2	
	comp=Z,265nm,21.9s,MS3.6,baz=135,slow=35						
LBMI	**Labuha**	**23.28**	**76**	P	**P**	**13 23 03.6**	**+2.4**
	164nm,1.1s,mb5.4						
CM31	**Chiang Mai Arr**	**25.72**	**347**	*e*P	**P**	**13 23 20.6**	**-2.7**
CMAR	**Chiang Mai Arr**	**25.72**	**347**	P	**P**	**13 23 20.9**	**-2.5**
	11nm,0.6s,mb4.6,baz=181,slow=8.7,SNR=27						
CMAR				PcP	PcP	13 26 53.8	+1.0
	3.1nm,0.6s,baz=201,slow=3.0,SNR=9.0						
CMAR				LR	LR	13 34 06.8	
	comp=Z,475nm,19.9s,MS4.0,baz=168,slow=38						
CMAR	**Chiang Mai Arr**	**25.72**	**347**	P	**P**	**13 23 20.9**	**-2.4**
CMAR						13 26 53.8	
CMAR	**Chiang Mai Arr**	**25.72**	**347**	P	**P**	**13 23 20.9**	**-2.5**
CMAR				PcP	PcP	13 26 53.8	+1.0
CMAR				LR	LR	13 34 06.8	
QIZ	**Qiongzhong**	**26.04**	**11**	P	**P**	**13 23 26.8**	**+0.6**
QIZ				XP	sP	13 23 42.8	-1.0
QIZ				S	**S**	**13 27 56.5**	**+2.3**
QIZ				XS	sS	13 28 15.5	+0.9
QIZ				AMB	AMB		
	comp=Z,34nm,1.5s,mb4.7						
QIZ				LR	LR		
	comp=N,1μm,16.9s						
QIZ				LR	LR		
	comp=Z,1μm,22.9s						
CHTO	**Chiang Mai**	**26.06**	**347**	*e*P	**P**	**13 23 24.0**	**-2.4**
MUN	**Mundaring**	**27.23**	**159**	*e*P	**P**	**13 23 38.0**	**+1.1**
MUN				*e*S	S	13 28 49.5	+37
KLBR	**Kellerberrin**	**27.48**	**156**	*e*P	**P**	**13 23 39.2**	**+0.1**
	comp=Z,54nm,1.2s,mb5.0						
KLBR				*e*S	S	13 28 49.2	+32
KAKA	**Kakadu**	**27.71**	**105**	*e*P	**P**	**13 23 39.8**	**-1.6**
	comp=Z,105nm,0.6s,mb5.6						
KAKA				*e*PCP	PcP	13 26 57.9	+0.3
KAKA				*e*S	**S**	**13 28 30.7**	**+10**
NWAO	**Narrogin (SRO)**	**28.46**	**158**	P	**P**	**13 23 48.2**	**+0.4**
	comp=Z,25nm,1.0s,mb4.8,baz=352,slow=2.2,SNR=3.7						
NWAO				LR	LR	13 34 21.4	
	comp=Z,706nm,19.0s,MS4.3,baz=309,slow=34						
WRA	**Warramunga Arr**	**31.39**	**118**	P	**P**	**13 24 12.8**	**-1.2**
	comp=Z,13nm,0.5s,mb5.0,baz=285,slow=13,SNR=251						
WRA				PcP	PcP	13 27 07.0	+0.1
	comp=Z,6.4nm,0.5s,baz=300,slow=2.1,SNR=13						
WRA				S	**S**	**13 29 14.0**	**-4.4**
	comp=Z,3.3nm,0.9s,baz=293,slow=17,SNR=3.2						
WRAB	**Tennant Creek**	**31.39**	**118**	P	**P**	**13 24 13.0**	**-1.0**
	comp=Z,231nm,0.5s,mb6.3,SNR=40						
WRAB	**Tennant Creek**	**31.39**	**118**	*e*P	**P**	**13 24 13.5**	**-0.5**
WRAB				*e*		13 27 06.8	
WRAB				pmax	pmax		
	comp=Z,83nm,1.4s,mb5.4						
WRAB	**Tennant Creek**	**31.39**	**118**	*e*P	**P**	**13 24 13.5**	**-0.5**
	comp=Z,84nm,1.4s,mb5.4						
WRAB				*e*PcP	PcP	13 27 06.8	-0.1
WB2	**Warramunga Arr**	**31.40**	**118**	*e*P	**P**	**13 24 13.3**	**-0.7**
WB2				*e*PCP	PcP	13 27 07.2	+0.2
WB2				*e*S	**S**	**13 29 16.1**	**-2.5**
KMI	**Kunming**	**31.73**	**356**	P	**P**	**13 24 20.4**	**+3.6**
KMI				AP	pP	13 24 32.9	+3.9
KMI				XP	sP	13 24 38.2	+3.7
KMI				PP	PP	13 25 26.1	-3.1
KMI				S	**S**	**13 29 26.1**	**+2.6**
KMI				XS	sS	13 29 48.5	+4.5
KMI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,440nm,4.4s						
KMI				LR	LR		
	comp=N,748nm,14.8s,MS4.6						
KMI				LR	LR		
	comp=E,578nm,12.6s,MS4.6						
KMI				LR	LR		
	comp=Z,775nm,19.4s						
FORT	**Forrest**	**32.27**	**141**	*e*P	**P**	**13 24 22.1**	**+0.5**
	comp=Z,24nm,0.6s,mb5.2						
FORT				*e*PCP	PcP	13 27 09.9	+0.8
FORT				*e*S	ScP	13 30 41.3	-8.0
ASAR	**Alice Springs**	**32.50**	**124**	P	**P**	**13 24 23.6**	**-0.1**
	comp=Z,14nm,0.9s,mb4.9,baz=293,slow=7.0,SNR=53						
ASAR				PcP	PcP	13 27 10.5	+0.6
	comp=Z,4.4nm,0.5s,baz=290,slow=0.6,SNR=10.0						
ASAR				S	**S**	**13 29 32.2**	**-3.5**
	comp=Z,1.9nm,0.9s,baz=292,slow=13,SNR=6.1						
GYA	**Guiyang**	**33.03**	**3**	P	**P**	**13 24 29.3**	**+1.1**
GYA				AP	pP	13 24 43.4	+3.0
GYA				XP	sP	13 24 50.2	+4.3
GYA				PP	PP	13 25 43.8	+0.2
GYA				PCP	PcP	13 27 13.0	+1.8
GYA				S	**S**	**13 29 46.7**	**+3.0**
GYA				XS	sS	13 30 08.4	+4.2
GYA				SCP	ScP	13 30 52.7	+0.8
GYA				SCS	ScS	13 34 51.7	-0.6
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=N,820nm,17.0s,MS4.7						
GYA				LR	LR		
	comp=E,898nm,16.2s,MS4.7						
GYA				LR	LR		
	comp=Z,753nm,18.5s,MS4.4						
SHL	**Shillong**	**34.52**	**339**	*e*P	**P**	**13 24 40.0**	**-1.2**
HYB	**Hyderabad**	**35.45**	**313**	*i* P	**P**	**13 24 50.5**	**+1.2**
HYB	**Hyderabad**	**35.45**	**313**	*e*P	**P**	**13 24 50.5**	**+1.2**
CD2	**Chengdu**	**37.44**	**358**	*e*P	**P**	**13 25 07.7**	**+1.6**
CD2				AP	pP	13 25 19.9	+1.5
CD2				XP	sP	13 25 25.0	+1.1
CD2				PP	PP	13 26 37.1	+4.8
CD2				S	**S**	**13 30 53.6**	**+2.2**
CD2				XS	sS	13 31 14.1	+2.0
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,40nm,4.8s						
CD2				LR	LR		
	comp=N,360nm,10.8s,MS4.7						
CD2				LR	LR		
	comp=E,540nm,10.8s,MS4.7						
CD2				LR	LR		
	comp=Z,540nm,10.2s,MS4.6						
ODAN	**Odare**	**37.48**	**334**	*e*P	**P**	**13 25 05.1**	**-1.4**
	comp=Z,67nm,0.4s,mb5.8						
TAPN	**Taplejung**	**37.77**	**334**	*e*P	**P**	**13 25 08.2**	**-0.7**
	comp=Z,72nm,0.6s,mb5.6						
RAMN	**Ramite**	**37.91**	**333**	*e*P	**P**	**13 25 09.4**	**-0.7**
	comp=Z,33nm,0.4s,mb5.5						
COEN	**Coen**	**38.23**	**104**	*e*P	**P**	**13 25 10.4**	**-2.6**
	comp=Z,14nm,0.8s,mb4.8						
LSA	**Lhasa**	**38.57**	**341**	P	**P**	**13 25 15.0**	**-0.7**
LSA	**Lhasa**	**38.57**	**341**	*e*P	**P**	**13 25 14.9**	**-0.8**
LSA				pmax	pmax		
	comp=Z,26nm,0.5s,mb5.2						
LSA	**Lhasa**	**38.57**	**341**	*e*P	**P**	**13 25 14.9**	**-0.8**
	comp=Z,26nm,0.5s,mb5.2						
JIRN	**Jiri**	**38.70**	**333**	*e*P	**

STKA Stephens Creek 42.33 131 *e*P **P 13 25 47.6 +0.8**
comp=Z,136nm,0.4s,mb5.9
STKA *e*PCP PcP 13 27 40.3 +0.5
STKA Stephens Creek 42.33 131 P **P 13 25 47.6 +0.8**
comp=Z,198nm,0.6s,mb5.9,baz=305,slow=7.9,SNR=542
STKA PcP PcP 13 27 40.1 +0.3
comp=Z,5.6nm,0.5s,baz=332,slow=7.1,SNR=2.6
STKA LR LR 13 43 02.6
comp=Z,570nm,21.4s,MS4.4,baz=110,slow=36
LZH Lanzhou 42.60 359 *e*P **P 13 25 49.1 +0.3**
LZH AP pP 13 26 01.7 +0.4
LZH XP sP 13 26 07.0 +0.3
LZH PP PP 13 27 31.8 +3.5
LZH *e*S **S 13 32 10.5 +2.1**
LZH XS sS 13 32 30.6 +1.2
LZH *e*SS SS 13 35 15.9 -4.1
LZH AMB AMB
comp=Z,35nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,198nm,6.9s
LZH LR LR
comp=N,1μm,14.3s
LZH LR LR
comp=Z,2μm,18.1s,MS5.0
SMLA Simla 46.08 326 *i* x x 13 26 16.4
SMLA *e*x x 13 26 18.5
comp=Z,425nm,0.6s
SMLA *i* x x 13 32 53.9
GTA Gaotai 46.15 354 P **P 13 26 16.4 -0.7**
GTA AP pP 13 26 28.9 -0.9
GTA XP sP 13 26 34.3 -0.8
GTA PP PP 13 28 05.6 -0.5
GTA S **S 13 32 59.7 -0.2**
GTA XS sS 13 33 21.3 +0.2
GTA SS SS 13 36 19.4 -6.5
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.3
GTA AMB AMB
comp=Z,59nm,5.1s
GTA LR LR
comp=N,271nm,19.2s,MS4.4
GTA LR LR
comp=E,265nm,17.4s,MS4.4
GTA LR LR
comp=Z,353nm,21.3s,MS4.3
BJI Beijing 47.67 12 P **P 13 26 29.9 +0.9**
BJI S **S 13 33 24.0 +2.4**
BJI AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
BJI LR LR
comp=N,334nm,14.3s,MS4.5
BJI LR LR
comp=E,204nm,12.8s,MS4.5
BJI LR LR
comp=Z,247nm,19.9s
HHC Hu-ho-hao-te 47.73 7 *e*P **P 13 26 31.9 +2.5**
HHC AP pP 13 26 44.7 +2.6
HHC XP sP 13 26 49.5 +2.0
HHC PP PP 13 28 23.4 +1.8
HHC S **S 13 33 26.7 +4.3**
HHC XS sS 13 33 46.9 +3.3
HHC SCS ScS 13 36 18.0 -1.1
HHC AMB AMB
comp=Z,24nm,0.8s,mb5.3
HHC AMB AMB
comp=Z,120nm,5.9s
HHC LR LR
comp=N,363nm,23.8s,MS4.4
HHC LR LR
comp=E,268nm,23.8s,MS4.4
HHC LR LR
comp=Z,394nm,23.8s,MS4.3
THN Thein Dam 47.88 326 *e*x x 13 26 29.0
KS15 Wonju Array Si 48.88 24 *e*P **P 13 26 37.8 -0.5**
KSRS Korea Array 48.90 24 P **P 13 26 36.8 -1.7**
comp=Z,2.9nm,0.4s,mb4.7,baz=216,slow=7.9,SNR=18
KSRS PcP PcP 13 28 02.0 -0.4
comp=Z,2.4nm,0.7s,baz=223,slow=3.4,SNR=4.6
KSRS Korea Array 48.90 24 P **P 13 26 36.8 -1.7**
KSRS 13 28 02.0
KSRS pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
CAN Canberra 49.39 132 *e*P **P 13 26 43.1 +0.7**
ARMA Armidale 49.66 124 *e*P **P 13 26 46.3 +1.8**
WMQ Urumqi 52.68 344 P **P 13 27 08.1 +1.2**
WMQ AP pP 13 27 20.7 +1.0
WMQ XP sP 13 27 25.9 +0.8
WMQ PCP PcP 13 28 17.5 +1.2
WMQ PP PP 13 29 08.9 +2.3
WMQ SCP ScP 13 32 09.7 -0.3
WMQ S **S 13 34 31.0 -0.3**
WMQ SCS ScS 13 36 50.6 -2.1
WMQ SS SS 13 38 08.0 -2.5
WMQ AMB AMB
comp=Z,16nm,0.6s,mb5.1
WMQ AMB AMB
comp=Z,31nm,9.3s
WMQ LR LR
comp=N,352nm,19.2s,MS4.6
WMQ LR LR
comp=E,396nm,22.0s,MS4.6
WMQ LR LR
comp=Z,649nm,20.7s,MS4.7
MAJO Matsushiro 53.13 33 *e*P **P 13 27 05.9 -4.4**
MAJO pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MAJO Matsushiro 53.13 33 *e*P **P 13 27 05.9 -4.4**
comp=Z,5.8nm,0.6s,mb4.7
MAT Matsushiro 53.13 33 P **P 13 27 06.5 -3.8**
MAT S **S 13 34 39.6 +1.9**
MJAR Matsushiro Arr 53.13 33 P **P 13 27 06.8 -3.6**
comp=Z,3.8nm,0.5s,mb4.6,baz=206,slow=8.1,SNR=22
MJAR PcP PcP 13 28 17.9 -0.3
comp=Z,3.3nm,0.8s,baz=200,slow=4.0,SNR=7.6
KBL Kabul 53.25 323 *e*P **P 13 27 10.7 -0.6**
comp=Z,22nm,0.7s,mb5.2
CN2 Changchun 53.60 18 *e*P **P 13 27 10.9 -2.7**
CN2 *e*XP sP 13 27 28.9 -2.9
CN2 PP PP 13 29 14.3 -0.5
CN2 *e*S **S 13 34 39.8 -4.0**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,15.0s,MS4.8
CN2 LR LR
comp=E,500nm,15.0s,MS4.8
CN2 LR LR
comp=Z,700nm,16.0s,MS4.8
SONM Songino Array 54.34 1 P **P 13 27 17.8 -1.1**
comp=Z,4.2nm,0.5s,mb4.7,baz=176,slow=8.3,SNR=39
SONM PcP PcP 13 28 22.1 -0.3
comp=Z,9.8nm,0.6s,baz=180,slow=4.3,SNR=15
SONM ScP ScP 13 32 16.2 -0.9
comp=Z,0.9nm,0.7s,baz=172,slow=3.6,SNR=4.8
SONM Songino Array 54.34 1 P **P 13 27 17.8 -1.1**
SONM 13 28 22.1
HNR Honiara 54.46 97 P **P 13 27 18.5 -2.0**
comp=Z,75nm,0.6s,mb5.8,baz=261,slow=1.7,SNR=7.6
MDJ Mudanjiang 55.71 21 P **P 13 27 27.3 -1.6**
MDJ AP pP 13 27 38.9 -3.0
MDJ XP sP 13 27 43.8 -3.4
MDJ PP PP 13 29 30.9 -2.9
MDJ S **S 13 35 15.7 +3.6**
MDJ XS sS 13 35 29.6 -4.1
MDJ AMB AMB
comp=Z,9.0nm,0.7s,mb4.9
MDJ AMB AMB
comp=Z,66nm,4.1s
MDJ LR LR
comp=N,230nm,16.0s,MS4.6
MDJ LR LR
comp=E,406nm,18.2s,MS4.6
MDJ LR LR
comp=Z,518nm,16.0s,MS4.7
ZAK Zakamensk 56.89 359 *e*P **P 13 27 34.9 -2.3**
ZAK *e* 13 28 32.1
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
MK31 Makanchi Array 56.97 342 *e*P **P 13 27 35.9 -1.9**
MKAR Makanchi Array 56.97 342 P **P 13 27 36.1 -1.7**
comp=Z,6.6nm,0.4s,mb5.0,baz=155,slow=8.6,SNR=65

TLY Talaya 58.18 359 *e*P **P 13 27 45.9 -0.4**
TLY *e* 13 29 55.6
TLY *e*S **S 13 35 50.8 +6.3**
TLY pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
HVS Khovu-Aksy 58.44 352 *e*P **P 13 27 47.9 -0.2**
HVS pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
CASY Casey 59.58 177 *e*P **P 13 27 57.6 +1.8**
KLR Kul'dur 60.44 20 *e*P **P 13 27 55.2 -6.7**
KURK Kurchatov 61.57 341 P **P 13 28 08.4 -1.2**
comp=Z,98nm,0.6s,mb6.1,SNR=10
KURK Kurchatov 61.57 341 *e*P **P 13 28 07.8 -1.8**
KURK pmax pmax
comp=Z,13nm,0.8s,mb5.1
KURK Kurchatov 61.57 341 *e*P **P 13 28 07.8 -1.8**
comp=Z,13nm,0.8s,mb5.1
ZAL Zalesovo 62.78 347 P **P 13 28 15.5 -2.1**
ZAA0 Zalesovo Array 62.78 347 *e*P **P 13 28 15.1 -2.5**
ZALV Zalesovo Beam 62.78 347 P **P 13 28 15.5 -2.1**
comp=Z,8.2nm,0.4s,mb5.2,baz=151,slow=5.6,SNR=27
ZALV LR LR 13 57 56.2
comp=Z,290nm,20.6s,MS4.4,baz=310,slow=38
YSS Yuzh-Sakhalins 63.07 28⇓ *e*P **P 13 28 17.8 -1.9**
YSS pmax pmax
comp=Z,50nm,0.9s,mb5.6
YSS Yuzh-Sakhalins 63.07 28 *e*P **P 13 28 17.1 -2.5**
comp=Z,28nm,0.6s,mb5.6
NVS Novosibirsk 63.97 346 *e*P **P 13 28 23.8 -1.7**
NVS *e* 13 28 59.2
BOD Bodaibo 64.74 5 *e*P **P 13 28 28.0 -2.5**
BOD pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
RDF Al-Radifah 65.61 306 *e*P **P 13 28 37.4 +0.7**
baz=306
RDF AMb AMB 13 28 38.8
comp=Z,110nm,0.8s,mb5.9,baz=306
UMR Umm Al-Rimmam 65.72 306 *e*P **P 13 28 38.4 +1.0**
baz=307
UMR AMb AMB 13 28 39.3
comp=Z,256nm,0.5s,baz=307
NAY Al-Naaiem 65.98 306 *e*P **P 13 28 39.7 +0.6**
baz=306
NAY AMb AMB 13 28 40.7
comp=Z,65nm,0.6s,mb5.8,baz=306
MIB Mutribah 66.13 307 *e*P **P 13 28 40.9 +0.9**
baz=307
MIB AMb AMB 13 28 42.3
comp=Z,80nm,0.7s,mb5.9,baz=307
BRVK Borovoye 66.41 338 *e*P **P 13 28 40.0 -1.3**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
BRVK Borovoye 66.41 338 *e*P **P 13 28 40.0 -1.4**
comp=Z,7.3nm,0.6s,mb4.9
MAW Mawson 67.05 196 *e*P **P 13 28 47.7 +2.5**
comp=Z,4.2nm,0.6s,mb4.7
MAW Mawson 67.05 196 P **P 13 28 47.7 +2.4**
comp=Z,4.2nm,0.5s,mb4.7,baz=50,slow=6.4,SNR=13
MAW LR LR 13 51 31.4
comp=Z,302nm,19.2s,MS4.5,baz=194,slow=30
MAW Mawson 67.05 196 *e*P **P 13 28 47.7 +2.5**
MAW pmax pmax
comp=Z,4.0nm,0.6s
KMBO Kilima Mbogo 67.73 272 P **P 13 28 53.2 +2.6**
comp=Z,3.8nm,0.7s,mb4.5,baz=50,slow=10,SNR=7.8
KMBO LR LR 13 53 16.1
comp=Z,343nm,20.5s,MS4.6,baz=97,slow=31
KMBO Kilima Mbogo 67.73 272 P **P 13 28 53.2 +2.6**
KMBO LR LR 13 53 16.1
RPZ Rata Peaks 68.16 134 LR LR 13 54 31.6
comp=Z,496nm,21.2s,MS4.7,baz=275,slow=32
YAK Yakutsk 71.17 12⇑ *e*P **P 13 29 08.2 -2.6**
YAK pmax pmax
comp=Z,24nm,0.7s,mb5.2
YAK Yakutsk 71.17 12 *e*P **P 13 29 08.0 -2.7**
comp=Z,23nm,0.6s,mb5.3
GNI Garni 72.34 316⇑ *e*P **P 13 29 17.8 -0.5**
GNI pmax pmax
comp=Z,12nm,0.9s
SVE Sverdlovsk 72.94 336 *e*P **P 13 29 21.2 -0.2**
SVE pmax pmax
comp=Z,53nm,1.1s,mb5.4
ARU Arti 73.51 335 P **P 13 29 24.4 -0.5**
comp=Z,240nm,0.5s,mb6.4,SNR=11
ARU Arti 73.51 335 *d i*P **P 13 29 24.5 -0.4**
ARU *e* pP 13 29 36.7 -1.6
ARU *e* 13 32 02.7
ARU *e*S S 13 38 51.5 +0.4
ARU pmax pmax
comp=Z,63nm,1.7s,mb5.3
ARU Arti 73.51 335⇓ *i*P **P 13 29 24.4 -0.5**
comp=Z,55nm,1.1s,mb5.4
PETK Petropavlovsk- 74.35 30 P **P 13 29 27.7 -2.1**
comp=Z,19nm,0.6s,mb5.2,baz=197,slow=4.4,SNR=36
PETK LR LR 13 59 48.0
comp=Z,70nm,19.4s,MS4.0,baz=123,slow=34
PET Petropavlovsk 74.78 30 *e*P **P 13 29 30.3 -2.0**
PET pmax pmax
comp=Z,125nm,0.6s,mb6.0
PET pmax pmax
comp=Z,100nm,2.6s,mb5.3
SYO Syowa Base 75.07 200⇑ *e*P **P 13 29 34.6 +0.8**
SYO Syowa Base 75.07 200⇑ *e*X 13 29 43.4
KIV Kislovodsk 75.33 319⇓ *i*P **P 13 29 36.0 +0.3**
KIV *i* 13 29 54.2
KIV pmax pmax
comp=Z,35nm,1.2s,mb5.2
KIV Kislovodsk 75.33 319 *e*P **P 13 29 36.0 +0.3**
comp=Z,20nm,0.6s,mb5.2
LSZ Lusaka 75.54 256 *e*P **P 13 29 39.6 +2.1**
LSZ pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
LSZ Lusaka 75.54 256 *e*P **P 13 29 39.6 +2.1**
comp=Z,9.8nm,0.6s,mb4.9
MALT Malatya 76.16 312⇑ *i*P **P 13 29 41.8 +1.2**
SOKR Solikamsk 76.29 337 *d i*P **P 13 29 40.8 0.0**
SOKR pmax pmax
comp=Z,60nm,0.8s,mb5.6
VNDA Vanda 76.61 169 P **P 13 29 43.4 +1.0**
comp=Z,3.4nm,0.7s,mb4.4,baz=310,slow=5.2,SNR=24
VNDA LR LR 13 58 10.1
comp=Z,196nm,18.4s,MS4.5,baz=264,slow=31
VNDA Vanda 76.61 169 P **P 13 29 43.4 +1.0**
VNDA LR LR 13 58 10.1
SOC Sochi 77.16 317 *e*P **P 13 29 44.8 -1.3**
SOC *e*PP pP 13 29 52.7 -6.9
SOC *e*SP sP 13 29 58.2 -6.5
SOC *e*S S 13 39 27.7 -4.3
SOC pmax pmax
comp=Z,39nm,0.6s,mb5.5
BOSA Boshof 77.79 242 P **P 13 29 52.5 +2.5**
comp=Z,13nm,0.6s,mb5.1,baz=102,slow=4.2,SNR=48
BOSA Boshof 77.79 242 *e*P **P 13 29 52.6 +2.6**
BOSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
BOSA Boshof 77.79 242 *e*P **P 13 29 52.6 +2.6**
comp=Z,10nm,0.6s,mb4.9
SEY Seymchan 78.23 20⇑ *e*P **P 13 29 49.7 -1.9**
VRHR Novokhopersk 79.00 325 *d i*P **P 13 29 56.0 -0.1**
VRHR pmax pmax
comp=Z,170nm,0.5s,mb6.2
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.6s
CSS Prodhromos 79.01 307 *e*P **P 13 29 56.4 -0.1**
comp=E,30nm,0.7s,mb5.3
ANN Anapa 79.13 318 *e*P **P 13 29 53.3 -3.7**
ANN *e*S S 13 39 46.1 -7.1
ANN pmax pmax
comp=Z,35nm,1.6s,mb5.0
TIXI Tiksi 79.79 7 *d i*P **P 13 29 57.3 -2.7**
TIXI pmax pmax
comp=Z,17nm,1.0s,mb4.9
TIXI MLR MLR
comp=Z,296nm,18.0s,MS4.7
TIXI Tiksi 79.79 7 *e*P **P 13 29 57.0 -3.0**
comp=Z,10nm,0.8s,mb4.8
VRSR Storozhevoye 80.45 324 *d i*P **P 13 30 03.8 -0.2**
VRSR pmax pmax
comp=Z,20nm,0.6s,mb5.2
VRSR pmax pmax
comp=N,5.0nm,1.1s
VRSR pmax pmax
comp=E,8.0nm,0.7s
ANTO Ankara 80.81 312 *e*P **P 13 30 06.1 -0.1**

ANTO pmax pmax
comp=Z,14nm,0.8s,mb4.9
ANTO Ankara 80.81 312 *e*P **P 13 30 06.1 -0.1**
comp=Z,14nm,0.8s,mb4.9
SIM Simferopol' 81.40 317 *e*P **P 13 30 10.0 +0.8**
SIM pmax pmax
comp=Z,42nm,0.8s,mb5.4
MOS Moscow 83.08 328 *e*P **P 13 30 14.9 -2.8**
MOS *e* 13 33 26.1
MOS pmax pmax
comp=Z,55nm,0.9s,mb5.6
MOS pmax pmax
comp=Z,100nm,1.1s,mb5.8
OBN Obninsk 83.40 327⇓ *e*P **P 13 30 18.7 -0.7**
OBN *e* 13 33 27.2
OBN *e*S S 13 40 36.9 -0.2
OBN *e*SS SS 13 45 58.1 -5.3
OBN pmax pmax
comp=Z,46nm,1.2s,mb5.4
OBN Obninsk 83.40 327 *e*P **P 13 30 19.6 +0.2**
comp=Z,23nm,0.6s,mb5.4
KLMR Klimovskoe 84.22 333 *e*P **P 13 30 23.3 -0.2**
KLMR pmax pmax
comp=Z,55nm,1.3s,mb5.5
TIRR Tirgusor 85.17 316⇑ *i*P **P 13 30 29.1 +0.5**
APE Apeiranthos 85.65 308⇓ *i*P **P 13 30 31.9 +0.7**
BILL Bilibino 85.89 19 *d i*P **P 13 30 29.9 -1.8**
BILL pmax pmax
comp=Z,11nm,0.7s,mb5.2
AKASG Malin Array Be 86.23 322 P **P 13 30 33.5 -0.2**
comp=Z,2.0nm,0.4s,mb4.7,baz=86,slow=4.6,SNR=22
AKASG PP PP 13 33 52.3 -2.8
comp=Z,0.6nm,0.3s,baz=85,slow=6.9,SNR=6.2
AKBB Malin Array Si 86.23 322 *e*P **P 13 30 31.9 -1.8**
VRI Vrincioaia 86.66 317⇑ *i*P **P 13 30 37.7 +1.7**
MLR Muntele Rosu 87.11 316⇓ *i*P **P 13 30 39.6 +1.4**
VOIR 87.72 316⇓ *i*P **P 13 30 41.9 +0.8**
BURAR Bucovina Array 88.05 318⇑ *i*P **P 13 30 44.3 +1.6**
VTS Vitosha 88.47 313⇓ *i*P **P 13 30 45.8 +1.1**
JOF Joensuu 88.59 334 *e*p **P 13 30 44.2 -0.7**
comp=Z,17nm,0.7s,mb5.5
SNAA Sanae 89.18 198 *e*PKPdf **P 13 30 50.3 +2.7**
SNAA *e* 13 30 51.9
SNAA Sanae 89.18 198 *e*P **P 13 30 50.4 +2.8**
SNAA pmax pmax
comp=Z,19nm,1.4s
SNAA Sanae 89.18 198 *e*P **P 13 30 50.4 +2.8**
comp=Z,19nm,1.4s,mb5.2
BZS Buzias 90.12 316⇓ *i*P **P 13 30 51.3 -1.1**
KAF Kangasniemi 90.62 333 *e*p **P 13 30 54.0 -0.3**
comp=Z,8.9nm,0.6s,mb5.3,baz=97,slow=4.2
KAF Kangasniemi 90.62 333 *e*P **P 13 30 54.0 -0.3**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
VNA1 Neumayer--Stat 91.20 198 *e*PKPdf **P 13 31 00.3 +3.3**
VNA1 *e* 13 31 01.4
PKSM Moragy 92.26 316⇓ *i*P **P 13 31 03.0 +0.7**
ARCES ARCESS Array B 92.58 340 P **P 13 31 02.8 -0.5**
comp=Z,5.0nm,0.6s,mb5.2,baz=89,slow=4.9,SNR=25
GERES GERESS Array B 95.84 318 P **P 13 31 18.4 -0.3**
comp=Z,0.7nm,0.6s,mb4.3,baz=93,slow=2.7,SNR=4.1
NOA NORSAR Array B 97.66 331 P **P 13 31 26.7 0.0**
comp=Z,0.4nm,0.6s,mb4.1,baz=111,slow=3.7,SNR=3.1
NOA PP PP 13 35 23.7 -1.1
comp=Z,0.7nm,0.7s,baz=100,slow=7.0,SNR=4.2
NOA NORSAR Array B 97.66 331 P **P 13 31 26.7 0.0**
NOA PP PP 13 35 23.7 -1.1
IMA2 Indian Mountai 100.72 24 *e*Pdif Pdif 13 31 39.2 -1.3
KDAK Kodiak Island 102.30 32 P Pdif 13 31 46.1 -1.4
comp=Z,1.7nm,0.8s,baz=280,slow=4.6,SNR=4.0
TORD Torodi Ar. Bea 104.38 282 Pdiff Pdif 13 32 01.4 +4.6
comp=Z,0.4nm,0.7s,baz=91,slow=5.9,SNR=2.3
TORD PKiKP PKiKP 13 36 14.4 +0.3
comp=Z,1.1nm,0.7s,baz=81,slow=1.8,SNR=6.9
INK Inuvik 107.52 19 PKiKP PKiKP 13 36 17.7 -0.7
comp=Z,2.0nm,0.9s,baz=234,slow=1.7,SNR=2.7
INK Inuvik 107.52 19 PKPdf PKiKP 13 36 17.7 -0.8
YKA Yellowknife Ar 117.29 19 PKP PKPdf 13 36 36.1 -1.1
comp=Z,2.4nm,0.6s,baz=314,slow=0.7,SNR=6.9
LON Longmire 123.52 37 *e*PKIKP PKPdf 13 36 48.2 -1.4
EDM Edmonton 124.16 27 *e*PKIKP PKPdf 13 36 50.3 -0.3
HUMO Hull Mountain 124.74 42 *e*PKPdf PKPdf 13 36 52.5 +0.4
YBH Yreka Blue Hor 125.29 43 PKP PKPdf 13 36 54.7 +1.5
comp=Z,1.8nm,0.6s,baz=50,slow=1.7,SNR=4.8
LNOR Lincton Mounta 126.06 36 *e*PKIKP PKPdf 13 36 54.5 0.0
BMO Blue Mountains 127.20 37 *e*PKIKP PKPdf 13 36 56.2 -0.5
WVOR Wild Horse Val 127.64 40 *e*PKIKP PKPdf 13 36 58.1 +0.5
EGMT Eagleton 129.37 30 *e*PKPdf PKPdf 13 37 00.6 -0.1
DLMT Dillon 129.61 34 *e*PKPdf PKPdf 13 37 01.7 +0.4
HLID Hailey 129.64 37 *e*PKPdf PKPdf 13 37 02.3 +0.9
NVAR Mina Array Bea 129.79 44 PKP PKPdf 13 37 03.4 +1.5
comp=Z,1.2nm,0.5s,baz=306,slow=2.1,SNR=18
MCMT McKenzie Canyo 129.80 35 *e*PKPdf PKPdf 13 37 02.6 +1.0
BOZ Bozeman (W) 129.96 33 *e*PKIKP PKPdf 13 37 02.5 +0.5
MTUM Tungsten Hills 130.10 46 *e*PKPdf PKPdf 13 37 01.9 -0.6
RRI2 Red Ridge 131.58 35 *e*PKPdf PKPdf 13 37 06.2 +1.1
SCHQ Schefferville 131.58 354 PKP PKPdf 13 37 04.8 +0.1
comp=Z,3.3nm,0.7s,baz=62,slow=2.2,SNR=4.8
REDW Red Top Meadow 131.84 35 *e*PKPdf PKPdf 13 37 06.1 +0.5
GSC Goldstone 132.29 47 *e*PKIKP PKPdf 13 37 07.4 +0.7
PLCA Paso Flores 132.60 185 PKP PKPdf 13 37 09.4 +2.2
comp=Z,2.0nm,0.5s,baz=220,slow=1.3,SNR=9.5
PDAR Pinedale Array 132.95 35 PKP PKPdf 13 37 08.6 +0.8
comp=Z,2.0nm,0.6s,baz=11,slow=0.7,SNR=16
ULM Lac du Bonnet 133.24 18 PKP PKPdf 13 37 07.9 -0.1
comp=Z,4.5nm,0.7s,baz=318,slow=2.4,SNR=6.0
MSU Marysvale 133.89 41 *e*PKIKP PKPdf 13 37 10.8 +1.2
RSSD Black Hills 134.94 30 *e*PKIKP PKPdf 13 37 10.0 -1.4
PV10 Paradox Valley 135.98 39 *e*PKPdf PKPdf 13 37 14.3 +0.8
SDCO Great Sand Dun 138.55 37 *e*PKPdf PKPdf 13 37 15.8 -2.5
ECSD EROS,Sioux Fal 138.56 24 *e*PKPdf PKPdf 13 37 15.7 -2.5
ANMO Albuquerque 139.69 41 *e*PKIKP PKPdf 13 37 20.8 +0.3
CPUP Villa Florida 142.92 207 PKhKP 13 37 24.7
comp=Z,1.6nm,0.5s,baz=159,slow=3.7,SNR=8.1
CPUP Villa Florida 142.92 207 PKIKP PKPdf 13 37 24.7 -1.9
CPUP pmax pmax
comp=Z,2.0nm,0.5s
CPUP Villa Florida 142.92 207 *e*PKPdf PKPdf 13 37 24.1 -2.4
CPUP PKP PKPdf 13 37 24.7 -1.9
WMOK Wichita Mounta 144.56 35 *e*PKIKP PKPdf 13 37 26.7 -2.5
BINY Binghamton 144.66 1 *e*PKPdf PKPdf 13 37 26.9 -2.2
BDFB Brasilia 145.21 230 PKPbc PKPbc 13 37 32.8 +2.3
comp=Z,7.8nm,0.5s,baz=120,slow=3.7,SNR=11
CCM Cathedral Cave 145.52 23⇓ *i*PKIKP PKPdf 13 37 29.5 -1.2
ACSO Alum Creek Sta 145.88 11 *e*PKPdf PKPdf 13 37 28.8 -2.5
FVM French Village 145.89 22 *e*PKP2 PKPab 13 37 29.2 -3.2
OLIL Olney 146.02 18 *e*PKPdf PKPdf 13 37 31.2 -0.3
BLO Bloomington 146.08 16 *e*PKP2 PKPab 13 37 31.7 -1.4
SIUC Southern Illin 146.57 21 *e*PKPdf PKPdf 13 37 32.6 +0.1
JCT Junction City 146.85 41 *e*PKP2 PKPab 13 37 33.3 -3.1
MCWV Mont Chateau 146.93 7 *e*PKPdf PKPdf 13 37 33.7 +0.6
SDMD Soldier's Deli 147.42 3 *e*PKPdf PKPdf 13 37 35.1 +1.2
MIAR Mount Ida 147.46 29 *e*PKP2 PKPab 13 37 34.7 -3.9
GNAR Gosnell 147.82 23 *e*PKPdf PKPdf 13 37 34.4 -0.3
UALR University of 147.85 27 *e*PKPdf PKPdf 13 37 34.4 -0.3
UALR *e*PKPbc PKPbc 13 37 36.7 -1.0
ELN Prospectdale 149.19 9 *e*PKPbc PKPbc 13 37 39.6 -1.5
TZTN Tazewell 149.32 14 *e*PKPdf PKPdf 13 37 37.5 +0.4
TZTN *e*PKPbc PKPbc 13 37 40.7 -0.7
OXF Oxford 149.33 24 *e*PKP2 PKPbc 13 37 40.2 -1.3
PLAL Pickwick Lake 149.42 21 *e*PKPbc PKPbc 13 37 40.0 -1.7
HKT Hockley 149.73 38 *e*PKP2 PKPbc 13 37 42.7 +0.1
SWET Sewanee 149.93 18 *e*PKPbc PKPbc 13 37 41.4 -1.6
TKL Tuckaleechee C 150.11 14 *e*PKP2 PKPbc 13 37 42.9 -0.5
CPCT Cooper Cave 150.11 16 *e*PKPbc PKPbc 13 37 42.7 -0.7
VBMS Vicksburg 150.82 28 *e*PKPdf PKPdf 13 37 40.4 +0.8
GOGA Godfrey 152.32 15 *e*PKIKP PKPbc 13 37 48.1 -0.5
BRAL Brewton 153.34 23 *e*PKPbc PKPbc 13 37 50.6 -0.3
LPAZ La Paz 156.14 197 PKP PKPdf 13 37 49.9 +2.3
comp=Z,3.3nm,1.1s,baz=270,slow=1.0,SNR=6.5
LPAZ PKPab PKPab 13 38 18.2 +3.1
comp=Z,1.8nm,0.6s,baz=177,slow=7.0,SNR=4.6
LPAZ La Paz 156.14 197 PKP PKPdf 13 37 49.9 +2.3
LPAZ PKPab PKPab 13 38 18.2 +3.1

*NEIC **10** 13:19:16.2,3583N×2833E,h39km,mb3.9/1,MD3.5(ATH),*
After ATH.
*ATH **10** 13:19:16.2,3583N×2833E,h39km±1km,MD3.5/3*
*ISCJB **10** 13:19:17.3±1.3,3580N±006×2832E±006,h30km±8km,*
Error ellipse: s-maj=11.2km s-min=7.1km az=160.5
*CSEM **10** 13:19:17.2±0.2,3580N×2834E,h33km±1km,MD3.5,Error*

ellipse: s-maj=4.1km s-min=2.8km az=164.0
DDA ***10*** *13:19:19.1,36.16N×2842E,h7km±5km,Md3.1*
ISC 10 13:19:17.2±1.4,3579N±007×2833E±006,h26km±9km,n11,
σ0988/20,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.46**	**340**	*e*PB	**Pb**	**13 19 26.6**	**-0.2**
ARG				*e*SB	**Sb**	**13 19 33.8**	**+0.4**
KARP	**Karpathos**	**0.98**	**256**	*e*PN	**Pn**	**13 19 35.0**	**-0.2**
KARP				*e*SN	**Sn**	**13 19 48.9**	**+0.7**
TURN	**Turunc**	**1.11**	**12**	*i* P	**Pn**	**13 19 35.1**	**-1.9**
TURN				*i* S	**Sn**	**13 19 46.0**	**-5.5**
AKAS	**Kas**	**1.13**	**66**	*i* P	**Pn**	**13 19 36.9**	**-0.5**
AKAS				*i* S	**Sn**	**13 19 51.7**	**-0.3**
AKAS	**Kas**	**1.13**	**66**	*i* P	**Pn**	**13 19 36.8**	**-0.5**
AKAS				*i* S	**Sn**	**13 19 51.7**	**-0.3**
BDRM	**Kayabasi**	**1.46**	**331**	*i* P	**Pn**	**13 19 41.6**	**-0.3**
BDRM				*i* S	**Sn**	**13 20 00.1**	**-0.1**
GOLH	**Golhisar**	**1.76**	**34**	*i* P	**Pn**	**13 19 47.0**	**+1.1**
GOLH				*i* S	**Sn**	**13 20 10.0**	**+2.5**
GOLH	**Golhisar**	**1.76**	**34**	*i* P	**Pn**	**13 19 47.0**	**+1.0**
GOLH				*i* S	**Sn**	**13 20 10.0**	**+2.5**
AYDN	**Tasoluk**	**1.91**	**349**	*i* P	**Pn**	**13 19 48.7**	**+0.7**
AYDN				*i* S	**Sn**	**13 20 10.4**	**-0.7**
SMG	**Samos**	**2.26**	**329**	*e*PN	**Pn**	**13 19 52.4**	**-0.5**
APE	**Apeiranthos**	**2.59**	**300**	*e*PN	**Pn**	**13 19 57.6**	**+0.2**

BGS ***10*** *13:31:17.0±1.9,4965N×17705W,h59km,mb4.9*
ISCJB ***10*** *13:31:22.5±0.5,5126N±004×17981W±002,h43km±4km, mb5.0/158,MS4.4/35,Error ellipse: s-maj=6.2km s-min=2.2km az=7.8*
SZGRF ***10*** *13:31:22.6,5128N×17870E,h33km,mb5.1,Rat Islands, Aleutian Islands, United States*
BJI ***10*** *13:31:22.5,5130N×17980W,h60km,mB5.2,mb5.0,Ms4.8, Msz4.7*
MOS ***10*** *13:31:23.2±0.9,5124N×17981W,h50km,mb5.2/71, MS4.3/12,Error ellipse: s-maj=7.0km s-min=4.6km az=92.7*
IDC ***10*** *13:31:24.5±2.7,5127N×17978W,h50km±23km,mb4.5/26, mb1 4.6/27,mb1mx4.6/30,mbtmp4.5/27,ML4.0/1,MS4.2/19, Ms1 4.2/19,ms1mx4.1/31,Error ellipse: s-maj=15.2km s-min=9.5km az=160.0*
GCMT ***10*** *13:31:25.6±0.3,5104N×17968W,h30km,MW5.1/67, Moment Tensor Solution. s39,c46; s67,c106; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}4.14±.22; $M_{\theta\theta}$-3.67±.15; $M_{\phi\phi}$-0.46±.13; $M_{r\theta}$2.51±.20; $M_{\theta\phi}$-1.42±.09; $M_{\phi r}$1.72±.17; Best double couple: $M_0$5.16600×10^16 NP1:ϕ_s257.00000°,δ28.00000°,λ104.00000°. NP2: ϕ_s61.00000°,δ63.00000°,λ83.00000°. Principal axes: T 5.1730, Plg71.0000°, Azm315.0000°; N -0.0090, Plg7.0000°, Azm65.0000°; P -5.1590, Plg18.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***10*** *13:31:25.6±0.5,5126N×17983W,h59km±4km,mb4.9/87 Error ellipse: s-maj=5.6km s-min=2.6km az=188.0*
ISC 10 13:31:25.9±0.5,5131N±004×17979W±002,h58km±4km,
h62km±3.4km:pP-P,n768,σ0970/767,mb5.0/157,MS4.4/35,
222C-113D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.57**	**277**	P	**Pn**	**13 31 33.5**	**-5.0**
AMKA				S	**Sn**	**13 31 40.4**	**-7.3**
SMY	**Shemya**	**4.03**	**293**	P	**Pn**	**13 32 25.4**	**+0.3**
SMY				S	**Sn**	**13 33 10.0**	**-1.0**
FX1	**Attu Island--F**	**4.62**	**293**	P	**Pn**	**13 32 31.0**	**-2.1**
NIKO	**Nikolski**	**6.93**	**72**	*e*Pn	**Pn**	**13 33 03.8**	**-1.0**
OKCD	**Okmok Cone D**	**7.46**	**69**	P	**Pn**	**13 33 12.7**	**+0.7**
SPIA	**Saint Paul Isl**	**8.11**	**40**	P	**Pn**	**13 33 22.0**	**+1.3**
UNV	**Unalaska Valle**	**8.48**	**67**	*e*Pn	**Pn**	**13 33 25.5**	**-0.5**
AKGG	**Akutan Green G**	**8.85**	**66**	P	**Pn**	**13 33 31.5**	**+0.5**
AKLV	**Akutan Long Va**	**8.87**	**66**	P	**Pn**	**13 33 31.7**	**+0.5**
AKUT	**Akutan**	**8.96**	**66**	*e*P	**Pn**	**13 33 35.1**	**+2.6**
	50nm,0.5s						
FALS	**False Pass**	**10.47**	**64**	*e*Pn	**Pn**	**13 33 54.7**	**+1.6**
	102nm,0.4s						
SDPT	**Sand Point**	**12.22**	**63**	*e*P	**Pn**	**13 34 15.5**	**-1.5**
	36nm,0.4s						
CHGN	**Chignik**	**13.56**	**60**	*e*Pn	**Pn**	**13 34 31.2**	**-4.0**
PETK	**Petropavlovsk-**	**13.91**	**286**	P	**Pn**	**13 34 40.6**	**+0.7**
	0.8nm,0.3s,baz=82,slow=21,SNR=5.9						
PETK				S	**Sn**	**13 37 13.3**	**+0.8**
	0.4nm,0.3s,baz=93,slow=25,SNR=2.9						
PETK				LR	LR	13 39 41.8	
	comp=Z,1µm,21.8s,baz=93,slow=36						
PETK	**Petropavlovsk-**	**13.91**	**286**	P	**Pn**	**13 34 40.6**	**+0.7**
PETK				S	**Sn**	**13 37 13.3**	**+0.7**
TNA	**Tin City**	**15.53**	**19**	*e*Pn	**Pn**	**13 34 57.6**	**-3.4**
SVW2	**Sparrevohn**	**16.55**	**44**	*e*P	**Pn**	**13 35 15.0**	**+1.2**
KDAK	**Kodiak Island**	**16.98**	**57**	Pn	**Pn**	**13 35 15.0**	**-4.2**
	350nm,0.5s,SNR=62						
KDAK	**Kodiak Island**	**16.98**	**57**	P	**Pn**	**13 35 15.3**	**-3.9**
	8.5nm,0.3s,baz=266,slow=6.2,SNR=65						
KDAK				S	**S**	**13 38 23.7**	**-10**
	0.8nm,0.3s,baz=337,slow=21,SNR=7.5						
KDAK	**Kodiak Island**	**16.98**	**57**	*e*Pn	**Pn**	**13 35 14.8**	**-4.3**
TTA	**Tatalina**	**17.25**	**38**	*e*P	**Pn**	**13 35 23.9**	**+1.4**
TTA	**Tatalina**	**17.25**	**38**	*e*P	**Pn**	**13 35 24.8**	**+2.3**
BILL	**Bilibino**	**18.11**	**343**	*i* P	**Pn**	**13 35 34.6**	**+1.6**
BILL				pmax	pmax		
	comp=Z,91nm,1.5s						
PPLA	**Purkeypile**	**18.77**	**41**	*e*P	**Pn**	**13 35 40.9**	**-0.1**
	comp=Z,18nm,0.7s						
SLKM	**Skilak Lake**	**18.80**	**49**	P	**Pn**	**13 35 40.5**	**-0.8**
SLKM	**Skilak Lake**	**18.80**	**49**	*e*P	**Pn**	**13 35 39.9**	**-1.5**
SEY	**Seymchan**	**18.88**	**319**	*i* P	**Pn**	**13 35 42.6**	**+0.3**
SEW	**Seward**	**19.07**	**51**	*e*P	**Pn**	**13 35 42.5**	**-2.1**
CHUM	**Lake Minchumin**	**19.17**	**38**	*e*P	**Pn**	**13 35 45.4**	**-0.3**
	comp=Z,32nm,0.6s						
RC01	**Rabbit Creek A**	**19.20**	**48**	*e*P	**Pn**	**13 35 43.8**	**-2.3**
	comp=Z,17nm,0.4s						
KTH	**Kantishna Hill**	**19.57**	**40**	⇑*i*P	**Pn**	**13 35 49.4**	**-1.1**
	comp=Z,108nm,0.7s						
PMR	**Palmer**	**19.62**	**47**	*e*P	**Pn**	**13 35 51.8**	**+0.7**
PMR				pmax	pmax		
	comp=Z,29nm,0.8s						
PMR	**Palmer**	**19.62**	**47**	*e*P	**Pn**	**13 35 51.8**	**+0.7**
	comp=Z,29nm,0.8s						
BPAW	**Bear Paw Mtn.**	**19.79**	**39**	⇑*i*P	**Pn**	**13 35 51.6**	**-1.4**
	comp=Z,36nm,0.6s						
TRF	**Thorofare Moun**	**19.79**	**41**	*e*P	**Pn**	**13 35 50.8**	**-2.3**
	comp=Z,25nm,0.5s						
IMA2	**Indian Mountai**	**19.83**	**32**	*e*P	**Pn**	**13 35 52.4**	**-1.1**
MCK	**McKinley**	**20.46**	**41**	*e*P	**P**	**13 35 57.5**	**-0.8**
MID	**Middleton Isla**	**20.48**	**54**	*e*P	**P**	**13 36 02.2**	**+3.6**
EYAK	**Cordova Ski Ar**	**20.96**	**51**	*e*P	**P**	**13 36 01.8**	**-2.0**
	comp=Z,16nm,0.8s						
DIV	**Divide**	**21.07**	**49**	*e*P	**P**	**13 36 04.6**	**-0.3**
	comp=Z,42nm,0.5s,mb5.0						
COLA	**College**	**21.35**	**38**	P	**P**	**13 36 07.7**	**-0.1**
COLA				pmax	pmax		
	comp=Z,33nm,0.8s,mb4.7						
COLA	**College**	**21.35**	**38**	*e*P	**P**	**13 36 07.5**	**-0.3**
	comp=Z,33nm,0.8s,mb4.7						
RAGM	**Ragged Mountai**	**21.46**	**51**	*e*P	**P**	**13 36 08.0**	**-1.0**
BMRM	**Bremner River**	**21.59**	**50**	*e*P	**P**	**13 36 10.2**	**-0.3**
COLD	**Coldfoot**	**21.63**	**31**	*e*P	**P**	**13 36 11.2**	**+0.3**
	comp=Z,17nm,0.9s,mb4.5						
EGAK	**Eagle**	**24.01**	**41**	*e*P	**P**	**13 36 34.0**	**-0.8**
DAWY	**Dawson**	**24.58**	**43**	*e*P	**P**	**13 36 39.2**	**-0.8**
YSS	**Yuzh-Sakhalins**	**24.71**	**275**	⇑*e*P	**P**	**13 36 41.2**	**-0.2**
YSS				*e*		13 36 49.8	
YSS				*e*		13 36 58.0	
YSS				*e*PPP		13 37 32.5	
YSS				*e*S	**S**	**13 40 48.0**	**-11**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.1						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.1						
YSS				MLR	MLR		
	comp=E,400nm,18.0s						
YSS	**Yuzh-Sakhalins**	**24.71**	**275**	*e*P	**P**	**13 36 42.2**	**+0.9**
	comp=E,30nm,0.6s,mb5.0						
HYT	**Haines Junctio**	**25.02**	**51**	*e*P	**P**	**13 36 42.8**	**-1.2**
ASAJ	**Asahikawa**	**26.09**	**269**	P	**P**	**13 36 53.8**	**-0.1**
	comp=E,74nm,1.2s,mb5.1,baz=44,slow=6.9,SNR=17						
ASAJ				LR	LR	13 47 23.1	
	comp=E,450nm,18.9s,MS4.0,baz=338,slow=37						
ASAJ	**Asahikawa**	**26.09**	**269**	P	**P**	**13 36 53.8**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,74nm,1.3s						
ASAJ				MLR	MLR		
	comp=Z,450nm,18.9s						
SKAG	**Skagway**	**26.09**	**54**	*e*P	**P**	**13 36 52.4**	**-1.4**
INK	**Inuvik**	**27.87**	**35**	P	**P**	**13 37 09.0**	**-0.7**
	comp=Z,6.1nm,0.8s,mb4.3,baz=263,slow=6.7,SNR=18						
INK	**Inuvik**	**27.87**	**35**	P	**P**	**13 37 09.0**	**-0.6**
INK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
INK	**Inuvik**	**27.87**	**35**	*e*P	**P**	**13 37 08.8**	**-0.8**
DLBC	**Dease Lake**	**28.91**	**56**	P	**P**	**13 37 18.6**	**-0.3**
	baz=281,slow=10						
YAK	**Yakutsk**	**29.00**	**311**	*c i*P	**P**	**13 37 18.4**	**-1.3**
YAK				*e**PP	pP	13 37 32.5	-1.6
YAK				*e*		13 38 15.1	
YAK				*e*		13 40 24.8	
YAK				*e*S	**S**	**13 42 05.4**	**-0.9**
YAK				*e**SS	sS	13 42 27.4	-3.4
YAK				*e*		13 44 06.5	
YAK				*e*		13 47 59.4	
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
YAK				pmax	pmax		
	comp=N,1.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,19nm,1.6s						
YAK				pmax	pmax		
	comp=Z,26nm,2.0s,mb4.6						
YAK				smax			
	comp=N,26nm,1.4s						
YAK				smax			
	comp=E,43nm,2.6s						
YAK	**Yakutsk**	**29.00**	**311**	*e*P	**P**	**13 37 18.7**	**-1.0**
	comp=E,62nm,1.4s,mb5.1						
TIXI	**Tiksi**	**30.39**	**331**	*e*P	**P**	**13 37 31.9**	**0.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
KLR	**Kul'dur**	**30.60**	**285**	⇓*i*P	**P**	**13 37 30.0**	**-4.0**
KLR				pmax	pmax		
	comp=E,62nm,1.2s						
KLR				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.5						
MJAR	**Matsushiro Arr**	**33.16**	**260**	P	**P**	**13 37 55.7**	**-1.0**
	comp=Z,1.9nm,0.5s,mb4.3,baz=50,slow=7.2,SNR=14						
MJAR				PcP	PcP	13 40 38.0	-0.3
	comp=Z,4.8nm,1.3s,baz=67,slow=1.9,SNR=6.4						
MJAR				LR	LR	13 50 21.3	
	comp=Z,423nm,19.3s,MS4.2,baz=60,slow=34						
MJAR	**Matsushiro Arr**	**33.16**	**260**	P	**P**	**13 37 55.7**	**-0.9**
MJAR						13 40 38.0	
MJAR	**Matsushiro Arr**	**33.16**	**260**	P	**P**	**13 37 55.7**	**-1.0**
MJAR				PcP	PcP	13 40 38.0	-0.3
MJAR				LR	LR	13 50 21.3	
MAJO	**Matsushiro**	**33.16**	**260**	*e*P	**P**	**13 37 56.0**	**-0.6**
MAT	**Matsushiro**	**33.16**	**260**	P	**P**	**13 37 56.0**	**-0.6**
MAT				S	**S**	**13 43 09.0**	**-2.9**
YKW3	**Yellowknife Ar**	**35.71**	**46**	*e*P	**P**	**13 38 17.3**	**-1.0**
YKA	**Yellowknife Ar**	**35.73**	**46**	P	**P**	**13 38 17.9**	**-0.6**
	comp=Z,13nm,0.5s,mb5.1,baz=282,slow=7.3,SNR=38						
YKA				PcP	PcP	13 40 45.2	0.0
	comp=Z,1.2nm,0.6s,baz=285,slow=3.2,SNR=4.2						
YKA				LR	LR	13 54 32.2	
	comp=Z,437nm,18.8s,MS4.2,baz=200,slow=39						
YKA	**Yellowknife Ar**	**35.73**	**46**	P	**P**	**13 38 17.9**	**-0.6**
YKA						13 40 45.2	
YKA	**Yellowknife Ar**	**35.73**	**46**	P	**P**	**13 38 17.9**	**-0.6**
YKA				PcP	PcP	13 40 45.2	0.0
YKA				LR	LR	13 54 32.2	
B04A	**Port Angeles**	**35.80**	**73**	⇓P	**P**	**13 38 19.7**	**+0.4**
	baz=36						
NLWA	**Neilton Lookou**	**35.89**	**74**	⇓P	**P**	**13 38 20.7**	**+0.6**
	baz=36,SNR=7.7						
NLWA	**Neilton Lookou**	**35.89**	**74**	*e*P	**P**	**13 38 21.3**	**+1.3**
VDB	**Vedder Mountai**	**36.20**	**70**	P	**P**	**13 38 23.0**	**+0.3**
A05A	**Maple Falls**	**36.23**	**70**	P	**P**	**13 38 23.2**	**+0.3**
	baz=36,SNR=7.8						
C04A	**Brinnon**	**36.28**	**73**	⇑P	**P**	**13 38 23.8**	**+0.5**
	baz=36,SNR=5.8						
MBW	**Mount Baker**	**36.43**	**71**	P	**P**	**13 38 25.2**	**+0.6**
GNW	**Green Mountain**	**36.44**	**73**	P	**P**	**13 38 25.6**	**+0.9**
E03A	**Lebam**	**36.47**	**75**	⇓P	**P**	**13 38 25.5**	**+0.5**
	baz=36						
A06A	**Chilliwack**	**36.54**	**70**	⇑P	**P**	**13 38 26.0**	**+0.5**
	baz=36						
B05A	**Bryant**	**36.55**	**72**	P	**P**	**13 38 26.4**	**+0.7**
	baz=36,SNR=10.0						
JCW	**Jim Creek**	**36.68**	**72**	*e*P	**P**	**13 38 27.0**	**+0.2**
F03A	**Seaside**	**36.77**	**76**	⇓P	**P**	**13 38 27.8**	**+0.3**
	baz=37						
B06A	**Marblemount**	**36.80**	**71**	⇓P	**P**	**13 38 27.2**	**-0.5**
	baz=37						
RPW	**Rockport**	**36.81**	**71**	*e*P	**P**	**13 38 27.6**	**-0.3**
CN2	**Changchun**	**36.95**	**280**	*e*P	**P**	**13 38 26.9**	**-2.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
D05A	**Enumclaw**	**37.11**	**73**	⇑P	**P**	**13 38 31.3**	**+0.8**
	baz=37						
H02A	**Toledo**	**37.13**	**78**	⇑P	**P**	**13 38 31.2**	**+0.5**
	baz=37						
A07A	**Ashnola River,**	**37.21**	**69**	⇓P	**P**	**13 38 31.4**	**+0.2**
	baz=37,SNR=14						
G03A	**Yamhill**	**37.25**	**76**	⇑P	**P**	**13 38 32.0**	**+0.4**
	baz=37						
FMW	**Mount Fremont**	**37.43**	**73**	P	**P**	**13 38 34.1**	**+1.0**
LON	**Longmire**	**37.43**	**74**	*e*P	**P**	**13 38 33.9**	**+0.7**
LON				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
LON	**Longmire**	**37.43**	**74**	*e*PP	**P**	**13 38 33.2**	**+0.1**
F04A	**Amboy**	**37.46**	**75**	⇑P	**P**	**13 38 33.8**	**+0.4**
	baz=37,SNR=11						
BOD	**Bodaibo**	**37.52**	**306**	*e*P	**P**	**13 38 32.8**	**-1.0**
BOD				*e*		13 44 21.4	
BOD				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.0						
PNT	**Penticton**	**37.54**	**69**	P	**P**	**13 38 34.0**	**0.0**
E05A	**Randle**	**37.55**	**74**	⇓P	**P**	**13 38 34.3**	**+0.1**
	baz=37						
H03A	**Soap Creek Ran**	**37.56**	**77**	⇑P	**P**	**13 38 34.6**	**+0.3**
	baz=37						
I02A	**Mapleton**	**37.58**	**79**	⇓P	**P**	**13 38 34.9**	**+0.4**
	baz=37						
COR	**Corvallis**	**37.60**	**78**	*e*P	**P**	**13 38 37.4**	**+2.7**
B07A	**Winthrop**	**37.63**	**70**	P	**P**	**13 38 35.3**	**+0.5**
	baz=38,SNR=12						
HIA	**Hailar**	**37.73**	**291**	*e*P	**P**	**13 38 34.8**	**-0.9**
HIA				pmax	pmax		
	comp=Z,19nm,0.7s						
HIA	**Hailar**	**37.73**	**291**	*e*P	**P**	**13 38 34.8**	**-0.9**
	comp=Z,19nm,0.7s,mb4.9						
ASR	**Mount Adams--S**	**37.85**	**74**	P	**P**	**13 38 37.3**	**+0.6**
KEBM	**Edson Butte**	**37.87**	**81**	*e*P	**P**	**13 38 38.0**	**+1.1**
A08A	**Turner Farm, O**	**37.90**	**69**	P	**P**	**13 38 37.3**	**+0.2**
	baz=38,SNR=8.1						
ETW	**Entiat**	**37.91**	**72**	*e*P	**P**	**13 38 37.5**	**+0.4**
I03A	**Eugene**	**37.94**	**78**	⇓P	**P**	**13 38 37.0**	**-0.5**
	baz=38						
C07A	**Waterville**	**38.03**	**71**	⇑P	**P**	**13 38 38.1**	**-0.1**
	baz=38,SNR=8.1						
E06A	**Yakima**	**38.03**	**73**	⇑P	**P**	**13 38 38.4**	**+0.2**
	baz=38						
F05A	**White Salmon**	**38.07**	**75**	⇑P	**P**	**13 38 38.8**	**+0.2**
	baz=38						
J02A	**Umpqua**	**38.08**	**79**	⇑P	**P**	**13 38 38.6**	**-0.1**
	baz=38						
B08A	**Colville Reser**	**38.14**	**70**	⇓P	**P**	**13 38 38.8**	**-0.3**
	baz=38,SNR=12						
HOOD	**Mount Hood Mea**	**38.23**	**76**	*e*P	**P**	**13 38 41.0**	**+1.1**
H04A	**Detroit Lake**	**38.24**	**77**	⇓P	**P**	**13 38 40.2**	**+0.2**
	baz=38,SNR=22						
A09A	**Danville**	**38.30**	**69**	⇑P	**P**	**13 38 40.4**	**0.0**
	baz=38						
D07A	**Quincy**	**38.32**	**72**	⇑P	**P**	**13 38 40.6**	**-0.1**
	baz=38						
VFP	**Flag Point**	**38.35**	**75**	P	**P**	**13 38 41.7**	**+0.8**
G05A	**Wamic**	**38.48**	**75**	⇓P	**P**	**13 38 42.5**	**+0.5**
	baz=38,SNR=9.4						
F06A	**Goldendale**	**38.54**	**74**	⇑P	**P**	**13 38 42.7**	**+0.2**
	baz=38						
I04A	**Tendick Farm,**	**38.56**	**78**	⇑P	**P**	**13 38 43.2**	**+0.5**
	baz=38,SNR=26						
C08A	**Higginbotham F**	**38.58**	**71**	⇓P	**P**	**13 38 42.8**	**-0.1**
	baz=38						
E07A	**Sunnyside**	**38.70**	**73**	⇓P	**P**	**13 38 44.0**	**+0.2**
	baz=38						
B09A	**Rice**	**38.81**	**69**	⇑P	**P**	**13 38 44.4**	**-0.4**
	baz=39,SNR=7.8						
H05A	**Madras**	**38.84**	**76**	⇑P	**P**	**13 38 45.0**	**0.0**
	baz=39						
SNIWA	**Snively Ranch**	**38.86**	**73**	P	**P**	**13 38 46.0**	**+0.8**
HUMO	**Hull Mountain**	**38.87**	**80**	⇑P	**P**	**13 38 45.6**	**+0.3**
	baz=39						
HUMO	**Hull Mountain**	**38.87**	**80**	*e*P	**P**	**13 38 42.8**	**-2.5**
A10A	**Northport**	**38.89**	**68**	⇓P	**P**	**13 38 45.2**	**-0.2**
	baz=39						
RSW	**Rattlesnake Hi**	**38.94**	**73**	*e*P	**P**	**13 38 46.3**	**+0.5**
OD2	**Odessa Site #2**	**38.97**	**71**	*e*P	**P**	**13 38 46.0**	**-0.1**
HAWA	**Hanford**	**38.98**	**73**	*e*P	**P**	**13 38 46.5**	**+0.4**
	comp=Z,18nm,0.9s,mb4.8						
D08A	**Wollman Farm,**	**39.01**	**72**	P	**P**	**13 38 46.5**	**+0.1**
	baz=39,SNR=8.7						
KSRS	**Korea Array**	**39.02**	**270**	P	**P**	**13 38 47.0**	**+0.3**
	comp=Z,8.7nm,1.0s,mb4.4,baz=58,slow=7.7,SNR=9.2						
KSRS				LR	LR	13 55 16.4	
	comp=Z,127nm,18.6s,MS3.8,baz=30,slow=37						
KSRS	**Korea Array**	**39.02**	**270**	P	**P**	**13 38 47.0**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
KSRS				MLR	MLR		
	comp=Z,127nm,18.6s,MS3.8						
C09A	**Chrisman Ranch**	**39.03**	**70**	⇑P	**P**	**13 38 46.4**	**-0.2**
	baz=39						
H2OWA	**Water**	**39.04**	**73**	P	**P**	**13 38 47.2**	**+0.5**
J04A	**Umpqua Nationa**	**39.05**	**79**	⇑P	**P**	**13 38 47.4**	**+0.6**
	baz=39						
I05A	**Bend**	**39.07**	**77**	⇑P	**P**	**13 38 47.6**	**+0.6**
	baz=39						
E08A	**Dider Farm, El**	**39.21**	**72**	⇑P	**P**	**13 38 48.0**	**-0.1**
	baz=39						
VIPM	**Ingram Point**	**39.28**	**76**	P	**P**	**13 38 49.6**	**+0.9**
H06A	**Lindquist Farm**	**39.34**	**76**	⇓P	**P**	**13 38 49.3**	**+0.1**
	baz=39,SNR=9.2						
D09A	**Jones Farm, Ri**	**39.37**	**71**	P	**P**	**13 38 49.1**	**-0.4**
	baz=39,SNR=5.8						
EDM	**Edmonton**	**39.38**	**60**	*e*P	**P**	**13 38 48.8**	**-0.7**
G07A	**Ruggs Ranch, H**	**39.47**	**74**	⇑P	**P**	**13 38 50.4**	**+0.2**
	baz=39						
NEW	**Newport**	**39.49**	**69**	*e*P	**P**	**13 38 50.3**	**-0.1**
NEW				pmax	pmax		
	comp=Z,62nm,1.6s						
NEW	**Newport**	**39.49**	**69**	*e*P	**P**	**13 38 50.3**	**-0.1**
	comp=Z,62nm,1.6s,mb5.1						
YBH	**Yreka Blue Hor**	**39.50**	**81**	P	**P**	**13 38 51.5**	**+0.9**
	comp=Z,8.1nm,0.9s,mb4.5,baz=348,slow=8.4,SNR=16						
YBH	**Yreka Blue Hor**	**39.50**	**81**	P	**P**	**13 38 51.5**	**+0.9**
YBH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YBH	**Yreka Blue Hor**	**39.50**	**81**	⇓P	**P**	**13 38 51.3**	**+0.7**
	baz=39,SNR=7.4						
YBH	**Yreka Blue Hor**	**39.50**	**81**	*e*P	**P**	**13 38 52.3**	**+1.7**
J05A	**Fort Rock**	**39.56**	**78**	⇓P	**P**	**13 38 51.4**	**+0.4**
	baz=39,SNR=17						
C10A	**Spilker Farm,**	**39.59**	**70**	⇓P	**P**	**13 38 51.0**	**-0.2**
	baz=39						
A11A	**Hall Mountain,**	**39.60**	**68**	⇑P	**P**	**13 38 51.5**	**+0.2**
	baz=39,SNR=12						
E09A	**Wood Farm, Sta**	**39.74**	**72**	P	**P**	**13 38 52.6**	**+0.1**
	baz=40,SNR=6.3						
B11A	**Sandpoint**	**39.84**	**68**	⇑P	**P**	**13 38 53.2**	**-0.1**
	baz=40						
G08A	**Pilot Rock**	**39.88**	**74**	P	**P**	**13 38 53.8**	**+0.1**
	baz=40,SNR=7.0						
LNOR	**Lincton Mounta**	**39.99**	**73**	*e*P	**P**	**13 38 55.1**	**+0.5**
LNOR	**Lincton Mounta**	**39.99**	**73**	*e*P	**P**	**13 38 54.6**	**0.0**
D10A	**Wagner Farm, O**	**39.99**	**71**	P	**P**	**13 38 54.3**	**-0.3**
	baz=40,SNR=13						
CIT	**Chita**	**40.03**	**298**	*e*P	**P**	**13 38 55.1**	**+0.3**
CIT				pmax	pmax		
	comp=Z,93nm,1.3s,mb5.3						
K05A	**Summer Lake**	**40.07**	**79**	⇓P	**P**	**13 38 55.9**	**+0.6**
	baz=40,SNR=10						
I07A	**Izee**	**40.19**	**76**	⇑P	**P**	**13 38 56.3**	**+0.1**
	baz=40,SNR=24						
J06A	**Christmas Vall**	**40.24**	**77**	⇓P	**P**	**13 38 57.0**	**+0.3**
	baz=40,SNR=16						
WDC	**Whiskeytown Da**	**40.26**	**82**	⇓P	**P**	**13 38 57.2**	**+0.3**
	baz=40						
F09A	**S2 Ranch, Elgi**	**40.30**	**73**	⇑P	**P**	**13 38 57.3**	**+0.2**
	baz=40						
O02C	**Red Bluff**	**40.34**	**83**	⇓P	**P**	**13 38 57.8**	**+0.2**
	baz=40						
K06A	**Valley Falls**	**40.43**	**78**	⇑P	**P**	**13 38 58.6**	**+0.3**
	baz=40,SNR=10						
H08A	**Prairie City**	**40.46**	**75**	⇓P	**P**	**13 38 58.7**	**+0.2**
	baz=40						
L05A	**Lakeview**	**40.49**	**79**	⇑P	**P**	**13 38 59.4**	**+0.

H11A	Donnelly	41.97	73	⇑P	P	13 39 10.8	0.0
	baz=42						
K09A	Rome	42.03	77	P	P	13 39 12.0	+0.6
	baz=42,SNR=7.4						
MSO	Missoula	42.07	69	eP	P	13 39 11.4	-0.3
E13A	Victor	42.13	70	P	P	13 39 11.8	-0.3
	baz=42,SNR=6.3						
O06A	Flanigan	42.19	81	⇑P	P	13 39 12.7	0.0
	baz=42						
D14A	Greenough	42.20	69	⇓P	P	13 39 11.9	-0.8
	baz=42,SNR=23						
J10A	Berg Farm, Mel	42.21	75	⇑P	P	13 39 12.5	-0.3
	baz=42						
P05C	Yuba Gap, Truc	42.22	83	⇑P	P	13 39 13.5	+0.5
	baz=42						
M08A	Happy Creek Ra	42.34	79	⇑P	P	13 39 13.9	0.0
	baz=42,SNR=9.4						
N07B	Gerlach	42.36	80	⇓P	P	13 39 14.5	+0.3
	baz=42,SNR=14						
F13A	Darby	42.39	71	P	P	13 39 14.2	-0.1
	baz=42,SNR=14						
I11A	Placerville	42.43	74	⇑P	P	13 39 14.5	-0.1
	baz=42						
CHMT	Chamberlain Mo	42.43	69	eP	P	13 39 14.0	-0.6
L09A	Wilkinson Ranc	42.45	77	⇓P	P	13 39 15.0	+0.2
	baz=42,SNR=14						
K10A	MacKenzie Ranc	42.51	76	P	P	13 39 15.8	+0.5
	baz=42,SNR=25						
E14A	Clinton	42.55	70	⇑P	P	13 39 15.4	-0.2
	baz=42						
H12A	Diamond D Ranc	42.74	73	P	P	13 39 17.0	-0.2
	baz=43,SNR=19						
O07A	Toulon	42.78	80	⇓P	P	13 39 17.6	+0.1
	baz=43,SNR=11						
MFID	Camas Ranch	42.78	75	⇑P	P	13 39 17.4	-0.1
	baz=43						
D15A	Lincoln	42.79	68	P	P	13 39 17.2	-0.3
	baz=43,SNR=19						
G13A	Cobalt	42.82	72	P	P	13 39 17.8	0.0
	baz=43,SNR=22						
N08A	GE Springer Mi	42.88	79	⇑P	P	13 39 18.3	0.0
	baz=43						
R05C	Kirkwood Meado	42.91	83	⇓P	P	13 39 18.7	+0.2
	baz=43						
M09A	Marrel Ranch,	42.92	78	⇑P	P	13 39 18.9	+0.2
	baz=43						
F14A	Wisdom	42.94	70	⇓P	P	13 39 18.5	-0.3
	baz=43,SNR=9.7						
K11A	Parker Ranch,	43.02	75	⇑P	P	13 39 19.2	-0.2
	baz=43,SNR=11						
E15A	Deer Lodge	43.05	69	P	P	13 39 19.2	-0.4
	baz=43,SNR=21						
H13A	Challis	43.09	72	⇑P	P	13 39 19.6	-0.4
	baz=43,SNR=8.1						
CMB	Columbia Colle	43.12	84	⇓P	P	13 39 20.2	-0.1
	baz=43						
CMB	Columbia Colle	43.12	84	eP	P	13 39 25.9	+5.6
L10A	Juniper Basin	43.15	77	⇓P	P	13 39 20.1	-0.3
	baz=43,SNR=13						
G14A	Jackson	43.20	71	P	P	13 39 20.7	-0.1
	baz=43,SNR=6.2						
N09A	Rock Creek Ran	43.21	79	⇑P	P	13 39 20.9	-0.1
	baz=43,SNR=6.9						
J12A	Stokes Ranch,	43.32	74	P	P	13 39 22.3	+0.5
	baz=43,SNR=10						
R06C	Coleville	43.41	83	⇑P	P	13 39 22.6	0.0
	baz=43						
M10A	I.L. Ranch, Tu	43.43	77	⇓P	P	13 39 23.0	+0.3
	baz=43,SNR=7.8						
F15A	Butte	43.45	70	P	P	13 39 22.8	0.0
	baz=43,SNR=7.1						
LRM	Limekiln Ridge	43.48	70	eP	P	13 39 22.7	-0.4
L11A	Cat Creek Ranc	43.53	76	⇓P	P	13 39 23.7	+0.1
	baz=43,SNR=23						
I13A	Wildhorse Cree	43.54	73	P	P	13 39 23.8	+0.3
	baz=43,SNR=26						
HLID	Hailey	43.55	74	⇑P	P	13 39 23.8	+0.1
	baz=43,SNR=22						
HLID	Hailey	43.55	74	eP	P	13 39 24.0	+0.3
BMN	Battle Mountai	43.64	79	eP	P	13 39 24.8	+0.3
K12A	Draper Farm, C	43.78	75	⇓P	P	13 39 25.8	+0.3
	baz=44,SNR=9.0						
MCMT	McKenzie Canyo	43.79	71	eP	P	13 39 25.3	-0.2
J13A	Cove Ranch, Pi	43.79	74	P	P	13 39 25.9	+0.3
	baz=44,SNR=15						
G15A	Dillon	43.81	71	P	P	13 39 25.5	-0.3
	baz=44,SNR=13						
O09A	Fish Creek Ran	43.82	79	⇑P	P	13 39 26.2	+0.3
	baz=44,SNR=12						
EGMT	Eagleton	43.87	66	P	P	13 39 25.5	-0.7
	baz=44,SNR=8.9						
EGMT	Eagleton	43.87	66	eP	P	13 39 25.8	-0.5
	comp=Z,15nm,0.5s,mb5.0						
U04C	Hernandez Rese	43.91	86	⇓P	P	13 39 27.6	+1.0
	baz=44						
M11A	Holland Ranch,	43.94	77	P	P	13 39 27.6	+0.8
	baz=44,SNR=21						
L12A	House Creek Ra	43.99	76	⇓P	P	13 39 27.3	0.0
	baz=44,SNR=9.8						
BOZ	Bozeman (W)	44.06	69	eP	P	13 39 27.7	0.0
BOZ				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.1						
BOZ	Bozeman (W)	44.06	69	⇑P	P	13 39 27.4	-0.3
	baz=44						
Q08A	Gabbs	44.14	81	P	P	13 39 29.4	+0.9
	baz=44,SNR=9.6						
NVAR	Mina Array Bea	44.17	82	P	P	13 39 29.2	+0.4
	comp=Z,3.7nm,0.6s,mb4.3,baz=294,slow=7.8,SNR=24						
M12A	Wells	44.48	76	⇓P	P	13 39 31.3	+0.1
	baz=44,SNR=10.0						
P10A	Eureka	44.59	79	⇑P	P	13 39 32.8	+0.7
	baz=44						
QLMT	Earthquake Lak	44.63	70	eP	P	13 39 32.6	+0.3
MTUM	Tungsten Hills	44.68	83	eP	P	13 39 33.6	+0.8
ELK	Elko	44.68	77	eP	P	13 39 33.4	+0.7
L13A	Double Diamond	44.68	75	P	P	13 39 33.8	+1.0
	baz=44,SNR=7.9						
N12A	Clover Valley,	44.74	77	⇑P	P	13 39 33.2	0.0
	baz=45,SNR=15						
BJI	Beijing	44.78	282	P	P	13 39 31.9	-1.7
BJI				S	S	13 46 03.5	-2.8
BJI				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
BJI				LR	LR		
	comp=N,425nm,21.9s,MS4.4						
BJI				LR	LR		
	comp=E,329nm,21.9s,MS4.4						
BJI				LR	LR		
	comp=Z,434nm,20.6s,MS4.4						
O11A	Cowboy Ranch,	44.78	78	⇑P	P	13 39 34.0	+0.4
	baz=45						
HELL	Mitchell Peak	44.81	84	P	P	13 39 33.5	-0.3
	baz=45,SNR=7.8						
S08C	White Mtn Res	44.83	83	⇑P	P	13 39 34.1	+0.1
	baz=45,SNR=6.0						
M13A	Montello	44.97	76	P	P	13 39 35.8	+0.7
	baz=45,SNR=6.4						
R09A	Tonopah	45.06	81	P	P	13 39 35.9	+0.1
	baz=45,SNR=40						
TPH	Tonopah	45.06	82	eP	P	13 39 37.3	+1.5
TPH				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
TPH	Tonopah	45.06	82	eP	P	13 39 37.3	+1.5
	comp=Z,11nm,0.6s,mb4.9						
P11A	Circle Ranch,	45.07	79	⇓P	P	13 39 36.6	+0.7
	baz=45						
Q10A	Clear Creek Ra	45.12	80	⇓P	P	13 39 36.6	+0.3
	baz=45						
GCMT	Greycliff	45.13	68	eP	P	13 39 36.2	0.0
L14A	Malta	45.14	75	⇓P	P	13 39 36.4	0.0
	baz=45						
K15A	Arbon	45.19	73	⇑P	P	13 39 36.7	0.0
	baz=45						
YFT	Old Faithful	45.19	70	eP	P	13 39 38.4	+1.6
N13A	Wendover, West	45.24	77	⇑P	P	13 39 37.3	0.0
	baz=45						
O12A	Currie	45.26	78	P	P	13 39 37.8	+0.4
	baz=45,SNR=22						
S09A	Goldfield	45.28	82	⇓P	P	13 39 38.2	+0.6
	baz=45,SNR=8.2						
M14A	Sheep Mountain	45.38	75	P	P	13 39 38.8	+0.4
	baz=45,SNR=7.5						
LKWY	Lake	45.38	70	eP	P	13 39 40.1	+1.8
LKWY				pmax	pmax		
	comp=Z,63nm,1.6s,mb5.2						
LKWY	Lake	45.38	70	eP	P	13 39 40.1	+1.8
	comp=Z,63nm,1.6s,mb5.2						
J16A	Bone	45.40	72	⇓P	P	13 39 38.9	+0.4
	baz=45						
IMW	Indian Meadow	45.44	71	eP	P	13 39 39.4	+0.6
	comp=Z,25nm,1.3s,mb4.9						
FLWY	Flagg Ranch	45.48	71	eP	P	13 39 40.1	+1.1
RRI2	Red Ridge	45.53	72	eP	P	13 39 40.4	+0.9
S10A	Tonopah Range,	45.55	81	P	P	13 39 39.7	0.0
	baz=45,SNR=13						
Q11A	Duckwater	45.56	80	⇑P	P	13 39 40.1	+0.3
	baz=45,SNR=25						
HVU	Hansel Valley	45.57	75	eP	P	13 39 40.8	+1.0
TLY	Talaya	45.58	302	c iP	P	13 39 40.1	+0.4
TLY				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
TLY	Talaya	45.58	302	eP	P	13 39 40.4	+0.7
P12A	McGill	45.64	79	⇓P	P	13 39 40.3	-0.1
	baz=46,SNR=9.3						
MOOW	Moose Ponds	45.64	71	eP	P	13 39 40.5	+0.2
K16A	Soda Springs	45.67	73	⇓P	P	13 39 41.0	+0.5
	baz=46,SNR=9.6						
TPAW	Teton Pass	45.67	72	eP	P	13 39 41.3	+0.7
	comp=Z,47nm,1.8s,mb5.1						
L15A	Malad City	45.67	74	⇓P	P	13 39 40.4	-0.1
	baz=46						
RLMT	Red Lodge	45.73	69	eP	P	13 39 41.5	+0.4
ISA	Isabella	45.80	85	eP	P	13 39 40.5	-1.2
REDW	Red Top Meadow	45.80	72	eP	P	13 39 42.4	+0.8
	comp=Z,40nm,1.6s,mb5.1						
N14A	Grayback Hills	45.87	76	⇓P	P	13 39 42.0	-0.1
	baz=46,SNR=8.4						
R11A	Troy Canyon, C	45.91	80	P	P	13 39 42.5	0.0
	baz=46,SNR=20						
BGU	Big Grassy Mou	45.92	76	eP	P	13 39 42.7	+0.1
M15A	Larsen Ranch,	45.95	75	⇑P	P	13 39 42.6	-0.3
	baz=46						
Q12A	Willow Creek R	45.95	79	⇑P	P	13 39 42.8	-0.1
	baz=46						
SONM	Songino Array	46.12	296	P	P	13 39 44.8	+0.8
	comp=Z,7.7nm,0.4s,mb5.0,baz=66,slow=7.1,SNR=72						
SONM				PcP	PcP	13 41 19.6	+0.4
	comp=Z,3.9nm,0.6s,baz=76,slow=2.8,SNR=6.6						
SONM				ScP	ScP	13 45 08.4	+1.2
	comp=Z,0.5nm,0.8s,baz=96,slow=2.9,SNR=3.4						
SONM				LR	LR	14 00 32.4	
	comp=Z,931nm,18.5s,MS4.8,baz=70,slow=38						
SONM	Songino Array	46.12	296	P	P	13 39 44.8	+0.7
SONM						13 41 19.6	
P13A	Bates Ranch, G	46.20	78	⇓P	P	13 39 44.7	-0.1
	baz=46,SNR=10						
N15A	Stansbury Isla	46.25	75	⇓P	P	13 39 45.0	-0.1
	baz=46						
TPNV	Topopah Spring	46.37	82	eP	P	13 39 46.4	+0.2
TPNV				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
TPNV	Topopah Spring	46.37	82	⇑P	P	13 39 46.0	-0.1
	baz=46						
TPNV	Topopah Spring	46.37	82	eP	P	13 39 46.4	+0.2
	comp=Z,17nm,0.8s,mb5.0						
ZAK	Zakamensk	46.46	301	⇓iP	P	13 39 46.9	+0.2
ZAK				e		13 41 20.3	
ZAK				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
DUG	Dugway	46.49	76	⇑P	P	13 39 47.2	+0.1
	baz=46						
DUG	Dugway	46.49	76	eP	P	13 39 47.4	+0.3
R12A	Pony Springs,	46.53	80	⇑P	P	13 39 47.2	-0.2
	baz=46,SNR=7.3						
M16A	Huntsville	46.53	74	⇓P	P	13 39 47.6	+0.2
	baz=46						
P14A	Drum Mountains	46.70	77	⇓P	P	13 39 48.5	-0.2
	baz=46,SNR=16						
S12A	Delamar Landin	46.83	81	⇑P	P	13 39 49.8	+0.1
	baz=47,SNR=19						
T11A	Corn Creek, Al	46.83	81	P	P	13 39 50.1	+0.4
	baz=47,SNR=22						
N16A	Rees Ranch, Co	46.91	75	⇓P	P	13 39 50.4	+0.1
	baz=47						
BW06	Boulder Array	46.92	72	eP	P	13 39 50.4	0.0
PDAR	Pinedale Array	46.92	72	P	P	13 39 50.4	0.0
	comp=Z,20nm,0.5s,mb5.3,baz=313,slow=3.4,SNR=124						
PDAR				LR	LR	13 56 58.1	
	comp=Z,188nm,21.8s,MS4.0,baz=306,slow=33						
Q14A	Sevier Lake (B	46.94	78	P	P	13 39 51.0	+0.4
	baz=47,SNR=18						
MOY	Mondy	46.98	303	eP	P	13 39 51.4	+0.6
MOY				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.1						
R13A	O'Grain Ranch,	47.01	79	⇑P	P	13 39 51.2	+0.1
	baz=47						
GSC	Goldstone	47.07	84	eP	P	13 39 51.7	0.0
GSC				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
GSC	Goldstone	47.07	84	eP	P	13 39 51.7	0.0
	comp=Z,16nm,0.6s,mb5.1						
NLU	North Lily Min	47.08	76	eP	P	13 39 51.8	+0.1
HHC	Hu-ho-hao-te	47.11	285	eP	P	13 39 53.1	+1.2
HHC				AP	pP	13 40 08.2	+1.2
HHC				XP	sP	13 40 15.3	+1.7
HHC				PP	PP	13 41 44.5	+1.6
HHC				PCS	PcS	13 45 18.6	+0.7
HHC				S	S	13 46 38.2	-1.5
HHC				XS	sS	13 47 06.8	+1.7
HHC				SS	SS	13 50 00.4	-6.5
HHC				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,188nm,6.1s						
HHC				LR	LR		
	comp=N,369nm,16.6s,MS4.6						
HHC				LR	LR		
	comp=E,496nm,19.0s,MS4.6						
HHC				LR	LR		
	comp=Z,344nm,22.6s,MS4.3						
P15A	Leamington	47.19	77	⇓P	P	13 39 52.6	0.0
	baz=47,SNR=8.4						
BFSC	Mount Baldy St	47.23	86	⇓P	P	13 39 52.9	0.0
	baz=47						
N17A	Moffit Pass	47.24	74	⇑P	P	13 39 53.2	+0.3
	baz=47						
O16A	Springville	47.28	76	⇓P	P	13 39 53.0	-0.3
	baz=47						
DAU	Daniels Canyon	47.30	75	eP	P	13 39 54.6	+1.2
MPU	Maple Canyon	47.32	76	eP	P	13 39 53.2	-0.3
	comp=Z,15nm,0.8s,mb5.0						
S13A	Holt Ranch, En	47.45	80	⇑P	P	13 39 53.9	-0.7
	baz=47,SNR=13						
Q15A	Fillmore	47.48	77	⇑P	P	13 39 55.0	+0.1
	baz=47						
TUQ	Turquoise Mtn.	47.54	84	⇓P	P	13 39 54.7	-0.6
	baz=47						
ARUT	Antelope Range	47.58	79	eP	P	13 39 55.7	+0.1
ARUT	Antelope Range	47.58	79	eP	P	13 39 55.2	-0.4
V11A	Goodsprings	47.59	83	⇑P	P	13 39 55.3	-0.4
	baz=47						
HEC	Hector,Ludlow	47.67	85	⇓P	P	13 39 55.9	-0.5
	baz=48						
U12A	Valley of Fire	47.76	82	⇑P	P	13 39 56.5	-0.5
	baz=48						
T13A	Saint George	47.78	81	⇓P	P	13 39 56.8	-0.3
	baz=48						
CCUT	Cedar City	47.78	80	eP	P	13 40 05.2	+8.1
MSU	Marysvale	47.91	78	eP	P	13 39 59.0	+0.9
N18A	Larsen Ranch,	47.92	74	⇑P	P	13 39 57.7	-0.4
	baz=48						
TMUT	Trail Mountain	48.02	76	eP	P	13 39 59.8	+0.9
V12A	Nelson	48.02	83	⇑P	P	13 39 58.8	-0.2
	baz=48						
R15A	Junction	48.04	78	⇓P	P	13 39 59.1	0.0
	baz=48						
GMRC	Granite Mounta	48.13	84	⇑P	P	13 39 59.6	-0.2
	baz=48						
U13A	Pakoon Wash	48.13	81	⇓P	P	13 39 59.7	-0.1
	baz=48,SNR=14						
O18A	Roosevelt	48.15	75	⇓P	P	13 40 00.2	+0.2
	baz=48						
BTO	Baotou	48.19	286	eP	P	13 40 00.4	+0.1
P17A	Butcher Ranch,	48.19	76	⇓P	P	13 40 00.2	-0.1
	baz=48						
NJ2	Nanjing	48.19	271	eP	P	13 40 02.5	+2.1
NJ2				AP	pP	13 40 17.2	+1.7
NJ2				XP	sP	13 40 23.5	+1.4
NJ2				S	S	13 46 56.5	+1.2
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,530nm,6.0s						
NJ2				LR	LR		
	comp=N,740nm,24.4s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,27.4s,MS5.0						
NJ2				LR	LR		
	comp=Z,2μm,27.4s,MS5.0						
T14A	Hurricane	48.26	80	⇑P	P	13 40 01.2	+0.3
	baz=48						
Q16A	Castle Valley	48.27	77	⇑P	P	13 40 00.7	-0.2
	baz=48,SNR=13						
LDFC	Landfair	48.27	83	eP	P	13 40 00.6	-0.4
S15A	Panguitch	48.32	79	⇓P	P	13 40 01.3	+0.1
	baz=48						
PFO	Pinyon Flat Ob	48.40	86	⇑P	P	13 40 02.0	+0.1
	baz=48						
P18A	Preston Nutter	48.40	75	⇓P	P	13 40 01.7	-0.1
	baz=48,SNR=13						
BELC	Belle Mtn.	48.42	85	⇑P	P	13 40 01.8	-0.3
	baz=48						
V13A	Grand Canyon W	48.48	82	⇑P	P	13 40 02.1	-0.4
	baz=48						
R16A	Teasdale	48.48	78	⇓P	P	13 40 02.7	+0.2
	baz=48,SNR=16						
SRU	San Rafael	48.55	76	⇓P	P	13 40 02.7	-0.4
	baz=48,SNR=25						
SRU	San Rafael	48.55	76	eP	P	13 40 04.3	+1.3
U14A	Mt Trumbull	48.61	81	⇓P	P	13 40 03.3	-0.3
	baz=48						
KRAR	Krasnoyarsk	48.66	312	eP	P	13 40 03.9	+0.2
KRAR				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.3						
T15A	Red Dirt Ranch	48.72	80	⇓P	P	13 40 04.0	-0.4
	baz=49,SNR=12						
S16A	Weppner Ranch,	48.76	78	⇑P	P	13 40 04.9	+0.2
	baz=49						
Q18A	Rafter H Ranch	48.79	76	⇓P	P	13 40 04.3	-0.6
	baz=49,SNR=24						
IRM	Iron Mountain	48.85	84	⇓P	P	13 40 05.1	-0.3
	baz=49						
R17A	Hanksville Air	48.87	77	P	P	13 40 05.5	0.0
	baz=49,SNR=17						
MONP	Monument Peak	48.89	87	⇑P	P	13 40 05.2	-0.5
	baz=49						
RWWY	Rawlins	48.96	71	eP	P	13 40 06.0	-0.1
	comp=Z,19nm,1.0s,mb5.1						
BC3	Big Chuckw Mtn	48.99	85	⇓P	P	13 40 06.8	+0.3
	baz=49						
W13A	Hualapai Mount	49.02	82	P	P	13 40 06.7	0.0
	baz=49,SNR=10						
U15A	North Rim	49.16	80	⇓P	P	13 40 07.4	-0.3
	baz=49,SNR=22						
V14A	Boquillas Ranc	49.16	81	P	P	13 40 07.8	0.0
	baz=49,SNR=14						
SWSC	Sam W. Stewart	49.25	86	⇓P	P	13 40 08.0	-0.5
	baz=49						
S17A	Black Ridge (B	49.30	78	⇓P	P	13 40 07.9	-1.0
	baz=49,SNR=17						
RSSD	Black Hills	49.36	67	eP	P	13 40 08.3	-0.9
R18A	Canyonlands Na	49.38	76	P	P	13 40 09.1	-0.4
	baz=49,SNR=16						
PDMCI	Parker Dam,Lak	49.39	83	⇑P	P	13 40 08.9	-0.6
	baz=49						
X13A	Yucca	49.39	83	⇑P	P	13 40 09.0	-0.5
	baz=49						
Q19A	Hogan Spring (	49.41	75	P	P	13 40 08.9	-0.7
	baz=49,SNR=28						
W14A	Seligman	49.45	82	⇓P	P	13 40 10.0	0.0
	baz=49						
Y12C	Blythe	49.51	84	⇓P	P	13 40 10.4	-0.1
	baz=49						
V15A	Kaibab Nationa	49.62	81	⇓P	P	13 40 11.1	-0.2
	baz=50,SNR=19						
T17A	Navajo Res., N	49.71	78	⇓P	P	13 40 11.5	-0.4
	baz=50,SNR=15						
S18A	Hurst Farm, Bl	49.76	77	⇓P	P	13 40 11.6	-0.7
	baz=50,SNR=30						
GLA	Glamis	49.78	85	eP	P	13 40 11.6	-0.9
GLA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
GLA	Glamis	49.78	85	⇑P	P	13 40 12.0	-0.5
	baz=50						
GLA	Glamis	49.78	85	eP	P	13 40 11.6	-1.0
	comp=Z,9.5nm,0.8s,mb4.9						
R19A	Curley Farm, L	49.83	76	⇓P	P	13 40 12.2	-0.6
	baz=50						
PV10	Paradox Valley	49.91	76	eP	P	13 40 13.4	0.0
W15A	Williams	49.98	81	⇓P	P	13 40 13.7	-0.3
	baz=50						
U17A	Shonto	50.05	79	⇓P	P	13 40 13.2	-1.3
	baz=50						
X14A	Yava	50.05	82	⇓P	P	13 40 14.1	-0.5
	baz=50						
T18A	Mexican Hat	50.19	78	P	P	13 40 14.8	-0.8
	baz=50,SNR=14						
ULM	Lac du Bonnet	50.24	56	P	P	13 40 13.9	-1.9
	comp=Z,2.8nm,0.4s,mb4.7,baz=304,slow=8.0,SNR=8.7						
ULM				LR	LR	14 01 21.0	
	comp=Z,318nm,21.9s,MS4.3,baz=47,slow=36						
S19A	Harvey Farm, M	50.25	77	⇑P	P	13 40 15.6	-0.5
	baz=50,SNR=11						
WUAZ	Wupatki	50.31	80	⇓P	P	13 40 16.5	0.0
	baz=50						
WUAZ	Wupatki	50.31	80	eP	P	13 40 16.6	+0.1
	comp=Z,34nm,1.4s,mb5.2						
Y14A	Wickenburg	50.33	83	⇑P	P	13 40 16.0	-0.7
	baz=50						
PV01	Paradox Valley	50.35	76	eP	P	13 40 15.7	-1.1
SPB4	Spitsbergen Ar	50.40	356	eP	P	13 40 16.8	+0.2
SPITS	Spitsbergen Ar	50.40	356	P	P	13 40 16.6	0.0
	comp=Z,8.9nm,0.4s,mb5.2,baz=46,slow=8.4,SNR=45						
X15A	Humboldt	50.45	82	⇑P	P	13 40 17.7	+0.1
	baz=50						
W16A	Flagstaff	50.49	81	⇑P	P	13 40 17.7	-0.1
	baz=50						
113A	Mohawk Valley,	50.63	85	⇓P	P	13 40 18.6	-0.4
	baz=50						
SMCO	Snowmass	50.66	74	eP	P	13 40 26.0	+6.9
	comp=Z,5.8nm,0.7s,mb4.6						
Y15A	Casa Rosa Ranc	50.74	83	⇓P	P	13 40 19.3	-0.5
	baz=51						
RW3	Ridgway	50.81	75	eP	P	13 40 13.3	-7.0
T19A	Beclabito	50.91	77	P	P	13 40 20.8	-0.2
	baz=51,SNR=23						
MVCO	Mesa Verde	50.98	77	⇑P	P	13 40 21.0	-0.6
	baz=51						
X16A	Lo Mia Camp, P	50.99	81	⇓P	P	13 40 21.6	0.0
	baz=51						
HVS	Khovu-Aksy	51.05	306	d iP	P	13 40 22.0	+0.1
HVS				pmax	pmax		
	comp=Z,106nm,0.8s,mb5.8						
ISCO	Idaho Springs	51.08	72	eP	P	13 40 22.7	+0.4
ISCO				pmax	pmax		
	comp=Z,30nm,1.8s,mb4.9						
ISCO	Idaho Springs	51.08	72	eP	P	13 40 22.7	+0.4
	comp=Z,30nm,1.8s,mb4.9						
Y16A	Circle Bar Ran	51.32	82	⇑P	P	13 40 23.6

TUC Tucson 52.80 83 *e*P **P 13 40 35.2 0.0**
Z19A T-Link Ranch, 53.09 81 ⇑P **P 13 40 37.0 -0.3**
baz=53
217A Green Valley 53.15 83 ⇓P **P 13 40 37.6 -0.1**
baz=53
119A Ashpeak Ranch, 53.42 81 ⇑P **P 13 40 39.1 -0.6**
baz=53
218A Dragoon 53.49 83 ⇑P **P 13 40 40.0 -0.2**
baz=53
SUMG Summit 53.51 14 *e*P **P 13 40 39.9 +0.1**
comp=Z,1.3nm,0.5s,mb4.1
ZAA0 Zalesovo Array 53.63 313 *e*P **P 13 40 40.1 -0.8**
ZALV Zalesovo Beam 53.63 313 P **P 13 40 40.2 -0.7**
comp=Z,2.1nm,0.3s,mb4.5,baz=51,slow=6.8,SNR=9.0
ZALV PcP PcP 13 41 47.0 +0.4
comp=Z,4.4nm,0.6s,baz=47,slow=2.2,SNR=6.6
ZALV Zalesovo Beam 53.63 313 P **P 13 40 40.2 -0.7**
ZALV PcP PcP 13 41 47.0 +0.4
ZAL Zalesovo 53.64 313 P **P 13 40 40.2 -0.8**
ZAL 13 41 47.0
LAZ Ladron 53.66 78 *e*P **P 13 40 40.0 -1.4**
ANMO Albuquerque 53.71 78 *e*P **P 13 40 42.3 +0.5**
ECSD EROS,Sioux Fal 53.82 63 *e*P **P 13 40 40.7 -1.7**
318A Bisbee 53.89 83 ⇑P **P 13 40 42.6 -0.6**
baz=54
EYMN Ely 53.92 56 *e*P **P 13 40 41.7 -1.4**
comp=Z,14nm,0.9s,mb4.9
219A White Tail Can 53.96 82 ⇑P **P 13 40 43.1 -0.6**
baz=54
LPM Los Pinos Moun 54.03 78 *e*P **P 13 40 45.2 +1.1**
BNM Baron Site 54.14 78 *e*P **P 13 40 45.3 +0.4**
319A Douglas 54.38 83 ⇓P **P 13 40 46.3 -0.3**
baz=54
LZH Lanzhou 54.81 286 ⇑P **P 13 40 50.5 +0.8**
LZH AP pP 13 41 01.2 -3.9
LZH PP PP 13 42 55.0 +2.3
LZH *e*S **S 13 48 26.5 +0.3**
LZH *e*SS SS 13 52 09.1 -0.4
LZH AMB AMB
comp=Z,53nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,163nm,7.2s
LZH LR LR
comp=E,735nm,15.3s
LZH LR LR
comp=Z,1μm,18.5s,MS4.9
GTA Gaotai 55.02 291 P **P 13 40 51.7 +0.5**
GTA AP pP 13 41 10.8 +4.2
GTA PP PP 13 42 57.7 +3.2
GTA S **S 13 48 29.5 +0.6**
GTA SS SS 13 52 14.1 +1.4
GTA AMB AMB
comp=Z,20nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,137nm,5.4s
GTA LR LR
comp=N,260nm,17.4s,MS4.5
GTA LR LR
comp=E,274nm,18.0s,MS4.5
GTA LR LR
comp=Z,410nm,18.0s,MS4.5
CBKS Cedar Bluff 55.20 70 *e*P **P 13 40 52.5 0.0**
COWI Conover 56.35 57 *e*P **P 13 40 59.7 -0.9**
AMTX Amarillo 56.66 74 *e*P **P 13 41 03.1 +0.1**
JFWS Jewell Farm 57.87 60 *e*P **P 13 41 10.2 -1.2**
ARCES ARCESS Array B 58.05 350 P **P 13 41 10.8 -1.5**
comp=Z,3.7nm,0.5s,mb4.7,baz=23,slow=7.4,SNR=22
CD2 Chengdu 58.38 281 *e*P **P 13 41 15.4 +0.2**
CD2 AP pP 13 41 31.4 +0.7
CD2 XP sP 13 41 38.4 +1.2
CD2 PP PP 13 43 26.4 +1.8
CD2 S **S 13 49 10.7 -2.8**
CD2 XS sS 13 49 38.1 -1.6
CD2 SS SS 13 53 04.4 -1.5
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,450nm,12.0s,MS4.9
CD2 LR LR
comp=E,400nm,15.6s,MS4.9
CD2 LR LR
comp=Z,580nm,16.8s,MS4.8
WMOK Wichita Mounta 58.51 73 *e*P **P 13 41 16.0 0.0**
WMOK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
WMOK Wichita Mounta 58.51 73 *e*P **P 13 41 16.0 0.0**
comp=Z,5.9nm,0.6s,mb4.8
KURK Kurchatov 58.62 313 P **P 13 41 16.6 +0.1**
comp=Z,418nm,0.4s,SNR=23
KURK Kurchatov 58.62 313⇑*e*P **P 13 41 16.6 +0.1**
KURK pmax pmax
comp=Z,27nm,0.7s,mb5.4
WMQ Urumqi 58.86 302 P **P 13 41 20.4 +2.1**
WMQ AP pP 13 41 36.4 +2.6
WMQ XP sP 13 41 43.4 +3.0
WMQ PCP PcP 13 42 09.2 +2.1
WMQ PP PP 13 43 32.7 +4.2
WMQ SCP ScP 13 46 02.9 +0.5
WMQ S **S 13 49 19.4 0.0**
WMQ SCS ScS 13 51 01.0 -1.7
WMQ SS SS 13 53 15.1 +2.3
WMQ AMB AMB
comp=Z,16nm,0.6s,mb5.2
WMQ AMB AMB
comp=Z,31nm,9.3s
WMQ LR LR
comp=N,352nm,19.4s,MS4.7
WMQ LR LR
comp=E,395nm,21.6s,MS4.7
WMQ LR LR
comp=Z,649nm,21.6s,MS4.7
MK31 Makanchi Array 59.59 308 P **P 13 41 22.8 -0.5**
MK31 Makanchi Array 59.59 308⇑*i*P **P 13 41 22.7 -0.6**
MKAR Makanchi Array 59.59 308 P **P 13 41 22.9 -0.4**
comp=Z,22nm,0.5s,mb5.5,baz=49,slow=6.1,SNR=193
MKAR LR LR 14 08 28.3
comp=Z,263nm,19.3s,MS4.4,baz=40,slow=37
GYA Guiyang 59.71 275 P **P 13 41 23.6 -0.8**
GYA AP pP 13 41 42.8 +2.8
GYA XP sP 13 41 50.2 +3.7
GYA PCP PcP 13 42 12.4 +1.6
GYA PP PP 13 43 39.8 +3.3
GYA SCP ScP 13 46 06.0 -0.5
GYA S **S 13 49 29.3 -1.6**
GYA SS SS 13 53 27.2 +0.2
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,130nm,5.8s
GYA LR LR
comp=N,520nm,19.0s,MS4.9
GYA LR LR
comp=E,598nm,18.2s,MS4.9
GYA LR LR
comp=Z,553nm,19.5s,MS4.7
HDIL Hopedale 59.99 62 *e*P **P 13 41 25.6 -0.6**
SCHQ Schefferville 60.44 38 P **P 13 41 27.8 -1.2**
comp=Z,7.9nm,0.5s,mb5.0,baz=317,slow=6.6,SNR=12
SCHQ LR LR 14 09 19.9
comp=Z,468nm,20.4s,MS4.6,baz=293,slow=38
BRVK Borovoye 60.56 319 P **P 13 41 29.5 -0.3**
comp=Z,126nm,0.5s,mb6.3,SNR=11
BRVK Borovoye 60.56 319 P **P 13 41 29.6 -0.2**
BRVK pmax pmax
comp=Z,10.0nm,0.5s,mb5.2
BRVK Borovoye 60.56 319 *e*P **P 13 41 29.3 -0.5**
comp=Z,10.0nm,0.4s,mb5.3
CCM Cathedral Cave 60.63 65 *e*P **P 13 41 29.0 -1.5**
JCT Junction City 60.85 77 *e*P **P 13 41 32.0 -0.1**
FVM French Village 61.14 64 *e*P **P 13 41 33.0 -1.0**
FVM pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
FVM French Village 61.14 64 *e*P **P 13 41 33.0 -1.1**
comp=Z,10nm,0.6s,mb5.1
MIAR Mount Ida 61.73 69 *e*P **P 13 41 38.0 0.0**
OLIL Olney 61.92 62 *e*P **P 13 41 37.5 -1.8**
comp=Z,24nm,0.8s,mb5.4
ARU Arti 62.33 328 *d i*P **P 13 41 41.5 -0.2**
ARU *e**PP pP 13 41 54.3 -3.1
ARU *e* 13 42 20.7
ARU *e*S **S 13 50 04.8 +1.5**
ARU *e*SS SS 13 54 04.1 -2.5
ARU pmax pmax
comp=Z,18nm,1.7s,mb4.9
ARU Arti 62.33 328 *e*P **P 13 41 41.3 -0.4**
comp=Z,7.5nm,0.5s,mb5.1
HNR Honiara 62.99 203 LR LR 14 05 58.7
comp=Z,165nm,19.2s,MS4.2,baz=358,slow=33
KMI Kunming 63.12 277 P **P 13 41 47.2 -0.2**
KMI AP pP 13 42 04.7 +1.6
KMI XP sP 13 42 11.5 +1.9
KMI PCP PcP 13 42 24.5 -0.1
KMI PP PP 13 44 11.4 +4.8
KMI S **S 13 50 12.3 -1.8**
KMI XS sS 13 50 40.6 +0.1
KMI SS SS 13 54 20.3 -0.1
KMI AMB AMB
comp=Z,13nm,1.0s,mb5.0
KMI AMB AMB
comp=Z,269nm,11.3s
KMI LR LR
comp=Z,115nm,28.8s,MS3.9
JOF Joensuu 63.50 345 *e*p **P 13 41 47.8 -1.6**
comp=Z,25nm,0.5s,mb5.5
KLMR Klimovskoe 63.83 340 *e*P **P 13 41 50.7 -0.9**
KLMR pmax pmax
comp=Z,28nm,1.4s,mb5.1
OXF Oxford 64.17 67 P **P 13 41 54.2 -0.1**
OXF pmax pmax
comp=Z,100nm,1.0s,mb5.8
OXF Oxford 64.17 67 *e*P **P 13 41 52.8 -1.5**
comp=Z,105nm,0.9s,mb5.9
PLAL Pickwick Lake 64.60 65 *e*P **P 13 41 56.0 -1.1**
KAF Kangasniemi 65.04 347 *e*p **P 13 41 57.8 -1.6**
comp=Z,21nm,0.5s,mb5.4,baz=15,slow=5.9
KAF Kangasniemi 65.04 347 *e*P **P 13 41 57.8 -1.6**
KAF pmax pmax
comp=Z,21nm,0.5s,mb5.4
SWET Sewanee 65.65 64 *e*P **P 13 42 03.3 -0.5**
TKM2 Tokmak 2 65.68 309 P **P 13 41 59.8 -4.1**
SNR=11
ULHL Ulahol 65.86 308 P **P 13 42 06.1 +1.0**
SNR=7.3
USP Ospenovka 65.95 310 P **P 13 42 02.1 -3.6**
SNR=16
CHMS Chumysh 66.03 309 P **P 13 42 07.5 +1.3**
SNR=5.4
KBK Karagaybulak 66.19 309 P **P 13 42 08.3 +1.1**
SNR=7.7
FRU Bishkek 66.22 309 *e*P **P 13 42 07.5 +0.1**
FRU pmax pmax
comp=Z,100nm,1.9s,mb5.5
CPCT Cooper Cave 66.27 63 *e*P **P 13 42 08.0 +0.2**
AAK Ala-Archa 66.43 309 P **P 13 42 10.2 +1.5**
SNR=8.2
KZA Kyzart 66.48 308 P **P 13 42 11.1 +2.1**
SNR=6.1
TKL Tuckaleechee C 66.53 62 *e*P **P 13 42 09.9 +0.4**
TKL Tuckaleechee C 66.53 62 *e*P **P 13 42 08.8 -0.7**
EKS2 Erkin-Say 66.76 310 P **P 13 42 12.6 +1.7**
SNR=6.9
LSA Lhasa 66.88 289 P **P 13 42 13.4 +1.6**
NOA NORSAR Array B 67.65 354 P **P 13 42 16.1 -0.1**
comp=Z,5.3nm,0.4s,mb4.9,baz=9.9,slow=6.5,SNR=50
NOA LR LR 14 14 41.3
comp=Z,98nm,20.6s,MS4.0,baz=85,slow=38
KSH Kashi 68.04 306 P **P 13 42 20.7 +1.7**
KSH PCP PcP 13 42 44.3 -0.5
KSH *e*PP PP 13 44 55.5 +6.4
KSH *e*SCP 13 46 38.1
KSH PCS 13 46 48.7
KSH S S 13 51 13.5 -0.3
KSH SCS ScS 13 52 08.1 -4.7
KSH AMB AMB
comp=Z,635nm,4.1s
KSH LR LR
comp=N,443nm,5.0s
KSH LR LR
comp=E,729nm,4.8s
KSH LR LR
comp=Z,591nm,14.6s,MS5.0
GOGA Godfrey 68.36 63 *e*P **P 13 42 20.3 -0.7**
VSU Vasula 68.46 345 *e*P **P 13 42 20.5 -0.8**
LHS Liberty Hill 69.04 61 *e*P **P 13 42 30.6 +5.3**
SHL Shillong 69.47 285 *e*P **P 13 42 28.5 +0.4**
OBN Obninsk 69.71 339⇓*e*P **P 13 42 28.9 -0.2**
OBN pmax pmax
comp=Z,43nm,1.3s,mb5.2
CHTO Chiang Mai 70.14 275 P **P 13 42 31.1 -1.1**
CHTO pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CHTO Chiang Mai 70.14 275 *e*P **P 13 42 31.0 -1.2**
comp=Z,6.0nm,0.8s,mb4.6
CMAR Chiang Mai Arr 70.40 275 P **P 13 42 33.2 -0.6**
comp=Z,4.3nm,0.8s,mb4.4,baz=26,slow=6.8,SNR=15
CMAR LR LR 14 14 16.8
comp=Z,134nm,18.2s,MS4.2,baz=251,slow=36
TAPN Taplejung 70.65 290 *e*P **P 13 42 35.9 +0.6**
comp=Z,52nm,0.8s,mb5.5
ODAN Odare 71.20 290 *e*P **P 13 42 39.1 +0.5**
comp=Z,20nm,0.5s,mb5.3
GUN Gumba 71.31 291 *e*P **P 13 42 40.2 +1.0**
comp=Z,154nm,0.4s,mb6.2
JIRN Jiri 71.31 291 *e*P **P 13 42 40.4 +1.1**
comp=Z,85nm,0.7s,mb5.8
MCD Coleburn Disti 71.43 2 *e*P **P 13 42 39.4 -0.1**
MDO Dochfour 71.55 3 *e*P **P 13 42 40.2 0.0**
RAMN Ramite 71.60 290 *e*P **P 13 42 41.5 +0.5**
comp=Z,65nm,0.4s,mb5.9
MME1 Meikle Cairn 71.71 2 *e*P **P 13 42 40.9 -0.2**
KKN Kakani 71.75 292 *e*P **P 13 42 42.6 +0.7**
comp=Z,45nm,0.5s,mb5.7
PKI Pulchoki 71.83 291 *e*P **P 13 42 44.0 +1.6**
comp=Z,41nm,0.5s,mb5.6
DMN Daman 71.98 292 *e*P **P 13 42 44.1 +0.8**
DANN Dangsing 72.21 293 *e*P **P 13 42 45.4 +0.8**
comp=Z,43nm,0.5s,mb5.6
KOLN Koldanda 72.74 293 *e*P **P 13 42 48.2 +0.4**
comp=Z,11nm,0.5s,mb5.1
EBH Black Hill 72.76 2⇑*e*P **P 13 42 47.6 +0.1**
EAB Aberfoyle 72.80 3 *e*P **P 13 42 47.9 +0.2**
ESY Stoneypath 73.11 2⇑*e*P **P 13 42 49.3 -0.2**
EAU Auchinoon 73.17 2⇑*e*P **P 13 42 49.1 -0.8**
SUW Suwalki 73.30 346 *e*P **P 13 42 49.7 -0.9**
SUW Suwalki 73.30 346 *e*P **P 13 42 49.7 -1.0**
PPT Papeete 73.51 150 *e*S S 13 52 22.6 +5.2
comp=Z,480nm,27.2s
PPT Papeete 73.51 150 *e*LR LR 14 05 07.7
comp=Z,446nm,27.2s,baz=350
PPT Papeete 73.51 150 LR LR 14 10 43.7
comp=Z,101nm,18.6s,MS4.1,baz=307,slow=32
XSO Sourhope Farm 73.55 1⇑*e*P **P 13 42 52.2 +0.2**
ESK Eskdalemuir 73.70 2 *e*P **P 13 42 53.2 +0.2**
ESK AMb AMB 13 42 54.0
comp=Z,26nm,1.5s,mb5.0
ECK Cauldkaine Hil 73.84 2 *e*P **P 13 42 53.9 +0.1**
XAL Allendale 74.18 1⇑*e*P **P 13 42 55.5 -0.3**
BSEG Bad Segeberg 74.78 354 *e*P **P 13 42 59.9 +0.6**
GKP Gorka Klasztor 74.81 350 *e*P **P 13 43 16.1 +17**
KBL Kabul 75.39 307 *e*P **P 13 43 02.9 -0.3**
comp=Z,44nm,0.8s,mb5.4
AKASG Malin Array Be 75.42 341 P **P 13 43 02.5 -0.6**
comp=Z,7.9nm,0.4s,mb5.0,baz=19,slow=5.6,SNR=33
AKASG LR LR 14 21 04.7
comp=Z,247nm,18.1s,MS4.5,baz=15,slow=40
AKASG Malin Array Be 75.42 341 P **P 13 43 02.5 -0.6**
AKASG LR LR 14 21 04.7
AKBB Malin Array Si 75.42 341 P **P 13 43 02.5 -0.5**
AKBB Malin Array Si 75.42 341 *e*P **P 13 43 02.3 -0.8**
KIEV Kiev 75.43 341 P **P 13 43 01.8 -1.3**
KIEV pmax pmax
comp=Z,15nm,0.4s,mb5.3
KIEV Kiev 75.43 341 *e*P **P 13 43 01.5 -1.6**
comp=Z,15nm,0.4s,mb5.3
LHO Holmfirth 75.50 1 *e*P **P 13 43 03.2 -0.3**
CWF Charnwood Fore 76.32 1 *e*P **P 13 43 07.9 -0.2**
CWF AMb AMB 13 43 11.0
comp=Z,29nm,1.4s,mb5.0
IBBN Ibbenburen 76.56 355 *e*P **P 13 43 09.6 +0.1**
comp=Z,35nm,0.5s,mb5.5
CLZ Clausthal 76.86 354 *e*P **P 13 43 11.8 +0.6**
CLZ pmax pmax
comp=Z,21nm,0.8s,mb5.1
CLZ Clausthal 76.86 354 *e*P **P 13 43 11.8 +0.6**
comp=Z,21nm,0.8s,mb5.1
MCH1 Michaelchurch 77.03 2 *e*P **P 13 43 11.8 -0.3**
MCH1 AMb AMB 13 43 18.0
comp=Z,36nm,1.7s,mb5.0
CTA Charters Tower 77.08 213 LR LR 14 12 43.9
comp=Z,151nm,21.4s,MS4.3,baz=20,slow=32
CLL Collm 77.18 352⇑*i*P **P 13 43 12.6 -0.4**
CLL pmax pmax
comp=Z,11nm,0.6s,mb5.0
CLL MLR MLR
comp=Z,100nm,20.8s,MS4.1
CLL Collm 77.18 352 *e*P **P 13 43 12.5 -0.5**
comp=Z,11nm,0.6s,mb5.0
CLL Collm 77.18 352⇑*i*P **P 13 43 12.6 -0.4**
comp=Z,11nm,0.6s,mb5.0
CLL *e*(SS) 13 58 28.0
CLL Collm 77.18 352⇑*i*P **P 13 43 12.6 -0.4**
comp=Z,11nm,0.6s,mb5.0
CLL LR LR
comp=Z,100nm,20.8s,MS4.1
LVV L'vov 77.22 344 *e*P **P 13 43 12.1 -1.2**
BUG Bochum--Univer 77.45 355 *e*P **P 13 43 14.5 0.0**
comp=Z,20nm,0.7s,mb5.2
OJC Ojcow 77.48 347 *e*P **P 13 43 14.5 -0.2**
BRG Berggiesshubel 77.53 351 *i* P **P 13 43 14.6 -0.4**
BRG pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BRG Berggiesshubel 77.53 351 *e*P **P 13 43 14.6 -0.4**
comp=Z,8.0nm,0.7s,mb4.8
BRG Berggiesshubel 77.53 351 *i* P **P 13 43 14.6 -0.3**
comp=Z,8.2nm,0.7s,mb4.8
KWP Kalwaria 77.62 345 *e*P **P 13 43 16.2 +0.7**
KWP Kalwaria 77.62 345 *e*P **P 13 43 16.1 +0.6**
KWP pmax pmax
comp=Z,65nm,0.5s,mb5.8
KWP Kalwaria 77.62 345⇑*i*P **P 13 43 16.0 +0.5**
KWP Kalwaria 77.62 345 *e*P **P 13 43 16.2 +0.7**
UPC Upice 77.67 350 *e*P **P 13 43 15.7 -0.1**
UPC *e*x x 13 43 20.6
DPC Dobruska-Polom 77.79 350 *e*P **P 13 43 16.8 +0.4**
DPC *e*x x 13 43 21.9
DPC AMS AMS 14 23 50.0
comp=Z,300nm,17.9s
PVCC Panska Ves 77.81 351 *e*P **P 13 43 16.7 +0.2**
PVCC AMS AMS 14 21 30.0
comp=Z,300nm,20.7s
UBBA Unterbreizbach 77.91 354 *e*P **P 13 43 16.7 -0.4**
comp=Z,26nm,1.6s,mb4.9
MOX Moxa 77.96 353 *e*P **P 13 43 17.4 0.0**
MOX
comp=Z,100nm,19.0s
MOX Moxa 77.96 353 *e*P **P 13 43 17.3 -0.1**
comp=Z,11nm,0.6s,mb5.0
OKC Ostrava-Krasne 78.08 348 AMS AMS 14 23 00.0
comp=Z,200nm,17.5s
BEBN Eben Emael 78.16 356 P **P 13 43 18.7 +0.2**
comp=Z,6.1nm,0.8s,mb4.6
NIE Niedzica 78.19 347 *e*P **P 13 43 19.5 +0.8**
UCC Uccle 78.21 357 P **P 13 43 17.6 -1.1**
MORC Moravsky Berou 78.21 349 *e*P **P 13 43 19.1 +0.3**
MORC pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
MORC Moravsky Berou 78.21 349 *e*P **P 13 43 18.4 -0.4**
comp=Z,3.1nm,0.9s,mb4.2
KIV Kislovodsk 78.22 330 *e*P **P 13 43 18.7 -0.3**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BATI Baumata 78.26 237 P **P 13 43 18.3 -1.1**
comp=Z,9.9nm,0.5s,mb5.0,baz=100,slow=6.1,SNR=2.8
NKC Novy Kostel 78.30 352 *e*P **P 13 43 19.5 +0.2**
MEM Membach 78.34 356 P **P 13 43 19.5 0.0**
PRU Pruhonice 78.34 351 *e*P **P 13 43 19.5 0.0**
PRU AMS AMS 14 21 40.0
comp=Z,300nm,23.1s
KOLS Kolonicke sedl 78.37 345 *e*P **P 13 43 20.2 +0.5**
CRVS Cervenica-Dubn 78.52 346 *e*P **P 13 43 21.1 +0.6**
BCLA Clavier 78.56 357 P **P 13 43 20.9 +0.2**
comp=Z,6.1nm,0.7s,mb4.6
DYA Yadsworthy 78.57 3 *e*P **P 13 43 19.4 -1.3**
DYA AMb AMB 13 43 30.9
comp=Z,39nm,1.9s,mb5.0
MANZ Manzenberg 78.57 352 *e*P **P 13 43 20.5 -0.3**
comp=Z,7.0nm,0.9s,mb4.6
TNS Taunus Mts 78.60 355 *e*P **P 13 43 21.1 +0.2**
TNS pmax pmax
comp=Z,14nm,0.8s,mb4.9
TNS Taunus Mts 78.60 355 *e*P **P 13 43 21.1 +0.2**
comp=Z,14nm,0.8s,mb4.9
UZH Uzhgorod 78.66 345 *e*P **P 13 43 17.0 -4.3**
UZH *e* 13 43 40.2
ROTZ Rotzenmuhle 78.78 352 *e*P **P 13 43 22.2 +0.3**
comp=Z,8.0nm,0.9s,mb4.7
GIVF Givet 78.89 357⇑*i*P **P 13 43 22.5 0.0**
comp=Z,19nm,0.6s,mb4.9
GIVF Givet 78.89 357⇑*i*P **P 13 43 22.5 0.0**
GIVF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
GIVF Givet 78.89 357⇑*i*P **P 13 43 22.5 0.0**
comp=Z,9.4nm,0.6s,mb4.9
DOU Dourbes 78.90 357 P **P 13 43 22.7 +0.1**
TREC Trest 78.93 350 AMS AMS 14 22 50.0
comp=Z,300nm,19.3s
GRA1 Grafenberg Arr 78.94 353 *e*P **P 13 43 23.3 +0.5**
comp=Z,24nm,0.7s,mb5.2
GRF Grafenberg Arr 78.94 353 *e*P **P 13 43 23.3 +0.5**
GRF pmax pmax
comp=Z,24nm,0.7s,mb5.2
GRF Grafenberg Arr 78.94 353 *e*P **P 13 43 23.3 +0.5**
GRF pmax pmax
comp=Z,24nm,0.7s,mb5.2
GRF Grafenberg Arr 78.94 353 *e*P **P 13 43 23.3 +0.5**
comp=Z,24nm,0.7s,mb5.2
BAIF Baives 78.95 357⇑*i*P **P 13 43 23.2 +0.4**
comp=Z,48nm,0.8s,mb5.2
BAIF Baives 78.95 357⇑*i*P **P 13 43 23.2 +0.4**
BAIF pmax pmax
comp=Z,24nm,0.8s,mb5.2
BAIF Baives 78.95 357⇑*i*P **P 13 43 23.2 +0.4**
comp=Z,24nm,0.8s,mb5.2
TBI Tubuai 78.98 152 *e*S S 13 53 17.4 +0.2
comp=Z,262nm,30.5s
TBI Tubuai 78.98 152 *e*LR LR 14 07 29.1
comp=Z,424nm,23.0s,baz=346
KECS Kecovo 79.08 346 *i* P **P 13 43 23.9 +0.3**
KECS pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
KECS Kecovo 79.08 346 *i* P **P 13 43 23.9 +0.3**
comp=Z,9.0nm,1.4s,mb4.5
BURAR Bucovina Array 79.14 343⇑*i*P **P 13 43 24.1 +0.2**
BURAR Bucovina Array 79.14 343⇑P **P 13 43 24.1 +0.2**
WLF Walferdange 79.28 356 P **P 13 43 25.3 +0.7**
comp=Z,13nm,1.7s,mb4.6
WLF Walferdange 79.28 356 *e*P **P 13 43 25.2 +0.6**
comp=Z,12nm,0.7s,mb4.9
KOLL Kolacno 79.28 348 *e*P **P 13 43 25.1 +0.4**
KHC Kasperske Hory 79.29 351 *e*P **P 13 43 25.0 +0.3**
KHC AMS AMS 14 20 20.0
comp=Z,200nm,23.8s
WET Wettzell 79.34 352 *e*P **P 13 43 24.9 -0.1**
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WET Wettzell 79.34 352 *e*P **P 13 43 24.9 -0.1**
comp=Z,6.0nm,0.9s,mb4.5
GEC2 GERESS Array S 79.56 351 *e*P **P 13 43 26.1 -0.1**
GEC2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
GEC2 GERESS Array S 79.56 351 *e*P **P 13 43 26.1 -0.1**
comp=Z,7.0nm,0.6s,mb4.8
GERES GERESS Array B 79.56 351 P **P 13 43 26.1 0.0**
comp=Z,5.0nm,0.5s,mb4.7,baz=26,slow=6.2,SNR=54
MODS Modra-Piesok 79.62 349 *e*P **P 13 43 27.3 +0.8**
PSZ Piszkesteto 79.72 347 P **P 13 43 28.2 +1.1**
PSZ pmax pmax
comp=Z,50nm,1.5s,mb5.2
PSZ Piszkesteto 79.72 347⇑*e*P **P 13 43 27.9 +0.8**
PSZ Piszkesteto 79.72 347⇑*i*P **P 13 43 28.1 +1.0**
PSZ Piszkesteto 79.72 347 ⇑P **P 13 43 28.1 +1.0**
ZST Bratislava 79.82 349 *e*P **P 13 43 28.5 +0.9**
ZST pmax pmax
comp=Z,12nm,0.7s,mb4.9
ZST MLR MLR
comp=Z,100nm,18.9s,MS4.2
ZST Bratislava 79.82 349 *e*P **P 13 43 28.5 +0.9**
comp=Z,12nm,0.7s,mb4.9
ZST LR LR
comp=Z,100nm,18.9s,MS4.2
CONA Conrad Observa 80.23 349⇑*i*P **P 13 43 30.3 +0.5**
comp=Z,33nm,1.7s,mb5.0
CSNA Conrad Observa 80.23 349⇑*i*P **P 13 43 30.4 +0.5**
comp=Z,31nm,1.7s,mb5.0

BUD Budapest 80.27 347⇓eP P 13 43 31.4 +1.4
FLN La Foliniere 80.30 0⇑iP P 13 43 30.0 -0.2
comp=Z,26nm,0.8s,mb4.9
FLN eMLR MLR
comp=Z,173nm,19.8s,MS4.1
FLN La Foliniere 80.30 0⇑iP P 13 43 30.0 -0.2
FLN pmax pmax
comp=Z,13nm,0.8s,mb4.9
FLN MLR MLR
comp=Z,170nm,19.8s,MS4.4
FLN La Foliniere 80.30 0⇑iP P 13 43 30.0 -0.2
comp=Z,13nm,0.8s,mb4.9
FLN LR LR
comp=Z,170nm,19.8s,MS4.4
DRGR 80.38 345⇑iP P 13 43 30.8 +0.2
DRGR 80.38 345⇑P P 13 43 30.8 +0.2
SOP Sopron 80.39 349⇓eP P 13 43 31.4 +0.7
CDF Champ du Feu 80.47 355⇑iP P 13 43 31.0 -0.1
comp=Z,10nm,0.7s,mb4.6
CDF Champ du Feu 80.47 355⇑iP P 13 43 31.0 -0.1
CDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CDF Champ du Feu 80.47 355⇑iP P 13 43 31.0 -0.1
comp=Z,5.3nm,0.7s,mb4.6
LDF La Druitiere 80.47 0⇑iP P 13 43 30.8 -0.3
comp=Z,38nm,0.6s,mb5.2
LDF La Druitiere 80.47 0⇑iP P 13 43 30.8 -0.3
LDF pmax pmax
comp=Z,19nm,0.6s,mb5.2
LDF La Druitiere 80.47 0⇑iP P 13 43 30.8 -0.3
comp=Z,19nm,0.6s,mb5.2
MEZF Maizieres J'vi 80.48 357⇑iP P 13 43 31.4 +0.2
comp=Z,27nm,0.8s,mb4.9
MEZF Maizieres J'vi 80.48 357⇑iP P 13 43 31.4 +0.2
comp=Z,27nm,0.8s,mb5.2
BFO Black Forest 80.50 355 eP P 13 43 31.0 -0.2
BFO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BFO Black Forest 80.50 355 eP P 13 43 31.0 -0.2
comp=Z,10.0nm,0.8s,mb4.8
GRR Gorron 80.68 1⇑iP P 13 43 32.2 0.0
comp=Z,32nm,0.6s,mb5.1
GRR Gorron 80.68 1⇑iP P 13 43 32.2 0.0
GRR pmax pmax
comp=Z,16nm,0.6s,mb5.1
GRR Gorron 80.68 1⇑iP P 13 43 32.2 0.0
comp=Z,16nm,0.6s,mb5.1
ROSF Rostrenen 80.69 2⇑iP P 13 43 32.4 +0.1
comp=Z,15nm,0.6s,mb4.8
ROSF Rostrenen 80.69 2⇑iP P 13 43 32.4 +0.1
ROSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ROSF Rostrenen 80.69 2⇑iP P 13 43 32.4 +0.1
comp=Z,7.7nm,0.6s,mb4.8
RJOB Jochberg 80.74 351 eP P 13 43 32.6 0.0
comp=Z,8.0nm,0.7s,mb4.8
SGMF Saint Gilles 80.79 2⇑iP P 13 43 32.9 +0.1
comp=Z,49nm,0.5s,mb5.4
SGMF Saint Gilles 80.79 2⇑iP P 13 43 32.9 +0.1
SGMF pmax pmax
comp=Z,25nm,0.5s,mb5.4
SGMF Saint Gilles 80.79 2⇑iP P 13 43 32.9 +0.1
comp=Z,25nm,0.5s,mb5.4
HAU Haudompre 80.92 356⇑iP P 13 43 33.5 0.0
HAU eMLR MLR
comp=Z,276nm,19.0s,MS4.3
HAU Haudompre 80.92 356⇑iP P 13 43 33.5 0.0
HAU LR LR
comp=Z,280nm,19.0s,MS4.6
ARSA Arzberg 80.94 350⇑iP P 13 43 34.3 +0.7
comp=Z,27nm,1.6s,mb4.9
GNI Garni 80.97 327 eP P 13 43 34.1 +0.2
GNI pmax pmax
comp=Z,11nm,1.3s
MLR Muntele Rosu 81.05 342⇑iP P 13 43 35.3 +1.1
MLR Muntele Rosu 81.05 342⇑P P 13 43 35.3 +1.0
HINF Hinteralfeld 81.09 355⇑iP P 13 43 34.1 -0.3
comp=Z,6.9nm,0.7s,mb4.4
HINF Hinteralfeld 81.09 355⇑iP P 13 43 34.1 -0.3
HINF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
HINF Hinteralfeld 81.09 355⇑iP P 13 43 34.1 -0.3
comp=Z,3.5nm,0.7s,mb4.4
QUIF Quistinic 81.11 2⇑iP P 13 43 34.5 0.0
comp=Z,17nm,0.7s,mb4.8
QUIF Quistinic 81.11 2⇑iP P 13 43 34.5 0.0
QUIF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
QUIF Quistinic 81.11 2⇑iP P 13 43 34.5 0.0
comp=Z,8.6nm,0.7s,mb4.8
VOIR 81.27 343⇑iP P 13 43 36.4 +1.0
VOIR 81.27 343⇑P P 13 43 36.4 +1.0
WTTA Wattenberg 81.31 352⇑iP P 13 43 36.2 +0.6
comp=Z,48nm,1.6s,mb5.2
WTTA Wattenberg 81.31 352⇑iP P 13 43 36.2 +0.6
WTTA pmax pmax
comp=Z,48nm,1.6s,mb5.2
KBA Koelnbreinsper 81.34 351⇑iP P 13 43 36.8 +1.0
comp=Z,50nm,1.4s,mb5.2,SNR=13
KBA Koelnbreinsper 81.34 351⇑iP P 13 43 36.8 +1.0
KBA pmax pmax
comp=Z,50nm,1.4s,mb5.2
WRAB Tennant Creek 81.52 223 eP P 13 43 35.2 -1.7
WB2 Warramunga Arr 81.53 223 eP P 13 43 35.1 -1.9
WRA Warramunga Arr 81.54 223 P P 13 43 35.0 -2.0
comp=Z,1.5nm,0.4s,mb4.2,baz=30,slow=5.8,SNR=25
WRA LR LR 14 19 09.5
comp=Z,126nm,20.8s,MS4.2,baz=10.0,slow=35
SOKA Soboth 81.56 350⇑iP P 13 43 37.3 +0.3
comp=Z,53nm,1.5s,mb5.2
PKSM Moragy 81.56 347⇑iP P 13 43 36.7 -0.3
PKSM Moragy 81.56 347⇑P P 13 43 36.7 -0.2
PERS Pernice 81.59 350 iP P 13 43 37.4 +0.3
PERS i 13 43 38.9
FETA Feichten 81.63 353⇑iP P 13 43 37.8 +0.5
comp=Z,29nm,1.4s,mb5.0,SNR=6.5
GZR Gura Zlata 81.72 344⇑iP P 13 43 38.4 +0.6
GZR Gura Zlata 81.72 344⇑P P 13 43 38.4 +0.6
LOR Lormes 81.75 357⇑iP P 13 43 37.9 0.0
comp=Z,6.4nm,0.5s,mb4.5
LOR eMLR MLR
comp=Z,196nm,22.0s,MS4.1
LOR Lormes 81.75 357⇑iP P 13 43 37.9 0.0
LOR pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
LOR MLR MLR
comp=Z,200nm,22.0s,MS4.4
LOR Lormes 81.75 357⇑iP P 13 43 37.9 0.0
comp=Z,3.2nm,0.5s,mb4.5
LOR LR LR
comp=Z,200nm,22.0s,MS4.4
SSF Saint Saulge 81.97 358⇑iP P 13 43 39.1 0.0
comp=Z,12nm,0.6s,mb4.7
SSF Saint Saulge 81.97 358⇑iP P 13 43 39.1 0.0
SSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SSF Saint Saulge 81.97 358⇑iP P 13 43 39.1 0.0
comp=Z,6.2nm,0.6s,mb4.7
AVF Avril sur Loir 82.24 358⇑iP P 13 43 40.4 -0.1
comp=Z,34nm,1.1s,mb4.9
AVF Avril sur Loir 82.24 358⇑iP P 13 43 40.4 -0.1
AVF pmax pmax
comp=Z,17nm,1.1s,mb4.9
AVF Avril sur Loir 82.24 358⇑iP P 13 43 40.4 -0.1
comp=Z,17nm,1.1s,mb4.9
TUE Stuetta 82.28 354 eP P 13 43 40.8 0.0
comp=Z,12nm,0.8s,mb4.9
CABF La Chapelle 82.33 356⇑iP P 13 43 41.3 +0.3
comp=Z,12nm,0.8s,mb4.6
CABF La Chapelle 82.33 356⇑iP P 13 43 41.3 +0.3
CABF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CABF La Chapelle 82.33 356⇑iP P 13 43 41.3 +0.3
comp=Z,5.8nm,0.8s,mb4.6
PSI Prapat 82.37 265 P P 13 43 40.8 -0.8
comp=Z,7.3nm,0.8s,mb4.7,baz=126,slow=5.2,SNR=3.9
SMF Signal de Mont 82.37 357⇑iP P 13 43 41.2 0.0
comp=Z,26nm,0.7s,mb5.0
SMF Signal de Mont 82.37 357⇑iP P 13 43 41.2 0.0
SMF pmax pmax
comp=Z,13nm,0.7s,mb5.0
SMF Signal de Mont 82.37 357⇑iP P 13 43 41.2 0.0
comp=Z,13nm,0.7s,mb5.0
JAVS Javornik 82.44 350 iP P 13 43 40.6 -0.9
JAVS e 13 43 48.0
MFF Saint Martin d 82.47 0⇑iP P 13 43 41.8 +0.1
comp=Z,16nm,0.8s,mb4.7
MFF Saint Martin d 82.47 0⇑iP P 13 43 41.8 +0.1
MFF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MFF Saint Martin d 82.47 0⇑iP P 13 43 41.8 +0.1
comp=Z,8.1nm,0.8s,mb4.7
BGF Bois d'Agland 82.49 358 eP P 13 43 42.0 +0.2
BOJS Bojanci 82.69 349 iP P 13 43 42.8 -0.1
BOJS i 13 43 52.9
TCF Toulx Ste Croi 82.77 359⇑iP P 13 43 43.2 -0.1
comp=Z,10nm,0.5s,mb4.8
TCF Toulx Ste Croi 82.77 359⇑iP P 13 43 43.2 -0.1
TCF pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
TCF Toulx Ste Croi 82.77 359⇑iP P 13 43 43.2 -0.1
comp=Z,5.1nm,0.5s,mb4.8
LPL La Plagne 83.39 355 eP P 13 43 47.5 +1.0
LPG La Plagne 83.41 355 eP P 13 43 48.2 +1.6
BNI Bardonecchia 83.86 355 P P 13 43 50.3 +1.4
BNI pmax pmax
comp=Z,22nm,1.3s,mb5.1
BNI Bardonecchia 83.86 355 eP P 13 43 49.7 +0.8
comp=Z,22nm,1.4s,mb5.1
FITZ Fitzroy Crossi 83.94 231 eP P 13 43 48.8 -0.7
comp=Z,10.0nm,0.6s,mb5.1
FITZ Fitzroy Crossi 83.94 231 P P 13 43 48.7 -0.8
comp=Z,5.5nm,0.6s,mb4.9,baz=28,slow=7.0,SNR=25
ORIF Oris-en-Rattie 84.03 356⇑iP P 13 43 50.6 +0.8
ORIF eMLR MLR
comp=Z,156nm,21.8s,MS4.0
LFF La Frestale 84.13 360⇑iP P 13 43 50.4 +0.1
comp=Z,19nm,0.6s,mb5.1
LFF La Frestale 84.13 360⇑iP P 13 43 50.4 +0.1
LFF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
LFF La Frestale 84.13 360⇑iP P 13 43 50.4 +0.1
comp=Z,9.5nm,0.6s,mb5.1
CAF Calviac 84.13 359⇑iP P 13 43 50.6 +0.3
VIVF Saint-Julien-l 84.14 357⇑iP P 13 43 50.8 +0.5
MBDF Montbardon 84.17 355⇑iP P 13 43 51.3 +0.8
comp=Z,9.3nm,0.6s,mb4.8
MBDF Montbardon 84.17 355⇑iP P 13 43 51.3 +0.8
MBDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
MBDF Montbardon 84.17 355⇑iP P 13 43 51.3 +0.8
comp=Z,4.7nm,0.6s,mb4.8
MALT Malatya 84.68 331 P P 13 43 54.1 +0.9
MALT pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
MALT Malatya 84.68 331⇓iP P 13 43 54.4 +1.2
MALT Malatya 84.68 331⇓P P 13 43 54.4 +1.2
ASAR Alice Springs 85.02 222 P P 13 43 53.5 -1.4
comp=Z,1.9nm,0.8s,mb4.3,baz=34,slow=5.4,SNR=25
MTLF Montolieu 85.71 359 eP P 13 43 58.5 +0.3
SJPF Ste Jean 85.95 1⇑iP P 13 44 00.2 +0.8
comp=Z,7.5nm,0.6s,mb4.8
SJPF Ste Jean 85.95 1⇑iP P 13 44 00.2 +0.8
SJPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
SJPF Ste Jean 85.95 1⇑iP P 13 44 00.2 +0.8
comp=Z,3.8nm,0.6s,mb4.8
EPF Esparros 86.04 360 eP P 13 43 59.4 -0.5
ETSF Etsaut 86.17 1 eP P 13 44 01.0 +0.5
comp=Z,9.1nm,0.6s,mb4.8
ETSF Etsaut 86.17 1 eP P 13 44 01.0 +0.5
ETSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
ETSF Etsaut 86.17 1 eP P 13 44 01.0 +0.5
comp=Z,4.6nm,0.6s,mb4.9
ESDC Sonseca Array 89.32 3 P P 13 44 14.7 -1.0
comp=Z,0.3nm,0.3s,mb4.1,baz=2.1,slow=5.0,SNR=7.2
ESDC LR LR 14 23 57.2
comp=Z,58nm,21.0s,MS4.0,baz=325,slow=35
STKA Stephens Creek 89.54 212 eP P 13 44 16.5 +0.1
comp=Z,4.5nm,0.9s,mb4.8
STKA Stephens Creek 89.54 212 P P 13 44 16.1 -0.4
comp=Z,2.9nm,0.9s,mb4.6,baz=18,slow=9.6,SNR=2.9
STKA LR LR 14 20 06.8
comp=Z,210nm,18.9s,MS4.6,baz=25,slow=33
TORD Torodi Ar. Bea 115.80 358 PKP PKPdf 13 50 00.8 -1.2
comp=Z,0.8nm,0.5s,baz=337,slow=2.3,SNR=15
TORD PKKPbc PKKPbc 14 00 30.6 -1.1
comp=Z,0.6nm,0.8s,baz=181,slow=4.1,SNR=4.2
DBIC Dimbokro 122.09 6 PKP PKPdf 13 50 13.7 -0.4
comp=Z,3.1nm,0.5s,baz=3.8,slow=1.7,SNR=12
PLCA Paso Flores 131.54 107 PKP PKPdf 13 50 30.9 -0.3
comp=Z,24nm,1.4s,baz=299,slow=5.3,SNR=4.7
PMSA Palmer Station 145.10 138 PKPbc PKPbc 13 50 54.0 -0.9
comp=Z,14nm,1.0s,baz=319,slow=2.3,SNR=2.4
MAW Mawson 146.05 218 PKPbc PKPbc 13 50 56.9 -0.9
comp=Z,3.2nm,0.5s,baz=135,slow=1.7,SNR=11
MAW Mawson 146.05 218 PKP2 PKPab 13 50 56.9 -1.6
MAW pmax pmax
comp=Z,3.0nm,0.5s
BOSA Boshof 150.56 311 PKPbc PKPbc 13 51 11.3 +0.5
comp=Z,12nm,0.5s,baz=34,slow=2.2,SNR=48
BOSA PKPab PKPab 13 51 18.4 +0.8
comp=Z,8.6nm,0.7s,baz=22,slow=3.6,SNR=10
BOSA Boshof 150.56 311 PKIKP PKPbc 13 51 11.4 +0.6
BOSA pmax pmax
comp=Z,12nm,0.5s
BOSA pmax pmax
comp=Z,9.0nm,0.7s
SNAA Sanae 159.52 177 ePKPdf pPKPab 13 52 07.1 -4.2
SNAA e 13 52 10.9
SNAA Sanae 159.52 177 PKPab PKPab 13 51 53.3 -1.4
comp=Z,0.4nm,0.8s,baz=221,slow=9.3,SNR=3.3

*IDC **10** 13:49:00.1±1.9,2952S×17877W,h0km,mb4.3/3,*
mb1 4.5/3,mb1mx3.9/14,mbtmp4.3/3,Error ellipse:
s-maj=167.7km s-min=13.7km az=165.0
ISC 10 13:48:58.9±5.2,304S±02×1778W±07,h35km,n7,σ0§94/8,
mb4.2/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.12**	**354**	Pn	**Pn**	**13 49 18.4**	**+0.3**
RAO	86nm,0.3s,baz=90,slow=19,SNR=14			Sn	**Sn**	**13 49 32.0**	**-0.2**
	664nm,0.3s,baz=72,slow=20,SNR=24						
CTA	**Charters Tower**	**33.99**	**279**	*eP*	**P**	**13 55 40.9**	**+1.5**
	4.0nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**34.68**	**257**	*eP*	**P**	**13 55 46.4**	**+1.1**
	2.7nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**34.68**	**257**	P	**P**	**13 55 46.1**	**+0.8**
	4.3nm,0.7s,mb4.5,baz=106,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**43.31**	**267**	P	**P**	**13 56 56.4**	**-1.1**
	0.9nm,0.5s,mb3.8,baz=106,slow=8.0,SNR=34						
WB2	**Warramunga Arr**	**44.28**	**272**	*eP*	**P**	**13 57 04.2**	**-1.2**
WRA	**Warramunga Arr**	**44.29**	**272**	P	**P**	**13 57 05.2**	**-0.3**
	2.2nm,0.3s,mb4.4,baz=110,slow=8.1,SNR=111						

IDC 10 13:56:33.3±2.0,082N×12652E,h0km,mb3.6/3,mb1 3.8/3,
mb1mx3.5/16,mbtmp3.6/3,1D,Error ellipse:
s-maj=172.4km s-min=24.4km az=66.0,Northern
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNE	**Ternate**	**0.84**	**92⇓**	*eP*	Pg	13 56 44.5	-5.0
WRA	**Warramunga Arr**	**22.01**	**160**	P	P	14 01 28.9	-0.4
	0.6nm,0.3s,baz=338,slow=11,SNR=16						
ASAR	**Alice Springs**	**25.37**	**164**	P	P	14 02 02.7	+0.4
	0.7nm,0.3s,baz=349,slow=11,SNR=26						
MKAR	**Makanchi Array**	**59.83**	**326**	P	P	14 06 40.6	0.0
	0.3nm,0.4s,baz=116,slow=6.6,SNR=3.0						

*ISCJB **10** 14:30:34.4±0.6,3531N±004×2424E±003,h4km±4km,*
Error ellipse: s-maj=7.1km s-min=3.6km az=22.3
*CSEM **10** 14:30:34.6±0.1,3531N×2423E,h1km±1km,MD3.9,Error*
ellipse: s-maj=2.7km s-min=1.6km az=8.0
*ATH **10** 14:30:34.5,3545N×2424E,h9km±3km,MD3.9/10*
*THE **10** 14:30:34.8,3528N×2423E,h0km,ML3.7*
*NEIC **10** 14:30:34.6,3543N×2425E,h9km,MD3.9(ATH),After*
ATH.
ISC 10 14:30:34.7±0.7,3527N±004×2423E±003,h6km±4km,n30,
σ1§00/42,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAM	**Vamos**	**0.14**	**351**	*ePg*	**Pg**	**14 30 36.5**	**-1.1**
VAM				P	**Sg**	**14 30 46.3**	**+6.8**
KARN	**Karanos**	**0.28**	**297**	*ePg*	**Pg**	**14 30 39.6**	**-0.7**
KARN				*eSg*	**Sg**	**14 30 45.3**	**+1.2**
SIVA	**Sivas**	**0.54**	**118**	*ePg*	**Pg**	**14 30 44.9**	**-0.3**
SIVA				*eSg*	**Sg**	**14 30 54.4**	**+2.2**
IDI	**Anoyia**	**0.54**	**88**	P	**Pg**	**14 30 44.8**	**-0.4**
LAST	**Lasithi**	**1.03**	**96**	*ePg*	**Pg**	**14 30 53.0**	**-1.5**
LAST				*eSg*	**Sg**	**14 31 09.2**	**+1.3**
NPS	**Neapolis**	**1.13**	**90**	*ePN*	**Pn**	**14 30 55.8**	**-1.3**
NPS				*eSB*	**Sb**	**14 31 11.2**	**-0.5**
KYTH	**Kithira**	**1.40**	**316**	*ePB*	**Pn**	**14 30 59.0**	**-1.7**
KYTH	**Kithira**	**1.40**	**316**	*ePb*	**Pn**	**14 30 59.5**	**-1.2**
THR6	**Thira Island,**	**1.44**	**41**	*ePg*	**Pn**	**14 31 00.8**	**-0.5**
THR6				*eSg*	**Sg**	**14 31 22.2**	**+1.1**
THR5	**Thira Island,**	**1.46**	**38**	*ePg*	**Pn**	**14 31 01.0**	**-0.6**
THR5				*eSg*	**Sg**	**14 31 22.4**	**+0.7**
THR3	**Thira Island,**	**1.48**	**40**	*ePg*	**Pn**	**14 31 01.5**	**-0.4**
THR1	**Thera Island**	**1.49**	**42**	*ePg*	**Pg**	**14 31 02.0**	**-1.3**
THR4	**Thira Island,**	**1.52**	**38**	*ePg*	**Pn**	**14 31 02.0**	**-0.5**
ZKR	**Zakros**	**1.64**	**95**	*ePb*	**Pb**	**14 31 05.1**	**-0.2**
ZKR				*eSb*	**Sb**	**14 31 27.2**	**+1.0**
VLI	**Veliai**	**1.78**	**324**	*ePG*	**Pn**	**14 31 05.0**	**-1.1**
APE	**Apeiranthos**	**2.08**	**30**	*ePn*	**Pn**	**14 31 08.7**	**-1.5**
APE				*eSn*	**Sn**	**14 31 35.7**	**-0.7**
APE	**Apeiranthos**	**2.08**	**30**	*ePn*	**Pn**	**14 31 09.1**	**-1.1**
APE				*eSn*	**Sn**	**14 31 35.7**	**-0.7**
DID	**Didima**	**2.37**	**341**	*ePn*	**Pn**	**14 31 13.4**	**-0.7**
DID				*eSn*	**Sn**	**14 31 45.0**	**+1.5**
KARP	**Karpathos**	**2.41**	**83**	*ePB*	**Pn**	**14 31 15.4**	**+0.7**
VLX	**Vlachokerasia**	**2.57**	**325**	*ePn*	**Pn**	**14 31 18.0**	**+1.1**
ITM	**Ithomi**	**2.66**	**316**	*ePN*	**Pn**	**14 31 19.8**	**+1.7**
PTL	**Penteli**	**2.79**	**354**	*ePN*	**Pn**	**14 31 19.0**	**-0.9**
PTL	**Penteli**	**2.79**	**354**	*ePn*	**Pn**	**14 31 21.0**	**+1.1**
LTK	**Loutraki**	**2.93**	**340**	*ePn*	**Pn**	**14 31 22.1**	**+0.3**
LTK				*eSn*	**Sn**	**14 31 58.1**	**+0.9**
SMG	**Samos**	**3.22**	**40**	*ePn*	**Pn**	**14 31 25.6**	**-0.1**
SMG				P		14 31 30.9	
ARG	**Arkhangelos**	**3.31**	**72**	*ePN*	**Pn**	**14 31 28.1**	**+1.1**
CHOS	**Chios island**	**3.44**	**25**	*ePn*	**Pn**	**14 31 27.8**	**-1.0**
AGG	**Agios Georgios**	**4.04**	**339**	*ePn*	**Pn**	**14 31 37.7**	**+0.7**
LKD	**Levkas**	**4.47**	**321**	*ePn*	**Pn**	**14 31 43.5**	**+0.6**
LKD	**Levkas**	**4.47**	**321**	*ePn*	**Pn**	**14 31 43.5**	**+0.6**

*IDC **10** 14:44:59.0±1.1,3020N×13095E,h0km,mb3.7/6,*
mb1 3.7/7,mb1mx3.6/23,mbtmp3.6/7,ML3.2/1,MS3.4/4,
Ms1 3.4/4,ms1mx3.0/37,Error ellipse: s-maj=35.4km
s-min=23.7km az=78.0
*NIED **10** 14:45:00,3000N×13140E,h23km,Mw4.3 Best double*
couple: M₀2.73000×1015 NP1:φ₀26.00000°,δ55.00000°,
λ78.00000°. NP2:φ₀226.00000°,δ37.00000°,λ106.00000°.
*NEIC **10** 14:45:01.2,2996N×13139E,h35km,MG3.5(JMA),After*
JMA.
*JMA **10** 14:45:01.2±0.3,2996N×13139E,h35km±3km,M3.5*
*ISCJB **10** 14:45:02.6±1.0,3002N±005×1313E±01,h46km±11km,*
mb3.5/6,MS3.4/3,Error ellipse: s-maj=15.7km
s-min=6.1km az=20.4
ISC 10 14:45:03.8±0.9,3003N±004×13122E±010,h36km±11km,
n24,σ0§84/27,mb3.5/6,MS3.4/3,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.66**	**342**	P	**Pn**	**14 45 15.7**	**-0.9**
JTN				S	**Sn**	**14 45 26.4**	**+0.7**
JKC	**Kuchinoerabu**	**0.99**	**296**	P	**Pn**	**14 45 21.3**	**+0.2**
JTSR	**Tashiro 2**	**1.16**	**347**	P	**Pn**	**14 45 23.2**	**-0.4**
JTSR				*eS*	**Sn**	**14 45 38.9**	**+0.7**
JNN	**Nakanoshima**	**1.18**	**261**	P	**Pn**	**14 45 23.9**	**0.0**
JNAR	**Kushima--Naru**	**1.49**	**2**	P	**Pn**	**14 45 27.6**	**-0.5**
JNAR				S	**Sn**	**14 45 47.1**	**+0.7**
JSU	**Suzuyama**	**1.61**	**336**	P	**Pn**	**14 45 29.6**	**-0.2**
JSU				*eS*	**Sn**	**14 45 50.4**	**+1.1**
JTZ	**Takazaki**	**1.87**	**357**	P	**Pn**	**14 45 33.1**	**-0.2**
JTZ				*eS*	**Sn**	**14 45 56.4**	**+0.7**
JAM	**Amami Oshima**	**2.14**	**222**	P	**Pn**	**14 45 36.8**	**-0.3**
JAM				*eS*	**Sn**	**14 46 02.5**	**+0.1**
JZO	**Okuchi**	**2.17**	**346**	P	**Pn**	**14 45 37.5**	**+0.1**
JTSN	**Tsuno**	**2.22**	**6**	P	**Pn**	**14 45 37.2**	**-0.9**
JTSN				*eS*	**Sn**	**14 46 03.6**	**-0.8**
JIU2	**Izumi 2**	**2.53**	**352**	P	**Pn**	**14 45 42.2**	**-0.2**
MJAR	**Matsushiro Arr**	**8.74**	**40**	Pn	**Pn**	**14 47 07.7**	**+0.1**
	0.3nm,0.3s,baz=193,slow=9.4,SNR=3.2						
ASAJ	**Asahikawa**	**16.71**	**30**	LR	LR	14 56 06.2	
	comp=Z,104nm,18.1s,baz=252,slow=40						
GUMO	**Guam**	**20.66**	**139**	LR	LR	14 56 42.0	
	comp=Z,88nm,19.5s,MS3.1,baz=261,slow=34						
SONM	**Songino Array**	**26.07**	**320**	P	**P**	**14 50 32.8**	**-1.0**
	0.7nm,0.6s,mb3.3,baz=128,slow=9.6,SNR=5.7						
ZALV	**Zalesovo Beam**	**40.96**	**319**	LR	LR	15 11 01.7	
	comp=Z,43nm,19.6s,MS3.3,baz=116,slow=38						
MKAR	**Makanchi Array**	**41.13**	**308**	P	**P**	**14 52 41.2**	**-3.1**
	0.3nm,0.5s,mb3.2,baz=99,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**41.13**	**308**	P	**P**	**14 52 41.2**	**-3.1**
WRA	**Warramunga Arr**	**49.77**	**176**	P	**P**	**14 53 54.2**	**+1.3**
	0.7nm,1.1s,mb3.6,baz=18,slow=7.8,SNR=3.3						
WRA	**Warramunga Arr**	**49.77**	**176**	P	**P**	**14 53 54.2**	**+1.3**
ASAR	**Alice Springs**	**53.45**	**177**	P	**P**	**14 54 23.1**	**+2.8**
	0.4nm,1.0s,mb3.3,baz=12,slow=13,SNR=2.9						
KDAK	**Kodiak Island**	**57.91**	**38**	P	**P**	**14 54 52.3**	**+0.3**
	1.5nm,0.8s,mb4.1,baz=288,slow=9.6,SNR=3.7						
NOA	**NORSAR Array B**	**77.06**	**334**	P	**P**	**14 56 52.3**	**-0.7**
	0.6nm,0.7s,mb3.6,baz=49,slow=5.7,SNR=3.0						
GERES	**GERESS Array B**	**83.74**	**324**	LR	LR	15 42 20.9	
	comp=Z,36nm,18.6s,MS3.8,baz=272,slow=41						

IDC 10 14:48:14.6±14.0,1234S×16594E,h0km,mb3.7/4,
mb1 3.9/4,mb1mx3.6/17,mbtmp3.8/4,Error ellipse:
s-maj=233.2km s-min=109.0km az=57.0,Santa Cruz
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**20.40**	**245**	P	P	14 52 53.1	-0.2
	5.0nm,1.1s,baz=74,slow=15,SNR=2.8						
STKA	**Stephens Creek**	**29.66**	**225**	P	P	14 54 21.8	-0.3
	3.5nm,1.1s,baz=40,slow=8.7,SNR=4.4						
WRA	**Warramunga Arr**	**31.24**	**252**	P	P	14 54 37.0	+0.8
	0.3nm,0.6s,baz=82,slow=9.1,SNR=7.6						
ASAR	**Alice Springs**	**32.41**	**245**	P	P	14 54 46.1	-0.3
	0.3nm,0.4s,baz=75,slow=10,SNR=11						

IDC 10 14:51:49.7±1.9,1032S×11945E,h0km,mb3.5/1,
mb1 3.6/5,mb1mx3.5/18,mbtmp3.5/5,ML3.3/4,MS2.8/1,
Ms1 2.8/1,ms1mx2.6/22,1C,Error ellipse:
s-maj=50.9km s-min=23.6km az=44.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.05**	**52⇑**	*eP*	Pg	14 52 08.0	-2.0
WSI				*eS*	Sg	14 52 29.0	+5.3
BATI	**Baumata**	**4.15**	**89**	Pn	Pn	14 52 54.4	0.0
	12nm,0.3s,baz=272,slow=6.6,SNR=10						
BATI				Sn	Sn	14 53 45.3	+1.7
	3.2nm,0.3s,baz=62,slow=13,SNR=1.7						
FITZ	**Fitzroy Crossi**	**9.79**	**143**	Pn	Pn	14 54 13.6	+1.7
	0.2nm,0.3s,baz=327,slow=11,SNR=9.7						
FITZ				Sn	Sn	14 56 06.6	+4.1
	0.2nm,0.3s,baz=176,slow=23,SNR=7.2						
FITZ				LR	LR	14 58 38.7	
	comp=Z,59nm,19.3s,baz=258,slow=42						
WRA	**Warramunga Arr**	**17.25**	**125**	P	Pn	14 55 51.4	-0.8
	0.1nm,0.3s,baz=297,slow=13,SNR=5.6						
ASAR	**Alice Springs**	**19.14**	**136**	P	Pn	14 56 13.1	-2.3
	0.1nm,0.3s,baz=312,slow=9.2,SNR=10						
MKAR	**Makanchi Array**	**65.83**	**333**	P	P	15 02 37.3	+0.4
	0.3nm,0.5s,baz=141,slow=5.5,SNR=3.7						

*CSEM **10** 14:59:28.6±0.1,4279N×1552E,h5km,MD2.9/12,Error*
ellipse: s-maj=3.3km s-min=3.0km az=155.0
*ISCJB **10** 14:59:29.7±0.8,4288N±004×1581E±005,h8km±7km,*
Error ellipse: s-maj=7.9km s-min=2.9km az=43.3
*ROM **10** 14:59:29.9±0.5,4293N×1621E,h10km,Md2.9/12,Ml3.1/3,*
Error ellipse: s-maj=7.5km s-min=3.8km az=65.0
*PDG **10** 14:59:32.0±0.4,4311N×1620E,h0km±11km,ML3.4/10,*
Error ellipse: s-maj=1.6km s-min=1.5km az=90.0
**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	1.11	183	Pg	Pg	14 59 52.9	+0.9
SGRT				Sg	Sg	15 00 08.2	+1.8
MSAG	**Monte S. Angel**	1.16	177	Pg	Pg	14 59 53.0	+0.2
FGMS	**Monte Sant'Ang** 147nm,0.2s	1.16	175	Pg	Pg	14 59 53.6	+0.7
RGNG	**Rignano Grg**	1.21	188	Pg	Pg	14 59 55.1	+1.4
STON	**Ston**	1.38	89	*e*Pg	Pn	14 59 52.9	-3.5
STON				Sg	Sn	15 00 08.6	-6.3
MRVN	**Minervino Murg** 69nm,0.5s	1.83	171	Pg	Pn	15 00 01.9	-0.6
NVLJ	**Novalja**	1.83	338	*e*Pn	Pn	15 00 03.5	+0.9
NVLJ				Sn	Sn	15 00 27.4	+1.4
NVLJ	**Novalja**	1.83	338	*e*Pn	Pn	15 00 03.4	+0.9
NVLJ				Sn	Sn	15 00 27.3	+1.3
VAGA	**Valle Agricola**	1.87	220	Pg	Pg	15 00 05.9	-0.6
SDI	**San Donato**	1.89	233	Pg	Pg	15 00 06.1	-0.7
NRCA	**Norcia**	1.99	270	Pg	Pg	15 00 07.8	-1.0
BRY	**Bratogost**	2.00	88	⇑*i*Pn	Pn	15 00 03.1	-1.8
BRY				*e*Sn	Sn	15 00 29.4	-0.8
HCY	**Herceg Novi**	2.02	101	⇑*i*Pn	Pn	15 00 05.2	+0.1
HCY				*e*Sn	Sn	15 00 31.8	+1.2
AMUR	**Altamura**	2.04	163	Pg	Pn	15 00 04.7	-0.8
LNSS	**Leonessa**	2.07	264	Pg	Pg	15 00 09.6	-0.6
BLY	**Banja Luka**	2.12	27	*e*Pn	Pn	15 00 06.3	-0.3
BLY				*e*Sn	Sn	15 00 30.3	-2.9
MCRV	**Calabrutti - M** 1μm,1.6s	2.14	193	Pg	Pb	15 00 08.2	-1.5
NOCI	**Noci**	2.28	155	Pg	Pn	15 00 07.2	-1.5
UPM	**Unac-Piva**	2.29	81	⇑*i*Pn	Pn	15 00 07.8	-1.1
UPM				*e*Sn	Sn	15 00 36.0	-1.3
NKY	**Niksic**	2.34	90	⇓*i*Pn	Pn	15 00 08.3	-1.2
NKY				*e*Sn	Sn	15 00 38.6	+0.1
BUM	**Brajici-Budva**	2.34	103	⇑*i*Pn	Pn	15 00 09.4	-0.2
BUM				*e*Sn	Sn	15 00 40.3	+1.7
FSSB	**Fossombrone** 46nm,0.4s	2.37	291	Pg	Pb	15 00 12.1	-1.6
MURB	**Monte Urbino**	2.45	280	Pg	Pg	15 00 14.7	-2.8
PDG	**Podgorica**	2.58	99	⇑*i*Pn	Pn	15 00 12.9	+0.1
PDG				*e*Sn	Sn	15 00 45.1	+0.7
TTG	**Podgorica**	2.58	99	⇑*i*Pn	Pn	15 00 12.9	+0.1
TTG				*e*Sn	Sn	15 00 45.1	+0.7
PLE	**Pljevlja**	2.66	79	⇓*i*Pn	Pn	15 00 13.2	-0.7
PLE				*e*Sn	Sn	15 00 45.3	-1.1
BOJS	**Bojanci**	2.67	351	*i*Pn	Pn	15 00 14.8	+0.7
ULC	**Ulcinj**	2.69	108	⇓*i*Pn	Pn	15 00 15.5	+1.1
ULC				*e*Sn	Sn	15 00 49.1	+1.8
SKDS	**Skadanscina**	2.98	335	*i*Pn	Pn	15 00 19.1	+0.8
SKDS				*i*Sn	Sn	15 00 53.8	-0.5
BEY	**Berane**	3.00	89	⇓*i*Pn	Pn	15 00 18.4	-0.2
BEY				*e*Sn	Sn	15 00 53.6	-1.2
IVA	**Berane**	3.00	89	⇓*i*Pn	Pn	15 00 18.4	-0.2
IVA				*e*Sn	Sn	15 00 53.6	-1.2
PVY	**Plav**	3.07	94	⇑*i*Pn	Pn	15 00 19.4	-0.2
PVY				*e*Sn	Sn	15 00 56.4	-0.2
DIVS	**Divibare**	3.27	67	*e*Pn	Pn	15 00 24.3	+1.9
JAVS	**Javornik**	3.28	338	*i*Pn	Pn	15 00 23.4	+1.0
LJU	**Ljubljana**	3.31	344	*i*Pn	Pn	15 00 24.1	+1.2
VNDS	**Vrh nad Dolski**	3.33	346	*i*Pn	Pn	15 00 24.0	+0.8
VOY	**Vojsko**	3.45	337	*e*Pn	Pn	15 00 25.8	+1.0
VOY				*e*Sn	Sn	15 01 05.3	-0.7
GORS	**Gorjuse**	3.69	340	*i*Pn	Pn	15 00 28.7	+0.6
OBKA	**Obir**	3.75	346	⇓*i*Pn	Pn	15 00 29.5	+0.5
OBKA				⇑*i*Sn	Sn	15 01 13.7	+0.3
PERS	**Pernice**	3.80	353	*i*Pn	Pn	15 00 30.1	+0.5
SOKA	**Soboth**	3.85	352	⇑*i*Pn	Pn	15 00 30.1	-0.2
SOKA	**Soboth**	3.85	352	⇓*i*Sn	Sn	15 01 15.8	0.0
KBA	**Koelnbreinsper**	4.56	338	⇑*i*Pn	Pn	15 00 41.2	+1.1
KBA				⇑*i*Sn	Sn	15 01 33.7	+0.4
MOA	**Molln**	5.10	348	⇑*i*Pn	Pn	15 00 47.6	+0.1
MOA				⇓*i*Sn	Sn	15 01 45.8	-0.8

NEIC ***10*** *15:20:37.6±0.7, 1723S×6997W, h35km, mb4.0/1, Error ellipse: s-maj=14.6km s-min=13.1km az=222.0*
ISCJB ***10*** *15:20:40.4±1.5, 1738S±007×698W±0.1, h77km±15km, mb3.6/5, Error ellipse: s-maj=18.2km s-min=9.1km az=23.2*
IDC ***10*** *15:20:42.0±2.2, 1737S×6977W, h77km±21km, mb3.4/4, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, MS3.5/6, Ms1 3.5/6, ms1mx3.1/18, Error ellipse: s-maj=26.9km s-min=10.9km az=110.0*

ISC 10 15:20:41.1±1.6, 1734S±007×699W±01, h67km±16km, n18, σ1§15/18, mb3.6/5, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	1.77	299	*e*P	Pn	15 21 04.0	-5.7
ARE				*e*S	Sn	15 21 41.0	+10
LPAZ	**La Paz** 10nm,0.3s,baz=238,slow=14,SNR=150	1.97	58	P	Pn	15 21 11.3	-1.1
LPAZ				S	Sn	15 21 37.3	+1.2
LPAZ	14nm,0.3s,baz=355,slow=25,SNR=3.5			LR	LR	15 22 15.7	
LPAZ	comp=Z,851nm,19.9s,baz=251,slow=49						
LPAZ	**La Paz**	1.97	58	*e*Pn	Pn	15 21 10.2	-2.2
LPAZ				LR	LR	15 22 15.7	
LVC	**Limon Verde** 2.7nm,0.3s,baz=338,slow=8.1,SNR=17	5.32	170	P	Pn	15 21 58.4	+0.4
LVC				S	Sn	15 22 59.4	+1.4
LVC	baz=29,slow=23,SNR=2.9						
LVC	**Limon Verde**	5.32	170	*e*Pn	Pn	15 21 58.0	-0.1
LVC				P		15 21 58.4	
LVC				Sn	Sn	15 22 57.1	-0.9
LVC				S	Sn	15 22 59.4	+1.4
SIV	**San Ignacio** baz=257,slow=15	8.54	82	P	Pn	15 22 40.5	-1.7
SIV				S	Sn	15 24 18.3	+1.2
SIV	0.3nm,0.3s,baz=249,slow=18,SNR=2.2			LR	LR	15 26 32.4	
SIV	comp=Z,429nm,19.0s,baz=303,slow=42						
CPUP	**Villa Florida**	14.68	130	LR	LR	15 30 50.6	
BDFB	**Brasilia** comp=Z,147nm,20.6s,baz=325,slow=42	21.03	89	LR	LR	15 33 30.8	
TRQA	**Tornquist** comp=Z,49nm,18.9s,baz=8.6,slow=37	21.77	163	*e*P	P	15 25 26.7	-0.6
PLCA	**Paso Flores** 3.5nm,0.6s,mb3.9	23.32	181	P	P	15 25 43.5	+0.2
PLCA	**Paso Flores** 3.7nm,0.9s,mb3.7,baz=356,slow=14,SNR=4.8	23.32	181	P	P	15 25 43.5	+0.2
SDV	**Santo Domingo** comp=Z,85nm,19.1s,baz=154,slow=38	26.07	358	LR	LR	15 37 20.3	
PCRV	**Puerto La Cruz** comp=Z,83nm,20.4s,baz=292,slow=39	27.83	11	LR	LR	15 38 45.0	
PDAR	**Pinedale Array** 0.2nm,0.3s,mb3.5,baz=124,slow=3.9,SNR=4.5	70.07	330	P	P	15 31 47.0	+1.0
NVAR	**Mina Array Bea** 0.2nm,0.3s,mb3.5,baz=159,slow=7.7,SNR=3.6	71.67	322	P	P	15 31 56.6	+0.8
TORD	**Torodi Ar. Bea** 1.1nm,0.9s,mb3.6,baz=245,slow=4.7,SNR=3.8	76.87	72	P	P	15 32 24.9	-1.6
TORD				LR	LR	16 04 45.2	
	comp=Z,75nm,19.6s,baz=185,slow=34						
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=144,slow=1.8,SNR=2.6	135.97	214	PKP	PKPdf	15 39 55.1	-0.2
SONM	**Songino Array** 0.5nm,0.8s,baz=342,slow=3.3,SNR=4.1	149.44	5	PKPbc	PKPbc	15 40 22.4	-0.1

NEIC ***10*** *15:24:43.2, 1836N×6832W, h119km, MD3.6(RSPR), After RSPR.*

RSPR 10 15:24:43.2, 1836N×6832W, h119km±6km, MD3.6/5, MD3.6/5, 16C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	1.20	107	*e*S	Sn	15 25 24.9	-0.6
CRPR	**Cabo Rojo, PR**	1.20	107	⇑*e*P	Pn	15 25 07.6	+0.4
CRPR	**Cabo Rojo, PR**	1.20	107	*e*S	Sn	15 25 24.7	-0.8
CRPR	**Cabo Rojo, PR**	1.20	107	⇑*e*P	Pn	15 25 07.6	+0.3
CRPR	**Cabo Rojo, PR**	1.20	107	⇑*e*P	Pn	15 25 07.6	+0.3
CRPR				*e*S	Sn	15 25 24.7	-0.8
CRPR				*e*S	Sn	15 25 24.9	-0.6
AOPR	**Arecibo Observ**	1.48	90	*e*S	Sn	15 25 31.6	+0.5
AOPR	**Arecibo Observ**	1.48	90	⇑*e*P	Pn	15 25 09.7	-0.7
AOPR	**Arecibo Observ**	1.48	90	⇑*e*P	Pn	15 25 08.8	-1.6
AOPR	**Arecibo Observ**	1.48	90	⇑*e*P	Pn	15 25 08.8	-1.6
AOPR				⇑*e*P		15 25 09.7	
AOPR				*e*S	Sn	15 25 31.6	+0.5
CELP	**Cerrillos**	1.68	100	⇑*e*P	Pn	15 25 12.7	0.0
CELP				*e*S	Sn	15 25 35.1	0.0
CELP	**Cerrillos**	1.68	100	⇑*e*P	Pn	15 25 12.4	-0.3
CELP	**Cerrillos**	1.68	100	⇑*e*P	Pn	15 25 12.4	-0.3
CELP				⇑*e*P		15 25 12.7	
CELP				*e*S	Sn	15 25 35.1	0.0
CBYP	**Canovanas**	2.34	92	⇑*e*P	Pn	15 25 20.0	-1.0
CBYP	**Canovanas**	2.34	92	⇑*e*P	Pn	15 25 19.7	-1.2
CBYP	**Canovanas**	2.34	92	*e*S	Sn	15 25 47.2	-2.7
CBYP	**Canovanas**	2.34	92	⇑*e*P	Pn	15 25 19.7	-1.2
CBYP				⇑*e*P		15 25 20.0	
CBYP				*e*S	Sn	15 25 47.2	-2.7
MTP	**Monte Pirata**	2.64	95	⇑*e*P	Pn	15 25 24.6	-0.2

JMA ***10*** *16:04:35.1±0.3, 2392N×12234E, h20km, M2.5*

TAP 10 16:04:37.5, 2397N×12240E, h18km±1km, ML3.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	0.74	49	P	Pb	16 04 50.5	-1.4
YOJ				S	Sb	16 05 01.6	-0.1
IRIF	**Iriomote-Funau**	1.27	73	P	Pn	16 04 58.9	-1.4
IRIF				*e*S	Sb	16 05 15.6	-1.3
JKRS	**Kuro-shima**	1.49	79	P	Pn	16 05 02.6	-0.9
JKRS				S	Sn	16 05 21.7	-0.8
JIJ	**Ishigaki jima**	1.64	76	P	Pn	16 05 03.9	-1.6
JIJ				S	Sn	16 05 24.8	-1.3

ISCJB ***10*** *16:39:24.3±1.5, 72S±02×1194E±02, h258km±12km, mb3.0/2, Error ellipse: s-maj=34.6km s-min=17.5km az=141.2*
IDC ***10*** *16:39:28.9±3.4, 700S×12008E, h293km±32km, mb2.7/2, mb1 2.8/5, mb1mx2.7/19, mbtmp2.7/5, Error ellipse: s-maj=122.8km s-min=24.4km az=57.0*

ISC 10 16:39:26.0±1.4, 75S±02×1194E±02, h264km±11km, n6, σ0§94/10, mb3.0/2, 1C, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	2.38	158	⇑*e*P	Pn	16 40 14.5	+1.4
WSI				*e*S	S	16 40 49.0	-1.4
BATI	**Baumata** 5.2nm,0.3s,baz=32,slow=3.2,SNR=29	5.03	123	P	Pn	16 40 44.0	+1.4
BATI				S	S	16 41 43.0	-0.7
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=258,slow=15,SNR=14	12.21	151	P	Pn	16 42 17.0	+5.1
FITZ				S	S	16 44 28.4	+0.5
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=302,slow=12,SNR=20	19.08	132	P	P	16 43 29.1	-0.3
WRA				S	S	16 47 02.9	+11
ASAR	**Alice Springs** 0.3nm,0.3s,mb2.6,baz=313,slow=8.2,SNR=5.6	21.30	141	P	P	16 43 52.2	-0.4
MKAR	**Makanchi Array** 0.6nm,0.7s,mb3.3,baz=152,slow=6.5,SNR=4.7	63.27	332	P	P	16 49 26.2	-0.5

BGS ***10*** *17:20:15.9±1.9, 3426N×2435W, h10km, mb4.8*
CSEM ***10*** *17:20:36.2±0.1, 3702N×2467W, h10km, mb4.8/21, Ms3.4, Error ellipse: s-maj=2.2km s-min=1.3km az=22.0*
ISCJB ***10*** *17:20:37.5±0.2, 3713N±003×2460W±003, h10km, mb4.5/98, MS3.9/28, Error ellipse: s-maj=4.7km s-min=3.1km az=12.8*
IDC ***10*** *17:20:38.7±0.6, 3726N×2454W, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.3/28, mbtmp4.3/20, ML3.9/1, MS3.7/22, Ms1 3.7/22, ms1mx3.5/42, Error ellipse: s-maj=17.8km s-min=13.5km az=130.0*
BJI ***10*** *17:20:39.3, 3809N×2492W, h10km, mB5.5, mb5.2, Ms4.9, Msz4.6*
NEIC ***10*** *17:20:39.8±0.3, 3718N×2454W, h10km, mb4.7/84, Error ellipse: s-maj=6.0km s-min=5.3km az=161.0*
SZGRF ***10*** *17:20:40.1, 3721N×2476W, h16km, mb4.6, Azores Islands region*
MOS ***10*** *17:20:40.7±0.9, 3730N×2463W, h26km, mb4.8/49, Error ellipse: s-maj=12.8km s-min=4.2km az=137.3*
PDA ***10*** *17:20:42.4±1.2, 3725N×2477W, h0km, MD3.9, ML4.1, Error ellipse: s-maj=8.9km s-min=4.1km az=59.0*

ISC 10 17:20:39.6±0.2, 3720N±003×2462W±003, h10km, (h14km±.9km:pP-P), n378, σ1§09/428, mb4.5/98, MS3.9/28, 51C, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	0.41	241	*i*P	Pg	17 20 48.9	+1.4
CMLA	**Cha da Macela**	0.91	308	*i*P	Pg	17 20 55.9	-1.2
CMLA				*e*S	Sg	17 21 06.0	-3.0
CMLA				A		17 21 08.2	
CMLA	4μm,0.4s **Cha da Macela**	0.91	308	*e*Pg	Pg	17 20 55.3	-1.8
CMLA				*e*Sg	Sg	17 21 08.7	-0.3
CMLA	**Cha da Macela**	0.91	308	*e*Pg	Pg	17 20 55.3	-1.8
CMLA				*e*Sg	Sg	17 21 08.7	-0.3
PDA	**Ponta Delgada**	0.99	304	*e*P	Pg	17 20 56.6	-2.1
PDA				*e*S	Sg	17 21 07.6	-4.0
PSCM	**Serra do Cume**	2.48	308	*e*P	Pn	17 21 17.9	-2.0
PSCM				*e*S	Sn	17 21 43.5	-6.7
PSCM				A		17 21 48.5	
PSCM	290nm,0.4s **Serra do Cume**	2.48	308	*e*P	Pn	17 21 17.9	-2.0
PSCM				*e*S	Sn	17 21 43.5	-6.7
PMAN	**Manadas**	3.09	299	*e*P	Pn	17 21 26.9	-1.5
PMAN				*e*S	Sn	17 21 59.4	-6.0
PMAN				A		17 22 01.5	
PMAN	140nm,0.1s **Manadas**	3.09	299	*e*P	Pn	17 21 26.9	-1.5
PMAN				*e*S	Sn	17 21 59.4	-6.0
ROSA	**Rosais**	3.24	299	*e*P	Pn	17 21 29.2	-1.2
ROSA				*e*S	Sn	17 22 03.7	-5.3
SRBC	**Serra Branca**	3.26	305	*e*P	Pn	17 21 29.6	-1.1
SRBC				*e*S	Sn	17 22 04.7	-4.9
PICO	**Pico**	3.28	294	*e*P	Pn	17 21 30.0	-1.0
PICO				*e*S	Sn	17 22 04.5	-5.5
HOR	**Horta**	3.44	294	*e*P	Pn	17 21 31.9	-1.3
HOR				*e*S	Sn	17 22 07.7	-6.2
CALA	**Caldeira**	3.51	294	*e*P	Pn	17 21 33.1	-1.1
CALA				*e*S	Sn	17 22 10.6	-5.1
PMAR	**Madeira**	7.74	123	*e*P	Pn	17 22 32.0	-0.3
PMAR				*e*S	Sn	17 23 49.5	-11
PMAR				A		17 24 01.0	
PMAR	65nm,0.2s			*e*T		17 30 01.9	
PMPS	**Porto Santo**	7.95	119	*e*P	Pn	17 22 33.7	-1.4
PMPS				*e*S	Sn	17 23 54.0	-11
PMPS				A		17 24 01.7	
PMPS	18nm,0.2s						
EHIG	**Higuera**	10.35	144	P	Pn	17 23 07.1	-0.9
EHIG				S	Sn	17 24 52.7	-11
EHIG	**Higuera**	10.35	144	P	Pn	17 23 07.1	-0.9
EHIG				S	Sn	17 24 52.7	-11
EGOM	**La Gomera** 68nm,0.5s	10.96	143	P	Pn	17 23 14.2	-2.2
EGOM				S	Sn	17 25 04.7	-14
EGOM	**La Gomera** 68nm,0.5s	10.96	143	P	Pn	17 23 14.2	-2.2
EGOM				S	Sn	17 25 04.7	-14
CHIE	**El Hierro** 12nm,0.5s	10.99	147	P	Pn	17 23 14.6	-2.2
CHIE				S	Sn	17 25 05.8	-14
CHIE	**El Hierro** 12nm,0.5s	10.99	147	P	Pn	17 23 14.6	-2.2
CHIE				S	Sn	17 25 05.8	-14
EBAJ	**Bajamar** 28nm,0.6s	11.09	139	P	Pn	17 23 16.6	-1.5
EBAJ				S	Sn	17 25 07.4	-15
EBAJ	**Bajamar** 28nm,0.6s	11.09	139	P	Pn	17 23 16.6	-1.6
EBAJ				S	Sn	17 25 07.4	-15
CCAN	**Las Canadas** 12nm,0.6s	11.21	141	P	Pn	17 23 18.3	-1.5
CCAN				S	Sn	17 25 13.2	-12
CCAN	**Las Canadas** 12nm,0.6s	11.21	141	P	Pn	17 23 18.3	-1.5
CCAN				S	Sn	17 25 13.2	-12
EOSO	**Osorio** 5.6nm,0.4s	11.88	137	P	Pn	17 23 27.4	-1.6
EOSO				S	Sn	17 25 27.1	-14
EOSO	**Osorio** 5.6nm,0.4s	11.88	137	P	Pn	17 23 27.4	-1.5
EOSO				S	Sn	17 25 27.1	-14
PMAFR	**Mafra** 22nm,0.6s	12.22	77	*e*S	Sn	17 25 33.8	-16
PMAFR				A		17 25 43.9	
EFAM	**Famara** 14nm,0.6s	12.29	128	P	Pn	17 23 37.8	+3.2
EFAM	**Famara** 14nm,0.6s	12.29	128	P	Pn	17 23 37.9	+3.3
CFTV	**Fuerteventura** 8.6nm,0.6s	12.45	132	P	Pn	17 23 35.5	-1.4
CFTV	**Fuerteventura** 8.6nm,0.6s	12.45	132	P	Pn	17 23 35.5	-1.3
PFVI	**Vila Bisbo**	12.60	86	*e*S	Sn	17 25 44.2	-15
PFVI				A		17 25 49.3	
PFVI	15nm,0.8s			*e*T		17 35 36.2	
PTEO	**Sao Teotonio**	12.65	84	*e*P	Pn	17 23 34.7	-4.8
PTEO				*e*S	Sn	17 25 44.2	-16
PTEO				A		17 25 47.6	
PTEO	20nm,0.7s			*e*T		17 35 32.9	
MORF	**Marmelete** 7.7nm,0.4s	12.73	85	*e*S	Sn	17 25 46.6	-16
MORF				A		17 25 51.0	
MORF				*e*T		17 35 34.0	
MOE	**Montemor**	12.93	79	*e*S	Sn	17 25 52.4	-15
EVOP	**Sao Brissos**	13.11	79	*e*Pn	Pn	17 23 40.2	-5.5
EVO	**Evora**	13.19	79	*e*Pn	Pn	17 23 40.2	-6.7
EVO				*e*MLR	MLR		
EVO	comp=Z,336nm,19.0s **Evora**	13.19	79	*e*P	Pn	17 23 40.8	-6.1
EVO				*e*S	Sn	17 25 57.9	-16
EVO				A		17 26 03.1	
EVO	comp=Z,8.7nm,1.0s			*e*T		17 35 43.9	
EMAZ	**Mazaricos** comp=Z,4.8nm,0.4s	13.28	60	P	Pn	17 23 40.1	-7.9
EMAZ				S	Sn	17 25 56.4	-19
EMAZ	**Mazaricos** comp=Z,4.8nm,0.4s	13.28	60	P	Pn	17 23 40.1	-7.9
EMAZ				S	Sn	17 25 56.4	-19
PBDV	**Barranco-do-Ve**	13.30	85	*e*S	Sn	17 26 01.6	-15
PBDV				A		17 26 20.5	
PBDV	comp=Z,9.1nm,0.5s			*e*T		17 35 56.8	
PBEJ	**Beja**	13.31	81	*e*P	Pn	17 23 43.1	-5.4
PBEJ				*e*S	Sn	17 26 00.3	-16
PBEJ				A		17 26 29.0	
PBEJ	comp=Z,12nm,0.2s			*e*T		17 35 48.9	
PVAQ	**Vaqueiros**	13.46	84	*e*S	Sn	17 26 04.9	-15
PVAQ				A		17 26 08.3	
PVAQ	comp=Z,10nm,0.7s			*e*T		17 35 59.5	
PVIS	**Viseu**	13.48	70	*e*P	Pn	17 23 44.2	-6.6
PVIS				*e*S	Sn	17 26 03.2	-17
PVIS				A		17 26 20.5	
PVIS	comp=Z,5.6nm,0.5s			*e*T		17 35 52.3	
PESTR	**Estremoz**	13.53	78	*e*S	Sn	17 26 05.8	-16
PESTR				A		17 26 20.7	
STS	comp=Z,6.1nm,0.5s **Santiago**	13.55	60	P	Pn	17 23 44.2	-7.6
STS				pmax	pmax		
STS	comp=Z,7.0nm,0.3s **Santiago**	13.55	60	P	Pn	17 23 44.2	-7.6
STS	comp=Z,7.1nm,0.3s **Santiago**	13.55	60	P	Pn	17 23 44.2	-7.6
PCAB	comp=Z,7.1nm,0.3s **Cabril**	13.59	66	*e*P	Pn	17 23 45.7	-6.6
PCAB				*e*S	Sn	17 26 05.3	-18
PCAB				A		17 26 21.4	
PCAB	comp=Z,8.4nm,0.3s			*e*T		17 36 07.1	
ELOB	**Lobios** comp=Z,30nm,0.7s	13.60	65	P	Pn	17 23 45.2	-7.3
ELOB				S	Sn	17 26 04.3	-19
ELOB	**Lobios** comp=Z,30nm,0.7s	13.60	65	P	Pn	17 23 45.2	-7.3
ELOB				S	Sn	17 26 04.3	-19
EGRO	**El Granado** comp=Z,2.7nm,0.3s	13.64	83	P	Pn	17 23 47.9	-5.1
EGRO				S	Sn	17 26 08.1	-16
EGRO	**El Granado** comp=Z,2.7nm,0.3s	13.64	83	P	Pn	17 23 47.9	-5.1
EGRO				S	Sn	17 26 08.1	-16
PCBR	**Castelo Branco**	13.68	74	*e*P	Pn	17 23 47.1	-6.5
PCBR				*e*S	Sn	17 26 09.1	-16
PCBR				A		17 26 14.3	
PCBR	comp=Z,5.4nm,0.5s			*e*T		17 35 45.4	
MTE	**Manteigas**	13.70	71	*e*P	Pn	17 23 48.7	-5.1
MTE				*e*S	Sn	17 26 09.2	-17
MTE				*e*T		17 36 05.3	
MTE	**Manteigas** comp=Z,22nm,0.9s	13.70	71	*e*Pn	Pn	17 23 46.3	-7.4
MTE				*e*Sn	Sn	17 26 06.4	-20
PMRV	**Marv??o**	13.71	75	*e*P	Pn	17 23 47.6	-6.4
PMRV				*e*S	Sn	17 26 09.7	-17
PMRV				A		17 26 16.4	
PMRV	comp=Z,8.2nm,0.7s						
PBAR	**Barrancos**	13.96	81	*e*P	Pn	17 23 51.5	-5.9
PBAR				*e*S	Sn	17 26 16.0	-16
PBAR				A		17 26 18.8	
PBAR	comp=Z,6.8nm,0.8s			*e*T		17 35 47.8	
EBAD	**Badajoz** comp=Z,4.9nm,0.7s	13.98	78	P	Pn	17 23 53.5	-4.1
EBAD				S	Sn	17 26 14.4	-18
EBAD	**Badajoz** comp=Z,4.9nm,0.7s	13.98	78	P	Pn	17 23 53.5	-4.2
EBAD				S	Sn	17 26 14.4	-18
MVO	**Moncorvo**	14.21	68	*e*P	Pn	17 23 54.3	-6.4
MVO				*e*S	Sn	17 26 20.4	-18
MVO				A		17 26 28.1	
MVO	comp=Z,9.5nm,0.6s			*e*T		17 36 14.7	
EMIN	**Mina Concepcio** comp=Z,7.8nm,0.9s	14.27	82	P	Pn	17 23 55.1	-6.5
EMIN				S	Sn	17 26 21.1	-19
EMIN	**Mina Concepcio** comp=Z,7.8nm,0.9s	14.27	82	P	Pn	17 23 55.1	-6.5
EMIN				S	Sn	17 26 21.1	-19
PBRG	**Braganca**	14.54	66	*e*P	Pn	17 23 58.5	-6.8
PBRG				*e*S	Sn	17 26 28.8	-18
ECAL	**Calabor** comp=Z,1.6nm,0.3s	14.58	66	P	Pn	17 23 57.8	-8.0
ECAL				S	Sn	17 26 25.8	-22
ECAL	**Calabor** comp=Z,1.6nm,0.3s	14.58	66	P	Pn	17 23 57.8	-8.0
ECAL				S	Sn	17 26 25.8	-22
EPON	**Pontenova** comp=Z,2.2nm,0.5s	14.67	60	P	Pn	17 24 04.1	-2.9
EPON				S	Sn	17 26 28.2	-21
EPON	**Pontenova** comp=Z,2.2nm,0.5s	14.67	60	P	Pn	17 24 04.1	-2.9
EPON				S	Sn	17 26 28.2	-21
ESPR	**Espera** comp=Z,0.5nm,0.2s	14.99	86	P	Pn	17 24 09.2	-2.3
ECAB	**El Cabril** comp=Z,5.3nm,0.6s	15.24	81	P	Pn	17 24 08.9	-5.9
ECAB				S	Sn	17 26 44.5	-19
ECAB	**El Cabril** comp=Z,5.3nm,

GUD Guadarrama 16.29 72 P Pn 17 24 22.7 -5.7
comp=Z,2.3nm,0.6s
GUD S Sn 17 27 08.1 -21
ELOJ Sierra Loja 16.32 84 P Pn 17 24 30.6 +1.9
ELOJ pmax pmax
comp=Z,1.0nm,0.1s
ELOJ Sierra Loja 16.32 84 P Pn 17 24 30.6 +1.9
comp=Z,1.1nm,0.1s
ELOJ Sierra Loja 16.32 84 P Pn 17 24 30.6 +1.9
comp=Z,1.1nm,0.1s
ESDC Sonseca Array 16.37 75 Pn Pn 17 24 23.8 -5.6
comp=Z,1.4nm,0.3s,baz=273,slow=13,SNR=14
ESDC Sn Sn 17 27 14.2 -17
comp=Z,0.5nm,0.3s,baz=313,slow=24,SNR=3.2
ESDC LR LR 17 29 54.3
comp=Z,199nm,18.5s,baz=260,slow=34
MDT Midelt 16.96 99 Pn Pn 17 24 36.7 -0.2
comp=Z,0.4nm,0.3s,baz=296,slow=13,SNR=12
MDT Sn Sn 17 27 27.5 -18
comp=Z,0.1nm,0.3s,baz=356,slow=19,SNR=2.4
MDT LR LR 17 30 15.8
comp=Z,190nm,18.1s,baz=208,slow=34
EQES Quesada 17.11 81 P Pn 17 24 42.8 +4.0
comp=Z,4.4nm,0.5s
EQES Quesada 17.11 81 P Pn 17 24 42.8 +4.1
comp=Z,4.4nm,0.5s
ELAN Lanestosa 17.25 63 P Pn 17 24 36.5 -3.9
comp=Z,119nm,1.1s
ETOR Torete 17.90 71 P Pn 17 24 44.6 -3.9
ETOR pmax pmax
comp=Z,5.0nm,0.4s
ETOR Torete 17.90 71 P Pn 17 24 44.5 -3.9
comp=Z,5.3nm,0.4s
ETOB Tobarra 18.26 78 P Pn 17 24 55.3 +2.4
comp=Z,14nm,0.8s
ETOB Tobarra 18.26 78 P Pn 17 24 55.3 +2.3
comp=Z,14nm,0.8s
SJPF Ste Jean 18.81 64⇑*i*P Pn 17 25 00.1 +0.5
comp=Z,21nm,0.9s
SJPF Ste Jean 18.81 64⇑*i*P Pn 17 25 00.1 +0.5
SJPF pmax pmax
comp=Z,10.0nm,0.9s
SJPF Ste Jean 18.81 64⇑*i*P Pn 17 25 00.1 +0.5
comp=Z,10nm,0.9s
QUIF Quistinic 19.03 49 *e*P Pn 17 25 01.7 -0.5
comp=Z,24nm,0.8s
QUIF Quistinic 19.03 49 *e*P Pn 17 25 01.7 -0.5
QUIF pmax pmax
comp=Z,12nm,0.8s
QUIF Quistinic 19.03 49 *e*P Pn 17 25 01.7 -0.5
comp=Z,12nm,0.8s
ROSF Rostrenen 19.15 48⇑*i*P Pn 17 25 03.3 -0.5
comp=Z,23nm,0.8s
ROSF Rostrenen 19.15 48⇑*i*P Pn 17 25 03.3 -0.5
ROSF pmax pmax
comp=Z,12nm,0.8s
ROSF Rostrenen 19.15 48⇑*i*P Pn 17 25 03.3 -0.5
comp=Z,12nm,0.8s
ETSF Etsaut 19.25 65⇑*i*P Pn 17 25 04.6 -0.4
comp=Z,25nm,0.9s
ETSF Etsaut 19.25 65⇑*i*P Pn 17 25 04.6 -0.4
ETSF pmax pmax
comp=Z,13nm,0.9s
ETSF Etsaut 19.25 65⇑*i*P Pn 17 25 04.6 -0.4
comp=Z,13nm,0.9s
SGMF Saint Gilles 19.54 49⇑*i*P Pn 17 25 07.7 -0.7
comp=Z,17nm,0.8s
SGMF Saint Gilles 19.54 49⇑*i*P Pn 17 25 07.7 -0.7
SGMF pmax pmax
comp=Z,9.0nm,0.8s
SGMF Saint Gilles 19.54 49⇑*i*P Pn 17 25 07.7 -0.7
comp=Z,8.7nm,0.8s
ERTA Horta de San J 19.71 71 P Pn 17 25 12.6 +2.1
comp=Z,14nm,0.9s
ERTA Horta de San J 19.71 71 P Pn 17 25 12.7 +2.2
comp=Z,14nm,0.9s
EBIE Bielsa 19.73 66 P Pn 17 25 09.9 -0.8
comp=Z,3.6nm,0.5s
EBIE Bielsa 19.73 66 P Pn 17 25 09.9 -0.8
comp=Z,3.6nm,0.5s
EPF Esparros 19.92 65 *e*P Pn 17 25 11.9 -1.1
comp=Z,50nm,1.1s
EPF Esparros 19.92 65 *e*P Pn 17 25 11.9 -1.1
EPF pmax pmax
comp=Z,25nm,1.1s
EPF Esparros 19.92 65 *e*P Pn 17 25 11.9 -1.1
comp=Z,25nm,1.1s
EPOB Poblet 20.30 70 P P 17 25 17.0 +1.6
comp=Z,25nm,0.8s
MFF Saint Martin d 20.43 55⇑*i*P P 17 25 17.6 +0.8
comp=Z,324nm,1.1s
MFF Saint Martin d 20.43 55⇑*i*P P 17 25 17.6 +0.8
MFF pmax pmax
comp=Z,162nm,1.1s
MFF Saint Martin d 20.43 55⇑*i*P P 17 25 17.6 +0.8
comp=Z,162nm,1.1s
DSB Dublin 20.46 33 P P 17 25 13.4 -3.7
comp=Z,21nm,1.2s
LFF La Frestale 20.57 60⇑*i*P P 17 25 19.2 +0.9
comp=Z,263nm,0.8s
LFF La Frestale 20.57 60⇑*i*P P 17 25 19.2 +0.9
LFF pmax pmax
comp=Z,132nm,0.8s
LFF La Frestale 20.57 60⇑*i*P P 17 25 19.2 +0.9
comp=Z,132nm,0.8s
GRR Gorron 20.63 50⇑*i*P P 17 25 20.1 +1.2
comp=Z,344nm,1.0s
GRR Gorron 20.63 50⇑*i*P P 17 25 20.1 +1.2
GRR pmax pmax
comp=Z,172nm,1.0s
GRR Gorron 20.63 50⇑*i*P P 17 25 20.1 +1.2
comp=Z,172nm,1.0s
EMIR Miracle 20.67 69 P P 17 25 20.8 +1.4
comp=Z,23nm,0.8s
EMIR Miracle 20.67 69 P P 17 25 20.8 +1.3
comp=Z,23nm,0.8s
EANR 'Ain N'Sour 20.68 86 P P 17 25 22.0 +2.4
ETRT Tiaret 20.95 87 P P 17 25 25.0 +2.4
EBNR Beni Rached 20.96 85 P P 17 25 31.0 +8.4
FLN La Foliniere 21.01 49⇑*i*P P 17 25 23.8 +0.7
comp=Z,79nm,0.9s,mb4.8
FLN *e*MLR MLR
comp=Z,253nm,20.2s
FLN La Foliniere 21.01 49⇑*i*P P 17 25 23.8 +0.7
FLN pmax pmax
comp=Z,40nm,0.9s,mb4.8
FLN MLR MLR
comp=Z,250nm,20.3s,MS3.6
FLN La Foliniere 21.01 49⇑*i*P P 17 25 23.8 +0.7
comp=Z,40nm,0.9s,mb4.7
FLN LR LR
comp=Z,250nm,20.3s,MS3.6
HGH Gray Hill 21.12 40 *e*P P 17 25 24.6 +0.3
HTR Trewern Hill 21.15 39 *e*P P 17 25 24.8 +0.2
YRE Yr Eifl 21.15 35 *e*P P 17 25 25.6 +1.1
LDF La Druitiere 21.16 50⇑*i*P P 17 25 25.2 +0.5
comp=Z,143nm,1.2s,mb4.9
LDF La Druitiere 21.16 50⇑*i*P P 17 25 25.2 +0.5
LDF pmax pmax
comp=Z,72nm,1.2s,mb4.9
LDF La Druitiere 21.16 50⇑*i*P P 17 25 25.2 +0.5
comp=Z,72nm,1.2s,mb4.9
RJF Les Rejaudoux 21.19 59⇑*i*P P 17 25 24.9 -0.1
comp=Z,81nm,1.2s,mb4.6
RJF *e*MLR MLR
comp=Z,337nm,17.2s,MS3.5
RJF Les Rejaudoux 21.19 59⇑*i*P P 17 25 24.9 -0.1
RJF pmax pmax
comp=Z,41nm,1.2s,mb4.6
RJF MLR MLR
comp=Z,340nm,17.3s,MS3.8
RJF Les Rejaudoux 21.19 59⇑*i*P P 17 25 24.9 -0.1
comp=Z,40nm,1.2s,mb4.6
RJF LR LR
comp=Z,340nm,17.3s,MS3.8
YRC Rhoscolyn 21.26 35 *e*P P 17 25 26.9 +1.2
MTLF Montolieu 21.33 65⇑*i*P P 17 25 26.5 0.0
comp=Z,50nm,1.4s,mb4.3
MTLF Montolieu 21.33 65⇑*i*P P 17 25 26.5 0.0
MTLF pmax pmax
comp=Z,25nm,1.4s,mb4.3
MTLF Montolieu 21.33 65⇑*i*P P 17 25 26.5 0.0
comp=Z,25nm,1.4s,mb4.3
YLL Llanberis 21.37 35 *e*P P 17 25 28.1 +1.2
WME Myndd Eilian 21.48 35 *e*P P 17 25 28.3 +0.2
CAF Calviac 21.48 61⇑*i*P P 17 25 28.5 +0.3
comp=Z,180nm,1.0s,mb5.1
CAF Calviac 21.48 61⇑*i*P P 17 25 28.5 +0.3
CAF pmax pmax
comp=Z,90nm,1.0s,mb5.0
CAF Calviac 21.48 61⇑*i*P P 17 25 28.5 +0.3
comp=Z,90nm,1.0s,mb5.1
HAE Alders End 21.48 39 *e*P P 17 25 28.0 -0.1
WPM1 Penmaenmawr 21.57 35 *e*P P 17 25 29.8 +0.7
SBD1 Bryn Du 21.65 37 *e*P P 17 25 29.7 -0.2
WIM Isle of Man 21.82 33 *e*P P 17 25 32.2 +0.5
TCF Toulx Ste Croi 21.90 57 *e*P P 17 25 33.4 +0.8
comp=Z,126nm,1.1s,mb5.0
TCF Toulx Ste Croi 21.90 57 *e*P P 17 25 33.4 +0.8
TCF pmax pmax
comp=Z,63nm,1.1s,mb5.0
TCF Toulx Ste Croi 21.90 57 *e*P P 17 25 33.4 +0.8
comp=Z,63nm,1.1s,mb5.0
EMHD Djebel Mahouad 22.11 84 P P 17 25 36.0 +1.0
GAL1 Galloway 22.30 31 *e*P P 17 25 37.5 +0.7
GAL1 AMb AMB 17 25 43.4
comp=Z,43nm,1.3s,mb4.7
BGF Bois d'Agland 22.39 57 *e*P P 17 25 37.7 -0.2
comp=Z,50nm,0.8s,mb4.7
BGF Bois d'Agland 22.39 57 *e*P P 17 25 37.7 -0.2
BGF pmax pmax
comp=Z,25nm,0.8s,mb4.7
BGF Bois d'Agland 22.39 57 *e*P P 17 25 37.7 -0.2
comp=Z,25nm,0.8s,mb4.7
KWE Weaver Farm 22.40 38 *e*P P 17 25 36.3 -1.6
LASF Ste Croix 22.60 63⇑*i*P P 17 25 40.7 +0.5
comp=Z,70nm,1.1s,mb4.7
LASF Ste Croix 22.60 63⇑*i*P P 17 25 40.7 +0.5
comp=Z,35nm,1.1s,mb4.7
AVF Avril sur Loir 22.79 56 *e*P P 17 25 42.2 +0.1
comp=Z,35nm,1.0s,mb4.4
AVF Avril sur Loir 22.79 56 *e*P P 17 25 42.2 +0.1
AVF pmax pmax
comp=Z,18nm,1.0s,mb4.5
AVF Avril sur Loir 22.79 56 *e*P P 17 25 42.2 +0.1
comp=Z,18nm,1.0s,mb4.4
SSF Saint Saulge 22.96 56 *e*P P 17 25 43.4 -0.5
comp=Z,79nm,1.1s,mb4.8
SSF Saint Saulge 22.96 56 *e*P P 17 25 43.4 -0.5
SSF pmax pmax
comp=Z,39nm,1.1s,mb4.8
SSF Saint Saulge 22.96 56 *e*P P 17 25 43.4 -0.5
comp=Z,39nm,1.1s,mb4.8
SMF Signal de Mont 23.08 57 *e*P P 17 25 45.0 -0.2
comp=Z,152nm,1.2s,mb5.0
SMF Signal de Mont 23.08 57 *e*P P 17 25 45.0 -0.2
SMF pmax pmax
comp=Z,76nm,1.2s,mb5.0
SMF Signal de Mont 23.08 57 *e*P P 17 25 45.0 -0.2
comp=Z,76nm,1.2s,mb5.0
ECK Cauldkaine Hil 23.18 32 *e*P P 17 25 45.6 -0.5
ESK Eskdalemuir 23.24 32 *e*P P 17 25 46.2 -0.6
ESK AMb AMB 17 25 48.5
comp=Z,30nm,1.7s,mb4.4
ESK Eskdalemuir 23.24 32 *e*P P 17 25 46.3 -0.5
ESK pmax pmax
comp=Z,25nm,1.1s,mb4.6
ESK Eskdalemuir 23.24 32 *e*P P 17 25 46.3 -0.5
comp=Z,26nm,1.1s,mb4.6
ESK Eskdalemuir 23.24 32 *e*P P 17 25 46.3 -0.5
comp=Z,26nm,1.1s,mb4.6
LOR Lormes 23.25 55 *e*P P 17 25 46.5 -0.5
comp=Z,79nm,1.3s,mb4.7
LOR *e*MLR MLR
comp=Z,219nm,22.0s
LOR Lormes 23.25 55 *e*P P 17 25 46.5 -0.5
LOR pmax pmax
comp=Z,40nm,1.3s,mb4.7
LOR MLR MLR
comp=Z,220nm,22.0s,MS3.6
LOR Lormes 23.25 55 *e*P P 17 25 46.5 -0.5
comp=Z,40nm,1.3s,mb4.7
LOR LR LR
comp=Z,220nm,22.0s,MS3.6
EKA Eskdalemuir Ar 23.27 32 P P 17 25 45.9 -1.2
comp=Z,7.7nm,0.8s,mb4.2,baz=230,slow=9.2,SNR=23
EKA Eskdalemuir Ar 23.27 32 P P 17 25 45.8 -1.3
SSB Saint Sauveur 23.27 61 *e*P P 17 25 47.6 +0.3
SSB *e* 17 25 55.1
VIVF Saint-Julien-l 23.30 62⇑*i*P P 17 25 48.2 +0.7
comp=Z,66nm,0.9s,mb4.7
VIVF Saint-Julien-l 23.30 62⇑*i*P P 17 25 48.2 +0.7
VIVF pmax pmax
comp=Z,33nm,0.9s,mb4.8
VIVF Saint-Julien-l 23.30 62⇑*i*P P 17 25 48.2 +0.7
comp=Z,33nm,0.9s,mb4.7
XAL Allendale 23.36 34 *e*P P 17 25 46.8 -1.3
BBTS Babate 23.57 160 P P 17 25 51.9 +1.3
comp=Z,11nm,0.4s,mb4.6,baz=214,slow=1.8,SNR=3.6
BBTS LR LR 17 32 59.8
comp=Z,75nm,19.6s,baz=175,slow=31
XSO Sourhope Farm 23.76 33 *e*P P 17 25 51.2 -0.7
SMRF Simiane la Rot 23.82 64⇑*i*P P 17 25 53.7 +1.1
comp=Z,47nm,1.0s,mb4.5
SMRF Simiane la Rot 23.82 64⇑*i*P P 17 25 53.7 +1.1
comp=Z,23nm,1.0s,mb4.5
ORIF Oris-en-Rattie 24.15 62⇑*i*P P 17 25 57.9 +2.2
comp=Z,81nm,1.1s,mb4.8
ORIF *e*MLR MLR
comp=Z,299nm,22.5s,MS3.4
ORIF Oris-en-Rattie 24.15 62⇑*i*P P 17 25 57.9 +2.2
ORIF pmax pmax
comp=Z,40nm,1.1s,mb4.8
ORIF Oris-en-Rattie 24.15 62⇑*i*P P 17 25 57.9 +2.2
comp=Z,40nm,1.1s,mb4.8
MDO Dochfour 24.29 27 *e*P P 17 25 55.7 -1.1
BAIF Baives 24.34 49 *e*P P 17 25 56.7 -0.6
comp=Z,42nm,0.8s,mb4.6
BAIF Baives 24.34 49 *e*P P 17 25 56.7 -0.6
BAIF pmax pmax
comp=Z,21nm,0.8s,mb4.6
BAIF Baives 24.34 49 *e*P P 17 25 56.7 -0.6
comp=Z,21nm,0.8s,mb4.6
MEZF Maizieres J'vi 24.36 53⇑*i*P P 17 25 57.6 +0.1
comp=Z,38nm,1.0s,mb4.5
MEZF Maizieres J'vi 24.36 53⇑*i*P P 17 25 57.6 +0.1
comp=Z,38nm,1.0s,mb4.8
FRF La Foret Royal 24.56 65 *e*P P 17 26 00.0 +0.6
CABF La Chapelle 24.58 58 *e*P P 17 26 00.1 +0.6
comp=Z,115nm,1.8s,mb4.8
CABF La Chapelle 24.58 58 *e*P P 17 26 00.1 +0.6
CABF pmax pmax
comp=Z,58nm,1.8s,mb4.8
CABF La Chapelle 24.58 58 *e*P P 17 26 00.1 +0.6
comp=Z,58nm,1.8s,mb4.8
DOU Dourbes 24.58 49 P P 17 25 59.4 -0.1
comp=Z,8.3nm,0.9s,mb4.3
UCC Uccle 24.70 47 P P 17 26 00.4 -0.2
comp=Z,36nm,1.1s,mb4.8
GIVF Givet 24.72 49 *e*P P 17 26 00.7 -0.1
comp=Z,118nm,1.1s,mb5.0
GIVF Givet 24.72 49 *e*P P 17 26 00.7 -0.1
GIVF pmax pmax
comp=Z,59nm,1.1s,mb5.0
GIVF Givet 24.72 49 *e*P P 17 26 00.7 -0.1
comp=Z,59nm,1.1s,mb5.0
BNI Bardonecchia 24.73 62 *e*P P 17 26 02.7 +1.8
BNI pmax pmax
comp=Z,16nm,1.9s,mb4.2
BNI Bardonecchia 24.73 62 *e*P P 17 26 02.7 +1.8
comp=Z,16nm,1.9s,mb4.2
MBDF Montbardon 24.76 62 *e*P P 17 26 03.0 +1.8
comp=Z,14nm,0.8s,mb4.2
MBDF Montbardon 24.76 62 *e*P P 17 26 03.0 +1.8
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
MBDF Montbardon 24.76 62 *e*P P 17 26 03.0 +1.8
comp=Z,7.1nm,0.8s,mb4.2
MCD Coleburn Disti 24.80 28 *e*P P 17 26 01.2 -0.2
LPL La Plagne 24.84 61 *e*P P 17 26 03.6 +1.7
comp=Z,50nm,1.1s,mb4.6
LPL La Plagne 24.84 61 *e*P P 17 26 03.6 +1.7
LPL pmax pmax
comp=Z,25nm,1.1s,mb4.7
LPL La Plagne 24.84 61 *e*P P 17 26 03.6 +1.7
comp=Z,25nm,1.1s,mb4.7
LPG La Plagne 24.84 61 *e*P P 17 26 03.1 +1.1
comp=Z,63nm,1.3s,mb4.7
LPG La Plagne 24.84 61 *e*P P 17 26 03.1 +1.1
LPG pmax pmax
comp=Z,32nm,1.3s,mb4.7
LPG La Plagne 24.84 61 *e*P P 17 26 03.1 +1.1
comp=Z,32nm,1.3s,mb4.7
HAU Haudompre 25.06 55 *e*P P 17 26 03.7 -0.2
comp=Z,15nm,0.8s,mb4.3
HAU *e*MLR MLR
comp=Z,172nm,19.8s
HAU Haudompre 25.06 55 *e*P P 17 26 03.7 -0.2
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
HAU MLR MLR
comp=Z,170nm,19.8s,MS3.6
HAU Haudompre 25.06 55 *e*P P 17 26 03.7 -0.2
comp=Z,7.4nm,0.8s,mb4.3
HAU LR LR
comp=Z,170nm,19.8s,MS3.6
BCLA Clavier 25.12 49 P P 17 26 04.0 -0.4
comp=Z,19nm,1.8s,mb4.3
SBF Sospel 25.15 65 *e*P P 17 26 05.7 +0.9
comp=Z,81nm,1.0s,mb4.9
SBF Sospel 25.15 65 *e*P P 17 26 05.7 +0.9
SBF pmax pmax
comp=Z,41nm,1.0s,mb4.9
SBF Sospel 25.15 65 *e*P P 17 26 05.7 +0.9
comp=Z,41nm,1.0s,mb4.9
HINF Hinteralfeld 25.35 55 *e*P P 17 26 06.6 +0.1
comp=Z,31nm,1.1s,mb4.4
HINF Hinteralfeld 25.35 55 *e*P P 17 26 06.6 +0.1
HINF pmax pmax
comp=Z,16nm,1.1s,mb4.5
HINF Hinteralfeld 25.35 55 *e*P P 17 26 06.6 +0.1
comp=Z,16nm,1.1s,mb4.5
WLF Walferdange 25.39 51 P P 17 26 07.0 +0.1
comp=Z,34nm,1.4s,mb4.7
WLF Walferdange 25.39 51 *e*P P 17 26 06.7 -0.2
WLF pmax pmax
comp=Z,38nm,0.8s,mb5.0
WLF Walferdange 25.39 51 *e*P P 17 26 07.0 +0.1
comp=Z,50nm,0.8s,mb5.1
WLF Walferdange 25.39 51 *e*P P 17 26 06.7 -0.2
comp=Z,38nm,0.8s,mb5.1
BEBN Eben Emael 25.48 48 P P 17 26 09.2 +1.5
comp=Z,12nm,1.5s,mb4.2
MEM Membach 25.61 49 P P 17 26 09.5 +0.7
comp=Z,16nm,1.6s,mb4.3
HGN Heimansgroeve 25.61 48 *e*P P 17 26 09.8 +0.9
comp=Z,23nm,2.1s,mb4.3
HGN Heimansgroeve 25.61 48 *e*S S 17 30 39.8 +2.9
ECH Echery 25.64 54 *e*P P 17 26 08.7 -0.5
CDF Champ du Feu 25.76 54 *e*P P 17 26 10.3 0.0
comp=Z,31nm,1.0s,mb4.5
CDF Champ du Feu 25.76 54 *e*P P 17 26 10.3 0.0
CDF pmax pmax
comp=Z,16nm,1.0s,mb4.5
CDF Champ du Feu 25.76 54 *e*P P 17 26 10.3 0.0
comp=Z,16nm,1.0s,mb4.5
BFO Black Forest 26.43 55 *e*P P 17 26 15.9 -0.4
BFO pmax pmax
comp=Z,23nm,1.3s,mb4.5
BFO Black Forest 26.43 55 *e*P P 17 26 15.9 -0.4
comp=Z,23nm,1.3s,mb4.5
WTSB Winterswijk 26.55 46 *e*P P 17 26 17.6 +0.2
TUE Stuetta 26.77 59 *e*P P 17 26 18.5 -0.9
comp=Z,20nm,1.4s,mb4.4
TNS Taunus Mts 26.97 51 *e*P P 17 26 21.8 +0.6
TNS pmax pmax
comp=Z,38nm,1.6s,mb4.7
TNS Taunus Mts 26.97 51 *e*P P 17 26 21.8 +0.6
comp=Z,38nm,1.6s,mb4.7
STU Stuttgart 27.09 54 *e*P P 17 26 22.0 -0.2
STU pmax pmax
comp=Z,28nm,1.0s,mb4.8
STU Stuttgart 27.09 54 *e*P P 17 26 22.2 0.0
comp=Z,18nm,0.6s,mb4.8
STU Stuttgart 27.09 54 *e*P P 17 26 22.0 -0.2
comp=Z,28nm,1.0s,mb4.8
DAVOX Davos/Dischmat 27.18 58 P P 17 26 24.5 +1.4
comp=Z,4.2nm,0.8s,mb4.0,baz=198,slow=14,SNR=7.6
DAVOX LR LR 17 36 29.1
comp=Z,182nm,18.2s,MS3.7,baz=267,slow=35
IBBN Ibbenburen 27.22 46 *e*P P 17 26 23.3 -0.1
comp=Z,17nm,0.9s,mb4.6
KEST Kesra 27.27 83 P P 17 26 23.6 -0.4
comp=Z,0.9nm,0.6s,mb3.5,baz=180,slow=1.0,SNR=3.1
UBBA Unterbreizbach 28.09 50 *e*P P 17 26 31.5 +0.3
comp=Z,6.0nm,1.1s,mb4.1
GRA1 Grafenberg Arr 28.58 53 *e*P P 17 26 35.9 +0.3
comp=Z,16nm,0.7s,mb4.9
GRA1 *e*pP pP 17 26 40.0 +1.4
GRF Grafenberg Arr 28.58 53 *e*P P 17 26 35.9 +0.3
GRF *e**PP pP 17 26 40.0 +1.4
GRF pmax pmax
comp=Z,16nm,0.7s,mb4.9
GRF Grafenberg Arr 28.58 53 *e*P P 17 26 35.9 +0.3
GRF *e**PP pP 17 26 40.0 +1.4
GRF pmax pmax
comp=Z,16nm,0.7s,mb4.9
GRF Grafenberg Arr 28.58 53 *e*P P 17 26 35.9 +0.3
comp=Z,16nm,0.7s,mb4.9
GRF *e*pP pP 17 26 40.0 +1.4
CLZ Clausthal 28.60 48 *e*P P 17 26 36.2 +0.5
CLZ pmax pmax
comp=Z,13nm,1.4s,mb4.5
CLZ Clausthal 28.60 48 *e*P P 17 26 36.2 +0.5
comp=Z,13nm,1.4s,mb4.5
MOX Moxa 29.04 51 *e*P P 17 26 39.9 +0.3
comp=Z,6.0nm,1.0s,mb4.3
MANZ Manzenberg 29.20 52 *e*P P 17 26 41.0 -0.1
comp=Z,4.0nm,1.0s,mb4.1
ROTZ Rotzenmuhle 29.22 53 *e*P P 17 26 41.0 -0.3
comp=Z,6.0nm,1.2s,mb4.2
NKC Novy Kostel 29.47 52 *e*P P 17 26 44.0 +0.6
NKC AMS AMS 17 37 30.0
comp=Z,200nm,9.5s
AQU L'Aquila 29.50 68 *e*P P 17 26 44.9 +1.1
AQU pmax pmax
comp=Z,33nm,1.0s,mb5.0
AQU L'Aquila 29.50 68 *e*P P 17 26 44.9 +1.1
comp=Z,33nm,1.0s,mb5.0
WET Wettzell 29.54 54 *e*P P 17 26 43.7 -0.4
WET pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
WET Wettzell 29.54 54 *e*P P 17 26 43.7 -0.4
comp=Z,6.0nm,1.2s,mb4.2
KHC Kasperske Hory 29.99 54 *e*P P 17 26 47.9 -0.2
KHC AMS AMS 17 38 00.0
comp=Z,100nm,12.6s
GEC2 GERESS Array S 30.03 55 *e*P P 17 26 48.3 -0.1
GEC2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
GEC2 GERESS Array S 30.03 55 *e*P P 17 26 48.3 -0.1
comp=Z,3.0nm,1.0s,mb4.0
GERES GERESS Array B 30.03 55 P P 17 26 48.7 +0.3
comp=Z,1.4nm,0.7s,mb3.8,baz=269,slow=6.7,SNR=12
GERES LR LR 17 37 35.0
comp=Z,60nm,18.7s,baz=280,slow=34
CLL Collm 30.05 50 *i*P P 17 26 48.1 -0.4
CLL *e* 17 26 53.0
CLL pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
CLL MLR MLR
comp=Z,300nm,17.7s,MS4.0
CLL Collm 30.05 50 *e*P P 17 26 48.0 -0.5
comp=Z,3.0nm,0.8s,mb4.1
CLL Collm 30.05 50 *i*P P 17 26 48.1 -0.4
comp=Z,3.0nm,0.8s,mb4.1
CLL *es*P sP 17 26 53.0 +0.1
CLL Collm 30.05 50 *i*P P 17 26 48.1 -0.4
comp=Z,3.0nm,0.8s,mb4.1
CLL *e* 17 26 53.0
CLL LR LR
comp=Z,300nm,17.7s,MS4.0
BRG Berggiesshubel 30.53 51 *e*P P 17 26 53.2 +0.4
comp=Z,5.0nm,0.9s,mb4.3
BRG Berggiesshubel 30.53 51 *e*P P 17 26 53.0 +0.2
comp=Z,5.0nm,0.8s,mb4.4
BRG
comp=N,95nm,12.2s
BRG
comp=E,140nm,20.0s
BRG
comp=Z,180nm,17.3s
PRU Pruhonice 30.75 53 *e*P P 17 26 57.6 +2.8
PRU AMS AMS 17 40 30.0
comp=Z,100nm,16.3s
RUE Ruedersdorf 30.79 48 P P 17 26 54.4 -0.7
comp=Z,30nm,0.9s,mb5.1
PVCC Panska Ves 30.86 52 *e*P P 17 26 56.5 +0.8
PVCC AMS AMS 17 38 20.0
comp=Z,200nm,14.2s

CUC Castrocucco 31.54 72 *eP* **P 17 27 01.8 -0.1**
comp=Z,16nm,0.8s,mb4.9
UPC Upice 31.76 52 *eP* **P 17 27 03.9 +0.2**
DPC Dobruska-Polom 31.93 53 *eP* **P 17 27 05.4 +0.2**
DPC AMS AMS 17 41 10.0
comp=Z,100nm,11.3s
MODS Modra-Piesok 32.33 56 *eP* **P 17 27 06.7 -2.0**
MORC Moravsky Berou 32.64 54 P **P 17 27 10.8 -0.6**
MORC pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
MORC Moravsky Berou 32.64 54 P **P 17 27 10.8 -0.6**
comp=Z,2.9nm,1.1s,mb4.1
NB2 NORSAR Subarra 32.76 32 P **P 17 27 12.3 0.0**
comp=Z,1.0nm,0.7s,mb3.9,baz=240,slow=9.3
NOA NORSAR Array B 32.76 32 P **P 17 27 12.3 +0.1**
comp=Z,2.4nm,0.9s,mb4.1,baz=240,slow=8.9,SNR=5.1
NOA LR LR 17 39 12.6
comp=Z,129nm,19.0s,MS3.6,baz=250,slow=34
TORD Torodi Ar. Bea 33.56 129 P **P 17 27 20.5 +0.7**
comp=Z,2.7nm,0.7s,mb4.3,baz=313,slow=9.3,SNR=14
SCHQ Schefferville 33.57 315 LR LR 17 37 45.0
comp=Z,92nm,21.6s,MS3.5,baz=74,slow=31
PSZ Piszkesteto 34.06 57 *eP* **P 17 27 23.2 -0.6**
PSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PSZ Piszkesteto 34.06 57 *eP* **P 17 27 23.2 -0.6**
comp=Z,4.3nm,0.8s,mb4.4
OJC Ojcow 34.13 53 *eP* **P 17 27 24.9 +0.5**
KECS Kecovo 34.47 56 *eP* **P 17 27 23.9 -3.5**
KECS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
KECS Kecovo 34.47 56 *eP* **P 17 27 23.9 -3.5**
comp=Z,3.1nm,1.2s,mb4.1
JMIC Jan Mayen 34.90 9 LR LR 17 37 06.8
comp=Z,32nm,19.9s,baz=36,slow=28
CRVS Cervenica-Dubn 35.13 56 *eP* **P 17 27 32.1 -1.0**
DBIC Dimbokro 35.32 144 P **P 17 27 36.3 +1.2**
comp=Z,4.4nm,0.8s,mb4.4,baz=270,slow=17,SNR=2.3
KOLS Kolonicke sedl 35.67 56 *eP* **P 17 27 34.8 -2.9**
SUW Suwalki 36.63 47 *eP* **P 17 27 45.8 0.0**
AKASG Malin Array Be 40.17 53 P **P 17 28 15.3 -0.3**
comp=Z,5.4nm,0.8s,mb4.3,baz=272,slow=7.9,SNR=18
ARCES ARCESS Array B 41.96 24 P **P 17 28 29.8 -0.4**
comp=Z,4.7nm,0.7s,mb4.2,baz=239,slow=8.3,SNR=16
ARCES LR LR 17 44 15.9
comp=Z,77nm,19.3s,MS3.6,baz=34,slow=34
ARCES ARCESS Array B 41.96 24 P **P 17 28 29.8 -0.4**
ARCES LR LR 17 44 15.9
OBN Obninsk 44.45 46⇑ *eP* **P 17 28 50.1 -0.4**
OBN *e* 17 30 32.8
OBN *i* S **S 17 35 26.9 +1.7**
OBN *i* SS SS 17 38 45.7 +1.8
OBN pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.8
OBN Obninsk 44.45 46 *eP* **P 17 28 50.1 -0.4**
comp=Z,10.0nm,0.7s,mb4.7
SWET Sewanee 48.74 287 P **P 17 29 20.7 -3.7**
EYMN Ely 48.97 305 *eP* **P 17 29 25.5 -0.4**
comp=Z,4.3nm,0.8s,mb4.5
EYMN Ely 48.97 305 *eP* **P 17 29 25.5 -0.4**
comp=Z,4.3nm,0.8s,mb4.5
MALT Malatya 48.98 68 *eP* **P 17 29 26.3 +0.1**
MALT pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MALT Malatya 48.98 68 *eP* **P 17 29 26.3 +0.1**
comp=Z,3.0nm,0.8s,mb4.4
MALT Malatya 48.98 68 *eP* **P 17 29 26.3 +0.1**
comp=Z,3.0nm,0.8s,mb4.4
SDV Santo Domingo 50.18 248 *eP* **P 17 29 37.7 +2.1**
comp=Z,17nm,0.8s,mb5.1
SDV Santo Domingo 50.18 248 *eP* **P 17 29 37.7 +2.1**
comp=Z,17nm,0.8s,mb5.1
PLAL Pickwick Lake 50.46 288 *eP* **P 17 29 38.9 +1.4**
comp=Z,7.5nm,0.8s,mb4.8
PLAL Pickwick Lake 50.46 288 *eP* **P 17 29 38.9 +1.4**
comp=Z,7.5nm,0.8s,mb4.8
ULM Lac du Bonnet 51.22 309 LR LR 17 49 35.5
comp=Z,102nm,18.7s,MS3.9,baz=115,slow=34
OXF Oxford 51.66 288 *eP* **P 17 29 47.1 +0.6**
OXF pmax pmax
comp=Z,18nm,0.5s,mb5.3
OXF Oxford 51.66 288 *eP* **P 17 29 47.1 +0.6**
comp=Z,18nm,0.5s,mb5.2
OXF Oxford 51.66 288 *eP* **P 17 29 47.1 +0.6**
comp=Z,18nm,0.5s,mb5.2
MIAR Mount Ida 54.79 289 *eP* **P 17 30 10.0 +0.4**
MIAR *e* 17 30 16.3
MIAR pmax pmax
comp=Z,29nm,1.4s,mb5.1
MIAR Mount Ida 54.79 289 *eP* **P 17 30 10.0 +0.4**
comp=Z,29nm,1.4s,mb5.1
MIAR Mount Ida 54.79 289 *eP* **P 17 30 10.0 +0.4**
comp=Z,29nm,1.4s,mb5.1
MIAR *e* 17 30 16.3
ROSC El Rosal 55.59 247 LR LR 17 50 24.4
comp=Z,78nm,18.5s,MS3.8,baz=22,slow=32
ARU Arti 56.41 41⇑ *eP* **P 17 30 21.8 +0.9**
ARU pmax pmax
comp=Z,13nm,1.3s,mb4.8
ARU Arti 56.41 41 *eP* **P 17 30 20.6 -0.3**
comp=Z,13nm,1.0s,mb4.9
BDFB Brasilia 56.99 207 P **P 17 30 27.1 +1.7**
comp=Z,2.2nm,0.7s,mb4.3,baz=24,slow=20,SNR=3.7
TEIG Tepich 57.34 272 LR LR 17 51 18.3
comp=Z,62nm,20.9s,MS3.7,baz=147,slow=32
AMTX Amarillo 60.68 293 P **P 17 30 55.7 +4.7**
comp=Z,8.2nm,1.0s,mb4.8
OTAV Otavalo 61.72 246 *eP* **P 17 31 00.1 +1.8**
comp=Z,7.3nm,0.8s,mb4.9
SDCO Great Sand Dun 62.14 298 *eP* **P 17 31 01.0 +0.1**
comp=Z,6.5nm,1.5s,mb4.5
PDAR Pinedale Array 62.67 304 P **P 17 31 05.5 +1.2**
comp=Z,1.2nm,0.7s,mb4.1,baz=75,slow=7.8,SNR=5.7
PDAR LR LR 17 56 12.1
comp=Z,79nm,19.8s,MS3.9,baz=253,slow=34
BRVK Borovoye 63.97 42 *eP* **P 17 31 12.7 0.0**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BRVK Borovoye 63.97 42 *eP* **P 17 31 12.7 -0.1**
comp=Z,4.4nm,0.8s,mb4.5
ANMO Albuquerque 64.12 295 LR LR 17 58 26.1
comp=Z,61nm,18.3s,MS3.8,baz=154,slow=35
ANMO Albuquerque 64.12 295⇑ *eP* **P 17 31 14.3 +0.2**
CMIG Matias Romero 64.30 272 LR LR 17 54 18.9
comp=Z,78nm,20.1s,MS3.9,baz=15,slow=31
TXAR Lajitas Array 64.79 289 P **P 17 31 20.1 +1.5**
comp=Z,5.3nm,0.7s,mb4.7,baz=74,slow=7.4,SNR=54
TXAR LR LR 17 59 22.9
comp=Z,53nm,18.0s,MS3.8,baz=5.0,slow=36
HLID Hailey 65.45 307 P **P 17 31 21.2 -1.3**
MSU Marysvale 66.42 301 *eP* **P 17 31 31.2 +2.3**
ATAH Atahualpa 66.70 241 LR LR 17 57 34.3
comp=Z,74nm,21.9s,MS3.9,baz=170,slow=33
LPAZ La Paz 67.15 226 P **P 17 31 35.8 +2.1**
comp=Z,0.9nm,0.6s,mb4.0,baz=211,slow=3.3,SNR=4.9
ELK Elko 67.36 305 LR LR 18 02 11.2
comp=Z,54nm,20.0s,MS3.8,baz=74,slow=37
NVS Novosibirsk 69.55 36 *eP* **P 17 31 46.7 -1.6**
KURK Kurchatov 69.61 41 *eP* **P 17 31 47.4 -1.3**
KURK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KURK Kurchatov 69.61 41 *eP* **P 17 31 47.4 -1.3**
comp=Z,4.3nm,1.0s,mb4.3
TIXI Tiksi 69.84 9 *eP* **P 17 31 49.8 0.0**
TIXI *e* pP 17 31 54.2 +1.2
TIXI pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
TIXI Tiksi 69.84 9 *eP* **P 17 31 50.1 +0.3**
comp=Z,6.1nm,1.0s,mb4.5
TIXI *e* 17 31 55.4
CPUP Villa Florida 70.28 211 P **P 17 31 53.1 +0.1**
comp=Z,2.7nm,0.6s,mb4.3,baz=0.6,slow=6.2,SNR=8.0
CPUP LR LR 17 59 32.5
comp=Z,122nm,18.2s,MS4.2,baz=159,slow=33
ZAL Zalesovo 70.82 36 P **P 17 31 56.0 -0.1**
ZAA0 Zalesovo Array 70.82 36 *eP* **P 17 31 56.0 -0.1**
ZALV Zalesovo Beam 70.82 36 P **P 17 31 56.0 -0.1**
comp=Z,2.8nm,0.7s,mb4.3,baz=308,slow=6.7,SNR=11
ZALV LR LR 18 03 00.2
comp=Z,44nm,18.7s,MS3.7,baz=356,slow=36
EKS2 Erkin-Say 71.31 50 *eP* **P 17 32 00.1 +0.8**
comp=Z,6.5nm,1.0s,mb4.5
LSZ Lusaka 72.05 126 P **P 17 32 10.9 +7.0**
LSZ pmax pmax
comp=Z,15nm,1.6s,mb4.7
LSZ Lusaka 72.05 126 P **P 17 32 10.9 +6.9**
comp=Z,15nm,1.6s,mb4.7
LPIG La Paz 72.58 287 LR LR 18 00 34.0
comp=Z,30nm,19.0s,MS3.6,baz=38,slow=33
MKAR Makanchi Array 73.87 43 P **P 17 32 14.8 +0.4**
comp=Z,1.4nm,0.9s,mb3.9,baz=292,slow=6.4,SNR=7.5
MKAR LR LR 18 05 17.3
comp=Z,115nm,18.2s,MS4.2,baz=330,slow=36
HVS Khovu-Aksy 76.77 35 *eP* **P 17 32 29.8 -1.2**
HVS pmax pmax
comp=Z,14nm,1.3s,mb4.7
WMQ Urumqi 78.70 43 P **P 17 32 42.7 +0.8**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
WMQ LR LR
comp=N,74nm,18.0s,MS4.2
WMQ LR LR
comp=E,67nm,22.0s,MS4.2
WMQ LR LR
comp=Z,96nm,22.0s,MS4.1
YAK Yakutsk 78.95 12 *eP* **P 17 32 42.7 -0.2**
YAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
YAK Yakutsk 78.95 12 *eP* **P 17 32 43.6 +0.7**
comp=Z,6.4nm,0.7s,mb4.7
YAK *e* 17 32 49.4
BOD Bodaibo 79.17 21 *eP* **P 17 32 43.7 -0.5**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MOY Mondy 79.55 31 *eP* **P 17 32 48.1 +1.7**
ZAK Zakamensk 81.46 31 *eP* **P 17 32 57.8 +1.1**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
SONM Songino Array 84.73 31 P **P 17 33 14.6 +0.9**
comp=Z,2.4nm,0.9s,mb4.3,baz=329,slow=5.2,SNR=13
PETK Petropavlovsk- 90.04 359 P **P 17 33 41.7 +2.5**
comp=Z,6.0nm,1.2s,mb4.8,baz=117,slow=5.2,SNR=3.9
PETK Petropavlovsk- 90.04 359 P **P 17 33 41.7 +2.5**
PETK pmax pmax
comp=Z,6.0nm,1.3s,mb4.8
HHC Hu-ho-hao-te 92.57 32 *eP* **P 17 33 49.6 -1.6**
HHC AP pP 17 33 52.8 -1.8
HHC PP PP 17 37 29.3 -2.4
HHC AMB AMB
comp=Z,17nm,0.6s,mb5.7
HHC AMB AMB
comp=Z,181nm,7.0s
HHC LR LR
comp=N,215nm,21.4s,MS4.7
HHC LR LR
comp=E,192nm,20.2s,MS4.7
HHC LR LR
comp=Z,184nm,21.4s,MS4.5
LZH Lanzhou 92.83 39 *eP* **P 17 33 49.0 -3.5**
LZH AP pP 17 33 53.8 -2.0
LZH XP sP 17 33 57.2 +0.2
LZH *e*PP PP 17 37 33.5 -0.4
LZH AMB AMB
comp=Z,17nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,56nm,8.2s
LZH LR LR
comp=E,195nm,16.6s
LZH LR LR
comp=Z,283nm,19.7s,MS4.7
CN2 Changchun 94.92 21 *eP* **P 17 34 02.3 +0.3**
KMI Kunming 100.66 47 P Pdif 17 34 30.4 +2.5
KMI AMB AMB
comp=Z,5.0nm,1.2s
KMI LR LR
comp=Z,70nm,16.8s,MS4.2
GYA Guiyang 101.86 43 P Pdif 17 34 34.2 +1.0
GYA PP PP 17 38 46.8 +3.2
GYA AMB AMB
comp=Z,10.0nm,0.9s
GYA AMB AMB
comp=Z,90nm,6.2s

ISCJB ***10*** *17:31:01.3±0.9, 1800S±005×17699W±005, h316km±8km, mb4.4/51, Error ellipse: s-maj=9.2km s-min=5.0km az=142.2*
NEIC ***10*** *17:31:02.8±0.9, 1806S×17687W, h324km±9km, mb4.4/30, Error ellipse: s-maj=9.2km s-min=5.0km az=150.0*
IDC ***10*** *17:31:03.9±1.4, 1804S×17687W, h335km±14km, mb4.0/23, mb1 4.2/24, mb1mx4.2/26, mbtmp4.0/24, Error ellipse: s-maj=12.5km s-min=8.5km az=139.0*
BJI ***10*** *17:31:04.2, 1741S×17706W, h324km, mB4.8, mb4.6*
ISC 10 17:31:02.0±0.9, 1809S±005×17693W±004, h311km±8km, h323km±1.9km; pP-P, n315, c0≥60/294, mb4.4/51, 70C-89D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.47**	**51**	P	**Pn**	**17 32 38.2**	**+0.9**
	9.9nm,0.3s,baz=237,slow=20,SNR=8.1						
AFI				S	**S**	**17 33 52.0**	**-2.2**
	13nm,0.3s,baz=210,slow=22,SNR=8.2						
AFI	**Afiamalu**	**6.47**	**51**	*e*Pn	**Pn**	**17 32 37.3**	**0.0**
AFI				*e*S	**S**	**17 33 51.0**	**-3.2**
FUNA	**Funafuti**	**10.22**	**338**	*e*Pn	**Pn**	**17 33 25.8**	**+2.9**
RAO	**Raoul Island**	**11.15**	**184**	S	**S**	**17 35 37.4**	**-1.2**
	89nm,0.3s,baz=87,slow=20,SNR=5.8						
URZ	**Urewera**	**20.76**	**193**	P	**P**	**17 35 18.7**	**-1.0**
	4.7nm,0.3s,baz=28,slow=3.2,SNR=9.1						
URZ				S	**S**	**17 38 50.8**	**0.0**
	4.9nm,0.6s,baz=308,slow=7.5,SNR=3.6						
HNR	**Honiara**	**24.03**	**288**	P	**P**	**17 35 50.2**	**+0.5**
	110nm,0.8s,mb5.2,baz=277,slow=4.3,SNR=5.4						
HNR	**Honiara**	**24.03**	**288**	P	**P**	**17 35 49.3**	**-0.4**
	143nm,0.8s,mb5.3						
ARMA	**Armidale**	**31.07**	**241**	*e*P	**P**	**17 36 54.3**	**+2.3**
CTA	**Charters Tower**	**34.80**	**261**	⇓*i*P	**P**	**17 37 24.9**	**+0.6**
	35nm,0.7s,mb5.0						
CTA	**Charters Tower**	**34.80**	**261**	P	**P**	**17 37 25.0**	**+0.8**
	45nm,0.7s,mb5.1,baz=91,slow=11,SNR=37						
CTAO	**Charters Tower**	**34.80**	**261**	*e*P	**P**	**17 37 25.3**	**+1.0**
	59nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**39.78**	**242**	*e*P	**P**	**17 38 07.1**	**+1.5**
	7.6nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**39.78**	**242**	P	**P**	**17 38 07.0**	**+1.4**
	6.3nm,0.5s,mb4.2,baz=92,slow=10.0,SNR=20						
WB2	**Warramunga Arr**	**45.97**	**260**	⇓*i*P	**P**	**17 38 55.5**	**+0.4**
WRAB	**Tennant Creek**	**45.97**	**260**	*e*P	**P**	**17 38 54.7**	**-0.4**
	18nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**45.98**	**260**	P	**P**	**17 38 55.5**	**+0.4**
	9.6nm,0.8s,mb4.2,baz=94,slow=7.4,SNR=17						
ASAR	**Alice Springs**	**46.09**	**254**	P	**P**	**17 38 56.4**	**+0.4**
	16nm,0.5s,mb4.6,baz=92,slow=9.3,SNR=152						
ASAR				S	**S**	**17 45 13.3**	**-4.5**
	3.5nm,0.8s,baz=95,slow=17,SNR=17						
KAKA	**Kakadu**	**48.98**	**269**	⇓*i*P	**P**	**17 39 18.0**	**-0.2**
	51nm,0.6s,mb5.0						
GUMO	**Guam**	**49.10**	**307**	P	**P**	**17 39 19.2**	**+0.2**
	57nm,0.6s,mb5.0,baz=178,slow=10,SNR=5.8						
FORT	**Forrest**	**51.20**	**245**	*e*P	**P**	**17 39 34.4**	**-0.1**
	17nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**54.38**	**260**	⇓*i*P	**P**	**17 39 57.8**	**0.0**
	5.0nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**54.38**	**260**	P	**P**	**17 39 58.1**	**+0.2**
	2.2nm,0.5s,mb3.8,baz=168,slow=5.5,SNR=9.4						
BATI	**Baumata**	**57.93**	**269**	P	**P**	**17 40 24.2**	**+1.4**
	13nm,0.5s,mb4.6,baz=345,slow=3.0,SNR=4.5						
MBWA	**Marble Bar**	**59.39**	**256**	*e*P	**P**	**17 40 32.1**	**-0.7**
	8.7nm,0.7s,mb4.3						
SBA	**Scott Base**	**60.33**	**184**	*e*P	**P**	**17 40 40.3**	**+2.2**
	7.1nm,0.7s,mb4.3						
VNDA	**Vanda**	**60.39**	**185**	P	**P**	**17 40 39.0**	**+0.5**
	1.8nm,0.7s,mb3.7,baz=17,slow=5.7,SNR=7.5						
CASY	**Casey**	**66.56**	**205**	*e*P	**P**	**17 41 17.9**	**-0.9**
	5.6nm,0.8s,mb4.3						
MJAR	**Matsushiro Arr**	**68.90**	**322**	P	**P**	**17 41 32.7**	**-1.0**
	10nm,0.7s,mb4.6,baz=158,slow=6.2,SNR=36						
MAJO	**Matsushiro**	**68.90**	**322**	*e*P	**P**	**17 41 32.2**	**-1.5**
	14nm,0.8s,mb4.7						
MAT	**Matsushiro**	**68.90**	**322**	P	**P**	**17 41 32.7**	**-1.0**
MAT				*e*S	S	17 49 55.0	-17
KKM	**Kota Kinabalu**	**70.15**	**284**	*e*P	**P**	**17 41 40.8**	**-1.1**
KSM	**Kuching**	**74.10**	**277**	*e*P	**P**	**17 42 04.7**	**-0.5**
PETK	**Petropavlovsk-**	**74.22**	**344**	P	**P**	**17 42 03.0**	**-1.9**
	9.8nm,0.9s,mb4.4,baz=127,slow=8.3,SNR=14						
HAST	**Hastings Reser**	**75.30**	**43**	⇓P	**P**	**17 42 11.4**	**-0.1**
	baz=75						
KSRS	**Korea Array**	**75.78**	**318**	P	**P**	**17 42 14.6**	**+0.4**
	4.8nm,0.7s,mb4.2,baz=125,slow=6.8,SNR=7.9						
PACP	**Pacheco Peak**	**75.83**	**43**	⇓P	**P**	**17 42 14.6**	**+0.1**
	baz=76						
S04C	**Ingram Canyon,**	**76.10**	**43**	⇓P	**P**	**17 42 15.9**	**0.0**
	baz=76						
BFSC	**Mount Baldy St**	**76.72**	**47**	⇓P	**P**	**17 42 19.4**	**0.0**
	baz=77						
O02C	**Red Bluff**	**76.79**	**40**	⇑P	**P**	**17 42 19.4**	**-0.3**
	baz=77						
EDW2	**Edwards Air Fo**	**76.83**	**46**	P	**P**	**17 42 20.0**	**0.0**
	baz=77,SNR=7.7						
T06C	**Milleton Lake**	**76.86**	**44**	⇓P	**P**	**17 42 19.7**	**-0.5**
	baz=77						
MONP	**Monument Peak**	**76.87**	**49**	⇑P	**P**	**17 42 20.6**	**+0.2**
	baz=77						
ISA	**Isabella**	**76.93**	**45**	P	**P**	**17 42 21.0**	**+0.3**
	baz=77,SNR=6.0						
ISA	**Isabella**	**76.93**	**45**	*e*P	**P**	**17 42 19.8**	**-0.8**
	8.9nm,1.3s,mb4.3						
CMB	**Columbia Colle**	**77.01**	**43**	⇑P	**P**	**17 42 20.4**	**-0.6**
	baz=77						
CMB	**Columbia Colle**	**77.01**	**43**	P	**P**	**17 42 19.8**	**-1.2**
	3.0nm,0.8s,mb4.1						
HELL	**Mitchell Peak**	**77.13**	**44**	⇓P	**P**	**17 42 21.6**	**-0.1**
	baz=77						
WDC	**Whiskeytown Da**	**77.18**	**39**	⇑P	**P**	**17 42 21.4**	**-0.5**
	baz=77						
LAVA	**Lava Cap Winer**	**77.21**	**42**	⇓P	**P**	**17 42 22.1**	**0.0**
	baz=77						
S06C	**San Francisco**	**77.27**	**43**	⇑P	**P**	**17 42 22.5**	**+0.1**
	baz=77						
KCC	**Kaiser Creek**	**77.30**	**44**	⇑P	**P**	**17 42 22.6**	**0.0**
	baz=77						
SWSC	**Sam W. Stewart**	**77.34**	**49**	⇑P	**P**	**17 42 23.1**	**+0.1**
	baz=77						
LRMC	**Laurel Mountai**	**77.37**	**46**	⇑P	**P**	**17 42 23.1**	**0.0**
	baz=78						
M02C	**Callahan**	**77.49**	**39**	⇑P	**P**	**17 42 23.6**	**+0.1**
	baz=78						
R05C	**Kirkwood Meado**	**77.60**	**42**	⇓P	**P**	**17 42 24.4**	**+0.1**
	baz=78						
BELC	**Belle Mtn.**	**77.75**	**48**	⇓P	**P**	**17 42 25.2**	**0.0**
	baz=78						
YBH	**Yreka Blue Hor**	**77.78**	**38**	⇑P	**P**	**17 42 24.9**	**-0.3**
	baz=78						
MTUM	**Tungsten Hills**	**77.81**	**44**	*e*P	**P**	**17 42 25.0**	**-0.4**
MPMC	**Manual Prospec**	**77.82**	**46**	P	**P**	**17 42 25.5**	**0.0**
	baz=78,SNR=7.3						
GSC	**Goldstone**	**77.88**	**47**	⇑P	**P**	**17 42 26.1**	**+0.3**
	baz=78						
GSC	**Goldstone**	**77.88**	**47**	P	**P**	**17 42 25.1**	**-0.7**
	8.3nm,0.9s,mb4.5						
R06C	**Coleville**	**77.90**	**43**	⇓P	**P**	**17 42 26.1**	**+0.3**
	baz=78						
R07C	**Lee Vining**	**77.91**	**43**	⇑P	**P**	**17 42 25.9**	**-0.1**
	baz=78						
HEC	**Hector,Ludlow**	**77.96**	**47**	⇓P	**P**	**17 42 26.1**	**-0.2**
	baz=78						
BC3	**Big Chuckw Mtn**	**77.96**	**49**	⇓P	**P**	**17 42 26.5**	**+0.2**
	baz=78						
HATC	**Hat Creek Radi**	**77.98**	**40**	⇓P	**P**	**17 42 26.0**	**-0.2**
	baz=78						
GLA	**Glamis**	**78.10**	**49**	⇓P	**P**	**17 42 27.6**	**+0.5**
	baz=78						
S08C	**White Mtn Res**	**78.16**	**44**	P	**P**	**17 42 27.9**	**+0.6**
	baz=78,SNR=10						
HUMO	**Hull Mountain**	**78.18**	**38**	⇑P	**P**	**17 42 27.2**	**-0.1**
	baz=78						
KDAK	**Kodiak Island**	**78.25**	**13**	P	**P**	**17 42 26.2**	**-1.1**
	2.1nm,0.5s,mb4.1,baz=218,slow=4.7,SNR=9.1						
KDAK	**Kodiak Island**	**78.25**	**13**	P	**P**	**17 42 26.2**	**-1.1**
J02A	**Umpqua**	**78.30**	**37**	⇓P	**P**	**17 42 27.8**	**-0.1**
	baz=78						
GMRC	**Granite Mounta**	**78.40**	**47**	⇑P	**P**	**17 42 28.4**	**-0.3**
	baz=78						
GRAC	**Grapevine Rang**	**78.41**	**45**	⇓P	**P**	**17 42 28.8**	**0.0**
	baz=78						
IRM	**Iron Mountain**	**78.44**	**48**	⇓P	**P**	**17 42 28.9**	**0.0**
	baz=78						
FURC	**Furnace Creek,**	**78.47**	**45**	⇑P	**P**	**17 42 29.0**	**-0.1**
	baz=79						
TUQ	**Turquoise Mtn.**	**78.56**	**47**	⇑P	**P**	**17 42 29.6**	**0.0**
	baz=79						
NVAR	**Mina Array Bea**	**78.59**	**43**	P	**P**	**17 42 29.6**	**-0.1**
	3.8nm,0.7s,mb4.3,baz=223,slow=8.3,SNR=34						
Y12C	**Blythe**	**78.67**	**49**	⇓P	**P**	**17 42 30.6**	**+0.4**
	baz=79						
113A	**Mohawk Valley,**	**78.72**	**50**	⇑P	**P**	**17 42 30.6**	**+0.1**
	baz=79						
U10A	**Ash Meadows, A**	**78.80**	**46**	⇓P	**P**	**17 42 31.3**	**+0.5**
	baz=79						
H02A	**Toledo**	**78.88**	**35**	⇓P	**P**	**17 42 31.0**	**-0.1**
	baz=79						
S09A	**Goldfield**	**78.91**	**44**	⇓P	**P**	**17 42 31.1**	**-0.3**
	baz=79						
214A	**Organ Pipe Nat**	**79.03**	**51**	⇓P	**P**	**17 42 32.7**	**+0.6**
	baz=79						
Q08A	**Gabbs**	**79.07**	**43**	⇓P	**P**	**17 42 32.2**	**0.0**
	baz=79						
L05A	**Lakeview**	**79.09**	**39**	⇓P	**P**	**17 42 32.5**	**+0.2**
	baz=79						
TPH	**Tonopah**	**79.10**	**44**	*e*P	**P**	**17 42 32.2**	**-0.2**
V11A	**Goodsprings**	**79.11**	**47**	⇑P	**P**	**17 42 32.7**	**+0.1**
	baz=79						
TPNV	**Topopah Spring**	**79.14**	**45**	P	**P**	**17 42 32.6**	**0.0**
	baz=79,SNR=6.9						
TPNV	**Topopah Spring**	**79.14**	**45**	*e*P	**P**	**17 42 32.3**	**-0.3**
	4.3nm,0.7s,mb4.3						
MDJ	**Mudanjiang**	**79.15**	**324**	P	**P**	**17 42 31.5**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,68nm,4.2s						
MDJ	**Mudanjiang**	**79.15**	**324**	*e*P	**P**	**17 42 32.4**	**-0.1**
	comp=Z,7.0nm,0.7s,mb4.5						
O07A	**Toulon**	**79.20**	**41**	P	**P**	**17 42 32.9**	**0.0**
	baz=79,SNR=9.2						
Y13A	**Salome**	**79.20**	**49**	⇑P	**P**	**17 42 33.6**	**+0.5**
	baz=79						
I04A	**Tendick Farm,**	**79.22**	**37**	⇓P	**P**	**17 42 32.4**	**-0.5**
	baz=79						
PDMCI	**Parker Dam,Lak**	**79.23**	**49**	⇓P	**P**	**17 42 33.6**	**+0.4**
	baz=79						
H03A	**Soap Creek Ran**	**79.28**	**36**	⇓P	**P**	**17 42 33.4**	**+0.2**
	baz=79						
R09A	**Tonopah**	**79.29**	**44**	⇑P	**P**	**17 42 33.5**	**+0.1**
	baz=79						
MOD	**Modoc**	**79.33**	**39**	⇑P	**P**	**17 42 33.4**	**-0.2**
	baz=79						
S10A	**Tonopah Range,**	**79.43**	**44**	P	**P**	**17 42 34.0**	**-0.2**
	baz=80,SNR=8.1						
V12A	**Nelson**	**79.46**	**47**	⇓P	**P**	**17 42 34.5**	**+0.1**
	baz=80						
K05A	**Summer Lake**	**79.46**	**38**	P	**P**	**17 42 34.6**	**+0.4**
	baz=80,SNR=6.1						
N07B	**Gerlach**	**79.49**	**41**	⇑P	**P**	**17 42 34.5**	**0.0**
	baz=80						
J05A	**Fort Rock**	**79.59**	**38**	P	**P**	**17 42 35.5**	**+0.5**
	baz=80,SNR=8.1						
X13A	**Yucca**	**79.60**	**48**	⇓P	**P**	**17 42 35.4**	**+0.2**
	baz=80						
Z14A	**Wintersburg**	**79.62**	**50**	⇑P	**P**	**17 42 35.4**	**+0.1**
	baz=80						
G03A	**Yamhill**	**79.68**	**35**	⇑P	**P**	**17 42 35.4**	**0.0**
	baz=80						
M07A	**Soldier Meadow**	**79.72**	**40**	⇓P	**P**	**17 42 35.9**	**+0.2**
	baz=80						
W13A	**Hualapai Mount**	**79.81**	**48**	⇑P	**P**	**17 42 36.7**	**+0.4**
	baz=80						
115A	**Sonoran Desert**	**79.82**	**51**	⇓P	**P**	**17 42 36.8**	**+0.4**
	baz=80						
R10A	**Warm Springs**	**79.82**	**44**	⇓P	**P**	**17 42 36.5**	**+0.2**
	baz=80						
Y14A	**Wickenburg**	**79.86**	**49**	⇓P	**P**	**17 42 36.9**	**+0.3**
	baz=80						
K06A	**Valley Falls**	**79.88**	**39**	⇑P	**P**	**17 42 36.3**	**-0.2**
	baz=80						
H04A	**Detroit Lake**	**79.90**	**36**	⇑P	**P**	**17 42 35.8**	**-0.7**
	baz=80						
L07A	**Adell**	**79.98**	**40**	P	**P**	**17 42 37.3**

baz=80
V13A **Grand Canyon W** 80.13 47 ⇓P P 17 42 38.0 0.0
baz=80
116A **Eloy** 80.14 51 ⇑P P 17 42 38.4 +0.3
baz=80
X14A **Yava** 80.20 49 P P 17 42 38.9 +0.5
baz=80,SNR=6.4
M08A **Happy Creek Ra** 80.24 41 ⇓P P 17 42 38.7 +0.2
baz=80
O09A **Fish Creek Ran** 80.27 42 ⇓P P 17 42 38.8 +0.2
baz=80
R11A **Troy Canyon, C** 80.33 44 P P 17 42 39.0 0.0
baz=80,SNR=5.4
Y15A **Casa Rosa Ranc** 80.35 50 P P 17 42 39.6 +0.5
baz=80,SNR=7.1
K07A **Rock Creek Ran** 80.42 39 P P 17 42 39.4 0.0
baz=80,SNR=6.2
U13A **Pakoon Wash** 80.43 47 P P 17 42 40.1 +0.6
baz=80,SNR=5.1
217A **Green Valley** 80.43 52 P P 17 42 40.2 +0.6
baz=80,SNR=5.2
N09A **Rock Creek Ran** 80.44 41 ⇓P P 17 42 39.4 -0.1
baz=80
S12A **Delamar Landin** 80.44 45 ⇓P P 17 42 40.2 +0.6
baz=80
W14A **Seligman** 80.44 48 P P 17 42 40.2 +0.6
baz=80,SNR=8.4
P10A **Eureka** 80.44 43 ⇓P P 17 42 39.6 +0.1
baz=80
Q11A **Duckwater** 80.55 44 P P 17 42 40.4 +0.2
baz=81,SNR=7.0
V14A **Boquillas Ranc** 80.63 48 P P 17 42 41.0 +0.4
baz=81,SNR=7.7
L08A **Fields** 80.68 40 P P 17 42 40.8 +0.1
baz=81,SNR=8.3
X15A **Humboldt** 80.68 49 ⇓P P 17 42 41.4 +0.5
baz=81
TUC **Tucson** 80.70 52 *e*P P 17 42 41.4 +0.3
comp=Z,2.4nm,0.8s,mb4.0
G05A **Wamic** 80.73 36 ⇑P P 17 42 40.8 -0.1
baz=81
M09A **Marrel Ranch,** 80.80 41 ⇓P P 17 42 41.4 0.0
baz=81
117A **Oracle** 80.86 51 ⇓P P 17 42 42.5 +0.6
baz=81
318A **Bisbee** 80.89 53 ⇑P P 17 42 42.4 +0.3
baz=81
K08A **Mann Creek Ran** 80.90 39 P P 17 42 42.0 +0.1
baz=81,SNR=12
Y16A **Circle Bar Ran** 80.94 50 ⇓P P 17 42 43.0 +0.7
baz=81
U14A **Mt Trumbull** 80.97 47 ⇓P P 17 42 42.8 +0.4
baz=81
R12A **Pony Springs,** 80.97 45 ⇑P P 17 42 42.1 -0.3
baz=81
H06A **Lindquist Farm** 80.98 37 P P 17 42 42.0 -0.2
baz=81,SNR=7.8
CN2 **Changchun** 81.03 322 ⇑P P 17 42 42.2 -0.3
CN2 *e*S S 17 52 23.9 -1.2
CN2 AMB AMB
comp=Z,20nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,300nm,4.0s
F05A **White Salmon** 81.04 36 ⇑P P 17 42 42.2 -0.4
baz=81
I07A **Izee** 81.08 38 ⇑P P 17 42 43.0 +0.2
baz=81
S13A **Holt Ranch, En** 81.09 46 ⇓P P 17 42 43.2 +0.1
baz=81
218A **Dragoon** 81.10 52 P P 17 42 44.0 +0.9
baz=81,SNR=5.8
X16A **Lo Mia Camp, P** 81.22 50 P P 17 42 44.8 +1.1
baz=81,SNR=8.7
O11A **Cowboy Ranch,** 81.24 43 ⇓P P 17 42 43.5 -0.2
baz=81
E05A **Randle** 81.29 35 ⇑P P 17 42 43.0 -0.8
baz=81
B04A **Port Angeles** 81.30 33 ⇓P P 17 42 43.3 -0.4
baz=81
Y17A **Roosevelt** 81.31 50 ⇑P P 17 42 44.8 +0.6
baz=81
R13A **O'Grain Ranch,** 81.33 45 ⇑P P 17 42 44.5 +0.2
baz=81
H07A **Lands Inn, Kim** 81.34 37 P P 17 42 43.9 -0.3
baz=82,SNR=6.3
K09A **Rome** 81.35 40 P P 17 42 44.5 +0.2
baz=82,SNR=8.3
P12A **McGill** 81.38 44 ⇑P P 17 42 44.5 0.0
baz=82
V15A **Kaibab Nationa** 81.38 48 P P 17 42 45.6 +1.1
baz=82,SNR=5.7
319A **Douglas** 81.40 53 ⇓P P 17 42 45.8 +1.0
baz=82
M10A **I.L. Ranch, Tu** 81.43 41 ⇑P P 17 42 44.5 -0.1
baz=82
118A **Homack Ranch,** 81.47 52 P P 17 42 45.8 +0.7
baz=82,SNR=7.7
W16A **Flagstaff** 81.49 49 ⇑P P 17 42 45.7 +0.6
baz=82
I08A **Drewsey** 81.53 38 P P 17 42 45.1 0.0
baz=82,SNR=5.1
U15A **North Rim** 81.60 47 P P 17 42 46.4 +0.7
baz=82,SNR=8.1
G07A **Ruggs Ranch, H** 81.68 37 ⇓P P 17 42 45.7 -0.2
baz=82
J09A **Fry Pan Ranch,** 81.69 39 ⇓P P 17 42 46.0 0.0
baz=82
219A **White Tail Can** 81.70 53 P P 17 42 47.0 +0.6
baz=82,SNR=6.8
E06A **Yakima** 81.70 35 ⇑P P 17 42 45.2 -0.8
baz=82
L10A **Juniper Basin** 81.77 41 P P 17 42 46.6 +0.2
baz=82,SNR=7.2
WUAZ **Wupatki** 81.80 49 ⇓P P 17 42 47.3 +0.6
baz=82
H08A **Prairie City** 81.82 38 ⇓P P 17 42 46.5 -0.2
baz=82
T15A **Red Dirt Ranch** 81.83 47 ⇓P P 17 42 47.3 +0.4
baz=82
M11A **Holland Ranch,** 81.85 42 ⇓P P 17 42 47.0 +0.1
baz=82
K10A **MacKenzie Ranc** 81.91 40 P P 17 42 47.4 +0.3
baz=82,SNR=7.2
Y18A **Canyon Day Jun** 81.95 51 ⇓P P 17 42 48.3 +0.7
baz=82
P13A **Bates Ranch, G** 81.95 44 P P 17 42 47.8 +0.4
baz=82,SNR=7.6
N12A **Clover Valley,** 82.02 43 P P 17 42 48.0 +0.2
baz=82,SNR=5.3
119A **Ashpeak Ranch,** 82.02 52 ⇑P P 17 42 49.0 +1.0
baz=82
C05A **Tolt Reservoir** 82.02 34 ⇑P P 17 42 46.7 -0.9
baz=82
G08A **Pilot Rock** 82.10 37 P P 17 42 48.2 +0.1
baz=82,SNR=7.8
B05A **Bryant** 82.16 33 ⇓P P 17 42 48.1 -0.2
baz=82
Q14A **Sevier Lake (B** 82.21 45 P P 17 42 49.4 +0.6
baz=82,SNR=12
L11A **Cat Creek Ranc** 82.27 41 P P 17 42 49.2 +0.2
baz=82,SNR=7.7
E07A **Sunnyside** 82.33 36 ⇓P P 17 42 48.9 -0.4
baz=82
X18A **Snowflake** 82.36 50 ⇓P P 17 42 50.1 +0.4
baz=82
M12A **Wells** 82.40 42 ⇓P P 17 42 49.6 -0.1
baz=82
K11A **Parker Ranch,** 82.42 40 P P 17 42 50.0 +0.3
baz=82,SNR=5.0
H09A **Durkee** 82.49 38 ⇓P P 17 42 49.7 -0.4
baz=83
F08A **Pendleton** 82.50 37 ⇑P P 17 42 49.7 -0.3
baz=83
Y19A **Nutrioso** 82.61 51 P P 17 42 52.1 +1.1
baz=83,SNR=8.3
MSU **Marysvale** 82.71 46 *e*P P 17 42 51.8 +0.4
L12A **House Creek Ra** 82.72 41 ⇓P P 17 42 51.4 +0.1
baz=83
G09A **Cove** 82.77 38 ⇓P P 17 42 51.3 -0.2
baz=83
X19A **St. Johns** 82.80 50 P P 17 42 53.0 +1.1
baz=83,SNR=8.7
Q15A **Fillmore** 82.82 45 ⇑P P 17 42 52.0 +0.1
baz=83
U17A **Shonto** 82.83 48 ⇓P P 17 42 52.7 +0.7
baz=83
M13A **Montello** 82.85 42 ⇓P P 17 42 52.5 +0.5
baz=83
MFID **Camas Ranch** 82.90 40 ⇓P P 17 42 52.2 0.0
baz=83
T17A **Navajo Res., N** 82.92 48 P P 17 42 53.4 +1.0
baz=83,SNR=7.2
V18A **Ganado** 82.93 49 P P 17 42 53.1 +0.6
baz=83,SNR=5.4
H10A **Noah's Angus R** 82.99 39 P P 17 42 52.1 -0.5
baz=83,SNR=12
W19A **Sanders** 83.04 50 ⇓P P 17 42 53.6 +0.5
baz=83
K12A **Draper Farm, C** 83.05 41 ⇑P P 17 42 52.6 -0.4
baz=83
R16A **Teasdale** 83.07 46 ⇑P P 17 42 53.7 +0.5
baz=83
PMSA **Palmer Station** 83.09 157 P P 17 42 52.7 -0.2
comp=Z,17nm,0.9s,mb4.9
DUG **Dugway** 83.13 44 ⇓P P 17 42 52.7 -0.8
baz=83
D08A **Wollman Farm,** 83.15 36 ⇓P P 17 42 53.2 -0.1
baz=83
G10A **Bishop Farm, J** 83.17 38 ⇑P P 17 42 53.2 -0.3
baz=83
P15A **Leamington** 83.17 45 ⇑P P 17 42 53.7 0.0
baz=83
J12A **Stokes Ranch,** 83.26 40 P P 17 42 54.4 +0.4
baz=83,SNR=5.7
U18A **Rough Rock, Ch** 83.31 48 ⇑P P 17 42 54.7 +0.3
baz=83
B07A **Winthrop** 83.32 34 ⇓P P 17 42 53.7 -0.6
baz=83
L13A **Double Diamond** 83.37 42 ⇓P P 17 42 54.7 +0.1
baz=84
M14A **Sheep Mountain** 83.45 43 ⇓P P 17 42 54.7 -0.3
baz=84
F10A **Beach Ranch, E** 83.48 37 P P 17 42 54.4 -0.7
baz=84,SNR=8.4
D09A **Jones Farm, Ri** 83.49 36 ⇑P P 17 42 54.4 -0.8
baz=84
H11A **Donnelly** 83.49 39 P P 17 42 55.2 0.0
baz=84,SNR=6.0
C08A **Higginbotham F** 83.50 35 ⇑P P 17 42 54.5 -0.7
baz=84
A07A **Ashnola River,** 83.54 34 ⇓P P 17 42 54.6 -0.7
baz=84
K13A **Stover Farm, H** 83.57 41 ⇓P P 17 42 55.7 +0.1
baz=84
T18A **Mexican Hat** 83.64 48 P P 17 42 56.5 +0.4
baz=84,SNR=33
R17A **Hanksville Air** 83.67 46 P P 17 42 56.2 0.0
baz=84,SNR=9.1
B08A **Colville Reser** 83.69 35 ⇓P P 17 42 55.0 -1.1
baz=84
G11A **Walters Elk Ra** 83.72 38 P P 17 42 55.9 -0.5
baz=84,SNR=7.5
TMUT **Trail Mountain** 83.75 45 *e*P P 17 42 56.9 +0.3
L14A **Malta** 83.79 42 ⇑P P 17 42 56.4 -0.4
baz=84
S18A **Hurst Farm, Bl** 83.82 47 ⇑P P 17 42 57.0 0.0
baz=84
HLID **Hailey** 83.85 40 P P 17 42 57.1 +0.1
baz=84,SNR=7.2
HLID **Hailey** 83.85 40 *e*P P 17 42 56.6 -0.4
comp=Z,6.4nm,1.1s,mb4.4
C09A **Chrisman Ranch** 83.94 35 ⇑P P 17 42 56.7 -0.7
baz=84
O16A **Springville** 84.00 44 ⇑P P 17 42 58.4 +0.5
baz=84
A08A **Turner Farm, O** 84.07 34 ⇓P P 17 42 57.4 -0.6
baz=84
K14A **Jones Ranch, D** 84.09 42 ⇑P P 17 42 58.2 0.0
baz=84
T19A **Beclabito** 84.10 48 ⇑P P 17 42 58.8 +0.4
baz=84
H12A **Diamond D Ranc** 84.10 39 P P 17 42 58.3 0.0
baz=84,SNR=7.0
SRU **San Rafael** 84.13 46 P P 17 42 58.8 +0.2
baz=84,SNR=5.5
SRU **San Rafael** 84.13 46 *e*P P 17 42 58.0 -0.5
comp=Z,16nm,1.3s,mb4.7
MAW **Mawson** 84.16 199 P P 17 42 57.0 -1.3
comp=Z,2.6nm,0.8s,mb4.1,baz=124,slow=15,SNR=3.5
R18A **Canyonlands Na** 84.22 47 P P 17 42 58.8 -0.2
baz=84,SNR=8.1
I13A **Wildhorse Cree** 84.22 40 ⇑P P 17 42 58.7 -0.1
baz=84
L15A **Malad City** 84.32 43 ⇑P P 17 42 59.3 -0.1
baz=84
Q18A **Rafter H Ranch** 84.39 46 P P 17 42 59.6 -0.2
baz=84,SNR=6.3
MCK **McKinley** 84.41 12 *e*P P 17 42 58.2 -1.1
comp=Z,4.1nm,0.8s,mb4.3
A09A **Danville** 84.45 34 ⇑P P 17 42 59.2 -0.7
baz=85
H13A **Challis** 84.48 40 P P 17 43 00.3 +0.2
baz=85,SNR=5.0
F12A **Elk City** 84.52 38 P P 17 42 59.8 -0.5
baz=85,SNR=18
G13A **Cobalt** 84.77 39 ⇓P P 17 43 01.0 -0.5
baz=85
PV10 **Paradox Valley** 84.81 47 *e*P P 17 43 01.1 -0.8
BJT **Baijiatuau** 84.90 315 P P 17 42 06.6 +0.2
comp=Z,6.6nm,0.8s,mb4.5
TXAR **Lajitas Array** 84.91 57 P P 17 43 03.0 +0.4
comp=Z,17nm,1.1s,mb4.8,baz=223,slow=5.1,SNR=86
A10A **Northport** 85.00 35 ⇑P P 17 43 02.2 -0.4
baz=85
PV01 **Paradox Valley** 85.02 47 *e*P P 17 43 02.3 -0.7
F13A **Darby** 85.08 39 P P 17 43 02.5 -0.5
baz=85,SNR=6.6
ANMO **Albuquerque** 85.11 51 P P 17 43 03.3 -0.2
comp=Z,2.3nm,0.8s,mb4.0,baz=192,slow=9.3
ANMO **Albuquerque** 85.11 51 *e*P P 17 43 03.2 -0.3
comp=Z,1.2nm,0.7s,mb3.8
J16A **Bone** 85.45 42 ⇑P P 17 43 04.9 0.0
baz=86
E13A **Victor** 85.51 38 ⇑P P 17 43 04.8 -0.3
baz=86
A11A **Hall Mountain,** 85.64 35 ⇑P P 17 43 05.8 +0.1
baz=86
F14A **Wisdom** 85.66 39 ⇓P P 17 43 05.6 -0.3
baz=86
D13A **Huson** 85.70 37 ⇓P P 17 43 05.5 -0.6
baz=86
G15A **Dillon** 85.86 40 ⇑P P 17 43 07.0 +0.1
baz=86
DLMT **Dillon** 85.90 40 *e*P P 17 43 06.5 -0.5
comp=Z,9.9nm,1.1s,mb4.5
F15A **Butte** 86.20 39 ⇑P P 17 43 08.3 -0.3
baz=86
D14A **Greenough** 86.24 38 ⇑P P 17 43 07.9 -0.8
baz=86
GYA **Guiyang** 86.35 299 P P 17 43 10.2 +0.4
GYA AP pP 17 44 26.9 +3.8
GYA XP sP 17 44 59.2 +3.6
GYA PP PP 17 46 38.5 +2.4
GYA SKS 17 53 03.0
GYA S S 17 53 17.4 -1.3
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
B13A **Whitefish** 86.38 36 ⇓P P 17 43 08.8 -0.5
baz=86
E15A **Deer Lodge** 86.41 39 ⇓P P 17 43 09.5 -0.1
baz=86
PDAR **Pinedale Array** 86.52 43 P P 17 43 09.0 -1.2
comp=Z,0.9nm,0.6s,mb3.8,baz=198,slow=2.3,SNR=5.7
BOZ **Bozeman (W)** 86.63 40 ⇑P P 17 43 10.6 0.0
baz=87
BOZ **Bozeman (W)** 86.63 40 *e*P P 17 43 10.3 -0.3
comp=Z,5.1nm,1.2s,mb4.2
D15A **Lincoln** 86.80 38 ⇓P P 17 43 11.2 -0.2
baz=87
SDCO **Great Sand Dun** 87.02 49 *e*P P 17 43 11.0 -1.7
comp=Z,1.9nm,0.9s,mb3.9
WALA **Waterton Lakes** 87.05 36 P P 17 43 11.6 -0.9
comp=Z,3.7nm,0.7s,mb4.3
HHC **Hu-ho-hao-te** 88.41 314 *e*P P 17 43 19.3 +0.2
HHC AP pP 17 44 34.8 +1.9
HHC XP sP 17 45 08.1 +2.8
HHC PP PP 17 46 56.4 +4.2
HHC SKS 17 53 16.0
HHC S S 17 53 36.0 -1.5
HHC XS sS 17 55 49.4 +1.6
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
HHC AMB AMB
comp=Z,75nm,8.0s
KMI **Kunming** 89.17 297 P P 17 43 24.0 +0.9
KMI AMB AMB
comp=Z,7.0nm,1.2s,mb4.4
SYO **Syowa Base** 89.29 192 ⇓*e*P P 17 43 20.0 -2.8
PLCA **Paso Flores** 90.19 133 P P 17 43 28.0 +0.4
comp=Z,2.9nm,0.9s,mb4.1,baz=216,slow=5.3,SNR=5.7
CMAR **Chiang Mai Arr** 90.27 289 P P 17 43 28.9 +0.6
comp=Z,1.3nm,0.8s,mb3.8,baz=90,slow=1.4,SNR=5.4
CD2 **Chengdu** 90.35 302 *e*P P 17 43 28.3 -0.2
CD2 AMB AMB
comp=Z,30nm,6.8s
SNAA **Sanae** 90.38 178 *e*P P 17 43 26.9 -1.0
SNAA *e* 17 43 28.0
SNAA **Sanae** 90.38 178 *e*P P 17 43 26.3 -1.6
comp=Z,7.3nm,1.1s,mb4.4
VNA1 **Neumayer--Stat** 91.14 176 *e*P P 17 43 31.6 +0.2
VNA1 *e* 17 43 32.6
LZH **Lanzhou** 92.12 307 ⇓P P 17 43 37.8 +1.3
LZH AP pP 17 44 54.0 +3.5
LZH XP sP 17 45 26.2 +3.4
LZH PP PP 17 47 25.4 +3.8
LZH AMB AMB
comp=Z,20nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,46nm,9.0s
DGMT **Dagmar** 92.44 40 *e*P P 17 43 37.3 -0.4
comp=Z,21nm,1.1s,mb5.0
YKA **Yellowknife Ar** 93.91 24 P P 17 43 42.7 -1.4
comp=Z,3.1nm,0.9s,mb4.3,baz=282,slow=31,SNR=2.8
SONM **Songino Array** 94.61 319 P P 17 43 47.3 -0.3
comp=Z,0.5nm,0.5s,mb3.9,baz=134,slow=2.2,SNR=5.0
ARCES **ARCESS Array B** 126.73 350 PKP PKPdf 17 49 26.6 -1.4
comp=Z,2.3nm,0.9s,baz=96,slow=1.2,SNR=5.7
CLL **Collm** 145.93 349 *i* PKPbc PKPbc 17 50 04.0 -1.0
comp=Z,6.0nm,1.0s
CLL *i* x x 17 50 11.2
comp=Z,5.0nm,1.0s
BRG **Berggiesshubel** 146.16 348 *e*P PKPdf 17 50 05.4 +1.2
comp=Z,4.2nm,1.4s
GRA1 **Grafenberg Arr** 147.80 350 *e*PKP PKPbc 17 50 10.3 +0.1
GRF **Grafenberg Arr** 147.80 350 *e*PKP PKPbc 17 50 10.3 +0.1
KHC **Kasperske Hory** 147.89 347 *e*PKP PKPbc 17 50 10.0 -0.5
GEC2 **GERESS Array S** 148.13 347 *e*PKP PKPbc 17 50 10.5 -0.6
GERES **GERESS Array B** 148.13 347 PKPbc PKPbc 17 50 10.3 -0.8
comp=Z,1.6nm,0.7s,baz=29,slow=3.0,SNR=16
FLN **La Foliniere** 149.27 5 *e*PKP1 PKPbc 17 50 12.6 -1.4
comp=Z,15nm,0.9s
LDF **La Druitiere** 149.46 4 *e*PKP1 PKPbc 17 50 12.9 -1.5
comp=Z,3.5nm,0.4s
BFO **Black Forest** 149.53 353 *e*PKP PKPbc 17 50 12.7 -1.9
CDF **Champ du Feu** 149.56 354 *e*PKP1 PKPbc 17 50 13.8 -0.9
comp=Z,9.3nm,0.8s
SGMF **Saint Gilles** 149.57 7 *e*PKP1 PKPbc 17 50 13.2 -1.5
comp=Z,4.3nm,0.5s
GRR **Gorron** 149.61 5 *e*PKP1 PKPbc 17 50 13.6 -1.2
comp=Z,7.2nm,0.6s
HAU **Haudompre** 150.04 356 *e*PKP1 PKPbc 17 50 13.8 -2.1
HINF **Hinteralfeld** 150.19 355 *e*PKP1 PKPbc 17 50 14.2 -2.0
LOR **Lormes** 150.89 359 *e*PKP1 PKPbc 17 50 16.8 -1.1
comp=Z,5.2nm,0.6s
SSF **Saint Saulge** 151.10 359 *e*PKP1 PKPbc 17 50 17.4 -1.0
comp=Z,12nm,1.1s
AVF **Avril sur Loir** 151.38 360 *e*PKP1 PKPbc 17 50 17.1 -1.9
MFF **Saint Martin d** 151.44 5 *e*PKP1 PKPbc 17 50 17.9 -1.3
comp=Z,5.1nm,0.7s
CABF **La Chapelle** 151.45 356 *e*PKP1 PKPbc 17 50 17.1 -2.1
BGF **Bois d'Agland** 151.61 0 *e*PKP1 PKPbc 17 50 18.4 -1.1
TCF **Toulx Ste Croi** 151.87 1 *e*PKP1 PKPbc 17 50 18.9 -1.2
comp=Z,2.6nm,0.6s
LPL **La Plagne** 152.48 354 *e*PKP1 PKPbc 17 50 20.0 -1.5
TORD **Torodi Ar. Bea** 174.91 165 PKP PKPdf 17 50 32.6 -2.9
comp=Z,1.3nm,0.9s,baz=299,slow=2.6,SNR=5.0

IDC ***10*** *17:32:13.4±3.0, 427S×15288E, h9km±16km, mb4.1/8, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, MS3.6/5, Ms1 3.6/5, ms1mx2.9/34, Error ellipse: s-maj=30.6km s-min=18.3km az=120.0*
ISCJB ***10*** *17:32:17.9±2.0, 42S±0.1×15284E±007, h57km±18km, mb4.1/10, MS3.6/4, Error ellipse: s-maj=17.4km s-min=11.0km az=166.2*
NEIC ***10*** *17:32:21.6±1.6, 432S×15286E, h75km±14km, mb4.4/3, Error ellipse: s-maj=16.8km s-min=11.1km az=168.0*
ISC 10 17:32:22.1±1.6, 43S±01×15284E±007, h81km±14km**, n27,** σ0**93/21, mb4.0/**10**, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.60**	**228**	*e*Pn	**Pn**	**17 34 11.3**	**+1.1**
PMG				*e*Sn	**Sn**	**17 35 35.2**	**+0.4**
HNR	**Honiara**	**8.72**	**126**	Pn	**Pn**	**17 34 24.2**	**-1.3**
10nm,0.3s,baz=226,slow=1.3,SNR=7.5							
HNR				Sn	**Sn**	**17 36 03.4**	**+1.3**
13nm,0.3s,baz=84,slow=20,SNR=5.8							
HNR	**Honiara**	**8.72**	**126**	*e*Pn	**Pn**	**17 34 23.6**	**-1.8**
HNR				*e*Sn	**Sn**	**17 35 50.9**	**-11**
CTA	**Charters Tower**	**16.98**	**202**	LR	LR	17 40 41.3	
comp=Z,87nm,19.1s,baz=247,slow=30							
KAKA	**Kakadu**	**21.83**	**246**	*e*P	**P**	**17 37 06.2**	**-1.8**
9.1nm,0.6s,mb4.3							
WRAB	**Tennant Creek**	**23.81**	**228**	*e*P	**P**	**17 37 27.5**	**-0.1**
18nm,0.8s,mb4.5							
WB2	**Warramunga Arr**	**23.81**	**228**	*e*P	**P**	**17 37 27.6**	**-0.1**
WB2				*e*S	**S**	**17 41 37.3**	**-0.4**
WRA	**Warramunga Arr**	**23.82**	**228**	P	**P**	**17 37 28.1**	**+0.3**
13nm,0.7s,mb4.4,baz=52,slow=9.6,SNR=98							
WRA				PcP	PcP	17 41 10.1	+0.9
1.8nm,0.8s,baz=49,slow=2.9,SNR=4.9							
WRA				S	**S**	**17 41 44.2**	**+6.3**
6.1nm,1.0s,baz=54,slow=18,SNR=12							
WRA				ScP	ScP	17 44 49.1	+8.6
1.1nm,0.7s,baz=57,slow=3.3,SNR=7.1							
ASAR	**Alice Springs**	**26.56**	**222**	P	**P**	**17 37 52.5**	**-0.1**
2.3nm,0.9s,mb3.7,baz=59,slow=9.0,SNR=17							
ASAR				ScP	ScP	17 44 57.6	+9.4
0.8nm,0.8s,baz=45,slow=3.6,SNR=6.6							
STKA	**Stephens Creek**	**29.41**	**200**	LR	LR	17 48 29.0	
comp=Z,157nm,20.3s,baz=29,slow=33							
FITZ	**Fitzroy Crossi**	**29.95**	**241**	⇓*i*P	**P**	**17 38 22.2**	**-0.6**
5.7nm,0.8s,mb4.2							
FITZ	**Fitzroy Crossi**	**29.95**	**241**	P	**P**	**17 38 22.3**	**-0.5**
3.8nm,0.8s,mb4.0,baz=99,slow=7.8,SNR=9.9							
FITZ				LR	LR	17 50 25.6	
comp=Z,68nm,20.4s,baz=278,slow=36							
KKM	**Kota Kinabalu**	**37.98**	**285**	P	**P**	**17 39 29.3**	**-3.1**
NWAO	**Narrogin (SRO)**	**43.78**	**225**	LR	LR	18 00 02.4	
comp=Z,116nm,18.9s,baz=267,slow=38							
PPT	**Papeete**	**57.85**	**108**	*e*LR	LR	17 41 58.3	
167nm,29.2s							
TBI	**Tubuai**	**58.74**	**115**	*e*LR	LR	17 42 07.0	
185nm,30.8s							
SONM	**Songino Array**	**65.91**	**328**	P	**P**	**17 43 00.3**	**+1.0**
0.4nm,0.6s,mb3.4,baz=144,slow=5.2,SNR=4.3							
VNDA	**Vanda**	**73.35**	**178**	P	**P**	**17 43 45.0**	**+0.4**
1.8nm,0.8s,mb4.0,baz=325,slow=7.4,SNR=8.0							
MKAR	**Makanchi Array**	**79.96**	**319**	P	**P**	**17 44 23.2**	**+0.8**
0.5nm,0.7s,mb3.5,baz=111,slow=8.3,SNR=4.9							
ZALV	**Zalesovo Beam**	**80.74**	**326**	P	**P**	**17 44 26.4**	**+0.1**
0.4nm,0.3s,mb3.7,baz=153,slow=7.6,SNR=2.5							
MAW	**Mawson**	**86.06**	**203**	P	**P**	**17 44 53.8**	**+0.3**
2.4nm,0.6s,mb4.3,baz=112,slow=8.0,SNR=4.4							
YBH	**Yreka Blue Hor**	**88.68**	**48**	LR	LR	18 14 35.9	
comp=Z,41nm,21.7s,baz=347,slow=29							
GERES	**GERESS Array B**	**123.63**	**329**	PKP	PKPdf	17 51 11.4	+1.1
0.8nm,0.7s,baz=52,slow=1.6,SNR=5.0							
LPAZ	**La Paz**	**134.63**	**118**	PKP	PKPdf	17 51 34.2	+2.1
1.3nm,0.6s,baz=193,slow=1.4,SNR=4.3							
TORD	**Torodi Ar. Bea**	**150.18**	**289**	PKPbc	PKPbc	17 52 05.2	+0.5
12nm,0.8s,baz=72,slow=2.0,SNR=48							
TORD	**Torodi Ar. Bea**	**150.18**	**289**	PKPbc	PKPbc	17 52 05.2	+0.5
BDFB	**Brasilia**	**151.40**	**134**	PKPbc	PKPbc	17 52 08.5	+0.9
5.6nm,0.8s,baz=193,slow=4.4,SNR=12							

IDC ***10*** *17:46:01.4±0.9, 2177N×12154E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.8/20, mbtmp3.8/10, MS3.2/2, Ms1 3.3/2, ms1mx2.5/28, Error ellipse: s-maj=33.6km s-min=19.1km az=69.0*
ISCJB ***10*** *17:46:02.5±0.5, 2192N±003×12166E±003, h10km, mb3.8/11, Error ellipse: s-maj=4.3km s-min=3.7km az=16.4*
NEIC ***10*** *17:46:02.8±0.8, 2185N×12174E, h10km, mb4.2/2, Error ellipse: s-maj=24.8km s-min=13.2km az=80.0*
TAP ***10*** *17:46:03.2, 2193N×12159E, h18km, ML3.9*

TAP Felt III J at Lanyu.

ISC 10 17:46:03.8±0.5,2195N±003×12160E±003,h10km,n66,σ1°20/100,mb3.8/11,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.10	335	⇓iP	Pg	17 46 07.2	+0.7
TSEB	Hengchuen, Pin	0.65	266	eP	Pg	17 46 17.5	+1.1
TSEB				S	Sg	17 46 26.8	+1.9
TAW	Tawu	0.77	302	eP	Pg	17 46 17.9	-0.8
TAW				S	Sg	17 46 27.9	-0.8
HEN	Hengchun	0.80	274	eP	Pg	17 46 18.7	-0.6
HEN				S	Sg	17 46 29.2	-0.5
EAST	Anshuo	0.82	302	⇓iP	Pg	17 46 18.5	-1.2
ECL	Taimali	0.88	317	P	Pg	17 46 19.3	-1.5
ECL				S	Sg	17 46 30.7	-1.7
TTN	Taitung	0.91	333	eP	Pg	17 46 20.0	-1.3
TWG	Pinlang	1.00	331	P	Pg	17 46 21.4	-1.6
TWG				S	Sg	17 46 34.5	-1.6
SCZT	Fangliau	1.00	295	eP	Pg	17 46 22.1	-1.1
CHKT	Chengkung	1.17	349	eP	Pb	17 46 23.6	-2.6
CHKT				S	Sb	17 46 39.0	-2.4
SGLT	Jiouru	1.29	307	eP	Pn	17 46 27.4	-0.5
ELDTW	Lidau	1.35	337	eP	Pn	17 46 27.1	-1.6
ELDTW				S	Sb	17 46 44.3	-2.3
TWM1	Shoushan	1.40	309	eP	Pn	17 46 29.8	+0.4
TWF1	Yuli	1.43	349	eP	Pn	17 46 28.1	-1.8
TWF1				S	Sn	17 46 48.0	-0.7
STYT	Tauyuan	1.44	327	eP	Pn	17 46 29.1	-0.9
STYT				S	Sn	17 46 48.6	-0.4
SGST	Jiashian	1.47	320	eP	Pn	17 46 30.4	0.0
EHY	Hungye	1.57	351	eP	Pn	17 46 30.7	-1.1
EHY				S	Sn	17 46 51.6	-0.7
CHN1	Nanshi	1.58	321	eP	Pn	17 46 32.3	+0.3
CHN1				S	Sn	17 46 53.7	+1.2
WTP	Ta-pu	1.58	325	eP	Pn	17 46 32.0	0.0
WTP				S	Sn	17 46 53.9	+1.4
YUS	Yu-Shan	1.65	339	eP	Pn	17 46 32.6	-0.2
TWK	Hsinying	1.67	322	eP	Pn	17 46 33.1	0.0
CHN4	Tsaushan	1.68	327	eP	Pn	17 46 33.5	+0.3
CHN4				S	Sn	17 46 57.0	+2.2
ALS	Alishan	1.72	335	eP	Pn	17 46 33.7	-0.1
ALS				S	Sg	17 46 59.2	0.0
SCLT	Jiali	1.78	314	eP	Pn	17 46 34.7	0.0
SCLT				S	Sn	17 46 58.4	+0.9
CHN5	Tsauling	1.85	333	eP	Pn	17 46 36.3	+0.7
CHN5				S	Sn	17 47 01.9	+2.8
ESL	Shilin	1.87	355	eP	Pn	17 46 34.5	-1.4
ESL				S	Sn	17 46 57.8	-1.7
CHY	Chiayi	1.89	325	eP	Pn	17 46 36.7	+0.5
CHN2	Minshiung	1.89	327	eP	Pn	17 46 37.1	+0.9
WGK	Gukeng	1.98	331	eP	Pn	17 46 37.9	+0.5
WGK				S	Sn	17 47 05.0	+2.7
SMLT	Sun Moon Lake	2.03	342	eP	Pn	17 46 38.9	+0.8
SMLT				S	Sn	17 47 06.3	+2.6
TYC	Yuchr	2.07	341	eP	Pn	17 46 39.4	+0.7
TYC				S	Sn	17 47 05.9	+1.5
WNT	Mingjian	2.10	337	eP	Pn	17 46 40.0	+0.9
WNT				S	Sn	17 47 07.5	+2.3
WSF	Szhu	2.11	323	eP	Pn	17 46 38.6	-0.6
WSF				S	Sn	17 47 05.5	0.0
TWD	Chiawan	2.12	360	eP	Pn	17 46 38.3	-1.1
TWD				S	Sn	17 47 04.3	-1.5
WHF	Hehuan Shan	2.21	352	eP	Pn	17 46 40.5	-0.1
WHF				S	Sn	17 47 07.5	-0.5
NACB	Ninganchiao	2.22	360	ePn	Pn	17 46 38.2	-2.5
NACB				eSn	Sn	17 47 09.0	+0.8
TWT	Tachien	2.33	350	eP	Pn	17 46 42.6	+0.3
TWT				S	Sn	17 47 11.2	+0.2
TCU	Taichung	2.35	339	eP	Pn	17 46 43.2	+0.6
ENA	Nanau	2.48	3	eP	Pn	17 46 44.0	-0.3
PNG	Penghu	2.48	311	eP	Pn	17 46 42.8	-1.5
PNG				S	Sn	17 47 11.9	-2.8
NNS	Nan Shan	2.49	355	eP	Pn	17 46 45.5	+1.1
NNS				S	Sn	17 47 15.0	+0.1
TWQ1	Liyutan	2.51	343	eP	Pn	17 46 45.7	+1.0
TWQ1				S	Sn	17 47 17.8	+2.4
TWC	Suao	2.66	5	eP	Pn	17 46 46.9	+0.1
TWC				S	Sn	17 47 18.1	-1.0
ENTT	Nioudou	2.68	359	eP	Pn	17 46 47.1	0.0
YHNB	Yeheng	2.72	356	ePn	Pn	17 46 48.1	+0.5
YHNB				eSn	Sn	17 47 25.1	+4.6
NSK	Sanguang	2.73	355	eP	Pn	17 46 48.1	+0.5
NSK				S	Sn	17 47 20.8	0.0
NSTT	Nanjuang	2.73	349	eP	Pn	17 46 49.6	+1.8
NSTT				S	Sn	17 47 23.1	+2.3
TWE	Neicheng	2.76	1	eP	Pn	17 46 48.7	+0.5
TWE				S	Sn	17 47 21.9	+0.3
TATO	Taipei	3.02	358	ePn	Pn	17 46 54.2	+2.6
TATO				eSn	Sn	17 47 28.3	+0.3
NWF	Wu-fen Shan	3.12	3	eP	Pn	17 46 53.6	+0.6
KNM	Kinmen	3.81	311	eP	Pn	17 47 03.2	+0.6
KSRS	Korea Array	16.39	18	LR	LR	17 56 07.5	
	comp=Z,40nm,21.4s,baz=195,slow=37						
MJAR	Matsushiro Arr	20.49	41	P	P	17 50 41.8	-0.1
	1.4nm,0.9s,baz=224,slow=9.8,SNR=3.9						
ASAJ	Asahikawa	28.11	33	P	P	17 51 58.1	+2.3
	2.6nm,0.7s,mb4.0,baz=207,slow=19,SNR=4.5						
SONM	Songino Array	28.57	338	P	P	17 51 59.5	-0.4
	0.8nm,0.8s,mb3.5,baz=151,slow=9.2,SNR=4.3						
MKAR	Makanchi Array	40.22	318	P	P	17 53 42.2	+1.6
	2.8nm,0.8s,mb4.1,baz=117,slow=10.0,SNR=13						
MKAR				PcP	PcP	17 55 44.1	-0.3
	0.3nm,0.5s,baz=117,slow=2.0,SNR=3.8						
ZALV	Zalesovo Beam	42.33	328	P	P	17 53 56.3	-1.5
	0.9nm,0.4s,mb3.8,baz=108,slow=8.4,SNR=6.0						
WRA	Warramunga Arr	43.45	162	P	P	17 54 04.1	-3.1
	0.9nm,0.7s,mb3.6,baz=343,slow=9.1,SNR=6.5						
TKM2	Tokmak 2	43.46	310	eP	P	17 54 09.1	+2.0
KURK	Kurchatov	44.06	321	eP	P	17 54 12.6	+0.8
	1.9nm,0.7s,mb3.9						
ASAR	Alice Springs	46.89	164	P	P	17 54 33.1	-1.3
	0.5nm,0.8s,mb3.5,baz=350,slow=7.1,SNR=5.0						
BRVK	Borovoye	49.72	322	P	P	17 54 56.2	+0.2
	3.8nm,0.9s,mb4.4						
AKASG	Malin Array Be	74.79	319	P	P	17 57 43.5	-0.7
	1.9nm,0.7s,mb4.1,baz=61,slow=5.7,SNR=5.0						
NB2	NORSAR Subarra	80.38	332	P	P	17 58 14.7	-0.5
	comp=Z,0.5nm,0.5s,mb3.7,baz=57,slow=5.9						
NOA	NORSAR Array B	80.38	332	P	P	17 58 14.8	-0.3
	comp=Z,0.8nm,0.8s,mb3.7,baz=58,slow=5.4,SNR=3.3						
NOA				LR	LR	18 37 44.4	
	comp=Z,26nm,18.2s,baz=75,slow=38						
GERES	GERESS Array B	84.81	321	P	P	17 58 38.7	+0.2
	comp=Z,0.3nm,0.6s,mb3.6,baz=52,slow=6.4,SNR=3.2						

*IDC **10** 17:47:43.4±1.8,021N×9783E,h0km,mb4.2/6,mb1 4.1/8, mb1mx3.9/22,mbtmp4.0/8,ML3.8/2,MS3.2/1,Ms1 3.2/1, ms1mx2.6/24,Error ellipse: s-maj=64.1km s-min=17.5km az=64.0*

*DJA **10** 17:47:45,009N×9749E,h24km,ML4.2/4*

*ISCJB **10** 17:47:46.5±1.0,030N±0.10×979E±02,h33km,mb4.1/8, Error ellipse: s-maj=28.0km s-min=11.2km az=161.8*

*NEIC **10** 17:47:48.0±0.9,028N×9792E,h30km,mb4.1/2,Error ellipse: s-maj=27.4km s-min=9.2km az=67.0*

ISC 10 17:47:49.4±1.2,04N±01×981E±02,h35km,n15,σ0°51/14, mb4.1/8,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.55	19	Pn	Pn	17 48 29.0	+0.6
	2.8nm,0.3s,baz=163,slow=8.9,SNR=6.3						
PSI	Prapat	2.55	19	⇑eP	Pn	17 48 28.2	-0.1
CMAR	Chiang Mai Arr	17.99	3	P	Pn	17 51 56.0	-0.9
	0.4nm,0.3s,baz=193,slow=10,SNR=6.5						
WRA	Warramunga Arr	40.85	122	P	P	17 55 27.9	-0.3
	1.2nm,0.6s,mb3.7,baz=302,slow=9.0,SNR=16						
WRAB	Tennant Creek	40.86	122	eP	P	17 55 27.8	-0.4
	1.9nm,0.6s,mb3.9						
ASAR	Alice Springs	42.20	127	P	P	17 55 39.3	+0.1
	1.0nm,0.6s,mb3.6,baz=298,slow=6.9,SNR=14						
KSRS	Korea Array	46.03	33	LR	LR	18 16 56.4	
	comp=Z,30nm,20.6s,baz=36,slow=38						
SONM	Songino Array	47.82	8	P	P	17 56 24.6	+1.2
	1.2nm,0.5s,mb4.2,baz=192,slow=8.7,SNR=11						
MKAR	Makanchi Array	48.25	345	P	P	17 56 26.9	+0.1
	2.3nm,0.5s,mb4.5,baz=158,slow=8.7,SNR=15						
MKAR	Makanchi Array	48.25	345	P	P	17 56 26.9	+0.1
STKA	Stephens Creek	52.15	132	P	P	17 56 57.0	+0.4
	2.7nm,0.9s,mb4.2,baz=270,slow=2.0,SNR=3.0						
KURK	Kurchatov	52.81	345	eP	P	17 57 00.9	-0.3
	1.9nm,0.8s,mb4.1						
ZAA0	Zalesovo Array	54.51	350	eP	P	17 57 13.5	-0.1
ZALV	Zalesovo Beam	54.51	350	P	P	17 57 13.6	0.0
	3.4nm,0.5s,mb4.7,baz=180,slow=6.6,SNR=23						
ZALV	Zalesovo Beam	54.51	350	P	P	17 57 13.6	0.0

IDC 10 17:53:49.8±44.0,1572S×16580E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.7/18,mbtmp4.0/4,Error ellipse: s-maj=747.2km s-min=104.5km az=70.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	27.27	230	P	P	17 59 36.1	+0.1
	4.9nm,1.2s,baz=70,slow=12,SNR=3.7						
WRA	Warramunga Arr	30.22	257	P	P	18 00 02.0	-0.3
	0.3nm,0.5s,baz=84,slow=7.7,SNR=4.9						
ASAR	Alice Springs	31.00	250	P	P	18 00 09.6	+0.3
	1.3nm,0.4s,baz=81,slow=9.5,SNR=20						
FITZ	Fitzroy Crossi	38.45	261	P	P	18 01 13.6	-0.1
	2.1nm,0.6s,baz=97,slow=12,SNR=7.7						

*DJA **10** 18:21:28,014N×9726E,h0km,ML4.2/4*

*ISCJB **10** 18:21:31.0±1.1,03N±01×977E±02,h23km,mb4.0/7,Error ellipse: s-maj=25.2km s-min=12.3km az=150.1*

*NEIC **10** 18:21:32.8±0.8,025N×9766E,mb4.2/2,Error ellipse: s-maj=18.5km s-min=8.7km az=60.0*

*IDC **10** 18:21:33.2±1.9,025N×9769E,h23km±6km,mb3.8/5, mb1 3.8/7,mb1mx3.6/22,mbtmp3.7/7,ML3.8/2,Error ellipse: s-maj=62.4km s-min=16.2km az=64.0*

ISC 10 18:21:33.6±1.1,03N±01×978E±02,h25km, h25km±.1km:pP-P,n12,σ0°40/12,mb4.0/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.72	25	Pn	Pn	18 22 15.6	-0.1
	2.4nm,0.3s,baz=175,slow=8.9,SNR=7.8						
CMAR	Chiang Mai Arr	18.06	4	P	Pn	18 25 43.0	+0.1
	0.4nm,0.3s,baz=192,slow=11,SNR=12						
KKM	Kota Kinabalu	19.26	72	eP	Pn	18 25 57.6	+0.1
LSA	Lhasa	29.89	348	P	P	18 27 39.4	0.0
	3.8nm,1.0s,mb4.1						
WRA	Warramunga Arr	41.09	121	P	P	18 29 15.2	-0.5
	0.7nm,0.6s,mb3.5,baz=302,slow=9.0,SNR=8.7						
WRA				pP	pP	18 29 22.2	-1.0
	1.3nm,0.5s,baz=302,slow=9.0,SNR=9.4						
WRAB	Tennant Creek	41.09	121	eP	P	18 29 15.7	0.0
	3.5nm,0.7s,mb4.1						
ASAR	Alice Springs	42.41	127	P	P	18 29 27.0	+0.6
	1.0nm,0.8s,mb3.5,baz=300,slow=7.4,SNR=17						
ASAR				pP	pP	18 29 34.0	0.0
	1.0nm,0.6s,baz=299,slow=7.4,SNR=7.1						
SONM	Songino Array	47.91	8	P	P	18 30 10.6	+0.8
	1.4nm,0.8s,mb4.0,baz=187,slow=8.8,SNR=10						
SONM				pP	pP	18 30 17.7	+0.3
	0.7nm,0.6s,baz=191,slow=9.6,SNR=4.8						
MKAR	Makanchi Array	48.23	346	P	P	18 30 12.2	0.0
	0.9nm,0.7s,mb3.9,baz=146,slow=8.8,SNR=6.1						
GUMO	Guam	48.45	72	P	P	18 30 14.0	-0.4
	118nm,1.3s						
ZAA0	Zalesovo Array	54.51	351	eP	P	18 30 58.4	-0.7
ZALV	Zalesovo Beam	54.51	351	P	P	18 30 59.2	+0.1
	3.2nm,0.7s,mb4.5,baz=183,slow=6.2,SNR=17						

*LDG **10** 19:03:19.9±1.2,3912N×2014E,h10km,Mb4.6/14,Ms2.6/6, Error ellipse: s-maj=59.5km s-min=9.5km az=12.0*

*ISCJB **10** 19:03:23.6±0.2,3931N±001×2006E±002,h10km, mb4.2/29,MS3.2/11,Error ellipse: s-maj=2.3km s-min=1.6km az=40.3*

*IDC **10** 19:03:23.5±0.7,3940N×2039E,h0km,mb4.2/14, mb1 4.2/22,mb1mx4.1/34,mbtmp4.1/22,ML4.0/8,MS3.2/13, Ms1 3.2/13,ms1mx3.0/39,Error ellipse: s-maj=14.7km s-min=12.9km az=12.0*

*CSEM **10** 19:03:25.2±0.1,3932N×2018E,h5km,mb4.3/3,Ms2.6, Error ellipse: s-maj=1.7km s-min=1.4km az=78.0*

*PRU **10** 19:03:25.3,3943N×1968E,h0km,M4.1*

*MOS **10** 19:03:25.6±1.1,3928N×2003E,h33km,mb4.6/9,Error ellipse: s-maj=4.8km s-min=2.9km az=97.4*

*ATH **10** 19:03:25.4,3929N×2028E,h16km±1km,MD4.1/20,ML4.0*

*THE **10** 19:03:25.4,3928N×2021E,h0km,ML4.5*

*NEIC **10** 19:03:25.4,3928N×2021E,h0km,mb4.1/17,ML4.0(ATH), ML4.5(THE),After THE.*

*PDG **10** 19:03:26.7±0.7,3928N×2026E,h24km±4km,ML3.9/9, Error ellipse: s-maj=2.2km s-min=2.1km az=90.0*

*TIR **10** 19:03:31.2±3.6,3991N×1987E,h6km±37km*

*HLW **10** 19:03:34.6,3958N×2481E,h33km,Mb3.9*

*SOF **10** 19:03:45.8,4037N×2142E,h20km,MD3.6*

ISC 10 19:03:25.8±0.4,3931N±001×2015E±002,h11km±2km, n349,σ1°37/428,mb4.2/31,MS3.2/11,42C-30D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.27	32	ePg	Pg	19 03 29.6	-1.7
IGT				eSg	Sg	19 03 33.3	-1.7
IGT	Igoumenitsa	0.27	32	ePg	Pg	19 03 29.5	-1.8
IGT				eSg	Sg	19 03 33.3	-1.7
KEK	Kerkira	0.49	326	ePN	Pg	19 03 36.0	+0.7
KEK				eSN	Sg	19 03 44.9	+3.1
SRN	Sarande	0.58	349	ePN	Pg	19 03 36.7	-0.5
JAN	Janina	0.65	57	ePN	Pg	19 03 36.3	-2.0
JAN				eSN	Sg	19 03 44.7	-2.1
LKD	Levkas	0.71	147	ePg	Pg	19 03 37.5	-2.1
LKD				eSg	Sg	19 03 48.9	-0.1
TPE	Tepelena	0.99	354	ePN	Pn	19 03 46.2	+0.6
VLS	Valsamata	1.18	163	ePg	Pg	19 03 46.3	-2.1
VLS				eSg	Sg	19 04 04.8	+1.1
VLS	Valsamata	1.18	163	ePN	Pn	19 03 46.6	-1.6
VLS				eSN	Sn	19 04 03.6	-0.6
VLS	Valsamata	1.18	163	ePn	Pn	19 03 46.6	-1.6
VLS				eSn	Sn	19 04 03.6	-0.6
VLS				eSg	Sg	19 04 04.8	+1.0
KFL	Anninata	1.30	157	ePg	Pn	19 03 49.3	-0.5
EVR	Evrytania	1.35	106	ePN	Pn	19 03 49.4	-1.1
THL	Klokotos Trika	1.47	79	ePg	Pn	19 03 51.9	-0.3
THL				eSg	Sg	19 04 13.1	0.0
THL	Klokotos Trika	1.47	79	ePN	Pn	19 03 50.8	-1.4
THL				eSN	Sn	19 04 10.2	-1.1
THL	Klokotos Trika	1.47	79	ePn	Pn	19 03 51.9	-0.3
THL				eSn	Sn	19 04 10.1	-1.2
THL				eSg	Sg	19 04 13.1	+0.1
KZN	Kozani	1.60	51	ePN	Pn	19 03 53.6	-0.4
KZN				eSN	Sn	19 04 16.1	+1.5
AGG	Agios Georgios	1.72	99	ePb	Pn	19 03 55.5	-0.2
AGG				eSb	Sb	19 04 18.8	-0.2
FNA	Florina	1.75	32	ePb	Pn	19 03 56.1	0.0
FNA				eSb	Sb	19 04 21.6	+1.7
FNA	Florina	1.75	32	iPG	Pn	19 03 56.1	+0.1
FNA				iSG	Sg	19 04 21.5	-0.6
FNA	Florina	1.75	32	ePb	Pn	19 03 56.1	+0.1
FNA				eSb	Sg	19 04 21.5	-0.6
OHR	Ohrid	1.87	15	ePb	Pb	19 03 59.2	-0.8
OHR				eSb	Sb	19 04 23.8	+0.5
OHR	Ohrid	1.87	15	iPG	Pn	19 03 59.2	+1.5
OHR	Ohrid	1.87	15	iPn	Pn	19 03 59.6	+2.0
OHR				eSn	Sn	19 04 24.5	+3.2
OHR	Ohrid	1.87	15	iPn	Pn	19 03 59.6	+1.9
OHR				eSn	Sn	19 04 24.5	+3.2
BIA	Bitola	1.93	27	ePb	Pn	19 03 59.8	+1.2
BIA				eSb	Sb	19 04 26.7	+1.6
BIA	Bitola	1.93	27	ePn	Pn	19 04 00.1	+1.5
BIA				eSn	Sn	19 04 26.8	+4.0
LIT	Litokhoron	1.97	66	ePb	Pn	19 03 59.5	+0.4
LIT				eSb	Sb	19 04 26.0	-0.3
TIR	Tirane	2.05	354	ePn	Pn	19 04 01.9	+1.8
QSH	Qafa e Shtames	2.22	355	ePN	Pn	19 04 04.0	+1.5
KRUS	Krusevo	2.23	22	iPn	Pn	19 04 04.6	+2.1
KRUS				eSn	Sn	19 04 32.6	+2.5
KRUS	Krusevo	2.23	22	iPn	Pn	19 04 04.6	+2.0
KRUS				eSn	Sn	19 04 32.5	+2.5
LKR	Lokris	2.32	106	ePn	Pn	19 04 04.5	+0.6
LKR	Lokris	2.32	106	ePn	Pn	19 04 04.4	+0.6
XOR	Xorichti	2.36	88	ePn	Pn	19 04 04.9	+0.4
NEO	Neokhori	2.39	89	ePN	Pn	19 04 05.0	+0.2
PHP	Peshkopia	2.39	5	ePN	Pn	19 04 06.9	+2.1
GRG	Griva	2.39	46	ePn	Pn	19 04 04.6	-0.2
GRG				eSn	Sn	19 04 39.2	+5.2
THE	Thessaloniki	2.54	58	ePn	Pn	19 04 06.9	+0.1
ITM	Ithomi	2.54	146	ePN	Pn	19 04 08.1	+1.2
LTK	Loutraki	2.55	119	ePn	Pn	19 04 07.3	+0.3
PE1	Pezze di Greco	2.57	306	ePn	Pn	19 04 08.4	+1.1
HORT	Hortiatis	2.61	59	ePn	Pn	19 04 07.7	-0.2
VLX	Vlachokerasia	2.61	137	ePn	Pn	19 04 09.4	+1.5
TIP	Timpagrande	2.63	268	eP	Pn	19 04 09.5	+1.3
TIP	Timpagrande	2.63	268	eP	Pn	19 04 09.5	+1.3
VAY	Valandovo	2.73	42	ePn	Pn	19 04 09.3	-0.2
VAY	Valandovo	2.73	42	ePn	Pn	19 04 09.6	0.0
VAY				eSn	Sn	19 04 40.6	-1.9
VAY	Valandovo	2.73	42	ePn	Pn	19 04 09.3	-0.3
VAY				eSn	Sn	19 04 40.6	-2.0
PUK	Puka	2.74	356	ePN	Pn	19 04 10.3	+0.7
ULC	Ulcinj	2.74	346	⇑iPn	Pn	19 04 09.9	+0.3
PLG	Polygyros	2.75	66	ePn	Pn	19 04 09.8	-0.1
PLG				eSn	Sn	19 04 43.6	+0.6
PLG	Polygyros	2.75	66	ePN	Pn	19 04 10.0	+0.2
PAIG	Paliouri	2.80	76	ePn	Pn	19 04 10.4	0.0
PAIG				eSn	Sn	19 04 44.6	+0.4
KNT	Kendrikon	2.81	48	ePn	Pn	19 04 10.7	+0.2
SKO	Skopje	2.84	20	iPn	Pn	19 04 12.8	+1.8
SKO				eSn	Sn	19 04 43.1	-2.0
SKO	Skopje	2.84	20	ePn	Pn	19 04 12.4	+1.4
SKO				eSn	Sn	19 04 43.1	-2.0
STIP	Stip	2.85	32	ePn	Pn	19 04 12.4	+1.3
STIP	Stip	2.85	32	iPn	Pn	19 04 12.8	+1.7
AOS	Alonnisos	2.90	92	ePn	Pn	19 04 11.7	-0.2
DID	Didima	3.02	126	ePn	Pn	19 04 13.4	-0.1
NAIG	Nisos Aigina	3.04	119	ePN	Pn	19 04 14.0	+0.2
NAIG	Nisos Aigina	3.04	119	ePn	Pn	19 04 13.0	-0.8
BCI	Bajram Curri	3.06	359	ePN	Pn	19 04 15.5	+1.5
SG1	Sgolgore (BA)	3.07	301	ePn	Pn	19 04 16.0	+1.8
ATH	Athens Observa	3.10	114	ePN	Pn	19 04 14.5	0.0
OUR	Ouranopolis	3.13	70	ePn	Pn	19 04 15.3	+0.4
BUM	Brajici-Budva	3.14	343	⇓iPn	Pn	19 04 15.6	+0.5
BUM				eSn	Sn	19 04 55.2	+2.7
BUM	Brajici-Budva	3.14	343	iPN	Pn	19 04 15.6	+0.5
BUM				iSG	Sn	19 04 55.2	+2.7
PTL	Penteli	3.17	112	ePN	Pn	19 04 16.0	+0.5
PDG	Podgorica	3.19	348	iPN	Pn	19 04 16.3	+0.5
PDG				iSG	Sn	19 04 55.6	+1.8
PDG	Podgorica	3.19	348	⇑iPn	Pn	19 04 16.3	+0.5
PDG				eSn	Sn	19 04 55.6	+1.8
TTG	Podgorica	3.19	348	⇑iPn	Pn	19 04 16.3	+0.5
TTG				eSn	Sn	19 04 55.6	+1.8
PVY	Plav	3.29	358	⇓iPn	Pn	19 04 18.1	+0.7
PVY				eSn	Sn	19 04 58.6	+2.4
HCY	Herceg Novi	3.38	339	⇓iPn	Pn	19 04 18.1	-0.3
HCY				eSn	Sn	19 05 00.2	+1.8
VLI	Veliai	3.40	139	ePN	Pn	19 04 18.9	+0.2
CUC	Castrocucco	3.41	283	ePn	Pn	19 04 21.8	+2.9
CEL	Celeste	3.48	254	ePn	Pn	19 04 20.7	+0.8
CEL				eSn	Sn	19 04 55.0	-6.1
CEL	Celeste	3.48	254	ePn	Pn	19 04 20.7	+0.8
CEL				eSn	Sn	19 04 55.0	-6.1
NVR	Nevrokopi	3.50	53	ePN	Pn	19 04 20.6	+0.6
MMB	Musomiste	3.56	49	iP	Pn	19 04 21.5	+0.6
BEY	Berane	3.57	357	⇓iPn	Pn	19 04 22.5	+1.5
BEY				eSn	Sn	19 05 05.5	+2.4
IVA	Berane	3.57	357	⇓iPn	Pn	19 04 22.5	+1.5
IVA				eSn	Sn	19 05 05.5	+2.4
NKY	Niksic	3.61	346	⇓iPn	Pn	19 04 22.4	+0.8
NKY				eSn	Sn	19 05 05.6	+1.5
TREB	Trebinje	3.67	339	ePn	Pn	19 04 21.9	-0.5
TREB				eSn	Sn	19 05 01.1	-4.5
KYTH	Kithira	3.79	142	ePN	Pn	19 04 25.5	+1.4
KYTH	Kithira	3.79	142	ePn	Pn	19 04 26.0	+1.9
BRY	Bratogost	3.79	342	⇑iPn	Pn	19 04 24.0	-0.1
BRY				eSn	Sn	19 05 09.9	+1.3
LOS	Limnos	3.86	79	ePn	Pn	19 04 25.4	+0.3
UPM	Unac-Piva	4.00	347	⇑iPn	Pn	19 04 28.2	+1.2
UPM				eSn	Sn	19 05 15.0	+1.1
STON	Ston	4.01	333	ePn	Pn	19 04 26.7	-0.5
STON				Sn	Sn	19 05 13.3	-0.8
STON	Ston	4.01	333	ePn	Pn	19 04 26.6	-0.5
STON				Sn	Sn	19 05 13.3	-0.8
VTS	Vitosha	4.02	34	iP	Pn	19 04 28.7	+1.5
VTS	Vitosha	4.02	34	⇓iP	Pn	19 04 28.9	+1.7
VTS	Vitosha	4.02	34	⇓P	Pn	19 04 28.9	+1.7
PLE	Pljevlja	4.06	352	⇓iPn	Pn	19 04 29.0	+1.2
PLE				eSn	Sn	19 05 16.9	+1.7
RZN	Rozhen	4.22	54	iP	Pn	19 04 30.9	+1.0
PGB	Panagyurishte	4.45	42	iP	Pn	19 04 34.6	+1.5
PLD	Plovdiv	4.45	50	ePn	Pn	19 04 34.5	+1.4
PLD	Plovdiv	4.45	50	iP	Pn	19 04 34.

comp=Z,7.3nm,0.4s
SOKA Soboth 8.26 335⇑*i*Pn Pn 19 05 24.6 -0.9
SOKA ⇓*i*Sn Sn 19 06 56.4 -2.3
OBKA Obir 8.29 332⇓*i*Pn Pn 19 05 25.2 -0.5
OBKA ⇑*i*Sn Sn 19 06 56.3 -3.0
OBKA Obir 8.29 332 Pn Pn 19 05 25.2 -0.6
GORS Gorjuse 8.34 329 *i* Pn Pn 19 05 26.3 -0.1
PSZ Piszkesteto 8.61 359 *e* Pn 19 05 30.6 +0.4
PSZ Piszkesteto 8.61 359⇓*i*P Pn 19 05 30.6 +0.4
PSZ Piszkesteto 8.61 359 *e*Pn Pn 19 05 27.5 -2.7
comp=Z,9.0nm,0.8s
PSZ Piszkesteto 8.61 359 *e*P Pn 19 05 30.6 +0.4
PSZ Piszkesteto 8.61 359 *e*Pn Pn 19 05 27.6 -2.7
comp=Z,9.0nm,0.8s
PSZ ⇓P 19 05 30.6
ARSA Arzberg 8.62 339⇑*i*Sn Sn 19 07 05.7 -1.9
ARSA Arzberg 8.62 339⇓*i*Pn Pn 19 05 29.6 -0.9
SNR=14
ARSA ⇑*i*Sn Sn 19 07 05.7 -1.9
ARSA Arzberg 8.62 339 Pn Pn 19 05 29.6 -0.8
comp=Z,14nm,5.0s
VLC Villacollemand 8.76 307 *e*Pn Pn 19 05 33.8 +1.5
VLC *e*Sn Sn 19 07 04.5 -6.5
SLUM 8.82 151 P Pn 19 05 30.6 -2.6
SLUM 8.82 151 P Pn 19 05 30.6 -2.6
PGF Pioggiola 9.04 295 *e*P Pn 19 05 34.2 -1.9
comp=Z,79nm,1.2s
PGF Pioggiola 9.04 295 *e*P Pn 19 05 34.2 -1.9
comp=Z,39nm,1.2s
BURAR Bucovina Array 9.08 22⇑*i*P Pn 19 05 38.4 +1.7
CONA Conrad Observa 9.16 342⇑*i*Pn Pn 19 05 36.9 -0.8
CONA ⇓*i*Sn Sn 19 07 18.3 -2.4
KECS Kecovo 9.18 1 *e*PN Pn 19 05 37.8 -0.2
KECS *e*SN Sn 19 07 17.5 -3.7
KBA Koelnbreinsper 9.22 330⇑*i*Sn Sn 19 07 17.6 -4.6
KBA Koelnbreinsper 9.22 330⇑*i*Pn Pn 19 05 38.7 +0.2
SNR=11
KBA ⇑*i*Sn Sn 19 07 17.6 -4.6
KBA Koelnbreinsper 9.22 330 Pn Pn 19 05 38.7 +0.2
comp=Z,10.0nm,8.0s
KEST Kesra 9.29 251 Pn Pn 19 05 42.5 +2.9
comp=Z,0.1nm,0.3s,baz=256,slow=12,SNR=5.1
MODS Modra-Piesok 9.30 348 *e*PN Pn 19 05 39.8 +0.2
MODS *e*SN Sn 19 07 17.1 -7.0
MODS Modra-Piesok 9.30 348 *e*Pn Pn 19 05 39.9 +0.3
MODS *e*Sn Sn 19 07 17.1 -7.0
ABTA Abfaltersbach 9.30 326 *i* Pn Pn 19 05 39.4 -0.2
SNR=5.1
ABTA ⇓*i*Sn Sn 19 07 22.5 -1.7
KOLL Kolacno 9.35 353 *e*PN Pn 19 05 39.9 -0.5
MOA Molln 9.54 335⇑*i*Sn Sn 19 07 26.4 -3.7
MOA Molln 9.54 335⇑*i*Pn Pn 19 05 42.3 -0.7
SNR=18
MOA ⇑*i*Sn Sn 19 07 26.4 -3.7
MOA Molln 9.54 335 Pn Pn 19 05 42.3 -0.7
comp=Z,18nm,3.0s
MOA Molln 9.54 335⇑*i*Pn Pn 19 05 42.4 -0.7
MOA *i* Sn Sn 19 07 26.4 -3.7
CRVS Cervenica-Dubn 9.64 5 *e*PN Pn 19 05 44.8 +0.5
KOLS Kolonicke sedl 9.74 8 *e*PN Pn 19 05 46.6 +0.8
HMAT Matruh 9.97 143 ⇓P Pn 19 05 38.2 -11
WTTA Wattenberg 10.08 325⇓*i*Sn Sn 19 07 40.6 -2.8
WTTA Wattenberg 10.08 325⇓*i*Pn Pn 19 05 50.2 -0.2
SNR=8.4
WTTA ⇓*i*Sn Sn 19 07 40.6 -2.8
WTTA Wattenberg 10.08 325 Pn Pn 19 05 50.2 -0.2
comp=Z,8.0nm,4.0s
WTTA *i* S Sn 19 07 40.6 -2.8
NIE Niedzica 10.11 1 *e*P Pn 19 05 52.5 +1.7
WATA Walderalm 10.16 325⇑*i*Pn Pn 19 05 51.6 +0.1
SNR=12
WATA Walderalm 10.16 325 Pn Pn 19 05 51.6 +0.1
comp=Z,11nm,7.0s
FETA Feichten 10.33 321⇑*i*Pn Pn 19 05 54.2 +0.5
FETA ⇑*i*Sn Sn 19 07 46.6 -2.8
MOTA Moosalm 10.38 324⇑*i*Sn Sn 19 07 49.4 -1.4
MOTA Moosalm 10.38 324⇑*i*Pn Pn 19 05 54.6 +0.1
SNR=31
MOTA ⇑*i*Sn Sn 19 07 49.4 -1.4
MOTA Moosalm 10.38 324 Pn Pn 19 05 54.6 +0.1
comp=Z,30nm,9.0s
MOTA *i* S Sn 19 07 49.4 -1.4
TREC Trest 10.53 343 AMS AMS 19 12 00.0
comp=Z,300nm,10.5s
SBF Sospel 10.55 300 *e*P Pn 19 05 55.8 -1.0
DAVOX Davos/Dischmat 10.59 318 Pn Pn 19 05 58.6 +1.3
comp=Z,2.2nm,0.3s,baz=153,slow=15,SNR=19
DAVOX Sn Sn 19 07 56.2 +0.3
comp=Z,0.8nm,0.3s,baz=147,slow=23,SNR=3.0
GEC2 GERESS Array S 10.60 336 *e*Pn Pn 19 05 56.5 -1.0
GEC2 *e*Sn Sn 19 07 48.3 -7.7
GERES GERESS Array B 10.60 336 Pn Pn 19 05 56.5 -1.0
comp=Z,1.2nm,0.3s,baz=159,slow=13,SNR=40
GERES Sn Sn 19 07 50.6 -5.5
comp=Z,0.4nm,0.3s,baz=156,slow=22,SNR=3.1
OKC Ostrava-Krasne 10.62 353 *e*P Pn 19 05 58.1 +0.3
OKC AMS AMS 19 11 20.0
comp=Z,300nm,9.6s
MORC Moravsky Berou 10.63 351⇓*i*P Pn 19 05 58.2 +0.3
MORC Moravsky Berou 10.63 351 *e*Pn Pn 19 05 57.7 -0.2
comp=Z,3.4nm,0.9s
MORC Moravsky Berou 10.63 351 P Pn 19 05 58.2 +0.3
MORC Moravsky Berou 10.63 351 *e*Pn Pn 19 05 57.7 -0.2
comp=Z,3.4nm,0.9s
DAVOS Davos 10.67 318 P Pn 19 05 58.6 +0.1
DAVOS S Sn 19 07 56.2 -1.6
TUE Stuetta 10.67 316 *e*Pn Pn 19 05 59.2 +0.7
comp=Z,8.1nm,0.4s
TUE Stuetta 10.67 316 *e*Pn Pn 19 05 59.2 +0.8
comp=Z,8.1nm,0.4s
TUE *e*Sn Sn 19 07 52.8 -5.1
KHC Kasperske Hory 10.89 337 *e*P Pn 19 06 00.3 -1.1
KHC *ex* x 19 06 23.0
KHC AMS AMS 19 11 00.0
comp=Z,300nm,12.1s
KHC Kasperske Hory 10.89 337 *e*P Pn 19 06 00.3 -1.1
KHC *e* 19 06 23.0
DAVA Damuels 10.93 320⇓*i*Pn Pn 19 06 03.0 +1.1
DAVA ⇑*i*Sn Sn 19 08 03.5 -0.7
SWA2 10.95 155 ⇓P Pn 19 06 01.0 -1.4
SWA2 S Sn 19 07 48.9 -16
MBDF Montbardon 11.32 303 *e*P Pn 19 06 06.4 -1.0
DPC Dobruska-Polom 11.37 347 *e*P Pn 19 06 07.4 -0.6
DPC AMS AMS 19 11 10.0
comp=Z,300nm,9.1s
PRU Pruhonice 11.40 341 *e*P Pn 19 06 07.9 -0.5
PRU AMS AMS 19 11 30.0
comp=Z,300nm,11.2s
PRU Pruhonice 11.40 341 *e*P Pn 19 06 07.9 -0.5
BNI Bardonecchia 11.52 304 *e*P Pn 19 06 11.9 +1.8
LPG La Plagne 11.67 306 *e*P Pn 19 06 10.4 -1.7
comp=Z,15nm,0.6s
LPG La Plagne 11.67 306 *e*P Pn 19 06 10.4 -1.7
LPG pmax pmax
comp=Z,8.0nm,0.6s
LPG La Plagne 11.67 306 *e*P Pn 19 06 10.4 -1.7
comp=Z,7.6nm,0.6s
LPL La Plagne 11.69 306 *e*P Pn 19 06 10.6 -1.8
PVCC Panska Ves 11.89 342 AMS AMS 19 11 50.0
comp=Z,300nm,11.3s
ORIF Oris-en-Rattie 11.98 302 *e*P Pn 19 06 15.3 -1.1
comp=Z,8.4nm,0.6s
ORIF *e*MLR MLR
comp=Z,132nm,17.8s
ORIF Oris-en-Rattie 11.98 302 *e*P Pn 19 06 15.3 -1.1
ORIF pmax pmax
comp=Z,4.0nm,0.6s
ORIF Oris-en-Rattie 11.98 302 *e*P Pn 19 06 15.3 -1.1
comp=Z,4.2nm,0.6s
NKC Novy Kostel 12.21 336 AMS AMS 19 13 00.0
comp=Z,300nm,9.0s
BRG Berggiesshubel 12.36 341 *e*P Pn 19 06 21.2 -0.4
comp=Z,3.7nm,0.9s
BRG
comp=N,346nm,11.3s
BRG
comp=E,150nm,11.3s
BRG
comp=Z,382nm,11.1s
BFO Black Forest 12.40 320 *e*P Pn 19 06 20.7 -1.4
BFO pmax pmax
comp=Z,19nm,1.3s
BFO Black Forest 12.40 320 *e*P Pn 19 06 20.7 -1.4
comp=Z,19nm,1.3s
BFO Black Forest 12.40 320 *e*Pn Pn 19 06 20.7 -1.4
comp=Z,19nm,1.3s
CABF La Chapelle 12.61 310 *e*P Pn 19 06 24.7 -0.3
comp=Z,16nm,0.8s
CABF La Chapelle 12.61 310 *e*P Pn 19 06 24.7 -0.3
CABF pmax pmax
comp=Z,8.0nm,0.8s
CABF La Chapelle 12.61 310 *e*P Pn 19 06 24.7 -0.3
comp=Z,8.0nm,0.8s
MOX Moxa 12.83 335 *e*P Pn 19 06 27.9 -0.1
comp=Z,12nm,0.9s
MOX *e* 19 10 12.0
MOX
comp=Z,200nm,12.0s
MOX Moxa 12.83 335 *e*P Pn 19 06 27.9 -0.1
comp=Z,12nm,0.9s
MOX *e* 19 10 12.0
HINF Hinteralfeld 12.84 316 *e*P Pn 19 06 25.3 -2.8
comp=Z,5.4nm,0.4s
HINF Hinteralfeld 12.84 316 *e*P Pn 19 06 25.3 -2.8
HINF pmax pmax
comp=Z,3.0nm,0.4s
HINF Hinteralfeld 12.84 316 *e*P Pn 19 06 25.3 -2.8
comp=Z,2.7nm,0.4s
ECH Echery 12.93 318 *e*P Pn 19 06 30.0 +0.7
ECH Echery 12.93 318 *e*Pn Pn 19 06 30.0 +0.7
CDF Champ du Feu 12.99 319 *e*P Pn 19 06 31.0 +0.9
comp=Z,4.8nm,0.4s
CDF Champ du Feu 12.99 319 *e*P Pn 19 06 31.0 +0.9
CDF pmax pmax
comp=Z,2.0nm,0.4s
CDF Champ du Feu 12.99 319 *e*P Pn 19 06 31.0 +0.9
comp=Z,2.4nm,0.4s
CLL Collm 13.00 340 *e*(PP) 19 06 41.0
comp=Z,7.0nm,1.3s
CLL *i* (PPP) 19 06 46.0
comp=Z,13nm,1.6s
CLL *e*SS 19 09 06.0
HAU Haudompre 13.23 316 *e*P Pn 19 06 32.4 -1.0
comp=Z,8.4nm,0.3s
HAU *e*MLR MLR
comp=Z,68nm,19.8s
HAU Haudompre 13.23 316 *e*P Pn 19 06 32.4 -1.0
HAU pmax pmax
comp=Z,4.0nm,0.3s
HAU Haudompre 13.23 316 *e*P Pn 19 06 32.4 -1.0
comp=Z,4.2nm,0.3s
MMAI Mount Meron Ar 13.82 112 Pn Pn 19 06 39.6 -2.1
comp=Z,1.2nm,0.3s,baz=314,slow=11,SNR=6.2
HFRF Wahat Farafira 13.91 148 ⇓P Pn 19 06 35.5 -7.3
SMF Signal de Mont 14.00 307 *e*P Pn 19 06 43.0 -0.9
comp=Z,17nm,1.0s
SMF Signal de Mont 14.00 307 *e*P Pn 19 06 43.0 -0.9
SMF pmax pmax
comp=Z,9.0nm,1.0s
SMF Signal de Mont 14.00 307 *e*P Pn 19 06 43.0 -0.9
comp=Z,8.5nm,1.0s
MEZF Maizieres J'vi 14.22 315 *e*P Pn 19 06 46.4 -0.6
LOR Lormes 14.27 309 *e*P Pn 19 06 46.1 -1.5
comp=Z,3.9nm,0.4s
LOR *e*MLR MLR
comp=Z,52nm,20.5s
LOR Lormes 14.27 309 *e*P Pn 19 06 46.1 -1.5
LOR pmax pmax
comp=Z,2.0nm,0.4s
LOR Lormes 14.27 309 *e*P Pn 19 06 46.1 -1.5
comp=Z,2.0nm,0.4s
MALT Malatya 14.29 88⇑*i*P Pn 19 06 53.1 +5.1
MALT Malatya 14.29 88 *e*Pn Pn 19 06 53.0 +5.0
comp=Z,5.1nm,0.8s
AVF Avril sur Loir 14.36 307 *e*P Pn 19 06 47.8 -1.1
comp=Z,4.4nm,0.6s
AVF Avril sur Loir 14.36 307 *e*P Pn 19 06 47.8 -1.1
AVF pmax pmax
comp=Z,2.0nm,0.6s
AVF Avril sur Loir 14.36 307 *e*P Pn 19 06 47.8 -1.1
comp=Z,2.2nm,0.6s
SSF Saint Saulge 14.39 308 *e*P Pn 19 06 47.2 -2.0
comp=Z,9.0nm,0.8s
SSF Saint Saulge 14.39 308 *e*P Pn 19 06 47.2 -2.0
SSF pmax pmax
comp=Z,5.0nm,0.8s
SSF Saint Saulge 14.39 308 *e*P Pn 19 06 47.2 -2.0
comp=Z,4.5nm,0.8s
MEM Membach 15.07 323 P Pn 19 07 06.6 +8.1
comp=Z,6.3nm,1.0s
EIL Elat 15.52 124 Pn Pn 19 07 00.3 -4.2
comp=Z,0.3nm,0.3s,baz=338,slow=22,SNR=5.0
EIL Elat 15.52 124 Pn Pn 19 07 00.3 -4.2
BAIF Baives 15.59 319 *e*P Pn 19 07 07.9 +2.6
comp=Z,5.7nm,0.7s
BAIF Baives 15.59 319 *e*P Pn 19 07 07.9 +2.6
BAIF pmax pmax
comp=Z,3.0nm,0.7s
BAIF Baives 15.59 319 *e*P Pn 19 07 07.9 +2.6
comp=Z,2.8nm,0.7s
HDK1 Dakhla 15.78 148 P Pn 19 06 59.9 -8.0
ESDC Sonseca Array 18.61 279 P Pn 19 07 46.1 +2.9
comp=Z,0.2nm,0.3s,baz=69,slow=11,SNR=13
ESDC LR LR 19 14 54.2
comp=Z,31nm,20.0s,baz=135,slow=37
ESDC Sonseca Array 18.61 279 P Pn 19 07 48.3 +5.0
comp=Z,0.4nm,1.0s
GUD Guadarrama 18.66 282 P Pn 19 07 47.2 +3.3
GUD pmax pmax
comp=Z,9.0nm,0.9s
GUD Guadarrama 18.66 282 P Pn 19 07 47.2 +3.3
comp=Z,9.3nm,0.9s
GNI Garni 18.93 80 LR LR 19 15 26.6
comp=Z,44nm,19.3s,baz=288,slow=39
GNI Garni 18.93 80 P Pn 19 07 44.6 -2.5
GNI pmax pmax
comp=Z,51nm,1.6s
GNI Garni 18.93 80 P Pn 19 07 44.6 -2.5
comp=Z,51nm,1.6s
ELUQ Luque 19.20 273 P Pn 19 07 53.8 +3.4
ELUQ pmax pmax
comp=Z,12nm,0.9s
ELUQ Luque 19.20 273 P Pn 19 07 53.8 +3.4
comp=Z,12nm,0.9s
OBN Obninsk 19.27 29⇑*e*P Pn 19 07 47.8 -3.4
OBN *e*S Sn 19 11 24.9 -2.1
OBN pmax pmax
comp=Z,13nm,1.2s
OBN MLR MLR
comp=Z,100nm,19.0s
OBN Obninsk 19.27 29 *e*P Pn 19 07 47.8 -3.4
comp=Z,13nm,1.2s
EADA Adamuz 19.31 274 P Pn 19 07 55.3 +3.5
comp=Z,10nm,0.9s
VSU Vasula 19.64 10 *e*P Pn 19 07 52.3 -3.2
EMIJ Mijas 19.83 270 P Pn 19 08 01.2 +3.2
comp=Z,5.9nm,0.9s
ECAB El Cabril 19.98 275 P Pn 19 08 02.8 +3.0
comp=Z,18nm,0.9s
MOS Moscow 20.14 30 *e*P P 19 08 02.1 +2.5
MOS *e* 19 08 30.8
MOS *e* 19 11 44.8
ECAL Calabor 20.55 286 P P 19 08 08.9 +4.8
comp=Z,7.2nm,0.8s
ESPR Espera 20.59 271 P P 19 08 07.2 +2.5
comp=Z,8.0nm,1.0s
TAM Tamanrasset 20.64 221 *e*P P 19 08 10.1 +4.8
MDT Midelt 21.00 260 P P 19 08 11.2 +2.0
comp=Z,4.6nm,0.9s,mb3.8,baz=76,slow=11,SNR=11
EMIN Mina Concepcio 21.01 274 P P 19 08 12.2 +2.9
comp=Z,10nm,1.2s,mb4.0
EBAD Badajoz 21.08 277 P P 19 08 14.0 +4.0
comp=Z,6.5nm,0.8s,mb4.0
PBAR Barrancos 21.21 276 *e*P P 19 08 14.8 +3.4
comp=Z,13nm,2.0s,mb3.9
HFS Hagfors 21.24 351 P P 19 08 10.1 -1.4
comp=Z,4.5nm,0.5s,mb4.0,baz=170,slow=9.8,SNR=34
HFS LR LR 19 16 44.0
comp=Z,45nm,19.9s,MS2.9,baz=57,slow=38
PBEJ Beja 21.88 276 *e*P P 19 08 20.7 +2.1
comp=Z,17nm,1.2s,mb4.3
NAO01 NORSAR Array S 22.32 348 *e*P P 19 08 19.4 -3.7
comp=Z,7.0nm,0.8s,mb4.1
EKA Eskdalemuir Ar 22.34 324 P P 19 08 23.4 0.0
comp=Z,8.1nm,0.8s,mb4.2,baz=125,slow=10.0,SNR=40
ESK Eskdalemuir 22.36 323 *e*P P 19 08 22.0 -1.5
ESK pmax pmax
comp=Z,14nm,0.8s,mb4.4
ESK Eskdalemuir 22.36 323 *e*P P 19 08 22.0 -1.5
comp=Z,14nm,0.8s,mb4.4
ESK Eskdalemuir 22.36 323 *e*P P 19 08 22.0 -1.4
comp=Z,14nm,0.8s,mb4.4
NB2 NORSAR Subarra 22.46 349 P P 19 08 23.2 -1.3
comp=Z,0.8nm,0.6s,mb3.3,baz=164,slow=12
NOA NORSAR Array B 22.46 349 P P 19 08 23.9 -0.6
comp=Z,9.2nm,0.8s,mb4.3,baz=166,slow=10,SNR=24
NOA LR LR 19 17 18.9
comp=Z,31nm,19.0s,MS2.8,baz=165,slow=37
PTEO Sao Teotonio 22.65 275 *e*P P 19 08 27.7 +0.9
comp=Z,36nm,1.1s,mb4.7
KAF Kangasniemi 23.14 7 *e*p P 19 08 28.9 -2.9
comp=Z,2.9nm,0.4s,mb4.1
KAF Kangasniemi 23.14 7 *e*P P 19 08 28.9 -2.9
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.1
JOF Joensuu 24.59 12 *e*p P 19 08 38.7 -6.8
comp=Z,2.1nm,0.3s,mb4.2
KLMR Klimovskoe 24.71 23 *e*P P 19 08 43.6 -3.0
KLMR pmax pmax
comp=Z,35nm,2.3s,mb4.5
KLMR Klimovskoe 24.71 23 *e*P P 19 08 43.6 -3.0
comp=Z,35nm,2.3s,mb4.5
AKTK Aktyubinsk 28.75 55 P P 19 09 20.8 -2.3
AKTK Aktyubinsk 28.75 55 P P 19 09 20.8 -2.3
AKTK LR LR 19 22 36.0
AKTO Aktyubinsk 28.75 55 P P 19 09 20.8 -2.3
comp=Z,1.1nm,0.4s,mb4.0,baz=256,slow=9.0,SNR=6.5
AKTO LR LR 19 22 36.0
comp=Z,36nm,19.6s,MS3.0,baz=6.0,slow=40
ARU Arti 30.42 43⇓*i*P P 19 09 35.5 -2.3
ARU pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
ARU Arti 30.42 43 *e*P P 19 09 35.9 -1.9
comp=Z,5.7nm,1.0s,mb4.3
ARU Arti 30.42 43 *e*P P 19 09 35.9 -1.9
comp=Z,5.7nm,1.0s,mb4.3
ARCES ARCESS Array B 30.43 4 P P 19 09 36.1 -1.6
comp=Z,4.2nm,1.0s,mb4.1,baz=188,slow=7.3,SNR=8.5
ARCES LR LR 19 21 54.4
comp=Z,49nm,19.2s,MS3.2,baz=24,slow=37
TORD Torodi Ar. Bea 30.74 217 P P 19 09 41.8 +0.8
comp=Z,3.5nm,0.7s,mb4.3,baz=30,slow=9.1,SNR=28
TORD LR LR 19 22 09.0
comp=Z,46nm,19.2s,MS3.1,baz=355,slow=36
SVE Sverdlovsk 31.64 43⇑*e*P P 19 09 47.2 -1.3
SVE *e* 19 11 12.2
SVE *e*S S 19 14 49.5 -7.7
SVE pmax pmax
comp=Z,17nm,1.1s,mb4.8
SVE Sverdlovsk 31.64 43 *e*P P 19 09 47.2 -1.3
comp=Z,17nm,1.1s,mb4.8
SVE *e*S S 19 14 49.5 -7.7
BRVK Borovoye 36.56 51 *e*P P 19 10 27.9 -3.4
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
BRVK Borovoye 36.56 51 *e*P P 19 10 27.9 -3.4
comp=Z,4.2nm,0.9s,mb4.3
BRVK Borovoye 36.56 51 *e*P P 19 10 27.9 -3.5
comp=Z,4.2nm,0.9s,mb4.3
SPITS Spitsbergen Ar 39.01 359 LR LR 19 27 16.8
comp=Z,71nm,19.6s,MS3.5,baz=250,slow=37
DBIC Dimbokro 39.53 221 LR LR 19 26 52.9
comp=Z,38nm,18.9s,MS3.3,baz=32,slow=36
KURK Kurchatov 41.85 54 *e*P P 19 11 13.2 -2.3
KURK pmax pmax
comp=Z,5.0nm,1.3s,mb4.0
KURK Kurchatov 41.85 54 *e*P P 19 11 13.2 -2.3
comp=Z,5.0nm,1.3s,mb4.0
KURK Kurchatov 41.85 54 P P 19 11 10.9 -4.5
comp=Z,6.0nm,1.2s,mb4.1
NVS Novosibirsk 44.13 48 *e*P P 19 11 29.6 -4.3
MKAR Makanchi Array 44.97 59 P P 19 11 38.8 -1.9
comp=Z,1.9nm,0.5s,mb4.2,baz=273,slow=8.4,SNR=14
MKAR LR LR 19 32 42.2
comp=Z,29nm,18.6s,MS3.2,baz=65,slow=39
ZAL Zalesovo 45.15 49 P P 19 11 40.2 -1.9
ZAA0 Zalesovo Array 45.16 49 *e*P P 19 11 38.7 -3.5
ZAA0 Zalesovo Array 45.16 49 *e*P P 19 11 38.7 -3.4
ZALV Zalesovo Beam 45.16 49 P P 19 11 40.2 -1.9
comp=Z,2.3nm,0.5s,mb4.3,baz=276,slow=8.1,SNR=12
ZALV LR LR 19 32 30.8
comp=Z,33nm,18.9s,MS3.3,baz=71,slow=39
ZALV Zalesovo Beam 45.16 49 P P 19 11 40.2 -1.9
ZALV LR LR 19 32 30.8
HVS Khovu-Aksy 51.07 51 *i* P P 19 12 25.6 -2.3
HVS pmax pmax
comp=Z,11nm,1.3s,mb4.6
ZAK Zakamensk 57.04 49 *e*P P 19 13 10.7 -0.8
ZAK pmax pmax
comp=Z,2.0nm,2.2s,mb3.8
ZAK Zakamensk 57.04 49 *e*P P 19 13 10.7 -0.8
comp=Z,2.0nm,2.2s,mb3.8
SCHQ Schefferville 57.44 317 P P 19 13 14.1 -0.1
comp=Z,2.2nm,0.5s,mb4.4,baz=5.5,slow=5.2,SNR=5.1
SONM Songino Array 59.97 51 P P 19 13 30.5 -1.5
comp=Z,1.2nm,0.9s,mb3.9,baz=288,slow=8.4,SNR=7.9
BOSA Boshof 67.74 175 P P 19 14 26.8 +3.7
comp=Z,1.5nm,0.7s,mb4.2,baz=346,slow=8.3,SNR=3.8
BOSA LR LR 19 46 06.3
comp=Z,112nm,18.1s,MS4.1,baz=150,slow=38
ULM Lac du Bonnet 74.62 323 P P 19 15 05.2 +0.5
comp=Z,2.9nm,0.6s,mb4.4,baz=68,slow=7.4,SNR=4.0
ULM Lac du Bonnet 74.62 323 P P 19 15 05.2 +0.5
KSRS Korea Array 78.84 51 LR LR 19 53 52.3
comp=Z,11nm,21.9s,MS3.1,baz=335,slow=38
MJAR Matsushiro Arr 85.41 45 P P 19 16 02.2 -1.0
comp=Z,0.8nm,0.5s,mb4.1,baz=303,slow=3.9,SNR=5.3
TXAR Lajitas Array 93.99 313 P P 19 16 45.5 +1.6
comp=Z,0.6nm,0.9s,mb4.0,baz=55,slow=4.8,SNR=4.2
WRA Warramunga Arr 120.86 91 PKP PKPdf 19 22 16.3 -2.0
comp=Z,0.7nm,1.0s,baz=310,slow=1.8,SNR=5.8
ASAR Alice Springs 122.58 95 PKP PKPdf 19 22 19.3 -2.2
comp=Z,0.3nm,0.5s,baz=296,slow=0.6,SNR=4.6

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*IDC **10** 19:10:13.2±17.0, 5208N×17867W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.6/24, mbtmp3.9/4, Error ellipse: s-maj=324.5km s-min=271.7km az=73.0*
*ISCJB **10** 19:10:31.5±0.8, 519N±0.1×17687W±009, h99km±11km, mb3.8/4, Error ellipse: s-maj=21.5km s-min=7.9km az=163.7*
*NEIC **10** 19:10:32.7±0.9, 5182N×17688W, h98km±10km, mb4.0/4, Error ellipse: s-maj=17.6km s-min=8.7km az=161.0*
ISC 10 19:10:32.9±0.8, 519N±01×17692W±009, h100km±10km, n21, σ0=94/23, mb3.8/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**2.42**	**258**	P	**Pn**	**19 11 10.7**	**-0.1**
AMKA				*e*Sn	**Sn**	**19 11 39.7**	**-0.2**
NIKO	**Nikolski**	**5.04**	**75**	*e*Pn	**Pn**	**19 11 45.2**	**-0.9**
NIKO				P		19 11 45.7	
NIKO				*e*Sn	**Sn**	**19 12 43.0**	**-0.1**
FX1	**Attu Island--F**	**6.14**	**283**	P	**Pn**	**19 12 01.3**	**+0.3**
SPIA	**Saint Paul Isl**	**6.54**	**34**	P	**Pn**	**19 12 07.2**	**+0.9**
UNV	**Unalaska Valle**	**6.59**	**69**	*e*Pn	**Pn**	**19 12 07.9**	**+0.8**
OHAK	**Old Harbor** 21nm,0.7s	**14.66**	**60**	*e*Pn	**Pn**	**19 13 55.7**	**+0.8**
SVW2	**Sparrevohn**	**14.87**	**44**	*e*Pn	**Pn**	**19 13 58.2**	**+0.6**
KDAK	**Kodiak Island** 9.1nm,0.5s	**15.14**	**58**	*e*Pn	**Pn**	**19 13 56.7**	**-4.4**
SLKM	**Skilak Lake**	**17.05**	**49**	*e*P	**Pn**	**19 14 24.1**	**-0.6**
PPLA	**Purkeypile** 63nm,1.2s	**17.14**	**41**	*e*P	**Pn**	**19 14 28.2**	**+2.5**
SEW	**Seward**	**17.29**	**51**	*e*P	**Pn**	**19 14 25.2**	**-2.5**
KTH	**Kantishna Hill**	**17.95**	**40**	*e*P	**Pn**	**19 14 35.3**	**-0.3**
TRF	**Thorofare Moun** 7.0nm,1.1s	**18.16**	**40**	*e*P	**Pn**	**19 14 39.0**	**+0.8**
BPAW	**Bear Paw Mtn.** 2μm,0.8s	**18.20**	**38**	*e*P	**Pn**	**19 14 38.1**	**-0.5**
IMA2	**Indian Mountai**	**18.38**	**31**	*e*P	**Pn**	**19 14 40.8**	**+0.1**
COLA	**College** 3.8nm,0.7s	**19.76**	**38**	P	**Pn**	**19 14 55.5**	**-1.5**
BMRM	**Bremner River**	**19.83**	**50**	P	**Pn**	**19 14 56.2**	**-1.6**
YBH	**Yreka Blue Hor** 0.8nm,0.4s,mb3.9,baz=277,slow=8.1,SNR=3.9	**37.65**	**84**	P	**P**	**19 17 38.2**	**+0.2**
NVAR	**Mina Array Bea** 0.6nm,0.7s,mb3.5,baz=294,slow=7.7,SNR=5.1	**42.33**	**85**	P	**P**	**19 18 17.6**	**+0.9**
PDAR	**Pinedale Array** 3.3nm,0.8s,mb4.1,baz=319,slow=3.8,SNR=22	**45.03**	**74**	P	**P**	**19 18 38.5**	**+0.2**
TXAR	**Lajitas Array** 0.9nm,0.7s,mb3.9,baz=304,slow=4.6,SNR=7.3	**57.42**	**83**	P	**P**	**19 20 10.9**	**-0.1**

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*CSEM **10** 19:11:18.8±0.3, 3722N×2056E, h0km±1km, ML4.0, Error ellipse: s-maj=5.1km s-min=2.2km az=51.0*

*ISCJB **10** 19:11:19.5±0.8, 3727N±003×2059E±006, h10km, Error ellipse: s-maj=7.3km s-min=3.4km az=148.2*
*NEIC **10** 19:11:19.9, 3729N×2064E, h0km, ML3.4(ATH), ML4.0(THE), After THE.*
*THE **10** 19:11:19.9, 3729N×2064E, h0km, ML4.0*
*ATH **10** 19:11:20.3, 3728N×2065E, h15km±1km, MD3.7/15, ML3.8*
ISC 10 19:11:20.4±0.8, 3726N±003×2060E±006, h10km, n45, σ1§17/66, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.86**	**10**	*e*Pg	**Pg**	**19 11 35.5**	**-1.5**
KFL				*e*Sg	**Sg**	19 11 47.8	-0.5
VLS	**Valsamata**	**0.92**	**359**	*e*Pg	**Pg**	**19 11 36.8**	**-1.3**
VLS				*e*Sg	**Sg**	19 11 49.6	-0.4
VLS	**Valsamata**	**0.92**	**359**	*e*PN	**Pg**	**19 11 37.3**	**-0.8**
VLS				*e*SN	**Sb**	19 11 50.3	-0.4
VLS	**Valsamata**	**0.92**	**359**	*e*Pg	**Pg**	**19 11 36.8**	**-1.3**
VLS				*e*Sg	**Sg**	19 11 49.7	-0.4
VLS				*e*Sb	**Sb**	19 11 50.3	-0.4
ITM	**Ithomi**	**1.06**	**94**	*e*PN	**Pn**	**19 11 39.4**	**-1.9**
ITM				*e*SN	**Sn**	19 11 54.5	-1.7
VLX	**Vlachokerasia**	**1.42**	**85**	*e*Pg	**Pg**	**19 11 45.6**	**-2.1**
VLX				*e*Sg	**Sg**	19 12 06.1	-0.1
LKD	**Levkas**	**1.45**	**2**	*e*Pg	**Pg**	**19 11 46.6**	**-1.6**
LKD				*e*Sg	**Sg**	19 12 07.1	+0.1
EVR	**Evrytania**	**1.91**	**30**	*e*PN	**Pg**	**19 11 54.7**	**-2.4**
EVR				*e*SN	**Sn**	19 12 18.6	+1.5
VLI	**Veliai**	**1.95**	**105**	*e*PN	**Pn**	**19 11 54.5**	**+1.0**
VLI				*e*SN	**Sn**	19 12 19.6	+1.6
VLI	**Veliai**	**1.95**	**105**	*e*Pn	**Pn**	**19 11 54.5**	**+1.0**
VLI				*e*Sn	**Sn**	19 12 19.5	+1.5
LTK	**Loutraki**	**2.03**	**67**	*e*Pn	**Pn**	**19 11 54.3**	**-0.4**
LTK				*e*Sn	**Sn**	19 12 21.6	+1.6
DID	**Didima**	**2.11**	**82**	*e*Pn	**Pn**	**19 11 54.9**	**-0.9**
KYTH	**Kithira**	**2.19**	**116**	*e*PN	**Pb**	**19 11 59.0**	**-1.0**
AGG	**Agios Georgios**	**2.23**	**37**	*e*Pn	**Pn**	**19 11 58.0**	**+0.7**
AGG				*e*Sn	**Sn**	19 12 26.5	+1.5
AGG	**Agios Georgios**	**2.23**	**37**	*e*Pn	**Pn**	**19 11 58.0**	**+0.6**
AGG				*e*Sn	**Sn**	19 12 26.5	+1.6
IGT	**Igoumenitsa**	**2.28**	**355**	*e*Pn	**Pn**	**19 11 58.0**	**-0.2**
IGT				*e*Sn	**Sn**	19 12 28.3	+2.1
NAIG	**Nisos Aigina**	**2.35**	**77**	*e*PN	**Pn**	**19 12 00.5**	**+1.4**
NAIG	**Nisos Aigina**	**2.35**	**77**	*e*Pg	**Pg**	**19 12 02.0**	**-3.5**
LKR	**Lokris**	**2.35**	**53**	*e*Pn	**Pn**	**19 11 59.3**	**+0.2**
LKR				*e*Sn	**Sn**	19 12 29.4	+1.4
LKR	**Lokris**	**2.35**	**53**	*e*Pb	**Pn**	**19 11 59.7**	**+0.6**
LKR				*e*Sn	**Sn**	19 12 29.4	+1.4
JAN	**Janina**	**2.40**	**5**	*e*PN	**Pn**	**19 12 01.5**	**+1.7**
JAN	**Janina**	**2.40**	**5**	*e*Pn	**Pn**	**19 12 02.0**	**+2.2**
KEK	**Kerkira**	**2.53**	**346**	*e*PN	**Pn**	**19 12 03.6**	**+2.0**
THL	**Klokotos Trika**	**2.56**	**25**	*e*Pn	**Pn**	**19 12 02.0**	**+0.1**
THL				*e*Sn	**Sn**	19 12 32.1	-1.0
THL	**Klokotos Trika**	**2.56**	**25**	*e*Pb	**Pn**	**19 12 02.5**	**+0.6**
THL				*e*Sn	**Sn**	19 12 32.1	-1.0
ATH	**Athens Observa**	**2.58**	**73**	*e*PN	**Pn**	**19 12 03.0**	**+0.8**
ATH	**Athens Observa**	**2.58**	**73**	*e*Pn	**Pn**	**19 12 04.7**	**+2.5**
PTL	**Penteli**	**2.71**	**72**	*e*PN	**Pn**	**19 12 05.0**	**+1.0**
NEO	**Neokhori**	**2.91**	**44**	*e*PN	**Pn**	**19 12 08.0**	**+1.3**
NEO	**Neokhori**	**2.91**	**44**	*e*Pn	**Pn**	**19 12 06.6**	**-0.1**
XOR	**Xorichti**	**2.93**	**43**	*e*Pn	**Pn**	**19 12 06.3**	**-0.7**
XOR				*e*Sn	**Sn**	19 12 42.3	+0.1
KZN	**Kozani**	**3.18**	**16**	*e*PN	**Pn**	**19 12 11.5**	**+1.0**
LIT	**Litokhoron**	**3.20**	**27**	*e*Pn	**Pn**	**19 12 10.3**	**-0.4**
AOS	**Alonnisos**	**3.21**	**53**	*e*Pn	**Pn**	**19 12 10.4**	**-0.5**
KARN	**Karanos**	**3.26**	**124**	*e*Pn	**Pn**	**19 12 11.3**	**-0.3**
FNA	**Florina**	**3.57**	**9**	*e*Pn	**Pn**	**19 12 15.5**	**-0.4**
FNA				*e*Sn	**Sn**	19 12 57.9	-0.2
PAIG	**Paliouri**	**3.59**	**41**	*e*Pn	**Pn**	**19 12 14.8**	**-1.4**
PLG	**Polygyros**	**3.82**	**35**	*e*Pn	**Pn**	**19 12 18.8**	**-0.5**
PLG	**Polygyros**	**3.82**	**35**	*e*Pn	**Pn**	**19 12 20.5**	**+1.2**
GRG	**Griva**	**3.95**	**20**	*e*Pn	**Pn**	**19 12 20.5**	**-0.5**
KRUS	**Krusevo**	**4.14**	**7**	*e*Pn	**Pn**	**19 12 24.1**	**+0.5**
KRUS	**Krusevo**	**4.14**	**7**	*e*Pn	**Pn**	**19 12 24.0**	**+0.4**
KNT	**Kendrikon**	**4.29**	**24**	*e*Pn	**Pn**	**19 12 25.6**	**-0.1**
CHOS	**Chios island**	**4.46**	**74**	*e*Pn	**Pn**	**19 12 26.9**	**-1.2**
LAST	**Lasithi**	**4.46**	**116**	*e*Pn	**Pn**	**19 12 29.4**	**+1.3**

*ISCJB **10** 19:19:40.1±0.7, 2253S±005×674W±0.1, h157km±10km, mb4.3/5, Error ellipse: s-maj=17.5km s-min=7.9km az=7.0*
*IDC **10** 19:19:40.8±0.9, 2248S×6733W, h142km±11km, mb4.2/4, mb1 3.9/9, mb1mx3.7/20, mbtmp3.9/9, Error ellipse: s-maj=17.1km s-min=12.0km az=113.0*
*NEIC **10** 19:19:41.2±0.7, 2253S×6740W, h149km±8km, mb4.7/1, Error ellipse: s-maj=15.9km s-min=8.1km az=105.0*
ISC 10 19:19:41.2±0.7, 2252S±005×674W±01, h146km±10km, n20, σ1§08/24, mb4.3/5, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.43**	**266**	P	**Pn**	**19 20 11.2**	**+1.5**
LVC				S	**Sn**	**19 20 31.8**	**+0.3**
48nm,0.3s,baz=268,slow=20,SNR=7.0							
LVC	**Limon Verde**	**1.43**	**266**	⇑*i*Pn	**Pn**	**19 20 11.0**	**+1.3**
LVC				P		19 20 11.2	
LVC				S	**Sn**	**19 20 31.8**	**+0.3**
LPAZ	**La Paz**	**6.24**	**353**	P	**Pn**	**19 21 12.4**	**+1.3**
1.7nm,0.3s,baz=156,slow=6.3,SNR=33							
LPAZ				S	**Sn**	**19 22 19.4**	**-2.0**
0.5nm,0.3s,baz=338,slow=16,SNR=3.6							
LCO	**Las Campanas**	**7.13**	**204**	Pn	**Pn**	**19 21 21.6**	**-1.3**
LCO				*e*Sn	**Sn**	**19 22 38.8**	**-3.9**
SIV	**San Ignacio**	**8.80**	**44**	P	**Pn**	**19 21 44.7**	**-0.7**
6.0nm,0.3s,baz=229,slow=11,SNR=58							
SIV				S	**Sn**	**19 23 17.8**	**-5.4**
5.8nm,0.3s,baz=305,slow=23,SNR=12							
CFAA	**Coronel Fontan**	**9.08**	**185**	P	**Pn**	**19 21 48.2**	**-0.8**
0.1nm,0.3s,baz=353,slow=12,SNR=3.5							
CFAA				S	**Sn**	**19 23 25.4**	**-4.4**
0.1nm,0.3s,baz=254,slow=22,SNR=5.6							
TRQA	**Tornquist**	**16.16**	**165**	*e*Pn	**Pn**	**19 23 20.4**	**+0.4**
PLCA	**Paso Flores**	**18.36**	**188**	P	**P**	**19 23 44.8**	**+0.3**
0.1nm,0.3s,baz=23,slow=9.3,SNR=5.0							
ATAH	**Atahualpa**	**18.73**	**324**	P	**P**	**19 23 49.9**	**+1.1**
0.4nm,0.3s,baz=129,slow=11,SNR=2.3							
BDFB	**Brasilia**	**19.52**	**73**	P	**P**	**19 23 58.5**	**+1.2**
1.5nm,0.3s,baz=242,slow=18,SNR=15							
BDFB	**Brasilia**	**19.52**	**73**	P	**P**	**19 23 58.5**	**+1.2**
BDFB				*e*P		19 23 59.2	
PMSA	**Palmer Station**	**42.30**	**178**	P	**P**	**19 27 19.7**	**-0.3**
14nm,0.8s,mb4.6							
DBIC	**Dimbokro**	**67.67**	**72**	P	**P**	**19 30 23.0**	**0.0**
11nm,0.9s,mb4.6,baz=283,slow=4.1,SNR=6.7							
TORD	**Torodi Ar. Bea**	**76.36**	**69**	P	**P**	**19 31 14.6**	**-0.1**
5.5nm,0.4s,mb4.5,baz=257,slow=5.4,SNR=28							
ULM	**Lac du Bonnet**	**76.72**	**342**	P	**P**	**19 31 14.1**	**-1.8**
1.3nm,0.5s,mb3.8,baz=165,slow=4.6,SNR=3.9							
ULM	**Lac du Bonnet**	**76.72**	**342**	P	**P**	**19 31 14.1**	**-1.9**
BOSA	**Boshof**	**81.71**	**117**	P	**P**	**19 31 44.9**	**+1.2**
0.9nm,0.4s,mb3.7,baz=239,slow=5.3,SNR=5.1							
BOSA	**Boshof**	**81.71**	**117**	P	**P**	**19 31 44.9**	**+1.2**
WRA	**Warramunga Arr**	**132.77**	**208**	PKP	PKPdf	19 38 40.2	+0.6
0.3nm,0.6s,baz=154,slow=2.0,SNR=9.9							
MKAR	**Makanchi Array**	**145.59**	**38**	PKPbc	PKPbc	19 39 02.4	-0.1
1.3nm,0.8s,baz=278,slow=3.3,SNR=7.7							

*ISCJB **10** 19:40:07.5±0.8, 3929N±002×2010E±006, h2km±6km, Error ellipse: s-maj=7.5km s-min=3.8km az=176.4*
*TIR **10** 19:40:07.2±1.1, 3921N×2040E, h6km±936km*
*CSEM **10** 19:40:07.9±0.9, 3930N×2005E, h0km±4km, ML2.9, Error ellipse: s-maj=16.7km s-min=6.4km az=104.0*
*THE **10** 19:40:09.4, 3927N×2017E, h0km, ML2.9*
*NEIC **10** 19:40:09.4, 3927N×2017E, h0km, MD3.3(ATH), ML2.9(THE), After THE.*
*ATH **10** 19:40:09.6, 3928N×2028E, h20km±8km, MD3.3/4*
ISC 10 19:40:09.8±0.6, 3928N±002×2023E±005, h8km±6km, n14, σ1§07/27, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.27**	**18**	*e*Pg	**Pg**	**19 40 14.2**	**-1.0**
IGT				*e*Sg	**Sg**	**19 40 18.7**	**0.0**
IGT	**Igoumenitsa**	**0.27**	**18**	*i* PG	**Pg**	**19 40 14.2**	**-0.9**
IGT				*i* SG	**Sg**	**19 40 18.7**	**0.0**
KEK	**Kerkira**	**0.55**	**323**	*e*PN	**Pg**	**19 40 20.6**	**+0.2**
KEK				*e*SN	**Sg**	**19 40 29.3**	**+1.8**
JAN	**Janina**	**0.61**	**52**	*e*PN	**Pg**	**19 40 20.4**	**-1.3**
JAN				*e*SN	**Sg**	**19 40 29.0**	**-0.7**
SRN	**Sarande**	**0.63**	**344**	*e*PG	**Pg**	**19 40 21.1**	**-0.8**
SRN				*i* SG	**Sg**	**19 40 33.0**	**+2.9**
LKD	**Levkas**	**0.66**	**150**	*e*Pg	**Pg**	**19 40 21.3**	**-1.2**
LKD				*e*Sg	**Sg**	**19 40 32.7**	**+1.7**
VLS	**Valsamata**	**1.14**	**165**	*e*Pg	**Pg**	**19 40 30.7**	**-0.9**
VLS				*e*Sg	**Sg**	**19 40 47.4**	**+1.1**
VLS	**Valsamata**	**1.14**	**165**	*e*Pn	**Pn**	**19 40 31.2**	**-0.8**
VLS				*e*Sn	**Sn**	**19 40 47.3**	**-0.5**
KFL	**Anninata**	**1.25**	**159**	*e*Pg	**Pg**	**19 40 33.2**	**-0.5**
KFL				*e*Sg	**Sg**	**19 40 50.6**	**+0.7**
EVR	**Evrytania**	**1.28**	**106**	*e*PN	**Pn**	**19 40 33.4**	**-0.7**
THL	**Klokotos Trika**	**1.42**	**78**	*e*Pg	**Pg**	**19 40 37.2**	**+0.2**
THL				*e*Sg	**Sg**	**19 40 56.3**	**+1.0**
AGG	**Agios Georgios**	**1.66**	**98**	*e*Pb	**Pb**	**19 40 40.3**	**-0.3**
AGG				*e*Sb	**Sb**	**19 41 03.3**	**+1.7**
FNA	**Florina**	**1.75**	**30**	*e*Pb	**Pb**	**19 40 41.6**	**-0.5**
FNA				*e*Sb	**Sb**	**19 41 05.8**	**+1.6**
FNA	**Florina**	**1.75**	**30**	*i* PG	**Pg**	**19 40 41.6**	**-1.7**
FNA				*i* SG	**Sg**	**19 41 05.8**	**-0.1**

IDC 10 20:06:50.7±3.3, 1733S×6941W, h76km±23km, mb3.7/1, mb1 3.7/3, mb1mx3.3/19, mbtmp3.7/3, MS3.4/5, Ms1 3.3/5, ms1mx2.9/32, Error ellipse: s-maj=53.9km s-min=27.9km az=110.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.60**	**50**	P	Pn	20 07 17.9	+0.7
8.1nm,0.3s,baz=242,slow=14,SNR=62							
LPAZ				S	Sn	20 07 45.0	+7.8
16nm,0.3s,baz=38,slow=16,SNR=6.9							
LVC	**Limon Verde**	**5.28**	**175**	P	Pn	20 08 06.8	-0.2
1.4nm,0.3s,baz=344,slow=11,SNR=8.3							
LVC				S	Sn	20 09 13.9	+7.3
1.3nm,0.3s,baz=173,slow=17,SNR=2.7							
SIV	**San Ignacio**	**8.10**	**82**	P	Pn	20 08 45.6	0.0
1.8nm,0.3s,baz=267,slow=13,SNR=25							
SIV				LR	LR	20 12 39.3	
comp=Z,319nm,19.9s,baz=287,slow=43							
CPUP	**Villa Florida**	**14.34**	**131**	LR	LR	20 16 37.1	
comp=Z,105nm,18.9s,baz=76,slow=41							
BDFB	**Brasilia**	**20.58**	**88**	LR	LR	20 19 12.5	
comp=Z,35nm,19.0s,baz=58,slow=36							
PCRV	**Puerto La Cruz**	**27.73**	**10**	LR	LR	20 24 52.7	
comp=Z,74nm,22.0s,baz=218,slow=39							
TORD	**Torodi Ar. Bea**	**76.44**	**71**	P	P	20 18 32.0	-0.7
1.0nm,0.7s,baz=256,slow=5.4,SNR=8.8							
TORD				LR	LR	20 50 11.0	
comp=Z,53nm,18.4s,baz=145,slow=34							
SONM	**Songino Array**	**149.38**	**6**	PKPbc	PKPbc	20 26 32.0	+1.1
0.5nm,0.7s,baz=346,slow=1.1,SNR=4.0							

*BJI **10** 20:11:35.5, 1341N×145.13E, h74km, mB5.1, mb4.9, Ms4.8, Msz4.6*
*ISCJB **10** 20:11:45.3±0.5, 1365N±004×14461E±003, h133km±4km, mb4.7/107, Error ellipse: s-maj=6.0km s-min=5.5km az=3.5*
*MOS **10** 20:11:45.2±1.1, 1369N×144.70E, h136km, mb4.8/43, Error ellipse: s-maj=10.8km s-min=6.0km az=97.4*
*NEIC **10** 20:11:46.5±0.7, 1368N×144.71E, h134km±6km, mb4.9/59, Error ellipse: s-maj=6.5km s-min=4.6km az=110.0*
NEIC Felt [II] at Yigo. Also felt at Barrigada and Santa Rita.
*IDC **10** 20:11:46.1±0.2, 1366N×144.78E, h127km±2km, mb4.3/30, mb1 4.4/31, mb1mx4.4/33, mbtmp4.3/31, MS3.6/8, Ms1 3.6/8, ms1mx3.1/39, Error ellipse: s-maj=13.6km s-min=8.1km az=91.0*
*DJA **10** 20:11:51, 1382N×14524E, h205km, mb4.9/12*
ISC 10 20:11:46.4±0.5, 1365N±004×14472E±003, h130km±4km, h76km±3.6km: pP-P, n504, σ0§68/493, mb4.7/107, 132C-137D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.16**	**111**	P	**Pn**	**20 12 04.7**	**+0.5**
GUMO				S	**Sn**	**20 12 17.4**	**0.0**
7μm,0.3s,baz=42,slow=19,SNR=140							
CBIJ	**Chichi jima**	**13.59**	**350**	P	**Pn**	**20 14 56.0**	**+2.1**
13nm,0.3s,baz=251,slow=15,SNR=4.7							
JHJ	**Hachijo jima 2**	**19.90**	**348**	P	**P**	**20 16 09.2**	**+1.5**
17nm,0.3s,baz=146,slow=9.7,SNR=9.0							
JHJ				LR	LR	20 21 28.0	
comp=Z,122nm,21.0s,baz=223,slow=29							
JOW	**Kunigami**	**20.22**	**313**	P	**P**	**20 16 12.8**	**+1.6**
30nm,0.5s,baz=151,slow=19,SNR=4.6							
PMG	**Port Moresby**	**23.03**	**174**	*e*P	**P**	**20 16 39.4**	**-1.0**
PMG				pmax	pmax		
comp=Z,62nm,1.1s							
PMG	**Port Moresby**	**23.03**	**174**	*e*P	**P**	**20 16 39.4**	**-1.0**
comp=Z,62nm,1.1s,mb5.0							
MJAR	**Matsushiro Arr**	**23.53**	**347**	P	**P**	**20 16 43.7**	**-1.1**
comp=Z,26nm,0.8s,mb4.8,baz=170,slow=9.8,SNR=79							
MJAR				PcP	PcP	20 20 26.9	+0.3
comp=Z,1.5nm,0.7s,baz=159,slow=3.8,SNR=5.0							
MJAR				ScP	ScP	20 23 51.1	-1.9
comp=Z,0.7nm,0.6s,baz=169,slow=2.8,SNR=5.8							
MJAR				LR	LR	20 24 47.5	
comp=Z,159nm,18.9s,baz=230,slow=33							
MJAR	**Matsushiro Arr**	**23.53**	**347**	P	**P**	**20 16 43.7**	**-1.1**
MJAR						20 20 27.0	
MAJO	**Matsushiro**	**23.54**	**347**	⇑*i*P	**P**	**20 16 43.2**	**-1.6**
MAJO				pmax	pmax		
comp=Z,56nm,0.8s,mb5.2							
MAJO	**Matsushiro**	**23.54**	**347**	⇑*i*P	**P**	**20 16 43.2**	**-1.6**
comp=Z,56nm,0.8s,mb5.1							
MAT	**Matsushiro**	**23.54**	**347**	P	**P**	**20 16 43.9**	**-0.9**
HNR	**Honiara**	**27.46**	**146**	LR	LR	20 28 10.6	
comp=Z,82nm,18.6s,baz=1.6,slow=36							
KSRS	**Korea Array**	**28.04**	**331**	P	**P**	**20 17 25.2**	**-0.2**
comp=Z,18nm,0.7s,mb4.9,baz=152,slow=9.2,SNR=31							
KSRS				PcP	PcP	20 20 37.7	+0.7
comp=Z,7.9nm,1.1s,baz=161,slow=2.8,SNR=6.9							
KSRS	**Korea Array**	**28.04**	**331**	P	**P**	**20 17 25.3**	**-0.2**
KSRS						20 20 37.7	
KSRS				pmax	pmax		
comp=Z,18nm,0.7s,mb4.9							
KSRS				pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.4							
INCN	**Inchon**	**28.70**	**329**	P	**P**	**20 17 30.7**	**-0.6**
comp=Z,27nm,0.9s,mb5.0							
KAKA	**Kakadu**	**28.88**	**205**	*e*P	**P**	**20 17 32.2**	**-0.8**
comp=Z,12nm,0.6s,mb4.8							
KKM	**Kota Kinabalu**	**29.05**	**258**	P	**P**	**20 17 34.5**	**-0.2**
ASAJ	**Asahikawa**	**30.42**	**357**	P	**P**	**20 17 46.9**	**+0.5**
comp=Z,3.2nm,0.3s,mb4.5,baz=188,slow=9.3,SNR=5.1							
ASAJ				PcP	PcP	20 20 43.6	+0.7
comp=Z,4.8nm,0.7s,baz=107,slow=11,SNR=4.8							
ASAJ				LR	LR	20 28 36.0	
comp=Z,109nm,20.6s,baz=176,slow=33							
ASAJ	**Asahikawa**	**30.42**	**357**	P	**P**	**20 17 46.9**	**+0.5**
ASAJ						20 20 43.6	
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.4s							
ASAJ				pmax	pmax		
comp=Z,5.0nm,0.7s							
ASAJ				MLR	MLR		
comp=Z,109nm,20.6s							
BATI	**Baumata**	**31.59**	**222**	P	**P**	**20 17 56.8**	**-0.2**
comp=Z,12nm,0.5s,mb4.9,baz=271,slow=14,SNR=7.8							
DL2	**Dalian**	**32.40**	**325**	⇓P	**P**	**20 18 05.4**	**+1.6**
DL2				AMB	AMB		
comp=Z,30nm,1.0s,mb5.0							
YSS	**Yuzh-Sakhalins**	**33.24**	**358**	P	**P**	**20 18 10.8**	**-0.3**
MDJ	**Mudanjiang**	**33.45**	**340**	P	**P**	**20 18 12.2**	**-0.7**
MDJ				AP	pP	20 18 28.8	-12
MDJ				XP	sP	20 18 37.4	-19
MDJ				PP	PP	20 19 29.7	-1.5
MDJ				PCP	PcP	20 20 51.0	-0.2
MDJ				S	**S**	**20 23 29.7**	**+4.9**
MDJ				SCP	ScP	20 24 29.7	+5.9
MDJ				PCS	PcS	20 24 37.4	+0.5
MDJ				AMB	AMB		
comp=Z,17nm,1.1s,mb4.7							
MDJ				AMB	AMB		
comp=Z,7.0nm,14.9s							
MDJ				LR	LR		
comp=N,204nm,17.2s							
MDJ				LR	LR		
comp=E,70nm,13.8s							
MDJ				LR	LR		
comp=Z,245nm,14.8s							
CTA	**Charters Tower**	**33.56**	**177**	*e*P	**P**	**20 18 14.5**	**+0.4**
comp=Z,6.2nm,0.8s,mb4.4							
CTA	**Charters Tower**	**33.56**	**177**	P	**P**	**20 18 14.9**	**+0.8**
comp=Z,6.0nm,0.6s,mb4.5,baz=341,slow=9.3,SNR=11							
CTA	**Charters Tower**	**33.56**	**177**	P	**P**	**20 18 14.9**	**+0.8**
CTA				pmax	pmax		
comp=Z,6.0nm,0.6s							
CTAO	**Charters Tower**	**33.56**	**177**	*e*P	**P**	**20 18 14.1**	**0.0**
CTAO				pmax	pmax		
comp=Z,11nm,0.8s,mb4.6							
CTAO	**Charters Tower**	**33.56**	**177**	*e*P	**P**	**20 18 14.1**	**+0.1**
comp=Z,11nm,0.8s,mb4.6							
CN2	**Changchun**	**34.29**	**335**	*e*P	**P**	**20 18 20.0**	**-0.2**
CN2				*e*AP	pP	20 18 38.0	-11
CN2				*e*S	**S**	**20 23 40.1**	**+2.3**
CN2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.5							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
WRAB	**Tennant Creek**	**34.89**	**197**	P	**P**	**20 18 25.3**	**-0.3**
comp=Z,162nm,1.2s,mb5.5,SNR=11							
WRAB	**Tennant Creek**	**34.89**	**197**	*e*P	**P**	**20 18 25.1**	**-0.5**
WRAB				pmax	pmax		
comp=Z,27nm,0.9s,mb4.9							
WRAB	**Tennant Creek**	**34.89**	**197**	*e*P	**P**	**20 18 25.1**	**-0.5**
comp=Z,26nm,0.9s,mb4.9							
WRAB				*e*		20 18 33.7	
WB2	**Warramunga Arr**	**34.90**	**197**	*e*P	**P**	**20 18 25.3**	**-0.4**
WB2				*i*		20 18 33.6	
WRA	**Warramunga Arr**	**34.90**	**197**	P	**P**	**20 18 25.5**	**-0.2**
comp=Z,12nm,0.7s,mb4.6,baz=18,slow=9.3,SNR=69							
WRA				ScP	ScP	20 24 28.0	-1.4
comp=Z,4.3nm,1.1s,baz=9.7,slow=3.6,SNR=8.1							
KSM	**Kuching**	**36.12**	**253**	*e*P	**P**	**20 18 36.1**	**-0.2**
BJT	**Baijiatuan**	**36.30**	**322**	*e*P	**P**	**20 18 37.8**	**+0.3**
BJT				pmax	pmax		
comp=Z,9.0nm,0.6s							
BJT	**Baijiatuan**	**36.30**	**322**	*e*P	**P**	**20 18 37.8**	**+0.3**
comp=Z,8.6nm,0.6s,mb4.6							
BJI	**Beijing**	**36.31**	**322**	P	**P**	**20 18 38.1**	**+0.6**
BJI				XP	sP	20 19 02.5	-18
BJI				S	**S**	**20 24 13.9**	**+5.1**
BJI				XS	sS	20 24 41.6	-17
BJI				AMB	AMB		
comp=Z,30nm,1.1s,mb4.8							
FITZ	**Fitzroy Crossi**	**36.73**	**211**	⇓*i*P	**P**	**20 18 41.4**	**+0.1**
comp=Z,22nm,0.8s,mb4.8							
FITZ				*e*PCP	PcP	20 21 02.1	+0.9
FITZ	**Fitzroy Crossi**	**36.73**	**211**	P	**P**	**20 18 41.8**	**+0.5**
comp=Z,15nm,0.8s,mb4.6,baz=32,slow=11,SNR=33							
FITZ				PcP	PcP	20 21 02.4	+1.1
comp=Z,3.6nm,0.7s,baz=269,slow=6.4,SNR=5.2							
KLR	**Kul'dur**	**37.05**	**346**	*e*P	**P**	**20 18 39.2**	**-4.5**
KLR				*e*		20 20 57.4	
GYA	**Guiyang**	**37.80**	**296**	P	**P**	**20 18 52.5**	**+2.1**
GYA				AP	pP	20 19 09.4	-10
GYA				XP	sP	20 19 19.0	-15
GYA				PP	PP	20 20 21.3	+2.0
GYA				PCP	PcP	20 21 06.4	+1.9
GYA				S	**S**	**20 24 36.9**	**+5.1**
GYA				SCP	ScP	20 24 46.8	+6.7
GYA				PCS	PcS	20 24 55.0	+1.5
GYA				SCS	ScS	20 28 54.4	+4.9
GYA				AMB	AMB		
comp=Z,20nm,0.8s,mb4.8							
GYA				AMB	AMB		
comp=Z,140nm,5.7s							
GYA				LR	LR		
comp=N,720nm,17.8s							
GYA				LR	LR		
comp=E,698nm,16.9s							
GYA				LR	LR		
comp=Z,753nm,18.8s							
XAN	**Xi'an**	**38.24**	**308**	P	**P**	**20 18 54.3**	**+0.3**
XAN				AMB	AMB		
comp=Z,9.0nm,0.7s,mb4.5							
ASAR	**Alice Springs**	**38.56**	**196**	P	**P**	**20 18 56.5**	**-0.1**
comp=Z,3.2nm,0.7s,mb4.1,baz=28,slow=12,SNR=47							
ASAR				PP	PP	20 20 27.6	-0.1
comp=Z,1.5nm,0.9s,baz=24,slow=9.2,SNR=5.1							
ASAR				PcP	PcP	20 21 07.6	+0.9
comp=Z,1.7nm,0.8s,baz=46,slow=3.3,SNR=4.6							
ASAR				ScP	ScP	20 24 42.5	-0.3
comp=Z,0.3nm,0.7s,baz=64,slow=2.2,SNR=4.3							
HHC	**Hu-ho-hao-te**	**39.63**	**319**	*e*P	**P**	**20 19 06.5**	**+1.1**
HHC				AP	pP	20 19 24.4	-10
HHC				XP	sP	20 19 32.8	-16
HHC				PP	PP	20 20 42.9	+3.8
HHC				PCP	PcP	20 21 10.3	+0.4

comp=Z,1µm,18.1s
CMAR Chiang Mai Arr 44.16 282 P **P** **20 19 43.7 +1.1**
comp=Z,5.9nm,0.6s,mb4.4,baz=86,slow=6.2,SNR=53
CMAR PcP PcP 20 21 26.9 +1.5
comp=Z,1.2nm,0.8s,baz=85,slow=1.8,SNR=5.4
CMAR ScP ScP 20 25 05.3 0.0
comp=Z,1.9nm,0.9s,baz=131,slow=2.1,SNR=7.2
CMAR Chiang Mai Arr 44.16 282 P **P** **20 19 43.7 +1.1**
CMAR 20 21 26.9
ARMA Armidale 44.31 171 *eP* **P** **20 19 43.8 +0.3**
STKA Stephens Creek 45.36 184⇓*iP* **P** **20 19 51.2 -0.6**
comp=Z,6.2nm,0.8s,mb4.3
STKA Stephens Creek 45.36 184 P **P** **20 19 51.2 -0.5**
comp=Z,10nm,0.8s,mb4.5,baz=7.0,slow=9.5,SNR=15
STKA LR LR 20 39 04.5
comp=Z,116nm,18.5s,baz=213,slow=36
CIT Chita 45.71 333 *eP* **P** **20 19 54.8 +0.5**
CIT *e* 20 21 30.4
CIT pmax pmax
comp=Z,61nm,1.8s,mb4.9
SONM Songino Array 46.60 325 P **P** **20 20 02.3 +1.0**
comp=Z,4.2nm,0.6s,mb4.3,baz=137,slow=5.5,SNR=37
SONM PcP PcP 20 21 33.8 +0.5
comp=Z,2.8nm,0.6s,baz=150,slow=4.0,SNR=6.9
SONM ScP ScP 20 25 13.5 -1.3
comp=Z,1.4nm,1.0s,baz=134,slow=4.3,SNR=5.0
SONM Songino Array 46.60 325 P **P** **20 20 02.3 +1.0**
SONM 20 21 33.8
FORT Forrest 46.98 200 *eP* **P** **20 20 04.8 +0.3**
comp=Z,52nm,0.9s,mb5.2
FORT *e* 20 20 12.9
GTA Gaotai 47.02 312 P **P** **20 20 04.9 +0.1**
GTA AP pP 20 20 23.5 -11
GTA XP sP 20 20 32.7 -16
GTA PCP PcP 20 21 35.9 +0.9
GTA PP PP 20 21 56.4 -0.2
GTA S **S** **20 26 51.6 +4.9**
GTA XS sS 20 27 23.4 -15
GTA SS SS 20 30 12.2 -3.1
GTA AMB AMB
comp=Z,9.0nm,1.0s,mb4.3
GTA AMB AMB
comp=Z,65nm,3.9s
GTA LR LR
comp=N,99nm,14.1s
GTA LR LR
comp=E,106nm,14.1s
GTA LR LR
comp=Z,123nm,13.8s
YAK Yakutsk 49.51 351⇑*eP* **P** **20 20 22.9 -0.5**
YAK pmax pmax
comp=Z,73nm,1.1s,mb5.2
YAK Yakutsk 49.51 351 *eP* **P** **20 20 22.1 -1.3**
comp=Z,52nm,0.8s,mb5.2
YAK *e*PcP PcP 20 21 41.6 -1.7
SEY Seymchan 49.52 5⇑*eP* **P** **20 20 22.4 -1.1**
ZAK Zakamensk 49.71 326⇓*iP* **P** **20 20 25.3 +0.1**
ZAK *e* pP 20 20 53.9 -1.3
ZAK pmax pmax
comp=Z,14nm,1.1s,mb4.5
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb3.9
BOD Bodaibo 49.81 339 *eP* **P** **20 20 25.4 -0.4**
BOD pmax pmax
comp=Z,6.0nm,1.4s,mb4.0
TLY Talaya 50.23 328 P **P** **20 20 29.7 +0.6**
comp=Z,107nm,0.9s,mb5.5,SNR=5.5
TLY Talaya 50.23 328 *eP* **P** **20 20 29.7 +0.6**
TLY pmax pmax
comp=Z,21nm,1.0s,mb4.7
TLY MLR MLR
comp=Z,58nm,18.0s
TLY Talaya 50.23 328 *eP* **P** **20 20 29.5 +0.4**
comp=Z,19nm,0.9s,mb4.7
TOO Toolangi 50.95 179 *eP* **P** **20 20 28.8 -5.8**
TOO *e* 20 20 35.4
AFI Afiamalu 51.05 121 LR LR 20 39 42.5
comp=Z,64nm,18.7s,baz=70,slow=33
MOY Mondy 51.61 327 *eP* **P** **20 20 39.8 +0.4**
MOY pmax pmax
comp=Z,20nm,1.6s,mb4.5
LSA Lhasa 51.84 297 P **P** **20 20 43.4 +1.9**
LSA Lhasa 51.84 297 *eP* **P** **20 20 43.0 +1.5**
LSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
LSA Lhasa 51.84 297 *eP* **P** **20 20 43.0 +1.5**
comp=Z,9.2nm,0.7s,mb4.5
KLBR Kellerberrin 51.89 209 *eP* **P** **20 20 40.9 -0.8**
comp=Z,8.6nm,0.5s,mb4.6
NWAO Narrogin (SRO) 53.24 209 P **P** **20 20 50.7 -0.9**
comp=Z,9.8nm,0.8s,mb4.6,baz=43,slow=4.2,SNR=4.7
NWAO Narrogin (SRO) 53.24 209 P **P** **20 20 50.9 -0.7**
NWAO pmax pmax
comp=Z,34nm,1.2s
NWAO Narrogin (SRO) 53.24 209 P **P** **20 20 50.9 -0.7**
comp=Z,34nm,1.2s,mb5.0
UNV Unalaska Valle 55.36 33 *eP* **P** **20 21 04.9 -1.9**
comp=Z,69nm,1.4s,mb5.2
HVS Khovu-Aksy 55.43 324 *eP* **P** **20 21 07.6 +0.3**
HVS pmax pmax
comp=Z,125nm,1.4s,mb5.5
BILL Bilibino 56.13 10 *eP* **P** **20 21 09.7 -2.3**
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.4
WMQ Urumqi 56.99 314 P **P** **20 21 19.2 +0.7**
WMQ AP pP 20 21 38.5 -11
WMQ XP sP 20 21 47.1 -16
WMQ PCP PcP 20 22 13.3 +1.1
WMQ PP PP 20 23 28.2 +1.7
WMQ SCP ScP 20 26 04.6 +4.7
WMQ S **S** **20 29 05.9 +3.1**
WMQ AMB AMB
comp=Z,14nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,23nm,9.0s
WMQ LR LR
comp=N,163nm,17.6s
WMQ LR LR
comp=E,164nm,16.3s
WMQ LR LR
comp=Z,174nm,16.2s
TIXI Tiksi 58.76 354 *eP* **P** **20 21 30.0 -0.4**
TIXI *e* 20 22 17.3
TIXI pmax pmax
comp=Z,11nm,0.9s,mb4.7
TIXI Tiksi 58.76 354 *eP* **P** **20 21 29.3 -1.1**
comp=Z,7.8nm,0.7s,mb4.7
TIXI *e*PcP PcP 20 22 17.5 -1.2
MKAR Makanchi Array 61.35 316 P **P** **20 21 49.2 +0.7**
comp=Z,3.7nm,0.5s,mb4.5,baz=101,slow=7.9,SNR=36
MKAR Makanchi Array 61.35 316 P **P** **20 21 49.2 +0.7**
ZAA0 Zalesovo Array 61.49 324 *eP* **P** **20 21 48.5 -0.8**
ZALV Zalesovo Beam 61.49 324 P **P** **20 21 49.1 -0.2**
comp=Z,1.6nm,0.4s,mb4.2,baz=106,slow=6.3,SNR=14
ZALV PcP PcP 20 22 29.4 -0.5
comp=Z,1.1nm,0.5s,baz=146,slow=4.1,SNR=3.7
ZALV Zalesovo Beam 61.49 324 P **P** **20 21 49.1 -0.2**
ZALV PcP PcP 20 22 29.4 -0.5
ZAL Zalesovo 61.50 324 P **P** **20 21 49.1 -0.2**
ZAL 20 22 29.4
NVS Novosibirsk 62.63 325⇑*iP* **P** **20 21 55.7 -1.2**
NVS *e* pP 20 22 29.7 +1.5
NVS pmax pmax
comp=Z,25nm,1.2s,mb4.9
NVS pmax pmax
comp=N,10.0nm,1.4s
NVS pmax pmax
comp=E,28nm,1.5s
SVW2 Sparrevohn 63.70 28 *eP* **P** **20 22 03.2 -0.6**
KDAK Kodiak Island 64.10 32 P **P** **20 22 05.0 -1.5**
comp=E,111nm,0.4s,mb6.0,SNR=18
KDAK Kodiak Island 64.10 32 P **P** **20 22 05.9 -0.6**
comp=E,9.2nm,0.4s,mb5.0,baz=247,slow=3.6,SNR=28
KDAK Kodiak Island 64.10 32 P **P** **20 22 05.9 -0.6**
KDAK pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
KDAK Kodiak Island 64.10 32 *eP* **P** **20 22 05.0 -1.5**
KDAK *e*PcP PcP 20 22 40.2 -0.3
TTA Tatalina 64.17 26 *eP* **P** **20 22 05.8 -1.0**
KURK Kurchatov 64.44 320 P **P** **20 22 09.8 +0.9**
comp=Z,174nm,0.8s,mb5.9,SNR=20
KURK Kurchatov 64.44 320 *eP* **P** **20 22 08.1 -0.8**
KURK *e* pP 20 22 37.7 -2.6
KURK pmax pmax
comp=Z,29nm,0.9s,mb5.1
KURK Kurchatov 64.44 320 *eP* **P** **20 22 08.1 -0.7**
comp=Z,29nm,0.9s,mb5.1
KURK *e* pP 20 22 37.6 -2.7
TKM2 Tokmak 2 65.57 311 *eP* **P** **20 22 15.9 -0.4**
TKM2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
TKM2 Tokmak 2 65.57 311 *eP* **P** **20 22 15.9 -0.4**
comp=Z,2.3nm,0.8s,mb4.1
SLKM Skilak Lake 66.01 29 *eP* **P** **20 22 17.1 -1.7**
SLKM *e* pP 20 22 45.8 -4.6
IMA2 Indian Mountai 66.25 23 *eP* **P** **20 22 18.4 -1.9**
IMA2 *e*PcP PcP 20 22 48.8 -0.5
SEW Seward 66.28 30 *eP* **P** **20 22 18.9 -1.6**
RC01 Rabbit Creek A 66.39 29 *eP* **P** **20 22 19.3 -2.0**
comp=Z,21nm,0.6s,mb5.1
PMR Palmer 66.81 28 *eP* **P** **20 22 21.7 -2.1**
PMR pmax pmax
comp=Z,14nm,0.7s,mb4.9
PMR Palmer 66.81 28 *eP* **P** **20 22 21.7 -2.2**
comp=Z,14nm,0.7s,mb4.9
MCK McKinley 67.45 26 *eP* **P** **20 22 25.4 -2.5**
MCK pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
MCK McKinley 67.45 26 *eP* **P** **20 22 25.4 -2.5**
comp=Z,5.7nm,0.8s,mb4.5
MID Middleton Isla 67.67 31 *eP* **P** **20 22 28.9 -0.4**
COLD Coldfoot 67.95 22 *eP* **P** **20 22 30.0 -1.0**
comp=Z,8.8nm,0.9s,mb4.5
COLA College 68.21 25 P **P** **20 22 31.2 -1.4**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
COLA College 68.21 25 P **P** **20 22 31.2 -1.4**
comp=Z,6.2nm,0.8s,mb4.4
BVAR Borovoye Array 69.79 322 P **P** **20 22 42.6 0.0**
comp=Z,10nm,0.7s,mb4.7,baz=102,slow=6.8,SNR=58
BVAR LR LR 20 53 11.8
comp=Z,46nm,18.1s,baz=94,slow=36
BRVK Borovoye 69.86 322 P **P** **20 22 43.8 +0.8**
comp=Z,101nm,0.7s,mb5.7,SNR=6.1
BRVK Borovoye 69.86 322⇑*eP* **P** **20 22 41.9 -1.1**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
BRVK Borovoye 69.86 322⇑*eP* **P** **20 22 41.9 -1.1**
comp=Z,6.7nm,0.8s,mb4.4
EGAK Eagle 70.99 26 *eP* **P** **20 22 48.5 -1.2**
comp=Z,6.2nm,0.7s,mb4.5
DAWY Dawson 71.66 27 *eP* **P** **20 22 52.7 -1.0**
DHAK Deception Hill 71.76 32 *eP* **P** **20 22 50.4 -4.0**
HYT Haines Junctio 72.23 30 *eP* **P** **20 22 56.7 -0.4**
SIT Sitka 73.20 34 *eP* **P** **20 23 02.7 -0.3**
SIT pmax pmax
comp=Z,16nm,1.0s,mb4.7
SIT Sitka 73.20 34 *eP* **P** **20 23 02.7 -0.3**
comp=Z,16nm,1.0s,mb4.7
SKAG Skagway 73.25 32 *eP* **P** **20 23 03.8 +0.6**
comp=Z,12nm,0.9s,mb4.6
INK Inuvik 74.37 22 P **P** **20 23 08.3 -1.3**
comp=Z,6.1nm,0.9s,mb4.3,baz=237,slow=9.3,SNR=7.9
INK Inuvik 74.37 22 *eP* **P** **20 23 08.3 -1.3**
WRAK Wrangell Islan 74.85 35 *eP* **P** **20 23 12.5 -0.1**
comp=Z,22nm,0.8s,mb4.8
SVE Sverdlovsk 75.47 326⇑*eP* **P** **20 23 16.7 +0.6**
SVE *e*S S 20 32 45.5 -0.2
SVE pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
DLBC Dease Lake 76.02 33 *eP* **P** **20 23 19.0 -0.2**
ARU Arti 76.64 325⇑*eP* **P** **20 23 22.4 -0.3**
ARU pmax pmax
comp=Z,14nm,1.7s,mb4.3
ARU Arti 76.64 325 *eP* **P** **20 23 22.1 -0.7**
comp=Z,4.8nm,0.8s,mb4.2
SOKR Solikamsk 77.31 329 *diP* **P** **20 23 26.7 +0.3**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
AKTK Aktyubinsk 77.53 319 P **P** **20 23 27.3 -0.6**
AKTO Aktyubinsk 77.53 319 P **P** **20 23 27.3 -0.5**
comp=Z,1.5nm,0.6s,mb3.8,baz=78,slow=6.7,SNR=6.2
AKTO Aktyubinsk 77.53 319 P **P** **20 23 27.3 -0.5**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
C03A Quillayute Air 80.48 43⇑P **P** **20 23 44.9 +0.9**
baz=80
NLWA Neilton Lookou 81.04 43⇑P **P** **20 23 47.5 +0.5**
baz=81,SNR=24
NLWA Neilton Lookou 81.04 43 *eP* **P** **20 23 47.6 +0.6**
comp=Z,45nm,1.0s,mb5.1
PGC Sidney 81.09 42 *eP* **P** **20 23 47.2 -0.1**
comp=Z,27nm,0.8s,mb4.9
D03A Wishkah Elem. 81.16 44⇑P **P** **20 23 48.7 +1.1**
baz=81,SNR=6.2
B04A Port Angeles 81.17 43⇑P **P** **20 23 48.1 +0.4**
baz=81,SNR=7.1
E03A Lebam 81.40 44⇑P **P** **20 23 49.3 +0.4**
baz=81,SNR=12
H02A Toledo 81.45 46⇑P **P** **20 23 49.7 +0.5**
baz=81
K01A Sixes 81.46 48⇑P **P** **20 23 50.0 +0.7**
baz=81
HEBO Mount Hebo 81.52 46 *eP* **P** **20 23 49.9 +0.3**
comp=Z,31nm,0.8s,mb5.0
F03A Seaside 81.52 45⇓P **P** **20 23 49.9 +0.3**
baz=81,SNR=8.9
KEBM Edson Butte 81.54 48 *eP* **P** **20 23 49.7 0.0**
A04A Legoe Bay, Lum 81.56 42⇓P **P** **20 23 49.9 +0.2**
baz=81
C04A Brinnon 81.58 43⇓P **P** **20 23 50.2 +0.4**
baz=81
BMW Boistfort Moun 81.64 44 *eP* **P** **20 23 50.3 +0.1**
I02A Mapleton 81.69 47⇓P **P** **20 23 50.8 +0.3**
baz=82,SNR=5.6
GNW Green Mountain 81.71 43 P **P** **20 23 50.9 +0.4**
G03A Yamhill 81.83 45⇓P **P** **20 23 51.3 +0.1**
baz=82,SNR=5.2
A05A Maple Falls 81.91 42⇓P **P** **20 23 51.1 -0.4**
baz=82
H03A Soap Creek Ran 81.94 46⇓P **P** **20 23 52.2 +0.4**
baz=82,SNR=10
E04A Onalaska 81.97 44⇓P **P** **20 23 52.2 +0.4**
baz=82
J02A Umpqua 82.00 47⇑P **P** **20 23 52.4 +0.3**
baz=82,SNR=8.3
B05A Bryant 82.05 42 P **P** **20 23 52.5 +0.2**
baz=82,SNR=5.7
I03A Eugene 82.09 47⇑P **P** **20 23 52.9 +0.3**
baz=82,SNR=7.5
JCC Jacoby Creek 82.16 50⇓P **P** **20 23 53.6 +0.6**
baz=82
K02A Glendale 82.17 48⇓P **P** **20 23 53.3 +0.3**
baz=82
JCW Jim Creek 82.17 42 *eP* **P** **20 23 52.8 -0.1**
A06A Chilliwack 82.28 41⇓P **P** **20 23 53.2 -0.3**
baz=82
F04A Amboy 82.30 45⇑P **P** **20 23 53.6 0.0**
baz=82,SNR=5.9
D05A Enumclaw 82.34 43⇑P **P** **20 23 54.3 +0.5**
baz=82
RPW Rockport 82.39 42 *eP* **P** **20 23 53.5 -0.6**
G04A Mulino 82.41 45⇓P **P** **20 23 54.3 +0.1**
baz=82,SNR=5.4
C05A Tolt Reservoir 82.43 43⇑P **P** **20 23 53.8 -0.5**
baz=82
HUMO Hull Mountain 82.59 48⇓P **P** **20 23 55.7 +0.5**
baz=82,SNR=16
HUMO Hull Mountain 82.59 48 *eP* **P** **20 23 55.2 0.0**
comp=Z,25nm,1.1s,mb4.8
E05A Randle 82.62 44⇓P **P** **20 23 54.7 -0.5**
baz=82,SNR=6.6
KCPM Cahto Peak 82.71 51 *eP* **P** **20 23 55.8 -0.2**
H04A Detroit Lake 82.72 46⇑P **P** **20 23 55.5 -0.4**
baz=82,SNR=9.2
I04A Tendick Farm, 82.74 47⇓P **P** **20 23 55.8 -0.2**
baz=83,SNR=17
YKA Yellowknife Ar 82.88 27 P **P** **20 23 55.7 -0.5**
comp=Z,4.9nm,0.5s,mb4.5,baz=285,slow=5.3,SNR=14
C06A Tall Timber Ra 82.91 43⇑P **P** **20 23 56.4 -0.4**
baz=83
M02C Callahan 82.91 49⇑P **P** **20 23 57.4 +0.5**
baz=83,SNR=15
P01C Double 8 Ranch 82.94 51⇓P **P** **20 23 57.2 +0.1**
baz=83
YBH Yreka Blue Hor 82.95 49 *eP* **P** **20 23 57.7 +0.6**
YBH pmax pmax
comp=Z,23nm,0.9s
YBH Yreka Blue Hor 82.95 49⇑P **P** **20 23 57.6 +0.6**
baz=83,SNR=18
YBH Yreka Blue Hor 82.95 49 *eP* **P** **20 23 57.7 +0.7**
comp=Z,23nm,0.9s,mb4.9
HOOD Mount Hood Mea 82.95 45 *eP* **P** **20 23 57.6 +0.6**
comp=Z,22nm,0.9s,mb4.9
F05A White Salmon 82.97 45⇑P **P** **20 23 57.0 -0.1**
baz=83
A07A Ashnola River, 83.00 41⇑P **P** **20 23 57.1 -0.1**
baz=83,SNR=12
J04A Umpqua Nationa 83.07 47⇑P **P** **20 23 57.8 +0.2**
baz=83
D06A Cle Elum 83.10 43⇑P **P** **20 23 57.7 0.0**
baz=83,SNR=6.4
E06A Yakima 83.15 44 P **P** **20 23 58.3 +0.3**
baz=83,SNR=17
G05A Wamic 83.20 45⇓P **P** **20 23 58.1 -0.2**
baz=83,SNR=5.1
O02C Red Bluff 83.21 50⇓P **P** **20 23 59.1 +0.7**
baz=83,SNR=9.9
HOPS Hopland 83.24 52⇓P **P** **20 23 59.8 +1.2**
baz=83
B07A Winthrop 83.30 42⇑P **P** **20 23 58.4 -0.3**
baz=83,SNR=12
WDC Whiskeytown Da 83.31 50 *eP* **P** **20 23 58.7 -0.3**
WDC pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
WDC Whiskeytown Da 83.31 50 P **P** **20 23 59.2 +0.3**
baz=83,SNR=7.1
WDC Whiskeytown Da 83.31 50 *eP* **P** **20 23 58.7 -0.3**
comp=Z,6.7nm,0.9s,mb4.4
ETW Entiat 83.35 43 *eP* **P** **20 23 58.4 -0.7**
GASB Alder Springs 83.38 51⇑P **P** **20 24 00.2 +0.9**
baz=83,SNR=5.4
L04A Klamath Falls 83.45 48⇑P **P** **20 23 59.9 +0.3**
baz=83
I05A Bend 83.47 46⇑P **P** **20 23 59.8 +0.1**
baz=83
K04A Chilquin 83.47 48⇓P **P** **20 23 59.9 +0.1**
baz=83
M03C McCloud 83.48 49⇓P **P** **20 23 59.9 +0.1**
baz=83,SNR=6.1
C07A Waterville 83.51 43⇓P **P** **20 23 59.2 -0.6**
baz=83
MCCM Marconi Confer 83.57 52⇓P **P** **20 24 00.2 -0.1**
baz=83
D07A Quincy 83.68 43⇑P **P** **20 24 00.5 -0.2**
baz=84
J05A Fort Rock 83.68 47⇓P **P** **20 24 00.8 0.0**
baz=84,SNR=27
A08A Turner Farm, O 83.73 41⇑P **P** **20 24 00.7 -0.2**
baz=84,SNR=8.9
MNRC McLaughlin Nat 83.75 52⇓P **P** **20 24 01.9 +0.6**
baz=84
O03C Acorn Hollow, 83.82 50⇑P **P** **20 24 01.5 0.0**
baz=84
B08A Colville Reser 83.83 42⇓P **P** **20 24 00.8 -0.6**
baz=84,SNR=26
CVS Carmenet Viney 83.85 52⇓P **P** **20 24 01.5 -0.3**
baz=84
E07A Sunnyside 83.90 44⇓P **P** **20 24 01.6 -0.2**
baz=84
SPITS Spitsbergen Ar 83.97 351 P **P** **20 24 01.1 -0.6**
comp=Z,2.9nm,0.4s,mb4.3,baz=35,slow=4.8,SNR=19
H06A Lindquist Farm 83.99 46 P **P** **20 24 02.1 -0.2**
baz=84,SNR=22
K05A Summer Lake 84.05 48⇑P **P** **20 24 03.0 +0.3**
baz=84,SNR=17
HATC Hat Creek Radi 84.06 50⇓P **P** **20 24 03.0 +0.2**
baz=84
RSW Rattlesnake Hi 84.12 44 *eP* **P** **20 24 02.9 0.0**
C08A Higginbotham F 84.16 42 P **P** **20 24 02.8 -0.3**
baz=84,SNR=14
HAWA Hanford 84.16 44 *eP* **P** **20 24 03.0 -0.1**
comp=Z,17nm,0.8s,mb4.8
A09A Danville 84.17 41⇑P **P** **20 24 03.1 -0.1**
baz=84,SNR=11
M05C Lookout 84.17 49⇑P **P** **20 24 03.1 -0.3**
baz=84
L05A Lakeview 84.25 48⇑P **P** **20 24 04.1 +0.4**
baz=84,SNR=7.8
I06A Prineville 84.26 46⇑P **P** **20 24 03.9 +0.2**
baz=84
ORV Oroville 84.31 51⇓P **P** **20 24 03.8 -0.3**
baz=84,SNR=7.0
G07A Ruggs Ranch, H 84.33 45⇓P **P** **20 24 04.0 -0.1**
baz=84,SNR=12
OHCM Honcut 84.38 51 *eP* **P** **20 24 03.9 -0.6**
D08A Wollman Farm, 84.41 43⇓P **P** **20 24 04.2 -0.2**
baz=84,SNR=6.4
O04C Chester 84.45 50⇑P **P** **20 24 05.1 +0.3**
baz=84
E08A Dider Farm, El 84.45 44⇑P **P** **20 24 04.5 -0.1**
baz=84
J06A Christmas Vall 84.46 47⇓P **P** **20 24 04.5 -0.2**
baz=84,SNR=18
OD2 Odessa Site #2 84.47 43 *eP* **P** **20 24 04.0 -0.7**
K06A Valley Falls 84.50 47⇑P **P** **20 24 05.0 0.0**
baz=84,SNR=13
H07A Lands Inn, Kim 84.56 46⇓P **P** **20 24 05.0 -0.2**
baz=84,SNR=10
B09A Rice 84.58 42⇓P **P** **20 24 04.9 -0.4**
baz=84,SNR=13
C09A Chrisman Ranch 84.66 42⇓P **P** **20 24 05.0 -0.6**
baz=84,SNR=5.8
O05C Quincy 84.66 50⇓P **P** **20 24 05.6 -0.3**
baz=84
MOD Modoc 84.67 48⇓P **P** **20 24 05.9 +0.1**
baz=84,SNR=7.9
MOD Modoc 84.67 48 *eP* **P** **20 24 06.0 +0.2**
comp=Z,28nm,1.2s,mb4.9
M06C Likely Place G 84.70 49⇓P **P** **20 24 06.2 +0.2**
baz=84
I07A Izee 84.72 46⇑P **P** **20 24 06.1 0.0**
baz=84,SNR=8.7
G08A Pilot Rock 84.81 45⇓P **P** **20 24 06.3 -0.2**
baz=85,SNR=13
F08A Pendleton 84.81 44⇑P **P** **20 24 06.6 +0.1**
baz=85,SNR=11
D09A Jones Farm, Ri 84.81 43⇑P **P** **20 24 06.0 -0.5**
baz=85,SNR=6.9
A10A Northport 84.82 41⇑P **P** **20 24 06.3 -0.1**
baz=85,SNR=11
S04C Ingram Canyon, 84.91 53⇓P **P** **20 24 07.0 -0.2**
baz=85
HAST Hastings Reser 84.99 54⇑P **P** **20 24 07.5 0.0**
baz=85
J07A Hines 85.03 47⇓P **P** **20 24 07.6 0.0**
baz=85,SNR=11
P05C Yuba Gap, Truc 85.04 51⇑P **P** **20 24 07.7 -0.1**
baz=85
PACP Pacheco Peak 85.05 53⇑P **P** **20 24 07.8 0.0**
baz=85
E09A Wood Farm, Sta 85.06 43⇑P **P** **20 24 07.6 -0.1**
baz=85,SNR=12
LAVA Lava Cap Winer 85.07 51⇑P **P** **20 24 07.8 -0.2**
baz=85
LNOR Lincton Mounta 85.13 44 *eP* **P** **20 24 07.5 -0.5**
H08A Prairie City 85.20 45⇓P **P** **20 24 08.3 -0.1**
baz=85,SNR=8.1
K07A Rock Creek Ran 85.24 47 P **P** **20 24 08.8 +0.1**
baz=85,SNR=24
C10A Spilker Farm, 85.28 42⇓P **P** **20 24 08.6 -0.2**
baz=85
L07A Adell 85.34 48 P **P** **20 24 09.8 +0.6**
baz=85,SNR=16
APA Apatity 85.36 339 *eP* **P** **20 24 00.0 -8.7**
I08A Drewsey 85.42 46⇑P **P** **20 24 09.4 -0.2**
baz=85
O06A Flanigan 85.42 50⇓P **P** **20 24 09.6 0.0**
baz=85,SNR=16
KLMR Klimovskoe 85.43 332 *eP* **P** **20 24 07.5 -1.7**
KLMR pmax pmax
comp=Z,24nm,1.6s,mb4.7
D10A Wagner Farm, O 85.50 43⇓P **P** **20 24 09.3 -0.5**
baz=85
CMB Columbia Colle 85.51 52 *eP* **P** **20 24 10.5 +0.4**
CMB pmax pmax
comp=Z,13nm,1.0s,mb4.6
CMB Columbia Colle 85.51 52⇑P **P** **20 24 09.9 -0.2**
baz=85,SNR=6.6
CMB Columbia Colle 85.51 52 *eP* **P** **20 24 10.5 +0.4**
comp=Z,13nm,1.0s,mb4.6
A11A Hall Mountain, 85.59 41⇓P **P** **20 24 10.5 +0.3**
baz=85,SNR=17
R05C Kirkwood Meado 85.59 51⇓P **P** **20 24 10.6 +0.2**
baz=85
M07A Soldier Meadow 85.61 49⇓P **P** **20 24 10.7 +0.1**
baz=85,SNR=12
G09A Cove 85.62 45⇑P **P** **20 24 10.3 -0.2**
baz=85,SNR=18
J08A Circle Bar Ran 85.62 47⇑P **P** **20 24 10.4 -0.1**

baz=85,SNR=7.2
S05C Merced 85.72 53 ⇓P P 20 24 10.8 -0.3
baz=86
B11A Sandpoint 85.73 41 ⇑P P 20 24 10.8 -0.1
baz=86,SNR=9.2
WVOR Wild Horse Val 85.74 48 *eP* **P 20 24 10.9 -0.2**
WVOR pmax pmax
comp=Z,13nm,0.9s,mb4.7
WVOR Wild Horse Val 85.74 48 *eP* **P 20 24 10.9 -0.2**
comp=Z,13nm,0.9s,mb4.7
K08A Mann Creek Ran 85.77 47 ⇑P P 20 24 11.2 -0.1
baz=86,SNR=22
F10A Beach Ranch, E 85.81 44 ⇓P P 20 24 11.1 -0.3
baz=86,SNR=8.6
H09A Durkee 85.86 45 ⇑P P 20 24 11.6 -0.1
baz=86,SNR=7.1
S06C San Francisco 85.96 52 ⇑P P 20 24 12.3 0.0
baz=86
I09A Lost Marbles R 85.98 46 ⇓P P 20 24 12.2 -0.1
baz=86,SNR=5.4
L08A Fields 86.01 48 ⇑P P 20 24 12.8 +0.3
baz=86,SNR=10
A12A Yaak River Ran 86.05 41 ⇑P P 20 24 12.6 +0.1
baz=86,SNR=5.0
BMO Blue Mountains 86.06 45 *eP* **P 20 24 12.2 -0.4**
BMO pmax pmax
comp=Z,38nm,1.0s,mb5.1
BMO Blue Mountains 86.06 45 *eP* **P 20 24 12.2 -0.5**
comp=Z,38nm,1.0s,mb5.1
G10A Bishop Farm, J 86.07 44 ⇑P P 20 24 12.3 -0.4
baz=86,SNR=16
R06C Coleville 86.11 51 ⇑P P 20 24 13.5 +0.4
baz=86,SNR=5.8
D11A Klaveano Farm, 86.12 43 ⇑P P 20 24 12.3 -0.6
baz=86,SNR=6.2
O07A Toulon 86.13 50 ⇑P P 20 24 13.2 0.0
baz=86,SNR=7.9
J09A Fry Pan Ranch, 86.14 46 ⇑P P 20 24 13.0 -0.1
baz=86,SNR=10
M08A Happy Creek Ra 86.17 48 ⇓P P 20 24 13.4 +0.1
baz=86,SNR=8.0
PTRM Twissleman Ran 86.21 54 *eP* **P 20 24 12.2 -1.5**
B12A Libby 86.22 41 ⇑P P 20 24 13.5 +0.1
baz=86
T06C Millerton Lake 86.28 53 ⇑P P 20 24 13.5 -0.4
baz=86
K09A Rome 86.32 47 ⇑P P 20 24 13.7 -0.3
baz=86,SNR=14
E11A Bogner Ranch, 86.39 43 ⇑P P 20 24 13.8 -0.5
baz=86,SNR=18
KCC Kaiser Creek 86.50 53 ⇓P P 20 24 15.6 +0.6
baz=86
H10A Noah's Angus R 86.51 45 P P 20 24 14.4 -0.4
baz=86,SNR=27
R07C Lee Vining 86.52 52 ⇓P P 20 24 15.5 +0.4
baz=86,SNR=6.8
N08A GE Springer Mi 86.52 49 ⇓P P 20 24 15.2 +0.1
baz=86,SNR=6.7
L09A Wilkinson Ranc 86.54 48 ⇓P P 20 24 15.4 +0.3
baz=86,SNR=15
I10A Payette 86.61 46 ⇓P P 20 24 15.2 -0.1
baz=86
G11A Walters Elk Ra 86.62 44 ⇓P P 20 24 14.3 -1.1
baz=86,SNR=37
O08A Rochester Mine 86.63 49 ⇓P P 20 24 15.8 +0.2
baz=86
PKM Peak Mountain 86.71 55 ⇑P P 20 24 16.6 +0.5
baz=86
D12A Red Ives Fores 86.77 42 ⇓P P 20 24 15.9 -0.2
baz=87
J10A Berg Farm, Mel 86.81 46 ⇑P P 20 24 16.0 -0.3
baz=87
M09A Marrel Ranch, 86.86 48 ⇓P P 20 24 16.8 +0.2
baz=87
HELL Mitchell Peak 86.89 53 ⇓P P 20 24 16.5 -0.4
baz=87,SNR=5.3
K10A MacKenzie Ranc 86.91 47 P P 20 24 17.1 +0.2
baz=87,SNR=30
N09A Rock Creek Ran 86.95 49 ⇓P P 20 24 17.6 +0.5
baz=87,SNR=15
B13A Whitefish 86.96 41 ⇑P P 20 24 16.9 -0.1
baz=87,SNR=14
H11A Donnelly 86.98 45 ⇓P P 20 24 16.5 -0.7
baz=87,SNR=13
ARCES ARCESS Array B 86.99 342 P P 20 24 16.6 -0.1
comp=Z,11nm,0.8s,mb4.7,baz=61,slow=11,SNR=16
NVAR Mina Array Bea 87.00 51 P P 20 24 17.9 +0.5
comp=Z,7.5nm,0.7s,mb4.6,baz=264,slow=6.7,SNR=55
NVAR Mina Array Bea 87.00 51 P P 20 24 17.9 +0.5
MTUM Tungsten Hills 87.08 52 *eP* **P 20 24 17.9 +0.1**
C13A Hot Springs 87.09 42 ⇓P P 20 24 17.3 -0.4
baz=87,SNR=5.2
WALA Waterton Lakes 87.11 40 *eP* **P 20 24 17.8 +0.2**
comp=Z,16nm,0.8s,mb4.9
Q08A Gabbs 87.17 51 ⇓P P 20 24 18.0 -0.2
baz=87
R08A Mina 87.17 51 ⇑P P 20 24 18.3 +0.1
baz=87
F12A Elk City 87.20 44 P P 20 24 18.1 -0.1
baz=87,SNR=15
BMN Battle Mountai 87.28 49 *eP* **P 20 24 18.6 -0.1**
BMN pmax pmax
comp=Z,18nm,1.6s,mb4.7
BMN Battle Mountai 87.28 49 *eP* **P 20 24 18.6 -0.2**
comp=Z,18nm,1.6s,mb4.7
D13A Huson 87.34 42 ⇓P P 20 24 17.9 -0.9
baz=87,SNR=9.9
S08C White Mtn Res 87.34 52 ⇓P P 20 24 19.7 +0.6
baz=87,SNR=11
O09A Fish Creek Ran 87.38 49 ⇑P P 20 24 19.5 +0.3
baz=87,SNR=13
L10A Juniper Basin 87.39 47 ⇓P P 20 24 19.3 +0.1
baz=87,SNR=18
ARVC Arvin 87.44 55 ⇓P P 20 24 18.8 -0.8
baz=87
MFID Camas Ranch 87.47 46 ⇑P P 20 24 19.6 +0.1
baz=87,SNR=33
M10A I.L. Ranch, Tu 87.49 48 ⇓P P 20 24 19.7 0.0
baz=87
K11A Parker Ranch, 87.51 47 P P 20 24 20.1 +0.3
baz=87,SNR=18
ISA Isabella 87.58 54 *eP* **P 20 24 18.9 -1.4**
C14A Swan Lake 87.60 41 ⇓P P 20 24 19.6 -0.4
baz=87
E13A Victor 87.71 43 ⇑P P 20 24 19.9 -0.8
baz=88
F13A Darby 87.81 43 ⇓P P 20 24 20.3 -0.8
baz=88,SNR=18
O10A Cortez Mining, 87.85 49 ⇓P P 20 24 21.1 -0.3
baz=88,SNR=5.6
L11A Cat Creek Ranc 87.87 47 ⇓P P 20 24 21.1 -0.4
baz=88,SNR=20
TPH Tonopah 87.92 51 *eP* **P 20 24 22.8 +1.0**
TPH pmax pmax
comp=Z,14nm,1.1s,mb4.7
TPH Tonopah 87.92 51 *eP* **P 20 24 22.8 +1.0**
comp=Z,14nm,1.1s,mb4.7
D14A Greenough 87.96 42 ⇑P P 20 24 20.4 -1.4
baz=88
R09A Tonopah 87.99 51 ⇓P P 20 24 22.0 -0.1
baz=88,SNR=15
S09A Goldfield 88.01 52 ⇑P P 20 24 22.2 0.0
baz=88,SNR=13
J12A Stokes Ranch, 88.03 46 ⇓P P 20 24 22.4 +0.2
baz=88,SNR=7.3
M11A Holland Ranch, 88.05 48 ⇑P P 20 24 22.5 +0.1
baz=88
P10A Eureka 88.07 50 ⇑P P 20 24 22.5 +0.1
baz=88
G13A Cobalt 88.08 44 P P 20 24 22.1 -0.3
baz=88,SNR=51
EDW2 Edwards Air Fo 88.17 55 ⇑P P 20 24 23.2 +0.1
baz=88,SNR=5.2
E14A Clinton 88.18 43 ⇓P P 20 24 22.0 -0.8
baz=88
CHMT Chamberlain Mo 88.18 42 *eP* **P 20 24 21.1 -1.7**
JOF Joensuu 88.18 335 *ep* **P 20 24 19.4 -3.1**
comp=Z,7.8nm,0.6s,mb4.7
LRMC Laurel Mountai 88.25 54 ⇓P P 20 24 23.4 0.0
baz=88
MPMC Manual Prospec 88.25 53 ⇓P P 20 24 23.6 +0.2
baz=88,SNR=14
N11A Elko Archery C 88.27 48 ⇑P P 20 24 23.6 +0.2
baz=88
K12A Draper Farm, C 88.34 47 ⇓P P 20 24 23.7 +0.1
baz=88,SNR=10.0
L12A House Creek Ra 88.40 47 ⇓P P 20 24 24.1 +0.2
baz=88,SNR=11
HLID Hailey 88.41 46 ⇓P P 20 24 24.1 +0.1
baz=88,SNR=25
HLID Hailey 88.41 46 *eP* **P 20 24 24.3 +0.3**
comp=Z,24nm,1.0s,mb5.0
S10A Tonopah Range, 88.43 51 ⇑P P 20 24 24.5 +0.2
baz=88,SNR=21
I13A Wildhorse Cree 88.51 45 ⇑P P 20 24 24.8 +0.4
baz=88,SNR=26
O11A Cowboy Ranch, 88.52 49 ⇑P P 20 24 24.9 +0.3
baz=88,SNR=8.3
G14A Jackson 88.56 44 ⇑P P 20 24 23.9 -0.8
baz=88
BFSC Mount Baldy St 88.60 55 ⇓P P 20 24 24.7 -0.4
baz=88
P11A Circle Ranch, 88.61 50 ⇑P P 20 24 25.3 +0.3
baz=88
D15A Lincoln 88.62 42 ⇓P P 20 24 24.1 -0.8
baz=88
J13A Cove Ranch, Pi 88.63 46 ⇑P P 20 24 25.2 +0.2
baz=88,SNR=7.0
FURC Furnace Creek, 88.63 53 ⇑P P 20 24 25.2 0.0
baz=88,SNR=8.4
ELK Elko 88.65 48 *eP* **P 20 24 25.6 +0.4**
ELK pmax pmax
comp=Z,25nm,1.0s
ELK Elko 88.65 48 *eP* **P 20 24 25.6 +0.4**
comp=Z,25nm,1.0s,mb5.1
E15A Deer Lodge 88.73 42 ⇓P P 20 24 25.1 -0.3
baz=88
N12A Clover Valley, 88.76 48 ⇑P P 20 24 26.0 +0.3
baz=89,SNR=5.5
Q11A Duckwater 88.89 50 ⇓P P 20 24 26.6 +0.2
baz=89,SNR=9.7
K13A Stover Farm, H 88.92 46 ⇑P P 20 24 26.8 +0.4
baz=89
TPNV Topopah Spring 88.97 52 *eP* **P 20 24 27.2 +0.4**
TPNV pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
TPNV Topopah Spring 88.97 52 ⇓P P 20 24 26.7 -0.1
baz=89,SNR=12
TPNV Topopah Spring 88.97 52 *eP* **P 20 24 27.1 +0.4**
comp=Z,7.6nm,0.7s,mb4.7
OBN Obninsk 88.97 327⇓*eP* **P 20 24 24.8 -1.6**
OBN *eS* S 20 34 41.5 -22
OBN *ePS* PS 20 36 01.9 -23
OBN pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
OBN MLR MLR
comp=Z,100nm,19.0s
GSC Goldstone 88.99 54 *eP* **P 20 24 27.4 +0.5**
GSC pmax pmax
comp=Z,13nm,1.1s,mb4.8
GSC Goldstone 88.99 54 ⇓P P 20 24 27.0 +0.1
baz=89,SNR=7.6
GSC Goldstone 88.99 54 *eP* **P 20 24 27.4 +0.5**
comp=Z,13nm,1.1s,mb4.8
F15A Butte 89.02 43 ⇑P P 20 24 26.9 +0.1
baz=89
U10A Ash Meadows, A 89.05 53 ⇓P P 20 24 27.8 +0.6
baz=89
R11A Troy Canyon, C 89.08 51 ⇓P P 20 24 27.6 +0.4
baz=89,SNR=12
O12A Currie 89.15 49 ⇓P P 20 24 27.6 +0.1
baz=89,SNR=16
S11A Rachel 89.16 52 ⇑P P 20 24 27.9 +0.3
baz=89,SNR=5.6
L13A Double Diamond 89.18 47 ⇓P P 20 24 28.2 +0.5
baz=89
G15A Dillon 89.23 44 ⇑P P 20 24 27.6 -0.2
baz=89
SHOC Shoshone 89.24 53 ⇓P P 20 24 28.7 +0.6
baz=89
M13A Montello 89.24 48 ⇑P P 20 24 28.2 +0.2
baz=89,SNR=5.2
P12A McGill 89.26 50 ⇓P P 20 24 28.3 +0.2
baz=89,SNR=6.0
Q12A Willow Creek R 89.44 50 ⇓P P 20 24 29.4 +0.4
baz=89
HEC Hector,Ludlow 89.50 54 ⇓P P 20 24 29.5 +0.2
baz=89,SNR=7.3
K14A Jones Ranch, D 89.59 46 ⇑P P 20 24 29.9 +0.4
baz=89,SNR=6.9
BOZ Bozeman (W) 89.65 43 ⇑P P 20 24 29.7 -0.1
baz=89
T11A Corn Creek, Al 89.67 52 ⇓P P 20 24 30.0 -0.1
baz=90
L14A Malta 89.70 47 ⇑P P 20 24 30.4 +0.3
baz=90
M14A Sheep Mountain 89.79 47 ⇓P P 20 24 30.5 0.0
baz=90,SNR=11
R12A Pony Springs, 89.82 51 ⇓P P 20 24 31.2 +0.5
baz=90,SNR=5.4
S12A Delamar Landin 89.85 51 ⇑P P 20 24 31.1 +0.2
baz=90
V11A Goodsprings 89.92 53 ⇑P P 20 24 31.6 +0.3
baz=90
P13A Bates Ranch, G 89.93 49 ⇑P P 20 24 31.6 +0.4
baz=90,SNR=19
MONP Monument Peak 89.96 56 ⇓P P 20 24 31.7 +0.2
baz=90,SNR=7.3
BELC Belle Mtn. 89.99 55 ⇑P P 20 24 31.6 0.0
baz=90
K15A Arbon 89.99 46 ⇑P P 20 24 31.8 +0.4
baz=90
GMRC Granite Mounta 90.04 54 ⇓P P 20 24 31.8 0.0
baz=90,SNR=8.1
Q13A Wheeler Ranch, 90.07 50 ⇑P P 20 24 32.2 +0.3
baz=90
N14A Grayback Hills 90.10 48 ⇑P P 20 24 32.3 +0.3
baz=90
HVU Hansel Valley 90.11 47 *eP* **P 20 24 32.0 0.0**
HVU pmax pmax
comp=Z,49nm,1.7s,mb5.2
HVU Hansel Valley 90.11 47 *eP* **P 20 24 32.0 0.0**
comp=Z,49nm,1.7s,mb5.2
L15A Malad City 90.31 47 ⇑P P 20 24 33.1 +0.1
baz=90
R13A O'Grain Ranch, 90.34 51 ⇓P P 20 24 33.7 +0.6
baz=90
LDFC Landfair 90.39 54 *eP* **P 20 24 33.5 +0.1**
comp=Z,53nm,1.2s,mb5.3
V12A Nelson 90.40 53 ⇑P P 20 24 33.8 +0.3
baz=90
M15A Larsen Ranch, 90.44 47 ⇑P P 20 24 33.7 +0.2
baz=90
J16A Bone 90.44 45 ⇑P P 20 24 34.2 +0.7
baz=90
SWSC Sam W. Stewart 90.45 56 ⇑P P 20 24 33.8 0.0
baz=90
BC3 Big Chuckw Mtn 90.52 55 ⇓P P 20 24 34.1 0.0
baz=90
N15A Stansbury Isla 90.57 48 ⇑P P 20 24 34.2 +0.1
baz=90
DUG Dugway 90.58 48 *eP* **P 20 24 34.5 +0.3**
DUG pmax pmax
comp=Z,13nm,1.2s,mb4.8
DUG Dugway 90.58 48 ⇑P P 20 24 34.3 +0.1
baz=90,SNR=8.7
DUG Dugway 90.58 48 *eP* **P 20 24 34.5 +0.2**
comp=Z,13nm,1.2s,mb4.8
YFT Old Faithful 90.58 44 *eP* **P 20 24 35.9 +1.8**
P14A Drum Mountains 90.58 49 ⇑P P 20 24 34.4 +0.2
baz=90,SNR=6.1
YNR Norris Junctio 90.60 44 *eP* **P 20 24 35.9 +1.8**
K16A Soda Springs 90.60 46 ⇓P P 20 24 34.6 +0.3
baz=90
KAF Kangasniemi 90.61 336 *ep* **P 20 24 29.7 -4.1**
comp=Z,8.2nm,0.6s,mb4.9,baz=56,slow=4.4
KAF Kangasniemi 90.61 336 *eP* **P 20 24 29.7 -4.1**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
S13A Holt Ranch, En 90.61 51 ⇑P P 20 24 35.0 +0.6
baz=90
Q14A Sevier Lake (B 90.61 50 ⇑P P 20 24 34.5 +0.1
baz=90,SNR=8.5
RRI2 Red Ridge 90.62 45 *eP* **P 20 24 34.5 +0.2**
comp=Z,53nm,1.5s,mb5.3
IRM Iron Mountain 90.62 55 ⇑P P 20 24 34.7 +0.1
baz=90
MOOW Moose Ponds 90.88 45 *eP* **P 20 24 35.6 +0.1**
comp=Z,19nm,1.5s,mb4.9
U13A Pakoon Wash 90.88 52 ⇑P P 20 24 36.1 +0.4
baz=91,SNR=6.1
GCMT Greycliff 90.90 42 *eP* **P 20 24 35.4 -0.1**
AHID Auburn Hatcher 90.96 46 *eP* **P 20 24 36.7 +0.8**
L16A Fish Haven 90.98 46 ⇑P P 20 24 36.4 +0.4
baz=91
GLA Glamis 91.20 56 ⇓P P 20 24 37.5 +0.2
baz=91
W13A Hualapai Mount 91.34 54 ⇑P P 20 24 38.3 +0.4
baz=91
T14A Hurricane 91.36 51 ⇓P P 20 24 38.3 +0.4
baz=91
PDMCI Parker Dam,Lak 91.38 54 ⇓P P 20 24 38.5 +0.4
baz=91
U14A Mt Trumbull 91.48 52 ⇓P P 20 24 39.1 +0.6
baz=91
O16A Springville 91.53 48 ⇑P P 20 24 39.0 +0.4
baz=91
VNDA Vanda 91.53 176 P P 20 24 37.8 +0.1
comp=Z,1.7nm,0.9s,mb4.1,baz=309,slow=8.5,SNR=4.8
X13A Yucca 91.53 54 ⇓P P 20 24 39.0 +0.2
baz=91
V14A Boquillas Ranc 91.78 53 ⇓P P 20 24 40.7 +0.8
baz=92
W14A Seligman 91.93 53 ⇓P P 20 24 41.6 +1.1
baz=92
PDAR Pinedale Array 92.03 45 P P 20 24 40.8 -0.1
comp=Z,1.9nm,0.9s,mb4.1,baz=283,slow=2.6,SNR=12
PDAR PP PP 20 28 20.6 -1.3
comp=Z,1.1nm,1.0s,baz=304,slow=3.4,SNR=6.3
113A Mohawk Valley, 92.14 56 ⇑P P 20 24 41.9 +0.3
baz=92
U15A North Rim 92.16 52 ⇓P P 20 24 42.3 +0.7
baz=92
R16A Teasdale 92.17 50 ⇓P P 20 24 42.1 +0.5
baz=92
Q16A Castle Valley 92.19 49 ⇓P P 20 24 42.3 +0.6
baz=92
X14A Yava 92.31 54 ⇓P P 20 24 43.0 +0.6
baz=92
P17A Butcher Ranch, 92.32 49 ⇑P P 20 24 42.6 +0.3
baz=92
Y14A Wickenburg 92.39 54 ⇓P P 20 24 43.0 +0.3
baz=92
V15A Kaibab Nationa 92.44 52 ⇓P P 20 24 43.5 +0.6
baz=92
N18A Larsen Ranch, 92.58 47 ⇓P P 20 24 44.1 +0.7
baz=92
SRU San Rafael 92.60 49 ⇓P P 20 24 44.4 +0.8
baz=92
R17A Hanksville Air 92.70 50 ⇑P P 20 24 44.1 0.0
baz=92
Q18A Rafter H Ranch 92.89 49 ⇓P P 20 24 45.6 +0.7
baz=93
Y15A Casa Rosa Ranc 92.91 54 ⇑P P 20 24 45.8 +0.7
baz=93
T17A Navajo Res., N 93.10 51 ⇓P P 20 24 46.4 +0.5
baz=93
214A Organ Pipe Nat 93.15 56 ⇑P P 20 24 47.1 +0.8
baz=93
WUAZ Wupatki 93.16 52 ⇓P P 20 24 46.9 +0.7
baz=93
R18A Canyonlands Na 93.31 49 ⇑P P 20 24 47.5 +0.6
baz=93
S18A Hurst Farm, Bl 93.48 50 ⇑P P 20 24 48.2 +0.6
baz=93
FCC Fort Churchill 93.58 27 P P 20 24 45.0 -2.6
Y16A Circle Bar Ran 93.61 54 ⇓P P 20 24 49.0 +0.7
baz=93
T18A Mexican Hat 93.76 51 ⇓P P 20 24 49.7 +0.8
baz=94
PV10 Paradox Valley 93.95 49 *eP* **P 20 24 49.8 0.0**
T19A Beclabito 94.50 51 ⇓P P 20 24 53.1 +0.7
baz=94
217A Green Valley 94.82 56 ⇑P P 20 24 55.0 +1.1
baz=95
W19A Sanders 94.82 52 ⇓P P 20 24 55.0 +1.1
baz=95
AKASG Malin Array Be 94.88 325 P P 20 24 52.2 -1.6
comp=Z,0.1nm,0.3s,mb3.5,baz=59,slow=3.6,SNR=5.5
AKASG Malin Array Be 94.88 325 *i P* **P 20 24 51.5 -2.3**
118A Homack Ranch, 95.21 55 ⇓P P 20 24 56.9 +1.2
baz=95
RSSD Black Hills 95.23 42 *eP* **P 20 24 54.1 -1.4**
RSSD pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
RSSD Black Hills 95.23 42 *eP* **P 20 24 54.1 -1.5**
comp=Z,7.7nm,0.8s,mb5.0
Y19A Nutrioso 95.33 53 ⇓P P 20 24 57.2 +1.0
baz=95
218A Dragoon 95.37 55 ⇓P P 20 24 57.3 +0.8
baz=95
318A Bisbee 95.59 56 ⇑P P 20 24 58.3 +0.8
baz=95
HFS Hagfors 96.69 338 P P 20 24 60.0 -1.8
comp=Z,1.7nm,0.6s,mb4.6,baz=104,slow=4.6,SNR=7.5
NB2 NORSAR Subarra 96.94 339 P P 20 25 01.0 -1.9
comp=Z,1.9nm,0.8s,mb4.5,baz=42,slow=4.6
NOA NORSAR Array B 96.94 339 P P 20 25 01.1 -1.8
comp=Z,1.5nm,0.8s,mb4.4,baz=46,slow=4.5,SNR=5.8
ULM Lac du Bonnet 97.28 34 P P 20 25 02.5 -2.2
comp=Z,2.1nm,0.5s,mb4.7,baz=293,slow=5.7,SNR=4.5
ULM Lac du Bonnet 97.28 34 P P 20 25 02.5 -2.2
GERES GERESS Array B 104.21 329 PKiKP PKiKP 20 29 52.4 +0.6
comp=Z,0.3nm,0.5s,baz=29,slow=2.2,SNR=4.3
ESDC Sonseca Array 119.47 333 PKP PKPdf 20 30 21.1 +0.1
comp=Z,0.3nm,0.5s,baz=21,slow=1.8,SNR=4.6
MTE Manteigas 120.38 336 *e*PKPdf PKPdf 20 30 23.6 +0.8
PCBR Castelo Branco 120.83 335 *e*PKPdf PKPdf 20 30 24.2 +0.6
PMRV Marv??o 121.14 335 *e*PKPdf PKPdf 20 30 24.8 +0.6
PBAR Barrancos 122.05 334 *e*PKPdf PKPdf 20 30 26.1 +0.1
PBEJ Beja 122.53 334 *e*PKPdf PKPdf 20 30 27.2 +0.3
TORD Torodi Ar. Bea 134.71 304 PKhKP 20 30 44.8
comp=Z,0.6nm,1.1s,baz=31,slow=4.5,SNR=4.3
TORD PKP PKPdf 20 30 50.8 +0.1
comp=Z,3.0nm,0.7s,baz=43,slow=2.1,SNR=26
TORD SKPbc SKPbc 20 34 07.6 -1.5
comp=Z,3.0nm,1.0s,baz=51,slow=1.8,SNR=8.7
TORD Torodi Ar. Bea 134.71 304 PKP PKPdf 20 30 44.8 -5.9
TORD PKP PKPdf 20 30 50.8 +0.1
TORD SKPbc SKPbc 20 34 07.6 -1.5
SDV Santo Domingo 138.38 59 PKP PKPdf 20 30 55.2 -2.3
comp=Z,2.0nm,0.4s,baz=282,slow=8.8,SNR=5.1
PLCA Paso Flores 139.07 138 PKP PKPdf 20 30 58.4 +0.4
comp=Z,2.1nm,0.9s,baz=240,slow=1.5,SNR=3.4
DBIC Dimbokro 143.67 302 PKP PKPdf 20 31 04.7 -2.4
comp=Z,5.5nm,0.4s,baz=37,slow=5.1,SNR=22
KIC Kosan Boka 143.74 301 *eP* PKPdf 20 31 04.0 -3.2
comp=Z,258nm,1.5s
TIC Toumodi 143.82 302 *eP* PKPdf 20 31 05.4 -1.9
comp=Z,261nm,1.5s
LIC Lamto 144.06 301 *eP* PKPdf 20 31 05.3 -2.4
comp=Z,60nm,0.7s
CFAA Coronel Fontan 144.91 126 PKP PKPdf 20 31 07.7 -1.1
comp=Z,1.2nm,0.6s,baz=226,slow=5.5,SNR=10
LVC Limon Verde 146.89 110 PKPbc PKPbc 20 31 15.8 +1.5
comp=Z,8.7nm,0.6s,baz=242,slow=5.7,SNR=7.2
LPAZ La Paz 148.18 99 PKP PKPdf 20 31 16.5 +1.9
comp=Z,9.7nm,0.6s,baz=270,slow=4.0,SNR=34
LPAZ PKPbc PKPbc 20 31 19.6 +1.6
comp=Z,9.7nm,0.6s,baz=297,slow=2.8,SNR=37
LPAZ La Paz 148.18 99 PKP PKPdf 20 31 16.5 +1.9
LPAZ PKPbc PKPbc 20 31 19.6 +1.6
SIV San Ignacio 154.97 99 PKP PKPdf 20 31 25.7 +0.9
comp=Z,0.2nm,0.3s,baz=297,slow=9.0,SNR=3.7

JMA ***10*** *20:33:48.8±0.2,2996N×131 40E,h38km±3km*
ISCJB ***10*** *20:33:49.7±1.1,2998N±006×13136E±008,h45km±9km,*
mb3.6/9,MS3.7/4,Error ellipse: s-maj=13.7km
s-min=7.3km az=35.5
IDC ***10*** *20:33:56.9±0.8,3044N×131 04E,h57km±6km,mb3.3/9,*
mb1 3.5/11,mb1mx3.4/22,mbtmp3.3/11,MS3.7/7,
Ms1 3.7/7,ms1mx3.5/18,Error ellipse: s-maj=31.6km
s-min=14.6km az=67.0
NEIC ***10*** *20:33:57.0±0.6,3047N×131 05E,MG4.3(JMA),Error*
ellipse: s-maj=16.9km s-min=12.7km az=78.0
ISC 10 20:33:50.0±1.4,2998N±005×13132E±007,h29km±8km,
h53km±2.3km:pP-P,n33,σ0=66/31,mb3.6/9,MS3.7/4,

Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.73**	**336**	P	**Pb**	**20 34 03.5**	**-0.6**
JTN				S	**Sb**	**20 34 14.7**	**+0.8**
JKC	**Kuchinoerabu**	**1.08**	**296**	P	**Pn**	**20 34 09.2**	**-0.1**
JKC				*e*S	**Sn**	**20 34 24.4**	**+1.1**
JTSR	**Tashiro 2**	**1.23**	**344**	P	**Pn**	**20 34 10.9**	**-0.3**
JTSR				*e*S	**Sn**	**20 34 27.0**	**+0.1**
JNN	**Nakanoshima**	**1.27**	**264**	P	**Pn**	**20 34 11.9**	**+0.2**
JNN				*e*S	**Sn**	**20 34 28.0**	**+0.3**
JNAR	**Kushima--Naru**	**1.54**	**358**	P	**Pn**	**20 34 15.5**	**0.0**

JNAR eS Sn 20 34 34.4 -0.1
JSU Suzuyama 1.69 334 P Pn 20 34 17.2 -0.4
JTZ Takazaki 1.92 354 P Pn 20 34 21.2 +0.4
JTZ eS Sn 20 34 44.2 +0.2
JAM Amami Oshima 2.17 224 P Pn 20 34 24.5 +0.3
JSJ Shimokoshiki 2.18 321 P Pn 20 34 23.7 -0.6
JZO Okuchi 2.24 344 P Pn 20 34 24.8 -0.3
JTSN Tsuno 2.26 4 P Pn 20 34 25.1 -0.3
JOW Kunigami 4.13 221 S Sx 20 35 53.1
26nm,0.3s,baz=121,slow=29,SNR=6.7
JHJ Hachijo jima 2 7.87 64 LR LR 20 38 38.1
comp=Z,181nm,20.0s,baz=290,slow=35
KSRS Korea Array 7.97 340 P Pn 20 35 42.5 -1.3
0.1nm,0.3s,baz=153,slow=15,SNR=2.4
MJAR Matsushiro Arr 8.72 40 P Pn 20 35 56.5 +2.4
0.2nm,0.3s,baz=227,slow=16,SNR=4.0
MJAR Matsushiro Arr 8.72 40 P Pn 20 35 56.5 +2.4
CBIJ Chichi jima 9.98 104 LR LR 20 40 11.1
comp=Z,327nm,18.1s,baz=90,slow=36
ASAJ Asahikawa 16.71 29 LR LR 20 45 00.5
comp=Z,292nm,18.6s,baz=26,slow=40
GUMO Guam 20.57 140 LR LR 20 46 13.8
comp=Z,188nm,19.6s,MS3.5,baz=161,slow=35
SONM Songino Array 26.16 320 P P 20 39 21.0 -0.7
0.5nm,0.5s,baz=56,slow=7.1,SNR=2.8
SONM pP pP 20 39 36.1 +5.9
3.5nm,1.0s,baz=125,slow=6.5,SNR=11
SONM LR LR 20 51 10.0
comp=Z,437nm,18.4s,MS4.0,baz=122,slow=40
CMAR Chiang Mai Arr 31.57 256 pP pP 20 40 25.6 +7.0
0.6nm,0.5s,baz=56,slow=7.1,SNR=2.8
CMAR LR LR 20 54 59.6
comp=Z,180nm,19.7s,MS3.8,baz=69,slow=40
ZALV Zalesovo Beam 41.06 319 P P 20 41 30.1 -0.6
0.3nm,0.3s,mb3.4,baz=66,slow=8.3,SNR=2.1
ZALV pP pP 20 41 45.1 +5.8
0.6nm,0.5s,baz=100,slow=6.3,SNR=3.2
ZALV pPcP 20 43 45.8
1.1nm,0.6s,baz=106,slow=4.7,SNR=5.1
MKAR Makanchi Array 41.23 308 P P 20 41 32.0 -0.2
0.3nm,0.4s,mb3.3,baz=83,slow=8.8,SNR=4.1
MKAR pP pP 20 41 47.4 +6.6
0.9nm,0.5s,baz=105,slow=11,SNR=6.7
MKAR pPcP 20 43 46.5
0.5nm,0.5s,baz=87,slow=4.9,SNR=3.7
MKAR LR LR 20 59 46.3
comp=Z,67nm,18.5s,MS3.5,baz=300,slow=38
BVAR Borovoye Array 49.39 316 P P 20 42 36.8 0.0
0.8nm,0.3s,mb4.2,baz=90,slow=9.5,SNR=9.8
BVAR pP pP 20 42 52.2 +6.6
3.5nm,0.6s,baz=95,slow=8.9,SNR=14
WRA Warramunga Arr 49.72 176 P P 20 42 46.5 +6.9
0.4nm,0.7s,mb3.5,baz=354,slow=7.9,SNR=3.4
ASAR Alice Springs 53.40 177 P P 20 43 13.9 +6.9
0.4nm,0.7s,mb3.5,baz=11,slow=13,SNR=4.5
ASAR pP pP 20 43 29.2 +13
0.5nm,0.6s,baz=11,slow=14,SNR=4.1
STKA Stephens Creek 62.29 170 P P 20 44 16.6 +7.3
0.9nm,0.7s,mb4.0,baz=342,slow=13,SNR=1.9
AKASG Malin Array Be 74.45 320 pP pP 20 45 40.5 +6.0
0.8nm,0.4s,baz=54,slow=7.7,SNR=3.4
NB2 NORSAR Subarra 77.14 334 P P 20 45 40.8 +0.3
comp=Z,0.6nm,0.5s,mb3.8,baz=52,slow=5.9
NB2 NORSAR Subarra 77.14 334 P pP 20 45 55.8 +6.1
comp=Z,1.9nm,0.7s,baz=51,slow=5.9
NOA NORSAR Array B 77.14 334 P P 20 45 40.9 +0.4
comp=Z,1.1nm,0.8s,mb3.8,baz=52,slow=5.5,SNR=4.1
NOA pP pP 20 45 56.3 +6.6
comp=Z,1.8nm,0.6s,baz=50,slow=5.6,SNR=6.8
NOA NORSAR Array B 77.14 334 P P 20 45 40.9 +0.4
NOA pP pP 20 45 56.3 +6.6
NVAR Mina Array Bea 85.95 48 P P 20 46 32.6 +5.0
comp=Z,0.1nm,0.3s,mb3.5,baz=350,slow=3.8,SNR=3.2

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*ISCJB **10** 20:43:14.1±0.3,3591S±006×10285W±008,h10km, mb4.8/55,MS4.4/20,Error ellipse: s-maj=9.6km s-min=7.5km az=141.1*
*IDC **10** 20:43:14.1±0.6,3582S×10297W,h0km,mb4.9/16, mb1 4.9/16,mb1mx4.9/21,mbtmp4.9/16,MS4.4/20, Ms1 4.4/20,ms1mx4.3/25,Error ellipse: s-maj=16.1km s-min=15.3km az=150.0*
*NEIC **10** 20:43:15.5±0.3,3585S×10290W,h10km,mb4.9/43,Error ellipse: s-maj=10.4km s-min=7.9km az=63.0*
*GCMT **10** 20:43:15.5±0.1,3590S×10290W,h20km,MW5.3/86, Moment Tensor Solution. s67,c120; s86,c149; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr-0.05±.02; Mθθ-0.31±.02; Mφφ0.35±.02; Mrθ-0.10±.04; Mθφ-1.27±.02; Mφr-0.09±.04; Best double couple: M0 1.31900×1017 NP1:φs97.00000°,δ86.00000°, λ-176.00000°. NP2:φs7.00000°,δ86.00000°,λ-4.00000°. Principal axes: T 1.3390, Plg0.0000°, Azm52.0000°; N -0.0400, Plg84.0000°, Azm146.0000°; P -1.2990, Plg6.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **10** 20:43:16.5,3590S×10290W,h10km*
ISC 10 20:43:16.0±0.3,3589S±006×10287W±008,h10km,n112, σ1§21/81,mb4.8/55,MS4.4/20,1C,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**25.73**	**111**	P	**P**	**20 48 47.8**	**+1.3**
29nm,1.1s,mb4.7,baz=279,slow=11,SNR=17							
PLCA				LR	LR	20 56 19.2	
comp=Z,762nm,20.2s,MS4.2,baz=264,slow=30							
PLCA	**Paso Flores**	**25.73**	**111**	*eP*	**P**	**20 48 48.1**	**+1.6**
64nm,1.3s,mb5.0							
LCO	**Las Campanas**	**27.91**	**85**	*eP*	**P**	**20 49 05.3**	**-0.9**
45nm,1.3s,mb4.9							
CFAA	**Coronel Fontan**	**29.02**	**92**	P	**P**	**20 49 16.4**	**+0.3**
0.4nm,0.4s,baz=268,slow=6.4,SNR=4.8							
CFAA				LR	LR	20 58 00.2	
comp=Z,111nm,21.9s,MS3.4,baz=255,slow=30							
USHA	**Ushuaia**	**30.28**	**140**	P	**P**	**20 49 28.1**	**+1.1**
29nm,1.0s,mb4.9,baz=294,slow=11,SNR=4.7							
USHA				LR	LR	20 58 34.4	
comp=Z,3μm,21.7s,MS4.9,baz=229,slow=30							
RKT	**Rikitea**	**30.56**	**286**	*eLQ*		20 56 00.8	
3μm,33.0s							
LVC	**Limon Verde**	**32.27**	**75**	P	**P**	**20 49 44.7**	**-0.2**
38nm,1.0s,mb5.2,baz=242,slow=8.7,SNR=8.3							
LVC				LR	LR	20 59 16.4	
comp=Z,1μm,21.0s,MS4.6,baz=241,slow=30							
LVC	**Limon Verde**	**32.27**	**75**	*eP*	**P**	**20 49 45.4**	**+0.4**
80nm,1.3s,mb5.4							
TRQA	**Tornquist**	**32.55**	**106**	Pn	**P**	**20 49 53.8**	**+6.5**
18nm,1.2s,mb4.9							
NNA	**Nana**	**33.45**	**51**	LR	LR	21 00 12.5	
comp=Z,2μm,19.2s,MS4.9,baz=310,slow=30							
ARE	**Arequipa**	**33.94**	**63**	P	**P**	**20 50 00.0**	**+0.4**
ATAH	**Atahualpa**	**36.46**	**44**	P	**P**	**20 50 21.6**	**+0.3**
13nm,0.8s,mb4.9,baz=235,slow=6.3,SNR=8.6							
LPAZ	**La Paz**	**36.53**	**67**	P	**P**	**20 50 23.4**	**+1.6**
61nm,1.2s,mb5.3,baz=237,slow=7.2,SNR=82							
LPAZ	**La Paz**	**36.53**	**67**	*eP*	**P**	**20 50 23.1**	**+1.2**
91nm,1.3s,mb5.4							
CPUP	**Villa Florida**	**39.83**	**89**	P	**P**	**20 50 49.0**	**-0.6**
1.4nm,0.5s,baz=237,slow=12,SNR=5.6							
CPUP				LR	LR	21 04 27.0	
comp=Z,484nm,18.2s,MS4.4,baz=232,slow=32							
TBI	**Tubuai**	**42.03**	**274**	*eLQ*		21 00 48.1	
3μm,34.0s							
TBI				*eLR*	LR	21 02 39.6	
786nm,23.8s,baz=114							
SIV	**San Ignacio**	**42.09**	**73**	P	**P**	**20 51 08.3**	**-0.1**
26nm,1.1s,mb4.8,baz=243,slow=10,SNR=46							
OTAV	**Otavalo**	**42.53**	**38**	*eP*	**P**	**20 51 11.2**	**-0.7**
22nm,1.2s,mb4.8							
TAOE	**Nuku Hiva Isla**	**43.30**	**299**	*eS*	**S**	**20 57 46.7**	**+0.9**
909nm,26.3s							
TAOE				*eLR*	LR	21 03 16.0	
4μm,24.5s							
PPT	**Papeete**	**45.07**	**281**	*eS*	**S**	**20 58 11.4**	**-0.1**
170nm,26.0s							
PPT	**Papeete**	**45.07**	**281**	P	**P**	**20 51 31.5**	**-0.8**
26nm,0.3s,mb5.6,baz=132,slow=12,SNR=4.1							
ROSC	**El Rosal**	**48.57**	**39**	P	**P**	**20 52 00.4**	**+0.7**
14nm,0.9s,mb5.0,baz=92,slow=20,SNR=14							
ROSC				LR	LR	21 09 01.6	
comp=Z,734nm,20.0s,MS4.7,baz=306,slow=32							
BDFB	**Brasilia**	**52.65**	**82**	P	**P**	**20 52 30.3**	**-0.2**
4.7nm,0.9s,mb4.4,baz=255,slow=11,SNR=6.4							
BDFB				LR	LR	21 13 47.7	
comp=Z,165nm,19.1s,MS4.1,baz=8.1,slow=35							
CMIG	**Matias Romero**	**53.23**	**10**	LR	LR	21 09 34.4	
comp=Z,454nm,18.4s,MS4.6,baz=178,slow=30							
SDV	**Santo Domingo**	**53.90**	**41**	P	**P**	**20 52 36.6**	**-3.1**
6.3nm,0.7s,mb4.6,baz=225,slow=10.0,SNR=8.9							
SDV	**Santo Domingo**	**53.90**	**41**	*eP*	**P**	**20 52 35.1**	**-4.6**
11nm,0.9s,mb4.8							
QSPA	**South Pole Qui**	**54.32**	**180**	P	**P**	**20 52 41.7**	**-0.2**
16nm,0.9s,mb4.9,baz=122,slow=4.3,SNR=13							
SBA	**Scott Base**	**55.30**	**195**	*eP*	**P**	**20 52 48.3**	**-0.8**
10nm,1.1s,mb4.8							
VNDA	**Vanda**	**56.40**	**195**	P	**P**	**20 52 57.1**	**+0.1**
3.8nm,1.2s,mb4.3,baz=93,slow=10,SNR=4.6							
VNDA				LR	LR	21 11 31.9	
comp=Z,444nm,21.0s,MS4.5,baz=97,slow=30							
VNDA	**Vanda**	**56.40**	**195**	*eP*	**P**	**20 52 56.6**	**-0.4**
3.5nm,0.9s,mb4.4							
TEIG	**Tepich**	**57.50**	**16**	LR	LR	21 13 38.8	
comp=Z,331nm,19.2s,MS4.5,baz=146,slow=32							
VNA1	**Neumayer--Stat**	**58.09**	**157**	*e*	**P**	**20 53 08.8**	**-0.2**
VNA1				*e*	pP	20 53 11.8	-0.4
VNA1				*e*		20 53 17.0	
VNA1				*e*		20 53 27.9	
SNAA	**Sanae**	**59.41**	**159**	*e*	**P**	**20 53 17.0**	**-1.2**
SNAA				*e*	pP	20 53 20.1	-1.3
SNAA				*e*		20 53 25.4	
SNAA				*e*		20 53 34.9	
SNAA	**Sanae**	**59.41**	**159**	*eP*	**P**	**20 53 16.4**	**-1.8**
45nm,1.6s,mb5.2							
TXAR	**Lajitas Array**	**64.88**	**359**	P	**P**	**20 53 54.2**	**-1.1**
3.8nm,0.9s,mb4.4,baz=189,slow=7.3,SNR=18							
TXAR				LR	LR	21 16 37.0	
comp=Z,210nm,19.7s,MS4.3,baz=5.0,slow=31							
JCT	**Junction City**	**66.08**	**3**	*eP*	**P**	**20 54 02.1**	**-1.0**
9.1nm,0.9s,mb4.8							
TUC	**Tucson**	**68.25**	**353**	*eP*	**P**	**20 54 17.8**	**+1.0**
11nm,1.1s,mb4.8							
BNM	**Barren Site**	**69.77**	**357**	*eP*	**P**	**20 54 28.1**	**+1.9**
PFO	**Pinyon Flat Ob**	**70.30**	**348**	LR	LR	21 17 51.0	
comp=Z,150nm,20.4s,MS4.2,baz=332,slow=30							
AMTX	**Amarillo**	**70.42**	**1**	*eP*	**P**	**20 54 28.9**	**-1.3**
12nm,0.9s,mb4.8							
ANMO	**Albuquerque**	**70.56**	**357**	*eP*	**P**	**20 54 30.6**	**-0.4**
2.5nm,1.0s,mb4.1							
GOGA	**Godfrey**	**71.29**	**17**	*eP*	**P**	**20 54 37.1**	**+1.6**
45nm,1.3s,mb5.2							
WUAZ	**Wupatki**	**71.49**	**353**	*eP*	**P**	**20 54 39.0**	**+2.3**
12nm,1.0s,mb4.8							
LDFC	**Landfair**	**71.53**	**349**	*eP*	**P**	**20 54 39.7**	**+2.8**
61nm,1.2s,mb5.4							
SYO	**Syowa Base**	**71.79**	**167**	*epP*	pP	20 54 37.6	-3.9
GSC	**Goldstone**	**72.01**	**348**	*eP*	**P**	**20 54 41.6**	**+1.8**
13nm,1.1s,mb4.8							
ISA	**Isabella**	**72.66**	**347**	*eP*	**P**	**20 54 45.1**	**+1.4**
8.6nm,1.1s,mb4.6							
MVCO	**Mesa Verde**	**72.92**	**355**	*eP*	**P**	**20 54 44.9**	**-0.3**
22nm,1.0s,mb5.0							
SDCO	**Great Sand Dun**	**73.31**	**358**	*eP*	**P**	**20 54 47.3**	**-0.2**
5.2nm,0.9s,mb4.5							
TKL	**Tuckaleechee C**	**73.37**	**16**	LR	LR	21 22 04.2	
comp=Z,193nm,21.4s,MS4.3,baz=200,slow=32							
PV01	**Paradox Valley**	**73.85**	**355**	*eP*	**P**	**20 54 51.7**	**+1.1**
TZTN	**Tazewell**	**74.27**	**16**	*eP*	**P**	**20 54 51.3**	**-1.9**
26nm,1.0s,mb5.1							
CCM	**Cathedral Cave**	**74.36**	**10**	*eP*	**P**	**20 54 52.0**	**-1.6**
10nm,1.0s,mb4.7							
TPH	**Tonopah**	**74.79**	**348**	P	**P**	**20 54 54.0**	**-2.1**
CASY	**Casey**	**74.96**	**193**	*eP*	**P**	**20 54 58.2**	**+1.3**
12nm,1.1s,mb4.7							
SRU	**San Rafael**	**74.97**	**354**	*eP*	**P**	**20 54 57.9**	**+0.8**
12nm,1.1s,mb4.7							
TMUT	**Trail Mountain**	**75.21**	**353**	*eP*	**P**	**20 54 59.2**	**+0.7**
FUNA	**Funafuti**	**75.30**	**270**	P	**P**	**20 54 54.4**	**-5.3**
145nm,1.1s,mb5.8							
CMB	**Columbia Colle**	**75.33**	**346**	*eP*	**P**	**20 54 59.3**	**+0.1**
8.0nm,1.0s,mb4.6							
MAW	**Mawson**	**76.26**	**174**	P	**P**	**20 55 04.8**	**+0.5**
5.1nm,1.0s,mb4.4,baz=161,slow=6.8,SNR=6.7							
MAW				LR	LR	21 25 06.9	
comp=Z,317nm,21.9s,MS4.6,baz=8.8,slow=33							
DAU	**Daniels Canyon**	**76.32**	**353**	*eP*	**P**	**20 55 04.3**	**-0.5**
WDC	**Whiskeytown Da**	**78.22**	**345**	*eP*	**P**	**20 55 14.6**	**-0.9**
14nm,1.1s,mb4.8							
PDAR	**Pinedale Array**	**78.52**	**355**	P	**P**	**20 55 15.7**	**-1.4**
20nm,0.9s,mb5.0,baz=150,slow=6.1,SNR=52							
PDAR				LR	LR	21 26 05.6	
comp=Z,114nm,19.0s,MS4.2,baz=15,slow=33							
MOD	**Modoc**	**79.05**	**347**	*eP*	**P**	**20 55 20.5**	**+0.5**
22nm,1.2s,mb5.0							
LHEM	**Herd Peak**	**79.16**	**345**	P	**P**	**20 55 22.7**	**+2.1**
REDW	**Red Top Meadow**	**79.22**	**354**	*eP*	**P**	**20 55 17.8**	**-3.1**
24nm,1.2s,mb5.0							
RRI2	**Red Ridge**	**79.24**	**354**	*eP*	**P**	**20 55 20.3**	**-0.7**
8.9nm,0.9s,mb4.7							
WVOR	**Wild Horse Val**	**79.28**	**348**	*eP*	**P**	**20 55 22.5**	**+1.3**
11nm,1.0s,mb4.7							
TPAW	**Teton Pass**	**79.35**	**354**	*eP*	**P**	**20 55 22.6**	**+1.0**
33nm,1.1s,mb5.2							
YBH	**Yreka Blue Hor**	**79.36**	**345**	*eP*	**P**	**20 55 22.8**	**+1.1**
4.6nm,1.0s,mb4.4							
LOHW	**Long Hollow**	**79.44**	**354**	*eP*	**P**	**20 55 21.9**	**-0.2**
12nm,1.0s,mb4.8							
ECSD	**EROS,Sioux Fal**	**79.45**	**5**	*eP*	**P**	**20 55 20.8**	**-1.4**
9.7nm,0.8s,mb4.8							
MOOW	**Moose Ponds**	**79.59**	**354**	*eP*	**P**	**20 55 21.7**	**-1.2**
6.4nm,0.9s,mb4.5							
KTRM	**Thompson Ridge**	**79.67**	**345**	P	**P**	**20 55 25.9**	**+2.4**
HUMO	**Hull Mountain**	**80.25**	**345**	*eP*	**P**	**20 55 23.3**	**-3.3**
4.5nm,0.9s,mb4.4							
HBO	**Huckleberry Mo**	**81.31**	**346**	P	**P**	**20 55 35.3**	**+3.1**
VIPM	**Ingram Point**	**81.63**	**347**	P	**P**	**20 55 36.0**	**+2.2**
COWI	**Conover**	**82.55**	**10**	*eP*	**P**	**20 55 38.0**	**-0.6**
10nm,1.0s,mb4.8							
AGMN	**Agassiz Refuge**	**84.05**	**5**	*eP*	**P**	**20 55 45.4**	**-0.9**
14nm,1.2s,mb5.0							
EYMN	**Ely**	**84.08**	**8**	*eP*	**P**	**20 55 44.5**	**-2.0**
7.8nm,1.0s,mb4.8							
OD2	**Odessa Site #2**	**84.12**	**349**	*eP*	**P**	**20 55 45.4**	**-1.3**
ETW	**Entiat**	**84.58**	**348**	*eP*	**P**	**20 55 49.6**	**+0.6**
NEW	**Newport**	**84.75**	**350**	*eP*	**P**	**20 55 50.6**	**+0.8**
9.9nm,1.0s,mb4.9							
NLWA	**Neilton Lookou**	**85.02**	**346**	*eP*	**P**	**20 55 49.7**	**-1.6**
15nm,1.2s,mb5.0							
WALA	**Waterton Lakes**	**85.15**	**353**	*eP*	**P**	**20 55 52.2**	**+0.4**
11nm,1.0s,mb4.9							
JCW	**Jim Creek**	**85.43**	**347**	*eP*	**P**	**20 55 51.6**	**-1.7**
ULM	**Lac du Bonnet**	**85.99**	**4**	P	**P**	**20 55 55.2**	**-0.8**
12nm,0.9s,mb5.1,baz=195,slow=3.9,SNR=14							
ULM	**Lac du Bonnet**	**85.99**	**4**	P	**P**	**20 55 55.2**	**-0.8**
STKA	**Stephens Creek**	**89.49**	**230**	LR	LR	21 29 41.7	
comp=Z,513nm,18.2s,MS5.0,baz=204,slow=31							
SCHQ	**Schefferville**	**95.52**	**20**	LR	LR	21 33 47.1	
comp=Z,331nm,20.3s,MS4.8,baz=98,slow=32							
DLBC	**Dease Lake**	**96.69**	**346**	*eP*	**P**	**20 56 45.8**	**0.0**
YKA	**Yellowknife Ar**	**98.50**	**355**	LR	LR	21 36 51.0	
comp=Z,21nm,19.2s,MS3.6,baz=265,slow=33							
BOSA	**Boshof**	**99.36**	**135**	LR	LR	21 33 22.1	
comp=Z,358nm,20.7s,MS4.8,baz=199,slow=30							
EPF	**Esparros**	**122.20**	**58**	*ePKIKP*	PKPdf	21 02 10.7	0.0
28nm,1.2s							
AVF	**Avril sur Loir**	**125.44**	**54**	*ePKIKP*	PKPdf	21 02 14.8	-2.0
17nm,1.5s							
SMF	**Signal de Mont**	**125.72**	**54**	*ePKIKP*	PKPdf	21 02 15.8	-1.6
21nm,1.4s							
BAIF	**Baives**	**126.86**	**50**	*ePKIKP*	PKPdf	21 02 19.6	+0.2
41nm,1.6s							
MEZF	**Maizieres J'vi**	**127.01**	**52**	*ePKIKP*	PKPdf	21 02 18.9	-0.9
22nm,1.1s							
GERES	**GERESS Array B**	**132.69**	**54**	PKP	PKPdf	21 02 30.2	-0.3
0.9nm,0.7s,baz=179,slow=3.9,SNR=5.6							
BRG	**Berggiesshubel**	**133.13**	**51**	*e*(P)	PKPdf	21 02 33.0	+1.7
10.0nm,1.5s							
AKASG	**Malin Array Be**	**142.80**	**51**	PKP	PKPdf	21 02 48.0	-1.1
0.2nm,0.3s,baz=268,slow=3.0,SNR=4.6							
ANTO	**Ankara**	**145.05**	**70**	*eP*	PKPbc	21 02 51.9	-0.9
OBN	**Obninsk**	**146.32**	**42**	*ePKPdf*	PKPdf	21 02 54.0	-1.1
HIA	**Hailar**	**146.36**	**307**	*ePKPdf*	PKPdf	21 02 54.8	-0.5
BJI	**Beijing**	**149.12**	**290**	PKP	PKPdf	21 03 02.6	+2.4
BJT	**Baijiatuau**	**149.12**	**290**	PKPdf	PKPdf	21 03 01.4	+1.2
MALT	**Malatya**	**149.18**	**74**	*ePKPbc*	PKPbc	21 03 01.9	-2.6
CMAR	**Chiang Mai Arr**	**154.06**	**234**	PKP	PKPdf	21 03 08.5	+0.2
1.7nm,1.0s,baz=259,slow=0.9,SNR=4.7							
CMAR				PKPab	PKPab	21 03 30.0	+0.2
1.4nm,0.8s,baz=168,slow=2.3,SNR=4.7							
SONM	**Songino Array**	**155.31**	**308**	PKP	PKPdf	21 03 08.4	-0.7
2.0nm,1.1s,baz=98,slow=3.0,SNR=3.8							
SONM				PKPab	PKPab	21 03 34.4	-0.1
2.3nm,0.8s,baz=100,slow=3.3,SNR=9.7							
ZALV	**Zalesovo Beam**	**161.17**	**346**	PKP	PKPdf	21 03 13.5	-2.5
0.9nm,0.7s,baz=14,slow=1.8,SNR=4.8							
ZALV				PKPab	PKPab	21 03 59.7	+0.3
1.4nm,0.8s,baz=2.9,slow=3.0,SNR=2.9							
ZALV	**Zalesovo Beam**	**161.17**	**346**	PKP	PKPdf	21 03 13.5	-2.5
ZALV				PKPab	PKPab	21 03 59.7	+0.3
GTA	**Gaotai**	**161.71**	**288**	*e*PKP	PKPdf	21 03 15.1	-2.0
GTA				APKP		21 03 19.5	
GTA				XPKP		21 03 21.9	

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*SZGRF **10** 20:42:16.7,2373S×17632W,h33km, South of Fiji Islands*
*IDC **10** 20:43:24.0±3.2,2087S×17880W,h554km±33km,mb3.2/7, mb1 3.4/8,mb1mx3.3/17,mbtmp3.2/8,Error ellipse: s-maj=28.2km s-min=20.7km az=85.0*
*ISCJB **10** 20:43:25.9±3.5,2105S±02×1789W±02,h593km±41km, mb3.9/12,Error ellipse: s-maj=35.3km s-min=21.2km az=153.0*
*NEIC **10** 20:43:27.8±3.5,2102S×17883W,h607km±36km,mb4.1/5, Error ellipse: s-maj=30.1km s-min=15.4km az=57.0*
ISC 10 20:43:26.8±4.3,2105S±02×1789W±02,h587km±49km,n34, σ0§53/17,mb3.9/12,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.55**	**191**	P	**P**	**20 46 57.9**	**-0.7**
1.6nm,0.3s,baz=302,slow=7.0,SNR=9.7							
HNR	**Honiara**	**23.43**	**296**	P	**P**	**20 47 52.7**	**+0.8**
66nm,1.0s							
CTAO	**Charters Tower**	**32.64**	**265**	*eP*	**P**	**20 49 12.1**	**+0.3**
4.7nm,0.4s,mb4.5							
PMG	**Port Moresby**	**34.67**	**284**	*eP*	**P**	**20 49 29.3**	**+0.4**
38nm,0.9s,mb5.0							
STKA	**Stephens Creek**	**36.84**	**245**	P	**P**	**20 49 46.7**	**+0.1**
0.9nm,0.5s,mb3.6,baz=87,slow=12,SNR=5.6							
STKA	**Stephens Creek**	**36.84**	**245**	P	**P**	**20 49 46.7**	**+0.1**
ASAR	**Alice Springs**	**43.62**	**257**	P	**P**	**20 50 40.8**	**+0.2**
3.3nm,0.5s,mb4.1,baz=94,slow=8.7,SNR=84							
ASAR				ScP	ScP	20 55 13.8	+2.9
0.4nm,0.6s,baz=104,slow=5.0,SNR=5.3							
WB2	**Warramunga Arr**	**43.72**	**263**	*eP*	**P**	**20 50 40.9**	**-0.5**
WRAB	**Tennant Creek**	**43.72**	**263**	*eP*	**P**	**20 50 40.8**	**-0.7**
3.4nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**43.73**	**263**	P	**P**	**20 50 41.1**	**-0.4**
1.4nm,0.3s,mb3.9,baz=96,slow=7.8,SNR=154							
FITZ	**Fitzroy Crossi**	**52.16**	**263**	*eP*	**P**	**20 51 44.3**	**+0.1**
4.9nm,1.1s,mb3.8							
MBWA	**Marble Bar**	**56.95**	**258**	*eP*	**P**	**20 52 17.3**	**-0.4**
4.8nm,0.6s,mb3.9							
VNDA	**Vanda**	**57.34**	**185**	P	**P**	**20 52 20.5**	**+1.2**
0.7nm,0.7s,mb3.0,baz=357,slow=7.2,SNR=5.5							
MJAR	**Matsushiro Arr**	**70.14**	**324**	P	**P**	**20 53 40.6**	**-0.5**
1.1nm,0.6s,mb3.5,baz=155,slow=5.4,SNR=5.8							
KSM	**Kuching**	**72.68**	**278**	*eP*	**P**	**20 53 56.9**	**+0.3**
PETK	**Petropavlovsk-**	**76.55**	**346**	P	**P**	**20 54 16.9**	**-0.3**
0.8nm,0.6s,mb3.3,baz=124,slow=8.0,SNR=5.3							
CMAR	**Chiang Mai Arr**	**89.52**	**290**	P	**P**	**20 55 23.1**	**+0.2**
1.1nm,0.6s,mb3.9,baz=147,slow=2.2,SNR=6.0							
ARCES	**ARCESS Array B**	**129.27**	**349**	PKP	PKPdf	21 01 27.9	-0.5
3.3nm,0.9s,baz=13,slow=5.1,SNR=4.6							
ARCES	**ARCESS Array B**	**129.27**	**349**	PKP	PKPdf	21 01 27.9	-0.5
AKASG	**Malin Array Be**	**143.05**	**330**	PKhKP		21 01 51.1	
4.0nm,0.5s,baz=42,slow=4.2,SNR=28							
MALT	**Malatya**	**143.59**	**307**	*e*PKPdf	PKPdf	21 01 55.0	-0.6
CLL	**Collm**	**148.36**	**346**	*e*PKPbc	PKPbc	21 02 07.0	-0.6
comp=Z,5.0nm,1.0s							
BRG	**Berggiesshubel**	**148.54**	**344**	*e*PKPbc	PKPbc	21 02 08.0	0.0
FBE	**Freiberg**	**148.64**	**345**	*e*PKPbc	PKPbc	21 02 08.5	+0.2
MOX	**Moxa**	**149.29**	**347**	*e*PKPbc	PKPbc	21 02 09.2	-0.7
WERD	**Werda**	**149.32**	**346**	*e*PKPbc	PKPbc	21 02 10.0	+0.1
GUNZ	**Gunzen**	**149.40**	**346**	*e*PKPbc	PKPbc	21 02 10.2	+0.1
MANZ	**Manzenberg**	**149.80**	**346**	*e*PKPbc	PKPbc	21 02 11.1	0.0
ROTZ	**Rotzenmuhle**	**149.98**	**346**	*e*PKPbc	PKPbc	21 02 11.5	0.0
KHC	**Kasperske Hory**	**150.23**	**343**	*e*PKPbc	PKPbc	21 02 11.5	-0.6
GRA1	**Grafenberg Arr**	**150.27**	**347**	*e*PKPbc	PKPbc	21 02 12.0	-0.2
GRA1				*e*PP	PP	21 05 55.5	+2.3
GRF	**Grafenberg

36nm,0.3s,baz=136,slow=29,SNR=10
KSRS Korea Array 7.91 341 Pn **Pn 20 56 01.7 -1.0**
0.2nm,0.3s,baz=155,slow=14,SNR=3.0
MAJO Matsushiro 8.75 40 *e*P **Pn 20 56 14.3 +0.1**
MAT Matsushiro 8.75 40 P **Pn 20 56 14.6 +0.4**
MAT S **Sn 20 58 00.0 +8.5**
MJAR Matsushiro Arr 8.75 40 Pn **Pn 20 56 15.1 +0.9**
0.8nm,0.3s,baz=247,slow=14,SNR=12
BJT Baijiatuau 15.85 313 *e*P **Pn 20 57 55.0 +4.6**
ASAJ Asahikawa 16.72 30 LR LR 21 05 04.4
comp=Z,123nm,18.1s,baz=203,slow=39
SONM Songino Array 26.09 320 P **P 20 59 39.8 -0.3**
0.8nm,0.3s,mb3.7,baz=138,slow=11,SNR=21
SONM LR LR 21 12 01.6
comp=Z,148nm,18.4s,MS3.6,baz=130,slow=41
CMAR Chiang Mai Arr 31.50 256 P **P 21 00 27.9 -0.6**
0.8nm,0.8s,mb3.6,baz=48,slow=9.4,SNR=5.0
CMAR LR LR 21 15 02.7
comp=Z,72nm,19.4s,MS3.4,baz=60,slow=40
ODAN Odare 38.50 276 *e*P **P 21 01 28.9 +0.1**
5.6nm,0.3s,mb4.7
RAMN Ramite 39.16 277 *e*P **P 21 01 34.6 +0.3**
3.5nm,0.3s,mb4.6
JIRN Jiri 39.33 278 *e*P **P 21 01 36.5 +0.8**
GUN Gumba 39.53 279 *e*P **P 21 01 38.0 +0.6**
17nm,0.4s,mb5.1
PKI Pulchoki 40.02 278 *e*P **P 21 01 41.5 0.0**
6.6nm,0.4s,mb4.7
KKN Kakani 40.08 279 *e*P **P 21 01 42.1 +0.1**
7.3nm,0.4s,mb4.7
DMN Daman 40.27 278 *e*P **P 21 01 44.0 +0.4**
ZALV Zalesovo Beam 40.98 319 P **P 21 01 47.7 -1.3**
0.7nm,0.4s,mb3.7,baz=106,slow=9.0,SNR=4.2
ZAL Zalesovo 40.99 319 P **P 21 01 47.7 -1.4**
MKAR Makanchi Array 41.14 308 P **P 21 01 50.7 +0.3**
0.7nm,0.4s,mb3.6,baz=96,slow=9.4,SNR=10
MKAR Makanchi Array 41.14 308 P **P 21 01 50.7 +0.3**
DANN Dangsing 41.24 280 *e*P **P 21 01 51.9 +0.3**
7.2nm,0.3s,mb4.8
KOLN Koldanda 41.52 279 *e*P **P 21 01 53.8 -0.1**
6.1nm,0.6s,mb4.4
KURK Kurchatov 44.02 313 *e*P **P 21 02 13.1 -0.7**
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KURK Kurchatov 44.02 313 *e*P **P 21 02 13.1 -0.7**
comp=Z,2.2nm,0.8s,mb3.9
TKM2 Tokmak 2 45.78 302 *e*P **P 21 02 28.8 +0.9**
TKM2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
TKM2 Tokmak 2 45.78 302 *e*P **P 21 02 28.8 +0.9**
comp=Z,4.3nm,0.7s,mb4.5
AML Almayashu 47.23 301 *e*P **P 21 02 35.9 -3.5**
comp=Z,4.4nm,0.6s,mb4.6
BRVK Borovoye 49.38 316 *e*P **P 21 02 55.8 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BRVK Borovoye 49.38 316 *e*P **P 21 02 55.8 +0.2**
comp=Z,6.2nm,0.8s,mb4.7
WRA Warramunga Arr 49.76 176 P **P 21 02 59.3 +0.5**
comp=Z,0.5nm,1.0s,mb3.5,baz=353,slow=8.1,SNR=3.9
ASAR Alice Springs 53.43 177 P **P 21 03 28.4 +2.2**
comp=Z,0.2nm,0.5s,mb3.3,baz=12,slow=11,SNR=4.1
ARU Arti 56.12 320 *e*P **P 21 03 43.4 -2.0**
ARU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ARU Arti 56.12 320 *e*P **P 21 03 43.4 -2.0**
comp=Z,8.0nm,0.9s,mb4.8
ARCES ARCESS Array B 67.47 338 P **P 21 05 01.7 +0.2**
comp=Z,3.9nm,0.9s,mb4.4,baz=56,slow=7.4,SNR=4.7
AKASG Malin Array Be 74.37 320 P **P 21 05 43.5 -0.3**
comp=Z,0.7nm,0.4s,mb3.9,baz=58,slow=5.0,SNR=4.2
AKASG Malin Array Be 74.37 320 P **P 21 05 43.5 -0.3**
NB2 NORSAR Subarra 77.08 334 P **P 21 05 59.5 +0.5**
comp=Z,1.0nm,0.5s,mb4.0,baz=48,slow=5.6
NOA NORSAR Array B 77.08 334 P **P 21 05 59.8 +0.8**
comp=Z,1.1nm,0.5s,mb4.1,baz=50,slow=5.6,SNR=6.7
KEST Kesra 94.78 316 LR LR 21 54 34.8
comp=Z,64nm,18.9s,MS4.1,baz=191,slow=38

ISCJB ***10*** *21:01:58.4±0.4, 4372N±003×10497W±004, h0km, mb3.9/3, Error ellipse: s-maj=4.1km s-min=3.7km az=30.4*
IDC ***10*** *21:02:00.1±2.0, 4356N×10533W, h0km, mb3.9/4, mb1 4.1/7, mb1mx3.7/24, mbtmp4.0/7, ML3.8/3, Error ellipse: s-maj=57.5km s-min=7.2km az=150.0*
NEIC ***10*** *21:02:02.2±0.4, 4374N×10522W, h0km, ML3.5, Error ellipse: s-maj=4.7km s-min=4.2km az=121.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 10 21:02:01.2±0.3, 4376N±002×10510W±003, h0km, n66, σ1°21/88, mb3.9/3, 12C-8D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.85**	**64**	*e*Pg	**Pg**	**21 02 20.8**	**+3.3**
PHWY	**Pilot Hill**	**2.47**	**186**	*e*Pn	**Pn**	**21 02 43.0**	**+0.4**
RWWY	**Rawlins**	**2.59**	**218**	*e*Pn	**Pn**	**21 02 44.8**	**+0.6**
LAO	**LASA Array**	**3.04**	**345**	*e*Pn	**Pn**	**21 02 52.1**	**+1.7**
LAO				*e*Pg	**Pg**	**21 02 59.9**	**+0.5**
LAO				*e*Sg	**Sg**	**21 03 38.1**	**-0.6**
BW06	**Boulder Array**	**3.40**	**255**	*e*Pn	**Pn**	**21 02 54.6**	**-0.8**
BW06				*e*Sg	**Sn**	**21 03 39.9**	**+3.4**
PDAR	**Pinedale Array**	**3.40**	**255**	Pn	**Pn**	**21 02 54.5**	**-0.9**
	8.9nm,0.3s,baz=73,slow=16,SNR=116						
PDAR				Lg		21 03 40.0	
	32nm,0.3s,baz=78,slow=29,SNR=13						
GCMT	**Greycliff**	**3.83**	**304**	*e*Pn	**Pn**	**21 03 01.8**	**+0.3**
GCMT				*e*S	**Sn**	**21 03 50.1**	**+2.9**
LKWY	**Lake**	**3.90**	**284**	*e*Pn	**Pn**	**21 03 03.6**	**+1.4**
ISCO	**Idaho Springs**	**3.97**	**186**	*e*Pn	**Pn**	**21 03 03.9**	**+0.6**
LOHW	**Long Hollow**	**3.99**	**270**	*e*Pn	**Pn**	**21 03 03.9**	**+0.3**
FLWY	**Flagg Ranch**	**4.06**	**277**	*e*Pn	**Pn**	**21 03 04.5**	**0.0**
FLWY				*e*Pg	**Pg**	**21 03 15.0**	**-4.0**
FLWY				*e*Sg	**Sg**	**21 04 11.1**	**-0.5**
MOOW	**Moose Ponds**	**4.09**	**272**	*e*Pn	**Pn**	**21 03 05.7**	**+0.8**
SNOW	**Snow King Moun**	**4.12**	**268**	*e*Pn	**Pn**	**21 03 05.2**	**-0.1**
YNR	**Norris Junctio**	**4.12**	**285**	*e*Pn	**Pn**	**21 03 05.9**	**+0.5**
YNR				*e*Pg	**Pg**	**21 03 15.2**	**-4.9**
YFT	**Old Faithful**	**4.19**	**282**	*e*Pn	**Pn**	**21 03 05.5**	**-0.7**
YFT				*e*Sg	**Sg**	**21 04 12.9**	**-2.8**
IMW	**Indian Meadow**	**4.23**	**274**	*e*Pn	**Pn**	**21 03 07.9**	**+1.1**
TPAW	**Teton Pass**	**4.26**	**268**	*e*Pn	**Pn**	**21 03 07.2**	**0.0**
N18A	**Larsen Ranch,**	**4.38**	**232**	⇓P	**Pn**	**21 03 08.0**	**-0.9**
	baz=5.9						
DCID1	**Drake Creek**	**4.42**	**270**	*e*Pn	**Pn**	**21 03 09.9**	**+0.5**
DCID1				*e*Pg	**Pg**	**21 03 27.6**	**+1.8**
AHID	**Auburn Hatcher**	**4.49**	**259**	*e*Pn	**Pn**	**21 03 09.6**	**-0.8**
RRI2	**Red Ridge**	**4.54**	**267**	*e*Pn	**Pn**	**21 03 10.8**	**-0.3**
DGMT	**Dagmar**	**4.76**	**7**	*e*Pn	**Pn**	**21 03 14.6**	**+0.5**
L16A	**Fish Haven**	**4.97**	**252**	⇓S	**Sb**	**21 04 30.5**	**+1.3**
	baz=6.4						
BOZ	**Bozeman (W)**	**5.02**	**294**	*e*Pn	**Pn**	**21 03 16.5**	**-1.2**
BOZ				*e*Sg	**Sb**	**21 04 33.8**	**+3.0**
O18A	**Roosevelt**	**5.05**	**228**	⇑P	**Pn**	**21 03 17.4**	**-0.7**
	baz=6.6						
O18A				⇓S	**Sb**	**21 04 35.5**	**+3.8**
	baz=6.6						
N17A	**Moffit Pass**	**5.09**	**238**	⇑S	**Sb**	**21 04 35.5**	**+2.6**
	baz=6.6						
EGMT	**Eagleton**	**5.36**	**324**	*e*Pn	**Pn**	**21 03 22.5**	**+0.1**
EGMT				*e*Pg	**Pg**	**21 03 41.5**	**-2.4**
EGMT				*e*Sg	**Sg**	**21 04 50.2**	**-3.2**
DLMT	**Dillon**	**5.59**	**289**	*e*Pn	**Pn**	**21 03 27.1**	**+1.5**
P18A	**Preston Nutter**	**5.64**	**225**	⇑P	**Pn**	**21 03 25.5**	**-0.8**
	baz=7.2,SNR=14						
P18A				⇑S	**Sb**	**21 04 50.2**	**+1.6**
	baz=7.2						
DAU	**Daniels Canyon**	**5.67**	**236**	*e*Pn	**Pn**	**21 03 28.3**	**+1.7**
DAU				*e*Sn	**Sn**	**21 04 34.6**	**+2.2**
HVU	**Hansel Valley**	**5.98**	**253**	*e*Pn	**Pn**	**21 03 29.5**	**-1.4**
Q18A	**Rafter H Ranch**	**5.99**	**221**	⇑P	**Pn**	**21 03 30.0**	**-1.1**
	baz=7.5						
SDCO	**Great Sand Dun**	**6.01**	**183**	*e*Pn	**Pn**	**21 03 32.4**	**+1.0**
P17A	**Butcher Ranch,**	**6.01**	**227**	⇑P	**Pn**	**21 03 30.8**	**-0.5**
	baz=7.6						
PV10	**Paradox Valley**	**6.14**	**210**	*e*Pn	**Pn**	**21 03 33.9**	**+0.8**
PV10				*e*Sg	**Sb**	**21 05 08.3**	**+5.3**
ECSD	**EROS,Sioux Fal**	**6.15**	**87**	*e*Pn	**Pn**	**21 03 35.5**	**+2.3**
ECSD				*e*Pg	**Pg**	**21 03 55.1**	**-3.9**
ECSD				*e*Sg	**Sg**	**21 05 18.9**	**+0.3**
SRU	**San Rafael**	**6.18**	**223**	*e*Pn	**Pn**	**21 03 32.4**	**-1.2**
SRU				*e*Sg	**Sg**	**21 05 11.5**	**-8.0**
SRU	**San Rafael**	**6.18**	**223**	⇑P	**Pn**	**21 03 32.3**	**-1.3**
	baz=7.7,SNR=15						
PV01	**Paradox Valley**	**6.20**	**206**	*e*Pn	**Pn**	**21 03 34.6**	**+0.7**
CBKS	**Cedar Bluff**	**6.38**	**139**	*e*Pg	**Pg**	**21 04 02.5**	**-0.8**
TMUT	**Trail Mountain**	**6.39**	**228**	*e*Pn	**Pn**	**21 03 36.2**	**-0.4**
R18A	**Canyonlands Na**	**6.47**	**216**	⇓P	**Pn**	**21 03 36.8**	**-0.9**
	baz=8.0						
M14A	**Sheep Mountain**	**6.49**	**253**	⇑P	**Pn**	**21 03 35.9**	**-1.9**
	baz=7.9						
BGU	**Big Grassy Mou**	**6.52**	**247**	*e*Pn	**Pn**	**21 03 36.9**	**-1.4**
CHMT	**Chamberlain Mo**	**6.55**	**302**	*e*Pn	**Pn**	**21 03 38.7**	**0.0**
Q16A	**Castle Valley**	**6.65**	**225**	⇓P	**Pn**	**21 03 39.5**	**-0.6**
	baz=8.2,SNR=12						
HLID	**Hailey**	**6.76**	**272**	*e*Pn	**Pn**	**21 03 43.0**	**+1.4**
DUG	**Dugway**	**6.76**	**241**	*e*Pn	**Pn**	**21 03 40.4**	**-1.2**
DUG	**Dugway**	**6.76**	**241**	⇑P	**Pn**	**21 03 40.5**	**-1.1**
	baz=8.3						
R17A	**Hanksville Air**	**6.81**	**220**	⇓P	**Pn**	**21 03 40.7**	**-1.6**
	baz=8.4,SNR=8.1						
MSO	**Missoula**	**6.95**	**299**	*e*Pn	**Pn**	**21 03 44.8**	**+0.6**
MVCO	**Mesa Verde**	**7.03**	**203**	*e*Pn	**Pn**	**21 03 47.0**	**+1.7**
MVCO				*e*Sg	**Sg**	**21 05 39.6**	**-7.4**
S18A	**Hurst Farm, BI**	**7.11**	**213**	⇑P	**Pn**	**21 03 45.1**	**-1.3**
	baz=8.6						
P14A	**Drum Mountains**	**7.27**	**238**	⇑P	**Pn**	**21 03 47.4**	**-1.2**
	baz=8.8						
R16A	**Teasdale**	**7.29**	**244**	⇑P	**Pn**	**21 03 47.9**	**-0.9**
	baz=8.9						
MSU	**Marysvale**	**7.48**	**228**	*e*Pn	**Pn**	**21 03 50.7**	**-0.8**
S17A	**Black Ridge (B**	**7.49**	**217**	⇓P	**Pn**	**21 03 50.6**	**-1.1**
	baz=9.0,SNR=32						
T18A	**Mexican Hat**	**7.55**	**210**	⇓P	**Pn**	**21 03 51.1**	**-1.3**
	baz=9.0						
ELK	**Elko**	**8.10**	**252**	Pn	**Pn**	**21 03 58.8**	**-1.2**
	0.6nm,0.3s,baz=59,slow=9.1,SNR=8.8						
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**Pn**	**21 04 13.7**	**+0.8**
ULM				Sn	**Sn**	**21 05 53.5**	**-1.9**
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**Pn**	**21 04 13.7**	**+0.8**
	2.5nm,0.3s,baz=231,slow=12,SNR=20						
ULM				Sn	**Sn**	**21 05 53.5**	**-1.9**
	baz=151,slow=10,SNR=2.3						
ULM				Lg		21 06 46.5	
	0.4nm,0.3s,baz=125,slow=22,SNR=3.7						
WUAZ	**Wupatki**	**9.54**	**213**	*e*Pn	**Pn**	**21 04 21.0**	**+1.2**
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**21 12 18.1**	**-0.1**
	1.8nm,0.6s,baz=332,slow=6.8,SNR=18						
ZALV	**Zalesovo Beam**	**82.30**	**354**	P	**P**	**21 14 24.0**	**-0.2**
	0.8nm,0.5s,mb4.1,baz=9.1,slow=5.3,SNR=4.1						
SONM	**Songino Array**	**84.67**	**339**	P	**P**	**21 14 37.1**	**+0.6**
	0.3nm,0.5s,mb3.8,baz=360,slow=4.4,SNR=3.2						
MKAR	**Makanchi Array**	**89.60**	**355**	P	**P**	**21 15 00.9**	**+0.4**
	0.4nm,0.7s,mb3.7,baz=4.1,slow=6.1,SNR=3.7						

ISCJB ***10*** *21:06:07.9±1.0, 3929N±003×13921E±005, h12km±6km, Error ellipse: s-maj=6.8km s-min=3.7km az=24.4*
JMA ***10*** *21:06:08.7±0.1, 3929N×13926E, h14km±1km, M3.5*
ISC 10 21:06:08.5±0.9, 3929N±003×13925E±005, h16km±5km, n14, σ0°38/28, 4C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTB	**Tobi-shima**	**0.25**	**111**	⇓P	**Pg**	**21 06 14.0**	**-0.1**
JTB				S	**Sg**	**21 06 17.6**	**-0.3**
JOG2	**Oga 2**	**0.75**	**34**	⇓P	**Pb**	**21 06 23.2**	**+0.1**
JOG2				S	**Sg**	**21 06 33.8**	**+0.7**
JYA	**Atsumi**	**0.78**	**152**	⇓P	**Pb**	**21 06 23.5**	**-0.1**
JYA				S	**Sb**	**21 06 34.1**	**+0.1**
JYW	**Yuwa**	**0.78**	**71**	P	**Pb**	**21 06 23.8**	**+0.2**
JYW				S	**Sb**	**21 06 34.3**	**+0.3**
JAW	**Awa shima**	**0.83**	**180**	⇓P	**Pb**	**21 06 24.5**	**0.0**
JAW				*e*S	**Sb**	**21 06 35.4**	**0.0**
JYK	**Kaneyama**	**0.94**	**113**	⇑P	**Pb**	**21 06 25.7**	**-0.6**
JYK				S	**Sb**	**21 06 38.0**	**-0.4**
JRG	**Rokugo**	**1.08**	**84**	⇑P	**Pb**	**21 06 28.3**	**-0.4**
JRG				S	**Sb**	**21 06 42.8**	**+0.3**
JYS	**Shiratake**	**1.24**	**149**	⇑P	**Pn**	**21 06 30.9**	**-0.2**
JYS				S	**Sb**	**21 06 47.9**	**+0.7**
JAH	**Hinai**	**1.40**	**49**	P	**Pn**	**21 06 33.4**	**+0.2**
JAH				S	**Sn**	**21 06 51.0**	**-0.2**
JIW	**Iwasaki**	**1.43**	**24**	P	**Pn**	**21 06 33.3**	**-0.3**
JIW				S	**Sn**	**21 06 51.6**	**-0.4**
JOU	**Okura**	**1.44**	**129**	⇑P	**Pn**	**21 06 33.5**	**-0.3**
JOU				S	**Sn**	**21 06 52.8**	**+0.5**
JNS	**Sasagawa**	**1.47**	**178**	P	**Pn**	**21 06 34.0**	**-0.2**
JNS				S	**Sn**	**21 06 52.5**	**-0.5**
JSD	**Sado**	**1.47**	**212**	P	**Pn**	**21 06 34.1**	**-0.1**
JSD				S	**Sn**	**21 06 53.9**	**+0.8**
MAT	**Matsushiro**	**2.86**	**197**	P	**Pn**	**21 06 53.8**	**+0.4**
MAT				S	**Sn**	**21 07 27.1**	**-0.4**

HLW 10 21:15:03.9, 3449N×2562E, h33km, Mb2.7, 4D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLUM		**3.01**	**187**	⇓P	Pn	21 15 49.3	+0.1
SLUM				S	Sn	21 16 22.1	-2.0
SLUM		**3.01**	**187**	P	Pn	21 15 49.3	+0.1
SLUM				S	Sn	21 16 22.1	-2.1
HMAT	**Matruh**	**3.61**	**159**	⇓P	Pn	21 15 57.8	+0.3
SWA2		**5.23**	**182**	⇓P	Pn	21 16 19.4	-0.4
SWA2		**5.23**	**182**	P	Pn	21 16 19.4	-0.4
SHUT	**Suhut-Afyon**	**5.67**	**43**	*e*PG	Pn	21 16 21.0	-4.9
SHUT				*e*SG	Sn	21 17 26.1	-3.7
HFRF	**Wahat Farafira**	**7.67**	**162**	⇓P	Pn	21 16 53.7	+0.3

ISCJB ***10*** *21:20:51.2±0.6, 3457N±004×2497E±008, h33km, Error ellipse: s-maj=9.2km s-min=5.4km az=172.4*
ATH ***10*** *21:20:52.5, 3481N×2499E, h67km±7km*
NEIC ***10*** *21:20:52.5, 3480N×2499E, h66km, After ATH.*
HLW ***10*** *21:20:53.2, 3468N×2538E, h33km, Mb3.4*
ISC 10 21:20:52.7±0.6, 3463N±004×2497E±008, h35km, n12, σ0°90/16, 1C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.82**	**40**	⇓*i*P	**Pn**	**21 21 07.3**	**-0.4**
NPS				*e*S	**Sn**	**21 21 17.8**	**-0.8**
VAM	**Vamos**	**1.00**	**321**	⇑*i*P	**Pn**	**21 21 09.9**	**-0.3**
VAM				*e*S	**Sn**	**21 21 23.7**	**+0.7**
KARP	**Karpathos**	**2.01**	**62**	*e*P	**Pn**	**21 21 25.0**	**+0.9**
APE	**Apeiranthos**	**2.47**	**10**	*e*P	**Pn**	**21 21 29.6**	**-0.8**
VLI	**Veliai**	**2.66**	**322**	*e*P	**Pn**	**21 21 32.3**	**-0.7**
ARG	**Arkhangelos**	**3.02**	**58**	*e*P	**Pn**	**21 21 39.0**	**+1.1**
SLUM		**3.14**	**176**	⇓P	**Pn**	**21 21 41.1**	**+1.5**
HMAT	**Matruh**	**3.96**	**153**	⇓P	**Pn**	**21 21 50.7**	**-0.2**
SWA2		**5.39**	**176**	⇓P	**Pn**	**21 22 11.6**	**+1.1**
SWA2				S	**Sn**	**21 23 09.3**	**-2.0**
SWA2		**5.39**	**176**	P	**Pn**	**21 22 11.6**	**+1.0**
SWA2				S	**Sn**	**21 23 09.3**	**-2.1**
AWBH		**7.13**	**151**	P	**Pn**	**21 22 34.4**	**-0.1**
HFRF	**Wahat Farafira**	**7.99**	**158**	⇓P	**Pn**	**21 22 46.1**	**-0.2**

BJI ***10*** *21:27:53.5, 2418N×10405E, h20km, ML3.3*
ISCJB ***10*** *21:27:59.0±1.3, 2413N±003×1047E±01, h10km, Error ellipse: s-maj=14.6km s-min=4.0km az=3.2*
PLV ***10*** *21:28:00.1±0.7, 2392N×10416E, h7km±4km, MD3.5*
ISC 10 21:27:59.3±1.3, 2416N±003×1045E±01, h10km, n7, σ0°91/21, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.85**	**302**	PG	**Pn**	**21 28 18.9**	**-12**
KMI				SG	**Sn**	**21 28 37.5**	**-17**
KMI				Smax			
	comp=N,183nm,0.9s						
KMI				Smax			
	comp=E,206nm,1.0s						
GYA	**Guiyang**	**3.03**	**40**	P	**Pn**	**21 28 46.3**	**-0.9**
GYA				PG	**Pg**	**21 28 55.5**	**-1.8**
GYA				S	**Sn**	**21 29 24.5**	**+0.9**
GYA				SG	**Sg**	**21 29 36.7**	**+0.2**
GYA				Smax			
	comp=N,200nm,0.8s						
GYA				Smax			
	comp=E,140nm,0.7s						
MTZV	**Met**	**3.12**	**146**	*e*Pn	**Pn**	**21 28 49.8**	**+1.3**
MTZV				*e*Pg	**Pg**	**21 29 00.0**	**+1.0**
MTZV				*e*Sg	**Sg**	**21 29 40.7**	**+1.2**
BGV	**Bac-Giang**	**3.28**	**150**	*e*Pn	**Pn**	**21 28 51.2**	**+0.4**
BGV				*e*Pg	**Pg**	**21 29 02.1**	**0.0**
BGV				*e*Sg	**Sg**	**21 29 44.3**	**-0.4**
HNV	**Hanoi**	**3.33**	**158**	*e*Pn	**Pn**	**21 28 52.3**	**+0.9**
HNV				*e*Pg	**Pg**	**21 29 03.4**	**+0.3**
HNV				*e*Sg	**Sg**	**21 29 46.2**	**-0.1**
DSV	**Doi Son**	**3.82**	**158**	*e*Pn	**Pn**	**21 28 57.9**	**-0.2**
DSV				*e*Pg	**Pg**	**21 29 11.1**	**-1.3**
DSV				*e*Sg	**Sg**	**21 29 59.9**	**-2.0**
PLV	**Phu-Lien**	**3.89**	**149**	*e*Pn	**Pn**	**21 28 59.6**	**+0.5**
PLV				*e*Pg	**Pg**	**21 29 13.9**	**+0.1**
PLV				*e*Sg	**Sg**	**21 30 03.8**	**-0.4**

MAN 10 21:50:48, 1150N×12577E, h13km, mb4.2, ML3.1, MS2.8, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.34**	**288**	*e*P	Pg	21 50 56.0	+1.2
PLP	**Palo**	**0.84**	**247**	⇓*i*P	Pg	21 51 03.2	-1.0
PLP				*e*S	Sg	21 51 12.1	-3.1
OCLP	**Ormoc**	**1.22**	**249**	*e*P	Pn	21 51 11.2	+0.5
CNP	**Catarman**	**1.48**	**313**	*e*P	Pn	21 51 14.2	-0.1
CNP				*e*S	Sn	21 51 33.8	+0.4
MSLP	**Maasin**	**1.62**	**213**	*e*P	Pn	21 51 17.1	+0.8
SCPH	**Surigao**	**1.73**	**189**	*e*P	Pn	21 51 17.9	+0.2
SCPH				*e*S	Sn	21 51 40.1	+0.5
PVCP	**Virac**	**2.61**	**323**	*e*P	Pn	21 51 31.3	+1.3

NIED ***10*** *21:52:00, 3000N×13140E, h23km, Mw4.9 Best double couple: M0 2.34000×1016 NP1:φ0=27.00000°, δ55.00000°, λ76.00000°. NP2:φ0=232.00000°, δ37.00000°, λ110.00000°.*
BJI ***10*** *21:52:27.4, 2946N×13200E, h26km, mB4.8, mb4.3, Ms4.7, Msz4.5*
ISCJB ***10*** *21:52:35.5±0.3, 2998N±002×13121E±004, h28km, mb4.5/61, MS4.4/22, Error ellipse: s-maj=5.6km s-min=3.1km az=21.7*
MOS ***10*** *21:52:36.4±0.8, 3010N×13110E, h33km, mb4.8/19, MS4.8/6, Error ellipse: s-maj=11.2km s-min=6.6km az=114.2*
JMA ***10*** *21:52:36.0±0.2, 2996N×13137E, h39km±3km, M4.6*
IDC ***10*** *21:52:37.7±0.6, 3005N×13109E, h28km±3km, mb4.1/24, mb1 4.2/27, mb1mx4.1/33, mbtmp4.1/27, ML3.7/3, MS4.2/17, Ms1 4.2/17, ms1mx4.0/29, Error ellipse: s-maj=15.0km s-min=11.7km az=93.0*
NEIC ***10*** *21:52:37.8±0.2, 3004N×13106E, mb4.7/22, MW4.8(NIED), Error ellipse: s-maj=5.6km s-min=4.9km az=114.0*
SZGRF ***10*** *21:52:45.3, 3111N×13134E, h33km, mb4.5, MS4.9, Kyushu, Japan*
ISC 10 21:52:38.0±0.3, 3002N±002×13112E±004, h29km, h29km±.8km: pP-P, n145, σ0°78/145, mb4.5/61, MS4.4/22, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.64**	**349**	P	**Pb**	**21 52 50.5**	**-0.2**
JTN				S	**Sb**	**21 53 01.7**	**+2.3**
JKC	**Kuchinoerabu**	**0.91**	**299**	P	**Pn**	**21 52 56.0**	**+1.2**
JNN	**Nakanoshima**	**1.09**	**261**	P	**Pn**	**21 52 58.3**	**+1.0**
JTSR	**Tashiro 2**	**1.15**	**352**	P	**Pn**	**21 52 57.9**	**-0.2**
JTSR				*e*S	**Sn**	**21 53 14.1**	**+1.2**
JNAR	**Kushima--Naru**	**1.51**	**5**	P	**Pn**	**21 53 02.5**	**-0.5**
JNAR				S	**Sn**	**21 53 21.7**	**+0.1**
JSU	**Suzuyama**	**1.59**	**339**	P	**Pn**	**21 53 04.3**	**+0.2**
JTZ	**Takazaki**	**1.87**	**359**	P	**Pn**	**21 53 08.2**	**+0.2**
JTZ				*e*S	**Sn**	**21 53 32.3**	**+1.6**
JZK	**Kikaishima**	**1.97**	**211**	P	**Pn**	**21 53 10.1**	**+0.7**
JSJ	**Shimokoshiki**	**2.04**	**324**	P	**Pn**	**21 53 10.4**	**0.0**
JAM	**Amami Oshima**	**2.08**	**220**	P	**Pn**	**21 53 11.3**	**+0.5**
JAM				S	**Sn**	**21 53 36.7**	**+1.0**
JZO	**Okuchi**	**2.16**	**348**	P	**Pn**	**21 53 11.9**	**0.0**
JZO				*e*S	**Sn**	**21 53 39.0**	**+1.3**
JTSN	**Tsuno**	**2.24**	**8**	P	**Pn**	**21 53 12.5**	**-0.6**
JTSN				*e*S	**Sn**	**21 53 38.9**	**-0.8**
JIU2	**Izumi 2**	**2.53**	**354**	P	**Pn**	**21 53 17.1**	**+0.1**
JOW	**Kunigami**	**4.04**	**219**	Pn	**Pn**	**21 53 38.2**	**+0.4**
	12nm,0.3s,baz=92,slow=21,SNR=8.6						
JOW				Sn	**Sn**	**21 54 23.9**	**-0.4**
	22nm,0.3s,baz=197,slow=29,SNR=7.3						
KSRS	**Korea Array**	**7.88**	**341**	Pn	**Pn**	**21 54 29.4**	**-1.1**
	0.5nm,0.3s,baz=162,slow=14,SNR=12						
JHJ	**Hachijo jima 2**	**8.01**	**65**	LR	LR	21 57 39.6	
	comp=Z,723nm,18.3s,baz=282,slow=38						
MAJO	**Matsushiro**	**8.80**	**41**	*e*P	**Pn**	**21 54 43.3**	**+0.1**
MAT	**Matsushiro**	**8.80**	**41**	P	**Pn**	**21 54 41.9**	**-1.3**
MAT				S	**Sn**	**21 56 21.0**	**-0.3**
MJAR	**Matsushiro Arr**	**8.80**	**41**	Pn	**Pn**	**21 54 42.9**	**-0.2**
	0.9nm,0.3s,baz=239,slow=14,SNR=14						
CBIJ	**Chichi jima**	**10.16**	**104**	LR	LR	21 58 42.7	
	comp=Z,831nm,19.2s,baz=287,slow=36						
BJT	**Baijiatuau**	**15.77**	**313**	*e*P	**Pn**	**21 56 17.2**	**-0.7**
BJT				pmax	pmax		
	comp=Z,63nm,1.3s						
BJT	**Baijiatuau**	**15.77**	**313**	*e*Pn	**Pn**	**21 56 17.2

BOD	Bodaibo	30.22	342	eP	P	21 58 44.4	-1.3
CHTO	Chiang Mai	31.25	256	eP	P	21 58 54.9	-0.3
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
CHTO	Chiang Mai	31.25	256	eP	P	21 58 54.9	-0.2
	comp=Z,6.5nm,0.7s,mb4.6						
CMAR	Chiang Mai Arr	31.41	256	P	P	21 58 56.6	0.0
	comp=Z,1.7nm,0.8s,mb3.9,baz=44,slow=8.3,SNR=8.5						
CMAR				PcP	PcP	22 01 50.7	+0.9
	comp=Z,0.7nm,0.6s,baz=42,slow=1.5,SNR=3.7						
CMAR				LR	LR	22 13 30.1	
	comp=Z,562nm,18.1s,MS4.3,baz=65,slow=40						
CMAR	Chiang Mai Arr	31.41	256	P	P	21 58 56.7	+0.1
CMAR						22 01 50.7	
YAK	Yakutsk	32.03	359	eP	P	21 59 00.0	-1.6
YAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,369nm,23.0s,MS4.0						
YAK				MLR	MLR		
	comp=N,168nm,16.0s						
YAK				MLR	MLR		
	comp=E,154nm,15.0s						
LSA	Lhasa	34.54	280	eP	P	21 59 24.2	+0.3
LSA				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.5						
LSA	Lhasa	34.54	280	eP	P	21 59 24.2	+0.3
	comp=Z,11nm,1.7s,mb4.5						
SHL	Shillong	34.88	272	eP	P	21 59 27.5	+0.7
TAPN	Taplejung	38.01	277	eP	P	21 59 53.1	-0.4
ODAN	Odare	38.41	276	eP	P	21 59 56.1	-0.8
	comp=Z,45nm,1.0s,mb5.1						
RAMN	Ramite	39.07	277	eP	P	22 00 02.3	-0.1
JIRN	Jiri	39.24	278	eP	P	22 00 04.3	+0.4
GUN	Gumba	39.44	278	eP	P	22 00 05.3	-0.3
	comp=Z,92nm,0.8s,mb5.5						
PKI	Pulchoki	39.93	278	eP	P	22 00 09.6	0.0
	comp=Z,29nm,0.7s,mb5.1						
KKN	Kakani	39.99	278	eP	P	22 00 09.7	-0.4
	comp=Z,54nm,1.1s,mb5.2						
DMN	Daman	40.18	278	eP	P	22 00 10.9	-0.8
GKN	Gorkha	40.48	279	eP	P	22 00 14.2	0.0
PSI	Prapat	40.78	235	P	P	22 00 17.0	+0.2
	comp=Z,2.4nm,0.5s,mb4.1,baz=38,slow=19,SNR=2.7						
PSI				pP	pP	22 00 25.6	+0.1
	comp=Z,8.0nm,0.7s,baz=3.7,slow=2.0,SNR=4.6						
ZAA0	Zalesovo Array	40.91	319	eP	P	22 00 16.7	-0.7
ZAA0				epP	pP	22 00 24.9	-1.3
ZALV	Zalesovo Beam	40.91	319	P	P	22 00 16.6	-0.7
	comp=Z,1.0nm,0.4s,mb3.8,baz=112,slow=6.6,SNR=11						
ZALV				pP	pP	22 00 25.3	-0.8
	comp=Z,2.5nm,0.7s,baz=108,slow=8.3,SNR=5.7						
ZALV				PcP	PcP	22 02 17.2	-0.3
	comp=Z,2.2nm,0.7s,baz=86,slow=4.6,SNR=6.9						
ZALV	Zalesovo Beam	40.91	319	P	P	22 00 16.6	-0.7
ZALV				pP	pP	22 00 25.3	-0.8
ZALV				PcP	PcP	22 02 17.2	-0.3
ZAL	Zalesovo	40.92	319	P	P	22 00 16.7	-0.8
ZAL				*PP	pP	22 00 25.3	-0.9
ZAL						22 02 17.2	
MKAR	Makanchi Array	41.06	308	P	P	22 00 18.9	+0.1
	comp=Z,2.9nm,0.7s,mb4.0,baz=99,slow=9.7,SNR=16						
MKAR				pP	pP	22 00 27.4	-0.1
	comp=Z,6.0nm,0.9s,baz=102,slow=10.0,SNR=12						
MKAR				PcP	PcP	22 02 18.2	+0.1
	comp=Z,1.3nm,0.7s,baz=159,slow=1.0,SNR=4.2						
MKAR	Makanchi Array	41.06	308	P	P	22 00 18.9	+0.1
MKAR				pP	pP	22 00 27.4	-0.1
MKAR				PcP	PcP	22 02 18.2	+0.1
DANN	Dangsing	41.15	280	eP	P	22 00 19.3	-0.4
	comp=Z,18nm,0.4s,mb5.0						
KOLN	Koldanda	41.43	279	eP	P	22 00 21.4	-0.6
TIXI	Tiksi	41.70	359	eP	P	22 00 23.1	-0.5
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,512nm,16.0s,MS4.5						
NVS	Novosibirsk	42.05	320	eP	P	22 00 21.6	-5.1
KURK	Kurchatov	43.95	313	eP	P	22 00 41.6	-0.6
KURK				e*PP	pP	22 00 49.5	-1.5
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
KURK	Kurchatov	43.95	313	eP	P	22 00 41.6	-0.6
	comp=Z,8.7nm,1.0s,mb4.4						
KURK				epP	pP	22 00 49.5	-1.5
ULHL	Ulahol	45.26	301	P	P	22 00 53.2	+0.5
	SNR=5.0						
TKM2	Tokmak 2	45.70	302	eP	P	22 00 56.9	+0.7
TKM2				e*PP	pP	22 01 04.5	-0.6
TKM2				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
TKM2	Tokmak 2	45.70	302	P	P	22 00 57.2	+1.0
	SNR=20						
TKM2	Tokmak 2	45.70	302	eP	P	22 00 56.9	+0.7
	comp=Z,11nm,0.7s,mb4.9						
TKM2				epP	pP	22 01 04.5	-0.6
KBK	Karagaybulak	46.19	302	P	P	22 01 01.4	+1.4
	SNR=6.9						
CHMS	Chumysh	46.31	302	P	P	22 01 01.7	+0.6
	SNR=5.1						
USP	Ospenovka	46.48	303	P	P	22 01 02.8	+0.4
	SNR=6.8						
UCH	Uchtor	46.54	301	eP	P	22 01 03.2	+0.4
	comp=Z,9.4nm,0.9s,mb4.7						
UCH				e		22 01 14.6	
EKS2	Erkin-Say	47.05	302	P	P	22 01 07.4	+0.5
	SNR=6.8						
EKS2	Erkin-Say	47.05	302	eP	P	22 01 07.1	+0.3
	comp=Z,112nm,0.7s						
EKS2				epP	pP	22 01 15.5	-0.3
AML	Almayashu	47.15	301	P	P	22 01 09.0	+1.4
	SNR=5.5						
AML	Almayashu	47.15	301	eP	P	22 01 08.5	+0.8
	comp=Z,11nm,0.9s,mb4.8						
AML				e	pP	22 01 18.8	+2.2
HNR	Honiara	48.04	140	LR	LR	22 20 19.2	
	comp=Z,117nm,19.0s,MS3.9,baz=179,slow=35						
FITZ	Fitzroy Crossi	48.13	187	P	P	22 01 15.2	-0.1
	comp=Z,1.6nm,0.7s,mb4.2,baz=20,slow=11,SNR=3.7						
BVAR	Borovoye Array	49.24	316	P	P	22 01 23.1	-0.4
	comp=Z,7.5nm,0.6s,mb4.9,baz=94,slow=9.1,SNR=39						
BVAR				pP	pP	22 01 32.0	-0.5
	comp=Z,11nm,0.7s,baz=95,slow=9.1,SNR=15						
BRVK	Borovoye	49.31	316	eP	P	22 01 23.4	-0.7
BRVK				e*PP	pP	22 01 32.0	-1.0
BRVK				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
BRVK	Borovoye	49.31	316	eP	P	22 01 23.4	-0.6
	comp=Z,20nm,0.8s,mb5.2						
BRVK				epP	pP	22 01 32.0	-1.0
WRAB	Tennant Creek	49.76	176	eP	P	22 01 28.3	+0.5
WRAB				e	pP	22 01 38.0	+1.2
WRA	Warramunga Arr	49.77	176	P	P	22 01 27.6	-0.3
	comp=Z,0.9nm,0.9s,mb3.8,baz=352,slow=8.0,SNR=6.0						
CTAO	Charters Tower	51.91	162	eP	P	22 01 44.6	+0.6
CTAO				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.7						
CTAO	Charters Tower	51.91	162	eP	P	22 01 44.6	+0.6
	comp=Z,14nm,1.5s,mb4.7						
ASAR	Alice Springs	53.45	177	P	P	22 01 56.5	+1.2
	comp=Z,0.5nm,0.6s,mb3.6,baz=11,slow=13,SNR=8.6						
ARU	Arti	56.06	320c	iP	P	22 02 12.5	-1.4
ARU				e*PP	pP	22 02 22.5	-0.5
ARU				e		22 04 16.6	
ARU				ePPP		22 05 37.3	
ARU				eS	S	22 10 06.4	+5.9
ARU				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
ARU				MLR	MLR		
	comp=Z,1μm,16.0s,MS5.1						
ARU	Arti	56.06	320	eP	P	22 02 13.5	-0.4
	comp=Z,16nm,1.0s,mb5.0						
ARU				e	pP	22 02 23.4	+0.5
AKTK	Aktyubinsk	57.05	313	P	P	22 02 20.2	-0.9
AKTO	Aktyubinsk	57.05	313	P	P	22 02 20.2	-0.9
	comp=Z,2.7nm,0.8s,mb4.3,baz=70,slow=12,SNR=7.4						
CHUM	Lake Minchumin	57.62	31	eP	P	22 02 25.3	+0.5
	comp=Z,5.7nm,0.9s,mb4.6						
KDAK	Kodiak Island	57.97	38	P	P	22 02 26.6	-0.9
	comp=Z,2.8nm,0.6s,mb4.5,baz=289,slow=18,SNR=5.4						
BPAW	Bear Paw Mtn.	58.19	30	eP	P	22 02 29.4	+0.5
	comp=Z,5.1nm,1.2s,mb4.4						
BPAW				epP	pP	22 02 36.9	-1.0
STKA	Stephens Creek	62.36	170	P	P	22 02 56.2	-1.4
	comp=Z,2.6nm,0.9s,mb4.4,baz=350,slow=6.1,SNR=4.0						
STKA				LR	LR	22 28 51.2	
	comp=Z,184nm,20.6s,MS4.2,baz=23,slow=35						
PNL	Peninsula	64.35	34	eP	P	22 03 11.4	+0.7
	comp=Z,4.6nm,0.9s,mb4.5						
INK	Inuvik	64.41	24	eP	P	22 03 11.4	+0.5
HYT	Haines Junctio	64.93	33	eP	P	22 03 15.4	+1.0
SPITS	Spitsbergen Ar	65.66	348	P	P	22 03 19.2	+0.3
	comp=Z,3.4nm,0.7s,mb4.5,baz=90,slow=9.7,SNR=6.8						
ARCES	ARCESS Array B	67.42	338	P	P	22 03 29.4	-0.9
	comp=Z,3.5nm,0.8s,mb4.5,baz=61,slow=6.9,SNR=10						
ARCES				LR	LR	22 38 48.0	
	comp=Z,588nm,18.5s,MS4.8,baz=202,slow=41						
MOS	Moscow	67.63	322	eP	P	22 03 30.8	-1.0
MOS				MLR	MLR		
	comp=Z,800nm,15.0s,MS5.1						
JOF	Joensuu	67.98	331	ep	P	22 03 32.1	-1.8
	comp=Z,15nm,0.6s,mb5.2						
VRSR	Storozhevoye	68.37	317	eP	P	22 03 35.5	-1.0
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
VRSR				pmax	pmax		
	comp=N,2.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,4.0nm,0.8s						
VRSR				MLR	MLR		
	comp=Z,90nm,14.0s,MS4.2						
VRSR				MLR	MLR		
	comp=N,50nm,17.0s,MS4.1						
VRSR				MLR	MLR		
	comp=E,70nm,15.0s,MS4.1						
GNI	Garni	68.79	305	P	P	22 03 38.7	-0.7
	comp=E,2.1nm,0.5s,mb4.3,baz=12,slow=14,SNR=3.5						
GNI	Garni	68.79	305	P	P	22 03 38.7	-0.7
GNI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIV	Kislovodsk	68.81	309	↓iP	P	22 03 39.6	+0.2
KIV				i	pP	22 03 49.3	+0.6
KIV				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
KIV				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
KIV	Kislovodsk	68.81	309	eP	P	22 03 40.0	+0.6
	comp=Z,36nm,1.3s,mb5.1						
KIV				e	pP	22 03 49.5	+0.8
KAF	Kangasniemi	70.42	331	ep	P	22 03 48.1	-0.9
	comp=Z,12nm,0.8s,mb4.9,baz=62,slow=5.8						
KAF	Kangasniemi	70.42	331	eP	P	22 03 48.1	-0.9
KAF				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
MIB	Mutribah	70.86	294	eP	P	22 03 52.4	+0.1
	baz=296						
MIB				AMb	AMB	22 03 53.1	
	comp=Z,29nm,0.8s,mb5.3,baz=296						
RDF	Al-Radifah	71.05	293	eP	P	22 03 53.2	-0.3
	baz=295						
RDF				AMb	AMB	22 03 54.5	
	comp=Z,30nm,0.7s,mb5.3,baz=295						
NAY	Al-Naaiem	71.17	293	eP	P	22 03 54.1	0.0
	baz=296						
NAY				AMb	AMB	22 03 58.8	
	comp=Z,17nm,0.9s,mb5.0,baz=296						
RST	Umm Al-Ruwaisa	71.26	294	eP	P	22 03 54.6	-0.1
	baz=296						
RST				AMb	AMB	22 04 01.4	
	comp=Z,0.8nm,1.8s,baz=296						
SIM	Simferopol'	74.01	313	P	P	22 04 10.4	-0.4
SIM				S	S	22 14 04.0	+23
SIM				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
YKA	Yellowknife Ar	74.02	26	LR	LR	22 43 25.2	
	comp=Z,37nm,18.1s,MS3.7,baz=85,slow=41						
MALT	Malatya	74.02	305	eP	P	22 04 11.2	+0.2
MALT				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
MALT	Malatya	74.02	305	eP	P	22 04 11.2	+0.2
	comp=Z,1.2nm,0.3s,mb4.3						
AKASG	Malin Array Be	74.31	320	P	P	22 04 12.2	-0.2
	comp=Z,1.8nm,0.5s,mb4.3,baz=53,slow=6.2,SNR=18						
AKASG				LR	LR	22 39 09.0	
	comp=Z,204nm,19.4s,MS4.4,baz=70,slow=38						
HFS	Hagfors	76.64	333	P	P	22 04 25.7	+0.1
	comp=Z,2.3nm,0.5s,mb4.4,baz=98,slow=6.0,SNR=22						
NB2	NORSAR Subarra	77.03	334	P	P	22 04 27.8	0.0
	comp=Z,3.5nm,0.6s,mb4.5,baz=50,slow=5.9						
NOA	NORSAR Array B	77.03	334	P	P	22 04 27.9	+0.1
	comp=Z,3.5nm,0.6s,mb4.5,baz=50,slow=5.7,SNR=16						
NOA	NORSAR Array B	77.03	334	P	P	22 04 27.9	+0.1
KWP	Kalwaria	78.46	321	eP	P	22 04 35.9	-0.1
KWP				e	pP	22 04 45.4	+0.1
KWP				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
KWP	Kalwaria	78.46	321	eP	P	22 04 35.9	-0.1
	comp=Z,9.2nm,1.3s,mb4.5						
KWP				e	pP	22 04 45.4	0.0
GERES	GERESS Array B	83.69	324	P	P	22 05 03.6	-0.2
	comp=Z,0.3nm,0.7s,mb3.5,baz=47,slow=5.9,SNR=3.9						
GERES				LR	LR	22 46 42.3	
	comp=Z,381nm,18.7s,MS4.8,baz=245,slow=39						
FCC	Fort Churchill	83.89	22	eP	P	22 05 05.0	+0.3
FCC				e	pP	22 05 14.7	+0.6
GRA1	Grafenberg Arr	84.39	326	eP	P	22 05 09.3	+1.9
	comp=Z,4.0nm,1.3s,mb4.4						
GRA1				LR	LR		
	comp=Z,500nm,18.2s,MS4.9						
GRF	Grafenberg Arr	84.39	326	eP	P	22 05 09.3	+1.9
GRF				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.4						
GRF				MLR	MLR		
	comp=Z,500nm,18.2s,MS4.9						
GRF	Grafenberg Arr	84.39	326	eP	P	22 05 09.3	+1.9
GRF				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.4						
GRF				MLR	MLR		
	comp=Z,500nm,18.2s,MS4.9						
GRF	Grafenberg Arr	84.39	326	eP	P	22 05 09.3	+1.9
	comp=Z,4.0nm,1.3s,mb4.4						
GRF				eL		22 46 29.2	
	comp=Z,492nm,18.2s						
DLMT	Dillon	85.28	39	eP	P	22 05 12.7	+0.8
	comp=Z,8.9nm,1.1s,mb4.8						
DLMT				epP	pP	22 05 21.1	-0.3
DLMT				esP	sP	22 05 24.2	-0.6
NVAR	Mina Array Bea	86.06	47	P	P	22 05 17.1	+1.1
	comp=Z,0.9nm,0.7s,mb4.1,baz=316,slow=4.1,SNR=5.6						
NVAR				pP	pP	22 05 24.6	-0.9
	comp=Z,0.9nm,0.7s,baz=305,slow=5.2,SNR=4.8						
EKA	Eskdalemuir Ar	86.41	336	P	P	22 05 17.9	+0.5
	comp=Z,1.9nm,0.6s,mb4.5,baz=38,slow=5.3,SNR=11						
EKA				pP	pP	22 05 26.2	-0.6
	comp=Z,2.0nm,0.8s,baz=30,slow=5.5,SNR=5.7						
PDAR	Pinedale Array	88.63	40	P	P	22 05 29.1	+0.8
	comp=Z,1.2nm,0.9s,mb4.2,baz=355,slow=1.6,SNR=6.9						
PDAR				pP	pP	22 05 37.6	-0.1
	comp=Z,1.4nm,0.9s,baz=29,slow=3.4,SNR=6.7						
PPT	Papeete	89.76	110	LR	LR	22 41 19.9	
	comp=Z,98nm,20.4s,MS4.2,baz=23,slow=32						
ULM	Lac du Bonnet	89.89	28	P	P	22 05 34.5	+0.4
	comp=Z,2.7nm,0.9s,mb4.5,baz=313,slow=9.2,SNR=4.3						
ULM				LR	LR	22 48 41.5	
	comp=Z,84nm,18.1s,MS4.2,baz=357,slow=37						
ULM	Lac du Bonnet	89.89	28	P	P	22 05 34.5	+0.4
ULM				LR	LR	22 48 41.5	
PV01	Paradox Valley	92.24	43	eP	P	22 05 47.0	+1.8
PV01				epP	pP	22 05 55.0	+0.3
KMBO	Kilima Mbogo	93.91	271	LR	LR	22 50 00.6	
	comp=Z,87nm,20.1s,MS4.2,baz=59,slow=37						
SCHQ	Schefferville	94.09	10	LR	LR	22 49 03.0	
	comp=Z,176nm,19.5s,MS4.5,baz=3.4,slow=36						
ESDC	Sonseca Array	99.06	327	LR	LR	23 00 20.5	
	comp=Z,278nm,18.5s,MS4.8,baz=5.0,slow=41						

*ISCJB **10** 22:04:40.1±1.0,3731N±005×13665E±008,h22km±7km, mb3.5/4, Error ellipse: s-maj=10.5km s-min=7.8km az=175.7*
*IDC **10** 22:04:40.8±3.5,3732N×13683E,h15km±26km,mb3.5/4, mb1 3.6/4,mb1mx3.4/22,mbtmp3.5/4,MS2.7/1,Ms1 2.7/1, ms1mx2.4/23, Error ellipse: s-maj=37.0km s-min=20.0km az=55.0*
*NEIC **10** 22:04:41.0,3729N×13674E,h8km,MG3.4(JMA), After JMA.*
*JMA **10** 22:04:41.0,3729N×13674E,h8km,M3.4 Broadband fault plane solution: P waves. NP1:φ0±209.00000°, δ19.00000°,λ142.00000°. NP2:φ0±336.00000°,δ79.00000°, λ75.00000°. Principal axes: T Plg54.0000°, Azm228.0000°; N Plg14.0000°, Azm339.0000°; P Plg32.0000°, Azm78.0000°;*
JMA Felt III J1.

ISC 10 22:04:40.7±0.9,3731N±004×13673E±007,h14km±5km, n14,σ0§77/17,mb3.6/4,1C-2D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JJH	Hakui	0.38	174	↑P		Pg		22 04 48.4	0.0
JJH					S		Sg	22 04 53.8	+0.3
JSZ	Suzu	0.53	74	↓P		Pg		22 04 51.0	0.0
JSZ					S		Sg	22 04 58.5	+0.5
JHG	Hegura jima	0.56	16	↓P		Pg		22 04 52.1	+0.4
JTT	Ttatey	0.85	145	P		Pg		22 04 56.9	-0.2
JTT				S		Sg		22 05 08.8	+0.5
MAJO	Matsushiro	1.41	122	ePn		Pn		22 05 05.5	-0.4
MAT	Matsushiro	1.41	122	P		Pn		22 05 05.2	-0.7
MAT				S		Sn		22 05 25.4	+1.2
MJAR	Matsushiro Arr	1.41	122	Pg		Pg		22 05 06.1	-1.7
	22nm,0.3s,baz=308,slow=18,SNR=116								
MJAR				Lg				22 05 25.5	
	21nm,0.3s,baz=305,slow=28,SNR=16								
KSRS	Korea Array	7.01	274	LR		LR		22 08 43.7	
	comp=Z,54nm,19.1s,baz=160,slow=34								
SONM	Songino Array	24.55	305	P		P		22 10 01.5	+1.8
	1.1nm,0.7s,mb3.5,baz=110,slow=10.0,SNR=8.1								
MKAR	Makanchi Array	40.79	301	P		P		22 12 20.7	-0.6
	0.4nm,0.8s,mb3.1,baz=64,slow=6.6,SNR=2.5								
WRA	Warramunga Arr	56.98	183	P		P		22 14 26.1	+0.4
	0.5nm,0.4s,mb3.9,baz=359,slow=7.7,SNR=12								
ASAR	Alice Springs	60.70	183	P		P		22 14 51.2	-0.3
	0.6nm,1.0s,mb3.7,baz=17,slow=9.8,SNR=4.4								
GCMT	Greycliff	78.01	41	eP		P		22 16 37.5	-1.0
YFT	Old Faithful	78.28	43	eP		P		22 16 39.9	-0.2

*ISCJB **10** 22:23:29.3±0.6,3928N±002×20.17E±005,h10km,Error ellipse: s-maj=5.1km s-min=2.8km az=175.0*
*NEIC **10** 22:23:29.2,3929N×2027E,h10km,MD3.7(ATH), ML3.5(THE),After ATH.*
*THE **10** 22:23:29.1,3929N×2016E,h0km,ML3.5*
*ATH **10** 22:23:29.2,3929N×2027E,h10km±3km,MD3.7/9*
*CSEM **10** 22:23:29.3±0.1,3929N×2027E,h1km±1km,ML3.5,Error ellipse: s-maj=2.3km s-min=1.5km az=84.0*

ISC 10 22:23:29.5±0.6,3930N±002×2022E±005,h0km±5km,n32, σ0§98/51,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.24	21	ePg		Pg		22 23 33.7	-0.6
IGT				eSg		Sg		22 23 37.8	+0.4
KEK	Kerkira	0.52	322	ePG		Pg		22 23 39.7	+0.1
KEK				eSB		Sg		22 23 48.1	+1.8
JAN	Janina	0.60	54	ePB		Pg		22 23 40.0	-1.1
JAN				eSB		Sg		22 23 48.2	-0.7
LKD	Levkas	0.68	150	ePg		Pg		22 23 41.9	-0.7
LKD				eSg		Sg		22 23 53.5	+2.1
VLS	Valsamata	1.16	165	ePg		Pg		22 23 50.2	-1.6
VLS				eSg		Sg		22 24 08.3	+1.5
VLS	Valsamata	1.16	165	ePG		Pg		22 23 50.2	-1.6
VLS				eSB		Sb		22 24 07.3	-0.7
VLS	Valsamata	1.16	165	ePg		Pg		22 23 50.2	-1.6
VLS				eSb		Sb		22 24 07.3	-0.7
VLS				eSg		Sg		22 24 08.3	+1.5
KFL	Anninata	1.27	159	ePg		Pg		22 23 53.0	-0.9
KFL				eSg		Sg		22 24 11.4	+1.0
EVR	Evrytania	1.30	107	ePB		Pb		22 23 52.9	-1.8
THL	Klokotos Trika	1.42	79	ePg		Pn		22 23 54.6	-1.9
THL				eSg		Sg		22 24 17.7	+2.7
THL	Klokotos Trika	1.42	79	ePG		Pn		22 23 54.5	-2.0
KZN	Kozani	1.56	50	ePB		Pb		22 23 59.0	-0.2
AGG	Agios Georgios	1.67	99	ePb		Pn		22 23 59.6	-0.3
AGG				eSb		Sb		22 24 22.9	+0.4
FNA	Florina	1.73	31	ePb		Pb		22 24 01.7	-0.3
FNA				eSb		Sb		22 24 25.1	+0.8
BIA	Bitola	1.91	26	ePb		Pn		22 24 02.0	-1.3
BIA				eSb		Sb		22 24 29.2	-0.4
BIA	Bitola	1.91	26	ePn		Pb		22 24 05.7	+0.5
LIT	Litokhoron	1.93	65	ePb		Pn		22 24 04.0	+0.5
LIT				eSb		Sb		22 24 29.6	-0.5
LIT	Litokhoron	1.93	65	ePb		Pb		22 24 04.0	-1.5
LIT				eSb		Sb		22 24 29.5	-0.5
KRUS	Krusevo	2.21	21	ePn		Pn		22 24 08.7	+1.3
KRUS				eSn		Sn		22 24 35.2	-0.1
KRUS	Krusevo	2.21	21	ePn		Pn		22 24 08.6	+1.2
KRUS				eSn		Sn		22 24 35.2	-0.2
LKR	Lokris	2.26	106	ePN		Pn		22 24 08.4	+0.3
XOR	Xorichti	2.31	88	ePn		Pn		22 24 09.5	+0.7
NEO	Neokhori	2.33	89	ePN		Pn		22 24 09.5	+0.4
GRG	Griva	2.35	45	ePn		Pn		22 24 09.4	+0.1
PLG	Polygyros	2.71	66	ePn		Pn		22 24 13.4	-0.8
PLG				eSn		Sn		22 24 48.8	+1.2
PLG	Polygyros	2.71	66	ePN		Pn		22 24 14.0	-0.2
PAIG	Paliouri	2.75	76	ePn		Pn		22 24 14.6	-0.2
PAIG				eSn		Sn		22 24 49.9	+1.3
KNT	Kendrikon	2.77	47	ePn		Pn		22 24 15.3	+0.3
STIP	Stip	2.82	32	ePn		Pn		22 24 16.3	+0.5
STIP	Stip	2.82	32	ePn		Pn		22 24 15.5	-0.3
DID	Didima	2.97	126	ePn		Pn		22 24 17.3	-0.6
OUR	Ouranopolis	3.08	69	ePn		Pn		22 24 19.1	-0.2

*ISCJB **10** 22:26:25.2±0.9,3361N±004×3479E±006,h19km±8km, Error ellipse: s-maj=8.8km s-min=6.9km az=3.0*
*CSEM **10** 22:26:25.9±0.2,3364N×3473E,h35km,ML3.2,Error ellipse: s-maj=9.8km s-

GLL	**Jalalah**	**4.79 215**	P	**Pn**	**22 27 37.6**	**-0.3**
HSAF	**As Saff**	**4.84 216**	⇓P	**Pn**	**22 27 38.2**	**-0.2**

NIED ***10*** *22:52:00.2460N×12220E, h35km, Mw4.6 Best double couple: M0:8.60000×1015 NP1:φ0:270.00000°, δ68.00000°, λ:-88.00000°. NP2:φ0:85.00000°, δ22.00000°, λ:-95.00000°.*
IDC ***10*** *22:52:06.3±1.1, 2423N×12239E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/20, mbtmp4.0/8, MS3.8/11, Ms1 3.8/11, ms1mx3.5/30, Error ellipse: s-maj=51.4km s-min=16.5km az=63.0*
NEIC ***10*** *22:52:08.0±0.8, 2416N×12236E, h10km, MG3.9(JMA), Error ellipse: s-maj=20.5km s-min=10.4km az=52.0*
ISCJB ***10*** *22:52:09.4±0.7, 2403N±001×12233E±002, h14km±5km, mb4.0/9, MS3.9/8, Error ellipse: s-maj=2.7km s-min=2.4km az=24.1*
BJI ***10*** *22:52:09.9, 2387N×12223E, h23km, mb3.8, ML4.1*
TAP ***10*** *22:52:10.2, 2413N×12227E, h22km, ML4.7*
TAP Felt I J at Chenggung, I J at Hehuanshan, I J at Nioudou, I J at Suao, II J at Nanau.
JMA ***10*** *22:52:10.2±0.2, 2458N×122.17E, h50km, M3.9*
ISC 10 22:52:09.7±0.4, 2407N±002×12230E±002, h12km±2km, n96, σ0:88/154, mb4.0/9, MS3.9/8, 9C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.57**	**295**	*eP*	**Pg**	**22 52 20.8**	**0.0**
EHP				S	**Sg**	**22 52 29.2**	**+0.9**
ENA	**Nanau**	**0.63**	**305**	P	**Pg**	**22 52 21.8**	**-0.1**
HWA	**Hwalien**	**0.64**	**262**	*eP*	**Pg**	**22 52 22.6**	**+0.4**
HWA				S	**Sg**	**22 52 32.1**	**+1.3**
TWD	**Chiawan**	**0.65**	**271**	P	**Pg**	**22 52 22.3**	**0.0**
TWD				S	**Sg**	**22 52 31.7**	**+0.9**
NACB	**Ninganchiao**	**0.66**	**280**	*ePn*	**Pn**	**22 52 23.1**	**-1.6**
TWC	**Suao**	**0.68**	**323**	⇓*iP*	**Pg**	**22 52 22.4**	**-0.5**
TWC				S	**Sg**	**22 52 30.6**	**-1.3**
ESF	**Shoufeng Towns**	**0.75**	**255**	*eP*	**Pg**	**22 52 24.2**	**-0.2**
ESF				S	**Sg**	**22 52 34.9**	**+0.7**
YOJ	**Yonaguni jima**	**0.76**	**58**	P	**Pg**	**22 52 25.0**	**+0.6**
YOJ				S	**Sg**	**22 52 35.8**	**+1.5**
YOJ	**Yonaguni jima**	**0.76**	**58**	⇓*iP*	**Pg**	**22 52 25.0**	**+0.6**
YOJ				S	**Sg**	**22 52 35.2**	**+0.8**
TEGC	**Jichi Village**	**0.78**	**243**	*eP*	**Pg**	**22 52 24.8**	**-0.1**
TEGC				S	**Sg**	**22 52 36.2**	**+1.1**
ESL	**Shilin**	**0.83**	**253**	P	**Pg**	**22 52 25.3**	**-0.5**
ESL				S	**Sg**	**22 52 36.4**	**-0.4**
ILA	**Ilan**	**0.86**	**324**	⇑*iP*	**Pg**	**22 52 26.4**	**+0.1**
ILA				S	**Sg**	**22 52 38.8**	**+1.2**
TWE	**Neicheng**	**0.87**	**318**	P	**Pg**	**22 52 26.0**	**-0.6**
TWE				S	**Sg**	**22 52 37.5**	**-0.5**
ENTT	**Nioudou**	**0.88**	**311**	⇓P	**Pg**	**22 52 26.5**	**-0.3**
ENTT				S	**Sg**	**22 52 38.2**	**-0.1**
NNS	**Nan Shan**	**0.93**	**294**	P	**Pg**	**22 52 27.4**	**-0.2**
NNS				S	**Sg**	**22 52 40.3**	**+0.5**
WHF	**Hehuan Shan**	**0.95**	**275**	P	**Pg**	**22 52 34.9**	**+0.7**
WHF				S	**Sg**	**22 52 40.1**	**-0.4**
TWB1	**Santiao Chiao**	**0.98**	**343**	*eP*	**Pb**	**22 52 28.0**	**-0.6**
TWB1				S	**Sg**	**22 52 40.6**	**-0.9**
YHNB	**Yeheng**	**1.04**	**306**	*ePn*	**Pn**	**22 52 29.1**	**-0.9**
TWT	**Tachien**	**1.05**	**280**	P	**Pb**	**22 52 29.9**	**+0.2**
TWT				S	**Sb**	**22 52 43.9**	**+0.6**
NSK	**Sanguang**	**1.05**	**305**	P	**Pb**	**22 52 29.3**	**-0.5**
NSK				S	**Sb**	**22 52 43.9**	**+0.3**
EHY	**Hungye**	**1.06**	**238**	*eP*	**Pb**	**22 52 28.5**	**-1.4**
EHY				S	**Sb**	**22 52 41.5**	**-2.2**
NWF	**Wu-fen Shan**	**1.11**	**335**	⇓*iP*	**Pb**	**22 52 30.3**	**-0.5**
NWF				S	**Sb**	**22 52 44.6**	**-0.5**
TWA	**Mucha**	**1.12**	**324**	*eP*	**Pb**	**22 52 31.0**	**0.0**
TWA				S	**Sb**	**22 52 46.1**	**+0.6**
TWF1	**Yuli**	**1.16**	**233**	*iP*	**Pb**	**22 52 30.5**	**-1.2**
TWF1				S	**Sb**	**22 52 45.2**	**-1.5**
TATO	**Taipei**	**1.17**	**321**	*ePn*	**Pn**	**22 52 31.5**	**-0.4**
TAP1	**Taipei**	**1.20**	**324**	*eP*	**Pn**	**22 52 32.1**	**-0.2**
TAP1				S	**Sb**	**22 52 48.8**	**+0.9**
CHKT	**Chengkung**	**1.29**	**222**	*eP*	**Pn**	**22 52 31.7**	**-1.8**
CHKT				S	**Sb**	**22 52 46.6**	**-3.8**
SMLT	**Sun Moon Lake**	**1.30**	**262**	⇑*iP*	**Pn**	**22 52 33.3**	**-0.3**
SMLT				S	**Sb**	**22 52 49.0**	**-1.6**
TWS1	**Kuangyinshan**	**1.31**	**322**	*eP*	**Pn**	**22 52 33.5**	**-0.2**
TWS1				S	**Sb**	**22 52 51.6**	**+0.7**
NSTT	**Nanjuang**	**1.31**	**296**	P	**Pn**	**22 52 33.8**	**0.0**
NSTT				S	**Sb**	**22 52 50.9**	**-0.2**
IRIF	**Iriomote-Funau**	**1.33**	**78**	P	**Pn**	**22 52 34.5**	**+0.5**
IRIF				S	**Sb**	**22 52 52.4**	**+0.8**
TYC	**Yuchr**	**1.33**	**263**	⇑*iP*	**Pn**	**22 52 33.7**	**-0.4**
TYC				S	**Sb**	**22 52 50.0**	**-1.6**
NCU	**National Centr**	**1.36**	**312**	*eP*	**Pn**	**22 52 34.1**	**-0.3**
NCU				S	**Sn**	**22 52 52.6**	**+0.2**
TWY	**Chenhua**	**1.36**	**332**	*eP*	**Pn**	**22 52 34.6**	**+0.1**
TWY				S	**Sn**	**22 52 52.2**	**-0.3**
YUS	**Yu-Shan**	**1.36**	**245**	P	**Pn**	**22 52 34.4**	**-0.1**
YUS				S	**Sn**	**22 52 51.3**	**-1.2**
HATJ	**Hateruma jima**	**1.37**	**90**	P	**Pn**	**22 52 36.3**	**+1.7**
HATJ				*eS*	**Sn**	**22 52 55.7**	**+3.0**
HSN	**Hsinchu**	**1.42**	**301**	*eP*	**Pn**	**22 52 35.3**	**0.0**
HSN				S	**Sn**	**22 52 53.4**	**-0.5**
TWQ1	**Liyutan**	**1.43**	**282**	*eP*	**Pn**	**22 52 35.5**	**+0.1**
TWQ1				S	**Sn**	**22 52 54.7**	**+0.7**
NSY	**Sanyi**	**1.45**	**284**	*eP*	**Pn**	**22 52 36.1**	**+0.4**
NSY				S	**Sn**	**22 52 55.2**	**+0.6**
ELDTW	**Lidau**	**1.47**	**234**	⇑*iP*	**Pn**	**22 52 34.7**	**-1.3**
ALS	**Alishan**	**1.48**	**248**	⇑*iP*	**Pn**	**22 52 36.4**	**+0.3**
ALS				S	**Sn**	**22 52 54.5**	**-0.9**
TCU	**Taichung**	**1.49**	**273**	*eP*	**Pn**	**22 52 36.7**	**+0.5**
TCU				S	**Sn**	**22 52 56.5**	**+1.0**
WNT	**Mingjian**	**1.49**	**263**	*eP*	**Pn**	**22 52 36.7**	**+0.4**
WNT				S	**Sn**	**22 52 56.4**	**+0.8**
CHN5	**Tsauling**	**1.56**	**253**	⇑*iP*	**Pn**	**22 52 37.8**	**+0.6**
CHN5				S	**Sn**	**22 52 57.7**	**+0.4**
JKRS	**Kuro-shima**	**1.57**	**83**	P	**Pn**	**22 52 38.4**	**+1.1**
PCYT	**Pengchaiyu**	**1.57**	**352**	P	**Pn**	**22 52 36.5**	**-0.8**
PCYT				S	**Sn**	**22 52 56.8**	**-0.8**
WGK	**Gukeng**	**1.64**	**257**	*eP*	**Pn**	**22 52 38.6**	**+0.3**
WGK				S	**Sn**	**22 52 59.7**	**+0.5**
TWG	**Pinlang**	**1.68**	**223**	P	**Pn**	**22 52 37.3**	**-1.5**
TWG				S	**Sn**	**22 52 56.9**	**-3.3**
STYT	**Tauyuan**	**1.68**	**238**	⇑*iP*	**Pn**	**22 52 38.9**	**0.0**
STYT				S	**Sn**	**22 52 59.7**	**-0.6**
TTN	**Taitung**	**1.68**	**219**	*eP*	**Pn**	**22 52 38.4**	**-0.5**
TTN				S	**Sn**	**22 52 59.4**	**-1.0**
JIJ	**Ishigaki jima**	**1.71**	**80**	P	**Pn**	**22 52 39.1**	**-0.1**
JIJ				S	**Sn**	**22 53 00.8**	**-0.1**
CHN4	**Tsaushan**	**1.72**	**246**	*eP*	**Pn**	**22 52 40.1**	**+0.7**
CHN4				S	**Sn**	**22 53 01.8**	**+0.5**
WTP	**Ta-pu**	**1.75**	**243**	⇑P	**Pn**	**22 52 40.4**	**+0.6**
WTP				S	**Sn**	**22 53 02.4**	**+0.4**
CHN2	**Minshiung**	**1.76**	**253**	*eP*	**Pn**	**22 52 40.2**	**+0.3**
CHN2				S	**Sn**	**22 53 03.4**	**+1.2**
CHY	**Chiayi**	**1.81**	**252**	*eP*	**Pn**	**22 52 41.0**	**+0.3**
CHY				S	**Sn**	**22 53 04.4**	**+0.8**
TWK	**Hsinying**	**1.84**	**245**	*eP*	**Pn**	**22 52 42.0**	**+0.9**
TWK				S	**Sn**	**22 53 05.0**	**+0.7**
CHN1	**Nanshi**	**1.85**	**242**	*eP*	**Pn**	**22 52 41.8**	**+0.7**
CHN1				S	**Sn**	**22 53 05.4**	**+1.0**
SGST	**Jiashian**	**1.86**	**239**	⇑P	**Pn**	**22 52 42.1**	**+0.9**
SGST				S	**Sn**	**22 53 06.0**	**+1.4**
WTCT	**Ta-ch'eng**	**1.86**	**264**	*eP*	**Pn**	**22 52 41.5**	**+0.1**
WTCT				S	**Sn**	**22 53 05.7**	**+0.9**
ECL	**Taimali**	**1.92**	**221**	*eP*	**Pn**	**22 52 40.8**	**-1.3**
ECL				S	**Sn**	**22 53 02.7**	**-3.4**
WSF	**Szhu**	**1.95**	**258**	*eP*	**Pn**	**22 52 43.0**	**+0.4**
WSF				S	**Sn**	**22 53 08.6**	**+1.6**
CHN8	**Yiju**	**2.05**	**250**	*eP*	**Pn**	**22 52 44.5**	**+0.6**
CHN8				S	**Sn**	**22 53 10.1**	**+0.7**
TWM1	**Shoushan**	**2.12**	**235**	*eP*	**Pn**	**22 52 45.8**	**+0.8**
SCLT	**Jiali**	**2.13**	**246**	*eP*	**Pn**	**22 52 45.7**	**+0.7**
SCLT				S	**Sn**	**22 53 12.6**	**+1.3**
LAY	**Lan-yu**	**2.13**	**199**	*eP*	**Pn**	**22 52 43.7**	**-1.4**
LAY				S	**Sn**	**22 53 07.8**	**-3.7**
SGLT	**Jiouru**	**2.13**	**232**	*eP*	**Pn**	**22 52 46.8**	**+1.7**
SGLT				S	**Sn**	**22 53 13.0**	**+1.5**
TAW	**Tawu**	**2.14**	**218**	*eP*	**Pn**	**22 52 44.4**	**-0.7**
EAST	**Anshuo**	**2.14**	**219**	*eP*	**Pn**	**22 52 44.0**	**-1.2**
TAI1	**Yung-k'ang**	**2.16**	**242**	*eP*	**Pn**	**22 52 46.2**	**+0.7**
TAI1				S	**Sn**	**22 53 12.9**	**+0.7**
SCZT	**Fangliau**	**2.29**	**223**	*eP*	**Pn**	**22 52 48.0**	**+0.7**
SCZT				S	**Sn**	**22 53 15.5**	**+0.1**
HEN	**Hengchun**	**2.51**	**215**	*eP*	**Pn**	**22 52 51.5**	**+1.2**
HEN				S	**Sn**	**22 53 19.6**	**-1.1**
TSEB	**Hengchuen, Pin**	**2.51**	**211**	*eP*	**Pn**	**22 52 50.5**	**+0.2**
TSEB				S	**Sn**	**22 53 21.0**	**+0.1**
PNG	**Penghu**	**2.56**	**259**	*eP*	**Pn**	**22 52 51.3**	**+0.2**
PNG				S	**Sn**	**22 53 21.6**	**-0.5**
QZH	**Quanzhou**	**3.49**	**285**	P	**Pn**	**22 53 02.6**	**-1.2**
QZH				Smax			
	comp=N,670nm,0.9s						
QZH				Smax			
	comp=E,830nm,1.1s						
KNM	**Kinmen**	**3.55**	**276**	*eP*	**Pn**	**22 53 05.7**	**+1.1**
KNM				S	**Sn**	**22 53 45.1**	**-1.4**
JOW	**Kunigami**	**6.06**	**62**	*eP*	**Pn**	**22 53 39.3**	**+0.2**
KSRS	**Korea Array**	**14.19**	**19**	LR	LR	23 01 21.9	
	comp=E,229nm,19.0s,baz=323,slow=40						
XAN	**Xi'an**	**15.34**	**313**	P	**Pn**	**22 55 51.2**	**+5.3**
XAN				AP	pP	22 55 59.1	+4.9
XAN				AMB	AMB		
	comp=Z,3.0nm,0.7s						
JHJ	**Hachijo jima 2**	**17.79**	**56**	LR	LR	23 03 03.5	
	comp=Z,156nm,18.2s,baz=320,slow=37						
MJAR	**Matsushiro Arr**	**18.49**	**44**	LR	LR	23 03 51.9	
	comp=Z,238nm,21.4s,baz=245,slow=38						
CMAR	**Chiang Mai Arr**	**22.46**	**260**	P	**P**	**22 57 08.3**	**-0.5**
	comp=Z,0.7nm,0.3s,mb3.5,baz=84,slow=8.5,SNR=2.6						
GTA	**Gaotai**	**24.40**	**314**	*eP*	**P**	**22 57 28.3**	**+0.5**
GTA				AP		22 57 32.2	
GTA				XP	sP	22 57 34.9	+1.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.7						
ASAJ	**Asahikawa**	**26.00**	**35**	LR	LR	23 08 52.6	
	comp=Z,162nm,18.6s,MS3.6,baz=191,slow=39						
SONM	**Songino Array**	**26.88**	**336**	P	**P**	**22 57 48.5**	**-1.8**
	comp=Z,3.5nm,0.8s,mb4.0,baz=147,slow=9.2,SNR=23						
SONM				LR	LR	23 09 57.1	
	comp=Z,440nm,18.1s,MS4.1,baz=149,slow=40						
SONM	**Songino Array**	**26.88**	**336**	P	**P**	**22 57 48.5**	**-1.8**
SONM				LR	LR	23 09 57.1	
MKAR	**Makanchi Array**	**39.13**	**316**	P	**P**	**22 59 35.5**	**-1.5**
	comp=Z,1.5nm,0.9s,mb3.7,baz=104,slow=11,SNR=7.6						
MKAR				LR	LR	23 17 17.7	
	comp=Z,147nm,19.0s,MS3.8,baz=262,slow=39						
PETK	**Petropavlovsk-**	**39.40**	**33**	LR	LR	23 16 01.5	
	comp=Z,81nm,19.5s,MS3.6,baz=78,slow=37						
ZALV	**Zalesovo Beam**	**40.90**	**327**	P	**P**	**22 59 47.7**	**-3.9**
	comp=Z,1.2nm,0.4s,mb3.9,baz=115,slow=8.8,SNR=6.6						
ZALV				LR	LR	23 18 08.3	
	comp=Z,200nm,18.1s,MS4.0,baz=230,slow=38						
ZALV	**Zalesovo Beam**	**40.90**	**327**	P	**P**	**22 59 47.7**	**-3.9**
ZALV				LR	LR	23 18 08.3	
WRA	**Warramunga Arr**	**45.29**	**164**	P	**P**	**23 00 26.7**	**-0.7**
	comp=Z,2.7nm,0.7s,mb4.2,baz=345,slow=8.7,SNR=13						
ASAR	**Alice Springs**	**48.77**	**166**	P	**P**	**23 00 54.2**	**-0.3**
	comp=Z,2.5nm,1.0s,mb4.2,baz=342,slow=4.3,SNR=11						
STKA	**Stephens Creek**	**58.61**	**161**	P	**P**	**23 02 05.8**	**-0.6**
	comp=Z,4.3nm,0.7s,mb4.6,baz=312,slow=3.4,SNR=6.5						
STKA	**Stephens Creek**	**58.61**	**161**	P	**P**	**23 02 05.8**	**-0.6**
ARCES	**ARCESS Array B**	**70.03**	**338**	LR	LR	23 40 54.6	
	comp=Z,62nm,18.9s,MS3.9,baz=194,slow=42						
NOA	**NORSAR Array B**	**78.81**	**332**	LR	LR	23 42 52.0	
	comp=Z,119nm,18.2s,MS4.3,baz=45,slow=39						
GERES	**GERESS Array B**	**83.58**	**321**	P	**P**	**23 04 36.7**	**-1.0**
	comp=Z,0.7nm,0.8s,mb3.8,baz=44,slow=4.4,SNR=5.7						
GERES				LR	LR	23 46 01.1	
	comp=Z,60nm,19.4s,MS4.0,baz=334,slow=39						

IDC ***10*** *23:30:45.2±2.0, 2805S×13928E, h0km, mb3.5/4, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, ML4.0/2, MS3.5/3, Ms1 3.5/3, ms1mx3.1/21, Error ellipse: s-maj=54.7km s-min=30.2km az=89.0*
NEIC ***10*** *23:30:47.5±0.9, 2805S×13958E, h35km, mb4.0/3, Error ellipse: s-maj=42.0km s-min=13.1km az=109.0*
ISCJB ***10*** *23:30:49.7±3.1, 2965S±010×1391E±02, h38km±29km, mb4.2/5, MS3.3/2, Error ellipse: s-maj=30.5km s-min=15.6km az=11.0*
ISC 10 23:30:49.3±5.1, 29S±01×1392E±02, h23km±39km, n15, σ0:75/15, mb4.2/5, MS3.3/2, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.84**	**214**	*eP*	**Pn**	**23 33 36.8**	**0.0**
	22nm,0.9s						
KAKA				*eS*	**Sn**	**23 35 48.2**	**-0.1**
BATI	**Baumata**	**17.08**	**244**	P	**Pn**	**23 34 47.9**	**+1.1**
	2.4nm,0.3s,baz=40,slow=7.9,SNR=2.3						
WRAB	**Tennant Creek**	**17.58**	**195**	*ePn*	**Pn**	**23 34 52.3**	**-0.7**
	4.5nm,0.8s						
WB2	**Warramunga Arr**	**17.59**	**195**	*eP*	**Pn**	**23 34 53.4**	**+0.3**
WRA	**Warramunga Arr**	**17.60**	**195**	P	**Pn**	**23 34 52.5**	**-0.7**
	0.3nm,0.3s,baz=16,slow=13,SNR=20						
WRA				S	**Sn**	**23 38 04.4**	**-4.2**
	0.1nm,0.3s,baz=1.7,slow=24,SNR=3.6						
CTA	**Charters Tower**	**18.40**	**159**	LR	LR	23 42 43.2	
	comp=Z,155nm,18.6s,baz=230,slow=39						
FITZ	**Fitoy Crossi**	**20.14**	**220**	*eP*	**P**	**23 35 21.2**	**-0.8**
	5.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.14**	**220**	P	**P**	**23 35 21.0**	**-1.0**
	1.4nm,0.7s,baz=44,slow=17,SNR=5.4						
FITZ				LR	LR	23 43 37.5	
	comp=Z,78nm,19.0s,MS3.1,baz=207,slow=38						
ASAR	**Alice Springs**	**21.27**	**194**	P	**P**	**23 35 35.0**	**+0.8**
	1.0nm,0.5s,mb3.4,baz=27,slow=10,SNR=13						
STKA	**Stephens Creek**	**28.91**	**176**	LR	LR	23 49 26.6	
	comp=Z,147nm,19.6s,MS3.6,baz=211,slow=39						
MKAR	**Makanchi Array**	**70.26**	**322**	P	**P**	**23 41 60.0**	**-0.7**
	0.4nm,0.8s,mb3.4,baz=108,slow=9.3,SNR=2.8						
UNV	**Unalaska Valle**	**72.24**	**30**	*eP*	**P**	**23 42 06.7**	**-5.8**
	68nm,1.5s,mb5.4						
VNDA	**Vanda**	**75.54**	**175**	P	**P**	**23 42 32.5**	**+1.0**
	0.8nm,0.8s,mb3.7,baz=330,slow=6.2,SNR=3.9						
VNDA	**Vanda**	**75.54**	**175**	P	**P**	**23 42 32.5**	**+1.0**
PNL	**Peninsula**	**88.13**	**30**	*eP*	**P**	**23 43 32.3**	**-5.7**
	11nm,1.2s,mb5.0						

ISCJB ***10*** *23:43:43.7±0.9, 1787S±007×17839W±008, h499km±11km, mb4.5/32, Error ellipse: s-maj=13.4km s-min=9.1km az=32.2*
MOS ***10*** *23:43:43.4±1.5, 1778S×17867W, h475km, mb4.2/5, Error ellipse: s-maj=12.7km s-min=11.8km az=161.0*
SZGRF ***10*** *23:43:43.1, 1856S×17873W, h500km, Fiji Islands region*
NEIC ***10*** *23:43:44.6±0.9, 1784S×17841W, h493km±9km, mb4.6/12, Error ellipse: s-maj=13.4km s-min=9.3km az=130.0*
DJA ***10*** *23:43:44, 1798S×17842W, h497km, mb5.0/14*
BJI ***10*** *23:43:45.0, 1780S×17840W, h523km, mB4.6, mb4.6*
IDC ***10*** *23:43:45.3±1.3, 1785S×17840W, h505km±14km, mb3.9/15, mb1 4.0/16, mb1mx4.0/20, mbtmp3.9/16, Error ellipse: s-maj=13.0km s-min=10.4km az=131.0*
ISC 10 23:43:44.9±0.8, 1786S±007×17837W±008, h500km±10km, h523km±7.5km: pP-P, n188, σ0:79/72, mb4.5/32, 21C-19D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.46**	**59**	P	**P**	**23 45 35.4**	**-0.4**
	11nm,0.3s,baz=96,slow=5.1,SNR=11						
AFI	**Afiamalu**	**7.46**	**59**	*eP*	**P**	**23 45 35.5**	**-0.3**
AFI				pmax	pmax		
	comp=Z,40nm,0.4s						
AFI	**Afiamalu**	**7.46**	**59**	*eP*	**P**	**23 45 35.5**	**-0.3**
	comp=Z,40nm,0.4s						
FUNA	**Funafuti**	**9.58**	**345**	*eP*	**P**	**23 45 57.9**	**0.0**
	comp=Z,230nm,0.6s						
RAO	**Raoul Island**	**11.35**	**178**	P	**P**	**23 46 16.2**	**-0.2**
	comp=Z,226nm,0.3s,baz=281,slow=22,SNR=23						
RAO	**Raoul Island**	**11.35**	**178**	*eP*	**P**	**23 46 16.8**	**+0.5**
DZM	**Mont Dzumac**	**14.88**	**251**	*eP*	**P**	**23 46 54.0**	**+0.2**
URZ	**Urewera**	**20.70**	**190**	P	**P**	**23 47 48.2**	**-1.5**
	comp=Z,40nm,0.3s,baz=344,slow=1.7,SNR=64						
URZ				S	**S**	**23 51 01.2**	**-7.2**
	comp=Z,9.4nm,0.8s,baz=197,slow=20,SNR=2.8						
SNZO	**South Karori**	**24.11**	**193**	*eP*	**P**	**23 48 19.6**	**-0.6**
ARMA	**Armidale**	**30.00**	**240**	*eP*	**P**	**23 49 13.4**	**+1.2**
CTA	**Charters Tower**	**33.49**	**260**	*eP*	**P**	**23 49 42.2**	**0.0**
	comp=Z,27nm,0.8s,mb4.7						
CTA	**Charters Tower**	**33.49**	**260**	P	**P**	**23 49 42.6**	**+0.4**
	comp=Z,38nm,0.6s,mb5.0,baz=88,slow=10.0,SNR=34						
CTA	**Charters Tower**	**33.49**	**260**	P	**P**	**23 49 42.6**	**+0.4**
CTA				pmax	pmax		
	comp=Z,38nm,0.6s						
PMG	**Port Moresby**	**34.49**	**279**	*eP*	**P**	**23 49 51.8**	**+1.1**
PMG	**Port Moresby**	**34.49**	**279**	*eP*	**P**	**23 49 51.1**	**+0.4**
	comp=Z,42nm,0.9s,mb4.9						
TOO	**Toolangi**	**37.23**	**231**	⇑*iP*	**P**	**23 50 14.7**	**+1.6**
STKA	**Stephens Creek**	**38.69**	**241**	*eP*	**P**	**23 50 26.1**	**+1.0**
	comp=Z,42nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**38.69**	**241**	P	**P**	**23 50 26.2**	**+1.1**
	comp=Z,51nm,0.7s,mb5.1,baz=86,slow=8.7,SNR=89						
WB2	**Warramunga Arr**	**44.67**	**259**	*eP*	**P**	**23 51 11.8**	**-0.9**
WRAB	**Tennant Creek**	**44.67**	**259**	*eP*	**P**	**23 51 11.8**	**-0.9**
WRA	**Warramunga Arr**	**44.68**	**259**	P	**P**	**23 51 12.1**	**-0.7**
	comp=Z,19nm,0.5s,mb4.8,baz=96,slow=6.9,SNR=310						
WRA				PcP	PcP	23 52 44.4	-0.4
	comp=Z,2.2nm,0.5s,baz=97,slow=3.3,SNR=4.5						
WRA				ScP	ScP	23 55 48.5	-0.7
	comp=Z,1.0nm,0.8s,baz=85,slow=4.3,SNR=3.1						
WRA	**Warramunga Arr**	**44.68**	**259**	P	**P**	**23 51 12.1**	**-0.7**
WRA				pP		23 52 44.4	-1.3
ASAR	**Alice Springs**	**44.84**	**254**	P	**P**	**23 51 14.0**	**0.0**
	comp=Z,179nm,0.6s,baz=91,slow=8.6,SNR=1279						
ASAR				PcP	PcP	23 52 45.0	-0.3
	comp=Z,3.7nm,0.5s,baz=98,slow=5.2,SNR=3.9						
ASAR				ScP	ScP	23 55 51.2	+1.4
	comp=Z,0.8nm,0.8s,baz=104,slow=5.8,SNR=4.4						
ASAR				S	**S**	**23 57 11.4**	**-3.3**
	comp=Z,1.6nm,0.8s,baz=95,slow=17,SNR=7.6						
ASAR	**Alice Springs**	**44.84**	**254**	P	**P**	**23 51 14.0**	**0.0**
ASAR				pP		23 52 45.1	-1.9
ASAR				S	**S**	**23 57 11.4**	**-3.3**
KAKA	**Kakadu**	**47.62**	**269**	⇑*iP*	**P**	**23 51 34.8**	**-0.5**
	comp=Z,38nm,0.4s,mb5.1						
GUMO	**Guam**	**47.88**	**308**	P	**P**	**23 51 37.8**	**+0.7**
	baz=166,slow=13						
FORT	**Forrest**	**50.06**	**245**	*eP*	**P**	**23 51 52.7**	**-0.5**
	comp=Z,73nm,0.5s,mb5.3						
FITZ	**Fitzroy Crossi**	**53.08**	**260**	*eP*	**P**	**23 52 14.9**	**-0.3**
	comp=Z,7.9nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.08**	**260**	P	**P**	**23 52 15.4**	**+0.1**
	comp=Z,4.1nm,0.3s,mb4.2,baz=75,slow=6.0,SNR=60						
KLBR	**Kellerberrin**	**58.88**	**244**	*eP*	**P**	**23 52 54.4**	**-0.9**
	comp=Z,25nm,0.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**59.27**	**242**	*eP*	**P**	**23 52 57.6**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**59.27**	**242**	*eP*	**P**	**23 52 57.6**	**-0.3**
	comp=Z,7.7nm,0.6s,mb4.2						
MUN	**Mundaring**	**60.18**	**243**	*eP*	**P**	**23 53 04.1**	**+0.1**
VNDA	**Vanda**	**60.49**	**185**	P	**P**	**23 53 07.0**	**+1.7**
	comp=Z,3.6nm,1.1s,mb3.7,baz=360,slow=7.0,SNR=16						
VNDA	**Vanda**	**60.49**	**185**	P	**P**	**23 53 07.0**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
VNDA	**Vanda**	**60.49**	**185**	*eP*	**P**	**23 53 06.4**	**+1.1**
	comp=Z,7.6nm,1.4s,mb3.9						
MJAR	**Matsushiro Arr**	**67.89**	**323**	P	**P**	**23 53 52.5**	**-0.5**
	comp=Z,6.3nm,0.7s,mb4.3,baz=156,slow=6.2,SNR=18						
MAJO	**Matsushiro**	**67.89**	**323**	*eP*	**P**	**23 53 52.8**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
MAJO	**Matsushiro**	**67.89**	**323**	*eP*	**P**	**23 53 52.8**	**-0.2**
	comp=Z,14nm,1.0s,mb4.6						
KSM	**Kuching**	**72.72**	**277**	*eP*	**P**	**23 54 22.1**	**-0.1**
PETK	**Petropavlovsk-**	**73.64**	**345**	P	**P**	**23 54 25.9**	**-0.6**
	comp=Z,2.6nm,0.6s,mb3.9,baz=126,slow=8.1,SNR=8.0						
PETK	**Petropavlovsk-**	**73.64**	**345**	P	**P**

comp=Z,9.0nm,0.6s
NOA NORSAR Array B 136.34 353 PKhKP 00 02 01.9
comp=Z,0.7nm,0.7s,baz=20,slow=2.5,SNR=4.1
NOA NORSAR Array B 136.34 353 PKHKP 00 02 01.9
NOA pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 140.54 332 PKhKP 00 02 09.7
comp=Z,1.5nm,0.4s,baz=42,slow=4.2,SNR=11
AKASG Malin Array Be 140.54 332 PKHKP 00 02 09.7
AKASG pmax pmax
comp=Z,2.0nm,0.4s
MALT Malatya 142.02 310⇓iP PKPdf 00 02 17.6 -2.2
BSEG Bad Segeberg 143.37 351 ePKHKP 00 02 18.9
BSEG Bad Segeberg 143.37 351 ePKPbc PKPdf 00 02 18.9 -2.7
LVV L'vov 143.38 336 ePKHKP 00 02 18.8
KWP Kalwaria 144.04 337 ePKP PKPdf 00 02 21.2 -1.8
KWP Kalwaria 144.04 337⇑iP PKPdf 00 02 21.4 -1.5
KWP Kalwaria 144.04 337 ePKP PKPdf 00 02 21.2 -1.7
OJC Ojcow 144.58 340 ePKP PKPdf 00 02 23.1 -0.7
BURAR Bucovina Array 144.59 332⇑iP PKPdf 00 02 24.2 +0.3
BURAR Bucovina Array 144.59 332 ⇑P PKPdf 00 02 24.2 +0.2
UZH Uzhgorod 145.02 336d iPKIKP PKPdf 00 02 24.8 +0.2
ODB Odobesti 145.06 328⇓iP PKPdf 00 02 27.7 +2.9
KSP Ksiaz 145.08 344 ePKP PKPdf 00 02 25.1 +0.4
KSP Ksiaz 145.08 344 ePKP PKPdf 00 02 24.9 +0.2
NIE Niedzica 145.09 339 ePKP PKPdf 00 02 25.4 +0.7
VRI Vrincioaia 145.16 329⇑iP PKPdf 00 02 25.4 +0.4
PLOR Plostina 145.21 329⇓iP PKPdf 00 02 25.8 +0.7
TIRR Tirgusor 145.25 326⇓iP PKPdf 00 02 25.6 +0.4
ANTO Ankara 145.28 316⇑iP PKPdf 00 02 25.8 +0.4
ANTO Ankara 145.28 316 ⇑P PKPdf 00 02 25.8 +0.5
IBBN Ibbenburen 145.29 353 ePKPbc PKPbc 00 02 25.5 -0.5
HARR Harsova 145.36 326⇑iP PKPdf 00 02 26.9 +1.5
CLZ Clausthal 145.40 350 ePKIKP PKPdf 00 02 25.5 +0.3
CLZ Clausthal 145.40 350 ePKPbc PKPbc 00 02 25.5 -0.8
CLL Collm 145.43 347⇓iPKIKP PKPdf 00 02 25.3 0.0
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 145.43 347 ePKPbc PKPbc 00 02 25.3 -1.1
CLL Collm 145.43 347⇓iPKPbc PKPbc 00 02 25.3 -1.1
comp=Z,18nm,1.0s
CLL ex x 00 02 34.0
CLL epPKPbc 00 04 24.0
OKC Ostrava-Krasne 145.44 341 ePKP PKPdf 00 02 26.2 +0.9
UPC Upice 145.46 344 ePKP PKPdf 00 02 26.4 +1.1
DPC Dobruska-Polom 145.52 343 ePKP PKPdf 00 02 26.6 +1.2
BRG Berggiesshubel 145.63 346 ePKIKP PKPdf 00 02 26.7 +1.1
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 145.63 346 ePKP PKPdf 00 02 26.7 +1.1
comp=Z,11nm,0.9s
MORC Moravsky Berou 145.68 342⇓iP PKPdf 00 02 26.7 +1.0
MORC Moravsky Berou 145.68 342 ⇓P PKPdf 00 02 26.7 +1.0
MORC ePKPab PKPab 00 02 26.9 -1.6
MLR Muntele Rosu 145.81 329⇑iP PKPdf 00 02 27.2 +1.1
PRU Pruhonice 146.31 345 ePKP PKPdf 00 02 28.7 +1.9
DRGR 146.32 334⇓iP PKPdf 00 02 28.6 +1.7
DRGR 146.32 334 ⇓P PKPdf 00 02 28.6 +1.7
MOX Moxa 146.33 349 ePKPbc PKPbc 00 02 27.4 -1.6
VRAC Vranov 146.38 342⇓iP PKPdf 00 02 28.5 +1.6
VRAC Vranov 146.38 342 ⇓P PKPdf 00 02 28.5 +1.6
PSZ Piszkesteto 146.51 338⇓iP PKPdf 00 02 29.3 +2.1
PSZ Piszkesteto 146.51 338 ePKPbc PKPbc 00 02 29.3 -0.3
NKC Novy Kostel 146.56 347 ePKP PKPbc 00 02 29.3 -0.3
TREC Trest 146.70 343 ePKP PKPbc 00 02 29.9 -0.1
MANZ Manzenberg 146.86 348 ePKPbc PKPbc 00 02 29.9 -0.6
ROTZ Rotzenmuhle 147.05 347 ePKPbc PKPbc 00 02 30.6 -0.4
MEM Membach 147.14 355 PKPab PKPab 00 02 30.8 -3.6
TNS Taunus Mts 147.26 352 ePKIKP PKPbc 00 02 31.1 -0.4
TNS Taunus Mts 147.26 352 ePKPbc PKPbc 00 02 31.1 -0.4
GRA1 Grafenberg Arr 147.32 348 ePKPbc PKPbc 00 02 31.6 -0.1
GRA1 ePKPab PKPab 00 02 35.0 -0.1
GRF Grafenberg Arr 147.32 348 ePKIKP PKPbc 00 02 31.6 -0.1
GRF e 00 02 35.0
GRF Grafenberg Arr 147.32 348 ePKPbc PKPbc 00 02 31.6 -0.1
GRF ePKPab PKPab 00 02 35.0 -0.1
KHC Kasperske Hory 147.34 345⇑iPKHKP 00 02 27.6
KHC Kasperske Hory 147.34 345 ePKP PKPbc 00 02 31.6 -0.2
WET Wettzell 147.49 346 ePKIKP PKPbc 00 02 31.6 -0.6
WET e 00 02 35.6
WET Wettzell 147.49 346 ePKPbc PKPbc 00 02 31.6 -0.6
WET ePKPab PKPab 00 02 35.6 -0.2
GEC2 GERESS Array S 147.58 345 ePKIKP PKPbc 00 02 31.7 -0.7
GEC2 e 00 02 36.0
GEC2 GERESS Array S 147.58 345 ePKPbc PKPbc 00 02 31.7 -0.7
GEC2 ePKPab PKPab 00 02 36.0 -0.2
GERES GERESS Array B 147.58 345 PKPbc PKPbc 00 02 32.1 -0.3
comp=Z,6.4nm,0.6s,baz=23,slow=3.0,SNR=62
BZS Buzias 147.71 333⇓iP PKPbc 00 02 31.9 -0.9
BZS Buzias 147.71 333 ⇓P PKPbc 00 02 31.9 -0.9
GIVF Givet 147.74 356 ePKP1 PKPbc 00 02 31.9 -0.8
BAIF Baives 147.81 357 ePKP1 PKPbc 00 02 32.3 -0.6
comp=Z,14nm,0.7s
CONA Conrad Observa 147.83 342⇑iP PKPbc 00 02 33.2 +0.1
comp=Z,17nm,1.2s
CONA Conrad Observa 147.83 342⇑iP PKPbc 00 02 33.2 +0.1
CSNA Conrad Observa 147.83 342⇑iP PKPbc 00 02 33.2 +0.2
comp=Z,16nm,1.2s
WLF Walferdange 148.07 354 PKPab PKPbc 00 02 33.6 0.0
WLF Walferdange 148.07 354 ePKPbc PKPbc 00 02 33.7 +0.1
PKSM Moragy 148.41 337⇓iP PKPbc 00 02 33.5 -1.1
PKSM Moragy 148.41 337 ⇓P PKPbc 00 02 33.5 -1.1
STU Stuttgart 148.56 350 ePKPbc PKPbc 00 02 34.5 -0.4
FUR Furstenfeldbru 148.77 348 ePKHKP 00 02 35.1
FUR e 00 02 41.5
FUR Furstenfeldbru 148.77 348 ePKPbc PKPbc 00 02 35.1 -0.3
FUR ePKPab PKPab 00 02 41.5 +0.4
RJOB Jochberg 148.83 345 ePKPbc PKPbc 00 02 34.9 -0.7
RJOB ePKPab PKPab 00 02 41.2 -0.2
ALN Alexandroupoli 148.90 323 eP PKPbc 00 02 34.4 -1.5
BFO Black Forest 149.12 351 ePKHKP 00 02 35.4
BFO Black Forest 149.12 351 ePKPbc PKPbc 00 02 35.4 -0.9
FLN La Foliniere 149.13 3 ePKP1 PKPbc 00 02 35.0 -1.3
comp=Z,35nm,1.1s
CDF Champ du Feu 149.18 353 ePKP1 PKPbc 00 02 35.6 -0.8
comp=Z,7.6nm,0.5s
SOKA Soboth 149.21 342⇑iP PKPbc 00 02 35.6 -0.9
comp=Z,11nm,1.5s
VTS Vitosha 149.27 328⇑iP PKPbc 00 02 36.3 -0.5
MEZF Maizieres J'vi 149.31 356 ePKP1 PKPbc 00 02 36.0 -0.7
LDF La Druitiere 149.31 2 ePKP1 PKPbc 00 02 35.4 -1.3
comp=Z,6.0nm,0.4s
GRR Gorron 149.49 3 ePKP1 PKPbc 00 02 36.0 -1.1
comp=Z,8.5nm,0.5s
SGMF Saint Gilles 149.50 6 ePKP1 PKPbc 00 02 35.8 -1.4
HAU Haudompre 149.69 354 ePKP1 PKPbc 00 02 36.6 -1.0
comp=Z,6.9nm,0.5s
PRK Paraskevi 149.81 320 eP PKPbc 00 02 36.0 -2.2
HINF Hinteralfeld 149.82 353 ePKP1 PKPbc 00 02 36.7 -1.2
comp=Z,7.6nm,0.8s
DAVA Damuels 149.88 349⇑iP PKPbc 00 02 36.7 -1.4
comp=Z,11nm,0.9s
OUR Ouranopolis 150.45 324 eP PKPbc 00 02 38.1 -1.6
CHOS Chios island 150.46 319 eP PKPbc 00 02 38.8 -1.0
LOR Lormes 150.62 357 ePKP1 PKPbc 00 02 38.9 -0.9
comp=Z,11nm,0.4s
SSF Saint Saulge 150.84 357 ePKP1 PKPbc 00 02 39.4 -0.9
comp=Z,10.0nm,0.5s
CABF La Chapelle 151.10 354 ePKP1 PKPbc 00 02 40.5 -0.4
AVF Avril sur Loir 151.12 358 ePKP1 PKPbc 00 02 39.6 -1.4
SMF Signal de Mont 151.24 357 ePKP1 PKPbc 00 02 39.9 -1.4
MFF Saint Martin d 151.30 3 ePKP1 PKPbc 00 02 40.2 -1.2
comp=Z,18nm,0.9s
BGF Bois d'Agland 151.37 358 ePKP1 PKPbc 00 02 40.5 -1.1
comp=Z,7.9nm,0.5s
FNA Florina 151.53 327 eP PKPbc 00 02 40.8 -1.3
APE Apeiranthos 151.58 317⇑iP PKPbc 00 02 39.7 -2.6
TCF Toulx Ste Croi 151.65 359 ePKP1 PKPbc 00 02 41.0 -1.2
comp=Z,10nm,0.9s
LPL La Plagne 152.10 352 ePKP1 PKPbc 00 02 43.1 -0.1
LPG La Plagne 152.12 352 ePKP1 PKPbc 00 02 43.2 -0.1
RJF Les Rejaudoux 152.64 0 ePKP1 PKPbc 00 02 44.0 -0.4
comp=Z,13nm,1.1s
TORD Torodi Ar. Bea 175.31 181 PKP PKPdf 00 02 56.1 -1.6
comp=Z,1.5nm,0.8s,baz=69,slow=0.8,SNR=7.8
TORD PKPab PKPab 00 04 36.9 -0.5
comp=Z,0.5nm,1.0s,baz=198,slow=3.6,SNR=5.4

*IDC **10** 23:56:41.1±0.9, 774S×10792E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, MS3.9/2, Ms1 3.9/2, ms1mx2.9/31, Error ellipse: s-maj=40.2km s-min=19.6km az=52.0*

*NEIC **10** 23:56:46.2±0.6, 770S×10797E, h35km, Error ellipse: s-maj=28.9km s-min=14.0km az=46.0*

NEIC Felt [III] at Pangandaran.

*DJA **10** 23:56:49, 815S×10790E, h39km, ML4.6/5*

*ISCJB **10** 23:56:52.9±2.3, 77S±02×1083E±02, h111km±20km, mb3.7/7, Error ellipse: s-maj=41.3km s-min=18.3km az=141.2*

ISC 10 23:56:52.2±2.7, 78S±02×1081E±02, h86km±24km, n14, σ1§14/12, mb3.7/7, 1C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	1.64	75⇓	eP	Pn	23 57 20.5	+0.9
BJII				eS	Sn	23 57 43.4	+3.0
YOGI	Yogyakarta	2.16	91⇑	eP	Pn	23 57 25.4	-1.0
YOGI				eS	Sn	23 57 51.5	-1.1
PSI	Prapat	13.94	319	LR	LR	00 06 27.0	
	comp=Z,77nm,18.8s,baz=208,slow=43						
FITZ	Fitzroy Crossi	19.91	123	P	Pn	00 01 16.5	-3.1
	2.2nm,0.7s,baz=304,slow=7.3,SNR=4.6						
WRA	Warramunga Arr	28.14	118	P	P	00 02 36.2	-0.3
	0.3nm,0.5s,mb3.1,baz=286,slow=12,SNR=3.7						
ASAR	Alice Springs	29.34	126	P	P	00 02 48.5	+1.4
	0.4nm,0.8s,mb3.1,baz=312,slow=8.0,SNR=3.9						
STKA	Stephens Creek	39.31	132	P	P	00 04 13.8	+0.8
	1.5nm,0.5s,mb4.1,baz=318,slow=8.6,SNR=2.9						
SONM	Songino Array	55.38	359	P	P	00 06 17.3	-0.1
	0.5nm,0.5s,mb3.9,baz=174,slow=9.5,SNR=4.9						
SONM				PcP	PcP	00 07 17.2	+0.4
	1.0nm,0.4s,baz=174,slow=3.7,SNR=8.5						
MKAR	Makanchi Array	58.98	340	P	P	00 06 41.9	-0.9
	1.6nm,0.6s,mb4.2,baz=146,slow=8.4,SNR=7.8						
VNDA	Vanda	75.01	170	P	P	00 08 24.0	+0.1
	0.2nm,0.4s,mb3.2,baz=329,slow=5.9,SNR=2.7						
AFI	Afiamalu	78.62	103	LR	LR	00 44 36.1	
	comp=Z,330nm,18.8s,baz=145,slow=36						
BOSA	Boshof	80.08	242	P	P	00 08 53.4	+0.3
	3.5nm,0.9s,mb4.2,baz=106,slow=5.8,SNR=3.1						
TORD	Torodi Ar. Bea	107.65	281	PKiKP	PKiKP	00 15 09.6	-0.8
	1.8nm,1.4s,baz=40,slow=0.3,SNR=5.4						
TXAR	Lajitas Array	143.23	50	PKP	PKPdf	00 16 15.9	-1.3
	0.1nm,0.5s,baz=231,slow=1.3,SNR=5.1						

PRE 11 00:11:44.9±1.0, 2152S×3320E, h5km, ML4.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	Messina	3.06	254	eP	Pn	00 12 35.2	+1.3
MSNA				eS	Sn	00 13 11.8	+0.8
MSNA				AML	AML	00 13 28.6	
	comp=Z,294nm,0.6s						
POGA	Pongola	6.00	194	eP	Pn	00 13 15.4	+1.0
POGA				eS	Sn	00 14 19.9	-3.6
POGA				AML	AML	00 15 05.6	
	comp=Z,34nm,0.4s						
SLR	Silverton	6.16	226	eP	Pn	00 13 17.9	+1.4
SLR				eS	Sn	00 14 25.2	-2.2
SLR				AML	AML	00 15 09.7	
	comp=Z,108nm,0.5s						
KSR	Koster	7.21	232	eP	Pn	00 13 31.4	+0.5
KSR				eS	Sn	00 14 50.6	-2.6
KSR				AML	AML	00 15 05.6	
	comp=Z,30nm,0.5s						
PRYS	Parys	7.57	224	eP	Pn	00 13 36.7	+0.8
PRYS				eS	Sn	00 14 59.2	-3.0
PRYS				AML	AML	00 15 42.1	
	comp=Z,12nm,0.5s						
LBTB	Lobatse	7.80	242	eP	Pn	00 13 40.2	+1.1
LBTB				eS	Sn	00 15 04.0	-4.0
LBTB				AML	AML	00 15 15.7	
	comp=Z,18nm,0.7s						
BOSA	Boshof	10.08	224	eP	Pn	00 14 11.1	+0.7
BOSA				eS	Sn	00 15 58.4	-5.5
BOSA				AML	AML	00 17 09.2	
	comp=Z,16nm,0.7s						
UPI	Upington	12.79	235	eP	Pn	00 14 49.2	+1.7
UPI				eS	Sn	00 17 04.2	-6.1
UPI				AML	AML	00 17 10.1	
	comp=Z,28nm,0.7s						

*CSEM **11** 00:15:18.8±0.1, 3466N×3227E, h10km, Mw3.1, Error ellipse: s-maj=1.9km s-min=1.4km az=98.0*

*HLW **11** 00:15:19.1, 3500N×3237E, h30km, Mb3.4*

*ISCJB **11** 00:15:19.4±0.6, 3465N±002×3227E±003, h12km±5km, Error ellipse: s-maj=4.6km s-min=3.7km az=13.7*

*ISK **11** 00:15:19.1, 3480N×3231E, h5km, MD3.7*

*NIC **11** 00:15:21.6±0.4, 3479N×3225E, h30km, ML3.4, MW3.1*

NIC Felt earthquake; Maximum Intensity 2; Felt I=II MM at Emba, Pafos.

*GII **11** 00:15:22.6±0.0, 3454N×3250E, h0km, mb4.0/1, ML3.6/20*

ISC 11 00:15:20.1±0.7, 3467N±002×3230E±003, h6km±5km, n56, σ0§87/84, 1C-12D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.22	10⇓	iP	Pg	00 15 24.9	+0.5
AKMC	Akamas	0.36	4⇓	iP	Pg	00 15 26.8	-0.3
SZAC	Souni-Zanaja	0.49	80	P	Pg	00 15 30.1	+0.6
SZAC				S	Sg	00 15 37.9	+2.0
ALFC	Alevga	0.55	27	⇓P	Pg	00 15 29.4	-1.2
	67nm,0.1s						
ALFC				S	Sg	00 15 36.7	-1.0
ALFC	Alevga	0.55	27	⇓eP	Pg	00 15 29.4	-1.2
	67nm,0.1s						
LEF	Lefka	0.66	47	ePG	Pg	00 15 30.4	-2.4
LEF				eSG	Sg	00 15 39.6	-1.9
CSS	Prodhromos	0.90	71	⇑P	Pg	00 15 36.7	-0.6
	17nm,0.4s						
CSS				S	Sg	00 15 50.3	+1.3
CSS	Prodhromos	0.90	71	ePG	Pg	00 15 36.9	-0.4
CSS				eSG	Sg	00 15 49.8	+0.8
CSS	Prodhromos	0.90	71	ePg	Pg	00 15 36.9	-0.4
CSS				eSg	Sg	00 15 49.8	+0.8
CSS				S	Sg	00 15 50.3	+1.3
CSS	Prodhromos	0.90	71	Pg	Pg	00 15 37.1	-0.3
CSS				Sg	Sg	00 15 50.0	+1.0
MAMC	Mammari	0.91	56	P	Pg	00 15 36.1	-1.4
LFK	Lefkose	1.18	59	ePN	Pn	00 15 41.2	-2.0
PHNC	Paralimni	1.46	76	P	Pn	00 15 47.6	+0.5
PHNC				S	Sn	00 16 08.3	+1.7
EREN	Erenkoy	1.76	60	ePN	Pn	00 15 51.5	+0.4
IKL	Isikli	1.93	35	ePN	Pn	00 15 52.0	-1.5
HDMB	Hadim	2.29	4	ePN	Pn	00 15 58.2	-0.3
MERS	Mersin	2.84	39	ePN	Pn	00 16 06.3	+0.3
MERS	Mersin	2.84	39	ePn	Pn	00 16 06.3	+0.2
ELL	Elmali	2.84	318	ePN	Pn	00 16 05.9	-0.2
HNTI	Hanita	2.87	123	Pn	Pn	00 16 06.1	-0.3
HNTI				Sn	Sn	00 16 40.8	-0.4
OFRI	'Ofer	3.03	132	Pn	Pn	00 16 08.6	0.0
OFRI				Sn	Sn	00 16 45.4	+0.1
MMA0	Mount Meron ar	3.06	122	Pn	Pn	00 16 08.7	-0.4
MMA0				Sn	Sn	00 16 45.3	-0.8
HRI	Mount Hermon	3.18	115	Pn	Pn	00 16 10.9	+0.2
HRI				Sn	Sn	00 16 48.7	-0.2
KONT	Konya--Tatoy	3.27	1	ePN	Pn	00 16 11.8	-0.2
SLTI	Sal'it	3.33	136	Pn	Pn	00 16 13.1	+0.2
SLTI				Sn	Sn	00 16 51.6	-1.1
KSHT	Keshet	3.37	119	Pn	Pn	00 16 13.7	+0.4
KSHT				Sn	Sn	00 16 54.0	+0.2
KARA	Karaisali	3.42	40	ePN	Pn	00 16 14.6	+0.6
MMLI	Mount Malkishu	3.43	130	Pn	Pn	00 16 14.2	+0.1
MMLI				Sn	Sn	00 16 54.4	-0.7
LADK	Ladik-KONYA	3.52	1	ePN	Pn	00 16 15.8	+0.3
HMDT	Nahal Hemdat	3.62	131	Pn	Pn	00 16 17.4	+0.7
HMDT				Sn	Sn	00 16 59.2	-0.6
KOZT	Kozan	4.00	44	ePN	Pn	00 16 23.4	+1.4
DSI	Dead Sea	4.03	139	Pn	Pn	00 16 23.3	+0.9
DSI				Sn	Sn	00 17 09.6	-0.3
YTIR	Yattir	4.06	144	Pn	Pn	00 16 23.7	+0.9
RTMI	Retamim	4.13	150	Pn	Pn	00 16 24.4	+0.6
RTMI				Sn	Sn	00 17 11.8	-0.6
KZIT	Kziot	4.15	154	Pn	Pn	00 16 24.7	+0.7
KZIT				Sn	Sn	00 17 12.3	-0.5
MZDA	Masada	4.22	142	Pn	Pn	00 16 25.4	+0.4
MZDA				Sn	Sn	00 17 14.1	-0.7
KHL	Karahalli	4.28	329	ePN	Pn	00 16 26.0	+0.2
RMNI	Mount Ramon	4.56	152	Pn	Pn	00 16 30.4	+0.7
KMRS	Kahramanmaras	4.68	51	ePN	Pn	00 16 31.5	+0.2
KOT	Kottamia	4.74	185	⇓P	Pn	00 16 31.8	-0.4
ZFRI	Zfri	4.77	149	Pn	Pn	00 16 32.9	+0.4
ZFRI				Sn	Sn	00 17 27.4	-0.7
KAMT	Kaman	4.83	13	ePN	Pn	00 16 34.4	+1.1
SUZ		4.83	175	⇓P	Pn	00 16 34.3	+0.9
PRNI	Paran	4.87	151	Pn	Pn	00 16 34.6	+0.6
PRNI				Sn	Sn	00 17 30.1	-0.7
HNKL	Nakhl	4.94	163	⇓P	Pn	00 16 35.1	+0.2
HNKL				S	Sn	00 17 30.2	-2.1
KRMI	Paran Flat	4.98	155	Pn	Pn	00 16 35.7	+0.3
KRMI				Sn	Sn	00 17 33.0	-0.4
HRFI	Mount Harif	5.17	153	Pn	Pn	00 16 38.5	+0.5
HRFI				Sn	Sn	00 17 38.5	+0.5
HNAT	Natroun	5.22	196	⇓P	Pn	00 16 39.5	+0.8
MBRI	Mt Berech	5.34	155	Pn	Pn	00 16 41.5	+1.1
MBRI				Sn	Sn	00 17 41.7	-0.6
EIL	Elat	5.47	155	Pn	Pn	00 16 43.3	+1.1
HMAT	Matruh	5.64	232	⇓P	Pn	00 16 43.9	-0.7
MALT	Malatya	6.13	52	ePN	Pn	00 16 52.7	+1.4
MALT	Malatya	6.13	52	Pn	Pn	00 16 52.7	+1.4
AWBH		6.96	206	⇓P	Pn	00 17 03.4	+0.7
SWA2		7.94	229	⇓P	Pn	00 17 13.9	-2.2
SWA2				S	Sn	00 18 37.7	-8.6
HFRF	Wahat Farafira	8.24	206	⇓P	Pn	00 17 20.3	0.0

*IDC **11** 00:26:50.8±0.6, 3027S×17726W, h0km, mb4.4/14, mb1 4.6/15, mb1mx4.6/19, mbtmp4.4/15, ML4.5/1, MS4.4/16, Ms1 4.4/16, ms1mx4.3/21, Error ellipse: s-maj=18.7km s-min=16.3km az=88.0*

*ISCJB **11** 00:26:52.5±0.3, 3058S±004×17747W±007, h18km, mb4.8/35, MS4.5/19, Error ellipse: s-maj=8.6km s-min=5.9km az=13.1*

*GCMT **11** 00:26:52.6±0.4, 3043S×17686W, h29km±1km, MW5.0/50, Moment Tensor Solution. s24,c28; s50,c65; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.93±.27; $M_{\theta\theta}$0.31±.19; $M_{\phi\phi}$-3.24±.18; $M_{r\theta}$1.13±.33; $M_{\theta\phi}$-1.32±.12; $M_{\phi r}$2.24±.24; Best double couple: $M_0$4.15300×10^{16} NP1:ϕ_s190.00000°, δ27.00000°, λ77.00000°. NP2: ϕ_s24.00000°, δ64.00000°, λ96.00000°. Principal axes: T 3.7980, Plg71.0000°, Azm308.0000°; N 0.7090, Plg6.0000°, Azm202.0000°; P -4.5080, Plg19.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **11** 00:26:52.6±0.3, 3055S×17741W, h10km, mb5.0/20 Error ellipse: s-maj=9.9km s-min=8.3km az=135.0*

*BJI **11** 00:26:52.4, 3038S×17729W, h10km, mB5.6, mb5.3, Ms5.2, Msz4.9*

ISC 11 00:26:54.4±0.3, 3051S±004×17742W±007, h19km, h19km±1.5km: pP-P, n130, σ1§28/65, mb4.8/35, MS4.5/19, 2C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.33	341	Pn	Pn	00 27 14.9	-3.0
	431nm,0.3s,baz=141,slow=5.9,SNR=37						
RAO				Sn	Sn	00 27 35.0	-0.1
	5μm,0.3s,baz=81,slow=22,SNR=21						
RAO	Raoul Island	1.33	341	ePn	Pn	00 27 15.3	-2.6
URZ	Urewera	8.95	209	Pn	Pn	00 29 00.3	-2.3
	1.3nm,0.3s,baz=344,slow=6.5,SNR=6.9						
URZ				Sn	Sn	00 30 43.2	+0.2
	7.1nm,0.3s,baz=145,slow=21,SNR=6.6						
RPZ	Rata Peaks	16.05	212	Pn	Pn	00 30 41.5	+2.5
	1.6nm,0.3s,baz=30,slow=14,SNR=2.5						
DZM	Mont Dzumac	16.72	296	ePn	Pn	00 30 47.7	0.0
RAR	Rarotonga	18.36	64	LR	LR	00 36 56.2	
	comp=Z,668nm,18.8s,baz=256,slow=33						
TBI	Tubuai	25.88	81	eLR	LR	00 38 52.2	
	933nm,29.0s,baz=248						
ARMA	Armidale	26.64	262	eP	P	00 32 37.4	+5.5
PPT	Papeete	28.42	69	eLR	LR	00 40 00.0	
	458nm,22.2s,baz=231						
PPT	Papeete	28.42	69	LR	LR	00 41 36.2	
	comp=Z,416nm,18.7s,MS4.1,baz=254,slow=31						
HNR	Honiara	29.75	310	LR	LR	00 43 02.3	
	comp=Z,329nm,18.3s,MS4.0,baz=176,slow=33						
CTA	Charters Tower	34.31	279	eP	P	00 33 41.5	+1.7
	8.9nm,0.5s,mb5.0						
CTA	Charters Tower	34.31	279	P	P	00 33 40.4	+0.6
	4.2nm,0.5s,mb4.7,baz=102,slow=6.4,SNR=3.4						
CTA				LR	LR	00 46 43.7	
	comp=Z,2μm,18.2s,MS4.9,baz=75,slow=35						
CTAO	Charters Tower	34.31	279	eP	P	00 33 40.5	+0.7
	23nm,1.0s,mb5.1						
STKA	Stephens Creek	34.94	257	eP	P	00 33 46.8	+1.6
	41nm,0.9s,mb5.4						
STKA	Stephens Creek	34.94	257	P	P	00 33 47.0	+1.8
	10nm,0.8s,mb4.8,baz=84,slow=9.3,SNR=11						
STKA				LR	LR	00 47 25.4	
	comp=Z,1μm,18.8s,MS4.6,baz=58,slow=35						
RKT	Rikitea	38.42	89	eLR	LR	00 44 41.1	
	471nm,27.2s						
TAOE	Nuku Hiva Isla	40.89	66	eLR	LR	00 45 43.3	
	866nm,21.7s						
ASAR	Alice Springs	43.60	267	P	P	00 34 57.2	-0.4
	2.5nm,0.8s,mb4.0,baz=106,slow=7.7,SNR=19						
ASAR				ScP	ScP	00 40 40.1	+4.5
	1.0nm,0.8s,baz=120,slow=5.1,SNR=4.9						
WB2	Warramunga Arr	44.59	272	eP	P	00 35 04.8	-0.8
WRAB	Tennant Creek	44.60	272	P	P	00 35 06.0	+0.4
	160nm,0.6s,mb6.0,SNR=5.1						
WRAB	Tennant Creek	44.60	272	eP	P	00 35 05.8	+0.1
	36nm,1.1s,mb5.1						
WRA	Warramunga Arr	44.60	272	P	P	00 35 04.7	-1.0
	8.1nm,0.7s,mb4.7,baz=111,slow=8.0,SNR=20						
WRA				LR	LR	00 53 07.2	
	comp=Z,753nm,18.6s,MS4.7,baz=105,slow=35						
SBA	Scott Base	47.97	184	eP	P	00 35 30.4	-1.0
	5.4nm,0.9s,mb4.6						
VNDA	Vanda	48.04	186	P	P	00 35 33.7	+1.8
	1.6nm,1.1s,mb4.0,baz=25,slow=8.0,SNR=3.0						
VNDA				LR	LR	00 53 55.1	
	comp=Z,374nm,18.1s,MS4.4,baz=29,slow=34						
VNDA	Vanda	48.04	186	eP	P	00 35 30.3	-1.6
	2.8nm,0.8s,mb4.3						
VNDA				LR	LR	00 53 55.1	
FITZ	Fitzroy Crossi	52.86	270	eP	P	00 36 08.7	-0.5
	13nm,0.8s,mb4.9						
KLBR	Kellerberrin	54.79	251	eP	P	00 36 21.4	-1.7
CASY	Casey	55.28	208	eP	P	00 36 25.7	-0.4
QSPA	South Pole Qui	59.60	180	P	P	00 36 57.5	+1.1
	9.4nm,1.0s,mb4.8,baz=26,slow=2.8,SNR=14						
QSPA	South Pole Qui	59.60	180	P	P	00 36 57.5	+1.1
MAW	Mawson	72.38	200	eP	P	00 38 25.8	+7.1
	3.2n

ISA	Isabella	86.02	44	eP	P	00 39 34.2	+0.6
	14nm,1.4s,mb5.0						
PETK	Petropavlovsk-	86.04	345	P	P	00 39 32.3	-0.9
	7.0nm,0.9s,mb4.9,baz=104,slow=6.3,SNR=7.8						
PETK				LR	LR	01 16 43.0	
	comp=Z,87nm,19.4s,MS4.2,baz=335,slow=35						
CMB	Columbia Colle	86.51	42	eP	P	00 39 35.7	-0.2
	7.3nm,1.1s,mb4.8						
GSC	Goldstone	86.80	46	eP	P	00 39 38.2	+0.7
	10nm,1.1s,mb5.0						
MTUM	Tungsten Hills	87.11	43	eP	P	00 39 39.5	+0.6
NVAR	Mina Array Bea	87.98	42	P	P	00 39 41.8	-1.2
	2.6nm,0.9s,mb4.4,baz=228,slow=7.7,SNR=9.6						
TPNV	Topopah Spring	88.22	45	eP	P	00 39 44.5	+0.2
TPH	Tonopah	88.38	43	eP	P	00 39 45.3	+0.4
	4.6nm,0.7s,mb4.8						
WUAZ	Wupatki	90.36	48	eP	P	00 39 54.8	+0.5
	10nm,1.1s,mb5.1						
CN2	Changchun	90.53	323	eP	P	00 39 57.9	+3.0
CN2				eAP	pP	00 40 02.6	+1.4
CN2				eS	S	00 50 51.9	+2.8
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
MSU	Marysvale	91.70	45	eP	P	00 40 02.2	+1.7
TXAR	Lajitas Array	92.03	57	P	P	00 40 00.0	-2.2
	comp=Z,1.0nm,1.0s,mb4.1,baz=218,slow=5.9,SNR=7.2						
TXAR				LR	LR	01 18 27.6	
	comp=Z,150nm,18.1s,MS4.5,baz=85,slow=34						
GYA	Guiyang	92.04	300	eP	P	00 40 03.9	+1.6
GYA				PP	PP	00 43 47.0	+4.5
GYA				SKS		00 50 36.2	
GYA				S	S	00 51 05.7	+2.1
GYA				SS	SS	00 57 19.6	+6.1
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.4						
GYA				AMB	AMB		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,470nm,20.1s,MS5.0						
GYA				LR	LR		
	comp=E,420nm,21.9s,MS5.0						
GYA				LR	LR		
	comp=Z,480nm,20.2s,MS4.9						
BBB	Bella Bella	92.96	28	LR	LR	01 15 45.2	
	comp=Z,164nm,18.9s,MS4.5,baz=115,slow=32						
ANMO	Albuquerque	93.25	51	eP	P	00 40 08.2	+0.4
	comp=Z,1.3nm,0.8s,mb4.4						
BJI	Beijing	93.35	315	P	P	00 40 14.2	+6.2
BJI				S	S	00 51 22.5	+7.8
BJI				SS	SS	00 57 37.3	+5.4
HLID	Hailey	93.56	40	eP	P	00 40 09.4	+0.5
PV01	Paradox Valley	93.73	47	eP	P	00 40 07.6	-2.2
KMI	Kunming	94.32	297	P	P	00 40 14.6	+1.7
KMI				AP	pP	00 40 20.3	+1.1
KMI				XP	sP	00 40 22.4	+1.0
KMI				PP	PP	00 44 00.9	+0.5
KMI				S	S	00 51 25.7	+1.9
KMI				SS	SS	00 57 51.3	+5.2
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb5.2						
KMI				AMB	AMB		
	comp=Z,254nm,4.6s						
KMI				LR	LR		
	comp=N,217nm,13.7s,MS4.9						
KMI				LR	LR		
	comp=E,210nm,13.7s,MS4.9						
KMI				LR	LR		
	comp=Z,264nm,12.4s,MS4.9						
PPLA	Purkeypile	95.25	11	eP	P	00 40 18.4	+2.2
	comp=Z,5.7nm,0.5s,mb5.3						
TPAW	Teton Pass	95.49	42	eP	P	00 40 18.8	+1.1
	comp=Z,10nm,1.8s,mb5.0						
PDAR	Pinedale Array	95.87	43	P	P	00 40 18.9	-0.6
	comp=Z,0.4nm,0.8s,mb3.9,baz=211,slow=5.1,SNR=3.1						
KTH	Kantishna Hill	96.08	12	eP	P	00 40 18.8	-1.1
	comp=Z,2.7nm,0.5s,mb4.9						
CD2	Chengdu	96.57	302	eP	P	00 40 25.3	+2.3
CD2				AP	pP	00 40 30.1	+0.8
CD2				XP	sP	00 40 33.8	+2.2
CD2				PP	PP	00 44 24.3	+6.5
CD2				SKS		00 51 00.7	
CD2				XS	sS	00 51 53.0	-0.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,30nm,8.4s						
CD2				LR	LR		
	comp=N,450nm,12.0s						
CD2				LR	LR		
	comp=Z,270nm,14.4s,MS4.9						
HHC	Hu-ho-hao-te	96.67	314	eP	P	00 40 24.2	+1.0
HHC				AP	pP	00 40 29.1	-0.4
HHC				XP	sP	00 40 31.2	-0.6
HHC				PP	PP	00 44 22.3	+3.9
HHC				SKS		00 50 59.3	
HHC				S	S	00 51 43.5	0.0
HHC				XS	sS	00 51 50.3	-3.7
HHC				SS	SS	00 58 21.8	+2.8
HHC				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.4						
HHC				LR	LR		
	comp=N,105nm,17.8s,MS4.6						
HHC				LR	LR		
	comp=E,141nm,17.8s,MS4.6						
HHC				LR	LR		
	comp=Z,103nm,17.8s,MS4.4						
LPAZ	La Paz	97.64	114	LR	LR	01 14 29.0	
	comp=Z,84nm,21.9s,MS4.2,baz=146,slow=29						
CPUP	Villa Florida	99.52	128	LR	LR	01 21 40.0	
	comp=Z,282nm,19.3s,MS4.8,baz=199,slow=33						
WMQ	Urumqi	113.69	308	ePKP	PKiKP	00 45 32.5	+1.1
MKAR	Makanchi Array	118.23	310	PKP	PKPdf	00 45 45.2	+5.2
	comp=Z,0.7nm,0.6s,baz=179,slow=1.1,SNR=3.7						
KURK	Kurchatov	121.49	314	ePKPdf	PKPdf	00 45 46.0	-0.1
AML	Almayashu	123.05	303	ePKPdf	PKPdf	00 45 51.0	+1.6
EKS2	Erkin-Say	123.11	304	ePKPdf	PKPdf	00 45 49.9	+0.3
BRVK	Borovoye	126.90	316	ePKPdf	PKPdf	00 45 57.4	+1.0
ARU	Arti	133.49	321	ePKPdf	PKPdf	00 46 09.5	+0.6
ARCES	ARCESS Array B	138.80	348	PKP	PKPdf	00 46 17.3	-1.1
	comp=Z,2.7nm,0.9s,baz=57,slow=3.7,SNR=3.3						
JOF	Joensuu	142.70	339	epkp	PKPdf	00 46 19.7	-5.9
DGRG	David-gareji	144.02	300	P	PKPdf	00 46 26.2	-2.4
MTA	Mtatsminda	144.44	300	P	PKPdf	00 46 27.0	-2.3
TBLG	Delisi	144.47	300	P	PKPdf	00 46 26.2	-3.1
GNI	Garni	144.57	297	ePKPdf	PKPdf	00 46 30.6	+1.1
KAF	Kangasniemi	144.82	341	epkp	PKPdf	00 46 22.6	-6.7
ONI	Oni	145.34	302	P	PKPbc	00 46 30.0	-0.7
AKH	Akhalkalaki	145.43	300	P	PKPdf	00 46 30.9	-0.1
OBN	Obninsk	145.55	325	ePKPdf	PKPdf	00 46 28.4	-2.3
NB2	NORSAR Subarra	148.93	352	PKP	PKPdf	00 46 38.0	+1.8
	comp=Z,9.3nm,1.1s,baz=17,slow=2.6						
NOA	NORSAR Array B	148.93	352	PKPbc	PKPbc	00 46 37.9	-2.4
	comp=Z,5.1nm,1.0s,baz=14,slow=4.2,SNR=10						
NAO01	NORSAR Array S	149.16	352	ePKPbc	PKPbc	00 46 41.3	+0.5
MALT	Malatya	149.56	295	ePKPbc	PKPbc	00 46 42.3	-0.2
AKASG	Malin Array Be	151.69	323	PKPbc	PKPbc	00 46 45.5	-1.7
	comp=Z,1.6nm,0.6s,baz=53,slow=2.3,SNR=8.0						
AKBB	Malin Array Si	151.69	323	ePKPbc	PKPbc	00 46 47.2	0.0
KIEV	Kiev	151.70	323	ePKPbc	PKPbc	00 46 46.9	-0.3
SUW	Suwalki	152.20	334	ePKPbc	PKPbc	00 46 48.1	-0.1
SUW				ePKPab	PKPab	00 46 58.6	+0.6
ANTO	Ankara	153.71	299	ePKPbc	PKPbc	00 46 52.7	+0.7
KWP	Kalwaria	155.60	327	ePKPab	PKPab	00 47 13.6	+1.0
UPC	Upice	157.63	337	ePKPab	PKPab	00 47 23.1	+1.9
DPC	Dobruska-Polom	157.66	336	ePKPab	PKPab	00 47 25.4	+4.0
CLL	Collm	157.82	342	e(PKPab)	PKPab	00 47 20.0	-2.0
CLL				epPKPab	pPKPab	00 47 31.0	+2.6
	comp=Z,10.0nm,1.2s						
CLL				i sPKPab		00 47 36.1	
BRG	Berggiesshubel	157.96	341	ePKPab	PKPab	00 47 31.3	+8.7
BRG	Berggiesshubel	157.96	341	ePKP	PKPab	00 47 31.2	+8.6
	comp=Z,17nm,1.4s						
BRG							
	comp=N,82nm,24.0s						
BRG							
	comp=E,58nm,25.1s						
BRG							
	comp=Z,105nm,14.4s						
PVCC	Panska Ves	158.08	339	ePKPab	PKPab	00 47 30.5	+7.4
FBE	Freiberg	158.08	342	ePKPab	PKPab	00 47 32.2	+9.1
PRU	Pruhonice	158.56	339	ePKPab	PKPab	00 47 34.2	+8.9
MOX	Moxa	158.78	344	ePKPab	PKPab	00 47 35.0	+8.8
WERD	Werda	158.79	343	ePKPab	PKPab	00 47 35.3	+9.1
GUNZ	Gunzen	158.86	342	ePKPab	PKPab	00 47 35.4	+8.9
WERN	Wernitzgruen	158.92	342	ePKPab	PKPab	00 47 36.3	+10
ROTZ	Rotzenmuhle	159.44	342	ePKPab	PKPab	00 47 37.9	+8.8
KHC	Kasperske Hory	159.62	339	ePKPab	PKPab	00 47 34.7	+4.8
KHC				ex	x	00 47 45.5	
GRF	Grafenberg Arr	159.76	344	ePKPab	PKPab	00 47 39.6	+9.2
WET	Wettzell	159.81	340	ePKPab	PKPab	00 47 39.4	+8.7
GERES	GERESS Array B	159.83	338	PKPab	PKPab	00 47 30.2	-0.5
	comp=Z,0.8nm,0.8s,baz=8.5,slow=2.7,SNR=4.8						
BAIF	Baives	160.44	357	ePKP2	PKPab	00 47 35.8	+2.4
FUR	Furstenfeldbru	161.15	342	ePKPab	PKPab	00 47 45.7	+9.1
MEZF	Maizieres J'vi	161.93	355	ePKP2	PKPab	00 47 42.3	+2.4
	comp=Z,18nm,1.1s						
HAU	Haudompre	162.29	352	ePKP2	PKPab	00 47 43.8	+2.3
TORD	Torodi Ar. Bea	162.70	177	PKPab	PKPab	00 47 40.0	-4.1
	comp=Z,1.0nm,0.8s,baz=179,slow=3.3,SNR=4.8						
LOR	Lormes	163.24	357	ePKP2	PKPab	00 47 48.0	+2.3
SSF	Saint Saulge	163.46	358	ePKP2	PKPab	00 47 48.9	+2.2
	comp=Z,8.1nm,1.0s						
AVF	Avril sur Loir	163.73	358	ePKP2	PKPab	00 47 49.8	+1.9
SMF	Signal de Mont	163.86	357	ePKP2	PKPab	00 47 50.5	+2.1
	comp=Z,23nm,1.2s						
LPL	La Plagne	164.67	349	ePKP2	PKPab	00 47 54.3	+2.3
LPG	La Plagne	164.69	349	ePKP2	PKPab	00 47 54.5	+2.4
	comp=Z,10nm,1.0s						
FRF	La Foret Royal	166.58	347	ePKP2	PKPab	00 48 02.4	+1.9
	comp=Z,19nm,1.0s						
ESDC	Sonseca Array	169.41	29	PKP	PKPdf	00 47 01.0	+0.6
	comp=Z,0.8nm,1.0s,baz=298,slow=3.2,SNR=3.9						
ESDC				PKPab	PKPab	00 48 11.9	-1.3
	comp=Z,0.1nm,0.3s,baz=9.2,slow=4.9,SNR=3.0						

*NEIC **11** 00:59:24.2, 3144S×7172W, h32km, ML2.7(GUC), After GUC.*

GUC 11 00:59:24.2±0.8, 3144S×7172W, h32km±6km, MD3.7, ML2.7, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.49	32	⇑iP	Pn	00 59 50.4	+1.7
TLL				i S	Sn	01 00 10.1	+3.0
TLL				AML	AML	01 00 11.7	
	comp=N,196nm,0.6s						
TLL	Tololo Astrono	1.49	32	⇑iP	Pn	00 59 50.4	+1.7
TLL				i S	Sn	01 00 10.1	+3.0
JACH	Jahuel	1.57	143	eP	Pn	00 59 51.2	+1.3
JACH				i S	Sn	01 00 11.9	+2.8
PEL	Peldehue	1.92	153	eP	Pn	00 59 56.3	+1.6
PEL				i S	Sn	01 00 20.0	+2.4
PEL				AML	AML	01 00 25.5	
	comp=E,167nm,0.5s						
FCH	Farellones	2.24	148	eP	Pn	01 00 00.5	+1.4
FCH				i S	Sn	01 00 29.2	+3.5
FCH				AML	AML	01 00 37.8	
	comp=E,48nm,0.4s						
TACH	Talagante	2.31	163	eP	Pn	01 00 01.6	+1.6
LMEL	Las Melosas	2.73	152	eP	Pn	01 00 07.6	+1.9
LMEL				i S	Sn	01 00 40.5	+2.9
LMEL				AML	AML	01 00 50.9	
	comp=N,32nm,0.3s						
LMEL	Las Melosas	2.73	152	eP	Pn	01 00 07.6	+1.9
LMEL				i S	Sn	01 00 40.5	+2.9

*NNC **11** 01:29:55.8±3.4, 3519N×6952E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=35.5km s-min=25.9km az=70.0*
*IDC **11** 01:30:23.4±1.3, 3723N×7011E, h0km, mb3.6/3, mb1 4.0/6, mb1mx3.7/24, mbtmp3.9/6, ML3.8/3, Error ellipse: s-maj=27.2km s-min=21.4km az=144.0*
*BJI **11** 01:30:29.5, 3809N×6994E, h53km, mb4.0, ML3.8*
*ISCJB **11** 01:30:30.8±0.6, 3735N±003×7036E±006, h93km±9km, mb3.4/4, Error ellipse: s-maj=8.2km s-min=4.6km az=174.5*
*NEIC **11** 01:30:31.0±1.0, 3734N×7028E, h62km±13km, mb3.8/2, Error ellipse: s-maj=21.2km s-min=9.9km az=115.0*

ISC 11 01:30:32.3±0.5, 3734N±003×7039E±006, h94km±8km, n56, σ1§21/63, mb3.4/4, 5C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	3.00	202	ePn	Pn	01 31 15.4	-2.4
KBL				eSn	Sn	01 31 53.8	+0.9
CEP	Cherat	3.72	160	⇑P	Pn	01 31 27.5	-0.1
CEP				S	Sn	01 32 16.0	+5.6
CHCP	Chirah Chowk	4.36	147	P	Pn	01 31 38.4	+2.2
THW	Thamme Wali	4.67	166	⇓P	Pn	01 31 39.1	-1.4
KSH	Kashi	4.90	62	eP	Pn	01 31 42.1	-1.4
KSH				S	Sn	01 32 41.3	+2.4
KSH				Smax			
	comp=N,372nm,0.9s						
KSH				Smax			
	comp=E,330nm,0.9s						
AML	Almayashu	5.42	27	P	Pn	01 31 50.5	-0.1
	SNR=50						
AML	Almayashu	5.42	27	ePn	Pn	01 31 50.0	-0.6
	comp=E,48nm,0.6s						
KK31	Karatay Array	5.76	1	⇓Pn	Pn	01 31 53.8	-1.4
	comp=E,2.0nm,0.3s,baz=187,slow=13,SNR=60						
KK31				⇓Sn	Sn	01 33 29.6	+30
	comp=E,19nm,0.6s,baz=186,slow=30,SNR=5.4						
UCH	Uchtor	5.83	32	ePn	Pn	01 31 57.1	+1.0
	comp=E,9.6nm,0.7s						
EKS2	Erkin-Say	5.92	25	P	Pn	01 31 57.7	+0.4
	SNR=16						
EKS2	Erkin-Say	5.92	25	ePn	Pn	01 31 57.2	-0.2
	comp=E,19nm,0.8s						
KZA	Kyzart	6.04	37	P	Pn	01 32 00.3	+1.3
	SNR=10.0						
AAK	Ala-Archa	6.16	30	P	Pn	01 32 01.0	+0.4
	SNR=14						
KBK	Karagaybulak	6.36	32	P	Pn	01 32 04.2	+0.8
	SNR=13						
CHMS	Chumysh	6.57	29	P	Pn	01 32 06.3	+0.1
	SNR=24						
THN	Thein Dam	6.57	137	eP	Pn	01 32 07.9	+1.6
THN				ex	x	01 33 24.6	
USP	Ospenovka	6.70	27	P	Pn	01 32 07.6	-0.4
	SNR=17						
TKM2	Tokmak 2	6.86	34	⇓Pn	Pn	01 32 10.0	-0.1
	comp=E,33nm,0.6s						
TKM2				⇑Sn	Sn	01 33 52.6	+26
	comp=E,27nm,1.2s						
TKM2	Tokmak 2	6.86	34	P	Pn	01 32 10.4	+0.3
	SNR=70						
TKM2	Tokmak 2	6.86	34	ePn	Pn	01 32 10.2	+0.1
	comp=E,42nm,0.6s						
SDNR	Sundarnagar	7.97	135	eP	Pn	01 32 26.0	+0.7
SDNR				eS	Sn	01 33 48.0	-5.8
SMLA	Simla	8.36	136	eP	Pn	01 32 31.4	+0.8
SMLA				eS	Sn	01 33 58.9	-4.5
SMLA				ex	x	01 34 13.8	
	comp=N,83nm,0.3s						
SMLA				ex	x	01 34 14.6	
	comp=E,51nm,0.4s						
DDI	Dehra Dun	9.47	135	eP	Pn	01 32 48.0	+2.3
DDI				ex	x	01 34 39.6	
NDI	New Delhi	10.36	144	eS	Sn	01 34 43.0	-9.1
MK31	Makanchi Array	12.93	39	Pn	Pn	01 33 31.9	-0.4
	comp=E,4.7nm,0.7s,baz=228,slow=13,SNR=23						
MK31	Makanchi Array	12.93	39	ePn	Pn	01 33 31.5	-0.7
MKAR	Makanchi Array	12.93	39	Pn	Pn	01 33 32.1	-0.1
	comp=E,0.3nm,0.3s,baz=232,slow=13,SNR=29						
MKAR				Lg		01 37 21.8	
	comp=E,0.0nm,0.3s,baz=216,slow=32,SNR=2.4						
AB31	Akbulak array	14.11	331	Pn	Pn	01 33 41.4	-6.3
	comp=E,3.8nm,0.8s,baz=154,slow=12,SNR=52						
AB31				⇓Sn	Sn	01 36 31.3	+8.4
	comp=E,0.7nm,0.5s,baz=153,slow=23,SNR=3.5						
DANN	Dangsing	14.37	125	eP	Pn	01 33 50.3	-0.8
KURBB	Kurchatov Arra	14.50	21	⇑Pn	Pn	01 33 48.4	-4.4
	comp=E,0.5nm,0.7s						
KURK	Kurchatov	14.61	21	Pn	Pn	01 33 50.0	-4.1
KOLN	Koldanda	14.66	127	eP	Pn	01 33 53.8	-1.1
	comp=E,9.9nm,0.5s						
KOLN				eS	Sn	01 36 34.2	-2.2
VOSK	Vostochnaya	15.39	1	⇑Pn	Pn	01 34 01.8	-2.2
	comp=E,4.0nm,0.8s						
BVA0	Borovoye Array	15.69	0	⇑Pn	Pn	01 34 07.7	0.0
	comp=E,0.6nm,0.8s,baz=278,slow=37,SNR=9.0						
BVAR	Borovoye Array	15.69	0	Pn	Pn	01 34 05.5	-2.2
	comp=E,0.4nm,0.3s,baz=163,slow=12,SNR=11						
BRVK	Borovoye	15.72	360	ePn	Pn	01 34 09.4	+1.3
	comp=E,3.8nm,0.6s						
KKN	Kakani	15.74	123	eP	Pn	01 34 07.8	-0.8
DMN	Daman	15.74	124	eP	Pn	01 34 08.1	-0.6
AKTK	Aktyubinsk	15.81	330	Pn	Pn	01 34 04.5	-4.8
AKTO	Aktyubinsk	15.81	330	⇓Pn	Pn	01 34 04.6	-4.6
	comp=E,1.2nm,1.0s						
AKTO	Aktyubinsk	15.81	330	Pn	Pn	01 34 04.5	-4.8
	comp=E,0.2nm,0.3s,baz=148,slow=14,SNR=8.3						
PKI	Pulchoki	15.97	123	eP	Pn	01 34 11.7	+0.2
	comp=E,12nm,0.6s						
GUN	Gumba	16.07	121	eP	Pn	01 34 12.2	-0.5
JIRN	Jiri	16.44	121	eP	Pn	01 34 17.3	0.0
	comp=E,19nm,0.5s						
RAMN	Ramite	17.18	122	eP	Pn	01 34 26.1	-0.2
	comp=E,14nm,0.7s						
TAPN	Taplejung	17.68	119	eP	Pn	01 34 33.2	+0.7
	comp=E,8.6nm,0.5s						
ODAN	Odare	17.77	121	eP	Pn	01 34 33.3	-0.3
ZAA0	Zalesovo Array	19.37	26	ePn	Pn	01 34 51.0	-1.3
ZALV	Zalesovo Beam	19.37	26	P	Pn	01 34 51.2	-1.2
	comp=E,0.7nm,0.3s,baz=218,slow=10,SNR=38						
ZALV	Zalesovo Beam	19.37	26	P	Pn	01 34 51.2	-1.2
ARU	Arti	20.68	341	eP	P	01 35 05.6	+1.1
	comp=E,5.5nm,0.8s						
GTA	Gaotai	23.12	76	eP	P	01 35 33.2	+3.1
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.4						
NB2	NORSAR Subarra	43.42	323	P	P	01 38 25.8	+0.5
	comp=Z,1.0nm,0.7s,mb3.6,baz=99,slow=8.6						
NOA	NORSAR Array B	43.42	323	P	P	01 38 27.1	+1.8
	comp=Z,0.5nm,0.6s,mb3.4,baz=97,slow=8.1,SNR=2.4						
TORD	Torodi Ar. Bea	65.25	268	P	P	01 41 05.6	+1.4
	comp=Z,0.4nm,0.5s,mb3.5,baz=56,slow=6.2,SNR=10.0						
WRA	Warramunga Arr	82.85	122	P	P	01 42 50.8	+4.3
	comp=Z,0.4nm,0.8s,mb3.3,baz=326,slow=5.0,SNR=3.0						

*IDC **11** 01:31:58.8±2.0, 2489N×12198E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, Error ellipse: s-maj=162.1km s-min=20.7km az=64.0*
*TAP **11** 01:32:00.7, 2493N×12223E, h8km, ML3.8*
*ISCJB **11** 01:32:01.8±0.8, 2499N±007×122.16E±008, h35km, mb3.7/7, Error ellipse: s-maj=10.6km s-min=8.7km az=35.7*
*NEIC **11** 01:32:03.8±5.8, 2491N×12202E, h35km±50km, mb4.3/1, Error ellipse: s-maj=71.8km s-min=10.7km az=66.0*

ISC 11 01:32:03.8±0.8, 2496N±006×12203E±008, h35km, n11, σ1§03/14, mb3.7/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	Taipei	0.49	272	ePn	Pn	01 32 14.1	-0.3
TATO				eSn	Sn	01 32 20.2	-1.4
YHNB	Yeheng	0.66	245	ePn	Pn	01 32 16.4	-0.2
YHNB				eSn	Sn	01 32 28.9	+3.1
NACB	Ninganchiao	0.87	207	ePn	Pn	01 32 18.8	-0.8
NACB				eSn	Sn	01 32 31.7	+0.6
SONM	Songino Array	25.97	336	P	P	01 37 34.0	+1.0
	0.4nm,0.6s,mb3.1,baz=141,slow=9.3,SNR=2.9						
MKAR	Makanchi Array	38.33	315	P	P	01 39 21.5	+0.4
	0.5nm,0.5s,mb3.5,baz=105,slow=11,SNR=3.4						
ZALV	Zalesovo Beam	40.02	326	P	P	01 39 35.4	+0.2
	0.5nm,0.4s,mb3.6,baz=96,slow=10,SNR=3.0						
WRAB	Tennant Creek	46.20	164	eP	P	01 40 24.7	-0.7
	3.3nm,0.8s,mb4.3						
WRA	Warramunga Arr	46.21	164	P	P	01 40 23.9	-1.6
	1.6nm,0.6s,mb4.1,baz=346,slow=8.6,SNR=5.8						
BVAR	Borovoye Array	47.57	320	P	P	01 40 35.7	-0.1
	0.6nm,0.5s,mb3.9,baz=111,slow=7.9,SNR=2.9						
ASAR	Alice Springs	49.69	166	P	P	01 40 53.8	+1.5
	0.6nm,0.8s,mb3.7,baz=352,slow=5.9,SNR=3.8						
ASAR	Alice Springs	49.69	166	P	P	01 40 53.8	+1.5

IDC 11 01:49:56.1±3.7, 2865S×14093E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/15, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=111.5km s-min=29.7km az=95.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.16	200	P	Pn	01 54 08.7	-1.1
	0.3nm,0.3s,baz=19,slow=13,SNR=13						
FITZ	Fitzroy Crossi	21.31	224	P	P	01 54 46.3	+1.7
	0.9nm,0.6s,baz=47,slow=17,SNR=3.9						
ASAR	Alice Springs	21.77	198	P	P	01 54 49.5	0.0
	0.6nm,0.6s,baz=31,slow=10,SNR=7.5						
MKAR	Makanchi Array	71.27	322	P	P	02 01 17.0	-0.4
	0.7nm,0.8s,baz=98,slow=10,SNR=3.7						

*CSEM **11** 01:50:39.4±0.1, 3706N×2795E, h12km, MD3.4, Error ellipse: s-maj=1.7km s-min=1.5km az=37.0*
*DDA **11** 01:50:39.9, 3720N×2795E, h7km±6km, Md3.1*
*ISK **11** 01:50:39.6, 3705N×2796E, h14km, MD3.4*
*ISCJB **11** 01:50:40.1±0.4, 3704N±003×2793E±003, h15km±3km, Error ellipse: s-maj=4.7km s-min=3.8km az=30.4*
*ATH **11** 01:50:40.9, 3693N×2774E, h19km±2km, MD3.3/4*
*NEIC **11** 01:50:40.0, 3704N×2796E, h11km, MD3.3(ATH), MD3.4(ISK), After ISK.*

ISC 11 01:50:40.3±0.4, 3702N±003×2792E±003, h15km±3km, n23, σ1§08/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.30	337	ePG	Pg	01 50 46.2	-0.4
MLSB				eSG	Sg	01 50 50.7	-0.2
YER	Yerkesik	0.31	68	ePG	Pg	01 50 46.1	-0.7
YER				eSG	Sg	01 50 50.1	-1.1
BDRM	Kayabasi	0.39	277	i P	Pg	01 50 48.0	-0.1
BDRM				i S	Sg	01 50 55.1	+1.8
BODT	Bodrum	0.49	275	ePG	Pg	01 50 50.2	+0.2
BODT				eSG	Sg	01 50 57.9	+1.3
DAL

ARG	**Arkhangelos**	**0.80**	**169**	*e*P	**Pg**	**01 52 40.7**	**-1.1**
ARG				*e*S	**Sg**	**01 52 53.5**	**+1.2**
SMG	**Samos**	**1.13**	**309**	*e*P	**Pb**	**01 52 46.4**	**-1.3**
SMG				*e*S	**Sb**	**01 53 02.0**	**-0.3**
IZM	**Izmir**	**1.49**	**339**	*e*PN	**Pn**	**01 52 53.3**	**+0.3**
IZM				*e*SN	**Sn**	**01 53 13.1**	**+0.8**
BLCB	**Balcova**	**1.55**	**333**	*e*PN	**Pn**	**01 52 54.1**	**+0.4**
KARP	**Karpathos**	**1.59**	**204**	*e*P	**Pn**	**01 52 53.8**	**-0.4**
KARP				*e*S	**Sn**	**01 53 14.1**	**-0.5**
ELL	**Elmali**	**1.60**	**99**	*e*PN	**Pn**	**01 52 55.1**	**+0.7**
KULA	**Kula-Manisa**	**1.61**	**20**	*e*PN	**Pn**	**01 52 54.6**	**0.0**

*NEIC **11** 01:56:57.3, 1700N×9498W, h123km, MD4.1(MEX), After MEX.*

MEX 11 01:56:57.6±0.9, 1698N×9498W, h121km±7km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.14**	**40**	*i* P	Pn	01 57 13.0	-1.3
CMIG				*i* S	Sn	01 57 25.1	-1.7
TUIG	**Tuzandepetl**	**1.17**	**27**	*e*P	Pn	01 57 20.2	-1.3
TUIG				*i* S	Sn	01 57 37.2	-2.5
HUIG	**Huatulco**	**1.62**	**222**	*i* P	Pn	01 57 24.3	-2.3
HUIG				*i* S	Sn	01 57 47.3	-1.3
OXX	**Oaxaca**	**1.67**	**274**	*i* P	Pn	01 57 27.3	+0.2
OXX				*i* S	Sn	01 57 49.2	-0.4
VHO	**Vista Hermosa**	**1.68**	**273**	*i* P	Pn	01 57 26.6	-0.6
VHO				*i* S	Sn	01 57 48.8	-1.0
TGIG		**1.79**	**96**	*e*P	Pn	01 57 27.6	-0.9
TGIG				*i* S	Sn	01 57 49.9	-2.3
TPIG	**Tehuac#an**	**2.68**	**303**	*i* P	Pn	01 57 39.2	-0.6
TPIG				*i* S	Sn	01 58 09.7	-2.6
CCIG	**Comitan**	**2.81**	**104**	*i* P	Pn	01 57 41.2	-0.2
CCIG				*i* S	Sn	01 58 14.2	-1.0
PNIG	**Pinotepa**	**3.07**	**259**	*e*P	Pn	01 57 42.2	-2.7
PNIG				*i* S	Sn	01 58 18.4	-3.0
THIG		**3.33**	**128**	*i* P	Pn	01 57 49.4	+1.1
PPM	**Popocatepetl**	**4.04**	**301**	*i* P	Pn	01 57 60.0	+2.2

*CSEM **11** 02:05:31.3, 12.11N×4351E, h7km, ML3.7, After DHMR*

DHMR 11 02:05:31.3±1.3, 1211N×4351E, h7km±22km, ML3.7, 3C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.58**	**65**	*i* P	Pn	02 06 00.6	+0.8
ADEN				*i* S	Sn	02 06 21.8	+1.3
ADEN	**Aden**	**1.58**	**65**	*i* P	Pn	02 06 00.6	+0.8
ADEN				*i* S	Sn	02 06 21.8	+1.3
ADEN				AML	AML	02 06 30.9	
	comp=E,1μm,0.4s						
UDYN	**Al 'Udayn**	**1.90**	**13⇑**	*i*P	Pn	02 06 05.4	+1.2
UDYN				*i* S	Sn	02 06 31.2	+2.8
UDYN	**Al 'Udayn**	**1.90**	**13⇑**	*i*P	Pn	02 06 05.4	+1.3
UDYN				*i* S	Sn	02 06 31.2	+2.9
UDYN				AML	AML	02 06 44.2	
	comp=N,508nm,0.7s						
LBOS		**2.44**	**44**	*i* P	Pn	02 06 13.7	+2.1
LBOS				*i* S	Sn	02 06 47.4	+5.8
DHBB	**Dhamar BB**	**2.59**	**19**	*i* P	Pn	02 06 16.2	+2.5
DHBB				*i* S	Sn	02 06 52.2	+6.7
BDHA	**Al Bayda'**	**2.73**	**47⇑**	*i*P	Pn	02 06 18.3	+2.7
BDHA				*i* S	Sn	02 06 55.6	+6.7
BDHA				AML	AML	02 07 12.0	
	comp=E,530nm,0.5s						

*IDC **11** 02:13:03.4±0.8, 090N×12615E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, Error ellipse: s-maj=64.1km s-min=16.2km az=73.0*

*ISCJB **11** 02:13:07.8±1.1, 093N±009×12623E±008, h48km±11km, mb3.9/10, Error ellipse: s-maj=18.6km s-min=9.8km az=39.8*

*NEIC **11** 02:13:08.3±0.4, 090N×12618E, h35km, mb4.2/2, Error ellipse: s-maj=35.1km s-min=7.8km az=71.0*

*DJA **11** 02:13:10, 082N×12602E, h12km, ML4.0/2*

ISC 11 02:13:07.7±4.2, 091N±009×12623E±008, h29km±32km, n14, σ0°50/14, mb3.9/10, 2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.14**	**96⇓**	*e*P	**Pn**	**02 13 27.7**	**0.0**
MNI	**Manado**	**1.49**	**291⇓**	*e*P	**Pn**	**02 13 32.5**	**0.0**
MNI				*e*S	**Sn**	**02 13 51.0**	**+0.1**
WRAB	**Tennant Creek**	**22.19**	**159**	*e*P	**P**	**02 18 01.7**	**0.0**
	4.8nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**22.20**	**159**	P	**P**	**02 18 01.2**	**-0.5**
	3.0nm,0.6s,mb3.9,baz=339,slow=12,SNR=31						
WB2	**Warramunga Arr**	**22.20**	**159**	*e*P	**P**	**02 18 01.5**	**-0.3**
ASAR	**Alice Springs**	**25.54**	**164**	P	**P**	**02 18 35.0**	**+1.0**
	1.1nm,0.4s,mb3.7,baz=345,slow=10,SNR=18						
ASAR				PcP	PcP	02 22 05.6	+0.5
	0.4nm,0.7s,baz=359,slow=2.5,SNR=5.3						
STKA	**Stephens Creek**	**35.71**	**157**	P	**P**	**02 20 03.5**	**-0.3**
	1.4nm,0.6s,mb4.1,baz=322,slow=16,SNR=3.6						
MJAR	**Matsushiro Arr**	**37.15**	**16**	P	**P**	**02 20 16.1**	**+0.2**
	0.9nm,0.4s,mb3.9,baz=186,slow=9.8,SNR=4.3						
SONM	**Songino Array**	**49.81**	**343**	P	**P**	**02 21 58.3**	**+0.6**
	0.6nm,0.9s,mb3.6,baz=153,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**59.59**	**326**	P	**P**	**02 23 08.8**	**+0.1**
	0.7nm,0.5s,mb4.0,baz=138,slow=9.1,SNR=4.0						
KURK	**Kurchatov**	**63.85**	**328**	*e*P	**P**	**02 23 36.1**	**-1.3**
	2.8nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**69.41**	**328**	P	**P**	**02 24 12.8**	**0.0**
	1.5nm,0.9s,mb3.9,baz=104,slow=6.3,SNR=5.8						
VNDA	**Vanda**	**80.71**	**173**	P	**P**	**02 25 17.8**	**+0.2**
	0.6nm,0.9s,mb3.5,baz=355,slow=4.1,SNR=6.4						
TORD	**Torodi Ar. Bea**	**123.27**	**286**	PKP	PKPdf	02 32 02.6	-0.2
	0.6nm,0.8s,baz=93,slow=3.0,SNR=2.9						

*NEIC **11** 02:23:28.5±0.9, 5091N×17993W, h10km, mb4.1/7, ML3.5(AEIC), ML3.8(PMR), Error ellipse: s-maj=23.4km s-min=8.7km az=185.0*

*ISCJB **11** 02:23:33.4±1.3, 513N±002×1800E±01, h47km±7km, mb4.0/16, Error ellipse: s-maj=35.6km s-min=11.2km az=175.7*

*IDC **11** 02:23:38.4±8.9, 5151N×17992W, h69km±76km, mb3.6/9, mb1 3.7/10, mb1mx3.5/26, mbtmp3.6/10, ML4.1/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/35, Error ellipse: s-maj=55.0km s-min=21.4km az=13.0*

ISC 11 02:23:34.4±1.5, 514N±002×1800W±01, h37km±10km, n27, σ0°62/25, mb4.0/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.45**	**274**	P	**Pn**	**02 23 43.2**	**-1.1**
AMKA				S	**Sn**	**02 23 50.8**	**-0.4**
SMY	**Shemya**	**3.90**	**293**	P	**Pn**	**02 24 32.9**	**+1.1**
FX1	**Attu Island--F**	**4.49**	**293**	P	**Pn**	**02 24 40.9**	**+1.1**
PETK	**Petropavlovsk-**	**13.78**	**286**	LR	LR	02 31 48.4	
	comp=Z,38nm,21.3s,baz=102,slow=36						
KDAK	**Kodiak Island**	**17.07**	**57**	P	**Pn**	**02 27 29.1**	**-0.7**
	0.7nm,0.3s,baz=267,slow=5.7,SNR=11						
KTH	**Kantishna Hill**	**19.63**	**40**	*e*P	**Pn**	**02 28 01.0**	**+0.1**
	5.3nm,0.8s						
BPAW	**Bear Paw Mtn.**	**19.84**	**39**	*e*P	**Pn**	**02 28 03.5**	**0.0**
	2.5nm,0.7s						
EGAK	**Eagle**	**24.06**	**41**	*e*P	**P**	**02 28 46.1**	**+0.3**
	1.3nm,0.5s,mb3.6						
KSRS	**Korea Array**	**38.89**	**270**	LR	LR	02 48 07.7	
	comp=Z,25nm,19.2s,baz=154,slow=38						
SONM	**Songino Array**	**45.99**	**296**	P	**P**	**02 31 54.8**	**+1.1**
	0.6nm,0.4s,mb3.9,baz=75,slow=7.5,SNR=4.4						
BW06	**Boulder Array**	**47.03**	**71**	*e*P	**P**	**02 32 01.9**	**+0.1**
	0.9nm,0.6s,mb3.9						
PDAR	**Pinedale Array**	**47.03**	**71**	P	**P**	**02 32 02.4**	**+0.5**
	1.0nm,0.6s,mb3.9,baz=309,slow=3.3,SNR=7.7						
SPITS	**Spitsbergen Ar**	**50.35**	**356**	P	**P**	**02 32 27.0**	**+0.1**
	1.1nm,0.4s,mb4.2,baz=60,slow=12,SNR=8.5						
ARCES	**ARCESS Array B**	**57.99**	**350**	P	**P**	**02 33 22.2**	**-0.4**
	1.6nm,0.8s,mb4.1,baz=32,slow=9.3,SNR=7.7						
KURK	**Kurchatov**	**58.50**	**313**	*e*P	**P**	**02 33 26.0**	**-0.5**
	1.6nm,0.5s,mb4.3						
TXAR	**Lajitas Array**	**59.40**	**80**	P	**P**	**02 33 33.4**	**+0.5**
	0.1nm,0.6s,mb3.0,baz=268,slow=7.2,SNR=4.0						
MK31	**Makanchi Array**	**59.47**	**308**	*e*P	**P**	**02 33 32.6**	**-0.5**
MKAR	**Makanchi Array**	**59.47**	**308**	P	**P**	**02 33 33.4**	**+0.2**
	1.5nm,0.5s,mb4.3,baz=46,slow=6.8,SNR=5.8						

BVAR	**Borovoye Array**	**60.43**	**319**	P	**P**	**02 33 39.1**	**-0.5**
	1.2nm,0.4s,mb4.3,baz=55,slow=6.8,SNR=7.9						
TKM2	**Tokmak 2**	**65.56**	**309**	*e*P	**P**	**02 34 13.3**	**-0.6**
	1.8nm,0.8s,mb4.2						
EKS2	**Erkin-Say**	**66.64**	**310**	*e*P	**P**	**02 34 21.7**	**+0.9**
	2.2nm,0.5s,mb4.4						
NB2	**NORSAR Subarra**	**67.61**	**354**	P	**P**	**02 34 26.5**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.7,baz=8.8,slow=6.9						
NOA	**NORSAR Array B**	**67.61**	**354**	P	**P**	**02 34 25.6**	**-1.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=6.0,slow=6.3,SNR=5.3						
KBL	**Kabul**	**75.27**	**307**	*e*P	**P**	**02 35 12.7**	**-0.6**
	comp=Z,3.8nm,0.8s,mb4.4						
KWP	**Kalwaria**	**77.56**	**345**	*e*P	**P**	**02 35 26.1**	**+0.1**
	comp=Z,3.2nm,0.4s,mb4.6						
GERES	**GERESS Array B**	**79.50**	**351**	P	**P**	**02 35 36.4**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=14,slow=5.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**115.76**	**358**	PKP	PKPdf	02 42 11.7	-1.2
	comp=Z,0.5nm,1.2s,baz=354,slow=2.1,SNR=3.2						

*CSEM **11** 02:41:52.9±0.1, 3848N×3185E, h5km, MD3.0, Error ellipse: s-maj=3.4km s-min=2.3km az=47.0*

*ISCJB **11** 02:41:53.6±0.5, 3847N±004×3184E±004, h10km, Error ellipse: s-maj=5.8km s-min=3.7km az=36.9*

*DDA **11** 02:41:53.8, 3851N×3192E, h15km±6km, Md3.0*

*ISK **11** 02:41:53.2, 3850N×3189E, h9km, MD2.9*

ISC 11 02:41:53.9±0.6, 3847N±004×3183E±004, h6km±7km, n12, σ0°64/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDHN	**Kadinhani**	**0.23**	**77**	*i* P	**Pg**	**02 41 58.2**	**-0.2**
KDHN				*i* S	**Sg**	**02 42 02.3**	**+0.8**
KDHN	**Kadinhani**	**0.23**	**77**	*i* P	**Pg**	**02 41 58.2**	**-0.2**
KIZT	**Kizilcal**	**0.41**	**5**	*e*PG	**Pg**	**02 42 01.7**	**-0.2**
KIZT				*e*SG	**Sg**	**02 42 06.9**	**-0.3**
LADK	**Ladik-KONYA**	**0.50**	**123**	*e*PG	**Pg**	**02 42 03.1**	**-0.4**
LADK				*e*SG	**Sg**	**02 42 09.7**	**-0.3**
KONT	**Konya--Tatoy**	**0.67**	**141**	*e*PG	**Pg**	**02 42 06.8**	**0.0**
KONT				*e*SG	**Sg**	**02 42 16.4**	**+0.9**
BOLV	**Bolvadin**	**0.73**	**290**	*i* P	**Pg**	**02 42 07.2**	**-0.7**
BOLV				*i* S	**Sg**	**02 42 18.0**	**+0.5**
SHUT	**Suhut-Afyon**	**1.01**	**275**	*e*PG	**Pg**	**02 42 12.9**	**-0.4**
TKTP	**Tekketepe**	**1.26**	**251**	*i* P	**Pn**	**02 42 17.6**	**-0.5**
TKTP				*i* S	**Sg**	**02 42 39.2**	**+4.6**
ESKT	**Eskisehir**	**1.30**	**324**	*i* P	**Pn**	**02 42 18.8**	**+0.2**
ESKT				*i* S	**Sb**	**02 42 36.9**	**+1.4**
SEYT	**Eskypehyr**	**1.30**	**324**	*i* P	**Pn**	**02 42 18.8**	**+0.3**
SEYT				*i* S	**Sb**	**02 42 36.9**	**+1.3**
HDMB	**Hadim**	**1.59**	**161**	*e*PN	**Pn**	**02 42 22.9**	**+0.3**
KAMT	**Kaman**	**1.72**	**58**	*e*PN	**Pn**	**02 42 23.1**	**-1.2**

*IDC **11** 02:42:48.6±13.0, 5838S×2631W, h159km±118km, mb3.7/4, mb1 3.6/5, mb1mx3.4/18, mbtmp3.5/5, Error ellipse: s-maj=81.0km s-min=21.9km az=120.0*

NEIC 11 02:42:47.0±1.1, 5836S×2647W, h150km, mb3.7/2, Error ellipse: s-maj=39.0km s-min=15.7km az=103.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.48**	**153**	P	Pn	02 46 29.0	-0.1
	0.1nm,0.3s,baz=332,slow=6.5,SNR=14						
SNAA				S	S	02 49 26.0	-6.2
	0.0nm,0.3s,baz=288,slow=19,SNR=3.7						
SNAA	**Sanae**	**16.48**	**153**	*e*P	Pn	02 46 29.2	0.0
	0.9nm,0.5s						
SNAA				S	S	02 49 26.0	-6.2
QSPA	**South Pole Qui**	**31.89**	**180**	P	P	02 48 57.9	+0.6
	3.3nm,0.5s,baz=206,slow=2.1,SNR=64						
VNDA	**Vanda**	**44.28**	**183**	P	P	02 50 41.6	+0.8
	2.2nm,0.6s,baz=181,slow=6.1,SNR=20						
VNDA	**Vanda**	**44.28**	**183**	*e*P	P	02 50 40.9	0.0
	2.4nm,0.6s						
BOSA	**Boshof**	**46.22**	**73**	P	P	02 50 57.0	+0.3
	4.6nm,1.1s,baz=196,slow=7.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**74.89**	**28**	P	P	02 54 11.5	+0.5
	0.3nm,0.5s,baz=196,slow=6.6,SNR=8.7						
SONM	**Songino Array**	**150.41**	**90**	PKPbc	PKPbc	03 02 19.3	-0.2
	0.4nm,0.5s,baz=243,slow=1.6,SNR=3.7						

*ISCJB **11** 02:57:33.4±1.1, 160S±02×1747W±01, h304km±11km, mb3.7/8, Error ellipse: s-maj=28.9km s-min=15.8km az=159.4*

*NEIC **11** 02:57:33.9±0.9, 1581S×17476W, h291km±9km, mb3.6/1, Error ellipse: s-maj=18.5km s-min=9.5km az=161.0*

*IDC **11** 02:57:34.7±1.3, 1580S×17478W, h298km±12km, mb3.5/7, mb1 3.8/9, mb1mx3.5/20, mbtmp3.6/9, Error ellipse: s-maj=36.1km s-min=14.3km az=150.0*

ISC 11 02:57:34.3±1.1, 160S±02×1747W±01, h297km±11km, n15, σ0°72/15, mb3.7/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.49**	**55**	P	**Pn**	**02 58 33.8**	**-1.1**
	16nm,0.3s,baz=232,slow=1.6,SNR=9.4						
AFI				S	**S**	**02 59 24.3**	**+1.0**
	26nm,0.3s,baz=92,slow=20,SNR=7.3						
AFI	**Afiamalu**	**3.49**	**55**	P	**Pn**	**02 58 33.8**	**-1.1**
AFI				S	**S**	**02 59 24.3**	**+0.9**
RAR	**Rarotonga**	**15.08**	**112**	P	**Pn**	**03 00 53.4**	**-0.4**
	11nm,0.3s,baz=89,slow=5.2,SNR=5.4						
WB2	**Warramunga Arr**	**48.48**	**257**	*e*P	**P**	**03 05 47.7**	**-0.3**
WRAB	**Tennant Creek**	**48.48**	**257**	*e*P	**P**	**03 05 47.8**	**-0.2**
	1.3nm,0.4s,mb3.6						
WRA	**Warramunga Arr**	**48.49**	**257**	P	**P**	**03 05 48.0**	**-0.1**
	1.5nm,0.5s,mb3.6,baz=90,slow=6.9,SNR=60						
ASAR	**Alice Springs**	**48.74**	**252**	P	**P**	**03 05 50.2**	**+0.3**
	7.1nm,0.4s,mb4.4,baz=92,slow=8.3,SNR=148						
KAKA	**Kakadu**	**51.21**	**266**	*e*P	**P**	**03 06 09.7**	**+1.3**
PETK	**Petropavlovsk-**	**72.79**	**343**	P	**P**	**03 08 29.6**	**-0.9**
	1.7nm,0.6s,mb3.8,baz=126,slow=12,SNR=5.0						
NVAR	**Mina Array Bea**	**75.59**	**42**	P	**P**	**03 08 47.0**	**+0.2**
	0.9nm,0.8s,mb3.5,baz=228,slow=9.1,SNR=7.7						
KDAK	**Kodiak Island**	**75.73**	**12**	P	**P**	**03 08 46.3**	**-0.9**
	1.9nm,0.6s,mb3.9,baz=177,slow=7.0,SNR=4.0						
TXAR	**Lajitas Array**	**81.97**	**57**	P	**P**	**03 09 22.4**	**+0.8**
	0.8nm,1.1s,mb3.4,baz=211,slow=8.8,SNR=4.2						
PDAR	**Pinedale Array**	**83.52**	**42**	P	**P**	**03 09 29.7**	**+0.4**
	0.7nm,0.5s,mb3.7,baz=192,slow=4.2,SNR=6.2						
ARCES	**ARCESS Array B**	**124.99**	**351**	PKP	PKPdf	03 15 58.1	-0.5
	3.3nm,1.0s,baz=29,slow=2.8,SNR=5.2						
GERES	**GERESS Array B**	**146.50**	**350**	PKPbc	PKPbc	03 16 40.2	-0.5
	0.5nm,0.6s,baz=27,slow=3.3,SNR=7.3						

IDC 11 03:06:41.8±7.0, 212N×9646E, h92km±54km, mb3.3/4, mb1 3.4/5, mb1mx3.2/21, mbtmp3.2/5, ML2.8/1, Error ellipse: s-maj=62.5km s-min=20.9km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.55**	**75**	P	Pn	03 07 21.1	-0.2
	2.0nm,0.3s,baz=290,slow=12,SNR=7.9						
PSI				S	Sn	03 07 51.9	+0.2
	6.6nm,0.3s,baz=260,slow=15,SNR=10						
WRA	**Warramunga Arr**	**43.15**	**122**	P	P	03 14 33.9	+0.4
	1.2nm,0.5s,baz=299,slow=9.6,SNR=16						
ASAR	**Alice Springs**	**44.53**	**127**	P	P	03 14 44.1	-0.5
	0.6nm,0.5s,baz=303,slow=7.3,SNR=12						
MKAR	**Makanchi Array**	**46.17**	**347**	P	P	03 14 57.1	-0.1
	0.3nm,0.4s,baz=152,slow=7.9,SNR=4.0						
SONM	**Songino Array**	**46.34**	**9**	P	P	03 14 58.6	+0.2
	0.3nm,0.5s,baz=200,slow=11,SNR=2.6						

*NIED **11** 03:15:00, 3770N×13740E, h5km, Mw3.8 Best double couple: M0=5.14000×10^14 NP1:φs=237.00000°, δ84.00000°, λ-171.00000°. NP2:φs=146.00000°, δ81.00000°, λ-6.00000°.*

*IDC **11** 03:15:23.0±1.2, 3762N×13753E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, ML3.4/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/35, Error ellipse: s-maj=33.9km s-min=13.1km az=59.0*

*ISCJB **11** 03:15:23.0±0.7, 3768N±003×13743E±004, h9km±5km, mb3.6/4, MS3.5/2, Error ellipse: s-maj=5.7km s-min=5.0km az=148.2*

*JMA **11** 03:15:23.3, 3767N×13742E, h12km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs=51.00000°, δ62.00000°, λ163.00000°. NP2: φs=149.00000°, δ75.00000°, λ29.00000°. Principal axes: T Plg31.0000°, Azm13.0000°; N Plg58.0000°, Azm175.0000°; P Plg8.0000°, Azm278.0000°;*

JMA Felt I J1.

*NEIC **11** 03:15:25.1±3.0, 3753N×13749E, h18km±20km, mb3.9/1 Error ellipse: s-maj=41.0km s-min=19.0km az=52.0*

ISC 11 03:15:23.7±0.5, 3766N±003×13744E±004, h10km±4km, n19, σ0°93/25, mb3.6/4, MS3.5/2, 3C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**0.22**	**196**	⇑P	**Pg**	**03 15 28.1**	**-0.1**
JSZ				S	**Sg**	**03 15 31.7**	**+0.5**
JHG	**Hegura jima**	**0.45**	**295**	⇓P	**Pg**	**03 15 32.1**	**-0.4**
JHG				S	**Sg**	**03 15 38.4**	**-0.1**
JSD	**Sado**	**0.75**	**60**	⇑P	**Pg**	**03 15 37.6**	**-0.7**
JSD				S	**Sg**	**03 15 47.9**	**-0.2**
JJN	**Nakama**	**0.80**	**134**	⇓P	**Pg**	**03 15 39.3**	**+0.2**
JJN				S	**Sg**	**03 15 51.3**	**+1.7**
JJH	**Hakui**	**0.90**	**216**	P	**Pg**	**03 15 40.4**	**-0.6**
JJH				S	**Sg**	**03 15 53.0**	**+0.3**
JIZZ	**Izumozaki**	**1.02**	**97**	S	**Sg**	**03 15 57.2**	**+0.7**
JTT	**Ttatey**	**1.05**	**185**	⇑P	**Pg**	**03 15 43.0**	**-1.0**
JTT				S	**Sg**	**03 15 58.0**	**+0.4**
MAJO	**Matsushiro**	**1.27**	**151**	*e*Pn	**Pn**	**03 15 46.3**	**-1.3**
MAJO				*e*Sn	**Sn**	**03 16 04.3**	**-0.3**
MAT	**Matsushiro**	**1.27**	**151**	P	**Pn**	**03 15 46.1**	**-1.4**
MAT				S	**Sb**	**03 16 03.9**	**-0.2**
MAT	**Matsushiro**	**1.27**	**151**	P	**Pn**	**03 15 48.1**	**+0.6**
MAT				S	**Sb**	**03 16 04.0**	**-0.1**
MJAR	**Matsushiro Arr**	**1.27**	**151**	Pg	**Pg**	**03 15 47.1**	**-1.0**
	18nm,0.3s,baz=4.3,slow=13,SNR=96						
MJAR				Lg		03 16 03.8	
	52nm,0.3s,baz=275,slow=12,SNR=21						
ASAJ	**Asahikawa**	**7.54**	**30**	LR	LR	03 20 00.6	
	comp=Z,85nm,20.4s,baz=302,slow=37						
KSRS	**Korea Array**	**7.56**	**271**	Pn	**Pn**	**03 17 16.1**	**+2.2**
	0.5nm,0.3s,baz=88,slow=14,SNR=8.3						
KSRS				LR	LR	03 19 52.6	
	comp=Z,113nm,19.1s,baz=205,slow=35						
SONM	**Songino Array**	**24.81**	**304**	P	**P**	**03 20 48.7**	**+2.9**
	1.3nm,0.7s,mb3.5,baz=110,slow=8.8,SNR=8.3						
GUMO	**Guam**	**24.87**	**163**	LR	LR	03 29 17.3	
	comp=Z,47nm,19.3s,MS3.0,baz=264,slow=34						
KURK	**Kurchatov**	**43.04**	**307**	*e*P	**P**	**03 23 22.7**	**-0.7**
	1.7nm,0.8s,mb3.8						
BATI	**Baumata**	**49.33**	**198**	LR	LR	03 45 59.2	
	comp=Z,126nm,19.3s,MS3.9,baz=110,slow=37						
WRA	**Warramunga Arr**	**57.36**	**183**	P	**P**	**03 25 11.4**	**-0.7**
	0.7nm,0.8s,mb3.7,baz=359,slow=7.7,SNR=9.2						
PDAR	**Pinedale Array**	**79.45**	**44**	P	**P**	**03 27 31.1**	**+1.0**
	0.3nm,0.7s,mb3.3,baz=292,slow=2.8,SNR=2.7						

*ISCJB **11** 03:26:23.6±0.6, 3849N±003×2221E±006, h7km, Error ellipse: s-maj=7.0km s-min=3.7km az=162.1*

*ATH **11** 03:26:24.6, 3847N×2230E, h17km±1km, MD3.0/4*

*CSEM **11** 03:26:25.2±0.1, 3851N×2231E, h12km, ML2.4, Error ellipse: s-maj=2.8km s-min=1.8km az=62.0*

*THE **11** 03:26:25.2, 3850N×2228E, h7km, ML2.4*

ISC 11 03:26:25.2±0.6, 3850N±003×2230E±006, h18km±9km, n11, σ0°66/22, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.52**	**3**	*e*Pg	**Pg**	**03 26 34.8**	**-0.8**
AGG				*e*Sg	**Sg**	**03 26 43.0**	**+0.3**
EVR	**Evrytania**	**0.57**	**317**	*e*PN	**Pg**	**03 26 36.0**	**-0.5**
EVR				*e*SN	**Sg**	**03 26 44.5**	**+0.4**
LKR	**Lokris**	**0.57**	**74**	*e*Pg	**Pg**	**03 26 35.6**	**-0.9**
LKR				*e*Sg	**Sg**	**03 26 45.2**	**+1.1**
LKR	**Lokris**	**0.57**	**74**	*e*PN	**Pg**	**03 26 36.0**	**-0.5**
LKR				*e*SN	**Sg**	**03 26 44.2**	**+0.1**
LKR	**Lokris**	**0.57**	**74**	*e*Pn	**Pg**	**03 26 36.0**	**-0.5**
LKR				*e*Sn	**Sg**	**03 26 44.2**	**+0.1**
LKR				*e*Sg	**Sg**	**03 26 45.2**	**+1.1**
NEO	**Neokhori**	**1.08**	**42**	*e*PN	**Pn**	**03 26 45.5**	**+0.1**
THL	**Klokotos Trika**	**1.09**	**348**	*e*Pg	**Pg**	**03 26 45.5**	**-0.8**
THL				*e*Sg	**Sg**	**03 27 01.5**	**+1.0**
THL	**Klokotos Trika**	**1.09**	**348**	*e*Pn	**Pn**	**03 26 45.8**	**+0.3**
THL				*e*Sg	**Sg**	**03 27 01.5**	**+1.0**
VLX	**Vlachokerasia**	**1.13**	**177**	*e*Pg	**Pg**	**03 26 46.6**	**-0.4**
VLX				*e*Sg	**Sg**	**03 27 02.9**	**+1.0**
VLX	**Vlachokerasia**	**1.13**	**177**	*e*Pg	**Pg**	**03 26 46.6**	**-0.5**
VLX				*e*Sg	**Sg**	**03 27 02.8**	**+1.0**
DID	**Didima**	**1.24**	**143**	*e*Pg	**Pg**	**03 26 48.1**	**-1.0**
DID				*e*Sg	**Sg**	**03 27 05.8**	**+0.5**

**IDC 11 03:38:38.5±3.6, 288S×14022E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/15, mb

KZN	**Kozani**	**1.52**	**50**	*e*PB	**Pb**	**03 40 50.6**	**0.0**
AGG	**Agios Georgios**	**1.64**	**100**	*e*Pb	**Pb**	**03 40 51.6**	**-1.2**
AGG				*e*Sb	**Sg**	**03 41 16.1**	**+1.8**
FNA	**Florina**	**1.68**	**30**	*e*Pb	**Pn**	**03 40 52.0**	**-0.2**
FNA				*e*Sb	**Sb**	**03 41 15.2**	**+0.1**
FNA	**Florina**	**1.68**	**30**	*i* PG	**Pn**	**03 40 52.0**	**-0.2**
FNA				*i* SG	**Sg**	**03 41 15.2**	**-0.4**
BIA	**Bitola**	**1.87**	**26**	*e*Pn	**Pg**	**03 40 56.7**	**-0.7**
BIA				*e*Sn	**Sn**	**03 41 20.1**	**+1.0**
LIT	**Litokhoron**	**1.89**	**65**	*e*Pn	**Pn**	**03 40 55.7**	**+0.7**
LIT				*e*Sn	**Sn**	**03 41 20.4**	**+0.9**
KRUS	**Krusevo**	**2.17**	**20**	*i* Pn	**Pn**	**03 41 00.3**	**+1.4**
KRUS				*e*Sn	**Sn**	**03 41 25.1**	**-1.3**

*IDC **11** 03:57:18.9±1.0, 1527S×16796E, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.3/19, mbtmp4.3/10, Error ellipse: s-maj=34.2km s-min=22.5km az=140.0*
*NEIC **11** 03:57:34.3±3.0, 1536S×16768E, h122km±26km, mb4.2/9, Error ellipse: s-maj=27.1km s-min=15.2km az=173.0*
*ISCJB **11** 03:57:35.1±3.8, 156S±02×1677E±0.1, h143km±35km, mb4.2/13, Error ellipse: s-maj=28.1km s-min=22.9km az=179.9*

ISC 11 03:57:34.6±3.4, 155S±02×1677E±01, h125km±30km, n58, σ1§10/26, mb4.3/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.65**	**190**	*e*P	**Pn**	**03 59 11.8**	**+1.9**
DZM				*e*S	**Sn**	**04 00 22.9**	**-1.4**
DZM	**Mont Dzumac**	**6.65**	**190**	*e*Pn	**Pn**	**03 59 11.7**	**+1.8**
CTA	**Charters Tower**	**20.94**	**254**	*e*P	**P**	**04 02 08.5**	**+0.9**
4.9nm,0.9s							
CTA	**Charters Tower**	**20.94**	**254**	P	**P**	**04 02 07.6**	**+0.1**
4.1nm,0.6s,baz=89,slow=12,SNR=4.6							
CTAO	**Charters Tower**	**20.94**	**254**	*e*P	**P**	**04 02 07.0**	**-0.6**
5.8nm,0.8s							
STKA	**Stephens Creek**	**28.84**	**231**	*e*P	**P**	**04 03 22.4**	**+1.2**
2.8nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**28.84**	**231**	P	**P**	**04 03 22.7**	**+1.4**
3.5nm,0.5s,mb4.3,baz=24,slow=7.3,SNR=11							
WB2	**Warramunga Arr**	**32.06**	**257**	*e*P	**P**	**04 03 49.0**	**-0.7**
WRAB	**Tennant Creek**	**32.06**	**257**	*e*P	**P**	**04 03 49.1**	**-0.7**
2.8nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**32.07**	**257**	P	**P**	**04 03 48.6**	**-1.3**
1.9nm,0.6s,mb4.0,baz=80,slow=6.0,SNR=26							
ASAR	**Alice Springs**	**32.81**	**250**	P	**P**	**04 03 56.0**	**-0.3**
5.7nm,0.6s,mb4.6,baz=83,slow=9.3,SNR=115							
FORT	**Forrest**	**39.29**	**240**	*e*P	**P**	**04 04 52.1**	**+0.7**
24nm,0.7s,mb5.1							
FORT	**Forrest**	**39.29**	**240**	*e*P	**P**	**04 04 51.9**	**+0.6**
4.3nm,0.8s,mb4.3							
FITZ	**Fitzroy Crossi**	**40.31**	**260**	*e*P	**P**	**04 04 59.9**	**0.0**
12nm,0.4s,mb5.1							
FITZ	**Fitzroy Crossi**	**40.31**	**260**	P	**P**	**04 05 00.4**	**+0.5**
6.8nm,0.4s,mb4.8,baz=73,slow=11							
MBWA	**Marble Bar**	**45.77**	**255**	*e*P	**P**	**04 05 44.1**	**+0.2**
3.6nm,0.6s,mb4.3							
KLBR	**Kellerberrin**	**48.11**	**241**	*e*P	**P**	**04 06 01.8**	**-0.2**
66nm,1.7s,mb5.2							
VNDA	**Vanda**	**62.11**	**181**	P	**P**	**04 07 43.0**	**+1.2**
0.4nm,0.5s,mb3.7,baz=358,slow=7.0,SNR=6.7							
VNDA	**Vanda**	**62.11**	**181**	*e*P	**P**	**04 07 43.1**	**+1.4**
0.9nm,0.8s,mb3.9							
SONM	**Songino Array**	**83.36**	**323**	P	**P**	**04 09 49.1**	**+1.4**
1.9nm,0.7s,mb4.0,baz=151,slow=8.5,SNR=12							
NVAR	**Mina Array Bea**	**87.44**	**49**	P	**P**	**04 10 05.9**	**-2.2**
0.3nm,0.3s,mb3.7,baz=219,slow=7.8,SNR=5.1							
MKAR	**Makanchi Array**	**98.05**	**316**	P	**P**	**04 10 57.8**	**+1.0**
0.4nm,0.4s,mb4.3,baz=103,slow=6.2,SNR=5.4							
MKAR	**Makanchi Array**	**98.05**	**316**	P	**P**	**04 10 57.8**	**+1.0**
ZALV	**Zalesovo Beam**	**98.26**	**324**	P	**P**	**04 10 56.5**	**-1.1**
0.5nm,0.3s,mb4.5,baz=75,slow=6.3,SNR=3.8							
ZALV	**Zalesovo Beam**	**98.26**	**324**	P	**P**	**04 10 56.5**	**-1.1**
ARCES	**ARCESS Array B**	**121.10**	**345**	PKP	PKPdf	04 16 12.7	+0.8
2.2nm,0.5s,baz=78,slow=1.6,SNR=16							
PSZ	**Piszkesteto**	**138.19**	**327**	*e*PKPdf	PKPdf	04 16 45.0	+0.1
GERES	**GERESS Array B**	**140.52**	**333**	PKP	PKPdf	04 16 51.0	+1.9
0.1nm,0.3s,baz=29,slow=3.0,SNR=4.7							
CDF	**Champ du Feu**	**143.44**	**338**	*e*PKP1	PKPdf	04 16 52.0	-2.3
HINF	**Hinteralfeld**	**144.10**	**338**	*e*PKP1	PKPdf	04 16 54.7	-0.8
4.4nm,0.6s							
HAU	**Haudompre**	**144.12**	**339**	*e*PKP1	PKPdf	04 16 55.2	-0.3
7.3nm,0.7s							
MEZF	**Maizieres J'vi**	**144.13**	**340**	*e*PKP1	PKPdf	04 16 54.9	-0.6
4.4nm,0.5s							
CABF	**La Chapelle**	**145.40**	**338**	*e*PKP1	PKPbc	04 16 59.4	+1.5
16nm,0.8s							
FLN	**La Foliniere**	**145.44**	**346**	*e*PKP1	PKPbc	04 16 58.6	+0.6
20nm,0.7s							
LDF	**La Druitiere**	**145.51**	**346**	*e*PKP1	PKPbc	04 16 58.8	+0.6
8.7nm,0.6s							
LOR	**Lormes**	**145.60**	**340**	*e*PKP1	PKPbc	04 16 59.6	+1.1
18nm,1.0s							
GRR	**Gorron**	**145.88**	**346**	*e*PKP1	PKPbc	04 17 00.2	+0.8
12nm,0.6s							
SSF	**Saint Saulge**	**145.90**	**341**	*e*PKP1	PKPbc	04 17 00.6	+1.1
10nm,0.6s							
HYF	**Humbligny**	**145.98**	**342**	*e*PKP1	PKPbc	04 17 01.1	+1.4
LPL	**La Plagne**	**146.06**	**336**	*e*PKP1	PKPbc	04 17 02.1	+2.1
3.9nm,0.6s							
LPG	**La Plagne**	**146.07**	**336**	*e*PKP1	PKPbc	04 17 02.3	+2.3
6.4nm,0.6s							
SMF	**Signal de Mont**	**146.15**	**340**	*e*PKP1	PKPbc	04 17 01.0	+0.8
4.9nm,0.6s							
AVF	**Avril sur Loir**	**146.18**	**341**	*e*PKP1	PKPbc	04 17 00.9	+0.6
8.4nm,0.7s							
SGMF	**Saint Gilles**	**146.36**	**348**	*e*PKP1	PKPbc	04 17 01.5	+0.7
9.4nm,0.5s							
ROSF	**Rostrenen**	**146.42**	**349**	*e*PKP1	PKPbc	04 17 01.5	+0.5
15nm,0.9s							
BGF	**Bois d'Agland**	**146.55**	**341**	*e*PKP1	PKPbc	04 17 02.3	+0.9
16nm,0.6s							
QUIF	**Quistinic**	**146.80**	**349**	*e*PKP1	PKPbc	04 17 02.9	+0.8
ORIF	**Oris-en-Rattie**	**146.90**	**336**	*e*PKP1	PKPbc	04 17 04.3	+1.9
5.6nm,0.7s							
TCF	**Toulx Ste Croi**	**146.99**	**341**	*e*PKP1	PKPbc	04 17 03.6	+0.9
14nm,1.0s							
MFF	**Saint Martin d**	**147.37**	**344**	*e*PKP1	PKPbc	04 17 04.6	+0.9
14nm,0.6s							
VIVF	**Saint-Julien-l**	**147.41**	**337**	*e*PKP1	PKPbc	04 17 04.6	+0.7
RJF	**Les Rejaudoux**	**148.09**	**341**	*e*PKP1	PKPbc	04 17 07.3	+1.6
7.0nm,0.8s							
CAF	**Calviac**	**148.25**	**340**	*e*PKP1	PKPbc	04 17 07.2	+1.1
LASF	**Ste Croix**	**148.38**	**338**	*e*PKP1	PKPbc	04 17 06.8	+0.3
14nm,1.1s							
LFF	**La Frestale**	**148.65**	**342**	*e*PKP1	PKPbc	04 17 08.2	+1.1
8.5nm,0.7s							
MTLF	**Montolieu**	**149.60**	**339**	*e*PKP1	PKPbc	04 17 10.4	+0.8
ETSF	**Etsaut**	**150.90**	**342**	*e*PKP1	PKPbc	04 17 14.7	+2.0
6.4nm,0.6s							
EVO	**Evora**	**156.75**	**351**	*e*PKIKP	PKPdf	04 17 17.0	+1.7
6.2nm,0.9s							

*ISCJB **11** 04:05:54.5±0.5, 279N×002×12751E±003, h40km±3km, mb5.3/121, MS4.3/39, Error ellipse: s-maj=5.2km s-min=3.2km az=169.4*
*IDC **11** 04:05:55.0±1.8, 278N×12736E, h31km±12km, mb4.9/28, mb1 4.9/29, mb1mx4.9/30, mbtmp4.9/29, ML5.5/1, MS4.2/21, Ms1 4.3/21, ms1mx4.2/27, Error ellipse: s-maj=15.9km s-min=8.0km az=77.0*
*BJI **11** 04:05:55.0, 248N×12757E, h74km, mB5.3, mb5.4, Ms4.6, Msz4.4*
*MOS **11** 04:05:56.9±1.3, 281N×12739E, h61km, mb5.4/40, MS4.2/5, Error ellipse: s-maj=9.8km s-min=5.3km az=114.6*
*NEIC **11** 04:05:57.8±0.8, 272N×12742E, h56km±7km, mb5.2/60, Error ellipse: s-maj=6.4km s-min=4.0km az=71.0*
*GCMT **11** 04:05:57.8±0.2, 309N×12754E, h48km±1km, MW5.1/72, Moment Tensor Solution. s48,c68; s72,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.35±.23; $M_{\theta\theta}$-2.20±.17; $M_{\phi\phi}$-2.15±.21; $M_{r\theta}$-3.20±.14; $M_{\theta\phi}$-2.88±.13; $M_{\phi r}$-2.94±.18; Best double couple: $M_0$6.40300×10^{16} NP1:ϕ_s43.00000°, δ24.00000°, λ87.00000°. NP2: ϕ_s227.00000°, δ66.00000°, λ91.00000°. Principal axes: T 6.0530, Plg69.0000°, Azm140.0000°; N 0.7010, Plg1.0000°, Azm46.0000°; P -6.7540, Plg21.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **11** 04:05:58, 276N×12741E, h12km, ML5.4/4*

ISC 11 04:05:57.0±0.4, 278N±002×12752E±003, h47km±3km, h61km±2.1km: pP-P, n374, σ1§10/346, mb5.3/120, MS4.3/39, 34C-24D, Northern Moluccca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.99**	**184**	⇓*e*P	**Pn**	**04 06 26.0**	**-2.1**
TNE				*e*S	**Sn**	**04 06 50.0**	**-1.8**
MNI	**Manado**	**2.98**	**244**	P	**Pn**	**04 06 43.6**	**+1.8**
0.0nm,0.0s							
MNI	**Manado**	**2.98**	**244**	⇓⇓*e*P	**Pn**	**04 06 33.5**	**-8.3**
MNI				*e*S	**Sn**	**04 07 18.0**	**+1.6**
LBMI	**Labuha**	**3.40**	**180**	P	**Pn**	**04 06 51.3**	**+3.8**
0.0nm,0.0s							
GSPH	**General Santos**	**4.16**	**322**	⇑*e*P	**Pn**	**04 06 56.9**	**-1.2**
GSPH				*e*S	**Sn**	**04 07 42.6**	**-2.9**
MATI	**Mati**	**4.32**	**343**	*e*P	**Pn**	**04 07 01.1**	**+0.9**
DAV	**Davao City (W)**	**4.68**	**336**	Pn	**Pn**	**04 07 04.5**	**-0.6**
200nm,0.3s,baz=327,slow=7.7,SNR=15							
DAV				Sn	**Sn**	**04 08 06.8**	**+8.7**
190nm,0.3s,baz=110,slow=23,SNR=2.0							
DAV				LR	LR	04 09 15.8	
comp=Z,6μm,19.5s,baz=114,slow=43							
DAV	**Davao City (W)**	**4.68**	**336**	*e*Pn	**Pn**	**04 07 08.2**	**+3.1**
DAV				Sn	**Sn**	**04 08 06.8**	**+8.7**
DAV				LR	LR	04 09 15.8	
KCP	**Kidapawan**	**4.85**	**330**	⇑⇑*e*P	**Pn**	**04 07 12.3**	**+4.9**
KCP				*i* S	**Sn**	**04 08 08.2**	**+6.0**
CTBH	**Cotabato--PC H**	**5.48**	**324**	⇑⇑*e*P	**Pn**	**04 07 15.6**	**-0.5**
CTBH				*i* S	**Sn**	**04 08 19.8**	**+1.8**
BIPH	**Bislig**	**5.49**	**348**	⇑⇑*e*P	**Pn**	**04 07 15.2**	**-1.0**
BIPH				*e*S	**Sn**	**04 08 13.1**	**-5.0**
BUKP	**Musuan**	**5.62**	**334**	*e*P	**Pn**	**04 07 18.9**	**+0.8**
BUTP	**Butuan**	**6.43**	**343**	*e*P	**Pn**	**04 07 30.4**	**+1.2**
AAI	**Ambon**	**6.46**	**174**	P	**Pn**	**04 07 35.0**	**+5.4**
614nm,0.9s							
PAGZ	**Pagadian**	**6.50**	**321**	*e*P	**Pn**	**04 07 29.1**	**-1.0**
IPIL	**Ipil**	**7.00**	**315**	*e*P	**Pn**	**04 07 35.6**	**-1.4**
SCPH	**Surigao**	**7.24**	**344**	*e*P	**Pn**	**04 07 41.6**	**+1.3**
TBP	**Tagbilaran**	**7.77**	**332**	*e*P	**Pn**	**04 07 46.9**	**-0.5**
MSLP	**Maasin**	**7.77**	**340**	*e*P	**Pn**	**04 07 47.0**	**-0.5**
KDI	**Kendari**	**8.29**	**216**	P	**Pn**	**04 07 54.5**	**-0.2**
211nm,0.8s							
KDI	**Kendari**	**8.29**	**216**	⇑⇑*e*P	**Pn**	**04 07 54.1**	**-0.6**
KDI				*e*S	**Sn**	**04 09 28.5**	**+1.5**
PCI	**Palu**	**8.51**	**245**	P	**Pn**	**04 08 02.0**	**+4.4**
212nm,0.9s							
PCI	**Palu**	**8.51**	**245**	⇓⇓*e*P	**Pn**	**04 08 00.3**	**+2.7**
PLP	**Palo**	**8.70**	**343**	⇓⇓*e*P	**Pn**	**04 07 58.8**	**-1.5**
GUIM	**Jordan**	**9.20**	**328**	*e*P	**Pn**	**04 08 07.2**	**+0.1**
MYLDM	**Lahad Datu**	**9.30**	**285**	⇑P	**Pn**	**04 08 11.7**	**+3.1**
TSM	**Tawau**	**9.74**	**279**	⇑P	**Pn**	**04 08 14.4**	**-0.1**
RCP	**Roxas**	**9.92**	**332**	⇑⇑*e*P	**Pn**	**04 08 08.4**	**-8.6**
CUYO	**Cuyo Island**	**10.29**	**322**	*e*P	**Pn**	**04 08 21.3**	**-0.7**
SDKM	**Sandakan**	**10.68**	**286**	⇓P	**Pn**	**04 08 27.3**	**-0.1**
SMKI	**Samarinda**	**10.79**	**253**	P	**Pn**	**04 08 32.5**	**+3.6**
822nm,0.9s							
KAPI	**Kappang**	**10.96**	**225**	Pn	**Pn**	**04 08 31.9**	**+0.7**
322nm,0.5s,SNR=14							
KAPI	**Kappang**	**10.96**	**225**	*e*Pn	**Pn**	**04 08 30.7**	**-0.5**
34nm,0.6s							
OTRP	**Odiongan**	**10.96**	**331**	*e*P	**Pn**	**04 08 31.0**	**-0.3**
PVCP	**Virac**	**11.25**	**343**	*e*P	**Pn**	**04 08 36.3**	**+1.1**
BATP	**Bataraza**	**11.36**	**302**	*e*P	**Pn**	**04 08 35.9**	**-0.8**
KDM	**Kudat**	**11.41**	**291**	⇓P	**Pn**	**04 08 40.0**	**+2.6**
SJMP	**San Jose**	**11.52**	**327**	*e*P	**Pn**	**04 08 38.9**	**+0.1**
KKM	**Kota Kinabalu**	**11.72**	**286**	⇑P	**Pn**	**04 08 44.2**	**+2.5**
KKM	**Kota Kinabalu**	**11.72**	**286**	*e*Pn	**Pn**	**04 08 42.9**	**+1.2**
LUBP	**Lubang**	**13.04**	**327**	*e*P	**Pn**	**04 08 59.8**	**+0.2**
BATI	**Baumata**	**13.46**	**197**	P	**Pn**	**04 09 14.8**	**+9.4**
93nm,0.8s							
BATI	**Baumata**	**13.46**	**197**	Pn	**Pn**	**04 09 08.2**	**+2.8**
baz=109,slow=14,SNR=1.7							
BBKI	**Banjar Baru**	**14.10**	**244**	P	**Pn**	**04 09 18.5**	**+4.3**
114nm,1.2s							
BALP	**Baler**	**14.14**	**336**	*e*P	**Pn**	**04 09 14.7**	**-0.1**
BTM	**Bintulu**	**14.42**	**272**	⇑P	**Pn**	**04 09 19.4**	**+1.0**
SBUM	**Sibu**	**15.28**	**269**	⇓P	**Pn**	**04 09 31.6**	**+1.9**
KAKA	**Kakadu**	**16.15**	**162**	*e*P	**Pn**	**04 09 38.5**	**-2.3**
166nm,0.8s							
APYP	**Conner**	**16.20**	**338**	*e*P	**Pn**	**04 09 40.5**	**-1.0**
ABRA	**Dolores**	**16.21**	**336**	*e*P	**Pn**	**04 09 39.9**	**-1.7**
KHKI	**Kahang-Kahang**	**16.23**	**227**	P	**Pn**	**04 09 47.1**	**+5.2**
238nm,0.9s							
STKI	**Sintang**	**16.26**	**261**	P	**Pn**	**04 09 45.0**	**+2.8**
104nm,0.6s							
IGBI	**Denpasar**	**16.88**	**227**	P	**Pn**	**04 09 54.6**	**+4.6**
583nm,1.0s							
KSM	**Kuching**	**17.24**	**266**	⇓P	**Pn**	**04 09 55.7**	**+1.1**
KSM	**Kuching**	**17.24**	**266**	*e*P	**Pn**	**04 09 53.8**	**-0.8**
KRKI	**Karangkates**	**18.54**	**234**	P	**Pn**	**04 10 14.6**	**+4.2**
453nm,1.3s							
SJI	**Sawahan**	**18.87**	**236**	P	**Pn**	**04 10 14.8**	**+0.4**
122nm,0.9s							
GUMO	**Guam**	**20.24**	**57**	P	**P**	**04 10 29.9**	**+1.5**
45nm,0.8s,baz=203,slow=8.8,SNR=4.3							
GUMO				LR	LR	04 18 06.6	
comp=Z,173nm,19.8s,MS3.4,baz=236,slow=36							
GUMO	**Guam**	**20.24**	**57**	*e*P	**P**	**04 10 30.1**	**+1.8**
GUMO				pmax	pmax		
comp=Z,60nm,0.9s							
GUMO	**Guam**	**20.24**	**57**	*e*P	**P**	**04 10 30.1**	**+1.7**
comp=Z,60nm,0.9s							
FITZ	**Fitzroy Crossi**	**20.83**	**185**	*e*P	**P**	**04 10 33.0**	**-1.7**
comp=Z,54nm,0.6s							
FITZ				*e*S	**S**	**04 14 17.4**	**-7.3**
FITZ	**Fitzroy Crossi**	**20.83**	**185**	P	**P**	**04 10 33.2**	**-1.6**
comp=Z,32nm,0.7s,baz=23,slow=10,SNR=88							
FITZ				S	**S**	**04 14 25.0**	**+0.4**
comp=Z,6.6nm,0.8s,baz=195,slow=14,SNR=3.5							
NACB	**Ninganchiao**	**22.02**	**345**	*e*P	**P**	**04 10 46.0**	**-1.5**
comp=Z,42nm,0.4s,mb5.2							
YHNB	**Yeheng**	**22.55**	**345**	*e*P	**P**	**04 10 51.0**	**-2.1**
comp=Z,232nm,0.7s,mb5.7							
COEN	**Coen**	**22.75**	**137**	*e*P	**P**	**04 10 55.9**	**+0.6**
comp=Z,14nm,0.9s,mb4.4							
TATO	**Taipei**	**22.82**	**346**	*e*P	**P**	**04 10 56.0**	**+0.1**
comp=Z,64nm,0.6s,mb5.2							
PMG	**Port Moresby**	**23.02**	**122**	*e*P	**P**	**04 10 59.5**	**+1.4**
PMG				pmax	pmax		
comp=Z,88nm,1.3s							
PMG	**Port Moresby**	**23.02**	**122**	*e*P	**P**	**04 10 59.5**	**+1.4**
comp=Z,88nm,1.3s,mb5.0							
WRAB	**Tennant Creek**	**23.55**	**164**	P	**P**	**04 11 02.0**	**-1.3**
comp=Z,706nm,1.1s,mb6.0							
WRAB	**Tennant Creek**	**23.55**	**164**	*e*P	**P**	**04 11 02.0**	**-1.3**
WRAB				pmax	pmax		
comp=Z,144nm,1.0s,mb5.4							
WRAB	**Tennant Creek**	**23.55**	**164**	*e*P	**P**	**04 11 02.0**	**-1.3**
comp=Z,144nm,1.0s,mb5.4							
WRA	**Warramunga Arr**	**23.55**	**164**	P	**P**	**04 11 01.9**	**-1.4**
comp=Z,43nm,0.5s,mb5.1,baz=334,slow=11,SNR=197							
WRA				S	**S**	**04 15 21.1**	**+7.0**
comp=Z,4.0nm,1.0s,baz=344,slow=14,SNR=5.1							
WB2	**Warramunga Arr**	**23.56**	**164**	*e*P	**P**	**04 11 02.0**	**-1.3**
QZH	**Quanzhou**	**23.65**	**339**	P	**P**	**04 11 03.1**	**-1.1**
QZH				S	**S**	**04 15 17.0**	**+1.4**
QZH				AMB	AMB		
comp=Z,230nm,0.6s,mb5.8							
QZH				AMB	AMB		
comp=Z,2μm,4.0s							
QIZ	**Qiongzhong**	**23.66**	**314**	P	**P**	**04 11 04.1**	**-0.2**
QIZ				S	**S**	**04 15 14.7**	**-1.1**
QIZ				AMB	AMB		
comp=Z,63nm,1.2s,mb4.9							
QIZ				AMB	AMB		
comp=Z,596nm,3.9s							
QIZ				LR	LR		
comp=Z,883nm,24.7s,MS4.1							
MYKOM	**Kota Tinggi**	**23.67**	**268**	⇓P	**P**	**04 11 04.6**	**+0.1**
JOW	**Kunigami**	**23.93**	**2**	P	**P**	**04 11 07.2**	**+0.6**
comp=Z,48nm,0.7s,mb5.0,baz=212,slow=22,SNR=4.0							
JOW				LR	LR	04 19 20.3	
comp=Z,1μm,20.8s,MS4.3,baz=116,slow=34							
KGM	**Kluang**	**24.19**	**269**	⇓P	**P**	**04 11 10.0**	**+0.7**
KTGM	**Kuala Trenggan**	**24.45**	**277**	⇓P	**P**	**04 11 11.3**	**-0.4**
MBWA	**Marble Bar**	**24.98**	**197**	*e*P	**P**	**04 11 15.4**	**-0.9**
comp=Z,172nm,1.0s,mb5.5							
FRIM	**Kepong**	**25.86**	**272**	⇓P	**P**	**04 11 24.2**	**-0.2**
IPM	**Ipoh**	**26.49**	**274**	⇑P	**P**	**04 11 29.9**	**-0.3**
KULM	**Kulim**	**26.91**	**276**	⇓P	**P**	**04 11 32.3**	**-1.6**
ASAR	**Alice Springs**	**27.01**	**167**	P	**P**	**04 11 34.0**	**-0.7**
comp=Z,5.9nm,0.6s,mb4.3,baz=351,slow=7.0,SNR=60							
ASAR				PcP	PcP	04 14 53.6	-1.8
comp=Z,4.2nm,0.7s,baz=358,slow=2.4,SNR=4.3							
PPI	**Padang Panjang**	**27.30**	**264**	P	**P**	**04 11 44.8**	**+7.4**
comp=Z,29nm,0.9s,mb4.8							
CBIJ	**Chichi jima**	**27.96**	**29**	LR	LR	04 20 24.1	
comp=Z,672nm,19.7s,MS4.2,baz=165,slow=31							
PSI	**Prapat**	**28.56**	**271**	P	**P**	**04 11 46.7**	**-2.0**
comp=Z,8.8nm,0.8s,mb4.5,baz=44,slow=5.0,SNR=6.6							
PSI	**Prapat**	**28.56**	**271**	P	**P**	**04 11 46.7**	**-2.0**
SSE	**Sheshan**	**28.79**	**349**	*e*P	**P**	**04 11 51.6**	**+1.1**
SSE				AP	pP	04 12 05.9	+3.0
SSE				XP	sP	04 12 14.1	+5.6
SSE				S	**S**	**04 16 37.0**	**0.0**
SSE				XS	sS	04 17 03.0	+5.1
SSE				SCS	ScS	04 22 23.9	-7.1
SSE				AMB	AMB		
comp=Z,37nm,0.8s,mb5.2							
SSE				AMB	AMB		
comp=Z,235nm,4.3s							
SSE				LR	LR		
comp=N,224nm,20.1s,MS3.9							
SSE				LR	LR		
comp=E,217nm,20.0s,MS3.9							
SSE				LR	LR		
comp=Z,324nm,20.3s,MS3.9							
CTA	**Charters Tower**	**29.24**	**142**	*e*P	**P**	**04 11 55.3**	**+0.7**
comp=Z,4.6nm,0.6s,mb4.4							
CTA				*e*S	S	04 17 22.0	+38
CTA	**Charters Tower**	**29.24**	**142**	P	**P**	**04 11 54.6**	**+0.1**
comp=Z,2.0nm,0.4s,mb4.2,baz=308,slow=11,SNR=4.5							
CTA	**Charters Tower**	**29.24**	**142**	*e*P	**P**	**04 11 55.3**	**+0.7**
CTA				pmax	pmax		
comp=Z,5.0nm,0.6s							
CTAO	**Charters Tower**	**29.24**	**142**	*e*P	**P**	**04 11 54.6**	**0.0**
CTAO				pmax	pmax		
comp=Z,11nm,0.9s,mb4.6							
CTAO	**Charters Tower**	**29.24**	**142**	*e*P	**P**	**04 11 54.6**	**0.0**
comp=Z,11nm,0.9s,mb4.6							
NJ2	**Nanjing**	**30.24**	**345**	*e*P	**P**	**04 12 05.7**	**+2.4**
NJ2				AP	pP	04 12 20.5	+4.8
NJ2				XP	sP	04 12 28.0	+6.6
NJ2				S	**S**	**04 17 02.5**	**+2.8**
NJ2				XS	sS	04 17 29.5	+8.9
NJ2				AMB	AMB		
comp=Z,50nm,1.0s,mb5.2							
NJ2				AMB	AMB		
comp=Z,700nm,4.2s							
NJ2				LR	LR		
comp=N,630nm,24.0s,MS4.4							
NJ2				LR	LR		
comp=E,710nm,21.2s,MS4.4							
NJ2				LR	LR		
comp=Z,680nm,20.8s,MS4.3							
WHN	**Wuhan**	**30.29**	**337**	*e*P	**P**	**04 12 04.7**	**+0.9**
GYA	**Guiyang**	**30.89**	**322**	P	**P**	**04 12 08.0**	**-1.2**
GYA				AP	pP	04 12 26.8	+5.2
GYA				XP	sP	04 12 35.7	+8.4
GYA				PP	PP	04 13 15.3	-4.3
GYA				PCP	PcP	04 15 06.2	+1.0
GYA				S	**S**	**04 17 10.5**	**+0.3**
GYA				XS	sS	04 17 37.6	+6.5
GYA				SCP	ScP	04 18 42.0	-2.3
GYA				SCS	ScS	04 22 38.6	-2.6
GYA				AMB	AMB		
comp=Z,20nm,1.0s,mb4.9							
GYA				AMB	AMB		
comp=Z,270nm,4.5s							
GYA				LR	LR		
comp=N,870nm,16.1s,MS4.6							
GYA				LR	LR		
comp=E,720nm,17.9s,MS4.6							
GYA				LR	LR		
comp=Z,980nm,16.2s,MS4.5							
CMAR	**Chiang Mai Arr**	**32.03**	**301**	P	**P**	**04 12 18.4**	**-0.9**
comp=Z,40nm,0.8s,mb5.3,baz=114,slow=7.0,SNR=133							
CMAR				ScP	ScP	04 18 48.4	+0.1
comp=Z,1.4nm,0.3s,baz=122,slow=2.2,SNR=10							
CMAR				LR	LR	04 24 59.4	
comp=Z,192nm,19.

DL2 LR LR
comp=E,120nm,17.2s,MS4.0
DL2 LR LR
comp=Z,250nm,15.6s,MS4.1
NWAO Narrogin (SRO) 36.82 195 *e*P **P 04 12 59.9 -0.6**
NWAO pmax pmax
comp=Z,40nm,0.7s
NWAO Narrogin (SRO) 36.82 195 *e*P **P 04 12 59.9 -0.6**
comp=Z,40nm,0.7s,mb5.4
STKA Stephens Creek 36.97 160 *e*P **P 04 13 01.1 -0.7**
comp=Z,45nm,0.6s,mb5.5
STKA *e*S **S 04 18 36.2 -7.7**
STKA Stephens Creek 36.97 160 P **P 04 13 01.4 -0.5**
comp=Z,62nm,0.7s,mb5.6,baz=335,slow=7.9,SNR=87
BJT Baijiatuau 38.47 346 *e*P **P 04 13 14.6 +0.2**
BJT pmax pmax
comp=Z,114nm,0.7s
BJT Baijiatuau 38.47 346 *e*P **P 04 13 14.6 +0.2**
comp=Z,114nm,0.7s,mb5.7
BJI Beijing 38.49 346 P **P 04 13 14.8 +0.3**
BJI XP sP 04 13 38.0 +5.2
BJI S **S 04 19 09.2 +2.5**
BJI AMB AMB
comp=Z,159nm,0.7s,mb5.9
BJI LR LR
comp=N,174nm,21.7s,MS4.2
BJI LR LR
comp=E,299nm,18.2s,MS4.2
BJI LR LR
comp=Z,377nm,29.1s
SNY Shenyang 39.03 355 ⇑P **P 04 13 19.2 +0.1**
SNY AMB AMB
comp=Z,40nm,0.7s,mb5.3
SNY LR LR
comp=E,371nm,24.0s
SNY LR LR
comp=Z,430nm,16.0s
LZH Lanzhou 39.71 329 ⇓P **P 04 13 25.6 +0.8**
LZH PP PP 04 14 58.0 +1.2
LZH *e*S **S 04 19 25.2 -0.1**
LZH SS SS 04 22 15.1 -7.3
LZH AMB AMB
comp=Z,110nm,1.1s,mb5.5
LZH AMB AMB
comp=Z,457nm,5.1s
LZH LR LR
comp=N,702nm,14.8s
LZH LR LR
comp=Z,2μm,16.0s,MS5.0
ARMA Armidale 40.25 147 *e*P **P 04 13 30.0 +0.7**
HHC Hu-ho-hao-te 40.54 341 *e*P **P 04 13 32.2 +0.6**
HHC AP pP 04 13 47.5 +3.2
HHC XP sP 04 13 54.7 +4.8
HHC PP PP 04 15 10.5 +4.8
HHC PCP PcP 04 15 33.1 -0.2
HHC SCP ScP 04 19 17.0 -2.1
HHC PCS PcS 04 19 22.4 -1.5
HHC S **S 04 19 37.4 -0.1**
HHC XS sS 04 20 04.4 +5.6
HHC SS SS 04 22 37.0 -1.8
HHC SCS ScS 04 23 29.3 -4.0
HHC AMB AMB
comp=Z,116nm,1.0s,mb5.5
HHC LR LR
comp=N,382nm,24.4s,MS4.3
HHC LR LR
comp=E,465nm,27.0s,MS4.3
HHC LR LR
comp=Z,530nm,24.3s,MS4.3
BTO Baotou 40.84 340 *e*P **P 04 13 33.2 -0.9**
CN2 Changchun 40.89 358 *e*P **P 04 13 33.9 -0.5**
CN2 PP PP 04 15 13.5 +4.0
CN2 *e*S **S 04 19 42.4 -0.2**
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,600nm,16.0s,MS4.7
CN2 LR LR
comp=E,500nm,16.0s,MS4.7
CN2 LR LR
comp=Z,300nm,17.0s,MS4.2
SHL Shillong 41.07 307 ⇓*i*P **P 04 13 35.0 -1.2**
comp=Z,200nm,1.0s,mb5.7
SHL *e*S **S 04 19 42.0 -3.8**
MDJ Mudanjiang 41.70 2 P **P 04 13 40.9 -0.2**
MDJ AP pP 04 13 56.0 +2.1
MDJ XP sP 04 14 03.2 +3.8
MDJ PP PP 04 15 18.1 -0.1
MDJ PCS PcS 04 19 27.9 -0.4
MDJ S **S 04 19 54.1 -0.5**
MDJ AMB AMB
comp=Z,40nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,85nm,6.7s
MDJ LR LR
comp=N,339nm,29.0s
MDJ LR LR
comp=Z,406nm,25.8s,MS4.2
MDJ Mudanjiang 41.70 2 *e*P **P 04 13 40.9 -0.2**
comp=Z,54nm,1.1s,mb5.1
CAN Canberra 42.92 154 *e*P **P 04 13 52.2 +1.1**
ASAJ Asahikawa 43.27 16 LR LR 04 30 11.4
comp=Z,644nm,21.6s,MS4.5,baz=200,slow=34
TOO Toolangi 43.48 159 *e*P **P 04 13 56.7 +1.1**
LSA Lhasa 43.65 312 P **P 04 13 57.6 +0.4**
LSA PP PP 04 15 40.2 +0.7
LSA PCP PcP 04 15 42.1 -1.8
LSA S **S 04 20 24.8 +1.0**
LSA AMB AMB
comp=Z,60nm,0.7s,mb5.4
LSA Lhasa 43.65 312 *e*P **P 04 13 57.2 0.0**
LSA pmax pmax
comp=Z,40nm,0.6s,mb5.3
LSA Lhasa 43.65 312 *e*P **P 04 13 57.2 +0.1**
comp=Z,40nm,0.6s,mb5.3
GTA Gaotai 44.31 329 P **P 04 14 02.5 +0.2**
GTA AP pP 04 14 17.1 +2.0
GTA XP sP 04 14 24.7 +4.0
GTA PP PP 04 15 49.8 +3.5
GTA S **S 04 20 37.2 +4.1**
GTA XS sS 04 21 04.7 +10
GTA AMB AMB
comp=Z,32nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,219nm,7.1s
GTA LR LR
comp=N,469nm,21.7s,MS4.5
GTA LR LR
comp=E,309nm,21.7s,MS4.5
GTA LR LR
comp=Z,751nm,27.9s
TAPN Taplejung 45.21 307 *e*P **P 04 14 09.0 -0.7**
comp=Z,59nm,0.6s,mb5.6
ODAN Odare 45.26 306 *e*P **P 04 14 09.3 -0.7**
comp=Z,119nm,0.6s,mb5.9
RAMN Ramite 45.94 306 *e*P **P 04 14 14.8 -0.6**
comp=Z,78nm,0.6s,mb5.8
YSS Yuzh-Sakhalins 45.95 15 ⇑*e*P **P 04 14 14.9 -0.3**
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 45.95 15 *e*P **P 04 14 15.3 +0.2**
comp=Z,18nm,0.5s,mb5.3
KLR Kul'dur 46.42 4 *e*P **P 04 14 14.2 -4.6**
KLR MLR MLR
comp=N,1μm,19.0s
JIRN Jiri 46.56 306 *e*P **P 04 14 19.7 -0.6**
comp=N,55nm,0.5s,mb5.8
HIA Hailar 46.79 353 *e*P **P 04 14 21.9 +0.2**
HIA pmax pmax
comp=Z,90nm,1.1s
HIA Hailar 46.79 353 *e*P **P 04 14 21.9 +0.2**
comp=Z,90nm,1.1s,mb5.6
PALK Pallekele 46.83 277 *e*P **P 04 14 21.2 -1.4**
PALK pmax pmax
comp=Z,15nm,0.7s,mb5.0
PALK Pallekele 46.83 277 *e*P **P 04 14 21.2 -1.4**
comp=Z,15nm,0.7s,mb5.0
GUN Gumba 46.91 306 *e*P **P 04 14 22.6 -0.5**
comp=Z,74nm,0.4s,mb6.0
PKI Pulchoki 47.16 306 *e*P **P 04 14 23.8 -1.2**
KKN Kakani 47.35 306 *e*P **P 04 14 25.4 -1.1**
comp=Z,41nm,0.5s,mb5.7
DMN Daman 47.42 306 *e*P **P 04 14 25.9 -1.1**

SONM Songino Array 48.44 341 P **P 04 14 35.2 +0.6**
comp=Z,12nm,0.5s,mb5.2,baz=156,slow=8.5,SNR=97
SONM ScP ScP 04 19 50.8 -0.5
comp=Z,2.7nm,1.0s,baz=158,slow=4.5,SNR=6.0
SONM LR LR 04 36 28.8
comp=Z,280nm,21.0s,MS4.2,baz=158,slow=38
KOLN Koldanda 48.71 305 *e*P **P 04 14 36.4 -0.6**
comp=Z,188nm,0.6s,mb6.3
DANN Dangsing 48.80 306 *e*P **P 04 14 36.9 -0.8**
comp=Z,198nm,0.5s,mb6.4
ZAK Zakamensk 51.67 340 ⇑*i*P **P 04 14 58.7 -0.3**
ZAK *e* pP 04 15 12.6 +0.5
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
TLY Talaya 52.67 342 P **P 04 15 07.0 +0.6**
comp=Z,246nm,0.7s,mb6.2,SNR=16
TLY Talaya 52.67 342 *d i*P **P 04 15 07.0 +0.6**
TLY pmax pmax
comp=Z,19nm,0.8s,mb5.1
TLY Talaya 52.67 342 *e*P **P 04 15 07.1 +0.7**
comp=Z,28nm,0.8s,mb5.2
IRK Irkutsk 52.96 342 *e*P **P 04 15 07.8 -0.7**
IRK pmax pmax
comp=Z,53nm,1.7s,mb5.2
MOY Mondy 53.54 340 *e*P **P 04 15 14.1 +1.3**
MOY pmax pmax
comp=Z,79nm,2.4s,mb5.2
CLNS Chul'man 53.94 358 *e*P **P 04 15 13.9 -1.7**
CLNS pmax pmax
comp=Z,21nm,0.6s,mb5.2
CLNS pmax pmax
comp=N,15nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.7s
WMQ Urumqi 53.95 325 P **P 04 15 17.4 +1.5**
WMQ AP pP 04 15 33.2 +4.1
WMQ XP sP 04 15 40.2 +5.6
WMQ PCP PcP 04 16 21.8 +1.0
WMQ PP PP 04 17 20.6 +2.9
WMQ S **S 04 22 46.5 -1.7**
WMQ SCS ScS 04 24 57.7 -3.7
WMQ SS SS 04 26 27.4 -2.6
WMQ AMB AMB
comp=Z,32nm,0.7s,mb5.4
WMQ AMB AMB
comp=Z,39nm,8.0s
WMQ LR LR
comp=N,414nm,21.2s,MS4.7
WMQ LR LR
comp=E,647nm,25.0s,MS4.7
WMQ LR LR
comp=Z,609nm,25.0s,MS4.6
DDI Dehra Dun 54.16 306 *e*P **P 04 15 16.8 -0.9**
DDI *e*x x 04 15 56.2
BOD Bodaibo 55.91 351 *e*P **P 04 15 29.4 -0.5**
BOD pmax pmax
comp=Z,24nm,1.2s,mb5.1
HVS Khovu-Aksy 55.92 335 *c i*P **P 04 15 30.7 +0.6**
PETK Petropavlovsk- 56.01 21 P **P 04 15 31.1 +0.4**
comp=Z,12nm,0.7s,mb5.0,baz=190,slow=5.0,SNR=27
PETK LR LR 04 39 35.6
comp=Z,166nm,19.9s,MS4.1,baz=218,slow=36
PET Petropavlovsk 56.30 22 *e*P **P 04 15 32.6 -0.1**
PET *e**PP pP 04 15 48.6 +2.6
PET *i* S **S 04 23 18.6 -0.8**
PET *e**SS sS 04 23 46.2 +4.7
PET *e* 04 25 13.2
PET pmax pmax
comp=Z,12nm,0.8s,mb5.0
PET MLR MLR
comp=Z,200nm,18.0s,MS4.2
MK31 Makanchi Array 58.78 325 *e*P **P 04 15 50.4 +0.1**
MKAR Makanchi Array 58.78 325 P **P 04 15 50.5 +0.2**
comp=Z,28nm,0.5s,mb5.6,baz=119,slow=8.1,SNR=268
MKAR ScP ScP 04 20 35.6 -0.7
comp=Z,2.7nm,1.0s,baz=132,slow=5.1,SNR=4.3
MKAR LR LR 04 43 42.6
comp=Z,272nm,18.3s,MS4.4,baz=119,slow=39
MKAR PKP2bc 04 45 38.9
comp=Z,0.4nm,0.6s,baz=270,slow=2.1,SNR=4.4
MKAR Makanchi Array 58.78 325 P **P 04 15 50.5 +0.2**
MKAR ScP ScP 04 20 35.6 -0.7
MKAR LR LR 04 43 42.6
MKAR ⇑*e* 04 45 38.9
YAK Yakutsk 59.13 1 ⇑*e*P **P 04 15 52.1 -0.3**
YAK pmax pmax
comp=Z,107nm,0.8s,mb5.9
YAK Yakutsk 59.13 1 *e*P **P 04 15 52.0 -0.4**
comp=Z,96nm,0.6s,mb6.0
KSH Kashi 59.27 315 *e*P **P 04 15 56.2 +2.4**
KSH *e*PCP PcP 04 16 41.2 -0.5
KSH *e*PP PP 04 18 11.3 +6.1
KSH SCP ScP 04 20 31.4 -7.3
KSH PCS PcS 04 20 40.1 -3.5
KSH S **S 04 23 59.3 +0.6**
KSH SCS ScS 04 25 33.2 -7.0
KSH SS SS 04 27 58.4 +4.4
KSH AMB AMB
comp=Z,445nm,5.0s
KSH LR LR
comp=Z,580nm,6.0s
KRAR Krasnoyarsk 59.91 338 *e*P **P 04 15 58.3 +0.4**
KRAR pmax pmax
comp=Z,18nm,0.7s,mb5.2
ULHL Ulahol 60.25 318 P **P 04 16 00.8 +0.3**
SNR=9.9
KZA Kyzart 60.84 318 P **P 04 16 05.8 +1.2**
SNR=13
TKM2 Tokmak 2 60.97 319 *e*P **P 04 16 05.0 -0.4**
TKM2 pmax pmax
comp=Z,12nm,0.6s,mb5.2
TKM2 Tokmak 2 60.97 319 P **P 04 16 05.8 +0.4**
SNR=21
TKM2 Tokmak 2 60.97 319 *e*P **P 04 16 05.0 -0.5**
comp=Z,12nm,0.6s,mb5.2
URZ Urewera 61.32 137 P **P 04 16 08.6 +0.8**
comp=Z,5.4nm,0.6s,mb4.9,baz=317,slow=6.9,SNR=3.8
UCH Uchtor 61.40 317 *e*P **P 04 16 06.4 -1.9**
comp=Z,14nm,1.1s,mb5.0
FRU Bishkek 61.59 318 *e*P **P 04 16 09.0 -0.6**
FRU *e* 04 16 36.0
ZAA0 Zalesovo Array 61.78 333 *e*P **P 04 16 09.9 -0.8**
ZALV Zalesovo Beam 61.78 333 P **P 04 16 10.2 -0.4**
comp=Z,19nm,0.7s,mb5.3,baz=130,slow=6.9,SNR=63
ZALV PKP2bc 04 45 28.4
comp=Z,0.6nm,0.3s,baz=228,slow=1.8,SNR=4.6
ZALV LR LR 04 46 01.6
comp=Z,123nm,18.1s,MS4.1,baz=128,slow=39
ZALV Zalesovo Beam 61.78 333 P **P 04 16 10.2 -0.4**
ZALV ⇑*e* 04 45 28.4
ZALV LR LR 04 46 01.6
ZAL Zalesovo 61.79 333 P **P 04 16 10.3 -0.4**
AML Almayashu 61.91 317 P **P 04 16 12.9 +1.1**
SNR=9.7
AML Almayashu 61.91 317 *e*P **P 04 16 12.5 +0.7**
comp=Z,23nm,0.7s,mb5.4
EKS2 Erkin-Say 62.08 318 P **P 04 16 13.4 +0.5**
SNR=11
EKS2 Erkin-Say 62.08 318 *e*P **P 04 16 13.2 +0.3**
comp=Z,65nm,0.6s,mb5.9
AFI Afiamalu 62.42 107 P **P 04 16 16.6 +0.9**
comp=Z,43nm,0.8s,mb5.6,baz=208,slow=9.1,SNR=4.0
KBL Kabul 62.72 308 *e*P **P 04 16 16.6 -0.8**
KBL pmax pmax
comp=Z,21nm,0.7s,mb5.4
KBL Kabul 62.72 308 *e*P **P 04 16 16.6 -0.8**
comp=Z,21nm,0.7s,mb5.4
SEY Seymchan 62.78 12 ⇑*e*P **P 04 16 18.1 +0.9**
KURK Kurchatov 62.96 327 P **P 04 16 19.2 +0.6**
comp=Z,2μm,0.8s
KURK Kurchatov 62.96 327 *e*P **P 04 16 19.0 +0.4**
KURK pmax pmax
comp=Z,254nm,0.7s,mb6.5
KURK Kurchatov 62.96 327 *e*P **P 04 16 19.0 +0.4**
comp=Z,254nm,0.7s,mb6.5
NVS Novosibirsk 63.07 333 ⇓*i*P **P 04 16 18.3 -0.9**
NVS *i* 04 16 40.3
NVS *e*S **S 04 24 44.7 -1.8**
NVS pmax pmax
comp=Z,118nm,1.8s,mb5.7
NVS pmax pmax
comp=N,75nm,1.7s
NVS pmax pmax
comp=E,65nm,1.4s
NVS smax
comp=N,32nm,2.0s
NVS smax
comp=E,61nm,2.4s
BVAR Borovoye Array 68.54 327 P **P 04 16 54.2 -0.3**
comp=E,23nm,0.7s,mb5.2,baz=123,slow=9.4,SNR=12
BVAR LR LR 04 46 57.6
comp=E,151nm,22.0s,MS4.2,baz=118,slow=36
BRVK Borovoye 68.61 327 P **P 04 16 55.8 +0.8**
comp=E,387nm,0.8s,mb6.4,SNR=30
BRVK Borovoye 68.61 327 *e*P **P 04 16 54.7 -0.3**
BRVK pmax pmax
comp=Z,102nm,1.1s,mb5.7
BRVK Borovoye 68.61 327 *e*P **P 04 16 54.7 -0.2**
comp=Z,102nm,1.1s,mb5.7
TIXI Tiksi 68.78 0 *e*P **P 04 16 54.6 -1.1**
TIXI *e*S S 04 25 51.3 -4.1
TIXI pmax pmax
comp=Z,13nm,0.6s,mb5.0
TIXI MLR MLR
comp=Z,220nm,19.0s,MS4.4
TIXI Tiksi 68.78 0 *e*P **P 04 16 54.8 -0.9**
comp=Z,8.9nm,0.4s,mb5.0
CASY Casey 69.98 187 *e*P **P 04 17 03.3 +0.2**
AKTK Aktyubinsk 74.89 322 P **P 04 17 32.7 -0.1**
AKTO Aktyubinsk 74.89 322 P **P 04 17 32.7 -0.1**
comp=Z,28nm,0.8s,mb5.3,baz=100,slow=6.5,SNR=63
SVE Sverdlovsk 75.17 328 ⇑*e*P **P 04 17 34.1 -0.2**
SVE *e*SS SS 04 31 56.8 -2.6
SVE pmax pmax
comp=Z,58nm,0.7s,mb5.6
ARU Arti 76.15 328 P **P 04 17 39.6 -0.3**
comp=Z,410nm,0.6s,mb6.5,SNR=12
ARU Arti 76.15 328 *d i*P **P 04 17 39.0 -0.9**
ARU *e* pP 04 17 51.5 -2.1
ARU *e* 04 20 31.7
ARU *e*S S 04 27 18.3 -1.9
ARU pmax pmax
comp=Z,50nm,0.8s,mb5.5
ARU Arti 76.15 328 *e*P **P 04 17 39.0 -0.9**
comp=Z,39nm,0.6s,mb5.5
UMR Umm Al-Rimmam 79.76 299 *e*P **P 04 18 00.1 -0.4**
baz=299
UMR AMb AMB 04 18 02.9
comp=Z,153nm,1.4s,mb5.7,baz=299
RDF Al-Radifah 79.88 299 *e*P **P 04 18 01.3 +0.1**
baz=299
RDF AMb AMB 04 18 02.8
comp=Z,130nm,1.3s,mb5.7,baz=299
MIB Mutribah 80.10 300 *e*P **P 04 18 01.7 -0.6**
baz=300
MIB AMb AMB 04 18 03.2
comp=Z,217nm,0.8s,mb6.1,baz=300
NAY Al-Naaiem 80.16 299 *e*P **P 04 18 01.9 -0.8**
baz=299
NAY AMb AMB 04 18 03.4
comp=Z,101nm,0.8s,mb5.8,baz=299
MAK Makhachkala 80.80 313 *e*P pP 04 18 22.5 +2.9
MAK *e* 04 21 09.8
MAK *e*S S 04 28 10.9 +0.4
SVW2 Sparrevohn 81.25 29 *e*P **P 04 18 08.4 +0.7**
TTA Tatalina 81.39 27 *e*P **P 04 18 09.5 +1.0**
TTA pmax pmax
comp=Z,37nm,1.4s,mb5.1
TTA Tatalina 81.39 27 *e*P **P 04 18 09.4 +1.0**
comp=Z,37nm,1.4s,mb5.1
ABPO Ambohimpanom 81.73 250 *e*P **P 04 18 08.5 -2.7**
ABPO pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ABPO Ambohimpanom 81.73 250 *e*P **P 04 18 08.5 -2.7**
comp=Z,7.2nm,0.7s,mb4.7
KDAK Kodiak Island 82.27 32 P **P 04 18 14.9 +1.7**
comp=Z,164nm,0.8s,mb6.0,SNR=10
KDAK Kodiak Island 82.27 32 P **P 04 18 14.2 +1.0**
comp=Z,19nm,0.7s,mb5.1,baz=258,slow=3.5,SNR=28
KDAK LR LR 04 48 19.6
comp=Z,179nm,21.8s,MS4.4,baz=256,slow=31
KDAK Kodiak Island 82.27 32 *e*P **P 04 18 13.7 +0.5**
KDAK pmax pmax
comp=Z,18nm,0.8s,mb5.0
KDAK Kodiak Island 82.27 32 *e*P **P 04 18 13.7 +0.5**
comp=Z,18nm,0.8s,mb5.1
DGRG David-gareji 82.28 311 P **P 04 18 14.9 +1.3**
VNDA Vanda 82.39 173 P **P 04 18 13.1 -0.4**
comp=Z,7.6nm,0.7s,mb4.8,baz=316,slow=6.0,SNR=78
VNDA Vanda 82.39 173 P **P 04 18 13.1 -0.4**
VNDA pmax pmax
comp=Z,8.0nm,0.7s
VNDA Vanda 82.39 173 *e*P **P 04 18 12.8 -0.7**
comp=Z,7.1nm,0.7s,mb4.7
GNI Garni 82.69 310 ⇑*e*P **P 04 18 16.0 +0.2**
GNI pmax pmax
comp=Z,12nm,0.9s
GNI Garni 82.69 310 *e*P **P 04 18 15.9 +0.1**
comp=Z,22nm,1.0s,mb5.2
MTA Mtatsminda 82.72 312 P **P 04 18 16.5 +0.6**
TBLG Delisi 82.77 312 P **P 04 18 16.9 +0.8**
IMA2 Indian Mountai 82.93 24 *e*P **P 04 18 17.5 +1.1**
PPLA Purkeypile 83.11 27 *e*P **P 04 18 18.1 +0.6**
comp=Z,10nm,0.7s,mb5.0
MAW Mawson 83.14 200 *e*P **P 04 18 17.8 +0.3**
comp=Z,12nm,0.8s,mb5.0
MAW Mawson 83.14 200 P **P 04 18 17.8 +0.3**
comp=Z,13nm,0.7s,mb5.1,baz=63,slow=5.8,SNR=30
MAW Mawson 83.14 200 *e*P **P 04 18 17.8 +0.3**
MAW pmax pmax
comp=Z,12nm,0.8s
CHUM Lake Minchumin 83.18 26 *e*P **P 04 18 18.6 +0.8**
comp=Z,23nm,1.0s,mb5.2
SBA Scott Base 83.29 172 *e*P **P 04 18 18.5 +0.3**
SBA pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
SBA Scott Base 83.29 172 *e*P **P 04 18 18.5 +0.4**
comp=Z,4.9nm,0.8s,mb4.6
AKH Akhalkalaki 83.69 311 P **P 04 18 22.7 +1.8**
ONI Oni 83.76 312 P **P 04 18 21.9 +0.7**
KTH Kantishna Hill 83.76 26 *e*P **P 04 18 21.8 +1.0**
comp=Z,19nm,1.1s,mb5.2
SLKM Skilak Lake 83.78 30 *e*P **P 04 18 20.9 -0.1**
BPAW Bear Paw Mtn. 83.79 26 *e*P **P 04 18 21.4 +0.5**
comp=Z,20nm,1.1s,mb5.2
RC01 Rabbit Creek A 84.07 29 *e*P **P 04 18 22.4 0.0**
comp=Z,28nm,0.9s,mb5.4
PPT Papeete 84.08 108 *e*LR LR 04 45 02.8
comp=Z,531nm,32.0s
SEW Seward 84.12 30 *e*P **P 04 18 23.1 +0.3**
KIV Kislovodsk 84.36 314 ⇑*i*P **P 04 18 24.8 +0.5**
KIV *e* 04 21 39.3
KIV *i* S S 04 28 43.0 -3.8
KIV pmax pmax
comp=Z,19nm,1.4s,mb5.0
KIV MLR MLR
comp=Z,100nm,20.0s,MS4.2
PMR Palmer 84.40 29 *e*P **P 04 18 24.0 -0.1**
PMR pmax pmax
comp=Z,53nm,1.3s,mb5.5
PMR Palmer 84.40 29 *e*P **P 04 18 24.0 -0.1**
comp=Z,53nm,1.3s,mb5.5
MCK McKinley 84.66 26 *e*P **P 04 18 25.4 0.0**
MCK pmax pmax
comp=Z,31nm,1.2s,mb5.3
MCK McKinley 84.66 26 *e*P **P 04 18 25.4 0.0**
comp=Z,31nm,1.2s,mb5.3
TBI Tubuai 84.69 114 *e*LR LR 04 45 08.5
comp=Z,476nm,26.8s
COLA College 85.21 25 *e*P **P 04 18 28.9 +0.8**
COLA College 85.21 25 *e*P **P 04 18 28.4 +0.2**
comp=Z,3.2nm,0.8s,mb4.5
VRHR Novokhopersk 85.27 321 *e*P **P 04 18 28.2 -0.5**
VRHR pmax pmax
comp=Z,50nm,1.0s,mb5.6
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.4s
SOC Sochi 86.50 313 *e*P **P 04 18 33.5 -1.5**
SOC *e**PP pP 04 18 50.5 +1.5
SOC *e*PPP 04 23 54.7
SOC *e*S S 04 28 53.8 -14
SOC pmax pmax
comp=Z,17nm,0.5s,mb5.5
SOC MLR MLR
comp=Z,113nm,20.0s,MS4.3
SOC Sochi 86.50 313 *i*P **P 04 18 37.8 +2.8**
RAGM Ragged Mountai 86.52 30 *e*P **P 04 18 35.9 +1.2**
BMRM Bremner River 86.56 29 *e*P **P 04 18 35.8 +1.0**
KLMR Klimovskoe 86.61 331 *e*P **P 04 18 33.5 -1.6**

VRSR Storozhevoye 86.80 321 *eP* **P 04 18 35.4 -0.9**
VRSR pmax pmax
comp=N,1.0nm,0.4s
VRSR pmax pmax
comp=Z,1.0nm,0.4s,mb4.4
VRSR pmax pmax
comp=E,3.0nm,0.8s
MALT Malatya 87.58 308 *eP* **P 04 18 41.2 +0.9**
MALT pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
MALT Malatya 87.58 308 *eP* **P 04 18 41.2 +0.8**
comp=Z,9.7nm,0.8s,mb5.1
MOS Moscow 87.66 326 *eP* **P 04 18 40.9 +0.6**
EGAK Eagle 88.07 25 *eP* **P 04 18 42.0 -0.1**
comp=Z,4.2nm,0.8s,mb4.7
ANN Anapa 88.12 315 *eP* **P 04 18 44.1 +1.3**
ANN *eS* S 04 29 08.5 -15
ANN pmax pmax
comp=Z,77nm,0.8s,mb6.0
OBN Obninsk 88.28 325 *eP* **P 04 18 44.2 +0.9**
OBN *i* PS 04 30 31.1
OBN pmax pmax
comp=Z,46nm,0.9s,mb5.7
OBN Obninsk 88.28 325 *eP* **P 04 18 41.7 -1.6**
comp=Z,22nm,0.6s,mb5.6
DAWY Dawson 88.88 26 *eP* **P 04 18 46.2 +0.3**
HYT Haines Junctio 90.03 29 *eP* **P 04 18 52.0 +0.7**
KMBO Kilima Mbogo 90.32 269 P **P 04 18 54.3 +0.6**
comp=Z,2.6nm,0.8s,mb4.6,baz=82,slow=6.0,SNR=5.0
KMBO Kilima Mbogo 90.32 269 *eP* **P 04 18 54.6 +0.8**
KMBO pmax pmax
comp=Z,5.0nm,0.5s
KMBO Kilima Mbogo 90.32 269 *eP* **P 04 18 54.6 +0.8**
comp=Z,4.6nm,0.5s,mb5.1
JOF Joensuu 90.38 333 *ep* **P 04 18 51.1 -1.8**
comp=Z,5.5nm,0.4s,mb5.2
INK Inuvik 90.75 22 LR LR 04 59 50.9
comp=Z,177nm,18.1s,MS4.5,baz=111,slow=36
SPITS Spitsbergen Ar 91.56 349 P **P 04 18 57.4 -0.8**
comp=Z,6.1nm,0.8s,mb5.0,baz=8.0,slow=20,SNR=3.1
ARCES ARCESS Array B 91.60 340 P **P 04 18 57.3 -1.2**
comp=Z,7.0nm,0.6s,mb5.1,baz=79,slow=6.7,SNR=27
ARCES LR LR 05 05 21.9
comp=Z,186nm,21.0s,MS4.5,baz=306,slow=39
ARCES ARCESS Array B 91.60 340 P **P 04 18 57.3 -1.2**
ARCES LR LR 05 05 21.9
SYO Syowa Base 91.83 201⇓ *eP* **P 04 18 58.0 -1.5**
SYO Syowa Base 91.83 201⇑ *eP* **P 04 19 07.6 +8.1**
KAF Kangasniemi 92.80 332 *ep* **P 04 19 01.5 -2.7**
comp=Z,2.4nm,0.5s,mb4.9,baz=74,slow=4.3
KAF Kangasniemi 92.80 332 *eP* **P 04 19 01.5 -2.7**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
AKASG Malin Array Be 93.12 321 P **P 04 19 06.9 +1.0**
comp=Z,4.6nm,0.6s,mb5.1,baz=66,slow=4.3,SNR=19
AKASG LR LR 05 07 05.4
comp=Z,92nm,21.5s,MS4.2,baz=60,slow=40
AKBB Malin Array Si 93.12 321 *eP* **P 04 19 04.6 -1.3**
KIEV Kiev 93.13 321 *eP* **P 04 19 07.6 +1.6**
KIEV pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
KIEV Kiev 93.13 321 *eP* **P 04 19 07.6 +1.7**
comp=Z,3.4nm,0.7s,mb4.9
WRAK Wrangell Islan 93.31 33 *eP* **P 04 19 07.4 +0.7**
comp=Z,14nm,0.8s,mb5.4
KIS Kishinev 93.91 317 *eP* **P 04 19 18.0 +8.3**
KIS *e* 04 31 32.0
DLBC Dease Lake 94.15 31 P **P 04 19 10.9 +0.4**
baz=310,slow=3.8
VRI Vrincioaia 95.52 316⇑ *iP* **P 04 19 19.1 +2.1**
VRI Vrincioaia 95.52 316 ⇑P **P 04 19 19.1 +2.0**
MLR Muntele Rosu 96.12 316⇓ *iP* **P 04 19 22.7 +2.9**
MLR Muntele Rosu 96.12 316 ⇓P **P 04 19 22.7 +2.9**
SUW Suwalki 96.15 325 *eP* **P 04 19 23.4 +3.7**
SUW Suwalki 96.15 325 *eP* **P 04 19 19.3 -0.4**
comp=Z,34nm,0.9s,mb5.8
BURAR Bucovina Array 96.23 318⇑ *iP* **P 04 19 20.0 -0.2**
BURAR Bucovina Array 96.23 318 ⇑P **P 04 19 20.0 -0.2**
BBB Bella Bella 96.58 37 LR LR 05 04 21.4
comp=Z,91nm,18.2s,MS4.3,baz=272,slow=36
KWP Kalwaria 97.44 321 *eP* **P 04 19 29.6 +4.0**
KWP Kalwaria 97.44 321⇑ *iP* **P 04 19 29.8 +4.2**
KWP Kalwaria 97.44 321 *eP* **P 04 19 29.6 +4.0**
KOLS Kolonicke sedl 97.87 320 *eP* **P 04 19 28.9 +1.3**
APE Apeiranthos 97.87 308⇑ *iP* **P 04 19 29.1 +1.2**
APE Apeiranthos 97.87 308 ⇑P **P 04 19 29.1 +1.2**
UZH Uzhgorod 97.93 320 *eP* **P 04 19 31.2 +3.3**
DRGR 98.07 318⇑ *iP* **P 04 19 31.7 +3.1**
DRGR 98.07 318 ⇑P **P 04 19 31.7 +3.1**
GZR Gura Zlata 98.33 316⇓ *iP* **P 04 19 33.3 +3.5**
GZR Gura Zlata 98.33 316 ⇓P **P 04 19 33.3 +3.6**
CRVS Cervenica-Dubn 98.40 320 PDIF **P 04 19 34.0 +4.0**
CRVS Cervenica-Dubn 98.40 320 *eP* **P 04 19 34.0 +4.0**
VTS Vitosha 98.61 314⇓ *iP* **P 04 19 33.8 +2.7**
KECS Kecovo 99.13 320 *eP* **P 04 19 36.0 +2.7**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.9
KECS Kecovo 99.13 320 PDIF **P 04 19 36.0 +2.7**
KECS Kecovo 99.13 320 *eP* **P 04 19 36.0 +2.7**
comp=Z,2.5nm,0.8s,mb4.8
HFS Hagfors 99.22 332 P **P 04 19 31.0 -2.4**
comp=Z,2.0nm,0.6s,mb4.8,baz=102,slow=6.1,SNR=5.1
LSZ Lusaka 99.72 255 *eP* Pdif 04 19 36.1 +0.4
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
LSZ Lusaka 99.72 255 *e*Pdif Pdif 04 19 36.1 +0.4
comp=Z,2.6nm,0.8s
NB2 NORSAR Subarra 99.98 334 P Pdif 04 19 35.0 -1.9
comp=Z,1.7nm,0.7s,baz=66,slow=4.6
NOA NORSAR Array B 99.98 334 P Pdif 04 19 35.0 -1.9
comp=Z,2.0nm,0.7s,baz=66,slow=4.6,SNR=13
NOA PP PP 04 23 37.4 -4.5
comp=Z,1.0nm,0.8s,baz=73,slow=7.9,SNR=4.4
NOA LR LR 05 11 23.7
comp=Z,215nm,21.4s,MS4.6,baz=45,slow=39
PKSM Moragy 100.94 318⇑ *iP* Pdif 04 19 45.0 +3.9
PKSM Moragy 100.94 318 ⇑P Pdif 04 19 45.0 +3.8
BRG Berggiesshubel 102.46 324 P Pdif 04 19 52.5 +4.6
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG Berggiesshubel 102.46 324 *e*(P) Pdif 04 19 52.5 +4.5
comp=Z,4.7nm,1.0s
BRG Berggiesshubel 102.46 324 P Pdif 04 19 52.5 +4.5
comp=Z,2.8nm,1.0s
CLL Collm 102.86 324 *e*PP PP 04 24 04.0 +0.1
comp=Z,3.0nm,0.8s
CLL *e*(pPP) 04 24 21.0
CLL *e*SP SP 04 33 04.0 -2.3
CLL *e*PPS 04 33 57.0
CLL *e*(PPPrev) 04 44 10.0
CLL Lm 05 10 00.0
comp=Z,200nm,21.8s
GERES GERESS Array B 103.31 322 Pdiff Pdif 04 19 52.3 +0.6
comp=Z,0.7nm,0.7s,baz=81,slow=4.2,SNR=6.7
GERES PP PP 04 24 08.5 +1.1
comp=Z,0.6nm,0.7s,baz=68,slow=3.6,SNR=3.8
DAVOX Davos/Dischmat 106.46 321 Pdiff Pdif 04 20 07.7 +2.0
comp=Z,1.6nm,0.8s,baz=140,slow=10,SNR=5.0
DAVOX Davos/Dischmat 106.46 321 Pdif Pdif 04 20 07.7 +2.0
DAVOS Davos 106.50 321 P Pdif 04 20 07.7 +1.9
CDF Champ du Feu 107.41 323 *e*PKIKP PKiKP 04 24 18.3 -0.2
comp=Z,2.5nm,0.5s
HLID Hailey 107.97 42 *e*PKP PKiKP 04 24 19.8 +0.1
LPG La Plagne 108.97 320 *e*PKIKP PKiKP 04 24 21.9 +0.4
comp=Z,6.5nm,1.0s
EKA Eskdalemuir Ar 109.42 333 PP PP 04 24 51.5 -0.3
comp=Z,0.6nm,0.7s,baz=76,slow=8.7,SNR=3.7
DUG Dugway 110.35 45 *e*PKIKP PKiKP 04 24 22.6 -1.7
KEST Kesra 110.83 310 PP PP 04 25 02.5 -0.4
comp=Z,1.7nm,1.0s,baz=48,slow=4.0,SNR=3.8
PDAR Pinedale Array 111.54 42 PKiKP PKiKP 04 24 26.4 -0.1
comp=Z,0.3nm,0.5s,baz=103,slow=2.9,SNR=3.2
PDAR PKKPbc PKKPbc 04 35 21.1 -1.1
comp=Z,0.5nm,0.6s,baz=108,slow=5.2,SNR=5.3
PV01 Paradox Valley 114.20 46 *e*PKP PKiKP 04 24 32.8 +1.2
RSSD Black Hills 114.45 38 *e*PKIKP PKiKP 04 24 31.6 -0.4
ULM Lac du Bonnet 115.41 29 *e*PKP PKPdf 04 24 33.4 -0.2
comp=Z,1.2nm,0.5s,baz=347,slow=5.4,SNR=3.2
ULM Lac du Bonnet 115.41 29 *e*PKP PKPdf 04 24 32.1 -1.5
SDCO Great Sand Dun 116.55 45 *e*PKPdf PKPdf 04 24 36.9 +0.7
ANMO Albuquerque 117.07 48 *e*PKIKP PKPdf 04 24 38.2 +0.9
ESDC Sonseca Array 118.68 319 PP PP 04 25 55.2 -2.8
comp=Z,0.2nm,0.4s,baz=59,slow=9.4,SNR=4.3
ECSD EROS,Sioux Fal 119.11 35 *e*PKPdf PKPdf 04 24 40.7 -0.3
TXAR Lajitas Array 121.55 53 PKP PKPdf 04 24 46.8 +0.7
comp=Z,1.0nm,0.6s,baz=211,slow=0.9,SNR=23
TXAR PKKPab PKKPab 04 34 47.9 +0.6
comp=Z,0.2nm,0.7s,baz=116,slow=5.7,SNR=4.5
WMOK Wichita Mounta 122.75 45 *e*PKIKP PKPdf 04 24 47.9 -0.3
TOA0 Torodi Ar. Sit 123.96 288 *e*PKPdf PKPdf 04 24 50.9 -0.2
TORD Torodi Ar. Bea 123.96 288 PKP PKPdf 04 24 51.0 0.0
comp=Z,2.6nm,0.8s,baz=51,slow=1.9,SNR=23
TORD PKKPbc PKKPbc 04 34 37.4 +0.5
comp=Z,0.5nm,0.6s,baz=258,slow=2.7,SNR=12
TORD Torodi Ar. Bea 123.96 288 PKP PKPdf 04 24 51.0 -0.1
TORD PKKPbc PKKPbc 04 34 37.4 +0.5
JCT Junction City 124.07 50 *e*PKIKP PKPdf 04 24 51.4 +0.5
CCM Cathedral Cave 125.82 38 *e*PKIKP PKPdf 04 24 53.5 -0.5
OLIL Olney 127.23 35 *e*PKPdf PKPdf 04 24 57.2 +0.5
PLCA Paso Flores 138.85 159 PKP PKPdf 04 25 19.9 +1.5
comp=Z,3.2nm,0.7s,baz=206,slow=18,SNR=11
PLCA Paso Flores 138.85 159 PKIKP PKPdf 04 25 19.9 +1.5
PLCA pmax pmax
comp=Z,3.0nm,0.7s
PLCA Paso Flores 138.85 159 *e*PKPdf PKPdf 04 25 19.4 +0.9
TRQA Tornquist 143.83 167 *e*PKPdf PKPdf 04 25 27.2 -0.2
LCO Las Campanas 148.68 148 *e*PKPbc PKPbc 04 25 40.4 +0.6
BCIP Isla Barro Col 150.27 66 *e*PKPbc PKPbc 04 25 44.0 -0.1
OTAV Otavalo 153.87 84 *e*PKPbc PKPbc 04 25 48.1 -4.1
NNA Nana 154.20 112 *e*PKPbc PKPbc 04 25 53.7 +0.8
LVC Limon Verde 154.65 142 *e*PKPbc PKPbc 04 25 55.1 +1.4
CPUP Villa Florida 156.13 169 PKP PKPdf 04 25 47.3 +0.3
comp=Z,1.6nm,0.6s,baz=62,slow=5.1,SNR=4.8
CPUP PKPab PKPab 04 26 15.1 +0.6
comp=Z,1.9nm,0.6s,baz=178,slow=3.8,SNR=4.8
CPUP Villa Florida 156.13 169 *e*PKPdf PKPdf 04 25 46.6 -0.4
ROSC El Rosal 156.89 71 PKPab PKPab 04 26 20.9 +2.6
comp=Z,7.2nm,0.8s,baz=263,slow=16,SNR=4.6
SDV Santo Domingo 158.51 57 *e*PKPdf PKPdf 04 25 50.9 +0.5
LPAZ La Paz 159.58 132 PKP PKPdf 04 25 52.9 +1.4
comp=Z,5.3nm,1.1s,baz=6.3,slow=1.8,SNR=12
LPAZ La Paz 159.58 132 *e*PKPdf PKPdf 04 25 52.9 +1.5
BDFB Brasilia 166.48 199 PKPab PKPab 04 26 57.8 -2.1
comp=Z,1.2nm,0.7s,baz=104,slow=16,SNR=3.1
BDFB Brasilia 166.48 199 PKP2 PKPab 04 26 57.8 -2.0
BDFB pmax pmax
comp=Z,1.0nm,0.7s

ISCJB ***11*** *04:12:33.9±1.2, 685S±005×13038E±006, h74km±12km, mb4.1/11, Error ellipse: s-maj=10.7km s-min=8.4km az=9.8*
NEIC ***11*** *04:12:36.0±1.6, 673S×13020E, h67km±15km, mb4.2/8, Error ellipse: s-maj=16.5km s-min=10.5km az=55.0*
IDC ***11*** *04:12:40.7±1.0, 659S×13038E, h105km±6km, mb3.9/6, mb1 4.1/7, mb1mx3.8/15, mbtmp4.0/7, MS4.2/1, Ms1 4.2/1, ms1mx3.3/22, Error ellipse: s-maj=36.7km s-min=18.7km az=71.0*
ISC 11 04:12:35.0±1.1, 680S±007×13041E±007, h65km±13km, h107km±.9km: pP-P, n34, σ1°22/34, mb4.1/11, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.58**	**63⇑**	*e*P	**Pn**	**04 13 15.0**	**+0.5**
TLE				*e*S	**Sn**	**04 13 34.0**	**-11**
KAKA	**Kakadu**	**6.20**	**161**	*e*P	**Pn**	**04 14 05.5**	**+1.5**
KAKA	69nm,0.5s			*e*		04 15 10.8	
BATI	**Baumata**	**7.48**	**243**	P	**Pn**	**04 14 28.4**	**+6.8**
BATI	31nm,0.3s,baz=88,slow=4.2,SNR=11			S	**Sn**	**04 15 45.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**12.16**	**202**	*e*P	**Pn**	**04 15 25.6**	**+0.2**
FITZ	26nm,0.3s			*e*S	**Sn**	**04 17 34.1**	**-5.2**
FITZ	**Fitzroy Crossi**	**12.16**	**202**	P	**Pn**	**04 15 26.4**	**+0.9**
FITZ	2.8nm,0.3s,baz=35,slow=12,SNR=24			S	**Sn**	**04 17 38.1**	**-1.2**
WRA	**Warramunga Arr**	**13.60**	**164**	P	**Pn**	**04 15 42.7**	**-2.3**
WRA	3.0nm,0.3s,baz=338,slow=13,SNR=11			S	**Sn**	**04 18 05.9**	**-8.7**
WB2	**Warramunga Arr**	**13.61**	**164**	*e*P	**Pn**	**04 15 42.9**	**-2.2**
WB2				*e*S	**Sn**	**04 18 06.0**	**-8.7**
COEN	**Coen**	**14.42**	**121**	*e*P	**Pn**	**04 16 02.3**	**+6.4**
ASAR	**Alice Springs**	**17.10**	**169**	P	**Pn**	**04 16 29.7**	**-0.1**
ASAR	3.2nm,0.3s,baz=349,slow=9.0,SNR=23			S	**S**	**04 19 33.0**	**-12**
MK31	**Makanchi Array**	**68.29**	**327**	*e*P	**P**	**04 23 28.4**	**-0.7**
MKAR	**Makanchi Array**	**68.29**	**327**	P	**P**	**04 23 29.6**	**+0.4**
MKAR	3.4nm,0.6s,mb4.3,baz=123,slow=7.9,SNR=18			pP	pP	04 23 55.7	+9.1
MKAR	**Makanchi Array**	**68.29**	**327**	P	**P**	**04 23 29.6**	**+0.4**
MKAR	1.1nm,0.4s,mb4.0,baz=134,slow=6.6,SNR=3.4			pP	pP	04 23 55.7	+9.1
TKM2	**Tokmak 2**	**70.10**	**320**	*e*P	**P**	**04 23 41.2**	**+0.8**
ZALV	**Zalesovo Beam**	**71.59**	**334**	P	**P**	**04 23 48.3**	**-1.0**
ZALV	1.9nm,0.6s,mb4.1,baz=129,slow=4.7,SNR=7.2			pP	pP	04 24 15.2	+8.4
KURK	**Kurchatov**	**72.57**	**328**	*e*P	**P**	**04 23 54.8**	**-0.3**
VNDA	**Vanda**	**72.59**	**173**	P	**P**	**04 23 57.0**	**+2.1**
VNDA	**Vanda**	**72.59**	**173**	*e*P	**P**	**04 23 56.7**	**+1.8**
BVAR	**Borovoye Array**	**78.12**	**328**	P	**P**	**04 24 26.1**	**-0.8**
BVAR	0.9nm,0.4s,mb3.8,baz=123,slow=5.5,SNR=5.3			pP	pP	04 24 53.4	+8.7
BRVK	**Borovoye**	**78.19**	**328**	*e*P	**P**	**04 24 27.2**	**-0.1**
MCK	**McKinley**	**91.93**	**26**	*e*P	**P**	**04 25 36.2**	**+0.2**
GERES	**GERESS Array B**	**112.53**	**320**	PKiKP	PKiKP	04 31 04.1	+0.1
EKA	**Eskdalemuir Ar**	**119.19**	**332**	PKP	PKPdf	04 31 16.0	-0.5
TORD	**Torodi Ar. Bea**	**129.18**	**281**	PKP	PKPdf	04 31 37.5	+0.6
TORD	**Torodi Ar. Bea**	**129.18**	**281**	PKP	PKPdf	04 31 37.5	+0.6
CPUP	**Villa Florida**	**146.22**	**167**	PKPbc	PKPbc	04 32 09.9	+1.0
LPAZ	**La Paz**	**150.62**	**141**	PKPbc	PKPbc	04 32 23.1	+2.4
LPAZ	**La Paz**	**150.62**	**141**	*e*PKPbc	PKPbc	04 32 22.6	+1.9

IDC ***11*** *04:21:20.5±0.7, 6339N×15109W, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.8/23, mbtmp3.8/12, ML3.7/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/35, Error ellipse: s-maj=18.2km s-min=13.5km az=78.0*
ISCJB ***11*** *04:21:21.7±0.4, 6320N±002×15142W±006, h25km±4km, mb3.8/18, Error ellipse: s-maj=4.7km s-min=4.1km az=20.9*
NEIC ***11*** *04:21:21.4, 6319N×15137W, h13km, mb3.8/7, ML4.0(AEIC), After AEIC.*
ISC 11 04:21:21.9±0.5, 6320N±002×15142W±006, h12km±4km, n62, σ0°89/68, mb3.8/18, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.42**	**32**	P	**Pg**	**04 21 29.9**	**-0.3**
KTH				S	**Sg**	**04 21 36.0**	**+0.3**
PPLA	**Purkeypile**	**0.47**	**229**	P	**Pg**	**04 21 30.1**	**-1.0**
PPLA				S	**Sg**	**04 21 37.6**	**+0.4**
TRF	**Thorofare Moun**	**0.57**	**63**	P	**Pg**	**04 21 31.9**	**-1.0**
TRF				S	**Sg**	**04 21 40.6**	**+0.2**
CHUM	**Lake Minchumin**	**0.79**	**330**	P	**Pg**	**04 21 37.8**	**+0.5**
CHUM				S	**Sg**	**04 21 48.9**	**+1.3**
BPAW	**Bear Paw Mtn.**	**0.92**	**12**	P	**Pg**	**04 21 39.1**	**-0.5**
BPAW				S	**Sg**	**04 21 52.0**	**+0.3**
MCK	**McKinley**	**1.23**	**63**	P	**Pn**	**04 21 43.7**	**-1.2**
GHO	**Glory Hole Cre**	**1.84**	**140**	P	**Pn**	**04 21 52.9**	**-0.3**
PMR	**Palmer**	**1.93**	**146**	P	**Pn**	**04 21 53.5**	**-1.0**
TTA	**Tatalina**	**2.11**	**265**	*e*P	**Pn**	**04 21 56.1**	**-0.8**
TT01	**Tatalina**	**2.12**	**264**	P	**Pn**	**04 21 56.3**	**-0.7**
FIB	**Fire Island**	**2.12**	**164**	P	**Pn**	**04 21 57.0**	**-0.1**
RC01	**Rabbit Creek A**	**2.26**	**159**	P	**Pn**	**04 21 58.1**	**-0.9**
COLA	**College**	**2.30**	**41**	P	**Pn**	**04 21 58.2**	**-1.2**
ILB	**Eielson Array**	**2.54**	**50**	P	**Pn**	**04 22 01.5**	**-1.3**
IL1	**Eielson Array**	**2.54**	**50**	P	**Pn**	**04 22 01.5**	**-1.4**
SLKM	**Skilak Lake**	**2.76**	**168**	P	**Pn**	**04 22 05.6**	**-0.2**
SVW2	**Sparrevohn**	**2.88**	**225**	P	**Pn**	**04 22 07.1**	**-0.4**
IM3	**Indian Mountai**	**2.97**	**341**	P	**Pn**	**04 22 09.1**	**+0.3**
HARP	**HAARP**	**2.98**	**103**	P	**Pn**	**04 22 09.6**	**+0.7**
IMA2	**Indian Mountai**	**3.04**	**342**	P	**Pn**	**04 22 10.1**	**+0.4**
SEW	**Seward**	**3.25**	**162**	P	**Pn**	**04 22 13.8**	**+1.3**
DIV	**Divide**	**3.37**	**126**	P	**Pn**	**04 22 14.4**	**+0.2**
MENT	**Mentasta**	**3.51**	**91**	*e*P	**Pn**	**04 22 17.5**	**+1.3**
EYAK	**Cordova Ski Ar**	**3.78**	**132**	P	**Pn**	**04 22 20.8**	**+1.0**
BMRM	**Bremner River**	**3.91**	**122**	P	**Pn**	**04 22 22.1**	**+0.5**
COLD	**Coldfoot**	**4.08**	**7**	P	**Pn**	**04 22 24.2**	**+0.3**
RAGM	**Ragged Mountai**	**4.27**	**128**	P	**Pn**	**04 22 27.0**	**+0.5**
BCA3	**Beaver Creek A**	**4.37**	**87**	P	**Pn**	**04 22 28.6**	**+0.6**
MID	**Middleton Isla**	**4.51**	**145**	*e*P	**Pn**	**04 22 31.5**	**+1.7**
EGAK	**Eagle**	**4.79**	**66**	*e*Pn	**Pn**	**04 22 33.4**	**-0.3**
EGAK				*e*Pg	**Pg**	**04 22 50.0**	**-3.5**
EGAK				*e*Sg	**Sg**	**04 23 50.6**	**-4.7**
BM3	**Burnt Mountain**	**5.11**	**31**	P	**Pn**	**04 22 37.1**	**-0.9**
DAWY	**Dawson**	**5.43**	**75**	P	**Pn**	**04 22 42.1**	**-0.4**
KDAK	**Kodiak Island**	**5.47**	**187**	Pn	**Pn**	**04 22 43.5**	**+0.5**
KDAK	2.6nm,0.3s,baz=358,slow=8.5,SNR=23			Sn	**Sn**	**04 23 43.9**	**-1.8**
KDAK	3.1nm,0.3s,baz=152,slow=24,SNR=2.6			Lg		04 24 06.2	
KDAK	**Kodiak Island**	**5.47**	**187**	P	**Pn**	**04 22 42.9**	**-0.1**
OHAK	**Old Harbor**	**6.07**	**190**	P	**Pn**	**04 22 51.9**	**+0.7**
HYT	**Haines Junctio**	**6.97**	**104**	*e*Pn	**Pn**	**04 23 05.1**	**+1.6**
TNA	**Tin City**	**7.53**	**296**	P	**Pn**	**04 23 10.9**	**-0.3**
INK	**Inuvik**	**8.94**	**47**	Pn	**Pn**	**04 23 29.9**	**-0.7**
INK	0.4nm,0.3s,baz=237,slow=13,SNR=7.4			Lg		04 25 52.5	
INK	0.2nm,0.3s,baz=150,slow=14,SNR=3.1			LR	LR	04 27 32.2	
INK	**Inuvik**	**8.94**	**47**	*e*Pn	**Pn**	**04 23 30.9**	**+0.2**
DLBC	**Dease Lake**	**11.45**	**105**	Lg		04 27 23.2	
YKA	**Yellowknife Ar**	**16.67**	**76**	LR	LR	04 32 05.8	
EDM	**Edmonton**	**22.06**	**99**	*e*P	**P**	**04 26 16.0**	**-0.1**
NEW	**Newport**	**24.02**	**112**	*e*P	**P**	**04 26 36.7**	**+0.5**
HLID	**Hailey**	**28.93**	**115**	*e*P	**P**	**04 27 20.2**	**-0.2**
BW06	**Boulder Array**	**31.61**	**110**	*e*P	**P**	**04 27 45.3**	**+1.1**
PDAR	**Pinedale Array**	**31.61**	**110**	P	**P**	**04 27 44.2**	**+0.1**
NVAR	**Mina Array Bea**	**31.80**	**125**	P	**P**	**04 27 45.5**	**-0.3**
NVAR	0.3nm,0.5s,baz=277,slow=2.3,SNR=4.6			PcP	PcP	04 30 37.2	+0.6
NVAR	**Mina Array Bea**	**31.80**	**125**	P	**P**	**04 27 45.5**	**-0.3**
NVAR				PcP	PcP	04 30 37.2	+0.6
ULM	**Lac du Bonnet**	**32.00**	**87**	P	**P**	**04 27 47.6**	**+0.2**
SDCO	**Great Sand Dun**	**37.50**	**111**	*e*P	**P**	**04 28 34.5**	**-0.6**
ANMO	**Albuquerque**	**39.48**	**114**	*e*P	**P**	**04 28 51.4**	**-0.4**
TUC	**Tucson**	**40.05**	**121**	*e*P	**P**	**04 28 57.2**	**+0.7**
TXAR	**Lajitas Array**	**45.53**	**115**	P	**P**	**04 29 41.4**	**+0.4**
TXAR	0.9nm,0.8s,mb3.7,baz=336,slow=6.8,SNR=7.7			PcP	PcP	04 31 18.7	-0.8
JCT	**Junction City**	**46.14**	**110**	*e*P	**P**	**04 29 45.8**	**0.0**
SONM	**Songino Array**	**53.55**	**305**	P	**P**	**04 30 43.7**	**+1.8**
ZALV	**Zalesovo Beam**	**55.25**	**323**	P	**P**	**04 30 53.7**	**-0.5**
NOA	**NORSAR Array B**	**55.38**	**10**	P	**P**	**04 30 57.9**	**+2.9**
EKA	**Eskdalemuir Ar**	**59.25**	**20**	P	**P**	**04 31 22.1**	**-0.3**
BVAR	**Borovoye Array**	**59.59**	**332**	P	**P**	**04 31 26.3**	**+1.5**
MKAR	**Makanchi Array**	**62.40**	**321**	P	**P**	**04 31 43.1**	**-0.9**
AKASG	**Malin Array Be**	**66.44**	**360**	P	**P**	**04 32 08.7**	**-1.7**

NEIC ***11*** *04:49:45.8, 17.15N×100.75W, h17km, MD3.5(MEX), After MEX.*
MEX 11 04:49:44.3±0.7, 1718N×10074W, h4km±11km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.47**	**107**	*e*P	Pg	04 49 53.0	-0.5
CAIG				*i* S	Sg	04 49 59.9	+0.3
ZIIG	**Zihuatanejo**	**0.81**	**301**	*i* P	Pg	04 49 59.0	-0.8
ZIIG				*i* S	Sg	04 50 08.7	-1.6
ZIIG	**Zihuatanejo**	**0.81**	**301**	*i* P	Pg	04 49 59.8	0.0
ZIIG				*i* S	Sg	04 50 08.7	-1.6
ACX	**Acapulco**	**0.85**	**112**	*e*P	Pg	04 50 00.6	0.0
ACX				*i* S	Sg	04 50 10.5	-1.2
PLIG	**Platanillo**	**1.69**	**44**	*i* P	Pn	04 50 11.6	-3.0
PLIG				*e*S	Sn	04 50 32.5	-4.1

ISCJB ***11*** *04:53:33.0±0.6, 276S±01×134W±01, h10km, mb4.1/10, MS3.6/3, Error ellipse: s-maj=20.5km s-min=13.4km az=164.7*
IDC ***11*** *04:53:33.0±0.8, 2758S×13.44W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, MS3.6/3, Ms1 3.6/3, ms1mx3.3/18, Error ellipse: s-maj=31.0km s-min=23.6km az=161.0*
NEIC ***11*** *04:53:34.6±0.4, 2756S×13.40W, h10km, mb4.4/5, Error ellipse: s-maj=13.9km s-min=9.4km az=166.0*
ISC 11 04:53:34.8±0.6, 276S±01×134W±01, h10km, n19, σ0°39/16, mb4.1/10, MS3.6/3, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**34.02**	**101**	P	**P**	**05 00 19.2**	**+0.1**
BOSA	3.6nm,0.8s,mb4.3,baz=276,slow=9.2,SNR=3.8			LR	LR	05 11 57.7	
BOSA	**Boshof**	**34.02**	**101**	P	**P**	**05 00 19.2**	**+0.1**
BOSA	comp=Z,158nm,19.9s,MS3.7,baz=340,slow=32			LR	LR	05 11 57.7	
BDFB	**Brasilia**	**34.19**	**283**	P	**P**	**05 00 20.4**	**-0.2**
BDFB	3.1nm,0.8s,mb4.3,baz=142,slow=14,SNR=3.3			LR	LR	05 11 25.6	
BDFB	**Brasilia**	**34.19**	**283**	P	**P**	**05 00 20.4**	**-0.2**
BDFB	comp=Z,47nm,21.8s,MS3.2,baz=106,slow=31			LR	LR	05 11 25.6	
LBTB	**Lobatse**	**34.96**	**95**	*e*P	**P**	**05 00 27.1**	**-0.1**
TRQA	**Tornquist**	**41.74**	**243**	*e*P	**P**	**05 01 24.2**	**+0.1**
TOA0	**Torodi Ar. Sit**	**43.04**	**22**	*e*P	**P**	**05 01 34.8**	**0.0**
TORD	**Torodi Ar. Bea**	**43.04**	**22**	P	**P**	**05 01 35.1**	**+0.2**
PLCA	**Paso Flores**	**48.31**	**239**	P	**P**	**05 02 16.7**	**+0.3**
PLCA	**Paso Flores**	**48.31**	**239**	P	**P**	**05 02 16.7**	**+0.3**
LPAZ	**La Paz**	**51.65**	**271**	P	**P**	**05 02 41.2**	**-0.8**
LPAZ	**La Paz**	**51.65**	**271**	*e*P	**P**	**05 02 41.4**	**-0.7**
KMBO	**Kilima Mbogo**	**55.13**	**70**	LR	LR	05 24 03.4	
	comp=Z,96nm,18.1s,MS3.9,baz=272,slow=33						

SDV	**Santo Domingo**	66.17	295	*e*P	P	05 04 23.8	+0.8
	8.8nm,1.3s,mb4.6						
VNDA	**Vanda**	75.11	179	P	P	05 05 16.5	-0.1
	0.7nm,0.8s,mb3.6,baz=154,slow=3.2,SNR=3.6						
VNDA	**Vanda**	75.11	179	*e*P	P	05 05 16.5	-0.1
	1.2nm,0.8s,mb3.9						
AKASG	**Malin Array Be**	86.56	26	P	P	05 06 17.4	-0.4
	0.1nm,0.3s,mb3.5,baz=220,slow=4.3,SNR=4.9						
ASAR	**Alice Springs**	120.08	145	PKP	PKPdf	05 12 26.0	-0.5
	0.5nm,0.8s,baz=186,slow=2.9,SNR=6.2						
WRA	**Warramunga Arr**	123.37	143	PKP	PKPdf	05 12 32.3	-0.5
	0.3nm,0.6s,baz=248,slow=3.0,SNR=3.3						

NIED ***11*** *05:28:00,44.70N×147.10E,h140km,Mw4.2 Best double couple: M₀1.93000×10¹⁵ NP1:φs13.00000°,δ89.00000°, λ-83.00000°. NP2:φs115.00000°,δ7.00000°, λ-168.00000°.*

MOS ***11*** *05:28:28.5±1.2,45.00N×146.84E,h132km,mb4.2/10,Error ellipse: s-maj=14.0km s-min=9.4km az=65.7*

JMA ***11*** *05:28:30.8±0.4,44.74N×147.06E,h136km±4km,M4.0*

ISCJB ***11*** *05:28:30.0±0.4,44.75N±005×14699E±006,h151km±5km, mb4.1/33,Error ellipse: s-maj=8.6km s-min=6.6km az=143.0*

BJI ***11*** *05:28:30.3,45.11N×146.80E,h61km,mB4.8,mb4.7,Ms4.1, Msz4.0*

IDC ***11*** *05:28:31.7±0.8,44.92N×146.90E,h148km±6km,mb3.6/11, mb1 3.9/14,mb1mx3.7/24,mbtmp3.7/14,Error ellipse: s-maj=20.9km s-min=9.1km az=159.0*

NEIC ***11*** *05:28:31.4±0.4,44.84N×146.86E,mb4.2/15,Error ellipse: s-maj=13.6km s-min=6.8km az=151.0*

ISC 11 05:28:31.2±0.4,4474N±005×14699E±006,h146km±5km, h146km±2.2km:pP-P,n88,σ1§04/96,mb4.1/33,7C-4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	0.80	51	⇓*i*PN	Pn	05 28 48.6	-5.3
KUR				*e*S	Sn	05 29 04.0	-7.2
KUR				pmax	pmax		
	comp=N,230nm,0.4s						
KUR				pmax	pmax		
	comp=E,330nm,0.4s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				pmax	pmax		
	comp=Z,4μm,1.2s						
KUR				smax			
	comp=N,430nm,0.7s						
KUR				smax			
	comp=E,1μm,0.7s						
KUR				smax			
	comp=N,3μm,1.8s						
KUR				smax			
	comp=E,7μm,1.8s						
YUK	**Yuzh-Kuril'sk**	1.07	229	⇑*i*PN	Pn	05 28 55.7	-0.5
YUK				*i*S	Sn	05 29 15.0	-0.2
YUK				pmax	pmax		
	comp=Z,6μm,0.4s						
YUK				pmax	pmax		
	comp=E,950nm,0.4s						
YUK				pmax	pmax		
	comp=Z,4μm,0.4s						
YUK				pmax	pmax		
	comp=N,620nm,0.3s						
YUK				smax			
	comp=E,3μm,0.6s						
YUK				smax			
	comp=N,3μm,0.8s						
YUK				smax			
	comp=N,10μm,1.6s						
YUK				smax			
	comp=E,4μm,1.0s						
JRA	**Rausu**	1.56	240	P	Pn	05 29 00.2	-0.8
NEM2	**Nemuro 2**	1.64	214	P	Pn	05 29 01.0	-0.9
NEM2				*e*S	Sn	05 29 24.4	-1.0
JNK	**Nakash**	2.00	236	P	Pn	05 29 06.0	0.0
JTKR	**Abashiri--Toko**	2.34	252	P	Pn	05 29 09.9	-0.2
JTKR				*e*S	Sn	05 29 39.9	-0.1
JAK	**Akkeshi**	2.40	224	P	Pn	05 29 11.0	+0.1
JAK				*e*S	Sn	05 29 40.5	-0.9
JMP	**Maruseppu**	2.70	256	P	Pn	05 29 14.5	-0.1
JAR	**Ashorobuto**	2.73	239	P	Pn	05 29 15.6	+0.7
JOB	**Onbets**	2.93	232	P	Pn	05 29 18.2	+0.8
JOB				*e*S	Sn	05 29 53.9	+0.8
JSE	**Soyaes**	3.14	276	P	Pn	05 29 19.8	-0.3
JKK2	**Kamakawa 2**	3.17	256	P	Pn	05 29 21.1	+0.7
ASAJ	**Asahikawa**	3.21	260	P	Pn	05 29 21.7	+0.7
	comp=E,19nm,0.3s,baz=89,slow=15,SNR=105						
ASAJ				S	Sn	05 30 00.6	+1.1
	comp=E,1.8nm,0.3s,baz=255,slow=25,SNR=5.3						
ASAJ	**Asahikawa**	3.21	260	PN	Pn	05 29 21.7	+0.7
ASAJ				S	Sn	05 30 00.6	+1.1
ASAJ				pmax	pmax		
	comp=Z,19nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
JCH	**Churui**	3.38	232	P	Pn	05 29 23.5	+0.3
JCH				*e*S	Sn	05 30 02.8	-0.7
JFR	**Furan**	3.54	245	P	Pn	05 29 26.7	+1.4
JFR				*e*S	Sn	05 30 09.8	+2.6
JWK2	**Keihoku**	3.66	281	P	Pn	05 29 28.1	+1.4
YSS	**Yuzh-Sakhalins**	3.70	308	*e*PN	Pn	05 29 25.9	-1.4
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				pmax	pmax		
	comp=E,50nm,0.8s						
YSS	**Yuzh-Sakhalins**	3.70	308	*e*Pn	Pn	05 29 26.3	-1.0
YSS				*e*Sn	Sn	05 30 12.2	+1.4
JNBK	**Urakawa-nobuka**	3.94	233	P	Pn	05 29 29.8	-0.7
JEW	**Eniwo**	4.44	247	P	Pn	05 29 38.3	+1.3
MAT	**Matsushiro**	10.55	222	P	Pn	05 30 57.4	-1.1
MJAR	**Matsushiro Arr**	10.55	222	P	Pn	05 30 57.1	-1.4
	comp=E,0.4nm,0.3s,baz=27,slow=14,SNR=5.0						
MJAR	**Matsushiro Arr**	10.55	222	*e*PN	Pn	05 30 58.7	+0.2
PETK	**Petropavlovsk-**	10.94	36	P	Pn	05 31 01.6	-1.8
	comp=E,2.0nm,0.3s,baz=187,slow=10,SNR=31						
PET	**Petropavlovsk**	11.29	39	⇓*i*PN	Pn	05 31 04.1	-3.9
PET	**Petropavlovsk**	11.29	39	Pn	Pn	05 30 58.1	-10
CN2	**Changchun**	15.46	274	*e*P	Pn	05 32 00.0	-1.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	16.09	250	P	Pn	05 32 08.1	-0.9
	comp=Z,0.4nm,0.3s,baz=64,slow=11,SNR=10.0						
KSRS	**Korea Array**	16.09	250	*e*P	Pn	05 32 08.3	-0.7
SEY	**Seymchan**	18.49	8	⇑*i*P	P	05 32 36.1	+0.4
HIA	**Hailar**	19.08	293	⇑*i*P	P	05 32 40.0	-2.2
BOD	**Bodaibo**	24.15	315	*e*P	P	05 33 29.0	-4.3
BOD				*e*		05 34 00.5	
BOD				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
HHC	**Hu-ho-hao-te**	26.16	274	*e*P	P	05 34 01.1	+9.5
HHC				AP	pP	05 34 10.6	-12
HHC				PP		05 34 46.3	
HHC				PCP	PcP	05 37 24.1	+9.3
HHC				XS	sS	05 38 49.9	-17
HHC				SCP	ScP	05 41 01.5	+21
HHC				PCS	PcS	05 41 04.7	+9.0
HHC				SCS	ScS	05 44 49.7	+19
HHC				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.7						
HHC				AMB	AMB		
	comp=Z,149nm,5.6s						
HHC				LR	LR		
	comp=N,257nm,13.1s						
HHC				LR	LR		
	comp=E,248nm,13.1s						
HHC				LR	LR		
	comp=Z,220nm,11.9s						
SONM	**Songino Array**	28.00	291	P	P	05 34 07.6	-0.4
	comp=Z,1.6nm,0.7s,mb3.8,baz=75,slow=10,SNR=8.9						
TLY	**Talaya**	29.35	299	⇓*i*P	P	05 34 19.2	-0.7
TLY				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
LZH	**Lanzhou**	33.64	270	*e*P	P	05 35 07.6	+10
LZH				AP	pP	05 35 16.0	-13
LZH				PP	PP	05 36 21.2	+4.6
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,66nm,4.5s						
LZH				LR	LR		
	comp=N,523nm,13.8s						
LZH				LR	LR		
	comp=Z,808nm,15.1s						
HVS	**Khovu-Aksy**	35.59	300	⇑*i*P	P	05 35 12.5	-1.8
HVS				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.4						
CD2	**Chengdu**	36.40	263	*e*P	P	05 35 29.9	+8.5
CD2				AP	pP	05 35 40.1	-13
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				AMB	AMB		
	comp=Z,20nm,4.8s						
TTA	**Tatalina**	36.74	40	*e*P	P	05 35 24.0	+0.1
TTA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
TTA	**Tatalina**	36.74	40	*e*P	P	05 35 24.0	+0.1
	comp=Z,6.8nm,1.0s,mb4.2						
SVW2	**Sparrevohn**	36.92	43	*e*P	P	05 35 26.0	+0.6
GYA	**Guiyang**	37.07	254	P	P	05 35 35.9	+8.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
IMA2	**Indian Mountai**	37.93	35	⇓*i*P	P	05 35 33.0	-0.8
KDAK	**Kodiak Island**	38.67	48	P	P	05 35 39.1	-1.0
	comp=Z,5.5nm,0.7s,mb4.3,baz=3.9,slow=3.6,SNR=13						
KDAK	**Kodiak Island**	38.67	48	*e*P	P	05 35 39.2	-0.9
KDAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
KDAK	**Kodiak Island**	38.67	48	*e*P	P	05 35 39.2	-0.9
	comp=Z,5.2nm,0.8s,mb4.2						
BPAW	**Bear Paw Mtn.**	39.01	38	*e*P	P	05 35 43.5	+0.6
	comp=Z,1.3nm,0.6s,mb3.7						
COLA	**College**	40.35	37	⇑*i*P	P	05 35 52.9	-1.0
KMI	**Kunming**	40.63	256	P	P	05 36 03.7	+7.0
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.5						
WMQ	**Urumqi**	41.63	290	*e*P	P	05 36 14.1	+9.4
DIV	**Divide**	41.66	42	*e*P	P	05 36 05.0	+0.4
	comp=Z,3.5nm,0.6s,mb4.2						
BMRM	**Bremner River**	42.24	42	*e*P	P	05 36 09.6	+0.2
EGAK	**Eagle**	43.20	36	*e*P	P	05 36 16.9	-0.1
	comp=Z,6.7nm,1.1s,mb4.2						
MK31	**Makanchi Array**	44.03	297	*e*P	P	05 36 23.6	-0.4
MKAR	**Makanchi Array**	44.03	297	P	P	05 36 23.6	-0.4
	comp=Z,1.6nm,0.8s,mb3.7,baz=71,slow=7.8,SNR=11						
MKAR				pP	pP	05 36 57.0	+0.4
	comp=Z,0.7nm,0.6s,baz=76,slow=10,SNR=3.1						
MKAR				PcP	PcP	05 38 06.9	+0.1
	comp=Z,0.5nm,0.4s,baz=71,slow=5.3,SNR=3.6						
KURK	**Kurchatov**	44.89	303	⇑*i*P	P	05 36 29.0	-1.7
PNL	**Peninsula**	45.05	43	*e*P	P	05 36 40.9	+9.0
	comp=Z,14nm,0.6s,mb4.8						
HYT	**Haines Junctio**	45.66	42	*e*P	P	05 36 38.4	+1.8
CHTO	**Chiang Mai**	47.45	253	*e*P	P	05 36 52.1	+1.0
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
CHTO	**Chiang Mai**	47.45	253	*e*P	P	05 36 52.1	+0.9
	comp=Z,4.8nm,0.7s,mb4.2						
CMAR	**Chiang Mai Arr**	47.70	253	P	P	05 36 53.1	+0.1
	comp=Z,3.0nm,0.8s,mb4.0,baz=38,slow=7.2,SNR=11						
CMAR	**Chiang Mai Arr**	47.70	253	*i* P	P	05 36 54.5	+1.5
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBS	**Kingsbay**	53.79	350	P	P	05 37 44.2	+6.3
KBS				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
KBS	**Kingsbay**	53.79	350	P	P	05 37 44.2	+6.3
	comp=Z,6.7nm,0.5s,mb4.6						
YKA	**Yellowknife Ar**	55.05	34	P	P	05 37 47.0	-0.1
	comp=Z,2.4nm,0.7s,mb4.0,baz=303,slow=7.6,SNR=2.8						
MDRS	**Chennai**	64.42	263	*ex*	x	05 38 39.0	
FCC	**Fort Churchill**	65.23	30	*e*P	P	05 38 55.3	-1.1
FCC				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
FCC	**Fort Churchill**	65.23	30	*e*P	P	05 38 55.3	-1.1
	comp=Z,3.7nm,0.5s,mb4.5						
WRAB	**Tennant Creek**	65.38	193	⇑*i*P	P	05 38 56.1	-1.7
WRA	**Warramunga Arr**	65.39	193	P	P	05 38 58.7	+0.8
	comp=Z,0.9nm,0.7s,mb3.7,baz=8.5,slow=6.6,SNR=9.9						
HLID	**Hailey**	66.16	52	*e*P	P	05 39 03.1	+0.5
	comp=Z,1.9nm,1.0s,mb3.9						
BOZ	**Bozeman (W)**	66.34	49	*e*P	P	05 39 05.0	+1.2
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
BOZ	**Bozeman (W)**	66.34	49	*e*P	P	05 39 05.0	+1.2
	comp=Z,1.6nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	67.15	58	P	P	05 39 10.2	+1.1
	comp=Z,1.4nm,0.7s,mb3.9,baz=296,slow=6.4,SNR=15						
NVAR				pP	pP	05 39 45.2	+0.9
	comp=Z,0.8nm,0.8s,baz=302,slow=7.5,SNR=3.5						
NVAR	**Mina Array Bea**	67.15	58	P	P	05 39 10.2	+1.1
NVAR				pP	pP	05 39 45.2	+0.9
RRI2	**Red Ridge**	68.01	50	*e*P	P	05 39 16.4	+2.0
	comp=Z,3.7nm,0.9s,mb4.1						
RRI2				*e*sP	PcP	05 39 33.8	-5.7
MOOW	**Moose Ponds**	68.06	50	*e*P	P	05 39 16.3	+1.6
	comp=Z,2.3nm,1.2s,mb3.8						
AHID	**Auburn Hatcher**	68.52	51	*e*P	P	05 39 26.2	+8.7
	comp=Z,6.1nm,0.7s,mb4.4						
NB2	**NORSAR Subarra**	68.64	339	P	P	05 39 15.9	-2.0
	comp=Z,0.1nm,0.6s,mb2.7,baz=38,slow=6.5						
NOA	**NORSAR Array B**	68.64	339	P	P	05 39 15.9	-2.0
	comp=Z,0.7nm,0.7s,mb3.5,baz=31,slow=6.3,SNR=4.2						
BW06	**Boulder Array**	69.36	50	*e*P	P	05 39 23.6	+0.9
	comp=Z,0.9nm,0.6s,mb3.7						
PDAR	**Pinedale Array**	69.36	50	P	P	05 39 23.4	+0.7
	comp=Z,1.7nm,0.5s,mb4.0,baz=310,slow=1.5,SNR=19						
AKASG	**Malin Array Be**	70.72	323	P	P	05 39 29.1	-1.7
	comp=Z,0.2nm,0.3s,mb3.4,baz=40,slow=6.0,SNR=5.9						
AKASG	**Malin Array Be**	70.72	323	*e*P	P	05 39 30.7	-0.1
TXAR	**Lajitas Array**	82.20	56	P	P	05 40 36.9	+1.0
	comp=Z,0.9nm,0.7s,mb3.5,baz=295,slow=3.6,SNR=14						
TXAR				pP	pP	05 41 12.2	-0.1
	comp=Z,1.3nm,0.8s,baz=297,slow=4.4,SNR=5.7						
PLCA	**Paso Flores**	152.30	95	PKPbc	PKPbc	05 48 09.9	+0.8
	comp=Z,1.5nm,1.0s,baz=270,slow=4.0,SNR=3.5						
PLCA	**Paso Flores**	152.30	95	PKIKP	PKPbc	05 48 09.9	+0.8
PLCA				pmax	pmax		
	comp=Z,2.0nm,1.0s						

MAN 11 05:31:57,1047N×12606E,h7km,mb4.2,ML3.0,MS2.7, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	0.89	220	*e*P	Pg	05 32 14.0	0.0
SCPH				*e*S	Sg	05 32 24.4	-1.2
MSLP	**Maasin**	1.23	254	*e*P	Pb	05 32 19.8	-0.8
PLP	**Palo**	1.27	303	⇓*i*P	Pn	05 32 20.8	-0.4
PLP				*e*S	Sb	05 32 39.1	+1.2
CNP	**Catarman**	2.45	326	*e*P	Pn	05 32 38.0	+0.5
BUKP	**Musuan**	2.76	201	*e*P	Pn	05 32 42.7	+1.0

IDC ***11*** *05:50:07.2±0.6,308N×8425W,h0km,mb4.3/14, mb1 4.6/17,mb1mx4.4/24,mbtmp4.4/17,ML3.5/3,MS4.1/18, Ms1 4.1/18,ms1mx3.9/36,Error ellipse: s-maj=25.1km s-min=12.6km az=56.0*

MOS ***11*** *05:50:09.7±0.9,307N×8422W,h25km,mb4.9/38,Error ellipse: s-maj=9.8km s-min=6.9km az=97.4*

ISCJB ***11*** *05:50:10.3±1.3,313N±004×84.17W±003,h27km±8km, mb4.6/78,MS4.2/17,Error ellipse: s-maj=7.8km s-min=4.2km az=34.0*

BJI ***11*** *05:50:13.9,310N×8420W,h47km,mB5.4,Ms4.8,Msz4.6*

NEIC ***11*** *05:50:14.0±0.6,306N×8422W,h47km±5km,mb4.7/64, Error ellipse: s-maj=6.0km s-min=3.6km az=216.0*

GCMT ***11*** *05:50:14.0±0.3,300N×8429W,h14km±1km,MW4.9/58, Moment Tensor Solution. s22,c25; s58,c85; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-1.46±.17; $M_{\theta\theta}$2.56±.13; $M_{\phi\phi}$-1.10±.13; $M_{r\theta}$1.63±.33; $M_{\phi\phi}$1.15±.11; $M_{\phi r}$0.61±.34; Best double couple: $M_0$2.79500×10¹⁶ NP1:φs90.00000°,δ27.00000°,λ-68.00000°. NP2: φs245.00000°,δ65.00000°,λ-101.00000°. Principal axes: T 3.4990, Plg19.0000°, Azm343.0000°; N -1.4080, Plg10.0000°, Azm250.0000°; P -2.0910, Plg68.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 11 05:50:14.2±0.6,315N±004×8413W±004,h43km±4km, h40km±2.4km:pP-P,n391,σ0§78/355,mb4.6/78,MS4.2/17, 65C-59D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	5.79	14	*e*P	Pn	05 51 36.0	-1.6
CTCR	**Cotoan**	5.87	13	*e*P	Pn	05 51 38.2	-0.5
BAR1		6.11	8	*e*P	Pn	05 51 41.0	-1.0
QCR	**Quepos**	6.24	360	*e*P	Pn	05 51 40.9	-2.8
OTAV	**Otavalo**	6.37	117	*e*Pn	Pn	05 51 44.4	-1.2
	53nm,0.4s						
OTAV				Sn	Sn	05 52 58.0	+0.9
BUS	**Buena Vista**	6.38	3	*e*P	Pn	05 51 45.0	-0.6
LCR2	**La Lucha 2**	6.55	1	*e*P	Pn	05 51 45.9	-2.2
CAO	**Cobano**	6.58	352	*e*P	Pn	05 51 46.1	-2.4
JCR	**Jicaral**	6.73	352	*e*P	Pn	05 51 48.3	-2.2
SJS	**Escuela Geolog**	6.75	1	*e*P	Pn	05 51 50.7	0.0
PRS1	**Puriscal**	6.79	359	*e*P	Pn	05 51 48.0	-3.4
CGA2	**Cerro Gallo 2**	6.83	357	*e*P	Pn	05 51 51.3	-0.6
LIO	**Limon**	6.90	9	*e*P	Pn	05 51 50.8	-2.1
PAYG	**Puerto Ayora**	7.23	238	*e*Pn	Pn	05 51 54.6	-2.7
	64nm,1.0s						
BCIP	**Isla Barro Col**	7.35	35	*e*Pn	Pn	05 51 59.3	+0.4
	33nm,1.2s						
MADN	**Villa Maderas**	8.32	350	*e*P	Pn	05 52 12.4	0.0
CONN	**Concepcion**	8.49	350	*e*P	Pn	05 52 15.1	+0.4
APON	**Apoyo**	8.92	348	*e*P	Pn	05 52 21.8	+1.2
CRUN	**El Crucero**	9.04	346	*e*P	Pn	05 52 23.5	+1.3
TICN	**Ticuantepe**	9.07	347	*e*P	Pn	05 52 23.8	+1.2
MGAN	**Managua**	9.18	347	*e*P	Pn	05 52 24.9	+0.7
TISN	**Laguna Tiscapa**	9.19	347	*e*P	Pn	05 52 24.2	+0.1
XAVN	**Gruta Xavier**	9.20	346	*e*P	Pn	05 52 25.1	+0.6
CSAN		9.26	346	*e*P	Pn	05 52 25.0	-0.2
APYN	**Apoyeque**	9.29	346	*e*P	Pn	05 52 26.8	+1.2
COPN	**Copaltepe**	9.30	345	*e*P	Pn	05 52 26.3	+0.5
HUEN		9.35	348	*e*P	Pn	05 52 26.7	+0.3
BOAB	**BOACO BROADBAN**	9.37	351	*e*P	Pn	05 52 26.5	-0.2
LEON	**Leon**	9.61	344	*e*P	Pn	05 52 30.4	+0.5
CNGN	**Cerro Negro**	9.63	345	*e*P	Pn	05 52 31.5	+1.2
TEL3	**Telica 3**	9.74	344	*e*P	Pn	05 52 31.8	0.0
ROSC	**El Rosal**	9.93	80	Pn	Pn	05 52 37.4	+3.0
	2.9nm,0.3s,baz=261,slow=2.8,SNR=68						
ROSC				LR	LR	05 56 29.5	
	comp=Z,894nm,18.9s,baz=279,slow=38						
ROSC	**El Rosal**	9.93	80	*e*Pn	Pn	05 52 38.4	+4.1
CHI2		10.48	82	*e*P	Pn	05 52 34.6	-7.2
TGUH	**Tegucigalpa,Un**	11.28	344	*e*P	Pn	05 52 55.1	+2.3
TGUH	**Tegucigalpa,Un**	11.28	344	*e*Pn	Pn	05 52 54.5	+1.7
	176nm,0.8s						
SNVI	**San Vicente**	11.39	336	*e*P	x	05 52 56.8	
ATAH	**Atahualpa**	11.59	150	Pn	Pn	05 52 59.1	+2.0
	0.2nm,0.3s,baz=297,slow=6.8,SNR=2.9						
BOQS	**Boqueron**	11.69	335	*e*P	x	05 53 00.8	
SBLS	**San Blas**	11.93	333	*e*P	x	05 53 04.1	
SDV	**Santo Domingo**	14.58	66	Pn	Pn	05 53 39.0	+1.1
	0.3nm,0.3s,baz=261,slow=9.3,SNR=23						
SDV				LR	LR	05 58 54.9	
	comp=Z,700nm,21.6s,baz=332,slow=36						
SDV	**Santo Domingo**	14.58	66	*e*Pn	Pn	05 53 39.0	+1.1
	109nm,0.8s						
CCIG	**Comitan**	15.24	329	*i* P	Pn	05 53 46.9	+0.4
NNA	**Nana**	16.69	154	LR	LR	05 59 57.8	
	comp=Z,416nm,20.6s,baz=329,slow=35						
CMIG	**Matias Romero**	17.42	323	P	Pn	05 54 13.1	-1.0
	0.1nm,0.3s,baz=113,slow=8.7,SNR=6.7						
CMIG				LR	LR	05 59 38.2	
	comp=Z,689nm,21.0s,baz=146,slow=33						
TEIG	**Tepich**	17.45	347	P	Pn	05 54 14.0	-0.4
	0.1nm,0.3s,baz=137,slow=23,SNR=7.1						
TEIG				LR	LR	06 00 36.5	
	comp=Z,956nm,18.9s,baz=144,slow=36						
TEIG	**Tepich**	17.45	347	*e*P	Pn	05 54 14.3	-0.1
	81nm,1.8s						
VHO	**Vista Hermosa**	18.56	319	*e*P	Pn	05 54 24.1	-4.0
PNIG	**Pinotepa**	19.04	315	*e*P	Pn	05 54 27.0	-6.9
SDDR	**Presa de Saban**	20.14	38	*e*P	P	05 54 46.9	+2.1
	42nm,1.0s						
PCRV	**Puerto La Cruz**	20.58	69	P	P	05 54 49.6	+0.1
	87nm,1.0s,baz=251,slow=4.1,SNR=29						
PPM	**Popocatepetl**	21.24	319	*i* P	P	05 54 58.9	+2.2
AOPR	**Arecibo Observ**	22.76	47	*e*P	P	05 55 15.8	+3.0
	50nm,0.9s,mb4.9						
SJG	**San Juan**	23.06	49	*e*P	P	05 55 15.7	-0.4
SJG				pmax	pmax		
	comp=Z,108nm,1.5s						
SJG	**San Juan**	23.06	49	*e*P	P	05 55 15.7	-0.3
	comp=Z,108nm,1.5s,mb5.1						
CPD	**Cerro la Pandu**	23.19	49	*e*P	P	05 55 18.8	+1.4
CPD				pmax	pmax		
	comp=Z,91nm,1.4s,mb5.0						
CPD	**Cerro la Pandu**	23.19	49	*e*P	P	05 55 18.8	+1.4
	comp=Z,91nm,1.4s,mb5.0						
DWPF	**Disney**	24.96	6	*e*P	P	05 55 34.8	+1.1
	comp=Z,128nm,1.8s,mb5.2						
LPAZ	**La Paz**	24.96	141	P	P	05 55 34.0	+0.2
	comp=Z,7.7nm,1.1s,mb4.2,baz=324,slow=10.0,SNR=12						
LPAZ	**La Paz**	24.96	141	*e*P	P	05 55 34.6	+0.8
LPAZ				pmax	pmax		
	comp=Z,16nm,1.3s						
LPAZ	**La Paz**	24.96	141	*e*P	P	05 55 34.6	+0.8
	comp=Z,16nm,1.3s,mb4.4						
FDF	**Fort de France**	25.42	62	*e*P	P	05 55 37.6	-0.4
LVC	**Limon Verde**	29.61	151	LR	LR	06 06 38.9	
	comp=Z,294nm,19.7s,MS3.9,baz=303,slow=34						
SIV	**San Ignacio**	29.69	130	P	P	05 56 16.0	-0.2
	comp=Z,3.6nm,0.9s,mb4.1,baz=302,slow=12,SNR=11						
OXF	**Oxford**	31.59	352	*e*P	P	05 56 32.7	-0.1
OXF				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.0						
OXF	**Oxford**	31.59	352	*e*P	P	05 56 32.7	-0.1
	comp=Z,25nm,1.0s,mb5.0						
TXAR

comp=Z,0.7nm,0.6s,mb3.6,baz=321,slow=18,SNR=2.3
CPUP LR LR 06 15 59.8
comp=Z,224nm,18.4s,MS4.0,baz=309,slow=40
214A Organ Pipe Nat 39.34 320 ⇑P P 05 57 39.7 +0.3
baz=39
X18A Snowflake 39.39 325 ⇓P P 05 57 40.3 +0.6
baz=40
SDCO Great Sand Dun 39.61 333 eP P 05 57 42.5 +0.9
comp=Z,8.2nm,1.0s,mb4.4
X17A Forest Lakes 39.74 324 ⇓P P 05 57 43.4 +0.7
baz=40
Y16A Circle Bar Ran 39.81 323 ⇓P P 05 57 43.8 +0.5
baz=40
X16A Lo Mia Camp, P 40.17 324 P P 05 57 46.8 +0.5
baz=40,SNR=6.0
BDFB Brasilia 40.32 119 LR LR 06 16 21.6
comp=Z,107nm,19.2s,MS3.7,baz=95,slow=39
113A Mohawk Valley, 40.48 320 ⇓P P 05 57 49.2 +0.3
baz=41
T19A Beclabito 40.60 329 ⇓P P 05 57 50.0 +0.2
baz=41
MVCO Mesa Verde 40.62 330 ⇓P P 05 57 50.8 +0.9
baz=41
MVCO Mesa Verde 40.62 330 eP P 05 57 50.5 +0.5
comp=Z,11nm,0.9s,mb4.5
X15A Humboldt 40.69 323 ⇑P P 05 57 51.1 +0.6
baz=41
WUAZ Wupatki 40.91 325 ⇓P P 05 57 53.1 +0.8
baz=41
WUAZ Wupatki 40.91 325 eP P 05 57 52.9 +0.5
comp=Z,5.6nm,0.9s,mb4.2
X14A Yava 41.07 323 ⇑P P 05 57 54.4 +0.7
baz=41,SNR=5.4
Y13A Salome 41.20 321 P P 05 57 55.2 +0.4
baz=41,SNR=5.1
T18A Mexican Hat 41.27 328 ⇑P P 05 57 55.5 +0.1
baz=41,SNR=5.4
S19A Harvey Farm, M 41.36 330 ⇓P P 05 57 56.3 +0.3
baz=42
PV01 Paradox Valley 41.38 330 eP P 05 57 57.1 +1.0
S18A Hurst Farm, Bl 41.76 329 ⇑P P 05 57 59.3 +0.1
baz=42
PV10 Paradox Valley 41.80 330 eP P 05 57 59.9 +0.3
PV10 ePcP PcP 05 59 55.3 +0.1
ECSD EROS,Sioux Fal 41.91 346 eP P 05 57 59.3 -1.1
comp=Z,12nm,1.0s,mb4.5
V14A Boquillas Ranc 41.99 324 ⇑P P 05 58 02.4 +1.1
baz=42,SNR=9.0
U15A North Rim 42.08 325 ⇓P P 05 58 02.6 +0.7
baz=42,SNR=6.4
S17A Black Ridge (B 42.14 328 ⇑P P 05 58 03.0 +0.6
baz=42
R18A Canyonlands Na 42.23 329 ⇑P P 05 58 03.2 +0.1
baz=42
IRM Iron Mountain 42.26 321 ⇑P P 05 58 03.8 +0.3
baz=42
Q19A Hogan Spring (42.35 331 P P 05 58 04.3 +0.2
baz=42,SNR=18
T15A Red Dirt Ranch 42.55 326 ⇑P P 05 58 06.3 +0.5
baz=43
U14A Mt Trumbull 42.58 325 ⇑P P 05 58 06.5 +0.5
baz=43
S16A Weppner Ranch, 42.63 327 P P 05 58 07.1 +0.8
baz=43,SNR=7.4
V13A Grand Canyon W 42.66 323 ⇓P P 05 58 07.3 +0.6
baz=43
R17A Hanksville Air 42.67 329 ⇑P P 05 58 06.8 0.0
baz=43,SNR=8.4
Q18A Rafter H Ranch 42.90 330 P P 05 58 08.8 +0.2
baz=43,SNR=10
R16A Teasdale 42.98 328 ⇓P P 05 58 09.8 +0.6
baz=43,SNR=8.3
V12A Nelson 43.10 323 ⇓P P 05 58 10.3 +0.1
baz=43,SNR=5.2
SRU San Rafael 43.10 330 eP P 05 58 09.5 -0.7
SRU pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
SRU San Rafael 43.10 330 ⇓P P 05 58 10.6 +0.4
baz=43,SNR=10
SRU San Rafael 43.10 330 eP P 05 58 09.5 -0.7
comp=Z,5.6nm,1.0s,mb4.2
MSU Marysvale 43.52 328 eP P 05 58 14.3 +0.8
RWWY Rawlins 43.60 335 eP P 05 58 14.9 +0.8
comp=Z,15nm,1.0s,mb4.7
ARUT Antelope Range 43.69 326 eP P 05 58 16.1 +1.2
O18A Roosevelt 43.73 331 ⇑P P 05 58 16.0 +0.8
baz=44,SNR=8.3
S13A Holt Ranch, En 43.78 325 ⇑P P 05 58 16.7 +1.1
baz=44,SNR=12
BFSC Mount Baldy St 43.93 319 ⇓P P 05 58 17.2 +0.2
baz=44
CIS Catalina Islan 43.94 317 ⇓P P 05 58 17.2 +0.2
baz=44
Q15A Fillmore 43.98 328 ⇑P P 05 58 17.8 +0.6
baz=44
N18A Larsen Ranch, 44.13 332 ⇓P P 05 58 18.7 +0.3
baz=44,SNR=15
R13A O'Grain Ranch, 44.26 326 ⇑P P 05 58 20.5 +1.0
baz=44,SNR=6.9
T11A Corn Creek, Al 44.33 324 ⇑P P 05 58 20.4 +0.3
baz=44
RSSD Black Hills 44.44 340 eP P 05 58 21.6 +0.8
RSSD pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
RSSD Black Hills 44.44 340 eP P 05 58 21.6 +0.8
comp=Z,5.3nm,0.9s,mb4.3
Q14A Sevier Lake (B 44.45 327 ⇑P P 05 58 21.6 +0.5
baz=45,SNR=8.3
N17A Moffit Pass 44.66 331 ⇑P P 05 58 23.1 +0.5
baz=45,SNR=5.7
R12A Pony Springs, 44.72 325 ⇑P P 05 58 24.3 +1.1
baz=45
TPNV Topopah Spring 44.75 323 eP P 05 58 24.1 +0.6
TPNV e*PP pP 05 58 33.9 -1.6
TPNV pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
TPNV Topopah Spring 44.75 323 ⇑P P 05 58 24.2 +0.7
baz=45
TPNV Topopah Spring 44.75 323 eP P 05 58 24.1 +0.6
comp=Z,4.3nm,0.9s,mb4.3
TPNV epP pP 05 58 33.9 -1.7
P14A Drum Mountains 44.78 328 ⇑P P 05 58 23.6 0.0
baz=45
FURC Furnace Creek, 44.82 322 ⇑P P 05 58 24.3 +0.3
baz=45
Q13A Wheeler Ranch, 44.83 327 P P 05 58 24.9 +0.8
baz=45,SNR=12
N16A Rees Ranch, Co 44.91 330 P P 05 58 25.3 +0.7
baz=45,SNR=6.7
MPMC Manual Prospec 44.95 321 ⇓P P 05 58 24.8 -0.2
baz=45
DUG Dugway 45.08 329 eP P 05 58 26.3 +0.3
DUG e*PP pP 05 58 39.1 +1.0
DUG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
DUG Dugway 45.08 329 eP P 05 58 26.3 +0.3
comp=Z,2.2nm,0.9s,mb4.0
DUG epP pP 05 58 39.1 +1.0
P13A Bates Ranch, G 45.19 327 ⇑P P 05 58 27.5 +0.6
baz=45,SNR=10
R11A Troy Canyon, C 45.30 325 ⇓P P 05 58 28.0 +0.3
baz=45,SNR=6.0
M16A Huntsville 45.33 331 ⇑P P 05 58 27.9 0.0
baz=46
Q12A Willow Creek R 45.34 326 ⇓P P 05 58 28.7 +0.5
baz=46
PLCA Paso Flores 45.40 165 P P 05 58 26.6 -2.0
comp=Z,6.9nm,1.2s,mb4.4,baz=346,slow=7.5,SNR=4.8
PLCA LR LR 06 13 00.4
comp=Z,227nm,19.8s,MS4.1,baz=12,slow=30
PLCA Paso Flores 45.40 165 eP P 05 58 26.8 -1.7
PLCA pmax pmax
comp=Z,29nm,2.2s
PLCA Paso Flores 45.40 165 eP P 05 58 26.8 -1.7
comp=Z,29nm,2.2s,mb4.7
N15A Stansbury Isla 45.45 330 ⇑P P 05 58 29.5 +0.5
baz=46
GRAC Grapevine Rang 45.47 322 ⇓P P 05 58 29.5 +0.3
baz=46
PDAR Pinedale Array 45.49 334 P P 05 58 28.9 -0.4
comp=Z,3.9nm,0.9s,mb4.2,baz=134,slow=8.6,SNR=24
PDAR PcP PcP 06 00 07.9 +0.3
comp=Z,0.9nm,0.8s,baz=124,slow=4.3,SNR=3.6
PDAR LR LR 06 18 27.8
comp=Z,352nm,18.6s,MS4.3,baz=155,slow=37
S10A Tonopah Range, 45.60 324 ⇑P P 05 58 30.0 -0.2
baz=46,SNR=7.7
Q11A Duckwater 45.67 325 ⇓P P 05 58 31.4 +0.6
baz=46,SNR=8.1
BGU Big Grassy Mou 45.73 329 eP P 05 58 31.5 +0.3
N14A Grayback Hills 45.76 329 ⇓P P 05 58 31.7 +0.3
baz=46,SNR=5.1
VES Vestal, Richgr 45.83 320 ⇓P P 05 58 32.0 0.0
baz=46,SNR=5.5
M15A Larsen Ranch, 45.84 330 ⇓P P 05 58 31.9 -0.1
baz=46,SNR=5.8
S09A Goldfield 45.85 323 ⇑P P 05 58 32.2 0.0
baz=46,SNR=5.8
TPH Tonopah 46.08 323 eP P 05 58 33.4 -0.5
TPH pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TPH Tonopah 46.08 323 eP P 05 58 33.4 -0.5
comp=Z,9.2nm,1.0s,mb4.7
R09A Tonopah 46.09 324 ⇑P P 05 58 34.0 0.0
baz=46
AGMN Agassiz Refuge 46.10 349 eP P 05 58 33.4 -0.5
comp=Z,15nm,0.9s,mb4.9
L15A Malad City 46.22 331 ⇓P P 05 58 34.6 -0.4
baz=46,SNR=12
N13A Wendover, West 46.29 328 ⇑P P 05 58 36.1 +0.5
baz=46
HELL Mitchell Peak 46.30 321 ⇓P P 05 58 35.2 -0.5
baz=46,SNR=5.5
M14A Sheep Mountain 46.32 330 ⇓P P 05 58 35.7 -0.1
baz=46,SNR=7.1
REDW Red Top Meadow 46.55 333 eP P 05 58 37.1 -0.4
comp=Z,9.2nm,1.0s,mb4.7
REDW epP pP 05 58 48.9 -0.7
L14A Malta 46.66 330 ⇑P P 05 58 38.3 -0.1
baz=47
RRI2 Red Ridge 46.74 333 eP P 05 58 39.0 -0.1
comp=Z,8.4nm,0.8s,mb4.7
ELK Elko 46.76 327 eP P 05 58 39.6 +0.3
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 46.76 327 eP P 05 58 39.6 +0.3
comp=Z,3.7nm,0.8s,mb4.4
K15A Arbon 46.80 331 ⇑P P 05 58 39.1 -0.4
baz=47
J16A Bone 46.82 332 ⇑P P 05 58 39.8 +0.1
baz=47
NVAR Mina Array Bea 46.95 323 P P 05 58 40.8 0.0
comp=Z,2.8nm,0.6s,mb4.3,baz=139,slow=6.8,SNR=32
Q08A Gabbs 47.01 324 ⇑P P 05 58 41.2 0.0
baz=47,SNR=5.6
K14A Jones Ranch, D 47.01 331 ⇑P P 05 58 40.4 -0.8
baz=47
M12A Wells 47.07 328 ⇑P P 05 58 41.3 -0.4
baz=47
N11A Elko Archery C 47.08 327 ⇑P P 05 58 41.7 -0.1
baz=47,SNR=11
O09A Fish Creek Ran 47.44 325 ⇑P P 05 58 44.8 +0.2
baz=48
M11A Holland Ranch, 47.54 328 ⇑P P 05 58 45.2 -0.2
baz=48
L12A House Creek Ra 47.64 329 ⇓P P 05 58 45.7 -0.4
baz=48
K12A Draper Farm, C 47.94 329 ⇑P P 05 58 47.6 -0.8
baz=48,SNR=11
QLMT Earthquake Lak 47.96 334 eP P 05 58 49.3 +0.8
ULM Lac du Bonnet 47.98 350 P P 05 58 47.6 -0.9
comp=Z,12nm,0.9s,mb4.9,baz=159,slow=7.8,SNR=16
ULM LR LR 06 20 48.2
comp=Z,155nm,18.2s,MS4.0,baz=80,slow=38
ULM Lac du Bonnet 47.98 350 eP P 05 58 48.0 -0.6
comp=Z,16nm,1.1s,mb5.0
ULM epP pP 05 58 58.4 -2.3
GCMT Greycliff 47.98 336 eP P 05 58 47.1 -1.5
L11A Cat Creek Ranc 48.04 328 ⇓P P 05 58 48.5 -0.7
baz=48
HLID Hailey 48.37 331 ⇓P P 05 58 51.4 -0.3
baz=48,SNR=10
HLID Hailey 48.37 331 eP P 05 58 51.5 -0.2
comp=Z,4.2nm,0.9s,mb4.5
O07A Toulon 48.41 324 ⇓P P 05 58 51.1 -0.9
baz=48,SNR=9.6
J12A Stokes Ranch, 48.48 330 ⇓P P 05 58 52.5 -0.1
baz=49
I13A Wildhorse Cree 48.49 331 P P 05 58 52.7 +0.1
baz=49,SNR=22
K11A Parker Ranch, 48.62 329 ⇑P P 05 58 53.3 -0.3
baz=49
BOZ Bozeman (W) 48.69 334 eP P 05 58 53.8 -0.3
BOZ e*PP pP 05 59 04.3 -2.0
BOZ pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BOZ Bozeman (W) 48.69 334 ⇑P P 05 58 53.9 -0.2
baz=49,SNR=6.8
BOZ Bozeman (W) 48.69 334 eP P 05 58 53.8 -0.3
comp=Z,3.0nm,1.0s,mb4.3
BOZ epP pP 05 59 04.3 -2.0
MFID Camas Ranch 48.97 330 ⇑P P 05 58 57.0 +0.7
baz=49
K10A MacKenzie Ranc 49.06 328 ⇓P P 05 58 56.2 -0.8
baz=49,SNR=5.7
BEKR Beckwourth 49.10 323 ⇓P P 05 58 56.5 -0.9
baz=49
H12A Diamond D Ranc 49.32 331 ⇓P P 05 58 58.9 -0.1
baz=50
N06A Buffalo Meadow 49.34 324 ⇓P P 05 58 58.6 -0.6
baz=50,SNR=9.8
I11A Placerville 49.39 330 ⇓P P 05 58 58.9 -0.7
baz=50
L08A Fields 49.45 327 ⇑P P 05 58 59.2 -0.8
baz=50
K09A Rome 49.46 328 ⇑P P 05 58 59.9 -0.1
baz=50,SNR=21
ORV Oroville 49.60 322 ⇑P P 05 59 01.2 0.0
baz=50,SNR=5.4
WVOR Wild Horse Val 49.77 327 eP P 05 59 01.6 -0.9
WVOR e*PP pP 05 59 12.2 -2.5
WVOR pmax pmax
comp=Z,12nm,1.2s,mb4.8
WVOR Wild Horse Val 49.77 327 eP P 05 59 01.6 -0.8
comp=Z,12nm,1.2s,mb4.8
WVOR epP pP 05 59 12.2 -2.5
K08A Mann Creek Ran 49.89 327 ⇓P P 05 59 03.1 -0.2
baz=50,SNR=13
H11A Donnelly 49.99 331 ⇑P P 05 59 03.4 -0.7
baz=50,SNR=13
E14A Clinton 50.10 334 ⇓P P 05 59 03.9 -0.9
baz=50,SNR=6.0
H10A Noah's Angus R 50.27 330 ⇑P P 05 59 04.8 -1.4
baz=50,SNR=7.0
J08A Circle Bar Ran 50.31 328 ⇓P P 05 59 05.6 -0.9
baz=50
I09A Lost Marbles R 50.35 329 ⇑P P 05 59 05.9 -0.9
baz=50
F12A Elk City 50.40 332 ⇑P P 05 59 06.6 -0.6
baz=51,SNR=10
E13A Victor 50.43 333 ⇓P P 05 59 07.4 0.0
baz=51
M05C Lookout 50.50 324 ⇑P P 05 59 07.5 -0.5
baz=51
MSO Missoula 50.61 334 eP P 05 59 08.6 -0.1
comp=Z,3.5nm,1.0s,mb4.2
G11A Walters Elk Ra 50.62 331 ⇓P P 05 59 07.6 -1.2
baz=51
BMO Blue Mountains 50.74 330 eP P 05 59 08.7 -1.0
comp=Z,3.4nm,1.0s,mb4.2
G10A Bishop Farm, J 50.96 330 ⇓P P 05 59 10.6 -0.8
baz=51
M03C McCloud 51.02 323 ⇑P P 05 59 11.2 -0.8
baz=51
D13A Huson 51.05 334 ⇓P P 05 59 11.6 -0.4
baz=51
H08A Prairie City 51.21 329 ⇓P P 05 59 12.4 -0.8
baz=51
G09A Cove 51.28 330 ⇑P P 05 59 12.5 -1.3
baz=51,SNR=11
E11A Bogner Ranch, 51.29 332 ⇓P P 05 59 12.6 -1.2
baz=52,SNR=5.9
I07A Izee 51.35 328 ⇑P P 05 59 13.3 -1.0
baz=52
D12A Red Ives Fores 51.41 333 ⇓P P 05 59 13.9 -0.8
baz=52
F10A Beach Ranch, E 51.50 331 ⇓P P 05 59 15.0 -0.4
baz=52,SNR=14
I06A Prineville 51.64 327 ⇑P P 05 59 16.4 -0.1
baz=52
F09A S2 Ranch, Elgi 51.65 330 ⇑P P 05 59 16.5 0.0
baz=52
J05A Fort Rock 51.77 326 ⇑P P 05 59 17.5 0.0
baz=52,SNR=6.7
D11A Klaveano Farm, 51.86 332 ⇑P P 05 59 17.1 -0.9
baz=52
LNOR Lincton Mounta 51.95 330 eP P 05 59 18.0 -0.8
F08A Pendleton 52.14 330 ⇓P P 05 59 19.1 -1.1
baz=52
G07A Ruggs Ranch, H 52.23 329 ⇓P P 05 59 21.0 +0.1
baz=52
D10A Wagner Farm, O 52.30 332 ⇓P P 05 59 20.5 -0.9
baz=52,SNR=7.9
WALA Waterton Lakes 52.33 336 eP P 05 59 21.8 +0.2
E09A Wood Farm, Sta 52.34 331 ⇓P P 05 59 21.0 -0.6
baz=52,SNR=8.4
SCHQ Schefferville 53.41 12 LR LR 06 22 35.2
comp=Z,267nm,18.2s,MS4.3,baz=185,slow=36
A07A Ashnola River, 55.19 332 ⇓P P 05 59 42.3 -0.2
baz=55
EDM Edmonton 55.42 339 eP P 05 59 42.8 -1.2
NLWA Neilton Lookou 55.83 328 ⇓P P 05 59 47.0 0.0
baz=56
FCC Fort Churchill 56.01 354 eP P 05 59 47.3 -0.8
FCC e*PP pP 05 59 58.9 -1.6
FCC pmax pmax
comp=Z,26nm,1.2s,mb5.1
FCC Fort Churchill 56.01 354 eP P 05 59 47.3 -0.9
comp=Z,26nm,1.2s,mb5.1
FCC epP pP 05 59 58.9 -1.6
TAOE Nuku Hiva Isla 57.09 257 eS S 06 07 52.7 +3.6
comp=Z,250nm,26.3s
TAOE eLR LR 06 16 36.3
comp=Z,372nm,26.9s
YKA Yellowknife Ar 63.39 345 P P 06 00 38.0 -0.8
comp=Z,4.0nm,1.0s,mb4.5,baz=140,slow=6.3,SNR=4.5
YKA LR LR 06 31 13.1
comp=Z,67nm,18.3s,MS3.9,baz=115,slow=39
YKA Yellowknife Ar 63.39 345 P P 06 00 38.0 -0.9
YKA LR LR 06 31 13.2
DLBC Dease Lake 65.67 336 eP P 06 00 54.8 +0.9
PPT Papeete 67.70 250 eLR LR 06 21 40.1
comp=Z,319nm,26.5s
PPT Papeete 67.70 250 LR LR 06 22 45.8
comp=Z,152nm,19.0s,MS4.2,baz=323,slow=29
DAWY Dawson 72.59 338 eP P 06 01 36.3 -0.3
BMRM Bremner River 73.28 334 eP P 06 01 41.4 +0.6
EGAK Eagle 73.61 338 eP P 06 01 42.4 -0.2
comp=Z,2.6nm,0.8s,mb4.2
COLA College 76.23 337 ⇑iP P 06 01 59.7 +1.9
PMAFR Mafra 76.26 51 eLR LR 06 54 23.7
comp=Z,153nm,18.0s
PFVI Vila Bisbo 76.40 53 eLR LR 06 53 49.6
comp=Z,207nm,20.0s
MORF Marmelete 76.56 53 eP P 06 02 01.4 +1.2
comp=Z,32nm,1.7s,mb5.0
PBDV Barranco-do-Ve 77.12 53 eLR LR 06 54 17.5
comp=Z,244nm,18.0s
EVO Evora 77.19 51 eP P 06 02 03.6 -0.2
comp=Z,16nm,0.9s,mb4.7
EVO eMLR MLR
comp=Z,79nm,21.5s,MS3.7
EVO Evora 77.19 51 eP P 06 02 04.0 +0.2
comp=Z,12nm,1.5s,mb4.6
BPAW Bear Paw Mtn. 77.21 336 eP P 06 02 03.8 +0.4
comp=Z,2μm,0.6s
PVAQ Vaqueiros 77.31 53 eLR LR 06 53 52.4
comp=Z,228nm,22.0s
PVIS Viseu 77.53 49 eP P 06 02 06.4 +0.8
comp=Z,19nm,1.6s,mb4.8
PESTR Estremoz 77.56 51 eLR LR 06 54 44.9
comp=Z,214nm,20.0s
MTE Manteigas 77.76 49 eLR LR 06 55 22.0
comp=Z,181nm,18.0s
PMRV Marv??o 77.77 50 eLR LR 06 55 38.2
comp=Z,233nm,18.0s
PBAR Barrancos 77.92 52 eLR LR 06 54 44.5
comp=Z,204nm,18.0s
MVO Moncorvo 78.23 49 eLR LR 06 55 46.1
comp=Z,161nm,18.0s
DBIC Dimbokro 79.00 84 P P 06 02 13.7 -0.6
comp=Z,8.7nm,0.9s,mb4.7,baz=328,slow=4.8,SNR=3.9
ESDC Sonseca Array 80.43 50 P P 06 02 22.4 +0.9
comp=Z,2.3nm,0.7s,mb4.2,baz=272,slow=5.2,SNR=14
ROSF Rostrenen 81.58 42 eP P 06 02 27.5 0.0
QUIF Quistinic 81.62 42 eP P 06 02 27.6 -0.1
comp=Z,25nm,1.1s,mb4.8
QUIF Quistinic 81.62 42 eP P 06 02 27.6 -0.1
QUIF pmax pmax
comp=Z,12nm,1.1s,mb4.7
QUIF Quistinic 81.62 42 eP P 06 02 27.6 -0.1
comp=Z,12nm,1.1s,mb4.8
SGMF Saint Gilles 82.05 42 eP P 06 02 29.7 -0.2
comp=Z,9.7nm,0.9s,mb4.4
SGMF Saint Gilles 82.05 42 eP P 06 02 29.7 -0.2
SGMF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SGMF Saint Gilles 82.05 42 eP P 06 02 29.7 -0.2
comp=Z,4.8nm,0.9s,mb4.4
SJPF Ste Jean 82.68 47 eP P 06 02 33.9 +0.5
comp=Z,42nm,1.2s,mb5.1
SJPF Ste Jean 82.68 47 eP P 06 02 33.9 +0.5
SJPF pmax pmax
comp=Z,21nm,1.2s,mb5.0
SJPF Ste Jean 82.68 47 eP P 06 02 33.9 +0.5
comp=Z,21nm,1.2s,mb5.0
ETSF Etsaut 83.16 47 eP P 06 02 35.7 -0.1
comp=Z,15nm,1.2s,mb4.6
ETSF Etsaut 83.16 47 eP P 06 02 35.7 -0.1
ETSF pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
ETSF Etsaut 83.16 47 eP P 06 02 35.7 -0.1
comp=Z,7.5nm,1.3s,mb4.6
GRR Gorron 83.19 42 eP P 06 02 35.8 -0.1
comp=Z,18nm,1.0s,mb4.8
GRR Gorron 83.19 42 eP P 06 02 35.8 -0.1
GRR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
GRR Gorron 83.19 42 eP P 06 02 35.8 -0.1
comp=Z,8.9nm,1.0s,mb4.8
FLN La Foliniere 83.46 41 eP P 06 02 37.3 +0.1
comp=Z,11nm,0.9s,mb4.6
FLN La Foliniere 83.46 41 eP P 06 02 37.3 +0.1
FLN pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
FLN La Foliniere 83.46 41 eP P 06 02 37.3 +0.1
comp=Z,5.5nm,0.9s,mb4.6
MFF Saint Martin d 83.59 44 eP P 06 02 37.9 -0.1
comp=Z,6.9nm,0.8s,mb4.6
MFF Saint Martin d 83.59 44 eP P 06 02 37.9 -0.1
MFF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
MFF Saint Martin d 83.59 44 eP P 06 02 37.9 -0.1
comp=Z,3.5nm,0.8s,mb4.5
LDF La Druitiere 83.69 42 eP P 06 02 38.4 0.0
comp=Z,15nm,1.0s,mb4.8
LDF La Druitiere 83.69 42 eP P 06 02 38.4 0.0
LDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
LDF La Druitiere 83.69 42 eP P 06 02 38.4 0.0
comp=Z,7.7nm,1.0s,mb4.8
EPF Esparros 83.82 47 eP P 06 02 39.7 +0.4
comp=Z,18nm,1.2s,mb4.8
EPF Esparros 83.82 47 eP P 06 02 39.7 +0.4
EPF pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
EPF Esparros 83.82 47 eP P 06 02 39.7 +0.4
comp=Z,8.8nm,1.2s,mb4.8
LFF La Frestale 84.16 45 eP P 06 02 40.9 0.0
RJF Les Rejaudoux 84.72 45 eP P 06 02 43.9 +0.2
comp=Z,29nm,1.4s,mb4.9
RJF Les Rejaudoux 84.72 45 eP P 06 02 43.9 +0.2
RJF pmax pmax
comp=Z,14nm,1.4s,mb4.9
RJF Les Rejaudoux 84.72 45 eP P 06 02 43.9 +0.2
comp=Z,14nm,1.4s,mb4.9
CAF Calviac 85.10 45 eP P 06 02 45.6 -0.1
comp=Z,27nm,1.4s,mb4.9
CAF Calviac 85.10 45 eP P 06 02 45.6 -0.1
CAF pmax pmax
comp=Z,13nm,1.4s,mb4.9
CAF Calviac 85.10 45 eP P 06 02 45.6 -0.1
comp=Z,13nm,1.4s,mb4.9
MTLF Montolieu 85.20 47 eP P 06 02 46.3 +0.1
comp=Z,18nm,1.1s,mb4.8
MTLF Montolieu 85.20 47 eP P 06 02 46.3 +0.1
MTLF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
MTLF Montolieu 85.20 47 eP P 06 02 46.3 +0.1
comp=Z,8.8nm,1.1s,mb4.8
TCF Toulx Ste Croi 85.21 44 eP P 06 02 45.8 -0.4
comp=Z,29nm,1.4s,mb4.9

TCF Toulx Ste Croi 85.21 44 *eP* **P 06 02 45.8 -0.4**
TCF pmax pmax
comp=Z,15nm,1.4s,mb4.9
TCF Toulx Ste Croi 85.21 44 *eP* **P 06 02 45.8 -0.4**
comp=Z,15nm,1.4s,mb4.9
TORD Torodi Ar. Bea 85.23 77 P **P 06 02 46.6 -0.3**
comp=Z,3.7nm,1.0s,mb4.5,baz=282,slow=5.5,SNR=9.6
BGF Bois d'Agland 85.66 44 *eP* **P 06 02 48.3 -0.1**
comp=Z,43nm,1.3s,mb5.2
BGF Bois d'Agland 85.66 44 *eP* **P 06 02 48.3 -0.1**
BGF pmax pmax
comp=Z,22nm,1.3s,mb5.2
BGF Bois d'Agland 85.66 44 *eP* **P 06 02 48.3 -0.1**
comp=Z,22nm,1.3s,mb5.2
AVF Avril sur Loir 86.00 43 *eP* **P 06 02 49.4 -0.7**
SSF Saint Saulge 86.11 43 *eP* **P 06 02 50.0 -0.6**
comp=Z,21nm,1.4s,mb4.9
SSF Saint Saulge 86.11 43 *eP* **P 06 02 50.0 -0.6**
SSF pmax pmax
comp=Z,11nm,1.4s,mb4.9
SSF Saint Saulge 86.11 43 *eP* **P 06 02 50.0 -0.6**
comp=Z,11nm,1.4s,mb4.9
SMF Signal de Mont 86.34 44 *eP* **P 06 02 51.1 -0.7**
LOR Lormes 86.34 43 *eP* **P 06 02 51.2 -0.6**
comp=Z,10nm,1.0s,mb4.7
LOR Lormes 86.34 43 *eP* **P 06 02 51.2 -0.6**
LOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
LOR Lormes 86.34 43 *eP* **P 06 02 51.2 -0.6**
comp=Z,5.2nm,1.0s,mb4.7
LASF Ste Croix 86.39 46 *eP* **P 06 02 51.3 -0.8**
comp=Z,27nm,1.3s,mb5.0
BAIF Baives 86.54 40 *eP* **P 06 02 52.6 -0.1**
DOU Dourbes 86.79 40 P **P 06 02 54.2 +0.3**
comp=Z,4.9nm,1.3s,mb4.6
GIVF Givet 86.94 40 *eP* **P 06 02 54.7 +0.1**
comp=Z,26nm,1.0s,mb5.1
GIVF Givet 86.94 40 *eP* **P 06 02 54.7 +0.1**
GIVF pmax pmax
comp=Z,13nm,1.0s,mb5.1
GIVF Givet 86.94 40 *eP* **P 06 02 54.7 +0.1**
comp=Z,13nm,1.0s,mb5.1
VIVF Saint-Julien-I 86.95 45 *eP* **P 06 02 55.5 +0.7**
comp=Z,48nm,1.5s,mb5.2
VIVF Saint-Julien-I 86.95 45 *eP* **P 06 02 55.5 +0.7**
VIVF pmax pmax
comp=Z,24nm,1.5s,mb5.2
VIVF Saint-Julien-I 86.95 45 *eP* **P 06 02 55.5 +0.7**
comp=Z,24nm,1.5s,mb5.2
MEZF Maizieres J'vi 87.12 42 *eP* **P 06 02 55.4 -0.2**
comp=Z,21nm,1.1s,mb5.0
MEZF Maizieres J'vi 87.12 42 *eP* **P 06 02 55.4 -0.2**
comp=Z,21nm,1.1s,mb5.3
MEM Membach 87.68 40 P **P 06 02 58.7 +0.5**
ORIF Oris-en-Rattie 87.81 45 *eP* **P 06 02 59.9 +0.9**
comp=Z,21nm,1.2s,mb4.9
ORIF Oris-en-Rattie 87.81 45 *eP* **P 06 02 59.9 +0.9**
ORIF pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
ORIF Oris-en-Rattie 87.81 45 *eP* **P 06 02 59.9 +0.9**
comp=Z,10nm,1.2s,mb4.9
WLF Walferdange 87.81 41 P **P 06 02 59.2 +0.3**
comp=Z,12nm,1.5s,mb4.9
WLF Walferdange 87.81 41 *eP* **P 06 02 58.8 0.0**
WLF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
WLF Walferdange 87.81 41 *eP* **P 06 02 58.8 0.0**
comp=Z,8.1nm,1.0s,mb4.9
CABF La Chapelle 87.89 44 *eP* **P 06 02 59.5 +0.2**
HAU Haudompre 88.01 42 *eP* **P 06 02 59.6 -0.2**
VNA1 Neumayer--Stat 88.29 161 *eP* **P 06 03 00.2 -0.4**
VNA1 *e* 06 03 02.3
LPL La Plagne 88.39 45 *eP* **P 06 03 02.7 +1.0**
MBDF Montbardon 88.45 45 *eP* **P 06 03 02.3 +0.3**
CDF Champ du Feu 88.61 42 *eP* **P 06 03 02.6 0.0**
comp=Z,4.3nm,0.8s,mb4.5
CDF Champ du Feu 88.61 42 *eP* **P 06 03 02.6 0.0**
CDF pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
CDF Champ du Feu 88.61 42 *eP* **P 06 03 02.6 0.0**
comp=Z,2.2nm,0.8s,mb4.5
SPITS Spitsbergen Ar 89.09 12 LR LR 06 44 14.6
comp=Z,214nm,18.9s,MS4.6,baz=165,slow=36
SNAA Sanae 90.22 162 *eP* **P 06 03 08.0 -1.7**
SNAA *e* 06 03 10.0
SNAA Sanae 90.22 162 *d iP* **P 06 03 08.6 -1.1**
SNAA Sanae 90.22 162 *eP* **P 06 03 07.9 -1.8**
comp=Z,5.3nm,1.5s,mb4.7
GERES GERESS Array B 92.81 41 P **P 06 03 22.1 -0.1**
comp=Z,0.6nm,0.8s,mb4.1,baz=222,slow=1.8,SNR=6.2
BILL Bilibino 94.33 339⇑ *iP* **P 06 03 28.9 +0.1**
BILL pmax pmax
comp=Z,8.0nm,0.6s,mb5.3
RAO Raoul Island 94.82 241 LR LR 06 35 31.8
comp=Z,162nm,18.1s,MS4.5,baz=13,slow=29
LVZ Lovozero 97.56 20⇓ *iP* **P 06 03 41.5 -2.0**
VNDA Vanda 98.14 192 LR LR 06 42 38.5
comp=Z,60nm,18.6s,MS4.1,baz=280,slow=32
LSZ Lusaka 112.35 105 *ePP* PP 06 09 34.3 +2.0
KURK Kurchatov 124.34 13⇑ *iPKIPK* PKIPdf 06 09 07.4 -1.1
SONM Songino Array 128.40 351 PKP PKPdf 06 09 15.0 -1.3
comp=Z,0.3nm,0.6s,baz=180,slow=0.9,SNR=3.4
MKAR Makanchi Array 128.85 12 PKP PKPdf 06 09 15.7 -1.5
comp=Z,1.1nm,0.9s,baz=29,slow=2.8,SNR=8.0
MKAR Makanchi Array 128.85 12 *i PKIKP* PKIKPdf 06 09 15.6 -1.6
MKAR pmax pmax
comp=Z,1.0nm,0.9s
EKS2 Erkin-Say 130.22 21 *ePKPdf* PKPdf 06 09 20.9 +1.0
WMQ Urumqi 132.67 8 *ePKP* PKPdf 06 09 24.7 +0.1
WMQ LR LR
comp=N,89nm,24.8s
WMQ LR LR
comp=Z,98nm,22.5s,MS4.5
HHC Hu-ho-hao-te 133.92 343 *ePKP* PKPdf 06 09 22.2 -4.8
HHC PP PP 06 11 56.2 +0.3
HHC PKS 06 12 57.0
HHC SKS SKSdf 06 16 29.0 -5.9
HHC SS SS 06 29 37.4 -2.3
HHC PP PP
comp=Z,104nm,6.8s
HHC LR LR
comp=N,160nm,17.8s,MS5.3
HHC LR LR
comp=E,450nm,17.7s,MS5.3
HHC LR LR
comp=Z,101nm,15.5s,MS4.6
ASAR Alice Springs 137.97 238 PKP PKPdf 06 09 32.3 -2.7
comp=Z,1.1nm,1.0s,baz=79,slow=2.1,SNR=6.0
ASAR Alice Springs 137.97 238 PKP PKPdf 06 09 32.3 -2.7
WRA Warramunga Arr 138.93 243 PKP PKPdf 06 09 34.8 -2.0
comp=Z,1.9nm,0.7s,baz=109,slow=1.8,SNR=11
LZH Lanzhou 140.26 350 *ePKP* PKPdf 06 09 33.5 -5.4
CD2 Chengdu 145.31 348 *ePKP* PKPdf 06 09 46.4 -1.5
FITZ Fitzroy Crossi 147.26 241 PKPbc PKPbc 06 09 51.7 -2.2
comp=Z,4.5nm,0.8s,baz=124,slow=2.9,SNR=6.4
FITZ Fitzroy Crossi 147.26 241 *e* PKPbc 06 09 52.1 -1.8
KMI Kunming 151.12 347 PKP PKPdf 06 09 56.3 -1.3
KMI PP PP 06 13 44.1 +4.3
KMI SKKS SKKSac 06 20 31.2 +2.3
KMI SS SS 06 33 03.2 +4.6
KMI PP PP
comp=Z,278nm,6.2s
KMI LR LR
comp=Z,123nm,15.7s,MS4.8

ISCJB ***11*** *06:05:30.5±1.4, 74S±02×1250E±02, h376km±15km, Error ellipse: s-maj=35.1km s-min=16.6km az=143.1*
NEIC ***11*** *06:05:32.2±3.4, 742S×1249E, h379km±45km, mb4.6/2, Error ellipse: s-maj=47.7km s-min=24.9km az=82.0*
IDC ***11*** *06:05:33.7±2.3, 770S×1245E, h395km±26km, mb2.8/1, mb1 3.0/4, mb1mx2.8/17, mbtmp2.8/4, Error ellipse: s-maj=82.0km s-min=14.5km az=59.0*
ISC 11 06:05:32.4±1.3, 75S±01×1249E±02, h378km±13km, n9, σ0§66/13, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.96**	**204**	P	**Pn**	**06 06 34.3**	**+0.7**
BATI	63nm,0.3s,baz=42,slow=1.6,SNR=38			S	**S**	**06 07 22.1**	**-0.8**
KAKA	**Kakadu**	**9.06**	**126**	*eP*	**Pn**	**06 07 39.5**	**+0.1**
	22nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.57**	**176⇑**	*iP*	**Pn**	**06 07 57.5**	**+0.4**
	21nm,0.9s						
FITZ	**Fitzroy Crossi**	**10.57**	**176**	P	**Pn**	**06 07 57.5**	**+0.4**
	1.3nm,0.3s,baz=14,slow=10,SNR=54						
WRA	**Warramunga Arr**	**15.39**	**144**	P	**P**	**06 08 49.8**	**-0.4**
	0.2nm,0.3s,baz=316,slow=14,SNR=18						
WRA				S	**S**	**06 11 32.9**	**-1.1**
	0.0nm,0.3s,baz=314,slow=23,SNR=3.7						
WB2	**Warramunga Arr**	**15.40**	**144⇓**	*iP*	**P**	**06 08 50.2**	**0.0**
WB2				*e*		06 11 38.1	
ASAR	**Alice Springs**	**18.26**	**153**	P	**P**	**06 09 21.9**	**+1.2**
	0.3nm,0.3s,baz=333,slow=9.9,SNR=14						
ASAR				S	**S**	**06 12 30.2**	**+0.4**
	0.1nm,0.3s,baz=337,slow=16,SNR=5.1						
ASAR	**Alice Springs**	**18.26**	**153**	P	**P**	**06 09 21.9**	**+1.2**
ASAR				S	**S**	**06 12 30.2**	**+0.4**
MKAR	**Makanchi Array**	**65.96**	**329**	P	**P**	**06 15 38.8**	**-0.5**
	0.4nm,0.6s,baz=126,slow=6.2,SNR=3.0						

NEIC ***11*** *06:10:29.1±3.0, 630S×1305E, h110km±29km, mb4.3/3, Error ellipse: s-maj=32.5km s-min=18.8km az=49.0*
ISCJB ***11*** *06:10:34.6±1.7, 667S±009×1306E±008, h190km±18km, mb3.8/3, Error ellipse: s-maj=16.1km s-min=9.7km az=38.7*
IDC ***11*** *06:10:36.5±4.2, 650S×1305E, h182km±41km, mb3.5/4, mb1 3.6/6, mb1mx3.3/15, mbtmp3.6/6, Error ellipse: s-maj=36.2km s-min=15.5km az=56.0*
ISC 11 06:10:33.6±1.6, 656S±009×1306E±008, h157km±15km, n13, σ1§21/20, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.36**	**164**	*eP*	**Pn**	**06 12 05.3**	**+0.1**
	28nm,0.5s						
KAKA				*eS*	**Sn**	**06 13 16.4**	**-0.6**
BATI	**Baumata**	**7.82**	**242**	P	**Pn**	**06 12 25.9**	**+1.3**
	10.0nm,0.3s,baz=156,slow=4.6,SNR=4.5						
BATI				S	**Sn**	**06 13 52.3**	**+0.4**
	8.4nm,0.3s,baz=22,slow=16,SNR=4.1						
FITZ	**Fitzroy Crossi**	**12.48**	**203**	*eP*	**Pn**	**06 13 25.1**	**-0.8**
	5.3nm,0.6s						
FITZ				*eS*	**Sn**	**06 15 38.2**	**-5.8**
FITZ	**Fitzroy Crossi**	**12.48**	**203**	P	**Pn**	**06 13 25.2**	**-0.7**
	0.5nm,0.3s,baz=37,slow=12,SNR=9.8						
FITZ				S	**Sn**	**06 15 41.0**	**-3.0**
	0.9nm,0.3s,baz=207,slow=16,SNR=7.3						
WRAB	**Tennant Creek**	**13.77**	**165**	*ePn*	**Pn**	**06 13 42.6**	**+0.2**
WRA	**Warramunga Arr**	**13.78**	**165**	P	**Pn**	**06 13 40.2**	**-2.3**
	0.6nm,0.3s,baz=335,slow=13,SNR=13						
WRA				S	**Sn**	**06 16 08.9**	**-6.4**
	2.4nm,0.3s,baz=356,slow=23,SNR=12						
WB2	**Warramunga Arr**	**13.78**	**165**	*eP*	**Pn**	**06 13 42.3**	**-0.2**
WB2				*eS*	**Sn**	**06 16 09.2**	**-6.1**
ASAR	**Alice Springs**	**17.29**	**170**	P	**Pn**	**06 14 27.8**	**+2.1**
	0.7nm,0.3s,baz=354,slow=10,SNR=24						
ASAR				S	**S**	**06 17 36.8**	**+0.1**
	0.4nm,0.3s,baz=1.4,slow=26,SNR=6.9						
CTA	**Charters Tower**	**20.25**	**133**	P	**P**	**06 14 58.0**	**+1.2**
	1.5nm,0.5s,baz=321,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**27.18**	**159**	*eP*	**P**	**06 16 05.6**	**+3.0**
	3.3nm,1.9s,mb3.6						
STKA	**Stephens Creek**	**27.18**	**159**	P	**P**	**06 16 05.8**	**+3.2**
	1.0nm,0.4s,mb3.8,baz=336,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**68.22**	**326**	P	**P**	**06 21 16.7**	**-0.5**
	2.5nm,0.6s,mb4.1,baz=122,slow=8.2,SNR=18						
ZALV	**Zalesovo Beam**	**71.48**	**333**	P	**P**	**06 21 35.7**	**-1.3**
	0.5nm,0.4s,mb3.6,baz=123,slow=10,SNR=2.7						

SOF ***11*** *06:25:08.2, 4125N×2334E, h7km, MD2.6*
NEIC ***11*** *06:25:09.6, 4135N×2341E, h20km, MD3.4(ATH), ML3.1(THE), After ATH.*
ISCJB ***11*** *06:25:09.5±0.4, 4131N±002×2341E±003, h9km±4km, Error ellipse: s-maj=3.4km s-min=3.3km az=24.7*
ATH ***11*** *06:25:09.6, 4135N×2341E, h20km, MD3.4/3*
THE ***11*** *06:25:10.7, 4130N×2339E, h3km, ML3.1*
CSEM ***11*** *06:25:10.3±0.1, 4134N×2336E, h15km, MD3.4, Error ellipse: s-maj=1.8km s-min=1.6km az=6.0*
SKO ***11*** *06:25:13.1, 4126N×2325E, h6km*
ISC 11 06:25:10.4±0.3, 4131N±002×2340E±003, h12km±4km, n31, σ0§92/51, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.35**	**83**	*ePB*	**Pg**	**06 25 17.0**	**-0.4**
NVR				*eSB*	**Sg**	**06 25 22.2**	**0.0**
MMB	**Musomiste**	**0.38**	**41**	Pg	**Pg**	**06 25 17.3**	**-0.6**
KNT	**Kendrikon**	**0.40**	**249**	*ePg*	**Pg**	**06 25 18.1**	**-0.3**
KNT				*eSg*	**Sg**	**06 25 24.1**	**+0.3**
VAY	**Valandovo**	**0.62**	**272**	*ePg*	**Pg**	**06 25 21.9**	**-0.7**
VAY	**Valandovo**	**0.62**	**272**	*i Pg*	**Pg**	**06 25 22.1**	**-0.4**
VAY				*eSg*	**Sg**	**06 25 30.3**	**-0.4**
VAY	**Valandovo**	**0.62**	**272**	*i Pg*	**Pg**	**06 25 22.0**	**-0.5**
VAY				*eSg*	**Sg**	**06 25 30.3**	**-0.4**
HORT	**Hortiatis**	**0.74**	**198**	*ePg*	**Pg**	**06 25 24.8**	**+0.1**
HORT				*eSg*	**Sg**	**06 25 35.2**	**+0.7**
THE	**Thessaloniki**	**0.75**	**206**	*ePg*	**Pg**	**06 25 24.8**	**0.0**
THE				*eSg*	**Sg**	**06 25 35.3**	**+0.6**
GRG	**Griva**	**0.83**	**245**	*ePg*	**Pg**	**06 25 26.1**	**-0.3**
GRG				*eSg*	**Sg**	**06 25 38.2**	**+1.0**
GRG	**Griva**	**0.83**	**245**	*ePg*	**Pg**	**06 25 26.0**	**-0.4**
GRG				*eSg*	**Sg**	**06 25 38.2**	**+0.9**
PLG	**Polygyros**	**0.93**	**178**	*ePg*	**Pg**	**06 25 27.8**	**-0.6**
PLG				*eSg*	**Sg**	**06 25 42.2**	**+1.7**
PLG	**Polygyros**	**0.93**	**178**	*ePn*	**Pn**	**06 25 27.8**	**-1.4**
PLG				*eSn*	**Sn**	**06 25 41.3**	**-1.1**
STIP	**Stip**	**0.99**	**293**	*ePg*	**Pg**	**06 25 29.7**	**+0.2**
STIP				*eSg*	**Sg**	**06 25 42.8**	**+0.5**
STIP	**Stip**	**0.99**	**293**	*i Pg*	**Pg**	**06 25 29.6**	**+0.2**
STIP				*eSg*	**Sg**	**06 25 42.8**	**+0.5**
RZN	**Rozhen**	**1.06**	**69**	Pg	**Pg**	**06 25 30.4**	**-0.4**
OUR	**Ouranopolis**	**1.07**	**155**	*ePg*	**Pg**	**06 25 31.1**	**+0.2**
OUR				*eSg*	**Sg**	**06 25 45.4**	**+0.6**
PLD	**Plovdiv**	**1.26**	**50**	*ePg*	**Pg**	**06 25 34.5**	**-0.1**
PLD				*eSg*	**Sg**	**06 25 53.2**	**+2.2**
PLD	**Plovdiv**	**1.26**	**50**	*ePg*	**Pg**	**06 25 34.5**	**-0.1**
PLD				*eSg*	**Sg**	**06 25 53.2**	**+2.2**
VTS	**Vitosha**	**1.29**	**354**	Pg	**Pg**	**06 25 35.4**	**+0.2**
PGB	**Panagyurishte**	**1.37**	**25**	Pg	**Pg**	**06 25 36.6**	**-0.1**
LIT	**Litokhoron**	**1.39**	**210**	*ePg*	**Pg**	**06 25 36.4**	**-0.6**
PAIG	**Paliouri**	**1.39**	**171**	*ePg*	**Pg**	**06 25 35.7**	**-1.4**
PAIG				*eSg*	**Sg**	**06 25 55.4**	**+0.2**
KDZ	**Kurdzhali**	**1.56**	**77**	P	**Pn**	**06 25 37.8**	**0.0**
KRUS	**Krusevo**	**1.62**	**273**	*ePn*	**Pn**	**06 25 40.0**	**+1.4**
KRUS				*eSn*	**Sn**	**06 26 01.8**	**+2.4**
RDO	**Rodhopi**	**1.62**	**95**	*ePN*	**Pn**	**06 25 39.1**	**+0.4**
RDO				*eSN*	**Sn**	**06 26 00.7**	**+1.2**
LOS	**Limnos**	**1.88**	**136**	*ePb*	**Pb**	**06 25 41.4**	**-3.2**
LOS	**Limnos**	**1.88**	**136**	*ePb*	**Pb**	**06 25 41.3**	**-3.2**
BARS	**Barje**	**1.92**	**323⇑**	*iPn*	**Pn**	**06 25 42.9**	**+0.2**
BARS				*eSg*	**Sg**	**06 26 11.2**	**-0.7**
XOR	**Xorichti**	**1.94**	**185**	*ePb*	**Pb**	**06 25 43.9**	**-1.7**
ALN	**Alexandroupoli**	**2.04**	**101**	*ePn*	**Pn**	**06 25 45.1**	**+0.6**
DIVS	**Divibare**	**3.75**	**319**	*ePn*	**Pn**	**06 26 06.4**	**-1.6**
DIVS				*eSg*	**Sg**	**06 27 10.6**	**-0.2**

NIED ***11*** *06:28:00, 3520N×13580E, h29km, Mw3.5 Best double couple: M0 1.81000×1014 NP1:φ0=207.00000°, δ82.00000°, λ155.00000°. NP2:φ0=300.00000°, δ65.00000°, λ9.00000°.*
JMA 11 06:28:10.1, 3525N×13577E, h13km, M3.4, 2C-2D
Broadband fault plane solution: P waves. NP1: ϕ_0=321.00000°, δ39.00000°, λ19.00000°. **NP2:** ϕ_0=216.00000°, δ78.00000°, λ127.00000°. **Principal axes:** T Plg44.0000°, Azm163.0000°; N Plg37.0000°, Azm27.0000°; P Plg24.0000°, Azm278.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.30**	**276**	⇓P	Pg	06 28 16.3	0.0
JWT				S	Sg	06 28 20.5	0.0
JFM	**Mihama**	**0.33**	**32**	⇑P	Pg	06 28 16.8	0.0
JFM				S	Sg	06 28 21.4	+0.1
JHE	**Heguri**	**0.60**	**187**	⇑P	Pg	06 28 21.7	-0.1
JHE				S	Sg	06 28 29.3	-0.4
JKY	**Yasaka**	**0.66**	**305**	⇓P	Pg	06 28 22.9	-0.1
JKY				S	Sg	06 28 31.8	+0.1
MAT	**Matsushiro**	**2.36**	**56**	P	Pn	06 28 49.5	+1.0
MAT				S	Sn	06 29 23.3	+5.9

ISCJB ***11*** *06:32:52.7±0.3, 550S±004×1153W±006, h10km, mb4.7/72, MS4.4/46 Error ellipse: s-maj=8.8km s-min=6.2km az=17.8*
MOS ***11*** *06:32:52.8±0.9, 543S×1161W, h10km, mb5.2/39, MS4.4/16, Error ellipse: s-maj=14.3km s-min=4.6km az=71.4*
IDC ***11*** *06:32:53.1±0.5, 553S×1151W, h0km, mb4.3/26, mb1 4.3/27, mb1mx4.3/38, mbtmp4.3/27, ML3.5/1, MS4.3/30, Ms1 4.3/30, ms1mx4.3/32, Error ellipse: s-maj=16.0km s-min=12.7km az=117.0*
NEIC ***11*** *06:32:54.5±0.2, 555S×1155W, h10km, mb5.0/40, Error ellipse: s-maj=7.3km s-min=5.4km az=108.0*
GCMT ***11*** *06:32:54.5±0.2, 544S×1153W, h12km, MW5.1/86, Moment Tensor Solution. s25,c33; s86,c139; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.97±.11; Mθθ=0.76±.10; Mφφ=4.21±.09; Mrθ=0.03±.43; Mφθ=-1.41±.09; Mφr=1.23±.32; Best double couple: M0=4.99400×10^16 NP1:φ0=156.00000°, δ38.00000°, λ=-96.00000°. NP2: φ0=345.00000°, δ52.00000°, λ=-85.00000°. Principal axes: T 4.8520, Plg7.0000°, Azm71.0000°; N 0.2840, Plg4.0000°, Azm161.0000°; P -5.1360, Plg82.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***11*** *06:32:55.3, 547S×1155W, h21km, mB5.4, Ms5.2, Msz4.7*
SZGRF ***11*** *06:33:04.3, 431S×1143W, h18km, mb4.3, North of Ascension Island*
ISC 11 06:32:54.6±0.3, 553S±004×1155W±006, h10km, (h17km±4km:pP-P), n236, σ0§94/216, mb4.7/72, MS4.4/46, 10C-1D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**3.67**	**229**	*ePg*	**Pg**	**06 34 00.3**	**-4.7**
ASCN				*eSn*	**Sn**	**06 34 26.5**	**-8.3**
SHEL	**Horse Pasture**	**11.82**	**152**	Pn	**Pn**	**06 35 42.1**	**-1.3**
SHEL				Sn	Sn	06 37 33.5	-22
LIC	**Lamto**	**13.37**	**29⇑**	*iP*	**Pn**	**06 36 03.5**	**-1.1**
	106nm,1.2s,baz=235						
LIC				*e*MLR	MLR		
	comp=Z,2μm,20.0s						
LIC	**Lamto**	**13.37**	**29⇑**	*iP*	**Pn**	**06 36 03.5**	**-1.1**
	comp=Z,53nm,1.2s						
DBIC	**Dimbokro**	**13.84**	**29**	Pn	**Pn**	**06 36 10.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=182,slow=14,SNR=14						
DBIC				LR	LR	06 40 35.2	
	comp=Z,1μm,18.2s,baz=182,slow=33						
DBIC	**Dimbokro**	**13.84**	**29**	*eP*	**Pn**	**06 36 10.1**	**-1.0**
DBIC				pmax	pmax		
	comp=Z,87nm,1.2s						
DBIC	**Dimbokro**	**13.84**	**29**	*e*Pn	**Pn**	**06 36 10.1**	**-0.9**
	comp=Z,87nm,1.2s						
BBTS	**Babate**	**20.66**	**346**	P	**P**	**06 37 35.5**	**+0.7**
	comp=Z,41nm,1.0s,baz=185,slow=6.0,SNR=3.3						
BBTS				LR	LR	06 44 39.9	
	comp=Z,342nm,18.5s,MS3.8,baz=174,slow=34						
BBTS	**Babate**	**20.66**	**346**	P	**P**	**06 37 35.5**	**+0.7**
BBTS				LR	LR	06 44 39.9	
TOA0	**Torodi Ar. Sit**	**22.75**	**35**	*eP*	**P**	**06 37 57.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**22.75**	**35**	P	**P**	**06 37 56.5**	**-0.6**
	comp=Z,18nm,0.5s,mb4.8,baz=223,slow=11,SNR=23						
TORD				LR	LR	06 45 46.8	
	comp=Z,2μm,20.0s,MS4.4,baz=210,slow=34						
TSUM	**Tsumeb**	**31.46**	**118**	P	**P**	**06 39 15.3**	**-1.3**
	comp=Z,2.9nm,0.9s,mb4.1,baz=98,slow=3.3,SNR=2.6						
TSUM	**Tsumeb**	**31.46**	**118**	*eP*	**P**	**06 39 15.6**	**-1.0**
	comp=Z,22nm,1.8s,mb4.7						
TAM	**Tamanrasset**	**32.73**	**30**	*eP*	**P**	**06 39 29.7**	**+2.0**
BDFB	**Brasilia**	**37.16**	**251**	P	**P**	**06 40 05.1**	**-1.0**
	comp=Z,2.9nm,0.9s,mb4.1,baz=164,slow=10,SNR=6.6						
BDFB				LR	LR	06 52 55.3	
	comp=Z,463nm,19.6s,MS4.3,baz=14,slow=32						
MDT	**Midelt**	**38.70**	**9**	P	**P**	**06 40 19.2**	**+0.4**
	comp=Z,6.7nm,1.0s,mb4.3,baz=184,slow=10,SNR=7.7						
LSZ	**Lusaka**	**40.20**	**107**	P	**P**	**06 40 31.2**	**-0.5**
	comp=Z,6.5nm,0.9s,mb4.4,baz=278,slow=8.3,SNR=4.9						
LSZ	**Lusaka**	**40.20**	**107**	*eP*	**P**	**06 40 31.8**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.7						
LSZ	**Lusaka**	**40.20**	**107**	*eP*	**P**	**06 40 31.8**	**+0.1**
	comp=Z,24nm,1.5s,mb4.7						
SUR	**Sutherland**	**40.32**	**136**	P	**P**	**06 40 33.0**	**+0.6**
	comp=Z,8.4nm,1.0s,mb4.4,baz=120,slow=6.6,SNR=3.1						
SUR	**Sutherland**	**40.32**	**136**	P	**P**	**06 40 33.0**	**+0.6**
LBTB	**Lobatse**	**40.52**	**123**	P	**P**	**06 40 33.0**	**-1.2**
	comp=Z,9.4nm,1.0s,mb4.4,baz=262,slow=9.7,SNR=4.6						
BOSA	**Boshof**	**41.73**	**128**	LR	LR	06 55 36.9	
	comp=Z,315nm,19.1s,MS4.2,baz=301,slow=33						
EVO	**Evora**	**43.96**	**4**	*eP*	**P**	**06 41 00.7**	**-1.3**
	comp=Z,61nm,1.4s,mb4.8						
EVO				*e*MLR	MLR		
	comp=Z,309nm,21.2s,MS3.9						
KEST	**Kesra**	**45.50**	**24**	P	**P**	**06 41 15.9**	**+1.6**
	comp=Z,1.9nm,0.8s,mb4.0,baz=134,slow=3.9,SNR=5.8						
KEST				LR	LR	07 00 47.8	
	comp=Z,426nm,18.9s,MS4.4,baz=352,slow=37						
ESDC	**Sonseca Array**	**45.52**	**8**	P	**P**	**06 41 14.7**	**+0.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=187,slow=7.0,SNR=4.6						
ESDC				LR	LR	07 00 09.5	
	comp=Z,149nm,18.4s,MS4.0,baz=190,slow=36						
ESDC	**Sonseca Array**	**45.52**	**8**	P	**P**	**06 41 14.7**	**+0.3**
ESDC				LR	LR	07 00 09.5	
CPUP	**Villa Florida**	**48.30**	**239**	P	**P**	**06 41 37.9**	**+1.5**
	comp=Z,3.2nm,0.9s,mb4.3,baz=98,slow=5.6,SNR=3.1						
CPUP				LR	LR	07 00 22.9	
	comp=Z,191nm,20.7s,MS4.1,baz=50,slow=34						
KMBO	**Kilima Mbogo**	**48.90**	**87**	LR	LR	07 01 13.1	
	comp=Z,1μm,18.3s,MS5.0,baz=266,slow=35						
ETSF	**Etsaut**	**49.23**	**11**	*eP*	**P**	**06 41 43.2**	**0.0**
	comp=Z,50nm,1.5s,mb5.0						
ETSF	**Etsaut**	**49.23**	**11**	*eP*	**P**	**06 41 43.2**	**0.0**
ETSF				pmax	pmax		
	comp=Z,25nm,1.5s,mb5.0						
ETSF	**Etsaut**	**49.23**	**11**	*eP*	**P**	**06 41 43.2**	**0.0**
	comp=Z,25nm,1.5s,mb5.0						
EPF	**Esparros**	**49.52**	**11**	*eP*	**P**	**06 41 45.6**	**+0.1**
	comp=Z,55nm,1.6s,mb5.0						
EPF	**Esparros**	**49.52**	**11**	*eP*	**P**	**06 41 45.6**	**+0.1**
EPF				pmax	pmax		
	comp=Z,28nm,1.6s,mb5.0						
EPF	**Esparros**	**49.52**	**11**	*eP*	**P**	**06 41 45.6**	**+0.1**
	comp=Z,28nm,1.6s,mb5.0						
SIV	**San Ignacio**	**49.63**	**254**	P	**P**	**06 41 46.8**	**+0.1**
	comp=Z,2.5nm,0.9s,mb4.3,baz=98,slow=8.2,SNR=10						
**M

comp=Z,20nm,1.5s,mb4.8
VIVF Saint-Julien-I 52.23 15 *e*P **P 06 42 05.8 0.0**
comp=Z,20nm,1.5s,mb4.8
MBDF Montbardon 52.67 16 *e*P **P 06 42 09.3 +0.2**
MFF Saint Martin d 52.89 10 *e*P **P 06 42 10.0 -0.7**
comp=Z,55nm,1.5s,mb5.0
MFF Saint Martin d 52.89 10 *e*P **P 06 42 10.0 -0.7**
MFF pmax pmax
comp=Z,27nm,1.5s,mb5.0
MFF Saint Martin d 52.89 10 *e*P **P 06 42 10.0 -0.7**
comp=Z,27nm,1.5s,mb5.0
BNI Bardonecchia 52.94 16 *e*P **P 06 42 13.3 +2.2**
TCF Toulx Ste Croi 53.03 12 *e*P **P 06 42 11.4 -0.3**
IDI Anoyia 53.13 37 P **P 06 42 13.7 +1.0**
comp=Z,20nm,1.1s,mb5.0,baz=358,slow=5.5,SNR=4.7
IDI LR LR 07 06 59.6
comp=Z,352nm,19.9s,MS4.4,baz=0.3,slow=38
LPG La Plagne 53.37 16 *e*P **P 06 42 14.8 +0.5**
LPL La Plagne 53.39 16 *e*P **P 06 42 14.6 +0.2**
comp=Z,47nm,1.5s,mb4.9
LPL La Plagne 53.39 16 *e*P **P 06 42 14.6 +0.2**
LPL pmax pmax
comp=Z,24nm,1.5s,mb4.9
LPL La Plagne 53.39 16 *e*P **P 06 42 14.6 +0.2**
comp=Z,24nm,1.5s,mb4.9
QUIF Quistinic 53.73 7 *e*P **P 06 42 16.1 -0.7**
comp=Z,45nm,1.4s,mb4.9
QUIF Quistinic 53.73 7 *e*P **P 06 42 16.1 -0.7**
QUIF pmax pmax
comp=Z,22nm,1.4s,mb4.9
QUIF Quistinic 53.73 7 *e*P **P 06 42 16.1 -0.7**
comp=Z,22nm,1.4s,mb4.9
AVF Avril sur Loir 53.75 13 *e*P **P 06 42 16.4 -0.6**
comp=Z,21nm,1.4s,mb4.6
AVF Avril sur Loir 53.75 13 *e*P **P 06 42 16.4 -0.6**
AVF pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
AVF Avril sur Loir 53.75 13 *e*P **P 06 42 16.4 -0.6**
comp=Z,10nm,1.4s,mb4.6
SSF Saint Saulge 54.04 13 *e*P **P 06 42 18.6 -0.5**
comp=Z,58nm,1.4s,mb5.0
SSF Saint Saulge 54.04 13 *e*P **P 06 42 18.6 -0.5**
SSF pmax pmax
comp=Z,29nm,1.4s,mb5.0
SSF Saint Saulge 54.04 13 *e*P **P 06 42 18.6 -0.5**
comp=Z,29nm,1.4s,mb5.0
ROSF Rostrenen 54.13 7 *e*P **P 06 42 19.0 -0.8**
comp=Z,68nm,1.4s,mb5.1
ROSF Rostrenen 54.13 7 *e*P **P 06 42 19.0 -0.8**
ROSF pmax pmax
comp=Z,34nm,1.4s,mb5.1
ROSF Rostrenen 54.13 7 *e*P **P 06 42 19.0 -0.8**
comp=Z,34nm,1.4s,mb5.1
SGMF Saint Gilles 54.14 7 *e*P **P 06 42 19.1 -0.7**
comp=Z,51nm,1.4s,mb5.0
SGMF Saint Gilles 54.14 7 *e*P **P 06 42 19.1 -0.7**
SGMF pmax pmax
comp=Z,25nm,1.4s,mb5.0
SGMF Saint Gilles 54.14 7 *e*P **P 06 42 19.1 -0.7**
comp=Z,25nm,1.4s,mb5.0
CABF La Chapelle 54.23 15 *e*P **P 06 42 19.8 -0.7**
comp=Z,74nm,1.6s,mb5.1
CABF La Chapelle 54.23 15 *e*P **P 06 42 19.8 -0.7**
CABF pmax pmax
comp=Z,37nm,1.6s,mb5.1
CABF La Chapelle 54.23 15 *e*P **P 06 42 19.8 -0.7**
comp=Z,37nm,1.6s,mb5.1
LOR Lormes 54.31 13 *e*P **P 06 42 20.2 -0.9**
comp=Z,48nm,1.5s,mb4.9
LOR *e*MLR MLR
comp=Z,410nm,18.2s,MS4.2
LOR Lormes 54.31 13 *e*P **P 06 42 20.2 -0.9**
LOR pmax pmax
comp=Z,24nm,1.5s,mb4.9
LOR MLR MLR
comp=Z,410nm,18.3s,MS4.5
LOR Lormes 54.31 13 *e*P **P 06 42 20.2 -0.9**
comp=Z,24nm,1.5s,mb4.9
LOR LR LR
comp=Z,410nm,18.3s,MS4.5
GRR Gorron 54.51 9 *e*P **P 06 42 21.8 -0.7**
comp=Z,98nm,1.4s,mb5.3
GRR Gorron 54.51 9 *e*P **P 06 42 21.8 -0.7**
GRR pmax pmax
comp=Z,49nm,1.4s,mb5.3
GRR Gorron 54.51 9 *e*P **P 06 42 21.8 -0.7**
comp=Z,49nm,1.4s,mb5.3
LDF La Druitiere 54.82 9 *e*P **P 06 42 24.1 -0.7**
comp=Z,45nm,1.4s,mb5.0
LDF La Druitiere 54.82 9 *e*P **P 06 42 24.1 -0.7**
LDF pmax pmax
comp=Z,23nm,1.4s,mb5.0
LDF La Druitiere 54.82 9 *e*P **P 06 42 24.1 -0.7**
comp=Z,22nm,1.4s,mb5.0
FLN La Foliniere 54.93 9 *e*P **P 06 42 24.6 -1.0**
FLN *e*MLR MLR
comp=Z,423nm,18.2s,MS4.2
FLN La Foliniere 54.93 9 *e*P **P 06 42 24.6 -1.0**
FLN LR LR
comp=Z,420nm,18.3s,MS4.5
DAVOX Davos/Dischmat 55.45 18 P **P 06 42 29.3 0.0**
comp=Z,2.9nm,0.8s,mb4.3,baz=232,slow=2.0,SNR=5.8
DAVOS Davos 55.47 18 P **P 06 42 29.3 -0.2**
HINF Hinteralfeld 55.54 15 *e*P **P 06 42 28.9 -1.1**
HAU Haudompre 55.59 14 *e*P **P 06 42 29.4 -0.9**
comp=Z,56nm,1.6s,mb5.1
HAU *e*MLR MLR
comp=Z,307nm,18.8s,MS4.1
HAU Haudompre 55.59 14 *e*P **P 06 42 29.4 -0.9**
HAU pmax pmax
comp=Z,28nm,1.6s,mb5.0
HAU MLR MLR
comp=Z,310nm,18.8s,MS4.4
HAU Haudompre 55.59 14 *e*P **P 06 42 29.4 -0.9**
comp=Z,28nm,1.6s,mb5.0
HAU LR LR
comp=Z,310nm,18.8s,MS4.4
MEZF Maizieres J'vi 55.74 13 *e*P **P 06 42 30.8 -0.6**
comp=Z,87nm,1.6s,mb5.2
MEZF Maizieres J'vi 55.74 13 *e*P **P 06 42 30.8 -0.6**
comp=Z,87nm,1.6s,mb5.5
ECH Echery 55.99 15 *e*P **P 06 42 34.0 +0.8**
CDF Champ du Feu 56.20 15 *e*P **P 06 42 33.4 -1.3**
BFO Black Forest 56.40 16 *e*P **P 06 42 36.5 +0.3**
LPAZ La Paz 56.41 254 PcP PcP 06 43 33.3 -0.7
comp=Z,1.2nm,0.8s,baz=56,slow=3.6,SNR=3.8
LPAZ LR LR 07 07 41.1
comp=Z,277nm,18.4s,MS4.4,baz=82,slow=37
EIL Elat 56.69 49 P **P 06 42 37.9 -0.7**
comp=Z,2.9nm,0.7s,mb4.4,baz=78,slow=9.3,SNR=3.9
BAIF Baives 57.03 12 *e*P **P 06 42 39.3 -1.3**
comp=Z,39nm,1.4s,mb4.9
BAIF Baives 57.03 12 *e*P **P 06 42 39.3 -1.3**
BAIF pmax pmax
comp=Z,19nm,1.4s,mb4.9
BAIF Baives 57.03 12 *e*P **P 06 42 39.3 -1.3**
comp=Z,19nm,1.4s,mb4.9
FUR Furstenfeldbru 57.11 18 *e*pP pP 06 42 46.8 +2.4
DOU Dourbes 57.15 12 P **P 06 42 46.7 +5.3**
comp=Z,9.5nm,1.7s,mb4.5
GIVF Givet 57.20 12 *e*P **P 06 42 40.4 -1.4**
HGN Heimansgroeve 58.06 13 *e*P **P 06 42 46.2 -1.7**
comp=Z,26nm,2.2s,mb4.9
HGN Heimansgroeve 58.06 13 *e*PP PP 06 44 57.3 +0.7
HGN Heimansgroeve 58.06 13 *e*S **S 06 50 55.2 +6.5**
TNS Taunus Mts 58.17 15 *e*P **P 06 42 48.1 -0.5**
TNS *e*pP pP 06 42 53.7 +1.9
GRA1 Grafenberg Arr 58.45 17 *e*P **P 06 42 50.3 -0.3**
GRA1 *e*pP pP 06 42 55.6 +1.8
GRA1 LR LR
comp=Z,300nm,21.1s,MS4.4
GRF Grafenberg Arr 58.45 17 *e*P **P 06 42 50.3 -0.3**
GRF *e*pP pP 06 42 55.6 +1.8
GRF *e*L 07 07 16.8
comp=Z,280nm,21.1s
WET Wettzell 58.47 19 *e*P **P 06 42 51.6 +0.8**
WET *e*PP PP 06 44 58.2 -2.1
GEC2 GERESS Array S 58.48 19 *e*P **P 06 42 51.6 +0.8**
GEC2 *e*pP pP 06 42 56.2 +2.2
GEC2 *e*PP PP 06 44 58.7 -1.7
GERES GERESS Array B 58.48 19 P **P 06 42 51.9 +1.1**
comp=Z,3.0nm,0.9s,mb4.3,baz=187,slow=6.7,SNR=19
GERES PP PP 06 45 02.9 +2.5
comp=Z,2.6nm,1.1s,baz=203,slow=9.6,SNR=5.7
GERES LR LR 07 08 38.3
comp=Z,344nm,19.6s,MS4.5,baz=216,slow=37

GERES GERESS Array B 58.48 19 P **P 06 42 51.9 +1.1**
GERES 06 45 02.9
SOP Sopron 58.49 22‖ *e*P **P 06 42 48.2 -2.7**
KHC Kasperske Hory 58.69 19 *e*P **P 06 42 51.6 -0.6**
KHC *e*S **S 06 50 57.4 +0.6**
KHC AMS AMS 07 08 10.0
comp=Z,400nm,18.7s
MMAI Mount Meron Ar 58.74 46 LR LR 07 09 43.8
comp=Z,227nm,18.3s,MS4.3,baz=245,slow=38
ROTZ Rotzenmuhle 58.81 18 *e*P **P 06 42 52.7 -0.4**
ROTZ *e*pP pP 06 42 58.5 +2.2
MANZ Manzenberg 58.98 18 *e*P **P 06 42 55.1 +0.9**
MANZ *e*pP pP 06 42 59.7 +2.2
ZST Bratislava 59.12 22 *e*P **P 06 42 55.4 +0.1**
ZST pmax pmax
comp=Z,28nm,2.0s,mb5.0
ZST Bratislava 59.12 22 *e*P **P 06 42 55.4 +0.1**
comp=Z,28nm,2.0s,mb5.0
NKC Novy Kostel 59.30 18 *e*P **P 06 42 57.3 +0.8**
NKC *e*pP pP 06 43 02.1 +2.4
MODS Modra-Piesok 59.33 22 *e*P **P 06 42 56.1 -0.6**
MODS *e*PP PP 06 45 08.5 +0.5
MODS Modra-Piesok 59.33 22 *e*P **P 06 42 56.1 -0.6**
MODS *e*PP PP 06 45 08.6 +0.6
AOPR Arecibo Observ 59.36 295 *e*P **P 06 43 02.1 +4.5**
ASF Jabal al Asfar 59.39 48 P **P 06 42 57.7 +0.2**
comp=Z,1.2nm,0.4s,mb4.3,baz=181,slow=4.6,SNR=5.2
ASF LR LR 07 10 12.9
comp=Z,376nm,18.4s,MS4.5,baz=210,slow=38
MOX Moxa 59.42 17 *e*P **P 06 42 58.2 +0.9**
comp=Z,21nm,1.6s,mb4.9
MOX
comp=Z,300nm,18.0s
MOX Moxa 59.42 17 *e*P **P 06 42 58.2 +0.9**
MOX pmax pmax
comp=Z,21nm,1.6s,mb4.9
MOX MLR MLR
comp=Z,300nm,18.0s,MS4.5
MOX Moxa 59.42 17 *e*P **P 06 42 58.2 +0.9**
MOX *e*pP pP 06 43 02.6 +2.1
TREC Trest 59.47 20 AMS AMS 07 08 30.0
comp=Z,300nm,21.0s
PRU Pruhonice 59.74 19 *e*P **P 06 43 00.3 +0.8**
PRU *e*S **S 06 51 11.3 +0.8**
PRU AMS AMS 07 09 10.0
comp=Z,300nm,18.6s
VRAC Vranov 59.86 21 P **P 06 42 59.5 -0.9**
comp=Z,2.2nm,0.6s,mb4.4,baz=222,slow=19,SNR=4.5
IBBN Ibbenburen 59.92 14 *e*PP PP 06 45 11.1 -2.0
PSZ Piszkesteto 59.98 24⇑ *e*P **P 06 43 01.8 +0.6**
PSZ Piszkesteto 59.98 24 *e*P **P 06 43 01.7 +0.5**
CLZ Clausthal 60.15 15 *e*P **P 06 43 02.7 +0.4**
CLZ *e*pP pP 06 43 07.8 +2.3
CLZ *e*PP PP 06 45 14.0 -1.1
PVCC Panska Ves 60.22 19 *e*P **P 06 43 04.3 +1.5**
PVCC AMS AMS 07 09 20.0
comp=Z,300nm,20.3s
BRG Berggiesshubel 60.32 18 *e*P **P 06 43 04.8 +1.3**
BRG *e* 06 45 21.6
BRG S **S 06 51 23.0 +5.1**
BRG SS SS 06 55 16.0 +0.3
BRG pmax pmax
comp=Z,7.0nm,1.6s,mb4.4
BRG MLR MLR
comp=Z,220nm,17.9s,MS4.3
BRG Berggiesshubel 60.32 18 *e*P **P 06 43 04.5 +1.0**
BRG Berggiesshubel 60.32 18 *e*P **P 06 43 04.8 +1.3**
comp=Z,12nm,1.6s,mb4.7
BRG *e* 06 45 21.6
comp=Z,10nm,1.6s
BRG S **S 06 51 23.0 +5.1**
BRG SS SS 06 55 16.0 +0.3
BRG
comp=N,316nm,22.1s
BRG
comp=E,155nm,12.2s
BRG
comp=Z,364nm,17.9s
BRG Berggiesshubel 60.32 18 *e*P **P 06 43 04.8 +1.3**
comp=Z,7.0nm,1.6s,mb4.4
BRG *e* 06 45 21.6
BRG S **S 06 51 23.0 +5.1**
BRG SS SS 06 55 16.0 +0.3
BRG LR LR
comp=Z,220nm,17.9s,MS4.3
CLL Collm 60.41 17 *e*P **P 06 43 05.0 +0.9**
CLL LmV 06 10 00.0
comp=Z,300nm,18.1s
CLL *e*(pP) pP 06 43 10.0 +2.7
CLL *e*S **S 06 51 28.0 +8.9**
CLL *e*SSS 06 58 00.0
CLL Collm 60.41 17 *e*P **P 06 43 05.0 +0.9**
CLL *e* 06 43 10.0
CLL *e*S **S 06 51 28.0 +8.9**
CLL LR LR
comp=Z,300nm,18.1s,MS4.5
MORC Moravsky Berou 60.60 21 *e*P **P 06 43 06.6 +1.2**
MORC pmax pmax
comp=Z,13nm,1.5s,mb4.8
MORC Moravsky Berou 60.60 21 *e*P **P 06 43 06.6 +1.2**
comp=Z,13nm,1.5s,mb4.8
DPC Dobruska-Polom 60.65 20 *e*P **P 06 43 06.7 +1.0**
DPC *e*S **S 06 51 17.7 -4.4**
DPC AMS AMS 07 09 40.0
comp=Z,300nm,15.6s
KECS Kecovo 60.66 24 *e*P **P 06 43 06.3 +0.4**
KECS pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
KECS Kecovo 60.66 24 *e*P **P 06 43 06.3 +0.4**
comp=Z,5.3nm,1.1s,mb4.6
UPC Upice 60.68 20 *e*P **P 06 43 06.9 +1.0**
UPC *e*pP pP 06 43 11.7 +2.5
OKC Ostrava-Krasne 60.87 22 *e*P **P 06 43 08.6 +1.4**
OKC *e*pP pP 06 43 13.4 +2.9
OKC AMS AMS 07 09 20.0
comp=Z,300nm,16.7s
OKC Ostrava-Krasne 60.87 22 *e*P **P 06 43 08.6 +1.4**
OKC *e* pP 06 43 13.4 +2.9
ESK Eskdalemuir 61.03 5 *e*P **P 06 43 07.6 -0.6**
ESK pmax pmax
comp=Z,30nm,1.4s,mb5.2
ESK Eskdalemuir 61.03 5 *e*P **P 06 43 07.6 -0.7**
comp=Z,30nm,1.4s,mb5.2
EKA Eskdalemuir Ar 61.05 5 P **P 06 43 08.0 -0.4**
comp=Z,0.8nm,0.8s,mb3.9,baz=191,slow=6.8,SNR=3.4
NIE Niedzica 61.34 23 *e*P **P 06 43 12.8 +2.3**
CRVS Cervenica-Dubn 61.39 24 *e*P **P 06 43 11.5 +0.7**
UZH Uzhgorod 61.52 25 *e*P **P 06 43 12.4 +0.7**
UZH *i* 06 43 18.2
KOLS Kolonicke sedl 61.75 25 *e*P **P 06 43 15.3 +2.0**
OJC Ojcow 61.79 22 *e*P **P 06 43 14.5 +1.0**
BSEG Bad Segeberg 62.03 14 *e*P **P 06 43 16.5 +1.5**
PLCA Paso Flores 63.14 227 LR LR 07 04 42.3
comp=Z,252nm,20.7s,MS4.4,baz=77,slow=30
LVV L'vov 63.17 25 *e*P **P 06 43 23.1 +0.4**
KIS Kishinev 63.30 30 *e*P **P 06 43 22.0 -1.7**
KIS MLR MLR
comp=Z,300nm,17.0s,MS4.5
KIS MLR MLR
comp=Z,300nm,16.0s
ROSC El Rosal 63.53 278 P **P 06 43 26.9 +1.0**
comp=Z,2.8nm,0.6s,mb4.5,baz=108,slow=5.7,SNR=7.4
ROSC LR LR 07 07 54.2
comp=Z,301nm,20.6s,MS4.5,baz=195,slow=33
ROSC El Rosal 63.53 278 *e*P **P 06 43 26.7 +0.8**
MALT Malatya 63.61 42 *e*P **P 06 43 27.3 +1.4**
MALT pmax pmax
comp=Z,39nm,2.1s,mb5.1
MALT Malatya 63.61 42 *e*P **P 06 43 27.3 +1.3**
comp=Z,39nm,2.1s,mb5.1
VNA1 Neumayer--Stat 65.07 179 *e*P **P 06 43 36.0 +1.1**
VNA1 *e* 06 43 41.9
KIEV Kiev 66.07 27 *e*P **P 06 43 41.8 +0.1**
KIEV pmax pmax
comp=Z,48nm,1.4s,mb5.3
KIEV Kiev 66.07 27 *e*P **P 06 43 41.8 +0.1**
comp=Z,48nm,1.4s,mb5.3
AKASG Malin Array Be 66.08 27 P **P 06 43 40.6 -1.1**
comp=Z,2.9nm,0.6s,mb4.5,baz=226,slow=7.1,SNR=26
AKASG LR LR 07 14 21.8
comp=Z,118nm,20.2s,MS4.1,baz=255,slow=38
AKBB Malin Array Si 66.08 27 *e*P **P 06 43 41.8 +0.1**
SNAA Sanae 66.29 177 *e*P **P 06 43 43.6 +0.9**
SNAA *e* 06 43 49.4

SNAA Sanae 66.29 177 P **P 06 43 44.2 +1.4**
comp=Z,1.1nm,1.0s,mb3.9,baz=328,slow=5.3,SNR=7.1
SNAA LR LR 07 05 40.0
comp=Z,90nm,18.8s,MS4.0,baz=27,slow=30
SNAA Sanae 66.29 177 *e*P **P 06 43 43.3 +0.6**
SNAA pmax pmax
comp=Z,17nm,1.6s
SNAA Sanae 66.29 177 *e*P **P 06 43 43.3 +0.5**
comp=Z,18nm,1.6s,mb4.8
USHA Ushuaia 66.87 212 LR LR 07 05 29.5
comp=Z,279nm,20.6s,MS4.5,baz=169,slow=29
OTAV Otavalo 67.04 273 *e*P **P 06 43 48.7 0.0**
comp=Z,14nm,1.8s,mb4.7
SOC Sochi 67.25 38 *e*P **P 06 43 47.5 -1.8**
SOC *e* 06 46 13.9
SOC *e*S S 06 52 41.3 -3.0
SOC *e* 06 53 39.9
SOC *e*SSS 06 59 57.9
SOC pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
HFS Hagfors 68.43 13 P **P 06 43 56.0 -0.4**
comp=Z,1.3nm,0.8s,mb4.0,baz=215,slow=7.0,SNR=3.2
HFS Hagfors 68.43 13 P **P 06 43 56.0 -0.4**
NOA NORSAR Array B 68.71 12 LR LR 07 14 42.3
comp=Z,97nm,18.6s,MS4.1,baz=215,slow=36
GNI Garni 68.78 43⇑ *i*P **P 06 44 00.3 +1.2**
GNI pmax pmax
comp=Z,29nm,1.7s
KIV Kislovodsk 69.28 39⇑ *i*P **P 06 44 02.8 +0.7**
KIV *i* 06 44 30.5
KIV pmax pmax
comp=Z,24nm,1.5s,mb4.9
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.1
PMSA Palmer Station 69.74 201 LR LR 07 06 23.2
comp=Z,535nm,20.3s,MS4.8,baz=67,slow=29
VRSR Storozhevoye 71.23 31 *e*P **P 06 44 13.8 -0.1**
VRSR pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
VRSR pmax pmax
comp=N,2.0nm,0.5s
VRSR pmax pmax
comp=E,4.0nm,0.8s
SYO Syowa Base 71.68 163⇑ *e*P **P 06 44 15.5 -0.8**
OBN Obninsk 72.34 27⇑ *i*P **P 06 44 20.1 -0.4**
OBN *e* 06 44 36.7
OBN pmax pmax
comp=Z,31nm,1.5s,mb5.0
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.5
MOS Moscow 73.20 27 *e*P **P 06 44 24.8 -0.8**
MOS pmax pmax
comp=Z,105nm,1.7s,mb5.5
MAW Mawson 78.99 158 P **P 06 44 59.0 +0.6**
comp=Z,1.3nm,0.6s,mb4.0,baz=254,slow=7.6,SNR=3.7
MAW LR LR 07 12 18.2
comp=Z,116nm,22.0s,MS4.2,baz=52,slow=30
ARCES ARCESS Array B 79.06 12 LR LR 07 23 14.7
comp=Z,126nm,18.4s,MS4.3,baz=64,slow=38
ACSO Alum Creek Sta 79.57 312 *e*P **P 06 45 07.6 +5.5**
comp=Z,25nm,1.1s,mb5.1
PLAL Pickwick Lake 82.19 306 *e*P **P 06 45 17.4 +1.2**
ARU Arti 83.77 32*c i*P **P 06 45 24.8 +0.9**
ARU *e* 06 48 39.1
ARU *e*S S 06 55 46.7 -0.2
ARU *e*SS SS 07 01 08.5 -5.7
ARU pmax pmax
comp=Z,22nm,1.7s,mb5.0
FVM French Village 84.66 309 *e*P **P 06 45 27.7 -1.2**
FVM pmax pmax
comp=Z,21nm,1.2s,mb5.1
FVM French Village 84.66 309 *e*P **P 06 45 27.7 -1.1**
comp=Z,21nm,1.2s,mb5.1
CCM Cathedral Cave 85.31 309 *e*P **P 06 45 31.2 -0.9**
CCM pmax pmax
comp=Z,23nm,1.4s,mb5.1
CCM Cathedral Cave 85.31 309 *e*P **P 06 45 31.2 -1.0**
comp=Z,23nm,1.4s,mb5.1
JFWS Jewell Farm 85.51 314 *e*P **P 06 45 37.9 +4.9**
BVAR Borovoye Array 89.54 37 LR LR 07 30 44.3
comp=Z,128nm,20.3s,MS4.3,baz=256,slow=39
ECSD EROS,Sioux Fal 90.22 314 *e*P **P 06 45 55.9 +0.3**
EKS2 Erkin-Say 90.28 47 *e*P **P 06 45 57.0 +1.1**
comp=Z,12nm,1.5s,mb5.0
ULM Lac du Bonnet 90.59 320 LR LR 07 19 57.7
comp=Z,226nm,18.8s,MS4.6,baz=49,slow=31
WMOK Wichita Mounta 90.84 305 *e*P **P 06 45 58.8 +0.1**
WMOK pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
WMOK Wichita Mounta 90.84 305 *e*P **P 06 45 58.8 +0.1**
comp=Z,8.5nm,1.2s,mb5.0
JCT Junction City 91.27 300 *e*P **P 06 46 00.1 -0.7**
JCT pmax pmax
comp=Z,25nm,1.8s,mb5.2
JCT Junction City 91.27 300 *e*P **P 06 46 00.1 -0.7**
comp=Z,24nm,1.8s,mb5.2
KURK Kurchatov 94.35 40*c i*P **P 06 46 14.9 +0.4**
KURK pmax pmax
comp=Z,7.0nm,1.7s,mb4.8
TXAR Lajitas Array 94.52 299 P **P 06 46 15.2 -0.6**
comp=Z,0.4nm,0.7s,mb3.9,baz=114,slow=7.3,SNR=5.9
TXAR LR LR 07 28 33.7
comp=Z,98nm,18.4s,MS4.3,baz=10.0,slow=35
SDCO Great Sand Dun 96.47 307 *e*P **P 06 46 25.8 +1.2**
comp=Z,4.2nm,1.2s,mb4.7
MKAR Makanchi Array 96.63 44 P **P 06 46 23.9 -1.1**
comp=Z,0.5nm,0.6s,mb4.1,baz=276,slow=2.3,SNR=4.8
MKAR LR LR 07 35 48.7
comp=Z,112nm,21.6s,MS4.3,baz=101,slow=39
MKAR Makanchi Array 96.63 44 *i* P **P 06 46 25.5 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 96.63 44 P **P 06 46 23.9 -1.1**
MKAR LR LR 07 35 48.7
VNDA Vanda 96.98 179 LR LR 07 23 19.8
comp=Z,134nm,19.9s,MS4.4,baz=168,slow=31
ANMO Albuquerque 97.16 304⇑ *i*P **P 06 46 26.2 -1.5**
SMCO Snowmass 97.66 309 *e*P **P 06 46 26.1 -3.8**
ZALV Zalesovo Beam 98.19 36 LR LR 07 35 33.5
comp=Z,69nm,19.3s,MS4.2,baz=59,slow=38
PDAR Pinedale Array 99.61 312 LR LR 07 26 23.5
comp=Z,154nm,20.2s,MS4.5,baz=95,slow=32
WMQ Urumqi 100.48 47 *e*P Pdif 06 46 43.3 +1.2
WMQ LR LR
comp=N,113nm,24.0s
WMQ LR LR
comp=Z,141nm,22.2s,MS4.4
PNL Peninsula 113.11 334 PKPdf PKiKP 06 51 31.2 -0.9
LZH Lanzhou 113.70 53 *e*PKP PKiKP 06 51 29.0 -4.9
LZH XPKP 06 51 43.0
KMI Kunming 114.31 65 PKP PKiKP 06 51 34.2 -1.2
KMI XPKP 06 51 39.3
KMI PP PP 06 52 34.4 +3.4
KMI SS SS 07 08 24.5 +1.0
KMI PP PP
comp=Z,90nm,5.0s
KMI LR LR
comp=N,278nm,15.9s,MS5.0
KMI LR LR
comp=E,213nm,20.9s,MS5.0
KMI LR LR
comp=Z,186nm,23.8s,MS4.6
CD2 Chengdu 114.50 59 *e*PKP PKiKP 06 51 34.9 -0.7
CD2 XPKP 06 51 42.0
CD2 PP PP 06 52 36.2 +4.0
CD2 PKS 06 55 10.3
CD2 SKS SKSdf 06 58 42.1 -6.1
CD2 SKKS SKKSac 06 59 25.2 -9.2
CD2 SS SS 07 08 22.6 -3.1
CD2 PP PP
comp=Z,120nm,10.2s
CD2 LR LR
comp=N,310nm,21.4s
CD2 LR LR
comp=Z,210nm,21.8s,MS4.7
GYA Guiyang 117.67 63 *e*PDIF Pdif 06 47 59.9 +1.4
GYA PKP PKPdf 06 51 41.2 -0.6
GYA PP PP 06 52 58.7 +4.1
GYA PKS 06 55 17.5
GYA SKS SKSdf 06 58 51.2 -3.2
GYA SKKS SKKSac 06 59 50.0 -5.8
GYA SS SS 07 09 07.0 -0.4
GYA PP PP
comp=Z,120nm,7.4s
GYA LR LR

comp=N,170nm,21.1s,MS4.7
GYA LR LR
comp=E,120nm,20.9s,MS4.7
GYA LR LR
comp=Z,180nm,20.2s,MS4.7
HHC Hu-ho-hao-te 118.36 46 *e*PKP PKPdf 06 51 38.8 -3.9
HHC XPKP 06 51 53.0
HHC PP PP 06 52 59.9 +1.2
HHC PKS 06 55 14.0
HHC SKS SKSdf 06 58 45.9 -9.2
HHC SKKS SKKSac 06 59 49.9 -10
HHC SS SS 07 09 14.8 -0.4
HHC PP PP
comp=Z,42nm,6.0s
HHC LR LR
comp=N,119nm,16.6s,MS5.0
HHC LR LR
comp=E,239nm,16.6s,MS5.0
HHC LR LR
comp=Z,116nm,15.5s,MS4.6
CN2 Changchun 126.38 38 *e*PKP PKPdf 06 51 53.7 -4.4
TAOE Nuku Hiva Isla 126.80 255 *e*LR LR 07 32 36.8
comp=Z,825nm,23.5s
PPT Papeete 132.62 240 *e*SS SS 07 13 08.1 +53
comp=Z,120nm,28.0s
PPT Papeete 132.62 240 *e*LR LR 07 35 20.4
comp=Z,223nm,26.8s

*ISCJB **11** 06:41:36.0±0.5, 36.36N±0.03×151.W±0.04, h10km, Error ellipse: s-maj=4.8km s-min=3.4km az=39.1*
*MDD **11** 06:41:38.8±0.9, 36.33N×155.W, h13km±6km, mbLg2.6/24, Error ellipse: s-maj=6.4km s-min=5.0km az=130.0, PRIMO*
*CSEM **11** 06:41:38.8±0.3, 36.36N×147.W, h35km, ML2.7, Error ellipse: s-maj=6.2km s-min=4.5km az=137.0*
*NEIC **11** 06:41:38.4, 36.30N×153.W, h15km, MN2.7(MDD), After MDD.*
*INMG **11** 06:41:39.2±1.3, 36.31N×166.W, h13km±6km, ML2.3, Error ellipse: s-maj=6.0km s-min=4.5km az=119.0*
*CNRM **11** 06:41:41.7, 36.38N×157.W, h30km, MD3.8*

ISC 11 06:41:37.0±0.5, 3635N±003×154W±003, h10km, n61, σ1§42/111, 2C-1D, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.82**	**319**	⇓P	**Pg**	**06 41 53.8**	**+1.1**
	38nm,0.1s,SNR=18						
ENIJ				S	**Sg**	**06 42 04.4**	**+1.0**
	156nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.21**	**297**	P	**Pn**	**06 41 59.5**	**-0.5**
	13nm,0.1s,SNR=17						
EBER				S	**Sb**	**06 42 16.0**	**+0.3**
	278nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.21**	**297**	P	**Pn**	**06 41 59.5**	**-0.5**
	13nm,0.1s,SNR=17						
EBER				S	**Sb**	**06 42 16.0**	**+0.3**
	278nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.27**	**252**	⇑P	**Pn**	**06 41 59.8**	**-1.0**
	62nm,0.3s,SNR=18						
EALB				S	**Sb**	**06 42 16.0**	**-1.5**
	27nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.27**	**252**	P	**Pn**	**06 41 59.8**	**-1.0**
	62nm,0.3s,SNR=18						
EALB				S	**Sb**	**06 42 16.0**	**-1.5**
	27nm,0.1s,SNR=7.9						
CART	**Cartagena**	**1.31**	**19**	*e*Pn	**Pn**	**06 42 00.1**	**-1.2**
CART				*e*Sn	**Sn**	**06 42 13.6**	**-5.2**
CART	**Cartagena**	**1.31**	**19**	*e*Pn	**Pn**	**06 42 00.1**	**-1.2**
CART				*e*Sn	**Sn**	**06 42 13.6**	**-5.2**
EMUR	**La Murta**	**1.51**	**9**	P	**Pn**	**06 42 03.4**	**-0.6**
	2.1nm,0.1s,SNR=17						
EMUR				S	**Sn**	**06 42 20.0**	**-3.8**
	30nm,0.2s,SNR=13						
EMUR	**La Murta**	**1.51**	**9**	P	**Pn**	**06 42 03.4**	**-0.6**
	2.1nm,0.1s,SNR=17						
EMUR				S	**Sn**	**06 42 20.0**	**-3.7**
	30nm,0.2s,SNR=13						
EHUE	**Huescar**	**1.68**	**330**	P	**Pn**	**06 42 07.7**	**+1.2**
	1.3nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**06 42 29.6**	**+1.5**
	7.7nm,0.1s,SNR=7.9						
ZAI	**Zaio**	**1.69**	**216**	*i* P	**Pn**	**06 42 07.0**	**+0.4**
ZAI				*i* S	**Sn**	**06 42 27.0**	**-1.3**
EGUA	**Guajares**	**1.70**	**287**	S	**Sn**	**06 42 26.2**	**-2.2**
	33nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.74**	**300**	P	**Pn**	**06 42 08.5**	**+1.2**
	4.2nm,0.1s,SNR=32						
EQUE				S	**Sn**	**06 42 28.2**	**-1.4**
	28nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.87**	**300**	P	**Pn**	**06 42 11.1**	**+2.1**
	5.5nm,0.2s,SNR=11						
EQES	**Quesada**	**1.89**	**320**	P	**Pn**	**06 42 11.2**	**+1.8**
	5.2nm,0.1s,SNR=23						
EQES				S	**Sn**	**06 42 34.4**	**+1.1**
	41nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.89**	**320**	P	**Pn**	**06 42 11.2**	**+1.8**
	5.2nm,0.1s,SNR=23						
EQES				S	**Sn**	**06 42 34.4**	**+1.1**
	41nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.94**	**291**	P	**Pn**	**06 42 10.8**	**+0.8**
	13nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.24**	**292**	P	**Pn**	**06 42 17.0**	**+2.9**
	4.1nm,0.3s,SNR=4.0						
ELOJ				S	**Sn**	**06 42 42.7**	**+0.9**
	4.8nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.24**	**292**	P	**Pn**	**06 42 17.0**	**+2.9**
ELOJ				S	**Sn**	**06 42 42.7**	**+0.9**
ETOB	**Tobarra**	**2.29**	**360**	⇑P	**Pn**	**06 42 15.8**	**+1.0**
	11nm,0.2s,SNR=18						
ETOB				S	**Sn**	**06 42 40.9**	**-2.1**
	19nm,0.2s,SNR=8.6						
ETOB	**Tobarra**	**2.29**	**360**	P	**Pn**	**06 42 15.8**	**+1.0**
	11nm,0.2s,SNR=18						
ETOB				S	**Sn**	**06 42 40.9**	**-2.1**
	19nm,0.2s,SNR=8.6						
EVIA	**Vianos**	**2.41**	**342**	P	**Pn**	**06 42 18.6**	**+2.2**
	7.8nm,0.3s,SNR=11						
EVIA				S	**Sn**	**06 42 44.8**	**-1.2**
	26nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.49**	**300**	P	**Pn**	**06 42 20.4**	**+2.8**
	2.8nm,0.2s,SNR=6.0						
ELUQ				S	**Sn**	**06 42 48.2**	**+0.2**
	7.3nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**2.54**	**316**	P	**Pn**	**06 42 19.3**	**+1.0**
	3.0nm,0.2s,SNR=8.1						
EBAN				S	**Sn**	**06 42 49.5**	**+0.2**
	11nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**2.54**	**316**	P	**Pn**	**06 42 20.4**	**+2.1**
	3.0nm,0.2s,SNR=8.1						
EBAN				S	**Sn**	**06 42 49.5**	**+0.2**
	11nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**2.54**	**316**	P	**Pn**	**06 42 20.4**	**+2.1**
EBAN				S	**Sn**	**06 42 49.5**	**+0.2**
EBEN	**Beniarda**	**2.57**	**24**	P	**Pn**	**06 42 18.2**	**-0.4**
	2.6nm,0.1s,SNR=12						
EBEN				S	**Sn**	**06 42 48.6**	**-1.4**
	5.0nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.57**	**24**	P	**Pn**	**06 42 18.2**	**-0.5**
	2.6nm,0.1s,SNR=12						
EBEN				S	**Sn**	**06 42 47.8**	**-2.2**
	5.0nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.57**	**24**	P	**Pn**	**06 42 18.2**	**-0.4**
EBEN				S	**Sn**	**06 42 47.8**	**-2.2**
EMIJ	**Mijas**	**2.61**	**276**	P	**Pn**	**06 42 18.1**	**-1.2**
	2.7nm,0.1s,SNR=12						
EMIJ				S	**Sn**	**06 42 45.9**	**-5.1**
	17nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.02**	**308**	P	**Pn**	**06 42 26.8**	**+1.9**
	3.2nm,0.3s,SNR=14						
EADA				S	**Sn**	**06 43 00.4**	**-0.8**
	3.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.02**	**308**	P	**Pn**	**06 42 26.8**	**+1.9**
	3.2nm,0.3s,SNR=14						
EADA				S	**Sn**	**06 43 00.4**	**-0.7**
	3.2nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.52**	**40**	P	**Pn**	**06 42 31.5**	**-0.2**
	5.0nm,0.1s,SNR=36						
EIBI				S	**Sn**	**06 43 08.7**	**-4.6**
	12nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.52**	**40**	P	**Pn**	**06 42 31.5**	**-0.2**
	5.0nm,0.1s,SNR=36						
ECAB	**El Cabril**	**3.54**	**300**	P	**Pn**	**06 42 32.2**	**+0.2**
	1.2nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**06 43 11.4**	**-2.5**
	2.9nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.54**	**300**	P	**Pn**	**06 42 32.2**	**+0.2**
	1.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.09**	**12**	P	**Pn**	**06 42 41.8**	**+2.2**
	0.6nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**06 43 26.0**	**-1.5**
	0.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.09**	**12**	P	**Pn**	**06 42 41.8**	**+2.2**
	0.6nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**06 43 26.0**	**-1.5**
	0.7nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.34**	**291**	P	**Pn**	**06 42 42.3**	**-0.7**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**06 43 30.2**	**-3.4**
	1.5nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**4.39**	**222**	*i* P	**Pn**	**06 42 46.5**	**+2.8**
CZD				*e*S	**Sn**	**06 43 33.0**	**-1.9**
PBAR	**Barrancos**	**4.75**	**294**	*e*Pn	**Pn**	**06 42 49.0**	**+0.4**
PBAR				*e*Sn	**Sn**	**06 43 39.3**	**-4.3**
PBAR				A		06 43 44.1	
	2.4nm,0.9s						
PBAR	**Barrancos**	**4.75**	**294**	Pn	**Pn**	**06 42 49.0**	**+0.4**
PBAR				Sn	**Sn**	**06 43 39.3**	**-4.3**
	1.2nm,0.9s						
PBAR	**Barrancos**	**4.75**	**294**	*e*Pn	**Pn**	**06 42 49.0**	**+0.4**
PBAR				*e*Sn	**Sn**	**06 43 39.3**	**-4.3**
GUD	**Guadarrama**	**4.75**	**335**	P	**Pn**	**06 42 50.4**	**+1.8**
	0.6nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.83**	**17**	P	**Pn**	**06 42 50.4**	**+0.8**
	0.4nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**06 43 42.7**	**-2.9**
	1.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.83**	**17**	P	**Pn**	**06 42 50.4**	**+0.7**
ERTA				S	**Sn**	**06 43 42.7**	**-2.9**
ETOS	**Mallorca**	**4.84**	**44**	P	**Pn**	**06 42 50.0**	**+0.1**
	1.6nm,0.1s,SNR=21						
ETOS				S	**Sn**	**06 43 42.7**	**-3.3**
	1.4nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.84**	**44**	P	**Pn**	**06 42 50.0**	**+0.1**
	1.6nm,0.1s,SNR=21						
ZFT	**Errachidia**	**4.89**	**209**	*e*P	**Pn**	**06 42 53.0**	**+2.4**
ZFT				*i* S	**Sn**	**06 43 46.0**	**-1.3**
EGRO	**El Granado**	**4.90**	**286**	P	**Pn**	**06 42 50.7**	**0.0**
	0.1nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**06 43 44.2**	**-3.3**
	1.9nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.90**	**286**	P	**Pn**	**06 42 50.7**	**0.0**
EBAD	**Badajoz**	**4.96**	**301**	P	**Pn**	**06 42 51.7**	**+0.2**
	0.4nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**06 43 45.0**	**-4.0**
	3.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.96**	**301**	P	**Pn**	**06 42 51.7**	**+0.1**
PVAQ	**Vaqueiros**	**5.06**	**284**	*e*Pn	**Pn**	**06 42 52.8**	**-0.1**
PVAQ				*e*Sn	**Sn**	**06 43 46.8**	**-4.6**
PVAQ				A		06 43 49.3	
	3.5nm,0.3s						
PVAQ	**Vaqueiros**	**5.06**	**284**	Pn	**Pn**	**06 42 52.8**	**-0.1**
PVAQ				Sn	**Sn**	**06 43 46.8**	**-4.6**
	1.8nm,0.3s						
PVAQ	**Vaqueiros**	**5.06**	**284**	*e*Pn	**Pn**	**06 42 52.8**	**-0.1**
PVAQ				*e*Sn	**Sn**	**06 43 46.8**	**-4.6**
MORF	**Marmelete**	**5.78**	**282**	*e*Pn	**Pn**	**06 43 03.0**	**+0.2**
PCBR	**Castelo Branco**	**5.83**	**308**	*e*Pn	**Pn**	**06 43 04.3**	**+0.8**
PCBR				*e*Sn	**Sn**	**06 44 07.0**	**-3.4**
PCBR				A		06 44 08.8	
	2.0nm,0.3s						
PCBR	**Castelo Branco**	**5.83**	**308**	Pn	**Pn**	**06 43 04.3**	**+0.8**
PCBR				Sn	**Sn**	**06 44 07.0**	**-3.4**
	1.0nm,0.3s						
PTEO	**Sao Teotonio**	**5.87**	**284**	*e*Pn	**Pn**	**06 43 04.5**	**+0.5**
PTEO				*e*Sn	**Sn**	**06 44 08.0**	**-3.4**
PFVI	**Vila Bisbo**	**5.90**	**280**	*e*Pn	**Pn**	**06 43 04.6**	**+0.2**

*ISCJB **11** 07:01:31.5±0.9, 2862N±005×8545E±004, h42km±13km, mb3.8/7, Error ellipse: s-maj=8.4km s-min=5.6km az=24.4*
*NEIC **11** 07:01:37.5±2.7, 2878N×8561E, h75km±26km, Error ellipse: s-maj=27.9km s-min=10.9km az=62.0*
*NDI **11** 07:01:37.3±3.1, 2871N×8566E, h75km, ML4.0*
*IDC **11** 07:01:38.9±8.3, 2877N×8562E, h90km±77km, mb3.6/7, mb1 3.7/9, mb1mx3.5/24, mbtmp3.6/9, ML4.4/2, Error ellipse: s-maj=39.0km s-min=18.5km az=54.0*

ISC 11 07:01:33.8±0.7, 2864N±005×8553E±004, h45km±11km, n22, σ1§31/27, mb3.8/7, 1D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**3.02**	**115**	*e*P	**Pn**	**07 02 17.0**	**-2.1**
GTK				*e*S	**Sn**	**07 02 50.0**	**-4.1**
BOK	**Bokaro**	**4.83**	**176**	*e*P	**Pn**	**07 02 47.9**	**+3.8**
BOK				*e*S	**Sn**	**07 03 39.2**	**+0.5**
BOK				AML	AML	07 03 42.0	
	comp=N,214nm,0.1s						
BOK				AML	AML	07 03 42.1	
	comp=E,198nm,0.2s						
LSA	**Lhasa**	**5.03**	**76**	*e*Pn	**Pn**	**07 02 48.9**	**+2.2**
JOSI	**Joshimath**	**5.54**	**292**	*e*P	**Pn**	**07 02 57.6**	**+4.0**
JOSI				*e*S	**Sn**	**07 03 58.1**	**+2.0**
JOSI				AML	AML	07 04 05.6	
	comp=E,177nm,0.6s						
JOSI				AML	AML	07 04 05.7	
	comp=N,188nm,0.4s						
SHL	**Shillong**	**6.44**	**117**	*e*P	**Pn**	**07 03 06.5**	**+0.5**
SHL				*e*S	**Sn**	**07 04 16.0**	**-2.2**
DDI	**Dehra Dun**	**6.73**	**286**	*ex*	**Sn**	**07 04 24.0**	**-1.3**
KLP	**Kalpa**	**6.94**	**296**	*e*S	**Sn**	**07 04 30.9**	**+0.5**
KLP				AML	AML	07 04 36.5	
	comp=E,95nm,0.5s						
KLP				AML	AML	07 04 38.5	
	comp=N,58nm,0.7s						
BLSP	**Bilaspur**	**7.17**	**206**	*e*S	**Sn**	**07 04 36.9**	**+0.6**
NDI	**New Delhi**	**7.30**	**272**	*ex*	**Sn**	**07 04 37.0**	**-2.5**
AYAN	**Aya Nagar**	**7.39**	**271**	*e*S	**Sn**	**07 04 41.1**	**-0.5**
SMLA	**Simla**	**7.67**	**291**	⇓*i*P	**Pn**	**07 03 25.7**	**+2.7**
SMLA				*e*S	**Sn**	**07 04 47.2**	**-1.4**
SMLA				*ex*	x	07 04 50.4	
	comp=N,437nm,0.3s						
SMLA				*ex*	x	07 04 51.4	
	comp=E,330nm,0.3s						
CMAR	**Chiang Mai Arr**	**15.92**	**127**	P	**Pn**	**07 05 18.2**	**+3.4**
	comp=E,1.1nm,0.3s,baz=298,slow=11,SNR=6.7						
MK31	**Makanchi Array**	**18.30**	**353**	*e*P	**Pn**	**07 05 44.3**	**+0.1**
MKAR	**Makanchi Array**	**18.30**	**353**	P	**Pn**	**07 05 43.7**	**-0.5**
	comp=E,0.4nm,0.3s,baz=174,slow=12,SNR=18						
SONM	**Songino Array**	**25.08**	**34**	P	**P**	**07 06 53.1**	**-0.8**
	comp=E,1.7nm,0.5s,mb3.9,baz=228,slow=9.3,SNR=9.6						
ZALV	**Zalesovo Beam**	**25.29**	**359**	P	**P**	**07 06 56.0**	**+0.1**
	comp=E,3.7nm,0.3s,mb4.4,baz=182,slow=9.1,SNR=8.6						
BVAR	**Borovoye Array**	**26.81**	**340**	P	**P**	**07 07 10.4**	**+0.8**
	comp=E,0.3nm,0.3s,mb3.2,baz=156,slow=11,SNR=2.7						
ARCES	**ARCESS Array B**	**53.07**	**338**	P	**P**	**07 10 46.4**	**+0.2**
	comp=E,3.5nm,0.9s,mb4.3,baz=104,slow=8.1,SNR=6.1						
NB2	**NORSAR Subarra**	**57.85**	**326**	P	**P**	**07 11 19.6**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.9,baz=89,slow=7.4						
NOA	**NORSAR Array B**	**57.85**	**326**	P	**P**	**07 11 19.9**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.8,baz=87,slow=7.1,SNR=4.6						
WRA	**Warramunga Arr**	**67.48**	**130**	P	**P**	**07 12 25.9**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.9,baz=326,slow=6.6,SNR=12						
TORD	**Torodi Ar. Bea**	**78.48**	**279**	P	**P**	**07 13 30.6**	**0.0**
	comp=Z,0.2nm,0.7s,mb3.1,baz=62,slow=4.2,SNR=7.5						

*ISCJB **11** 07:03:40.2±4.5, 56.1S±0.1×270W±0.3, h100km±43km, mb4.3/8, Error ellipse: s-maj=33.8km s-min=18.7km az=157.0*
*IDC **11** 07:03:41.7±8.1, 56.14S×270.7W, h98km±76km, mb4.1/8, mb1 4.1/9, mb1mx3.9/18, mbtmp4.0/9, ML4.0/1, Error ellipse: s-maj=29.6km s-min=15.8km az=65.0*
*NEIC **11** 07:03:42.2±4.7, 56.14S×270.8W, h106km±44km, mb4.3/1, Error ellipse: s-maj=23.4km s-min=12.1km az=63.0*

ISC 11 07:03:41.0±4.2, 561S±01×270W±03, h90km±41km, n16, σ0§75/14, mb4.3/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.68**	**158**	*e*	**Pn**	**07 07 29.7**	**+1.0**
VNA1				*e*		07 07 33.5	
SNAA	**Sanae**	**18.63**	**156**	*e*	**Pn**	**07 07 50.9**	**-1.3**
SNAA				*e*		07 07 54.2	
SNAA	**Sanae**	**18.63**	**156**	P	**Pn**	**07 07 50.6**	**-1.6**
	0.5nm,0.3s,baz=307,slow=10,SNR=100						
QSPA	**South Pole Qui**	**34.11**	**180**	P	**P**	**07 10 16.8**	**+0.5**
	2.6nm,0.6s,mb4.2,baz=218,slow=3.2,SNR=54						
QSPA	**South Pole Qui**	**34.11**	**180**	P	**P**	**07 10 16.8**	**+0.5**
CPUP	**Villa Florida**	**36.94**	**311**	P	**P**	**07 10 40.0**	**-0.9**
	0.6nm,0.5s,mb3.8,baz=133,slow=6.5,SNR=4.9						
MAW	**Mawson**	**40.03**	**143**	*e*P	**P**	**07 11 06.8**	**+0.4**
	3.4nm,0.6s,mb4.3						
MAW	**Mawson**	**40.03**	**143**	P	**P**	**07 11 06.6**	**+0.2**
	4.7nm,0.7s,mb4.5,baz=227,slow=7.2,SNR=13						
VNDA	**Vanda**	**46.49**	**183**	P	**P**	**07 11 58.3**	**+0.1**
	7.0nm,0.7s,mb4.5,baz=191,slow=6.0,SNR=53						
LPAZ	**La Paz**	**50.50**	**305**	P	**P**	**07 12 30.5**	**+0.9**
	1.9nm,0.4s,mb4.4,baz=161,slow=5.5,SNR=17						
LPAZ	**La Paz**	**50.50**	**305**	P	**P**	**07 12 30.5**	**+0.8**
DBIC	**Dimbokro**	**65.21**	**24**	P	**P**	**07 14 12.7**	**+0.1**
	9.2nm,1.1s,mb4.5,baz=257,slow=4.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**73.09**	**29**	P	**P**	**07 15 01.3**	**+0.2**
	2.0nm,0.5s,mb4.2,baz=200,slow=6.5,SNR=30						
TORD				pP	pP	07 15 29.5	+5.1
	1.7nm,0.8s,baz=195,slow=5.9,SNR=5.3						
ASAR	**Alice Springs**	**98.88**	**162**	P	**P**	**07 17 10.1**	**-0.8**
	0.7nm,0.8s,mb4.3,baz=172,slow=4.0,SNR=6.1						
WRA	**Warramunga Arr**	**102.60**	**162**	P	Pdif	07 17 27.3	-0.1
	0.6nm,1.1s,baz=174,slow=9.1,SNR=3.4						
SONM	**Songino Array**	**150.65**	**87**	PKPbc	PKPbc	07 23 20.3	-1.0
	0.6nm,0.5s,baz=202,slow=5.4,SNR=4.4						

*SZGRF **11** 07:03:39.3, 601S×1389W, h20km, mb4.2, Ascension Island region*
*ISCJB **11** 07:03:45.6±1.0, 55S±02×116W±03, h10km, mb3.8/6, MS3.8/11, Error ellipse: s-maj=45.5km s-min=20.3km az=26.2*
*IDC **11** 07:03:45.7±1.3, 542S×1159W, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.6/5, MS3.8/12, Ms1 3.7/12, ms1mx3.6/22, Error ellipse: s-maj=67.1km s-min=28.4km az=111.0*
*NEIC **11** 07:03:47.5±0.8, 544S×1155W, h10km, mb4.3/2, Error ellipse: s-maj=36.4km s-min=15.9km az=117.0*

ISC 11 07:03:47.6±1.0, 54S±02×116W±03, h10km, n19, σ0§44/9, mb3.8/6, MS3.8/11, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.77**	**29**	LR	LR	07 11 07.3	
	comp=Z,275nm,21.8s,baz=184,slow=32						
TOA0	**Torodi Ar. Sit**	**22.68**	**35**	*e*P	**P**	**07 08 49.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**22.68**	**35**	P	**P**	**07 08 48.8**	**-0.6**
	2.5nm,0.7s,mb3.8,baz=216,slow=11,SNR=25						
TORD				LR	LR	07 16 40.0	
	comp=Z,164nm,20.3s,MS3.5,baz=175,slow=34						
BDFB	**Brasilia**	**37.17**	**251**	LR	LR	07 24 00.1	
	comp=Z,92nm,20.6s,MS3.6,baz=248,slow=33						
BOSA	**Boshof**	**41.80**	**128**	LR	LR	07 24 53.6	
	comp=Z,121nm,19.1s,MS3.8,baz=75,slow=30						
KEST	**Kesra**	**45.42**	**24**	LR	LR	07 31 40.8	
	comp=Z,66nm,19.1s,MS3.6,baz=295,slow=37						
CPUP	**Villa Florida**	**48.33**	**239**	LR	LR	07 28 55.5	
	comp=Z,126nm,20.0s,MS3.9,baz=239,slow=31						
KMBO	**Kilima Mbogo**	**48.92**	**87**	LR	LR	07 30 54.6	
	comp=Z,228nm,18.5s,MS4.2,baz=208,slow=33						
LPAZ	**La Paz**	**56.42**	**254**	LR	LR	07 33 28.1	
	comp=Z,85nm,21.4s,MS3.8,baz=229,slow=32						
GRA1	**Grafenberg Arr**	**58.36**	**17**	*e*P	**P**	**07 13 43.5**	**+0.6**
	3.0nm,1.1s,mb4.2						
GRA1				*e*pP	pP	07 13 49.1	+3.0
GRF	**Grafenberg Arr**	**58.36**	**17**	*e*P	**P**	**07 13 43.5**	**+0.6**
	comp=Z,3.0nm,1.1s,mb4.2						
GRF				*e*pP	pP	07 13 49.1	+3.0
GERES	**GERESS Array B**	**58.39**	**19**	P	**P**	**07 13 43.7**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.5,baz=197,slow=6.1,SNR=2.9						
GERES				LR	LR	07 39 54.5	
	comp=Z,60nm,20.6s,MS3.7,baz=111,slow=37						
PLCA	**Paso Flores**	**63.19**	**227**	LR	LR	07 40 29.6	
	comp=Z,129nm,18.4s,MS4.1,baz=278,slow=35						
ROSC	**El Rosal**	**63.50**	**278**	LR	LR	07 42 41.4	
	comp=Z,69nm,18.9s,MS3.9,baz=26,slow=37						
AKASG	**Malin Array Be**	**66.00**	**27**	P	**P**	**07 14 33.8**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=226,slow=7.2,SNR=9.1						
SNAA	**Sanae**	**66.39**	**177**	P	**P**	**07 14 36.4**	**+0.1**
	comp=Z,0.7nm,0.9s,mb3.7,baz=319,slow=9.5,SNR=3.6						
NOA	**NORSAR Array B**	**68.62**	**12**	LR	LR	07 45 06.6	
	comp=Z,26nm,20.1s,MS3.5,baz=355,slow=36						
TXAR	**Lajitas Array**	**94.45**	**299**	P	**P**	**07 17 08.1**	**-0.4**
	comp=Z,0.2nm,0.7s,mb3.6,baz=124,slow=6.2,SNR=3.6						
TXAR	**Lajitas Array**	**94.45**	**299**	P	**P**	**07 17 08.1**	**-0.4**

*ISCJB **11** 07:13:54.0±0.7, 4266N±005×46.17E±005, h10km, Error ellipse: s-maj=7.2km s-min=5.1km az=19.8*
*TIF **11** 07:13:55.2, 4257N×46.16E, h18km±3km*
*CSEM **11** 07:13:57.1±0.3, 4254N×4597E, h15km, mb4.4, Error ellipse: s-maj=8.0km s-min=3.7km az=179.0*
*MOS **11** 07:13:58.5±1.0, 4260N×4589E, h20km, mb4.4/1, Error ellipse: s-maj=17.7km s-min=8.9km az=34.8*

ISC 11 07:13:54.6±1.2, 4253N±004×4611E±006, h8km±8km, n23, σ0§85/38, 1C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**1.10**	**300**	⇑*i*PG	**Pg**	**07 14 16.0**	**+0.4**
SNJR				*i* S	**Sg**	**07 14 33.1**	**+3.2**
MAK	**Makhachkala**	**1.11**	**67**	*e*PG	**Pg**	**07 14 20.8**	**+4.9**
MAK				*e*		07 14 35.9	
MAK				smax			
	comp=N,1μm,0.6s						
MAK				smax			
	comp=E,1μm,0.6s						
MAK	**Makhachkala**	**1.11**	**67**	*e*Pg	**Pg**	**07 14 20.8**	**+4.9**
	comp

SNJR				*e*S		**Sg**	**07 17 12.0 +1.1**
MTA	**Mtatsminda**	**1.36**	**230**	P		**Pn**	**07 17 00.1 -0.4**
MTA				S		**Sg**	**07 17 18.9 +0.3**
TBLG	**Delisi**	**1.37**	**232**	P		**Pn**	**07 17 00.2 -0.4**
TBLG				S		**Sg**	**07 17 19.1 +0.3**
LACR	**Lac**	**1.42**	**281**	*e*PG		**Pn**	**07 16 59.4 -1.8**
BTKR	**Batakoyurt**	**1.44**	**304**	⇑*i*PG		**Pn**	**07 17 00.7 -0.9**
BTKR				*i* S		**Sg**	**07 17 21.4 +0.2**
ARNR	**Ardon**	**1.53**	**294**	*e*PN		**Pn**	**07 17 02.4 -0.4**
ARNR				*e*S		**Sg**	**07 17 23.9 0.0**
TRKR	**Terskaya**	**1.56**	**317**	*e*PN		**Pn**	**07 17 02.8 -0.4**
TRKR				*i* S		**Sg**	**07 17 24.9 0.0**
KMSR	**Komsomolskaya**	**1.60**	**300**	*e*PN		**Pn**	**07 17 04.3 +0.5**
KMSR				*e*S		**Sg**	**07 17 26.4 +0.2**
ZEI	**Tsey**	**1.70**	**277**	*e*PN		**Pn**	**07 17 04.7 -0.4**
PRTR	**Priterechnaya**	**1.82**	**311**	*e*PN		**Pn**	**07 17 07.1 +0.3**
LSNR	**Lesken**	**1.87**	**292**	*e*PN		**Pn**	**07 17 08.4 +0.9**
DIGR	**Digorskoe uzhe**	**1.95**	**280**	*e*PN		**Pn**	**07 17 08.5 0.0**
ONI	**Oni**	**2.02**	**271**	P		**Pn**	**07 17 11.1 +1.5**
ONI				S		**Sg**	**07 17 38.4 -1.4**
AKH	**Akhalkalaki**	**2.33**	**241**	P		**Pn**	**07 17 15.7 +1.9**
AKH				S		**Sg**	**07 17 45.6 -3.9**

NIED ***11*** *07:17:00, 3520N×13580E, h5km, Mw3.7 Best double couple: M*$_0$*3.80000×10*^{14} *NP1:*ϕ_s*282.00000°,*δ*72.00000°,* λ*-93.00000°. NP2:*ϕ_s*110.00000°,*δ*19.00000°,* λ*-82.00000°.*

JMA 11 07:17:12.4, 3525N×13577E, h13km, M3.3, 2C-4D Broadband fault plane solution: P waves. NP1: ϕ_s39.00000°,δ61.00000°,λ175.00000°. **NP2:** ϕ_s131.00000°,δ86.00000°,λ29.00000°. **Principal axes:** T Plg23.0000°, Azm359.0000°; N Plg61.0000°, Azm139.0000°; P Plg17.0000°, Azm262.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.30**	**276**	⇓P	Pg	07 17 18.6	0.0
JWT				S	Sg	07 17 22.7	-0.1
JFM	**Mihama**	**0.33**	**32**	⇑P	Pg	07 17 19.1	0.0
JFM				S	Sg	07 17 23.7	+0.1
JHE	**Heguri**	**0.60**	**187**	⇑P	Pg	07 17 24.0	-0.1
JHE				S	Sg	07 17 32.2	+0.2
JKY	**Yasaka**	**0.66**	**305**	⇓P	Pg	07 17 25.1	-0.2
JKY				S	Sg	07 17 34.1	+0.1
TSUJ	**Tsu 2**	**0.76**	**135**	P	Pg	07 17 26.6	-0.5
TSUJ				S	Sg	07 17 36.2	-0.8
JKS	**Kasai**	**0.80**	**251**	⇓P	Pg	07 17 27.6	-0.4
JKS				S	Sg	07 17 38.5	0.0
JGM	**Miyama**	**0.89**	**60**	⇓P	Pg	07 17 29.3	-0.4
JGM				*e*S	Sg	07 17 40.6	-0.8
MAT	**Matsushiro**	**2.36**	**56**	P	Pn	07 17 52.3	+1.5
MAT				S	Sn	07 18 25.8	+6.1

ATH ***11*** *07:58:22.8, 3926N×2026E, h5km±2km, MD3.5/6*
THE ***11*** *07:58:22.0, 3931N×2004E, h0km, ML3.2*
ISCJB ***11*** *07:58:23.1±0.6, 3929N±002×2020E±005, h10km, Error ellipse: s-maj=5.3km s-min=3.4km az=175.1*
NEIC ***11*** *07:58:23.0, 3926N×2026E, h7km, MD3.5(ATH), ML3.2(THE), After ATH.*
CSEM ***11*** *07:58:23.3±0.2, 3928N×2018E, h2km, ML3.2, Error ellipse: s-maj=3.7km s-min=2.5km az=66.0*

ISC 11 07:58:23.0±0.7, 3926N±003×**2024E**±005,**h1**km±7km,**n20,** σ**0§86**/38,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**15**	*e*Pg	**Pg**	**07 58 27.7**	**-0.8**
IGT				*e*Sg	**Sg**	**07 58 31.6**	**-0.6**
IGT	**Igoumenitsa**	**0.28**	**15**	*e*Pg	**Pg**	**07 58 27.7**	**-0.7**
IGT				*e*Sg	**Sg**	**07 58 31.5**	**-0.6**
KEK	**Kerkira**	**0.56**	**323**	*e*PB	**Pg**	**07 58 34.0**	**+0.1**
KEK				*e*SB	**Sg**	**07 58 42.2**	**+1.0**
JAN	**Janina**	**0.62**	**50**	*e*PG	**Pg**	**07 58 34.3**	**-0.6**
JAN				*e*SB	**Sg**	**07 58 42.6**	**-0.3**
LKD	**Levkas**	**0.64**	**150**	*e*Pg	**Pg**	**07 58 35.6**	**+0.3**
LKD				*e*Sg	**Sg**	**07 58 48.5**	**+5.0**
VLS	**Valsamata**	**1.12**	**166**	*e*Pg	**Pg**	**07 58 43.5**	**-0.8**
VLS				*e*Sg	**Sg**	**07 59 02.3**	**+3.4**
VLS	**Valsamata**	**1.12**	**166**	*e*PB	**Pb**	**07 58 44.2**	**-0.9**
VLS				*e*SB	**Sb**	**07 58 59.9**	**-0.2**
VLS	**Valsamata**	**1.12**	**166**	*e*Pg	**Pg**	**07 58 43.5**	**-0.9**
VLS	**Valsamata**	**1.12**	**166**	*e*Pn	**Pb**	**07 58 44.2**	**-0.9**
VLS				*e*Sb	**Sb**	**07 58 59.9**	**-0.2**
VLS				*e*Sg	**Sg**	**07 59 02.3**	**+3.4**
KFL	**Anninata**	**1.23**	**159**	*e*Pg	**Pg**	**07 58 46.8**	**+0.2**
EVR	**Evrytania**	**1.27**	**105**	*e*Pb	**Pb**	**07 58 47.5**	**-0.2**
EVR				*e*Sb	**Sb**	**07 59 03.8**	**-0.7**
THL	**Klokotos Trika**	**1.41**	**77**	*e*Pg	**Pg**	**07 58 50.5**	**+0.4**
THL				*e*Sg	**Sg**	**07 59 10.7**	**+2.3**
THL	**Klokotos Trika**	**1.41**	**77**	*e*PB	**Pg**	**07 58 49.1**	**-1.0**
THL				*e*SB	**Sb**	**07 59 08.6**	**0.0**
THL	**Klokotos Trika**	**1.41**	**77**	*e*Pg	**Pg**	**07 58 49.1**	**-1.0**
THL				*e*Sb	**Sb**	**07 59 08.6**	**0.0**
THL				*e*Sg	**Sg**	**07 59 10.7**	**+2.3**
KZN	**Kozani**	**1.58**	**48**	*e*PB	**Pb**	**07 58 52.7**	**-0.3**
AGG	**Agios Georgios**	**1.65**	**98**	*e*Pb	**Pb**	**07 58 54.7**	**+0.5**
AGG				*e*Sb	**Sb**	**07 59 19.2**	**+3.9**
FNA	**Florina**	**1.76**	**30**	*e*Pb	**Pb**	**07 58 54.9**	**-1.1**
FNA				*e*Sb	**Sb**	**07 59 18.8**	**+0.2**
FNA	**Florina**	**1.76**	**30**	*e*Pb	**Pb**	**07 58 54.8**	**-1.2**
FNA				*e*Sb	**Sb**	**07 59 18.8**	**+0.3**
LIT	**Litokhoron**	**1.93**	**64**	*e*Pn	**Pn**	**07 58 57.3**	**+0.3**
KRUS	**Krusevo**	**2.24**	**20**	*e*Pn	**Pn**	**07 59 02.3**	**+1.0**
KRUS				*e*Sn	**Sn**	**07 59 33.8**	**+4.2**

ISCJB ***11*** *08:13:15.2±1.0, 2983N±004×3626E±005, h0km, Error ellipse: s-maj=6.6km s-min=5.5km az=15.8*
SGS ***11*** *08:13:15.4, 3007N×3623E, h6km*
CSEM ***11*** *08:13:15.4, 3007N×3623E, h6km, ML2.9, After SNSN*
GII ***11*** *08:13:16.3±1.0, 2986N×3617E, h0km, ML2.2/9, EXPLOSION*

ISC 11 08:13:15.1±1.0, 2983N±004×**3631E**±005,**h0**km,**n14,** σ**0§75**/24,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.12**	**281**	Pg	**Pg**	**08 13 35.9**	**-0.7**
HRFI				Sg	**Sg**	**08 13 51.6**	**+0.4**
EIL	**Elat**	**1.19**	**263**	Pg	**Pg**	**08 13 37.8**	**-0.2**
EIL				Sg	**Sg**	**08 13 54.5**	**+1.2**
HQLS		**1.21**	**245**	P	**Pg**	**08 13 37.8**	**-0.4**
HQLS				S	**Sg**	**08 13 54.6**	**+0.8**
MBRI	**Mt Berech**	**1.21**	**269**	Pg	**Pg**	**08 13 37.8**	**-0.5**
MBRI				Sg	**Sg**	**08 13 54.9**	**+0.8**
ZFRI	**Zfri**	**1.22**	**307**	Pg	**Pg**	**08 13 37.7**	**-0.8**
ZFRI				Sg	**Sg**	**08 13 54.1**	**-0.2**
PRNI	**Paran**	**1.25**	**295**	Pg	**Pg**	**08 13 37.8**	**-1.2**
PRNI				Sg	**Sg**	**08 13 54.9**	**-0.2**
JLOS		**1.30**	**213**	P	**Pg**	**08 13 40.6**	**+0.6**
KRMI	**Paran Flat**	**1.40**	**282**	Pg	**Pg**	**08 13 40.8**	**-1.3**
KRMI				Sg	**Sg**	**08 13 59.4**	**-0.9**
RMNI	**Mount Ramon**	**1.54**	**300**	Pn	**Pn**	**08 13 43.0**	**-0.8**
MZDA	**Masada**	**1.69**	**331**	Pn	**Pn**	**08 13 46.1**	**+0.2**
MZDA				Sn	**Sn**	**08 14 08.7**	**+0.5**
RTMI	**Retamim**	**1.86**	**312**	Pn	**Pn**	**08 13 48.3**	**+0.2**
DSI	**Dead Sea**	**1.91**	**336**	Pn	**Pn**	**08 13 49.3**	**+0.4**
DSI				Sn	**Sn**	**08 14 15.8**	**+2.0**
KZIT	**Kziot**	**1.97**	**304**	Pn	**Pn**	**08 13 50.4**	**+0.6**
KZIT				Sn	**Sn**	**08 14 15.1**	**-0.1**
RSHS		**2.02**	**221**	P	**Pn**	**08 13 50.1**	**-0.2**

NEIC ***11*** *08:21:07.9, 3824N×2039E, h2km, MD3.5(ATH), ML2.9(THE), After THE.*
THE ***11*** *08:21:07.9, 3824N×2039E, h1km, ML2.9*
CSEM ***11*** *08:21:08.2±0.6, 3819N×2037E, h2km, MD3.5, Error ellipse: s-maj=10.9km s-min=5.0km az=60.0*
ISCJB ***11*** *08:21:09.1±1.3, 3821N±005×2042E±009, h10km, Error ellipse: s-maj=11.5km s-min=5.2km az=144.8*
ATH ***11*** *08:21:09.7, 3818N×2050E, h5km±4km, MD3.5/5*

ISC 11 08:21:09.4±1.2, 3822N±005×**2044E**±009,**h10**km,**n10,** σ**1§40**/17,**2C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.13**	**110**	*e*Pg	**Pg**	**08 21 10.9**	**-1.5**
VLS				*e*Sg	**Sg**	**08 21 13.9**	**-0.5**
VLS	**Valsamata**	**0.13**	**110**	⇑*i*PG	**Pg**	**08 21 11.0**	**-1.4**
VLS				*e*SG	**Sg**	**08 21 13.0**	**-1.5**
VLS	**Valsamata**	**0.13**	**110**	⇑*i*Pg	**Pg**	**08 21 11.0**	**-1.4**
VLS				*e*Sg	**Sg**	**08 21 13.9**	**-0.6**
KFL	**Anninata**	**0.30**	**112**	*e*Pg	**Pg**	**08 21 14.0**	**-1.3**
KFL				*e*Sg	**Sg**	**08 21 20.4**	**+1.0**
LKD	**Levkas**	**0.51**	**19**	*e*Pg	**Pg**	**08 21 16.4**	**-3.0**
LKD				*e*Sg	**Sg**	**08 21 24.7**	**-1.5**
EVR	**Evrytania**	**1.28**	**57**	*e*PB	**Pn**	**08 21 34.0**	**+0.7**
EVR				*e*SB	**Sb**	**08 21 51.5**	**+1.4**
IGT				*e*Pg	**Pn**	**08 21 32.7**	**-1.0**
IGT				*e*Sg	**Sb**	**08 21 51.4**	**+0.4**
KEK	**Kerkira**	**1.57**	**342**	*e*PB	**Pg**	**08 21 41.1**	**+1.6**
ITM	**Ithomi**	**1.57**	**131**	*e*PB	**Pn**	**08 21 38.5**	**+1.1**
THL	**Klokotos Trika**	**1.82**	**42**	*e*PG	**Pn**	**08 21 43.7**	**+2.9**

NIED ***11*** *08:30:00, 3000N×13950E, h440km, Mw4.3 Best double couple: M*$_0$*3.00000×10*^{15} *NP1:*ϕ_s*200.00000°,*δ*85.00000°,* λ*-145.00000°. NP2:*ϕ_s*107.00000°,*δ*55.00000°,* λ*-6.00000°.*
BJI ***11*** *08:30:25.7, 2990N×139.10E, h390km, mB4.6, mb4.5*
ISCJB ***11*** *08:30:26.6±0.3, 2991N±004×13921E±008, h407km±4km, mb4.0/18, Error ellipse: s-maj=11.6km s-min=5.3km az=165.7*
MOS ***11*** *08:30:26.2±0.6, 2988N×139.11E, h402km, mb3.9/1, Error ellipse: s-maj=22.5km s-min=11.0km az=96.0*
NEIC ***11*** *08:30:27.8±0.7, 2991N×13909E, h401km±8km, mb4.4/8, Error ellipse: s-maj=11.4km s-min=6.3km az=97.0*
JMA ***11*** *08:30:27.5±0.2, 2999N×13947E, h417km, M4.4*
IDC ***11*** *08:30:27.2±0.6, 2993N×139.15E, h394km±6km, mb3.6/14, mb1 3.6/20, mb1mx3.5/30, mbtmp3.6/20, Error ellipse: s-maj=14.8km s-min=7.2km az=81.0*

ISC 11 08:30:27.5±0.3, 2991N±004×**13921E**±008,**h396**km±4km, **n47,** σ**0§98**/56,**mb4.0**/18,**1C-1D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.23**	**9**	P	**Pn**	**08 31 33.5**	**+1.4**
JHJ2				S	**S**	**08 32 24.1**	**-0.4**
JHJ	**Hachijo jima 2**	**3.23**	**9**	P	**Pn**	**08 31 33.0**	**+0.9**
	56nm,0.3s,baz=184,slow=10,SNR=27						
JHJ				S	**S**	**08 32 23.4**	**-1.1**
	61nm,0.3s,baz=65,slow=22,SNR=10						
CBIJ	**Chichi jima**	**3.84**	**136**	P	**Pn**	**08 31 38.4**	**+0.6**
CBIJ				S	**S**	**08 32 33.3**	**-1.4**
CBIJ	**Chichi jima**	**3.84**	**136**	P	**Pn**	**08 31 38.0**	**+0.2**
	21nm,0.3s,baz=287,slow=21,SNR=8.0						
CBIJ				S	**S**	**08 32 34.4**	**-0.3**
	150nm,0.3s,baz=275,slow=23,SNR=24						
JHHJ	**Haha-jima-NKT**	**4.19**	**141**	S	**S**	**08 32 40.5**	**-0.3**
JWZ	**Kozaga**	**4.68**	**321**	P	**Pn**	**08 31 48.0**	**+2.2**
JIE	**Ise**	**4.95**	**335**	P	**Pn**	**08 31 51.3**	**+2.8**
JIE				S	**S**	**08 32 54.9**	**+0.4**
BSO1	**Boso 1**	**4.96**	**17**	P	**Pn**	**08 31 49.7**	**+1.0**
BSO1				S	**S**	**08 32 53.9**	**-0.8**
JOD2	**Odawara 2**	**5.34**	**359**	P	**Pn**	**08 31 53.7**	**+1.1**
JOD2				S	**S**	**08 32 59.9**	**-2.0**
JRY	**Ryogami san**	**6.09**	**358**	P	**Pn**	**08 32 01.4**	**+0.6**
JRY				S	**S**	**08 33 13.4**	**-3.4**
MJAR	**Matsushiro Arr**	**6.66**	**353**	P	**Pn**	**08 32 07.1**	**0.0**
	2.9nm,0.3s,baz=171,slow=10,SNR=20						
MJAR				S	**S**	**08 33 26.9**	**-1.6**
	1.8nm,0.3s,baz=218,slow=16,SNR=5.8						
MAJO	**Matsushiro**	**6.67**	**353**	*e*P	**Pn**	**08 32 07.2**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,18nm,0.4s						
MAJO	**Matsushiro**	**6.67**	**353**	*e*Pn	**Pn**	**08 32 07.2**	**+0.1**
	comp=Z,18nm,0.4s						
MAT	**Matsushiro**	**6.67**	**353**	P	**Pn**	**08 32 07.6**	**+0.5**
MAT				S	**S**	**08 33 26.6**	**-1.8**
JHS	**Saijyo**	**7.23**	**316**	P	**Pn**	**08 32 15.4**	**+2.0**
JOW	**Kunigami**	**10.11**	**255**	P	**Pn**	**08 32 45.4**	**-1.4**
	comp=Z,2.4nm,0.3s,baz=300,slow=20,SNR=4.5						
KSRS	**Korea Array**	**12.03**	**312**	P	**P**	**08 33 08.4**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=125,slow=11,SNR=55						
ASAJ	**Asahikawa**	**14.43**	**10**	P	**P**	**08 33 35.2**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=219,slow=16,SNR=12						
ASAJ	**Asahikawa**	**14.43**	**10**	P	**P**	**08 33 35.2**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**16.53**	**335**	P	**P**	**08 33 56.6**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,27nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,98nm,5.8s						
MDJ	**Mudanjiang**	**16.53**	**335**	*e*P	**P**	**08 33 56.7**	**+0.3**
	comp=Z,21nm,0.8s						
YSS	**Yuzh-Sakhalins**	**17.24**	**8**	*e*P	**P**	**08 34 04.2**	**+0.4**
KLR	**Kul'dur**	**20.11**	**346**	*e*P	**P**	**08 34 29.0**	**-3.9**
PETK	**Petropavlovsk-**	**26.84**	**25**	P	**P**	**08 35 33.9**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.3,baz=171,slow=2.4,SNR=7.0						
SONM	**Songino Array**	**30.88**	**315**	P	**P**	**08 36 08.8**	**-0.1**
	comp=Z,0.9nm,0.4s,mb3.5,baz=117,slow=8.2,SNR=11						
SONM				ScP	ScP	08 41 57.3	-1.5
	comp=Z,1.4nm,0.7s,baz=150,slow=3.6,SNR=9.8						
CMAR	**Chiang Mai Arr**	**38.28**	**262**	P	**P**	**08 37 11.5**	**-0.4**
	comp=Z,1.3nm,0.3s,mb3.7,baz=50,slow=8.9,SNR=4.7						
CMAR				ScP	ScP	08 42 23.9	-2.2
	comp=Z,2.3nm,0.6s,baz=101,slow=15,SNR=4.7						
KAKA	**Kakadu**	**42.88**	**190**	⇑*i*P	**P**	**08 37 48.7**	**-0.2**
	comp=Z,14nm,0.9s,mb4.3						
ZALV	**Zalesovo Beam**	**45.65**	**318**	P	**P**	**08 38 09.4**	**-0.8**
	comp=Z,1.0nm,0.3s,mb3.6,baz=92,slow=8.2,SNR=6.4						
ZALV				ScP	ScP	08 42 52.5	-2.6
	comp=Z,0.8nm,0.5s,baz=102,slow=3.3,SNR=5.4						
ZAL	**Zalesovo**	**45.66**	**318**	P	**P**	**08 38 09.4**	**-0.9**
MKAR	**Makanchi Array**	**46.68**	**308**	P	**P**	**08 38 17.7**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.3,baz=87,slow=9.4,SNR=4.5						
MKAR				ScP	ScP	08 42 57.2	-2.2
	comp=Z,1.5nm,0.7s,baz=85,slow=5.4,SNR=7.6						
FITZ	**Fitzroy Crossi**	**49.49**	**197**	⇓*i*P	**P**	**08 38 39.8**	**+0.1**
	comp=Z,11nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**49.49**	**197**	P	**P**	**08 38 39.9**	**+0.2**
	comp=Z,6.4nm,0.7s,mb4.1,baz=24,slow=9.2,SNR=26						
WB2	**Warramunga Arr**	**49.79**	**186**	*e*P	**P**	**08 38 41.5**	**-0.4**
WRA	**Warramunga Arr**	**49.79**	**186**	P	**P**	**08 38 41.7**	**-0.2**
	comp=Z,5.7nm,0.5s,mb4.1,baz=2.2,slow=8.0,SNR=43						
WRA				PcP	PcP	08 39 56.4	+0.4
	comp=Z,1.0nm,0.6s,baz=357,slow=3.9,SNR=6.2						
ASAR	**Alice Springs**	**53.51**	**186**	P	**P**	**08 39 08.9**	**-0.1**
	comp=Z,3.3nm,0.7s,mb3.7,baz=11,slow=7.2,SNR=39						
KDAK	**Kodiak Island**	**53.73**	**38**	P	**P**	**08 39 10.9**	**+0.8**
	comp=Z,5.2nm,0.8s,mb3.8,baz=273,slow=6.6,SNR=5.3						
MBWA	**Marble Bar**	**54.13**	**203**	*e*P	**P**	**08 39 13.1**	**-0.4**
	comp=Z,8.7nm,0.6s,mb4.2						
FORT	**Forrest**	**61.28**	**191**	*e*P	**P**	**08 40 02.6**	**+0.1**
	comp=Z,25nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**61.49**	**178**	*e*P	**P**	**08 40 03.9**	**+0.1**
	comp=Z,4.5nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**61.49**	**178**	P	**P**	**08 40 04.3**	**+0.5**
	comp=Z,5.3nm,0.5s,mb4.3,baz=345,slow=5.7,SNR=16						
INK	**Inuvik**	**61.58**	**25**	P	**P**	**08 40 04.6**	**+0.6**
	comp=Z,2.7nm,0.7s,mb3.9,baz=277,slow=6.9,SNR=6.3						
KLBR	**Kellerberrin**	**64.47**	**200**	*e*P	**P**	**08 40 22.6**	**-0.6**
	comp=Z,29nm,1.2s,mb4.7						
ARCES	**ARCESS Array B**	**70.02**	**340**	P	**P**	**08 40 57.4**	**+0.2**
	comp=Z,3.4nm,0.7s,mb4.0,baz=70,slow=8.5,SNR=21						
HFS	**Hagfors**	**79.80**	**336**	P	**P**	**08 41 51.5**	**-1.1**
	comp=Z,2.1nm,0.4s,mb4.1,baz=98,slow=7.4,SNR=7.2						
NB2	**NORSAR Subarra**	**80.02**	**337**	P	**P**	**08 41 52.9**	**-0.9**
	comp=Z,1.1nm,0.5s,mb3.7,baz=47,slow=5.1						
NOA	**NORSAR Array B**	**80.02**	**337**	P	**P**	**08 41 53.1**	**-0.6**
	comp=Z,1.9nm,0.6s,mb3.9,baz=45,slow=5.1,SNR=9.9						
TORD	**Torodi Ar. Bea**	**120.77**	**310**	PKP	PKPdf	08 48 31.8	-2.1
	comp=Z,0.5nm,1.0s,baz=77,slow=1.2,SNR=4.1						

ISCJB ***11*** *08:46:00.6±0.5, 2425S±003×6680W±004, h176km±4km, mb4.2/36, Error ellipse: s-maj=6.8km s-min=4.8km az=157.4*
IDC ***11*** *08:46:02.7±1.1, 2412S×6675W, h185km±10km, mb3.9/14, mb1 4.0/21, mb1mx4.0/24, mbtmp3.9/21, MS3.1/1, Ms1 3.1/1, ms1mx2.4/27, Error ellipse: s-maj=13.8km s-min=9.6km az=74.0*
BJI ***11*** *08:46:04.1, 2443S×6778W, h201km, mB4.7*
NEIC ***11*** *08:46:04.5, 2432S×6724W, h200km, mb4.4/31, After GUC.*
GUC ***11*** *08:46:04.5±0.8, 2432S×6724W, h200km, ML5.2*

ISC 11 08:46:01.4±0.5, 2424S±003×**6678W**±004,**h168**km±4km, **n221,** σ**0§85**/221,**mb4.2**/36,**67C-59D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.54**	**309**	P	**Pn**	**08 46 46.3**	**+2.3**
	0.3nm,0.3s,baz=313,slow=23,SNR=7.5						
LVC				S	**Sn**	**08 47 13.4**	**-3.5**
	134nm,0.3s,baz=181,slow=4.5,SNR=8.5						
LVC				LR	LR	08 47 16.4	
	comp=Z,336nm,18.7s,baz=151,slow=30						
LVC	**Limon Verde**	**2.54**	**309**	⇑*i*Pn	**Pn**	**08 46 46.6**	**+2.7**
CEN1	**Los Morros**	**3.25**	**284**	⇑*i*P	**Pn**	**08 46 55.1**	**+2.5**
CEN1				*i* S	**Sn**	**08 47 33.2**	**+0.9**
CEN1				AML	AML	08 47 35.7	
	comp=N,3μm,0.6s						
CPN1	**Cerro Paranal**	**3.33**	**263**	⇑*i*P	**Pn**	**08 46 55.1**	**+1.5**
CPN1				*i* S	**Sn**	**08 47 33.9**	**-0.2**
CPN1				AML	AML	08 47 36.8	
	comp=E,2μm,0.3s						
ANCH	**Antofagasta**	**3.37**	**279**	⇑*i*P	**Pn**	**08 46 55.7**	**+1.5**
ANCH				*i* S	**Sn**	**08 47 34.3**	**-0.7**
ANCH				AML	AML	08 47 37.7	
	comp=N,5μm,0.5s						
ANCH	**Antofagasta**	**3.37**	**279**	⇑*i*P	**Pn**	**08 46 55.7**	**+1.5**
ANCH				*i* S	**Sn**	**08 47 34.3**	**-0.7**
CPCH	**Copiapo**	**4.48**	**225**	⇑*i*P	**Pn**	**08 47 08.2**	**-0.1**
CPCH				*i* S	**Sn**	**08 47 58.9**	**-1.7**
CDCH	**Caldera**	**4.62**	**231**	⇓*i*P	**Pn**	**08 47 09.9**	**-0.3**
CDCH				*i* S	**Sn**	**08 48 00.9**	**-3.0**
VACH	**Vallenar**	**5.61**	**219**	*e*P	**Pn**	**08 47 22.3**	**-0.8**
VACH				*i* S	**Sn**	**08 48 23.7**	**-3.4**
LCO	**Las Campanas**	**5.91**	**216**	*e*Pn	**Pn**	**08 47 28.4**	**+1.3**
	comp=N,166nm,0.6s						
LCO				*e*Sn	**Sn**	**08 48 25.1**	**-9.2**
CFAA	**Coronel Fontan**	**7.45**	**190**	P	**Pn**	**08 47 48.4**	**+0.9**
	comp=N,0.9nm,0.3s,baz=8.9,slow=11,SNR=102						
CFAA				S	**Sn**	**08 49 09.2**	**-1.9**
	comp=N,1.6nm,0.3s,baz=144,slow=13,SNR=8.0						
LPAZ	**La Paz**	**8.01**	**351**	P	**Pn**	**08 47 56.0**	**+1.1**
	comp=N,5.7nm,0.3s,baz=156,slow=11,SNR=117						
LPAZ				S	**Sn**	**08 49 21.6**	**-3.0**
	comp=N,0.8nm,0.3s,baz=70,slow=21,SNR=2.7						
LPAZ	**La Paz**	**8.01**	**351**	⇓*i*Pn	**Pn**	**08 47 56.0**	**+1.1**
LPAZ				*e*Sn	**Sn**	**08 49 22.0**	**-2.6**
CPUP	**Villa Florida**	**8.80**	**106**	P	**Pn**	**08 48 07.3**	**+2.0**
	comp=N,2.2nm,0.3s,baz=255,slow=10,SNR=19						
CPUP	**Villa Florida**	**8.80**	**106**	*e*Pn	**Pn**	**08 48 06.8**	**+1.5**
	comp=N,69nm,0.4s						
ARE	**Arequipa**	**8.91**	**329**	*e*P	**Pn**	**08 48 12.0**	**+5.2**
ARE				*e*S	**Sn**	**08 49 39.0**	**-7.1**
SIV	**San Ignacio**	**9.79**	**34**	P	**Pn**	**08 48 18.5**	**0.0**
	comp=N,5.0nm,0.3s,baz=219,slow=13,SNR=124						
SIV				S	**Sn**	**08 49 55.0**	**-12**
	baz=213,slow=15,SNR=4.4						
TRQA	**Tornquist**	**14.37**	**165**	*e*Pn	**Pn**	**08 49 17.5**	**+0.4**
	comp=N,12nm,0.8s						
NNA	**Nana**	**15.48**	**320**	*e*Pn	**Pn**	**08 49 29.9**	**-1.1**
	comp=N,42nm,1.5s						
PLCA	**Paso Flores**	**16.75**	**190**	P	**Pn**	**08 49 46.4**	**+0.1**
	comp=N,0.4nm,0.3s,baz=1.7,slow=14,SNR=14						
PLCA				PcP	PcP	08 54 24.0	-0.3
	comp=N,0.1nm,0.3s,baz=236,slow=3.6,SNR=3.1						
PLCA	**Paso Flores**	**16.75**	**190**	*e*Pn	**Pn**	**08 49 46.3**	**+0.1**
	comp=N,8.0nm,0.6s						
SPB	**Sao Paulo**	**17.70**	**92**	*e*P	**Pn**	**08 49 57.2**	**-0.5**
BDFB	**Brasilia**	**19.59**	**68**	P	**P**	**08 50 17.6**	**+0.8**
	comp=N,4.7nm,0.3s,baz=234,slow=17,SNR=66						
BDFB	**Brasilia**	**19.59**	**68**	⇓*i*Pn	**P**	**08 50 17.7**	**+1.0**
	comp=N,24nm,0.5s						
CAM3	**Guarapari**	**24.50**	**87**	⇓*i*P	**P**	**08 51 05.2**	**-0.1**
CAM3				*i

baz=74
SMCO **Snowmass** 73.43 328 *e*P P 08 57 21.1 +5.9
comp=N,6.3nm,0.8s,mb4.4
SBA **Scott Base** 73.50 190 P P 08 57 12.3 -2.8
comp=N,7.2nm,1.3s,mb4.2
V15A **Kaibab Nationa** 73.55 323 ⇑P P 08 57 16.8 +0.9
baz=74,SNR=6.9
X13A **Yucca** 73.59 321 ⇑P P 08 57 16.3 +0.1
baz=74
S18A **Hurst Farm, Bl** 73.78 326 ⇑P P 08 57 17.8 +0.5
baz=74
BC3 **Big Chuckw Mtn** 73.88 319 ⇓P P 08 57 18.2 +0.3
baz=74
MONP **Monument Peak** 73.93 318 ⇓P P 08 57 18.5 +0.2
baz=74
V14A **Boquillas Ranc** 73.93 322 ⇓P P 08 57 19.0 +0.8
baz=74
W13A **Hualapai Mount** 73.99 321 ⇑P P 08 57 19.2 +0.7
baz=74
T16A **Glen Canyon Da** 74.05 324 ⇑P P 08 57 19.4 +0.6
baz=74
IRM **Iron Mountain** 74.05 320 ⇑P P 08 57 19.2 +0.3
baz=74
U15A **North Rim** 74.06 323 P P 08 57 20.1 +1.2
baz=74,SNR=5.1
R18A **Canyonlands Na** 74.26 326 ⇑P P 08 57 19.8 -0.2
baz=74
VNDA **Vanda** 74.50 190 P P 08 57 21.2 +0.2
comp=N,0.6nm,0.7s,mb3.3,baz=113,slow=6.7,SNR=5.4
VNDA **Vanda** 74.50 190 *e*P P 08 57 18.8 -2.1
comp=N,0.7nm,0.8s,mb3.3
U14A **Mt Trumbull** 74.54 323 ⇓P P 08 57 22.6 +0.9
baz=75
T15A **Red Dirt Ranch** 74.55 324 ⇑P P 08 57 22.5 +0.8
baz=75,SNR=6.4
R17A **Hanksville Air** 74.70 326 ⇑P P 08 57 23.0 +0.4
baz=75
GMRC **Granite Mounta** 74.79 320 ⇓P P 08 57 23.7 +0.6
baz=75
T14A **Hurricane** 74.96 323 P P 08 57 24.9 +0.9
baz=75,SNR=6.1
SRU **San Rafael** 75.13 326 ⇑P P 08 57 25.2 +0.2
baz=75
SRU **San Rafael** 75.13 326 *e*P P 08 57 24.8 -0.2
comp=N,1.4nm,0.6s,mb3.8
EYMN **Ely** 75.20 343 *e*P P 08 57 23.5 -1.7
comp=N,2.1nm,0.5s,mb4.0
R15A **Junction** 75.37 324 ⇓P P 08 57 27.2 +0.8
baz=76
P18A **Preston Nutter** 75.38 327 ⇑P P 08 57 27.1 +0.7
baz=76
T13A **Saint George** 75.38 323 ⇑P P 08 57 27.1 +0.7
baz=76
S13A **Holt Ranch, En** 75.76 323 ⇓P P 08 57 29.6 +0.9
baz=76
T11A **Corn Creek, Al** 76.27 322 ⇓P P 08 57 32.2 +0.6
baz=76,SNR=8.3
TOA0 **Torodi Ar. Sit** 76.46 69 *e*P P 08 57 31.9 -1.2
TORD **Torodi Ar. Bea** 76.46 69 P P 08 57 31.9 -1.2
comp=N,3.0nm,0.5s,mb4.2,baz=258,slow=5.5,SNR=41
Q14A **Sevier Lake (B** 76.47 324 ⇑P P 08 57 33.4 +0.8
baz=77
TPNV **Topopah Spring** 76.65 321 ⇓P P 08 57 34.6 +1.0
baz=77
TPNV **Topopah Spring** 76.65 321 *e*P P 08 57 34.0 +0.4
FURC **Furnace Creek,** 76.67 321 ⇑P P 08 57 34.3 +0.5
baz=77
N17A **Moffit Pass** 76.67 327 ⇓P P 08 57 34.2 +0.5
baz=77
R12A **Pony Springs,** 76.71 323 ⇓P P 08 57 34.7 +0.7
baz=77,SNR=6.3
MPMC **Manual Prospec** 76.75 320 ⇑P P 08 57 34.0 -0.3
baz=77
ISA **Isabella** 77.06 319 ⇓P P 08 57 36.4 +0.4
baz=77
ISA **Isabella** 77.06 319 *e*P P 08 57 36.5 +0.5
R11A **Troy Canyon, C** 77.26 323 ⇑P P 08 57 37.7 +0.7
baz=77,SNR=5.7
TSUM **Tsumeb** 77.40 105 *e*P P 08 57 38.0 -0.3
comp=N,3.1nm,0.6s,mb4.1
PDAR **Pinedale Array** 77.45 329 P P 08 57 37.6 -0.4
comp=N,1.1nm,0.5s,mb3.8,baz=129,slow=8.0,SNR=15
S10A **Tonopah Range,** 77.53 322 ⇓P P 08 57 38.7 +0.2
baz=78
VES **Vestal, Richgr** 77.55 319 ⇓P P 08 57 38.7 0.0
baz=78
R10A **Warm Springs** 77.62 322 ⇓P P 08 57 40.0 +1.0
baz=78,SNR=7.4
Q11A **Duckwater** 77.65 323 ⇓P P 08 57 39.9 +0.7
baz=78,SNR=5.2
R09A **Tonopah** 78.02 322 ⇑P P 08 57 41.5 +0.2
baz=78
HELL **Mitchell Peak** 78.08 319 ⇓P P 08 57 41.6 0.0
baz=78
AHID **Auburn Hatcher** 78.18 328 *e*P P 08 57 41.6 -0.4
comp=N,4.5nm,0.6s,mb4.3
L15A **Malad City** 78.24 327 P P 08 57 42.1 -0.2
baz=78,SNR=5.2
ULM **Lac du Bonnet** 78.51 341 P P 08 57 42.1 -1.5
comp=N,5.5nm,0.5s,mb4.4,baz=156,slow=6.9,SNR=22
REDW **Red Top Meadow** 78.52 329 *e*P P 08 57 44.2 +0.4
LOHW **Long Hollow** 78.59 329 *e*P P 08 57 44.0 -0.2
comp=N,28nm,1.8s,mb4.6
TPAW **Teton Pass** 78.66 329 *e*P P 08 57 45.1 +0.5
comp=N,40nm,2.3s,mb4.6
RRI2 **Red Ridge** 78.73 329 *e*P P 08 57 45.6 +0.6
comp=N,16nm,1.5s,mb4.4
SCHQ **Schefferville** 78.74 360 P P 08 57 43.3 -1.5
comp=N,3.2nm,0.8s,mb4.0,baz=119,slow=13,SNR=2.8
MOOW **Moose Ponds** 78.76 329 *e*P P 08 57 44.7 -0.5
comp=N,36nm,2.8s,mb4.5
NVAR **Mina Array Bea** 78.85 321 P P 08 57 46.1 +0.4
comp=N,0.5nm,0.5s,mb3.4,baz=142,slow=5.7,SNR=7.8
Q08A **Gabbs** 78.93 322 ⇑P P 08 57 46.3 0.0
baz=79
IMW **Indian Meadow** 78.97 329 *e*P P 08 57 46.6 +0.3
comp=N,44nm,2.1s,mb4.7
L13A **Double Diamond** 79.08 326 ⇓P P 08 57 47.6 +0.6
baz=79,SNR=6.1
M12A **Wells** 79.09 325 ⇓P P 08 57 47.2 +0.1
baz=79
RLMT **Red Lodge** 79.14 331 *e*P P 08 57 47.4 +0.2
S06C **San Francisco** 79.37 320 ⇑P P 08 57 48.6 -0.1
baz=80
M11A **Holland Ranch,** 79.56 325 ⇑P P 08 57 49.8 +0.2
baz=80
K12A **Draper Farm, C** 79.97 326 ⇓P P 08 57 52.7 +0.9
baz=80
L11A **Cat Creek Ranc** 80.07 325 ⇑P P 08 57 52.2 -0.1
baz=80
J13A **Cove Ranch, Pi** 80.16 327 ⇑P P 08 57 52.1 -0.6
baz=80
L10A **Juniper Basin** 80.38 325 ⇑P P 08 57 54.2 +0.2
baz=81,SNR=7.7
HLID **Hailey** 80.39 327 P P 08 57 54.8 +0.8
baz=81,SNR=13
HLID **Hailey** 80.39 327 *e*P P 08 57 54.7 +0.7
comp=N,4.6nm,0.6s,mb4.3
BOSA **Boshof** 80.45 117 P P 08 57 54.1 -0.7
comp=N,2.9nm,0.7s,mb4.0,baz=303,slow=1.1,SNR=7.6
J12A **Stokes Ranch,** 80.51 326 P P 08 57 54.9 +0.3
baz=81,SNR=5.5
K11A **Parker Ranch,** 80.64 326 ⇓P P 08 57 55.5 +0.1
baz=81
G15A **Dillon** 80.65 329 ⇓P P 08 57 55.2 -0.1
baz=81
N07B **Gerlach** 80.83 323 ⇓P P 08 57 56.1 -0.3
baz=81
DLMT **Dillon** 80.85 329 *e*P P 08 57 56.9 +0.5
comp=N,17nm,1.5s,mb4.5
MFID **Camas Ranch** 81.00 326 ⇑P P 08 57 57.5 +0.3
baz=81
H13A **Challis** 81.05 328 ⇑P P 08 57 57.8 +0.3
baz=81,SNR=7.4
MAW **Mawson** 81.15 163 *e*P P 08 57 58.5 +0.7
comp=N,3.4nm,0.5s,mb4.2
MAW **Mawson** 81.15 163 P P 08 57 58.6 +0.8
comp=N,4.7nm,0.5s,mb4.4,baz=189,slow=6.4,SNR=38
N06A **Buffalo Meadow** 81.29 322 ⇑P P 08 57 58.8 0.0
baz=82
M07A **Soldier Meadow** 81.35 323 ⇓P P 08 57 58.9 -0.2
baz=82
I11A **Placerville** 81.42 326 ⇓P P 08 57 59.1 -0.3
baz=82
G13A **Cobalt** 81.42 328 P P 08 58 00.1 +0.6
baz=82,SNR=26
L08A **Fields** 81.45 324 ⇑P P 08 57 59.7 0.0
baz=82
K09A **Rome** 81.48 325 ⇓P P 08 57 59.7 0.0
baz=82
EGMT **Eagleton** 81.61 332 ⇑P P 08 58 00.1 -0.2
baz=82
E15A **Deer Lodge** 81.66 330 ⇑P P 08 58 00.9 +0.3
baz=82
L07A **Adell** 81.88 323 ⇓P P 08 58 02.0 +0.2
baz=82
F13A **Darby** 81.98 329 ⇑P P 08 58 02.3 0.0
baz=82,SNR=13
D15A **Lincoln** 82.07 330 ⇑P P 08 58 03.1 +0.3
baz=82
LBTB **Lobatse** 82.11 114 *e*P P 08 58 03.5 -0.1
comp=N,3.2nm,0.6s,mb4.1
K07A **Rock Creek Ran** 82.28 324 ⇓P P 08 58 04.3 +0.3
baz=82
H10A **Noah's Angus R** 82.30 326 ⇓P P 08 58 03.5 -0.5
baz=82,SNR=5.3
J08A **Circle Bar Ran** 82.33 325 ⇓P P 08 58 04.3 +0.1
baz=82,SNR=11
I09A **Lost Marbles R** 82.37 326 ⇑P P 08 58 04.3 -0.1
baz=83
E13A **Victor** 82.39 329 ⇑P P 08 58 04.6 +0.1
baz=83,SNR=12
G11A **Walters Elk Ra** 82.64 327 ⇓P P 08 58 05.3 -0.4
baz=83,SNR=9.1
I08A **Drewsey** 82.76 325 ⇑P P 08 58 06.7 +0.3
baz=83
BMO **Blue Mountains** 82.77 326 *e*P P 08 58 06.4 0.0
K06A **Valley Falls** 82.90 323 ⇑P P 08 58 07.3 +0.2
baz=83
G10A **Bishop Farm, J** 82.98 327 ⇓P P 08 58 08.2 +0.6
baz=83
D13A **Huson** 83.00 329 ⇓P P 08 58 06.8 -0.7
baz=83
J06A **Christmas Vall** 83.15 324 ⇓P P 08 58 08.3 -0.1
baz=83
C14A **Swan Lake** 83.17 330 ⇓P P 08 58 08.4 0.0
baz=83
K05A **Summer Lake** 83.20 323 ⇓P P 08 58 09.3 +0.6
baz=83
E11A **Bogner Ranch,** 83.29 328 ⇓P P 08 58 08.3 -0.8
baz=84
G09A **Cove** 83.31 326 ⇓P P 08 58 08.7 -0.5
baz=84
D12A **Red Ives Fores** 83.39 329 ⇑P P 08 58 09.1 -0.4
baz=84,SNR=9.2
C13A **Hot Springs** 83.48 330 ⇑P P 08 58 09.9 -0.1
baz=84
J05A **Fort Rock** 83.76 323 ⇑P P 08 58 11.3 -0.2
baz=84
E10A **Myers Farm, Un** 83.82 328 ⇑P P 08 58 11.4 -0.4
baz=84
B13A **Whitefish** 83.94 330 ⇓P P 08 58 11.6 -0.7
baz=84
J04A **Umpqua Nationa** 84.21 323 ⇓P P 08 58 13.8 0.0
baz=84
D10A **Wagner Farm, O** 84.31 328 ⇑P P 08 58 13.2 -1.0
baz=84
A13A **Flathead Natio** 84.33 331 ⇓P P 08 58 14.1 -0.1
baz=84
B12A **Libby** 84.52 330 ⇑P P 08 58 15.3 0.0
baz=85
D09A **Jones Farm, Ri** 84.81 327 ⇑P P 08 58 15.8 -0.9
baz=85
A12A **Yaak River Ran** 84.89 330 ⇓P P 08 58 16.7 -0.4
baz=85
D08A **Wollman Farm,** 85.11 327 ⇑P P 08 58 18.2 -0.1
baz=85
C09A **Chrisman Ranch** 85.31 328 P P 08 58 18.9 -0.3
baz=86,SNR=5.0
C07A **Waterville** 86.11 327 ⇓P P 08 58 22.8 -0.4
baz=86
A09A **Danville** 86.28 329 ⇑P P 08 58 22.8 -1.1
baz=86
A08A **Turner Farm, O** 86.59 328 ⇑P P 08 58 24.8 -0.7
baz=87
B07A **Winthrop** 86.67 328 ⇑P P 08 58 24.4 -1.4
baz=87
A07A **Ashnola River,** 87.19 328 ⇓P P 08 58 27.8 -0.6
baz=87
B05A **Bryant** 87.51 327 ⇑P P 08 58 28.6 -1.3
baz=88
A05A **Maple Falls** 87.99 327 ⇓P P 08 58 31.3 -0.9
baz=88
LSZ **Lusaka** 88.25 106 *e*P P 08 58 35.4 +1.2
comp=N,3.2nm,0.8s,mb4.2
CASY **Casey** 89.75 179 *e*P P 08 58 42.1 +1.8
comp=N,3.8nm,0.5s,mb4.6
YKA **Yellowknife Ar** 94.41 340 P P 08 59 00.6 -1.0
comp=N,2.2nm,0.5s,mb4.5,baz=134,slow=4.6,SNR=11
YKA **Yellowknife Ar** 94.41 340 P P 08 59 00.6 -1.0
ASAR **Alice Springs** 128.33 204 PKP PKPdf 09 04 47.8 -0.9
comp=N,1.2nm,0.5s,baz=129,slow=2.5,SNR=28
WRA **Warramunga Arr** 131.51 207 PKP PKPdf 09 04 53.6 -1.1
comp=N,1.8nm,0.5s,baz=158,slow=1.7,SNR=71
WRA SKPbc SKPbc 09 08 01.1 -3.4
comp=N,0.6nm,0.5s,baz=148,slow=3.3,SNR=12
ZAA0 **Zalesovo Array** 143.50 28 *e*PKPdf PKPdf 09 05 12.8 -2.8
ZALV **Zalesovo Beam** 143.50 28 PKP PKPdf 09 05 13.1 -2.5
comp=N,3.9nm,0.5s,baz=310,slow=3.8,SNR=12
MK31 **Makanchi Array** 146.57 40 *e*PKPdf PKPdf 09 05 20.8 -0.3
MKAR **Makanchi Array** 146.57 40 PKPbc PKPbc 09 05 20.8 -2.2
comp=N,2.9nm,0.5s,baz=11,slow=0.6,SNR=17
ASAJ **Asahikawa** 148.89 317 PKPbc PKPbc 09 05 26.9 -2.3
comp=N,2.4nm,0.6s,baz=49,slow=11,SNR=2.7
WMQ **Urumqi** 151.39 41 *e*PKP PKPdf 09 05 30.0 +1.0
SONM **Songino Array** 155.83 11 PKPab PKPab 09 06 01.6 -1.0
comp=N,0.4nm,0.7s,baz=315,slow=3.2,SNR=4.3
HHC **Hu-ho-hao-te** 163.38 4 *e*PKP PKPdf 09 05 44.7 +0.7
CMAR **Chiang Mai Arr** 165.51 111 PKPab PKPab 09 06 45.7 -0.2
comp=N,0.7nm,0.3s,baz=264,slow=4.4,SNR=2.9
LZH **Lanzhou** 165.68 32 *e*PKP PKPdf 09 05 45.4 -0.8
LZH PP PP
comp=Z,153nm,5.6s
CD2 **Chengdu** 169.29 50 *e*PKP PKPdf 09 05 47.1 -1.8
GYA **Guiyang** 173.67 68 *e*PKP PKPdf 09 05 50.7 -0.5
GYA APKP 09 06 39.2
GYA PKP2 PKPab 09 07 22.4 +0.5
GYA PKS 09 09 21.0
GYA PP PP 09 11 15.2 +0.9
GYA PP PP
comp=Z,90nm,8.4s

ISCJB ***11*** *09:08:57.3±0.4, 4830N±008×1499E±01, h321km±5km, mb3.4/9, Error ellipse: s-maj=16.0km s-min=4.9km az=137.4*
MOS ***11*** *09:08:57.4±1.5, 4838N×14999E, h324km, mb4.0/1, Error ellipse: s-maj=24.2km s-min=10.7km az=57.5*
BJI ***11*** *09:08:57.5, 4751N×14988E, h333km, mB4.5, mb4.3*
NEIC ***11*** *09:08:60.0±0.6, 4846N×14993E, h334km±7km, Error ellipse: s-maj=13.8km s-min=6.8km az=145.0*
IDC ***11*** *09:08:59.8±1.7, 4844N×14989E, h331km±17km, mb3.0/9, mb1 3.4/13, mb1mx3.3/24, mbtmp3.2/13, Error ellipse: s-maj=19.5km s-min=11.9km az=148.0*
ISC 11 09:08:58.3±0.4, 4827N±008×1500E±01, h314km±5km, n62, σ1§39/74, mb3.4/9, 1C-1D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.37**	**206**	*e*PN	**Pn**	**09 09 57.5**	**-1.2**
KUR				*e*S	**S**	**09 10 47.2**	**+0.1**
KUR				pmax	pmax		
	comp=Z,130nm,0.7s						
KUR				smax			
	comp=N,110nm,0.3s						
SKR	**Severo-Kuril's**	**4.67**	**57**	⇓*i*PN	**Pn**	**09 10 12.5**	**0.0**
SKR				*e*S	**S**	**09 11 13.0**	**+0.8**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,190nm,0.5s						
SKR				smax			
	comp=N,120nm,1.0s						
SKR				smax			
	comp=E,120nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.06**	**258**	*e*PN	**Pn**	**09 10 20.0**	**+3.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.06**	**258**	*e*Pn	**Pn**	**09 10 20.6**	**+3.6**
	comp=Z,12nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.11**	**215**	*e*PN	**Pn**	**09 10 16.1**	**-1.5**
YUK				*e*S	**S**	**09 11 21.2**	**-0.3**
YUK				pmax	pmax		
	comp=Z,460nm,0.3s						
YUK				smax			
	comp=N,340nm,0.5s						
YUK				smax			
	comp=E,210nm,0.5s						
JRA	**Rausu**	**5.49**	**220**	P	**Pn**	**09 10 23.7**	**+1.7**
NEM2	**Nemuro 2**	**5.73**	**213**	P	**Pn**	**09 10 23.3**	**-1.5**
NEM2				*e*S	**S**	**09 11 29.0**	**-5.6**
JNK	**Nakash**	**5.95**	**220**	P	**Pn**	**09 10 27.8**	**+0.4**
JTKR	**Abashiri--Toko**	**6.02**	**227**	P	**Pn**	**09 10 30.0**	**+1.8**
JSE	**Soyaes**	**6.08**	**240**	P	**Pn**	**09 10 32.2**	**+3.4**
JWK2	**Keihoku**	**6.29**	**245**	P	**Pn**	**09 10 36.3**	**+5.0**
JAK	**Akkeshi**	**6.44**	**217**	P	**Pn**	**09 10 31.8**	**-1.4**
JAK				*e*S	**S**	**09 11 44.7**	**-5.3**
ASAJ	**Asahikawa**	**6.59**	**234**	P	**Pn**	**09 10 38.2**	**+3.3**
	comp=E,8.6nm,0.3s,baz=71,slow=10.0,SNR=79						
ASAJ	**Asahikawa**	**6.59**	**234**	PN	**Pn**	**09 10 38.3**	**+3.3**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
JAR	**Ashorobuto**	**6.60**	**223**	P	**Pn**	**09 10 35.9**	**+0.8**
JKK2	**Kamakawa 2**	**6.68**	**231**	P	**Pn**	**09 10 38.6**	**+2.6**
JSS	**Shosan**	**6.83**	**238**	P	**Pn**	**09 10 42.4**	**+4.6**
JOB	**Onbets**	**6.88**	**221**	P	**Pn**	**09 10 38.0**	**-0.5**
JOB				*e*S	**S**	**09 11 55.4**	**-4.2**
PETK	**Petropavlovsk-**	**6.89**	**42**	P	**Pn**	**09 10 38.2**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=218,slow=9.2,SNR=24						
PETK	**Petropavlovsk-**	**6.89**	**42**	P	**Pn**	**09 10 38.2**	**-0.2**
JAB	**Ashibetsu**	**7.21**	**231**	P	**Pn**	**09 10 45.4**	**+3.0**
JFR	**Furan**	**7.26**	**228**	P	**Pn**	**09 10 44.5**	**+1.5**
PET	**Petropavlovsk**	**7.28**	**46**	*e*PN	**Pn**	**09 10 41.4**	**-1.6**
PET				*e*S	**S**	**09 12 03.4**	**-4.6**
PET				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PET				smax			
	comp=E,18nm,0.5s						
PET				smax			
	comp=N,15nm,0.4s						
PET	**Petropavlovsk**	**7.28**	**46**	*e*Pn	**Pn**	**09 10 43.6**	**+0.5**
	comp=N,7.7nm,0.3s						
JHR	**Hokuryu**	**7.31**	**235**	P	**Pn**	**09 10 47.5**	**+3.9**
JCH	**Churui**	**7.32**	**222**	P	**Pn**	**09 10 42.4**	**-1.4**
JCH				*e*S	**S**	**09 12 03.2**	**-6.1**
JBT2	**Biratori 2**	**7.66**	**227**	P	**Pn**	**09 10 48.3**	**+0.4**
JNBK	**Urakawa-nobuka**	**7.86**	**223**	P	**Pn**	**09 10 48.1**	**-2.2**
JNBK				*e*S	**S**	**09 12 13.3**	**-7.9**
JEM	**Erimo**	**7.89**	**220**	P	**Pn**	**09 10 49.6**	**-1.1**
JSK	**Shakotan**	**8.26**	**237**	P	**Pn**	**09 10 57.5**	**+2.4**
JNB	**Noboribetsu**	**8.56**	**231**	P	**Pn**	**09 10 58.8**	**+0.1**
JNB				*e*S	**S**	**09 12 32.8**	**-3.9**
JSH	**Shimam**	**8.96**	**235**	P	**Pn**	**09 11 04.9**	**+1.3**
JKB	**Kayabe**	**8.98**	**228**	P	**Pn**	**09 11 02.3**	**-1.6**
JKB				*e*S	**S**	**09 12 39.1**	**-7.2**
JYM2	**Yakumo 2**	**9.15**	**231**	P	**Pn**	**09 11 05.7**	**-0.3**
JOSM	**Okushiri--Mats**	**9.65**	**234**	P	**Pn**	**09 11 11.8**	**-0.2**
JTM	**Tenmabayashi**	**9.82**	**224**	P	**Pn**	**09 11 11.3**	**-2.7**
JTM				*e*S	**S**	**09 12 54.9**	**-10**
JANG	**Nango**	**9.95**	**221**	P	**Pn**	**09 11 13.0**	**-2.7**
JANG				*e*S	**S**	**09 12 56.5**	**-11**
JRG	**Rokugo**	**11.14**	**221**	P	**Pn**	**09 11 28.6**	**-1.5**
JIO	**Ouri**	**11.64**	**216**	P	**Pn**	**09 11 35.1**	**-1.1**
MDJ	**Mudanjiang**	**14.51**	**263**	P	**P**	**09 12 10.6**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,13nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,47nm,3.9s						
MDJ	**Mudanjiang**	**14.51**	**263**	*e*P	**P**	**09 12 09.9**	**+0.8**
	comp=Z,16nm,1.0s						
MAJO	**Matsushiro**	**14.57**	**221**	*e*P	**P**	**09 12 12.0**	**+2.2**
MAJO				pmax	pmax		
	comp=Z,34nm,0.7s						
MAJO	**Matsushiro**	**14.57**	**221**	*e*P	**P**	**09 12 12.0**	**+2.1**
	comp=Z,34nm,0.7s						
MAT	**Matsushiro**	**14.57**	**221**	P	**P**	**09 12 10.9**	**+1.1**
MAT				*e*S	**S**	**09 14 54.0**	**+5.2**
MJAR	**Matsushiro Arr**	**14.57**	**221**	P	**P**	**09 12 11.7**	**+1.8**
	comp=Z,4.6nm,0.3s,baz=22,slow=12,SNR=86						
KSRS	**Korea Array**	**19.38**	**244**	P	**P**	**09 13 03.2**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=49,slow=9.6,SNR=10						
KSRS	**Korea Array**	**19.38**	**244**	*e*P	**P**	**09 13 04.2**	**+2.5**
SONM	**Songino Array**	**28.85**	**286**	P	**P**	**09 14 28.1**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.4,baz=62,slow=9.2,SNR=5.6						
IMA2	**Indian Mountai**	**33.86**	**38**	*e*P	**P**	**09 15 11.3**	**-0.1**
ZALV	**Zalesovo Beam**	**39.99**	**303**	P	**P**	**09 16 01.2**	**-1.6**
	comp=Z,0.5nm,0.4s,mb3.2,baz=66,slow=7.0,SNR=3.1						
ZAL	**Zalesovo**	**40.01**	**303**	P	**P**	**09 16 01.2**	**-1.8**
MKAR	**Makanchi Array**	**44.36**	**295**	P	**P**	**09 16 37.2**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.1,baz=67,slow=8.6,SNR=5.3						
MKAR	**Makanchi Array**	**44.36**	**295**	P	**P**	**09 16 37.2**	**-0.7**
NVAR	**Mina Array Bea**	**63.59**	**61**	P	**P**	**09 18 56.6**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.4,baz=283,slow=7.3,SNR=6.3						
PDAR	**Pinedale Array**	**65.54**	**53**	P	**P**	**09 19 08.6**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.8,baz=325,slow=1.2,SNR=11						
NOA	**NORSAR Array B**	**66.08**	**339**	P	**P**	**09 19 09.4**	**-2.1**
	comp=Z,0.5nm,0.8s,mb3.3,baz=29,slow=6.6,SNR=2.6						
WRA	**Warramunga Arr**	**69.33**	**196**	P	**P**	**09 19 31.6**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.3,baz=13,slow=6.5,SNR=6.2						
ANMO	**Albuquerque**	**72.81**	**57**	⇑*i*P	**P**	**09 19 53.8**	**+1.0**
ASAR	**Alice Springs**	**73.05**	**195**	P	**P**	**09 19 55.5**	**+1.3**
	comp=Z,0.3nm,0.4s,mb3.2,baz=21,slow=5.2,SNR=6.1						
TXAR	**Lajitas Array**	**78.56**	**59**	P	**P**	**09 20 25.3**	**0.0**
	comp=Z,1.2nm,0.6s,mb3.8,baz=299,slow=4.0,SNR=24						
CPUP	**Villa Florida**	**149.43**	**54**	PKPbc	PKPbc	09 28 09.0	-1.2
	comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=3.1						
PLCA	**Paso Flores**	**150.41**	**91**	PKPbc	PKPbc	09 28 11.8	-0.3
	comp=Z,1.6nm,0.6s,baz=265,slow=4.4,SNR=8.4						

NDI 11 09:52:13.7±2.8, 2956N×8059E, h10km, ML3.5, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.32**	**268**	*e*P	Pg	09 52 19.1	-1.0
PTH				*e*S	Sg	09 52 25.1	+0.6
JOSI	**Joshimath**	**1.33**	**318**	*ex*	x	09 52 58.6	
KLP	**Kalpa**	**2.81**	**315**	*e*P	Pn	09 52 59.7	+1.0
KLP				*e*S	Sn	09 53 31.3	-1.4
KLP				AML	AML	09 53 35.5	
	comp=E,159nm,0.5s						
KLP				AML	AML	09 53 37.2	
	comp=N,119nm,0.8s						
SMLA	**Simla**	**3.34**	**299**	*e*P	Pn	09 53 06.9	+0.9
SMLA				*e*S	Sn	09 53 46.1	+0.4
SMLA				*ex*	x	09 53 55.5	
	comp=N,553nm,0.3s						
SMLA				*ex*	x	09 53 56.6	
	comp=E,412nm,0.2s						

ISCJB ***11*** *10:07:17.8±1.3, 3791N±005×2664E±008, h7km±11km, Error ellipse: s-maj=10.7km s-min=7.7km az=4.9*
CSEM ***11*** *10:07:17.9±0.3, 3796N×2662E, h12km±2km, MD2.7, Error ellipse: s-maj=8.1km s-min=2.9km az=112.0*
ATH ***11*** *10:07:17.8, 3781N×2680E, h35km±2km, MD3.1/3*
ISK ***11*** *10:07:18.6, 3794N×2670E, h13km, MD2.7*
ISC 11 10:07:18.3±1.4, 3793N±004×266E±01, h9km±12km, n9, σ0§41/14, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.30**	**139**	⇑*e*PB	**Pg**	**10 07 24.3**	**+0.2**
SMG				*e*SB	**Sg**	**10 07 28.3**	**+0.2**
SMG	**Samos**	**0.30**	**139**	⇑*e*Pb	**Pg**	**10 07 24.3**	**+0.2**
SMG				*e*Sb	**Sg**	**10 07 28.2**	**+0.1**
BLCB	**Balcova**	**0.57**	**38**	*e*PG	**Pg**	**10 07 29.3**	**-0.1**
BLCB				*e*SG	**Sg**	**10 07 36.9**	**0.0**
IZM	**Izmir**	**0.70**	**48**	*e*PG	**Pg**	**10 07 31.4**	**-0.4**
IZM				*e*SG	**Sg**	**10 07 40.8**	**-0.1**
BODT	**Bodrum**	**1.04**	**147**	*e*PG	**Pg**	**10 07 38.3**	**0.0**
APE	**Apeiranthos**	**1.21**	**225**	*e*PN	**Pn**	**10 07 41.4**	**0.0**
APE				*e*SN	**Sn**	**10 07 57.4**	**-0.5**
PRK	**Paraskevi**	**1.33**	**349**	*e*PN	**Pn**	**10 07 44.1**	**+1.0**
AKS	**Akhisar**	**1.34**	**45**	*e*PN	**Pn**	**10 07 42.6**	**-0.6**
KULA	**Kula-Manisa**	**1.73**	**70**	*e*PN	**Pn**	**10 07 48.9**	**+0.4**

DDA ***11*** *10:24:38.6, 3932N×2494E, h24km, Md3.7*
ISK ***11*** *10:24:42.1, 3933N×2527E, h6km, ML3.8*
ISCJB ***11*** *10:24:42.5±0.5, 3931N±002×2532E±002, h1km±4km, Error ellipse: s-maj=2.8km s-min=2.5km az=17.1*
CSEM ***11*** *10:24:43.5±0.1, 3931N×2536E, h12km, ML3.6, Error*

ellipse: s-maj=1.7km s-min=1.2km az=155.0
ATH 11 10:24:44.4, 3931N×2542E, h41km±1km, MD3.8/17, ML3.6
THE 11 10:24:44.6, 3928N×2536E, h7km, ML3.9
NEIC 11 10:24:44.4, 3931N×2542E, h41km, MD3.8(ATH), After ATH.

ISC 11 10:24:43.7±0.4, 3931N±002×2532E±002, h5km±3km, n99, σ1§02/125, 7C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	Limnos	0.65	344	*e*Pg	Pg	10 24 57.6	+1.4
PRK	Paraskevi	0.74	94	*e*Pg	Pg	10 24 58.4	+0.4
PRK				*e*Sg	Sg	10 25 08.2	+0.6
PRK	Paraskevi	0.74	94	⇓*i*P	Pg	10 24 58.3	+0.3
PRK				*e*S	Sg	10 25 08.4	+0.8
BOZC	Bozcaada	0.78	47	*i*P	Pg	10 24 57.9	-0.8
BOZC				*i*S	Sg	10 25 10.7	+1.9
EZN	Ezine	0.94	56	*e*PG	Pg	10 25 01.0	-0.7
EZN				*e*SG	Sg	10 25 14.2	+0.4
AYVA	Ayvalik	1.07	90	*i*P	Pg	10 25 04.0	-0.1
CHOS	Chios island	1.08	148	*e*Pg	Pg	10 25 05.2	+0.7
CHOS				*e*Sg	Sg	10 25 19.1	+0.6
PAIG	Paliouri	1.41	297	*e*Pg	Pg	10 25 09.3	-1.3
OUR	Ouranopolis	1.45	315	*e*Pg	Pg	10 25 10.2	-1.3
ENEZ	Enez	1.56	24	*e*PN	Pn	10 25 10.7	-1.5
ENEZ				*e*SN	Sn	10 25 31.7	-1.2
NEO	Neokhori	1.62	271	P	Pg	10 25 20.9	+6.1
BLCB	Balcova	1.63	124	*e*Pg	Pg	10 25 12.7	-2.3
BLCB				*e*Sg	Sg	10 25 34.7	-1.4
BLCB	Balcova	1.63	124	*e*Pn	Pn	10 25 12.4	-0.7
BLCB	Balcova	1.63	124	*e*Pg	Pg	10 25 12.7	-2.3
BLCB				*e*Sg	Sg	10 25 34.7	-1.4
XOR	Xorichti	1.65	273	*e*Pb	Pb	10 25 14.0	-0.6
ALN	Alexandroupoli	1.68	19	*e*Pb	Pb	10 25 12.3	-2.9
ALN				*e*Sb	Sb	10 25 36.0	-0.7
IZM	Izmir	1.77	120	*e*PN	Pn	10 25 14.7	-0.3
KDAG	Bornova	1.77	120	*i*P	Pn	10 25 15.0	0.0
PLG	Polygyros	1.79	307	*e*Pb	Pb	10 25 16.0	-1.0
PLG				*e*Sb	Sb	10 25 40.8	+1.0
PLG	Polygyros	1.79	307	*e*P	Pn	10 25 15.5	+0.2
PLG				*e*S	Sn	10 25 37.1	-1.3
PLG	Polygyros	1.79	307	*e*Pb	Pb	10 25 16.0	-1.0
PLG				*e*S	Sn	10 25 37.1	-1.3
PLG				*e*Sb	Sb	10 25 40.8	+1.0
ATH	Athens Observa	1.83	224	*e*P	Pn	10 25 15.5	-0.3
ATH				*e*S	Sn	10 25 38.7	-0.7
BALY	Balya	1.83	76	*i*P	Pn	10 25 14.9	-0.9
RDO	Rodhopi	1.84	5	*e*P	Pn	10 25 14.8	-1.2
RDO				*e*S	Sn	10 25 37.4	-2.4
KVR	Kavouri	1.91	220	*e*P	Pn	10 25 16.5	-0.4
LKR	Lokris	1.92	251	*e*Pb	Pb	10 25 16.8	-2.4
LKR	Lokris	1.92	251	*e*P	Pn	10 25 17.2	+0.1
RKY	Sarkoy-Tekirda	1.99	45	*e*PN	Pn	10 25 17.4	-0.6
SART	Tekirdag	1.99	45	*i*P	Pn	10 25 16.9	-1.1
SART				*i*S	Sn	10 25 45.0	+1.7
AKHS	Akhisar	1.99	102	*i*P	Pn	10 25 17.6	-0.4
AKHS				*i*S	Sg	10 25 50.6	+3.0
AKS	Akhisar	1.99	102	*e*PN	Pn	10 25 18.0	0.0
SMG	Samos	1.99	143	⇓*i*P	Pn	10 25 17.1	-1.0
BALB	Balikesir	2.01	80	*e*PN	Pn	10 25 18.6	+0.3
NAIG	Nisos Aigina	2.11	223	*e*P	Pn	10 25 19.5	-0.1
MFT	Murefte	2.11	45	*e*PN	Pn	10 25 19.3	-0.4
HORT	Hortiatis	2.14	308	*e*Pn	Pn	10 25 20.0	0.0
APE	Apeiranthos	2.24	176	*e*Pn	Pn	10 25 20.6	-0.8
APE				*e*Sn	Sn	10 25 47.8	-1.7
APE	Apeiranthos	2.24	176	*e*P	Pn	10 25 20.9	-0.6
APE				*e*S	Sn	10 25 47.5	-2.0
APE	Apeiranthos	2.24	176	⇑*i*P	Sg	10 25 56.7	+1.0
LTK	Loutraki	2.24	236	*e*Pn	Pn	10 25 21.4	-0.1
BNT	Bandirma	2.26	62	*e*PN	Pn	10 25 20.7	-1.1
LIT	Litokhoron	2.32	291	*e*Pn	Pn	10 25 23.1	+0.6
NVR	Nevrokopi	2.32	332	*e*P	Pn	10 25 22.5	-0.1
NVR				*e*S	Sn	10 25 50.1	-1.5
AGG	Agios Georgios	2.34	264	*e*Pn	Pn	10 25 23.2	+0.4
AGG				*e*Sn	Sn	10 25 52.5	+0.6
DID	Didima	2.43	223	*e*Pn	Pn	10 25 23.5	-0.5
KCT	Karacabey	2.53	67	*e*PN	Pn	10 25 25.6	+0.2
THL	Klokotos Trika	2.57	277	*e*Pn	Pn	10 25 26.6	+0.6
THL	Klokotos Trika	2.57	277	⇑*i*P	Pn	10 25 26.6	+0.6
DST	Dursunbey	2.58	82	*e*PN	Pn	10 25 26.2	0.0
KNT	Kendrikon	2.62	316	*e*Pn	Pn	10 25 28.0	+1.3
DEMI	Demirci	2.66	95	*i*P	Pb	10 25 31.7	-0.1
DEMI				*i*S	Sg	10 26 08.1	-0.9
KULA	Kula-Manisa	2.73	106	*e*PN	Pn	10 25 28.0	-0.1
BODT	Bodrum	2.74	144	*e*PN	Pn	10 25 27.6	-0.7
EVR	Evrytania	2.76	263	*e*P	Pn	10 25 29.0	+0.4
GRG	Griva	2.78	307	*e*Pn	Pn	10 25 29.4	+0.6
KZN	Kozani	2.91	291	*e*P	Pn	10 25 31.6	+1.0
VAY	Valandovo	2.91	315	*e*Pn	Pg	10 25 38.4	-1.0
VAY				*e*Sn	Sg	10 26 12.4	-4.7
VAY	Valandovo	2.91	315	*e*Pn	Pn	10 25 31.2	+0.6
SLVT	Silivri	2.93	48	*e*PN	Pn	10 25 30.8	-0.2
ULDT	Uludag	3.06	73	*e*P	Pn	10 25 33.0	+0.2
GEMT	Gemlik	3.19	68	*e*PN	Pn	10 25 34.8	+0.3
YER	Yerkesik	3.19	132	*e*PN	Pn	10 25 34.5	0.0
VLI	Veliai	3.20	217	*e*P	Pn	10 25 34.0	-0.6
BGKT	Bogazkoy	3.24	54	*e*PN	Pn	10 25 35.4	+0.2
GDZ	Gediz	3.24	93	*i*P	Pn	10 25 35.9	+0.7
YLV	Yalova	3.36	67	*e*PN	Pn	10 25 37.6	+0.7
FNA	Florina	3.36	292	*e*PN	Pn	10 25 38.2	+1.3
STIP	Stip	3.37	316	*e*Pn	Pg	10 25 46.8	-1.5
ITM	Ithomi	3.41	233	*e*P	Pn	10 25 39.2	+1.6
KHL	Karahalli	3.43	105	*e*PN	Pn	10 25 38.6	+0.8
KLYT	Kilyos	3.45	55	*e*PN	Pn	10 25 37.7	-0.4
JAN	Janina	3.47	277	*e*P	Pn	10 25 40.0	+1.6
ADVT	Abdulvahap	3.58	70	*e*PN	Pn	10 25 40.9	+1.0
VTS	Vitosha	3.65	335	⇑*i*P	Sg	10 26 41.4	+0.5
KRUS	Krusevo	3.73	305	*e*Pn	Pn	10 25 42.5	+0.6
KRUS	Krusevo	3.73	305	*e*Pn	Pn	10 25 42.5	+0.6
ALT	Altintas	3.73	92	*e*PN	Pn	10 25 42.1	+0.1
SILT	Sile	3.79	60	*e*PN	Pn	10 25 42.6	-0.1
ARG	Arkhangelos	3.81	143	P	Pn	10 25 44.0	+1.0
IGT	Igoumenitsa	3.87	275	*e*Pn	Pn	10 25 45.3	+1.5
GOLH	Golhisar	3.93	120	*i*P	Pn	10 25 46.3	+1.6
KARP	Karpathos	4.03	158	*e*P	Pn	10 25 45.5	-0.6
ESKT	Eskisehir	4.29	85	*i*P	Pn	10 25 50.6	+0.9
SEYT	Eskypehyr	4.29	85	*i*P	Pn	10 25 50.6	+0.9
BARS	Barje	4.39	324	*e*Pn	Pn	10 25 54.7	+3.7
BARS				*e*Sg	Sg	10 27 03.8	-0.9
ZAPS	Zavoj	4.45	334	*e*Pn	Pn	10 25 53.7	+1.9
ZAPS				*e*Sg	Sg	10 27 06.7	+0.2
KIZT	Kizilcal	5.12	93	*e*PN	Pn	10 26 02.3	+1.2
BOLS	Boljevac	5.17	332	*e*Pn	Pn	10 26 03.7	+1.9
SGKT	Sivrigoynuk	5.33	74	*i*P	Pn	10 26 04.6	+0.6
TIRR	Tirgusor	5.64	23	⇓*i*P	Pn	10 26 07.7	-0.5
TIRR	Tirgusor	5.64	23	*e*Pn	Pn	10 26 07.2	-1.0
TIRR				⇓P		10 26 07.7	
MLR	Muntele Rosu	6.20	4	⇓*i*P	Pn	10 26 21.0	+5.2
DIVS	Divibare	6.23	322	*e*Pn	Pn	10 26 19.7	+3.5
DIVS				*e*Sg	Sg	10 28 04.5	+0.9
GZR	Gura Zlata	6.37	344	⇑*i*P	Pn	10 26 17.0	-1.1
VRI	Vrincioaia	6.64	9	⇑*i*P	Pn	10 26 23.1	+1.2
VRI	Vrincioaia	6.64	9	⇑P	Pn	10 26 23.1	+1.3
TIP	Timpagrande	6.64	272	P	Pn	10 26 27.1	+5.1
BZS	Buzias	6.87	338	⇑*i*P	Pn	10 26 28.6	+3.5
DRGR		7.72	347	⇓*i*P	Pn	10 26 44.2	+7.5

NEIC 11 10:27:00.0, 4132S×17365E, h70km, ML3.9(WEL), After WEL, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	Nelson	0.23	296	P	Pn	10 27 11.7	+1.0
BSWZ	Blackbirch Sta	0.43	157	P	Pn	10 27 13.8	+1.6
TCW	Tory Channel	0.48	77	P	Pn	10 27 14.3	+1.7
CMWZ	Cape Campbell	0.60	136	P	Pn	10 27 15.8	+2.0
THZ	Tophouse	0.71	231	P	Pn	10 27 16.6	+1.6
SNZO	South Karori	0.80	90	P	Pn	10 27 17.5	+1.5
MRW	Makara Radio	0.80	84	P	Pn	10 27 17.6	+1.6
MRW				S	Sn	10 27 29.7	+1.9
BHW	Baring Head	0.92	96	P	Pn	10 27 18.7	+1.2
KIW	Kapiti Island	1.06	65	P	Pn	10 27 21.0	+1.8
KIW				S	Sn	10 27 35.5	+2.1
CAW	Cannon Point	1.09	79	P	Pn	10 27 20.9	+1.3
KHZ	Kahutara	1.10	184	P	Pn	10 27 21.4	+1.7
MSWZ	Moikau Station	1.21	95	P	Pn	10 27 22.0	+0.9
PAWZ	Paruwai Farm	1.34	93	P	Pn	10 27 23.5	+0.7
MTW	Mount Morrison	1.41	84	P	Pn	10 27 24.3	+0.6
DSZ	Denniston Nort	1.45	252	P	Pn	10 27 26.0	+1.7
MRZ	Mangatainoka R	1.60	66	P	Pn	10 27 27.1	+0.8
LTZ	Lake Taylor	1.79	215	P	Pn	10 27 30.0	+1.3
WAZ	Wanganui	1.86	34	P	Pn	10 27 33.1	+3.3
TSZ	Takapari Road	2.16	55	P	Pn	10 27 34.5	+0.7
VRZ	Vera Road	2.35	22	P	Pn	10 27 39.6	+3.3
CRLZ	Canterbury Las	2.38	198	P	Pn	10 27 36.4	-0.3
MOVZ	Moawhango	2.50	41	P	Pn	10 27 39.8	+1.5
MQZ	McQueen's Vall	2.50	197	P	Pn	10 27 37.7	-0.6
FWVZ	Far West T-bar	2.52	36	P	Pn	10 27 41.0	+2.3
WVZ	Waitaha Valley	2.79	230	P	Pn	10 27 43.9	+1.7
HIZ	Hauiti	2.95	19	P	Pn	10 27 47.1	+2.6
RPZ	Rata Peaks	3.07	218	P	Pn	10 27 47.1	+1.0
FOZ	Fox Glacier	3.69	231	P	Pn	10 27 53.9	-0.7
TOZ	Tahuroa Road	3.86	22	P	Pn	10 27 59.7	+2.8
URZ	Urewera	4.05	42	P	Pn	10 27 58.4	-1.1
ODZ	Otahua Downs	4.32	210	P	Pn	10 28 02.8	-0.4
MKAZ	Moumakai	4.37	16	P	Pn	10 28 06.4	+2.6
OTAZ	Otara	4.47	13	P	Pn	10 28 08.3	+3.0
JCZ	Jackson Bay	4.54	231	P	Pn	10 28 06.7	+0.6
KUZ	Kuaotunu	4.84	20	P	Pn	10 28 12.4	+2.1
WCZ	Waipu Caves	5.40	6	P	Pn	10 28 21.0	+3.1
TUZ	Tuapeka	5.47	211	P	Pn	10 28 19.3	+0.4
OUZ	Omahuta	6.09	360	P	Pn	10 28 30.7	+3.3

ISCJB 11 10:41:30.6±1.1, 660N±0.10×1266E±02, h145km±13km, mb3.3/4, Error ellipse: s-maj=26.1km s-min=15.7km az=9.4
IDC 11 10:41:30.5±4.3, 676N×12682E, h132km±31km, mb3.1/4, mb1 3.3/4, mb1mx3.0/20, mbtmp3.1/4, Error ellipse: s-maj=88.8km s-min=18.5km az=66.0
NEIC 11 10:41:33.2±2.1, 665N×12650E, h154km±16km, Error ellipse: s-maj=75.4km s-min=15.4km az=71.0
MAN 11 10:41:34, 683N×12644E, h106km, mb4.2, ML3.0, MS2.8

ISC 11 10:41:31.2±1.0, 666N±009×1266E±01, h131km±12km, n13, σ1§06/16, mb3.3/4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.11	292	P	Pn	10 41 55.8	+0.6
	72nm,0.3s,baz=249,slow=3.4,SNR=5.2						
DAV				S	Sn	10 42 15.8	+2.3
	120nm,0.3s,baz=265,slow=23,SNR=14						
DAV	Davao City (W)	1.11	292	*e*Pn	Pn	10 41 58.4	+3.1
DAV				*e*Sn	Sn	10 42 18.1	+4.6
BIPH	Bislig	1.54	350	⇑*e*P	Pn	10 42 00.7	+0.9
BIPH				*e*S	Sn	10 42 19.8	-1.8
KCP	Kidapawan	1.56	283	⇓*e*P	Pn	10 42 05.1	+5.1
KCP				*i*S	Sn	10 42 27.0	+5.1
GSPH	General Santos	1.75	251	⇑*e*P	Pn	10 42 00.4	-1.8
GSPH				*e*S	Sn	10 42 25.2	-0.7
BUKP	Musuan	1.97	308	*e*P	Pn	10 42 04.9	+0.1
PAGZ	Pagadian	3.42	299	*e*P	Pn	10 42 23.8	+0.4
FITZ	Fitzroy Crossi	24.62	182	P	P	10 46 39.5	0.0
	1.4nm,0.4s,mb3.8,baz=34,slow=3.1,SNR=8.3						
WRA	Warramunga Arr	27.50	164	P	P	10 47 06.2	+0.8
	0.2nm,0.4s,mb3.1,baz=346,slow=10,SNR=3.3						
ASAR	Alice Springs	30.96	167	P	P	10 47 35.5	-0.5
	0.2nm,0.4s,mb3.2,baz=347,slow=6.4,SNR=8.0						
MKAR	Makanchi Array	55.12	324	P	P	10 50 49.5	-0.3
	0.2nm,0.6s,mb3.0,baz=126,slow=7.3,SNR=2.7						
EGMT	Egleton	106.50	36	PKPdf	PKiKP	10 59 40.2	-0.5
TORD	Torodi Ar. Bea	121.87	290	PKP	PKPdf	11 00 09.6	-1.3
	0.1nm,0.3s,baz=72,slow=1.9,SNR=4.4						

IDC 11 11:25:14.8±5.4, 1731S×17372W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/19, mbtmp4.0/4, ML1.2/1, Error ellipse: s-maj=205.4km s-min=32.2km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.87	29	Pn	Pn	11 26 15.6	0.0
	1.0nm,0.3s,baz=18,slow=21,SNR=4.9						
AFI				Sn	Sn	11 26 54.5	-7.2
	11nm,0.3s,baz=219,slow=20,SNR=8.1						
STKA	Stephens Creek	42.84	242	P	P	11 33 15.2	+0.3
	2.2nm,1.0s,baz=54,slow=14,SNR=3.1						
WRA	Warramunga Arr	49.14	258	P	P	11 34 04.2	-0.5
	0.3nm,0.3s,baz=97,slow=7.0,SNR=29						
ASAR	Alice Springs	49.25	253	P	P	11 34 05.7	+0.1
	3.6nm,0.6s,baz=90,slow=9.1,SNR=64						

ISCJB 11 11:55:43.3±0.9, 3755N±006×2239E±006, h4km, Error ellipse: s-maj=8.3km s-min=6.9km az=157.2
CSEM 11 11:55:47.2, 3752N×2213E, h5km, MD3.3, After ATH
ATH 11 11:55:47.3, 3752N×2214E, h4km, MD3.3/4
NEIC 11 11:55:47.2, 3752N×2213E, h5km, ML3.3(ATH), After ATH.

ISC 11 11:55:45.4±1.0, 3756N±005×2231E±007, h4km, n8, σ1§08/10, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.49	218	⇓*i*PG	Pg	11 55 54.6	-0.2
ITM				*e*SG	Sg	11 56 00.1	-1.0
RLS	Riolos of Patr	0.83	307	*e*Pb	Pg	11 56 01.0	-0.3
RLS				*e*Sb	Sg	11 56 12.5	+0.4
NAIG	Nisos Aigina	0.96	78	*e*PN	Pg	11 56 09.0	+5.1
VLI	Veliai	0.98	149	*e*PG	Pg	11 56 07.0	+2.7
ATH	Athens Observa	1.19	69	*e*PN	Pg	11 56 07.0	-1.3
PTL	Penteli	1.33	68	*e*PN	Pn	11 56 06.0	-4.8
VLS	Valsamata	1.49	295	*e*PN	Pg	11 56 14.6	+0.6
NEO	Neokhori	1.89	22	*e*PN	Pn	11 56 10.5	-7.9

IDC 11 12:33:24.1±17.0, 1813S×17883W, h592km±233km, mb2.9/3, mb1 3.3/3, mb1mx2.9/17, mbtmp2.9/3, Error ellipse: s-maj=250.8km s-min=55.1km az=171.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.20	260	P	P	12 40 41.5	-0.6
	0.4nm,0.5s,baz=96,slow=7.0,SNR=23						
ASAR	Alice Springs	44.34	254	P	P	12 40 43.7	+0.5
	4.6nm,0.5s,baz=91,slow=8.6,SNR=146						
TXAR	Lajitas Array	86.45	58	P	P	12 45 05.4	+0.2
	0.1nm,0.7s,baz=202,slow=8.7,SNR=4.2						
GERES	GERESS Array B	147.72	344	PKPbc	PKPbc	12 52 02.5	-0.4
	0.4nm,0.5s,baz=40,slow=4.4,SNR=6.5						

ISCJB 11 12:40:35.2±0.2, 4454N±001×722E±002, h13km±2km, Error ellipse: s-maj=2.5km s-min=1.7km az=148.2
ROM 11 12:40:35.8±0.2, 4453N×721E, h13km±3km, Md2.5/11, Ml2.3/9, Error ellipse: s-maj=3.1km s-min=2.1km az=107.0
CSEM 11 12:40:35.5±0.1, 4453N×731E, h0km, ML2.7/17, Error ellipse: s-maj=1.4km s-min=0.9km az=73.0
LDG 11 12:40:36.2±0.1, 4453N×728E, h2km, Md2.7/2, Ml2.7/19, Error ellipse: s-maj=2.6km s-min=1.3km az=66.0
GEN 11 12:40:36.1, 4454N×722E, h12km, ML2.0
STR 11 12:40:36.1±0.1, 4453N×726E, h5km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
NEIC 11 12:40:36.1, 4454N×723E, h11km, ML2.3(ROM), ML2.9(GEN), After GEN.

ISC 11 12:40:35.8±0.2, 4455N±001×724E±002, h13km±2km, n97, σ0§93/193, 2C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	San Damiano	0.04	174	⇓*i*Pg	Pg	12 40 38.8	+0.7
DOI				Sg	Sg	12 40 40.4	+0.7
	3μm,0.2s						
BHB	Bricherasio	0.30	3	P	Pg	12 40 42.1	+0.2
BHB	Bricherasio	0.30	3	P	Pg	12 40 42.1	+0.2
BHB				S	Sg	12 40 46.2	+0.3
STV	Sant Anna di V	0.31	169	Pg	Pg	12 40 42.3	+0.3
STV				Sg	Sg	12 40 46.3	+0.1
	593nm,0.1s						
STV	Sant Anna di V	0.31	169	P	Pg	12 40 42.3	+0.3
STV				S	Sg	12 40 46.3	+0.1
SURF	Saint Ours	0.31	258	Pg	Pg	12 40 42.5	+0.4
SURF				Sg	Sg	12 40 46.8	+0.4
ENR	Entracque	0.34	158	P	Pg	12 40 42.9	+0.2
ENR	Entracque	0.34	158	P	Pg	12 40 42.9	+0.2
ENR				S	Sg	12 40 47.4	+0.1
OG22	Abries	0.35	323	Pg	Pg	12 40 43.3	+0.5
OG22				Sg	Sg	12 40 48.0	+0.5
MBDF	Montbardon	0.38	299	*e*Pg	Pg	12 40 43.8	+0.4
MBDF				*e*Sg	Sg	12 40 49.0	+0.5
	201nm,0.2s						
MBDF	Montbardon	0.38	299	*e*Pg	Pg	12 40 43.8	+0.4
MBDF				*e*Sg	Sg	12 40 49.0	+0.5
	100nm,0.2s						
RRL	Rocca Remolon	0.50	319	P	Pg	12 40 45.8	+0.3
RRL	Rocca Remolon	0.50	319	P	Pg	12 40 45.9	+0.3
ROB	Robourent	0.52	119	P	Pg	12 40 46.2	+0.3
ROB				S	Sg	12 40 53.1	+0.4
ROB	Robourent	0.52	119	P	Pg	12 40 46.2	+0.3
ROB				S	Sg	12 40 53.1	+0.4
TOUF	Mont Tournerai	0.53	179	Pg	Pg	12 40 46.2	0.0
AUTN	L'Aution	0.56	166	Pg	Pg	12 40 46.7	-0.1
AUTN				Sg	Sg	12 40 54.4	+0.1
SAOF	Saorge	0.60	158	Pg	Pg	12 40 47.2	-0.3
SAOF				Sg	Sg	12 40 55.4	0.0
RSP	Reno Superiore	0.61	1	Pg	Pg	12 40 47.1	-0.5
RSP				Sg	Sg	12 40 56.4	+0.8
	121nm,0.2s						
RSP	Reno Superiore	0.61	1	P	Pg	12 40 47.0	-0.6
RSP				S	Sg	12 40 55.2	-0.4
BNI	Bardonecchia	0.65	322	⇑*i*Pg	Pg	12 40 48.5	+0.2
BNI				Sg	Sg	12 40 57.1	+0.2
	36nm,0.5s						
BNI	Bardonecchia	0.65	322	*e*Pg	Pg	12 40 48.1	-0.2
BNI				*e*Sg	Sg	12 40 56.6	-0.3
MVIF	Mont Vial	0.65	186	Pg	Pg	12 40 48.4	0.0
MVIF				Sg	Sg	12 40 57.5	+0.5
LUCF	Luceram	0.66	173	Pg	Pg	12 40 48.4	-0.1
LUCF				Sg	Sg	12 40 56.9	-0.3
SBF	Sospel	0.70	168	*e*Pg	Pg	12 40 49.1	-0.2
SBF				*e*Sg	Sg	12 40 58.0	-0.4
	90nm,0.2s						
SBF	Sospel	0.70	168	*e*Pg	Pg	12 40 49.1	-0.2
SBF				*e*Sg	Sg	12 40 58.0	-0.4
	45nm,0.2s						
MONC	Moncucco Torin	0.72	42	Pg	Pg	12 40 50.9	+1.2
	92nm,0.4s						
RORO	Rocca Rossa	0.73	126	P	Pg	12 40 50.2	+0.2
RORO				S	Sg	12 40 59.2	-0.4
RORO	Rocca Rossa	0.73	126	P	Pg	12 40 50.2	+0.2
RORO				S	Sg	12 40 59.2	-0.4
FIN	Finale Ligure	0.77	115	Pg	Pg	12 40 50.5	-0.2
FIN				S	Sg	12 41 00.6	-0.2
FIN				Sg	Sg	12 41 01.5	+0.7
FIN	Finale Ligure	0.77	115	P	Pg	12 40 50.5	-0.2
FIN				S	Sg	12 41 00.6	-0.2
NEGI	Seborga	0.77	154	P	Pg	12 40 50.2	-0.5
NEGI				S	Sg	12 41 00.3	-0.5
NEGI	Seborga	0.77	154	P	Pg	12 40 50.2	-0.5
NEGI				S	Sg	12 41 00.3	-0.5
REVF	Revere	0.81	174	Pg	Pg	12 40 51.0	-0.4
QLNO	Quiliano	0.82	105	Pg	Pg	12 40 51.7	0.0
QLNO				Sg	Sg	12 41 03.3	+0.9
CALN	Calern	0.83	198	Pg	Pg	12 40 52.2	+0.4
LSD	Lago del Serru	0.92	356	Pg	Pg	12 40 53.6	+0.2
LSD				Sg	Sg	12 41 05.5	+0.1
	59nm,0.2s						
LSD	Lago del Serru	0.92	356	P	Pg	12 40 53.5	+0.1
LSD				S	Sg	12 41 05.1	-0.3
PCP	Piancastagn	0.93	90	⇑*i*Pg	Pg	12 40 53.5	-0.3
	55nm,0.6s						
PCP				S	Sg	12 41 05.6	-0.3
PCP	Piancastagn	0.93	90	P	Pg	12 40 53.5	-0.2
PCP				S	Sg	12 41 05.6	-0.3
LPG	La Plagne	1.01	340	*e*Pg	Pg	12 40 55.2	-0.1
LPG				*e*Sg	Sg	12 41 08.0	-0.5
	51nm,0.3s						
LPG	La Plagne	1.01	340	*e*Pg	Pg	12 40 55.2	-0.1
LPG				*e*Sg	Sg	12 41 08.0	-0.5
	26nm,0.3s						
LPL	La Plagne	1.04	340	*e*Pg	Pg	12 40 55.6	-0.1
LPL				*e*Sg	Sg	12 41 08.3	-1.0
	40nm,0.2s						
LPL	La Plagne	1.04	340	*e*Pg	Pg	12 40 55.6	-0.1
LPL				*e*Sg	Sg	12 41 08.3	-1.0
	20nm,0.2s						
ORIF	Oris-en-Rattie	1.04	292	*e*Pg	Pg	12 40 55.6	-0.2
ORIF				*e*Sg	Sg	12 41 08.6	-0.7
	44nm,0.3s						
ORIF	Oris-en-Rattie	1.04	292	*e*Pg	Pg	12 40 55.6	-0.2
ORIF				*e*Sg	Sg	12 41 08.6	-0.7
	22nm,0.3s						
FRF	La Foret Royal	1.07	204	*e*Pg	Pg	12 40 55.9	-0.5
FRF				*e*Sg	Sg	12 41 09.8	-0.6
	38nm,0.2s						
FRF	La Foret Royal

HINF				*e*Sg	**Sg**	12 42 18.9	-2.3
HINF	**Hinteralfeld**	**3.28**	**355**	*e*Pn	**Pn**	12 41 27.4	+0.5
HINF				*e*Sn	**Sn**	12 42 04.6	-1.2
	1.6nm,0.3s						
HINF				*e*Sg	**Sg**	12 42 18.9	-2.3
HAU	**Haudompre**	**3.52**	**350**	*e*Pn	**Pn**	12 41 31.3	+1.2
HAU				*e*Sn	**Sn**	12 42 10.1	-1.5
	7.6nm,0.3s						
HAU	**Haudompre**	**3.52**	**350**	*e*Pn	**Pn**	12 41 31.3	+1.2
HAU				*e*Sn	**Sn**	12 42 10.1	-1.5
	3.8nm,0.3s						
AVF	**Avril sur Loir**	**3.53**	**311**	*e*Pg	**Pg**	12 41 43.0	-0.4
AVF				*e*Sn	**Sn**	12 42 09.6	-2.3
AVF				*e*Sg	**Sg**	12 42 27.9	-1.2
	1.6nm,0.3s						
AVF	**Avril sur Loir**	**3.53**	**311**	*e*Pg	**Pg**	12 41 43.0	-0.4
AVF				*e*Sn	**Sn**	12 42 09.6	-2.3
AVF				*e*Sg	**Sg**	12 42 27.9	-1.2
	0.8nm,0.3s						
AVF	**Avril sur Loir**	**3.53**	**311**	*e*Pn	**Pn**	12 41 31.9	+1.6
AVF				*e*Pg	**Pg**	12 41 43.0	-0.4
AVF				*e*Sn	**Sn**	12 42 09.6	-2.3
AVF				*e*Sg	**Sg**	12 42 27.9	-1.2
LOR	**Lormes**	**3.60**	**320**	*e*Pn	**Pn**	12 41 32.9	+1.6
SSF	**Saint Saulge**	**3.63**	**315**	*e*Pn	**Pn**	12 41 33.4	+1.8
BGF	**Bois d'Agland**	**3.69**	**305**	*e*Pg	**Pg**	12 41 45.1	-1.2
BGF				*e*Sg	**Sg**	12 42 33.9	-0.2
	5.4nm,0.4s						
BGF	**Bois d'Agland**	**3.69**	**305**	*e*Pg	**Pg**	12 41 45.1	-1.2
BGF				*e*Sg	**Sg**	12 42 33.9	-0.2
	2.7nm,0.4s						
BGF	**Bois d'Agland**	**3.69**	**305**	*e*Pn	**Pn**	12 41 34.1	+1.7
BGF				*e*Pg	**Pg**	12 41 45.1	-1.2
BGF				*e*Sg	**Sg**	12 42 33.9	-0.2
CAF	**Calviac**	**3.71**	**278**	*e*Pn	**Pn**	12 41 33.5	+0.7
MTLF	**Montolieu**	**3.82**	**253**	*e*Pg	**Pg**	12 41 46.4	-2.6
MTLF				*e*Sg	**Sg**	12 42 35.9	-2.6
	0.7nm,0.3s						
MTLF	**Montolieu**	**3.82**	**253**	*e*Pg	**Pg**	12 41 46.4	-2.6
MTLF				*e*Sg	**Sg**	12 42 35.9	-2.6
	0.3nm,0.3s						
MTLF	**Montolieu**	**3.82**	**253**	*e*Pn	**Pn**	12 41 35.0	+0.7
MTLF				*e*Pg	**Pg**	12 41 46.4	-2.6
MTLF				*e*Sg	**Sg**	12 42 35.9	-2.6
CDF	**Champ du Feu**	**3.87**	**0**	*e*Pn	**Pn**	12 41 35.9	+1.0
CDF				*e*Sn	**Sn**	12 42 17.0	-3.2
	2.5nm,0.3s						
CDF	**Champ du Feu**	**3.87**	**0**	*e*Pn	**Pn**	12 41 35.9	+1.0
CDF				*e*Sn	**Sn**	12 42 17.0	-3.2
	1.2nm,0.3s						
TCF	**Toulx Ste Croi**	**3.95**	**298**	*e*Pn	**Pn**	12 41 38.0	+2.0
TCF				*e*Sn	**Sn**	12 42 20.2	-2.0
	0.5nm,0.2s						
TCF	**Toulx Ste Croi**	**3.95**	**298**	*e*Pn	**Pn**	12 41 38.0	+2.0
TCF				*e*Sn	**Sn**	12 42 20.2	-2.0
	0.2nm,0.2s						
MEZF	**Maizieres J'vi**	**4.24**	**340**	*e*Sn	**Sn**	12 42 27.8	-1.5
	4.1nm,0.3s						
MEZF	**Maizieres J'vi**	**4.24**	**340**	*e*Sn	**Sn**	12 42 27.8	-1.5
	2.0nm,0.3s						
MFF	**Saint Martin d**	**5.58**	**294**	*e*Pn	**Pn**	12 41 58.2	-0.2

SZGRF ***11*** *13:00:21.7, 5038N×3169W, h21km, mb4.7, MS4.2, Northern Mid-Atlantic Ridge*
ISCJB ***11*** *13:00:30.8±0.1, 5100N±004×2999W±002, h10km, mb4.5/150, MS4.0/39, Error ellipse: s-maj=5.4km s-min=1.9km az=13.4*
IDC ***11*** *13:00:30.2±0.5, 5089N×3000W, h0km, mb4.2/25, mb1 4.4/28, mb1mx4.3/36, mbtmp4.3/28, ML4.0/2, MS4.0/28, Ms1 4.0/28, ms1mx3.9/34, Error ellipse: s-maj=15.8km s-min=11.2km az=12.0*
MOS ***11*** *13:00:31.0±1.1, 5103N×2995W, h10km, mb4.8/67, MS4.0/13, Error ellipse: s-maj=7.1km s-min=4.7km az=162.9*
CSEM ***11*** *13:00:31.6±0.0, 5102N×2995W, h20km, mb4.7/93, Ms3.8, Error ellipse: s-maj=2.5km s-min=1.1km az=23.0*
BJI ***11*** *13:00:32.3, 5157N×3017W, h11km, mB5.3, mb4.9, Ms4.5, Msz4.2*
NEIC ***11*** *13:00:33.0±0.2, 5106N×2991W, h10km, mb4.6/106, MS4.0/8, Error ellipse: s-maj=6.2km s-min=2.5km az=197.0*
ISC 11 13:00:33.0±0.1, 5107N±003×2992W±002, h10km, (h17km±1.7km:pP-P), n598, σ0§93/591, mb4.5/149, MS4.0/39, 59C-63D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**14.43**	**15**	Pn	**Pn**	**13 03 58.1**	**+1.1**
	baz=242,slow=17,SNR=2.5						
EMAZ	**Mazaricos**	**16.39**	**112**	P	**Pn**	**13 04 21.0**	**-2.0**
	13nm,0.7s						
EMAZ	**Mazaricos**	**16.39**	**112**	P	**Pn**	**13 04 21.0**	**-2.1**
	13nm,0.7s						
ESK	**Eskdalemuir**	**16.52**	**65**	*e*P	**Pn**	**13 04 26.6**	**+2.1**
ESK	**Eskdalemuir**	**16.52**	**65**	*e*Pn	**Pn**	**13 04 26.6**	**+2.1**
EKA	**Eskdalemuir Ar**	**16.54**	**65**	Pn	**Pn**	**13 04 25.5**	**+0.6**
	0.3nm,0.3s,baz=268,slow=8.3,SNR=16						
STS	**Santiago**	**16.68**	**111**	P	**Pn**	**13 04 26.5**	**-0.2**
STS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
STS	**Santiago**	**16.68**	**111**	P	**Pn**	**13 04 26.5**	**-0.2**
	comp=Z,10.0nm,0.8s						
STS	**Santiago**	**16.68**	**111**	P	**Pn**	**13 04 26.5**	**-0.2**
	comp=Z,9.9nm,0.8s						
EPON	**Pontenova**	**17.26**	**108**	P	**Pn**	**13 04 32.6**	**-1.3**
	comp=Z,29nm,1.0s						
EPON	**Pontenova**	**17.26**	**108**	P	**Pn**	**13 04 32.6**	**-1.4**
	comp=Z,29nm,1.0s						
ROSF	**Rostrenen**	**17.42**	**89**	*e*P	**Pn**	**13 04 34.1**	**-1.8**
	comp=Z,101nm,1.6s						
ROSF	**Rostrenen**	**17.42**	**89**	*e*P	**Pn**	**13 04 34.1**	**-1.8**
ROSF				pmax	pmax		
	comp=Z,50nm,1.6s						
ROSF	**Rostrenen**	**17.42**	**89**	*e*P	**Pn**	**13 04 34.1**	**-1.8**
	comp=Z,50nm,1.6s						
ELOB	**Lobios**	**17.59**	**113**	P	**Pn**	**13 04 37.5**	**-0.6**
	comp=Z,7.8nm,1.3s						
ELOB	**Lobios**	**17.59**	**113**	P	**Pn**	**13 04 37.5**	**-0.6**
	comp=Z,7.8nm,1.3s						
QUIF	**Quistinic**	**17.63**	**90**	*e*P	**Pn**	**13 04 35.0**	**-3.5**
	comp=Z,166nm,1.6s						
QUIF	**Quistinic**	**17.63**	**90**	*e*P	**Pn**	**13 04 35.0**	**-3.5**
QUIF				pmax	pmax		
	comp=Z,83nm,1.6s						
QUIF	**Quistinic**	**17.63**	**90**	*e*P	**Pn**	**13 04 35.0**	**-3.5**
	comp=Z,83nm,1.6s						
SGMF	**Saint Gilles**	**17.90**	**88**	*e*P	**Pn**	**13 04 38.4**	**-3.5**
ECAL	**Calabor**	**18.32**	**111**	P	**Pn**	**13 04 48.8**	**+1.7**
	comp=Z,15nm,1.1s						
ECAL	**Calabor**	**18.32**	**111**	P	**Pn**	**13 04 48.8**	**+1.7**
	comp=Z,15nm,1.1s						
EARI	**Arriondas**	**18.45**	**105**	P	**Pn**	**13 04 46.7**	**-1.9**
	comp=Z,19nm,1.0s						
EARI	**Arriondas**	**18.45**	**105**	P	**Pn**	**13 04 46.7**	**-1.9**
	comp=Z,19nm,1.0s						
MVO	**Moncorvo**	**18.64**	**113**	*e*P	**Pn**	**13 04 51.0**	**0.0**
	comp=Z,33nm,1.4s						
MVO				*e*S	**Sn**	**13 08 26.3**	**+7.1**
MTE	**Manteigas**	**18.84**	**116**	*e*P	**Pn**	**13 04 52.1**	**-1.3**
	comp=Z,38nm,1.4s						
MTE				*e*S	**Sn**	**13 08 26.2**	**+2.0**
MTE	**Manteigas**	**18.84**	**116**	*e*P	**Pn**	**13 04 52.5**	**-0.9**
MTE	**Manteigas**	**18.84**	**116**	*e*P	**Pn**	**13 04 52.5**	**-0.9**
PMAFR	**Mafra**	**18.89**	**122**	*e*S	**Sn**	**13 08 28.8**	**+3.5**
GRR	**Gorron**	**18.93**	**87**	*e*P	**Pn**	**13 04 52.7**	**-1.7**
	comp=Z,186nm,1.6s						
GRR	**Gorron**	**18.93**	**87**	*e*P	**Pn**	**13 04 52.7**	**-1.7**
GRR				pmax	pmax		
	comp=Z,93nm,1.6s						
GRR	**Gorron**	**18.93**	**87**	*e*P	**Pn**	**13 04 52.7**	**-1.7**
	comp=Z,93nm,1.6s						
SFJD	**Kangerlussuaq**	**19.02**	**335**	P	**Pn**	**13 04 55.2**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=114,slow=12,SNR=3.2						
SFJD				LR	LR	13 10 47.3	
	comp=Z,326nm,20.4s,baz=125,slow=32						
FLN	**La Foliniere**	**19.04**	**85**	*e*P	**Pn**	**13 04 53.9**	**-1.9**
FLN				*e*MLR	MLR		
	comp=Z,654nm,20.5s						
PCBR	**Castelo Branco**	**19.26**	**117**	*e*P	**Pn**	**13 04 57.3**	**-1.1**
	comp=Z,60nm,1.2s						
LDF	**La Druitiere**	**19.32**	**86**	*e*P	**Pn**	**13 04 57.0**	**-2.2**
	comp=Z,59nm,1.4s						
LDF	**La Druitiere**	**19.32**	**86**	*e*P	**Pn**	**13 04 57.0**	**-2.2**
LDF				pmax	pmax		
	comp=Z,30nm,1.4s						
LDF	**La Druitiere**	**19.32**	**86**	*e*P	**Pn**	**13 04 57.0**	**-2.2**
	comp=Z,30nm,1.4s						
ELAN	**Lanestosa**	**19.57**	**103**	P	**Pn**	**13 05 01.1**	**-1.1**
	comp=Z,4.9nm,0.6s						
PMRV	**Marv??o**	**19.59**	**118**	*e*P	**Pn**	**13 05 01.3**	**-1.1**
	comp=Z,31nm,1.4s						
PMRV				*e*S	**Sn**	**13 08 42.8**	**+0.6**
EVOP	**Sao Brissos**	**19.82**	**121**	*e*P	**Pn**	**13 05 02.7**	**-2.5**
	comp=Z,34nm,1.2s						
PESTR	**Estremoz**	**19.87**	**119**	*e*P	**Pn**	**13 05 03.5**	**-2.3**
	comp=Z,79nm,1.6s						
PESTR				*e*S	**Sn**	**13 08 50.7**	**+1.7**
EVO	**Evora**	**19.88**	**121**	*e*P	**Pn**	**13 05 02.7**	**-3.2**
	comp=Z,69nm,1.2s						
EVO				*e*MLR	MLR		
	comp=Z,411nm,20.8s						
EVO	**Evora**	**19.88**	**121**	*e*P	**Pn**	**13 05 03.8**	**-2.1**
	comp=Z,60nm,1.7s						
MFF	**Saint Martin d**	**20.03**	**91**	*e*P	**P**	**13 05 05.5**	**-0.3**
	comp=Z,64nm,1.0s						
MFF	**Saint Martin d**	**20.03**	**91**	*e*P	**P**	**13 05 05.5**	**-0.3**
MFF				pmax	pmax		
	comp=Z,32nm,1.0s						
MFF	**Saint Martin d**	**20.03**	**91**	*e*P	**P**	**13 05 05.5**	**-0.3**
	comp=Z,32nm,1.0s						
MENF	**Mencas**	**20.20**	**79**	*e*P	**P**	**13 05 07.0**	**-0.6**
PTEO	**San Teotonio**	**20.23**	**124**	*e*P	**P**	**13 05 08.7**	**+0.7**
	comp=Z,86nm,1.5s						
EBAD	**Badajoz**	**20.27**	**119**	P	**P**	**13 05 08.2**	**-0.3**
	comp=Z,1.6nm,0.6s						
EBAD	**Badajoz**	**20.27**	**119**	P	**P**	**13 05 08.2**	**-0.3**
	comp=Z,1.6nm,0.6s						
PBEJ	**Beja**	**20.33**	**121**	*e*P	**P**	**13 05 09.5**	**+0.4**
	comp=Z,40nm,2.0s						
MORF	**Marmelete**	**20.45**	**124**	*e*P	**P**	**13 05 10.3**	**-0.1**
	comp=Z,84nm,1.6s						
MORF				*e*S	**S**	**13 09 03.7**	**+4.5**
PFVI	**Vila Bisbo**	**20.48**	**125**	*e*P	**P**	**13 05 10.8**	**0.0**
	comp=Z,62nm,1.4s						
GUD	**Guadarrama**	**20.65**	**110**	P	**P**	**13 05 13.0**	**+0.3**
GUD				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GUD	**Guadarrama**	**20.65**	**110**	P	**P**	**13 05 13.0**	**+0.3**
	comp=Z,2.0nm,0.5s						
GUD	**Guadarrama**	**20.65**	**110**	P	**P**	**13 05 13.0**	**+0.3**
	comp=Z,2.0nm,0.5s						
PBAR	**Barrancos**	**20.67**	**120**	*e*P	**P**	**13 05 12.8**	**0.0**
	comp=Z,46nm,2.0s						
PBAR				*e*S	**S**	**13 09 05.5**	**+1.9**
EALK	**Alkurruntz**	**20.77**	**101**	P	**P**	**13 05 13.7**	**-0.1**
	comp=Z,3.4nm,0.7s						
EALK	**Alkurruntz**	**20.77**	**101**	P	**P**	**13 05 13.7**	**-0.2**
	comp=Z,3.4nm,0.7s						
ELIZ	**Elizondo**	**20.78**	**101**	P	**P**	**13 05 15.8**	**+1.8**
ELIZ				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ELIZ	**Elizondo**	**20.78**	**101**	P	**P**	**13 05 15.8**	**+1.8**
	comp=Z,2.0nm,0.4s						
PVAQ	**Vaqueiros**	**20.86**	**122**	*e*P	**P**	**13 05 15.0**	**0.0**
	comp=Z,99nm,1.2s						
PVAQ				*e*S	**S**	**13 09 10.1**	**+2.6**
PBDV	**Barranco-do-Ve**	**20.87**	**123**	*e*P	**P**	**13 05 15.3**	**+0.3**
	comp=Z,64nm,1.4s						
PBDV				*e*S	**S**	**13 09 08.7**	**+1.1**
EGRO	**El Granado**	**20.89**	**122**	P	**P**	**13 05 15.7**	**+0.4**
	comp=Z,3.9nm,0.7s						
SJPF	**Ste Jean**	**21.00**	**101**	*e*P	**P**	**13 05 16.2**	**-0.1**
	comp=Z,71nm,1.4s						
SJPF	**Ste Jean**	**21.00**	**101**	*e*P	**P**	**13 05 16.2**	**-0.1**
SJPF				pmax	pmax		
	comp=Z,36nm,1.4s						
SJPF	**Ste Jean**	**21.00**	**101**	*e*P	**P**	**13 05 16.2**	**-0.1**
	comp=Z,36nm,1.4s						
EMIN	**Mina Concepcio**	**21.16**	**120**	P	**P**	**13 05 19.0**	**+0.8**
	comp=Z,1.5nm,0.6s,mb3.5						
EMIN	**Mina Concepcio**	**21.16**	**120**	P	**P**	**13 05 19.0**	**+0.8**
	comp=Z,1.5nm,0.6s,mb3.5						
PAB	**San Pablo**	**21.25**	**113**	*e*P	**P**	**13 05 17.8**	**-1.3**
PAB				pmax	pmax		
	comp=Z,32nm,1.4s,mb4.5						
PAB	**San Pablo**	**21.25**	**113**	*e*P	**P**	**13 05 17.8**	**-1.3**
	comp=Z,32nm,1.4s,mb4.5						
PAB	**San Pablo**	**21.25**	**113**	*e*P	**P**	**13 05 17.8**	**-1.3**
	comp=Z,32nm,1.4s,mb4.5						
LFF	**La Frestale**	**21.31**	**95**	*e*P	**P**	**13 05 19.0**	**-0.7**
	comp=Z,189nm,1.6s,mb4.9						
LFF	**La Frestale**	**21.31**	**95**	*e*P	**P**	**13 05 19.0**	**-0.7**
LFF				pmax	pmax		
	comp=Z,95nm,1.6s,mb4.9						
LFF	**La Frestale**	**21.31**	**95**	*e*P	**P**	**13 05 19.0**	**-0.7**
	comp=Z,94nm,1.6s,mb4.9						
ESDC	**Sonseca Array**	**21.39**	**112**	P	**P**	**13 05 18.9**	**-1.7**
	comp=Z,6.6nm,0.7s,mb4.1,baz=311,slow=10,SNR=44						
ESDC				LR	LR	13 12 00.6	
	comp=Z,446nm,18.1s,MS3.9,baz=300,slow=32						
ESDC	**Sonseca Array**	**21.39**	**112**	P	**P**	**13 05 20.3**	**-0.3**
	comp=Z,8.4nm,0.6s,mb4.2						
UCC	**Uccle**	**21.50**	**77**	P	**P**	**13 05 21.1**	**-0.5**
	comp=Z,52nm,1.9s,mb4.5						
ETSF	**Etsaut**	**21.52**	**101**	*e*P	**P**	**13 05 21.7**	**-0.3**
	comp=Z,56nm,1.1s,mb4.6						
ETSF	**Etsaut**	**21.52**	**101**	*e*P	**P**	**13 05 21.7**	**-0.3**
ETSF				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.6						
ETSF	**Etsaut**	**21.52**	**101**	*e*P	**P**	**13 05 21.7**	**-0.3**
	comp=Z,28nm,1.1s,mb4.6						
HYF	**Humbligny**	**21.53**	**87**	*e*P	**P**	**13 05 21.4**	**-0.6**
BAIF	**Baives**	**21.60**	**79**	*e*P	**P**	**13 05 21.8**	**-0.9**
	comp=Z,111nm,1.1s,mb4.9						
BAIF	**Baives**	**21.60**	**79**	*e*P	**P**	**13 05 21.8**	**-0.9**
BAIF				pmax	pmax		
	comp=Z,55nm,1.1s,mb4.9						
BAIF	**Baives**	**21.60**	**79**	*e*P	**P**	**13 05 21.8**	**-0.9**
	comp=Z,55nm,1.1s,mb4.9						
RJF	**Les Rejaudoux**	**21.63**	**93**	*e*P	**P**	**13 05 22.3**	**-0.9**
	comp=Z,132nm,1.3s,mb4.9						
RJF				*e*MLR	MLR		
	comp=Z,405nm,20.5s,MS3.5						
RJF	**Les Rejaudoux**	**21.63**	**93**	*e*P	**P**	**13 05 22.3**	**-0.9**
RJF				pmax	pmax		
	comp=Z,66nm,1.3s,mb4.9						
RJF				MLR	MLR		
	comp=Z,410nm,20.5s,MS3.8						
RJF	**Les Rejaudoux**	**21.63**	**93**	*e*P	**P**	**13 05 22.3**	**-0.9**
	comp=Z,66nm,1.3s,mb4.9						
RJF				LR	LR		
	comp=Z,410nm,20.5s,MS3.8						
TCF	**Toulx Ste Croi**	**21.64**	**90**	*e*P	**P**	**13 05 22.0**	**-1.3**
	comp=Z,113nm,1.2s,mb4.9						
TCF	**Toulx Ste Croi**	**21.64**	**90**	*e*P	**P**	**13 05 22.0**	**-1.3**
TCF				pmax	pmax		
	comp=Z,57nm,1.2s,mb4.9						
TCF	**Toulx Ste Croi**	**21.64**	**90**	*e*P	**P**	**13 05 22.0**	**-1.3**
	comp=Z,57nm,1.2s,mb4.9						
ETOR	**Torete**	**21.80**	**107**	P	**P**	**13 05 26.0**	**+1.0**
ETOR				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.3						
ETOR	**Torete**	**21.80**	**107**	P	**P**	**13 05 26.0**	**+1.0**
	comp=Z,9.0nm,0.7s,mb4.3						
ETOR	**Torete**	**21.80**	**107**	P	**P**	**13 05 25.9**	**+1.0**
	comp=Z,9.1nm,0.7s,mb4.3						
DOU	**Dourbes**	**21.83**	**79**	P	**P**	**13 05 24.5**	**-0.7**
	comp=Z,29nm,1.5s,mb4.5						
BGF	**Bois d'Agland**	**21.94**	**89**	*e*P	**P**	**13 05 25.1**	**-1.3**
	comp=Z,45nm,0.8s,mb4.6						
BGF	**Bois d'Agland**	**21.94**	**89**	*e*P	**P**	**13 05 25.1**	**-1.3**
BGF				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.7						
BGF	**Bois d'Agland**	**21.94**	**89**	*e*P	**P**	**13 05 25.1**	**-1.3**
	comp=Z,23nm,0.8s,mb4.6						
GIVF	**Givet**	**21.97**	**79**	*e*P	**P**	**13 05 26.2**	**-0.5**
	comp=Z,166nm,1.3s,mb5.0						
GIVF	**Givet**	**21.97**	**79**	*e*P	**P**	**13 05 26.2**	**-0.5**
GIVF				pmax	pmax		
	comp=Z,83nm,1.3s,mb5.0						
GIVF	**Givet**	**21.97**	**79**	*e*P	**P**	**13 05 26.2**	**-0.5**
	comp=Z,83nm,1.3s,mb5.0						
EPF	**Esparros**	**22.01**	**100**	*e*P	**P**	**13 05 27.3**	**+0.1**
	comp=Z,38nm,1.3s,mb4.4						
EPF	**Esparros**	**22.01**	**100**	*e*P	**P**	**13 05 27.3**	**+0.1**
EPF				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.4						
EPF	**Esparros**	**22.01**	**100**	*e*P	**P**	**13 05 27.3**	**+0.1**
	comp=Z,19nm,1.3s,mb4.4						
EADA	**Adamuz**	**22.05**	**116**	P	**P**	**13 05 27.4**	**-0.3**
	comp=Z,7.8nm,1.2s,mb4.0						
EADA	**Adamuz**	**22.05**	**116**	P	**P**	**13 05 27.4**	**-0.3**
	comp=Z,7.8nm,1.2s,mb4.0						
EBIE	**Bielsa**	**22.07**	**101**	P	**P**	**13 05 29.4**	**+1.5**
	comp=Z,3.4nm,0.6s,mb4.0						
EBIE	**Bielsa**	**22.07**	**101**	P	**P**	**13 05 29.4**	**+1.5**
	comp=Z,3.4nm,0.6s,mb4.0						
CAF	**Calviac**	**22.15**	**94**	*e*P	**P**	**13 05 27.5**	**-1.2**
	comp=Z,128nm,1.5s,mb4.8						
CAF	**Calviac**	**22.15**	**94**	*e*P	**P**	**13 05 27.5**	**-1.2**
CAF				pmax	pmax		
	comp=Z,64nm,1.5s,mb4.8						
CAF	**Calviac**	**22.15**	**94**	*e*P	**P**	**13 05 27.5**	**-1.2**
	comp=Z,64nm,1.5s,mb4.8						
SSF	**Saint Saulge**	**22.15**	**87**	*e*P	**P**	**13 05 28.0**	**-0.7**
	comp=Z,131nm,1.3s,mb4.9						
SSF	**Saint Saulge**	**22.15**	**87**	*e*P	**P**	**13 05 28.0**	**-0.7**
SSF				pmax	pmax		
	comp=Z,66nm,1.3s,mb4.9						
SSF	**Saint Saulge**	**22.15**	**87**	*e*P	**P**	**13 05 28.0**	**-0.7**
	comp=Z,66nm,1.3s,mb4.9						
AVF	**Avril sur Loir**	**22.16**	**88**	*e*P	**P**	**13 05 28.0**	**-0.8**
	comp=Z,109nm,1.3s,mb4.8						
AVF	**Avril sur Loir**	**22.16**	**88**	*e*P	**P**	**13 05 28.0**	**-0.8**
AVF				pmax	pmax		
	comp=Z,54nm,1.3s,mb4.8						
AVF	**Avril sur Loir**	**22.16**	**88**	*e*P	**P**	**13 05 28.0**	**-0.8**
	comp=Z,54nm,1.3s,mb4.8						
BCLA	**Clavier**	**22.18**	**78**	P	**P**	**13 05 28.4**	**-0.5**
	comp=Z,22nm,1.5s,mb4.4						
ESAC	**San Caprasio**	**22.23**	**103**	P	**P**	**13 05 29.9**	**+0.3**
	comp=Z,38nm,1.0s,mb4.8						
ESAC	**San Caprasio**	**22.23**	**103**	P	**P**	**13 05 29.9**	**+0.3**
	comp=Z,38nm,1.0s,mb4.8						
JMIC	**Jan Mayen**	**22.25**	**18**	LR	LR	13 11 59.0	
	comp=Z,291nm,18.4s,MS3.7,baz=215,slow=31						
ESPR	**Espera**	**22.26**	**120**	P	**P**	**13 05 32.3**	**+2.3**
	comp=Z,16nm,1.2s,mb4.3						
LOR	**Lormes**	**22.29**	**87**	*e*P	**P**	**13 05 29.4**	**-0.8**
	comp=Z,171nm,1.3s,mb5.0						
LOR				*e*MLR	MLR		
	comp=Z,1μm,21.5s,MS3.9						
LOR	**Lormes**	**22.29**	**87**	*e*P	**P**	**13 05 29.4**	**-0.8**
LOR				pmax	pmax		
	comp=Z,86nm,1.3s,mb5.0						
LOR				MLR	MLR		
	comp=Z,1μm,21.5s,MS4.2						
LOR	**Lormes**	**22.29**	**87**	*e*P	**P**	**13 05 29.4**	**-0.8**
	comp=Z,86nm,1.3s,mb5.0						
LOR				LR	LR		
	comp=Z,1μm,21.5s,MS4.2						
AGO	**Saint Agoulin**	**22.32**	**90**	*e*P	**P**	**13 05 31.0**	**+0.4**
PYM	**Petit Puy Mans**	**22.38**	**91**	*e*P	**P**	**13 05 31.3**	**+0.2**
SCHQ	**Schefferville**	**22.38**	**294**	P	**P**	**13 05 30.1**	**-0.9**
	comp=Z,14nm,0.9s,mb4.4,baz=83,slow=8.8,SNR=7.2						
SCHQ				LR	LR	13 12 53.1	
	comp=Z,673nm,21.7s,MS4.0,baz=105,slow=33						
HGN	**Heimansgroeve**	**22.47**	**77**	*e*P	**P**	**13 05 32.3**	**+0.2**
	comp=Z,28nm,1.4s,mb4.5						
HGN	**Heimansgroeve**	**22.47**	**77**	*e*S	**S**	**13 09 45.4**	**+6.7**
EBAN	**Banos Encina**	**22.50**	**115**	P	**P**	**13 05 34.1**	**+1.6**
EBAN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
EBAN	**Banos Encina**	**22.50**	**115**	P	**P**	**13 05 34.1**	**+1.6**
	comp=Z,7.9nm,0.9s,mb4.1						
SMF	**Signal de Mont**	**22.53**	**88**	*e*P	**P**	**13 05 31.5**	**-1.2**
	comp=Z,90nm,1.3s,mb4.8						
SMF	**Signal de Mont**	**22.53**	**88**	*e*P	**P**	**13 05 31.5**	**-1.2**
SMF				pmax	pmax		
	comp=Z,45nm,1.3s,mb4.7						
SMF	**Signal de Mont**	**22.53**	**88**	*e*P	**P**	**13 05 31.5**	**-1.2**
	comp=Z,45nm,1.3s,mb4.8						
MEM	**Membach**	**22.56**	**77**	P	**P**	**13 05 32.1**	**-0.9**
	comp=Z,18nm,1.4s,mb4.3						
MEZF	**Maizieres J'vi**	**22.60**	**83**	*e*P	**P**	**13 05 32.5**	**-1.0**
	comp=Z,132nm,1.2s,mb4.9						
MEZF	**Maizieres J'vi**	**22.60**	**83**	*e*P	**P**	**13 05 32.5**	**-1.0**
	comp=Z,66nm,1.2s,mb4.9						
ELUQ	**Luque**	**22.65**	**117**	P	**P**	**13 05 34.8**	**+0.7**
ELUQ				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
ELUQ	**Luque**	**22.65**	**117**	P	**P**	**13 05 34.8**	**+0.7**
	comp=Z,6.0nm,1.0s,mb4.0						
ELUQ	**Luque**	**22.65**	**117**	P	**P**	**13 05 34.8**	**+0.8**
	comp=Z,6.3nm,1.0s,mb4.0						
PLDF	**La Plantade**	**22.67**	**90**	*e*P	**P**

VIVF **Saint-Julien-I 23.83 92** *e*P **P 13 05 44.5 -1.5**
comp=Z,24nm,1.0s,mb4.3
VIVF **Saint-Julien-I 23.83 92** *e*P **P 13 05 44.5 -1.5**
VIVF pmax pmax
comp=Z,12nm,1.0s,mb4.3
VIVF **Saint-Julien-I 23.83 92** *e*P **P 13 05 44.5 -1.5**
comp=Z,12nm,1.0s,mb4.3
EBER **Berja 23.89 116** P **P 13 05 49.4 +2.7**
comp=Z,2.8nm,0.8s,mb3.7
CABF **La Chapelle 23.96 87** *e*P **P 13 05 46.1 -1.1**
comp=Z,118nm,1.5s,mb4.8
CABF **La Chapelle 23.96 87** *e*P **P 13 05 46.1 -1.1**
CABF pmax pmax
comp=Z,59nm,1.5s,mb4.8
CABF **La Chapelle 23.96 87** *e*P **P 13 05 46.1 -1.1**
comp=Z,59nm,1.5s,mb4.8
HINF **Hinteralfeld 23.97 83** *e*P **P 13 05 45.7 -1.6**
comp=Z,61nm,1.2s,mb4.6
HINF **Hinteralfeld 23.97 83** *e*P **P 13 05 45.7 -1.6**
HINF pmax pmax
comp=Z,31nm,1.2s,mb4.6
HINF **Hinteralfeld 23.97 83** *e*P **P 13 05 45.7 -1.6**
comp=Z,30nm,1.2s,mb4.6
ECH **Echery 24.02 82** *e*P **P 13 05 47.7 0.0**
CDF **Champ du Feu 24.02 82** *e*P **P 13 05 46.1 -1.7**
comp=Z,64nm,1.6s,mb4.5
CDF **Champ du Feu 24.02 82** *e*P **P 13 05 46.1 -1.7**
CDF pmax pmax
comp=Z,32nm,1.6s,mb4.5
CDF **Champ du Feu 24.02 82** *e*P **P 13 05 46.1 -1.7**
comp=Z,32nm,1.6s,mb4.5
MOF **Molkenrain 24.13 83** *e*P **P 13 05 49.9 +1.1**
LANF **Langenberg 24.16 80** *e*P **P 13 05 50.8 +1.8**
TNS **Taunus Mts 24.17 77** *e*P **P 13 05 49.7 +0.6**
TNS pmax pmax
comp=Z,41nm,1.9s,mb4.5
TNS **Taunus Mts 24.17 77** *e*P **P 13 05 49.7 +0.6**
comp=Z,41nm,1.9s,mb4.5
EBEN **Beniarda 24.22 109** P **P 13 05 51.4 +1.7**
comp=Z,2.4nm,0.7s,mb3.7
ORIF **Oris-en-Rattie 24.56 90** *e*P **P 13 05 51.8 -0.9**
comp=Z,64nm,1.3s,mb4.7
ORIF *e*MLR MLR
comp=Z,415nm,22.2s,MS3.6
ORIF **Oris-en-Rattie 24.56 90** *e*P **P 13 05 51.8 -0.9**
ORIF pmax pmax
comp=Z,32nm,1.3s,mb4.7
ORIF **Oris-en-Rattie 24.56 90** *e*P **P 13 05 51.8 -0.9**
comp=Z,32nm,1.3s,mb4.7
NB2 **NORSAR Subarra 24.63 50** P **P 13 05 52.9 -0.3**
comp=Z,13nm,1.4s,mb4.3,baz=263,slow=10
NOA **NORSAR Array B 24.63 50** P **P 13 05 53.2 +0.1**
comp=Z,3.5nm,0.9s,mb3.9,baz=266,slow=9.7,SNR=11
NOA PcP PcP 13 09 29.9 -0.4
comp=Z,1.1nm,0.8s,baz=274,slow=2.2,SNR=3.7
NOA LR LR 13 14 09.4
comp=Z,202nm,22.0s,MS3.6,baz=255,slow=33
NOA **NORSAR Array B 24.63 50** P **P 13 05 53.3 +0.1**
NOA 13 09 29.9
NOA **NORSAR Array B 24.63 50** P **P 13 05 53.2 0.0**
NOA **NORSAR Array B 24.63 50** PcP PcP 13 09 29.9 -0.4
FELD **Feldberg im Sc 24.67 82** *e*P **P 13 05 54.2 +0.5**
BFO **Black Forest 24.71 81** *e*P **P 13 05 54.2 +0.2**
BFO pmax pmax
comp=Z,20nm,1.0s,mb4.6
BFO **Black Forest 24.71 81** *e*P **P 13 05 54.2 +0.2**
comp=Z,20nm,1.0s,mb4.6
SMRF **Simiane la Rot 24.82 93** *e*P **P 13 05 54.9 -0.2**
comp=Z,49nm,1.2s,mb4.6
SMRF **Simiane la Rot 24.82 93** *e*P **P 13 05 54.9 -0.2**
comp=Z,25nm,1.2s,mb4.6
LPL **La Plagne 24.83 89** *e*P **P 13 05 54.4 -0.8**
comp=Z,41nm,1.1s,mb4.6
LPL **La Plagne 24.83 89** *e*P **P 13 05 54.4 -0.8**
LPL pmax pmax
comp=Z,21nm,1.1s,mb4.6
LPL **La Plagne 24.83 89** *e*P **P 13 05 54.4 -0.8**
comp=Z,21nm,1.1s,mb4.6
LPG **La Plagne 24.85 89** *e*P **P 13 05 54.8 -0.5**
comp=Z,38nm,1.1s,mb4.5
LPG **La Plagne 24.85 89** *e*P **P 13 05 54.8 -0.5**
LPG pmax pmax
comp=Z,19nm,1.1s,mb4.5
LPG **La Plagne 24.85 89** *e*P **P 13 05 54.8 -0.5**
comp=Z,19nm,1.1s,mb4.5
CLZ **Clausthal 24.90 72** *e*P **P 13 05 56.8 +1.0**
CLZ pmax pmax
comp=Z,58nm,1.5s,mb4.9
CLZ **Clausthal 24.90 72** *e*P **P 13 05 56.8 +1.0**
comp=Z,58nm,1.5s,mb4.9
UBBA **Unterbreizbach 24.95 75** *e*P **P 13 05 57.2 +1.0**
comp=Z,16nm,1.5s,mb4.3
BNI **Bardonecchia 25.00 90** *e*P **P 13 05 58.1 +1.3**
BNI **Bardonecchia 25.00 90** *e*P **P 13 05 58.1 +1.4**
SPAK **Spaichingen-Ko 25.07 82** *e*P **P 13 05 57.9 +0.5**
STU **Stuttgart 25.09 80** *e*P **P 13 05 58.3 +0.8**
STU pmax pmax
comp=Z,14nm,0.7s,mb4.6
STU **Stuttgart 25.09 80** *e*P **P 13 05 58.3 +0.8**
comp=Z,21nm,0.8s,mb4.7
MBDF **Montbardon 25.21 90** *e*P **P 13 05 57.9 -0.8**
comp=Z,17nm,0.9s,mb4.3
MBDF **Montbardon 25.21 90** *e*P **P 13 05 57.9 -0.8**
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
MBDF **Montbardon 25.21 90** *e*P **P 13 05 57.9 -0.8**
comp=Z,8.7nm,0.9s,mb4.3
HFS **Hagfors 25.80 52** P **P 13 06 04.3 +0.5**
comp=Z,2.1nm,0.8s,mb3.8,baz=262,slow=7.1,SNR=4.4
HFS LR LR 13 15 16.0
comp=Z,486nm,19.9s,MS4.0,baz=268,slow=34
MOX **Moxa 25.98 75** *e*P **P 13 06 06.2 +0.6**
comp=Z,13nm,1.3s,mb4.3
MOX
comp=Z,300nm,21.0s
MOX **Moxa 25.98 75** *e*P **P 13 06 06.2 +0.6**
MOX pmax pmax
comp=Z,13nm,1.3s,mb4.3
MOX MLR MLR
comp=Z,300nm,21.0s,MS3.8
MOX **Moxa 25.98 75** *e*P **P 13 06 05.9 +0.3**
comp=Z,8.0nm,1.0s,mb4.2
MDT **Midelt 26.01 125** P **P 13 06 05.0 -1.0**
comp=Z,7.6nm,1.1s,mb4.1,baz=322,slow=11,SNR=4.6
MDT LR LR 13 14 28.6
comp=Z,141nm,20.6s,MS3.5,baz=191,slow=32
GRA1 **Grafenberg Arr 26.04 77** *e*P **P 13 06 06.3 +0.2**
comp=Z,17nm,1.0s,mb4.5
GRA1 *e*pP pP 13 06 11.7 +2.6
GRA1 **Grafenberg Arr 26.04 77** *e*P **P 13 06 06.3 +0.2**
comp=Z,17nm,1.0s,mb4.5
GRA1 *e*pP pP 13 06 11.7 +2.6
GRA1 LR LR
comp=Z,600nm,19.3s,MS4.1
GRF **Grafenberg Arr 26.04 77** *e*P **P 13 06 06.3 +0.2**
GRF *e**PP pP 13 06 11.7 +2.6
GRF pmax pmax
comp=Z,17nm,1.0s,mb4.5
GRF MLR MLR
comp=Z,600nm,19.3s,MS4.1
GRF **Grafenberg Arr 26.04 77** *e*P **P 13 06 06.3 +0.2**
GRF *e**PP pP 13 06 11.7 +2.6
GRF pmax pmax
comp=Z,17nm,1.0s,mb4.5
GRF MLR MLR
comp=Z,600nm,19.3s,MS4.1
GRF **Grafenberg Arr 26.04 77** *e*P **P 13 06 06.3 +0.2**
comp=Z,17nm,1.0s,mb4.5
GRF *e*pP pP 13 06 11.7 +2.6
GRF *e*L 13 15 40.4
comp=Z,594nm,19.3s
GRF **Grafenberg Arr 26.04 77** *e*P **P 13 06 06.3 +0.2**
comp=Z,17nm,1.0s,mb4.5
GRF *e*pP pP 13 06 11.7 +2.6
TUE **Stuetta 26.07 85** *e*P **P 13 06 07.2 +0.8**
comp=Z,32nm,1.2s,mb4.7
TUE **Stuetta 26.07 85** *e*P **P 13 06 07.2 +0.8**
comp=Z,32nm,1.2s,mb4.7
DAVA **Damuels 26.07 83**⇑ *i*P **P 13 06 06.3 -0.1**
comp=Z,11nm,0.9s,mb4.4
DAVOS **Davos 26.19 84** P **P 13 06 09.0 +1.5**
DAVOX **Davos/Dischmat 26.27 84** P **P 13 06 09.0 +0.8**
comp=Z,4.9nm,0.8s,mb4.1,baz=292,slow=14,SNR=8.3
DAVOX LR LR 13 15 37.4
comp=Z,286nm,21.0s,MS3.8,baz=267,slow=34
MANZ **Manzenberg 26.48 76** *e*P **P 13 06 10.2 +0.1**
comp=Z,8.0nm,1.3s,mb4.1

RETA **Reutte 26.54 82** *i* P **P 13 06 11.7 +1.1**
comp=Z,15nm,1.1s,mb4.5,SNR=7.8
RETA **Reutte 26.54 82** *i* pP **P 13 06 11.7 +1.1**
comp=Z,15nm,1.1s,mb4.5,SNR=7.8
FUR **Furstenfeldbru 26.60 80** *e*P **P 13 06 10.9 -0.3**
FUR pmax pmax
comp=Z,29nm,1.0s,mb4.8
FUR **Furstenfeldbru 26.60 80** *e*P **P 13 06 10.9 -0.3**
comp=Z,29nm,1.0s,mb4.8
NKC **Novy Kostel 26.61 75** *e*P **P 13 06 12.0 +0.7**
NKC AMS AMS 13 17 20.0
comp=Z,300nm,14.2s
ROTZ **Rotzenmuhle 26.61 76** *e*P **P 13 06 11.8 +0.5**
comp=Z,15nm,1.3s,mb4.4
CLL **Collm 26.63 73** *i* P **P 13 06 11.3 -0.1**
CLL *i* 13 06 16.7
CLL pmax pmax
comp=Z,19nm,1.1s,mb4.5
CLL **Collm 26.63 73** *e*P **P 13 06 11.2 -0.2**
comp=Z,18nm,1.2s,mb4.5
CLL **Collm 26.63 73** *i* P **P 13 06 11.3 -0.1**
comp=Z,19nm,1.1s,mb4.5
CLL *i* (sP) sP 13 06 16.7 +1.0
CLL *i* x x 13 06 22.9
CLL LmV 13 15 00.0
comp=Z,200nm,21.0s
CLL **Collm 26.63 73** *i* P **P 13 06 11.3 -0.1**
comp=Z,19nm,1.1s,mb4.5
CLL *i* 13 06 16.7
FETA **Feichten 26.71 83**⇑ *i*P **P 13 06 13.5 +1.4**
comp=Z,7.0nm,1.2s,mb4.1
FETA **Feichten 26.71 83**⇑ *i*pP **P 13 06 13.5 +1.4**
comp=Z,7.0nm,1.2s,mb4.1
MOTA **Moosalm 26.81 82**⇑ *i*P **P 13 06 14.2 +1.1**
comp=Z,14nm,1.1s,mb4.4,SNR=6.6
MOTA **Moosalm 26.81 82**⇑ *i*pP **P 13 06 14.2 +1.1**
comp=Z,14nm,1.1s,mb4.4,SNR=6.6
MOTA **Moosalm 26.81 82**⇑ *i*P **P 13 06 14.2 +1.1**
MOTA pmax pmax
comp=Z,14nm,1.1s,mb4.4
WATA **Walderalm 27.11 82**⇑ *i*P **P 13 06 16.8 +1.1**
comp=Z,8.5nm,1.1s,mb4.2
WATA **Walderalm 27.11 82**⇑ *i*pP **P 13 06 16.8 +1.1**
comp=Z,8.5nm,1.1s,mb4.2
WATA **Walderalm 27.11 82**⇑ *i*P **P 13 06 16.8 +1.0**
WATA pmax pmax
comp=Z,9.0nm,1.1s,mb4.2
WTTA **Wattenberg 27.18 82** *i* P **P 13 06 18.0 +1.6**
comp=Z,20nm,1.2s,mb4.5,SNR=6.6
WTTA **Wattenberg 27.18 82** *i* pP **P 13 06 18.0 +1.6**
comp=Z,20nm,1.2s,mb4.5,SNR=6.6
WTTA **Wattenberg 27.18 82** *i* P **P 13 06 18.0 +1.6**
WTTA pmax pmax
comp=Z,20nm,1.2s,mb4.5
WET **Wettzell 27.24 77** *e*P **P 13 06 16.6 -0.3**
BRG **Berggiesshubel 27.32 73** *e*P **P 13 06 17.2 -0.4**
comp=Z,17nm,1.4s,mb4.4
BRG **Berggiesshubel 27.32 73** *e*P **P 13 06 17.5 -0.2**
comp=Z,13nm,1.2s,mb4.3
BRG
comp=N,267nm,12.8s
BRG
comp=E,80nm,12.6s
BRG
comp=Z,204nm,13.0s
KHC **Kasperske Hory 27.67 77**⇑ *e*P **P 13 06 20.8 0.0**
KHC **Kasperske Hory 27.67 77** *e*P **P 13 06 20.6 -0.2**
KHC *e*pP pP 13 06 29.5 +5.6
KHC AMS AMS 13 16 40.0
comp=Z,500nm,19.9s
RJOB **Jochberg 27.71 80** *e*P **P 13 06 21.2 0.0**
comp=Z,8.0nm,1.1s,mb4.3
PVCC **Panska Ves 27.81 74** AMS AMS 13 20 10.0
comp=Z,200nm,13.9s
GEC2 **GERESS Array S 27.85 77** *e*P **P 13 06 22.8 +0.4**
GEC2 pmax pmax
comp=Z,14nm,1.2s,mb4.5
GEC2 **GERESS Array S 27.85 77** *e*P **P 13 06 22.8 +0.4**
comp=Z,14nm,1.2s,mb4.5
GERES **GERESS Array B 27.85 77** P **P 13 06 21.8 -0.6**
comp=Z,3.2nm,0.8s,mb4.0,baz=291,slow=8.0,SNR=28
GERES LR LR 13 17 23.0
comp=Z,396nm,18.3s,MS4.0,baz=292,slow=36
PRU **Pruhonice 27.97 75** *e*P **P 13 06 24.1 +0.7**
PRU AMS AMS 13 16 00.0
comp=Z,400nm,20.4s
UPC **Upice 28.68 73** *e*P **P 13 06 29.6 -0.2**
TREC **Trest 28.78 76** *e*P **P 13 06 30.6 -0.1**
TREC AMS AMS 13 17 20.0
comp=Z,500nm,18.2s
DPC **Dobruska-Polom 28.92 73** *e*P **P 13 06 32.1 +0.1**
DPC AMS AMS 13 21 20.0
comp=Z,300nm,13.8s
VRAC **Vranov 29.45 75** P **P 13 06 36.8 +0.1**
comp=Z,0.8nm,0.3s,mb3.9,baz=112,slow=4.0,SNR=5.2
VRAC LR LR 13 18 15.8
comp=Z,463nm,19.1s,MS4.1,baz=294,slow=36
SOKA **Soboth 29.54 81**⇑ *i*P **P 13 06 36.7 -0.7**
comp=Z,11nm,1.0s,mb4.5
MORC **Moravsky Berou 29.86 74**⇓ *i*P **P 13 06 41.0 +0.7**
MORC **Moravsky Berou 29.86 74** *e*P **P 13 06 40.5 +0.2**
MORC **Moravsky Berou 29.86 74** *e*P **P 13 06 40.5 +0.2**
SOP **Sopron 30.06 78**⇑ *e*P **P 13 06 40.1 -2.0**
ZST **Bratislava 30.19 77** *e*P **P 13 06 43.4 +0.2**
ZST pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
ZST **Bratislava 30.19 77** *e*P **P 13 06 43.4 +0.2**
comp=Z,6.6nm,0.9s,mb4.4
OKC **Ostrava-Krasne 30.20 73** *e*P **P 13 06 43.8 +0.5**
MODS **Modra-Piesok 30.23 76** *e*P **P 13 06 44.6 +1.1**
OJC **Ojcow 31.06 72** *e*P **P 13 06 51.9 +1.0**
ARCES **ARCESS Array B 31.55 34** P **P 13 06 55.5 +0.5**
comp=Z,3.8nm,1.0s,mb4.2,baz=75,slow=9.3,SNR=7.8
ARCES PcP PcP 13 09 46.4 -0.8
comp=Z,1.5nm,0.9s,baz=318,slow=1.6,SNR=5.6
ARCES LR LR 13 16 55.6
comp=Z,91nm,19.7s,MS3.5,baz=222,slow=31
ARCES **ARCESS Array B 31.55 34** P **P 13 06 55.5 +0.6**
ARCES 13 09 46.4
ARCES **ARCESS Array B 31.55 34** PcP PcP 13 09 46.3 -0.8
KAF **Kangasniemi 31.83 48** *e*p **P 13 06 49.6 -7.9**
SPITS **Spitsbergen Ar 31.89 16** P **P 13 06 59.0 +1.1**
comp=Z,10nm,0.9s,mb4.7,baz=268,slow=14,SNR=5.5
KEST **Kesra 31.95 103** P **P 13 06 58.4 -0.4**
comp=Z,3.5nm,1.0s,mb4.1,baz=275,slow=11,SNR=6.1
KEST LR LR 13 18 55.6
comp=Z,96nm,18.0s,MS3.5,baz=54,slow=35
PKSM **Moragy 31.98 79**⇑ *i*P **P 13 06 57.8 -1.2**
PSZ **Piszkesteto 32.01 76**⇓ *e*P **P 13 07 00.4 +1.1**
PSZ **Piszkesteto 32.01 76**⇓ *i*P **P 13 07 00.4 +1.1**
PSZ **Piszkesteto 32.01 76** *e*P **P 13 07 00.4 +1.2**
KECS **Kecovo 32.14 75** *e*P **P 13 06 58.9 -1.5**
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
KECS **Kecovo 32.14 75** *e*P **P 13 06 58.9 -1.5**
comp=Z,3.8nm,1.0s,mb4.2
CRVS **Cervenica-Dubn 32.56 73** *e*P **P 13 07 04.6 +0.5**
VSU **Vasula 32.62 55**⇑ *i*P **P 13 07 04.8 +0.4**
KOLS **Kolonicke sedl 33.04 73** *e*P **P 13 07 08.8 +0.5**
UZH **Uzhgorod 33.18 73** *e*P **P 13 07 09.2 -0.2**
UZH *i* 13 07 15.6
UZH *e*S **S 13 12 24.6 -4.2**
UZH MLR MLR
comp=Z,1μm,12.0s,MS4.8
LVV **L'vov 33.74 71** *e*P **P 13 07 13.3 -1.0**
LVV MLR MLR
comp=Z,200nm,16.0s,MS3.9
JOF **Joensuu 34.03 46** *e*p **P 13 07 13.5 -3.2**
comp=Z,2.6nm,0.5s,mb4.4
DRGR **34.23 76**⇑ *i*P **P 13 07 19.8 +1.2**
BURAR **Bucovina Array 35.38 73**⇓ *i*P **P 13 07 29.0 +0.4**
AKASG **Malin Array Be 36.44 67** P **P 13 07 35.2 -2.3**
comp=Z,7.2nm,1.0s,mb4.6,baz=292,slow=8.7,SNR=18
AKASG PcP PcP 13 09 59.5 -1.9
comp=Z,0.1nm,0.2s,baz=291,slow=3.5,SNR=4.1
AKASG LR LR 13 23 11.4
comp=Z,307nm,18.4s,MS4.1,baz=305,slow=37
AKASG **Malin Array Be 36.44 67** P **P 13 07 35.2 -2.3**
AKASG 13 09 59.5
AKASG **Malin Array Be 36.44 67** PcP PcP 13 09 59.5 -1.9
AKASG **Malin Array Be 36.44 67** P **P 13 07 35.2 -2.3**
AKASG PcP PcP 13 09 59.5 -1.9
AKASG LR LR 13 23 11.4
MLR **Muntele Rosu 36.83 76**⇑ *i*P **P 13 07 41.0 +0.1**
ACSO **Alum Creek Sta 37.87 275** *e*P **P 13 07 50.7 +0.9**
comp=Z,19nm,1.0s,mb4.8
ACSO **Alum Creek Sta 37.87 275** *e*P **P 13 07 50.7 +0.9**
comp=Z,19nm,1.0s,mb4.8
KLMR **Klimovskoe 38.28 48** *e*P **P 13 07 51.9 -1.1**
OBN **Obninsk 38.77 57** *e*P **P 13 07 57.2 -0.1**
OBN pmax pmax
comp=Z,20nm,1.1s,mb4.8
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.0
OBN **Obninsk 38.77 57** *e*P **P 13 07 57.2 -0.1**
comp=Z,200nm,16.0s
ULM **Lac du Bonnet 40.54 296** P **P 13 08 10.6 -1.5**
comp=Z,3.3nm,0.7s,mb4.1,baz=80,slow=11,SNR=7.0
ULM LR LR 13 22 50.4
comp=Z,267nm,19.4s,MS4.1,baz=54,slow=33
CPCT **Cooper Cave 41.72 270** *e*P **P 13 08 24.8 +2.9**
VRSR **Storozhevoye 41.87 62** *e*P **P 13 08 22.4 -0.6**
VRSR pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
VRSR pmax pmax
comp=N,3.0nm,0.6s
VRSR pmax pmax
comp=E,6.0nm,1.0s
VRSR **Storozhevoye 41.87 62** *e*P **P 13 08 22.4 -0.6**
comp=E,3.0nm,0.6s,mb4.1
FVM **French Village 43.87 277** *e*P **P 13 08 38.8 -0.5**
FVM pmax pmax
comp=Z,15nm,1.0s,mb4.7
FVM **French Village 43.87 277** *e*P **P 13 08 38.8 -0.5**
comp=Z,15nm,1.0s,mb4.7
FVM **French Village 43.87 277** *e*P **P 13 08 38.8 -0.5**
comp=Z,15nm,1.0s,mb4.7
ECSD **EROS,Sioux Fal 44.32 288** *e*P **P 13 08 43.8 +0.9**
comp=Z,10nm,1.1s,mb4.5
ECSD **EROS,Sioux Fal 44.32 288** *e*P **P 13 08 43.8 +0.9**
comp=Z,10nm,1.1s,mb4.5
CCM **Cathedral Cave 44.33 278** *e*P **P 13 08 42.3 -0.8**
CCM pmax pmax
comp=Z,17nm,1.0s,mb4.7
CCM **Cathedral Cave 44.33 278** *e*P **P 13 08 42.3 -0.8**
comp=Z,17nm,1.0s,mb4.7
CCM **Cathedral Cave 44.33 278** *e*P **P 13 08 42.3 -0.7**
comp=Z,17nm,1.0s,mb4.7
YKA **Yellowknife Ar 44.41 319** P **P 13 08 43.1 -0.2**
comp=Z,1.9nm,0.7s,mb4.0,baz=56,slow=8.4,SNR=4.3
YKA LR LR 13 24 00.3
comp=Z,93nm,21.8s,MS3.7,baz=95,slow=32
TOA0 **Torodi Ar. Sit 45.68 134** *e*P **P 13 08 51.0 -2.9**
TOA0 **Torodi Ar. Sit 45.68 134** *e*P **P 13 08 51.0 -2.9**
TORD **Torodi Ar. Bea 45.68 134** P **P 13 08 51.4 -2.5**
comp=Z,6.0nm,0.9s,mb4.5,baz=335,slow=8.1,SNR=17
TORD LR LR 13 25 12.6
comp=Z,154nm,18.1s,MS4.0,baz=160,slow=32
UALR **University of 47.08 275** *e*P **P 13 09 09.2 +4.4**
KIV **Kislovodsk 47.72 69** *e*P **P 13 09 07.3 -2.3**
KIV pmax pmax
comp=Z,17nm,1.4s,mb4.9
KIV MLR MLR
comp=Z,300nm,19.0s,MS4.3
KIV **Kislovodsk 47.72 69** *e*P **P 13 09 07.3 -2.3**
comp=Z,300nm,19.0s
MIAR **Mount Ida 48.00 276** *e*P **P 13 09 14.0 +2.0**
INK **Inuvik 48.31 331** *e*P **P 13 09 13.8 -0.1**
INK **Inuvik 48.31 331** *e*P **P 13 09 13.8 -0.1**
MALT **Malatya 48.54 77** *e*P **P 13 09 15.9 -0.2**
MALT pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MALT **Malatya 48.54 77** *e*P **P 13 09 15.9 -0.2**
comp=Z,4.0nm,0.9s,mb4.5
MALT **Malatya 48.54 77** *e*P **P 13 09 15.9 -0.2**
comp=Z,4.3nm,0.9s,mb4.5
DBIC **Dimbokro 48.91 146** P **P 13 09 16.8 -2.4**
comp=Z,4.2nm,0.8s,mb4.5,baz=284,slow=8.3,SNR=2.6
DBIC LR LR 13 27 43.5
comp=Z,162nm,19.6s,MS4.0,baz=310,slow=34
DBIC **Dimbokro 48.91 146** P **P 13 09 16.8 -2.4**
DBIC LR LR 13 27 43.5
ARU **Arti 49.13 47** *d i*P **P 13 09 20.1 -0.2**
ARU *e* 13 11 12.0
ARU *e*S **S 13 16 29.1 +4.0**
ARU SS SS 13 19 54.9 -0.7
ARU pmax pmax
comp=Z,26nm,1.2s,mb5.1
ARU **Arti 49.13 47** *e*P **P 13 09 20.8 +0.5**
ARU **Arti 49.13 47** *e*P **P 13 09 20.8 +0.5**
EGMT **Eagleton 49.47 300**⇓ P **P 13 09 23.4 +0.3**
baz=49
EGMT **Eagleton 49.47 300** *e*P **P 13 09 23.6 +0.5**
comp=Z,14nm,1.1s,mb4.9
EGMT **Eagleton 49.47 300** *e*P **P 13 09 23.6 +0.5**
comp=Z,14nm,1.1s,mb4.9
PHWY **Pilot Hill 51.03 290** *e*P **P 13 09 35.1 +0.1**
PHWY **Pilot Hill 51.03 290** *e*P **P 13 09 35.1 +0.1**
WALA **Waterton Lakes 51.11 303** *e*P **P 13 09 35.7 +0.2**
WALA **Waterton Lakes 51.11 303** *e*P **P 13 09 35.7 +0.2**
A13A **Flathead Natio 51.45 303**⇓ P **P 13 09 38.3 +0.3**
baz=51
D15A **Lincoln 51.56 300**⇓ P **P 13 09 38.9 0.0**
baz=51,SNR=12
C14A **Swan Lake 51.79 301**⇓ P **P 13 09 40.7 +0.1**
baz=52
B13A **Whitefish 51.81 302**⇑ P **P 13 09 40.9 +0.2**
baz=52
RWWY **Rawlins 51.83 292** *e*P **P 13 09 40.6 -0.3**
comp=Z,12nm,0.9s,mb4.8
RWWY **Rawlins 51.83 292** *e*P **P 13 09 40.6 -0.3**
comp=Z,12nm,0.9s,mb4.8
BOZ **Bozeman (W) 51.92 298**⇑ P **P 13 09 41.9 +0.4**
baz=52
E15A **Deer Lodge 52.00 299**⇑ P **P 13 09 40.4 -1.8**
baz=52
CHMT **Chamberlain Mo 52.04 300** *e*P **P 13 09 42.5 0.0**
CHMT **Chamberlain Mo 52.04 300** *e*P **P 13 09 42.5 +0.1**
ISCO **Idaho Springs 52.06 289** *e*P **P 13 09 48.0 +5.3**
ISCO pmax pmax
comp=Z,23nm,2.2s,mb4.7
ISCO **Idaho Springs 52.06 289** *e*P **P 13 09 48.0 +5.3**
comp=Z,23nm,2.2s,mb4.7
A11A **Hall Mountain, 52.46 304**⇑ P **P 13 09 45.6 0.0**
baz=52,SNR=5.7
PDAR **Pinedale Array 52.52 294** P **P 13 09 44.9 -1.2**
comp=Z,1.6nm,0.6s,mb4.2,baz=61,slow=7.7,SNR=14
PDAR LR LR 13 28 41.8
comp=Z,249nm,22.0s,MS4.2,baz=66,slow=32
PDAR **Pinedale Array 52.52 294** P **P 13 09 44.8 -1.3**
MOOW **Moose Ponds 52.59 296** *e*P **P 13 09 46.6 0.0**
MOOW **Moose Ponds 52.59 296** *e*P **P 13 09 46.6 +0.1**
DAWY **Dawson 52.82 329** *e*P **P 13 09 49.1 +1.1**
DAWY **Dawson 52.82 329** *e*P **P 13 09 49.1 +1.2**
AMTX **Amarillo 52.84 282** *e*P **P 13 09 49.6 +1.1**
E13A **Victor 52.84 300**⇓ P **P 13 09 48.3 -0.1**
baz=53
REDW **Red Top Meadow 52.89 295** *e*P **P 13 09 49.7 +0.9**
comp=Z,24nm,1.6s,mb4.9
REDW **Red Top Meadow 52.89 295** *e*P **P 13 09 49.7 +0.9**
comp=Z,24nm,1.6s,mb4.9
EGAK **Eagle 52.91 330** *e*P **P 13 09 48.1 -0.5**
comp=Z,8.9nm,1.0s,mb4.7
EGAK **Eagle 52.91 330** *e*P **P 13 09 48.1 -0.6**
comp=Z,8.9nm,1.0s,mb4.7
DLBC **Dease Lake 53.01 320** *e*P **P 13 09 51.1 +1.6**
DLBC **Dease Lake 53.01 320** *e*P **P 13 09 51.1 +1.6**
D12A **Red Ives Fores 53.09 302**⇓ P **P 13 09 49.6 -0.6**
baz=53
SMCO **Snowmass 53.27 289** *e*P **P 13 10 01.1 +9.4**
comp=Z,6.2nm,0.7s,mb4.7
SDCO **Great Sand Dun 53.31 287** *e*P **P 13 09 54.7 +2.7**
F13A **Darby 53.32 300**⇓ P **P 13 09 51.3 -0.6**
baz=53
A09A **Danville 53.61 305**⇓ P **P 13 09 53.9 -0.1**
baz=53
G13A **Cobalt 53.70 299**⇑ P **P 13 09 54.4 -0.3**
baz=54,SNR=5.6
N18A **Larsen Ranch, 53.71 292**⇓ P **P 13 09 54.7 -0.2**
baz=54
B09A **Rice 53.72 304**⇓ P **P 13 09 54.9 0.0**
baz=54,SNR=9.4
F12A **Elk City 53.85 300**⇑ P **P 13 09 55.3 -0.5**
baz=54
A08A **Turner Farm, O 53.97 305**⇓ P **P 13 09 56.4 -0.3**
baz=54
E11A **Bogner Ranch, 53.99 301**⇓ P **P 13 09 55.8 -1.1**
baz=54
F11A **Grangeville 54.25 301**⇓ P **P 13 09 58.0 -0.8**
baz=54
HYT **Haines Junctio 54.34 325** *e*P **P 13 09 59.3 +0.1**

HYT	Haines Junctio	54.34	325	eP	P	13 09 59.4 +0.2
B08A	Colville Reser	54.38	305	⇑P	P	13 09 59.1 -0.5
	baz=54,SNR=6.5					
SKAG	Skagway	54.45	323	eP	P	13 10 01.2 +1.2
A07A	Ashnola River,	54.48	306	⇓P	P	13 10 00.0 -0.4
	baz=54,SNR=8.0					
G11A	Walters Elk Ra	54.62	300	⇓P	P	13 10 01.0 -0.5
	baz=54,SNR=7.8					
JCT	Junction City	54.62	276	eP	P	13 10 03.4 +1.7
JCT				pmax	pmax	
	comp=Z,9.0nm,1.0s,mb4.8					
JCT	Junction City	54.62	276	eP	P	13 10 03.4 +1.7
	comp=Z,9.0nm,1.0s,mb4.8					
JCT	Junction City	54.62	276	eP	P	13 10 03.4 +1.7
	comp=Z,8.5nm,1.0s,mb4.7					
B07A	Winthrop	54.72	305	⇓P	P	13 10 02.1 0.0
	baz=54					
J13A	Cove Ranch, Pi	54.74	297	⇓P	P	13 10 02.9 +0.5
	baz=55					
COLA	College	54.87	333	iP	P	13 10 03.1 +0.1
P18A	Preston Nutter	54.92	292	⇓P	P	13 10 03.6 -0.1
	baz=55					
PV10	Paradox Valley	55.02	290	eP	P	13 10 04.3 -0.1
PV10	Paradox Valley	55.02	290	eP	P	13 10 04.3 -0.1
G10A	Bishop Farm, J	55.16	301	⇑P	P	13 10 04.3 -1.0
	baz=55,SNR=5.7					
C07A	Waterville	55.18	305	⇓P	P	13 10 04.8 -0.7
	baz=55,SNR=6.3					
Q18A	Rafter H Ranch	55.19	291	⇑P	P	13 10 05.3 -0.4
	baz=55,SNR=7.3					
J12A	Stokes Ranch,	55.35	298	⇑P	P	13 10 07.5 +0.7
	baz=55,SNR=5.2					
ETW	Entiat	55.38	305	eP	P	13 10 05.7 -1.2
ETW	Entiat	55.38	305	eP	P	13 10 05.7 -1.2
MVCO	Mesa Verde	55.46	288	⇓P	P	13 10 07.4 -0.3
	baz=55					
S19A	Harvey Farm, M	55.49	289	⇓P	P	13 10 07.6 -0.3
	baz=55,SNR=10					
R18A	Canyonlands Na	55.52	290	⇓P	P	13 10 07.6 -0.4
	baz=55					
G09A	Cove	55.52	301	⇓P	P	13 10 07.0 -0.9
	baz=55,SNR=6.0					
BMO	Blue Mountains	55.54	300	eP	P	13 10 07.5 -0.6
BMO	Blue Mountains	55.54	300	eP	P	13 10 07.5 -0.6
IMA2	Indian Mountai	55.57	336	eP	P	13 10 08.5 +0.5
IMA2	Indian Mountai	55.57	336	eP	P	13 10 08.5 +0.4
MFID	Camas Ranch	55.66	298	⇑P	P	13 10 08.5 -0.5
	baz=56					
ANMO	Albuquerque	55.73	285	eP	P	13 10 07.6 -2.0
D06A	Cle Elum	55.91	305	⇓P	P	13 10 10.9 +0.2
	baz=56					
R17A	Hanksville Air	55.98	291	⇑P	P	13 10 11.1 -0.2
	baz=56,SNR=11					
T19A	Beclabito	56.03	288	⇑P	P	13 10 11.1 -0.6
	baz=56					
S18A	Hurst Farm, Bl	56.04	290	⇓P	P	13 10 12.5 +0.7
	baz=56,SNR=9.1					
DUG	Dugway	56.04	294	eP	P	13 10 12.2 +0.4
DUG				pmax	pmax	
	comp=Z,7.0nm,1.0s,mb4.7					
DUG	Dugway	56.04	294	⇓P	P	13 10 11.8 0.0
	baz=56,SNR=5.9					
DUG	Dugway	56.04	294	eP	P	13 10 12.2 +0.4
	comp=Z,7.0nm,1.0s,mb4.7					
DUG	Dugway	56.04	294	eP	P	13 10 12.2 +0.4
	comp=Z,7.1nm,1.0s,mb4.7					
G08A	Pilot Rock	56.15	302	⇑P	P	13 10 11.4 -1.1
	baz=56					
BPAW	Bear Paw Mtn.	56.35	333	eP	P	13 10 13.5 -0.1
	comp=Z,7.5nm,1.2s,mb4.6					
BPAW	Bear Paw Mtn.	56.35	333	eP	P	13 10 13.5 -0.2
	comp=Z,7.5nm,1.2s,mb4.6					
BNM	Barren Site	56.37	284	eP	P	13 10 14.5 +0.3
BNM	Barren Site	56.37	284	eP	P	13 10 14.5 +0.3
L11A	Cat Creek Ranc	56.43	297	⇓P	P	13 10 15.2 +0.7
	baz=56,SNR=5.2					
G07A	Ruggs Ranch, H	56.54	302	⇓P	P	13 10 14.4 -0.9
	baz=56					
BRVK	Borovoye	56.56	45	eP	P	13 10 15.2 0.0
BRVK				pmax	pmax	
	comp=Z,9.0nm,1.1s,mb4.7					
BRVK	Borovoye	56.56	45	eP	P	13 10 15.2 0.0
	comp=Z,9.0nm,1.1s,mb4.7					
BRVK	Borovoye	56.56	45	eP	P	13 10 15.2 0.0
	comp=Z,9.2nm,1.1s,mb4.7					
TRF	Thorofare Moun	56.65	332	eP	P	13 10 15.8 +0.1
	comp=Z,12nm,1.2s,mb4.8					
TRF	Thorofare Moun	56.65	332	eP	P	13 10 15.8 0.0
	comp=Z,12nm,1.2s,mb4.8					
TIXI	Tiksi	56.66	8	⇓iP	P	13 10 16.9 +1.2
TIXI				pmax	pmax	
	comp=Z,35nm,1.5s,mb5.2					
TIXI	Tiksi	56.66	8	iP	P	13 10 16.9 +1.2
	comp=Z,35nm,1.5s,mb5.2					
BMRM	Bremner River	56.72	328	eP	P	13 10 15.4 -0.8
BMRM	Bremner River	56.72	328	eP	P	13 10 15.4 -0.8
KTH	Kantishna Hill	56.75	333	eP	P	13 10 16.1 -0.4
	comp=Z,18nm,1.1s,mb5.0					
KTH	Kantishna Hill	56.75	333	eP	P	13 10 16.1 -0.4
	comp=Z,18nm,1.1s,mb5.0					
U18A	Rough Rock, Ch	56.81	288	⇑P	P	13 10 17.5 +0.3
	baz=57					
CHUM	Lake Minchumin	56.90	334	eP	P	13 10 17.3 -0.2
	comp=Z,5.7nm,1.1s,mb4.5					
CHUM	Lake Minchumin	56.90	334	eP	P	13 10 17.3 -0.2
	comp=Z,5.7nm,1.1s,mb4.5					
H07A	Lands Inn, Kim	56.93	302	⇓P	P	13 10 17.3 -0.7
	baz=57					
M11A	Holland Ranch,	56.93	296	⇑P	P	13 10 17.2 -0.8
	baz=57					
S16A	Weppner Ranch,	56.97	291	⇑P	P	13 10 17.7 -0.7
	baz=57					
O12A	Currie	57.11	295	⇑P	P	13 10 19.3 0.0
	baz=57					
Q14A	Sevier Lake (B	57.11	293	⇓P	P	13 10 19.1 -0.2
	baz=57,SNR=5.5					
J08A	Circle Bar Ran	57.15	300	⇑P	P	13 10 19.5 -0.1
	baz=57					
K09A	Rome	57.17	299	⇑P	P	13 10 20.5 +0.7
	baz=57,SNR=13					
H06A	Lindquist Farm	57.25	302	⇓P	P	13 10 19.7 -0.6
	baz=57,SNR=5.3					
NLWA	Neilton Lookou	57.33	306	eP	P	13 10 22.3 +1.5
NLWA	Neilton Lookou	57.33	306	eP	P	13 10 22.3 +1.5
S15A	Panguitch	57.45	291	⇑P	P	13 10 22.3 +0.5
	baz=57					
K08A	Mann Creek Ran	57.57	299	⇓P	P	13 10 22.4 -0.2
	baz=57,SNR=5.8					
L09A	Wilkinson Ranc	57.59	298	⇑P	P	13 10 23.6 +0.9
	baz=57					
I06A	Prineville	57.71	301	⇓P	P	13 10 24.3 +0.7
	baz=58					
PMR	Palmer	57.71	330	eP	P	13 10 23.9 +0.6
PMR				pmax	pmax	
	comp=Z,26nm,1.4s,mb5.1					
PMR	Palmer	57.71	330	eP	P	13 10 23.9 +0.6
	comp=Z,26nm,1.4s,mb5.1					
PMR	Palmer	57.71	330	eP	P	13 10 23.9 +0.6
	comp=Z,26nm,1.4s,mb5.1					
O11A	Cowboy Ranch,	57.72	295	⇓P	P	13 10 24.5 +0.8
	baz=58					
TXAR	Lajitas Array	57.84	278	P	P	13 10 23.6 -1.0
	comp=Z,1.1nm,0.8s,mb4.0,baz=66,slow=6.4,SNR=8.5					
TXAR				LR	LR	13 34 37.0
	comp=Z,450nm,18.8s,MS4.6,baz=65,slow=35					
M09A	Marrel Ranch,	57.87	297	⇑P	P	13 10 25.4 +0.7
	baz=58					
ARUT	Antelope Range	58.01	292	eP	P	13 10 25.5 -0.2
ARUT	Antelope Range	58.01	292	eP	P	13 10 25.4 -0.3
R13A	O'Grain Ranch,	58.05	293	⇑P	P	13 10 26.0 -0.1
	baz=58					
Y19A	Nutrioso	58.10	286	P	P	13 10 27.6 +1.2
	baz=58,SNR=8.8					
X18A	Snowflake	58.13	287	⇓P	P	13 10 26.8 +0.2
	baz=58					
RC01	Rabbit Creek A	58.29	330	eP	P	13 10 27.1 -0.2
	comp=Z,4μm,1.2s					
RC01	Rabbit Creek A	58.29	330	eP	P	13 10 27.1 -0.2
	comp=Z,4μm,1.2s					
T14A	Hurricane	58.29	291	⇓P	P	13 10 27.3 -0.4
	baz=58					
N09A	Rock Creek Ran	58.29	297	⇑P	P	13 10 27.4 -0.2
	baz=58					
WUAZ	Wupatki	58.32	289	⇓P	P	13 10 28.5 +0.6
	baz=58					
WUAZ	Wupatki	58.32	289	eP	P	13 10 28.5 +0.6
	comp=Z,11nm,1.4s,mb4.7					
WUAZ	Wupatki	58.32	289	eP	P	13 10 28.5 +0.6
	comp=Z,11nm,1.4s,mb4.7					
S13A	Holt Ranch, En	58.39	292	⇓P	P	13 10 28.6 +0.2
	baz=58					
L07A	Adell	58.52	299	⇑P	P	13 10 28.5 -0.8
	baz=58					
V15A	Kaibab Nationa	58.59	289	⇑P	P	13 10 30.1 +0.3
	baz=58,SNR=5.8					
N08A	GE Springer Mi	58.68	297	⇑P	P	13 10 30.7 +0.3
	baz=58					
Y18A	Canyon Day Jun	58.69	286	P	P	13 10 31.5 +0.9
	baz=58,SNR=5.4					
J05A	Fort Rock	58.70	301	⇓P	P	13 10 31.2 +0.7
	baz=58,SNR=7.5					
U14A	Mt Trumbull	58.78	290	⇓P	P	13 10 31.0 -0.1
	baz=59					
X17A	Forest Lakes	58.78	287	⇑P	P	13 10 31.7 +0.5
	baz=59					
T13A	Saint George	58.80	291	⇓P	P	13 10 31.6 +0.3
	baz=59					
R11A	Troy Canyon, C	58.88	294	⇑P	P	13 10 31.2 -0.6
	baz=59					
ROSC	El Rosal	59.05	234	LR	LR	13 31 53.2
	comp=Z,164nm,21.4s,MS4.1,baz=194,slow=32					
X16A	Lo Mia Camp, P	59.10	288	⇑P	P	13 10 34.5 +1.0
	baz=59					
MOD	Modoc	59.13	300	⇑P	P	13 10 33.7 +0.2
	baz=59					
MOD	Modoc	59.13	300	eP	P	13 10 33.9 +0.4
MOD	Modoc	59.13	300	eP	P	13 10 33.9 +0.4
U13A	Pakoon Wash	59.24	291	⇓P	P	13 10 34.7 +0.3
	baz=59,SNR=5.5					
O07A	Toulon	59.52	297	⇓P	P	13 10 36.0 -0.2
	baz=59					
X15A	Humboldt	59.54	288	⇓P	P	13 10 37.1 +0.7
	baz=59,SNR=5.4					
V13A	Grand Canyon W	59.64	291	⇓P	P	13 10 36.8 -0.3
	baz=60,SNR=5.3					
N06A	Buffalo Meadow	59.65	298	⇑P	P	13 10 37.4 +0.3
	baz=60					
S10A	Tonopah Range,	59.75	294	⇓P	P	13 10 38.1 +0.2
	baz=60,SNR=5.8					
R09A	Tonopah	59.80	295	⇑P	P	13 10 38.4 +0.2
	baz=60					
Q08A	Gabbs	59.87	296	⇑P	P	13 10 38.1 -0.5
	baz=60,SNR=6.5					
319A	Douglas	59.89	284	⇓P	P	13 10 39.1 +0.2
	baz=60					
117A	Oracle	59.95	286	⇓P	P	13 10 39.2 -0.1
	baz=60,SNR=5.2					
Y15A	Casa Rosa Ranc	59.96	288	⇑P	P	13 10 39.5 +0.1
	baz=60					
O06A	Flanigan	60.05	298	⇑P	P	13 10 39.6 -0.2
	baz=60,SNR=7.0					
S09A	Goldfield	60.25	294	⇓P	P	13 10 40.6 -0.6
	baz=60,SNR=5.2					
NVAR	Mina Array Bea	60.38	295	P	P	13 10 41.7 -0.5
	comp=Z,0.6nm,0.6s,mb3.8,baz=56,slow=6.3,SNR=6.7					
NVAR	Mina Array Bea	60.38	295	P	P	13 10 41.7 -0.5
BILL	Bilibino	60.59	353	⇑iP	P	13 10 43.5 +0.4
BILL				pmax	pmax	
	comp=Z,6.0nm,0.4s,mb5.1					
BILL	Bilibino	60.59	353	iP	P	13 10 43.5 +0.4
	comp=Z,6.0nm,0.4s,mb5.1					
NVS	Novosibirsk	60.70	38	iP	P	13 10 44.3 +0.2
NVS				pmax	pmax	
	comp=Z,7.0nm,1.4s,mb4.6					
NVS				pmax	pmax	
	comp=N,6.0nm,1.6s					
NVS	Novosibirsk	60.70	38	iP	P	13 10 44.3 +0.2
	comp=N,6.0nm,1.6s,mb4.5					
PDMCI	Parker Dam,Lak	60.80	289	⇑P	P	13 10 45.1 0.0
	baz=61					
P05C	Yuba Gap, Truc	61.08	298	⇓P	P	13 10 46.7 -0.1
	baz=61					
IRM	Iron Mountain	61.50	290	⇑P	P	13 10 50.0 +0.2
	baz=61,SNR=5.4					
MPMC	Manual Prospec	61.55	293	P	P	13 10 49.7 -0.5
	baz=61,SNR=5.9					
S06C	San Francisco	61.64	296	⇓P	P	13 10 51.4 +0.7
	baz=62,SNR=6.8					
GSC	Goldstone	61.68	292	eP	P	13 10 47.0 -4.0
GSC				pmax	pmax	
	comp=Z,7.0nm,1.1s,mb4.7					
GSC	Goldstone	61.68	292	eP	P	13 10 47.0 -4.0
	comp=Z,7.0nm,1.1s,mb4.7					
KDAK	Kodiak Island	61.79	329	eP	P	13 10 51.5 +0.1
KDAK				pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.9					
KDAK	Kodiak Island	61.79	329	eP	P	13 10 51.5 +0.1
	comp=Z,10.0nm,1.1s,mb4.9					
KDAK	Kodiak Island	61.79	329	eP	P	13 10 51.5 +0.2
	comp=Z,9.8nm,1.1s,mb4.8					
KURK	Kurchatov	61.88	43	eP	P	13 10 51.2 -0.9
KURK	Kurchatov	61.88	43	eP	P	13 10 51.2 -0.9
ZAA0	Zalesovo Array	61.98	37	eP	P	13 10 53.3 +0.5
ZAL	Zalesovo	61.98	37	P	P	13 10 52.9 +0.1
ZALV	Zalesovo Beam	61.98	37	P	P	13 10 52.9 +0.1
	comp=Z,1.6nm,0.4s,mb4.5,baz=318,slow=7.9,SNR=7.6					
ZALV				LR	LR	13 39 15.0
	comp=Z,49nm,19.8s,MS3.7,baz=58,slow=37					
HELL	Mitchell Peak	62.00	294	⇑P	P	13 10 53.4 +0.2
	baz=62					
BC3	Big Chuckw Mtn	62.03	290	⇓P	P	13 10 53.6 +0.2
	baz=62					
GLA	Glamis	62.08	289	eP	P	13 10 54.1 +0.4
GLA				pmax	pmax	
	comp=Z,12nm,1.4s,mb4.8					
GLA	Glamis	62.08	289	eP	P	13 10 54.1 +0.4
	comp=Z,12nm,1.4s,mb4.8					
GLA	Glamis	62.08	289	eP	P	13 10 54.1 +0.4
	comp=Z,12nm,1.4s,mb4.8					
BELC	Belle Mtn.	62.11	290	⇓P	P	13 10 53.4 -0.5
	baz=62,SNR=7.5					
T06C	Millerton Lake	62.17	295	⇓P	P	13 10 53.8 -0.4
	baz=62					
ISA	Isabella	62.40	293	⇓P	P	13 10 56.4 +0.6
	baz=62,SNR=5.4					
ISA	Isabella	62.40	293	eP	P	13 10 56.7 +0.9
ISA	Isabella	62.40	293	eP	P	13 10 56.6 +0.8
PFO	Pinyon Flat Ob	62.66	290	eP	P	13 10 58.2 +0.6
PFO	Pinyon Flat Ob	62.66	290	eP	P	13 10 58.2 +0.6
KRAR	Krasnoyarsk	63.26	32	⇑iP	P	13 11 01.8 +0.6
KRAR				pmax	pmax	
	comp=Z,18nm,0.6s,mb5.4					
KRAR	Krasnoyarsk	63.26	32	iP	P	13 11 01.8 +0.6
	comp=Z,18nm,0.6s,mb5.4					
BAR	Barrett	63.44	290	eP	P	13 11 03.3 +0.5
BAR	Barrett	63.44	290	eP	P	13 11 03.3 +0.4
CHGN	Chignik	64.83	331	eP	P	13 11 11.4 -0.2
CHGN	Chignik	64.83	331	eP	P	13 11 11.4 -0.2
EKS2	Erkin-Say	65.57	52	eP	P	13 11 17.1 +0.5
	comp=Z,7.1nm,0.9s,mb4.7					
EKS2	Erkin-Say	65.57	52	eP	P	13 11 17.1 +0.5
	comp=Z,7.1nm,0.9s,mb4.7					
YAK	Yakutsk	66.08	10	eP	P	13 11 18.7 -0.9
YAK				pmax	pmax	
	comp=Z,10.0nm,1.0s,mb4.8					
YAK				pmax	pmax	
	comp=N,7.0nm,1.2s					
YAK				pmax	pmax	
	comp=E,6.0nm,1.6s					
YAK	Yakutsk	66.08	10	eP	P	13 11 18.7 -0.9
	comp=E,7.0nm,1.2s,mb4.6					
SDPT	Sand Point	66.26	332	eP	P	13 11 20.2 -0.6
	comp=E,40nm,0.8s,mb5.5					
TKM2	Tokmak 2	66.27	51	eP	P	13 11 22.1 +1.0
TKM2				pmax	pmax	
	comp=Z,7.0nm,1.2s,mb4.6					
TKM2	Tokmak 2	66.27	51	eP	P	13 11 22.1 +1.0
	comp=Z,7.0nm,1.2s,mb4.6					
TKM2	Tokmak 2	66.27	51	eP	P	13 11 22.1 +1.0
	comp=Z,7.5nm,1.2s,mb4.6					
MK31	Makanchi Array	66.43	44	eP	P	13 11 21.8 -0.2
MK31	Makanchi Array	66.43	44	eP	P	13 11 21.8 -0.2
MKAR	Makanchi Array	66.43	44	P	P	13 11 21.6 -0.4
	comp=Z,1.3nm,0.6s,mb4.2,baz=324,slow=5.3,SNR=15					
MKAR				LR	LR	13 41 07.7
	comp=Z,109nm,19.0s,MS4.1,baz=326,slow=37					
BOD	Bodaibo	67.51	20	⇓iP	P	13 11 27.9 -0.8
BOD				pmax	pmax	
	comp=Z,6.0nm,1.2s,mb4.5					
BOD	Bodaibo	67.51	20	iP	P	13 11 27.9 -0.8
	comp=Z,6.0nm,1.2s,mb4.5					
HVS	Khovu-Aksy	67.52	35	⇑iP	P	13 11 30.0 +1.1
HVS				pmax	pmax	
	comp=Z,37nm,1.3s,mb5.2					
MOY	Mondy	69.53	30	eP	P	13 11 43.0 +1.5
WMQ	Urumqi	71.12	43	eP	P	13 11 53.3 +2.0
WMQ				AP	pP	13 11 58.0 +3.4
WMQ				XP	sP	13 12 00.3 +4.5
WMQ				PCP	PcP	13 12 13.4 +2.0
WMQ				PP	PP	13 14 33.9 +5.6
WMQ				AMB	AMB	
	comp=Z,28nm,0.6s,mb5.4					
WMQ				LR	LR	
	comp=N,125nm,18.4s,MS4.3					
WMQ				LR	LR	
	comp=E,89nm,19.4s,MS4.3					
WMQ				LR	LR	
	comp=Z,112nm,19.0s,MS4.1					
ZAK	Zakamensk	71.37	30	eP	P	13 11 53.0 +0.3
ZAK				pmax	pmax	
	comp=Z,2.0nm,1.3s,mb3.9					
ZAK	Zakamensk	71.37	30	eP	P	13 11 53.0 +0.3
	comp=Z,2.0nm,1.3s,mb3.9					
SONM	Songino Array	74.58	29	P	P	13 12 12.3 +0.5
	comp=Z,4.2nm,1.1s,mb4.3,baz=328,slow=5.8,SNR=19					
SONM				LR	LR	13 47 27.4
	comp=Z,72nm,21.4s,MS3.9,baz=149,slow=38					
SONM	Songino Array	74.58	29	P	P	13 12 12.3 +0.5
SONM				LR	LR	13 47 27.4
PETK	Petropavlovsk-	76.00	355	P	P	13 12 19.3 -0.5
	comp=Z,1.2nm,0.8s,mb3.9,baz=51,slow=5.9,SNR=4.0					
PETK				LR	LR	13 45 52.6
	comp=Z,37nm,19.4s,MS3.7,baz=360,slow=36					
KLR	Kul'dur	78.86	12	eP	P	13 12 30.2 -5.7
GTA	Gaotai	79.74	37	eP	P	13 12 41.1 +0.2
GTA				AP	pP	13 12 45.2 +1.0
GTA				XP	sP	13 12 48.6 +3.2
GTA				AMB	AMB	
	comp=Z,5.0nm,1.9s,mb4.1					
CPUP	Villa Florida	80.77	205	P	P	13 12 43.6 -2.8
	comp=Z,1.9nm,0.7s,mb4.2,baz=4.0,slow=4.9,SNR=4.8					
CPUP				LR	LR	13 47 00.5
	comp=Z,69nm,18.5s,MS4.0,baz=176,slow=35					
HHC	Hu-ho-hao-te	82.47	28	eP	P	13 12 54.9 -0.5
HHC				AP	pP	13 12 59.8 +1.1
HHC				XP	sP	13 13 02.0 +2.1
HHC				PP	PP	13 16 05.1 +1.4
HHC				S	S	13 23 07.2 -4.5
HHC				SKS		13 23 11.0
HHC				XS	sS	13 23 16.7 -0.5
HHC				SS	SS	13 28 31.2 0.0
HHC				AMB	AMB	
	comp=Z,17nm,0.9s,mb5.0					
HHC				AMB	AMB	
	comp=Z,176nm,4.5s					
HHC				LR	LR	
	comp=Z,104nm,16.7s,MS4.3					
MDJ	Mudanjiang	83.05	15	P	P	13 12 57.2 -1.2
MDJ				AP	pP	13 13 00.4 -1.3
MDJ				XP	sP	13 13 01.8 -1.1
MDJ				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.9					
MDJ				AMB	AMB	
	comp=Z,126nm,4.4s					
CN2	Changchun	83.11	18	eP	P	13 12 58.6 -0.1
CN2				eS	S	13 23 15.6 -2.6
CN2				AMB	AMB	
	comp=Z,10.0nm,0.9s,mb4.8					
CN2				AMB	AMB	
	comp=Z,200nm,4.0s					
CD2	Chengdu	88.73	38	eP	P	13 13 26.9 +0.2
CD2				AP	pP	13 13 31.7 +1.6
CD2				XP	sP	13 13 34.2 +2.9
CD2				PP	PP	13 16 57.8 +3.1
CD2				SKS		13 23 53.0
CD2				S	S	13 24 10.8 -2.9
CD2				XS	sS	13 24 17.9 -1.3
CD2				SS	SS	13 30 03.2 -0.5
CD2				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb5.2					
CD2				AMB	AMB	
	comp=Z,30nm,5.8s					
KSRS	Korea Array	89.72	17	P	P	13 13 30.4 -0.9
	comp=Z,1.1nm,0.7s,mb4.3,baz=347,slow=5.8,SNR=4.1					
BOSA	Boshof	93.03	134	LR	LR	13 55 25.6
	comp=Z,131nm,20.6s,MS4.4,baz=141,slow=36					
KMI	Kunming	93.44	42	P	P	13 13 49.3 +0.6
KMI				AP	pP	13 13 52.1 +0.1
KMI				XP	sP	13 13 53.3 +0.1
KMI				PP	PP	13 17 35.8 +3.7
KMI				S	S	13 24 53.1 -3.6
KMI				SS	SS	13 31 10.8 -1.0
KMI				AMB	AMB	
	comp=Z,3.0nm,0.7s,mb4.8					
KMI				AMB	AMB	
	comp=Z,219nm,4.2s					
GYA	Guiyang	93.84	38	eP	P	13 13 51.2 +0.7
GYA				PP	PP	13 17 38.4 +3.2
GYA				SKS		13 24 23.7
GYA				S	S	13 24 56.0 -4.2
GYA				SS	SS	13 31 18.7 +1.2
GYA				AMB	AMB	
	comp=Z,10.0nm,1.0s,mb5.2					
GYA				AMB	AMB	
	comp=Z,90nm,5.2s					
CMAR	Chiang Mai Arr	97.56	48	LR	LR	14 02 46.5
	comp=Z,95nm,20.8s,MS4.3,baz=138,slow=38					
PLCA	Paso Flores	98.07	210	LR	LR	13 57 11.5
	comp=Z,85nm,18.9s,MS4.3,baz=28,slow=35					
WRAB	Tennant Creek	146.54	28	ePKP2	PKPab	13 20 13.4 -2.1
WRA	Warramunga Arr	146.55	28	PKPbc	PKPbc	13 20 13.3 -1.2
	comp=Z,9.4nm,0.8s,baz=344,slow=3.4,SNR=87					
WB2	Warramunga Arr	146.55	28	⇓iP	PKPdf	13 20 12.8 -0.3
ASAR	Alice Springs	149.91	31	PKP	PKPdf	13 20 16.2 -2.2
	comp=Z,0.8nm,0.9s,baz=16,slow=2.6,SNR=5.2					
ASAR				PKPbc	PKPbc	13 20 22.0 -1.3
	comp=Z,7.9nm,0.6s,baz=6.5,slow=2.0,SNR=153					
ASAR	Alice Springs	149.91	31	PKIKP	PKPdf	13 20 16.2 -2.3
VNDA	Vanda	153.08	186	PKP	PKPdf	13 20 20.6 -1.1
	comp=Z,1.3nm,1.1s,baz=239,slow=2.1,SNR=4.3					
VNDA				PKPbc	PKPbc	13 20 28.1 -0.9
	comp=Z,4.1nm,0.8s,baz=254,slow=2.5,SNR=27					
VNDA	Vanda	153.08	186	PKIKP	PKPdf	13 20 20.5 -1.2
STKA	Stephens Creek	159.82	21	PKPab	PKPab	13 21 09.6 -1.1
	comp=Z,1.7nm,0.7s,baz=341,slow=12,SNR=3.2					

PRU ***11*** *13:19:15.1,4395N×1735E,h0km*
PDG ***11*** *13:19:17.6±0.3,44.18N×1750E,h6km±1km,MD3.5/1,*
ML3.3/9,Error ellipse: s-maj=1.5km s-min=2.8km az=0.0
BEO ***11*** *13:19:17.9±0.9,44.34N×1744E,ML3.0/4*
CSEM ***11*** *13:19:18.4±0.2,44.31N×1746E,h2km,ML3.3/9,Error*
ellipse: s-maj=5.6km s-min=3.0km az=45.0
ISCJB ***11*** *13:19:18.6±0.3,44.26N±002×1755E±003,h10km,Error*
*ellipse: s-maj=3.9km s-min=1.9km az

BOJS
comp=Z,40nm,0.4s
BOJS Bojanci 2.05 309 Pn **Pn 13 19 54.0 -0.1**
BOJS *i* Sn **Sn 13 20 22.2 +1.9**
PKSM Moragy 2.12 21⇑*e*Pn **Pn 13 19 55.2 +0.1**
BEO Beograd 2.19 74 *e*Pn **Pn 13 19 56.6 +0.6**
BEO *e*Sg **Sg 13 20 27.4 -1.3**
BUM Brajici-Budva 2.19 152⇓*i*Pn **Pn 13 19 54.9 -1.1**
BUM *e*Sn **Sn 13 20 23.7 +0.1**
BEY Berane 2.20 128⇑*i*Pn **Pn 13 19 55.8 -0.4**
BEY *e*Sn **Sn 13 20 24.9 +0.8**
IVA Berane 2.20 128⇑*i*Pn **Pn 13 19 55.8 -0.4**
IVA *e*Sn **Sn 13 20 24.9 +0.8**
PDG Podgorica 2.21 144⇓*i*Pn **Pn 13 19 56.2 -0.1**
PDG *e*Sn **Sn 13 20 24.7 +0.4**
TTG Podgorica 2.21 144⇓*i*Pn **Pn 13 19 56.2 -0.1**
TTG *e*Sn **Sn 13 20 24.7 +0.4**
GRUS Gruza 2.33 98 *e*Pn **Pn 13 19 59.1 +1.1**
KOGS Kog 2.38 338 *i* Pn **Pn 13 19 58.5 -0.2**
KOGS *i* Sn **Sn 13 20 27.4 -1.2**
PVY Plav 2.43 132⇓*i*Pn **Pn 13 19 59.4 +0.1**
PVY *e*Sn **Sn 13 20 31.1 +1.4**
VISS Visnje 2.46 310 *e*Pn **Pn 13 20 00.2 +0.4**
KNDS Knezji Dol 2.58 301 *i* Pn **Pn 13 20 01.8 +0.4**
ULC Ulcinj 2.60 150⇑*i*Pn **Pn 13 20 00.4 -1.3**
ULC *e*Sn **Sn 13 20 33.6 -0.4**
VNDS Vrh nad Dolski 2.73 314 *i* Pn **Pn 13 20 03.5 0.0**
SOKA Soboth 3.00 325⇑*i*Pn **Pn 13 20 07.0 -0.2**
SOKA ⇓*i*Sn **Sn 13 20 42.5 -1.3**
OBKA Obir 3.09 318⇓*i*Pn **Pn 13 20 08.4 0.0**
ARSA Arzberg 3.32 336⇑*i*Pn **Pn 13 20 11.7 +0.1**
SNR=28
ARSA ⇓*i*Sn **Sn 13 20 51.2 -0.4**
ARSA Arzberg 3.32 336 Pn **Pn 13 20 11.7 +0.1**
comp=Z,28nm,5.0s
ARSA Sn **Sn 13 20 51.2 -0.4**
BARS Barje 3.43 113 *e*Pn **Pn 13 20 12.4 -0.7**
BARS *e*Sg **Sg 13 21 09.7 +1.0**
SOP Sopron 3.51 349⇑*e*Pn **Pn 13 20 13.9 -0.3**
SOP *e*Sn **Sn 13 20 57.0 +0.7**
CONA Conrad Observa 3.86 343⇓*i*Pn **Pn 13 20 19.2 +0.1**
SNR=9.8
CONA ⇑*i*Sn **Sn 13 21 04.7 -0.4**
CONA Conrad Observa 3.86 343 Pn **Pn 13 20 19.2 +0.1**
comp=Z,9.0nm,8.0s
CONA Sn **Sn 13 21 04.7 -0.4**
CSNA Conrad Observa 3.87 343⇓*i*Pn **Pn 13 20 18.9 -0.2**
ZST Bratislava 3.97 356 *e*SG **Sn 13 21 08.2 +0.6**
PSZ Piszkesteto 4.03 23⇑*e*Pn **Pn 13 20 21.5 +0.1**
PSZ *e*Sn **Sg 13 21 34.8 +6.8**
MODS Modra-Piesok 4.14 358 *e*PN **Pn 13 20 23.6 +0.8**
MODS *e*SG **Sn 13 21 11.7 -0.1**
MOA Molln 4.26 329⇑*i*Pn **Pn 13 20 24.6 +0.1**
SNR=14
MOA ⇑*i*Sn **Sn 13 21 14.8 0.0**
MOA Molln 4.26 329 Pn **Pn 13 20 24.6 +0.1**
comp=Z,14nm,5.0s
MOA Sn **Sn 13 21 14.8 -0.1**
ABTA Abfaltersbach 4.32 307⇓*i*Pn **Pn 13 20 25.9 +0.5**
ABTA ⇑*i*Sn **Sn 13 21 15.9 -0.5**
KOLL Kolacno 4.38 8 *e*PN **Pn 13 20 26.6 +0.4**
KOLL *e*SG **Sn 13 21 15.7 -2.1**
KECS Kecovo 4.71 25 *e*PN **Pn 13 20 31.5 +0.8**
KECS *e*SG **Sn 13 21 22.8 -3.2**
WTTA Wattenberg 5.11 308⇓*i*Pn **Pn 13 20 36.3 +0.2**
SNR=7.5
WTTA Wattenberg 5.11 308 Pn **Pn 13 20 36.3 +0.2**
comp=Z,7.0nm,5.0s
VRAC Vranov 5.11 353 *e*Pn **Pn 13 20 36.3 +0.2**
MORC Moravsky Berou 5.54 0 *e*Pn **Pn 13 20 43.2 +1.2**
KHC Kasperske Hory 5.59 332 *e*PN **Pn 13 20 43.1 +0.3**
KHC *e*SN **Sn 13 21 47.0 -0.7**
DPC Dobruska-Polom 6.17 353 *e*SN **Sn 13 22 02.3 +0.5**

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*ISCJB **11** 13:23:48.5±1.2, 627S±02×149E±, h10km, mb3.8/5, MS3.5/3, Error ellipse: s-maj=98.0km s-min=9.3km az=165.2*
*IDC **11** 13:23:49.8±2.5, 6271S×14866E, h0km, mb3.8/5, mb1 4.1/6, mb1mx4.0/16, mbtmp3.9/6, ML4.6/1, MS3.4/4, Ms1 3.4/4, ms1mx3.2/17, Error ellipse: s-maj=168.4km s-min=18.0km az=81.0*
*NEIC **11** 13:23:50.8±1.1, 6272S×14908E, h10km, mb4.0/3, Error ellipse: s-maj=86.2km s-min=9.6km az=76.0*
ISC 11 13:23:50.3±1.2, 627S±02×149E±, h10km, n12, σ1°16/13, mb3.8/5, MS3.5/3, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.36 170**		Pn	**Pn**	**13 27 27.2**	**+0.5**
	2.3nm,0.3s,baz=338,slow=12,SNR=87						
VNDA				Sn	**Sn**	**13 30 08.8**	**-7.8**
	0.6nm,0.3s,baz=97,slow=15,SNR=4.0						
VNDA				LR	LR	13 33 24.0	
	comp=Z,55nm,20.4s,baz=338,slow=37						
VNDA	**Vanda**	**15.36 170**		*e*Pn	**Pn**	**13 27 27.0**	**+0.3**
	7.1nm,0.5s						
VNDA				*e*Sn	**Sn**	**13 30 06.9**	**-10**
SBA	**Scott Base**	**16.12 167**		*e*Pn	**Pn**	**13 27 37.6**	**+1.1**
	6.8nm,0.7s						
SBA				*e*Sn	**Sn**	**13 30 31.9**	**-3.1**
QSPA	**South Pole Qui**	**27.34 180**		P	**P**	**13 29 37.5**	**+2.8**
	0.9nm,0.6s,mb3.5,baz=342,slow=12,SNR=9.6						
QSPA				LR	LR	13 41 23.5	
	comp=Z,105nm,18.1s,MS3.5,baz=234,slow=38						
MAW	**Mawson**	**33.86 223**		LR	LR	13 43 08.1	
	comp=Z,100nm,19.7s,MS3.5,baz=257,slow=34						
ASAR	**Alice Springs**	**40.45 338**		P	**P**	**13 31 28.4**	**-0.1**
	1.1nm,0.7s,mb3.7,baz=164,slow=9.8,SNR=20						
WB2	**Warramunga Arr**	**44.02 339**		*e*P	**P**	**13 31 58.1**	**+0.4**
WRA	**Warramunga Arr**	**44.02 339**		P	**P**	**13 31 57.5**	**-0.3**
	2.3nm,0.7s,mb4.0,baz=168,slow=7.0,SNR=26						
SNAA	**Sanae**	**44.51 192**		P	**P**	**13 32 01.3**	**+0.2**
	0.5nm,0.7s,mb3.4,baz=177,slow=11,SNR=12						
SNAA	**Sanae**	**44.51 192**		*e*P	**P**	**13 32 00.9**	**-0.2**
	1.6nm,0.8s,mb3.9						
FITZ	**Fitzroy Crossi**	**47.57 329**		P	**P**	**13 32 24.6**	**-1.1**
	0.9nm,0.7s,mb3.9,baz=159,slow=8.6,SNR=2.5						
FITZ				LR	LR	13 49 29.5	
	comp=Z,46nm,20.7s,MS3.4,baz=336,slow=32						
ESDC	**Sonseca Array**	**151.92 227**		PKPbc	PKPbc	13 43 45.3	+0.9
	0.1nm,0.3s,baz=203,slow=1.0,SNR=3.6						

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*ISCJB **11** 13:29:09.1±0.7, 571N±02×336W±0.1, h10km, mb3.8/11, MS3.6/10, Error ellipse: s-maj=22.3km s-min=10.2km az=12.4*
*IDC **11** 13:29:09.4±0.8, 5717N×3352W, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.7/26, mbtmp3.6/9, MS3.6/13, Ms1 3.6/13, ms1mx3.3/36, Error ellipse: s-maj=27.5km s-min=17.8km az=10.0*
*NEIC **11** 13:29:10.8±0.5, 5715N×3359W, h10km, mb4.3/2, Error ellipse: s-maj=18.6km s-min=9.1km az=191.0*
*CSEM **11** 13:29:10.8, 5715N×3359W, h10km, mb4.3/2, After NEIC*
ISC 11 13:29:11.1±0.7, 572N±02×336W±0.1, h10km, n33, σ0°90/22, mb3.8/11, MS3.6/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.62 33**		LR	LR	13 34 19.3	
	comp=Z,355nm,19.6s,baz=7.4,slow=32						
SFJD	**Kangerlussuaq**	**12.62 328**		LR	LR	13 35 55.2	
	comp=Z,211nm,18.4s,baz=134,slow=32						
EKA	**Eskdalemuir Ar**	**16.92 83**		Pn	**Pn**	**13 33 10.0**	**+2.3**
	0.1nm,0.3s,baz=302,slow=12,SNR=2.6						
JMIC	**Jan Mayen**	**17.43 28**		LR	LR	13 37 12.4	
	comp=Z,46nm,20.7s,baz=255,slow=28						
NOA	**NORSAR Array B**	**22.95 62**		P	**P**	**13 34 14.8**	**-0.3**
	1.0nm,0.9s,mb3.2,baz=283,slow=9.3,SNR=2.7						
NOA				LR	LR	13 41 22.1	
	comp=Z,60nm,21.1s,MS3.0,baz=300,slow=32						
HFS	**Hagfors**	**24.34 63**		LR	LR	13 41 34.2	
	comp=Z,80nm,21.1s,MS3.2,baz=91,slow=31						
ESDC	**Sonseca Array**	**26.00 120**		P	**P**	**13 34 44.4**	**+0.5**
	0.4nm,0.6s,mb3.1,baz=325,slow=9.5,SNR=5.3						
ARCES	**ARCESS Array B**	**27.92 40**		LR	LR	13 43 56.4	
	comp=Z,48nm,19.1s,MS3.1,baz=188,slow=32						
DAVOX	**Davos/Dischmat**	**28.23 93**		LR	LR	13 46 07.8	
	comp=Z,138nm,18.2s,MS3.6,baz=85,slow=36						
GERES	**GERESS Array B**	**29.10 86**		LR	LR	13 45 40.3	
	comp=Z,121nm,18.5s,MS3.5,baz=113,slow=34						
AKASG	**Malin Array Be**	**36.33 73**		P	**P**	**13 36 14.3**	**-0.2**
	0.3nm,0.3s,mb3.7,baz=302,slow=8.3,SNR=5.6						
ULM	**Lac du Bonnet**	**36.34 286**		LR	LR	13 48 23.9	
	comp=Z,146nm,20.2s,MS3.8,baz=71,slow=32						
YKA	**Yellowknife Ar**	**38.54 313**		P	**P**	**13 36 33.0**	**-0.2**
	2.5nm,0.8s,mb4.0,baz=62,slow=9.7,SNR=2.8						
YKA				LR	LR	13 52 05.3	
	comp=Z,116nm,19.5s,MS3.7,baz=95,slow=36						
DAWY	**Dawson**	**46.53 324**		*e*P	**P**	**13 37 37.9**	**-0.2**
DAWY	**Dawson**	**46.53 324**		*e*P	**P**	**13 37 37.9**	**-0.2**
PDAR	**Pinedale Array**	**48.36 287**		P	**P**	**13 37 51.9**	**-0.8**
	1.4nm,0.9s,mb4.0,baz=58,slow=5.9,SNR=8.0						
PDAR				LR	LR	13 59 02.1	
	comp=Z,171nm,19.8s,MS4.0,baz=50,slow=37						
PDAR	**Pinedale Array**	**48.36 287**		P	**P**	**13 37 51.8**	**-0.8**
PDAR				LR	LR	13 59 02.1	
MCMT	**McKenzie Canyo**	**48.60 291**		*e*P	**P**	**13 37 55.7**	**+1.2**
MCMT	**McKenzie Canyo**	**48.60 291**		*e*P	**P**	**13 37 55.7**	**+1.3**
IMA2	**Indian Mountai**	**49.14 332**		*e*P	**P**	**13 37 58.2**	**-0.1**
IMA2	**Indian Mountai**	**49.14 332**		*e*P	**P**	**13 37 58.2**	**-0.1**
MALT	**Malatya**	**49.44 80**		*e*P	**P**	**13 37 59.8**	**-1.1**
	6.4nm,1.1s,mb4.6						
MALT	**Malatya**	**49.44 80**		*e*P	**P**	**13 37 59.9**	**-1.1**
	6.4nm,1.1s,mb4.6						
BMO	**Blue Mountains**	**50.83 294**		*e*P	**P**	**13 38 10.8**	**-0.6**
	2.2nm,1.0s,mb4.0						
BMO	**Blue Mountains**	**50.83 294**		*e*P	**P**	**13 38 10.8**	**-0.6**
	2.2nm,1.0s,mb4.0						
RAGM	**Ragged Mountai**	**50.91 323**		*e*P	**P**	**13 38 20.3**	**+8.5**
TORD	**Torodi Ar. Bea**	**51.48 134**		P	**P**	**13 38 15.3**	**-1.3**
	0.6nm,0.7s,mb3.6,baz=340,slow=8.0,SNR=3.3						
TXAR	**Lajitas Array**	**55.21 271**		P	**P**	**13 38 45.3**	**+1.4**
	0.3nm,0.8s,mb3.4,baz=48,slow=3.2,SNR=4.8						
TXAR				LR	LR	14 03 26.8	
	comp=Z,127nm,18.1s,MS4.0,baz=0.0,slow=37						
MKAR	**Makanchi Array**	**63.50 44**		P	**P**	**13 39 40.9**	**-0.1**
	0.7nm,0.7s,mb3.9,baz=319,slow=5.7,SNR=4.0						
MKAR				LR	LR	14 06 57.6	
	comp=Z,42nm,20.3s,MS3.6,baz=7.5,slow=36						
SONM	**Songino Array**	**70.19 27**		P	**P**	**13 40 23.5**	**0.0**
	1.2nm,0.8s,mb3.9,baz=333,slow=6.4,SNR=6.0						
ASAR	**Alice Springs**	**145.30 20**		PKPbc	PKPbc	13 48 48.1	-0.4
	1.3nm,0.9s,baz=20,slow=1.8,SNR=12						
QSPA	**South Pole Qui**	**147.08 180**		PKPbc	PKPbc	13 48 51.8	-0.3
	2.2nm,0.8s,baz=212,slow=4.0,SNR=8.3						
QSPA	**South Pole Qui**	**147.08 180**		PKPbc	PKPbc	13 48 51.8	-0.3

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*ISK **11** 14:03:57.9, 3992N×4093E, h9km, MD3.2*
*ISCJB **11** 14:03:58.9±0.6, 3990N±004×4095E±003, h11km±5km, Error ellipse: s-maj=6.0km s-min=4.2km az=4.6*
*CSEM **11** 14:03:58.1±0.1, 3994N×4091E, h10km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.8km az=47.0*
*DDA **11** 14:03:58.8, 3993N×4098E, h7km±4km, Md3.3*
ISC 11 14:03:59.2±0.5, 3992N±004×4097E±004, h13km±5km, n21, σ0°83/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.30 93**		PG	**Pg**	**14 04 05.0**	**-0.4**
ERZM	**Erzurum**	**0.30 93**		*i* P	**Pg**	**14 04 05.4**	**0.0**
ERZM				*i* S	**Sg**	**14 04 09.1**	**-0.5**
KOPT	**Kop Dagi**	**0.38 285**		*i* P	**Pg**	**14 04 06.0**	**-0.8**
KOPT				*i* S	**Sg**	**14 04 13.1**	**+1.2**
HOMI	**Horasan**	**0.73 80**		*i* P	**Pg**	**14 04 12.9**	**-0.5**
HOMI				*i* S	**Sg**	**14 04 24.1**	**+1.1**
EZC	**Erzincan**	**0.91 259**		*e*PN	**Pg**	**14 04 21.9**	**+5.1**
BINT	**Bingol**	**1.11 200**		*e*PN	**Pn**	**14 04 19.3**	**-1.2**
BINT				*e*SN	**Sn**	**14 04 34.8**	**-0.7**
GUMT	**Gumushane**	**1.26 296**		*e*PN	**Pn**	**14 04 22.0**	**-0.5**
GUMT				*e*SN	**Sn**	**14 04 39.2**	**-0.2**
MACK	**Trabzon**	**1.37 318**		*i* P	**Pn**	**14 04 24.5**	**+0.4**
KTUT	**Trabzon**	**1.41 320**		*e*PN	**Pn**	**14 04 23.7**	**-0.9**
KTUT				*e*SN	**Sn**	**14 04 43.2**	**+0.2**
TUTA	**Tutak**	**1.51 109**		*i* P	**Pn**	**14 04 26.6**	**+0.6**
TUTA				*i* S	**Sn**	**14 04 49.5**	**+3.9**
AGRB	**Hanur-Agry**	**1.59 102**		*e*PN	**Pn**	**14 04 26.9**	**-0.3**
PTK	**Pertek**	**1.60 231**		*e*PN	**Pn**	**14 04 27.1**	**-0.1**
BCA	**Borcka**	**1.60 18**		*e*PN	**Pn**	**14 04 27.3**	**+0.1**
BTMT	**Batman**	**1.77 167**		*e*PN	**Pn**	**14 04 30.8**	**+1.2**
ESPY	**Espiye-Giresun**	**1.98 301**		*e*PN	**Pn**	**14 04 33.1**	**+0.6**
AKH	**Akhalkalaki**	**2.43 51**		P	**Pg**	**14 04 47.1**	**+1.3**
AKH				S	**Sg**	**14 05 21.8**	**+4.6**
MYA	**Malataya**	**2.54 232**		*e*PN	**Pn**	**14 04 40.1**	**0.0**
MALT	**Malatya**	**2.55 232**		*e*PN	**Pn**	**14 04 40.5**	**+0.3**
MARD	**Mardin**	**2.61 183**		*i* P	**Pb**	**14 04 45.9**	**+0.1**
SVSK	**Karacayir**	**3.06 271**		*e*PN	**Pn**	**14 04 47.7**	**+0.5**
ONI	**Oni**	**3.25 34**		P	**Pg**	**14 04 58.0**	**-3.5**
ONI				S	**Sg**	**14 05 40.5**	**-3.1**

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*ISCJB **11** 14:11:29.7±3.1, 1092N±007×8703W±007, h2km±24km, mb3.3/4, Error ellipse: s-maj=12.7km s-min=10.3km az=29.0*
*CASC **11** 14:11:33.7±2.5, 1103N×8703W, h24km±22km, mb5.5, MD3.9, ML3.2*
*IDC **11** 14:11:33.3±2.1, 1120N×8708W, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.6/22, mbtmp3.5/5, ML3.0/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/25, Error ellipse: s-maj=137.8km s-min=41.1km az=53.0*
ISC 11 14:11:31.2±2.0, 1096N±007×8696W±006, h4km±11km, n30, σ0°82/24, mb3.3/4, 3C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.20 32**		*e*P	**Pg**	**14 11 55.1**	**+0.9**
COPN	**Copaltepe**	**1.26 16**⇓		*e*P	**Pg**	**14 11 55.3**	**-0.1**
COPN				*e*S	**Sg**	**14 12 11.9**	**+0.1**
APON	**Apoyo**	**1.29 43**⇓		*e*P	**Pn**	**14 11 56.0**	**+0.1**
MASN	**Masaya**	**1.29 38**		*e*P	**Pn**	**14 11 56.2**	**+0.3**
	comp=Z,467nm,1.0s						
TISN	**Laguna Tiscapa**	**1.35 30**		*e*P	**Pn**	**14 11 56.6**	**-0.2**
MGAN	**Managua**	**1.37 31**		*e*P	**Pn**	**14 11 56.6**	**-0.4**
MGAN				*e*S	**Sb**	**14 12 15.7**	**+0.5**
MGAN				AML	AML	14 12 26.7	
	comp=N,118nm,0.5s						
APYN	**Apoyeque**	**1.40 25**		*e*P	**Pn**	**14 11 57.1**	**-0.3**
WILN	**Americas 2**	**1.41 32**		*e*P	**Pn**	**14 11 57.2**	**-0.4**
CONN	**Concepcion**	**1.44 65**		*e*P	**Pn**	**14 11 58.1**	**+0.1**
LEON	**Leon**	**1.45 3**⇑		*e*P	**Pn**	**14 11 57.8**	**-0.3**
MADN	**Villa Maderas**	**1.47 72**		*e*P	**Pn**	**14 11 58.4**	**0.0**
MOMN	**Momotombo**	**1.50 16**		*e*P	**Pn**	**14 11 58.7**	**-0.1**
CNGN	**Cerro Negro**	**1.55 9**⇑		*e*P	**Pn**	**14 11 59.0**	**-0.5**
CNGN				AML	AML	14 12 31.1	
	comp=N,2μm,0.7s						
HUEN		**1.57 29**⇑		*e*P	**Pn**	**14 11 59.3**	**-0.5**
2RIO	**Dos Rios de Up**	**1.75 104**		*i* P	**Pn**	**14 11 59.6**	**-2.7**
CUI		**1.77 99**		*i* P	**Pn**	**14 12 04.4**	**+1.8**
BOAB	**BOACO BROADBAN**	**1.95 40**		*e*P	**Pn**	**14 12 04.2**	**-0.8**
LCBS	**La Ceiba**	**3.33 324**		*e*P	x	14 12 25.1	
LCBS				*e*S	x	14 12 59.8	
LFRS	**El Faro**	**3.35 322**		*e*P	x	14 12 25.6	
LFRS				*e*S	x	14 13 00.8	
CMIG	**Matias Romero**	**9.81 309**		Pn	**Pn**	**14 13 51.6**	**-1.5**
	comp=N,0.2nm,0.3s,baz=133,slow=12,SNR=2.9						
ROSC	**El Rosal**	**13.90 115**		LR	LR	14 20 20.2	
	comp=N,32nm,19.2s,baz=194,slow=37						
CHI2		**14.52 115**		*e*P	Px	14 12 01.1	
LAPE	**La Pedrera**	**15.55 101**		*i* P	Px	14 11 59.6	
LAPE				*i* S	Sx	14 12 23.2	
ATAH	**Atahualpa**	**19.77 154**		LR	LR	14 22 37.4	
	comp=N,58nm,19.6s,baz=138,slow=33						
TXAR	**Lajitas Array**	**24.03 322**		P	**P**	**14 16 48.3**	**+1.1**
	comp=N,1.3nm,0.7s,mb3.5,baz=136,slow=10,SNR=21						
TXAR				PcP	PcP	14 20 32.5	+3.2
	comp=N,0.2nm,0.6s,baz=123,slow=4.6,SNR=4.1						
PDAR	**Pinedale Array**	**37.30 332**		P	**P**	**14 18 44.2**	**-0.1**
	comp=N,0.4nm,0.5s,mb3.5,baz=133,slow=10,SNR=4.1						
ELK	**Elko**	**38.75 325**		P	**P**	**14 18 57.3**	**+0.7**
	comp=N,0.5nm,0.6s,mb3.4,baz=127,slow=5.1,SNR=3.6						
NVAR	**Mina Array Bea**	**39.14 320**		P	**P**	**14 19 01.4**	**+1.5**
	comp=N,0.1nm,0.5s,mb2.8,baz=133,slow=10.0,SNR=3.0						
NVAR				PcP	PcP	14 21 11.4	+1.9
	comp=N,0.7nm,0.7s,baz=144,slow=3.9,SNR=7.1						
ASAR	**Alice Springs**	**139.14 246**		PKP	PKPdf	14 31 01.7	+1.6
	comp=N,0.3nm,0.9s,baz=90,slow=2.9,SNR=3.3						
WRA	**Warramunga Arr**	**139.30 252**		PKP	PKPdf	14 31 00.7	+0.3
	comp=N,0.4nm,0.8s,baz=83,slow=1.4,SNR=4.6						

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*IDC **11** 14:21:49.9±0.6, 4326S×1985W, h0km, mb4.5/17, mb1 4.5/17, mb1mx4.5/20, mbtmp4.5/17, MS3.8/12, Ms1 3.8/12, ms1mx3.8/15, Error ellipse: s-maj=15.2km s-min=13.7km az=135.0*
*ISCJB **11** 14:21:51.5±0.3, 4358S±006×200W±0.1, h10km, mb4.7/34, MS3.9/14, Error ellipse: s-maj=11.4km s-min=8.4km az=6.7*
*MOS **11** 14:21:51.6±0.9, 4369S×2029W, h10km, mb5.3/5, Error ellipse: s-maj=25.9km s-min=12.6km az=93.5*
*NEIC **11** 14:21:51.1±0.3, 4322S×1985W, h10km, mb4.8/5, Error ellipse: s-maj=9.9km s-min=8.3km az=143.0*
ISC 11 14:21:53.3±0.3, 4354S±006×199W±01, h10km, n58, σ1°39/56, mb4.7/34, MS3.9/14, 1C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**27.80 172**		*e*	**P**	**14 27 43.2**	**+1.1**
VNA1				*e*		14 27 48.3	
VNA1				*e*		14 28 26.4	
VNA2	**Neumayer--Watz**	**28.16 171**		*e*	**P**	**14 27 45.6**	**+0.3**
VNA2				*e*		14 27 50.6	
VNA2				*e*		14 27 58.9	
VNA2				*e*		14 28 07.2	
VNA2				*e*		14 28 31.1	
SNAA	**Sanae**	**29.41 169**		*e*	**P**	**14 27 56.6**	**+0.2**
SNAA				*e*	pP	14 28 00.6	+1.1
SNAA				*e*		14 28 06.6	
SNAA				*e*		14 28 16.3	
SNAA				*e*		14 28 47.7	
SNAA	**Sanae**	**29.41 169**		P	**P**	**14 27 56.2**	**-0.2**
	1.5nm,0.8s,mb3.8,baz=341,slow=8.3,SNR=25						
SNAA				LR	LR	14 36 54.2	
	comp=Z,137nm,18.1s,MS3.6,baz=230,slow=30						
NVL	**N'lazarevskaya**	**31.51 160**		P	**P**	**14 28 14.2**	**-0.8**
NVL				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.9						
PMSA	**Palmer Station**	**32.44 214**		P	**P**	**14 28 23.1**	**0.0**
	comp=Z,13nm,0.7s,mb4.8,baz=70,slow=5.7,SNR=9.5						
USHA	**Ushuaia**	**33.00 233**		P	**P**	**14 28 28.6**	**+0.5**
	comp=Z,22nm,0.9s,mb5.1,baz=72,slow=13,SNR=7.7						
SUR	**Sutherland**	**33.70 85**		LR	LR	14 38 30.0	
	comp=Z,141nm,21.6s,MS3.6,baz=100,slow=30						
CPUP	**Villa Florida**	**34.78 287**		P	**P**	**14 28 42.4**	**-1.5**
	comp=Z,11nm,0.7s,mb4.9,baz=100,slow=10,SNR=31						
CPUP				LR	LR	14 39 34.2	
	comp=Z,110nm,20.6s,MS3.6,baz=295,slow=31						
CPUP	**Villa Florida**	**34.78 287**		*e*P	**P**	**14 28 42.3**	**-1.7**
CPUP				pmax	pmax		
	comp=Z,85nm,0.9s						
CPUP	**Villa Florida**	**34.78 287**		*e*P	**P**	**14 28 42.3**	**-1.7**
	comp=Z,85nm,0.9s,mb5.7						
BDFB	**Brasilia**	**36.67 311**		P	**P**	**14 28 58.2**	**-2.1**
	comp=Z,2.7nm,0.6s,mb4.2,baz=132,slow=14,SNR=7.0						
BDFB				LR	LR	14 41 36.1	
	comp=Z,142nm,18.3s,MS3.8,baz=160,slow=32						
PLCA	**Paso Flores**	**37.17 256**		P	**P**	**14 29 04.3**	**0.0**
	comp=Z,6.3nm,0.8s,mb4.5,baz=124,slow=8.2,SNR=14						
PLCA				LR	LR	14 41 29.4	
	comp=Z,97nm,20.2s,MS3.6,baz=122,slow=32						
BOSA	**Boshof**	**38.96 83**		P	**P**	**14 29 17.2**	**-2.3**
	comp=Z,5.1nm,1.1s,mb4.2,baz=234,slow=7.2,SNR=3.9						
BOSA	**Boshof**	**38.96 83**		P	**P**	**14 29 17.2**	**-2.4**
SYO	**Syowa Base**	**39.36 151**⇓		*e*P	**P**	**14 29 19.6**	**-2.8**
SYO	**Syowa Base**	**39.36 151**⇓		*e*P	**P**	**14 29 23.0**	**+0.6**
CFAA	**Coronel Fontan**	**39.58 271**		P	**P**	**14 29 22.1**	**-2.6**
	comp=Z,0.2nm,0.3s,mb3.3,baz=96,slow=8.1,SNR=4.1						
TSUM	**Tsumeb**	**39.70 64**		P	**P**	**14 29 23.1**	**-2.6**
	comp=Z,3.0nm,0.8s,mb4.1,baz=205,slow=13,SNR=4.1						
LBTB	**Lobatse**	**41.34 79**		P	**P**	**14 29 37.3**	**-2.0**
	comp=Z,5.9nm,1.0s,mb4.2,baz=239,slow=12,SNR=4.8						
QSPA	**South Pole Qui**	**46.72 180**		P	**P**	**14 30 23.3**	**+1.5**
	comp=Z,25nm,0.9s,mb5.2,baz=215,slow=3.4,SNR=106						
QSPA	**South Pole Qui**	**46.72 180**		P	**P**	**14 30 23.3**	**+1.5**
MAW	**Mawson**	**48.02 149**		P	**P**	**14 30 30.6**	**-1.4**
	comp=Z,5.7nm,0.8s,mb4.6,baz=264,slow=9.0,SNR=12						
MAW				LR	LR	14 46 33.6	
	comp=Z,113nm,20.0s,MS3.8,baz=62,slow=31						
MAW	**Mawson**	**48.02 149**		*e*P	**P**	**14 30 30.6**	**-1.4**
MAW				pmax	pmax		
	comp=Z,14nm,1.2s						
MAW	**Mawson**	**48.02 149**		*e*P	**P**	**14 30 30.6**	**-1.4**
	comp=Z,14nm,1.2s,mb4.9						
LPAZ	**La Paz**	**48.94 288**		P	**P**	**14 30 36.9**	**-2.8**
	comp=Z,1.0nm,0.5s,mb4.1,baz=135,slow=8.0,SNR=6.3						
LPAZ				LR	LR	14 51 15.2	
	comp=Z,65nm,20.1s,MS3.6,baz=104,slow=36						
LPAZ	**La Paz**	**48.94 288**		P	**P**	**14 30 36.9**	**-2.8**
LPAZ				LR	LR	14 51 15.2	
LSZ	**Lusaka**	**49.60 71**		*e*P	**P**	**14 30 41.2**	**-3.6**
LSZ				pmax	pmax		
	comp=

BJI **11** *14:35:51.5,2751N×8781E,h17km,mB5.0,mb4.7,Ms4.4, Msz4.2*
SZGRF **11** *14:35:51.1,27.16N×8827E,h33km,mb5.1,MS4.4,Sikkim, India*
ISCJB **11** *14:35:52.7±0.6,2736N±002×8764E±002,h32km±4km, mb4.9/140,MS4.1/27,Error ellipse: s-maj=3.9km s-min=2.8km az=16.3*
MOS **11** *14:35:52.7±0.7,2734N×8768E,h33km,mb5.2/65, MS4.2/17,Error ellipse: s-maj=8.1km s-min=3.7km az=123.5*
DMN **11** *14:35:53.0±0.6,2728N×8790E,h2km,Ml5.6/6,Error ellipse: s-maj=10.6km s-min=6.9km az=83.0*
BGS **11** *14:35:53.7±2.0,2673N×8732E,h40km±999km,mb4.9*
IDC **11** *14:35:53.1±2.7,2733N×8774E,h24km±17km,mb4.4/19, mb1 4.5/21,mb1mx4.5/24,mbtmp4.4/21,ML4.6/2,MS3.9/12, Ms1 3.9/12,ms1mx3.7/23,Error ellipse: s-maj=16.4km s-min=11.8km az=46.0*
NEIC **11** *14:35:54.8±0.2,2734N×8774E,h35km,mb5.0/73, MS4.3/8,Error ellipse: s-maj=5.7km s-min=3.9km az=34.0*
NEIC Felt at Kathmandu. Also felt in the Gangtok area, India.
NDI **11** *14:35:54.7±4.1,2747N×8789E,h35km,mb5.1, mb5.0(NEIC)*
DJA **11** *14:36:00,2720N×8744E,h80km,mb5.0/13*
ISC 11 14:35:53.4±0.4,2739N±002×8773E±002,h22km±3km, h24km±3.8km:pP-P,n440,σ0:98/484,mb4.9/140,MS4.1/27, 112C-30D,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**0.04**	**208**	*e*Pg	**Pb**	**14 35 56.2**	**-1.1**
TAPN				*e*Sg	**Sb**	**14 35 59.3**	**-0.6**
71μm,0.3s							
ODAN	**Odare**	**0.61**	**210**	*e*Pg	**Pb**	**14 36 05.3**	**-0.1**
ODAN				*e*Sg	**Sb**	**14 36 13.6**	**+0.1**
GTK	**Gangtok**	**0.79**	**94**	*ex*	x	14 36 00.0	
SLGI	**Shiliguri**	**0.92**	**138**	*i* x	**Pb**	**14 36 08.5**	**-2.1**
SLGI				*e*S	**Sb**	**14 36 24.0**	**+1.6**
RAMN	**Ramite**	**1.10**	**247**	*e*Pg	**Pn**	**14 36 14.7**	**+1.2**
JIRN	**Jiri**	**1.40**	**282**	*e*Pn	**Pn**	**14 36 20.3**	**+2.7**
JIRN				*e*Sn	**Sn**	**14 36 40.7**	**+5.4**
17μm,0.2s							
GUN	**Gumba**	**1.73**	**288**	*e*Pn	**Pn**	**14 36 25.7**	**+3.6**
GUN				*e*Sn	**Sn**	**14 36 48.7**	**+5.3**
10μm,0.3s							
PKI	**Pulchoki**	**2.07**	**276**	*e*Pn	**Pn**	**14 36 29.9**	**+3.0**
PKI				*e*Sn	**Sn**	**14 36 57.0**	**+5.0**
18μm,0.5s							
KKN	**Kakani**	**2.21**	**281**	*e*Pn	**Pn**	**14 36 32.0**	**+3.2**
KKN				*e*Sn	**Sn**	**14 37 00.4**	**+4.9**
6μm,0.2s							
DMN	**Daman**	**2.34**	**276**	*e*Pn	**Pn**	**14 36 33.4**	**+2.8**
GKN	**Gorkha**	**2.81**	**283**	*e*Pn	**Pn**	**14 36 40.3**	**+3.3**
GKN				*e*Sn	**Sn**	**14 37 14.3**	**+4.0**
DANN	**Dangsing**	**3.65**	**286**	*e*Pn	**Pn**	**14 36 50.4**	**+1.9**
DANN				*e*Sn	**Sn**	**14 37 34.3**	**+3.5**
1μm,0.3s							
KOLN	**Koldanda**	**3.69**	**277**	*e*Pn	**Pn**	**14 36 51.2**	**+2.1**
KOLN				*e*Sn	**Sn**	**14 37 34.8**	**+2.9**
2μm,0.3s							
KOLN	**Koldanda**	**3.69**	**277**	*e*Pn	**Pn**	**14 36 51.2**	**+2.1**
KOLN				*e*Sn	Px	14 37 14.3	
KOLN				*e*Sn	**Sn**	**14 37 34.8**	**+2.9**
LSA	**Lhasa**	**3.79**	**52**	*e*Pn	**Pn**	**14 36 52.9**	**+2.5**
LSA				*e*Sn	**Sn**	**14 37 38.3**	**+4.0**
BOK	**Bokaro**	**3.95**	**205**	*e*P	**Pn**	**14 36 54.3**	**+1.6**
BOK				*e*S	**Sn**	**14 37 37.9**	**-0.4**
SHL	**Shillong**	**4.14**	**115**	*i* PN	**Pn**	**14 36 54.0**	**-1.3**
SHL				*i* PG	**Pb**	**14 37 06.0**	**+0.4**
SHL				*ex*	x	14 37 41.0	
SHL				*e*SG	**Sn**	**14 37 56.0**	**+13**
CAL	**Calcutta**	**4.86**	**173**	*e*P	**Pb**	**14 37 25.6**	**+7.7**
CAL				*e*S	**Sb**	**14 38 18.5**	**+2.7**
ALBI	**Allahabad**	**5.70**	**250**	*ex*	**Pn**	**14 37 16.5**	**-0.3**
IMP	**Imphal**	**6.15**	**114**	*e*P	**Pn**	**14 37 24.0**	**+1.1**
IMP				*ex*	**Sn**	**14 38 31.0**	**-1.6**
PTH	**Pithoragarh**	**6.96**	**290**	*e*P	**Pn**	**14 37 35.1**	**+1.1**
PTH				*ex*	**Sn**	**14 38 53.0**	**+0.5**
BWNR	**Bhubaneshwar**	**7.28**	**194**	*e*P	**Pn**	**14 37 39.0**	**+0.6**
BWNR				*e*S	**Sn**	**14 38 55.0**	**-5.4**
BLSP	**Bilaspur**	**7.30**	**225**	*e*P	**Pn**	**14 37 40.0**	**+1.2**
BLSP				*e*S	**Sn**	**14 39 00.0**	**-1.0**
JOSI	**Joshimath**	**7.83**	**296**	*e*P	**Pn**	**14 37 47.7**	**+1.8**
JOSI				*e*S	**Sn**	**14 39 10.8**	**-3.0**
JHNI	**Jhansi**	**8.46**	**259**	*e*P	Px	14 38 06.0	
JHNI				*e*S	**Sn**	**14 39 38.0**	**+8.5**
DDI	**Dehra Dun**	**8.97**	**291**	*i* P	**Pn**	**14 38 01.6**	**-0.1**
DDI				*ex*	**Sn**	**14 39 42.2**	**+0.1**
KLP	**Kalpa**	**9.24**	**299**	*e*P	**Pn**	**14 38 05.0**	**-0.3**
KLP				*e*S	**Sn**	**14 39 42.3**	**-6.3**
NDI	**New Delhi**	**9.38**	**280**	*e*P	**Pn**	**14 38 07.0**	**-0.3**
NDI				*e*P		14 38 07.0	
NDI				*e*S	**Sn**	**14 39 47.0**	**-5.1**
NDI				*e*S	**Sn**	**14 39 47.0**	**-5.1**
AYAN	**Aya Nagar**	**9.44**	**279**	*ex*	**Pn**	**14 38 07.1**	**-1.0**
AYAN				*e*S	**Sn**	**14 39 47.5**	**-6.2**
SONA	**Sohna**	**9.47**	**278**	*e*P	**Pn**	**14 38 08.5**	**0.0**
SONA				*e*S	**Sn**	**14 39 48.4**	**-5.8**
SMLA	**Simla**	**9.95**	**294**	⇑*i*P	**Pn**	**14 38 15.1**	**0.0**
SMLA				*e*S	**Sn**	**14 39 59.8**	**-6.3**
KUDL	**Kundal**	**9.99**	**277**	*e*P	**Pn**	**14 38 14.9**	**-0.7**
KUDL				AMb	AMB	14 38 17.9	
comp=Z,36nm,1.4s							
SDNR	**Sundarnagar**	**10.24**	**296**	*e*P	**Pn**	**14 38 19.0**	**0.0**
SDNR				*ex*	**Sn**	**14 40 11.4**	**-1.7**
VIS	**Vishakhapatnam**	**10.44**	**204**	*i* P	**Pn**	**14 38 22.1**	**+0.2**
VIS				*e*S	**Sn**	**14 40 11.2**	**-7.0**
BHK	**Bhakra**	**10.65**	**295**	*ex*	**Pn**	**14 38 23.4**	**-1.3**
BHK				*e*S	**Sn**	**14 40 16.2**	**-7.1**
DLH	**Dalhousie**	**11.42**	**300**	*ex*	**Pn**	**14 38 33.0**	**-2.2**
DLH				*ex*	**Sn**	**14 40 39.0**	**-3.1**
THN	**Thein Dam**	**11.57**	**299**	*ex*	**Pn**	**14 38 34.5**	**-2.8**
THN				*ex*	**Sn**	**14 40 41.2**	**-4.6**
AJM	**Ajmer**	**11.72**	**269**	*ex*	**Pn**	**14 38 37.1**	**-2.2**
AJM				AMb	AMB	14 38 39.1	
comp=Z,89nm,1.1s							
AJM				*e*S	**Sn**	**14 40 41.0**	**-8.4**
AKL	**Akola**	**11.84**	**238**	*i* P	**Pn**	**14 38 40.5**	**-0.4**
AKL				*i* S	**Sn**	**14 40 46.1**	**-6.2**
HYB	**Hyderabad**	**13.05**	**222**	*i* P	**Pn**	**14 39 01.0**	**+3.4**
HYB				*e*S	**Sn**	**14 41 26.5**	**+4.4**
HYB				LR	LR	14 43 58.0	
comp=Z,2.8nm,12.0s							
CHTO	**Chiang Mai**	**13.38**	**127**	*e*P	**Pn**	**14 38 59.2**	**-2.8**
CMAR	**Chiang Mai Arr**	**13.62**	**128**	Pn	**Pn**	**14 39 02.5**	**-2.7**
comp=Z,0.7nm,0.3s,baz=306,slow=13,SNR=24							
CMAR				LR	LR	14 45 14.0	
comp=Z,329nm,18.9s,baz=325,slow=41							
LATR	**Latur**	**13.62**	**231**	*ex*	**Pn**	**14 39 04.3**	**-1.0**
LATR				*ex*	x	14 41 26.2	
KMI	**Kunming**	**13.65**	**96**	P	**Pn**	**14 39 05.5**	**-0.3**
KMI				AP		14 39 08.7	
KMI				PP		14 39 16.4	
KMI				S	**Sn**	**14 41 43.7**	**+6.9**
KMI				XS		14 41 47.9	
KMI				AMB	AMB		
comp=Z,9.0nm,1.2s							
KMI				AMB	AMB		
comp=Z,229nm,4.8s							
KMI				LR	LR		
comp=N,497nm,10.5s							
KMI				LR	LR		
comp=E,761nm,13.3s							
KMI				LR	LR		
comp=Z,915nm,14.9s							
CHCP	**Chirah Chowk**	**13.94**	**300**	P	**Pn**	**14 39 06.9**	**-2.8**
CD2	**Chengdu**	**14.44**	**72**	P	**Pn**	**14 39 17.7**	**+1.3**
CD2				AP	pP	14 39 21.1	-8.1
CD2				XP	sP	14 39 23.7	-8.4
CD2				PP		14 39 30.0	
CD2				S	**Sn**	**14 42 01.3**	**+5.5**
CD2				XS		14 42 06.8	
CD2				SS		14 42 17.1	
CD2				AMB	AMB		
comp=Z,10.0nm,0.5s							
CD2				AMB	AMB		
comp=Z,30nm,4.2s							
CD2				LR	LR		
comp=N,1μm,6.6s							
CD2				LR	LR		
comp=E,950nm,10.8s							
CD2				LR	LR		
comp=Z,760nm,5.7s							
THW	**Thamme Wali**	**14.85**	**295**	P	**Pn**	**14 39 18.8**	**-3.2**
CEP	**Cherat**	**15.05**	**299**	P	**Pn**	**14 39 20.9**	**-3.8**
GTA	**Gaotai**	**15.65**	**37**	*e*P	**Pn**	**14 39 29.4**	**-3.1**
GTA				AP	pP	14 39 33.4	-9.2
GTA				XP	sP	14 39 36.4	-9.1
GTA				S	**Sn**	**14 42 19.2**	**-6.1**
GTA				SS		14 42 38.8	
GTA				AMB	AMB		
comp=Z,99nm,5.4s							
GTA				LR	LR		
comp=N,591nm,13.1s							
GTA				LR	LR		
comp=E,588nm,13.1s							
GTA				LR	LR		
comp=Z,863nm,12.5s							
MDRS	**Chennai**	**15.88**	**208**	*ex*	x	14 51 23.0	
BOM	**Bombay**	**16.11**	**241**	*ex*	x	14 39 19.8	
BOM				*ex*	x	14 42 32.0	
LZH	**Lanzhou**	**16.20**	**54**	*e*P	**Pn**	**14 39 42.7**	**+3.0**
LZH				AP	pP	14 39 46.0	-2.8
LZH				XP	sP	14 39 47.5	-4.2
LZH				XS	sS	14 42 50.0	-11
LZH				AMB	AMB		
comp=Z,13nm,1.0s							
LZH				AMB	AMB		
comp=Z,69nm,5.8s							
LZH				LR	LR		
comp=N,885nm,10.2s							
LZH				LR	LR		
comp=Z,941nm,12.1s							
WMQ	**Urumqi**	**16.40**	**360**	P	**Pn**	**14 39 41.0**	**-1.1**
WMQ				AP	pP	14 39 44.5	-6.4
WMQ				XP	sP	14 39 48.0	-5.8
WMQ				PP		14 39 54.5	
WMQ				S	**Sn**	**14 42 43.6**	**+0.3**
WMQ				XS	sS	14 42 47.0	-18
WMQ				SS		14 43 03.0	
WMQ				AMB	AMB		
comp=Z,31nm,0.9s							
WMQ				AMB	AMB		
comp=Z,219nm,4.6s							
WMQ				LR	LR		
comp=N,631nm,14.0s							
WMQ				LR	LR		
comp=E,321nm,14.0s							
WMQ				LR	LR		
comp=Z,623nm,14.4s							
GYA	**Guiyang**	**16.91**	**89**	P	**Pn**	**14 39 45.1**	**-3.6**
GYA				PP		14 40 03.8	
GYA				S	**Sn**	**14 42 49.0**	**-7.1**
GYA				SS		14 43 18.2	
GYA				AMB	AMB		
comp=Z,20nm,0.6s							
GYA				AMB	AMB		
comp=Z,330nm,4.2s							
GYA				LR	LR		
comp=N,370nm,6.1s							
GYA				LR	LR		
comp=E,720nm,5.9s							
GYA				LR	LR		
comp=Z,480nm,5.2s							
KBL	**Kabul**	**17.53**	**299**	*e*P	**Pn**	**14 39 53.2**	**-3.2**
KBL				*e*		14 42 59.5	
KBL				pmax	pmax		
comp=Z,53nm,0.9s							
KBL	**Kabul**	**17.53**	**299**	*e*Pn	**Pn**	**14 39 53.2**	**-3.1**
comp=Z,52nm,0.9s							
KBL				*e*Sn	**Sn**	**14 42 59.5**	**-11**
ULHL	**Ulahol**	**17.54**	**331**	P	**Pn**	**14 39 56.6**	**+0.2**
SNR=12							
KZA	**Kyzart**	**17.86**	**328**	P	**Pn**	**14 40 00.9**	**+0.5**
SNR=6.5							
UCH	**Uchtor**	**18.32**	**327**	P	**Pn**	**14 40 08.5**	**+2.4**
SNR=5.8							
UCH	**Uchtor**	**18.32**	**327**	*e*P	**Pn**	**14 40 05.6**	**-0.4**
comp=Z,14nm,0.8s							
TKM2	**Tokmak 2**	**18.37**	**331**	*e*P	**Pn**	**14 40 06.8**	**+0.2**
TKM2				pmax	pmax		
comp=Z,17nm,0.8s							
TKM2	**Tokmak 2**	**18.37**	**331**	P	**Pn**	**14 40 07.0**	**+0.4**
SNR=21							
TKM2	**Tokmak 2**	**18.37**	**331**	*e*P	**Pn**	**14 40 06.8**	**+0.2**
comp=Z,17nm,0.8s							
KBK	**Karagaybulak**	**18.45**	**329**	P	**Pn**	**14 40 10.0**	**+2.4**
SNR=13							
AAK	**Ala-Archa**	**18.64**	**328**	P	**Pn**	**14 40 12.3**	**+2.3**
SNR=12							
AML	**Almayashu**	**18.65**	**326**	P	**Pn**	**14 40 11.2**	**+1.2**
SNR=7.5							
AML	**Almayashu**	**18.65**	**326**	*e*P	**Pn**	**14 40 10.9**	**+0.8**
comp=Z,34nm,0.8s							
FRU	**Bishkek**	**18.74**	**329**	*e*P	**Pn**	**14 40 12.0**	**+0.9**
FRU				pmax	pmax		
comp=Z,60nm,2.0s							
FRU				MLR	MLR		
comp=Z,1μm,14.0s							
EKS2	**Erkin-Say**	**19.01**	**327**	P	**Pn**	**14 40 15.7**	**+1.4**
SNR=46							
EKS2	**Erkin-Say**	**19.01**	**327**	⇑*e*P	**Pn**	**14 40 15.4**	**+1.1**
comp=Z,35nm,0.7s							
XAN	**Xi'an**	**19.37**	**65**	P	**Pn**	**14 40 18.0**	**-0.8**
XAN				AP	pP	14 40 21.0	-2.8
XAN				XP	sP	14 40 25.1	-1.6
XAN				PP		14 40 35.6	
XAN				S	**Sn**	**14 43 49.6**	**-5.9**
XAN				SS		14 44 15.8	
XAN				AMB	AMB		
comp=Z,12nm,1.0s							
XAN				AMB	AMB		
comp=Z,86nm,4.8s							
XAN				LR	LR		
comp=N,305nm,6.0s							
XAN				LR	LR		
comp=E,148nm,5.0s							
XAN				LR	LR		
comp=Z,245nm,6.7s							
MK31	**Makanchi Array**	**19.84**	**349**	*e*PKHKP		14 40 22.3	
MKAR	**Makanchi Array**	**19.84**	**349**	P	**Pn**	**14 40 22.3**	**-2.0**
comp=Z,3.2nm,0.3s,baz=180,slow=8.0,SNR=81							
MKAR				LR	LR	14 49 30.4	
comp=Z,517nm,20.1s,baz=185,slow=41							
MKAR	**Makanchi Array**	**19.84**	**349**	P	**Pn**	**14 40 22.3**	**-2.0**
MKAR				LR	LR	14 49 30.4	
QIZ	**Qiongzhong**	**21.93**	**108**	P	**P**	**14 40 47.6**	**+2.1**
QIZ				S	**S**	**14 44 50.0**	**+3.3**
QIZ				AMB	AMB		
comp=Z,56nm,2.1s,mb4.6							
QIZ				AMB	AMB		
comp=Z,428nm,3.7s							
QIZ				LR	LR		
comp=Z,613nm,15.6s,MS4.1							
BTO	**Baotou**	**22.62**	**49**	*e*P	**P**	**14 40 51.2**	**-1.4**
WHN	**Wuhan**	**23.48**	**76**	*e*P	**P**	**14 41 03.0**	**+1.2**
HHC	**Hu-ho-hao-te**	**23.77**	**49**	*e*P	**P**	**14 41 05.1**	**+0.8**
HHC				AP		14 41 09.2	
HHC				XP	sP	14 41 12.1	-1.7
HHC				PP		14 41 38.2	
HHC				PCP	PcP	14 44 50.7	+3.1
HHC				S	**S**	**14 45 17.4**	**-1.0**
HHC				XS	sS	14 45 24.2	-5.2
HHC				SS		14 46 06.5	
HHC				SCP	ScP	14 48 26.0	+1.4
HHC				PCS	PcS	14 48 28.5	+1.5
HHC				AMB	AMB		
comp=Z,20nm,1.0s,mb4.5							
HHC				AMB	AMB		
comp=Z,126nm,6.4s							
HHC				LR	LR		
comp=N,280nm,14.2s,MS4.0							
HHC				LR	LR		
comp=E,258nm,14.3s,MS4.0							
KURK	**Kurchatov**	**24.31**	**346**	⇑*e*PKIKP	**P**	**14 41 09.0**	**-0.1**
KURK				pmax	pmax		
comp=Z,102nm,1.7s,mb5.0							
KURK	**Kurchatov**	**24.31**	**346**	*e*P	**P**	**14 41 09.3**	**+0.2**
KURK	**Kurchatov**	**24.31**	**346**	*e*P	**P**	**14 41 09.2**	**+0.1**
SONM	**Songino Array**	**25.08**	**31**	P	**P**	**14 41 16.8**	**+0.6**
comp=Z,26nm,0.8s,mb4.8,baz=219,slow=8.1,SNR=93							
SONM				ScP	ScP	14 48 27.0	-1.0
comp=Z,1.3nm,0.8s,baz=221,slow=4.1,SNR=5.9							
SONM				LR	LR	14 52 04.6	
comp=Z,235nm,18.2s,MS3.7,baz=223,slow=39							
SONM	**Songino Array**	**25.08**	**31**	P	**P**	**14 41 16.8**	**+0.6**
SONM				ScP	ScP	14 48 27.0	-1.0
SONM				LR	LR	14 52 04.6	
KULM	**Kulim**	**25.18**	**148**	⇑P	**P**	**14 41 17.6**	**+0.1**
ZAK	**Zakamensk**	**25.85**	**23**	*e*PKIKP	**P**	**14 41 23.4**	**+0.3**
ZAK				pmax	pmax		
comp=Z,16nm,0.8s,mb4.6							
ZAK	**Zakamensk**	**25.85**	**23**	*e*P	**P**	**14 41 23.4**	**+0.3**
ZAK				*e*		14 44 51.8	
ZAK				pmax	pmax		
comp=Z,16nm,0.8s,mb4.6							
IPM	**Ipoh**	**26.07**	**149**	⇑P	**P**	**14 41 24.9**	**-0.6**
MOY	**Mondy**	**26.23**	**19**	*e*PKIKP	**P**	**14 41 27.7**	**+1.1**
MOY	**Mondy**	**26.23**	**19**	*e*P	**P**	**14 41 27.7**	**+1.1**
KTGM	**Kuala Trenggan**	**26.39**	**143**	⇓P	**P**	**14 41 29.4**	**+1.0**
ZAL	**Zalesovo**	**26.61**	**356**	P	**P**	**14 41 29.9**	**-0.1**
ZAA0	**Zalesovo Array**	**26.62**	**356**	*e*P	**P**	**14 41 29.9**	**-0.1**
ZALV	**Zalesovo Beam**	**26.62**	**356**	P	**P**	**14 41 29.9**	**-0.2**
comp=Z,22nm,0.8s,mb4.7,baz=179,slow=8.9,SNR=62							
ZALV				LR	LR	14 53 51.3	
comp=Z,261nm,19.0s,MS3.8,baz=224,slow=40							
PSI	**Prapat**	**26.69**	**154**	P	**P**	**14 41 30.4**	**-0.6**
comp=Z,7.3nm,0.6s,mb4.4,baz=343,slow=12,SNR=6.7							
PSI				LR	LR	14 54 35.4	
comp=Z,238nm,19.1s,MS3.8,baz=330,slow=42							
BJI	**Beijing**	**26.69**	**54**	P	**P**	**14 41 31.7**	**+0.8**
BJI				S	**S**	**14 46 07.8**	**+2.8**
BJI				AMB	AMB		
comp=Z,9.0nm,1.0s,mb4.2							
BJI				LR	LR		
comp=N,960nm,10.8s,MS4.7							
BJI				LR	LR		
comp=E,495nm,10.1s,MS4.7							
BJI				LR	LR		
comp=Z,295nm,21.8s							
TLY	**Talaya**	**27.07**	**22**	⇑*i*PKIKP	**P**	**14 41 34.7**	**+0.6**
TLY				pmax	pmax		
comp=Z,4.0nm,1.7s,mb3.7							
TLY	**Talaya**	**27.07**	**22**	*e*P	**P**	**14 41 39.1**	**+5.0**
TLY				MLR	MLR		
comp=Z,248nm,14.0s,MS3.9							
NJ2	**Nanjing**	**27.37**	**73**	*e*P	**P**	**14 41 38.9**	**+1.8**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
FRIM	**Kepong**	**27.44**	**149**	⇓P	**P**	**14 41 38.5**	**+0.7**
NVS	**Novosibirsk**	**27.62**	**354**	*i* P	**P**	**14 41 38.8**	**-0.3**
NVS				*e*		14 42 29.0	
NVS				*e*S	**S**	**14 46 15.0**	**-4.4**
NVS				pmax	pmax		
comp=N,21nm,0.8s							
NVS				pmax	pmax		
comp=E,7.0nm,0.8s							
NVS				pmax	pmax		
comp=Z,20nm,0.8s,mb4.8							
NVS				pmax	pmax		
comp=Z,12nm,1.0s,mb4.5							
NVS				pmax	pmax		
comp=N,10.0nm,1.3s							
NVS				pmax	pmax		
comp=E,6.0nm,1.3s							
NVS				smax			
comp=N,15nm,2.0s							
NVS				smax			
comp=E,9.0nm,2.0s							
BVAR	**Borovoye Array**	**28.68**	**338**	P	**P**	**14 41 48.6**	**+0.2**
comp=E,2.4nm,0.5s,mb4.2,baz=146,slow=11,SNR=15							
BVAR				LR	LR	14 54 36.8	
comp=E,412nm,19.7s,MS4.0,baz=164,slow=39							
BRVK	**Borovoye**	**28.74**	**338**	*e*P	**P**	**14 41 49.2**	**+0.2**
KRAR	**Krasnoyarsk**	**28.84**	**6**	⇑*i*P	**P**	**14 41 50.8**	**+0.9**
KRAR				pmax	pmax		
comp=Z,13nm,0.5s,mb4.9							
KGM	**Kluang**	**29.32**	**147**	⇑P	**P**	**14 41 55.7**	**+1.2**
MYKOM	**Kota Tinggi**	**29.77**	**146**	⇑P	**P**	**14 41 59.6**	**+1.0**
HIA	**Hailar**	**32.90**	**40**	⇑*i*P	**P**	**14 42 26.0**	**+0.2**
SBUM	**Sibu**	**34.12**	**132**	⇓P	**P**	**14 42 37.6**	**+0.8**
KKM	**Kota Kinabalu**	**34.40**	**123**	⇑P	**P**	**14 42 39.8**	**+0.6**
CN2	**Changchun**	**34.42**	**52**	*e*P	**P**	**14 42 40.5**	**+1.4**
CN2				*e*AP	pP	14 42 44.9	-0.9
CN2				*e*S	**S**	**14 48 07.7**	**+1.8**
CN2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.7							
CN2				AMB	AMB		
comp=Z,200nm,5.0s							
CN2				LR	LR		
comp=N,600nm,10.0s,MS4.7							
CN2				LR	LR		
comp=E,400nm,10.0s,MS4.7							
CN2				LR	LR		
comp=Z,500nm,12.0s,MS4.5							
KSRS	**Korea Array**	**35.15**	**63**	P	**P**	**14 42 45.0**	**-0.5**
comp=Z,1.8nm,0.6s,mb4.2,baz=261,slow=8.4,SNR=8.6							
KSRS				ScP	ScP	14 49 00.4	-0.6
comp=Z,1.0nm,0.7s,baz=246,slow=5.1,SNR=4.2							
KSRS				LR	LR	14 57 53.0	
comp=Z,41nm,18.1s,MS3.2,baz=98,slow=38							
SVE	**Sverdlovsk**	**35.17**	**334**	⇓*e*P	**P**	**14 42 46.1**	**+0.7**
SVE				pmax	pmax		
comp=Z,15nm,0.6s,mb5.1							
SVE				MLR	MLR		
comp=Z,237nm,13.0s,MS4.1							
RDF	**Al-Radifah**	**35.35**	**282**	*e*P	**P**	**14 42 45.9**	**-1.3**
baz=282							
RDF				AMb	AMB	14 42 54.6	
comp=Z,28nm,1.2s,mb5.1,baz=282							
MIB	**Mutribah**	**35.42**	**284**	*e*P	**P**	**14 42 46.5**	**-1.5**
baz=284							
MIB				AMb	AMB	14 42 49.0	
comp=Z,19nm,0.6s,mb5.2,baz=284							
NAY	**Al-Naaiem**	**35.57**	**283**	*e*P	**P**	**14 42 48.2**	**-1.0**
baz=283							
NAY				AMb	AMB	14 42 51.1	
comp=Z,11nm,0.9s,mb4.8,baz=283							
ARU	**Arti**	**35.73**	**332**	P	**P**	**14 42 50.9**	**+0.7**
comp=Z,135nm,0.6s,mb6.0,SNR=5.1							
ARU	**Arti**	**35.73**	**332**	*d i*P	**P**	**14 42 50.1**	**-0.1**
ARU						14 44 07.1	
ARU				*e*S	**S**	**14 48 25.9**	**+0.2**
ARU				*e*SS	SS	14 50 45.5	-16
ARU				pmax	pmax		
comp=Z,17nm,1.0s,mb4.9							
ARU				MLR	MLR		
comp=Z,208nm,14.0s,MS4.0							
ARU	**Arti**	**35.73**	**332**	*e*P	**P**	**14 42 50.4**	**+0.3**
comp=Z,13nm,0.6s,mb5.0							
TSM	**Tawau**	**36.79**	**123**	⇑P	**P**	**14 42 59.5**	**-0.2**
SOKR	**Solikamsk**	**38.55**	**335**	*c i*P	**P**	**14 43 14.8**	**+0.7**
SOKR				pmax	pmax		
comp=Z,40nm,1.3s,mb5.0							
AKH	**Akhalkalaki**	**38.68**	**303**	P	**P**	**14 43 18.5**	**+3.1**
ONI	**Oni**	**38.87**	**305**	P	**P**	**14 43 18.7**	**+1.7**
KIV	**Kislovodsk**	**39.63**	**307**	*e*P	**P**	**14 43 19.5**	**-3.8**
KIV				pmax	pmax		
comp=Z,12nm,1.1s,mb4.5							
KIV				MLR	MLR		
comp=Z,200nm,15.0s,MS4.1							
KLR	**Kul'dur**	**40.12**	**45**	*e*P	**P**	**14 43 23.0**	**-4.3**
VRHR	**Novokhopersk**	**41.94**	**317**	*e*P	**P**	**14 43 41.9**	**-0.4**
VRHR				pmax	pmax		
comp=E,10.0nm,0.5s							
VRHR				pmax

YAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
MOS Moscow 45.58 323 *eP* **P 14 44 09.4 -2.1**
SIM Simferopol' 45.84 307 *deP* **P 14 44 13.5 -0.2**
SIM pmax pmax
comp=Z,17nm,0.8s,mb5.0
OBN Obninsk 45.98 322 *d iP* **P 14 44 14.5 -0.2**
OBN *e* 14 45 50.5
OBN *eS* **S 14 50 59.5 +1.2**
OBN pmax pmax
comp=Z,24nm,1.0s,mb5.1
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.1
OBN Obninsk 45.98 222 *eP* **P 14 44 13.7 -1.0**
comp=Z,25nm,1.1s,mb5.1
KLMR Klimovskoe 46.45 330 *eP* **P 14 44 15.5 -2.8**
KLMR pmax pmax
comp=Z,25nm,1.4s,mb5.0
YSS Yuzh-Sakhalins 46.96 50⇓ *iP* **P 14 44 22.2 -0.3**
YSS pmax pmax
comp=Z,27nm,0.8s,mb5.2
AKASG Malin Array Be 49.57 315 P **P 14 44 42.0 -0.6**
comp=Z,7.1nm,0.6s,mb4.9,baz=82,slow=6.7,SNR=32
AKASG LR LR 15 08 00.6
comp=Z,173nm,20.0s,MS4.0,baz=90,slow=39
AKBB Malin Array Si 49.57 315 *eP* **P 14 44 41.2 -1.4**
KIEV Kiev 49.58 315 *eP* **P 14 44 41.3 -1.4**
KIEV pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
KIEV Kiev 49.58 315 *eP* **P 14 44 41.3 -1.4**
comp=Z,5.8nm,0.4s,mb5.0
KIS Kishinev 49.62 310 *eP* **P 14 44 43.0 0.0**
TIXI Tiksi 49.75 16⇓ *iP* **P 14 44 44.7 +1.1**
TIXI pmax pmax
comp=Z,15nm,1.3s,mb4.9
JOF Joensuu 50.81 331 *ep* **P 14 44 51.0 -0.8**
comp=Z,31nm,0.5s,mb5.5
VRI Vrincioaia 51.06 308⇑ *iP* **P 14 44 55.9 +1.9**
VRI Vrincioaia 51.06 308 ⇑ P **P 14 44 55.9 +1.9**
PLOR Plostina 51.12 308⇓ *iP* **P 14 44 56.4 +2.0**
APA Apatity 51.57 337⇓ *iP* **P 14 44 57.5 +0.1**
APA pmax pmax
comp=Z,20nm,0.8s,mb5.1
MLR Muntele Rosu 51.62 308⇓ *iP* **P 14 45 00.0 +1.9**
MLR Muntele Rosu 51.62 308 ⇓ P **P 14 45 00.0 +1.9**
VSU Vasula 51.99 324⇑ *iP* **P 14 45 00.0 -0.7**
KAF Kangasniemi 52.86 329 *ep* **P 14 45 05.3 -1.8**
comp=Z,6.5nm,0.7s,mb4.7,baz=102,slow=7.4
KAF Kangasniemi 52.86 329 *eP* **P 14 45 05.3 -1.8**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
VTS Vitosha 53.77 304⇑ *iP* **P 14 45 15.3 +1.2**
VTS Vitosha 53.77 304 ⇑ P **P 14 45 15.3 +1.1**
DRGR 53.81 309⇑ *iP* **P 14 45 15.3 +1.0**
DRGR 53.81 309 ⇑ P **P 14 45 15.3 +0.9**
UZH Uzhgorod 54.02 312 *d iP* **P 14 45 15.8 0.0**
UZH *i* 14 45 28.0
UZH *eS* **S 14 52 49.0 -1.5**
KOLS Kolonicke sedl 54.02 312 *eP* **P 14 45 15.8 0.0**
SEY Seymchan 54.48 31⇑ *iP* **P 14 45 18.3 -0.6**
KEV Kevo 54.53 338 *ep* **P 14 45 18.1 -1.1**
comp=Z,10nm,0.6s,mb5.0
KEV Kevo 54.53 338 *eP* **P 14 45 18.1 -1.1**
KEV pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
CRVS Cervenica-Dubn 54.56 312 *eP* **P 14 45 20.0 +0.3**
CRVS Cervenica-Dubn 54.56 312 *eP* **P 14 45 20.1 +0.4**
BZS Buzias 54.65 308⇓ *iP* **P 14 45 21.3 +0.9**
BZS Buzias 54.65 308 ⇓ P **P 14 45 21.3 +0.9**
ARCES ARCESS Array B 54.97 338 P **P 14 45 22.5 +0.1**
comp=Z,12nm,0.7s,mb5.0,baz=112,slow=7.9,SNR=56
ARCES LR LR 15 10 38.2
comp=Z,135nm,18.8s,MS4.0,baz=264,slow=38
ARE0 ARCESS Array S 54.97 338 *eP* **P 14 45 22.1 -0.3**
KECS Kecovo 55.22 312 *eP* **P 14 45 24.5 -0.1**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
KECS Kecovo 55.22 312 *eP* **P 14 45 24.5 -0.1**
comp=Z,2.1nm,0.9s,mb4.2
NIE Niedzica 55.29 313 *eP* **P 14 45 26.5 +1.5**
OJC Ojcow 55.58 314 *eP* **P 14 45 27.1 0.0**
PSZ Piszkesteto 55.65 311⇓ *eP* **P 14 45 28.6 +0.9**
PSZ Piszkesteto 55.65 311⇓ *iP* **P 14 45 28.4 +0.7**
PSZ Piszkesteto 55.65 311 ⇓ P **P 14 45 28.4 +0.7**
LIKS Likavka 56.10 312 *eP* **P 14 45 27.3 -3.5**
KMBO Kilima Mbogo 56.17 248 P **P 14 45 31.7 -0.1**
comp=Z,1.7nm,0.6s,mb4.2,baz=46,slow=17,SNR=4.7
BUD Budapest 56.27 311⇑ *eP* **P 14 45 32.4 +0.3**
KOLL Kolacno 56.60 312 *eP* **P 14 45 34.6 +0.2**
PKSM Moragy 56.66 309⇓ *iP* **P 14 45 35.0 +0.1**
OKC Ostrava-Krasne 56.67 313 *eP* **P 14 45 35.5 +0.6**
PETK Petropavlovsk- 56.72 43 P **P 14 45 35.0 -0.2**
comp=Z,1.2nm,0.6s,mb4.1,baz=260,slow=5.9,SNR=4.6
PETK Petropavlovsk- 56.72 43 P **P 14 45 35.0 -0.2**
MORC Moravsky Berou 57.06 313⇓ *iP* **P 14 45 38.4 +0.7**
MORC Moravsky Berou 57.06 313 ⇓ P **P 14 45 38.4 +0.7**
MBWA Marble Bar 57.34 144 *eP* **P 14 45 39.8 -0.2**
comp=Z,19nm,1.1s,mb5.0
MODS Modra-Piesok 57.36 312 *eP* **P 14 45 39.9 +0.1**
ZST Bratislava 57.49 312 *eP* **P 14 45 41.0 +0.2**
ZST pmax pmax
comp=Z,12nm,0.6s,mb5.1
ZST Bratislava 57.49 312 *eP* **P 14 45 41.0 +0.2**
comp=Z,12nm,0.6s,mb5.1
VRAC Vranov 57.72 313⇓ *iP* **P 14 45 43.0 +0.7**
VRAC Vranov 57.72 313 ⇓ P **P 14 45 43.0 +0.6**
KSP Ksiaz 57.77 315 *eP* **P 14 45 42.9 +0.2**
DPC Dobruska-Polom 57.80 314 *eP* **P 14 45 43.6 +0.8**
DPC AMS AMS 15 12 40.0
comp=Z,200nm,14.5s
SOP Sopron 57.91 311⇑ *eP* **P 14 45 44.1 +0.4**
UPC Upice 57.98 314 *eP* **P 14 45 44.5 +0.4**
CONA Conrad Observa 58.35 311 *i P* **P 14 45 47.2 +0.4**
comp=Z,56nm,1.8s,mb5.3,SNR=18
CSNA Conrad Observa 58.35 311⇑ *iP* **P 14 45 47.2 +0.4**
comp=Z,52nm,1.8s,mb5.3
ARSA Arzberg 58.66 311⇑ *iP* **P 14 45 49.0 +0.1**
comp=Z,75nm,2.6s,mb5.3
PVCC Panska Ves 58.89 314 *eP* **P 14 45 51.0 +0.5**
PVCC AMS AMS 15 13 20.0
comp=Z,200nm,19.9s
PRU Pruhonice 58.97 314 *eP* **P 14 45 51.6 +0.5**
PRU AMS AMS 15 15 50.0
comp=Z,100nm,16.1s
SOKA Soboth 59.08 310⇑ *iP* **P 14 45 52.3 +0.4**
comp=Z,58nm,2.0s,mb5.3
BRG Berggiesshubel 59.25 315 *i P* **P 14 45 53.5 +0.5**
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BRG Berggiesshubel 59.25 315 *eP* **P 14 45 52.9 -0.1**
comp=Z,12nm,0.9s,mb4.9
BRG Berggiesshubel 59.25 315 *i P* **P 14 45 53.5 +0.5**
comp=Z,12nm,0.9s,mb4.9
MOA Molln 59.43 311 *i P* **P 14 45 54.2 0.0**
comp=Z,16nm,1.1s,mb5.0,SNR=25
OBKA Obir 59.43 310⇑ *iP* **P 14 45 54.8 +0.5**
comp=Z,9.1nm,1.0s,mb4.8
GEC2 GERESS Array S 59.66 313 *eP* **P 14 45 55.8 -0.1**
GEC2 pmax pmax
comp=Z,16nm,0.8s,mb5.1
GEC2 GERESS Array S 59.66 313 *eP* **P 14 45 55.8 -0.1**
comp=Z,16nm,0.8s,mb5.1
GERES GERESS Array B 59.66 313 P **P 14 45 56.5 +0.6**
comp=Z,10nm,0.7s,mb5.0,baz=88,slow=7.1
KHC Kasperske Hory 59.70 313 *c iP* **P 14 45 56.1 0.0**
KHC Kasperske Hory 59.70 313 *eP* **P 14 45 56.5 +0.4**
KHC *ep*P pP 14 46 05.5 +2.3
KHC AMS AMS 15 13 50.0
comp=Z,200nm,17.3s
CLL Collm 59.79 316 *i P* **P 14 45 56.5 -0.2**
CLL *e* pP 14 46 04.0 +0.3
CLL *i* 14 46 44.2
CLL pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
CLL MLR MLR
comp=Z,300nm,20.8s,MS4.4
CLL Collm 59.79 316 *i P* **P 14 45 56.5 -0.2**
comp=Z,10.0nm,1.3s,mb4.7
CLL Lm 14 14 00.0
comp=Z,300nm,20.8s
CLL *ex* x 14 46 04.0
CLL *i* PcP PcP 14 46 44.2 +1.0
CLL Collm 59.79 316 *i P* **P 14 45 56.5 -0.2**
comp=Z,10.0nm,1.3s,mb4.7
CLL *e* pP 14 46 04.0 +0.3
CLL *i* PcP PcP 14 46 44.2 +1.0
CLL LR LR
comp=Z,300nm,20.8s,MS4.4
NB2 NORSAR Subarra 59.96 327 P **P 14 45 56.6 -1.1**
comp=Z,14nm,0.8s,mb5.0,baz=86,slow=6.9
NOA NORSAR Array B 59.96 327 P **P 14 45 56.9 -0.8**
comp=Z,8.5nm,0.7s,mb4.9,baz=87,slow=6.9,SNR=49
NOA LR LR 15 14 30.3
comp=Z,66nm,18.5s,MS3.8,baz=70,slow=39
NOA NORSAR Array B 59.96 327 P **P 14 45 56.9 -0.8**
NOA LR LR 15 14 30.3
NAO01 NORSAR Array S 60.13 327 *eP* **P 14 45 57.8 -1.0**
comp=Z,3.8nm,0.4s,mb4.8
WET Wettzell 60.16 313 *eP* **P 14 45 59.2 0.0**
WET pmax pmax
comp=Z,14nm,0.8s,mb5.0
WET Wettzell 60.16 313 *eP* **P 14 45 59.2 0.0**
comp=Z,14nm,0.8s,mb5.0
NKC Novy Kostel 60.28 314 *eP* **P 14 46 00.3 +0.2**
RJOB Jochberg 60.42 311 *eP* **P 14 46 01.3 +0.2**
comp=Z,11nm,1.0s,mb4.8
ROTZ Rotzenmuhle 60.50 314 *eP* **P 14 46 02.1 +0.5**
comp=Z,20nm,1.0s,mb5.1
MANZ Manzenberg 60.53 314 *eP* **P 14 46 02.2 +0.4**
comp=Z,21nm,1.4s,mb5.1
BILL Bilibino 60.63 25⇑ *iP* **P 14 46 02.8 +0.6**
BILL pmax pmax
comp=Z,15nm,1.7s,mb4.8
MOX Moxa 60.75 315 *eP* **P 14 46 03.6 +0.4**
comp=Z,17nm,1.2s,mb5.0
MOX Moxa 60.75 315 *eP* **P 14 46 03.6 +0.4**
MOX pmax pmax
comp=Z,17nm,1.2s,mb5.0
MOX Moxa 60.75 315 *eP* **P 14 46 03.1 -0.1**
comp=Z,11nm,0.9s,mb5.0
BSEG Bad Segeberg 61.08 319 *eP* **P 14 46 05.6 +0.1**
comp=Z,33nm,0.9s,mb5.5
GRA1 Grafenberg Arr 61.14 314 *eP* **P 14 46 06.5 +0.5**
comp=Z,15nm,1.1s,mb5.0
GRA1 LR LR
comp=Z,200nm,18.4s,MS4.3
GRF Grafenberg Arr 61.14 314 *eP* **P 14 46 06.5 +0.5**
GRF pmax pmax
comp=Z,15nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,200nm,18.4s,MS4.3
GRF Grafenberg Arr 61.14 314 *eP* **P 14 46 06.5 +0.5**
GRF pmax pmax
comp=Z,15nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,200nm,18.4s,MS4.3
GRF Grafenberg Arr 61.14 314 *eP* **P 14 46 06.5 +0.5**
comp=Z,15nm,1.1s,mb5.0
GRF *eL* 15 15 11.7
comp=Z,238nm,18.4s
WTTA Wattenberg 61.28 311 *i P* **P 14 46 06.4 -0.6**
comp=Z,24nm,1.1s,mb5.2,SNR=10.0
WTTA Wattenberg 61.28 311 *i P* **P 14 46 06.4 -0.5**
WTTA pmax pmax
comp=Z,24nm,1.1s,mb5.2
WATA Walderalm 61.31 311⇑ *iP* **P 14 46 06.5 -0.7**
comp=Z,8.2nm,0.9s,mb4.8,SNR=7.1
WATA Walderalm 61.31 311⇑ *iP* **P 14 46 06.5 -0.6**
WATA pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CLZ Clausthal 61.34 316 *eP* **P 14 46 07.2 -0.1**
CLZ pmax pmax
comp=Z,32nm,0.8s,mb5.5
CLZ Clausthal 61.34 316 *eP* **P 14 46 07.2 -0.1**
comp=Z,32nm,0.8s,mb5.5
FUR Furstenfeldbru 61.36 312 *eP* **P 14 46 07.5 0.0**
FUR pmax pmax
comp=Z,26nm,0.9s,mb5.4
FUR Furstenfeldbru 61.36 312 *eP* **P 14 46 07.5 0.0**
comp=Z,26nm,0.9s,mb5.4
MOTA Moosalm 61.62 311⇓ *iP* **P 14 46 08.5 -0.8**
comp=Z,11nm,0.8s,mb5.0,SNR=22
MOTA Moosalm 61.62 311⇓ *iP* **P 14 46 08.5 -0.7**
MOTA pmax pmax
comp=Z,11nm,0.8s,mb5.0
UBBA Unterbreizbach 61.73 315 *eP* **P 14 46 09.6 -0.3**
comp=Z,7.0nm,1.1s,mb4.7
RETA Reutte 61.82 311⇑ *iP* **P 14 46 10.2 -0.4**
comp=Z,31nm,1.7s,mb5.2
FETA Feichten 61.93 311⇑ *iP* **P 14 46 10.8 -0.5**
comp=Z,10nm,1.0s,mb4.9,SNR=16
DAVA Damuels 62.45 311 *i P* **P 14 46 14.6 -0.2**
comp=Z,37nm,1.1s,mb5.4,SNR=17
STU Stutgart 62.61 313 *eP* **P 14 46 15.6 -0.3**
comp=Z,20nm,0.8s,mb5.3
STU Stuttgart 62.61 313 *eP* **P 14 46 16.6 +0.7**
TNS Taunus Mts 62.81 315 *eP* **P 14 46 17.1 -0.1**
TNS pmax pmax
comp=Z,18nm,0.8s,mb5.2
TNS Taunus Mts 62.81 315 *eP* **P 14 46 17.1 -0.1**
comp=Z,18nm,0.8s,mb5.2
IBBN Ibbenburen 62.86 317 *eP* **P 14 46 17.4 0.0**
comp=Z,26nm,0.8s,mb5.4
TUE Stuetta 62.97 311 *eP* **P 14 46 17.5 -0.8**
comp=Z,12nm,0.8s,mb5.1
SPAK Spaichingen-Ko 63.01 312 *eP* **P 14 46 18.2 -0.3**
BFO Black Forest 63.26 313 *eP* **P 14 46 19.7 -0.5**
BFO pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
BFO Black Forest 63.26 313 *eP* **P 14 46 19.7 -0.5**
comp=Z,6.0nm,1.0s,mb4.7
BFO Black Forest 63.26 313 *eP* **P 14 46 18.8 -1.4**
BUG Bochum--Univer 63.32 316 *eP* **P 14 46 20.3 -0.2**
comp=Z,24nm,0.8s,mb5.4
LANF Langenberg 63.47 314 *eP* **P 14 46 21.7 +0.1**
FELD Feldberg im Sc 63.57 312 *eP* **P 14 46 21.9 -0.3**
RUP Ruppelstein 63.80 314 *eP* **P 14 46 23.9 +0.2**
CDF Champ du Feu 63.93 313⇑ *iP* **P 14 46 24.4 -0.2**
comp=Z,34nm,1.0s,mb5.0
CDF Champ du Feu 63.93 313⇑ *iP* **P 14 46 24.4 -0.2**
CDF pmax pmax
comp=Z,17nm,1.0s,mb5.0
CDF Champ du Feu 63.93 313⇑ *iP* **P 14 46 24.4 -0.2**
comp=Z,17nm,1.0s,mb5.0
BBS Basel-Blauen 63.99 312 *eP* **P 14 46 24.3 -0.7**
ECH Echery 64.05 313 *eP* **P 14 46 24.7 -0.7**
PGF Pioggiola 64.11 306 *eP* **P 14 46 25.4 -0.5**
comp=Z,39nm,1.0s,mb5.1
PGF Pioggiola 64.11 306 *eP* **P 14 46 25.4 -0.5**
PGF pmax pmax
comp=Z,20nm,1.0s,mb5.1
PGF Pioggiola 64.11 306 *eP* **P 14 46 25.4 -0.5**
comp=Z,20nm,1.0s,mb5.1
MOF Molkenrain 64.15 312 *eP* **P 14 46 26.0 -0.1**
MEM Membach 64.27 316 P **P 14 46 26.9 +0.2**
comp=Z,11nm,1.1s,mb4.8
HINF Hinteralfeld 64.34 312⇑ *iP* **P 14 46 26.9 -0.4**
comp=Z,36nm,1.0s,mb5.0
HINF Hinteralfeld 64.34 312⇑ *iP* **P 14 46 26.9 -0.4**
HINF pmax pmax
comp=Z,18nm,1.0s,mb5.1
HINF Hinteralfeld 64.34 312⇑ *iP* **P 14 46 26.9 -0.4**
comp=Z,18nm,1.0s,mb5.0
WLF Walferdange 64.38 315 P **P 14 46 28.4 +0.9**
comp=Z,21nm,1.4s,mb5.0
WLF Walferdange 64.38 315 *eP* **P 14 46 27.9 +0.4**
comp=Z,36nm,1.0s,mb5.4
WLF Walferdange 64.38 315 *eP* **P 14 46 28.4 +0.9**
LOMF Lomont 64.46 312 *eP* **P 14 46 27.3 -0.8**
HAU Haudompre 64.63 313⇑ *iP* **P 14 46 28.9 -0.3**
comp=Z,40nm,0.8s,mb5.2
HAU *e*MLR MLR
comp=Z,171nm,21.5s,MS3.9
HAU Haudompre 64.63 313⇑ *iP* **P 14 46 28.9 -0.3**
HAU pmax pmax
comp=Z,20nm,0.8s,mb5.2
HAU MLR MLR
comp=Z,170nm,21.5s,MS4.2
HAU Haudompre 64.63 313⇑ *iP* **P 14 46 28.9 -0.3**
comp=Z,20nm,0.8s,mb5.2
HAU LR LR
comp=Z,170nm,21.5s,MS4.2
BCLA Clavier 64.75 315 P **P 14 46 30.1 +0.2**
comp=Z,4.7nm,0.9s,mb4.5
SAOF Saorge 64.78 308 *eP* **P 14 46 30.5 +0.3**
SBF Sospel 64.89 308 *eP* **P 14 46 30.9 -0.1**
LPG La Plagne 64.96 310⇑ *iP* **P 14 46 31.8 +0.4**
comp=Z,38nm,0.9s,mb5.1
LPG La Plagne 64.96 310⇑ *iP* **P 14 46 31.8 +0.4**
LPG pmax pmax
comp=Z,19nm,0.9s,mb5.1
LPG La Plagne 64.96 310⇑ *iP* **P 14 46 31.8 +0.4**
comp=Z,19nm,0.9s,mb5.1
LPL La Plagne 64.97 310⇑ *iP* **P 14 46 31.8 +0.4**
comp=Z,43nm,1.0s,mb5.1
LPL La Plagne 64.97 310⇑ *iP* **P 14 46 31.8 +0.4**
LPL pmax pmax
comp=Z,21nm,1.0s,mb5.1
LPL La Plagne 64.97 310⇑ *iP* **P 14 46 31.8 +0.4**
comp=Z,21nm,1.0s,mb5.1
MUN Mundaring 64.97 153⇑ *iP* **P 14 46 30.5 -1.0**
TOUF Mont Tournerai 64.98 308 *eP* **P 14 46 32.3 +0.7**
RSL Roselend 65.00 310 *eP* **P 14 46 31.6 0.0**
MVIF Mont Vial 65.08 308 *eP* **P 14 46 29.5 -2.7**
BNI Bardonecchia 65.12 309 *eP* **P 14 46 31.2 -1.2**
BNI pmax pmax
comp=Z,15nm,1.0s,mb5.0
BNI Bardonecchia 65.12 309 *eP* **P 14 46 31.2 -1.3**
comp=Z,15nm,1.0s,mb5.0
GIVF Givet 65.12 315⇑ *iP* **P 14 46 32.4 +0.1**
comp=Z,26nm,0.9s,mb4.9
GIVF Givet 65.12 315⇑ *iP* **P 14 46 32.4 +0.1**
GIVF pmax pmax
comp=Z,13nm,0.9s,mb5.0
GIVF Givet 65.12 315⇑ *iP* **P 14 46 32.4 +0.1**
comp=Z,13nm,0.9s,mb5.0
CABF La Chapelle 65.13 311⇑ *iP* **P 14 46 32.5 0.0**
comp=Z,17nm,0.7s,mb4.9
CABF La Chapelle 65.13 311⇑ *iP* **P 14 46 32.5 0.0**
CABF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
CABF La Chapelle 65.13 311⇑ *iP* **P 14 46 32.5 0.0**
comp=Z,8.6nm,0.7s,mb4.9
MBDF Montbardon 65.14 309 *eP* **P 14 46 31.9 -0.6**
comp=Z,14nm,0.6s,mb4.8
MBDF Montbardon 65.14 309 *eP* **P 14 46 31.9 -0.6**
MBDF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MBDF Montbardon 65.14 309 *eP* **P 14 46 31.9 -0.6**
comp=Z,6.8nm,0.6s,mb4.8
WRA Warramunga Arr 65.19 131 P **P 14 46 32.7 -0.4**
comp=Z,5.6nm,0.5s,mb4.8,baz=324,slow=6.7,SNR=116
WRAB Tennant Creek 65.19 131 *d iP* **P 14 46 32.6 -0.6**
WRAB Tennant Creek 65.19 131 *eP* **P 14 46 32.8 -0.4**
comp=Z,10nm,0.7s,mb5.0
WB2 Warramunga Arr 65.20 131⇓ *iP* **P 14 46 32.7 -0.5**
KLBR Kellerberrin 65.26 152 *eP* **P 14 46 31.6 -1.8**
comp=Z,5.8nm,0.5s,mb4.9
DOU Dourbes 65.26 315 P **P 14 46 33.5 +0.2**
comp=Z,4.1nm,1.1s,mb4.4
MEZF Maizieres J'vi 65.35 313⇑ *iP* **P 14 46 33.9 0.0**
comp=Z,72nm,0.8s,mb5.5
MEZF Maizieres J'vi 65.35 313⇑ *iP* **P 14 46 33.9 0.0**
comp=Z,72nm,0.8s,mb5.8
BAIF Baives 65.51 315⇑ *iP* **P 14 46 35.0 +0.1**
comp=Z,28nm,1.0s,mb5.0
BAIF Baives 65.51 315⇑ *iP* **P 14 46 35.0 +0.1**
BAIF pmax pmax
comp=Z,14nm,1.0s,mb5.0
BAIF Baives 65.51 315⇑ *iP* **P 14 46 35.0 +0.1**
comp=Z,14nm,1.0s,mb4.9
FRF La Foret Royal 65.52 308⇑ *iP* **P 14 46 34.9 -0.2**
comp=Z,60nm,1.1s,mb5.2
FRF La Foret Royal 65.52 308⇑ *iP* **P 14 46 34.9 -0.2**
FRF pmax pmax
comp=Z,30nm,1.1s,mb5.2
FRF La Foret Royal 65.52 308⇑ *iP* **P 14 46 34.9 -0.2**
comp=Z,30nm,1.1s,mb5.2
LMR La Mourre 65.68 308 *eP* **P 14 46 36.1 0.0**
comp=Z,43nm,1.1s,mb5.1
LMR La Mourre 65.68 308 *eP* **P 14 46 36.1 0.0**
LMR pmax pmax
comp=Z,21nm,1.1s,mb5.1
LMR La Mourre 65.68 308 *eP* **P 14 46 36.1 0.0**
comp=Z,21nm,1.1s,mb5.1
KEST Kesra 65.69 299 P **P 14 46 36.6 +0.3**
comp=Z,3.2nm,0.9s,mb4.3,baz=80,slow=4.9,SNR=8.3
ORIF Oris-en-Rattie 65.70 309 *eP* **P 14 46 35.7 -0.5**
comp=Z,17nm,0.9s,mb4.8
ORIF *e*MLR MLR
comp=Z,234nm,18.8s,MS4.1
ORIF Oris-en-Rattie 65.70 309 *eP* **P 14 46 35.7 -0.5**
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 65.70 309 *eP* **P 14 46 35.7 -0.5**
comp=Z,8.6nm,0.9s,mb4.8
VILF Villemus 66.09 308 *eP* **P 14 46 39.2 +0.4**
SMRF Simiane la Rot 66.16 309 *eP* **P 14 46 39.2 0.0**
PUYF Puyloubier 66.19 308 *eP* **P 14 46 40.1 +0.7**
LOR Lormes 66.44 312⇑ *iP* **P 14 46 40.3 -0.6**
comp=Z,42nm,1.2s,mb5.1
LOR *e*MLR MLR
comp=Z,143nm,19.5s,MS3.9
LOR Lormes 66.44 312⇑ *iP* **P 14 46 40.3 -0.6**
LOR pmax pmax
comp=Z,21nm,1.2s,mb5.0
LOR MLR MLR
comp=Z,140nm,19.5s,MS4.2
LOR Lormes 66.44 312⇑ *iP* **P 14 46 40.3 -0.6**
comp=Z,21nm,1.2s,mb5.0
LOR LR LR
comp=Z,140nm,19.5s,MS4.2
PRAF Pradon 66.49 308 *eP* **P 14 46 42.0 +0.7**
SSB Saint Sauveur 66.52 310 *eP* **P 14 46 39.9 -1.6**
VIVF Saint-Julien-l 66.54 310⇑ *iP* **P 14 46 41.4 -0.2**
comp=Z,35nm,1.2s,mb5.0
VIVF Saint-Julien-l 66.54 310⇑ *iP* **P 14 46 41.4 -0.2**
VIVF pmax pmax
comp=Z,18nm,1.2s,mb5.0
VIVF Saint-Julien-l 66.54 310⇑ *iP* **P 14 46 41.4 -0.2**
comp=Z,18nm,1.2s,mb5.0
SMF Signal de Mont 66.62 312⇑ *iP* **P 14 46 41.6 -0.5**
comp=Z,63nm,1.1s,mb5.3
SMF Signal de Mont 66.62 312⇑ *iP* **P 14 46 41.6 -0.5**
SMF pmax pmax
comp=Z,32nm,1.1s,mb5.3
SMF Signal de Mont 66.62 312⇑ *iP* **P 14 46 41.6 -0.5**
comp=Z,32nm,1.1s,mb5.3
SSF Saint Saulge 66.73 312⇑ *iP* **P 14 46 42.3 -0.5**
comp=Z,55nm,0.8s,mb5.3
SSF Saint Saulge 66.73 312⇑ *iP* **P 14 46 42.3 -0.5**
SSF pmax pmax
comp=Z,28nm,0.8s,mb5.3
SSF Saint Saulge 66.73 312⇑ *iP* **P 14 46 42.3 -0.5**
comp=Z,28nm,0.8s,mb5.3
AVF Avril sur Loir 66.90 312⇑ *iP* **P 14 46 43.3 -0.6**
comp=Z,40nm,0.8s,mb5.2
AVF Avril sur Loir 66.90 312⇑ *iP* **P 14 46 43.3 -0.6**
AVF pmax pmax
comp=Z,20nm,0.8s,mb5.2
AVF Avril sur Loir 66.90 312⇑ *iP* **P 14 46 43.3 -0.6**
comp=Z,20nm,0.8s,mb5.2
PLDF La Plantade 66.95 311 *eP* **P 14 46 43.6 -0.6**
HYF Humbligny 67.24 313⇑ *iP* **P 14 46 46.2 +0.2**
AGO Saint Agoulin 67.26 311 *eP* **P 14 46 46.3 +0.2**
BGF Bois d'Agland 67.30 312 *eP* **P 14 46 46.0 -0.4**
comp=Z,22nm,0.8s,mb4.9
BGF Bois d'Agland 67.30 312 *eP* **P 14 46 46.0 -0.4**
BGF pmax pmax
comp=Z,11nm,0.8s,mb4.9
BGF Bois d'Agland 67.30 312 *eP* **P 14 46 46.0 -0.4**
comp=Z,11nm,0.8s,mb4.9
LASF Ste Croix 67.32 309⇑ *iP* **P 14 46 46.7 +0.1**
comp=Z,27nm,1.0s,mb4.9
LBL Lubilhac 67.41 310 *eP* **P 14 46 46.8 -0.3**
PYM Petit Puy Mans 67.42 311 *eP* **P 14 46 47.1 -0.1**
ASAR Alice Springs 67.55 134 P **P 14 46 48.0 -0.2**
comp=Z,7.3nm,0.6s,mb4.9,baz=319,slow=5.5,SNR=163
MLA1 Latheron 67.69 325 *eP* **P 14 46 48.4 -0.3**
TCF Toulx Ste Croi 67.80 312⇑ *iP* **P 14 46 49.7 +0.1**
comp=Z,69nm,1.0s,mb5.3
TCF Toulx Ste Croi 67.80 312⇑ *iP* **P 14 46 49.7 +0.1**
TCF pmax pmax
comp=Z,35nm,1.0s,mb5.3
TCF Toulx Ste Croi 67.80 312⇑ *iP* **P 14 46 49.7 +0.1**
comp=Z,35nm,1.0s,mb5.3
MCD Coleburn Disti 67.84 324 *eP* **P 14 46 49.8 +0.2**
XSO Sourhope Farm 67.89 322 *eP* **P 14 46 50.3 +0.4**
ESY Stoneypath 67.97 323 *eP* **P 14 46 50.0 -0.5**
HPK Haverah Park 67.97 320 *eP* **P 14 46 50.5 0.0**
HPK AMb AMB 14 46 52.6
comp=Z,32nm,1.6s,mb5.1
XAL Allendale 68.05 321 *eP* **P 14 46 50.5 -0.4**
CWF Charnwood Fore 68.14 319 *eP* **P 14 46 51.0 -0.6**
CWF AMb AMB 14 46 56.7
comp=Z,42nm,1.9s,mb5.2

EDI	**Edinburgh**	**68.27**	**323**	*e*P	**P**	**14 46 52.2 -0.2**
EDI				AMb	AMB	14 46 54.7
comp=Z,30nm,1.6s,mb5.1						
CAF	**Calviac**	**68.30**	**310**⇑	*i*P	**P**	**14 46 52.8 +0.1**
comp=Z,34nm,1.0s,mb5.0						
CAF	**Calviac**	**68.30**	**310**⇑	*i*P	**P**	**14 46 52.8 +0.1**
CAF				pmax	pmax	
comp=Z,17nm,1.0s,mb5.0						
CAF	**Calviac**	**68.30**	**310**⇑	*i*P	**P**	**14 46 52.8 +0.1**
comp=Z,17nm,1.0s,mb5.0						
KWE	**Weaver Farm**	**68.37**	**319**	*e*P	**P**	**14 46 52.7 -0.3**
EAU	**Auchinoon**	**68.44**	**323**	*e*P	**P**	**14 46 53.6 +0.2**
MDO	**Dochfour**	**68.45**	**324**	*e*P	**P**	**14 46 53.1 -0.3**
ECK	**Cauldkaine Hil**	**68.46**	**322**	*e*P	**P**	**14 46 53.2 -0.3**
ESK	**Eskdalemuir**	**68.46**	**322**	*e*P	**P**	**14 46 53.4 -0.1**
ESK				AMb	AMB	14 46 54.6
comp=Z,40nm,1.7s,mb5.2						
ESK	**Eskdalemuir**	**68.46**	**322**	*e*P	**P**	**14 46 52.5 -1.1**
RJF	**Les Rejaudoux**	**68.56**	**311**⇑	*i*P	**P**	**14 46 54.7 +0.4**
comp=Z,36nm,1.0s,mb5.0						
RJF				*e*MLR	MLR	
comp=Z,149nm,18.0s,MS4.0						
RJF	**Les Rejaudoux**	**68.56**	**311**⇑	*i*P	**P**	**14 46 54.7 +0.4**
RJF				pmax	pmax	
comp=Z,18nm,1.0s,mb5.0						
RJF				MLR	MLR	
comp=Z,150nm,18.0s,MS4.3						
RJF	**Les Rejaudoux**	**68.56**	**311**	*i*P	**P**	**14 46 54.7 +0.4**
comp=Z,18nm,1.0s,mb5.0						
RJF				LR	LR	
comp=Z,150nm,18.0s,MS4.3						
LDF	**La Druitiere**	**68.64**	**315**⇑	*i*P	**P**	**14 46 54.3 -0.5**
comp=Z,47nm,0.8s,mb5.2						
LDF	**La Druitiere**	**68.64**	**315**⇑	*i*P	**P**	**14 46 54.3 -0.5**
LDF				pmax	pmax	
comp=Z,24nm,0.8s,mb5.2						
LDF	**La Druitiere**	**68.64**	**315**⇑	*i*P	**P**	**14 46 54.3 -0.5**
comp=Z,24nm,0.8s,mb5.2						
MTLF	**Montolieu**	**68.68**	**309**	*e*P	**P**	**14 46 55.0 -0.1**
comp=Z,32nm,1.2s,mb4.8						
MTLF	**Montolieu**	**68.68**	**309**	*e*P	**P**	**14 46 55.0 -0.1**
MTLF				pmax	pmax	
comp=Z,16nm,1.2s,mb4.8						
MTLF	**Montolieu**	**68.68**	**309**	*e*P	**P**	**14 46 55.0 -0.1**
comp=Z,16nm,1.2s,mb4.8						
FLN	**La Foliniere**	**68.81**	**315**⇑	*i*P	**P**	**14 46 55.3 -0.6**
comp=Z,18nm,0.8s,mb4.7						
FLN				*e*MLR	MLR	
comp=Z,251nm,21.5s,MS4.1						
FLN	**La Foliniere**	**68.81**	**315**⇑	*i*P	**P**	**14 46 55.3 -0.6**
FLN				pmax	pmax	
comp=Z,9.0nm,0.8s,mb4.8						
FLN				MLR	MLR	
comp=Z,250nm,21.5s,MS4.4						
FLN	**La Foliniere**	**68.81**	**315**⇑	*i*P	**P**	**14 46 55.3 -0.6**
comp=Z,9.1nm,0.8s,mb4.8						
FLN				LR	LR	
comp=Z,250nm,21.5s,MS4.4						
HAE	**Alders End**	**69.08**	**319**	*e*P	**P**	**14 46 57.1 -0.4**
GRR	**Gorron**	**69.17**	**315**⇑	*i*P	**P**	**14 46 57.6 -0.5**
comp=Z,33nm,0.8s,mb5.0						
GRR	**Gorron**	**69.17**	**315**⇑	*i*P	**P**	**14 46 57.6 -0.5**
GRR				pmax	pmax	
comp=Z,17nm,0.8s,mb5.0						
GRR	**Gorron**	**69.17**	**315**⇑	*i*P	**P**	**14 46 57.6 -0.5**
comp=Z,17nm,0.8s,mb5.0						
MFF	**Saint Martin d**	**69.26**	**313**⇑	*i*P	**P**	**14 46 58.2 -0.5**
comp=Z,20nm,0.7s,mb4.8						
MFF	**Saint Martin d**	**69.26**	**313**⇑	*i*P	**P**	**14 46 58.2 -0.5**
MFF				pmax	pmax	
comp=Z,10.0nm,0.7s,mb4.8						
MFF	**Saint Martin d**	**69.26**	**313**⇑	*i*P	**P**	**14 46 58.2 -0.5**
comp=Z,9.9nm,0.7s,mb4.8						
HGH	**Gray Hill**	**69.35**	**318**	*e*P	**P**	**14 46 57.8 -1.3**
MCH1	**Michaelchurch**	**69.35**	**319**	*e*P	**P**	**14 46 58.4 -0.7**
MCH1				AMb	AMB	14 47 01.0
comp=Z,33nm,1.7s,mb5.0						
HTR	**Trewern Hill**	**69.49**	**319**	*e*P	**P**	**14 46 59.3 -0.7**
SGMF	**Saint Gilles**	**70.28**	**315**⇑	*i*P	**P**	**14 47 04.8 -0.2**
comp=Z,52nm,0.9s,mb5.2						
SGMF	**Saint Gilles**	**70.28**	**315**⇑	*i*P	**P**	**14 47 04.8 -0.2**
SGMF				pmax	pmax	
comp=Z,26nm,0.9s,mb5.2						
SGMF	**Saint Gilles**	**70.28**	**315**⇑	*i*P	**P**	**14 47 04.8 -0.2**
comp=Z,26nm,0.9s,mb5.2						
HTL	**Hartland**	**70.56**	**318**	*e*P	**P**	**14 47 06.5 -0.1**
HTL				AMb	AMB	14 47 13.1
comp=Z,36nm,1.5s,mb5.1						
ROSF	**Rostrenen**	**70.71**	**315**⇑	*i*P	**P**	**14 47 07.3 -0.2**
comp=Z,39nm,0.7s,mb5.2						
ROSF	**Rostrenen**	**70.71**	**315**⇑	*i*P	**P**	**14 47 07.3 -0.2**
ROSF				pmax	pmax	
comp=Z,20nm,0.7s,mb5.2						
ROSF	**Rostrenen**	**70.71**	**315**⇑	*i*P	**P**	**14 47 07.3 -0.2**
comp=Z,20nm,0.7s,mb5.2						
ETSF	**Etsaut**	**70.74**	**309**	*e*P	**P**	**14 47 07.4 -0.5**
comp=Z,9.7nm,0.7s,mb4.5						
ETSF	**Etsaut**	**70.74**	**309**	*e*P	**P**	**14 47 07.4 -0.5**
ETSF				pmax	pmax	
comp=Z,5.0nm,0.7s,mb4.5						
ETSF	**Etsaut**	**70.74**	**309**	*e*P	**P**	**14 47 07.4 -0.5**
comp=Z,4.8nm,0.7s,mb4.5						
QUIF	**Quistinic**	**70.78**	**315**⇑	*i*P	**P**	**14 47 07.4 -0.6**
comp=Z,18nm,0.8s,mb4.8						
QUIF	**Quistinic**	**70.78**	**315**⇑	*i*P	**P**	**14 47 07.4 -0.6**
QUIF				pmax	pmax	
comp=Z,9.0nm,0.8s,mb4.8						
QUIF	**Quistinic**	**70.78**	**315**⇑	*i*P	**P**	**14 47 07.4 -0.6**
comp=Z,9.1nm,0.8s,mb4.8						
SJPF	**Ste Jean**	**71.13**	**309**	*e*P	**P**	**14 47 10.5 +0.3**
ESDC	**Sonseca Array**	**74.30**	**307**	P	**P**	**14 47 29.0 -0.1**
comp=Z,0.7nm,0.5s,mb3.9,baz=58,slow=5.9,SNR=11						
MVO	**Moncorvo**	**75.86**	**309**	*e*P	**P**	**14 47 42.6 +4.5**
comp=Z,11nm,1.5s,mb4.6						
IMA2	**Indian Mountai**	**75.86**	**22**	*e*P	**P**	**14 47 39.2 +1.6**
COLD	**Coldfoot**	**76.25**	**20**	*e*P	**P**	**14 47 39.8 0.0**
comp=Z,6.6nm,0.9s,mb4.6						
MTE	**Manteigas**	**76.53**	**309**	*e*P	**P**	**14 47 46.4 +4.5**
comp=Z,25nm,1.7s,mb4.9						
PBAR	**Barrancos**	**77.09**	**306**	*e*P	**P**	**14 47 45.3 +0.1**
comp=Z,13nm,1.9s,mb4.5						
EVO	**Evora**	**77.64**	**307**	*e*P	**P**	**14 47 48.6 +0.4**
comp=Z,17nm,1.3s,mb4.5						
BPAW	**Bear Paw Mtn.**	**77.98**	**23**	*e*P	**P**	**14 47 48.9 -0.6**
comp=Z,7.2nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**78.13**	**135**⇓	*i*P	**P**	**14 47 50.4 -0.4**
comp=Z,4.5nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**78.13**	**135**	P	**P**	**14 47 49.8 -1.0**
comp=Z,6.1nm,0.7s,mb4.7,baz=311,slow=5.9,SNR=11						
COLA	**College**	**78.51**	**21**⇑	*i*P	**P**	**14 47 52.3 -0.2**
COLA	**College**	**78.51**	**21**	*e*P	**P**	**14 47 50.9 -1.6**
comp=Z,7.7nm,0.9s,mb4.6						
INK	**Inuvik**	**79.85**	**14**	*e*P	**P**	**14 48 00.1 +0.3**
PMR	**Palmer**	**80.25**	**24**	*e*P	**P**	**14 48 02.2 +0.2**
RC01	**Rabbit Creek A**	**80.36**	**25**	*e*P	**P**	**14 48 00.3 -2.3**
comp=Z,4μm,1.2s						
TORD	**Torodi Ar. Bea**	**80.60**	**280**	P	**P**	**14 48 03.8 -1.0**
comp=Z,1.2nm,0.7s,mb4.0,baz=60,slow=4.8,SNR=7.1						
DIV	**Divide**	**81.75**	**23**	*e*P	**P**	**14 48 09.9 -0.2**
comp=Z,25μm,1.2s						
BOSA	**Boshof**	**81.76**	**232**	P	**P**	**14 48 10.2 -0.4**
comp=Z,3.6nm,0.9s,mb4.3,baz=80,slow=6.1,SNR=3.4						
BMRM	**Bremner River**	**82.28**	**23**	*e*P	**P**	**14 48 13.1 +0.3**
TOO	**Toolangi**	**84.31**	**138**	*e*P	**P**	**14 48 24.2 +0.7**
HYT	**Haines Junctio**	**84.72**	**20**	*e*P	**P**	**14 48 25.8 +0.5**
PNL	**Peninsula**	**85.00**	**22**	*e*P	**P**	**14 48 26.9 +0.1**
comp=Z,11nm,0.8s,mb5.0						
YKA	**Yellowknife Ar**	**88.66**	**10**	P	**P**	**14 48 49.8 +5.2**
comp=Z,1.4nm,0.6s,mb4.5,baz=335,slow=5.6,SNR=3.4						
YKA				LR	LR	15 33 14.9
comp=Z,68nm,21.1s,MS4.0,baz=320,slow=39						
MAW	**Mawson**	**96.52**	**189**	LR	LR	15 28 31.6
comp=Z,109nm,18.1s,MS4.4,baz=58,slow=33						
ANMO	**Albuquerque**	**116.56**	**13**⇑	*i*PKIKP	PKPdf	14 54 37.4 +1.5
TXAR	**Lajitas Array**	**122.55**	**12**	PKP	PKPdf	14 54 47.3 -0.3
comp=Z,1.7nm,0.9s,baz=248,slow=1.0,SNR=15						
CPUP	**Villa Florida**	**148.87**	**264**	PKPbc	PKPbc	14 55 38.8 -1.0
comp=Z,5.8nm,0.8s,baz=118,slow=1.5,SNR=9.5						
OTAV	**Otavalo**	**149.49**	**332**	*e*PKPdf	PKPdf	14 55 36.9 -0.3
OTAV				*e*PKPbc	PKPbc	14 55 42.7 +1.0

*TIR **11** 14:37:05.8±48.0, 4050N×2054E, h6km±999km*
*NEIC **11** 14:37:34.8, 3922N×2023E, h5km, MD3.3(ATH), ML3.2(THE), After ATH.*

*ATH **11** 14:37:34.5, 3922N×2018E, h18km±2km, MD3.3/6*
*THE **11** 14:37:34.4, 3928N×2015E, h0km, ML3.2*
*ISCJB **11** 14:37:34.5±0.7, 3927N±003×2008E±005, h15km±8km, Error ellipse: s-maj=7.0km s-min=5.0km az=167.8*
*CSEM **11** 14:37:35.2±0.2, 3923N×2022E, h8km, ML3.2, Error ellipse: s-maj=4.1km s-min=2.7km az=79.0*

ISC 11 14:37:34.8±0.7, 3927N±002×2018E±005, h8km±5km, n20, σ1º18/34, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.29**	**24**	*e*Pg	**Pg**	**14 37 40.1**	**-0.4**
IGT				*e*Sg	**Sg**	**14 37 44.7**	**+0.4**
IGT	**Igoumenitsa**	**0.29**	**24**	*i* PG	**Pg**	**14 37 40.1**	**-0.4**
KEK	**Kerkira**	**0.53**	**326**	*e*PN	**Pg**	**14 37 46.0**	**+0.9**
KEK				*e*SN	**Sg**	**14 37 54.1**	**+2.0**
KEK	**Kerkira**	**0.53**	**326**	*e*Pb	**Pg**	**14 37 46.5**	**+1.4**
KEK				*e*Sb	**Sg**	**14 37 55.5**	**+3.4**
SRN	**Sarande**	**0.62**	**347**	*e*PG	**Pg**	**14 37 47.0**	**+0.1**
JAN	**Janina**	**0.65**	**53**	*e*PB	**Pb**	**14 37 46.5**	**-1.8**
JAN				*e*SN	**Sg**	**14 37 57.0**	**+1.3**
JAN	**Janina**	**0.65**	**53**	*e*Pb	**Pb**	**14 37 46.5**	**-1.8**
JAN				*e*Sb	**Sb**	**14 37 56.0**	**-1.5**
LKD	**Levkas**	**0.67**	**147**	*e*Pg	**Pg**	**14 37 47.0**	**-0.7**
LKD				*e*Sg	**Sg**	**14 37 57.9**	**+1.5**
VLS	**Valsamata**	**1.14**	**164**	*e*Pg	**Pg**	**14 37 55.0**	**-1.7**
VLS				*e*Sg	**Sg**	**14 38 14.0**	**+2.6**
VLS	**Valsamata**	**1.14**	**164**	*e*Pg	**Pg**	**14 37 55.1**	**-1.5**
VLS				*e*Sb	**Sb**	**14 38 11.0**	**-0.7**
KFL	**Anninata**	**1.25**	**158**	*e*Pg	**Pg**	**14 37 57.9**	**-0.9**
EVR	**Evrytania**	**1.31**	**105**	*e*PN	**Pn**	**14 37 59.5**	**0.0**
THL	**Klokotos Trika**	**1.45**	**78**	*e*Pg	**Pg**	**14 38 00.8**	**-1.8**
THL				*e*Sg	**Sg**	**14 38 22.1**	**+0.7**
THL	**Klokotos Trika**	**1.45**	**78**	*e*Pb	**Pb**	**14 38 02.6**	**+0.5**
THL				*e*Sg	**Sg**	**14 38 22.1**	**+0.7**
KZN	**Kozani**	**1.60**	**49**	*e*PN	**Pn**	**14 38 04.4**	**+0.9**
KZN	**Kozani**	**1.60**	**49**	*e*Pb	**Pb**	**14 38 05.4**	**+0.7**
AGG	**Agios Georgios**	**1.69**	**98**	*e*Pb	**Pb**	**14 38 05.8**	**-0.3**
AGG				*e*Sb	**Sb**	**14 38 29.2**	**+1.7**
FNA	**Florina**	**1.77**	**31**	*e*Pb	**Pb**	**14 38 06.8**	**-0.7**
FNA				*e*Sb	**Sb**	**14 38 30.5**	**+0.6**
FNA	**Florina**	**1.77**	**31**	*i* PG	**Pg**	**14 38 06.8**	**-1.9**
FNA				*i* SG	**Sg**	**14 38 30.5**	**-1.1**
LIT	**Litokhoron**	**1.96**	**64**	*e*Pn	**Pn**	**14 38 07.8**	**-0.7**
LIT				*e*Sn	**Sn**	**14 38 34.4**	**+1.1**

*NEIC **11** 15:21:51.5±0.9, 963S×12364E, h35km, mb3.8/1, Error ellipse: s-maj=24.2km s-min=12.6km az=64.0*
*ISCJB **11** 15:21:54.7±0.9, 997S±009×1237E±01, h101km±6km, mb3.5/3, Error ellipse: s-maj=24.1km s-min=10.4km az=150.6*
*IDC **11** 15:21:54.5±2.5, 967S×12387E, h72km±37km, mb3.2/2, mb1 3.2/5, mb1mx3.1/16, mbtmp3.1/5, ML3.2/3, Error ellipse: s-maj=90.1km s-min=27.3km az=53.0*

ISC 11 15:21:55.9±0.9, 996S±010×1238E±01, h94km±7km, n9, σ1º05/13, mb3.5/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.27**	**200**	P	**Pn**	**15 22 08.5**	**-1.1**
90nm,0.3s,baz=76,slow=4.2,SNR=132							
BATI				S	**Sn**	**15 22 20.4**	**+0.6**
118nm,0.3s,baz=143,slow=20,SNR=18							
FITZ	**Fitzroy Crossi**	**8.30**	**168**	P	**Pn**	**15 23 54.3**	**+0.8**
0.3nm,0.3s,baz=351,slow=13,SNR=27							
FITZ				S	**Sn**	**15 25 25.4**	**-0.2**
1.3nm,0.3s,baz=140,slow=19,SNR=13							
MBWA	**Marble Bar**	**11.79**	**199**	*e*Pn	**Pn**	**15 24 40.5**	**-0.5**
WRA	**Warramunga Arr**	**14.24**	**135**	P	**Pn**	**15 25 14.0**	**+0.8**
0.1nm,0.3s,baz=306,slow=14,SNR=9.2							
WRA				S	**Sn**	**15 27 47.5**	**-2.6**
0.3nm,0.3s,baz=311,slow=24,SNR=9.1							
WRAB	**Tennant Creek**	**14.24**	**135**	*e*Pn	**Pn**	**15 25 14.3**	**+1.0**
1.3nm,0.8s							
ASAR	**Alice Springs**	**16.73**	**146**	P	**Pn**	**15 25 48.0**	**+3.5**
0.1nm,0.3s,baz=319,slow=11,SNR=15							
ASAR				S	**S**	**15 28 46.9**	**-8.3**
0.1nm,0.3s,baz=308,slow=21,SNR=6.0							
STKA	**Stephens Creek**	**27.36**	**145**	*e*P	**P**	**15 27 38.8**	**+6.4**
2.4nm,1.0s,mb3.7							
SONM	**Songino Array**	**59.56**	**347**	P	**P**	**15 31 49.0**	**-0.6**
0.3nm,0.7s,mb3.4,baz=161,slow=10,SNR=2.5							
MKAR	**Makanchi Array**	**67.52**	**331**	P	**P**	**15 32 42.0**	**+0.1**
0.4nm,0.8s,mb3.3,baz=140,slow=7.2,SNR=2.6							

*CSEM **11** 16:02:15.9±0.1, 3704N×3042E, h2km, MD3.0, Error ellipse: s-maj=2.9km s-min=2.1km az=66.0*
*ISK **11** 16:02:15.5, 3701N×3039E, h5km, MD3.0*
*DDA **11** 16:02:16.0, 3706N×3063E, h7km±8km, Md3.1*
*ISCJB **11** 16:02:17.4±0.7, 3705N±004×3046E±008, h8km±8km, Error ellipse: s-maj=10.6km s-min=5.8km az=164.5*

ISC 11 16:02:17.6±0.7, 3704N±004×3043E±007, h4km±9km, n10, σ0º79/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.23**	**127**	*e*PG	**Pg**	**16 02 21.3**	**-0.7**
ANTB				*e*SG	**Sg**	**16 02 25.8**	**+0.8**
GOLH	**Golhisar**	**0.72**	**286**	*i* P	**Pg**	**16 02 30.9**	**-0.5**
GOLH				*i* S	**Sg**	**16 02 46.6**	**+5.9**
ISP	**Isparta**	**0.81**	**5**	*e*PG	**Pg**	**16 02 32.2**	**-0.8**
ISP				*e*SG	**Sg**	**16 02 44.6**	**+1.1**
TKTP	**Tekketepe**	**1.00**	**355**	*i* P	**Pg**	**16 02 36.2**	**-0.6**
TKTP				*i* S	**Sg**	**16 02 49.1**	**-0.8**
AKAS	**Kas**	**1.04**	**220**	*i* P	**Pg**	**16 02 37.8**	**+0.4**
AKAS				*i* S	**Sg**	**16 02 59.3**	**+8.4**
KHL	**Karahalli**	**1.47**	**331**	*e*PN	**Pn**	**16 02 44.3**	**-0.5**
KHAL	**Karahalli**	**1.52**	**331**	*i* P	**Pn**	**16 02 45.9**	**+0.3**
KHAL				*i* S	**Sg**	**16 03 09.6**	**+3.1**
BOLV	**Bolvadin**	**1.73**	**14**	*i* P	**Pg**	**16 02 50.5**	**-0.2**
KDHN	**Kadinhani**	**2.00**	**42**	*i* P	**Pn**	**16 02 52.4**	**+0.3**
KIZT	**Kizilcal**	**2.17**	**32**	*e*PN	**Pn**	**16 02 54.4**	**-0.1**

IDC 11 16:39:07.1±4.5, 1596S×17346W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, ML1.6/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/24, Error ellipse: s-maj=238.7km s-min=26.4km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.61**	**39**	Pn	Pn	16 39 48.6	-2.1
7.1nm,0.3s,baz=158,slow=22,SNR=12							
AFI				Sn	Sn	16 40 16.2	-6.9
57nm,0.3s,baz=231,slow=21,SNR=17							
AFI				LR	LR	16 40 22.8	
comp=Z,254nm,19.7s,baz=22,slow=29							
RAR	**Rarotonga**	**13.99**	**114**	LR	LR	16 45 55.0	
comp=Z,64nm,21.4s,baz=124,slow=29							
HNR	**Honiara**	**26.72**	**281**	LR	LR	16 53 46.3	
comp=Z,112nm,18.6s,baz=2.0,slow=33							
WRA	**Warramunga Arr**	**49.66**	**257**	P	P	16 48 00.7	-0.3
0.5nm,0.7s,baz=95,slow=8.3,SNR=11							
ASAR	**Alice Springs**	**49.88**	**252**	P	P	16 48 01.9	-0.8
0.9nm,0.6s,baz=90,slow=8.1,SNR=24							
ARCES	**ARCESS Array B**	**125.16**	**352**	PKP	PKPdf	16 58 09.3	+0.3
2.2nm,0.8s,baz=350,slow=4.9,SNR=4.3							
GERES	**GERESS Array B**	**146.69**	**351**	PKPbc	PKPbc	16 58 51.8	+0.9
0.3nm,0.7s,baz=60,slow=4.7,SNR=4.8							

*ISCJB **11** 16:39:23.1±0.5, 4046N±003×2365E±003, h15km±4km, Error ellipse: s-maj=5.1km s-min=3.8km az=36.0*
*NEIC **11** 16:39:24.3, 4050N×2341E, h16km, MD3.2(ATH), ML2.8(THE), After ATH.*
*THE **11** 16:39:24.1, 4046N×2363E, h9km, ML2.8*
*CSEM **11** 16:39:24.0±0.1, 4047N×2368E, h8km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.7km az=60.0*
*ATH **11** 16:39:24.3, 4050N×2341E, h16km±2km, MD3.2/5*

ISC 11 16:39:23.5±0.5, 4045N±003×2366E±004, h17km±5km, n19, σ0º70/30, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.18**	**244**	*e*Pg	**Pg**	**16 39 28.0**	**-0.1**
PLG				*e*Sg	**Sg**	**16 39 30.7**	**-0.5**
PLG	**Polygyros**	**0.18**	**244**⇓	*i*PB	**Pg**	**16 39 28.0**	**0.0**
PLG				*e*SB	**Sg**	**16 39 30.2**	**-1.0**
OUR	**Ouranopolis**	**0.27**	**116**	*e*Pg	**Pg**	**16 39 30.5**	**+1.0**
OUR				*e*Sg	**Sg**	**16 39 34.6**	**+1.0**
HORT	**Hortiatis**	**0.45**	**289**	*e*Pg	**Pg**	**16 39 32.5**	**-0.1**
HORT				*e*Sg	**Sg**	**16 39 38.6**	**-0.2**
PAIG	**Paliouri**	**0.53**	**178**	*e*Pg	**Pg**	**16 39 34.1**	**+0.2**
PAIG				*e*Sg	**Sg**	**16 39 41.2**	**+0.2**
THE	**Thessaloniki**	**0.56**	**289**	*e*Pg	**Pg**	**16 39 34.6**	**0.0**
THE				*e*Sg	**Sg**	**16 39 41.2**	**-0.9**
NVR	**Nevrokopi**	**0.91**	**10**	*e*PN	**Pn**	**16 39 42.3**	**+0.9**
NVR				*e*SN	**Sn**	**16 39 54.0**	**-0.1**
KNT	**Kendrikon**	**0.92**	**321**	*e*Pg	**Pg**	**16 39 41.1**	**-0.2**
KNT				*e*Sg	**Sg**	**16 39 53.2**	**-0.1**
LIT	**Litokhoron**	**0.96**	**249**	*e*Pg	**Pg**	**16 39 42.6**	**+0.4**
LIT				*e*Sg	**Sg**	**16 39 55.5**	**+0.7**
GRG	**Griva**	**1.08**	**298**	*e*Pg	**Pg**	**16 39 44.8**	**+0.3**
GRG				*e*Sg	**Sg**	**16 39 59.4**	**+0.8**
GRG	**Griva**	**1.08**	**298**	*e*Pg	**Pg**	**16 39 44.8**	**+0.4**
GRG				*e*Sg	**Sg**	**16 39 59.3**	**+0.7**
XOR	**Xorichti**	**1.14**	**199**	*e*Pg	**Pg**	**16 39 45.0**	**-0.6**
NEO	**Neokhori**	**1.19**	**197**	*e*PB	**Pb**	**16 39 46.1**	**+0.5**
LOS	**Limnos**	**1.21**	**115**	*e*Pg	**Pg**	**16 39 46.0**	**-0.8**
AOS	**Alonnisos**	**1.29**	**172**	*e*Pg	**Pg**	**16 39 47.3**	**-1.1**
THL	**Klokotos Trika**	**1.54**	**235**	*e*PN	**Pn**	**16 39 51.1**	**+1.0**
RDO	**Rodhopi**	**1.58**	**63**	*e*PN	**Pn**	**16 39 56.0**	**+5.3**
AGG	**Agios Georgios**	**1.76**	**216**	*e*Pb	**Pb**	**16 39 54.4**	**-0.8**
ALN	**Alexandroupoli**	**1.87**	**75**	*e*Pb	**Pb**	**16 39 55.6**	**-1.5**

*NIED **11** 16:48:00, 3060N×13160E, h17km, Mw4.6 Best double couple: M0:9.30000×10^15 NP1:φs:5.00000°, δ88.00000°, λ89.00000°. NP2:φs:223.00000°, δ2.00000°, λ128.00000°.*
*IDC **11** 16:48:28.4±0.6, 3073N×13132E, h0km, mb4.3/17, mb1 4.4/20, mb1mx4.4/27, mbtmp4.3/20, ML3.8/3, MS4.1/17, Ms1 4.1/17, ms1mx3.9/37, Error ellipse: s-maj=16.4km s-min=13.6km az=93.0*
*JMA **11** 16:48:31.3±0.1, 3061N×13158E, h37km±2km, M4.5*
JMA Felt I J1.
*NEIC **11** 16:48:31.4, 3061N×13158E, h38km, mb4.7/31, MS4.7/1, MW4.6(NIED), After JMA.*
NEIC Recorded [1 JMA] in Kagoshima Prefecture and on Tanega-shima.
*MOS **11** 16:48:31.5±1.1, 3073N×13139E, h33km, mb5.0/28, MS4.2/6, Error ellipse: s-maj=10.9km s-min=6.7km az=113.9*
*BJI **11** 16:48:31.8, 3060N×13160E, h37km, mB4.7, mb4.5, Ms4.4, Msz4.2*
*ISCJB **11** 16:48:32.1±0.5, 3068N±004×13153E±004, h45km±4km, mb4.6/59, MS4.2/26, Error ellipse: s-maj=6.9km s-min=4.6km az=144.7*
*SZGRF **11** 16:48:34.4, 3058N×13164E, h38km, mb4.8, Kyushu, Japan*

ISC 11 16:48:34.1±0.5, 3072N±004×13143E±004, h43km±3km, h37km±2.9km: pP-P, n158, σ1º03/162, mb4.6/59, MS4.2/26, 10C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.39**	**261**	⇑P	**Pn**	**16 48 42.0**	**-1.6**
JTN				S	**Sn**	**16 48 49.8**	**-0.5**
JTSR	**Tashiro 2**	**0.62**	**316**	⇑P	**Pn**	**16 48 45.8**	**-0.8**
JTSR				S	**Sn**	**16 48 57.2**	**+1.7**
JNAR	**Kushima--Naru**	**0.82**	**351**	P	**Pn**	**16 48 48.7**	**-0.5**
JNAR				S	**Sn**	**16 49 01.5**	**+1.3**
JKC	**Kuchinoerabu**	**1.09**	**257**	P	**Pn**	**16 48 52.6**	**-0.3**
JKC				*e*S	**Sn**	**16 49 08.7**	**+1.9**
JSU	**Suzuyama**	**1.15**	**314**	P	**Pn**	**16 48 53.4**	**-0.3**
JTZ	**Takazaki**	**1.22**	**346**	⇑P	**Pn**	**16 48 54.5**	**-0.2**
JTSN	**Tsuno**	**1.53**	**2**	P	**Pn**	**16 48 58.3**	**-0.6**
JZO	**Okuchi**	**1.59**	**334**	P	**Pn**	**16 48 59.8**	**+0.1**
JNN	**Nakanoshima**	**1.60**	**237**	P	**Pn**	**16 48 59.7**	**-0.2**
JSJ	**Shimokoshiki**	**1.75**	**304**	S	**Sn**	**16 49 24.9**	**+1.8**
JIU2	**Izumi 2**	**1.90**	**344**	P	**Pn**	**16 49 04.1**	**+0.1**
JOW	**Kunigami**	**4.76**	**216**	Pn	**Pn**	**16 49 42.3**	**-1.0**
8.2nm,0.3s,baz=104,slow=23,SNR=9.5							
JOW				Sn	**Sn**	**16 50 32.4**	**-4.8**
48nm,0.3s,baz=255,slow=30,SNR=11							
KSRS	**Korea Array**	**7.32**	**338**	Pn	**Pn**	**16 50 19.6**	**+1.1**
0.5nm,0.3s,baz=155,slow=14,SNR=6.4							
KSRS				Lg		16 52 08.9	
0.1nm,0.3s,baz=166,slow=35,SNR=3.2							
KSRS				LR	LR	16 53 28.6	
comp=Z,1μm,18.9s,baz=

comp=Z,130nm,4.2s
GYA LR LR
comp=N,570nm,14.1s,MS4.2
GYA LR LR
comp=E,420nm,15.9s,MS4.2
GYA LR LR
comp=Z,580nm,14.2s,MS4.1
LZH Lanzhou 23.60 290 *e*P **P 16 53 41.0 -0.2**
LZH AP 16 53 49.2
LZH XP sP 16 53 52.0 -5.5
LZH *e*S **S 16 57 55.1 +2.7**
LZH XS sS 16 58 11.1 -0.3
LZH AMB AMB
comp=Z,31nm,1.2s,mb4.6
LZH AMB AMB
comp=Z,196nm,4.6s
LZH LR LR
comp=E,1μm,11.4s
LZH LR LR
comp=Z,1μm,12.2s,MS4.6
CD2 Chengdu 23.75 278 P **P 16 53 41.2 -1.3**
CD2 AP 16 53 50.5
CD2 XP sP 16 53 54.5 -4.5
CD2 PP 16 54 15.7
CD2 S **S 16 57 53.2 -1.6**
CD2 XS sS 16 58 08.2 -5.6
CD2 SS 16 58 44.7
CD2 AMB AMB
comp=Z,30nm,0.7s,mb4.8
CD2 AMB AMB
comp=Z,60nm,4.8s
CD2 LR LR
comp=N,1μm,12.0s,MS4.6
CD2 LR LR
comp=E,760nm,15.6s,MS4.6
CD2 LR LR
comp=Z,950nm,16.8s,MS4.3
SONM Songino Array 25.67 319 P **P 16 53 59.6 -0.2**
comp=Z,5.8nm,0.9s,mb4.1,baz=135,slow=8.0,SNR=31
SONM LR LR 17 05 04.6
comp=Z,399nm,20.8s,MS3.9,baz=121,slow=39
SONM Songino Array 25.67 319 P **P 16 53 59.6 -0.2**
SONM LR LR 17 05 04.6
KMI Kunming 25.91 265 P **P 16 54 01.3 -1.0**
KMI AP pP 16 54 09.5 -4.2
KMI XP sP 16 54 13.2 -5.6
KMI PP 16 54 43.0
KMI S **S 16 58 27.3 -2.3**
KMI SS 16 59 34.7
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb4.3
KMI AMB AMB
comp=Z,229nm,4.2s
KMI LR LR
comp=N,541nm,17.0s,MS4.4
KMI LR LR
comp=E,589nm,13.7s,MS4.4
KMI LR LR
comp=Z,733nm,14.6s,MS4.3
GTA Gaotai 27.18 297 *e*P **P 16 54 13.2 -0.4**
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.0
GTA AMB AMB
comp=Z,55nm,6.0s
GTA LR LR
comp=N,279nm,13.1s,MS4.2
GTA LR LR
comp=E,402nm,15.2s,MS4.2
GTA LR LR
comp=Z,553nm,15.7s,MS4.2
ZAK Zakamensk 28.77 321 *e*P **P 16 54 26.5 -1.1**
TLY Talaya 29.30 324 *e*P **P 16 54 33.1 +0.8**
TLY pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
TLY Talaya 29.30 324 *e*P **P 16 54 33.1 +0.9**
comp=Z,3.5nm,0.5s,mb4.3
PETK Petropavlovsk- 29.42 33 P **P 16 54 34.9 +1.6**
comp=Z,2.9nm,0.7s,mb4.1,baz=197,slow=9.3,SNR=4.6
PETK LR LR 17 07 14.1
comp=Z,203nm,19.0s,MS3.8,baz=40,slow=38
PET Petropavlovsk 29.82 34 *e*P **P 16 54 28.3 -8.5**
PET *e*S **S 16 59 22.9 -7.6**
PET MLR MLR
comp=Z,300nm,18.0s,MS4.0
YAK Yakutsk 31.34 358⇑*e*P **P 16 54 51.0 +0.8**
YAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
YAK Yakutsk 31.34 358 *e*P **P 16 54 49.6 -0.6**
comp=Z,7.0nm,0.6s,mb4.7
CHTO Chiang Mai 31.67 256 *e*P **P 16 54 53.4 -0.2**
CHTO pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CHTO Chiang Mai 31.67 256 *e*P **P 16 54 53.4 -0.2**
comp=Z,10nm,0.7s,mb4.8
CMAR Chiang Mai Arr 31.84 255 P **P 16 54 54.9 -0.2**
comp=Z,3.0nm,0.8s,mb4.2,baz=50,slow=7.1,SNR=18
CMAR LR LR 17 09 12.7
comp=Z,313nm,18.9s,MS4.0,baz=72,slow=39
HVS Khovu-Aksy 34.53 317⇑*i*P **P 16 55 17.7 -0.5**
HVS pmax pmax
comp=Z,25nm,0.7s,mb5.2
WMQ Urumqi 36.76 303 *e*P **P 16 55 38.6 +1.2**
WMQ AP pP 16 55 48.3 -0.8
WMQ XP sP 16 55 52.3 -1.9
WMQ PP PP 16 57 06.8 +5.2
WMQ PCP PcP 16 57 57.5 -1.5
WMQ S **S 17 01 24.1 +5.8**
WMQ PCS PcS 17 01 44.7 -2.2
WMQ SCS ScS 17 05 47.6 -1.6
WMQ AMB AMB
comp=Z,7.0nm,0.7s,mb4.6
WMQ LR LR
comp=N,142nm,19.0s,MS4.1
WMQ LR LR
comp=E,268nm,21.5s,MS4.1
WMQ LR LR
comp=Z,326nm,19.0s,MS4.1
ODAN Odare 38.60 276 *e*P **P 16 55 53.0 -0.2**
comp=Z,28nm,0.9s,mb5.0
RAMN Ramite 39.26 276 *e*P **P 16 55 58.5 -0.2**
JIRN Jiri 39.41 277 *e*P **P 16 56 00.9 +0.9**
comp=Z,32nm,0.8s,mb5.1
GUN Gumba 39.61 278 *e*P **P 16 56 02.3 +0.7**
comp=Z,98nm,0.9s,mb5.5
PKI Pulchoki 40.10 277 *e*P **P 16 56 05.8 +0.1**
KKN Kakani 40.15 278 *e*P **P 16 56 06.3 +0.2**
comp=Z,22nm,0.8s,mb5.0
DMN Daman 40.35 278 *e*P **P 16 56 08.3 +0.5**
ZAA0 Zalesovo Array 40.56 319 *e*P **P 16 56 08.5 -0.6**
ZALV Zalesovo Beam 40.56 319 P **P 16 56 08.5 -0.7**
comp=Z,3.5nm,0.8s,mb4.0,baz=101,slow=7.9,SNR=12
ZALV PcP PcP 16 58 11.0 +0.3
comp=Z,2.1nm,0.8s,baz=86,slow=3.1,SNR=5.5
ZALV LR LR 17 14 29.7
comp=Z,365nm,18.4s,MS4.3,baz=269,slow=39
ZAL Zalesovo 40.57 319 P **P 16 56 08.5 -0.7**
ZAL 16 58 11.0
MKAR Makanchi Array 40.85 307 P **P 16 56 11.2 -0.5**
comp=Z,0.9nm,0.6s,mb3.6,baz=94,slow=11,SNR=8.6
MKAR ScP ScP 17 02 00.6 +2.6
comp=Z,0.3nm,0.6s,baz=91,slow=2.8,SNR=4.2
MKAR LR LR 17 14 51.9
comp=Z,313nm,18.2s,MS4.2,baz=3.0,slow=39
DANN Dangsing 41.30 279 *e*P **P 16 56 16.0 +0.4**
comp=Z,27nm,0.6s,mb5.0
PSI Prapat 41.40 234 P **P 16 56 17.5 +1.0**
comp=Z,6.7nm,0.8s,mb4.3,baz=9.7,slow=3.6,SNR=7.0
PSI Prapat 41.40 234 P **P 16 56 17.5 +1.0**
KOLN Koldanda 41.59 278 *e*P **P 16 56 18.0 0.0**
comp=Z,14nm,0.8s,mb4.7
NVS Novosibirsk 41.70 320 *e*P **P 16 56 10.6 -7.8**
NVS pmax pmax
comp=Z,35nm,3.5s
NVS pmax pmax
comp=N,12nm,2.3s
NVS pmax pmax
comp=E,26nm,3.4s
BILL Bilibino 42.54 19 *e*P **P 16 56 20.4 -4.8**
BILL pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
BILL MLR MLR
comp=Z,100nm,16.0s,MS3.8
KURK Kurchatov 43.67 313 *e*P **P 16 56 33.5 -1.0**
KURK pmax pmax
comp=Z,21nm,1.4s,mb4.7
KURK Kurchatov 43.67 313 *e*P **P 16 56 33.5 -1.0**
comp=Z,21nm,1.4s,mb4.7
TKM2 Tokmak 2 45.56 302 *e*P **P 16 56 50.3 +0.6**
TKM2 pmax pmax
comp=Z,33nm,0.7s,mb5.4
TKM2 Tokmak 2 45.56 302 *e*P **P 16 56 50.3 +0.6**
comp=Z,33nm,0.7s,mb5.4
FITZ Fitzroy Crossi 48.85 187 *e*P **P 16 57 15.3 -0.2**
comp=Z,3.5nm,0.6s,mb4.6
BVAR Borovoye Array 49.93 315 P **P 16 57 14.5 -1.3**
comp=Z,6.4nm,0.8s,mb4.7,baz=90,slow=9.6,SNR=24
BVAR PcP PcP 16 58 39.7 +0.2
comp=Z,3.3nm,0.8s,baz=90,slow=5.9,SNR=6.6
BRVK Borovoye 49.00 316 *e*P **P 16 57 14.9 -1.4**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BRVK Borovoye 49.00 316 *e*P **P 16 57 14.9 -1.4**
comp=Z,8.1nm,0.8s,mb4.8
MDRS Chennai 50.19 261 *ex* x 16 57 28.0
WRA Warramunga Arr 50.44 176 P **P 16 57 27.3 -0.2**
comp=Z,12nm,0.8s,mb5.0,baz=351,slow=8.1,SNR=21
KBL Kabul 51.95 292 *e*P **P 16 57 35.4 -3.5**
KBL pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KBL Kabul 51.95 292 *e*P **P 16 57 35.4 -3.5**
comp=Z,4.7nm,0.6s,mb4.6
CTA Charters Tower 52.48 162 *e*P **P 16 57 43.1 +0.3**
comp=Z,5.4nm,1.2s,mb4.3
CTA Charters Tower 52.48 162 LR LR 17 19 34.7
comp=Z,92nm,19.3s,MS3.8,baz=181,slow=36
CTA Charters Tower 52.48 162 *e*P **P 16 57 43.1 +0.3**
CTA pmax pmax
comp=Z,5.0nm,1.2s
ASAR Alice Springs 54.12 177 P **P 16 57 55.1 +0.3**
comp=Z,2.5nm,0.6s,mb4.3,baz=12,slow=13,SNR=82
TTA Tatalina 55.25 32 *e*P **P 16 58 02.6 0.0**
ARU Arti 55.70 320*c i*P **P 16 58 04.9 -1.0**
ARU *e* 16 58 59.8
ARU *e*S **S 17 05 55.3 +6.2**
ARU *e*SS SS 17 09 29.3 -5.0
ARU pmax pmax
comp=Z,12nm,1.7s,mb4.7
ARU MLR MLR
comp=Z,413nm,19.0s,MS4.5
ARU Arti 55.70 320 *e*P **P 16 58 04.9 -1.0**
comp=Z,9.8nm,1.1s,mb4.8
PPLA Purkeypile 57.00 32 *e*P **P 16 58 16.8 +1.7**
comp=Z,3.3nm,0.6s,mb4.5
KDAK Kodiak Island 57.26 38 P **P 16 58 17.8 +0.8**
comp=Z,3.0nm,0.8s,mb4.3,baz=312,slow=5.9,SNR=3.6
STKA Stephens Creek 62.99 170 *e*P **P 16 58 56.5 +0.1**
comp=Z,7.3nm,0.6s,mb5.0
STKA Stephens Creek 62.99 170 P **P 16 58 56.8 +0.4**
comp=Z,9.1nm,0.7s,mb5.0,baz=329,slow=7.1,SNR=20
STKA Stephens Creek 62.99 170 *e*P **P 16 58 56.4 -0.1**
comp=Z,13nm,0.8s,mb5.1
ARCES ARCESS Array B 66.88 338 P **P 16 59 20.3 -1.0**
comp=Z,1.7nm,0.8s,mb4.1,baz=55,slow=12,SNR=2.8
ARCES LR LR 17 34 27.7
comp=Z,312nm,18.2s,MS4.6,baz=61,slow=41
JOF Joensuu 67.50 331 *ep* **P 16 59 22.7 -2.7**
comp=Z,3.0nm,0.7s,mb4.4
OBN Obninsk 68.03 322⇑*i*P **P 16 59 27.6 -1.2**
OBN *i* pP 16 59 41.9 +0.6
OBN pmax pmax
comp=Z,26nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
KIV Kislovodsk 68.58 309⇑*i*P **P 16 59 33.1 +0.6**
KIV *e* 16 59 52.6
KIV *e* 17 02 01.3
KIV pmax pmax
comp=Z,23nm,1.1s,mb5.0
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.1
KIV Kislovodsk 68.58 309 *e*P **P 16 59 32.7 +0.2**
comp=Z,23nm,1.0s,mb5.1
KAF Kangasniemi 69.94 331 *ep* **P 16 59 38.6 -2.0**
comp=Z,2.5nm,0.7s,mb4.2
KAF Kangasniemi 69.94 331 *e*P **P 16 59 38.6 -2.0**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SOC Sochi 70.70 310 *e*P **P 16 59 44.8 -0.8**
SOC MLR MLR
comp=Z,137nm,18.0s,MS4.2
ANN Anapa 71.69 312 *e*P **P 16 59 50.6 -0.9**
ANN pmax pmax
comp=Z,23nm,0.9s,mb5.1
ANN MLR MLR
comp=Z,212nm,15.0s,MS4.5
MALT Malatya 73.84 305 *e*P **P 17 00 06.0 +1.6**
AKASG Malin Array Be 73.95 320 P **P 17 00 04.9 +0.1**
comp=Z,4.1nm,0.7s,mb4.5,baz=53,slow=6.0,SNR=20
NB2 NORSAR Subarra 76.52 334 P **P 17 00 19.6 +0.2**
comp=Z,1.2nm,0.7s,mb3.9,baz=48,slow=5.6
NOA NORSAR Array B 76.52 334 P **P 17 00 19.8 +0.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=50,slow=5.6,SNR=10
NOA LR LR 17 38 23.7
comp=Z,115nm,18.9s,MS4.2,baz=20,slow=39
RAO Raoul Island 76.70 136 LR LR 17 29 39.1
comp=Z,77nm,18.4s,MS4.0,baz=323,slow=32
OJC Ojcow 79.31 323 *e*P **P 17 00 36.0 +0.9**
NIE Niedzica 79.50 322 *e*P **P 17 00 38.1 +2.0**
KECS Kecovo 79.94 321 *e*P **P 17 00 37.1 -1.5**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 79.94 321 *e*P **P 17 00 37.1 -1.5**
comp=Z,2.1nm,1.0s,mb4.0
CLL Collm 82.05 326 *e*P **P 17 00 49.0 -0.7**
CLL *i* Pmax 17 00 51.3
comp=Z,4.0nm,0.8s
CLL *i* pP pP 17 00 58.9 -3.6
CLL *i* sP sP 17 01 03.4 -3.9
CLL Lm 17 41 00.0
comp=Z,300nm,19.3s
GEC2 GERESS Array S 83.29 324 *e*P **P 17 00 55.0 -1.2**
GERES GERESS Array B 83.29 324 P **P 17 00 58.1 +1.8**
comp=Z,1.1nm,0.8s,mb3.9,baz=40,slow=5.2,SNR=11
GERES LR LR 17 41 28.9
comp=Z,126nm,18.2s,MS4.3,baz=290,slow=38
GRA1 Grafenberg Arr 83.97 326 *e*P **P 17 01 01.4 +1.7**
comp=Z,6.0nm,0.9s,mb4.7
GRA1 *e*pP pP 17 01 12.4 -0.1
GRF Grafenberg Arr 83.97 326 *e*P **P 17 01 01.4 +1.7**
GRF *e**PP pP 17 01 12.4 -0.1
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
GRF Grafenberg Arr 83.97 326 *e*P **P 17 01 01.4 +1.7**
GRF *e**PP pP 17 01 12.4 -0.1
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
GRF Grafenberg Arr 83.97 326 *e*P **P 17 01 01.4 +1.7**
comp=Z,6.0nm,0.9s,mb4.7
GRF *e*pP pP 17 01 12.4 -0.1
CMB Columbia Colle 84.28 49 *e*P **P 17 01 02.7 +1.2**
MCMT McKenzie Canyo 84.77 40 *e*P **P 17 01 00.0 -3.8**
NVAR Mina Array Bea 85.40 48 P **P 17 01 08.8 +1.7**
comp=Z,2.4nm,1.0s,mb4.3,baz=286,slow=4.5,SNR=14
NVAR Mina Array Bea 85.40 48 P **P 17 01 08.8 +1.7**
CDF Champ du Feu 86.74 326 *e*P **P 17 01 14.2 +0.7**
comp=Z,7.6nm,0.9s,mb4.7
CDF Champ du Feu 86.74 326 *e*P **P 17 01 14.2 +0.7**
CDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
CDF Champ du Feu 86.74 326 *e*P **P 17 01 14.2 +0.7**
comp=Z,3.8nm,0.9s,mb4.6
HINF Hinteralfeld 87.36 326 *e*P **P 17 01 16.5 -0.1**
MEZF Maizieres J'vi 87.72 328 *e*P **P 17 01 19.0 +0.7**
PDAR Pinedale Array 87.92 40 P **P 17 01 20.9 +1.6**
comp=Z,1.1nm,0.8s,mb4.1,baz=11,slow=3.0,SNR=6.7
CABF La Chapelle 88.58 326 *e*P **P 17 01 22.3 -0.1**
comp=Z,18nm,1.0s,mb5.1
CABF La Chapelle 88.58 326 *e*P **P 17 01 22.3 -0.1**
CABF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
CABF La Chapelle 88.58 326 *e*P **P 17 01 22.3 -0.1**
comp=Z,8.9nm,1.0s,mb5.0
LPL La Plagne 89.04 325 *e*P **P 17 01 24.9 +0.3**
comp=Z,6.0nm,0.8s,mb4.7
LPL La Plagne 89.04 325 *e*P **P 17 01 24.9 +0.3**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
LPL La Plagne 89.04 325 *e*P **P 17 01 24.9 +0.3**
comp=Z,3.0nm,0.8s,mb4.7
LPG La Plagne 89.05 325 *e*P **P 17 01 25.1 +0.5**
comp=Z,8.1nm,0.8s,mb4.8
LPG La Plagne 89.05 325 *e*P **P 17 01 25.1 +0.5**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
LPG La Plagne 89.05 325 *e*P **P 17 01 25.1 +0.5**
comp=Z,4.1nm,0.8s,mb4.8
ULM Lac du Bonnet 89.16 28 LR LR 17 47 27.9
comp=Z,231nm,20.1s,MS4.6,baz=175,slow=40
SSF Saint Saulge 89.48 327 *e*P **P 17 01 27.5 +0.9**
SMF Signal de Mont 89.63 327 *e*P **P 17 01 27.3 0.0**
comp=Z,9.1nm,0.8s,mb4.8
SMF Signal de Mont 89.63 327 *e*P **P 17 01 27.3 0.0**
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
SMF Signal de Mont 89.63 327 *e*P **P 17 01 27.3 0.0**
comp=Z,4.6nm,0.8s,mb4.9
AVF Avril sur Loir 89.75 327 *e*P **P 17 01 27.9 0.0**
comp=Z,7.3nm,1.0s,mb4.7
AVF Avril sur Loir 89.75 327 *e*P **P 17 01 27.9 0.0**
AVF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
AVF Avril sur Loir 89.75 327 *e*P **P 17 01 27.9 0.0**
comp=Z,3.7nm,1.0s,mb4.7
TCF Toulx Ste Croi 90.65 328 *e*P **P 17 01 33.2 +1.1**
comp=Z,4.6nm,0.9s,mb4.5
TCF Toulx Ste Croi 90.65 328 *e*P **P 17 01 33.2 +1.1**
TCF pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
TCF Toulx Ste Croi 90.65 328 *e*P **P 17 01 33.2 +1.1**
comp=Z,2.3nm,0.9s,mb4.5
MFF Saint Martin d 91.49 329 *e*P **P 17 01 36.5 +0.5**
comp=Z,15nm,1.1s,mb5.0
MFF Saint Martin d 91.49 329 *e*P **P 17 01 36.5 +0.5**
MFF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
MFF Saint Martin d 91.49 329 *e*P **P 17 01 36.5 +0.5**
comp=Z,7.5nm,1.1s,mb4.9
RJF Les Rejaudoux 91.71 327 *e*P **P 17 01 37.6 +0.6**
comp=Z,6.9nm,0.7s,mb4.8
RJF Les Rejaudoux 91.71 327 *e*P **P 17 01 37.6 +0.6**
RJF pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
RJF Les Rejaudoux 91.71 327 *e*P **P 17 01 37.6 +0.6**
comp=Z,3.5nm,0.7s,mb4.8
CAF Calviac 91.74 327 *e*P **P 17 01 37.8 +0.6**
comp=Z,7.8nm,1.0s,mb4.7
CAF Calviac 91.74 327 *e*P **P 17 01 37.8 +0.6**
CAF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
CAF Calviac 91.74 327 *e*P **P 17 01 37.8 +0.6**
comp=Z,3.9nm,1.0s,mb4.7
ESDC Sonseca Array 98.63 327 LR LR 17 53 58.9
comp=Z,90nm,18.3s,MS4.3,baz=320,slow=40
CMLA Cha da Macela 108.55 341 PKPdf PKiKP 17 06 55.1 -3.2
LPAZ La Paz 157.08 56 PKPab PKPab 17 08 57.2 +1.0
comp=Z,3.0nm,1.2s,baz=318,slow=5.5,SNR=4.0
LPAZ La Paz 157.08 56 PKP2 PKPab 17 08 57.2 +1.0
LPAZ pmax pmax
comp=Z,3.0nm,1.3s

NEIC 11 17:01:42.9,3733S×17730E,h140km,MG3.9(WEL),After WEL.,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.83**	**107**	P	Pn	17 02 05.2	-0.1
MXZ				S	Sn	17 02 22.3	0.0
URZ	**Urewera**	**0.94**	**189**	P	Pn	17 02 06.3	+0.1
MWZ	**Matawai**	**1.02**	**170**	P	Pn	17 02 07.0	+0.1
MWZ				S	Sn	17 02 24.8	-0.4
PUZ	**Puketiti**	**1.06**	**135**	P	Pn	17 02 07.3	+0.1
KNZ	**Kokohu**	**1.71**	**170**	P	Pn	17 02 14.0	0.0
BKZ	**Black Stump Fm**	**1.94**	**199**	P	Pn	17 02 17.3	+0.6
BKZ				S	Sn	17 02 42.4	-0.2
FWVZ	**Far West T-bar**	**2.36**	**215**	P	Pn	17 02 24.0	+2.2
MOVZ	**Moawhango**	**2.41**	**210**	P	Pn	17 02 22.0	-0.3
TSZ	**Takapari Road**	**2.92**	**201**	P	Pn	17 02 27.3	-1.5
CAW	**Cannon Point**	**4.15**	**204**	P	Pn	17 02 41.7	-3.1

MEX 11 17:06:27.2±0.6,1646N×9594W,h81km±9km,MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.71**	**194**	*i* P	Pn	17 06 41.6	-1.5
HUIG				*i* S	Sn	17 06 53.5	-1.4
VHO	**Vista Hermosa**	**0.97**	**309**	*i* P	Pn	17 06 44.8	-1.2
VHO				*i* S	Sn	17 06 58.7	-1.4
PNIG	**Pinotepa**	**2.10**	**268**	*i* P	Pn	17 06 59.3	-1.2
PNIG				*i* S	Sn	17 07 24.3	-1.6
UTMO	**Huajuapan**	**2.24**	**308**	*e*P	Pn	17 07 02.2	-0.2
UTMO				*i* S	Sn	17 07 29.6	+0.3
TGIG		**2.72**	**83**	*i* P	Pn	17 07 09.1	+0.4
TGIG				*i* S	Sn	17 07 38.7	-1.9

IGQ 11 17:11:38.9,120S×8035W,h12km±5km,Mb4.3,Ms4.1, 5C-3D,Error ellipse: s-maj=3.1km s-min=2.8km az=113.9,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.40**	**291**	⇓P	Pg	17 11 46.6	-0.3
JAMA	**Jama**	**0.94**	**9**	P	Pg	17 11 57.7	+0.7
JAMA	**Jama**	**0.94**	**9**	S	Sg	17 12 13.6	+4.3
MAG1	**Magdalena**	**1.26**	**27**	⇑P	Pn	17 12 02.5	+0.3
QIL2	**Quilotoa**	**1.47**	**77**	P	Pn	17 12 06.0	+0.8
QIL2	**Quilotoa**	**1.47**	**77**	S	Sn	17 12 28.4	+4.0
IGUA	**Igualata**	**1.74**	**100**	⇑P	Pn	17 12 11.7	+2.8
IGUA	**Igualata**	**1.74**	**100**	⇑S	Sn	17 12 34.8	+3.8
JUI6	**Juive**	**1.90**	**97**	P	Pn	17 12 14.1	+3.1
CAMI	**Rancho Maria**	**1.92**	**74**	P	Pn	17 12 13.8	+2.5
ARRY	**Arrayan**	**1.92**	**99**	⇓P	Pn	17 12 13.9	+2.5
RETU	**Refugio**	**1.92**	**98**	P	Pn	17 12 16.8	+5.4
RUN5	**Runtun**	**1.94**	**96**	P	Pn	17 12 14.7	+3.0
RUN5	**Runtun**	**1.94**	**96**	S	Sn	17 12 40.0	+4.1
PATA	**Patacocha**	**1.94**	**99**	P	Pn	17 12 15.0	+3.3
ULBA	**Ulba**	**1.96**	**97**	P	Pn	17 12 15.1	+3.2
ULBA	**Ulba**	**1.96**	**97**	S	Sn	17 12 40.3	+3.9
PISA	**Pisayambo**	**1.97**	**86**	P	Pn	17 12 15.2	+3.1
JUA2	**San Juan 2**	**2.00**	**61**	⇑P	Pn	17 12 14.3	+1.8
JUA2	**San Juan 2**	**2.00**	**61**	⇑S	Sn	17 12 39.5	+2.0
TERV	**Terraza Guagua**	**2.02**	**60**	P	Pn	17 12 14.5	+1.7
VC1	**Cotopaxi 1**	**2.02**	**74**	P	Pn	17 12 16.3	+3.5
PINO	**Pino**	**2.02**	**59**	⇓P	Pn	17 12 13.9	+1.1
GGP	**Refugio Guagua**	**2.03**	**60**	P	Pn	17 12 14.5	+1.7
TAMB	**Tambo**	**2.04**	**76**	P	Pn	17 12 15.9	+2.8
YANA	**Yana**	**2.08**	**59**	P	Pn	17 12 14.8	+1.3
YANA	**Yana**	**2.08**	**59**	S	Sn	17 12 40.1	+0.7
ANTI	**Antisana**	**2.31**	**71**	P	Pn	17 12 20.4	+3.6
CAYA	**Cayambe**	**2.67**	**62**	P	Pn	17 12 25.3	+3.6

IDC 11 17:26:03.5±1.5,287S×3664E,h0km,mb3.7/3,mb1 3.8/4, mb1mx3.5/21,mbtmp3.8/4,ML4.0/1,Error ellipse: s-maj=96.1km s-min=14.5km az=111.0,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.84**	**20**	Pg	Pg	17 26 37.2	-1.5
	96nm,0.3s,baz=221,slow=19,SNR=897						
KMBO				Lg		17 27 01.3	
	909nm,0.3s,baz=281,slow=23,SNR=8.4						
LSZ	**Lusaka**	**14.87**	**214**	Pn	Pn	17 29 34.9	-0.3
	0.6nm,0.3s,baz=66,slow=10,SNR=7.0						
LSZ				Sn	Sn	17 32 11.2	-10
	0.2nm,0.3s,baz=323,slow=17,SNR=3.4						
LSZ				Lg		17 33 43.1	
	0.6nm,0.3s,baz=108,slow=15,SNR=7.7						
BOSA	**Boshof**	**27.80**	**202**	P	P	17 31 54.2	-0.2
	3.8nm,1.1s,baz=21,slow=9.0,SNR=4.1						
AKASG	**Malin Array Be**	**53.74**	**354**	P	P	17 35 27.5	+0.2
	0.1nm,0.2s,baz=163,slow=6.9,SNR=5.4						
MKAR	**Makanchi Array**	**63.67**	**33**	P	P	17 36 37.0	+0.4
	0.8nm,0.7s,baz=230,slow=7.6,SNR=5.2						

KRSC 11 17:27:40.5±0.5,5490N×16462E,h42km±41km,ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.66**	**323**	*e*P	Pn	17 28 06.1	-1.0
KBTR				*e*S	Sn	17 28 25.2	-2.0
MKZ	**Mys Kozlova**	**1.71**	**260**	*e*P	Pn	17 28 09.5	+1.7

MKZ *i* S Sn 17 28 30.5 +2.1
ZLN Zelenaya 2.44 299 *e*P Pn 17 28 20.7 +2.9
ZLN *e*S Sn 17 28 50.9 +4.5
TUMR Tumrok 2.60 280 *e*P Pn 17 28 23.1 +3.1
TUMR *e*S Sn 17 28 54.9 +4.6
SRKR Sorokina 2.62 313 *e*P Pn 17 28 22.6 +2.3
SRKR *e*S Sn 17 28 52.4 +1.5
KMNR Kamenistaya 2.65 291 *e*P Pn 17 28 23.9 +3.3
KMNR *i* S Sn 17 28 56.3 +4.9
KRSR Krestovskiy 2.66 301 *e*P Pn 17 28 23.6 +2.9
KRSR *i* S Sn 17 28 55.3 +3.7
KPT Kopyto 2.72 295 *e*P Pn 17 28 25.0 +3.3
KPT *i* S Sn 17 28 57.6 +4.3
KOZ Kozyrevsk 2.94 295 *e*P Pn 17 28 27.9 +3.3
KOZ *i* S Sn 17 29 02.3 +3.7
SRDR Sredinnyy 3.12 299 P Pn 17 28 29.8 +2.7
SRDR *i* S Sn 17 29 05.4 +2.3
SPN Mys Shipunski 3.26 238 *e*P Pn 17 28 30.6 +1.6
SPN *i* S Sn 17 29 07.3 +0.8
NLC Nalytchevo 3.56 243 *e*P Pn 17 28 35.1 +2.0
NLC *i* S Sn 17 29 16.2 +2.3
AVH Avacha 3.83 247 *e*P Pn 17 28 40.7 +3.8
AVH *i* S Sn 17 29 23.3 +2.7
PET Petropavlovsk 3.99 244 P Pn 17 28 42.1 +3.0
PET *i* S Sn 17 29 25.9 +1.3
GNL Ganaly 4.09 256 *e*P Pn 17 28 44.2 +3.7
RUS Russkaya 4.39 238 *e*P Pn 17 28 47.0 +2.4
RUS *i* S Sn 17 29 34.9 +0.5
MIPR Malaya Ipel'ka 5.37 244 *e*P Pn 17 29 02.7 +4.7

FUNV ***11*** *17:43:54.8, 670N×73.17W, h167km, MW3.6*
ISCJB ***11*** *17:43:55.2±0.5, 687N±006×7298W±006, h171km±6km, mb3.7/8, Error ellipse: s-maj=11.9km s-min=6.7km az=41.9*
NEIC ***11*** *17:43:55.2±0.8, 661N×7293W, h171km±9km, mb4.0/4, Error ellipse: s-maj=17.7km s-min=10.5km az=108.0*
IDC ***11*** *17:43:55.6±0.8, 673N×7293W, h166km±9km, mb3.4/6, mb1 3.7/8, mb1mx3.4/22, mbtmp3.5/8, Error ellipse: s-maj=25.7km s-min=7.8km az=131.0*
ISC 11 17:43:56.2±0.5, 685N±006×7296W±006, h165km±5km, n34, σ0 94/46, mb3.7/8, 5C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**32**	⇑*iP*	**Pn**	**17 44 24.8**	**+0.7**
CAPV				*e*S	**Sn**	**17 44 46.2**	**+0.7**
ROSC	**El Rosal**	**2.40**	**215**	P	**Pn**	**17 44 36.6**	**-0.4**
	47nm,0.3s,baz=285,slow=12,SNR=49						
ROSC				S	**Sn**	**17 45 07.3**	**-1.2**
	54nm,0.3s,baz=95,slow=16,SNR=8.5						
ROSC	**El Rosal**	**2.40**	**215**	*e*Pn	**Pn**	**17 44 36.3**	**-0.7**
ROSC				P		17 44 36.6	
ROSC				*e*Sn	**Sn**	**17 45 02.3**	**-6.2**
ROSC				S	**Sn**	**17 45 07.3**	**-1.2**
SOCV	**Socops**	**2.52**	**55**	⇑*iP*	**Pn**	**17 44 39.5**	**+1.1**
SOCV				*e*S	**Sn**	**17 45 11.8**	**+0.7**
VIGV	**El Vigia**	**2.53**	**38**	*e*P	**Pn**	**17 44 38.4**	**-0.1**
VIGV				*e*S	**Sn**	**17 45 11.8**	**+0.6**
SDV	**Santo Domingo**	**3.07**	**48**	P	**Pn**	**17 44 46.3**	**+1.3**
	38nm,0.3s,baz=258,slow=14,SNR=34						
SDV				S	**Sn**	**17 45 24.2**	**+1.3**
	36nm,0.3s,baz=69,slow=20,SNR=22						
SDV	**Santo Domingo**	**3.07**	**48**	*e*Pn	**Pn**	**17 44 46.0**	**+0.9**
SDV				P		17 44 46.3	
SDV				*e*Sn	**Sn**	**17 45 22.9**	**0.0**
SDV				S	**Sn**	**17 45 24.2**	**+1.2**
ELOV	**Elorza**	**3.45**	**87**	⇑*iP*	**Pn**	**17 44 50.8**	**+0.9**
VIRV	**Villa del Rosa**	**3.67**	**8**	*e*P	**Pn**	**17 44 51.7**	**-1.0**
VIRV				*e*S	**Sn**	**17 45 34.4**	**-2.4**
QARV	**Quebrada Arrib**	**4.12**	**36**	*e*P	**Pn**	**17 44 59.2**	**+0.8**
QARV				*e*S	**Sn**	**17 45 46.0**	**-0.8**
SANV	**Sanarito**	**4.29**	**52**	*e*P	**Pn**	**17 45 01.1**	**+0.4**
CURV	**Curarigua**	**4.32**	**43**	*e*P	**Pn**	**17 45 01.4**	**+0.4**
CURV				*e*S	**Sn**	**17 45 51.4**	**-0.2**
DABV	**Dabajuro**	**4.65**	**29**	*e*P	**Pn**	**17 45 05.8**	**+0.4**
DABV				*e*S	**Sn**	**17 45 57.8**	**-1.7**
TEPV	**Terepaima**	**4.84**	**50**	⇓*iP*	**Pn**	**17 45 08.4**	**+0.6**
TEPV				*e*S	**Sn**	**17 46 01.6**	**-2.3**
SIQV	**Siquisique**	**4.89**	**39**	⇑*iP*	**Pn**	**17 45 08.5**	**0.0**
BAUV	**El Baul**	**5.29**	**67**	⇑*iP*	**Pn**	**17 45 12.9**	**-0.9**
TURV	**Turiamo**	**6.20**	**54**	*e*P	**Pn**	**17 45 26.4**	**+0.7**
CAOV	**Caicara del Or**	**6.60**	**85**	*e*P	**Pn**	**17 45 29.4**	**-1.6**
CUPV	**Cepira**	**7.77**	**65**	*e*P	**Pn**	**17 45 46.0**	**-0.6**
OTAV	**Otavalo**	**8.55**	**220**	*e*Pn	**Pn**	**17 45 52.3**	**-4.6**
TEIG	**Tepich**	**19.94**	**313**	P	**P**	**17 48 16.7**	**+1.2**
	9.6nm,0.8s,baz=118,slow=6.8,SNR=6.8						
TEIG	**Tepich**	**19.94**	**313**	*e*P	**P**	**17 48 16.2**	**+0.7**
	7.2nm,0.6s						
TKL	**Tuckaleechee C**	**30.35**	**342**	*e*P	**P**	**17 49 46.3**	**-6.0**
ACSO	**Alum Creek Sta**	**34.44**	**346**	P	**P**	**17 50 28.6**	**+0.8**
LCO	**Las Campanas**	**35.71**	**177**	P	**P**	**17 50 35.1**	**-3.9**
	13nm,0.8s,mb4.6						
WMOK	**Wichita Mounta**	**36.56**	**323**	P	**P**	**17 50 44.9**	**-1.2**
	1.3nm,0.6s,mb3.7						
TXAR	**Lajitas Array**	**36.57**	**312**	P	**P**	**17 50 46.5**	**+0.2**
	0.6nm,0.6s,mb3.4,baz=125,slow=9.0,SNR=11						
SDCO	**Great Sand Dun**	**42.63**	**321**	*e*P	**P**	**17 51 37.3**	**+1.0**
	1.9nm,1.0s,mb3.7						
ULM	**Lac du Bonnet**	**47.32**	**340**	P	**P**	**17 52 12.6**	**-0.4**
	1.8nm,0.4s,mb4.0,baz=152,slow=6.2,SNR=5.9						
PDAR	**Pinedale Array**	**48.15**	**324**	P	**P**	**17 52 19.6**	**0.0**
	0.6nm,0.6s,mb3.4,baz=127,slow=10,SNR=4.5						
NVAR	**Mina Array Bea**	**51.58**	**315**	P	**P**	**17 52 46.1**	**+0.5**
	0.3nm,0.6s,mb3.1,baz=107,slow=8.6,SNR=3.1						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**17 54 07.1**	**+0.1**
	1.2nm,0.6s,mb3.9,baz=140,slow=6.5,SNR=3.5						
ASAR	**Alice Springs**	**149.26**	**234**	PKPbc	PKPbc	18 03 25.2	-0.9
	0.3nm,0.5s,baz=115,slow=4.7,SNR=5.9						
WRA	**Warramunga Arr**	**150.49**	**241**	PKPbc	PKPbc	18 03 28.1	-1.1
	0.4nm,0.5s,baz=108,slow=2.4,SNR=25						
WRA				pPKPbc	pPKPbc	18 04 11.5	-1.0
	0.2nm,0.4s,baz=107,slow=2.4,SNR=4.8						

ORF ***11*** *18:03:40.2, 2850S×17764W, h30km, mb6.5*
MOS ***11*** *18:04:49.4±0.8, 2211S×17948W, h569km, mb5.4/43, Error ellipse: s-maj=9.0km s-min=6.9km az=140.2*
ISCJB ***11*** *18:04:52.0±0.1, 2228S±004×17952W±003, h606km, mb5.3/144, Error ellipse: s-maj=4.9km s-min=3.0km az=161.2*
DJA ***11*** *18:04:52, 2224S×179.46W, h586km, mB6.2/11*
BJI ***11*** *18:04:52.0, 2200S×179.10W, h609km, mB5.4, mb5.6*
IDC ***11*** *18:04:53.4±0.4, 2221S×17956W, h600km±3km, mb4.8/32, mb1 4.9/32, mb1mx4.9/32, mbtmp4.8/32, Error ellipse: s-maj=8.4km s-min=6.0km az=166.0*
BGS ***11*** *18:04:53.1±1.6, 2226S×17949W, h606km, mb5.4(NEIC)*
NEIC ***11*** *18:04:53.1±0.1, 2226S×17949W, mb5.4/108, MW5.6, Error ellipse: s-maj=4.8km s-min=3.0km az=154.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^17 Nm; M_{rr}-1.46; $M_{\theta\theta}$0.37; $M_{\phi\phi}$1.09; $M_{r\theta}$-0.95; $M_{\phi\phi}$-0.04; $M_{\phi r}$-3.07; Best double couple: $M_0$3.40000×10^17 NP1: ϕ_s16.00000°, δ79.00000°, λ-86.00000°. NP2: ϕ_s175.00000°, δ11.00000°, λ-110.00000°. Principal axes: T 3.2300, Plg34.0000°, Azm102.0000°; N 0.4500, Plg4.0000°, Azm195.0000°; P -3.6700, Plg55.0000°, Azm291.0000°;*
GCMT ***11*** *18:04:53.1±0.2, 2220S×17940W, h610km±1km, MW5.7/86, Moment Tensor Solution. s86, c158; s37, c37; Duration: 1s7 Moment tensor: Scale 10^17Nm; M_{rr}-1.86±.05; $M_{\theta\theta}$0.41±.08; $M_{\phi\phi}$1.45±.09; $M_{r\theta}$-0.85±.09; $M_{\phi\phi}$-0.57±.07; $M_{\phi r}$-3.91±.08; Best double couple: $M_0$4.34900×10^17 NP1: ϕ_s146.00000°, δ14.00000°, λ-132.00000°. NP2: ϕ_s8.00000°, δ79.00000°, λ-80.00000°. Principal axes: T 4.0410, Plg34.0000°, Azm90.0000°; N 0.6150, Plg10.0000°, Azm186.0000°; P -4.6580, Plg55.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
SZGRF ***11*** *18:04:54.0, 2263S×17935W, h622km, South of Fiji Islands*
ISC 11 18:04:53.5±0.1, 2225S±004×17950W±003, h607km, h607km±.9km; pP-P, n960, σ0 86/393, mb5.3/143, 108C-113D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.12**	**169**	P	**P**	**18 06 41.6**	**-3.1**
	722nm,0.3s,baz=98,slow=7.6,SNR=35						
RAO				S	**S**	**18 08 11.6**	**-4.4**
	326nm,0.3s,baz=275,slow=23,SNR=8.3						
RAO	**Raoul Island**	**7.12**	**169**	*e*P	**P**	**18 06 41.6**	**-3.1**
RAO				*e*S	**S**	**18 08 10.9**	**-5.1**
RAO				pmax	pmax		
	comp=Z,3μm,0.4s						
RAO	**Raoul Island**	**7.12**	**169**	*e*P	**P**	**18 06 41.6**	**-3.1**
	comp=Z,3μm,0.4s						
RAO				*e*S	**S**	**18 08 10.9**	**-5.0**
AFI	**Afiamalu**	**11.07**	**43**	P	**P**	**18 07 18.0**	**-5.1**
	comp=Z,24nm,0.3s,baz=252,slow=4.7,SNR=17						
AFI				S	**S**	**18 09 15.1**	**-11**
	comp=Z,16nm,0.3s,baz=45,slow=22,SNR=6.3						
AFI	**Afiamalu**	**11.07**	**43**	*e*P	**P**	**18 07 16.9**	**-6.2**
AFI				*e*S	**S**	**18 09 14.5**	**-11**
AFI				pmax	pmax		
	comp=Z,239nm,0.8s						
AFI	**Afiamalu**	**11.07**	**43**	*e*P	**P**	**18 07 16.9**	**-6.3**
	comp=Z,239nm,0.8s						
AFI				*e*S	**S**	**18 09 14.5**	**-11**
DZM	**Mont Dzumac**	**13.03**	**268**	*e*P	**P**	**18 07 42.0**	**-0.6**
DZM				*e*S	**S**	**18 10 00.8**	**-0.7**
DZM	**Mont Dzumac**	**13.03**	**268**	*e*P	**P**	**18 07 41.7**	**-0.8**
FUNA	**Funafuti**	**13.70**	**355**	*e*P	**P**	**18 07 46.9**	**-2.5**
	comp=Z,147nm,0.5s						
URZ	**Urewera**	**16.23**	**190**	P	**P**	**18 08 08.9**	**-3.5**
	comp=Z,15nm,0.3s,baz=6.9,slow=5.5,SNR=64						
URZ				S	**S**	**18 10 47.5**	**-6.8**
	comp=Z,13nm,0.3s,baz=183,slow=23,SNR=15						
RAR	**Rarotonga**	**18.36**	**90**	P	**P**	**18 08 30.5**	**-1.6**
	comp=Z,10.0nm,0.3s,baz=249,slow=8.0,SNR=14						
SNZO	**South Karori**	**19.63**	**193**	*e*P	**P**	**18 08 40.6**	**-2.7**
	comp=Z,321nm,1.3s						
RPZ	**Rata Peaks**	**22.80**	**198**	P	**P**	**18 09 11.9**	**+0.3**
	comp=Z,22nm,0.6s,mb5.0,baz=324,slow=3.1,SNR=17						
HNR	**Honiara**	**23.48**	**300**	P	**P**	**18 09 16.3**	**-1.7**
	comp=Z,156nm,0.7s,mb5.8,baz=115,slow=1.7,SNR=14						
HNR				S	**S**	**18 12 49.5**	**-1.0**
	comp=Z,88nm,1.0s,baz=88,slow=21,SNR=4.7						
HNR	**Honiara**	**23.48**	**300**	⇓*eP*	**P**	**18 09 16.3**	**-1.8**
HNR				pmax	pmax		
	comp=Z,282nm,0.9s,mb5.9						
HNR	**Honiara**	**23.48**	**300**	⇓*eP*	**P**	**18 09 16.3**	**-1.8**
	comp=Z,282nm,0.9s,mb5.9						
ARMA	**Armidale**	**27.07**	**246**	⇓*iP*	**P**	**18 09 51.0**	**+1.6**
ARMA				*e*S	**S**	**18 13 48.8**	**+2.5**
ARMA				*e*SCP	ScP	18 15 36.8	+3.5
TBI	**Tubuai**	**27.70**	**98**	*e*P	**P**	**18 09 54.4**	**-0.6**
	comp=Z,576nm,0.8s,mb6.2						
RIV	**Riverview**	**28.25**	**240**	*e*P	**P**	**18 10 00.9**	**+1.2**
RIV				*e*PCP	PcP	18 12 54.8	+2.3
PAE	**Paea**	**28.47**	**86**	*e*P	**P**	**18 10 00.6**	**-1.2**
	comp=Z,843nm,1.1s,mb6.3						
PPT	**Papeete**	**28.49**	**86**	*e*P	**P**	**18 10 00.9**	**-1.1**
	comp=Z,211nm,1.4s,mb5.6						
PPT	**Papeete**	**28.49**	**86**	P	**P**	**18 10 01.2**	**-0.8**
	comp=Z,95nm,0.5s,mb5.7,baz=264,slow=4.7,SNR=14						
TIAR	**Tiarei**	**28.71**	**86**	*e*P	**P**	**18 10 02.7**	**-1.2**
	comp=Z,2μm,0.8s						
TVO	**Taravao**	**28.74**	**87**	*e*P	**P**	**18 10 02.8**	**-1.3**
	comp=Z,2μm,0.7s						
MEH	**Mehetia**	**29.82**	**87**	*e*P	**P**	**18 10 12.0**	**-1.4**
	comp=Z,7μm,1.1s						
CAN	**Canberra**	**30.39**	**238**	⇓*eP*	**P**	**18 10 18.7**	**+0.7**
PMOR	**Pomariorio Ree**	**30.76**	**82**	*e*P	**P**	**18 10 20.3**	**-1.2**
	comp=Z,638nm,1.2s,mb6.1						
PMOR				*e*pP		18 11 55.1	
	comp=Z,528nm,1.6s						
CTA	**Charters Tower**	**31.97**	**267**	⇓*iP*	**P**	**18 10 32.3**	**+0.6**
	comp=Z,323nm,0.7s,mb6.1						
CTA				*e*PCP	PcP	18 13 03.8	+1.1
CTA				*e*S	**S**	**18 15 02.2**	**+0.3**
CTA				*e*SCP	ScP	18 15 52.8	+3.3
CTA	**Charters Tower**	**31.97**	**267**	P	**P**	**18 10 32.3**	**+0.6**
	comp=Z,410nm,0.8s,mb6.1,baz=97,slow=11,SNR=263						
CTA				PcP	PcP	18 13 03.9	+1.2
	comp=Z,65nm,0.7s,baz=162,slow=2.1,SNR=6.5						
CTA				S	**S**	**18 15 01.9**	**+0.1**
	comp=Z,40nm,1.1s,baz=277,slow=17,SNR=8.8						
CTA				ScP	ScP	18 15 52.8	+3.3
	comp=Z,23nm,0.8s,baz=140,slow=3.5,SNR=4.4						
CTA	**Charters Tower**	**31.97**	**267**	⇓*iP*	**P**	**18 10 32.3**	**+0.6**
CTA				*e*		18 13 03.8	
CTA				*e*S	**S**	**18 15 02.2**	**+0.3**
CTA				pmax	pmax		
	comp=Z,323nm,0.7s						
CTAO	**Charters Tower**	**31.97**	**267**	⇓*iP*	**P**	**18 10 32.1**	**+0.4**
CTAO				*e*		18 13 03.4	
CTAO				*e*S	**S**	**18 15 02.3**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,393nm,0.8s,mb6.1						
CTAO	**Charters Tower**	**31.97**	**267**	⇓*iP*	**P**	**18 10 32.1**	**+0.4**
	comp=Z,393nm,0.8s,mb6.1						
CTAO				*e*PP	PP	18 12 08.0	-5.1
CTAO				*e*PcP	PcP	18 13 03.4	+0.7
CTAO				*e*S	**S**	**18 15 02.3**	**+0.5**
CTAO				*e*ScP	ScP	18 15 52.7	+3.2
XMAS	**Kiritimati**	**32.35**	**45**	⇑*iP*	**P**	**18 10 34.0**	**-1.0**
	comp=Z,121nm,0.8s,mb5.6						
TOO	**Toolangi**	**33.75**	**235**	⇓*iP*	**P**	**18 10 46.9**	**+0.5**
TOO				*e*S	**S**	**18 15 28.2**	**-0.1**
TOO				*e*SS	SS	18 18 42.9	+0.7
TOO	**Toolangi**	**33.75**	**235**	⇓*iP*	**P**	**18 10 46.9**	**+0.5**
TOO				*e*S	**S**	**18 15 28.2**	**-0.1**
TAU	**Tasmania Unive**	**34.41**	**225**	P	**P**	**18 10 52.2**	**+0.4**
	comp=Z,898nm,0.7s,mb6.5,SNR=38						
TAU	**Tasmania Unive**	**34.41**	**225**	⇑*iP*	**P**	**18 10 52.1**	**+0.3**
TAU				pmax	pmax		
	comp=Z,106nm,0.7s,mb5.6						
TAU	**Tasmania Unive**	**34.41**	**225**	⇑*iP*	**P**	**18 10 52.1**	**+0.3**
	comp=Z,106nm,0.7s,mb5.6						
PMG	**Port Moresby**	**34.43**	**286**	⇓*iP*	**P**	**18 10 52.4**	**0.0**
PMG				*e*		18 12 31.6	
PMG				*e*S	**S**	**18 15 37.7**	**-1.4**
PMG				pmax	pmax		
	comp=Z,855nm,0.8s						
PMG	**Port Moresby**	**34.43**	**286**	⇓*iP*	**P**	**18 10 52.4**	**0.0**
	comp=Z,855nm,0.8s,mb6.4						
PMG				*e*PP	PP	18 12 31.6	-4.4
PMG				*e*S	**S**	**18 15 37.7**	**-1.5**
PMG				*e*ScP	ScP	18 16 00.8	+2.5
STKA	**Stephens Creek**	**35.79**	**246**	⇓*iP*	**P**	**18 11 04.0**	**+0.6**
	comp=Z,118nm,0.8s,mb5.5						
STKA				*e*PCP	PcP	18 13 14.9	+1.2
STKA				*e*S	**S**	**18 15 59.6**	**+0.6**
STKA				*e*SCP	ScP	18 16 06.0	+3.0
STKA	**Stephens Creek**	**35.79**	**246**	P	**P**	**18 11 04.0**	**+0.7**
	comp=Z,127nm,0.7s,mb5.5,baz=89,slow=9.5,SNR=186						
STKA				ScP	ScP	18 16 06.0	+3.0
	comp=Z,27nm,0.8s,baz=71,slow=1.1,SNR=6.8						
STKA				PKiKP	PKiKP	18 20 30.9	-1.3
	comp=Z,6.3nm,0.7s,baz=0.0,slow=2.0,SNR=6.6						
STKA	**Stephens Creek**	**35.79**	**246**	*e*P	**P**	**18 11 03.7**	**+0.3**
	comp=Z,158nm,0.8s,mb5.6						
COEN	**Coen**	**36.34**	**277**	*e*P	**P**	**18 11 08.7**	**+0.5**
	comp=Z,126nm,0.9s,mb5.4						
COEN				*e*PP	PP	18 12 50.3	-3.3
COEN				*e*ScP	ScP	18 16 09.4	+4.0
TAOE	**Nuku Hiva Isla**	**40.05**	**77**	*e*P	**P**	**18 11 36.1**	**-2.0**
	comp=Z,2μm,1.1s,mb6.6						
RKT	**Rikitea**	**40.98**	**100**	*e*P	**P**	**18 11 44.6**	**-0.7**
	comp=Z,83nm,0.8s,mb5.3						
RKT	**Rikitea**	**40.98**	**100**	*e*P	**P**	**18 11 44.6**	**-0.7**
RKT				pmax	pmax		
	comp=Z,83nm,0.8s,mb5.3						
ASAR	**Alice Springs**	**42.78**	**259**	P	**P**	**18 11 59.6**	**+0.1**
	comp=Z,364nm,0.8s,mb6.0,baz=98,slow=7.5,SNR=809						
ASAR				PcP	PcP	18 13 37.5	+1.0
	comp=Z,56nm,0.7s,baz=103,slow=4.7,SNR=9.9						
ASAR				ScP	ScP	18 16 33.9	+3.4
	comp=Z,7.5nm,0.6s,baz=107,slow=5.4,SNR=4.1						
ASAR				S	**S**	**18 17 40.9**	**-0.1**
	comp=Z,13nm,0.7s,baz=98,slow=17,SNR=9.8						
ASAR				PKiKP	PKiKP	18 20 37.1	-1.2
	comp=Z,1.7nm,0.5s,baz=94,slow=2.0,SNR=5.6						
ASAR				ScS	ScS	18 20 55.3	+2.6
	comp=Z,4.6nm,0.8s,baz=108,slow=8.4,SNR=5.5						
ASAR				P4KPbc		18 49 50.0	
	comp=Z,0.6nm,0.7s,baz=100,slow=4.7,SNR=10						
ASAR	**Alice Springs**	**42.78**	**259**	P	**P**	**18 11 59.6**	**+0.1**
ASAR						18 13 37.6	
ASAR				S	**S**	**18 17 40.9**	**-0.1**
ASAR	**Alice Springs**	**42.78**	**259**	P	**P**	**18 11 59.6**	**+0.1**
ASAR				PcP	PcP	18 13 37.5	+1.0
ASAR				ScP	ScP	18 16 33.9	+3.4
ASAR				S	**S**	**18 17 40.9**	**-0.1**
WB2	**Warramunga Arr**	**42.99**	**264**	⇓*iP*	**P**	**18 12 00.6**	**-0.5**
WB2				*e*S	**S**	**18 17 41.4**	**-2.6**
WB2				*e*sS	sS	18 20 56.2	+0.1
WRAB	**Tennant Creek**	**42.99**	**264**	P	**P**	**18 12 00.0**	**-1.2**
	comp=Z,5μm,0.7s						
WRAB	**Tennant Creek**	**42.99**	**264**	⇓*iP*	**P**	**18 12 00.6**	**-0.6**
WRAB				*e*S	**S**	**18 17 42.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,635nm,0.8s,mb6.2						
WRAB	**Tennant Creek**	**42.99**	**264**	⇓*iP*	**P**	**18 12 00.6**	**-0.6**
	comp=Z,635nm,0.8s,mb6.2						
WRAB				*e*ScP	ScP	18 16 33.8	+2.4
WRAB				*e*S	**S**	**18 17 42.7**	**-1.4**
WRA	**Warramunga Arr**	**43.00**	**264**	P	**P**	**18 12 00.3**	**-0.9**
	comp=Z,488nm,0.8s,mb6.1,baz=100,slow=8.6,SNR=681						
WRA				PcP	PcP	18 13 38.1	+0.8
	comp=Z,54nm,0.9s,baz=102,slow=3.9,SNR=6.8						
WRA				ScP	ScP	18 16 34.7	+3.3
	comp=Z,22nm,0.7s,baz=94,slow=4.4,SNR=9.4						
WRA				S	**S**	**18 17 41.0**	**-3.2**
	comp=Z,31nm,0.9s,baz=98,slow=14,SNR=15						
WRA				PKiKP	PKiKP	18 20 37.5	-1.1
	comp=Z,2.2nm,0.5s,baz=78,slow=0.3,SNR=5.9						
WRA				P3KPbc		18 40 59.7	
	comp=Z,0.6nm,0.7s,baz=294,slow=3.0,SNR=8.4						
WRA	**Warramunga Arr**	**43.00**	**264**	P	**P**	**18 12 00.3**	**-0.9**
WRA						18 13 38.1	
WRA				S	**S**	**18 17 41.0**	**-3.2**
WRA	**Warramunga Arr**	**43.00**	**264**	P	**P**	**18 12 00.3**	**-0.9**
WRA				PcP	PcP	18 13 38.1	+0.8
WRA				ScP	ScP	18 16 34.7	+3.3
WRA				S	**S**	**18 17 41.0**	**-3.2**
KAKA	**Kakadu**	**46.64**	**273**	⇓*iP*	**P**	**18 12 28.6**	**-0.5**
	comp=Z,290nm,0.3s,mb6.3						
KAKA				*e*SCP	ScP	18 16 48.8	+2.1
KAKA				*e*S	**S**	**18 18 34.4**	**-0.9**
FORT	**Forrest**	**47.33**	**248**	⇓*iP*	**P**	**18 12 33.5**	**-0.5**
	comp=Z,504nm,0.6s,mb6.2						
FORT				*e*SCP	ScP	18 16 52.2	+2.9
FORT				*e*S	**S**	**18 18 42.0**	**-2.4**
POHA	**Pohakuloa**	**47.87**	**31**	*e*P	**P**	**18 12 38.0**	**0.0**
	comp=Z,135nm,1.0s,mb5.4						
TLE	**Tual**	**48.96**	**282**	⇑*eP*	**P**	**18 12 52.0**	**+5.7**
GUMO	**Guam**	**49.88**	**312**	P	**P**	**18 12 53.2**	**+0.2**
	comp=Z,297nm,0.6s,mb5.9,baz=165,slow=6.1,SNR=34						
GUMO	**Guam**	**49.88**	**312**	⇓*iP*	**P**	**18 12 53.0**	**0.0**
GUMO				pmax	pmax		
	comp=Z,270nm,0.7s,mb5.8						
GUMO	**Guam**	**49.88**	**312**	⇓*iP*	**P**	**18 12 53.0**	**0.0**
	comp=Z,270nm,0.7s,mb5.8						
MIDW	**Midway**	**50.21**	**2**	*e*P	**P**	**18 12 54.1**	**-0.9**
	comp=Z,96nm,0.6s,mb5.4						
DRV	**Dumont d'Urvil**	**51.25**	**199**	P	PcP	18 14 00.0	-6.3
FITZ	**Fitzroy Crossi**	**51.43**	**264**	⇓*iP*	**P**	**18 13 04.3**	**+0.1**
	comp=Z,246nm,0.9s,mb5.6						
FITZ				*e*S	**S**	**18 19 40.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**51.43**	**264**	P	**P**	**18 13 04.4**	**+0.1**
	comp=Z,142nm,0.9s,mb5.4,baz=83,slow=8.2,SNR=153						
FITZ				S	**S**	**18 19 40.7**	**+0.5**
	comp=Z,12nm,0.9s,baz=273,slow=22,SNR=8.2						
AAI	**Ambon**	**53.88**	**282**	⇓*eP*	**P**	**18 13 17.5**	**-4.2**
BATI	**Baumata**	**55.59**	**273**	P	**P**	**18 13 35.0**	**+1.4**
	comp=Z,522nm,0.6s,mb5.9,baz=171,slow=1.8,SNR=127						
SBA	**Scott Base**	**56.05**	**183**	⇑*eP*	**P**	**18 13 38.1**	**+2.4**
SBA				*e*		18 14 25.8	
SBA				pmax	pmax		
	comp=Z,113nm,1.1s,mb5.0						
SBA	**Scott Base**	**56.05**	**183**	⇑*eP*	**P**	**18 13 38.1**	**+2.4**
	comp=Z,113nm,1.1s,mb5.0						
SBA				*e*PcP	PcP	18 14 25.8	+1.1
VNDA	**Vanda**	**56.06**	**185**	P	**P**	**18 13 37.2**	**+1.5**
	comp=Z,27nm,0.8s,mb4.5,baz=358,slow=7.3,SNR=120						
VNDA				PcP	PcP	18 14 25.8	+1.1
	comp=Z,27nm,0.8s,baz=334,slow=5.0,SNR=8.9						
VNDA				P3KPbc		18 39 13.0	
	comp=Z,0.4nm,0.6s,baz=23,slow=4.8,SNR=3.6						
VNDA				P4KPbc		18 50 43.0	
	comp=Z,1.1nm,0.7s,baz=360,slow=3.4,SNR=10.0						
VNDA	**Vanda**	**56.06**	**185**	*e*P	**P**	**18 13 36.9**	**+1.2**
VNDA				*e*		18 14 25.3	
VNDA				*e*		18 17 27.2	
VNDA				pmax	pmax		
	comp=Z,47nm,1.0s						
VNDA	**Vanda**	**56.06**	**185**	*e*P	**P**	**18 13 36.9**	**+1.2**

MJAR pP pP 18 17 13.1 +0.2
MJAR ⇑e 18 42 58.3
MAJO Matsushiro 70.80 325⇓iP P 18 15 09.8 -0.3
MAJO *PP pP 18 17 11.6 -1.3
MAJO pmax pmax
comp=Z,104nm,0.8s,mb5.4
MAJO Matsushiro 70.80 325⇓iP P 18 15 09.8 -0.3
comp=Z,104nm,0.8s,mb5.4
MAJO pP pP 18 17 11.6 -1.4
MAT Matsushiro 70.80 325 P **P 18 15 09.8 -0.3**
MAT S S 18 23 37.0 -0.7
SBUM Sibu 70.94 281⇓P P 18 15 12.3 +0.9
XMIS Christmas Isla 72.17 266 eP **P 18 15 18.1 -0.5**
XMIS pP pP 18 17 24.5 +2.5
KSM Kuching 72.28 279⇑P P 18 15 20.1 +0.9
KSM Kuching 72.28 279⇓iP P 18 15 19.3 0.0
KSM ePP PP 18 18 00.9 -10
AMKA Amchitka 73.31 359 eP **P 18 15 23.0 -1.1**
AMKA epP pP 18 17 14.6 -14
NACB Ninganchiao 73.52 305 eP **P 18 15 24.5 -1.5**
comp=Z,230nm,0.7s,mb5.8
NACB epP PP 18 18 18.9 -2.7
YHNB Yeheng 73.96 306 eP **P 18 15 28.0 -0.4**
comp=Z,253nm,0.9s,mb5.8
TATO Taipei 74.04 306⇓eP P 18 15 28.7 -0.3
comp=Z,344nm,0.8s,mb5.9
SMY Shemya 74.86 356 eP **P 18 15 32.0 -0.9**
SMY pmax pmax
comp=Z,258nm,0.9s,mb5.8
SMY Shemya 74.86 356 eP **P 18 15 32.0 -0.9**
comp=Z,258nm,0.9s,mb5.8
NIKO Nikolski 75.47 7 eP **P 18 15 34.9 -1.3**
comp=Z,357nm,1.0s,mb5.8
SKR Severo-Kuril's 75.73 344 eP **P 18 15 36.6 -1.1**
SKR eS S 18 24 30.0 -1.1
SKR ePS 18 24 52.0
SKR e 18 25 12.0
SKR pmax pmax
comp=Z,80nm,0.6s,mb5.3
SKR pmax pmax
comp=N,110nm,1.0s
SKR pmax pmax
comp=Z,1μm,2.0s,mb5.9
SKR smax
comp=E,1μm,10.0s
SKR smax
comp=E,2μm,12.0s
QZH Quanzhou 76.22 304⇓iP P 18 15 41.3 +0.3
QZH AMB AMB
comp=Z,390nm,0.7s,mb6.0
UNV Unalaska Valle 76.60 8 eP **P 18 15 41.2 -1.2**
comp=Z,68nm,0.6s,mb5.2
YSS Yuzh-Sakhalins 76.84 334⇓eP P 18 15 44.3 +0.4
YSS e*SP sP 18 18 49.0 -2.3
YSS i S S 18 24 48.0 +5.0
YSS e 18 25 08.0
YSS eSS SS 18 29 54.0 -4.0
YSS eSSS 18 33 26.0
YSS pmax pmax
comp=Z,190nm,1.0s,mb5.5
YSS pmax pmax
comp=E,50nm,0.8s
YSS Yuzh-Sakhalins 76.84 334⇓eP P 18 15 44.7 +0.8
comp=E,97nm,0.6s,mb5.4
KSRS Korea Array 77.28 320 P **P 18 15 47.4 +0.8**
comp=E,36nm,0.7s,mb4.9,baz=136,slow=5.8,SNR=68
PET Petropavlovsk 77.32 347⇓iP P 18 15 45.8 -0.5
PET e 18 15 54.4
PET e 18 18 53.9
PET i S S 18 24 47.4 -0.4
PET e 18 25 08.2
PET eSP 18 25 32.5
PET eSS SS 18 30 07.0 +2.1
PET eSSS 18 33 30.4
PET pmax pmax
comp=Z,400nm,5.3s
PET pmax pmax
comp=Z,107nm,0.6s,mb5.5
PET pmax pmax
comp=Z,200nm,17.1s
PET Petropavlovsk 77.32 347⇓iP P 18 15 45.6 -0.8
comp=Z,70nm,0.6s,mb5.3
PETK Petropavlovsk- 77.61 346 P **P 18 15 47.8 -0.1**
comp=Z,152nm,0.7s,mb5.6,baz=125,slow=7.4,SNR=289
PETK pP pP 18 17 53.2 -0.7
comp=Z,4.8nm,0.8s,baz=145,slow=5.3,SNR=2.0
PETK Petropavlovsk- 77.61 346 P **P 18 15 47.8 -0.1**
PETK pP pP 18 17 53.2 -0.7
SSE Sheshan 77.75 311⇓P P 18 15 49.3 +0.1
SSE PCP PcP 18 15 57.7 +1.3
SSE AP pP 18 17 53.3 -2.0
SSE XP sP 18 19 00.4 +3.5
SSE S S 18 24 50.7 -2.6
SSE XS sS 18 28 34.0 -3.9
SSE AMB AMB
comp=Z,85nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,338nm,3.7s
MYKOM Kota Tinggi 78.34 277⇓P P 18 15 53.7 +0.9
KGM Kluang 78.91 277⇓P P 18 15 56.6 +0.8
SDPT Sand Point 78.97 11 eP **P 18 15 53.9 -1.2**
comp=Z,113nm,0.9s,mb5.2
MAW Mawson 79.45 200⇓iP P 18 15 57.6 0.0
comp=Z,63nm,0.6s,mb5.1
MAW eS S 18 25 09.8 +0.1
MAW Mawson 79.45 200 P **P 18 15 57.9 +0.3**
comp=Z,78nm,0.7s,mb5.2,baz=122,slow=6.5,SNR=188
MAW Mawson 79.45 200 eP PcP 18 16 09.6 +6.4
MAW eS S 18 25 09.8 +0.1
COCO West Island 79.69 261 eP **P 18 15 59.8 -0.1**
COCO pmax pmax
comp=Z,194nm,1.0s,mb5.4
COCO West Island 79.69 261 eP **P 18 15 59.8 -0.1**
comp=Z,194nm,1.0s,mb5.4
NJ2 Nanjing 79.93 311 eP **P 18 16 02.2 +1.5**
NJ2 S S 18 25 10.5 -5.2
NJ2 AMB AMB
comp=Z,100nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,650nm,6.5s
PMSA Palmer Station 80.25 157 eP **P 18 16 02.0 +0.2**
comp=Z,66nm,1.0s,mb4.9
SAO San Andreas Ge 80.25 44 eP **P 18 16 02.4 +0.1**
SAO pmax pmax
comp=Z,45nm,0.9s,mb4.8
SAO San Andreas Ge 80.25 44 eP **P 18 16 02.4 +0.2**
comp=Z,45nm,0.9s,mb4.8
QIZ Qiongzhong 80.31 295 P **P 18 16 03.5 +0.6**
QIZ AP pP 18 18 07.6 -2.5
QIZ XP sP 18 19 11.7 +0.2
QIZ S S 18 25 18.8 -1.2
QIZ XS sS 18 29 07.7 +1.0
QIZ AMB AMB
comp=Z,372nm,7.4s
KTGM Kuala Trenggan 80.38 280⇑P P 18 16 05.0 +1.5
NSHM Saint Helena R 80.59 42 eP **P 18 16 04.3 +0.3**
HOPS Hopland 80.60 41⇑iP P 18 16 04.2 +0.2
comp=Z,93nm,1.1s,mb5.1
KCPM Cahto Peak 80.72 40⇓iP P 18 16 05.7 +1.0
OSI Osito Adit 80.78 47⇑eP P 18 16 05.1 0.0
comp=Z,17nm,0.3s,mb5.0
KIPM Iron Peak 80.86 40 eP **P 18 16 06.4 +1.1**
FRIM Kepong 80.94 277⇑P P 18 16 06.8 +0.4
MWC Mount Wilson 81.01 47⇑eP P 18 16 06.3 +0.1
MWC pmax pmax
comp=Z,39nm,0.9s,mb4.8
MWC Mount Wilson 81.01 47⇑eP P 18 16 06.3 +0.1
comp=Z,39nm,0.9s,mb4.8
MWC epP pP 18 18 14.2 +0.5
BAR Barrett 81.11 49⇑iP P 18 16 06.7 -0.1
comp=Z,13nm,0.9s,mb4.4
BAR epP pP 18 18 10.9 -3.4
MDJ Mudanjiang 81.15 326 P **P 18 16 07.8 +1.1**
MDJ AP pP 18 18 14.4 +0.1
MDJ XP sP 18 19 16.0 +0.5
MDJ PP PP 18 19 23.1 -0.9
MDJ S S 18 25 30.0 +2.5
MDJ SS SS 18 31 00.5 -1.3
MDJ AMB AMB
comp=Z,139nm,0.8s,mb5.4
MDJ AMB AMB
comp=Z,420nm,5.5s
MDJ Mudanjiang 81.15 326⇓eP P 18 16 07.4 +0.7
comp=Z,110nm,0.8s,mb5.3

LPIG La Paz 81.50 60 P **P 18 16 09.6 +0.6**
comp=Z,24nm,0.4s,mb5.0,baz=110,slow=2.8,SNR=8.3
ISA Isabella 81.55 46⇑iP P 18 16 09.3 +0.3
ISA pmax pmax
comp=Z,141nm,1.4s,mb5.3
ISA Isabella 81.55 46⇑iP P 18 16 09.3 +0.3
comp=Z,142nm,1.4s,mb5.3
ISA epP pP 18 18 18.6 +1.9
CMB Columbia Colle 81.69 43⇑iP P 18 16 09.8 +0.2
CMB e*PP pP 18 18 15.6 -1.8
CMB pmax pmax
comp=Z,72nm,0.9s,mb5.2
CMB Columbia Colle 81.69 43⇑iP P 18 16 09.8 +0.2
comp=Z,72nm,0.9s,mb5.2
CMB epP pP 18 18 15.6 -1.8
KRMB Red Mountain 81.69 39⇑iP P 18 16 10.3 +0.8
PFO Pinyon Flat Ob 81.77 49 P **P 18 16 10.9 +0.8**
comp=Z,127nm,1.0s,mb5.4,SNR=7.2
PFO Pinyon Flat Ob 81.77 49 P **P 18 16 10.6 +0.4**
comp=Z,13nm,0.8s,mb4.5,baz=258,slow=3.6,SNR=17
PFO pP pP 18 18 17.4 -0.6
comp=Z,5.2nm,1.0s,baz=278,slow=4.8,SNR=3.8
PFO Pinyon Flat Ob 81.77 49⇑iP P 18 16 10.3 +0.2
PFO epP pP 18 18 16.4 -1.6
OHCM Honcut 81.78 42 eP **P 18 16 10.1 +0.1**
WDC Whiskeytown Da 81.90 40⇑iP P 18 16 11.1 +0.5
WDC e*PP pP 18 18 17.2 -1.3
WDC pmax pmax
comp=Z,102nm,1.2s,mb5.2
WDC Whiskeytown Da 81.90 40⇑iP P 18 16 11.1 +0.4
comp=Z,102nm,1.2s,mb5.2
WDC epP pP 18 18 17.2 -1.3
IPM Ipoh 81.98 278⇓P P 18 16 12.7 +1.0
OHAK Old Harbor 82.17 14⇓eP P 18 16 11.2 -0.3
comp=Z,91nm,0.9s,mb5.3
OHAK epP pP 18 18 18.9 -0.7
OHAK eS S 18 25 36.0 -1.0
KEBM Edson Butte 82.31 38⇑iP P 18 16 13.5 +0.9
KEBM epP pP 18 18 19.3 -1.4
WHN Wuhan 82.36 307 eP **P 18 16 14.0 +0.8**
MTUM Tungsten Hills 82.46 45 eP **P 18 16 14.1 +0.6**
MTUM epP pP 18 18 22.4 +0.8
GSC Goldstone 82.47 47⇓iP P 18 16 13.7 +0.1
GSC pmax pmax
comp=Z,44nm,1.0s,mb4.9
GSC Goldstone 82.47 47⇓iP P 18 16 13.7 +0.1
comp=Z,44nm,1.0s,mb4.9
GSC epP pP 18 18 22.8 +1.0
YBH Yreka Blue Hor 82.52 39 P **P 18 16 14.8 +1.1**
comp=Z,46nm,0.8s,mb5.0,baz=184,slow=2.6,SNR=109
YBH pP pP 18 18 22.7 +0.8
comp=Z,11nm,0.9s,baz=230,slow=4.3,SNR=6.0
YBH Yreka Blue Hor 82.52 39⇑iP P 18 16 14.5 +0.8
YBH pmax pmax
comp=Z,45nm,0.8s
YBH Yreka Blue Hor 82.52 39⇑iP P 18 16 14.5 +0.8
comp=Z,45nm,0.8s,mb5.0
YBH epP pP 18 18 22.8 +0.9
GLA Glamis 82.62 50⇑iP P 18 16 15.3 +0.9
GLA pmax pmax
comp=Z,105nm,1.0s,mb5.3
GLA Glamis 82.62 50⇑iP P 18 16 15.3 +0.9
comp=Z,105nm,1.0s,mb5.3
GLA epP pP 18 18 25.2 +2.6
KULM Kulim 82.64 279⇓P P 18 16 16.1 +1.1
SNY Shenyang 82.65 321⇓P P 18 16 14.7 +0.3
KDAK Kodiak Island 82.84 14 P **P 18 16 15.0 +0.1**
comp=Z,311nm,0.7s,mb6.0,SNR=20
KDAK Kodiak Island 82.84 14 P **P 18 16 14.0 -0.8**
comp=Z,35nm,0.7s,mb5.0,baz=207,slow=2.7,SNR=45
KDAK S S 18 25 44.0 +0.4
comp=Z,12nm,1.3s,baz=331,slow=20,SNR=15
KDAK Kodiak Island 82.84 14 eP **P 18 16 14.3 -0.6**
KDAK pmax pmax
comp=Z,160nm,1.4s,mb5.4
KDAK Kodiak Island 82.84 14 eP **P 18 16 14.3 -0.5**
comp=Z,160nm,1.4s,mb5.4
KDAK epP pP 18 18 22.3 -0.9
CN2 Changchun 82.84 323⇓P P 18 16 15.7 +0.5
CN2 eAP pP 18 18 24.2 +0.7
CN2 eXP sP 18 19 23.2 -1.4
CN2 eS S 18 25 46.2 +1.9
CN2 AMB AMB
comp=Z,200nm,3.0s
HUMO Hull Mountain 82.92 38⇑iP P 18 16 16.5 +0.8
comp=Z,110nm,1.1s,mb5.3
HUMO epP pP 18 18 25.3 +1.2
BUOR Burton Butte 83.13 39 P **P 18 16 18.1 +1.4**
NVAR Mina Array Bea 83.25 44 P **P 18 16 17.9 +0.5**
comp=Z,29nm,0.9s,mb4.8,baz=223,slow=7.8,SNR=110
NVAR pP pP 18 18 26.6 +0.7
comp=Z,5.7nm,0.8s,baz=222,slow=9.1,SNR=9.2
NVAR PKKPbc PKKPbc 18 34 35.1 +1.2
comp=Z,1.8nm,0.6s,baz=96,slow=2.4,SNR=13
NVAR PKPPKP 18 42 39.8
comp=Z,1.5nm,0.7s,baz=72,slow=2.6,SNR=7.3
PSI Prapat 83.26 276⇓eP P 18 16 17.1 -1.0
KLR Kul'dur 83.33 330⇑iP P 18 16 14.2 -3.3
KLR eS S 18 25 52.0 +3.2
KLR pmax pmax
comp=E,150nm,2.4s
KLR pmax pmax
comp=Z,380nm,2.4s,mb5.5
KLR smax
comp=N,1μm,12.5s
KLR smax
comp=E,700nm,12.5s
TIA Tai'an 83.43 313 P **P 18 16 18.7 +0.3**
TIA AMB AMB
comp=Z,140nm,0.7s,mb5.6
TPH Tonopah 83.74 45⇑iP P 18 16 19.7 -0.2
TPH e 18 19 42.9
TPH pmax pmax
comp=Z,72nm,1.1s,mb5.1
TPH Tonopah 83.74 45⇑iP P 18 16 19.7 -0.2
comp=Z,72nm,1.1s,mb5.1
TPH epP pP 18 18 30.6 +2.0
TPH ePP PP 18 19 42.9 -2.1
TPNV Topopah Spring 83.76 46⇑iP P 18 16 20.1 +0.1
TPNV pmax pmax
comp=Z,52nm,1.1s,mb5.0
TPNV Topopah Spring 83.76 46⇑iP P 18 16 20.1 +0.1
comp=Z,52nm,1.1s,mb5.0
TPNV epP pP 18 18 29.6 +0.9
MPOR Mary's Peak 83.79 37 P **P 18 16 21.6 +1.7**
COR Corvallis 83.97 37 eP **P 18 16 21.7 +0.9**
COR pmax pmax
comp=Z,61nm,1.1s,mb5.0
COR Corvallis 83.97 37 eP **P 18 16 21.7 +0.9**
comp=Z,61nm,1.1s,mb5.0
MOD Modoc 84.05 40⇓eP P 18 16 21.7 +0.5
comp=Z,64nm,1.2s,mb5.0
MOD epP pP 18 18 31.0 +0.9
HEBO Mount Hebo 84.13 36 eP **P 18 16 22.8 +1.2**
comp=Z,76nm,1.1s,mb5.1
SYO Syowa Base 84.72 193⇑iP P 18 16 21.8 -2.4
SYO Syowa Base 84.72 193⇓iPcP PcP 18 16 24.8 -1.5
SYO Syowa Base 84.72 193⇑eP P 18 18 32.0 -1.1
BMN Battle Mountai 85.08 43⇑iP P 18 16 26.5 +0.2
BMN pmax pmax
comp=Z,26nm,0.8s,mb4.9
BMN Battle Mountai 85.08 43⇑iP P 18 16 26.5 +0.2
comp=Z,26nm,0.8s,mb4.9
BMN epP pP 18 18 36.6 +1.1
TUC Tucson 85.15 52⇑iP P 18 16 27.8 +0.9
TUC pmax pmax
comp=Z,46nm,0.9s,mb5.1
TUC Tucson 85.15 52⇑iP P 18 16 27.8 +0.9
comp=Z,46nm,0.9s,mb5.1
TUC epP pP 18 18 35.9 -0.3
BMW Boistfort Moun 85.21 35 eP **P 18 16 27.5 +0.7**
BMW e*PP pP 18 18 35.3 -0.8
SVW2 Sparrevohn 85.27 11 eP **P 18 16 26.2 -0.5**
HOOD Mount Hood Mea 85.35 37 eP **P 18 16 27.6 +0.1**
comp=Z,32nm,0.9s,mb5.0
WVOR Wild Horse Val 85.36 40⇑iP P 18 16 28.0 +0.4
WVOR pmax pmax
comp=Z,38nm,1.0s,mb5.0
WVOR Wild Horse Val 85.36 40⇑iP P 18 16 28.0 +0.3
comp=Z,38nm,1.0s,mb5.0
WVOR epP pP 18 18 37.6 +0.6
NLWA Neilton Lookou 85.46 34 eP **P 18 16 28.9 +0.9**
comp=Z,56nm,1.0s,mb5.2
NLWA epP pP 18 18 38.0 +0.6
SLKM Skilak Lake 85.83 14 eP **P 18 16 29.0 -0.4**

CCUT Cedar City 86.02 47 eP **P 18 16 40.7 +10**
CCUT epP pP 18 18 49.9 +9.4
ARUT Antelope Range 86.09 47⇑eP P 18 16 31.5 +0.3
ARUT epP pP 18 18 41.5 +0.6
GNW Green Mountain 86.11 35⇑iP P 18 16 31.5 +0.4
comp=Z,47nm,0.8s,mb5.2
GNW epP pP 18 18 39.8 -1.0
BJT Baijiatuau 86.15 316⇓iP P 18 16 31.8 +0.4
BJT pmax pmax
comp=Z,114nm,0.8s
BJT Baijiatuau 86.15 316⇓iP P 18 16 31.8 +0.4
comp=Z,114nm,0.8s,mb5.6
BJI Beijing 86.16 316 P **P 18 16 32.2 +0.7**
BJI SKS 18 25 59.0
BJI S S 18 26 21.2 +4.8
BJI XS sS 18 30 08.8 +1.3
BJI AMB AMB
comp=Z,152nm,0.8s,mb5.7
BJI AMB AMB
comp=Z,919nm,4.2s
GYA Guiyang 86.31 300 P **P 18 16 32.3 -0.2**
GYA AP pP 18 18 42.1 -0.1
GYA XP sP 18 19 43.0 0.0
GYA PP PP 18 20 09.9 +4.3
GYA SKS 18 26 01.2
GYA S S 18 26 18.9 +0.5
GYA XS sS 18 30 08.0 -1.6
GYA SS SS 18 32 21.2 +3.7
GYA AMB AMB
comp=Z,30nm,0.9s,mb4.9
GYA AMB AMB
comp=Z,420nm,5.8s
SNAA Sanae 86.31 179 eP **P 18 16 30.5 -1.2**
SNAA e 18 16 31.6
SNAA e pP 18 18 41.4 +0.1
SNAA e 18 18 46.3
SNAA eS S 18 26 16.8 -0.1
SNAA Sanae 86.31 179 S SKSac 18 25 59.1 -1.3
comp=Z,0.5nm,0.7s,baz=196,slow=22,SNR=8.7
SNAA PKKPbc PKKPbc 18 34 23.7 -3.9
comp=Z,1.2nm,0.8s,baz=177,slow=0.8,SNR=16
SNAA PKPPKP 18 42 28.0
comp=Z,0.9nm,1.2s,baz=109,slow=3.8,SNR=5.7
SNAA Sanae 86.31 179⇑iP P 18 16 30.4 -1.3
SNAA pmax pmax
comp=Z,33nm,0.9s
SNAA Sanae 86.31 179⇑iP P 18 16 30.4 -1.3
comp=Z,33nm,0.9s,mb5.0
SNAA epP pP 18 18 40.7 -0.6
WUAZ Wupatki 86.34 49⇑iP P 18 16 32.7 +0.3
comp=Z,43nm,1.2s,mb5.0
WUAZ epP pP 18 18 43.8 +1.6
PGC Sidney 86.48 33⇓eP P 18 16 33.4 +0.6
comp=Z,198nm,1.0s,mb5.7
PGC epP pP 18 18 46.4 +3.8
ELK Elko 86.50 43 P **P 18 16 33.5 +0.4**
comp=Z,16nm,0.9s,mb4.8,baz=239,slow=4.6,SNR=49
ELK pP pP 18 18 44.4 +1.4
comp=Z,5.2nm,0.9s,baz=221,slow=3.6,SNR=5.4
ELK PP PP 18 20 06.2 -0.6
comp=Z,4.7nm,0.6s,baz=62,slow=15,SNR=12
ELK Elko 86.50 43⇑iP P 18 16 33.2 +0.1
ELK pmax pmax
comp=Z,23nm,0.9s
ELK Elko 86.50 43⇑iP P 18 16 33.2 +0.1
comp=Z,23nm,0.9s,mb4.9
ELK epP pP 18 18 43.2 +0.3
BBB Bella Bella 86.60 29 P **P 18 16 34.1 +0.9**
comp=Z,56nm,0.8s,mb5.3,baz=251,slow=4.9,SNR=57
MAIT Maitri 86.90 184 eP **P 18 16 31.6 -2.9**
NVL N'lazarevskaya 86.90 184⇓iP P 18 16 34.1 -0.4
NVL e 18 26 21.5
NVL pmax pmax
comp=Z,187nm,1.3s,mb5.7
TTA Tatalina 86.90 11 eP **P 18 16 34.3 -0.1**
TTA pmax pmax
comp=Z,109nm,1.1s,mb5.5
TTA Tatalina 86.90 11 eP **P 18 16 34.2 -0.1**
comp=Z,109nm,1.1s,mb5.5
VNA2 Neumayer--Watz 86.92 177 eP **P 18 16 34.1 -0.5**
VNA2 e 18 16 35.1
VNA2 e pP 18 18 45.0 +0.5
VNA2 e 18 18 50.6
VNA2 eS S 18 26 21.7 -1.0
JCW Jim Creek 86.98 34 eP **P 18 16 35.4 +0.3**
PMR Palmer 87.04 14⇓iP P 18 16 34.3 -0.8
PMR pmax pmax
comp=Z,110nm,0.8s,mb5.6
PMR Palmer 87.04 14⇓iP P 18 16 34.3 -0.7
comp=Z,110nm,0.8s,mb5.6
RAGM Ragged Mountai 87.07 16 eP **P 18 16 35.1 -0.1**
RSW Rattlesnake Hi 87.14 37 eP **P 18 16 36.7 +0.7**
RSW epP pP 18 18 46.4 +0.3
VNA1 Neumayer--Stat 87.16 177 eP **P 18 16 35.5 -0.2**
VNA1 e 18 16 36.5
VNA1 e pP 18 18 47.0 +1.3
VNA1 e 18 18 52.0
VNA1 e 18 34 22.8
HAWA Hanford 87.18 37⇑iP P 18 16 36.7 +0.6
comp=Z,112nm,0.9s,mb5.6
HAWA epP pP 18 18 46.8 +0.6
MSU Marysvale 87.32 46 eP **P 18 16 38.0 +1.1**
MSU epP pP 18 18 47.1 -0.1
RPW Rockport 87.36 34 eP **P 18 16 37.2 +0.4**
RPW epP pP 18 18 46.9 -0.2
ETW Entiat 87.47 36 eP **P 18 16 38.0 +0.6**
ETW epP pP 18 18 50.3 +2.7
BMO Blue Mountains 87.55 39⇑iP P 18 16 38.0 +0.1
BMO pmax pmax
comp=Z,30nm,0.9s,mb5.0
BMO Blue Mountains 87.55 39⇑iP P 18 16 38.0 +0.2
comp=Z,30nm,0.9s,mb5.0
BMO epP pP 18 18 48.3 +0.2
PPLA Purkeypile 87.57 12 eP **P 18 16 35.8 -1.7**
comp=Z,25nm,0.8s,mb5.0
LNOR Lincton Mounta 87.57 38 eP **P 18 16 38.0 +0.1**
SEY Seymchan 87.76 348⇑eP P 18 16 38.0 -0.4
DUG Dugway 87.77 45 eP **P 18 16 38.4 -0.6**
DUG pmax pmax
comp=Z,26nm,1.4s,mb4.8
DUG Dugway 87.77 45 eP **P 18 16 38.4 -0.7**
comp=Z,26nm,1.4s,mb4.8
DUG epP pP 18 18 50.0 +0.6
WRAK Wrangell Islan 87.87 24 eP **P 18 16 40.1 +1.0**
comp=Z,97nm,0.7s,mb5.6
XAN Xi'an 88.08 308 P **P 18 16 41.7 +1.0**
XAN AP pP 18 18 52.0 +0.9
XAN XP sP 18 19 51.6 0.0
XAN SKS 18 26 13.3
XAN S S 18 26 35.1 +0.5
XAN XS sS 18 30 25.1 -2.0
XAN SS SS 18 32 44.9 +2.1
XAN AMB AMB
comp=Z,56nm,0.9s,mb5.3
XAN AMB AMB
comp=Z,390nm,5.9s
OD2 Odessa Site #2 88.22 36 eP **P 18 16 41.5 +0.6**
OD2 epP pP 18 18 52.2 +0.8
TMUT Trail Mountain 88.37 46⇑iP P 18 16 42.8 +1.0
TMUT epP pP 18 18 53.7 +1.3
CHUM Lake Minchumin 88.44 12 eP **P 18 16 40.2 -1.4**
comp=Z,76nm,0.7s,mb5.5
MPU Maple Canyon 88.45 45 eP **P 18 16 42.3 0.0**
comp=Z,44nm,1.2s,mb5.1
MPU epP pP 18 18 53.7 +0.9
NOQ North Oquirrh 88.46 45⇑eP P 18 16 42.4 +0.1
comp=Z,24nm,0.8s,mb5.0
HLID Hailey 88.56 41 eP **P 18 16 43.1 +0.5**
comp=Z,47nm,0.9s,mb5.3
HLID epP pP 18 18 54.2 +1.0
SPUT South Promonto 88.59 44⇑eP P 18 16 42.6 -0.2
SPUT epP pP 18 18 54.1 +0.7
HVU Hansel Valley 88.63 43⇑eP P 18 16 43.4 +0.4
HVU pmax pmax
comp=Z,85nm,1.1s,mb5.5
HVU Hansel Valley 88.63 43⇑eP P 18 16 43.4 +0.4
comp=Z,86nm,1.1s,mb5.5
HVU epP pP 18 18 54.0 +0.4
CTU Camp Tracy 88.72 45 eP **P 18 16 44.1 +0.6**
comp=Z,55nm,1.1s,mb5.3
SRU San Rafael 88.73 47⇑iP P 18 16 43.6 +0.1
SRU pmax pmax
comp=Z,55nm,0.9s,mb5.4
SRU San Rafael 88.73 47⇑iP P 18 16 43.6 +0.1

comp=Z,55nm,0.9s,mb5.4
SRU *e*pP pP 18 18 54.8 +0.6
LAZ Ladron 88.83 52 *e*P **P 18 16 44.7 +0.5**
LAZ *e*pP pP 18 18 56.0 +1.2
LENM Lemitar 88.84 52 *e*P **P 18 16 44.8 +0.6**
LENM *e*pP pP 18 18 56.1 +1.3
BPAW Bear Paw Mtn. 88.89 12 *e*P **P 18 16 41.8 -1.8**
comp=Z,4μm,1.2s
KMI Kunming 88.90 298 P **P 18 16 46.2 +1.5**
KMI AP pP 18 18 57.8 +2.5
KMI XP sP 18 19 55.9 +0.1
KMI PP PP 18 20 27.0 +1.0
KMI SKS 18 26 18.5
KMI S S 18 26 41.7 -0.8
KMI XS sS 18 30 31.9 -3.6
KMI SS SS 18 32 57.4 +2.6
KMI AMB AMB
comp=Z,85nm,1.3s,mb5.4
KMI AMB AMB
comp=Z,610nm,4.6s
DAU Daniels Canyon 88.90 45 *e*P **P 18 16 44.7 +0.4**
MCK McKinley 88.97 13 *e*P **P 18 16 43.2 -0.9**
MCK pmax pmax
comp=Z,107nm,1.2s,mb5.5
MCK McKinley 88.97 13 *e*P **P 18 16 43.2 -0.8**
comp=Z,107nm,1.2s,mb5.5
MCK *e*pP pP 18 18 54.0 -0.8
PLCA Paso Flores 89.08 134 P **P 18 16 45.9 +0.6**
comp=Z,16nm,0.8s,mb4.9,baz=228,slow=5.3,SNR=49
PLCA pP pP 18 18 55.4 -0.6
comp=Z,8.8nm,1.2s,baz=255,slow=7.0,SNR=6.1
PLCA PKKPbc PKKPbc 18 34 18.6 -1.3
comp=Z,1.8nm,0.9s,baz=70,slow=2.7,SNR=11
PLCA PKPPKP 18 42 25.4
comp=Z,2.2nm,1.0s,baz=38,slow=3.7,SNR=3.8
PLCA Paso Flores 89.08 134 *e*P **P 18 16 45.1 -0.2**
PLCA *e**PP pP 18 18 54.7 -1.2
PLCA pmax pmax
comp=Z,59nm,1.5s
PLCA Paso Flores 89.08 134 *e*P **P 18 16 45.1 -0.2**
comp=Z,59nm,1.5s,mb5.2
PLCA *e*pP pP 18 18 54.7 -1.2
BNM Barren Site 89.09 52 *e*P **P 18 16 45.4 +0.1**
BNM *e*pP pP 18 18 56.9 +0.8
SKAG Skagway 89.10 21 *e*P **P 18 16 43.9 -0.8**
comp=Z,22nm,0.6s,mb5.2
SKAG *e*pP pP 18 18 54.9 -0.6
LPM Los Pinos Moun 89.16 52 *e*P **P 18 16 46.3 +0.7**
LPM *e*pP pP 18 18 57.8 +1.4
TXAR Lajitas Array 89.17 58 P **P 18 16 46.6 +0.8**
comp=Z,35nm,0.9s,mb5.2,baz=215,slow=4.8,SNR=208
TXAR pP pP 18 18 55.8 -0.7
comp=Z,21nm,1.0s,baz=226,slow=9.9,SNR=7.6
TXAR PKKPbc PKKPbc 18 34 18.2 -1.2
comp=Z,3.2nm,0.6s,baz=129,slow=2.8,SNR=26
TXAR PKPPKP 18 42 29.4
comp=Z,1.1nm,0.9s,baz=97,slow=3.6,SNR=5.6
TXAR Lajitas Array 89.17 58 P **P 18 16 46.6 +0.8**
TXAR *PP pP 18 18 55.8 -0.8
TXAR Lajitas Array 89.17 58 P **P 18 16 46.6 +0.8**
TXAR pP pP 18 18 55.8 -0.7
TXAR PKKPbc PKKPbc 18 34 18.2 -1.2
TXAR P'P' 18 42 29.4
HIA Hailar 89.31 325⇓ *e*P **P 18 16 45.6 -0.3**
HIA pmax pmax
comp=Z,50nm,1.0s
HIA Hailar 89.31 325⇓ *e*P **P 18 16 45.6 -0.3**
comp=Z,50nm,1.0s,mb5.3
PV10 Paradox Valley 89.38 48 *e*P **P 18 16 46.0 -0.6**
PV10 *e*pP pP 18 18 57.2 -0.1
CMAR Chiang Mai Arr 89.39 290 P **P 18 16 48.9 +1.8**
comp=Z,174nm,0.8s,mb5.9,baz=134,slow=3.2,SNR=369
CMAR PP PP 18 20 30.4 +0.5
comp=Z,9.5nm,0.8s,baz=128,slow=5.7,SNR=7.8
CMAR PKiKP PKiKP 18 21 41.0 +0.4
comp=Z,2.0nm,0.7s,baz=182,slow=3.1,SNR=4.1
CMAR PKKPbc PKKPbc 18 34 18.9 +0.5
comp=Z,2.8nm,0.6s,baz=282,slow=4.3,SNR=19
CMAR Chiang Mai Arr 89.39 290 P **P 18 16 48.9 +1.8**
CMAR PP PP 18 20 30.4 +0.5
HYT Haines Junctio 89.47 19 *e*P **P 18 16 46.7 +0.3**
HYT *e*pP pP 18 18 56.0 -1.3
CHTO Chiang Mai 89.53 290⇓ *i*P **P 18 16 49.0 +1.3**
CHTO *e* 18 20 28.2
CHTO pmax pmax
comp=Z,221nm,0.8s,mb6.0
CHTO Chiang Mai 89.53 290⇓ *i*P **P 18 16 49.0 +1.3**
comp=Z,221nm,0.8s,mb6.0
CHTO *e*PP PP 18 20 28.2 -2.8
HHC Hu-ho-hao-te 89.58 315 *e*P **P 18 16 48.0 +0.6**
HHC AP pP 18 18 58.5 +0.2
HHC XP sP 18 19 57.7 -0.9
HHC PP PP 18 20 34.4 +3.4
HHC SKS 18 26 21.6
HHC S S 18 26 48.8 +0.9
HHC XS sS 18 30 39.3 -2.1
HHC SS SS 18 33 08.2 +4.3
HHC AMB AMB
comp=Z,123nm,1.0s,mb5.7
HHC AMB AMB
comp=Z,233nm,6.7s
ANMO Albuquerque 89.58 52 P **P 18 16 48.4 +0.8**
comp=Z,29nm,0.9s,mb5.1,baz=220,slow=5.0,SNR=58
ANMO pP pP 18 18 59.2 +0.8
comp=Z,13nm,1.0s,baz=213,slow=4.8,SNR=9.8
ANMO Albuquerque 89.58 52⇑ *e*P **P 18 16 47.7 +0.1**
ANMO Albuquerque 89.58 52⇑ *i*P **P 18 16 47.5 -0.1**
comp=Z,43nm,1.0s,mb5.2
ANMO *e*pP pP 18 18 59.1 +0.7
PV01 Paradox Valley 89.59 48 *e*P **P 18 16 47.4 -0.1**
PV01 *e*pP pP 18 18 57.0 -1.4
NEW Newport 89.60 36 *e*P **P 18 16 46.5 -0.8**
NEW pmax pmax
comp=Z,7.0nm,0.7s
NEW Newport 89.60 36 *e*P **P 18 16 46.5 -0.8**
comp=Z,6.6nm,0.7s,mb4.6
MCMT McKenzie Canyo 90.18 41 *e*P **P 18 16 50.8 +0.7**
MCMT *e*pP pP 18 19 01.8 +0.7
IMA2 Indian Mountai 90.20 10 *e*P **P 18 16 49.6 -0.1**
DLBC Dease Lake 90.20 24 *e*P **P 18 16 50.2 +0.4**
DLBC *e*pP pP 18 19 01.1 +0.2
AHID Auburn Hatcher 90.20 43 *e*P **P 18 16 50.6 +0.4**
comp=Z,48nm,0.9s,mb5.3
COLA College 90.21 13 *i* P **P 18 16 49.2 -0.5**
COLA College 90.21 13 *e*P **P 18 16 49.0 -0.7**
comp=Z,36nm,0.6s,mb5.4
RRI2 Red Ridge 90.36 43 *e*P **P 18 16 51.4 +0.5**
RRI2 *e*pP pP 18 19 02.6 +0.6
EFI East Falkland 90.37 148 P **P 18 16 51.3 +0.3**
BTO Baotou 90.47 314 *e*P **P 18 16 52.0 +0.4**
BTO AMB AMB
comp=Z,22nm,0.8s,mb5.0
CD2 Chengdu 90.56 303⇓ *i*P **P 18 16 53.2 +1.0**
CD2 AP pP 18 19 03.9 +0.7
CD2 XP sP 18 20 02.8 -0.7
CD2 PP PP 18 20 42.5 +3.7
CD2 SKS 18 26 27.6
CD2 S S 18 26 57.4 +0.3
CD2 XS sS 18 30 49.2 -2.1
CD2 SS SS 18 33 23.2 +5.0
CD2 AMB AMB
comp=Z,50nm,1.1s,mb5.4
CD2 AMB AMB
comp=Z,180nm,9.2s
MSO Missoula 90.60 39 *e*P **P 18 16 51.0 -0.9**
comp=Z,5.1nm,0.8s,mb4.5
DLMT Dillon 90.61 40 *e*P **P 18 16 52.4 +0.3**
comp=Z,22nm,0.9s,mb5.1
DLMT *e*pP pP 18 19 03.5 +0.4
BILL Bilibino 90.63 355 *e*P **P 18 16 51.4 -0.2**
BILL pmax pmax
comp=Z,70nm,0.8s,mb5.6
BILL Bilibino 90.63 355 *e*P **P 18 16 51.4 -0.2**
comp=Z,70nm,0.8s,mb5.6
BILL *e*pP pP 18 19 05.1 +2.4
TPAW Teton Pass 90.66 43 *e*P **P 18 16 52.6 +0.3**
TPAW *e*pP pP 18 19 04.0 +0.6
SNOW Snow King Moun 90.77 43 *e*P **P 18 16 53.3 +0.4**
comp=Z,59nm,0.9s,mb5.5
SNOW *e*pP pP 18 19 05.0 +1.0
IMW Indian Meadow 90.88 42 *e*P **P 18 16 54.2 +0.9**
IMW *e*pP pP 18 19 05.3 +0.8
LOHW Long Hollow 90.94 43 *e*P **P 18 16 54.0 +0.4**
CHMT Chamberlain Mo 91.04 39 *e*P **P 18 16 53.8 -0.2**
CHMT *e*pP pP 18 19 05.8 +0.6
QLMT Earthquake Lak 91.05 41 *e*P **P 18 16 55.2 +1.1**
QLMT *e*pP pP 18 19 06.1 +0.9
PDAR Pinedale Array 91.19 44 P **P 18 16 54.6 -0.1**
comp=Z,20nm,0.9s,mb5.0,baz=204,slow=3.3,SNR=60
PDAR pP pP 18 19 06.4 +0.5
comp=Z,3.1nm,0.9s,baz=208,slow=2.9,SNR=6.9
PDAR PKKPbc PKKPbc 18 34 14.3 -0.6
comp=Z,3.9nm,0.9s,baz=90,slow=4.5,SNR=18
PDAR PKPPKP 18 42 23.0
comp=Z,0.9nm,0.8s,baz=106,slow=3.7,SNR=6.1
YMR Madison River 91.25 42 *e*P **P 18 16 55.0 0.0**
comp=Z,12nm,0.7s,mb4.9
YMR *e*pP pP 18 19 07.6 +1.4
BOZ Bozeman (W) 91.34 41 *e*P **P 18 16 55.7 +0.2**
BOZ *e*pP pP 18 19 06.9 +0.3
DAWY Dawson 91.52 16 *e*P **P 18 16 56.0 +0.2**
DAWY *e*pP pP 18 19 07.8 +0.8
CLNS Chul'man 91.53 333 *e*P **P 18 16 54.0 -2.0**
CLNS *e*S SKSac 18 26 36.0 +5.4
CLNS pmax pmax
comp=Z,30nm,1.2s,mb5.2
CLNS pmax pmax
comp=N,15nm,0.8s
CLNS pmax pmax
comp=E,12nm,1.8s
CMIG Matias Romero 91.54 72 P **P 18 16 57.1 +0.1**
comp=E,2.5nm,0.6s,mb4.4,baz=254,slow=3.6,SNR=5.0
SDCO Great Sand Dun 91.55 50 *e*P **P 18 16 56.4 -0.2**
comp=E,23nm,0.9s,mb5.2
SDCO *e*pP pP 18 19 07.0 -0.8
EGAK Eagle 91.65 15 *e*P **P 18 16 56.1 -0.2**
comp=E,48nm,0.7s,mb5.6
EGAK *e*pP pP 18 19 10.2 +2.6
WALA Waterton Lakes 91.81 37 *e*P **P 18 16 56.9 -0.6**
comp=E,16nm,0.8s,mb5.1
WALA *e*pP pP 18 19 08.6 -0.1
RWWY Rawlins 92.20 46 *e*P **P 18 16 59.4 -0.1**
ISCO Idaho Springs 92.40 48 *e*P **P 18 17 00.5 0.0**
RLMT Red Lodge 92.52 42 *e*P **P 18 17 01.0 +0.1**
comp=E,11nm,0.9s,mb4.9
RLMT *e*pP pP 18 19 13.8 +1.7
GCMT Greycliff 92.61 41 *e*P **P 18 17 01.1 -0.2**
GCMT *e*pP pP 18 19 15.3 +2.8
JCT Junction City 92.69 58 *e*P **P 18 17 01.1 -0.9**
JCT pmax pmax
comp=Z,12nm,0.8s,mb5.0
JCT Junction City 92.69 58 *e*P **P 18 17 01.1 -0.9**
comp=Z,12nm,0.8s,mb5.0
LZH Lanzhou 92.72 308 *e*P **P 18 17 03.1 +1.1**
LZH AP pP 18 19 13.0 -0.3
LZH XP sP 18 20 11.0 -2.5
LZH PP PP 18 20 57.4 +1.9
LZH SKS 18 26 38.0
LZH *e*S S 18 27 13.0 -2.8
LZH XS sS 18 31 08.3 -3.2
LZH SS SS 18 33 54.4 +5.7
LZH AMB AMB
comp=Z,141nm,1.0s,mb6.0
LZH AMB AMB
comp=Z,380nm,4.7s
PHWY Pilot Hill 93.19 47 *e*P **P 18 17 04.0 -0.1**
YAK Yakutsk 93.21 339⇑ *e*P **P 18 17 02.6 -1.0**
YAK pmax pmax
comp=Z,196nm,0.8s,mb6.2
YAK Yakutsk 93.21 339 *e*P **P 18 17 02.3 -1.3**
comp=Z,169nm,0.8s,mb6.1
YAK *e*pP pP 18 19 16.2 +1.3
EGMT Eagleton 93.65 39 *e*P **P 18 17 05.8 -0.1**
EDM Edmonton 94.33 33 *e*P **P 18 17 08.3 -0.6**
EDM *e*pP pP 18 19 20.6 +0.3
CFAA Coronel Fontan 95.19 127 PKKPbc PKKPbc 18 34 04.8 +0.6
comp=Z,0.3nm,0.4s,baz=2.5,slow=3.8,SNR=7.0
RSSD Black Hills 95.38 44 *e*P **P 18 17 12.9 -0.9**
RSSD *e*pP pP 18 19 25.5 +0.1
RSSD *e*PKPdf PKiKP 18 21 48.3 -1.9
TRQA Tornquist 96.14 135 *e*P **P 18 17 17.8 +0.2**
SONM Songino Array 96.15 319 P **P 18 17 17.2 -0.1**
comp=Z,3.3nm,0.7s,mb4.7,baz=137,slow=3.1,SNR=22
SONM PP PP 18 21 14.9 -6.4
comp=Z,2.6nm,0.8s,baz=114,slow=6.2,SNR=4.9
SONM S SKSac 18 26 56.8 +1.1
comp=Z,0.9nm,0.8s,baz=127,slow=4.4,SNR=8.1
SONM PKKPbc PKKPbc 18 34 01.1 -1.1
comp=Z,2.0nm,0.6s,baz=275,slow=3.4,SNR=12
SONM PKPPKP 18 42 12.7
comp=Z,0.5nm,0.9s,baz=202,slow=1.6,SNR=3.9
INK Inuvik 96.32 16 P **P 18 17 17.0 -0.5**
comp=Z,12nm,0.7s,mb5.2,baz=226,slow=5.1,SNR=19
INK pP pP 18 19 27.4 -1.8
comp=Z,3.4nm,0.9s,baz=211,slow=13,SNR=2.6
INK PKKPbc PKKPbc 18 34 00.1 -2.3
comp=Z,2.7nm,0.7s,baz=63,slow=3.4,SNR=3.5
INK Inuvik 96.32 16 *e*P **P 18 17 16.5 -1.0**
comp=Z,638nm,1.0s
INK *e*pP pP 18 19 28.7 -0.5
BOD Bodaibo 96.90 330 *e*P **P 18 17 18.8 -1.6**
BOD pmax pmax
comp=Z,5.0nm,1.9s,mb4.4
GTA Gaotai 97.00 310 P **P 18 17 21.9 +0.6**
GTA AP pP 18 19 33.6 +0.6
GTA XP sP 18 20 30.9 -2.2
GTA PP PP 18 21 31.9 +4.0
GTA S S 18 27 46.6 -5.6
GTA XS sS 18 31 42.9 -6.8
GTA AMB AMB
comp=Z,11nm,0.9s,mb5.1
GTA AMB AMB
comp=Z,261nm,6.2s
SHL Shillong 98.12 294 *e*P Pdif 18 17 28.0 +1.8
TEIG Tepich 98.51 72 PKKPbc PKKPbc 18 33 56.2 +1.3
comp=Z,7.1nm,0.7s,baz=40,slow=3.7,SNR=6.5
YKA Yellowknife Ar 98.68 25 P Pdif 18 17 27.6 -1.0
comp=Z,1.8nm,0.6s,baz=235,slow=4.5,SNR=6.0
YKA pP pP 18 19 40.6 +0.6
comp=Z,3.2nm,0.9s,baz=237,slow=3.4,SNR=4.3
YKA PKKPbc PKKPbc 18 33 48.5 -7.3
comp=Z,1.0nm,0.4s,baz=35,slow=2.4,SNR=4.0
YKA Yellowknife Ar 98.68 25 P Pdif 18 17 27.6 -1.0
YKA pP pP 18 19 40.6 +0.6
LVC Limon Verde 99.04 119 PKKPbc PKKPbc 18 33 55.3 +1.6
comp=Z,5.4nm,0.6s,baz=33,slow=3.4,SNR=5.1
ZAK Zakamensk 99.08 321 *e*P Pdif 18 17 31.0 +0.5
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
TLY Talaya 99.40 322 *e*P Pdif 18 17 31.9 0.0
TLY *e*S Sdif 18 28 11.6 -0.6
TLY pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
TLY Talaya 99.40 322 *e*Pdif Pdif 18 17 29.6 -2.3
comp=Z,3.9nm,0.6s
ECSD EROS,Sioux Fal 100.14 47 *e*Pdif Pdif 18 17 34.9 -0.3
comp=Z,6.9nm,1.0s
LSA Lhasa 100.16 298 P Pdif 18 17 37.0 +1.7
LSA Lhasa 100.16 298 *e*P Pdif 18 17 36.8 +1.5
LSA *e* 18 21 57.1
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 100.16 298 *e*Pdif Pdif 18 17 36.8 +1.5
comp=Z,8.2nm,0.8s
LSA *e*PKPdf PKiKP 18 21 57.1 -2.1
TAPN Taplejung 102.24 295 *e*P Pdif 18 17 47.8 +3.2
TAPN Taplejung 102.24 295 *e*P PKiKP 18 22 03.4 +0.4
ODAN Odare 102.36 294 *e*P Pdif 18 17 46.6 +1.5
comp=Z,48nm,0.8s
ODAN Odare 102.36 294 *e*P PKiKP 18 22 03.6 +0.4
comp=Z,62nm,0.8s
LPAZ La Paz 102.67 114 P Pdif 18 17 49.5 +3.1
comp=Z,1.0nm,0.6s,baz=247,slow=8.4,SNR=3.1
LPAZ PP PP 18 22 05.0 -5.1
comp=Z,0.9nm,0.6s,baz=298,slow=7.3,SNR=3.2
LPAZ PKKPbc PKKPbc 18 33 43.8 +0.5
comp=Z,5.0nm,0.7s,baz=49,slow=3.2,SNR=16
LPAZ La Paz 102.67 114 P Pdif 18 17 49.5 +3.1
LPAZ PP PP 18 22 05.0 -5.1
LPAZ PKKPbc PKKPbc 18 33 43.8 +0.5
RAMN Ramite 103.06 294 *e*P Pdif 18 17 48.7 +0.5
comp=Z,13nm,0.7s
RAMN Ramite 103.06 294 *e*P PKiKP 18 22 04.2 -0.3
comp=Z,53nm,0.7s
JIRN Jiri 103.62 294 *e*P Pdif 18 17 53.9 +3.2
JIRN Jiri 103.62 294 *e*P PKiKP 18 22 05.5 0.0
comp=Z,48nm,0.7s
GUN Gumba 103.96 295 *e*P Pdif 18 17 55.4 +3.2
comp=Z,28nm,0.7s
GUN Gumba 103.96 295 *e*P PKiKP 18 22 06.1 0.0
comp=Z,37nm,0.6s
PKI Pulchoki 104.25 294 *e*P Pdif 18 17 55.8 +2.3
comp=Z,23nm,0.6s
PKI Pulchoki 104.25 294 *e*P PKiKP 18 22 06.1 -0.6
comp=Z,45nm,0.7s
KKN Kakani 104.43 294 *e*P Pdif 18 17 57.2 +2.9
comp=Z,39nm,0.7s
KKN Kakani 104.43 294 *e*P PKiKP 18 22 06.5 -0.5
comp=Z,35nm,0.7s
DMN Daman 104.52 294 *e*P Pdif 18 17 55.4 +0.7
comp=Z,20nm,0.6s
DMN Daman 104.52 294 *e*P PKiKP 18 22 06.8 -0.4
comp=Z,22nm,0.7s
GKN Gorkha 105.04 294 *e*P PKiKP 18 22 08.6 +0.5
GKN Gorkha 105.04 294 *e*P Pdif 18 17 58.7 +1.7
GKN *e*P PKiKP 18 22 08.6 +0.5
KOLN Koldanda 105.84 294 *e*P Pdif 18 18 01.4 +0.8
comp=Z,24nm,0.7s
KOLN Koldanda 105.84 294 *e*P PKiKP 18 22 09.0 -0.6
comp=Z,19nm,0.6s
KOLN Koldanda 105.84 294 *e*P Pdif 18 18 01.4 +0.8
KOLN *e*P PKiKP 18 22 09.0 -0.6
ROSC El Rosal 105.86 91 PKKPbc PKKPbc 18 33 35.3 +1.7
comp=Z,5.1nm,0.3s,baz=292,slow=23,SNR=3.6
DANN Dangsing 105.88 294 *e*P Pdif 18 18 02.8 +2.1
comp=Z,27nm,0.8s
DANN Dangsing 105.88 294 *e*P PKiKP 18 22 09.3 -0.3
comp=Z,66nm,0.8s
DANN Dangsing 105.88 294 *e*P Pdif 18 18 02.8 +2.1
DANN *e*P PKiKP 18 22 09.3 -0.3
CPUP Villa Florida 106.06 128 PKiKP PKiKP 18 22 09.7 -0.5
comp=Z,1.5nm,0.7s,baz=146,slow=3.6,SNR=3.2
CPUP PKKPbc PKKPbc 18 33 32.5 -1.2
comp=Z,2.2nm,0.8s,baz=83,slow=2.5,SNR=3.4
CPUP Villa Florida 106.06 128 *e*PKPdf PKiKP 18 22 09.0 -1.2
WMQ Urumqi 107.01 311 *e*PDIF Pdif 18 18 06.4 +0.7
WMQ PP PP 18 22 45.6 +4.0
WMQ S Sdif 18 29 14.0 -1.7
WMQ SS SS 18 37 05.6 +1.3
WMQ PP PP
comp=Z,68nm,10.0s
HYB Hyderabad 107.16 282 *i* PKP PP 18 22 47.0 +3.8
SIV San Ignacio 108.73 117 PKKPbc PKKPbc 18 33 25.2 0.0
comp=Z,4.8nm,0.7s,baz=95,slow=5.3,SNR=18
SDV Santo Domingo 110.72 89 PKKPbc PKKPbc 18 33 20.3 +1.7
comp=Z,3.8nm,0.5s,baz=97,slow=8.7,SNR=3.0
ZAA0 Zalesovo Array 110.96 321 *e*PKPdf PKiKP 18 22 16.7 -1.6
ZALV Zalesovo Beam 110.96 321 Pdiff Pdif 18 18 23.9 +0.6
comp=Z,1.0nm,0.6s,baz=109,slow=3.8,SNR=5.7
ZALV PKiKP PKiKP 18 22 17.3 -1.1
comp=Z,13nm,0.6s,baz=141,slow=0.7,SNR=48
ZALV Zalesovo Beam 110.96 321 Pdif Pdif 18 18 23.9 +0.6
ZALV PKPdf PKiKP 18 22 17.3 -1.1
ZAL Zalesovo 110.97 321 P Pdif 18 18 23.9 +0.5
ZAL 18 22 17.3
MK31 Makanchi Array 111.37 313 *e*P Pdif 18 18 25.8 +0.7
MK31 *e* 18 22 18.0
MKAR Makanchi Array 111.37 313 Pdiff Pdif 18 18 25.8 +0.7
comp=Z,3.1nm,0.8s,baz=89,slow=6.0,SNR=11
MKAR PKiKP PKiKP 18 22 18.3 -1.1
comp=Z,13nm,0.7s,baz=206,slow=1.0,SNR=79
MKAR PKKPbc PKKPbc 18 33 16.2 -1.0
comp=Z,2.3nm,0.6s,baz=264,slow=3.6,SNR=13
MKAR SKKPbc 18 36 01.3
comp=Z,1.1nm,0.7s,baz=272,slow=4.3,SNR=4.5
MKAR Makanchi Array 111.37 313 P Pdif 18 18 25.8 +0.7
MKAR 18 22 18.3
MKAR Makanchi Array 111.37 313 Pdif Pdif 18 18 25.8 +0.7
MKAR PKPdf PKiKP 18 22 18.3 -1.1
MKAR PKKPbc PKKPbc 18 33 16.2 -1.0
MKAR SKKPbc 18 36 01.3
NVS Novosibirsk 112.01 322⇑ *i*PKIKP PKiKP 18 22 18.6 -1.7
NVS *i* 18 28 06.8
NVS *e* 18 33 05.5
NVS pmax pmax
comp=E,14nm,1.0s
NVS pmax pmax
comp=Z,24nm,1.0s
NVS pmax pmax
comp=N,6.0nm,0.8s
THN Thein Dam 113.63 297 *e*P PKiKP 18 22 23.2 -1.0
KURK Kurchatov 114.31 317 *e*PKPdf PKiKP 18 22 23.4 -1.5
KURK *e*PP PP 18 23 23.2 -10
KURK *e*SKP 18 25 01.1
TKM2 Tokmak 2 115.49 308 P PKPdf 18 22 26.4 -1.0
SNR=27
TKM2 Tokmak 2 115.49 308 *e*PKPdf PKPdf 18 22 26.6 -0.8
KBK Karagaybulak 115.93 308 P PKPdf 18 22 28.4 +0.1
SNR=17
CHMS Chumysh 116.12 308 P PKPdf 18 22 27.9 -0.7
SNR=23
UCH Uchtor 116.20 307 *e*PKPdf PKPdf 18 22 29.1 +0.3
USP Ospenovka 116.33 308 P PKPdf 18 22 28.4 -0.6
SNR=21
EKS2 Erkin-Say 116.79 308 P PKPdf 18 22 29.8 -0.2
SNR=27
EKS2 Erkin-Say 116.79 308 *e*PKPdf PKPdf 18 22 29.6 -0.3
EKS2 *e*SKP 18 25 09.7
AML Almayashu 116.79 307 P PKPdf 18 22 30.0 +0.1
SNR=10
AML Almayashu 116.79 307 *e*PKPdf PKPdf 18 22 29.9 -0.1
HUMP Col San Antoni 118.03 81 *e*P PKPdf 18 22 29.0 -4.0
OPO Ambohidratompo 118.93 232 PKP PKPdf 18 22 35.8 +1.0
comp=N,17nm,0.7s,baz=137,slow=0.8,SNR=39
BDFB Brasilia 119.37 124 PKP PKPdf 18 22 34.8 -0.9
comp=N,3.0nm,0.6s,baz=358,slow=27,SNR=5.2
BDFB PKKPbc PKKPbc 18 32 51.1 +1.2
comp=N,4.7nm,0.7s,baz=36,slow=7.5,SNR=13
KBL Kabul 119.48 298 *e*PKPdf PKPdf 18 22 35.5 +0.1
KBL *e*SKP 18 25 15.9
BVAR Borovoye Array 119.50 319 PKKPbc PKKPbc 18 32 48.0 -1.7
comp=N,0.8nm,0.5s,baz=319,slow=6.5,SNR=4.1
PKME Peaks-Kenny Pk 119.51 50 *e*PKPdf PKPdf 18 22 33.9 -1.1
BRVK Borovoye 119.56 319 *e*PKPdf PKPdf 18 22 33.8 -1.1
SCHQ Schefferville 120.90 38 PKP PKPdf 18 22 36.8 -0.7
comp=N,12nm,0.8s,baz=354,slow=0.8,SNR=7.0
SCHQ PKKPbc PKKPbc 18 32 44.5 -0.1
comp=N,8.4nm,0.8s,baz=30,slow=6.8,SNR=5.8
SUR Sutherland 122.31 200 PKP PKPdf 18 22 41.6 +0.6
comp=N,67nm,0.8s,baz=139,slow=1.8,SNR=36
SUR PKKPbc PKKPbc 18 32 39.9 0.0
comp=N,6.1nm,0.8s,baz=339,slow=3.8,SNR=6.0
KBS Kingsbay 123.01 357 *e*P PKPdf 18 22 40.4 -0.6
KBS AMb AMB 18 22 42.6
comp=Z,44nm,1.1s
KBS Kingsbay 123.01 357⇑ *i*PKIKP PKPdf 18 22 40.5 -0.4
KBS Kingsbay 123.01 357 *e*PKPdf PKPdf 18 22 40.0 -0.9
SPB4 Spitsbergen Ar 123.51 356 *e*PKPdf PKPdf 18 22 40.7 -1.2
SPB4 *e*SKP 18 25 16.3
BOSA Boshof 124.08 206 PKP PKPdf 18 22 44.9 +0.4
comp=Z,19nm,0.7s,baz=149,slow=2.1,SNR=28
BOSA PKKPbc PKKPbc 18 32 31.4 -1.7
comp=Z,7.4nm,0.7s,baz=297,slow=5.3,SNR=13
BOSA Boshof 124.08 206 *e*PKPdf PKPdf 18 22 44.2 -0.3
DAG Danmarks Havn 124.60 5⇓ *i*P PKPdf 18 22 42.7 -1.3
comp=Z,30nm,1.1s
SVE Sverdlovsk 124.61 325 *e*PKIKP PKPdf 18 22 44.2 -0.3
SVE pmax pmax
comp=Z,70nm,0.9s
SUMG Summit 125.17 13 *e*PKPdf PKPdf 18 22 45.6 +0.5
ARU Arti 125.82 324 *i* PKIKP PKPdf 18 22 46.3 -0.5
ARU 18 24 45.4
ARU Arti 125.82 324 *e*PKPdf PKPdf 18 22 45.7 -1.1
SOKR Solikamsk 125.85 329 *d* PKIKP PKPdf 18 22 46.6 -0.2
SOKR pmax pmax
comp=Z,100nm,0.9s
LBTB Lobatse 127.08 209 PKP PKPdf 18 22 50.9 +0.5
comp=Z,13nm,0.6s,baz=184,slow=2.8,SNR=32
LBTB PKKPbc 18 32 20.2
comp=Z,2.0nm,0.8s,baz=322,slow=4.8,SNR=4.7
LBTB Lobatse 127.08 209 PKP PKPdf 18 22 50.9 +0.5
LBTB PKKPbc 18 32 20.2
AKTO Aktyubinsk 127.41 317 PKKPbc 18 32 18.9
comp=Z,1.3nm,0.8s,baz=83,slow=2.6,SNR=4.0
KEV Kevo 129.90 348 *e*PKIKP PKPdf 18 22 53.2 -1.0
KEV *e* 18 25 21.5
ARCES ARCESS Array B 130.36 349 PKhKP 18 22 38.9
comp=Z,1.2nm,0.6s,baz=39,slow=4.7,SNR=7.4
ARCES PKP PKPdf 18 22 54.7 -0.4
comp=Z,43nm,0.7s,baz=17,slow=1.3,SNR=62
ARCES SKPbc SKPbc 18 25 24.0 +1.3
comp=Z,33nm,1.0s,baz=38,slow=6.1,SNR=16
ARCES SKKPbc 18 34 58.9
comp=Z,2.8nm,0.9s,baz=194,slow=2.5,SNR=5.5

ARCES	**ARCES Array B**	**130.36**	**349**	PKHKP			18 22 38.9	
ARCES							18 22 54.7	
ARCES							18 25 24.0	
ARCES	**ARCES Array B**	**130.36**	**349**	PKP			18 22 38.9	
ARCES				PKP	PKPdf		18 22 54.7	-0.4
ARCES				SKPbc	SKPbc		18 25 24.0	+1.3
ARCES				SKKPbc			18 34 58.9	
ARE0	**ARCES Array S**	**130.36**	**349**	*e*PKPdf	PKPdf		18 22 54.3	-0.8
ARE0				*e*SKP			18 25 23.8	
TRO	**Tromso**	**131.32**	**352**	*e*P	PKPdf		18 22 55.6	-1.3
TRO				AMb	AMB		18 22 58.9	
	comp=Z,40nm,0.8s							
KLMR	**Klimovskoe**	**132.89**	**335**	*e*PKHKP			18 22 50.4	
KLMR				*i*			18 22 59.9	
KLMR				*e*			18 25 29.6	
STEI	**Steigen**	**133.40**	**352**	*e*	PKPdf		18 22 52.7	-8.1
LSZ	**Lusaka**	**133.88**	**218**	PKhKP			18 22 50.4	
	comp=Z,3.9nm,0.5s,baz=128,slow=1.0,SNR=14							
LSZ				PKP	PKPdf		18 23 04.4	+1.0
	comp=Z,32nm,0.6s,baz=175,slow=2.5,SNR=20							
LSZ				SKPbc	SKPbc		18 25 38.7	+2.2
	comp=Z,23nm,0.9s,baz=187,slow=3.6,SNR=9.6							
LSZ	**Lusaka**	**133.88**	**218**	*e*PKHKP			18 22 50.1	
LSZ				*e*			18 23 04.0	
LSZ							18 25 38.7	
LSZ	**Lusaka**	**133.88**	**218**	*e*PKPpre			18 22 50.1	
LSZ				*e*PKPdf	PKPdf		18 23 04.0	+0.6
LSZ				PKP	PKPdf		18 23 04.4	+1.0
LSZ				SKPbc	SKPbc		18 25 38.7	+2.2
JOF	**Joensuu**	**134.33**	**341**	*e*pkp	PKPdf		18 22 48.5	-14
JOF	**Joensuu**	**134.33**	**341**	*e*pkp	SKPbc		18 25 36.0	-0.4
TSUM	**Tsumeb**	**135.55**	**203**	PKhKP			18 22 55.3	
	comp=Z,7.1nm,0.9s,baz=128,slow=3.0,SNR=9.9							
TSUM				PKP	PKPdf		18 23 06.8	+0.4
	comp=Z,9.7nm,0.8s,baz=119,slow=3.0,SNR=6.5							
TSUM				SKPbc	SKPbc		18 25 44.1	+2.5
	comp=Z,16nm,0.9s,baz=129,slow=6.2,SNR=9.3							
TSUM	**Tsumeb**	**135.55**	**203**	*e*PKPpre			18 22 56.2	
TSUM				*e*PKPdf	PKPdf		18 23 05.7	-0.8
TSUM				PKP	PKPdf		18 23 06.8	+0.4
TSUM				*e*SKP			18 25 43.4	
TSUM				SKPbc	SKPbc		18 25 44.1	+2.5
KAF	**Kangasniemi**	**136.41**	**343**	*e*pkp	PKPdf		18 22 53.4	-13
KAF	**Kangasniemi**	**136.41**	**343**	*e*pkp	SKPbc		18 25 42.2	-0.6
MOS	**Moscow**	**136.73**	**330**	*e*PKIKP	PKPdf		18 23 06.9	-0.5
MOS				*e*			18 25 54.9	
MOS				pmax	pmax			
	comp=Z,71nm,1.1s							
RDF	**Al-Radifah**	**137.26**	**289**	*e*P	PKPdf		18 22 59.0	-10
	baz=289							
RDF				AMb	AMB		18 23 13.2	
	comp=Z,243nm,1.0s,baz=289							
RDF	**Al-Radifah**	**137.26**	**289**	*e*P	SKPbc		18 25 48.7	+2.3
	baz=312							
RDF				AMb	AMB		18 25 51.7	
	comp=Z,78nm,0.9s,baz=312							
KMBO	**Kilima Mbogo**	**137.29**	**242**	PKhKP			18 23 00.3	
	comp=Z,5.8nm,0.6s,baz=93,slow=1.0,SNR=14							
KMBO				PKP	PKPdf		18 23 11.3	+1.6
	comp=Z,23nm,0.9s,baz=39,slow=3.9,SNR=22							
KMBO				SKPbc	SKPbc		18 25 49.9	+2.9
	comp=Z,10nm,0.9s,baz=84,slow=2.7,SNR=7.7							
KMBO	**Kilima Mbogo**	**137.29**	**242**	*e*PKHKP			18 22 59.1	
KMBO				*e*			18 23 11.0	
KMBO	**Kilima Mbogo**	**137.29**	**242**	*e*PKPpre			18 22 59.1	
KMBO				*e*PKPdf	PKPdf		18 23 11.0	+1.2
KMBO				PKP	PKPdf		18 23 11.3	+1.6
KMBO				*e*SKP			18 25 48.7	
KMBO				SKPbc	SKPbc		18 25 49.9	+2.9
MIB	**Mutribah**	**137.47**	**290**	*e*P	PKPdf		18 22 58.8	-11
	baz=290							
MIB				AMb	AMB		18 23 06.2	
	comp=Z,68nm,0.6s,baz=290							
MIB	**Mutribah**	**137.47**	**290**	*e*P	SKPbc		18 25 47.8	+0.9
	baz=313							
MIB				AMb	AMB		18 25 51.9	
	comp=Z,68nm,1.6s,baz=313							
NAY	**Al-Naaiem**	**137.54**	**289**	*e*P	PKPdf		18 22 59.4	-10
	baz=290							
NAY				AMb	AMB		18 23 12.7	
	comp=Z,67nm,1.0s,baz=290							
NAY	**Al-Naaiem**	**137.54**	**289**	*e*P	SKPbc		18 25 48.7	+1.5
	baz=312							
NAY				AMb	AMB		18 25 51.1	
	comp=Z,30nm,1.4s,baz=312							
OBN	**Obninsk**	**137.59**	**330**	*e*PKHKP			18 22 58.0	
OBN				*i*			18 23 07.9	
OBN				*i* SS	SS		18 43 24.7	-0.7
OBN				pmax	pmax			
	comp=Z,120nm,1.7s							
OBN	**Obninsk**	**137.59**	**330**	⇑*i* P	PKPdf		18 23 06.8	-2.2
RST	**Umm Al-Ruwaisa**	**137.76**	**290**	*e*P	PKPdf		18 22 59.7	-10
	baz=290							
RST				AMb	AMB		18 23 13.0	
	comp=Z,7.0nm,0.8s,baz=290							
RST	**Umm Al-Ruwaisa**	**137.76**	**290**	*e*P	SKPbc		18 25 49.0	+1.2
	baz=313							
RST				AMb	AMB		18 25 51.2	
	comp=Z,1.0nm,0.9s,baz=313							
DGRG	**David-gareji**	**137.88**	**308**	P	PKPdf		18 23 03.3	-6.7
DGRG	**David-gareji**	**137.88**	**308**	P	SKPbc		18 25 49.2	+1.5
MTA	**Mtatsminda**	**138.25**	**308**	P	PKPdf		18 23 02.4	-8.3
MTA	**Mtatsminda**	**138.25**	**308**	P	SKPbc		18 25 50.1	+1.3
TBLG	**Delisi**	**138.28**	**308**	P	PKPdf		18 23 01.8	-8.9
TBLG	**Delisi**	**138.28**	**308**	P	SKPbc		18 25 50.6	+1.7
VRSR	**Storozhevoye**	**138.37**	**324**	*i* PKHKP			18 23 00.5	
VRSR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
VRSR				pmax	pmax			
	comp=N,2.0nm,0.5s							
VRSR				pmax	pmax			
	comp=E,4.0nm,0.9s							
GNI	**Garni**	**138.63**	**306**	*e*PKHKP	PKPdf		18 23 05.5	-5.9
GNI				*e*			18 23 10.0	
ONI	**Oni**	**138.99**	**310**	P	PKPdf		18 23 04.7	-7.3
ONI	**Oni**	**138.99**	**310**	P	SKPbc		18 25 49.4	-1.4
KIV	**Kislovodsk**	**139.12**	**312**	*e*PKIKP	PKPdf		18 23 07.7	-4.5
KIV				*e*			18 26 16.1	
KIV				pmax	pmax			
	comp=Z,16nm,1.0s							
KIV	**Kislovodsk**	**139.12**	**312**	*e*PKPpre	PKPdf		18 23 03.0	-9.2
KIV				*e*PKPdf	PKPdf		18 23 11.9	-0.3
MOL	**Molde**	**139.41**	**355**	*e*P	PKPdf		18 23 05.2	-6.9
DOMB	**Dombas**	**139.79**	**354**	*e*P	PKPdf		18 23 05.2	-7.6
DOMB				AMb	AMB		18 23 07.5	
	comp=Z,46nm,0.8s							
NB2	**NORSAR Subarra**	**140.52**	**352**	PKP	PKPdf		18 23 07.9	-6.3
	comp=Z,11nm,0.6s,baz=10,slow=3.2							
NOA	**NORSAR Array B**	**140.52**	**352**	PKhKP			18 23 07.6	
	comp=Z,23nm,0.7s,baz=11,slow=2.3,SNR=96							
NOA				SKPbc	SKPbc		18 25 55.0	+0.9
	comp=Z,13nm,0.9s,baz=14,slow=4.3,SNR=6.9							
NOA				SKKPbc			18 34 25.4	
	comp=Z,1.5nm,0.9s,baz=192,slow=4.1,SNR=4.3							
NOA	**NORSAR Array B**	**140.52**	**352**	PKP	PKPdf		18 23 07.6	-6.6
NOA				SKPbc	SKPbc		18 25 55.0	+0.9
NOA				SKKPbc			18 34 25.4	
MSL	**Mosul**	**140.61**	**300**	*ex*	x		18 23 15.0	
NAO01	**NORSAR Array S**	**140.75**	**352**	*e*PKPpre			18 23 07.8	
SOC	**Sochi**	**141.28**	**313**	*e*PKHKP	PKPdf		18 23 11.0	-5.1
SOC				*i*			18 23 15.1	
SOC				*e*			18 26 24.5	
SOC				*e*			18 29 35.7	
SOC				*e*PPP			18 29 41.8	
SOC				pmax	pmax			
	comp=Z,29nm,0.9s							
BNGL	**BINGOL**	**141.60**	**305**	*i* P	PKPdf		18 23 12.5	-4.3
MNK	**Minsk**	**141.79**	**334**	*e*PKHKP	PKPdf		18 23 12.0	-4.6
KOPT	**Kop Dagi**	**141.82**	**307**	*i* P	PKPdf		18 23 13.4	-3.8
MARD	**Mardin**	**142.25**	**303**	⇓*i* P	PKPdf		18 23 14.7	-3.3
ANN	**Anapa**	**142.33**	**316**	*d i* PKHKP			18 23 14.3	
ANN				*i*			18 23 17.4	
ANN				pmax	pmax			
	comp=Z,276nm,1.1s							
BLS5	**Blasjo**	**142.61**	**355**	*e*P	PKPdf		18 23 15.3	-2.6
BLS5				AMb	AMB		18 23 17.6	
	comp=Z,66nm,0.9s							
BLS5	**Blasjo**	**142.61**	**355**	*e*P	PKPdf		18 23 15.5	-2.5
STAV	**Stavanger**	**143.16**	**356**	*e*P	PKPdf		18 23 16.5	-2.4
STAV				AMb	AMB		18 23 19.0	
	comp=Z,157nm,1.3s							
GRSN	**GIRESUNGRSN**	**143.18**	**309**	*i* P	PKPdf		18 23 16.9	-2.6
RTO	**Tolsta**	**143.58**	**6**	*e*P	PKPdf		18 23 17.6	-2.0
SNART	**Snartemo**	**143.62**	**354**	*e*P	PKPdf		18 23 18.3	-1.4
SNART				AMb	AMB		18 23 20.6	
	comp=Z,213nm,1.2s							
RSC	**Scourie**	**143.70**	**5**	*e*P	PKPdf		18 23 18.4	-1.4
AKASG	**Malin Array Be**	**143.82**	**329**	PKP	PKPdf		18 23 18.6	-1.7
	comp=Z,113nm,0.5s,baz=40,slow=4.3,SNR=482							
AKASG				SKPbc	SKPbc		18 26 03.3	+0.7
	comp=Z,12nm,0.8s,baz=39,slow=2.0,SNR=8.9							
MALT	**Malatya**	**143.83**	**305**	PKIKP	PKPdf		18 23 21.6	+0.9
MALT	**Malatya**	**143.83**	**305**	⇓*i*P	PKPdf		18 23 20.8	+0.1
MLA1	**Latheron**	**143.87**	**3**	*e*P	PKPdf		18 23 18.1	-2.1
REB	**Eisghbrachaidh**	**143.92**	**5**	*e*P	PKPdf		18 23 18.6	-1.7
SUW	**Suwalki**	**143.93**	**337**	*e*PKP	PKPdf		18 23 19.4	-1.0
SUW				*e*			18 23 20.2	
SUW	**Suwalki**	**143.93**	**337**	*e*PKP	PKPdf		18 23 19.4	-1.0
SUW				*e*			18 23 20.2	
RRH	**Rhenigidale**	**143.98**	**7**	*e*P	PKPdf		18 23 19.0	-1.4
RRR	**Rubha Reidh**	**144.13**	**6**	*e*P	PKPdf		18 23 19.6	-1.1
MVH1	**Achvaich**	**144.20**	**4**	*e*P	PKPdf		18 23 19.3	-1.5
SIM	**Simferopol'**	**144.38**	**318**	*de*PKIKP	PKPdf		18 23 21.4	-0.1
SIM				pmax	pmax			
	comp=Z,359nm,0.8s							
SIM				pmax	pmax			
	comp=Z,160nm,9.7s							
KSK	**Scoval**	**144.43**	**7**	*e*P	PKPdf		18 23 20.9	-0.2
KAC	**Achnashellach**	**144.53**	**5**	*e*P	PKPdf		18 23 20.8	-0.5
MCD	**Coleburn Disti**	**144.60**	**3**	*e*P	PKPdf		18 23 20.8	-0.7
KPL	**Plockton**	**144.66**	**6**	*e*P	PKPdf		18 23 21.4	-0.1
MDO	**Dochfour**	**144.66**	**5**	*e*P	PKPdf		18 23 21.2	-0.3
GZT	**Gaziantep**	**144.73**	**304**	*i* P	PKPdf		18 23 23.0	+0.7
KSB	**Sheil Bridge**	**144.81**	**6**	*e*P	PKPdf		18 23 20.7	-1.1
MME1	**Meikle Cairn**	**144.88**	**3**	*e*P	PKPdf		18 23 21.5	-0.4
KAR1	**Arisaig**	**145.06**	**6**	*e*P	PKPdf		18 23 22.1	-0.1
MUD	**Monsted U'grnd**	**145.24**	**352**	*i* P	PKPdf		18 23 24.2	+1.6
	comp=Z,117nm,0.7s							
PINB	**Pinarbasi**	**145.25**	**306**	*e*P	PKPdf		18 23 12.5	-11
COP	**Copenhagen**	**145.44**	**348**	*i* P	PKPdf		18 23 23.9	+1.0
	comp=Z,148nm,0.9s							
ANDN	**Andirin**	**145.61**	**305**	*i* P	PKPdf		18 23 23.0	-0.8
CTKT	**Corum**	**145.76**	**310**	*i* P	PKPdf		18 23 25.6	+1.6
EAB	**Aberfoyle**	**145.91**	**5**	*e*P	PKPdf		18 23 23.3	-0.4
EBH	**Black Hill**	**145.91**	**4**	*e*P	PKPdf		18 23 23.3	-0.4
WAR	**Warsaw**	**146.13**	**337**	*e*PKP	PKPbc		18 23 26.9	+0.4
WAR	**Warsaw**	**146.13**	**337**	*e*PKP	PKPbc		18 23 26.9	+0.5
EDI	**Edinburgh**	**146.25**	**4**	*e*P	PKPdf		18 23 24.4	+0.1
PGBU	**Glenifferbraes**	**146.27**	**5**	*e*P	PKPdf		18 23 24.4	+0.1
ASF	**Jabal al Asfar**	**146.29**	**295**	PKPbc	PKPbc		18 23 27.5	0.0
	baz=348,slow=4.0							
ESY	**Stoneypath**	**146.29**	**3**	*e*P	PKPdf		18 23 24.1	-0.3
EAU	**Auchinoon**	**146.32**	**4**	*e*P	PKPdf		18 23 24.2	-0.2
RGN	**Rugen**	**146.33**	**347**	*e*PKPbc	PKPbc		18 23 26.9	0.0
ILGA	**Ilgaz**	**146.35**	**312**	*i* P	PKPdf		18 23 24.7	-0.3
KIS	**Kishinev**	**146.37**	**324**	*e*PKIKP	PKPdf		18 23 25.0	+0.2
KIS				*i*			18 23 28.0	
EBL	**Broad Law**	**146.41**	**4**	*e*P	PKPdf		18 23 25.1	+0.6
CDAG	**Cicekdag**	**146.43**	**309**	*i* P	PKPdf		18 23 23.5	-1.6
GKP	**Gorka Klasztor**	**146.49**	**342**	*e*PKP	PKPdf		18 23 25.6	+0.9
GKP				*e*			18 23 28.0	
GKP	**Gorka Klasztor**	**146.49**	**342**	*e*PKP	PKPdf		18 23 25.6	+0.8
GKP				*e*			18 23 28.0	
HWQ	**Hawqa**	**146.72**	**299**	*e*P	PKPdf		18 23 28.6	+2.8
XSO	**Sourhope Farm**	**146.73**	**3**	*e*P	PKPdf		18 23 26.1	+1.0
LVV	**L'vov**	**146.82**	**332**	*e*PKIKP	PKPdf		18 23 27.5	+2.1
ESK	**Eskdalemuir**	**146.86**	**4**	*e*P	PKPdf		18 23 24.5	-0.8
ESK	**Eskdalemuir**	**146.86**	**4**	*e*PKHKP	PKPdf		18 23 23.7	-1.6
ESK				*e*			18 23 27.5	
ESK	**Eskdalemuir**	**146.86**	**4**	*e*PKPdf	PKPdf		18 23 23.7	-1.6
ESK				*e*PKPbc	PKPbc		18 23 27.5	-0.8
ESK				*e*PP	PP		18 26 52.5	-6.1
RCY	**Rachaya**	**146.97**	**298**	*e*P	PKPdf		18 23 29.7	+3.4
ECK	**Cauldkaine Hil**	**147.00**	**4**	*e*P	PKPdf		18 23 25.1	-0.4
BHL	**Bhannes**	**147.03**	**298**	*e*P	PKPdf		18 23 29.6	+3.2
GAL1	**Galloway**	**147.19**	**6**	*e*P	PKPdf		18 23 25.3	-0.6
GCD	**Castle Douglas**	**147.26**	**5**	*e*P	PKPbc		18 23 28.7	-0.7
XAL	**Allendale**	**147.37**	**3**	*e*P	PKPdf		18 23 26.9	+0.7
MMAI	**Mount Meron Ar**	**147.40**	**297**	PKPbc	PKPbc		18 23 31.0	+0.6
	comp=Z,150nm,0.5s,baz=74,slow=7.1,SNR=17							
MMAI				pPKPbc	pPKPbc		18 25 47.0	-1.5
	comp=Z,6.0nm,0.8s,baz=40,slow=6.6,SNR=2.3							
MMAI				SKKPbc			18 33 58.1	
	comp=Z,2.6nm,0.7s,baz=29,slow=1.9,SNR=4.6							
ANTO	**Ankara**	**147.46**	**310**	⇓*i*P	PKPdf		18 23 26.4	-0.4
ANTO	**Ankara**	**147.46**	**310**	⇓P	PKPdf		18 23 26.4	-0.4
ANTO				P			18 23 30.5	
BSEG	**Bad Segeberg**	**147.49**	**349**	*e*PKPbc	PKPbc		18 23 30.3	+0.3
KWP	**Kalwaria**	**147.53**	**333**	*e*PKP	PKPbc		18 23 30.3	0.0
KWP				*e*			18 23 30.9	
KWP	**Kalwaria**	**147.53**	**333**	⇓*i*P	PKPbc		18 23 30.2	0.0
KWP	**Kalwaria**	**147.53**	**333**	*e*PKPdf	PKPdf		18 23 26.1	-0.5
KWP				⇓P			18 23 30.2	
KWP				*e*PKP	PKPbc		18 23 30.3	+0.1
KWP				*e*PKPbc	PKPbc		18 23 30.4	+0.2
KWP				*e*			18 23 30.9	
GMM	**Mts of Mourne**	**147.68**	**7**	*e*P	PKPdf		18 23 29.9	+3.1
GIM	**North Isle of**	**147.78**	**5**	*e*P	PKPdf		18 23 25.7	-1.2
BURAR	**Bucovina Array**	**147.84**	**328**	⇑*i*P	PKPdf		18 23 28.2	+1.0
ODB	**Odobesti**	**148.09**	**324**	⇑*i*P	PKPbc		18 23 33.1	+1.3
ODB	**Odobesti**	**148.09**	**324**	⇑P	PKPbc		18 23 33.1	+1.3
PHNC	**Paralimni**	**148.09**	**301**	⇑P	PKPbc		18 23 31.0	-1.1
	comp=Z,4.2nm,1.0s							
PHNC	**Paralimni**	**148.09**	**301**	*e*P	PKPbc		18 23 31.0	-1.1
TIRR	**Tirgusor**	**148.10**	**321**	PKHKP	PKPdf		18 23 28.0	+0.3
TIRR	**Tirgusor**	**148.10**	**321**	⇑*i*P	PKPdf		18 23 27.7	0.0
TIRR	**Tirgusor**	**148.10**	**321**	⇑P	PKPdf		18 23 27.7	-0.1
RUE	**Ruedersdorf**	**148.13**	**345**	*e*PKPdf	PKPdf		18 23 27.9	+0.4
RUE				*e*PKPbc	PKPbc		18 23 31.7	+0.1
VRI	**Vrincioaia**	**148.21**	**324**	⇓*i*P	PKPdf		18 23 28.0	+0.2
VRI	**Vrincioaia**	**148.21**	**324**	⇓P	PKPdf		18 23 28.1	+0.2
VRI				P	PKPbc		18 23 31.6	-0.5
OJC	**Ojcow**	**148.23**	**336**	*e*PKPdf	PKPdf		18 23 27.7	0.0
OJC				*e*PKPbc	PKPbc		18 23 31.8	-0.2
KOLS	**Kolonicke sedl**	**148.25**	**332**	*e*PKP	PKPdf		18 23 27.9	+0.1
KOLS				*e*			18 23 32.9	
HARR	**Harsova**	**148.25**	**321**	⇓*i*P	PKPbc		18 23 32.7	+0.5
HARR	**Harsova**	**148.25**	**321**	P	PKPdf		18 23 28.3	+0.3
HARR				⇓P	PKPbc		18 23 32.7	+0.5
PLOR	**Plostina**	**148.26**	**324**	⇑*i*P	PKPbc		18 23 32.3	+0.1
HPK	**Haverah Park**	**148.29**	**2**	*e*P	PKPdf		18 23 27.5	-0.2
CVD	**Cernavoda**	**148.41**	**321**	⇓*i*P	PKPbc		18 23 32.9	+0.3
CVD	**Cernavoda**	**148.41**	**321**	⇓P	PKPbc		18 23 32.9	+0.3
KDHN	**Kadinhani**	**148.46**	**308**	*i* P	PKPdf		18 23 27.1	-1.4
UZH	**Uzhgorod**	**148.47**	**332**	*c i* PKHKP	PKPbc		18 23 32.4	-0.2
UZH				*e*			18 23 40.0	
UZH				*e*			18 27 04.6	
DSB	**Dublin**	**148.61**	**8**	*e*PKPdf	PKPdf		18 23 27.5	-0.7
DSB				*e*PKPbc	PKPbc		18 23 32.2	-0.6
CRVS	**Cervenica-Dubn**	**148.61**	**333**	*e*PKP	PKPdf		18 23 28.1	-0.3
CRVS				*e*	PKPbc		18 23 33.7	+0.7
CRVS				*e*			18 25 59.8	
CSS	**Prodhromos**	**148.66**	**301**	P	PKPdf		18 23 32.2	+3.3
	comp=Z,3.3nm,0.7s							
CSS	**Prodhromos**	**148.66**	**301**	*e*PKPdf	PKPdf		18 23 28.5	-0.4
CSS				P			18 23 32.2	
CSS				*e*PKPbc	PKPbc		18 23 33.1	-0.5
CSS				*e*PKPab	PKPab		18 23 40.0	+0.3
CSS				*ep*PKPdf	pPKPdf		18 25 49.5	+0.1
PSN	**Preselentsi**	**148.68**	**320**	P	PKPdf		18 23 34.1	+5.4
NIE	**Niedzica**	**148.68**	**335**	*e*PKPdf	PKPdf		18 23 29.2	+0.7
NIE				*e*PKPbc	PKPbc		18 23 33.8	+0.7
MAMC	**Mammari**	**148.69**	**302**	P	PKPbc		18 23 32.6	-1.0
LHO	**Holmfirth**	**148.70**	**3**	*e*P	PKPdf		18 23 27.5	-0.9
MLR	**Muntele Rosu**	**148.87**	**324**	PKHKP	PKPdf		18 23 29.3	+0.4
MLR	**Muntele Rosu**	**148.87**	**324**	⇓*i*P	PKPdf		18 23 28.9	0.0
MLR	**Muntele Rosu**	**148.87**	**324**	⇓P	PKPdf		18 23 28.9	0.0
KSP	**Ksiaz**	**148.90**	**340**	*e*PKP	PKPbc		18 23 33.9	+0.4
KSP	**Ksiaz**	**148.90**	**340**	*e*PKHKP	PKPdf		18 23 29.2	+0.4
KSP				*e*			18 23 38.8	
KSP	**Ksiaz**	**148.90**	**340**	*e*PKPdf	PKPdf		18 23 29.2	+0.4
KSP				*i* PKPdf	PKPbc		18 23 33.9	+0.3
KSP				*e*PKPab	PKPab		18 23 38.8	-1.3
KSP				*ep*PKP	pPKPdf		18 25 52.0	+2.7
SLAT	**Slait**	**148.96**	**264**	*i* P	PKPdf		18 23 31.8	+1.9
JAWL	**J.Aulia**	**148.96**	**263**	AMb	AMB		18 23 29.4	
	comp=Z,352nm,0.9s							
ESKT	**Eskisehir**	**148.97**	**311**	*i* P	PKPdf		18 23 29.2	-0.1
SZAC	**Souni-Zanaja**	**149.07**	**301**	P	PKPbc		18 23 33.8	-0.7
OKC	**Ostrava-Krasne**	**149.15**	**337**	*e*PKPDF	PKPdf		18 23 29.5	+0.3
OKC				⇑*e*PKP	PKPbc		18 23 34.2	0.0
OKC				*e*PKPAB	PKPab		18 23 41.6	+0.4
ALFC	**Alevga**	**149.19**	**302**	P	PKPdf		18 23 33.2	+3.4
	comp=Z,7.3nm,0.7s							
MRKH	**Merkhyat**	**149.21**	**263**	*e*	PKPdf		18 23 28.6	-1.7
	baz=68,slow=1.6							
MRKH				*i* P	PKPbc		18 23 33.2	-2.1
KWE	**Weaver Farm**	**149.23**	**3**	*e*P	PKPdf		18 23 29.2	0.0
SBD1	**Bryn Du**	**149.25**	**4**	*e*P	PKPdf		18 23 28.6	-0.7
UPC	**Upice**	**149.28**	**340**	*e*PKPDF	PKPdf		18 23 30.3	+0.9
UPC				⇑*e*PKP	PKPbc		18 23 34.8	+0.3
UPC				*ep*PKP	pPKPdf		18 25 55.2	+5.2
DPC	**Dobruska-Polom**	**149.32**	**340**	*e*PKHKP	PKPdf		18 23 29.5	0.0
DPC				*e*			18 23 42.9	
DPC	**Dobruska-Polom**	**149.32**	**340**	*e*PKPDF	PKPdf		18 23 29.5	0.0
DPC				⇑*e*PKP	PKPbc		18 23 35.1	+0.5
DPC				*e*PKPAB	PKPab		18 23 42.9	+1.0
DPC				*ep*PKP	pPKPdf		18 25 56.3	+6.3
KECS	**Kecovo**	**149.35**	**334**	*e*PKHKP	PKPdf		18 23 29.8	+0.2
KECS				*e*			18 23 42.0	
KECS	**Kecovo**	**149.35**	**334**	*e*PKP	PKPdf		18 23 29.8	+0.2
KECS				*e*			18 23 35.8	
KECS				*e*			18 23 41.9	
KECS				*e*			18 25 56.0	
KECS	**Kecovo**	**149.35**	**334**	*e*PKP	PKPdf		18 23 29.8	+0.2
KECS				*e*			18 23 35.8	
KECS				*e*			18 23 42.0	
KECS				*e*			18 25 56.0	
CLL	**Collm**	**149.40**	**345**	*i* PKHKP			18 23 29.8	
CLL				*i*			18 23 42.6	
CLL	**Collm**	**149.40**	**345**	*e*PKPbc	PKPbc		18 23 35.0	+0.2
CLL	**Collm**	**149.40**	**345**	*i* PKPdf	PKPdf		18 23 29.8	+0.2
	comp=Z,26nm,1.1s							
CLL				⇓*i*PKPbc	PKPbc		18 23 34.7	-0.1
	comp=Z,462nm,0.9s							
CLL				⇑*i*PKPab	PKPab		18 23 42.6	+0.4
	comp=Z,165nm,0.8s							
CLL				*i* pPKPab	pPKPab		18 25 55.8	-0.1
CLL				*i* x	x		18 26 00.1	
CLL				*es*SKPdf	SKPdf		18 26 07.0	+0.5
CLL				*es*PKPbc			18 26 55.0	
CLL				*e*PP	PP		18 27 11.0	-2.3
CLL				*es*PSKS			18 40 36.0	
CLL				*es*PPS			18 43 06.0	
CLL				*es*PSPS			18 50 24.0	
CLL	**Collm**	**149.40**	**345**	*i* PKP	PKPdf		18 23 29.8	+0.2
CLL				⇓*i*PKP	PKPbc		18 23 34.7	-0.1
CLL				⇑*i*PKP	PKPab		18 23 42.6	+0.4
CLL				*i* pPKP	pPKPdf		18 25 55.8	+5.7
MORC	**Moravsky Berou**	**149.

BALY Balya 151.10 313 *i* P PKPdf 18 23 38.2 +5.7
AKAS Kas 151.16 305 *i* P PKPdf 18 23 37.7 +4.9
DIM Dimitrovgrad 151.21 319 P PKPdf 18 23 39.3 +6.7
BEBN Eben Emael 151.22 353 PKPbc PKPbc 18 23 38.9 -0.1
BEBN PKPab PKPab 18 23 49.3 -0.5
HGN Heimansgroeve 151.22 353 *e*PKiKP PKiKP 18 23 32.1 -7.2
comp=Z,23nm,1.1s
HGN Heimansgroeve 151.22 353 *e*PKPpre PKPdf 18 23 38.5 +6.2
comp=Z,96nm,0.9s
HGN Heimansgroeve 151.22 353 *e*PKPab PKPab 18 23 49.0 -0.8
comp=Z,94nm,1.1s
KHC Kasperske Hory 151.23 342 *e*PKIKP PKPdf 18 23 32.6 +0.2
KHC *e* 18 23 39.0
KHC *e* 18 23 50.3
KHC Kasperske Hory 151.23 342 *e*PKPDF PKPdf 18 23 32.6 +0.2
KHC ⇑*e*PKP PKPbc 18 23 39.0 -0.1
KHC *e*PKPAB PKPab 18 23 50.3 +0.4
KHC *ep*PKP pPKPdf 18 25 56.0 +2.9
GRA1 Grafenberg Arr 151.33 345 *e*PKPdf PKPdf 18 23 32.8 +0.2
GRA1 *e*PKPbc PKPbc 18 23 39.7 +0.4
GRA1 *e*PKPab PKPab 18 23 51.2 +0.9
GRF Grafenberg Arr 151.33 345 *e*PKPdf PKPdf 18 23 32.8 +0.2
GRF *e*PKPbc PKPbc 18 23 39.7 +0.4
GRF *e*PKPab PKPab 18 23 51.2 +0.9
UCC Uccle 151.34 355 PKPbc PKPbc 18 23 38.9 -0.4
UCC PKPab PKPab 18 23 49.2 -1.1
UCC APKP 18 23 52.0
UCC APKPbc 18 23 59.4
MEM Membach 151.36 353 PKP PKPdf 18 23 33.0 +0.4
MEM PKPbc PKPbc 18 23 39.0 -0.4
MEM PKPab PKPab 18 23 48.2 -2.3
MEM APKPbc 18 25 59.5
TNS Taunus Mts 151.38 349 *e*PKPdf PKPdf 18 23 32.8 +0.2
TNS *e*PKPbc PKPbc 18 23 39.5 +0.1
TNS *e*PKPab PKPab 18 23 50.4 -0.2
WET Wettzell 151.41 343 *e*PKIKP PKPdf 18 23 32.3 -0.4
WET *e* 18 23 39.5
WET *e* 18 23 51.1
WET Wettzell 151.41 343 *e*PKPdf PKPdf 18 23 32.3 -0.4
WET *e*PKPbc PKPbc 18 23 39.5 0.0
WET *e*PKPab PKPab 18 23 51.1 +0.4
WET *ep*PKPbc pPKPbc 18 26 01.5 +2.8
GEC2 GERESS Array S 151.45 342 *e*PKIKP PKPdf 18 23 32.4 -0.4
GEC2 *e* 18 23 39.6
GEC2 *e* 18 23 51.2
GEC2 GERESS Array S 151.45 342 *e*PKPdf PKPdf 18 23 32.4 -0.4
GEC2 *e*PKPbc PKPbc 18 23 39.6 0.0
GEC2 *e*PKPab PKPab 18 23 51.2 +0.3
GEC2 *ep*PKPbc pPKPbc 18 26 01.5 +2.7
GERES GERESS Array B 151.45 342 PKP PKPdf 18 23 33.0 +0.3
comp=Z,7.4nm,0.9s,baz=70,slow=1.6,SNR=54
GERES PKPbc PKPbc 18 23 39.1 -0.5
comp=Z,52nm,0.8s,baz=11,slow=2.1,SNR=118
GERES PKPab PKPab 18 23 51.3 +0.4
comp=Z,20nm,0.7s,baz=35,slow=3.6,SNR=11
GERES pPKPbc pPKPbc 18 25 59.2 +0.4
comp=Z,12nm,1.0s,baz=48,slow=2.0,SNR=5.5
GERES GERESS Array B 151.45 342 PKIKP PKPdf 18 23 33.0 +0.2
GERES 18 23 39.1
GERES 18 23 51.3
KDZ Kurdzhali 151.51 319 P PKPdf 18 23 39.5 +6.4
SOP Sopron 151.53 337⇓*e*PKP PKPdf 18 23 32.7 -0.2
ALN Alexandroupoli 151.54 317 *e*P PKPbc 18 23 38.7 -1.3
CONA Conrad Observa 151.57 338 *i* P PKPdf 18 23 32.5 -0.4
comp=Z,65nm,2.1s,SNR=13
CSNA Conrad Observa 151.57 338⇓*i*P PKPdf 18 23 32.5 -0.5
comp=Z,61nm,2.1s
BCLA Clavier 151.63 354 PKP PKPdf 18 23 33.4 +0.4
BCLA PKPbc PKPbc 18 23 39.5 -0.4
BCLA PKPab PKPab 18 23 50.2 -1.4
BCLA APKPbc 18 25 59.1
DYA Yadsworthy 151.65 6 *e*P PKPdf 18 23 32.4 -0.6
TURN Turunc 151.67 307 *e*P PKPdf 18 23 32.9 -0.6
MENF Mencas 151.71 358 PKP PKPdf 18 23 32.9 -0.2
RDO Rodhopi 151.72 318 *e*P PKPdf 18 23 33.0 -0.4
CCA1 Carnmenellis 151.75 8 *e*P PKPdf 18 23 36.9 +3.7
CRQ2 Rosemanowes 2 151.78 8 *e*P PKPdf 18 23 36.5 +3.3
CGW Gweek 151.84 8 *e*P PKPdf 18 23 36.6 +3.3
PKSM Moragy 151.91 333 PKIKP PKPdf 18 23 33.1 -0.5
PKSM Moragy 151.91 333⇓*i*P PKPdf 18 23 32.2 -1.4
PKSM Moragy 151.91 333 ⇓P PKPdf 18 23 32.2 -1.3
TOD Tromm 151.91 348 PKIKP PKPdf 18 23 33.4 0.0
GIVF Givet 151.99 354 *e*PKIKP PKPdf 18 23 33.8 +0.3
DOU Dourbes 152.02 354 PKP PKPdf 18 23 34.1 +0.5
DOU PKPbc PKPbc 18 23 40.4 -0.4
DOU PKPab PKPab 18 23 52.1 -1.1
DOU APKPbc 18 26 01.4
BAIF Baives 152.09 355 *e*PKIKP PKPdf 18 23 33.9 +0.2
comp=Z,26nm,1.0s
RUP Ruppelstein 152.11 351 PKIKP PKPdf 18 23 34.0 +0.3
MOA Molln 152.16 340⇑*i*P PKPbc 18 23 40.9 -0.3
comp=Z,75nm,1.8s,SNR=6.6
VTS Vitosha 152.24 322 P PKPdf 18 23 34.0 -0.2
VTS Vitosha 152.24 322⇓*i*P PKPdf 18 23 34.1 -0.1
VTS Vitosha 152.24 322 ⇓P PKPdf 18 23 34.1 0.0
PRK Paraskevi 152.25 314 *e*P PKPdf 18 23 41.0 +6.7
ARSA Arzberg 152.26 338⇓*i*P PKPdf 18 23 33.0 -1.0
comp=Z,87nm,2.4s
WLF Walferdange 152.27 352 PKP PKPdf 18 23 34.2 +0.3
WLF PKPbc PKPbc 18 23 41.5 +0.1
WLF PKPab PKPab 18 23 53.4 -1.0
WLF APKPbc 18 26 02.1
WLF Walferdange 152.27 352 *e*PKIKP PKPdf 18 23 34.3 +0.3
WLF *e* 18 23 41.7
WLF *e* 18 23 53.4
WLF Walferdange 152.27 352 *e*PKPdf PKPdf 18 23 34.2 +0.2
WLF *e*PKPbc PKPbc 18 23 41.8 +0.4
WLF *e*PKPab PKPab 18 23 55.0 +0.7
WLF Walferdange 152.27 352 *e*PKPdf PKPdf 18 23 34.3 +0.3
WLF *e*PKPbc PKPbc 18 23 41.7 +0.4
WLF *e*PKPab PKPab 18 23 53.4 -0.9
WLF *ep*PKPdf pPKPdf 18 25 58.2 +3.5
ARG Arkhangelos 152.28 306 *e*P PKPdf 18 23 41.9 +7.5
MMB Musomiste 152.56 320 P PKPdf 18 23 39.9 +5.2
SMG Samos 152.59 310 *e*P PKPdf 18 23 40.6 +5.8
NVR Nevrokopi 152.63 320 *e*P PKPdf 18 23 34.6 -0.2
STU Stuttgart 152.64 347 *e*PKIKP PKPdf 18 23 34.0 -0.5
STU *e* 18 23 42.2
STU *e* 18 23 54.5
STU Stuttgart 152.64 347 *e*PKPdf PKPdf 18 23 34.8 +0.3
STU *e*PKPbc PKPbc 18 23 42.4 +0.2
STU *ep*PKPbc pPKPbc 18 26 04.0 +2.4
STU Stuttgart 152.64 347 *e*PKPdf PKPdf 18 23 34.0 -0.6
STU *e*PKPbc PKPbc 18 23 42.2 0.0
STU *e*PKPab PKPab 18 23 54.5 -1.4
STU *e*SKP 18 26 03.2
LOS Limnos 152.68 316 *e*P PKPbc 18 23 42.0 -0.6
LANF Langenberg 152.69 349 PKP PKPdf 18 23 34.9 +0.3
RJOB Jochberg 152.71 342 *e*PKPdf PKPdf 18 23 34.3 -0.4
RJOB *e*PKPbc PKPbc 18 23 42.2 -0.2
RJOB *e*PKPab PKPab 18 23 57.2 +0.9
FUR Furstenfeldbru 152.73 344 *e*PKIKP PKPdf 18 23 34.6 -0.1
FUR *e* 18 23 42.3
FUR *e* 18 23 56.8
FUR Furstenfeldbru 152.73 344 *e*PKPdf PKPdf 18 23 34.6 -0.1
FUR *e*PKPbc PKPbc 18 23 42.3 -0.1
FUR *e*PKPab PKPab 18 23 56.8 +0.5
FUR *ep*PKPbc pPKPbc 18 26 04.3 +2.4
CMLA Cha da Macela 152.79 50 *e*PKIKP PKPdf 18 23 36.2 +1.1
CMLA *e* 18 23 43.4
CHOS Chios island 152.82 312 *e*P PKPdf 18 23 34.1 -1.1
SOKA Soboth 152.93 338⇓*i*P PKPdf 18 23 33.9 -1.1
comp=Z,62nm,1.9s
PERS Pernice 152.94 338 *i* PKPdf PKPdf 18 23 34.3 -0.7
PERS *i* PKPbc PKPbc 18 23 42.6 -0.3
PERS *i* PKPab PKPab 18 23 57.9 +0.6
PERS *i* pPKPdf pPKPdf 18 26 04.9 +9.1
BFO Black Forest 153.23 348 *e*PKIKP PKPdf 18 23 33.9 -0.4
BFO *e* 18 23 43.3
BFO *e* 18 23 58.1
BFO Black Forest 153.23 348 *e*PKPdf PKPdf 18 23 34.8 -0.6
BFO *e*PKPbc PKPbc 18 23 43.3 -0.2
BFO *e*PKPab PKPab 18 23 58.1 -0.3
BFO *ep*PKPbc pPKPbc 18 26 05.4 +2.4
KAP Karpathos 153.24 306 *e*P PKPbc 18 23 43.5 -0.4
KNT Kendrikon 153.32 320 *e*P PKPdf 18 23 39.3 +3.6
CDF Champ du Feu 153.33 350 *e*PKIKP PKPdf 18 23 35.1 -0.4
comp=Z,31nm,1.2s
SPAK Spaichingen-Ko 153.36 348 PKP PKPdf 18 23 35.1 -0.5
STIP Stip 153.40 322 *e*PKP PKPbc 18 23 44.1 0.0
VAY Valandovo 153.41 321 *e*PKP PKPbc 18 23 42.1 -2.0

WATA Walderalm 153.42 343⇑*i*P PKPdf 18 23 34.9 -0.8
comp=Z,20nm,1.1s,SNR=11
PLG Polygyros 153.46 318 *e*P PKPab 18 23 59.9 +0.1
WTTA Wattenberg 153.47 343 *i* P PKPdf 18 23 35.2 -0.6
comp=Z,177nm,2.5s,SNR=22
RETA Reutte 153.49 344⇑*i*P PKPdf 18 23 35.1 -0.7
comp=Z,63nm,2.6s,SNR=13
FLN La Foliniere 153.53 1 *e*PKIKP PKPdf 18 23 35.4 -0.4
comp=Z,80nm,0.8s
MOTA Moosalm 153.54 344⇓*i*P PKPdf 18 23 35.0 -0.8
comp=Z,28nm,1.0s,SNR=26
HORT Hortiatis 153.54 319 *e*P PKPab 18 24 01.6 +1.5
ECH Echery 153.54 350 PKP PKPdf 18 23 35.3 -0.5
ECH Echery 153.54 350 *e*PKPdf PKPdf 18 23 35.1 -0.7
ECH *e*PKPbc PKPbc 18 23 44.2 0.0
ECH *e*PKPab PKPab 18 23 59.0 -0.8
MEZF Maizieres J'vi 153.55 353 *e*PKIKP PKPdf 18 23 36.0 +0.2
comp=Z,46nm,0.9s
PAIG Paliouri 153.58 317 *e*P PKPdf 18 23 35.3 -0.9
SKO Skopje 153.64 323 *e*PKP PKPbc 18 23 44.5 -0.1
LJU Ljubljana 153.65 338 *e*PKPdf PKPdf 18 23 36.0 -0.1
LJU *e*PKPbc PKPbc 18 23 44.5 0.0
LJU *e*PKPab PKPab 18 24 00.0 -0.4
ABTA Abfaltersbach 153.69 341⇓*i*P PKPdf 18 23 34.9 -1.2
comp=Z,61nm,1.2s,SNR=22
LDF La Druitiere 153.70 1 *e*PKIKP PKPdf 18 23 35.5 -0.5
comp=Z,48nm,0.8s
THEF They Montfort 153.71 352 PKP PKPdf 18 23 34.9 -1.2
FELD Feldberg im Sc 153.72 349 PKP PKPdf 18 23 36.0 -0.1
ROSF Rostrenen 153.79 6 *e*PKIKP PKPdf 18 23 35.3 -0.9
comp=Z,22nm,1.0s
APE Apeiranthos 153.81 310 *e*P PKPdf 18 23 33.9 -2.7
APE Apeiranthos 153.81 310⇓*i*P PKPdf 18 23 34.0 -2.6
APE Apeiranthos 153.81 310 ⇓P PKPdf 18 23 34.0 -2.6
BOJS Bojanci 153.85 336 *i* PKPdf PKPdf 18 23 36.4 0.0
BOJS *i* PKPbc PKPbc 18 23 45.3 +0.4
BOJS *e*PKPab PKPab 18 24 01.7 +0.5
BOJS *i* pPKPdf pPKPdf 18 26 07.8 +11
BOJS *ep*PKPbc pPKPbc 18 26 20.7 +16
AOS Alonnisos 153.87 316 *e*P PKPbc 18 23 44.4 -0.7
HAU Haudompre 153.87 351 *e*PKIKP PKPdf 18 23 36.1 -0.2
comp=Z,47nm,1.1s
VOY Vojsko 153.88 338 *e*PKPdf PKPdf 18 23 35.3 -1.1
VOY *e*PKPbc PKPbc 18 23 43.9 -1.0
VOY *e*PKPab PKPab 18 24 00.9 -0.4
GRR Gorron 153.89 2 *e*PKIKP PKPdf 18 23 36.0 -0.3
comp=Z,43nm,0.9s
DAVA Damuels 153.90 345⇓*i*P PKPdf 18 23 35.8 -0.5
comp=Z,36nm,1.2s,SNR=15
MOF Molkenrain 153.90 350 PKP PKPdf 18 23 36.0 -0.3
SGMF Saint Gilles 153.93 5 *e*PKIKP PKPdf 18 23 35.6 -0.8
comp=Z,44nm,1.0s
FETA Feichten 153.94 344⇓*i*P PKPdf 18 23 35.7 -0.7
comp=Z,70nm,1.1s,SNR=86
JAVS Javornik 153.94 338 *i* PKPdf PKPdf 18 23 36.0 -0.4
JAVS *i* PKPbc PKPbc 18 23 44.8 -0.3
JAVS *i* PKPab PKPab 18 24 01.4 -0.2
JAVS *i* pPKPdf pPKPdf 18 26 07.3 +10
JAVS *i* pPKPbc pPKPbc 18 26 18.8 +14
HINF Hinteralfeld 153.98 350 *e*PKIKP PKPdf 18 23 36.1 -0.4
comp=Z,71nm,1.4s
KRUS Krusevo 154.15 322 *e*PKP PKPbc 18 23 45.5 -0.1
THR3 Thira Island, 154.20 309 *e*P PKPbc 18 23 45.5 -0.5
XOR Xorichti 154.21 317 *e*P PKPdf 18 23 37.5 +0.4
BBS Basel-Blauen 154.21 349 PKIKP PKPdf 18 23 36.6 -0.2
LIT Litokhoron 154.21 319 *e*P PKPbc 18 23 45.0 -0.8
QUIF Quistinic 154.22 6 *e*PKIKP PKPdf 18 23 36.1 -0.7
comp=Z,20nm,1.0s
THR6 Thira Island, 154.23 309 *e*P PKPbc 18 23 45.4 -0.5
FNA Florina 154.45 321 *e*P PKPbc 18 23 46.0 -0.3
KZN Kozani 154.52 320 *e*P PKPdf 18 23 45.7 +8.2
NPS Neapolis 154.53 306 *e*P PKPdf 18 23 47.3 +10
LKR Lokris 154.73 315 *e*P PKPdf 18 23 45.9 +8.1
TUE Stuetta 154.78 346 *e*PKPdf PKPdf 18 23 36.9 -0.7
TUE *e*PKPdif 18 23 47.4
TUE *e*PKPab PKPab 18 24 06.2 +1.0
TUE *e*SKP 18 26 09.2
THL Klokotos Trika 154.83 318 *e*P PKPdf 18 23 36.9 -1.0
LOR Lormes 154.89 355 *e*PKIKP PKPdf 18 23 37.6 -0.1
comp=Z,54nm,0.9s
AGG Agios Georgios 154.95 317 *e*P PKPdf 18 23 36.9 -1.2
HYF Humbligny 154.97 357 *e*PKIKP PKPdf 18 23 38.1 +0.3
SSF Saint Saulge 155.12 355 *e*PKIKP PKPdf 18 23 37.9 -0.1
comp=Z,72nm,1.1s
CABF La Chapelle 155.27 351 *e*PKIKP PKPdf 18 23 38.6 +0.3
comp=Z,57nm,0.8s
EVR Evrytania 155.34 317 *e*P PKPdf 18 23 39.5 +0.9
AVF Avril sur Loir 155.40 355 *e*PKIKP PKPdf 18 23 37.9 -0.5
comp=Z,49nm,1.2s
OG01 Vacheresse 155.45 350 PKP PKPdf 18 23 38.0 -0.5
JAN Janina 155.48 320 *e*P PKPdf 18 23 48.9 +10
SMF Signal de Mont 155.51 354 *e*PKIKP PKPdf 18 23 38.2 -0.4
comp=Z,53nm,1.0s
VAM Vamos 155.52 308 *e*P PKPdf 18 23 38.6 -0.4
BGF Bois d'Agland 155.67 356 *e*PKIKP PKPdf 18 23 38.7 -0.1
comp=Z,73nm,1.0s
MFF Saint Martin d 155.69 1 *e*PKIKP PKPdf 18 23 38.5 -0.3
comp=Z,80nm,1.0s
IGT Igoumenitsa 155.87 320 *e*P PKPdf 18 23 49.4 +10
OG05 Jujurieux 155.92 352 PKP PKPdf 18 23 38.5 -0.6
TCF Toulx Ste Croi 155.97 357 *e*PKIKP PKPdf 18 23 39.0 -0.2
comp=Z,89nm,1.0s
RLS Riolos of Patr 156.06 316 *e*P PKPab 18 24 09.8 -1.3
KEK Kerkira 156.06 321 *e*P PKPdf 18 23 39.8 +0.3
AGO Saint Agoulin 156.15 355 PKP PKPdf 18 23 39.2 -0.2
LKD Levkas 156.19 318 *e*P PKPdf 18 23 50.0 +10
PLDF La Plantade 156.20 355 PKP PKPdf 18 23 39.0 -0.5
LSD Lago del Serru 156.21 348 PKP2 PKPab 18 24 11.9 +0.5
LPL La Plagne 156.23 349 *e*PKIKP PKPdf 18 23 39.8 +0.3
comp=Z,27nm,1.0s
LPG La Plagne 156.25 349 *e*PKIKP PKPdf 18 23 40.0 +0.4
comp=Z,37nm,1.2s
ITM Ithomi 156.25 314 *e*P PKPdf 18 23 50.4 +11
GRAM Graiana 156.45 343 P PKPab 18 24 12.7 +0.2
PYM Petit Puy Mans 156.46 356 PKP PKPdf 18 23 39.8 0.0
RSP Reno Superiore 156.49 348 PKP2 PKPab 18 24 12.6 0.0
VERF Verneugheol 156.50 357 PKP PKPdf 18 23 39.5 -0.4
VALM Valbona 156.53 342 P PKPab 18 24 13.6 +0.8
SARO Sassorosso 156.64 342 P PKPab 18 24 13.6 +0.4
BACM Baccana 156.65 342 P PKPab 18 24 13.6 +0.3
SC2M Scurtabo 156.68 343 P PKPab 18 24 12.6 -0.9
BNI Bardonecchia 156.69 349 *e*PKPdf PKPdf 18 23 40.3 +0.1
BNI *e*PKPdif 18 23 47.4
BNI *e*PKPab PKPab 18 24 13.8 +0.4
VINC Vinca 156.75 342 P PKPab 18 24 12.9 -0.8
BHB Bricherasio 156.78 348 P PKPab 18 24 12.9 -0.9
SSB Saint Sauveur 156.79 353 PKP PKPdf 18 23 40.2 -0.1
SSB Saint Sauveur 156.79 353 *e*PKPdf PKPdf 18 23 39.6 -0.6
SSB *e*PKPdif 18 23 51.4
SSB PKPab PKPab 18 24 13.1 -0.8
RRL Rocca Remolon 156.80 349 PKP2 PKPab 18 24 14.5 +0.6
ORIF Oris-en-Rattie 156.96 350 *e*PKIKP PKPdf 18 23 40.5 0.0
comp=Z,34nm,1.0s
LBL Lubilhac 156.96 355 PKP PKPdf 18 23 41.0 +0.5
RJF Les Rejaudoux 156.98 358 *e*PKIKP PKPdf 18 23 40.4 -0.1
comp=Z,77nm,1.2s
MBDF Montbardon 156.99 349 *e*PKIKP PKPdf 18 23 40.5 0.0
comp=Z,56nm,1.2s
ROB Robourent 157.18 346 PKP2 PKPab 18 24 14.7 -0.9
FIN Finale Ligure 157.19 346 PKP2 PKPab 18 24 15.1 -0.5
VIVF Saint-Julien-l 157.19 352 *e*PKIKP PKPdf 18 23 40.7 -0.1
comp=Z,87nm,1.5s
AQU L'Aquila 157.23 335⇑*i*P PKPab 18 24 17.2 +1.3
RORO Rocca Rossa 157.31 346 P PKPab 18 24 15.9 -0.2
CAF Calviac 157.34 357 *e*PKIKP PKPdf 18 23 41.0 0.0
comp=Z,48nm,1.1s
ENR Entracque 157.34 347 PKP2 PKPab 18 24 14.2 -2.1
STV Sant Anna di V 157.35 347 PKP2 PKPab 18 24 14.5 -1.8
LFF La Frestale 157.36 360 *e*PKIKP PKPdf 18 23 40.9 -0.1
comp=Z,50nm,1.1s
NEGI Seborga 157.64 346 P PKPab 18 24 16.5 -1.2
SBF Sospel 157.69 347 *e*PKIKP PKPdf 18 23 40.8 -0.6
comp=Z,142nm,1.4s
EMAZ Mazaricos 157.90 19 PKP PKPdf 18 23 41.9 +0.2
SMRF Simiane la Rot 157.92 350 *e*PKIKP PKPdf 18 23 42.0 +0.3
comp=Z,55nm,1.1s
EPON Pontenova 158.03 15 PKP PKPdf 18 23 42.3 +0.5
LASF Ste Croix 158.05 354 *e*PKIKP PKPdf 18 23 42.0 +0.2
comp=Z,98nm,1.3s
STS Santiago 158.08 18 PKIKP PKPdf 18 23 42.2 +0.3
FRF La Foret Royal 158.14 348 *e*PKIKP PKPdf 18 23 41.4 -0.6
comp=Z,24nm,1.0s
LMR La Mourre 158.38 348 *e*PKIKP PKPdf 18 23 41.7 -0.6
comp=Z,27nm,1.0s
EARI Arriondas 158.47 11 PKP PKPdf 18 23 43.1 +0.7
PGF Pioggiola 158.54 343 *e*PKIKP PKPdf 18 23 42.2 -0.3
comp=Z,109nm,1.4s
ELAN Lanestosa 158.82 8 PKP PKPdf 18 23 42.5 -0.3
MTLF Montolieu 158.91 357 *e*PKIKP PKPdf 18 23 42.9 0.0
comp=Z,43nm,1.1s
EALK Alkurruntz 159.02 4 PKP PKPdf 18 23 43.5 +0.5
SJPF Ste Jean 159.14 4 *e*PKIKP PKPdf 18 23 43.3 +0.1
comp=Z,30nm,1.1s
ELOB Lobios 159.16 18 PKP PKPdf 18 23 43.7 +0.4
EPF Esparros 159.27 0 *e*PKIKP PKPdf 18 23 43.5 +0.2
comp=Z,50nm,1.1s
ETSF Etsaut 159.38 2 *e*PKIKP PKPdf 18 23 43.9 +0.5
comp=Z,28nm,0.8s
ECAL Calabor 159.44 16 PKP PKPdf 18 23 43.9 +0.3
EBIE Bielsa 159.61 1 PKP PKPdf 18 23 44.7 +1.0
EJON La Jonquera 159.75 355 PKP PKPdf 18 23 43.9 0.0
MVO Moncorvo 160.10 17 *e*PKPdf PKPdf 18 23 44.6 +0.3
MVO Moncorvo 160.10 17 *e*PKPab PKPab 18 24 28.8 +0.4
EMIR Miracle 160.37 358 PKP PKPdf 18 23 45.1 +0.6
ESAC San Caprasio 160.56 2 PKP PKPdf 18 23 45.6 +0.8
MTE Manteigas 160.66 19 *e*PKPdf PKPdf 18 23 44.6 -0.3
MTE *e*PKPab PKPab 18 24 29.9 -1.0
EPOB Poblet 160.94 359 PKP PKPdf 18 23 45.2 0.0
PCBR Castelo Branco 161.19 19 *e*PKPdf PKPdf 18 23 46.0 +0.5
PCBR Castelo Branco 161.19 19 *e*PKPab PKPab 18 24 33.6 +0.3
GUD Guadarrama 161.24 11 PKIKP PKPdf 18 23 46.4 +0.9
ERTA Horta de San J 161.34 0 PKP PKPdf 18 23 46.0 +0.3
ETOR Torete 161.36 6 PKIKP PKPdf 18 23 46.6 +1.0
PMAR Madeira 161.38 52 *e*PKPab PKPab 18 24 34.0 -0.5
PMRV Marv??o 161.60 20 *e*PKPdf PKPdf 18 23 46.1 +0.2
PMRV Marv??o 161.60 20 *e*PKPab PKPab 18 24 35.0 0.0
EMOS Mosqueruela 161.92 2 PKP PKPdf 18 23 47.4 +1.2
PESTR Estremoz 162.04 21 *e*PKPdf PKPdf 18 23 46.5 +0.1
PESTR Estremoz 162.04 21 *e*PKPab PKPab 18 24 36.8 -0.2
EVO Evora 162.20 22 *e*PKIKP PKPdf 18 23 46.4 -0.2
comp=Z,96nm,1.1s
EVO Evora 162.20 22 *e*PKPdf PKPdf 18 23 46.7 +0.1
EVO Evora 162.20 22 *e*PKPab PKPab 18 24 37.6 -0.1
ESDC Sonseca Array 162.21 11 PKP PKPdf 18 23 47.3 +0.8
comp=Z,2.7nm,1.0s,baz=348,slow=2.5,SNR=16
ESDC PKPab PKPab 18 24 38.0 +0.2
comp=Z,7.4nm,0.7s,baz=347,slow=4.4,SNR=26
ESDC Sonseca Array 162.21 11 PKP PKPdf 18 23 47.1 +0.6
PAB San Pablo 162.26 12 *e*PKIKP PKPdf 18 23 47.1 +0.5
PAB *e* 18 24 37.7
EBAD Badajoz 162.33 20 PKP PKPdf 18 23 47.1 +0.5
ETOS Mallorca 162.42 354 PKP PKPdf 18 23 46.5 -0.2
PBEJ Beja 162.70 23 *e*PKPdf PKPdf 18 23 47.9 +0.8
PBEJ Beja 162.70 23 *e*PKPab PKPab 18 24 40.0 0.0
PTEO Sao Teotonio 162.80 26 *e*PKPdf PKPdf 18 23 47.6 +0.4
PTEO Sao Teotonio 162.80 26 *e*PKPab PKPab 18 24 40.5 +0.1
PBAR Barrancos 162.85 21 *e*PKPdf PKPdf 18 23 47.6 +0.4
PBAR Barrancos 162.85 21 *e*PKPab PKPab 18 24 40.9 +0.3
MORF Marmelete 163.03 26 *e*PKPdf PKPdf 18 23 48.4 +1.0
MORF Marmelete 163.03 26 *e*PKPab PKPab 18 24 41.6 +0.1
PFVI Vila Bisbo 163.11 26 *e*PKPdf PKPdf 18 23 47.6 +0.1
LIC Lamto 163.20 161 *e*PKIKP PKPdf 18 23 47.3 -1.0
comp=Z,182nm,1.1s
LIC Lamto 163.20 161⇓*i*PKIKP PKPdf 18 23 47.6 -0.7
comp=Z,227nm,1.1s
EGRO El Granado 163.28 23 PKP PKPdf 18 23 48.4 +0.7
PVAQ Vaqueiros 163.31 23 *e*PKPdf PKPdf 18 23 48.1 +0.4
PVAQ Vaqueiros 163.31 23 *e*PKPab PKPab 18 24 42.7 0.0
EMIN Mina Conepcio 163.34 20 PKP PKPdf 18 23 48.5 +0.8
PBDV Barranco-do-Ve 163.37 24 *e*PKPdf PKPdf 18 23 48.8 +1.1
KIC Kosan Boka 163.42 161⇓*i*PKIKP PKPdf 18 23 47.8 -0.7
comp=Z,375nm,1.0s
ECAB El Cabril 163.42 17 PKP PKPdf 18 23 48.8 +1.0
CCAN Las Canadas 163.43 65 PKP PKPdf 18 23 49.9 +1.9
EVIA Vianos 163.46 8 PKIKP PKPdf 18 23 49.6 +1.8
EADA Adamuz 163.54 14 PKP PKPdf 18 23 47.8 0.0
ETOB Tobarra 163.56 6 PKP PKPdf 18 23 49.5 +1.6
TIC Toumodi 163.60 160⇓*i*PKIKP PKPdf 18 23 48.0 -0.6
comp=Z,325nm,1.0s
DBIC Dimbokro 163.68 161 PKP PKPdf 18 23 47.8 -1.0
comp=Z,54nm,0.9s,baz=129,slow=1.3,SNR=36
DBIC PKPab PKPab 18 24 45.2 +0.5
comp=Z,18nm,0.6s,baz=182,slow=4.6,SNR=9.8
DBIC PP PP 18 28 38.7 +8.0
comp=Z,7.4nm,0.8s,baz=142,slow=7.1,SNR=3.7
DBIC Dimbokro 163.68 161 *e*PKPdf PKPdf 18 23 47.5 -1.2
DBIC *e*PKPab PKPab 18 24 44.7 -0.1
EBAN Banos Encina 163.71 12 PKIKP PKPdf 18 23 48.6 +0.6
ELUQ Luque 164.19 14 PKIKP PKPdf 18 23 49.2 +0.8
EQES Quesada 164.19 10 PKP PKPdf 18 23 49.2 +0.8
EHUE Huescar 164.25 9 PKIKP PKPdf 18 23 49.8 +1.3
EOSO Osorio 164.36 65 PKP PKPdf 18 23 50.6 +1.8
ESPR Espera 164.42 19 PKP PKPdf 18 23 50.3 +1.6
KEST Kesra 164.50 332 PKP PKPdf 18 23 49.0 +0.2
comp=Z,3.6nm,0.9s,baz=268,slow=4.1,SNR=9.4
KEST PKPab PKPab 18 24 48.4 +0.4
comp=Z,11nm,0.9s,baz=31,slow=0.7,SNR=15
ECOG Cogollos-Vega 164.61 12 PKIKP PKPdf 18 23 49.4 +0.6
ERON Agron 164.81 13 PKP PKPdf 18 23 49.4 +0.4
EJIF Jimena Fronter 164.92 19 PKIKP PKPdf 18 23 49.9 +0.8
EMIJ Mijas 165.01 17 PKP PKPdf 18 23 50.2 +1.0
EBER Berja 165.10 11 PKP PKPdf 18 23 50.0 +0.7
CFTV Fuerteventura 165.46 62 PKP PKPdf 18 23 51.2 +1.4
EALB Alboran 166.01 12 PKP PKPdf 18 23 50.5 +0.5
MDT Midelt 168.54 22 PKP PKPdf 18 23 52.3 +0.4
comp=Z,20nm,1.0s,baz=27,slow=0.9,SNR=26
MDT PKPab PKPab 18 25 06.7 +0.8
comp=Z,14nm,0.8s,baz=342,slow=4.6,SNR=13
MDT pPKPab pPKPab 18 27 17.7 -0.3
comp=Z,3.0nm,0.7s,baz=247,slow=9.0,SNR=4.0
TOA0 Torodi Ar. Sit 170.88 187 *e*PKPdf PKPdf 18 23 52.1 -1.6
TOA0 *e*PKPab PKPab 18 25 16.1 -0.5
TORD Torodi Ar. Bea 170.88 187 PKP PKPdf 18 23 52.0 -1.7
comp=Z,32nm,0.9s,baz=316,slow=0.7,SNR=106
TORD PKPab PKPab 18 25 16.0 -0.5
comp=Z,24nm,0.7s,baz=174,slow=4.0,SNR=31
TORD pPKPab pPKPab 18 27 28.4 -0.1
comp=Z,1.4nm,0.8s,baz=67,slow=0.3,SNR=1.4
TORD PP PP 18 29 08.0 +1.3
comp=Z,12nm,0.9s,baz=173,slow=5.5,SNR=9.4
TORD Torodi Ar. Bea 170.88 187 PKP PKPdf 18 23 52.0 -1.7
TORD PKPab PKPab 18 25 16.0 -0.5
TORD pPKPab pPKPab 18 27 28.4 -0.1
TORD PP PP 18 29 08.0 +1.3

IDC 11 18:06:29.5±3.2, 729S×14924E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/16, mbtmp3.5/3, Error ellipse: s-maj=99.3km s-min=44.3km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.16**	**227**	P	Pn	18 10 55.2	-0.3
	0.2nm,0.3s,baz=53,slow=11,SNR=19						
ASAR	**Alice Springs**	**21.96**	**220**	P	P	18 11 25.8	+0.8
	0.2nm,0.5s,baz=65,slow=9.8,SNR=9.3						
FITZ	**Fitzroy Crossi**	**25.38**	**243**	P	P	18 11 58.3	-0.4
	3.4nm,0.5s,baz=58,slow=12,SNR=29						
TORD	**Torodi Ar. Bea**	**147.56**	**283**	PKPbc	PKPbc	18 26 15.8	-1.0
	2.8nm,0.8s,baz=69,slow=1.9,SNR=3.2						

NIED ***11*** *18:28:00, 3060N×13160E, h29km, Mw4.2 Best double couple: M₀2.28000×10¹⁵ NP1:φ=38.00000°, δ69.00000°, λ92.00000°. NP2:φ=213.00000°, δ21.00000°, λ86.00000°.*
JMA ***11*** *18:28:42.9±0.1, 3061N×13157E, h34km±2km, M4.1*
ISCJB ***11*** *18:28:43.5±0.8, 3064N±005×13153E±007, h50km±6km, mb3.9/11, MS3.6/3, Error ellipse: s-maj=11.5km s-min=5.9km az=28.6*
NEIC ***11*** *18:28:45.6±2.8, 3079N×13137E, h47km±31km, mb4.4/2, Error ellipse: s-maj=27.0km s-min=12.4km az=64.0*
IDC

JNAR eS Sn 18 29 13.2 +0.3
JKC Kuchinoerabu 1.15 262 P Pn 18 29 04.5 +0.5
JKC eS Sn 18 29 19.9 +1.2
JSU Suzuyama 1.26 314 P Pn 18 29 04.9 -0.6
JTZ Takazaki 1.31 344 ⇑P Pn 18 29 06.2 -0.1
JTZ eS Sn 18 29 23.8 +1.0
JTSN Tsuno 1.61 360 P Pn 18 29 10.5 +0.2
JTSN eS Sn 18 29 30.4 +0.4
JNN Nakanoshima 1.62 241 P Pn 18 29 10.8 +0.3
JNN eS Sn 18 29 30.9 +0.6
JZO Okuchi 1.69 333 P Pn 18 29 11.3 -0.2
JZO eS Sn 18 29 33.1 +1.0
JSJ Shimokoshiki 1.86 305 P Pn 18 29 13.1 -0.7
JIU2 Izumi 2 2.00 343 P Pn 18 29 15.6 -0.1
KSRS Korea Array 7.42 337 P Pn 18 30 32.6 +2.4
0.2nm,0.3s,baz=156,slow=14,SNR=2.9
MAJO Matsushiro 8.12 42 ePn Pn 18 30 39.9 +0.1
MJAR Matsushiro Arr 8.12 42 P Pn 18 30 40.8 +1.0
0.3nm,0.3s,baz=219,slow=14,SNR=7.5
ASAJ Asahikawa 16.06 30 LR LR 18 38 49.7
comp=Z,165nm,19.9s,baz=177,slow=38
GUMO Guam 20.96 141 LR LR 18 40 48.2
comp=Z,117nm,18.3s,MS3.3,baz=78,slow=34
SONM Songino Array 25.78 319 P P 18 34 11.4 -0.6
1.7nm,1.0s,mb3.5,baz=139,slow=8.4,SNR=3.5
CMAR Chiang Mai Arr 31.89 255 P P 18 35 05.9 -0.8
0.8nm,0.7s,mb3.6,baz=62,slow=6.1,SNR=5.2
ZALV Zalesovo Beam 40.67 319 LR LR 18 54 51.7
comp=Z,103nm,21.4s,MS3.6,baz=203,slow=39
MKAR Makanchi Array 40.96 307 P P 18 36 22.6 -1.1
0.2nm,0.5s,mb3.0,baz=94,slow=9.6,SNR=3.5
KURK Kurchatov 43.78 313 eP P 18 36 43.6 -3.1
4.8nm,1.1s,mb4.1
BVAR Borovoye Array 49.04 316 P P 18 37 27.3 -0.6
1.6nm,0.5s,mb4.3,baz=90,slow=9.9,SNR=7.5
BRVK Borovoye 49.11 316 P P 18 37 25.3 -3.1
8.1nm,0.9s,mb4.8
WRA Warramunga Arr 50.36 177 P P 18 37 38.5 +0.3
1.8nm,0.8s,mb4.2,baz=352,slow=8.1,SNR=13
ASAR Alice Springs 54.04 177 P P 18 38 06.7 +1.2
0.5nm,0.5s,mb3.7,baz=11,slow=13,SNR=16
STKA Stephens Creek 62.90 170 P P 18 39 08.7 +1.5
1.4nm,0.7s,mb4.2,baz=353,slow=8.1,SNR=5.7
STKA LR LR 19 08 19.5
comp=Z,99nm,20.2s,MS4.0,baz=24,slow=38
AKASG Malin Array Be 74.06 320 P P 18 40 15.7 -1.1
0.3nm,0.3s,mb3.8,baz=55,slow=6.0,SNR=6.9
NOA NORSAR Array B 76.63 334 P P 18 40 29.7 -1.7
0.3nm,0.6s,mb3.4,baz=50,slow=5.4,SNR=3.1

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*ISCJB **11** 18:39:10.2±0.3,2525N±004×10003E±003,h10km, mb4.0/16,MS3.5/4,Error ellipse: s-maj=5.3km s-min=4.3km az=7.7*
*BJI **11** 18:39:11.5,2538N×100.11E,h11km,mB4.6,mb4.3,ML4.2, Ms4.4,Msz4.1*
*IDC **11** 18:39:11.5±0.7,2542N×9999E,h0km,mb3.9/11, mb1 4.0/12,mb1mx3.8/25,mbtmp3.9/12,ML4.1/1,MS3.6/4, Ms1 3.6/4,ms1mx3.1/31,Error ellipse: s-maj=33.3km s-min=12.9km az=71.0*
*NEIC **11** 18:39:13.1±0.4,2540N×10006E,h10km,mb4.4/5,Error ellipse: s-maj=12.5km s-min=6.2km az=68.0*

ISC 11 18:39:12.5±0.3,2532N±003×10006E±003,h10km,n49, σ1§31/61,mb4.0/16,MS3.5/4,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.43**	**94**	P		**Pn**	**18 39 54.0**	**+1.7**
KMI				PG		**Pg**	**18 39 57.1**	**-2.0**
KMI				SG		**Sg**	**18 40 28.8**	**-1.9**
KMI				Smax				
	comp=N,2μm,0.7s							
KMI				Smax				
	comp=E,2μm,0.7s							
GYA	**Guiyang**	**6.05**	**78**	P		**Pn**	**18 40 43.5**	**+1.4**
GYA				PG		**Pb**	**18 40 54.7**	**-3.4**
GYA				S		**Sn**	**18 41 48.0**	**-3.4**
GYA				LR		LR		
	comp=N,2μm,6.0s							
GYA				LR		LR		
	comp=E,950nm,5.3s							
GYA				LR		LR		
	comp=Z,930nm,5.9s							
CD2	**Chengdu**	**6.46**	**30**	eP		**Pn**	**18 40 47.6**	**0.0**
CD2				PG		**Pg**	**18 41 06.8**	**-9.3**
CD2				S		**Sn**	**18 42 05.6**	**+4.3**
CD2				SG		**Sg**	**18 42 31.5**	**-8.3**
CD2				Smax				
	comp=N,217nm,1.2s							
CD2				Smax				
	comp=E,241nm,1.2s							
CD2				LR		LR		
	comp=N,2μm,7.8s							
CD2				LR		LR		
	comp=E,2μm,6.0s							
CD2				LR		LR		
	comp=Z,3μm,6.0s							
CHTO	**Chiang Mai**	**6.55**	**189**	ePn		**Pn**	**18 40 51.1**	**+2.1**
	comp=Z,54nm,0.6s							
CHTO				ePg		**Pg**	**18 41 17.6**	**-0.5**
CHTO				eSn		**Sn**	**18 42 09.2**	**+5.4**
CHTO				eSg		**Sg**	**18 42 40.6**	**-2.4**
CM31	**Chiang Mai Arr**	**6.91**	**189**	ePn		**Pn**	**18 40 54.9**	**+1.1**
	comp=Z,5.1nm,0.6s							
CM31				ePg		**Pg**	**18 41 23.8**	**-1.0**
CM31				eSg		**Sg**	**18 42 53.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**6.91**	**189**	Pn		**Pn**	**18 40 56.6**	**+2.8**
	comp=Z,1.0nm,0.3s,baz=3.6,slow=13,SNR=24							
CMAR				Pg		**Pg**	**18 41 24.6**	**-0.2**
	comp=Z,7.4nm,0.3s,baz=2.0,slow=18,SNR=36							
CMAR				Lg			18 42 52.2	
	comp=Z,4.6nm,0.3s,baz=358,slow=30,SNR=6.5							
SHL	**Shillong**	**7.40**	**274**	eP		**Pn**	**18 41 04.5**	**+3.9**
LSA	**Lhasa**	**9.04**	**301**	P		**Pn**	**18 41 24.6**	**+1.6**
LSA				LR		LR		
	comp=N,450nm,12.3s							
LSA				LR		LR		
	comp=E,580nm,12.3s							
LSA				LR		LR		
	comp=Z,710nm,13.7s							
LSA	**Lhasa**	**9.04**	**301**	ePn		**Pn**	**18 41 22.1**	**-0.9**
	comp=Z,3.8nm,0.6s							
QIZ	**Qiongzhong**	**11.01**	**123**	Pn		**Pn**	**18 41 49.7**	**-0.4**
	comp=Z,31nm,1.2s							
LZH	**Lanzhou**	**11.21**	**16**	eP		**Pn**	**18 41 56.5**	**+3.7**
LZH				AP			18 41 58.5	
LZH				XP			18 41 59.5	
LZH				eS		**Sn**	**18 44 04.1**	**+5.8**
LZH				XS			18 44 10.0	
LZH				SS			18 44 15.6	
LZH				AMB		AMB		
	comp=Z,26nm,1.3s							
LZH				AMB		AMB		
	comp=Z,64nm,4.3s							
LZH				LR		LR		
	comp=E,2μm,8.0s							
LZH				LR		LR		
	comp=Z,2μm,9.5s							
TAPN	**Taplejung**	**11.26**	**283**	eP		**Pn**	**18 41 53.0**	**-0.5**
ODAN	**Odare**	**11.49**	**280**	eP		**Pn**	**18 41 57.4**	**+0.7**
	comp=Z,31nm,0.9s							
XAN	**Xi'an**	**11.61**	**39**	P		**Pn**	**18 41 55.7**	**-2.5**
XAN				AP			18 41 59.0	
XAN				S		**Sn**	**18 44 02.1**	**-5.8**
XAN				AMB		AMB		
	comp=Z,3.0nm,0.5s							
XAN				LR		LR		
	comp=N,288nm,5.8s							
XAN				LR		LR		
	comp=E,225nm,5.1s							
XAN				LR		LR		
	comp=Z,515nm,6.8s							
RAMN	**Ramite**	**12.20**	**281**	eP		**Pn**	**18 42 07.1**	**+0.7**
JIRN	**Jiri**	**12.64**	**284**	eP		**Pn**	**18 42 11.8**	**-0.6**
GUN	**Gumba**	**12.95**	**285**	eP		**Pn**	**18 42 15.0**	**-1.6**
KKN	**Kakani**	**13.46**	**284**	eP		**Pn**	**18 42 22.4**	**-1.2**
	comp=Z,31nm,1.0s							
DMN	**Daman**	**13.59**	**283**	eP		**Pn**	**18 42 25.2**	**-0.2**
WHN	**Wuhan**	**13.66**	**64**	eP		**Pn**	**18 42 27.9**	**+1.6**
WHN				LR		LR		
	comp=Z,2μm,11.7s							
GKN	**Gorkha**	**14.05**	**284**	eP		**Pn**	**18 42 29.7**	**-1.9**
GTA	**Gaotai**	**14.05**	**359**	eP		**Pn**	**18 42 30.1**	**-1.5**
GTA				AP			18 42 34.2	
GTA				XP			18 42 38.2	
GTA				AMB		AMB		
	comp=Z,2.0nm,1.3s							
KOLN	**Koldanda**	**14.94**	**283**	eP		**Pn**	**18 42 42.9**	**-0.8**
	comp=Z,10nm,0.8s							
PSI	**Prapat**	**22.41**	**183**	P		**P**	**18 44 15.3**	**+4.0**
	comp=Z,3.9nm,0.8s,mb3.9,baz=313,slow=8.9,SNR=5.3							
PSI	**Prapat**	**22.41**	**183**	P		**P**	**18 44 15.3**	**+3.9**
SONM	**Songino Array**	**23.02**	**11**	P		**P**	**18 44 17.5**	**-0.1**
	comp=Z,4.1nm,1.0s,mb3.8,baz=197,slow=11,SNR=15							
SONM				LR		LR	18 54 18.3	
	comp=Z,211nm,20.3s,MS3.6,baz=295,slow=40							
MK31	**Makanchi Array**	**25.69**	**331**	eP		**P**	**18 44 42.9**	**+0.3**
MKAR	**Makanchi Array**	**25.69**	**331**	P		**P**	**18 44 43.5**	**+0.9**
	comp=Z,15nm,0.9s,mb4.5,baz=139,slow=9.6,SNR=51							
KSRS	**Korea Array**	**26.58**	**56**	LR		LR	18 54 43.6	
	comp=Z,60nm,19.3s,MS3.2,baz=225,slow=35							
TKM2	**Tokmak 2**	**26.66**	**317**	eP		**P**	**18 44 53.1**	**+1.7**
	comp=Z,12nm,1.5s,mb4.2							
EKS2	**Erkin-Say**	**27.66**	**315**	eP		**P**	**18 45 01.7**	**+1.3**
	comp=Z,5.8nm,1.0s,mb4.2							
KURK	**Kurchatov**	**30.25**	**333**	eP		**P**	**18 45 23.2**	**-0.2**
	comp=Z,5.5nm,1.1s,mb4.2							
ZALV	**Zalesovo Beam**	**30.77**	**342**	P		**P**	**18 45 27.6**	**-0.3**
	comp=Z,2.7nm,0.9s,mb4.1,baz=150,slow=10,SNR=9.2							
BVAR	**Borovoye Array**	**35.52**	**329**	P		**P**	**18 46 10.1**	**+0.7**
	comp=Z,1.4nm,0.8s,mb3.9,baz=134,slow=8.3,SNR=5.5							
YSS	**Yuzh-Sakhalins**	**40.05**	**46**	P		**P**	**18 46 49.9**	**+2.2**
	comp=Z,17nm,1.1s,mb4.7							
AKTK	**Aktyubinsk**	**40.82**	**319**	P		**P**	**18 46 54.3**	**+0.3**
AKTO	**Aktyubinsk**	**40.82**	**319**	P		**P**	**18 46 54.3**	**+0.3**
	comp=Z,1.6nm,0.8s,mb3.7,baz=102,slow=8.2,SNR=6.8							
GUMO	**Guam**	**43.64**	**97**	LR		LR	19 02 48.9	
	comp=Z,57nm,21.8s,MS3.4,baz=91,slow=32							
MBWA	**Marble Bar**	**49.99**	**156**	P		**P**	**18 48 07.5**	**+0.5**
	comp=Z,3.7nm,0.8s,mb4.5							
WRAB	**Tennant Creek**	**55.99**	**140**	eP		**P**	**18 48 53.0**	**+1.7**
WRA	**Warramunga Arr**	**55.99**	**140**	P		**P**	**18 48 52.8**	**+1.4**
	comp=Z,2.9nm,0.8s,mb4.4,baz=332,slow=7.8,SNR=31							
WB2	**Warramunga Arr**	**55.99**	**140**	eP		**P**	**18 48 51.8**	**+0.4**
ASAR	**Alice Springs**	**58.70**	**143**	P		**P**	**18 49 11.8**	**+1.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=324,slow=6.5,SNR=15							
AKASG	**Malin Array Be**	**58.86**	**315**	P		**P**	**18 49 09.9**	**-1.4**
	comp=Z,0.5nm,0.6s,mb3.8,baz=74,slow=5.9,SNR=3.0							
KMBO	**Kilima Mbogo**	**66.10**	**257**	LR		LR	19 21 21.9	
	comp=Z,80nm,18.2s,MS4.0,baz=98,slow=38							
MORC	**Moravsky Berou**	**66.41**	**315**	P		**P**	**18 50 05.7**	**+3.9**
NB2	**NORSAR Subarra**	**67.64**	**328**	P		**P**	**18 50 08.2**	**-1.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=76,slow=6.9							
NOA	**NORSAR Array B**	**67.64**	**328**	P		**P**	**18 50 08.4**	**-0.9**
	comp=Z,1.1nm,0.8s,mb3.9,baz=78,slow=6.4,SNR=4.0							
GERES	**GERESS Array B**	**69.07**	**315**	P		**P**	**18 50 17.3**	**-1.2**
	comp=Z,0.1nm,0.3s,mb3.2,baz=60,slow=7.9,SNR=3.8							

IDC 11 19:01:23.2±3.9,2188N×14425E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.3/21,mbtmp3.6/3,MS3.5/1,Ms1 3.5/1, ms1mx2.2/32,Error ellipse: s-maj=282.6km s-min=32.7km az=91.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.83**	**320**	LR		LR	19 25 21.6	
	comp=Z,58nm,19.4s,baz=48,slow=36							
WRA	**Warramunga Arr**	**42.68**	**194**	P		P	19 09 22.1	+0.2
	0.5nm,0.2s,baz=16,slow=9.6,SNR=22							
ASAR	**Alice Springs**	**46.38**	**193**	P		P	19 09 51.1	-0.3
	0.2nm,0.7s,baz=16,slow=11,SNR=4.1							
ARCES	**ARCESS Array B**	**79.06**	**342**	P		P	19 13 29.0	0.0
	1.0nm,0.7s,baz=54,slow=9.1,SNR=3.6							

IDC 11 19:04:26.6±56.0,1659S×17982W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/17,mbtmp3.9/3,Error ellipse: s-maj=1009.0km s-min=147.5km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.11**	**239**	P		P	19 11 47.2	-0.3
	1.4nm,0.8s,baz=82,slow=12,SNR=6.1							
WRA	**Warramunga Arr**	**43.56**	**258**	P		P	19 12 33.0	+0.4
	0.3nm,0.4s,baz=90,slow=7.6,SNR=17							
ASAR	**Alice Springs**	**43.87**	**253**	P		P	19 12 34.9	-0.2
	2.6nm,0.6s,baz=89,slow=8.8,SNR=67							

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*JMA **11** 19:08:26.9±0.4,2756N×12675E,h4km,M3.5*
*IDC **11** 19:08:30.8±1.1,2708N×12685E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/20,mbtmp3.5/4,Error ellipse: s-maj=36.8km s-min=19.8km az=46.0*

ISC 11 19:08:28.5±1.5,2751N±007×12677E±008,h10km,n11, σ0§82/14,mb3.5/2,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**1.01**	**155**	P		**Pg**	**19 08 47.3**	**-0.7**
JAGN				eS		**Sg**	**19 09 00.9**	**-0.3**
JIH	**Iheya**	**1.17**	**114**	P		**Pb**	**19 08 49.6**	**-1.2**
JIH				S		**Sb**	**19 09 05.6**	**-0.3**
JKE	**Kume jima 2**	**1.18**	**179**	P		**Pb**	**19 08 49.8**	**-1.3**
JKE				eS		**Sb**	**19 09 06.5**	**+0.1**
JOW	**Kunigami**	**1.50**	**117**	P		**Pn**	**19 08 54.9**	**-0.6**
JOW				eS		**Sn**	**19 09 15.6**	**+0.5**
JOW	**Kunigami**	**1.50**	**117**	Pn		**Pn**	**19 08 56.2**	**+0.7**
	57nm,0.3s,baz=314,slow=12,SNR=21							
NAH1	**Naha**	**1.54**	**148**	P		**Pn**	**19 08 56.7**	**+0.6**
NAH1				S		**Sn**	**19 09 17.8**	**+1.7**
JJT2	**Tamagusuku 2**	**1.62**	**147**	P		**Pn**	**19 08 56.9**	**-0.3**
SONM	**Songino Array**	**25.77**	**327**	P		pP	19 14 07.4	+4.9
	2.4nm,1.0s,baz=143,slow=10.0,SNR=13							
MKAR	**Makanchi Array**	**39.71**	**311**	P		pP	19 16 07.2	+3.0
	0.4nm,0.7s,baz=104,slow=8.1,SNR=4.2							
WRA	**Warramunga Arr**	**47.74**	**170**	P		**P**	**19 17 06.9**	**+1.1**
	0.5nm,0.7s,mb3.6,baz=352,slow=8.6,SNR=5.0							
ASAR	**Alice Springs**	**51.34**	**172**	P		**P**	**19 17 33.3**	**+0.1**
	0.3nm,0.6s,mb3.4,baz=4.8,slow=13,SNR=7.1							

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*ISCJB **11** 19:10:13.2±0.6,5145N×003×1608E±003,h0km,Error ellipse: s-maj=4.8km s-min=2.7km az=20.0*
*IPEC **11** 19:10:13.0±0.3,5158N×1621E,h0km,ML2.3/4,Error ellipse: s-maj=1.9km s-min=1.5km az=42.0*
*CSEM **11** 19:10:14.4±0.1,5152N×1613E,h1km,ML3.1/8,Error ellipse: s-maj=2.4km s-min=1.3km az=20.0*
*PRU **11** 19:10:15.4,5146N×1609E,h0km*
*WAR **11** 19:10:15.4,5150N×1609E,ML2.5,Mining Induced*
*NEIC **11** 19:10:15.1±1.2,5147N×1609E,h5km,ML2.7(SZGRF), Error ellipse: s-maj=13.6km s-min=5.8km az=222.0*
*VIE **11** 19:10:16.9±0.4,5130N×1620E,h0km,mb2.0/3,ML2.7/3, Error ellipse: s-maj=3.1km s-min=2.6km az=52.0, Suspected Mining induced.*

ISC 11 19:10:14.2±0.6,5150N±003×1610E±003,h0km,n28, σ0§80/53,1C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**169**	ePg		**Pg**	**19 10 27.6**	**+0.5**
KSP				eSg		**Sg**	**19 10 36.4**	**+0.7**
KSP	**Ksiaz**	**0.67**	**169**	ePg		**Pg**	**19 10 27.6**	**+0.6**
KSP				eSg		**Sg**	**19 10 36.2**	**+0.5**
KSP	**Ksiaz**	**0.67**	**169**	ePg		**Pg**	**19 10 27.6**	**+0.6**
KSP				eSg		**Sg**	**19 10 36.5**	**+0.8**
UPC	**Upice**	**1.00**	**183**	ePG		**Pg**	**19 10 33.6**	**+0.3**
DPC	**Dobruska-Polom**	**1.16**	**173**	ePG		**Pg**	**19 10 36.4**	**0.0**
DPC				eSG		**Sg**	**19 10 51.3**	**-0.2**
	comp=Z,49nm,0.4s							
PVCC	**Panska Ves**	**1.37**	**225**	Pg		**Pg**	**19 10 40.5**	**+0.1**
PVCC				eSg		**Sg**	**19 10 59.4**	**+1.2**
PVCC	**Panska Ves**	**1.37**	**225**	ePG		**Pg**	**19 10 40.5**	**+0.1**
BRG	**Berggiesshubel**	**1.50**	**246**	Pg		**Pg**	**19 10 42.9**	**+0.1**
BRG	**Berggiesshubel**	**1.50**	**246**	PN		**Pn**	**19 10 42.2**	**0.0**
BRG				PG		**Pg**	**19 10 42.9**	**+0.1**
BRG				SG		**Sg**	**19 11 02.8**	**+0.7**
	comp=Z,55nm,0.4s							
PRU	**Pruhonice**	**1.81**	**214**	ePG		**Pg**	**19 10 48.4**	**-0.4**
PRU				eSG		**Sg**	**19 11 11.6**	**-0.7**
	comp=Z,30nm,0.4s							
CLL	**Collm**	**1.95**	**265**	ePn		**Pn**	**19 10 48.0**	**-0.4**
CLL				ePg		**Pg**	**19 10 50.0**	**-1.5**
CLL				ex		x	19 10 54.0	
CLL				i Sg		**Sg**	**19 11 16.7**	**0.0**
	comp=Z,14nm,0.4s							
MORC	**Moravsky Berou**	**1.96**	**151**	ePn		**Pn**	**19 10 48.0**	**-0.6**
MORC				eSn		**Sn**	**19 11 15.2**	**+1.4**
MORC	**Moravsky Berou**	**1.96**	**151**	ePn		**Pn**	**19 10 48.0**	**-0.5**
MORC				eSn		**Sn**	**19 11 15.2**	**+1.4**
OKC	**Ostrava-Krasne**	**2.12**	**141**	eSG		**Sg**	**19 11 21.4**	**-0.7**
	comp=Z,12nm,0.5s							
VRAC	**Vranov**	**2.22**	**172**	ePn		**Pn**	**19 10 52.2**	**0.0**
VRAC				eSg		**Sg**	**19 11 24.7**	**-0.7**
	comp=Z,12nm,0.3s							
TREC	**Trest**	**2.25**	**190**	ePG		**Pg**	**19 10 56.5**	**-0.7**
KRUC	**Moravsky**	**2.45**	**175**	ePn		**Pn**	**19 10 55.3**	**-0.1**
KRUC				eSg		**Sg**	**19 11 32.0**	**-0.9**
	comp=Z,8.8nm,0.5s							
NKC	**Novy Kostel**	**2.64**	**243**	eSG		**Sg**	**19 11 39.2**	**+0.3**
	comp=Z,31nm,0.3s							
OJC	**Ojcow**	**2.67**	**117**	ePg		**Pg**	**19 11 04.6**	**-0.8**
OJC				eSg		**Sg**	**19 11 40.4**	**+0.4**
JAVC	**Velka Javorina**	**2.83**	**158**	ePn		**Pn**	**19 11 02.5**	**+1.9**
JAVC				eSg		**Sg**	**19 11 45.5**	**+0.4**
	comp=Z,16nm,1.2s							
KHC	**Kasperske Hory**	**2.87**	**215**	ePN		**Pn**	**19 11 01.7**	**+0.6**
KHC				ePG		**Pg**	**19 11 07.7**	**-1.5**
KHC				eSN		**Sn**	**19 11 34.0**	**-2.3**
KHC				eSG		**Sg**	**19 11 44.9**	**-1.5**
	comp=Z,12nm,0.5s							
MOX	**Moxa**	**2.95**	**255**	(PN)		**Pn**	**19 11 02.4**	**+0.1**
MOX				i PG		**Pg**	**19 11 10.2**	**-0.5**
MOX				i SG		**Sg**	**19 11 50.3**	**+1.3**
GEC2	**GERESS Array S**	**3.07**	**211**	ePn		**Pn**	**19 11 04.2**	**+0.3**
WET	**Wettzell**	**3.14**	**222**	ePn		**Pn**	**19 11 05.2**	**+0.4**
WET				eSg		**Sg**	**19 11 54.9**	**+0.1**
MODS	**Modra-Piesok**	**3.23**	**166**	eSG		**Sg**	**19 11 59.1**	**+1.4**
NIE	**Niedzica**	**3.41**	**126**	eP		**Pg**	**19 11 18.9**	**-0.5**
NIE				eS		**Sg**	**19 12 03.3**	**-0.3**
CLZ	**Clausthal**	**3.58**	**278**	ePn		**Pn**	**19 11 11.5**	**+0.6**
CLZ				eSg		**Sg**	**19 12 09.1**	**0.0**
MOA	**Molln**	**3.85**	**199**	⇑i Pn		**Pn**	**19 11 15.0**	**+0.5**
MOA				⇓i Sg		**Sg**	**19 12 18.3**	**+0.7**
	comp=Z,9.2nm,0.6s							

IDC 11 19:18:34.5±1.8,1050S×11918E,h0km,mb3.4/2, mb1 3.8/5,mb1mx3.6/17,mbtmp3.7/5,ML3.9/3,Error ellipse: s-maj=65.5km s-min=23.2km az=48.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.42**	**87**	Pn		Pn	19 19 42.4	-0.6
	9.6nm,0.3s,baz=307,slow=4.5,SNR=30							
BATI				Sn		Sn	19 20 28.7	-6.5
	5.6nm,0.3s,baz=74,slow=20,SNR=4.6							
FITZ	**Fitzroy Crossi**	**9.81**	**141**	Pn		Pn	19 20 56.6	-0.3
	0.6nm,0.3s,baz=336,slow=11,SNR=37							
FITZ				Sn		Sn	19 22 38.6	-9.3
	2.0nm,0.3s,baz=184,slow=21,SNR=17							
WRA	**Warramunga Arr**	**17.37**	**124**	P		Pn	19 22 35.1	-3.3
	0.3nm,0.3s,baz=292,slow=13,SNR=25							
WRA				S		Sn	19 25 34.9	-18
	0.3nm,0.3s,baz=293,slow=22,SNR=7.7							
ASAR	**Alice Springs**	**19.20**	**135**	P		Pn	19 23 00.6	-0.3
	0.5nm,0.3s,baz=312,slow=10,SNR=50							
ASAR				S		Sn	19 26 24.2	-12
	0.3nm,0.3s,baz=305,slow=21,SNR=11							
SONM	**Songino Array**	**59.18**	**350**	P		P	19 28 38.0	+0.9
	0.2nm,0.6s,baz=167,slow=6.8,SNR=2.8							
MKAR	**Makanchi Array**	**65.87**	**333**	P		P	19 29 21.3	-0.5
	0.3nm,0.4s,baz=144,slow=5.5,SNR=6.4							

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*ISCJB **11** 19:31:49.8±0.8,2535N±006×10022E±006,h10km, mb3.3/4,Error ellipse: s-maj=9.5km s-min=8.2km az=18.3*
*BJI **11** 19:31:49.8,2539N×10006E,h17km,ML3.5*
*IDC **11** 19:31:50.5±1.2,2551N×10027E,h0km,mb3.4/4, mb1 3.5/5,mb1mx3.3/22,mbtmp3.4/5,ML3.4/1,Error ellipse: s-maj=43.1km s-min=17.0km az=83.0*

ISC 11 19:31:50.9±0.8,2530N±005×10017E±006,h10km,n7, σ1§13/11,mb3.3/4,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.33**	**94**	PG		**Pg**	**19 32 34.4**	**-1.2**
KMI				SG		**Sg**	**19 33 06.2**	**+0.3**
KMI				Smax				
	comp=N,138nm,0.8s							
KMI				Smax				
	comp=E,88nm,0.9s							
CD2	**Chengdu**	**6.43**	**29**	eP		**Pn**	**19 33 26.1**	**+0.5**
CD2				S		**Sn**	**19 34 40.4**	**+1.4**
CD2				SG		**Sg**	**19 35 16.1**	**-1.1**
CD2				Smax				
	comp=N,30nm,1.5s							
CD2				Smax				
	comp=E,20nm,0.8s							
CMAR	**Chiang Mai Arr**	**6.90**	**190**	Pn		**Pn**	**19 33 35.5**	**+3.4**
	comp=E,0.2nm,0.3s,baz=360,slow=13,SNR=4.1							
CMAR				Pg		**Pg**	**19 34 01.5**	**-1.6**
	comp=E,0.9nm,0.3s,baz=3.7,slow=17,SNR=11							
CMAR				Lg			19 35 38.6	
	comp=E,0.5nm,0.3s,baz=22,slow=30,SNR=5.4							
SONM	**Songino Array**	**23.03**	**11**	P		**P**	**19 36 55.5**	**-0.5**
	comp=E,0.4nm,0.8s,mb2.9,baz=195,slow=9.4,SNR=3.5							
MKAR	**Makanchi Array**	**25.75**	**331**	P		**P**	**19 37 20.9**	**-0.7**
	comp=E,1.9nm,0.8s,mb3.7,baz=135,slow=9.8,SNR=11							
ZALV	**Zalesovo Beam**	**30.82**	**342**	P		**P**	**19 38 07.0**	**+0.2**
	comp=E,0.2nm,0.4s,mb3.3,baz=151,slow=9.2,SNR=2.6							
WRA	**Warramunga Arr**	**55.91**	**140**	P		**P**	**19 41 30.7**	**+1.5**
	comp=E,0.4nm,0.9s,mb3.5,baz=330,slow=8.0,SNR=3.9							

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*ISCJB **11** 20:12:26.5±0.5,1364N±004×14487E±007,h134km±4km, mb4.3/46,Error ellipse: s-maj=11.2km s-min=6.3km az=175.5*
*BJI **11** 20:12:26.6,1365N×14484E,h131km,mB4.9,mb4.6*
*MOS **11** 20:12:26.5±1.0,1369N×14485E,h133km,mb4.4/16,Error ellipse: s-maj=15.5km s-min=8.3km az=99.1*
*NE

CTA pmax pmax
comp=Z,4.0nm,0.5s
CTAO Charters Tower 33.56 178 *eP* **P 20 18 55.9 +0.6**
CTAO pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
CTAO Charters Tower 33.56 178 *eP* **P 20 18 55.9 +0.6**
comp=Z,7.7nm,0.8s,mb4.5
CN2 Changchun 34.36 335 *eP* **P 20 19 03.8 +1.7**
CN2 *e*AP pP 20 19 31.5 +0.9
CN2 *e*XP sP 20 19 46.2 +0.6
CN2 *e*S **S 20 24 24.4 +4.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
WRAB Tennant Creek 34.95 197 *eP* **P 20 19 07.3 -0.1**
WRAB pmax pmax
comp=Z,20nm,0.9s,mb4.8
WRAB Tennant Creek 34.95 197 *eP* **P 20 19 07.3 0.0**
comp=Z,20nm,0.9s,mb4.8
WB2 Warramunga Arr 34.96 197⇓*iP* **P 20 19 07.7 +0.3**
WB2 *e* 20 19 31.3
WRA Warramunga Arr 34.96 197 P **P 20 19 07.7 +0.2**
comp=Z,10nm,0.6s,mb4.6,baz=20,slow=9.2,SNR=116
WRA pP pP 20 19 36.9 +0.9
comp=Z,2.3nm,0.7s,baz=20,slow=9.2,SNR=2.3
WRA PcP PcP 20 21 38.0 +0.9
comp=Z,2.0nm,0.8s,baz=11,slow=3.2,SNR=6.8
WRA S **S 20 24 26.9 -2.8**
comp=Z,1.1nm,1.0s,baz=18,slow=16,SNR=4.0
WRA ScP ScP 20 25 10.4 -0.3
comp=Z,1.0nm,0.9s,baz=19,slow=3.8,SNR=5.1
WRA Warramunga Arr 34.96 197 P **P 20 19 07.7 +0.2**
WRA *PP pP 20 19 36.9 +0.8
WRA 20 21 38.0
WRA S **S 20 24 26.9 -2.8**
FITZ Fitzroy Crossi 36.83 212⇓*iP* **P 20 19 23.6 +0.2**
comp=Z,12nm,0.9s,mb4.5
FITZ *e* pP 20 19 53.0 +0.8
GYA Guiyang 37.95 296 *eP* **P 20 19 33.4 +0.5**
GYA AP pP 20 20 02.9 +1.1
GYA XP sP 20 20 18.4 +1.7
GYA PP PP 20 21 06.2 +3.9
GYA PCP PcP 20 21 47.2 +1.0
GYA S **S 20 25 14.3 -1.0**
GYA SCP ScP 20 25 21.8 0.0
GYA PCS PcS 20 25 34.7 -0.6
GYA SCS ScS 20 29 29.0 -2.5
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
ASAR Alice Springs 38.62 196 P **P 20 19 38.8 +0.4**
comp=Z,2.7nm,0.5s,mb4.1,baz=28,slow=13,SNR=83
ASAR PcP PcP 20 21 49.6 +1.5
comp=Z,1.5nm,0.8s,baz=69,slow=1.8,SNR=5.1
ASAR S **S 20 25 23.4 -1.7**
comp=Z,0.4nm,0.7s,baz=20,slow=19,SNR=3.7
HHC Hu-ho-hao-te 39.74 319 *eP* **P 20 19 48.0 +0.5**
HHC AP pP 20 20 16.3 -0.4
HHC XP sP 20 20 30.9 -0.6
HHC PP PP 20 21 25.5 +4.0
HHC PCP PcP 20 21 52.2 +0.7
HHC SCP ScP 20 25 28.4 0.0
HHC PCS PcS 20 25 41.2 -0.5
HHC S **S 20 25 43.5 +1.9**
HHC XS sS 20 26 32.5 +0.3
HHC SS SS 20 28 37.2 -5.5
HHC SCS ScS 20 29 40.5 -0.8
HHC AMB AMB
comp=Z,15nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,155nm,4.7s
HHC LR LR
comp=N,187nm,15.5s
HHC LR LR
comp=E,170nm,16.7s
HHC LR LR
comp=Z,106nm,15.5s
HIA Hailar 41.09 335⇑*iP* **P 20 19 58.9 +0.3**
KMI Kunming 41.21 293 P **P 20 20 01.6 +1.7**
KMI AP pP 20 20 29.1 -0.1
KMI XP sP 20 20 44.8 +0.8
KMI PP PP 20 21 40.1 +2.5
KMI S **S 20 26 02.0 -1.9**
KMI XS sS 20 26 54.8 0.0
KMI SS SS 20 29 03.9 -8.4
KMI AMB AMB
comp=Z,7.0nm,2.0s,mb3.9
KMI AMB AMB
comp=Z,334nm,4.6s
KMI LR LR
comp=N,198nm,12.4s
KMI LR LR
comp=E,171nm,10.1s
KMI LR LR
comp=Z,126nm,14.2s
CD2 Chengdu 41.48 301 *eP* **P 20 20 02.1 +0.1**
CD2 AP pP 20 20 30.2 -1.1
CD2 XP sP 20 20 45.2 -1.0
CD2 PP PP 20 21 42.1 +1.6
CD2 S **S 20 26 07.3 -0.5**
CD2 XS sS 20 26 55.2 -3.5
CD2 SS SS 20 29 08.2 -9.3
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.8s
MBWA Marble Bar 42.52 216 *eP* **P 20 20 10.3 -0.1**
comp=Z,8.4nm,0.6s,mb4.5
LZH Lanzhou 43.00 309 *eP* **P 20 20 12.7 -1.6**
LZH AP pP 20 20 42.2 -1.5
LZH PP PP 20 21 53.0 -3.7
LZH AMB AMB
comp=Z,13nm,1.2s,mb4.4
LZH AMB AMB
comp=Z,67nm,4.6s
ARMA Armidale 44.29 172 *eP* **P 20 20 24.4 -0.2**
CMAR Chiang Mai Arr 44.33 282 P **P 20 20 25.7 +0.6**
comp=Z,2.0nm,0.7s,mb3.9,baz=86,slow=6.0,SNR=12
CMAR pP pP 20 20 54.2 -0.5
comp=Z,1.1nm,0.7s,baz=82,slow=6.0,SNR=3.1
CMAR PcP PcP 20 22 08.8 +1.7
comp=Z,1.2nm,0.8s,baz=128,slow=1.6,SNR=4.8
CMAR Chiang Mai Arr 44.33 282 *i P* **P 20 20 26.3 +1.2**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 45.38 184⇓*iP* **P 20 20 33.3 +0.1**
comp=Z,6.4nm,0.4s,mb4.6
STKA Stephens Creek 45.38 184 P **P 20 20 33.5 +0.3**
comp=Z,10.0nm,0.5s,mb4.7,baz=355,slow=7.8,SNR=34
SONM Songino Array 46.69 325 P **P 20 20 44.1 +0.8**
comp=Z,1.6nm,0.7s,mb3.8,baz=137,slow=7.3,SNR=11
SONM pP pP 20 21 12.6 -0.6
comp=Z,1.1nm,0.8s,baz=134,slow=6.4,SNR=2.7
SONM ScP ScP 20 25 56.1 -0.3
comp=Z,1.5nm,1.0s,baz=147,slow=2.9,SNR=6.7
SONM LR LR 20 38 40.6
comp=Z,52nm,20.6s,baz=266,slow=34
SONM Songino Array 46.69 325 P **P 20 20 44.1 +0.8**
SONM *PP pP 20 21 12.6 -0.6
FORT Forrest 47.05 200 *eP* **P 20 20 47.0 +0.7**
comp=Z,20nm,1.1s,mb4.7
GTA Gaotai 47.15 312 *eP* **P 20 20 47.3 +0.3**
GTA AP pP 20 21 16.1 -0.8
GTA XP sP 20 21 30.9 -0.7
GTA AMB AMB
comp=Z,2.0nm,0.8s,mb3.8
YAK Yakutsk 49.52 351⇓*iP* **P 20 21 04.2 -0.6**
YAK *i* *PP pP 20 21 39.6 +4.6
YAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
YAK Yakutsk 49.52 351 *eP* **P 20 21 03.7 -1.1**
comp=Z,6.1nm,0.6s,mb4.4
ZAK Zakamensk 49.80 326 *eP* **P 20 21 07.4 +0.3**
ZAK *e* pP 20 21 35.6 -1.7
TOO Toolangi 50.95 179 *eP* **P 20 21 17.9 +2.0**
KLBR Kellerberrin 51.98 210 *eP* **P 20 21 23.2 -0.4**
comp=Z,6.3nm,0.5s,mb4.5
MUN Mundaring 53.05 211 *eP* **P 20 21 31.4 -0.1**
NWAO Narrogin (SRO) 53.33 209 *eP* **P 20 21 33.1 -0.4**
NWAO pmax pmax
comp=Z,22nm,1.2s
NWAO Narrogin (SRO) 53.33 209 *eP* **P 20 21 33.1 -0.5**
comp=Z,22nm,1.2s,mb4.8
HVS Khovu-Aksy 55.53 323⇑*iP* **P 20 21 50.9 +1.7**
HVS pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
WMQ Urumqi 57.11 314 *eP* **P 20 22 02.5 +1.9**

MKAR Makanchi Array 61.46 316 P **P 20 22 31.0 +0.6**
comp=Z,1.4nm,0.6s,mb4.0,baz=92,slow=8.1,SNR=23
MKAR pP pP 20 23 01.7 -0.1
comp=Z,2.1nm,0.6s,baz=91,slow=9.7,SNR=5.1
MKAR Makanchi Array 61.46 316 *i P* **P 20 22 31.2 +0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 61.46 316 P **P 20 22 31.0 +0.6**
MKAR pP pP 20 23 01.7 -0.1
ZALV Zalesovo Beam 61.58 324 P **P 20 22 30.8 -0.4**
comp=Z,0.5nm,0.3s,mb3.8,baz=86,slow=7.8,SNR=3.8
ZALV pP pP 20 23 02.5 0.0
comp=Z,1.9nm,0.7s,baz=112,slow=7.0,SNR=4.3
ZAL Zalesovo 61.59 324 P **P 20 22 30.8 -0.4**
ZAL *PP pP 20 23 02.5 -0.1
KDAK Kodiak Island 64.00 32 P **P 20 22 47.0 -0.1**
comp=Z,2.1nm,0.3s,mb4.4,baz=228,slow=4.9,SNR=9.0
KURK Kurchatov 64.55 320*d iP* **P 20 22 50.6 -0.2**
KURK pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
KURK Kurchatov 64.55 320 *eP* **P 20 22 50.4 -0.4**
comp=Z,4.1nm,0.8s,mb4.3
KURK *e*PcP PcP 20 23 23.2 -0.6
BPAW Bear Paw Mtn. 66.61 26 *eP* **P 20 23 03.0 -0.7**
comp=Z,4.0nm,1.0s,mb4.2
BRVK Borovoye 69.96 322 *eP* **P 20 23 24.6 -0.2**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
BRVK Borovoye 69.96 322 *e*PKPdf **P 20 23 24.6 -0.2**
comp=Z,2.4nm,0.8s,mb4.0
DLBC Dease Lake 75.92 33 P **P 20 24 00.7 +0.8**
baz=259,slow=8.7
ARU Arti 76.73 325*c iP* **P 20 24 03.9 -0.6**
ARU *e* 20 24 13.7
ARU *e* 20 26 52.6
ARU *e*S S 20 33 40.0 -0.6
ARU pmax pmax
comp=Z,8.0nm,1.7s,mb4.1
ARU Arti 76.73 325 *eP* **P 20 24 03.7 -0.8**
BBB Bella Bella 77.51 39 P **P 20 24 09.5 +0.5**
comp=Z,2.8nm,0.8s,mb4.0,baz=262,slow=7.6,SNR=6.2
YKA Yellowknife Ar 82.79 27 P **P 20 24 36.3 -0.7**
comp=Z,1.2nm,0.4s,mb4.0,baz=285,slow=5.1,SNR=7.2
YBH Yreka Blue Hor 82.81 49 P **P 20 24 38.4 +0.8**
comp=Z,3.2nm,0.8s,mb4.1,baz=270,slow=3.8,SNR=6.9
YBH pP pP 20 25 10.0 -0.7
comp=Z,1.1nm,0.6s,baz=239,slow=5.8,SNR=2.3
BMO Blue Mountains 85.93 45 *eP* **P 20 24 53.1 -0.2**
BMO pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
BMO Blue Mountains 85.93 45 *eP* **P 20 24 53.1 -0.2**
comp=Z,2.5nm,0.9s,mb3.9
ARCES ARCESS Array B 87.03 342 P **P 20 24 57.5 -0.6**
comp=Z,3.3nm,0.8s,mb4.2,baz=70,slow=7.9,SNR=5.3
ARE0 ARCESS Array S 87.03 342 P **P 20 24 57.9 -0.3**
TPH Tonopah 87.78 51 P **P 20 25 01.4 -1.0**
TPH pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
TPH Tonopah 87.78 51 P **P 20 25 01.4 -1.0**
comp=Z,6.3nm,0.8s,mb4.5
JOF Joensuu 88.25 335 *ep* **P 20 25 00.9 -3.1**
comp=Z,1.3nm,0.4s,mb4.1
ELK Elko 88.52 48 P **P 20 25 07.0 +1.2**
comp=Z,3.6nm,0.8s,mb4.4,baz=275,slow=5.6,SNR=12
ELK pP pP 20 25 38.4 -0.9
comp=Z,1.7nm,0.8s,baz=276,slow=6.8,SNR=2.9
KIV Kislovodsk 89.21 315 *eP* **P 20 25 09.1 +0.1**
KIV pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
PFO Pinyon Flat Ob 89.59 56 P **P 20 25 11.1 +0.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=283,slow=19,SNR=3.7
PFO Pinyon Flat Ob 89.59 56 P **P 20 25 11.1 +0.1**
KAF Kangasniemi 90.67 336 *ep* **P 20 25 07.7 -7.7**
VNDA Vanda 91.53 176 P **P 20 25 20.3 +1.4**
comp=Z,1.7nm,0.9s,mb4.1,baz=318,slow=5.4,SNR=12
PDAR Pinedale Array 91.90 45 P **P 20 25 22.0 +0.5**
comp=Z,0.4nm,0.6s,mb3.6,baz=198,slow=3.4,SNR=4.9
NOA NORSAR Array B 97.00 339 P **P 20 25 41.9 -2.6**
comp=Z,0.4nm,0.7s,mb3.8,baz=48,slow=4.8,SNR=3.3
BOSA Boshof 122.30 245 PKP PKPdf 20 31 08.6 +0.7
comp=Z,1.3nm,0.8s,baz=295,slow=15,SNR=4.0
TORD Torodi Ar. Bea 134.85 305 PKP PKPdf 20 31 33.0 +0.8
comp=Z,1.3nm,0.8s,baz=42,slow=1.3,SNR=16
TORD SKPbc SKPbc 20 34 50.0 -0.7
comp=Z,1.2nm,0.7s,baz=37,slow=2.3,SNR=6.1
TORD Torodi Ar. Bea 134.85 305 PKP PKPdf 20 31 33.0 +0.8
TORD SKPbc SKPbc 20 34 50.0 -0.7
PLCA Paso Flores 138.97 138 PKP PKPdf 20 31 40.9 +1.9
comp=Z,2.9nm,0.8s,baz=216,slow=4.5,SNR=9.0
DBIC Dimbokro 143.81 302 PKP PKPdf 20 31 46.6 -1.9
comp=Z,4.0nm,0.4s,baz=358,slow=8.0,SNR=13
KIC Kosan Boka 143.88 302 *eP* PKPdf 20 31 46.9 -1.8
comp=Z,128nm,1.3s
TIC Toumodi 143.96 302 *eP* PKPdf 20 31 46.1 -2.7
comp=Z,19nm,0.3s
LIC Lamto 144.20 302 *eP* PKPdf 20 31 47.8 -1.4
comp=Z,40nm,0.4s
LVC Limon Verde 146.73 110 *e*PKPbc PKPbc 20 31 57.0 +1.8
LPAZ La Paz 148.01 99 PKPbc PKPbc 20 31 58.2 -0.6
comp=Z,11nm,0.6s,baz=271,slow=3.4,SNR=47
LPAZ La Paz 148.01 99 *e*PKPdf PKPdf 20 31 57.9 +2.4
LPAZ *e*PKPbc PKPbc 20 32 01.1 +2.2

ATH ***11*** *20:29:04.2,3895N×2540E,h40km,MD3.4/3*
ISCJB ***11*** *20:29:05.8±1.3,3875N±003×2556E±007,h9km±9km,*
Error ellipse: s-maj=9.5km s-min=5.7km az=179.0
ISK ***11*** *20:29:06.6,3872N×2547E,h33km,MD3.4*
CSEM ***11*** *20:29:06.9±0.3,3877N×2555E,h25km,MD3.0,Error*
ellipse: s-maj=7.5km s-min=4.6km az=80.0
DDA ***11*** *20:29:07.0,3880N×2568E,h8km±2km,Md3.0*
ISC 11 20:29:05.7±1.2,**3874N**±004×**2557E**±007,**h6**km±7km,**n22,**
σ1§**03**/30,**1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.74**	**47**	⇑*iP*	**Pg**	**20 29 19.6**	**-0.4**
PRK				*eS*	**Sg**	**20 29 29.7**	**+0.1**
AYVA	**Ayvalik**	**1.04**	**57**	*i P*	**Pg**	**20 29 25.4**	**-0.3**
AYVA				*i S*	**Sg**	**20 29 38.5**	**-0.6**
BOZC	**Bozcaada**	**1.16**	**19**	*i P*	**Pg**	**20 29 27.4**	**-0.6**
BOZC				*i S*	**Sg**	**20 29 43.0**	**0.0**
BLCB	**Balcova**	**1.21**	**107**	*e*PN	**Pn**	**20 29 28.6**	**-0.5**
BLCB				*e*SN	**Sn**	**20 29 43.8**	**-2.0**
EZN	**Ezine**	**1.23**	**28**	*e*PN	**Pn**	**20 29 28.6**	**-0.9**
EZN				*e*SN	**Sn**	**20 29 45.0**	**-1.4**
IZM	**Izmir**	**1.37**	**104**	*e*PN	**Pn**	**20 29 31.6**	**+0.3**
IZM				*e*SN	**Sn**	**20 29 48.4**	**-1.5**
KDAG	**Bornova**	**1.37**	**104**	*i P*	**Pn**	**20 29 33.0**	**+1.6**
KDAG				*i S*	**Sb**	**20 29 49.9**	**+0.3**
SMG	**Samos**	**1.44**	**136**	*e*P	**Pn**	**20 29 33.1**	**+0.8**
APE	**Apeiranthos**	**1.67**	**181**	*e*P	**Pn**	**20 29 35.2**	**-0.4**
AKS	**Akhisar**	**1.76**	**85**	*e*PN	**Pn**	**20 29 37.4**	**+0.6**
AKHS	**Akhisar**	**1.76**	**85**	*i P*	**Pn**	**20 29 38.6**	**+1.9**
BALY	**Balya**	**1.88**	**57**	*i P*	**Pn**	**20 29 40.5**	**+2.2**
BALY				*i S*	**Sn**	**20 30 03.6**	**+1.3**
BALB	**Balikesir**	**2.00**	**63**	*e*PN	**Pn**	**20 29 40.3**	**+0.2**
ENEZ	**Enez**	**2.04**	**13**	*e*PN	**Pn**	**20 29 39.8**	**-0.8**
BODT	**Bodrum**	**2.17**	**140**	*e*PN	**Pn**	**20 29 41.1**	**-1.3**
MLSB	**Milas**	**2.26**	**129**	*e*PN	**Pn**	**20 29 42.7**	**-1.0**
RKY	**Sarkoy-Tekirda**	**2.30**	**32**	*e*PN	**Pn**	**20 29 44.4**	**+0.1**
DURS	**Dursunbey**	**2.41**	**68**	*i P*	**Pn**	**20 29 49.4**	**+3.7**
MRMT	**Marmara Adasi**	**2.43**	**39**	*e*PN	**Pn**	**20 29 45.0**	**-0.9**
MFT	**Murefte**	**2.43**	**32**	*e*PN	**Pn**	**20 29 46.6**	**+0.6**
KULA	**Kula-Manisa**	**2.43**	**94**	*e*PN	**Pn**	**20 29 47.1**	**+1.1**
YLV	**Yalova**	**3.45**	**57**	*e*PN	**Pn**	**20 30 01.2**	**+1.2**

ISCJB ***11*** *20:43:14.3±0.7,4372N±007×4135E±004,h10km,Error*
ellipse: s-maj=9.8km s-min=4.0km az=1.3
TIF ***11*** *20:43:14.4,4382N×4133E,h18km±6km*
MOS ***11*** *20:43:15.4±1.4,4371N×4138E,h9km,mb4.1/1,Error*
ellipse: s-maj=18.8km s-min=13.1km az=168.2
ISC 11 20:43:15.5±0.8,**4378N**±007×**4134E**±004,**h10**km,**n10,**
σ1§**02**/19,**2C-2D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAR	**Shatzhatmas**	**0.96**	**92**	⇓*iPG*	**Pg**	**20 43 33.2**	**-0.8**
SHAR				*eS*	**Sg**	**20 43 47.4**	**+0.9**
KIV	**Kislovodsk**	**0.99**	**79**	⇓*iPG*	**Pg**	**20 43 33.8**	**-0.7**
KIV				*i*	**Sg**	**20 43 47.0**	**-0.3**
KIV				pmax	pmax		
comp=Z,59nm,0.3s
KIV smax
comp=N,166nm,0.4s
SOC Sochi 1.20 261 *e*PG **Pg 20 43 38.2 -0.3**
SOC *e* **Sg 20 43 54.5 +0.5**
SOC pmax pmax
comp=Z,25nm,0.6s
SOC smax
comp=E,49nm,0.8s
KUBR Kubataba 1.50 89⇑*iPG* **Pg 20 43 43.7 -0.5**
KUBR *e*S **Sg 20 44 04.9 +1.3**
GOF Gofitskoye 1.76 43 *e*PN **Pn 20 43 38.1 -7.9**
DIGR Digorskoe uzhe 1.86 118 *e*PN **Pg 20 43 49.7 -1.4**
DIGR *e*S **Sg 20 44 14.5 -0.6**
LSNR Lesken 1.87 105⇑*iPN* **Pg 20 43 50.3 -1.0**
LSNR *i* S **Sg 20 44 15.8 +0.3**
ONI Oni 1.95 127 P **Pg 20 43 52.9 -0.1**
ONI S **Sg 20 44 19.3 +1.0**
ZEI Tsey 2.12 118 *e*PN **Pn 20 43 52.9 +1.9**
ZEI *e*S **Sn 20 44 20.0 +2.6**
DGRG David-gareji 3.78 127 P **Pg 20 44 27.5 -0.3**
DGRG S **Sg 20 45 15.3 -1.5**

ORF ***11*** *20:45:11.3,2943N×9.74W,h30km,mb4.5*
SZGRF ***11*** *20:45:38.7,3082N×571W,h33km,mb4.6,MS3.4,*
Morocco
BJI ***11*** *20:45:58.7,3320N×530W,h10km,mB5.3,mb4.9,Ms5.2,*
Msz4.7
IDC ***11*** *20:45:59.1±0.4,3314N×5.15W,h0km,mb4.4/24,*
mb1 4.6/27,mb1mx4.5/33,mbtmp4.4/27,ML4.9/3,MS4.0/25,
Ms1 4.0/25,ms1mx3.8/42,Error ellipse: s-maj=11.3km
s-min=7.2km az=43.0
MDD ***11*** *20:45:59.1±0.4,3311N×5.16W,h16km±2km,mb5.3/39,*
Error ellipse: s-maj=3.4km s-min=2.1km az=117.0,PRIMO
CSEM ***11*** *20:45:59.0±0.1,3316N×5.13W,h10km,mb4.7/42,ML4.7/6,*
Error ellipse: s-maj=1.9km s-min=1.1km az=140.0
MOS ***11*** *20:45:59.8±1.6,3326N×532W,h10km,mb4.8/46,*
MS4.0/14,Error ellipse: s-maj=7.2km s-min=2.3km
az=66.7
INMG ***11*** *20:45:59.9±1.2,3308N×523W,h10km,ML4.6,Error*
ellipse: s-maj=8.5km s-min=4.4km az=139.0
CRAAG ***11*** *20:45:59.0,3311N×538W,Mb5.4*
CNRM ***11*** *20:46:00.2,3310N×5.14W,h2km,MD5.0*
ISCJB ***11*** *20:46:00.8±0.4,3333N±001×536W±002,h14km±2km,*
mb4.7/106,MS4.1/29,Error ellipse: s-maj=2.6km
s-min=2.1km az=40.9
NEIC ***11*** *20:46:00.7±0.2,3317N×525W,h10km,mb4.7/77,Error*
ellipse: s-maj=4.4km s-min=3.0km az=126.0
NEIC Felt [III] at Casablanca and Meknes; [II] at Rabat. Also felt
at Azrou and Khenifra.
LDG ***11*** *20:46:02.3,3302N×528W,h30km*
IGIL ***11*** *20:46:02.3,3323N×508W,h10km,ML4.8*
BGS ***11*** *20:46:12.4±2.5,3413N×530W,h10km,mb4.7*
ISC 11 20:46:02.6±0.4,**3328N**±001×**536W**±002,**h17**km±2km,
h16km±2.5km**:pP-P,n697,**σ1§**36**/863,**mb4.7**/106,**MS4.1**/29,
39C-33D,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIF	**Mishlifen**	**0.17**	**41**	*i P*	**Pg**	**20 46 05.0**	**-2.0**
MIF				*e*S	**Sg**	**20 46 10.0**	**0.0**
IFR	**Ifrane**	**0.31**	**40**	P	**Pg**	**20 46 04.0**	**-5.2**
CZD	**Col de Zad**	**0.36**	**133**	*i P*	**Pg**	**20 46 02.0**	**-8.2**
CZD				*e*S	**Sg**	**20 46 03.0**	**-12**
MDT	**Midelt**	**0.78**	**126**	Pg	**Pg**	**20 46 10.3**	**-7.5**
2μm,0.3s,baz=309,slow=18							
MDT				Lg		20 46 16.9	
8μm,0.3s,baz=42,slow=18,SNR=79							
TGT	**Taghat**	**0.83**	**18**	*i* P	**Pb**	**20 46 18.0**	**-0.5**
TGT				*i* S	**Sb**	**20 46 31.0**	**+1.6**
KIB	**El Ksiba**	**0.91**	**219**	*i* P	**Pb**	**20 46 17.0**	**-2.8**
KIB				*i* S	**Sb**	**20 46 28.0**	**-3.6**
TZK	**Tazeka**	**1.27**	**50**	*i* P	**Pn**	**20 46 23.0**	**-2.6**
TZK				*i* S	**Sb**	**20 46 39.0**	**-3.1**
RTC	**Rabat Centre**	**1.43**	**300**	P	**Pn**	**20 46 28.5**	**+0.7**
RTC				S	**Sn**	**20 46 49.5**	**+3.3**
RTC	**Rabat Centre**	**1.43**	**300**	*i* P	**Pn**	**20 46 28.5**	**+0.7**
RTC	**Rabat Centre**	**1.43**	**300**	*e*Pn	**Pn**	**20 46 28.9**	**+1.1**
RTC	**Rabat Centre**	**1.43**	**300**	*e*Pg	**Pg**	**20 46 30.9**	**+0.7**
RTC				*i* S	**Sn**	**20 46 49.5**	**+3.3**
RTC	**Rabat Centre**	**1.43**	**300**	*e*Pn	**Pn**	**20 46 28.9**	**+1.1**
RTC				*e*Pg	**Pg**	**20 46 30.9**	**+0.7**
RTC				*e*Sn	**Sn**	**20 46 51.1**	**+4.9**
TZC	**Tazercounte**	**1.48**	**220**	*i* P	**Pn**	**20 46 26.0**	**-2.4**
TZC				*e*S	**Sn**	**20 46 45.0**	**-2.3**
ZFT	**Errachidia**	**1.51**	**145**	*e*P	**Pn**	**20 46 23.0**	**-5.8**
ZFT				*e*S	**Sn**	**20 46 40.0**	**-8.0**
RSA	**Sarsar**	**1.64**	**346**	*e*P	**Pn**	**20 46 32.0**	**+1.4**
RSA				*e*S	**Sn**	**20 46 54.0**	**+2.7**
AVE	**Averroes**	**1.72**	**271**	P	**Pn**	**20 46 32.0**	**+0.3**
AVE				S	**Sn**	**20 46 57.0**	**+3.7**
TOU	**Touzarine**	**2.14**	**38**	*i* P	**Pn**	**20 46 37.0**	**-0.5**
TOU				*i* S	**Sn**	**20 47 02.0**	**-1.7**
DKH	**Dar Kharkhour**	**2.20**	**0**	*e*P	**Pn**	**20 46 39.0**	**+0.6**
DKH				*i* S	**Sn**	**20 47 08.0**	**+2.8**
MPAL	**Palemas**	**2.27**	**31**	*i* P	**Pn**	**20 46 40.0**	**+0.7**
MPAL				*i* S	**Sn**	**20 47 06.0**	**-0.8**
ECEU	**Ceuta**	**2.61**	**360**	P	**Pn**	**20 46 43.8**	**-0.2**
460nm,0.6s							
ECEU				S	**Sn**	**20 47 16.7**	**+1.5**
1μm,0.5s,SNR=4.3							
ECEU	**Ceuta**	**2.61**	**360**	P	**Pn**	**20 46 44.9**	**+0.9**
460nm,0.6s,SNR=18							
ECEU				S	**Sn**	**20 47 16.7**	**+1.4**
1μm,0.5s,SNR=4.3							
ZAI	**Zaio**	**2.75**	**51**	*i* P	**Pn**	**20 46 45.0**	**-0.9**
ZAI				*i* S	**Sn**	**20 47 16.0**	**-2.6**
OUK	**Oukaimeden**	**2.96**	**226**	*i* P	**Pn**	**20 46 47.0**	**-1.8**
OUK				*e*S	**Sn**	**20 47 22.0**	**-2.0**
EJIF	**Jimena Fronter**	**3.16**	**358**	P	**Pn**	**20 46 52.2**	**+0.6**
252nm,0.6s,SNR=7.9							
EJIF				S	**Sn**	**20 47 30.5**	**+1.6**
475nm,0.6s,SNR=7.9							
OUJ	**Oujda**	**3.19**	**64**	P	**Pn**	**20 46 48.0**	**-3.9**
OUJ				S	**Sn**	**20 47 24.0**	**-5.5**
OUJ	**Oujda**	**3.19**	**64**	*i* P	**Pn**	**20 46 48.0**	**-3.9**
SFS	**San Fernando**	**3.25**	**348**	*e*Pn	**Pn**	**20 46 53.7**	**+0.9**
SFS	**San Fernando**	**3.25**	**348**	*e*Pn	**Pn**	**20 46 53.7**	**+0.9**
EALB	**Alboran**	**3.27**	**35**	P	**Pn**	**20 46 51.9**	**-1.2**
1μm,0.9s,SNR=51							
EALB				S	**Sn**	**20 47 30.6**	**-1.1**
9μm,1.7s							
EALB	**Alboran**	**3.27**	**35**	P	**Pn**	**20 46 51.9**	**-1.2**
1μm,0.9s,SNR=51							
EALB				S	**Sn**	**20 47 30.6**	**-1.0**
9μm,1.7s							
EMIJ	**Mijas**	**3.31**	**8**	P	**Pn**	**20 46 52.0**	**-1.6**
122nm,0.4s,SNR=102							
EMIJ				S	**Sn**	**20 47 29.9**	**-2.7**
737nm,0.5s							
CIA	**Chichaoua**	**3.34**	**240**	P	**Pn**	**20 46 54.0**	**-0.1**
CIA				S	**Sn**	**20 47 32.0**	**-1.4**
CIA	**Chichaoua**	**3.34**	**240**	*i* P	**Pn**	**20 46 54.0**	**-0.1**
EMAL	**Malaga-Limoner**	**3.56**	**12**	P	**Pn**	**20 46 58.6**	**+1.7**
SNR=7.9							
EMAL				S	**Sn**	**20 47 39.2**	**+0.6**
SNR=7.9							
ESPR	**Espera**	**3.60**	**354**	⇓P	**Pn**	**20 46 58.2**	**+0.6**
74nm,0.2s,SNR=18							
ESPR				S	**Sn**	**20 47 40.3**	**+0.6**
1μm,0.6s							
ESPR	**Espera**	**3.60**	**354**	P	**Pn**	**20 46 58.2**	**+0.6**
74nm,0.2s,SNR=18							
ESPR				S	**Sn**	**20 47 40.3**	**+0.6**
1μm,0.6s							
JHA	**Jbel Lahdid**	**3.79**	**247**	*e*P	**Pn**	**20 46 59.0**	**-1.1**
JHA				*i* S	**Sn**	**20 47 44.0**	**-0.3**
EGUA	**Guajares**	**3.84**	**22**	⇓P	**Pn**	**20 46 59.4**	**-1.4**
500nm,0.6s,SNR=18							
EGUA				S	**Sn**	**20 47 44.3**	**-1.3**
SNR=4.0							
ERON	**Agron**	**3.94**	**18**	P	**Pn**	**20 47 01.2**	**-1.1**
94nm,0.3s,SNR=7.9							
ERON				S	**Sn**	**20 47 48.4**	**+0.3**
176nm,0.4s,SNR=7.9							
ODZI	**Dzioua**	**3.96**	**58**	P	**Pn**	**20 47 04.0**	**+1.4**
ELOJ	**Sierra Loja**	**3.98**	**14**	P	**Pn**	**20 47 02.6**	**-0.2**
155nm,0.5s,SNR=58							

ELOJ S Sn 20 47 50.4 +1.3
278nm,0.6s
EBER Berja 4.14 29 P Pn 20 47 03.8 -1.2
88nm,0.4s,SNR=41
EBER S Sn 20 47 53.5 +0.5
1µm,0.6s
EBER Berja 4.14 29 P Pn 20 47 03.8 -1.2
88nm,0.4s,SNR=41
EBER S Sn 20 47 53.5 +0.5
1µm,0.6s
EQUE Quentar 4.22 21 P Pn 20 47 05.8 -0.3
166nm,0.5s,SNR=72
EQUE S Sn 20 47 56.4 +1.5
1µm,0.9s,SNR=8.4
ECOG Cogollos-Vega 4.25 20 P Pn 20 47 07.4 +0.9
260nm,0.6s,SNR=71
ECOG S Sn 20 47 54.3 -1.4
271nm,0.5s
ELUQ Luque 4.36 12 ⇓P Pn 20 47 08.8 +0.7
101nm,0.5s,SNR=18
ELUQ S Sn 20 47 58.4 0.0
226nm,0.4s
ERIP Rio Piedras 4.37 340 P Pn 20 47 07.6 -0.6
SNR=7.9
ERIP S Sn 20 47 57.5 -1.0
SNR=7.9
PBDV Barranco-do-Ve 4.48 333 *e*Pn Pn 20 47 10.1 +0.5
PBDV *e*Sn Sn 20 48 01.4 +0.1
PBDV A 20 48 03.5
750nm,0.5s
PBDV Barranco-do-Ve 4.48 333 *e*Pn Pn 20 47 10.1 +0.5
PBDV *e*Sn Sn 20 48 01.4 +0.1
750nm,0.5s
ENIJ Nijar 4.50 34 P Pn 20 47 08.4 -1.5
45nm,0.4s,SNR=18
ENIJ S Sn 20 47 58.4 -3.4
123nm,0.4s
AFS Agadir Fac de 4.53 232 P Pn 20 47 11.0 +0.6
AFS S Sn 20 48 00.0 -2.7
AFS Agadir Fac de 4.53 232 *e*P Pn 20 47 11.0 +0.6
PVAQ Vaqueiros 4.54 336 *e*Pn Pn 20 47 11.2 +0.7
PVAQ *e*Sn Sn 20 48 02.7 -0.2
PVAQ A 20 48 04.9
1µm,0.6s
PVAQ Vaqueiros 4.54 336 *e*Pn Pn 20 47 11.2 +0.7
PVAQ *e*Sn Sn 20 48 02.7 -0.2
1µm,0.6s
AOF Agadir Oufela 4.56 233 P Pn 20 47 10.0 -0.8
AOF S Sn 20 48 00.0 -3.3
AOF Agadir Oufela 4.56 233 *f*P Pn 20 47 10.0 -0.8
EGRO El Granado 4.58 338 ⇑P Pn 20 47 12.0 +0.9
744nm,0.3s,SNR=18
EGRO S Sn 20 48 02.3 -1.6
950nm,0.4s
EGRO El Granado 4.58 338 P Pn 20 47 12.0 +0.9
744nm,0.3s,SNR=18
EMIN Mina Concepcio 4.60 347 P Pn 20 47 11.0 -0.3
87nm,0.2s,SNR=149
EMIN S Sn 20 48 04.7 +0.3
751nm,0.7s
EMIN Mina Concepcio 4.60 347 P Pn 20 47 11.0 -0.4
87nm,0.2s,SNR=149
EMIN Mina Concepcio 4.60 347 P Pn 20 47 11.1 -0.3
EMIN S Sn 20 48 02.4 -2.0
USTO Oran 4.67 57 P Pn 20 47 11.0 -1.2
ODJA Bouhanifia 4.77 63 P Pb 20 47 26.0 +0.2
PFVI Vila Bisbo 4.78 325 *e*Pn Pn 20 47 14.5 +0.8
PFVI *e*Sn Sn 20 48 08.8 +0.1
PFVI A 20 48 12.9
633nm,0.5s
ECAB El Cabril 4.78 359 P Pn 20 47 13.9 +0.1
168nm,0.3s,SNR=149
ECAB S Sn 20 48 06.3 -2.6
634nm,0.3s
ECAB El Cabril 4.78 359 P Pn 20 47 13.9 +0.1
168nm,0.3s,SNR=149
MORF Marmelete 4.83 327 *e*Pn Pn 20 47 15.1 +0.6
MORF *e*Sn Sn 20 48 10.1 0.0
MORF A 20 48 17.5
610nm,0.3s
MORF Marmelete 4.83 327 ⇓P Pn 20 47 15.1 +0.6
MORF S Sn 20 48 10.1 0.0
610nm,0.3s
EQES Quesada 4.88 22 P Pn 20 47 15.9 +0.7
440nm,0.9s,SNR=79
EQES S Sn 20 48 10.1 -1.2
848nm,0.6s
EADA Adamuz 4.92 7 ⇓P Pn 20 47 15.5 -0.2
208nm,0.6s,SNR=18
EADA S Sn 20 48 10.2 -2.0
252nm,0.2s
EADA Adamuz 4.92 7 P Pn 20 47 15.5 -0.2
208nm,0.6s,SNR=18
YBT Youssef Ben Ta 5.02 228 P Pn 20 47 14.0 -3.1
YBT S Sn 20 48 09.0 -5.7
EBAN Banos Encina 5.04 14 P Pn 20 47 17.4 0.0
72nm,0.3s,SNR=130
EBAN S Sn 20 48 14.5 -0.7
144nm,0.3s
EHUE Huescar 5.05 26 P Pn 20 47 18.7 +1.1
74nm,0.6s,SNR=7.9
EHUE S Sn 20 48 16.7 +1.2
179nm,0.6s,SNR=7.9
PTEO Sao Teotonio 5.06 328 *e*Pn Pn 20 47 18.5 +0.8
PTEO *e*Sn Sn 20 48 15.9 +0.1
PTEO A 20 48 20.1
1µm,0.4s
PTEO Sao Teotonio 5.06 328 *e*Pn Pn 20 47 18.5 +0.8
PTEO *e*Sn Sn 20 48 15.9 +0.1
1µm,0.4s
PBAR Barrancos 5.07 345 *e*Pn Pn 20 47 18.2 +0.4
PBAR *e*Sn Sn 20 48 15.7 -0.2
PBAR A 20 48 21.4
373nm,0.3s
PBAR Barrancos 5.07 345 *e*Pn Pn 20 47 18.2 +0.4
PBAR *e*Sn Sn 20 48 15.7 -0.2
373nm,0.3s
PBEJ Beja 5.16 337 *e*Pn Pn 20 47 19.6 +0.7
PBEJ *e*Sn Sn 20 48 18.3 +0.3
PBEJ A 20 48 25.4
283nm,0.5s
PBEJ Beja 5.16 337 *e*Pn Pn 20 47 19.6 +0.7
PBEJ *e*Sn Sn 20 48 18.3 +0.3
283nm,0.5s
OJBR Djebel Berber 5.25 62 P Pn 20 47 20.0 -0.2
OJGS Djebel Guires 5.52 65 P Pn 20 47 29.0 +5.1
CART Cartagena 5.58 38 *e*Pn Pn 20 47 22.7 -2.1
115nm,0.6s
CART *e*Sn Sn 20 48 24.0 -4.5
CART Cartagena 5.58 38 *e*Pn Pn 20 47 22.7 -2.1
115nm,0.6s
CART *e*Sn Sn 20 48 23.9 -4.5
EBAD Badajoz 5.62 347 ⇓P Pn 20 47 25.8 +0.4
182nm,0.3s,SNR=18
EBAD S Sn 20 48 28.3 -1.3
822nm,0.2s,SNR=9.6
EBAD Badajoz 5.62 347 ⇓P Pn 20 47 25.8 +0.4
EBAD S Sn 20 48 28.3 -1.3
EMUR La Murta 5.66 35 P Pn 20 47 25.1 -0.7
120nm,0.7s,SNR=29
EMUR S Sn 20 48 27.5 -2.8
219nm,0.7s
EMUR La Murta 5.66 35 P Pn 20 47 25.1 -0.7
EMUR S Sn 20 48 27.5 -2.9
OKGL Djebel Kef Gue 5.66 59 P Pn 20 47 24.0 -1.9
EVO Evora 5.66 338 *e*Pn Pn 20 47 26.4 +0.5
EVO *e*Sn Sn 20 48 29.2 -1.3
2µm,0.6s
EVO Evora 5.66 338 *e*Pn Pn 20 47 26.6 +0.7
EVO *e*Sn Sn 20 48 29.8 -0.7
EVO A 20 48 32.6
439nm,0.5s
EVO Evora 5.66 338 P Pn 20 47 26.6 +0.7
EVO S Sn 20 48 29.8 -0.7
220nm,0.5s
EVOP Sao Brissos 5.70 338 *e*Sn Sn 20 48 29.2 -2.1
786nm,0.6s
MOE Montemor 5.76 336 *e*Pn Pn 20 47 28.4 +1.1
MOE *e*Sn Sn 20 48 33.1 +0.1
EVIA Vianos 5.83 23 ⇓P Pn 20 47 28.8 +0.6
120nm,0.5s,SNR=18
EVIA S Sn 20 48 34.4 -0.2
211nm,0.6s
PESTR Estremoz 5.86 343 *e*Pn Pn 20 47 29.2 +0.6
PESTR *e*Sn Sn 20 48 34.3 -1.1
PESTR A 20 48 39.3
313nm,0.5s
ETRT Tiaret 5.90 67 P Pn 20 47 27.5 -1.7
EANR 'Ain N'Sour 5.96 62 P Pn 20 47 28.2 -1.8
ETOB Tobarra 6.18 29 P Pn 20 47 33.9 +0.9
148nm,0.9s,SNR=81
ETOB S Sn 20 48 43.7 +0.4
400nm,1.1s
ECHF Ech Chlef 6.22 61 P Pn 20 47 31.0 -2.6
LIS Lisbon 6.23 332 *e*P Pn 20 47 34.8 +1.0
LIS *e*S Sn 20 48 41.5 -3.0
LIS *e*S Sn 20 48 41.6 -2.9
LIS AML AML 20 48 45.6
comp=E,1µm,0.5s
LIS Lisbon 6.23 332 *e*P Pn 20 47 34.8 +1.1
LIS *e*S Sn 20 48 41.5 -3.0
ECHA Ech Chlef 6.24 61 P Pn 20 47 31.0 -2.8
INMG Instituto de M 6.27 332 *e*Pn Pn 20 47 36.1 +1.8
PAB San Pablo 6.30 7 *e*P Pn 20 47 33.9 -0.8
PAB *e* 20 48 42.6
PAB pmax pmax
comp=Z,51nm,0.6s
PAB San Pablo 6.30 7 *e*Pn Pn 20 47 33.9 -0.8
comp=Z,51nm,0.6s
PAB *e*Sn Sn 20 48 42.6 -3.7
PAB San Pablo 6.30 7 *e*Pn Pn 20 47 33.9 -0.8
comp=Z,51nm,0.6s
PAB *e*Sn Sn 20 48 42.6 -3.7
PMRV Marv??o 6.35 346 *e*Pn Pn 20 47 35.7 +0.4
PMRV *e*Sn Sn 20 48 45.5 -1.9
PMRV A 20 48 48.6
comp=Z,459nm,0.8s
ALMR Almeirim 6.41 337 *e*P Pn 20 47 36.4 +0.2
ALMR *e*S Sn 20 48 44.0 -5.0
ALMR *e*S Sn 20 48 44.1 -4.8
ALMR AML AML 20 48 53.8
comp=N,991nm,0.8s
ALMR Almeirim 6.41 337 *e*P Pn 20 47 36.4 +0.2
ALMR *e*S Sn 20 48 44.0 -5.0
EBNR Beni Rached 6.42 60 P Pn 20 47 34.5 -1.8
ESDC Sonseca Array 6.48 10 Pn Pn 20 47 36.6 -0.5
comp=N,24nm,0.3s,baz=197,slow=13,SNR=251
ESDC Sn Sn 20 48 46.6 -4.0
comp=N,74nm,0.3s,baz=194,slow=23,SNR=13
ESDC Sonseca Array 6.48 10 P Pn 20 47 36.6 -0.6
baz=195,slow=13,SNR=7.9
ESDC S Sn 20 48 47.2 -3.4
baz=192,slow=23,SNR=7.9
ESDC Sonseca Array 6.48 10 P Pn 20 47 36.6 -0.5
ESDC S Sn 20 48 47.2 -3.4
ESBB Sonseca Array 6.48 10 ⇓P Pn 20 47 36.6 -0.5
ESBB S Sn 20 48 47.2 -3.5
ESBB Sonseca Array 6.48 10 ⇓P Pn 20 47 36.6 -0.5
ESBB S Sn 20 48 47.2 -3.5
PMAFR Mafra 6.49 332 *e*Pn Pn 20 47 38.2 +0.9
PMAFR *e*Sn Sn 20 48 50.1 -0.8
PMAFR A 20 48 54.0
comp=N,726nm,0.6s
PCBR Castelo Branco 6.76 346 *e*Pn Pn 20 47 41.3 +0.3
PCBR *e*Sn Sn 20 48 54.6 -3.0
PCBR A 20 48 58.2
comp=N,164nm,0.3s
PCBR Castelo Branco 6.76 346 P Pn 20 47 41.3 +0.3
PCBR S Sn 20 48 54.6 -3.0
comp=N,82nm,0.3s
PTOM Tomar 6.78 340 *e*Pn Pn 20 47 41.9 +0.6
PTOM *e*Sn Sn 20 48 56.3 -1.8
PTOM A 20 49 13.4
comp=N,356nm,0.7s
PTOM Tomar 6.78 340 P Pn 20 47 41.9 +0.6
PTOM S Sn 20 48 56.3 -1.8
comp=N,178nm,0.7s
EBEN Beniarda 6.83 36 P Pn 20 47 41.6 -0.3
comp=N,48nm,0.5s,SNR=13
EBEN S Sn 20 48 58.4 -0.8
comp=N,177nm,1.4s
EBEN Beniarda 6.83 36 P Pn 20 47 41.6 -0.3
EBEN S Sn 20 48 58.4 -0.8
MTE Manteigas 7.32 347 *e*Pn Pn 20 47 48.7 +0.1
MTE *e*Sn Sn 20 49 09.0 -2.2
MTE AnL 20 49 15.1
comp=N,330nm,0.8s
MTE Manteigas 7.32 347 P Pn 20 47 48.7 +0.1
MTE S Sn 20 49 09.0 -2.2
comp=N,165nm,0.8s
MTE Manteigas 7.32 347 *e*Pn Pn 20 47 48.5 -0.1
comp=N,184nm,0.6s
MTE *e*Sn Sn 20 49 07.9 -3.3
MTE Manteigas 7.32 347 *e*Pn Pn 20 47 48.5 -0.1
comp=N,184nm,0.6s
MTE *e*Sn Sn 20 49 07.9 -3.4
GUD Guadarrama 7.41 7 ⇑P Pn 20 47 49.4 -0.5
comp=N,20nm,0.3s,SNR=18
GUD S Sn 20 49 10.7 -2.8
comp=N,43nm,0.5s,SNR=6.8
EMHD Djebel Mahouad 7.44 65 P Pn 20 47 51.5 +1.2
PVIS Viseu 7.69 345 *e*Pn Pn 20 47 54.3 +0.5
PVIS *e*Sn Sn 20 49 17.8 -2.7
PVIS A 20 49 32.0
comp=N,179nm,0.7s
PVIS Viseu 7.69 345 P Pn 20 47 54.3 +0.5
PVIS S Sn 20 49 17.8 -2.7
comp=N,89nm,0.7s
ABA Alger-Bouzarea 7.73 61 P Pn 20 48 00.0 +5.7
EIBI Ibiza 7.89 41 ⇓P Pn 20 47 56.8 +0.3
comp=N,178nm,0.8s,SNR=18
EIBI S Sn 20 49 18.5 -6.9
comp=N,174nm,1.5s,SNR=11
EIBI Ibiza 7.89 41 ⇓P Pn 20 47 56.8 +0.3
EIBI S Sn 20 49 18.5 -6.9
ETOR Torete 7.97 18 ⇓P Pn 20 47 57.2 -0.4
comp=N,134nm,0.4s,SNR=18
ETOR S Sn 20 49 23.6 -3.8
comp=N,142nm,0.3s,SNR=8.3
MVO Moncorvo 7.98 351 *e*Pn Pn 20 47 57.3 -0.4
MVO *e*Sn Sn 20 49 25.6 -2.0
MVO A 20 49 27.4
comp=N,251nm,0.7s
MVO Moncorvo 7.98 351 P Pn 20 47 57.3 -0.4
MVO S Sn 20 49 25.6 -2.0
comp=N,126nm,0.7s
EMOS Mosqueruela 8.08 28 P Pn 20 47 59.6 +0.5
comp=N,82nm,0.6s,SNR=16
EMOS S Sn 20 49 29.4 -0.7
comp=N,171nm,1.1s,SNR=7.9
EMOS Mosqueruela 8.08 28 P Pn 20 47 59.6 +0.5
EMOS S Sn 20 49 29.4 -0.7
EFAM Famara 8.13 242 P Pn 20 47 55.3 -4.5
comp=N,159nm,0.7s,SNR=12
EFAM S Sn 20 49 22.2 -9.1
comp=N,199nm,0.9s,SNR=7.3
EFAM Famara 8.13 242 P Pn 20 47 55.3 -4.5
EFAM S Sn 20 49 22.2 -9.1
PCAB Cabril 8.68 347 *e*Pn Pn 20 48 07.4 +0.1
PCAB *e*Sn Sn 20 49 40.2 -4.5
PCAB A 20 49 43.6
comp=N,128nm,0.5s
PCAB Cabril 8.68 347 P Pn 20 48 07.4 +0.1
PCAB S Sn 20 49 40.2 -4.5
comp=N,64nm,0.5s
CFUE Fuerteventura 8.69 240 P Pn 20 48 03.2 -4.3
comp=N,34nm,0.3s,SNR=7.9
CFUE S Sn 20 49 42.3 -2.8
comp=N,92nm,0.4s,SNR=7.9
ECAL Calabor 8.71 353 P Pn 20 48 07.2 -0.6
comp=N,137nm,0.6s,SNR=45
ECAL S Sn 20 49 40.3 -5.3
comp=N,303nm,0.6s,SNR=7.9
ECAL Calabor 8.71 353 P Pn 20 48 07.2 -0.6
ECAL S Sn 20 49 40.3 -5.3
ELOB Lobios 8.83 347 P Pn 20 48 08.2 -1.3
comp=N,53nm,0.4s,SNR=8.8
ELOB S Sn 20 49 43.4 -5.2
comp=N,185nm,0.8s,SNR=13
ELOB Lobios 8.83 347 P Pn 20 48 08.1 -1.3
ELOB S Sn 20 49 43.3 -5.2
ERTA Horta de San J 8.91 29 P Pn 20 48 10.6 +0.1
comp=N,186nm,1.1s,SNR=22
ERTA S Sn 20 49 48.6 -1.7
comp=N,67nm,0.9s,SNR=7.9
ERTA Horta de San J 8.91 29 P Pn 20 48 10.6 +0.2
ERTA S Sn 20 49 48.6 -1.7
CFTV Fuerteventura 8.93 239 P Pn 20 48 05.1 -5.7
comp=N,34nm,0.5s,SNR=7.0
CFTV S Sn 20 49 43.0 -7.9
comp=N,36nm,0.6s,SNR=12
PMPS Porto Santo 9.20 272 *e*Pn Pn 20 48 14.1 -0.4
PMPS A 20 50 18.0
comp=N,154nm,0.6s
ERUA La Rua 9.20 352 P Pn 20 48 14.4 -0.1
comp=N,18nm,0.5s,SNR=7.9
ERUA S Sn 20 49 53.8 -3.9
comp=N,48nm,0.5s,SNR=7.9
ETOS Mallorca 9.23 43 P Pn 20 48 14.3 -0.5
comp=N,89nm,0.9s,SNR=20
ETOS Mallorca 9.23 43 P Pn 20 48 14.3 -0.5
ESAC San Caprasio 9.28 23 P Pn 20 48 15.2 -0.3
comp=N,95nm,0.8s,SNR=7.4
ESAC S Sn 20 49 56.6 -2.9
comp=N,230nm,0.7s,SNR=7.9
ESAC San Caprasio 9.28 23 P Pn 20 48 15.2 -0.3
ESAC S Sn 20 49 56.6 -2.8
SET Setif 9.32 69 P Pn 20 48 18.0 +1.8
EPOB Poblet 9.55 31 P Pn 20 48 19.6 +0.4
comp=N,45nm,0.9s,SNR=14
EPOB Poblet 9.55 31 P Pn 20 48 19.6 +0.4
CMER Merouana 9.59 73 P Pn 20 48 15.0 -4.8
PMAR Madeira 9.72 270 *e*Pn Pn 20 48 21.4 -0.2
PMAR *e*Sn Sn 20 50 07.7 -2.6
PMAR A 20 50 21.7
comp=N,336nm,0.5s
PMAR Madeira 9.72 270 P Pn 20 48 21.4 -0.2
PMAR S Sn 20 50 07.7 -2.6
comp=N,168nm,0.5s
DFRA Djebel Bou Aff 9.79 67 P Pn 20 48 25.0 +2.5
STS Santiago 9.91 346 P Pn 20 48 24.8 +0.6
STS S Sn 20 50 09.4 -5.6
STS pmax pmax
comp=Z,37nm,0.3s
STS Santiago 9.91 346 P Pn 20 48 24.8 +0.6
comp=Z,37nm,0.3s,SNR=20
STS S Sn 20 50 09.4 -5.6
comp=Z,52nm,0.6s,SNR=14
EARA Aranguren 9.93 16 P Pn 20 48 25.6 +1.1
comp=Z,56nm,0.9s,SNR=8.3
EARA S Sn 20 50 10.1 -5.4
comp=Z,56nm,0.7s,SNR=7.9
IUNC Unciti 9.94 17 P Pn 20 48 25.6 +1.1
comp=Z,22nm,0.5s,SNR=5.5
IUNC S Sn 20 50 11.7 -3.9
comp=Z,33nm,0.5s,SNR=7.9
EARI Arriondas 10.01 1 P Pn 20 48 24.6 -0.9
comp=Z,38nm,0.9s,SNR=17
EARI S Sn 20 50 10.6 -6.6
comp=Z,226nm,2.0s,SNR=5.8
EARI Arriondas 10.01 1 P Pn 20 48 24.6 -0.9
comp=Z,38nm,0.9s
EARI S Sn 20 50 10.6 -6.7
IPRE Itoiz 10.02 17 P Pn 20 48 25.5 -0.1
comp=Z,39nm,1.1s,SNR=7.9
IPRE S Sn 20 50 13.8 -3.8
comp=Z,8.5nm,0.4s,SNR=7.9
ELAN Lanestosa 10.05 8 P Pn 20 48 25.5 -0.6
comp=Z,47nm,0.8s,SNR=31
ELAN S Sn 20 50 13.7 -4.7
comp=Z,53nm,0.6s,SNR=12
ELAN Lanestosa 10.05 8 P Pn 20 48 25.5 -0.6
comp=Z,47nm,0.8s
EMAZ Mazaricos 10.06 345 P Pn 20 48 26.6 +0.4
comp=Z,47nm,0.6s,SNR=28
EMAZ S Sn 20 50 12.5 -6.2
comp=Z,42nm,0.5s,SNR=13
EMAZ Mazaricos 10.06 345 P Pn 20 48 26.6 +0.3
comp=Z,47nm,0.6s
EMAZ S Sn 20 50 12.5 -6.2
CTEI Djebel Teioual 10.08 71 P Pn 20 48 27.0 +0.4
IUSE Utxeti 10.11 16 P Pn 20 48 28.1 +1.3
comp=Z,32nm,0.7s,SNR=7.6
IUSE S Sn 20 50 16.4 -3.3
comp=Z,16nm,0.6s,SNR=7.9
EORO Oroz-Betelu 10.11 17 P Pn 20 48 26.8 -0.1
comp=Z,41nm,1.1s,SNR=15
EORO S Sn 20 50 16.3 -3.6
comp=Z,65nm,0.6s,SNR=13
EPON Pontenova 10.13 353 P Pn 20 48 27.4 +0.2
comp=Z,46nm,0.5s,SNR=24
EPON S Sn 20 50 15.2 -5.1
comp=Z,58nm,0.7s,SNR=9.6
EPON Pontenova 10.13 353 P Pn 20 48 27.4 +0.3
comp=Z,46nm,0.5s
EPON S Sn 20 50 15.2 -5.1
CASM Ain Smara 10.19 70 P Pn 20 48 29.0 +0.9
EOSO Osorio 10.19 242 P Pn 20 48 22.8 -5.3
comp=Z,29nm,0.4s,SNR=9.3
EOSO S Sn 20 50 12.0 -10
comp=Z,80nm,0.7s,SNR=7.9
EOSO Osorio 10.19 242 P Pn 20 48 22.8 -5.3
comp=Z,29nm,0.4s
EOSO S Sn 20 50 12.0 -10
EMIR Miracle 10.20 30 P Pn 20 48 29.0 +0.9
comp=Z,53nm,0.6s
ELIZ Elizondo 10.31 16 P Pn 20 48 29.8 +0.1
ELIZ S Sn 20 50 18.7 -6.2
ELIZ pmax pmax
comp=Z,20nm,0.4s
ELIZ Elizondo 10.31 16 P Pn 20 48 29.8 0.0
comp=Z,20nm,0.4s,SNR=36
ELIZ S Sn 20 50 18.7 -6.2
comp=Z,15nm,0.4s,SNR=10.0
ETSF Etsaut 10.32 20 *e*Pn Pn 20 48 29.8 0.0
SJPF Ste Jean 10.34 17 *e*Pn Pn 20 48 30.4 +0.3
SJPF *e*Sn Sn 20 50 22.3 -3.2
comp=Z,78nm,0.6s
EBIE Bielsa 10.34 23 P Pn 20 48 29.7 -0.4
comp=Z,34nm,0.8s,SNR=18
EBIE S Sn 20 50 20.7 -4.8
comp=Z,5.2nm,0.9s,SNR=7.9
EBIE Bielsa 10.34 23 P Pn 20 48 29.7 -0.4
comp=Z,34nm,0.8s
EBIE S Sn 20 50 20.7 -4.9
EALK Alkurruntz 10.37 16 P Pn 20 48 30.7 +0.2
comp=Z,84nm,0.7s,SNR=34
EALK S Sn 20 50 21.8 -4.6
comp=Z,272nm,0.8s,SNR=4.7
CKFL Kef-Lekhel 10.40 69 P Pn 20 48 36.0 +5.0
ATE Arette 10.45 19 *e*P Pn 20 48 32.2 +0.6
EBAJ Bajamar 10.55 246 P Pn 20 48 28.6 -4.4
comp=Z,37nm,0.6s,SNR=13
EBAJ S Sn 20 50 20.3 -10
comp=Z,112nm,1.0s,SNR=7.9
EBAJ Bajamar 10.55 246 P Pn 20 48 28.6 -4.4
comp=Z,37nm,0.6s
EBAJ S Sn 20 50 20.3 -10
CAEH 'Ain El Ouahch 10.60 67 P Pn 20 48 38.0 +4.3
LABF Labassere 10.64 22 *e*P Pn 20 48 33.7 -0.5
EPF Esparros 10.71 23 *e*Pn Pn 20 48 35.0 -0.2
EPF *e*Sn Sn 20 50 31.5 -3.2
comp=Z,22nm,0.4s
CCAN Las Canadas 10.90 245 P Pn 20 48 34.9 -3.0
comp=Z,13nm,0.6s,SNR=4.8
CCAN S Sn 20 50 26.5 -13
comp=Z,34nm,0.8s,SNR=4.0
CICO Icod de los Vi 10.93 246 P Pn 20 48 35.8 -2.5
comp=Z,0.9nm,0.5s,SNR=7.9
ABSA Djebel Ababsia 10.97 71 P Pn 20 48 41.0 +2.2
CABS Djebel Ababsia 10.97 71 P Pn 20 48 41.0 +2.2
CMAH Djebel Manchou 11.01 69 P Pn 20 48 40.0 +0.8
CHIO Chio 11.06 246 P Pn 20 48 36.9 -3.1
comp=Z,29nm,0.4s,SNR=4.8
EJON La Jonquera 11.23 33 P Pn 20 48 42.0 -0.3
comp=Z,72nm,1.5s
EJON La Jonquera 11.23 33 P Pn 20 48 42.0 -0.3
comp=Z,72nm,1.5s
EGOM La Gomera 11.40 247 P Pn 20 48 41.3 -3.3
comp=Z,21nm,0.4s,SNR=5.8
EGOM S Sn 20 50 41.4 -10
comp=Z,87nm,0.6s,SNR=7.9
EGOM La Gomera 11.40 247 P Pn 20 48 41.3 -3.3
comp=Z,21nm,0.4s
EGOM S Sn 20 50 41.4 -10
MTLF Montolieu 11.67 28 *e*Pn Pn 20 48 49.0 +0.8
EHIG Higuera 11.68 250 P Pn 20 48 44.8 -3.7
comp=Z,121nm,0.5s,SNR=7.9
EHIG S Sn 20 50 47.6 -11
comp=Z,334nm,1.4s,SNR=7.9
EHIG Higuera 11.68 250 P Pn 20 48 44.8 -3.6
comp=Z,121nm,0.5s
EHIG S Sn 20 50 47.6 -11
CHIE El Hierro 12.19 246 P Pn 20 48 54.6 -0.8
comp=Z,13nm,0.7s,SNR=7.9
CHIE S Sn 20 50 58.8 -12
comp=Z,13nm,0.6s,SNR=4.0

KEST Kesra 12.38 75 Pn Pn 20 48 56.5 -1.4
comp=Z,1.5nm,0.3s,baz=191,slow=2.0,SNR=67
KEST LR LR 20 54 28.1
comp=Z,487nm,19.5s,baz=15,slow=42
LFF La Frestale 12.56 20 *e*Pn **Pn 20 48 58.5 -2.0**
LFF *e*Sn **Sn 20 51 14.2 -5.7**
comp=Z,40nm,0.8s
LASF Ste Croix 12.95 31 *e*Pn **Pn 20 49 06.2 +0.4**
CAF Calviac 12.97 24 *e*Pn **Pn 20 49 05.1 -0.9**
CAF *e*Sn **Sn 20 51 25.3 -4.6**
comp=Z,8.7nm,0.6s
RJF Les Rejaudoux 13.13 22 *e*Pn **Pn 20 49 06.5 -1.7**
RJF *e*Sn **Sn 20 51 28.0 -5.7**
comp=Z,13nm,0.7s
BERF Bertagne 13.24 38 *e*P **Pn 20 49 18.9 +9.2**
TAVF Tavernes 13.64 38 *e*P **Pn 20 49 18.2 +3.0**
LBL Lubilhac 13.66 27 *e*P **Pn 20 49 15.5 +0.1**
SMRF Simiane la Rot 13.66 35 *e*Pn **Pn 20 49 15.1 -0.4**
LMR La Mourre 13.68 39 *e*Pn **Pn 20 49 14.0 -1.7**
LMR *e*P 20 49 18.7
MFF Saint Martin d 13.89 15 *e*Pn **Pn 20 49 16.5 -2.0**
MFF *e*Sn **Sn 20 51 42.8 -9.5**
comp=Z,32nm,0.9s
FRF La Foret Royal 13.91 39 *e*Pn **Pn 20 49 18.2 -0.7**
VIVF Saint-Julien-l 13.93 31 *e*P **Pn 20 49 22.3 +3.2**
PYM Petit Puy Mans 14.02 25 *e*P **Pn 20 49 19.7 -0.6**
COLF Collangettes 14.07 27 *e*P **Pn 20 49 20.4 -0.6**
TAM Tamanrasset 14.19 135 *e*Pn **Pn 20 49 14.8 -7.9**
TAM Tamanrasset 14.19 135 *e*Pn **Pn 20 49 14.8 -8.0**
SSB Saint Sauveur 14.21 30 *e*Pn **Pn 20 49 24.0 +1.1**
SSB Saint Sauveur 14.21 30 *e*Pn **Pn 20 49 24.0 +1.1**
TCF Toulx Ste Croi 14.22 22 *e*Pn **Pn 20 49 21.8 -1.3**
AGO Saint Agoulin 14.32 25 *e*P **Pn 20 49 23.3 -1.1**
REVF Revere 14.42 40 *e*P **Pn 20 49 34.2 +8.4**
PLDF La Plantade 14.43 26 *e*P **Pn 20 49 25.3 -0.6**
LUCF Luceram 14.51 39 *e*P **Pn 20 49 33.7 +6.7**
ORIF Oris-en-Rattie 14.52 34 *e*P **Pn 20 49 30.9 +3.8**
SBF Sospel 14.54 40 *e*P **Pn 20 49 30.2 +2.8**
PGF Pioggiola 14.61 47 *e*P **Pn 20 49 31.2 +2.7**
AUTN L'Aution 14.62 39 *e*P **Pn 20 49 33.7 +5.2**
BGF Bois d'Agland 14.67 23 *e*Pn **Sn 20 49 29.0 -0.2**
BGF *e*Sn **Sn 20 52 02.6 -8.6**
comp=Z,22nm,0.7s
SAOF Saorge 14.68 40 *e*P **Pn 20 49 34.9 +5.5**
QUIF Quistinic 14.71 6 *e*Pn **Pn 20 49 29.0 -0.8**
QUIF *e*Sn **Sn 20 51 58.1 -14**
comp=Z,26nm,0.6s
QUIF Quistinic 14.71 6 *e*Pn **Pn 20 49 29.0 -0.8**
QUIF *e*Sn **Sn 20 51 58.1 -14**
comp=Z,13nm,0.6s
MBDF Montbardon 14.80 36 *e*P **Pn 20 49 34.9 +3.9**
BNI Bardonecchia 14.99 35 *e*P **Pn 20 49 37.8 +4.2**
BNI pmax pmax
comp=Z,18nm,0.8s
BNI Bardonecchia 14.99 35 *e*Pn **Pn 20 49 37.8 +4.2**
comp=Z,18nm,0.8s
BNI Bardonecchia 14.99 35 *e*Pn **Pn 20 49 37.8 +4.2**
comp=Z,18nm,0.8s
AVF Avril sur Loir 15.04 24 *e*Pn **Pn 20 49 32.5 -1.7**
SMF Signal de Mont 15.08 25 *e*Pn **Pn 20 49 33.4 -1.4**
SGMF Saint Gilles 15.11 7 *e*Pn **Pn 20 49 33.9 -1.2**
SGMF *e*Sn **Sn 20 52 12.0 -10**
comp=Z,14nm,0.5s
SGMF Saint Gilles 15.11 7 *e*Pn **Pn 20 49 33.9 -1.2**
SGMF *e*Sn **Sn 20 52 12.0 -10**
comp=Z,7.0nm,0.5s
ROSF Rostrenen 15.12 5 *e*Pn **Pn 20 49 33.9 -1.4**
ROSF *e*Sn **Sn 20 52 09.6 -13**
comp=Z,14nm,0.4s
ROSF Rostrenen 15.12 5 *e*Pn **Pn 20 49 33.9 -1.4**
ROSF *e*Sn **Sn 20 52 09.6 -13**
comp=Z,6.8nm,0.4s
OG05 Jujurieux 15.21 30 *e*P **Pn 20 49 38.3 +1.9**
SSF Saint Saulge 15.33 23 *e*Pn **Pn 20 49 37.6 -0.4**
LPG La Plagne 15.36 34 *e*P **Pn 20 49 42.3 +3.9**
LPL La Plagne 15.36 34 *e*P **Pn 20 49 41.0 +2.6**
RSL Roselend 15.44 33 *e*P **Pn 20 49 42.1 +2.6**
GRR Gorron 15.47 11 *e*Pn **Pn 20 49 39.3 -0.5**
GRR *e*Sn **Sn 20 52 19.4 -11**
comp=Z,16nm,0.7s
GRR Gorron 15.47 11 *e*Pn **Pn 20 49 39.3 -0.5**
GRR *e*Sn **Sn 20 52 19.4 -11**
comp=Z,8.2nm,0.7s
LOR Lormes 15.62 24 *e*Pn **Pn 20 49 41.9 0.0**
baz=208
LDF La Druitiere 15.79 13 *e*Pn **Pn 20 49 44.2 +0.1**
LDF *e*Sn **Sn 20 52 26.3 -12**
comp=Z,12nm,0.7s
LDF La Druitiere 15.79 13 *e*Pn **Pn 20 49 44.2 +0.1**
LDF *e*Sn **Sn 20 52 26.3 -12**
comp=Z,5.8nm,0.7s
FLN La Foliniere 15.89 12 *e*Pn **Pn 20 49 45.2 -0.1**
baz=194
FLN *e*Sn **Sn 20 52 29.7 -11**
comp=Z,14nm,0.6s
FLN La Foliniere 15.89 12 *e*Pn **Pn 20 49 45.2 -0.1**
FLN *e*Sn **Sn 20 52 29.7 -11**
comp=Z,7.0nm,0.6s
CABF La Chapelle 15.92 30 *e*P **Pn 20 49 48.9 +3.2**
VLC Villacollemand 16.37 44 *e*Pn **Pn 20 49 55.7 +4.2**
comp=Z,67nm,1.4s
VAE Valguarnera 16.66 70 Pn **Pn 20 49 55.8 +0.6**
comp=Z,1.3nm,0.3s,baz=280,slow=2.7,SNR=12
VAE LR LR 20 56 59.2
comp=Z,416nm,21.0s,baz=154,slow=40
MEZF Maizieres J'vi 17.10 24 *e*Pn **Pn 20 50 02.3 +1.7**
HAU Haudompre 17.15 28 *e*P **Pn 20 50 04.3 +3.0**
BBS Basel-Blauen 17.20 31 *e*P **Pn 20 50 02.9 +1.0**
HINF Hinteralfeld 17.20 29 *e*P **Pn 20 50 04.5 +2.6**
TUE Stuetta 17.31 36 *e*Pn **Pn 20 50 04.3 +1.0**
comp=Z,20nm,0.9s
TUE Stuetta 17.31 36 *e*Pn **Pn 20 50 04.3 +0.9**
comp=Z,20nm,0.9s
MOF Molkenrain 17.34 29 *e*P **Pn 20 50 05.0 +1.3**
AQU L'Aquila 17.34 53 *e*P **Pn 20 50 05.8 +2.0**
AQU pmax pmax
comp=Z,33nm,1.1s
AQU L'Aquila 17.34 53 *e*Pn **Pn 20 50 05.8 +2.0**
comp=Z,33nm,1.1s
AQU L'Aquila 17.34 53 *e*Pn **Pn 20 50 05.8 +2.0**
comp=Z,33nm,1.1s
ECH Echery 17.64 29 *e*P **Pn 20 50 08.5 +1.1**
ECH Echery 17.64 29 *e*Pn **Pn 20 50 05.7 -1.7**
ECH Echery 17.64 29 *e*Pn **Pn 20 50 05.7 -1.7**
FELD Feldberg im Sc 17.73 31 *e*P **Pn 20 50 07.6 -0.9**
DAVOS Davos 17.79 36 P **Pn 20 50 10.3 +1.1**
DAVOX Davos/Dischmat 17.79 36 P **Pn 20 50 10.3 +1.1**
comp=Z,1.3nm,0.3s,baz=202,slow=14,SNR=23
CDF Champ du Feu 17.85 28 *e*Pn **Pn 20 50 13.2 +3.3**
CEL Celeste 17.94 68 *e*Pn **Pn 20 50 12.1 +0.9**
comp=Z,28nm,0.8s
DAVA Damuels 18.14 35⇑*i*P **Pn 20 50 13.2 -0.4**
comp=Z,14nm,0.6s,SNR=8.1
BAIF Baives 18.20 20 *e*Pn **Pn 20 50 14.8 +0.6**
BFO Black Forest 18.21 30 *e*P **Pn 20 50 15.1 +0.6**
BFO pmax pmax
comp=Z,13nm,1.0s
BFO Black Forest 18.21 30 *e*P **Pn 20 50 15.1 +0.6**
comp=Z,13nm,1.0s
SPAK Spaichingen-Ko 18.24 32 *e*P **Pn 20 50 15.0 +0.3**
DOU Dourbes 18.34 21 P **Pn 20 50 15.3 -0.8**
comp=Z,18nm,1.3s
DOU Dourbes 18.34 21 P **Pn 20 50 15.2 -0.8**
comp=Z,18nm,1.3s
FETA Feichten 18.38 37⇑*i*P **Pn 20 50 16.1 -0.4**
comp=Z,16nm,0.6s,SNR=21
GIVF Givet 18.42 21 *e*Pn **Pn 20 50 18.9 +2.0**
WLF Walferdange 18.47 24 *e*P **Pn 20 50 17.2 -0.3**
WLF pmax pmax
comp=Z,36nm,0.8s
WLF Walferdange 18.47 24 *e*P **Pn 20 50 17.6 +0.1**
comp=Z,25nm,0.8s
WLF Walferdange 18.47 24 P **Pn 20 50 17.5 0.0**
comp=Z,24nm,1.0s
WLF Walferdange 18.47 24 *e*Pn **Pn 20 50 17.2 -0.4**
comp=Z,36nm,0.8s
RETA Reutte 18.71 36⇑*i*P **Pn 20 50 19.5 -1.1**
comp=Z,12nm,0.6s,SNR=24
TIP Timpagrande 18.77 65 *e*Pn **Pn 20 50 20.7 -0.7**
comp=Z,104nm,1.6s
MCH1 Michaelchurch 18.78 5 *e*P **Pn 20 50 21.9 +0.6**
MCH1 AMb AMB 20 50 30.0
comp=Z,51nm,1.0s
MOTA Moosalm 18.79 37⇑*i*P **Pn 20 50 20.2 -1.2**
comp=Z,17nm,1.0s,SNR=22
MOTA Moosalm 18.79 37⇑*i*P **Pn 20 50 20.2 -1.2**
MOTA pmax pmax
comp=Z,17nm,1.0s
BCLA Clavier 18.84 22 P **Pn 20 50 23.4 +1.3**
comp=Z,10nm,1.2s
UCC Uccle 18.91 19 P **Pn 20 50 23.7 +0.9**
comp=Z,18nm,0.9s
STU Stuttgart 18.92 31 *e*P **Pn 20 50 22.0 -1.1**
STU pmax pmax
comp=Z,40nm,0.9s
STU Stuttgart 18.92 31 *e*P **Pn 20 50 23.6 +0.5**
comp=Z,28nm,0.9s
STU Stuttgart 18.92 31 *e*Pn **Pn 20 50 22.0 -1.0**
comp=Z,40nm,0.9s
WTTA Wattenberg 19.00 38⇑*i*P **Pn 20 50 22.4 -1.7**
comp=Z,34nm,0.7s,SNR=13
WTTA Wattenberg 19.00 38⇑*i*P **Pn 20 50 22.4 -1.6**
WTTA pmax pmax
comp=Z,34nm,0.7s
WATA Walderalm 19.02 37⇑*i*P **Pn 20 50 22.9 -1.3**
comp=Z,12nm,0.5s,SNR=14
WATA Walderalm 19.02 37⇑*i*P **Pn 20 50 22.9 -1.3**
WATA pmax pmax
comp=Z,12nm,0.5s
WATA Walderalm 19.02 37⇑*i*P **Pn 20 50 22.9 -1.3**
comp=Z,12nm,0.5s
ABTA Abfaltersbach 19.13 40⇑*i*P **Pn 20 50 25.0 -0.7**
comp=Z,23nm,1.0s,SNR=20
MEM Membach 19.23 22 P **Pn 20 50 26.8 +0.1**
comp=Z,13nm,1.9s
HGN Heimansgroeve 19.34 22 *e*P **Pn 20 50 28.8 +0.8**
comp=Z,13nm,0.7s
VOY Vojsko 19.48 44 *e*P **Pn 20 50 30.5 +0.7**
VOY *e* 20 50 34.6
VOY *e* 20 50 42.7
JAVS Javornik 19.50 44 *i*P **Pn 20 50 29.0 -1.1**
CWF Charnwood Fore 19.67 7 *e*P **Pn 20 50 32.1 +0.2**
TNS Taunus Mts 19.76 27 *e*P **Pn 20 50 31.0 -2.1**
TNS pmax pmax
comp=Z,23nm,1.2s
TNS Taunus Mts 19.76 27 *e*P **Pn 20 50 31.0 -2.1**
comp=Z,23nm,1.2s
KBA Koelnbreinsper 19.79 40⇓*i*P **Pn 20 50 32.6 -0.9**
comp=Z,24nm,1.2s,SNR=7.7
KBA Koelnbreinsper 19.79 40⇓*i*P **Pn 20 50 32.6 -0.8**
KBA pmax pmax
comp=Z,24nm,1.2s
LJU Ljubljana 19.86 44 *i*P **Pn 20 50 33.0 -1.3**
LJU *i* 20 50 35.4
LJU *i* 20 50 38.7
KWE Weaver Farm 19.89 6 *e*P **Pn 20 50 34.5 -0.1**
RJOB Jochberg 19.91 38 *e*P **Pn 20 50 30.8 -4.1**
comp=Z,16nm,0.6s
DSB Dublin 19.97 358 *e*P **Pn 20 50 32.9 -2.6**
comp=Z,32nm,0.9s
BOJS Bojanci 20.00 46 *i*P **P 20 50 35.2 +1.0**
OBKA Obir 20.12 43⇑*i*P **P 20 50 35.1 -0.4**
comp=Z,13nm,0.7s,SNR=13
KBI1 Birley Grange 20.15 7 *e*P **P 20 50 36.9 +1.1**
BUG Bochum--Univer 20.35 23 *e*P **P 20 50 37.5 -0.5**
comp=Z,49nm,1.1s
LHO Hohnfirth 20.41 6 *e*P **P 20 50 40.6 +2.0**
comp=Z,80nm,1.2s
GRA1 Grafenberg Arr 20.50 32 *e*P **P 20 50 39.6 0.0**
comp=Z,37nm,1.0s
GRA1 LR LR
comp=Z,100nm,19.4s
GRF Grafenberg Arr 20.50 32 *e*P **P 20 50 39.6 0.0**
GRF pmax pmax
comp=Z,37nm,1.0s
GRF MLR MLR
comp=Z,100nm,19.4s
GRF Grafenberg Arr 20.50 32 *e*P **P 20 50 39.6 0.0**
GRF pmax pmax
comp=Z,37nm,1.0s
GRF MLR MLR
comp=Z,100nm,19.4s
GRF Grafenberg Arr 20.50 32 *e*P **P 20 50 39.6 0.0**
comp=Z,37nm,1.0s
GRF *e*L 20 58 16.1
comp=Z,133nm,19.4s
SOKA Soboth 20.50 43⇓*i*P **P 20 50 39.1 -0.5**
comp=Z,27nm,1.1s
PERS Pernice 20.52 43 *i*P **P 20 50 40.3 +0.5**
WTSB Winterswijk 20.66 22 *e*P **P 20 50 44.2 +3.0**
MOA Molln 20.75 40⇑*i*P **P 20 50 40.1 -2.2**
comp=Z,19nm,0.9s,SNR=25
UBBA Unterbreizbach 20.84 28 *e*P **P 20 50 42.7 -0.5**
comp=Z,6.0nm,0.9s
HPK Haverah Park 20.84 6 *e*P **P 20 50 45.7 +2.5**
HPK AMb AMB 20 50 50.9
comp=Z,80nm,1.2s
WET Wettzell 20.88 35 *e*P **P 20 50 42.0 -1.7**
WET pmax pmax
comp=Z,21nm,1.1s
WET Wettzell 20.88 35 *e*P **P 20 50 42.0 -1.7**
comp=Z,21nm,1.1s
ROTZ Rotzenmuhle 20.99 33 *e*P **P 20 50 43.6 -1.3**
comp=Z,21nm,1.1s
TOA0 Torodi Ar. Sit 21.05 161⇓*e*P **P 20 50 42.2 -3.6**
TOA0 *e*S **S 20 54 33.2 -6.4**
TORD Torodi Ar. Bea 21.05 161 P **P 20 50 42.6 -3.2**
comp=Z,15nm,0.7s,mb4.4,baz=344,slow=10,SNR=99
TORD LR LR 20 58 46.3
comp=Z,296nm,19.1s,MS3.7,baz=340,slow=37
GEC2 GERESS Array S 21.08 37 *e*P **P 20 50 43.1 -2.8**
GEC2 pmax pmax
comp=Z,23nm,1.0s,mb4.5
GEC2 GERESS Array S 21.08 37 *e*P **P 20 50 43.1 -2.8**
comp=Z,23nm,1.0s,mb4.5
GERES GERESS Array B 21.08 37 P **P 20 50 43.9 -2.0**
comp=Z,18nm,0.7s,mb4.5,baz=224,slow=11,SNR=90
ARSA Arzberg 21.09 42⇑*i*P **P 20 50 45.7 -0.4**
comp=Z,9.3nm,0.7s,mb4.2,SNR=19
MANZ Manzenberg 21.11 33 *e*P **P 20 50 44.7 -1.4**
comp=Z,10.0nm,0.9s,mb4.2
BBTS Babate 21.13 211 P **P 20 50 45.0 -1.7**
comp=Z,89nm,1.0s,mb5.0,baz=326,slow=5.3,SNR=6.3
BBTS LR LR 20 59 09.4
comp=Z,411nm,20.8s,MS3.8,baz=18,slow=38
BBTS Babate 21.13 211 P **P 20 50 45.0 -1.7**
BBTS LR LR 20 59 09.4
KHC Kasperske Hory 21.21 36 *e*P **P 20 50 45.4 -1.9**
KHC *e*pP 20 50 49.0
KHC AMS AMS 20 59 10.0
comp=Z,400nm,15.0s
IBBN Ibbenburen 21.25 23 *e*P **P 20 50 48.6 +0.9**
comp=Z,29nm,1.0s,mb4.6
MOX Moxa 21.37 31 *e*P **P 20 50 54.0 +5.0**
comp=Z,26nm,1.1s,mb4.5
MOX
comp=Z,400nm,15.0s
MOX Moxa 21.37 31 *e*P **P 20 50 54.0 +5.0**
MOX pmax pmax
comp=Z,26nm,1.1s,mb4.5
MOX MLR MLR
comp=Z,400nm,15.0s,MS3.9
MOX Moxa 21.37 31 *e*P **P 20 50 49.2 +0.2**
comp=Z,5.0nm,0.7s,mb4.0
NKC Novy Kostel 21.43 33 *e*P **P 20 50 49.5 -0.2**
NKC AMS AMS 21 00 40.0
comp=Z,400nm,11.6s
TIR Tirane 21.57 61 *e*P **P 20 50 50.6 -0.6**
TIR pmax pmax
comp=Z,38nm,0.8s,mb4.9
TIR Tirane 21.57 61 *e*P **P 20 50 50.6 -0.6**
comp=Z,38nm,0.8s,mb4.9
CSNA Conrad Observa 21.66 41⇓*i*P **P 20 50 50.6 -1.6**
comp=Z,15nm,0.8s,mb4.5
CONA Conrad Observa 21.66 41⇓*i*P **P 20 50 50.7 -1.5**
comp=Z,21nm,0.9s,mb4.6,SNR=9.7
XAL Allendale 21.69 5 *e*P **P 20 50 54.0 +1.6**
CLZ Clausthal 21.79 27 *e*P **P 20 50 51.8 -1.6**
CLZ pmax pmax
comp=Z,16nm,1.0s,mb4.4
CLZ Clausthal 21.79 27 *e*P **P 20 50 51.8 -1.6**
comp=Z,16nm,1.0s,mb4.4
SOP Sopron 21.92 43⇓*e*P **P 20 50 56.7 +1.8**
ECK Cauldkaine Hil 21.95 3 *e*P **P 20 50 56.2 +1.0**
ECK Cauldkaine Hil 21.95 3 *e*P **P 20 50 56.2 +1.0**
comp=Z,46nm,1.4s,mb4.7
ESK Eskdalemuir 22.08 3 *e*P **P 20 50 29.9 +3.3**
ESK AMb AMB 20 51 03.3
comp=Z,46nm,1.4s,mb4.7
ESK Eskdalemuir 22.08 3 *e*P **P 20 50 57.6 +1.0**
ESK pmax pmax
comp=Z,16nm,0.8s,mb4.5
ESK Eskdalemuir 22.08 3 *e*P **P 20 50 57.6 +1.0**
comp=Z,16nm,0.8s,mb4.5
EKA Eskdalemuir Ar 22.10 3 P **P 20 50 56.5 -0.3**
comp=Z,17nm,0.9s,mb4.5,baz=164,slow=11,SNR=18
PRU Pruhonice 22.25 35 *e*P **P 20 50 56.2 -2.2**
PRU *e*pP 20 51 01.3
PRU AMS AMS 20 59 50.0
comp=Z,400nm,11.9s
RLS Riolos of Patr 22.28 70 *e*P **P 20 51 00.1 +1.3**
TREC Trest 22.28 38 *e*P **P 20 50 56.3 -2.4**
TREC AMS AMS 21 01 10.0
comp=Z,300nm,11.2s
XSO Sourhope Farm 22.31 5 *e*P **P 20 50 59.9 +0.8**
XSO Sourhope Farm 22.31 5 *e*P **P 20 50 59.9 +0.9**
comp=Z,64nm,1.4s,mb4.9
PKSM Moragy 22.42 48⇓*i*P **P 20 51 00.6 +0.3**
PKSM Moragy 22.42 48⇓*e*P **P 20 51 00.9 +0.6**
CLL Collm 22.45 31 *e*P **P 20 50 58.0 -2.6**
CLL *i* 20 51 01.2
CLL *i* 20 51 03.3
CLL Collm 22.45 31 *e*P **P 20 50 58.0 -2.6**
comp=Z,10.0nm,0.8s,mb4.3
CLL Collm 22.45 31 *e*P **P 20 50 58.0 -2.6**
CLL *i* Pmax 20 51 01.2
comp=Z,8.0nm,0.9s
CLL *i* pP 20 51 03.3
comp=Z,10.0nm,0.8s
CLL *e*x x 20 51 10.0
CLL *e*PPP 20 51 28.0
CLL *e*(S) **S 20 55 15.0 +8.5**
CLL *e*(SS) 20 55 34.0
CLL Collm 22.45 31 *e*P **P 20 50 58.0 -2.6**
CLL *i* 20 51 01.2
CLL *i* 20 51 03.3
CLL *e*S **S 20 55 15.0 +8.5**
DIVS Divibare 22.46 54 *e*P **P 20 51 00.2 -0.5**
ZST Bratislava 22.50 42 *e*P **P 20 51 01.0 -0.1**
ZST pmax pmax
comp=Z,43nm,1.2s,mb4.8
ZST Bratislava 22.50 42 *e*P **P 20 51 01.0 -0.1**
comp=Z,43nm,1.2s,mb4.8
PGBU Glenifferbraes 22.54 1 *e*P **P 20 51 03.1 +1.7**
PGBU AMb AMB 20 51 10.1
comp=Z,64nm,1.4s,mb4.9
BRG Berggiesshubel 22.56 33 *e*P **P 20 50 58.4 -3.3**
comp=Z,18nm,1.1s,mb4.4
BRG Berggiesshubel 22.56 33 *i*P **P 20 51 02.6 +0.9**
comp=Z,18nm,1.1s,mb4.4
BRG
comp=N,423nm,9.4s
BRG
comp=E,301nm,13.4s
BRG
comp=Z,302nm,11.6s
FNA Florina 22.56 63 *e*P **P 20 51 01.2 -0.6**
KRUS Krusevo 22.59 61 *e*P **P 20 51 04.0 +1.9**
EAU Auchinoon 22.60 3 *e*P **P 20 51 05.0 +2.9**
EAU Auchinoon 22.60 3 *e*P **P 20 51 05.0 +2.9**
comp=Z,48nm,1.5s,mb4.7
EVR Evrytania 22.62 68 *e*P **P 20 51 04.7 +2.2**
PVCC Panska Ves 22.62 34 *e*P **P 20 51 02.4 +0.1**
PVCC AMS AMS 21 01 00.0
comp=Z,300nm,11.9s
EDI Edinburgh 22.69 3 *e*P **P 20 51 06.2 +3.1**
EDI AMb AMB 20 51 11.3
comp=Z,48nm,1.5s,mb4.7
MODS Modra-Piesok 22.70 42 *e*P **P 20 51 02.0 -1.2**
ESY Stoneypath 22.71 4 *e*P **P 20 51 04.6 +1.3**
THL Klokotos Trika 22.85 66 *e*P **P 20 51 05.8 +0.8**
THL Klokotos Trika 22.85 66 *e*P **P 20 51 05.6 +0.7**
VRAC Vranov 22.86 39 P **P 20 51 02.5 -2.5**
comp=Z,19nm,0.9s,mb4.5,baz=243,slow=9.6,SNR=15
VRAC Vranov 22.86 39⇑*i*P **P 20 51 04.6 -0.3**
VRAC Vranov 22.86 39⇑P **P 20 51 04.6 -0.4**
GRUS Gruza 22.88 55 *e*P **P 20 51 04.6 -0.6**
EAB Aberfoyle 22.92 1 *e*P **P 20 51 07.7 +2.3**
EAB Aberfoyle 22.92 1 *e*P **P 20 51 07.7 +2.3**
comp=Z,33nm,2.4s,mb4.3
AGG Agios Georgios 23.04 68 *e*P **P 20 51 06.7 -0.1**
UPC Upice 23.30 36 *e*P **P 20 51 07.7 -1.9**
UPC *e*pP 20 51 12.3
BARS Barje 23.34 58 *e*P **P 20 51 08.6 -1.4**
STIP Stip 23.34 61 *e*P **P 20 51 10.0 -0.1**
STIP Stip 23.34 61 *e*P **P 20 51 09.9 -0.2**
DPC Dobruska-Polom 23.36 37 *e*P **P 20 51 07.5 -2.6**
DPC AMS AMS 21 00 40.0
comp=Z,300nm,12.3s
GRG Griva 23.36 63 *e*P **P 20 51 08.6 -1.7**
KOLL Kolacno 23.44 42 *e*P **P 20 51 10.7 -0.3**
VAY Valandovo 23.55 62 *e*P **P 20 51 05.9 -6.3**
MORC Moravsky Berou 23.64 39⇓*i*P **P 20 51 14.1 +1.2**
MORC Moravsky Berou 23.64 39 *e*P **P 20 51 11.0 -1.9**
MORC Moravsky Berou 23.64 39 *e*P **P 20 51 10.6 -2.4**
comp=Z,46nm,0.9s,mb4.9
MORC ⇓P 20 51 14.1
KSP Ksiaz 23.66 36 *e*P **P 20 51 14.6 +1.5**
KSP Ksiaz 23.66 36 *e*P **P 20 51 14.1 +1.1**
XOR Xorichti 23.74 67 *e*P **P 20 51 14.3 +0.4**
PSZ Piszkesteto 23.97 45⇓*e*P **P 20 51 16.9 +0.9**
PSZ Piszkesteto 23.97 45⇑*i*P **P 20 51 16.3 +0.3**
PSZ Piszkesteto 23.97 45⇑P **P 20 51 16.3 +0.3**
OKC Ostrava-Krasne 23.99 39 *e*P **P 20 51 17.6 +1.4**
OKC AMS AMS 21 04 20.0
comp=Z,300nm,16.2s
PLG Polygyros 24.05 65 *e*P **P 20 51 17.9 +1.1**
KPL Plockton 24.06 360 *e*P **P 20 51 18.6 +1.9**
KPL AMb AMB 20 51 31.9
comp=Z,33nm,2.4s,mb4.3
BZS Buzias 24.08 51 P **P 20 51 18.1 +1.1**
BZS Buzias 24.08 51⇓*i*P **P 20 51 17.9 +0.9**
BZS Buzias 24.08 51⇓P **P 20 51 17.9 +0.9**
AOS Alonnisos 24.25 68 *e*P **P 20 51 20.2 +1.6**
VTS Vitosha 24.28 59⇑*i*P **P 20 51 21.0 +2.1**
VTS Vitosha 24.28 59⇑P **P 20 51 21.0 +2.1**
VAM Vamos 24.46 77 *e*P **P 20 51 20.7 +0.1**
NVR Nevrokopi 24.51 62 *e*P **P 20 51 23.4 +2.4**
KECS Kecovo 24.59 44 *e*P **P 20 51 20.1 -1.5**
KECS pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
KECS Kecovo 24.59 44 *e*P **P 20 51 20.1 -1.5**
comp=Z,7.0nm,0.9s,mb4.2
NIE Niedzica 24.95 42 *e*P **P 20 51 25.1 +0.2**
NIE *e* 20 51 28.2
NIE Niedzica 24.95 42 *e*P **P 20 51 25.1 +0.2**
NIE *e* 20 51 28.2
IDI Anoyia 25.03 77 P **P 20 51 27.2 +1.4**
comp=Z,17nm,0.6s,mb4.7,baz=267,slow=11,SNR=11
IDI LR LR 21 02 40.3
comp=Z,301nm,21.9s,MS3.8,baz=267,slow=40
OJC Ojcow 25.09 40 *e*P **P 20 51 26.1 0.0**
OJC *e*pP pP 20 51 28.2 -3.1
DRGR 25.22 49⇓*i*P **P 20 51 28.8 +1.4**
DRGR 25.22 49⇓P **P 20 51 28.8 +1.5**
CRVS Cervenica-Dubn 25.36 44 *e*P **P 20 51 28.9 +0.3**
APE Apeiranthos 25.48 73⇑*i*P **P 20 51 30.7 +0.9**
APE Apeiranthos 25.48 73⇑*i*P **P 20 51 31.2 +1.4**
GKP Gorka Klasztor 25.69 32 *e*P **P 20 51 30.0 -1.5**
GKP Gorka Klasztor 25.69 32 *e*P **P 20 51 30.0 -1.5**
UZH Uzhgorod 25.72 45*c i*P **P 20 51 32.4 +0.5**
UZH *i* 20 52 28.6
RDO Rodhopi 25.73 63 *e*P **P 20 51 32.3 +0.2**
KOLS Kolonicke sedl 25.85 45 *e*P **P 20 51 33.8 +0.8**
CHOS Chios island 25.90 70 *e*P **P 20 51 36.4 +2.7**
ALN Alexandroupoli 26.08 64 *e*P **P 20 51 37.3 +2.1**
PRK Paraskevi 26.11 68 *e*P **P 20 51 34.2 -1.3**
KWP Kalwaria 26.42 43 *e*P **P 20 51 39.5 +1.3**
KWP Kalwaria 26.42 43 *e*P **P 20 51 39.5 +1.3**
DBIC Dimbokro 26.48 179 P **P 20 51 36.4 -2.6**
comp=Z,34nm,0.7s,mb5.0,baz=351,slow=12,SNR=26
DBIC LR LR 21 02 42.4
comp=Z,624nm,19.0s,MS4.2,baz=346,slow=38
DBIC Dimbokro 26.48 179 P **P 20 51 36.4 -2.6**
DBIC pmax pmax
comp=Z,34nm,0.7s
DBIC MLR MLR
comp=Z,624nm,19.0s
DBIC Dimbokro 26.48 179 *e*P **P 20 51 36.0 -3.1**
comp=Z,37nm,0.8s,mb5.0
TIC Toumodi 26.51 179 *e*P **P 20 51 36.5 -2.7**
comp=Z,216nm,0.7s,mb5.8
KIC Kosan Boka 26.79 179 *e*P **P 20 51 39.1 -2.7**

comp=Z,64nm,0.7s,mb5.3
MLR Muntele Rosu 26.92 54⇑ i P P 20 51 44.8 +2.1
MLR Muntele Rosu 26.92 54 ⇑P P 20 51 44.8 +2.1
LIC Lamto 26.92 179 eP P 20 51 40.2 -2.8
comp=Z,53nm,0.6s,mb5.3
BURAR Bucovina Array 27.11 49⇑ i P P 20 51 46.5 +2.0
BURAR Bucovina Array 27.11 49 ⇑P P 20 51 46.5 +2.1
LVV L'vov 27.27 44 eP P 20 51 45.1 -0.8
LVV e 20 52 42.6
VRI Vrincioaia 27.55 53⇓ i P P 20 51 51.1 +2.7
TIRR Tirgusor 28.38 57 eP P 20 51 52.9 -2.9
TIRR pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
TIRR Tirgusor 28.38 57 eP P 20 51 52.9 -2.9
comp=Z,5.6nm,0.9s,mb4.2
SUW Suwalki 28.93 36 eP P 20 52 02.4 +1.8
KIS Kishinev 29.25 52 eP P 20 52 03.0 -0.5
NAO01 NORSAR Array S 29.54 16 P P 20 52 07.3 +1.4
HFS Hagfors 29.64 19 P P 20 52 06.7 -0.2
comp=Z,5.7nm,0.9s,mb4.3,baz=200,slow=7.7,SNR=6.8
HFS LR LR 21 04 35.4
comp=Z,242nm,18.6s,MS3.9,baz=209,slow=38
NB2 NORSAR Subarra 29.79 16 P P 20 52 09.5 +1.4
comp=Z,0.9nm,0.7s,mb3.6,baz=209,slow=9.3
NOA NORSAR Array B 29.79 16 P P 20 52 09.0 +0.8
comp=Z,1.5nm,0.8s,mb3.8,baz=210,slow=9.0,SNR=4.6
NOA LR LR 21 05 49.0
comp=Z,173nm,20.3s,MS3.7,baz=230,slow=40
AKASG Malin Array Be 30.68 45 P P 20 52 14.0 -2.1
comp=Z,2.4nm,0.7s,mb4.1,baz=245,slow=10,SNR=7.4
AKASG Malin Array Be 30.68 45 *i P* **P 20 52 15.8 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 30.68 45 P P 20 52 14.0 -2.1
ANTO Ankara 31.17 67 P P 20 52 20.7 +0.1
VSU Vasula 33.11 31⇓ i P P 20 52 38.4 +1.0
ANN Anapa 34.80 58 eP P 20 52 50.2 -2.0
ANN e 20 54 08.7
ANN pmax pmax
comp=Z,14nm,0.8s,mb4.9
MALT Malatya 35.62 69⇑ i P P 20 53 02.2 +2.8
MALT Malatya 35.62 69 ⇑P P 20 53 02.2 +2.8
OBN Obninsk 36.38 40 *c i P* **P 20 53 05.7 0.0**
OBN e 20 54 26.8
OBN pmax pmax
comp=Z,19nm,0.8s,mb5.1
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.7
OBN Obninsk 36.38 40 P P 20 53 06.3 +0.6
comp=Z,34nm,1.2s,mb5.2
SOC Sochi 36.39 60 eP P 20 53 07.9 +2.0
SOC pmax pmax
comp=Z,13nm,0.6s,mb5.0
VRSR Storozhevoye 36.86 47 eP P 20 53 08.6 -1.3
VRSR pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
VRSR pmax pmax
comp=N,3.0nm,1.2s
VRSR pmax pmax
comp=E,8.0nm,0.9s
MOS Moscow 37.16 40 eP P 20 53 03.3 -9.0
KIV Kislovodsk 38.54 60 eP P 20 53 21.8 -2.3
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
GOF Gofitskoye 38.78 58 eP P 20 53 16.5 -10
TRO Tromso 38.84 13 eP P 20 53 28.3 +2.0
AKH Akhalkalaki 39.24 64 P P 20 53 30.8 +0.7
KTK1 Kautokeino 39.24 16 eP P 20 53 27.0 -2.7
KLMR Klimovskoe 39.93 33 eP P 20 53 33.5 -2.0
TBLG Delisi 40.15 63 P P 20 53 40.2 +2.6
ARCES ARCESS Array B 40.17 16 LR LR 21 12 09.9
comp=Z,184nm,18.8s,MS4.0,baz=49,slow=39
GNI Garni 40.31 65⇑ eP P 20 53 41.0 +2.1
GNI pmax pmax
comp=Z,22nm,1.2s
GNI Garni 40.31 65 P P 20 53 37.9 -1.0
comp=Z,34nm,1.4s,mb4.9
DGRG David-gareji 40.65 63 P P 20 53 44.6 +2.9
DAG Danmarks Havn 44.01 356⇑ i P P 20 54 11.0 +2.4
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
DAG Danmarks Havn 44.01 356⇑ i P P 20 54 11.0 +2.4
comp=Z,2.7nm,0.7s,mb4.1
SCHQ Schefferville 47.40 316 P P 20 54 35.3 -0.3
comp=Z,7.7nm,0.9s,mb4.6,baz=267,slow=17,SNR=4.2
ARU Arti 48.80 42 *eP* **P 20 54 46.7 +0.2**
ARU *e* 20 56 37.9
ARU *eS* **S 21 01 48.9 +0.2**
ARU SS SS 21 05 14.4 -4.4
ARU Arti 48.80 42 eP P 20 54 45.0 -1.5
comp=Z,23nm,0.8s,mb5.3
SVE Sverdlovsk 49.94 41 eP P 20 54 58.4 +3.2
SVE pmax pmax
comp=Z,22nm,0.9s,mb5.2
KMBO Kilima Mbogo 52.72 122 LR LR 21 17 35.2
comp=Z,131nm,18.2s,MS4.0,baz=328,slow=36
BRVK Borovoye 55.89 45 eP P 20 55 35.7 -3.5
BRVK pmax pmax
comp=Z,14nm,1.3s,mb4.8
BRVK Borovoye 55.89 45 eP P 20 55 35.7 -3.4
comp=Z,14nm,1.3s,mb4.8
AOPR Arecibo Observ 56.51 271 eP P 20 55 48.4 +4.3
comp=Z,15nm,0.8s,mb5.1
SADO Sadowa 56.63 305 P P 20 55 45.7 +1.1
baz=64,slow=10
SADO Sadowa 56.63 305 P P 20 55 45.7 +1.0
LSZ Lusaka 57.94 141 P P 20 55 52.7 -1.4
comp=Z,4.8nm,0.9s,mb4.5,baz=3.8,slow=5.5,SNR=9.0
LSZ Lusaka 57.94 141 P P 20 55 52.7 -1.4
LSZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
LSZ Lusaka 57.94 141 eP P 20 55 52.5 -1.6
comp=Z,5.8nm,0.9s,mb4.6
RES Resolute Bay 58.11 342 eP P 20 55 57.3 +2.7
comp=Z,548nm,1.1s
RES Resolute Bay 58.11 342 eP P 20 55 57.3 +2.7
comp=Z,548nm,1.1s
KBL Kabul 60.39 66 P P 20 56 09.3 -1.7
KBL Kabul 60.39 66 P P 20 56 09.3 -1.7
ACSO Alum Creek Sta 60.73 301 eP P 20 56 13.6 +0.3
ACSO Alum Creek Sta 60.73 301 eP P 20 56 13.6 +0.3
EKS2 Erkin-Say 60.98 56 eP P 20 56 15.3 +0.5
comp=Z,8.7nm,0.7s,mb5.0
EKS2 Erkin-Say 60.98 56 eP P 20 56 15.3 +0.5
comp=Z,8.7nm,0.7s,mb5.0
KURK Kurchatov 61.48 46 *d i P* **P 20 56 17.8 -0.3**
KURK pmax pmax
comp=Z,32nm,1.7s,mb5.2
KURK Kurchatov 61.48 46 *i P* **P 20 56 17.8 -0.3**
comp=Z,32nm,1.7s,mb5.2
KURK Kurchatov 61.48 46 eP P 20 56 16.7 -1.4
comp=Z,27nm,0.9s,mb5.4
TKM2 Tokmak 2 62.14 55 eP P 20 56 21.4 -1.3
TKM2 Tokmak 2 62.14 55 eP P 20 56 21.4 -1.3
NVS Novosibirsk 62.78 41 *i P* **P 20 56 27.2 +0.4**
NVS pmax pmax
comp=E,9.0nm,1.6s
NVS pmax pmax
comp=Z,20nm,1.6s,mb5.0
TKL Tuckaleechee C 63.00 296 LR LR 21 20 57.0
comp=Z,202nm,20.9s,MS4.3,baz=64,slow=33
BDFB Brasilia 63.43 227 P P 20 56 32.6 +1.1
comp=Z,3.2nm,0.9s,mb4.5,baz=13,slow=12,SNR=5.3
BDFB LR LR 21 21 40.5
comp=Z,87nm,18.9s,MS4.0,baz=199,slow=34
ZAL Zalesovo 63.95 41 P P 20 56 34.5 -0.1
ZAA0 Zalesovo Array 63.96 41 eP P 20 56 34.5 -0.1
ZAA0 Zalesovo Array 63.96 41 eP P 20 56 34.5 -0.2
ZALV Zalesovo Beam 63.96 41 P P 20 56 34.5 -0.1
comp=Z,3.8nm,0.7s,mb4.5,baz=290,slow=6.9,SNR=13
ZALV LR LR 21 25 56.4
comp=Z,31nm,19.9s,MS3.5,baz=316,slow=38
SDV Santo Domingo 64.53 264 eP P 20 56 39.9 +1.0
comp=Z,13nm,1.0s,mb4.9
SDV Santo Domingo 64.53 264 eP P 20 56 39.9 +0.9
comp=Z,13nm,1.0s,mb4.9
MK31 Makanchi Array 65.14 49 eP P 20 56 37.8 -4.6
MKAR Makanchi Array 65.14 49 P P 20 56 42.6 +0.1
comp=Z,4.2nm,0.7s,mb4.5,baz=285,slow=6.0,SNR=17
KRAR Krasnoyarsk 67.39 37⇑ i P P 20 56 57.2 +0.5
KRAR pmax pmax
comp=Z,15nm,1.3s,mb4.9
BOSA Boshof 68.06 151 P P 20 56 59.0 -2.2
comp=Z,5.7nm,0.7s,mb4.7,baz=353,slow=3.3,SNR=9.7
BOSA LR LR 21 27 01.1
comp=Z,160nm,18.0s,MS4.3,baz=206,slow=36
BOSA Boshof 68.06 151 P P 20 56 59.0 -2.2
BOSA pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BOSA MLR MLR
comp=Z,160nm,18.0s,MS4.3
BOSA Boshof 68.06 151 *eP* **P 20 56 58.0 -3.2**
comp=Z,21nm,1.2s,mb5.0
YKA Yellowknife Ar 69.17 332 P P 20 57 08.3 +0.5
comp=Z,4.4nm,0.7s,mb4.5,baz=61,slow=6.8,SNR=7.4
YKA LR LR 21 26 32.7
comp=Z,38nm,19.7s,MS3.6,baz=325,slow=35
WMQ Urumqi 69.85 50 *eP* **P 20 57 11.8 -0.5**
HVS Khovu-Aksy 70.06 41⇑ i P P 20 57 14.5 +1.1
HVS pmax pmax
comp=Z,19nm,0.8s,mb5.1
TIXI Tiksi 70.55 14⇑ i P P 20 57 19.2 +3.1
TIXI pmax pmax
comp=Z,12nm,1.3s,mb4.7
TIXI Tiksi 70.55 14 *i P* **P 20 57 19.2 +3.1**
comp=Z,12nm,1.3s,mb4.7
MIAR Mount Ida 70.74 299 P P 20 57 15.9 -2.0
MIAR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MIAR Mount Ida 70.74 299 P P 20 57 15.9 -2.0
comp=Z,5.8nm,0.9s,mb4.5
INK Inuvik 71.66 342 LR LR 21 26 17.5
comp=Z,116nm,19.7s,MS4.2,baz=272,slow=34
INK Inuvik 71.66 342 P P 20 57 24.0 +1.1
comp=Z,118nm,0.9s,mb5.8
INK Inuvik 71.66 342 P P 20 57 24.0 +1.1
comp=Z,118nm,0.9s,mb5.8
RSSD Black Hills 73.27 312 *eP* **P 20 57 33.9 +1.0**
RSSD pmax pmax
comp=Z,11nm,1.0s,mb4.7
RSSD Black Hills 73.27 312 *eP* **P 20 57 33.9 +1.0**
comp=Z,11nm,1.0s,mb4.7
RSSD Black Hills 73.27 312 *eP* **P 20 57 33.9 +1.0**
comp=Z,11nm,1.0s,mb4.7
EDM Edmonton 73.69 323 *eP* **P 20 57 37.4 +2.2**
EDM Edmonton 73.69 323 *eP* **P 20 57 37.4 +2.2**
MOY Mondy 73.72 39 *eP* **P 20 57 42.6 +7.2**
WMOK Wichita Mounta 74.42 301 *eP* **P 20 57 40.0 +0.2**
WMOK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WMOK Wichita Mounta 74.42 301 *eP* **P 20 57 40.0 +0.2**
comp=Z,8.6nm,1.0s,mb4.6
WMOK Wichita Mounta 74.42 301 *eP* **P 20 57 40.0 +0.2**
comp=Z,8.6nm,1.0s,mb4.6
TLY Talaya 75.08 38 *eP* **P 20 57 50.3 +7.0**
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,58nm,13.0s,MS4.1
TLY Talaya 75.08 38 *eP* **P 20 57 46.1 +2.8**
comp=Z,5.0nm,0.9s,mb4.4
PHWY Pilot Hill 75.61 310 *eP* **P 20 57 47.8 +1.2**
PHWY Pilot Hill 75.61 310 *eP* **P 20 57 47.8 +1.2**
ZAK Zakamensk 75.63 39 *eP* **P 20 57 48.8 +2.3**
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
ZAK Zakamensk 75.63 39 *eP* **P 20 57 48.8 +2.3**
comp=Z,3.0nm,1.3s,mb4.1
OTAV Otavalo 75.76 261 P P 20 57 49.1 +1.2
comp=Z,5.9nm,1.3s,mb4.4
OTAV Otavalo 75.76 261 P P 20 57 49.1 +1.3
comp=Z,5.9nm,1.3s,mb4.4
BOD Bodaibo 76.02 29 *eP* **P 20 57 46.9 -1.7**
BOD pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
BOD Bodaibo 76.02 29 *eP* **P 20 57 46.9 -1.7**
comp=Z,7.0nm,1.6s,mb4.3
COLD Coldfoot 76.32 347 *eP* **P 20 57 51.6 +1.5**
COLD Coldfoot 76.32 347 *eP* **P 20 57 51.6 +1.5**
comp=Z,19nm,1.2s,mb4.9
COLD *e* 20 58 14.4
DAWY Dawson 76.44 341 *eP* **P 20 57 51.2 +0.4**
ISCO Idaho Springs 76.50 309 *eP* **P 20 57 52.7 +1.0**
ISCO pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ISCO Idaho Springs 76.50 309 *eP* **P 20 57 52.7 +1.0**
comp=Z,6.4nm,1.0s,mb4.5
ISCO Idaho Springs 76.50 309 *eP* **P 20 57 52.7 +1.0**
comp=Z,6.4nm,1.0s,mb4.5
RWWY Rawlins 76.52 311 *eP* **P 20 57 52.7 +0.9**
comp=Z,41nm,1.0s,mb5.3
RWWY Rawlins 76.52 311 *eP* **P 20 57 52.7 +0.9**
comp=Z,41nm,1.0s,mb5.3
LKWY Lake 76.90 315 *eP* **P 20 57 51.7 -2.2**
comp=Z,107nm,1.2s,mb5.7
BOZ Bozeman (W) 77.02 316 *eP* **P 20 57 55.3 +0.8**
BOZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BOZ Bozeman (W) 77.02 316 *eP* **P 20 57 55.3 +0.8**
comp=Z,2.6nm,0.9s,mb4.2
BOZ Bozeman (W) 77.02 316 *eP* **P 20 57 55.3 +0.8**
comp=Z,2.6nm,0.9s,mb4.2
CPUP Villa Florida 77.16 226 P P 20 57 54.4 -1.0
comp=Z,2.9nm,0.7s,mb4.3,baz=39,slow=6.9,SNR=7.3
CPUP LR LR 21 33 06.7
comp=Z,111nm,18.6s,MS4.2,baz=245,slow=37
CPUP Villa Florida 77.16 226 P P 20 57 54.4 -1.0
CPUP pmax pmax
comp=Z,3.0nm,0.7s
CPUP MLR MLR
comp=Z,111nm,18.6s
CPUP Villa Florida 77.16 226 *eP* **P 20 57 53.4 -2.0**
comp=Z,29nm,1.1s,mb5.1
JCT Junction City 77.31 298 *eP* **P 20 57 56.8 +0.4**
JCT pmax pmax
comp=Z,14nm,1.0s,mb4.8
JCT Junction City 77.31 298 *eP* **P 20 57 56.8 +0.4**
comp=Z,14nm,1.0s,mb4.8
JCT Junction City 77.31 298 *eP* **P 20 57 56.8 +0.4**
comp=Z,14nm,1.0s,mb4.8
PDAR Pinedale Array 77.39 313 P P 20 57 57.1 +0.5
comp=Z,10nm,1.1s,mb4.7,baz=66,slow=6.8,SNR=28
PDAR LR LR 21 29 37.7
comp=Z,156nm,19.4s,MS4.3,baz=334,slow=34
BW06 Boulder Array 77.40 313 *eP* **P 20 57 56.8 +0.2**
comp=Z,9.6nm,0.9s,mb4.7
BW06 Boulder Array 77.40 313 *eP* **P 20 57 56.8 +0.1**
comp=Z,9.6nm,0.9s,mb4.7
SDCO Great Sand Dun 77.52 307 *eP* **P 20 57 58.3 +0.8**
comp=Z,5.1nm,1.0s,mb4.4
SDCO Great Sand Dun 77.52 307 *eP* **P 20 57 58.3 +0.8**
comp=Z,5.1nm,1.0s,mb4.4
LPAZ La Paz 77.53 241 P P 20 57 57.8 +0.1
comp=Z,2.3nm,0.8s,mb4.2,baz=52,slow=5.2,SNR=12
LPAZ LR LR 21 28 22.4
comp=Z,71nm,21.1s,MS4.0,baz=220,slow=33
LPAZ La Paz 77.53 241 P P 20 57 57.8 +0.1
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ MLR MLR
comp=Z,71nm,21.1s
LPAZ La Paz 77.53 241 *eP* **P 20 57 57.6 -0.1**
comp=Z,4.3nm,1.1s,mb4.3
IMW Indian Meadow 77.60 315 P P 20 57 59.6 +1.8
comp=Z,3.3nm,0.8s,mb4.3
DLMT Dillon 77.74 316 *eP* **P 20 58 01.0 +2.5**
comp=Z,12nm,1.0s,mb4.8
DLMT Dillon 77.74 316 *eP* **P 20 58 01.0 +2.5**
comp=Z,12nm,1.0s,mb4.8
COLA College 77.87 345 *i P* **P 20 58 00.6 +1.7**
IMA2 Indian Mountai 78.00 347 *eP* **P 20 58 01.5 +1.9**
IMA2 Indian Mountai 78.00 347 *eP* **P 20 58 01.6 +2.0**
MCMT McKenzie Canyo 78.19 316 *eP* **P 20 58 02.3 +1.2**
MCMT McKenzie Canyo 78.19 316 *eP* **P 20 58 02.3 +1.2**
YAK Yakutsk 78.33 20⇑ *eP* **P 20 58 01.5 0.0**
YAK pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
YAK Yakutsk 78.33 20 *eP* **P 20 58 01.5 0.0**
comp=Z,9.0nm,0.7s,mb4.8
YAK Yakutsk 78.33 20 *eP* **P 20 58 01.3 -0.2**
HYT Haines Junctio 78.42 338 *eP* **P 20 58 04.4 +2.4**
HYT Haines Junctio 78.42 338 *eP* **P 20 58 04.4 +2.4**
NEW Newport 78.53 321 *eP* **P 20 58 03.6 +0.8**
NEW pmax pmax
comp=Z,2.0nm,0.9s
NEW Newport 78.53 321 *eP* **P 20 58 03.6 +0.8**
comp=Z,2.4nm,0.9s,mb4.1
NEW Newport 78.53 321 *eP* **P 20 58 03.6 +0.7**
comp=Z,2.4nm,0.9s,mb4.1
SONM Songino Array 78.79 40 P P 20 58 04.8 +0.5
comp=Z,2.9nm,0.8s,mb4.3,baz=296,slow=5.7,SNR=14
SONM LR LR 21 37 58.6
comp=Z,86nm,18.0s,MS4.1,baz=316,slow=40
MCK McKinley 79.09 344 *eP* **P 20 58 07.1 +1.5**
MCK pmax pmax
comp=Z,16nm,1.1s,mb4.9
MCK McKinley 79.09 344 *eP* **P 20 58 07.1 +1.5**
comp=Z,16nm,1.1s,mb4.8
MCK McKinley 79.09 344 *eP* **P 20 58 07.1 +1.5**
comp=Z,16nm,1.1s,mb4.8
BPAW Bear Paw Mtn. 79.22 345 *eP* **P 20 58 07.9 +1.6**
comp=Z,6.4nm,1.1s,mb4.5
BPAW Bear Paw Mtn. 79.22 345 *eP* **P 20 58 07.9 +1.5**
comp=Z,6.4nm,1.1s,mb4.5
LSA Lhasa 79.25 62 P P 20 58 07.8 +0.7
PV01 Paradox Valley 79.34 309 *eP* **P 20 58 08.7 +1.2**
PV01 Paradox Valley 79.34 309 *eP* **P 20 58 08.7 +1.1**
PV10 Paradox Valley 79.52 309 *eP* **P 20 58 10.5 +2.1**
PV10 Paradox Valley 79.52 309 *eP* **P 20 58 10.5 +2.1**
ANMO Albuquerque 79.69 305 LR LR 21 30 09.3
comp=Z,133nm,19.4s,MS4.3,baz=258,slow=33
ANMO Albuquerque 79.69 305 *eP* **P 20 58 11.0 +1.6**
ANMO Albuquerque 79.69 305 *eP* **P 20 58 11.0 +1.5**
KTH Kantishna Hill 79.69 345 *eP* **P 20 58 10.0 +1.1**
comp=Z,31nm,1.1s,mb5.2
KTH Kantishna Hill 79.69 345 *eP* **P 20 58 10.0 +1.1**
comp=Z,31nm,1.1s,mb5.2
CHUM Lake Minchumin 79.69 346 *eP* **P 20 58 10.2 +1.3**
comp=Z,12nm,0.9s,mb4.8
CHUM Lake Minchumin 79.69 346 *eP* **P 20 58 10.2 +1.3**
comp=Z,12nm,0.9s,mb4.8
HLID Hailey 79.85 316 *eP* **P 20 58 11.8 +1.7**
comp=Z,2.8nm,1.0s,mb4.2
HLID Hailey 79.85 316 *eP* **P 20 58 11.8 +1.6**
comp=Z,2.8nm,1.0s,mb4.2
GTA Gaotai 79.89 49 *eP* **P 20 58 13.9 +3.4**
GTA AP pP 20 58 18.1 +2.0
GTA XP sP 20 58 21.5 +3.3
GTA AMB AMB
comp=Z,7.0nm,2.0s,mb4.2
PNL Peninsula 79.92 338 *eP* **P 20 58 00.8 -9.4**
BNM Barren Site 80.24 304 P P 20 58 13.6 +1.1
BNM Barren Site 80.24 304 P P 20 58 13.6 +1.1
LAZ Ladron 80.46 305 *eP* **P 20 58 16.0 +2.4**
LAZ Ladron 80.46 305 *eP* **P 20 58 16.0 +2.4**
PPLA Purkeypile 80.54 345 *eP* **P 20 58 17.7 +4.2**
comp=Z,15nm,1.2s,mb4.8
ETW Entiat 80.63 322 *eP* **P 20 58 14.7 +0.4**
ETW Entiat 80.63 322 *eP* **P 20 58 14.7 +0.4**
LNOR Lincton Mounta 80.63 319 *eP* **P 20 58 14.5 +0.2**
LNOR Lincton Mounta 80.63 319 *eP* **P 20 58 14.5 +0.2**
BMO Blue Mountains 80.72 318 *eP* **P 20 58 16.8 +2.0**
comp=Z,4.5nm,0.8s,mb4.5
TXAR Lajitas Array 80.76 299 P P 20 58 15.5 +0.1
comp=Z,1.9nm,1.1s,mb4.0,baz=79,slow=5.7,SNR=8.7
TXAR LR LR 21 31 02.6
comp=Z,189nm,20.3s,MS4.4,baz=5.0,slow=33
MSU Marysvale 81.46 311 *eP* **P 20 58 20.4 +1.5**
MSU Marysvale 81.46 311 *eP* **P 20 58 20.4 +1.5**
LON Longmire 81.95 322 *eP* **P 20 58 21.5 +0.2**
LON pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LON Longmire 81.95 322 *eP* **P 20 58 21.5 +0.2**
comp=Z,6.3nm,0.8s,mb4.6
LON Longmire 81.95 322 *eP* **P 20 58 21.5 +0.2**
comp=Z,6.3nm,0.8s,mb4.6
LVC Limon Verde 82.18 237 *eP* **P 20 58 23.1 +0.3**
comp=Z,7.6nm,0.9s,mb4.6
SLKM Skilak Lake 82.20 343 *eP* **P 20 58 24.1 +1.7**
SLKM Skilak Lake 82.20 343 *eP* **P 20 58 24.1 +1.7**
SEY Seymchan 82.47 10⇓ *i P* **P 20 58 25.2 +1.5**
SVW2 Sparrevohn 82.87 346 *eP* **P 20 58 26.2 +0.4**
SVW2 Sparrevohn 82.87 346 *eP* **P 20 58 26.2 +0.4**
TUC Tucson 84.15 305 *eP* **P 20 58 34.6 +1.6**
TUC pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
TUC Tucson 84.15 305 *eP* **P 20 58 34.6 +1.6**
comp=Z,7.9nm,1.0s,mb4.8
TUC Tucson 84.15 305 *eP* **P 20 58 34.6 +1.6**
comp=Z,7.9nm,1.0s,mb4.8
LZH Lanzhou 84.43 50 *eP* **P 20 58 36.2 +1.9**
LZH AP pP 20 58 45.0 +5.0
LZH PP PP 21 01 49.0 0.0
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,55nm,4.2s
KDAK Kodiak Island 85.19 343 *eP* **P 20 58 39.4 +1.7**
KDAK pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
KDAK Kodiak Island 85.19 343 *eP* **P 20 58 39.4 +1.7**
comp=Z,10.0nm,0.8s,mb5.0
KDAK Kodiak Island 85.19 343 *eP* **P 20 58 39.4 +1.7**
comp=Z,10.0nm,0.8s,mb5.0
NVAR Mina Array Bea 85.32 313 P P 20 58 40.3 +1.6
comp=Z,0.2nm,0.5s,mb3.5,baz=55,slow=3.6,SNR=2.9
HHC Hu-ho-hao-te 86.10 43 *eP* **P 20 58 40.0 -2.6**
HHC AP pP 20 58 44.8 -3.4
HHC XP sP 20 58 47.1 -3.2
HHC PP PP 21 02 00.9 -1.4
HHC SKS 21 09 02.8
HHC S S 21 09 11.1 -5.2
HHC SS SS 21 14 51.2 -2.4
HHC AMB AMB
comp=Z,18nm,1.0s,mb5.3
HHC AMB AMB
comp=Z,122nm,4.4s
HHC LR LR
comp=N,150nm,19.0s,MS4.5
HHC LR LR
comp=E,149nm,21.4s,MS4.5
HHC LR LR
comp=Z,148nm,20.2s,MS4.4
PFO Pinyon Flat Ob 87.17 309 *eP* **P 20 58 50.0 +2.0**
PFO pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
PFO Pinyon Flat Ob 87.17 309 *eP* **P 20 58 50.0 +2.0**
comp=Z,3.8nm,1.0s,mb4.6
PFO Pinyon Flat Ob 87.17 309 *eP* **P 20 58 50.0 +2.0**
comp=Z,3.8nm,1.0s,mb4.6
ISA Isabella 87.18 311 P P 20 58 49.8 +1.8
ISA Isabella 87.18 311 P P 20 58 49.9 +1.9
CD2 Chengdu 87.52 54 P P 20 58 49.2 -0.5
CD2 AP pP 20 58 54.0 -1.4
CD2 XP sP 20 58 57.6 +0.2
CD2 PP PP 21 02 15.6 +1.5
CD2 SKS 21 09 13.5
CD2 S S 21 09 26.7 -3.7
CD2 XS sS 21 09 34.7 -5.1
CD2 SS SS 21 15 13.6 -1.4
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.4
CD2 AMB AMB
comp=Z,30nm,6.4s
CD2 LR LR
comp=N,290nm,10.8s
CD2 LR LR
comp=Z,160nm,8.4s
KMI Kunming 90.31 60 P P 20 59 01.6 -1.3
KMI AP pP 20 59 06.8 -1.8
KMI XP sP 20 59 08.4 -2.3
KMI PP PP 21 02 38.2 +1.6
KMI S S 21 09 53.1 -3.7
KMI SS SS 21 15 57.1 +1.2
KMI AMB AMB
comp=Z,4.0nm,1.4s,mb4.6
KMI AMB AMB
comp=Z,87nm,4.7s
KMI LR LR
comp=N,290nm,14.7s,MS5.0
KMI LR LR
comp=E,223nm,13.5s,MS5.0
KMI LR LR
comp=Z,172nm,12.2s,MS4.7
CHTO Chiang Mai 91.20 67 P P 20 59 06.7 -0.5
CHTO Chiang Mai 91.20 67 P P 20 59 06.7 -0.5
CMAR Chiang Mai Arr 91.41 67 P P 20 59 06.0 -2.2
comp=Z,2.3nm,0.9s,mb4.5,baz=298,slow=4.2,SNR=5.8
CMAR Chiang Mai Arr 91.41 67 *i P* **P 20 59 09.1 +0.9**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
GYA Guiyang 92.27 56 P P 20 59 11.8 -0.2
GYA PP PP 21 02 53.7 +1.7
GYA SKS 21 09 42.6
GYA S S 21 10 10.2 -4.4
GYA SS SS 21 16 23.8 -0.2
GYA AMB AMB

comp=Z,10.0nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,120nm,6.2s
GYA LR LR
comp=N,470nm,21.9s,MS5.1
GYA LR LR
comp=E,460nm,20.2s,MS5.1
GYA LR LR
comp=Z,470nm,21.8s,MS4.9
PETK Petropavlovsk- 92.72 10 LR LR 21 50 43.4
comp=Z,41nm,18.6s,MS3.9,baz=141,slow=42
PLCA Paso Flores 95.04 224 P **P 20 59 24.5 +0.3**
comp=Z,2.8nm,1.1s,mb4.6,baz=35,slow=10,SNR=4.4
PLCA LR LR 21 39 20.6
comp=Z,152nm,19.6s,MS4.5,baz=47,slow=34
PLCA Paso Flores 95.04 224 P **P 20 59 24.5 +0.3**
PLCA pmax pmax
comp=Z,3.0nm,1.1s
PLCA MLR MLR
comp=Z,152nm,19.7s
PLCA Paso Flores 95.04 224 P **P 20 59 23.3 -0.9**
comp=Z,8.2nm,1.3s,mb5.0
PLCA Paso Flores 95.04 224 P **P 20 59 23.3 -1.0**
comp=Z,8.2nm,1.3s,mb5.0
KSRS Korea Array 97.26 36 LR LR 21 48 23.9
comp=Z,48nm,18.4s,MS4.0,baz=160,slow=38
WRA Warramunga Arr 141.83 80 PKhKP 21 05 26.6
comp=Z,0.3nm,0.7s,baz=312,slow=2.9,SNR=5.8
WRA PKP PKPdf 21 05 33.0 -0.8
comp=Z,0.8nm,0.9s,baz=310,slow=2.3,SNR=6.7
WRA Warramunga Arr 141.83 80 PKIKP PKPdf 21 05 33.0 -0.8
ASAR Alice Springs 143.13 86 PKhKP 21 05 31.1
comp=Z,0.3nm,0.6s,baz=318,slow=1.2,SNR=3.9
ASAR PKP PKPdf 21 05 35.0 -1.0
comp=Z,0.7nm,0.9s,baz=308,slow=1.5,SNR=6.5
ASAR Alice Springs 143.13 86 PKIKP PKPdf 21 05 35.0 -1.0
COEN Coen 145.55 64 ePKIKP PKPdf 21 05 39.8 -0.6
COEN Coen 145.55 64 ePKPdf PKPdf 21 05 39.8 -0.6
STKA Stephens Creek 152.18 96 eP PKPbc 21 05 56.3 -1.0
comp=Z,6.2nm,0.9s
STKA Stephens Creek 152.18 96 PKPbc PKPbc 21 05 55.9 -1.4
comp=Z,9.6nm,0.9s,baz=321,slow=5.2,SNR=9.4

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*ISCJB **11** 20:47:32.1±0.6, 355S±007×10281E±007, h135km±5km, mb3.8/16, Error ellipse: s-maj=15.0km s-min=6.6km az=139.8*
*NEIC **11** 20:47:33.0±1.5, 343S×10297E, h129km±14km, mb3.8/3, Error ellipse: s-maj=15.3km s-min=7.8km az=54.0*
*DJA **11** 20:47:33, 367S×10277E, h118km, ML4.3/10*
*IDC **11** 20:47:33.7±2.1, 342S×10295E, h135km±18km, mb3.7/14, mb1 3.8/15, mb1mx3.7/22, mbtmp3.7/15, MS2.9/1, Ms1 2.9/1, ms1mx2.6/27, Error ellipse: s-maj=23.2km s-min=11.8km az=55.0*

ISC 11 20:47:33.1±0.6, 353S±007×10282E±008, h130km±5km, n43, σ1§00/41, mb3.8/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.26**	**242**	P	**Pn**	**20 47 50.9**	**-0.2**
	0.0nm,0.0s						
KLI	**Kotabumi**	**2.42**	**123**	P	**Pn**	**20 48 11.8**	**-0.6**
	0.0nm,0.0s						
RGRI	**Rengat**	**3.20**	**351**	P	**Pn**	**20 48 24.0**	**+1.6**
	0.0nm,0.0s						
DSRI	**Dabo**	**3.50**	**30**	P	**Pn**	**20 48 27.8**	**+1.4**
	0.0nm,0.0s						
PPBI	**Pangkal Pinang**	**3.58**	**68**	P	**Pn**	**20 48 27.9**	**+0.5**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**3.90**	**322**	P	**Pn**	**20 48 31.8**	**+0.2**
	0.0nm,0.0s						
SBJI	**Serang**	**4.18**	**128**	P	**Pn**	**20 48 35.3**	**0.0**
	0.0nm,0.0s						
DBJI	**Dramaga**	**4.93**	**128**	P	**Pn**	**20 48 44.7**	**-0.7**
	0.0nm,0.0s						
CBJI	**Citeko**	**4.94**	**126**	P	**Pn**	**20 48 48.0**	**+2.6**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**5.07**	**133**	P	**Pn**	**20 48 45.4**	**-1.9**
	0.0nm,0.0s						
LEM	**Lembang**	**5.79**	**125**	P	**Pn**	**20 48 57.3**	**+0.4**
	0.0nm,0.0s						
PSI	**Prapat**	**7.40**	**328**	P	**Pn**	**20 49 16.7**	**-1.9**
	1.3nm,0.3s,baz=174,slow=15,SNR=5.8						
PSI				LR	LR	20 52 58.9	
	comp=Z,101nm,20.5s,baz=339,slow=45						
PSI	**Prapat**	**7.40**	**328**	P	**Pn**	**20 49 16.7**	**-1.9**
PSI				LR	LR	20 52 58.9	
BJII	**Banjamegara**	**7.83**	**119**	P	**Pn**	**20 49 24.5**	**+0.1**
	0.0nm,0.0s						
SJI	**Sawahan**	**9.83**	**116**	P	**Pn**	**20 49 51.6**	**+0.3**
	0.0nm,0.0s						
BSI	**Banda Aceh**	**11.70**	**320**	P	**Pn**	**20 50 13.4**	**-2.7**
	0.0nm,0.0s						
BATI	**Baumata**	**21.72**	**109**	P	**P**	**20 52 14.0**	**-0.1**
	9.0nm,0.4s,mb4.6,baz=184,slow=15,SNR=6.1						
CMAR	**Chiang Mai Arr**	**22.18**	**350**	P	**P**	**20 52 18.9**	**+0.1**
	3.1nm,0.6s,mb3.9,baz=180,slow=8.5,SNR=23						
CHTO	**Chiang Mai**	**22.53**	**350**	*eP*	**P**	**20 52 22.1**	**-0.3**
	1.4nm,0.6s,mb3.6						
FITZ	**Fitzroy Crossi**	**26.63**	**125**	*eP*	**P**	**20 52 59.8**	**0.0**
	2.5nm,1.0s,mb3.8						
FITZ	**Fitzroy Crossi**	**26.63**	**125**	P	**P**	**20 53 00.0**	**+0.2**
	0.9nm,0.7s,mb3.5,baz=319,slow=13,SNR=5.4						
WRA	**Warramunga Arr**	**34.79**	**120**	P	**P**	**20 54 10.5**	**-1.1**
	0.8nm,0.3s,mb3.8,baz=304,slow=9.0,SNR=21						
WRA				PcP	PcP	20 56 41.2	-1.1
	0.2nm,0.6s,baz=305,slow=2.2,SNR=4.8						
WRA				S	**S**	**20 59 25.6**	**-7.2**
	0.5nm,0.9s,baz=290,slow=17,SNR=3.3						
WRAB	**Tennant Creek**	**34.80**	**120**	*eP*	**P**	**20 54 10.7**	**-0.9**
	5.9nm,1.1s,mb4.1						
WB2	**Warramunga Arr**	**34.80**	**120**	*eP*	**P**	**20 54 10.8**	**-0.9**
ASAR	**Alice Springs**	**36.08**	**127**	PcP	PcP	20 56 45.5	-0.5
	0.5nm,0.6s,baz=306,slow=1.8,SNR=6.3						
ASAR				S	**S**	**20 59 45.6**	**-6.8**
	0.7nm,0.8s,baz=292,slow=14,SNR=8.6						
STKA	**Stephens Creek**	**46.04**	**132**	*eP*	**P**	**20 55 43.7**	**-0.2**
	4.4nm,1.7s,mb3.8						
STKA	**Stephens Creek**	**46.04**	**132**	P	**P**	**20 55 43.9**	**0.0**
	0.7nm,0.3s,mb3.8,baz=311,slow=9.7,SNR=6.4						
STKA				PcP	PcP	20 57 17.4	-0.9
	0.6nm,0.4s,baz=294,slow=7.3,SNR=2.8						
STKA	**Stephens Creek**	**46.04**	**132**	*eP*	**P**	**20 55 43.6**	**-0.3**
SONM	**Songino Array**	**51.25**	**3**	P	**P**	**20 56 23.7**	**+0.3**
	0.3nm,0.5s,mb3.2,baz=181,slow=9.6,SNR=3.1						
MJAR	**Matsushiro Arr**	**51.76**	**36**	pP	pP	20 56 57.8	+0.1
	0.8nm,0.8s,baz=210,slow=7.6,SNR=5.9						
MKAR	**Makanchi Array**	**53.29**	**343**	P	**P**	**20 56 38.0**	**-0.5**
	1.1nm,0.4s,mb3.9,baz=153,slow=9.1,SNR=29						
MKAR	**Makanchi Array**	**53.29**	**343**	P	**P**	**20 56 38.0**	**-0.5**
ZALV	**Zalesovo Beam**	**59.22**	**348**	P	**P**	**20 57 19.5**	**-0.9**
	1.3nm,0.3s,mb4.2,baz=160,slow=5.9,SNR=7.5						
ZALV	**Zalesovo Beam**	**59.22**	**348**	P	**P**	**20 57 19.5**	**-0.9**
MAW	**Mawson**	**69.53**	**195**	P	**P**	**20 58 28.9**	**+1.6**
	0.8nm,0.6s,mb3.6,baz=2.4,slow=12,SNR=3.7						
BOSA	**Boshof**	**77.40**	**242**	P	**P**	**20 59 15.1**	**+0.8**
	2.2nm,0.7s,mb3.9,baz=25,slow=9.5,SNR=3.7						
VNDA	**Vanda**	**80.13**	**169**	P	**P**	**20 59 28.9**	**+0.6**
	0.6nm,0.7s,mb3.3,baz=286,slow=4.2,SNR=3.6						
TSUM	**Tsumeb**	**84.36**	**251**	P	**P**	**20 59 53.0**	**+1.5**
	2.9nm,0.8s,mb4.0,baz=126,slow=8.7,SNR=4.2						
ARCES	**ARCESS Array B**	**88.86**	**340**	P	**P**	**21 00 11.8**	**-0.4**
	1.6nm,0.8s,mb4.0,baz=99,slow=7.9,SNR=3.9						
ARCES	**ARCESS Array B**	**88.86**	**340**	P	**P**	**21 00 11.8**	**-0.4**
GERES	**GERESS Array B**	**92.05**	**319**	P	**P**	**21 00 28.0**	**+0.5**
	0.1nm,0.3s,mb3.3,baz=108,slow=3.2,SNR=2.7						
TXAR	**Lajitas Array**	**144.09**	**42**	PKP	PKPdf	21 06 52.1	-2.0
	0.3nm,0.6s,baz=302,slow=0.6,SNR=6.7						
TXAR				SKPbc	SKPbc	21 10 20.0	-1.3
	0.3nm,0.7s,baz=11,slow=2.6,SNR=4.6						
CPUP	**Villa Florida**	**144.64**	**212**	PKP	PKPdf	21 06 54.5	-0.7
	1.7nm,0.6s,baz=114,slow=5.8,SNR=6.3						

IDC 11 21:12:03.6±2.2, 138S×12731E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=194.1km s-min=26.4km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.69**	**160**	P	Pn	21 16 34.5	-1.4
	0.1nm,0.3s,baz=342,slow=12,SNR=8.6						
ASAR	**Alice Springs**	**23.06**	**164**	P	P	21 17 11.1	+0.3
	0.2nm,0.4s,baz=351,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**62.08**	**327**	P	P	21 22 26.2	0.0
	0.3nm,0.5s,baz=118,slow=7.8,SNR=6.7						

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*ISCJB **11** 21:17:21.7±0.5, 4381N±003×105.18W±006, h0km, Error ellipse: s-maj=5.8km s-min=4.3km az=172.1*
*IDC **11** 21:17:22.7±1.8, 4392N×10561W, h0km, mb3.8/1, mb1 4.0/3, mb1mx3.5/23, mbtmp3.8/3, ML3.5/2, Error ellipse: s-maj=53.2km s-min=7.7km az=148.0*
*NEIC **11** 21:17:23.6±0.4, 4372N×10521W, h0km, ML2.9, Error ellipse: s-maj=6.3km s-min=4.9km az=151.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 11 21:17:23.4±0.4, 4376N±003×10519W±004, h0km, n35, σ1§13/50, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**66**	*eP*	**Pg**	**21 17 42.3**	**+1.4**
PHWY	**Pilot Hill**	**2.46**	**185**	*ePn*	**Pn**	**21 18 04.3**	**-0.4**
PHWY				*ePg*	**Sn**	**21 18 38.0**	**+2.5**
RWWY	**Rawlins**	**2.54**	**216**	*ePn*	**Pn**	**21 18 05.8**	**-0.1**
RWWY				*eSn*	**Sn**	**21 18 37.4**	**-0.2**
RWWY				*eSg*	**Sg**	**21 18 42.7**	**-2.5**
LAO	**LASA Array**	**3.02**	**346**	*ePn*	**Pn**	**21 18 13.6**	**+1.1**
LAO				*eSg*	**Sg**	**21 18 59.2**	**-1.2**
RLMT	**Red Lodge**	**3.22**	**296**	*ePn*	**Pn**	**21 18 14.9**	**-0.3**
RLMT				*eSn*	**Sn**	**21 18 55.9**	**+1.7**
BW06	**Boulder Array**	**3.34**	**254**	*ePn*	**Pn**	**21 18 16.0**	**-0.8**
PDAR	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**21 18 16.0**	**-0.8**
PDAR				Lg		21 18 60.0	
PDAR	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**21 18 16.0**	**-0.8**
	2.9nm,0.3s,baz=72,slow=16,SNR=46						
PDAR				Lg		21 18 60.0	
	6.7nm,0.3s,baz=72,slow=30,SNR=15						
GCMT	**Greycliff**	**3.78**	**304**	*ePn*	**Pn**	**21 18 22.9**	**0.0**
GCMT				*eSg*	**Sg**	**21 19 25.4**	**+0.6**
LOHW	**Long Hollow**	**3.93**	**270**	*ePn*	**Pn**	**21 18 25.1**	**+0.2**
ISCO	**Idaho Springs**	**3.96**	**185**	*ePn*	**Pn**	**21 18 25.4**	**-0.1**
ISCO				*eSg*	**Sg**	**21 19 24.1**	**-6.7**
FLWY	**Flagg Ranch**	**3.99**	**277**	*ePg*	**Pg**	**21 18 36.1**	**-3.8**
MOOW	**Moose Ponds**	**4.02**	**272**	*ePn*	**Pn**	**21 18 27.3**	**+1.0**
SNOW	**Snow King Moun**	**4.05**	**268**	*ePn*	**Pn**	**21 18 28.4**	**+1.8**
YFT	**Old Faithful**	**4.12**	**282**	*ePn*	**Pn**	**21 18 35.6**	**+8.0**
REDW	**Red Top Meadow**	**4.13**	**266**	*ePn*	**Pn**	**21 18 28.2**	**+0.5**
IMW	**Indian Meadow**	**4.16**	**274**	*ePn*	**Pn**	**21 18 30.1**	**+2.0**
TPAW	**Teton Pass**	**4.19**	**268**	*ePn*	**Pn**	**21 18 28.9**	**+0.4**
RRI2	**Red Ridge**	**4.47**	**267**	*ePn*	**Pn**	**21 18 33.2**	**+0.9**
DGMT	**Dagmar**	**4.77**	**8**	*ePn*	**Pn**	**21 18 37.6**	**+1.2**
DGMT				*eSg*	**Sg**	**21 19 53.7**	**-2.7**
BOZ	**Bozeman (W)**	**4.96**	**295**	Pn	**Pn**	**21 18 38.6**	**-0.5**
BOZ				*ePg*	**Pg**	**21 18 51.1**	**-7.3**
BOZ				*eSg*	**Sg**	**21 19 50.2**	**-13**
EGMT	**Eagleton**	**5.33**	**325**	*ePn*	**Pn**	**21 18 43.8**	**-0.3**
	11nm,0.6s						
EGMT				*ePg*	**Pg**	**21 18 58.5**	**-6.9**
HRY	**Holter Researc**	**5.54**	**305**	Pn	**Pn**	**21 18 46.5**	**-0.5**
HRY				*eSg*	**Sg**	**21 20 13.9**	**-7.4**
SPUT	**South Promonto**	**5.89**	**248**	*ePn*	**Pn**	**21 18 50.6**	**-1.3**
PV10	**Paradox Valley**	**6.11**	**210**	*ePg*	**Pg**	**21 19 18.4**	**-2.1**
SRU	**San Rafael**	**6.13**	**223**	*ePn*	**Pn**	**21 19 00.3**	**+5.1**
PV01	**Paradox Valley**	**6.17**	**206**	*ePn*	**Pn**	**21 18 56.0**	**+0.2**
ECSD	**EROS,Sioux Fal**	**6.21**	**87**	*ePn*	**Pn**	**21 18 57.2**	**+0.9**
	4.6nm,0.4s						
ECSD				*eSg*	**Sg**	**21 20 42.8**	**-0.1**
TMUT	**Trail Mountain**	**6.34**	**227**	*ePn*	**Pn**	**21 18 57.8**	**-0.3**
TMUT				*ePg*	**Pg**	**21 19 20.0**	**-4.9**
MSU	**Marysvale**	**7.43**	**228**	*ePg*	**Pg**	**21 19 36.1**	**-10**
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**21 19 34.7**	**-1.1**
ULM				Sn	**Sn**	**21 21 12.8**	**-5.8**
ULM				Lg		21 22 05.1	
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**21 19 34.7**	**-1.1**
	2.4nm,0.3s,baz=233,slow=13,SNR=14						
ULM				Sn	**Sn**	**21 21 12.8**	**-5.8**
	0.3nm,0.3s,baz=337,slow=9.1,SNR=3.3						
ULM				Lg		21 22 05.1	
	0.2nm,0.3s,baz=153,slow=18,SNR=2.4						
WUAZ	**Wupatki**	**9.51**	**212**	*ePn*	**Pn**	**21 19 50.3**	**+8.8**
TXAR	**Lajitas Array**	**14.45**	**175**	Lg		21 25 02.7	
	0.0nm,0.3s,baz=2.9,slow=19,SNR=5.0						
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**21 27 39.1**	**-1.5**
	0.5nm,0.5s,baz=335,slow=7.4,SNR=7.9						

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*ISCJB **11** 21:21:55.9±1.2, 4374N±005×4622E±005, h21km±11km, Error ellipse: s-maj=8.7km s-min=5.2km az=152.4*
*TIF **11** 21:21:55.3, 4354N×4619E, h17km±2km*
*MOS **11** 21:21:55.4±2.7, 4380N×4610E, h14km, mb4.4/1, Error ellipse: s-maj=17.2km s-min=9.6km az=146.7*
*CSEM **11** 21:21:57.8±0.2, 4360N×4603E, h2km, mb4.4, Error ellipse: s-maj=6.2km s-min=3.1km az=164.0*
*NNC **11** 21:22:09.4±3.6, 4357N×4783E, h0km, mb3.3, Error ellipse: s-maj=34.6km s-min=26.6km az=13.0*

ISC 11 21:21:55.3±0.7, 4378N±004×4609E±004, h6km±4km, n21, σ1§31/36, 6C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**1.17**	**233**	*i* Pg	**Pg**	**21 22 16.6**	**-1.1**
SNJR				*eSg*	**Sg**	**21 22 32.2**	**-0.7**
BTKR	**Batakoyurt**	**1.20**	**251**	⇑*i*Pg	**Pg**	**21 22 18.7**	**+0.5**
BTKR				*eS*	**Sg**	**21 22 36.7**	**+3.0**
MAK	**Makhachkala**	**1.31**	**128**	*ePG*	**Pg**	**21 22 20.7**	**+0.2**
MAK				*e*		21 22 38.7	
MAK				pmax	pmax		
	comp=Z,145nm,0.3s						
MAK				smax			
	comp=N,3μm,0.5s						
MAK				smax			
	comp=E,2μm,0.4s						
MAK	**Makhachkala**	**1.31**	**128**	*ePg*	**Pg**	**21 22 20.6**	**+0.2**
	comp=E,145nm,0.3s						
MAK				*eSg*	**Sg**	**21 22 38.7**	**+1.2**
KMSR	**Komsomolskaya**	**1.37**	**253**	⇓*i*PG	**Pg**	**21 22 21.8**	**+0.3**
KMSR				*eS*	**Sb**	**21 22 42.0**	**+3.0**
ARNR	**Ardon**	**1.44**	**247**	⇑*i*PG	**Pg**	**21 22 21.8**	**-1.2**
ARNR				*eS*	**Sn**	**21 22 41.5**	**+0.4**
LACR	**Lac**	**1.62**	**235**	*i* Pn	**Pn**	**21 22 22.4**	**-1.9**
LSNR	**Lesken**	**1.73**	**254**	*i* Pn	**Pn**	**21 22 27.0**	**+1.2**
LSNR				*eSg*	**Sg**	**21 22 50.1**	**-0.8**
ZEI	**Tsey**	**1.89**	**239**	*ePn*	**Pn**	**21 22 27.5**	**-0.5**
DIGR	**Digorskoe uzhe**	**2.03**	**245**	*ePN*	**Pn**	**21 22 29.4**	**-0.5**
ONI	**Oni**	**2.27**	**239**	P	**Pn**	**21 22 32.9**	**-0.4**
ONI				S	**Sn**	**21 23 03.2**	**+1.6**
TBLG	**Delisi**	**2.27**	**206**	Pn	**Pn**	**21 22 32.9**	**-0.4**
TBLG				Sn	**Sn**	**21 23 00.5**	**-1.1**
MTA	**Mtatsminda**	**2.29**	**205**	P	**Pn**	**21 22 32.5**	**-1.0**
MTA				S	**Sn**	**21 23 01.2**	**-0.8**
DGRG	**David-gareji**	**2.38**	**193**	P	**Pn**	**21 22 33.5**	**-1.3**
DGRG				S	**Sn**	**21 23 07.3**	**+3.1**
KIV	**Kislovodsk**	**2.47**	**275**	*ePN*	**Pg**	**21 22 42.2**	**-0.4**
KIV				*e*		21 23 11.9	
KIV				pmax	pmax		
	comp=Z,13nm,0.2s						
KIV				smax			
	comp=N,55nm,0.3s						
GOF	**Gofitskoye**	**2.54**	**301**	*ePN*	**Pn**	**21 22 32.9**	**-4.0**
GOF				*eS*	**Sn**	**21 23 08.8**	**+0.7**
GOF				pmax	pmax		
	comp=Z,48nm,0.5s						
GOF				smax			
	comp=E,284nm,0.7s						
GOF	**Gofitskoye**	**2.54**	**301**	*eSn*	**Sn**	**21 23 08.8**	**+0.7**
AKH	**Akhalkalaki**	**3.04**	**220**	P	**Pn**	**21 22 44.8**	**+1.0**
AKH				S	**Sn**	**21 23 26.2**	**+5.6**
AKTO	**Aktyubinsk**	**10.50**	**46**	⇑Pn	**Pn**	**21 24 29.1**	**+2.9**
	comp=E,0.2nm,0.5s						
AKTO				⇑Sn	**Sn**	**21 26 22.0**	**-1.9**
	comp=E,0.7nm,0.8s						
AB31	**Akbulak array**	**11.00**	**55**	⇓Pn	**Pn**	**21 24 35.6**	**+2.6**
	comp=E,0.3nm,0.3s,baz=246,slow=11,SNR=25						
AB31				⇓Sn	**Sn**	**21 26 34.5**	**-1.7**
	comp=E,1.9nm,0.5s,baz=243,slow=24,SNR=3.6						
KK31	**Karatay Array**	**17.74**	**84**	⇑Pn	**Pn**	**21 26 04.3**	**+1.7**
	comp=E,0.2nm,0.4s,baz=276,slow=15,SNR=7.3						
KK31				⇑Sn	**Sn**	**21 29 11.5**	**-8.9**
	comp=E,0.6nm,0.5s,baz=278,slow=24,SNR=3.4						

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*NEIC **11** 21:22:52.4±0.5, 278N×12836E, h10km, mb4.5/7, Error ellipse: s-maj=25.7km s-min=7.8km az=85.0*
*ISCJB **11** 21:23:10.9±1.3, 270N±006×1286E±0.1, h205km±13km, mb4.0/17, Error ellipse: s-maj=24.1km s-min=9.2km az=173.7*
*IDC **11** 21:23:13.3±2.4, 265N×12862E, h213km±24km, mb3.6/14, mb1 3.7/15, mb1mx3.7/19, mbtmp3.6/15, Error ellipse: s-maj=24.1km s-min=8.9km az=81.0*

ISC 11 21:23:12.0±1.3, 268N±006×1286E±01, h199km±13km, n28, σ0§72/28, mb4.0/17, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.23**	**213**	⇓*eP*	**Pn**	**21 23 52.5**	**-0.3**
BATI	**Baumata**	**13.70**	**201**	P	**Pn**	**21 26 18.9**	**+0.6**
	4.7nm,0.3s,baz=97,slow=6.2,SNR=6.7						
KAKA	**Kakadu**	**15.76**	**166**	*eP*	**Pn**	**21 26 43.8**	**+0.2**
	8.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.85**	**188**	*eP*	**P**	**21 27 37.9**	**-0.6**
	4.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.85**	**188**	P	**P**	**21 27 37.8**	**-0.7**
	2.6nm,0.5s,baz=15,slow=8.7,SNR=24						
WRAB	**Tennant Creek**	**23.17**	**166**	*eP*	**P**	**21 28 01.2**	**+0.1**
	14nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**23.18**	**166**	P	**P**	**21 28 01.2**	**0.0**
	6.1nm,0.5s,mb4.4,baz=346,slow=10.0,SNR=85						
WRA				ScP	ScP	21 34 59.8	-2.9
	0.4nm,1.0s,baz=338,slow=3.2,SNR=4.7						
WB2	**Warramunga Arr**	**23.18**	**166**	*eP*	**P**	**21 28 01.1**	**-0.1**
ASAR	**Alice Springs**	**26.69**	**169**	P	**P**	**21 28 33.0**	**+0.2**
	2.7nm,0.5s,mb4.2,baz=358,slow=7.4,SNR=48						
CMAR	**Chiang Mai Arr**	**32.98**	**300**	P	**P**	**21 29 29.9**	**+1.5**
	0.9nm,0.7s,mb3.4,baz=117,slow=7.7,SNR=5.9						
FORT	**Forrest**	**33.27**	**181**	*eP*	**P**	**21 29 30.4**	**-0.3**
	4.3nm,0.5s,mb4.2						
KSRS	**Korea Array**	**34.62**	**359**	P	**P**	**21 29 42.4**	**+0.2**
	2.0nm,0.5s,mb3.9,baz=176,slow=9.7,SNR=8.8						
MJAR	**Matsushiro Arr**	**34.85**	**14**	P	**P**	**21 29 43.8**	**-0.5**
	3.1nm,0.6s,mb4.0,baz=186,slow=9.6,SNR=20						
MAJO	**Matsushiro**	**34.86**	**14**	*eP*	**P**	**21 29 43.8**	**-0.5**
	5.3nm,0.8s,mb4.1						
MAT	**Matsushiro**	**34.86**	**14**	P	**P**	**21 29 43.9**	**-0.3**
KLBR	**Kellerberrin**	**35.59**	**196**	*eP*	**P**	**21 29 50.1**	**-0.5**
	93nm,1.8s,mb5.0						
MUN	**Mundaring**	**36.41**	**198**	*eP*	**P**	**21 29 56.5**	**-1.0**
STKA	**Stephens Creek**	**36.52**	**161**	*eP*	**P**	**21 29 58.5**	**0.0**
	2.7nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**36.52**	**161**	P	**P**	**21 29 58.7**	**+0.2**
	2.5nm,0.4s,mb4.1,baz=340,slow=8.3,SNR=25						
TOO	**Toolangi**	**43.01**	**160**	*eP*	**P**	**21 30 54.0**	**+2.1**
SONM	**Songino Array**	**48.89**	**340**	P	**P**	**21 31 38.0**	**+0.4**
	0.9nm,0.7s,mb3.2,baz=152,slow=8.2,SNR=6.8						
PETK	**Petropavlovsk-**	**55.73**	**21**	P	**P**	**21 32 28.8**	**+1.0**
	2.5nm,0.8s,mb3.8,baz=178,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**59.46**	**325**	P	**P**	**21 32 54.4**	**+0.5**
	1.3nm,0.5s,mb3.8,baz=114,slow=8.1,SNR=24						
MKAR	**Makanchi Array**	**59.46**	**325**	P	**P**	**21 32 54.4**	**+0.5**
ZALV	**Zalesovo Beam**	**62.36**	**333**	P	**P**	**21 33 12.6**	**-0.7**
	0.8nm,0.6s,mb3.5,baz=110,slow=8.1,SNR=3.8						
VNDA	**Vanda**	**82.16**	**173**	P	**P**	**21 35 09.8**	**-0.2**
	0.5nm,0.7s,mb3.2,baz=285,slow=5.0,SNR=3.9						
MAW	**Mawson**	**83.41**	**201**	P	**P**	**21 35 16.5**	**-0.1**
	1.3nm,0.6s,mb3.8,baz=74,slow=7.4,SNR=5.2						
ARCES	**ARCESS Array B**	**92.06**	**340**	P	**P**	**21 35 56.6**	**-1.5**
	1.3nm,0.8s,mb3.9,baz=79,slow=6.3,SNR=5.2						

IDC 11 21:26:44.2±7.6, 1805S×17798W, h579km±85km, mb3.1/6, mb1 3.4/6, mb1mx3.1/18, mbtmp3.1/6, Error ellipse: s-maj=47.2km s-min=36.6km az=128.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.83**	**261**	P	P	21 32 39.6	-0.1
	2.7nm,0.7s,baz=98,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**38.92**	**241**	*eP*	P	21 33 21.8	+0.4
	3.2nm,1.0s						
STKA	**Stephens Creek**	**38.92**	**241**	P	P	21 33 20.6	-0.8
	3.0nm,0.7s,baz=102,slow=11,SNR=5.5						
WB2	**Warramunga Arr**	**45.00**	**260**	*eP*	P	21 34 09.3	0.0
WRA	**Warramunga Arr**	**45.01**	**260**	P	P	21 34 09.2	-0.2
	2.3nm,0.6s,baz=92,slow=6.7,SNR=48						
ASAR	**Alice Springs**	**45.15**	**254**	P	P	21 34 10.8	+0.5
	4.4nm,0.6s,baz=91,slow=9.3,SNR=51						
ASAR				PcP	PcP	21 35 38.4	+0.1
	0.4nm,0.5s,baz=105,slow=4.8,SNR=4.8						
MJAR	**Matsushiro Arr**	**68.26**	**323**	P	P	21 36 48.0	-0.1
	0.6nm,0.5s,baz=161,slow=6.2,SNR=4.2						
MJAR				PcP	PcP	21 37 08.3	-0.5
	0.7nm,0.7s,baz=116,slow=2.8,SNR=4.6			

SPN *i* S **Sn** **21 48 28.9 -4.7**
MKZ **Mys Kozlova** **5.20 46** P **Pn** **21 48 10.0 -0.6**
MKZ *i* S **Sn** **21 49 05.8 -5.5**
KMNR **Kamenistaya** **5.50 31** P **Pn** **21 48 17.9 +3.5**
KBTR **Krutoberegovo** **6.78 38** P **Pn** **21 48 31.8 +1.0**
YSS **Yuzh-Sakhalins** **9.22 248** ‖ *i* PN **Pn** **21 49 12.2 +9.4**
YAK **Yakutsk** **17.69 318** *eP* **P** **21 50 45.5 -0.1**
YAK pmax pmax
comp=Z,27nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,12nm,1.3s
YAK **Yakutsk** **17.69 318** *eP* **P** **21 50 46.3 +0.7**
comp=E,12nm,0.6s
MJAR **Matsushiro Arr** **19.02 227** P **P** **21 51 00.5 +0.3**
comp=E,0.3nm,0.3s,baz=19,slow=10,SNR=5.4
MJAR **Matsushiro Arr** **19.02 227** *eP* **P** **21 51 02.3 +2.1**
TIXI **Tiksi** **23.75 340** ‖ *i* P **P** **21 51 43.7 -3.4**
TIXI pmax pmax
comp=Z,11nm,1.9s,mb4.2
SONM **Songino Array** **31.46 283** P **P** **21 52 55.8 -0.1**
comp=Z,0.2nm,0.5s,mb3.0,baz=59,slow=8.1,SNR=3.9
HVS **Khovu-Aksy** **37.63 295** ‖ *i* P **P** **21 53 50.4 +1.7**
HVS pmax pmax
comp=Z,26nm,2.0s,mb4.4
ZALV **Zalesovo Beam** **41.33 302** P **P** **21 54 18.6 -0.5**
comp=Z,0.6nm,0.3s,mb3.5,baz=59,slow=7.3,SNR=3.6
ZAL **Zalesovo** **41.35 302** P **P** **21 54 18.7 -0.6**
MKAR **Makanchi Array** **46.30 295** P **P** **21 54 58.4 -0.4**
comp=Z,0.6nm,0.4s,mb3.2,baz=60,slow=6.9,SNR=15
MKAR **Makanchi Array** **46.30 295** *i* P **P** **21 54 58.7 -0.1**
ARU **Arti** **52.79 316** *c i* P **P** **21 55 43.7 -3.9**
ARU *eS* **S** **22 02 50.7 -8.9**
ARU pmax pmax
comp=Z,11nm,2.5s,mb3.8
ARCES **ARCESS Array B** **54.19 341** P **P** **21 55 55.8 -1.7**
comp=Z,3.4nm,1.0s,mb3.8,baz=32,slow=8.6,SNR=3.9
NOA **NORSAR Array B** **64.53 342** P **P** **21 57 08.2 -0.2**
comp=Z,0.2nm,0.5s,mb3.0,baz=29,slow=7.1,SNR=3.0
NOA **NORSAR Array B** **64.53 342** P **P** **21 57 08.2 -0.2**
AKASG **Malin Array Be** **68.69 327** P **P** **21 57 33.6 -1.2**
comp=Z,0.7nm,0.4s,mb3.6,baz=32,slow=6.8,SNR=7.5
AKASG **Malin Array Be** **68.69 327** *i* P **P** **21 57 34.2 -0.6**
WRA **Warramunga Arr** **73.12 201** P **P** **21 58 00.6 -1.1**
comp=Z,0.4nm,0.9s,mb3.0,baz=17,slow=6.0,SNR=3.0
TXAR **Lajitas Array** **74.16 63** P **P** **21 58 09.2 +1.3**
comp=Z,0.2nm,0.3s,mb3.2,baz=294,slow=4.9,SNR=4.6
GERES **GERESS Array B** **75.12 335** P **P** **21 58 13.8 +0.8**
comp=Z,0.2nm,0.5s,mb3.0,baz=29,slow=4.5,SNR=3.6

BJI **11** *21:58:28.3, 6230N×14860W, h30km, mB4.8, mb4.3, Ms4.9, Msz4.5*
ISCJB **11** *21:58:29.5±0.2, 6228N±002×14862W±005, h68km±4km, mb3.9/18, Error ellipse: s-maj=4.2km s-min=3.8km az=141.9*
IDC **11** *21:58:29.8±0.6, 6225N×14886W, h53km±4km, mb3.5/13, mb1 3.8/17, mb1mx3.7/25, mbtmp3.6/17, MS3.3/3, Ms1 3.3/3, ms1mx2.6/33, Error ellipse: s-maj=12.7km s-min=11.0km az=118.0*
NEIC **11** *21:58:31.4, 6228N×14857W, h31km, mb4.4/3, ML4.1(AEIC), After AEIC.*
NEIC Felt [II] at Anchorage and Elmendorf AFB. Also felt at Eagle River, Palmer and Wasilla.
ISC 11 21:58:30.8±0.2, 6228N±002×14863W±005, h59km±4km, h54km±3.5km:pP-P, n72, σ0§92/82, mb4.0/18, MS4.3/2, 3C, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	**Glory Hole Cre**	**0.53**	**195**	P	**Pn**	**21 58 41.8**	**-1.2**
PMR	**Palmer**	**0.73**	**199**	P	**Pn**	**21 58 44.1**	**-1.3**
PMR				S	**Sn**	**21 58 54.4**	**-1.6**
RC01	**Rabbit Creek A**	**1.31**	**204**	P	**Pn**	**21 58 52.6**	**-0.2**
RC01				S	**Sn**	**21 59 10.3**	**+1.0**
FIB	**Fire Island**	**1.34**	**214**	P	**Pn**	**21 58 53.9**	**+0.7**
FIB				S	**Sn**	**21 59 12.8**	**+2.8**
SKT	**Skwentna**	**1.40**	**259**	P	**Pn**	**21 58 53.9**	**-0.1**
SKT				S	**Sn**	**21 59 12.5**	**+1.1**
TRF	**Thorofare Moun**	**1.40**	**328**	P	**Pn**	**21 58 53.9**	**-0.2**
TRF				S	**Sn**	**21 59 11.6**	**+0.1**
MCK	**McKinley**	**1.46**	**355**	‖ *i* Pn	**Pn**	**21 58 55.2**	**+0.3**
MCK				S	**Sn**	**21 59 13.1**	**+0.1**
HARP	**HAARP**	**1.63**	**84**	P	**Pn**	**21 58 57.8**	**+0.7**
KTH	**Kantishna Hill**	**1.65**	**322**	‖ *i* P	**Pn**	**21 58 57.7**	**+0.2**
PPLA	**Purkeypile**	**1.76**	**292**	‖ *i* P	**Pn**	**21 58 59.2**	**+0.4**
PPLA				S	**Sn**	**21 59 22.2**	**+2.1**
DIV	**Divide**	**1.79**	**129**	P	**Pn**	**21 58 58.6**	**-0.6**
DIV				S	**Sn**	**21 59 22.2**	**+1.3**
SLKM	**Skilak Lake**	**1.94**	**204**	P	**Pn**	**21 59 01.5**	**+0.2**
BPAW	**Bear Paw Mtn.**	**2.12**	**331**	P	**Pn**	**21 59 03.4**	**-0.3**
SEW	**Seward**	**2.22**	**191**	P	**Pn**	**21 59 06.0**	**+0.9**
EYAK	**Cordova Ski Ar**	**2.22**	**140**	P	**Pn**	**21 59 05.3**	**+0.1**
CHUM	**Lake Minchumin**	**2.32**	**315**	P	**Pn**	**21 59 06.6**	**0.0**
BMRM	**Bremner River**	**2.33**	**123**	*eP*	**Pn**	**21 59 05.9**	**-0.7**
MENT	**Mentasta**	**2.36**	**72**	*eP*	**Pn**	**21 59 07.6**	**+0.5**
IL1	**Eielson Array**	**2.62**	**17**	P	**Pn**	**21 59 10.3**	**-0.2**
ILB	**Eielson Array**	**2.62**	**17**	P	**Pn**	**21 59 10.4**	**-0.2**
COLA	**College**	**2.63**	**7**	P	**Pn**	**21 59 10.6**	**-0.1**
RAGM	**Ragged Mountai**	**2.69**	**133**	P	**Pn**	**21 59 11.3**	**-0.3**
MID	**Middleton Isla**	**3.07**	**158**	P	**Pn**	**21 59 17.9**	**+1.1**
BCA3	**Beaver Creek A**	**3.25**	**73**	P	**Pn**	**21 59 19.6**	**+0.3**
TTA	**Tatalina**	**3.47**	**284**	*eP*	**Pn**	**21 59 22.0**	**-0.3**
TT01	**Tatalina**	**3.48**	**284**	P	**Pn**	**21 59 22.2**	**-0.1**
SVW2	**Sparrevohn**	**3.52**	**253**	P	**Pn**	**21 59 22.6**	**-0.3**
AUL	**Augustine Lava**	**3.74**	**221**	P	**Pn**	**21 59 27.1**	**+1.2**
EGAK	**Eagle**	**4.18**	**50**	P	**Pn**	**21 59 32.3**	**+0.5**
IM3	**Indian Mountai**	**4.34**	**331**	P	**Pn**	**21 59 34.1**	**0.0**
IMA2	**Indian Mountai**	**4.40**	**332**	P	**Pn**	**21 59 35.0**	**+0.1**
DAWY	**Dawson**	**4.55**	**63**	P	**Pn**	**21 59 37.6**	**+0.6**
KDAK	**Kodiak Island**	**4.93**	**205**	P	**Pn**	**21 59 41.3**	**-0.9**
	8.4nm,0.3s,baz=34,slow=10,SNR=113						
KDAK				S	**Sn**	**22 00 33.1**	**-4.6**
	20nm,0.3s,baz=274,slow=22,SNR=17						
KDAK	**Kodiak Island**	**4.93**	**205**	P	**Pn**	**21 59 41.4**	**-0.8**
COLD	**Coldfoot**	**5.01**	**353**	P	**Pn**	**21 59 43.8**	**+0.5**
	6.6nm,0.5s						
PNL	**Peninsula**	**5.20**	**116**	P	**Pn**	**21 59 46.3**	**+0.4**
BM3	**Burnt Mountain**	**5.44**	**17**	P	**Pn**	**21 59 49.8**	**+0.7**
HYT	**Haines Junctio**	**5.52**	**100**	*ePn*	**Pn**	**21 59 49.8**	**-0.4**
OHAK	**Old Harbor**	**5.59**	**207**	*eP*	**Pn**	**21 59 49.5**	**-1.8**
	8.0nm,0.6s						
WHY	**Whitehorse**	**6.78**	**98**	P	**Pn**	**22 00 07.1**	**-0.4**
SKAG	**Skagway**	**7.08**	**108**	*eP*	**Pn**	**22 00 11.3**	**-0.3**
CHGN	**Chignik**	**7.81**	**224**	*eP*	**Pn**	**22 00 20.0**	**-1.5**
SIT	**Sitka**	**8.52**	**122**	P	**Pn**	**22 00 30.4**	**-0.9**
INK	**Inuvik**	**8.73**	**40**	P	**Pn**	**22 00 34.7**	**+0.6**
	1.4nm,0.3s,baz=233,slow=19,SNR=25						
INK				S	**Sn**	**22 02 09.0**	**-1.8**
	3.4nm,0.3s,baz=182,slow=25,SNR=6.7						
INK	**Inuvik**	**8.73**	**40**	*ePn*	**Pn**	**22 00 35.0**	**+0.9**
	375nm,0.6s						
SDPT	**Sand Point**	**9.26**	**227**	P	**Pn**	**22 00 40.9**	**-0.5**
DLBC	**Dease Lake**	**9.97**	**104**	P	**Pn**	**22 00 50.0**	**-1.2**
	baz=264,slow=10						
BBB	**Bella Bella**	**14.95**	**123**	P	**Pn**	**22 01 56.8**	**-1.4**
	0.2nm,0.3s,baz=312,slow=13,SNR=3.3						
BBB				LR	LR	22 07 07.9	
	comp=Z,148nm,21.4s,baz=20,slow=34						
YKA	**Yellowknife Ar**	**15.67**	**74**	P	**Pn**	**22 02 07.2**	**-0.3**
	0.1nm,0.3s,baz=285,slow=11,SNR=2.8						
YKA				LR	LR	22 09 20.8	
	comp=Z,33nm,18.2s,baz=130,slow=41						
YKA	**Yellowknife Ar**	**15.67**	**74**	P	**Pn**	**22 02 07.2**	**-0.3**
YKA				LR	LR	22 09 20.8	
EDM	**Edmonton**	**20.64**	**100**	*eP*	**P**	**22 03 06.1**	**+1.1**
NEW	**Newport**	**22.48**	**114**	*eP*	**P**	**22 03 25.8**	**+1.2**
	11nm,1.2s,mb4.2						
NEW				*i*		22 03 39.4	
PETK	**Petropavlovsk-**	**29.28**	**277**	*eP*	**P**	**22 04 25.8**	**-1.2**
	2.3nm,0.9s,mb3.9,baz=67,slow=12,SNR=5.9						
PETK	**Petropavlovsk-**	**29.28**	**277**	P	**P**	**22 04 25.8**	**-1.2**
ELK	**Elko**	**29.39**	**122**	P	**P**	**22 04 29.4**	**+1.4**
	0.7nm,0.7s,mb3.5,baz=310,slow=8.2,SNR=4.2						
MTUM	**Tungsten Hills**	**31.07**	**129**	*eP*	**P**	**22 04 48.1**	**+5.2**
TXAR	**Lajitas Array**	**43.97**	**117**	P	**P**	**22 06 32.8**	**+1.1**
	0.5nm,0.7s,mb3.4,baz=323,slow=5.5,SNR=6.1						
TXAR				pP	pP	22 06 46.8	-0.2
	1.0nm,0.7s,baz=329,slow=5.4,SNR=8.9						
TXAR				LR	LR	22 26 54.9	
	comp=Z,124nm,21.3s,MS3.8,baz=5.0,slow=39						
HKT	**Hockley**	**46.81**	**109**	*eP*	**P**	**22 06 56.5**	**+2.3**
	2.6nm,0.5s,mb4.4						
ARCES	**ARCESS Array B**	**48.41**	**3**	P	**P**	**22 07 05.7**	**-0.4**
	2.0nm,0.8s,mb4.2,baz=9.6,slow=8.0,SNR=5.2						
ARCES				pP	pP	22 07 20.7	-0.8
	1.2nm,0.5s,baz=359,slow=7.2,SNR=2.0						
MAT	**Matsushiro**	**50.72**	**275**	P	**P**	**22 07 24.0**	**-0.1**
MJAR	**Matsushiro Arr**	**50.72**	**275**	P	**P**	**22 07 24.2**	**+0.1**
	1.5nm,0.8s,mb4.0,baz=8.3,slow=7.4,SNR=8.5						
MJAR				sP	sP	22 07 44.8	-1.7
	2.1nm,1.0s,baz=6.8,slow=7.8,SNR=3.9						
SONM	**Songino Array**	**55.13**	**308**	P	**P**	**22 07 56.9**	**+0.5**
	1.8nm,0.8s,mb4.2,baz=21,slow=5.8,SNR=14						
SONM				sP	sP	22 08 17.2	-1.6
	1.4nm,0.7s,baz=32,slow=6.2,SNR=5.5						
NOA	**NORSAR Array B**	**56.05**	**12**	P	**P**	**22 08 02.6**	**-0.2**
	0.4nm,0.7s,mb3.5,baz=351,slow=7.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**56.74**	**325**	P	**P**	**22 08 06.0**	**-1.9**
	1.0nm,0.4s,mb4.2,baz=38,slow=7.5,SNR=5.1						
ZALV				sP	sP	22 08 27.1	-3.3
	1.4nm,0.7s,baz=26,slow=7.1,SNR=3.1						
ARU	**Arti**	**59.74**	**343**	*eP*	**P**	**22 08 27.9**	**-0.9**
	2.7nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**63.91**	**324**	P	**P**	**22 08 55.0**	**-1.9**
	0.5nm,0.5s,mb3.8,baz=20,slow=5.2,SNR=9.2						
MKAR				sP	sP	22 09 16.1	-3.5
	0.9nm,0.6s,baz=42,slow=6.7,SNR=3.7						
AKASG	**Malin Array Be**	**67.35**	**1**	P	**P**	**22 09 18.4**	**-0.6**
	0.3nm,0.4s,mb3.7,baz=0.9,slow=6.3,SNR=4.0						
AKASG				pP	pP	22 09 33.6	-1.5
	0.7nm,0.5s,baz=1.1,slow=6.4,SNR=4.2						
GERES	**GERESS Array B**	**68.33**	**12**	P	**P**	**22 09 26.5**	**+1.4**
	0.2nm,0.5s,mb3.4,baz=359,slow=4.3,SNR=3.0						
GYA	**Guiyang**	**73.42**	**295**	P	**P**	**22 10 01.0**	**+4.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
ESDC	**Sonseca Array**	**74.47**	**28**	P	**P**	**22 10 02.9**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=346,slow=5.3,SNR=6.1						
ESDC				pP	pP	22 10 18.1	-0.5
	comp=Z,0.5nm,0.7s,baz=344,slow=5.7,SNR=3.6						
KMI	**Kunming**	**76.24**	**298**	P	**P**	**22 10 16.6**	**+3.9**
KMI				AP	pP	22 10 27.5	-1.6
KMI				XP	sP	22 10 31.6	-4.1
KMI				PP	PP	22 13 07.6	+3.6
KMI				S	S	22 19 56.7	+4.4
KMI				XS	sS	22 20 13.2	-6.8
KMI				SS	SS	22 24 49.6	+3.5
KMI				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.2						
KMI				AMB	AMB		
	comp=Z,147nm,4.3s						
KMI				LR	LR		
	comp=N,381nm,12.1s,MS5.0						
KMI				LR	LR		
	comp=E,166nm,10.8s,MS5.0						
KMI				LR	LR		
	comp=Z,156nm,12.1s,MS4.5						
CMAR	**Chiang Mai Arr**	**83.75**	**298**	P	**P**	**22 10 52.4**	**-0.8**
	comp=Z,2.0nm,0.7s,mb4.4,baz=3.7,slow=6.0,SNR=13						

SZGRF **11** *22:03:34.9, 2097S×17066E, h33km, Vanuatu Islands*
IDC **11** *22:03:46.4±0.9, 2041S×16957E, h104km±6km, mb3.7/9, mb1 3.9/9, mb1mx3.8/15, mbtmp3.7/9, MS3.0/2, Ms1 3.0/2, ms1mx2.8/24, Error ellipse: s-maj=26.9km s-min=18.1km az=151.0*
NEIC **11** *22:03:47.7±2.4, 2044S×16954E, h114km±20km, mb4.8/2, Error ellipse: s-maj=23.0km s-min=18.2km az=161.0*
ISCJB **11** *22:03:48.3±2.1, 206S±0.1×1695E±0.1, h129km±17km, mb3.9/12, Error ellipse: s-maj=22.3km s-min=19.7km az=144.8*
ISC 11 22:03:48.5±2.1, 205S±01×1695E±01, h118km±17km, h105km±.6km:pP-P, n58, σ0§94/21, mb4.0/12, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.26**	**242**	*eP*	**Pn**	**22 04 38.1**	**0.0**
DZM				*eS*	**Sn**	**22 05 16.3**	**-0.1**
DZM	**Mont Dzumac**	**3.26**	**242**	*ePn*	**Pn**	**22 04 37.1**	**-1.0**
DZM				*eSn*	**Sn**	**22 05 16.5**	**+0.1**
RAO	**Raoul Island**	**14.30**	**130**	LR	LR	22 11 02.0	
	comp=Z,79nm,19.2s,baz=9.9,slow=30						
HNR	**Honiara**	**14.40**	**319**	LR	LR	22 12 05.6	
	comp=Z,54nm,19.9s,baz=360,slow=35						
CTA	**Charters Tower**	**21.84**	**267**	P	**P**	**22 08 33.7**	**+2.2**
	1.9nm,0.3s,mb3.9,baz=96,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**27.41**	**240**	P	**P**	**22 09 24.0**	**+0.9**
	2.1nm,0.8s,mb3.7,baz=96,slow=13,SNR=4.3						
WB2	**Warramunga Arr**	**32.98**	**265**	*eP*	**P**	**22 10 11.1**	**-1.2**
WRA	**Warramunga Arr**	**32.99**	**265**	P	**P**	**22 10 11.6**	**-0.8**
	0.8nm,0.5s,mb3.8,baz=94,slow=8.3,SNR=39						
WRA				pP	pP	22 10 34.9	-3.4
	2.1nm,1.1s,baz=90,slow=9.2,SNR=5.5						
WRA				PcP	PcP	22 12 53.2	-0.7
	0.6nm,0.7s,baz=91,slow=3.2,SNR=5.3						
ASAR	**Alice Springs**	**33.10**	**258**	P	**P**	**22 10 13.4**	**0.0**
	2.9nm,0.6s,mb4.3,baz=87,slow=9.9,SNR=34						
ASAR				pP	pP	22 10 36.8	-2.5
	1.9nm,0.6s,baz=88,slow=9.8,SNR=6.1						
FITZ	**Fitzroy Crossi**	**41.40**	**266**	P	**P**	**22 11 24.1**	**+0.6**
	2.0nm,0.7s,mb4.1,baz=85,slow=14,SNR=2.7						
VNDA	**Vanda**	**57.14**	**182**	P	**P**	**22 13 22.5**	**+0.2**
	0.6nm,0.5s,mb3.9,baz=0.8,slow=7.5,SNR=8.0						
SBA	**Scott Base**	**57.37**	**181**	*eP*	**P**	**22 13 25.0**	**+1.1**
	7.0nm,0.8s,mb4.7						
MAW	**Mawson**	**77.34**	**202**	P	**P**	**22 15 30.0**	**+0.2**
	1.9nm,0.7s,mb3.9,baz=118,slow=3.7,SNR=4.9						
CMAR	**Chiang Mai Arr**	**79.29**	**294**	pP	pP	22 16 08.2	-3.1
	0.8nm,0.3s,baz=117,slow=5.0,SNR=1.6						
SNAA	**Sanae**	**87.88**	**182**	*e*	**P**	**22 16 23.0**	**-1.3**
SNAA				*e*		22 16 25.6	
SONM	**Songino Array**	**88.42**	**323**	P	**P**	**22 16 25.7**	**-1.4**
	0.6nm,0.8s,mb3.7,baz=119,slow=3.5,SNR=3.5						
SONM				pP	pP	22 16 53.5	-4.1
	0.6nm,0.9s,baz=150,slow=9.6,SNR=3.3						
VNA2	**Neumayer--Watz**	**88.75**	**181**	*e*	**P**	**22 16 27.9**	**-0.6**
VNA2				*e*		22 16 31.0	
VNA1	**Neumayer--Stat**	**89.04**	**181**	*e*PKPdf	**P**	**22 16 29.4**	**-0.4**
VNA1				*e*		22 16 31.9	
NVAR	**Mina Array Bea**	**89.45**	**48**	P	**P**	**22 16 32.3**	**+0.1**
	0.9nm,0.7s,mb3.9,baz=230,slow=8.3,SNR=5.3						
NEW	**Newport**	**94.59**	**40**	*eP*	**P**	**22 16 55.5**	**-0.2**
	5.3nm,1.0s,mb4.9						
CHMT	**Chamberlain Mo**	**96.42**	**42**	*eP*	**P**	**22 17 06.1**	**+2.0**
TXAR	**Lajitas Array**	**97.14**	**61**	P	**P**	**22 17 07.6**	**-0.2**
	0.1nm,0.5s,mb3.5,baz=219,slow=5.6,SNR=3.2						
BOSA	**Boshof**	**120.18**	**216**	PKP	PKPdf	22 22 25.6	-0.5
	3.4nm,1.1s,baz=196,slow=1.6,SNR=5.2						
ARCES	**ARCESS Array B**	**126.39**	**345**	PKP	PKPdf	22 22 34.9	-1.8
	0.8nm,0.7s,baz=46,slow=3.5,SNR=4.5						
BRG	**Berggiesshubel**	**144.15**	**333**	*e*PKPbc	PKPdf	22 23 07.4	-2.8
BRG	**Berggiesshubel**	**144.15**	**333**	*i* PKP	PKPdf	22 23 07.6	-2.6
	4.0nm,0.6s						
CLL	**Collm**	**144.21**	**335**	*e*PKPbc	PKPdf	22 23 07.5	-2.7
CLL	**Collm**	**144.21**	**335**	‖ *i*PKPdf	PKPdf	22 23 07.5	-2.7
	comp=Z,3.0nm,0.6s						
CLZ	**Clausthal**	**144.78**	**337**	*e*PKPbc	PKPdf	22 23 09.4	-1.8
WERD	**Werda**	**145.15**	**334**	*e*PKPbc	PKPbc	22 23 10.9	-0.8
GUNZ	**Gunzen**	**145.21**	**334**	*e*PKPbc	PKPbc	22 23 11.3	-0.6
WERN	**Wernitzgruen**	**145.25**	**334**	*e*PKPbc	PKPbc	22 23 11.5	-0.5
IBBN	**Ibbenburen**	**145.28**	**340**	*e*PKPbc	PKPbc	22 23 10.6	-1.4
MOX	**Moxa**	**145.28**	**335**	*e*PKPbc	PKPbc	22 23 11.3	-0.8
KHC	**Kasperske Hory**	**145.61**	**332**	*e*PKP	PKPdf	22 23 12.0	-0.7
KHC				*ep*PKP	pPKPdf	22 23 39.5	-5.1
ROTZ	**Rotzenmuhle**	**145.72**	**334**	*e*PKPbc	PKPbc	22 23 12.1	-1.4
UBBA	**Unterbreizbach**	**145.75**	**337**	*e*PKPbc	PKPbc	22 23 12.4	-1.2
GEC2	**GERESS Array S**	**145.76**	**331**	*e*PKPbc	PKPbc	22 23 12.2	-1.5
GERES	**GERESS Array B**	**145.76**	**331**	PKPbc	PKPbc	22 23 12.6	-1.0
	comp=Z,1.1nm,0.6s,baz=30,slow=3.3,SNR=18						
GERES				pPKPbc	pPKPbc	22 23 40.4	-4.6
	comp=Z,1.3nm,0.7s,baz=31,slow=3.1,SNR=5.3						
GRF	**Grafenberg Arr**	**146.18**	**334**	*e*PKPbc	PKPbc	22 23 14.2	-0.7
CDF	**Champ du Feu**	**148.74**	**337**	*e*PKP1	PKPbc	22 23 20.5	-1.4
MEZF	**Maizieres J'vi**	**149.44**	**340**	*e*PKP1	PKPbc	22 23 22.3	-1.3
CABF	**La Chapelle**	**150.69**	**336**	*e*PKP1	PKPbc	22 23 26.0	-0.7
	comp=Z,4.0nm,0.6s						
FLN	**La Foliniere**	**150.72**	**346**	*e*PKP1	PKPbc	22 23 24.7	-2.0
	comp=Z,4.6nm,0.6s						
LDF	**La Drutiere**	**150.80**	**346**	*e*PKP1	PKPbc	22 23 24.8	-2.1
	comp=Z,3.2nm,0.7s						
LOR	**Lormes**	**150.91**	**340**	*e*PKP1	PKPbc	22 23 25.5	-1.7
	comp=Z,2.4nm,0.5s						
GRR	**Gorron**	**151.16**	**347**	*e*PKP1	PKPbc	22 23 25.8	-2.0
	comp=Z,4.1nm,0.4s						
SSF	**Saint Saulge**	**151.20**	**340**	*e*PKP1	PKPbc	22 23 26.2	-1.7
	comp=Z,2.1nm,0.6s						
LPL	**La Plagne**	**151.34**	**334**	*e*PKP1	PKPbc	22 23 27.6	-0.7
LPG	**La Plagne**	**151.35**	**334**	*e*PKP1	PKPbc	22 23 27.2	-1.1
	comp=Z,3.2nm,0.6s						
SGMF	**Saint Gilles**	**151.63**	**349**	*e*PKP1	PKPbc	22 23 26.6	-2.2
	comp=Z,5.8nm,0.7s						
ROSF	**Rostrenen**	**151.67**	**350**	*e*PKP1	PKPbc	22 23 26.6	-2.3
	comp=Z,2.6nm,0.5s						
MBDF	**Montbardon**	**151.97**	**333**	*e*PKP1	PKPbc	22 23 29.2	-0.5
ORIF	**Oris-en-Rattie**	**152.18**	**335**	*e*PKP1	PKPbc	22 23 28.6	-1.6
	comp=Z,3.5nm,0.6s						
TCF	**Toulx Ste Croi**	**152.30**	**341**	*e*PKP1	PKPbc	22 23 28.0	-2.4
MFF	**Saint Martin d**	**152.67**	**344**	*e*PKP1	PKPbc	22 23 29.1	-2.1
FRF	**La Foret Royal**	**152.96**	**332**	*e*PKP1	PKPbc	22 23 30.6	-1.4
TORD	**Torodi Ar. Bea**	**166.24**	**240**	PKP	PKPdf	22 23 39.1	-1.5
	comp=Z,0.2nm,1.0s,baz=128,slow=39,SNR=3.7						
TORD				PKPab	PKPab	22 24 41.2	-0.9
	comp=Z,0.3nm,0.6s,baz=112,slow=3.7,SNR=4.7						

TAP 11 22:03:53.2, 2480N×12181E, h72km, ML3.7, Taiwan

ISCJB **11** *22:04:05.8±1.2, 3062N±004×13158E±007, h31km±7km, mb3.6/2, Error ellipse: s-maj=10.3km s-min=6.7km az=6.5*
JMA **11** *22:04:06.0±0.1, 3061N×13156E, h37km±1km, M3.3*
IDC **11** *22:04:08.3±6.4, 3006N×13296E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=309.9km s-min=34.8km az=111.0*
ISC 11 22:04:07.2±1.1, 3066N±004×13151E±007, h29km±6km, n13, σ0§55/21, mb3.6/2, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.46**	**270**	P	**Pb**	**22 04 16.4**	**-0.5**
JTN				*eS*	**Sb**	**22 04 24.0**	**+0.5**
JTSR	**Tashiro 2**	**0.72**	**315**	P	**Pb**	**22 04 20.4**	**-0.8**
JTSR				*eS*	**Sb**	**22 04 31.5**	**+0.8**
JNAR	**Kushima--Naru**	**0.89**	**347**	P	**Pn**	**22 04 23.2**	**-0.6**
JNAR				*eS*	**Sb**	**22 04 35.8**	**+0.2**
JKC	**Kuchinoerabu**	**1.15**	**261**	P	**Pn**	**22 04 27.2**	**-0.2**
JSU	**Suzuyama**	**1.24**	**313**	P	**Pn**	**22 04 27.8**	**-0.8**
JSU				*eS*	**Sn**	**22 04 44.7**	**+0.3**
JTZ	**Takazaki**	**1.29**	**344**	P	**Pn**	**22 04 29.1**	**-0.2**
JTZ				*eS*	**Sn**	**22 04 46.2**	**+0.5**
JTSN	**Tsuno**	**1.58**	**360**	P	**Pn**	**22 04 33.2**	**-0.1**
JTSN				*eS*	**Sn**	**22 04 52.5**	**-0.4**
JNN	**Nakanoshima**	**1.63**	**241**	*eS*	**Sn**	**22 04 53.7**	**-0.3**
JZO	**Okuchi**	**1.67**	**332**	P	**Pn**	**22 04 34.1**	**-0.4**
JZO				*eS*	**Sn**	**22 04 55.7**	**+0.7**
JIU2	**Izumi 2**	**1.98**	**343**	P	**Pn**	**22 04 38.7**	**0.0**
JIU2				S	**Sn**	**22 05 02.0**	**-0.5**
MJAR	**Matsushiro Arr**	**8.10**	**42**	Pn	**Pn**	**22 06 03.4**	**+0.5**
	0.3nm,0.3s,baz=215,slow=14,SNR=6.2						
WRA	**Warramunga Arr**	**50.38**	**177**	P	**P**	**22 13 01.8**	**-0.1**
	0.8nm,0.8s,mb3.8,baz=354,slow=8.2,SNR=4.5						
ASAR	**Alice Springs**	**54.06**	**177**	P	**P**	**22 13 30.4**	**+1.3**
	0.3nm,0.6s,mb3.4,baz=14,slow=14,SNR=7.1						

ISCJB **11** *22:22:41.4±0.7, 3078S±006×1787W±0.1, h116km±8km, mb4.5/16, Error ellipse: s-maj=16.0km s-min=8.9km az=19.0*
NEIC **11** *22:22:43.7±1.2, 3059S×17857W, h134km±11km, mb4.7/10, Error ellipse: s-maj=14.8km s

CTA	**Charters Tower**	**21.30 247**	P		**P**	**22 31 00.9**	**+1.1**
	3.7nm,0.6s,mb4.1,baz=82,slow=13,SNR=3.7						
CTA	**Charters Tower**	**21.30 247**	*e*		**P**	**22 31 01.0**	**+1.2**
CTAO	**Charters Tower**	**21.30 247**	*e*P		**P**	**22 31 00.0**	**+0.2**
	3.1nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**30.28 226**	*e*P		**P**	**22 32 20.7**	**-0.3**
	7.0nm,1.4s,mb4.1						
WRA	**Warramunga Arr**	**32.21 253**	P		**P**	**22 32 37.3**	**-0.7**
	0.3nm,0.5s,mb3.1,baz=82,slow=8.8,SNR=2.6						
ASAR	**Alice Springs**	**33.30 246**	P		**P**	**22 32 47.4**	**-0.2**
	0.5nm,0.5s,mb3.3,baz=77,slow=9.7,SNR=5.0						
ASAR			pP		pP	22 33 31.4	+2.7
	1.4nm,0.7s,baz=84,slow=10,SNR=7.9						
ASAR			ScP		ScP	22 38 49.1	-1.3
	0.6nm,0.9s,baz=106,slow=5.9,SNR=5.2						
MJAR	**Matsushiro Arr**	**55.89 332**	P		**P**	**22 35 44.9**	**-0.7**
	1.0nm,0.6s,mb3.5,baz=172,slow=8.2,SNR=5.7						
ASAJ	**Asahikawa**	**60.64 340**	P		**P**	**22 36 19.4**	**+1.2**
	4.1nm,0.8s,mb4.1,baz=113,slow=16,SNR=3.9						
VNDA	**Vanda**	**65.02 181**	P		**P**	**22 36 47.0**	**+0.3**
	0.9nm,0.7s,mb3.5,baz=350,slow=7.2,SNR=7.7						
QSPA	**South Pole Qui**	**77.46 180**	P		**P**	**22 38 01.3**	**+0.1**
	2.3nm,0.8s,mb3.9,baz=54,slow=0.1,SNR=15						
PNL	**Peninsula**	**83.78 24**	*e*P		**P**	**22 38 34.9**	**0.0**
	12nm,0.9s,mb4.6						
TXAR	**Lajitas Array**	**95.43 61**	P		**P**	**22 39 30.3**	**-0.4**
	0.3nm,0.8s,mb3.5,baz=228,slow=6.8,SNR=4.6						
MKAR	**Makanchi Array**	**95.49 317**	P		**P**	**22 39 30.6**	**0.0**
	0.2nm,0.5s,mb3.5,baz=83,slow=5.5,SNR=5.9						
ARCES	**ARCESS Array B 118.11 346**		PKP		PKPdf	22 44 50.1	-0.9
	1.5nm,0.6s,baz=87,slow=2.3,SNR=7.3						
LPL	**La Plagne**	**143.13 337**	*e*PKP1		PKPdf	22 45 38.4	-0.3
	4.5nm,0.8s						
MBDF	**Montbardon**	**143.77 336**	*e*PKP1		PKPdf	22 45 37.9	-2.0
	7.1nm,0.9s						
ORIF	**Oris-en-Rattie**	**143.96 337**	*e*PKP1		PKPdf	22 45 39.1	-1.1
	7.2nm,0.6s						
TCF	**Toulx Ste Croi**	**144.01 342**	*e*PKP1		PKPdf	22 45 38.9	-1.3
	8.5nm,0.9s						
MFF	**Saint Martin d**	**144.38 345**	*e*PKP1		PKPdf	22 45 40.0	-0.9
	14nm,0.7s						
VIVF	**Saint-Julien-l**	**144.46 338**	*e*PKP1		PKPdf	22 45 40.8	-0.3
	7.6nm,0.8s						
PGF	**Pioggiola**	**144.56 332**	*e*PKP1		PKPdf	22 45 40.6	-0.7
	27nm,1.1s						
FRF	**La Foret Royal**	**144.79 335**	*e*PKP1		PKPdf	22 45 41.1	-0.6
	13nm,0.8s						
SMRF	**Simiane la Rot**	**144.87 337**	*e*PKP1		PKPdf	22 45 42.0	+0.2
	5.6nm,0.8s						
LMR	**La Mourre**	**145.03 335**	*e*PKP1		PKPbc	22 45 42.0	+0.1
	3.5nm,0.5s						
RJF	**Les Rejaudoux**	**145.11 342**	*e*PKP1		PKPbc	22 45 41.8	-0.3
	9.4nm,1.0s						
CAF	**Calviac**	**145.28 341**	*e*PKP1		PKPbc	22 45 43.3	+0.7
LASF	**Ste Croix**	**145.43 338**	*e*PKP1		PKPbc	22 45 43.8	+0.7
	6.4nm,0.8s						
LFF	**La Frestale**	**145.67 343**	*e*PKP1		PKPbc	22 45 44.2	+0.4
	6.6nm,0.6s						
MTLF	**Montolieu**	**146.64 340**	*e*PKP1		PKPbc	22 45 47.2	+0.5
	3.8nm,0.6s						
KEST	**Kesra**	**149.38 323**	PKPbc		PKPbc	22 45 53.7	-0.5
	0.9nm,0.9s,baz=212,slow=9.5,SNR=3.4						
ESDC	**Sonseca Array**	**151.84 345**	PKPbc		PKPbc	22 45 60.0	+0.1
	0.8nm,0.7s,baz=11,slow=3.1,SNR=7.8						
ESDC			PKPab		PKPab	22 46 10.8	+1.3
	0.2nm,0.6s,baz=352,slow=5.2,SNR=2.9						

IDC 11 22:45:43.3±2.2, 1399S×16630E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/17, mbtmp3.7/6, MS3.3/2, Ms1 3.3/2, ms1mx2.9/18, 4C, Error ellipse: s-maj=74.6km s-min=34.5km az=130.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.10**	**250**	LR	LR	22 56 52.2	
	comp=Z,63nm,22.0s,baz=55,slow=33						
STKA	**Stephens Creek**	**28.78**	**228**	LR	LR	23 02 21.2	
	comp=Z,93nm,18.7s,baz=25,slow=35						
WRA	**Warramunga Arr**	**31.11**	**255**	P	P	22 52 03.8	+0.1
	0.6nm,0.8s,baz=85,slow=9.6,SNR=5.3						
ASAR	**Alice Springs**	**32.07**	**248**	P	P	22 52 11.9	-0.3
	0.4nm,0.7s,baz=77,slow=10,SNR=5.8						
MJAR	**Matsushiro Arr**	**56.82**	**332**	P	P	22 55 28.3	-1.3
	0.7nm,0.7s,baz=166,slow=7.7,SNR=4.8						
SONM	**Songino Array**	**81.34**	**324**	P	P	22 58 02.9	+1.2
	0.3nm,0.5s,baz=140,slow=5.3,SNR=3.6						
MKAR	**Makanchi Array**	**96.02**	**317**	P	P	22 59 13.7	+1.1
	0.3nm,0.6s,baz=81,slow=3.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**96.24**	**324**	P	P	22 59 13.4	0.0
	0.4nm,0.5s,baz=108,slow=4.7,SNR=3.0						
ARCES	**ARCESS Array B 119.30 345**		PKP		PKPdf	23 04 32.9	-1.1
	1.3nm,0.7s,baz=90,slow=2.0,SNR=7.6						
LPL	**La Plagne**	**144.13**	**335**	*e*PKP1	PKPdf	23 05 21.6	+0.4
	3.4nm,0.7s						
MBDF	**Montbardon**	**144.76**	**334**	*e*PKP1	PKPdf	23 05 21.0	-1.3
ORIF	**Oris-en-Rattie**	**144.97**	**335**	⇑*i*PKP1	PKPdf	23 05 22.2	-0.5
	7.5nm,0.8s						
TCF	**Toulx Ste Croi**	**145.13**	**341**	⇑*i*PKP1	PKPbc	23 05 22.2	-0.2
	7.3nm,0.9s						
MFF	**Saint Martin d**	**145.55**	**343**	⇑*i*PKP1	PKPbc	23 05 23.4	-0.3
	10nm,0.8s						
FRF	**La Foret Royal**	**145.75**	**333**	*e*PKP1	PKPbc	23 05 24.0	-0.5
SMRF	**Simiane la Rot**	**145.87**	**335**	*e*PKP1	PKPbc	23 05 25.1	+0.3
RJF	**Les Rejaudoux**	**146.22**	**341**	*e*PKP1	PKPbc	23 05 25.0	-0.8
CAF	**Calviac**	**146.38**	**340**	*e*PKP1	PKPbc	23 05 26.5	+0.2
MTLF	**Montolieu**	**147.71**	**338**	⇑*i*PKP1	PKPbc	23 05 30.2	+0.1
	3.6nm,0.7s						
KEST	**Kesra**	**150.04**	**320**	PKPbc	PKPbc	23 05 37.0	+0.6
	1.1nm,0.9s,baz=330,slow=2.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**165.01**	**269**	PKP	PKPdf	23 05 49.8	-0.7
	0.5nm,0.9s,baz=118,slow=1.7,SNR=3.0						

*NEIC **11** 23:26:25.0, 4037N×2750E, h14km, MD3.0(ISK), MD3.3(ATH), After ISK.*
*ATH **11** 23:26:25.9, 4035N×2741E, h22km±5km, MD3.3/4*
*ISK **11** 23:26:25.6, 4037N×2749E, h14km, MD3.1*
*CSEM **11** 23:26:25.6±0.1, 4037N×2751E, h10km, MD3.1, Error ellipse: s-maj=1.3km s-min=1.1km az=84.0*
*ISCJB **11** 23:26:25.9±0.4, 4037N±002×2749E±003, h9km±3km, Error ellipse: s-maj=3.6km s-min=3.2km az=9.0*
*DDA **11** 23:26:26.1, 4035N×2747E, h7km±2km, Md3.0*

ISC 11 23:26:26.3±0.3, 4037N±002×2749E±003, h11km±3km, n39, σ0°60/52, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMT	**Marmara Adasi**	**0.24**	**19**	*e*PG	**Pg**	**23 26 31.6**	**+0.2**
MRMT				*e*SG	**Sg**	**23 26 35.3**	**+0.5**
EDC	**Edincik**	**0.28**	**95**	*e*PG	**Pg**	**23 26 32.1**	**0.0**
BNT	**Bandirma**	**0.33**	**92**	*e*PG	**Pg**	**23 26 32.6**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.40**	**323**	*e*PG	**Pg**	**23 26 34.2**	**0.0**
RKY				*e*SG	**Sg**	**23 26 40.1**	**+0.7**
SART	**Tekirdag**	**0.40**	**323**	*i*P	**Pg**	**23 26 34.4**	**+0.2**
SART				*i*S	**Sg**	**23 26 40.6**	**+1.1**
MFT	**Murefte**	**0.45**	**339**	*e*PG	**Pg**	**23 26 35.2**	**+0.1**
LPK	**Lapseki**	**0.56**	**270**	*e*PG	**Pg**	**23 26 37.1**	**-0.1**
TKR	**Tekirdag**	**0.62**	**3**	*e*PG	**Pg**	**23 26 38.2**	**-0.2**
BALY	**Balya**	**0.64**	**171**	*i*P	**Pg**	**23 26 38.4**	**-0.2**
BALY				*i*S	**Sg**	**23 26 47.3**	**+0.3**
KCT	**Karacabey**	**0.67**	**99**	*e*PG	**Pg**	**23 26 38.9**	**-0.4**
BTOK	**Tokmak**	**0.74**	**146**	*i*P	**Pg**	**23 26 40.4**	**-0.1**
CRLT	**Corlu**	**0.78**	**14**	*e*PG	**Pg**	**23 26 41.1**	**-0.2**
BALB	**Balikesir**	**0.79**	**158**	*e*PG	**Pg**	**23 26 41.1**	**-0.4**
SLVT	**Silivri**	**1.02**	**32**	*e*PG	**Pg**	**23 26 45.3**	**-0.6**
EZN	**Ezine**	**1.05**	**239**	*e*PG	**Pg**	**23 26 45.3**	**-1.2**
CTT	**Catalca**	**1.05**	**42**	*e*PG	**Pg**	**23 26 46.0**	**-0.5**
ELBA	**Catalca**	**1.05**	**42**	*i*P	**Pb**	**23 26 46.4**	**-0.1**
ELBA				*i*S	**Sg**	**23 27 01.4**	**+1.1**
ENEZ	**Enez**	**1.08**	**290**	*e*PN	**Pn**	**23 26 46.5**	**-0.9**
DST	**Dursunbey**	**1.16**	**131**	*e*PN	**Pn**	**23 26 47.7**	**-0.7**
BOZC	**Bozcaada**	**1.22**	**245**	*i*P	**Pn**	**23 26 48.5**	**-0.8**
BOZC				*i*S	**Sb**	**23 27 05.9**	**+0.7**
AYVA	**Ayvalik**	**1.23**	**210**	*i*P	**Pn**	**23 26 49.5**	**+0.1**
AYVA				*i*S	**Sb**	**23 27 05.7**	**+0.3**
BGKT	**Bogazkoy**	**1.27**	**50**	*e*PN	**Pn**	**23 26 49.5**	**-0.4**
ULDT	**Uludag**	**1.28**	**100**	*i*P	**Pn**	**23 26 50.8**	**+0.7**
GEMT	**Gemlik**	**1.30**	**87**	*e*PN	**Pn**	**23 26 50.3**	**0.0**
ISK	**Istanbul-Kandi**	**1.38**	**59**	*e*PN	**Pn**	**23 26 51.0**	**-0.4**
YLV	**Yalova**	**1.45**	**82**	*e*PN	**Pn**	**23 26 52.5**	**+0.1**
PRK	**Paraskevi**	**1.47**	**220**	⇑*i*PN	**Pn**	**23 26 52.3**	**-0.3**
PRK				*e*SN	**Sn**	**23 27 11.5**	**-0.3**
KLYT	**Kilyos**	**1.47**	**53**	*e*PN	**Pn**	**23 26 51.6**	**-1.1**
KLYT				*e*SN	**Sn**	**23 27 11.5**	**-0.4**
AKHS	**Akhisar**	**1.51**	**170**	*i*P	**Pn**	**23 26 53.3**	**0.0**
AKHS				*i*S	**Sn**	**23 27 13.4**	**+0.5**
AKS	**Akhisar**	**1.51**	**170**	*e*PN	**Pn**	**23 26 53.1**	**-0.2**
EDRB	**Edirne**	**1.58**	**339**	*e*PN	**Pn**	**23 26 54.0**	**-0.2**
DEMI	**Demirci**	**1.63**	**144**	*i*P	**Pn**	**23 26 55.1**	**+0.3**
DEMI				*i*S	**Sn**	**23 27 17.9**	**+2.0**
RDO	**Rodhopi**	**1.68**	**298**	*e*PN	**Pn**	**23 26 55.6**	**+0.1**
RDO				*e*SN	**Sn**	**23 27 16.9**	**-0.1**
ADVT	**Abdulvahap**	**1.72**	**87**	*e*PN	**Pn**	**23 26 56.0**	**-0.1**
HRT	**Hereke**	**1.72**	**74**	*e*PN	**Pn**	**23 26 56.4**	**+0.3**
GDZ	**Gediz**	**2.00**	**129**	*i*P	**Pn**	**23 27 03.2**	**+3.2**
KULA	**Kula-Manisa**	**2.06**	**154**	*e*PN	**Pn**	**23 27 01.1**	**+0.2**
SMG	**Samos**	**2.71**	**191**	*e*PN	**Pn**	**23 27 09.2**	**-0.5**
SMG				*e*SN	**Sn**	**23 27 42.6**	**+0.2**
NVR	**Nevrokopi**	**2.92**	**291**	*e*PN	**Pn**	**23 27 13.1**	**+0.4**

*ISCJB **12** 00:09:56.4±0.4, 3150S±003×6840W±005, h107km±5km, mb3.8/6, Error ellipse: s-maj=6.8km s-min=4.0km az=11.5*
*IDC **12** 00:09:57.0±0.8, 3151S×6846W, h98km±4km, mb3.6/6, mb1 3.7/11, mb1mx3.6/22, mbtmp3.6/11, MS2.8/1, Ms1 2.8/1, ms1mx2.4/24, Error ellipse: s-maj=25.8km s-min=14.1km az=84.0*
*GUC **12** 00:09:57.1±0.7, 3153S×6863W, h150km, ML4.1*
*NEIC **12** 00:09:57.2±0.4, 3153S×6836W, h99km±7km, MG4.1(GUC), Error ellipse: s-maj=7.4km s-min=4.3km az=101.0*
NEIC Felt [II] at San Juan.

ISC 12 00:09:57.4±0.4, 3150S±002×6839W±005, h101km±5km, n46, σ0°94/67, mb3.8/6, 13C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.17**	**129**	P	**Pn**	**00 10 11.7**	**0.0**
	104nm,0.3s,baz=284,slow=2.2						
CFAA				S	**Sn**	**00 10 23.1**	**+0.8**
	135nm,0.3s,baz=197,slow=19,SNR=260						
JACH	**Jahuel**	**2.21**	**237**	*e*P	**Pn**	**00 10 33.3**	**+0.6**
JACH				*i*S	**Sn**	**00 11 00.6**	**+0.8**
PTCH	**Petorca**	**2.29**	**250**	⇑*i*P	**Pn**	**00 10 33.7**	**-0.1**
PTCH				*i*S	**Sn**	**00 11 01.4**	**-0.3**
PTCH				AML	AML	00 11 02.0	
	comp=N,813nm,0.4s						
PTCH	**Petorca**	**2.29**	**250**	⇑*i*P	**Pn**	**00 10 33.7**	**-0.1**
PTCH				*i*S	**Sn**	**00 11 01.4**	**-0.3**
FCH	**Farellones**	**2.43**	**221**	⇑*i*P	**Pn**	**00 10 36.6**	**+1.0**
FCH				*i*S	**Sn**	**00 11 06.9**	**+2.0**
FCH				AML	AML	00 11 11.8	
	comp=N,551nm,0.3s						
TLL	**Tololo Astrono**	**2.46**	**302**	*e*P	**Pn**	**00 10 37.2**	**+1.2**
TLL				*i*S	**Sn**	**00 11 07.9**	**+2.2**
TLL				AML	AML	00 11 10.4	
	comp=N,575nm,0.6s						
TLL	**Tololo Astrono**	**2.46**	**302**	*e*P	**Pn**	**00 10 37.2**	**+1.2**
TLL				*i*S	**Sn**	**00 11 07.9**	**+2.2**
PEL	**Peldehue**	**2.54**	**229**	⇓*i*P	**Pn**	**00 10 36.9**	**-0.2**
PEL				*i*S	**Sn**	**00 11 07.4**	**-0.1**
PEL				AML	AML	00 11 09.8	
	comp=E,2μm,0.8s						
ROCH	**El Roble**	**2.66**	**236**	*e*P	**Pn**	**00 10 38.4**	**-0.3**
ROCH				*i*S	**Sn**	**00 11 09.0**	**-1.4**
SAN	**Santiago**	**2.73**	**224**	*e*P	**Pn**	**00 10 39.6**	**0.0**
SAN				*i*S	**Sn**	**00 11 12.3**	**+0.2**
SAN				AML	AML	00 11 18.2	
	comp=E,640nm,0.6s						
SAN	**Santiago**	**2.73**	**224**	*e*P	**Pn**	**00 10 39.6**	**0.0**
SAN				*i*S	**Sn**	**00 11 12.3**	**+0.2**
PCH	**Pirque**	**2.77**	**220**	⇑*i*P	**Pn**	**00 10 40.6**	**+0.5**
PCH				*i*S	**Sn**	**00 11 13.1**	**+0.1**
LMEL	**Las Melosas**	**2.80**	**213**	⇑*i*P	**Pn**	**00 10 41.0**	**+0.6**
LMEL				*i*S	**Sn**	**00 11 15.0**	**+1.4**
LMEL				AML	AML	00 11 26.3	
	comp=N,359nm,0.3s						
LMEL	**Las Melosas**	**2.80**	**213**	⇑*i*P	**Pn**	**00 10 41.0**	**+0.6**
LMEL				*i*S	**Sn**	**00 11 15.0**	**+1.4**
ANTU	**Antumapu**	**2.80**	**222**	⇑*i*P	**Pn**	**00 10 40.5**	**-0.1**
ANTU				*i*S	**Sn**	**00 11 13.6**	**-0.1**
ANTU				AML	AML	00 11 20.0	
	comp=E,529nm,0.4s						
ANTU	**Antumapu**	**2.80**	**222**	⇑*i*P	**Pn**	**00 10 40.5**	**-0.1**
ANTU				*i*S	**Sn**	**00 11 13.6**	**-0.1**
RCDM	**Rinconada Maip**	**2.85**	**225**	⇑*i*P	**Pn**	**00 10 41.0**	**-0.1**
RCDM				*i*S	**Sn**	**00 11 14.6**	**-0.2**
RCDM				AML	AML	00 11 16.1	
	comp=E,917nm,0.1s						
RCDM	**Rinconada Maip**	**2.85**	**225**	⇑*i*P	**Pn**	**00 10 41.0**	**-0.1**
RCDM				*i*S	**Sn**	**00 11 14.6**	**-0.2**
LSCH	**La Serena**	**2.92**	**302**	⇓*i*P	**Pn**	**00 10 42.0**	**-0.1**
LSCH				*i*S	**Sn**	**00 11 15.1**	**-1.6**
TACH	**Talagante**	**3.04**	**224**	⇑*i*P	**Pn**	**00 10 43.3**	**-0.4**
TACH				*i*S	**Sn**	**00 11 18.2**	**-1.2**
CHCH	**Chadas Angostu**	**3.09**	**218**	*e*P	**Pn**	**00 10 44.3**	**0.0**
LCO	**Las Campanas**	**3.18**	**321**	*e*Pn	**Pn**	**00 10 46.5**	**+0.8**
CACH	**El Canelo**	**3.21**	**215**	⇑*i*P	**Pn**	**00 10 46.4**	**+0.5**
CACH				*i*S	**Sn**	**00 11 23.5**	**+0.2**
CICH	**Cipreses**	**3.29**	**211**	*e*P	**Pn**	**00 10 47.7**	**+0.7**
LNV	**Longovilo**	**3.53**	**225**	*e*P	**Pn**	**00 10 48.1**	**-2.2**
VACH	**Vallenar**	**3.56**	**324**	*i*S	**Sn**	**00 11 32.4**	**+0.4**
SFDO	**San Fernando**	**3.81**	**215**	⇑*i*P	**Pn**	**00 10 52.8**	**-1.2**
SFDO				*i*S	**Sn**	**00 11 36.3**	**-1.5**
CPCH	**Copiapo**	**4.46**	**337**	*e*P	**Pn**	**00 11 02.2**	**-0.7**
CPCH				*i*S	**Sn**	**00 11 52.2**	**-1.6**
CDCH	**Caldera**	**4.89**	**334**	*e*P	**Pn**	**00 11 09.2**	**+0.4**
TRQA	**Tornquist**	**8.40**	**143**	*e*Pn	**Pn**	**00 11 55.4**	**-0.9**
	comp=E,13nm,0.8s						
LVC	**Limon Verde**	**8.86**	**357**	P	**Pn**	**00 12 02.0**	**-0.7**
	comp=E,2.6nm,0.3s,baz=183,slow=10.0,SNR=30						
LVC				S	**Sn**	**00 13 38.2**	**-2.6**
	comp=E,3.0nm,0.3s,baz=34,slow=18,SNR=6.7						
PLCA	**Paso Flores**	**9.38**	**190**	P	**Pn**	**00 12 07.6**	**-1.9**
	comp=E,0.7nm,0.3s,baz=6.9,slow=7.6,SNR=12						
PLCA				LR	LR	00 15 40.7	
	comp=E,53nm,18.1s,baz=221,slow=37						
CPUP	**Villa Florida**	**10.97**	**65**	P	**Pn**	**00 12 30.7**	**-0.7**
	comp=E,0.8nm,0.3s,baz=234,slow=13,SNR=6.7						
CPUP				S	**Sn**	**00 14 43.4**	**+11**
	comp=E,1.0nm,0.3s,baz=284,slow=19,SNR=3.4						
CPUP	**Villa Florida**	**10.97**	**65**	P	**Pn**	**00 12 30.7**	**-0.7**
LPAZ	**La Paz**	**15.14**	**1**	P	**Pn**	**00 13 27.0**	**+1.1**
	comp=E,0.1nm,0.3s,baz=194,slow=8.3,SNR=6.4						
SIV	**San Ignacio**	**16.82**	**25**	P	**Pn**	**00 13 48.3**	**+1.5**
	baz=220,slow=14						
USHA	**Ushuaia**	**23.32**	**180**	P	**P**	**00 14 56.7**	**+0.5**
	comp=E,11nm,0.7s,mb4.3,baz=359,slow=4.1,SNR=5.6						
SNAA	**Sanae**	**52.77**	**159**	P	**P**	**00 19 01.3**	**-0.2**
	comp=E,0.6nm,0.8s,mb3.6,baz=288,slow=7.8,SNR=4.2						
TXAR	**Lajitas Array**	**69.17**	**327**	P	**P**	**00 20 53.9**	**+0.9**
	comp=E,0.4nm,0.7s,mb3.4,baz=153,slow=7.9,SNR=6.5						
BOSA	**Boshof**	**78.47**	**116**	P	**P**	**00 21 47.7**	**+0.2**
	comp=E,3.2nm,1.1s,mb4.0,baz=276,slow=14,SNR=3.7						
TORD	**Torodi Ar. Bea**	**80.45**	**68**	P	**P**	**00 21 58.5**	**+0.1**
	comp=E,1.2nm,0.6s,mb3.9,baz=286,slow=5.1,SNR=23						
PDAR	**Pinedale Array**	**83.00**	**331**	P	**P**	**00 22 11.5**	**+0.4**
	comp=E,0.4nm,0.8s,mb3.3,baz=128,slow=8.4,SNR=2.4						
ASAR	**Alice Springs**	**121.14**	**204**	PKhKP		00 28 35.5	
	comp=E,0.1nm,0.3s,baz=156,slow=2.9,SNR=3.2						
WRA	**Warramunga Arr**	**124.40**	**206**	PKP	PKPdf	00 28 43.1	-2.0
	comp=E,0.3nm,0.3s,baz=166,slow=1.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**150.47**	**33**	PKPbc	PKPbc	00 29 37.0	+0.4
	comp=E,3.3nm,0.5s,baz=314,slow=3.0,SNR=17						
MKAR	**Makanchi Array**	**152.81**	**47**	PKPbc	PKPbc	00 29 42.3	+0.1
	comp=E,0.6nm,0.7s,baz=29,slow=3.3,SNR=3.2						
MKAR				PKPab	PKPab	00 29 54.1	+0.5
	comp=E,1.5nm,0.7s,baz=288,slow=3.7,SNR=7.7						

*ISCJB **12** 00:25:44.1±0.5, 5043S±007×114.1E±03, h10km, mb4.4/13, MS3.7/5, Error ellipse: s-maj=24.8km s-min=8.1km az=16.9*
*IDC **12** 00:25:44.2±0.7, 5044S×11406E, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.4/16, mbtmp4.4/11, ML1.9/1, MS3.6/6, Ms1 3.7/6, ms1mx3.4/18, Error ellipse: s-maj=35.3km s-min=14.1km az=109.0*
*NEIC **12** 00:25:45.9±0.4, 5042S×11405E, h10km, mb4.7/3, Error ellipse: s-maj=20.4km s-min=7.3km az=105.0*

ISC 12 00:25:46.1±0.5, 5041S±007×1141E±03, h10km, (h7km±2km:pP-P), n29, σ0°72/22, mb4.4/13, MS3.7/5, 1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.62**	**9**	P	**Pn**	**00 29 51.6**	**0.0**
	0.2nm,0.3s,baz=152,slow=7.7,SNR=2.6						
NWAO				LR	LR	00 34 59.9	
	comp=Z,181nm,18.3s,baz=333,slow=32						
MUN	**Mundaring**	**18.48**	**6**	*e*P	**Pn**	**00 30 02.6**	**+0.4**
KLBR	**Kellerberrin**	**19.00**	**10**	*e*P	**Pn**	**00 30 07.3**	**-1.1**
	20nm,1.1s						
FORT	**Forrest**	**22.23**	**33**	*e*P	**P**	**00 30 43.3**	**+0.5**
	22nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**27.56**	**58**	P	**P**	**00 31 33.2**	**+0.2**
	2.9nm,0.7s,mb4.0,baz=204,slow=11,SNR=8.0						
STKA				LR	LR	00 40 03.4	
	comp=Z,99nm,21.4s,MS3.4,baz=115,slow=31						
STKA	**Stephens Creek**	**27.56**	**58**	P	**P**	**00 31 33.2**	**+0.2**
STKA				LR	LR	00 40 03.4	
MAW	**Mawson**	**30.29**	**216**	P	**P**	**00 31 56.4**	**-0.5**
	2.9nm,0.7s,mb4.1,baz=92,slow=9.8,SNR=7.2						
ASAR	**Alice Springs**	**30.84**	**37**	P	**P**	**00 32 01.8**	**-0.5**
	6.7nm,0.8s,mb4.5,baz=202,slow=7.6,SNR=75						
VNDA	**Vanda**	**32.48**	**163**	P	**P**	**00 32 15.3**	**-0.9**
	1.3nm,0.9s,mb3.8,baz=296,slow=9.8,SNR=7.0						
VNDA				LR	LR	00 45 03.7	
	comp=Z,124nm,19.4s,MS3.6,baz=322,slow=36						
VNDA	**Vanda**	**32.48**	**163**	P	**P**	**00 32 15.3**	**-0.9**
VNDA				LR	LR	00 45 03.8	
FITZ	**Fitzroy Crossi**	**33.54**	**20**	⇓*i*P	**P**	**00 32 26.6**	**+0.7**
	22nm,0.7s,mb5.2						
WRA	**Warramunga Arr**	**34.39**	**35**	P	**P**	**00 32 32.8**	**-0.6**
	11nm,0.8s,mb4.9,baz=204,slow=8.7,SNR=46						
WB2	**Warramunga Arr**	**34.40**	**35**	*e*P	**P**	**00 32 32.7**	**-0.7**
QSPA	**South Pole Qui**	**39.72**	**180**	P	**P**	**00 33 18.3**	**+0.2**
	5.9nm,0.7s,mb4.4,baz=321,slow=3.2,SNR=49						
BATI	**Baumata**	**40.86**	**15**	P	**P**	**00 33 29.0**	**+1.0**
	16nm,0.6s,mb4.8,baz=262,slow=7.1,SNR=2.8						
SNAA	**Sanae**	**50.40**	**201**	*e*	**P**	**00 34 42.4**	**-0.5**
SNAA				*e*	pP	00 34 44.4	-1.7
SNAA				*e*		00 34 49.5	
SNAA	**Sanae**	**50.40**	**201**	P	**P**	**00 34 42.2**	**-0.7**
	1.4nm,0.7s,mb4.1,baz=142,slow=11,SNR=20						
VNA2	**Neumayer--Watz**	**51.98**	**201**	*e*	**P**	**00 34 54.8**	**+0.1**
VNA2				*e*	pP	00 34 56.8	-1.1
VNA2				*e*		00 35 01.6	
VNA1	**Neumayer--Stat**	**52.37**	**201**	*e*	**P**	**00 34 58.0**	**+0.3**
VNA1				*e*	pP	00 35 00.2	-0.7
VNA1				*e*		00 35 04.3	
CMAR	**Chiang Mai Arr**	**69.84**	**345**	P	**P**	**00 36 56.5**	**-0.3**
	1.7nm,0.5s,mb4.2,baz=189,slow=5.2,SNR=8.2						
CMAR				LR	LR	01 03 29.6	
	comp=Z,58nm,18.1s,MS3.9,baz=7.0,slow=32						
KSRS	**Korea Array**	**88.33**	**11**	LR	LR	01 23 37.9	
	comp=Z,17nm,18.0s,MS3.5,baz=310,slow=39						
PLCA	**Paso Flores**	**89.15**	**177**	P	**P**	**00 38 43.9**	**+2.2**
	1.0nm,0.8s,mb4.2,baz

*ISCJB **12** 01:16:33.9±1.0, 636S±0.1×1494E±07, h10km, mb4.2/6, MS3.6/4, Error ellipse: s-maj=44.8km s-min=11.7km az=167.8*
*IDC **12** 01:16:35.0±1.8, 6362S×14894E, h0km, mb4.4/3, mb1 4.6/4, mb1mx4.2/13, mbtmp4.4/4, MS3.5/5, Ms1 3.5/5, ms1mx3.0/32, Error ellipse: s-maj=78.6km s-min=24.0km az=93.0*
*NEIC **12** 01:16:35.8±0.8, 6362S×14944E, h10km, mb4.1/3, Error ellipse: s-maj=39.6km s-min=10.3km az=78.0*

ISC 12 01:16:35.7±1.0, 636S±01×1494E±07, h10km, n12, σ0§79/9, mb4.2/6, MS3.6/4, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.51**	**169**	Pn	**Pn**	**01 19 60.0**	**-0.6**
	0.8nm,0.3s,baz=334,slow=14,SNR=32						
VNDA				Sn	**Sn**	**01 22 31.4**	**-10**
	0.8nm,0.3s,baz=169,slow=16,SNR=4.7						
VNDA				LR	LR	01 24 40.8	
	comp=Z,47nm,21.3s,baz=338,slow=33						
SBA	**Scott Base**	**15.28**	**166**	*e*Pn	**Pn**	**01 20 10.7**	**-0.2**
	5.2nm,0.6s						
QSPA	**South Pole Qui**	**26.47**	**180**	P	**P**	**01 22 15.9**	**+3.6**
	1.2nm,0.6s,mb3.6,baz=315,slow=2.9,SNR=12						
QSPA				LR	LR	01 33 58.0	
	comp=Z,106nm,18.2s,MS3.4,baz=163,slow=39						
MAW	**Mawson**	**33.22**	**224**	P	**P**	**01 23 11.4**	**-0.7**
	3.3nm,0.7s,mb4.4,baz=129,slow=11,SNR=15						
MAW				LR	LR	01 37 26.9	
	comp=Z,63nm,19.5s,MS3.3,baz=260,slow=38						
ASAR	**Alice Springs**	**41.25**	**338**	P	**P**	**01 24 20.9**	**+0.3**
	3.3nm,0.7s,mb4.1,baz=161,slow=9.6,SNR=39						
CTA	**Charters Tower**	**43.55**	**356**	LR	LR	01 39 52.3	
	comp=Z,54nm,21.0s,MS3.4,baz=47,slow=32						
SNAA	**Sanae**	**43.65**	**192**	*e*P	**P**	**01 24 41.0**	**+1.3**
	0.7nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**44.83**	**340**	P	**P**	**01 24 49.6**	**0.0**
	5.5nm,0.5s,mb4.7,baz=166,slow=6.8,SNR=62						
WRA				PcP	PcP	01 26 32.2	+0.9
	0.6nm,0.6s,baz=171,slow=2.9,SNR=5.3						
WRAB	**Tennant Creek**	**44.84**	**340**	*e*P	**P**	**01 24 49.2**	**-0.5**
	6.0nm,0.6s,mb4.6						
AFI	**Afiamalu**	**56.50**	**47**	LR	LR	01 44 45.4	
	comp=Z,307nm,19.9s,MS4.4,baz=342,slow=30						
ESDC	**Sonseca Array**	**151.31**	**226**	PKPbc	PKPbc	01 36 30.1	+1.7
	0.1nm,0.2s,baz=132,slow=1.9,SNR=3.5						
GERES	**GERESS Array B**	**152.00**	**259**	PKPbc	PKPbc	01 36 30.1	+0.4
	0.1nm,0.5s,baz=150,slow=2.9,SNR=3.6						

IDC 12 01:18:41.1±3.0, 1846S×7016W, h108km±23km, mb3.7/2, mb1 3.6/5, mb1mx3.3/21, mbtmp3.4/5, Error ellipse: s-maj=46.3km s-min=17.0km az=97.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.90**	**42**	P	Pn	01 19 26.5	+0.7
	1.7nm,0.3s,baz=232,slow=9.7,SNR=56						
LVC	**Limon Verde**	**4.29**	**164**	P	Pn	01 19 45.4	+1.0
	1.0nm,0.3s,baz=340,slow=8.5,SNR=15						
LVC				S	Sn	01 20 34.2	+0.7
	3.1nm,0.3s,baz=286,slow=16,SNR=7.0						
SIV	**San Ignacio**	**9.03**	**76**	P	Pn	01 20 48.3	-0.3
	0.9nm,0.3s,baz=263,slow=12,SNR=23						
TORD	**Torodi Ar. Bea**	**77.48**	**71**	P	P	01 30 25.4	+0.1
	0.7nm,0.6s,baz=250,slow=5.4,SNR=14						
YKA	**Yellowknife Ar**	**87.94**	**341**	P	P	01 31 18.3	-0.1
	0.9nm,0.5s,baz=130,slow=4.8,SNR=5.0						

*NEIC **12** 01:19:36.9, 1565N×9896W, h22km, MD4.4(MEX), After MEX.*

MEX 12 01:19:36.7±1.1, 1564N×9895W, h21km±26km, MD4.4, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.09**	**46**	*i* P	Pn	01 19 53.1	-3.7
PNIG				*i* S	Sb	01 20 06.3	-4.4
CAIG	**El Cayaco**	**1.89**	**318**	*e*P	Pn	01 20 05.9	-1.9
CAIG				*i* S	Sn	01 20 26.6	-4.4
UTMO	**Huajuapan**	**2.44**	**27**	*i* P	Pn	01 20 14.3	-1.1
UTMO				*i* S	Sn	01 20 41.3	-3.3
VHO	**Vista Hermosa**	**2.56**	**56**	*i* P	Pn	01 20 16.3	-0.8
VHO				*i* S	Sn	01 20 45.3	-2.3
HUIG	**Huatulco**	**2.74**	**87**	*i* S	Sn	01 20 47.8	-4.2
PLIG	**Platanillo**	**2.79**	**349**	*e*P	Pn	01 20 17.1	-3.1
PLIG				*i* S	Sn	01 20 50.4	-2.9
ZIIG	**Zihuatanejo**	**3.11**	**309**	*i* P	Pn	01 20 21.0	-3.5
ZIIG				*i* S	Sn	01 20 57.4	-3.7
TPIG	**Tehuac#an**	**3.16**	**29**	*i* P	Pn	01 20 23.9	-1.4
TPIG				*i* S	Sn	01 21 00.0	-2.2
YAIG	**Yautepec**	**3.21**	**358**	*i* S	Sn	01 21 01.1	-2.5
YAIG	**Yautepec**	**3.21**	**358**	*i* S	Sn	01 21 02.1	-1.5
PPM	**Popocatepetl**	**3.42**	**5**	*i* P	Pn	01 20 28.2	-0.7
PPM				*i* S	Sn	01 21 07.3	-1.6
PPM	**Popocatepetl**	**3.42**	**5**	*i* P	Pn	01 20 35.2	+6.3
PPM				*i* S	Sn	01 21 16.3	+7.4
MOIG	**Morelia**	**4.55**	**332**	*i* P	Pn	01 20 43.0	-1.4
MOIG				*i* S	Sn	01 21 34.3	-2.4
MOIG	**Morelia**	**4.55**	**332**	*i* P	Pn	01 20 56.5	+12
MOIG				*i* S	Sn	01 21 55.8	+19
TGIG		**5.71**	**78**	*e*P	Pn	01 21 06.8	+6.4
TGIG				*i* S	Sn	01 22 00.7	-4.6

IDC 12 01:23:01.9±1.9, 185N×12719E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=113.8km s-min=23.5km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.89**	**184**	P	Pn	01 27 36.2	-0.4
	0.1nm,0.3s,baz=15,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**22.77**	**162**	P	P	01 28 06.2	+0.1
	1.7nm,0.3s,baz=339,slow=11,SNR=18						
WB2	**Warramunga Arr**	**22.77**	**162**	*e*P	P	01 28 06.1	0.0
ASAR	**Alice Springs**	**26.20**	**166**	P	P	01 28 37.8	-0.6
	0.2nm,0.3s,baz=355,slow=7.1,SNR=5.0						
MKAR	**Makanchi Array**	**59.35**	**326**	P	P	01 33 05.8	0.0
	0.6nm,0.4s,baz=119,slow=7.6,SNR=8.1						

*ISCJB **12** 01:38:43.0±0.5, 962N±007×84.13W±005, h55km±2km, mb4.1/37, MS3.7/13, Error ellipse: s-maj=13.1km s-min=5.2km az=34.7*
*CASC **12** 01:38:43.7±2.7, 955N×8420W, h17km±5km, MD4.0, mb4.1(NEIC)*
*NEIC **12** 01:38:45.8±0.9, 958N×8407W, h68km±8km, mb4.1/23, Error ellipse: s-maj=11.7km s-min=6.4km az=216.0*
NEIC Felt at Escazu, Palmital, Parrita, Perez, San Jose, San Rafael, Santa Ana, Santiago and in the Valle Central.
*IDC **12** 01:38:47.3±2.3, 964N×84.14W, h83km±21km, mb3.7/16, mb1 3.9/22, mb1mx3.9/28, mbtmp3.8/22, MS3.7/17, Ms1 3.7/17, ms1mx3.5/32, Error ellipse: s-maj=20.8km s-min=11.7km az=54.0*

ISC 12 01:38:44.5±0.5, 968N±007×8405W±006, h51km±3km, n114, σ1§14/100, mb4.1/37, MS3.7/13, 10C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.08**	**35**	⇓*i*P	**Pn**	**01 38 50.6**	**-1.8**
SJS	**Escuela Geolog**	**0.26**	**359**	⇑*i*P	**Pn**	**01 38 52.7**	**-0.7**
SJS				*e*S	**Sn**	**01 38 59.7**	**-0.1**
QCR	**Quepos**	**0.27**	**204**	⇓*i*P	**Pn**	**01 38 48.6**	**-4.9**
QCR				*e*S	**Sn**	**01 38 52.5**	**-7.5**
BUS	**Buena Vista**	**0.31**	**112**	⇑*i*P	**Pn**	**01 38 52.7**	**-1.1**
BUS				*e*S	**Sn**	**01 39 00.7**	**+0.1**
PRS1	**Puriscal**	**0.40**	**320**	⇑*i*P	**Pn**	**01 38 51.8**	**-2.9**
CGA2	**Cerro Gallo 2**	**0.53**	**310**	⇑*i*P	**Pn**	**01 38 53.9**	**-2.2**
BAR1		**0.85**	**120**	⇓*i*P	**Pn**	**01 38 59.5**	**-0.7**
LIO	**Limon**	**1.05**	**72**	⇑*i*P	**Pn**	**01 39 04.2**	**+1.2**
JCR	**Jicaral**	**1.06**	**280**	⇑*i*P	**Pn**	**01 38 59.1**	**-3.9**
2RIO	**Dos Rios de Up**	**1.44**	**306**	⇓*e*P	**Pn**	**01 39 13.5**	**+5.4**
2RIO				*e*S	**Sn**	**01 39 38.4**	**+12**
CUI		**1.48**	**312**	*e*P	**Pn**	**01 39 08.1**	**-0.7**
CUI				*e*S	**Sn**	**01 39 28.6**	**+1.6**
CNI	**Changuinola**	**1.54**	**100**	⇑*i*P	**Pn**	**01 39 10.4**	**+0.9**
DVD	**David**	**2.00**	**128**	⇑*i*P	**Pn**	**01 39 18.7**	**+2.8**
DVD				*e*S	**Sn**	**01 39 45.2**	**+5.5**
AZU	**Azuero**	**4.18**	**116**	⇑*i*P	**Pn**	**01 39 48.6**	**+2.9**
AZU				*e*S	**Sn**	**01 40 38.4**	**+5.2**
BCIP	**Isla Barro Col**	**4.19**	**97**	*e*Pn	**Pn**	**01 39 46.4**	**+0.6**
TGUH	**Tegucigalpa,Un**	**5.38**	**324**	*e*Pn	**Pn**	**01 40 04.3**	**+2.1**
	144nm,0.7s						
VSM	**San Miguel**	**5.57**	**312**	*e*P	x	01 40 06.9	
SNVI	**San Vicente**	**6.11**	**310**	*e*P	x	01 40 12.8	
LCBS	**La Ceiba**	**6.24**	**310**	*e*P	x	01 40 15.1	
LFRS	**El Faro**	**6.28**	**309**	*e*P	x	01 40 15.6	
LBRS	**Las Brisas**	**6.34**	**310**	*e*P	x	01 40 17.6	
BOQS	**Boqueron**	**6.52**	**309**	*e*P	x	01 40 19.8	
SBLS	**San Blas**	**6.85**	**308**	*e*P	x	01 40 23.6	
RTR	**El Retiro**	**6.90**	**308**	*e*P	x	01 40 25.5	
RBDL	**Robledal**	**7.06**	**309**	*e*P	x	01 40 26.5	
ROSC	**El Rosal**	**10.76**	**116**	P	**Pn**	**01 41 20.3**	**+4.3**
	0.6nm,0.3s,baz=117,slow=18,SNR=15						
ROSC				LR	LR	01 45 44.7	
	comp=Z,164nm,19.1s,baz=189,slow=38						
ROSC	**El Rosal**	**10.76**	**116**	*e*Pn	**Pn**	**01 41 20.7**	**+4.7**
OTAV	**Otavalo**	**10.91**	**149**	*e*Pn	**Pn**	**01 41 23.0**	**+5.0**
	8.8nm,1.0s						
TEIG	**Tepich**	**11.25**	**339**	P	**Pn**	**01 41 25.5**	**+2.9**
	0.6nm,0.3s,baz=175,slow=12,SNR=4.0						
TEIG				LR	LR	01 46 27.7	
	comp=Z,86nm,19.1s,baz=76,slow=41						
TEIG	**Tepich**	**11.25**	**339**	P	**Pn**	**01 41 25.5**	**+2.9**
TEIG				LR	LR	01 46 27.7	
LAPE	**La Pedrera**	**12.51**	**99**	*e*P	Px	01 39 11.3	
LAPE				*e*S	Sx	01 39 35.4	
CMIG	**Matias Romero**	**12.86**	**306**	P	**Pn**	**01 41 44.5**	**-0.1**
	1.3nm,0.3s,baz=124,slow=13,SNR=7.6						
CMIG	**Matias Romero**	**12.86**	**306**	P	**Pn**	**01 41 44.5**	**-0.1**
SDV	**Santo Domingo**	**13.27**	**92**	P	**Pn**	**01 41 53.5**	**+3.3**
	2.4nm,0.3s,baz=311,slow=5.4,SNR=6.7						
SDV				LR	LR	01 48 01.2	
	comp=Z,179nm,18.0s,baz=248,slow=42						
SDV	**Santo Domingo**	**13.27**	**92**	*e*Pn	**Pn**	**01 41 54.7**	**+4.5**
	15nm,0.8s						
ATAH	**Atahualpa**	**17.50**	**161**	P	**Pn**	**01 42 48.5**	**+3.5**
	0.3nm,0.3s,baz=306,slow=11,SNR=3.5						
ATAH				LR	LR	01 48 46.4	
	comp=Z,459nm,20.5s,baz=338,slow=34						
PCRV	**Puerto La Cruz**	**19.13**	**87**	P	**Pn**	**01 43 06.2**	**+1.4**
	0.4nm,0.3s,baz=306,slow=0.9,SNR=6.9						
PTP	**Ponta Puerca**	**19.80**	**63**	⇑*i*P	Px	01 39 12.6	
HKT	**Hockley**	**22.98**	**333**	*e*P	**P**	**01 43 44.2**	**-0.6**
	15nm,1.7s,mb4.1						
JCT	**Junction City**	**25.38**	**327**	*e*P	**P**	**01 44 08.7**	**+1.7**
	3.8nm,0.7s,mb4.0						
SWET	**Sewanee**	**25.48**	**356**	*e*P	**P**	**01 44 11.2**	**+3.4**
TKL	**Tuckaleechee C**	**25.86**	**1**	P	**P**	**01 44 11.9**	**+0.6**
	5.6nm,1.1s,mb4.0,baz=218,slow=11,SNR=3.0						
TKL				LR	LR	01 54 38.3	
	comp=Z,160nm,21.4s,MS3.5,baz=260,slow=37						
TXAR	**Lajitas Array**	**26.83**	**319**	P	**P**	**01 44 20.1**	**0.0**
	1.0nm,0.6s,mb3.5,baz=144,slow=11,SNR=8.7						
TXAR				LR	LR	01 57 13.9	
	comp=Z,150nm,20.3s,MS3.5,baz=5.0,slow=41						
WMOK	**Wichita Mounta**	**28.36**	**334**	*e*P	**P**	**01 44 35.3**	**+1.6**
	3.1nm,0.8s,mb4.0						
LPIG	**La Paz**	**28.86**	**303**	LR	LR	01 55 09.0	
	comp=Z,87nm,21.4s,MS3.3,baz=162,slow=34						
CCM	**Cathedral Cave**	**28.99**	**348**	*e*P	**P**	**01 44 38.6**	**-0.7**
	5.0nm,0.5s,mb4.5						
LPAZ	**La Paz**	**30.23**	**148**	P	**P**	**01 44 50.6**	**+0.1**
	0.4nm,0.4s,mb3.5,baz=347,slow=9.0,SNR=5.6						
LPAZ				LR	LR	01 57 37.5	
	comp=Z,228nm,21.7s,MS3.8,baz=333,slow=37						
LPAZ	**La Paz**	**30.23**	**148**	*e*P	**P**	**01 44 50.9**	**+0.5**
	1.0nm,0.7s,mb3.6						
LVC	**Limon Verde**	**35.35**	**155**	LR	LR	02 01 39.0	
	comp=Z,81nm,19.7s,MS3.5,baz=319,slow=39						
PFO	**Pinyon Flat Ob**	**38.12**	**314**	LR	LR	02 03 43.9	
	comp=Z,89nm,21.0s,MS3.5,baz=322,slow=39						
PDAR	**Pinedale Array**	**39.80**	**330**	P	**P**	**01 46 13.9**	**+1.4**
	0.7nm,0.6s,mb3.6,baz=137,slow=9.5,SNR=6.0						
TPAW	**Teton Pass**	**41.02**	**330**	*e*P	**P**	**01 46 24.7**	**+2.0**
	2.1nm,0.7s,mb3.9						
MOOW	**Moose Ponds**	**41.11**	**330**	*e*P	**P**	**01 46 24.9**	**+1.5**
	1.2nm,0.7s,mb3.6						
ULM	**Lac du Bonnet**	**41.62**	**349**	P	**P**	**01 46 25.1**	**-2.3**
	5.6nm,0.6s,mb4.4,baz=181,slow=5.5,SNR=4.7						
ULM	**Lac du Bonnet**	**41.62**	**349**	*e*P	**P**	**01 46 24.9**	**-2.6**
	9.1nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**41.98**	**319**	P	**P**	**01 46 30.9**	**+0.3**
	0.7nm,0.5s,mb3.6,baz=134,slow=6.4,SNR=5.4						
NVAR				PcP	PcP	01 48 25.3	+0.2
	0.7nm,0.6s,baz=123,slow=3.3,SNR=4.5						
HLID	**Hailey**	**42.85**	**327**	*e*P	**P**	**01 46 39.1**	**+1.4**
	1.8nm,0.9s,mb3.8						
BOZ	**Bozeman (W)**	**42.94**	**332**	*e*P	**P**	**01 46 40.1**	**+1.8**
	1.2nm,0.9s,mb3.6						
BDFB	**Brasília**	**43.66**	**125**	P	**P**	**01 46 44.7**	**+0.2**
	2.7nm,0.9s,mb4.0,baz=285,slow=11,SNR=6.4						
BDFB				LR	LR	02 05 24.6	
	comp=Z,81nm,18.7s,MS3.7,baz=108,slow=36						
CPUP	**Villa Florida**	**44.22**	**145**	LR	LR	02 07 59.4	
	comp=Z,98nm,18.4s,MS3.8,baz=75,slow=40						
YBH	**Yreka Blue Hor**	**46.61**	**320**	LR	LR	02 08 52.0	
	comp=Z,85nm,19.2s,MS3.7,baz=256,slow=39						
SCHQ	**Schefferville**	**47.07**	**14**	P	**P**	**01 47 10.6**	**-0.3**
	2.2nm,0.5s,mb4.3,baz=270,slow=2.0,SNR=3.3						
SCHQ				LR	LR	02 06 29.3	
	comp=Z,268nm,19.8s,MS4.2,baz=86,slow=35						
PLCA	**Paso Flores**	**51.68**	**167**	P	**P**	**01 47 45.5**	**-0.7**
	1.5nm,0.8s,mb4.0,baz=328,slow=8.6,SNR=7.1						
PLCA	**Paso Flores**	**51.68**	**167**	*e*P	**P**	**01 47 46.0**	**-0.3**
	5.7nm,1.0s,mb4.5						
YKA	**Yellowknife Ar**	**57.17**	**344**	P	**P**	**01 48 24.0**	**-1.8**
	0.5nm,0.4s,mb3.9,baz=141,slow=7.2,SNR=4.3						
YKA				LR	LR	02 17 45.7	
	comp=Z,60nm,19.4s,MS3.7,baz=190,slow=41						
BORG	**Borgarnes**	**69.84**	**24**	LR	LR	02 20 00.8	
	comp=Z,105nm,19.8s,MS4.1,baz=32,slow=35						
EVO	**Evora**	**73.13**	**53**	*e*P	**P**	**01 50 08.6**	**-1.2**
	14nm,1.0s,mb4.5						
ESDC	**Sonseca Array**	**76.28**	**52**	P	**P**	**01 50 28.9**	**+0.9**
	1.6nm,0.6s,mb4.1,baz=277,slow=5.8,SNR=20						
ESDC	**Sonseca Array**	**76.28**	**52**	P	**P**	**01 50 28.9**	**+0.9**
QUIF	**Quistinic**	**76.78**	**43**	*e*P	**P**	**01 50 30.5**	**-0.2**
	26nm,1.1s,mb4.8						
QUIF	**Quistinic**	**76.78**	**43**	*e*P	**P**	**01 50 30.5**	**-0.2**
	13nm,1.1s,mb4.8						
SJPF	**Ste Jean**	**78.24**	**48**	*e*P	**P**	**01 50 39.4**	**+0.5**
GRR	**Gorron**	**78.33**	**43**	*e*P	**P**	**01 50 39.0**	**-0.3**
	9.2nm,0.6s,mb4.6						
GRR	**Gorron**	**78.33**	**43**	*e*P	**P**	**01 50 39.0**	**-0.3**
	4.6nm,0.6s,mb4.6						
FLN	**La Foliniere**	**78.56**	**42**	*e*P	**P**	**01 50 40.4**	**-0.2**
	5.8nm,0.8s,mb4.3						
FLN	**La Foliniere**	**78.56**	**42**	*e*P	**P**	**01 50 40.4**	**-0.2**
	2.9nm,0.8s,mb4.3						
LDF	**La Druitiere**	**78.81**	**42**	*e*P	**P**	**01 50 41.7**	**-0.2**
	10nm,0.7s,mb4.5						
LDF	**La Druitiere**	**78.81**	**42**	*e*P	**P**	**01 50 41.7**	**-0.2**
	5.2nm,0.7s,mb4.6						
MFF	**Saint Martin d**	**78.87**	**44**	*e*P	**P**	**01 50 42.0**	**-0.3**
	5.8nm,0.7s,mb4.3						
MFF	**Saint Martin d**	**78.87**	**44**	*e*P	**P**	**01 50 42.0**	**-0.3**
	2.9nm,0.7s,mb4.3						
EPF	**Esparros**	**79.39**	**48**	*e*P	**P**	**01 50 45.5**	**+0.3**
LFF	**La Frestale**	**79.56**	**46**	*e*P	**P**	**01 50 46.0**	**-0.1**
RJF	**Les Rejaudoux**	**80.09**	**46**	*e*P	**P**	**01 50 48.6**	**-0.4**
CAF	**Calviac**	**80.50**	**46**	*e*P	**P**	**01 50 50.9**	**-0.3**
TCF	**Toulx Ste Croi**	**80.51**	**45**	*e*P	**P**	**01 50 50.6**	**-0.6**
	2.9nm,0.7s,mb4.0						
TCF	**Toulx Ste Croi**	**80.51**	**45**	*e*P	**P**	**01 50 50.6**	**-0.6**
	1.5nm,0.7s,mb4.0						
BGF	**Bois d'Agland**	**80.93**	**44**	*e*P	**P**	**01 50 52.9**	**-0.5**
	4.6nm,0.7s,mb4.2						
BGF	**Bois d'Agland**	**80.93**	**44**	*e*P	**P**	**01 50 52.9**	**-0.5**
	2.3nm,0.6s,mb4.3						
AVF	**Avril sur Loir**	**81.26**	**44**	*e*P	**P**	**01 50 54.2**	**-1.0**
SSF	**Saint Saulge**	**81.34**	**44**	*e*P	**P**	**01 50 55.3**	**-0.3**
	2.7nm,0.7s,mb4.0						
SSF	**Saint Saulge**	**81.34**	**44**	*e*P	**P**	**01 50 55.3**	**-0.3**
	1.4nm,0.7s,mb4.0						
LOR	**Lormes**	**81.56**	**43**	*e*P	**P**	**01 50 56.1**	**-0.7**
	2.4nm,0.7s,mb4.0						
LOR	**Lormes**	**81.56**	**43**	*e*P	**P**	**01 50 56.1**	**-0.7**
	1.2nm,0.7s,mb3.9						
SMF	**Signal de Mont**	**81.61**	**44**	*e*P	**P**	**01 50 56.1**	**-0.9**
	2.6nm,0.6s,mb4.0						
SMF	**Signal de Mont**	**81.61**	**44**	*e*P	**P**	**01 50 56.1**	**-0.9**
	1.3nm,0.6s,mb4.0						
MEZF	**Maizieres J'vi**	**82.24**	**42**	*e*P	**P**	**01 50 59.9**	**-0.4**
	2.6nm,0.5s,mb4.1						
MEZF	**Maizieres J'vi**	**82.24**	**42**	*e*P	**P**	**01 50 59.9**	**-0.4**
	2.6nm,0.5s,mb4.4						
VIVF	**Saint-Julien-l**	**82.36**	**46**	*e*P	**P**	**01 51 01.4**	**+0.4**
CABF	**La Chapelle**	**83.15**	**44**	*e*P	**P**	**01 51 04.8**	**-0.3**
HAU	**Haudompre**	**83.16**	**43**	*e*P	**P**	**01 51 04.4**	**-0.7**
HINF	**Hinteralfeld**	**83.52**	**43**	*e*P	**P**	**01 51 06.1**	**-0.9**
	1.9nm,0.5s,mb4.2						
HINF	**Hinteralfeld**	**83.52**	**43**	*e*P	**P**	**01 51 06.1**	**-0.9**
	0.9nm,0.5s,mb4.2						
CDF	**Champ du Feu**	**83.72**	**42**	*e*P	**P**	**01 51 07.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**83.74**	**78**	P	**P**	**01 51 08.1**	**-0.7**
	0.5nm,0.9s,mb3.6,baz=235,slow=7.0,SNR=6.0						
NB2	**NORSAR Subarra**	**84.16**	**29**	P	**P**	**01 51 09.7**	**-0.2**
	comp=Z,1.0nm,0.8s,mb4.0,baz=283,slow=4.8						
NOA	**NORSAR Array B**	**84.16**	**29**	P	**P**	**01 51 09.2**	**-0.7**
	comp=Z,0.7nm,0.8s,mb3.8,baz=284,slow=5.0,SNR=4.3						
HFS	**Hagfors**	**85.52**	**30**	P	**P**	**01 51 15.0**	**-1.8**
	comp=Z,0.6nm,0.5s,mb4.1,baz=275,slow=4.7,SNR=5.0						
CLL	**Collm**	**86.91**	**39**	*e*P	**P**	**01 51 24.0**	**+0.2**
ARCES	**ARCESS Array B**	**87.69**	**19**	P	**P**	**01 51 26.5**	**-0.8**
	comp=Z,5.0nm,1.2s,mb4.6,baz=289,slow=3.7,SNR=5.2						
ARCES				LR	LR	02 31 20.0	
	comp=Z,61nm,20.6s,MS4.0,baz=180,slow=36						
GERES	**GERESS Array B**	**87.85**	**41**	P	**P**	**01 51 28.0**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.7,baz=320,slow=4.4,SNR=4.9						
MAW	**Mawson**	**118.09**	**166**	PKP	PKPdf	01 57 23.3	-1.9
	comp=Z,0.7nm,0.5s,baz=243,slow=7.3,SNR=5.5						
ASAR	**Alice Springs**	**141.21**	**244**	PKP	PKPdf	01 58 10.0	-0.2
	comp=Z,0.3nm,0.5s,baz=115,slow=4.8,SNR=5.1						
WRA	**Warramunga Arr**	**141.59**	**250**	PKP	PKPdf	01 58 10.8	-0.1
	comp=Z,0.3nm,0.4s,baz=95,slow=3.2,SNR=5.1						
FITZ	**Fitzroy Crossi**	**150.02**	**251**	PKPab	PKPab	01 58 33.8	-2.4
	comp=Z,1.4nm,0.8s,baz=117,slow=2.3,SNR=4.5						

*NEIC **12** 01:52:11.0, 4274N×1304E, h11km, mb3.9/2, ML3.4(LDG), ML3.5(STR), ML3.4(ROM), ML3.8(SZGRF), After ROM.*
NEIC Felt [IV] at Cascia and Foligno. Also felt at Norcia and Spoleto.
*ISCJB **12** 01:52:11.7±0.2, 4278N±001×1303E±002, h11km±1km, mb3.8/6, Error ellipse: s-maj=2.1km s-min=1.8km az=140.3*
*CSEM **12** 01:52:11.7±0.0, 4277N×1305E, h12km, mb3.9/4, ML4.0/9, Error ellipse: s-maj=1.1km s-min=0.7km az=56.0*
*ROM **12** 01:52:12.2±0.1, 4278N×1302E, h7km±1km, Ml3.4/47, Error ellipse: s-maj=1.5km s-min=1.2km az=72.0*
*IDC **12** 01:52:12.7±1.2, 4294N×1297E, h0km, mb3.7/4, mb1 3.5/8, mb1mx3.5/27, mbtmp3.5/8, ML3.5/4, Error ellipse: s-maj=35.1km s-min=12.5km az=99.0*
*MOS **12** 01:52:12.6±1.0, 4283N×1302E, h18km, mb4.1/4, Error ellipse: s-maj=6.2km s-min=3.7km az=102.9*
*PRU **12** 01:52:13.4, 4285N×1306E, h0km, M3.9*
*SZGRF **12** 01:52:13.4, 4276N×1337E, h10km, mb3.9, Central Italy*
*LDG **12** 01:52:16.6±0.1, 4290N×1306E, h10km, Ml3.4/11, Error ellipse: s-maj=3.9km s-min=2.7km az=24.0*
*STR **12** 01:52:17.5±0.8, 4294N×1248E, h10km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 12 01:52:12.7±0.2, 4277N±001×1301E±002, h5km±1km, n236, σ1§11/334, mb3.8/6, 36C-15D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.10**	**51**	⇑*i*Pg	**Pg**	**01 52 14.8**	**+0.1**
NRCA				Sg	**Sg**	**01 52 16.4**	**+0.3**
LNSS	**Leonessa**	**0.17**	**173**	⇑*i*Pg	**Pg**	**01 52 16.5**	**+0.5**
LNSS				Sg	**Sg**	**01 52 19.7**	**+1.4**
	29µm,0.3s						
CAMP	**Campotosto**	**0.38**	**129**	Pg	**Pg**	**01 52 19.7**	**-0.2**
CAMP				Sg	**

RFI	Roccamonfina	1.64 153	Pg	Pg	01 52 44.0	-0.1
SGG	Gregorio Mates	1.72 143	Pg	Pg	01 52 44.0	-1.6
	314nm,0.8s					
SEI	Scarperia	1.76 317	Pg	Pn	01 52 44.0	+0.2
	260nm,0.3s					
CIGN	Sant'Elia a Pi	1.79 128	Pg	Pg	01 52 45.8	-1.3
PTRJ	Pietraroja	1.80 141	Pg	Pn	01 52 45.1	+0.7
	334nm,0.9s					
CRMI	Carmignano	1.81 305	Pg	Pn	01 52 44.2	-0.2
	217nm,1.2s					
FG2	Serracapriola	1.86 121	Pg	Pn	01 52 46.4	+1.2
	738nm,1.0s					
FNVD	Fontana Vidola	1.96 316	Pg	Pn	01 52 46.8	+0.3
	807nm,1.4s					
PII	Pisa	2.05 298	Pg	Pn	01 52 47.6	-0.2
	31nm,0.3s					
MAIM	Mastiano	2.17 303	Pg	Pn	01 52 49.2	-0.2
	119nm,0.7s					
BDI	Bagni Di Lucca	2.18 307	Pg	Pn	01 52 48.9	-0.7
	182nm,0.8s					
RGNG	Rignano Grg	2.20 119	Pg	Pn	01 52 50.3	+0.4
NVLJ	Novalja	2.24 36	⇑iPn	Pn	01 52 49.6	-0.8
NVLJ			Sn	Sn	01 53 18.0	-0.4
SGRT	San Giovanni R	2.27 116	Pg	Pn	01 52 51.6	+0.8
	182nm,0.5s					
VLC	Villacollemand	2.36 307	ePn	Pn	01 52 52.0	-0.1
VLC	Villacollemand	2.36 307	ePg	Pg	01 52 58.2	+0.3
VLC	Villacollemand	2.36 307	ePn	Pn	01 52 52.0	-0.1
VLC			ePg	Pg	01 52 58.2	+0.3
VLC			eSg	Sg	01 53 26.8	-1.8
SARO	Sassorosso	2.37 307	P	Pn	01 52 51.4	-0.7
SARO	Sassorosso	2.37 307	P	Pn	01 52 51.4	-0.7
SARO			S	Sn	01 53 22.7	+1.1
SARO	Sassorosso	2.37 307	P	Pn	01 52 51.4	-0.7
SARO			S	Sn	01 53 22.7	+1.2
VINC	Vinca	2.49 304	P	Pn	01 52 53.7	-0.1
VINC	Vinca	2.49 304	P	Pn	01 52 53.7	-0.1
VINC			S	Sn	01 53 23.4	-1.2
VINC	Vinca	2.49 304	P	Pn	01 52 53.6	-0.2
VINC			S	Sn	01 53 23.4	-1.2
VALM	Valbona	2.56 309	P	Pn	01 52 54.8	+0.1
VALM	Valbona	2.56 309	P	Pn	01 52 54.8	+0.1
BACM	Baccana	2.62 306	P	Pn	01 52 55.4	-0.1
BACM			S	Sn	01 53 25.9	-1.8
BACM	Baccana	2.62 306	P	Pn	01 52 55.4	-0.2
BACM			S	Sn	01 53 25.9	-1.7
GRAM	Graiana	2.74 310	P	Pn	01 52 58.6	+1.3
GRAM	Graiana	2.74 310	P	Pn	01 52 58.6	+1.3
GRAM			S	Sb	01 53 36.6	+0.5
CODM	Codolo	2.81 306	P	Pn	01 52 58.3	+0.1
CODM			S	Sn	01 53 30.5	-2.0
CODM	Codolo	2.81 306	P	Pn	01 52 58.3	+0.1
CODM			S	Sn	01 53 30.5	-2.0
SKDS	Skadanscina	2.87 14	iPn	Pn	01 52 58.0	-1.0
SKDS			iSn	Sn	01 53 33.1	-0.7
PGF	Pioggiola	2.97 267	ePn	Pn	01 53 00.4	0.0
PGF			eSn	Sn	01 53 36.6	+0.2
	21nm,0.5s					
BOJS	Bojanci	3.17 30	iPn	Pn	01 53 02.8	-0.4
BOJS			iPg	Pg	01 53 13.7	+0.3
BOJS			iSn	Sn	01 53 42.3	+1.0
JAVS	Javornik	3.21 13	iPn	Pn	01 53 02.8	-0.9
JAVS			iPg	Pg	01 53 15.4	+1.3
JAVS			iSn	Sn	01 53 43.4	+1.1
VOY	Vojsko	3.32 11	ePn	Pn	01 53 04.3	-0.9
VOY			eSn	Sn	01 53 46.4	+1.4
SALO	Salr	3.36 329	Pg	Pn	01 53 06.3	+0.5
	210nm,1.0s					
CTI	Castel Tesino	3.42 344	Pg	Pn	01 53 07.0	+0.4
	65nm,0.4s					
LJU	Ljubljana	3.45 18	iPn	Pn	01 53 06.8	-0.1
LJU			iPg	Pg	01 53 17.3	-1.3
LJU			iSn	Sn	01 53 48.0	-0.1
LJU	Ljubljana	3.45 18	iPn	Pn	01 53 06.8	-0.1
LJU	Ljubljana	3.45 18	iPg	Pg	01 53 17.3	-1.4
LJU			iSn	Sn	01 53 48.0	-0.1
STON	Ston	3.45 87	ePn	Pn	01 53 06.6	-0.4
STON			Sn	Sn	01 53 46.5	-1.8
MAGA	Magasa	3.46 331	Pg	Pn	01 53 07.2	+0.1
	237nm,0.4s					
CUC	Castrocucco	3.49 142	ePn	Pn	01 53 09.4	+1.9
ROBS	Robic	3.49 6	iPn	Pn	01 53 06.8	-0.7
GMNA	Gemona	3.51 3	Pg	Pn	01 53 07.3	-0.5
	261nm,0.6s					
VNDS	Vrh nad Dolski	3.54 19	iPn	Pn	01 53 08.1	-0.2
DGI	Dorgali Grotta	3.54 227	Pg	Pn	01 53 08.1	-0.2
	55nm,1.1s					
PTCC	Patocco-Chiusa	3.64 4	Pg	Pn	01 53 09.0	-0.6
	33nm,0.4s					
MABI	Malga Bissina	3.74 332	Pg	Pn	01 53 11.4	+0.4
	45nm,0.6s					
FVI	Forni Avoltri	3.83 358	Pg	Pn	01 53 12.3	+0.1
	69nm,0.8s					
MDI	Monti di Nese	3.83 323	Pg	Pn	01 53 12.0	-0.2
	39nm,0.4s					
PE1	Pezze di Greco	3.84 119	ePn	Pn	01 53 13.0	+0.7
OBKA	Obir	3.89 16	⇑iSn	Sn	01 53 57.2	-2.0
OBKA	Obir	3.89 16	⇓iPn	Pn	01 53 12.1	-1.0
	SNR=9.8					
OBKA			⇑iSn	Sn	01 53 57.2	-2.0
OBKA	Obir	3.89 16	Pn	Pn	01 53 12.1	-1.0
	9.0nm,8.0s					
ABTA	Abfaltersbach	3.99 355	iPn	Pn	01 53 15.0	+0.6
	SNR=132					
ABTA			⇑iSn	Sn	01 54 02.6	+1.0
PERS	Pernice	4.14 20	iPn	Pn	01 53 15.8	-0.7
PERS			iPg	Pg	01 53 32.1	+0.1
PERS			iSn	Sn	01 54 03.6	-1.7
SOKA	Soboth	4.16 20	⇑iPn	Pn	01 53 16.2	-0.6
SOKA			⇑iSn	Sn	01 54 03.9	-1.8
SBF	Sospel	4.21 287	ePn	Pn	01 53 17.5	0.0
KBA	Koelnbreinsper	4.31 3	⇓iSn	Sn	01 54 09.1	-0.4
KBA	Koelnbreinsper	4.31 3	⇑iPn	Pn	01 53 19.2	+0.4
	SNR=14					
KBA			⇓iSn	Sn	01 54 09.1	-0.4
KBA	Koelnbreinsper	4.31 3	Pn	Pn	01 53 19.2	+0.4
	14nm,2.0s					
KBA			iS	Sn	01 54 09.1	-0.4
SCE	Schlegeis	4.37 348	⇑iPn	Pn	01 53 21.1	+1.5
TUE	Stuetta	4.53 326	ePn	Pn	01 53 22.9	+1.0
TUE			eSn	Sn	01 54 14.7	-0.2
TUE	Stuetta	4.53 326	ePn	Pn	01 53 22.9	+1.0
TUE			eSn	Sn	01 54 14.7	-0.2
FETA	Feichten	4.55 340	⇓iPn	Pn	01 53 23.7	+1.6
	SNR=34					
FETA			⇓iSn	Sn	01 54 18.5	+3.2
TIP	Timpagrande	4.57 140	ePn	Pn	01 53 22.7	+0.2
TIP	Timpagrande	4.57 140	ePn	Pn	01 53 22.7	+0.2
DAVOX	Davos/Dischmat	4.59 332	Pn	Pn	01 53 25.1	+2.5
	4.8nm,0.3s,baz=144,slow=13,SNR=82					
DAVOX			Sn	Sn	01 54 19.6	+3.4
	3.7nm,0.3s,baz=150,slow=23,SNR=6.9					
WTTA	Wattenberg	4.60 348	⇑iPn	Pn	01 53 23.5	+0.8
	SNR=19					
WTTA			⇓iSn	Sn	01 54 18.6	+2.1
WTTA	Wattenberg	4.60 348	Pn	Pn	01 53 23.5	+0.8
	18nm,7.0s					
WTTA			Sn	Sn	01 54 18.6	+2.1
DAVOS	Davos	4.67 332	P	Pn	01 53 25.1	+1.4
DAVOS			S	Sn	01 54 19.7	+1.5
FRF	La Foret Royal	4.72 282	ePn	Pn	01 53 24.0	-0.5
MOTA	Moosalm	4.77 344	⇑iPn	Pn	01 53 26.4	+1.3
	SNR=43					
MOTA	Moosalm	4.77 344	Pn	Pn	01 53 26.4	+1.3
MOTA	Moosalm	4.77 344	⇑iPn	Pn	01 53 26.4	+1.3
LMR	La Mourre	4.80 279	ePn	Pn	01 53 24.9	-0.7
LMR			eSn	Sn	01 54 19.7	-1.8
	3.1nm,0.4s					
LMR	La Mourre	4.80 279	ePn	Pn	01 53 24.9	-0.7
LMR			eSn	Sn	01 54 19.7	-1.8
	1.5nm,0.4s					
ARSA	Arzberg	4.82 21	⇑iSn	Sn	01 54 19.4	-2.6
ARSA	Arzberg	4.82 21	⇑iPn	Pn	01 53 24.8	-1.0
	SNR=32					
ARSA			⇑iSn	Sn	01 54 19.4	-2.6
ARSA	Arzberg	4.82 21	Pn	Pn	01 53 24.8	-1.0
	32nm,5.0s					
BGLD	Berchtesgaden	4.88 360	⇑iPn	Pn	01 53 27.6	+1.0
BGLD			iSn	Sn	01 54 24.8	+1.3
MBDF	Montbardon	4.93 295	ePn	Pn	01 53 28.1	+0.8
RJOB	Jochberg	4.97 358	ePn	Pn	01 53 28.5	+0.7
RJOB			eSn	Sn	01 54 26.1	+0.5
RETA	Reutte	4.98 342	iPn	Pn	01 53 30.0	+2.1
	SNR=22					
RETA			⇑iSn	Sn	01 54 28.7	+2.8
DAVA	Damuels	5.03 335	⇓iPn	Pn	01 53 31.0	+2.2
	SNR=29					
DAVA			⇑iSn	Sn	01 54 29.9	+2.7
DAVA	Damuels	5.03 335	Pn	Pn	01 53 31.0	+2.3
	28nm,7.0s					
DAVA			Sn	Sn	01 54 29.9	+2.7
BNI	Bardonecchia	5.11 299	eP	Pn	01 53 31.1	+1.3
BNI			pmax	pmax		
	comp=Z,4.0nm,0.4s					
BNI	Bardonecchia	5.11 299	ePn	Pn	01 53 31.1	+1.3
	comp=Z,3.7nm,0.4s					
BNI	Bardonecchia	5.11 299	ePn	Pn	01 53 31.1	+1.2
	comp=Z,3.7nm,0.4s					
MOA	Molln	5.15 9	⇑iSn	Sn	01 54 30.4	+0.2
MOA	Molln	5.15 9	⇓iPn	Pn	01 53 29.9	-0.5
	SNR=40					
MOA			⇑iSn	Sn	01 54 30.4	+0.2
MOA	Molln	5.15 9	Pn	Pn	01 53 29.9	-0.5
	comp=Z,39nm,6.0s					
DIVS	Divibare	5.25 73	ePn	Pn	01 53 33.2	+1.4
LPG	La Plagne	5.27 303	ePn	Pn	01 53 34.9	+2.9
LPL	La Plagne	5.29 303	ePn	Pn	01 53 34.6	+2.4
LPL			eSn	Sn	01 54 31.4	-2.1
	comp=Z,6.8nm,0.4s					
PKSM	Moragy	5.29 48	⇑iP	Pg	01 53 50.7	-3.3
TIR	Tirane	5.29 103	eP	Pn	01 53 32.1	-0.3
TIR			e		01 54 32.8	
TIR			pmax	pmax		
	comp=Z,32nm,0.7s					
TIR	Tirane	5.29 103	ePn	Pn	01 53 32.1	-0.3
	comp=Z,32nm,0.7s					
TIR			eSn	Sn	01 54 32.8	-0.9
TIR	Tirane	5.29 103	ePn	Pn	01 53 32.1	-0.3
	comp=Z,32nm,0.7s					
TIR			eSn	Sn	01 54 32.8	-0.9
FGSL	Fruska Gora	5.45 62	ePn	Pn	01 53 36.3	+1.8
SOP	Sopron	5.51 26	eSn	Sb	01 54 51.8	-3.9
FUR	Furstenfeldbru	5.53 348	ePn	Pn	01 53 37.4	+1.8
CSNA	Conrad Observa	5.53 20	⇓iPn	Pn	01 53 35.1	-0.5
CONA	Conrad Observa	5.53 20	⇑iPn	Pn	01 53 35.1	-0.5
	SNR=36					
CONA	Conrad Observa	5.53 20	Pn	Pn	01 53 35.1	-0.5
	comp=Z,36nm,2.0s					
SMRF	Simiane la Rot	5.55 285	ePn	Pn	01 53 37.8	+1.9
ORIF	Oris-en-Rattie	5.59 295	ePn	Pn	01 53 38.6	+2.2
GEC2	GERESS Array S	6.09 4	ePn	Pn	01 53 42.3	-1.0
GEC2			eSn	Sn	01 54 51.2	-2.1
GERES	GERESS Array B	6.09 4	Pn	Pn	01 53 42.5	-0.8
	comp=Z,1.0nm,0.3s,baz=174,slow=13,SNR=36					
GERES			Sn	Sn	01 54 50.9	-2.4
	comp=Z,3.1nm,0.3s,baz=173,slow=23,SNR=8.4					
BBS	Basel-Blauen	6.10 322	P	Pn	01 53 42.1	-1.2
ZST	Bratislava	6.14 27	ePN	Pn	01 53 42.7	-1.2
ZST			eSN	Sn	01 54 50.8	-3.6
FELD	Feldberg im Sc	6.21 327	P	Pn	01 53 44.3	-0.5
CABF	La Chapelle	6.25 310	ePn	Pn	01 53 46.5	+1.0
CABF			eSn	Sn	01 54 53.9	-3.4
	comp=Z,14nm,0.7s					
KRUS	Krusevo	6.29 100	iPn	Pn	01 53 47.8	+1.8
KRUS			iSg	Sn	01 54 57.7	-0.5
MODS	Modra-Piesok	6.35 27	ePN	Pn	01 53 46.1	-0.7
MODS			eSN	Sn	01 54 56.8	-2.9
KHC	Kasperske Hory	6.37 3	ePN	Pn	01 53 46.0	-1.1
KHC			ex	x	01 53 57.5	
KHC			ex	x	01 54 28.5	
KHC			eSN	Sn	01 54 55.9	-4.3
WET	Wettzell	6.37 359	ePn	Pn	01 53 46.1	-1.0
WET			eSn	Sn	01 54 56.4	-3.8
VIVF	Saint-Julien-l	6.38 292	ePn	Pn	01 53 48.7	+1.4
BIA	Bitola	6.44 103	ePn	Pn	01 53 48.4	+0.3
BFO	Black Forest	6.46 331	ePn	Pn	01 53 48.7	+0.4
BARS	Barje	6.48 87	⇓iPn	Pn	01 53 48.8	+0.2
MOF	Molkenrain	6.55 323	P	Pn	01 53 49.3	-0.3
STU	Stuttgart	6.57 337	eP	Pn	01 53 49.6	-0.2
STU			pmax	pmax		
	comp=Z,6.0nm,0.8s					
STU	Stuttgart	6.57 337	eP	Pn	01 53 49.6	-0.2
	comp=Z,6.0nm,0.8s					
STU	Stuttgart	6.57 337	ePn	Pn	01 53 49.6	-0.2
	comp=Z,5.7nm,0.8s					
BOLS	Boljevac	6.61 78	ePn	Pn	01 53 49.9	-0.5
HINF	Hinteralfeld	6.66 321	ePn	Pn	01 53 50.2	-0.8
HINF			eSn	Sn	01 55 02.7	-4.5
	comp=Z,15nm,0.4s					
LASF	Ste Croix	6.79 284	ePn	Pn	01 53 53.0	+0.1
BZS	Buzias	6.81 62	⇑iP	Pn	01 53 54.3	+1.2
BZS	Buzias	6.81 62	⇑P	Pn	01 53 54.3	+1.2
ECH	Echery	6.82 325	P	Pn	01 53 52.3	-1.0
ECH			S	Sn	01 55 11.1	-0.2
ECH	Echery	6.82 325	eP	Pn	01 53 52.6	-0.7
ECH			S	Sn	01 55 11.1	-0.2
ECH	Echery	6.82 325	ePn	Pn	01 53 52.6	-0.7
ECH			eSn	Sn	01 55 08.8	-2.5
STIP	Stip	6.89 96	iPn	Pn	01 53 54.4	+0.1
KOLL	Kolacno	6.92 31	ePN	Pn	01 53 56.3	+1.6
KOLL			eSN	Sn	01 55 11.4	-2.4
KOLL	Kolacno	6.92 31	ePn	Pn	01 53 56.4	+1.7
KOLL			eSn	Sn	01 55 11.4	-2.4
CDF	Champ du Feu	6.93 326	ePn	Pn	01 53 54.0	-0.7
CDF			eSn	Sn	01 55 07.1	-6.8
	comp=Z,14nm,0.6s					
VRAC	Vranov	6.99 20	Pn	Pn	01 53 53.9	-1.8
	comp=Z,0.5nm,0.3s,baz=210,slow=13,SNR=4.6					
VRAC			Sn	Sn	01 55 11.3	-4.2
	comp=Z,0.5nm,0.3s,baz=107,slow=21,SNR=3.4					
VRAC	Vranov	6.99 20	⇓iP	Pn	01 53 59.1	+3.4
VRAC	Vranov	6.99 20	⇓P	Pn	01 53 59.1	+3.4
VRAC	Vranov	6.99 20	Pn	Pn	01 53 53.9	-1.8
VRAC			⇓P		01 53 59.1	
VRAC			Sn	Sn	01 55 11.3	-4.2
HAU	Haudompre	7.03 320	ePn	Pn	01 53 55.0	-1.1
HAU			eSn	Sn	01 55 12.3	-4.0
	comp=Z,17nm,0.4s					
GRF	Grafenberg Arr	7.03 350	eSn	Sn	01 55 12.7	-3.7
PRU	Pruhonice	7.29 8	ePN	Pn	01 53 58.6	-1.2
PRU			eSN	Sn	01 55 18.1	-4.8
NKC	Novy Kostel	7.47 357	ePN	Pn	01 54 02.3	+0.1
NKC			eSN	Sn	01 55 22.1	-5.2
VTS	Vitosha	7.51 88	⇑iP	Pn	01 54 03.9	+1.1
VTS	Vitosha	7.51 88	⇑P	Pn	01 54 03.9	+1.0
KEST	Kesra	7.58 203	Pn	Pn	01 54 07.6	+3.8
	comp=Z,0.1nm,0.3s,baz=14,slow=20,SNR=9.2					
SMF	Signal de Mont	7.59 304	ePn	Pn	01 54 03.6	-0.3
SMF			eSn	Sn	01 55 26.2	-4.1
	comp=Z,8.8nm,0.7s					
MORC	Moravsky Berou	7.67 23	⇑iP	Pn	01 54 04.9	-0.1
KECS	Kecovo	7.75 40	ePN	Pn	01 54 08.2	+2.2
LOR	Lormes	7.89 308	ePn	Pn	01 54 08.9	+1.0
LOR			eSn	Sn	01 55 31.9	-5.7
	comp=Z,3.3nm,0.4s					
OKC	Ostrava-Krasne	7.91 25	ePN	Pn	01 54 07.8	-0.4
OKC			eSN	Sn	01 55 32.7	-5.3
DPC	Dobruska-Polom	7.91 16	ePN	Pn	01 54 07.7	-0.6
DPC			eSN	Sn	01 55 33.2	-4.9
MOX	Moxa	7.93 354	(PN)	Pn	01 54 08.4	-0.1
MOX			(SN)	Sn	01 55 34.5	-4.1
MOX	Moxa	7.93 354	eSn	Sn	01 55 34.3	-4.3
AVF	Avril sur Loir	7.96 304	ePn	Pn	01 54 08.1	-0.8
DRGR		7.98 56	⇓iP	Pn	01 54 09.0	-0.2
DRGR		7.98 56	⇓P	Pn	01 54 09.0	-0.2
SSF	Saint Saulge	7.99 306	eSn	Sn	01 55 34.2	-5.9
	comp=Z,3.6nm,0.6s					
MEZF	Maizieres J'vi	7.99 319	ePn	Pn	01 54 11.7	+2.3
MEZF			eSn	Sn	01 55 36.0	-4.1
	comp=Z,8.8nm,0.7s					
BRG	Berggiesshubel	8.13 4	ePn	Pn	01 54 09.5	-1.7
BRG			eSn	Sn	01 55 38.7	-4.7
BRG	Berggiesshubel	8.13 4	PN	Pn	01 54 08.2	-3.0
BRG			PG	Pg	01 54 45.6	-2.6
BRG			SN	Sn	01 55 37.5	-5.9
BRG			SG	Sg	01 56 38.9	+5.5
	comp=Z,8.7nm,1.1s					
BRG	Berggiesshubel	8.13 4	Pn	Pn	01 54 08.2	-3.0
	comp=Z,5.2nm,1.0s					
BRG			Pg	Pg	01 54 45.6	-2.6
BRG			Sn	Sn	01 55 37.5	-5.9
BRG			Sg	Sg	01 56 38.9	+5.5
BGF	Bois d'Agland	8.17 301	ePn	Pn	01 54 11.4	-0.5
CAF	Calviac	8.20 289	ePn	Pn	01 54 13.3	+1.1
WLF	Walferdange	8.37 328	ePn	Pn	01 54 16.9	+2.3
WLF	Walferdange	8.37 328	eP	Pn	01 54 15.5	+0.9
WLF	Walferdange	8.37 328	ePn	Pn	01 54 15.5	+1.0
CLL	Collm	8.54 360	ePn	Pn	01 54 16.2	-0.6
CLL			eSn	Sn	01 55 48.7	-4.8
CLL	Collm	8.54 360	iPn	Pn	01 54 16.3	-0.5
CLL			ePg	Pn	01 54 53.0	+36
CLL			ex	x	01 55 15.0	
CLL			eSn	Sn	01 55 46.0	-7.5
CLL			ex	x	01 55 54.0	
CLL			eSg	Sn	01 57 01.0	+68
CLL	Collm	8.54 360	iPn	Pn	01 54 16.3	-0.5
CLL			ePg	Pn	01 54 53.0	+36
CLL			eSg	Sn	01 57 01.0	+68
MLR	Muntele Rosu	9.69 69	⇑iP	Pn	01 54 35.6	+3.0
NOA	NORSAR Array B	18.33 357	P	Pn	01 56 27.9	+0.5
	comp=Z,0.1nm,0.3s,baz=173,slow=12,SNR=2.7					
TORD	Torodi Ar. Bea	31.10 202	P	P	01 58 32.3	+0.3
	comp=Z,0.6nm,0.8s,mb3.5,baz=14,slow=8.5,SNR=4.9					
ARU	Arti	31.89 49	ePn	P	01 58 37.9	-0.7
ARU			pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9					
ARU	Arti	31.89 49	eP	P	01 58 37.9	-0.7
	comp=Z,1.0nm,0.5s,mb3.9					
ARU	Arti	31.89 49	eP	P	01 58 37.9	-0.7
	comp=Z,1.2nm,0.5s,mb4.0					
BRVK	Borovoye	38.76 54	eP	P	01 59 38.6	+0.9
BRVK			pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9					
BRVK	Borovoye	38.76 54	eP	P	01 59 38.6	+0.9
	comp=Z,0.9nm,0.4s,mb3.9					
BRVK	Borovoye	38.76 54	eP	P	01 59 38.6	+0.9
	comp=Z,0.9nm,0.4s,mb3.9					
BVAR	Borovoye Array	38.83 54	P	P	01 59 39.7	+1.5
	comp=Z,1.1nm,0.7s,mb3.7,baz=242,slow=9.5,SNR=6.8					
BVAR	Borovoye Array	38.83 54	P	P	01 59 39.7	+1.4
BVAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
MKAR	Makanchi Array	47.88 60	P	P	02 00 51.6	+0.2
	comp=Z,0.6nm,0.7s,mb3.8,baz=294,slow=8.0,SNR=2.9					
MKAR	Makanchi Array	47.88 60	P	P	02 00 51.6	+0.2
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
SONM	Songino Array	61.92 50	P	P	02 02 34.3	+1.3
	comp=Z,0.4nm,0.3s,mb4.0,baz=295,slow=7.7,SNR=4.7					

TRN 12 02:06:19.4, 1733N×6141W, h3km, MD3.2, M2.8(FDF), M3.5(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	Boggy Peak	0.51	237	eP	Pg	02 06 32.4	+3.2
BPA				eS	Sg	02 06 41.9	+6.2
DEG	La Desirade	1.06	161	eP	Pg	02 06 43.3	+3.5
LZG	Guadaloupe-1	1.23	196	eP	Pg	02 06 45.9	+2.9
HMG	Houelmont	1.36	192	eP	Pn	02 06 47.8	+2.5

ATH 12 02:06:33.5, 3930N×2050E, h10km, MD2.9/3, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.45	37	ePB	Pg	02 06 42.0	-0.3
KEK	Kerkira	0.68	307	ePB	Pb	02 06 46.5	-1.0
VLS	Valsamata	1.12	176	ePB	Pb	02 06 55.0	0.0

*TIR **12** 02:08:09.1±0.5, 3926N×2033E, h10km±12km*
*THE **12** 02:08:10.9, 3930N×2022E, h0km, ML2.8*
*ATH **12** 02:08:10.9, 3933N×2031E, h14km±8km, MD3.3/6*
*ISCJB **12** 02:08:10.8±0.5, 3932N±002×2028E±004, h10km, Error ellipse: s-maj=4.6km s-min=3.1km az=157.0*
*NEIC **12** 02:08:10.9, 3930N×2022E, h0km, MD3.3(ATH), ML2.8(THE), After THE.*
*CSEM **12** 02:08:11.4±0.1, 3932N×2026E, h2km, ML2.8, Error ellipse: s-maj=3.3km s-min=2.2km az=59.0*

ISC 12 02:08:11.3±0.6, 3932N±002×2028E±004, h8km±6km, n19, σ0°93/33, 1C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.22	11	ePg	Pg	02 08 15.2	-0.6
IGT				eSg	Sg	02 08 19.2	+0.4
IGT	Igoumenitsa	0.22	11	iPG	Pg	02 08 15.2	-0.6
IGT				iSG	Sg	02 08 19.2	+0.4
KEK	Kerkira	0.55	317	⇑iPG	Pg	02 08 21.4	-0.5
KEK				eSB	Sg	02 08 29.8	+0.8
JAN	Janina	0.56	52	ePB	Pg	02 08 21.5	-0.6
JAN				eSB	Sg	02 08 28.5	-0.9
SRN	Sarande	0.60	339	ePG	Pg	02 08 22.2	-0.8
SRN				iSG	Sg	02 08 32.3	+1.4
LKD	Levkas	0.67	154	ePg	Pg	02 08 23.1	-1.2
LKD				eSg	Sg	02 08 34.7	+1.7
VLS	Valsamata	1.16	168	ePg	Pg	02 08 31.5	-2.1
VLS				eSg	Sg	02 08 49.8	+1.1
VLS	Valsamata	1.16	168	ePg	Pg	02 08 33.0	-0.6
VLS				eSg	Sg	02 08 49.8	+1.1
EVR	Evrytania	1.25	108	ePB	Pb	02 08 34.4	-0.8
EVR				eSB	Sb	02 08 51.3	-0.2
THL	Klokotos Trika	1.37	79	ePg	Pn	02 08 36.5	-0.2
THL				eSg	Sg	02 08 56.2	+1.0
RLS	Riolos of Patr	1.56	143	ePB	Pb	02 08 40.5	+0.1
AGG	Agios Georgios	1.62	100	ePb	Pb	02 08 40.8	-0.6
AGG				eSb	Sg	02 09 04.1	+0.7
FNA	Florina	1.69	29	ePb	Pb	02 08 42.6	-0.1
FNA				eSb	Sg	02 09 06.9	+1.2
FNA	Florina	1.69	29	iPG	Pg	02 08 42.6	-1.1
FNA				iSG	Sg	02 09 06.9	+1.2
LIT	Litokhoron	1.88	65	ePb	Pb	02 08 45.1	-0.7
LIT				eSb	Sb	02 09 10.1	+0.7
BIA	Bitola	1.88	25	ePn	Pg	02 08 46.4	-1.0
BIA	Bitola	1.88	25	ePn	Pg	02 08 46.3	-1.1
KRUS	Krusevo	2.18	20	ePn	Pn	02 08 49.5	+1.6
KRUS	Krusevo	2.18	20	ePn

JNN	Nakanoshima	2.48	45	P	Pn	02 31 31.7	+0.1
JKC	Kuchinoerabu	3.11	41	P	Pn	02 31 40.0	+0.2
JTN	Tanegashima 3	3.73	46	P	Pn	02 31 47.8	0.0
JTN				eS	Sn	02 32 31.0	+0.5
JSJ	Shimokoshiki	3.91	24	P	Pn	02 31 51.3	+1.1
YHNB	Yeheng	6.74	241	ePn	Pn	02 32 29.5	+1.4
	68nm,0.6s						
NJ2	Nanjing	8.73	299	eP	Pn	02 32 55.8	+1.1
NJ2				S	Sn	02 34 32.0	+0.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,510nm,4.3s						
NJ2				LR	LR		
	comp=N,240nm,6.3s						
NJ2				LR	LR		
	comp=E,510nm,4.9s						
NJ2				LR	LR		
	comp=Z,550nm,4.3s						
KSRS	Korea Array	9.32	0	P	Pn	02 33 04.4	+1.8
	comp=Z,0.3nm,0.3s,baz=178,slow=14,SNR=25						
JHJ	Hachijo jima 2	11.42	61	P	Pn	02 33 31.9	+1.4
	comp=Z,37nm,0.3s,baz=66,slow=4.1,SNR=18						
MAJO	Matsushiro	12.13	44	eP	Pn	02 33 47.4	+7.6
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MAJO	Matsushiro	12.13	44	eP	Pn	02 33 47.4	+7.6
	comp=Z,11nm,0.8s						
MAT	Matsushiro	12.13	44	P	Pn	02 33 37.8	-2.0
MAT				eS	Sn	02 35 56.4	+2.8
MJAR	Matsushiro Arr	12.13	44	P	Pn	02 33 38.1	-1.7
	comp=Z,0.4nm,0.3s,baz=237,slow=14,SNR=16						
BJT	Baijiatuau	15.31	324	eP	Pn	02 34 24.7	+4.4
BJT				pmax	pmax		
	comp=Z,56nm,0.7s						
BJT	Baijiatuau	15.31	324	eP	Pn	02 34 24.7	+4.5
	comp=Z,56nm,0.7s						
BJI	Beijing	15.32	324	P	Pn	02 34 24.1	+3.7
BJI				AMB	AMB		
	comp=Z,53nm,0.8s						
CN2	Changchun	15.78	354	eP	Pn	02 34 25.9	-0.1
CN2				eXP	sP	02 35 09.2	+1.0
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
XAN	Xi'an	17.25	295	P	Pn	02 34 45.0	+0.9
XAN				AMB	AMB		
	comp=Z,17nm,0.8s						
XAN				AMB	AMB		
	comp=Z,113nm,4.9s						
HHC	Hu-ho-hao-te	18.45	318	eP	P	02 34 58.7	+2.2
HHC				XP	sP	02 35 44.8	+7.0
HHC				S	S	02 38 13.8	-6.2
HHC				PCP	PcP	02 39 23.9	+2.9
HHC				SCP	ScP	02 42 43.2	-0.7
HHC				PCS	PcS	02 42 57.9	+0.2
HHC				AMB	AMB		
	comp=Z,17nm,1.0s						
HHC				AMB	AMB		
	comp=Z,116nm,4.2s						
HHC				LR	LR		
	comp=N,222nm,18.8s						
HHC				LR	LR		
	comp=E,273nm,17.8s						
HHC				LR	LR		
	comp=Z,176nm,17.8s						
GYA	Guiyang	18.91	270	eP	P	02 35 05.6	+4.0
GYA				PP		02 35 26.8	
GYA				XP	sP	02 35 49.6	+6.7
GYA				S	S	02 38 22.4	-6.9
GYA				PCP	PcP	02 39 22.0	0.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2	Chengdu	21.15	283	eP	P	02 35 24.6	-1.1
CD2				PP		02 35 56.3	
CD2				XP	sP	02 36 14.8	+7.4
CD2				S	S	02 39 04.0	-9.3
CD2				SS		02 39 51.2	
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
LZH	Lanzhou	21.80	297	eP	P	02 35 33.1	+0.5
LZH				XP	sP	02 36 21.7	+7.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.3						
LZH				AMB	AMB		
	comp=Z,85nm,5.4s						
KMI	Kunming	22.64	268	P	P	02 35 39.1	-2.1
KMI				AP		02 36 10.6	
KMI				XP	sP	02 36 31.1	+7.6
KMI				S	S	02 39 30.3	-8.5
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.2						
KMI				AMB	AMB		
	comp=Z,262nm,3.4s						
KMI				LR	LR		
	comp=N,308nm,11.6s						
KMI				LR	LR		
	comp=E,164nm,9.5s						
KMI				LR	LR		
	comp=Z,129nm,10.7s						
GTA	Gaotai	25.79	303	eP	P	02 36 09.2	-0.5
GTA				AP	pP	02 36 42.1	+3.6
GTA				XP	sP	02 36 59.2	+4.9
GTA				S	S	02 40 20.9	-8.0
GTA				XS	sS	02 41 20.1	+0.4
GTA				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.3						
GTA				AMB	AMB		
	comp=Z,30nm,6.5s						
GTA				LR	LR		
	comp=N,100nm,9.8s						
GTA				LR	LR		
	comp=E,72nm,11.0s						
GTA				LR	LR		
	comp=Z,93nm,11.6s						
SONM	Songino Array	25.81	326	P	P	02 36 09.6	-0.2
	comp=Z,4.1nm,0.7s,mb4.1,baz=138,slow=11,SNR=18						
SONM				PcP	PcP	02 39 35.0	-0.6
	comp=Z,0.6nm,0.6s,baz=130,slow=8.9,SNR=4.8						
WMQ	Urumqi	35.70	307	eP	P	02 37 36.8	+0.1
MK31	Makanchi Array	40.05	310	eP	P	02 38 11.8	-1.4
MKAR	Makanchi Array	40.05	310	P	P	02 38 12.0	-1.2
	comp=Z,1.2nm,0.6s,mb3.7,baz=87,slow=8.6,SNR=13						
MKAR				PcP	PcP	02 40 14.4	-0.9
	comp=Z,1.8nm,0.6s,baz=101,slow=3.1,SNR=9.6						
ZALV	Zalesovo Beam	40.56	322	P	P	02 38 15.2	-2.1
	comp=Z,1.5nm,0.3s,mb4.1,baz=99,slow=9.2,SNR=3.7						
ZALV				PcP	PcP	02 40 15.2	-1.7
	comp=Z,0.7nm,0.3s,baz=132,slow=2.1,SNR=4.2						
ZALV				ScP	ScP	02 43 50.9	-2.7
	comp=Z,1.5nm,0.9s,baz=66,slow=3.5,SNR=3.7						
ZAL	Zalesovo	40.57	322	P	P	02 38 15.2	-2.1
ZAL						02 40 15.2	
KURK	Kurchatov	43.24	315	eP	P	02 38 37.5	-1.6
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
KURK	Kurchatov	43.24	315	eP	P	02 38 37.5	-1.6
	comp=Z,3.7nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	45.98	183	eP	P	02 39 01.4	+0.3
	comp=Z,3.4nm,0.6s,mb4.2						
WRAB	Tennant Creek	48.17	172	eP	P	02 39 17.0	-1.0
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
WRAB	Tennant Creek	48.17	172	eP	P	02 39 17.0	-1.1
	comp=Z,1.9nm,0.7s,mb3.8						
WRA	Warramunga Arr	48.18	172	P	P	02 39 17.6	-0.5
	comp=Z,1.8nm,0.7s,mb3.8,baz=353,slow=8.1,SNR=23						
WRA				pP	pP	02 39 50.0	+0.8
	comp=Z,0.7nm,0.6s,baz=353,slow=8.5,SNR=5.5						
WRA				PcP	PcP	02 40 42.6	-0.7
	comp=Z,0.4nm,0.7s,baz=348,slow=4.2,SNR=4.6						
WB2	Warramunga Arr	48.18	172	eP	P	02 39 17.7	-0.4
BVAR	Borovoye Array	48.66	317	P	P	02 39 20.4	-1.1
	comp=Z,2.3nm,0.7s,mb3.9,baz=74,slow=11,SNR=8.5						
BVAR				PcP	PcP	02 40 44.0	-0.7
	comp=Z,5.6nm,0.6s,baz=110,slow=3.6,SNR=17						
BRVK	Borovoye	48.73	317	eP	P	02 39 21.3	-0.7
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
BRVK	Borovoye	48.73	317	eP	P	02 39 21.3	-0.8
	comp=Z,3.8nm,0.6s,mb4.2						
ASAR	Alice Springs	51.80	173	P	P	02 39 45.5	+0.1
	comp=Z,1.6nm,0.7s,mb3.8,baz=4.4,slow=13,SNR=27						
ASAR				pP	pP	02 40 19.0	+2.0
	comp=Z,0.9nm,0.6s,baz=3.5,slow=14,SNR=7.2						
ASAR				PcP	PcP	02 40 56.5	-0.2
	comp=Z,0.6nm,0.6s,baz=357,slow=3.2,SNR=5.4						
CHUM	Lake Minchumin	60.71	30	eP	P	02 40 48.0	-0.2
	comp=Z,8.1nm,0.8s,mb4.6						
PPLA	Purkeypile	60.85	31	eP	P	02 40 48.8	-0.2
	comp=Z,5.1nm,0.6s,mb4.5						
STKA	Stephens Creek	61.07	167	P	P	02 40 50.4	-0.5
	comp=Z,2.1nm,0.6s,mb4.1,baz=337,slow=6.9,SNR=6.3						
STKA	Stephens Creek	61.07	167	eP	P	02 40 50.0	-0.8
	comp=Z,3.0nm,0.8s,mb4.2						
KDAK	Kodiak Island	61.22	37	P	P	02 40 50.5	-1.2
	comp=Z,6.1nm,0.5s,mb4.7,baz=290,slow=4.7,SNR=15						
KTH	Kantishna Hill	61.35	30	eP	P	02 40 51.6	-0.9
	comp=Z,4.3nm,0.9s,mb4.3						
MCK	McKinley	62.22	30	eP	P	02 40 57.0	-1.2
MCK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MCK	McKinley	62.22	30	eP	P	02 40 57.0	-1.2
	comp=Z,4.6nm,0.7s,mb4.4						
COLA	College	62.53	29	eP	P	02 40 59.1	-1.2
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
COLA	College	62.53	29	eP	P	02 40 59.1	-1.2
	comp=Z,3.5nm,0.7s,mb4.3						
BMRM	Bremner River	64.69	33	eP	P	02 41 13.5	-1.0
INK	Inuvik	67.31	23	P	P	02 41 30.1	-1.0
	comp=Z,3.5nm,1.0s,mb4.2,baz=306,slow=8.7,SNR=3.4						
AKASG	Malin Array Be	73.89	319	P	P	02 42 09.2	-2.2
	comp=Z,0.2nm,0.3s,mb3.3,baz=60,slow=5.9,SNR=3.9						
YKA	Yellowknife Ar	76.97	25	P	P	02 42 27.7	-1.0
	comp=Z,2.3nm,0.6s,mb4.0,baz=302,slow=5.7,SNR=7.7						
NB2	NORSAR Subarra	77.49	334	P	P	02 42 30.7	-0.9
	comp=Z,1.0nm,0.6s,mb3.6,baz=54,slow=5.9						
NOA	NORSAR Array B	77.49	334	P	P	02 42 30.8	-0.8
	comp=Z,1.0nm,0.6s,mb3.6,baz=52,slow=5.6,SNR=8.1						
NOA	NORSAR Array B	77.49	334	P	P	02 42 30.8	-0.8
A07A	Ashnola River,	82.10	38	⇓P	P	02 42 56.0	-0.7
	baz=82						
CLL	Collm	82.43	325	⇓eP	P	02 42 58.0	-0.4
CLL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
CLL	Collm	82.43	325	⇓eP	P	02 42 58.0	-0.4
	comp=Z,3.0nm,0.7s,mb4.0						
B07A	Winthrop	82.58	38	⇓P	P	02 42 58.4	-0.8
	baz=82						
F04A	Amboy	82.67	41	⇓P	P	02 42 59.3	-0.4
	baz=82						
A08A	Turner Farm, O	82.76	38	⇓P	P	02 42 59.9	-0.2
	baz=83						
I02A	Mapleton	82.87	44	⇑P	P	02 43 01.1	+0.3
	baz=83						
ETW	Entiat	82.94	39	eP	P	02 43 00.8	-0.3
C07A	Waterville	83.04	39	⇓P	P	02 43 01.2	-0.5
	baz=83						
B08A	Colville Reser	83.07	38	⇓P	P	02 43 01.6	-0.1
	baz=83						
A09A	Danville	83.12	37	⇓P	P	02 43 01.5	-0.5
	baz=83						
E06A	Yakima	83.17	40	⇓P	P	02 43 02.0	-0.3
	baz=83						
D07A	Quincy	83.38	39	⇓P	P	02 43 03.1	-0.2
	baz=83						
H04A	Detroit Lake	83.50	42	⇑P	P	02 43 02.9	-1.1
	baz=83						
GERES	GERESS Array B	83.51	323	P	P	02 43 03.8	-0.1
	comp=Z,0.9nm,0.8s,mb3.6,baz=46,slow=3.9,SNR=8.3						
C08A	Higginbotham F	83.55	39	⇓P	P	02 43 03.5	-0.7
	baz=83						
I04A	Tendick Farm,	83.85	43	⇑P	P	02 43 05.8	0.0
	baz=84						
D08A	Wollman Farm,	84.04	39	⇑P	P	02 43 06.4	-0.4
	baz=84						
HUMO	Hull Mountain	84.16	44	⇑P	P	02 43 07.7	+0.3
	baz=84						
E08A	Dider Farm, El	84.29	40	⇓P	P	02 43 08.0	0.0
	baz=84						
A11A	Hall Mountain,	84.31	37	⇓P	P	02 43 08.4	+0.3
	baz=84						
NEW	Newport	84.32	37	eP	P	02 43 07.4	-0.7
NEW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NEW	Newport	84.32	37	eP	P	02 43 07.4	-0.7
	comp=Z,5.7nm,1.0s,mb4.3						
H06A	Lindquist Farm	84.56	42	⇑P	P	02 43 08.7	-0.7
	baz=84						
E09A	Wood Farm, Sta	84.79	39	⇓P	P	02 43 10.1	-0.4
	baz=85						
J05A	Fort Rock	84.84	43	⇓P	P	02 43 11.0	+0.1
	baz=85,SNR=9.3						
G08A	Pilot Rock	85.04	41	⇑P	P	02 43 11.5	-0.3
	baz=85						
I06A	Prineville	85.08	42	P	P	02 43 12.6	+0.6
	baz=85,SNR=6.9						
H07A	Lands Inn, Kim	85.09	41	⇓P	P	02 43 12.2	+0.1
	baz=85						
M04C	Macdoel	85.31	45	⇓P	P	02 43 13.4	+0.2
	baz=85						
K05A	Summer Lake	85.36	44	⇓P	P	02 43 13.6	+0.1
	baz=85						
M03C	McCloud	85.41	45	⇑P	P	02 43 13.8	+0.1
	baz=85						
I07A	Izee	85.42	42	⇑P	P	02 43 13.8	+0.1
	baz=85						
D11A	Klaveano Farm,	85.47	38	⇓P	P	02 43 13.1	-0.8
	baz=85,SNR=5.3						
J06A	Christmas Vall	85.51	43	P	P	02 43 14.4	+0.2
	baz=85,SNR=7.8						
H08A	Prairie City	85.66	41	P	P	02 43 15.2	+0.4
	baz=86,SNR=5.7						
K06A	Valley Falls	85.71	43	⇓P	P	02 43 15.5	+0.3
	baz=86,SNR=6.7						
G09A	Cove	85.72	40	⇑P	P	02 43 15.3	+0.1
	baz=86,SNR=8.0						
GASB	Alder Springs	85.93	47	⇓P	P	02 43 16.5	+0.2
	baz=86						
J07A	Hines	85.95	42	⇓P	P	02 43 17.1	+0.8
	baz=86,SNR=8.3						
E11A	Bogner Ranch,	85.96	39	⇓P	P	02 43 15.9	-0.4
	baz=86						
D12A	Red Ives Fores	86.00	38	⇓P	P	02 43 16.1	-0.4
	baz=86						
C13A	Hot Springs	86.04	37	⇓P	P	02 43 16.8	+0.2
	baz=86						
I08A	Drewsey	86.07	42	⇓P	P	02 43 16.8	-0.1
	baz=86						
G10A	Bishop Farm, J	86.09	40	⇓P	P	02 43 16.9	-0.1
	baz=86,SNR=8.1						
F11A	Grangeville	86.28	39	⇓P	P	02 43 17.4	-0.5
	baz=86						
K07A	Rock Creek Ran	86.38	43	P	P	02 43 18.9	+0.5
	baz=86,SNR=9.4						
C14A	Swan Lake	86.42	36	⇑P	P	02 43 18.6	0.0
	baz=86						
J08A	Circle Bar Ran	86.45	42	⇓P	P	02 43 18.3	-0.5
	baz=86						
G11A	Walters Elk Ra	86.51	39	⇓P	P	02 43 18.5	-0.5
	baz=86,SNR=8.4						
I09A	Lost Marbles R	86.52	41	⇓P	P	02 43 19.0	-0.1
	baz=86						
L07A	Adell	86.71	43	P	P	02 43 20.9	+0.8
	baz=86,SNR=12						
H10A	Noah's Angus R	86.72	40	P	P	02 43 19.9	-0.2
	baz=86,SNR=10						
ORV	Oroville	86.77	46	⇑P	P	02 43 19.8	-0.6
	baz=87						
K08A	Mann Creek Ran	86.81	43	⇑P	P	02 43 20.6	0.0
	baz=87						
F12A	Elk City	86.85	39	⇓P	P	02 43 20.0	-0.7
	baz=87,SNR=11						
J09A	Fry Pan Ranch,	86.88	42	P	P	02 43 21.3	+0.4
	baz=87,SNR=9.7						
WVOR	Wild Horse Val	86.89	43	eP	P	02 43 21.3	+0.3
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
WVOR	Wild Horse Val	86.89	43	eP	P	02 43 21.3	+0.3
	comp=Z,2.3nm,0.8s,mb4.1						
D14A	Greenough	86.98	37	⇑P	P	02 43 20.5	-0.8
	baz=87						
N06A	Buffalo Meadow	87.14	45	⇓P	P	02 43 22.1	0.0
	baz=87						
L08A	Fields	87.21	43	⇑P	P	02 43 22.9	+0.4
	baz=87,SNR=5.3						
K09A	Rome	87.28	42	P	P	02 43 23.2	+0.4
	baz=87,SNR=5.2						
BEKR	Beckwourth	87.31	46	⇑P	P	02 43 22.7	-0.3
	baz=87						
K10A	MacKenzie Ranc	87.74	42	⇓P	P	02 43 25.4	+0.4
	baz=88						
H12A	Diamond D Ranc	87.82	39	⇑P	P	02 43 25.2	-0.2
	baz=88,SNR=9.8						
E15A	Deer Lodge	87.85	37	⇑P	P	02 43 25.1	-0.4
	baz=88						
MFID	Camas Ranch	87.96	41	⇓P	P	02 43 26.1	+0.1
	baz=88,SNR=5.2						
O07A	Toulon	88.07	45	⇓P	P	02 43 27.1	+0.5
	baz=88						
H13A	Challis	88.15	39	⇓P	P	02 43 26.7	-0.2
	baz=88						
N08A	GE Springer Mi	88.17	44	⇑P	P	02 43 27.2	+0.1
	baz=88						
K11A	Parker Ranch,	88.24	41	⇑P	P	02 43 27.8	+0.4
	baz=88						
EGMT	Eagleton	88.30	35	⇓P	P	02 43 27.2	-0.3
	baz=88						
F15A	Butte	88.31	37	⇑P	P	02 43 27.7	+0.1
	baz=88						
CMB	Columbia Colle	88.34	47	⇑P	P	02 43 27.7	-0.2
	baz=88						
L10A	Juniper Basin	88.40	42	⇓P	P	02 43 28.9	+0.8
	baz=88						
J12A	Stokes Ranch,	88.48	41	⇓P	P	02 43 28.9	+0.4
	baz=88						
I13A	Wildhorse Cree	88.63	40	⇑P	P	02 43 29.8	+0.6
	baz=88,SNR=8.9						
HLID	Hailey	88.68	40	P	P	02 43 30.2	+0.8
	baz=88,SNR=10						
HLID	Hailey	88.68	40	eP	P	02 43 29.9	+0.4
	comp=Z,4.2nm,0.8s,mb4.4						
M10A	I.L. Ranch, Tu	88.69	43	⇓P	P	02 43 29.8	+0.2
	baz=88						
G15A	Dillon	88.74	38	P	P	02 43 30.0	+0.3
	baz=88,SNR=16						
L11A	Cat Creek Ranc	88.77	42	P	P	02 43 30.7	+0.8
	baz=89,SNR=9.3						
BOZ	Bozeman (W)	88.89	37	eP	P	02 43 30.0	-0.4
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BOZ	Bozeman (W)	88.89	37	⇓P	P	02 43 29.9	-0.5
	baz=89						
BOZ	Bozeman (W)	88.89	37	eP	P	02 43 30.0	-0.4
	comp=Z,1.7nm,0.9s,mb4.0						
J13A	Cove Ranch, Pi	88.92	40	⇑P	P	02 43 31.3	+0.8
	baz=89,SNR=7.8						
O09A	Fish Creek Ran	89.11	44	⇓P	P	02 43 32.0	+0.5
	baz=89						
M11A	Holland Ranch,	89.20	42	⇑P	P	02 43 33.4	+1.5
	baz=89						
L12A	House Creek Ra	89.21	41	⇑P	P	02 43 33.1	+1.1
	baz=89						
Q08A	Gabbs	89.43	45	⇓P	P	02 43 33.1	+0.1
	baz=89						
NVAR	Mina Array Bea	89.45	46	P	P	02 43 33.8	+0.6
	comp=Z,1.3nm,0.6s,mb4.0,baz=289,slow=6.2,SNR=14						
M12A	Wells	89.72	42	⇓P	P	02 43 35.5	+1.1
	baz=90						
L13A	Double Diamond	89.87	41	⇑P	P	02 43 36.4	+1.3
	baz=90						
ELK	Elko	89.95	43	eP	P	02 43 35.4	0.0
ELK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ELK	Elko	89.95	43	eP	P	02 43 35.4	0.0
	comp=Z,1.6nm,0.6s,mb4.1						
N12A	Clover Valley,	90.00	42	⇑P	P	02 43 36.8	+1.1
	baz=90						
K14A	Jones Ranch, D	90.03	40	⇓P	P	02 43 36.8	+1.1
	baz=90						
O11A	Cowboy Ranch,	90.07	43	⇓P	P	02 43 36.5	+0.5
	baz=90						
M13A	Montello	90.20	42	⇓P	P	02 43 37.6	+1.0
	baz=90						
R09A	Tonopah	90.34	46	⇑P	P	02 43 37.7	+0.4
	baz=90						
IMW	Indian Meadow	90.41	38	eP	P	02 43 37.4	-0.1
	comp=Z,4.7nm,0.9s,mb4.4						
RLMT	Red Lodge	90.49	36	eP	P	02 43 38.4	+0.6
	comp=Z,5.5nm,1.3s,mb4.3						
O12A	Currie	90.54	43	⇑P	P	02 43 38.5	+0.4
	baz=90						
S09A	Goldfield	90.55	46	⇑P	P	02 43 38.7	+0.4
	baz=90						
M14A	Sheep Mountain	90.59	41	⇓P	P	02 43 39.3	+0.9
	baz=90						
TPAW	Teton Pass	90.67	39	eP	P	02 43 38.9	+0.2
	comp=Z,4.0nm,0.8s,mb4.5						
R10A	Warm Springs	90.80	45	⇑P	P	02 43 40.1	+0.7
	baz=91						
L15A	Malad City	90.82	40	⇓P	P	02 43 39.3	-0.2
	baz=91						
S10A	Tonopah Range,	90.83	46	⇓P	P	02 43 39.8	+0.2
	baz=91						
N14A	Grayback Hills	91.09	42	⇑P	P	02 43 41.5	+0.8
	baz=91						
M15A	Larsen Ranch,	91.14	41	⇑P	P	02 43 41.3	+0.3
	baz=91						
R11A	Troy Canyon, C	91.20	45	⇑P	P	02 43 41.8	+0.5
	baz=91						
P13A	Bates Ranch, G	91.48	43	⇓P	P	02 43 43.2	+0.6
	baz=91						
DUG	Dugway	91.73	42	eP	P	02 43 44.0	+0.3
DUG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
DUG	Dugway	91.73	42	⇓P	P	02 43 44.5	+0.8
	baz=92						
DUG	Dugway	91.73	42	eP	P	02 43 44.0	+0.2
	comp=Z,3.4nm,0.8s,mb4.4						
BW06	Boulder Array	91.91	38	eP	P	02 43 43.8	-0.6
	comp=Z,2.3nm,0.8s,mb4.3						
PDAR	Pinedale Array	91.91	38	P	P	02 43 44.3	-0.2
	comp=Z,2.1nm,0.7s,mb4.2,baz=47,slow=1.5,SNR=17						
P14A	Drum Mountains	91.97	43	⇓P	P	02 43 45.5	+0.7
	baz=92						
T11A	Corn Creek, Al	92.11	45	⇓P	P	02 43 45.5	0.0
	baz=92						
Q14A	Sevier Lake (B	92.22	43	⇓P	P	02 43 46.0	0.0
	baz=92						
GSC	Goldstone	92.27	48	⇑P	P	02 43 46.9	+0.6
	baz=92						
S13A	Holt Ranch, En	92.75	44	⇓P	P	02 43 49.3	+0.9
	baz=93						
HEC	Hector,Ludlow	92.87	48	⇑P	P	02 43 49.1	+0.1
	baz=93						
T13A	Saint George	93.07	45	⇑P	P	02 43 50.6	+0.7
	baz=93						
P17A	Butcher Ranch,	93.42	41	⇓P	P	02 43 52.0	+0.5
	baz=93						
BELC	Belle Mtn.	93.59	48	⇑P	P	02 43 52.2	-0.2
	baz=93						
P18A	Preston Nutter	93.60	41	⇑P	P	02 43 53.1	+0.8
	baz=93						
SRU	San Rafael	93.78	42	⇓P	P	02 43 53.4	+0.3
	baz=94						
T15A	Red Dirt Ranch	94.02	44	⇑P	P	02 43 54.2	-0.1
	baz=94						
R17A	Hanksville Air	94.12	42	⇓P	P	02 43 55.0	+0.3
	baz=94						
BC3	Big Chuckw Mtn	94.16	48	⇑P	P	02 43 55.0	0.0
	baz=94						
V14A	Boquillas Ranc	94.45	46	⇑P	P	02 43 57.1	+0.8
	baz=94						
U15A	North Rim	94.45	45	⇓P	P

*ATH **12** 02:36:25.2, 3647N×2644E, h121km±3km*
*ISK **12** 02:36:26.7, 3658N×2645E, h113km, MD3.4*
*NEIC **12** 02:36:27.2, 3645N×2644E, h136km, MG3.8(THE), After THE.*
*THE **12** 02:36:27.2, 3645N×2644E, h136km, ML3.8*
*HLW **12** 02:36:32.2, 3582N×2677E, h33km, Mb3.6*

ISC 12 02:36:25.6±0.4, 3642N±003×2645E±003, h127km±5km, n51, σ0s83/64, 1C-8D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR1	**Thera Island**	**0.80**	**267**	*e*Pg	**Pn**	**02 36 46.7**	**+0.3**
THR3	**Thira Island,**	**0.85**	**270**	*e*Pg	**Pn**	**02 36 47.1**	**+0.4**
THR4	**Thira Island,**	**0.85**	**273**	*e*Pg	**Pn**	**02 36 46.3**	**-0.5**
THR6	**Thira Island,**	**0.85**	**266**	*e*Pg	**Pn**	**02 36 47.3**	**+0.5**
BODT	**Bodrum**	**0.94**	**47**	*e*PG	**Pn**	**02 36 47.3**	**-0.3**
BODT				*e*SG	**Sn**	**02 37 02.6**	**-1.8**
APE	**Apeiranthos**	**0.99**	**312**	*e*Pg	**Pn**	**02 36 48.1**	**+0.1**
APE				*e*Sg	**Sn**	**02 37 04.2**	**-0.9**
APE	**Apeiranthos**	**0.99**	**312**	*e*P	**Pn**	**02 36 48.1**	**+0.1**
APE				*e*S	**Sn**	**02 37 04.1**	**-1.0**
KARP	**Karpathos**	**1.04**	**146**	*e*P	**Pn**	**02 36 49.2**	**+0.6**
KARP				*e*S	**Sn**	**02 37 05.8**	**-0.2**
ZKR	**Zakros**	**1.31**	**188**	*e*Pg	**Pn**	**02 36 52.5**	**+1.1**
ZKR				*e*Sg	**Sn**	**02 37 11.7**	**+0.8**
SMG	**Samos**	**1.33**	**13**	⇓*i*P	**Pn**	**02 36 51.1**	**-0.4**
NPS	**Neapolis**	**1.34**	**211**	*e*P	**Pn**	**02 36 52.2**	**+0.6**
NPS				*e*S	**Sn**	**02 37 11.1**	**-0.3**
ARG	**Arkhangelos**	**1.37**	**98**	*e*P	**Pn**	**02 36 52.6**	**+0.7**
ARG				*e*S	**Sn**	**02 37 11.8**	**-0.2**
MLSB	**Milas**	**1.38**	**50**	*e*PN	**Pn**	**02 36 51.5**	**-0.5**
LAST	**Lasithi**	**1.48**	**213**	*e*Pg	**Pn**	**02 36 53.8**	**+0.5**
LAST				*e*Sg	**Sn**	**02 37 14.0**	**-0.2**
YER	**Yerkesik**	**1.64**	**63**	*e*PN	**Pn**	**02 36 55.7**	**+0.8**
IDI	**Anoyia**	**1.70**	**229**	P	**Pn**	**02 36 56.1**	**+0.4**
DALT	**Dalyan (Mudla)**	**1.79**	**78**	*e*PN	**Pn**	**02 36 58.0**	**+1.2**
SIVA	**Sivas**	**1.93**	**224**	*e*Pb	**Pn**	**02 36 59.4**	**+0.9**
SIVA				*e*Sb	**Sn**	**02 37 24.3**	**+0.6**
CHOS	**Chios island**	**1.99**	**351**	*e*Pb	**Pn**	**02 36 59.0**	**-0.3**
BLCB	**Balcova**	**2.02**	**13**	*e*PN	**Pn**	**02 36 59.1**	**-0.5**
BLCB	**Balcova**	**2.02**	**13**	*e*Pn	**Pn**	**02 36 59.4**	**-0.2**
BLCB				*e*Sn	**Sn**	**02 37 24.4**	**-1.3**
IZM	**Izmir**	**2.08**	**18**	*e*PN	**Pn**	**02 36 59.4**	**-0.9**
VAM	**Vamos**	**2.09**	**242**	*e*P	**Pn**	**02 37 01.0**	**+0.6**
KARN	**Karanos**	**2.29**	**245**	*e*Pn	**Pn**	**02 37 03.7**	**+0.7**
KARN				*e*Sn	**Sn**	**02 37 30.7**	**-0.9**
ATH	**Athens Observa**	**2.68**	**306**	P	**Pn**	**02 37 09.1**	**+1.2**
AKS	**Akhisar**	**2.69**	**23**	*e*PN	**Pn**	**02 37 07.7**	**-0.3**
KULA	**Kula-Manisa**	**2.73**	**39**	*e*PN	**Pn**	**02 37 08.2**	**-0.3**
KYTH	**Kithira**	**2.76**	**268**	*e*P	**Pn**	**02 37 09.5**	**+0.6**
DID	**Didima**	**2.79**	**294**	*e*Pn	**Pn**	**02 37 09.1**	**-0.3**
PRK	**Paraskevi**	**2.83**	**357**	*e*Pn	**Pn**	**02 37 09.3**	**-0.5**
VLI	**Veliai**	**2.85**	**277**	*e*P	**Pn**	**02 37 10.0**	**0.0**
KHL	**Karahalli**	**3.10**	**51**	*e*PN	**Pn**	**02 37 14.5**	**+1.2**
ANTB	**Antalya**	**3.41**	**81**	*e*PN	**Pn**	**02 37 18.5**	**+1.1**
BCK	**Bucak**	**3.47**	**71**	*e*PN	**Pn**	**02 37 18.8**	**+0.6**
LKR	**Lokris**	**3.54**	**310**	*e*Pn	**Pn**	**02 37 18.9**	**-0.2**
ITM	**Ithomi**	**3.71**	**283**	*e*P	**Pn**	**02 37 22.0**	**+0.6**
AGG	**Agios Georgios**	**4.18**	**310**	*e*Pn	**Pn**	**02 37 28.5**	**+1.0**
RLS	**Riolos of Patr**	**4.30**	**294**	*e*P	**Pn**	**02 37 30.2**	**+1.0**
HDMB	**Hadim**	**4.88**	**82**	*e*PN	**Pn**	**02 37 38.1**	**+1.1**
KONT	**Konya--Tatoy**	**4.96**	**70**	*e*PN	**Pn**	**02 37 38.5**	**+0.5**
KIZT	**Kizilcal**	**4.96**	**59**	*e*PN	**Pn**	**02 37 39.1**	**+1.1**
VLS	**Valsamata**	**4.99**	**292**	*e*Pn	**Pn**	**02 37 37.4**	**-1.1**
SLIM		**5.02**	**192**	⇓P	**Pn**	**02 37 38.2**	**-0.7**
LKD	**Levkas**	**5.14**	**298**	*e*Pn	**Pn**	**02 37 40.3**	**-0.2**
LKD				*e*Sn	**Sn**	**02 38 35.5**	**-3.3**
HMAT	**Matruh**	**5.34**	**174**	⇓P	**Pn**	**02 37 41.2**	**-1.9**
SWA2		**7.20**	**187**	⇓P	**Pn**	**02 38 07.1**	**-1.2**
SWA2				S	**Sn**	**02 39 16.8**	**-12**
HMYD	**Mayadein**	**7.54**	**150**	⇓P	**Pn**	**02 38 11.5**	**-1.4**
HSAF	**As Saff**	**8.02**	**146**	⇓P	**Pn**	**02 38 18.1**	**-1.2**
AWBH		**8.33**	**165**	⇑P	**Pn**	**02 38 22.5**	**-1.0**
SUZ		**8.46**	**139**	⇓P	**Pn**	**02 38 24.7**	**-0.6**
HFRF	**Wahat Farafira**	**9.37**	**170**	⇓P	**Pn**	**02 38 37.0**	**-0.6**

*THE **12** 02:48:28.6, 3934N×1996E, h5km, ML2.7*
*NEIC **12** 02:48:28.6, 3934N×1996E, h6km, MD3.2(ATH), ML2.7(THE), After THE.*
*ISCJB **12** 02:48:31.2±0.6, 3928N±003×2025E±005, h10km, Error ellipse: s-maj=5.2km s-min=3.6km az=161.4*
*ATH **12** 02:48:31.4, 3930N×2027E, h5km, MD3.2/5*
*CSEM **12** 02:48:31.2±0.2, 3923N×2022E, h2km, ML2.7, Error ellipse: s-maj=4.3km s-min=3.2km az=67.0*

ISC 12 02:48:31.2±0.7, 3926N±003×2022E±005, h3km±9km, n12, σ1s11/23, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.29**	**18**	*e*Pg	**Pg**	**02 48 35.3**	**-1.5**
IGT				*e*Sg	**Sg**	**02 48 40.5**	**-0.1**
IGT	**Igoumenitsa**	**0.29**	**18**	*i* PG	**Pg**	**02 48 35.3**	**-1.5**
IGT				*i* SG	**Sg**	**02 48 40.5**	**0.0**
KEK	**Kerkira**	**0.56**	**324**	*e*PG	**Pg**	**02 48 42.0**	**0.0**
KEK				*e*SB	**Sg**	**02 48 50.7**	**+1.5**
JAN	**Janina**	**0.63**	**51**	*e*Pb	**Pg**	**02 48 42.0**	**-1.3**
JAN				*e*Sn	**Sg**	**02 48 52.5**	**+1.0**
SRN	**Sarande**	**0.64**	**345**	*e*PG	**Pg**	**02 48 42.8**	**-0.8**
SRN				*i* SG	**Sg**	**02 48 55.1**	**+3.2**
LKD	**Levkas**	**0.65**	**149**	*e*Pg	**Pg**	**02 48 43.2**	**-0.4**
LKD				*e*Sg	**Sg**	**02 48 56.7**	**+4.7**
VLS	**Valsamata**	**1.12**	**165**	*e*Pg	**Pg**	**02 48 51.6**	**-1.0**
VLS				*e*Sg	**Sg**	**02 49 10.1**	**+2.9**
VLS	**Valsamata**	**1.12**	**165**	*e*Pn	**Pn**	**02 48 53.0**	**-0.7**
VLS				*e*Sn	**Sn**	**02 49 10.0**	**+0.4**
EVR	**Evrytania**	**1.28**	**105**	*e*PB	**Pb**	**02 48 56.0**	**0.0**
THL	**Klokotos Trika**	**1.42**	**77**	*e*Pg	**Pg**	**02 48 57.1**	**-1.4**
THL				*e*Sg	**Sg**	**02 49 17.4**	**+0.5**
THL	**Klokotos Trika**	**1.42**	**77**	*e*Pn	**Pn**	**02 48 58.6**	**+0.7**
THL				*e*Sg	**Sg**	**02 49 17.4**	**+0.5**
AGG	**Agios Georgios**	**1.66**	**98**	*e*Pb	**Pb**	**02 49 01.5**	**-0.9**
AGG				*e*Sb	**Sg**	**02 49 25.9**	**+1.4**

*MOS **12** 03:14:22.3±0.9, 5496N×11178E, h17km, mb4.2/1, Error ellipse: s-maj=26.7km s-min=17.6km az=66.6*

BYKL 12 03:14:23.1±0.2, 5506N×11172E, h12km±5km, 5C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.37**	**240**	⇑*i*Pg	Pg	03 14 29.9	-0.6
YLYR				*i* Sg	Sg	03 14 35.2	-0.2
YLYR	46nm,0.2s			Pmax			
YLYR	1μm,0.1s			Smax			
KMO	**Kumora**	**0.88**	**341**	⇑*i*Pg	Pg	03 14 38.7	-1.4
KMO				*e*Sg	Sg	03 14 50.3	-1.3
KMO	112nm,0.4s			Pmax			
KMO	306nm,1.1s			Smax			
YOA	**Uoyan**	**1.07**	**0**	*e*PG	Pg	03 14 43.9	+0.1
YOA				*i*		03 14 57.5	
YOA	comp=Z,244nm,0.2s			pmax	pmax		
YOA	comp=N,731nm,0.4s			smax			
YOA	**Uoyan**	**1.07**	**0**	*e*Pg	Pg	03 14 42.8	-1.0
YOA				*e*Sg	Sg	03 14 57.3	-0.5
YOA	comp=N,268nm,0.6s			Pmax			
YOA	comp=N,742nm,0.6s			Smax			
UKT	**Uakit**	**1.17**	**68**	⇑*i*PG	Pg	03 14 43.7	-1.9
UKT				*e*		03 14 59.3	
UKT	comp=Z,70nm,0.2s			pmax	pmax		
UKT	comp=N,365nm,0.2s			smax			
UKT	**Uakit**	**1.17**	**68**	⇑*i*Pg	Pg	03 14 43.8	-1.8
UKT				*e*		03 14 46.4	
UKT				*e*Sg	Sg	03 14 59.5	-1.4
UKT				*e*		03 15 04.6	
UKT	comp=N,89nm,0.4s			max			
UKT	comp=N,365nm,0.3s			max			
NIZ	**Nizh Angarsk**	**1.43**	**301**	*e*PN	Pn	03 14 48.8	-0.1
NIZ				*e*		03 15 07.7	
NIZ	comp=Z,78nm,0.3s			pmax	pmax		
NIZ	comp=N,190nm,0.5s			smax			
NIZ	**Nizh Angarsk**	**1.43**	**301**	*e*Pg	Pg	03 14 48.9	-1.7
NIZ				*e*Sg	Sg	03 15 08.4	-0.8
NIZ				*e*		03 15 11.5	
NIZ	comp=N,77nm,0.3s			Pmax			
NIZ	comp=N,191nm,0.4s			max			
SVKR	**Severomuysk**	**1.49**	**44**	*e*PN	Pn	03 14 50.5	+0.9
SVKR				*e*		03 14 51.6	
SVKR				*e*S	Sn	03 15 10.3	+1.4
SVKR				*e*		03 15 10.6	
SVKR	comp=Z,233nm,0.2s			pmax	pmax		
SVKR	comp=E,655nm,0.7s			smax			
SVKR	**Severomuysk**	**1.49**	**44**	*e*Pg	Pg	03 14 51.1	-0.5
SVKR				*e*Sg	Sg	03 15 11.6	+0.7
SVKR				Pmax			
SVKR	comp=E,239nm,0.3s			Smax			
SVKR	comp=E,663nm,0.6s						
SYVR	**Suvo**	**1.73**	**216**	*e*Pg	Pg	03 14 54.5	-1.7
SYVR				*e*Sg	Sg	03 15 17.7	-0.9
SYVR	comp=E,37nm,0.6s			Pmax			
SYVR	comp=E,128nm,1.1s			Smax			
MXMB	**Maximikha**	**2.51**	**225**	*e*Pg	Pg	03 15 08.4	-2.8
MXMB				*e*		03 15 33.2	
MXMB				*e*Sg	Sg	03 15 41.0	-2.7
MXMB	comp=E,14nm,0.1s			Pmax			
MXMB	comp=E,158nm,0.6s			Smax			
NLYR	**Nelyaty**	**2.67**	**56**	⇓*i*Pn	Pn	03 15 06.8	+1.0
NLYR				*e*Pg	Pg	03 15 10.8	-3.4
NLYR				*e*Sg	Sg	03 15 45.8	-2.9
NLYR	comp=E,21nm,0.7s			Pmax			
NLYR	comp=E,131nm,1.1s			Smax			
BOD	**Bodaibo**	**3.04**	**24**	*e*Pn	Pn	03 15 11.5	+0.5
BOD				*e*Pg	Pg	03 15 16.8	-4.5
BOD				*e*Sg	Sg	03 15 55.6	-5.1
BOD	comp=E,6.0nm,0.5s			Pmax			
BOD	comp=E,62nm,1.0s			Smax			
CIT	**Chita**	**3.23**	**160**	*e*Sg	Sg	03 16 02.9	-4.0
CIT	comp=E,170nm,0.2s			Smax			
TRG	**Tyrgan**	**3.92**	**236**	*e*Pg	Pg	03 15 32.6	-5.6
TRG				*e*		03 16 11.2	
TRG				*e*Sg	Sg	03 16 24.0	-5.0
TRG	comp=E,3.0nm,0.2s			Pmax			
TRG	comp=E,39nm,1.3s			Smax			
UUDB	**Ulan-Yde**	**4.01**	**219**	*e*Pg	Pg	03 15 35.6	-4.3
UUDB				*e*Sg	Sg	03 16 28.7	-3.2
UUDB	comp=E,16nm,1.0s			Pmax			
UUDB	comp=E,36nm,1.3s			Smax			
CRS	**Chara**	**4.12**	**61**	*e*PN	Pn	03 15 25.3	-0.4
CRS				*e*		03 15 36.6	
CRS				*e*		03 16 30.4	
CRS	comp=Z,13nm,1.1s			pmax	pmax		
CRS	comp=E,97nm,1.5s			smax			
CRS	**Chara**	**4.12**	**61**	*e*	Pn	03 15 26.9	+1.2
CRS				*e*Pg	Pg	03 15 36.6	-5.2
CRS				*e*Sg	Sg	03 16 30.2	-4.9
CRS				Pmax			
CRS	comp=E,9.0nm,0.8s			Smax			
CRS	comp=E,97nm,1.2s						
HRMR	**Khuramsha**	**4.47**	**222**	*e*	Pn	03 15 34.7	+4.1
HRMR				*e*Pg	Pg	03 15 43.7	-4.9
HRMR				*e*Sg	Sg	03 16 42.2	-4.2
HRMR				Pmax			
HRMR	comp=E,9.0nm,0.1s			Smax			
HRMR	comp=E,84nm,1.0s						
TUP	**Tupik**	**4.81**	**94**	⇑*i*PN	Pn	03 15 35.9	+0.6
TUP				*e*		03 15 49.1	
TUP				*e*		03 16 51.1	
TUP	comp=Z,4.0nm,0.4s			pmax	pmax		
TUP	comp=N,83nm,0.8s			smax			
TUP	**Tupik**	**4.81**	**94**	*e*	Pn	03 15 35.5	+0.2
TUP				*e*Pg	Pg	03 15 49.1	-6.1
TUP				*e*Sg	Sg	03 16 52.3	-5.2
TUP	comp=N,4.0nm,0.6s			Pmax			
TUP	comp=N,83nm,0.7s			Smax			
LSTR	**Listvyanka**	**5.21**	**235**	*e*Sg	Sg	03 17 06.0	-4.2
KPC	**Khapcheranga**	**5.38**	**175**	*e*	Pn	03 15 46.2	+3.1
KPC				*e*		03 16 00.6	
KPC				*e*Sg	Sg	03 17 08.5	-7.2
KPC	comp=N,35nm,0.9s			Smax			
ARS	**Arshan**	**6.38**	**244**	*e*Sg	Sg	03 17 38.4	-9.2
ARS	comp=N,74nm,0.8s			Smax			
MOY	**Mondy**	**7.26**	**247**	*e*	Pn	03 16 44.7	+36
MOY				*e*Sg	Sg	03 18 05.8	-10
MOY	comp=N,33nm,1.6s			Smax			
ORL	**Orlik**	**7.49**	**255**	*e*PN	Pn	03 16 13.8	+1.8
ORL				*e*S	Sn	03 17 34.5	-2.3
ORL				*e*S	Sn	03 18 14.0	+37
ORL	comp=N,28nm,1.4s			smax			
ORL	**Orlik**	**7.49**	**255**	*e*Pn	Pn	03 16 12.7	+0.7
ORL				*e*Sn	Sn	03 17 36.7	-0.1
ORL				*e*Sg	Sn	03 18 15.4	+39
ORL	comp=N,37nm,1.3s			Smax			
IENR	**Iengra**	**7.53**	**76**	*e*	Sn	03 18 04.1	+26
IENR				*e*Sg	Sn	03 18 15.7	+38

*IDC **12** 03:29:47.7±1.0, 4104S×9163W, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.8/16, mbtmp3.6/7, MS3.5/9, Ms1 3.5/9, ms1mx3.4/22, Error ellipse: s-maj=33.5km s-min=23.8km az=102.0*
*ISCJB **12** 03:29:48.1±0.7, 4105S±01×9159W±02, h10km, mb3.8/8, MS3.4/8, Error ellipse: s-maj=22.8km s-min=14.4km az=5.1*
*NEIC **12** 03:29:49.4±0.6, 4101S×9161W, h10km, mb4.2/4, Error ellipse: s-maj=18.2km s-min=13.3km az=103.0*

ISC 12 03:29:49.9±0.7, 410S±01×916W±02, h10km, n22, σ0s71/15, mb3.8/8, MS3.4/8, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**15.92**	**96**	LR	LR	03 38 17.0	
	comp=Z,228nm,19.2s,baz=356,slow=32						
USHA	**Ushuaia**	**20.66**	**140**	LR	LR	03 40 14.9	
	comp=Z,135nm,22.0s,MS3.3,baz=292,slow=30						
CFAA	**Coronel Fontan**	**20.98**	**71**	P	**P**	**03 34 33.2**	**0.0**
	0.3nm,0.8s,baz=222,slow=8.5,SNR=6.8						
CFAA				LR	LR	03 40 42.1	
	comp=Z,27nm,21.8s,MS2.6,baz=235,slow=31						
CFAA	**Coronel Fontan**	**20.98**	**71**	P	**P**	**03 34 33.2**	**0.0**
CFAA				LR	LR	03 40 42.1	
LVC	**Limon Verde**	**26.47**	**53**	LR	LR	03 43 47.8	
	comp=Z,139nm,19.4s,MS3.5,baz=150,slow=32						
CPUP	**Villa Florida**	**31.82**	**73**	P	**P**	**03 36 13.6**	**-1.3**
	0.6nm,0.6s,mb3.6,baz=294,slow=18,SNR=3.5						
CPUP				LR	LR	03 47 57.7	
	comp=Z,87nm,18.8s,MS3.5,baz=196,slow=34						
CPUP	**Villa Florida**	**31.82**	**73**	*e*P	**P**	**03 36 13.7**	**-1.1**
	2.9nm,0.6s,mb4.3						
CPUP				LR	LR	03 47 57.7	
LPAZ	**La Paz**	**31.90**	**46**	P	**P**	**03 36 17.0**	**+1.5**
	0.6nm,0.7s,mb3.6,baz=190,slow=3.9,SNR=4.9						
LPAZ				LR	LR	03 47 02.8	
	comp=Z,48nm,19.0s,MS3.2,baz=71,slow=32						
LPAZ	**La Paz**	**31.90**	**46**	*e*P	**P**	**03 36 16.4**	**+0.8**
	0.9nm,0.8s,mb3.6						
LPAZ				LR	LR	03 47 02.8	
BDFB	**Brasilia**	**45.30**	**69**	LR	LR	03 56 41.5	
	comp=Z,66nm,19.0s,MS3.6,baz=328,slow=36						
ROSC	**El Rosal**	**48.30**	**23**	LR	LR	03 56 04.9	
	comp=Z,52nm,18.2s,MS3.5,baz=44,slow=33						
QSPA	**South Pole Qui**	**49.23**	**180**	P	**P**	**03 38 38.2**	**+0.3**
	0.9nm,0.7s,mb3.9,baz=154,slow=4.6,SNR=3.4						
VNA1	**Neumayer--Stat**	**49.80**	**154**	*e*	**P**	**03 38 43.5**	**+1.2**
VNA1				*e*		03 38 50.5	
VNA2	**Neumayer--Watz**	**50.03**	**155**	*e*	**P**	**03 38 44.1**	**0.0**
VNA2				*e*		03 38 51.6	
SNAA	**Sanae**	**51.31**	**156**	*e*	**P**	**03 38 53.4**	**-0.3**
SNAA				*e*		03 39 00.4	
SNAA	**Sanae**	**51.31**	**156**	*e*P	**P**	**03 38 53.5**	**-0.2**
	1.5nm,0.6s,mb4.1						
PPT	**Papeete**	**54.63**	**277**	LR	LR	03 54 49.8	
	comp=Z,112nm,20.9s,MS3.9,baz=137,slow=28						
MAW	**Mawson**	**70.00**	**170**	P	**P**	**03 41 00.2**	**-1.0**
	0.8nm,0.6s,mb3.8,baz=221,slow=9.3,SNR=2.3						
TXAR	**Lajitas Array**	**70.87**	**349**	P	**P**	**03 41 07.0**	**+0.3**
	0.1nm,0.3s,mb3.2,baz=192,slow=1.7,SNR=2.3						
BW06	**Boulder Array**	**84.95**	**347**	*e*P	**P**	**03 42 24.7**	**0.0**
	1.2nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**84.95**	**347**	P	**P**	**03 42 24.3**	**-0.5**
	0.9nm,0.7s,mb4.0,baz=156,slow=5.2,SNR=9.0						
GERES	**GERESS Array B**	**128.50**	**55**	PKP	PKPdf	03 48 54.8	-1.5
	0.3nm,0.7s,baz=264,slow=1.3,SNR=4.4						

*IDC **12** 03:41:37.4±0.6, 054N×12489E, h0km, mb4.2/13, mb1 4.2/14, mb1mx4.1/19, mbtmp4.1/14, ML3.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/28, Error ellipse: s-maj=35.0km s-min=13.4km az=81.0*
*ISCJB **12** 03:41:45.2±0.5, 054N±004×12532E±004, h73km±6km, mb4.1/16, Error ellipse: s-maj=6.9km s-min=6.4km az=29.0*
*NEIC **12** 03:41:47.0±1.6, 059N×12538E, h82km±16km, mb4.1/6, Error ellipse: s-maj=19.0km s-min=8.6km az=68.0*
*DJA **12** 03:41:47, 052N×12536E, h64km, ML4.7/4*

ISC 12 03:41:46.4±0.5, 055N±004×12536E±004, h70km±6km, n44, σ1s37/46, mb4.1/16, 3C-7D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.02**	**330**	P	**Pn**	**03 42 03.7**	**-1.5**
	0.0nm,0.0s						
MNI	**Manado**	**1.02**	**330**	⇓*e*P	**Pn**	**03 42 03.0**	**-2.2**
MNI				*e*S	**Sn**	**03 42 19.0**	**-0.2**
TNE	**Ternate**	**2.03**	**83**	⇓*e*P	**Pn**	**03 42 16.5**	**-1.9**
TNE				*e*S	**Sn**	**03 42 44.0**	**+1.2**
LBMI	**Labuha**	**2.45**	**119**	P	**Pn**	**03 42 25.0**	**+0.9**
	0.0nm,0.0s						
KDI	**Kendari**	**5.25**	**211**	P	**Pn**	**03 43 00.2**	**-2.1**
	0.0nm,0.0s						
KDI	**Kendari**	**5.25**	**211**	⇑*e*P	**Pn**	**03 43 00.8**	**-1.5**
KDI				*e*S	**Sn**	**03 43 55.1**	**-6.4**
PCI	**Palu**	**5.71**	**255**	P	**Pn**	**03 43 08.4**	**-0.2**
	0.0nm,0.0s						
PCI	**Palu**	**5.71**	**255**	⇓*e*P	**Pn**	**03 43 08.5**	**-0.1**
KAPI	**Kappang**	**7.87**	**225**	*e*Pn	**Pn**	**03 43 40.2**	**+2.0**
	14nm,0.6s						
MKS	**Makassar**	**8.21**	**226**	⇑*e*P	**Sn**	**03 45 13.4**	**-0.8**
MYLDM	**Lahad Datu**	**8.24**	**304**	⇓P	**Pn**	**03 43 45.1**	**+1.7**
TSM	**Tawau**	**8.35**	**297**	⇓P	**Pn**	**03 43 43.3**	**-1.4**
SDKM	**Sandakan**	**9.59**	**302**	⇓P	**Pn**	**03 44 04.7**	**+3.0**
KKM	**Kota Kinabalu**	**10.63**	**301**	⇑P	**Pn**	**03 44 17.2**	**+1.3**
KKM	**Kota Kinabalu**	**10.63**	**301**	*e*Pn	**Pn**	**03 44 16.7**	**+0.8**
SBUM	**Sibu**	**13.27**	**278**	⇓P	**Pn**	**03 44 52.2**	**+0.4**
KAKA	**Kakadu**	**14.94**	**152**	*e*P	**Pn**	**03 45 12.4**	**-1.3**
	5.0nm,0.6s						
KSM	**Kuching**	**15.07**	**274**	*e*Pn	**Pn**	**03 45 18.8**	**+3.4**
SJI	**Sawahan**	**15.86**	**238**	P	**Pn**	**03 45 27.5**	**+2.1**
	0.0nm,0.0s						
FITZ	**Fitzroy Crossi**	**18.54**	**179**	*e*P	**Pn**	**03 45 57.7**	**-0.7**
	4.7nm,1.3s						
FITZ	**Fitzroy Crossi**	**18.54**	**179**	P	**Pn**	**03 45 56.6**	**-1.8**
	0.2nm,0.3s,baz=11,slow=18,SNR=6.0						
WRAB	**Tennant Creek**	**22.19**	**157**	*e*P	**P**	**03 46 38.4**	**+1.5**
	7.1nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**22.19**	**157**	P	**P**	**03 46 36.1**	**-0.8**
	1.3nm,0.4s,mb3.7,baz=340,slow=10,SNR=31						
WB2	**Warramunga Arr**	**22.20**	**157**	*e*P	**P**	**03 46 35.9**	**-1.1**
ASAR	**Alice Springs**	**25.47**	**162**	P	**P**	**03 47 08.8**	**+0.8**
	2.8nm,0.8s,mb3.7,baz=345,slow=7.2,SNR=44						
JOW	**Kunigami**	**26.28**	**6**	P	**P**	**03 47 16.5**	**+1.2**
	11nm,0.6s,mb4.5,baz=146,slow=17,SNR=4.8						
STKA	**Stephens Creek**	**35.73**	**156**	*e*P	**P**	**03 48 41.6**	**+3.2**
	4.7nm,1.2s,mb4.3						
STKA	**Stephens Creek**	**35.73**	**156**	P	**P**	**03 48 40.1**	**+1.6**
	0.6nm,0.3s,mb4.0,baz=323,slow=12,SNR=4.8						
KSRS	**Korea Array**	**36.80**	**3**	P	**P**	**03 48 48.4**	**+0.9**
	2.8nm,0.7s,mb4.3,baz=174,slow=8.5,SNR=7.1						
MJAR	**Matsushiro Arr**	**37.74**	**17**	P	**P**	**03 48 55.3**	**-0.1**
	2.7nm,0.7s,mb4.2,baz=194,slow=8.2,SNR=16						
MAJO	**Matsushiro**	**37.74**	**17**	*e*P	**P**	**03 48 55.0**	**-0.4**
	4.2nm,0.6s,mb4.5						
MAT	**Matsushiro**	**37.74**	**17**	P	**P**	**03 48 55.0**	**-0.4**
PETK	**Petropavlovsk-**	**58.87**	**22**	P	**P**	**03 51 40.0**	**+2.3**
	2.6nm,0.6s,mb4.4,baz=174,slow=5.8,SNR=3.3						
PETK				LR	LR	04 18 14.4	
	comp=Z,24nm,18.2s,baz=297,slow=37						
MK31	**Makanchi Array**	**59.41**	**327**	*e*P	**P**	**03 51 39.8**	**-1.8**
MKAR	**Makanchi Array**	**59.41**	**327**	P	**P**	**03 51 40.1**	**-1.5**
	0.8nm,0.3s,mb4.2,baz=121,slow=8.3,SNR=23						
ZALV	**Zalesovo Beam**	**62.81**	**334**	P	**P**	**03 52 01.7**	**-2.8**
	0.5nm,0.3s,mb3.9,baz=134,slow=6.2,SNR=2.5						
KURK	**Kurchatov**	**63.70**	**329**	*e*P	**P**	**03 52 08.2**	**-2.2**
	2.4nm,0.4s,mb4.4						
MAW	**Mawson**	**80.32**	**200**	P	**P**	**03 53 49.6**	**+0.1**
	0.9nm,0.7s,mb3.7,baz=86,slow=14,SNR=4.3						
VNDA	**Vanda**	**80.47**	**172**	P	**P**	**03 53 50.5**	**+0.4**
	0.5nm,0.7s,mb3.4,baz=307,slow=6.6,SNR=4.0						
VNDA	**Vanda**	**80.47**	**172**	*e*P	**P**	**03 53 50.6**	**+0.5**
	0.8nm,0.8s,mb3.6

24nm,0.9s,mb5.2

*NEIC **12** 04:33:54.4, 33.12S×71.86W, h23km, ML3.0(GUC), After GUC.*

GUC 12 04:33:54.4±0.7, 33.12S×71.86W, h23km±6km, MD3.7, ML3.0, 10C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.20**	**62**	⇓*iP*	Pb	04 33 59.9	-0.1
IHA				*i* S	Sb	04 34 04.2	+0.5
LCCH	**Las Cruces**	**0.43**	**146**	⇑*iP*	Pb	04 34 03.1	-0.3
LCCH				*i* S	Sb	04 34 09.5	+0.1
ROCH	**El Roble**	**0.73**	**78**	⇑*iP*	Pb	04 34 07.9	-0.4
ROCH				*i* S	Sb	04 34 18.1	+0.2
LNV	**Longovilo**	**0.91**	**156**	⇑*iP*	Pb	04 34 10.5	-1.0
LNV				*i* S	Sb	04 34 23.1	-0.2
TACH	**Talagante**	**0.93**	**125**	⇑*iP*	Pb	04 34 11.4	-0.5
TACH				*i* S	Sb	04 34 23.4	-0.5
RCDM	**Rinconada Maip**	**0.95**	**113**	*eP*	Pb	04 34 11.2	-1.1
RCDM				*i* S	Sb	04 34 23.9	-0.5
RCDM				AML	AML	04 34 28.2	
	comp=E,807nm,0.2s						
RCDM	**Rinconada Maip**	**0.95**	**113**	*eP*	Pb	04 34 11.2	-1.1
RCDM				*i* S	Sb	04 34 23.9	-0.5
PEL	**Peldehue**	**0.98**	**92**	⇑*iP*	Pb	04 34 12.3	-0.4
PEL				*i* S	Sb	04 34 25.9	+0.6
PEL				AML	AML	04 34 27.2	
	comp=E,876nm,0.4s						
SAN	**Santiago**	**1.05**	**109**	*eP*	Pn	04 34 13.2	-0.5
SAN				*i* S	Sb	04 34 27.1	-0.2
SAN				AML	AML	04 34 31.8	
	comp=E,529nm,0.8s						
SAN	**Santiago**	**1.05**	**109**	*eP*	Pn	04 34 13.2	-0.5
SAN				*i* S	Sb	04 34 27.1	-0.2
DSCH	**Colegio Aleman**	**1.11**	**105**	⇑*iP*	Pn	04 34 14.7	+0.1
DSCH				*e*S	Sb	04 34 29.1	+0.1
ANTU	**Antumapu**	**1.12**	**114**	*eP*	Pn	04 34 14.3	-0.3
ANTU				*i* S	Sb	04 34 29.1	0.0
ANTU				AML	AML	04 34 31.6	
	comp=E,651nm,0.5s						
ANTU	**Antumapu**	**1.12**	**114**	*eP*	Pn	04 34 14.3	-0.3
ANTU				*i* S	Sb	04 34 29.1	0.0
JACH	**Jahuel**	**1.15**	**68**	⇓*iP*	Pn	04 34 14.4	-0.7
JACH				*i* S	Sn	04 34 29.9	-0.1
PCH	**Pirque**	**1.23**	**114**	⇑*iP*	Pn	04 34 16.3	+0.2
CHCH	**Chadas Angostu**	**1.29**	**129**	*eP*	Pn	04 34 17.0	0.0
CHCH				*i* S	Sn	04 34 34.0	+0.4
FCH	**Farellones**	**1.33**	**99**	⇓*iP*	Pn	04 34 18.2	+0.7
FCH				*i* S	Sn	04 34 35.8	+1.3
FCH				AML	AML	04 34 40.8	
	comp=N,473nm,1.1s						
SJCH	**San Jose de Ma**	**1.36**	**113**	*eP*	Pn	04 34 17.7	-0.2
SJCH				*e*S	Sn	04 34 36.0	+0.7
SJCH				AML	AML	04 34 39.3	
	comp=E,257nm,0.5s						
SJCH	**San Jose de Ma**	**1.36**	**113**	*eP*	Pn	04 34 17.7	-0.2
SJCH				*e*S	Sn	04 34 36.0	+0.7
CACH	**El Canelo**	**1.44**	**134**	*eP*	Pn	04 34 20.2	+1.1
CACH				*i* S	Sn	04 34 39.5	+2.2
LMEL	**Las Melosas**	**1.56**	**118**	⇑*iP*	Pn	04 34 21.7	+1.1
LMEL				*e*S	Sn	04 34 42.1	+1.9
LMEL				AML	AML	04 34 47.5	
	comp=N,820nm,0.2s						
LMEL	**Las Melosas**	**1.56**	**118**	⇑*iP*	Pn	04 34 21.7	+1.1
LMEL				*e*S	Sn	04 34 42.1	+1.9
SFDO	**San Fernando**	**1.65**	**155**	*eP*	Pn	04 34 22.1	+0.2
CICH	**Cipreses**	**1.69**	**135**	⇑*iP*	Pn	04 34 23.4	+0.9
CICH				*e*S	Sn	04 34 45.7	+2.3

IDC 12 05:33:17.0±13.0, 17.21S×178.95W, h510km±170km, mb3.1/6, mb1 3.4/6, mb1mx3.2/17, mbtmp3.1/6, Error ellipse: s-maj=135.7km s-min=37.8km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.52**	**240**	P	P	05 39 55.0	-0.3
	0.9nm,0.3s,baz=103,slow=9.5,SNR=4.2						
WRA	**Warramunga Arr**	**44.26**	**259**	P	P	05 40 41.0	0.0
	0.5nm,0.5s,baz=96,slow=7.2,SNR=10						
ASAR	**Alice Springs**	**44.49**	**254**	P	P	05 40 42.7	-0.1
	6.4nm,0.6s,baz=89,slow=8.8,SNR=129						
NVAR	**Mina Array Bea**	**79.28**	**44**	P	P	05 44 29.5	+0.3
	0.4nm,0.7s,baz=229,slow=8.2,SNR=3.4						
TXAR	**Lajitas Array**	**86.06**	**58**	P	P	05 45 04.1	+0.5
	0.5nm,0.7s,baz=224,slow=6.7,SNR=7.9						
PDAR	**Pinedale Array**	**87.20**	**44**	P	P	05 45 08.6	-0.1
	0.3nm,0.6s,baz=175,slow=1.7,SNR=3.9						
GERES	**GERESS Array B**	**146.81**	**345**	PKPbc	PKPbc	05 52 01.0	-0.5
	0.5nm,0.6s,baz=40,slow=4.4,SNR=5.6						

*ISCJB **12** 05:40:27.7±0.6, 2107S×0.05W×6734W±0.10, h186km±7km, mb3.6/5, Error ellipse: s-maj=14.7km s-min=8.6km az=2.3*
*NEIC **12** 05:40:28.7±0.6, 2105S×6731W, h180km±8km, Error ellipse: s-maj=12.3km s-min=8.8km az=81.0*
*IDC **12** 05:40:28.2±0.8, 2106S×6735W, h174km±9km, mb3.4/5, mb1 3.5/10, mb1mx3.3/21, mbtmp3.3/10, Error ellipse: s-maj=18.2km s-min=10.3km az=101.0*

ISC 12 05:40:28.7±0.6, 2106S×0.05W×6732W×0.10, h178km±7km, n15, σ0.82/20, mb3.6/5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.13**	**223**	P	**Pn**	**05 41 08.1**	**+1.1**
	13nm,0.3s,baz=22,slow=8.8,SNR=221						
LVC				S	**Sn**	**05 41 36.1**	**-0.7**
	17nm,0.3s,baz=176,slow=22,SNR=37						
LVC	**Limon Verde**	**2.13**	**223**	P	**Pn**	**05 41 08.1**	**+1.1**
LVC				S	**Sn**	**05 41 36.1**	**-0.7**
LPAZ	**La Paz**	**4.81**	**351**	P	**Pn**	**05 41 42.1**	**+1.9**
	1.4nm,0.3s,baz=157,slow=9.7,SNR=57						
LPAZ				S	**Sn**	**05 42 36.0**	**-0.2**
	0.5nm,0.3s,baz=269,slow=16,SNR=7.0						
ARE	**Arequipa**	**6.04**	**319**	*eP*	**Pn**	**05 41 55.0**	**-1.3**
ARE				*e*S	**Sn**	**05 42 57.0**	**-8.2**
SIV	**San Ignacio**	**7.79**	**51**	P	**Pn**	**05 42 19.1**	**-0.1**
	3.6nm,0.3s,baz=250,slow=10,SNR=121						
CFAA	**Coronel Fontan**	**10.53**	**184**	P	**Pn**	**05 42 54.5**	**-0.5**
	0.1nm,0.3s,baz=6.6,slow=12,SNR=12						
CFAA				S	**Sn**	**05 44 44.4**	**-7.7**
	0.1nm,0.3s,baz=149,slow=18,SNR=7.0						
CPUP	**Villa Florida**	**10.55**	**122**	P	**Pn**	**05 42 54.8**	**-0.5**
	0.1nm,0.3s,baz=186,slow=19,SNR=1.5						
PLCA	**Paso Flores**	**19.80**	**187**	P	**P**	**05 44 46.6**	**+1.3**
	0.1nm,0.3s,baz=23,slow=12,SNR=4.8						
TXAR	**Lajitas Array**	**61.13**	**324**	P	**P**	**05 50 24.0**	**-0.2**
	0.3nm,0.7s,mb3.2,baz=144,slow=8.1,SNR=3.5						
TXAR	**Lajitas Array**	**61.13**	**324**	P	**P**	**05 50 24.0**	**-0.2**
PDAR	**Pinedale Array**	**74.48**	**329**	P	**P**	**05 51 48.0**	**+0.6**
	0.3nm,0.4s,mb3.3,baz=118,slow=12,SNR=5.2						
ULM	**Lac du Bonnet**	**75.36**	**342**	P	**P**	**05 51 51.8**	**-0.4**
	1.2nm,0.5s,mb3.8,baz=172,slow=7.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**75.82**	**70**	P	**P**	**05 51 55.3**	**-0.3**
	0.6nm,0.4s,mb3.6,baz=254,slow=5.2,SNR=24						
YKA	**Yellowknife Ar**	**91.28**	**340**	P	**P**	**05 53 13.0**	**-0.3**
	0.5nm,0.5s,mb3.8,baz=138,slow=5.1,SNR=5.6						
YKA	**Yellowknife Ar**	**91.28**	**340**	P	**P**	**05 53 13.0**	**-0.3**

*NEIC **12** 05:45:27.5, 31.01S×71.58W, h55km, MD3.5(GUC), After GUC.*

GUC 12 05:45:27.5±0.5, 31.01S×71.58W, h55km±22km, MD3.5, ML3.4, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.07**	**39**	⇓*iP*	Pn	05 45 47.4	+1.1
TLL				*i* S	Sn	05 46 02.2	+2.0
TLL				AML	AML	05 46 05.8	
	comp=E,325nm,0.5s						
TLL	**Tololo Astrono**	**1.07**	**39**	⇓*iP*	Pn	05 45 47.4	+1.1
TLL				*i* S	Sn	05 46 02.2	+2.0
LSCH	**La Serena**	**1.14**	**15**	⇑*iP*	Pn	05 45 47.7	+0.6
LSCH				*i* S	Sn	05 46 02.6	+0.9
JACH	**Jahuel**	**1.86**	**154**	*eP*	Pn	05 45 58.0	+0.9
JACH				*i* S	Sn	05 46 20.9	+1.5
PEL	**Peldehue**	**2.26**	**161**	*eP*	Pn	05 46 02.9	+0.5
PEL				*i* S	Sn	05 46 29.7	+0.7
PEL				AML	AML	05 46 33.8	
	comp=N,233nm,0.4s						
VACH	**Vallenar**	**2.53**	**17**	⇓*iP*	Pn	05 46 06.4	+0.3
VACH				*i* S	Sn	05 46 36.4	+0.7
VACH				AML	AML	05 46 40.0	
	comp=E,639nm,0.1s						
VACH	**Vallenar**	**2.53**	**17**	⇓*iP*	Pn	05 46 06.4	+0.3
VACH				*i* S	Sn	05 46 36.4	+0.7
FCH	**Farellones**	**2.56**	**155**	*eP*	Pn	05 46 08.0	+1.6
FCH				*i* S	Sn	05 46 38.4	+2.0
FCH				AML	AML	05 46 41.4	
	comp=E,123nm,0.2s						
RCDM	**Rinconada Maip**	**2.56**	**165**	⇓*iP*	Pn	05 46 07.2	+0.8
RCDM				*i* S	Sn	05 46 37.3	+0.9
RCDM				AML	AML	05 46 38.2	
	comp=E,228nm,0.1s						
RCDM	**Rinconada Maip**	**2.56**	**165**	⇓*iP*	Pn	05 46 07.2	+0.8
RCDM				*i* S	Sn	05 46 37.3	+0.9
ANTU	**Antumapu**	**2.67**	**163**	*eP*	Pn	05 46 08.8	+0.7
ANTU				*i* S	Sn	05 46 40.0	+0.8
ANTU				AML	AML	05 46 42.4	
	comp=E,101nm,0.4s						
ANTU	**Antumapu**	**2.67**	**163**	*eP*	Pn	05 46 08.8	+0.7
ANTU				*i* S	Sn	05 46 40.0	+0.8
TACH	**Talagante**	**2.69**	**169**	⇑*iP*	Pn	05 46 08.8	+0.5
TACH				*e*S	Sn	05 46 40.2	+0.6
PCH	**Pirque**	**2.75**	**161**	*eP*	Pn	05 46 10.0	+0.8
PCH				*i* S	Sn	05 46 42.1	+0.9
CHCH	**Chadas Angostu**	**3.02**	**165**	*e*S	Sn	05 46 48.2	+0.5
LMEL	**Las Melosas**	**3.06**	**158**	*eP*	Pn	05 46 14.8	+1.5
LMEL				*e*S	Sn	05 46 50.0	+1.3
LMEL				AML	AML	05 46 53.0	
	comp=N,168nm,0.1s						
LMEL	**Las Melosas**	**3.06**	**158**	*eP*	Pn	05 46 14.8	+1.5
LMEL				*e*S	Sn	05 46 50.0	+1.3
CICH	**Cipreses**	**3.44**	**164**	*i* S	Sn	05 46 59.2	+1.1
SFDO	**San Fernando**	**3.62**	**173**	*eP*	Pn	05 46 21.7	+0.6
SFDO				*i* S	Sn	05 47 02.9	+0.3

ATH 12 05:58:54.3, 38.21N×21.63E, h32km±4km, MD3.0/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.20**	**220**	*e*PB	Pb	05 59 01.0	+0.3
RLS				*e*SB	Sb	05 59 06.1	+1.0
EVR	**Evrytania**	**0.72**	**11**	*e*PN	Pn	05 59 09.0	+0.8
EVR				*e*SN	Sn	05 59 19.1	+0.9
VLS	**Valsamata**	**0.82**	**268**	*e*PN	Pn	05 59 10.4	+0.8
VLS				*e*SN	Sn	05 59 23.0	+2.4

*IDC **12** 06:13:35.8±0.6, 14.25N×91.32W, h54km±5km, mb4.1/21, mb1 4.2/22, mb1mx4.2/27, mbtmp4.1/22, MS3.9/22, Ms1 3.9/22, ms1mx3.8/32, Error ellipse: s-maj=17.3km s-min=9.5km az=44.0*
*MEX **12** 06:13:35.7±1.2, 13.82N×91.81W, h22km±25km, MD4.9*
*BJI **12** 06:13:37.8, 14.10N×91.30W, h79km, mB5.5, Ms5.1, Msz4.7*
*NEIC **12** 06:13:37.9±0.2, 14.10N×91.32W, mb4.8/100, MD4.7(MEX), MD5.1(SNET), Error ellipse: s-maj=5.7km s-min=3.6km az=33.0*
NEIC Felt [III] at Antigua Guatemala. Also felt at Guatemala City, La Esperanza, Mixco, San Pedro la Laguna, Santa Catarina Pinula and Villa Nueva. Felt at Ahuachapan, El Salvador.
*ISCJB **12** 06:13:38.4±0.2, 14.26N±0.03×91.42W±0.02, h85km, mb4.7/109, Error ellipse: s-maj=5.2km s-min=2.2km az=32.4*

ISC 12 06:13:40.5±0.2, 14.30N±0.03×91.36W±0.02, h87km, h87km±3.9km: pP-P, n601, σ0.84/592, mb4.7/108, 134C-146D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.52**	**74**	*eP*	**Pn**	**06 13 54.1**	**-0.9**
FG6		**0.53**	**61**	⇑*iP*	**Pn**	**06 13 54.6**	**-0.5**
PCG	**Pacaya**	**0.73**	**83**	⇑*eP*	**Pn**	**06 13 57.0**	**0.0**
GCG	**Guatemala City**	**0.85**	**71**	*eP*	**Pn**	**06 14 00.2**	**+1.9**
GCG				*e*S	**Sn**	**06 14 16.6**	**+5.1**
NBG	**Las Nubes**	**1.02**	**74**	⇑*iP*	**Pn**	**06 14 02.4**	**+2.2**
THIG		**1.06**	**305**	*i P*	**Pn**	**06 13 53.6**	**-7.1**
THIG				*i* S	**Sn**	**06 14 07.7**	**-8.2**
CCIG	**Comitan**	**2.10**	**339**	*i P*	**Pn**	**06 14 13.7**	**-0.3**
CCIG				*i* S	**Sn**	**06 14 40.6**	**+1.1**
CCIG	**Comitan**	**2.10**	**339**	*i P*	**Pn**	**06 14 13.7**	**-0.3**
CCIG				*i* S	**Sn**	**06 14 40.6**	**+1.1**
SCX	**San Cristobal**	**2.71**	**333**	*i P*	**Pn**	**06 14 20.3**	**-1.8**
TGIG		**2.99**	**326**	*i P*	**Pn**	**06 14 22.3**	**-3.5**
TGIG				*i* S	**Sn**	**06 14 59.8**	**-0.9**
TGUH	**Tegucigalpa,Un**	**3.97**	**93**	*e*Pn	**Pn**	**06 14 39.4**	**+0.3**
TGUH				*e*Sn	**Sn**	**06 15 16.4**	**-8.2**
CMIG	**Matias Romero**	**4.38**	**310**	P	**Pn**	**06 14 39.0**	**-5.7**
	35nm,0.3s,baz=131,slow=11,SNR=195						
CMIG				S	**Sn**	**06 15 28.1**	**-6.4**
	131nm,0.3s,baz=252,slow=21,SNR=7.3						
CMIG	**Matias Romero**	**4.38**	**310**	P	**Pn**	**06 14 39.0**	**-5.7**
CMIG				S	**Sn**	**06 15 28.1**	**-6.4**
SCIG	**Sabancuy**	**4.64**	**2**	*i P*	**Pn**	**06 14 47.9**	**-0.3**
SCIG				*i* S	**Sn**	**06 15 45.7**	**+4.9**
TEL3	**Telica 3**	**4.72**	**111**	*eP*	**Pn**	**06 14 49.8**	**+0.5**
TELN	**Telica**	**4.72**	**110**	*eP*	**Pn**	**06 14 49.8**	**+0.5**
TUIG	**Tuzandepetl**	**4.74**	**322**	*i P*	**Pn**	**06 14 44.8**	**-4.7**
TUIG				*i* S	**Sn**	**06 15 41.0**	**-2.2**
TUIG	**Tuzandepetl**	**4.74**	**322**	*i P*	**Pn**	**06 14 44.8**	**-4.7**
TUIG				*i* S	**Sn**	**06 15 39.0**	**-4.2**
HUIG	**Huatulco**	**4.81**	**288**	*i P*	**Pn**	**06 14 41.7**	**-8.8**
HUIG				*i* S	**Sn**	**06 15 33.1**	**-12**
MOMJ	**Momotombo**	**5.05**	**111**	*eP*	**Pn**	**06 14 55.2**	**+1.4**
CSAN		**5.25**	**113**	*eP*	**Pn**	**06 14 56.7**	**+0.2**
APYN	**Apoyeque**	**5.29**	**112**	*eP*	**Pn**	**06 14 57.4**	**+0.3**
XAVN	**Gruta Xavier**	**5.35**	**113**	*eP*	**Pn**	**06 14 58.3**	**+0.4**
TISN	**Laguna Tiscapa**	**5.40**	**113**	*eP*	**Pn**	**06 14 59.3**	**+0.8**
HUEN		**5.41**	**111**	*eP*	**Pn**	**06 14 59.2**	**+0.5**
MGAN	**Managua**	**5.42**	**113**	*eP*	**Pn**	**06 15 00.1**	**+1.3**
MGAN				AML	AML	06 16 18.3	
	comp=E,1μm,0.7s						
CRUN	**El Crucero**	**5.44**	**114**	*eP*	**Pn**	**06 15 00.7**	**+1.6**
TICN	**Ticuantepe**	**5.48**	**114**	*eP*	**Pn**	**06 15 01.1**	**+1.4**
APON	**Apoyo**	**5.68**	**114**	*eP*	**Pn**	**06 15 03.6**	**+1.3**
OXX	**Oaxaca**	**5.86**	**299**	*eP*	**Pn**	**06 15 00.5**	**-4.3**
VHO	**Vista Hermosa**	**5.86**	**299**	*eP*	**Pn**	**06 14 59.1**	**-5.7**
TEIG	**Tepich**	**6.58**	**26**	P	**Pn**	**06 15 15.9**	**+1.2**
	comp=E,53nm,0.3s,baz=230,slow=4.2,SNR=282						
TEIG				S	**Sn**	**06 16 27.7**	**-0.6**
	baz=3.8,slow=22,SNR=1.4						
TEIG	**Tepich**	**6.58**	**26**	*e*Pn	**Pn**	**06 15 15.8**	**+1.1**
	comp=E,543nm,0.4s						
TEIG				*e*Sn	**Sn**	**06 16 30.8**	**+2.5**
PNIG	**Pinotepa**	**6.85**	**289**	*eP*	**Pn**	**06 15 10.2**	**-8.1**
PNIG				*i* S	**Sn**	**06 16 26.1**	**-8.7**
UTMO	**Huajuapan**	**7.12**	**300**	*i P*	**Pn**	**06 15 15.7**	**-6.3**
UTMO				*i* S	**Sn**	**06 16 35.2**	**-6.2**
LVIG	**Laguna Verde**	**7.24**	**319**	*i P*	**Pn**	**06 15 16.5**	**-7.2**
LVIG				*i* S	**Sn**	**06 16 38.5**	**-5.9**
LVIG	**Laguna Verde**	**7.24**	**319**	*i P*	**Pn**	**06 15 16.7**	**-7.0**
LVIG				*i* S	**Sn**	**06 16 32.9**	**-11**
JCR	**Jicaral**	**7.54**	**125**	*eP*	**Pn**	**06 15 27.9**	**0.0**
CGA2	**Cerro Gallo 2**	**7.97**	**122**	*eP*	**Pn**	**06 15 34.4**	**+0.7**
PRS1	**Puriscal**	**8.12**	**121**	*eP*	**Pn**	**06 15 36.8**	**+1.1**
PPM	**Popocatepetl**	**8.42**	**305**	*i P*	**Pn**	**06 15 38.4**	**-1.3**
LCR2	**La Lucha 2**	**8.50**	**121**	*eP*	**Pn**	**06 15 42.0**	**+1.0**
QCR	**Quepos**	**8.55**	**124**	*eP*	**Pn**	**06 15 42.1**	**+0.6**
BUS	**Buena Vista**	**8.81**	**122**	*eP*	**Pn**	**06 15 46.7**	**+1.7**
PLIG	**Platanillo**	**8.81**	**299**	*i P*	**Pn**	**06 15 40.4**	**-4.6**
PLIG				*i* S	**Sn**	**06 17 21.4**	**-1.3**
PBVM	**Pinon**	**8.99**	**306**	*i P*	**Pn**	**06 15 45.1**	**-2.3**
BAR1		**9.35**	**122**	*eP*	**Pn**	**06 15 54.8**	**+2.4**
SOR	**Soroa**	**11.57**	**42**	*eP*	**Pn**	**06 16 24.3**	**+1.7**
BCIP	**Isla Barro Col**	**12.38**	**113**	*e*Pn	**Pn**	**06 16 31.1**	**-2.5**
	comp=E,16nm,0.8s						
SFJM	**Santa Fe**	**12.73**	**301**	*i P*	**Pn**	**06 16 34.6**	**-3.7**
HKT	**Hockley**	**16.11**	**346**	*e*Pn	**Pn**	**06 17 21.0**	**-0.8**
	comp=E,66nm,1.6s						
HKT				*e*Sn	**Sn**	**06 20 23.3**	**+3.3**
DWPF	**Disney**	**16.55**	**32**	*e*Pn	**Pn**	**06 17 29.1**	**+1.9**
	comp=E,43nm,0.8s						
BRAL	**Brewton**	**17.09**	**13**	*e*Pn	**Pn**	**06 17 34.6**	**+0.7**
	comp=E,65nm,0.7s						
NATX	**Nacogdoches**	**17.64**	**351**	*eP*	**Pn**	**06 17 40.5**	**-0.1**
	comp=E,34nm,0.7s						
NATX				S	**S**	**06 20 47.3**	**-10**
VBMS	**Vicksburg**	**17.85**	**2**	*e*P	**Pn**	**06 17 44.6**	**+1.4**
	comp=E,63nm,0.8s						
JCT	**Junction City**	**17.88**	**336**	*eP*	**Pn**	**06 17 43.0**	**-0.4**
	comp=E,31nm,1.0s						
JCT				*e*Sn	**Sn**	**06 20 51.6**	**-11**
JCT				*e*PcP	PcP	06 22 16.1	+0.7
TXAR	**Lajitas Array**	**18.80**	**325**	P	**Pn**	**06 17 53.0**	**-1.5**
	comp=E,1.2nm,0.3s,baz=155,slow=12,SNR=310						
TXAR				PcP	PcP	06 22 17.4	+0.4
	comp=E,0.3nm,0.3s,baz=162,slow=2.6,SNR=10						
TXAR				ScP	ScP	06 25 52.9	+7.8
	comp=E,0.0nm,0.3s,baz=137,slow=3.1,SNR=10						
TXAR	**Lajitas Array**	**18.80**	**325**	P	**Pn**	**06 17 53.0**	**-1.5**
TXAR				PcP	PcP	06 22 17.4	+0.4
TXAR				ScP	ScP	06 25 52.9	+7.8
OTAV	**Otavalo**	**18.93**	**136**	P	**Pn**	**06 17 57.3**	**+1.0**
	comp=E,3.2nm,0.8s						
ROSC	**El Rosal**	**19.22**	**118**	P	**Pn**	**06 18 00.1**	**+0.4**
	comp=E,0.4nm,0.3s,baz=100,slow=19,SNR=9.9						
ROSC	**El Rosal**	**19.22**	**118**	*eP*	**Pn**	**06 18 01.4**	**+1.8**
OXF	**Oxford**	**20.20**	**5**	*eP*	**P**	**06 18 08.7**	**+0.4**
	comp=E,149nm,1.1s						
MIAR	**Mount Ida**	**20.25**	**355**	*eP*	**P**	**06 18 08.4**	**-0.4**
	comp=E,37nm,1.0s						
MIAR				*e*pP		06 18 27.6	
MIAR				*e*S	**S**	**06 21 48.1**	**-3.2**
GOGA	**Godfrey**	**20.33**	**19**	*eP*	**P**	**06 18 11.0**	**+1.3**
	comp=E,22nm,0.6s						
LPIG	**La Paz**	**20.35**	**301**	P	**P**	**06 18 08.6**	**-1.4**
	comp=E,14nm,0.2s,baz=358,slow=3.3,SNR=7.4						
UALR	**University of**	**20.40**	**358**	*eP*	**P**	**06 18 10.5**	**0.0**
	comp=E,16nm,0.6s						
UALR				*e*S	**S**	**06 21 57.5**	**+3.2**
PLAL	**Pickwick Lake**	**20.80**	**8**	*eP*	**P**	**06 18 14.7**	**-0.1**
	comp=E,28nm,0.8s						
PLAL				*e*S	**S**	**06 22 02.4**	**+0.3**
PLAL				*e*PcP	PcP	06 22 20.9	+0.3
SDV	**Santo Domingo**	**21.00**	**103**	P	**P**	**06 18 14.3**	**-2.8**
	comp=E,4.1nm,0.4s,baz=54,slow=13,SNR=2.4						
HBAR	**Harrisburg**	**21.17**	**2**	*eP*	**P**	**06 18 18.9**	**+0.2**
SWET	**Sewanee**	**21.39**	**12**	*eP*	**P**	**06 18 22.0**	**+0.9**
WMOK	**Wichita Mounta**	**21.42**	**343**	*eP*	**P**	**06 18 19.1**	**-2.3**
	comp=E,25nm,1.1s,mb4.5						
JSC	**Jenkinsville**	**21.89**	**23**	*eP*	**P**	**06 18 30.9**	**+4.5**
CPCT	**Cooper Cave**	**21.94**	**15**	*eP*	**P**	**06 18 28.0**	**+1.1**
CPCT				*e*pP		06 18 45.7	
CPCT				*e*sP	sP	06 18 57.4	+2.3
GLAT	**Glass**	**21.95**	**4**	P	**P**	**06 18 20.9**	**-6.2**
PARMO	**Parma**	**22.31**	**3**	*eP*	**P**	**06 18 30.8**	**-0.1**
TKL	**Tuckaleechee C**	**22.33**	**16**	P	**P**	**06 18 29.7**	**-1.3**
	comp=E,23nm,1.0s,mb4.5,baz=191,slow=9.7,SNR=16						
TKL				LR	LR	06 28 04.3	
	comp=E,612nm,20.0s,baz=228,slow=39						
TKL	**Tuckaleechee C**	**22.33**	**16**	*eP*	**P**	**06 18 32.2**	**+1.2**
AMTX	**Amarillo**	**22.51**	**337**	*eP*	**P**	**06 18 31.2**	**-1.7**
	comp=E,46nm,0.5s,mb5.1						
TZTN	**Tazewell**	**23.22**	**16**	*eP*	**P**	**06 18 39.3**	**-0.7**
	comp=E,30nm,0.7s,mb4.7						
SIUC	**Southern Illin**	**23.39**	**4**	*eP*	**P**	**06 18 41.0**	**-0.6**
	comp=E,110nm,0.9s,mb5.2						
SIUC				*e*pP		06 18 56.9	
FVM	**French Village**	**23.60**	**2**	*eP*	**P**	**06 18 42.0**	**-1.4**
	comp=E,6.3nm,0.4s,mb4.3						
319A	**Douglas**	**23.64**	**319**	⇓*iP*	**P**	**06 18 43.9**	**+0.1**
	baz=24,SNR=62						
CCM	**Cathedral Cave**	**23.66**	**0**	*eP*	**P**	**06 18 42.9**	**-1.1**
	comp=E,60nm,1.1s,mb4.8						
CCM				*e*pP		06 19 07.9	
CCM				*e*PcP	PcP	06 22 25.8	-0.5
USIN	**University of**	**23.79**	**7**	*eP*	**P**	**06 18 45.2**	**0.0**
	comp=E,53nm,1.0s,mb4.8						
219A	**White Tail Can**	**24.04**	**320**	⇑*iP*	**P**	**06 18 48.0**	**+0.4**
	baz=24,SNR=61						
BNM	**Barren Site**	**24.11**	**328**	*eP*	**P**	**06 18 49.0**	**+0.8**
CNNC	**Cliffs of the**	**24.12**	**28**	*eP*	**P**	**06 18 48.7**	**+0.5**
	comp=E,49nm,0.7s,mb4.9						
318A	**Bisbee**	**24.13**	**318**	P	**P**	**06 18 48.7**	**+0.3**
	baz=24,SNR=81						
LPM	**Los Pinos Moun**	**24.24**	**328**	*eP*	**P**	**06 18 49.7**	**+0.4**
SLM	**Saint Louis**	**24.26**	**2**	*eP*	**P**	**06 18 48.9**	**-0.5**
	comp=E,69nm,0.8s,mb5.0						

baz=28,SNR=22
MVCO Mesa Verde 27.45 329 eP P 06 19 18.9 +0.6
comp=E,70nm,1.4s,mb5.0
113A Mohawk Valley, 27.46 316 ⇓P P 06 19 18.1 -0.4
baz=28,SNR=8.6
W16A Flagstaff 27.54 322 ⇑P P 06 19 19.8 +0.7
baz=28,SNR=11
U18A Rough Rock, Ch 27.55 326 ⇓P P 06 19 19.4 +0.2
baz=28,SNR=8.9
X15A Humboldt 27.56 320 ⇓P P 06 19 19.5 +0.2
baz=28,SNR=21
Y14A Wickenburg 27.68 319 ⇓P P 06 19 20.2 -0.2
baz=28,SNR=8.1
WUAZ Wupatki 27.74 323 ⇑P P 06 19 21.3 +0.3
baz=28,SNR=13
WUAZ Wupatki 27.74 323 eP P 06 19 21.4 +0.4
comp=E,25nm,1.1s,mb4.7
X14A Yava 27.95 320 ⇑P P 06 19 22.9 +0.1
baz=28,SNR=11
W15A Williams 28.04 322 ⇓P P 06 19 24.0 +0.5
baz=28,SNR=5.9
T18A Mexican Hat 28.09 327 ⇓P P 06 19 24.3 +0.3
baz=28,SNR=16
U17A Shonto 28.12 326 ⇓P P 06 19 24.8 +0.6
baz=28,SNR=22
Y13A Salome 28.14 318 P P 06 19 24.6 +0.2
baz=28,SNR=24
S19A Harvey Farm, M 28.18 329 ⇑P P 06 19 25.1 +0.3
baz=28,SNR=19
PV01 Paradox Valley 28.21 330 eP P 06 19 26.7 +1.6
PV01 ePcP PcP 06 22 39.3 +2.6
GLA Glamis 28.35 315 ⇓P P 06 19 26.3 0.0
baz=28,SNR=6.9
GLA Glamis 28.35 315 eP P 06 19 26.3 -0.1
comp=E,40nm,1.2s,mb4.8
V15A Kaibab Nationa 28.42 323 ⇓P P 06 19 27.8 +0.9
baz=29,SNR=33
T17A Navajo Res., N 28.48 326 ⇓P P 06 19 28.1 +0.6
baz=29,SNR=33
W14A Seligman 28.56 321 ⇑P P 06 19 28.6 +0.4
baz=29,SNR=18
Y12C Blythe 28.56 317 ⇓P P 06 19 28.1 -0.1
baz=29,SNR=8.0
S18A Hurst Farm, Bl 28.58 328 P P 06 19 28.6 +0.3
baz=29,SNR=28
X13A Yucca 28.63 319 P P 06 19 28.9 +0.2
baz=29,SNR=18
PV10 Paradox Valley 28.63 330 eP P 06 19 29.0 +0.3
PV10 ePcP PcP 06 22 38.4 +0.6
PDMCI Parker Dam,Lak 28.64 318 P P 06 19 29.0 +0.1
baz=29,SNR=13
R19A Curley Farm, L 28.67 330 P P 06 19 29.9 +0.8
baz=29,SNR=6.7
V14A Boquillas Ranc 28.85 321 P P 06 19 31.6 +0.8
baz=29,SNR=42
T16A Glen Canyon Da 28.86 325 ⇑P P 06 19 31.6 +0.8
baz=29
U15A North Rim 28.91 323 ⇓P P 06 19 32.3 +1.0
baz=29,SNR=21
SWSC Sam W. Stewart 28.95 314 ⇑P P 06 19 31.9 +0.2
baz=29,SNR=8.7
S17A Black Ridge (B 28.96 327 ⇑P P 06 19 32.3 +0.6
baz=29,SNR=22
W13A Hualapai Mount 28.98 320 ⇑P P 06 19 32.3 +0.4
baz=29,SNR=22
R18A Canyonlands Na 29.06 329 P P 06 19 32.9 +0.3
baz=29,SNR=14
BC3 Big Chuckw Mtn 29.13 316 ⇓P P 06 19 33.4 +0.1
baz=29,SNR=30
Q19A Hogan Spring (29.20 331 P P 06 19 33.6 -0.1
baz=29,SNR=10
IRM Iron Mountain 29.22 317 ⇑P P 06 19 34.1 0.0
baz=29,SNR=10
MONP Monument Peak 29.36 313 ⇓P P 06 19 35.1 -0.2
baz=30,SNR=7.5
T15A Red Dirt Ranch 29.38 324 ⇓P P 06 19 36.1 +0.7
baz=30,SNR=26
U14A Mt Trumbull 29.42 322 ⇑P P 06 19 36.4 +0.6
baz=30,SNR=21
S16A Weppner Ranch, 29.45 326 ⇑P P 06 19 36.5 +0.5
baz=30,SNR=23
R17A Hanksville Air 29.50 328 ⇓P P 06 19 37.0 +0.5
baz=30,SNR=32
V13A Grand Canyon W 29.53 321 P P 06 19 37.5 +0.7
baz=30,SNR=33
BELC Belle Mtn. 29.70 316 P P 06 19 38.6 +0.3
baz=30,SNR=9.3
Q18A Rafter H Ranch 29.73 330 ⇑P P 06 19 39.1 +0.6
baz=30,SNR=16
LDFC Landfair 29.75 318 eP P 06 19 39.9 +1.1
comp=E,41nm,0.8s,mb5.1
LDFC ePcP PcP 06 22 40.0 -0.7
PFO Pinyon Flat Ob 29.79 315 P P 06 19 39.1 0.0
comp=E,6.2nm,0.8s,mb4.3,baz=130,slow=5.0,SNR=9.9
PFO PcP PcP 06 22 40.6 -0.2
comp=E,1.9nm,0.7s,baz=147,slow=5.7,SNR=2.9
PFO LR LR 06 33 07.4
comp=E,140nm,19.0s,baz=262,slow=39
PFO Pinyon Flat Ob 29.79 315 P P 06 19 39.0 -0.1
baz=30,SNR=8.4
PFO Pinyon Flat Ob 29.79 315 eP P 06 19 38.9 -0.2
comp=E,42nm,1.8s,mb4.8
R16A Teasdale 29.80 327 P P 06 19 40.1 +1.0
baz=30,SNR=56
NNA Nana 29.82 150 LR LR 06 29 37.2
comp=E,112nm,22.0s,baz=326,slow=32
S15A Panguitch 29.83 325 ⇓P P 06 19 40.5 +1.1
baz=30,SNR=29
109C Camp Elliot, M 29.85 313 ⇑P P 06 19 39.5 -0.2
baz=30
U13A Pakoon Wash 29.89 322 ⇓P P 06 19 40.6 +0.7
baz=30,SNR=27
GMRC Granite Mounta 29.93 317 ⇑P P 06 19 40.5 +0.2
baz=30,SNR=11
SRU San Rafael 29.93 329 ⇓P P 06 19 40.9 +0.6
baz=30,SNR=7.7
SRU San Rafael 29.93 329 eP P 06 19 40.9 +0.6
comp=E,21nm,1.5s,mb4.5
V12A Nelson 29.99 320 ⇓P P 06 19 41.2 +0.3
baz=30,SNR=50
Q16A Castle Valley 30.11 328 ⇓P P 06 19 42.6 +0.8
baz=30,SNR=19
R15A Junction 30.17 326 ⇑P P 06 19 43.1 +0.7
baz=30,SNR=13
P18A Preston Nutter 30.20 330 ⇓P P 06 19 43.1 +0.5
baz=30,SNR=8.1
T13A Saint George 30.26 322 ⇓P P 06 19 43.8 +0.6
baz=30,SNR=22
MURC Murrieta 30.30 314 ⇑P P 06 19 43.8 +0.1
baz=30,SNR=5.2
P17A Butcher Ranch, 30.32 329 P P 06 19 44.5 +0.8
baz=30,SNR=15
MSU Marysvale 30.33 326 eP P 06 19 44.7 +0.9
MSU epP pP 06 20 02.9 -0.9
S14A Cedar City 30.34 324 P P 06 19 45.1 +1.1
baz=30,SNR=23
HEC Hector,Ludlow 30.40 317 ⇑P P 06 19 44.8 +0.3
baz=30,SNR=5.2
TMUT Trail Mountain 30.41 329 eP P 06 19 45.3 +0.7
TMUT ePcP PcP 06 22 41.5 -0.8
V11A Goodsprings 30.43 319 P P 06 19 45.3 +0.6
baz=31,SNR=11
TUQ Turquoise Mtn. 30.50 318 P P 06 19 45.7 +0.4
baz=31,SNR=8.1
ARUT Antelope Range 30.52 324 eP P 06 19 46.8 +1.3
T12A Moapa 30.55 321 ⇑P P 06 19 46.3 +0.5
baz=31,SNR=5.5
RWWY Rawlins 30.56 336 eP P 06 19 45.5 -0.3
comp=E,13nm,0.8s,mb4.7
O18A Roosevelt 30.58 331 ⇓P P 06 19 46.5 +0.5
baz=31,SNR=10
S13A Holt Ranch, En 30.61 323 ⇓P P 06 19 47.6 +1.3
baz=31,SNR=37
Q15A Fillmore 30.80 327 ⇑P P 06 19 48.6 +0.7
baz=31,SNR=25
P16A Fountain Green 30.88 329 ⇑P P 06 19 49.8 +1.2
baz=31,SNR=7.5
BFSC Mount Baldy St 30.97 314 ⇑P P 06 19 49.5 0.0
baz=31,SNR=6.3
GSC Goldstone 30.99 317 ⇓P P 06 19 49.8 +0.1
baz=31,SNR=6.1
GSC Goldstone 30.99 317 eP P 06 19 49.8 0.0
comp=E,10nm,1.2s,mb4.4
N18A Larsen Ranch, 31.00 332 ⇑P P 06 19 50.2 +0.5
baz=31,SNR=8.7
R13A O'Grain Ranch, 31.09 324 ⇓P P 06 19 51.7 +1.2
baz=31,SNR=23
P15A Leamington 31.17 328 ⇓P P 06 19 51.8 +0.6
baz=31,SNR=13
MPU Maple Canyon 31.17 329 eP P 06 19 51.8 +0.5
comp=E,8.5nm,0.7s,mb4.6
T11A Corn Creek, Al 31.19 321 ⇑P P 06 19 51.6 +0.2
baz=31,SNR=7.6
S12A Delamar Landin 31.21 322 ⇑P P 06 19 52.5 +0.9
baz=31,SNR=7.3
O16A Springville 31.25 329 P P 06 19 52.8 +0.8
baz=31,SNR=16
Q14A Sevier Lake (B 31.27 326 ⇓P P 06 19 53.0 +0.9
baz=31,SNR=19
DAU Daniels Canyon 31.29 330 eP P 06 19 53.1 +0.8
U10A Ash Meadows, A 31.36 319 ⇑P P 06 19 53.4 +0.5
baz=32,SNR=13
N17A Moffit Pass 31.50 331 ⇓P P 06 19 54.7 +0.6
baz=32,SNR=7.6
EDW2 Edwards Air Fo 31.55 315 ⇓P P 06 19 54.3 -0.3
baz=32,SNR=5.7
R12A Pony Springs, 31.55 324 ⇑P P 06 19 54.9 +0.3
baz=32,SNR=8.6
P14A Drum Mountains 31.59 327 ⇓P P 06 19 55.8 +0.9
baz=32,SNR=25
RSSD Black Hills 31.63 342 eP P 06 19 56.2 +1.0
comp=E,2.3nm,0.6s,mb4.1
RSSD ePcP PcP 06 22 45.5 +0.1
TPNV Topopah Spring 31.64 320 ⇓P P 06 19 55.6 +0.3
baz=32,SNR=17
TPNV Topopah Spring 31.64 320 eP P 06 19 56.2 +0.9
comp=E,31nm,1.5s,mb4.8
Q13A Wheeler Ranch, 31.66 325 P P 06 19 56.8 +1.3
baz=32,SNR=29
FURC Furnace Creek, 31.73 319 ⇓P P 06 19 56.6 +0.4
baz=32,SNR=12
N16A Rees Ranch, Co 31.75 330 ⇓P P 06 19 57.6 +1.3
baz=32,SNR=9.8
COWI Conover 31.75 3 eP P 06 19 54.2 -2.0
comp=E,5.3nm,0.7s,mb4.4
COWI ePcP PcP 06 22 45.5 -0.2
S11A Rachel 31.77 322 ⇓P P 06 19 57.6 +1.1
baz=32,SNR=17
O15A The Old Anders 31.79 328 ⇑P P 06 19 57.9 +1.2
baz=32,SNR=5.8
MPMC Manual Prospec 31.89 318 P P 06 19 57.9 +0.3
baz=32,SNR=27
NOQ North Oquirrh 31.90 329 eP P 06 19 58.3 +0.7
comp=E,9.9nm,0.6s,mb4.7
DUG Dugway 31.91 328 ⇓P P 06 19 58.0 +0.4
baz=32,SNR=12
DUG Dugway 31.91 328 eP P 06 19 58.1 +0.5
comp=E,13nm,1.1s,mb4.6
DUG ePcP PcP 06 22 46.7 +0.4
OSI Osito Adit 31.91 314 ⇑P P 06 19 57.9 +0.2
baz=32
P13A Bates Ranch, G 32.01 326 ⇑P P 06 19 59.3 +0.7
baz=32,SNR=57
R11A Troy Canyon, C 32.14 323 ⇑P P 06 20 00.5 +0.8
baz=32,SNR=11
Q12A Willow Creek R 32.17 324 ⇑P P 06 20 00.9 +0.9
baz=32,SNR=13
M16A Huntsville 32.17 331 ⇓P P 06 20 00.7 +0.8
baz=32
N15A Stansbury Isla 32.28 329 ⇑P P 06 20 01.8 +0.9
baz=32,SNR=5.4
ISA Isabella 32.31 316 ⇑P P 06 20 01.3 0.0
baz=32,SNR=10
ISA Isabella 32.31 316 eP P 06 20 01.2 -0.1
comp=E,10.0nm,1.1s,mb4.5
ISA epP pP 06 20 22.9 +1.7
GRAC Grapevine Rang 32.37 319 ⇓P P 06 20 02.4 +0.6
baz=32,SNR=17
PDAR Pinedale Array 32.41 335 P P 06 20 01.3 -0.7
comp=E,2.6nm,0.6s,mb4.2,baz=128,slow=9.9,SNR=23
PDAR PcP PcP 06 22 47.4 -0.2
comp=E,1.7nm,0.6s,baz=141,slow=5.5,SNR=9.2
PDAR ScP ScP 06 26 29.4 +5.6
comp=E,2.3nm,1.0s,baz=132,slow=4.2,SNR=9.7
PDAR LR LR 06 33 33.0
comp=E,198nm,21.8s,baz=155,slow=37
S10A Tonopah Range, 32.46 321 ⇑P P 06 20 03.1 +0.5
baz=33,SNR=25
O13A Hicks Ranch, I 32.47 327 ⇑P P 06 20 03.5 +0.9
baz=33
Q11A Duckwater 32.51 323 P P 06 20 04.0 +1.0
baz=33,SNR=24
R10A Warm Springs 32.52 322 ⇑P P 06 20 03.6 +0.5
baz=33,SNR=10
BGU Big Grassy Mou 32.56 329 eP P 06 20 03.8 +0.5
N14A Grayback Hills 32.58 328 P P 06 20 04.2 +0.7
baz=33,SNR=28
L16A Fish Haven 32.62 332 P P 06 20 03.6 -0.3
baz=33,SNR=17
M15A Larsen Ranch, 32.68 330 ⇑P P 06 20 04.9 +0.5
baz=33,SNR=5.1
S09A Goldfield 32.73 320 ⇑P P 06 20 05.1 +0.2
baz=33,SNR=19
VES Vestal, Richgr 32.82 316 ⇓P P 06 20 05.9 +0.2
baz=33,SNR=17
Q10A Clear Creek Ra 32.93 323 ⇑P P 06 20 08.1 +1.5
baz=33,SNR=16
TPH Tonopah 32.94 321 eP P 06 20 07.3 +0.5
comp=E,37nm,1.5s,mb5.0
R09A Tonopah 32.96 321 ⇓P P 06 20 07.2 +0.3
baz=33,SNR=22
O12A Currie 32.98 326 ⇑P P 06 20 08.1 +1.1
baz=33,SNR=44
NCB Newcomb 32.99 23 eP P 06 20 07.1 -0.1
comp=E,4.0nm,0.4s,mb4.6
P11A Circle Ranch, 33.04 324 ⇑P P 06 20 08.7 +1.1
baz=33
L15A Malad City 33.06 331 ⇓P P 06 20 07.8 0.0
baz=33,SNR=28
HVU Hansel Valley 33.08 330 eP P 06 20 08.3 +0.5
comp=E,39nm,1.2s,mb5.1
HVU ePcP PcP 06 22 50.0 +0.6
N13A Wendover, West 33.11 327 P P 06 20 09.3 +1.1
baz=33,SNR=17
M14A Sheep Mountain 33.15 329 P P 06 20 09.4 +0.9
baz=33,SNR=47
S08C White Mtn Res 33.18 319 ⇑P P 06 20 09.6 +0.7
baz=33,SNR=18
RCTC Rector, Farmer 33.19 316 P P 06 20 09.5 +0.5
baz=33,SNR=14
HELL Mitchell Peak 33.26 317 P P 06 20 10.1 +0.6
baz=33,SNR=20
K16A Soda Springs 33.34 332 ⇓P P 06 20 10.6 +0.4
baz=34
MTUM Tungsten Hills 33.35 318 eP P 06 20 10.6 +0.3
LONY Lake Ozonia 33.42 22 eP P 06 20 10.6 -0.2
comp=E,23nm,1.3s,mb4.8
REDW Red Top Meadow 33.44 334 eP P 06 20 10.9 -0.2
comp=E,50nm,1.0s,mb5.3
REDW ePcP PcP 06 22 51.1 +0.7
M13A Montello 33.46 328 ⇓P P 06 20 11.8 +0.6
baz=34,SNR=60
SNOW Snow King Moun 33.48 334 eP P 06 20 11.5 +0.2
comp=E,58nm,0.6s,mb5.6
P10A Eureka 33.49 324 ⇑P P 06 20 12.9 +1.3
baz=34,SNR=10
L14A Malta 33.49 330 ⇑P P 06 20 12.0 +0.5
baz=34,SNR=48
LOHW Long Hollow 33.54 334 eP P 06 20 11.6 -0.3
comp=E,14nm,0.6s,mb5.0
LOHW ePcP PcP 06 22 51.1 +0.4
N12A Clover Valley, 33.55 327 ⇓P P 06 20 13.2 +1.2
baz=34,SNR=8.9
ELK Elko 33.58 326 eP P 06 20 13.1 +0.8
comp=E,22nm,1.1s,mb4.9
TPAW Teton Pass 33.59 334 eP P 06 20 12.6 +0.3
comp=E,14nm,0.6s,mb5.0
RRI2 Red Ridge 33.63 333 eP P 06 20 13.2 +0.5
comp=E,48nm,1.6s,mb5.1
K15A Arbon 33.66 331 ⇑P P 06 20 12.8 -0.1
baz=34
R08A Mina 33.66 320 ⇑P P 06 20 13.6 +0.6
baz=34,SNR=5.5
J16A Bone 33.70 333 ⇑P P 06 20 13.2 0.0
baz=34
KCC Kaiser Creek 33.82 318 ⇓P P 06 20 14.1 -0.3
baz=34,SNR=13
NVAR Mina Array Bea 33.83 320 P P 06 20 15.6 +1.1
comp=E,17nm,0.6s,mb5.0,baz=137,slow=8.2,SNR=198
NVAR PcP PcP 06 22 52.3 +0.6
comp=E,3.3nm,0.6s,baz=148,slow=2.9,SNR=9.5
NVAR ScP ScP 06 26 36.0 +7.2
comp=E,0.7nm,0.8s,baz=134,slow=3.9,SNR=5.8
K14A Jones Ranch, D 33.85 330 ⇑P P 06 20 14.6 0.0
baz=34,SNR=37
Q08A Gabbs 33.87 321 ⇓P P 06 20 15.5 +0.7
baz=34,SNR=12
PKD Parkfield 33.88 315 ⇑P P 06 20 14.7 -0.2
baz=34,SNR=5.3
L13A Double Diamond 33.88 329 ⇓P P 06 20 15.2 +0.3
baz=34,SNR=18
M12A Wells 33.89 327 ⇓P P 06 20 15.4 +0.5
baz=34,SNR=49
T06C Millerton Lake 33.89 317 ⇑P P 06 20 14.0 -1.0
baz=34
N11A Elko Archery C 33.90 326 ⇑P P 06 20 15.5 +0.5
baz=34,SNR=17
IMW Indian Meadow 33.91 334 eP P 06 20 15.4 +0.3
comp=E,10.0nm,0.6s,mb4.8
V04C Ramage Ranch, 33.94 314 ⇓P P 06 20 15.2 -0.3
baz=34
FLWY Flagg Ranch 33.96 335 eP P 06 20 15.6 0.0
comp=E,7.7nm,0.7s,mb4.6
O10A Cortez Mining, 33.96 324 ⇓P P 06 20 16.4 +0.8
baz=34,SNR=17
J15A Blackfoot 34.17 332 ⇑P P 06 20 17.2 -0.1
baz=34
N10A Dunphy 34.26 325 ⇓P P 06 20 19.1 +1.0
baz=34
U04C Hernandez Rese 34.26 315 ⇑P P 06 20 18.5 +0.2
baz=34
RLMT Red Lodge 34.27 337 eP P 06 20 17.3 -0.9
comp=E,8.0nm,0.6s,mb4.7
RLMT ePcP PcP 06 22 53.0 +0.2
O09A Fish Creek Ran 34.27 324 ⇓P P 06 20 18.9 +0.6
baz=34,SNR=18
YFT Old Faithful 34.32 335 P P 06 20 19.3 +0.7
M11A Holland Ranch, 34.36 327 ⇓P P 06 20 19.4 +0.4
baz=34,SNR=42
V03C Hunter Liggett 34.39 314 ⇑P P 06 20 19.3 -0.1
baz=34
L12A House Creek Ra 34.47 328 ⇑P P 06 20 20.2 +0.3
baz=35,SNR=22
BMN Battle Mountai 34.47 324 eP P 06 20 20.5 +0.5
comp=E,10nm,0.9s,mb4.7
S06C San Francisco 34.48 318 ⇓P P 06 20 20.1 -0.1
baz=35,SNR=14
S05C Merced 34.49 317 ⇓P P 06 20 20.4 +0.1
baz=35,SNR=6.4
R06C Coleville 34.60 319 ⇑P P 06 20 21.7 +0.5
baz=35,SNR=11
J14A Carey 34.61 331 ⇓P P 06 20 21.6 +0.4
baz=35
K12A Draper Ranch, C 34.77 329 ⇑P P 06 20 22.9 +0.4
baz=35,SNR=29
M10A I.L. Ranch, Tu 34.83 326 ⇑P P 06 20 23.6 +0.6
baz=35,SNR=33
L11A Cat Creek Ranc 34.86 328 P P 06 20 23.7 +0.4
baz=35,SNR=48
QLMT Earthquake Lak 34.88 335 eP P 06 20 24.9 +1.4
N09A Rock Creek Ran 34.92 324 ⇓P P 06 20 24.1 +0.2
baz=35,SNR=15
CMB Columbia Colle 34.92 318 ⇑P P 06 20 23.6 -0.3
baz=35,SNR=8.0
CMB Columbia Colle 34.92 318 eP P 06 20 23.5 -0.4
comp=E,5.7nm,0.9s,mb4.4
J13A Cove Ranch, Pi 34.98 330 ⇓P P 06 20 24.3 0.0
baz=35,SNR=30
R05C Kirkwood Meado 35.10 319 ⇑P P 06 20 25.6 +0.1
baz=35,SNR=11
L10A Juniper Basin 35.17 327 ⇑P P 06 20 26.3 +0.2
baz=35,SNR=25
HLID Hailey 35.22 330 ⇓P P 06 20 26.6 +0.2
baz=35,SNR=37
HLID Hailey 35.22 330 eP P 06 20 26.8 +0.4
comp=E,24nm,1.1s,mb4.9
HLID ePcP PcP 06 22 55.9 +0.3
S04C Ingram Canyon, 35.24 316 ⇓P P 06 20 26.2 -0.5
baz=35
O07A Toulon 35.26 322 ⇓P P 06 20 27.3 +0.5
baz=35,SNR=12
M09A Marrel Ranch, 35.26 325 ⇓P P 06 20 27.2 +0.5
baz=35,SNR=11
J12A Stokes Ranch, 35.31 329 P P 06 20 27.3 +0.1
baz=36,SNR=19
I13A Wildhorse Cree 35.34 331 ⇑P P 06 20 28.2 +0.8
baz=36,SNR=42
R04C Big Horse Ranc 35.40 318 ⇓P P 06 20 29.0 +0.9
baz=36,SNR=7.8
K11A Parker Ranch, 35.44 328 ⇓P P 06 20 28.1 -0.1
baz=36,SNR=22
MCMT McKenzie Canyo 35.48 333 eP P 06 20 28.6 0.0
LAVA Lava Cap Winer 35.56 319 ⇓P P 06 20 29.4 +0.1
baz=36,SNR=7.4
G15A Dillon 35.59 334 ⇑P P 06 20 29.9 +0.3
baz=36,SNR=16
BOZ Bozeman (W) 35.62 335 ⇑P P 06 20 29.4 -0.4
baz=36,SNR=14
BOZ Bozeman (W) 35.62 335 eP P 06 20 29.2 -0.6
comp=E,10.0nm,1.1s,mb4.7
BOZ ePcP PcP 06 22 57.5 +0.8
L09A Wilkinson Ranc 35.78 326 ⇓P P 06 20 31.3 +0.1
baz=36,SNR=18
DLMT Dillon 35.79 334 eP P 06 20 31.9 +0.6
comp=E,37nm,1.4s,mb5.1
DLMT epP pP 06 20 49.8 -1.7
DLMT ePcP PcP 06 22 58.3 +1.1
P05C Yuba Gap, Truc 35.79 320 ⇑P P 06 20 31.2 -0.2
baz=36,SNR=8.4
M08A Happy Creek Ra 35.80 324 ⇓P P 06 20 31.4 +0.1
baz=36,SNR=12
MFID Camas Ranch 35.80 329 ⇓P P 06 20 31.4 +0.1
baz=36,SNR=28
O06A Flanigan 35.83 321 ⇓P P 06 20 32.0 +0.4
baz=36,SNR=14
K10A MacKenzie Ranc 35.88 327 ⇓P P 06 20 31.9 -0.1
baz=36,SNR=16
H13A Challis 35.90 332 ⇑P P 06 20 32.3 +0.1
baz=36,SNR=65
BEKR Beckwourth 35.97 321 ⇓P P 06 20 32.8 0.0
baz=36
Q04C Lincoln 36.02 318 ⇑P P 06 20 33.0 -0.3
baz=36
ULM Lac du Bonnet 36.04 355 P P 06 20 28.9 -4.3
comp=E,4.6nm,0.9s,mb4.4,baz=194,slow=8.3,SNR=3.3
ULM PcP PcP 06 22 57.0 -0.9
comp=E,4.3nm,0.6s,baz=145,slow=5.7,SNR=5.1
ULM LR LR 06 37 50.0
comp=E,223nm,20.8s,baz=44,slow=40
ULM Lac du Bonnet 36.04 355 P P 06 20 28.9 -4.3
ULM PcP PcP 06 22 57.0 -0.9
ULM LR LR 06 37 50.0
G14A Jackson 36.07 333 ⇓P P 06 20 33.9 +0.3
baz=36,SNR=6.5
F15A Butte 36.13 335 ⇓P P 06 20 34.1 -0.1
baz=36,SNR=12
H12A Diamond D Ranc 36.17 331 ⇓P P 06 20 34.7 +0.2
baz=36,SNR=60
N06A Buffalo Meadow 36.19 322 ⇓P P 06 20 34.9 +0.1
baz=36,SNR=22
M07A Soldier Meadow 36.21 324 ⇓P P 06 20 34.6 -0.3
baz=36
I11A Placerville 36.22 329 P P 06 20 35.9 +0.9
baz=36,SNR=107
L08A Fields 36.27 325 P P 06 20 35.6 +0.2
baz=36,SNR=29
K09A Rome 36.28 326 ⇑P P 06 20 35.2 -0.3
baz=36,SNR=72
J10A Berg Farm, Mel 36.28 328 ⇓P P 06 20 35.8 +0.3
baz=36,SNR=7.2
G13A Cobalt 36.30 332 ⇑P P 06 20 35.4 -0.2
baz=36,SNR=14
O05C Quincy 36.37 320 ⇑P P 06 20 36.7 +0.4
baz=36,SNR=12
SUTB Sutter Butte 36.50 319 ⇓P P 06 20 37.6 +0.2
baz=37,SNR=6.1
WVOR Wild Horse Val 36.59 325 eP P 06 20 38.9 +0.7
comp=E,22nm,1.0s,mb5.0
E15A Deer Lodge 36.67 335 ⇓P P 06 20 38.5 -0.2
baz=37,SNR=12
K08A Mann Creek Ran 36.71 326 ⇑P P 06 20 39.1 0.0
baz=37,SNR=21
L07A Adell 36.71 324 ⇑P P 06 20 39.4 +0.2
baz=37,SNR=36
J09A Fry Pan Ranch, 36.74 327 P P 06 20 39.8 +0.4
baz=37,SNR=68
I10A Payette 36.77 329 ⇓P P 06 20 40.5 +0.9
baz=37,SNR=7.7
H11A Donnelly 36.83 330 ⇓P P 06 20 40.1 -0.1
baz=37,SNR=51
M06C Likely Place G 36.86 322 ⇓P P 06 20 40.1 -0.3
baz=37,SNR=14
F13A Darby 36.88 333 P P 06 20 40.0 -0.5
baz=37,SNR=17

E14A **Clinton** 37.01 334 ⇊P P 06 20 41.0 -0.6
baz=37,SNR=8.1
K07A **Rock Creek Ran** 37.10 325 ⇊P P 06 20 41.8 -0.6
baz=37
H10A **Noah's Angus R** 37.11 329 ⇊P P 06 20 41.5 -1.0
baz=37,SNR=28
D15A **Lincoln** 37.12 336 ⇊P P 06 20 42.6 +0.1
baz=37,SNR=6.0
J08A **Circle Bar Ran** 37.13 327 ⇊P P 06 20 42.9 +0.2
baz=37,SNR=69
I09A **Lost Marbles R** 37.17 328 ⇑P P 06 20 42.9 -0.1
baz=37,SNR=106
MOD **Modoc** 37.19 323 ⇊P P 06 20 42.9 -0.3
baz=37,SNR=9.1
MOD **Modoc** 37.19 323 eP P 06 20 42.8 -0.5
comp=E,13nm,1.0s,mb4.8
F12A **Elk City** 37.27 332 P P 06 20 43.5 -0.3
baz=38,SNR=74
E13A **Victor** 37.33 334 ⇊P P 06 20 43.6 -0.7
baz=38,SNR=24
GASB **Alder Springs** 37.33 319 ⇑P P 06 20 43.4 -1.1
baz=38,SNR=7.3
M05C **Lookout** 37.35 322 ⇊P P 06 20 44.1 -0.5
baz=38,SNR=12
G11A **Walters Elk Ra** 37.47 331 ⇊P P 06 20 45.0 -0.6
baz=38,SNR=55
MSO **Missoula** 37.53 334 eP P 06 20 46.0 0.0
comp=E,11nm,1.3s,mb4.5
D14A **Greenough** 37.55 335 ⇑P P 06 20 45.3 -0.9
baz=38,SNR=8.0
I08A **Drewsey** 37.55 327 ⇑P P 06 20 45.7 -0.5
baz=38,SNR=17
BMO **Blue Mountains** 37.57 329 eP P 06 20 45.5 -0.8
comp=E,18nm,1.2s,mb4.8
BMO ePcP PcP 06 23 02.7 0.0
J07A **Hines** 37.59 326 ⇑P P 06 20 46.4 -0.1
baz=38,SNR=14
L05A **Lakeview** 37.59 323 ⇊P P 06 20 46.2 -0.4
baz=38
H09A **Durkee** 37.62 329 ⇊P P 06 20 46.1 -0.6
baz=38,SNR=17
O02C **Red Bluff** 37.67 319 ⇑P P 06 20 46.2 -1.1
baz=38
K06A **Valley Falls** 37.73 324 ⇊P P 06 20 47.4 -0.4
baz=38,SNR=9.4
WDC **Whiskeytown Da** 37.74 320 P P 06 20 42.3 -5.6
comp=E,6.2nm,1.2s,mb4.3
F11A **Grangeville** 37.78 331 ⇊P P 06 20 46.9 -1.2
baz=38,SNR=12
G10A **Bishop Farm, J** 37.80 330 ⇑P P 06 20 47.7 -0.6
baz=38,SNR=26
KIPM **Iron Peak** 37.91 318 eP P 06 20 49.7 +0.4
D13A **Huson** 37.95 334 ⇊P P 06 20 48.9 -0.7
baz=38,SNR=16
J06A **Christmas Vall** 37.97 325 ⇊P P 06 20 49.1 -0.7
baz=38,SNR=20
M04C **Macdoel** 38.02 322 ⇑P P 06 20 50.2 -0.1
baz=38,SNR=9.9
H08A **Prairie City** 38.03 328 ⇑P P 06 20 50.0 -0.2
baz=38,SNR=27
K05A **Summer Lake** 38.05 324 ⇑P P 06 20 49.8 -0.7
baz=38
LPAZ **La Paz** 38.09 142 P P 06 20 50.3 -0.7
comp=E,0.8nm,0.7s,mb3.7,baz=334,slow=12,SNR=4.7
LPAZ LR LR 06 35 50.3
comp=E,86nm,18.5s,baz=279,slow=35
LPAZ **La Paz** 38.09 142 P P 06 20 50.3 -0.7
LPAZ LR LR 06 35 50.3
G09A **Cove** 38.11 329 ⇊P P 06 20 50.0 -1.0
baz=38,SNR=32
E11A **Bogner Ranch,** 38.16 332 ⇊P P 06 20 50.6 -0.7
baz=38,SNR=8.6
I07A **Izee** 38.17 327 ⇊P P 06 20 50.5 -0.9
baz=38,SNR=37
L04A **Klamath Falls** 38.29 322 ⇊P P 06 20 51.9 -0.6
baz=38,SNR=5.8
D12A **Red Ives Fores** 38.30 333 ⇊P P 06 20 51.5 -1.1
baz=38
F10A **Beach Ranch, E** 38.35 331 ⇊P P 06 20 51.6 -1.3
baz=38,SNR=85
N02C **Big Bar** 38.36 320 ⇑P P 06 20 51.1 -2.0
baz=38
M02C **Callahan** 38.40 321 ⇊P P 06 20 52.0 -1.5
baz=38
I06A **Prineville** 38.45 326 ⇊P P 06 20 53.3 -0.5
baz=39,SNR=18
F09A **S2 Ranch, Elgi** 38.48 330 ⇑P P 06 20 53.9 -0.2
baz=39,SNR=11
YBH **Yreka Blue Hor** 38.52 321 LR LR 06 38 58.6
comp=E,188nm,18.6s,baz=148,slow=40
YBH **Yreka Blue Hor** 38.52 321 ⇊P P 06 20 52.9 -1.5
baz=39
H07A **Lands Inn, Kim** 38.54 327 ⇊P P 06 20 53.8 -0.8
baz=39,SNR=34
J05A **Fort Rock** 38.60 324 ⇊P P 06 20 54.4 -0.7
baz=39,SNR=7.9
E10A **Myers Farm, Un** 38.67 331 ⇑P P 06 20 54.7 -0.9
baz=39,SNR=8.7
G08A **Pilot Rock** 38.71 328 ⇊P P 06 20 55.2 -0.7
baz=39,SNR=9.2
D11A **Klaveano Farm,** 38.73 333 ⇊P P 06 20 55.4 -0.7
baz=39,SNR=15
LNOR **Lincton Mounta** 38.78 330 eP P 06 20 55.8 -0.7
B13A **Whitefish** 38.97 335 ⇑P P 06 20 57.5 -0.6
baz=39,SNR=10
F08A **Pendleton** 38.97 329 ⇊P P 06 20 57.2 -0.9
baz=39,SNR=5.5
H06A **Lindquist Farm** 39.05 327 ⇑P P 06 20 58.1 -0.7
baz=39,SNR=11
G07A **Ruggs Ranch, H** 39.06 328 ⇊P P 06 20 58.4 -0.5
baz=39,SNR=9.9
J04A **Umpqua Nationa** 39.07 324 ⇊P P 06 20 59.2 +0.2
baz=39,SNR=14
KRMB **Red Mountain** 39.13 320 eP P 06 20 59.1 -0.4
D10A **Wagner Farm, O** 39.17 332 ⇊P P 06 20 58.4 -1.4
baz=39,SNR=15
I05A **Bend** 39.17 325 ⇑P P 06 20 59.7 -0.2
baz=39,SNR=12
E09A **Wood Farm, Sta** 39.18 330 ⇊P P 06 20 59.1 -0.8
baz=39,SNR=15
HUMO **Hull Mountain** 39.18 322 ⇊P P 06 20 58.9 -1.0
baz=39
HUMO **Hull Mountain** 39.18 322 eP P 06 20 58.4 -1.5
comp=E,2.3nm,0.8s,mb4.1
HUMO ePcP PcP 06 23 07.3 -0.4
WALA **Waterton Lakes** 39.30 337 eP P 06 21 00.5 -0.4
comp=E,6.3nm,1.1s,mb4.4
WALA ePcP PcP 06 23 07.9 -0.1
A13A **Flathead Natio** 39.40 336 ⇑P P 06 21 00.9 -0.7
baz=40
B12A **Libby** 39.51 335 ⇑P P 06 21 02.5 0.0
baz=40,SNR=10
I04A **Tendick Farm,** 39.58 324 ⇊P P 06 21 02.5 -0.7
baz=40,SNR=10.0
D09A **Jones Farm, Ri** 39.65 331 ⇊P P 06 21 03.3 -0.5
baz=40,SNR=28
KBO **Bosley Butte** 39.72 321 eP P 06 21 03.7 -0.7
C10A **Spilker Farm,** 39.75 333 ⇊P P 06 21 04.4 -0.1
baz=40,SNR=15
HAWA **Hanford** 39.77 329 eP P 06 21 03.8 -0.9
comp=E,5.1nm,0.6s,mb4.5
HAWA ePcP PcP 06 23 09.7 +0.3
B11A **Sandpoint** 39.81 334 ⇑P P 06 21 05.3 +0.3
baz=40,SNR=8.6
A12A **Yaak River Ran** 39.90 335 ⇑P P 06 21 05.8 0.0
baz=40,SNR=6.4
G05A **Wamic** 39.90 327 ⇑P P 06 21 05.4 -0.5
baz=40,SNR=10
D08A **Wollman Farm,** 39.94 330 ⇑P P 06 21 05.8 -0.3
baz=40,SNR=9.0
F06A **Goldendale** 39.97 328 ⇑P P 06 21 06.6 +0.2
baz=40,SNR=11
J02A **Umpqua** 39.99 323 ⇑P P 06 21 06.1 -0.6
baz=40,SNR=5.9
NEW **Newport** 40.00 333 eP P 06 21 05.7 -0.9
comp=E,5.8nm,0.7s,mb4.5
NEW ePcP PcP 06 23 09.3 -0.9
H04A **Detroit Lake** 40.02 325 ⇊P P 06 21 06.2 -0.6
baz=40,SNR=16
OD2 **Odessa Site #2** 40.08 331 P P 06 21 07.3 0.0
HOOD **Mount Hood Mea** 40.13 326 eP P 06 21 08.8 +1.0
comp=E,103nm,1.0s,mb5.6
KEBM **Edson Butte** 40.16 322 eP P 06 21 06.4 -1.6
C09A **Chrisman Ranch** 40.17 332 ⇑P P 06 21 07.9 -0.2
baz=40,SNR=24
I03A **Eugene** 40.19 324 ⇑P P 06 21 08.0 -0.3
baz=40,SNR=15
A11A **Hall Mountain,** 40.21 334 ⇊P P 06 21 08.6 +0.2
baz=40,SNR=21
F05A **White Salmon** 40.40 327 ⇑P P 06 21 10.7 +0.7
baz=41,SNR=14
EPH **Ephrata** 40.47 330 P P 06 21 10.5 0.0
G04A **Mulino** 40.51 326 ⇊P P 06 21 11.0 +0.1
baz=41,SNR=8.9
C08A **Higginbotham F** 40.52 331 P P 06 21 11.1 +0.1
baz=41,SNR=22
I02A **Mapleton** 40.52 323 ⇊P P 06 21 11.1 +0.1
baz=41,SNR=6.3
D07A **Quincy** 40.54 330 ⇊P P 06 21 11.1 0.0
baz=41,SNR=9.3
B09A **Rice** 40.58 333 ⇑P P 06 21 10.7 -0.7
baz=41,SNR=29
COR **Corvallis** 40.58 324 eP P 06 21 11.2 -0.2
comp=E,143nm,1.8s,mb5.5
E06A **Yakima** 40.59 328 ⇑P P 06 21 11.7 +0.1
baz=41,SNR=31
H03A **Soap Creek Ran** 40.63 325 ⇑P P 06 21 11.9 0.0
baz=41,SNR=12
EBG **Ellensburg** 40.64 329 P P 06 21 12.7 +0.8
WTV **Waterville** 40.89 330 P P 06 21 14.7 +0.7
C07A **Waterville** 40.93 330 ⇊P P 06 21 14.3 -0.1
baz=41,SNR=19
D06A **Cle Elum** 40.97 329 ⇑P P 06 21 15.1 +0.4
baz=41,SNR=5.9
ETW **Entiat** 41.00 330 eP P 06 21 15.2 +0.3
E05A **Randle** 41.01 328 ⇊P P 06 21 15.0 0.0
baz=41,SNR=25
G03A **Yamhill** 41.02 325 ⇊P P 06 21 14.9 -0.1
baz=41,SNR=7.5
B08A **Colville Reser** 41.07 332 ⇊P P 06 21 15.2 -0.3
baz=41,SNR=14
LON **Longmire** 41.16 328 eP P 06 21 15.8 -0.4
comp=E,30nm,1.0s,mb5.1
A09A **Danville** 41.18 333 ⇊P P 06 21 15.8 -0.5
baz=41,SNR=37
HEBO **Mount Hebo** 41.22 325 eP P 06 21 17.1 +0.4
comp=E,30nm,1.1s,mb5.0
A08A **Turner Farm, O** 41.47 332 ⇑P P 06 21 18.4 -0.3
baz=42,SNR=17
C06A **Tall Timber Ra** 41.50 330 ⇊P P 06 21 18.7 -0.2
baz=42
B07A **Winthrop** 41.51 331 ⇑P P 06 21 18.7 -0.3
baz=42
E04A **Onalaska** 41.53 327 ⇑P P 06 21 19.1 -0.1
baz=42,SNR=7.7
D05A **Enumclaw** 41.54 328 ⇊P P 06 21 19.4 +0.1
baz=42,SNR=15
F03A **Seaside** 41.55 326 ⇊P P 06 21 19.3 -0.2
baz=42,SNR=6.8
C05A **Tolt Reservoir** 41.73 329 P P 06 21 20.5 -0.4
baz=42,SNR=8.8
E03A **Lebam** 41.94 327 ⇊P P 06 21 22.5 -0.1
baz=42,SNR=22
A07A **Ashnola River,** 42.05 332 ⇊P P 06 21 23.5 +0.1
baz=42,SNR=37
RPW **Rockport** 42.16 330 eP P 06 21 23.6 -0.7
JCW **Jim Creek** 42.19 330 eP P 06 21 23.2 -1.4
JCW ePcP PcP 06 23 17.1 -0.2
B06A **Marblemount** 42.20 330 P P 06 21 24.4 -0.2
baz=42,SNR=12
GNW **Green Mountain** 42.22 328 eP P 06 21 24.0 -0.9
comp=E,31nm,1.2s,mb4.9
GNW ePcP PcP 06 23 17.1 -0.3
B05A **Bryant** 42.32 330 ⇊P P 06 21 24.8 -0.8
baz=42,SNR=13
C04A **Brinnon** 42.39 328 ⇊P P 06 21 25.3 -1.0
baz=42,SNR=8.4
D03A **Wishkah Elem.** 42.42 327 ⇑P P 06 21 26.7 +0.3
baz=43,SNR=12
EDM **Edmonton** 42.55 341 eP P 06 21 25.9 -1.6
A06A **Chilliwack** 42.59 331 ⇑P P 06 21 27.8 -0.1
baz=43
NLWA **Neilton Lookou** 42.64 327 ⇊P P 06 21 28.3 0.0
baz=43,SNR=22
NLWA **Neilton Lookou** 42.64 327 eP P 06 21 28.2 -0.1
comp=E,52nm,1.2s,mb5.1
A05A **Maple Falls** 42.81 330 ⇑P P 06 21 29.1 -0.5
baz=43,SNR=13
VDB **Vedder Mountai** 42.84 330 P P 06 21 29.4 -0.5
B04A **Port Angeles** 42.89 328 ⇊P P 06 21 30.0 -0.3
baz=43
A04A **Legoe Bay, Lum** 42.93 330 ⇑P P 06 21 30.4 -0.2
baz=43,SNR=17
PGC **Sidney** 43.25 329 eP P 06 21 32.9 -0.3
comp=E,122nm,1.2s,mb5.5
FCC **Fort Churchill** 44.42 358 eP P 06 21 41.9 -0.6
comp=E,12nm,0.8s,mb4.7
SCHQ **Schefferville** 44.72 20 P P 06 21 44.2 -0.6
comp=E,12nm,0.7s,mb4.7,baz=211,slow=7.4,SNR=18
SCHQ PcP PcP 06 23 24.9 -0.9
comp=E,3.1nm,0.6s,baz=244,slow=6.0,SNR=3.6
SCHQ LR LR 06 41 41.4
comp=E,388nm,19.1s,baz=239,slow=38
SCHQ **Schefferville** 44.72 20 eP P 06 21 43.1 -1.8
comp=E,20nm,0.9s,mb4.8
YKA **Yellowknife Ar** 50.88 346 P P 06 22 31.0 -1.3
comp=E,3.1nm,0.5s,mb4.6,baz=150,slow=7.5,SNR=21
YKA PcP PcP 06 23 47.2 -0.4
comp=E,4.0nm,0.6s,baz=151,slow=3.8,SNR=14
YKA LR LR 06 45 08.4
comp=E,65nm,21.0s,baz=140,slow=37
YKA **Yellowknife Ar** 50.88 346 P P 06 22 31.0 -1.3
YKA PcP PcP 06 23 47.2 -0.4
YKA LR LR 06 45 08.4
BDFB **Brasilia** 52.16 123 P P 06 22 39.0 -3.5
comp=E,2.9nm,1.0s,mb4.3,baz=342,slow=20,SNR=2.6
BDFB LR LR 06 44 22.9
comp=E,71nm,19.4s,baz=290,slow=36
CPUP **Villa Florida** 52.22 141 P P 06 22 39.9 -2.9
comp=E,1.4nm,0.7s,mb4.1,baz=301,slow=6.3,SNR=5.3
CPUP PcP PcP 06 23 52.6 -0.6
comp=E,1.3nm,0.7s,baz=238,slow=1.3,SNR=3.2
CPUP LR LR 06 43 42.0
comp=E,107nm,19.5s,baz=119,slow=35
CPUP **Villa Florida** 52.22 141 eP P 06 22 40.3 -2.4
comp=E,7.5nm,0.8s,mb4.8
RKT **Rikitea** 56.61 230 eLR LR 06 39 42.7
comp=E,194nm,25.2s
HYT **Haines Junctio** 57.10 335 eP P 06 23 17.3 -0.3
HYT ePcP PcP 06 24 10.4 -1.1
PLCA **Paso Flores** 58.06 161 LR LR 06 42 14.3
comp=E,204nm,20.5s,baz=7.6,slow=30
DAWY **Dawson** 59.63 338 eP P 06 23 34.7 -0.4
DAWY ePcP PcP 06 24 21.0 -0.5
RAGM **Ragged Mountai** 59.95 333 eP P 06 23 38.6 +1.2
RAGM epP pP 06 23 58.9 -0.4
BMRM **Bremner River** 60.18 333 eP P 06 23 39.6 +0.6
INK **Inuvik** 60.33 343 LR LR 06 51 33.7
comp=E,156nm,20.2s,baz=348,slow=38
INK **Inuvik** 60.33 343 eP P 06 23 38.9 -0.9
comp=E,284nm,0.9s
RES **Resolute Bay** 60.41 359 eP P 06 23 38.8 -1.5
comp=E,202nm,0.7s
EYAK **Cordova Ski Ar** 60.50 333 eP P 06 23 41.8 +0.6
comp=E,32nm,0.8s,mb5.4
EGAK **Eagle** 60.66 338 eP P 06 23 41.1 -1.1
comp=E,13nm,1.1s,mb4.9
EGAK ePcP PcP 06 24 24.8 -0.8
DIV **Divide** 60.76 333 eP P 06 23 43.3 +0.4
comp=E,37nm,1.2s,mb5.3
SEW **Seward** 62.02 331 eP P 06 23 50.6 -0.8
SEW ePcP PcP 06 24 30.6 -0.5
PMR **Palmer** 62.43 333 eP P 06 23 53.4 -0.7
comp=E,16nm,0.9s,mb5.0
RC01 **Rabbit Creek A** 62.51 332 eP P 06 23 54.2 -0.5
comp=E,2μm,0.7s
SLKM **Skilak Lake** 62.52 331 eP P 06 23 54.4 -0.4
MCK **McKinley** 63.18 335 eP P 06 23 58.8 -0.3
comp=E,27nm,1.1s,mb5.1
COLA **College** 63.23 336 eP P 06 23 58.8 -0.6
comp=E,14nm,0.8s,mb4.9
COLA ePcP PcP 06 24 35.4 -0.6
TRF **Thorofare Moun** 63.63 335 eP P 06 24 01.5 -0.5
comp=E,39nm,0.7s,mb5.3
KTH **Kantishna Hill** 63.93 335 eP P 06 24 03.4 -0.6
comp=E,32nm,0.9s,mb5.2
KTH epP pP 06 24 25.9 -0.2
BPAW **Bear Paw Mtn.** 64.16 335 eP P 06 24 04.8 -0.7
comp=E,57nm,1.2s,mb5.3
PPLA **Purkeypile** 64.24 334 eP P 06 24 05.3 -0.7
comp=E,9.1nm,0.4s,mb5.0
PPLA epP pP 06 24 29.7 +1.6
PPLA e 06 24 40.0
CHUM **Lake Minchumin** 64.63 335 eP P 06 24 07.4 -1.2
comp=E,12nm,1.0s,mb4.7
COLD **Coldfoot** 65.08 338 eP P 06 24 10.6 -0.9
comp=E,33nm,1.5s,mb5.0
SVW2 **Sparrevohn** 65.20 331 eP P 06 24 11.1 -1.2
PPT **Papeete** 65.58 243 eLR LR 06 43 53.2
comp=E,108nm,21.5s
PPT **Papeete** 65.58 243 LR LR 06 44 21.3
comp=E,167nm,19.5s,baz=326,slow=28
SDPT **Sand Point** 66.49 324 eP P 06 24 20.3 -0.4
comp=E,13nm,0.7s,mb4.9
ESK **Eskdalemuir** 77.33 36 eP P 06 25 23.7 -1.9
comp=E,6.5nm,0.6s,mb4.5
ESK epP PP 06 28 17.2 -3.4
EKA **Eskdalemuir Ar** 77.36 36 P P 06 25 24.1 -1.7
comp=E,4.9nm,0.7s,mb4.4,baz=271,slow=6.2,SNR=31
AMKA **Amchitka** 78.56 320 eP P 06 25 31.6 -0.9
ESDC **Sonseca Array** 79.04 52 P P 06 25 33.7 -1.7
comp=E,0.5nm,0.5s,mb3.6,baz=286,slow=4.8,SNR=7.6
ESDC pP pP 06 25 49.4 -8.8
comp=E,0.4nm,0.5s,baz=291,slow=5.6,SNR=3.0
GRR **Gorron** 79.78 43 eP P 06 25 36.7 -2.5
comp=E,8.2nm,0.6s,mb4.4
GRR **Gorron** 79.78 43 eP P 06 25 36.7 -2.5
comp=E,4.1nm,0.6s,mb4.4
FLN **La Foliniere** 79.97 42 eP P 06 25 37.9 -2.3
comp=E,11nm,0.8s,mb4.4
FLN eMLR MLR
comp=Z,104nm,18.8s
FLN **La Foliniere** 79.97 42 eP P 06 25 37.9 -2.3
comp=Z,5.4nm,0.8s,mb4.4
FLN LR LR
comp=Z,100nm,18.8s
LDF **La Druitiere** 80.23 42 eP P 06 25 39.8 -1.8
comp=Z,11nm,0.8s,mb4.4
LDF **La Druitiere** 80.23 42 eP P 06 25 39.8 -1.8
comp=Z,5.4nm,0.8s,mb4.4
MFF **Saint Martin d** 80.58 44 eP P 06 25 41.5 -2.0
LFF **La Frestale** 81.51 46 eP P 06 25 46.6 -1.9
RJF **Les Rejaudoux** 81.97 45 eP P 06 25 48.8 -2.1
RJF eMLR MLR
comp=Z,118nm,19.0s
RJF **Les Rejaudoux** 81.97 45 eP P 06 25 48.8 -2.1
RJF LR LR
comp=Z,120nm,19.0s
TCF **Toulx Ste Croi** 82.24 44 eP P 06 25 50.0 -2.3
CAF **Calviac** 82.44 46 eP P 06 25 51.0 -2.3
BGF **Bois d'Agland** 82.61 44 eP P 06 25 52.0 -2.2
comp=Z,7.2nm,0.7s,mb4.3
BGF **Bois d'Agland** 82.61 44 eP P 06 25 52.0 -2.2
comp=Z,3.6nm,0.7s,mb4.3
BAIF **Baives** 82.70 40 eP P 06 25 51.9 -2.7
AVF **Avril sur Loir** 82.90 44 eP P 06 25 53.1 -2.6
DOU **Dourbes** 82.93 40 P P 06 25 54.8 -1.0
comp=Z,4.9nm,1.8s,mb4.0
SSF **Saint Saulge** 82.94 43 eP P 06 25 53.6 -2.3
comp=Z,6.6nm,0.9s,mb4.2
SSF **Saint Saulge** 82.94 43 eP P 06 25 53.6 -2.3
comp=Z,3.3nm,0.9s,mb4.2
LOR **Lormes** 83.12 43 eP P 06 25 54.8 -2.1
LOR eMLR MLR
comp=Z,100nm,21.8s
LOR **Lormes** 83.12 43 eP P 06 25 54.8 -2.1
LOR LR LR
comp=Z,100nm,21.8s
NB2 **NORSAR Subarra** 83.58 29 P P 06 25 58.3 -0.6
comp=Z,1.0nm,0.7s,mb3.8,baz=288,slow=5.3
NOA **NORSAR Array B** 83.58 29 P P 06 25 58.4 -0.5
comp=Z,2.7nm,0.9s,mb4.1,baz=290,slow=5.2,SNR=8.1
NOA LR LR 07 04 11.1
comp=Z,43nm,19.0s,baz=190,slow=36
MEZF **Maizieres J'vi** 83.61 42 eP P 06 25 57.7 -1.6
comp=Z,8.6nm,0.8s,mb4.3
MEZF **Maizieres J'vi** 83.61 42 eP P 06 25 57.7 -1.6
comp=Z,8.6nm,0.8s,mb4.6
WLF **Walferdange** 84.02 40 P P 06 26 01.1 -0.2
comp=Z,6.2nm,1.8s,mb4.1
HAU **Haudompre** 84.57 42 eP P 06 26 02.4 -1.8
comp=Z,7.5nm,0.7s,mb4.4
HAU eMLR MLR
comp=Z,130nm,20.5s
HAU **Haudompre** 84.57 42 eP P 06 26 02.4 -1.8
comp=Z,3.8nm,0.7s,mb4.4
HAU LR LR
comp=Z,130nm,20.5s
HINF **Hinteralfeld** 84.95 42 eP P 06 26 04.3 -1.8
DBIC **Dimbokro** 85.01 84 P P 06 26 06.2 -0.9
comp=Z,1.9nm,0.5s,mb4.3,baz=234,slow=5.5,SNR=5.2
DBIC LR LR 07 03 13.9
comp=Z,84nm,18.2s,baz=269,slow=35
HFS **Hagfors** 85.04 29 P P 06 26 05.2 -1.1
comp=Z,3.3nm,0.7s,mb4.4,baz=230,slow=3.6,SNR=9.3
CDF **Champ du Feu** 85.06 41 eP P 06 26 04.0 -2.7
ARCES **ARCESS Array B** 85.66 18 P P 06 26 08.7 -0.5
comp=Z,1.8nm,0.7s,mb4.1,baz=290,slow=4.8,SNR=10
ARCES LR LR 07 02 55.5
comp=Z,226nm,22.0s,baz=111,slow=34
DAVOX **Davos/Dischmat** 87.22 42 P P 06 26 16.1 -1.2
comp=Z,0.5nm,0.3s,mb3.9,baz=322,slow=16,SNR=3.5
GERES **GERESS Array B** 88.97 40 P P 06 26 24.7 -0.9
comp=Z,0.4nm,0.8s,mb3.5,baz=294,slow=4.2,SNR=3.7
GERES LR LR 07 05 03.7
comp=Z,79nm,18.8s,baz=66,slow=35
TORD **Torodi Ar. Bea** 89.70 77 P P 06 26 28.2 -1.5
comp=Z,0.5nm,0.4s,mb4.0,baz=296,slow=4.7,SNR=11
TORD LR LR 07 04 29.9
comp=Z,106nm,19.7s,baz=175,slow=34
TORD **Torodi Ar. Bea** 89.70 77 P P 06 26 28.2 -1.5
TORD LR LR 07 04 29.9
BVAR **Borovoye Array** 111.13 12 PKiKP PKiKP 06 32 04.0 0.0
comp=Z,0.7nm,0.5s,baz=349,slow=6.0,SNR=3.9
ZALV **Zalesovo Beam** 111.95 2 PKiKP PKiKP 06 32 04.4 -1.1
comp=Z,0.8nm,0.4s,baz=271,slow=1.4,SNR=3.8
SONM **Songino Array** 116.14 347 PKP PKPdf 06 32 13.2 -0.5
comp=Z,0.8nm,1.0s,baz=127,slow=0.7,SNR=4.5
KSRS **Korea Array** 116.65 326 PKP PKPdf 06 32 14.4 -0.6
comp=Z,1.5nm,0.6s,baz=6.4,slow=1.8,SNR=4.5
KSRS pPKP pPKPdf 06 32 30.4 -8.9
comp=Z,1.2nm,0.7s,baz=53,slow=2.1,SNR=2.3
MKAR **Makanchi Array** 118.92 5 PKP PKPdf 06 32 18.0 -1.1
comp=Z,1.2nm,0.6s,baz=349,slow=2.5,SNR=8.1
MKAR **Makanchi Array** 118.92 5 PKP PKPdf 06 32 18.0 -1.1
BOSA **Boshof** 119.92 115 PKP PKPdf 06 32 21.0 -0.5
comp=Z,5.3nm,0.8s,baz=272,slow=4.5,SNR=7.6
BOSA pPKP pPKPdf 06 32 37.0 -8.6
comp=Z,6.3nm,0.9s,baz=210,slow=2.3,SNR=3.4
HHC **Hu-ho-hao-te** 121.16 340 ePKP PKPdf 06 32 21.2 -2.4
HHC XPKP 06 32 58.6
HHC PP PP 06 33 55.9 +2.5
HHC PKS 06 35 56.2
HHC SKS SKSdf 06 39 21.2 -6.8
HHC SKKS SKKSac 06 40 38.0 -8.0
HHC SS SS 06 50 18.1 -0.9
HHC PP PP
comp=Z,84nm,6.2s
HHC LR LR
comp=Z,177nm,26.2s
WMQ **Urumqi** 122.15 1 ePKP PKPdf 06 32 23.8 -1.6
AML **Almayashu** 122.18 13 ePKPdf PKPdf 06 32 26.7 +1.2
MAW **Mawson** 124.14 168 PKP PKPdf 06 32 27.4 -1.0
comp=Z,1.3nm,0.7s,baz=224,slow=2.0,SNR=6.1
GTA **Gaotai** 125.56 349 ePKP PKPdf 06 32 32.1 0.0
LZH **Lanzhou** 127.86 344 ePKP PKPdf 06 32 32.6 -4.0
LZH XPKP 06 33 05.1
LZH PP PP 06 34 38.0 -0.2
LZH ePKS 06 36 09.5
LZH SKKS SKKSac 06 41 25.1 -3.9
LZH PP PP
comp=Z,244nm,5.1s
STKA **Stephens Creek** 128.75 241 PKP PKPdf 06 32 35.5 -2.7
comp=Z,3.5nm,0.8s,baz=352,slow=1.3,SNR=6.9
STKA pPKP pPKPdf 06 32 53.9 -8.6
comp=Z,3.0nm,1.0s,baz=338,slow=10,SNR=2.8
CD2 **Chengdu** 132.76 342 ePKP PKPdf 06 32 43.2 -2.8
CD2 XPKP 06 33 20.6
CD2 PP PP 06 35 12.3 +2.3
CD2 PKS 06 36 18.0
CD2 SKS SKSdf 06 39 43.0 -6.9
CD2 PP PP
comp=Z,90nm,9.6s
CD2 LR LR
comp=N,210nm,18.4s
CD2 LR LR
comp=Z,160nm,16.4s
WB2 **Warramunga Arr** 136.06 256 eP PKPdf 06 32 51.0 -1.4
WRA **Warramunga Arr** 136.07 256 PKP PKPdf 06 32 50.9 -1.5
comp=Z,2.2nm,0.8s,baz=86,slow=2.2,SNR=17
WRA SKPab 06 36 25.9

comp=Z,0.8nm,1.0s,baz=82,slow=3.1,SNR=3.5
ASAR Alice Springs 136.35 251 PKP PKPdf 06 32 51.4 -1.4
comp=Z,0.3nm,0.7s,baz=103,slow=4.0,SNR=7.0
ASAR SKPab 06 36 28.2
comp=Z,0.5nm,0.8s,baz=123,slow=3.4,SNR=4.5
KMI Kunming 138.47 341 PKP PKPdf 06 32 55.0 -1.8
KMI XPKP 06 33 30.5
KMI PP PP 06 35 48.6 +2.6
KMI SS SS 06 53 52.8 +0.9
KMI SSS 06 59 04.1
KMI PP PP
comp=Z,199nm,6.2s
KMI LR LR
comp=N,251nm,14.0s
KMI LR LR
comp=E,194nm,13.4s
KMI LR LR
comp=Z,143nm,15.8s
FITZ Fitzroy Crossi 144.31 259 eP PKPdf 06 33 04.1 -3.2
comp=Z,7.3nm,0.9s
FITZ Fitzroy Crossi 144.31 259 PKP PKPdf 06 33 04.2 -3.1
comp=Z,3.3nm,0.7s,baz=19,slow=2.6,SNR=9.2
BATI Baumata 145.56 273 PKPbc PKPbc 06 33 09.1 -0.9
comp=Z,26nm,0.8s,baz=254,slow=4.8,SNR=4.5
BATI pPKPbc pPKPbc 06 33 24.4 -9.4
comp=Z,9.0nm,0.5s,baz=164,slow=15,SNR=2.9
CHTO Chiang Mai 145.56 343 ePKPdf PKPdf 06 33 08.9 -0.6
CMAR Chiang Mai Arr 145.90 342 PKPbc PKPbc 06 33 10.2 -0.7
comp=Z,39nm,0.8s,baz=338,slow=3.8,SNR=146
CMAR pPKPbc pPKPbc 06 33 26.9 -7.8
comp=Z,4.6nm,0.6s,baz=343,slow=4.9,SNR=2.5
NWAO Narrogin (SRO) 148.07 230 PKPbc PKPbc 06 33 14.7 -1.9
comp=Z,9.7nm,0.8s,baz=128,slow=6.8,SNR=4.9
MUN Mundaring 149.28 230 eP PKPbc 06 33 18.0 -1.7

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*ISCJB **12** 06:17:28.7±0.5, 2679N±005×12845E±005, h48km±4km, mb3.8/11, MS3.2/3, Error ellipse: s-maj=10.0km s-min=4.9km az=44.5*
*IDC **12** 06:17:29.0±0.6, 2680N×12837E, h32km±3km, mb3.7/11, mb1 3.7/12, mb1mx3.6/24, mbtmp3.6/12, ML3.3/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/37, Error ellipse: s-maj=27.6km s-min=13.9km az=46.0*
*NEIC **12** 06:17:28.8±0.8, 2674N×12834E, h35km±5km, MG4.1(JMA), Error ellipse: s-maj=15.3km s-min=11.4km az=81.0*
NEIC Recorded [2 JMA] on Okinawa.
*JMA **12** 06:17:29.3±0.1, 2682N×12844E, h30km±1km, M4.1*
JMA Felt II J1.
ISC 12 06:17:28.8±0.7, 2677N±005×12846E±005, h31km±4km, n29, σ0°91/36, mb3.8/11, MS3.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.18**	**291**	P	**Pb**	**06 17 34.9**	**0.0**
JOW				S	**Sb**	**06 17 38.9**	**-0.1**
JOW	**Kunigami**	**0.18**	**291**	Pg	**Pb**	**06 17 35.0**	**0.0**
	4μm,0.3s,baz=217,slow=20,SNR=3170						
JOW				Lg		06 17 39.0	
	11μm,0.3s,baz=90,slow=20,SNR=1262						
JIH	**Iheya**	**0.52**	**301**	P	**Pb**	**06 17 39.1**	**-0.5**
JIH				S	**Sb**	**06 17 46.5**	**-0.4**
NAH1	**Naha**	**0.89**	**231**	P	**Pn**	**06 17 46.0**	**+0.7**
NAH1				eS	**Sn**	**06 17 57.7**	**+0.6**
JJT2	**Tamagusuku 2**	**0.90**	**226**	P	**Pn**	**06 17 46.4**	**+1.1**
JJT2				eS	**Sn**	**06 17 58.9**	**+1.7**
JTK	**Tokunoshima**	**1.10**	**23**	P	**Pn**	**06 17 48.4**	**+0.2**
JTK				eS	**Sn**	**06 18 02.2**	**-0.2**
JAGN	**Aguni-jima**	**1.11**	**261**	P	**Pn**	**06 17 48.4**	**+0.2**
JAGN				eS	**Sn**	**06 18 02.9**	**+0.5**
JKE	**Kume jima 2**	**1.56**	**254**	P	**Pn**	**06 17 54.5**	**0.0**
JAM	**Amami Oshima**	**1.93**	**31**	P	**Pn**	**06 18 00.2**	**+0.7**
JAM				eS	**Sn**	**06 18 23.3**	**+0.6**
JZK	**Kikaishima**	**2.04**	**41**	P	**Pn**	**06 18 02.4**	**+1.3**
JZK				eS	**Sn**	**06 18 28.1**	**+2.5**
JMZ	**Minamidaito 2**	**2.65**	**110**	P	**Pn**	**06 18 08.3**	**-1.1**
JMZ				eS	**Sn**	**06 18 36.9**	**-3.6**
JNN	**Nakanoshima**	**3.31**	**22**	P	**Pn**	**06 18 18.9**	**+0.4**
JHJ	**Hachijo jima 2**	**11.68**	**54**	LR	LR	06 23 55.3	
	comp=Z,90nm,19.9s,baz=327,slow=33						
MJAR	**Matsushiro Arr**	**12.79**	**38**	Pn	**Pn**	**06 20 29.2**	**+0.7**
	0.2nm,0.3s,baz=218,slow=8.8,SNR=3.0						
GUMO	**Guam**	**20.19**	**127**	LR	LR	06 29 06.2	
	comp=Z,25nm,18.2s,MS2.6,baz=65,slow=34						
SONM	**Songino Array**	**27.22**	**326**	P	**P**	**06 23 10.5**	**+0.6**
	1.6nm,0.8s,mb3.6,baz=134,slow=11,SNR=9.3						
SONM				LR	LR	06 34 06.7	
	comp=Z,79nm,18.9s,MS3.3,baz=97,slow=37						
SONM	**Songino Array**	**27.22**	**326**	P	**P**	**06 23 10.5**	**+0.6**
SONM				LR	LR	06 34 06.7	
MKAR	**Makanchi Array**	**41.34**	**311**	P	**P**	**06 25 10.6**	**-1.1**
	1.3nm,0.6s,mb3.8,baz=96,slow=11,SNR=11						
MKAR	**Makanchi Array**	**41.34**	**311**	P	**P**	**06 25 10.6**	**-1.1**
ZALV	**Zalesovo Beam**	**41.95**	**322**	P	**P**	**06 25 15.0**	**-1.6**
	1.2nm,0.5s,mb3.8,baz=116,slow=7.3,SNR=6.4						
WRA	**Warramunga Arr**	**46.78**	**172**	P	**P**	**06 25 54.8**	**-0.8**
	0.4nm,0.7s,mb3.5,baz=352,slow=8.5,SNR=3.5						
BVAR	**Borovoye Array**	**50.02**	**318**	P	**P**	**06 26 19.6**	**-0.6**
	2.2nm,0.7s,mb4.3,baz=85,slow=9.2,SNR=11						
BVAR				LR	LR	06 48 59.6	
	comp=Z,70nm,19.4s,MS3.7,baz=226,slow=38						
ASAR	**Alice Springs**	**50.41**	**174**	P	**P**	**06 26 23.1**	**-0.3**
	0.4nm,0.7s,mb3.6,baz=6.9,slow=13,SNR=6.7						
SPITS	**Spitsbergen Ar**	**68.35**	**348**	P	**P**	**06 28 26.0**	**-0.7**
	1.3nm,0.4s,mb4.3,baz=44,slow=6.2,SNR=6.7						
AKASG	**Malin Array Be**	**75.26**	**320**	P	**P**	**06 29 07.2**	**-1.5**
	0.7nm,0.4s,mb3.9,baz=55,slow=5.8,SNR=5.6						
YKA	**Yellowknife Ar**	**77.95**	**25**	P	**P**	**06 29 24.1**	**+0.5**
	0.6nm,0.5s,mb3.8,baz=303,slow=6.0,SNR=4.2						
HFS	**Hagfors**	**78.44**	**332**	P	**P**	**06 29 26.0**	**-0.4**
	0.3nm,0.3s,mb3.7,baz=80,slow=1.8,SNR=5.1						
NB2	**NORSAR Subarra**	**78.93**	**334**	P	**P**	**06 29 27.6**	**-1.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=53,slow=5.6						
NOA	**NORSAR Array B**	**78.93**	**334**	P	**P**	**06 29 27.9**	**-1.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=52,slow=5.7,SNR=4.5						

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*DJA **12** 06:18:59, 093N×9732E, h0km, ML4.1/1*
IDC 12 06:18:49.5±2.1, 115N×9700E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/21, mbtmp3.7/5, Error ellipse: s-maj=53.5km s-min=28.1km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.53**	**50**	Pn	Pn	06 19 31.9	-0.1
	2.5nm,0.3s,baz=261,slow=6.3,SNR=11						
WRA	**Warramunga Arr**	**42.18**	**122**	P	P	06 26 44.2	-0.2
	0.5nm,0.5s,baz=302,slow=9.1,SNR=7.8						
SONM	**Songino Array**	**47.21**	**9**	P	P	06 27 23.6	-0.5
	0.9nm,0.7s,baz=197,slow=9.2,SNR=6.7						
MKAR	**Makanchi Array**	**47.24**	**346**	P	P	06 27 24.7	+0.4
	0.4nm,0.5s,baz=162,slow=9.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**53.57**	**351**	P	P	06 28 12.2	+0.1
	1.1nm,0.4s,baz=175,slow=6.9,SNR=7.4						

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*ISCJB **12** 06:21:22.8±0.8, 321N±0.1×1385E±0.1, h414km±11km, mb2.8/2, Error ellipse: s-maj=19.9km s-min=16.1km az=141.8*
*IDC **12** 06:21:23.9±0.9, 3204N×13860E, h409km±32km, mb2.6/2, mb1 2.6/4, mb1mx2.4/22, mbtmp2.4/4, Error ellipse: s-maj=91.5km s-min=20.6km az=60.0*
*JMA **12** 06:21:23.3±0.3, 3208N×13834E, h403km, M3.2*
ISC 12 06:21:24.3±0.9, 322N±01×1385E±01, h406km±10km, n17, σ0°86/24, mb2.8/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.41**	**48**	P	**Pn**	**06 22 18.1**	**+0.6**
	50nm,0.3s,baz=80,slow=8.5,SNR=24						
JHJ				S	**S**	**06 23 01.6**	**+1.0**
	7.4nm,0.3s,baz=252,slow=20,SNR=3.9						
JHJ2	**Mitsune**	**1.42**	**49**	P	**Pn**	**06 22 18.0**	**+0.4**
JHMK	**Hamakita**	**2.70**	**346**	P	**Pn**	**06 22 25.9**	**+0.4**
JWZ	**Kozaga**	**2.73**	**300**	P	**Pn**	**06 22 23.7**	**-2.0**
HMMJ	**Hamamatsu 2**	**2.75**	**346**	P	**Pn**	**06 22 25.9**	**0.0**
BSO3	**Boso 3**	**3.09**	**32**	P	**Pn**	**06 22 28.1**	**-0.5**
BSO3				eS	**S**	**06 23 20.3**	**-0.4**
JOD2	**Odawara 2**	**3.10**	**8**	P	**Pn**	**06 22 29.0**	**+0.3**
JOD2				eS	**S**	**06 23 21.0**	**0.0**
BSO4	**Boso 4**	**3.18**	**28**	P	**Pn**	**06 22 29.5**	**+0.2**
BSO4				eS	**S**	**06 23 22.2**	**+0.2**
BSO1	**Boso 1**	**3.20**	**39**	P	**Pn**	**06 22 29.5**	**0.0**
BSO1				eS	**S**	**06 23 22.2**	**-0.2**
JNY	**Yasuok**	**3.21**	**350**	P	**Pn**	**06 22 31.0**	**+1.4**
JHU	**Hanno**	**3.71**	**9**	P	**Pn**	**06 22 33.9**	**0.0**
JHU				eS	**S**	**06 23 28.5**	**-2.0**
JRY	**Ryogami san**	**3.83**	**4**	P	**Pn**	**06 22 36.1**	**+1.0**
JRY				eS	**S**	**06 23 31.8**	**-0.8**
JWT	**Wachi**	**4.05**	**321**	P	**Pn**	**06 22 36.5**	**-0.6**
MJAR	**Matsushiro Arr**	**4.36**	**357**	P	**Pn**	**06 22 40.4**	**+0.3**
	0.3nm,0.3s,baz=166,slow=11,SNR=4.2						
KSRS	**Korea Array**	**10.18**	**304**	P	**P**	**06 23 44.4**	**+0.7**
	0.2nm,0.3s,baz=115,slow=10,SNR=4.8						
SONM	**Songino Array**	**28.90**	**312**	P	**P**	**06 26 48.7**	**+0.9**
	0.3nm,0.6s,mb2.8,baz=104,slow=6.1,SNR=2.7						
WRA	**Warramunga Arr**	**51.98**	**185**	P	**P**	**06 29 52.2**	**-1.8**
	0.6nm,1.1s,mb2.7,baz=1.6,slow=7.7,SNR=4.4						

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*IDC **12** 06:35:33.6±1.2, 107N×12638E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML3.2/1, Error ellipse: s-maj=99.4km s-min=17.3km az=69.0*
*NEIC **12** 06:35:35.0±0.8, 097N×12620E, h10km, mb4.4/1, Error ellipse: s-maj=68.5km s-min=11.8km az=69.0*
*ISCJB **12** 06:35:37.1±1.2, 10N×01×12630E±009, h40km±13km, mb4.0/7, Error ellipse: s-maj=20.5km s-min=10.1km az=35.6*
ISC 12 06:35:34.3±2.5, 10N±01×1263E±01, h4km±19km, n13, σ0°86/14, mb4.0/7, 2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.13**	**99**	⇓eP	**Pg**	**06 35 56.2**	**+0.2**
MNI	**Manado**	**1.49**	**289**	⇓eP	**Pg**	**06 36 02.0**	**+0.2**
MNI				eS	**Sn**	**06 36 22.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**18.95**	**182**	P	**Pn**	**06 39 55.9**	**-1.3**
	0.1nm,0.3s,baz=16,slow=18,SNR=4.0						
WRAB	**Tennant Creek**	**22.23**	**159**	eP	**P**	**06 40 32.0**	**-0.1**
	18nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**22.24**	**160**	P	**P**	**06 40 32.1**	**0.0**
	9.3nm,0.9s,mb4.2,baz=339,slow=11,SNR=24						
WB2	**Warramunga Arr**	**22.24**	**160**	eP	**P**	**06 40 32.0**	**-0.2**
ASAR	**Alice Springs**	**25.59**	**164**	P	**P**	**06 41 06.8**	**+2.1**
	0.9nm,0.4s,mb3.6,baz=348,slow=11,SNR=20						
STKA	**Stephens Creek**	**35.75**	**157**	P	**P**	**06 42 34.2**	**-0.2**
	1.3nm,0.5s,mb4.1,baz=330,slow=9.3,SNR=3.3						
STKA	**Stephens Creek**	**35.75**	**157**	P	**P**	**06 42 34.2**	**-0.2**
SONM	**Songino Array**	**49.77**	**343**	P	**P**	**06 44 26.8**	**-1.0**
	0.3nm,0.6s,mb3.5,baz=140,slow=7.0,SNR=2.3						
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	**06 45 38.2**	**-0.8**
	0.7nm,0.6s,mb3.9,baz=111,slow=6.6,SNR=6.7						
PAF	**Port-aux-Franc**	**69.35**	**215**	eP	**P**	**06 46 33.6**	**-9.5**
BVAR	**Borovoye Array**	**69.38**	**328**	P	**P**	**06 46 44.4**	**+1.2**
	1.2nm,0.7s,mb3.9,baz=137,slow=7.4,SNR=5.3						

MAN 12 06:36:57, 1686N×12023E, h16km, mb4.3, ML3.2, MS3.0, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.57**	**213**	eP	Pg	06 37 08.4	+0.1
BOLP				eS	Sg	06 37 17.2	+1.3
BCPH	**Baguio City Da**	**0.58**	**145**	⇑iP	Pg	06 37 08.4	-0.1
BCPH				i S	Sg	06 37 16.9	+0.6
ABRA	**Dolores**	**0.91**	**30**	eP	Pb	06 37 13.7	-0.6
SIPP	**Brgy, Tapao**	**1.08**	**11**	⇑iP	Pb	06 37 16.6	-0.6
SIPP				i S	Sb	06 37 31.1	0.0
SCZP	**Santa Cruz**	**1.12**	**196**	eP	Pb	06 37 16.5	-1.5
APYP	**Conner**	**1.38**	**44**	eP	Pn	06 37 20.3	-1.3
CAUP	**Cauayan**	**1.52**	**87**	eP	Pn	06 37 25.3	+1.7
PCPH	**Palayan**	**1.54**	**147**	⇓iP	Pn	06 37 23.1	-0.7
PCPH				i S	Sn	06 37 43.4	0.0
BALP	**Baler**	**1.71**	**131**	eP	Pn	06 37 26.6	+0.5
PALP	**Palanan**	**2.11**	**84**	eP	Pn	06 37 32.7	+1.1
NBP	**Mount Natib**	**2.12**	**175**	⇑eP	Pn	06 37 33.1	+1.4
LBPH	**Los Banos**	**2.84**	**161**	⇑eP	Pn	06 37 42.8	+1.0
LUBP	**Lubang**	**3.11**	**180**	eP	Pn	06 37 48.6	+3.1
ENPP	**El Nido**	**5.68**	**188**	eP	Pn	06 38 20.8	+0.1

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*IDC **12** 07:27:57.7±1.8, 328S×14838E, h0km, mb4.1/6, mb1 4.2/7, mb1mx4.0/16, mbtmp4.1/7, ML3.3/1, MS4.2/4, Ms1 4.2/4, ms1mx3.6/21, Error ellipse: s-maj=53.9km s-min=17.0km az=108.0*
*ISCJB **12** 07:28:00.9±1.3, 333S±009×14840E±02, h33km, mb4.1/7, MS4.1/3, Error ellipse: s-maj=29.0km s-min=13.2km az=174.4*
*NEIC **12** 07:28:01.6±1.1, 327S×14859E, h35km, mb4.7/4, Error ellipse: s-maj=28.0km s-min=14.1km az=93.0*
*GCMT **12** 07:28:01.6±0.2, 332S×14908E, h18km±1km, MW5.0/76, Moment Tensor Solution. s20,c29; s76,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.02±.16; $M_{\theta\theta}$2.40±.13; $M_{\phi\phi}$-2.42±.15; $M_{r\theta}$0.95±.31; $M_{\theta\phi}$3.78±.12; $M_{\phi r}$0.01±.30; Best double couple: $M_0$4.58200×10^{16} NP1:ϕ_s16.00000°, δ79.00000°, λ177.00000°. NP2: ϕ_s107.00000°, δ87.00000°, λ11.00000°. Principal axes: T 4.6260, Plg10.0000°, Azm332.0000°; N -0.0920, Plg78.0000°, Azm122.0000°; P -4.5380, Plg6.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 12 07:27:58.7±4.3, 329S±009×1484E±02, h5km±28km, n19, σ0°74/16, mb4.1/7, MS4.1/3, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.21**	**192**	ePn	**Pn**	**07 29 32.0**	**+0.8**
	13nm,0.8s						
CTA	**Charters Tower**	**16.83**	**187**	Pn	**Pn**	**07 31 55.1**	**-0.3**
	0.1nm,0.3s,baz=53,slow=8.5,SNR=3.1						
CTA				LR	LR	07 38 14.2	
	comp=Z,566nm,18.3s,baz=9.4,slow=37						
KAKA	**Kakadu**	**18.38**	**238**	eP	**Pn**	**07 32 15.3**	**+0.7**
	57nm,1.1s						
WRAB	**Tennant Creek**	**21.50**	**219**	eP	**P**	**07 32 47.9**	**-0.8**
WB2	**Warramunga Arr**	**21.51**	**219**	eP	**P**	**07 32 48.2**	**-0.6**
WRA	**Warramunga Arr**	**21.52**	**219**	P	**P**	**07 32 47.9**	**-0.9**
	1.3nm,0.7s,mb3.5,baz=48,slow=11,SNR=4.7						
WRA				S	**S**	**07 36 48.3**	**+0.3**
	0.5nm,1.0s,baz=38,slow=14,SNR=4.3						
WRA				LR	LR	07 42 07.8	
	comp=Z,690nm,18.1s,MS4.1,baz=50,slow=40						
ASAR	**Alice Springs**	**24.65**	**213**	P	**P**	**07 33 19.6**	**-0.9**
	3.5nm,0.8s,mb4.0,baz=47,slow=9.3,SNR=7.8						
FITZ	**Fitzroy Crossi**	**26.74**	**235**	eP	**P**	**07 33 41.9**	**+2.3**
	32nm,1.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**26.74**	**235**	P	**P**	**07 33 40.4**	**+0.9**
	18nm,1.0s,mb4.5,baz=65,slow=10,SNR=9.7						
FITZ				LR	LR	07 45 23.5	
	comp=Z,874nm,19.0s,MS4.3,baz=56,slow=39						
STKA	**Stephens Creek**	**29.16**	**192**	P	**P**	**07 34 01.6**	**+0.6**
	1.5nm,0.7s,mb3.8,baz=350,slow=12,SNR=3.4						
STKA				LR	LR	07 46 55.0	
	comp=Z,333nm,19.3s,MS4.0,baz=16,slow=39						
STKA	**Stephens Creek**	**29.16**	**192**	eP	**P**	**07 34 01.6**	**+0.6**
	1.0nm,0.5s,mb3.8						
KKM	**Kota Kinabalu**	**33.47**	**286**	eP	**P**	**07 34 39.0**	**-0.3**
PPT	**Papeete**	**62.34**	**108**	eLQ		07 53 50.3	
	687nm,31.0s						
PPT				eLR	LR	07 57 08.7	
	214nm,26.8s						
SONM	**Songino Array**	**62.77**	**330**	P	**P**	**07 38 25.7**	**+0.6**
	0.4nm,0.7s,mb3.6,baz=145,slow=5.3,SNR=3.1						
TBI	**Tubuai**	**63.15**	**114**	eLQ		07 54 47.5	
	326nm,33.5s						
TBI				eLR	LR	07 57 34.0	
	254nm,27.5s						
CASY	**Casey**	**68.23**	**196**	eP	**P**	**07 39 00.3**	**+0.1**
	38nm,0.9s,mb5.4						
MKAR	**Makanchi Array**	**76.34**	**320**	P	**P**	**07 39 48.5**	**-0.5**
	1.3nm,0.9s,mb3.9,baz=104,slow=6.1,SNR=5.4						
CPD	**Cerro la Pandu**	**143.31**	**64**	ePKPdf	PKPdf	07 47 31.4	-3.9
TORD	**Torodi Ar. Bea**	**145.69**	**289**	PKPbc	PKPbc	07 47 36.8	-3.1
	0.1nm,0.4s,baz=80,slow=2.8,SNR=3.9						

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*IDC **12** 07:42:55.4±1.1, 4422N×12983W, h0km, mb4.0/10, mb1 4.1/15, mb1mx4.0/30, mbtmp4.0/15, ML3.5/5, MS3.8/9, Ms1 3.8/9, ms1mx3.4/45, Error ellipse: s-maj=28.4km s-min=12.6km az=41.0*
*BJI **12** 07:42:55.8, 4450N×12970W, h10km, mB5.0, mb4.9, Ms4.6, Msz4.4*
*ISCJB **12** 07:42:57.6±0.3, 4450N±003×12951W±003, h10km, mb4.4/22, MS4.0/9, Error ellipse: s-maj=4.4km s-min=2.8km az=32.0*
*NEIC **12** 07:42:58.8±0.4, 4450N×12968W, h10km, mb4.4/19, Error ellipse: s-maj=6.4km s-min=3.8km az=221.0*
ISC 12 07:42:59.2±0.3, 4448N±003×12958W±003, h10km, (h16km±1.4km:pP-P), n186, σ1°07/191, mb4.4/22, MS4.0/9, 30C-35D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02A	**Toledo**	**4.00**	**85**	⇓Pn	**Pn**	**07 43 59.0**	**-1.4**
	baz=4.0,SNR=7.3						
I02A	**Mapleton**	**4.16**	**95**	⇑Pn	**Pn**	**07 44 01.0**	**-1.7**
	baz=4.2,SNR=26						
I02A				⇑Sn	**Sn**	**07 44 50.4**	**-0.9**
	baz=4.2						
HEBO	**Mount Hebo**	**4.21**	**78**	ePn	**Pn**	**07 44 02.8**	**-0.6**
HEBO				eSn	**Sn**	**07 44 48.2**	**-4.3**
KMOR	**Kings Mountain**	**4.47**	**73**	P	**Pn**	**07 44 05.6**	**-1.3**
J02A	**Umpqua**	**4.48**	**102**	⇑Pn	**Pn**	**07 44 05.1**	**-2.0**
	baz=4.5						
J02A				⇓Sn	**Sn**	**07 44 57.5**	**-1.7**
	baz=4.5						
COR	**Corvallis**	**4.49**	**86**	ePn	**Pn**	**07 44 06.7**	**-0.6**
COR				Sn	**Sn**	**07 44 55.8**	**-3.7**
F03A	**Seaside**	**4.50**	**69**	⇑Pn	**Pn**	**07 44 06.2**	**-1.1**
	baz=4.5,SNR=30						
H03A	**Soap Creek Ran**	**4.50**	**85**	⇑Pn	**Pn**	**07 44 06.1**	**-1.2**
	baz=4.5,SNR=198						
G03A	**Yamhill**	**4.56**	**77**	⇑Pn	**Pn**	**07 44 06.7**	**-1.4**
	baz=4.5,SNR=133						
I03A	**Eugene**	**4.56**	**94**	⇓Pn	**Pn**	**07 44 06.6**	**-1.6**
	baz=4.6,SNR=25						
I03A				⇑Sn	**Sn**	**07 45 00.3**	**-0.8**
	baz=4.6						
NLO	**Nicolai Mounta**	**4.62**	**67**	P	**Pn**	**07 44 09.0**	**0.0**
E03A	**Lebam**	**4.71**	**62**	⇑Pn	**Pn**	**07 44 09.3**	**-0.9**
	baz=4.7						
ON2	**Olympics--Nort**	**4.72**	**57**	P	**Pn**	**07 44 10.4**	**0.0**
K02A	**Glendale**	**4.74**	**109**	⇑Pn	**Pn**	**07 44 09.1**	**-1.6**
	baz=4.8						
K02A				⇑Sn	**Sn**	**07 45 04.2**	**-1.5**
	baz=4.8						
D03A	**Wishkah Elem.**	**4.85**	**55**	⇑Pn	**Pn**	**07 44 12.0**	**-0.1**
	baz=4.8,SNR=351						
WISH	**Wishkah**	**4.85**	**55**	P	**Pn**	**07 44 12.3**	**+0.2**
BMW	**Boistfort Moun**	**4.90**	**64**	P	**Pn**	**07 44 11.9**	**-0.8**
C03A	**Quillayute Air**	**4.92**	**43**	⇓Pn	**Pn**	**07 44 13.2**	**+0.1**
	baz=4.9						
NLWA	**Neilton Lookou**	**4.94**	**52**	⇓Pn	**Pn**	**07 44 12.3**	**-1.1**
	baz=4.9,SNR=409						
NLWA	**Neilton Lookou**	**4.94**	**52**	ePn	**Pn**	**07 44 13.1**	**-0.3**
L02A	**Cave Junction**	**4.94**	**116**	⇓Pn	**Pn**	**07 44 12.5**	**-0.9**
	baz=5.0						
OSR	**Olympics--Salm**	**4.95**	**50**	P	**Pn**	**07 44 13.4**	**-0.1**
OOW	**Octopus West**	**4.97**	**47**	P	**Pn**	**07 44 13.9**	**+0.2**
SSOR	**Sweet Springs**	**5.10**	**83**	P	**Pn**	**07 44 15.7**	**+0.2**
G04A	**Mulino**	**5.11**	**79**	⇓Pn	**Pn**	**07 44 15.1**	**-0.6**
	baz=5.1,SNR=20						
BROR	**Big Rock Looko**	**5.12**	**90**	P	**Pn**	**07 44 15.9**	**+0.1**
OTR	**Olympics--Tyee**	**5.12**	**43**	P	**Pn**	**07 44 16.2**	**+0.4**
RRHS	**Rochester High**	**5.14**	**61**	P	**Pn**	**07 44 16.2**	**+0.1**
CPW	**Capitol Peak**	**5.16**	**59**	P	**Pn**	**07 44 16.5**	**+0.1**
HUMO	**Hull Mountain**	**5.17**	**109**	⇓Pn	**Pn**	**07 44 15.5**	**-1.0**
	baz=5.2						
HUMO				⇑Sn	**Sn**	**07 45 15.3**	**-0.8**
	baz=5.2						
HUMO	**Hull Mountain**	**5.17**	**109**	ePn	**Pn**	**07 44 15.9**	**-0.5**
	8.7nm,0.9s						
SMW	**South Mountain**	**5.20**	**55**	P	**Pn**	**07 44 16.9**	**-0.1**
I04A	**Tendick Farm,**	**5.21**	**95**	⇑Pn	**Pn**	**07 44 16.6**	**-0.5**
	baz=5.2						
E04A	**Onalaska**	**5.27**	**64**	⇓Pn	**Pn**	**07 44 17.8**	**0.0**
	baz=5.2						
F04A	**Amboy**	**5.27**	**71**	⇑Pn	**Pn**	**07 44 17.6**	**-0.3**
	baz=5.2						
OSD	**Olympics--Snow**	**5.28**	**49**	P	**Pn**	**07 44 18.3**	**+0.2**
IRO	**Indian Ridge**	**5.29**	**93**	P	**Pn**	**07 44 18.3**	**+0.2**
H04A	**Detroit Lake**	**5.29**	**85**	⇓Pn	**Pn**	**07 44 17.6**	**-0.6**
	baz=5.3,SNR=56						
H04A				⇓Sn	**Sn**	**07 45 19.0**	**-0.1**
	baz=5.3						
LVP	**Lakeview Peak**	**5.31**	**70**	P	**Pn**	**07 44 18.2**	**-0.2**
FRIS	**Frissel Point**	**5.37**	**90**	P	**Pn**	**07 44 19.7**	**+0.4**
FL2	**Flat Top 2**	**5.38**	**69**	P	**Pn**	**07 44 19.2**	**-0.3**
D04A	**Dobbs Creek Ra**	**5.42**	**59**	⇑Pn	**Pn**	**07 44 20.2**	**+0.2**
	baz=5.4,SNR=122						
B04A	**Port Angeles**	**5.53**	**47**	⇓Pn	**Pn**	**07 44 21.6**	**+0.1**
	baz=5.5						
B04A				⇓Sn	**Sn**	**07 45 26.1**	**+1.0**
	baz=5.5						
J04A	**Umpqua Nationa**	**5.54**	**100**	⇑Pn	**Pn**	**07 44 21.7**	**+0.1**
	baz=5.6						
MEW	**McNeil Island**	**5.56**	**58**	P	**Pn**	**07 44 22.8**	**+0.9**
C04A	**Brinnon**	**5.62**	**52**	⇓Pn	**Pn**	**07 44 23.1**	**+0.3**
	baz=5.6,SNR=31						

C08A	Higginbotham F	8.03	62	⇓Pn	Pn	07 44 55.5	-0.3
	baz=8.0,SNR=7.6						
LNOR	Lincton Mounta	8.11	76	*e*Pn	Pn	07 44 55.8	-1.1
OD2	Odessa Site #2	8.12	65	*e*Pn	Pn	07 44 56.8	-0.2
WVOR	Wild Horse Val	8.22	101	*e*Pn	Pn	07 44 59.6	+1.2
	8.1nm,1.0s						
D09A	Jones Farm, Ri	8.30	68	⇓Pn	Pn	07 44 58.6	-0.8
	baz=8.3						
F09A	S2 Ranch, Elgi	8.35	77	⇓Pn	Pn	07 44 59.6	-0.6
	baz=8.3						
A08A	Turner Farm, O	8.38	54	⇑Pn	Pn	07 45 00.5	-0.1
	baz=8.3,SNR=38						
G09A	Cove	8.42	80	⇑Pn	Pn	07 45 00.3	-0.9
	baz=8.4						
C09A	Chrisman Ranch	8.53	63	⇑Pn	Pn	07 45 01.8	-0.8
	baz=8.5,SNR=8.8						
BMO	Blue Mountains	8.76	83	*e*Pn	Pn	07 45 05.3	-0.5
	3.6nm,0.3s						
A09A	Danville	8.79	55	⇓Pn	Pn	07 45 06.1	-0.1
	baz=8.7,SNR=11						
B09A	Rice	8.82	59	⇑Pn	Pn	07 45 05.6	-1.1
	baz=8.8,SNR=10.0						
F10A	Beach Ranch, E	8.85	76	⇑Pn	Pn	07 45 06.2	-0.9
	baz=8.8						
G10A	Bishop Farm, J	8.89	80	⇓Pn	Pn	07 45 06.8	-0.8
	baz=8.9						
DIB	Dawson Inlet,	8.94	349	Pn	Pn	07 45 10.1	+1.9
	SNR=8.1						
DIB				T		07 54 03.7	
VIB	Van Inlet	9.00	349	Pn	Pn	07 45 10.8	+1.9
NEW	Newport	9.41	62	*e*Pn	Pn	07 45 13.6	-1.0
	13nm,0.8s						
CMB	Columbia Colle	9.45	130	*e*Pn	Pn	07 45 16.2	+0.9
	14nm,1.3s						
BMN	Battle Mountai	9.99	110	*e*Pn	Pn	07 45 26.0	+3.4
A11A	Hall Mountain,	10.12	59	⇓Pn	Pn	07 45 23.9	-0.6
	baz=10						
HLID	Hailey	10.97	89	*e*Pn	Pn	07 45 38.4	+2.3
	9.5nm,1.1s						
E13A	Victor	10.99	74	⇓Pn	Pn	07 45 35.3	-1.1
	baz=11,SNR=5.7						
MSO	Missoula	11.20	72	*e*Pn	Pn	07 45 39.5	+0.3
	9.4nm,0.9s						
ELK	Elko	11.21	104	Pn	Pn	07 45 42.0	+2.6
	0.1nm,0.3s,baz=289,slow=7.3,SNR=12						
ELK	Elko	11.21	104	*e*Pn	Pn	07 45 41.8	+2.5
	15nm,1.2s						
WALA	Waterton Lakes	11.68	61	*e*Pn	Pn	07 45 46.1	+0.4
	8.5nm,0.9s						
CHMT	Chamberlain Mo	11.68	72	*e*Pn	Pn	07 45 46.1	+0.3
MCMT	McKenzie Canyo	11.93	82	*e*Pn	Pn	07 45 51.5	+2.3
DLMT	Dillon	12.08	80	*e*Pn	Pn	07 45 53.3	+2.0
	18nm,1.2s						
WRAK	Wrangell Islan	12.09	353	*e*Pn	Pn	07 45 54.7	+3.5
	15nm,1.0s						
ISA	Isabella	12.23	132	*e*Pn	Pn	07 45 54.0	+0.6
	5.7nm,1.1s						
TPNV	Topopah Spring	12.60	122	*e*Pn	Pn	07 46 00.8	+2.5
	13nm,1.2s						
BGU	Big Grassy Mou	12.68	100	*e*Pn	Pn	07 46 00.5	+1.0
BOZ	Bozeman (W)	12.75	78	*e*Pn	Pn	07 46 01.6	+1.2
	23nm,1.6s						
QLMT	Earthquake Lak	12.94	82	*e*Pn	Pn	07 46 05.5	+2.6
DUG	Dugway	13.12	103	*e*Pn	Pn	07 46 06.8	+1.3
	2.2nm,0.9s						
YMR	Madison River	13.28	83	*e*Pn	Pn	07 46 10.1	+2.4
	39nm,1.6s						
IMW	Indian Meadow	13.40	86	*e*Pn	Pn	07 46 12.3	+3.0
	8.9nm,1.0s						
TPAW	Teton Pass	13.46	88	*e*Pn	Pn	07 46 13.1	+3.0
	24nm,1.4s						
FLWY	Flagg Ranch	13.54	85	*e*pP		07 46 06.2	
EDM	Edmonton	13.79	45	*e*Pn	Pn	07 46 14.4	-0.1
ARUT	Antelope Range	13.87	113	*e*Pn	Pn	07 46 18.0	+2.3
DLBC	Dease Lake	13.98	359	Pn	Pn	07 46 21.2	+4.1
	baz=190,slow=13						
DLBC	Dease Lake	13.98	359	*e*Pn	Pn	07 46 21.4	+4.3
GCMT	Greycliff	14.12	78	*e*Pn	Pn	07 46 21.1	+2.0
DAU	Daniels Canyon	14.13	109	*e*Pn	Pn	07 46 21.3	+2.1
MSU	Marysvale	14.33	109	*e*Pn	Pn	07 46 23.6	+1.6
RLMT	Red Lodge	14.44	80	*e*P	Pn	07 46 32.3	+8.9
	9.6nm,0.9s						
LDFC	Landfair	14.54	125	*e*Pn	Pn	07 46 26.5	+1.7
	28nm,1.0s						
PDAR	Pinedale Array	14.61	90	Pn	Pn	07 46 29.2	+3.5
	0.1nm,0.3s,baz=292,slow=10,SNR=11						
PDAR				LR	LR	07 52 18.4	
	comp=Z,376nm,18.4s,baz=77,slow=38						
PFO	Pinyon Flat Ob	14.87	132	LR	LR	07 51 42.5	
	comp=Z,260nm,18.5s,baz=320,slow=36						
SRU	San Rafael	15.18	104	*e*P	Pn	07 46 40.3	+6.8
	25nm,1.2s						
BAR	Barrett	15.49	135	*e*Pn	Pn	07 46 36.2	-1.3
	11nm,1.1s						
WUAZ	Wupatki	16.55	116	*e*Pn	Pn	07 46 52.2	+0.9
	13nm,1.2s						
PV10	Paradox Valley	16.55	104	*e*Pn	Pn	07 46 52.4	+1.2
RWWY	Rawlins	16.57	92	*e*Pn	Pn	07 46 53.1	+1.6
	7.2nm,0.9s						
PV01	Paradox Valley	16.99	105	*e*Pn	Pn	07 46 57.5	+0.7
HYT	Haines Junctio	17.04	347	*e*Pn	Pn	07 46 58.1	+0.8
MVCO	Mesa Verde	17.50	107	*e*Pn	Pn	07 47 03.7	+0.6
	55nm,1.7s						
DGMT	Dagmar	17.91	68	*e*Pn	Pn	07 47 08.4	+0.3
	54nm,1.3s						
RSSD	Black Hills	18.27	82	*e*P	Pn	07 47 11.2	-1.5
	13nm,1.3s						
EYAK	Cordova Ski Ar	18.77	335	*e*P	Pn	07 47 20.1	+1.4
	15nm,0.8s						
DIV	Divide	19.24	336	*e*P	Pn	07 47 26.4	+2.1
KDAK	Kodiak Island	19.51	321	P	Pn	07 47 26.3	-1.1
	0.2nm,0.3s,baz=121,slow=9.5,SNR=4.8						
OHAK	Old Harbor	19.54	319	*e*P	Pn	07 47 23.7	-4.1
	46nm,1.1s						
LAZ	Ladron	19.99	113	*e*P	Pn	07 47 33.1	-0.2
YKA	Yellowknife Ar	20.04	21	P	P	07 47 33.6	+1.7
	3.6nm,1.1s,baz=210,slow=11,SNR=5.0						
ANMO	Albuquerque	20.12	110	P	P	07 47 33.7	+0.7
	2.8nm,0.9s,baz=306,slow=12,SNR=7.1						
ANMO	Albuquerque	20.12	110	P	P	07 47 33.7	+0.7
LENM	Lemitar	20.24	113	*e*P	P	07 47 35.6	+1.2
SLKM	Skilak Lake	20.24	330	*e*P	P	07 47 34.5	+0.3
LPM	Los Pinos Moun	20.38	112	*e*P	P	07 47 37.8	+1.9
DAWY	Dawson	20.40	348	*e*P	P	07 47 36.6	+0.7
BNM	Barren Site	20.48	112	*e*P	P	07 47 38.6	+1.7
RC01	Rabbit Creek A	20.48	331	*e*P	P	07 47 35.8	-0.9
	20nm,1.1s						
PMR	Palmer	20.64	333	*e*P	P	07 47 38.3	-0.2
	12nm,1.0s						
PPLA	Purkeypile	22.57	333	*e*P	P	07 47 58.7	-0.5
	18nm,1.2s,mb4.4						
KTH	Kantishna Hill	22.65	335	*e*P	P	07 47 59.2	-0.8
	21nm,1.4s,mb4.4						
SVW2	Sparrevohn	22.65	326	*e*P	P	07 48 04.7	+4.6
BPAW	Bear Paw Mtn.	23.07	336	*e*P	P	07 48 03.4	-1.1
	12μm,1.5s						
CHUM	Lake Minchumin	23.32	334	*e*P	P	07 48 05.2	-1.9
	7.7nm,0.8s,mb4.2						
ULM	Lac du Bonnet	23.42	64	P	P	07 48 06.8	-1.5
	12nm,1.0s,mb4.2,baz=296,slow=10,SNR=8.9						
ULM				LR	LR	07 57 45.9	
	comp=Z,217nm,18.1s,MS3.6,baz=281,slow=38						
AMTX	Amarillo	23.42	105	*e*P	P	07 48 07.4	-1.0
	14nm,0.8s,mb4.4						
AGMN	Agassiz Refuge	23.46	69	*e*P	P	07 48 07.3	-1.4
	12nm,0.9s,mb4.3						
INK	Inuvik	23.98	356	P	P	07 48 12.4	-1.0
	3.5nm,0.8s,mb3.9,baz=157,slow=11,SNR=7.4						
INK				LR	LR	07 56 59.8	
	comp=Z,156nm,19.0s,MS3.5,baz=168,slow=35						
TXAR	Lajitas Array	25.51	118	P	P	07 48 26.7	-0.9
	1.6nm,0.8s,mb3.6,baz=298,slow=8.0,SNR=21						
TXAR				LR	LR	07 57 25.9	
	comp=Z,118nm,20.1s,MS3.4,baz=250,slow=34						
WMOK	Wichita Mounta	25.52	102	*e*P	P	07 48 28.1	+0.4
	18nm,1.0s,mb4.6						
LPIG	La Paz	25.70	136	LR	LR	07 56 07.4	
	comp=Z,130nm,20.7s,MS3.4,baz=176,slow=31						
EYMN	Ely	26.41	69	*e*P	P	07 48 36.1	+0.4
	18nm,1.1s,mb4.5						
OXF	Oxford	32.28	94	*e*P	P	07 49 27.5	-0.4
	34nm,1.1s,mb5.1						
SCHQ	Schefferville	40.61	52	LR	LR	08 07 45.2	
	comp=Z,309nm,18.4s,MS4.2,baz=6.9,slow=36						
PETK	Petropavlovsk-	46.74	308	P	P	07 51 26.8	-1.3
	2.4nm,0.9s,mb4.1,baz=80,slow=12,SNR=4.0						
CN2	Changchun	69.65	312	*e*P	P	07 54 07.7	-0.9
RAR	Rarotonga	70.96	210	LR	LR	08 20 35.5	
	comp=Z,118nm,18.9s,MS4.2,baz=184,slow=32						
SONM	Songino Array	75.75	325	P	P	07 54 43.0	-1.8
	1.2nm,0.9s,mb3.8,baz=72,slow=4.7,SNR=5.7						
BJI	Beijing	77.19	314	P	P	07 54 50.3	-2.8
BJI				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
ZALV	Zalesovo Beam	77.64	340	P	P	07 54 53.4	-1.9
	comp=Z,0.5nm,0.5s,mb3.7,baz=38,slow=7.3,SNR=2.3						
HHC	Hu-ho-hao-te	78.88	317	*e*P	P	07 55 02.1	-0.3
HHC				AP	pP	07 55 06.8	+1.1
HHC				XP	sP	07 55 09.2	+2.3
HHC				PCP	PcP	07 55 11.8	+0.7
HHC				PP	PP	07 58 01.5	+1.1
HHC				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,124nm,6.9s						
HHC				LR	LR		
	comp=Z,116nm,20.2s,MS4.2						
LPAZ	La Paz	82.30	122	P	P	07 55 19.4	-1.6
	comp=Z,0.9nm,0.8s,mb3.8,baz=0.0,slow=8.1,SNR=5.8						
DAVOX	Davos/Dischmat	82.34	27	P	P	07 55 19.5	-1.4
	comp=Z,4.2nm,0.8s,mb4.4,baz=12,slow=21,SNR=6.2						
WMQ	Urumqi	86.02	334	*e*P	P	07 55 40.6	+1.0
WMQ				AP	pP	07 55 45.3	+2.3
WMQ				XP	sP	07 55 47.6	+3.4
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.9						
WMQ				LR	LR		
	comp=Z,133nm,18.8s,MS4.4						
LZH	Lanzhou	86.33	319	*e*P	P	07 55 40.5	-0.9
LZH				AP	pP	07 55 46.4	+1.7
LZH				XP	sP	07 55 48.3	+2.4
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,66nm,4.7s						
CD2	Chengdu	90.60	316	*e*P	P	07 56 01.7	0.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,20nm,8.4s						
GYA	Guiyang	92.70	312	P	P	07 56 12.4	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.2						
KMI	Kunming	95.84	314	P	P	07 56 26.5	+0.5
KMI				AP	pP	07 56 30.2	+0.9
KMI				XP	sP	07 56 32.0	+1.5
KMI				LR	LR		
	comp=N,221nm,14.7s,MS4.8						
KMI				LR	LR		
	comp=E,165nm,18.9s,MS4.8						
KMI				LR	LR		
	comp=Z,157nm,23.1s,MS4.4						

PRU ***12*** *07:46:54.4, 4035N×584W, h0km, M4.3*
ISCJB ***12*** *07:47:02.8±0.1, 39453N±0009×3.10W±001, h10km, mb4.2/27, MS4.1/16, Error ellipse: s-maj=1.5km s-min=1.0km az=143.3*
BJI ***12*** *07:47:03.8, 3940N×300W, h5km, mB5.1, mb4.8, Ms4.9, Msz4.6*
SZGRF ***12*** *07:47:03.0, 3931N×361W, h10km, mb3.9, MS3.7, Spain*
IDC ***12*** *07:47:03.9±0.6, 3934N×288W, h0km, mb4.0/18, mb1 4.0/23, mb1mx4.0/34, mbtmp3.9/23, ML4.0/4, MS4.1/14, Ms1 4.1/14, ms1mx3.8/38, Error ellipse: s-maj=12.1km s-min=8.5km az=12.0*
CRAAG ***12*** *07:47:04.4, 3936N×301W, Mb4.7*
MOS ***12*** *07:47:04.3±1.5, 3948N×303W, h17km, mb4.3/1, Error ellipse: s-maj=6.9km s-min=2.5km az=63.8*
MDD ***12*** *07:47:05.7±0.4, 3937N×299W, h16km±4km, mbLg5.1/36, Error ellipse: s-maj=3.3km s-min=2.4km az=121.0, PRIMO MDD EMS: V INTENSIDAD MIMA.*
SFS ***12*** *07:47:05.0, 3936N×298W, h10km, ML5.1*
IGIL ***12*** *07:47:05.2, 3936N×298W, h2km, ML5.2*
INMG ***12*** *07:47:05.3±1.8, 3935N×300W, h4km±2km, MD4.0, ML5.5, Error ellipse: s-maj=1.8km s-min=1.3km az=121.0*
NEIC ***12*** *07:47:05.8, 3935N×299W, h5km, mb4.3/10, MN4.7(MDD), After MDD.*
NEIC Felt [IV] at Leganes and [III] at Las Rozas de Madrid and Madrid. Also felt at Alcala de Henares, Alcorcon, Aranjuez, Ciudad Real, Madridejos, Molina de Segura, Mostoles, Oliva, Sevilla, Tres Cantos, Valdepenas and Valencia.
LDG ***12*** *07:47:06.0±0.1, 3936N×299W, h5km, Md5.0/6, Ml5.4/30, Error ellipse: s-maj=1.5km s-min=0.9km az=127.0*
CSEM ***12*** *07:47:06.0±0.0, 3936N×301W, h10km, mb4.2/2, ML5.4/48, Error ellipse: s-maj=0.9km s-min=0.6km az=131.0*
CNRM ***12*** *07:47:10.4, 3927N×325W, h30km, MD4.9*
STR ***12*** *07:47:13.6±0.7, 3986N×281W, h10km, Ml5.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 12 07:47:04.1±0.2, 39414N±0009×305W±001, h3km±1km, n525, σ1$22/822, mb4.2/27, MS4.1/16, 50C-40D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	0.75	291	Pg	Pg	07 47 21.2	+2.6
	7μm,0.3s,baz=111,slow=15,SNR=7602						
ESDC				Lg		07 47 33.9	
	50μm,0.3s,baz=111,slow=25,SNR=150						
ESDC	Sonseca Array	0.75	291	Pg	Pg	07 47 21.0	+2.5
	10μm,0.5s,baz=111,slow=18						
ESDC				Lg		07 47 33.1	
	50μm,0.2s,baz=110,slow=26,SNR=90						
ESDC	Sonseca Array	0.75	291	Pg	Pg	07 47 20.8	+2.3
	SNR=1000						
ESDC	Sonseca Array	0.75	291	Pg	Pg	07 47 20.8	+2.3
ESDC				Lg		07 47 32.2	
EVIA	Vianos	0.89	151	⇓Pg	Pg	07 47 20.5	-0.5
	203nm,0.3s,SNR=18						
PAB	San Pablo	1.01	278	⇓*e*P	Pg	07 47 25.6	+2.1
PAB				*e*S	Sg	07 47 41.3	+4.7
PAB	San Pablo	1.01	278	⇓*e*P	Pg	07 47 25.6	+2.1
PAB				*e*S	Sg	07 47 41.3	+4.7
EBAN	Banos Encina	1.37	205	⇑Pg	Pg	07 47 29.7	-0.7
	611nm,0.4s,SNR=18						
ETOB	Tobarra	1.40	123	⇓Pg	Pg	07 47 29.3	-1.7
	7μm,0.4s,SNR=18						
ETOB				Lg		07 47 47.4	
	19μm,0.3s,SNR=5.0						
ETOB	Tobarra	1.40	123	Pg	Pg	07 47 29.3	-1.7
	7μm,0.4s,SNR=18						
GUD	Guadarrama	1.49	326	⇑Pn	Pn	07 47 33.1	+1.3
	328nm,0.4s,SNR=18						
GUD				Pg	Pg	07 47 35.0	+2.3
	160nm,0.3s,SNR=7.9						
ETOR	Torete	1.60	28	⇑Pn	Pn	07 47 34.1	+0.8
	21μm,0.3s,SNR=18						
ETOR				Pg	Pg	07 47 36.2	+1.4
	20μm,0.3s,SNR=7151						
ETOR				Lg		07 47 57.8	
	23μm,0.2s,SNR=11						
ETOR	Torete	1.60	28	Pg	Pg	07 47 36.2	+1.4
	20μm,0.2s,SNR=1000						
ETOR				S	Sn	07 47 57.8	+3.4
EQES	Quesada	1.61	181	⇓Pn	Pn	07 47 32.6	-0.8
	11μm,0.3s,SNR=18						
EQES				Pg	Pg	07 47 34.5	-0.5
	2μm,0.3s,SNR=7.9						
EQES				Lg		07 47 54.5	
	33μm,0.3s,SNR=5.0						
EQES	Quesada	1.61	181	Pn	Pn	07 47 32.6	-0.8
	11μm,0.3s,SNR=18						
EQES	Quesada	1.61	181	Pg	Pg	07 47 34.5	-0.5
	2μm,0.3s,SNR=7.9						
EQES	Quesada	1.61	181	⇓Pn	Pn	07 47 32.6	-0.8
EQES				Pg	Pg	07 47 34.5	-0.5
EQES				Lg		07 47 54.1	
EHUE	Huescar	1.64	167	⇑Pn	Pn	07 47 32.6	-1.2
	98nm,0.4s,SNR=18						
EHUE				Pg	Pg	07 47 34.6	-0.9
	187nm,0.2s,SNR=7.9						
EADA	Adamuz	1.72	224	⇑Pn	Pn	07 47 35.1	+0.1
	4μm,0.3s,SNR=18						
EADA				Pg	Pg	07 47 37.2	+0.1
	2μm,0.2s,SNR=7.9						
EADA				Sn	Sn	07 47 56.4	-1.1
	49μm,0.4s,SNR=6.7						
EADA				Lg		07 47 59.2	
	27μm,0.2s,SNR=5.0						
EADA	Adamuz	1.72	224	Pn	Pn	07 47 35.1	+0.1
	4μm,0.3s,SNR=18						
EADA	Adamuz	1.72	224	Pg	Pg	07 47 37.2	+0.1
	2μm,0.2s,SNR=7.9						
EADA				Sn	Sn	07 47 56.4	-1.1
	49μm,0.4s,SNR=6.7						
ELUQ	Luque	2.08	208	⇑Pn	Pn	07 47 40.0	0.0
	1μm,0.6s,SNR=18						
ELUQ				Pg	Pg	07 47 43.2	-0.8
	356nm,0.3s,SNR=575						
EMUR	La Murta	2.12	137	⇓Pn	Pn	07 47 39.1	-1.3
	715nm,0.4s,SNR=18						
EMUR				Pg	Pg	07 47 43.7	-1.0
	2μm,0.3s,SNR=5.7						
EMUR				Lg		07 48 09.9	
	19μm,0.4s,SNR=5.0						
EMUR	La Murta	2.12	137	Pn	Pn	07 47 39.1	-1.3
	715nm,0.4s,SNR=18						
EMUR	La Murta	2.12	137	Pg	Pg	07 47 43.7	-1.0
	2μm,0.3s,SNR=5.7						
ECOG	Cogollos-Vega	2.17	191	⇓Pn	Pn	07 47 40.8	-0.3
	1μm,0.6s,SNR=18						
ECOG				Pg	Pg	07 47 44.0	-1.8
	461nm,0.5s,SNR=7.9						
ECOG	Cogollos-Vega	2.17	191	Pg	Pg	07 47 44.0	-1.7
	461nm,0.5s,SNR=7.9						
EMOS	Mosqueruela	2.20	64	⇓Pn	Pn	07 47 42.7	+1.1
	432nm,0.4s,SNR=18						
EMOS				Sn	Sn	07 48 07.6	-1.7
	2μm,0.7s,SNR=6.1						
EMOS				Lg		07 48 14.2	
	3μm,0.3s,SNR=5.0						
EMOS	Mosqueruela	2.20	64	Pn	Pn	07 47 42.7	+1.1
	432nm,0.4s,SNR=18						
EMOS				Sn	Sn	07 48 07.6	-1.7
	2μm,0.7s,SNR=6.1						
EQUE	Quentar	2.23	188	⇑Pn	Pn	07 47 41.5	-0.4
	2μm,0.4s,SNR=18						
EQUE				Pg	Pg	07 47 44.8	-2.0
	2μm,0.4s,SNR=7.9						
EQUE				Lg		07 48 14.1	
	28μm,0.6s,SNR=10						
ECAB	El Cabril	2.28	235	⇑Pn	Pn	07 47 43.3	+0.6
	769nm,0.5s,SNR=18						
ECAB				Pg	Pg	07 47 47.6	-0.2
	1μm,0.3s,SNR=7.9						
ECAB				Sn	Sn	07 48 09.5	-1.8
	8μm,0.4s,SNR=18						
ECAB				Lg		07 48 17.5	
	37μm,0.3s						
ECAB	El Cabril	2.28	235	Pn	Pn	07 47 43.3	+0.6
	769nm,0.5s,SNR=18						
ECAB	El Cabril	2.28	235	Pg	Pg	07 47 47.7	-0.2
	1μm,0.3s,SNR=7.9						
ECAB				Sn	Sn	07 48 09.5	-1.8
	8μm,0.4s,SNR=18						
EBEN	Beniarda	2.31	107	⇓Pn	Pn	07 47 42.2	-0.9
	471nm,0.3s,SNR=18						
EBEN				Pg	Pg	07 47 47.7	-0.8
	3μm,0.4s,SNR=7.9						
EBEN				Sn	Sn	07 48 09.8	-2.3
	2μm,0.6s,SNR=5.2						
EBEN				Lg		07 48 16.4	
	7μm,0.5s						
EBEN	Beniarda	2.31	107	Pn	Pn	07 47 42.2	-0.9
	471nm,0.3s,SNR=18						
EBEN	Beniarda	2.31	107	Pg	Pg	07 47 47.7	-0.8
	3μm,0.4s,SNR=7.9						
EBEN				Sn	Sn	07 48 09.8	-2.2
	2μm,0.6s,SNR=5.2						
ELOJ	Sierra Loja	2.42	201	⇑Pn	Pn	07 47 44.5	-0.1
	460nm,0.4s,SNR=18						
ELOJ				Pg	Pg	07 47 50.1	-0.5
	65nm,0.2s,SNR=7.9						
CART	Cartagena	2.43	138	⇑Pg	Pg	07 47 49.7	-1.0
CART	Cartagena	2.43	138	*e*P	Pn	07 47 45.4	+0.7
CART				*e*S	Sn	07 48 15.5	+0.5
CART	Cartagena	2.43	138	*e*P	Pn	07 47 45.4	+0.7
CART				*e*S	Sn	07 48 15.5	+0.5
ERON	Agron	2.46	194	⇑Pn	Pn	07 47 45.2	+0.1
	54nm,0.2s,SNR=18						
ERON				Pg	Pg	07 47 49.7	-1.6
	129nm,0.3s,SNR=7.9						
EBER	Berja	2.52	177	⇑Pn	Pn	07 47 46.3	+0.4
	981nm,0.6s,SNR=18						
EBER				Pg	Pg	07 47 50.3	-2.0
	2μm,0.4s,SNR=8.5						
EBER				Lg		07 48 25.1	
	11μm,0.6s						
EBER	Berja	2.52	177	Pn	Pn	07 47 46.3	+0.4
	981nm,0.6s,SNR=18						
EBER	Berja	2.52	177	Pg	Pg	07 47 50.3	-2.0
	2μm,0.4s,SNR=8.5						
ENIJ	Nijar	2.53	164	⇑Pn	Pn	07 47 45.6	-0.5
	145nm,0.4s,SNR=18						
ENIJ				Pg	Pg	07 47 50.7	-1.9
	328nm,0.3s,SNR=7.9						
EGUA	Guajares	2.61	189	⇑Pn	Pn	07 47 47.5	+0.3
	215nm,0.6s,SNR=18						
EMAL	Malaga-Limoner	2.86	203	Pn	Pn	07 47 54.2	+3.6
	10nm,0.6s,SNR=7.9						
EMAL				Pg	Pg	07 48 01.5	+2.5
	52nm,0.4s,SNR=7.9						
EMAL				Sn	Sn	07 48 22.0	-3.5
	333nm,0.5s,SNR=4.0						
EMAL				Lg		07 48 35.2	
	850nm,0.4s,SNR=7.9						
EMAL	Malaga-Limoner	2.86	203	*i* P	Pn	07 47 51.0	+0.4
EMAL				Sn	Sn	07 48 22.0	-3.6
	333nm,0.5s,SNR=4.0						
EMAL	Malaga-Limoner	2.86	203	Pn	Pn	07 47 54.2	+3.6
EMAL				Pg	Pg	07 48 01.5	+2.5
EMAL				Sn	Sn	07 48 22.1	-3.5
EMAL				Lg		07 48 39.0	
ERTA	Horta de San J	3.02	58	Pn	Pn	07 47 53.1	+0.3
	30nm,0.3s,SNR=67						
ERTA				Pg	Pg	07 48 01.1	-0.9
	237nm,0.3s,SNR=29						
ERTA				Sn	Sn	07 48 28.6	-0.9
	620nm,0.5s,SNR=4.0						
ERTA				Lg		07 48 39.2	
	6μm,0.9s						
ERTA	Horta de San J	3.02

1µm,0.5s,SNR=7.9
EMIN Mina Concepcio 3.28 241 ⇑Pn Pn 07 47 56.6 +0.3
171nm,0.7s,SNR=18
EMIN Pg **Pg 07 48 08.5 +1.6**
776nm,0.6s,SNR=20
EMIN Sn **Sn 07 48 32.7 -3.2**
2µm,0.5s,SNR=7.9
EMIN Lg 07 48 49.7
14µm,0.5s,SNR=5.0
EMIN Mina Concepcio 3.28 241 Pn Pn 07 47 56.6 +0.2
171nm,0.7s,SNR=18
EMIN Sn **Sn 07 48 32.7 -3.2**
SNR=7.9
PBAR Barrancos 3.35 250 *e*Pn **Pn 07 47 57.8 +0.4**
PBAR *e*Sn **Sn 07 48 36.2 -1.5**
PBAR *e*Sg **Sg 07 48 51.5 -0.3**
PBAR A 07 48 57.2
23µm,0.2s
PBAR Barrancos 3.35 250 *e*Pn **Pn 07 47 57.8 +0.4**
PBAR *e*Sn **Sn 07 48 36.2 -1.5**
PBAR *e*Sg **Sg 07 48 51.5 -0.3**
23µm,0.2s
PMRV Marv??o 3.36 272 *e*Pn **Pn 07 47 58.0 +0.5**
PMRV Marv??o 3.36 272 *e*Pg **Pg 07 48 07.7 -0.8**
PMRV *e*Sn **Sn 07 48 36.1 -1.8**
PMRV *e*Sg **Sg 07 48 54.2 +2.1**
PMRV A 07 48 55.5
14µm,0.6s
PMRV Marv??o 3.36 272 *e*Pg **Pg 07 48 07.7 -0.8**
PMRV *e*Sn **Sn 07 48 36.1 -1.8**
PMRV *e*Sg **Sg 07 48 54.2 +2.1**
14µm,0.6s
ESPR Espera 3.37 222 ⇑Pn Pn 07 47 58.3 +0.7
438nm,0.5s,SNR=18
ESPR Pg **Pg 07 48 08.1 -0.6**
237nm,0.3s,SNR=15
ESPR Sn **Sn 07 48 36.7 -1.3**
593nm,0.3s,SNR=7.9
ESPR Lg 07 48 53.4
6µm,0.3s,SNR=5.0
ESPR Espera 3.37 222 Pn **Pn 07 47 58.3 +0.7**
438nm,0.5s,SNR=18
ESPR Espera 3.37 222 Pg **Pg 07 48 08.1 -0.6**
237nm,0.3s,SNR=15
ESPR Sn **Sn 07 48 36.7 -1.4**
593nm,0.3s,SNR=7.9
REAL Reales 3.38 211 ⇑Pn Pn 07 47 59.6 +1.7
REAL Reales 3.38 211 *i* P **Pn 07 47 59.6 +1.8**
EIBI Ibiza 3.44 95 ⇓Pn Pn 07 47 57.3 -1.3
178nm,0.5s,SNR=18
EIBI Pg **Pg 07 48 08.1 -1.9**
316nm,0.6s,SNR=13
EIBI Sn **Sn 07 48 36.6 -3.2**
434nm,0.5s,SNR=5.0
EIBI Ibiza 3.44 95 Pn **Pn 07 47 57.3 -1.3**
178nm,0.5s,SNR=18
EIBI Ibiza 3.44 95 Pg **Pg 07 48 08.1 -1.9**
316nm,0.6s,SNR=13
EIBI Sn **Sn 07 48 36.6 -3.2**
434nm,0.5s,SNR=5.0
PCBR Castelo Branco 3.44 279 *e*Pn **Pn 07 47 59.4 +0.8**
PCBR Castelo Branco 3.44 279 *e*Pg **Pg 07 48 08.7 -1.4**
PCBR *e*Sn **Sn 07 48 38.8 -1.1**
PCBR *e*Sg **Sg 07 48 52.6 -2.1**
PCBR A 07 49 07.7
9µm,0.7s
PCBR Castelo Branco 3.44 279 ⇓Pn Pn 07 47 59.4 +0.8
PCBR Pg **Pg 07 48 08.7 -1.4**
PCBR Sn **Sn 07 48 38.8 -1.1**
PCBR Lg 07 48 52.6
4µm,0.7s
PCBR Castelo Branco 3.44 279 *e*Pg **Pg 07 48 08.7 -1.4**
PCBR *e*Sn **Sn 07 48 38.8 -1.1**
PCBR *e*Sg **Sg 07 48 52.6 -2.1**
9µm,0.7s
GIBL Gibalbin 3.46 223 ⇑Pn Pn 07 48 00.1 +1.3
GIBL Sn **Sn 07 48 41.6 +1.4**
GIBL Gibalbin 3.46 223 *i* P **Pn 07 48 00.2 +1.4**
GIBL *e*S **Sn 07 48 41.6 +1.4**
EALB Alboran 3.47 180 Pn **Pn 07 47 58.9 -0.1**
101nm,0.7s,SNR=11
EALB Pg **Pg 07 48 07.3 -3.3**
731nm,0.4s,SNR=30
EALB Lg 07 48 49.7
1µm,0.4s,SNR=5.0
EALB Alboran 3.47 180 Pn **Pn 07 47 58.9 -0.1**
101nm,0.7s,SNR=11
EALB Alboran 3.47 180 Pg **Pg 07 48 07.3 -3.3**
731nm,0.4s,SNR=30
MVO Moncorvo 3.51 301 *i* Pn **Pn 07 48 00.8 +1.3**
MVO Moncorvo 3.51 301 *e*Pg **Pg 07 48 12.9 +1.6**
MVO *e*Sn **Sn 07 48 42.1 +0.6**
MVO *e*Sg **Sg 07 48 59.5 +2.7**
MVO A 07 49 09.1
9µm,0.2s
MVO Moncorvo 3.51 301 ⇓Pn Pn 07 48 00.8 +1.3
MVO Pg **Pg 07 48 12.9 +1.6**
MVO Sn **Sn 07 48 42.1 +0.6**
MVO Lg 07 48 59.5
5µm,0.2s
MVO Moncorvo 3.51 301 *e*Pg **Pg 07 48 12.9 +1.6**
MVO *e*Sn **Sn 07 48 42.1 +0.6**
MVO *e*Sg **Sg 07 48 59.5 +2.7**
9µm,0.2s
EJIF Jimena Fronter 3.52 214 ⇑Pn Pn 07 48 00.2 +0.5
82nm,0.5s,SNR=18
EJIF Pg **Pg 07 48 10.7 -0.9**
128nm,0.3s,SNR=7.9
EARA Aranguren 3.54 18 ⇑Pn Pn 07 48 00.6 +0.7
86nm,0.7s,SNR=18
EARA Pg **Pg 07 48 11.7 -0.2**
100nm,0.6s,SNR=12
EARA Lg 07 48 59.7
4µm,0.7s,SNR=7.9
IUNC Unciti 3.54 19 ⇓Pn Pn 07 48 00.8 +0.8
13nm,0.4s,SNR=18
IUNC Pg **Pg 07 48 12.7 +0.8**
132nm,0.2s,SNR=7.9
IUNC Lg 07 49 00.6
930nm,0.4s,SNR=7.9
IUNC Unciti 3.54 19 Pn **Pn 07 48 00.8 +0.8**
13nm,0.4s,SNR=18
IUNC Unciti 3.54 19 Pg **Pg 07 48 12.7 +0.8**
132nm,0.2s,SNR=7.9
PESTR Estremoz 3.57 263 *e*Pn **Pn 07 48 00.6 +0.2**
PESTR Estremoz 3.57 263 *e*Pg **Pg 07 48 13.4 +0.9**
PESTR *e*Sn **Sn 07 48 40.7 -2.4**
PESTR *e*Sg **Sg 07 48 57.9 -0.9**
PESTR A 07 49 06.9
10µm,0.4s
PESTR Estremoz 3.57 263 ⇓Pn Pn 07 48 00.6 +0.2
PESTR Pg **Pg 07 48 13.4 +0.9**
PESTR Sn **Sn 07 48 40.7 -2.4**
PESTR Lg 07 48 57.9
5µm,0.4s
PESTR Estremoz 3.57 263 *e*Pg **Pg 07 48 13.4 +0.9**
PESTR *e*Sn **Sn 07 48 40.7 -2.4**
PESTR *e*Sg **Sg 07 48 57.9 -0.9**
10µm,0.4s
MTE Manteigas 3.59 287 *e*Pn **Pn 07 48 01.5 +0.8**
MTE Manteigas 3.59 287 *e*Pg **Pg 07 48 13.7 +0.7**
MTE *e*Sn **Sn 07 48 43.7 +0.1**
MTE *e*Sg **Sg 07 49 01.6 +2.1**
MTE A 07 49 02.5
9µm,0.3s
MTE Manteigas 3.59 287 ⇓Pn Pn 07 48 01.5 +0.8
MTE Pg **Pg 07 48 13.7 +0.7**
MTE Sn **Sn 07 48 43.7 +0.1**
MTE Lg 07 49 01.6
4µm,0.3s
MTE Manteigas 3.59 287 *e*Pg **Pg 07 48 13.3 +0.3**
MTE *e*Sn **Sn 07 48 43.7 +0.1**
MTE *e*Sg **Sg 07 49 01.6 +2.1**
9µm,0.3s
MTE Manteigas 3.59 287 ⇓*i*Pn **Pn 07 48 01.4 +0.7**
MTE *e*Pg **Pg 07 48 13.3 +0.4**
MTE *e*S **Sn 07 48 42.0 -1.6**
IPRE Itoiz 3.62 20 Pn **Pn 07 48 01.9 +0.8**
11nm,0.2s,SNR=7.9
IPRE Pg **Pg 07 48 12.8 -0.8**
61nm,0.3s,SNR=7.9
IPRE Sn **Sn 07 48 43.6 -0.8**
154nm,0.3s,SNR=7.9
IPRE Lg 07 49 02.2
463nm,0.3s,SNR=7.9

IPRE Itoiz 3.62 20 Pg **Pg 07 48 02.0 +0.9**
11nm,0.2s,SNR=7.9
IPRE Itoiz 3.62 20 Pg **Pg 07 48 12.8 -0.7**
61nm,0.3s,SNR=7.9
IPRE Sn **Sn 07 48 43.6 -0.8**
154nm,0.3s,SNR=7.9
EPOB Poblet 3.70 57 ⇑Pn Pn 07 48 02.2 0.0
49nm,0.3s,SNR=18
EPOB Pg **Pg 07 48 12.1 -3.0**
37nm,0.3s,SNR=16
EPOB Sn **Sn 07 48 45.1 -1.3**
195nm,0.3s,SNR=7.9
EPOB Lg 07 49 00.5
2µm,0.6s,SNR=7.9
EPOB Poblet 3.70 57 Pn **Pn 07 48 02.2 0.0**
49nm,0.3s,SNR=18
EPOB Poblet 3.70 57 Pg **Pg 07 48 12.1 -3.0**
37nm,0.3s,SNR=16
EPOB Sn **Sn 07 48 45.1 -1.2**
195nm,0.3s,SNR=7.9
IUSE Utxeti 3.71 17 ⇓Pn Pn 07 48 03.3 +1.0
12nm,0.2s,SNR=18
IUSE Pg **Pg 07 48 16.2 +1.0**
276nm,0.3s,SNR=7.9
IUSE Sn **Sn 07 48 46.1 -0.4**
344nm,0.6s,SNR=7.9
IUSE Lg 07 49 04.1
599nm,0.6s,SNR=7.9
IUSE Utxeti 3.71 17 Pn **Pn 07 48 03.3 +1.0**
12nm,0.2s,SNR=18
IUSE Utxeti 3.71 17 Pg **Pg 07 48 16.2 +1.0**
276nm,0.3s,SNR=7.9
IUSE Sn **Sn 07 48 46.1 -0.4**
344nm,0.6s,SNR=7.9
SCRT Cerro San Cris 3.71 223 ⇑Pn Pn 07 48 03.6 +1.3
SCRT Sn **Sn 07 48 42.7 -3.9**
SCRT Cerro San Cris 3.71 223 *i* P **Pn 07 48 03.6 +1.3**
EORO Oroz-Betelu 3.72 20 ⇑Pn Pn 07 48 03.5 +1.1
62nm,0.3s,SNR=18
EORO Pg **Pg 07 48 15.8 +0.4**
924nm,0.5s,SNR=75
EORO Sn **Sn 07 48 46.0 -0.6**
518nm,0.7s,SNR=4.4
EORO Lg 07 49 05.3
8µm,1.2s,SNR=7.9
EORO Oroz-Betelu 3.72 20 Pn **Pn 07 48 03.5 +1.1**
62nm,0.3s,SNR=18
EORO Oroz-Betelu 3.72 20 Pg **Pg 07 48 15.8 +0.5**
924nm,0.5s,SNR=75
EORO Sn **Sn 07 48 46.0 -0.7**
518nm,0.7s,SNR=4.4
MOMI Momias 3.73 215 *e*P **Pn 07 48 04.3 +1.7**
ECAL Calabor 3.77 313 ⇓Pn Pn 07 48 04.1 +1.0
240nm,0.3s,SNR=18
ECAL Pg **Pg 07 48 16.4 0.0**
227nm,0.7s,SNR=7.9
ECAL Sn **Sn 07 48 47.8 -0.2**
908nm,0.3s,SNR=7.9
ECAL Lg 07 49 06.9
4µm,0.4s,SNR=7.9
ECAL Calabor 3.77 313 Pn **Pn 07 48 04.1 +1.0**
240nm,0.3s,SNR=18
ECAL Calabor 3.77 313 Pg **Pg 07 48 16.4 0.0**
227nm,0.7s,SNR=7.9
ECAL Sn **Sn 07 48 47.8 -0.2**
908nm,0.3s,SNR=7.9
ELAN Lanestosa 3.83 356 ⇑Pn Pn 07 48 05.6 +1.7
77nm,0.7s,SNR=18
ELAN Pg **Pg 07 48 17.6 +0.2**
316nm,0.2s,SNR=7.9
ELAN Sn **Sn 07 48 51.0 +1.7**
208nm,0.2s,SNR=7.9
ELAN Lg 07 49 08.5
5µm,0.9s,SNR=7.9
ELAN Lanestosa 3.83 356 Pn **Pn 07 48 05.6 +1.7**
77nm,0.7s,SNR=18
ELAN Lanestosa 3.83 356 Pg **Pg 07 48 18.4 +1.0**
316nm,0.2s,SNR=7.9
ELAN Sn **Sn 07 48 51.0 +1.6**
208nm,0.2s,SNR=7.9
ELAN Lanestosa 3.83 356 ⇑Pn Pn 07 48 05.6 +1.7
ELAN Pg **Pg 07 48 18.4 +0.9**
ELAN Sn **Sn 07 48 51.0 +1.7**
ELAN Lg 07 49 08.5
CNIL Conil 3.86 219 ⇑Pn Pn 07 48 05.4 +1.1
CNIL Conil 3.86 219 *i* P **Pn 07 48 05.4 +1.1**
SFS San Fernando 3.86 221 ⇓Pn Pn 07 48 05.8 +1.5
SFS Sn **Sn 07 48 50.0 -0.1**
SFS San Fernando 3.86 221 *e*Pn **Pn 07 48 05.0 +0.7**
SFS San Fernando 3.86 221 *i* P **Pn 07 48 05.8 +1.5**
SFS *e*S **Sn 07 48 50.0 -0.1**
SFS San Fernando 3.86 221 *e*Pn **Pn 07 48 05.0 +0.6**
SFS *e*Sn **Sn 07 48 40.2 -10**
ERIP Rio Piedras 3.88 240 ⇑Pn Pn 07 48 04.8 +0.2
56nm,0.1s,SNR=18
ELIZ Elizondo 3.92 17 ⇓P Pn 07 48 05.9 +0.7
ELIZ 07 48 48.8
ELIZ Elizondo 3.92 17 ⇓Pn Pn 07 48 05.9 +0.7
54nm,0.3s,SNR=18
ELIZ Pg **Pg 07 48 18.3 -0.9**
61nm,0.4s,SNR=20
ELIZ Sn **Sn 07 48 48.8 -2.9**
278nm,0.4s,SNR=7.9
ELIZ Lg 07 49 08.2
385nm,0.3s,SNR=5.0
PVIS Viseu 3.94 291 *e*Pn **Pn 07 48 06.2 +0.8**
PVIS Viseu 3.94 291 *e*Pg **Pg 07 48 19.7 +0.2**
PVIS *e*Sn **Sn 07 48 51.6 -0.5**
PVIS *e*Sg **Sg 07 49 11.4 +0.8**
PVIS A 07 49 26.8
5µm,0.4s
PVIS Viseu 3.94 291 ⇓Pn Pn 07 48 06.2 +0.8
PVIS Pg **Pg 07 48 19.7 +0.2**
PVIS Sn **Sn 07 48 51.6 -0.5**
PVIS Lg 07 49 11.4
3µm,0.4s
PVIS Viseu 3.94 291 *e*Pg **Pg 07 48 19.7 +0.2**
PVIS *e*Sn **Sn 07 48 51.6 -0.5**
PVIS *e*Sg **Sg 07 49 11.4 +0.8**
5µm,0.4s
LARF Larrau 3.94 23 Pn **Pn 07 48 06.3 +0.8**
SJPF Ste Jean 3.94 20 *e*Pg **Pg 07 48 20.3 +0.6**
SJPF *e*Sn **Sn 07 48 49.4 -2.9**
SJPF *e*Sg **Sg 07 49 09.6 -1.2**
3µm,0.6s
SJPF Ste Jean 3.94 20 *e*P **Pn 07 48 06.4 +0.9**
SJPF *e* 07 48 49.4
SJPF Ste Jean 3.94 20 Pn **Pn 07 48 06.4 +0.9**
SJPF Pg **Pg 07 48 20.3 +0.6**
SJPF Sn **Sn 07 48 49.4 -2.9**
SJPF Lg 07 49 09.6
1µm,0.6s
SJPF Ste Jean 3.94 20 *e*Pg **Pg 07 48 20.3 +0.6**
SJPF *e*Sn **Sn 07 48 49.4 -2.9**
SJPF *e*Sg **Sg 07 49 09.6 -1.2**
1µm,0.6s
SJPF Ste Jean 3.94 20 *e*Pn **Pn 07 48 06.4 +0.9**
SJPF *e*Pg **Pg 07 48 20.3 +0.6**
SJPF *e*Sn **Sn 07 48 49.4 -2.9**
SJPF *e*Sg **Sg 07 49 09.6 -1.2**
EGRO El Granado 3.95 243 ⇑Pn Pn 07 48 05.8 +0.2
207nm,0.3s,SNR=18
EGRO Sn **Sn 07 48 48.0 -4.4**
749nm,0.2s,SNR=7.9
EGRO Lg 07 49 10.7
9µm,0.3s,SNR=7.9
EGRO El Granado 3.95 243 Pn **Pn 07 48 05.8 +0.2**
207nm,0.3s,SNR=18
ETSF Etsaut 3.96 28 *e*Pn **Pn 07 48 06.3 +0.6**
ETSF *e*Sn **Sn 07 48 48.1 -4.5**
ETSF *e*Sg **Sg 07 49 11.0 -0.2**
1µm,0.6s
ETSF Etsaut 3.96 28 *e*P **Pn 07 48 06.3 +0.6**
ETSF *e* 07 48 48.1
ETSF Etsaut 3.96 28 *e*Pn **Pn 07 48 06.3 +0.6**
ETSF *e*Sn **Sn 07 48 48.1 -4.5**
ETSF *e*Sg **Sg 07 49 11.0 -0.2**
680nm,0.6s
ECEU Ceuta 3.96 208 ⇑Pn Pn 07 48 07.0 +1.2
162nm,0.3s,SNR=18
ECEU Sn **Sn 07 48 53.4 +0.6**
555nm,0.6s,SNR=7.9
EVO Evora 3.96 259 *e*Pn **Pn 07 48 06.7 +0.9**
EVO Evora 3.96 259 *e*Pg **Pg 07 48 23.3 +3.2**
EVO *e*Sn **Sn 07 48 52.0 -0.8**

EVO *e*Sg **Sg 07 49 13.0 +1.5**
22µm,0.3s
EVO Evora 3.96 259 *e*Pn **Pn 07 48 05.7 -0.1**
EVO *e*Sn **Sn 07 48 50.3 -2.5**
EVO *e*Sg **Sg 07 49 12.0 +0.5**
EVO A 07 49 16.0
11µm,1.0s
EVO Evora 3.96 259 ⇓Pn Pn 07 48 05.7 -0.1
EVO Sn **Sn 07 48 50.3 -2.5**
EVO Lg 07 49 12.0
336nm,1.0s
EALK Alkurruntz 3.98 17 ⇑Pn Pn 07 48 06.7 +0.7
147nm,0.3s,SNR=18
EALK Pg **Pg 07 48 20.3 -0.1**
201nm,0.4s,SNR=7.9
EALK Sn **Sn 07 48 52.4 -0.6**
2µm,0.3s,SNR=7.9
EALK Lg 07 49 13.4
2µm,0.3s,SNR=7.9
PBEJ Beja 4.01 251 *e*Pn **Pn 07 48 07.0 +0.5**
PBEJ *e*Sn **Sn 07 48 50.6 -3.4**
PBEJ *e*Sg **Sg 07 49 12.9 -0.1**
PBEJ A 07 49 18.7
8µm,0.5s
PBEJ Beja 4.01 251 ⇓Pn Pn 07 48 07.0 +0.5
PBEJ Sn **Sn 07 48 50.6 -3.4**
PBEJ Lg 07 49 12.9
4µm,0.5s
EVOP Sao Brissos 4.05 259 *e*Pn **Pn 07 48 06.7 -0.3**
EVOP Sao Brissos 4.05 259 *e*Pg **Pg 07 48 23.3 +1.6**
EVOP *e*Sn **Sn 07 48 52.0 -2.9**
EVOP *e*Sg **Sg 07 49 13.0 -1.2**
11µm,0.3s
EBIE Bielsa 4.07 35 ⇑Pn Pn 07 48 07.7 +0.6
114nm,0.4s,SNR=18
EBIE Pg **Pg 07 48 20.9 -1.1**
20nm,0.2s,SNR=7.9
EBIE Sn **Sn 07 48 54.1 -1.1**
522nm,0.5s,SNR=7.9
EBIE Lg 07 49 14.5
2µm,0.8s,SNR=7.9
EBIE Bielsa 4.07 35 Pn **Pn 07 48 07.7 +0.5**
114nm,0.4s,SNR=18
EBIE Bielsa 4.07 35 Pg **Pg 07 48 20.9 -1.1**
20nm,0.2s,SNR=7.9
EBIE Sn **Sn 07 48 54.1 -1.2**
522nm,0.5s,SNR=7.9
OSSF Osses 4.07 19 Pn **Pn 07 48 07.9 +0.7**
ATE Arette 4.08 25 Pn **Pn 07 48 08.0 +0.7**
ATE Pg **Pg 07 48 22.9 +0.7**
MELI Melilla 4.11 179 *e*P **Pn 07 48 08.1 +0.2**
ORDF Ordiarp 4.12 22 Pg **Pg 07 48 23.5 +0.5**
PTOM Tomar 4.15 275 *e*Pn **Pn 07 48 09.4 +1.1**
PTOM *e*Sn **Sn 07 48 55.3 -2.0**
PTOM *e*Sg **Sg 07 49 16.7 -0.7**
PTOM A 07 49 24.8
13µm,0.7s
PTOM Tomar 4.15 275 *e*Pn **Pn 07 48 09.4 +1.1**
PTOM *e*Sn **Sn 07 48 55.3 -2.0**
PTOM *e*Sg **Sg 07 49 16.7 -0.7**
13µm,0.7s
REYF Montagne du Re 4.17 28 Pn **Pn 07 48 09.2 +0.6**
VIEF Viey 4.17 33 Pn **Pn 07 48 09.1 +0.4**
VIEF Pg **Pg 07 48 24.7 +0.6**
PVAQ Vaqueiros 4.18 243 *e*Pn **Pn 07 48 08.8 +0.1**
PVAQ *e*Sn **Sn 07 48 54.0 -4.0**
PVAQ *e*Sg **Sg 07 49 17.2 -1.1**
PVAQ A 07 49 20.8
9µm,0.2s
PVAQ Vaqueiros 4.18 243 ⇑Pn Pn 07 48 08.8 +0.1
PVAQ Sn **Sn 07 48 54.0 -4.0**
PVAQ Lg 07 49 17.2
5µm,0.2s
USTO Oran 4.18 151 P **Pg 07 48 23.0 -1.2**
EARI Arriondas 4.21 338 Pn **Pn 07 48 11.3 +2.2**
0.0nm,0.0s,SNR=7.9
EARI Pg **Pg 07 48 23.1 -1.6**
62nm,0.3s,SNR=7.9
EARI Sn **Sn 07 48 57.2 -1.7**
866nm,0.5s,SNR=7.9
EARI Lg 07 49 19.2
9µm,0.9s,SNR=7.9
EARI Arriondas 4.21 338 Pn **Pn 07 48 11.3 +2.1**
SNR=7.9
EARI Arriondas 4.21 338 Pg **Pg 07 48 23.1 -1.7**
62nm,0.3s,SNR=7.9
EARI Sn **Sn 07 48 57.2 -1.6**
866nm,0.5s,SNR=7.9
EARI Arriondas 4.21 338 Pn **Pn 07 48 11.3 +2.2**
EARI Pg **Pg 07 48 23.1 -1.6**
EARI Sn **Sn 07 48 57.2 -1.7**
MOE Montemor 4.22 260 *e*Pn **Pn 07 48 09.2 -0.2**
MOE Montemor 4.22 260 *e*Pg **Pg 07 48 26.3 +1.2**
MOE *e*Sn **Sn 07 48 56.6 -2.6**
MOE *e*Sg **Sg 07 49 19.3 -0.5**
MOE Montemor 4.22 260 Pn **Pn 07 48 09.2 -0.2**
MOE Pg **Pg 07 48 26.3 +1.2**
MOE Sn **Sn 07 48 56.6 -2.6**
MOE Lg 07 49 19.3
MPAL Palemas 4.24 190 Pn **Pn 07 48 10.0 +0.4**
MPAL Sn **Sn 07 48 53.0 -6.6**
MPAL Palemas 4.24 190 *i* P **Pn 07 48 10.0 +0.4**
RESF Ens 4.25 36 Pn **Pn 07 48 10.1 +0.4**
RESF Pg **Pg 07 48 25.2 -0.3**
EMIR Miracle 4.29 53 ⇑Pn Pn 07 48 10.3 +0.1
68nm,0.4s,SNR=18
EMIR Sn **Sn 07 48 57.8 -2.8**
238nm,0.4s,SNR=15
EMIR Lg 07 49 18.0
3µm,0.6s,SNR=7.9
EMIR Miracle 4.29 53 Pn **Pn 07 48 10.4 +0.2**
68nm,0.4s,SNR=18
EMIR Sn **Sn 07 48 57.8 -2.9**
238nm,0.4s,SNR=15
ALMR Almeirim 4.29 268 *e*P **Pn 07 48 10.5 +0.2**
ALMR *e*S **Sn 07 48 57.6 -3.3**
ALMR *e*S **Sn 07 48 57.7 -3.3**
ALMR AML AML 07 49 02.6
comp=N,9µm,0.3s
ALMR Almeirim 4.29 268 *e*P **Pn 07 48 10.5 +0.2**
ALMR *e*S **Sn 07 48 57.6 -3.3**
ERUA La Rua 4.30 315 ⇓Pn Pn 07 48 11.3 +0.9
comp=N,28nm,0.2s,SNR=18
ERUA Pg **Pg 07 48 27.0 +0.6**
comp=N,222nm,0.2s,SNR=7.9
DKH Dar Kharkhour 4.33 206 Pn **Pn 07 48 12.0 +1.2**
DKH Sn **Sn 07 48 56.0 -5.8**
DKH Dar Kharkhour 4.33 206 *i* P **Pn 07 48 12.0 +1.2**
LABF Labassere 4.33 32 Pn **Pn 07 48 12.9 +2.1**
LABF Pg **Pg 07 48 27.2 +0.1**
ODZI Dziouia 4.37 160 P **Pn 07 48 10.0 -1.3**
PBDV Barranco-do-Ve 4.41 242 *e*Pn **Pn 07 48 12.3 +0.4**
PBDV *e*Sn **Sn 07 48 59.6 -4.1**
PBDV *e*Sg **Sg 07 49 26.3 +0.7**
PBDV A 07 49 38.2
comp=N,9µm,0.7s
PBDV Barranco-do-Ve 4.41 242 *e*Pn **Pn 07 48 12.3 +0.4**
PBDV *e*Sn **Sn 07 48 59.6 -4.1**
PBDV *e*Sg **Sg 07 49 26.3 +0.7**
comp=N,9µm,0.7s
EPF Esparros 4.43 34 *e*Pg **Pg 07 48 28.2 -0.8**
EPF *e*Sn **Sn 07 49 00.0 -4.2**
EPF *e*Sg **Sg 07 49 24.4 -1.9**
comp=N,4µm,0.6s
EPF Esparros 4.43 34 *e*P **Pn 07 48 12.7 +0.5**
EPF *e* 07 49 00.0
EPF Esparros 4.43 34 Pn **Pn 07 48 12.7 +0.5**
EPF Pg **Pg 07 48 28.2 -0.8**
EPF Sn **Sn 07 49 00.0 -4.2**
EPF Lg 07 49 24.4
comp=N,2µm,0.6s
EPF Esparros 4.43 34 *e*Pg **Pg 07 48 28.2 -0.8**
EPF *e*Sn **Sn 07 49 00.0 -4.2**
EPF *e*Sg **Sg 07 49 24.4 -1.9**
comp=N,2µm,0.6s
EPF Esparros 4.43 34 *e*Pn **Pn 07 48 12.7 +0.5**
EPF *e*Pg **Pg 07 48 28.2 -0.8**
EPF *e*Sn **Sn 07 49 00.0 -4.2**
EPF *e*Sg **Sg 07 49 24.4 -1.9**
PCAB Cabril 4.43 303 *e*Pn **Pn 07 48 13.3 +1.1**
PCAB *e*Sg **Sg 07 49 26.9 +0.5**
PCAB A 07 49 42.0
comp=N,4µm,0.8s
PCAB Cabril 4.43 303 ⇓Pn Pn 07 48 13.3 +1.1

PCAB Lg 07 49 26.9
comp=N,2µm,0.8s
ZAI Zaio 4.44 177 Pn **Pn 07 48 13.0 +0.6**
ZAI Sn **Sn 07 48 59.0 -5.6**
ZAI Zaio 4.44 177 *i* P **Pn 07 48 13.0 +0.6**
OKGL Djebel Kef Gue 4.46 138 P **Pn 07 48 19.0 +6.3**
TOU Touzarine 4.48 187 Pn **Pn 07 48 13.5 +0.6**
TOU Sn **Sn 07 49 00.0 -5.5**
TOU Touzarine 4.48 187 *i* P **Pn 07 48 13.5 +0.6**
MELF Melles 4.50 39 Pn **Pn 07 48 13.6 +0.5**
ELOB Lobios 4.53 304 ⇓Pn **Pn 07 48 14.7 +1.1**
comp=N,131nm,0.4s,SNR=18
ELOB Pg **Pg 07 48 24.1 -6.8**
comp=N,263nm,0.4s,SNR=7.9
ELOB Sn **Sn 07 49 05.3 -1.5**
comp=N,538nm,0.4s,SNR=7.9
ELOB Lg 07 49 30.5
comp=N,1µm,0.9s,SNR=7.9
ETOS Mallorca 4.55 84 ⇑Pn **Pn 07 48 12.7 -1.1**
comp=N,46nm,0.5s,SNR=18
ETOS Sn **Sn 07 49 03.0 -4.1**
comp=N,223nm,0.8s,SNR=7.9
ETOS Lg 07 49 27.6
comp=N,4µm,2.1s,SNR=7.9
ETOS Mallorca 4.55 84 Pn **Pn 07 48 12.7 -1.1**
comp=N,46nm,0.5s,SNR=18
ETOS Sn **Sn 07 49 03.0 -4.1**
comp=N,223nm,0.8s,SNR=7.9
PLML Palmela 4.64 261 *e*Sn **Sn 07 49 08.8 -0.6**
OJBR Djebel Berber 4.68 144 P **Pn 07 48 21.0 +5.3**
ODJA Bouhanifia 4.69 150 P **Pb 07 48 27.0 +0.1**
ECHF Ech Chlef 4.76 132 Pn **Pn 07 48 20.0 +3.2**
INMG Instituto de M 4.77 264 *e*Pn **Pn 07 48 18.1 +1.2**
INMG A 07 51 26.2
comp=N,9µm,0.5s
INMG Instituto de M 4.77 264 *e*Pn **Pn 07 48 18.1 +1.2**
comp=N,9µm,0.5s
EANR 'Ain N'Sour 4.78 135 P **Pn 07 48 16.0 -1.0**
EBNR Beni Rached 4.78 129 P **Pn 07 48 23.0 +5.9**
ECHA Ech Chlef 4.78 132 P **Pn 07 48 20.0 +3.0**
LIS Lisbon 4.80 264 *e*P **Pn 07 48 17.7 +0.5**
LIS AML AML 07 49 04.2
comp=E,1µm,0.5s
LIS *e*S **Sn 07 49 09.0 -4.3**
LIS *e*S **Sn 07 49 09.0 -4.3**
PTEO Sao Teotonio 4.83 249 *e*Pn **Pn 07 48 17.6 0.0**
PTEO *e*Sn **Sn 07 49 10.7 -3.3**
PTEO *e*Sg **Sg 07 49 38.4 -0.7**
PTEO A 07 49 49.3
comp=E,13µm,1.4s
PTEO Sao Teotonio 4.83 249 *e*Pn **Pn 07 48 17.6 0.0**
PTEO *e*Sn **Sn 07 49 10.7 -3.3**
PTEO *e*Sg **Sg 07 49 38.4 -0.7**
comp=E,13µm,1.4s
PMAFR Mafra 4.86 267 *e*Pn **Pn 07 48 18.5 +0.3**
PMAFR *e*Sn **Sn 07 49 11.5 -3.4**
PMAFR *e*Sg **Sg 07 49 41.6 +1.3**
PMAFR A 07 49 50.8
comp=E,9µm,0.8s
PMAFR Mafra 4.86 267 *e*Pn **Pn 07 48 18.5 +0.3**
PMAFR *e*Sn **Sn 07 49 11.5 -3.4**
PMAFR *e*Sg **Sg 07 49 41.6 +1.3**
comp=E,9µm,0.8s
VALF Valcebollere 4.86 51 Pn **Pn 07 48 18.4 +0.2**
MORF Marmelete 4.88 246 *e*Pn **Pn 07 48 18.4 0.0**
MORF *e*Sn **Sn 07 49 12.6 -2.7**
MORF *e*Sg **Sg 07 49 40.3 -0.5**
MORF A 07 49 46.1
comp=E,3µm,0.7s
MORF Marmelete 4.88 246 ⇑Pn **Pn 07 48 18.4 0.0**
MORF Sn **Sn 07 49 12.6 -2.7**
MORF Lg 07 49 40.3
comp=E,3µm,0.7s
OJGS Djebel Guires 4.94 141 P **Pn 07 48 20.0 +0.8**
EPON Pontenova 4.98 323 Pn **Pn 07 48 20.3 +0.6**
comp=E,42nm,1.9s,SNR=7.9
EPON Pg **Pg 07 48 39.2 -0.3**
comp=E,12nm,0.3s,SNR=7.9
EPON Sn **Sn 07 49 14.8 -2.9**
comp=E,381nm,0.4s,SNR=7.9
EPON Lg 07 49 44.0
comp=E,4µm,0.7s,SNR=7.9
EPON Pontenova 4.98 323 Pn **Pn 07 48 20.3 +0.6**
EPON Pontenova 4.98 323 Pg **Pg 07 48 39.2 -0.3**
RSA Sarsar 5.04 207 Pn **Pn 07 48 21.0 +0.4**
RSA Sn **Sn 07 49 13.0 -6.4**
RSA Sarsar 5.04 207 *i* P **Pn 07 48 21.0 +0.4**
PFVI Vila Bisbo 5.08 245 *e*Pn **Pn 07 48 21.3 +0.1**
PFVI *e*Sn **Sn 07 49 16.2 -4.2**
PFVI *e*Sg **Sg 07 49 47.8 +0.5**
PFVI A 07 49 56.0
comp=E,4µm,0.5s
PFVI Vila Bisbo 5.08 245 ⇑Pn **Pn 07 48 21.3 +0.1**
PFVI Sn **Sn 07 49 16.2 -4.2**
PFVI Lg 07 49 47.8
comp=E,2µm,0.5s
FILF Fillols 5.28 52 Pn **Pn 07 48 22.9 -1.0**
FILF Sg **Sg 07 49 49.6 -4.2**
ETRT Tiaret 5.30 138 P **Pn 07 48 23.8 -0.4**
TZK Tazeka 5.39 190 Pn **Pn 07 48 26.5 +1.1**
TZK Sn **Sn 07 49 22.0 -6.0**
TZK Tazeka 5.39 190 *i* P **Pn 07 48 26.5 +1.1**
STS Santiago 5.41 312 ⇓Pn **Pn 07 48 26.5 +0.8**
comp=E,54nm,0.5s,SNR=18
STS Pg **Pg 07 48 46.0 -1.8**
comp=E,190nm,0.4s,SNR=13
STS Lg 07 50 01.4
SNR=7.9
STS Santiago 5.41 312 Pg **Pg 07 48 46.0 -1.7**
EJON La Jonquera 5.42 54 Pn **Pn 07 48 25.7 -0.2**
comp=E,12nm,0.8s,SNR=7.9
EJON Pg **Pg 07 48 47.8 -0.3**
comp=E,34nm,0.3s,SNR=7.9
EJON Sn **Sn 07 49 23.9 -4.9**
comp=E,75nm,0.4s,SNR=7.9
EJON Lg 07 49 59.9
comp=E,7µm,1.9s,SNR=7.9
ABA Alger-Bouzarea 5.46 117 P **Pn 07 48 27.7 +1.3**
TGT Taghat 5.57 197 Pn **Pn 07 48 29.0 +1.1**
TGT Sn **Sn 07 49 26.0 -6.4**
TGT Taghat 5.57 197 *i* P **Pn 07 48 29.0 +1.1**
MTLF Montolieu 5.58 44 *e*Pg **Pg 07 48 49.2 -1.8**
MTLF *e*Sg **Sg 07 50 01.0 -2.2**
comp=E,261nm,0.4s
MTLF Montolieu 5.58 44 Pn **Pn 07 48 27.6 -0.4**
MTLF Pg **Pg 07 48 49.2 -1.8**
MTLF Lg 07 50 01.0
comp=E,131nm,0.4s
MTLF Montolieu 5.58 44 *e*Pg **Pg 07 48 49.2 -1.8**
MTLF *e*Sg **Sg 07 50 01.0 -2.2**
comp=E,131nm,0.4s
MTLF Montolieu 5.58 44 *e*Pn **Pn 07 48 27.6 -0.4**
MTLF *e*Pg **Pg 07 48 49.2 -1.8**
MTLF *e*Sg **Sg 07 50 01.0 -2.2**
MAHO Mahon 5.67 83 Pn **Pn 07 48 29.4 +0.1**
EMAZ Mazaricos 5.70 310 Pn **Pn 07 48 30.6 +1.0**
comp=E,73nm,0.5s,SNR=7.9
EMAZ Pg **Pg 07 48 52.0 -1.2**
comp=E,291nm,0.7s,SNR=7.9
EMAZ Sn **Sn 07 49 32.4 -3.1**
comp=E,223nm,0.3s,SNR=7.9
EMAZ Lg 07 50 05.8
comp=E,13µm,1.4s,SNR=7.9
EMAZ Mazaricos 5.70 310 Pn **Pn 07 48 30.6 +1.0**
EMAZ Mazaricos 5.70 310 Pg **Pg 07 48 52.0 -1.2**
EMHD Djebel Mahouad 5.74 122 P **Pn 07 48 30.5 +0.4**
ADJB Djebel Djouab 6.08 120 P **Pn 07 48 35.0 +0.1**
LFF La Frestale 6.20 26 *e*Pn **Pn 07 48 36.5 0.0**
LFF *e*Sn **Sn 07 49 44.2 -3.6**
LFF *e*Sg **Sg 07 50 21.5 -1.6**
comp=E,1µm,0.9s
LFF La Frestale 6.20 26 *e*P **Pn 07 48 36.5 0.0**
LFF *e* 07 49 44.2
LFF La Frestale 6.20 26 *e*Pn **Pn 07 48 36.5 0.0**
LFF *e*Sn **Sn 07 49 44.2 -3.6**
LFF *e*Sg **Sg 07 50 21.5 -1.6**
comp=E,590nm,0.9s
RTC Rabat Centre 6.22 211 Pn **Pn 07 48 37.5 +0.7**
RTC Sn **Sn 07 49 41.0 -7.3**
RTC Rabat Centre 6.22 211 *i* P **Pn 07 48 37.5 +0.7**
RTC Rabat Centre 6.22 211 ⇑*i*Pn **Pn 07 48 36.2 -0.6**
comp=E,1µm,0.5s
RTC *e*Sn **Sn 07 49 40.9 -7.5**
MIF Mishlifen 6.24 197 Pn **Pn 07 48 37.0 -0.1**
MIF Sn **Sn 07 49 41.0 -8.0**
AKET Djebel Ketaf 6.44 119 P **Pn 07 48 39.3 -0.6**
CZD Col de Zad 6.57 195 Sn **Sn 07 49 50.0 -7.0**
CAF Calviac 6.69 33 *e*Pn **Pn 07 48 42.6 -0.6**
CAF *e*Sn **Sn 07 49 54.1 -5.9**
CAF *e*Sg **Sg 07 50 36.3 -2.6**
comp=E,806nm,0.9s
CAF Calviac 6.69 33 *e*P **Pn 07 48 42.6 -0.6**
CAF *e* 07 49 54.1
CAF Calviac 6.69 33 *e*Pn **Pn 07 48 42.6 -0.6**
CAF *e*Sn **Sn 07 49 54.1 -5.9**
CAF *e*Sg **Sg 07 50 36.3 -2.6**
comp=E,403nm,0.9s
MDT Midelt 6.70 191 Pn **Pn 07 48 43.7 +0.2**
comp=E,19nm,0.3s,baz=20,slow=12,SNR=448
MDT Sn **Sn 07 49 55.9 -4.5**
comp=E,29nm,0.3s,baz=145,slow=13,SNR=5.1
MATF Mathat 6.73 17 Pn **Pn 07 48 44.1 +0.3**
MATF Sn **Sn 07 49 57.9 -3.0**
RJF Les Rejaudoux 6.79 28 *e*Pn **Pn 07 48 43.8 -0.8**
RJF *e*Sn **Sn 07 49 58.1 -4.3**
RJF *e*Sg **Sg 07 50 41.3 -0.7**
comp=E,1µm,1.1s
RJF Les Rejaudoux 6.79 28 *e*P **Pn 07 48 43.8 -0.8**
RJF *e* 07 49 58.1
RJF Les Rejaudoux 6.79 28 *e*Pn **Pn 07 48 43.8 -0.8**
RJF *e*Sn **Sn 07 49 58.1 -4.3**
RJF *e*Sg **Sg 07 50 41.3 -0.7**
comp=E,639nm,1.1s
LASF Ste Croix 6.96 46 *e*Pg **Pg 07 49 15.2 -2.1**
LASF *e*Sg **Sg 07 50 42.9 -4.5**
comp=E,3µm,1.4s
LASF Ste Croix 6.96 46 Pn **Pn 07 48 45.8 -1.1**
LASF Pg **Pg 07 49 15.2 -2.1**
LASF Lg 07 50 42.9
comp=E,1µm,1.4s
LASF Ste Croix 6.96 46 *e*Pg **Pg 07 49 15.2 -2.1**
LASF *e*Sg **Sg 07 50 42.9 -4.5**
comp=E,1µm,1.4s
LASF Ste Croix 6.96 46 *e*Pn **Pn 07 48 45.8 -1.1**
LASF *e*Pg **Pg 07 49 15.2 -2.1**
LASF *e*Sg **Sg 07 50 42.9 -4.5**
KIB El Ksiba 7.24 200 Pn **Pn 07 48 51.0 +0.2**
KIB Sn **Sn 07 50 06.0 -7.5**
FRNF Fournols 7.27 33 Pn **Pn 07 48 50.3 -0.9**
SET Setif 7.42 113 P **Pn 07 48 54.0 +0.7**
ZFT Errachidia 7.44 189 Pn **Pn 07 48 54.0 +0.4**
ZFT Sn **Sn 07 50 12.0 -6.4**
LBL Lubilhac 7.45 37 Pn **Pn 07 48 53.1 -0.6**
MFF Saint Martin d 7.49 16 *e*Pn **Pn 07 48 53.7 -0.5**
MFF *e*Sn **Sn 07 50 14.5 -5.2**
GELF Grande-Etoile 7.51 55 Pn **Pn 07 48 53.9 -0.5**
VERF Verneugheol 7.53 31 Pn **Pn 07 48 53.4 -1.4**
TREF Trevaresse 7.60 54 Pn **Pn 07 48 57.7 +2.0**
DFRA Djebel Bou Aff 7.61 109 P **Pn 07 48 57.0 +1.1**
BERF Bertagne 7.64 57 Pn **Pn 07 48 56.6 +0.3**
PYM Petit Puy Mans 7.75 33 Pn **Pn 07 48 57.4 -0.4**
PUYF Puyloubier 7.75 55 Pn **Pn 07 48 57.7 -0.1**
TZC Tazercounte 7.77 202 Pn **Pn 07 48 58.0 -0.1**
TZC Sn **Sn 07 50 19.0 -7.5**
COLF Collangettes 7.88 37 Pn **Pn 07 48 58.5 -1.0**
TCF Toulx Ste Croi 7.88 28 *e*Pn **Pn 07 48 58.0 -1.6**
TCF *e*Sn **Sn 07 50 23.5 -5.7**
TCF *e*Sg **Sg 07 51 14.3 -2.8**
comp=E,385nm,0.8s
TCF Toulx Ste Croi 7.88 28 *e*P **Pn 07 48 58.0 -1.6**
TCF *e* 07 50 23.5
TCF Toulx Ste Croi 7.88 28 *e*Pn **Pn 07 48 58.0 -1.6**
TCF *e*Sn **Sn 07 50 23.5 -5.7**
TCF *e*Sg **Sg 07 51 14.3 -2.8**
comp=E,193nm,0.8s
SMRF Simiane la Rot 7.90 52 *e*Pn **Pn 07 49 00.4 +0.6**
SMRF *e*Sg **Sg 07 51 16.5 -1.2**
comp=E,3µm,1.8s
SMRF Simiane la Rot 7.90 52 Pn **Pn 07 49 00.4 +0.6**
SMRF Lg 07 51 16.5
comp=E,3µm,1.8s
VIVF Saint-Julien-l 7.91 44 *e*Pn **Pn 07 48 59.4 -0.5**
VIVF *e*Sg **Sg 07 51 15.1 -2.7**
comp=E,360nm,0.7s
VIVF Saint-Julien-l 7.91 44 *e*Pn **Pn 07 48 59.4 -0.5**
VIVF *e*Sg **Sg 07 51 15.1 -2.7**
comp=E,180nm,0.7s
TAVF Tavernes 8.02 56 Pn **Pn 07 49 02.0 +0.5**
AGO Saint Agoulin 8.04 32 Pn **Pn 07 49 00.8 -1.0**
CMER Merouana 8.06 115 P **Pn 07 49 07.0 +5.0**
OCF Saint Nazaire 8.08 48 Pn **Pn 07 49 02.1 -0.2**
OG26 St.-Nazaire-De 8.08 48 Pn **Pn 07 49 02.1 -0.2**
SSB Saint Sauveur 8.12 41 Pn **Pn 07 49 01.9 -1.0**
CASM Ain Smara 8.18 110 P **Pn 07 49 04.0 +0.3**
LMR La Mourre 8.19 58 *e*Pn **Pn 07 49 04.2 +0.4**
LMR *e*Sg **Sg 07 51 22.5 -4.4**
comp=E,673nm,1.5s
LMR La Mourre 8.19 58 Pn **Pn 07 49 04.2 +0.4**
LMR Lg 07 51 22.5
comp=E,337nm,1.5s
PLDF La Plantade 8.19 35 Pn **Pn 07 49 03.0 -0.8**
CTEI Djebel Teioual 8.21 111 P **Pn 07 49 09.0 +4.9**
CAEH 'Ain El Ouahch 8.24 106 P **Pn 07 49 05.5 +1.0**
CKFL Kef-Lekhel 8.29 108 P **Pn 07 49 07.0 +1.8**
BGF Bois d'Agland 8.34 29 *e*Pn **Pn 07 49 04.6 -1.3**
BGF *e*Sn **Sn 07 50 34.7 -5.9**
FRF La Foret Royal 8.38 57 *e*Pn **Pn 07 49 06.7 +0.3**
FRF *e*Sg Sg 07 51 29.3 -3.6
comp=E,210nm,0.9s
FRF La Foret Royal 8.38 57 Pn **Pn 07 49 06.7 +0.3**
FRF Lg 07 51 29.3
comp=E,105nm,0.9s
QUIF Quistinic 8.50 359 *e*Pn **Pn 07 49 07.2 -0.9**
QUIF *e*Sn **Sn 07 50 38.2 -6.2**
ORIF Oris-en-Rattie 8.61 47 *e*Pn **Pn 07 49 10.5 +0.9**
ORIF *e*Sg Sn 07 51 36.4 +49
comp=E,2µm,1.9s
ORIF Oris-en-Rattie 8.61 47 Pn **Pn 07 49 10.5 +0.9**
ORIF Lg 07 51 36.4
comp=E,864nm,1.9s
CALN Calern 8.62 57 Pn **Pn 07 49 12.0 +2.3**
CMAH Djebel Manchou 8.72 105 P **Pn 07 49 12.5 +1.4**
AVF Avril sur Loir 8.73 30 *e*Pn **Pn 07 49 09.9 -1.3**
AVF *e*Sn **Sn 07 50 43.4 -6.7**
SMF Signal de Mont 8.81 33 *e*Pn **Pn 07 49 11.3 -1.0**
SMF *e*Sn **Sn 07 50 45.4 -6.7**
SMF *e*Sg Sn 07 51 42.3 +50
comp=E,732nm,1.2s
SMF Signal de Mont 8.81 33 *e*P **Pn 07 49 11.3 -1.0**
SMF *e* 07 50 45.4
SMF Signal de Mont 8.81 33 *e*Pn **Pn 07 49 11.3 -1.0**
SMF *e*Sn **Sn 07 50 45.4 -6.7**
SMF *e*Sg Sn 07 51 42.3 +50
comp=E,366nm,1.2s
SGMF Saint Gilles 8.85 2 *e*Pn **Pn 07 49 11.6 -1.2**
SGMF *e*Sn **Sn 07 50 45.6 -7.3**
HYF Humbligny 8.88 26 *e*Pn **Pn 07 49 12.8 -0.4**
HYF *e*Sn **Sn 07 50 48.7 -5.0**
ABSA Djebel Ababsia 8.90 107 P **Pn 07 49 15.0 +1.4**
CABS Djebel Ababsia 8.90 107 Pn **Pn 07 49 15.0 +1.4**
ROSF Rostrenen 8.92 359 *e*Pn **Pn 07 49 13.5 -0.3**
ROSF *e*Sn **Sn 07 50 48.2 -6.6**
TOUF Mont Tournerai 8.97 56 Pn **Pn 07 49 17.2 +2.7**
SSF Saint Saulge 9.02 30 *e*Pn **Pn 07 49 13.7 -1.4**
SSF *e*Sn **Sn 07 50 51.1 -6.0**
SSF *e*Sg Sn 07 51 50.0 +53
comp=E,418nm,1.1s
SSF Saint Saulge 9.02 30 *e*P **Pn 07 49 13.7 -1.4**
SSF *e* 07 50 51.1
SSF Saint Saulge 9.02 30 *e*Pn **Pn 07 49 13.7 -1.4**
SSF *e*Sn **Sn 07 50 51.1 -6.0**
SSF *e*Sg Sn 07 51 50.0 +53
comp=E,209nm,1.1s
MBDF Montbardon 9.03 51 *e*Pn **Pn 07 49 16.0 +0.7**
MBDF *e*Sn **Sn 07 50 51.6 -5.8**
MBDF *e*Sg Sn 07 51 48.3 +51
comp=E,250nm,1.1s
MBDF Montbardon 9.03 51 *e*P **Pn 07 49 16.0 +0.7**
MBDF *e* 07 50 51.6
MBDF Montbardon 9.03 51 Pn **Pn 07 49 16.0 +0.7**
MBDF Sn **Sn 07 50 51.6 -5.8**
MBDF Lg 07 51 48.3
comp=E,125nm,1.1s
OUK Oukaimeden 9.08 207 Pn **Pn 07 49 16.0 -0.1**
OUK Sn **Sn 07 50 51.0 -7.8**
CIA Chichaoua 9.11 212 Pn **Pn 07 49 17.0 +0.6**
CIA Sn **Sn 07 50 50.0 -9.4**
GRR Gorron 9.11 9 *e*Sn **Sn 07 50 51.7 -7.7**
OG05 Jujurieux 9.11 41 Pn **Pn 07 49 15.6 -0.8**
BNI Bardonecchia 9.15 49 *e*P **Pn 07 49 18.7 +1.7**
BNI pmax pmax
comp=Z,23nm,0.9s
BNI Bardonecchia 9.15 49 *e*P **Pn 07 49 18.7 +1.7**
comp=Z,23nm,0.9s
BNI *e*Sn Sn 07 51 28.8 +28
SAOF Saorge 9.15 57 Pn **Pn 07 49 20.3 +3.3**
JHA Jbel Lahdid 9.26 216 Pn **Pn 07 49 18.5 -0.1**
JHA Sn **Sn 07 50 54.0 -9.3**
LOR Lormes 9.32 30 *e*Pn **Pn 07 49 17.2 -2.1**
baz=219
LOR *e*Sg Sn 07 51 57.0 +52
comp=Z,2µm,1.7s
LOR Lormes 9.32 30 *e*Pn **Pn 07 49 17.2 -2.1**
LOR *e*Sg Sn 07 51 57.0 +52
comp=Z,781nm,1.7s
LDF La Druitiere 9.42 12 *e*Pn **Pn 07 49 19.0 -1.6**
LDF *e*Sn **Sn 07 50 58.7 -8.2**
LPG La Plagne 9.45 47 *e*P **Pn 07 49 26.2 +5.1**
LPG *e*Sg Sn 07 52 02.7 +55
comp=Z,652nm,1.6s
LPG La Plagne 9.45 47 Pn **Pn 07 49 20.4 -0.7**
LPG Lg 07 52 02.7
comp=Z,326nm,1.6s
LPG La Plagne 9.45 47 *e*P **Pn 07 49 26.2 +5.1**
LPG La Plagne 9.45 47 *e*Pn **Pn 07 49 20.4 -0.7**
LPG *e*P 07 49 26.2
LPG *e*Sg Sn 07 52 02.7 +55
LPL La Plagne 9.46 47 *e*P **Pn 07 49 26.5 +5.4**
LPL *e*Sg Sn 07 52 02.8 +55
comp=Z,623nm,1.6s
LPL La Plagne 9.46 47 Pn **Pn 07 49 21.5 +0.4**
LPL Lg 07 52 02.8
comp=Z,312nm,1.6s
LPL La Plagne 9.46 47 *e*P **Pn 07 49 26.5 +5.4**
LPL La Plagne 9.46 47 *e*Pn **Pn 07 49 21.5 +0.4**
LPL *e*P 07 49 26.5
LPL *e*Sg Sn 07 52 02.8 +55
RSL Roselend 9.50 46 Pn **Pn 07 49 22.5 +0.7**
FLN La Foliniere 9.53 10 *e*Pn **Pn 07 49 20.5 -1.6**
baz=190
FLN *e*Sn **Sn 07 51 02.6 -7.0**
PGF Pioggiola 9.64 67 *e*Pn **Pn 07 49 24.0 +0.3**
PGF *e*Sn **Sn 07 51 04.0 -8.4**
CABF La Chapelle 9.82 40 *e*Pn **Pn 07 49 24.5 -1.7**
CABF *e*Sg Sn 07 52 14.3 +57
comp=Z,3µm,1.7s
CABF La Chapelle 9.82 40 *e*Pn **Pn 07 49 24.5 -1.7**
CABF *e*Sg Sn 07 52 14.3 +57
comp=Z,1µm,1.7s
OG01 Vacheresse 9.94 43 Pn **Pn 07 49 27.7 0.0**
AFS Agadir Fac de 10.41 212 Sn **Sn 07 51 23.0 -8.5**
AOF Agadir Oufela 10.42 213 Pn **Pn 07 49 35.0 +0.6**
KEST Kesra 10.50 107 Pn **Pn 07 49 35.5 -0.1**
comp=Z,1.0nm,0.3s,baz=238,slow=6.0,SNR=19
KEST Sn **Sn 07 51 29.4 -4.3**
baz=224,slow=21,SNR=1.8
KEST LR LR 07 53 17.8
comp=Z,226nm,19.7s,baz=254,slow=36
SFTF Sexfontaines 10.55 31 *e*Pn **Pn 07 49 34.8 -1.3**
baz=211
SFTF *e*Sg Sn 07 52 37.1 +62
comp=Z,1µm,1.3s
SFTF Sexfontaines 10.55 31 *e*Pn **Pn 07 49 34.8 -1.3**
SFTF *e*Sg Sn 07 52 37.1 +62
comp=Z,558nm,1.3s
MEZF Maizieres J'vi 10.79 30 *e*Pn **Pn 07 49 38.9 -0.6**
baz=211
MEZF *e*Sg Sn 07 52 45.7 +65
comp=Z,3µm,1.5s
MEZF Maizieres J'vi 10.79 30 *e*Pn **Pn 07 49 38.9 -0.6**
MEZF *e*Sg Sn 07 52 45.7 +65
comp=Z,1µm,1.5s
HAU Haudompre 10.95 35 *e*Pn **Pn 07 49 40.0 -1.6**
HAU *e*Sg Sn 07 52 48.5 +64
comp=Z,334nm,1.2s
HAU Haudompre 10.95 35 *e*Pn **Pn 07 49 40.0 -1.6**
HAU *e*Sg Sn 07 52 48.5 +64
comp=Z,167nm,1.2s
THEF They Montfort 10.96 34 Pn **Pn 07 49 40.8 -0.9**
YBT Youssef Ben Ta 10.98 212 Pn **Pn 07 49 42.0 -0.1**
YBT Sn **Sn 07 51 34.0 -12**
HINF Hinteralfeld 11.04 37 *e*Pn **Pn 07 49 41.4 -1.5**
HINF *e*Sg Sn 07 52 47.2 +60
comp=Z,164nm,0.9s
HINF Hinteralfeld 11.04 37 Pn **Pn 07 49 41.4 -1.5**
HINF Lg 07 52 47.2
comp=Z,82nm,0.9s
ECH Echery 11.47 37 *e*Pn **Pn 07 49 48.6 -0.1**
ECH Echery 11.47 37 *e*Pn **Pn 07 49 48.6 -0.2**
TUE Stuetta 11.50 48 *e*Pn **Pn 07 49 51.2 +2.1**
comp=Z,17nm,1.0s
TUE Stuetta 11.50 48 *e*Pn **Pn 07 49 51.2 +2.1**
comp=Z,17nm,1.0s
CDF Champ du Feu 11.67 36 *e*Pn **Pn 07 49 50.0 -1.4**
CDF *e*Sg Sn 07 53 11.5 +69
comp=Z,364nm,1.4s
CDF Champ du Feu 11.67 36 *e*Pn **Pn 07 49 50.0 -1.4**
CDF *e*Sg Sn 07 53 11.5 +69
comp=Z,182nm,1.4s
BAIF Baives 11.82 23 *e*Pn **Pn 07 49 52.0 -1.5**
BAIF *e*Sn **Sn 07 51 58.3 -7.6**
DAVOS Davos 11.96 47 P **Pn 07 49 57.3 +1.9**
DAVOX Davos/Dischmat 11.97 48 Pn **Pn 07 49 57.3 +1.8**
comp=Z,0.2nm,0.3s,baz=189,slow=22,SNR=2.1
DAVOX Lg 07 53 23.1
comp=Z,0.1nm,0.3s,baz=308,slow=19,SNR=2.3
DAVOX LR LR 07 54 27.8
comp=Z,2µm,19.6s,baz=236,slow=37
DOU Dourbes 11.98 24 P **Pn 07 49 53.8 -1.8**
comp=Z,19nm,1.1s
GIVF Givet 12.05 25 *e*Pn **Pn 07 49 55.5 -1.2**
GIVF *e*Sn **Sn 07 52 00.3 -11**
GIVF *e*Sg 07 53 24.3
comp=Z,417nm,1.3s
GIVF Givet 12.05 25 Pn **Pn 07 49 55.5 -1.2**
GIVF Sn **Sn 07 52 00.3 -11**
GIVF Lg 07 53 24.3
comp=Z,209nm,1.3s
GIVF Givet 12.05 25 *e*Pn **Pn 07 49 55.5 -1.2**
GIVF *e*Sg 07 53 24.3
comp=Z,209nm,1.3s
BFO Black Forest 12.11 39 *e*P **Pn 07 49 55.6 -1.8**
BFO pmax pmax
comp=Z,6.0nm,0.7s
BFO Black Forest 12.11 39 *e*Pn **Pn 07 49 55.6 -1.8**
comp=Z,5.8nm,0.7s
BFO Black Forest 12.11 39 *e*Pn **Pn 07 49 55.6 -1.9**
comp=Z,5.8nm,0.7s
BFO *e*Sn Sn 07 52 43.8 +31
WLF Walferdange 12.16 30 P **Pn 07 49 57.3 -0.9**
comp=Z,14nm,1.2s
WLF Walferdange 12.16 30 *e*P **Pn 07 49 57.1 -1.1**
WLF *e* 07 52 06.3
WLF pmax pmax
comp=Z,37nm,0.9s
WLF Walferdange 12.16 30 *e*Pn **Pn 07 49 57.1 -1.1**
comp=Z,37nm,0.9s
WLF *e*Sn **Sn 07 52 06.3 -7.9**
WLF Walferdange 12.16 30 *e*Pn **Pn 07 49 57.1 -1.1**
comp=Z,37nm,0.9s
WLF *e*Sn **Sn 07 52 06.3 -7.9**
DAVA Damuels 12.26 46 ⇑*i*P **Pn 07 50 01.8 +2.3**
comp=Z,2.3nm,0.6s
PMPS Porto Santo 12.45 243 *e*P **Pn 07 50 01.1 -1.1**
PMPS *e*S **Sn 07 52 10.0 -11**
BCLA Clavier 12.49 25 P **Pn 07 50 01.4 -1.2**
comp=Z,25nm,1.6s
UCC Uccle 12.52 22 P **Pn 07 50 01.1 -2.0**
comp=Z,17nm,1.4s
FETA Feichten 12.59 48 ⇑*i*P **Pn 07 50 06.1 +2.0**
comp=Z,2.7nm,0.6s
STU Stuttgart 12.83 39 *e*P **Pn 07 50 10.6 +3.3**
MOTA Moosalm 12.98 48 ⇑*i*P **Pn 07 50 12.0 +2.6**
comp=Z,5.4nm,0.6s
PMAR Madeira 13.04 243 *e*P **Pn 07 50 10.7 +0.4**
PMAR A 07 50 13.6
comp=Z,142nm,1.4s
PMAR *e*S **Sn 07 52 24.6 -11**
WTTA Wattenberg 13.25 49 ⇓*i*P **Pn 07 50 17.8 +4.7**
comp=Z,21nm,1.7s
WTTA Wattenberg 13.25 49 ⇑*i*P **Pn 07 50 17.4 +4.4**

comp=Z,4.6nm,0.5s
WTTA Wattenberg 13.25 49⇓iP Pn 07 50 17.8 +4.8
WTTA pmax pmax
comp=Z,21nm,1.7s
EFAM Famara 13.42 223 Pn **Pn 07 50 11.9 -3.5**
comp=Z,26nm,0.5s,SNR=9.5
EFAM Sn **Sn 07 52 30.0 -15**
comp=Z,40nm,0.4s,SNR=11
TNS Taunus Mts 13.52 33 eP **Pn 07 50 16.6 -0.2**
FUR Furstenfeldbru 13.53 45 eP **Pn 07 50 18.3 +1.4**
VAE Valguarnera 13.83 93 LR LR 07 55 41.2
comp=Z,605nm,19.3s,baz=106,slow=38
CFUE Fuerteventura 14.01 223 Sn **Sn 07 52 46.1 -14**
comp=Z,12nm,0.2s,SNR=7.9
BUG Bochum--Univer 14.02 28 eP **Pn 07 50 22.8 -0.8**
RJOB Jochberg 14.16 49 eP **Pn 07 50 26.9 +1.4**
CFTV Fuerteventura 14.28 223 Pn **Pn 07 50 23.3 -3.9**
SNR=7.9
CFTV Sn **Sn 07 52 49.7 -16**
comp=Z,13nm,0.4s,SNR=10.0
GRA1 Grafenberg Arr 14.44 40 eP **Pn 07 50 32.9 +3.7**
GRF Grafenberg Arr 14.44 40 eP **Pn 07 50 32.9 +3.7**
GRF eL 07 55 55.9
comp=Z,575nm,19.7s
UBBA Unterbreizbach 14.63 35 eP **Pn 07 50 34.7 +2.8**
CEL Celeste 14.81 88 eP **Pn 07 50 41.2 +6.8**
comp=Z,24nm,1.0s
WET Wettzell 14.96 44 eP **Pn 07 50 36.2 -0.2**
ROTZ Rotzenmuhle 14.98 41 eP **Pn 07 50 37.7 +1.1**
comp=Z,25nm,1.4s
MANZ Manzenberg 15.07 40 eP **Pn 07 50 38.9 +1.1**
comp=Z,54nm,1.7s
MOX Moxa 15.25 38 e(P) **Pn 07 50 42.7 +2.4**
MOX e 07 51 07.9
comp=Z,23nm,1.6s
MOX e 07 54 32.0
MOX
comp=Z,1μm,15.0s
MOX Moxa 15.25 38 eP **Pn 07 50 40.9 +0.6**
comp=Z,3.0nm,1.0s
MOX Moxa 15.25 38 P **Pn 07 50 42.7 +2.4**
comp=Z,23nm,1.6s
MOX e 07 51 07.9
MOX e 07 54 32.0
GEC2 GERESS Array S 15.26 46 eP **Pn 07 50 39.6 -0.7**
GEC2 pmax pmax
comp=Z,8.0nm,1.4s
GEC2 GERESS Array S 15.26 46 eP **Pn 07 50 39.6 -0.7**
comp=Z,8.0nm,1.4s
GERES GERESS Array B 15.26 46 Pn **Pn 07 50 39.0 -1.3**
comp=Z,0.3nm,0.3s,baz=237,slow=12,SNR=12
GERES Lg 07 55 07.5
baz=247,slow=25,SNR=2.1
GERES LR LR 07 56 20.2
comp=Z,1μm,18.5s,baz=244,slow=37
KHC Kasperske Hory 15.34 45 ePn **Pn 07 50 42.7 +1.3**
comp=Z,188nm,2.0s
KHC e 07 50 50.5
KHC e 07 51 07.0
KHC e 07 51 38.0
KHC e 07 55 33.2
comp=Z,188nm,2.0s
KHC Kasperske Hory 15.34 45 ePn **Pn 07 50 42.7 +1.3**
comp=Z,188nm,2.0s
KHC e 07 50 50.5
KHC e 07 51 07.0
KHC e 07 51 38.0
EOSO Osorio 15.35 226 Sn **Sn 07 53 17.4 -15**
comp=Z,6.5nm,0.5s,SNR=7.9
WERN Wernitzgruen 15.39 40 eP **Pn 07 50 43.6 +1.5**
comp=Z,44nm,1.9s
NKC Novy Kostel 15.39 40 eP **Pn 07 50 42.0 -0.1**
NKC e 07 55 27.5
comp=Z,174nm,1.8s
GUNZ Gunzen 15.42 40 eP **Pn 07 50 43.1 +0.7**
comp=Z,9.0nm,1.1s
EBAJ Bajamar 15.45 229 Sn **Sn 07 53 18.7 -16**
comp=Z,12nm,0.4s,SNR=7.9
WERD Werda 15.46 39 eP **Pn 07 50 44.3 +1.3**
comp=Z,11nm,1.4s
CLZ Clausthal 15.54 33 eP **Pn 07 50 45.7 +1.6**
CLZ pmax pmax
comp=Z,26nm,1.7s
CLZ Clausthal 15.54 33 eP **Pn 07 50 45.7 +1.6**
comp=Z,26nm,1.7s
ESK Eskdalemuir 15.91 360 eP **Pn 07 50 50.2 +1.4**
ESK e 07 53 35.9
ESK pmax pmax
comp=Z,17nm,0.9s
ESK Eskdalemuir 15.91 360 eP **Pn 07 50 50.2 +1.4**
comp=Z,17nm,0.9s
ESK Eskdalemuir 15.91 360 ePn **Pn 07 50 50.2 +1.4**
comp=Z,17nm,0.9s
ESK eSn **Sn 07 53 35.9 -10**
EKA Eskdalemuir Ar 15.93 360 Pn **Pn 07 50 47.9 -1.1**
comp=Z,0.3nm,0.3s,baz=179,slow=13,SNR=5.9
EKA Sn **Sn 07 53 39.8 -6.1**
comp=Z,0.6nm,0.3s,baz=173,slow=25,SNR=5.1
CHIO Chio 15.95 230 Sn **Sn 07 53 36.2 -11**
comp=Z,11nm,0.3s,SNR=7.9
EGOM La Gomera 16.24 231 Sn **Sn 07 53 38.9 -15**
comp=Z,3.1nm,0.3s,SNR=7.9
PRA Prague 16.32 44 ex x 07 55 55.0
PRU Pruhonice 16.34 44 eP **Pn 07 50 55.2 +0.9**
PRU ex x 07 56 02.8
comp=Z,226nm,2.2s
PRU Pruhonice 16.34 44 ePn **Pn 07 50 55.2 +0.9**
comp=Z,226nm,2.2s
CLL Collm 16.35 38 eP **Pn 07 50 56.3 +1.8**
comp=Z,11nm,1.2s
CLL Collm 16.35 38 eP **Pn 07 50 56.0 +1.5**
CLL ePP 07 51 02.0
CLL e(PPP) 07 51 11.0
CLL ex x 07 51 22.0
CLL ex x 07 51 41.0
CLL Collm 16.35 38 eP **Pn 07 50 56.0 +1.5**
CLL 07 51 02.0
BRG Berggiesshubel 16.54 41 eP **Pn 07 50 57.3 +0.4**
comp=Z,24nm,1.7s
BRG Berggiesshubel 16.54 41 eP **Pn 07 50 59.4 +2.5**
comp=Z,23nm,1.7s
BRG eSCS ScS 08 02 45.5 -17
comp=Z,7.2nm,1.6s
BRG
comp=N,2μm,14.9s
BRG
comp=E,2μm,17.0s
BRG
comp=Z,1μm,13.7s
BRG Berggiesshubel 16.54 41 eP **Pn 07 50 59.4 +2.5**
comp=Z,14nm,1.7s
BRG eScS ScS 08 02 45.5 -17
PVCC Panska Ves 16.66 42 ex x 07 56 10.3
comp=Z,213nm,2.1s
MODS Modra-Piesok 17.13 52 eP **Pn 07 51 04.9 +0.5**
MODS e 07 56 39.7
VRAC Vranov 17.14 48 P **Pn 07 51 02.9 -1.6**
baz=95,slow=23,SNR=2.6
VRAC Lg 07 56 09.2
comp=Z,0.6nm,0.3s,baz=169,slow=1.8,SNR=3.4
VRAC LR LR 07 57 54.1
comp=Z,831nm,20.6s,baz=244,slow=38
PKSM Moragy 17.28 60⇓iP Pn 07 51 08.8 +2.5
UPC Upice 17.41 44 eP **Pn 07 51 09.6 +1.7**
UPC ex x 07 56 37.5
DPC Dobruska-Polom 17.50 45 eP **Pn 07 51 10.7 +1.7**
DPC ex x 07 56 39.7
comp=Z,124nm,2.0s
DPC Dobruska-Polom 17.50 45 ePn **Pn 07 51 10.7 +1.7**
comp=Z,124nm,2.0s
KSP Ksiaz 17.74 44 eP **Pn 07 51 16.8 +4.8**
KSP Ksiaz 17.74 44⇑eP **Pn 07 51 16.7 +4.7**
KSP eS **Sn 07 54 39.5 +10**
MORC Moravsky Berou 17.90 48⇑iP Pn 07 51 15.7 +1.7
MORC Moravsky Berou 17.90 48⇑P Pn 07 51 15.7 +1.7
BUD Budapest 17.90 56⇑eP **Pn 07 51 16.8 +2.8**
TAM Tamanrasset 18.11 154 eP **Pn 07 51 18.9 +2.2**
TAM Tamanrasset 18.11 154 eP **Pn 07 51 18.9 +2.2**
OKC Ostrava-Krasne 18.28 48 ex x 07 57 08.4
comp=Z,149nm,2.2s
PSZ Piszkesteto 18.60 55 eP **Pn 07 51 23.5 +1.0**
PSZ pmax pmax
comp=Z,23nm,1.5s
PSZ Piszkesteto 18.60 55⇓eP **Pn 07 51 25.1 +2.6**
PSZ Piszkesteto 18.60 55⇓iP Pn 07 51 23.2 +0.7
PSZ Piszkesteto 18.60 55 eP **Pn 07 51 23.5 +1.0**
comp=Z,23nm,1.5s
PSZ Piszkesteto 18.60 55 eP **Pn 07 51 23.5 +1.0**
comp=Z,23nm,1.5s
KECS Kecovo 19.16 54 eP **Pn 07 51 25.0 -4.3**
BZS Buzias 19.17 63⇑iP Pn 07 51 30.0 +0.5
OJC Ojcow 19.40 49 eP **Pn 07 51 31.8 -0.4**
CRVS Cervenica-Dubn 19.91 54 eP **Pn 07 51 37.5 -0.8**
CRVS e 07 52 26.9
CRVS e 07 58 39.4
DRGR 20.15 60⇓iP P 07 51 42.6 +3.3
DRGR 20.15 60⇓P P 07 51 42.6 +3.3
UZH Uzhgorod 20.34 55 eP **P 07 51 44.4 +3.0**
UZH eS **S 07 55 29.0 -0.9**
UZH MLR MLR
comp=Z,520nm,15.5s,MS4.0
UZH Uzhgorod 20.34 55 eP **P 07 51 44.4 +3.0**
UZH eS **S 07 55 29.0 -0.9**
comp=Z,520nm,15.5s
KOLS Kolonicke sedl 20.42 54 eP **P 07 51 43.5 +1.2**
KOLS e 07 52 39.8
KOLS e 07 58 42.1
LVV L'vov 21.79 53 eP **P 07 51 58.7 +1.6**
LVV MLR MLR
comp=Z,200nm,18.0s,MS3.6
LVV MLR MLR
comp=N,200nm,15.0s,MS3.7
LVV MLR MLR
comp=E,100nm,15.0s,MS3.7
LVV L'vov 21.79 53 eP **P 07 51 58.7 +1.6**
comp=E,200nm,18.0s
BURAR Bucovina Array 21.99 59⇑iP P 07 52 00.0 +0.8
BURAR Bucovina Array 21.99 59⇑P P 07 52 00.0 +0.9
MLR Muntele Rosu 22.17 65⇓iP P 07 52 03.6 +2.5
MLR Muntele Rosu 22.17 65⇓P P 07 52 03.6 +2.5
IDI Anoyia 22.55 92 P **P 07 52 04.9 -0.4**
comp=E,12nm,0.8s,mb4.4,baz=20,slow=12,SNR=2.0
IDI LR LR 08 00 27.8
comp=E,94nm,21.4s,MS3.2,baz=79,slow=36
SUW Suwalki 22.99 42 eP **P 07 52 13.3 +3.6**
NAO01 NORSAR Array S 23.14 17 eP **P 07 52 12.8 +1.5**
comp=E,13nm,1.2s,mb4.2
NAO01 NORSAR Array S 23.14 17 eP **P 07 52 12.8 +1.5**
comp=E,13nm,1.2s,mb4.2
HFS Hagfors 23.26 21 P **P 07 52 12.4 -0.1**
comp=E,1.3nm,0.3s,mb3.8,baz=215,slow=10,SNR=11
HFS LR LR 08 01 47.0
comp=E,266nm,19.4s,MS3.7,baz=202,slow=38
NB2 NORSAR Subarra 23.39 18 P **P 07 52 13.2 -0.7**
comp=Z,4.5nm,1.0s,mb3.9,baz=209,slow=9.3
NOA NORSAR Array B 23.39 18 P **P 07 52 13.7 -0.3**
comp=Z,1.1nm,0.6s,mb3.5,baz=202,slow=11,SNR=4.8
NOA LR LR 08 02 24.7
comp=Z,393nm,19.6s,MS3.9,baz=230,slow=39
KIS Kishinev 24.31 61 eP **P 07 52 25.0 +2.3**
KIS e 07 53 13.0
KIS MLR MLR
comp=E,300nm,13.0s
KIS MLR MLR
comp=Z,500nm,13.0s,MS4.2
KIS MLR MLR
comp=Z,400nm,14.0s
AKASG Malin Array Be 25.24 53 P **P 07 52 29.9 -1.2**
comp=Z,0.6nm,0.5s,mb3.4,baz=246,slow=11,SNR=6.1
TOA0 Torodi Ar. Sit 26.50 170 eP **P 07 52 41.3 -1.5**
TORD Torodi Ar. Bea 26.50 170 P **P 07 52 41.8 -0.9**
comp=Z,4.3nm,0.6s,mb4.2,baz=347,slow=9.0,SNR=34
TORD LR LR 08 03 32.0
comp=Z,396nm,18.4s,MS4.0,baz=340,slow=37
DBIC Dimbokro 32.64 183 P **P 07 53 36.0 -1.3**
comp=Z,5.2nm,0.6s,mb4.6,baz=354,slow=12,SNR=5.9
ASF Jabal al Asfar 32.99 90 P **P 07 53 38.4 -2.0**
comp=Z,2.6nm,0.8s,mb4.2,baz=138,slow=3.9,SNR=2.1
ARCES ARCESS Array B 33.77 18 P **P 07 53 46.2 -0.4**
comp=Z,1.7nm,0.5s,mb4.2,baz=206,slow=8.1,SNR=14
ARCES LR LR 08 07 38.6
comp=Z,476nm,20.6s,MS4.2,baz=231,slow=36
AKTK Aktyubinsk 43.46 54 P **P 07 55 09.2 +0.9**
AKTK Aktyubinsk 43.46 54 P **P 07 55 09.2 +0.9**
AKTO Aktyubinsk 43.46 54 P **P 07 55 09.2 +0.9**
comp=Z,1.2nm,0.7s,mb3.8,baz=287,slow=9.1,SNR=4.8
SCHQ Schefferville 44.46 312 P **P 07 55 18.1 +1.9**
comp=Z,2.5nm,0.5s,mb4.2,baz=45,slow=9.5,SNR=6.0
ZALV Zalesovo Beam 58.19 44 LR LR 08 23 27.3
comp=Z,143nm,19.3s,MS4.1,baz=1.8,slow=38
MKAR Makanchi Array 59.82 52 P **P 07 57 11.8 +1.2**
comp=Z,0.5nm,0.6s,mb3.7,baz=308,slow=7.1,SNR=3.5
WMQ Urumqi 64.60 53 P **P 07 57 46.4 +3.7**
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
WMQ LR LR
comp=N,431nm,24.8s,MS4.6
WMQ LR LR
comp=E,318nm,24.8s,MS4.6
WMQ LR LR
comp=Z,131nm,18.8s
YKA Yellowknife Ar 64.66 331 LR LR 08 23 06.9
comp=Z,111nm,19.4s,MS4.1,baz=90,slow=33
INK Inuvik 66.42 342 P **P 07 57 55.6 +1.6**
comp=Z,1.1nm,0.8s,mb4.0,baz=15,slow=4.3,SNR=5.7
BDFB Brasilia 68.98 227 P **P 07 58 11.6 +0.7**
comp=Z,2.4nm,0.7s,mb4.2,baz=24,slow=10,SNR=7.1
BOD Bodaibo 69.78 31 eP **P 07 58 15.1 -0.2**
BOD pmax pmax
comp=Z,4.0nm,2.1s,mb4.0
BOSA Boshof 72.64 154 P **P 07 58 33.1 +0.2**
comp=Z,2.1nm,0.9s,mb4.1,baz=248,slow=4.4,SNR=4.3
SONM Songino Array 72.93 42 P **P 07 58 35.1 +0.5**
comp=Z,0.4nm,0.6s,mb3.5,baz=323,slow=3.8,SNR=3.0
SONM LR LR 08 32 20.5
comp=Z,171nm,18.1s,MS4.4,baz=258,slow=37
PDAR Pinedale Array 74.59 313 P **P 07 58 45.1 +0.7**
comp=Z,0.5nm,0.8s,mb3.5,baz=81,slow=4.7,SNR=4.1
LZH Lanzhou 79.14 52 eP **P 07 59 12.7 +2.5**
LZH AP pP 07 59 15.5 +4.4
LZH XP sP 07 59 16.8 +5.3
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,64nm,4.2s
TXAR Lajitas Array 79.42 299 P **P 07 59 13.3 +1.5**
comp=Z,0.2nm,0.7s,mb3.1,baz=72,slow=8.3,SNR=3.4
HHC Hu-ho-hao-te 80.37 44 eP **P 07 59 18.1 +1.3**
HHC PCP PcP 07 59 25.9 +2.0
HHC PP PP 08 02 21.9 +2.9
HHC S S 08 09 22.1 -1.3
HHC SKS 08 09 32.5
HHC SCS ScS 08 09 41.2 -2.3
HHC PS 08 10 06.1
HHC SS SS 08 14 35.2 +1.5
HHC AMB AMB
comp=Z,13nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,155nm,6.4s
HHC LR LR
comp=N,346nm,17.8s,MS4.9
HHC LR LR
comp=E,347nm,21.4s,MS4.9
HHC LR LR
comp=Z,298nm,17.4s,MS4.7
CD2 Chengdu 82.49 56 eP **P 07 59 28.9 +0.7**
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
CD2 AMB AMB
comp=Z,20nm,9.2s
CPUP Villa Florida 82.71 227 P **P 07 59 29.9 +0.8**
comp=Z,2.2nm,0.7s,mb4.3,baz=14,slow=3.9,SNR=8.1
BJI Beijing 83.41 42 P **P 07 59 33.7 +0.9**
BJI AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
CN2 Changchun 85.01 35 eP **P 07 59 40.1 -0.8**
KMI Kunming 85.65 61 P **P 07 59 44.9 +0.5**
KMI AP pP 07 59 55.0 +10
KMI XP sP 07 59 59.0 +13
KMI AMB AMB
comp=Z,8.0nm,0.9s,mb5.0
KMI LR LR
comp=Z,54nm,29.6s,MS3.8
GYA Guiyang 87.37 58 P **P 07 59 55.8 +3.0**
GYA PP PP 08 03 20.8 +4.2
GYA SKS 08 10 20.2
GYA S S 08 10 33.4 -0.9
GYA PS 08 11 34.6
GYA SS SS 08 16 20.4 +2.5
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,80nm,5.7s
GYA LR LR
comp=N,490nm,22.9s,MS5.0
GYA LR LR
comp=E,450nm,25.2s,MS5.0
GYA LR LR
comp=Z,460nm,23.8s,MS4.8
JOW Kunigami 99.97 43 LR LR 08 49 02.8
comp=Z,315nm,20.5s,MS4.8,baz=115,slow=37
STKA Stephens Creek 150.44 86 PKPbc PKPbc 08 06 55.1 -1.9
comp=Z,1.5nm,0.8s,baz=330,slow=14,SNR=2.7

BJI ***12*** *08:01:25.4,560S×1150W,h10km,mB5.5,Ms5.0,Msz4.6*
IDC ***12*** *08:01:25.9±0.5,550S×1151W,h0km,mb4.3/25, mb1 4.3/26,mb1mx4.3/31,mbtmp4.3/26,ML3.9/1,MS4.4/27, Ms1 4.4/27,ms1mx4.3/29,Error ellipse: s-maj=14.0km s-min=12.2km az=132.0*
ISCJB ***12*** *08:01:25.6±0.3,553S±005×1150W±007,h10km,mb4.6/86, MS4.4/37,Error ellipse: s-maj=9.7km s-min=6.5km az=18.2*
NEIC ***12*** *08:01:27.4±0.2,559S×1148W,h10km,mb4.8/57,Error ellipse: s-maj=7.2km s-min=4.6km az=100.0*
GCMT ***12*** *08:01:27.5±0.2,555S×1146W,h12km,MW5.1/84, Moment Tensor Solution. s33,c41; s84,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.36±.11; $M_{\theta\theta}$0.48±.10; $M_{\phi\phi}$4.87±.11; $M_{r\theta}$-0.92±.45; $M_{\theta\phi}$-0.80±.10; $M_{\phi r}$-0.40±.36; Best double couple: $M_0$5.27100×10^{16} NP1:ϕ_s161.00000°,δ44.00000°,λ-103.00000°. NP2: ϕ_s359.00000°,δ47.00000°,λ-77.00000°. Principal axes: T 5.0170, Plg1.0000°, Azm80.0000°; N 0.5040, Plg9.0000°, Azm170.0000°; P -5.5260, Plg81.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***12*** *08:01:32.3,501S×1120W,h23km,mb4.6,MS4.4, Ascension Island region*

ISC 12 08:01:27.6±0.3,558S±004×1148W±006,h10km, (h20km±1.1km:pP-P),n208,c0s79/181,mb4.6/86,MS4.4/37, 66C-16D,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	**11.75**	**152**	ePn	**Pn**	**08 04 14.0**	**-1.5**
	120nm,0.6s						
LIC	**Lamto**	**13.38**	**29⇑**iP		**Pn**	**08 04 37.6**	**-0.1**
	55nm,0.8s						
LIC				eMLR	MLR		
	comp=Z,1μm,18.2s						
LIC	**Lamto**	**13.38**	**29⇑**iP		**Pn**	**08 04 37.6**	**-0.1**
	comp=Z,28nm,0.8s						
DBIC	**Dimbokro**	**13.85**	**29**	Pn	**Pn**	**08 04 43.3**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=188,slow=14,SNR=14						
DBIC				LR	LR	08 08 56.5	
	comp=Z,1μm,19.6s,baz=179,slow=33						
DBIC	**Dimbokro**	**13.85**	**29**	ePn	**Pn**	**08 04 44.0**	**-0.1**
	comp=Z,61nm,1.2s						
BBTS	**Babate**	**20.72**	**346**	LR	LR	08 12 51.4	
	comp=Z,394nm,21.9s,MS3.7,baz=188,slow=33						
TOA0	**Torodi Ar. Sit**	**22.74**	**35**	eP	**P**	**08 06 29.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**22.74**	**35**	P	**P**	**08 06 27.9**	**-2.2**
	comp=Z,24nm,0.5s,mb4.9,baz=218,slow=10.0,SNR=191						
TORD				LR	LR	08 14 08.0	
	comp=Z,2μm,20.3s,MS4.5,baz=205,slow=34						
TORD	**Torodi Ar. Bea**	**22.74**	**35**	P	**P**	**08 06 27.9**	**-2.2**
TORD				LR	LR	08 14 08.0	
TSUM	**Tsumeb**	**31.38**	**118**	P	**P**	**08 07 50.5**	**+1.6**
	comp=Z,2.7nm,0.7s,mb4.2,baz=251,slow=9.9,SNR=4.1						
TSUM				LR	LR	08 17 46.0	
	comp=Z,1μm,21.8s,MS4.6,baz=306,slow=31						
TSUM	**Tsumeb**	**31.38**	**118**	eP	**P**	**08 07 49.7**	**+0.8**
	comp=Z,1.7nm,0.7s,mb4.0						
TAM	**Tamanrasset**	**32.73**	**30**	eP	**P**	**08 08 01.6**	**+0.9**
BDFB	**Brasilia**	**37.22**	**251**	P	**P**	**08 08 39.1**	**-0.5**
	comp=Z,4.6nm,0.8s,mb4.3,baz=46,slow=21,SNR=11						
BDFB				LR	LR	08 21 20.5	
	comp=Z,487nm,19.9s,MS4.3,baz=248,slow=32						
LSZ	**Lusaka**	**40.12**	**107**	P	**P**	**08 09 03.7**	**-0.3**
	comp=Z,5.2nm,0.7s,mb4.4,baz=291,slow=6.1,SNR=13						
LSZ	**Lusaka**	**40.12**	**107**	eP	**P**	**08 09 04.8**	**+0.8**
	comp=Z,13nm,1.1s,mb4.6						
SUR	**Sutherland**	**40.23**	**136**	P	**P**	**08 09 05.2**	**+0.5**
	comp=Z,7.2nm,1.0s,mb4.3,baz=291,slow=17,SNR=4.5						
SUR	**Sutherland**	**40.23**	**136**	P	**P**	**08 09 05.2**	**+0.5**
LBTB	**Lobatse**	**40.44**	**123**	P	**P**	**08 09 06.3**	**-0.2**
	comp=Z,8.8nm,0.8s,mb4.5,baz=310,slow=10,SNR=15						
BOSA	**Boshof**	**41.64**	**128**	P	**P**	**08 09 15.8**	**-0.6**
	comp=Z,5.8nm,0.8s,mb4.3,baz=344,slow=7.5,SNR=7.4						
BOSA				LR	LR	08 24 07.2	
	comp=Z,503nm,18.4s,MS4.4,baz=80,slow=33						
EVO	**Evora**	**44.00**	**4**	eP	**P**	**08 09 34.5**	**-0.8**
	comp=Z,15nm,0.9s,mb4.4						
EVO				eMLR	MLR		
	comp=Z,387nm,20.2s,MS4.0						
KEST	**Kesra**	**45.51**	**24**	P	**P**	**08 09 47.6**	**+0.2**
	comp=Z,2.7nm,0.8s,mb4.2,baz=193,slow=3.1,SNR=11						
KEST				LR	LR	08 29 08.2	
	comp=Z,392nm,19.7s,MS4.3,baz=5.5,slow=37						
ESDC	**Sonseca Array**	**45.56**	**8**	P	**P**	**08 09 47.7**	**0.0**
	comp=Z,1.9nm,0.9s,mb4.0,baz=190,slow=7.2,SNR=7.3						
MTE	**Manteigas**	**45.89**	**4**	eP	**P**	**08 09 50.9**	**+0.6**
	comp=Z,15nm,0.8s,mb5.0						
CPUP	**Villa Florida**	**48.34**	**240**	P	**P**	**08 10 09.7**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.1,baz=80,slow=2.7,SNR=4.4						
CPUP				LR	LR	08 27 57.6	
	comp=Z,148nm,21.3s,MS3.9,baz=56,slow=33						
CPUP	**Villa Florida**	**48.34**	**240**	eP	**P**	**08 10 09.8**	**+0.1**
	comp=Z,7.3nm,0.8s,mb4.8						
KMBO	**Kilima Mbogo**	**48.83**	**87**	P	**P**	**08 10 14.5**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=229,slow=20,SNR=3.9						
KMBO				LR	LR	08 29 43.6	
	comp=Z,2μm,18.2s,MS5.1,baz=258,slow=35						
KMBO	**Kilima Mbogo**	**48.83**	**87**	eP	**P**	**08 10 14.5**	**+0.8**
	comp=Z,1.0nm,0.5s,mb4.1						
ETSF	**Etsaut**	**49.26**	**11⇑**iP		**P**	**08 10 17.3**	**+0.9**
	comp=Z,32nm,1.3s,mb4.9						
ETSF	**Etsaut**	**49.26**	**11⇑**iP		**P**	**08 10 17.3**	**+0.9**
	comp=Z,16nm,1.3s,mb4.9						
SJPF	**Ste Jean**	**49.35**	**10⇑**iP		**P**	**08 10 18.0**	**+0.9**
	comp=Z,34nm,1.1s,mb5.0						
SJPF	**Ste Jean**	**49.35**	**10⇑**iP		**P**	**08 10 18.0**	**+0.9**
	comp=Z,17nm,1.1s,mb5.0						
LABF	**Labassere**	**49.52**	**11**	eP	**P**	**08 10 19.6**	**+1.2**
EPF	**Esparros**	**49.55**	**11⇑**iP		**P**	**08 10 19.7**	**+1.0**
	comp=Z,47nm,1.5s,mb5.0						
EPF	**Esparros**	**49.55**	**11⇑**iP		**P**	**08 10 19.7**	**+1.0**
	comp=Z,24nm,1.5s,mb5.0						
SIV	**San Ignacio**	**49.69**	**254**	P	**P**	**08 10 20.5**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.3,baz=103,slow=9.7,SNR=18						
MTLF	**Montolieu**	**50.24**	**13**	eP	**P**	**08 10 24.2**	**+0.2**
LASF	**Ste Croix**	**51.32**	**14⇑**iP		**P**	**08 10 32.6**	**+0.5**
	comp=Z,20nm,1.3s,mb4.6						
LMR	**La Mourre**	**51.34**	**17⇑**iP		**P**	**08 10 32.5**	**+0.3**
PGF	**Pioggiola**	**51.39**	**19**	eP	**P**	**08 10 33.2**	**+0.6**
	comp=Z,50nm,1.2s,mb5.0						
PGF	**Pioggiola**	**51.39**	**19**	eP	**P**	**08 10 33.2**	**+0.6**
	comp=Z,25nm,1.2s,mb5.0						
LFF	**La Frestale**	**51.47**	**11⇑**iP		**P**	**08 10 33.6**	**+0.4**
FRF	**La Foret Royal**	**51.58**	**17**	eP	**P**	**08 10 34.4**	**+0.3**
	comp=Z,64nm,1.7s,mb5.0						
FRF	**La Foret Royal**	**51.58**	**17**	eP	**P**	**08 10 34.4**	**+0.3**
	comp=Z,32nm,1.7s,mb5.0						
SMRF	**Simiane la Rot**	**51.67**	**16**	eP	**P**	**08 10 35.0**	**+0.3**
CAF	**Calviac**	**51.72**	**12⇑**iP		**P**	**08 10 35.3**	**+0.2**
	comp=Z,18nm,1.2s,mb4.6						
CAF	**Calviac**	**51.72**	**12⇑**iP		**P**	**08 10 35.3**	**+0.2**
	comp=Z,9.3nm,1.2s,mb4.6						
RJF	**Les Rejaudoux**	**51.97**	**12⇑**iP		**P**	**08 10 37.1**	**+0.2**
	comp=Z,25nm,1.3s,mb4.7						
RJF				eMLR	MLR		
	comp=Z,411nm,18.2s,MS4.2						
RJF	**Les Rejaudoux**	**51.97**	**12⇑**iP		**P**	**08 10 37.1**	**+0.2**
	comp=Z,12nm,1.3s,mb4.7						
RJF				LR	LR		
	comp=Z,410nm,18.3s,MS4.5						
SBF	**Sospel**	**52.09**	**17**	eP	**P**	**08 10 38.6**	**+0.8**
VIVF	**Saint-Julien-l**	**52.26**	**14⇑**iP		**P**	**08 10 39.9**	**+0.9**
	comp=Z,25nm,1.3s,mb4.7						
VIVF	**Saint-Julien-l**	**52.26**	**14⇑**iP		**P**	**08 10 39.9**	**+0.9**
	comp=Z,12nm,1.3s,mb4.7						
LBL	**Lubilhac**	**52.27**	**13**	eP	**P**	**08 10 39.4**	**+0.2**
ORIF	**Oris-en-Rattie**	**52.62**	**15⇑**iP		**P**	**08 10 43.1**	**+1.3**
	comp=Z,17nm,1.1s,mb4.6						
ORIF				eMLR	MLR		
	comp=Z,624nm,18.2s,MS4.4						

ORIF	Oris-en-Rattie	52.62	15⇑	iP	P	08 10 43.1	+1.3
	comp=Z,8.4nm,1.1s,mb4.6						
MBDF	Montbardon	52.69	16⇑	iP	P	08 10 43.7	+1.4
	comp=Z,21nm,1.1s,mb4.7						
MBDF	Montbardon	52.69	16⇑	iP	P	08 10 43.7	+1.4
	comp=Z,10nm,1.1s,mb4.7						
MFF	Saint Martin d	52.92	10⇑	iP	P	08 10 44.1	+0.2
	comp=Z,27nm,1.3s,mb4.7						
MFF	Saint Martin d	52.92	10⇑	iP	P	08 10 44.1	+0.2
	comp=Z,14nm,1.3s,mb4.7						
BNI	Bardonecchia	52.97	16	eP	P	08 10 44.9	+0.6
	comp=Z,3.4nm,0.8s,mb4.3						
AGO	Saint Agoulin	53.02	13	eP	P	08 10 42.7	-2.0
TCF	Toulx Ste Croi	53.05	12⇑	iP	P	08 10 45.6	+0.7
	comp=Z,40nm,1.2s,mb4.9						
TCF	Toulx Ste Croi	53.05	12⇑	iP	P	08 10 45.6	+0.7
	comp=Z,20nm,1.2s,mb4.9						
PLDF	La Plantade	53.05	13	eP	P	08 10 44.0	-0.9
IDI	Anoyia	53.12	37	P	P	08 10 46.4	+0.8
	comp=Z,18nm,0.9s,mb5.0,baz=147,slow=5.2,SNR=5.4						
LPG	La Plagne	53.40	16⇑	iP	P	08 10 48.9	+1.4
	comp=Z,19nm,0.9s,mb4.7						
LPG	La Plagne	53.40	16⇑	iP	P	08 10 48.9	+1.4
	comp=Z,9.3nm,0.9s,mb4.7						
LPL	La Plagne	53.41	16⇑	iP	P	08 10 48.8	+1.3
	comp=Z,19nm,1.0s,mb4.7						
LPL	La Plagne	53.41	16⇑	iP	P	08 10 48.8	+1.3
	comp=Z,9.6nm,1.0s,mb4.7						
BGF	Bois d'Agland	53.44	12⇑	iP	P	08 10 48.4	+0.6
	comp=Z,15nm,1.0s,mb4.6						
BGF	Bois d'Agland	53.44	12⇑	iP	P	08 10 48.4	+0.6
	comp=Z,7.3nm,1.0s,mb4.6						
SMF	Signal de Mont	53.74	13⇑	iP	P	08 10 50.3	+0.3
	comp=Z,47nm,1.7s,mb4.8						
SMF	Signal de Mont	53.74	13⇑	iP	P	08 10 50.3	+0.3
	comp=Z,24nm,1.7s,mb4.8						
AVF	Avril sur Loir	53.77	13⇑	iP	P	08 10 50.5	+0.3
	comp=Z,16nm,1.1s,mb4.5						
AVF	Avril sur Loir	53.77	13⇑	iP	P	08 10 50.5	+0.3
	comp=Z,7.8nm,1.1s,mb4.5						
SSF	Saint Saulge	54.06	13⇑	iP	P	08 10 52.7	+0.4
	comp=Z,25nm,1.1s,mb4.8						
SSF	Saint Saulge	54.06	13⇑	iP	P	08 10 52.7	+0.4
	comp=Z,13nm,1.1s,mb4.8						
ROSF	Rostrenen	54.17	7⇑	iP	P	08 10 53.2	+0.2
	comp=Z,83nm,1.6s,mb5.1						
ROSF	Rostrenen	54.17	7⇑	iP	P	08 10 53.2	+0.2
	comp=Z,42nm,1.6s,mb5.1						
CABF	La Chapelle	54.25	15⇑	iP	P	08 10 53.9	+0.2
	comp=Z,27nm,1.3s,mb4.7						
CABF	La Chapelle	54.25	15⇑	iP	P	08 10 53.9	+0.2
	comp=Z,14nm,1.3s,mb4.7						
LOR	Lormes	54.34	13⇑	iP	P	08 10 54.4	+0.1
	comp=Z,21nm,1.2s,mb4.7						
LOR				eMLR	MLR		
	comp=Z,506nm,21.8s,MS4.2						
LOR	Lormes	54.34	13⇑	iP	P	08 10 54.4	+0.1
	comp=Z,11nm,1.2s,mb4.7						
LOR				LR	LR		
	comp=Z,510nm,21.8s,MS4.5						
GRR	Gorron	54.54	9⇑	iP	P	08 10 56.0	+0.2
	comp=Z,45nm,1.1s,mb5.1						
GRR	Gorron	54.54	9⇑	iP	P	08 10 56.0	+0.2
	comp=Z,22nm,1.1s,mb5.1						
LDF	La Druitiere	54.85	9⇑	iP	P	08 10 58.2	+0.2
	comp=Z,32nm,1.1s,mb4.9						
LDF	La Druitiere	54.85	9⇑	iP	P	08 10 58.2	+0.2
	comp=Z,16nm,1.1s,mb5.0						
PCRV	Puerto La Cruz	55.21	286	LR	LR	08 31 14.5	
	comp=Z,205nm,19.2s,MS4.2,baz=110,slow=32						
HINF	Hinteralfeld	55.56	15	eP	P	08 11 04.0	+0.8
HAU	Haudompre	55.61	14⇑	iP	P	08 11 03.4	-0.1
	comp=Z,24nm,1.2s,mb4.8						
HAU				eMLR	MLR		
	comp=Z,423nm,19.8s,MS4.2						
HAU	Haudompre	55.61	14⇑	iP	P	08 11 03.4	-0.1
	comp=Z,12nm,1.2s,mb4.8						
HAU				LR	LR		
	comp=Z,420nm,19.8s,MS4.5						
THEF	They Montfort	55.73	14	eP	P	08 11 04.3	-0.1
MEZF	Maizieres J'vi	55.77	13⇑	iP	P	08 11 04.0	-0.6
	comp=Z,32nm,1.1s,mb5.0						
MEZF	Maizieres J'vi	55.77	13⇑	iP	P	08 11 04.0	-0.6
	comp=Z,32nm,1.1s,mb5.3						
DAVA	Damuels	55.92	17⇑	iP	P	08 11 05.2	-0.5
	comp=Z,12nm,1.1s,mb4.8						
FELD	Feldberg im Sc	55.92	16	eP	P	08 11 06.3	+0.6
FETA	Feichten	55.94	18⇑	iP	P	08 11 05.4	-0.5
	comp=Z,7.5nm,1.0s,mb4.7						
TRQA	Tornquist	56.01	227	eP	P	08 11 07.5	+0.9
	comp=Z,110nm,2.3s,mb5.5						
ECH	Echery	56.01	15	eP	P	08 11 06.3	-0.1
CDF	Champ du Feu	56.22	15⇑	iP	P	08 11 07.4	-0.5
	comp=Z,20nm,1.3s,mb4.7						
CDF	Champ du Feu	56.22	15⇑	iP	P	08 11 07.4	-0.5
	comp=Z,9.9nm,1.3s,mb4.7						
ABTA	Abfaltersbach	56.27	20⇑	iP	P	08 11 08.8	+0.5
	comp=Z,6.2nm,1.0s,mb4.6						
MOTA	Moosalm	56.34	18⇑	iP	P	08 11 08.1	-0.7
	comp=Z,4.6nm,1.0s,mb4.5						
BFO	Black Forest	56.43	16	eP	P	08 11 08.8	-0.5
	comp=Z,9.0nm,1.4s,mb4.6						
BFO				ePP	PP	08 13 12.9	-2.2
WTTA	Wattenberg	56.44	19⇑	iP	P	08 11 09.3	-0.2
	comp=Z,14nm,1.1s,mb4.9						
LPAZ	La Paz	56.47	254	P	P	08 11 09.8	-0.5
	comp=Z,1.2nm,0.8s,mb4.0,baz=98,slow=2.8,SNR=6.5						
BAIF	Baives	57.06	12⇑	iP	P	08 11 13.4	-0.4
	comp=Z,23nm,1.0s,mb4.8						
BAIF	Baives	57.06	12⇑	iP	P	08 11 13.4	-0.4
	comp=Z,12nm,1.0s,mb4.9						
SOKA	Soboth	57.09	21⇑	iP	P	08 11 14.8	+0.7
	comp=Z,5.5nm,1.0s,mb4.5						
WLF	Walferdange	57.11	14	eP	P	08 11 13.6	-0.6
	comp=Z,12nm,1.4s,mb4.7						
FUR	Furstenfeldbru	57.13	18	eP	P	08 11 13.9	-0.4
	comp=Z,15nm,1.0s,mb5.0						
GIVF	Givet	57.23	12⇑	iP	P	08 11 14.5	-0.5
	comp=Z,36nm,1.1s,mb5.0						
GIVF	Givet	57.23	12⇑	iP	P	08 11 14.5	-0.5
	comp=Z,18nm,1.1s,mb5.0						
RJOB	Jochberg	57.23	19	eP	P	08 11 13.9	-1.2
	comp=Z,3.0nm,0.7s,mb4.4						
RJOB				ePP	PP	08 13 21.1	-1.2
VTS	Vitosha	57.37	30⇓	iP	P	08 11 17.2	+1.1
VTS	Vitosha	57.37	30⇓	iP	P	08 11 17.2	+1.1
ARSA	Arzberg	57.76	21⇑	iP	P	08 11 19.1	+0.3
	comp=Z,4.8nm,1.1s,mb4.5						
PKSM	Moragy	58.10	24⇑	iP	P	08 11 22.1	+0.8
TNS	Taunus Mts	58.19	15	eP	P	08 11 21.3	-0.5
	comp=Z,6.0nm,1.0s,mb4.6						
TNS				epP	pP	08 11 27.4	+2.4
GRA1	Grafenberg Arr	58.47	17	eP	P	08 11 22.7	-1.1
	comp=Z,4.0nm,0.9s,mb4.5						
GRA1				epP	pP	08 11 29.1	+2.1
GRA1				ePP	PP	08 13 31.1	-2.2
GRA1				LR	LR		
	comp=Z,300nm,21.0s,MS4.4						
GRF	Grafenberg Arr	58.47	17	eP	P	08 11 22.7	-1.1
	comp=Z,4.0nm,0.9s,mb4.5						
GRF				epP	pP	08 11 29.1	+2.1
GRF				ePP	PP	08 13 31.1	-2.2
GRF				eL		08 38 22.0	
	comp=Z,293nm,21.0s						
WET	Wettzell	58.49	19	eP	P	08 11 23.5	-0.4
	comp=Z,8.0nm,1.3s,mb4.6						
GEC2	GERESS Array S	58.49	19	eP	P	08 11 23.5	-0.4
	comp=Z,8.0nm,1.1s,mb4.7						
GEC2				ePP	PP	08 13 32.8	-0.7
GERES	GERESS Array B	58.49	19	P	P	08 11 23.7	-0.2
	comp=Z,3.6nm,0.8s,mb4.5,baz=191,slow=6.5,SNR=37						
GERES				LR	LR	08 37 18.9	
	comp=Z,395nm,20.3s,MS4.5,baz=158,slow=37						
KHC	Kasperske Hory	58.70	19	eP	P	08 11 31.0	+5.6
KHC				AMS	AMS	08 37 10.0	
	comp=Z,400nm,16.5s						
ROTZ	Rotzenmuhle	58.83	18	eP	P	08 11 25.9	-0.4
	comp=Z,8.0nm,1.3s,mb4.6						
BZS	Buzias	58.90	27⇓	iP	P	08 11 26.8	-0.1
BZS	Buzias	58.90	27⇓	iP	P	08 11 26.8	-0.1
MANZ	Manzenberg	59.00	18	eP	P	08 11 26.0	-1.4
	comp=Z,6.0nm,1.2s,mb4.5						
MANZ				epP	pP	08 11 32.8	+2.2
ZST	Bratislava	59.13	22	eP	P	08 11 28.2	-0.2
	comp=Z,6.0nm,0.6s,mb4.8						
NKC	Novy Kostel	59.32	18	eP	P	08 11 35.2	+5.6
NKC				ex	x	08 11 41.8	
NKC				AMS	AMS	08 38 10.0	
	comp=Z,400nm,18.2s						
NKC	Novy Kostel	59.32	18	eP	P	08 11 35.2	+5.6
NKC				epP	pP	08 11 41.8	+9.0
MODS	Modra-Piesok	59.34	22	eP	P	08 11 28.9	-1.0
MOX	Moxa	59.44	17	eP	P	08 11 29.4	-1.0
MOX				e		08 11 34.6	
	comp=Z,13nm,1.4s						
MOX							
	comp=Z,300nm,18.0s						
MOX	Moxa	59.44	17	eP	P	08 11 29.6	-0.8
	comp=Z,12nm,1.5s,mb4.7						
MOX	Moxa	59.44	17	eP	P	08 11 29.4	-1.0
	comp=Z,13nm,1.4s,mb4.8						
MOX				e		08 11 34.6	
MOX				LR	LR		
	comp=Z,300nm,18.0s,MS4.5						
TREC	Trest	59.48	20	AMS	AMS	08 39 30.0	
	comp=Z,300nm,17.5s						
PRU	Pruhonice	59.76	19	eP	P	08 11 32.0	-0.7
PRU				epP	pP	08 11 37.4	+1.5
PRU				AMS	AMS	08 37 10.0	
	comp=Z,300nm,20.8s						
VRAC	Vranov	59.88	21⇓	iP	P	08 11 33.5	0.0
VRAC	Vranov	59.88	21⇓	iP	P	08 11 33.5	0.0
PSZ	Piszkesteto	59.99	24⇓	iP	P	08 11 35.2	+0.9
PSZ	Piszkesteto	59.99	24	eP	P	08 11 33.5	-0.8
	comp=Z,14nm,0.8s,mb5.0						
CLZ	Clausthal	60.17	15	eP	P	08 11 35.1	-0.4
	comp=Z,4.0nm,1.2s,mb4.3						
PVCC	Panska Ves	60.24	19	epP	pP	08 11 47.7	+8.5
PVCC				AMS	AMS	08 37 30.0	
	comp=Z,300nm,17.5s						
DRGR		60.29	26⇓	iP	P	08 11 36.9	+0.5
BRG	Berggiesshubel	60.34	18	e(P)	P	08 11 37.7	+1.1
	comp=Z,5.7nm,1.3s,mb4.4						
CLL	Collm	60.43	17	eS	S	08 20 05.0	+13
CLL				eSPP		08 20 17.0	
CLL				eSS	SS	08 24 00.0	+10
CLL				LmV		08 38 00.0	
	comp=Z,300nm,19.6s						
MORC	Moravsky Berou	60.61	21⇓	iP	P	08 11 39.1	+0.6
MORC	Moravsky Berou	60.61	21	eP	P	08 11 38.6	0.0
	comp=Z,4.5nm,0.9s,mb4.6						
DPC	Dobruska-Polom	60.66	20	eP	P	08 11 38.4	-0.5
DPC				epP	pP	08 11 44.3	+2.2
DPC				AMS	AMS	08 37 50.0	
	comp=Z,400nm,19.5s						
KECS	Kecovo	60.68	24	eP	P	08 11 39.6	+0.6
	comp=Z,6.6nm,0.9s,mb4.8						
KECS				e		08 11 45.0	
UPC	Upice	60.69	20	eP	P	08 11 39.3	+0.2
SDV	Santo Domingo	60.69	283	LR	LR	08 35 58.2	
	comp=Z,268nm,21.0s,MS4.4,baz=145,slow=34						
MLR	Muntele Rosu	60.83	29⇓	iP	P	08 11 40.2	+0.1
MLR	Muntele Rosu	60.83	29⇓	iP	P	08 11 40.2	+0.1
OKC	Ostrava-Krasne	60.88	21	eP	P	08 11 40.6	+0.3
OKC				epP	pP	08 11 46.2	+2.6
OKC				AMS	AMS	08 38 10.0	
	comp=Z,300nm,23.3s						
OKC	Ostrava-Krasne	60.88	21	eP	P	08 11 40.6	+0.3
OKC				epP	pP	08 11 46.2	+2.6
NIE	Niedzica	61.36	23	eP	P	08 11 44.4	+0.8
CRVS	Cervenica-Dubn	61.40	24	eP	P	08 11 44.6	+0.7
CRVS				e		08 11 57.8	
VRI	Vrincioaia	61.48	29⇓	iP	P	08 11 44.2	-0.3
VRI	Vrincioaia	61.48	29⇓	iP	P	08 11 44.2	-0.3
KOLS	Kolonicke sedl	61.76	25	eP	P	08 11 46.7	+0.4
OJC	Ojcow	61.80	22	eP	P	08 11 45.9	-0.7
BURAR	Bucovina Array	62.04	27⇓	iP	P	08 11 47.6	-0.6
BURAR	Bucovina Array	62.04	27⇓	iP	P	08 11 47.6	-0.7
BSEG	Bad Segeberg	62.06	14	eP	P	08 11 47.5	-0.7
	comp=Z,6.0nm,1.0s,mb4.7						
PLCA	Paso Flores	63.16	227	P	P	08 11 55.4	-0.6
	comp=Z,3.3nm,1.1s,mb4.4,baz=90,slow=7.1,SNR=2.8						
MALT	Malatya	63.60	42⇓	iP	P	08 12 00.4	+1.6
MALT	Malatya	63.60	42	eP	P	08 11 60.0	+1.1
	comp=Z,5.1nm,0.8s,mb4.6						
ROSC	El Rosal	63.61	278	P	P	08 11 59.7	+0.2
	comp=Z,4.9nm,0.7s,mb4.7,baz=91,slow=14,SNR=5.4						
ROSC				LR	LR	08 37 57.1	
	comp=Z,324nm,20.9s,MS4.5,baz=142,slow=34						
NNA	Nana	64.79	259	LR	LR	08 38 52.1	
	comp=Z,774nm,20.8s,MS4.9,baz=38,slow=35						
VNA1	Neumayer--Stat	65.02	179	eP	P	08 12 14.5	+6.9
VNA1				e	pP	08 12 18.4	+7.5
KIEV	Kiev	66.08	27	eP	P	08 12 13.6	-1.1
	comp=Z,19nm,0.8s,mb5.2						
AKASG	Malin Array Be	66.09	27	P	P	08 12 13.2	-1.6
	comp=Z,8.9nm,0.7s,mb4.9,baz=226,slow=6.9,SNR=42						
AKASG				LR	LR	08 42 43.2	
	comp=Z,120nm,19.8s,MS4.1,baz=70,slow=38						
AKBB	Malin Array Si	66.09	27	eP	P	08 12 13.7	-1.1
SUW	Suwalki	66.09	22	eP	P	08 12 14.5	-0.3
SUW	Suwalki	66.09	22	eP	P	08 12 14.5	-0.3
SNAA	Sanae	66.24	177	eP	P	08 12 18.5	+3.0
SNAA				e	pP	08 12 22.8	+4.1
SNAA	Sanae	66.24	177	P	P	08 12 17.0	+1.5
	comp=Z,1.6nm,1.0s,mb4.0,baz=27,slow=3.0,SNR=6.1						
SNAA				LR	LR	08 34 14.0	
	comp=Z,79nm,20.4s,MS3.9,baz=209,slow=30						
SNAA	Sanae	66.24	177	eP	P	08 12 11.4	-4.0
	comp=Z,6.7nm,1.0s,mb4.6						
ATAH	Atahualpa	66.48	265	LR	LR	08 40 58.4	
	comp=Z,1μm,18.9s,MS5.2,baz=100,slow=36						
USHA	Ushuaia	66.87	212	LR	LR	08 33 56.1	
	comp=Z,386nm,19.8s,MS4.6,baz=54,slow=29						
HFS	Hagfors	68.45	13	P	P	08 12 28.9	-0.7
	comp=Z,2.1nm,0.8s,mb4.2,baz=210,slow=8.3,SNR=5.7						
NOA	NORSAR Array B	68.74	12	P	P	08 12 32.1	+0.7
	comp=Z,0.8nm,0.9s,mb3.6,baz=206,slow=6.5,SNR=2.5						
NOA				LR	LR	08 43 24.6	
	comp=Z,105nm,20.0s,MS4.1,baz=45,slow=37						
PMSA	Palmer Station	69.73	201	LR	LR	08 36 00.7	
	comp=Z,313nm,20.0s,MS4.5,baz=330,slow=30						
SYO	Syowa Base	71.61	163⇑	esP	sP	08 12 53.6	+0.2
KAF	Kangasniemi	73.46	17	ep	P	08 12 57.4	-2.6
	comp=Z,5.3nm,1.0s,mb4.4						
JOF	Joensuu	75.61	19	ep	P	08 13 10.4	-2.1
	comp=Z,4.3nm,0.9s,mb4.4						
MAW	Mawson	78.93	158	P	P	08 13 32.1	+1.0
	comp=Z,2.1nm,0.8s,mb4.1,baz=268,slow=7.5,SNR=13						
MAW				LR	LR	08 40 26.5	
	comp=Z,134nm,19.0s,MS4.3,baz=260,slow=41						
ARCES	ARCESS Array B	79.09	12	P	P	08 13 30.9	-0.9
	comp=Z,0.8nm,0.6s,mb3.8,baz=216,slow=6.0,SNR=4.4						
ARCES				LR	LR	08 51 37.2	
	comp=Z,115nm,18.7s,MS4.2,baz=91,slow=38						
ULM	Lac du Bonnet	90.67	320	LR	LR	08 46 58.9	
	comp=Z,216nm,20.1s,MS4.6,baz=46,slow=30						
TXAR	Lajitas Array	94.60	299	P	P	08 14 48.6	-0.7
	comp=Z,0.4nm,0.7s,mb3.9,baz=118,slow=7.2,SNR=6.9						
MKAR	Makanchi Array	96.61	44	P	P	08 14 57.0	-0.9
	comp=Z,0.7nm,0.7s,mb4.2,baz=264,slow=4.2,SNR=5.2						
MKAR				LR	LR	09 04 20.2	
	comp=Z,150nm,20.7s,MS4.5,baz=176,slow=39						
VNDA	Vanda	96.94	179	LR	LR	08 52 46.8	
	comp=Z,131nm,18.5s,MS4.5,baz=181,slow=32						
ZALV	Zalesovo Beam	98.19	36	LR	LR	09 03 10.1	
	comp=Z,61nm,18.1s,MS4.1,baz=18,slow=38						
PDAR	Pinedale Array	99.69	312	LR	LR	08 51 43.7	
	comp=Z,208nm,21.5s,MS4.6,baz=88,slow=30						
SRU	San Rafael	100.51	309	eP	Pdif	08 15 08.4	-6.9
KMI	Kunming	114.26	65	PKP	PKiKP	08 20 07.1	-1.2
KMI				XPKP		08 20 11.1	
KMI				PP	PP	08 21 07.4	+3.7
KMI				SS	SS	08 36 58.0	+2.1
KMI				SSS		08 41 14.4	
KMI				PP	PP		
	comp=Z,110nm,7.5s						
KMI				LR	LR		
	comp=N,370nm,12.7s,MS5.3						
KMI				LR	LR		
	comp=E,314nm,15.1s,MS5.3						
KMI				LR	LR		
	comp=Z,272nm,19.1s,MS4.9						
CD2	Chengdu	114.46	59	ePKP	PKiKP	08 20 05.3	-3.3
CD2				XPKP		08 20 12.5	
CD2				PP	PP	08 21 08.6	+3.7
CD2				PKS		08 23 40.6	
CD2				SKS	SKSdf	08 27 12.4	-8.7
CD2				SKKS	SKKSac	08 27 57.6	-10
CD2				SS	SS	08 36 57.4	-0.8
CD2				PP	PP		
	comp=Z,80nm,10.2s						
CD2				LR	LR		
	comp=N,180nm,16.8s						
CD2				LR	LR		
	comp=Z,210nm,18.2s,MS4.8						
GYA	Guiyang	117.62	63	ePDIF	Pdif	08 16 31.9	+0.6
GYA				PKP	PKPdf	08 20 12.4	-2.4
GYA				PP	PP	08 21 31.6	+4.3
GYA				PKS		08 23 48.2	
GYA				SKS	SKSdf	08 27 22.4	-4.9
GYA				SKKS	SKKSac	08 28 23.8	-4.7
GYA				PS	PS	08 31 10.0	-2.5
GYA				SS	SS	08 37 40.6	+0.8
GYA				PP	PP		
	comp=Z,110nm,7.6s						
GYA				LR	LR		
	comp=N,190nm,21.9s,MS4.8						
GYA				LR	LR		
	comp=E,150nm,22.2s,MS4.8						
GYA				LR	LR		
	comp=Z,160nm,21.8s,MS4.6						
RKT	Rikitea	117.90	240	eSS	SS	08 37 29.8	-13
	comp=Z,169nm,27.5s						
HHC	Hu-ho-hao-te	118.33	46	ePKP	PKPdf	08 20 09.6	-6.1
HHC				PP	PP	08 21 31.5	-0.1
HHC				PKS		08 23 45.2	
HHC				SS	SS	08 37 44.4	-3.5
HHC				PP	PP		
	comp=Z,146nm,8.4s						
HHC				LR	LR		
	comp=N,173nm,19.0s,MS5.0						
HHC				LR	LR		
	comp=E,335nm,20.2s,MS5.0						
HHC				LR	LR		
	comp=Z,119nm,19.0s,MS4.5						
BJI	Beijing	121.92	46	PKP	PKPdf	08 20 20.0	-2.6
TBI	Tubuai	129.91	233	eLR	LR	09 01 09.9	
	comp=Z,276nm,30.0s						
PPT	Papeete	132.67	240	eSS	SS	08 40 41.8	-7.0
	comp=Z,136nm,26.2s						
PPT	Papeete	132.67	240	eLR	LR	09 02 39.6	
	comp=Z,159nm,23.2s						
ASAR	Alice Springs	135.44	132	PKP	PKPdf	08 20 49.1	+0.3
	comp=Z,0.8nm,0.9s,baz=219,slow=2.3,SNR=4.9						
WRA	Warramunga Arr	137.89	128	PKhKP		08 20 43.0	
	comp=Z,0.3nm,0.9s,baz=235,slow=2.4,SNR=5.3						
WRA				PKP	PKPdf	08 20 54.6	+1.1
	comp=Z,1.3nm,0.9s,baz=234,slow=2.4,SNR=5.8						
CTA	Charters Tower	146.39	140	PKPbc	PKPbc	08 21 09.6	-0.2
	comp=Z,3.3nm,0.7s,baz=243,slow=6.5,SNR=4.3						

IDC ***12*** *08:09:28.8±1.4, 542S×1522E, 6, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, MS3.3/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=51.5km s-min=23.2km az=114.0*

ISCJB ***12*** *08:09:33.2±4.5, 54S±02×152.1E±02, h35km±37km, mb3.7/8, Error ellipse: s-maj=39.6km s-min=23.2km az=31.3*

NEIC ***12*** *08:09:34.4±0.6, 541S×152.18E, h35km, mb3.9/4, Error ellipse: s-maj=22.2km s-min=7.8km az=131.0*

ISC 12 08:09:35.6±3.9, 55S±02×1522E±02, h43km±32km, n17, n0§40/15, mb3.7/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.32	231	ePn	Pn	08 11 06.4	+0.1
PMG				eSn	Sn	08 12 17.0	-0.2
GUMO	Guam	20.26	339	LR	LR	08 20 06.0	
	comp=Z,72nm,18.6s,baz=89,slow=32						
KAKA	Kakadu	20.75	248	eP	P	08 14 12.9	+0.1
	8.5nm,0.5s						
WRAB	Tennant Creek	22.52	229	eP	P	08 14 31.4	-0.3
	1.7nm,0.5s,mb3.7						
WB2	Warramunga Arr	22.52	229	eP	P	08 14 32.1	+0.3
WB2	Warramunga Arr	22.52	229	eP	P	08 14 32.6	+0.8
WRA	Warramunga Arr	22.53	229	P	P	08 14 31.6	-0.3
	1.3nm,0.6s,mb3.5,baz=52,slow=9.9,SNR=28						
ASAR	Alice Springs	25.23	222	P	P	08 14 58.4	+0.8
	0.9nm,0.5s,mb3.6,baz=59,slow=9.4,SNR=26						
STKA	Stephens Creek	28.08	199	P	P	08 15 22.4	-0.8
	1.1nm,0.8s,mb3.5,baz=9.5,slow=12,SNR=2.5						
STKA	Stephens Creek	28.08	199	P	P	08 15 23.0	-0.2
	0.8nm,0.7s,mb3.5						
FITZ	Fitzroy Crossi	28.79	242	eP	P	08 15 29.7	+0.1
	3.3nm,0.9s,mb4.1						
FITZ	Fitzroy Crossi	28.79	242	P	P	08 15 29.5	-0.1
	1.3nm,0.8s,mb3.7,baz=73,slow=10,SNR=5.5						
SONM	Songino Array	66.54	328	P	P	08 20 21.3	+0.2
	0.4nm,0.5s,mb3.7,baz=126,slow=7.8,SNR=2.6						
ZALV	Zalesovo Beam	81.34	327	P	P	08 21 47.0	-0.5
	0.4nm,0.3s,mb3.8,baz=126,slow=7.3,SNR=2.5						
NVAR	Mina Array Bea	92.99	52	P	P	08 22 44.7	0.0
	0.4nm,0.7s,mb3.9,baz=248,slow=4.8,SNR=3.6						
TORD	Torodi Ar. Bea	149.89	287	PKPbc	PKPbc	08 29 21.5	-0.7
	0.8nm,0.7s,baz=73,slow=1.8,SNR=4.5						
TORD	Torodi Ar. Bea	149.89	287	PKPbc	PKPbc	08 29 21.5	-0.7

**IDC 12 08:16:57.2±46.0, 1491S×17332W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.

comp=Z,245nm,18.3s,baz=214,slow=40
STKA Stephens Creek 28.22 192 LR LR 08 44 25.9
comp=Z,153nm,18.2s,baz=18,slow=36
CBIJ Chichi jima 31.58 350 LR LR 08 44 10.2
comp=Z,255nm,20.8s,baz=113,slow=32
MJAR Matsushiro Arr 41.52 348 LR LR 08 49 26.9
comp=Z,193nm,22.0s,baz=240,slow=32
SONM Songino Array 63.31 330 P **P 08 37 55.2 -0.3**
0.2nm,0.3s,mb3.5,baz=153,slow=9.7,SNR=2.8
MKAR Makanchi Array 76.74 320 P **P 08 39 17.7 +0.2**
1.5nm,1.1s,mb3.6,baz=87,slow=6.1,SNR=3.1
TORD Torodi Ar. Bea 145.57 287 PKPbc PKPbc 08 47 07.7 +2.8
1.2nm,0.9s,baz=63,slow=3.5,SNR=3.8

IDC 12 08:32:04.7±10.0, 618S×1118W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, MS3.7/9, Ms1 3.7/9, ms1mx3.5/29, Error ellipse: s-maj=413.3km s-min=111.1km az=140.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**14.24**	**26**	LR	LR	08 39 37.4	
	comp=Z,190nm,21.8s,baz=218,slow=32						
BBTS	**Babate**	**21.38**	**346**	LR	LR	08 43 14.2	
	comp=Z,135nm,20.4s,baz=151,slow=31						
TORD	**Torodi Ar. Bea**	**23.08**	**34**	P	P	08 37 12.2	0.0
	2.5nm,0.5s,baz=216,slow=10,SNR=47						
TORD				LR	LR	08 44 50.6	
	comp=Z,157nm,21.2s,baz=180,slow=33						
BDFB	**Brasilia**	**37.31**	**252**	LR	LR	08 51 32.3	
	comp=Z,61nm,21.0s,baz=265,slow=31						
CPUP	**Villa Florida**	**48.29**	**240**	LR	LR	08 57 43.5	
	comp=Z,107nm,18.3s,baz=226,slow=32						
KMBO	**Kilima Mbogo**	**48.58**	**86**	LR	LR	08 59 58.3	
	comp=Z,212nm,19.0s,baz=97,slow=34						
LPAZ	**La Paz**	**56.59**	**255**	LR	LR	09 02 36.3	
	comp=Z,58nm,18.7s,baz=87,slow=32						
GERES	**GERESS Array B**	**58.97**	**19**	P	P	08 42 06.0	+0.2
	0.3nm,0.6s,baz=201,slow=4.2,SNR=3.8						
ROSC	**El Rosal**	**63.99**	**278**	LR	LR	09 10 17.1	
	comp=Z,74nm,18.2s,baz=11,slow=36						
AKASG	**Malin Array Be**	**66.49**	**27**	P	P	08 42 56.1	0.0
	0.1nm,0.3s,baz=225,slow=6.4,SNR=8.2						
TXAR	**Lajitas Array**	**95.15**	**299**	LR	LR	09 22 58.7	
	comp=Z,80nm,19.2s,baz=180,slow=32						

IDC 12 08:39:27.1±3.8, 403S×14913E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/21, Error ellipse: s-maj=125.9km s-min=47.9km az=113.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**18.01**	**346**	LR	LR	08 49 28.1	
	comp=Z,48nm,18.6s,baz=96,slow=33						
WRA	**Warramunga Arr**	**21.41**	**221**	P	P	08 44 16.2	-0.4
	0.7nm,0.7s,baz=42,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**24.44**	**216**	P	P	08 44 46.8	-0.9
	1.0nm,0.8s,baz=62,slow=8.3,SNR=6.5						
FITZ	**Fitzroy Crossi**	**26.91**	**237**	P	P	08 45 11.3	+1.2
	1.9nm,0.8s,baz=34,slow=9.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**146.59**	**288**	PKPbc	PKPbc	08 59 11.0	-0.7
	0.8nm,1.1s,baz=46,slow=4.2,SNR=2.1						

MAN 12 08:45:47, 900N×12651E, h20km, mb3.9, ML2.6, MS2.3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.82**	**190**	⇑*iP*	Pb	08 46 02.4	-0.2
BIPH				*i* S	Sb	08 46 12.4	-0.9
BUTP	**Butuan**	**0.87**	**268**	*eP*	Pb	08 46 03.8	+0.3
SCPH	**Surigao**	**1.27**	**308**	⇓*eP*	Pn	08 46 10.1	+0.5
SCPH				*e*S	Sn	08 46 26.2	+0.1
BUKP	**Musuan**	**1.81**	**232**	*eP*	Pn	08 46 18.3	+1.2

*NEIC **12** 08:49:18.9, 32.12S×7181W, h28km, ML2.5(GUC), After GUC.*
GUC 12 08:49:18.9±0.5, 3212S×7181W, h28km±2km, MD3.5, ML2.5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.17**	**119**	⇑*iP*	Pn	08 49 39.6	+0.2
JACH				*i* S	Sn	08 49 55.3	+0.9
PEL	**Peldehue**	**1.39**	**138**	*eP*	Pn	08 49 43.0	+0.6
PEL				*i* S	Sn	08 50 01.6	+1.6
PEL				AML	AML	08 50 04.3	
	comp=N,131nm,0.2s						
RCDM	**Rinconada Maip**	**1.60**	**149**	*eP*	Pn	08 49 46.1	+0.7
RCDM				*i* S	Sn	08 50 07.3	+2.1
RCDM				AML	AML	08 50 08.0	
	comp=E,85nm,0.5s						
RCDM	**Rinconada Maip**	**1.60**	**149**	*eP*	Pn	08 49 46.1	+0.7
RCDM				*i* S	Sn	08 50 07.3	+2.1
TACH	**Talagante**	**1.70**	**155**	*eP*	Pn	08 49 47.5	+0.8
ANTU	**Antumapu**	**1.75**	**146**	*eP*	Pn	08 49 48.6	+1.2
ANTU				*i* S	Sn	08 50 11.2	+2.4
ANTU				AML	AML	08 50 21.8	
	comp=N,53nm,0.5s						
ANTU	**Antumapu**	**1.75**	**146**	*eP*	Pn	08 49 48.6	+1.2
ANTU				*i* S	Sn	08 50 11.2	+2.4
PCH	**Pirque**	**1.85**	**144**	*eP*	Pn	08 49 50.5	+1.8
PCH				*e*S	Sn	08 50 14.3	+3.0
LMEL	**Las Melosas**	**2.19**	**142**	*eP*	Pn	08 49 55.3	+1.9
LMEL				*e*S	Sn	08 50 22.4	+2.8
LMEL				AML	AML	08 50 30.6	
	comp=N,56nm,0.1s						
LMEL	**Las Melosas**	**2.19**	**142**	*eP*	Pn	08 49 55.3	+1.9
LMEL				*e*S	Sn	08 50 22.4	+2.8

*IDC **12** 09:09:49.7±1.9, 1595N×8563W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.7/23, mbtmp3.6/8, ML3.2/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/36, Error ellipse: s-maj=48.6km s-min=25.4km az=17.0*
*NEIC **12** 09:09:51.4±0.6, 1598N×8570W, h10km, mb3.8/3, Error ellipse: s-maj=14.3km s-min=10.5km az=58.0*
*ISCJB **12** 09:09:54.6±1.3, 1648N±002×859W±0.1, h7km±9km, mb3.8/6, Error ellipse: s-maj=16.3km s-min=3.0km az=174.6*
*CASC **12** 09:09:56.7±3.0, 1639N×8541W, h10km, MD4.6, ML4.1, mb3.8(NEIC)*
ISC 12 09:09:55.9±1.7, 1651N±002×855W±01, h13km±11km, n77, σ1§29/84, mb3.8/6, 14C-21D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**2.96**	**215**	*eP*	**Pn**	**09 10 31.7**	**-11**
TGUH				*e*S	**Sn**	**09 11 08.3**	**-10**
TGUH	**Tegucigalpa,Un**	**2.96**	**215**	*e*Pn	**Pn**	**09 10 31.8**	**-11**
TGUH				*e*Sn	**Sn**	**09 11 08.8**	**-9.2**
TELN	**Telica**	**4.08**	**198**	*eP*	**Pn**	**09 10 57.3**	**-0.7**
TELN				*e*S	**Sn**	**09 11 45.7**	**+0.1**
TEL3	**Telica 3**	**4.12**	**198**	*eP*	**Pn**	**09 10 57.2**	**-1.2**
TEL3				*e*S	**Sn**	**09 11 46.8**	**+0.3**
HUEN		**4.19**	**189**	*eP*	**Pn**	**09 10 59.4**	**-0.1**
HUEN				*e*S	**Sn**	**09 11 48.5**	**+0.1**
MOMJ	**Momotombo**	**4.19**	**194**	*eP*	**Pn**	**09 10 59.0**	**-0.5**
MOMJ				*e*S	**Sn**	**09 11 46.0**	**-2.4**
MTO2	**Montecristo 2**	**4.26**	**241**	⇑*eP*	x	09 11 02.6	
SNVI	**San Vicente**	**4.31**	**229**	*eP*	x	09 10 59.7	
APYN	**Apoyeque**	**4.32**	**191**	⇑*eP*	**Pn**	**09 11 01.5**	**+0.2**
APYN				*e*S	**Sn**	**09 11 51.6**	**0.0**
LBRS	**Las Brisas**	**4.38**	**232**	*eP*	x	09 11 03.4	
LBRS				*e*S	x	09 11 55.9	
LCBS	**La Ceiba**	**4.38**	**230**	*eP*	x	09 11 02.4	
LCBS				*e*S	x	09 11 53.4	
CSAN		**4.39**	**192**	*eP*	**Pn**	**09 11 03.0**	**+0.8**
CSAN				*e*S	**Sn**	**09 11 51.3**	**-1.8**
MGAN	**Managua**	**4.39**	**189**	*eP*	**Pn**	**09 11 02.3**	**0.0**
MGAN				*e*S	**Sn**	**09 11 52.8**	**-0.4**
MGAN				AML	AML	09 11 58.5	
	comp=N,563nm,0.6s						
TISN	**Laguna Tiscapa**	**4.40**	**190**	*eP*	**Pn**	**09 11 02.8**	**+0.4**
TISN				*e*S	**Sn**	**09 11 55.7**	**+2.2**
XAVN	**Gruta Xavier**	**4.40**	**190**	*eP*	**Pn**	**09 11 00.6**	**-1.8**
XAVN				*e*S	**Sn**	**09 11 50.9**	**-2.6**
LFRS	**El Faro**	**4.46**	**231**	*eP*	x	09 11 03.7	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TICN	**Ticuantepe**	**4.50**	**189**	*eP*	**Pn**	**09 11 03.1**	**-0.6**
TICN				*e*S	**Sn**	**09 11 57.3**	**+1.4**
TEIG	**Tepich**	**4.53**	**325**	Pn	**Pn**	**09 11 03.2**	**-1.0**
	comp=N,70nm,0.3s,baz=348,slow=0.7,SNR=70						
TEIG				Sn	**Sn**	**09 11 53.2**	**-3.5**
	comp=N,16nm,0.3s,baz=66,slow=22,SNR=6.7						
TEIG	**Tepich**	**4.53**	**325**	*e*Pn	**Pn**	**09 11 02.6**	**-1.6**
TEIG				Sn	**Sn**	**09 11 53.2**	**-3.5**
BOQS	**Boqueron**	**4.56**	**233**	*eP*	x	09 11 06.6	
CRUN	**El Crucero**	**4.56**	**190**	*eP*	**Pn**	**09 11 06.2**	**+1.6**
CRUN				*e*S	**Sn**	**09 11 58.9**	**+1.5**
APON	**Apoyo**	**4.59**	**187**	⇓*eP*	**Pn**	**09 11 05.3**	**+0.3**
APON				*e*S	**Sn**	**09 11 59.7**	**+1.5**
RBDL	**Robledal**	**4.67**	**240**	*eP*	x	09 11 08.7	
SNJE	**San Jose**	**4.74**	**237**	*eP*	x	09 11 09.7	
RTR	**El Retiro**	**4.75**	**237**	*eP*	x	09 11 10.6	
SBLS	**San Blas**	**4.77**	**237**	*eP*	x	09 11 10.5	
SBLS				*e*S	x	09 12 08.6	
CONN	**Concepcion**	**4.91**	**181**	⇓*eP*	**Pn**	**09 11 07.5**	**-1.9**
MADN	**Villa Maderas**	**5.07**	**180**	*eP*	**Pn**	**09 11 14.6**	**+3.0**
SOR	**Soroa**	**6.69**	**20**	*eP*	**Pn**	**09 11 38.2**	**+4.4**
	baz=203						
SOR				*e*S	**Sn**	**09 12 46.7**	**-3.1**
	comp=N,305nm,0.1s						
SOR				*e*			
	comp=E,303nm,0.1s						
CMIG	**Matias Romero**	**8.99**	**275**	Pn	**Pn**	**09 11 58.1**	**-7.3**
	comp=E,0.4nm,0.3s,baz=92,slow=16,SNR=7.0						
CMIG				Sn	**Sn**	**09 13 32.5**	**-14**
	comp=E,0.1nm,0.3s,baz=185,slow=21,SNR=2.0						
CMIG				LR	LR	09 15 38.5	
	comp=E,59nm,19.0s,baz=71,slow=39						
BCIP	**Isla Barro Col**	**9.16**	**142**	Pn	**Pn**	**09 11 59.7**	**-8.1**
JCT	**Junction City**	**19.08**	**319**	*eP*	**Pn**	**09 14 18.0**	**-0.9**
	comp=E,4.9nm,0.4s						
TKL	**Tuckaleechee C**	**19.14**	**4**	P	**Pn**	**09 14 21.2**	**+1.6**
	comp=E,0.1nm,0.3s,baz=140,slow=16,SNR=2.5						
TKL				S	**Sn**	**09 17 53.7**	**-0.2**
	comp=E,0.2nm,0.3s,baz=113,slow=13,SNR=3.2						
TKL	**Tuckaleechee C**	**19.14**	**4**	P	**Pn**	**09 14 21.2**	**+1.6**
TKL				S	**Sn**	**09 17 53.7**	**-0.2**
TXAR	**Lajitas Array**	**21.00**	**311**	P	**P**	**09 14 38.2**	**-0.8**
	comp=E,1.1nm,0.7s,baz=131,slow=10,SNR=14						
WMOK	**Wichita Mounta**	**21.70**	**329**	*eP*	**P**	**09 14 47.5**	**+1.0**
	comp=E,4.1nm,1.1s,mb3.8						
ANMO	**Albuquerque**	**26.23**	**318**	P	**P**	**09 15 30.8**	**+0.2**
	comp=E,1.4nm,0.8s,mb3.5,baz=134,slow=13,SNR=8.3						
ANMO	**Albuquerque**	**26.23**	**318**	*eP*	**P**	**09 15 30.6**	**0.0**
	comp=E,1.6nm,0.8s,mb3.6						
V15A	**Kaibab Nationa**	**30.53**	**314**	⇓*eP*	**P**	**09 16 10.8**	**+1.8**
	baz=31,SNR=8.0						
U14A	**Mt Trumbull**	**31.54**	**314**	⇑*eP*	**P**	**09 16 18.2**	**+0.3**
	baz=32						
T14A	**Hurricane**	**31.82**	**315**	⇑*eP*	**P**	**09 16 18.4**	**-1.9**
	baz=32,SNR=5.1						
U13A	**Pakoon Wash**	**32.08**	**314**	⇓*eP*	**P**	**09 16 21.1**	**-1.6**
	baz=32						
T13A	**Saint George**	**32.35**	**315**	⇓*eP*	**P**	**09 16 26.2**	**+1.2**
	baz=33,SNR=6.4						
V12A	**Nelson**	**32.37**	**312**	⇑*eP*	**P**	**09 16 26.5**	**+1.4**
	baz=33						
S13A	**Holt Ranch, En**	**32.62**	**316**	⇓*eP*	**P**	**09 16 25.9**	**-1.4**
	baz=33,SNR=6.1						
P14A	**Drum Mountains**	**33.23**	**319**	⇓*eP*	**P**	**09 16 33.7**	**+1.1**
	baz=34						
Q13A	**Wheeler Ranch,**	**33.48**	**318**	⇑*eP*	**P**	**09 16 35.3**	**+0.6**
	baz=34						
S11A	**Rachel**	**33.93**	**314**	⇓*eP*	**P**	**09 16 39.8**	**+1.0**
	baz=34,SNR=6.0						
TPNV	**Topopah Spring**	**33.94**	**313**	⇓*eP*	**P**	**09 16 40.4**	**+1.6**
	baz=34						
FURC	**Furnace Creek,**	**34.15**	**312**	⇓*eP*	**P**	**09 16 42.1**	**+1.4**
	baz=34						
L15A	**Malad City**	**34.30**	**323**	⇑*eP*	**P**	**09 16 43.9**	**+2.0**
	baz=35						
R10A	**Warm Springs**	**34.64**	**315**	⇓*eP*	**P**	**09 16 45.9**	**+1.0**
	baz=35						
S10A	**Tonopah Range,**	**34.66**	**314**	⇑*eP*	**P**	**09 16 45.7**	**+0.6**
	baz=35,SNR=10						
S09A	**Goldfield**	**34.99**	**313**	⇓*eP*	**P**	**09 16 47.9**	**0.0**
	baz=35						
R09A	**Tonopah**	**35.14**	**314**	⇑*eP*	**P**	**09 16 50.5**	**+1.3**
	baz=35,SNR=5.8						
L13A	**Double Diamond**	**35.26**	**322**	⇑*eP*	**P**	**09 16 51.0**	**+0.8**
	baz=36						
S08C	**White Mtn Res**	**35.55**	**312**	⇓*eP*	**P**	**09 16 54.5**	**+1.7**
	baz=36,SNR=5.9						
J14A	**Carey**	**35.79**	**324**	⇓*eP*	**P**	**09 16 58.0**	**+3.3**
	baz=36						
M11A	**Holland Ranch,**	**35.99**	**320**	⇓*eP*	**P**	**09 16 59.2**	**+2.7**
	baz=36						
Q08A	**Gabbs**	**36.03**	**315**	⇓*eP*	**P**	**09 16 57.0**	**+0.2**
	baz=36,SNR=6.9						
NVAR	**Mina Array Bea**	**36.08**	**314**	P	**P**	**09 16 56.7**	**-0.6**
	comp=E,3.3nm,0.7s,mb4.4,baz=122,slow=7.8,SNR=14						
NVAR	**Mina Array Bea**	**36.08**	**314**	P	**P**	**09 16 56.7**	**-0.6**
O09A	**Fish Creek Ran**	**36.19**	**317**	⇑*eP*	**P**	**09 16 59.2**	**+1.0**
	baz=36						
M07A	**Soldier Meadow**	**38.11**	**317**	⇓*eP*	**P**	**09 17 13.3**	**-1.2**
	baz=38						
BEKR	**Beckwourth**	**38.16**	**315**	⇑*eP*	**P**	**09 17 13.5**	**-1.4**
	baz=38						
N06A	**Buffalo Meadow**	**38.23**	**316**	⇓*eP*	**P**	**09 17 14.7**	**-0.8**
	baz=38						
J09A	**Fry Pan Ranch,**	**38.27**	**321**	⇓*eP*	**P**	**09 17 15.5**	**-0.3**
	baz=39						
K08A	**Mann Creek Ran**	**38.38**	**320**	⇑*eP*	**P**	**09 17 15.5**	**-1.3**
	baz=39,SNR=8.1						
L07A	**Adell**	**38.54**	**318**	⇓*eP*	**P**	**09 17 17.0**	**-1.1**
	baz=39						
O04C	**Chester**	**38.87**	**315**	⇑*eP*	**P**	**09 17 18.9**	**-2.0**
	baz=39						
G08A	**Pilot Rock**	**40.09**	**323**	⇓*eP*	**P**	**09 17 29.8**	**-1.2**
	baz=40						
YKA	**Yellowknife Ar**	**50.26**	**343**	P	**P**	**09 18 50.1**	**-1.4**
	comp=E,0.8nm,0.7s,mb3.9,baz=142,slow=7.3,SNR=3.0						
NOA	**NORSAR Array B**	**78.94**	**30**	P	**P**	**09 21 57.8**	**-1.1**
	comp=E,0.4nm,0.7s,mb3.5,baz=279,slow=4.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**83.73**	**78**	P	**P**	**09 22 22.1**	**-3.1**
	comp=E,0.9nm,1.1s,mb3.8,baz=276,slow=5.7,SNR=2.9						
WRA	**Warramunga Arr**	**142.05**	**259**	PKhKP		09 29 19.7	
	comp=E,0.2nm,0.7s,baz=89,slow=2.5,SNR=4.5						
WRA				PKP	PKPdf	09 29 23.9	-4.6
	comp=E,0.4nm,0.8s,baz=90,slow=2.6,SNR=5.4						
ASAR	**Alice Springs**	**142.39**	**253**	PKhKP		09 29 18.6	
	comp=E,0.4nm,0.7s,baz=92,slow=3.7,SNR=7.4						
CMAR	**Chiang Mai Arr**	**144.98**	**353**	PKPbc	PKPdf	09 29 30.4	-3.4
	comp=E,1.3nm,0.5s,baz=334,slow=4.1,SNR=6.7						

*IDC **12** 09:28:58.8±2.0, 030N×12691E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=165.8km s-min=24.6km az=66.0*
*ISCJB **12** 09:29:01.9±1.3, 0.1N±0.1×1265E±0.1, h33km, mb3.7/3, Error ellipse: s-maj=24.2km s-min=11.0km az=32.9*
*DJA **12** 09:29:07, 0.17N×12665E, h29km, ML4.0/1*
ISC 12 09:29:04.2±1.3, 01N±01×1266E±02, h35km, n5, σ0§96/6, mb3.7/3, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.00**	**50**	⇓*eP*	**Pn**	**09 29 20.5**	**-1.3**
TNE				*e*S	**Sn**	**09 29 35.5**	**+0.7**
WRA	**Warramunga Arr**	**21.34**	**160**	P	**P**	**09 33 48.1**	**-0.3**
	0.7nm,0.4s,mb3.4,baz=339,slow=11,SNR=28						
WB2	**Warramunga Arr**	**21.35**	**160**	*eP*	**P**	**09 33 48.5**	**0.0**
ASAR	**Alice Springs**	**24.70**	**164**	P	**P**	**09 34 22.7**	**+0.6**
	0.6nm,0.3s,mb3.6,baz=347,slow=9.5,SNR=29						
MKAR	**Makanchi Array**	**60.44**	**327**	P	**P**	**09 39 10.6**	**+0.3**
	0.8nm,0.4s,mb4.1,baz=120,slow=7.2,SNR=8.7						

*ISCJB **12** 09:40:06.8±2.1, 190S±02×1692E±02, h266km±18km, mb3.8/10, Error ellipse: s-maj=26.8km s-min=24.9km az=165.8*
*NEIC **12** 09:40:06.4±2.5, 1894S×16937E, h254km±22km, mb4.0/3, Error ellipse: s-maj=27.8km s-min=23.3km az=174.0*
*IDC **12** 09:40:16.4±9.6, 1896S×16899E, h343km±90km, mb3.4/10, mb1 3.6/10, mb1mx3.4/18, mbtmp3.4/10, Error ellipse: s-maj=39.0km s-min=23.4km az=70.0*
ISC 12 09:40:07.2±2.1, 190S±02×1693E±02, h254km±19km, n22, σ1§21/19, mb3.8/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.06**	**220**	*eP*	**Pn**	**09 41 11.7**	**-0.1**
CTA	**Charters Tower**	**21.70**	**263**	*eP*	**P**	**09 44 40.8**	**+2.6**
	4.8nm,1.2s,mb3.9						
CTA	**Charters Tower**	**21.70**	**263**	P	**P**	**09 44 39.4**	**+1.2**
	3.6nm,0.8s,mb4.0,baz=90,slow=8.5,SNR=6.1						
CTAO	**Charters Tower**	**21.70**	**263**	*eP*	**P**	**09 44 40.2**	**+2.0**
	1.8nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**28.00**	**237**	*eP*	**P**	**09 45 36.9**	**+2.1**
	1.6nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**28.00**	**237**	P	**P**	**09 45 35.5**	**+0.7**
	1.6nm,0.6s,mb3.8,baz=81,slow=6.8,SNR=7.9						
STKA	**Stephens Creek**	**28.00**	**237**	*eP*	**P**	**09 45 36.4**	**+1.6**
WB2	**Warramunga Arr**	**32.89**	**262**	*eP*	**P**	**09 46 16.7**	**-1.1**
WRA	**Warramunga Arr**	**32.90**	**262**	P	**P**	**09 46 15.8**	**-2.1**
	1.0nm,0.3s,mb3.9,baz=81,slow=6.3,SNR=68						
ASAR	**Alice Springs**	**33.21**	**256**	P	**P**	**09 46 20.6**	**+0.2**
	13nm,0.4s,mb4.8,baz=85,slow=9.2,SNR=494						
FITZ	**Fitzroy Crossi**	**41.28**	**264**	*eP*	**P**	**09 47 29.5**	**+1.3**
	3.5nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**41.28**	**264**	P	**P**	**09 47 28.6**	**+0.4**
	2.0nm,0.5s,mb3.8,baz=97,slow=10.0,SNR=9.7						
SBA	**Scott Base**	**58.93**	**181**	*eP*	**P**	**09 49 38.2**	**-1.1**
QSPA	**South Pole Qui**	**71.08**	**180**	P	**P**	**09 50 57.8**	**+0.6**
	1.7nm,0.9s,mb3.7,baz=354,slow=1.1,SNR=10						
QSPA	**South Pole Qui**	**71.08**	**180**	P	**P**	**09 50 57.8**	**+0.6**
PETK	**Petropavlovsk-**	**72.47**	**353**	P	**P**	**09 51 05.7**	**0.0**
	1.4nm,0.9s,mb3.6,baz=147,slow=8.8,SNR=4.6						
CMAR	**Chiang Mai Arr**	**78.41**	**294**	P	**P**	**09 51 37.4**	**-2.7**
	0.6nm,0.5s,mb3.5,baz=91,slow=36,SNR=2.9						
SONM	**Songino Array**	**87.01**	**323**	P	**P**	**09 52 24.5**	**+0.9**
	0.5nm,0.6s,mb3.4,baz=120,slow=5.3,SNR=4.1						
NVAR	**Mina Array Bea**	**88.61**	**49**	P	**P**	**09 52 31.8**	**+0.4**
	0.4nm,0.7s,mb3.4,baz=235,slow=7.6,SNR=4.3						
ARCES	**ARCESS Array B 124.81**	**345**	PKP	PKPdf		09 58 34.3	-1.7
	0.5nm,0.4s,baz=86,slow=2.4,SNR=6.8						
GERES	**GERESS Array B 144.26**	**332**	PKP	PKPdf		09 59 11.3	-1.3
	0.4nm,0.5s,baz=48,slow=4.3,SNR=5.2						
DAVOX	**Davos/Dischmat 147.50**	**333**	PKPbc	PKPbc		09 59 21.0	-0.1
	1.6nm,0.4s,baz=292,slow=5.4,SNR=6.4						

*ISCJB **12** 09:40:16.5±0.5, 075S±005×10098E±006, h199km±4km, mb3.8/20, Error ellipse: s-maj=11.0km s-min=6.3km az=145.6*
*NEIC **12** 09:40:17.1±0.4, 056S×10130E, mb4.5/6, Error ellipse: s-maj=15.8km s-min=6.6km az=57.0*
*IDC **12** 09:40:17.3±0.6, 061S×10139E, h184km±5km, mb3.6/17, mb1 3.7/19, mb1mx3.5/27, mbtmp3.6/19, Error ellipse: s-maj=19.2km s-min=9.2km az=57.0*
*DJA **12** 09:40:19, 074S×10104E, h177km, ML4.4/9*
ISC 12 09:40:17.4±0.5, 075S±005×10099E±006, h192km±4km, h186km±3.8km: pP-P, n60, σ1§12/58, mb3.8/20, 5C-8D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.66**	**296**	P	**Pn**	**09 40 43.6**	**-0.7**
	0.0nm,0.0s						
RGRI	**Rengat**	**1.40**	**74**	P	**Pn**	**09 40 48.6**	**-0.9**
	0.0nm,0.0s						
JMBI	**JAMBI**	**2.79**	**108**	P	**Pn**	**09 41 03.9**	**-0.3**
	0.0nm,0.0s						
KSI	**Kapahiang**	**3.30**	**151**	P	**Pn**	**09 41 10.1**	**-0.2**
	0.0nm,0.0s						
TRSI	**Tarutung**	**3.42**	**324**	P	**Pn**	**09 41 14.4**	**+2.6**
	0.0nm,0.0s						
DSRI	**Dabo**	**3.60**	**86**	P	**Pn**	**09 41 13.4**	**-0.5**
	0.0nm,0.0s						
KGM	**Kluang**	**3.60**	**40**	⇑P	**Pn**	**09 41 13.7**	**-0.2**
MYKOM	**Kota Tinggi**	**3.81**	**49**	⇑P	**Pn**	**09 41 16.5**	**-0.1**
TPRI	**Tanjung Pinang**	**3.91**	**65**	P	**Pn**	**09 41 17.0**	**-0.8**
	0.0nm,0.0s						
FRIM	**Kepong**	**4.01**	**9**	⇑P	**Pn**	**09 41 19.2**	**+0.2**
PSI	**Prapat**	**4.08**	**330**	P	**Pn**	**09 41 19.1**	**-1.0**
	8.5nm,0.3s,baz=146,slow=11,SNR=88						
PSI				S	**Sn**	**09 41 59.3**	**-7.7**
	1.3nm,0.3s,baz=132,slow=22,SNR=2.9						
IPM	**Ipoh**	**5.19**	**0**	⇑P	**Pn**	**09 41 35.7**	**+1.6**
PPBI	**Pangkal Pinang**	**5.33**	**105**	P	**Pn**	**09 41 36.6**	**+0.6**
	0.0nm,0.0s						
KULM	**Kulim**	**6.01**	**357**	⇓P	**Pn**	**09 41 45.6**	**+0.9**
KTGM	**Kuala Trenggan**	**6.40**	**20**	⇓P	**Pn**	**09 41 50.5**	**+0.6**
BSI	**Banda Aceh**	**8.41**	**318**	P	**Pn**	**09 42 14.6**	**-1.5**
	0.0nm,0.0s						
KSM	**Kuching**	**9.58**	**77**	⇓P	**Pn**	**09 42 36.6**	**+5.2**
BJII	**Banjamegara**	**10.88**	**127**	P	**Pn**	**09 42 48.4**	**+0.1**
	0.0nm,0.0s						
SBUM	**Sibu**	**11.67**	**74**	⇓P	**Pn**	**09 43 00.8**	**+2.4**
SJI	**Sawahan**	**12.79**	**123**	P	**Pn**	**09 43 12.6**	**0.0**
	0.0nm,0.0s

ARCES ARCESS Array B 85.64 340 P **P** **09 52 34.2 +0.2**
1.5nm,1.0s,mb3.7,baz=87,slow=5.0,SNR=6.9
ARCES pP pP 09 53 21.1 -0.1
0.7nm,0.8s,baz=90,slow=4.9,SNR=1.7
QSPA South Pole Qui 89.21 180 P **P** **09 52 52.7 +1.8**
0.9nm,0.8s,mb3.6,baz=297,slow=3.6,SNR=6.8
TXAR Lajitas Array 143.11 37 PKhKP 09 59 26.2
0.4nm,0.4s,baz=190,slow=1.5,SNR=13
JCT Junction City 144.44 32 *eP* PKPdf 09 59 31.1 -0.4
CPUP Villa Florida 145.91 216 PKPbc PKPbc 09 59 36.2 +1.1
0.8nm,0.5s,baz=151,slow=1.4,SNR=6.1
CPUP pPKPbc pPKPbc 10 00 23.9 -0.4
2.0nm,0.8s,baz=81,slow=3.8,SNR=3.0

BJI ***12*** *09:55:42.5, 061N×12429E, h258km, mB4.8, mb5.0*
MOS ***12*** *09:55:48.3±1.0, 113N×12390E, h275km, mb5.1/39, Error ellipse: s-maj=9.7km s-min=5.4km az=115.5*
IDC ***12*** *09:55:49.6±0.8, 106N×12391E, h271km±7km, mb4.7/35, mb1 4.7/38, mb1mx4.7/39, mbtmp4.7/38, Error ellipse: s-maj=10.0km s-min=5.4km az=78.0*
ISCJB ***12*** *09:55:49.0±0.3, 103N±002×12401E±003, h285km±2km, mb5.0/121, Error ellipse: s-maj=4.4km s-min=3.0km az=171.9*
DJA ***12*** *09:55:50, 108N×12406E, h269km, ML5.5/8*
NEIC ***12*** *09:55:50.0±0.7, 107N×12386E, h278km±6km, mb5.1/46, Error ellipse: s-maj=6.5km s-min=4.1km az=68.0*
ISC 12 09:55:50.0±0.3, 103N±002×12400E±003, h279km±2km, h270km±3.5km; pP-P, n360, σ1.9±14/345, mb5.0/119, 26C-30D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**0.94**	**64**	P		**Pn**	**09 56 26.0**	**-1.9**
	0.0nm,0.0s							
MNI	**Manado**	**0.94**	**64**	⇓*eP*		**Pn**	**09 56 25.0**	**-2.9**
MNI				*eS*		**S**	**09 56 56.0**	**-1.8**
TNE	**Ternate**	**3.38**	**94**	⇑*eP*		**Pn**	**09 56 42.0**	**-6.4**
TNE				*eS*		**S**	**09 57 29.0**	**-5.8**
LBMI	**Labuha**	**3.87**	**115**	P		**Pn**	**09 56 51.6**	**-2.2**
	0.0nm,0.0s							
PCI	**Palu**	**4.58**	**245**	P		**Pn**	**09 57 00.5**	**-1.4**
	0.0nm,0.0s							
PCI	**Palu**	**4.58**	**245**	⇑*eP*		**Pn**	**09 57 00.3**	**-1.6**
KDI	**Kendari**	**5.14**	**196**	P		**Pn**	**09 57 06.1**	**-2.4**
	0.0nm,0.0s							
KDI	**Kendari**	**5.14**	**196**	⇑*eP*		**Pn**	**09 57 06.1**	**-2.4**
KDI				*eS*		**S**	**09 58 05.7**	**-5.7**
DAV	**Davao City (W)**	**6.21**	**15**	P		**Pn**	**09 57 22.2**	**+0.8**
	7.5nm,0.3s,baz=113,slow=0.4,SNR=3.7							
DAV				S		**S**	**09 58 34.3**	**-0.5**
	baz=71,slow=21,SNR=3.4							
DAV	**Davao City (W)**	**6.21**	**15**	P		**Pn**	**09 57 22.2**	**+0.8**
DAV				S		**S**	**09 58 34.3**	**-0.5**
AAI	**Ambon**	**6.29**	**138**	P		**Pn**	**09 57 23.0**	**+0.6**
	0.0nm,0.0s							
AAI	**Ambon**	**6.29**	**138**	⇓*eP*		**Pn**	**09 57 19.0**	**-3.4**
MATI	**Mati**	**6.29**	**21**	*eP*		**S**	**09 58 39.4**	**+2.6**
BBSI	**Bau Bau**	**6.63**	**192**	P		**Pn**	**09 57 26.3**	**-0.2**
	0.0nm,0.0s							
MYLDM	**Lahad Datu**	**6.87**	**307**	⇑P		**Pn**	**09 57 30.3**	**+0.8**
MYLDM	**Lahad Datu**	**6.87**	**307**	⇑P		**Pn**	**09 57 31.2**	**+1.7**
BUKP	**Musuan**	**6.89**	**9**	*eP*		**Pn**	**09 57 29.9**	**+0.1**
TSM	**Tawau**	**6.92**	**298**	⇑P		**Pn**	**09 57 30.3**	**0.0**
SMKI	**Samarinda**	**6.95**	**258**	P		**Pn**	**09 57 30.5**	**0.0**
	1μm,1.0s							
KAPI	**Kappang**	**7.35**	**215**	Pn		**Pn**	**09 57 34.4**	**-1.1**
	1μm,0.8s,SNR=34							
KAPI	**Kappang**	**7.35**	**215**	P		**Pn**	**09 57 34.4**	**-1.0**
	SNR=19							
KAPI	**Kappang**	**7.35**	**215**	P		**Pn**	**09 57 34.4**	**-1.0**
	baz=270,slow=20							
KAPI	**Kappang**	**7.35**	**215**	⇑*e*Pn		**Pn**	**09 57 33.7**	**-1.8**
BIPH	**Bislig**	**7.49**	**18**	⇑*eP*		**Pn**	**09 57 35.2**	**-2.0**
BIPH				*eS*		**S**	**09 58 58.2**	**-5.5**
MKS	**Makassar**	**7.68**	**216**	⇑*eP*		**Pn**	**09 57 38.9**	**-0.6**
MKS				*eS*		**S**	**09 59 07.5**	**-0.5**
SDKM	**Sandakan**	**8.19**	**304**	⇑P		**Pn**	**09 57 48.4**	**+2.5**
TBP	**Tagbilaran**	**8.61**	**359**	*eP*		**Pn**	**09 57 51.2**	**+0.2**
SCPH	**Surigao**	**8.82**	**10**	⇑*eP*		**Pn**	**09 57 53.6**	**-0.2**
MSLP	**Maasin**	**9.09**	**5**	*eP*		**Pn**	**09 57 57.6**	**+0.5**
KKM	**Kota Kinabalu**	**9.23**	**303**	⇓P		**Pn**	**09 57 59.4**	**+0.6**
KKM	**Kota Kinabalu**	**9.23**	**303**	⇓*e*Pn		**Pn**	**09 57 58.1**	**-0.7**
KKM				*eS*		**S**	**09 59 32.8**	**-11**
KDM	**Kudat**	**9.23**	**309**	⇑P		**Pn**	**09 58 01.5**	**+2.6**
GUIM	**Jordan**	**9.64**	**352**	*eP*		**Pn**	**09 58 04.3**	**+0.4**
BATP	**Bataraza**	**9.88**	**322**	*eP**		**Pn**	**09 58 00.6**	**-6.3**
RCP	**Roxas**	**10.54**	**353**	⇓*eP**		**Pn**	**09 58 15.9**	**+0.9**
ENPP	**El Nido**	**11.08**	**336**	*eP**		**Pn**	**09 58 21.6**	**-0.2**
BTM	**Bintulu**	**11.12**	**281**	⇓P		**Pn**	**09 58 23.1**	**+0.9**
BATI	**Baumata**	**11.17**	**182**	P		**Pn**	**09 58 23.9**	**+1.1**
	0.0nm,0.0s							
BATI	**Baumata**	**11.17**	**182**	P		**Pn**	**09 58 24.5**	**+1.7**
	44nm,0.3s,baz=349,slow=0.4,SNR=22							
BATI				S		**S**	**10 00 30.5**	**+2.7**
	baz=105,slow=18,SNR=3.6							
WSI	**Waingapu**	**11.25**	**199**	⇓*eP*		**Pn**	**09 58 20.5**	**-3.3**
WSI				*eS*		**S**	**10 00 38.4**	**+8.7**
CNP	**Cataman**	**11.43**	**3**	*eP*		**Pn**	**09 58 26.3**	**+0.3**
OTRP	**Odiongan**	**11.43**	**350**	*eP*		**Pn**	**09 58 25.7**	**-0.4**
SJMP	**San Jose**	**11.71**	**346**	*eP*		**Pn**	**09 58 30.4**	**+0.9**
SBUM	**Sibu**	**11.86**	**277**	⇓P		**Pn**	**09 58 32.0**	**+0.7**
MTNI	**Mataram**	**12.37**	**219**	P		**Pn**	**09 58 38.2**	**+0.6**
	0.0nm,0.0s							
PVCP	**Virac**	**12.49**	**1**	*eP*		**Pn**	**09 58 40.8**	**+1.8**
KHKI	**Kahang-Kahang**	**12.53**	**222**	P		**Pn**	**09 58 42.2**	**+2.6**
	0.0nm,0.0s							
STKI	**Sintang**	**12.56**	**266**	P		**Pn**	**09 58 40.3**	**+0.4**
	0.0nm,0.0s							
LUBP	**Lubang**	**13.16**	**344**	*eP*		**Pn**	**09 58 47.8**	**+0.6**
KSM	**Kuching**	**13.69**	**272**	⇑P		**Pn**	**09 58 55.7**	**+2.0**
KSM	**Kuching**	**13.69**	**272**	*eP*		**Pn**	**09 58 53.6**	**-0.1**
BALP	**Baler**	**14.81**	**351**	*eP*		**Pn**	**09 59 06.8**	**-0.2**
SJI	**Sawahan**	**14.99**	**234**	P		**Pn**	**09 59 07.7**	**-1.4**
	0.0nm,0.0s							
SCZP	**Santa Cruz**	**15.20**	**345**	*eP*		**Pn**	**09 59 10.1**	**-1.5**
CAUP	**Cauayan**	**15.96**	**352**	*eP*		**Pn**	**09 59 20.0**	**-0.5**
KAKA	**Kakadu**	**16.02**	**149**	⇓*iP*		**P**	**09 59 19.5**	**0.0**
	101nm,0.3s							
KAKA				*eS*		**S**	**10 02 09.1**	**-4.4**
BJII	**Banjamegara**	**16.50**	**240**	P		**P**	**09 59 25.3**	**+0.5**
	0.0nm,0.0s							
APYP	**Conner**	**16.95**	**351**	*eP*		**P**	**09 59 30.7**	**+1.1**
JAY	**Jayapura**	**17.07**	**102**	P		**P**	**09 59 31.8**	**+0.8**
	0.0nm,0.0s							
MMPI	**Merauke**	**18.86**	**120**	P		**P**	**09 59 51.8**	**+1.5**
	0.0nm,0.0s							
FITZ	**Fitzroy Crossi**	**19.08**	**175**	⇓*iP*		**P**	**09 59 51.5**	**-1.0**
	106nm,0.3s							
FITZ				*eS*		**S**	**10 03 09.5**	**-4.4**
FITZ	**Fitzroy Crossi**	**19.08**	**175**	P		**P**	**09 59 51.6**	**-0.9**
	4.7nm,0.3s,baz=10,slow=11,SNR=56							
FITZ				S		**S**	**10 03 08.5**	**-5.4**
	0.5nm,0.3s,baz=187,slow=22,SNR=8.8							
MYKOM	**Kota Tinggi**	**20.16**	**272**	⇓P		**P**	**10 00 07.7**	**+3.6**
KGM	**Kluang**	**20.70**	**273**	⇓P		**P**	**10 00 11.4**	**+1.7**
KTGM	**Kuala Trenggan**	**21.26**	**282**	⇑P		**P**	**10 00 17.2**	**+2.0**
KSI	**Kapahiang**	**21.89**	**258**	P		**P**	**10 00 21.2**	**+0.3**
	0.0nm,0.0s							
MBWA	**Marble Bar**	**22.44**	**190**	P		**P**	**10 00 26.2**	**+0.4**
	SNR=9.3							
MBWA	**Marble Bar**	**22.44**	**190**	*eP*		**P**	**10 00 25.6**	**-0.2**
	146nm,1.4s,mb5.1							
FRIM	**Kepong**	**22.46**	**276**	⇓P		**P**	**10 00 28.7**	**+2.5**
QIZ	**Qiongzhong**	**22.64**	**323**	P		**P**	**10 00 27.5**	**-0.2**
QIZ				XP		sP	10 01 47.2	-3.1
QIZ				S		**S**	**10 04 15.4**	**+0.8**
QIZ				AMB		AMB		
	comp=Z,34nm,2.1s,mb4.3							
QIZ				AMB		AMB		
	comp=Z,490nm,4.0s							
WRAB	**Tennant Creek**	**23.17**	**155**	P		**P**	**10 00 32.0**	**-0.5**
	comp=Z,2μm,0.4s							
WRAB	**Tennant Creek**	**23.17**	**155**	*eP*		**P**	**10 00 32.4**	**0.0**
WRAB				*eS*		**S**	**10 04 17.1**	**-5.9**
WRA	**Warramunga Arr**	**23.18**	**155**	P		**P**	**10 00 32.2**	**-0.3**
	comp=Z,148nm,0.4s,mb5.7,baz=336,slow=9.9,SNR=864							
WRA				S		**S**	**10 04 19.7**	**-3.4**
	comp=Z,87nm,1.0s,baz=337,slow=16,SNR=18							
WB2	**Warramunga Arr**	**23.18**	**155**	⇓*iP*		**P**	**10 00 32.1**	**-0.5**
WB2				*eS*		**S**	**10 04 18.8**	**-4.4**
WB2				*e*SCS		ScS	10 11 08.1	-1.9
IPM	**Ipoh**	**23.20**	**279**	⇑P		**P**	**10 00 34.7**	**+1.9**
YHNB	**Yeheng**	**23.64**	**354**	*eP*		**P**	**10 00 36.3**	**-0.4**
	comp=Z,81nm,0.6s,mb5.2							
PPI	**Padang Panjang**	**23.65**	**267**	P		**P**	**10 00 37.2**	**+0.3**
	comp=Z,0.0nm,0.0s							
KULM	**Kulim**	**23.69**	**281**	⇓P		**P**	**10 00 38.7**	**+1.4**
TATO	**Taipei**	**23.93**	**354**	*eP*		**P**	**10 00 38.7**	**-0.6**
GUMO	**Guam**	**24.14**	**58**	P		**P**	**10 00 40.5**	**-0.8**
	comp=Z,37nm,0.7s,mb4.8,baz=219,slow=12,SNR=2.6							
COEN	**Coen**	**24.14**	**129**	*eP*		**P**	**10 00 41.3**	**0.0**
	comp=Z,40nm,0.4s,mb5.1							
PSI	**Prapat**	**25.12**	**274**	P		**P**	**10 00 50.0**	**-0.3**
	comp=Z,38nm,0.8s,mb4.9,baz=100,slow=5.1,SNR=40							
PSI				ScP		ScP	10 07 29.2	+0.3
	comp=Z,2.6nm,0.3s,baz=194,slow=3.1,SNR=5.7							
PSI	**Prapat**	**25.12**	**274**	P		**P**	**10 00 50.0**	**-0.3**
PSI				ScP		ScP	10 07 29.2	+0.3
PMG	**Port Moresby**	**25.29**	**115**	*d iP*		**P**	**10 00 52.6**	**+0.9**
PMG	**Port Moresby**	**25.29**	**115**	*eP*		**P**	**10 00 52.8**	**+1.0**
JOW	**Kunigami**	**25.98**	**9**	P		**P**	**10 00 59.1**	**+1.4**
	comp=Z,39nm,0.8s,mb4.9,baz=209,slow=23,SNR=7.0							
ASAR	**Alice Springs**	**26.37**	**159**	P		**P**	**10 01 01.8**	**+0.6**
	comp=Z,19nm,0.4s,mb4.9,baz=341,slow=7.7,SNR=574							
ASAR				PP		PP	10 01 56.0	-11
	comp=Z,13nm,0.7s,baz=333,slow=12,SNR=6.3							
ASAR				S		**S**	**10 05 12.5**	**-0.9**
	comp=Z,25nm,1.1s,baz=352,slow=19,SNR=10							
ASAR				ScP		ScP	10 07 35.0	+2.7
	comp=Z,13nm,0.8s,baz=3.7,slow=1.5,SNR=12							
ASAR	**Alice Springs**	**26.37**	**159**	P		**P**	**10 01 01.8**	**+0.6**
ASAR				pP		pP	10 01 56.1	+1.4
ASAR				S		**S**	**10 05 12.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**30.08**	**307**	P		**P**	**10 01 34.0**	**0.0**
	comp=Z,13nm,1.1s,mb4.4,baz=134,slow=7.2,SNR=31							
CMAR				PP		PP	10 02 44.0	-4.5
	comp=Z,2.9nm,0.7s,baz=110,slow=6.8,SNR=2.3							
CMAR				PcP		PcP	10 04 29.1	+0.5
	comp=Z,7.2nm,0.8s,baz=176,slow=1.6,SNR=18							
CMAR				ScP		ScP	10 07 46.1	+2.1
	comp=Z,5.0nm,0.9s,baz=163,slow=2.6,SNR=18							
CMAR	**Chiang Mai Arr**	**30.08**	**307**	P		**P**	**10 01 34.1**	**0.0**
CMAR							10 04 29.1	
CHTO	**Chiang Mai**	**30.27**	**307**	P		**P**	**10 01 37.0**	**+1.3**
	SNR=5.4							
CHTO	**Chiang Mai**	**30.27**	**307**	*eP*		**P**	**10 01 36.2**	**+0.4**
CHTO				pmax		pmax		
	comp=Z,42nm,1.2s,mb4.8							
CHTO	**Chiang Mai**	**30.27**	**307**	*eP*		**P**	**10 01 36.2**	**+0.4**
	comp=Z,42nm,1.2s,mb4.8							
CTA	**Charters Tower**	**30.27**	**135**	⇓*iP*		**P**	**10 01 37.1**	**+1.3**
	comp=Z,26nm,1.5s,mb4.5							
CTA				*e*SCP		ScP	10 07 48.2	+3.6
CTA	**Charters Tower**	**30.27**	**135**	P		**P**	**10 01 36.6**	**+0.9**
	comp=Z,19nm,0.8s,mb4.7,baz=318,slow=12,SNR=33							
CTA	**Charters Tower**	**30.27**	**135**	⇓*iP*		**P**	**10 01 37.1**	**+1.3**
CTA				pmax		pmax		
	comp=Z,27nm,1.5s							
CTAO	**Charters Tower**	**30.27**	**135**	*eP*		**P**	**10 01 37.0**	**+1.2**
CTAO				pmax		pmax		
	comp=Z,81nm,1.5s,mb5.0							
CTAO	**Charters Tower**	**30.27**	**135**	*eP*		**P**	**10 01 37.0**	**+1.2**
	comp=Z,81nm,1.5s,mb5.0							
GYA	**Guiyang**	**30.29**	**328**	P		**P**	**10 01 37.1**	**+1.3**
GYA				AP		pP	10 02 31.7	+1.5
GYA				PP		PP	10 02 51.4	+0.7
GYA				PCP		PcP	10 04 30.2	+1.3
GYA				S		**S**	**10 06 17.5**	**+2.6**
GYA				SCP		ScP	10 07 45.7	+1.2
GYA				XS		sS	10 07 52.8	-0.5
GYA				PCS		PcS	10 08 13.2	+0.2
GYA				SS		SS	10 08 23.4	-6.3
GYA				AMB		AMB		
	comp=Z,20nm,0.6s,mb4.8							
GYA				AMB		AMB		
	comp=Z,130nm,4.9s							
GYA				LR		LR		
	comp=N,590nm,17.9s							
GYA				LR		LR		
	comp=E,550nm,16.2s							
GYA				LR		LR		
	comp=Z,560nm,17.8s							
WHN	**Wuhan**	**30.75**	**344**	⇓P		**P**	**10 01 39.9**	**+0.1**
WHN				AMB		AMB		
	comp=Z,91nm,1.0s,mb5.3							
NJ2	**Nanjing**	**31.24**	**352**	*eP*		**P**	**10 01 46.2**	**+2.1**
NJ2				S		**S**	**10 06 33.0**	**+3.5**
NJ2				AMB		AMB		
	comp=Z,60nm,1.0s,mb5.1							
NJ2				AMB		AMB		
	comp=Z,510nm,4.6s							
NJ2				LR		LR		
	comp=N,770nm,18.8s							
NJ2				LR		LR		
	comp=E,300nm,12.2s							
NJ2				LR		LR		
	comp=Z,460nm,15.1s							
CBIJ	**Chichi jima**	**31.25**	**32**	P		**P**	**10 01 44.0**	**-0.2**
	comp=Z,588nm,0.5s,baz=229,slow=2.9,SNR=42							
KMI	**Kunming**	**31.55**	**321**	P		**P**	**10 01 48.4**	**+1.5**
KMI				AP		pP	10 02 42.7	+1.2
KMI				PP		PP	10 03 06.5	+1.8
KMI				XP		sP	10 03 14.5	+0.7
KMI				PPP			10 03 29.5	
KMI				S		**S**	**10 06 37.1**	**+2.6**
KMI				SS		SS	10 08 51.4	-7.1
KMI				SSS			10 09 29.4	
KMI				AMB		AMB		
	comp=Z,22nm,1.5s,mb4.5							
KMI				AMB		AMB		
	comp=Z,201nm,3.4s							
KMI				LR		LR		
	comp=N,325nm,13.9s							
KMI				LR		LR		
	comp=E,196nm,15.3s							
KMI				LR		LR		
	comp=Z,184nm,13.1s							
FORT	**Forrest**	**31.87**	**173**	⇓*iP*		**P**	**10 01 50.0**	**+0.4**
	comp=Z,78nm,0.4s,mb5.6							
FORT				*e*SCP		ScP	10 07 51.6	+1.9
KLBR	**Kellerberrin**	**32.98**	**190**	⇓*iP*		**P**	**10 01 59.1**	**-0.1**
	comp=Z,20nm,0.4s,mb5.0							
KLBR				*eS*		**S**	**10 06 55.0**	**-1.4**
KLBR				*e*SCP		ScP	10 07 56.2	+2.7
MUN	**Mundaring**	**33.65**	**192**	*eP*		**P**	**10 02 04.7**	**-0.2**
NWAO	**Narrogin (SRO)**	**34.37**	**190**	P		**P**	**10 02 11.7**	**+0.5**
	comp=Z,16nm,0.4s,mb4.9,baz=16,slow=9.1,SNR=46							
NWAO	**Narrogin (SRO)**	**34.37**	**190**	*eP*		**P**	**10 02 11.7**	**+0.6**
NWAO				pmax		pmax		
	comp=Z,56nm,1.1s							
NWAO	**Narrogin (SRO)**	**34.37**	**190**	*eP*		**P**	**10 02 11.7**	**+0.5**
	comp=Z,56nm,1.1s,mb5.0							
CD2	**Chengdu**	**35.37**	**329**	⇑*iP*		**P**	**10 02 19.6**	**-0.1**
CD2				AP		pP	10 03 12.5	-2.6
CD2				PP		PP	10 03 51.2	+4.5
CD2				PCP		PcP	10 04 42.7	-0.4
CD2				S		**S**	**10 07 35.6**	**+2.5**
CD2				SS		SS	10 10 15.7	-4.9
CD2				SCS		ScS	10 12 07.2	-0.1
CD2				AMB		AMB		
	comp=Z,60nm,1.0s,mb5.1							
CD2				AMB		AMB		
	comp=Z,70nm,4.8s							
XAN	**Xi'an**	**35.75**	**338**	P		**P**	**10 02 21.9**	**-0.9**
XAN				AMB		AMB		
	comp=Z,73nm,1.0s,mb5.2							
XAN				AMB		AMB		
	comp=Z,122nm,6.9s							
KSRS	**Korea Array**	**36.43**	**5**	P		**P**	**10 02 28.8**	**+0.3**
	comp=Z,16nm,0.9s,mb4.6,baz=178,slow=9.8,SNR=28							
KSRS				PcP		PcP	10 04 47.2	+1.1
	comp=Z,4.5nm,0.7s,baz=186,slow=2.5,SNR=6.5							
KSRS				ScP		ScP	10 08 06.6	+0.7
	comp=Z,3.1nm,0.7s,baz=179,slow=3.7,SNR=6.3							
STKA	**Stephens Creek**	**36.73**	**155**	⇓*iP*		**P**	**10 02 32.2**	**+1.1**
	comp=Z,69nm,0.4s,mb5.4							
STKA				*eS*		**S**	**10 07 53.7**	**0.0**
STKA	**Stephens Creek**	**36.73**	**155**	P		**P**	**10 02 32.2**	**+1.1**
	comp=Z,91nm,0.5s,mb5.5,baz=331,slow=8.2,SNR=553							
STKA				ScP		ScP	10 08 09.9	+2.8
	comp=Z,12nm,0.8s,baz=1.9,slow=6.0,SNR=5.3							
EIDS	**Eidsvold**	**37.08**	**137**	*eP*		**P**	**10 02 37.8**	**+3.5**
	comp=Z,90nm,0.7s,mb5.3							
HNR	**Honiara**	**37.28**	**107**	*eP*		**P**	**10 02 36.1**	**+0.1**
MAJO	**Matsushiro**	**37.71**	**19**	*eP*		**P**	**10 02 37.6**	**-1.7**
MAJO				pmax		pmax		
	comp=Z,46nm,0.7s,mb5.0							
MAJO	**Matsushiro**	**37.71**	**19**	*eP*		**P**	**10 02 37.6**	**-1.7**
	comp=Z,46nm,0.7s,mb5.0							
MAT	**Matsushiro**	**37.71**	**19**	P		**P**	**10 02 38.4**	**-0.9**
MAT				*eS*		**S**	**10 08 10.4**	**+2.1**
MJAR	**Matsushiro Arr**	**37.71**	**19**	P		**P**	**10 02 38.5**	**-0.8**
	comp=Z,41nm,0.8s,mb4.9,baz=192,slow=9.0,SNR=191							
MJAR				PP		PP	10 04 09.9	-2.2
	comp=Z,2.3nm,0.6s,baz=193,slow=8.3,SNR=2.7							
MJAR				PcP		PcP	10 04 51.4	+1.3
	comp=Z,3.4nm,0.7s,baz=188,slow=3.3,SNR=4.5							
MJAR				ScP		ScP	10 08 11.4	+0.7
	comp=Z,2.3nm,0.8s,baz=184,slow=3.7,SNR=6.1							
DL2	**Dalian**	**37.76**	**357**	⇓P		**P**	**10 02 41.2**	**+1.6**
DL2				AMB		AMB		
	comp=Z,80nm,0.6s,mb5.3							
SHL	**Shillong**	**39.42**	**311**	*i* P		**P**	**10 02 54.5**	**+0.9**
SHL				*ex*		x	10 03 55.5	
SHL				*eS*		**S**	**10 08 20.5**	**-14**
BJT	**Baijiatuau**	**39.46**	**351**	*eP*		**P**	**10 02 52.9**	**-0.8**
BJT				pmax		pmax		
	comp=Z,119nm,1.1s							
BJT	**Baijiatuau**	**39.46**	**351**	*eP*		**P**	**10 02 52.9**	**-0.8**
	comp=Z,119nm,1.1s,mb5.2							
BJI	**Beijing**	**39.48**	**351**	P		**P**	**10 02 52.6**	**-1.2**
BJI				AP		pP	10 03 49.5	-0.8
BJI				XP		sP	10 04 20.7	-1.5
BJI				S		**S**	**10 08 33.9**	**-0.7**
BJI				XS		sS	10 10 16.5	+0.8
BJI				AMB		AMB		
	comp=Z,84nm,1.1s,mb5.1							
BJI				LR		LR		
	comp=N,215nm,4.3s							
BJI				LR		LR		
	comp=E,152nm,5.1s							
BJI				LR		LR		
	comp=Z,64nm,25.2s							
LZH	**Lanzhou**	**39.58**	**334**	*eP*		**P**	**10 02 55.8**	**+1.1**
LZH				PCP		PcP	10 04 57.9	+1.9
LZH				*e*S		**S**	**10 08 35.0**	**-1.2**
LZH				AMB		AMB		
	comp=Z,80nm,1.0s,mb5.0							
LZH				AMB		AMB		
	comp=Z,266nm,4.0s							
ARMA	**Armidale**	**40.87**	**142**	⇓*iP*		**P**	**10 03 07.7**	**+2.3**
HHC	**Hu-ho-hao-te**	**41.21**	**346**	*eP*		**P**	**10 03 09.1**	**+1.2**
HHC				PP		PP	10 04 53.5	+3.8
HHC				PCP		PcP	10 05 01.9	+0.7
HHC				SCP		ScP	10 08 19.4	-4.8
HHC				PCS		PcS	10 08 51.5	-1.1
HHC				S		**S**	**10 08 59.4**	**-0.7**
HHC				SCS		ScS	10 12 35.1	-5.7
HHC				AMB		AMB		
	comp=Z,42nm,0.8s,mb4.7							
HHC				AMB		AMB		
	comp=Z,150nm,4.3s							
HHC				LR		LR		
	comp=N,146nm,17.8s							
HHC				LR		LR		
	comp=E,308nm,19.0s							
HHC				LR		LR		
	comp=Z,179nm,17.8s							
LSA	**Lhasa**	**42.30**	**315**	P		**P**	**10 03 18.2**	**+1.2**
LSA				AMB		AMB		
	comp=Z,50nm,0.8s,mb4.8							
LSA				AMB		AMB		
	comp=Z,130nm,4.4s							
LSA	**Lhasa**	**42.30**	**315**	*eP*		**P**	**10 03 18.0**	**+1.0**
LSA				pmax		pmax		
	comp=Z,30nm,0.6s,mb4.7							
LSA	**Lhasa**	**42.30**	**315**	*eP*		**P**	**10 03 18.0**	**+1.1**
	comp=Z,30nm,0.6s,mb4.7							
VLA	**Vladivostok**	**42.50**	**9**	⇑*iP*		**P**	**10 03 17.6**	**-0.7**
VLA				pmax		pmax		
	comp=Z,56nm,0.7s,mb4.9							
CN2	**Changchun**	**42.61**	**2**	*eP*		**P**	**10 03 17.5**	**-1.6**
CAN	**Canberra**	**43.05**	**150**	*eP*		**P**	**10 03 25.2**	**+2.4**
RIV	**Riverview**	**43.06**	**146**	*eP*		**P**	**10 03 25.9**	**+3.0**
TOO	**Toolangi**	**43.25**	**155**	⇓*iP*		**P**	**10 03 26.8**	**+2.4**
ODAN	**Odare**	**43.53**	**309**	*eP*		**P**	**10 03 26.9**	**+0.1**
	comp=Z,61nm,0.9s,mb4.8							
TAPN	**Taplejung**	**43.53**	**310**	*eP*		**P**	**10 03 27.2**	**+0.4**
	comp=Z,55nm,0.7s,mb4.9							
MDJ	**Mudanjiang**	**43.69**	**6**	P		**P**	**10 03 27.9**	**+0.2**
MDJ				AMB		AMB		
	comp=Z,37nm,1.0s,mb4.6							
MDJ				AMB		AMB		
	comp=Z,103nm,4.6s							
MDJ	**Mudanjiang**	**43.69**	**6**	*eP

SMLA ex x 10 04 43.9
comp=Z,396nm,0.8s
WMQ Urumqi 53.45 328 P **P** **10 04 42.8 +1.0**
WMQ AP pP 10 05 41.4 -0.5
WMQ PCP PcP 10 05 46.3 +1.4
WMQ XP sP 10 06 10.8 -1.9
WMQ PP PP 10 06 48.8 +3.3
WMQ AMB AMB
comp=Z,65nm,1.0s,mb4.9
IRK Irkutsk 53.65 345 *eP* **P** **10 04 38.2 -4.8**
IRK pmax pmax
comp=Z,39nm,1.7s,mb4.5
MOY Mondy 54.05 343 *eP* **P** **10 04 46.4 +0.5**
MOY pmax pmax
comp=Z,65nm,2.0s,mb4.6
CLNS Chul'man 55.64 1 *eP* **P** **10 04 57.4 +0.2**
CLNS *e* pP 10 05 54.5 -3.4
CLNS *e* 10 07 03.5
CLNS *eS* **S** **10 12 25.2 +4.4**
CLNS pmax pmax
comp=Z,33nm,0.7s,mb4.9
CLNS pmax pmax
comp=N,24nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.7s
CLNS smax
comp=N,25nm,11.4s
CLNS smax
comp=E,105nm,14.2s
HVS Khovu-Aksy 56.10 337 *d iP* **P** **10 05 00.7 +0.2**
HVS pmax pmax
comp=Z,295nm,0.9s,mb5.7
BOD Bodaibo 57.18 354 *eP* **P** **10 05 06.9 -1.1**
BOD pmax pmax
comp=Z,55nm,1.1s,mb4.9
KSH Kashi 58.09 317 *eP* **P** **10 05 16.9 +2.2**
KSH *e*PCP PcP 10 06 03.9 +0.8
KSH *e*PP PP 10 07 31.7 +4.8
KSH PPP 10 08 59.1
KSH *e*SCP ScP 10 09 34.9 -1.3
KSH PCS PcS 10 10 04.5 -0.3
KSH S **S** **10 12 55.6 +2.2**
KSH SCS ScS 10 14 33.7 -2.1
KSH SS SS 10 16 54.9 +5.0
KSH AMB AMB
comp=Z,196nm,1.0s,mb5.5
KSH AMB AMB
comp=Z,628nm,3.1s
KSH LR LR
comp=N,439nm,4.7s
KSH LR LR
comp=E,559nm,4.1s
KSH LR LR
comp=Z,731nm,5.1s
MK31 Makanchi Array 58.28 327 *eP* **P** **10 05 15.0 -0.8**
MK31 *e* 10 05 29.3
MK31 *e*PcP PcP 10 06 03.4 -0.2
MKAR Makanchi Array 58.28 327 P **P** **10 05 15.4 -0.4**
comp=Z,32nm,0.7s,mb4.9,baz=123,slow=8.1,SNR=124
MKAR PcP PcP 10 06 03.5 -0.1
comp=Z,12nm,0.5s,baz=165,slow=3.0,SNR=10
MKAR ScP ScP 10 09 37.3 +0.4
comp=Z,4.9nm,0.8s,baz=116,slow=5.5,SNR=7.4
MKAR Makanchi Array 58.28 327 P **P** **10 05 15.4 -0.4**
MKAR 10 06 03.6
PETK Petropavlovsk- 58.95 23 P **P** **10 05 21.6 +1.3**
comp=Z,30nm,0.8s,mb4.8,baz=192,slow=4.9,SNR=37
PETK PcP PcP 10 06 06.5 +0.3
comp=Z,5.3nm,0.6s,baz=225,slow=1.5,SNR=5.1
PET Petropavlovsk 59.27 24 *eP* **P** **10 05 23.6 +1.1**
PET pmax pmax
comp=Z,51nm,0.7s,mb5.1
PET Petropavlovsk 59.27 24 *eP* **P** **10 05 23.3 +0.8**
comp=Z,21nm,0.6s,mb4.7
KZA Kyzart 59.82 320 P **P** **10 05 27.2 +0.7**
SNR=14
TKM2 Tokmak 2 60.02 321 *eP* **P** **10 05 27.7 -0.1**
TKM2 pmax pmax
comp=Z,57nm,0.8s,mb5.2
TKM2 Tokmak 2 60.02 321 P **P** **10 05 28.3 +0.5**
SNR=13
TKM2 Tokmak 2 60.02 321 *eP* **P** **10 05 27.7 -0.1**
comp=Z,57nm,0.8s,mb5.2
KBK Karagaybulak 60.30 320 P **P** **10 05 30.4 +0.8**
SNR=15
UCH Uchtor 60.37 319 P **P** **10 05 31.4 +1.2**
SNR=9.6
CHMS Chumysh 60.59 320 P **P** **10 05 32.9 +1.2**
SNR=10
AML Almayashu 60.86 319 P **P** **10 05 34.1 +0.7**
SNR=33
AML Almayashu 60.86 319 *eP* **P** **10 05 33.9 +0.4**
USP Ospenovka 60.89 321 P **P** **10 05 33.8 +0.1**
SNR=38
YAK Yakutsk 61.00 3 *c iP* **P** **10 05 34.1 +0.1**
YAK *e* 10 06 12.7
YAK *e* 10 07 53.6
YAK *eS* **S** **10 13 30.1 +0.4**
YAK *e* 10 14 53.6
YAK pmax pmax
comp=Z,180nm,0.8s,mb5.7
YAK pmax pmax
comp=N,40nm,1.1s
YAK pmax pmax
comp=E,7.0nm,0.8s
YAK Yakutsk 61.00 3 *eP* **P** **10 05 33.7 -0.3**
comp=E,316nm,0.7s,mb6.0
YAK *e* 10 05 48.7
KBL Kabul 61.05 309 *eP* **P** **10 05 34.1 -0.8**
KBL pmax pmax
comp=Z,59nm,0.7s,mb5.2
KBL Kabul 61.05 309 *eP* **P** **10 05 34.1 -0.8**
comp=Z,59nm,0.7s,mb5.2
EKS2 Erkin-Say 61.06 320 P **P** **10 05 35.5 +0.7**
SNR=22
EKS2 Erkin-Say 61.06 320 *eP* **P** **10 05 34.8 0.0**
comp=Z,61nm,0.9s,mb5.1
RPZ Rata Peaks 61.21 143 P **P** **10 05 36.4 +0.6**
comp=Z,52nm,0.5s,mb5.3,baz=274,slow=1.8,SNR=81
ZAA0 Zalesovo Array 61.80 335 *eP* **P** **10 05 37.5 -2.0**
ZALV Zalesovo Beam 61.80 335 P **P** **10 05 37.9 -1.6**
comp=Z,21nm,0.6s,mb4.9,baz=123,slow=5.2,SNR=48
ZALV PcP PcP 10 06 16.6 -1.1
comp=Z,2.6nm,0.5s,baz=110,slow=5.1,SNR=2.1
ZALV S **S** **10 13 37.9 -2.1**
comp=Z,1.0nm,0.6s,baz=131,slow=16,SNR=5.6
ZAL Zalesovo 61.80 335 P **P** **10 05 37.9 -1.6**
ZAL 10 06 16.6
ZAL S **S** **10 13 37.9 -2.1**
SNZO South Karori 62.27 139 *eP* **P** **10 05 43.5 +0.6**
comp=Z,95nm,0.4s,mb5.8
KURK Kurchatov 62.60 329 P **P** **10 05 44.4 -0.4**
comp=Z,1μm,0.6s,SNR=76
KURK Kurchatov 62.60 329 P **P** **10 05 44.4 -0.4**
SNR=20
KURK Kurchatov 62.60 329 *eP* **P** **10 05 43.8 -1.0**
KURK pmax pmax
comp=Z,128nm,0.7s,mb5.7
KURK Kurchatov 62.60 329 *eP* **P** **10 05 43.8 -1.0**
comp=Z,128nm,0.7s,mb5.7
NVS Novosibirsk 63.09 335⇑ *iP* **P** **10 05 45.9 -2.1**
NVS *e*PP pP 10 06 50.5 +0.2
NVS *eS* **S** **10 13 52.6 -3.4**
NVS pmax pmax
comp=Z,59nm,0.9s,mb5.2
NVS pmax pmax
comp=N,33nm,1.1s
NVS pmax pmax
comp=E,25nm,0.7s
NVS smax
comp=E,38nm,1.6s
SEY Seymchan 65.28 14 *c iP* **P** **10 06 03.2 +1.3**
SMY Shemya 66.16 31 *eP* **P** **10 06 08.9 +1.1**
BIDO Bidbid 67.53 295 P **P** **10 06 15.7 -1.3**
SNR=6.1
CASY Casey 67.85 186 *eP* **P** **10 06 18.5 +0.4**
BVAR Borovoye Array 68.13 328 P **P** **10 06 19.2 -0.9**
comp=E,21nm,0.7s,mb5.0,baz=137,slow=8.5,SNR=64
BRVK Borovoye 68.20 328 P **P** **10 06 19.4 -1.1**
comp=E,332nm,1.0s,mb6.0,SNR=20
BRVK Borovoye 68.20 328 P **P** **10 06 20.0 -0.5**
SNR=18
BRVK Borovoye 68.20 328 *eP* **P** **10 06 19.6 -0.9**
BRVK pmax pmax
comp=Z,49nm,0.9s,mb5.2
BRVK Borovoye 68.20 328 *eP* **P** **10 06 19.6 -1.0**
comp=Z,49nm,0.9s,mb5.2
BILL Bilibino 72.85 15⇓ *eP* **P** **10 06 48.9 +0.7**
BILL *e* 10 07 03.7
BILL *PP pP 10 07 50.0 -2.4
BILL pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
AKTK Aktyubinsk 74.10 323 P **P** **10 06 55.0 -0.8**
AKTK S S 10 16 07.1 +1.8
AKTO Aktyubinsk 74.10 323 P **P** **10 06 55.0 -0.8**
comp=Z,56nm,0.7s,mb5.3,baz=107,slow=7.5,SNR=97
AKTO S S 10 16 07.1 +1.8
comp=Z,1.5nm,0.8s,baz=217,slow=19,SNR=12
SVE Sverdlovsk 74.85 329 *eP* **P** **10 06 56.4 -3.6**
SVE pmax pmax
comp=Z,65nm,0.6s,mb5.4
ARU Arti 75.78 329 P **P** **10 07 04.2 -1.0**
comp=Z,301nm,0.8s,mb6.0,SNR=12
ARU Arti 75.78 329 *c iP* **P** **10 07 03.7 -1.5**
ARU *PP pP 10 08 04.1 -5.8
ARU *eS* S 10 16 22.2 -1.3
ARU pmax pmax
comp=Z,52nm,1.0s,mb5.1
ARU Arti 75.78 329 *eP* **P** **10 07 03.6 -1.6**
comp=Z,49nm,0.9s,mb5.1
UMR Umm Al-Rimmam 77.56 300 *eP* **P** **10 07 13.6 -2.3**
baz=300
UMR AMb AMB 10 07 17.1
comp=Z,69nm,1.0s,mb5.3,baz=300
RDF Al-Radifah 77.65 299 *eP* **P** **10 07 14.2 -2.1**
baz=299
RDF AMb AMB 10 07 18.3
comp=Z,66nm,0.9s,mb5.4,baz=299
ABPO Ambohimpanom 77.84 250 *eP* **P** **10 07 17.7 +0.2**
ABPO pmax pmax
comp=Z,12nm,0.7s,mb4.7
ABPO Ambohimpanom 77.84 250 *eP* **P** **10 07 17.7 +0.2**
comp=Z,12nm,0.7s,mb4.8
MIB Mutribah 77.92 300 *eP* **P** **10 07 15.4 -2.3**
baz=300
MIB AMb AMB 10 07 19.5
comp=Z,84nm,0.9s,mb5.5,baz=300
NAY Al-Naaiem 77.94 300 *eP* **P** **10 07 15.7 -2.3**
baz=300
NAY AMb AMB 10 07 19.6
comp=Z,29nm,1.1s,mb4.9,baz=300
MAW Mawson 80.30 200⇓ *iP* **P** **10 07 29.6 -0.2**
comp=Z,5.3nm,0.6s,mb4.5
MAW Mawson 80.30 200 P **P** **10 07 30.4 +0.7**
comp=Z,7.0nm,0.7s,mb4.5,baz=66,slow=5.6,SNR=32
MAW Mawson 80.30 200⇓ *iP* **P** **10 07 29.6 -0.2**
MAW pmax pmax
comp=Z,5.0nm,0.6s
DGRG David-gareji 80.79 312 P **P** **10 07 33.7 +0.8**
VNDA Vanda 81.12 172 P **P** **10 07 34.9 +0.9**
comp=Z,4.0nm,0.7s,mb4.2,baz=316,slow=6.3,SNR=27
VNDA Vanda 81.12 172 *eP* **P** **10 07 34.7 +0.7**
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 81.12 172 *eP* **P** **10 07 34.7 +0.7**
comp=Z,5.2nm,0.8s,mb4.3
GNI Garni 81.12 310 P **P** **10 07 36.4 +1.7**
comp=Z,4.7nm,0.3s,mb4.6,baz=359,slow=13,SNR=5.0
GNI Garni 81.12 310 *eP* **P** **10 07 34.9 +0.2**
GNI pmax pmax
comp=Z,23nm,0.8s
GNI Garni 81.12 310 *eP* **P** **10 07 34.9 +0.2**
comp=Z,22nm,0.8s,mb5.0
MTA Mtatsminda 81.25 312 P **P** **10 07 35.3 -0.1**
TBLG Delisi 81.30 312 P **P** **10 07 36.0 +0.4**
AKH Akhalkalaki 82.19 312 P **P** **10 07 41.6 +1.3**
ONI Oni 82.34 313 P **P** **10 07 39.9 -1.1**
KIV Kislovodsk 83.03 314 *eP* **P** **10 07 45.1 +0.6**
KIV pmax pmax
comp=Z,13nm,0.7s,mb4.9
VRHR Novokhopersk 84.40 321 *eP* **P** **10 07 50.9 -0.4**
VRHR pmax pmax
comp=Z,50nm,0.8s,mb5.4
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,50nm,0.7s
SVW2 Sparrevohn 84.47 29 *eP* **P** **10 07 52.5 +1.2**
SOC Sochi 85.14 313 *eP* **P** **10 07 53.5 -1.6**
SOC *e*SP sP 10 09 27.4 -3.3
SOC *e* 10 11 09.9
SOC *e*PPP 10 13 12.9
SOC *eS* S 10 17 50.7 -10
SOC pmax pmax
comp=Z,18nm,0.6s,mb5.1
KDAK Kodiak Island 85.62 32 P **P** **10 07 58.0 +0.9**
comp=Z,150nm,0.9s,mb5.8,SNR=10
KDAK Kodiak Island 85.62 32 P **P** **10 07 57.8 +0.7**
comp=Z,14nm,0.7s,mb4.9,baz=277,slow=4.4,SNR=18
KDAK Kodiak Island 85.62 32 *eP* **P** **10 07 57.8 +0.7**
KDAK pmax pmax
comp=Z,20nm,0.8s,mb5.0
KDAK Kodiak Island 85.62 32 *eP* **P** **10 07 57.8 +0.7**
comp=Z,20nm,0.8s,mb5.0
MALT Malatya 85.89 308 *eP* **P** **10 07 58.7 -0.2**
MALT pmax pmax
comp=Z,20nm,1.0s,mb4.9
MALT Malatya 85.89 308 *eP* **P** **10 07 58.6 -0.3**
comp=Z,20nm,1.0s,mb4.9
IMA2 Indian Mountai 85.94 24 *eP* **P** **10 07 59.7 +1.1**
VRSR Storozhevoye 85.94 321 *eP* **P** **10 07 57.6 -1.3**
VRSR pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
VRSR pmax pmax
comp=N,1.0nm,0.3s
VRSR pmax pmax
comp=E,8.0nm,1.8s
KLMR Klimovskoe 86.41 331 *i P* **P** **10 07 59.5 -1.4**
KLMR pmax pmax
comp=Z,63nm,1.2s,mb5.3
KMBO Kilima Mbogo 86.77 269 P **P** **10 08 04.7 +0.9**
comp=Z,14nm,0.9s,mb4.8,baz=54,slow=6.5,SNR=33
KMBO Kilima Mbogo 86.77 269 *eP* **P** **10 08 04.6 +0.9**
KMBO pmax pmax
comp=Z,17nm,0.9s
KMBO Kilima Mbogo 86.77 269 *eP* **P** **10 08 04.6 +0.9**
comp=Z,18nm,0.9s,mb4.9
ANN Anapa 86.84 315 *eP* **P** **10 08 01.9 -1.5**
ANN *e*PP pP 10 09 05.8 -4.1
ANN *eS* S 10 18 01.5 -16
ANN pmax pmax
comp=Z,174nm,1.1s,mb5.8
BPAW Bear Paw Mtn. 86.90 26 *eP* **P** **10 08 04.0 +0.8**
comp=Z,8.7nm,0.7s,mb4.7
ASF Jabal al Asfar 87.00 302 P **P** **10 08 05.2 +0.8**
comp=Z,26nm,0.9s,mb5.1,baz=46,slow=0.3,SNR=12
SLKM Skilak Lake 87.03 30 *eP* **P** **10 08 03.7 -0.2**
MOS Moscow 87.11 326 *eP* **P** **10 08 02.2 -2.2**
MOS pmax pmax
comp=Z,58nm,1.0s,mb5.4
RC01 Rabbit Creek A 87.29 29 *eP* **P** **10 08 04.9 -0.3**
comp=Z,5.3nm,0.5s,mb4.6
SEW Seward 87.39 30 *eP* **P** **10 08 05.4 -0.3**
COLD Coldfoot 87.42 23 *eP* **P** **10 08 06.8 +1.2**
comp=Z,9.2nm,0.5s,mb4.9
PMR Palmer 87.61 29 *eP* **P** **10 08 06.2 -0.4**
PMR pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
PMR Palmer 87.61 29 *eP* **P** **10 08 06.2 -0.4**
comp=Z,2.7nm,0.6s,mb4.2
OBN Obninsk 87.69 325⇑ *eP* **P** **10 08 06.1 -1.0**
OBN *PP pP 10 09 17.0 +3.2
OBN *SP sP 10 09 45.0 +2.0
OBN pmax pmax
comp=Z,72nm,2.2s,mb5.1
MCK McKinley 87.78 26 *eP* **P** **10 08 06.3 -1.1**
MCK pmax pmax
comp=Z,15nm,0.8s,mb4.9
MCK McKinley 87.78 26 *eP* **P** **10 08 06.3 -1.1**
comp=Z,15nm,0.8s,mb4.9
MMAI Mount Meron Ar 88.27 303 P **P** **10 08 10.5 +0.1**
comp=Z,20nm,0.8s,mb5.0,baz=79,slow=8.6,SNR=12
COLA College 88.29 25 *eP* **P** **10 08 09.6 -0.2**
EIL Elat 88.67 299 P **P** **10 08 12.1 -0.3**
comp=Z,8.7nm,0.8s,mb4.6,baz=90,slow=1.0,SNR=5.0
SYO Syowa Base 88.94 201⇑ *eP* **P** **10 08 12.2 -0.5**
SIM Simferopol' 89.20 315⇓ *eP* **P** **10 08 13.3 -1.2**
SIM pmax pmax
comp=Z,39nm,0.6s,mb5.4
BMRM Bremner River 89.79 29 *eP* **P** **10 08 16.9 0.0**
JOF Joensuu 90.32 333 *ep* **P** **10 08 16.8 -2.5**
comp=Z,27nm,0.6s,mb5.2
DAWY Dawson 91.98 26 *eP* **P** **10 08 27.5 +0.5**
ARCES ARCESS Array B 92.02 340 P **P** **10 08 25.7 -1.3**
comp=Z,8.0nm,0.6s,mb4.9,baz=82,slow=7.3,SNR=73
ARE0 ARCESS Array S 92.02 340 *eP* **P** **10 08 25.5 -1.5**
AKASG Malin Array Be 92.24 321 P **P** **10 08 26.7 -1.8**
comp=Z,6.2nm,0.9s,mb4.5,baz=72,slow=4.5,SNR=17
AKBB Malin Array Si 92.24 321 *eP* **P** **10 08 25.9 -2.6**
KIEV Kiev 92.25 321 *eP* **P** **10 08 25.8 -2.7**
KIEV pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KIEV Kiev 92.25 321 *eP* **P** **10 08 25.8 -2.7**
comp=Z,6.7nm,0.9s,mb4.6
PNL Peninsula 92.47 30 *eP* **P** **10 08 30.1 +0.9**
SPITS Spitsbergen Ar 92.58 349 P **P** **10 08 29.0 -0.5**
comp=Z,32nm,0.8s,mb5.3,baz=324,slow=9.6,SNR=48
SPB4 Spitsbergen Ar 92.58 349 *eP* **P** **10 08 28.9 -0.6**
KAF Kangasniemi 92.70 332 *ep* **P** **10 08 27.8 -2.5**
comp=Z,7.3nm,0.5s,mb4.9,baz=78,slow=4.2
KAF Kangasniemi 92.70 332 *eP* **P** **10 08 27.8 -2.5**
KAF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
KBS Kingsbay 93.16 350⇑ *eP* **P** **10 08 32.2 +0.1**
HYT Haines Junctio 93.26 29 *eP* **P** **10 08 34.2 +1.3**
INK Inuvik 93.66 21 P **P** **10 08 34.2 -0.4**
comp=Z,4.4nm,0.6s,mb4.7,baz=286,slow=3.7,SNR=28
INK PKiKP PKiKP 10 13 18.8 +0.5
comp=Z,6.0nm,1.3s,baz=349,slow=6.0,SNR=4.9
INK Inuvik 93.66 21 *eP* **P** **10 08 34.6 0.0**
comp=Z,297nm,1.0s
SKAG Skagway 94.55 30 *eP* **P** **10 08 40.1 +1.3**
SUW Suwalki 95.53 324 *eP* **P** **10 08 42.8 -0.6**
SUW pmax pmax
comp=Z,18nm,0.4s,mb5.5
SUW Suwalki 95.53 324 *eP* **P** **10 08 42.8 -0.6**
comp=Z,18nm,0.4s,mb5.5
LSZ Lusaka 95.87 255 *eP* **P** **10 08 44.6 -1.2**
LSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
LSZ Lusaka 95.87 255 *eP* **P** **10 08 44.6 -1.2**
comp=Z,6.9nm,0.8s,mb4.8
IDI Anoyia 96.85 306 P **P** **10 08 49.5 -0.4**
comp=Z,8.5nm,0.7s,mb5.1,baz=58,slow=9.5,SNR=2.9
KOLS Kolonicke sedl 96.93 319 *eP* **P** **10 08 49.6 -0.3**
CRVS Cervenica-Dubn 97.46 319 *eP* **P** **10 08 52.0 -0.3**
BOSA Boshof 98.17 241 P **P** **10 08 56.1 +0.2**
comp=Z,1.8nm,0.9s,mb4.4,baz=291,slow=18,SNR=2.2
KECS Kecovo 98.17 319 *eP* **P** **10 08 52.5 -3.0**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.4
KECS Kecovo 98.17 319 PDIF **P** **10 08 52.5 -3.0**
KECS Kecovo 98.17 319 *eP* **P** **10 08 52.5 -3.0**
comp=Z,1.8nm,1.0s,mb4.4
OJC Ojcow 98.27 321 *eP* **P** **10 08 55.0 -0.9**
HFS Hagfors 99.10 332 P Pdif 10 08 57.7 -1.8
comp=Z,2.4nm,0.5s,baz=110,slow=3.4,SNR=14
NOA NORSAR Array B 99.95 333 P Pdif 10 09 01.2 -2.1
comp=Z,2.1nm,0.8s,baz=71,slow=4.6,SNR=12
BSD Bornholm Skovb 99.97 327 *i* P Pdif 10 09 02.5 -0.9
BSD pmax pmax
comp=Z,15nm,1.0s,mb5.4
BSD Bornholm Skovb 99.97 327 *i* P Pdif 10 09 02.5 -0.9
comp=Z,15nm,1.0s
BRG Berggiesshubel 101.74 323 *eP* Pdif 10 09 10.9 -0.3
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 101.74 323 *e*PKP Pdif 10 09 10.9 -0.3
comp=Z,4.3nm,0.9s
GERES GERESS Array B 102.46 321 P Pdif 10 09 14.1 -0.3
comp=Z,1.1nm,0.8s,baz=74,slow=6.0,SNR=8.0
GERES PKiKP PKiKP 10 13 33.6 -0.9
comp=Z,0.8nm,0.8s,baz=65,slow=6.3,SNR=5.4
YKA Yellowknife Ar 103.06 24 Pdiff Pdif 10 09 17.4 +0.3
comp=Z,0.7nm,0.7s,baz=249,slow=7.0,SNR=3.2
GRF Grafenberg Arr 103.76 322 *e*PP PP 10 13 42.4 +2.0
HUMO Hull Mountain 106.08 45 *e*PKiKP PKiKP 10 13 43.1 +1.8
CDF Champ du Feu 106.63 322 *e*PP PP 10 14 02.3 +0.7
comp=Z,14nm,1.2s
HINF Hinteralfeld 107.11 321 *e*PP PP 10 14 06.9 +1.8
comp=Z,36nm,1.5s
MEZF Maizieres J'vi 107.97 322 *e*PP PP 10 14 10.6 -0.7
LPL La Plagne 108.02 319 *e*PP PP 10 14 09.3 -2.5
SMF Signal de Mont 109.46 321 *e*PP PP 10 14 19.2 -2.9
comp=Z,28nm,1.4s
AVF Avril sur Loir 109.71 321 *e*PP PP 10 14 21.3 -2.5
comp=Z,12nm,1.1s
NVAR Mina Array Bea 110.73 48 PKiKP PKiKP 10 13 52.3 +2.2
comp=Z,0.9nm,0.6s,baz=267,slow=1.7,SNR=9.9
HLID Hailey 111.62 42 *e*PKiKP PKiKP 10 13 52.6 +0.9
PDAR Pinedale Array 115.17 41 PKP PKPdf 10 13 58.6 +0.1
comp=Z,0.7nm,0.5s,baz=71,slow=2.3,SNR=12
PDAR PKKPbc PKKPbc 10 24 34.0 -2.0
comp=Z,0.3nm,0.7s,baz=122,slow=4.4,SNR=2.9
MSU Marysvale 115.19 46 *e*PKIKP PKPdf 10 14 00.8 +2.1
SRU San Rafael 116.12 45 *e*PKIKP PKPdf 10 14 01.1 +0.7
WUAZ Wupatki 116.95 49 *e*PKPdf PKPdf 10 14 03.8 +1.6
PV10 Paradox Valley 117.48 45 *e*PKPdf PKPdf 10 14 04.9 +1.8
ESDC Sonseca Array 117.60 317 PKP PKPdf 10 14 03.7 +0.5
comp=Z,0.2nm,0.4s,baz=356,slow=2.7,SNR=3.7
PV01 Paradox Valley 117.92 45 *e*PKPdf PKPdf 10 14 05.6 +1.7
ULM Lac du Bonnet 118.62 28 PKP PKPdf 10 14 05.1 +0.2
comp=Z,4.2nm,0.6s,baz=269,slow=1.5,SNR=7.5
ISCO Idaho Springs 119.19 42 *e*PKIKP PKPdf 10 14 07.6 +1.3
PCBR Castelo Branco 119.90 318 *e*PKPdf PKPdf 10 14 08.3 +0.6
PBAR Barrancos 120.42 316 *e*PKPdf PKPdf 10 14 09.3 +0.5
PESTR Estremoz 120.46 317 *e*PKPdf PKPdf 10 14 09.6 +0.8
ANMO Albuquerque 120.85 48 *e*PKIKP PKPdf 10 14 11.5 +1.8
MDT Midelt 121.05 310 PKP PKPdf 10 14 10.3 +0.2
comp=Z,1.2nm,0.5s,baz=95,slow=1.4,SNR=7.7
TORD Torodi Ar. Bea 121.09 286 PKP PKPdf 10 14 10.4 -0.2
comp=Z,6.9nm,0.7s,baz=62,slow=1.9,SNR=38
TORD PP PP 10 15 35.5 -9.1
comp=Z,0.9nm,0.8s,baz=72,slow=5.0,SNR=2.6
TORD SKP 10 17 20.6
comp=Z,2.8nm,0.9s,baz=68,slow=2.3,SNR=6.3
ECSD EROS,Sioux Fal 122.54 34 *e*PKPdf PKPdf 10 14 12.8 +0.2
SCHQ Schefferville 123.62 8 PKP PKPdf 10 14 14.8 +0.5
comp=Z,7.5nm,0.6s,baz=38,slow=3.3,SNR=16
SCHQ Schefferville 123.62 8 PKP PKPdf 10 14 14.8 +0.5
TXAR Lajitas Array 125.40 52 PKP PKPdf 10 14 19.5 +0.9
comp=Z,1.3nm,0.7s,baz=220,slow=0.8,SNR=18
DBIC Dimbokro 128.39 279 PKP PKPdf 10 14 25.3 +0.6
comp=Z,4.4nm,0.6s,baz=190,slow=1.1,SNR=7.1
DBIC Dimbokro 128.39 279 PKP PKPdf 10 14 25.3 +0.6
LIC Lamto 128.61 279 *e*PKIKP PKPdf 10 14 25.6 +0.5
comp=Z,18nm,0.7s
PLCA Paso Flores 138.33 163 PKhKP 10 14 40.2
comp=Z,2.1nm,0.9s,baz=212,slow=11,SNR=2.8
PLCA SKPbc SKPbc 10 17 51.7 +1.3
comp=Z,11nm,0.9s,baz=203,slow=3.6,SNR=16
PLCA Paso Flores 138.33 163 PKP PKPdf 10 14 40.2 -2.4
PLCA SKPbc SKPbc 10 17 51.7 +1.3
SOR Soroa 144.61 46 *e*P PKPdf 10 14 55.3 +1.0
TGUH Tegucigalpa,Un 145.59 63 *e*PKPbc PKPbc 10 14 58.4 +1.5
CFAA Coronel Fontan 147.46 160 PKP PKPdf 10 14 58.7 -0.2
comp=Z,1.4nm,0.6s,baz=226,slow=14,SNR=4.0
CFAA PKPbc PKPbc 10 15 03.2 +1.4
comp=Z,1.4nm,0.6s,baz=215,slow=3.2,SNR=26
CFAA Coronel Fontan 147.46 160 PKP PKPdf 10 14 58.7 -0.2
CFAA PKPbc PKPbc 10 15 03.2 +1.4
LMGC Las Mercedes 150.62 43 *e*P PKPbc 10 15 12.8 +2.8
CPUP Villa Florida 154.81 177 PKP PKPdf 10 15 10.5 +0.3
comp=Z,1.3nm,0.7s,baz=52,slow=1.3,SNR=5.0
CPUP Villa Florida 154.81 177 PKP PKPdf 10 15 10.5 +0.3
LPAZ La Paz 160.69 142 PKP PKPdf 10 15 19.9 +2.3
comp=Z,1.3nm,0.8s,baz=56,slow=9.7,SNR=5.5
LPAZ PKPab PKPab 10 16 03.3 +2.4
comp=Z,2.0nm,0.7s,baz=145,slow=1.4,SNR=7.8
LPAZ La Paz 160.69 142 PKP PKPdf 10 15 19.9 +2.3
LPAZ PKPab PKPab 10 16 03.3 +2.4
SIV San Ignacio 164.31 162 PKP PKPdf 10 15 22.3 +1.1
comp=Z,1.2nm,0.8s,baz=207,slow=2.9,SNR=11
SIV PKPab PKPab 10 16 18.2 +1.5
comp=Z,1.3nm,0.5s,baz=228,slow=4.9,SNR=8.6

ATH 12 09:58:12.8,3940N×2031E,h10km,MD2.9/3,
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.49**	**58**	*e*PB	Pg	09 58 22.0	-0.4
KEK	**Kerkira**	**0.50**	**308**	*e*PB	Pg	09 58 22.5	-0.1
VLS	**Valsamata**	**1.24**	**170**	*e*PB	Pb	09 58 36.5	+0.2

IDC 12 09:58:20.6±2.5, 5059N×3061W, h0km, mb3.1/1, mb1 3.6/2, mb1mx3.2/29, mbtmp3.4/2, ML3.3/1, Error ellipse: s-maj=94.2km s-min=46.4km az=25.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.14**	**63**	P	Pn	10 02 21.4	0.0
	0.1nm,0.3s,baz=265,slow=13,SNR=3.5						
ESDC	**Sonseca Array**	**21.62**	**110**	P	P	10 03 12.3	+0.2
	0.4nm,0.5s,baz=304,slow=9.5,SNR=6.1						
WRA	**Warramunga Arr**	**147.17**	**27**	PKPbc	PKPbc	10 18 05.8	+0.2
	0.3nm,0.8s,baz=330,slow=3.3,SNR=5.2						
ASAR	**Alice Springs**	**150.54**	**30**	PKPbc	PKPbc	10 18 13.2	-0.9
	0.5nm,0.7s,baz=345,slow=2.1,SNR=9.1						

*BJI **12** 10:21:51.6, 3853N×9786E, h14km, ML3.2*
*IDC **12** 10:22:00.3±9.0, 3792N×10146E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/22, mbtmp3.5/3, ML3.4/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/29, Error ellipse: s-maj=320.8km s-min=27.9km az=97.0*

ISC 12 10:21:50.6±1.7, 385N±02×973E±02, h35km, n4, σ1§44/5, mb3.5/2, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.17**	**65**	PG	**Pn**	**10 22 22.2**	**-2.1**
GTA				SG	**Sn**	**10 22 50.7**	**+0.7**
GTA				Smax			
	comp=N,360nm,1.1s						
GTA				Smax			
	comp=E,220nm,1.1s						
SONM	**Songino Array**	**11.43**	**33**	Pn	**Pn**	**10 24 31.7**	**+0.4**
	comp=E,0.3nm,0.3s,baz=216,slow=14,SNR=7.2						
SONM				Lg		10 27 38.2	
	comp=E,0.1nm,0.3s,baz=208,slow=21,SNR=3.7						
WRA	**Warramunga Arr**	**67.77**	**142**	P	**P**	**10 32 44.6**	**-0.2**
	comp=E,0.4nm,0.7s,mb3.6,baz=342,slow=6.3,SNR=5.8						
ASAR	**Alice Springs**	**70.77**	**145**	P	**P**	**10 33 04.0**	**+0.8**
	comp=E,0.3nm,0.5s,mb3.5,baz=345,slow=6.6,SNR=8.2						

IDC 12 10:30:16.8±4.7, 417S×15168E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.4/3, Error ellipse: s-maj=141.5km s-min=34.3km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.05**	**226**	P	P	10 35 22.8	-1.1
	0.5nm,0.6s,baz=54,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**25.88**	**220**	P	P	10 35 52.3	+1.8
	0.3nm,0.5s,baz=56,slow=9.5,SNR=8.7						
MKAR	**Makanchi Array**	**79.12**	**319**	P	P	10 42 22.8	-0.5
	0.6nm,0.6s,baz=120,slow=4.4,SNR=6.7						

*IDC **12** 10:36:55.2±1.3, 5070N×3025W, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/30, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=42.9km s-min=27.1km az=21.0*

NEIC 12 10:36:56.7±0.8, 5071N×3025W, h10km, Error ellipse: s-maj=20.5km s-min=15.7km az=19.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.89**	**64**	Pn	Pn	10 40 53.1	+0.2
	0.1nm,0.3s,baz=268,slow=11,SNR=2.8						
ESDC	**Sonseca Array**	**21.45**	**111**	P	P	10 41 44.8	-0.1
	1.9nm,0.9s,baz=310,slow=10,SNR=8.9						
AKASG	**Malin Array Be**	**36.77**	**66**	P	P	10 44 05.5	+1.4
	0.1nm,0.3s,baz=293,slow=7.9,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**45.57**	**134**	*eP*	P	10 45 17.7	+0.9
TORD	**Torodi Ar. Bea**	**45.57**	**134**	P	P	10 45 16.8	0.0
	0.6nm,0.7s,baz=338,slow=8.1,SNR=3.8						
PDAR	**Pinedale Array**	**52.48**	**294**	P	P	10 46 10.6	+1.2
	0.3nm,0.6s,baz=71,slow=9.6,SNR=2.8						
BVAR	**Borovoye Array**	**57.03**	**45**	P	P	10 46 41.6	-0.7
	0.8nm,0.7s,baz=321,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**146.97**	**27**	PKPbc	PKPbc	10 56 38.8	-0.6
	0.6nm,0.8s,baz=342,slow=3.2,SNR=7.4						
ASAR	**Alice Springs**	**150.33**	**30**	PKPbc	PKPbc	10 56 47.3	-0.7
	0.7nm,0.7s,baz=359,slow=2.2,SNR=16						

*CSEM **12** 10:44:35.6, 3335N×3544E, h34km, ML2.9, After GRAL*
*GRAL **12** 10:44:35.6±0.3, 3335N×3544E, h34km±8km, MD2.9*
*ISCJB **12** 10:44:36.5±0.8, 3348N±003×3537E±005, h0km, Error ellipse: s-maj=6.8km s-min=3.5km az=22.3*
*GII **12** 10:44:36.4±1.0, 3340N×3546E, h0km, ML2.2/9, EXPLOSION*

ISC 12 10:44:37.1±0.8, 3348N±003×3539E±005, h0km, n13, σ0§96/23, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRI	**Mount Hermon**	**0.36**	**126**	Pg	**Pg**	**10 44 42.8**	**-1.3**
RCY	**Rachaya**	**0.36**	**89**	*e*Pg	**Pg**	**10 44 43.8**	**-0.3**
RCY				*e*Sg	**Sg**	**10 44 49.8**	**+1.1**
KSDI	**Kefar Szold**	**0.37**	**142**	Pg	**Pg**	**10 44 43.3**	**-0.9**
KSDI				Sg	**Sg**	**10 44 49.1**	**+0.1**
HNTI	**Hanita**	**0.44**	**204**	Pg	**Pg**	**10 44 45.9**	**+0.4**
HNTI				Sg	**Sg**	**10 44 53.2**	**+2.1**
MMA1	**Mount Meron ar**	**0.46**	**178**	Pg	**Pg**	**10 44 45.1**	**-0.9**
MMA1				Sg	**Sg**	**10 44 52.7**	**+0.7**
BHL	**Bhannes**	**0.48**	**28**	*e*Pg	**Pg**	**10 44 46.8**	**+0.5**
BHL				*e*Sg	**Sg**	**10 44 55.1**	**+2.6**
KSHT	**Keshet**	**0.61**	**144**	Pg	**Pg**	**10 44 48.4**	**-0.5**
KSHT				Sg	**Sg**	**10 44 57.7**	**+0.9**
HWQ	**Hawqa**	**0.92**	**30**	*e*Pg	**Pg**	**10 44 53.5**	**-1.3**
HWQ	**Hawqa**	**0.92**	**30**	*e*Pg	**Pg**	**10 44 53.5**	**-1.3**
MMLI	**Mount Malkishu**	**1.04**	**178**	Pg	**Pg**	**10 44 56.0**	**-1.1**
MMLI				Sg	**Sg**	**10 45 11.1**	**+0.5**
HMDT	**Nahal Hemdat**	**1.23**	**174**	Pg	**Pg**	**10 45 00.0**	**-0.7**
HMDT				Sg	**Sg**	**10 45 16.9**	**+0.2**
SLTI	**Sal'it**	**1.27**	**193**	Pg	**Pg**	**10 45 00.7**	**-0.8**
SLTI				Sg	**Sg**	**10 45 18.8**	**+0.8**
DSI	**Dead Sea**	**1.91**	**180**	Pn	**Pn**	**10 45 10.4**	**-0.5**
DSI				Sn	**Sn**	**10 45 35.1**	**-0.5**

*NEIC **12** 10:45:12.6±10.0, 452S×14623E, h69km±40km, mb3.8/1, Error ellipse: s-maj=128.7km s-min=30.0km az=206.0*
*IDC **12** 10:45:35.2±23.0, 581S×14556E, h180km±141km, mb3.3/3, mb1 3.6/5, mb1mx3.2/17, mbtmp3.4/5, ML4.3/2, Error ellipse: s-maj=206.7km s-min=45.8km az=27.0*

ISC 12 10:45:24.5±4.8, 56S±03×1460E±02, h95km±29km, n12, σ0§69/13, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.94**	**163**	*e*Pn	**Pn**	**10 46 22.6**	**-0.2**
PMG				*e*Sn	**Sn**	**10 47 08.0**	**+0.1**
CTA	**Charters Tower**	**14.38**	**179**	P	**Pn**	**10 48 48.6**	**+5.0**
	1.4nm,0.3s,baz=355,slow=15,SNR=13						
CTAO	**Charters Tower**	**14.38**	**179**	*e*P	**Pn**	**10 48 48.8**	**+5.3**
KAKA	**Kakadu**	**15.08**	**241**	*e*P	**Pn**	**10 48 53.9**	**+1.2**
	10nm,0.7s						
KAKA	**Kakadu**	**15.08**	**241**	*e*P	**Pn**	**10 48 53.8**	**+1.2**
WRAB	**Tennant Creek**	**18.16**	**217**	*e*P	**Pn**	**10 49 30.1**	**-0.4**
	5.4nm,0.9s						
WB2	**Warramunga Arr**	**18.16**	**217**	*e*P	**Pn**	**10 49 30.2**	**-0.4**
WB2	**Warramunga Arr**	**18.16**	**217**	*e*P	**Pn**	**10 49 30.1**	**-0.4**
WRA	**Warramunga Arr**	**18.17**	**217**	P	**Pn**	**10 49 30.2**	**-0.4**
	0.8nm,0.3s,baz=39,slow=12,SNR=81						
ASAR	**Alice Springs**	**21.36**	**212**	P	**P**	**10 50 04.8**	**+0.4**
	0.9nm,0.3s,mb3.5,baz=48,slow=9.2,SNR=35						
FITZ	**Fitzroy Crossi**	**23.40**	**236**	P	**P**	**10 50 24.0**	**-1.1**
	1.3nm,0.4s,mb3.6,baz=53,slow=11,SNR=21						
STKA	**Stephens Creek**	**26.43**	**188**	P	**P**	**10 50 53.4**	**+0.9**
	1.1nm,0.4s,mb3.6,baz=13,slow=8.4,SNR=9.6						

MEX 12 11:02:21.3±0.7, 1806N×10338W, h9km±5km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.23**	**9**	*i* P	Pg	11 02 25.4	-0.6
MMIG				*i* S	Sg	11 02 29.0	0.0
R15V		**1.24**	**333**	*e*P	Pn	11 02 41.2	-3.7
R15V				*i* S	Sb	11 02 57.2	-3.8
EZ5V		**1.42**	**352**	*e*P	Pn	11 02 43.8	-3.6
EZ5V				*i* S	Sn	11 03 01.4	-4.9
ZIIG	**Zihuatanejo**	**1.88**	**104**	*i* P	Pn	11 02 51.1	-2.5
ZIIG				*i* S	Sn	11 03 12.0	-5.5
SFJM	**Santa Fe**	**2.43**	**8**	*i* P	Pn	11 02 59.7	-1.6
SFJM				*i* S	Sn	11 03 29.7	-1.5

ATH 12 11:17:33.8, 3855N×2160E, h27km±2km, MD3.1/4, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.40**	**24**	⇑*i*PB	Pb	11 17 42.5	0.0
EVR				*e*SB	Sb	11 17 49.2	+0.8
RLS	**Riolos of Patr**	**0.50**	**192**	*e*PN	Pn	11 17 44.6	-0.6
RLS				*e*SN	Sb	11 17 51.9	+0.8
VLS	**Valsamata**	**0.88**	**245**	*e*PN	Pn	11 17 50.9	+0.6
VLS				*e*SN	Sn	11 18 03.9	+1.7
THL	**Klokotos Trika**	**1.06**	**18**	*e*PN	Pn	11 17 54.2	+1.3

*BGS **12** 11:20:35.6±1.8, 3861N×2052E, h10km, mb4.7*
*TIR **12** 11:20:39.8±2.0, 3928N×2051E, h6km±24km*
*ROM **12** 11:20:39.2±0.4, 3913N×2047E, h3km, Ml4.7/48, Error ellipse: s-maj=5.8km s-min=3.1km az=120.0*
*ISCJB **12** 11:20:41.8±0.1, 3935N±001×2018E±001, h10km, mb4.5/65, MS4.0/16, Error ellipse: s-maj=1.6km s-min=1.3km az=16.4*
*LDG **12** 11:20:41.1±0.4, 3963N×2038E, h10km, Mb4.8/41, Ms3.4/6, Error ellipse: s-maj=17.8km s-min=7.7km az=17.0*
*BJI **12** 11:20:41.8, 3948N×2001E, h14km, mB5.2, mb4.7, Ms4.7, Msz4.3*
*IDC **12** 11:20:41.1±0.4, 3944N×2033E, h0km, mb4.4/27, mb1 4.4/38, mb1mx4.4/43, mbtmp4.4/38, ML4.1/11, MS3.7/12, Ms1 3.7/12, ms1mx3.5/37, Error ellipse: s-maj=10.7km s-min=9.0km az=78.0*
*ATH **12** 11:20:42.5, 3928N×2025E, h10km±1km, MD4.4/20, ML4.5*
*THE **12** 11:20:42.9, 3928N×2019E, h0km, ML4.8*
*PDG **12** 11:20:42.2±0.6, 3942N×2007E, h0km±11km, MD4.7/5, ML4.3/9, Error ellipse: s-maj=1.6km s-min=1.7km az=0.0*
*NEIC **12** 11:20:43.2±0.2, 3936N×2022E, h10km, mb4.2/14, ML4.2(ATH), ML4.8(THE), Error ellipse: s-maj=3.8km s-min=2.4km az=209.0*
NEIC Felt at Igoumenitsa and Kerkyra.
*CSEM **12** 11:20:43.7±0.0, 3937N×2021E, h10km, mb4.7/14, ML4.8/6, Ms3.4, Error ellipse: s-maj=1.3km s-min=0.9km az=7.0*
*MOS **12** 11:20:44.6±1.2, 3943N×2016E, h18km, mb4.8/8, Error ellipse: s-maj=4.2km s-min=2.5km az=108.8*
*HLW **12** 11:20:47.7, 3891N×2056E, h33km, Mb4.6*
*PRU **12** 11:20:47.9, 3975N×1941E, h0km, M4.2*

ISC 12 11:20:43.7±0.3, 3934N±001×2022E±001, h12km±2km, n621, σ1§31/702, mb4.5/65, MS4.0/16, 36C-29D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.21**	**23**	*e*Pg	**Pg**	**11 20 46.8**	**-1.5**
IGT				*e*Sg	**Sg**	**11 20 52.5**	**+1.0**
KEK	**Kerkira**	**0.50**	**319**	⇓*i*PB	**Pb**	**11 20 53.3**	**-1.1**
KEK				*e*SB		11 21 01.0	
KEK	**Kerkira**	**0.50**	**319**	Pg	**Pg**	**11 20 54.1**	**+0.6**
KEK				*e*Sb		11 21 01.0	
SRN	**Sarande**	**0.57**	**343**	*e*PG	**Pg**	**11 20 54.6**	**-0.3**
SRN				*i* SG	**Sg**	**11 21 05.3**	**+2.9**
JAN	**Janina**	**0.58**	**56**	⇑*i*PB	**Pb**	**11 20 53.9**	**-1.9**
JAN				*e*SB	**Sb**	**11 21 02.3**	**-1.7**
LKD	**Levkas**	**0.71**	**152**	*e*Pg	**Pg**	**11 20 54.7**	**-2.7**
LKD				*e*Sg	**Sg**	**11 21 05.9**	**-0.9**
TPE	**Tepelena**	**0.97**	**350**	*e*PG	**Pg**	**11 21 03.9**	**+1.4**
VLS	**Valsamata**	**1.19**	**166**	*e*Pg	**Pg**	**11 21 03.4**	**-3.2**
VLS				*e*Sg	**Sg**	**11 21 21.9**	**-0.2**
VLS	**Valsamata**	**1.19**	**166**	*e*PN	**Pn**	**11 21 03.9**	**-2.2**
VLS				*e*SB	**Sb**	**11 21 20.4**	**-1.1**
VLS	**Valsamata**	**1.19**	**166**	*e*Pn	**Pn**	**11 21 03.9**	**-2.2**
VLS				*e*Sg	**Sg**	**11 21 21.9**	**-0.2**
KFL	**Anninata**	**1.30**	**160**	*e*Pg	**Pg**	**11 21 06.1**	**-2.6**
EVR	**Evrytania**	**1.30**	**108**	*e*PB	**Pb**	**11 21 06.5**	**-1.5**
THL	**Klokotos Trika**	**1.41**	**80**	*e*Pg	**Pg**	**11 21 08.6**	**-2.1**
THL				*e*Sg	**Sg**	**11 21 29.5**	**+0.6**
THL	**Klokotos Trika**	**1.41**	**80**	*e*PB	**Pb**	**11 21 08.8**	**-1.0**
THL				*e*SB	**Sb**	**11 21 27.2**	**-0.5**
THL	**Klokotos Trika**	**1.41**	**80**	*e*Pg	**Pg**	**11 21 08.6**	**-2.1**
THL				*e*Sb	**Sb**	**11 21 27.2**	**-0.5**
THL				*e*Sg	**Sg**	**11 21 29.5**	**+0.5**
KZN	**Kozani**	**1.54**	**50**	*e*PG	**Pg**	**11 21 11.2**	**-2.0**
SCTE	**Santa Cesarea**	**1.54**	**299**	Pg	**Pg**	**11 21 11.1**	**-2.2**
SCTE				Sg	**Sg**	**11 21 37.0**	**+3.7**
	6μm,0.5s						
RLS	**Riolos of Patr**	**1.60**	**142**	*e*PB	**Pb**	**11 21 11.9**	**-1.3**
RLS				*e*SB	**Sb**	**11 21 33.0**	**-0.4**
AGG	**Agios Georgios**	**1.67**	**100**	*e*Pb	**Pb**	**11 21 12.5**	**-1.8**
AGG				*e*Sb	**Sb**	**11 21 37.2**	**+2.0**
FNA	**Florina**	**1.70**	**31**	*e*Pb	**Pb**	**11 21 14.5**	**-0.3**
FNA				*e*Sb	**Sb**	**11 21 37.0**	**+1.0**
OHR	**Ohrid**	**1.83**	**14**	*e*Pb	**Pb**	**11 21 16.6**	**-0.5**
OHR				*e*Sb	**Sb**	**11 21 41.8**	**+1.9**
OHR	**Ohrid**	**1.83**	**14**	⇑*i*Pn	**Pn**	**11 21 16.4**	**+1.5**
OHR	**Ohrid**	**1.83**	**14**	⇑*i*Pn	**Pn**	**11 21 16.4**	**+1.5**
BIA	**Bitola**	**1.88**	**26**	*e*Pb	**Pb**	**11 21 16.9**	**-1.1**
BIA				*e*Sb	**Sb**	**11 21 43.1**	**+1.7**
BIA	**Bitola**	**1.88**	**26**	*i* Pn	**Pn**	**11 21 17.1**	**+1.5**
BIA	**Bitola**	**1.88**	**26**	*i* Pn	**Pn**	**11 21 17.0**	**+1.4**
LIT	**Litokhoron**	**1.91**	**66**	*e*Pb	**Pb**	**11 21 16.7**	**-1.7**
LIT				*e*Sb	**Sb**	**11 21 43.0**	**+0.8**
TIR	**Tirane**	**2.03**	**352**	*e*Pn	**Pn**	**11 21 18.7**	**+1.1**
TIR	**Tirane**	**2.03**	**352**	*e*PN	**Pn**	**11 21 19.3**	**+1.7**
TIR	**Tirane**	**2.03**	**352**	Pg	**Pg**	**11 21 19.2**	**-3.4**
KRUS	**Krusevo**	**2.18**	**21**	*i* Pn	**Pn**	**11 21 21.4**	**+1.7**
KRUS	**Krusevo**	**2.18**	**21**	*i* Pn	**Pn**	**11 21 21.3**	**+1.6**
LKR	**Lokris**	**2.27**	**107**	*e*Pn	**Pn**	**11 21 21.3**	**+0.4**
LKR				*e*Sn	**Sn**	**11 21 49.9**	**+1.1**
LKR	**Lokris**	**2.27**	**107**	*e*Pn	**Pn**	**11 21 21.6**	**+0.7**
LKR				*e*Sn	**Sn**	**11 21 49.9**	**+1.1**
XOR	**Xorichti**	**2.30**	**88**	*e*Pn	**Pn**	**11 21 22.6**	**+1.2**
GRG	**Griva**	**2.33**	**45**	*e*Pn	**Pn**	**11 21 21.8**	**+0.1**
GRG				*e*Sn	**Sn**	**11 21 54.6**	**+4.4**
NEO	**Neokhori**	**2.33**	**90**	*e*PN	**Pn**	**11 21 22.4**	**+0.7**
THE	**Thessaloniki**	**2.47**	**58**	*e*Pn	**Pn**	**11 21 23.8**	**0.0**
LTK	**Loutraki**	**2.52**	**121**	*e*Pn	**Pn**	**11 21 25.2**	**+0.9**
ITM	**Ithomi**	**2.54**	**148**	*e*PN	**Pn**	**11 21 25.6**	**+1.0**
HORT	**Hortiatis**	**2.54**	**59**	*e*Pn	**Pn**	**11 21 25.5**	**+0.8**
HORT				*e*Sn	**Sn**	**11 21 58.2**	**+2.6**
VLX	**Vlachokerasia**	**2.59**	**138**	*e*Pn	**Pn**	**11 21 26.5**	**+1.1**
VLX				*e*Sn	**Sn**	**11 21 58.5**	**+1.7**
PE1	**Pezze di Greco**	**2.60**	**305**	*e*Pn	**Pn**	**11 21 25.2**	**-0.3**
VAY	**Valandovo**	**2.67**	**41**	*e*Pn	**Pn**	**11 21 28.1**	**+1.6**
VAY	**Valandovo**	**2.67**	**41**	*i* Pn	**Pn**	**11 21 26.5**	**0.0**
PLG	**Polygyros**	**2.69**	**66**	*e*Pn	**Pn**	**11 21 27.0**	**+0.3**
PLG	**Polygyros**	**2.69**	**66**	*e*PN	**Pn**	**11 21 27.2**	**+0.5**
TIP	**Timpagrande**	**2.69**	**268**	Pg	**Pn**	**11 21 26.7**	**-0.1**
	445nm,0.8s						
TIP	**Timpagrande**	**2.69**	**268**	*e*Pn	**Pn**	**11 21 26.6**	**-0.2**
TIP				*e*Sn	**Sn**	**11 22 00.4**	**+1.1**
TIP	**Timpagrande**	**2.69**	**268**	*e*Pn	**Pn**	**11 21 26.6**	**-0.1**
TIP				*e*Sn	**Sn**	**11 22 00.5**	**+1.2**
PUK	**Puka**	**2.72**	**355**	*e*PN	**Pn**	**11 21 28.5**	**+1.4**
ULC	**Ulcinj**	**2.73**	**345**	⇑*i*Pn	**Pn**	**11 21 27.0**	**-0.2**
ULC				*e*Sn	**Sn**	**11 22 01.5**	**+1.4**
PAIG	**Paliouri**	**2.73**	**76**	*e*Pn	**Pn**	**11 21 27.6**	**+0.3**
KNT	**Kendrikon**	**2.74**	**47**	*e*Pn	**Pn**	**11 21 28.9**	**+1.5**
SERS	**Sersale**	**2.76**	**265**	Pg	**Pn**	**11 21 27.4**	**-0.3**
SERS				Sg	**Sn**	**11 22 02.8**	**+1.8**
	835nm,0.6s						
SKO	**Skopje**	**2.79**	**19**	*e*Pn	**Pn**	**11 21 29.7**	**+1.6**
SKO	**Skopje**	**2.79**	**19**	*e*Pn	**Pn**	**11 21 30.0**	**+1.9**
STIP	**Stip**	**2.79**	**32**	*e*Pn	**Pn**	**11 21 29.3**	**+1.2**
STIP	**Stip**	**2.79**	**32**	*i* Pn	**Pn**	**11 21 29.4**	**+1.3**
NOCI	**Noci**	**2.83**	**302**	Pn	**Pn**	**11 21 28.5**	**-0.1**
	3μm,0.6s						
AOS	**Alonnisos**	**2.84**	**92**	*e*Pn	**Pn**	**11 21 29.7**	**+0.9**
DID	**Didima**	**2.99**	**127**	*e*Pn	**Pn**	**11 21 30.7**	**-0.1**
DID				*e*Sn	**Sn**	**11 22 07.7**	**+1.2**
ORI	**Oriolo Calabro**	**3.00**	**285**	Pn	**Pn**	**11 21 31.2**	**+0.2**
	3μm,0.5s						
GRI	**Girifalco**	**3.00**	**261**	Pn	**Pn**	**11 21 31.3**	**+0.3**
GRI				Sn	**Sn**	**11 22 09.7**	**+2.8**
	835nm,0.6s						
NAIG	**Nisos Aigina**	**3.01**	**121**	*e*PN	**Pn**	**11 21 32.0**	**+1.0**
BCI	**Bajram Curri**	**3.03**	**358**	*e*PN	**Pn**	**11 21 32.9**	**+1.5**
ATH	**Athens Observa**	**3.06**	**115**	*e*PN	**Pn**	**11 21 31.9**	**+0.2**
OUR	**Ouranopolis**	**3.06**	**70**	*e*Pn	**Pn**	**11 21 32.6**	**+0.8**
PLAC	**Placanica**	**3.08**	**255**	Pn	**Pn**	**11 21 32.0**	**-0.1**
PLAC				Sn	**Sn**	**11 22 10.3**	**+1.5**
	557nm,0.7s						
CRAC	**Craco**	**3.09**	**291**	Pn	**Pn**	**11 21 34.3**	**+2.1**
	6μm,1.0s						
SG1	**Sgolgore (BA)**	**3.11**	**300**	*e*Pn	**Pn**	**11 21 32.5**	**+0.1**
CARO	**Carolei**	**3.11**	**270**	Pn	**Pn**	**11 21 33.9**	**+1.4**
CARO				Sn	**Sn**	**11 22 12.0**	**+2.5**
	1μm,0.5s						
BAI	**Bari**	**3.11**	**306**	*e*Pn	**Pn**	**11 21 33.3**	**+0.8**
PTL	**Penteli**	**3.13**	**113**	*e*PN	**Pn**	**11 21 33.5**	**+0.8**
BUM	**Brajici-Budva**	**3.13**	**342**	⇓*i*Pn	**Pn**	**11 21 32.4**	**-0.3**
BUM				*e*Sn	**Sn**	**11 22 10.9**	**+0.9**
KVR	**Kavouri**	**3.16**	**117**	*e*PN	**Pn**	**11 21 34.0**	**+0.8**
MIGL	**Miglionico**	**3.17**	**295**	Pn	**Pn**	**11 21 34.2**	**+0.9**
	18μm,1.3s						
PDG	**Podgorica**	**3.18**	**347**	⇑*i*Pn	**Pn**	**11 21 33.3**	**-0.1**
PDG				*e*Sn	**Sn**	**11 22 12.4**	**+1.2**
TTG	**Podgorica**	**3.18**	**347**	⇑*i*Pn	**Pn**	**11 21 33.3**	**-0.1**
TTG				*e*Sn	**Sn**	**11 22 12.4**	**+1.2**
AMUR	**Altamura**	**3.19**	**301**	Pn	**Pn**	**11 21 33.3**	**-0.3**
	2μm,0.6s						
PVY	**Plav**	**3.26**	**357**	⇑*i*Pn	**Pn**	**11 21 35.0**	**+0.4**
PVY				*e*Sn	**Sn**	**11 22 14.5**	**+1.2**
SCHR	**S. Chirico Rap**	**3.31**	**286**	Pn	**Pn**	**11 21 36.8**	**+1.6**
	4μm,2.1s						
HCY	**Herceg Novi**	**3.37**	**338**	⇑*i*Pn	**Pn**	**11 21 35.1**	**-1.0**
HCY				*e*Sn	**Sn**	**11 22 17.5**	**+1.5**
VLI	**Veliai**	**3.38**	**140**	*e*PN	**Pn**	**11 21 37.5**	**+1.3**
PTRP	**Pietrapertosa**	**3.41**	**292**	Pn	**Pn**	**11 21 38.1**	**+1.5**
	3μm,0.7s						
NVR	**Nevrokopi**	**3.43**	**53**	*e*PN	**Pn**	**11 21 39.2**	**+2.3**
JOPP	**Joppolo**	**3.46**	**259**	Pn	**Pn**	**11 21 37.3**	**0.0**
JOPP				Sn	**Sn**	**11 22 18.1**	**0.0**
	1μm,0.8s						
SIRI	**Monte Sirino -**	**3.46**	**286**	Pn	**Pn**	**11 21 37.9**	**+0.6**
	1μm,0.8s						
CUC	**Castrocucco**	**3.46**	**282**	Pn	**Pn**	**11 21 39.3**	**+1.9**
	1μm,0.8s						
CUC	**Castrocucco**	**3.46**	**282**	*e*Pn	**Pn**	**11 21 38.7**	**+1.3**
CUC	**Castrocucco**	**3.46**	**282**	*e*Pn	**Pn**	**11 21 38.7**	**+1.4**
CDT	**Castel del Mon**	**3.49**	**301**	*e*Pn	**Pn**	**11 21 34.0**	**-3.7**
MMB	**Musomiste**	**3.50**	**49**	*i* P	**Pn**	**11 21 38.9**	**+1.1**
SOI	**Samo**	**3.50**	**250**	Pn	**Pn**	**11 21 37.1**	**-0.7**
SOI				Sn	**Sn**	**11 22 18.3**	**-0.7**
	841nm,0.8s						
MRVN	**Minervino Murg**	**3.53**	**300**	Pn	**Pn**	**11 21 38.2**	**-0.1**
	2μm,1.2s						
BEY	**Berane**	**3.54**	**356**	⇑*i*Pn	**Pn**	**11 21 39.1**	**+0.7**
BEY				*e*Sn	**Sn**	**11 22 21.2**	**+1.0**
IVA	**Berane**	**3.54**	**356**	⇑*i*Pn	**Pn**	**11 21 39.1**	**+0.7**
IVA				*e*Sn	**Sn**	**11 22 21.2**	**+1.0**
MCEL	**Monticello**	**3.54**	**288**	Pn	**Pn**	**11 21 39.7**	**+1.2**
	1μm,0.7s						
CEL	**Celeste**	**3.55**	**254**	Pn	**Pn**	**11 21 38.2**	**-0.3**
CEL				Sn	**Sn**	**11 22 21.1**	**+0.8**
	1μm,0.6s						
CEL	**Celeste**	**3.55**	**254**	*e*Pn	**Pn**	**11 21 38.0**	**-0.5**
CEL				*e*Sn	**Sn**	**11 22 18.8**	**-1.6**
MTSN	**Montesano sull**	**3.57**	**287**	Pn	**Pn**	**11 21 41.0**	**+2.2**
	2μm,0.9s						
MPAZ	**Palizzi**	**3.58**	**249**	Pn	**Pn**	**11 21 38.1**	**-0.8**
MPAZ				Sn	**Sn**	**11 22 20.1**	**-1.0**
	853nm,0.5s						
PALZ	**Palazzo San Ge**	**3.64**	**298**	Pn	**Pn**	**11 21 40.4**	**+0.6**
	6μm,1.0s						
BARS	**Barje**	**3.68**	**19**	*e*Pn	**Pn**	**11 21 41.0**	**+0.7**
SCLL	**Scilla**	**3.68**	**254**	Pn	**Pn**	**11 21 39.9**	**-0.5**
SCLL				Sn	**Sn**	**11 22 23.1**	**-0.6**
	263nm,0.6s						
MGR	**Morigerati**	**3.69**	**284**	Pn	**Pn**	**11 21 39.9**	**-0.5**
	1μm,0.7s						
KYTH	**Kithira**	**3.78**	**143**	*e*PN	**Pn**	**11 21 43.5**	**+1.9**
BRY	**Bratogost

VAE Valguarnera 4.93 250 Pn **Pn 11 21 58.5 +1.1**
3.1nm,0.3s,baz=9.8,slow=2.4,SNR=6.8
VAE Sn **Sn 11 22 53.6 -0.7**
23nm,0.3s,baz=329,slow=6.3,SNR=6.8
TRIV Trivento 4.96 301 Pn **Pn 11 21 59.3 +1.4**
VAGA Valle Agricola 5.02 296 Pn **Pn 11 22 00.9 +2.1**
308nm,0.6s
MOCO Biccari - m.te 5.06 296 Pn **Pn 11 21 51.4 -7.9**
3µm,1.8s
RAFF Raffo Rosso 5.07 247 Pn **Pn 11 21 57.6 -1.8**
385nm,0.8s
MIDA Miranda 5.10 299 Pn **Pn 11 22 01.4 +1.6**
343nm,0.9s
RFI Roccamonfina 5.16 294 Pn **Pn 11 22 02.6 +2.0**
19nm,0.8s
RNI2 Rionero Sannit 5.20 299 Pn **Pn 11 22 02.9 +1.8**
345nm,0.6s
CERA Filignano 5.24 298 Pn **Pn 11 22 04.1 +2.3**
390nm,0.8s
CAFR Castel Frentan 5.31 305 Pn **Pn 11 22 04.0 +1.2**
2µm,0.6s
SDI San Donato 5.43 298 Pn **Pn 11 22 06.2 +1.8**
101nm,0.7s
SMG Samos 5.43 105 P **Pn 11 22 06.0 +1.6**
PVL Pavlikeni 5.46 43 *e*P **Pn 11 22 04.5 -0.3**
IDI Anoyia 5.49 136 Pn **Pn 11 22 02.9 -2.3**
2.0nm,0.3s,baz=317,slow=14,SNR=10
IDI Sn **Sn 11 23 01.9 -6.4**
39nm,0.3s,baz=103,slow=24,SNR=11
IDI LR LR 11 23 34.8
comp=Z,181nm,21.4s,baz=87,slow=32
IDI Anoyia 5.49 136 Sn **Sn 11 23 01.9 -6.3**
POFI Posta Fibreno 5.50 298 Pn **Pn 11 22 07.1 +1.8**
131nm,0.7s
SIVA Sivas 5.66 138 *e*Pn **Pn 11 22 08.4 +1.0**
FGSL Fruska Gora 5.83 357 *e*Pn **Pn 11 22 08.9 -0.9**
AQU L'Aquila 5.99 302 *e*P **Pn 11 22 13.1 +1.1**
AQU pmax pmax
comp=Z,226nm,0.8s
AQU L'Aquila 5.99 302 ⇑*i*P **Pn 11 22 13.3 +1.3**
AQU L'Aquila 5.99 302 *e*Pn **Pn 11 22 13.1 +1.1**
comp=Z,226nm,0.8s
AQU L'Aquila 5.99 302 *e*Pn **Pn 11 22 13.1 +1.1**
comp=Z,226nm,0.8s
GZR Gura Zlata 6.34 17 ⇓*i*P **Pn 11 22 18.3 +1.4**
GZR Gura Zlata 6.34 17 ⇓P **Pn 11 22 18.3 +1.4**
BZS Buzias 6.36 9 ⇑*i*P **Pn 11 22 17.9 +0.8**
BZS Buzias 6.36 9 ⇑P **Pn 11 22 17.9 +0.7**
NVLJ Novalja 6.57 324 *e*Pn **Pn 11 22 19.3 -0.7**
NVLJ Sn **Sn 11 23 32.3 -2.6**
PKSM Moragy 6.97 351 ⇑*i*P **Pn 11 22 24.4 -1.1**
PKSM Moragy 6.97 351 P **Pn 11 22 25.0 -0.5**
BOJS Bojanci 7.18 331 *i* Pn **Pn 11 22 27.7 -0.6**
BOJS *i* Sn **Sn 11 23 47.7 -2.0**
MLR Muntele Rosu 7.47 33 ⇑*i*P **Pn 11 22 35.0 +2.7**
MLR Muntele Rosu 7.47 33 P **Pn 11 22 35.0 +2.7**
DRGR 7.67 13 ⇑*i*P **Pn 11 22 36.0 +0.9**
DRGR 7.67 13 P **Pn 11 22 36.4 +1.3**
DRGR 7.67 13 P **Pn 11 22 36.4 +1.3**
SKDS Skadanscina 7.72 326 *i* Pn **Pn 11 22 34.5 -1.2**
SKDS *i* Sn **Sn 11 24 00.1 -3.0**
LTBQ Tobruq 7.86 156 *i* P **Pn 11 22 32.5 -5.3**
SNR=76
VNDS Vrh nad Dolski 7.89 331 *i* Pn **Pn 11 22 37.1 -0.9**
LJU Ljubljana 7.91 330 *e*Pn **Pn 11 22 38.0 -0.3**
LJU *e*Sn **Sn 11 24 05.5 -2.2**
TIRR Tirgusor 7.97 47 *e*P **Pn 11 22 39.9 +0.7**
TIRR pmax pmax
comp=Z,25nm,1.1s
TIRR Tirgusor 7.97 47 ⇓*i*P **Pn 11 22 40.7 +1.5**
TIRR Tirgusor 7.97 47 *e*P **Pn 11 22 39.9 +0.7**
comp=Z,25nm,1.1s
TIRR Tirgusor 7.97 47 *e*Pn **Pn 11 22 39.9 +0.7**
comp=Z,25nm,1.1s
JAVS Javornik 7.97 327 *i* Pn **Pn 11 22 38.1 -1.1**
JAVS *i* Sn **Sn 11 24 06.0 -3.3**
JAVS Javornik 7.97 327 *i* Sn **Sn 11 24 06.0 -3.2**
PLOR Plostina 8.05 34 ⇓*i*P **Pn 11 22 43.0 +2.7**
VRI Vrincioaia 8.10 34 ⇓*i*P **Pn 11 22 43.5 +2.5**
VRI Vrincioaia 8.10 34 P **Pn 11 22 43.6 +2.6**
VOY Vojsko 8.15 327 *e*Pn **Pn 11 22 41.2 -0.5**
VOY *e*Sn **Sn 11 24 10.1 -3.6**
PKSG 8.16 351 *e*P **Pn 11 22 42.0 +0.1**
ISP Isparta 8.19 97 P **Pn 11 22 43.7 +1.4**
ISP pmax pmax
comp=Z,12nm,0.4s
ISP Isparta 8.19 97 ⇓*i*P **Pn 11 22 48.2 +5.9**
ISP Isparta 8.19 97 Pn **Pn 11 22 43.7 +1.4**
comp=Z,12nm,0.4s
PERS Pernice 8.20 335 *i* Pn **Pn 11 22 41.0 -1.4**
PERS *i* Sn **Sn 11 24 10.1 -4.7**
SOKA Soboth 8.26 334 ⇑*i*Pn **Pn 11 22 42.0 -1.3**
SOKA ⇑*i*Sn **Sn 11 24 14.4 -2.0**
OBKA Obir 8.29 332 ⇑*i*Pn **Pn 11 22 43.2 -0.4**
OBKA ⇑*i*Sn **Sn 11 24 16.9 -0.1**
GORS Gorjuse 8.34 329 *i* Pn **Pn 11 22 43.0 -1.3**
PSZ Piszkesteto 8.58 359 *e*P **Pn 11 22 48.0 +0.4**
PSZ pmax pmax
comp=Z,20nm,0.8s
PSZ Piszkesteto 8.58 359 ⇓*e* **Pn 11 22 48.9 +1.3**
PSZ Piszkesteto 8.58 359 ⇑*i*P **Pn 11 22 48.3 +0.7**
PSZ Piszkesteto 8.58 359 *e*Pn **Pn 11 22 48.0 +0.4**
comp=Z,20nm,0.8s
PSZ Piszkesteto 8.58 359 *e*Pn **Pn 11 22 48.0 +0.3**
comp=Z,20nm,0.8s
ARSA Arzberg 8.62 338 ⇑*i*Pn **Pn 11 22 46.5 -1.6**
LSRT Sirt 8.73 201 *i* P **Pn 11 22 48.2 -1.6**
SNR=76
MYKA Terra Mystica 8.74 329 ⇑*i*Pn **Pn 11 22 49.4 -0.4**
MYKA ⇑*i*Sn **Sn 11 24 25.2 -2.9**
VLC Villacollemand 8.79 306 *e*Pn **Pn 11 22 50.4 -0.1**
comp=Z,26nm,0.6s
VLC Villacollemand 8.79 306 *e*Pn **Pn 11 22 50.4 -0.1**
comp=Z,26nm,0.6s
SLUM 8.82 151 P **Pn 11 22 44.7 -6.2**
BURAR Bucovina Array 9.04 22 ⇓*i*P **Pn 11 22 56.3 +2.5**
BURAR Bucovina Array 9.04 22 ⇓P **Pn 11 22 56.3 +2.5**
PGF Pioggiola 9.08 294 *e*P **Pn 11 22 56.3 +1.9**
comp=Z,93nm,1.1s
PGF Pioggiola 9.08 294 *e*P **Pn 11 22 56.3 +1.9**
comp=Z,46nm,1.1s
ZST Bratislava 9.14 347 *e*PN **Pn 11 22 54.5 -0.7**
KECS Kecovo 9.15 1 *e*PN **Pn 11 22 55.5 +0.2**
CONA Conrad Observa 9.15 341 ⇓*i*Pn **Pn 11 22 54.8 -0.6**
CSNA Conrad Observa 9.15 341 ⇑*i*Pn **Pn 11 22 54.8 -0.6**
KBA Koelnbreinsper 9.22 329 ⇓*i*Pn **Pn 11 22 55.7 -0.7**
KBA ⇓*i*Sn **Sn 11 24 38.6 -1.4**
GHAR Gharyan 9.24 221 *i* P **Pn 11 22 55.3 -1.4**
SNR=76
GHAR *e*S **Sn 11 24 34.3 -6.2**
comp=Z,54nm,0.4s,SNR=76
MODS Modra-Piesok 9.28 348 *e*PN **Pn 11 22 57.6 +0.4**
MODS *e*SN **Sn 11 24 34.8 -6.6**
KOLL Kolacno 9.33 353 *i* PN **Pn 11 22 58.5 +0.6**
KEST Kesra 9.36 251 Pn **Pn 11 22 59.9 +1.6**
comp=Z,0.3nm,0.3s,baz=44,slow=12,SNR=8.2
KEST Sn **Sn 11 24 43.1 -0.2**
comp=Z,0.5nm,0.3s,baz=59,slow=23,SNR=5.6
UZH Uzhgorod 9.41 8 *e*P **Pn 11 23 05.8 +6.8**
UZH MLR MLR
comp=Z,1µm,10.0s
ALAS Alassa 9.51 230 *i* P **Pn 11 22 58.9 -1.5**
SNR=76
MOA Molln 9.54 335 ⇓*i*Pn **Pn 11 22 59.9 -0.8**
MOA ⇓*i*Sn **Sn 11 24 46.5 -1.3**
CRVS Cervenica-Dubn 9.61 5 *e*PN **Pn 11 23 02.5 +0.9**
KOLS Kolonicke sedl 9.71 8 *e*PN **Pn 11 23 03.8 +0.8**
KIS Kishinev 9.90 37 *e*P **Pn 11 23 08.0 +2.4**
KIS *e* 11 25 07.0
KIS MLR MLR
comp=N,900nm,12.0s
KIS MLR MLR
comp=Z,1µm,12.0s
HMAT Matruh 9.96 144 P **Pn 11 22 59.8 -6.7**
NIE Niedzica 10.08 0 *e*P **Pn 11 23 10.6 +2.5**
WTTA Wattenberg 10.09 325 ⇑*i*Pn **Pn 11 23 08.0 -0.3**
WTTA ⇓*i*Sn **Sn 11 25 00.1 -1.2**
WATA Walderalm 10.17 325 ⇑*i*Pn **Pn 11 23 09.3 -0.1**
WATA ⇓*i*Sn **Sn 11 25 01.2 -2.1**
VRAC Vranov 10.30 347 Pn **Pn 11 23 09.6 -1.6**
comp=Z,0.3nm,0.3s,baz=170,slow=13,SNR=6.1
VRAC Vranov 10.30 347 ⇑*i*P **Pn 11 23 11.9 +0.7**
VRAC Vranov 10.30 347 *e*Pn **Pn 11 23 11.9 +0.7**
VRAC Vranov 10.30 347 ⇑P **Pn 11 23 11.9 +0.7**

FETA Feichten 10.34 321 ⇑*i*Pn **Pn 11 23 11.9 +0.2**
FETA ⇓*i*Sn **Sn 11 25 04.4 -3.0**
MOTA Moosalm 10.40 323 ⇓*i*Pn **Pn 11 23 12.5 +0.1**
LSHF Shwairf 10.54 210 *i* P **Pn 11 23 12.3 -2.2**
SNR=76
SAOF Saorge 10.55 300 *e*P **Pn 11 23 17.0 +2.4**
SBF Sospel 10.59 299 *e*P **Pn 11 23 16.3 +1.2**
comp=Z,58nm,0.9s
SBF Sospel 10.59 299 *e*P **Pn 11 23 16.3 +1.2**
SBF pmax pmax
comp=Z,29nm,0.9s
SBF Sospel 10.59 299 *e*P **Pn 11 23 16.3 +1.2**
comp=Z,29nm,0.9s
GEC2 GERESS Array S 10.60 336 *e*Pn **Pn 11 23 14.0 -1.2**
GEC2 GERESS Array S 10.60 336 *e*Pn **Pn 11 23 14.0 -1.1**
GERES GERESS Array B 10.60 336 Pn **Pn 11 23 14.6 -0.6**
comp=Z,2.0nm,0.3s,baz=157,slow=14,SNR=63
GERES Sn **Sn 11 25 08.1 -5.6**
comp=Z,0.6nm,0.3s,baz=152,slow=21,SNR=2.6
DAVOX Davos/Dischmat 10.61 318 Pn **Pn 11 23 14.6 -0.7**
comp=Z,1.2nm,0.3s,baz=143,slow=16,SNR=33
DAVOX Sn **Sn 11 25 10.3 -3.7**
comp=Z,0.7nm,0.3s,baz=336,slow=20,SNR=2.6
MORC Moravsky Berou 10.61 351 ⇑*i*P **Pn 11 23 16.1 +0.7**
MORC Moravsky Berou 10.61 351 *e*Pn **Pn 11 23 15.6 +0.2**
comp=Z,6.5nm,0.8s
MORC Moravsky Berou 10.61 351 P **Pn 11 23 16.2 +0.8**
MORC Moravsky Berou 10.61 351 *e*Pn **Pn 11 23 15.6 +0.2**
comp=Z,6.5nm,0.8s
RETA Reutte 10.66 323 ⇑*i*Pn **Pn 11 23 15.7 -0.3**
RETA ⇑*i*Sn **Sn 11 25 12.8 -2.4**
LUCF Luceram 10.66 299 *e*P **Pn 11 23 24.2 +8.1**
DAVOS Davos 10.69 318 P **Pn 11 23 14.6 -1.9**
DAVOS 11 25 10.3
TUE Stuetta 10.69 315 *e*Pn **Pn 11 23 16.3 -0.3**
comp=Z,27nm,0.5s
TUE *e*Sn **Sn 11 25 05.7 -10**
LVV L'vov 10.83 13 *i* P **Pn 11 23 21.7 +3.4**
LVV MLR MLR
comp=N,500nm,6.0s
LVV MLR MLR
comp=E,300nm,6.0s
LVV MLR MLR
comp=Z,300nm,6.0s
LJFR Jufra 10.84 201 *i* P **Pn 11 23 15.3 -3.3**
SNR=76
KHC Kasperske Hory 10.89 336 *e*PN **Pn 11 23 17.6 -1.5**
KHC *ex* x 11 23 40.5
KHC *e*SN **Sn 11 25 05.2 -16**
DAVA Damuels 10.94 320 ⇓*i*Pn **Pn 11 23 20.2 +0.2**
DAVA ⇓*i*Sn **Sn 11 25 21.1 -1.1**
LZLA Zalla 10.98 192 *i* P **Pn 11 23 17.0 -3.5**
SNR=76
FRF La Foret Royal 11.03 297 *e*P **Pn 11 23 22.1 +1.0**
comp=Z,32nm,0.7s
FRF La Foret Royal 11.03 297 *e*P **Pn 11 23 22.1 +1.0**
FRF pmax pmax
comp=Z,16nm,0.7s
FRF La Foret Royal 11.03 297 *e*P **Pn 11 23 22.1 +1.0**
comp=Z,16nm,0.7s
LMR La Mourre 11.06 296 *e*P **Pn 11 23 22.8 +1.3**
comp=Z,74nm,1.1s
LMR La Mourre 11.06 296 *e*P **Pn 11 23 22.8 +1.3**
LMR pmax pmax
comp=Z,37nm,1.1s
LMR La Mourre 11.06 296 *e*P **Pn 11 23 22.8 +1.3**
comp=Z,37nm,1.1s
WET Wettzell 11.12 334 *e*P **Pn 11 23 21.0 -1.4**
DPC Dobruska-Polom 11.36 347 *e*PN **Pn 11 23 23.2 -2.3**
MBDF Montbardon 11.36 303 *e*P **Pn 11 23 25.1 -0.5**
comp=Z,25nm,0.7s
MBDF Montbardon 11.36 303 *e*P **Pn 11 23 25.1 -0.5**
MBDF pmax pmax
comp=Z,13nm,0.7s
MBDF Montbardon 11.36 303 *e*P **Pn 11 23 25.1 -0.5**
comp=Z,13nm,0.7s
PRU Pruhonice 11.39 341 *e*PN **Pn 11 23 25.6 -0.4**
TAVF Tavernes 11.45 296 *e*P **Pn 11 23 29.1 +2.2**
BNI Bardonecchia 11.55 304 *e*P **Pn 11 23 28.5 +0.2**
BNI pmax pmax
comp=Z,10.0nm,0.8s
BNI Bardonecchia 11.55 304 *e*Pn **Pn 11 23 28.5 +0.2**
comp=Z,9.8nm,0.8s
BNI Bardonecchia 11.55 304 *e*Pn **Pn 11 23 28.5 +0.2**
comp=Z,9.8nm,0.8s
BERF Bertagne 11.63 295 *e*P **Pn 11 23 30.9 +1.6**
PUYF Puyloubier 11.68 296 *e*P **Pn 11 23 32.2 +2.2**
LPG La Plagne 11.70 306 *e*P **Pn 11 23 30.1 -0.2**
comp=Z,70nm,0.8s
LPG La Plagne 11.70 306 *e*P **Pn 11 23 30.1 -0.2**
LPG pmax pmax
comp=Z,35nm,0.8s
LPG La Plagne 11.70 306 *e*P **Pn 11 23 30.1 -0.2**
comp=Z,35nm,0.8s
LPL La Plagne 11.72 306 *e*P **Pn 11 23 30.3 -0.3**
comp=Z,30nm,0.6s
LPL La Plagne 11.72 306 *e*P **Pn 11 23 30.3 -0.3**
LPL pmax pmax
comp=Z,15nm,0.6s
LPL La Plagne 11.72 306 *e*P **Pn 11 23 30.3 -0.3**
comp=Z,15nm,0.6s
VILF Villemus 11.76 297 *e*P **Pn 11 23 33.7 +2.6**
RSL Roselend 11.87 307 *e*P **Pn 11 23 33.7 +1.1**
PVCC Panska Ves 11.88 342 *e*PN **Pn 11 23 32.2 -0.6**
ROTZ Rotzenmuhle 11.89 334 *e*P **Pn 11 23 31.4 -1.4**
SMRF Simiane la Rot 11.89 298 *e*P **Pn 11 23 34.9 +1.9**
comp=Z,38nm,1.0s
SMRF Simiane la Rot 11.89 298 *e*P **Pn 11 23 34.9 +1.9**
comp=Z,19nm,1.0s
ORIF Oris-en-Rattie 12.02 302 *e*P **Pn 11 23 33.9 -0.7**
comp=Z,21nm,0.7s
ORIF *e*MLR MLR
comp=Z,635nm,18.8s
ORIF Oris-en-Rattie 12.02 302 *e*P **Pn 11 23 33.9 -0.7**
ORIF pmax pmax
comp=Z,10.0nm,0.7s
ORIF Oris-en-Rattie 12.02 302 *e*P **Pn 11 23 33.9 -0.7**
comp=Z,10nm,0.7s
SPAK Spaichingen-Ko 12.04 320 *e*P **Pn 11 23 34.1 -0.8**
MANZ Manzenberg 12.11 334 *e*P **Pn 11 23 33.8 -2.0**
GRA1 Grafenberg Arr 12.18 331 *e*P **Pn 11 23 35.1 -1.7**
GRF Grafenberg Arr 12.18 331 *e*P **Pn 11 23 35.1 -1.7**
GRF *e*L 11 28 18.0
comp=Z,277nm,19.4s
NKC Novy Kostel 12.21 336 *e*PN **Pn 11 23 36.2 -1.0**
OCF Saint Nazaire 12.28 300 *e*P **Pn 11 23 40.9 +2.7**
OG26 St.-Nazaire-De 12.28 300 *e*P **Pn 11 23 40.9 +2.7**
FELD Feldberg im Sc 12.29 318 *e*P **Pn 11 23 39.3 +1.0**
BBS Basel-Blauen 12.30 315 *e*P **Pn 11 23 36.1 -2.3**
STU Stuttgart 12.31 324 *e*P **Pn 11 23 36.8 -1.8**
STU pmax pmax
comp=Z,23nm,0.6s
STU Stuttgart 12.31 324 *e*P **Pn 11 23 38.0 -0.6**
STU Stuttgart 12.31 324 *e*Pn **Pn 11 23 36.8 -1.8**
comp=Z,23nm,0.6s
STU Stuttgart 12.31 324 *e*Pn **Pn 11 23 36.8 -1.8**
comp=Z,23nm,0.6s
BRG Berggiesshubel 12.36 341 *e*P **Pn 11 23 38.8 -0.4**
comp=Z,3.2nm,0.7s
BRG *i* 11 23 42.3
comp=Z,6.5nm,0.9s
BFO Black Forest 12.42 320 *e*P **Pn 11 23 38.9 -1.2**
WERD Werda 12.44 336 *e*P **Pn 11 23 41.2 +0.8**
CABF La Chapelle 12.64 310 *e*P **Pn 11 23 41.7 -1.4**
comp=Z,35nm,0.7s
CABF La Chapelle 12.64 310 *e*P **Pn 11 23 41.7 -1.4**
CABF pmax pmax
comp=Z,17nm,0.7s
CABF La Chapelle 12.64 310 *e*P **Pn 11 23 41.7 -1.4**
comp=Z,17nm,0.7s
MOF Molkenrain 12.73 316 *e*P **Pn 11 23 43.2 -1.2**
OG05 Jujurieux 12.75 306 *e*P **Pn 11 23 43.8 -0.9**
VIVF Saint-Julien-I 12.79 301 *e*P **Pn 11 23 45.9 +0.7**
comp=Z,22nm,1.1s
VIVF Saint-Julien-I 12.79 301 *e*P **Pn 11 23 45.9 +0.7**
VIVF pmax pmax
comp=Z,11nm,1.1s
VIVF Saint-Julien-I 12.79 301 *e*P **Pn 11 23 45.9 +0.7**
comp=Z,11nm,1.1s
MOX Moxa 12.83 335 *e*P **Pn 11 23 44.8 -0.9**
comp=Z,22nm,0.8s
MOX *e* 11 27 26.0
MOX
comp=Z,800nm,16.0s
MOX Moxa 12.83 335 *e*P **Pn 11 23 44.5 -1.2**

MOX Moxa 12.83 335 *e*P **Pn 11 23 44.8 -0.9**
comp=Z,22nm,0.8s
MOX *e* 11 27 26.0
HINF Hinteralfeld 12.86 316 *e*P **Pn 11 23 44.2 -2.0**
comp=Z,14nm,0.5s
HINF Hinteralfeld 12.86 316 *e*P **Pn 11 23 44.2 -2.0**
HINF pmax pmax
comp=Z,7.0nm,0.5s
HINF Hinteralfeld 12.86 316 *e*P **Pn 11 23 44.2 -2.0**
comp=Z,7.3nm,0.5s
ECH Echery 12.94 318 *e*P **Pn 11 23 47.5 +0.2**
ECH *e*Sn **Sn 11 26 01.5 -10**
ECH Echery 12.94 318 *e*Pn **Pn 11 23 44.8 -2.5**
ECH *e*Sn **Sn 11 26 01.5 -10**
CLL Collm 13.00 339 *e*P **Pn 11 23 46.2 -1.8**
CLL Collm 13.00 339 *e*P **Pn 11 23 47.0 -1.0**
CLL *e*(sPP) 11 24 00.0
comp=Z,7.0nm,0.7s
CLL *ex* x 11 24 48.0
CLL *ex* x 11 26 44.0
CDF Champ du Feu 13.01 318 *e*P **Pn 11 23 46.6 -1.5**
comp=Z,24nm,0.7s
CDF Champ du Feu 13.01 318 *e*P **Pn 11 23 46.6 -1.5**
CDF pmax pmax
comp=Z,12nm,0.7s
CDF Champ du Feu 13.01 318 *e*P **Pn 11 23 46.6 -1.5**
comp=Z,12nm,0.7s
AKASG Malin Array Be 13.01 26 Pn **Pn 11 23 45.3 -2.9**
comp=Z,0.7nm,0.3s,baz=213,slow=12,SNR=6.9
SSB Saint Sauveur 13.03 302 *e*Pn **Pn 11 23 48.8 +0.3**
SSB Saint Sauveur 13.03 302 *e*Pn **Pn 11 23 48.8 +0.3**
LASF Ste Croix 13.11 296 *e*P **Pn 11 23 50.2 +0.6**
comp=Z,27nm,1.1s
LASF Ste Croix 13.11 296 *e*P **Pn 11 23 50.2 +0.6**
comp=Z,14nm,1.1s
LANF Langenberg 13.12 321 *e*P **Pn 11 23 49.9 +0.3**
HAU Haudompre 13.25 315 *e*P **Pn 11 23 50.4 -1.0**
comp=Z,27nm,0.5s
HAU *e*MLR MLR
comp=Z,395nm,17.0s
HAU Haudompre 13.25 315 *e*P **Pn 11 23 50.4 -1.0**
HAU pmax pmax
comp=Z,13nm,0.5s
HAU Haudompre 13.25 315 *e*P **Pn 11 23 50.4 -1.0**
comp=Z,13nm,0.5s
KOT Kottamia 13.38 131 P **Pn 11 23 47.4 -6.0**
KOT Kottamia 13.38 131 P **Pn 11 23 47.3 -6.1**
GLL Jalalah 13.57 132 P **Pn 11 23 49.0 -7.0**
TNS Taunus Mts 13.71 326 *e*P **Pn 11 23 56.5 -1.2**
MMAI Mount Meron Ar 13.78 113 Pn **Pn 11 23 56.5 -2.3**
comp=Z,2.5nm,0.3s,baz=300,slow=13,SNR=5.4
MMAI Sn **Sn 11 26 21.7 -10**
comp=Z,0.7nm,0.3s,baz=287,slow=20,SNR=2.7
LBL Lubilhac 13.87 301 *e*P **Pn 11 24 02.1 +2.1**
PLDF La Plantade 13.89 304 *e*P **Pn 11 23 58.6 -1.6**
ANN Anapa 13.89 61 *e*P **Pn 11 23 55.3 -5.0**
ANN *e*S **Sn 11 26 26.3 -8.1**
ANN pmax pmax
comp=Z,16nm,0.9s
ANN MLR MLR
comp=Z,352nm,13.0s
SMF Signal de Mont 14.03 307 *e*P **Pn 11 24 00.4 -1.6**
comp=Z,21nm,0.6s
SMF Signal de Mont 14.03 307 *e*P **Pn 11 24 00.4 -1.6**
SMF pmax pmax
comp=Z,10.0nm,0.6s
SMF Signal de Mont 14.03 307 *e*P **Pn 11 24 00.4 -1.6**
comp=Z,10nm,0.6s
MTLF Montolieu 14.11 292 *e*P **Pn 11 24 08.0 +4.9**
comp=Z,20nm,1.1s
MTLF Montolieu 14.11 292 *e*P **Pn 11 24 08.0 +4.9**
MTLF pmax pmax
comp=Z,10.0nm,1.1s
MTLF Montolieu 14.11 292 *e*P **Pn 11 24 08.0 +4.9**
comp=Z,9.9nm,1.1s
MALT Malatya 14.23 88 *e*P **Pn 11 24 05.2 +0.3**
MALT pmax pmax
comp=Z,13nm,0.8s
MALT Malatya 14.23 88 ⇓*i*P **Pn 11 24 13.2 +8.3**
MALT Malatya 14.23 88 *e*P **Pn 11 24 05.2 +0.3**
comp=Z,13nm,0.8s
MALT Malatya 14.23 88 *e*Pn **Pn 11 24 05.2 +0.3**
comp=Z,13nm,0.8s
MALT *e*P 11 24 12.6
MEZF Maizieres J'vi 14.24 315 *e*P **Pn 11 24 03.5 -1.5**
comp=Z,33nm,0.7s
MEZF Maizieres J'vi 14.24 315 *e*P **Pn 11 24 03.5 -1.5**
comp=Z,33nm,0.7s
LOR Lormes 14.29 309 *e*P **Pn 11 24 03.7 -2.0**
comp=Z,19nm,0.6s
LOR *e*MLR MLR
comp=Z,435nm,17.2s
LOR Lormes 14.29 309 *e*P **Pn 11 24 03.7 -2.0**
LOR pmax pmax
comp=Z,9.0nm,0.6s
LOR Lormes 14.29 309 *e*P **Pn 11 24 03.7 -2.0**
comp=Z,9.4nm,0.6s
WLF Walferdange 14.38 320 *e*P **Pn 11 24 07.4 +0.6**
WLF pmax pmax
comp=Z,13nm,0.8s
WLF Walferdange 14.38 320 *e*Pn **Pn 11 24 07.4 +0.6**
comp=Z,13nm,0.8s
AVF Avril sur Loir 14.39 307 *e*P **Pn 11 24 05.6 -1.4**
comp=Z,21nm,0.7s
AVF Avril sur Loir 14.39 307 *e*P **Pn 11 24 05.6 -1.4**
AVF pmax pmax
comp=Z,11nm,0.7s
AVF Avril sur Loir 14.39 307 *e*P **Pn 11 24 05.6 -1.4**
comp=Z,11nm,0.7s
SSF Saint Saulge 14.41 308 *e*P **Pn 11 24 05.8 -1.5**
comp=Z,24nm,0.9s
SSF Saint Saulge 14.41 308 *e*P **Pn 11 24 05.8 -1.5**
SSF pmax pmax
comp=Z,12nm,0.9s
SSF Saint Saulge 14.41 308 *e*P **Pn 11 24 05.8 -1.5**
comp=Z,12nm,0.9s
CAF Calviac 14.58 298 *e*P **Pn 11 24 11.0 +1.4**
comp=Z,33nm,1.3s
CAF Calviac 14.58 298 *e*P **Pn 11 24 11.0 +1.4**
CAF pmax pmax
comp=Z,16nm,1.3s
CAF Calviac 14.58 298 *e*P **Pn 11 24 11.0 +1.4**
comp=Z,16nm,1.3s
BGF Bois d'Agland 14.61 305 *e*P **Pn 11 24 09.6 -0.5**
comp=Z,17nm,0.7s
BGF Bois d'Agland 14.61 305 *e*P **Pn 11 24 09.6 -0.5**
BGF pmax pmax
comp=Z,9.0nm,0.7s
BGF Bois d'Agland 14.61 305 *e*P **Pn 11 24 09.6 -0.5**
comp=Z,8.6nm,0.7s
HNKL Nakhl 14.69 126 P **Pn 11 24 05.0 -6.2**
SUW Suwalki 14.82 7 *e*P **Pn 11 24 17.4 +4.6**
SUW Suwalki 14.82 7 *e*P **Pn 11 24 17.8 +5.0**
TCF Toulx Ste Croi 14.92 304 *e*P **Pn 11 24 14.0 -0.2**
comp=Z,7.1nm,0.7s
TCF Toulx Ste Croi 14.92 304 *e*P **Pn 11 24 14.0 -0.2**
TCF pmax pmax
comp=Z,4.0nm,0.7s
TCF Toulx Ste Croi 14.92 304 *e*P **Pn 11 24 14.0 -0.2**
comp=Z,3.5nm,0.7s
RJF Les Rejaudoux 15.06 299 *e*P **Pn 11 24 16.9 +0.8**
comp=Z,11nm,0.9s
RJF *e*MLR MLR
comp=Z,291nm,17.2s
RJF Les Rejaudoux 15.06 299 *e*P **Pn 11 24 16.9 +0.8**
RJF pmax pmax
comp=Z,5.0nm,0.9s
RJF Les Rejaudoux 15.06 299 *e*P **Pn 11 24 16.9 +0.8**
comp=Z,5.3nm,0.9s
MEM Membach 15.08 323 P **Pn 11 24 17.7 +1.3**
comp=Z,16nm,1.1s
MEM Membach 15.08 323 P **Pn 11 24 17.6 +1.3**
comp=Z,16nm,1.1s
SOC Sochi 15.21 68 *e*P **Pn 11 24 10.7 -7.5**
SOC MLR MLR
comp=Z,193nm,23.0s
HGN Heimansgroeve 15.22 323 *e*P **Pn 11 24 25.4 +7.2**
comp=Z,19nm,1.2s
ASF Jabal al Asfar 15.30 113 Pn **Pn 11 24 16.8 -2.6**
comp=Z,0.2nm,0.3s,baz=225,slow=3.8,SNR=3.0
GIVF Givet 15.32 320 *e*P **Pn 11 24 16.6 -2.9**
BEBN Eben Emael 15.36 323 P **Pn 11 24 19.8 -0.2**
BEBN Eben Emael 15.36 323 P **Pn 11 24 19.7 -0.3**
DOU Dourbes 15.43 319 P **Pn 11 24 21.7 +0.7**
comp=Z,5.1nm,1.7s
DOU Dourbes 15.43 319 P **Pn 11 24 21.6 +0.6**

comp=Z,5.1nm,1.7s
EIL Elat 15.49 124 Pn **Pn 11 24 18.8 -3.0**
comp=Z,0.9nm,0.3s,baz=326,slow=18,SNR=5.4
EIL Sn **Sn 11 26 58.9 -14**
comp=Z,2.1nm,0.3s,baz=117,slow=16,SNR=6.4
EIL LR LR 11 30 31.3
comp=Z,118nm,20.2s,baz=287,slow=38
BAIF Baives 15.61 319 *eP* **Pn 11 24 20.4 -2.8**
comp=Z,19nm,0.7s
BAIF Baives 15.61 319 *eP* **Pn 11 24 20.4 -2.8**
BAIF pmax pmax
comp=Z,10.0nm,0.7s
BAIF Baives 15.61 319 *eP* **Pn 11 24 20.4 -2.8**
comp=Z,9.6nm,0.7s
WTSB Winterswijk 15.70 328 *eP* **Pn 11 24 30.4 +5.9**
comp=Z,32nm,0.8s
UCC Uccle 15.99 321 P **Pn 11 24 28.8 +0.6**
MNK Minsk 16.02 16 *eP* **Pn 11 24 27.0 -1.6**
ETSF Etsaut 16.06 289 *eP* **Pn 11 24 33.1 +4.0**
comp=Z,47nm,1.4s
ETSF Etsaut 16.06 289 *eP* **Pn 11 24 33.1 +4.0**
ETSF pmax pmax
comp=Z,24nm,1.4s
ETSF Etsaut 16.06 289 *eP* **Pn 11 24 33.1 +4.0**
comp=Z,24nm,1.4s
BSD Bornholm Skovb 16.18 349 *i* P Px 11 24 43.7
BSD *e* 11 28 24.5
BSD
comp=Z,440nm,18.0s
BSD Bornholm Skovb 16.18 349 *eP* Px 11 24 43.7
BSD *e* 11 28 24.5
MFF Saint Martin d 16.56 303 *eP* **Pn 11 24 36.8 +1.3**
comp=Z,19nm,0.7s
MFF Saint Martin d 16.56 303 *eP* **Pn 11 24 36.8 +1.3**
MFF pmax pmax
comp=Z,10.0nm,0.7s
MFF Saint Martin d 16.56 303 *eP* **Pn 11 24 36.8 +1.3**
comp=Z,9.5nm,0.7s
COP Copenhagen 17.16 345 *i* P Px 11 24 59.3
COP *eS* **Sn 11 28 08.7 +15**
COP
comp=Z,170nm,16.0s
COP Copenhagen 17.16 345 *eP* Px 11 24 59.3
COP *eS* **Sn 11 28 08.7 +15**
LDF La Druitiere 17.28 309 *eP* **Pn 11 24 46.7 +2.1**
comp=Z,62nm,1.3s
LDF La Druitiere 17.28 309 *eP* **Pn 11 24 46.7 +2.1**
LDF pmax pmax
comp=Z,31nm,1.3s
LDF La Druitiere 17.28 309 *eP* **Pn 11 24 46.7 +2.1**
comp=Z,31nm,1.3s
KIV Kislovodsk 17.40 67 *eP* **Pn 11 24 47.8 +1.7**
KIV *eS* **Sn 11 27 58.4 -1.1**
KIV pmax pmax
comp=Z,12nm,1.2s
KIV MLR MLR
comp=Z,94nm,12.0s
KIV Kislovodsk 17.40 67 *eP* **Pn 11 24 47.8 +1.7**
comp=Z,12nm,1.2s
GRR Gorron 17.65 308 *eP* **Pn 11 24 48.4 -0.7**
comp=Z,19nm,0.7s
GRR Gorron 17.65 308 *eP* **Pn 11 24 48.4 -0.7**
GRR pmax pmax
comp=Z,9.0nm,0.7s
GRR Gorron 17.65 308 *eP* **Pn 11 24 48.4 -0.7**
comp=Z,9.3nm,0.7s
VRSR Storozhevoye 17.81 42 *eP* **Pn 11 24 47.4 -3.7**
VRSR pmax pmax
comp=E,1.0nm,0.5s
VRSR pmax pmax
comp=Z,1.0nm,0.5s
VRSR pmax pmax
comp=N,1.0nm,0.7s
ONI Oni 17.83 72 P **Pn 11 24 53.2 +1.7**
MSL Mosul 18.31 92 *ex* x 11 25 05.0
MSL *ex* x 11 28 40.0
MUD Monsted U'grnd 18.62 341 *i* P **Pn 11 25 05.0 +4.0**
MUD *eS* **Sn 11 28 15.7 -13**
MUD
comp=Z,13µm,18.0s
MUD Monsted U'grnd 18.62 341 *eP* **Pn 11 25 05.0 +4.0**
MUD *eS* **Sn 11 28 15.7 -13**
SGMF Saint Gilles 18.65 306 *eP* **Pn 11 25 00.5 -1.0**
comp=Z,19nm,0.8s
SGMF Saint Gilles 18.65 306 *eP* **Pn 11 25 00.5 -1.0**
SGMF pmax pmax
comp=Z,10.0nm,0.8s
SGMF Saint Gilles 18.65 306 *eP* **Pn 11 25 00.5 -1.0**
comp=Z,9.5nm,0.8s
ESDC Sonseca Array 18.66 279 P **Pn 11 25 00.4 -1.3**
comp=Z,0.3nm,0.3s,baz=72,slow=11,SNR=21
ESDC LR LR 11 31 50.5
comp=Z,99nm,20.6s,baz=35,slow=36
GNI Garni 18.86 80 P **Pn 11 25 02.2 -1.9**
comp=Z,1.5nm,0.3s,baz=343,slow=22,SNR=2.3
GNI LR LR 11 32 12.5
comp=Z,206nm,20.9s,baz=67,slow=37
GNI Garni 18.86 80 *eP* **Pn 11 25 03.6 -0.5**
GNI pmax pmax
comp=Z,28nm,1.7s
GNI Garni 18.86 80 *eP* **Pn 11 25 03.6 -0.5**
comp=Z,28nm,1.7s
QUIF Quistinic 18.93 305 *eP* **Pn 11 25 05.7 +0.9**
comp=Z,20nm,0.6s
QUIF Quistinic 18.93 305 *eP* **Pn 11 25 05.7 +0.9**
QUIF pmax pmax
comp=Z,10.0nm,0.6s
QUIF Quistinic 18.93 305 *eP* **Pn 11 25 05.7 +0.9**
comp=Z,10nm,0.6s
VRHR Novokhopersk 19.04 45 *eP* **Pn 11 25 07.4 +1.2**
VRHR pmax pmax
comp=Z,10.0nm,0.4s
VRHR pmax pmax
comp=N,50nm,1.9s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR Novokhopersk 19.04 45 *eP* **Pn 11 25 07.4 +1.2**
comp=E,50nm,1.9s
ROSF Rostrenen 19.13 306 *eP* **Pn 11 25 06.5 -0.7**
comp=E,22nm,0.7s
ROSF Rostrenen 19.13 306 *eP* **Pn 11 25 06.5 -0.7**
ROSF pmax pmax
comp=Z,11nm,0.7s
ROSF Rostrenen 19.13 306 *eP* **Pn 11 25 06.5 -0.7**
comp=Z,11nm,0.7s
OBN Obninsk 19.22 29 P **Pn 11 25 06.0 -2.3**
OBN pmax pmax
comp=Z,12nm,0.6s
OBN MLR MLR
comp=Z,700nm,18.0s
OBN Obninsk 19.22 29 P **Pn 11 25 06.0 -2.3**
comp=Z,700nm,18.0s
DGRG David-gareji 19.26 76 P **Pn 11 25 18.0 +9.1**
VSU Vasula 19.60 10 *eP* **Pn 11 25 10.1 -2.7**
CWF Charnwood Fore 19.97 319 *eP* **Pn 11 25 15.1 -2.2**
CWF AMb AMB 11 25 20.4
comp=Z,31nm,1.1s
MOS Moscow 20.09 30 *eP* **P 11 25 16.9 +0.1**
MOS pmax pmax
comp=Z,58nm,0.8s
MOS Moscow 20.09 30 *eP* **P 11 25 16.9 +0.1**
comp=Z,58nm,0.8s
HGH Gray Hill 20.20 315 *eP* **P 11 25 17.2 -0.9**
TZK Tazeka 20.23 263 *i* P **P 11 25 18.0 -0.5**
BHD Baghdad 20.36 100 *ex* x 11 25 15.0
BHD *ex* x 11 29 16.0
BHD *ex* x 11 32 40.0
BHD *ex* x 11 34 12.0
KBI1 Birley Grange 20.37 320 *eP* **P 11 25 19.6 -0.3**
KWE Weaver Farm 20.40 319 *eP* **P 11 25 19.6 -0.5**
KWE Weaver Farm 20.40 319 *eP* **P 11 25 19.6 -0.6**
comp=Z,57nm,1.7s
MCH1 Michaelchurch 20.48 316 *eP* **P 11 25 20.2 -0.9**
MCH1 AMb AMB 11 25 20.7
comp=Z,57nm,1.7s
HTR Trewern Hill 20.66 316 *eP* **P 11 25 23.1 0.0**
HLM1 Long Mynd 20.67 317 *eP* **P 11 25 23.1 0.0**
LHO Holmfirth 20.70 321 *eP* **P 11 25 23.8 +0.4**
LHO Holmfirth 20.70 321 *eP* **P 11 25 23.8 +0.3**
comp=Z,74nm,1.2s
TAM Tamanrasset 20.70 221 *eP* **P 11 25 24.1 +0.4**
TAM Tamanrasset 20.70 221 *eP* **P 11 25 24.1 +0.4**
HPK Haverah Park 20.83 322 *eP* **P 11 25 25.1 +0.3**
HPK AMb AMB 11 25 30.1
comp=Z,74nm,1.2s
MVO Moncorvo 20.85 284 *eP* **P 11 25 26.1 +0.9**
comp=Z,25nm,1.4s
MVO *eS* **S 11 29 19.0 +1.5**
CCA1 Carnmenellis 20.98 309 *eP* **P 11 25 25.5 -1.0**
SBD1 Bryn Du 21.07 318 *eP* **P 11 25 28.0 +0.5**
MDT Midelt 21.07 260 P **P 11 25 26.8 -0.8**
comp=Z,7.1nm,0.8s,mb4.0,baz=76,slow=12,SNR=11
MDT LR LR 11 34 35.3
comp=Z,169nm,19.9s,MS3.4,baz=269,slow=39
HFS Hagfors 21.22 351 P **P 11 25 27.4 -1.7**
comp=Z,24nm,0.7s,mb4.7,baz=156,slow=11,SNR=60
PBAR Barrancos 21.27 276 *eP* **P 11 25 29.5 -0.2**
comp=Z,43nm,1.6s,mb4.5
PBAR Barrancos 21.27 276 *eP* **P 11 25 29.5 -0.2**
comp=Z,43nm,1.6s,mb4.5
MTE Manteigas 21.31 282 *eP* **P 11 25 30.9 +0.7**
comp=Z,38nm,1.6s,mb4.5
PMRV Marv??o 21.32 279 *eP* **P 11 25 31.5 +1.2**
comp=Z,41nm,1.9s,mb4.4
PMRV Marv??o 21.32 279 *eP* **P 11 25 31.5 +1.2**
comp=Z,41nm,1.9s,mb4.4
PESTR Estremoz 21.56 278 *eP* **P 11 25 33.8 +0.9**
comp=Z,40nm,1.5s,mb4.6
PESTR Estremoz 21.56 278 *eP* **P 11 25 33.8 +0.9**
comp=Z,40nm,1.5s,mb4.6
WPM1 Penmaenmawr 21.58 318 *eP* **P 11 25 32.9 0.0**
XAL Allendale 21.64 323 *eP* **P 11 25 33.9 +0.4**
PBEJ Beja 21.94 276 *eP* **P 11 25 36.9 0.0**
comp=Z,41nm,1.4s,mb4.7
EVO Evora 21.95 277 *eP* **P 11 25 37.5 +0.5**
comp=Z,40nm,1.1s,mb4.4
EVO *e*MLR MLR
comp=Z,239nm,19.8s,MS3.3
EVO Evora 21.95 277 *eP* **P 11 25 37.0 0.0**
comp=Z,37nm,1.4s,mb4.6
EVOP Sao Brissos 22.03 277 *eP* **P 11 25 37.5 -0.4**
comp=Z,20nm,1.1s,mb4.4
XSO Sourhope Farm 22.04 325 *eP* **P 11 25 37.8 0.0**
PBDV Barranco-do-Ve 22.16 274 *eP* **P 11 25 39.3 -0.1**
comp=Z,45nm,1.6s,mb4.7
PBDV *eS* **S 11 29 44.0 +0.7**
ECK Cauldkaine Hil 22.25 323 *eP* **P 11 25 39.5 -0.6**
ECK Cauldkaine Hil 22.25 323 *eP* **P 11 25 39.5 -0.6**
comp=Z,44nm,1.8s,mb4.6
NAO01 NORSAR Array S 22.31 348 *eP* **P 11 25 38.6 -2.0**
comp=Z,14nm,0.6s,mb4.6
NAO01 NORSAR Array S 22.31 348 *eP* **P 11 25 38.6 -2.1**
comp=Z,14nm,0.6s,mb4.6
EKA Eskdalemuir Ar 22.36 323 P **P 11 25 40.6 -0.6**
comp=Z,22nm,0.7s,mb4.7,baz=125,slow=10,SNR=90
ESK Eskdalemuir 22.37 323 *eP* **P 11 25 40.7 -0.6**
ESK AMb AMB 11 25 46.0
comp=Z,44nm,1.8s,mb4.6
ESK Eskdalemuir 22.37 323 *eP* **P 11 25 41.0 -0.3**
ESK pmax pmax
comp=Z,29nm,0.6s,mb4.9
ESK Eskdalemuir 22.37 323 *eP* **P 11 25 41.0 -0.3**
comp=Z,29nm,0.6s,mb4.9
WIM Isle of Man 22.43 320 *eP* **P 11 25 41.6 -0.5**
NB2 NORSAR Subarra 22.44 348 P **P 11 25 40.3 -1.7**
comp=Z,12nm,0.7s,mb4.4,baz=162,slow=11
NOA NORSAR Array B 22.44 348 P **P 11 25 40.3 -1.7**
comp=Z,11nm,0.6s,mb4.4,baz=166,slow=10,SNR=57
EBL Broad Law 22.57 324 *eP* **P 11 25 43.7 +0.3**
EBL Broad Law 22.57 324 *eP* **P 11 25 43.7 +0.3**
comp=Z,63nm,1.8s,mb4.7
MORF Marmelete 22.71 274 *eS* **S 11 29 53.8 +0.2**
PTEO Sao Teotonio 22.71 275 *eP* **P 11 25 44.1 -1.0**
comp=Z,64nm,1.6s,mb4.8
EDI Edinburgh 22.72 325 *eP* **P 11 25 44.5 -0.6**
EDI AMb AMB 11 25 50.7
comp=Z,42nm,1.9s,mb4.6
GAL1 Galloway 22.83 321 *eP* **P 11 25 46.8 +0.6**
GAL1 AMb AMB 11 25 58.5
comp=Z,63nm,1.8s,mb4.7
PMAFR Mafra 22.85 278 *eS* **S 11 29 57.5 +1.6**
EBH Black Hill 23.06 325 *eP* **P 11 25 47.7 -1.0**
KAF Kangasniemi 23.11 7 *ep* **P 11 25 46.5 -2.6**
comp=Z,6.0nm,0.7s,mb4.1
KAF Kangasniemi 23.11 7 *eP* **P 11 25 46.5 -2.6**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
EAB Aberfoyle 23.40 324 *eP* **P 11 25 51.6 -0.6**
MIB Mutribah 24.19 105 *eP* **P 11 25 57.0 -2.9**
comp=Z,56nm,0.8s,mb5.1
MIB Mutribah 24.19 105 *eP* **P 11 25 57.0 -2.9**
baz=105
MIB AMb AMB 11 26 05.2
comp=Z,56nm,0.8s,mb5.0,baz=105
NAY Al-Naaiem 24.41 106 *eP* **P 11 25 59.3 -2.6**
comp=Z,18nm,1.4s,mb4.3
NAY Al-Naaiem 24.41 106 *eP* **P 11 25 59.3 -2.6**
baz=106
NAY AMb AMB 11 26 04.7
comp=Z,18nm,1.4s,mb4.3,baz=106
JOF Joensuu 24.55 12 *ep* **P 11 25 59.9 -2.9**
comp=Z,2.8nm,0.3s,mb4.3
UMR Umm Al-Rimmam 24.60 105 *eP* **P 11 26 01.5 -2.2**
comp=Z,62nm,0.8s,mb5.2
UMR Umm Al-Rimmam 24.60 105 *eP* **P 11 26 01.5 -2.1**
baz=105
UMR AMb AMB 11 26 05.3
comp=Z,62nm,0.8s,mb5.2,baz=105
KLMR Klimovskoe 24.66 23 *c i* P **P 11 26 01.2 -2.7**
KLMR *eS* **S 11 30 20.0 -4.9**
KLMR Klimovskoe 24.66 23 *i* P **P 11 26 01.2 -2.7**
RDF Al-Radifah 24.80 106 *eP* **P 11 26 03.3 -2.2**
comp=Z,28nm,1.3s,mb4.7
RDF Al-Radifah 24.80 106 *eP* **P 11 26 03.3 -2.2**
baz=107
RDF AMb AMB 11 26 12.0
comp=Z,28nm,1.3s,mb4.6,baz=107
AKTK Aktyubinsk 28.69 55 P **P 11 26 38.8 -1.5**
AKTK Aktyubinsk 28.69 55 P **P 11 26 38.8 -1.5**
AKTK LR LR 11 40 02.7
AKTO Aktyubinsk 28.69 55 P **P 11 26 38.8 -1.5**
comp=Z,5.2nm,0.6s,mb4.4,baz=261,slow=8.4,SNR=21
AKTO LR LR 11 40 02.7
comp=Z,206nm,18.7s,MS3.8,baz=345,slow=41
ARU Arti 30.36 43 *c i* P **P 11 26 54.8 -0.2**
ARU *e* 11 27 49.9
ARU *eS* **S 11 31 52.8 -2.1**
ARU pmax pmax
comp=Z,18nm,1.2s,mb4.7
ARU MLR MLR
comp=Z,254nm,15.0s,MS4.0
ARU Arti 30.36 43 *i* P **P 11 26 54.8 -0.2**
comp=Z,18nm,1.2s,mb4.7
ARCES ARCESS Array B 30.39 4 P **P 11 26 52.2 -3.0**
comp=Z,1.7nm,0.5s,mb4.0,baz=189,slow=11,SNR=13
ARCES ARCESS Array B 30.39 4 P **P 11 26 52.2 -3.0**
TOA0 Torodi Ar. Sit 30.80 217 *eP* **P 11 26 58.7 -0.5**
TOA0 Torodi Ar. Sit 30.80 217 *eP* **P 11 26 58.7 -0.5**
TORD Torodi Ar. Bea 30.80 217 P **P 11 26 58.7 -0.5**
comp=Z,13nm,0.8s,mb4.8,baz=30,slow=9.0,SNR=35
TORD LR LR 11 40 30.2
comp=Z,171nm,19.0s,MS3.7,baz=145,slow=38
TORD Torodi Ar. Bea 30.80 217 P **P 11 26 58.7 -0.5**
TORD LR LR 11 40 30.2
BVAR Borovoye Array 36.56 51 P **P 11 27 48.0 -1.0**
comp=Z,3.2nm,0.7s,mb4.3,baz=255,slow=4.5,SNR=10.0
SPITS Spitsbergen Ar 38.99 359 P **P 11 28 08.5 -0.7**
comp=Z,1.8nm,0.5s,mb4.0,baz=320,slow=9.0,SNR=6.9
SPB4 Spitsbergen Ar 38.99 359 *eP* **P 11 28 09.9 +0.7**
SPB4 Spitsbergen Ar 38.99 359 *eP* **P 11 28 09.9 +0.7**
DBIC Dimbokro 39.59 221 P **P 11 28 16.0 +1.1**
comp=Z,4.3nm,0.5s,mb4.4,baz=20,slow=8.0,SNR=10
DBIC LR LR 11 46 08.4
comp=Z,286nm,19.4s,MS4.1,baz=22,slow=38
DBIC Dimbokro 39.59 221 P **P 11 28 16.0 +1.1**
DBIC LR LR 11 46 08.4
TIC Toumodi 39.70 222 *eP* **P 11 28 15.8 0.0**
comp=Z,206nm,1.6s,mb5.6
TIC Toumodi 39.70 222 *eP* **P 11 28 15.8 0.0**
TIC pmax pmax
comp=Z,206nm,1.6s,mb5.6
KIC Kosan Boka 39.80 221 *eP* **P 11 28 17.9 +1.2**
comp=Z,224nm,1.5s,mb5.7
LIC Lamto 40.06 221 *eP* **P 11 28 19.3 +0.4**
comp=Z,32nm,1.0s,mb4.7
LIC Lamto 40.06 221 *eP* **P 11 28 17.8 -1.1**
comp=Z,105nm,1.5s,mb5.3
LIC Lamto 40.06 221 *eP* **P 11 28 19.3 +0.4**
comp=Z,16nm,1.0s,mb4.7
KURK Kurchatov 41.78 54 *eP* **P 11 28 32.7 0.0**
KURK pmax pmax
comp=Z,12nm,1.4s,mb4.3
KURK Kurchatov 41.78 54 *eP* **P 11 28 32.7 0.0**
comp=Z,12nm,1.4s,mb4.3
KMBO Kilima Mbogo 43.19 155 P **P 11 28 44.9 +0.4**
comp=Z,1.2nm,0.5s,mb3.9,baz=241,slow=22,SNR=2.2
NVS Novosibirsk 44.07 48 *eP* **P 11 28 53.4 +2.3**
MK31 Makanchi Array 44.90 59 *eP* **P 11 28 56.1 -1.8**
MK31 Makanchi Array 44.90 59 *eP* **P 11 28 56.0 -1.9**
MKAR Makanchi Array 44.90 59 P **P 11 28 55.7 -2.2**
comp=Z,6.3nm,0.6s,mb4.6,baz=277,slow=7.3,SNR=45
MKAR PcP PcP 11 30 39.2 -0.1
comp=Z,1.4nm,0.7s,baz=270,slow=2.9,SNR=2.8
MKAR LR LR 11 50 01.6
comp=Z,155nm,18.7s,MS4.0,baz=87,slow=39
MKAR Makanchi Array 44.90 59 P **P 11 28 55.7 -2.2**
MKAR 11 30 39.2
ZAL Zalesovo 45.09 49 P **P 11 28 57.0 -2.3**
ZAA0 Zalesovo Array 45.10 49 *eP* **P 11 28 58.0 -1.4**
ZAA0 Zalesovo Array 45.10 49 *eP* **P 11 28 58.0 -1.4**
ZALV Zalesovo Beam 45.10 49 P **P 11 28 57.0 -2.4**
comp=Z,8.5nm,0.6s,mb4.7,baz=274,slow=8.3,SNR=21
ZALV LR LR 11 49 41.8
comp=Z,95nm,20.5s,MS3.7,baz=14,slow=39
ZALV Zalesovo Beam 45.10 49 P **P 11 28 57.0 -2.4**
ZALV LR LR 11 49 41.8
WMQ Urumqi 49.41 62 *eP* **P 11 29 36.1 +3.0**
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
LSZ Lusaka 54.83 171 P **P 11 30 15.1 +1.5**
comp=Z,1.6nm,0.7s,mb4.2,baz=11,slow=5.2,SNR=5.4
TLY Talaya 56.68 48 *eP* **P 11 30 29.7 +3.1**
TLY *eS* **S 11 38 13.7 -4.8**
TLY pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
TLY MLR MLR
comp=Z,139nm,17.0s,MS4.1
ZAK Zakamensk 56.98 49 *eP* **P 11 30 27.4 -1.3**
ZAK pmax pmax
comp=Z,3.0nm,2.1s,mb4.0
ZAK Zakamensk 56.98 49 *eP* **P 11 30 27.4 -1.3**
comp=Z,3.0nm,2.1s,mb4.0
SCHQ Schefferville 57.46 317 P **P 11 30 30.6 -1.4**
comp=Z,7.5nm,0.6s,mb4.9,baz=65,slow=4.7,SNR=12
TSUM Tsumeb 58.28 183 P **P 11 30 38.6 +0.5**
comp=Z,2.4nm,0.8s,mb4.3,baz=358,slow=8.5,SNR=4.9
GTA Gaotai 59.49 62 *eP* **P 11 30 46.7 +0.2**
GTA AP pP 11 30 51.1 +0.6
GTA XP sP 11 30 54.0 +2.0
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.3
BOD Bodaibo 59.61 38 *eP* **P 11 30 44.6 -2.4**
BOD pmax pmax
comp=Z,3.0nm,2.0s,mb4.0
BOD Bodaibo 59.61 38 *eP* **P 11 30 44.6 -2.4**
comp=Z,3.0nm,2.0s,mb4.0
SONM Songino Array 59.91 51 P **P 11 30 47.5 -1.8**
comp=Z,2.5nm,0.9s,mb4.2,baz=270,slow=8.3,SNR=12
SONM LR LR 11 58 32.5
comp=Z,126nm,21.3s,MS4.0,baz=272,slow=38
LZH Lanzhou 63.90 64 *eP* **P 11 31 18.7 +2.4**
LZH AP pP 11 31 21.5 +1.2
LZH XP sP 11 31 22.7 +0.9
LZH PP PP 11 33 37.6 +1.1
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,52nm,4.3s
CD2 Chengdu 66.56 69 *eP* **P 11 31 34.7 +1.1**
CD2 PP PP 11 34 02.9 +2.9
CD2 S S 11 40 24.4 0.0
CD2 SS SS 11 44 42.1 +0.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,30nm,6.2s
CD2 LR LR
comp=N,160nm,14.2s
CD2 LR LR
comp=Z,130nm,12.8s,MS4.3
HHC Hu-ho-hao-te 66.58 56 *eP* **P 11 31 32.5 -1.1**
HHC PCP PcP 11 32 02.3 -0.6
HHC PP PP 11 34 01.4 +1.6
HHC PCS 11 36 06.0
HHC S S 11 40 21.9 -2.4
HHC SCS ScS 11 41 26.8 -3.5
HHC SS SS 11 44 39.7 -1.1
HHC AMB AMB
comp=Z,22nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,199nm,5.3s
HHC LR LR
comp=N,107nm,17.8s,MS4.4
HHC LR LR
comp=E,187nm,17.8s,MS4.4
HHC LR LR
comp=Z,130nm,16.6s,MS4.2
BOSA Boshof 67.76 175 P **P 11 31 41.6 +0.7**
comp=Z,3.0nm,0.6s,mb4.5,baz=341,slow=6.6,SNR=13
BOSA LR LR 12 03 19.2
comp=Z,196nm,20.2s,MS4.3,baz=358,slow=38
KMI Kunming 69.02 74 P **P 11 31 49.3 +0.1**
KMI XP sP 11 31 55.6 +0.9
KMI PP PP 11 34 26.3 +4.9
KMI PPP 11 36 04.3
KMI S S 11 40 55.2 +1.2
KMI SS SS 11 45 22.5 +3.1
KMI SSS 11 48 24.6
KMI AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,149nm,5.4s
KMI LR LR
comp=N,314nm,12.8s,MS4.8
KMI LR LR
comp=E,193nm,12.8s,MS4.8
KMI LR LR
comp=Z,126nm,16.3s,MS4.2
BJI Beijing 69.95 54 P **P 11 31 55.1 +0.4**
BJI S S 11 41 05.6 +1.0
BJI SCS ScS 11 41 58.2 +1.5
BJI AMB AMB
comp=Z,12nm,1.9s,mb4.5
BJI AMB AMB
comp=Z,245nm,3.8s
BJI LR LR
comp=Z,148nm,36.5s,MS4.0
CMAR Chiang Mai Arr 69.96 82 P **P 11 31 53.8 -1.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=301,slow=7.0,SNR=6.6
CMAR Chiang Mai Arr 69.96 82 *i* P **P 11 31 55.7 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
GYA Guiyang 71.16 71 P **P 11 32 05.2 +2.9**
GYA PCP PcP 11 32 25.8 +3.4
GYA PP PP 11 34 44.6 +4.7
GYA S S 11 41 20.4 +1.3
GYA PS 11 41 49.8
GYA SKS 11 42 04.2
GYA SS SS 11 45 55.8 +3.5
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,110nm,5.0s
GYA LR LR
comp=Z,440nm,18.8s,MS4.7
YKA Yellowknife Ar 72.23 340 P **P 11 32 07.9 -0.2**
comp=Z,2.1nm,0.6s,mb4.2,baz=37,slow=5.6,SNR=5.7
YKA Yellowknife Ar 72.23 340 P **P 11 32 07.9 -0.2**
URVA University of 72.54 304 P **P 11 32 11.1 +0.7**
ULM Lac du Bonnet 74.63 323 P **P 11 32 22.3 -0.2**
comp=Z,6.7nm,0.7s,mb4.7,baz=69,slow=5.1,SNR=11
ULM Lac du Bonnet 74.63 323 P **P 11 32 22.3 -0.2**
DAWY Dawson 75.68 351 *eP* **P 11 32 28.2 -0.1**
DAWY Dawson 75.68 351 *eP* **P 11 32 28.2 -0.1**
KSRS Korea Array 78.78 51 P **P 11 32 45.1 -1.0**
comp=Z,3.4nm,0.7s,mb4.4,baz=315,slow=5.0,SNR=8.9
KSRS Korea Array 78.78 51 P **P 11 32 45.2 -1.0**
KSRS pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
PSI Prapat 79.49 95 P **P 11 32 50.1 -0.3**
comp=Z,3.8nm,0.6s,mb4.5,baz=317,slow=5.4,SNR=8.5
RC01 Rabbit Creek A 79.59 355 *eP* **P 11 32 49.5 -0.7**
comp=Z,2µm,0.6s
RC01 Rabbit Creek A 79.59 355 *eP* **P 11 32 49.5 -0.7**
comp=Z,2µm,0.6s
SVW2 Sparrevohn 79.86 358 *eP* **P 11 32 51.7 +0.1**
SVW2 Sparrevohn 79.86 358 *eP* **P 11 32 51.7 +0.1**

YSS	Yuzh-Sakhalins	79.97	36	P		P	11 32 55.0	+2.5
RLMT	Red Lodge	84.45	327	*e*P		P	11 33 17.3	+1.3
	comp=Z,8.4nm,1.4s,mb4.7							
MAT	Matsushiro	85.34	46	P		P	11 33 19.0	-1.7
MAT				*e*S		S	11 43 50.0	-1.2
MJAR	Matsushiro Arr	85.34	46	P		P	11 33 19.4	-1.2
	comp=Z,3.7nm,0.7s,mb4.6,baz=330,slow=3.7,SNR=19							
PDAR	Pinedale Array	86.47	325	P		P	11 33 26.0	-0.1
	comp=Z,0.4nm,0.7s,mb3.8,baz=67,slow=6.9,SNR=2.9							
BMO	Blue Mountains	87.89	331	*e*P		P	11 33 31.4	-1.6
PV10	Paradox Valley	89.74	323	*e*P		P	11 33 42.6	+0.8
ANMO	Albuquerque	91.18	319	*e*P		P	11 33 49.5	+0.9
NVAR	Mina Array Bea	93.76	329	P		P	11 33 59.4	-1.1
	comp=Z,0.2nm,0.5s,mb3.8,baz=262,slow=19,SNR=3.9							
NVAR	Mina Array Bea	93.76	329	P		P	11 33 59.3	-1.1
TXAR	Lajitas Array	94.01	313	P		P	11 34 01.9	+0.2
	comp=Z,1.0nm,0.7s,mb4.3,baz=62,slow=4.6,SNR=12							
TXAR	Lajitas Array	94.01	313	P		P	11 34 01.9	+0.2
WRA	Warramunga Arr	120.81	91	PKP		PKPdf	11 39 34.8	-1.1
	comp=Z,0.7nm,0.8s,baz=311,slow=2.5,SNR=7.7							
ASAR	Alice Springs	122.52	95	PKP		PKPdf	11 39 37.5	-1.6
	comp=Z,0.6nm,0.6s,baz=326,slow=1.3,SNR=13							
STKA	Stephens Creek	132.47	100	PKP		PKPdf	11 39 58.1	+0.3
	comp=Z,1.8nm,1.0s,baz=270,slow=7.1,SNR=2.0							

*ISCJB **12** 11:20:49.0±0.8, 1823S×005×6890W×010, h154km±8km, mb3.8/4, Error ellipse: s-maj=15.3km s-min=8.0km az=15.4.*
*NEIC **12** 11:20:49.9±1.1, 1821S×6890W, h146km±10km, Error ellipse: s-maj=20.1km s-min=10.9km az=96.0*
*IDC **12** 11:20:49.3±1.1, 1823S×6890W, h141km±8km, mb3.7/4, mb1 3.6/8, mb1mx3.3/22, mbtmp3.4/8, Error ellipse: s-maj=22.7km s-min=9.0km az=98.0*

ISC 12 11:20:50.0±0.8, 1823S×005×6890W×010, h148km±8km, n15, σ0°88/19, mb3.8/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.06	21	P	Pn	11 21 26.5	+0.7
	3.0nm,0.3s,baz=218,slow=7.4,SNR=126						
LPAZ				S	Sn	11 21 53.0	-0.2
	1.7nm,0.3s,baz=176,slow=22,SNR=7.5						
LPAZ	La Paz	2.06	21	*e*P	Pn	11 21 26.3	+0.6
LPAZ				S	Sn	11 21 53.0	-0.2
LVC	Limon Verde	4.36	180	P	Pn	11 21 55.9	+1.0
	4.5nm,0.3s,baz=313,slow=8.7,SNR=66						
LVC				S	Sn	11 22 44.8	-0.7
	2.2nm,0.3s,baz=98,slow=22,SNR=9.9						
LVC	Limon Verde	4.36	180	*e*P	Pn	11 21 55.8	+0.9
LVC				S	Sn	11 22 44.8	-0.7
SIV	San Ignacio	7.80	75	P	Pn	11 22 40.6	-0.2
	0.7nm,0.3s,baz=280,slow=12,SNR=16						
SIV				S	Sn	11 24 07.6	-0.2
	0.1nm,0.3s,baz=181,slow=24,SNR=6.2						
CFAA	Coronel Fontan	13.33	178	P	Pn	11 23 51.9	-1.6
	0.0nm,0.3s,baz=343,slow=11,SNR=3.3						
CPUP	Villa Florida	13.40	129	P	Pn	11 23 54.5	+0.3
	0.2nm,0.3s,baz=298,slow=13,SNR=2.9						
TRQA	Tornquist	20.66	164	*e*P	P	11 25 20.2	+2.1
DBIC	Dimbokro	67.83	75	P	P	11 31 31.9	-0.8
	4.4nm,0.9s,mb4.2,baz=243,slow=4.5,SNR=2.6						
ULM	Lac du Bonnet	72.22	342	P	P	11 31 57.6	-0.9
	1.9nm,0.4s,mb4.2,baz=146,slow=7.3,SNR=3.9						
TORD	Torodi Ar. Bea	76.27	71	P	P	11 32 23.4	+0.6
	0.2nm,0.4s,mb3.1,baz=222,slow=6.6,SNR=5.1						
TORD	Torodi Ar. Bea	76.27	71	P	P	11 32 23.4	+0.6
YKA	Yellowknife Ar	88.12	341	P	P	11 33 23.7	+0.3
	1.4nm,0.9s,mb3.8,baz=132,slow=4.6,SNR=4.2						
YKA	Yellowknife Ar	88.12	341	P	P	11 33 23.7	+0.3
SONM	Songino Array	150.22	6	PKPbc	PKPbc	11 40 24.8	+1.4
	0.7nm,0.5s,baz=305,slow=1.1,SNR=5.4						

*IDC **12** 11:25:29.2±1.4, 4.17N×12739E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, Error ellipse: s-maj=124.1km s-min=20.9km az=69.0*

NEIC 12 11:25:34.2±0.8, 439N×12787E, h35km, mb3.6/1, Error ellipse: s-maj=54.4km s-min=10.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	25.00	165	*e*P		P	11 30 55.5	+0.6
	1.2nm,0.7s						
WRA	Warramunga Arr	25.00	165	P		P	11 30 54.0	-1.0
	0.8nm,0.6s,baz=344,slow=10.0,SNR=12						
WB2	Warramunga Arr	25.00	165	*e*P		P	11 30 56.3	+1.3
ASAR	Alice Springs	28.50	168	P		P	11 31 25.8	-0.7
	0.2nm,0.6s,baz=345,slow=6.8,SNR=3.7						
SONM	Songino Array	47.05	340	P		P	11 34 03.0	+0.6
	0.3nm,0.5s,baz=145,slow=10,SNR=2.7						
MKAR	Makanchi Array	57.67	324	P		P	11 35 21.1	-0.1
	0.6nm,0.4s,baz=116,slow=7.3,SNR=7.8						
KURK	Kurchatov	61.81	327	*e*P		P	11 35 49.6	0.0
BVAR	Borovoye Array	67.40	327	P		P	11 36 25.7	-0.3
	0.4nm,0.4s,baz=106,slow=11,SNR=3.9							

ATH 12 11:27:05.3, 3933N×2021E, h10km, MD3.3/3, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.50	320	*e*PB	Pg	11 27 15.0	0.0
JAN	Janina	0.59	56	*e*PB	Pb	11 27 16.5	-1.3
VLS	Valsamata	1.19	165	*e*PB	Pb	11 27 28.0	+0.1

*ISCJB **12** 11:29:05.1±0.7, 3931N×003×2003E×006, h10km, Error ellipse: s-maj=6.2km s-min=3.8km az=174.9*
*NEIC **12** 11:29:06.5, 3929N×2012E, h0km, MD3.5(ATH), ML3.4(THE), After THE.*
*CSEM **12** 11:29:06.5±0.1, 3928N×2023E, h2km, ML3.4, Error ellipse: s-maj=3.4km s-min=1.8km az=87.0*
*ATH **12** 11:29:06.4, 3932N×2022E, h21km±1km, MD3.5/6*
*THE **12** 11:29:06.5, 3929N×2012E, h0km, ML3.4*

ISC 12 11:29:06.5±0.7, 3929N×002×2016E×005, h2km±5km, n20, σ1°11/32, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.28	28	*e*Pg	Pg	11 29 11.5	-0.3
IGT				*e*Sg	Sg	11 29 15.5	+0.1
KEK	Kerkira	0.51	327	*e*PN	Pg	11 29 16.5	+0.2
KEK				*e*SN	Sg	11 29 24.2	+1.3
KEK	Kerkira	0.51	327	*e*Sn	Sg	11 29 24.2	+1.3
JAN	Janina	0.65	55	*e*PN	Pg	11 29 17.9	-1.0
JAN				*e*SN	Sg	11 29 26.4	-0.9
LKD	Levkas	0.69	147	*e*Pg	Pg	11 29 19.4	-0.4
LKD				*e*Sg	Sg	11 29 31.1	+2.4
VLS	Valsamata	1.16	163	*e*Pg	Pg	11 29 27.7	-1.0
VLS				*e*Sg	Sg	11 29 46.2	+2.5
VLS	Valsamata	1.16	163	*e*PN	Pn	11 29 28.9	-0.8
VLS				*e*SN	Sn	11 29 45.8	-0.3
VLS	Valsamata	1.16	163	*e*Pg	Pg	11 29 27.7	-1.0
VLS				*e*Sn	Sn	11 29 45.8	-0.3
KFL	Anninata	1.27	157	*e*Pg	Pg	11 29 30.7	-0.2
EVR	Evrytania	1.33	106	*e*PN	Pn	11 29 31.1	-1.0
THL	Klokotos Trika	1.46	79	*e*Pg	Pg	11 29 32.8	-1.7
THL				*e*Sg	Sg	11 29 55.5	+2.0
THL	Klokotos Trika	1.46	79	*e*Pn	Pn	11 29 33.0	-0.9
RLS	Riolos of Patr	1.60	140	*e*PN	Pn	11 29 35.6	-0.1
AGG	Agios Georgios	1.71	98	*e*Pb	Pb	11 29 38.4	-0.2
AGG				*e*Sb	Sb	11 30 00.7	+0.2
AGG	Agios Georgios	1.71	98	*e*Pb	Pb	11 29 38.3	-0.3
AGG				*e*Sb	Sb	11 30 00.7	+0.2
FNA	Florina	1.76	32	*e*Pb	Pb	11 29 38.4	-1.1
FNA				*e*Sb	Sb	11 30 03.1	+1.0
BIA	Bitola	1.94	27	*e*Pn	Pn	11 29 39.2	-1.3
LIT	Litokhoron	1.97	65	*e*Pn	Pn	11 29 41.8	+0.9
LIT				*e*Sn	Sn	11 30 07.4	+1.2
KRUS	Krusevo	2.24	21	*i* Pn	Pn	11 29 46.1	+1.6
KRUS	Krusevo	2.24	21	*i* Pn	Pn	11 29 46.1	+1.5

IDC 12 11:37:02.7±4.2, 2420S×17718W, h42km±46km, mb3.7/3, mb1 4.1/5, mb1mx3.6/20, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=77.7km s-min=31.6km az=129.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.08	187	S	Sn	11 39 13.3	-0.3
	50nm,0.3s,baz=108,slow=23,SNR=4.5						
AFI	Afiamalu	11.44	27	P	Pn	11 39 44.0	+0.5
	4.7nm,0.3s,baz=235,slow=12,SNR=6.3						
AFI				S	Sn	11 41 42.7	-7.3
	2.1nm,0.3s,baz=356,slow=23,SNR=4.0						
URZ	Urewera	14.84	198	P	Pn	11 40 28.3	-1.3
	0.4nm,0.3s,baz=146,slow=3.6,SNR=5.4						
URZ				S	Sn	11 42 55.2	-18
	1.4nm,0.3s,baz=32,slow=2.8,SNR=8.1						
ASAR	Alice Springs	44.53	260	P	P	11 45 09.8	-0.7
	1.0nm,0.4s,baz=96,slow=7.7,SNR=59						
WRA	Warramunga Arr	44.96	266	P	P	11 45 13.5	-0.5
	0.5nm,0.3s,baz=99,slow=7.2,SNR=23						
FITZ	Fitzroy Crossi	53.38	265	P	P	11 46 20.0	+1.7
	1.6nm,1.1s,baz=126,slow=14,SNR=4.5						
AKASG	Malin Array Be	146.59	329	PKPbc	PKPbc	11 56 38.2	-1.2
	0.6nm,0.5s,baz=45,slow=4.3,SNR=3.0						

*ISCJB **12** 11:39:01.4±1.0, 3929N×003×2005E×007, h1km±5km, Error ellipse: s-maj=9.2km s-min=4.4km az=8.6*
*THE **12** 11:39:01.6, 3931N×2004E, h0km, ML3.6*
*NEIC **12** 11:39:03.5, 3926N×2021E, h17km, MD3.6(ATH), ML3.6(THE), After ATH.*
*CSEM **12** 11:39:03.9±0.3, 3927N×2025E, h5km, ML3.6, Error ellipse: s-maj=6.7km s-min=3.5km az=93.0*
*ATH **12** 11:39:03.5, 3926N×2021E, h17km±1km, MD3.6/8*

ISC 12 11:39:03.1±0.9, 3929N×003×2012E×007, h5km±5km, n20, σ1°32/33, 1C-1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.30	34	*e*Pg	Pg	11 39 07.5	-1.4
IGT				*e*Sg	Sg	11 39 12.6	-0.2
KEK	Kerkira	0.49	330	*e*PN	Pg	11 39 14.5	+1.9
JAN	Janina	0.68	57	⇑*i*PB	Pb	11 39 14.9	-2.5
JAN				*e*SN	Sg	11 39 24.7	-0.3
LKD	Levkas	0.71	144	*e*Pg	Pg	11 39 15.3	-1.5
LKD				*e*Sg	Sg	11 39 27.7	+1.7
VLS	Valsamata	1.17	161	*e*Pg	Pg	11 39 24.5	-1.0
VLS				*e*Sg	Sg	11 39 42.1	+1.5
VLS	Valsamata	1.17	161	*e*PN	Pn	11 39 24.8	-1.2
VLS				*e*SN	Sn	11 39 40.8	-1.5
VLS	Valsamata	1.17	161	*e*Pn	Pn	11 39 24.8	-1.2
VLS				*e*Sn	Sn	11 39 40.8	-1.5
VLS				*e*Sg	Sg	11 39 42.1	+1.5
KFL	Anninata	1.29	156	*e*Pg	Pg	11 39 27.0	-0.8
KFL				*e*Sg	Sg	11 39 46.8	+2.4
EVR	Evrytania	1.37	105	*e*PN	Pn	11 39 28.0	-0.8
THL	Klokotos Trika	1.50	79	*e*Pg	Pg	11 39 28.8	-3.0
THL				*e*Sg	Sg	11 39 52.0	+0.8
THL	Klokotos Trika	1.50	79	⇓*i*Pn	Pn	11 39 30.0	-0.6
THL				*e*Sn	Sn	11 39 50.7	+0.3
RLS	Riolos of Patr	1.62	139	*e*PN	Pn	11 39 32.5	+0.2
KZN	Kozani	1.63	51	*e*PN	Pn	11 39 32.6	+0.1
KZN				*e*SN	Sn	11 39 55.4	+1.6
FNA	Florina	1.78	32	*e*Sb	Sb	11 39 58.4	-0.5
FNA				*e*Sb	Sb	11 39 58.1	-0.8
BIA	Bitola	1.96	28	*e*Pn	Pn	11 39 39.9	+2.8
BIA	Bitola	1.96	28	*e*Pn	Pn	11 39 39.8	+2.8
LIT	Litokhoron	2.00	65	*e*Pn	Pn	11 39 37.4	-0.1
LIT				*e*Sn	Sn	11 40 03.9	+0.9
KRUS	Krusevo	2.25	22	*e*Pn	Pn	11 39 43.1	+2.1
KRUS	Krusevo	2.25	22	*e*Pn	Pn	11 39 43.0	+2.0
PLG	Polygyros	2.78	66	*e*PN	Pn	11 39 47.5	-0.8

*NEIC **12** 11:50:36.4, 3931N×2023E, h40km, MD3.2(ATH), After ATH.*

ATH 12 11:50:36.4, 3931N×2023E, h40km±6km, MD3.2/5, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.52	320	*e*P	Pn	11 50 48.5	+1.1
KEK				*e*S	Sn	11 50 56.3	+1.1
JAN	Janina	0.59	54	*e*P	Pn	11 50 48.3	-0.1
JAN				*e*S	Sn	11 50 58.3	+1.4
VLS	Valsamata	1.17	166	*e*P	Pn	11 50 58.0	+1.8
EVR	Evrytania	1.29	107	*e*P	Pn	11 50 59.6	+1.7
THL	Klokotos Trika	1.41	79	*e*P	Pn	11 51 00.8	+1.3

*MOS **12** 12:05:17.5±0.9, 1131S×16623E, h33km, mb6.0/42, MS5.7/72, Error ellipse: s-maj=7.6km s-min=6.4km az=56.7*
*BJI **12** 12:05:17.2, 1089S×16634E, h20km, mB6.1, mb5.8, Ms5.7, Msz5.5*
*ISCJB **12** 12:05:18.7±0.1, 1134S±003×166.19E±002, h41km, mb5.8/138, MS5.7/258, Error ellipse: s-maj=4.3km s-min=2.4km az=170.8*
*SZGRF **12** 12:05:18.2, 1157S×16574E, h33km, mb5.9, Santa Cruz Islands*
*GCMT **12** 12:05:19.9±0.1, 1149S×16598E, h48km, MW6.0/108, Moment Tensor Solution. s108,c239; s106,c329; Duration: ≥5 Moment tensor: Scale 1018Nm; Mrr1.33±.01; Mθθ0.06±.01; Mϕϕ-1.39±.01; Mrθ-0.08±.01; Mθϕ0.30±.01; Mϕr0.06±.01; Best double couple: M01.39300×1018 NP1:ϕ172.00000°, δ44.00000°, λ94.00000°. NP2:ϕ346.00000°, δ47.00000°, λ86.00000°. Principal axes: T 1.3350, Plg87.0000°, Azm196.0000°; N 0.1150, Plg3.0000°, Azm349.0000°; P -1.4510, Plg2.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **12** 12:05:19.6±1.0, 1138S×16627E, h39km±7km, mb5.3/24, mb1 5.4/25, mb1mx5.4/25, mbtmp5.3/25, MS5.5/27, Ms1 5.5/27, ms1mx5.3/30 Error ellipse: s-maj=8.0km s-min=7.3km az=53.0*
*NEIC **12** 12:05:19.9±0.1, 1138S×16627E, h42km, mb5.8/62, ME5.4, MS5.7/195, MW6.0, Error ellipse: s-maj=5.3km s-min=3.3km az=147.0, Moment Tensor Solution. s45 Moment tensor: Scale 1018Nm; Mrr1.13; Mθθ0.11; Mϕϕ-1.23; Mrθ0.19; Mθϕ0.28; Mϕr0.06; Best double couple: M01.20000×1018 NP1:ϕ360.00000°, δ46.00000°, λ105.00000°. NP2:ϕ158.00000°, δ46.00000°, λ74.00000°. Principal axes: T 1.1700, Plg79.0000°, Azm347.0000°; N 0.1200, Plg11.0000°, Azm169.0000°; P -1.2900, Plg0.0000°, Azm79.0000°; Broadband fault plane solution: P waves. NP1:ϕ355.00000°, δ45.00000°, λ90.00000°. NP2:ϕ175.00000°, δ45.00000°, λ90.00000°. Principal axes: T Plg90.0000°, Azm0.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm85.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*BGS **12** 12:05:19.8, 1138S×16627E, h33km, mb5.8(NEIC)*
*DJA **12** 12:05:19, 1150S×16628E, h22km, mB6.5/12*

ISC 12 12:05:20.5±0.1, 1134S×003×16624E±002, h43km, h43km±1.5km: pP-P, n1348, σ0°71/825, mb5.8/138, MS5.7/258, 209C-167D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.47	286	Pn	Pn	12 06 55.1	+1.8
	383nm,0.3s,baz=132,slow=1.2,SNR=281						
HNR				Sn	Sn	12 08 05.4	-0.5
	baz=77,slow=13,SNR=2.6						
HNR	Honiara	6.47	286	P	Pn	12 06 55.1	+1.8
HNR						12 08 05.4	
HNR				pmax	pmax		
	comp=Z,383nm,0.3s						
HNR	Honiara	6.47	286	⇓*e*Pn	Pn	12 06 55.5	+2.2
	comp=Z,6μm,0.9s						
HNR				*e*Sn	Sn	12 08 07.8	+1.9
FUNA	Funafuti	13.07	79	*e*Pn	Pn	12 08 24.4	+0.8
	comp=Z,2μm,1.3s						
PMG	Port Moresby	18.87	274	*e*P	Pn	12 09 40.0	+1.9
CTA	Charters Tower	21.09	243	*e*P	P	12 10 02.9	+1.5
	comp=Z,268nm,1.2s,mb5.5						
CTA				*e*S	S	12 13 55.8	+1.9
CTA	Charters Tower	21.09	243	P	P	12 10 02.5	+1.1
	comp=Z,154nm,0.8s,mb5.4,baz=78,slow=11,SNR=66						
CTA				S	S	12 13 55.0	+1.1
	comp=Z,7.7nm,0.9s,baz=57,slow=15,SNR=4.6						
CTA				LR	LR	12 17 12.1	
	comp=Z,26μm,19.6s,MS5.6,baz=60,slow=34						
CTA	Charters Tower	21.09	243	*e*P	P	12 10 02.9	+1.5
CTA				*e*S	S	12 13 55.8	+1.9
CTA				pmax	pmax		
	comp=Z,268nm,1.2s						
CTAO	Charters Tower	21.09	243	*e*P	P	12 10 02.8	+1.4
CTAO				pmax	pmax		
	comp=Z,649nm,1.3s,mb5.8						
CTAO				MLR	MLR		
	comp=Z,24μm,20.0s,MS5.6						
CTAO	Charters Tower	21.09	243	*e*P	P	12 10 02.8	+1.4
	comp=Z,649nm,1.3s,mb5.8						
CTAO				LR	LR		
	comp=Z,24μm,20.0s,MS5.6						
AFI	Afiamalu	21.60	99	P	P	12 10 07.1	+0.2
	comp=Z,260nm,1.0s,mb5.6,baz=93,slow=3.2,SNR=17						
AFI				S	S	12 14 03.4	-0.6
	comp=Z,27nm,0.8s,baz=71,slow=20,SNR=2.0						
AFI				LR	LR	12 16 50.2	
	comp=Z,14μm,21.4s,MS5.3,baz=252,slow=32						
AFI	Afiamalu	21.60	99	*e*P	P	12 10 09.8	+2.9
AFI				pmax	pmax		
	comp=Z,3μm,1.8s,mb6.4						
AFI				MLR	MLR		
	comp=Z,17μm,21.0s,MS5.4						
AFI	Afiamalu	21.60	99	*e*P	P	12 10 09.8	+2.9
	comp=Z,3μm,1.8s,mb6.4						
AFI				LR	LR		
	comp=Z,17μm,21.0s,MS5.4						
COEN	Coen	22.65	261	*e*P	P	12 10 18.4	+0.3
	comp=Z,567nm,1.5s,mb5.8						
RAO	Raoul Island	23.15	143	P	P	12 10 21.1	-2.1
	comp=Z,79nm,0.3s,mb5.7,baz=104,slow=21,SNR=1.8						
RAO				S	S	12 14 31.8	+0.2
	comp=Z,187nm,0.6s,baz=252,slow=23,SNR=2.2						
RAO				LR	LR	12 17 44.4	
	comp=Z,7μm,18.3s,MS5.2,baz=318,slow=32						
RAO	Raoul Island	23.15	143	P	P	12 10 21.1	-2.2
RAO				S	S	12 14 31.8	+0.2
ARMA	Armidale	23.33	213	⇑*i*P	P	12 10 25.7	+0.6
ARMA				*e*S	S	12 14 36.3	+1.8
ARMA				*e*SCP	ScP	12 17 53.1	+7.2
RIV	Riverview	26.29	209	*e*P	P	12 10 52.6	+0.6
RIV	Riverview	26.29	209	*e*P	pP	12 11 06.5	+3.0
URZ	Urewera	28.52	162	P	P	12 11 10.5	-1.4
	comp=Z,39nm,0.9s,mb5.1,baz=7.2,slow=4.4,SNR=11						
URZ				S	S	12 15 51.9	-4.9
	comp=Z,9.0nm,0.9s,baz=355,slow=14,SNR=2.3						
URZ				LR	LR	12 20 38.8	
	comp=Z,18μm,21.8s,MS5.6,baz=176,slow=32						
CAN	Canberra	28.55	210	*e*P	P	12 11 12.7	+0.5
STKA	Stephens Creek	30.56	224	*e*P	P	12 11 30.5	+0.4
	comp=Z,74nm,1.0s,mb5.5						
STKA				*e*PCP	PcP	12 14 28.3	+0.1
STKA				*e*S	S	12 16 28.7	-0.4
STKA				*e*PCS	PcS	12 18 10.0	-2.0
STKA				*e*SCS	ScS	12 22 02.5	-1.3
STKA	Stephens Creek	30.56	224	P	P	12 11 30.7	+0.6
	comp=Z,87nm,1.0s,mb5.5,baz=39,slow=8.1,SNR=95						
STKA				PcP	PcP	12 14 28.1	-0.1
	comp=Z,71nm,0.9s,baz=22,slow=3.0,SNR=7.0						
STKA				S	S	12 16 27.9	-1.3
	comp=Z,3.1nm,0.8s,baz=332,slow=20,SNR=1.7						
STKA				ScP	ScP	12 18 08.8	+1.3
	comp=Z,12nm,1.1s,baz=128,slow=23,SNR=5.6						
STKA				LR	LR	12 23 12.8	
	comp=Z,18μm,18.9s,MS5.7,baz=44,slow=35						
SNZO	South Karori	30.77	167	*e*P	P	12 11 29.0	-2.7
	comp=Z,320nm,1.6s,mb5.9						
SNZO				LR	LR		
	comp=Z,15μm,19.0s,MS5.7						
WRAB	Tennant Creek	31.83	250	P	P	12 11 41.0	-0.4
	comp=Z,956nm,1.1s,mb6.5,SNR=70						
WRAB	Tennant Creek	31.83	250	*e*P	P	12 11 41.1	-0.3
WRAB				*e*		12 14 32.3	
WRAB				pmax	pmax		
	comp=Z,237nm,1.2s,mb5.9						
WRAB				MLR	MLR		
	comp=Z,11μm,20.0s,MS5.5						
WRAB	Tennant Creek	31.83	250	*e*P	P	12 11 41.1	-0.3
	comp=Z,237nm,1.2s,mb5.9						
WRAB				*e*PcP	PcP	12 14 32.3	+0.5
WRAB				*e*ScP	ScP	12 18 13.6	+1.7
WRAB				LR	LR		
	comp=Z,11μm,20.0s,MS5.5						
WB2	Warramunga Arr	31.83	250	⇑*i*P	P	12 11 41.0	-0.4
WB2				*e*PCP	PcP	12 14 32.0	+0.2
WB2				*e*S	S	12 16 46.5	-2.6
WB2				*e*PCS	PcS	12 18 15.1	-1.5
WB2				*e*SCS	ScS	12 22 10.0	-0.4
WRA	Warramunga Arr	31.84	250	P	P	12 11 41.2	-0.3
	comp=Z,90nm,0.8s,mb5.6,baz=81,slow=9.0,SNR=259						
WRA				PcP	PcP	12 14 31.5	-0.3
	comp=Z,42nm,0.8s,baz=77,slow=3.2,SNR=12						
WRA				S	S	12 16 47.9	-1.4
	comp=Z,8.3nm,1.2s,baz=83,slow=14,SNR=6.5						
WRA				ScP	ScP	12 18 13.6	+1.7
	comp=Z,12nm,1.0s,baz=78,slow=3.9,SNR=8.9						
WRA				PKiKP	PKiKP	12 21 58.6	-2.0
	comp=Z,2.3nm,0.9s,baz=12,slow=0.6,SNR=7.5						
WRA				LR	LR	12 23 21.3	
	comp=Z,10μm,20.4s,MS5.5,baz=70,slow=34						
WRA				P3KPbc		12 43 14.6	
	comp=Z,0.6nm,0.9s,baz=259,slow=2.6,SNR=7.9						
WRA	Warramunga Arr	31.84	250	P	P	12 11 41.2	-0.3
WRA						12 14 31.5	
WRA				S	S	12 16 47.9	-1.4
WRA	Warramunga Arr	31.84	250	P	P	12 11 41.2	-0.3
WRA				PcP	PcP	12 14 31.5	-0.3
WRA				S	S	12 16 47.9	-1.4
WRA				ScP	ScP	12 18 13.6	+1.7
TOO	Toolangi	32.07	212	*e*P	P	12 11 43.5	+0.2
TOO				*e*PCP	PcP	12 14 32.6	+0.5
TOO				*e*S	S	12 16 51.3	-1.3
TOO				*e*SCP	ScP	12 18 19.6	+7.2
TOO	Toolangi	32.07	212	*e*P	P	12 11 43.5	+0.2
TOO				*e*		12 14 32.6	
TOO				*e*S	S	12 16 51.3	-1.3
RPZ	Rata Peaks	32.52	173	P	P	12 11 45.8	-1.4
	comp=Z,119nm,0.5s,mb6.0,baz=352,slow=2.6,SNR=97						
RPZ				S	S	12 17 00.1	+0.7
	comp=Z,8.0nm,0.7s,baz=27,slow=16,SNR=2.0						
GUMO	Guam	32.60	319	P	P	12 11 46.2	-1.9
	comp=Z,48nm,0.9s,mb5.4,baz=198,slow=22,SNR=2.2						
GUMO				S	S	12 17 02.4	+1.2
	com

FITZ	**Fitzroy Crossi**	**39.77 255**	⇑*i*P	**P**	**12 12 49.4**	**-0.1**
	comp=Z,151nm,0.6s,mb5.9					
FITZ			*e*PP	PP	12 14 29.7	+8.2
FITZ			*e*PCP	PcP	12 14 55.8	+0.5
FITZ			*e*S	**S**	**12 18 42.3**	**-8.6**
FITZ			*e*		12 21 57.3	
FORT	**Forrest**	**40.27 235**	⇑*i*P	**P**	**12 12 53.4**	**-0.1**
	comp=Z,218nm,0.7s,mb6.0					
FORT			*e*PCP	PcP	12 14 56.7	0.0
FORT			*e*S	**S**	**12 18 44.1**	**-14**
MIDW	**Midway**	**42.40 22**	PFAKE		12 13 20.0	+9.1
MIDW			LR	LR		
	comp=Z,10μm,22.0s,MS5.7					
PAE	**Paea**	**43.16 104**	*e*P	**P**	**12 13 23.2**	**+5.9**
	comp=Z,1μm,1.4s,mb6.5					
PAE	**Paea**	**43.16 104**	*e*P	**P**	**12 13 23.2**	**+5.9**
PAE			pmax	pmax		
	comp=Z,1μm,1.4s,mb6.5					
PPT	**Papeete**	**43.16 104**	*e*P	**P**	**12 13 23.6**	**+6.3**
	comp=Z,141nm,1.4s,mb5.5					
PPT	**Papeete**	**43.16 104**	*e*PP	PP	12 14 57.6	-0.5
	comp=Z,1μm,26.5s					
PPT			*e*S	**S**	**12 19 44.0**	**+2.9**
	comp=Z,5μm,27.2s					
PPT			*e*LQ		12 23 30.7	
	comp=Z,19μm,31.5s					
PPT			*e*LR	LR	12 25 21.6	
	comp=Z,25μm,28.8s,baz=278					
PPT	**Papeete**	**43.16 104**	P	**P**	**12 13 17.1**	**-0.2**
	comp=Z,18nm,0.5s,mb5.1,baz=279,slow=2.7,SNR=5.4					
PPT			LR	LR	12 28 06.3	
	comp=Z,5μm,19.0s,MS5.4,baz=268,slow=32					
PPT	**Papeete**	**43.16 104**	P	**P**	**12 13 17.1**	**-0.2**
PPT			*e*		12 14 57.6	
PPT			*e*S	**S**	**12 19 44.0**	**+2.9**
PPT	**Papeete**	**43.16 104**	P	**P**	**12 13 17.1**	**-0.2**
PPT			*e*PP	PP	12 14 57.6	-0.5
PPT			*e*S	**S**	**12 19 44.0**	**+2.9**
PPT			*e*LQ		12 23 30.7	
PPT			LR	LR	12 28 06.3	
TIAR	**Tiarei**	**43.38 104**	*e*P	**P**	**12 13 25.0**	**+6.0**
	comp=Z,2μm,1.3s,mb6.7					
TVO	**Taravao**	**43.47 104**	*e*P	**P**	**12 13 25.9**	**+6.1**
	comp=Z,2μm,1.4s,mb6.7					
TBI	**Tubuai**	**43.77 112**	*e*PP	PP	12 15 04.4	-0.3
	comp=Z,1μm,27.0s					
TBI			*e*S	**S**	**12 19 51.9**	**+1.9**
	comp=Z,1μm,25.0s					
TBI			*e*LQ		12 23 47.5	
	comp=Z,13μm,31.0s					
TBI			*e*LR	LR	12 25 38.4	
	comp=Z,29μm,28.5s,baz=284					
KDI	**Kendari**	**43.80 276**	⇑*e*P	**P**	**12 13 22.9**	**+0.3**
KDI			*e*S	**S**	**12 19 50.6**	**-0.1**
BIPH	**Bislig**	**44.16 294**	⇑*i*P	**P**	**12 13 24.0**	**-1.4**
DAV	**Davao City (W)**	**44.40 292**	⇑*e*P	**P**	**12 13 26.2**	**-1.1**
DAV	**Davao City (W)**	**44.40 292**	PFAKE		12 13 40.0	+13
DAV			LR	LR		
	comp=Z,4μm,21.0s,MS5.3					
MEH	**Mehetia**	**44.60 104**	*e*P	**P**	**12 13 34.9**	**+6.0**
	comp=Z,10μm,1.3s					
PMOR	**Pomariorio Ree**	**44.75 100**	*e*P	**P**	**12 13 36.8**	**+6.7**
	comp=Z,603nm,1.5s,mb6.2					
CBIJ	**Chichi jima**	**44.78 329**	LR	LR	12 29 47.9	
	comp=Z,6μm,21.9s,MS5.5,baz=326,slow=33					
BUKP	**Musuan**	**45.20 293**	*e*P	**P**	**12 13 34.4**	**+0.7**
MBWA	**Marble Bar**	**45.56 252**	*e*P	**P**	**12 13 37.0**	**+0.5**
	comp=Z,181nm,0.9s,mb6.0					
MBWA			*e*PcP	PcP	12 15 14.6	0.0
MBWA			LR	LR		
	comp=Z,8μm,19.0s,MS5.7					
SCPH	**Surigao**	**45.63 296**	⇓*e*P	**P**	**12 13 38.0**	**+1.0**
MSLP	**Maasin**	**46.34 296**	*e*P	**P**	**12 13 43.0**	**+0.3**
KAPI	**Kappang**	**46.40 274**	*e*P	**P**	**12 13 43.0**	**-0.2**
KAPI			*e*PcP	PcP	12 15 17.8	+0.1
KAPI			LR	LR		
	comp=Z,2μm,22.0s,MS5.1					
MKS	**Makassar**	**46.63 274**	⇑*e*P	**P**	**12 13 47.8**	**+2.8**
MKS			*e*S	**S**	**12 20 34.6**	**+3.0**
PLP	**Palo**	**46.70 297**	⇑*e*P	**P**	**12 13 43.0**	**-2.4**
PAGZ	**Pagadian**	**46.70 292**	*e*P	**P**	**12 13 46.3**	**+0.7**
TBP	**Tagbilaran**	**47.03 295**	*e*P	**P**	**12 13 48.0**	**0.0**
PCI	**Palu**	**47.21 279**	⇑*e*P	**P**	**12 13 51.0**	**+1.5**
	comp=Z,13nm,1.2s,mb4.7					
CNP	**Catarman**	**47.59 299**	*e*P	**P**	**12 13 52.6**	**+0.2**
KIP	**Kipapa**	**47.88 47**	*e*P	**P**	**12 13 56.2**	**+1.6**
KIP			MLR	MLR		
	comp=Z,4μm,21.0s,MS5.4					
KHU	**Kahuku**	**48.34 51**	*e*P	**P**	**12 14 00.3**	**+2.2**
PVCP	**Virac**	**48.54 300**	*e*P	**P**	**12 14 00.3**	**+0.6**
POHA	**Pohakuloa**	**48.70 51**	*e*P	**P**	**12 14 02.2**	**+1.3**
	comp=Z,692nm,1.5s,mb6.5					
POHA			LR	LR		
	comp=Z,9μm,22.0s,MS5.7					
STCH	**Steam Cracks**	**48.80 52**	P	**P**	**12 14 02.1**	**+0.5**
RCP	**Roxas**	**48.83 296**	⇑*e*P	**P**	**12 14 03.1**	**+1.2**
KLBR	**Kellerberrin**	**48.96 238**	⇑*i*P	**P**	**12 14 02.2**	**-0.6**
	comp=Z,88nm,0.8s,mb5.8					
KLBR			*e*PCP	PcP	12 15 25.8	-0.7
KLBR			*e*S	**S**	**12 21 02.2**	**-1.9**
NWAO	**Narrogin (SRO)**	**49.70 236**	P	**P**	**12 14 08.3**	**-0.1**
	comp=Z,105nm,0.7s,mb6.0,baz=80,slow=6.8,SNR=60					
NWAO	**Narrogin (SRO)**	**49.70 236**	*e*P	**P**	**12 14 08.5**	**0.0**
NWAO			LR	LR		
	comp=Z,17μm,20.0s,MS6.0					
OTRP	**Odiongan**	**49.82 297**	*e*P	**P**	**12 14 09.6**	**+0.1**
CUYO	**Cuyo Island**	**50.05 295**	*e*P	**P**	**12 14 12.1**	**+0.7**
MYLDM	**Lahad Datu**	**50.26 287**	⇑P	**P**	**12 14 15.5**	**+2.6**
MUN	**Mundaring**	**50.33 238**	⇑*i*P	**P**	**12 14 13.3**	**+0.1**
MUN			*i* S	**S**	**12 21 22.9**	**-0.4**
TSM	**Tawau**	**50.56 285**	⇓P	**P**	**12 14 16.4**	**+1.2**
SJMP	**San Jose**	**50.65 296**	*e*P	**P**	**12 14 16.5**	**+0.7**
JHJ	**Hachijo jima 2**	**50.91 331**	S	**S**	**12 21 30.3**	**-0.7**
	comp=Z,98nm,0.9s,baz=252,slow=17,SNR=1.8					
JHJ			LR	LR	12 34 03.3	
	comp=Z,3μm,20.5s,MS5.4,baz=108,slow=34					
ENPP	**El Nido**	**51.62 294**	*e*P	**P**	**12 14 24.0**	**+0.8**
SDKM	**Sandakan**	**51.63 287**	⇑P	**P**	**12 14 24.4**	**+1.2**
PALP	**Palanan**	**51.69 302**	*e*P	**P**	**12 14 23.4**	**-0.2**
BALP	**Baler**	**51.75 300**	*e*P	**P**	**12 14 20.3**	**-3.8**
LUBP	**Lubang**	**51.97 297**	*e*P	**P**	**12 14 24.8**	**-0.9**
CAUP	**Cauayan**	**52.13 302**	*e*P	**P**	**12 14 27.4**	**+0.6**
BATP	**Bataraza**	**52.16 291**	*e*P	**P**	**12 14 28.1**	**+0.9**
KDM	**Kudat**	**52.40 288**	⇓P	**P**	**12 14 30.0**	**+1.0**
KKM	**Kota Kinabalu**	**52.69 287**	⇑P	**P**	**12 14 32.3**	**+1.2**
KKM	**Kota Kinabalu**	**52.69 287**	*e*P	**P**	**12 14 31.6**	**+0.5**
KKM			LR	LR		
	comp=Z,2μm,21.0s,MS5.2					
JOW	**Kunigami**	**52.90 316**	S	**S**	**12 21 57.6**	**-1.0**
JOW			LR	LR	12 36 43.8	
	comp=Z,5μm,18.6s,MS5.6,baz=338,slow=36					
APYP	**Conner**	**53.06 303**	*e*P	**P**	**12 14 34.0**	**+0.3**
ABRA	**Dolores**	**53.40 302**	*e*P	**P**	**12 14 36.9**	**+0.7**
MJAR	**Matsushiro Arr**	**54.45 332**	P	**P**	**12 14 42.6**	**-1.0**
	comp=Z,48nm,0.7s,mb5.5,baz=167,slow=8.8,SNR=159					
MJAR			S	**S**	**12 22 18.2**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=350,slow=13,SNR=2.9					
MJAR			LR	LR	12 35 58.0	
	comp=Z,3μm,21.1s,MS5.3,baz=150,slow=34					
MJAR	**Matsushiro Arr**	**54.45 332**	P	**P**	**12 14 42.6**	**-1.0**
MJAR			S	**S**	**12 22 18.2**	**-1.2**
MAJO	**Matsushiro**	**54.46 332**	*e*P	**P**	**12 14 42.8**	**-0.8**
MAJO			pmax	pmax		
	comp=Z,93nm,0.9s,mb5.7					
MAJO			MLR	MLR		
	comp=Z,3μm,21.0s,MS5.4					
MAJO	**Matsushiro**	**54.46 332**	*e*P	**P**	**12 14 42.8**	**-0.9**
	comp=Z,94nm,0.9s,mb5.7					
MAJO			LR	LR		
	comp=Z,3μm,21.0s,MS5.4					
MAT	**Matsushiro**	**54.46 332**	P	**P**	**12 14 42.7**	**-0.9**
MAT			S	**S**	**12 22 17.0**	**-2.4**
BTM	**Bintulu**	**54.80 282**	⇑P	**P**	**12 14 47.5**	**+0.9**
SBUM	**Sibu**	**55.43 281**	⇑P	**P**	**12 14 52.1**	**+0.9**
NACB	**Ninganchiao**	**56.10 309**	*e*P	**P**	**12 14 55.4**	**-0.4**
	comp=Z,91nm,0.8s,mb5.9					
YHNB	**Yeheng**	**56.54 310**	*e*P	**P**	**12 14 58.4**	**-0.5**
	comp=Z,114nm,0.8s,mb6.0					
YHNB			LR	LR		
	comp=Z,5μm,21.0s,MS5.6					
TATO	**Taipei**	**56.63 310**	PFAKE		12 15 10.0	+11
TATO			LR	LR		
	comp=Z,5μm,20.0s,MS5.7					
KSM	**Kuching**	**57.03 279**	⇓P	**P**	**12 15 02.9**	**+0.3**
KSM	**Kuching**	**57.03 279**	*e*P	**P**	**12 15 02.6**	**+0.1**
KSM			*e*PcP	PcP	12 15 57.3	-0.1
RKT	**Rikitea**	**57.03 110**	*e*S	**S**	**12 22 56.8**	**+2.5**
	comp=Z,3μm,29.8s					
RKT			*e*SS	SS	12 26 45.3	+1.8
	comp=Z,2μm,35.8s					
RKT			*e*LQ		12 29 22.7	
	comp=Z,6μm,33.0s					
RKT			*e*LR	LR	12 31 46.9	
	comp=Z,25μm,27.2s,baz=276					
DRV	**Dumont d'Urvil**	**58.02 192**	P	**P**	**12 15 09.0**	**+0.4**
DRV	**Dumont d'Urvil**	**58.02 192**	PP	PP	12 17 28.0	+11
DRV			S	**S**	**12 23 13.0**	**+7.1**
DRV			SS	SS	12 27 07.0	+10
DRV			L		12 29 00.0	
DRV			R		12 32 00.0	
YUK	**Yuzh-Kuril'sk**	**58.15 343**	⇑*i*P	**P**	**12 15 08.8**	**-1.0**
YUK			*e*PPP		12 18 38.0	
YUK			*e*		12 24 49.0	
YUK			pmax	pmax		
	comp=Z,3μm,3.0s					
YUK			pmax	pmax		
	comp=N,2μm,3.5s					
YUK			pmax	pmax		
	comp=E,2μm,4.0s					
QZH	**Quanzhou**	**58.81 308**	P	**P**	**12 15 13.3**	**-1.5**
QZH			LR	LR		
	comp=N,2μm,5.7s					
QZH			LR	LR		
	comp=E,1μm,5.7s					
QZH			LR	LR		
	comp=Z,2μm,24.9s,MS5.2					
ASAJ	**Asahikawa**	**59.23 340**	S	**S**	**12 23 22.4**	**+0.2**
	comp=Z,6.5nm,1.0s,baz=168,slow=8.1,SNR=2.5					
KSRS	**Korea Array**	**60.39 325**	P	**P**	**12 15 25.6**	**+0.1**
	comp=Z,21nm,0.7s,mb5.3,baz=137,slow=7.2,SNR=51					
KSRS			PcP	PcP	12 16 10.9	+0.8
	comp=Z,22nm,1.1s,baz=131,slow=5.3,SNR=5.9					
KSRS			S	**S**	**12 23 40.0**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=184,slow=37,SNR=2.6					
KSRS	**Korea Array**	**60.39 325**	P	**P**	**12 15 25.6**	**+0.1**
KSRS					12 16 11.0	
KSRS			S	**S**	**12 23 40.0**	**+2.6**
KSRS			pmax	pmax		
	comp=Z,21nm,0.7s,mb5.3					
SSE	**Sheshan**	**60.40 316**	⇑P	**P**	**12 15 26.0**	**+0.4**
SSE			S	**S**	**12 23 29.7**	**-8.0**
SSE			AMB	AMB		
	comp=Z,104nm,0.8s,mb5.9					
SSE			AMB	AMB		
	comp=Z,1μm,10.5s					
SSE			LR	LR		
	comp=N,2μm,25.4s,MS5.2					
SSE			LR	LR		
	comp=E,2μm,25.5s,MS5.2					
SSE			LR	LR		
	comp=Z,4μm,24.9s,MS5.4					
KS15	**Wonju Array Si**	**60.41 325**	*e*P	**P**	**12 15 26.1**	**+0.6**
INCN	**Inchon**	**61.14 325**	PFAKE		12 15 40.0	+9.5
INCN			LR	LR		
	comp=Z,3μm,22.0s,MS5.5					
YSS	**Yuzh-Sakhalins**	**61.72 342**	α *i*P	**P**	**12 15 34.3**	**+0.1**
YSS			*i* *PP	pP	12 15 46.5	-0.2
YSS			*e*S	**S**	**12 23 51.0**	**-2.8**
YSS			*e*PPS		12 24 13.0	
YSS			pmax	pmax		
	comp=N,70nm,1.1s					
YSS			pmax	pmax		
	comp=E,70nm,1.1s					
YSS			pmax	pmax		
	comp=Z,200nm,1.1s,mb6.2					
YSS	**Yuzh-Sakhalins**	**61.72 342**	*e*P	**P**	**12 15 34.7**	**+0.5**
YSS			LR	LR		
	comp=Z,2μm,20.0s,MS5.2					
GZH	**Guangzhou**	**62.05 304**	P	**P**	**12 15 37.5**	**+0.5**
GZH			S	**S**	**12 23 56.1**	**-2.9**
GZH			LR	LR		
	comp=N,3μm,26.5s,MS5.4					
GZH			LR	LR		
	comp=E,2μm,26.2s,MS5.4					
GZH			LR	LR		
	comp=Z,4μm,31.1s,MS5.4					
SKR	**Severo-Kuril's**	**62.39 353**	*e*P	**P**	**12 15 37.0**	**-1.7**
SKR			*e*		12 16 12.0	
SKR			*e*		12 18 04.0	
SKR			*e*S	**S**	**12 24 06.0**	**+3.8**
SKR			*e*SS	ScS	12 25 28.0	+0.8
SKR			*e*SSS		12 28 09.0	
SKR			pmax	pmax		
	comp=N,1μm,4.0s					
SKR			pmax	pmax		
	comp=E,1μm,4.0s					
SKR			pmax	pmax		
	comp=Z,1μm,4.0s					
SKR			pmax	pmax		
	comp=Z,110nm,1.0s,mb5.9					
SKR			smax			
	comp=N,1μm,10.0s					
SKR			smax			
	comp=E,1μm,10.0s					
SKR			MLR	MLR		
	comp=N,2μm,20.0s,MS5.5					
SKR			MLR	MLR		
	comp=E,2μm,20.0s,MS5.5					
SKR			MLR	MLR		
	comp=Z,2μm,20.0s,MS5.4					
NJ2	**Nanjing**	**62.57 315**	*e*P	**P**	**12 15 40.6**	**+0.3**
NJ2			AP	pP	12 15 51.6	-1.2
NJ2			PCP	PcP	12 16 19.1	+0.1
NJ2			S	**S**	**12 24 04.0**	**-1.2**
NJ2			AMB	AMB		
	comp=Z,120nm,0.9s,mb6.0					
NJ2			AMB	AMB		
	comp=Z,1μm,4.3s					
NJ2			LR	LR		
	comp=N,2μm,17.2s,MS5.5					
NJ2			LR	LR		
	comp=E,3μm,21.2s,MS5.5					
NJ2			LR	LR		
	comp=Z,3μm,21.3s,MS5.4					
VLA	**Vladivostok**	**62.62 332**	*d i*P	**P**	**12 15 40.1**	**-0.3**
VLA			*e*	pP	12 15 51.0	-1.9
VLA			pmax	pmax		
	comp=Z,192nm,1.5s,mb6.0					
QIZ	**Qiongzhong**	**63.24 298**	⇑P	**P**	**12 15 46.3**	**+1.3**
QIZ			S	**S**	**12 24 11.8**	**-2.3**
QIZ			AMB	AMB		
	comp=Z,88nm,1.6s,mb5.6					
QIZ			AMB	AMB		
	comp=Z,2μm,6.9s					
QIZ			LR	LR		
	comp=E,3μm,22.1s					
QIZ			LR	LR		
	comp=Z,6μm,23.2s,MS5.7					
QIZ	**Qiongzhong**	**63.24 298**	PFAKE		12 16 00.0	+15
QIZ			LR	LR		
	comp=Z,6μm,22.0s,MS5.7					
MYKOM	**Kota Tinggi**	**63.37 278**	⇓P	**P**	**12 15 46.8**	**+0.8**
AMKA	**Amchitka**	**63.48 9**	*e*P	**P**	**12 15 47.1**	**+1.2**
KGM	**Kluang**	**63.94 278**	⇑P	**P**	**12 15 51.3**	**+1.6**
SMY	**Shemya**	**64.17 5**	*e*P	**P**	**12 15 50.8**	**+0.4**
SMY			MLR	MLR		
	comp=Z,5μm,22.0s,MS5.6					
PET	**Petropavlovsk**	**64.44 355**	*c i*P	**P**	**12 15 51.6**	**-0.5**
PET			*i* S	**S**	**12 24 28.2**	**+0.6**
PET			*e**SS	sS	12 25 08.0	+20
PET			pmax	pmax		
	comp=Z,75nm,1.5s,mb5.5					
PET			MLR	MLR		
	comp=Z,1μm,20.0s,MS5.2					
PET			MLR	MLR		
	comp=Z,1μm,20.0s					
PET	**Petropavlovsk**	**64.44 355**	*e*P	**P**	**12 15 51.8**	**-0.3**
	comp=Z,142nm,1.4s,mb5.8					
PET			*e*	pP	12 16 04.1	-0.6
PET			LR	LR		
	comp=Z,5μm,21.0s,MS5.7					
PETK	**Petropavlovsk-**	**64.61 354**	P	**P**	**12 15 53.4**	**+0.1**
	comp=Z,37nm,0.8s,mb5.5,baz=137,slow=6.4,SNR=46					
PETK			S	**S**	**12 24 28.7**	**-1.0**
	comp=Z,3.3nm,1.0s,baz=120,slow=8.7,SNR=2.6					
PETK			LR	LR	12 39 05.4	
	comp=Z,3μm,20.3s,MS5.4,baz=166,slow=31					
PETK	**Petropavlovsk-**	**64.61 354**	P	**P**	**12 15 53.4**	**+0.2**
PETK			S	**S**	**12 24 28.7**	**-1.0**
MDJ	**Mudanjiang**	**64.84 332**	P	**P**	**12 15 55.2**	**+0.3**
MDJ			AP	pP	12 16 07.9	+0.4
MDJ			PP	PP	12 18 19.8	+1.6
MDJ			S	**S**	**12 24 33.6**	**+0.7**
MDJ			SCS	ScS	12 25 46.4	+0.2
MDJ			AMB	AMB		
	comp=Z,104nm,1.5s,mb5.6					
MDJ			AMB	AMB		
	comp=Z,1μm,9.7s					
MDJ			LR	LR		
	comp=N,2μm,28.1s,MS5.2					
MDJ			LR	LR		
	comp=E,2μm,30.2s,MS5.2					
MDJ			LR	LR		
	comp=Z,3μm,31.2s,MS5.3					
MDJ	**Mudanjiang**	**64.84 332**	PFAKE		12 16 10.0	+15
MDJ			LR	LR		
	comp=Z,2μm,20.0s,MS5.3					
KTGM	**Kuala Trenggan**	**64.93 281**	⇓P	**P**	**12 15 57.5**	**+1.3**
WHN	**Wuhan**	**64.95 311**	⇑P	**P**	**12 15 55.5**	**-0.5**
WHN			S	**S**	**12 24 28.6**	**-6.3**
WHN			AMB	AMB		
	comp=Z,114nm,1.0s,mb5.9					
WHN			LR	LR		
	comp=N,12μm,24.4s					
WHN			LR	LR		
	comp=E,7μm,32.4s					
WHN			LR	LR		
	comp=Z,16μm,30.2s					
DL2	**Dalian**	**65.00 323**	⇑*i*P	**P**	**12 15 55.8**	**-0.4**
DL2			S	S	12 24 33.0	-2.2
DL2			AMB	AMB		
	comp=Z,110nm,1.0s,mb5.8					
DL2			AMB	AMB		
	comp=Z,520nm,7.0s					
DL2			LR	LR		
	comp=N,1μm,20.7s,MS5.2					
DL2			LR	LR		
	comp=E,1μm,23.8s,MS5.2					
DL2			LR	LR		
	comp=Z,2μm,23.6s,MS5.3					
SNY	**Shenyang**	**65.84 326**	⇓P	**P**	**12 16 02.2**	**+0.7**
SNY			PP	PP	12 18 27.9	+0.8
SNY			S	S	12 24 46.4	+1.0
SNY			SS	SS	12 28 54.2	-6.9
SNY			AMB	AMB		
	comp=Z,55nm,1.3s,mb5.4					
SNY			LR	LR		
	comp=N,2μm,19.2s,MS5.5					
SNY			LR	LR		
	comp=E,2μm,19.8s,MS5.5					
SNY			LR	LR		
	comp=Z,3μm,20.4s,MS5.4					
FRIM	**Kepong**	**65.87 279**	⇓P	**P**	**12 16 02.7**	**+0.4**
TIA	**Tai'an**	**66.16 318**	*e*P	**P**	**12 16 03.2**	**-0.5**
TIA			AMB	AMB		
	comp=Z,79nm,1.3s,mb5.6					
VNDA	**Vanda**	**66.21 181**	P	**P**	**12 16 02.7**	**-0.6**
	comp=Z,155nm,1.1s,mb5.9,baz=358,slow=6.8,SNR=162					
VNDA			S	S	12 24 47.2	-1.6
	comp=Z,2.2nm,1.2s,baz=42,slow=18,SNR=4.6					
VNDA			LR	LR	12 40 59.4	
	comp=Z,3μm,21.1s,MS5.4,baz=30,slow=32					
VNDA			PKPPKP		12 44 34.4	
	comp=Z,2.8nm,1.2s,baz=209,slow=4.8,SNR=3.4					
VNDA	**Vanda**	**66.21 181**	*e*P	**P**	**12 16 02.7**	**-0.7**
VNDA			pmax	pmax		
	comp=Z,331nm,1.4s					
VNDA			MLR	MLR		
	comp=Z,3μm,21.0s					
VNDA	**Vanda**	**66.21 181**	*e*P	**P**	**12 16 02.7**	**-0.7**
	comp=Z,331nm,1.4s,mb6.2					
VNDA			LR	LR		
	comp=Z,3μm,21.0s,MS5.4					
CN2	**Changchun**	**66.24 329**	*e*P	**P**	**12 16 03.8**	**-0.2**
CN2			*e*PP	PP	12 18 32.9	+2.4
CN2			*e*SS	SS	12 29 05.7	-1.5
CN2			AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1					
CN2			AMB	AMB		
	comp=Z,200nm,6.0s					
CN2			LR	LR		
	comp=N,2μm,22.0s,MS5.5					
CN2			LR	LR		
	comp=E,2μm,22.0s,MS5.5					
CN2			LR	LR		
	comp=Z,3μm,22.0s,MS5.5					
CASY	**Casey**	**66.28 201**	⇑*i*P	**P**	**12 16 03.1**	**-0.9**
CASY			*e*pP	pP	12 16 15.3	-1.3
CASY	**Casey**	**66.28 201**	⇑*i*P	**P**	**12 16 03.1**	**-0.9**
CASY			*e*pP	pP	12 16 15.3	-1.3
CASY			LR	LR		
	comp=Z,5μm,22.0s,MS5.7					
SBA	**Scott Base**	**66.50 180**	*e*P	**P**	**12 16 05.6**	**+0.3**
SBA			MLR	MLR		
	comp=Z,3μm,20.0s,MS5.5					
IPM	**Ipoh**	**66.75 280**	⇑P	**P**	**12 16 08.9**	**+0.9**
KULM	**Kulim**	**67.31 281**	⇑P	**P**	**12 16 12.5**	**+1.0**
KLR	**Kul'dur**	**67.52 336**	⇓*i*P	**P**	**12 16 08.2**	**-3.8**
KLR			*e*		12 16 42.0	
KLR			*e*PPP		12 20 20.5	
KLR			pmax	pmax		
	comp=E,140nm,1.6s					
KLR			pmax	pmax		
	comp=Z,240nm,1.6s,mb6.0					
KLR			MLR	MLR		
	comp=N,3μm,16.0s,MS5.6					
KLR			MLR	MLR		
	comp=E,1μm,16.0s,MS5.6					
COCO	**West Island**	**67.77 261**	PFAKE		12 16 30.0	+16
COCO			LR	LR		
	comp=Z,2μm,21.0s,MS5.3					
GYA	**Guiyang**	**68.98 304**	⇑*i*P	**P**	**12 16 22.4**	**+0.7**
GYA			PP	PP	12 18 59.2	+4.5
GYA			PCS		12 20 52.4	
GYA			S	S	12 25 22.0	-1.7
GYA			SKS		12 26 11.7	
GYA			SS	SS	12 29 50.0	-0.3
GYA			SSS		12 32 53.8	
GYA			AMB	AMB		
	comp=Z,120nm,1.0s,mb5.8					
GYA			AMB	AMB		
	comp=Z,1μm,7.1s					
GYA			LR	LR		
	comp=N,2μm,20.0s,MS5.3					
GYA			LR	LR		
	comp=E,1μm,20.3s,MS5.3					
GYA			LR	LR		
	comp=Z,2μm,22.4s,MS5.2					
BJT	**Baijiatuau**	**69.01 321**	PFAKE		12 16 30.0	+8.4
BJT			LR	LR		
	comp=Z,4μm,22.0s,MS5.6					
BJI	**Beijing**	**69.02 321**	P	**P**	**12 16 21.8**	**+0.2**
BJI			S	S	12 25 22.4	-1.1
BJI			SCS	ScS	12 26 16.1	-2.8
BJI			SS	SS	12 29 50.4	+0.1
BJI			AMB	AMB		
	comp=Z,116nm,1.3s,mb5.7					
BJI			AMB	AMB		
	comp=Z,2μm,4.5s					
BJI			LR	LR		
	comp=N,2μm,28.6s,MS5.4					
BJI			LR	LR		
	comp=E,2μm,27.4s,MS5.4					
BJI			LR	LR		
	comp=Z,6μm,31.1s,MS5.7					
TIY	**Taiyuan**	**70.11 317**	⇑*i*P	**P**	**12 16 28.6**	**+0.2**
TIY			AMB	AMB		
	comp=Z,1μm,5.4s					
TIY			LR	LR		
	comp=N,6μm,26.4s,MS5.8					
TIY			LR	LR		
	comp=E,3μm,22.5s,MS5.8					
TIY			LR	LR		
	comp=Z,5μm,25.8s,MS5.7					
XAN	**Xi'an**	**70.68 312**	P	**P**	**12 16 32.3**	**+0.3**
XAN			AP	pP	12 16 45.4	+0.7
XAN			PP	PP	12 19 10.1	+0.9
XAN			S	S	12 25 41.2	-2.1
XAN			SS	SS	12 30 16.8	+0.7
XAN			AMB	AMB		
	comp=Z,181nm,1.0s,mb6.0					
XAN			AMB	AMB		
	comp=Z,1μm,10.3s					
XAN

XAN LR LR
comp=E,2µm,23.0s,MS5.5
XAN LR LR
comp=Z,6µm,23.9s,MS5.8
KMI Kunming 71.69 301 ⇑P **P 12 16 40.0 +1.7**
KMI AP pP 12 16 51.7 +0.7
KMI PP PP 12 19 18.7 +0.7
KMI PPP 12 21 05.1
KMI S S 12 25 58.3 +3.0
KMI AMB AMB
comp=Z,168nm,1.6s,mb5.7
KMI AMB AMB
comp=Z,2µm,6.0s
KMI LR LR
comp=N,937nm,22.5s,MS5.5
KMI LR LR
comp=E,3µm,23.1s,MS5.5
KMI LR LR
comp=Z,4µm,26.6s,MS5.6
SDPT Sand Point 72.07 19 *e*P **P 12 16 38.6 -1.3**
HHC Hu-ho-hao-te 72.37 320 *e*P **P 12 16 43.1 +1.1**
HHC PCP PcP 12 17 00.7 +0.9
HHC PP PP 12 19 27.1 +3.6
HHC S S 12 25 59.2 -3.3
HHC SKS 12 26 36.6
HHC SCS ScS 12 26 39.2 -6.2
HHC PS 12 26 40.9
HHC SS SS 12 30 41.1 -0.7
HHC AMB AMB
comp=Z,114nm,0.9s,mb5.8
HHC AMB AMB
comp=Z,1µm,6.5s
HHC LR LR
comp=N,2µm,21.2s,MS5.7
HHC LR LR
comp=E,4µm,25.3s,MS5.7
HHC LR LR
comp=Z,6µm,26.7s,MS5.8
CM31 Chiang Mai Arr 72.67 293 PFAKE 12 17 00.0 +16
CM31 LR LR
comp=Z,1µm,20.0s,MS5.2
CMAR Chiang Mai Arr 72.67 293 P **P 12 16 45.4 +1.1**
comp=Z,49nm,0.9s,mb5.4,baz=116,slow=4.2,SNR=141
CMAR S S 12 26 09.2 +2.4
comp=Z,0.5nm,0.5s,baz=219,slow=33,SNR=2.9
CMAR LR LR 12 46 13.7
comp=Z,2µm,21.7s,MS5.2,baz=292,slow=34
CMAR Chiang Mai Arr 72.67 293 P **P 12 16 45.4 +1.1**
CMAR S S 12 26 09.2 +2.4
CHTO Chiang Mai 72.79 294 *e*P **P 12 16 45.7 +0.7**
CHTO LR LR
comp=Z,2µm,22.0s,MS5.4
HIA Hailar 72.86 330 PFAKE 12 17 00.0 +15
HIA LR LR
comp=Z,3µm,20.0s,MS5.6
MIR Mirnyy 73.00 204α *i*P **P 12 16 45.5 +0.1**
MIR *i* pP 12 16 58.0 -0.1
MIR *i* S S 12 26 08.0 -1.0
MIR *i* PS 12 27 00.0
MIR pmax pmax
comp=Z,600nm,1.8s,mb6.2
MIR pmax pmax
comp=Z,3µm,3.0s
MIR MLR MLR
comp=Z,2µm,19.0s,MS5.4
CD2 Chengdu 73.17 307 ⇓*i*P **P 12 16 47.6 +0.6**
CD2 PP PP 12 19 34.2 +3.6
CD2 S S 12 26 06.4 -5.6
CD2 SS SS 12 30 52.4 -2.0
CD2 AMB AMB
comp=Z,210nm,1.4s,mb5.9
CD2 AMB AMB
comp=Z,2µm,7.2s
CD2 LR LR
comp=N,2µm,25.2s,MS5.7
CD2 LR LR
comp=E,4µm,24.0s,MS5.7
CD2 LR LR
comp=Z,5µm,24.0s,MS5.7
BTO Baotou 73.23 319 *e*P **P 12 16 47.8 +0.6**
CHGN Chignik 73.52 20 *e*P **P 12 16 46.9 -1.6**
SEY Seymchan 74.82 353 ⇑*i*P **P 12 16 55.2 -0.7**
LZH Lanzhou 75.31 312 ⇑P **P 12 17 01.0 +1.6**
LZH PP PP 12 19 52.5 +3.8
LZH S S 12 26 33.0 -2.9
LZH SS SS 12 31 27.0 +0.1
LZH AMB AMB
comp=Z,327nm,1.2s,mb6.1
LZH AMB AMB
comp=Z,1µm,4.3s
LZH LR LR
comp=E,4µm,17.0s
LZH LR LR
comp=Z,7µm,18.9s,MS6.0
CLNS Chul'man 76.03 338*c* *i*P **P 12 17 03.2 +0.2**
CLNS *e**PP pP 12 17 12.7 -3.1
CLNS *e* pP 12 17 16.6 +0.8
CLNS *e* 12 19 51.3
CLNS *e*PPP 12 21 37.4
CLNS *e*S S 12 26 43.0 +0.1
CLNS *e* 12 27 06.7
CLNS pmax pmax
comp=Z,174nm,1.4s,mb5.8
CLNS pmax pmax
comp=N,94nm,1.5s
CLNS pmax pmax
comp=E,31nm,1.4s
CLNS pmax pmax
comp=Z,15nm,1.4s,mb4.7
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS smax
comp=N,717nm,14.7s
CLNS smax
comp=E,569nm,13.1s
KDAK Kodiak Island 76.68 21 P **P 12 17 06.6 0.0**
comp=E,273nm,0.8s,mb6.2,SNR=8.6
KDAK Kodiak Island 76.68 21 *e*P **P 12 17 06.0 -0.6**
KDAK LR LR
comp=Z,2µm,22.0s,MS5.3
CIT Chita 77.66 330 *e*P **P 12 17 13.0 +0.7**
CIT *e* pP 12 17 27.8 +2.7
CIT pmax pmax
comp=Z,667nm,1.7s,mb6.3
SVW2 Sparrevohn 78.24 18 *e*P **P 12 17 15.3 0.0**
YAK Yakutsk 78.52 343*c* *i*P **P 12 17 16.4 -0.4**
YAK *e* pP 12 17 28.0 -1.7
YAK *e*S S 12 27 04.7 -5.0
YAK *e* 12 27 25.3
YAK *e**SS sS 12 27 51.3 +20
YAK pmax pmax
comp=Z,136nm,1.0s,mb5.8
YAK pmax pmax
comp=N,51nm,1.2s
YAK pmax pmax
comp=E,38nm,1.3s
YAK smax
comp=N,59nm,2.3s
YAK smax
comp=E,142nm,4.1s
YAK Yakutsk 78.52 343 *e*P **P 12 17 16.0 -0.8**
comp=E,193nm,1.0s,mb6.0
YAK LR LR
comp=Z,4µm,20.0s,MS5.7
IMP Imphal 79.08 298 *e*P **P 12 17 20.0 -0.8**
BILL Bilibino 79.17 0α *i*P **P 12 17 19.8 -0.5**
BILL *i* pP 12 17 31.9 -1.3
BILL 12 20 24.0
BILL PPP 12 22 18.0
BILL *e* 12 27 21.1
BILL *e* 12 28 07.0
BILL pmax pmax
comp=Z,161nm,1.3s,mb5.8
BILL MLR MLR
comp=Z,1µm,18.0s,MS5.3
BILL Bilibino 79.17 0 *e*P **P 12 17 19.9 -0.4**
comp=Z,89nm,0.9s,mb5.7
BILL LR LR
comp=Z,2µm,22.0s,MS5.5
SONM Songino Array 79.19 324 P **P 12 17 21.3 +0.4**
comp=Z,34nm,0.7s,mb5.4,baz=135,slow=4.6,SNR=163
SONM S S 12 27 17.8 +0.4
comp=Z,0.3nm,0.5s,baz=46,slow=6.4,SNR=2.8
SONM LR LR 12 52 05.7
comp=Z,2µm,20.5s,MS5.4,baz=116,slow=35
SONM Songino Array 79.19 324 P **P 12 17 21.3 +0.5**
SONM S S 12 27 17.8 +0.3
SLKM Skilak Lake 79.52 20 *e*P **P 12 17 21.1 -1.2**
TTA Tatalina 79.57 17 *e*P **P 12 17 22.9 +0.3**
GTA Gaotai 79.61 314 P **P 12 17 24.6 +1.3**
GTA PP PP 12 20 28.4 +3.7
GTA S S 12 27 24.4 +2.1
GTA XS sS 12 27 32.9 -11
GTA SCS ScS 12 27 37.5 -6.4
GTA AMB AMB
comp=Z,195nm,1.4s,mb5.8
GTA AMB AMB
comp=Z,2µm,9.5s
GTA LR LR
comp=N,2µm,21.4s,MS5.6
GTA LR LR
comp=E,2µm,21.7s,MS5.6
GTA LR LR
comp=Z,4µm,22.3s,MS5.7
RPN Rapa Nui 80.01 116 PFAKE 12 17 40.0 +14
RPN LR LR
comp=Z,2µm,19.0s,MS5.5
PPLA Purkeypile 80.66 18 *e*P **P 12 17 27.4 -1.1**
comp=Z,109nm,1.6s,mb5.5
PMR Palmer 80.67 20 *e*P **P 12 17 27.6 -0.9**
PMR MLR MLR
comp=Z,8µm,22.0s,MS6.0
BOD Bodaibo 81.00 335 *e*P **P 12 17 29.3 -1.1**
BOD pmax pmax
comp=Z,68nm,1.5s,mb5.4
SHL Shillong 81.08 298 ⇑*i*P **P 12 17 33.5 +1.9**
SHL *e*S S 12 27 39.5 +1.2
CHUM Lake Minchumin 81.36 17 *e*P **P 12 17 30.7 -1.5**
comp=Z,26nm,0.6s,mb5.3
RAGM Ragged Mountai 81.41 22 *e*P **P 12 17 32.2 -0.3**
BPAW Bear Paw Mtn. 81.92 18 *e*P **P 12 17 33.3 -1.8**
comp=Z,12nm,0.7s,mb4.9
FARB Farallon Islan 82.10 49 ⇓P **P 12 17 36.5 -0.2**
baz=82
ZAK Zakamensk 82.22 325 ⇓*i*P **P 12 17 36.4 -0.6**
ZAK *e* 12 27 47.7
ZAK pmax pmax
comp=Z,86nm,1.5s,mb5.5
MCCM Marconi Confer 82.35 49 ⇑P **P 12 17 37.8 -0.2**
baz=82
MCCM Marconi Confer 82.35 49 PFAKE 12 17 50.0 +12
MCCM LR LR
comp=Z,5µm,21.0s,MS5.8
O01C Eel River Cons 82.39 47 ⇑P **P 12 17 38.7 +0.5**
baz=82,SNR=8.9
KCPM Cahto Peak 82.39 47 *e*P **P 12 17 38.6 +0.4**
P01C Double 8 Ranch 82.49 47 ⇑P **P 12 17 38.7 +0.1**
baz=83,SNR=12
JCC Jacoby Creek 82.49 46 ⇓P **P 12 17 39.0 +0.3**
baz=83,SNR=7.7
KIPM Iron Peak 82.51 47 *e*P **P 12 17 39.2 +0.4**
HOPS Hopland 82.51 48 ⇑P **P 12 17 38.8 0.0**
baz=83,SNR=13
HOPS Hopland 82.51 48 *e*P **P 12 17 37.9 -0.9**
comp=Z,126nm,1.3s,mb5.8
HOPS LR LR
comp=Z,3µm,22.0s,MS5.7
BNLO Ben Lomond (Sa 82.52 50 ⇓P **P 12 17 39.1 +0.2**
baz=83,SNR=7.6
IRK Irkutsk 82.57 327 *e*P **P 12 17 37.8 -1.0**
IRK *e* 12 20 47.3
IRK pmax pmax
comp=Z,186nm,1.7s,mb5.8
JRSC Jasper Ridge 82.57 50 ⇑P **P 12 17 39.1 0.0**
baz=83
TLY Talaya 82.64 326 P **P 12 17 39.0 -0.1**
comp=Z,588nm,0.9s,mb6.6,SNR=13
TLY Talaya 82.64 326*c* *i*P **P 12 17 39.0 -0.1**
TLY *e* 12 20 48.6
TLY *e*S S 12 27 52.5 -0.7
TLY *e*PS 12 28 47.7
TLY *e*SS SS 12 33 18.2 +2.0
TLY *e*SSS 12 36 43.8
TLY pmax pmax
comp=Z,116nm,0.9s,mb5.9
TLY Talaya 82.64 326 *e*P **P 12 17 39.3 +0.1**
TLY LR LR
comp=Z,2µm,21.0s,MS5.4
IMA2 Indian Mountai 82.66 15 *e*P **P 12 17 38.5 -0.5**
NSHM Saint Helena R 82.69 48 *e*P **P 12 17 40.1 +0.4**
KHMM Horse Mountain 82.73 46 *e*P **P 12 17 40.8 +1.0**
CVS Carmenet Viney 82.73 49 ⇑P **P 12 17 39.7 -0.2**
baz=83,SNR=7.6
HAST Hastings Reser 82.74 51 ⇓P **P 12 17 39.5 -0.5**
baz=83,SNR=10.0
M01C Crescent City 82.81 45 ⇓P **P 12 17 40.4 +0.1**
baz=83,SNR=5.3
KRMB Red Mountain 82.84 45 *e*P **P 12 17 41.1 +0.6**
V03C Hunter Liggett 82.86 51 ⇑P **P 12 17 41.3 +0.6**
baz=83
KBO Bosley Butte 82.88 45 *e*P **P 12 17 41.9 +1.3**
LSA Lhasa 82.92 302 P **P 12 17 42.8 +1.7**
LSA AP pP 12 17 52.1 -2.0
LSA XP sP 12 17 55.6 -3.3
LSA S S 12 27 58.8 +1.7
LSA AMB AMB
comp=Z,70nm,1.9s,mb5.4
LSA AMB AMB
comp=Z,1µm,5.1s
LSA LR LR
comp=N,730nm,24.4s,MS5.5
LSA LR LR
comp=E,2µm,22.5s,MS5.5
LSA LR LR
comp=Z,3µm,22.1s,MS5.6
LSA Lhasa 82.92 302 PFAKE 12 17 50.0 +8.9
LSA LR LR
comp=Z,3µm,22.0s,MS5.6
MNRC McLaughlin Nat 82.93 48 ⇑P **P 12 17 41.2 +0.2**
baz=83,SNR=9.2
SAO San Andreas Ge 82.94 50 *e*P **P 12 17 41.9 +0.8**
SAO San Andreas Ge 82.94 50 *e*P **P 12 17 41.3 +0.2**
SAO LR LR
comp=Z,7µm,22.0s,MS6.0
WENL Wente Brothers 83.00 50 ⇑P **P 12 17 40.9 -0.5**
baz=83
N02C Big Bar 83.01 46 ⇑P **P 12 17 41.6 +0.3**
baz=83,SNR=19
GASB Alder Springs 83.01 47 ⇓P **P 12 17 42.3 +0.9**
baz=83,SNR=14
V04C Ramage Ranch, 83.01 52 ⇑P **P 12 17 40.7 -0.8**
baz=83
BDM Black Diamond 83.04 49 ⇓P **P 12 17 41.7 +0.2**
baz=83
KEBM Edson Butte 83.06 44 *e*P **P 12 17 42.5 +1.0**
O02C Red Bluff 83.14 47 ⇓P **P 12 17 42.7 +0.7**
baz=83
PACP Pacheco Peak 83.15 50 ⇑P **P 12 17 42.6 +0.4**
baz=83,SNR=11
Q03C Winters 83.16 49 ⇓P **P 12 17 42.8 +0.7**
baz=83
S04C Ingram Canyon, 83.28 50 ⇓P **P 12 17 42.8 -0.1**
baz=83,SNR=14
SIT Sitka 83.29 28 *e*P **P 12 17 42.8 +0.4**
SIT MLR MLR
comp=Z,3µm,22.0s,MS5.6
L02A Cave Junction 83.29 45 ⇓P **P 12 17 43.1 +0.3**
baz=83,SNR=18
SNCC San Nicolas Is 83.30 54 PFAKE 12 17 50.0 +7.0
SNCC LR LR
comp=Z,3µm,20.0s,MS5.7
U04C Hernandez Rese 83.32 51 ⇓P **P 12 17 43.4 +0.3**
baz=83
PKD Parkfield 83.36 51 ⇑P **P 12 17 43.4 +0.1**
baz=84,SNR=9.8
CAL Calcutta 83.37 294 *e*P **P 12 17 41.0 -2.7**
CAL *ex* x 12 26 32.7
COLA College 83.42 18 ⇑*i*P **P 12 17 41.6 -1.3**
COLA College 83.42 18 *e*P **P 12 17 41.5 -1.3**
comp=Z,93nm,0.8s,mb5.9
COLA LR LR
comp=Z,4µm,21.0s,MS5.8
BSC Santa Cruz Isl 83.45 54 ⇓P **P 12 17 43.3 -0.4**
baz=84
WDC Whiskeytown Da 83.46 47 *e*P **P 12 17 43.9 +0.2**
WDC pmax pmax
comp=Z,160nm,1.7s,mb5.8
WDC Whiskeytown Da 83.46 47 ⇑P **P 12 17 43.7 0.0**
baz=84,SNR=35
WDC Whiskeytown Da 83.46 47 *e*P **P 12 17 43.5 -0.2**
comp=Z,158nm,1.8s,mb5.7
WDC LR LR
comp=Z,3µm,21.0s,MS5.6
CRAG Craig 83.50 30 *e*P **P 12 17 43.7 +0.2**
PTRM Twissleman Ran 83.52 52 *e*P **P 12 17 44.8 +0.7**
M02C Callahan 83.53 46 P **P 12 17 44.9 +0.8**
baz=84,SNR=45
SUTB Sutter Butte 83.53 48 ⇓P **P 12 17 43.6 -0.5**
baz=84
T05C Eagle Field, D 83.57 51 ⇑P **P 12 17 44.9 +0.6**
baz=84
SMMC Simmler 83.58 52 ⇑P **P 12 17 44.5 +0.1**
baz=84
PKM Peak Mountain 83.59 53 ⇓P **P 12 17 45.0 +0.5**
baz=84,SNR=7.5
K02A Glendale 83.59 44 ⇓P **P 12 17 44.2 -0.1**
baz=84,SNR=16
Q04C Lincoln 83.70 48 ⇓P **P 12 17 44.5 -0.5**
baz=84
YBH Yreka Blue Hor 83.75 45 LR LR 12 48 33.1
comp=Z,3µm,21.1s,MS5.6,baz=227,slow=31
YBH Yreka Blue Hor 83.75 45 *e*P **P 12 17 45.7 +0.6**
YBH pmax pmax
comp=Z,75nm,1.2s
YBH MLR MLR
comp=Z,3µm,21.0s
YBH Yreka Blue Hor 83.75 45 ⇑P **P 12 17 45.2 +0.1**
baz=84,SNR=54
YBH Yreka Blue Hor 83.75 45 *e*P **P 12 17 45.7 +0.5**
comp=Z,75nm,1.2s,mb5.7
YBH LR LR
comp=Z,3µm,21.0s,MS5.6
J02A Umpqua 83.76 44 ⇑P **P 12 17 45.2 +0.1**
baz=84,SNR=18
U05C Westside ANR, 83.81 51 ⇓P **P 12 17 45.5 -0.1**
baz=84
I02A Mapleton 83.82 43 P **P 12 17 45.9 +0.5**
baz=84,SNR=18
R04C Big Horse Ranc 83.83 49 ⇑P **P 12 17 44.7 -1.0**
baz=84
V05C Boulder Hill, 83.83 52 ⇑P **P 12 17 46.3 +0.6**
baz=84,SNR=5.9
ORV Oroville 83.85 48 ⇓P **P 12 17 45.5 -0.2**
baz=84,SNR=17
HUMO Hull Mountain 83.90 45 ⇓P **P 12 17 46.2 +0.3**
baz=84,SNR=72
HUMO Hull Mountain 83.90 45 *e*P **P 12 17 45.9 +0.1**
comp=Z,49nm,1.0s,mb5.6
HUMO LR LR
comp=Z,3µm,20.0s,MS5.6
BLG Laguna Peak 83.93 54 ⇓P **P 12 17 45.6 -0.7**
baz=84
H02A Toledo 83.97 42 ⇑P **P 12 17 46.5 +0.4**
baz=84
S05C Merced 83.98 50 ⇑P **P 12 17 45.9 -0.6**
baz=84,SNR=20
SCI San Clemente I 84.00 55 ⇑P **P 12 17 46.1 -0.5**
baz=84
M03C McCloud 84.00 46 ⇑P **P 12 17 46.7 +0.2**
baz=84,SNR=43
LHEM Herd Peak 84.06 46 P **P 12 17 46.9 +0.2**
MOY Mondy 84.09 325 *e*P **P 12 17 46.8 +0.2**
MOY pmax pmax
comp=Z,278nm,2.9s,mb5.9
LAVA Lava Cap Winer 84.14 49 P **P 12 17 47.1 -0.1**
baz=84,SNR=23
CMB Columbia Colle 84.16 50 P **P 12 17 47.2 -0.1**
baz=84,SNR=44
CMB Columbia Colle 84.16 50 *e*P **P 12 17 47.0 -0.3**
CMB LR LR
comp=Z,7µm,22.0s,MS6.0
I03A Eugene 84.18 43 ⇑P **P 12 17 47.4 +0.1**
baz=84,SNR=7.8
CIS Catalina Islan 84.24 54 ⇑P **P 12 17 46.2 -1.6**
baz=84
HATC Hat Creek Radi 84.31 47 ⇓P **P 12 17 48.2 +0.2**
baz=84,SNR=30
HEBO Mount Hebo 84.33 42 *e*P **P 12 17 49.0 +1.0**
comp=Z,356nm,1.9s,mb6.2
T06C Millerton Lake 84.34 51 P **P 12 17 48.0 -0.2**
baz=84,SNR=41
OSI Osito Adit 84.36 53 ⇓P **P 12 17 48.8 +0.4**
baz=84
WRAK Wrangell Islan 84.36 29 *e*P **P 12 17 47.8 -0.1**
comp=Z,48nm,0.9s,mb5.6
WRAK LR LR
comp=Z,2µm,20.0s,MS5.6
M04C Macdoel 84.38 46 ⇓P **P 12 17 48.6 +0.2**
baz=84,SNR=32
COR Corvallis 84.39 43 *e*P **P 12 17 49.4 +1.1**
COR pmax pmax
comp=Z,110nm,1.4s,mb5.8
COR Corvallis 84.39 43 PFAKE 12 18 00.0 +12
COR LR LR
comp=Z,3µm,21.0s,MS5.7
O04C Chester 84.41 47 ⇑P **P 12 17 48.7 +0.2**
baz=84,SNR=36
O05C Quincy 84.41 48 ⇑P **P 12 17 48.5 0.0**
baz=84,SNR=28
P05C Yuba Gap, Truc 84.42 48 ⇓P **P 12 17 49.0 +0.4**
baz=84,SNR=25
FMP Fort Macarthur 84.42 54 ⇓P **P 12 17 48.5 -0.3**
baz=84
ARVC Arvin 84.43 53 ⇓P **P 12 17 48.5 -0.2**
baz=84,SNR=7.3
H03A Soap Creek Ran 84.43 42 P **P 12 17 48.9 +0.3**
baz=85,SNR=24
VES Vestal, Richgr 84.46 52 P **P 12 17 48.4 -0.5**
baz=85,SNR=22
HYT Haines Junctio 84.46 24 *e*P **P 12 17 47.4 -0.9**
RCTC Rector, Farmer 84.48 51 ⇑P **P 12 17 48.6 -0.4**
baz=85
L04A Klamath Falls 84.48 45 ⇓P **P 12 17 48.9 0.0**
baz=85,SNR=13
S06C San Francisco 84.52 50 P **P 12 17 49.0 -0.1**
baz=85,SNR=65
DECC Green Verdugo 84.56 54 ⇓P **P 12 17 48.3 -1.1**
baz=85
SKAG Skagway 84.59 26 *e*P **P 12 17 48.6 -0.4**
R05C Kirkwood Meado 84.61 49 P **P 12 17 49.8 +0.2**
baz=85,SNR=22
MAW Mawson 84.63 202 P **P 12 17 48.4 -0.7**
comp=Z,30nm,1.0s,mb5.4,baz=98,slow=6.7,SNR=59
MAW S S 12 28 09.2 -3.8
comp=Z,1.2nm,0.8s,baz=100,slow=23,SNR=2.1
MAW LR LR 12 49 44.2
comp=Z,3µm,21.7s,MS5.6,baz=96,slow=32
MAW Mawson 84.63 202 P **P 12 17 48.4 -0.8**
MAW S S 12 28 09.2 -3.8
MAW pmax pmax
comp=Z,30nm,1.0s
MAW smax
comp=N,1.0nm,0.8s
MAW Mawson 84.63 202 ⇑*i*P **P 12 17 48.2 -1.0**
comp=N,33nm,1.2s,mb5.3
MAW LR LR
comp=Z,918nm,20.0s,MS5.2
G03A Yamhill 84.68 42 ⇓P **P 12 17 49.9 +0.1**
baz=85
I04A Tendick Farm, 84.70 44 P **P 12 17 49.6 -0.3**
baz=85,SNR=27
J04A Umpqua Nationa 84.71 44 ⇓P **P 12 17 50.4 +0.5**
baz=85,SNR=12
M05C Lookout 84.72 46 ⇓P **P 12 17 50.3 +0.2**
baz=85
F03A Seaside 84.73 41 ⇓P **P 12 17 49.9 -0.1**
baz=85,SNR=5.3
KCC Kaiser Creek 84.74 50 P **P 12 17 50.3 +0.1**
baz=85,SNR=28
K04A Chilquin 84.75 45 ⇑P **P 12 17 50.2 0.0**
baz=85
HELL Mitchell Peak 84.76 51 P **P 12 17 50.1 -0.2**
baz=85,SNR=48
MWC Mount Wilson 84.76 54 *e*P **P 12 17 50.2 -0.3**
MWC pmax pmax
comp=Z,152nm,1.6s,mb5.9
MWC MLR MLR
comp=Z,3µm,20.0s,MS5.7
MWC Mount Wilson 84.76 54 *e*P **P 12 17 50.2 -0.3**
comp=Z,152nm,1.6s,mb5.9
MWC LR LR
comp=Z,3µm,20.0s,MS5.7
ELFS Eagle Lake Fie 84.77 47 ⇓P **P 12 17 50.7 +0.4**
baz=85
BEKR Beckwourth 84.79 48 ⇓P **P 12 17 50.4 -0.1**
baz=85
C03A Quillayute Air 84.86 39 ⇓P **P 12 17 51.2 +0.6**

baz=85
ISA Isabella 84.87 52 ⇓P P 12 17 50.7 -0.2
baz=85,SNR=25
ISA Isabella 84.87 52 eP P 12 17 51.0 0.0
ISA LR LR
comp=Z,4μm,21.0s,MS5.8
E03A Lebam 84.96 41 P P 12 17 51.4 +0.3
baz=85,SNR=25
EDW2 Edwards Air Fo 85.01 53 ⇑P P 12 17 51.7 0.0
baz=85,SNR=21
R06C Coleville 85.02 49 ⇑P P 12 17 51.7 +0.1
baz=85,SNR=31
WCN Washoe City 85.04 48 ⇓P P 12 17 51.9 +0.1
baz=85
P06A Stead Airport, 85.06 48 ⇑P P 12 17 52.2 +0.4
baz=85,SNR=13
BFSC Mount Baldy St 85.08 54 ⇓P P 12 17 51.3 -0.7
baz=85,SNR=16
NLWA Neilton Lookou 85.08 40 ⇑P P 12 17 51.9 +0.2
baz=85,SNR=8.3
NLWA Neilton Lookou 85.08 40 eP P 12 17 51.8 0.0
NLWA LR LR
comp=Z,3μm,20.0s,MS5.7
BWNR Bhubaneshwar 85.09 292 eP P 12 17 52.0 -0.4
109C Camp Elliot, M 85.13 55 ⇓P P 12 17 52.0 -0.3
baz=85,SNR=7.5
BMW Boistfort Moun 85.14 41 eP P 12 17 52.0 -0.1
M06C Likely Place G 85.15 46 ⇑P P 12 17 52.4 +0.2
baz=85,SNR=27
G04A Mulino 85.17 42 ⇑P P 12 17 52.1 -0.1
baz=85,SNR=11
TAPN Taplejung 85.17 299 eP P 12 17 53.3 +0.6
comp=Z,582nm,1.4s,mb6.5
H04A Detroit Lake 85.17 43 P P 12 17 51.8 -0.5
baz=85,SNR=16
L05A Lakeview 85.18 46 ⇑P P 12 17 52.8 +0.4
baz=85,SNR=18
R07C Lee Vining 85.18 50 ⇓P P 12 17 52.5 +0.1
baz=85,SNR=14
MLAC Mammoth Lakes 85.20 50 ⇓P P 12 17 52.8 +0.3
baz=85,SNR=8.5
MURC Murrieta 85.26 55 ⇓P P 12 17 52.2 -0.7
baz=85,SNR=7.3
O06A Flanigan 85.27 48 ⇑P P 12 17 52.8 -0.1
baz=85,SNR=48
ODAN Odare 85.32 298 eP P 12 17 54.1 +0.7
comp=Z,1μm,1.4s,mb6.9
J05A Fort Rock 85.32 44 ⇑P P 12 17 53.5 +0.5
baz=85,SNR=55
K05A Summer Lake 85.37 45 ⇑P P 12 17 53.5 +0.2
baz=86,SNR=44
CWC Cottonwood Cre 85.41 52 ⇑P P 12 17 53.4 -0.2
baz=86,SNR=12
BAR Barrett 85.42 56 PFAKE 12 18 00.0 +6.2
BAR LR LR
comp=Z,5μm,22.0s,MS5.9
LRMC Laurel Mountai 85.42 53 ⇓P P 12 17 54.0 +0.3
baz=86,SNR=7.1
N06A Buffalo Meadow 85.45 47 P P 12 17 53.8 0.0
baz=86,SNR=37
F04A Amboy 85.47 42 ⇓P P 12 17 53.4 -0.2
baz=86,SNR=12
EGAK Eagle 85.49 20 eP P 12 17 53.0 -0.4
EGAK LR LR
comp=Z,3μm,21.0s,MS5.6
MOD Modoc 85.50 46 ⇓P P 12 17 53.8 -0.2
baz=86,SNR=12
MOD Modoc 85.50 46 eP P 12 17 54.0 0.0
MOD LR LR
comp=Z,2μm,21.0s,MS5.5
E04A Onalaska 85.51 41 ⇑P P 12 17 54.4 +0.5
baz=86
B04A Port Angeles 85.56 39 ⇓P P 12 17 54.4 +0.2
baz=86,SNR=5.8
I05A Bend 85.60 44 P P 12 17 54.6 +0.2
baz=86,SNR=17
Q07A Schurz 85.63 49 ⇑P P 12 17 54.9 +0.3
baz=86
D04A Dobbs Creek Ra 85.65 40 ⇓P P 12 17 55.0 +0.5
baz=86
DAWY Dawson 85.66 21 eP P 12 17 54.1 -0.1
S08C White Mtn Res 85.66 51 P P 12 17 55.3 +0.5
baz=86,SNR=28
BBRC Big Bear Sol-O 85.67 54 ⇑P P 12 17 55.1 0.0
baz=86,SNR=13
MONP Monument Peak 85.69 55 ⇑P P 12 17 55.3 +0.2
baz=86,SNR=20
DAC Darwin (Calif) 85.74 52 PFAKE 12 18 10.0 +15
DAC LR LR
comp=Z,6μm,22.0s,MS5.9
TDL Tradedollar La 85.75 41 P P 12 17 55.4 +0.4
MPMC Manual Prospec 85.75 52 P P 12 17 55.6 +0.2
baz=86,SNR=35
P07A Fallon 85.75 48 ⇑P P 12 17 55.5 +0.2
baz=86
C04A Brinnon 85.77 40 ⇓P P 12 17 55.3 +0.1
baz=86,SNR=12
RRX Edison Barstow 85.79 53 ⇑P P 12 17 55.5 0.0
baz=86
GNW Green Mountain 85.80 40 eP P 12 17 55.2 -0.2
VGZ Gonzales 85.81 39 P P 12 17 54.9 -0.4
PGC Sidney 85.82 39 eP P 12 17 54.9 -0.5
comp=Z,89nm,1.1s,mb5.9
K06A Valley Falls 85.84 45 P P 12 17 55.7 +0.1
baz=86,SNR=23
NVAR Mina Array Bea 85.84 50 P P 12 17 55.8 0.0
comp=Z,9.3nm,0.7s,mb5.1,baz=232,slow=7.2,SNR=71
NVAR PP PP 12 21 15.9 0.0
comp=Z,1.5nm,1.0s,baz=232,slow=8.7,SNR=3.7
NVAR S S 12 28 18.2 -7.8
comp=Z,0.1nm,0.5s,baz=68,slow=43,SNR=2.0
NVAR PKPPKP 12 43 59.0
comp=Z,1.4nm,0.9s,baz=128,slow=2.4,SNR=9.3
NVAR Mina Array Bea 85.84 50 P P 12 17 55.8 0.0
NVAR PP PP 12 21 15.9 0.0
NVAR S S 12 28 18.2 -7.8
NVAR P'P' 12 43 59.0
PFO Pinyon Flat Ob 85.86 55 PKKPbc PKKPbc 12 35 57.4 -0.5
comp=Z,2.8nm,0.8s,baz=115,slow=3.2,SNR=5.4
PFO LR LR 12 48 03.3
comp=Z,5μm,21.4s,MS5.9,baz=272,slow=30
PFO Pinyon Flat Ob 85.86 55 ⇓P P 12 17 55.7 -0.3
baz=86,SNR=11
PFO Pinyon Flat Ob 85.86 55 eP P 12 17 55.6 -0.4
PFO LR LR
comp=Z,5μm,21.0s,MS5.8
BOK Bokaro 85.86 295 eP P 12 17 55.8 -0.4
BOK AMb AMB 12 18 00.2
comp=Z,186nm,1.8s,mb6.0
VFP Flag Point 85.87 42 P P 12 17 55.6 -0.1
DVTC Desert V Tower 85.88 56 ⇓P P 12 17 56.1 0.0
baz=86,SNR=7.1
G05A Wamic 85.94 42 ⇓P P 12 17 56.0 0.0
baz=86,SNR=9.9
O07A Toulon 85.96 48 ⇑P P 12 17 56.2 -0.1
baz=86,SNR=34
R08A Mina 85.97 50 ⇓P P 12 17 56.3 -0.1
baz=86,SNR=12
RAMN Ramite 86.02 298 eP P 12 17 57.4 +0.5
comp=Z,810nm,1.5s,mb6.7
J06A Christmas Vall 86.06 45 P P 12 17 56.4 -0.2
baz=86,SNR=23
GSC Goldstone 86.06 53 eP P 12 17 56.8 -0.1
GSC pmax pmax
comp=Z,98nm,1.7s,mb5.8
GSC Goldstone 86.06 53 ⇓P P 12 17 57.0 +0.1
baz=86,SNR=14
GSC Goldstone 86.06 53 PFAKE 12 18 10.0 +13
GSC LR LR
comp=Z,4μm,19.0s,MS5.8
F05A White Salmon 86.08 42 ⇑P P 12 17 56.2 -0.5
baz=86,SNR=10
N07B Gerlach 86.09 47 P P 12 17 57.1 +0.2
baz=86,SNR=47
E05A Randle 86.12 41 P P 12 17 56.7 -0.2
baz=86,SNR=14
GRAC Grapevine Rang 86.12 51 ⇑P P 12 17 56.9 -0.2
baz=86,SNR=29
M07A Soldier Meadow 86.14 47 P P 12 17 57.5 +0.3
baz=86,SNR=26
LON Longmire 86.15 41 eP P 12 17 56.2 -0.9
LON pmax pmax
comp=Z,66nm,1.6s,mb5.6
LON Longmire 86.15 41 eP P 12 17 56.2 -0.9
comp=Z,66nm,1.6s,mb5.6
D05A Enumclaw 86.20 40 P P 12 17 57.7 +0.4
baz=86,SNR=30

SWSC Sam W. Stewart 86.20 56 ⇑P P 12 17 57.6 0.0
baz=86,SNR=6.6
MCW Mount Constitu 86.21 39 P P 12 17 57.5 +0.2
L07A Adell 86.22 46 ⇓P P 12 17 57.9 +0.4
baz=86,SNR=37
I06A Prineville 86.25 44 P P 12 17 57.9 +0.3
baz=86,SNR=39
Q08A Gabbs 86.25 49 P P 12 17 57.7 -0.1
baz=86,SNR=29
A04A Legoe Bay, Lum 86.30 39 ⇓P P 12 17 57.9 +0.1
baz=86,SNR=12
HEC Hector,Ludlow 86.30 54 ⇓P P 12 17 57.9 -0.2
baz=86,SNR=9.2
BELC Belle Mtn. 86.33 54 P P 12 17 58.5 +0.2
baz=86,SNR=44
FURC Furnace Creek, 86.36 52 P P 12 17 58.5 +0.1
baz=86,SNR=17
P08A Dixie Valley 86.40 49 ⇓P P 12 17 58.1 -0.3
baz=86
H06A Lindquist Farm 86.43 43 P P 12 17 58.3 -0.1
baz=86,SNR=31
DLBC Dease Lake 86.44 28 eP P 12 17 57.6 -0.6
S09A Goldfield 86.44 51 ⇑P P 12 17 58.4 -0.3
baz=86,SNR=34
TIXI Tiksi 86.47 349 c iP P 12 17 57.0 -1.1
TIXI e pP 12 18 08.7 -2.4
TIXI eS S 12 28 13.4 -17
TIXI e 12 28 29.2
TIXI pmax pmax
comp=Z,82nm,1.3s,mb5.8
TIXI MLR MLR
comp=Z,1μm,19.0s,MS5.4
TIXI Tiksi 86.47 349 eP P 12 17 57.2 -0.9
comp=Z,171nm,1.8s,mb6.0
TIXI LR LR
comp=Z,2μm,22.0s,MS5.5
F06A Goldendale 86.48 42 ⇑P P 12 17 58.6 -0.1
baz=87,SNR=10.0
K07A Rock Creek Ran 86.50 45 ⇑P P 12 17 59.0 +0.1
baz=87
B05A Bryant 86.52 39 P P 12 17 58.9 0.0
baz=87,SNR=13
O08A Rochester Mine 86.53 48 ⇓P P 12 17 59.3 +0.3
baz=87
TPH Tonopah 86.55 50 eP P 12 17 59.9 +0.7
TPH Tonopah 86.55 50 PFAKE 12 18 10.0 +11
TPH LR LR
comp=Z,7μm,22.0s,MS6.0
JIRN Jiri 86.55 299 eP P 12 18 00.3 +0.8
comp=Z,890nm,1.5s,mb6.8
CMW Cultus Mountai 86.56 39 P P 12 17 59.2 +0.2
C05A Tolt Reservoir 86.57 40 ⇑P P 12 17 58.9 -0.2
baz=87,SNR=9.9
JCW Jim Creek 86.59 40 eP P 12 17 58.9 -0.3
E06A Yakima 86.62 41 P P 12 17 59.4 0.0
baz=87,SNR=19
SHOC Shoshone 86.64 53 P P 12 17 59.5 -0.3
baz=87,SNR=24
J07A Hines 86.67 45 ⇓P P 12 17 59.8 0.0
baz=87
BC3 Big Chuckw Mtn 86.68 55 ⇓P P 12 18 00.2 +0.2
baz=87,SNR=15
N08A GE Springer Mi 86.69 47 ⇓P P 12 17 59.7 -0.1
baz=87,SNR=22
R09A Tonopah 86.71 50 P P 12 17 59.9 -0.2
baz=87,SNR=25
M08A Happy Creek Ra 86.72 47 ⇓P P 12 18 00.3 +0.3
baz=87,SNR=22
U10A Ash Meadows, A 86.75 52 ⇓P P 12 18 00.3 +0.1
baz=87,SNR=12
I07A Izee 86.77 44 P P 12 18 00.3 +0.2
baz=87,SNR=46
VIS Vishakhapatnam 86.77 289 eP P 12 17 60.0 -0.8
VIS AMb AMB 12 18 04.5
comp=Z,204nm,1.7s,mb6.1
A05A Maple Falls 86.79 39 P P 12 17 59.7 -0.4
baz=87,SNR=5.2
TUQ Turquoise Mtn. 86.79 53 P P 12 18 00.5 0.0
baz=87,SNR=28
Q09A Carvers 86.80 50 ⇓P P 12 18 00.4 0.0
baz=87
GMRC Granite Mounta 86.82 54 P P 12 18 00.7 +0.1
baz=87,SNR=30
WVOR Wild Horse Val 86.84 46 eP P 12 18 00.2 -0.4
WVOR pmax pmax
comp=Z,51nm,1.2s,mb5.6
WVOR MLR MLR
comp=Z,3μm,21.0s,MS5.7
WVOR Wild Horse Val 86.84 46 eP P 12 18 00.2 -0.4
comp=Z,51nm,1.2s,mb5.6
WVOR LR LR
comp=Z,3μm,21.0s,MS5.7
GUN Gumba 86.88 299 eP P 12 18 01.6 +0.5
comp=Z,2μm,1.9s,mb6.9
H07A Lands Inn, Kim 86.90 44 ⇑P P 12 18 00.3 -0.5
baz=87,SNR=41
D06A Cle Elum 86.93 41 P P 12 18 00.8 0.0
baz=87,SNR=14
RPW Rockport 86.94 39 eP P 12 18 00.3 -0.6
TPNV Topopah Spring 86.97 52 eP P 12 18 01.2 -0.1
TPNV Topopah Spring 86.97 52 P P 12 18 01.3 0.0
baz=87,SNR=24
TPNV Topopah Spring 86.97 52 eP P 12 18 01.0 -0.3
TPNV e PcP PcP 12 18 04.2 +0.8
TPNV LR LR
comp=Z,7μm,22.0s,MS6.0
L08A Fields 86.97 46 P P 12 18 01.5 +0.3
baz=87,SNR=35
S10A Tonopah Range, 86.98 51 P P 12 18 01.5 +0.1
baz=87,SNR=26
B06A Marblemount 86.99 39 ⇑P P 12 18 00.5 -0.6
baz=87
GLA Glamis 87.02 56 eP P 12 18 02.1 +0.5
GLA pmax pmax
comp=Z,52nm,0.9s,mb5.8
GLA Glamis 87.02 56 P P 12 18 02.2 +0.6
baz=87,SNR=34
GLA Glamis 87.02 56 PFAKE 12 18 10.0 +8.4
GLA LR LR
comp=Z,4μm,22.0s,MS5.8
K08A Mann Creek Ran 87.04 46 P P 12 18 01.7 +0.2
baz=87,SNR=19
P09A Austin 87.05 49 ⇑P P 12 18 01.7 +0.1
baz=87
G07A Ruggs Ranch, H 87.05 43 P P 12 18 01.4 -0.1
baz=87,SNR=37
IRM Iron Mountain 87.06 54 ⇓P P 12 18 01.9 +0.1
baz=87,SNR=36
PALK Pallekele 87.07 278 eP P 12 18 03.1 +0.8
PALK LR LR
comp=Z,1μm,21.0s,MS5.4
112A Yuma 87.08 56 ⇓P P 12 18 02.6 +0.6
baz=87
C06A Tall Timber Ra 87.15 40 ⇑P P 12 18 01.5 -0.4
baz=87
N09A Rock Creek Ran 87.15 48 ⇓P P 12 18 02.1 0.0
baz=87
O09A Fish Creek Ran 87.19 48 ⇓P P 12 18 02.5 +0.2
baz=87,SNR=20
A06A Chilliwack 87.20 39 ⇑P P 12 18 01.8 -0.3
baz=87,SNR=5.9
PKI Pulchoki 87.20 299 eP P 12 18 03.1 +0.4
comp=Z,781nm,1.4s,mb6.8
BMN Battle Mountai 87.25 48 eP P 12 18 02.8 +0.2
BMN Battle Mountai 87.25 48 eP P 12 18 02.5 0.0
BMN LR LR
comp=Z,2μm,21.0s,MS5.6
J08A Circle Bar Ran 87.25 45 ⇓P P 12 18 01.6 -1.0
baz=87,SNR=25
V11A Goodsprings 87.29 53 P P 12 18 03.0 +0.1
baz=87,SNR=35
R10A Warm Springs 87.31 50 ⇓P P 12 18 03.2 +0.3
baz=87
LDFC Landfair 87.33 54 eP P 12 18 03.1 -0.1
E07A Sunnyside 87.35 42 ⇓P P 12 18 02.9 0.0
baz=88
I08A Drewsey 87.36 44 P P 12 18 03.1 +0.1
baz=88,SNR=13
KKN Kakani 87.37 299 eP P 12 18 03.7 +0.2
comp=Z,865nm,1.6s,mb6.7
M09A Marrel Ranch, 87.38 47 ⇓P P 12 18 03.4 +0.2
baz=88,SNR=5.8
Q10A Clear Creek Ra 87.39 50 P P 12 18 03.5 +0.2
baz=88,SNR=18
ETW Entiat 87.40 40 eP P 12 18 02.4 -0.7
L09A Wilkinson Ranc 87.40 46 ⇓P P 12 18 03.4 +0.1
baz=88,SNR=19

Y12C Blythe 87.45 55 P P 12 18 04.0 +0.3
baz=88,SNR=18
RSW Rattlesnake Hi 87.47 42 eP P 12 18 03.3 -0.2
DMN Daman 87.47 299 eP P 12 18 04.5 +0.5
comp=Z,1μm,1.5s,mb7.0
H08A Prairie City 87.48 44 P P 12 18 03.5 -0.1
baz=88,SNR=15
U11A Corn Creek 87.49 52 ⇑P P 12 18 04.0 +0.2
baz=88
D07A Quincy 87.49 41 ⇓P P 12 18 03.1 -0.4
baz=88,SNR=8.5
HAWA Hanford 87.51 42 PFAKE 12 18 10.0 +6.3
HAWA LR LR
comp=Z,3μm,21.0s,MS5.7
G08A Pilot Rock 87.53 43 P P 12 18 03.7 -0.1
baz=88,SNR=37
S11A Rachel 87.55 51 ⇑P P 12 18 03.9 -0.2
baz=88,SNR=6.4
P10A Eureka 87.57 49 ⇓P P 12 18 04.1 -0.1
baz=88,SNR=9.0
K09A Rome 87.57 46 P P 12 18 03.9 -0.2
baz=88,SNR=36
W12A Cal Nev Ari 87.58 53 P P 12 18 04.6 +0.2
baz=88,SNR=28
C07A Waterville 87.60 40 ⇑P P 12 18 03.3 -0.8
baz=88
NEE2 Needles Airpor 87.64 54 ⇑P P 12 18 05.0 +0.4
baz=88
WTV Waterville 87.67 40 P P 12 18 03.8 -0.6
V12A Nelson 87.71 53 ⇓P P 12 18 04.9 0.0
baz=88,SNR=28
O10A Cortez Mining, 87.73 48 ⇑P P 12 18 04.9 0.0
baz=88,SNR=7.3
J09A Fry Pan Ranch, 87.75 45 P P 12 18 05.1 +0.2
baz=88,SNR=48
113A Mohawk Valley, 87.81 56 ⇓P P 12 18 05.5 0.0
baz=88
F08A Pendleton 87.81 43 ⇑P P 12 18 04.8 -0.4
baz=88
B07A Winthrop 87.82 40 P P 12 18 05.0 -0.2
baz=88,SNR=20
T11A Corn Creek, Al 87.84 52 P P 12 18 05.5 0.0
baz=88,SNR=36
E08A Dider Farm, El 87.85 42 ⇓P P 12 18 05.4 +0.1
baz=88,SNR=9.6
N10A Dunphy 87.85 48 ⇓P P 12 18 05.7 +0.3
baz=88
A07A Ashnola River, 87.85 39 ⇓P P 12 18 05.0 -0.2
baz=88,SNR=19
R11A Troy Canyon, C 87.86 50 P P 12 18 05.5 -0.1
baz=88,SNR=19
PDMCI Parker Dam,Lak 87.90 55 P P 12 18 06.1 +0.2
baz=88,SNR=20
I09A Lost Marbles R 87.94 45 ⇑P P 12 18 05.4 -0.4
baz=88,SNR=11
Q11A Duckwater 87.95 50 P P 12 18 06.3 +0.3
baz=88,SNR=33
GKN Gorkha 87.97 299 eP P 12 18 06.2 -0.1
comp=Z,83nm,1.0s,mb5.9
Y13A Salome 88.02 55 ⇑P P 12 18 06.9 +0.4
baz=88,SNR=49
M10A I.L. Ranch, Tu 88.06 47 ⇑P P 12 18 06.7 +0.2
baz=88,SNR=13
HVS Khovu-Aksy 88.07 323 d iP P 12 18 06.1 -0.1
HVS pmax pmax
comp=Z,576nm,1.6s,mb6.6
HVS MLR MLR
comp=Z,4μm,16.0s,MS6.0
P11A Circle Ranch, 88.07 49 ⇑P P 12 18 06.8 +0.2
baz=88
T12A Moapa 88.09 52 ⇑P P 12 18 06.8 +0.1
baz=88,SNR=5.7
D08A Wollman Farm, 88.12 41 P P 12 18 06.5 -0.1
baz=88,SNR=12
U12A Valley of Fire 88.14 52 ⇓P P 12 18 06.8 -0.2
baz=88,SNR=25
LNOR Lincton Mounta 88.16 43 eP P 12 18 05.8 -1.0
K10A MacKenzie Ranc 88.19 46 P P 12 18 07.1 +0.1
baz=88,SNR=25
H09A Durkee 88.21 44 P P 12 18 07.0 0.0
baz=88,SNR=20
S12A Delamar Landin 88.22 51 ⇑P P 12 18 07.9 +0.6
baz=88,SNR=43
X13A Yucca 88.22 54 ⇓P P 12 18 07.0 -0.4
baz=88,SNR=24
L10A Juniper Basin 88.27 47 P P 12 18 07.5 +0.1
baz=88,SNR=21
C08A Higginbotham F 88.28 41 ⇑P P 12 18 06.5 -0.8
baz=88
B08A Colville Reser 88.28 40 P P 12 18 06.7 -0.6
baz=88,SNR=18
O11A Cowboy Ranch, 88.31 49 P P 12 18 08.0 +0.4
baz=88,SNR=29
W13A Hualapai Mount 88.31 54 ⇓P P 12 18 07.9 +0.1
baz=88,SNR=29
G09A Cove 88.32 43 P P 12 18 07.5 -0.1
baz=88,SNR=17
F09A S2 Ranch, Elgi 88.36 43 ⇑P P 12 18 07.6 -0.2
baz=88
OD2 Odessa Site #2 88.36 41 eP P 12 18 07.0 -0.8
214A Organ Pipe Nat 88.38 57 ⇓P P 12 18 08.7 +0.5
baz=88,SNR=22
V13A Grand Canyon W 88.43 53 ⇑P P 12 18 08.2 -0.2
baz=88,SNR=41
N11A Elko Archery C 88.44 48 ⇑P P 12 18 08.4 +0.2
baz=88,SNR=8.7
E09A Wood Farm, Sta 88.46 42 ⇑P P 12 18 07.7 -0.5
baz=89,SNR=8.1
J10A Berg Farm, Mel 88.46 45 ⇓P P 12 18 08.0 -0.3
baz=89,SNR=5.9
BMO Blue Mountains 88.51 44 eP P 12 18 08.2 -0.3
BMO pmax pmax
comp=Z,197nm,2.1s,mb6.1
BMO MLR MLR
comp=Z,4μm,22.0s,MS5.8
BMO Blue Mountains 88.51 44 eP P 12 18 08.2 -0.3
comp=Z,197nm,2.1s,mb6.1
BMO LR LR
comp=Z,4μm,22.0s,MS5.8
A08A Turner Farm, O 88.51 39 P P 12 18 08.3 -0.1
baz=89,SNR=19
D09A Jones Farm, Ri 88.52 41 ⇑P P 12 18 08.2 -0.2
baz=89,SNR=8.8
M11A Holland Ranch, 88.57 47 P P 12 18 09.6 +0.7
baz=89,SNR=23
U13A Pakoon Wash 88.59 53 P P 12 18 09.4 +0.3
baz=89,SNR=35
R12A Pony Springs, 88.60 51 ⇑P P 12 18 09.5 +0.4
baz=89,SNR=23
Q12A Willow Creek R 88.62 50 ⇓P P 12 18 09.4 +0.3
baz=89,SNR=21
Z14A Wintersburg 88.62 56 ⇑P P 12 18 09.7 +0.4
baz=89,SNR=7.5
I10A Payette 88.62 45 ⇑P P 12 18 08.9 -0.2
baz=89,SNR=5.4
LPIG La Paz 88.69 65 S S 12 28 35.9 -18
comp=Z,6.3nm,0.5s,baz=190,slow=7.2,SNR=2.1
LPIG LR LR 12 52 05.0
comp=Z,1μm,18.3s,MS5.4,baz=245,slow=32
Y14A Wickenburg 88.72 55 ⇑P P 12 18 09.7 -0.1
baz=89,SNR=15
G10A Bishop Farm, J 88.77 43 ⇓P P 12 18 09.4 -0.3
baz=89,SNR=50
C09A Chrisman Ranch 88.78 41 ⇓P P 12 18 09.2 -0.5
baz=89
K11A Parker Ranch, 88.78 46 ⇑P P 12 18 09.8 0.0
baz=89,SNR=24
ELK Elko 88.78 48 LR LR 12 50 26.2
comp=Z,3μm,20.8s,MS5.7,baz=251,slow=30
ELK Elko 88.78 48 eP P 12 18 09.2 -0.7
ELK pmax pmax
comp=Z,277nm,2.2s
ELK MLR MLR
comp=Z,4μm,21.0s
ELK Elko 88.78 48 eP P 12 18 09.2 -0.7
comp=Z,277nm,2.2s,mb6.2
ELK LR LR
comp=Z,4μm,21.0s,MS5.8
T13A Saint George 88.79 52 P P 12 18 10.6 +0.6
baz=89,SNR=73
DANN Dangsing 88.81 299 eP P 12 18 10.0 -0.3
comp=Z,311nm,0.9s,mb6.7
L11A Cat Creek Ranc 88.81 47 ⇑P P 12 18 10.1 +0.1
baz=89,SNR=25
KOLN Koldanda 88.81 298 eP P 12 18 09.8 -0.5
comp=Z,160nm,0.9s,mb6.3
H10A Noah's Angus R 88.81 44 P P 12 18 09.4 -0.5
baz=89,SNR=31

BLSP Bilaspur 88.84 293 *e*P **P 12 18 09.3 -1.3**
BLSP AMb AMB 12 18 13.2
comp=Z,176nm,1.8s,mb6.1
F10A Beach Ranch, E 88.90 43 P **P 12 18 09.7 -0.6**
baz=89,SNR=24
X14A Yava 88.94 55 ⇑P **P 12 18 11.2 +0.5**
baz=89,SNR=44
A09A Danville 88.95 40 ⇓P **P 12 18 10.1 -0.4**
baz=89,SNR=12
N12A Clover Valley, 88.96 48 ⇓P **P 12 18 10.9 +0.2**
baz=89,SNR=37
S13A Holt Ranch, En 88.97 51 P **P 12 18 11.3 +0.5**
baz=89,SNR=49
W14A Seligman 88.97 54 ⇓P **P 12 18 11.3 +0.4**
baz=89,SNR=30
O12A Currie 89.02 49 ⇓P **P 12 18 10.9 -0.1**
baz=89,SNR=42
115A Sonoran Desert 89.04 57 ⇑P **P 12 18 11.6 +0.3**
baz=89,SNR=21
R13A O'Grain Ranch, 89.04 51 ⇑P **P 12 18 11.7 +0.5**
baz=89,SNR=35
B09A Rice 89.05 40 ⇑P **P 12 18 10.2 -0.7**
baz=89,SNR=13
V14A Boquillas Ranc 89.06 54 ⇑P **P 12 18 11.7 +0.4**
baz=89,SNR=37
MFID Camas Ranch 89.11 45 P **P 12 18 11.4 +0.1**
baz=89,SNR=21
I11A Placerville 89.16 45 P **P 12 18 11.7 +0.1**
baz=89,SNR=30
D10A Wagner Farm, O 89.19 42 ⇓P **P 12 18 11.1 -0.5**
baz=89,SNR=18
U14A Mt Trumbull 89.20 53 ⇓P **P 12 18 12.0 +0.1**
baz=89,SNR=66
M12A Wells 89.20 48 ⇓P **P 12 18 12.0 +0.2**
baz=89,SNR=22
Q13A Wheeler Ranch, 89.21 50 ⇑P **P 12 18 12.3 +0.4**
baz=89,SNR=20
Z15A Gila River Ind 89.24 56 ⇑P **P 12 18 12.5 +0.3**
baz=89,SNR=7.2
Y15A Casa Rosa Ranc 89.26 55 ⇑P **P 12 18 12.7 +0.4**
baz=89,SNR=23
L12A House Creek Ra 89.33 47 P **P 12 18 13.0 +0.6**
baz=89,SNR=26
P13A Bates Ranch, G 89.34 50 P **P 12 18 13.0 +0.5**
baz=89,SNR=60
H11A Donnelly 89.34 44 P **P 12 18 12.2 -0.2**
baz=90,SNR=27
ARUT Antelope Range 89.35 51 *e*P **P 12 18 12.7 +0.1**
G11A Walters Elk Ra 89.37 43 P **P 12 18 12.0 -0.5**
baz=90,SNR=48
C10A Spilker Farm, 89.40 41 ⇑P **P 12 18 12.3 -0.2**
baz=90
T14A Hurricane 89.44 52 P **P 12 18 13.4 +0.4**
baz=90,SNR=54
116A Eloy 89.44 57 ⇓P **P 12 18 13.4 +0.2**
baz=90,SNR=20
X15A Humboldt 89.47 55 ⇓P **P 12 18 13.6 +0.4**
baz=90,SNR=40
216A Three Points, 89.51 57 P **P 12 18 14.3 +0.8**
baz=90,SNR=18
K12A Draper Farm, C 89.54 46 ⇓P **P 12 18 13.5 +0.1**
baz=90,SNR=19
O13A Hicks Ranch, I 89.54 49 ⇑P **P 12 18 14.1 +0.6**
baz=90
S14A Cedar City 89.55 51 ⇓P **P 12 18 13.9 +0.4**
baz=90,SNR=11
N13A Wendover, West 89.57 48 ⇓P **P 12 18 13.7 +0.1**
baz=90,SNR=14
J12A Stokes Ranch, 89.57 46 ⇓P **P 12 18 13.6 +0.1**
baz=90,SNR=52
F11A Grangeville 89.59 43 ⇑P **P 12 18 11.8 -1.7**
baz=90,SNR=26
A10A Northport 89.59 40 P **P 12 18 13.4 -0.1**
baz=90,SNR=13
B10A Chitwood Farm, 89.60 40 ⇑P **P 12 18 13.3 -0.2**
baz=90
W15A Williams 89.61 54 ⇑P **P 12 18 14.8 +0.9**
baz=90,SNR=16
WMQ Urumqi 89.65 315 P **P 12 18 13.9 +0.1**
WMQ PP PP 12 21 48.8 +2.5
WMQ S S 12 28 54.5 -7.5
WMQ SS SS 12 34 56.0 -3.4
WMQ AMB AMB
comp=Z,163nm,1.0s,mb6.3
WMQ AMB AMB
comp=Z,532nm,10.0s
WMQ LR LR
comp=N,2μm,25.4s,MS5.6
WMQ LR LR
comp=E,3μm,24.3s,MS5.6
WMQ LR LR
comp=Z,4μm,24.2s,MS5.7
NEW Newport 89.65 41 *e*P **P 12 18 13.3 -0.5**
NEW pmax pmax
comp=Z,170nm,2.2s
NEW Newport 89.65 41 *e*P **P 12 18 11.0 -2.7**
comp=Z,104nm,1.8s,mb5.9
NEW LR LR
comp=Z,3μm,20.0s,MS5.7
E11A Bogner Ranch, 89.69 43 P **P 12 18 13.1 -0.9**
baz=90,SNR=11
M13A Montello 89.73 48 ⇑P **P 12 18 14.6 +0.3**
baz=90,SNR=50
Q14A Sevier Lake (B 89.78 50 P **P 12 18 15.1 +0.5**
baz=90,SNR=87
R14A James Farms, M 89.80 51 ⇑P **P 12 18 15.2 +0.6**
baz=90
D11A Klaveano Farm, 89.80 42 P **P 12 18 13.9 -0.6**
baz=90,SNR=38
V15A Kaibab Nationa 89.84 54 ⇑P **P 12 18 15.7 +0.7**
baz=90,SNR=40
Z16A Peralta Trail, 89.85 56 ⇑P **P 12 18 15.3 +0.2**
baz=90,SNR=15
U15A North Rim 89.90 53 ⇑P **P 12 18 15.6 +0.4**
baz=90,SNR=57
Y16A Circle Bar Ran 89.94 56 ⇓P **P 12 18 15.8 +0.3**
baz=90,SNR=44
T15A Red Dirt Ranch 89.97 52 P **P 12 18 16.1 +0.5**
baz=90,SNR=15
217A Green Valley 89.99 58 P **P 12 18 16.5 +0.8**
baz=90,SNR=26
INK Inuvik 90.02 19 S S 12 28 39.8 -25
comp=Z,1.1nm,1.0s,baz=130,slow=7.2,SNR=2.3
INK PKKP PKKPbc 12 35 44.9 -4.3
comp=Z,2.0nm,0.7s,baz=355,slow=4.7,SNR=5.7
INK Inuvik 90.02 19 *e*P **P 12 18 14.0 -1.0**
INK Inuvik 90.02 19 *e*P **P 12 18 13.6 -1.4**
L13A Double Diamond 90.08 47 ⇑P **P 12 18 16.3 +0.3**
baz=90,SNR=15
P14A Drum Mountains 90.08 50 P **P 12 18 16.3 +0.3**
baz=90,SNR=40
X16A Lo Mia Camp, P 90.09 55 ⇓P **P 12 18 16.0 -0.2**
baz=90,SNR=29
H12A Diamond D Ranc 90.10 45 P **P 12 18 15.9 0.0**
baz=90,SNR=29
K13A Stover Farm, H 90.13 47 ⇑P **P 12 18 16.5 +0.3**
baz=90,SNR=5.6
HLID Hailey 90.14 46 P **P 12 18 16.5 +0.3**
baz=90,SNR=36
HLID Hailey 90.14 46 *e*P **P 12 18 15.9 -0.2**
comp=Z,20nm,0.9s,mb5.5
HLID LR LR
comp=Z,2μm,20.0s,MS5.5
TUC Tucson 90.14 57 *e*P **P 12 18 16.8 +0.4**
TUC Tucson 90.14 57 *e*P **P 12 18 16.2 -0.2**
comp=Z,22nm,1.2s,mb5.4
TUC LR LR
comp=Z,6μm,20.0s,MS6.0
S15A Panguitch 90.15 52 ⇓P **P 12 18 17.5 +1.1**
baz=90,SNR=5.1
F12A Elk City 90.16 43 P **P 12 18 15.7 -0.5**
baz=90,SNR=49
W16A Flagstaff 90.18 54 ⇓P **P 12 18 17.0 +0.4**
baz=90,SNR=14
B11A Sandpoint 90.19 41 P **P 12 18 16.1 -0.1**
baz=90,SNR=22
KRAR Krasnoyarsk 90.23 327 *e*P **P 12 18 15.3 -1.0**
KRAR pmax pmax
comp=Z,78nm,1.5s,mb5.8
KRAR MLR MLR
comp=Z,700nm,19.0s,MS5.1
117A Oracle 90.23 57 ⇓P **P 12 18 17.3 +0.5**
baz=90,SNR=22
J13A Cove Ranch, Pi 90.26 46 P **P 12 18 17.1 +0.4**
baz=90,SNR=36
N14A Grayback Hills 90.31 48 ⇑P **P 12 18 17.2 +0.1**
baz=90,SNR=22
A11A Hall Mountain, 90.34 40 ⇓P **P 12 18 17.5 +0.5**
baz=90,SNR=41
R15A Junction 90.34 51 ⇓P **P 12 18 18.1 +0.9**
baz=90
M14A Sheep Mountain 90.36 48 P **P 12 18 17.5 +0.3**
baz=90,SNR=73
WUAZ Wupatki 90.40 54 P **P 12 18 18.1 +0.5**
baz=90,SNR=20
WUAZ Wupatki 90.40 54 PFAKE 12 18 30.0 +12
WUAZ LR LR
comp=Z,3μm,22.0s,MS5.7
Y17A Roosevelt 90.41 56 P **P 12 18 18.0 +0.3**
baz=90,SNR=17
DUG Dugway 90.42 49 *e*P **P 12 18 17.7 +0.1**
DUG Dugway 90.42 49 ⇓P **P 12 18 17.4 -0.2**
baz=90,SNR=27
DUG Dugway 90.42 49 *e*P **P 12 18 17.6 0.0**
DUG LR LR
comp=Z,4μm,21.0s,MS5.9
I13A Wildhorse Cree 90.44 45 P **P 12 18 17.9 +0.4**
baz=90,SNR=63
BGU Big Grassy Mou 90.45 48 *e*P **P 12 18 17.6 -0.1**
D12A Red Ives Fores 90.45 42 ⇑P **P 12 18 17.1 -0.4**
baz=91
Q15A Fillmore 90.46 50 P **P 12 18 18.1 +0.3**
baz=90,SNR=5.4
MVU Marysvale 90.46 51 PFAKE 12 18 30.0 +12
MVU LR LR
comp=Z,9μm,22.0s,MS6.1
MSU Marysvale 90.49 51 *e*P **P 12 18 18.8 +0.9**
H13A Challis 90.51 45 P **P 12 18 18.1 +0.2**
baz=91,SNR=37
L14A Malta 90.58 47 ⇑P **P 12 18 18.6 +0.4**
baz=91,SNR=27
X17A Forest Lakes 90.58 55 ⇑P **P 12 18 19.3 +0.8**
baz=91,SNR=30
318A Bisbee 90.60 58 P **P 12 18 19.1 +0.5**
baz=91,SNR=20
Z17A San Carlos Hig 90.62 56 ⇓P **P 12 18 18.3 -0.4**
baz=91,SNR=8.8
T16A Glen Canyon Da 90.64 53 ⇓P **P 12 18 19.0 +0.4**
baz=91,SNR=5.3
G13A Cobalt 90.67 44 ⇓P **P 12 18 18.2 -0.4**
baz=91,SNR=33
P15A Leamington 90.67 50 ⇓P **P 12 18 18.9 +0.2**
baz=91,SNR=7.3
218A Dragoon 90.67 58 ⇑P **P 12 18 19.4 +0.5**
baz=91,SNR=6.6
B12A Libby 90.69 41 ⇑P **P 12 18 18.5 -0.1**
baz=91
O15A The Old Anders 90.70 49 P **P 12 18 19.4 +0.5**
baz=91,SNR=8.6
S16A Weppner Ranch, 90.75 52 ⇑P **P 12 18 19.4 +0.3**
baz=91,SNR=22
K14A Jones Ranch, D 90.75 47 P **P 12 18 19.3 +0.3**
baz=91,SNR=33
A12A Yaak River Ran 90.78 40 ⇓P **P 12 18 19.0 -0.1**
baz=91
F13A Darby 90.79 43 P **P 12 18 18.8 -0.4**
baz=91,SNR=74
KOD Kodaikanal 90.79 280 *e*P **P 12 18 19.3 -0.5**
KOD AMb AMB 12 18 22.5
comp=Z,126nm,1.7s,mb6.0
N15A Stansbury Isla 90.81 49 ⇑P **P 12 18 19.6 +0.2**
baz=91
W17A Winslow 90.83 55 ⇑P **P 12 18 20.4 +0.8**
baz=91
HVU Hansel Valley 90.85 48 *e*P **P 12 18 20.3 +0.8**
HVU Hansel Valley 90.85 48 *e*P **P 12 18 19.6 +0.1**
118A Homack Ranch, 90.88 57 ⇓P **P 12 18 20.0 +0.1**
baz=91,SNR=16
NLU North Lily Min 90.92 50 *e*P **P 12 18 19.8 0.0**
Z18A Geronimo 90.93 57 ⇑P **P 12 18 20.6 +0.5**
baz=91
TRD Trivandrum 90.95 278 *e*P **P 12 18 19.8 -0.8**
TRD AMb AMB 12 18 24.9
comp=Z,131nm,2.7s,mb5.8
R16A Teasdale 90.97 51 ⇑P **P 12 18 20.4 +0.3**
baz=91,SNR=33
M15A Larsen Ranch, 91.01 48 ⇓P **P 12 18 19.8 -0.4**
baz=91
D13A Huson 91.05 42 P **P 12 18 19.4 -0.9**
baz=91,SNR=19
NOQ North Oquirrh 91.05 49 *e*P **P 12 18 21.4 +0.9**
E13A Victor 91.06 43 ⇑P **P 12 18 19.4 -0.9**
baz=91,SNR=18
Y18A Canyon Day Jun 91.08 56 ⇓P **P 12 18 21.2 +0.4**
baz=91,SNR=15
C13A Hot Springs 91.13 42 ⇑P **P 12 18 19.9 -0.7**
baz=91,SNR=14
P16A Fountain Green 91.14 50 ⇑P **P 12 18 21.8 +0.8**
baz=91
HYB Hyderabad 91.16 287 *e*P **P 12 18 21.0 -0.5**
HYB *e* 12 28 52.0
HYB *e*S S 12 29 12.0 -5.0
HYB pmax pmax
comp=Z,475nm,1.4s,mb6.6
HYB Hyderabad 91.16 287 *i*P **P 12 18 21.0 -0.5**
comp=Z,180nm,1.0s,mb6.4
HYB *e*SKS 12 28 52.0
HYB *e*S S 12 29 16.0 -1.0
HYB Hyderabad 91.16 287 *e*P **P 12 18 21.0 -0.5**
comp=Z,475nm,1.4s,mb6.6
HYB *e*SKS 12 28 52.0
HYB *e*S S 12 29 12.0 -5.0
319A Douglas 91.18 58 ⇓P **P 12 18 21.6 +0.3**
baz=91,SNR=24
L15A Malad City 91.18 47 ⇑P **P 12 18 20.9 -0.1**
baz=91,SNR=22
T17A Navajo Res., N 91.19 53 P **P 12 18 21.8 +0.6**
baz=91,SNR=29
U17A Shonto 91.21 53 ⇓P **P 12 18 21.8 +0.5**
baz=91,SNR=5.2
G14A Jackson 91.23 44 ⇑P **P 12 18 21.3 +0.1**
baz=91,SNR=10.0
K15A Arbon 91.25 47 ⇓P **P 12 18 21.9 +0.5**
baz=91
MPU Maple Canyon 91.26 50 *e*P **P 12 18 22.2 +0.7**
MPU LR LR
comp=Z,8μm,19.0s,MS6.2
X18A Snowflake 91.32 55 ⇓P **P 12 18 22.1 +0.3**
baz=91,SNR=14
MSO Missoula 91.32 43 *e*P **P 12 18 20.8 -0.8**
comp=Z,5.1nm,0.8s,mb4.9
MSO LR LR
comp=Z,1μm,21.0s,MS5.4
219A White Tail Can 91.33 58 P **P 12 18 22.3 +0.3**
baz=91,SNR=20
CTU Camp Tracy 91.33 49 *e*P **P 12 18 21.9 +0.2**
S17A Black Ridge (B 91.34 52 ⇑P **P 12 18 21.4 -0.5**
baz=91,SNR=12
Q16A Castle Valley 91.35 51 ⇑P **P 12 18 22.3 +0.4**
baz=91,SNR=10
B13A Whitefish 91.38 41 P **P 12 18 21.5 -0.3**
baz=92,SNR=20
O16A Springville 91.40 49 ⇑P **P 12 18 22.2 +0.1**
baz=92
TMUT Trail Mountain 91.41 50 *e*P **P 12 18 23.2 +1.1**
F14A Wisdom 91.44 44 ⇓P **P 12 18 21.6 -0.6**
baz=92,SNR=7.0
119A Ashpeak Ranch, 91.46 57 ⇑P **P 12 18 22.8 +0.2**
baz=92,SNR=8.3
J15A Blackfoot 91.49 46 ⇓P **P 12 18 23.1 +0.7**
baz=92
E14A Clinton 91.51 43 ⇑P **P 12 18 22.2 -0.3**
baz=92,SNR=17
A13A Flathead Natio 91.57 40 ⇑P **P 12 18 22.6 -0.1**
baz=92
M16A Huntsville 91.57 48 ⇑P **P 12 18 22.2 -0.7**
baz=92,SNR=7.5
R17A Hanksville Air 91.59 51 ⇓P **P 12 18 23.2 +0.1**
baz=92,SNR=22
V18A Ganado 91.59 54 ⇓P **P 12 18 23.3 +0.2**
baz=92,SNR=14
Z19A T-Link Ranch, 91.60 57 ⇓P **P 12 18 23.6 +0.4**
baz=92
N16A Rees Ranch, Co 91.61 49 ⇑P **P 12 18 23.4 +0.3**
baz=92,SNR=9.4
W18A Petrified Fore 91.62 55 ⇓P **P 12 18 23.5 +0.3**
baz=92,SNR=6.2
DAU Daniels Canyon 91.63 49 *e*P **P 12 18 24.4 +1.2**
DAU Daniels Canyon 91.63 49 *e*P **P 12 18 22.8 -0.4**
SYO Syowa Base 91.64 197 ⇓*e*P **P 12 18 19.4 -3.3**
SYO Syowa Base 91.64 197 ⇓*e*PcP PcP 12 18 22.2 -1.4
D14A Greenough 91.67 42 ⇓P **P 12 18 22.0 -1.2**
baz=92,SNR=17
C14A Swan Lake 91.69 42 ⇓P **P 12 18 22.4 -0.9**
baz=92
Y19A Nutrioso 91.75 56 ⇑P **P 12 18 24.3 +0.4**
baz=92,SNR=24
U18A Rough Rock, Ch 91.80 53 ⇑P **P 12 18 24.0 -0.1**
baz=92,SNR=12
CHMT Chamberlain Mo 91.80 43 *e*P **P 12 18 23.2 -0.6**
P17A Butcher Ranch, 91.80 50 ⇑P **P 12 18 23.4 -0.6**
baz=92,SNR=7.7
X19A St. Johns 91.83 55 ⇓P **P 12 18 24.6 +0.4**
baz=92,SNR=6.8
DLMT Dillon 91.86 44 *e*P **P 12 18 24.3 +0.2**
comp=Z,71nm,1.3s,mb5.8
L16A Fish Haven 91.88 48 ⇑P **P 12 18 24.2 0.0**
baz=92,SNR=14
G15A Dillon 91.88 44 ⇑P **P 12 18 24.3 +0.1**
baz=92,SNR=22
SRU San Rafael 91.89 51 *e*P **P 12 18 24.8 +0.4**
SRU San Rafael 91.89 51 ⇓P **P 12 18 24.3 -0.1**
baz=92
SRU San Rafael 91.89 51 *e*P **P 12 18 23.3 -1.1**
W19A Sanders 91.89 55 ⇓P **P 12 18 23.4 -1.1**
baz=92,SNR=6.6
WALA Waterton Lakes 91.92 40 *e*P **P 12 18 24.2 -0.1**
comp=Z,46nm,1.2s,mb5.7
T18A Mexican Hat 91.95 53 P **P 12 18 24.9 +0.2**
baz=92,SNR=20
K16A Soda Springs 91.95 47 ⇓P **P 12 18 25.1 +0.5**
baz=92,SNR=18
S18A Hurst Farm, Bl 91.98 52 ⇑P **P 12 18 24.8 0.0**
baz=92,SNR=9.2
J16A Bone 92.04 46 ⇑P **P 12 18 25.5 +0.5**
baz=92
F15A Butte 92.04 44 ⇑P **P 12 18 24.1 -0.8**
baz=92,SNR=19
LRM Limekiln Ridge 92.07 44 *e*P **P 12 18 25.0 0.0**
N17A Moffit Pass 92.07 49 ⇓P **P 12 18 24.3 -0.8**
baz=92
E15A Deer Lodge 92.08 43 P **P 12 18 24.9 -0.2**
baz=92,SNR=13
PTH Pithoragarh 92.10 300 *e*P **P 12 18 26.2 +0.6**
Q18A Rafter H Ranch 92.18 51 ⇑P **P 12 18 25.5 -0.3**
baz=92
R18A Canyonlands Na 92.21 51 ⇓P **P 12 18 25.7 -0.2**
baz=92,SNR=16
P18A Preston Nutter 92.21 50 ⇑P **P 12 18 24.5 -1.4**
baz=92,SNR=12
DGAR Diego Garcia 92.25 262 PFAKE 12 18 40.0 +13
DGAR LR LR
comp=Z,4μm,21.0s,MS5.8
RRI2 Red Ridge 92.27 46 *e*P **P 12 18 25.7 -0.3**
comp=Z,111nm,1.7s,mb5.9
AHID Auburn Hatcher 92.29 47 PFAKE 12 18 40.0 +14
AHID LR LR
comp=Z,3μm,22.0s,MS5.6
V19A Window Rock 92.30 54 ⇑P **P 12 18 25.0 -1.4**
baz=92,SNR=5.8
D15A Lincoln 92.32 43 P **P 12 18 25.9 -0.3**
baz=92,SNR=11
O18A Roosevelt 92.53 50 ⇓P **P 12 18 27.1 -0.2**
baz=93
QLMT Earthquake Lak 92.53 45 *e*P **P 12 18 28.0 +0.7**
T19A Beclabito 92.55 53 ⇑P **P 12 18 27.4 -0.1**
baz=93,SNR=12
TPAW Teton Pass 92.56 46 *e*P **P 12 18 26.8 -0.6**
comp=Z,103nm,1.8s,mb6.0
BOZ Bozeman (W) 92.58 44 *e*P **P 12 18 27.7 +0.3**
BOZ Bozeman (W) 92.58 44 ⇑P **P 12 18 27.4 -0.1**
baz=93,SNR=16
BOZ Bozeman (W) 92.58 44 *e*P **P 12 18 27.0 -0.5**
BOZ LR LR
comp=Z,3μm,21.0s,MS5.7
S19A Harvey Farm, M 92.65 52 ⇓P **P 12 18 28.0 +0.1**
baz=93,SNR=6.7
IMW Indian Meadow 92.66 46 *e*P **P 12 18 28.3 +0.5**
R19A Curley Farm, L 92.67 52 ⇓P **P 12 18 28.1 +0.1**
baz=93
HRY Holter Researc 92.70 43 *e*P **P 12 18 28.0 +0.1**
Q19A Hogan Spring (92.81 51 ⇑P **P 12 18 28.0 -0.7**
baz=93
YMR Madison River 92.82 45 *e*P **P 12 18 28.3 -0.2**
comp=Z,44nm,1.3s,mb5.7
YMR LR LR
comp=Z,3μm,21.0s,MS5.7
LOHW Long Hollow 92.83 46 *e*P **P 12 18 29.1 +0.4**
YFT Old Faithful 92.86 45 *e*P **P 12 18 30.3 +1.6**
PV10 Paradox Valley 92.86 52 *e*P **P 12 18 29.0 +0.1**
N18A Larsen Ranch, 92.93 49 ⇓P **P 12 18 28.2 -1.0**
baz=93
MVCO Mesa Verde 93.04 53 *e*P **P 12 18 30.4 +0.6**
comp=Z,5.1nm,0.7s,mb5.1
MVCO LR LR
comp=Z,2μm,20.0s,MS5.6
PV01 Paradox Valley 93.17 52 *e*P **P 12 18 29.9 -0.5**
LATR Latur 93.22 288 *e*P **P 12 18 31.1 +0.1**
LATR AMb AMB 12 18 33.6
comp=Z,277nm,1.5s,mb6.5
AKL Akola 93.22 290 *e*P **P 12 18 29.8 -1.2**
AKL AMb AMB 12 18 32.9
comp=Z,236nm,1.1s,mb6.5
EDM Edmonton 93.32 36 *e*P **P 12 18 30.4 -0.2**
EDM Edmonton 93.32 36 *e*P **P 12 18 29.3 -1.4**
BW06 Boulder Array 93.40 47 PFAKE 12 18 40.0 +8.7
BW06 LR LR
comp=Z,2μm,20.0s,MS5.5
PDAR Pinedale Array 93.40 47 P **P 12 18 30.4 -0.9**
comp=Z,5.0nm,1.0s,mb4.9,baz=246,slow=2.3,SNR=24
PDAR S SKSac 12 29 03.3 +1.0
comp=Z,0.2nm,0.4s,baz=308,slow=20,SNR=2.4
PDAR PKKP PKKPbc 12 35 34.4 -5.1
comp=Z,3.0nm,0.8s,baz=101,slow=7.7,SNR=5.0
PDAR PKKPbc PKKPbc 12 35 38.5 -1.0
comp=Z,2.9nm,0.8s,baz=99,slow=9.2,SNR=17
PDAR PKPPKP 12 43 41.5
comp=Z,1.2nm,1.0s,baz=101,slow=4.8,SNR=6.6
PDAR LR LR 12 54 38.1
comp=Z,2μm,21.4s,MS5.5,baz=241,slow=32
MK31 Makanchi Array 94.07 317 *e*P **P 12 18 34.0 -0.3**
MKAR Makanchi Array 94.07 317 P **P 12 18 34.1 -0.1**
comp=Z,94nm,0.8s,mb6.3,baz=92,slow=6.0,SNR=186
MKAR PP PP 12 22 18.4 -2.7
comp=Z,1.5nm,0.8s,baz=104,slow=6.1,SNR=2.6
MKAR PKiKP PKiKP 12 23 17.3 -1.2
comp=Z,2.4nm,0.8s,baz=84,slow=0.7,SNR=5.5
MKAR S SKSac 12 29 03.9 -1.9
comp=Z,1.2nm,1.0s,baz=323,slow=28,SNR=3.5
MKAR PKKPbc PKKPbc 12 35 33.9 -4.0
comp=Z,0.7nm,0.5s,baz=272,slow=3.7,SNR=7.1
MKAR LR LR 13 06 22.5
comp=Z,681nm,18.2s,MS5.2,baz=103,slow=39
MKAR Makanchi Array 94.07 317 P **P 12 18 34.1 -0.1**
MKAR PP PP 12 22 18.4 -2.7
ZAA0 Zalesovo Array 94.08 324 *e*P **P 12 18 32.4 -1.7**
ZALV Zalesovo Beam 94.08 324 P **P 12 18 32.8 -1.3**
comp=Z,41nm,0.7s,mb6.0,baz=114,slow=4.3,SNR=146
ZALV LR LR 13 04 23.1
comp=Z,1μm,18.9s,MS5.3,baz=90,slow=38
ZALV Zalesovo Beam 94.08 324 P **P 12 18 32.8 -1.3**
ZALV LR LR 13 04 23.1
DDI Dehra Dun 94.09 300 *e*P **P 12 18 33.2 -1.6**
ZAL Zalesovo 94.09 324 P **P 12 18 32.8 -1.4**
RLMT Red Lodge 94.09 45 *e*P **P 12 18 35.4 +1.0**
comp=Z,19nm,1.4s,mb5.3
RLMT LR LR
comp=Z,3μm,22.0s,MS5.8
ANMO Albuquerque 94.22 55 S SKSac 12 29 08.4 +1.3
comp=Z,0.4nm,0.6s,baz=327,slow=4.7,SNR=2.5
ANMO PKKPbc PKKPbc 12 35 36.1 -0.9
comp=Z,2.0nm,0.8s,baz=124,slow=3.9,SNR=6.9
ANMO LR LR 12 52 56.1
comp=Z,3μm,21.5s,MS5.8,baz=77,slow=30
ANMO Albuquerque 94.22 55 *e*P **P 12 18 34.9 -0.3**
ANMO Albuquerque 94.22 55 PFAKE 12 18 50.0 +15
ANMO LR LR
comp=Z,3μm,21.0s,MS5.8
EGMT Eagleton 94.36 42 ⇓P **P 12 18 35.4 -0.2**
baz=94,SNR=6.9
EGMT Eagleton 94.36 42 *e*P **P 12 18 35.5 -0.1**
comp=Z,88nm,1.5s,mb6.0
EGMT LR LR
comp=Z,2μm,21.0s,MS5.5
NDI New Delhi 94.51 298 ⇑*i*P **P 12 18 34.0 -2.7**
NDI *ex* x 12 24 06.0
SMLA Simla 94.98 301 *e*P **P 12 18 39.0 +0.2**
YKA Yellowknife Ar 95.01 27 P **P 12 18 36.1 -2.1**
comp=Z,4.3nm,0.5s,mb5.1,baz=259,slow=4.6,SNR=20
YKA PP PP 12 22 29.3 +1.2
comp=Z,1.2nm,0.8s,baz=166,slow=35,SNR=2.7

YKA LR LR 12 54 05.4
comp=Z,837nm,21.4s,MS5.2,baz=180,slow=31
YKA Yellowknife Ar 95.01 27 P **P 12 18 36.1 -2.1**
YKA 12 22 29.3
NVS Novosibirsk 95.18 325 *e*P **P 12 18 37.3 -1.9**
NVS pmax pmax
comp=Z,121nm,1.6s,mb6.1
NVS pmax pmax
comp=N,52nm,1.8s
NVS pmax pmax
comp=E,91nm,1.7s
KAD Karad 95.24 287 *ex* x 12 18 54.4
PMSA Palmer Station 95.28 161 PFAKE 12 18 50.0 +10
PMSA LR LR
comp=Z,2μm,20.0s,MS5.5
SDCO Great Sand Dun 95.48 53 PFAKE 12 18 50.0 +9.0
SDCO LR LR
comp=Z,3μm,21.0s,MS5.8
TXAR Lajitas Array 95.55 61 P **P 12 18 41.0 -0.5**
comp=Z,1.4nm,0.6s,baz=223,slow=4.2,SNR=17
TXAR PP PP 12 22 32.2 -0.9
comp=Z,1.9nm,1.0s,baz=227,slow=6.6,SNR=4.0
TXAR S SKSac 12 29 16.0 +1.5
comp=Z,0.1nm,0.6s,baz=298,slow=42,SNR=2.3
TXAR PKKP PKKPbc 12 35 33.6 +0.3
comp=Z,1.1nm,0.6s,baz=99,slow=4.2,SNR=16
TXAR PKPPKP 12 43 45.6
comp=Z,0.6nm,0.9s,baz=116,slow=2.9,SNR=4.8
TXAR LR LR 12 54 15.8
comp=Z,4μm,20.6s,MS5.8,baz=40,slow=31
TXAR Lajitas Array 95.55 61 P **P 12 18 41.0 -0.5**
TXAR 12 22 32.2
TXAR S SKSac 12 29 16.0 +1.5
TXAR Lajitas Array 95.55 61 P **P 12 18 41.0 -0.5**
TXAR PP PP 12 22 32.2 -0.9
TXAR S SKSac 12 29 16.0 +1.5
TXAR PKKP PKKPbc 12 35 33.6 +0.3
TXAR P'P' 12 43 45.6
TXAR LR LR 12 54 15.8
ISCO Idaho Springs 95.75 51 *e*P **P 12 18 43.0 +0.9**
ISCO Idaho Springs 95.75 51 *e*P **P 12 18 42.8 +0.6**
comp=Z,3.2nm,0.8s,mb4.8
ISCO LR LR
comp=Z,7μm,22.0s,MS6.1
DLH Dalhousie 96.23 302 *e*P **P 12 18 42.0 -2.5**
NVL N'lazarevskaya 96.24 188 *e*P **P 12 18 43.3 -0.5**
NVL *e**PP pP 12 18 55.7 -1.2
NVL *e**SP sP 12 19 00.4 -1.3
NVL S SKSac 12 29 19.6 +2.9
NVL pmax pmax
comp=Z,28nm,1.3s,mb5.5
NVL MLR MLR
comp=N,3μm,22.0s,MS5.8
NVL MLR MLR
comp=E,609nm,22.0s,MS5.8
NVL MLR MLR
comp=Z,4μm,22.0s,MS5.9
MAIT Maitri 96.25 188 *e*P **P 12 18 39.8 -4.0**
AJM Ajmer 96.38 296 *e*P **P 12 18 43.3 -2.0**
AJM AMb AMB 12 18 47.6
comp=Z,119nm,1.4s,mb6.1
LAO LASA Array 96.47 44 PFAKE 12 19 00.0 +15
LAO LR LR
comp=Z,3μm,21.0s,MS5.7
SNAA Sanae 96.85 183 *e*P **P 12 18 44.3 -2.3**
SNAA *e* 12 18 45.8
SNAA *e* 12 18 51.6
SNAA *e* 12 19 06.0
SNAA Sanae 96.85 183 PKKPbc PKKPbc 12 35 29.2 -1.7
comp=Z,0.5nm,0.9s,baz=354,slow=2.4,SNR=3.9
SNAA Sanae 96.85 183 *e*P **P 12 18 44.0 -2.6**
KURK Kurchatov 97.18 320 P **P 12 18 47.0 -1.3**
comp=Z,185nm,1.2s,mb6.4,SNR=15
KURK Kurchatov 97.18 320*c i*P **P 12 18 47.0 -1.3**
KURK pmax pmax
comp=Z,82nm,1.6s,mb5.9
KURK Kurchatov 97.18 320 *e*P **P 12 18 46.5 -1.8**
comp=Z,118nm,1.6s,mb6.1
KURK LR LR
comp=Z,3μm,22.0s,MS5.7
KSH Kashi 97.32 309 *e*P **P 12 18 49.8 +0.5**
KSH PP PP 12 22 48.4 +1.9
KSH *e*PPP 12 24 55.2
KSH S S 12 30 02.6 -7.6
KSH SS SS 12 36 44.6 -4.7
KSH AMB AMB
comp=Z,167nm,1.0s,mb6.4
KSH LR LR
comp=N,4μm,19.1s,MS6.2
KSH LR LR
comp=E,8μm,21.3s,MS6.2
KSH LR LR
comp=Z,4μm,20.0s,MS5.9
VNA3 Neumayer Olymp 97.56 181 *e*P **P 12 18 47.1 -2.7**
VNA3 *e* 12 18 49.6
VNA3 *e* pP 12 19 02.1 -0.7
VNA3 *e* 12 19 11.5
VNA3 *e* 12 19 19.1
AMTX Amarillo 98.08 56 P **P 12 18 50.6 -2.2**
AMTX LR LR
comp=Z,4μm,22.0s,MS5.9
TKM2 Tokmak 2 98.08 312 *e*P **P 12 18 51.8 -0.8**
TKM2 pmax pmax
comp=Z,7.0nm,0.7s,mb5.3
TKM2 MLR MLR
comp=Z,2μm,22.0s,MS5.5
TKM2 Tokmak 2 98.08 312 *e*P **P 12 18 51.8 -0.8**
comp=Z,6.9nm,0.7s,mb5.3
TKM2 LR LR
comp=Z,2μm,22.0s,MS5.5
DGMT Dagmar 98.10 42 PFAKE 12 19 00.0 +7.5
DGMT LR LR
comp=Z,2μm,21.0s,MS5.6
VNA1 Neumayer--Stat 98.12 182 *e*P **P 12 18 50.9 -1.4**
VNA1 *e* 12 18 53.2
VNA1 *e* pP 12 19 04.5 -0.9
VNA1 *e* 12 19 14.6
VNA1 *e* 12 19 22.4
UCH Uchtor 98.79 311 PFAKE 12 19 10.0 +14
UCH LR LR
comp=Z,263nm,21.0s,MS4.7
FRU Bishkek 98.79 312 *e*P **P 12 18 54.0 -1.8**
FRU *e* 12 29 31.0
FRU MLR MLR
comp=Z,2μm,23.0s,MS5.5
JCT Junction City 99.04 61 *e*P **P 12 18 56.1 -1.1**
JCT pmax pmax
comp=Z,5.0nm,0.3s,mb5.5
JCT MLR MLR
comp=Z,5μm,20.0s,MS6.0
JCT Junction City 99.04 61 *e*P **P 12 18 56.1 -1.1**
comp=Z,4.7nm,0.3s,mb5.5
JCT LR LR
comp=Z,5μm,20.0s,MS6.0
AML Almayashu 99.38 311 PFAKE 12 19 10.0 +12
AML LR LR
comp=Z,2μm,22.0s,MS5.5
EKS2 Erkin-Say 99.38 312 *e*P **P 12 18 58.6 +0.2**
comp=Z,41nm,1.6s,mb5.7
EKS2 LR LR
comp=Z,1μm,21.0s,MS5.4
CBKS Cedar Bluff 100.12 52 PFAKE 12 19 10.0 +8.5
CBKS LR LR
comp=Z,3μm,21.0s,MS5.7
KVTX Kingsville 100.31 64 PFAKE 12 19 10.0 +7.7
KVTX LR LR
comp=Z,1μm,20.0s,MS5.4
WMOK Wichita Mounta 100.42 57 PFAKE 12 19 10.0 +7.1
WMOK LR LR
comp=Z,5μm,21.0s,MS6.0
CMIG Matias Romero 101.64 75 PKKPbc PKKPbc 12 35 14.5 -1.4
comp=Z,5.3nm,1.0s,baz=22,slow=4.3,SNR=4.2
HKT Hockley 102.38 62 PFAKE 12 19 20.0 +8.4
HKT LR LR
comp=Z,3μm,20.0s,MS5.8
BRVK Borovoye 102.55 322 *e*P Pdif 12 19 09.7 -2.6
BRVK pmax pmax
comp=Z,18nm,1.3s
BRVK MLR MLR
comp=Z,3μm,22.0s,MS5.7
BRVK Borovoye 102.55 322 *e*Pdif Pdif 12 19 09.7 -2.6
comp=Z,18nm,1.3s
BRVK LR LR
comp=Z,3μm,22.0s,MS5.7
KSU1 Kansas State U 102.58 52 PFAKE 12 19 20.0 +7.6
KSU1 LR LR
comp=Z,3μm,21.0s,MS5.8
ECSD EROS,Sioux Fal 102.89 48 PFAKE 12 19 30.0 +16
ECSD LR LR
comp=Z,2μm,20.0s,MS5.7
NATX Nacogdoches 103.56 60 PFAKE 12 19 30.0 +13
NATX LR LR
comp=Z,4μm,22.0s,MS5.9
AGMN Agassiz Refuge 103.62 43 PFAKE 12 19 30.0 +13
AGMN LR LR
comp=Z,2μm,19.0s,MS5.7
ULM Lac du Bonnet 103.66 41 PP PP 12 23 34.5 +0.3
comp=Z,1.1nm,0.4s,baz=37,slow=0.8,SNR=3.1
ULM PKKPbc PKKPbc 12 35 08.2 -2.8
comp=Z,2.5nm,0.5s,baz=216,slow=3.7,SNR=5.8
ULM Lac du Bonnet 103.66 41 PFAKE 12 19 30.0 +13
ULM LR LR
comp=Z,2μm,22.0s,MS5.6
MIAR Mount Ida 104.68 57 PFAKE 12 19 30.0 +8.2
MIAR LR LR
comp=Z,6μm,22.0s,MS6.1
SCIA State Center 105.31 50 PFAKE 12 23 50.0 +11
SCIA LR LR
comp=Z,5μm,22.0s,MS6.0
PLCA Paso Flores 106.33 139 PP PP 12 23 57.9 +4.2
comp=Z,2.4nm,1.0s,baz=171,slow=15,SNR=2.6
PLCA PKKPbc PKKPbc 12 35 01.7 -0.8
comp=Z,2.4nm,0.8s,baz=319,slow=0.3,SNR=3.9
PLCA Paso Flores 106.33 139 PFAKE 12 23 50.0 +9.3
PLCA LR LR
comp=Z,2μm,22.0s,MS5.6
EFI East Falkland 106.51 153 PFAKE 12 23 50.0 +9.3
EFI LR LR
comp=Z,853nm,20.0s,MS5.3
EYMN Ely 106.54 43 PFAKE 12 23 50.0 +9.2
EYMN LR LR
comp=Z,2μm,21.0s,MS5.7
CCM Cathedral Cave 106.72 54 PFAKE 12 23 50.0 +8.5
CCM LR LR
comp=Z,4μm,22.0s,MS5.9
VBMS Vicksburg 107.11 60 PFAKE 12 23 50.0 +7.6
VBMS LR LR
comp=Z,3μm,20.0s,MS5.9
JFWS Jewell Farm 107.51 49 PFAKE 12 23 50.0 +7.2
JFWS LR LR
comp=Z,3μm,19.0s,MS5.8
OXF Oxford 108.12 57 PFAKE 12 24 00.0 +16
OXF LR LR
comp=Z,3μm,20.0s,MS5.8
COWI Conover 108.22 45 PFAKE 12 24 00.0 +16
COWI LR LR
comp=Z,3μm,22.0s,MS5.9
TEIG Tepich 108.24 72 PKKPbc PKKPbc 12 34 54.4 -1.6
comp=Z,4.1nm,0.8s,baz=15,slow=17,SNR=3.3
TEIG Tepich 108.24 72 PFAKE 12 24 00.0 +15
TEIG LR LR
comp=Z,2μm,22.0s,MS5.6
TGUH Tegucigalpa,Un 108.50 79 PFAKE 12 24 00.0 +15
TGUH LR LR
comp=Z,3μm,22.0s,MS5.8
ARU Arti 109.14 326 PFAKE 12 24 00.0 +15
ARU LR LR
comp=Z,2μm,21.0s,MS5.7
MSEY Mahe Island 109.31 261 PFAKE 12 24 00.0 +13
MSEY LR LR
comp=Z,2μm,19.0s,MS5.7
BRAL Brewton 110.01 61 PFAKE 12 24 00.0 +12
BRAL LR LR
comp=Z,2μm,22.0s,MS5.7
KBS Kingsbay 111.26 355 PFAKE 12 24 00.0 +11
KBS LR LR
comp=Z,1μm,21.0s,MS5.5
GLMI Grayling 111.48 46 PFAKE 12 24 00.0 +10
GLMI LR LR
comp=Z,4μm,22.0s,MS5.9
LCO Las Campanas 111.98 128 PFAKE 12 24 00.0 +8.3
LCO LR LR
comp=Z,2μm,20.0s,MS5.7
AAM Ann Arbor 112.40 49 PFAKE 12 24 00.0 +8.0
AAM LR LR
comp=Z,5μm,22.0s,MS6.0
CFAA Coronel Fontan 112.60 131 PKKPbc PKKPbc 12 34 41.1 -1.0
comp=Z,0.6nm,0.7s,baz=60,slow=2.4,SNR=8.7
ABPO Ambohimpanom 112.75 244 PFAKE 12 24 00.0 +6.6
ABPO LR LR
comp=Z,2μm,21.0s,MS5.7
TZTN Tazewell 112.88 55 PFAKE 12 24 00.0 +6.9
TZTN LR LR
comp=Z,4μm,22.0s,MS5.9
GOGA Godfrey 113.06 58 PFAKE 12 24 00.0 +6.5
GOGA LR LR
comp=Z,4μm,22.0s,MS6.0
ACSO Alum Creek Sta 113.08 51 PFAKE 12 24 00.0 +6.6
ACSO LR LR
comp=Z,4μm,20.0s,MS6.0
ATAH Atahualpa 113.17 103 PP PP 12 24 40.8 -3.6
comp=Z,1.9nm,0.6s,baz=338,slow=17,SNR=2.4
NNA Nana 113.21 108 PP PP 12 24 40.5 -4.1
comp=Z,2.6nm,0.4s,baz=195,slow=16,SNR=1.7
NNA Nana 113.21 108 PFAKE 12 24 10.0 +16
NNA LR LR
comp=Z,2μm,21.0s,MS5.8
TRQA Tornquist 113.32 140 PFAKE 12 24 10.0 +16
TRQA LR LR
comp=Z,2μm,20.0s,MS5.8
DAG Danmarks Havn 114.53 1⇑*i*P PKiKP 12 23 54.0 -1.1
comp=Z,2.5nm,0.4s
OTAV Otavalo 114.84 95 PFAKE 12 24 10.0 +12
OTAV LR LR
comp=Z,786nm,21.0s,MS5.3
DWPF Disney 114.88 64 PFAKE 12 24 10.0 +13
DWPF LR LR
comp=Z,2μm,22.0s,MS5.6
BCIP Isla Barro Col 115.06 85 PFAKE 12 24 10.0 +12
BCIP LR LR
comp=Z,1μm,22.0s,MS5.4
BLA Blacksburg 115.33 54 PFAKE 12 24 10.0 +12
BLA LR LR
comp=Z,4μm,22.0s,MS6.0
MCWV Mont Chateau 115.54 51 PFAKE 12 24 10.0 +12
MCWV LR LR
comp=Z,2μm,20.0s,MS5.8
NHSC New Hope 115.82 59 PFAKE 12 24 10.0 +11
NHSC LR LR
comp=Z,4μm,21.0s,MS6.0
APA Apatity 115.87 342⇓*i*PKIKP PKPdf 12 23 57.5 -0.4
APA *i* 12 25 00.0
APA pmax pmax
comp=Z,16nm,1.0s
APA MLR MLR
comp=Z,4μm,22.0s,MS6.0
KEV Kevo 116.21 345 *e*P PKiKP 12 23 57.2 -1.3
KEV Kevo 116.21 345 *e*PKPdf PKPdf 12 23 56.9 -1.7
KEV LR LR
comp=Z,4μm,22.0s,MS6.0
LVC Limon Verde 116.31 122 PP PP 12 25 04.4 -1.6
comp=Z,1.3nm,0.3s,baz=271,slow=23,SNR=1.9
LVC PKKPbc PKKPbc 12 34 30.1 +0.9
comp=Z,5.9nm,0.8s,baz=21,slow=2.5,SNR=8.2
LVC Limon Verde 116.31 122 PFAKE 12 24 10.0 +10
LVC LR LR
comp=Z,1μm,20.0s,MS5.6
ARCES ARCESS Array B 116.74 346 PKP PKPdf 12 23 58.3 -1.2
comp=Z,28nm,0.8s,baz=78,slow=1.8,SNR=122
ARE0 ARCESS Array S 116.74 346 *e*PKPdf PKPdf 12 23 58.2 -1.3
KLMR Klimovskoe 117.22 334 *e*PKIKP PKPdf 12 23 59.2 -1.5
KLMR pmax pmax
comp=Z,50nm,1.6s
CNNC Cliffs of the 117.55 56 PFAKE 12 24 10.0 +7.9
CNNC LR LR
comp=Z,4μm,22.0s,MS6.0
BINY Binghamton 118.06 48 PFAKE 12 24 10.0 +7.1
BINY LR LR
comp=Z,3μm,22.0s,MS5.9
TRO Tromso 118.16 348 *e*P PKPdf 12 24 00.7 -1.5
TRO AMb AMB 12 24 02.7
comp=Z,45nm,1.0s
LONY Lake Ozonia 118.57 45 PFAKE 12 24 20.0 +16
LONY LR LR
comp=Z,3μm,22.0s,MS5.9
NCB Newcomb 118.97 46 PFAKE 12 24 20.0 +15
NCB LR LR
comp=Z,2μm,22.0s,MS5.7
SFJD Kangerlussuaq 119.21 16 PFAKE 12 24 20.0 +16
SFJD LR LR
comp=Z,3μm,21.0s,MS5.9
JOF Joensuu 119.39 338 *e*pkp PKPdf 12 24 02.9 -1.9
LPAZ La Paz 119.62 116 PKP PKPdf 12 24 06.7 +0.1
comp=Z,3.3nm,0.5s,baz=34,slow=4.6,SNR=10
LPAZ PP PP 12 25 27.6 -1.6
comp=Z,0.7nm,0.6s,baz=260,slow=4.0,SNR=1.1
LPAZ SKP 12 27 41.0
comp=Z,3.3nm,1.0s,baz=164,slow=2.4,SNR=4.3
LPAZ PKKPbc PKKPbc 12 34 16.9 -0.4
comp=Z,4.2nm,0.9s,baz=20,slow=2.6,SNR=13
LPAZ La Paz 119.62 116 PKIKP PKPdf 12 24 06.7 +0.1
LPAZ 12 25 27.6
LPAZ pmax pmax
comp=Z,3.0nm,0.5s
LPAZ La Paz 119.62 116 *e*PKPdf PKPdf 12 24 06.3 -0.3
LPAZ LR LR
comp=Z,3μm,20.0s,MS5.8
ROSC El Rosal 119.78 91 PP PP 12 25 29.4 -1.4
comp=Z,3.0nm,0.4s,baz=104,slow=23,SNR=1.7
ROSC PKKPbc PKKPbc 12 34 18.7 +2.2
comp=Z,6.0nm,0.6s,baz=85,slow=11,SNR=5.1
SCHQ Schefferville 120.02 32 PKP PKPdf 12 24 04.5 -1.8
comp=Z,4.1nm,0.7s,baz=20,slow=1.8,SNR=4.2
SCHQ PP PP 12 25 27.5 -3.4
comp=Z,3.8nm,0.9s,baz=16,slow=5.8,SNR=2.5
SCHQ PKKPab PKKPab 12 34 14.8 -1.3
comp=Z,7.2nm,0.7s,baz=105,slow=3.4,SNR=11
SCHQ Schefferville 120.02 32 PKP PKPdf 12 24 04.5 -1.8
SCHQ PP PP 12 25 27.5 -3.4
SCHQ PKKPab PKKPab 12 34 14.8 -1.3
SCHQ LR LR
comp=Z,5μm,21.0s,MS6.1
UMR Umm Al-Rimmam 120.26 298 *e*P PKPdf 12 24 06.5 -1.0
baz=298
UMR AMb AMB 12 24 08.5
comp=Z,131nm,0.9s,baz=298
STEI Steigen 120.33 348 *e*P PKPdf 12 24 05.4 -1.0
STEI AMb AMB 12 24 07.0
comp=Z,44nm,0.7s
RDF Al-Radifah 120.45 297 *e*P PKPdf 12 24 07.4 -0.5
baz=297
RDF AMb AMB 12 24 09.6
comp=Z,131nm,1.0s,baz=297
DGRG David-gareji 120.47 312 P PKPdf 12 24 09.0 +1.5
MOS Moscow 120.48 329 *e*PKIKP PKPdf 12 24 05.9 -1.2
MOS pmax pmax
comp=Z,53nm,0.7s
LBNH Lisbon 120.51 45 PFAKE 12 24 20.0 +12
LBNH LR LR
comp=Z,3μm,21.0s,MS6.0
NAY Al-Naaiem 120.69 297 *e*P PKPdf 12 24 07.3 -1.1
baz=297
NAY AMb AMB 12 24 08.9
comp=Z,50nm,1.1s,baz=297
MTA Mtatsminda 120.84 312 P PKPdf 12 24 08.2 0.0
TBLG Delisi 120.87 312 P PKPdf 12 24 08.5 +0.2
HRV Adam Dziewonsk 121.20 47 PFAKE 12 24 20.0 +11
HRV LR LR
comp=Z,5μm,21.0s,MS6.1
GNI Garni 121.21 310 P PKPdf 12 24 10.0 +1.0
SNR=7.3
GNI Garni 121.21 310 PP PP 12 25 38.7 -1.1
comp=Z,3.2nm,0.3s,baz=277,slow=5.6,SNR=1.6
GNI Garni 121.21 310⇑*i*PKP PKPdf 12 24 06.8 -2.2
GNI *e*PKPdf PKPdf 12 24 10.0 +1.0
GNI LR LR
comp=Z,1μm,22.0s,MS5.4
OBN Obninsk 121.31 329α *i*PKIKP PKPdf 12 24 07.5 -1.2
OBN *e* 12 24 14.3
OBN *e* 12 25 44.6
OBN 12 31 00.0
OBN *i* PS PS 12 35 26.2 -6.7
OBN *e*SS SS 12 42 39.8 +29
OBN pmax pmax
comp=Z,49nm,1.3s
OBN MLR MLR
comp=Z,2μm,21.0s,MS5.8
OBN Obninsk 121.31 329 *i* PKP PKPdf 12 24 05.7 -3.0
OBN LR LR
comp=Z,2μm,20.0s,MS5.7
WES Weston 121.40 47 PFAKE 12 24 20.0 +11
WES LR LR
comp=Z,3μm,21.0s,MS6.0
VRSR Storozhevoye 121.57 324 *i* PKIKP PKPdf 12 24 07.2 -2.1
VRSR *e* 12 25 37.6
VRSR pmax pmax
comp=Z,8.0nm,0.7s
VRSR pmax pmax
comp=N,7.0nm,2.4s
VRSR pmax pmax
comp=E,10.0nm,4.4s
VRSR MLR MLR
comp=Z,260nm,25.0s,MS4.8
VRSR MLR MLR
comp=N,270nm,24.0s,MS5.0
VRSR MLR MLR
comp=E,340nm,22.0s,MS5.0
ONI Oni 121.60 313 P PKPdf 12 24 09.6 -0.1
KAF Kangasniemi 121.69 339 *e*pkp PKPdf 12 24 07.3 -1.9
KIV Kislovodsk 121.78 315 *e*P Pdif 12 20 33.3 -4.5
KIV *i* 12 24 09.9
KIV *e* 12 25 43.9
KIV *e* 12 31 00.9
KIV *e*PS PS 12 35 40.2 +2.6
KIV pmax pmax
comp=Z,25nm,1.2s
KIV Kislovodsk 121.78 315 PFAKE 12 24 20.0 +10
KIV LR LR
comp=Z,2μm,21.0s,MS5.7
PKME Peaks-Kenny Pk 122.03 43 PFAKE 12 24 20.0 +10
PKME LR LR
comp=Z,2μm,19.0s,MS5.7
STOK Stokkvaagen 122.16 348 *e*P PKPdf 12 24 08.9 -1.1
BHD Baghdad 122.71 302 *ex* x 12 21 23.9
BHD *ex* x 12 24 25.0
BHD *ex* x 12 25 49.7
BHD *ex* x 12 27 54.0
BHD *ex* x 12 30 13.0
BHD *ex* x 12 30 32.0
CPUP Villa Florida 123.47 132 PKP PKPdf 12 24 12.3 -1.5
comp=Z,4.4nm,0.7s,baz=11,slow=1.0,SNR=13
CPUP PP PP 12 25 52.6 -2.2
comp=Z,1.7nm,0.8s,baz=352,slow=5.3,SNR=1.8
CPUP SKP 12 27 50.0
comp=Z,2.8nm,0.9s,baz=281,slow=5.7,SNR=4.1
CPUP PKKPab PKKPab 12 34 02.9 -0.7
comp=Z,3.0nm,0.7s,baz=69,slow=2.9,SNR=12
CPUP Villa Florida 123.47 132 *e*PKPdf PKPdf 12 24 12.3 -1.5
VSU Vasula 123.93 336 *i* PKIKP PKPdf 12 24 11.9 -1.8
VSU Vasula 123.93 336 *e*PKP PKPdf 12 24 11.0 -2.7
SOC Sochi 123.94 315 *i* PKIKP PKPdf 12 24 11.3 -2.8
SOC *e* 12 25 55.7
SOC *e* 12 31 09.1
SOC *e*PS PS 12 35 47.9 -8.9
SOC pmax pmax
comp=Z,15nm,0.7s
SOC MLR MLR
comp=Z,686nm,22.0s,MS5.3
SOC Sochi 123.94 315 *i* PKIKP PKPdf 12 24 14.8 +0.7
SOC Sochi 123.94 315 *i* PKP PKPdf 12 24 14.8 +0.7
SDV Santo Domingo 124.03 87 PKKPab PKKPab 12 34 01.9 +1.5
comp=Z,2.6nm,0.3s,baz=27,slow=3.2,SNR=6.2
SDV Santo Domingo 124.03 87 *e*PKPdf PKPdf 12 24 12.6 -2.6
SDV LR LR
comp=Z,265nm,19.0s,MS4.9
SDDR Presa de Saban 124.16 75 PFAKE 12 24 30.0 +15
SDDR LR LR
comp=Z,2μm,21.0s,MS5.8
ANN Anapa 125.08 317 *i* PKIKP PKPdf 12 24 14.8 -1.5
ANN *e* 12 26 03.6
ANN pmax pmax
comp=Z,23nm,1.1s
ANN MLR MLR
comp=N,2μm,20.0s,MS5.8
ANN MLR MLR
comp=E,1μm,20.0s,MS5.8
ANN MLR MLR
comp=Z,1μm,20.0s,MS5.6
BOSA Boshof 125.23 223 PKP PKPdf 12 24 16.7 -0.5
comp=Z,39nm,0.9s,baz=132,slow=1.8,SNR=24
BOSA PP PP 12 26 02.7 -3.7
comp=Z,7.6nm,1.0s,baz=187,slow=11,SNR=1.5
BOSA Boshof 125.23 223 PKIKP PKPdf 12 24 16.7 -0.4
BOSA 12 26 02.7
BOSA pmax pmax
comp=Z,39nm,0.9s

BOSA pmax pmax
comp=Z,8.0nm,1.0s
BOSA Boshof 125.23 223 *e*PKPdf PKPdf 12 24 16.4 -0.7
BOSA LR LR
comp=Z,3µm,21.0s,MS6.0
SUR Sutherland 125.39 216 PKP PKPdf 12 24 16.8 -0.6
comp=Z,83nm,1.1s
SUR PP PP 12 26 08.1 +0.9
comp=Z,6.8nm,0.9s,baz=136,slow=9.4,SNR=3.0
SUR Sutherland 125.39 216 *e*PKPdf PKPdf 12 24 17.9 +0.6
SUR LR LR
comp=Z,2µm,21.0s,MS5.8
SIV San Ignacio 125.88 119 PKP PKPdf 12 24 16.7 -2.0
comp=Z,5.4nm,0.4s,baz=236,slow=5.7,SNR=19
MNK Minsk 125.91 331 *e*PKIKP PKPdf 12 24 26.0 +8.4
BORG Borgarnes 126.41 4 PFAKE 12 24 30.0 +12
BORG LR LR
comp=Z,1µm,22.0s,MS5.6
MALT Malatya 126.41 309 PKIKP PKPdf 12 24 19.7 +0.7
MALT Malatya 126.41 309 ⇑*i*P PKPdf 12 24 19.9 +0.9
MALT Malatya 126.41 309 *e*PKPdf PKPdf 12 24 19.1 0.0
MALT LR LR
comp=Z,1µm,19.0s,MS5.5
MOL Molde 126.61 348 *e*P PKPdf 12 24 18.8 +0.1
MOL AMb AMB 12 24 20.1
comp=Z,22nm,0.9s
NB2 NORSAR Subarra127.11 345 PKPdf PKPdf 12 24 18.4 -1.3
comp=Z,12nm,0.9s,baz=31,slow=1.9
NB2 NORSAR Subarra127.11 345 PKPdf PKPdf 12 24 18.4 -1.3
baz=31,slow=1.9
NOA NORSAR Array B127.11 345 PKP PKPdf 12 24 18.5 -1.2
comp=Z,14nm,0.8s,baz=32,slow=2.0,SNR=84
NOA PP PP 12 26 09.1 -9.1
comp=Z,0.7nm,0.8s,baz=31,slow=5.9,SNR=2.2
SIM Simferopol' 127.21 319 *i* PKIKP PKPdf 12 24 19.3 -1.0
SIM *e* 12 26 19.4
SIM *e*PS PS 12 36 15.0 -10
SIM pmax pmax
comp=Z,503nm,22.2s
HFS Hagfors 127.21 343 PP PP 12 26 06.0 -13
comp=Z,1.4nm,0.8s,baz=41,slow=9.9,SNR=2.2
LBTB Lobatse 127.29 226 PKP PKPdf 12 24 20.9 -0.3
comp=Z,41nm,1.1s
LBTB PP PP 12 26 07.7 -13
comp=Z,4.4nm,0.9s,baz=303,slow=15,SNR=1.7
LBTB Lobatse 127.29 226 *e*PKPdf PKPdf 12 24 21.1 0.0
LBTB LR LR
comp=Z,4µm,19.0s,MS6.1
NAO01 NORSAR Array S 127.36 345 *e*PKPdf PKPdf 12 24 19.6 -0.6
NAO01 LR LR
comp=Z,2µm,22.0s,MS5.8
AKASG Malin Array Be 127.37 327 PKP PKPdf 12 24 19.0 -1.5
comp=Z,7.8nm,0.7s,baz=57,slow=1.7,SNR=16
AKASG PP PP 12 26 12.0 -8.4
comp=Z,0.3nm,0.3s,baz=46,slow=8.2,SNR=3.7
AKASG Malin Array Be 127.37 327 PKP PKPdf 12 24 19.0 -1.5
AKASG PP PP 12 26 12.0 -8.4
AKBB Malin Array Si 127.37 327 *e*PKIKP PKPdf 12 24 19.8 -0.7
KIEV Kiev 127.39 327 *e*PKIKP PKPdf 12 24 19.8 -0.7
KIEV MLR MLR
comp=Z,2µm,20.0s,MS5.8
KMBO Kilima Mbogo 127.81 260 PKP PKPdf 12 24 22.2 -0.2
comp=Z,24nm,1.1s,baz=13,slow=3.3,SNR=17
KMBO PP PP 12 26 22.8 -2.0
comp=Z,1.1nm,0.2s,baz=210,slow=23,SNR=2.7
KMBO Kilima Mbogo 127.81 260 *e*PKPdf PKPdf 12 24 22.5 0.0
KMBO LR LR
comp=Z,2µm,21.0s,MS5.7
SUW Suwalki 128.34 333 *e*PKP PKPdf 12 24 21.8 -0.4
SUW *e*PKiKP PKiKP 12 24 22.4 -0.5
SUW *e*PP PP 12 26 23.3 -3.3
SUW *e*PKS 12 26 50.0
SUW *e*SKS SKSdf 12 31 04.4 -26
SUW LMZ 13 19 31.2
comp=Z,4µm,23.1s
SUW Suwalki 128.34 333 *e*PKIKP PKPdf 12 24 21.8 -0.4
SUW *e* 12 26 23.3
SUW Suwalki 128.34 333 *e*PKP PKPdf 12 24 21.8 -0.4
SUW *e*PKPdf PKPdf 12 24 22.4 +0.2
SUW *e*PP PP 12 26 23.3 -3.3
SUW *e*PKS 12 26 50.0
SUW *e*SKS SKSdf 12 31 04.4 -26
BBSR BB Station 128.84 58 PFAKE 12 24 40.0 +16
BBSR LR LR
comp=Z,2µm,20.0s,MS5.8
SJG San Juan 129.02 76 PFAKE 12 24 40.0 +15
SJG LR LR
comp=Z,1µm,22.0s,MS5.6
ASF Jabal al Asfar 129.11 302 PKP PKPdf 12 24 24.9 +0.6
comp=Z,9.0nm,0.8s,baz=355,slow=1.1,SNR=6.5
ASF PP PP 12 26 31.7 -1.1
comp=Z,3.3nm,0.8s,baz=93,slow=1.4,SNR=4.3
HUMP Col San Antoni 129.31 76 *e*PKPdf PKPdf 12 24 24.1 -1.1
KIS Kishinev 129.55 323 *e*PKIKP PKPdf 12 24 24.0 -0.7
KIS MLR MLR
comp=Z,1µm,20.0s,MS5.6
KIS MLR MLR
comp=N,1µm,22.0s,MS5.7
KIS MLR MLR
comp=E,900nm,20.0s,MS5.7
KIS MLR MLR
comp=Z,2µm,20.0s
BHL Bhannes 129.73 305 *e*P PKPdf 12 24 25.1 -0.4
PCRV Puerto La Cruz 130.06 86 PP PP 12 26 34.1 -5.5
comp=Z,3.6nm,0.8s,baz=164,slow=14,SNR=2.2
ANTO Ankara 130.08 313 *e*PKPdf PKPdf 12 24 25.2 -0.7
ANTO LR LR
comp=Z,998nm,22.0s,MS5.5
MMAI Mount Meron Ar 130.15 304 PKP PKPdf 12 24 26.5 +0.2
comp=Z,16nm,0.7s,baz=76,slow=3.5,SNR=9.8
MMAI PP PP 12 26 33.8 -5.7
comp=Z,0.9nm,0.3s,baz=322,slow=36,SNR=2.5
MMAI SKPab 12 27 46.8
comp=Z,0.6nm,0.3s,baz=225,slow=57,SNR=3.7
WAR Warsaw 130.50 333 *e*PKP PKPdf 12 24 26.8 +0.4
WAR *e*PP PP 12 26 42.6 +2.0
WAR *e*PKS 12 27 52.8
WAR LMZ 13 21 17.2
comp=Z,4µm,23.1s
WAR Warsaw 130.50 333 *e*PKIKP PKPdf 12 24 26.8 +0.4
WAR *e* 12 26 42.6
WAR MLR MLR
comp=Z,4µm,23.1s,MS6.0
WAR Warsaw 130.50 333 *e*PKP PKPdf 12 24 26.8 +0.4
WAR *e*PP PP 12 26 42.6 +2.0
WAR *e*PKS 12 27 52.8
WAR LR LR
comp=Z,4µm,23.1s,MS6.0
LVV L'vov 130.61 328 *i* PKIKP PKPdf 12 24 26.5 -0.2
LSZ Lusaka 130.75 238 PKhKP 12 24 18.3
comp=Z,4.0nm,0.8s,baz=76,slow=2.1,SNR=1.3
LSZ PKP PKPdf 12 24 28.1 +0.2
comp=Z,24nm,0.7s,baz=127,slow=1.8,SNR=8.0
LSZ PP PP 12 26 35.2 -8.2
comp=Z,2.1nm,0.7s,baz=200,slow=8.3,SNR=1.8
LSZ SKPab 12 27 49.5
comp=Z,15nm,1.0s,baz=132,slow=3.4,SNR=4.0
LSZ Lusaka 130.75 238 PKIKP 12 24 18.3
LSZ PKPdf 12 24 28.2 +0.3
LSZ MLR MLR
comp=Z,3µm,19.0s,MS6.0
LSZ Lusaka 130.75 238 PKP 12 24 18.3
LSZ PKP PKPdf 12 24 28.1 +0.2
LSZ PP PP 12 26 35.2 -8.2
LSZ SKPab 12 27 49.5
LSZ LR LR
comp=Z,3µm,19.0s,MS6.0
BSD Bornholm Skovb 130.87 339 ⇑*i*PKIKP PKPdf 12 24 26.1 -0.9
BSD *i* 12 26 42.0
BSD Bornholm Skovb 130.87 339 ⇑*i*P PKPdf 12 24 26.1 -0.9
comp=Z,29nm,0.9s
BSD *i* 12 26 42.0
BSD *i* S 12 27 51.2
BSD *e* 12 39 33.1
BSD
comp=Z,2µm,20.0s
BSD Bornholm Skovb 130.87 339 ⇑*i*P PKPdf 12 24 26.1 -0.9
BSD *i* 12 26 42.0
BSD *i* S 12 27 51.2
BSD *e* 12 39 33.1
TIRR Tirgusor 131.06 320 ⇑*i*P PKPdf 12 24 27.9 +0.2
COP Copenhagen 131.25 341 *i* PKIKP PKPdf 12 24 28.2 +0.5
COP *i* 12 26 48.8
COP MLR MLR
comp=Z,1µm,21.0s,MS5.6
COP Copenhagen 131.25 341 *i* P PKPdf 12 24 28.2 +0.5
COP *i* 12 26 48.8
COP *i* 12 27 54.8
COP *i* 12 39 40.4
COP
comp=Z,1µm,21.0s
EIL Elat 131.26 300 PKhKP 12 24 19.5
EIL PKP PKPdf 12 24 28.1 -0.5
comp=Z,29nm,0.7s,baz=324,slow=5.0,SNR=7.3
EIL PP PP 12 26 40.1 -6.7
comp=Z,2.3nm,0.7s,baz=103,slow=10,SNR=1.8
EIL SKPab 12 27 50.8
comp=Z,18nm,1.1s,baz=54,slow=3.1,SNR=5.5
BURAR Bucovina Array 131.28 326 ⇑*i*P PKPdf 12 24 29.2 +1.2
GKP Gorka Klasztor 131.39 336 *e*PKP PKPdf 12 24 28.0 -0.1
GKP *e*PKiKP PKiKP 12 24 30.5 +1.5
GKP *e*PP PP 12 26 49.1 +2.8
GKP *e*PKS 12 27 55.2
GKP LMZ 13 15 56.2
comp=Z,4µm,27.7s
GKP Gorka Klasztor 131.39 336 *e*PKIKP PKPdf 12 24 28.0 0.0
GKP *e* 12 26 49.1
GKP MLR MLR
comp=Z,4µm,27.7s,MS6.0
GKP Gorka Klasztor 131.39 336 *e*PKP PKPdf 12 24 28.0 0.0
GKP *e*PKPdf PKPdf 12 24 30.5 +2.5
GKP *e*PP PP 12 26 49.1 +2.8
GKP *e*PKS 12 27 55.2
GKP LR LR
comp=Z,4µm,27.7s,MS6.0
KWP Kalwaria 131.40 329 *e*PKP PKPdf 12 24 28.7 +0.5
KWP *e*PP PP 12 26 44.1 -2.5
KWP LMZ 13 21 59.1
comp=Z,4µm,23.1s
KWP Kalwaria 131.40 329 *e*PKP PKPdf 12 24 28.7 +0.5
KWP *e*PP PP 12 26 44.1 -2.5
KWP LR LR
comp=Z,3µm,22.0s,MS5.9
MLR Muntele Rosu 132.04 323 ⇓*i*P PKPdf 12 24 30.0 +0.5
MLR Muntele Rosu 132.04 323 P PKPdf 12 24 29.8 +0.3
KOLS Kolonicke sedl 132.06 328 *e*PKP PKPdf 12 24 29.5 +0.1
KOLS *e*SKP 12 27 54.1
UZH Uzhgorod 132.24 328 *e*PKIKP PKPdf 12 24 28.0 -1.8
UZH *e* 12 24 42.4
UZH *e* 12 26 48.0
UZH MLR MLR
comp=Z,900nm,22.5s,MS5.4
OJC Ojcow 132.43 331 *e*PKPdf PKPdf 12 24 29.4 -0.7
OJC *e*PP PP 12 26 53.5 +0.3
OJC *e*SKKSac SKKSac 12 33 38.3 -7.8
OJC L 13 25 02.3
comp=Z,2.8nm,21.5s
OJC Ojcow 132.43 331 *e*PKIKP PKPdf 12 24 29.4 -0.7
OJC *e* 12 26 53.5
OJC MLR MLR
comp=Z,3µm,21.5s,MS5.9
ISP Isparta 132.48 311 *e*PKIKP PKPdf 12 24 29.7 -0.9
ISP MLR MLR
comp=Z,1µm,22.0s,MS5.5
CRVS Cervenica-Dubn 132.49 329 *e*PKP PKPdf 12 24 30.5 +0.2
CRVS *e*SKP 12 27 57.4
NIE Niedzica 132.72 330 *e*PKPdf PKPdf 12 24 31.7 +1.0
DRGR 133.15 326 ⇓*i*P PKPdf 12 24 31.5 -0.1
DRGR 133.15 326 P PKPdf 12 24 31.4 -0.2
GRGR Grenville 133.15 84 PFAKE 12 24 40.0 +7.5
GRGR LR LR
comp=Z,945nm,20.0s,MS5.5
KECS Kecovo 133.25 329 *e*PKP PKPdf 12 24 32.1 +0.4
BSEG Bad Segeberg 133.39 341 *e*PKIKP PKPdf 12 24 31.4 -0.4
BSEG *e* 12 26 59.3
BSEG Bad Segeberg 133.39 341 *e*PKPdf PKPdf 12 24 31.4 -0.4
BSEG *e*PP PP 12 26 59.3 +0.3
BSEG *e*SKPdf SKPdf 12 28 02.0 -1.7
OKC Ostrava-Krasne 133.47 332 *e*PKIKP PKPdf 12 24 32.3 +0.2
OKC *e* 12 24 42.0
OKC *e* 12 27 00.6
OKC Ostrava-Krasne 133.47 332 *e*PKPDF PKPdf 12 24 32.3 +0.2
OKC *ep*PKP pPKPdf 12 24 42.0 -3.5
OKC *e*PP PP 12 27 00.6 +0.8
OKC *e*PKS 12 28 03.1
OKC *ex* x 12 39 20.4
OKC *ex* x 12 45 20.9
OKC AMS AMS 13 18 00.0
comp=Z,3µm,26.5s
OKC Ostrava-Krasne 133.47 332 *e*PKP PKPdf 12 24 32.3 +0.2
OKC *e* 12 24 42.0
OKC *e*PP PP 12 27 00.6 +0.8
OKC *e* 12 28 03.1
OKC *e* 12 39 20.4
OKC *e*SS SS 12 45 20.9 +40
KSP Ksiaz 133.57 334 *e*PKP PKPdf 12 24 32.1 -0.2
KSP *ep*PKP pPKPdf 12 24 45.8 +0.1
KSP *e*PP PP 12 26 54.7 -5.6
KSP *e*PKS 12 28 02.5
KSP LMZ 13 22 02.9
comp=Z,5µm,24.4s
KSP Ksiaz 133.57 334 ⇑*e*PKP PKPdf 12 24 31.9 -0.3
KSP *e*PP PP 12 26 53.0 -7.4
KSP *e*PPS 12 38 36.0
KSP LR LR
comp=Z,6µm,23.2s,MS6.3
MORC Moravsky Berou 133.79 332 ⇓*i*P PKPdf 12 24 33.0 +0.3
MORC Moravsky Berou 133.79 332 *e*PKPdf PKPdf 12 24 33.0 +0.3
DPC Dobruska-Polom 133.92 334 *e*PKHKP 12 24 21.4
DPC *e* 12 24 32.5
DPC *e* 12 24 45.9
DPC *e* 12 27 03.0
DPC *e* 12 39 01.2
DPC MLR MLR
comp=Z,4µm,22.6s,MS6.1
DPC Dobruska-Polom 133.92 334 *e*PKPpre 12 24 21.4
DPC *e*PKPDF PKPdf 12 24 32.5 -0.4
DPC *ep*PKP pPKPdf 12 24 45.9 -0.5
DPC *e*PP PP 12 27 03.0 +0.4
DPC *e*PKS 12 28 06.6
DPC *ex* x 12 39 01.2
DPC *ex* x 12 45 29.8
DPC *ex* x 12 50 07.6
DPC AMS AMS 13 22 50.0
comp=Z,4µm,22.6s
PSZ Piszkesteto 133.92 329 ⇑*e*Sn PKPdf 12 24 32.5 -0.5
PSZ Piszkesteto 133.92 329 ⇓*i*P PKPdf 12 24 33.0 0.0
PSZ Piszkesteto 133.92 329 *e*PKPdf PKPdf 12 24 32.7 -0.3
PSZ LR LR
comp=Z,1µm,20.0s,MS5.7
UPC Upice 133.94 334 *e*PKIKP PKPdf 12 24 32.7 -0.2
UPC *e* 12 27 04.6
UPC Upice 133.94 334 *e*PKPDF PKPdf 12 24 32.7 -0.2
UPC *e*PP PP 12 27 04.6 +1.9
UPC *e*PKS 12 28 04.4
KOLL Kolacno 134.22 330 *e*PKP PKPdf 12 24 33.4 -0.1
BZS Buzias 134.46 325 ⇓*i*P PKPdf 12 24 33.8 -0.3
BZS Buzias 134.46 325 P PKPdf 12 24 33.7 -0.3
BRG Berggiesshubel 134.53 336 *e*PKHKP 12 24 21.6
BRG *i* 12 24 34.2
BRG MLR MLR
comp=Z,1µm,22.4s,MS5.7
BRG Berggiesshubel 134.53 336 *e*PKPdf PKPdf 12 24 33.4 -0.6
BRG *e*PP PP 12 27 05.8 -0.6
BRG Berggiesshubel 134.53 336 *e*PKP 12 24 21.6
comp=Z,4.5nm,1.2s
BRG *i* 12 24 34.2
comp=Z,26nm,1.1s
BRG *i* PP PP 12 26 59.0 -7.4
comp=Z,12nm,1.4s
BRG *i* PKS 12 28 02.2
comp=Z,6.8nm,1.1s
BRG *i* 12 40 19.0
BRG
comp=N,2µm,21.3s
BRG
comp=E,620nm,19.4s
BRG
comp=Z,2µm,22.4s
BRG Berggiesshubel 134.53 336 *e*PKP 12 24 21.6
BRG *i* 12 24 34.2
BRG *i* PP PP 12 26 59.0 -7.4
BRG *i* PKS 12 28 02.2
BRG *i* 12 40 19.0
BRG LR LR
comp=Z,1µm,22.4s,MS5.7
PVCC Panska Ves 134.54 335 *e*PKIKP PKPdf 12 24 33.9 -0.2
PVCC *e* 12 27 06.4
PVCC MLR MLR
comp=Z,3µm,26.4s,MS5.9
PVCC Panska Ves 134.54 335 *e*PKPDF PKPdf 12 24 33.9 -0.2
PVCC *e*PP PP 12 27 06.4 -0.1
PVCC *e*PKS 12 28 06.3
PVCC AMS AMS 13 17 20.0
comp=Z,3µm,26.4s
VRAC Vranov 134.56 332 PKP PKPdf 12 24 33.6 -0.6
comp=Z,9.0nm,0.9s,baz=71,slow=1.5,SNR=12
VRAC PP PP 12 26 58.9 -7.8
comp=Z,0.7nm,0.4s,baz=160,slow=12,SNR=2.4
VRAC Vranov 134.56 332 ⇓*i*P PKPdf 12 24 34.1 0.0
VRAC Vranov 134.56 332 P PKPdf 12 24 34.2 +0.1
CLL Collm 134.57 337 *e*P Pdif 12 21 38.0 +3.3
CLL *i* 12 24 33.3
CLL *e* 12 27 06.0
CLL MLR MLR
comp=Z,2µm,23.1s,MS5.8
CLL Collm 134.57 337 *e*PKPdf PKPdf 12 24 33.3 -0.8
CLL *e*SKPdf SKPdf 12 28 06.8 +0.9
CLL Collm 134.57 337 *e*(Pdif) 12 21 38.0
CLL *e*PKPpre 12 24 22.0
CLL *i* PKPdf PKPdf 12 24 33.3 -0.8
comp=Z,46nm,1.6s
CLL *ex* x 12 25 10.0
CLL *e*PP PP 12 27 06.0 -0.6
CLL *e*PPIp 12 27 13.0
comp=Z,500nm,25.8s
CLL *i* PKSdf 12 28 07.1
comp=Z,81nm,2.1s
CLL *e*PPP 12 30 10.0
CLL *e*PS PS 12 37 28.0 -0.4
CLL *e*PPS 12 39 05.0
CLL *ex* x 12 40 31.0
CLL *e*SKKSacre 12 40 58.0
CLL *e*SS SS 12 45 24.0 +30
CLL *ex* x 12 46 27.0
CLL *e*(sSSS) 12 50 48.0
CLL *e*sSSSS 13 00 06.0
CLL Collm 134.57 337 *e*Pdif Pdif 12 21 38.0 +3.3
CLL *i* PKP PKPdf 12 24 33.3 -0.8
CLL *e*PP PP 12 27 06.0 -0.6
CLL *i* PKS 12 28 07.1
CLL LR LR
comp=Z,2µm,23.1s,MS5.8
EAB Aberfoyle 134.66 353 *e*P PKPdf 12 24 33.5 -0.6
MODS Modra-Piesok 134.90 331 *e*PKIKP PKPdf 12 24 35.1 +0.3
MODS *e* 12 24 50.2
MODS Modra-Piesok 134.90 331 *e*PKP PKPdf 12 24 35.1 +0.3
MODS *e* 12 24 50.2
MODS *e*PP PP 12 27 03.6 -5.3
MODS *e*SKP 12 28 07.3
PRU Pruhonice 134.96 334 *e*PKIKP PKPdf 12 24 34.8 -0.1
PRU *e* 12 24 47.5
PRU *e* 12 27 08.7
PRU *e* 12 39 15.9
PRU MLR MLR
comp=Z,3µm,25.1s,MS5.9
PRU Pruhonice 134.96 334 *e*PKPDF PKPdf 12 24 34.8 -0.1
PRU *ep*PKP pPKPdf 12 24 47.5 -0.8
PRU *e*PP PP 12 27 08.7 -0.4
PRU *e*PKS 12 28 13.4
PRU *ex* x 12 39 15.9
PRU *ex* x 12 45 18.6
PRU *ex* x 12 50 50.2
PRU AMS AMS 13 22 20.0
comp=Z,3µm,25.1s
XSO Sourhope Farm 135.04 351 *e*P PKPdf 12 24 34.5 -0.4
TREC Trest 135.06 333 *e*PKPDF PKPdf 12 24 34.4 -0.7
TREC *ex* x 12 24 42.7
TREC *e*PP PP 12 27 12.7 +2.9
TREC AMS AMS 13 23 50.0
comp=Z,4µm,22.8s
ZST Bratislava 135.11 331 *e*PKP PKPdf 12 24 35.6 +0.4
ZST *e*PP PP 12 27 04.1 -6.1
ZST *e*SKP 12 28 06.9
ZST Bratislava 135.11 331 *e*PKP PKPdf 12 24 35.6 +0.4
ZST *e*PP PP 12 27 04.1 -6.1
ZST *e* 12 28 06.9
ZST LR LR
comp=Z,500nm,24.7s,MS5.1
CLZ Clausthal 135.11 339 *e*PKPdf PKPdf 12 24 34.9 -0.2
CLZ *e*PP PP 12 27 10.7 +0.7
BBGH Gun Hill 135.25 83 PFAKE 12 24 50.0 +14
BBGH LR LR
comp=Z,3µm,21.0s,MS5.9
VTS Vitosha 135.27 321 ⇓*i*P PKPdf 12 24 34.2 -1.5
VTS Vitosha 135.27 321 P PKPdf 12 24 35.9 +0.2
EKA Eskdalemuir Ar 135.33 351 SKPab 12 28 08.1
comp=Z,2.9nm,0.8s,baz=28,slow=3.8,SNR=4.7
ESK Eskdalemuir 135.35 351 PFAKE 12 24 50.0 +15
ESK LR LR
comp=Z,1µm,21.0s,MS5.6
WERD Werda 135.52 336 *e*PP PP 12 27 12.2 -0.4
GUNZ Gunzen 135.57 336 *e*PP PP 12 27 13.4 +0.4
IBBN Ibbenburen 135.60 341 *e*PKPdf PKPdf 12 24 34.9 -1.1
IBBN *e*PP PP 12 27 14.1 +1.1
IBBN *e*SKPdf SKPdf 12 28 08.8 +1.1
MOX Moxa 135.63 337 *e*PKP PKPdf 12 24 36.1 0.0
comp=Z,95nm,2.0s
MOX *e* 12 24 50.0
MOX *e* 12 27 20.0
MOX
comp=Z,2µm,21.0s
MOX Moxa 135.63 337 *e*PKPdf PKPdf 12 24 35.0 -1.1
NKC Novy Kostel 135.63 336 *e*PKIKP PKPdf 12 24 35.4 -0.7
NKC *e* 12 24 51.4
NKC Novy Kostel 135.63 336 *e*PKPDF PKPdf 12 24 35.4 -0.7
NKC *ep*PKP pPKPdf 12 24 51.4 +1.8
NKC *ex* x 12 26 59.5
NKC AMS AMS 13 28 30.0
comp=Z,3µm,20.5s
NKC Novy Kostel 135.63 336 *e*PKP PKPdf 12 24 35.4 -0.7
NKC *e* 12 24 51.4
NKC *e*PP PP 12 26 59.5 -14
XAL Allendale 135.64 350 *e*P PKPdf 12 24 35.3 -0.7
PKSM Moragy 135.69 328 ⇑*i*P PKPdf 12 24 35.2 -1.2
PKSM Moragy 135.69 328 P PKPdf 12 24 35.3 -1.0
CONA Conrad Observa 135.89 331 ⇑*i*P PKPdf 12 24 35.9 -0.8
comp=Z,377nm,3.7s,SNR=9.8
CSNA Conrad Observa 135.89 331 ⇓*i*P PKPdf 12 24 35.9 -0.8
comp=Z,354nm,3.7s
MANZ Manzenberg 135.96 336 *e*PKPdf PKPdf 12 24 35.8 -0.9
GAL1 Galloway 136.00 352 *e*P PKPdf 12 24 34.9 -1.7
KHC Kasperske Hory 136.02 334 *e*PKPpre 12 24 25.6
KHC *e*PKPDF PKPdf 12 24 36.3 -0.6
KHC *ep*PKP pPKPdf 12 24 52.2 +1.9
KHC *e*PP PP 12 27 17.5 +1.7
KHC *e*PKS 12 28 18.8
KHC *ex* x 12 39 27.9
KHC *ex* x 12 45 36.8
KHC *ex* x 12 50 50.6
KHC AMS AMS 13 23 10.0
comp=Z,4µm,25.1s
UBBA Unterbreizbach 136.09 338 *e*PKPdf PKPdf 12 24 35.8 -1.1
UBBA *e*PP PP 12 27 16.1 0.0
ROTZ Rotzenmuhle 136.09 336 *e*PKPdf PKPdf 12 24 36.1 -0.9
ROTZ *e*PP PP 12 27 16.0 -0.2
GEC2 GERESS Array S 136.18 334 *e*PKPdf PKPdf 12 24 36.2 -1.0
GERES GERESS Array B 136.18 334 PKhKP 12 24 25.6
comp=Z,1.6nm,0.8s,baz=64,slow=3.1,SNR=12
GERES PKP PKPdf 12 24 36.2 -1.0
comp=Z,6.5nm,0.8s,baz=60,slow=2.1,SNR=6.0
GERES PP PP 12 27 11.7 -5.2
comp=Z,1.1nm,0.9s,baz=46,slow=3.9,SNR=2.6
GERES GERESS Array B 136.18 334 PKHKP 12 24 25.6
GERES 12 24 36.2
WTSB Winterswijk 136.19 342 *e*PKP PKPdf 12 24 35.7 -1.4
comp=Z,50nm,1.4s
WET Wettzell 136.30 335 *e*PKPdf PKPdf 12 24 36.5 -0.9
WET *e*PP PP 12 27 17.4 -0.2
BUG Bochum--Univer 136.50 341 *e*PKPdf PKPdf 12 24 37.3 -0.4
BUG *e*PP PP 12 27 18.9 +0.3
GRA1 Grafenberg Arr 136.54 336 *e*PKPdf PKPdf 12 24 36.9 -0.9
GRA1 *e*PP PP 12 27 20.6 +1.6
GRA1 *e*SKPdf SKPdf 12 28 11.2 +1.7
GRA1 *e*SP SP 12 37 24.7 -14
GRA1 LR LR
comp=Z,2µm,20.3s,MS5.9
GRF Grafenberg Arr 136.54 336 *e*PKIKP PKPdf 12 24 36.9 -0.9
GRF *e* 12 27 20.6

GRF MLR MLR
comp=Z,2µm,20.3s,MS5.9
GRF Grafenberg Arr 136.54 336 *e*PKIKP PKPdf 12 24 36.9 -0.9
GRF *e* 12 27 20.6
GRF MLR MLR
comp=Z,2µm,20.3s,MS5.9
GRF Grafenberg Arr 136.54 336 *e*PKPdf PKPdf 12 24 36.9 -0.9
GRF *e*PP PP 12 27 20.6 +1.6
GRF *e*SKPdf SKPdf 12 28 11.2 +1.7
GRF *e*SP SP 12 37 24.7 -14
GRF *e*L 13 28 39.2
comp=Z,2µm,20.3s
MOA Molln 136.68 333⇑ *i*P PKPdf 12 24 37.1 -1.0
comp=Z,279nm,3.5s
TSUM Tsumeb 136.69 226 PKhKP 12 24 28.0
comp=Z,10nm,0.8s,baz=158,slow=2.1,SNR=13
TSUM PKP PKPdf 12 24 39.8 +0.8
comp=Z,17nm,0.9s,baz=113,slow=4.6,SNR=7.5
TSUM PP PP 12 27 14.9 -5.8
comp=Z,3.6nm,0.9s,baz=200,slow=6.8,SNR=3.1
TSUM Tsumeb 136.69 226 PKP 12 24 28.0
TSUM PKP PKPdf 12 24 39.9 +0.8
TSUM PP PP 12 27 14.9 -5.8
TSUM LR LR
comp=Z,4µm,20.0s,MS6.1
BDFB Brasilia 136.77 128 PKhKP 12 24 26.9
comp=Z,1.2nm,0.5s,baz=311,slow=24,SNR=3.7
BDFB PKP PKPdf 12 24 39.2 0.0
comp=Z,4.6nm,0.8s,baz=34,slow=2.3,SNR=9.4
BDFB SKP 12 28 11.0
comp=Z,9.1nm,1.0s,baz=272,slow=4.4,SNR=9.3
BDFB Brasilia 136.77 128 PKHKP 12 24 26.9
BDFB 12 24 39.2
LHO Holmfirth 136.84 350 *e*P PKPdf 12 24 36.4 -1.9
TNS Taunus Mts 137.14 339 *e*PKPdf PKPdf 12 24 38.1 -0.8
TNS *e*PP PP 12 27 22.5 -0.2
PERS Pernice 137.17 331 *i* PKPdf PKPdf 12 24 37.8 -1.2
PERS *i* PP PP 12 27 23.4 +0.2
SOKA Soboth 137.18 331⇑ *i*P PKPdf 12 24 38.2 -0.9
comp=Z,266nm,4.0s
KWE Weaver Farm 137.35 349 *e*P PKPdf 12 24 37.7 -1.5
WME Myndd Eilian 137.38 352 *e*P PKPdf 12 24 38.7 -0.6
HGN Heimansgroeve 137.50 342 *e*PKP PKPdf 12 24 38.8 -0.8
comp=Z,27nm,1.8s
HGN Heimansgroeve 137.50 342 *e*PP PP 12 27 16.6 -8.3
BEBN Eben Emael 137.56 342 PKPdf PKPdf 12 24 39.1 -0.5
MEM Membach 137.62 341 PKPdf PKPdf 12 24 39.3 -0.5
IDI Anoyia 137.64 311 PKhKP 12 24 30.0
comp=Z,7.8nm,0.6s,baz=228,slow=23,SNR=6.3
IDI SKPbc SKPbc 12 28 09.0 -1.7
comp=Z,22nm,0.8s,baz=300,slow=6.2,SNR=3.1
SBD1 Bryn Du 137.69 351 *e*P PKPdf 12 24 38.8 -1.1
FUR Furstenfeldbru 137.73 335 *e*PKPdf PKPdf 12 24 39.1 -1.0
FUR *e*PP PP 12 27 25.2 -1.3
VNDS Vrh nad Dolski 137.75 330 *e*PKPdf PKPdf 12 24 39.3 -0.9
LJU Ljubljana 137.88 331 *i* PKPdf PKPdf 12 24 39.7 -0.7
LJU *i* PP PP 12 27 28.6 +1.1
BOJS Bojanci 137.91 329 *i* PKPdf PKPdf 12 24 39.7 -0.8
BOJS *e*PP PP 12 27 25.4 -2.4
GORS Gorjuse 137.93 331 *i* PKPdf PKPdf 12 24 39.2 -1.3
UCC Uccle 137.95 343 PKPdf PKPdf 12 24 39.5 -0.9
BCLA Clavier 138.00 342 PKPdf PKPdf 12 24 40.8 +0.3
RUP Ruppelstein 138.06 340 PKIKP PKPdf 12 24 40.3 -0.3
STU Stuttgart 138.07 337 *e*PKPdf PKPdf 12 24 39.9 -0.8
STU Stuttgart 138.07 337 *e*PKPdf PKPdf 12 24 40.8 +0.1
JAVS Javornik 138.21 331 *i* PKPdf PKPdf 12 24 39.8 -1.2
JAVS *i* PP PP 12 27 29.8 +0.2
WTTA Wattenberg 138.29 334⇑ *i*P PKPdf 12 24 40.9 -0.3
comp=Z,418nm,4.4s,SNR=7.5
WLF Walferdange 138.39 341 PKPdf PKPdf 12 24 40.9 -0.3
WLF Walferdange 138.39 341 *e*PKPdf PKPdf 12 24 40.8 -0.4
WLF *e*PP PP 12 27 30.7 +0.3
WLF *e*SKPdf SKPdf 12 28 19.3 +6.5
WLF Walferdange 138.39 341 *e*PKPdf PKPdf 12 24 41.8 +0.6
WLF LR LR
comp=Z,2µm,21.0s,MS5.9
LANF Langenberg 138.41 339 PKIKP PKPdf 12 24 41.2 -0.1
GIVF Givet 138.43 342 *e*PKP1 PKPdf 12 24 31.9 -9.4
comp=Z,76nm,1.0s
HTR Trewern Hill 138.49 350 *e*P PKPdf 12 24 40.8 -0.5
DOU Dourbes 138.50 342 PKPdf PKPdf 12 24 39.8 -1.7
MCH1 Michaelchurch 138.53 350 *e*P PKPdf 12 24 40.2 -1.2
BAIF Baives 138.65 342 *e*PKP1 PKPdf 12 24 32.5 -9.2
comp=Z,41nm,1.1s
BFO Black Forest 138.76 338 PKHKP 12 24 32.0
BFO MLR MLR
comp=Z,1µm,21.0s,MS5.6
BFO Black Forest 138.76 338 *e*PP PP 12 27 32.0 -0.8
SPAK Spaichingen-Ko 138.78 337 PKP PKPdf 12 24 42.7 +0.7
FETA Feichten 138.86 334 *i* P PKPdf 12 24 41.5 -0.6
comp=Z,316nm,4.2s,SNR=11
CDF Champ du Feu 139.08 339 *e*PKP1 PKPdf 12 24 33.1 -9.4
comp=Z,52nm,1.0s
ECH Echery 139.28 339 PKIKP PKPdf 12 24 44.6 +1.7
DAVOS Davos 139.40 335 PKHKP 12 24 34.7
DAVOS 12 24 42.8
DAVOX Davos/Dischmat 139.41 335 PKhKP 12 24 34.7
comp=Z,6.4nm,0.8s,baz=283,slow=3.6,SNR=7.6
DAVOX PKP PKPdf 12 24 42.8 -0.4
comp=Z,35nm,0.8s,baz=299,slow=8.0,SNR=21
DAVOX PP PP 12 27 31.9 -5.0
comp=Z,3.3nm,1.0s,baz=177,slow=22,SNR=1.7
DAVOX SKPab 12 28 22.8
comp=Z,8.7nm,0.9s,baz=59,slow=4.0,SNR=3.8
MOF Molkenrain 139.60 338 PKIKP PKPdf 12 24 42.5 -1.0
THEF They Montfort 139.69 340 PKIKP PKPdf 12 24 42.9 -0.8
HINF Hinteralfeld 139.73 338 *e*PKP1 PKPdf 12 24 34.4 -9.3
comp=Z,37nm,0.8s
HAU Haudompre 139.75 339 *e*PKP1 PKPdf 12 24 34.5 -9.3
comp=Z,59nm,0.9s
HAU *e*MLR MLR
comp=Z,2µm,22.5s,MS5.5
HAU Haudompre 139.75 339 *e*PKP PKPdf 12 24 34.5 -9.3
HAU LR LR
comp=Z,2µm,22.5s,MS5.8
MEZF Maizieres J'vi 139.76 341 *e*PKP1 PKPdf 12 24 33.0 -11
comp=Z,110nm,1.2s
BBS Basel-Blauen 139.79 338 PKIKP PKPdf 12 24 42.9 -1.0
TUE Stuetta 139.88 335 *e*PKPpre 12 24 35.7
TUE LR LR
comp=Z,3µm,20.0s,MS6.0
CABF La Chapelle 141.03 338 *e*PKP1 PKPdf 12 24 35.6 -11
comp=Z,87nm,1.1s
AQU L'Aquila 141.07 327⇓ *i*P PKPdf 12 24 41.3 -5.1
AQU L'Aquila 141.07 327 *e*PKPpre 12 24 40.8
AQU LR LR
comp=Z,2µm,22.0s,MS5.9
FLN La Foliniere 141.09 346 *e*PKP1 PKPdf 12 24 39.4 -6.8
comp=Z,41nm,0.8s
FLN *e*MLR MLR
comp=Z,3µm,22.5s,MS5.6
FLN La Foliniere 141.09 346 *e*PKP PKPdf 12 24 39.4 -6.8
FLN LR LR
comp=Z,3µm,22.5s,MS5.9
LDF La Druitiere 141.16 346 *e*PKP1 PKPdf 12 24 39.7 -6.6
TIP Timpagrande 141.22 321 *e*PKPpre 12 24 40.8
TIP LR LR
comp=Z,2µm,22.0s,MS5.8
LOR Lormes 141.23 341 *e*PKP1 PKPdf 12 24 37.7 -8.8
comp=Z,57nm,1.0s
LOR *e*MLR MLR
comp=Z,3µm,21.2s,MS5.7
LOR Lormes 141.23 341 *e*PKP PKPdf 12 24 37.7 -8.8
LOR LR LR
comp=Z,3µm,21.3s,MS6.0
VLC Villacollemand 141.24 332 PFAKE 12 25 00.0 +13
VLC LR LR
comp=Z,2µm,22.0s,MS5.8
SSF Saint Saulge 141.52 341 *e*PKP1 PKPdf 12 24 38.4 -8.6
comp=Z,56nm,1.0s
GRR Gorron 141.53 346 *e*PKP1 PKPdf 12 24 40.2 -6.8
comp=Z,52nm,1.1s
LPL La Plagne 141.71 337 *e*PKP1 PKPdf 12 24 41.2 -6.2
comp=Z,70nm,1.3s
LPG La Plagne 141.72 337 *e*PKP1 PKPdf 12 24 41.2 -6.2
comp=Z,34nm,0.8s
OG05 Jujurieux 141.75 338 PKP PKPdf 12 24 41.6 -5.8
SMF Signal de Mont 141.78 340 *e*PKP1 PKPdf 12 24 40.9 -6.6
AVF Avril sur Loir 141.81 341 *e*PKP1 PKPdf 12 24 40.8 -6.7
SGMF Saint Gilles 142.03 348 *e*PKP1 PKPdf 12 24 41.8 -6.1
comp=Z,77nm,1.2s
ROSF Rostrenen 142.09 349 *e*PKP1 PKPdf 12 24 42.0 -6.0
comp=Z,33nm,1.0s
BNI Bardonecchia 142.11 336 *e*PKIKP PKPdf 12 24 43.5 -4.6

BNI MLR MLR
comp=Z,2µm,20.0s,MS6.0
BGF Bois d'Agland 142.18 341 *e*PKP1 PKPdf 12 24 42.5 -5.7
comp=Z,17nm,0.5s
GRN Grenoble 142.32 337 PKP PKPdf 12 24 44.0 -4.5
CEL Celeste 142.32 320 *e*PKPpre 12 24 39.4
MBDF Montbardon 142.35 336 *e*PKP1 PKPdf 12 24 42.6 -6.0
comp=Z,21nm,0.6s
PLDF La Plantade 142.45 340 PKP PKPdf 12 24 44.9 -3.8
PLDF La Plantade 142.45 340 PKP PKPdf 12 24 43.8 -4.9
QUIF Quistinic 142.47 348 *e*PKP1 PKPdf 12 24 41.9 -6.8
SURF Saint Ours 142.53 336 PKP PKPdf 12 24 44.0 -4.9
AGO Saint Agoulin 142.54 341 PKP PKPdf 12 24 44.5 -4.4
ORIF Oris-en-Rattie 142.54 337 *e*PKP1 PKPdf 12 24 43.9 -5.0
comp=Z,43nm,0.6s
ORIF *e*MLR MLR
comp=Z,4µm,22.8s,MS5.8
TCF Toulx Ste Croi 142.62 342 *e*PKP1 PKPdf 12 24 40.6 -8.4
comp=Z,61nm,1.0s
SSB Saint Sauveur 142.73 339 PKP PKPdf 12 24 44.7 -4.5
SBF Sospel 142.78 334 *e*PKP1 PKPdf 12 24 43.8 -5.6
comp=Z,134nm,0.9s
COLF Collangettes 142.82 340 PKP PKPdf 12 24 45.1 -4.3
PYM Petit Puy Mans 142.84 340 PKP PKPdf 12 24 45.7 -3.7
MFF Saint Martin d 143.01 344 *e*PKP1 PKPdf 12 24 44.9 -4.8
comp=Z,46nm,0.7s
VERF Verneugheol 143.01 341 PKP PKPdf 12 24 45.7 -4.0
VIVF Saint-Julien-l 143.04 338 *e*PKP1 PKPdf 12 24 45.6 -4.2
comp=Z,219nm,1.5s
OG26 St.-Nazaire-De 143.04 337 PKP PKPdf 12 24 46.2 -3.6
OCF Saint Nazaire 143.05 337 PKP PKPdf 12 24 46.2 -3.6
PGF Pioggiola 143.12 332 *e*PKP1 PKPdf 12 24 45.3 -4.7
comp=Z,65nm,0.6s
LBL Lubilhac 143.22 340 PKP PKPdf 12 24 47.5 -2.6
LBL Lubilhac 143.22 340 PKP PKPdf 12 24 45.7 -4.4
STOF St-Etienne Org 143.30 336 PKP PKPdf 12 24 46.6 -3.7
FRNF Fournols 143.31 341 PKP PKPdf 12 24 46.9 -3.3
FRF La Foret Royal 143.36 335 *e*PKP1 PKPdf 12 24 46.0 -4.4
comp=Z,290nm,1.3s
SMRF Simiane la Rot 143.45 336 *e*PKP1 PKPdf 12 24 47.1 -3.4
comp=Z,66nm,1.0s
VILF Villemus 143.50 336 PKP PKPdf 12 24 47.0 -3.6
TAVF Tavernes 143.55 336 PKP PKPdf 12 24 47.9 -2.8
LMR La Mourre 143.60 335 *e*PKP1 PKPdf 12 24 47.0 -3.8
comp=Z,480nm,1.3s
OSPF L'Ospedale 143.71 330 PKP PKPdf 12 24 47.9 -3.2
RJF Les Rejaudoux 143.72 342 *e*PKP1 PKPdf 12 24 47.7 -3.3
comp=Z,502nm,1.9s
RJF *e*MLR MLR
comp=Z,6µm,22.5s,MS6.0
RJF Les Rejaudoux 143.72 342 *e*PKP PKPdf 12 24 47.7 -3.3
RJF LR LR
comp=Z,6µm,22.5s,MS6.3
VAE Valguarnera 143.72 321 PKP PKPdf 12 24 49.5 -1.7
comp=Z,20nm,0.7s,baz=67,slow=7.8,SNR=11
VAE PP PP 12 27 59.0 -4.6
comp=Z,22nm,0.7s,baz=297,slow=3.1,SNR=3.7
PRAF Pradon 143.75 337 PKP PKPdf 12 24 48.7 -2.4
PUYF Puyloubier 143.77 336 PKP PKPdf 12 24 48.3 -2.8
TREF Trevaresse 143.82 336 PKP PKPdf 12 24 48.7 -2.5
CAF Calviac 143.88 341 *e*PKP1 PKPdf 12 24 48.5 -2.8
comp=Z,99nm,1.2s
BERF Bertagne 143.95 336 PKP PKPdf 12 24 49.2 -2.2
GELF Grande-Etoile 144.00 336 PKP PKPdf 12 24 49.2 -2.3
LASF Ste Croix 144.01 338 *e*PKP1 PKPdf 12 24 49.0 -2.5
comp=Z,483nm,1.4s
LFF La Frestale 144.28 342 *e*PKP1 PKPdf 12 24 49.6 -2.4
comp=Z,324nm,1.3s
MTLF Montolieu 145.24 339 *e*PKP1 PKPbc 12 24 53.1 -0.3
comp=Z,190nm,1.0s
EJON La Jonquera 145.78 338 PKP PKPdf 12 24 54.9 +0.3
FILF Fillols 145.80 338 PKP PKPdf 12 24 54.0 -0.7
VALF Valcebollere 146.13 339 PKP PKPdf 12 24 54.9 -0.3
EPF Esparros 146.13 341 *e*PKP1 PKPbc 12 24 55.6 -0.6
comp=Z,116nm,1.3s
MELF Melles 146.14 341 PKP PKPdf 12 24 55.9 +0.7
LABF Labassere 146.20 342 PKP PKPdf 12 24 56.4 +1.1
REYF Montagne du Re 146.32 342 PKP PKPdf 12 24 55.3 -0.2
RESF Ens 146.33 341 PKP PKPdf 12 24 56.1 +0.5
ORDF Ordiarp 146.35 343 PKP PKPdf 12 24 54.6 -1.0
VIEF Viey 146.36 342 PKP PKPdf 12 24 55.9 +0.3
ATE Arette 146.40 343 PKP PKPdf 12 24 54.8 -0.9
OSSF Osses 146.40 343 PKP PKPdf 12 24 54.8 -0.9
EALK Alkurruntz 146.50 344 PKP PKPdf 12 24 52.3 -3.6
EBIE Bielsa 146.51 341 PKP PKPdf 12 24 56.9 +1.0
SJPF Ste Jean 146.52 343 *e*PKP1 PKPbc 12 24 56.7 -0.6
comp=Z,135nm,1.3s
LARF Larrau 146.53 343 PKP PKPdf 12 24 55.6 -0.3
ETSF Etsaut 146.53 342 *e*PKP1 PKPbc 12 24 55.6 -1.7
comp=Z,161nm,1.0s
EMIR Miracle 146.73 339 PKP PKPdf 12 24 57.8 +1.6
ELAN Lanestosa 146.99 346 PKP PKPdf 12 24 57.0 +0.3
EARI Arrioondas 147.31 348 PKP PKPdf 12 24 58.9 +1.8
EPOB Poblet 147.39 339 PKP PKPdf 12 24 57.3 -0.1
ESAC San Caprasio 147.57 341 PKP PKPdf 12 24 58.4 +0.7
EPON Pontenova 147.62 351 PKP PKPbc 12 24 59.9 -0.5
KEST Kesra 147.94 323 PKP PKPdf 12 24 58.0 -0.5
comp=Z,41nm,0.8s,baz=296,slow=1.4,SNR=10
KEST PKPbc PKPbc 12 25 01.6 0.0
comp=Z,41nm,0.8s,baz=235,slow=0.9,SNR=58
ERTA Horta de San J 148.00 340 PKP PKPdf 12 24 58.4 0.0
ETOS Mallorca 148.10 335 PKP PKPdf 12 25 00.1 +1.5
EMAZ Mazaricos 148.24 353 PKP PKPbc 12 25 02.1 +0.1
STS Santiago 148.25 353 PKP2 PKPbc 12 25 01.7 -0.4
CMAH Djebel Manchou 148.40 326 P PKPbc 12 25 03.0 +0.3
ERUA La Rua 148.53 351 PKIKP PKPdf 12 25 00.1 +0.9
CAEH 'Ain El Ouahch 148.59 327 P PKPbc 12 25 05.0 +1.8
ABSA Djebel Ababsia 148.63 326 P PKPbc 12 25 04.5 +1.2
EMOS Mosqueruela 148.80 340 PKP PKPdf 12 25 00.3 +0.6
ETOR Torete 148.88 343 PKIKP PKPdf 12 24 59.7 -0.1
ECAL Calabor 148.90 350 PKP PKPbc 12 25 02.0 -1.8
CKFL Kef-Lekhel 148.94 327 P PKPbc 12 25 05.0 +0.9
CASM Ain Smara 149.17 327 P PKPbc 12 25 05.0 +0.3
ELOB Lobios 149.19 352 PKP PKPbc 12 25 02.4 -2.2
DFRA Djebel Bou Aff 149.28 328 P PKPbc 12 25 06.0 +1.1
EIBI Ibiza 149.32 337 PKP PKPdf 12 25 00.7 +0.1
PCAB Cabril 149.33 352 *e*PKPdf PKPdf 12 25 00.0 -0.5
PCAB Cabril 149.33 352 *e*PKPbc PKPbc 12 25 04.7 -0.2
CTEI Djebel Teioual 149.37 327 P PKPbc 12 25 06.0 +0.8
GUD Guadarrama 149.61 345 PKHKP 12 25 01.3
MVO Moncorvo 149.71 350 *e*PKPdf PKPdf 12 25 00.8 -0.4
MVO Moncorvo 149.71 350 *e*PKPbc PKPbc 12 25 05.4 -0.4
MVO Moncorvo 149.71 350 *e*LQ 13 19 07.1
MVO *e*LR LR 13 20 20.3
comp=Z,2µm,30.2s
SET Setif 149.79 328 P PKPbc 12 25 07.0 +0.8
PTO Porto 149.97 352 *e*PKPbc PKPbc 12 25 06.8 +0.3
EBEN Beniarda 150.19 338 PKP PKPdf 12 25 03.7 +1.7
PVIS Viseu 150.29 351 *e*PKPdf PKPdf 12 25 02.1 0.0
PVIS Viseu 150.29 351 *e*PKPbc PKPbc 12 25 06.9 -0.4
ESDC Sonseca Array 150.47 345 PKP PKPdf 12 25 01.2 -1.2
comp=Z,3.7nm,0.8s,baz=1.5,slow=2.2,SNR=22
ESDC PKPbc PKPbc 12 25 07.3 -0.5
comp=Z,32nm,0.9s,baz=17,slow=2.5,SNR=67
ESDC PKPab PKPab 12 25 15.3 +1.1
comp=Z,8.8nm,0.6s,baz=9.4,slow=4.4,SNR=14
ESDC PP PP 12 28 38.1 -4.4
comp=Z,0.5nm,0.6s,baz=24,slow=6.2,SNR=3.4
ESDC Sonseca Array 150.47 345 PKP PKPdf 12 25 01.6 -0.9
ABA Alger-Bouzarea 150.47 332 P PKPbc 12 25 05.4 -2.4
MTE Manteigas 150.54 350 *e*PKPdf PKPdf 12 25 02.1 -0.4
MTE Manteigas 150.54 350 *e*PKPbc PKPbc 12 25 07.7 -0.2
MTE Manteigas 150.54 350 *e*PP PP 12 28 43.5 +0.7
MTE Manteigas 150.54 350 *e*LR LR 13 19 48.1
comp=Z,2µm,27.6s
MTE Manteigas 150.54 350 *e*PKPdf PKPdf 12 25 02.6 +0.1
MTE *e*PKPbc PKPbc 12 25 07.9 0.0
MTE LR LR
comp=Z,2µm,21.0s,MS5.9
PAB San Pablo 150.69 345 *e*PKIKP PKPdf 12 25 02.4 -0.4
PAB *e* 12 25 08.0
PAB MLR MLR
comp=Z,2µm,22.0s,MS5.9
ETOB Tobarra 150.71 340 PKP PKPdf 12 25 02.5 -0.3
ADJB Djebel Djouab 150.81 331 P PKPdf 12 26 08.6 +3.8
EMHD Djebel Mahouad 151.00 331 P PKPbc 12 25 09.0 -0.1
EVIA Vianos 151.02 342 PKIKP PKPdf 12 25 03.2 -0.1
PCBR Castelo Branco 151.07 350 *e*PKPdf PKPdf 12 25 02.7 -0.6
PCBR Castelo Branco 151.07 350 *e*PKPbc PKPbc 12 25 09.2 0.0
EMUR La Murta 151.32 339 PKP PKPdf 12 25 03.6 -0.2
PTOM Tomar 151.44 351 *e*PKPdf PKPdf 12 25 04.2 +0.3
PTOM Tomar 151.44 351 *e*PKPbc PKPbc 12 25 10.2 +0.2
PMRV Marv??o 151.46 350 *e*PKPdf PKPdf 12 25 03.3 -0.6
PMRV Marv??o 151.46 350 *e*PKPbc PKPbc 12 25 09.7 -0.4
PMRV Marv??o 151.46 350 *e*PKPab PKPab 12 25 17.6 -0.7
PMRV Marv??o 151.46 350 *e*PP PP 12 28 48.2 +0.1
PMRV Marv??o 151.46 350 *e*LR LR 13 21 20.1
comp=Z,2µm,19.0s
EBNR Beni Rached 151.57 333 P PKPbc 12 25 10.2 -0.2
PDA Ponta Delgada 151.62 20 *e*PKP PKPdf 12 25 07.0 +2.8
PDA Ponta Delgada 151.62 20 *e*LR LR 13 16 34.0
CMLA Cha da Macela 151.65 20 *e*PKPdf PKPdf 12 25 03.9 -0.4
CMLA Cha da Macela 151.65 20 *e*PP PP 12 28 51.7 +2.3
CMLA Cha da Macela 151.65 20 *e*PKPbc PKPbc 12 25 11.4 +0.9
CMLA LR LR
comp=Z,2µm,20.0s,MS5.8
SHEL Horse Pasture 151.74 196 PFAKE 12 25 20.0 +15
SHEL LR LR
comp=Z,2µm,19.0s,MS5.8
ECHA Ech Chlef 151.76 333 P PKPbc 12 25 10.7 -0.2
EHUE Huescar 151.80 341 PKIKP PKPdf 12 25 03.6 -0.9
EBAN Banos Encina 151.84 343 PKIKP PKPdf 12 25 04.0 -0.5
ALMR Almeirim 151.92 351 *e*P PKPdf 12 25 03.0 -1.6
EQES Quesada 151.96 342 PKP PKPdf 12 25 03.2 -1.5
PESTR Estremoz 152.04 350 *e*PKPdf PKPdf 12 25 04.0 -0.8
PESTR Estremoz 152.04 350 *e*PKPbc PKPbc 12 25 10.8 -0.6
PESTR Estremoz 152.04 350 *e*PKPab PKPab 12 25 21.1 +0.3
PESTR Estremoz 152.04 350 *e*PP PP 12 28 51.8 +0.4
PESTR Estremoz 152.04 350 *e*LQ 13 20 20.4
PESTR *e*LR LR 13 20 46.5
comp=Z,2µm,26.7s
EBAD Badajoz 152.04 349 PKP PKPdf 12 25 04.0 -0.9
EANR 'Ain N'Sour 152.05 334 P PKPbc 12 25 11.0 -0.5
EADA Adamuz 152.05 344 PKP PKPdf 12 25 04.4 -0.4
PMAFR Mafra 152.21 352 *e*PKPdf PKPdf 12 25 04.4 -0.7
PMAFR Mafra 152.21 352 *e*PKPbc PKPbc 12 25 11.3 -0.5
PMAFR Mafra 152.21 352 *e*PKPab PKPab 12 25 20.7 -0.8
PMAFR Mafra 152.21 352 *e*LQ 13 19 48.0
PMAFR *e*LR LR 13 21 46.0
comp=Z,2µm,22.7s
ECAB El Cabril 152.35 346 PKP PKPdf 12 25 05.5 +0.1
ETRT Tiaret 152.43 333 P PKPbc 12 25 11.3 -1.1
LIS Lisbon 152.43 352 *e*P PKPdf 12 25 04.2 -1.2
ENIJ Nijar 152.44 340 PKIKP PKPdf 12 25 05.7 +0.2
EVO Evora 152.44 350⇑ *i*PKIKP PKPdf 12 25 04.8 -0.6
comp=Z,148nm,1.2s
EVO *e*MLR MLR
comp=Z,3µm,21.2s,MS5.8
EVO Evora 152.44 350 *e*PKPdf PKPdf 12 25 04.8 -0.6
EVO Evora 152.44 350 *e*PKPbc PKPbc 12 25 11.9 -0.4
EVO Evora 152.44 350 *e*PKPab PKPab 12 25 23.0 +0.5
EVO Evora 152.44 350 *e*PP PP 12 28 53.9 +0.2
ELUQ Luque 152.54 343 PKIKP PKPdf 12 25 04.2 -1.4
ECOG Cogollos-Vega 152.60 342 PKIKP PKPdf 12 25 04.5 -1.2
PBAR Barrancos 152.61 348 *e*PKPdf PKPdf 12 25 05.0 -0.7
PBAR Barrancos 152.61 348 *e*PKPbc PKPbc 12 25 12.3 -0.4
PBAR Barrancos 152.61 348 *e*PKPab PKPab 12 25 24.0 +0.8
PBAR Barrancos 152.61 348 *e*PP PP 12 28 55.0 +0.3
PBAR Barrancos 152.61 348 *e*LQ 13 22 32.0
PBAR *e*LR LR 13 24 00.1
comp=Z,3µm,39.1s
EBER Berja 152.73 341 PKP PKPdf 12 25 07.0 +1.1
ELOJ Sierra Loja 152.89 343 PKIKP PKPdf 12 25 08.0 +1.9
ERON Agron 152.91 342 PKP PKPdf 12 25 05.7 -0.5
PBEJ Beja 152.91 350 *e*PKPdf PKPdf 12 25 05.8 -0.3
PBEJ Beja 152.91 350 *e*PKPab PKPab 12 25 25.2 +0.8
EMIN Mina Concepcio 152.93 348 PKP PKPdf 12 25 06.0 -0.2
EGUA Guajares 153.01 342 PKIKP PKPdf 12 25 03.4 -2.9
EGRO El Granado 153.32 349 PKP PKPdf 12 25 05.8 -1.0
PVAQ Vaqueiros 153.49 349 *e*PKPdf PKPdf 12 25 06.7 -0.3
PVAQ Vaqueiros 153.49 349 *e*PP PP 12 29 00.0 +0.4
PVAQ Vaqueiros 153.49 349 *e*LR LR 13 21 14.4
PVAQ A 13 35 53.5
comp=Z,3µm,0.1s
PTEO Sao Teotonio 153.52 351 *e*PKPdf PKPdf 12 25 07.2 +0.2
PTEO Sao Teotonio 153.52 351 *e*PKPbc PKPbc 12 25 14.5 -0.2
PTEO Sao Teotonio 153.52 351 *e*PKPab PKPab 12 25 28.1 +1.1
ESPR Espera 153.60 346 PKP PKPdf 12 25 06.3 -0.9
EMIJ Mijas 153.61 344 PKP PKPdf 12 25 07.7 +0.5
PBDV Barranco-do-Ve 153.68 349 *e*PKPdf PKPdf 12 25 06.8 -0.5
PBDV Barranco-do-Ve 153.68 349 *e*PKPab PKPab 12 25 28.3 +0.6
PBDV Barranco-do-Ve 153.68 349 *e*PP PP 12 29 01.9 +1.2
PBDV Barranco-do-Ve 153.68 349 *e*LR LR 13 20 08.3
comp=Z,3µm,28.3s
MORF Marmelete 153.74 351 *e*PKPdf PKPdf 12 25 07.0 -0.4
MORF Marmelete 153.74 351 *e*PKPab PKPab 12 25 28.2 +0.2
MORF Marmelete 153.74 351 *e*PP PP 12 29 02.5 +1.5
MORF Marmelete 153.74 351 *e*LQ 13 19 02.3
MORF *e*LR LR 13 20 36.4
comp=Z,1µm,26.1s
EJIF Jimena Fronter 153.90 345 PKIKP PKPdf 12 25 07.8 +0.2
PFVI Vila Bisbo 153.94 351 *e*PKPdf PKPdf 12 25 07.0 -0.6
PFVI Vila Bisbo 153.94 351 *e*PKPab PKPab 12 25 28.8 0.0
PFVI Vila Bisbo 153.94 351 *e*LR LR 13 19 29.8
comp=Z,1µm,20.0s
SFS San Fernando 154.07 346 PFAKE 12 25 20.0 +12
SFS LR LR
comp=Z,4µm,22.0s,MS6.2
MDT Midelt 157.03 340 PKP PKPdf 12 25 10.6 -1.4
comp=Z,13nm,0.8s
MDT PKPab PKPab 12 25 42.5 +0.3
comp=Z,9.7nm,0.8s,baz=359,slow=0.9,SNR=4.2
MDT PP PP 12 29 18.2 -1.4
comp=Z,3.8nm,1.0s,baz=348,slow=9.7,SNR=3.1
PMAR Madeira 158.52 7 *e*PKPab PKPab 12 25 49.4 +0.8
TOA0 Torodi Ar. Sit 164.79 278 *e*PKPdf PKPdf 12 25 19.3 -1.4
TOA0 *e*PKPab PKPab 12 26 17.5 +0.7
TORD Torodi Ar. Bea 164.79 278 PKP PKPdf 12 25 19.6 -1.1
comp=Z,19nm,1.0s,baz=16,slow=1.0,SNR=54
TORD PKPab PKPab 12 26 16.9 +0.1
comp=Z,36nm,1.1s,baz=79,slow=5.6,SNR=14
TORD PP PP 12 29 59.3 -4.2
comp=Z,3.1nm,0.8s,baz=134,slow=6.7,SNR=5.2
KIC Kosan Boka 169.81 242 *e*P PKPdf 12 25 23.0 -1.5
comp=Z,1µm,1.5s
LIC Lamto 169.98 240⇑ *i*PKIKP PKPdf 12 25 23.0 -1.6
comp=Z,159nm,1.5s
LIC *e*MLR MLR
comp=Z,4µm,22.0s
LIC Lamto 169.98 240 *e*P PKPdf 12 25 21.7 -2.9
comp=Z,528nm,1.4s
LIC Lamto 169.98 240⇑ *i*PKPdf PKPdf 12 25 23.0 -1.6
LIC LR LR
comp=Z,2µm,22.0s
DBIC Dimbokro 170.06 243 PKP PKPdf 12 25 23.2 -1.4
comp=Z,31nm,1.2s,baz=3.7,slow=0.6,SNR=7.5
DBIC PKPab PKPab 12 26 39.5 -0.5
comp=Z,32nm,0.7s,baz=95,slow=5.5,SNR=17
DBIC PP PP 12 30 26.1 -3.9
comp=Z,4.9nm,0.9s,baz=123,slow=5.6,SNR=2.5
DBIC Dimbokro 170.06 243 *e*PKPdf PKPdf 12 25 23.1 -1.5
DBIC LR LR
comp=Z,4µm,22.0s
TIC Toumodi 170.19 242 *e*P PKPdf 12 25 23.4 -1.3
comp=Z,949nm,1.3s
BBTS Babate 175.74 39 PKP PKPdf 12 25 25.2 -1.6
comp=Z,8.7nm,0.4s,baz=268,slow=2.5,SNR=1.9
BBTS PP PP 12 30 53.3 -3.5
comp=Z,6.0nm,0.3s,baz=32,slow=2.3,SNR=2.0

ATH 12 12:15:27.4,3929N×2031E,h10km,MD3.0/3,
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.56**	**49**	*e*PB	Pb	12 15 38.0	-1.2
KEK	**Kerkira**	**0.58**	**317**	*e*PB	Pb	12 15 38.5	-1.1
VLS	**Valsamata**	**1.13**	**169**	*e*PB	Pb	12 15 49.0	0.0

ISCJB ***12*** *12:21:02.8±0.6,2431S×004×6725W×008,h177km±11km, mb3.3/2,Error ellipse: s-maj=12.4km s-min=6.5km az=7.2*
NEIC ***12*** *12:21:03.3±0.6,2422S×67.18W,h163km±8km,mb3.6/1, Error ellipse: s-maj=11.2km s-min=7.5km az=108.0*
IDC ***12*** *12:21:03.3±1.0,2424S×67.13W,h161km±10km,mb3.1/2, mb1 3.4/8,mb1mx3.3/21,mbtmp3.2/8,MS3.4/2,Ms1 3.5/2, ms1mx3.0/11,Error ellipse: s-maj=17.6km s-min=12.3km az=69.0*
GUC ***12*** *12:21:05.5±0.7,2430S×6765W,h200km,ML3.9*
ISC 12 12:21:03.8±0.6,2432S×004×6722W×008,h166km±11km, n22,σ1°08/26,mb3.3/2,1C-2D,Chile-Argentina border region

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

LVC Limon Verde 2.30 317 P **Pn 12 21 44.3 +1.0**
34nm,0.3s,baz=139,slow=5.9,SNR=225
LVC S **Sn 12 22 13.7 -0.2**
111nm,0.3s,baz=274,slow=20,SNR=60
LVC Limon Verde 2.30 317 P **Pn 12 21 44.3 +1.0**
LVC S **Sn 12 22 13.7 -0.2**
CEN1 Los Morros 2.88 288 ⇓*i*P **Pn 12 21 51.9 +1.6**
CEN1 *i* S **Sn 12 22 26.6 +0.3**
CEN1 AML AML 12 22 28.6
comp=N,396nm,0.6s
CPN1 Cerro Paranal 2.92 263 ⇑*i*P **Pn 12 21 51.8 +1.0**
CPN1 *i* S **Sn 12 22 27.0 -0.1**
CPN1 AML AML 12 22 30.4
comp=N,228nm,0.2s
CPCH Copiapo 4.14 222 *e*P **Pn 12 22 06.0 -0.2**
CPCH *i* S **Sn 12 22 54.2 -0.7**
CDCH Caldera 4.25 229 ⇓*i*P **Pn 12 22 07.2 -0.5**
CDCH *i* S **Sn 12 22 55.6 -2.1**
LCO Las Campanas 5.61 213 *e*Pn **Pn 12 22 26.0 +0.5**
LCO *e*Sn **Sn 12 23 28.3 -1.3**
CFAA Coronel Fontan 7.31 187 P **Pn 12 22 49.6 +1.7**
comp=N,0.1nm,0.3s,baz=3.4,slow=12,SNR=10.0
CFAA S **Sn 12 24 09.8 -0.2**
comp=N,0.1nm,0.3s,baz=240,slow=20,SNR=10
LPAZ La Paz 8.04 354 P **Pn 12 22 56.8 -0.8**
comp=N,0.6nm,0.3s,baz=170,slow=9.3,SNR=23
LPAZ LR LR 12 25 52.5
comp=N,228nm,22.0s,baz=121,slow=36
CPUP Villa Florida 9.17 105 P **Pn 12 23 12.0 -0.6**
comp=N,0.2nm,0.3s,baz=261,slow=13,SNR=3.9
CPUP LR LR 12 26 25.5
comp=N,355nm,20.1s,baz=119,slow=35
CPUP Villa Florida 9.17 105 P **Pn 12 23 12.0 -0.6**
CPUP LR LR 12 26 25.5
SIV San Ignacio 10.10 36 P **Pn 12 23 21.5 -3.3**
comp=N,0.7nm,0.3s,baz=216,slow=14,SNR=13
TRQA Tornquist 14.41 163 *e*Pn **Pn 12 24 22.2 +2.2**
PLCA Paso Flores 16.60 189 P **Pn 12 24 48.7 +1.8**
comp=N,0.1nm,0.3s,baz=62,slow=23,SNR=2.3
PLCA Paso Flores 16.60 189 *e*P **Pn 12 24 47.8 +1.0**
comp=N,1.7nm,0.5s
BDFB Brasilia 19.99 68 P **P 12 25 22.9 -0.6**
comp=N,0.5nm,0.3s,baz=234,slow=18,SNR=5.4
TXAR Lajitas Array 63.82 325 P **P 12 31 18.2 -0.1**
comp=N,0.2nm,0.6s,mb3.1,baz=153,slow=8.1,SNR=2.8
TORD Torodi Ar. Bea 76.87 69 P **P 12 32 37.1 -0.8**
comp=N,1.1nm,0.8s,mb3.5,baz=258,slow=5.8,SNR=5.0
ASAR Alice Springs 128.08 205 PKP PKPdf 12 39 50.9 +0.2
comp=N,0.5nm,0.8s,baz=122,slow=1.8,SNR=5.5
WRA Warramunga Arr 131.25 207 PKP PKPdf 12 39 56.9 +0.1
comp=N,0.3nm,0.6s,baz=162,slow=1.8,SNR=13
MKAR Makanchi Array 146.90 40 PKPbc PKPbc 12 40 26.4 0.0
comp=N,0.4nm,0.5s,baz=304,slow=3.3,SNR=4.2
MKAR Makanchi Array 146.90 40 PKPbc PKPbc 12 40 26.4 0.0

ISCJB ***12*** *12:23:57.6±0.5,3886N±003×14170E±007,h85km±4km, mb3.6/5,Error ellipse: s-maj=10.0km s-min=4.9km az=18.8*
NEIC ***12*** *12:23:57.7±2.0,3894N×14196E,h75km±18km,mb4.3/1, Error ellipse: s-maj=21.3km s-min=14.9km az=88.0*
JMA ***12*** *12:23:59.5,3887N×14158E,h77km±1km,M3.3 Broadband fault plane solution: P waves. NP1: φ±9.00000°,δ36.00000°,λ69.00000°. NP2:φ±214.00000°, δ56.00000°,λ105.00000°. Principal axes: T Plg74.0000°, Azm165.0000°; N Plg12.0000°, Azm26.0000°; P Plg10.0000°, Azm294.0000°;*
IDC ***12*** *12:23:59.5±2.5,3890N×14178E,h86km±21km,mb3.2/4, mb1 3.3/7,mb1mx3.2/23,mbtmp3.3/7 Error ellipse: s-maj=41.2km s-min=18.0km az=81.0*
ISC 12 12:23:58.8±0.5,3886N±003×14169E±007,h79km±4km, n25,σ0°80/39,mb3.6/5,6C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.22**	**356**	⇑P	**Pn**	**12 24 11.1**	**+0.6**
OFUJ				S	**Sn**	**12 24 19.3**	**+0.2**
JMK	**Ichinoseki**	**0.38**	**284**	⇑P	**Pn**	**12 24 11.3**	**-0.1**
JMK				S	**Sn**	**12 24 19.9**	**-0.9**
JIO	**Ouri**	**0.49**	**213**	⇑P	**Pn**	**12 24 12.5**	**+0.2**
JIO				S	**Sn**	**12 24 21.9**	**-0.4**
JOM	**Ohasama**	**0.68**	**333**	⇑P	**Pn**	**12 24 14.3**	**+0.1**
JOM				S	**Sn**	**12 24 25.1**	**-0.5**
JOU	**Okura**	**0.94**	**239**	⇑P	**Pn**	**12 24 17.2**	**+0.1**
JOU				S	**Sn**	**12 24 30.7**	**0.0**
JYK	**Kaneyama**	**1.04**	**273**	⇓P	**Pn**	**12 24 18.1**	**-0.1**
JYK				*e*S	**Sn**	**12 24 32.7**	**-0.1**
JMM	**Marumori**	**1.22**	**216**	⇑P	**Pn**	**12 24 20.2**	**-0.3**
JMM				*e*S	**Sn**	**12 24 35.4**	**-1.3**
JYS	**Shirataka**	**1.43**	**244**	⇓P	**Pn**	**12 24 23.3**	**+0.2**
JYS				S	**Sn**	**12 24 41.3**	**-0.1**
JANG	**Nango**	**1.52**	**355**	P	**Pn**	**12 24 24.3**	**+0.1**
JANG				*e*S	**Sn**	**12 24 43.5**	**+0.1**
JAH	**Hinai**	**1.56**	**329**	⇓P	**Pn**	**12 24 25.3**	**+0.6**
JAH				*e*S	**Sn**	**12 24 44.6**	**+0.2**
JYA	**Atsumi**	**1.57**	**261**	⇓P	**Pn**	**12 24 24.9**	**0.0**
JYA				*e*S	**Sn**	**12 24 44.1**	**-0.6**
JFK	**Kawauchi**	**1.63**	**204**	P	**Pn**	**12 24 26.0**	**+0.3**
JFK				S	**Sn**	**12 24 45.6**	**-0.4**
MJAR	**Matsushiro Arr**	**3.60**	**231**	P	**Pn**	**12 24 54.0**	**+1.8**
	1.4nm,0.3s,baz=35,slow=13,SNR=29						
MAJO	**Matsushiro**	**3.60**	**231**	*e*P	**Pn**	**12 24 54.1**	**+1.8**
MAT	**Matsushiro**	**3.60**	**231**	P	**Pn**	**12 24 53.7**	**+1.4**
MAT				*e*S	**Sn**	**12 25 32.2**	**-1.5**
ASAJ	**Asahikawa**	**5.29**	**7**	P	**Pn**	**12 25 15.2**	**0.0**
	0.6nm,0.3s,baz=76,slow=26,SNR=6.9						
JHJ	**Hachijo jima 2**	**5.94**	**196**	P	**Pn**	**12 25 26.5**	**+1.5**
	8.2nm,0.3s,baz=55,slow=14,SNR=3.1						
JHJ				S	**Sn**	**12 26 26.6**	**-4.1**
	2.0nm,0.3s,baz=114,slow=20,SNR=2.8						
ZALV	**Zalesovo Beam**	**40.87**	**311**	P	**P**	**12 31 33.2**	**+0.5**
	0.6nm,0.4s,mb3.7,baz=79,slow=7.4,SNR=3.1						
MKAR	**Makanchi Array**	**43.36**	**301**	P	**P**	**12 31 53.2**	**+0.2**
	0.2nm,0.5s,mb3.1,baz=87,slow=5.9,SNR=3.1						
WB2	**Warramunga Arr**	**58.90**	**188**	*e*P	**P**	**12 33 49.4**	**-0.1**
WRA	**Warramunga Arr**	**58.90**	**188**	P	**P**	**12 33 49.5**	**0.0**
	0.4nm,0.4s,mb3.8,baz=6.3,slow=7.0,SNR=13						
ASAR	**Alice Springs**	**62.62**	**188**	P	**P**	**12 34 15.2**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=0.4,slow=5.2,SNR=4.9						
BW06	**Boulder Array**	**76.23**	**46**	*e*P	**P**	**12 35 38.0**	**-0.6**
	3.3nm,0.8s,mb4.1						
MSU	**Marysvale**	**77.45**	**51**	*e*P	**P**	**12 35 44.2**	**-1.3**
TMUT	**Trail Mountain**	**77.53**	**49**	*e*P	**P**	**12 35 43.4**	**-2.5**

ISCJB ***12*** *12:26:07.5±0.4,3925N±002×20.11E±002,h11km±3km, mb4.1/15,Error ellipse: s-maj=3.1km s-min=2.2km az=142.0*
CSEM ***12*** *12:26:07.3±0.1,3926N×1998E,h10km,ML4.4,Error ellipse: s-maj=2.0km s-min=1.0km az=46.0*
IDC ***12*** *12:26:07.8±0.7,3944N×2035E,h0km,mb4.1/13, mb1 4.1/21,mb1mx4.0/36,mbtmp4.0/21,ML4.1/7,MS4.0/1, Ms1 4.0/1,ms1mx2.9/33,Error ellipse: s-maj=14.6km s-min=11.8km az=56.0*
MOS ***12*** *12:26:07.8±1.5,3930N×2013E,h24km,mb4.2/2,Error ellipse: s-maj=5.8km s-min=3.9km az=92.7*
ATH ***12*** *12:26:08.7,3922N×2026E,h22km±1km,MD4.1/14,ML4.3*
THE ***12*** *12:26:08.8,3926N×2018E,h0km,ML4.4*
PDG ***12*** *12:26:08.2±0.4,3928N×2016E,h11km±1km,ML3.9/9, Error ellipse: s-maj=1.1km s-min=1.4km az=0.0*
NEIC ***12*** *12:26:09.1±0.9,3930N×2025E,h9km±6km,mb4.0/2, ML4.3(ATH),ML4.4(THE),Error ellipse: s-maj=4.9km s-min=3.1km az=212.0*
ISC 12 12:26:09.2±0.4,3927N±001×2018E±002,h10km±3km, n189,σ1°27/229,mb4.0/16,33C-13D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.29**	**24**	*e*Pg	**Pg**	**12 26 14.1**	**-0.9**
IGT				*e*Sg	**Sg**	**12 26 18.5**	**-0.4**
KEK	**Kerkira**	**0.54**	**326**	*e*PB	**Pb**	**12 26 20.5**	**-0.2**
KEK				*e*SN	**Sg**	**12 26 29.8**	**+3.1**
SRN	**Sarande**	**0.63**	**347**	*e*PG	**Pg**	**12 26 20.9**	**-0.5**
SRN				*i* SG	**Sg**	**12 26 31.3**	**+1.7**
JAN	**Janina**	**0.65**	**53**	⇓*i*PB	**Pb**	**12 26 20.5**	**-2.0**
JAN				*e*SN	**Sg**	**12 26 30.5**	**+0.3**
LKD	**Levkas**	**0.67**	**147**	*e*Pg	**Pg**	**12 26 20.4**	**-1.7**
LKD				*e*Sg	**Sg**	**12 26 31.4**	**+0.5**
VLS	**Valsamata**	**1.14**	**164**	*e*Pg	**Pg**	**12 26 29.2**	**-1.8**
VLS				*e*Sg	**Sg**	**12 26 47.5**	**+1.8**
VLS	**Valsamata**	**1.14**	**164**	*e*Pn	**Pn**	**12 26 29.5**	**-1.6**
VLS				*e*Sn	**Sn**	**12 26 44.8**	**-1.9**
KFL	**Anninata**	**1.25**	**158**	*e*Pg	**Pg**	**12 26 31.9**	**-1.3**
EVR	**Evrytania**	**1.31**	**105**	*e*PN	**Pn**	**12 26 32.3**	**-1.2**
THL	**Klokotos Trika**	**1.45**	**78**	*e*Pg	**Pg**	**12 26 34.6**	**-2.4**
THL				*e*Sg	**Sg**	**12 26 56.8**	**+1.0**
THL	**Klokotos Trika**	**1.45**	**78**	*e*Pn	**Pn**	**12 26 34.4**	**-1.0**
THL				*e*Sn	**Sn**	**12 26 54.9**	**+0.4**
RLS	**Riolos of Patr**	**1.57**	**140**	*e*PN	**Pn**	**12 26 36.6**	**-0.5**
KZN	**Kozani**	**1.60**	**49**	*e*PN	**Pn**	**12 26 37.4**	**-0.2**
AGG	**Agios Georgios**	**1.69**	**98**	*e*Pb	**Pb**	**12 26 38.8**	**-1.5**
AGG				*e*Sb	**Sb**	**12 27 03.6**	**+2.1**
FNA	**Florina**	**1.77**	**31**	*e*Pb	**Pb**	**12 26 40.7**	**-1.0**
FNA				*e*Sb	**Sb**	**12 27 05.1**	**+1.1**
OHR	**Ohrid**	**1.90**	**14**	*e*Pb	**Pb**	**12 26 43.2**	**-0.8**
OHR	**Ohrid**	**1.90**	**14**	*i* Pn	**Pn**	**12 26 43.5**	**+1.9**
OHR				*i* Sn	**Sn**	**12 27 10.1**	**+4.5**
BIA	**Bitola**	**1.96**	**26**	*e*Pb	**Pb**	**12 26 41.5**	**-3.3**
BIA				*e*Sb	**Sb**	**12 27 10.1**	**+0.9**
BIA	**Bitola**	**1.96**	**26**	*e*Pn	**Pn**	**12 26 44.9**	**+2.5**
BIA	**Bitola**	**1.96**	**26**	*e*Pn	**Pn**	**12 26 44.8**	**+2.4**
LIT	**Litokhoron**	**1.96**	**64**	*e*Pb	**Pb**	**12 26 43.3**	**-1.7**
LIT				*e*Sb	**Sb**	**12 27 10.5**	**+1.0**
TIR	**Tirane**	**2.09**	**353**	*e*Pn	**Pn**	**12 26 46.3**	**+2.0**
TIR	**Tirane**	**2.09**	**353**	*e*PN	**Pn**	**12 26 45.9**	**+1.6**
KRUS	**Krusevo**	**2.25**	**21**	⇑*i*Pn	**Pn**	**12 26 48.3**	**+1.8**
KRUS	**Krusevo**	**2.25**	**21**	⇑*i*PN	**Pn**	**12 26 48.2**	**+1.8**
QSH	**Qafa e Shtames**	**2.26**	**355**	*e*PN	**Pn**	**12 26 49.5**	**+2.9**
LKR	**Lokris**	**2.28**	**105**	*e*Pn	**Pn**	**12 26 47.4**	**+0.5**
LKR	**Lokris**	**2.28**	**105**	*e*PN	**Pn**	**12 26 45.9**	**-1.0**
LKR	**Lokris**	**2.28**	**105**	*e*Pn	**Pn**	**12 26 47.3**	**+0.4**
XOR	**Xorichti**	**2.33**	**87**	*e*Pn	**Pn**	**12 26 48.1**	**+0.5**
NEO	**Neokhori**	**2.36**	**88**	*e*PB	**Pb**	**12 26 48.6**	**-3.2**
GRG	**Griva**	**2.40**	**45**	*e*Pn	**Pn**	**12 26 48.8**	**+0.4**
ITM	**Ithomi**	**2.50**	**146**	*e*PB	**Pb**	**12 26 50.6**	**-3.5**
LTK	**Loutraki**	**2.51**	**119**	*e*Pn	**Pn**	**12 26 50.4**	**+0.4**
THE	**Thessaloniki**	**2.54**	**57**	*e*Pn	**Pn**	**12 26 50.8**	**+0.4**
VLX	**Vlachokerasia**	**2.56**	**137**	*e*Pn	**Pn**	**12 26 52.6**	**+1.9**
HORT	**Hortiatis**	**2.60**	**58**	*e*Pn	**Pn**	**12 26 51.9**	**+0.5**
HORT	**Hortiatis**	**2.60**	**58**	*e*Pn	**Pn**	**12 26 51.8**	**+0.5**
PE1	**Pezze di Greco**	**2.62**	**307**	*e*Pn	**Pn**	**12 26 52.0**	**+0.5**
TIP	**Timpagrande**	**2.66**	**269**	*e*Pn	**Pn**	**12 26 53.3**	**+1.2**
PLG	**Polygyros**	**2.74**	**65**	*e*Pn	**Pn**	**12 26 53.3**	**0.0**
PLG				*e*Sn	**Sn**	**12 27 27.0**	**+0.6**
VAY	**Valandovo**	**2.75**	**41**	*e*Pn	**Pn**	**12 26 53.4**	**+0.1**
VAY	**Valandovo**	**2.75**	**41**	⇑*i*Pn	**Pn**	**12 26 53.3**	**0.0**
PAIG	**Paliouri**	**2.78**	**75**	*e*Pn	**Pn**	**12 26 53.5**	**-0.2**
PUK	**Puka**	**2.78**	**356**	*e*PN	**Pn**	**12 26 54.8**	**+1.1**
ULC	**Ulcinj**	**2.78**	**346**	⇑*i*Pn	**Pn**	**12 26 53.7**	**-0.1**
ULC				*e*Sn	**Sn**	**12 27 29.1**	**+1.7**
STIP	**Stip**	**2.86**	**32**	*e*Pn	**Pn**	**12 26 56.1**	**+1.2**
STIP	**Stip**	**2.86**	**32**	⇑*i*Pn	**Pn**	**12 26 56.1**	**+1.2**
SKO	**Skopje**	**2.87**	**19**	*e*Pn	**Pn**	**12 26 56.0**	**+1.1**
SKO	**Skopje**	**2.87**	**19**	⇑*i*Pn	**Pn**	**12 26 56.5**	**+1.7**
AOS	**Alonnisos**	**2.87**	**91**	*e*Pn	**Pn**	**12 26 55.3**	**+0.3**
DID	**Didima**	**2.98**	**125**	*e*Pn	**Pn**	**12 26 56.5**	**+0.1**
DID				*e*Sn	**Sn**	**12 27 34.6**	**+2.5**
DID	**Didima**	**2.98**	**125**	*e*Pn	**Pn**	**12 26 56.5**	**+0.1**
NAIG	**Nisos Aigina**	**3.00**	**119**	*e*PN	**Pn**	**12 26 57.0**	**+0.3**
ATH	**Athens Observa**	**3.06**	**114**	*e*PN	**Pn**	**12 26 57.6**	**+0.1**
BCI	**Bajram Curri**	**3.10**	**358**	*e*PN	**Pn**	**12 27 00.1**	**+2.0**
OUR	**Ouranopolis**	**3.11**	**69**	*e*Pn	**Pn**	**12 26 59.1**	**+0.8**
SG1	**Sgolgore (BA)**	**3.11**	**301**	*e*Pn	**Pn**	**12 26 59.3**	**+1.0**
PTL	**Penteli**	**3.13**	**112**	*e*PN	**Pn**	**12 26 58.5**	**0.0**
KVR	**Kavouri**	**3.16**	**116**	*e*PN	**Pn**	**12 26 59.0**	**+0.1**
BUM	**Brajici-Budva**	**3.18**	**343**	⇑*i*Pn	**Pn**	**12 26 59.1**	**-0.2**
BUM				*e*Sn	**Sn**	**12 27 38.6**	**+1.4**
PDG	**Podgorica**	**3.23**	**348**	⇑*i*Pn	**Pn**	**12 27 00.2**	**+0.2**
TTG	**Podgorica**	**3.23**	**348**	⇑*i*Pn	**Pn**	**12 27 00.2**	**+0.2**
TTG				*e*Sn	**Sn**	**12 27 40.1**	**+1.6**
PVY	**Plav**	**3.33**	**357**	⇑*i*Pn	**Pn**	**12 27 02.1**	**+0.9**
PVY				*e*Sn	**Sn**	**12 27 42.3**	**+1.5**
VLI	**Veliai**	**3.35**	**139**	*e*PN	**Pn**	**12 27 02.0**	**+0.5**
HCY	**Herceg Novi**	**3.42**	**339**	⇑*i*Pn	**Pn**	**12 27 02.2**	**-0.4**
HCY				*e*Sn	**Sn**	**12 27 43.9**	**+0.7**
CUC	**Castrocucco**	**3.45**	**283**	*e*Pn	**Pn**	**12 27 05.6**	**+2.7**
NVR	**Nevrokopi**	**3.50**	**52**	*e*PN	**Pn**	**12 27 04.0**	**+0.4**
CEL	**Celeste**	**3.50**	**255**	*e*Pn	**Pn**	**12 27 04.5**	**+0.9**
MMB	**Musomiste**	**3.56**	**48**	*i* P	**Pn**	**12 27 05.0**	**+0.5**
BEY	**Berane**	**3.61**	**357**	⇑*i*Pn	**Pn**	**12 27 06.1**	**+1.0**
IVA	**Berane**	**3.61**	**357**	⇑*i*Pn	**Pn**	**12 27 06.1**	**+1.0**
IVA				*e*Sn	**Sn**	**12 27 48.3**	**+0.6**
TREB	**Trebinje**	**3.71**	**339**	*e*Pn	**Pn**	**12 27 06.3**	**-0.3**
TREB				*e*Sn	**Sn**	**12 27 43.8**	**-6.5**
KYTH	**Kithira**	**3.74**	**142**	*e*PN	**Pn**	**12 27 07.5**	**+0.5**
KYTH	**Kithira**	**3.74**	**142**	*e*Pn	**Pn**	**12 27 08.0**	**+1.0**
BARS	**Barje**	**3.75**	**19**	*e*Pn	**Pn**	**12 27 07.6**	**+0.5**
BRY	**Bratogost**	**3.83**	**342**	⇑*i*Pn	**Pn**	**12 27 08.0**	**-0.2**
BRY				*e*Sn	**Sn**	**12 27 53.8**	**+0.5**
LOS	**Limnos**	**3.84**	**78**	*e*Pn	**Pn**	**12 27 08.6**	**+0.3**
VTS	**Vitosha**	**4.03**	**34**	*i* P	**Pn**	**12 27 13.0**	**+2.1**
VTS	**Vitosha**	**4.03**	**34**	⇑*i*P	**Pn**	**12 27 12.7**	**+1.8**
UPM	**Unac-Piva**	**4.05**	**347**	⇑*i*Pn	**Pn**	**12 27 11.9**	**+0.8**
UPM				*e*Sn	**Sn**	**12 27 58.6**	**+0.1**
MS1	**Monte Sant'Ang**	**4.05**	**308**	*e*Pn	**Pn**	**12 27 12.3**	**+1.2**
STON	**Ston**	**4.06**	**333**	⇑*i*Pn	**Pn**	**12 27 10.9**	**-0.4**
STON				Sn	**Sn**	**12 27 57.4**	**-1.5**
PLE	**Pljevlja**	**4.10**	**352**	⇑*i*Pn	**Pn**	**12 27 12.3**	**+0.4**
PLE				*e*Sn	**Sn**	**12 28 01.0**	**+1.1**
GRUS	**Gruza**	**4.63**	**5**	⇓*i*Pn	**Pn**	**12 27 18.6**	**-0.6**
KDZ	**Kurdzhali**	**4.65**	**58**	*e*P	**Pn**	**12 27 20.0**	**+0.6**
PRK	**Paraskevi**	**4.73**	**88**	*e*Pn	**Pn**	**12 27 18.8**	**-1.7**
BOLS	**Boljevac**	**4.75**	**16**	⇓*i*Pn	**Pn**	**12 27 20.2**	**-0.5**
APE	**Apeiranthos**	**4.75**	**116**	*e*PN	**Pn**	**12 27 21.0**	**+0.2**
APE	**Apeiranthos**	**4.75**	**116**	⇓*i*P	**Pn**	**12 27 20.8**	**0.0**
APE	**Apeiranthos**	**4.75**	**116**	*e*Pn	**Pn**	**12 27 20.5**	**-0.3**
DIVS	**Divibare**	**4.83**	**358**	*e*Pn	**Pn**	**12 27 22.0**	**+0.1**
KARN	**Karanos**	**4.87**	**141**	*e*Pn	**Pn**	**12 27 23.0**	**+0.5**
VAE	**Valguarnera**	**4.88**	**250**	Pn	**Pn**	**12 27 25.8**	**+3.3**
	1.3nm,0.3s,baz=1.2,slow=13,SNR=2.4						
VAE				Sn	**Sn**	**12 28 20.6**	**+1.6**
	2.5nm,0.3s,baz=38,slow=8.9,SNR=2.4						
SMG	**Samos**	**5.45**	**105**	P	**Pn**	**12 27 32.2**	**+1.8**
IDI	**Anoyia**	**5.46**	**135**	Pn	**Pn**	**12 27 29.5**	**-1.1**
	2.1nm,0.3s,baz=331,slow=13,SNR=12						
IDI				Sn	**Sn**	**12 28 28.1**	**-5.4**
	3.9nm,0.3s,baz=94,slow=20,SNR=4.0						
PVL	**Pavlikeni**	**5.53**	**43**	*e*P	**Pn**	**12 27 30.5**	**-1.1**
BLY	**Banja Luka**	**5.91**	**339**	*e*Sn	**Sn**	**12 28 37.2**	**-7.3**
AQU	**L'Aquila**	**6.00**	**303**	⇓*i*P	**Pn**	**12 27 40.3**	**+2.4**
AQU	**L'Aquila**	**6.00**	**303**	⇓P	**Pn**	**12 27 40.3**	**+2.4**
ZKR	**Zakros**	**6.35**	**129**	P	**Pn**	**12 27 43.6**	**+0.8**
BZS	**Buzias**	**6.43**	**9**	⇑*i*P	**Pn**	**12 27 44.1**	**+0.2**
NVLJ	**Novalja**	**6.61**	**325**	*e*Pn	**Pn**	**12 27 46.5**	**+0.2**
NVLJ				Sn	**Sn**	**12 28 59.4**	**-2.3**
NVLJ	**Novalja**	**6.61**	**325**	*e*Pn	**Pn**	**12 27 46.4**	**+0.1**
NVLJ				Sn	**Sn**	**12 28 59.4**	**-2.3**
PKSM	**Moragy**	**7.03**	**351**	⇑*i*P	**Pn**	**12 27 51.3**	**-0.8**
PKSM	**Moragy**	**7.03**	**351**	⇑P	**Pn**	**12 27 51.3**	**-0.8**
BOJS	**Bojanci**	**7.22**	**331**	*i* Pn	**Pn**	**12 27 54.6**	**-0.1**
BOJS				*i* Sn	**Sn**	**12 29 17.6**	**+0.9**
MLR	**Muntele Rosu**	**7.54**	**33**	⇑*i*P	**Pn**	**12 28 04.1**	**+5.0**
MLR	**Muntele Rosu**	**7.54**	**33**	⇑P	**Pn**	**12 28 04.0**	**+5.0**
DRGR		**7.74**	**13**	⇑*i*P	**Pn**	**12 27 59.3**	**-2.6**
DRGR		**7.74**	**13**	⇑P	**Pn**	**12 27 59.3**	**-2.6**
VNDS	**Vrh nad Dolski**	**7.93**	**331**	*i* Pn	**Pn**	**12 28 04.2**	**-0.3**
LJU	**Ljubljana**	**7.95**	**330**	*i* Pn	**Pn**	**12 28 04.4**	**-0.3**
LJU				*e*Sn	**Sn**	**12 29 33.0**	**-1.6**
JAVS	**Javornik**	**8.01**	**328**	*i* Pn	**Pn**	**12 28 05.6**	**0.0**
JAVS				*i* Sn	**Sn**	**12 29 31.5**	**-4.6**
PLOR	**Plostina**	**8.12**	**34**	⇓*i*P	**Pn**	**12 28 09.8**	**+2.7**
VRI	**Vrincioaia**	**8.17**	**34**	⇑*i*P	**Pn**	**12 28 10.6**	**+2.9**
VRI	**Vrincioaia**	**8.17**	**34**	⇑P	**Pn**	**12 28 10.6**	**+2.9**
VOY	**Vojsko**	**8.19**	**328**	*e*Pn	**Pn**	**12 28 08.0**	**0.0**
VOY				*e*Sn	**Sn**	**12 29 38.6**	**-2.0**
PERS	**Pernice**	**8.25**	**335**	*i* Pn	**Pn**	**12 28 08.0**	**-0.8**
PERS				*e*Sn	**Sn**	**12 29 38.5**	**-3.4**
PERS	**Pernice**	**8.25**	**335**	*i* Pn	**Pn**	**12 28 08.0**	**-0.8**
PERS				*e*Sn	**Sn**	**12 29 38.5**	**-3.4**
SOKA	**Soboth**	**8.31**	**335**	⇓*i*Pn	**Pn**	**12 28 08.8**	**-0.9**
SOKA				⇓*i*Sn	**Sn**	**12 29 40.3**	**-3.2**
OBKA	**Obir**	**8.33**	**332**	⇓*i*Pn	**Pn**	**12 28 09.5**	**-0.4**
OBKA				⇑*i*Sn	**Sn**	**12 29 42.9**	**-1.1**
GORS	**Gorjuse**	**8.38**	**329**	*i* Pn	**Pn**	**12 28 10.4**	**-0.3**
PSZ	**Piszkesteto**	**8.65**	**359**	⇑*i*P	**Pn**	**12 28 13.8**	**-0.5**
PSZ	**Piszkesteto**	**8.65**	**359**	⇑P	**Pn**	**12 28 13.8**	**-0.5**
ARSA	**Arzberg**	**8.67**	**338**	⇓*i*Sn	**Sn**	**12 29 50.3**	**-2.0**
ARSA	**Arzberg**	**8.67**	**338**	⇑*i*Pn	**Pn**	**12 28 13.5**	**-1.1**
	SNR=9.1						
ARSA				⇓*i*Sn	**Sn**	**12 29 50.3**	**-2.0**
ARSA	**Arzberg**	**8.67**	**338**	P	**Pn**	**12 28 13.5**	**-1.1**
	9.0nm,1.0s						
PGF	**Pioggiola**	**9.08**	**295**	*e*P	**Pn**	**12 28 23.2**	**+3.0**
	97nm,1.4s						
PGF	**Pioggiola**	**9.08**	**295**	*e*P	**Pn**	**12 28 23.2**	**+3.0**
PGF				pmax	pmax		
	comp=Z,48nm,1.4s						
PGF	**Pioggiola**	**9.08**	**295**	*e*P	**Pn**	**12 28 23.2**	**+3.0**
	comp=Z,48nm,1.4s						
KEST	**Kesra**	**9.31**	**251**	Pn	**Pn**	**12 28 24.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=60,slow=8.1,SNR=2.2						
MOA	**Molln**	**9.59**	**335**	⇑*i*Pn	**Pn**	**12 28 27.0**	**-0.1**
MOA				⇓*i*Sn	**Sn**	**12 30 12.8**	**-2.1**
MOTA	**Moosalm**	**10.43**	**324**	⇑*i*Pn	**Pn**	**12 28 39.1**	**+0.4**
	SNR=11						
MOTA	**Moosalm**	**10.43**	**324**	Pn	**Pn**	**12 28 39.1**	**+0.4**
	comp=Z,11nm,2.0s						
DAVOX	**Davos/Dischmat**	**10.63**	**318**	Pn	**Pn**	**12 28 42.9**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=136,slow=17,SNR=9.2						
DAVOX				Sn	**Sn**	**12 30 39.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=196,slow=20,SNR=2.0						
GERES	**GERESS Array B**	**10.64**	**336**	Pn	**Pn**	**12 28 40.3**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=156,slow=13,SNR=31						
GERES				Sn	**Sn**	**12 30 38.3**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=152,slow=23,SNR=4.9						
DAVOS	**Davos**	**10.72**	**318**	P	**Pn**	**12 28 42.9**	**+0.3**
DAVOS						12 30 39.2	
LPG	**La Plagne**	**11.72**	**306**	*e*P	**Pn**	**12 28 57.0**	**+0.7**
	comp=Z,24nm,0.9s						
LPG	**La Plagne**	**11.72**	**306**	*e*P	**Pn**	**12 28 57.0**	**+0.7**
LPG				pmax	pmax		
	comp=Z,12nm,0.9s						
LPG	**La Plagne**	**11.72**	**306**	*e*P	**Pn**	**12 28 57.0**	**+0.7**
	comp=Z,12nm,0.9s						
LPL	**La Plagne**	**11.74**	**306**	*e*P	**Pn**	**12 28 57.0**	**+0.4**
CABF	**La Chapelle**	**12.66**	**310**	*e*P	**Pn**	**12 29 07.6**	**-1.6**
HINF	**Hinteralfeld**	**12.89**	**316**	*e*P	**Pn**	**12 29 10.9**	**-1.4**
CDF	**Champ du Feu**	**13.04**	**319**	*e*P	**Pn**	**12 29 13.1**	**-1.2**
HAU	**Haudompre**	**13.28**	**316**	*e*P	**Pn**	**12 29 12.8**	**-4.8**
MMAI	**Mount Meron Ar**	**13

PDAR	**Pinedale Array**	**21.58**	**353**	P	**P**	**12 48 16.1**	**+0.1**
	4.2nm,0.9s,mb3.9,baz=163,slow=11,SNR=24						
OHCM	**Honcut**	**22.36**	**327**	*e*P	**P**	**12 48 23.7**	**-0.6**
HLID	**Hailey**	**23.27**	**344**	*e*P	**P**	**12 48 33.6**	**-0.3**
	2.0nm,1.0s,mb3.5						
YMR	**Madison River**	**23.64**	**351**	*e*P	**P**	**12 48 39.8**	**+2.1**
	11nm,1.1s,mb4.2						
MOD	**Modoc**	**23.82**	**333**	*e*P	**P**	**12 48 38.4**	**-0.9**
	9.8nm,1.1s,mb4.2						
YBH	**Yreka Blue Hor**	**24.78**	**329**	P	**P**	**12 48 46.1**	**-2.1**
	2.6nm,0.8s,mb3.8,baz=97,slow=5.3,SNR=12						
BMO	**Blue Mountains**	**25.27**	**341**	*e*P	**P**	**12 48 53.6**	**+1.1**
	3.3nm,1.2s,mb3.7						
TRF	**Thorofare Moun**	**51.49**	**336**	*e*P	**P**	**12 52 30.3**	**-1.3**
	5.7nm,0.7s,mb4.6						
NB2	**NORSAR Subarra**	**83.73**	**26**	P	**P**	**12 55 55.7**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.8,baz=301,slow=5.3						
NOA	**NORSAR Array B**	**83.73**	**26**	P	**P**	**12 55 55.4**	**+0.2**
	comp=Z,1.4nm,0.8s,mb4.1,baz=302,slow=4.8,SNR=5.6						
WRA	**Warramunga Arr**	**123.91**	**260**	PKP	PKPdf	13 02 22.2	-3.2
	comp=Z,0.5nm,0.8s,baz=69,slow=2.0,SNR=6.5						
ASAR	**Alice Springs**	**125.05**	**255**	PKP	PKPdf	13 02 24.2	-3.2
	comp=Z,0.4nm,0.7s,baz=71,slow=2.1,SNR=5.8						

*ISCJB **12** 13:00:07.6±0.9,3932N±003×20.12E±006,h5km±5km,*
Error ellipse: s-maj=7.5km s-min=4.8km az=4.2
*THE **12** 13:00:07.0,3936N×1999E,h0km,ML3.2*
*NEIC **12** 13:00:09.5,3930N×2029E,h24km,MD3.3(ATH),After ATH.*
*CSEM **12** 13:00:09.6±0.1,3928N×2028E,h5km,ML3.2,Error ellipse: s-maj=2.3km s-min=1.8km az=75.0*
*ATH **12** 13:00:09.2,3928N×2030E,h23km±1km,MD3.3/6*
ISC 12 13:00:09.5±0.7,3930N±003×2027E±006,h7km±5km,n17,
σ1§05/29,1D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.24**	**12**	*e*Pg	**Pg**	**13 00 13.4**	**-0.9**
IGT				*e*Sg	**Sg**	**13 00 17.6**	**+0.1**
KEK	**Kerkira**	**0.55**	**319**	*e*PN	**Pg**	**13 00 20.3**	**+0.1**
KEK				*e*SN	**Sg**	**13 00 29.8**	**+2.5**
JAN	**Janina**	**0.57**	**51**	||*i*PN	**Pg**	**13 00 20.4**	**-0.2**
JAN				*e*SN	**Sg**	**13 00 28.9**	**+0.8**
LKD	**Levkas**	**0.66**	**153**	*e*Pg	**Pg**	**13 00 21.6**	**-0.6**
LKD				*e*Sg	**Sg**	**13 00 35.9**	**+5.0**
LKD	**Levkas**	**0.66**	**153**	*e*Pg	**Pg**	**13 00 21.6**	**-0.7**
VLS	**Valsamata**	**1.15**	**167**	*e*Pg	**Pg**	**13 00 30.8**	**-0.8**
VLS				*e*Sg	**Sg**	**13 00 49.0**	**+2.5**
VLS	**Valsamata**	**1.15**	**167**	*e*Pn	**Pn**	**13 00 30.9**	**-1.1**
VLS				*e*Sn	**Sn**	**13 00 48.6**	**+0.6**
EVR	**Evrytania**	**1.26**	**107**	*e*PN	**Pn**	**13 00 33.0**	**-0.5**
EVR	**Evrytania**	**1.26**	**107**	*e*Pn	**Pn**	**13 00 33.8**	**+0.3**
THL	**Klokotos Trika**	**1.38**	**78**	*e*Pg	**Pg**	**13 00 35.2**	**-0.8**
THL				*e*Sg	**Sg**	**13 00 57.6**	**+3.8**
THL	**Klokotos Trika**	**1.38**	**78**	*e*PN	**Pn**	**13 00 34.6**	**-0.6**
THL				*e*SN	**Sn**	**13 00 53.6**	**0.0**
THL	**Klokotos Trika**	**1.38**	**78**	*e*Pg	**Pg**	**13 00 35.2**	**-0.8**
THL				*e*Sn	**Sn**	**13 00 53.6**	**0.0**
KZN	**Kozani**	**1.53**	**49**	*e*PN	**Pn**	**13 00 37.4**	**+0.1**
AGG	**Agios Georgios**	**1.63**	**99**	*e*Pb	**Pb**	**13 00 39.1**	**-0.7**
AGG				*e*Sb	**Sb**	**13 01 05.4**	**+4.8**
FNA	**Florina**	**1.71**	**29**	*e*Pb	**Pb**	**13 00 39.6**	**-1.7**
FNA				*e*Sb	**Sb**	**13 01 02.8**	**-0.1**
LIT	**Litokhoron**	**1.89**	**64**	*e*Pn	**Pn**	**13 00 41.8**	**-0.4**
LIT				*e*Sn	**Sn**	**13 01 08.9**	**+2.6**
PLG	**Polygyros**	**2.67**	**65**	*e*Pn	**Pn**	**13 00 53.5**	**+0.5**

ATH 12 13:01:55.5,3933N×2025E,h25km±8km,MD2.9/3,
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.52**	**318**	*e*PN	Pn	13 02 06.1	-1.2
KEK				*e*SN	Sb	13 02 14.0	+0.9
KEK	**Kerkira**	**0.52**	**318**	*e*P	Pb	13 02 06.1	+0.1
KEK				*e*S	Sb	13 02 15.5	+2.4
JAN	**Janina**	**0.57**	**55**	*e*PN	Pn	13 02 06.6	-1.4
JAN				*e*SN	Sb	13 02 15.4	+0.8
VLS	**Valsamata**	**1.18**	**167**	*e*PN	Pn	13 02 18.7	+2.3
VLS				*e*SN	Sn	13 02 34.8	+3.1

*JMA **12** 13:05:21.7±0.4,4675N×14159E,h0km,M3.0*
*ISCJB **12** 13:05:22.5±1.3,4678N±004×1417E±0.1,h11km±10km,*
Error ellipse: s-maj=13.3km s-min=5.7km az=171.6
*SKHL **12** 13:05:22.3±0.5,4670N×14170E,h10km,mb3.7/2*
ISC 12 13:05:24.6±1.4,4674N±004×1418E±01,h19km±10km,n6,
σ0§72/12,1C,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.72**	**72**	⇑*e*Pg	**Pg**	**13 05 38.5**	**-0.2**
YSS				AMB	AMB	13 05 39.4	
	30nm,0.5s						
YSS				*e*Sg	**Sg**	**13 05 48.5**	**+0.2**
YSS				A		13 05 49.4	
	1μm,0.5s						
YSS				A		13 05 49.4	
	230nm,0.5s						
JWK2	**Keihoku**	**1.43**	**176**	P	**Pn**	**13 05 49.0**	**-0.4**
JWK2				*e*S	**Sn**	**13 06 08.3**	**+0.7**
JRR	**Rishiri**	**1.63**	**191**	P	**Pn**	**13 05 52.4**	**+0.2**
UGL	**Uglegorsk**	**2.35**	**5**	*e*P	**Pn**	**13 06 02.5**	**+0.4**
UGL				*e*Pg	**Pg**	**13 06 09.0**	**-0.7**
UGL				AMB	AMB	13 06 10.0	
	47nm,0.7s						
UGL				*e*S	**Sn**	**13 06 29.8**	**-0.5**
UGL				*e*Sg	**Sg**	**13 06 39.0**	**-1.1**
UGL				A		13 06 40.0	
	78nm,0.6s						
JTKR	**Abashiri--Toko**	**3.16**	**151**	P	**Pn**	**13 06 12.6**	**-0.6**
TYV	**Tymovskoe**	**4.17**	**8**	*e*Pg	**Pg**	**13 06 45.0**	**+0.6**
TYV				*e*Sg	**Sg**	**13 07 40.0**	**+1.6**
TYV				A		13 07 40.5	
	7.0nm,0.5s						

ATH 12 13:20:58.8,3930N×2033E,h23km±2km,MD3.1/4,
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.54**	**48**	*e*PN	Pn	13 21 10.0	-1.0
JAN				*e*SN	Sb	13 21 17.3	+0.4
KEK	**Kerkira**	**0.58**	**315**	*e*PN	Pn	13 21 10.0	-1.7
KEK				*e*SN	Sb	13 21 19.2	+1.0
VLS	**Valsamata**	**1.14**	**170**	*e*PN	Pn	13 21 21.0	+1.7
VLS				*e*SN	Sn	13 21 36.8	+2.6
THL	**Klokotos Trika**	**1.33**	**78**	*e*PN	Pn	13 21 24.0	+2.1

*NEIC **12** 13:24:05.1,3937N×1997E,h4km,MD3.3(ATH),*
ML3.1(THE),After THE.
*ATH **12** 13:24:05.1,39.12N×2024E,h11km±4km,MD3.3/6*
*THE **12** 13:24:05.1,3937N×1997E,h3km,ML3.1*
*ISCJB **12** 13:24:07.2±0.7,3929N±003×2025E±006,h10km,Error ellipse: s-maj=6.9km s-min=4.5km az=157.0*
*CSEM **12** 13:24:07.3±0.3,3932N×2027E,h1km±9km,ML3.1,Error ellipse: s-maj=9.5km s-min=3.8km az=86.0*
ISC 12 13:24:07.7±0.8,3932N±004×2024E±008,h1km±13km,n14,
σ1§24/25,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**18**	*e*Pg	**Pg**	**13 24 11.5**	**-0.6**
IGT				*e*Sg	**Sg**	**13 24 15.3**	**+0.3**
IGT	**Igoumenitsa**	**0.23**	**18**	*i*PG	**Pg**	**13 24 11.5**	**-0.5**
IGT				*i*SG	**Sg**	**13 24 15.3**	**+0.3**
KEK	**Kerkira**	**0.53**	**319**	*e*PB	**Pg**	**13 24 18.3**	**+0.6**
KEK				*e*SB	**Sg**	**13 24 27.8**	**+3.2**
JAN	**Janina**	**0.58**	**54**	*e*PG	**Pg**	**13 24 18.5**	**-0.3**
SRN	**Sarande**	**0.59**	**342**	*e*PG	**Pg**	**13 24 18.3**	**-0.8**
SRN				*i*SG	**Sg**	**13 24 31.0**	**+4.2**
LKD	**Levkas**	**0.69**	**152**	*e*Pg	**Pg**	**13 24 20.1**	**-0.7**
LKD				*e*Sg	**Sg**	**13 24 34.1**	**+4.5**
VLS	**Valsamata**	**1.17**	**166**	*e*Pg	**Pg**	**13 24 29.8**	**-0.2**
VLS				*e*Sg	**Sg**	**13 24 46.2**	**+1.0**
VLS	**Valsamata**	**1.17**	**166**	*e*PG	**Pg**	**13 24 23.3**	**-6.7**
VLS				*e*SB	**Sb**	**13 24 38.1**	**-8.1**
VLS	**Valsamata**	**1.17**	**166**	*e*Pg	**Pg**	**13 24 23.3**	**-6.7**
VLS				*e*Sb	**Sb**	**13 24 38.1**	**-8.1**
VLS				S	**Sg**	**13 24 46.2**	**+1.0**
EVR	**Evrytania**	**1.28**	**108**	*e*PB	**Pb**	**13 24 28.6**	**-3.9**
THL	**Klokotos Trika**	**1.39**	**79**	*e*Pg	**Pg**	**13 24 32.9**	**-1.4**
THL				*e*Sg	**Sg**	**13 24 55.6**	**+3.1**
THL	**Klokotos Trika**	**1.39**	**79**	*e*PG	**Pg**	**13 24 32.1**	**-2.3**
KZN	**Kozani**	**1.54**	**49**	*e*PB	**Pb**	**13 24 37.2**	**+0.3**
AGG	**Agios Georgios**	**1.65**	**100**	*e*Pb	**Pb**	**13 24 38.0**	**-0.8**
AGG				*e*Sb	**Sb**	**13 25 02.2**	**+2.2**

*IDC **12** 13:25:53.3±0.6,3466N×7316E,h0km,mb4.3/16,*
mb1 4.5/19,mb1mx4.3/25,mbtmp4.3/19,ML4.3/3,Error ellipse: s-maj=17.2km s-min=14.0km az=23.0
*MOS **12** 13:25:56.3±1.3,3464N×7326E,h33km,mb4.7/11,Error ellipse: s-maj=9.6km s-min=6.4km az=99.7*
*ISCJB **12** 13:25:57.1±0.5,3469N±002×7324E±003,h41km±5km,*
mb4.4/39,MS3.9/2,Error ellipse: s-maj=5.1km
s-min=3.3km az=150.8
*BJI **12** 13:25:59.4,3482N×7319E,h55km,mB4.7,mb4.4,ML4.1,*
Ms4.2,Msz4.0
*NEIC **12** 13:26:00.9±0.9,3477N×7321E,h55km±8km,mb4.6/12,*
Error ellipse: s-maj=8.1km s-min=6.4km az=187.0
*NNC **12** 13:26:06.1±3.0,3505N×7311E,h89km±25km,mpv4.4,*
Error ellipse: s-maj=23.7km s-min=21.3km az=124.0
ISC 12 13:25:58.7±0.4,3470N±002×7319E±004,h35km±4km,
h61km±.9km:pP-P,n131,σ1§26/159,mb4.4/39,MS3.9/2,
9C-5D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.04**	**177**	P	**Pn**	**13 26 15.7**	**-1.1**
CEP	**Cherat**	**1.37**	**231**	P	**Pn**	**13 26 20.6**	**-0.8**
THW	**Thamme Wali**	**2.25**	**213**	||P	**Pn**	**13 26 35.2**	**+1.8**
JMU	**Jammu**	**2.44**	**144**	*e*P	**Pn**	**13 26 37.5**	**+1.5**
JMU				*e*S	**Sn**	**13 27 08.0**	**+3.4**
SARP	**Sargodha**	**2.80**	**189**	P	**Pn**	**13 26 42.9**	**+1.8**
DLH	**Dalhousie**	**3.16**	**132**	*e*P	**Pn**	**13 26 45.0**	**-1.0**
DLH				*e*S	**Sn**	**13 27 25.0**	**+2.6**
KBL	**Kabul**	**3.42**	**269**	*e*Pn	**Pn**	**13 26 52.5**	**+3.0**
KBL				*e*		13 26 58.9	
KBL				*e*Sn	**Sn**	**13 27 40.7**	**+12**
PONG	**Pong**	**3.58**	**139**	*e*P	**Pn**	**13 26 52.0**	**+0.2**
PONG				*e*x	x	13 27 55.0	
BHK	**Bhakra**	**4.25**	**139**	*e*P	**Pn**	**13 27 01.4**	**+0.5**
BHK				*e*x	x	13 28 07.5	
SDNR	**Sundarnagar**	**4.50**	**134**	*e*P	**Pn**	**13 27 05.0**	**+0.6**
SDNR				*e*S	**Sn**	**13 27 56.2**	**+0.8**
SMLA	**Simla**	**4.88**	**136**	*i*P	**Pn**	**13 27 11.4**	**+1.8**
SMLA				*i*S	**Sn**	**13 28 07.8**	**+2.9**
SMLA				*e*x	x	13 28 11.4	
	comp=N,2μm,0.3s						
SMLA				*e*x	x	13 28 12.0	
	comp=E,3μm,0.3s						
KLP	**Kalpa**	**5.29**	**125**	*e*P	**Pn**	**13 27 16.7**	**+1.5**
KLP				*e*S	**Sn**	**13 28 17.9**	**+3.0**
KLP				AML	AML	13 28 52.7	
	comp=N,1μm,0.4s						
KLP				AML	AML	13 28 53.8	
	comp=E,2μm,0.7s						
DDI	**Dehra Dun**	**5.99**	**135**	*e*P	**Pn**	**13 27 24.2**	**-0.7**
DDI				*e*x	x	13 28 38.0	
JOSI	**Joshimath**	**6.78**	**126**	*e*x	x	13 29 27.4	
JOSI				AML	AML	13 29 29.7	
	comp=N,696nm,0.6s						
JOSI				AML	AML	13 29 32.7	
	comp=E,573nm,0.8s						
NDI	**New Delhi**	**6.91**	**149**	*e*P	**Pn**	**13 27 38.0**	**+0.5**
NDI				*e*PN	**Pn**	**13 27 38.0**	**+0.5**
NDI				*e*S	**Sn**	**13 28 54.0**	**-0.8**
NDI				*e*SN	**Sn**	**13 28 54.0**	**-0.8**
AYAN	**Aya Nagar**	**7.05**	**150**	*e*P	**Pn**	**13 27 39.6**	**+0.2**
AYAN				*e*S	**Sn**	**13 28 58.8**	**+0.5**
BISR	**Bishrakh**	**7.10**	**148**	*e*P	**Pn**	**13 27 39.6**	**-0.5**
BISR				*e*S	**Sn**	**13 28 59.3**	**-0.3**
SONA	**Sohna**	**7.24**	**152**	*e*P	**Pn**	**13 27 41.9**	**-0.1**
SONA				*e*S	**Sn**	**13 29 01.9**	**-1.0**
AML	**Almayashu**	**7.43**	**3**	*e*Pn	**Pn**	**13 27 46.7**	**+2.1**
	comp=E,26nm,0.5s						
AML				*e*Sn	**Sn**	**13 29 07.8**	**+0.1**
PTH	**Pithoragarh**	**7.86**	**129**	*e*x	x	13 27 53.0	
PTH				*e*S	**Sn**	**13 29 17.0**	**-1.3**
EKS2	**Erkin-Say**	**7.96**	**3**	*e*Pn	**Pn**	**13 27 54.6**	**+2.7**
	comp=E,18nm,0.6s						
EKS2				*e*Sn	**Sn**	**13 29 18.5**	**-2.2**
AJM	**Ajmer**	**8.29**	**171**	*e*P	**Pn**	**13 27 54.9**	**-1.5**
AJM				*e*S	**Sn**	**13 29 26.2**	**-2.6**
AJM				AML	AML	13 29 28.6	
	comp=N,119nm,0.4s						
AJM				AML	AML	13 29 28.7	
	comp=E,134nm,0.2s						
TKM2	**Tokmak 2**	**8.42**	**12**	||P	**Pn**	**13 28 01.9**	**+3.7**
	comp=E,9.2nm,0.6s						
TKM2				⇑S	**Sn**	**13 29 30.8**	**-1.2**
	comp=E,24nm,0.6s						
TKM2	**Tokmak 2**	**8.42**	**12**	*e*P	**Pn**	**13 28 01.2**	**+3.0**
TKM2				pmax	pmax		
	comp=Z,11nm,0.6s						
TKM2	**Tokmak 2**	**8.42**	**12**	*e*P	**Pn**	**13 28 01.2**	**+3.0**
	comp=Z,11nm,0.6s						
KK31	**Karatay Array**	**8.65**	**347**	⇑P	**Pn**	**13 28 02.6**	**+1.3**
	comp=Z,8.9nm,0.3s,baz=160,slow=11,SNR=439						
KK31				⇑S	**Sn**	**13 29 36.9**	**-0.6**
	comp=Z,14nm,0.5s,baz=170,slow=22,SNR=7.7						
DANN	**Dangsing**	**11.01**	**122**	*e*P	**Pn**	**13 28 32.8**	**-1.0**
	comp=Z,52nm,0.3s						
KOLN	**Koldanda**	**11.27**	**125**	*e*P	**Pn**	**13 28 35.5**	**-1.7**
	comp=Z,23nm,0.2s						
BHJ	**Bhuj**	**11.81**	**196**	*e*S	**Sn**	**13 30 46.5**	**-8.8**
GKN	**Gorkha**	**11.84**	**121**	*e*P	**Pn**	**13 28 43.3**	**-1.7**
	comp=Z,0.3nm,0.2s						
DMN	**Daman**	**12.41**	**121**	*e*P	**Pn**	**13 28 50.5**	**-2.3**
	comp=Z,27nm,0.2s						
DMN				*e*S	**Sn**	**13 31 01.6**	**-8.2**
KKN	**Kakani**	**12.42**	**120**	*e*P	**Pn**	**13 28 50.3**	**-2.7**
	comp=Z,59nm,0.8s						
PKI	**Pulchoki**	**12.64**	**121**	*e*P	**Pn**	**13 28 53.9**	**-2.1**
	comp=Z,27nm,0.3s						
PKI				*e*S	**Sn**	**13 31 08.8**	**-6.8**
GUN	**Gumba**	**12.78**	**119**	*e*P	**Pn**	**13 28 56.0**	**-1.9**
	comp=Z,28nm,0.4s						
JIRN	**Jiri**	**13.15**	**119**	*e*P	**Pn**	**13 29 00.9**	**-2.1**
	comp=Z,96nm,0.5s						
RAMN	**Ramite**	**13.86**	**120**	*e*P	**Pn**	**13 29 09.9**	**-2.8**
	comp=Z,77nm,0.7s						
MK31	**Makanchi Array**	**13.90**	**27**	*e*P	**Pn**	**13 29 12.7**	**-0.4**
MKAR	**Makanchi Array**	**13.90**	**27**	Pn	**Pn**	**13 29 11.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=210,slow=13,SNR=12						
MKAR	**Makanchi Array**	**13.90**	**27**	*i*P	**Pn**	**13 29 13.8**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TAPN	**Taplejung**	**14.43**	**117**	*e*P	**Pn**	**13 29 17.2**	**-3.3**
	comp=Z,24nm,0.3s						
WMQ	**Urumqi**	**14.45**	**47**	*e*P	**Pn**	**13 29 23.0**	**+2.4**
WMQ				AP	pP	13 29 33.0	-3.0
WMQ				PP		13 29 36.0	
WMQ				XP	sP	13 29 41.9	+1.3
WMQ				S	**Sn**	**13 32 01.6**	**+2.2**
WMQ				SS		13 32 19.8	
WMQ				PCP	PcP	13 34 36.3	+1.9
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s						
ODAN	**Odare**	**14.48**	**119**	*e*P	**Pn**	**13 29 17.5**	**-3.6**
	comp=Z,55nm,0.7s						
BOK	**Bokaro**	**15.50**	**131**	*e*P	**Pn**	**13 29 34.4**	**-0.2**
BOK				*e*x	x	13 32 14.2	
LSA	**Lhasa**	**15.99**	**103**	P	**Pn**	**13 29 44.8**	**+3.8**
LSA	**Lhasa**	**15.99**	**103**	P	**Pn**	**13 29 43.9**	**+2.9**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LSA	**Lhasa**	**15.99**	**103**	P	**Pn**	**13 29 43.9**	**+2.9**
	comp=Z,6.4nm,0.8s						
KURBB	**Kurchatov Arra**	**16.39**	**12**	||P	**Pn**	**13 29 47.3**	**+1.5**
	comp=Z,1.4nm,0.8s						
KURK	**Kurchatov**	**16.49**	**12**	⇑P	**Pn**	**13 29 47.8**	**+0.6**
	comp=Z,6.6nm,0.9s						
KURK	**Kurchatov**	**16.49**	**12**	*e*P	**Pn**	**13 29 46.9**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	**Kurchatov**	**16.49**	**12**	*e*Pn	**Pn**	**13 29 44.5**	**-2.6**
AB31	**Akbulak array**	**17.53**	**330**	⇑P	**Pn**	**13 29 59.3**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=142,slow=12,SNR=68						

HYB	**Hyderabad**	**17.86**	**163**	*i*P	**Pn**	**13 30 06.0**	**+1.5**
HYB				*e*S	**S**	**13 33 23.0**	**-5.3**
VOSK	**Vostochnaya**	**18.09**	**356**	||P	**Pn**	**13 30 05.4**	**-1.5**
	comp=Z,3.7nm,0.6s						
BVA0	**Borovoye Array**	**18.43**	**355**	⇑P	**Pn**	**13 30 10.4**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=168,slow=10,SNR=56						
BVAR	**Borovoye Array**	**18.43**	**355**	P	**Pn**	**13 30 09.5**	**-1.6**
	comp=Z,3.4nm,0.3s,baz=155,slow=9.8,SNR=59						
BRVK	**Borovoye**	**18.47**	**354**	⇑P	**Pn**	**13 30 11.4**	**-0.2**
	comp=Z,9.9nm,0.7s						
BRVK	**Borovoye**	**18.47**	**354**	*e*Pn	**Pn**	**13 30 12.2**	**+0.5**
SHL	**Shillong**	**18.53**	**114**	*ex*	x	13 30 09.5	
SHL				*ex*	x	13 33 27.0	
AKTK	**Aktyubinsk**	**19.23**	**329**	P	**Pn**	**13 30 20.3**	**-0.5**
AKTK				S	**S**	**13 33 47.7**	**-7.9**
AKTO	**Aktyubinsk**	**19.23**	**329**	⇑P	**Pn**	**13 30 19.9**	**-1.0**
	comp=Z,3.4nm,0.7s						
AKTO	**Aktyubinsk**	**19.23**	**329**	P	**Pn**	**13 30 20.3**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=141,slow=9.4,SNR=71						
AKTO				S	**S**	**13 33 47.7**	**-7.8**
	comp=Z,0.1nm,0.3s,baz=41,slow=16,SNR=2.8						
ZAL	**Zalesovo**	**20.90**	**19**	P	**P**	**13 30 37.3**	**-0.5**
ZAL				S	**S**	**13 34 25.2**	**-3.4**
ZAA0	**Zalesovo Array**	**20.91**	**19**	*e*P	**P**	**13 30 37.5**	**-0.5**
ZALV	**Zalesovo Beam**	**20.91**	**19**	P	**P**	**13 30 37.3**	**-0.6**
	comp=Z,13nm,0.5s,baz=211,slow=11,SNR=52						
ZALV				S	**S**	**13 34 25.2**	**-3.8**
	comp=Z,0.5nm,0.4s,baz=200,slow=16,SNR=2.9						
NVS	**Novosibirsk**	**21.32**	**16**	*e*P	**P**	**13 30 41.5**	**-0.8**
NVS				*e*S	**S**	**13 34 39.2**	**+2.2**
NVS				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.2						
NVS				pmax	pmax		
	comp=N,14nm,1.3s						
NVS				smax			
	comp=N,29nm,1.7s						
NVS				smax			
	comp=E,16nm,1.4s						
GTA	**Gaotai**	**21.73**	**70**	*e*P	**P**	**13 30 51.1**	**+4.3**
GTA				AP		13 30 55.3	
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb3.9						
HVS	**Khovu-Aksy**	**22.14**	**36**	*e*P	**P**	**13 30 51.6**	**+0.5**
HVS				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5						
MIB	**Mutribah**	**22.38**	**265**	*e*P	**P**	**13 30 53.6**	**-0.2**
	baz=264						
MIB				AMb	AMB	13 31 00.2	
	comp=Z,67nm,0.8s,mb5.1,baz=264						
RDF	**Al-Radifah**	**22.51**	**262**	*e*P	**P**	**13 30 54.5**	**-0.7**
	baz=262						
RDF				AMb	AMB	13 30 59.5	
	comp=Z,46nm,0.7s,mb5.0,baz=262						
NAY	**Al-Naaiem**	**22.64**	**263**	*e*P	**P**	**13 30 56.1**	**-0.6**
	baz=263						
NAY				AMb	AMB	13 31 06.5	
	comp=Z,19nm,0.9s,mb4.5,baz=263						
GNI	**Garni**	**23.19**	**292**	P	**P**	**13 31 04.3**	**+2.0**
	comp=Z,2.9nm,0.3s,mb4.2,baz=120,slow=14,SNR=2.2						
GNI	**Garni**	**23.19**	**292**	*e*P	**P**	**13 31 04.4**	**+2.1**
GNI				pmax	pmax		
	comp=Z,18nm,1.5s						
ARU	**Arti**	**23.93**	**340**	*c i*P	**P**	**13 31 09.8**	**+0.7**
ARU				*e*PPP		13 31 44.2	
ARU				*e*S	**S**	**13 35 25.7**	**+2.7**
ARU				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.5						
ARU	**Arti**	**23.93**	**340**	*e*P	**P**	**13 31 09.8**	**+0.7**
	comp=Z,12nm,0.7s,mb4.4						
LZH	**Lanzhou**	**24.98**	**78**	*e*P	**P**	**13 31 24.0**	**+5.0**
LZH				AP		13 31 28.5	
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,85nm,4.3s						
CD2	**Chengdu**	**25.92**	**90**	*e*P	**P**	**13 31 27.8**	**+0.3**
CD2				AP	pP	13 31 42.3	+4.7
CD2				XP	sP	13 31 49.6	+7.7
CD2				PP		13 32 10.1	
CD2				S	**S**	**13 35 50.5**	**-4.9**
CD2				XS	sS	13 36 15.6	+3.5
CD2				SS		13 36 59.4	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,210nm,12.2s,MS4.0						
CD2				LR	LR		
	comp=E,230nm,14.2s,MS4.0						
CD2				LR	LR		
	comp=Z,180nm,14.8s,MS3.7						
ZAK	**Zakamensk**	**26.91**	**45**	*e*P	**P**	**13 31 39.6**	**+3.3**
ZAK				*e*		13 34 58.3	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
KMI	**Kunming**	**27.25**	**102**	P	**P**	**13 31 41.3**	**+1.7**
KMI				AP	pP	13 31 55.3	+5.6
KMI				XP	sP	13 32 02.4	+8.4
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.1						
CHTO	**Chiang Mai**	**27.80**	**118**	*e*P	**P**	**13 31 44.4**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
CHTO	**Chiang Mai**	**27.80**	**118**	*e*P	**P**	**13 31 44.4**	**-0.1**
	comp=Z,14

MAJO	**Matsushiro**	**51.96**	**68**	*e*P	**P**	**13 35 03.8**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,41nm,2.2s,mb5.0						
MAJO	**Matsushiro**	**51.96**	**68**	*e*P	**P**	**13 35 03.8**	**-0.4**
	comp=Z,41nm,2.2s,mb5.0						
MAT	**Matsushiro**	**51.96**	**68**	P	**P**	**13 35 03.9**	**-0.4**
MAT				S	**S**	**13 42 19.0**	**-6.0**
MJAR	**Matsushiro Arr**	**51.96**	**68**	P	**P**	**13 35 04.7**	**+0.4**
	comp=Z,24nm,0.9s,mb4.2,baz=290,slow=9.8,SNR=12						
SMF	**Signal de Mont**	**52.34**	**305**	*e*P	**P**	**13 35 07.0**	**+0.1**
AVF	**Avril sur Loir**	**52.64**	**306**	*e*P	**P**	**13 35 09.2**	**+0.1**
LDF	**La Druitiere**	**54.49**	**309**	*e*P	**P**	**13 35 21.3**	**-1.4**
ETSF	**Etsaut**	**56.38**	**302**	*e*P	**P**	**13 35 35.2**	**-1.1**
	comp=Z,3.3nm,0.6s,mb4.2						
ETSF	**Etsaut**	**56.38**	**302**	*e*P	**P**	**13 35 35.2**	**-1.1**
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ETSF	**Etsaut**	**56.38**	**302**	*e*P	**P**	**13 35 35.2**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.2						
ESDC	**Sonseca Array**	**59.89**	**300**	P	**P**	**13 36 00.5**	**-0.4**
	comp=Z,0.7nm,0.7s,mb3.8,baz=58,slow=8.0,SNR=9.6						
PETK	**Petropavlovsk-**	**60.02**	**44**	P	**P**	**13 36 01.9**	**+0.3**
	comp=Z,5.1nm,1.1s,mb4.5,baz=294,slow=4.6,SNR=3.4						
PETK	**Petropavlovsk-**	**60.02**	**44**	P	**P**	**13 36 01.9**	**+0.3**
TOA0	**Torodi Ar. Sit**	**67.49**	**271**	*e*P	**P**	**13 36 50.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**67.49**	**271**	P	**P**	**13 36 50.9**	**-0.5**
	comp=Z,6.1nm,0.6s,mb4.8,baz=46,slow=5.6,SNR=136						
TORD	**Torodi Ar. Bea**	**67.49**	**271**	P	**P**	**13 36 50.9**	**-0.5**
LBTB	**Lobatse**	**74.58**	**224**	*e*P	**P**	**13 37 34.8**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
LBTB	**Lobatse**	**74.58**	**224**	*e*P	**P**	**13 37 34.8**	**+0.7**
	comp=Z,12nm,0.9s,mb4.8						
CHUM	**Lake Minchumin**	**75.37**	**19**	P	**P**	**13 37 37.1**	**-1.1**
INK	**Inuvik**	**75.38**	**10**	*e*P	**P**	**13 37 38.3**	**+0.2**
COLA	**College**	**75.70**	**17**	*e*P	**P**	**13 37 40.1**	**+0.1**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
COLA	**College**	**75.70**	**17**	*e*P	**P**	**13 37 40.1**	**+0.1**
	comp=Z,4.6nm,0.9s,mb4.4						
KTH	**Kantishna Hill**	**76.01**	**19**	*e*P	**P**	**13 37 42.4**	**+0.5**
	comp=Z,6.1nm,1.0s,mb4.5						
DBIC	**Dimbokro**	**76.42**	**269**	P	**P**	**13 37 44.8**	**-0.1**
	comp=Z,8.0nm,1.0s,mb4.6,baz=343,slow=4.8,SNR=4.3						
LIC	**Lamto**	**76.80**	**268**	*e*P	**P**	**13 37 47.2**	**0.0**
	comp=Z,64nm,1.2s,mb5.1						
LIC	**Lamto**	**76.80**	**268**	*e*P	**P**	**13 37 47.2**	**0.0**
	comp=Z,32nm,1.2s,mb5.1						
BOSA	**Boshof**	**77.56**	**222**	P	**P**	**13 37 51.0**	**0.0**
	comp=Z,10nm,0.7s,mb4.9,baz=27,slow=4.4,SNR=30						
WRA	**Warramunga Arr**	**79.52**	**123**	P	**P**	**13 38 02.2**	**+0.3**
	comp=Z,3.0nm,0.8s,mb4.3,baz=322,slow=4.8,SNR=106						
WB2	**Warramunga Arr**	**79.53**	**123**	*e*P	**P**	**13 38 02.0**	**0.0**
ASAR	**Alice Springs**	**81.76**	**126**	P	**P**	**13 38 14.2**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=313,slow=4.9,SNR=59						
YKA	**Yellowknife Ar**	**82.94**	**4**	P	**P**	**13 38 19.9**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.3,baz=345,slow=5.4,SNR=8.2						

NEIC ***12*** *13:36:51.4, 16.11N×99.69W, h11km, MD4.3(MEX), After MEX.*

MEX 12 13:36:52.4±1.3, 16.18N×99.66W, h18km±53km, MD4.3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.72**	**340**	*e*P	Pb	13 37 03.6	-2.9
ACX				*i* S	Sb	13 37 12.0	-4.1
ACX	**Acapulco**	**0.72**	**340**	*e*P	Pb	13 37 03.6	-2.9
ACX				*i* S	Sb	13 37 12.2	-3.8
CAIG	**El Cayaco**	**1.04**	**326**	*i* P	Pb	13 37 09.8	-2.1
CAIG				*i* S	Sb	13 37 21.9	-3.2
CAIG	**El Cayaco**	**1.04**	**326**	*i* P	Pb	13 37 10.1	-1.8
CAIG				*i* S	Sb	13 37 21.9	-3.2
PNIG	**Pinotepa**	**1.49**	**82**	*i* P	Pn	13 37 15.0	-3.3
PNIG				*i* S	Sn	13 37 32.3	-5.0
MEIG	**Mezcala**	**1.73**	**1**	*i* P	Pn	13 37 19.1	-2.5
MEIG				*i* S	Sn	13 37 39.5	-3.8
PLIG	**Platanillo**	**2.20**	**4**	*e*P	Pn	13 37 26.3	-1.8
PLIG				*i* S	Sn	13 37 50.9	-4.0
PLIG	**Platanillo**	**2.20**	**4**	*e*P	Pn	13 37 26.3	-1.8
PLIG				*i* S	Sn	13 37 53.0	-1.9
ZIIG	**Zihuatanejo**	**2.23**	**310**	*e*P	Pn	13 37 23.7	-4.8
ZIIG				*i* S	Sn	13 37 52.1	-3.5
ZIIG	**Zihuatanejo**	**2.23**	**310**	*e*P	Pn	13 37 28.1	-0.4
ZIIG				*i* S	Sn	13 37 52.1	-3.5
VHO	**Vista Hermosa**	**2.94**	**72**	*i* P	Pn	13 37 36.2	-2.1
VHO				*i* S	Sn	13 38 08.5	-4.7
VHO	**Vista Hermosa**	**2.94**	**72**	*i* P	Pn	13 37 36.2	-2.1
VHO				*i* S	Sn	13 38 12.6	-0.7
OXX	**Oaxaca**	**2.96**	**72**	*i* P	Pn	13 37 36.1	-2.4
OXX				*i* S	Sn	13 38 10.5	-3.0
OXX	**Oaxaca**	**2.96**	**72**	*i* P	Pn	13 37 37.9	-0.6
OXX				*i* S	Sn	13 38 20.1	+6.6
PPM	**Popocatepetl**	**3.03**	**19**	*i* P	Pn	13 37 40.5	+1.0
PPM				*i* P		13 37 43.6	
PPM				*i* S	Sn	13 38 13.2	-2.2
PPM				*i* S	Sn	13 38 16.6	+1.1
PPM	**Popocatepetl**	**3.03**	**19**	*i* P	Pn	13 37 40.5	+1.0
PPM				*i* P		13 37 43.6	
PPM				*i* S	Sn	13 38 15.1	-0.3
PPM				*i* S	Sn	13 38 16.6	+1.1
TPIG	**Tehuac#an**	**3.13**	**44**	*i* P	Pn	13 37 37.7	-3.1
TPIG				*e*S	Sn	13 38 14.9	-2.8
UNM	**Universidad Na**	**3.16**	**8**	*i* P	Pn	13 37 46.3	+5.0
UNM				*i* S	Sn	13 38 17.4	-1.3
UNM	**Universidad Na**	**3.16**	**8**	*i* P	Pn	13 37 46.3	+5.0
UNM				*i* S	Sn	13 38 22.0	+3.4
HUIG	**Huatulco**	**3.44**	**96**	*i* S	Sn	13 38 18.1	-7.5
MOIG	**Morelia**	**3.77**	**338**	*e*P	Pn	13 37 48.0	-1.6
MOIG				*i* S	Sn	13 38 29.8	-3.7
MOIG	**Morelia**	**3.77**	**338**	*e*P	Pn	13 37 58.0	+8.4
MOIG				*i* S	Sn	13 38 46.1	+13
DEIG	**Demacu**	**4.14**	**8**	*i* P	Pn	13 37 56.1	+1.4
DEIG				*i* S	Sn	13 38 41.4	-1.3
SFJM	**Santa Fe**	**5.35**	**324**	*i* P	Pn	13 38 12.9	+1.5
SFJM				*i* S	Sn	13 39 13.8	+1.3
SFJM	**Santa Fe**	**5.35**	**324**	*i* S	Sn	13 39 15.5	+2.9

ISCJB ***12*** *13:58:01.2±1.0, 39.33N±0.03×20.07E±0.07, h3km±6km, Error ellipse: s-maj=8.8km s-min=5.0km az=11.7*
THE ***12*** *13:58:01.2, 39.32N×20.00E, h0km, ML3.1*
NEIC ***12*** *13:58:03.7, 39.29N×20.24E, h23km, MD3.3(ATH), ML3.1(THE), After ATH.*
CSEM ***12*** *13:58:03.6±0.1, 39.25N×20.27E, h2km, ML3.1, Error ellipse: s-maj=3.3km s-min=1.9km az=88.0*
ATH ***12*** *13:58:03.7, 39.30N×20.26E, h21km±1km, MD3.3/7*

ISC 12 13:58:00.8±1.3, 39.36N±0.04×19.99E±0.09, h8km±5km, n17, σ0.85/28, 2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.32**	**58**	*e*Pg	**Pg**	**13 58 08.0**	**+0.9**
IGT				*e*Sg	**Sg**	**13 58 12.2**	**+0.9**
KEK	**Kerkira**	**0.38**	**338**	*e*PN	**Pg**	**13 58 14.7**	**+6.5**
JAN	**Janina**	**0.73**	**66**	⇓*i*PN	**Pg**	**13 58 14.9**	**0.0**
JAN				*e*SN	**Sg**	**13 58 23.5**	**-0.9**
JAN	**Janina**	**0.73**	**66**	⇓*i*Pn	**Pg**	**13 58 14.9**	**0.0**
JAN				*e*Sn	**Sg**	**13 58 24.5**	**+0.1**
LKD	**Levkas**	**0.84**	**141**	*e*Pg	**Pg**	**13 58 15.4**	**-1.4**
LKD				*e*Sg	**Sg**	**13 58 29.0**	**+1.3**
LKD	**Levkas**	**0.84**	**141**	*e*Pg	**Pg**	**13 58 15.4**	**-1.5**
VLS	**Valsamata**	**1.27**	**158**	*e*Pg	**Pg**	**13 58 24.2**	**-1.1**
VLS				*e*Sg	**Sg**	**13 58 42.3**	**+0.5**
VLS	**Valsamata**	**1.27**	**158**	*e*Pn	**Pn**	**13 58 25.6**	**+0.7**
VLS				*e*Sn	**Sn**	**13 58 42.4**	**+0.2**
EVR	**Evrytania**	**1.49**	**107**	*e*PN	**Pn**	**13 58 27.4**	**-0.4**
THL	**Klokotos Trika**	**1.58**	**82**	*e*Pg	**Pg**	**13 58 29.6**	**-1.6**
THL				*e*Sg	**Sg**	**13 58 51.5**	**-0.2**
THL	**Klokotos Trika**	**1.58**	**82**	*e*PN	**Pn**	**13 58 29.9**	**+0.7**
THL				*e*SN	**Sn**	**13 58 48.8**	**-1.1**
THL	**Klokotos Trika**	**1.58**	**82**	*e*Pn	**Pn**	**13 58 29.9**	**+0.7**
THL				*e*Sn	**Sn**	**13 58 48.8**	**-1.1**
THL				*e*Sg	**Sg**	**13 58 51.5**	**-0.2**
KZN	**Kozani**	**1.67**	**55**	*e*PN	**Pg**	**13 58 33.0**	**+0.2**
RLS	**Riolos of Patr**	**1.75**	**138**	*e*PN	**Pn**	**13 58 32.0**	**+0.6**
FNA	**Florina**	**1.77**	**37**	*e*Pb	**Pb**	**13 58 34.1**	**+0.5**
AGG	**Agios Georgios**	**1.85**	**100**	*e*Pb	**Pb**	**13 58 33.6**	**-1.3**
AGG				*e*Sb	**Sb**	**13 58 59.2**	**+0.9**
DID	**Didima**	**3.16**	**125**	*e*Pn	**Pn**	**13 58 50.7**	**-0.1**

ISCJB ***12*** *14:13:48.1±2.5, 133S±0.04×669E±0.05, h10km, mb3.6/6, Error ellipse: s-maj=84.0km s-min=22.0km az=144.1*
IDC ***12*** *14:13:48.5±2.1, 133.0S×66.83E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, Error ellipse: s-maj=78.3km s-min=27.7km az=50.0*
NEIC ***12*** *14:13:50.0±1.4, 133.1S×66.80E, h10km, Error ellipse: s-maj=49.5km s-min=16.4km az=53.0*

ISC 12 14:13:50.1±2.5, 133S±0.04×668E±0.05, h10km, n10, σ0.53/8, mb3.6/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**61.42**	**12**	*e*P	**P**	**14 24 06.1**	**-0.4**
MKAR	**Makanchi Array**	**61.42**	**12**	P	**P**	**14 24 06.3**	**-0.2**
	0.6nm,0.6s,mb3.9,baz=203,slow=8.4,SNR=6.0						
ASAR	**Alice Springs**	**63.98**	**110**	P	**P**	**14 24 23.6**	**-0.5**
	0.8nm,1.0s,mb3.7,baz=267,slow=5.6,SNR=4.1						
WRA	**Warramunga Arr**	**64.69**	**106**	P	**P**	**14 24 29.0**	**+0.2**
	0.6nm,0.7s,mb3.7,baz=271,slow=5.8,SNR=6.7						
WB2	**Warramunga Arr**	**64.70**	**106**	P	**P**	**14 24 29.0**	**+0.2**
ZALV	**Zalesovo Beam**	**68.73**	**11**	P	**P**	**14 24 53.1**	**-0.7**
	0.6nm,0.4s,mb3.9,baz=201,slow=7.8,SNR=5.2						
SONM	**Songino Array**	**70.34**	**27**	P	**P**	**14 25 05.0**	**+1.1**
	0.2nm,0.4s,mb3.4,baz=191,slow=7.0,SNR=2.6						
AKASG	**Malin Array Be**	**71.70**	**336**	P	**P**	**14 25 12.3**	**+0.3**
	0.1nm,0.3s,mb3.2,baz=138,slow=5.0,SNR=3.2						
PDAR	**Pinedale Array**	**150.48**	**355**	PKPbc	PKPbc	14 33 42.4	+0.2
	0.8nm,0.6s,baz=75,slow=3.5,SNR=6.4						
TXAR	**Lajitas Array**	**161.77**	**332**	PKPab	PKPab	14 34 41.6	+4.3
	0.8nm,1.1s,baz=12,slow=4.9,SNR=4.0						

ISCJB ***12*** *14:54:40.2±0.6, 26N±0.1×66.34E±0.09, h10km, mb4.2/13, MS4.0/14, Error ellipse: s-maj=16.3km s-min=13.4km az=10.8*
IDC ***12*** *14:54:40.6±0.7, 25.9N×66.35E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.0/22, mbtmp4.1/10, MS4.0/14, Ms1 4.0/14, ms1mx3.8/33, Error ellipse: s-maj=24.1km s-min=19.5km az=42.0*
NEIC ***12*** *14:54:42.1±0.4, 26.1N×66.37E, h10km, mb4.7/1, Error ellipse: s-maj=12.4km s-min=10.4km az=190.0*
BJI ***12*** *14:54:42.1, 26.0N×66.40E, h10km, mb4.3*

ISC 12 14:54:42.2±0.6, 26N±0.1×6635E±0.009, h10km, n31, σ0.65/19, mb4.2/13, MS4.0/14, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**15.02**	**72**	*e*Pn	**Pn**	**14 58 14.4**	**-0.3**
KMBO	**Kilima Mbogo**	**29.33**	**263**	LR	LR	15 10 18.7	
	comp=Z,225nm,20.9s,MS3.8,baz=276,slow=32						
CMAR	**Chiang Mai Arr**	**35.59**	**61**	LR	LR	15 13 47.5	
	comp=Z,168nm,20.9s,MS3.8,baz=265,slow=32						
GYA	**Guiyang**	**45.33**	**55**	P	**P**	**15 03 01.4**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
MKAR	**Makanchi Array**	**46.14**	**15**	P	**P**	**15 03 07.7**	**+1.0**
	comp=Z,1.0nm,0.9s,mb3.7,baz=206,slow=8.1,SNR=6.5						
MKAR				LR	LR	15 23 20.3	
	comp=Z,88nm,18.4s,MS3.7,baz=192,slow=37						
GTA	**Gaotai**	**47.60**	**35**	*e*P	**P**	**15 03 24.5**	**+6.2**
GTA				AP	pP	15 03 29.7	+8.2
GTA				XP	sP	15 03 33.1	+10
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
BOSA	**Boshof**	**50.19**	**229**	P	**P**	**15 03 38.8**	**+0.4**
	comp=Z,2.8nm,0.7s,mb4.4,baz=60,slow=7.4,SNR=6.2						
BOSA				LR	LR	15 22 44.8	
	comp=Z,196nm,18.0s,MS4.2,baz=62,slow=34						
ZAA0	**Zalesovo Array**	**53.37**	**13**	*e*P	**P**	**15 04 01.2**	**-0.5**
ZALV	**Zalesovo Beam**	**53.37**	**13**	P	**P**	**15 04 01.0**	**-0.7**
	comp=Z,3.0nm,0.9s,mb4.2,baz=214,slow=6.8,SNR=11						
ZALV				LR	LR	15 27 16.4	
	comp=Z,59nm,18.5s,MS3.7,baz=252,slow=37						
SONM	**Songino Array**	**56.72**	**31**	P	**P**	**15 04 27.4**	**+1.3**
	comp=Z,1.4nm,0.9s,mb4.0,baz=216,slow=7.5,SNR=8.8						
SONM				LR	LR	15 28 54.3	
	comp=Z,204nm,21.0s,MS4.2,baz=224,slow=36						
BATI	**Baumata**	**58.46**	**104**	LR	LR	15 30 44.6	
	comp=Z,152nm,19.0s,MS4.1,baz=103,slow=37						
TORD	**Torodi Ar. Bea**	**64.74**	**283**	P	**P**	**15 05 21.8**	**+0.5**
	comp=Z,1.0nm,0.9s,mb3.8,baz=114,slow=1.8,SNR=3.7						
CLL	**Collm**	**65.82**	**326**	*e*P	**P**	**15 05 27.0**	**-0.7**
KSRS	**Korea Array**	**66.05**	**50**	LR	LR	15 36 59.5	
	comp=Z,139nm,18.1s,MS4.2,baz=178,slow=38						
WRA	**Warramunga Arr**	**70.31**	**112**	P	**P**	**15 05 56.7**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.3,baz=289,slow=5.8,SNR=21						
WRAB	**Tennant Creek**	**70.32**	**112**	*e*P	**P**	**15 05 55.8**	**-0.8**
	comp=Z,5.6nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**70.32**	**112**	*e*P	**P**	**15 05 57.0**	**+0.4**
WB2	**Warramunga Arr**	**70.32**	**112**	*e*P	**P**	**15 05 56.5**	**-0.1**
ASAR	**Alice Springs**	**70.63**	**116**	P	**P**	**15 05 58.4**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=278,slow=5.6,SNR=19						
DBIC	**Dimbokro**	**71.04**	**276**	LR	LR	15 36 09.3	
	comp=Z,82nm,18.2s,MS4.0,baz=331,slow=35						
NB2	**NORSAR Subarra**	**71.49**	**335**	P	**P**	**15 06 01.6**	**-1.2**
	comp=Z,4.0nm,1.0s,mb4.3,baz=113,slow=6.9						
NOA	**NORSAR Array B**	**71.49**	**335**	P	**P**	**15 06 01.9**	**-0.9**
	comp=Z,2.6nm,0.9s,mb4.2,baz=113,slow=6.5,SNR=5.1						
ESDC	**Sonseca Array**	**73.23**	**311**	P	**P**	**15 06 13.9**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.2,baz=84,slow=5.6,SNR=14						
MJAR	**Matsushiro Arr**	**73.89**	**53**	LR	LR	15 38 19.5	
	comp=Z,92nm,20.5s,MS4.0,baz=65,slow=35						
JHJ	**Hachijo jima 2**	**74.71**	**57**	LR	LR	15 41 29.2	
	comp=Z,90nm,19.2s,MS4.1,baz=332,slow=38						
STKA	**Stephens Creek**	**78.89**	**123**	P	**P**	**15 06 45.9**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.3,baz=306,slow=3.3,SNR=6.5						
PETK	**Petropavlovsk-**	**88.74**	**37**	LR	LR	15 49 35.3	
	comp=Z,94nm,18.7s,MS4.2,baz=210,slow=37						
QSPA	**South Pole Qui**	**92.58**	**180**	LR	LR	15 42 54.7	
	comp=Z,98nm,19.6s,MS4.3,baz=338,slow=31						
VNDA	**Vanda**	**93.73**	**167**	LR	LR	15 46 17.0	
	comp=Z,83nm,18.5s,MS4.2,baz=285,slow=33						
PDAR	**Pinedale Array**	**134.68**	**356**	PKhKP		15 13 56.0	
	comp=Z,0.6nm,0.8s,baz=48,slow=1.3,SNR=3.3						
TXAR	**Lajitas Array**	**146.82**	**344**	PKPbc	PKPbc	15 14 26.1	+0.7
	comp=Z,6.2nm,0.8s,baz=60,slow=2.8,SNR=75						

IDC 12 15:16:47.7±2.5, 1526S×17716W, h343km±32km, mb3.3/4, mb1 3.6/5, mb1mx3.2/18, mbtmp3.4/5, Error ellipse: s-maj=135.6km s-min=21.6km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.38**	**76**	P	Pn	15 18 11.3	0.0
	6.0nm,0.3s,baz=5.5,slow=4.8,SNR=9.6						
STKA	**Stephens Creek**	**40.99**	**239**	P	P	15 23 59.0	+0.5
	0.5nm,0.4s,baz=90,slow=10,SNR=3.5						
WB2	**Warramunga Arr**	**46.34**	**257**	*e*P	P	15 24 40.2	-0.7
WRA	**Warramunga Arr**	**46.35**	**257**	P	P	15 24 40.9	0.0
	0.8nm,0.3s,baz=86,slow=6.0,SNR=74						
ASAR	**Alice Springs**	**46.71**	**252**	P	P	15 24 43.4	-0.4
	5.4nm,0.5s,baz=88,slow=9.0,SNR=296						
ASAR				PcP	PcP	15 26 10.5	-0.5
	0.1nm,0.4s,baz=99,slow=5.0,SNR=2.9						
TXAR	**Lajitas Array**	**83.56**	**57**	P	P	15 28 38.6	+0.3
	0.4nm,0.7s,baz=214,slow=6.2,SNR=6.1						

ISCJB ***12*** *15:24:56.5±0.7, 2152S±0.06×679W±0.2, h112km±19km, Error ellipse: s-maj=30.9km s-min=9.5km az=4.7*
NEIC ***12*** *15:24:57.4±0.7, 2148S×6801W, h114km±7km, mb3.5/1, Error ellipse: s-maj=15.6km s-min=9.6km az=114.0*
IDC ***12*** *15:24:57.5±1.1, 2149S×6801W, h110km±14km, mb3.5/1, mb1 3.4/3, mb1mx3.1/17, mbtmp3.3/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/25, Error ellipse: s-maj=40.1km s-min=11.6km az=108.0*

ISC 12 15:24:57.7±0.7, 2153S±0.06×679W±0.2, h109km±18km, n14, σ0.39/13, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.41**	**220**	P	**Pn**	**15 25 24.0**	**+0.5**
	9.7nm,0.3s,baz=20,slow=7.8,SNR=155						
LVC				S	**Sn**	**15 25 42.9**	**0.0**
	46nm,0.3s,baz=304,slow=23,SNR=74						
LVC	**Limon Verde**	**1.41**	**220**	⇑*e*Pn	**Pn**	**15 25 23.8**	**+0.4**
LVC				*e*Sn	**Sn**	**15 25 42.5**	**-0.4**
LPAZ	**La Paz**	**5.21**	**358**	P	**Pn**	**15 26 13.7**	**+0.2**
	0.9nm,0.3s,baz=158,slow=14,SNR=18						
LPAZ				S	**Sn**	**15 27 12.4**	**0.0**
	baz=255,slow=20,SNR=2.6						
LPAZ	**La Paz**	**5.21**	**358**	*e*Pn	**Pn**	**15 26 13.2**	**-0.2**
LPAZ				S	**Sn**	**15 27 12.4**	**0.0**
SIV	**San Ignacio**	**8.52**	**51**	P	**Pn**	**15 26 58.0**	**-0.4**
	1.0nm,0.3s,baz=244,slow=13,SNR=32						
CFAA	**Coronel Fontan**	**10.04**	**181**	LR	LR	15 31 19.4	
	comp=Z,35nm,20.8s,baz=122,slow=38						
TRQA	**Tornquist**	**17.26**	**164**	P	**Pn**	**15 28 51.4**	**-0.5**
	1.7nm,0.5s						
SPB	**Sao Paulo**	**19.05**	**100**	*e*P	**P**	**15 29 12.2**	**+0.7**
BBTS	**Babate**	**61.94**	**59**	LR	LR	15 59 45.7	
	comp=Z,28nm,20.2s,slow=34						
TORD	**Torodi Ar. Bea**	**76.51**	**70**	P	**P**	**15 36 36.2**	**-0.1**
	0.5nm,0.5s,baz=256,slow=5.8,SNR=5.8						
TORD	**Torodi Ar. Bea**	**76.51**	**70**	P	**P**	**15 36 36.2**	**-0.1**
ASAR	**Alice Springs**	**130.30**	**207**	PKP	PKPdf	15 43 54.6	-1.4
	0.1nm,0.4s,baz=164,slow=1.7,SNR=3.1						
WRA	**Warramunga Arr**	**133.38**	**209**	PKP	PKPdf	15 44 01.1	-0.7
	0.4nm,1.0s,baz=152,slow=1.9,SNR=5.7						
MKAR	**Makanchi Array**	**145.12**	**37**	PKPbc	PKPbc	15 44 21.3	-0.7
	0.4nm,0.8s,baz=298,slow=3.1,SNR=2.9						

NEIC ***12*** *15:27:09.3, 32.35S×71.54W, h43km, MD3.6(GUC), After GUC.*

GUC 12 15:27:09.3±0.6, 32.35S×71.54W, h43km±2km, MD3.6, ML2.7, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCH	**Petorca**	**0.52**	**81**	⇓*i*P	Pn	15 27 20.4	0.0
PTCH				*i* S	Sn	15 27 29.3	+1.0
PTCH				AML	AML	15 27 29.5	
	comp=N,608nm,0.3s						
PTCH	**Petorca**	**0.52**	**81**	⇓*i*P	Pn	15 27 20.4	0.0
PTCH				*i* S	Sn	15 27 29.3	+1.0
ROCH	**El Roble**	**0.77**	**145**	⇓*i*P	Pn	15 27 24.4	+0.8
ROCH				*i* S	Sn	15 27 36.1	+2.0
JACH	**Jahuel**	**0.86**	**113**	⇑*i*P	Pn	15 27 25.5	+0.5
JACH				*i* S	Sn	15 27 38.4	+1.9
PEL	**Peldehue**	**1.07**	**138**	⇑*i*P	Pn	15 27 28.8	+0.9
PEL				*i* S	Sn	15 27 43.6	+2.1
PEL				AML	AML	15 27 44.7	
	comp=N,412nm,0.2s						
LCCH	**Las Cruces**	**1.13**	**181**	*e*P	Pn	15 27 29.3	+0.7
LCCH				*i* S	Sn	15 27 44.6	+1.8
RCDM	**Rinconada Maip**	**1.29**	**152**	*e*P	Pn	15 27 31.6	+0.7
RCDM				*i* S	Sn	15 27 49.0	+2.0
RCDM				AML	AML	15 27 50.2	
	comp=E,316nm,0.2s						
RCDM	**Rinconada Maip**	**1.29**	**152**	*e*P	Pn	15 27 31.6	+0.7
RCDM				*i* S	Sn	15 27 49.0	+2.0
TACH	**Talagante**	**1.40**	**159**	*e*P	Pn	15 27 33.6	+1.3
TACH				*i* S	Sn	15 27 51.1	+1.6
FCH	**Farellones**	**1.44**	**133**	⇑*i*P	Pn	15 27 34.0	+1.2
FCH				*i* S	Sn	15 27 53.3	+2.8
FCH				AML	AML	15 27 54.8	
	comp=E,170nm,0.2s						
ANTU	**Antumapu**	**1.44**	**148**	*e*P	Pn	15 27 33.7	+0.9
ANTU				*i* S	Sn	15 27 52.5	+2.0
ANTU				AML	AML	15 27 54.2	
	comp=N,196nm,0.2s						
ANTU	**Antumapu**	**1.44**	**148**	*e*P	Pn	15 27 33.7	+0.9
ANTU				*i* S	Sn	15 27 52.5	+2.0
PCH	**Pirque**	**1.54**	**146**	*e*P	Pn	15 27 35.3	+1.1
PCH				*i* S	Sn	15 27 55.0	+2.1
LNV	**Longovilo**	**1.61**	**176**	*e*P	Pn	15 27 35.7	+0.5
CHCH	**Chadas Angostu**	**1.75**	**155**	*e

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACH	**El Canelo**	**1.87**	**149**	⇓*iP*	**Pn**	**15 36 48.1**	**+1.4**
CACH				*i*S	**Sn**	**15 37 13.1**	**+3.0**
CICH	**Cipreses**	**2.12**	**149**	⇓*iP*	**Pn**	**15 36 51.2**	**+1.0**
CICH				*e*S	**Sn**	**15 37 18.7**	**+2.4**
SFDO	**San Fernando**	**2.19**	**164**	*e*P	**Pn**	**15 36 51.4**	**+0.3**
TLL	**Tololo Astrono**	**2.47**	**19**	⇑*iP**	**Pn**	**15 36 55.6**	**+0.6**
TLL				*i*S	**Sn**	**15 37 27.1**	**+2.1**
TLL				AML	AML	15 37 47.0	
	comp=N,684nm,0.6s						
TLL	**Tololo Astrono**	**2.47**	**19**	⇑*iP*	**Pn**	**15 36 55.6**	**+0.6**
TLL				*i*S	**Sn**	**15 37 27.1**	**+2.1**
NICH	**Los Niches**	**2.52**	**170**	⇑*iP*	**Pn**	**15 36 57.4**	**+1.6**
LSCH	**La Serena**	**2.63**	**9**	*i*S	**Sn**	**15 37 34.0**	**+5.1**
CFAA	**Coronel Fontan**	**3.11**	**74**	Pn	**Pn**	**15 37 06.1**	**+2.3**
	comp=N,2.6nm,0.3s,baz=248,slow=11,SNR=26						
CFAA				Sn	**Sn**	**15 37 47.2**	**+6.4**
	comp=N,4.3nm,0.3s,baz=144,slow=21,SNR=8.5						
CFAA	**Coronel Fontan**	**3.11**	**74**	Pn	**Pn**	**15 37 06.1**	**+2.3**
CFAA				Sn	**Sn**	**15 37 47.2**	**+6.4**
LCO	**Las Campanas**	**3.60**	**15**	*e*Pn	**Pn**	**15 37 10.5**	**-0.1**
PLCA	**Paso Flores**	**8.26**	**174**	Pn	**Pn**	**15 38 13.7**	**-0.9**
	comp=N,0.4nm,0.3s,baz=3.3,slow=15,SNR=7.7						
LVC	**Limon Verde**	**10.17**	**15**	Sn	**Sn**	**15 40 48.7**	**+14**
	comp=N,0.5nm,0.3s,baz=211,slow=18,SNR=2.5						
LVC				LR	LR	15 42 40.9	
	comp=N,78nm,21.0s,baz=70,slow=38						
CPUP	**Villa Florida**	**13.98**	**68**	Pn	**Pn**	**15 39 31.6**	**-1.3**
	comp=N,0.3nm,0.3s,baz=252,slow=9.3,SNR=2.5						
LPAZ	**La Paz**	**16.48**	**12**	Pn	**Pn**	**15 40 06.3**	**+0.3**
	comp=N,0.1nm,0.3s,baz=191,slow=11,SNR=5.8						
LPAZ	**La Paz**	**16.48**	**12**	Pn	**Pn**	**15 40 06.3**	**+0.3**
SIV	**San Ignacio**	**19.08**	**33**	P	**Pn**	**15 40 36.3**	**-1.9**
	comp=N,0.1nm,0.3s,baz=213,slow=12,SNR=4.4						
QSPA	**South Pole Qui**	**57.72**	**180**	P	**P**	**15 46 04.5**	**-0.4**
	comp=N,1.4nm,1.0s,mb3.9,baz=112,slow=2.6,SNR=5.3						
TXAR	**Lajitas Array**	**68.56**	**330**	P	**P**	**15 47 16.5**	**-0.9**
	comp=N,0.3nm,0.7s,mb3.3,baz=163,slow=7.5,SNR=3.5						
TXAR	**Lajitas Array**	**68.56**	**330**	P	**P**	**15 47 16.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**15 48 41.0**	**-1.8**
	comp=N,1.8nm,0.8s,mb4.1,baz=256,slow=3.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**15 48 41.0**	**-1.8**
WRA	**Warramunga Arr**	**122.18**	**209**	PKP	PKPdf	15 55 07.1	-3.0
	comp=N,0.1nm,0.4s,baz=157,slow=1.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**152.83**	**31**	PKPbc	PKPbc	15 56 09.8	-1.4
	comp=N,1.0nm,0.4s,baz=333,slow=1.7,SNR=5.0						

ATH 12 15:41:55.8, 3946N×2032E, h10km, MD3.0/3, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.46**	**64**	*e*PB	Pg	15 42 04.5	-0.2
KEK	**Kerkira**	**0.48**	**302**	*e*PB	Pg	15 42 05.0	-0.1
VLS	**Valsamata**	**1.30**	**171**	*e*PB	Pb	15 42 20.5	+0.2

*ISCJB **12** 16:14:12.3±3.2, 51N±05×1262E±06, h33km, mb3.5/4, Error ellipse: s-maj=115.3km s-min=16.4km az=142.2*
*IDC **12** 16:14:30.4±7.2, 299N×12732E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=119.4km s-min=96.6km az=128.0*

ISC 12 16:14:14.6±2.3, 51N±04×1260E±06, h35km, n5, σ0§55/5, mb3.5/4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.44**	**316**	⇓*e*P	**Pn**	**16 14 38.3**	**0.0**
FITZ	**Fitzroy Crossi**	**23.00**	**181**	P	**P**	**16 19 16.4**	**-0.2**
	1.6nm,1.1s,mb3.4,baz=42,slow=6.3,SNR=3.2						
WRA	**Warramunga Arr**	**26.16**	**162**	P	**P**	**16 19 46.1**	**+0.2**
	0.9nm,0.4s,mb3.6,baz=340,slow=10,SNR=19						
ASAR	**Alice Springs**	**29.57**	**165**	P	**P**	**16 20 16.9**	**+0.6**
	0.2nm,0.5s,mb3.1,baz=357,slow=7.7,SNR=11						
STKA	**Stephens Creek**	**39.62**	**159**	P	**P**	**16 21 42.4**	**-0.6**
	1.0nm,0.6s,mb3.7,baz=344,slow=8.7,SNR=4.6						

IGQ 12 16:23:56.3, 185S×7820W, h9km±5km, Mb4.0, Ms3.8, 5C-10D, Error ellipse: s-maj=3.3km s-min=2.2km az=92.1, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATA	**Patacocha**	**0.42**	**325**	⇓P	Pg	16 24 04.9	+0.4
ARRY	**Arrayan**	**0.43**	**323**	⇓P	Pg	16 24 04.6	-0.1
ULBA	**Ulba**	**0.45**	**332**	⇓P	Pg	16 24 05.8	+0.7
RETU	**Refugio**	**0.47**	**328**	⇑P	Pg	16 24 06.0	+0.6
RETU	**Refugio**	**0.47**	**328**	⇑S	Sg	16 24 13.0	+1.4
RUN5	**Runtun**	**0.49**	**332**	P	Pg	16 24 06.2	+0.4
JUI6	**Juive**	**0.50**	**327**	⇓P	Pg	16 24 06.0	-0.1
JUI6	**Juive**	**0.50**	**327**	⇓S	Sg	16 24 12.4	-0.3
BILB	**Tungurahua vol**	**0.51**	**323**	P	Pg	16 24 06.3	+0.1
IGUA	**Igualata**	**0.57**	**309**	⇑P	Pg	16 24 07.9	+0.6
PISA	**Pisayambo**	**0.81**	**346**	P	Pg	16 24 12.7	+0.8
TAMB	**Tambo**	**1.16**	**351**	⇓P	Pb	16 24 19.5	+0.9
TAMB	**Tambo**	**1.16**	**351**	⇓S	Sg	16 24 37.6	+3.9
CAMI	**Rancho Maria**	**1.21**	**345**	P	Pb	16 24 20.1	+0.8
VC1	**Cotopaxi 1**	**1.22**	**350**	P	Pb	16 24 20.4	+0.9
VC1	**Cotopaxi 1**	**1.22**	**350**	S	Sb	16 24 40.5	+5.0
ANTI	**Antisana**	**1.39**	**1**	⇓P	Pn	16 24 22.8	+0.8
JUA2	**San Juan 2**	**1.68**	**346**	P	Pn	16 24 28.9	+3.1
GGP	**Refugio Guagua**	**1.71**	**346**	P	Pn	16 24 29.1	+2.8
TERV	**Terraza Guagua**	**1.71**	**346**	P	Pn	16 24 30.5	+4.1
PINO	**Pino**	**1.73**	**346**	P	Pn	16 24 29.6	+3.0
YANA	**Yana**	**1.76**	**348**	P	Pn	16 24 30.1	+3.0
LAV3	**Lava3-Reventad**	**1.83**	**18**	⇑P	Pn	16 24 30.2	+2.2
LAV3	**Lava3-Reventad**	**1.83**	**18**	⇑S	Sn	16 24 57.4	+6.1
CONE	**Cono NE Rev Vo**	**1.85**	**17**	P	Pn	16 24 30.2	+1.9
CONE	**Cono NE Rev Vo**	**1.85**	**17**	S	Sn	16 24 58.2	+6.3
CAYA	**Cayambe**	**1.92**	**6**	⇓P	Pn	16 24 32.4	+3.2
CAYA	**Cayambe**	**1.92**	**6**	⇓S	Sn	16 25 00.3	+6.8
MAG1	**Magdalena**	**2.37**	**318**	P	Pn	16 24 38.8	+3.4
CHIS	**Cerro-Chispas-**	**2.65**	**287**	P	Pn	16 24 39.3	0.0

ATH 12 16:37:09.9, 3932N×2030E, h27km, MD3.4/4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.54**	**52**	*e*PN	Pn	16 37 20.5	-1.4
KEK	**Kerkira**	**0.55**	**316**	*e*PN	Pn	16 37 21.5	-0.5
VLS	**Valsamata**	**1.16**	**169**	*e*PN	Pn	16 37 32.0	+1.6
EVR	**Evrytania**	**1.24**	**108**	*e*PN	Pn	16 37 34.0	+2.6

*NEIC **12** 17:06:31.9, 3924N×2029E, h21km, MD3.5(ATH), After ATH.*

ATH 12 17:06:31.9, 3924N×2029E, h21km±12km, MD3.2/5, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.60**	**46**	⇓*i*PB	Pb	17 06 43.6	-0.1
JAN				*e*SN	Sb	17 06 52.4	+0.6
KEK	**Kerkira**	**0.61**	**321**	*e*PB	Pb	17 06 43.2	-0.6
KEK				*e*SN	Sb	17 06 53.0	+1.1
VLS	**Valsamata**	**1.09**	**167**	*e*PN	Pn	17 06 52.9	+1.0
EVR	**Evrytania**	**1.23**	**105**	*e*PN	Pn	17 06 55.0	+1.2
THL	**Klokotos Trika**	**1.38**	**76**	*e*PN	Pn	17 06 58.3	+2.5

*MOS **12** 17:08:44.8±1.3, 363S×12734E, h33km, mb5.0/20, Error ellipse: s-maj=14.6km s-min=6.6km az=118.4*
*ISCJB **12** 17:08:45.1±0.6, 367S±003×12749E±003, h37km±5km, mb4.8/58, MS4.1/25, Error ellipse: s-maj=5.4km s-min=4.6km az=160.7*
*NEIC **12** 17:08:47.0±0.3, 367S×12740E, h35km, mb4.9/18, Error ellipse: s-maj=9.8km s-min=5.3km az=63.0*
*IDC **12** 17:08:46.9±2.2, 365S×12730E, h33km±15km, mb4.2/18, mb1 4.2/19, mb1mx4.2/22, mbtmp4.2/19, ML4.1/2, MS4.1/19, Ms1 4.1/19, ms1mx4.1/24, Error ellipse: s-maj=20.6km s-min=9.4km az=73.0*
*BJI **12** 17:08:46.0, 370S×12740E, h35km, mB5.1, mb4.8, Ms4.6, Ms2.4.3*
*GCMT **12** 17:08:47.0±0.2, 356S×12741E, h17km±1km, MW5.0/70, Moment Tensor Solution. s33,c51; s70,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.33±.12; $M_{\theta\theta}$0.45±.09; $M_{\phi\phi}$-0.11±.11; $M_{r\theta}$-1.38±.27; $M_{\theta\phi}$3.26±.09; $M_{\phi r}$-1.35±.28; Best double couple: $M_0$3.68000×10^{16}*

NP1:ϕ_s275.00000°, δ73.00000°, λ15.00000°. NP2: ϕ_s180.00000°, δ75.00000°, λ162.00000°. Principal axes: T 4.2500, Plg23.0000°, Azm137.0000°; N -1.1400, Plg67.0000°, Azm322.0000°; P -3.1100, Plg2.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*DJA **12** 17:08:49, 370S×12763E, h30km, ML5.2/5*

ISC 12 17:08:47.4±0.5, 368S±003×12749E±003, h39km±5km, h33km±.8km: pP-P, n145, σ1§35/153, mb4.8/58, MS4.1/25, 7C-3D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.70**	**90**	P	**Pn**	**17 09 00.7**	**-0.1**
	0.0nm,0.0s						
AAI	**Ambon**	**0.70**	**90**	⇑*e*P	**Pn**	**17 08 57.0**	**-3.8**
AAI				*e*S	Sn	17 09 49.5	+39
LBMI	**Labuha**	**3.02**	**0**	P	**Pn**	**17 09 33.4**	**+0.6**
	0.0nm,0.0s						
TNE	**Ternate**	**4.44**	**358**	⇓*e*P	**Pn**	**17 09 49.5**	**-2.7**
TNE				*e*S	**Sn**	**17 10 42.0**	**-0.7**
KDI	**Kendari**	**4.87**	**267**	⇑*e*P	**Pn**	**17 09 56.7**	**-1.4**
KDI				*e*S	**Sn**	**17 10 53.5**	**+0.2**
TLE	**Tual**	**5.58**	**111**	⇑*e*P	**Pn**	**17 10 09.0**	**+1.1**
MNI	**Manado**	**5.74**	**332**	P	**Pn**	**17 10 10.0**	**-0.1**
	0.0nm,0.0s						
BATI	**Baumata**	**7.51**	**210**	Pn	**Pn**	**17 10 37.2**	**+2.7**
	23nm,0.3s,baz=167,slow=0.7,SNR=46						
BATI				Sn	**Sn**	**17 11 57.2**	**-1.3**
	baz=293,slow=20,SNR=1.3						
BATI				LR	LR	17 13 26.0	
	comp=Z,4μm,18.4s,baz=204,slow=38						
KAPI	**Kappang**	**7.83**	**260**	Pn	**Pn**	**17 10 37.9**	**-0.9**
	baz=270,slow=20						
KAPI	**Kappang**	**7.83**	**260**	*e*Pn	**Pn**	**17 10 37.9**	**-1.0**
KAPI				*e*Sn	**Sn**	**17 12 03.7**	**-2.6**
PCI	**Palu**	**8.13**	**290**	P	**Pn**	**17 10 43.9**	**+1.0**
	0.0nm,0.0s						
PCI	**Palu**	**8.13**	**290**	⇓*e*P	**Pn**	**17 10 45.0**	**+2.1**
MKS	**Makassar**	**8.14**	**259**	⇑*e*P	**Pn**	**17 10 44.5**	**+1.4**
MKS				*e*S	**Sn**	**17 12 15.5**	**+1.6**
KAKA	**Kakadu**	**10.22**	**152**	*e*P	**Pn**	**17 11 11.5**	**-0.1**
	45nm,0.6s						
DAV	**Davao City (W)**	**10.85**	**350**	Pn	**Pn**	**17 11 21.5**	**+1.3**
	18nm,0.3s,baz=77,slow=16,SNR=2.6						
DAV	**Davao City (W)**	**10.85**	**350**	*e*Pn	**Pn**	**17 11 21.2**	**+1.0**
	111nm,0.3s						
IPIL	**Ipil**	**12.40**	**337**	⇑*e*P	**Pn**	**17 11 40.1**	**-1.4**
KHKI	**Kahang-Kahang**	**12.70**	**248**	P	**Pn**	**17 11 48.1**	**+2.6**
	0.0nm,0.0s						
FITZ	**Fitzroy Crossi**	**14.45**	**187**	*e*P	**Pn**	**17 12 08.6**	**-0.8**
	15nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.45**	**187**	Pn	**Pn**	**17 12 07.4**	**-2.0**
	0.5nm,0.3s,baz=30,slow=12,SNR=21						
FITZ				Sn	**Sn**	**17 14 55.6**	**+7.2**
	0.2nm,0.3s,baz=335,slow=20,SNR=4.3						
FITZ				LR	LR	17 18 28.6	
	comp=Z,728nm,18.6s,baz=7.4,slow=40						
KKM	**Kota Kinabalu**	**14.84**	**311**	*e*Pn	**Pn**	**17 12 15.2**	**+0.6**
TRT	**Tretes**	**15.31**	**254**	⇑*e*P	**Pn**	**17 12 25.0**	**+4.1**
SJI	**Sawahan**	**16.15**	**255**	P	**Pn**	**17 12 33.7**	**+2.0**
	0.0nm,0.0s						
WRAB	**Tennant Creek**	**17.48**	**158**	*e*P	**Pn**	**17 12 46.9**	**-1.5**
WRA	**Warramunga Arr**	**17.49**	**158**	P	**Pn**	**17 12 47.7**	**-0.7**
	0.8nm,0.3s,baz=343,slow=12,SNR=58						
WRA				S	**S**	**17 16 08.1**	**-1.0**
	baz=332,slow=24,SNR=3.3						
WRA				LR	LR	17 20 19.8	
	comp=Z,702nm,19.4s,baz=335,slow=39						
WRA				ScP	ScP	17 20 59.6	-0.6
	0.1nm,0.3s,baz=319,slow=2.3,SNR=8.6						
WRA	**Warramunga Arr**	**17.49**	**158**	P	**Pn**	**17 12 47.7**	**-0.7**
WRA				S	**S**	**17 16 08.1**	**-1.0**
WB2	**Warramunga Arr**	**17.49**	**158**	*e*P	**Pn**	**17 12 46.9**	**-1.6**
KSM	**Kuching**	**17.92**	**286**	*e*P	**Pn**	**17 12 53.2**	**-0.6**
BJII	**Banjamegara**	**18.07**	**258**	P	**Pn**	**17 12 56.5**	**+0.9**
	0.0nm,0.0s						
COEN	**Coen**	**18.54**	**124**	*e*P	**Pn**	**17 13 01.9**	**+0.5**
	32nm,0.9s						
MBWA	**Marble Bar**	**18.94**	**203**	*e*Pn	**Pn**	**17 13 05.7**	**-0.5**
LEM	**Lembang**	**20.03**	**260**	P	**P**	**17 13 19.4**	**+2.1**
	0.0nm,0.0s						
PMG	**Port Moresby**	**20.34**	**107**	*e*P	**P**	**17 13 23.4**	**+2.8**
PMG				pmax	pmax		
	comp=Z,42nm,1.1s						
PMG	**Port Moresby**	**20.34**	**107**	*e*P	**P**	**17 13 23.4**	**+2.8**
	comp=Z,42nm,1.1s						
ASAR	**Alice Springs**	**20.81**	**163**	P	**P**	**17 13 27.6**	**+2.0**
	comp=Z,108nm,1.0s,baz=345,slow=11,SNR=501						
ASAR				S	**S**	**17 17 20.3**	**+4.5**
	comp=Z,8.6nm,1.2s,baz=348,slow=21,SNR=4.2						
ASAR				ScP	ScP	17 21 06.6	-0.9
	comp=Z,0.9nm,0.6s,baz=354,slow=2.6,SNR=9.1						
ASAR	**Alice Springs**	**20.81**	**163**	P	**P**	**17 13 27.6**	**+2.0**
ASAR				S	**S**	**17 17 20.3**	**+4.5**
PPBI	**Pangkal Pinang**	**21.38**	**273**	P	**P**	**17 13 34.1**	**+2.3**
	comp=Z,0.0nm,0.0s						
TPRI	**Tanjung Pinang**	**23.40**	**281**	P	**P**	**17 13 57.3**	**+4.0**
	comp=Z,0.0nm,0.0s						
GUMO	**Guam**	**24.33**	**45**	LR	LR	17 23 04.9	
	comp=Z,374nm,18.4s,MS3.9,baz=227,slow=35						
CTA	**Charters Tower**	**24.50**	**133**	*e*P	**P**	**17 14 05.7**	**+2.4**
	comp=Z,18nm,1.2s,mb4.5						
CTA	**Charters Tower**	**24.50**	**133**	P	**P**	**17 14 05.8**	**+2.6**
	comp=Z,13nm,1.0s,mb4.4,baz=304,slow=15,SNR=7.3						
CTA				LR	LR	17 24 25.3	
	comp=Z,842nm,18.6s,MS4.3,baz=335,slow=38						
CTA	**Charters Tower**	**24.50**	**133**	*e*P	**P**	**17 14 05.7**	**+2.4**
CTA				pmax	pmax		
	comp=Z,18nm,1.2s						
CTAO	**Charters Tower**	**24.50**	**133**	*e*P	**P**	**17 14 06.3**	**+3.0**
CTAO				pmax	pmax		
	comp=Z,55nm,1.3s,mb4.9						
CTAO	**Charters Tower**	**24.50**	**133**	*e*P	**P**	**17 14 06.3**	**+3.0**
	comp=Z,55nm,1.3s,mb4.9						
QIZ	**Qiongzhong**	**28.48**	**323**	P	**P**	**17 14 39.5**	**+0.4**
QIZ				S	**S**	**17 19 25.1**	**+0.9**
QIZ				XS	sS	17 19 40.7	-1.4
QIZ				AMB	AMB		
	comp=Z,14nm,2.1s,mb4.2						
QIZ				AMB	AMB		
	comp=Z,260nm,3.4s						
QIZ				LR	LR		
	comp=N,486nm,16.2s,MS4.3						
QIZ				LR	LR		
	comp=E,476nm,20.1s,MS4.3						
QIZ				LR	LR		
	comp=Z,481nm,25.0s,MS4.0						
KLBR	**Kellerberrin**	**29.24**	**197**	*e*P	**P**	**17 14 45.9**	**+0.2**
	comp=Z,25nm,1.0s,mb4.9						
PSI	**Prapat**	**29.27**	**282**	P	**P**	**17 14 46.2**	**0.0**
	comp=Z,16nm,0.7s,mb4.8,baz=147,slow=3.3,SNR=19						
PSI				LR	LR	17 28 20.5	
	comp=Z,526nm,18.4s,MS4.2,baz=276,slow=40						
MUN	**Mundaring**	**30.08**	**199**	*e*P	**P**	**17 14 53.4**	**+0.2**
NWAO	**Narrogin (SRO)**	**30.64**	**197**	P	**P**	**17 14 58.3**	**+0.2**
	comp=Z,9.6nm,0.8s,mb4.7,baz=26,slow=7.4,SNR=9.5						
NWAO	**Narrogin (SRO)**	**30.64**	**197**	*e*P	**P**	**17 14 57.2**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**30.64**	**197**	*e*P	**P**	**17 14 57.2**	**-0.8**
	comp=Z,5.8nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**31.02**	**156**	*e*P	**P**	**17 15 01.8**	**+0.3**
	comp=Z,8.8nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**31.02**	**156**	P	**P**	**17 15 03.3**	**+1.8**
	comp=Z,1.9nm,0.5s,mb4.2,baz=342,slow=12,SNR=6.2						
STKA				LR	LR	17 27 54.1	
	comp=Z,602nm,20.6s,MS4.2,baz=127,slow=37						
CBIJ	**Chichi jima**	**33.73**	**24**	LR	LR	17 28 31.7	
	comp=Z,152nm,19.4s,MS3.7,baz=167,slow=35						
CM31	**Chiang Mai Arr**	**35.71**	**309**	*e*P	**P**	**17 15 42.2**	**-0.3**
	comp=Z,48nm,1.5s,mb5.2						
CMAR	**Chiang Mai Arr**	**35.71**	**309**	P	**P**	**17 15 42.0**	**-0.5**
	comp=Z,6.3nm,1.1s,mb4.5,baz=137,slow=7.3,SNR=22						
CMAR				PcP	PcP	17 18 12.2	+2.0
	comp=Z,1.2nm,0.8s,baz=190,slow=3.1,SNR=4.4						
CMAR				ScP	ScP	17 21 56.0	+2.5
	comp=Z,0.6nm,0.8s,baz=152,slow=3.2,SNR=4.3						
CMAR				LR	LR	17 29 23.1	
	comp=Z,315nm,20.9s,MS4.1,baz=304,slow=35						
CMAR	**Chiang Mai Arr**	**35.71**	**309**	*i* P	**P**	**17 15 43.7**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CHTO	**Chiang Mai**	**35.91**	**309**	*e*P	**P**	**17 15 44.8**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,43nm,1.5s,mb5.2						
CHTO	**Chiang Mai**	**35.91**	**309**	*e*P	**P**	**17 15 44.8**	**+0.6**
	comp=Z,43nm,1.5s,mb5.2						
GYA	**Guiyang**	**36.11**	**327**	P	**P**	**17 15 49.1**	**+3.3**
GYA				AP	pP	17 15 58.2	+1.5
GYA				XP	sP	17 16 02.4	+1.1
GYA				PP	PP	17 17 12.8	+4.3
GYA				PCP	PcP	17 18 14.6	+3.3
GYA				S	**S**	**17 21 26.2**	**+3.4**
GYA				XS	sS	17 21 41.9	+1.0
GYA				SCP	ScP	17 21 57.2	+2.4
GYA				SS	SS	17 23 50.4	-11
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,17.0s,MS4.5						
GYA				LR	LR		
	comp=E,450nm,17.3s,MS4.5						
GYA				LR	LR		
	comp=Z,470nm,17.4s,MS4.3						
WHN	**Wuhan**	**36.27**	**341**	*e*P	**P**	**17 15 53.0**	**+5.8**
NJ2	**Nanjing**	**36.47**	**348**	*e*P	**P**	**17 15 50.5**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
CAN	**Canberra**	**37.25**	**150**	*e*P	**P**	**17 15 57.2**	**+1.7**
KMI	**Kunming**	**37.38**	**321**	P	**P**	**17 15 59.5**	**+2.8**
KMI				AP	pP	17 16 08.5	+0.9
KMI				XP	sP	17 16 12.5	+0.3
KMI				PP	PP	17 17 28.1	+5.6
KMI				S	**S**	**17 21 43.7**	**+1.4**
KMI				XS	sS	17 22 01.1	+0.7
KMI				SS	SS	17 24 18.8	-8.6
KMI				SSS		17 24 49.0	
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.3						
KMI				AMB	AMB		
	comp=Z,94nm,5.6s						
KMI				LR	LR		
	comp=N,254nm,13.9s						
KMI				LR	LR		
	comp=E,257nm,23.3s						
KMI				LR	LR		
	comp=Z,174nm,19.6s						
KSRS	**Korea Array**	**40.93**	**1**	P	**P**	**17 16 26.3**	**+0.2**
	comp=Z,6.4nm,0.9s,mb4.2,baz=181,slow=10,SNR=9.3						
KSRS				LR	LR	17 31 47.5	
	comp=Z,118nm,19.9s,MS3.8,baz=183,slow=34						
CD2	**Chengdu**	**41.18**	**328**	*e*P	**P**	**17 16 29.6**	**+1.3**
CD2				AP	pP	17 16 39.4	+0.1
CD2				XP	sP	17 16 44.2	+0.3
CD2				PP	PP	17 18 09.5	+5.5
CD2				S	**S**	**17 22 42.0**	**+2.7**
CD2				XS	sS	17 22 58.3	+0.8
CD2				SS	SS	17 25 41.9	-1.5
CD2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=N,390nm,20.4s,MS4.4						
CD2				LR	LR		
	comp=E,210nm,16.8s,MS4.4						
CD2				LR	LR		
	comp=Z,300nm,13.2s,MS4.3						
MJAR	**Matsushiro Arr**	**41.25**	**13**	P	**P**	**17 16 28.2**	**-0.6**
	comp=Z,2.1nm,0.6s,mb3.9,baz=190,slow=8.1,SNR=7.9						
MJAR				LR	LR	17 32 52.5	
	comp=Z,138nm,21.0s,MS3.8,baz=200,slow=35						
MAJO	**Matsushiro**	**41.25**	**13**	*e*P	**P**	**17 16 28.1**	**-0.7**
MAT	**Matsushiro**	**41.25**	**13**	P	**P**	**17 16 27.8**	**-1.0**
MAT				S	**S**	**17 22 38.2**	**-1.9**
XAN	**Xi'an**	**41.41**	**336**	P	**P**	**17 16 27.9**	**-2.2**
XAN				AP	pP	17 16 45.0	+3.9
XAN				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.8						
XAN				AMB	AMB		
	comp=Z,62nm,6.7s						
BJI	**Beijing**	**44.73**	**348**	P	**P**	**17 16 55.2**	**-1.7**
BJI				S	**S**	**17 23 35.2**	**+4.1**
BJI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.6						
BJI				AMB	AMB		
	comp=Z,219nm,4.1s						
BJI				LR	LR		
	comp=N,253nm,7.8s						
BJI				LR	LR		
	comp=E,186nm,8.2s						
SHL	**Shillong**	**45.13**	**312**	*e*P	**P**	**17 17 02.0**	**+1.6**
LZH	**Lanzhou**	**45.33**	**333**	*e*P	**P**	**17 17 03.5**	**+1.8**
LZH				AP	pP	17 17 13.0	+0.2
LZH				XP	sP	17 17 17.0	-0.3
LZH				PP	PP	17 18 51.0	+2.7
LZH				*e*S	**S**	**17 23 45.0**	**+5.2**
LZH				XS	sS	17 23 55.1	-3.1
LZH				SS	SS	17 26 58.6	-5.4
LZH				AMB	AMB

GTA AMB AMB
comp=Z,137nm,5.6s
GTA LR LR
comp=N,90nm,18.9s,MS4.0
GTA LR LR
comp=E,113nm,19.8s,MS4.0
GTA LR LR
comp=Z,125nm,17.0s,MS4.0
JIRN Jiri 50.54 311 *e*P **P 17 17 41.1 -1.1**
comp=Z,18nm,0.5s,mb5.3
GUN Gumba 50.90 311 *e*P **P 17 17 44.6 -0.4**
comp=Z,90nm,0.7s,mb5.8
PKI Pulchoki 51.09 310 *e*P **P 17 17 46.6 +0.2**
KKN Kakani 51.30 310 *e*P **P 17 17 47.1 -0.8**
comp=Z,54nm,1.0s,mb5.4
DMN Daman 51.34 310 *e*P **P 17 17 47.7 -0.5**
comp=Z,58nm,1.0s,mb5.5
KOLN Koldanda 52.58 309 *e*P **P 17 17 56.6 -0.8**
comp=Z,40nm,0.6s,mb5.5
HYB Hyderabad 52.63 295 *i*P **P 17 17 58.5 +0.4**
HYB Hyderabad 52.63 295 *e*P **P 17 17 58.5 +0.4**
DANN Dangsing 52.74 310 *e*P **P 17 17 57.6 -1.0**
comp=Z,67nm,0.6s,mb5.8
SONM Songino Array 54.54 343 P **P 17 18 11.5 +0.1**
comp=Z,2.4nm,0.8s,mb4.3,baz=158,slow=6.8,SNR=16
SONM LR LR 17 42 52.2
comp=Z,128nm,18.7s,MS4.0,baz=157,slow=38
ZAK Zakamensk 57.74 342 *e*P **P 17 18 33.4 -0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
DDI Dehra Dun 58.05 309 *e*x x 17 18 49.5
TLY Talaya 58.77 343 *e*P **P 17 18 33.3 -8.2**
TLY *e*S **S 17 26 54.4 +11**
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,98nm,20.0s,MS3.9
SMLA Simla 59.10 310 *i*x x 17 18 43.9
WMQ Urumqi 59.27 327 P **P 17 18 46.2 +1.1**
WMQ AP pP 17 18 56.3 -0.2
WMQ XP sP 17 19 00.2 -0.8
WMQ PCP PcP 17 19 34.1 +1.1
WMQ PP PP 17 20 58.8 +2.4
WMQ SCP ScP 17 23 30.8 -0.1
WMQ SCS ScS 17 28 29.9 -2.3
WMQ SS SS 17 30 46.0 +0.2
WMQ AMB AMB
comp=Z,18nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,28nm,9.8s
WMQ LR LR
comp=N,291nm,22.4s,MS4.4
WMQ LR LR
comp=E,186nm,24.0s,MS4.4
WMQ LR LR
comp=Z,108nm,24.0s,MS3.9
MOY Mondy 59.58 341 *e*P **P 17 18 45.0 -2.0**
HVS Khovu-Aksy 61.77 337 *e*P **P 17 19 01.8 -0.2**
HVS pmax pmax
comp=Z,36nm,1.6s,mb5.2
PETK Petropavlovsk- 62.02 20 P **P 17 19 05.7 +2.1**
comp=Z,5.0nm,0.9s,mb4.6,baz=228,slow=3.8,SNR=3.6
PETK LR LR 17 43 08.9
comp=Z,81nm,21.6s,MS3.9,baz=36,slow=33
BOD Bodaibo 62.26 352 *e*P **P 17 19 04.9 -0.2**
BOD pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
MK31 Makanchi Array 64.10 327 *e*P **P 17 19 16.3 -1.3**
MKAR Makanchi Array 64.10 327 P **P 17 19 16.5 -1.1**
comp=Z,2.9nm,0.5s,mb4.5,baz=124,slow=7.8,SNR=42
MKAR LR LR 17 47 12.4
comp=Z,93nm,21.5s,MS3.9,baz=124,slow=36
YAK Yakutsk 65.55 1 *e*P **P 17 19 25.2 -1.5**
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.2
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK Yakutsk 65.55 1 *e*P **P 17 19 26.6 -0.1**
TKM2 Tokmak 2 65.85 321 *e*P **P 17 19 27.9 -1.1**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
TKM2 Tokmak 2 65.85 321 *e*P **P 17 19 27.9 -1.1**
comp=Z,5.2nm,0.7s,mb4.7
AML Almayashu 66.68 319 *e*P **P 17 19 35.2 +0.8**
comp=Z,19nm,1.4s,mb4.9
KBL Kabul 66.73 310 *e*P **P 17 19 33.8 -1.1**
KBL pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
KBL Kabul 66.73 310 *e*P **P 17 19 33.8 -1.1**
comp=Z,4.6nm,0.5s,mb4.8
EKS2 Erkin-Say 66.88 320 *e*P **P 17 19 35.0 -0.7**
comp=Z,8.6nm,1.1s,mb4.7
ZAA0 Zalesovo Array 67.53 334 *e*P **P 17 19 37.8 -1.7**
ZALV Zalesovo Beam 67.53 334 P **P 17 19 37.6 -1.8**
comp=Z,2.5nm,0.7s,mb4.3,baz=123,slow=5.3,SNR=11
ZALV LR LR 17 50 03.1
comp=Z,78nm,19.4s,MS3.9,baz=95,slow=37
ZAL Zalesovo 67.53 334 P **P 17 19 37.7 -1.8**
KURK Kurchatov 68.40 329 *e*P **P 17 19 43.7 -1.4**
KURK pmax pmax
comp=Z,14nm,0.9s,mb5.0
KURK Kurchatov 68.40 329 *e*P **P 17 19 43.7 -1.4**
comp=Z,14nm,0.9s,mb5.0
NVS Novosibirsk 68.81 334 *e*P **P 17 19 45.1 -2.4**
NVS pmax pmax
comp=Z,14nm,1.3s,mb4.7
NVS pmax pmax
comp=E,15nm,1.7s
SEY Seymchan 69.06 12 *e*P **P 17 19 49.4 +0.5**
BVAR Borovoye Array 73.94 328 P **P 17 20 17.0 -1.6**
comp=E,2.9nm,1.0s,mb4.2,baz=106,slow=11,SNR=8.1
VNDA Vanda 76.03 173 P **P 17 20 28.8 -1.4**
comp=E,1.5nm,0.5s,mb4.2,baz=318,slow=6.6,SNR=16
VNDA LR LR 17 55 43.5
comp=E,203nm,18.6s,MS4.5,baz=332,slow=37
MAW Mawson 77.12 201 P **P 17 20 35.0 -1.6**
comp=E,1.2nm,0.9s,mb3.8,baz=130,slow=3.2,SNR=3.5
MAW LR LR 17 51 03.5
comp=E,127nm,19.1s,MS4.3,baz=62,slow=33
AKTK Aktyubinsk 79.94 323 P **P 17 20 50.0 -2.4**
AKTO Aktyubinsk 79.94 323 P **P 17 20 50.0 -2.4**
comp=E,4.3nm,0.8s,mb4.4,baz=107,slow=5.0,SNR=5.2
SVE Sverdlovsk 80.66 329 *e*P **P 17 20 59.6 +3.5**
SVE pmax pmax
comp=Z,20nm,1.5s,mb4.8
ARU Arti 81.59 328 *i*P **P 17 21 00.0 -1.0**
ARU *e*S S 17 31 09.6 -0.7
ARU pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ARU Arti 81.59 328 *e*P **P 17 21 00.8 -0.3**
comp=Z,20nm,1.4s,mb4.9
PPT Papeete 82.17 107 LR LR 17 55 17.4
comp=Z,103nm,20.0s,MS4.2,baz=140,slow=34
SYO Syowa Base 85.83 201 *e*PcP PcP 17 21 25.4 +0.1
MALT Malatya 91.52 308 *e*P **P 17 21 51.3 +1.1**
MALT pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
MALT Malatya 91.52 308 *e*P **P 17 21 51.3 +1.1**
comp=Z,4.3nm,0.9s,mb4.8
ANN Anapa 92.61 315 *e*P **P 17 21 54.5 -0.6**
ANN pmax pmax
comp=Z,20nm,1.2s,mb5.4
OBN Obninsk 93.52 325 P **P 17 22 08.0 +8.9**
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
DAWY Dawson 94.65 26 *e*P **P 17 22 05.4 +1.3**
ARCES ARCESS Array B 97.62 340 P **P 17 22 16.6 -0.8**
comp=Z,1.8nm,0.8s,mb4.7,baz=67,slow=5.0,SNR=3.7
AKASG Malin Array Be 98.08 321 P **P 17 22 19.4 -0.5**
comp=Z,0.2nm,0.3s,mb4.1,baz=68,slow=3.5,SNR=5.2
BOSA Boshof 98.95 240 LR LR 18 03 15.0
comp=Z,134nm,18.2s,MS4.5,baz=285,slow=33
TORD Torodi Ar. Bea 125.66 283 PKP PKPdf 17 27 45.0 -0.8
comp=Z,1.1nm,1.0s,baz=353,slow=3.5,SNR=3.1
TORD Torodi Ar. Bea 125.66 283 PKP PKPdf 17 27 45.0 -0.8
LVC Limon Verde 149.34 149 *e*PKPbc PKPbc 17 28 33.6 +0.6
CPUP Villa Florida 149.80 171 PKPbc PKPbc 17 28 33.8 -0.3
comp=Z,5.5nm,0.9s,baz=181,slow=2.1,SNR=9.2
CPUP Villa Florida 149.80 171 *e*PKPdf PKPdf 17 28 29.1 -0.2
CPUP *e*PKPbc PKPbc 17 28 33.7 -0.4
LPAZ La Paz 154.85 143 PKP PKPdf 17 28 39.1 +2.0
comp=Z,0.3nm,0.5s,baz=39,slow=6.5,SNR=2.7

ISCJB ***12*** *18:02:57.9±0.5, 4379N±004×105.19W±007, h0km, Error ellipse: s-maj=7.0km s-min=5.5km az=17.5*
NEIC ***12*** *18:02:60.0±0.7, 4379N×10527W, h0km, ML3.4, Error ellipse: s-maj=12.1km s-min=9.0km az=146.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
IDC ***12*** *18:03:00.4±1.6, 44.12N×10576W, h0km, mb3.9/1, mb1 3.7/5, mb1mx3.4/25, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=61.8km s-min=8.0km az=145.0*
ISC 12 18:02:59.9±0.5, 4378N±004×10523W±006, h0km, n31, σ0§96/34, 1C, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**68**	*e*P	**Pg**	**18 03 18.9**	**+1.3**
PHWY	**Pilot Hill**	**2.48**	**184**	*e*P	**Pn**	**18 03 41.0**	**-0.6**
PHWY				*e*S	**Sn**	**18 04 13.2**	**+0.8**
RWWY	**Rawlins**	**2.55**	**216⇑**	*i*P	**Pn**	**18 03 43.1**	**+0.7**
RWWY				*e*S	**Sn**	**18 04 13.7**	**-0.5**
LAO	**LASA Array**	**2.99**	**347**	*e*Pn	**Pn**	**18 03 47.1**	**-1.4**
RLMT	**Red Lodge**	**3.19**	**296**	*e*Pn	**Pn**	**18 03 51.5**	**+0.3**
BW06	**Boulder Array**	**3.32**	**254**	*e*Pn	**Pn**	**18 03 53.1**	**0.0**
BW06				*e*Sn	**Sn**	**18 04 37.8**	**+4.6**
PDAR	**Pinedale Array**	**3.32**	**254**	Pn	**Pn**	**18 03 53.1**	**+0.1**
PDAR				Lg		18 04 37.9	
PDAR	**Pinedale Array**	**3.32**	**254**	Pn	**Pn**	**18 03 53.1**	**+0.1**
	3.6nm,0.3s,baz=69,slow=16,SNR=54						
PDAR				Lg		18 04 37.9	
	4.3nm,0.3s,baz=66,slow=35,SNR=6.2						
MOOW	**Moose Ponds**	**4.00**	**271**	*e*Pn	**Pn**	**18 04 03.0**	**+0.7**
YFT	**Old Faithful**	**4.09**	**281**	*e*Pn	**Pn**	**18 04 06.5**	**+2.8**
REDW	**Red Top Meadow**	**4.11**	**266**	*e*P	**Pn**	**18 04 04.3**	**+0.5**
IMW	**Indian Meadow**	**4.13**	**274**	*e*Pn	**Pn**	**18 04 05.8**	**+1.5**
RRI2	**Red Ridge**	**4.45**	**267**	*e*Pn	**Pn**	**18 04 08.7**	**+0.2**
BOZ	**Bozeman (W)**	**4.93**	**294**	*e*Pn	**Pn**	**18 04 14.5**	**-0.7**
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	**Pn**	**18 04 20.3**	**+0.2**
	12nm,0.4s						
HVU	**Hansel Valley**	**5.90**	**253**	*e*Pn	**Pn**	**18 04 22.6**	**-5.9**
	6.2nm,0.6s						
SDCO	**Great Sand Dun**	**6.03**	**182**	*e*Pn	**Pn**	**18 04 30.7**	**+0.4**
	4.2nm,0.9s						
MPU	**Maple Canyon**	**6.08**	**234**	*e*Pn	**Pn**	**18 04 38.0**	**+7.0**
	12nm,0.8s						
PV10	**Paradox Valley**	**6.12**	**209**	*e*Pn	**Pn**	**18 04 31.0**	**-0.4**
SRU	**San Rafael**	**6.13**	**222**	*e*Pn	**Pn**	**18 04 30.7**	**-0.9**
	10nm,0.5s						
PV01	**Paradox Valley**	**6.18**	**205**	*e*Pn	**Pn**	**18 04 32.7**	**+0.4**
ECSD	**EROS,Sioux Fal**	**6.24**	**87**	*e*Pn	**Pn**	**18 04 33.7**	**+0.6**
	5.8nm,0.4s						
TMUT	**Trail Mountain**	**6.34**	**227**	*e*Pn	**Pn**	**18 04 35.0**	**+0.4**
DUG	**Dugway**	**6.69**	**240**	*e*Pn	**Pn**	**18 04 38.2**	**-1.1**
	4.4nm,0.4s						
MSU	**Marysvale**	**7.43**	**227**	*e*Pn	**Pb**	**18 05 08.9**	**-0.6**
ELK	**Elko**	**8.02**	**251**	Pn	**Pn**	**18 04 56.8**	**-0.7**
	0.2nm,0.3s,baz=32,slow=13,SNR=3.9						
CCUT	**Cedar City**	**8.77**	**228**	*e*Pn	**Pn**	**18 05 17.0**	**+9.2**
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**18 05 11.6**	**-0.6**
	2.3nm,0.3s,baz=240,slow=11,SNR=13						
ULM				Pg	Pn	18 05 49.1	+37
	1.3nm,0.3s,baz=231,slow=16,SNR=5.7						
ULM				Lg		18 07 44.8	
	0.3nm,0.3s,baz=310,slow=22,SNR=2.4						
WUAZ	**Wupatki**	**9.51**	**212**	*e*Pn	**Pn**	**18 05 16.3**	**-1.7**
	6.8nm,0.5s						
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn	**Pn**	**18 05 42.6**	**+1.2**
	0.1nm,0.3s,baz=52,slow=12,SNR=2.3						
ARCES	**ARCESS Array B**	**61.37**	**18**	P	**P**	**18 13 14.5**	**-2.4**
	1.2nm,0.7s,baz=331,slow=7.2,SNR=7.3						

ATH 12 18:04:23.6, 3927N×2025E, h10km, MD3.0/3, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.56**	**322**	*e*PB	Pb	18 04 34.5	-1.1
JAN	**Janina**	**0.60**	**50**	*e*PB	Pb	18 04 35.0	-1.3
VLS	**Valsamata**	**1.12**	**166**	*e*PB	Pb	18 04 45.0	-0.1

IDC ***12*** *18:20:26.2±1.4, 2271N×12298E, h0km, mb3.1/3, mb1 3.3/4, mb1mx3.2/20, mbtmp3.1/4, Error ellipse: s-maj=51.1km s-min=27.2km az=77.0*
ISCJB ***12*** *18:20:28.1±1.3, 2289N±008×12276E±005, h39km±18km, mb3.1/3, Error ellipse: s-maj=13.7km s-min=7.2km az=170.7*
JMA ***12*** *18:20:28.8±0.2, 2288N×12286E, h60km, M3.3*
TAP ***12*** *18:20:28.3, 2282N×12263E, h48km±1km, ML4.1*
NEIC ***12*** *18:20:29.4±0.9, 2284N×12254E, h35km, Error ellipse: s-maj=26.5km s-min=11.6km az=65.0*
ISC 12 18:20:29.1±2.5, 2291N±006×12276E±005, h34km±22km, n15, σ0§82/24, mb3.1/3, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.49**	**40**	P	**Pn**	**18 20 53.4**	**-0.1**
HATJ				S	**Sn**	**18 21 11.5**	**-0.3**
YOJ	**Yonaguni jima**	**1.56**	**9**	P	**Pn**	**18 20 55.0**	**+0.5**
YOJ				S	**Sn**	**18 21 14.9**	**+1.4**
NACB	**Ninganchiao**	**1.65**	**320⇓**	*i*Pn	**Pn**	**18 20 53.8**	**-1.8**
NACB				*e*Sn	**Sn**	**18 21 12.7**	**-2.9**
IRIF	**Iriomote-Funau**	**1.67**	**32**	P	**Pn**	**18 20 56.1**	**+0.1**
IRIF				S	**Sn**	**18 21 16.3**	**0.0**
JKRS	**Kuro-shima**	**1.75**	**41**	P	**Pn**	**18 20 57.2**	**+0.1**
JKRS				*e*S	**Sn**	**18 21 17.5**	**-0.7**
JIJ	**Ishigaki jima**	**1.93**	**41**	P	**Pn**	**18 20 59.0**	**-0.5**
JIJ				S	**Sn**	**18 21 21.9**	**-0.6**
YHNB	**Yeheng**	**2.16**	**324**	*e*Pn	**Pn**	**18 21 02.8**	**+0.1**
YHNB				*e*Sn	**Sn**	**18 21 19.8**	**-8.5**
TATO	**Taipei**	**2.36**	**331**	*e*Pn	**Pn**	**18 21 06.2**	**+0.7**
TATO				*e*Sn	**Sn**	**18 21 34.0**	**+0.8**
JTJ	**Tarama**	**2.48**	**46**	P	**Pn**	**18 21 07.2**	**+0.1**
JTJ				S	**Sn**	**18 21 35.9**	**-0.3**
JMJ	**Miyako jima 2**	**3.00**	**50**	*e*S	**Sn**	**18 21 48.8**	**-0.2**
JOGS	**Gusukube**	**3.05**	**52**	*e*S	**Sn**	**18 21 50.6**	**+0.4**
MJAR	**Matsushiro Arr**	**19.06**	**41**	P	**Pn**	**18 24 50.6**	**+1.1**
	0.1nm,0.3s,baz=220,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**40.25**	**316**	P	**P**	**18 28 07.0**	**+4.4**
	0.3nm,0.7s,mb3.1,baz=99,slow=8.9,SNR=3.0						
WRA	**Warramunga Arr**	**44.07**	**164**	P	**P**	**18 28 33.4**	**-0.6**
	0.3nm,0.7s,mb3.1,baz=345,slow=9.1,SNR=6.4						
ASAR	**Alice Springs**	**47.55**	**166**	P	**P**	**18 29 02.2**	**+0.8**
	0.1nm,0.4s,mb3.2,baz=357,slow=9.6,SNR=7.4						

NEIC ***12*** *18:25:11.8, 3926N×2028E, h21km, MD3.3(ATH), After ATH.*
ATH 12 18:25:11.7, 3924N×2028E, h21km±4km, MD3.3/6, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.60**	**322⇓**	*i*PN	Pn	18 25 23.1	-1.9
KEK				*e*SN	Sb	18 25 32.6	+1.0
JAN	**Janina**	**0.61**	**47**	*e*PB	Pb	18 25 23.0	-0.6
JAN				*e*SN	Sb	18 25 32.0	+0.3
VLS	**Valsamata**	**1.09**	**167**	*e*PN	Pn	18 25 32.4	+0.7
VLS				*e*SN	Sn	18 25 48.5	+2.4
VLS	**Valsamata**	**1.09**	**167**	*e*Pb	Pb	18 25 32.4	+0.6
VLS				*e*Sn	Sn	18 25 49.3	+3.2
EVR	**Evrytania**	**1.23**	**105**	*e*PN	Pn	18 25 35.9	+2.2
THL	**Klokotos Trika**	**1.38**	**76**	*e*PN	Pn	18 25 38.5	+2.8
THL				*e*SN	Sn	18 25 56.9	+3.5
RLS	**Riolos of Patr**	**1.50**	**141**	*e*PN	Pn	18 25 39.7	+2.3

ATH 12 18:30:20.5, 3939N×2031E, h31km, MD3.2/4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.50**	**57**	*e*PB	Pb	18 30 31.0	+0.1
KEK	**Kerkira**	**0.51**	**309**	*e*PN	Pn	18 30 31.5	-0.1
VLS	**Valsamata**	**1.23**	**170**	*e*PN	Pn	18 30 43.5	+2.0
EVR	**Evrytania**	**1.26**	**112**	*e*PN	Pn	18 30 44.0	+2.1

ATH 12 18:38:08.1, 3927N×2030E, h10km, MD3.1/3, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.57**	**48**	*e*PB	Pb	18 38 19.0	-1.3
KEK	**Kerkira**	**0.59**	**319**	*e*PB	Pb	18 38 19.5	-1.0
VLS	**Valsamata**	**1.11**	**168**	*e*PB	Pb	18 38 29.5	+0.1

NEIC ***12*** *18:47:07.0, 3925N×2025E, h3km, MD3.3(ATH), After ATH.*
ATH 12 18:47:07.0, 3925N×2025E, h3km, MD3.3/5, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.58**	**323**	*e*PG	Pg	18 47 18.3	+0.2
KEK				*e*SG	Sg	18 47 26.2	+0.5
JAN	**Janina**	**0.62**	**49⇓**	*e*PG	Pg	18 47 18.6	-0.3
JAN				*e*SG	Sg	18 47 26.9	0.0
VLS	**Valsamata**	**1.10**	**166**	*e*PG	Pg	18 47 27.7	-0.4
VLS				*e*SB	Sb	18 47 43.9	+0.4
EVR	**Evrytania**	**1.26**	**105**	*e*PB	Pb	18 47 30.5	-0.8
THL	**Klokotos Trika**	**1.40**	**76**	*e*PN	Pn	18 47 33.9	+0.5

NEIC ***12*** *18:58:21.9, 3647N×2296E, h9km, MD3.0(ATH), After ATH.*
ATH 12 18:58:21.9, 3647N×2295E, h8km, MD3.0/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.20**	**160**	*e*PG	Pg	18 58 26.0	0.0
KYTH				*e*SG	Sg	18 58 29.0	+0.3
VLI	**Veliai**	**0.25**	**358**	*e*PG	Pg	18 58 27.0	+0.1
ITM	**Ithomi**	**1.08**	**311**	*e*PB	Pb	18 58 42.5	-0.4
VAM	**Vamos**	**1.47**	**136**	*e*PB	Pb	18 58 49.5	+0.1

CSEM ***12*** *19:01:13.7±0.1, 3675N×3565E, h12km, MD3.1, Error ellipse: s-maj=2.1km s-min=1.7km az=28.0*
DDA ***12*** *19:01:13.6, 3664N×3563E, h7km±11km, Md3.1*
ISK ***12*** *19:01:13.1, 3671N×3565E, h7km, MD3.4*
ISCJB ***12*** *19:01:14.1±0.6, 3674N±003×3566E±004, h8km±5km, Error ellipse: s-maj=5.6km s-min=4.3km az=164.6*
NSSC ***12*** *19:01:19.6, 3659N×3600E, h22km±2km*
ISC 12 19:01:14.7±0.4, 3674N±002×3569E±004, h10km±4km, n40, σ1§01/50, 13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YURE	**YUREGIR**	**0.10**	**335**	*i*P	**Pg**	**19 01 18.1**	**+0.9**
YURE				*i*S	**Sg**	**19 01 21.3**	**+2.2**
CEYT	**Ceyhan**	**0.28**	**10**	PG	**Pg**	**19 01 19.9**	**-0.3**
CEYT	**Ceyhan**	**0.28**	**10**	PG	**Pg**	**19 01 19.9**	**-0.3**
CEYT				*e*SG	**Sg**	**19 01 24.9**	**+0.8**
KARA	**Karaisali**	**0.73**	**316**	*e*PG	**Pg**	**19 01 27.5**	**-1.2**
KARA	**Karaisali**	**0.73**	**316**	*e*PG	**Pg**	**19 01 27.5**	**-1.2**
KARA	**Karaisali**	**0.73**	**316**	*e*Pg	**Pg**	**19 01 27.5**	**-1.2**
KARA				*e*Sg	**Sg**	**19 01 37.3**	**-0.9**
KOZT	**Kozan**	**0.75**	**9**	*e*PG	**Pg**	**19 01 28.6**	**-0.6**
KOZT	**Kozan**	**0.75**	**9**	*e*PG	**Pg**	**19 01 28.6**	**-0.6**
YAYL	**Yayladag**	**0.78**	**154**	*i*P	**Pg**	**19 01 30.0**	**+0.3**
YAYL				*i*S	**Sg**	**19 01 43.1**	**+3.3**
DRWC	**Darouich**	**0.80**	**98**	⇓P	**Pg**	**19 01 30.3**	**+0.2**
DRWC				⇓S	**Sg**	**19 01 38.0**	**-2.4**
DRWC	**Darouich**	**0.80**	**98**	⇓P	**Pg**	**19 01 30.3**	**+0.2**
DRWC				⇓S	**Sg**	**19 01 38.0**	**-2.4**
DRWC	**Darouich**	**0.80**	**98**	⇓*i*P	**Pg**	**19 01 30.3**	**+0.3**
ARNB	**Al Arnab**	**0.90**	**165**	⇑P	**Pg**	**19 01 33.7**	**+1.7**
ARNB				⇑S	**Sg**	**19 01 43.5**	**-0.3**
ARNB	**Al Arnab**	**0.90**	**165**	⇓S	**Sg**	**19 01 43.5**	**-0.3**
BTCH	**Batrach**	**0.94**	**138**	⇑P	**Pg**	**19 01 32.3**	**-0.3**
BTCH				⇑S	**Sg**	**19 01 42.0**	**-2.9**
BTCH	**Batrach**	**0.94**	**138**	⇑P	**Pg**	**19 01 32.3**	**-0.3**
BTCH				⇓S	**Sg**	**19 01 42.0**	**-2.9**
BTCH	**Batrach**	**0.94**	**138**	⇑*i*P	**Pg**	**19 01 32.3**	**-0.4**
MERS	**Mersin**	**0.94**	**278**	*e*PG	**Pg**	**19 01 31.2**	**-1.6**
ANDN	**Andirin**	**0.99**	**32**	*i*P	**Pg**	**19 01 32.9**	**-0.8**
ANDN				*i*S	**Sg**	**19 01 46.3**	**-0.5**
SLNF	**Slenfeh**	**1.22**	**159⇑**	*i*P	**Pn**	**19 01 37.7**	**0.0**
KMRS	**Kahramanmaras**	**1.24**	**51**	*e*PN	**Pn**	**19 01 37.5**	**-0.5**
GAZ	**Gaziantep**	**1.30**	**70**	*e*PN	**Pn**	**19 01 38.1**	**-0.7**
WRDH	**Warideh**	**1.36**	**154**	⇓P	**Pn**	**19 01 39.9**	**+0.3**
WRDH	**Warideh**	**1.36**	**154**	⇓P	**Pn**	**19 01 39.9**	**+0.3**
WRDH	**Warideh**	**1.36**	**154**	⇓*i*P	**Pn**	**19 01 39.9**	**+0.2**
NIG	**Nigde**	**1.62**	**328**	*e*PN	**Pn**	**19 01 42.6**	**-0.6**
IKL	**Isikli**	**1.69**	**253**	*e*PN	**Pn**	**19 01 43.4**	**-0.8**
BIDA	**Albida**	**1.79**	**163**	⇓P	**Pn**	**19 01 46.1**	**+0.4**
BIDA	**Albida**	**1.79**	**163**	⇓P	**Pn**	**19 01 46.1**	**+0.4**
BIDA	**Albida**	**1.79**	**163**	⇓*i*P	**Pn**	**19 01 46.1**	**+0.5**
SARI	**SarD1z-Kayseri**	**2.10**	**22**	*e*PN	**Pn**	**19 01 45.4**	**-4.4**
SARI	**SarD1z-Kayseri**	**2.10**	**22**	*e*PN	**Pn**	**19 01 45.4**	**-4.4**
BNN	**Bunyan**	**2.12**	**3**	*e*PN	**Pn**	**19 01 50.5**	**+0.4**
HDMB	**Hadim**	**2.58**	**276**	*e*PN	**Pn**	**19 01 56.4**	**0.0**
URFA	**Urfa**	**2.60**	**73**	*e*PN	**Pn**	**19 01 57.1**	**+0.3**
MALT	**Malatya**	**2.69**	**53**	*e*PN	**Pn**	**19 01 59.1**	**+1.1**
KONT	**Konya--Tatoy**	**2.91**	**296**	*e*PN	**Pn**	**19 02 01.2**	**+0.2**
KAMT	**Kaman**	**3.06**	**330**	*e*PN	**Pn**	**19 02 04.0**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.31**	**59**	*e*PN	**Pn**	**19 02 07.3**	**+0.8**
PTK	**Pertek**	**3.64**	**53**	*e*PN	**Pn**	**19 02 12.2**	**+1.1**

ISCJB ***12*** *19:07:14.9±0.2, 3942N±001×306W±002, h8km, Error ellipse: s-maj=2.3km s-min=1.7km az=135.7*
CSEM ***12*** *19:07:18.8±0.0, 3935N×295W, h12km, ML4.0/17, Error ellipse: s-maj=1.1km s-min=0.8km az=140.0*
NEIC ***12*** *19:07:18.2, 3938N×297W, h11km, ML3.7(LDG), MN3.3(MDD), After MDD.*
NEIC Felt in the epicentral area.
LDG ***12*** *19:07:18.2±0.1, 3934N×297W, h5km, Ml3.7/6, Error ellipse: s-maj=1.5km s-min=1.1km az=115.0*
MDD ***12*** *19:07:18.0±0.2, 3937N×298W, h8km±2km, mbLg3.3/40, Error ellipse: s-maj=2.6km s-min=1.7km az=113.0, PRIMO*
MDD EMS: III-IV INTENSIDAD MIMA.
INMG ***12*** *19:07:19.5±1.1, 3927N×294W, h31km, ML3.4, Error ellipse: s-maj=6.4km s-min=3.0km az=45.0*
ISC 12 19:07:16.5±0.3, 3937N±001×303W±002, h8km±2km, n160, σ1§14/279, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**0.78**	**294**	Pg	**Pg**	**19 07 33.3**	**+1.8**
	134nm,0.2s,baz=109,slow=19,SNR=1137						
ESDC				Lg		19 07 44.6	
	352nm,0.1s,baz=111,slow=26,SNR=43						
ESDC	**Sonseca Array**	**0.78**	**294**	Pg	**Pg**	**19 07 33.3**	**+1.8**
	133nm,0.2s,SNR=1000						
EVIA	**Vianos**	**0.83**	**150**	Pg	**Pg**	**19 07 32.7**	**+0.2**
	17nm,0.1s,SNR=137						
EVIA				Lg		19 07 42.3	
	146nm,0.1s,SNR=29						
PAB	**San Pablo**	**1.03**	**280**	*e*P	**Pg**	**19 07 37.9**	**+1.6**
PAB				*e*S	**Sg**	**19 07 53.1**	**+3.3**
PAB	**San Pablo**	**1.03**	**280**	*e*P	**Pg**	**19 07 37.9**	**+1.5**
PAB				*e*S	**Sg**	**19 07 53.1**	**+3.3**
EBAN	**Banos Encina**	**1.34**	**206**	Pn	**Pn**	**19 07 41.8**	**+0.4**
	72nm,0.1s,SNR=7.9						
EBAN				Pg	**Pg**	**19 07 42.9**	**+0.8**
	175nm,0.2s,SNR=251						
EBAN				Lg		19 08 00.2	

EQES			Lg			19 08 06.7
	354nm,0.1s,SNR=22					
EQES	**Quesada**	**1.56 181**	Pn	**Pn**	**19 07 44.6**	**+0.1**
	9.0nm,0.2s,SNR=7.9					
EQES	**Quesada**	**1.56 181**	Pg	**Pg**	**19 07 46.5**	**+0.1**
	98nm,0.2s,SNR=452					
EHUE	**Huescar**	**1.58 167**	Pn	**Pn**	**19 07 44.7**	**-0.1**
	2.7nm,0.3s,SNR=7.9					
EHUE			Pg	**Pg**	**19 07 46.6**	**-0.3**
	6.6nm,0.2s,SNR=7.9					
EHUE			Lg		19 08 07.7	
	118nm,0.1s,SNR=7.9					
ETOR	**Torete**	**1.64 27**	Pn	**Pn**	**19 07 46.1**	**+0.6**
	493nm,0.3s,SNR=156					
ETOR			Pg	**Pg**	**19 07 48.2**	**+0.4**
	518nm,0.2s,SNR=7.9					
ETOR			Lg		19 08 09.2	
	1µm,0.2s,SNR=15					
EADA	**Adamuz**	**1.70 226**	Pn	**Pn**	**19 07 47.1**	**+0.7**
	56nm,0.3s,SNR=552					
EADA			Pg	**Pg**	**19 07 49.4**	**+0.3**
	56nm,0.1s,SNR=7.9					
EADA			Lg		19 08 11.9	
	384nm,0.2s,SNR=7.9					
EADA	**Adamuz**	**1.70 226**	Pn	**Pn**	**19 07 47.1**	**+0.7**
	56nm,0.3s,SNR=552					
EADA	**Adamuz**	**1.70 226**	Pg	**Pg**	**19 07 49.4**	**+0.3**
	56nm,0.1s,SNR=7.9					
EADA	**Adamuz**	**1.70 226**	Pn	**Pn**	**19 07 47.1**	**+0.7**
EADA			Pg	**Pg**	**19 07 49.4**	**+0.3**
EADA			Lg		19 08 11.8	
ELUQ	**Luque**	**2.05 209**	Pn	**Pn**	**19 07 52.0**	**+0.8**
	12nm,0.2s,SNR=28					
ELUQ			Pg	**Pg**	**19 07 56.3**	**+0.6**
	13nm,0.1s,SNR=7.9					
ELUQ			Lg		19 08 23.6	
	46nm,0.2s,SNR=8.4					
EMUR	**La Murta**	**2.07 137**	Pn	**Pn**	**19 07 51.5**	**0.0**
	4.2nm,0.4s,SNR=303					
EMUR			Pg	**Pg**	**19 07 55.4**	**-0.7**
	31nm,0.3s,SNR=7.9					
EMUR			Lg		19 08 23.0	
	139nm,0.2s,SNR=7.9					
EMUR	**La Murta**	**2.07 137**	Pn	**Pn**	**19 07 51.5**	**0.0**
	4.2nm,0.4s,SNR=303					
EMUR	**La Murta**	**2.07 137**	Pg	**Pg**	**19 07 55.4**	**-0.7**
	31nm,0.3s,SNR=7.9					
ECOG	**Cogollos-Vega**	**2.13 192**	Pn	**Pn**	**19 07 53.3**	**+1.0**
	0.0nm,0.3s,SNR=7.9					
ECOG			Pg	**Pg**	**19 07 56.6**	**-0.6**
	13nm,0.3s,SNR=20					
ECOG			Lg		19 08 25.7	
	42nm,0.2s,SNR=7.9					
EQUE	**Quentar**	**2.18 189**	Pn	**Pn**	**19 07 53.9**	**+0.9**
	0.7nm,0.2s,SNR=33					
EQUE			Pg	**Pg**	**19 07 57.2**	**-1.1**
	17nm,0.3s,SNR=7.9					
EQUE			Lg		19 08 26.9	
	64nm,0.3s,SNR=9.3					
EMOS	**Mosqueruela**	**2.21 62**	Pn	**Pn**	**19 07 54.6**	**+1.2**
	18nm,0.2s,SNR=116					
EMOS			Sn	**Sn**	**19 08 20.7**	**-0.1**
	SNR=7.9					
EMOS			Lg		19 08 26.2	
	135nm,0.3s,SNR=12					
EMOS	**Mosqueruela**	**2.21 62**	Pn	**Pn**	**19 07 54.6**	**+1.2**
	18nm,0.2s,SNR=116					
EMOS			Sn	**Sn**	**19 08 20.7**	**-0.2**
	SNR=7.9					
ECAB	**El Cabril**	**2.27 236**	Pn	**Pn**	**19 07 55.2**	**+1.0**
	7.7nm,0.3s,SNR=86					
ECAB			Sn	**Sn**	**19 08 22.4**	**0.0**
	SNR=7.9					
ECAB			Lg		19 08 30.9	
	SNR=7.9					
ECAB	**El Cabril**	**2.27 236**	Pn	**Pn**	**19 07 55.2**	**+1.0**
	7.7nm,0.3s,SNR=86					
ECAB			Sn	**Sn**	**19 08 22.4**	**+0.1**
	SNR=7.9					
ECAB	**El Cabril**	**2.27 236**	Pn	**Pn**	**19 07 55.2**	**+1.0**
ECAB			Sn	**Sn**	**19 08 22.4**	**0.0**
ECAB			Lg		19 08 30.9	
EBEN	**Beniarda**	**2.28 106**	Pn	**Pn**	**19 07 54.2**	**-0.2**
	14nm,0.3s,SNR=103					
EBEN			Pg	**Pg**	**19 08 00.1**	**-0.1**
	47nm,0.3s,SNR=7.9					
EBEN			Sn	**Sn**	**19 08 22.0**	**-0.7**
	SNR=7.9					
EBEN			Lg		19 08 28.8	
	111nm,0.3s,SNR=7.9					
EBEN	**Beniarda**	**2.28 106**	Pn	**Pn**	**19 07 54.2**	**-0.2**
	14nm,0.3s,SNR=103					
EBEN	**Beniarda**	**2.28 106**	Pg	**Pg**	**19 08 00.1**	**-0.1**
	47nm,0.3s,SNR=7.9					
EBEN			Sn	**Sn**	**19 08 22.0**	**-0.7**
	SNR=7.9					
ELOJ	**Sierra Loja**	**2.38 202**	Pn	**Pn**	**19 07 56.8**	**+1.0**
	1.4nm,0.1s,SNR=7.9					
ELOJ			Pg	**Pg**	**19 08 02.7**	**+0.6**
	12nm,0.2s,SNR=7.9					
ELOJ	**Sierra Loja**	**2.38 202**	Pn	**Pn**	**19 07 56.8**	**+1.0**
ELOJ			Pg	**Pg**	**19 08 02.7**	**+0.6**
ERON	**Agron**	**2.42 195**	Pn	**Pn**	**19 07 56.6**	**+0.3**
	0.2nm,0.2s,SNR=7.9					
ERON			Pg	**Pg**	**19 08 02.3**	**-0.5**
	30nm,0.4s,SNR=7.9					
ERON			Lg		19 08 36.6	
	21nm,0.2s,SNR=7.9					
ERON	**Agron**	**2.42 195**	Pn	**Pn**	**19 07 56.6**	**+0.3**
ERON			Pg	**Pg**	**19 08 02.3**	**-0.5**
ERON			Lg		19 08 36.6	
EBER	**Berja**	**2.46 177**	Pn	**Pn**	**19 07 58.7**	**+1.7**
	1.1nm,0.2s,SNR=17					
EBER			Pg	**Pg**	**19 08 03.7**	**0.0**
	24nm,0.2s,SNR=7.9					
EBER			Lg		19 08 38.2	
	38nm,0.2s,SNR=7.9					
EBER	**Berja**	**2.46 177**	Pn	**Pn**	**19 07 58.7**	**+1.8**
	1.1nm,0.2s,SNR=17					
EBER	**Berja**	**2.46 177**	Pg	**Pg**	**19 08 03.7**	**0.0**
	24nm,0.2s,SNR=7.9					
EBER	**Berja**	**2.46 177**	Pn	**Pn**	**19 07 58.6**	**+1.7**
EBER			Pg	**Pg**	**19 08 03.7**	**0.0**
EBER			Lg		19 08 38.2	
ENIJ	**Nijar**	**2.48 165**	Pg	**Pg**	**19 08 02.7**	**-1.2**
	42nm,0.3s,SNR=7.9					
ENIJ			Lg		19 08 36.2	
	56nm,0.4s,SNR=7.9					
EGUA	**Guajares**	**2.56 190**	Pn	**Pn**	**19 07 59.6**	**+1.4**
	4.1nm,0.2s,SNR=7.9					
EGUA			Pg	**Pg**	**19 08 05.0**	**-0.6**
	68nm,0.4s,SNR=7.9					
EGUA			Lg		19 08 40.7	
	66nm,0.3s,SNR=7.9					
EGUA	**Guajares**	**2.56 190**	Pn	**Pn**	**19 07 59.6**	**+1.4**
EGUA			Pg	**Pg**	**19 08 05.0**	**-0.6**
EGUA			Lg		19 08 40.7	
ERTA	**Horta de San J**	**3.03 57**	Pn	**Pn**	**19 08 05.2**	**+0.5**
	0.7nm,0.2s,SNR=7.9					
ERTA			Pg	**Pg**	**19 08 11.8**	**-2.7**
	1.5nm,0.2s,SNR=7.9					
ERTA			Lg		19 08 51.1	
	29nm,0.2s,SNR=7.9					
ERTA	**Horta de San J**	**3.03 57**	Pn	**Pn**	**19 08 05.2**	**+0.5**
	SNR=7.9					
ERTA	**Horta de San J**	**3.03 57**	Pg	**Pg**	**19 08 10.3**	**-4.2**
	1.5nm,0.2s,SNR=7.9					
ERTA	**Horta de San J**	**3.03 57**	Pn	**Pn**	**19 08 05.2**	**+0.5**
ERTA			Pg	**Pg**	**19 08 10.3**	**-4.3**
ERTA			Lg		19 08 51.1	
ESAC	**San Caprasio**	**3.06 39**	Pn	**Pn**	**19 08 07.6**	**+2.5**
	6.8nm,0.2s,SNR=4.6					
ESAC			Pg	**Pg**	**19 08 13.6**	**-1.5**
	20nm,0.2s,SNR=7.9					
ESAC			Lg		19 08 54.9	
	420nm,0.2s,SNR=7.9					
ESAC	**San Caprasio**	**3.06 39**	Pn	**Pn**	**19 08 07.6**	**+2.5**
	6.8nm,0.2s,SNR=4.6					
ESAC	**San Caprasio**	**3.06 39**	Pg	**Pg**	**19 08 15.1**	**0.0**
ESAC	**San Caprasio**	**3.06 39**	Pn	**Pn**	**19 08 07.6**	**+2.5**
ESAC			Pg	**Pg**	**19 08 15.1**	**0.0**
ESAC			Lg		19 08 54.9	
EMIJ	**Mijas**	**3.12 207**	Pn	**Pn**	**19 08 08.3**	**+2.4**
	11nm,0.3s,SNR=12					
EMIJ			Pg	**Pg**	**19 08 15.5**	**-0.7**
	6.6nm,0.5s,SNR=7.9					
EMIJ			Lg		19 08 57.8	
	25nm,0.3s,SNR=7.9					
EMIJ	**Mijas**	**3.12 207**	Pn	**Pn**	**19 08 08.3**	**+2.4**
EMIJ			Lg		19 08 57.8	
EBAD	**Badajoz**	**3.16 260**	Pn	**Pn**	**19 08 06.9**	**+0.5**
	5.8nm,0.2s,SNR=37					
EBAD			Pg	**Pg**	**19 08 15.7**	**-1.3**
	11nm,0.1s,SNR=7.9					
EBAD			Sn	**Sn**	**19 08 44.2**	**-0.1**
	SNR=7.9					
EBAD			Lg		19 08 59.7	
	138nm,0.2s,SNR=14					
EBAD	**Badajoz**	**3.16 260**	Pn	**Pn**	**19 08 06.9**	**+0.4**
	5.8nm,0.2s,SNR=37					
EBAD	**Badajoz**	**3.16 260**	Pg	**Pg**	**19 08 15.7**	**-1.3**
	11nm,0.1s,SNR=7.9					
EBAD			Sn	**Sn**	**19 08 44.2**	**-0.1**
	SNR=7.9					
EMIN	**Mina Concepcio**	**3.27 242**	Pn	**Pn**	**19 08 08.7**	**+0.7**
	1.4nm,0.2s,SNR=28					
EMIN			Sn	**Sn**	**19 08 47.1**	**0.0**
	SNR=7.9					
EMIN			Lg		19 09 02.1	
	39nm,0.1s,SNR=7.9					
EMIN	**Mina Concepcio**	**3.27 242**	Pn	**Pn**	**19 08 08.7**	**+0.7**
	1.4nm,0.2s,SNR=28					
EMIN			Sn	**Sn**	**19 08 47.1**	**+0.1**
	SNR=7.9					
EMIN	**Mina Concepcio**	**3.27 242**	Pn	**Pn**	**19 08 08.7**	**+0.7**
EMIN			Sn	**Sn**	**19 08 47.1**	**0.0**
EMIN			Lg		19 09 02.1	
ESPR	**Espera**	**3.34 223**	Pn	**Pn**	**19 08 10.8**	**+1.8**
	8.8nm,0.2s,SNR=8.0					
ESPR			Lg		19 09 05.8	
	34nm,0.2s,SNR=7.9					
ESPR	**Espera**	**3.34 223**	Pn	**Pn**	**19 08 10.8**	**+1.8**
	8.8nm,0.2s,SNR=8.0					
PBAR	**Barrancos**	**3.35 250**	*e*Pn	**Pn**	**19 08 10.0**	**+0.9**
PBAR			*e*Sn	**Sn**	**19 08 47.6**	**-1.4**
PBAR			*e*Sg	**Sg**	**19 09 02.0**	**-2.0**
PBAR			A		19 09 09.0	
	156nm,0.4s					
PBAR	**Barrancos**	**3.35 250**	*e*Pn	**Pn**	**19 08 10.0**	**+0.9**
PBAR			*e*Sn	**Sn**	**19 08 47.6**	**-1.4**
PBAR			*e*Sg	**Sg**	**19 09 02.0**	**-2.0**
	156nm,0.4s					
PMRV	**Marv??o**	**3.38 272**	*e*Pn	**Pn**	**19 08 10.5**	**+1.0**
PMRV	**Marv??o**	**3.38 272**	*e*Pg	**Pg**	**19 08 19.8**	**-1.4**
PMRV			*e*Sn	**Sn**	**19 08 48.1**	**-1.6**
PMRV			A		19 09 06.8	
	96nm,0.3s					
PMRV	**Marv??o**	**3.38 272**	*e*Pg	**Pg**	**19 08 19.8**	**-1.4**
PMRV			*e*Sn	**Sn**	**19 08 48.1**	**-1.6**
	96nm,0.3s					
EIBI	**Ibiza**	**3.42 94**	Pn	**Pn**	**19 08 09.4**	**-0.6**
	2.6nm,0.2s,SNR=9.4					
EIBI			Sn	**Sn**	**19 08 47.6**	**-3.1**
	SNR=7.9					
EIBI	**Ibiza**	**3.42 94**	Pn	**Pn**	**19 08 09.4**	**-0.6**
	2.6nm,0.2s,SNR=9.4					
EIBI			Sn	**Sn**	**19 08 47.6**	**-3.1**
	SNR=7.9					
EJIF	**Jimena Fronter**	**3.49 214**	Pn	**Pn**	**19 08 10.8**	**-0.2**
	3.9nm,0.4s,SNR=7.9					
EJIF			Lg		19 09 09.5	
	8.8nm,0.3s,SNR=7.9					
MVO	**Moncorvo**	**3.55 302**	*e*Pn	**Pn**	**19 08 12.9**	**+1.1**
MVO			*e*Sn	**Sn**	**19 08 54.5**	**+0.6**
MVO			*e*Sg	**Sg**	**19 09 09.9**	**-0.5**
MVO			A		19 09 20.6	
	80nm,0.4s					
MVO	**Moncorvo**	**3.55 302**	*e*Pn	**Pn**	**19 08 12.9**	**+1.1**
MVO			*e*Sn	**Sn**	**19 08 54.5**	**+0.6**
MVO			*e*Sg	**Sg**	**19 09 09.9**	**-0.5**
	80nm,0.4s					
EARA	**Aranguren**	**3.58 17**	Pg	**Pg**	**19 08 25.6**	**+0.6**
	6.9nm,0.3s,SNR=6.7					
EARA			Lg		19 09 11.8	
	21nm,0.2s,SNR=7.9					
PESTR	**Estremoz**	**3.58 263**	*e*Pn	**Pn**	**19 08 12.9**	**+0.6**
PESTR			*e*Sn	**Sn**	**19 08 53.0**	**-1.7**
PESTR			*e*Sg	**Sg**	**19 09 08.6**	**-2.8**
PESTR			A		19 09 18.4	
	89nm,0.5s					
PESTR	**Estremoz**	**3.58 263**	*e*Pn	**Pn**	**19 08 12.9**	**+0.6**
PESTR			*e*Sn	**Sn**	**19 08 53.0**	**-1.7**
PESTR			*e*Sg	**Sg**	**19 09 08.6**	**-2.8**
	89nm,0.5s					
IUNC	**Unciti**	**3.58 18**	Pn	**Pn**	**19 08 14.9**	**+2.6**
	1.8nm,0.2s,SNR=7.9					
IUNC			Pg	**Pg**	**19 08 25.3**	**+0.3**
	5.8nm,0.3s,SNR=7.9					
IUNC			Lg		19 09 12.1	
	32nm,0.3s,SNR=7.9					
IUNC	**Unciti**	**3.58 18**	Pn	**Pn**	**19 08 14.9**	**+2.6**
	1.8nm,0.2s,SNR=7.9					
IUNC	**Unciti**	**3.58 18**	Pg	**Pg**	**19 08 25.3**	**+0.2**
	5.8nm,0.3s,SNR=7.9					
MTE	**Manteigas**	**3.62 288**	*e*Pn	**Pn**	**19 08 14.3**	**+1.5**
MTE	**Manteigas**	**3.62 288**	*e*Pg	**Pg**	**19 08 24.9**	**-1.0**
MTE			*e*Sg	**Sg**	**19 09 13.0**	**+0.2**
MTE			A		19 09 20.7	
	56nm,0.3s					
MTE	**Manteigas**	**3.62 288**	Pn	**Pn**	**19 08 14.3**	**+1.5**
MTE			Pg	**Pg**	**19 08 24.9**	**-1.0**
MTE			Lg		19 09 13.0	
	28nm,0.3s					
MTE	**Manteigas**	**3.62 288**	*e*Pg	**Pg**	**19 08 24.9**	**-1.0**
MTE			*e*Sg	**Sg**	**19 09 13.0**	**+0.2**
	56nm,0.3s					
IPRE	**Itoiz**	**3.66 20**	Lg		19 09 13.5	
	6.8nm,0.2s,SNR=7.9					
EPOB	**Poblet**	**3.71 56**	Pn	**Pn**	**19 08 14.2**	**+0.1**
	3.4nm,0.2s,SNR=11					
EPOB			Lg		19 09 14.3	
	4.9nm,0.2s,SNR=7.9					
EPOB	**Poblet**	**3.71 56**	Pn	**Pn**	**19 08 14.2**	**+0.1**
	3.4nm,0.2s,SNR=11					
IUSE	**Utxeti**	**3.75 17**	Pn	**Pn**	**19 08 17.2**	**+2.6**
	0.9nm,0.1s,SNR=7.9					
IUSE			Pg	**Pg**	**19 08 29.1**	**+0.8**
	9.5nm,0.3s,SNR=7.9					
IUSE			Lg		19 09 17.6	
	6.0nm,0.2s,SNR=7.9					
IUSE	**Utxeti**	**3.75 17**	Pn	**Pn**	**19 08 17.2**	**+2.6**
	0.9nm,0.1s,SNR=7.9					
IUSE	**Utxeti**	**3.75 17**	Pg	**Pg**	**19 08 29.1**	**+0.8**
	9.5nm,0.3s,SNR=7.9					
EORO	**Oroz-Betelu**	**3.76 20**	Pn	**Pn**	**19 08 14.6**	**-0.1**
	3.1nm,0.3s,SNR=26					
EORO			Pg	**Pg**	**19 08 28.7**	**+0.3**
	27nm,0.5s,SNR=7.9					
EORO			Lg		19 09 17.3	
	59nm,0.8s,SNR=9.4					
EORO	**Oroz-Betelu**	**3.76 20**	Pn	**Pn**	**19 08 14.6**	**-0.1**
	3.1nm,0.3s,SNR=26					
ECAL	**Calabor**	**3.82 314**	Pn	**Pn**	**19 08 16.2**	**+0.7**
	3.2nm,0.3s,SNR=9.2					
ECAL			Pg	**Pg**	**19 08 28.6**	**-1.0**
	18nm,0.4s,SNR=7.9					
ECAL			Lg		19 09 19.0	
	46nm,0.2s,SNR=11					
ECAL	**Calabor**	**3.82 314**	Pn	**Pn**	**19 08 16.2**	**+0.7**
	3.2nm,0.3s,SNR=9.2					
ERIP	**Rio Piedras**	**3.87 240**	Pn	**Pn**	**19 08 16.8**	**+0.5**
	3.6nm,0.3s,SNR=7.9					
ERIP			Sn	**Sn**	**19 09 01.3**	**-0.5**
	9.7nm,0.2s,SNR=7.9					
ERIP			Lg		19 09 19.5	
	5.2nm,0.1s,SNR=7.9					
ELAN	**Lanestosa**	**3.88 356**	Pg	**Pg**	**19 08 30.8**	**+0.1**
	6.6nm,0.3s,SNR=9.1					
ELAN			Lg		19 09 20.9	
	41nm,0.2s,SNR=7.9					
EGRO	**El Granado**	**3.94 244**	Pn	**Pn**	**19 08 17.8**	**+0.5**
	2.3nm,0.1s,SNR=11					
EGRO			Sn	**Sn**	**19 09 03.4**	**-0.3**
	SNR=7.9					
EGRO			Lg		19 09 24.2	
	89nm,0.3s,SNR=7.9					
EGRO	**El Granado**	**3.94 244**	Pn	**Pn**	**19 08 17.8**	**+0.5**
	2.3nm,0.1s,SNR=11					
EGRO			Sn	**Sn**	**19 09 03.4**	**-0.3**
	SNR=7.9					
ELIZ	**Elizondo**	**3.96 16**	Pn	**Pn**	**19 08 18.6**	**+1.1**
	2.9nm,0.3s,SNR=10					
ELIZ			Pg	**Pg**	**19 08 32.1**	**-0.2**
	18nm,0.4s,SNR=7.9					
ELIZ			Lg		19 09 23.8	
	16nm,0.3s,SNR=7.9					
EVO	**Evora**	**3.97 259**	*e*Pn	**Pn**	**19 08 19.1**	**+1.5**
EVO	**Evora**	**3.97 259**	*e*Pg	**Pg**	**19 08 35.2**	**+2.7**
EVO			*e*Sn	**Sn**	**19 09 03.7**	**-0.7**
EVO			*e*Sg	**Sg**	**19 09 25.3**	**+1.3**
	198nm,0.3s					
EVO	**Evora**	**3.97 259**	*e*Pn	**Pn**	**19 08 18.2**	**+0.6**
EVO			*e*Sn	**Sn**	**19 09 02.3**	**-2.1**
EVO			A		19 09 26.1	
	92nm,0.2s					
EVO	**Evora**	**3.97 259**	*e*Pn	**Pn**	**19 08 18.2**	**+0.6**
EVO			*e*Sn	**Sn**	**19 09 02.3**	**-2.1**
	92nm,0.2s					
SJPF	**Ste Jean**	**3.98 19**	*e*Pg	**Pg**	**19 08 32.2**	**-0.6**
SJPF			*e*Sn	**Sn**	**19 09 03.4**	**-1.3**
SJPF			*e*Sg	**Sg**	**19 09 23.8**	**-0.6**
	29nm,0.3s					
SJPF	**Ste Jean**	**3.98 19**	Pn	**Pn**	**19 08 18.2**	**+0.4**
SJPF			Pg	**Pg**	**19 08 32.2**	**-0.6**
SJPF			Sn	**Sn**	**19 09 03.4**	**-1.3**
SJPF			Lg		19 09 23.8	
	14nm,0.3s					
SJPF	**Ste Jean**	**3.98 19**	*e*Pg	**Pg**	**19 08 32.2**	**-0.6**
SJPF			*e*Sn	**Sn**	**19 09 03.4**	**-1.3**
SJPF			*e*Sg	**Sg**	**19 09 23.8**	**-0.6**
	14nm,0.3s					
SJPF	**Ste Jean**	**3.98 19**	*e*Pn	**Pn**	**19 08 18.2**	**+0.4**
SJPF			*e*Pg	**Pg**	**19 08 32.2**	**-0.6**
SJPF			*e*Sn	**Sn**	**19 09 03.4**	**-1.3**
SJPF			*e*Sg	**Sg**	**19 09 23.8**	**-0.6**
ETSF	**Etsaut**	**3.99 27**	*e*Pn	**Pn**	**19 08 18.4**	**+0.5**
ETSF			*e*Sg	**Sg**	**19 09 23.2**	**-1.5**
	22nm,0.3s					
ETSF	**Etsaut**	**3.99 27**	*e*Pn	**Pn**	**19 08 18.4**	**+0.5**
ETSF			*e*Sg	**Sg**	**19 09 23.2**	**-1.5**
	11nm,0.3s					
EALK	**Alkurruntz**	**4.02 16**	Pn	**Pn**	**19 08 18.8**	**+0.5**
	3.7nm,0.2s,SNR=18					
EALK			Sn	**Sn**	**19 09 04.5**	**-1.1**
	13nm,0.3s,SNR=4.7					
EALK			Lg		19 09 26.0	
	13nm,0.2s,SNR=5.3					
EALK	**Alkurruntz**	**4.02 16**	Pn	**Pn**	**19 08 18.8**	**+0.5**
	3.7nm,0.2s,SNR=18					
EALK			Sn	**Sn**	**19 09 04.5**	**-1.0**
	13nm,0.3s,SNR=4.7					
EVOP	**Sao Brissos**	**4.06 260**	*e*Pn	**Pn**	**19 08 19.1**	**+0.3**
EVOP	**Sao Brissos**	**4.06 260**	*e*Pg	**Pg**	**19 08 35.2**	**+1.0**
EVOP			*e*Sn	**Sn**	**19 09 03.7**	**-2.8**
EVOP			*e*Sg	**Sg**	**19 09 25.3**	**-1.4**
	99nm,0.3s					
EBIE	**Bielsa**	**4.10 35**	Pn	**Pn**	**19 08 20.7**	**+1.3**
	0.2nm,0.1s,SNR=11					
EBIE			Sn	**Sn**	**19 09 05.2**	**-2.2**
	SNR=7.9					
EBIE			Lg		19 09 27.1	
	14nm,0.2s,SNR=7.9					
EBIE	**Bielsa**	**4.10 35**	Pn	**Pn**	**19 08 20.7**	**+1.4**
	0.2nm,0.1s,SNR=11					
EBIE			Sn	**Sn**	**19 09 05.2**	**-2.2**
	SNR=7.9					
OSSF	**Osses**	**4.11 18**	P	**Pn**	**19 08 19.7**	**+0.2**
PVAQ	**Vaqueiros**	**4.17 243**	*e*Pn	**Pn**	**19 08 20.8**	**+0.4**
PVAQ			*e*Sn	**Sn**	**19 09 06.0**	**-3.3**
PVAQ			*e*Sg	**Sg**	**19 09 28.8**	**-1.6**
PVAQ			A		19 09 39.2	
	64nm,0.5s					
PVAQ	**Vaqueiros**	**4.17 243**	*e*Pn	**Pn**	**19 08 20.8**	**+0.4**
PVAQ			*e*Sn	**Sn**	**19 09 06.0**	**-3.3**
PVAQ			*e*Sg	**Sg**	**19 09 28.8**	**-1.6**
	64nm,0.5s					
REYF	**Montagne du Re**	**4.20 27**	P	**Pn**	**19 08 21.3**	**+0.5**
EARI	**Arriondas**	**4.26 338**	Pn	**Pn**	**19 08 26.8**	**+5.2**
	3.3nm,0.7s,SNR=7.5					
EARI			Sn	**Sn**	**19 09 12.3**	**+0.8**
	SNR=7.9					
EARI			Lg		19 09 31.7	
	SNR=7.9					
ERUA	**La Rua**	**4.34 315**	Pg	**Pg**	**19 08 39.0**	**-0.7**
	SNR=7.9					
ERUA			Lg		19 09 36.8	
	SNR=7.9					
PBDV	**Barranco-do-Ve**	**4.40 243**	*e*Pn	**Pn**	**19 08 24.2**	**+0.7**
PBDV			*e*Sn	**Sn**	**19 09 13.0**	**-1.9**
PBDV			*e*Sg	**Sg**	**19 09 35.4**	**-2.3**
PBDV			A		19 09 42.8	
	52nm,0.5s					
PBDV	**Barranco-do-Ve**	**4.40 243**	*e*Pn	**Pn**	**19 08 24.2**	**+0.7**
PBDV			*e*Sn	**Sn**	**19 09 13.0**	**-1.9**
PBDV			*e*Sg	**Sg**	**19 09 35.4**	**-2.3**
	52nm,0.5s					
EPF	**Esparros**	**4.46 34**	*e*Pg	**Pg**	**19 08 40.7**	**-1.2**
EPF			*e*Sg	**Sg**	**19 09 35.8**	**-3.8**
	67nm,0.4s					
EPF	**Esparros**	**4.46 34**	Pn	**Pn**	**19 08 25.4**	**+1.1**
EPF			Pg	**Pg**	**19 08 40.7**	**-1.2**
EPF			Lg		19 09 35.8	
	34nm,0.4s					
EPF	**Esparros**	**4.46 34**	*e*Pg	**Pg**	**19 08 40.7**	**-1.2**
EPF			*e*Sg	**Sg**	**19 09 35.8**	**-3.8**
	34nm,0.4s					
EPF	**Esparros**	**4.46 34**	*e*Pn	**Pn**	**19 08 25.4**	**+1.1**
EPF			*e*Pg	**Pg**	**19 08 40.7**	**-1.2**
EPF			*e*Sg	**Sg**	**19 09 35.8**	**-3.8**
ETOS	**Mallorca**	**4.54 83**	Pn	**Pn**	**19 08 24.9**	**-0.5**
	2.8nm,0.4s,SNR=5.6					
ETOS			Sn	**Sn**	**19 09 15.7**	**-2.6**
	SNR=7.9					
ETOS	**Mallorca**	**4.54 83**	Pn	**Pn**	**19 08 24.9**	**-0.5**
ETOS			Sn	**Sn**	**19 09 15.7**	**-2.6**
ELOB	**Lobios**	**4.57 305**	Pn	**Pn**	**19 08 26.7**	**+0.9**
	4.6nm,0.7s,SNR=18					
ELOB			Sn	**Sn**	**19 09 17.1**	**-2.1**
	SNR=7.9					
ELOB			Lg		19 09 44.9	
	32nm,0.4s,SNR=7.5					
ELOB	**Lobios**	**4.57 305**	Pn	**Pn**	**19 08 26.8**	**+0.9**
ELOB			Sn	**Sn**	**19 09 17.1**	**-2.0**
MORF	**Marmelete**	**4.87 247**	*e*Pn	**Pn**	**19 08 30.7**	**+0.7**
MORF			*e*Sn	**Sn**	**19 09 23.9**	**-2.7**
MORF			A		19 09 57.8	
	27nm,0.3s					
MORF	**Marmelete**	**4.87 247**	*e*Pn	**Pn**	**19 08 30.7**	**+0.7**
MORF			*e*Sn	**Sn**	**19 09 23.9**	**-2.7**
	27nm,0.3s					
**P

RJF	**Les Rejaudoux**	**6.82**	**28**	*e*Pn	**Pn**	**19 08 56.2**	**-0.6**
RJF				*e*Sn	**Sn**	**19 10 09.1**	**-5.5**
LASF	**Ste Croix**	**6.98**	**45**	*e*Pn	**Pn**	**19 08 58.2**	**-0.7**
LASF				*e*Sg	**Sg**	**19 10 55.6**	**-4.8**
	15nm,0.8s						
LASF	**Ste Croix**	**6.98**	**45**	*e*Pn	**Pn**	**19 08 58.2**	**-0.7**
LASF				*e*Sg	**Sg**	**19 10 55.6**	**-4.8**
	7.7nm,0.8s						
MFF	**Saint Martin d**	**7.54**	**15**	*e*Pn	**Pn**	**19 09 06.8**	**+0.2**
MFF				*e*Sn	**Sn**	**19 10 26.7**	**-5.4**
TCF	**Toulx Ste Croi**	**7.92**	**27**	*e*Sn	**Sn**	**19 10 35.3**	**-6.2**
BGF	**Bois d'Agland**	**8.38**	**29**	*e*Pn	**Pn**	**19 09 18.0**	**-0.1**
QUIF	**Quistinic**	**8.55**	**359**	*e*Sn	**Sn**	**19 10 51.6**	**-5.4**
AVF	**Avril sur Loir**	**8.77**	**30**	*e*Pn	**Pn**	**19 09 23.0**	**-0.4**
SMF	**Signal de Mont**	**8.85**	**32**	*e*Pn	**Pn**	**19 09 23.9**	**-0.6**
HYF	**Humbligny**	**8.91**	**26**	*e*Sn	**Sn**	**19 10 59.1**	**-6.9**
ROSF	**Rostrenen**	**8.97**	**359**	*e*Sn	**Sn**	**19 11 01.5**	**-5.9**
LDF	**La Druitiere**	**9.46**	**12**	*e*Pn	**Pn**	**19 09 31.1**	**-1.8**

NEIC ***12*** *19:12:50.8, 3246S×7170W, h15km, ML2.5(GUC), After GUC.*

GUC 12 19:12:50.8±0.6, 3246S×7170W, h15km±15km, MD3.5, ML2.5, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.77**	**131**	⇑*i*P	Pg	19 13 05.1	-0.7
ROCH				*i* S	Sg	19 13 15.9	0.0
JACH	**Jahuel**	**0.96**	**103**	*e*P	Pb	19 13 08.0	-1.0
JACH				*i* S	Sb	19 13 21.0	-0.5
LCCH	**Las Cruces**	**1.01**	**174**	*i* P	Pb	19 13 09.2	-0.9
LCCH				*i* S	Sb	19 13 22.0	-1.2
PEL	**Peldehue**	**1.09**	**129**	⇑*i*P	Pb	19 13 09.9	-1.4
PEL				*i* S	Sb	19 13 25.0	-0.3
PEL				AML	AML	19 13 26.8	
	comp=E,273nm,0.3s						
RCDM	**Rinconada Maip**	**1.27**	**144**	⇑*i*P	Pn	19 13 12.8	-1.2
RCDM				*i* S	Sb	19 13 29.3	-1.2
RCDM				AML	AML	19 13 31.3	
	comp=N,134nm,0.2s						
RCDM	**Rinconada Maip**	**1.27**	**144**	⇑*i*P	Pn	19 13 12.8	-1.2
RCDM				*i* S	Sb	19 13 29.3	-1.2
TACH	**Talagante**	**1.35**	**152**	*e*P	Pn	19 13 14.0	-1.1
TACH				*i* S	Sn	19 13 30.4	-2.2
PCH	**Pirque**	**1.52**	**140**	*e*P	Pn	19 13 17.1	-0.4
PCH				*i* S	Sn	19 13 37.0	0.0
LMEL	**Las Melosas**	**1.86**	**138**	⇑*i*P	Pn	19 13 22.6	+0.5
LMEL				*i* S	Sn	19 13 46.8	+1.4
LMEL				AML	AML	19 13 51.5	
	comp=N,67nm,0.1s						
LMEL	**Las Melosas**	**1.86**	**138**	⇑*i*P	Pn	19 13 22.6	+0.5
LMEL				*i* S	Sn	19 13 46.8	+1.4

IDC ***12*** *19:22:50.9±0.5, 3751S×1751W, h0km, mb4.5/19, mb1 4.6/19, mb1mx4.5/22, mbtmp4.5/19, MS4.3/17, Ms1 4.3/17, ms1mx4.3/20, Error ellipse: s-maj=15.2km s-min=13.1km az=163.0*

ISCJB ***12*** *19:22:51.2±0.3, 3754S±005×1757W±008, h10km, mb4.9/81, MS4.3/25, Error ellipse: s-maj=9.5km s-min=7.4km az=28.7*

MOS ***12*** *19:22:51.2±0.7, 3756S×1753W, h10km, mb5.2/37, MS4.5/10, Error ellipse: s-maj=16.6km s-min=7.3km az=77.7*

NEIC ***12*** *19:22:52.5±0.2, 3752S×1758W, h10km, mb5.1/43, MS4.4/8, Error ellipse: s-maj=8.0km s-min=6.1km az=133.0*

GCMT ***12*** *19:22:52.5±0.2, 3784S×1734W, h12km, MW5.1/80, Moment Tensor Solution. s37,c45; s80,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.14±.11; $M_{\theta\theta}$0.05±.12; $M_{\phi\phi}$4.08±.09; $M_{r\theta}$-2.67±.38; $M_{\theta\phi}$-1.34±.10; $M_{r\phi}$-0.28±.32; Best double couple: $M_0$5.01600×10^{16} NP1:ϕ_s7.00000°, δ47.00000°, λ-52.00000°. NP2: ϕ_s138.00000°, δ55.00000°, λ-124.00000°. Principal axes: T 4.5210, Plg4.0000°, Azm251.0000°; N 0.9850, Plg27.0000°, Azm159.0000°; P -5.5120, Plg63.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***12*** *19:22:53.5, 3750S×1760W, h10km*

SZGRF ***12*** *19:23:04.0, 3582S×1552W, h22km, mb5.0, Tristan da Cunha region*

ISC 12 19:22:52.9±0.3, 3750S±005×1757W±008, h10km, (h22km±.3km:pP-P), n217, σ0.967/190, mb4.9/81, MS4.3/25, 2C-13D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**4.21**	**86**	*e*Pn	**Pn**	**19 23 49.7**	**-7.6**
SUR	**Sutherland**	**31.73**	**92**	LR	LR	19 38 44.0	
	comp=Z,890nm,19.8s,MS4.4,baz=5.1,slow=30						
VNA1	**Neumayer--Stat**	**33.58**	**174**	*e*	**P**	**19 29 32.9**	**+0.2**
VNA1				*e*		19 29 42.6	
VNA1				*e*		19 29 53.1	
VNA1				*e*		19 30 04.3	
BDFB	**Brasilia**	**34.61**	**301**	P	**P**	**19 29 42.1**	**-0.1**
	6.4nm,1.0s,mb4.5,baz=160,slow=20,SNR=4.1						
BDFB				LR	LR	19 41 10.1	
	comp=Z,611nm,21.2s,MS4.3,baz=306,slow=32						
TRQA	**Tornquist**	**34.85**	**255**	*e*P	**P**	**19 29 43.7**	**-0.5**
	47nm,1.5s,mb5.2						
SNAA	**Sanae**	**35.07**	**172**	*e*	**P**	**19 29 45.2**	**-0.5**
SNAA				*e*		19 29 56.8	
SNAA				*e*		19 30 07.0	
SNAA				*e*		19 30 16.6	
SNAA	**Sanae**	**35.07**	**172**	P	**P**	**19 29 45.1**	**-0.6**
	1.4nm,1.0s,mb3.9,baz=328,slow=6.5,SNR=9.8						
CPUP	**Villa Florida**	**35.30**	**277**	P	**P**	**19 29 48.6**	**+0.4**
	7.9nm,0.9s,mb4.6,baz=106,slow=7.5,SNR=11						
CPUP				PcP	PcP	19 32 17.3	-1.3
	0.4nm,0.4s,baz=63,slow=6.8,SNR=3.2						
CPUP				LR	LR	19 43 21.1	
	comp=Z,658nm,18.1s,MS4.4,baz=111,slow=35						
CPUP	**Villa Florida**	**35.30**	**277**	P	**P**	**19 29 48.6**	**+0.4**
CPUP						19 32 17.3	
TSUM	**Tsumeb**	**35.64**	**69**	P	**P**	**19 29 50.9**	**-0.2**
	3.2nm,0.8s,mb4.3,baz=300,slow=7.7,SNR=5.8						
BOSA	**Boshof**	**36.71**	**89**	P	**P**	**19 29 59.2**	**-1.1**
	9.1nm,1.1s,mb4.5,baz=264,slow=6.1,SNR=6.7						
BOSA				PcP	PcP	19 32 22.0	-0.7
	3.8nm,1.0s,baz=316,slow=4.1,SNR=3.6						
BOSA				LR	LR	19 42 41.8	
	comp=Z,855nm,18.3s,MS4.6,baz=240,slow=32						
BOSA	**Boshof**	**36.71**	**89**	P	**P**	**19 29 59.2**	**-1.1**
BOSA						19 32 22.0	
BOSA	**Boshof**	**36.71**	**89**	P	**P**	**19 29 59.2**	**-1.1**
BOSA				PcP	PcP	19 32 22.0	-0.7
BOSA				LR	LR	19 42 41.8	
PMSA	**Palmer Station**	**38.52**	**210**	P	**P**	**19 30 15.6**	**+0.6**
	10nm,1.0s,mb4.5,baz=76,slow=10,SNR=3.5						
LBTB	**Lobatse**	**38.63**	**84**	P	**P**	**19 30 16.5**	**0.0**
	3.9nm,0.8s,mb4.2,baz=259,slow=9.5,SNR=4.8						
LBTB				LR	LR	19 43 09.8	
	comp=Z,846nm,20.0s,MS4.6,baz=259,slow=32						
LBTB	**Lobatse**	**38.63**	**84**	P	**P**	**19 30 16.5**	**0.0**
LBTB				LR	LR	19 43 09.8	
PLCA	**Paso Flores**	**40.72**	**248**	P	**P**	**19 30 35.1**	**+1.4**
	9.4nm,1.1s,mb4.3,baz=155,slow=3.9,SNR=4.0						
PLCA				LR	LR	19 44 35.0	
	comp=Z,508nm,18.6s,MS4.4,baz=140,slow=32						
CFAA	**Coronel Fontan**	**41.73**	**262**	P	**P**	**19 30 40.9**	**-1.3**
	1.1nm,1.0s,mb3.5,baz=91,slow=7.9,SNR=12						
CFAA				LR	LR	19 45 36.2	
	comp=Z,72nm,21.6s,MS3.5,baz=112,slow=33						
SIV	**San Ignacio**	**43.88**	**287**	P	**P**	**19 31 00.9**	**+1.2**
	9.0nm,1.1s,mb4.4,baz=124,slow=10,SNR=15						
LIC	**Lamto**	**45.05**	**18**	*e*P	**P**	**19 31 08.1**	**-0.9**
	81nm,1.0s,mb5.2						
LIC				*e*MLR	MLR		
	comp=Z,507nm,21.0s,MS4.1						
LIC	**Lamto**	**45.05**	**18**	*e*P	**P**	**19 31 08.1**	**-0.9**
	comp=Z,40nm,1.0s,mb5.2						
LIC				LR	LR		
	comp=Z,250nm,21.0s,MS4.1						
DBIC	**Dimbokro**	**45.52**	**18**	P	**P**	**19 31 12.2**	**-0.6**
	comp=Z,14nm,0.8s,mb4.9,baz=162,slow=7.5,SNR=9.9						
LSZ	**Lusaka**	**46.03**	**74**	*e*P	**P**	**19 31 15.9**	**-1.0**
LSZ				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
LSZ	**Lusaka**	**46.03**	**74**	*e*P	**P**	**19 31 15.9**	**-1.0**
	comp=Z,12nm,0.9s,mb4.8						
LPAZ	**La Paz**	**49.14**	**281**	P	**P**	**19 31 40.5**	**-0.5**
	comp=Z,3.8nm,0.9s,mb4.4,baz=101,slow=6.9,SNR=15						
LPAZ				LR	LR	19 52 22.2	
	comp=Z,332nm,21.9s,MS4.3,baz=272,slow=36						
MAW	**Mawson**	**52.37**	**152**	P	**P**	**19 32 04.0**	**-0.7**
	comp=Z,8.2nm,0.9s,mb4.6,baz=267,slow=8.7,SNR=17						
MAW				LR	LR	19 49 31.4	
	comp=Z,289nm,21.6s,MS4.3,baz=258,slow=31						
QSPA	**South Pole Qui**	**52.75**	**180**	LR	LR	19 50 22.0	
	comp=Z,149nm,21.3s,MS4.0,baz=199,slow=31						
TOA0	**Torodi Ar. Sit**	**53.53**	**24**	*e*P	**P**	**19 32 12.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**53.53**	**24**	P	**P**	**19 32 12.9**	**-0.9**
	comp=Z,14nm,0.8s,mb4.9,baz=199,slow=7.4,SNR=50						
TORD				LR	LR	19 49 57.8	
	comp=Z,702nm,21.4s,MS4.7,baz=175,slow=30						
MIR	**Mirnyy**	**63.66**	**155**	⇓*i*P	**P**	**19 33 23.5**	**-0.4**
MIR				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.5						
TAM	**Tamanrasset**	**63.79**	**24**	*e*P	**P**	**19 33 25.1**	**-0.1**
SBA	**Scott Base**	**64.88**	**181**	*e*P	**P**	**19 33 32.2**	**+0.5**
SBA				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
SBA	**Scott Base**	**64.88**	**181**	*e*P	**P**	**19 33 32.2**	**+0.5**
	comp=Z,24nm,1.1s,mb5.2						
VNDA	**Vanda**	**65.25**	**180**	P	**P**	**19 33 34.6**	**+0.5**
	comp=Z,5.1nm,1.1s,mb4.5,baz=207,slow=6.7,SNR=13						
VNDA				LR	LR	19 56 58.0	
	comp=Z,98nm,21.9s,MS4.0,baz=174,slow=31						
OTAV	**Otavalo**	**67.38**	**289**	*e*P	**P**	**19 33 46.3**	**-2.4**
	comp=Z,20nm,1.5s,mb4.9						
ROSC	**El Rosal**	**67.45**	**296**	LR	LR	20 02 14.5	
	comp=Z,486nm,19.6s,MS4.7,baz=195,slow=35						
SDV	**Santo Domingo**	**67.71**	**301**	*e*P	**P**	**19 33 49.0**	**-1.7**
	comp=Z,26nm,1.1s,mb5.2						
CASY	**Casey**	**69.16**	**160**	*e*P	**P**	**19 33 58.3**	**-0.8**
	comp=Z,35nm,1.4s,mb5.1						
PVAQ	**Vaqueiros**	**75.09**	**8**	*e*P	**P**	**19 34 33.3**	**-1.4**
	comp=Z,31nm,2.3s,mb4.8						
PBAR	**Barrancos**	**75.93**	**9**	*e*P	**P**	**19 34 38.3**	**-1.2**
	comp=Z,21nm,2.2s,mb4.7						
EVO	**Evora**	**76.17**	**8**	*e*P	**P**	**19 34 41.0**	**+0.1**
	comp=Z,11nm,0.8s,mb4.5						
EVO				*e*MLR	MLR		
	comp=Z,154nm,22.0s,MS4.0						
PESTR	**Estremoz**	**76.55**	**8**	*e*P	**P**	**19 34 42.5**	**-0.5**
	comp=Z,20nm,1.6s,mb4.8						
KEST	**Kesra**	**77.03**	**22**	P	**P**	**19 34 46.4**	**+0.5**
	comp=Z,4.3nm,0.9s,mb4.4,baz=238,slow=3.4,SNR=14						
KEST				LR	LR	20 05 37.9	
	comp=Z,250nm,18.8s,MS4.6,baz=169,slow=33						
ESDC	**Sonseca Array**	**77.81**	**11**	P	**P**	**19 34 50.5**	**+0.4**
	comp=Z,4.1nm,0.9s,mb4.4,baz=184,slow=5.9,SNR=22						
ESDC				LR	LR	20 07 04.4	
	comp=Z,75nm,19.7s,MS4.0,baz=180,slow=34						
MVO	**Moncorvo**	**78.88**	**8**	*e*P	**P**	**19 34 56.4**	**+0.4**
	comp=Z,31nm,1.7s,mb5.0						
PCAB	**Cabril**	**79.31**	**7**	*e*P	**P**	**19 34 58.9**	**+0.6**
	comp=Z,37nm,1.6s,mb5.1						
ETSF	**Etsaut**	**81.51**	**13**	*e*P	**P**	**19 35 10.1**	**0.0**
	comp=Z,40nm,1.2s,mb4.9						
ETSF	**Etsaut**	**81.51**	**13**	*e*P	**P**	**19 35 10.1**	**0.0**
ETSF				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
ETSF	**Etsaut**	**81.51**	**13**	*e*P	**P**	**19 35 10.1**	**0.0**
	comp=Z,20nm,1.2s,mb4.9						
SJPF	**Ste Jean**	**81.60**	**12**	*e*P	**P**	**19 35 10.7**	**+0.1**
	comp=Z,31nm,1.1s,mb4.9						
SJPF	**Ste Jean**	**81.60**	**12**	*e*P	**P**	**19 35 10.7**	**+0.1**
SJPF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
SJPF	**Ste Jean**	**81.60**	**12**	*e*P	**P**	**19 35 10.7**	**+0.1**
	comp=Z,15nm,1.1s,mb4.8						
EPF	**Esparros**	**81.79**	**13**	*e*P	**P**	**19 35 11.5**	**-0.1**
	comp=Z,22nm,1.2s,mb4.7						
EPF	**Esparros**	**81.79**	**13**	*e*P	**P**	**19 35 11.5**	**-0.1**
EPF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
EPF	**Esparros**	**81.79**	**13**	*e*P	**P**	**19 35 11.5**	**-0.1**
	comp=Z,11nm,1.2s,mb4.7						
MTLF	**Montolieu**	**82.45**	**14**	*e*P	**P**	**19 35 13.9**	**-1.2**
	comp=Z,18nm,1.0s,mb4.6						
MTLF	**Montolieu**	**82.45**	**14**	*e*P	**P**	**19 35 13.9**	**-1.2**
MTLF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
MTLF	**Montolieu**	**82.45**	**14**	*e*P	**P**	**19 35 13.9**	**-1.2**
	comp=Z,8.9nm,1.0s,mb4.7						
LASF	**Ste Croix**	**83.49**	**15**	*e*P	**P**	**19 35 20.0**	**-0.4**
	comp=Z,25nm,1.0s,mb4.9						
LFF	**La Frestale**	**83.71**	**13**	*e*P	**P**	**19 35 21.3**	**-0.3**
SMRF	**Simiane la Rot**	**83.77**	**17**	*e*P	**P**	**19 35 22.0**	**+0.1**
CAF	**Calviac**	**83.94**	**14**	*e*P	**P**	**19 35 22.3**	**-0.4**
	comp=Z,17nm,1.1s,mb4.8						
CAF	**Calviac**	**83.94**	**14**	*e*P	**P**	**19 35 22.3**	**-0.4**
CAF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
CAF	**Calviac**	**83.94**	**14**	*e*P	**P**	**19 35 22.3**	**-0.4**
	comp=Z,8.3nm,1.1s,mb4.8						
RJF	**Les Rejaudoux**	**84.21**	**13**	*e*P	**P**	**19 35 23.7**	**-0.4**
	comp=Z,30nm,1.3s,mb5.0						
RJF				*e*MLR	MLR		
	comp=Z,269nm,21.2s,MS4.3						
RJF	**Les Rejaudoux**	**84.21**	**13**	*e*P	**P**	**19 35 23.7**	**-0.4**
RJF				pmax	pmax		
	comp=Z,15nm,1.3s,mb5.0						
RJF				MLR	MLR		
	comp=Z,270nm,21.3s,MS4.6						
RJF	**Les Rejaudoux**	**84.21**	**13**	*e*P	**P**	**19 35 23.7**	**-0.4**
	comp=Z,15nm,1.3s,mb5.0						
RJF				LR	LR		
	comp=Z,270nm,21.3s,MS4.6						
VIVF	**Saint-Julien-l**	**84.41**	**16**	*e*P	**P**	**19 35 24.8**	**-0.3**
	comp=Z,26nm,1.1s,mb5.0						
VIVF	**Saint-Julien-l**	**84.41**	**16**	*e*P	**P**	**19 35 24.8**	**-0.3**
VIVF				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						
VIVF	**Saint-Julien-l**	**84.41**	**16**	*e*P	**P**	**19 35 24.8**	**-0.3**
	comp=Z,13nm,1.1s,mb5.0						
ORIF	**Oris-en-Rattie**	**84.73**	**16**	*e*P	**P**	**19 35 26.7**	**0.0**
	comp=Z,24nm,1.1s,mb4.9						
ORIF				*e*MLR	MLR		
	comp=Z,407nm,22.5s,MS4.5						
ORIF	**Oris-en-Rattie**	**84.73**	**16**	*e*P	**P**	**19 35 26.7**	**0.0**
ORIF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
ORIF	**Oris-en-Rattie**	**84.73**	**16**	*e*P	**P**	**19 35 26.7**	**0.0**
	comp=Z,12nm,1.1s,mb4.9						
MBDF	**Montbardon**	**84.76**	**17**	*e*P	**P**	**19 35 26.9**	**0.0**
	comp=Z,34nm,1.4s,mb5.0						
MBDF	**Montbardon**	**84.76**	**17**	*e*P	**P**	**19 35 26.9**	**0.0**
MBDF				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.0						
MBDF	**Montbardon**	**84.76**	**17**	*e*P	**P**	**19 35 26.9**	**0.0**
	comp=Z,17nm,1.4s,mb5.0						
MFF	**Saint Martin d**	**85.17**	**12**	*e*P	**P**	**19 35 28.6**	**-0.3**
	comp=Z,14nm,1.0s,mb4.8						
MFF	**Saint Martin d**	**85.17**	**12**	*e*P	**P**	**19 35 28.6**	**-0.3**
MFF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
MFF	**Saint Martin d**	**85.17**	**12**	*e*P	**P**	**19 35 28.6**	**-0.3**
	comp=Z,7.0nm,1.0s,mb4.8						
TCF	**Toulx Ste Croi**	**85.28**	**14**	*e*P	**P**	**19 35 29.5**	**0.0**
	comp=Z,33nm,1.3s,mb5.0						
TCF	**Toulx Ste Croi**	**85.28**	**14**	*e*P	**P**	**19 35 29.5**	**0.0**
TCF				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.0						
TCF	**Toulx Ste Croi**	**85.28**	**14**	*e*P	**P**	**19 35 29.5**	**0.0**
	comp=Z,17nm,1.3s,mb5.0						
LPG	**La Plagne**	**85.48**	**17**	*e*P	**P**	**19 35 30.7**	**+0.2**
	comp=Z,24nm,1.0s,mb5.0						
LPG	**La Plagne**	**85.48**	**17**	*e*P	**P**	**19 35 30.7**	**+0.2**
LPG				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
LPG	**La Plagne**	**85.48**	**17**	*e*P	**P**	**19 35 30.7**	**+0.2**
	comp=Z,12nm,1.0s,mb5.0						
LPL	**La Plagne**	**85.49**	**17**	*e*P	**P**	**19 35 30.6**	**+0.1**
	comp=Z,32nm,1.0s,mb5.1						
LPL	**La Plagne**	**85.49**	**17**	*e*P	**P**	**19 35 30.6**	**+0.1**
LPL				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
LPL	**La Plagne**	**85.49**	**17**	*e*P	**P**	**19 35 30.6**	**+0.1**
	comp=Z,16nm,1.0s,mb5.1						
SMF	**Signal de Mont**	**85.94**	**15**	*e*P	**P**	**19 35 32.4**	**-0.3**
	comp=Z,36nm,1.2s,mb5.2						
SMF	**Signal de Mont**	**85.94**	**15**	*e*P	**P**	**19 35 32.4**	**-0.3**
SMF				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.2						
SMF	**Signal de Mont**	**85.94**	**15**	*e*P	**P**	**19 35 32.4**	**-0.3**
	comp=Z,18nm,1.2s,mb5.2						
AVF	**Avril sur Loir**	**85.99**	**14**	*e*P	**P**	**19 35 32.8**	**-0.1**
	comp=Z,27nm,1.0s,mb5.1						
AVF	**Avril sur Loir**	**85.99**	**14**	*e*P	**P**	**19 35 32.8**	**-0.1**
AVF				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.2						
AVF	**Avril sur Loir**	**85.99**	**14**	*e*P	**P**	**19 35 32.8**	**-0.1**
	comp=Z,14nm,1.0s,mb5.1						
QUIF	**Quistinic**	**86.01**	**10**	*e*P	**P**	**19 35 32.6**	**-0.4**
	comp=Z,48nm,1.3s,mb5.3						
QUIF	**Quistinic**	**86.01**	**10**	*e*P	**P**	**19 35 32.6**	**-0.4**
QUIF				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.3						
QUIF	**Quistinic**	**86.01**	**10**	*e*P	**P**	**19 35 32.6**	**-0.4**
	comp=Z,24nm,1.3s,mb5.3						
SSF	**Saint Saulge**	**86.28**	**14**	*e*P	**P**	**19 35 34.0**	**-0.4**
	comp=Z,16nm,1.1s,mb4.9						
SSF	**Saint Saulge**	**86.28**	**14**	*e*P	**P**	**19 35 34.0**	**-0.4**
SSF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.9						
SSF	**Saint Saulge**	**86.28**	**14**	*e*P	**P**	**19 35 34.0**	**-0.4**
	comp=Z,8.1nm,1.1s,mb4.9						
CABF	**La Chapelle**	**86.38**	**16**	*e*P	**P**	**19 35 35.0**	**+0.1**
	comp=Z,20nm,1.1s,mb5.0						
CABF	**La Chapelle**	**86.38**	**16**	*e*P	**P**	**19 35 35.0**	**+0.1**
CABF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.0						
CABF	**La Chapelle**	**86.38**	**16**	*e*P	**P**	**19 35 35.0**	**+0.1**
	comp=Z,10nm,1.1s,mb5.0						
SGMF	**Saint Gilles**	**86.42**	**10**	*e*P	**P**	**19 35 34.4**	**-0.6**
	comp=Z,35nm,1.1s,mb5.2						
SGMF	**Saint Gilles**	**86.42**	**10**	*e*P	**P**	**19 35 34.4**	**-0.6**
SGMF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.2						
SGMF	**Saint Gilles**	**86.42**	**10**	*e*P	**P**	**19 35 34.4**	**-0.6**
	comp=Z,18nm,1.1s,mb5.2						
LOR	**Lormes**	**86.54**	**14**	*e*P	**P**	**19 35 35.3**	**-0.4**
	comp=Z,14nm,1.1s,mb4.8						
LOR				*e*MLR	MLR		
	comp=Z,137nm,18.5s,MS4.1						
LOR	**Lormes**	**86.54**	**14**	*e*P	**P**	**19 35 35.3**	**-0.4**
LOR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
LOR				MLR	MLR		
	comp=Z,140nm,18.5s,MS4.4						
LOR	**Lormes**	**86.54**	**14**	*e*P	**P**	**19 35 35.3**	**-0.4**
	comp=Z,6.9nm,1.1s,mb4.8						
LOR				LR	LR		
	comp=Z,140nm,18.5s,MS4.4						
GRR	**Gorron**	**86.80**	**11**	*e*P	**P**	**19 35 36.2**	**-0.7**
	comp=Z,39nm,1.2s,mb5.2						
GRR	**Gorron**	**86.80**	**11**	*e*P	**P**	**19 35 36.2**	**-0.7**
GRR				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.2						
GRR	**Gorron**	**86.80**	**11**	*e*P	**P**	**19 35 36.2**	**-0.7**
	comp=Z,20nm,1.2s,mb5.2						
LDF	**La Druitiere**	**87.11**	**11**	*e*P	**P**	**19 35 38.1**	**-0.3**
	comp=Z,60nm,1.4s,mb5.3						
LDF	**La Druitiere**	**87.11**	**11**	*e*P	**P**	**19 35 38.1**	**-0.3**
LDF				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.3						
LDF	**La Druitiere**	**87.11**	**11**	*e*P	**P**	**19 35 38.1**	**-0.3**
	comp=Z,30nm,1.4s,mb5.3						
FLN	**La Foliniere**	**87.22**	**11**	*e*P	**P**	**19 35 38.5**	**-0.4**
	comp=Z,57nm,1.1s,mb5.4						
FLN				*e*MLR	MLR		
	comp=Z,206nm,21.0s,MS4.2						
FLN	**La Foliniere**	**87.22**	**11**	*e*P	**P**	**19 35 38.5**	**-0.4**
FLN				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.4						
FLN				MLR	MLR		
	comp=Z,210nm,21.0s,MS4.5						
FLN	**La Foliniere**	**87.22**	**11**	*e*P	**P**	**19 35 38.5**	**-0.4**
	comp=Z,28nm,1.1s,mb5.4						
FLN				LR	LR		
	comp=Z,210nm,21.0s,MS4.5						
HINF	**Hinteralfeld**	**87.69**	**16**	*e*P	**P**	**19 35 40.5**	**-0.8**
HAU	**Haudompre**	**87.76**	**16**	*e*P	**P**	**19 35 41.0**	**-0.6**
	comp=Z,21nm,1.2s,mb4.9						
HAU				*e*MLR	MLR		
	comp=Z,128nm,20.5s,MS4.0						
HAU	**Haudompre**	**87.76**	**16**	*e*P	**P**	**19 35 41.0**	**-0.6**
HAU				pmax	pmax		
	comp=Z,11nm,1.2s,mb5.0						
HAU				MLR	MLR		
	comp=Z,130nm,20.5s,MS4.3						
HAU	**Haudompre**	**87.76**	**16**	*e*P	**P**	**19 35 41.0**	**-0.6**
	comp=Z,11nm,1.2s,mb5.0						
HAU				LR	LR		
	comp=

ZST pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
ZST Bratislava 90.74 22 *eP* **P 19 35 55.5 -0.1**
comp=Z,9.7nm,1.4s,mb4.9
ROTZ Rotzenmuhle 90.80 19 *eP* **P 19 35 56.0 +0.2**
comp=Z,12nm,1.1s,mb5.1
ROTZ *e*pP pP 19 36 02.4 +3.3
MODS Modra-Piesok 90.95 22 *eP* **P 19 35 56.9 +0.4**
MODS *e* 21 53 29.6
MANZ Manzenberg 90.97 19 *eP* **P 19 35 56.7 +0.1**
comp=Z,9.0nm,1.1s,mb5.0
BUG Bochum--Univer 91.21 15 *eP* **P 19 35 57.9 +0.3**
comp=Z,10.0nm,1.1s,mb5.1
BUG *e*pP pP 19 36 04.6 +3.6
UBBA Unterbreizbach 91.23 17 *eP* **P 19 35 58.7 +0.9**
comp=Z,15nm,1.7s,mb5.0
TREC Trest 91.25 21 *eP* **P 19 35 58.2 +0.3**
TREC *e*pP pP 19 36 04.8 +3.5
TREC AMS AMS 20 13 30.0
comp=Z,200nm,14.6s
NKC Novy Kostel 91.28 19 *eP* **P 19 35 58.8 +0.8**
NKC *e*pP pP 19 36 05.1 +3.7
NKC AMS AMS 20 12 30.0
comp=Z,200nm,25.4s
NKC Novy Kostel 91.28 19 *eP* **P 19 35 58.8 +0.8**
NKC *e*pP pP 19 36 05.1 +3.7
WERN Wernitzgruen 91.32 19 *eP* **P 19 35 58.5 +0.3**
comp=Z,10.0nm,1.0s,mb5.1
DRGR 91.35 26 ⇓*iP* **P 19 35 59.5 +1.1**
PSZ Piszkesteto 91.37 24 ⇓*iP* **P 19 35 59.2 +0.7**
PSZ Piszkesteto 91.37 24 ⇓P **P 19 35 59.2 +0.7**
GUNZ Gunzen 91.38 19 *eP* **P 19 35 58.8 +0.3**
comp=Z,12nm,1.1s,mb5.1
MLR Muntele Rosu 91.44 29 ⇓*iP* **P 19 35 59.7 +0.8**
MLR Muntele Rosu 91.44 29 ⇓P **P 19 35 59.7 +0.8**
WERD Werda 91.45 19 *eP* **P 19 35 58.9 +0.1**
comp=Z,9.0nm,1.1s,mb5.0
MOX Moxa 91.45 18 *eP* **P 19 35 58.9 +0.1**
MOX pmax pmax
comp=Z,25nm,2.1s,mb5.2
MOX Moxa 91.45 18 *eP* **P 19 35 58.9 +0.1**
comp=Z,6.0nm,1.2s,mb4.8
MOX *e*pP pP 19 36 05.1 +2.9
PRU Pruhonice 91.61 20 *eP* **P 19 36 00.2 +0.6**
PRU *e*pP pP 19 36 06.6 +3.7
PRU AMS AMS 20 12 50.0
comp=Z,300nm,18.5s
KECS Kecovo 92.06 24 *eP* **P 19 36 02.1 +0.4**
PVCC Panska Ves 92.11 20 *eP* **P 19 36 02.7 +0.8**
PVCC AMS AMS 20 13 30.0
comp=Z,200nm,25.2s
FBE Freiberg 92.15 19 *eP* **P 19 36 02.6 +0.6**
comp=Z,10.0nm,1.0s,mb5.1
BRG Berggiesshubel 92.26 19 *eP* **P 19 36 03.3 +0.8**
BRG *e* 19 36 09.3
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.6
BRG MLR MLR
comp=Z,110nm,20.0s,MS4.3
BRG Berggiesshubel 92.26 19 *eP* **P 19 36 03.0 +0.5**
comp=Z,6.0nm,1.2s,mb4.8
BRG *e*pP pP 19 36 09.4 +3.5
BRG Berggiesshubel 92.26 19 *eP* **P 19 36 03.3 +0.8**
comp=Z,6.2nm,1.2s,mb4.8
BRG *e* 19 36 09.3
comp=Z,8.9nm,1.3s
BRG
comp=N,119nm,21.0s
BRG
comp=E,182nm,23.9s
BRG
comp=Z,182nm,20.0s
BRG Berggiesshubel 92.26 19 *eP* **P 19 36 03.3 +0.8**
comp=Z,3.7nm,1.2s,mb4.6
BRG *e* 19 36 09.3
BRG LR LR
comp=Z,110nm,20.0s,MS4.3
CLZ Clausthal 92.27 17 *eP* **P 19 36 03.4 +0.9**
comp=Z,13nm,1.7s,mb5.0
MORC Moravsky Berou 92.28 22 ⇓*iP* **P 19 36 03.9 +1.2**
CLL Collm 92.41 19 ⇓*iP* **P 19 36 03.4 +0.2**
CLL *i* 19 36 10.4
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
CLL Collm 92.41 19 *eP* **P 19 36 03.5 +0.3**
comp=Z,8.0nm,1.1s,mb5.0
CLL *e*pP pP 19 36 10.1 +3.5
CLL Collm 92.41 19 ⇓*iP* **P 19 36 03.4 +0.2**
comp=Z,9.0nm,1.1s,mb5.0
CLL *i* (sP) sP 19 36 10.4 +2.6
comp=Z,8.0nm,1.1s
CLL *e*PP PP 19 39 48.0 +3.2
CLL Collm 92.41 19 ⇓*iP* **P 19 36 03.4 +0.2**
comp=Z,9.0nm,1.1s,mb5.0
CLL *i* 19 36 10.4
DPC Dobruska-Polom 92.44 21 *eP* **P 19 36 04.1 +0.7**
DPC *e*pP pP 19 36 10.6 +3.9
DPC AMS AMS 20 13 00.0
comp=Z,200nm,21.3s
UPC Upice 92.49 21 *eP* **P 19 36 04.4 +0.8**
UPC *e*pP pP 19 36 10.8 +3.8
OKC Ostrava-Krasne 92.52 22 *eP* **P 19 36 04.3 +0.6**
OKC *e*pP pP 19 36 11.6 +4.5
OKC AMS AMS 20 16 10.0
comp=Z,200nm,19.7s
OKC Ostrava-Krasne 92.52 22 *eP* **P 19 36 04.3 +0.6**
OKC *e*pP pP 19 36 11.6 +4.5
CRVS Cervenica-Dubn 92.74 25 *eP* **P 19 36 04.9 +0.1**
BURAR Bucovina Array 92.95 27 ⇓*iP* **P 19 36 07.2 +1.4**
BURAR Bucovina Array 92.95 27 ⇓P **P 19 36 07.2 +1.4**
KOLS Kolonicke sedl 93.04 25 *eP* **P 19 36 08.9 +2.7**
AKASG Malin Array Be 96.98 28 LR LR 20 21 04.8
comp=Z,69nm,18.8s,MS4.2,baz=260,slow=36
TBI Tubuai 104.43 225 *e*LR LR 20 11 13.4
comp=Z,257nm,27.8s,baz=142
PPT Papeete 109.02 229 *e*SS SS 19 57 12.4 +3.4
comp=Z,99nm,26.0s
PPT Papeete 109.02 229 *e*LR LR 20 13 20.2
comp=Z,561nm,30.8s
ASAR Alice Springs 113.50 151 PKiKP PKiKP 19 41 29.9 -1.8
comp=Z,0.4nm,0.9s,baz=179,slow=0.9,SNR=5.1
WRA Warramunga Arr 117.04 150 PKP PKPdf 19 41 36.3 -2.2
comp=Z,1.1nm,0.9s,baz=231,slow=2.1,SNR=8.0
BMO Blue Mountains 121.45 305 *e*PKIKP PKIKPdf 19 41 44.7 -1.4
MKAR Makanchi Array 122.28 53 PKP PKPdf 19 41 45.0 -2.6
comp=Z,0.6nm,0.9s,baz=198,slow=4.1,SNR=3.0
YKA Yellowknife Ar 125.60 325 PKP PKPdf 19 41 51.0 -2.5
comp=Z,2.4nm,0.9s,baz=101,slow=2.3,SNR=5.6
ZAL Zalesovo 126.13 46 PKIKP PKPdf 19 41 53.7 -1.1
ZALV Zalesovo Beam 126.15 46 PKP PKPdf 19 41 53.6 -1.1
comp=Z,0.4nm,0.4s,baz=256,slow=3.1,SNR=4.5
HYT Haines Junctio 136.29 322 *e*PKPdf PKPdf 19 42 13.6 -0.2
SONM Songino Array 138.36 57 PKhKP 19 42 08.7
comp=Z,0.9nm,1.0s,baz=224,slow=4.0,SNR=3.5
COLD Coldfoot 140.18 333 *e*PKPdf PKPdf 19 42 20.6 -0.2
MCK McKinley 140.96 328 *e*PKIKP PKPdf 19 42 22.2 -0.1
BPAW Bear Paw Mtn. 141.69 329 *e*PKPdf PKPdf 19 42 15.2 -8.3
SLKM Skilak Lake 142.50 323 *e*PKIKP PKPdf 19 42 24.3 -0.8
BOD Bodaibo 142.61 41 *e*PKHKP 19 42 18.3
BOD pmax pmax
comp=Z,6.0nm,1.8s
KDAK Kodiak Island 144.41 319 *e*PKIKP PKPdf 19 42 25.9 -2.6
HIA Hailar 147.25 55 *e*PKP2 PKPab 19 42 35.2 -2.6
BILL Bilibino 149.34 357 ⇓*iP*KIKP PKPdf 19 42 35.6 -0.9
BILL *e* 19 42 40.8
BILL pmax pmax
comp=Z,13nm,1.0s
CN2 Changchun 151.42 66 *e*PKP PKPdf 19 42 45.0 +4.5
KSRS Korea Array 152.71 79 PKPbc PKPbc 19 42 47.8 -2.0
comp=Z,2.7nm,0.9s,baz=246,slow=5.3,SNR=4.6
KLR Kul'dur 154.98 52 *e*PKIKP PKPdf 19 42 47.7 +2.2

*IDC **12** 19:30:30.2±1.6, 822N×9352E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/22, mbtmp3.5/6, ML4.0/1, Error ellipse: s-maj=70.3km s-min=21.3km az=61.0*

NEIC 12 19:30:35.8±1.0, 827N×9367E, h35km, mb3.5/1, Error ellipse: s-maj=32.1km s-min=13.3km az=66.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.35**	**26**	Pn	Pn	19 33 15.6	0.0
	0.3nm,0.3s,baz=212,slow=15,SNR=9.0						
MK31	**Makanchi Array**	**39.60**	**348**	*e*P	P	19 38 05.0	+1.3
MKAR	**Makanchi Array**	**39.60**	**348**	P	P	19 38 04.7	+0.9
	0.1nm,0.4s,baz=168,slow=9.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**46.10**	**353**	P	P	19 38 54.7	-1.6
	0.5nm,0.4s,baz=171,slow=10,SNR=5.5						
ZALV	**Zalesovo Beam**	**46.10**	**353**	P	P	19 38 54.7	-1.6
WRA	**Warramunga Arr**	**48.87**	**126**	P	P	19 39 18.3	-0.1
	0.3nm,0.5s,baz=304,slow=8.5,SNR=6.1						
WRA				PcP	PcP	19 40 43.7	+1.0
	0.1nm,0.3s,baz=314,slow=2.7,SNR=4.9						
WRAB	**Tennant Creek**	**48.87**	**125**	P	P	19 39 18.7	+0.3
	0.2nm,0.5s						
ASAR	**Alice Springs**	**50.53**	**130**	P	P	19 39 31.2	+0.2
	0.2nm,0.9s,baz=305,slow=6.6,SNR=4.6						
ARCES	**ARCESS Array B**	**74.74**	**340**	P	P	19 42 11.3	-0.4
	1.1nm,0.7s,baz=94,slow=6.8,SNR=3.6						
ARCES	**ARCESS Array B**	**74.74**	**340**	P	P	19 42 11.3	-0.4

*NEIC **12** 19:32:22.1±1.7, 1249N×8857W, h80km±14km, mb3.7/1, MD3.7(SNET), Error ellipse: s-maj=27.4km s-min=11.3km az=212.0*
NEIC Felt [II] at San Salvador.
*ISCJB **12** 19:32:25.1±0.5, 1294N±008×8864W±005, h106km±7km, mb3.8/3, Error ellipse: s-maj=14.4km s-min=4.7km az=28.8*
*CASC **12** 19:32:26.1±2.2, 1296N×8870W, h34km±7km, MD4.0, mb3.7(NEIC)*
*IDC **12** 19:32:31.2±6.4, 1332N×8869W, h105km±39km, mb3.5/3, mb1 3.7/5, mb1mx3.3/21, mbtmp3.5/5, MS3.0/2, Ms1 3.0/2, ms1mx2.6/22, Error ellipse: s-maj=55.3km s-min=28.9km az=150.0*

ISC 12 19:32:23.7±1.8, 1294N±008×8866W±005, h6km±13km, n48, σ0§89/45, mb3.8/3, 3C-9D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.61**	**38**	⇓*iP*	x	19 32 39.5	
SNVI	**San Vicente**	**0.69**	**345**	*e*P	x	19 32 39.0	
SNVI				*e*S	x	19 32 49.9	
LCBS	**La Ceiba**	**0.77**	**336**	⇓*iP*	x	19 32 40.1	
LFRS	**El Faro**	**0.78**	**330**	⇓*iP*	x	19 32 40.1	
LBRS	**Las Brisas**	**0.88**	**335**	*e*P	x	19 32 41.7	
LFU	**La Fuente**	**0.92**	**331**	*e*P	x	19 32 42.1	
CAHU	**Cacacuatique**	**0.93**	**28**	*e*P	x	19 32 43.4	
BOQS	**Boqueron**	**0.99**	**323**	*e*P	x	19 32 43.1	
BOQS				*e*S	x	19 32 56.5	
SBLS	**San Blas**	**1.29**	**314**	*e*P	x	19 32 47.1	
SBLS				*e*S	x	19 33 03.7	
SNJE	**San Jose**	**1.30**	**315**	*e*P	x	19 32 47.2	
SNJE				*e*S	x	19 33 03.2	
RTR	**El Retiro**	**1.35**	**315**	*e*P	x	19 32 48.0	
RBDL	**Robledal**	**1.53**	**320**	*e*P	x	19 32 50.4	
CRIN	**San Cristobal**	**1.59**	**99**	⇓*e*P	**Pn**	**19 32 52.6**	**+0.2**
MTO2	**Montecristo 2**	**1.60**	**335**	*e*P	x	19 32 51.5	
TGUH	**Tegucigalpa,Un**	**1.75**	**50**	*e*P	**Pn**	**19 32 54.3**	**-0.2**
TGUH				*e*S	**Sn**	**19 33 16.2**	**-1.0**
TGUH	**Tegucigalpa,Un**	**1.75**	**50**	⇓*i*Pn	**Pn**	**19 32 54.6**	**0.0**
TGUH				*e*Sn	**Sn**	**19 33 17.3**	**+0.2**
LEON	**Leon**	**1.80**	**107**	*e*P	**Pn**	**19 32 54.2**	**-1.2**
TEL3	**Telica 3**	**1.81**	**102**	⇓*e*P	**Pn**	**19 32 55.0**	**-0.4**
TEL3				*e*S	**Sn**	**19 33 18.3**	**-0.4**
TELN	**Telica**	**1.82**	**100**	⇑*i*P	**Pn**	**19 32 55.6**	**+0.1**
TELN				*e*S	**Sn**	**19 33 19.1**	**+0.2**
CNGN	**Cerro Negro**	**1.96**	**103**	⇓*e*P	**Pn**	**19 32 56.9**	**-0.7**
CNGN				*e*S	**Sn**	**19 33 23.7**	**+1.2**
MOMN	**Momotombo**	**2.14**	**104**	*e*P	**Pn**	**19 32 59.7**	**-0.2**
CSAN		**2.31**	**109**	⇑*e*P	**Pn**	**19 33 02.0**	**-0.4**
CSAN				*e*S	**Sn**	**19 33 30.4**	**-0.7**
NBG	**Las Nubes**	**2.31**	**315**	*e*P	**Pn**	**19 33 03.1**	**+0.7**
APYN	**Apoyeque**	**2.36**	**107**	⇓*e*P	**Pn**	**19 33 02.6**	**-0.5**
XAVN	**Gruta Xavier**	**2.41**	**109**	*e*P	**Pn**	**19 33 03.1**	**-0.7**
MGAN	**Managua**	**2.49**	**108**	*e*P	**Pn**	**19 33 04.0**	**-0.8**
CRUN	**El Crucero**	**2.50**	**112**	*e*P	**Pn**	**19 33 05.5**	**+0.7**
CRUN				*e*S	**Sn**	**19 33 38.4**	**+2.7**
HUEN		**2.50**	**104**	⇓*e*P	**Pn**	**19 33 04.1**	**-0.8**
TICN	**Ticuantepe**	**2.54**	**111**	*e*P	**Pn**	**19 33 05.0**	**-0.4**
FUG	**Fuego 3**	**2.59**	**305**	*e*P	**Pn**	**19 33 06.5**	**+0.3**
FG6		**2.69**	**307**	*e*P	**Pn**	**19 33 08.8**	**+1.3**
FG6				*e*S	**Sn**	**19 33 41.4**	**+0.9**
APON	**Apoyo**	**2.73**	**112**	*e*P	**Pn**	**19 33 09.9**	**+1.8**
JAT	**Jato**	**3.20**	**296**	*e*P	**Pn**	**19 33 14.5**	**-0.1**
CONN	**Concepcion**	**3.27**	**114**	*e*P	**Pn**	**19 33 16.0**	**+0.5**
MADN	**Villa Maderas**	**3.42**	**116**	*e*P	**Pn**	**19 33 17.8**	**+0.3**
TEIG	**Tepich**	**7.25**	**3**	P	**Pn**	**19 34 11.4**	**+1.1**
	2.1nm,0.3s,baz=179,slow=16,SNR=8.8						
TEIG				S	**Sn**	**19 35 26.5**	**-6.5**
	3.7nm,0.3s,baz=334,slow=0.5,SNR=4.6						
TEIG	**Tepich**	**7.25**	**3**	P	**Pn**	**19 34 11.4**	**+1.1**
TEIG				S	**Sn**	**19 35 26.5**	**-6.5**
CMIG	**Matias Romero**	**7.29**	**305**	P	**Pn**	**19 34 10.3**	**-0.5**
	2.0nm,0.3s,baz=148,slow=8.1,SNR=17						
CMIG				S	**Sn**	**19 35 31.4**	**-2.6**
	2.0nm,0.3s,baz=19,slow=14,SNR=3.8						
CMIG				LR	LR	19 36 49.0	
	comp=Z,48nm,18.6s,baz=96,slow=36						
CMIG	**Matias Romero**	**7.29**	**305**	P	**Pn**	**19 34 10.3**	**-0.5**
CMIG				S	**Sn**	**19 35 31.4**	**-2.6**
CMIG				LR	LR	19 36 49.0	
BCIP	**Isla Barro Col**	**9.44**	**113**	Pn	**Pn**	**19 34 31.7**	**-8.6**
	4.5nm,0.4s						
CHI2		**16.88**	**118**	⇑*e*P	Px	19 32 52.1	
SDV	**Santo Domingo**	**18.15**	**101**	*e*P	**Pn**	**19 36 26.9**	**-10**
	2.4nm,0.5s						
MTP	**Monte Pirata**	**22.84**	**74**	*e*P	**P**	**19 37 19.2**	**-8.6**
PDAR	**Pinedale Array**	**34.79**	**333**	P	**P**	**19 39 10.9**	**-4.2**
	0.2nm,0.5s,mb3.3,baz=121,slow=11,SNR=3.0						
ULM	**Lac du Bonnet**	**37.67**	**352**	P	**P**	**19 39 31.2**	**-8.4**
	2.0nm,0.6s,mb4.0,baz=173,slow=11,SNR=3.1						
ULM				LR	LR	19 58 10.3	
	comp=Z,51nm,18.5s,baz=18,slow=41						
YKA	**Yellowknife Ar**	**52.83**	**345**	P	**P**	**19 41 32.7**	**-7.0**
	0.8nm,0.5s,mb4.0,baz=130,slow=8.6,SNR=14						
YKA	**Yellowknife Ar**	**52.83**	**345**	P	**P**	**19 41 32.7**	**-7.1**
WRA	**Warramunga Arr**	**138.26**	**255**	PKP	PKPdf	19 51 45.0	-5.8
	0.2nm,0.5s,baz=86,slow=2.2,SNR=7.9						

*ISCJB **12** 19:37:42.2±0.5, 5730S±008×2611W±02, h10km, mb4.3/15, Error ellipse: s-maj=13.2km s-min=10.4km az=145.0*
*NEIC **12** 19:37:47.4±0.3, 5732S×2608W, h35km, mb4.9/3, Error ellipse: s-maj=11.0km s-min=8.8km az=54.0*
*IDC **12** 19:37:47.4±6.4, 5733S×2601W, h33km±48km, mb4.1/14, mb1 4.1/16, mb1mx4.1/21, mbtmp4.1/16, ML4.6/2, MS4.1/1, Ms1 4.0/1, ms1mx3.2/17, Error ellipse: s-maj=17.9km s-min=13.6km az=52.0*

ISC 12 19:37:42.9±0.8, 5732S±010×261W±02, h3km±62km, n31, σ0§96/23, mb4.3/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**17.32**	**155**	P	**Pn**	**19 41 46.4**	**+1.0**
	0.4nm,0.3s,baz=311,slow=12,SNR=27						
SNAA				S	**Sn**	**19 44 44.0**	**-14**
	0.0nm,0.3s,baz=18,slow=20,SNR=2.6						
PMSA	**Palmer Station**	**19.57**	**232**	P	**Pn**	**19 42 11.0**	**-1.8**
	0.9nm,0.3s,baz=170,slow=16,SNR=9.7						
PLCA	**Paso Flores**	**32.84**	**281**	P	**P**	**19 44 18.1**	**+0.5**
	1.0nm,0.5s,mb4.0,baz=260,slow=23,SNR=3.1						
QSPA	**South Pole Qui**	**32.92**	**180**	P	**P**	**19 44 18.8**	**+0.9**
	12nm,0.6s,mb5.1,baz=207,slow=2.7,SNR=195						
CPUP	**Villa Florida**	**38.12**	**311**	P	**P**	**19 45 03.5**	**+0.5**
	1.1nm,0.3s,mb4.0,baz=136,slow=8.5,SNR=9.6						
CPUP				PcP	PcP	19 47 17.4	-0.4
	1.2nm,0.4s,baz=138,slow=2.4,SNR=7.1						
CPUP	**Villa Florida**	**38.12**	**311**	*e*P	**P**	**19 45 02.5**	**-0.4**
	10nm,0.3s,mb5.0						
CFAA	**Coronel Fontan**	**38.64**	**293**	P	**P**	**19 45 05.6**	**-1.7**
	0.2nm,0.3s,mb3.3,baz=157,slow=7.2,SNR=4.0						
CFAA				PcP	PcP	19 47 18.8	-0.7
	0.2nm,0.4s,baz=150,slow=4.9,SNR=3.7						
MAW	**Mawson**	**38.76**	**142**	P	**P**	**19 45 07.4**	**-0.5**
	1.1nm,0.5s,mb3.8,baz=235,slow=7.9,SNR=8.3						
MAW				PcP	PcP	19 47 18.4	-0.8
	1.1nm,0.7s,baz=214,slow=7.3,SNR=4.6						
BDFB	**Brasilia**	**44.78**	**329**	P	**P**	**19 45 59.4**	**+1.7**
	2.1nm,0.4s,mb4.3,baz=142,slow=6.9,SNR=10						
VNDA	**Vanda**	**45.33**	**182**	P	**P**	**19 46 02.2**	**+0.7**
	6.1nm,0.6s,mb4.6,baz=187,slow=6.6,SNR=62						
VNDA	**Vanda**	**45.33**	**182**	P	**P**	**19 46 02.2**	**+0.7**
BOSA	**Boshof**	**45.71**	**74**	P	**P**	**19 46 04.1**	**-0.9**
	0.8nm,0.4s,mb4.0,baz=80,slow=20,SNR=5.9						
BOSA				LR	LR	20 01 02.9	
	comp=Z,184nm,18.1s,baz=94,slow=31						
LVC	**Limon Verde**	**46.48**	**300**	*e*P	**P**	**19 46 11.2**	**+0.1**
	5.9nm,0.6s,mb4.7						
LBTB	**Lobatse**	**48.81**	**71**	P	**P**	**19 46 28.8**	**-0.5**
	1.9nm,0.7s,mb4.3,baz=263,slow=7.9,SNR=5.0						
LPAZ	**La Paz**	**51.62**	**305**	P	**P**	**19 46 51.7**	**+1.2**
	5.9nm,0.4s,mb4.9,baz=149,slow=5.6,SNR=21						
LPAZ				PcP	PcP	19 48 04.7	+0.4
	1.3nm,0.4s,baz=100,slow=1.4,SNR=2.3						
LPAZ	**La Paz**	**51.62**	**305**	*e*P	**P**	**19 46 51.4**	**+0.8**
	6.0nm,0.4s,mb4.9						
DBIC	**Dimbokro**	**66.08**	**23**	P	**P**	**19 48 30.9**	**-0.1**
	1.4nm,0.5s,mb4.3,baz=167,slow=14,SNR=2.5						
DBIC	**Dimbokro**	**66.08**	**23**	P	**P**	**19 48 30.9**	**-0.1**
TOA0	**Torodi Ar. Sit**	**73.87**	**28**	*e*P	**P**	**19 49 18.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.87**	**28**	P	**P**	**19 49 19.0**	**+0.1**
	3.7nm,0.5s,mb4.5,baz=200,slow=6.4,SNR=53						
STKA	**Stephens Creek**	**90.54**	**170**	P	**P**	**19 50 46.9**	**+0.8**
	1.1nm,0.9s,mb4.2,baz=159,slow=8.6,SNR=3.6						
ASAR	**Alice Springs**	**97.59**	**162**	P	**P**	**19 51 17.0**	**-1.6**
	0.3nm,0.6s,mb4.0,baz=181,slow=4.1,SNR=8.1						
PDAR	**Pinedale Array**	**121.54**	**301**	PKP	PKPdf	19 56 35.2	-1.6
	0.2nm,0.4s,baz=134,slow=3.9,SNR=4.8						
ULM	**Lac du Bonnet**	**121.59**	**315**	PKP	PKPdf	19 56 34.9	-1.9
	0.9nm,0.3s,baz=108,slow=3.2,SNR=3.4						
ARCES	**ARCESS Array B**	**131.90**	**22**	PKP	PKPdf	19 56 55.1	-0.8
	3.0nm,0.9s,baz=201,slow=2.3,SNR=4.2						
MKAR	**Makanchi Array**	**136.70**	**72**	PKP	PKPdf	19 57 05.5	0.0
	0.3nm,0.6s,baz=278,slow=2.7,SNR=3.1						
YKA	**Yellowknife Ar**	**137.53**	**317**	PKP	PKPdf	19 57 05.6	-0.9
	1.8nm,0.3s,baz=136,slow=2.0,SNR=24						
YKA	**Yellowknife Ar**	**137.53**	**317**	PKP	PKPdf	19 57 05.6	-0.9
ZALV	**Zalesovo Beam**	**142.36**	**65**	PKP	PKPdf	19 57 16.6	+1.0
	0.6nm,0.4s,baz=237,slow=1.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**142.36**	**65**	PKP	PKPdf	19 57 16.6	+1.0
SONM	**Songino Array**	**150.17**	**88**	PKPbc	PKPbc	19 57 32.8	-1.3
	2.8nm,0.7s,baz=226,slow=2.8,SNR=20						

*NEIC **12** 19:40:27.9, 2840S×7026W, h92km, MG3.8(GUC), After GUC.*

GUC 12 19:40:27.9±0.5, 2840S×7026W, h92km±6km, ML3.8, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.47**	**249**	*e*P	Pn	19 40 43.2	+0.6
VACH				*i*S	Sn	19 40 54.1	+0.5
VACH				AML	AML	19 40 54.9	
	comp=N,6μm,0.1s						
VACH	**Vallenar**	**0.47**	**249**	*e*P	Pn	19 40 43.2	+0.6
VACH				*i*S	Sn	19 40 54.1	+0.5
LCO	**Las Campanas**	**0.72**	**213**	*e*Pn	Pn	19 40 45.5	+0.7
LCO				*e*Sn	Sn	19 40 58.6	+1.2
CPCH	**Copiapo**	**1.04**	**355**	*e*P	Pn	19 40 48.4	+0.2
CPCH				*i*S	Sn	19 41 04.0	+0.5
CPCH				AML	AML	19 41 06.9	
	comp=E,3μm,0.1s						
CPCH	**Copiapo**	**1.04**	**355**	*e*P	Pn	19 40 48.4	+0.2
CPCH				*i*S	Sn	19 41 04.0	+0.5
CDCH	**Caldera**	**1.42**	**339**	⇑*i*P	Pn	19 40 53.1	+0.4
CDCH				*i*S	Sn	19 41 11.7	+0.2
TLL	**Tololo Astrono**	**1.82**	**195**	⇑*i*P	Pn	19 40 58.8	+0.9
TLL				*i*S	Sn	19 41 22.2	+1.6

KRSC 12 19:56:52.9±0.3, 5616N×16434E, h15km±15km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.85**	**274**	*e*P	Pb	19 57 08.7	-0.6
KBTR				*i*S	Sb	19 57 20.6	0.0
SMKR	**Semkarok**	**1.65**	**286**	*e*P	Pn	19 57 21.5	+0.2
SMKR				*i*S	Sn	19 57 42.3	+0.1
BDR	**Baidarnaya**	**1.79**	**285**	*e*P	Pn	19 57 24.1	+0.9
BDR				*i*S	Sn	19 57 46.8	+1.2
SRKR	**Sorokina**	**1.83**	**287**	*e*P	Pn	19 57 24.0	+0.2
SRKR				*i*S	Sn	19 57 47.2	+0.6
ZLN	**Zelenaya**	**1.99**	**267**	*e*P	Pn	19 57 27.8	+1.9
ZLN				*i*S	Sn	19 57 53.4	+2.9
CIRR	**Tsirk**	**2.01**	**270**	*e*P	Pn	19 57 28.1	+1.9
CIRR				*i*S	Sn	19 57 53.5	+2.4
KLY	**Klyuchi**	**2.06**	**276**	*e*P	Pn	19 57 25.8	-1.2
KLY				*i*S	Sn	19 57 50.5	-1.9
KRSR	**Krestovskiy**	**2.11**	**273**	*e*P	Pn	19 57 28.8	+1.2
KRSR				*i*S	Sn	19 57 54.6	+1.1
BZMR	**Bezymyannaya**	**2.17**	**266**	*e*P	Pn	19 57 30.5	+2.1
BZMR				*i*S	Sn	19 57 57.3	+2.3
MKZ	**Mys Kozlova**	**2.19**	**224**	*e*P	Pn	19 57 29.4	+0.7
MKZ				*i*S	Sn	19 57 56.0	+0.5
KIRR	**Kirishev**	**2.25**	**266**	*e*P	Pn	19 57 32.0	+2.5
KIRR				*i*S	Sn	19 57 59.6	+2.6
KPT	**Kopyto**	**2.32**	**267**	*e*P	Pn	19 57 33.6	+3.2
KPT				*i*S	Sn	19 58 02.7	+4.1
KOZ	**Kozyrevsk**	**2.50**	**270**	*e*P	Pn	19 57 35.6	+2.6
KOZ				*i*S	Sn	19 58 06.4	+3.2
TUMR	**Tumrok**	**2.53**	**251**	*e*P	Pn	19 57 35.7	+2.3
TUMR				*i*S	Sn	19 58 06.6	+2.7
SRDR	**Sredinnyy**	**2.58**	**275**	*e*P	Pn	19 57 36.0	+1.9
SRDR				*i*S	Sn	19 58 07.7	+2.5
SPN	**Mys Shipunski**	**3.96**	**221**	*e*P	Pn	19 57 54.3	+1.3
SPN				*i*S	Sn	19 58 38.2	-1.0
NLC	**Nalytchevo**	**4.17**	**226**	*e*P	Pn	19 57 57.9	+2.0
NLC				*i*S	Sn	19 58 45.3	+1.0
AVH	**Avacha**	**4.36**	**231**	*e*P	Pn	19 58 02.5	+4.1
GNL	**Ganaly**	**4.44**	**239**	*e*P	Pn	19 58 03.0	+3.4
RUS	**Russkaya**	**5.06**	**225**	*e*P	Pn	19 58 10.3	+2.2
RUS				*i*S	Sn	19 59 07.2	+1.0

IDC 12 20:30:41.5±15.0, 1312S×16789E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/17, mbtmp3.4/4, Error ellipse: s-maj=256.1km s-min=121.3km az=57.0, Vanuatu Islands

| Code | Station Name | Δ° | AZ° | Ph

WRA	**Warramunga Arr**	**70.33 112**	P		**P**	**20 50 16.9 +0.9**
	2.1nm,0.9s,mb4.1,baz=288,slow=5.6,SNR=11					
WRAB	**Tennant Creek**	**70.34 112**	P		**P**	**20 50 13.9 -2.0**
	0.9nm,0.7s,mb3.8					
ASAR	**Alice Springs**	**70.66 116**	P		**P**	**20 50 18.9 +1.0**
	0.6nm,0.9s,mb3.5,baz=285,slow=5.8,SNR=6.0					
NOA	**NORSAR Array B**	**71.38 335**	P		**P**	**20 50 20.4 -1.1**
	1.6nm,0.9s,mb3.9,baz=112,slow=6.4,SNR=3.3					
NOA	**NORSAR Array B**	**71.38 335**	P		**P**	**20 50 20.4 -1.1**
ESDC	**Sonseca Array**	**73.17 311**	P		**P**	**20 50 32.4 -0.3**
	0.2nm,0.4s,mb3.4,baz=76,slow=6.3,SNR=4.3					

TRN 12 20:55:12.2, 1531N×6078W, h16km, MD3.7, M2.7(FDF), M2.9(FDD), 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**0.68**	**212**	*e*P	Pg	20 55 28.5	+3.0
FDF				*e*S	Sg	20 55 39.1	+4.6
MVM	**Montagne Vaucl**	**0.76**	**188**	*e*P	Pg	20 55 29.2	+2.2
MGG	**Marie-Galante**	**0.80**	**319**	*e*P	Pb	20 55 29.6	+1.9
TBG	**Guadaloupe-3**	**0.99**	**303**	*e*P	Pb	20 55 32.6	+1.6
DEG	**La Desirade**	**1.03**	**345**	*e*P	Pb	20 55 31.6	-0.1
HMG	**Houelmont**	**1.11**	**307**	*e*P	Pb	20 55 35.0	+2.0
SCG	**Saint Claude**	**1.12**	**310**	*e*P	Pb	20 55 36.0	+2.7
LZG	**Guadaloupe-1**	**1.27**	**311**	*e*P	Pn	20 55 37.0	+1.7
SLW	**Petit Monier**	**1.29**	**187**	*e*P	Pn	20 55 36.8	+1.1
SLB	**Belfond**	**1.50**	**190**	*e*P	Pn	20 55 40.9	+2.4
SLB				*e*S	Sn	20 56 00.7	+3.0

ISCJB 12 21:03:17.3±0.5, 3931N±003×20.15E±004, h10km, Error ellipse: s-maj=4.0km s-min=3.6km az=173.6
THE 12 21:03:17.3, 3931N×2014E, h0km, ML3.1
ATH 12 21:03:18.1, 3931N×2031E, h22km±3km, MD3.3/6
CSEM 12 21:03:18.3±0.2, 3928N×2022E, h5km, ML3.1, Error ellipse: s-maj=5.4km s-min=4.2km az=90.0
NEIC 12 21:03:18.1, 3931N×2031E, h22km, MD3.3(ATH), ML3.1(THE), After ATH.
TIR 12 21:03:19.4±2.5, 3956N×2026E, h18km±19km
ISC 12 21:03:17.4±0.7, 3931N±003×2019E±004, h2km±5km, n26, σ1°22/43, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.25**	**27**	*e*Pg	**Pg**	**21 03 22.0**	**-0.2**
IGT				*e*Sg	**Sg**	21 03 25.9	+0.4
IGT	**Igoumenitsa**	**0.25**	**27**	*i* PG	**Pg**	**21 03 22.0**	**-0.2**
IGT				*i* SG	**Sg**	21 03 25.9	+0.4
KEK	**Kerkira**	**0.50**	**324**	*e*PN	**Pg**	**21 03 28.7**	**+1.7**
KEK				*e*SN	**Sg**	21 03 37.9	+4.3
SRN	**Sarande**	**0.59**	**346**	*e*PG	**Pg**	**21 03 29.1**	**+0.4**
SRN				*i* SG	**Sg**	21 03 33.0	-3.3
JAN	**Janina**	**0.62**	**56**	*e*PN	**Pg**	**21 03 29.0**	**-0.3**
VLS	**Valsamata**	**1.17**	**164**	*e*Pg	**Pg**	**21 03 39.6**	**-0.2**
VLS				*e*Sg	**Sg**	**21 03 56.7**	**+1.8**
VLS	**Valsamata**	**1.17**	**164**	*e*Pn	**Pn**	**21 03 40.6**	**-0.1**
VLS				*e*Sn	**Sn**	21 03 56.3	-0.9
VLS				*e*Sg	**Sg**	**21 03 56.7**	**+1.7**
EVR	**Evrytania**	**1.32**	**107**	*e*PN	**Pn**	21 03 41.5	-1.2
THL	**Klokotos Trika**	**1.44**	**79**	*e*Pg	**Pg**	21 03 43.4	-1.5
THL				*e*Sg	**Sg**	21 04 06.2	+2.6
THL	**Klokotos Trika**	**1.44**	**79**	*e*Pn	**Pn**	21 03 43.0	-1.4
THL	**Klokotos Trika**	**1.44**	**79**	*e*Pg	**Pg**	21 03 43.4	-1.5
KZN	**Kozani**	**1.58**	**50**	*e*PN	**Pn**	21 03 46.5	+0.2
AGG	**Agios Georgios**	**1.69**	**99**	*e*Pb	**Pb**	21 03 47.8	-1.3
AGG				*e*Sb	**Sb**	21 04 11.7	+0.9
FNA	**Florina**	**1.73**	**31**	*e*Pb	**Pb**	21 03 48.5	-1.4
FNA				*e*Sb	**Sb**	21 04 11.9	-0.2
FNA	**Florina**	**1.73**	**31**	*i* PG	**Pg**	21 03 48.5	-2.1
BIA	**Bitola**	**1.92**	**27**	*i* Pn	**Pn**	21 03 53.9	+2.9
LIT	**Litokhoron**	**1.95**	**65**	*e*Pb	**Pb**	21 03 52.0	-1.4
LIT				*e*Sb	**Sb**	21 04 17.8	-0.4
TIR	**Tirane**	**2.05**	**353**	*i* PG	**Pn**	21 03 52.0	-0.8
TIR				*i* SG	**Sn**	21 04 18.1	-0.9
TIR	**Tirane**	**2.05**	**353**	Pn	**Pn**	21 03 52.0	-0.8
TIR				*e*Sn	**Sn**	21 04 18.1	-0.9
TIR	**Tirane**	**2.05**	**353**	Pn	**Pn**	21 03 52.0	-0.9
TIR				*e*Sn	**Sn**	21 04 18.1	-0.9
KRUS	**Krusevo**	**2.21**	**21**	*i* Pn	**Pn**	21 03 56.9	+1.9
GRG	**Griva**	**2.37**	**45**	*e*Pn	**Pn**	21 03 58.1	+1.0
GRG				*e*Sn	**Sn**	21 04 28.4	+1.7
HORT	**Hortiatis**	**2.58**	**59**	*e*Sn	**Sn**	21 04 33.1	+1.0
TIP	**Timpagrande**	**2.67**	**268**	*e*Pn	**Pn**	21 04 02.2	+1.0
TIP				*e*Sn	**Sn**	21 04 33.5	-0.5
TIP	**Timpagrande**	**2.67**	**268**	*e*Pn	**Pn**	21 04 02.2	+1.0
TIP				*e*Sn	**Sn**	21 04 33.5	-0.5
KNT	**Kendrikon**	**2.78**	**47**	*e*Pn	**Pn**	**21 04 03.0**	**+0.2**

IDC 12 21:04:15.7±0.7, 4598N×15405E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.8/23, mbtmp3.8/13, ML3.5/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/37, Error ellipse: s-maj=20.9km s-min=19.0km az=98.0
ISCJB 12 21:04:16.2±3.7, 4606N±007×1543E±01, h15km±23km, mb3.9/15, Error ellipse: s-maj=16.5km s-min=8.9km az=39.7
MOS 12 21:04:19.9±1.1, 4611N×154.15E, h48km, mb4.6/3, Error ellipse: s-maj=18.4km s-min=9.7km az=80.8
NEIC 12 21:04:21.1±1.2, 4604N×15421E, h36km±10km, mb4.3/5, Error ellipse: s-maj=12.1km s-min=7.2km az=129.0
ISC 12 21:04:20.5±2.8, 4610N±007×1542E±01, h30km±20km, n38, σ1°20/36, mb3.9/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.76**	**15**	*e*PN	**Pn**	**21 05 28.2**	**-1.8**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
PETK	**Petropavlovsk-**	**7.37**	**17**	Pn	**Pn**	**21 06 06.5**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=184,slow=12,SNR=12						
PET	**Petropavlovsk**	**7.50**	**21**	Pn	**Pn**	**21 06 08.2**	**+0.5**
PET				*e*Sn	**Sn**	**21 07 29.5**	**-2.2**
ASAJ	**Asahikawa**	**8.47**	**261**	Pn	**Pn**	**21 06 21.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=109,slow=15,SNR=4.5						
ASAJ				LR	LR	21 10 00.8	
	comp=Z,90nm,18.9s,baz=136,slow=42						
MJAR	**Matsushiro Arr**	**15.34**	**237**	Pn	**Pn**	**21 07 53.2**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=27,slow=12,SNR=3.4						
MAJO	**Matsushiro**	**15.34**	**237**	*e*Pn	**Pn**	**21 07 56.2**	**+1.6**
	comp=Z,4.2nm,0.5s						
MDJ	**Mudanjiang**	**17.37**	**274**	Pn	**Pn**	**21 08 21.6**	**+1.2**
HIA	**Hailar**	**23.32**	**290**	P	**P**	**21 09 30.1**	**+4.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
HIA	**Hailar**	**23.32**	**290**	P	**P**	**21 09 30.1**	**+4.3**
	comp=Z,6.3nm,0.4s,mb4.4						
SONM	**Songino Array**	**32.28**	**291**	P	**P**	**21 10 45.2**	**-1.0**
	comp=Z,0.3nm,0.7s,mb3.2,baz=90,slow=7.2,SNR=2.6						
GUMO	**Guam**	**33.35**	**197**	P	**P**	**21 10 55.2**	**-0.7**
YHNB	**Yeheng**	**33.91**	**242**	P	**P**	**21 11 01.2**	**+0.5**
INK	**Inuvik**	**41.79**	**32**	*e*P	**P**	**21 12 07.5**	**+0.8**
	comp=Z,54nm,0.6s						
ZALV	**Zalesovo Beam**	**43.62**	**307**	P	**P**	**21 12 20.3**	**-1.4**
	comp=Z,0.4nm,0.3s,mb3.6,baz=74,slow=11,SNR=2.9						
ZAL	**Zalesovo**	**43.64**	**307**	P	**P**	**21 12 20.3**	**-1.5**
MKAR	**Makanchi Array**	**47.93**	**298**	P	**P**	**21 12 55.0**	**-0.9**
	comp=Z,0.2nm,0.4s,mb3.5,baz=61,slow=6.6,SNR=7.2						
KURK	**Kurchatov**	**48.37**	**305**	P	**P**	**21 12 59.8**	**+0.6**
RES	**Resolute Bay**	**51.21**	**19**	P	**P**	**21 13 21.3**	**+0.9**
BVAR	**Borovoye Array**	**51.87**	**310**	P	**P**	**21 13 25.0**	**-0.7**
	comp=Z,0.7nm,0.4s,mb4.0,baz=62,slow=7.0,SNR=5.7						
EKS2	**Erkin-Say**	**55.25**	**298**	*e*P	**P**	**21 13 52.3**	**+1.8**
	comp=Z,1.6nm,0.7s,mb4.2						
ARU	**Arti**	**56.02**	**318**	*e*P	**P**	**21 13 56.0**	**+0.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
ARU	**Arti**	**56.02**	**318**	*e*P	**P**	**21 13 56.0**	**+0.1**
	comp=Z,2.7nm,0.5s,mb4.5						
ARCES	**ARCESS Array B**	**58.72**	**341**	P	**P**	**21 14 16.1**	**+1.3**
	comp=Z,2.8nm,0.9s,mb4.3,baz=25,slow=7.3,SNR=9.0						
NVAR	**Mina Array Bea**	**62.05**	**63**	P	**P**	**21 14 39.4**	**+1.4**
	comp=Z,0.3nm,0.3s,mb3.9,baz=306,slow=8.5,SNR=3.6						
PDAR	**Pinedale Array**	**64.50**	**54**	P	**P**	**21 14 55.0**	**+0.8**
	comp=Z,0.3nm,0.6s,mb3.5,baz=287,slow=3.4,SNR=2.8						
WRAB	**Tennant Creek**	**68.14**	**200**	*e*P	**P**	**21 15 16.5**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**68.14**	**200**	*e*P	**P**	**21 15 16.5**	**-1.0**
	comp=Z,3.0nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**68.16**	**200**	P	**P**	**21 15 16.0**	**-1.6**
	comp=Z,1.7nm,0.8s,mb4.1,baz=16,slow=6.9,SNR=12						
NB2	**NORSAR Subarra**	**69.09**	**342**	P	**P**	**21 15 24.8**	**+1.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**69.09**	**342**	P	**P**	**21 15 24.5**	**+1.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=26,slow=6.3,SNR=3.6						
NOA	**NORSAR Array B**	**69.09**	**342**	P	**P**	**21 15 24.5**	**+1.5**
ASAR	**Alice Springs**	**71.84**	**200**	P	**P**	**21 15 40.0**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=11,slow=4.8,SNR=16						
AKASG	**Malin Array Be**	**72.52**	**327**	P	**P**	**21 15 43.7**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=35,slow=6.1,SNR=3.7						
PALK	**Pallekele**	**73.38**	**263**	P	**P**	**21 15 52.5**	**+2.8**
NWAO	**Narrogin (SRO)**	**85.47**	**211**	P	**P**	**21 16 53.6**	**-1.3**
TEIG	**Tepich**	**93.14**	**57**	LR	LR	21 57 19.3	
	comp=Z,87nm,20.7s,baz=99,slow=34						
PLCA	**Paso Flores**	**147.37**	**97**	PKPbc	PKPbc	21 24 01.0	+0.4
	comp=Z,3.2nm,0.8s,baz=274,slow=4.0,SNR=5.3						
CPUP	**Villa Florida**	**148.10**	**63**	PKPbc	PKPbc	21 24 02.8	-0.3
	comp=Z,0.7nm,0.5s,baz=304,slow=7.3,SNR=3.3						

ISCJB 12 21:07:19.7±1.3, 3691N±007×2758E±006, h10km±7km, Error ellipse: s-maj=12.2km s-min=8.1km az=19.7
CSEM 12 21:07:19.5±0.1, 3693N×2757E, h8km, MD2.6, Error ellipse: s-maj=2.1km s-min=0.9km az=16.0
ISK 12 21:07:19.6, 3693N×2757E, h10km, MD2.8
DDA 12 21:07:22.8, 37.12N×2747E, h7km±3km, Md2.6
ISC 12 21:07:20.2±1.2, 3692N±007×2758E±006, h9km±9km, n9, σ0°28/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.18**	**325**	*i* P	**Pg**	**21 07 24.0**	**0.0**
BDRM				*i* S	**Sg**	**21 07 26.6**	**0.0**
BODT	**Bodrum**	**0.26**	**305**	*e*PG	**Pg**	**21 07 25.1**	**-0.3**
BODT				*e*SG	**Sg**	**21 07 29.1**	**+0.3**
MLSB	**Milas**	**0.41**	**23**	*e*PG	**Pg**	**21 07 28.5**	**+0.3**
MLSB				*e*SG	**Sg**	**21 07 34.0**	**+0.4**
YER	**Yerkesik**	**0.61**	**69**	*e*PG	**Pg**	**21 07 32.0**	**+0.1**
AYDN	**Tasoluk**	**0.78**	**18**	*i* P	**Pg**	**21 07 34.9**	**-0.3**
AYDN				*i* S	**Sg**	**21 07 44.9**	**-0.5**
TURN	**Turunc**	**0.82**	**93**	*i* P	**Pg**	**21 07 31.1**	**-4.9**
TURN				*i* P		21 07 40.0	
DALT	**Dalyan (Mudla)**	**0.86**	**99**	*e*PG	**Pg**	**21 07 36.6**	**-0.1**
IZM	**Izmir**	**1.50**	**351**	*e*PN	**Pn**	**21 07 47.1**	**-0.2**
KULA	**Kula-Manisa**	**1.81**	**28**	*e*PN	**Pn**	**21 07 51.9**	**+0.3**

NIED 12 21:22:00, 2990N×13140E, h23km, Mw4.2 Best double couple: M0=2.49000×10^15 NP1:φs=30.00000°, δ=52.00000°, λ=83.00000°. NP2:φs=222.00000°, δ=39.00000°, λ=99.00000°.
NEIC 12 21:22:25.8±3.0, 3015N×13098E, h10km±20km, mb4.4/2, Error ellipse: s-maj=10.5km s-min=6.6km az=126.0
JMA 12 21:22:25.5±0.3, 2992N×13144E, h36km±3km, M3.8
JMA Felt I J1.
ISCJB 12 21:22:27.2±0.7, 2998N±004×13130E±007, h50km±6km, mb3.8/9, MS3.1/4, Error ellipse: s-maj=11.3km s-min=4.8km az=24.2
IDC 12 21:22:28.1±6.7, 3011N×13106E, h29km±50km, mb3.5/7, mb1 3.6/10, mb1mx3.5/24, mbtmp3.5/10, ML3.3/3, MS3.2/7, Ms1 3.2/7, ms1mx3.0/28, Error ellipse: s-maj=34.0km s-min=18.3km az=86.0
ISC 12 21:22:28.9±0.7, 3003N±004×13117E±008, h40km±6km, n45, σ0°97/47, mb3.8/9, MS3.1/4, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.65**	**345**	P	**Pn**	**21 22 40.9**	**-0.7**
JTN				*e*S	**Sn**	**21 22 52.3**	**+1.7**
JKC	**Kuchinoerabu**	**0.95**	**297**	P	**Pn**	**21 22 46.5**	**+0.8**
JKC				*e*S	**Sn**	**21 23 02.0**	**+4.0**
JNN	**Nakanoshima**	**1.14**	**261**	P	**Pn**	**21 22 48.9**	**+0.6**
JTSR	**Tashiro 2**	**1.16**	**349**	P	**Pn**	**21 22 48.1**	**-0.4**
JTSR				*e*S	**Sn**	**21 23 04.8**	**+1.7**
JNAR	**Kushima--Naru**	**1.50**	**3**	P	**Pn**	**21 22 52.9**	**-0.3**
JNAR				*e*S	**Sn**	**21 23 12.5**	**+1.0**
JSU	**Suzuyama**	**1.60**	**338**	P	**Pn**	**21 22 54.7**	**+0.1**
JTZ	**Takazaki**	**1.87**	**358**	P	**Pn**	**21 22 58.3**	**0.0**
JSJ	**Shimokoshiki**	**2.06**	**323**	P	**Pn**	**21 23 00.9**	**-0.1**
JAM	**Amami Oshima**	**2.11**	**221**	P	**Pn**	**21 23 01.6**	**-0.1**
JAM				*e*S	**Sn**	**21 23 28.0**	**+1.3**
JZO	**Okuchi**	**2.16**	**347**	P	**Pn**	**21 23 02.2**	**-0.2**
JTSN	**Tsuno**	**2.23**	**7**	P	**Pn**	**21 23 02.5**	**-0.8**
JTSN				*e*S	**Sn**	**21 23 29.6**	**0.0**
JIU2	**Izumi 2**	**2.53**	**353**	P	**Pn**	**21 23 07.3**	**-0.1**
JTK	**Tokunoshima**	**2.96**	**222**	P	**Pn**	**21 23 13.3**	**-0.1**
JOW	**Kunigami**	**4.08**	**219**	Pn	**Pn**	**21 23 28.9**	**+0.2**
	4.8nm,0.3s,baz=88,slow=25,SNR=9.4						
JOW				Sn	**Sn**	**21 24 14.3**	**-0.8**
	7.0nm,0.3s,baz=132,slow=26,SNR=8.6						
JOW				LR	LR	21 25 20.4	
	comp=Z,259nm,20.8s,baz=114,slow=42						
KSRS	**Korea Array**	**7.88**	**341**	Pn	**Pn**	**21 24 18.7**	**-2.3**
	0.2nm,0.3s,baz=160,slow=17,SNR=2.8						
MAJO	**Matsushiro**	**8.77**	**40**	Pn	**Pn**	**21 24 32.3**	**-0.7**
MJAR	**Matsushiro Arr**	**8.77**	**40**	Pn	**Pn**	**21 24 33.2**	**+0.2**
	0.5nm,0.3s,baz=247,slow=16,SNR=6.4						
TATO	**Taipei**	**9.96**	**242**	Pn	**Pn**	**21 24 47.9**	**-1.5**
CBIJ	**Chichi jima**	**10.12**	**104**	LR	LR	21 27 48.1	
	comp=Z,57nm,19.5s,baz=191,slow=31						
BJT	**Baijiatuan**	**15.80**	**313**	P	**Pn**	**21 26 04.9**	**-3.4**
ASAJ	**Asahikawa**	**16.73**	**30**	LR	LR	21 33 22.4	
	comp=Z,105nm,18.2s,baz=351,slow=39						
YSS	**Yuzh-Sakhalins**	**19.14**	**25**	P	**Pn**	**21 26 48.7**	**-0.9**
GUMO	**Guam**	**20.69**	**139**	LR	LR	21 34 43.3	
	comp=Z,57nm,19.3s,MS3.0,baz=267,slow=35						
HIA	**Hailar**	**21.09**	**339**	*e*P	**P**	**21 27 07.1**	**-2.5**
SONM	**Songino Array**	**26.04**	**320**	P	**P**	**21 27 56.9**	**-1.3**
	0.6nm,0.3s,mb3.5,baz=140,slow=11,SNR=7.3						
SONM				LR	LR	21 39 19.2	
	comp=Z,82nm,20.1s,MS3.3,baz=126,slow=39						
CM31	**Chiang Mai Arr**	**31.45**	**256**	P	**P**	**21 28 46.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**31.45**	**256**	LR	LR	21 42 26.0	
	comp=Z,49nm,18.9s,MS3.2,baz=240,slow=38						
YAK	**Yakutsk**	**32.02**	**359**	*e*P	**P**	**21 28 51.7**	**+0.5**
ZALV	**Zalesovo Beam**	**40.94**	**319**	LR	LR	21 47 48.6	
	comp=Z,23nm,21.8s,MS3.0,baz=43,slow=37						
MK31	**Makanchi Array**	**41.09**	**308**	*e*P	**P**	**21 30 07.8**	**-0.7**
MKAR	**Makanchi Array**	**41.09**	**308**	P	**P**	**21 30 09.1**	**+0.5**
	0.5nm,0.5s,mb3.4,baz=88,slow=10,SNR=12						
AML	**Almayashu**	**47.19**	**301**	P	**P**	**21 30 57.0**	**-0.5**
BRVK	**Borovoye**	**49.33**	**316**	*e*P	**P**	**21 31 13.9**	**+0.1**
	2.5nm,0.3s,mb4.7						
WRA	**Warramunga Arr**	**49.77**	**176**	P	**P**	**21 31 18.0**	**+0.6**
	0.3nm,0.8s,mb3.4,baz=353,slow=8.3,SNR=3.4						
PALK	**Pallekele**	**52.39**	**255**	P	**P**	**21 31 38.0**	**+0.6**
ASAR	**Alice Springs**	**53.45**	**177**	P	**P**	**21 31 46.6**	**+1.7**
	0.1nm,0.4s,mb3.1,baz=7.9,slow=14,SNR=3.1						
ARU	**Arti**	**56.08**	**320**	*e*P	**P**	**21 32 03.4**	**-0.3**
	3.3nm,1.2s,mb4.2						
INK	**Inuvik**	**64.38**	**24**	*e*P	**P**	**21 33 01.2**	**+1.0**
	64nm,0.7s						
ARCES	**ARCESS Array B**	**67.44**	**338**	P	**P**	**21 33 19.7**	**-0.2**
	1.7nm,0.8s,mb4.1,baz=57,slow=7.4,SNR=4.5						
ARCES	**ARCESS Array B**	**67.44**	**338**	P	**P**	**21 33 19.7**	**-0.2**
RES	**Resolute Bay**	**71.33**	**12**	P	**P**	**21 33 46.4**	**+2.5**
AKASG	**Malin Array Be**	**74.33**	**320**	P	**P**	**21 34 01.0**	**-1.0**
	0.4nm,0.4s,mb3.7,baz=61,slow=6.4,SNR=4.1						
AKASG	**Malin Array Be**	**74.33**	**320**	P	**P**	**21 34 01.0**	**-1.1**
NB2	**NORSAR Subarra**	**77.05**	**334**	P	**P**	**21 34 17.9**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=47,slow=5.6						
NOA	**NORSAR Array B**	**77.05**	**334**	P	**P**	**21 34 18.2**	**+0.9**
	comp=Z,1.0nm,0.6s,mb3.9,baz=50,slow=5.7,SNR=5.1						

ATH 12 21:28:22.3, 3886N×2341E, h25km±10km, MD2.8/4, ML3.0, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.38**	**237**	*e*PB	Pb	21 28 30.7	+0.1
LKR				*e*SB	Sb	21 28 36.9	+0.7
NEO	**Neokhori**	**0.47**	**342**	*i* PB	Pb	21 28 32.1	+0.1
PTL	**Penteli**	**0.89**	**156**	*e*PN	Pn	21 28 39.0	-0.1
PTL	**Penteli**	**0.89**	**156**	*e*P	Pb	21 28 38.5	-0.5
ATH	**Athens Observa**	**0.92**	**165**	*e*PN	Pn	21 28 40.2	+0.6

ISCJB 12 21:30:34.2±1.6, 1434S±005×16657E±007, h44km±13km, mb4.6/28, MS4.1/20, Error ellipse: s-maj=12.5km s-min=7.0km az=153.5

BJI 12 21:30:34.4, 14.13S×16660E, h36km, mB5.3, mb4.9, Ms4.9, Msz4.6
NEIC 12 21:30:37.9±1.5, 1432S×16663E, h66km±12km, mb4.7/14, Error ellipse: s-maj=10.1km s-min=8.9km az=67.0
IDC 12 21:30:39.3±2.0, 1435S×16660E, h75km±14km, mb4.2/18, mb1 4.3/19, mb1mx4.3/23, mbtmp4.3/19, MS4.1/15, Ms1 4.1/15, ms1mx3.9/24, Error ellipse: s-maj=19.8km s-min=12.2km az=83.0
SZGRF 12 21:33:53.8, 2501S×16285E, h33km, New Caledonia region
ISC 12 21:30:37.8±1.2, 1435S±005×16655E±007, h58km±10km, n132, σ0°90/51, mb4.6/28, MS4.1/20, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.68**	**181**	*e*Pn	**Pn**	**21 32 24.9**	**-2.2**
DZM				*e*Sn	**Sn**	**21 33 53.6**	**+0.9**
HNR	**Honiara**	**8.10**	**306**	P	**Pn**	**21 32 33.3**	**+0.5**
	33nm,0.3s,baz=155,slow=2.3,SNR=4.4						
HNR				S	**Sn**	**21 34 02.8**	**-0.3**
	baz=92,slow=21,SNR=3.0						
HNR	**Honiara**	**8.10**	**306**	P	**Pn**	**21 32 33.3**	**+0.4**
HNR				S	**Sn**	**21 34 02.8**	**-0.3**
PMG	**Port Moresby**	**19.60**	**282**	*e*P	**Pn**	**21 35 01.7**	**-1.5**
	18nm,0.8s						
CTA	**Charters Tower**	**20.20**	**251**	*e*P	**P**	**21 35 10.5**	**+2.5**
	11nm,1.4s						
CTA	**Charters Tower**	**20.20**	**251**	P	**P**	**21 35 10.2**	**+2.2**
	12nm,1.0s,baz=71,slow=13,SNR=5.7						
CTA				LR	LR	21 41 48.4	
	comp=Z,645nm,21.5s,MS3.9,baz=74,slow=33						
CTAO	**Charters Tower**	**20.20**	**251**	*e*P	**P**	**21 35 10.2**	**+2.2**
	24nm,1.2s						
CTAO				*e*S	**S**	**21 38 51.2**	**-0.4**
RAO	**Raoul Island**	**20.65**	**138**	LR	LR	21 41 32.3	
	comp=Z,384nm,21.6s,MS3.7,baz=291,slow=32						
AFI	**Afiamalu**	**21.02**	**91**	LR	LR	21 41 20.7	
	comp=Z,447nm,18.5s,MS3.9,baz=266,slow=31						
AFI	**Afiamalu**	**21.02**	**91**	P	**P**	**21 35 18.1**	**+1.3**
ARMA	**Armidale**	**21.09**	**218**	*e*P	**P**	**21 35 18.6**	**+1.2**
URZ	**Urewera**	**25.59**	**160**	P	**P**	**21 36 00.1**	**-1.4**
	4.3nm,0.5s,mb4.2,baz=243,slow=2.3,SNR=4.9						
URZ				LR	LR	21 44 55.6	
	comp=Z,548nm,19.6s,MS4.1,baz=24,slow=34						
SNZO	**South Karori**	**27.79**	**167**	P	**P**	**21 36 22.1**	**+0.9**
STKA	**Stephens Creek**	**28.72**	**228**	*e*P	**P**	**21 36 30.3**	**+0.6**
	14nm,0.4s,mb5.0						
STKA				*e*		21 39 38.1	
STKA	**Stephens Creek**	**28.72**	**228**	P	**P**	**21 36 30.7**	**+1.0**
	20nm,0.6s,mb5.1,baz=43,slow=8.0,SNR=102						
STKA				PcP	PcP	21 39 38.2	-0.7
	2.3nm,0.5s,baz=60,slow=2.2,SNR=7.1						
STKA				LR	LR	21 47 49.0	
	comp=Z,1μm,19.5s,MS4.4,baz=43,slow=36						
RPZ	**Rata Peaks**	**29.52**	**173**	LR	LR	21 46 06.5	
	comp=Z,421nm,21.1s,MS4.0,baz=13,slow=31						
TOO	**Toolangi**	**29.75**	**215**	*e*P	**P**	**21 36 39.7**	**+0.9**
WB2	**Warramunga Arr**	**31.24**	**255**	*i* P	**P**	**21 36 51.1**	**-1.0**
WRAB	**Tennant Creek**	**31.24**	**255**	*e*P	**P**	**21 36 51.5**	**-0.5**
	8.0nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**31.25**	**255**	P	**P**	**21 36 51.6**	**-0.6**
	3.2nm,0.5s,mb4.4,baz=85,slow=9.4,SNR=77						
WRA				PcP	PcP	21 39 45.9	+0.2
	1.0nm,0.9s,baz=81,slow=3.2,SNR=4.4						
WRA				LR	LR	21 48 48.6	
	comp=Z,386nm,18.5s,MS4.1,baz=70,slow=35						
ASAR	**Alice Springs**	**32.16**	**248**	P	**P**	**21 36 59.8**	**-0.4**
	5.4nm,0.5s,mb4.6,baz=75,slow=9.6,SNR=161						
ASAR				PcP	PcP	21 39 46.6	-1.5
	0.9nm,0.7s,baz=79

comp=Z,1.8nm,0.7s,mb4.6,baz=125,slow=4.4,SNR=7.6
ZALV Zalesovo Beam 96.67 324 P **P 21 44 00.2 -1.3**
YKA Yellowknife Ar 97.53 27 LR LR 22 27 50.6
comp=Z,27nm,18.6s,MS3.8,baz=100,slow=35
KURK Kurchatov 99.66 320 Pdif Pdif 21 44 13.0 -2.0
ELN Prospectdale 116.54 55 *e*PKPdf PKPdf 21 49 15.3 -0.2
ARCES ARCESS Array B 119.71 345 PKP PKPdf 21 49 19.2 -1.4
comp=Z,1.7nm,0.5s,baz=86,slow=1.9,SNR=27
JOF Joensuu 122.27 338 *e*pkp PKPdf 21 49 23.4 -2.3
KAF Kangasniemi 124.59 339 *e*pkp PKPdf 21 49 28.2 -2.0
SJG San Juan 129.39 78 PKPdf PKPdf 21 49 40.2 -0.5
AKASG Malin Array Be 130.03 326 PKP PKPdf 21 49 40.2 -0.7
comp=Z,0.2nm,0.3s,baz=57,slow=2.3,SNR=5.4
AKASG SKP SKPdf 21 53 07.7 -3.7
comp=Z,1.0nm,0.7s,baz=46,slow=4.1,SNR=5.0
NB2 NORSAR Subarra130.07 345 PKPdf PKPdf 21 49 39.8 -0.9
comp=Z,1.0nm,0.8s,baz=31,slow=1.9
NOA NORSAR Array B130.07 345 PKP PKPdf 21 49 40.4 -0.3
comp=Z,0.9nm,0.7s,baz=36,slow=2.1,SNR=5.0
NOA SKP SKPdf 21 53 08.0 -3.2
comp=Z,1.1nm,0.8s,baz=31,slow=3.1,SNR=5.2
NOA NORSAR Array B130.07 345 PKP PKPdf 21 49 40.4 -0.3
NOA SKP SKPdf 21 53 08.0 -3.2
CLL Collm 137.42 336 *e*PKPbc SKPdf 21 53 27.0 +2.1
FBE Freiberg 137.58 335 *e*PKPbc SKPdf 21 53 26.4 +1.2
WERD Werda 138.37 335 *e*PKPbc SKPdf 21 53 28.8 +2.2
WERN Wernitzgruen 138.46 335 *e*PKPbc SKPdf 21 53 30.2 +3.4
MOX Moxa 138.49 336 *e*PKPbc SKPdf 21 53 29.6 +2.8
ROTZ Rotzenmuhle 138.93 335 *e*PKPbc SKPdf 21 53 31.3 +3.7
GEC2 GERESS Array S 138.99 333 *e*PKPbc SKPdf 21 53 30.4 +2.6
GERES GERESS Array B 138.99 333 PKP PKPdf 21 49 56.1 -1.7
comp=Z,0.6nm,0.7s,baz=90,slow=1.3,SNR=6.5
GERES SKPab 21 53 37.3
comp=Z,1.9nm,0.9s,baz=0.0,slow=1.6,SNR=14
WET Wettzell 139.12 334 *e*PKPbc SKPdf 21 53 30.2 +2.2
GRF Grafenberg Arr 139.40 335 *e*PKPbc SKPdf 21 53 32.9 +4.4
CDF Champ du Feu 141.96 338 *e*PKP1 PKPdf 21 49 56.7 -6.4
CABF La Chapelle 143.91 337 *e*PKP1 PKPdf 21 50 04.1 -2.5
FLN La Foliniere 144.05 345 *e*PKP1 PKPdf 21 50 03.3 -3.5
FLN *e*MLR MLR
comp=Z,94nm,22.5s,MS4.2
FLN La Foliniere 144.05 345 *e*PKP PKPdf 21 50 03.3 -3.5
FLN LR LR
comp=Z,90nm,22.5s,MS4.5
LDF La Druitiere 144.12 345 *e*PKP1 PKPdf 21 50 03.7 -3.3
LOR Lormes 144.14 340 *e*PKP1 PKPdf 21 50 03.6 -3.4
LOR *e*MLR MLR
comp=Z,92nm,21.0s,MS4.2
LOR Lormes 144.14 340 *e*PKP PKPdf 21 50 03.6 -3.4
LOR LR LR
comp=Z,90nm,21.0s,MS4.5
SSF Saint Saulge 144.44 340 *e*PKP1 PKPdf 21 50 04.8 -2.8
comp=Z,6.8nm,0.6s
GRR Gorron 144.50 346 *e*PKP1 PKPdf 21 50 04.6 -3.0
LPL La Plagne 144.56 335 *e*PKP1 PKPdf 21 50 06.0 -1.8
comp=Z,6.0nm,0.6s
LPG La Plagne 144.57 335 *e*PKP1 PKPdf 21 50 06.1 -1.7
comp=Z,10nm,0.6s
SMF Signal de Mont 144.69 339 *e*PKP1 PKPdf 21 50 05.6 -2.4
comp=Z,31nm,1.2s
AVF Avril sur Loir 144.73 340 *e*PKP1 PKPdf 21 50 05.7 -2.4
comp=Z,14nm,0.9s
CEL Celeste 144.78 318 *e*PKP PKPdf 21 50 07.2 -1.3
BNI Bardonecchia 144.96 335 *e*PKP PKPdf 21 50 07.9 -0.6
SGMF Saint Gilles 145.01 347 *e*PKP1 PKPbc 21 50 06.4 -1.5
comp=Z,24nm,0.6s
ROSF Rostrenen 145.08 348 *e*PKP1 PKPbc 21 50 06.4 -1.7
comp=Z,57nm,1.1s
BGF Bois d'Agland 145.10 340 *e*PKP1 PKPbc 21 50 07.1 -1.2
comp=Z,30nm,0.7s
MBDF Montbardon 145.18 334 *e*PKP1 PKPbc 21 50 07.4 -1.2
comp=Z,20nm,0.9s
PLDF La Plantade 145.35 339 PKP PKPdf 21 50 09.2 0.0
PLDF La Plantade 145.35 339 *e*P PKPbc 21 50 09.2 +0.1
ORIF Oris-en-Rattie 145.39 336 *e*PKP1 PKPbc 21 50 08.6 -0.7
comp=Z,35nm,0.8s
ORIF *e*MLR MLR
comp=Z,108nm,18.5s,MS4.3
SAOF Saorge 145.44 333 PKP PKPdf 21 50 08.7 -0.7
SAOF Saorge 145.44 333 *e*P PKPdf 21 50 08.9 -0.5
AGO Saint Agoulin 145.45 339 PKP PKPdf 21 50 09.3 0.0
AGO Saint Agoulin 145.45 339 *e*P PKPdf 21 50 09.3 0.0
QUIF Quistinic 145.46 348 *e*PKP1 PKPbc 21 50 07.6 -1.8
comp=Z,14nm,0.6s
AUTN L'Aution 145.49 333 PKP PKPdf 21 50 09.4 -0.1
AUTN L'Aution 145.49 333 *e*P PKPdf 21 50 09.4 -0.1
TCF Toulx Ste Croi 145.54 341 *e*PKP1 PKPbc 21 50 08.6 -1.1
comp=Z,29nm,1.1s
SBF Sospel 145.59 333 *e*PKP1 PKPbc 21 50 09.4 -0.5
comp=Z,42nm,0.8s
SSB Saint Sauveur 145.61 337 PKP PKPdf 21 50 09.6 0.0
SSB Saint Sauveur 145.61 337 *e*PKP PKPdf 21 50 09.6 -0.1
COLF Collangettes 145.72 338 PKP PKPdf 21 50 09.8 0.0
COLF Collangettes 145.72 338 *e*P PKPdf 21 50 09.8 0.0
PYM Petit Puy Mans 145.75 339 PKP PKPdf 21 50 10.4 +0.5
PYM Petit Puy Mans 145.75 339 *e*P PKPdf 21 50 10.4 +0.5
PGF Pioggiola 145.88 330 *e*PKP1 PKPbc 21 50 09.6 -1.3
comp=Z,28nm,0.8s
VIVF Saint-Julien-l 145.92 337 *e*PKP1 PKPbc 21 50 10.1 -0.8
MFF Saint Martin d 145.96 344 *e*PKP1 PKPbc 21 50 09.6 -1.4
comp=Z,7.0nm,0.5s
LBL Lubilhac 146.12 339 PKP PKPdf 21 50 11.6 +1.1
LBL Lubilhac 146.12 339 *e*P PKPdf 21 50 12.0 +1.5
FRF La Foret Royal 146.18 333 *e*PKP1 PKPbc 21 50 10.4 -1.3
comp=Z,24nm,0.7s
SMRF Simiane la Rot 146.29 335 *e*PKP1 PKPbc 21 50 11.4 -0.6
comp=Z,18nm,0.8s
LMR La Mourre 146.42 333 *e*PKP1 PKPbc 21 50 11.2 -1.2
comp=Z,11nm,0.5s
RJF Les Rejaudoux 146.64 341 *e*PKP1 PKPbc 21 50 12.1 -0.9
RJF *e*MLR MLR
comp=Z,89nm,20.0s,MS4.2
RJF Les Rejaudoux 146.64 341 *e*PKP PKPdf 21 50 12.1 +0.7
RJF LR LR
comp=Z,90nm,20.0s,MS4.5
CAF Calviac 146.80 340 *e*PKP1 PKPbc 21 50 12.6 -0.9
comp=Z,20nm,1.2s
LASF Ste Croix 146.89 337 *e*PKP1 PKPbc 21 50 13.0 -0.8
comp=Z,18nm,0.8s
LFF La Frestale 147.21 341 *e*PKP1 PKPbc 21 50 13.6 -1.1
comp=Z,16nm,0.6s
MTLF Montolieu 148.13 338 *e*PKP1 PKPbc 21 50 16.3 -0.9
comp=Z,20nm,0.9s
EPF Esparros 149.05 340 *e*PKP1 PKPbc 21 50 20.4 +0.8
ETSF Etsaut 149.46 341 *e*PKP1 PKPbc 21 50 20.1 -0.5
SJPF Ste Jean 149.47 342 *e*PKP1 PKPbc 21 50 19.7 -0.9
KEST Kesra 150.47 320 PKPbc PKPbc 21 50 23.1 -0.2
comp=Z,3.8nm,1.0s,baz=94,slow=1.5,SNR=8.5
ESDC Sonseca Array 153.43 343 PKPbc PKPbc 21 50 29.9 +0.1
comp=Z,0.1nm,0.3s,baz=355,slow=3.4,SNR=3.8
ESDC PKPab PKPab 21 50 42.2 +0.1
comp=Z,0.5nm,0.5s,baz=12,slow=3.8,SNR=6.9
TORD Torodi Ar. Bea 165.24 267 PKP PKPdf 21 50 35.5 -1.0
comp=Z,0.6nm,0.7s,baz=40,slow=1.0,SNR=7.3
TORD PKPab PKPab 21 51 34.2 0.0
comp=Z,1.7nm,1.0s,baz=63,slow=4.3,SNR=7.6

*NEIC **12** 21:42:40.3, 3244S×7135W, h45km, MD3.7(GUC), After GUC.*
GUC 12 21:42:40.3±0.6, 3244S×7135W, h45km±1km, MD3.7, ML2.9, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCH	**Petorca**	**0.39**	**64**	⇓*iP*		Pn	21 42 50.4 +0.5
PTCH				*i* S		Sn	21 42 58.0 +1.3
PTCH				AML		AML	21 42 58.2
	comp=N,914nm,0.1s						
ROCH	**El Roble**	**0.60**	**152**	⇓*iP*		Pn	21 42 53.2 +0.6
ROCH				*i* S		Sn	21 43 03.2 +1.9
IHA	**Instituto Hidr**	**0.64**	**203**	⇓*iP*		Pn	21 42 53.2 +0.2
IHA				*i* S		Sn	21 43 03.1 +0.9
JACH	**Jahuel**	**0.68**	**111**	⇓*iP*		Pn	21 42 54.0 +0.4
JACH				*i* S		Sn	21 43 04.5 +1.3
PEL	**Peldehue**	**0.90**	**142**	⇓*iP*		Pn	21 42 57.2 +0.7
PEL				*i* S		Sn	21 43 10.1 +1.8
PEL				AML		AML	21 43 10.6
	comp=E,877nm,0.3s						
LCCH	**Las Cruces**	**1.05**	**190**	⇓*iP*		Pn	21 42 59.1 +0.5
LCCH				*i* S		Sn	21 43 13.8 +1.7
RCDM	**Rinconada Maip**	**1.14**	**157**	*e*P		Pn	21 43 00.7 +0.9
RCDM				*i* S		Sn	21 43 16.2 +1.9
RCDM				AML		AML	21 43 23.8
	comp=N,561nm,0.1s						
RCDM	**Rinconada Maip**	**1.14**	**157**	*e*P		Pn	21 43 00.7 +0.9
RCDM				*i* S		Sn	21 43 16.2 +1.9
FCH	**Farellones**	**1.26**	**135**	⇑*iP*		Pn	21 43 02.4 +1.0
FCH				*i* S		Sn	21 43 18.8 +1.6
FCH				AML		AML	21 43 20.4
	comp=E,214nm,0.2s						
TACH	**Talagante**	**1.26**	**164**	⇑*iP*		Pn	21 43 02.3 +0.8
TACH				*i* S		Sn	21 43 18.6 +1.4
ANTU	**Antumapu**	**1.28**	**152**	⇑*iP*		Pn	21 43 02.5 +0.8
ANTU				*i* S		Sn	21 43 19.6 +1.9
ANTU				AML		AML	21 43 26.1
	comp=E,269nm,0.3s						
ANTU	**Antumapu**	**1.28**	**152**	⇑*iP*		Pn	21 43 02.5 +0.8
ANTU				*i* S		Sn	21 43 19.6 +1.9
PCH	**Pirque**	**1.37**	**150**	*e*P		Pn	21 43 03.3 +0.3
PCH				*i* S		Sn	21 43 21.8 +1.8
SJCH	**San Jose de Ma**	**1.46**	**146**	*i* S		Sn	21 43 23.8 +1.7
LNV	**Longovilo**	**1.52**	**182**	*e*P		Pn	21 43 05.8 +0.8
LNV				*i* S		Sn	21 43 24.9 +1.4
LMEL	**Las Melosas**	**1.70**	**146**	*e*P		Pn	21 43 08.8 +1.2
LMEL				*e*S		Sn	21 43 30.1 +2.1
LMEL				AML		AML	21 43 35.7
	comp=N,400nm,0.2s						
LMEL	**Las Melosas**	**1.70**	**146**	*e*P		Pn	21 43 08.8 +1.2
LMEL				*e*S		Sn	21 43 30.1 +2.1
CICH	**Cipreses**	**2.03**	**158**	*e*P		Pn	21 43 15.4 +1.3
SFDO	**San Fernando**	**2.19**	**173**	*e*P		Pn	21 43 15.3 +1.1
SFDO				*i* S		Sn	21 43 41.9 +1.8
TLL	**Tololo Astrono**	**2.31**	**12**	*e*P		Pn	21 43 17.1 +1.3
TLL				AML		AML	21 43 49.9
	comp=E,71nm,0.4s						

*NEIC **12** 21:43:33.8, 1824N×6350W, h16km, mb4.2/4, MD4.1(TRN), MD4.2(RSPR), After TRN.*
*TRN **12** 21:43:34.0, 1834N×6348W, h19km, MD4.1, M4.5(FDF), M5.1(FDF)*
*ISCJB **12** 21:43:34.8±0.6, 1835N±004×6349W±002, h17km±5km, mb4.2/15, MS3.8/5, Error ellipse: s-maj=6.4km s-min=2.7km az=22.6*
*RSPR **12** 21:43:35.1, 1850N×6331W, h20km±37km, MD4.2/13, MD4.2/13*
*IDC **12** 21:43:40.2±2.4, 1819N×6344W, h51km±26km, mb4.0/11, mb1 4.1/14, mb1mx3.8/23, mbtmp4.0/14, ML3.3/2, MS3.7/5, Ms1 3.7/5, ms1mx3.2/28, Error ellipse: s-maj=19.3km s-min=14.5km az=25.0*
ISC 12 21:43:34.7±0.6, 1834N±003×6350W±002, h5km±4km, n82, σ1⅗12/115, mb4.2/15, MS3.8/5, 17C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STMA	**St. Maarten, A**	**0.48**	**128**	⇑*eP*	**Pg**	**21 43 44.5**	**+0.6**
STMA				*e*S	**Sg**	**21 43 52.8**	**+2.6**
STMA	**St. Maarten, A**	**0.48**	**128**	⇑*eP*	**Pg**	**21 43 44.5**	**+0.6**
STMA				*e*S	**Sg**	**21 43 51.1**	**+0.9**
SMRT	**St. Maarten**	**0.50**	**125**	⇑*eP*	**Pg**	**21 43 43.8**	**-0.5**
SMRT				*e*S	**Sg**	**21 43 50.5**	**-0.4**
ABV	**Anegada**	**0.87**	**296**	⇑*eP*	**Pg**	**21 43 51.7**	**+0.2**
SEUS	**St. Eustatius**	**0.98**	**149**	⇑*eP*	**Pg**	**21 43 52.4**	**-1.1**
SEUS				*e*S	**Sg**	**21 44 05.6**	**-0.7**
TBVI	**Tortola**	**1.06**	**274**	⇓*iP*	**Pg**	**21 43 54.4**	**-0.6**
SKI	**Saint Kitts**	**1.24**	**144**	*i* P	**Pg**	**21 43 57.2**	**-1.3**
SKI				*e*S	**Sg**	**21 44 13.1**	**-1.5**
MTP	**Monte Pirata**	**1.96**	**263**	⇑*eP*	**Pn**	**21 44 07.8**	**-0.8**
MTP				*e*S	**Sn**	**21 44 32.8**	**-0.7**
BPA	**Boggy Peak**	**2.03**	**129**	*e*P	**Pn**	**21 44 09.0**	**-0.6**
BPA				*e*S	**Sn**	**21 44 33.6**	**-1.7**
BPA	**Boggy Peak**	**2.03**	**129**	*e*P	**Pn**	**21 44 09.0**	**-0.6**
BPA				*e*S	**Sn**	**21 44 33.5**	**-1.8**
CBYP	**Canovanas**	**2.24**	**269**	⇑*eP*	**Pn**	**21 44 12.2**	**-0.2**
HUMP	**Col San Antoni**	**2.24**	**265**	⇑*eP*	**Pn**	**21 44 12.1**	**-0.3**
HUMP	**Col San Antoni**	**2.24**	**265**	⇑*eP*	**Pn**	**21 44 12.9**	**+0.5**
HUMP				*e*S	**Sn**	**21 44 40.1**	**-0.2**
HUMP	**Col San Antoni**	**2.24**	**265**	⇑*eP*	**Pn**	**21 44 12.1**	**-0.3**
HUMP				*e*S	**Sn**	**21 44 40.1**	**-0.2**
CPD	**Cerro la Pandu**	**2.31**	**263**	⇑*eP*	**Pn**	**21 44 13.1**	**-0.3**
SJG	**San Juan**	**2.52**	**265**	⇓*eP*	**Pn**	**21 44 16.5**	**+0.2**
SJG				*e*S	**Sn**	**21 44 47.5**	**0.0**
LZG	**Guadaloupe-1**	**2.74**	**143**	*e*P	**Pn**	**21 44 20.8**	**+1.5**
SCG	**Saint Claude**	**2.89**	**143**	*e*P	**Pn**	**21 44 22.1**	**+0.7**
ICM	**Isla Caja Muer**	**2.90**	**262**	⇓*eP*	**Pn**	**21 44 21.8**	**+0.2**
ICM				*e*S	**Sn**	**21 44 56.6**	**-0.2**
HMG	**Houelmont**	**2.91**	**143**	*e*P	**Pn**	**21 44 23.4**	**+1.8**
CELP	**Cerrillos**	**2.94**	**265**	⇑*eP*	**Pn**	**21 44 22.3**	**+0.3**
OBIP	**Obispado Ponce**	**2.96**	**265**	⇑*eP*	**Pn**	**21 44 22.7**	**+0.3**
OBIP				*e*S	**Sn**	**21 44 58.4**	**+0.1**
TBG	**Guadaloupe-3**	**3.05**	**144**	*e*P	**Pn**	**21 44 25.3**	**+1.8**
AOPR	**Arecibo Observ**	**3.09**	**271**	⇓*eP*	**Pn**	**21 44 23.9**	**-0.2**
AOPR				*e*S	**Sn**	**21 45 01.3**	**0.0**
DEG	**La Desirade**	**3.09**	**130**	*e*P	**Pn**	**21 44 23.2**	**-0.8**
DEG				*e*S	**Sn**	**21 44 58.9**	**-2.4**
LRS	**Lares**	**3.17**	**270**	⇓*eP*	**Pn**	**21 44 24.8**	**-0.5**
LRS				*e*S	**Sn**	**21 45 04.0**	**+0.5**
LRS	**Lares**	**3.17**	**270**	⇓*eP*	**Pn**	**21 44 24.8**	**-0.5**
LRS				*e*S	**Sn**	**21 45 04.0**	**+0.5**
LRS				*e*S	**Sn**	**21 45 04.2**	**+0.7**
LRS	**Lares**	**3.17**	**270**	⇓*eP*	**Pn**	**21 44 24.8**	**-0.5**
LRS				*e*S	**Sn**	**21 45 04.0**	**+0.5**
LRS				*e*S	**Sn**	**21 45 04.2**	**+0.7**
MGG	**Marie-Galante**	**3.19**	**139**	*e*P	**Pn**	**21 44 25.6**	**+0.1**
GBPR	**Guanica, Bosqu**	**3.23**	**264**	⇑*eP*	**Pn**	**21 44 26.4**	**+0.4**
GBPR				*e*S	**Sn**	**21 45 03.3**	**+0.5**
GBPR				*e*S	**Sn**	**21 45 08.3**	**+3.5**
LSP	**Las Mesas**	**3.41**	**268**	⇑*eP*	**Pn**	**21 44 28.6**	**+0.1**
LSP				*e*S	**Sn**	**21 45 08.3**	**-0.9**
AGPR	**Aguadilla, PR**	**3.43**	**273**	⇓*eP*	**Pn**	**21 44 27.9**	**-0.8**
AGPR				*e*S	**Sn**	**21 45 08.2**	**-1.6**
AGPR				*e*S	**Sn**	**21 45 08.2**	**-1.6**
CRPR	**Cabo Rojo, PR**	**3.44**	**265**	⇑*eP*	**Pn**	**21 44 29.5**	**+0.6**
CRPR				*e*S	**Sn**	**21 45 09.4**	**-0.8**
CRPR				*e*S	**Sn**	**21 45 09.4**	**-0.8**
CRPR	**Cabo Rojo, PR**	**3.44**	**265**	⇑*eP*	**Pn**	**21 44 29.5**	**+0.6**
CRPR				*e*S	**Sn**	**21 45 09.4**	**-0.8**
DWS	**Wesley**	**3.47**	**142**	*e*P	**Pn**	**21 44 29.5**	**+0.2**
DWS				*e*S	**Sn**	**21 45 08.3**	**-2.4**
DWS	**Wesley**	**3.47**	**142**	*e*P	**Pn**	**21 44 29.5**	**+0.2**
DWS				*e*S	**Sn**	**21 45 07.7**	**-3.1**
FDF	**Fort de France**	**4.24**	**147**	*e*P	**Pn**	**21 44 42.3**	**+2.3**
FDF				*e*S	**Sn**	**21 45 30.1**	**+0.3**
FDF	**Fort de France**	**4.24**	**147**	*e*Pn	**Pn**	**21 44 42.4**	**+2.5**
MVM	**Montagne Vaucl**	**4.52**	**146**	*e*P	**Pn**	**21 44 46.0**	**+2.2**
MVM				*e*S	**Sn**	**21 45 36.9**	**+0.1**
SVB	**Belmont**	**5.49**	**156**	*e*P	**Pb**	**21 45 07.7**	**-3.4**
SVB				*e*S	**Sn**	**21 46 05.3**	**+4.7**
GRW	**Mount Saint Ca**	**6.40**	**164**	*e*P	**Pn**	**21 45 12.6**	**+3.0**
TOSP	**Speyside**	**7.57**	**157**	*e*P	**Pn**	**21 45 32.5**	**+6.8**
TOSP				*e*S	**Sn**	**21 46 38.1**	**-14**
TPR	**Prospect**	**7.59**	**159**	*e*P	**Pn**	**21 45 27.1**	**+1.1**
TPR	**Prospect**	**7.59**	**159**	*e*P	**Pn**	**21 45 27.1**	**+1.2**
TCE	**Chacachacare**	**7.79**	**167**	*e*	**Pb**	**21 45 46.6**	**-3.6**
TCE	**Chacachacare**	**7.79**	**167**	*e*	**Pg**	**21 45 59.3**	**-4.7**
TRN	**Trinidad (W)**	**7.92**	**165**	*e*P	**Pn**	**21 45 31.1**	**+0.7**
TRN	**Trinidad (W)**	**7.92**	**165**	*e*P	**Pn**	**21 45 33.3**	**+2.8**
TBH	**Brigand Hill**	**8.16**	**163**	*e*	**Pn**	**21 45 41.2**	**+7.4**
PCRV	**Puerto La Cruz**	**8.19**	**188**	P	**Pn**	**21 45 35.6**	**+1.4**
	0.3nm,0.3s,baz=16,slow=18,SNR=2.3						
SDV	**Santo Domingo**	**11.68**	**217**	P	**Pn**	**21 46 24.1**	**+2.1**
	baz=6.7,slow=17,SNR=2.8						
SDV				S	**Sn**	**21 48 25.9**	**-6.9**
	0.5nm,0.3s,baz=5.9,slow=19,SNR=2.1						
SDV	**Santo Domingo**	**11.68**	**217**	*e*Pn	**Pn**	**21 46 23.3**	**+1.3**
	10.0nm,0.9s						
SDV				*e*Sn	**Sn**	**21 48 34.6**	**+1.8**
ROSC	**El Rosal**	**17.08**	**220**	P	**Pn**	**21 47 33.3**	**-1.0**
	2.7nm,0.3s,baz=97,slow=14,SNR=3.0						
ROSC	**El Rosal**	**17.08**	**220**	*e*Pn	**Pn**	**21 47 35.0**	**+0.7**
ROSC				Sn	**Sn**	**21 50 50.0**	**+5.3**
COW	**Cow Castle Cre**	**21.48**	**318**	*e*P	**P**	**21 48 20.8**	**-3.4**
COW				*e*S	**S**	**21 52 20.6**	**-2.3**
OTAV	**Otavalo**	**23.23**	**221**	*e*P	**P**	**21 48 43.7**	**+0.8**
	30nm,1.3s,mb4.6						
TKL	**Tuckaleechee C**	**24.89**	**318**	LR	LR	21 58 44.0	
	comp=Z,95nm,18.2s,MS3.3,baz=295,slow=36						
CPCT	**Cooper Cave**	**25.24**	**317**	P	**P**	**21 49 02.3**	**+0.7**
SIV	**San Ignacio**	**34.20**	**176**	P	**P**	**21 50 18.3**	**-3.0**
	1.2nm,0.7s,mb4.0,baz=21,slow=12,SNR=4.4						
LPAZ	**La Paz**	**34.71**	**188**	P	**P**	**21 50 24.5**	**-1.2**
	0.7nm,0.5s,mb3.8,baz=342,slow=6.3,SNR=1.9						
LPAZ	**La Paz**	**34.71**	**188**	*e*P	**P**	**21 50 25.6**	**-0.1**
SCHQ	**Schefferville**	**36.51**	**357**	P	**P**	**21 50 41.0**	**+0.2**
	5.6nm,0.9s,mb4.4,baz=116,slow=6.3,SNR=4.2						
BDFB	**Brasilia**	**37.06**	**155**	LR	LR	22 06 12.6	
	comp=Z,62nm,19.5s,MS3.4,baz=243,slow=37						
ECSD	**EROS,Sioux Fal**	**37.61**	**320**	*e*P	**P**	**21 50 51.0**	**+0.7**
	6.9nm,0.9s,mb4.4						
ULM	**Lac du Bonnet**	**40.99**	**328**	P	**P**	**21 51 18.7**	**+0.3**
	3.4nm,0.6s,mb4.2,baz=131,slow=5.9,SNR=6.3						
ULM	**Lac du Bonnet**	**40.99**	**328**	P	**P**	**21 51 18.7**	**+0.3**
BNM	**Barren Site**	**41.43**	**301**	P	**P**	**21 51 26.2**	**+3.9**
ANMO	**Albuquerque**	**41.46**	**302**	*e*P	**P**	**21 51 21.7**	**-0.8**
	2.8nm,1.1s,mb3.8						
TUC	**Tucson**	**44.60**	**298**	*e*P	**P**	**21 51 49.8**	**+1.8**
	2.9nm,1.3s,mb4.0						
PDAR	**Pinedale Array**	**45.81**	**312**	P	**P**	**21 51 58.8**	**+1.3**
	3.1nm,0.9s,mb4.3,baz=111,slow=11,SNR=10						
DUG	**Dugway**	**47.51**	**308**	P	**P**	**21 52 09.3**	**-1.5**
BGU	**Big Grassy Mou**	**47.83**	**309**	*e*P	**P**	**21 52 12.6**	**-0.8**
YKA	**Yellowknife Ar**	**56.36**	**334**	P	**P**	**21 53 16.3**	**-0.1**
	1.4nm,0.6s,mb4.2,baz=109,slow=7.1,SNR=4.2						
YKA	**Yellowknife Ar**	**56.36**	**334**	P	**P**	**21 53 16.3**	**-0.1**
DBIC	**Dimbokro**	**58.20**	**94**	P	**P**	**21 53 28.2**	**-2.1**
	5.4nm,0.9s,mb4.6,baz=276,slow=9.9,SNR=3.5						
EKA	**Eskdalemuir Ar**	**58.32**	**36**	P	**P**	**21 53 30.9**	**+0.5**
	3.6nm,0.9s,mb4.4,baz=273,slow=7.2,SNR=6.1						
PLCA	**Paso Flores**	**59.13**	**186**	LR	LR	22 19 53.6	
	comp=Z,88nm,18.8s,MS3.9,baz=105,slow=37						
TORD	**Torodi Ar. Bea**	**62.69**	**84**	P	**P**	**21 54 00.1**	**-0.8**
	1.6nm,0.9s,mb4.1,baz=291,slow=6.9,SNR=5.6						
TORD				LR	LR	22 18 46.2	
	comp=Z,112nm,19.9s,MS4.0,baz=150,slow=34						
NB2	**NORSAR Subarra**	**66.73**	**31**	P	**P**	**21 54 27.8**	**+1.3**
	comp=Z,1.3nm,0.8s,mb4.0,baz=266,slow=6.5						
NOA	**NORSAR Array B**	**66.73**	**31**	P	**P**	**21 54 27.8**	**+1.2**
	comp=Z,2.8nm,0.9s,mb4.3,baz=266,slow=6.4,SNR=8.9						
ARCES	**ARCESS Array B**	**72.63**	**22**	P	**P**	**21 55 03.1**	**+0.3**
	comp=Z,5.2nm,0.9s,mb4.5,baz=320,slow=6.5,SNR=7.4						
AKTO	**Aktyubinsk**	**94.42**	**33**	LR	LR	22 33 52.0	
	comp=Z,62nm,20.8s,MS4.0,baz=337,slow=32						

IDC 12 21:45:16.2±4.8, 1776S×17478W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=174.7km s-min=93.4km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.74**	**242**	P	P	21 53 07.8	+0.6
	1.8nm,0.8s,baz=97,slow=12,SNR=5.5						
WRA	**Warramunga Arr**	**48.06**	**259**	P	P	21 53 57.5	-0.3
	0.4nm,0.3s,baz=98,slow=6.7,SNR=32						
WRA				PcP	PcP	21 55 25.7	-0.1
	0.3nm,0.9s,baz=91,slow=3.5,SNR=3.9						
ASAR	**Alice Springs**	**48.16**	**254**	P	P	21 53 58.0	-0.4
	0.9nm,0.6s,baz=88,slow=8.4,SNR=14						

*IDC **12** 21:54:19.8±0.7, 029N×9769E, h0km, mb4.4/14, mb1 4.5/16, mb1mx4.3/23, mbtmp4.4/16, ML4.2/2, MS3.8/7, Ms1 3.8/7, ms1mx3.5/32, Error ellipse: s-maj=24.9km s-min=14.0km az=64.0*
*BJI **12** 21:54:20.0, 0.16S×9750E, h39km, mB5.0, mb4.7, Ms4.5, Msz4.3*
*ISCJB **12** 21:54:20.9±1.4, 025N±004×9761E±005, h22km±9km, mb4.7/54, MS4.1/13, Error ellipse: s-maj=8.6km s-min=6.0km az=139.5*
*NEIC **12** 21:54:21.7±4.4, 027N×9770E, h13km±26km, mb4.6/17, Error ellipse: s-maj=12.0km s-min=5.0km az=55.0*
*DJA **12** 21:54:22, 020N×9745E, h30km, ML4.8/5*
*MOS **12** 21:54:22.8±0.9, 033N×9775E, h33km, mb4.9/17, Error ellipse: s-maj=12.8km s-min=6.9km az=96.0*
ISC 12 21:54:22.8±1.3, 024N±004×9760E±004, h21km±9km, h36km±.6km: pP-P, n130, σ1⅗02/131, mb4.7/54, MS4.1/13, 7C-19D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRSI	**Tarutung**	**2.24**	**37**	P	**Pn**	**21 54 58.2**	**-0.5**
	0.0nm,0.0s						
PSI	**Prapat**	**2.87**	**27**	Pn	**Pn**	**21 55 05.9**	**-1.5**
	9.0nm,0.3s,baz=189,slow=8.2,SNR=67						
PSI				LR	LR	21 55 57.4	
	comp=Z,793nm,20.3s,baz=138,slow=36						
PSI	**Prapat**	**2.87**	**27**	⇑*eP*	**Pn**	**21 55 05.9**	**-1.5**
PSI	**Prapat**	**2.87**	**27**	Pn	**Pn**	**21 55 05.9**	**-1.5**
PSI				LR	LR	21 55

MBWA	**Marble Bar**	**30.33**	**136**	*e*P		**P**	**22 00 32.4**	**-0.7**
	comp=Z,9.1nm,1.2s,mb4.4							
CD2	**Chengdu**	**31.06**	**10**	*e*P		**P**	**22 00 42.0**	**+2.5**
CD2				XP		sP	22 00 55.0	+6.6
CD2				PP		PP	22 01 46.1	-3.7
CD2				S		**S**	**22 05 46.3**	**+2.6**
CD2				SS		SS	22 07 34.5	-22
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
CD2				AMB		AMB		
	comp=Z,20nm,4.8s							
CD2				LR		LR		
	comp=N,180nm,12.8s							
CD2				LR		LR		
	comp=Z,150nm,14.8s,MS3.8							
FITZ	**Fitzroy Crossi**	**33.05**	**125**	*e*P		**P**	**22 00 56.0**	**-1.1**
	comp=Z,8.8nm,0.8s,mb4.7							
FITZ	**Fitzroy Crossi**	**33.05**	**125**	P		**P**	**22 00 55.9**	**-1.2**
	comp=Z,5.4nm,0.8s,mb4.5,baz=291,slow=3.2,SNR=17							
YHNB	**Yeheng**	**33.46**	**42**	P		**P**	**22 00 59.5**	**-1.2**
WHN	**Wuhan**	**34.09**	**26**	⇓P		**P**	**22 01 05.8**	**-0.2**
WHN				AMB		AMB		
	comp=Z,83nm,1.3s,mb5.5							
WHN				LR		LR		
	comp=Z,788nm,17.0s,MS4.5							
XAN	**Xi'an**	**35.26**	**16**	P		**P**	**22 01 14.7**	**-1.4**
XAN				AP		pP	22 01 25.0	+2.5
XAN				AMB		AMB		
	comp=Z,42nm,1.0s,mb5.3							
XAN				AMB		AMB		
	comp=Z,106nm,7.3s							
LZH	**Lanzhou**	**36.14**	**9**	*e*P		**P**	**22 01 24.0**	**+0.4**
LZH				AP		pP	22 01 34.5	+4.5
LZH				XP		sP	22 01 39.0	+6.4
LZH				PP		PP	22 02 50.0	+4.0
LZH				*e*S		**S**	**22 07 02.1**	**-0.1**
LZH				XS		sS	22 07 19.7	+6.9
LZH				SS		SS	22 09 29.1	-11
LZH				AMB		AMB		
	comp=Z,26nm,1.4s,mb5.0							
LZH				LR		LR		
	comp=N,1μm,13.8s							
LZH				LR		LR		
	comp=Z,2μm,15.3s,MS4.9							
GTA	**Gaotai**	**39.04**	**3**	*e*P		**P**	**22 01 48.1**	**0.0**
GTA				AP		pP	22 01 57.7	+3.2
GTA				XP		sP	22 02 01.8	+4.7
GTA				AMB		AMB		
	comp=Z,6.0nm,1.4s,mb4.1							
GTA				AMB		AMB		
	comp=Z,105nm,6.2s							
GTA				LR		LR		
	comp=N,140nm,14.4s,MS4.0							
GTA				LR		LR		
	comp=E,133nm,17.2s,MS4.0							
GTA				LR		LR		
	comp=Z,187nm,15.5s,MS4.0							
WRA	**Warramunga Arr**	**41.19**	**121**	P		**P**	**22 02 05.3**	**-1.0**
	comp=Z,7.3nm,0.7s,mb4.4,baz=302,slow=9.0,SNR=98							
WRAB	**Tennant Creek**	**41.20**	**121**	*e*P		**P**	**22 02 04.9**	**-1.4**
WRAB	**Tennant Creek**	**41.20**	**121**	*e*P		**P**	**22 02 05.7**	**-0.6**
	comp=Z,9.2nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**41.20**	**121**	⇓*i*P		**P**	**22 02 05.6**	**-0.8**
HHC	**Hu-ho-hao-te**	**42.37**	**16**	*e*P		**P**	**22 02 16.4**	**+0.8**
HHC				AP		pP	22 02 26.3	+4.3
HHC				XP		sP	22 02 30.2	+5.6
HHC				PP		PP	22 03 58.2	+4.2
HHC				PCP		PcP	22 04 08.2	-0.6
HHC				SCP		ScP	22 07 54.6	-3.9
HHC				PCS		PcS	22 07 59.5	-1.1
HHC				S		**S**	**22 08 36.4**	**+0.6**
HHC				XS		sS	22 08 52.8	+6.4
HHC				SS		SS	22 11 40.8	-4.3
HHC				SCS		ScS	22 12 13.2	-3.3
HHC				AMB		AMB		
	comp=Z,13nm,1.2s,mb4.4							
HHC				AMB		AMB		
	comp=Z,52nm,7.4s							
HHC				LR		LR		
	comp=N,236nm,14.5s,MS4.3							
HHC				LR		LR		
	comp=E,235nm,16.5s,MS4.3							
HHC				LR		LR		
	comp=Z,216nm,17.0s,MS4.1							
ASAR	**Alice Springs**	**42.50**	**127**	P		**P**	**22 02 16.9**	**0.0**
	comp=Z,5.6nm,0.7s,mb4.4,baz=298,slow=7.8,SNR=64							
BJT	**Baijiatuau**	**43.06**	**21**	*e*P		**P**	**22 02 22.1**	**+0.9**
BJI	**Beijing**	**43.09**	**21**	P		**P**	**22 02 21.9**	**+0.5**
BJI				AMB		AMB		
	comp=Z,27nm,0.8s,mb5.0							
WMQ	**Urumqi**	**44.29**	**350**	P		**P**	**22 02 31.4**	**+0.4**
WMQ				AP		pP	22 02 41.3	+3.8
WMQ				XP		sP	22 02 45.2	+5.1
WMQ				PP		PP	22 04 16.1	+1.6
WMQ				AMB		AMB		
	comp=Z,9.0nm,0.9s,mb4.5							
KSRS	**Korea Array**	**46.42**	**34**	P		**P**	**22 02 47.4**	**-0.6**
	comp=Z,12nm,0.9s,mb4.8,baz=220,slow=9.1,SNR=28							
TKM2	**Tokmak 2**	**46.85**	**338**	*e*P		**P**	**22 02 52.6**	**+1.2**
TKM2				*e*			22 04 23.9	
TKM2				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
TKM2	**Tokmak 2**	**46.85**	**338**	*e*P		**P**	**22 02 52.6**	**+1.3**
	comp=Z,4.9nm,1.0s,mb4.4							
TKM2				*e*PcP		PcP	22 04 23.9	-0.2
AML	**Almayashu**	**46.94**	**336**	*e*P		**P**	**22 02 53.7**	**+1.6**
	comp=Z,4.6nm,1.1s,mb4.3							
EKS2	**Erkin-Say**	**47.35**	**336**	*e*P		**P**	**22 02 55.0**	**-0.2**
	comp=Z,3.4nm,0.9s,mb4.3							
SONM	**Songino Array**	**48.02**	**8**	P		**P**	**22 03 01.0**	**+0.7**
	comp=Z,9.5nm,0.8s,mb4.9,baz=188,slow=9.4,SNR=55							
SONM				PcP		PcP	22 04 28.9	+0.7
	comp=Z,1.6nm,0.7s,baz=212,slow=3.0,SNR=2.7							
SONM				LR		LR	22 25 33.4	
	comp=Z,194nm,19.9s,MS4.1,baz=291,slow=39							
SONM	**Songino Array**	**48.02**	**8**	P		**P**	**22 03 01.0**	**+0.7**
SONM							22 04 28.9	
MK31	**Makanchi Array**	**48.27**	**346**	*e*P		**P**	**22 03 02.1**	**-0.2**
MKAR	**Makanchi Array**	**48.27**	**346**	P		**P**	**22 03 02.8**	**+0.5**
	comp=Z,10nm,0.8s,mb4.9,baz=155,slow=7.9,SNR=78							
MKAR				LR		LR	22 25 21.0	
	comp=Z,64nm,20.8s,MS3.6,baz=284,slow=39							
CN2	**Changchun**	**49.98**	**26**	*e*P		**P**	**22 03 13.8**	**-1.7**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.8							
PMG	**Port Moresby**	**50.26**	**102**	*e*P		**P**	**22 03 17.6**	**-0.5**
PMG	**Port Moresby**	**50.26**	**102**	*e*P		**P**	**22 03 17.7**	**-0.3**
	comp=Z,24nm,0.7s,mb5.3							
HVS	**Khovu-Aksy**	**50.82**	**357**	*e*P		**P**	**22 03 20.9**	**-0.8**
HVS				pmax		pmax		
	comp=Z,35nm,1.4s,mb5.1							
TLY	**Talaya**	**51.51**	**5**	*e*P		**P**	**22 03 27.8**	**+1.0**
TLY				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
TLY	**Talaya**	**51.51**	**5**	*e*P		**P**	**22 03 27.8**	**+1.0**
	comp=Z,6.0nm,0.8s,mb4.6							
MAJO	**Matsushiro**	**52.14**	**42**	*e*P		**P**	**22 03 31.1**	**-0.7**
MAT	**Matsushiro**	**52.14**	**42**	P		**P**	**22 03 30.3**	**-1.5**
MAT				*e*S		**S**	**22 10 53.0**	**-2.1**
MJAR	**Matsushiro Arr**	**52.14**	**42**	P		**P**	**22 03 30.6**	**-1.2**
	comp=Z,2.7nm,0.9s,mb4.2,baz=216,slow=6.3,SNR=11							
STKA	**Stephens Creek**	**52.42**	**132**	P		**P**	**22 03 35.5**	**+1.4**
	comp=Z,1.9nm,0.7s,mb4.1,baz=302,slow=7.5,SNR=4.1							
STKA				LR		LR	22 28 04.3	
	comp=Z,162nm,18.4s,MS4.1,baz=209,slow=39							
STKA	**Stephens Creek**	**52.42**	**132**	*e*P		**P**	**22 03 35.4**	**+1.4**
	comp=Z,5.9nm,0.9s,mb4.5							
HIA	**Hailar**	**52.42**	**18**	*e*P		**P**	**22 03 33.0**	**-0.7**
HIA	**Hailar**	**52.42**	**18**	*e*P		**P**	**22 03 34.2**	**+0.5**
	comp=Z,9.1nm,0.7s,mb4.8							
KURK	**Kurchatov**	**52.82**	**345**	*e*P		**P**	**22 03 36.8**	**+0.2**
KURK				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.8							
KURK	**Kurchatov**	**52.82**	**345**	*e*P		**P**	**22 03 36.9**	**+0.4**
	comp=Z,11nm,0.9s,mb4.8							
ZAL	**Zalesovo**	**54.56**	**351**	P		**P**	**22 03 49.6**	**+0.3**
ZAA0	**Zalesovo Array**	**54.57**	**351**	*e*P		**P**	**22 03 49.6**	**+0.3**
ZALV	**Zalesovo Beam**	**54.57**	**351**	P		**P**	**22 03 49.6**	**+0.3**
	comp=Z,22nm,0.7s,mb5.3,baz=178,slow=6.2,SNR=90							
PAF	**Port-aux-Franc**	**54.72**	**202**	P		**P**	**22 03 47.4**	**-3.1**
RDF	**Al-Radifah**	**55.60**	**305**	*e*P		**P**	**22 03 57.5**	**+0.2**
	baz=305							
RDF				AMb		AMB	22 04 00.0	
	comp=Z,31nm,1.1s,mb5.2,baz=305							
NVS	**Novosibirsk**	**55.69**	**350**	*e*P		**P**	**22 03 56.2**	**-1.2**
NVS				pmax		pmax		
	comp=Z,14nm,1.0s,mb5.0							
NVS				pmax		pmax		
	comp=N,10.0nm,1.1s							
NVS				pmax		pmax		
	comp=E,7.0nm,1.2s							
KRAR	**Krasnoyarsk**	**55.73**	**357**	*e*P		**P**	**22 03 57.8**	**+0.1**
KRAR				pmax		pmax		
	comp=Z,26nm,1.1s,mb5.2							
NAY	**Al-Naaiem**	**55.98**	**306**	*e*P		**P**	**22 03 59.4**	**-0.6**
	baz=306							
NAY				AMb		AMB	22 04 01.7	
	comp=Z,7.0nm,0.9s,mb4.7,baz=306							
MIB	**Mutribah**	**56.10**	**306**	*e*P		**P**	**22 04 01.1**	**+0.2**
	baz=306							
MIB				AMb		AMB	22 04 03.4	
	comp=Z,29nm,0.8s,mb5.4,baz=306							
RST	**Umm Al-Ruwaisa**	**56.27**	**306**	*e*P		**P**	**22 04 02.1**	**0.0**
	baz=306							
RST				AMb		AMB	22 04 04.0	
	comp=Z,0.4nm,0.8s,baz=306							
BRVK	**Borovoye**	**57.35**	**341**	*e*P		**P**	**22 04 08.9**	**-0.4**
BRVK				*e*			22 04 18.1	
BRVK				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.5							
BRVK	**Borovoye**	**57.35**	**341**	*e*P		**P**	**22 04 08.9**	**-0.3**
	comp=Z,5.3nm,1.0s,mb4.5							
BRVK				*e*			22 04 18.1	
BOD	**Bodaibo**	**58.88**	**10**	*e*P		**P**	**22 04 19.2**	**-0.7**
BOD				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.8							
YSS	**Yuzh-Sakhalins**	**60.92**	**34**	*e*P		**P**	**22 04 34.1**	**0.0**
YSS				pmax		pmax		
	comp=Z,28nm,1.1s,mb5.3							
YSS	**Yuzh-Sakhalins**	**60.92**	**34**	*e*P		**P**	**22 04 34.2**	**+0.1**
	comp=Z,21nm,0.8s,mb5.3							
TAU	**Tasmania Unive**	**61.82**	**141**	P		**P**	**22 04 39.4**	**-0.9**
HNR	**Honiara**	**62.79**	**101**	*e*P		**P**	**22 04 46.6**	**-0.8**
HNR				pmax		pmax		
	comp=Z,102nm,0.9s							
HNR	**Honiara**	**62.79**	**101**	*e*P		**P**	**22 04 46.6**	**-0.8**
	comp=Z,102nm,0.9s							
SVE	**Sverdlovsk**	**63.72**	**338**	*e*P		**P**	**22 04 52.3**	**-0.4**
SVE				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.8							
ARU	**Arti**	**64.22**	**337**	*d i*P		**P**	**22 04 54.3**	**-1.7**
ARU				*e*			22 07 13.8	
ARU				*e*PPP			22 08 48.2	
ARU				*e*S		**S**	**22 13 30.3**	**-1.9**
ARU				pmax		pmax		
	comp=Z,7.0nm,1.5s,mb4.5							
ARU	**Arti**	**64.22**	**337**	*e*P		**P**	**22 04 55.6**	**-0.4**
KIV	**Kislovodsk**	**65.29**	**319**	*e*P		**P**	**22 05 03.8**	**+0.5**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.7							
MALT	**Malatya**	**66.07**	**312**	*e*P		**P**	**22 05 08.9**	**+0.5**
MALT				pmax		pmax		
	comp=Z,4.0nm,1.3s,mb4.3							
MALT	**Malatya**	**66.07**	**312**	*e*P		**P**	**22 05 08.9**	**+0.5**
	comp=Z,3.8nm,1.3s,mb4.3							
YAK	**Yakutsk**	**66.23**	**16**	*e*P		**P**	**22 05 07.0**	**-1.9**
YAK				pmax		pmax		
	comp=Z,28nm,1.0s,mb5.2							
YAK				pmax		pmax		
	comp=N,6.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,3.0nm,0.8s							
YAK	**Yakutsk**	**66.23**	**16**	*e*P		**P**	**22 05 08.2**	**-0.7**
	comp=E,30nm,0.7s,mb5.4							
MAW	**Mawson**	**71.87**	**193**	P		**P**	**22 05 45.6**	**+1.7**
	comp=E,2.4nm,1.0s,mb4.1,baz=16,slow=8.6,SNR=5.1							
MAW				LR		LR	22 34 55.0	
	comp=E,90nm,18.6s,MS4.1,baz=248,slow=34							
PETK	**Petropavlovsk-**	**72.32**	**33**	LR		LR	22 39 05.3	
	comp=E,48nm,19.8s,MS3.8,baz=131,slow=37							
OBN	**Obninsk**	**73.64**	**328**	⇓*e*P		**P**	**22 05 54.6**	**0.0**
OBN				*e*			22 16 14.3	
OBN				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.5							
TIXI	**Tiksi**	**74.06**	**10**	*e*P		**P**	**22 05 56.1**	**-0.7**
TIXI				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.7							
SEY	**Seymchan**	**74.49**	**23**	*e*P		**P**	**22 05 58.6**	**-0.8**
AKASG	**Malin Array Be**	**76.26**	**323**	P		**P**	**22 06 09.3**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=93,slow=3.8,SNR=11							
AKASG	**Malin Array Be**	**76.26**	**323**	P		**P**	**22 06 09.3**	**-0.5**
MLR	**Muntele Rosu**	**77.04**	**317**	⇑*i*P		**P**	**22 06 15.4**	**+1.0**
MLR	**Muntele Rosu**	**77.04**	**317**	⇑P		**P**	**22 06 15.4**	**+1.0**
BURAR	**Bucovina Array**	**78.01**	**319**	⇓*i*P		**P**	**22 06 20.7**	**+1.0**
BURAR	**Bucovina Array**	**78.01**	**319**	⇓P		**P**	**22 06 20.7**	**+1.0**
JOF	**Joensuu**	**79.18**	**335**	*ep*		**P**	**22 06 19.1**	**-6.8**
	comp=Z,3.1nm,0.8s,mb4.3							
JOF	**Joensuu**	**79.18**	**335**	*e*P		**P**	**22 06 19.1**	**-6.8**
JOF				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
DRGR		**79.51**	**318**	⇓*i*P		**P**	**22 06 20.8**	**-7.2**
DRGR		**79.51**	**318**	⇓P		**P**	**22 06 20.8**	**-7.2**
BZS	**Buzias**	**80.04**	**316**	⇓*i*P		**P**	**22 06 31.4**	**+0.5**
KAF	**Kangasniemi**	**81.12**	**333**	*ep*		**P**	**22 06 32.9**	**-3.4**
	comp=Z,3.5nm,0.8s,mb4.3							
KAF	**Kangasniemi**	**81.12**	**333**	*e*P		**P**	**22 06 32.9**	**-3.4**
KAF				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
ARCES	**ARCESS Array B**	**83.57**	**340**	P		**P**	**22 06 48.4**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.4,baz=85,slow=4.0,SNR=5.5							
ARCES	**ARCESS Array B**	**83.57**	**340**	P		**P**	**22 06 48.4**	**-0.6**
GERES	**GERESS Array B**	**85.80**	**319**	P		**P**	**22 07 01.6**	**+0.9**
	comp=Z,0.6nm,0.8s,mb3.9,baz=90,slow=4.0,SNR=6.8							
NOA	**NORSAR Array B**	**88.04**	**331**	P		**P**	**22 07 11.4**	**+0.1**
	comp=Z,0.9nm,0.9s,mb4.0,baz=97,slow=4.8,SNR=3.2							
TOA0	**Torodi Ar. Sit**	**95.70**	**283**	P		**P**	**22 07 48.6**	**+0.7**
COLA	**College**	**100.00**	**23**	*e*P		Pdif	22 08 04.9	-1.5
MIAR	**Mount Ida**	**143.85**	**16**	PKIKP		PKPdf	22 13 54.9	-2.2
CPUP	**Villa Florida**	**144.55**	**221**	PKP		PKPdf	22 13 59.0	+0.4
	comp=Z,0.3nm,0.4s,baz=145,slow=13,SNR=3.5							
CPUP	**Villa Florida**	**144.55**	**221**	*e*PKPdf		PKPdf	22 13 58.9	+0.3
CPUP				PKP		PKPdf	22 13 59.0	+0.4
JCT	**Junction City**	**145.26**	**27**	*e*PKIKP		PKPdf	22 13 59.0	-0.7

*IDC **12** 21:58:15.0±1.5, 022N×9771E, h0km, mb4.2/7, mb1 4.2/9, mb1mx3.9/22, mbtmp4.1/9, ML3.9/2, Error ellipse: s-maj=44.1km s-min=18.9km az=63.0*
*ISCJB **12** 21:58:18.5±2.6, 030N±009×978E±01, h38km±21km, mb4.3/16, Error ellipse: s-maj=23.0km s-min=8.8km az=146.2*
*NEIC **12** 21:58:18.3±3.8, 023N×9769E, h24km±26km, mb4.3/9, Error ellipse: s-maj=13.2km s-min=4.6km az=56.0*
*MOS **12** 21:58:18.0±0.5, 031N×9779E, h33km, mb4.5/6, Error ellipse: s-maj=18.5km s-min=9.8km az=105.7*

ISC 12 21:58:16.5±8.0, 025N±009×977E±01, h10km±48km, n42, σ0§45/42, mb4.3/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.79**	**25**	Pn	**Pn**	**21 59 01.7**	**+0.4**
	4.6nm,0.3s,baz=170,slow=11,SNR=6.8						
PSI	**Prapat**	**2.79**	**25**	Pn	**Pn**	**21 59 01.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**18.13**	**4**	P	**Pn**	**22 02 28.4**	**-0.1**
	0.5nm,0.3s,baz=193,slow=11,SNR=12						
CHTO	**Chiang Mai**	**18.48**	**4**	*e*P	**Pn**	**22 02 31.9**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHTO	**Chiang Mai**	**18.48**	**4**	*e*P	**Pn**	**22 02 31.9**	**-1.0**
	comp=Z,1.8nm,0.6s						
KKM	**Kota Kinabalu**	**19.32**	**72**	*e*P	**Pn**	**22 02 43.6**	**+0.5**
LSA	**Lhasa**	**29.95**	**348**	*e*P	**P**	**22 04 25.8**	**+0.8**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
LSA	**Lhasa**	**29.95**	**348**	*e*P	**P**	**22 04 25.8**	**+0.8**
	comp=Z,3.2nm,0.7s,mb4.2						
MBWA	**Marble Bar**	**30.25**	**136**	P	**P**	**22 04 27.7**	**0.0**
ENH	**Enshi**	**31.88**	**19**	P	**P**	**22 04 42.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**32.95**	**125**	*e*P	**P**	**22 04 51.6**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.3						
NWAO	**Narrogin (SRO)**	**37.78**	**153**	*e*P	**P**	**22 05 32.4**	**-0.5**
WRA	**Warramunga Arr**	**41.09**	**121**	P	**P**	**22 06 00.6**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.0,baz=302,slow=9.0,SNR=17						
WRAB	**Tennant Creek**	**41.09**	**121**	*e*P	**P**	**22 06 01.0**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
WRAB	**Tennant Creek**	**41.09**	**121**	*e*P	**P**	**22 06 01.0**	**+0.2**
	comp=Z,2.2nm,0.5s,mb4.0						
WB2	**Warramunga Arr**	**41.10**	**121**	*e*P	**P**	**22 06 00.6**	**-0.3**
ASAR	**Alice Springs**	**42.40**	**127**	P	**P**	**22 06 11.9**	**+0.4**
	comp=Z,1.9nm,0.7s,mb3.8,baz=299,slow=7.8,SNR=13						
BJT	**Baijiatuau**	**43.00**	**21**	*e*P	**P**	**22 06 15.1**	**-1.0**
BJT				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BJT	**Baijiatuau**	**43.00**	**21**	*e*P	**P**	**22 06 15.1**	**-0.9**
	comp=Z,10nm,1.1s,mb4.5						
KSRS	**Korea Array**	**46.33**	**34**	P	**P**	**22 06 42.5**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.3,baz=218,slow=9.2,SNR=7.0						
TKM2	**Tokmak 2**	**46.89**	**338**	*e*P	**P**	**22 06 47.0**	**0.0**
EKS2	**Erkin-Say**	**47.39**	**336**	P	**P**	**22 06 50.3**	**-0.6**
SONM	**Songino Array**	**47.98**	**8**	P	**P**	**22 06 56.1**	**+0.7**
	comp=Z,3.0nm,0.7s,mb4.4,baz=190,slow=9.2,SNR=12						
SONM				PcP	PcP	22 08 23.6	+0.1
	comp=Z,0.4nm,0.5s,baz=181,slow=5.8,SNR=3.0						
MK31	**Makanchi Array**	**48.28**	**346**	*e*P	**P**	**22 06 57.7**	**-0.1**
MKAR	**Makanchi Array**	**48.28**	**346**	P	**P**	**22 06 58.2**	**+0.5**
	comp=Z,3.7nm,0.8s,mb4.5,baz=157,slow=8.2,SNR=14						
MKAR				PcP	PcP	22 08 25.1	+0.5
	comp=Z,0.4nm,0.6s,baz=142,slow=4.9,SNR=3.0						
MKAR	**Makanchi Array**	**48.28**	**346**	P	**P**	**22 06 58.2**	**+0.5**
MKAR				PcP	PcP	22 08 25.1	+0.5
PMG	**Port Moresby**	**50.13**	**102**	*e*P	**P**	**22 07 12.5**	**0.0**
PMG				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PMG	**Port Moresby**	**50.13**	**102**	*e*P	**P**	**22 07 12.5**	**0.0**
	comp=Z,9.1nm,0.6s,mb5.0						
CTAO	**Charters Tower**	**51.61**	**116**	P	**P**	**22 07 23.3**	**-0.2**
MJAR	**Matsushiro Arr**	**52.03**	**42**	P	**P**	**22 07 26.6**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.6,baz=229,slow=4.7,SNR=3.5						
STKA	**Stephens Creek**	**52.33**	**132**	P	**P**	**22 07 28.9**	**+0.2**
KURK	**Kurchatov**	**52.84**	**345**	*e*P	**P**	**22 07 32.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
KURK	**Kurchatov**	**52.84**	**345**	*e*P	**P**	**22 07 32.0**	**-0.1**
	comp=Z,2.3nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**54.56**	**351**	P	**P**	**22 07 44.8**	**+0.1**
ZAA0	**Zalesovo Array**	**54.57**	**351**	*e*P	**P**	**22 07 44.2**	**-0.5**
ZALV	**Zalesovo Beam**	**54.57**	**351**	P	**P**	**22 07 44.8**	**0.0**
	comp=Z,5.7nm,0.5s,mb4.8,baz=180,slow=6.5,SNR=19						
BOD	**Bodaibo**	**58.84**	**10**	*e*P	**P**	**22 08 14.2**	**-0.8**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
YSS	**Yuzh-Sakhalins**	**60.83**	**34**	*e*P	**P**	**22 08 29.1**	**+0.1**
	comp=Z,14nm,0.9s,mb5.1						
GNI	**Garni**	**62.34**	**316**	P	**P**	**22 08 39.6**	**+0.3**
MALT	**Malatya**	**66.16**	**312**	*e*P	**P**	**22 09 05.1**	**+0.7**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
MALT	**Malatya**	**66.16**	**312**	*e*P	**P**	**22 09 05.1**	**+0.7**
	comp=Z,1.1nm,0.7s,mb4.0						
TOA0	**Torodi Ar. Sit**	**95.83**	**283**	*e*P	**P**	**22 11 44.0**	**0.0**

ATH 12 22:16:00.4, 3938N×2030E, h59km±4km, MD3.0/3, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.51**	**57**	*e*P	Pn	22 16 12.9	+0.5
JAN				*e*S	Sn	22 16 21.8	+0.8
KEK	**Kerkira**	**0.51**	**311**	*e*P	Pn	22 16 12.8	+0.4
KEK				*e*S	Sn	22 16 22.2	+1.1
VLS	**Valsamata**	**1.22**	**169**	*e*P	Pn	22 16 22.8	+1.5
VLS				*e*S	Sn	22 16 38.8	+1.9

*ISCJB **12** 22:31:18.9±0.4, 3648N±003×7052E±005, h204km±5km, mb3.7/8, Error ellipse: s-maj=7.1km s-min=4.3km az=165.9*
*NEIC **12** 22:31:19.6±0.6, 3643N×7052E, h201km±6km, mb4.2/9, Error ellipse: s-maj=9.4km s-min=7.0km az=130.0*
*IDC **12** 22:31:21.7±5.1, 3641N×7048E, h226km±50km, mb3.3/8, mb1 3.4/11, mb1mx3.1/26, mbtmp3.3/11, Error ellipse: s-maj=27.1km s-min=16.8km az=171.0*

ISC 12 22:31:19.8±0.4, 3648N±003×7052E±005, h198km±5km, n57, σ1§09/70, mb3.7/8, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.27**	**212**	⇑*i*Pn	**Pn**	**22 32 01.6**	**+0.5**
KBL				*e*Sn	**Sn**	**22 32 31.8**	**-1.4**
CEP	**Cherat**	**2.88**	**156**	⇑P	**Pn**	**22 32 09.6**	**+1.6**
CEP				S	**Sn**	**22 32 46.0**	**+0.4**
CHCP	**Chirah Chowk**	**3.60**	**140**	⇓P	**Pn**	**22 32 18.9**	**+2.3**
THW	**Thamme Wali**	**3.81**	**164**	⇑P	**Pn**

AKTO	Aktyubinsk	16.61	331	P	Pn	22 35 00.8	-0.4
	comp=N,1.0nm,0.3s,baz=143,slow=9.9,SNR=32						
RAMN	Ramite	16.64	120	*e*P	Pn	22 35 02.5	+0.6
	comp=N,32nm,0.5s						
TAPN	Taplejung	17.18	117	*e*P	Pn	22 35 09.7	+1.4
	comp=N,16nm,0.4s						
ODAN	Odare	17.25	119	*e*P	Pn	22 35 10.0	+0.9
	comp=N,29nm,0.7s						
LSA	Lhasa	18.55	105	P	P	22 35 21.2	-0.4
	comp=N,4.0nm,0.5s						
ZAA0	Zalesovo Array	20.10	25	*e*P	P	22 35 38.3	+0.2
ZAA0				S	S	22 39 12.3	-0.3
ZALV	Zalesovo Beam	20.10	25	P	P	22 35 38.3	+0.3
	comp=N,3.5nm,0.4s,baz=221,slow=11,SNR=21						
GNI	Garni	20.53	288	P	P	22 35 44.4	+1.6
	comp=N,2.5nm,0.5s,baz=149,slow=0.3,SNR=4.6						
GNI	Garni	20.53	288	*e*P	P	22 35 44.1	+1.3
	comp=N,2.4nm,0.8s						
ARU	Arti	21.53	342	*e*P	P	22 35 53.0	-0.1
	comp=N,14nm,1.0s,mb4.4						
SONM	Songino Array	28.67	55	P	P	22 36 59.9	+2.0
	comp=N,0.3nm,0.4s,mb3.2,baz=258,slow=8.0,SNR=3.0						
PSZ	Piszkesteto	38.56	303	P	P	22 38 22.7	-0.5
KEV	Kevo	40.68	338	*e*P	P	22 38 40.0	-0.3
	comp=N,4.2nm,0.6s,mb4.0						
ARCES	ARCESS Array B	41.02	338	P	P	22 38 43.1	0.0
	comp=N,3.4nm,0.6s,mb3.9,baz=105,slow=7.5,SNR=22						
NB2	NORSAR Subarra	44.16	323	P	P	22 39 07.3	-1.2
	comp=Z,2.8nm,0.9s,mb3.6,baz=97,slow=7.9						
NOA	NORSAR Array B	44.16	323	P	P	22 39 08.4	0.0
	comp=Z,1.3nm,0.7s,mb3.4,baz=97,slow=7.9,SNR=9.3						
YAK	Yakutsk	44.21	35	P	P	22 39 09.6	+0.8
TORD	Torodi Ar. Bea	65.33	268	P	P	22 41 38.6	-2.4
	comp=Z,0.7nm,0.5s,mb3.5,baz=49,slow=5.7,SNR=20						
BOSA	Boshof	77.48	220	P	P	22 42 52.9	-0.4
	comp=Z,1.4nm,0.7s,mb3.7,baz=45,slow=5.7,SNR=3.8						
WRA	Warramunga Arr	82.31	122	P	P	22 43 18.1	-1.2
	comp=Z,0.4nm,0.8s,mb3.1,baz=314,slow=4.8,SNR=2.7						

IDC 12 22:42:35.4±2.0, 020N×9764E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/22, mbtmp3.7/7, ML3.7/2, 1C, Error ellipse: s-maj=64.5km s-min=21.3km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.88	27	Pn	Pn	22 43 21.6	-1.0
	2.2nm,0.3s,baz=178,slow=9.0,SNR=5.8						
PSI	Prapat	2.88	27	⇑*e*P	Pn	22 43 21.5	-1.1
CMAR	Chiang Mai Arr	18.18	4	P	Pn	22 46 48.9	-0.5
	0.3nm,0.3s,baz=207,slow=31,SNR=4.4						
WRA	Warramunga Arr	41.15	121	P	P	22 50 21.3	-0.4
	0.1nm,0.6s,baz=303,slow=8.9,SNR=6.4						
ASAR	Alice Springs	42.45	127	P	P	22 50 32.7	+0.3
	0.5nm,0.6s,baz=294,slow=7.5,SNR=5.0						
SONM	Songino Array	48.05	8	P	P	22 51 16.8	+0.4
	0.5nm,0.4s,baz=189,slow=8.0,SNR=4.3						
MKAR	Makanchi Array	48.31	346	P	P	22 51 18.6	+0.2
	0.6nm,0.5s,baz=164,slow=8.9,SNR=7.7						
ZALV	Zalesovo Beam	54.60	351	P	P	22 52 05.2	-0.3
	1.4nm,0.4s,baz=184,slow=6.0,SNR=6.5						

IDC 12 22:52:01.0±53.0, 1578S×17563W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/16, mbtmp4.2/3, Error ellipse: s-maj=1003.0km s-min=165.6km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.99	240	P	P	22 59 54.5	+0.4
	2.1nm,0.5s,baz=102,slow=9.7,SNR=8.9						
WRA	Warramunga Arr	47.67	257	P	P	23 00 38.7	-0.8
	0.8nm,0.7s,baz=93,slow=8.0,SNR=6.7						
ASAR	Alice Springs	47.95	252	P	P	23 00 41.9	+0.1
	4.5nm,0.5s,baz=89,slow=8.5,SNR=70						

IDC 12 23:30:00.0±2.2, 206N×12687E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=209.1km s-min=26.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.06	162	P	P	23 35 07.4	+0.1
	0.5nm,0.5s,baz=339,slow=10,SNR=3.3						
ASAR	Alice Springs	26.47	165	P	P	23 35 40.3	+1.3
	0.2nm,0.5s,baz=345,slow=6.7,SNR=5.2						
STKA	Stephens Creek	36.53	159	P	P	23 37 06.2	-1.2
	1.2nm,0.9s,baz=353,slow=8.1,SNR=2.9						
MKAR	Makanchi Array	59.00	326	P	P	23 40 01.9	+0.3
	0.2nm,0.5s,baz=121,slow=7.4,SNR=3.2						

*BJI **12** 23:32:43.9, 022S×9772E, h46km, mB5.4, mb4.7, Ms4.4, Msz4.3*
*IDC **12** 23:32:43.4±1.0, 025N×9767E, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.2/23, mbtmp4.3/14, ML4.3/2, MS3.6/7, Ms1 3.7/7, ms1mx3.3/33, Error ellipse: s-maj=32.2km s-min=14.8km az=58.0*
*NEIC **12** 23:32:45.9±4.5, 026N×9773E, h16km±27km, mb4.6/13, Error ellipse: s-maj=12.1km s-min=4.4km az=57.0*
*ISCJB **12** 23:32:47.8±1.3, 030N±005×9773E±007, h45km±10km, mb4.5/31, MS3.8/5, Error ellipse: s-maj=13.2km s-min=6.4km az=146.6*
*DJA **12** 23:33:00, 026N×9862E, h58km, ML4.7/9*
ISC 12 23:32:49.4±1.2, 028N±005×9771E±007, h41km±10km, n78, σ0§93/77, mb4.5/31, MS3.8/5, 7C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRSI	Tarutung	2.14	36	P	Pn	23 33 22.1	-0.5
	0.0nm,0.0s						
PPI	Padang Panjang	2.78	105	P	Pn	23 33 31.4	0.0
	0.0nm,0.0s						
PSI	Prapat	2.78	26	Pn	Pn	23 33 30.2	-1.3
	9.2nm,0.3s,baz=185,slow=7.4,SNR=44						
PSI				LR	LR	23 34 21.4	
	comp=Z,504nm,20.6s,baz=269,slow=36						
PSI	Prapat	2.78	26	⇑*e*P	Pn	23 33 28.6	-2.9
IPM	Ipoh	5.33	38	⇓P	Pn	23 34 07.2	+0.8
KULM	Kulim	5.78	30	⇓P	Pn	23 34 12.8	+0.2
KGM	Kluang	5.86	73	⇑P	Pn	23 34 15.0	+1.1
KSI	Kapahiang	6.24	129	P	Pn	23 34 19.3	+0.2
	0.0nm,0.0s						
MYKOM	Kota Tinggi	6.32	76	⇑P	Pn	23 34 21.1	+1.0
TPRI	Tanjung Pinang	6.84	85	P	Pn	23 34 27.2	-0.1
	0.0nm,0.0s						
KTGM	Kuala Trenggan	7.38	47	⇑P	Pn	23 34 35.2	+0.6
KSM	Kuching	12.65	85	⇑P	Pn	23 35 48.2	+1.3
KSM	Kuching	12.65	85	Pn	Pn	23 35 45.2	-1.6
SBUM	Sibu	14.66	81	⇑P	Pn	23 36 16.1	+1.8
KRKI	Karangkates	16.91	120	P	Pn	23 36 41.2	-2.0
	0.0nm,0.0s						
CM31	Chiang Mai Arr	18.11	4	*e*Pn	Pn	23 36 56.0	-1.9
CMAR	Chiang Mai Arr	18.11	4	P	Pn	23 36 56.5	-1.5
	1.1nm,0.3s,baz=192,slow=12,SNR=23						
CMAR				LR	LR	23 44 41.2	
	comp=Z,167nm,19.9s,baz=185,slow=40						
CHTO	Chiang Mai	18.46	4	*e*P	Pn	23 37 00.8	-1.4
	11nm,1.0s						
KKM	Kota Kinabalu	19.33	72	⇓P	Pn	23 37 12.7	-0.1
KKM	Kota Kinabalu	19.33	72	*e*P	Pn	23 37 11.0	-1.8
SDKM	Sandakan	20.16	74	⇓P	P	23 37 21.0	+0.5
KDM	Kudat	20.18	71	⇑P	P	23 37 21.9	+1.2
TSM	Tawau	20.53	79	⇓P	P	23 37 26.5	+2.0
SHL	Shillong	25.77	348	*e*P	P	23 38 18.0	+1.6
GYA	Guiyang	27.42	18	P	P	23 38 31.1	-0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
LSA	Lhasa	29.92	348	P	P	23 38 54.2	+0.6
LSA	Lhasa	29.92	348	*e*P	P	23 38 53.8	+0.2
	comp=Z,9.4nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	32.98	125	⇓*i*P	P	23 39 19.7	-0.9
	comp=Z,6.3nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	32.98	125	P	P	23 39 19.8	-0.9
	comp=Z,3.4nm,0.8s,mb4.3,baz=286,slow=3.9,SNR=12						
XAN	Xi'an	35.19	16	P	P	23 39 38.0	-1.6
XAN				AP	pP	23 39 48.8	-2.2
XAN				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.1						
XAN				AMB	AMB		
	comp=Z,89nm,5.2s						

NWAO	Narrogin (SRO)	37.81	153	*e*P	P	23 40 00.2	-1.7
GTA	Gaotai	38.99	3	*e*P	P	23 40 12.8	+1.0
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
WRA	Warramunga Arr	41.12	121	P	P	23 40 29.1	-0.6
	comp=Z,5.0nm,0.6s,mb4.3,baz=300,slow=9.0,SNR=26						
WRA				LR	LR	23 58 11.6	
	comp=Z,113nm,18.4s,MS3.8,baz=285,slow=37						
WRAB	Tennant Creek	41.12	121	*e*P	P	23 40 29.2	-0.6
	comp=Z,5.0nm,0.5s,mb4.4						
WB2	Warramunga Arr	41.12	121	⇓*i*P	P	23 40 29.0	-0.8
WB2	Warramunga Arr	41.12	121	*e*P	P	23 40 29.1	-0.7
ASAR	Alice Springs	42.43	127	P	P	23 40 40.7	+0.2
	comp=Z,6.0nm,0.9s,mb4.2,baz=303,slow=7.3,SNR=46						
BJT	Baijiatuau	42.98	21	P	P	23 40 43.8	-0.8
WMQ	Urumqi	44.27	350	*e*P	P	23 40 55.2	+0.3
KSRS	Korea Array	46.32	34	P	P	23 41 11.1	-0.3
	comp=Z,7.2nm,0.8s,mb4.7,baz=222,slow=9.0,SNR=18						
KSRS				LR	LR	00 03 05.8	
	comp=Z,78nm,18.1s,MS3.7,baz=344,slow=39						
UCH	Uchtor	46.70	336	P	P	23 41 15.2	+1.0
TKM2	Tokmak 2	46.86	338	*e*P	P	23 41 16.6	+1.1
	comp=Z,24nm,0.9s,mb5.1						
EKS2	Erkin-Say	47.36	336	*e*P	P	23 41 19.9	+0.6
	comp=Z,2.0nm,0.8s,mb4.1						
SONM	Songino Array	47.97	8	P	P	23 41 24.8	+0.8
	comp=Z,6.7nm,0.7s,mb4.8,baz=188,slow=9.7,SNR=48						
SONM				PcP	PcP	23 42 52.7	+1.0
	comp=Z,1.0nm,0.7s,baz=203,slow=3.4,SNR=2.8						
MK31	Makanchi Array	48.26	346	*e*P	P	23 41 26.4	+0.2
MKAR	Makanchi Array	48.26	346	P	P	23 41 26.5	+0.3
	comp=Z,10nm,0.9s,mb4.8,baz=159,slow=8.3,SNR=49						
MKAR				LR	LR	00 04 56.7	
	comp=Z,45nm,18.8s,MS3.5,baz=157,slow=40						
MKAR	Makanchi Array	48.26	346	P	P	23 41 26.5	+0.3
MKAR				LR	LR	00 04 56.7	
CN2	Changchun	49.90	26	*e*P	P	23 41 37.4	-1.4
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
PMG	Port Moresby	50.15	102	*e*P	P	23 41 41.3	0.0
	comp=Z,20nm,0.7s,mb5.3						
TLY	Talaya	51.46	5	*e*P	P	23 41 50.5	0.0
	comp=Z,4.4nm,0.5s,mb4.6						
MAJO	Matsushiro	52.03	42	P	P	23 41 55.1	+0.1
MJAR	Matsushiro Arr	52.03	42	P	P	23 41 54.1	-0.9
	comp=Z,0.6nm,0.6s,mb3.7,baz=219,slow=6.1,SNR=6.4						
HIA	Hailar	52.35	18	*e*P	P	23 41 57.8	+0.6
STKA	Stephens Creek	52.36	132	*e*P	P	23 41 59.4	+1.8
	comp=Z,2.1nm,0.6s,mb4.2						
STKA	Stephens Creek	52.36	132	P	P	23 41 59.2	+1.7
	comp=Z,1.4nm,0.6s,mb4.0,baz=330,slow=8.1,SNR=3.4						
STKA				LR	LR	00 06 03.9	
	comp=Z,122nm,20.1s,MS3.9,baz=208,slow=38						
STKA	Stephens Creek	52.36	132	*e*P	P	23 41 57.5	-0.1
KURK	Kurchatov	52.81	345	*e*P	P	23 42 00.7	+0.1
	comp=Z,7.7nm,1.0s,mb4.6						
ZAA0	Zalesovo Array	54.55	351	*e*P	P	23 42 13.3	+0.1
ZALV	Zalesovo Beam	54.55	351	P	P	23 42 13.3	+0.1
	comp=Z,8.9nm,0.4s,mb5.1,baz=177,slow=6.0,SNR=68						
RDF	Al-Radifah	55.68	305	*e*P	P	23 42 22.6	+0.8
	baz=305						
RDF				AMb	AMB	23 42 24.2	
	comp=Z,29nm,1.2s,mb5.2,baz=305						
NAY	Al-Naaiem	56.05	306	*e*P	P	23 42 23.9	-0.5
	baz=305						
NAY				AMb	AMB	23 42 25.9	
	comp=Z,9.0nm,1.0s,mb4.8,baz=305						
MIB	Mutribah	56.17	306	*e*P	P	23 42 25.6	+0.2
	baz=306						
MIB				AMb	AMB	23 42 27.2	
	comp=Z,22nm,0.9s,mb5.2,baz=306						
RST	Umm Al-Ruwaisa	56.34	306	*e*P	P	23 42 26.1	-0.4
	baz=305						
RST				AMb	AMB	23 42 29.6	
	comp=Z,0.3nm,1.2s,mb3.2,baz=305						
BRVK	Borovoye	57.35	341	*e*P	P	23 42 32.4	-0.9
	comp=Z,1.8nm,0.6s,mb4.3						
YSS	Yuzh-Sakhalins	60.82	34	*e*P	P	23 42 57.0	-0.4
	comp=Z,16nm,0.9s,mb5.2						
TAU	Tasmania Unive	61.78	141	*e*P	P	23 43 03.7	-0.3
GNI	Garni	62.31	316	P	P	23 43 07.2	-0.4
ARU	Arti	64.23	337	*e*P	P	23 43 19.1	-0.9
	comp=Z,1.3nm,0.3s,mb4.4						
MALT	Malatya	66.13	312	*e*P	P	23 43 33.7	+1.0
AKASG	Malin Array Be	76.30	322	P	P	23 44 33.2	-0.8
	comp=Z,0.2nm,0.3s,mb3.6,baz=88,slow=4.8,SNR=6.1						
AKASG	Malin Array Be	76.30	322	P	P	23 44 33.2	-0.8
ARCES	ARCESS Array B	83.57	340	P	P	23 45 13.0	+0.1
	comp=Z,1.1nm,0.7s,mb4.1,baz=104,slow=5.1,SNR=8.3						
ARCES	ARCESS Array B	83.57	340	P	P	23 45 13.0	+0.1
VNDA	Vanda	84.82	169	LR	LR	00 18 06.2	
	comp=Z,58nm,21.5s,MS3.9,baz=305,slow=32						
VNDA	Vanda	84.82	169	P	P	23 45 18.9	-0.2
GERES	GERESS Array B	85.84	319	P	P	23 45 25.7	+0.9
	comp=Z,0.4nm,0.6s,mb3.8,baz=138,slow=8.5,SNR=5.6						
SNAA	Sanae	93.58	198	*e*P	P	23 46 01.9	+1.1
	comp=Z,1.3nm,0.7s,mb4.5						
TOA0	Torodi Ar. Sit	95.80	283	P	P	23 46 12.9	+0.8

*NEIC **12** 23:49:11.2, 3525N×2475E, h4km, MD3.5(ATH), After ATH.*
*CSEM **12** 23:49:11.2, 3525N×2475E, h4km, MD3.5, After ATH*
ATH 12 23:49:11.2, 3526N×2475E, h3km, MD3.5/6, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	Vamos	0.47	288	⇓*i*PG	Pg	23 49 20.0	-0.3
VAM				*e*SG	Sg	23 49 27.2	+0.8
NPS	Neapolis	0.71	90	*e*PB	Pb	23 49 24.9	-1.2
NPS				*e*SG	Sg	23 49 33.5	-0.4
KYTH	Kithira	1.73	307	*e*PB	Pb	23 49 44.0	+0.5
APE	Apeiranthos	1.91	19	*e*PG	Pg	23 49 46.7	-1.2
KARP	Karpathos	1.99	81	*e*PN	Pn	23 49 47.9	+2.2
VLI	Veliai	2.07	315	*e*PN	Pn	23 49 49.1	+2.3

IDC 12 23:56:53.0±1.5, 3427N×8153E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/23, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=49.4km s-min=27.0km az=55.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	12.52	2	Pn	Pn	23 59 51.1	-1.2
	0.1nm,0.3s,baz=180,slow=10,SNR=4.5						
BVAR	Borovoye Array	20.36	340	P	P	00 01 32.0	+1.2
	1.0nm,0.6s,baz=160,slow=9.2,SNR=7.4						
CMAR	Chiang Mai Arr	22.11	131	P	P	00 01 50.1	+0.2
	1.8nm,0.7s,baz=311,slow=11,SNR=11						
TORD	Torodi Ar. Bea	74.39	275	P	P	00 08 32.9	-0.1
	0.3nm,0.8s,baz=66,slow=4.2,SNR=5.0						

*KRSC **13** 00:00:21.5±0.4, 5509N×16244E, h22km±21km, ML4.5*
*MOS **13** 00:00:21.3±0.8, 5506N×16249E, h18km, mb4.5/1, Error ellipse: s-maj=27.2km s-min=11.4km az=74.9*
*ISCJB **13** 00:00:22.7±0.9, 5506N±002×16249E±0.10, h29km±8km, Error ellipse: s-maj=9.5km s-min=3.8km az=10.8*
ISC 13 00:00:22.6±0.9, 5511N±002×16242E±009, h15km±6km, n27, σ0§87/48, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.68	216	*e*P	Pg	00 00 35.7	-0.2
MKZ				*i* S	Sg	00 00 45.6	+0.7
KBTR	Krutoberegovo	1.12	11	*e*P	Pb	00 00 42.9	-0.8
KBTR				*i* S	Sb	00 00 59.0	+0.8
ZLN	Zelenaya	1.29	315	*e*P	Pn	00 00 45.8	-0.3
ZLN				*i* S	Sb	00 01 03.5	+0.5
TUMR	Tumrok	1.32	279	*e*P	Pn	00 00 46.0	-0.4
TUMR				*i* S	Sb	00 01 03.6	-0.1
BZMR	Bezymyannaya	1.38	308	*e*P	Pn	00 00 46.8	-0.4
BZMR				*i* S	Sn	00 01 06.0	+0.8
CIRR	Tsirk	1.39	317	*e*P	Pn	00 00 47.1	-0.3
CIRR				*i* S	Sn	00 01 06.0	+0.6
KMNR	Kamenistaya	1.40	298	*e*P	Pn	00 00 47.1	-0.5
KMNR				*i* S	Sn	00 01 05.9	0.0
KIRR	Kirishev	1.45	306	P	Pn	00 00 47.8	-0.5
KPT	Kopyto	1.52	305	*e*P	Pn	00 00 49.0	-0.2
KPT				*i* S	Sn	00 01 08.9	+0.2
KRSR	Krestovskiy	1.53	317	*e*P	Pn	00 00 48.5	-0.9
KRSR				*i* S	Sn	00 01 08.1	-0.9
KLY	Klyuchi	1.57	321	*e*P	Pn	00 00 48.3	-1.6
KLY				*i* S	Sn	00 01 07.4	-2.5
SMKR	Semkarok	1.57	340	*e*P	Pn	00 00 49.7	-0.2
SMKR				*i* S	Sn	00 01 10.8	+0.8
BDR	Baidarnaya	1.61	335	*e*P	Pn	00 00 51.0	+0.5
BDR				*i* S	Sn	00 01 12.7	+1.6
SRKR	Sorokina	1.70	336	*e*P	Pn	00 00 51.7	0.0
SRKR				*i* S	Sn	00 01 14.0	+0.8
KOZR	Kozyr	1.73	305	PN	Pn	00 00 52.3	+0.3
KOZ	Kozyrevsk	1.73	304	*e*P	Pn	00 00 52.3	+0.2
SRDR	Sredinnyy	1.95	309	*e*P	Pn	00 00 55.0	-0.2
SRDR				*i* S	Sn	00 01 18.7	-0.7
SPN	Mys Shipunski	2.46	216	*e*P	Pn	00 01 00.1	-2.0
SPN				*i* S	Sn	00 01 27.6	-4.3
NLC	Nalytchevo	2.65	224	*e*P	Pn	00 01 04.0	-0.8
NLC				*i* S	Sn	00 01 34.7	-2.0
AVH	Avacha	2.84	231	*e*P	Pn	00 01 08.0	+0.6
AVH				*i* S	Sn	00 01 42.4	+1.0
GNL	Ganaly	2.98	243	*e*P	Pn	00 01 09.7	+0.5
PET	Petropavlovsk	3.05	228	⇑*i*PN	Pn	00 01 10.7	+0.5
PET				*e*S	Sn	00 01 47.2	+0.8
PET				pmax	pmax		
	comp=Z,258nm,0.5s						
PET				smax			
	comp=E,700nm,1.1s						
PET				smax			
	comp=E,769nm,0.6s						
PET				smax			
	comp=N,562nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
PET	Petropavlovsk	3.05	228	*e*P	Pn	00 01 10.5	+0.3
PET				*i* S	Sn	00 01 45.6	-0.8
RUS	Russkaya	3.54	222	*e*P	Pn	00 01 17.7	+0.7
RUS				*i* S	Sn	00 01 58.0	-0.6
GRL	Gorelyy	3.63	227	*e*P	Pn	00 01 19.3	+1.0
GRL				*i* S	Sn	00 02 01.2	+0.4
MIPR	Malaya Ipel'ka	4.40	232	*e*P	Pn	00 01 30.3	+1.5
SKR	Severo-Kuril's	5.85	223	*e*PN	Pn	00 01 50.0	+1.3
SKR				*e*		00 03 04.0	

*IDC **13** 00:12:25.5±4.2, 382S×13070E, h0km, mb4.0/1, mb1 4.0/4, mb1mx3.6/16, mbtmp3.8/4, ML3.5/2, Error ellipse: s-maj=100.3km s-min=38.6km az=85.0*
NEIC 13 00:12:26.4±1.5, 371S×13070E, h10km, mb3.9/1, Error ellipse: s-maj=40.3km s-min=20.1km az=97.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.14	199	*e*P	Pn	00 16 00.4	-0.1
	3.2nm,0.6s						
FITZ	Fitzroy Crossi	15.14	199	Pn	Pn	00 15 58.2	-2.3
	0.1nm,0.3s,baz=151,slow=22,SNR=3.9						
WRA	Warramunga Arr	16.52	168	Pn	Pn	00 16 18.6	+0.2
	0.4nm,0.3s,baz=349,slow=12,SNR=7.8						
WB2	Warramunga Arr	16.53	168	*e*P	Pn	00 16 18.8	+0.4
ASAR	Alice Springs	20.08	171	P	P	00 17 00.5	+0.3
	0.6nm,0.3s,baz=347,slow=9.9,SNR=37						
ASAR				S	S	00 20 46.2	+0.3
	0.0nm,0.3s,baz=2.9,slow=25,SNR=3.2						
STKA	Stephens Creek	29.84	161	P	P	00 18 33.0	-0.8
	0.9nm,0.5s,baz=315,slow=8.6,SNR=3.3						
ISA	Isabella	109.03	54	*e*PKP	PKiKP	00 30 57.2	+0.4

*ISCJB **13** 00:18:36.2±0.8, 3928N±002×20.13E±005, h3km±5km, Error ellipse: s-maj=7.0km s-min=3.8km az=178.7*
*NEIC **13** 00:18:37.8, 3927N×2026E, h15km, MD3.4(ATH), ML3.3(THE), After ATH.*
*ATH **13** 00:18:37.8, 3927N×2026E, h15km±4km, MD3.4/7*
*CSEM **13** 00:18:38.4±0.2, 3927N×2023E, h2km, ML3.3, Error ellipse: s-maj=4.9km s-min=3.1km az=82.0*
*THE **13** 00:18:38.1, 3928N×2023E, h1km, ML3.3*
ISC 13 00:18:38.0±0.6, 3928N±002×2025E±005, h3km±5km, n27, σ1§05/42, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.26	15	*e*Pg	Pg	00 18 41.9	-1.1
IGT				*e*Sg	Sg	00 18 45.9	-0.4
KEK	Kerkira	0.55	321	*e*PN	Pg	00 18 48.6	0.0
KEK				*e*SN	Sg	00 18 57.5	+1.7
JAN	Janina	0.60	51	*e*PN	Pg	00 18 48.5	-1.0
JAN				*e*SN	Sg	00 18 57.9	+0.6
VLS	Valsamata	1.14	166	*e*Pg	Pg	00 18 58.5	-1.2
VLS				*e*Sg	Sg	00 19 15.7	+1.3
VLS	Valsamata	1.14	166	*e*PN	Pn	00 18 58.7	-2.0
VLS				*e*SN	Sn	00 19 15.3	-1.4
VLS	Valsamata	1.14	166	*e*Pn	Pn	00 18 58.7	-2.0
VLS				*e*Sn	Sn	00 19 15.3	-1.4
VLS				*e*Sg	Sg	00 19 15.7	+1.3
KFL	Anninata	1.25	160	*e*Pg	Pg	00 19 01.5	-0.3
KFL				*e*Sg	Sg	00 19 19.5	+1.5
EVR	Evrytania	1.27	106	*e*PN	Pn	00 19 01.0	-1.5
THL	Klokotos Trika	1.40	78	*e*Pg	Pg	00 19 03.1	-1.6
THL				*e*Sg	Sg	00 19 24.8	+1.9
THL	Klokotos Trika	1.40	78	*e*Pn	Pn	00 19 04.6	+0.3
THL				*e*Sg	Sg	00 19 24.8	+1.9
RLS	Riolos of Patr	1.55	142	*e*PN	Pn	00 19 07.1	+0.7
KZN	Kozani	1.56	48	*e*PN	Pn	00 19 07.1	+0.6
AGG	Agios Georgios	1.64	98	*e*Pb	Pb	00 19 07.2	-1.6
AGG				*e*Sb

MS3.5/2, Error ellipse: s-maj=18.1km s-min=8.2km az=38.6

ISC 13 01:11:07.7±0.6, 2786S×009×1767W×01, h35km, n41, σ1§42/22, mb4.3/10, MS3.5/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.76**	**218**	Pn	**Pn**	**01 11 35.8**	**+0.1**
	2μm,0.3s,baz=333,slow=2.5,SNR=135						
RAO				Sn	**Sn**	**01 11 56.2**	**-0.6**
	3μm,0.3s,baz=259,slow=23,SNR=18						
RAO	**Raoul Island**	**1.76**	**218**	*e*Pn	**Pn**	**01 11 35.6**	**-0.1**
RAO				*e*Sn	**Sn**	**01 11 55.1**	**-1.8**
URZ	**Urewera**	**11.60**	**205**	Pn	**Pn**	**01 13 39.5**	**-11**
	1.6nm,0.3s,baz=96,slow=22,SNR=9.1						
URZ				Sn	**Sn**	**01 15 49.2**	**-10**
	2.4nm,0.3s,baz=183,slow=21,SNR=6.3						
AFI	**Afiamalu**	**14.61**	**19**	Pn	**Pn**	**01 14 28.9**	**-3.0**
	3.1nm,0.3s,baz=218,slow=19,SNR=3.8						
AFI				Sn	**Sn**	**01 16 59.5**	**-13**
	2.3nm,0.3s,baz=178,slow=18,SNR=2.4						
RAR	**Rarotonga**	**16.74**	**70**	Pn	**Pn**	**01 14 57.2**	**-2.3**
	1.8nm,0.3s,baz=90,slow=20,SNR=5.6						
RPZ	**Rata Peaks**	**18.66**	**209**	P	**Pn**	**01 15 16.7**	**-6.3**
	1.0nm,0.3s,baz=322,slow=6.5,SNR=5.7						
RPZ	**Rata Peaks**	**18.66**	**209**	P	**Pn**	**01 15 16.7**	**-6.3**
TBI	**Tubuai**	**24.94**	**86**	*e*LR	LR	01 22 46.0	
	187nm,26.0s						
TBI	**Tubuai**	**24.94**	**86**	*e*T		01 42 12.4	
	13nm,0.3s						
PAE	**Paea**	**26.92**	**74**	*e*T		01 44 42.3	
	233nm,0.3s						
PPT	**Papeete**	**26.97**	**73**	*e*LR	LR	01 23 42.9	
	150nm,25.0s						
PPT	**Papeete**	**26.97**	**73**	*e*T		01 44 46.0	
	6.3nm,0.3s						
TVO	**Taravao**	**27.15**	**74**	*e*T		01 44 59.2	
	43nm,0.3s						
HNR	**Honiara**	**28.64**	**305**	LR	LR	01 25 55.0	
	comp=Z,93nm,20.4s,MS3.4,baz=175,slow=31						
CTA	**Charters Tower**	**34.63**	**275**	LR	LR	01 30 05.5	
	comp=Z,125nm,19.5s,MS3.7,baz=228,slow=33						
RKT	**Rikitea**	**37.82**	**92**	*e*T		01 58 16.2	
	2.7nm,0.4s						
ASAR	**Alice Springs**	**44.46**	**264**	P	**P**	**01 19 16.2**	**+0.6**
	1.1nm,0.6s,mb3.7,baz=84,slow=7.4,SNR=6.1						
WB2	**Warramunga Arr**	**45.21**	**269**	*e*P	**P**	**01 19 21.2**	**-0.3**
WRAB	**Tennant Creek**	**45.22**	**269**	*e*P	**P**	**01 19 21.4**	**-0.2**
	17nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**45.22**	**269**	P	**P**	**01 19 20.4**	**-1.2**
	1.5nm,0.4s,mb4.2,baz=108,slow=7.9,SNR=6.5						
VNDA	**Vanda**	**50.73**	**186**	P	**P**	**01 20 04.0**	**+0.5**
	0.8nm,0.4s,mb4.0,baz=20,slow=5.9,SNR=6.9						
MAW	**Mawson**	**75.08**	**200**	P	**P**	**01 22 46.4**	**+0.9**
	2.7nm,0.5s,mb4.4,baz=132,slow=8.8,SNR=19						
MJAR	**Matsushiro Arr**	**76.83**	**324**	P	**P**	**01 22 55.8**	**-0.1**
	0.6nm,0.3s,mb4.0,baz=153,slow=5.3,SNR=7.4						
PETK	**Petropavlovsk-**	**83.65**	**345**	P	**P**	**01 23 34.0**	**+1.9**
	5.3nm,0.9s,mb4.7,baz=134,slow=6.4,SNR=4.0						
NVAR	**Mina Array Bea**	**85.59**	**42**	P	**P**	**01 23 45.7**	**+3.4**
	1.7nm,0.8s,mb4.3,baz=221,slow=9.4,SNR=12						
TPNV	**Topopah Spring**	**85.88**	**44**	*e*P	**P**	**01 23 46.0**	**+2.2**
	1.0nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**93.50**	**43**	P	**P**	**01 24 21.8**	**+2.2**
	0.9nm,0.8s,mb4.2,baz=174,slow=4.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**116.88**	**319**	PKP	PKPdf	01 29 47.7	-0.3
	0.4nm,0.4s,baz=89,slow=2.8,SNR=3.3						
ARCES	**ARCESS Array B**	**136.34**	**349**	PKP	PKPdf	01 30 26.4	+1.8
	2.0nm,0.8s,baz=5.7,slow=2.4,SNR=7.7						
ARCES	**ARCESS Array B**	**136.34**	**349**	PKP	PKPdf	01 30 26.4	+1.8
NB2	**NORSAR Subarra**	**146.39**	**353**	PKP	PKPdf	01 30 44.6	+1.7
	comp=Z,4.7nm,0.9s,baz=15,slow=4.5,SNR=15						
NOA	**NORSAR Array B**	**146.39**	**353**	PKPbc	PKPbc	01 30 45.0	+0.8
NOA	**NORSAR Array B**	**146.39**	**353**	PKPbc	PKPbc	01 30 45.0	+0.8
NAO01	**NORSAR Array S**	**146.62**	**353**	*e*PKPbc	PKPbc	01 30 45.9	+1.1
MALT	**Malatya**	**148.95**	**299**	*e*PKPbc	PKPbc	01 30 52.8	+0.9
AKASG	**Malin Array Be**	**149.90**	**326**	PKPbc	PKPbc	01 30 54.1	+0.3
	comp=Z,4.4nm,0.7s,baz=48,slow=3.1,SNR=8.1						
AKBB	**Malin Array Si**	**149.90**	**326**	*e*PKPbc	PKPbc	01 30 54.4	+0.6
AKBB				*e*PKPab	PKPab	01 31 00.1	+0.7
KIEV	**Kiev**	**149.91**	**326**	*e*PKPbc	PKPbc	01 30 54.2	+0.4
KIEV				*e*PKPab	PKPab	01 30 59.7	+0.2
SUW	**Suwalki**	**150.07**	**336**	*e*PKPbc	PKPbc	01 30 55.3	+1.2
SUW				*e*PKPab	PKPab	01 31 01.0	+1.0
CLL	**Collm**	**155.46**	**345**	*e*PKPab	PKPab	01 31 23.0	+0.3
TORD	**Torodi Ar. Bea**	**165.29**	**174**	PKPab	PKPab	01 32 07.5	+1.2
	comp=Z,1.2nm,0.9s,baz=151,slow=2.8,SNR=8.1						

IDC 13 01:12:18.8±6.8, 2287S×14864E, h0km, mb3.4/1, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, ML3.3/4, Error ellipse: s-maj=85.5km s-min=27.7km az=91.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**3.55**	**321**	Pn	Pn	01 13 16.5	+1.3
	4.4nm,0.3s,baz=127,slow=16,SNR=28						
CTA				Pg	Pg	01 13 23.9	-3.0
	8.5nm,0.3s,baz=136,slow=17,SNR=29						
CTA				Sn	Sn	01 14 03.5	+5.7
	7.3nm,0.3s,baz=244,slow=20,SNR=12						
STKA	**Stephens Creek**	**10.93**	**213**	Pn	Pn	01 14 55.5	-1.0
	0.1nm,0.3s,baz=336,slow=18,SNR=2.2						
STKA				Sn	Sn	01 17 00.3	+0.7
	0.2nm,0.3s,baz=279,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**13.57**	**264**	Pn	Pn	01 15 32.8	+0.1
	0.1nm,0.3s,baz=90,slow=14,SNR=11						
ASAR				Sn	Sn	01 18 04.2	0.0
	0.1nm,0.3s,baz=90,slow=22,SNR=4.8						
WRA	**Warramunga Arr**	**13.63**	**280**	Pn	Pn	01 15 32.3	-1.2
	0.1nm,0.3s,baz=99,slow=13,SNR=7.0						
FITZ	**Fitzroy Crossi**	**22.05**	**278**	P	P	01 17 15.5	+0.2
	2.2nm,1.2s,baz=94,slow=16,SNR=2.0						

*ISK **13** 01:49:42.6, 39.10N×2900E, h10km, MD2.7*
*CSEM **13** 01:49:42.5±0.1, 39.10N×2903E, h10km, MD2.7, Error ellipse: s-maj=1.8km s-min=1.5km az=59.0*
*ISCJB **13** 01:49:43.1±0.5, 3912N±003×2905E±003, h5km±6km, Error ellipse: s-maj=4.7km s-min=3.7km az=39.8*
*DDA **13** 01:49:43.3, 39.18N×2903E, h7km±6km, Md2.7*

ISC 13 01:49:43.5±0.4, 3913N±003×2904E±003, h10km±6km, n17, σ0§69/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**252**	*i* P	**Pg**	**01 49 49.1**	**+0.2**
DEMI				*i* S	**Sg**	**01 49 52.8**	**+0.3**
GDZ	**Gediz**	**0.34**	**96**	*i* P	**Pg**	**01 49 50.4**	**+0.1**
GDZ				*i* S	**Sg**	**01 49 55.2**	**+0.4**
DST	**Dursunbey**	**0.58**	**326**	*e*PG	**Pg**	**01 49 54.7**	**0.0**
DST				*e*SG	**Sg**	**01 50 01.9**	**-0.3**
DURS	**Dursunbey**	**0.65**	**317**	*i* P	**Pg**	**01 49 56.1**	**+0.1**
DURS				*i* S	**Sg**	**01 50 07.5**	**+3.0**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*PG	**Pg**	**01 49 55.9**	**-0.8**
KULA				*e*SG	**Sg**	**01 50 04.7**	**-0.8**
ALT	**Altintas**	**0.83**	**95**	*e*PG	**Pg**	**01 49 59.9**	**+0.4**
KHAL	**Karahalli**	**0.83**	**155**	*i* P	**Pg**	**01 50 01.5**	**+2.0**
KHAL				*i* S	**Sg**	**01 50 10.3**	**0.0**
KHL	**Karahalli**	**0.89**	**155**	*e*PG	**Pg**	**01 49 60.0**	**-0.6**
KHL				*e*SG	**Sg**	**01 50 11.9**	**-0.1**
AKHS	**Akhisar**	**0.99**	**256**	*i* P	**Pg**	**01 50 02.6**	**+0.1**
AKHS				*i* S	**Sg**	**01 50 15.8**	**+0.4**
AKS	**Akhisar**	**0.99**	**256**	*e*PG	**Pg**	**01 50 01.8**	**-0.7**
ULDT	**Uludag**	**1.02**	**4**	*i* P	**Pg**	**01 50 02.9**	**-0.1**
ULDT				*i* S	**Sg**	**01 50 15.1**	**-1.2**
BALB	**Balikesir**	**1.04**	**300**	*e*PG	**Pg**	**01 50 02.8**	**-0.7**
KCT	**Karacabey**	**1.25**	**335**	*e*PN	**Pn**	**01 50 06.7**	**-0.4**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**01 50 07.3**	**+0.1**
BALY				*i* S	**Sb**	**01 50 24.3**	**+0.7**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*PN	**Pn**	**01 50 07.7**	**-0.1**
GEMT	**Gemlik**	**1.31**	**5**	*e*PN	**Pn**	**01 50 07.9**	**0.0**
ADVT	**Abdulvahap**	**1.41**	**22**	*e*PN	**Pn**	**01 50 09.3**	**0.0**

MOS 13 02:00:46.6±0.5, 4316N×4499E, h21km, mb3.7/1, 1C, Error ellipse: s-maj=76.0km s-min=23.4km az=150.5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.16**	**234**	*e*PG	Pb	02 00 52.4	+1.1
ARNR	**Ardon**	**0.52**	**273**	*e*PG	Pb	02 00 58.1	+1.1
LACR	**Lac**	**0.61**	**237**	*i*PG	Pb	02 00 59.8	+1.3
ZEI	**Tsey**	**0.89**	**244**	*e*PG	Pb	02 01 03.5	+0.2
ZEI				*i* S	Sb	02 01 22.4	+7.7
DIGR	**Digorskoe uzhe**	**1.06**	**256**	*e*PG	Pn	02 01 06.0	-0.2
DIGR				*e*S	Sb	02 01 26.6	+6.9

*LDG **13** 02:02:56.0±0.3, 2654N×9690E, h10km, Mb4.4/14, Error ellipse: s-maj=14.9km s-min=5.9km az=160.0*
*IDC **13** 02:02:56.7±0.6, 2666N×9709E, h0km, mb4.1/20, mb1 4.3/20, mb1mx4.2/28, mbtmp4.1/20, MS3.3/3, Ms1 3.4/3, ms1mx2.8/32, Error ellipse: s-maj=19.3km s-min=14.2km az=51.0*
*NEIC **13** 02:02:57.5±0.4, 2657N×97.17E, h10km, mb4.4/12, Error ellipse: s-maj=9.0km s-min=6.9km az=198.0*
*BJI **13** 02:02:58.7, 2672N×9705E, h20km, mB4.8, mb4.5, ML3.9, Ms4.1, Msz3.9*
*ISCJB **13** 02:02:58.3±1.7, 2661N±006×9702E±005, h22km±11km, mb4.3/46, MS3.1/2, Error ellipse: s-maj=10.3km s-min=6.6km az=157.5*
*MOS **13** 02:02:59.9±1.3, 2659N×9705E, h33km, mb4.6/16, Error ellipse: s-maj=13.0km s-min=6.4km az=130.2*

ISC 13 02:02:57.3±1.1, 2661N±005×9717E±003, h6km±7km, n118, σ1§11/121, mb4.3/46, MS3.1/2, 2C-5D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**3.44**	**239**	*e*P	**Pn**	**02 03 56.0**	**+4.6**
IMP				*e*S	**Sg**	**02 04 48.0**	**+0.2**
SHL	**Shillong**	**4.87**	**259**	*e*PN	**Pn**	**02 04 12.0**	**+0.9**
SHL				*e*SN	**Sn**	**02 05 11.0**	**+3.3**
KMI	**Kunming**	**5.23**	**105**	P	**Pn**	**02 04 19.4**	**+3.3**
KMI				PG	**Pg**	**02 04 38.0**	**+0.5**
KMI				SG	**Sg**	**02 05 43.1**	**-2.2**
KMI				Smax			
	comp=N,113nm,0.9s						
KMI				Smax			
	comp=E,101nm,0.9s						
KMI				LR	LR		
	comp=N,1μm,8.7s						
KMI				LR	LR		
	comp=E,1μm,9.2s						
KMI				LR	LR		
	comp=Z,1μm,9.2s						
LSA	**Lhasa**	**6.14**	**301**	P	**Pn**	**02 04 31.6**	**+3.0**
LSA				Smax			
	comp=N,40nm,0.8s						
LSA				Smax			
	comp=E,100nm,0.9s						
LSA	**Lhasa**	**6.14**	**301**	*e*P	**Pn**	**02 04 31.5**	**+2.9**
LSA				pmax	pmax		
	comp=Z,46nm,0.6s						
LSA	**Lhasa**	**6.14**	**301**	*e*Pn	**Pn**	**02 04 31.5**	**+2.9**
	comp=Z,46nm,0.6s						
CD2	**Chengdu**	**7.20**	**52**	*e*P	**Pn**	**02 04 46.0**	**+2.9**
CD2				S	**Sn**	**02 06 05.0**	**-0.2**
CD2				SG	**Sg**	**02 06 44.9**	**-3.5**
CD2				Smax			
	comp=N,40nm,1.4s						
CD2				Smax			
	comp=E,50nm,1.4s						
CD2				LR	LR		
	comp=N,1μm,13.2s						
CD2				LR	LR		
	comp=E,700nm,8.4s						
CD2				LR	LR		
	comp=Z,540nm,6.0s						
CMAR	**Chiang Mai Arr**	**8.27**	**168**	Pn	**Pn**	**02 04 54.8**	**-3.1**
	comp=Z,0.7nm,0.3s,baz=203,slow=33,SNR=5.1						
CMAR				Lg		02 07 20.8	
	comp=Z,0.3nm,0.3s,baz=337,slow=25,SNR=3.4						
CMAR				LR	LR	02 08 45.2	
	comp=Z,202nm,18.7s,baz=345,slow=42						
TAPN	**Taplejung**	**8.47**	**277**	*e*P	**Pn**	**02 05 01.4**	**+0.8**
	comp=Z,86nm,0.5s						
ODAN	**Odare**	**8.75**	**274**	*e*P	**Pn**	**02 05 04.5**	**+0.1**
	comp=Z,86nm,0.4s						
RAMN	**Ramite**	**9.45**	**274**	*e*P	**Pn**	**02 05 14.5**	**+0.4**
	comp=Z,128nm,0.6s						
JIRN	**Jiri**	**9.84**	**279**	*e*P	**Pn**	**02 05 19.9**	**+0.6**
	comp=Z,120nm,0.5s						
GUN	**Gumba**	**10.13**	**280**	*e*P	**Pn**	**02 05 24.1**	**+0.8**
	comp=Z,102nm,0.4s						
PKI	**Pulchoki**	**10.53**	**278**	*e*P	**Pn**	**02 05 28.7**	**-0.1**
	comp=Z,96nm,0.6s						
PKI	**Pulchoki**	**10.53**	**278**	*e*P	**Pn**	**02 05 28.7**	**-0.1**
PKI				pmax	pmax		
	comp=Z,96nm,0.6s						
KKN	**Kakani**	**10.65**	**279**	*e*P	**Pn**	**02 05 30.6**	**+0.1**
	comp=Z,119nm,0.5s						
KKN	**Kakani**	**10.65**	**279**	*e*P	**Pn**	**02 05 30.6**	**+0.1**
KKN				pmax	pmax		
	comp=Z,119nm,0.5s						
DMN	**Daman**	**10.80**	**278**	*e*P	**Pn**	**02 05 32.1**	**-0.4**
	comp=Z,69nm,0.7s						
LZH	**Lanzhou**	**11.03**	**29**	*e*P	**Pn**	**02 05 39.0**	**+3.3**
LZH				AP		02 05 46.2	
LZH				XP		02 05 50.0	
LZH				*e*S	**Sn**	**02 07 43.0**	**+3.6**
LZH				XS		02 07 54.0	
LZH				*e*SS		02 07 57.5	
LZH				AMB	AMB		
	comp=Z,16nm,1.3s						
LZH				AMB	AMB		
	comp=Z,64nm,4.2s						
LZH				LR	LR		
	comp=N,254nm,9.0s						
LZH				LR	LR		
	comp=Z,301nm,10.0s						
GKN	**Gorkha**	**11.23**	**280**	*e*P	**Pn**	**02 05 38.2**	**-0.3**
DANN	**Dangsing**	**12.04**	**281**	*e*P	**Pn**	**02 05 47.6**	**-1.8**
	comp=Z,77nm,0.4s						
KOLN	**Koldanda**	**12.14**	**279**	*e*P	**Pn**	**02 05 48.8**	**-2.0**
	comp=Z,70nm,0.7s						
WMQ	**Urumqi**	**18.82**	**338**	*e*P	**Pn**	**02 07 18.5**	**+0.5**
SONM	**Songino Array**	**22.39**	**16**	P	**P**	**02 07 55.5**	**-0.8**
	comp=Z,2.9nm,0.7s,mb3.9,baz=208,slow=12,SNR=8.1						
MK31	**Makanchi Array**	**23.34**	**334**	*e*P	**P**	**02 08 06.8**	**+0.5**
MKAR	**Makanchi Array**	**23.34**	**334**	P	**P**	**02 08 06.8**	**+0.5**
	comp=Z,3.2nm,0.7s,mb3.9,baz=142,slow=11,SNR=21						
MKAR	**Makanchi Array**	**23.34**	**334**	P	**P**	**02 08 06.8**	**+0.5**
PSI	**Prapat**	**23.73**	**176**	P	**P**	**02 08 12.0**	**+1.6**
	comp=Z,2.9nm,0.3s,mb4.2,baz=251,slow=16,SNR=5.3						
TKM2	**Tokmak 2**	**23.96**	**318**	*e*P	**P**	**02 08 14.3**	**+2.0**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
TKM2	**Tokmak 2**	**23.96**	**318**	*e*P	**P**	**02 08 14.3**	**+2.0**
	comp=Z,5.6nm,0.6s,mb4.2						
ZAK	**Zakamensk**	**24.20**	**10**	*i* P	**P**	**02 08 15.9**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.7						
EKS2	**Erkin-Say**	**24.92**	**316**	*e*P	**P**	**02 08 23.1**	**+1.9**
	comp=Z,19nm,1.0s,mb4.6						
KBL	**Kabul**	**25.42**	**295**	*e*P	**P**	**02 08 26.6**	**+0.9**
KBL				pmax	pmax		
	comp=Z,62nm,0.8s,mb5.2						
KBL	**Kabul**	**25.42**	**295**	*e*P	**P**	**02 08 26.6**	**+0.9**
	comp=Z,62nm,0.8s,mb5.2						
KURK	**Kurchatov**	**27.94**	**334**	*e*P	**P**	**02 08 50.4**	**+2.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.1						
KSRS	**Korea Array**	**28.11**	**60**	LR	LR	02 21 17.9	
	comp=Z,63nm,18.0s,MS3.2,baz=200,slow=39						
ZAL	**Zalesovo**	**28.80**	**345**	P	**P**	**02 08 55.0**	**-0.9**
ZALV	**Zalesovo Beam**	**28.80**	**345**	P	**P**	**02 08 55.0**	**-0.9**
	comp=Z,0.8nm,0.4s,mb3.8,baz=159,slow=13,SNR=5.0						
ZALV				LR	LR	02 21 22.6	
	comp=Z,41nm,19.6s,MS3.0,baz=166,slow=38						
BVAR	**Borovoye Array**	**33.09**	**330**	P	**P**	**02 09 33.7**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.2,baz=137,slow=11,SNR=11						
MJAR	**Matsushiro Arr**	**36.11**	**64**	P	**P**	**02 09 59.7**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.1,baz=270,slow=9.0,SNR=6.8						
AKTK	**Aktyubinsk**	**38.15**	**319**	P	**P**	**02 10 16.6**	**-0.6**
AKTO	**Aktyubinsk**	**38.15**	**319**	P	**P**	**02 10 16.6**	**-0.6**
	comp=Z,2.1nm,0.6s,mb4.0,baz=113,slow=8.5,SNR=13						
ASAJ	**Asahikawa**	**40.40**	**52**	P	**P**	**02 10 38.6**	**+2.5**
	comp=Z,4.3nm,0.3s,mb4.6,baz=104,slow=32,SNR=3.8						
ASAJ	**Asahikawa**	**40.40**	**52**	P	**P**	**02 10 38.6**	**+2.5**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ARU	**Arti**	**40.62**	**328**	*e*P	**P**	**02 10 37.9**	**+0.1**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
ARU	**Arti**	**40.62**	**328**	*e*P	**P**	**02 10 38.0**	**+0.2**
	comp=Z,3.9nm,0.7s,mb4.2						
RDF	**Al-Radifah**	**43.72**	**285**	*e*P	**P**	**02 11 02.2**	**-1.3**
	baz=283						
RDF				AMb	AMB	02 11 12.3	
	comp=Z,43nm,1.2s,mb5.0,baz=283						
MIB	**Mutribah**	**43.76**	**286**	*e*P	**P**	**02 11 02.4**	**-1.4**
	baz=285						
MIB				AMb	AMB	02 11 04.3	
	comp=Z,31nm,0.7s,mb5.2,baz=285						
NAY	**Al-Naaiem**	**43.93**	**285**	*e*P	**P**	**02 11 03.6**	**-1.6**
	baz=284						
NAY				AMb	AMB	02 11 05.5	
	comp=Z,19nm,0.7s,mb4.9,baz=284						
GNI	**Garni**	**45.21**	**301**	P	**P**	**02 11 16.4**	**+1.2**
	comp=Z,4.2nm,0.5s,mb4.5,baz=284,slow=9.1,SNR=5.5						
GNI	**Garni**	**45.21**	**301**	*e*P	**P**	**02 11 13.1**	**-2.1**
GNI				pmax	pmax		
	comp=Z,14nm,1.4s						
VRHR	**Novokhopersk**	**48.31**	**316**	*e*P	**P**	**02 11 39.4**	**+0.1**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
VRSR	**Storozhevoye**	**49.84**	**316**	*e*P	**P**	**02 11 50.8**	**-0.3**
VRSR				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.9						
VRSR				pmax	pmax		
	comp=N,9.0nm,3.4s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.5s						
MALT	**Malatya**	**50.17**	**299**	*e*P	**P**	**02 11 54.0**	**+0.2**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
MALT	**Malatya**	**50.17**	**299**	*e*P	**P**	**02 11 54.0**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.3						
KLMR	**Klimovskoe**	**51.47**	**328**	*e*P	**P**	**02 12 03.7**	**+0.5**
KLMR				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.8						
OBN	**Obninsk**	**51.90**	**320**	*e*P	**P**	**02 12 07.6**	**+1.1**
OBN				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
ASF	**Jabal al Asfar**	**52.23**	**291**	P	**P**	**02 12 09.1**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.2,baz=353,slow=8.1,SNR=6.4						
ANTO	**Ankara**	**54.38**	**301**	*i*P	**P**	**02 12 25.2**	**+0.1**
VRI	**Vrincioaia**	**58.12**	**309**	*i*P	**P**	**02 12 56.6**	**+4.9**
PLOR	**Plostina**	**58.18**	**309**	*i*P	**P**	**02 12 52.9**	**+0.8**
WRA	**Warramunga Arr**	**58.66**	**138**	P	**P**	**02 12 56.7**	**+1.1**
	comp=Z,2.4nm,0.7s,mb4.3,baz=328,slow=7.5,SNR=9.7						
MLR	**Muntele Rosu**	**58.72**	**309**	*i*P	**P**	**02 12 56.1**	**+0.3**
ARCES	**ARCESS Array B**	**58.93**	**337**	P	**P**	**02 12 56.2**	**-0.7**
	comp=Z,2.3nm,0.9s,mb4.2,baz=77,slow=8.0,SNR=6.8						
BURAR	**Bucovina Array**	**58.96**	**311**	*i*P	**P**	**02 12 57.6**	**+0.1**
DRGR		**60.76**	**311**	*i*P	**P**	**02 13 09.8**	**-0.1**
ASAR	**Alice Springs**	**61.31**	**141**	P	**P**	**02 13 15.8**	**+1.9**
	comp=Z,0.8nm,0.7s,mb4.0,baz=326,slow=6.4,SNR=6.9						
OKC	**Ostrava-Krasne**	**63.27**	**315**	*e*P	**P**	**02 13 29.1**	**+2.4**
KMBO	**Kilima Mbogo**	**63.90**	**254**	P	**P**	**02 13 31.0**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=54,slow=11,SNR=7.5						
KMBO	**Kilima Mbogo**	**63.90**	**254**	P	**P**	**02 13 31.0**	**-0.4**
DPC	**Dobruska-Polom**	**64.33**	**315**	*e*P	**P**	**02 13 37.9**	**+4.2**
TREC	**Trest**	**65.07**	**314**	*e*P	**P**	**02 13 43.9**	**+5.3**
NB2	**NORSAR Subarra**	**65.17**	**328**	P	**P**	**02 13 37.8**	**-1.2**
	comp=Z,6.0nm,1.0s,mb4.6,baz=82,slow=6.9						
NOA	**NORSAR Array B**	**65.17**	**328**	P	**P**	**02 13 38.8**	**-0.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=81,slow=6.5,SNR=12						
PRU	**Pruhonice**	**65.52**	**315**	*e*P	**P**	**02 13 41.8**	**+0.3**
BRG	**Berggiesshubel**	**65.70**	**316**	*e*(P)	**P**	**02 13 42.8**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.3						
BRG							
	comp=N,100nm,19.7s						
BRG							
	comp=E,110nm,20.1s						
BRG							
	comp=Z,109nm,14.9s						
GERES	**GERESS Array B**	**66.32**	**314**	P	**P**	**02 13 46.5**	**-0.1**
	comp=Z,1.6nm,0.7s,mb4.2,baz=64,slow=6.1,SNR=19						
GERES	**GERESS Array B**	**66.32**	**314**	P	**P**	**02 13 46.5**	**-0.1**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KHC	**Kasperske Hory**	**66.33**	**315**	*e*P	**P**	**02 13 49.5**	**+2.8**
KHC	**Kasperske Hory**	**66.33**	**315**	*e*P	**P**	**02 13 49.3**	**+2.6**
CDF	**Champ du Feu**	**70.53**	**315**	*e*P	**P**	**02 14 12.7**	**-0.3**
	comp=Z,3.3nm,0.6s,mb4.2						
CDF	**Champ du Feu**	**70.53**	**315**	*e*P	**P**	**02 14 12.7**	**-0.3**
CDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CDF	**Champ du Feu**	**70.53**	**315**	*e*P	**P**	**02 14 12.7**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.1						
HINF	**Hinteralfeld**	**70.99**	**315**	*e*P	**P**	**02 14 15

mb1 3.6/8, mb1mx3.5/21, mbtmp3.5/8, ML3.9/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/28, Error ellipse: s-maj=86.6km s-min=18.3km az=87.0

NEIC ***13*** *02:03:54.4±2.4, 18.38N×146.48E, h61km±21km, mb4.2/1, Error ellipse: s-maj=40.8km s-min=12.4km az=90.0*

ISC 13 02:03:47.4±1.4, 18.47N±0.07×146.72E±0.3, h35km, n13, σ1.9/09/13, mb3.8/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.51**	**209**	P		**Pn**		**02 05 07.9**	**+0.8**
	6.0nm,0.3s,baz=155,slow=17,SNR=4.0								
GUMO				S		**Sn**		**02 06 08.8**	**-0.5**
	6.1nm,0.3s,baz=338,slow=24,SNR=4.0								
GUMO				LR		LR		02 07 06.3	
	comp=Z,78nm,21.0s,baz=269,slow=36								
MJAR	**Matsushiro Arr**	**19.81**	**337**	P		**Pn**		**02 08 14.8**	**-1.8**
	0.2nm,0.3s,baz=174,slow=9.4,SNR=3.5								
MAJO	**Matsushiro**	**19.81**	**337**	*e*P		**Pn**		**02 08 16.0**	**-0.6**
ASAJ	**Asahikawa**	**25.91**	**352**	LR		LR		02 18 46.3	
	comp=Z,27nm,20.7s,baz=193,slow=34								
KAPI	**Kappang**	**36.02**	**232**	*e*P		**P**		**02 10 41.4**	**-4.2**
	2.0nm,0.6s,mb4.2								
WB2	**Warramunga Arr**	**40.32**	**199**	*e*P		**P**		**02 11 21.7**	**0.0**
WRA	**Warramunga Arr**	**40.33**	**199**	P		**P**		**02 11 22.0**	**+0.3**
	0.6nm,0.6s,mb3.5,baz=23,slow=8.5,SNR=3.1								
ASAR	**Alice Springs**	**43.96**	**198**	P		**P**		**02 11 49.1**	**-2.1**
	0.3nm,0.6s,mb3.2,baz=8.9,slow=7.6,SNR=5.8								
SONM	**Songino Array**	**44.44**	**321**	P		**P**		**02 11 57.1**	**+2.1**
	0.4nm,0.6s,mb3.4,baz=134,slow=10,SNR=3.1								
ZALV	**Zalesovo Beam**	**59.29**	**322**	P		**P**		**02 13 45.4**	**-0.1**
	0.4nm,0.3s,mb3.9,baz=131,slow=4.0,SNR=2.4								
MKAR	**Makanchi Array**	**59.91**	**314**	P		**P**		**02 13 50.1**	**+0.2**
	0.4nm,0.6s,mb3.6,baz=87,slow=7.4,SNR=3.6								
BVAR	**Borovoye Array**	**67.79**	**320**	P		**P**		**02 14 42.5**	**+0.9**
	3.8nm,0.8s,mb4.5,baz=93,slow=7.7,SNR=18								
PAF	**Port-aux-Franc**	**95.89**	**220**	*e*P		**P**		**02 17 11.2**	**+0.9**

BJI ***13*** *02:22:29.4, 12.10N×144.85E, h32km, mB4.9, mb4.8, Ms4.4, Msz4.2*

ISCJB ***13*** *02:22:30.1±1.3, 12.54N±0.04×144.33E±0.03, h2km±7km, mb4.7/63, MS4.2/33, Error ellipse: s-maj=6.7km s-min=4.5km az=166.8*

IDC ***13*** *02:22:30.6±0.5, 12.52N×144.51E, h0km, mb4.5/19, mb1 4.6/20, mb1mx4.6/26, mbtmp4.6/20, ML6.2/1, MS4.1/20, Ms1 4.1/20, ms1mx4.0/28, Error ellipse: s-maj=17.4km s-min=10.9km az=98.0*

DJA ***13*** *02:22:32, 13.17N×146.10E, h81km, mb5.0/14*

MOS ***13*** *02:22:34.1±1.0, 12.54N×144.25E, h33km, mb5.0/23, Error ellipse: s-maj=12.8km s-min=8.2km az=87.4*

NEIC ***13*** *02:22:34.0±2.9, 12.52N×144.40E, h21km±20km, mb4.9/26, Error ellipse: s-maj=8.1km s-min=5.4km az=117.0*

ISC 13 02:22:32.6±1.1, 12.57N±0.04×144.39E±0.03, h8km±6km, n402, σ0.9/71/385, mb4.7/63, MS4.2/33, 111C-96D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.12**	**25**	Pn		**Pn**		**02 22 54.4**	**-0.2**
	2μm,0.3s,baz=179,slow=3.8,SNR=269								
GUMO					Sn	**Sn**		**02 23 10.7**	**+0.4**
	2μm,0.3s,baz=7.1,slow=22,SNR=32								
GUMO	**Guam**	**1.12**	**25**	P		**Pg**		**02 22 54.4**	**+0.2**
GUMO								03 23 10.7	
GUMO	**Guam**	**1.12**	**25**	*e*P		**Pg**		**02 22 54.5**	**+0.3**
CBIJ	**Chichi jima**	**14.60**	**352**	LR		LR		02 30 04.8	
	comp=Z,131nm,21.4s,baz=156,slow=31								
DAV	**Davao City (W)**	**19.31**	**255**	P		**Pn**		**02 26 58.6**	**-0.8**
	64nm,0.3s,baz=19,slow=5.8,SNR=1.9								
BUKP	**Musuan**	**19.57**	**258**	*e*P		**Pn**		**02 27 03.6**	**+1.0**
JOW	**Kunigami**	**20.74**	**316**	P		**P**		**02 27 16.1**	**+2.2**
	32nm,0.8s,baz=167,slow=12,SNR=8.0								
JHJ	**Hachijo jima 2**	**20.89**	**349**	LR		LR		02 34 14.3	
	comp=Z,717nm,21.4s,MS4.0,baz=168,slow=34								
MJAR	**Matsushiro Arr**	**24.51**	**348**	P		**P**		**02 27 51.8**	**-0.8**
	5.1nm,0.8s,mb4.1,baz=168,slow=8.6,SNR=23								
MJAR				LR		LR		02 36 40.4	
	comp=Z,394nm,18.9s,MS3.9,baz=175,slow=35								
MAJO	**Matsushiro**	**24.51**	**348**	*e*P		**P**		**02 27 50.6**	**-1.9**
MAT	**Matsushiro**	**24.51**	**348**	P		**P**		**02 27 51.7**	**-0.8**
MAT				S		**S**		**02 32 15.0**	**+1.7**
TSM	**Tawau**	**27.46**	**255**	⇑P		**P**		**02 28 22.4**	**+2.9**
SDKM	**Sandakan**	**27.70**	**258**	⇑P		**P**		**02 28 22.7**	**+1.1**
KAKA	**Kakadu**	**27.77**	**206**	*e*P		**P**		**02 28 20.5**	**-1.7**
	12nm,0.9s,mb4.5								
SSE	**Sheshan**	**28.25**	**314**	P		**P**		**02 28 27.2**	**+0.9**
SSE				S		**S**		**02 33 11.7**	**-0.9**
SSE				AMB		AMB			
	comp=Z,30nm,0.7s,mb5.0								
SSE				AMB		AMB			
	comp=Z,284nm,3.7s								
SSE				LR		LR			
	comp=N,223nm,18.4s,MS4.0								
SSE				LR		LR			
	comp=E,238nm,18.4s,MS4.0								
SSE				LR		LR			
	comp=Z,131nm,16.4s,MS3.6								
KSRS	**Korea Array**	**28.83**	**332**	P		**P**		**02 28 30.9**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.0,baz=143,slow=9.4,SNR=5.6								
KSRS				LR		LR		02 39 16.3	
	comp=Z,205nm,18.5s,MS3.8,baz=54,slow=35								
NJ2	**Nanjing**	**30.43**	**314**	*e*P		**P**		**02 28 45.5**	**-0.2**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.7								
CTA	**Charters Tower**	**32.50**	**177**	P		**P**		**02 29 02.4**	**-1.6**
	comp=Z,1.8nm,0.3s,mb4.4,baz=345,slow=10,SNR=3.2								
CTA	**Charters Tower**	**32.50**	**177**	P		**P**		**02 29 02.4**	**-1.6**
WHN	**Wuhan**	**33.02**	**308**	⇓P		**P**		**02 29 12.8**	**+4.3**
WHN				LR		LR			
	comp=Z,1μm,13.4s,MS4.8								
SBUM	**Sibu**	**33.39**	**255**	⇓P		**P**		**02 29 14.4**	**+2.4**
WRAB	**Tennant Creek**	**33.77**	**197**	*e*P		**P**		**02 29 13.7**	**-1.4**
WRAB				pmax		pmax			
	comp=Z,19nm,0.7s,mb5.1								
WRAB	**Tennant Creek**	**33.77**	**197**	*e*P		**P**		**02 29 13.7**	**-1.4**
	comp=Z,19nm,0.7s,mb5.1								
WB2	**Warramunga Arr**	**33.78**	**197**	⇑*i*P		**P**		**02 29 13.6**	**-1.6**
WB2	**Warramunga Arr**	**33.78**	**197**	*e*P		**P**		**02 29 14.5**	**-0.7**
WRA	**Warramunga Arr**	**33.78**	**197**	P		**P**		**02 29 13.7**	**-1.5**
	comp=Z,20nm,0.8s,mb5.1,baz=21,slow=9.7,SNR=48								
WRA				LR		LR		02 43 50.4	
	comp=Z,327nm,18.3s,MS4.1,baz=30,slow=38								
WRA	**Warramunga Arr**	**33.78**	**197**	*i* P		**P**		**02 29 13.6**	**-1.6**
WRA				pmax		pmax			
	comp=Z,20nm,0.8s								
QIZ	**Qiongzhong**	**33.81**	**285**	P		**P**		**02 29 15.0**	**-0.6**
QIZ				S		**S**		**02 34 40.6**	**+0.7**
QIZ				AMB		AMB			
	comp=Z,151nm,5.4s								
QIZ				LR		LR			
	comp=E,454nm,18.0s								
QIZ				LR		LR			
	comp=Z,520nm,18.4s,MS4.3								
MDJ	**Mudanjiang**	**34.36**	**341**	P		**P**		**02 29 21.4**	**+1.4**
MDJ				PCP		PcP		02 31 55.6	-0.3
MDJ				S		**S**		**02 34 51.6**	**+3.8**
MDJ				AMB		AMB			
	comp=Z,9.0nm,1.5s,mb4.5								
MDJ				AMB		AMB			
	comp=Z,77nm,3.6s								
MDJ				LR		LR			
	comp=N,86nm,23.0s,MS3.7								
MDJ				LR		LR			
	comp=E,148nm,21.1s,MS3.7								
MDJ				LR		LR			
	comp=Z,270nm,22.1s,MS3.9								
CN2	**Changchun**	**35.14**	**336**	*e*P		**P**		**02 29 26.9**	**+0.2**
CN2				*e*PP		PP		02 30 45.1	-1.3
CN2				LR		LR			
	comp=N,300nm,18.0s,MS4.2								
CN2				LR		LR			
	comp=E,300nm,18.0s,MS4.2								
CN2				LR		LR			
	comp=Z,300nm,18.0s,MS4.1								
KSM	**Kuching**	**35.52**	**255**	⇑P		**P**		**02 29 31.8**	**+1.4**
FITZ	**Fitzroy Crossi**	**35.65**	**212**	*e*P		**P**		**02 29 31.8**	**+0.4**
	comp=Z,10nm,1.2s,mb4.6								
BJI	**Beijing**	**36.96**	**323**	P		**P**		**02 29 40.5**	**-1.9**
BJI				AMB		AMB			
	comp=Z,11nm,1.0s,mb4.6								
BJI				AMB		AMB			
	comp=Z,187nm,5.2s								
BJI				LR		LR			
	comp=N,365nm,21.4s,MS4.2								
BJI				LR		LR			
	comp=E,236nm,19.7s,MS4.2								
BJI				LR		LR			
	comp=Z,176nm,31.0s								
ASAR	**Alice Springs**	**37.44**	**196**	P		**P**		**02 29 45.5**	**-1.1**
	comp=Z,3.9nm,0.7s,mb4.3,baz=17,slow=11,SNR=30								
GYA	**Guiyang**	**37.99**	**297**	P		**P**		**02 29 51.8**	**+0.5**
GYA				PP		PP		02 31 21.4	+3.3
GYA				PCP		PcP		02 32 08.7	+1.6
GYA				S		**S**		**02 35 43.5**	**-0.4**
GYA				SCS		ScS		02 40 02.4	-2.2
GYA				AMB		AMB			
	comp=Z,20nm,0.8s,mb4.9								
GYA				AMB		AMB			
	comp=Z,110nm,4.9s								
GYA				LR		LR			
	comp=N,370nm,18.4s,MS4.3								
GYA				LR		LR			
	comp=E,250nm,19.8s,MS4.3								
GYA				LR		LR			
	comp=Z,490nm,19.7s,MS4.3								
EIDS	**Eidsvold**	**38.27**	**170**	*e*P		**P**		**02 29 48.7**	**-4.8**
XAN	**Xi'an**	**38.67**	**310**	P		**P**		**02 29 56.8**	**-0.1**
XAN				AP		pP		02 30 03.4	+4.0
XAN				AMB		AMB			
	comp=Z,6.0nm,0.8s,mb4.4								
XAN				AMB		AMB			
	comp=Z,76nm,7.8s								
XAN				LR		LR			
	comp=N,174nm,23.0s								
XAN				LR		LR			
	comp=E,222nm,16.9s								
XAN				LR		LR			
	comp=Z,341nm,19.9s,MS4.2								
HHC	**Hu-ho-hao-te**	**40.25**	**320**	*e*P		**P**		**02 30 10.5**	**+0.5**
HHC				PP		PP		02 31 46.8	+4.2
HHC				PCP		PcP		02 32 15.6	+1.7
HHC				PCS		PcS		02 36 04.9	+0.7
HHC				S		**S**		**02 36 19.2**	**+1.7**
HHC				AMB		AMB			
	comp=Z,12nm,1.0s,mb4.6								
HHC				AMB		AMB			
	comp=Z,80nm,5.0s								
HHC				LR		LR			
	comp=N,360nm,20.3s,MS4.3								
HHC				LR		LR			
	comp=E,322nm,20.5s,MS4.3								
HHC				LR		LR			
	comp=Z,446nm,19.2s,MS4.3								
KMI	**Kunming**	**41.18**	**294**	P		**P**		**02 30 15.8**	**-2.2**
KMI				PP		PP		02 31 54.4	+1.4
KMI				S		**S**		**02 36 30.8**	**-1.0**
KMI				AMB		AMB			
	comp=Z,4.0nm,0.8s,mb4.1								
KMI				AMB		AMB			
	comp=Z,87nm,4.5s								
KMI				LR		LR			
	comp=N,254nm,17.6s								
KMI				LR		LR			
	comp=E,223nm,24.0s								
KMI				LR		LR			
	comp=Z,284nm,23.2s								
MYKOM	**Kota Tinggi**	**41.55**	**258**	⇓P		**P**		**02 30 22.1**	**+0.9**
CD2	**Chengdu**	**41.63**	**303**	*e*P		**P**		**02 30 20.3**	**-1.3**
CD2				PP		PP		02 32 00.9	+3.1
CD2				S		**S**		**02 36 37.2**	**-1.2**
CD2				SS		SS		02 39 38.2	-5.4
CD2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.6								
CD2				AMB		AMB			
	comp=Z,30nm,5.8s								
CD2				LR		LR			
	comp=N,160nm,12.6s								
CD2				LR		LR			
	comp=Z,180nm,14.2s,MS4.1								
PETK	**Petropavlovsk-**	**41.82**	**12**	LR		LR		02 46 43.3	
	comp=Z,137nm,18.8s,MS3.9,baz=11,slow=35								
KGM	**Kluang**	**41.99**	**259**	⇓P		**P**		**02 30 26.8**	**+2.0**
FRIM	**Kepong**	**43.30**	**261**	⇑P		**P**		**02 30 37.3**	**+2.0**
LZH	**Lanzhou**	**43.30**	**310**	*e*P		**P**		**02 30 36.5**	**+1.4**
LZH				*e*S		**S**		**02 37 01.0**	**-1.9**
LZH				AMB		AMB			
	comp=Z,18nm,1.5s,mb4.6								
LZH				AMB		AMB			
	comp=Z,89nm,4.6s								
LZH				LR		LR			
	comp=N,236nm,12.7s								
LZH				LR		LR			
	comp=Z,398nm,14.9s,MS4.4								
IPM	**Ipoh**	**43.57**	**263**	⇑P		**P**		**02 30 39.2**	**+1.6**
KULM	**Kulim**	**43.76**	**265**	⇑P		**P**		**02 30 40.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**44.09**	**284**	P		**P**		**02 30 43.5**	**+1.8**
	comp=Z,10nm,0.5s,mb4.8,baz=80,slow=7.2,SNR=32								
CMAR				LR		LR		02 49 16.7	
	comp=Z,206nm,18.5s,MS4.1,baz=272,slow=36								
STKA	**Stephens Creek**	**44.27**	**183**	P		**P**		**02 30 41.4**	**-1.4**
	comp=Z,4.1nm,0.9s,mb4.1,baz=341,slow=12,SNR=4.9								
STKA				LR		LR		02 50 46.9	
	comp=Z,295nm,18.2s,MS4.2,baz=25,slow=38								
STKA	**Stephens Creek**	**44.27**	**183**	P		**P**		**02 30 41.4**	**-1.4**
STKA				LR		LR		02 50 46.9	
PSI	**Prapat**	**46.01**	**262**	P		**P**		**02 30 58.2**	**+1.1**
	comp=Z,8.9nm,0.5s,mb4.9,baz=31,slow=23,SNR=13								
PSI	**Prapat**	**46.01**	**262**	P		**P**		**02 30 58.2**	**+1.1**
SONM	**Songino Array**	**47.30**	**326**	P		**P**		**02 31 06.5**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.3,baz=144,slow=9.9,SNR=17								
SONM				LR		LR		02 51 30.2	
	comp=Z,370nm,18.9s,MS4.4,baz=246,slow=37								
GTA	**Gaotai**	**47.51**	**312**	*e*P		**P**		**02 31 09.0**	**+0.6**
GTA				PP		PP		02 33 04.6	+4.8
GTA				AMB		AMB			
	comp=Z,12nm,1.0s,mb4.9								
GTA				AMB		AMB			
	comp=Z,90nm,7.7s								
GTA				LR		LR			
	comp=N,137nm,18.4s,MS4.2								
GTA				LR		LR			
	comp=E,210nm,19.0s,MS4.2								
GTA				LR		LR			
	comp=Z,285nm,19.9s,MS4.2								
SHL	**Shillong**	**50.98**	**293**	*i* P		**P**		**02 31 35.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**52.14**	**209**	P		**P**		**02 31 42.1**	**-1.6**
	comp=Z,8.8nm,1.0s,mb4.7,baz=277,slow=8.1,SNR=3.3								
HVS	**Khovu-Aksy**	**56.11**	**324**	*e*P		**P**		**02 32 10.7**	**-1.7**
HVS				pmax		pmax			
	comp=Z,21nm,1.4s,mb5.0								
UNV	**Unalaska Valle**	**56.44**	**33**	*e*P		**P**		**02 32 13.5**	**-1.3**
	comp=Z,14nm,0.7s,mb5.1								
BILL	**Bilibino**	**57.24**	**10**	*e*P		**P**		**02 32 18.0**	**-2.2**
BILL				*e*				02 33 09.0	
BILL				*e*				02 34 23.1	
BILL				*e*S		**S**		**02 40 09.4**	**-6.6**
BILL				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
BILL				MLR		MLR			
	comp=Z,200nm,19.0s,MS4.2								
WMQ	**Urumqi**	**57.50**	**314**	P		**P**		**02 32 24.3**	**+1.8**
WMQ				AP		pP		02 32 28.9	+3.9
WMQ				PCP		PcP		02 33 17.9	+1.8
WMQ				PP		PP		02 34 33.3	+3.3
WMQ				*e*S		**S**		**02 40 21.0**	**+0.7**
WMQ				SCS		ScS		02 42 09.6	-2.9
WMQ				SS		SS		02 44 09.7	-0.3
WMQ				AMB		AMB			
	comp=Z,18nm,0.7s,mb5.2								
WMQ				LR		LR			
	comp=N,224nm,32.0s								
WMQ				LR		LR			
	comp=E,103nm,25.6s								
WMQ				LR		LR			
	comp=Z,122nm,22.0s								
CHGN	**Chignik**	**61.69**	**32**	*e*P		**P**		**02 32 56.4**	**+5.2**
MK31	**Makanchi Array**	**61.90**	**317**	*e*P		**P**		**02 32 52.6**	**-0.1**
MKAR	**Makanchi Array**	**61.90**	**317**	P		**P**		**02 32 53.0**	**+0.3**
	comp=Z,1.6nm,0.3s,mb4.6,baz=90,slow=8.8,SNR=19								
MKAR				LR		LR		03 00 37.7	
	comp=Z,138nm,19.3s,MS4.1,baz=230,slow=37								
ZALV	**Zalesovo Beam**	**62.18**	**325**	P		**P**		**02 32 53.2**	**-1.2**
	comp=Z,1.6nm,0.5s,mb4.4,baz=114,slow=7.3,SNR=8.0								
ZALV				LR		LR		03 00 12.8	
	comp=Z,112nm,18.1s,MS4.1,baz=52,slow=36								
ZALV	**Zalesovo Beam**	**62.18**	**325**	P		**P**		**02 32 53.2**	**-1.2**
ZALV				LR		LR		03 00 12.8	
ZAL	**Zalesovo**	**62.19**	**325**	P		**P**		**02 32 53.2**	**-1.3**
KURK	**Kurchatov**	**65.06**	**320**	*e*P		**P**		**02 33 12.6**	**-1.0**
KURK				pmax		pmax			
	comp=Z,15nm,1.3s,mb4.9								
KURK	**Kurchatov**	**65.06**	**320**	*e*P		**P**		**02 33 12.6**	**-0.9**
	comp=Z,15nm,1.3s,mb4.9								
KDAK	**Kodiak Island**	**65.18**	**32**	P		**P**		**02 33 13.3**	**-0.9**
	comp=Z,2.5nm,0.4s,mb4.6,baz=297,slow=5.7,SNR=9.5								
TKM2	**Tokmak 2**	**66.04**	**311**	*e*P		**P**		**02 33 19.6**	**-0.4**
TKM2				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.6								
TKM2	**Tokmak 2**	**66.04**	**311**	*e*P		**P**		**02 33 19.6**	**-0.5**
	comp=Z,6.1nm,1.0s,mb4.6								
SLKM	**Skilak Lake**	**67.11**	**29**	*e*P		**P**		**02 33 25.8**	**-0.7**
AML	**Almayashu**	**67.38**	**310**	*e*P		**P**		**02 33 29.0**	**+0.3**
	comp=Z,128nm,0.6s								
RC01	**Rabbit Creek A**	**67.49**	**29**	*e*P		**P**		**02 33 27.8**	**-1.1**
	comp=Z,2μm,0.6s								
BPAW	**Bear Paw Mtn.**	**67.79**	**25**	*e*P		**P**		**02 33 29.3**	**-1.5**
	comp=Z,2μm,0.6s								
PMR	**Palmer**	**67.90**	**28**	*e*P		**P**		**02 33 29.5**	**-2.1**
PMR				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.6								
PMR	**Palmer**	**67.90**	**28**	*e*P		**P**		**02 33 29.5**	**-2.0**
	comp=Z,6.5nm,1.0s,mb4.6								
BRVK	**Borovoye**	**70.50**	**322**	*e*P		**P**		**02 33 47.6**	**-0.2**
KBL	**Kabul**	**70.98**	**302**	*e*P		**P**		**02 33 50.9**	**-0.2**
KBL				pmax		pmax			
	comp=Z,14nm,0.8s,mb4.9								
KBL	**Kabul**	**70.98**	**302**	*e*P		**P**		**02 33 50.9**	**-0.2**
	comp=Z,14nm,0.8s,mb4.9								
PPT	**Papeete**	**71.73**	**113**	*e*LR		LR		02 55 48.1	
	comp=Z,118nm,21.5s								
PPT	**Papeete**	**71.73**	**113**	LR		LR		03 00 11.1	
	comp=Z,210nm,18.2s,MS4.4,baz=194,slow=32								
PMOR	**Pomariorio Ree**	**72.42**	**110**	*e*T				03 53 21.9	
	comp=Z,1.1nm,0.2s								
DAWY	**Dawson**	**72.76**	**27**	*e*P		**P**		**02 34 00.8**	**-0.5**
ARU	**Arti**	**77.33**	**325**	*d i* P		**P**		**02 34 26.3**	**-1.5**
ARU				*e*S		S		02 44 14.7	-3.5
ARU				*e*SS		SS		02 49 10.0	-6.0
ARU				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
NLWA	**Neilton Lookou**	**82.05**	**43**	⇑P		**P**		**02 34 53.5**	**0.0**
	baz=82								
D03A	**Wishkah Elem.**	**82.16**	**44**	⇑P		**P**		**02 34 54.6**	**+0.5**
	baz=82								
B04A	**Port Angeles**	**82.17**	**43**	⇓P		**P**		**02 34 54.5**	**+0.2**
	baz=82								
E03A	**Lebam**	**82.40**	**44**	⇑P		**P**		**02 34 55.8**	**+0.3**
	baz=82								
H02A	**Toledo**	**82.42**	**46**	⇑P		**P**		**02 34 55.6**	**-0.1**
	baz=82								
KEBM	**Edson Butte**	**82.50**	**48**	*e*P		**P**		**02 34 55.6**	**-0.5**
F03A	**Seaside**	**82.51**	**45**	⇓P		**P**		**02 34 56.4**	**+0.3**
	baz=82								
C04A	**Brinnon**	**82.59**	**43**	⇑P		**P**		**02 34 56.5**	**+0.1**
	baz=82								
I02A	**Mapleton**	**82.66**	**47**	⇑P		**P**		**02 34 56.8**	**-0.1**
	baz=83								
G03A	**Yamhill**	**82.81**	**45**	⇓P		**P**		**02 34 57.9**	**+0.3**
	baz=83								
M01C	**Crescent City**	**82.84**	**49**	⇓P		**P**		**02 34 58.0**	**+0.1**
	baz=83								
H03A	**Soap Creek Ran**	**82.92**	**46**	⇑P		**P**		**02 34 58.1**	**-0.1**
	baz=83								
J02A	**Umpqua**	**82.96**	**47**	⇓P		**P**		**02 34 58.6**	**+0.1**
	baz=83								
I03A	**Eugene**	**83.06**	**47**	⇑P		**P**		**02 34 58.7**	**-0.2**
	baz=83								
K02A	**Glendale**	**83.13**	**48**	⇓P		**P**		**02 34 59.4**	**0.0**
	baz=83								
JCW	**Jim Creek**	**83.19**	**42**	*e*P		**P**		**02 34 59.3**	**-0.2**
FL2	**Flat Top 2**	**83.29**	**44**	P		**P**		**02 35 00.9**	**+0.9**
F04A	**Amboy**	**83.29**	**45**	⇓P		**P**		**02 35 00.4**	**+0.3**
	baz=83								
KHMM	**Horse Mountain**	**83.31**	**50**	*e*P		**P**		**02 35 00.6**	**+0.3**
D05A	**Enumclaw**	**83.34**	**43**	⇓P		**P**		**02 35 00.5**	**+0.2**
	baz=83								
C05A	**Tolt Reservoir**	**83.44**	**43**	⇑P		**P**		**02 35 00.9**	**+0.1**
	baz=83								
HUMO	**Hull Mountain**	**83.55**	**48**	⇑P		**P**		**02 35 01.2**	**-0.3**
	baz=84								
HUMO	**Hull Mountain**	**83.55**	**48**	*e*P		**P**		**02 35 01.9**	**+0.4**
	comp=Z,14nm,1.5s,mb4.9								
N02C	**Big Bar**	**83.63**	**50**	⇓P		**P**		**02 35 01.8**	**-0.2**
	baz=84								
H04A	**Detroit Lake**	**83.69**	**46**	⇑P		**P**		**02 35 01.5**	**-0.7**
	baz=84								
I04A	**Tendick Farm,**	**83.71**	**47**	⇓P		**P**		**02 35 01.6**	**-0.7**
	baz=84,SNR=7.0								
IRO	**Indian Ridge**	**83.78**	**46**	P		**P**		**02 35 02.1**	**-0.5**
M02C	**Callahan**	**83.86**	**49**	⇓P		**P**		**02 35 03.5**	**+0.3**
	baz=84								
YBH	**Yreka Blue Hor**	**83.90**	**49**	*e*P		**P**		**02 35 03.7**	**+0.4**
YBH				pmax		pmax			
	comp=Z,6.0nm,0.9s								
YBH	**Yreka Blue Hor**	**83.90**	**49**	⇓P		**P**		**02 35 03.4**	**+0.1**
	baz=84								
YBH	**Yreka Blue Hor**	**83.90**	**49**	*e*P		**P**		**02 35 03.7**	**+0.4**
	comp=Z,6.2nm,0.9s,mb4.7								
YKA	**Yellowknife Ar**	**83

MOD	Modoc	85.62	48	⇑P		P	02 35 12.4 +0.4
	baz=86						
MOD	Modoc	85.62	48	eP		P	02 35 12.1 0.0
	comp=Z,7.3nm,1.0s,mb4.9						
MOD				eP	cP	PcP	02 35 15.2 +0.3
M06C	Likely Place G	85.65	49	⇓P		P	02 35 12.2 0.0
	baz=86						
I07A	Izee	85.70	46	⇑P		P	02 35 12.7 +0.3
	baz=86						
G08A	Pilot Rock	85.80	45	⇑P		P	02 35 12.8 0.0
	baz=86						
F08A	Pendleton	85.81	44	⇑P		P	02 35 12.6 -0.3
	baz=86						
S04C	Ingram Canyon,	85.81	53	⇓P		P	02 35 13.2 +0.1
	baz=86						
D09A	Jones Farm, Ri	85.82	43	⇓P		P	02 35 12.9 0.0
	baz=86						
A10A	Northport	85.84	41	⇑P		P	02 35 13.2 +0.3
	baz=86						
HAST	Hastings Reser	85.88	54	⇑P		P	02 35 13.6 +0.2
	baz=86						
PACP	Pacheco Peak	85.95	53	⇑P		P	02 35 14.0 +0.2
	baz=86						
LAVA	Lava Cap Winer	85.99	51	⇑P		P	02 35 14.1 +0.1
	baz=86						
J07A	Hines	86.00	47	⇓P		P	02 35 13.9 +0.1
	baz=86						
BEKR	Beckwourth	86.03	50	P		P	02 35 13.8 -0.3
	baz=86,SNR=8.0						
E09A	Wood Farm, Sta	86.06	43	⇑P		P	02 35 13.7 -0.4
	baz=86						
H08A	Prairie City	86.18	45	⇑P		P	02 35 14.1 -0.7
	baz=86						
K07A	Rock Creek Ran	86.20	47	P		P	02 35 14.5 -0.4
	baz=86,SNR=8.7						
N06A	Buffalo Meadow	86.22	49	⇑P		P	02 35 14.7 -0.3
	baz=86						
L07A	Adell	86.29	48	P		P	02 35 15.6 +0.3
	baz=86,SNR=14						
NEW	Newport	86.30	41	eP		P	02 35 14.7 -0.5
NEW				pmax		pmax	
	comp=Z,7.0nm,0.8s						
NEW	Newport	86.30	41	eP		P	02 35 14.7 -0.5
	comp=Z,7.3nm,0.8s,mb5.0						
O06A	Flanigan	86.36	50	⇓P		P	02 35 15.5 -0.2
	baz=86						
I08A	Drewsey	86.40	46	⇑P		P	02 35 15.7 -0.1
	baz=86						
CMB	Columbia Colle	86.42	52	⇑P		P	02 35 15.6 -0.5
	baz=86						
CMB	Columbia Colle	86.42	52	eP		P	02 35 16.0 0.0
D10A	Wagner Farm, O	86.51	43	⇓P		P	02 35 15.6 -0.7
	baz=86						
R05C	Kirkwood Meado	86.51	51	⇓P		P	02 35 16.7 +0.2
	baz=86						
J08A	Circle Bar Ran	86.60	46	⇑P		P	02 35 17.1 +0.3
	baz=86						
G09A	Cove	86.61	44	⇑P		P	02 35 16.8 -0.1
	baz=86						
A11A	Hall Mountain,	86.61	41	⇓P		P	02 35 17.2 +0.5
	baz=86						
WVOR	Wild Horse Val	86.70	47	eP		P	02 35 17.1 -0.2
WVOR				pmax		pmax	
	comp=Z,3.0nm,0.8s,mb4.6						
WVOR	Wild Horse Val	86.70	47	eP		P	02 35 17.1 -0.3
	comp=Z,2.8nm,0.8s,mb4.5						
K08A	Mann Creek Ran	86.74	47	P		P	02 35 17.4 -0.1
	baz=87,SNR=10						
B11A	Sandpoint	86.75	41	⇑P		P	02 35 17.4 0.0
	baz=87						
E10A	Myers Farm, Un	86.76	43	⇑P		P	02 35 16.6 -0.9
	baz=87						
PKD	Parkfield	86.77	54	⇑P		P	02 35 17.8 0.0
	baz=87						
F10A	Beach Ranch, E	86.81	44	⇓P		P	02 35 17.7 0.0
	baz=87						
N07B	Gerlach	86.86	49	⇑P		P	02 35 18.5 +0.4
	baz=87						
S06C	San Francisco	86.87	52	⇑P		P	02 35 18.2 0.0
	baz=87						
L08A	Fields	86.97	48	⇓P		P	02 35 18.2 -0.5
	baz=87						
R06C	Coleville	87.03	51	⇓P		P	02 35 18.8 -0.3
	baz=87						
BMO	Blue Mountains	87.04	45	eP		P	02 35 18.4 -0.5
BMO				pmax		pmax	
	comp=Z,8.0nm,0.8s,mb5.0						
BMO	Blue Mountains	87.04	45	eP		P	02 35 18.4 -0.6
	comp=Z,7.8nm,0.8s,mb5.0						
G10A	Bishop Farm, J	87.06	44	P		P	02 35 19.0 0.0
	baz=87,SNR=10						
O07A	Toulon	87.07	50	⇓P		P	02 35 19.2 0.0
	baz=87						
J09A	Fry Pan Ranch,	87.11	46	P		P	02 35 19.5 +0.2
	baz=87,SNR=7.1						
M08A	Happy Creek Ra	87.13	48	⇑P		P	02 35 19.3 -0.1
	baz=87						
D11A	Klaveano Farm,	87.13	43	⇓P		P	02 35 18.8 -0.5
	baz=87						
T06C	Millerton Lake	87.18	53	P		P	02 35 20.1 +0.3
	baz=87,SNR=5.2						
EDM	Edmonton	87.25	36	eP		P	02 35 20.0 +0.3
K09A	Rome	87.29	47	⇓P		P	02 35 19.4 -0.8
	baz=87						
KEV	Kevo	87.34	342	epkp		P	02 35 18.9 -1.0
	comp=Z,4.1nm,0.5s,mb4.9						
KEV	Kevo	87.34	342	eP		P	02 35 18.9 -1.0
KEV				pmax		pmax	
	comp=Z,4.0nm,0.5s,mb4.9						
E11A	Bogner Ranch,	87.40	43	P		P	02 35 20.3 -0.3
	baz=87,SNR=6.7						
KCC	Kaiser Creek	87.41	52	⇑P		P	02 35 20.6 -0.3
	baz=87						
N08A	GE Springer Mi	87.47	49	P		P	02 35 21.2 +0.1
	baz=87,SNR=9.1						
H10A	Noah's Angus R	87.50	45	P		P	02 35 20.4 -0.8
	baz=87,SNR=7.8						
L09A	Wilkinson Ranc	87.50	48	P		P	02 35 21.4 +0.1
	baz=87,SNR=5.5						
F11A	Grangeville	87.56	44	⇓P		P	02 35 20.6 -0.8
	baz=88						
I10A	Payette	87.59	45	⇓P		P	02 35 21.4 -0.2
	baz=88						
G11A	Walters Elk Ra	87.61	44	P		P	02 35 21.2 -0.5
	baz=88,SNR=14						
D12A	Red Ives Fores	87.78	42	⇑P		P	02 35 22.1 -0.3
	baz=88						
J10A	Berg Farm, Mel	87.78	46	⇑P		P	02 35 22.3 -0.2
	baz=88						
HELL	Mitchell Peak	87.80	53	⇓P		P	02 35 22.3 -0.4
	baz=88						
M09A	Marrel Ranch,	87.81	48	⇑P		P	02 35 22.7 0.0
	baz=88						
A13A	Flathead Natio	87.86	40	⇑P		P	02 35 22.6 -0.2
	baz=88						
K10A	MacKenzie Ranc	87.88	47	P		P	02 35 22.9 -0.1
	baz=88,SNR=15						
N09A	Rock Creek Ran	87.90	49	⇓P		P	02 35 23.0 -0.1
	baz=88						
ARCES	ARCESS Array B	87.91	342	P		P	02 35 20.9 -1.7
	comp=Z,1.5nm,0.4s,mb4.5,baz=68,slow=6.3,SNR=31						
ARCES				LR		LR	03 17 01.2
	comp=Z,102nm,19.9s,MS4.2,baz=312,slow=37						
NVAR	Mina Array Bea	87.92	51	P		P	02 35 23.9 +0.6
	comp=Z,2.2nm,0.5s,mb4.7,baz=270,slow=5.8,SNR=17						
NVAR	Mina Array Bea	87.92	51	P		P	02 35 23.9 +0.6
H11A	Donnelly	87.97	45	P		P	02 35 22.7 -0.7
	baz=88,SNR=9.2						
B13A	Whitefish	87.98	41	⇓P		P	02 35 23.1 -0.3
	baz=88						
Q08A	Gabbs	88.10	51	⇑P		P	02 35 23.4 -0.8
	baz=88						
C13A	Hot Springs	88.11	42	⇑P		P	02 35 23.7 -0.3
	baz=88						
F12A	Elk City	88.20	44	⇓P		P	02 35 24.1 -0.3
	baz=88						
I11A	Placerville	88.22	45	⇓P		P	02 35 24.0 -0.6
	baz=88						
S08C	White Mtn Res	88.26	52	⇓P		P	02 35 24.9 -0.1
	baz=88,SNR=5.3						
O09A	Fish Creek Ran	88.32	49	⇓P		P	02 35 25.0 -0.2
	baz=88						
L10A	Juniper Basin	88.35	47	⇓P		P	02 35 25.4 +0.1
	baz=88						
D13A	Huson	88.35	42	⇓P		P	02 35 25.1 -0.1
	baz=88						
M10A	I.L. Ranch, Tu	88.45	48	⇓P		P	02 35 25.8 +0.1
	baz=88						
MFID	Camas Ranch	88.45	46	P		P	02 35 26.1 +0.4
	baz=88,SNR=14						
ISA	Isabella	88.47	54	⇑P		P	02 35 25.5 -0.5
	baz=88						
K11A	Parker Ranch,	88.48	47	P		P	02 35 26.3 +0.4
	baz=88,SNR=10						
CWC	Cottonwood Cre	88.59	53	⇓P		P	02 35 26.6 0.0
	baz=88						
C14A	Swan Lake	88.62	41	⇑P		P	02 35 26.4 0.0
	baz=88						
O10A	Cortez Mining,	88.80	49	⇓P		P	02 35 27.5 +0.1
	baz=89						
H12A	Diamond D Ranc	88.81	45	⇑P		P	02 35 26.8 -0.6
	baz=89						
F13A	Darby	88.81	43	P		P	02 35 26.9 -0.5
	baz=89,SNR=5.9						
L11A	Cat Creek Ranc	88.84	47	⇑P		P	02 35 27.4 -0.2
	baz=89,SNR=8.5						
R09A	Tonopah	88.91	51	P		P	02 35 28.3 +0.3
	baz=89,SNR=12						
S09A	Goldfield	88.93	52	P		P	02 35 28.6 +0.5
	baz=89,SNR=7.2						
J12A	Stokes Ranch,	89.00	46	⇓P		P	02 35 28.2 -0.1
	baz=89,SNR=6.4						
P10A	Eureka	89.00	50	⇑P		P	02 35 28.9 +0.4
	baz=89						
M11A	Holland Ranch,	89.01	48	⇓P		P	02 35 29.0 +0.6
	baz=89						
JOF	Joensuu	89.02	335	epkp		P	02 35 26.2 -1.8
	comp=Z,0.5nm,0.3s,mb4.3						
JOF	Joensuu	89.02	335	eP		P	02 35 26.2 -1.8
JOF				pmax		pmax	
	comp=Z,1.0nm,0.3s,mb4.6						
EDW2	Edwards Air Fo	89.05	55	⇑P		P	02 35 28.9 +0.1
	baz=89						
G13A	Cobalt	89.08	44	P		P	02 35 28.4 -0.3
	baz=89,SNR=17						
MPMC	Manual Prospec	89.15	53	P		P	02 35 29.2 +0.1
	baz=89,SNR=12						
CHMT	Chamberlain Mo	89.19	42	eP		P	02 35 28.6 -0.6
H13A	Challis	89.22	44	⇓P		P	02 35 28.9 -0.4
	baz=89						
N11A	Elko Archery C	89.22	48	⇑P		P	02 35 29.6 +0.2
	baz=89						
GNI	Garni	89.23	311	eP		P	02 35 28.2 -1.3
GNI				pmax		pmax	
	comp=Z,7.0nm,1.3s						
Q10A	Clear Creek Ra	89.26	50	⇑P		P	02 35 30.2 +0.5
	baz=89						
K12A	Draper Farm, C	89.31	46	⇓P		P	02 35 29.6 -0.2
	baz=89						
S10A	Tonopah Range,	89.36	51	P		P	02 35 30.6 +0.5
	baz=89,SNR=14						
L12A	House Creek Ra	89.37	47	P		P	02 35 31.0 +0.9
	baz=89,SNR=7.4						
HLID	Hailey	89.39	45	P		P	02 35 30.7 +0.5
	baz=89,SNR=11						
HLID	Hailey	89.39	45	eP		P	02 35 30.1 -0.1
	comp=Z,4.3nm,0.8s,mb4.8						
O11A	Cowboy Ranch,	89.47	49	⇓P		P	02 35 30.5 -0.1
	baz=89						
R10A	Warm Springs	89.48	51	⇓P		P	02 35 30.8 +0.2
	baz=89						
I13A	Wildhorse Cree	89.50	45	P		P	02 35 31.2 +0.6
	baz=89,SNR=9.2						
FURC	Furnace Creek,	89.53	53	⇓P		P	02 35 31.5 +0.5
	baz=90						
ELK	Elko	89.60	48	eP		P	02 35 31.3 +0.1
ELK				pmax		pmax	
	comp=Z,10.0nm,0.9s						
ELK	Elko	89.60	48	eP		P	02 35 31.3 +0.1
	comp=Z,10nm,0.9s,mb5.2						
J13A	Cove Ranch, Pi	89.61	46	P		P	02 35 31.6 +0.4
	baz=90,SNR=7.4						
M12A	Wells	89.65	48	⇓P		P	02 35 32.0 +0.6
	baz=90						
OBN	Obninsk	89.70	327	eP		P	02 35 31.8 +0.5
OBN				e			02 35 39.0
OBN				e			02 39 03.0
OBN				ePS		PS	02 47 31.7 +2.6
OBN				eSS		SS	02 52 19.0 +0.2
OBN				pmax		pmax	
	comp=Z,3.0nm,0.7s,mb4.7						
OBN				MLR		MLR	
	comp=Z,100nm,17.0s,MS4.3						
N12A	Clover Valley,	89.72	48	⇓P		P	02 35 32.2 +0.4
	baz=90						
E15A	Deer Lodge	89.74	42	⇑P		P	02 35 32.0 +0.2
	baz=90						
Q11A	Duckwater	89.82	50	⇓P		P	02 35 32.4 +0.2
	baz=90						
TPNV	Topopah Spring	89.88	52	eP		P	02 35 32.5 -0.1
TPNV				pmax		pmax	
	comp=Z,6.0nm,0.9s,mb4.9						
TPNV	Topopah Spring	89.88	52	⇑P		P	02 35 32.5 -0.1
	baz=90						
TPNV	Topopah Spring	89.88	52	eP		P	02 35 32.5 -0.1
	comp=Z,6.0nm,0.9s,mb4.9						
GSC	Goldstone	89.88	54	eP		P	02 35 32.4 -0.2
GSC				pmax		pmax	
	comp=Z,7.0nm,0.9s,mb5.0						
GSC	Goldstone	89.88	54	P		P	02 35 33.0 +0.4
	baz=90,SNR=6.4						
GSC	Goldstone	89.88	54	eP		P	02 35 32.4 -0.3
	comp=Z,6.6nm,0.9s,mb5.0						
K13A	Stover Farm, H	89.89	46	⇓P		P	02 35 32.8 +0.3
	baz=90						
U10A	Ash Meadows, A	89.96	53	⇓P		P	02 35 33.3 +0.4
	baz=90						
R11A	Troy Canyon, C	90.01	51	P		P	02 35 33.7 +0.6
	baz=90,SNR=7.8						
MURC	Murrieta	90.01	56	⇑P		P	02 35 32.8 -0.5
	baz=90						
F15A	Butte	90.02	43	⇑P		P	02 35 32.5 -0.5
	baz=90						
LRM	Limekiln Ridge	90.06	43	eP		P	02 35 33.3 +0.1
S11A	Rachel	90.08	51	⇑P		P	02 35 34.1 +0.6
	baz=90						
MCMT	McKenzie Canyo	90.09	44	P		P	02 35 33.7 +0.3
O12A	Currie	90.10	49	⇓P		P	02 35 33.7 +0.2
	baz=90						
SHOC	Shoshone	90.14	53	⇑P		P	02 35 33.8 0.0
	baz=90						
L13A	Double Diamond	90.15	47	⇑P		P	02 35 34.2 +0.4
	baz=90						
G15A	Dillon	90.23	44	⇓P		P	02 35 33.9 -0.2
	baz=90						
Q12A	Willow Creek R	90.38	50	⇑P		P	02 35 35.3 +0.4
	baz=90						
HEC	Hector,Ludlow	90.38	54	⇑P		P	02 35 35.3 +0.3
	baz=90						
VNDA	Vanda	90.48	176	P		P	02 35 34.2 -0.2
	comp=Z,1.5nm,1.0s,mb4.3,baz=296,slow=8.7,SNR=3.2						
VNDA				LR		LR	03 17 42.1
	comp=Z,112nm,18.3s,MS4.3,baz=342,slow=37						
VNDA	Vanda	90.48	176	P		P	02 35 34.2 -0.2
VNDA				LR		LR	03 17 42.1
TUQ	Turquoise Mtn.	90.54	54	P		P	02 35 36.1 +0.5
	baz=90,SNR=8.6						
K14A	Jones Ranch, D	90.56	46	⇑P		P	02 35 36.1 +0.4
	baz=90						
T11A	Corn Creek, Al	90.59	52	⇑P		P	02 35 36.0 +0.1
	baz=90						
BOZ	Bozeman (W)	90.66	43	⇑P		P	02 35 35.7 -0.3
	baz=91						
L14A	Malta	90.67	47	⇑P		P	02 35 36.3 +0.2
	baz=91						
R12A	Pony Springs,	90.75	51	⇑P		P	02 35 36.8 +0.1
	baz=91						
M14A	Sheep Mountain	90.75	47	⇑P		P	02 35 36.7 +0.2
	baz=91						
S12A	Delamar Landin	90.77	51	⇑P		P	02 35 37.1 +0.4
	baz=91						
MONP	Monument Peak	90.83	56	⇓P		P	02 35 37.0 0.0
	baz=91						
SHPR	Sheep Range	90.84	52	eP		P	02 35 37.5 +0.4
P13A	Bates Ranch, G	90.87	49	P		P	02 35 37.6 +0.5
	baz=91,SNR=9.1						
BELC	Belle Mtn.	90.87	55	⇓P		P	02 35 37.2 0.0
	baz=91						
GMRC	Granite Mounta	90.93	54	⇓P		P	02 35 37.5 0.0
	baz=91						
Q13A	Wheeler Ranch,	91.01	50	⇓P		P	02 35 38.4 +0.6
	baz=91						
N14A	Grayback Hills	91.06	48	⇓P		P	02 35 38.4 +0.4
	baz=91						
R13A	O'Grain Ranch,	91.28	51	⇑P		P	02 35 39.5 +0.5
	baz=91						
LDFC	Landfair	91.28	54	eP		P	02 35 39.3 +0.2
L15A	Malad City	91.28	47	⇓P		P	02 35 39.4 +0.4
	baz=91						
V12A	Nelson	91.30	53	P		P	02 35 40.0 +0.8
	baz=91,SNR=8.8						
BC3	Big Chuckw Mtn	91.40	55	⇓P		P	02 35 39.8 +0.1
	baz=91						
M15A	Larsen Ranch,	91.41	47	⇓P		P	02 35 39.2 -0.3
	baz=91						
J16A	Bone	91.43	45	⇑P		P	02 35 40.1 +0.4
	baz=91						
KAF	Kangasniemi	91.45	335	epkp		P	02 35 37.2 -2.1
	comp=Z,1.7nm,0.4s,mb4.7						
KAF	Kangasniemi	91.45	335	eP		P	02 35 37.2 -2.1
KAF				pmax		pmax	
	comp=Z,2.0nm,0.4s,mb4.8						
IRM	Iron Mountain	91.50	55	⇓P		P	02 35 40.4 +0.2
	baz=92						
P14A	Drum Mountains	91.53	49	⇑P		P	02 35 40.4 +0.3
	baz=92						
S13A	Holt Ranch, En	91.53	51	⇓P		P	02 35 40.9 +0.6
	baz=92						
DUG	Dugway	91.53	48	eP		P	02 35 39.8 -0.4
DUG				pmax		pmax	
	comp=Z,7.0nm,1.2s,mb4.9						
DUG	Dugway	91.53	48	⇓P		P	02 35 40.2 0.0
	baz=92						
DUG	Dugway	91.53	48	eP		P	02 35 39.8 -0.4
	comp=Z,7.2nm,1.2s,mb4.9						
Q14A	Sevier Lake (B	91.56	50	⇑P		P	02 35 40.6 +0.2
	baz=92						
K16A	Soda Springs	91.58	46	⇑P		P	02 35 40.8 +0.4
	baz=92						
RRI2	Red Ridge	91.61	45	eP		P	02 35 39.4 -1.1
	comp=Z,7.4nm,1.1s,mb4.9						
T13A	Saint George	91.66	52	⇑P		P	02 35 41.3 +0.5
	baz=92						
IMW	Indian Meadow	91.69	44	eP		P	02 35 41.5 +0.7
	comp=Z,4.3nm,0.8s,mb4.8						
U13A	Pakoon Wash	91.79	52	P		P	02 35 42.3 +0.8
	baz=92,SNR=7.6						
MOOW	Moose Ponds	91.87	44	eP		P	02 35 41.4 -0.3
	comp=Z,2.3nm,0.8s,mb4.6						
V13A	Grand Canyon W	91.94	53	P		P	02 35 43.0 +0.8
	baz=92,SNR=7.1						
GLA	Glamis	92.07	56	eP		P	02 35 43.1 +0.3
GLA				pmax		pmax	
	comp=Z,10.0nm,1.1s,mb5.1						
GLA	Glamis	92.07	56	⇓P		P	02 35 43.3 +0.4
	baz=92						
GLA	Glamis	92.07	56	eP		P	02 35 43.1 +0.3
	comp=Z,10nm,1.1s,mb5.1						
Y12C	Blythe	92.12	55	⇓P		P	02 35 43.1 +0.1
	baz=92						
W13A	Hualapai Mount	92.24	53	P		P	02 35 44.2 +0.7
	baz=92,SNR=5.5						
PDMCI	Parker Dam,Lak	92.27	54	⇑P		P	02 35 44.2 +0.4
	baz=92						
T14A	Hurricane	92.28	51	⇑P		P	02 35 44.4 +0.7
	baz=92						
U14A	Mt Trumbull	92.39	52	⇑P		P	02 35 45.0 +0.7
	baz=92						
RLMT	Red Lodge	92.40	43	eP		P	02 35 44.7 +0.6
	comp=Z,4.7nm,1.0s,mb4.8						
X13A	Yucca	92.43	54	P		P	02 35 45.0 +0.5
	baz=92,SNR=7.1						
MSU	Marysvale	92.52	50	eP		P	02 35 45.3 +0.5
Y13A	Salome	92.65	55	⇑P		P	02 35 46.3 +0.8
	baz=93						
V14A	Boquillas Ranc	92.69	53	P		P	02 35 46.8 +1.1
	baz=93,SNR=11						
W14A	Seligman	92.83	53	⇓P		P	02 35 46.7 +0.4
	baz=93						
PDAR	Pinedale Array	93.02	45	P		P	02 35 45.7 -1.3
	comp=Z,0.9nm,0.8s,mb4.3,baz=207,slow=1.0,SNR=5.6						
PDAR				LR		LR	03 10 11.7
	comp=Z,76nm,19.8s,MS4.2,baz=121,slow=31						
U15A	North Rim	93.08	52	⇑P		P	02 35 48.2 +0.8
	baz=93						
R16A	Teasdale	93.11	50	⇑P		P	02 35 48.0 +0.4
	baz=93						
X14A	Yava	93.20	54	P		P	02 35 49.1 +1.1
	baz=93,SNR=5.9						
Y14A	Wickenburg	93.27	54	P		P	02 35 49.2 +0.8
	baz=93,SNR=7.5						
V15A	Kaibab Nationa	93.35	52	⇓P		P	02 35 49.4 +0.7
	baz=93						
W15A	Williams	93.48	53	⇓P		P	02 35 49.7 +0.4
	baz=93						
SRU	San Rafael	93.55	49	⇓P		P	02 35 49.4 -0.2
	baz=94						
R17A	Hanksville Air	93.64	50	⇑P		P	02 35 49.5 -0.4
	baz=94						
X15A	Humboldt	93.71	54	⇓P		P	02 35 50.7 +0.3
	baz=94,SNR=7.3						
Y15A	Casa Rosa Ranc	93.80	54	⇑P		P	02 35 51.2 +0.4
	baz=94						
S17A	Black Ridge (B	93.83	50	⇑P		P	02 35 50.9 0.0
	baz=94						
214A	Organ Pipe Nat	94.02	56	⇓P		P	02 35 52.4 +0.5
	baz=94						
T17A	Navajo Res., N	94.03	51	⇑P		P	02 35 52.0 +0.2
	baz=94						
WUAZ	Wupatki	94.07	52	⇑P		P	02 35 52.9 +0.9
	baz=94						
WUAZ	Wupatki	94.07	52	eP		P	02 35 52.5 +0.5
	comp=Z,5.2nm,1.0s,mb4.9						
R18A	Canyonlands Na	94.26	49	⇑P		P	02 35 52.6 -0.2
	baz=94						
X16A	Lo Mia Camp, P	94.36	54	⇓P		P	02 35 54.0 +0.6
	baz=94						
S18A	Hurst Farm, Bl	94.41	50	⇑P		P	02 35 54.3 +0.8
	baz=94						
Y16A	Circle Bar Ran	94.50	54	⇑P		P	02 35 55.4 +1.4
	baz=94						
T18A	Mexican Hat	94.69	51	⇓P		P	02 35 54.6 -0.2
	baz=95						
X17A	Forest Lakes	94.88	53	⇓P		P	02 35 57.0 +1.2
	baz=95						
Y17A	Roosevelt	95.06	54	⇓P		P	02 35 57.4 +0.8
	baz=95						
PV01	Paradox Valley	95.32	49	eP		P	02 35 57.3 -0.4
T19A	Beclabito	95.43	51	⇑P		P	02 35 58.6 +0.4
	baz=95						
117A	Oracle	95.50	55	⇑P		P	02 35 59.1 +0.5
	baz=95						
AKASG	Malin Array Be	95.58	325	LR		LR	03 23 35.1
	comp=Z,98nm,18.8s,MS4.3,baz=90,slow=38						
Y18A	Canyon Day Jun	95.67	54	⇑P		P	02 35 59.8 +0.5
	baz=96						
217A	Green Valley	95.69	56	⇓P		P	02 36 00.1 +0.6
	baz=96						
MVCO	Mesa Verde	95.70	50	⇓P		P	02 35 59.5 +0.1
	baz=96						
X19A	St. Johns	96.04	53	⇓P		P	02 36 01.9 +0.8
	baz=96						
118A	Homack Ranch,	96.09	55	⇓P		P	02 36 02.0 +0.7
	baz=96						
Y19A	Nutrioso	96.22	53	⇑P		P	02 36 02.7 +0.8
	baz=96						
119A	Ashpeak Ranch,	96.58	54	⇑P		P	02 36 04.1 +0.5
	baz=96						
NOA	NORSAR Array B	97.83	339	LR		LR	03 25 58.0
	comp=Z,44nm,18.8s,MS4.0,baz=30,slow=39						
MAW	Mawson	98.31	203	LR		LR	03 18 32.1
	comp=Z,177nm,20.0s,MS4.6,baz=241,slow=34						
ULM	Lac du Bonnet	98.35	34	LR		LR	03 22 31.9

TIC	**Toumodi**	**144.10 300**	*e*PKP1	PKPdf	02 42 07.5	-2.6
	comp=Z,53nm,0.8s					
LIC	**Lamto**	**144.32 300**	*e*PKP1	PKPdf	02 42 08.1	-2.4
	comp=Z,77nm,0.7s					
LVC	**Limon Verde**	**146.80 112**	*e*PKPbc	PKPbc	02 42 16.1	-0.1
LPAZ	**La Paz**	**148.31 101**	PKPbc	PKPbc	02 42 20.7	+0.2
	comp=Z,3.0nm,0.7s,baz=271,slow=2.9,SNR=15					
LPAZ	**La Paz**	**148.31 101**	PKP2	PKPbc	02 42 20.7	+0.2
LPAZ			pmax	pmax		
	comp=Z,3.0nm,0.7s					
LPAZ	**La Paz**	**148.31 101**	*e*PKPbc	PKPbc	02 42 20.9	+0.3
LPAZ			*e*PKPab	PKPab	02 42 24.0	+0.4
CPUP	**Villa Florida**	**155.42 127**	PKPab	PKPab	02 42 51.9	-1.1
	comp=Z,1.5nm,0.6s,baz=52,slow=0.2,SNR=6.4					
CPUP	**Villa Florida**	**155.42 127**	PKP2	PKPab	02 42 51.9	-1.1
CPUP			pmax	pmax		
	comp=Z,2.0nm,0.6s					

*IDC **13** 02:25:55.4±1.5, 1402S×1661.5E, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/17, mbtmp4.0/6, MS2.9/2, Ms1 3.0/2, ms1mx2.8/22, Error ellipse: s-maj=37.6km s-min=26.0km az=81.0*

NEIC 13 02:25:55.1±0.5, 1390S×16635E, h10km, mb4.1/1, Error ellipse: s-maj=22.4km s-min=17.0km az=127.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**21.24**	**93**	LR	LR	02 37 16.7	
	comp=Z,61nm,19.6s,baz=282,slow=32						
URZ	**Urewera**	**26.07**	**160**	P	P	02 31 30.2	+1.3
	7.0nm,0.8s,baz=328,slow=9.5,SNR=3.1						
STKA	**Stephens Creek**	**28.86**	**228**	P	P	02 31 54.6	+0.6
	2.3nm,0.5s,baz=57,slow=8.6,SNR=4.9						
WRAB	**Tennant Creek**	**31.16**	**254**	*e*P	P	02 32 14.3	-0.1
	2.5nm,1.0s						
WRA	**Warramunga Arr**	**31.17**	**254**	P	P	02 32 14.3	-0.2
	0.9nm,0.6s,baz=86,slow=9.6,SNR=3.0						
ASAR	**Alice Springs**	**32.14**	**248**	P	P	02 32 22.6	-0.4
	0.6nm,0.5s,baz=77,slow=9.6,SNR=5.7						
MJAR	**Matsushiro Arr**	**56.76**	**333**	P	P	02 35 41.5	+2.2
	1.1nm,0.5s,baz=163,slow=9.8,SNR=5.8						
SONM	**Songino Array**	**81.30**	**324**	P	P	02 38 13.3	+1.7
	0.2nm,0.3s,baz=150,slow=6.7,SNR=3.0						
NVAR	**Mina Array Bea**	**87.42**	**50**	LR	LR	03 09 06.3	
	comp=Z,4.0nm,20.6s,baz=130,slow=30						
CDF	**Champ du Feu**	**141.48**	**338**	*e*PKP1	PKPdf	02 45 25.5	-1.0
HINF	**Hinteralfeld**	**142.13**	**337**	*e*PKP1	PKPdf	02 45 26.7	-1.0
LPL	**La Plagne**	**144.07**	**335**	*e*PKP1	PKPdf	02 45 29.9	-1.3
	1.8nm,0.6s						
LPG	**La Plagne**	**144.08**	**335**	*e*PKP1	PKPdf	02 45 30.0	-1.2
	2.2nm,0.5s						
BGF	**Bois d'Agland**	**144.62**	**340**	*e*PKP1	PKPdf	02 45 31.1	-1.0
MBDF	**Montbardon**	**144.70**	**334**	*e*PKP1	PKPdf	02 45 31.3	-1.0
	3.6nm,0.8s						
ORIF	**Oris-en-Rattie**	**144.91**	**336**	*e*PKP1	PKPdf	02 45 32.5	-0.2
	9.0nm,0.7s						
PGF	**Pioggiola**	**145.40**	**330**	*e*PKP1	PKPbc	02 45 33.6	+0.1
	14nm,1.0s						
MFF	**Saint Martin d**	**145.48**	**343**	*e*PKP1	PKPbc	02 45 33.6	0.0
	10.0nm,1.0s						
FRF	**La Foret Royal**	**145.69**	**333**	*e*PKP1	PKPbc	02 45 34.3	-0.1
	15nm,0.9s						
SMRF	**Simiane la Rot**	**145.81**	**335**	*e*PKP1	PKPbc	02 45 35.2	+0.5
	4.8nm,0.7s						
LMR	**La Mourre**	**145.94**	**333**	*e*PKP1	PKPbc	02 45 35.0	-0.1
RJF	**Les Rejaudoux**	**146.16**	**341**	*e*PKP1	PKPbc	02 45 35.8	+0.1
	5.4nm,0.8s						
LASF	**Ste Croix**	**146.41**	**337**	*e*PKP1	PKPbc	02 45 36.8	+0.3
	18nm,1.1s						
MTLF	**Montolieu**	**147.65**	**338**	*e*PKP1	PKPbc	02 45 40.4	+0.3

*NEIC **13** 03:20:30.2±0.8, 14.15S×166.46E, h10km, mb3.8/3, Error ellipse: s-maj=18.5km s-min=11.4km az=101.0*
*ISCJB **13** 03:20:31.6±1.0, 143S±0.1×166.5E±02, h33km, mb3.9/8, MS3.9/18, Error ellipse: s-maj=24.4km s-min=14.7km az=9.3*
*IDC **13** 03:20:33.3±2.9, 1386S×16571E, h0km, mb4.0/6, mb1 4.1/7, mb1mx4.0/17, mbtmp4.0/7, ML3.5/1, MS3.8/15, Ms1 3.8/15, ms1mx3.7/21, Error ellipse: s-maj=86.4km s-min=26.1km az=120.0*

ISC 13 03:20:33.8±1.0, 142S±01×1665E±02, h35km, n44, σ0°69/15, mb3.9/8, MS3.9/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.82**	**180**	Pn	**Pn**	**03 22 25.1**	**0.0**
CTA	**Charters Tower**	**20.20**	**250**	*e*P	**P**	**03 25 08.5**	**+2.9**
	5.3nm,0.9s						
CTA	**Charters Tower**	**20.20**	**250**	P	**P**	**03 25 05.4**	**-0.2**
	0.1nm,0.3s,baz=81,slow=13,SNR=4.5						
CTA				LR	LR	03 30 06.8	
	comp=Z,80nm,20.6s,MS3.1,baz=66,slow=29						
RAO	**Raoul Island**	**20.79**	**139**	LR	LR	03 31 46.8	
	comp=Z,223nm,20.3s,MS3.5,baz=262,slow=31						
URZ	**Urewera**	**25.74**	**160**	LR	LR	03 34 45.1	
	comp=Z,489nm,18.9s,MS4.0,baz=205,slow=32						
STKA	**Stephens Creek**	**28.77**	**228**	*e*P	**P**	**03 26 28.7**	**+0.4**
	0.5nm,0.6s,mb3.4						
STKA	**Stephens Creek**	**28.77**	**228**	*e*P	**P**	**03 26 28.8**	**+0.5**
	2.9nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**28.77**	**228**	P	**P**	**03 26 28.9**	**+0.6**
	3.9nm,0.5s,mb4.4,baz=41,slow=8.2,SNR=16						
STKA				LR	LR	03 38 05.0	
	comp=Z,654nm,18.0s,MS4.3,baz=318,slow=37						
WB2	**Warramunga Arr**	**31.22**	**255**	*e*P	**P**	**03 26 57.3**	**+7.2**
WRA	**Warramunga Arr**	**31.23**	**255**	P	**P**	**03 26 49.4**	**-0.8**
	0.6nm,0.5s,mb3.7,baz=84,slow=8.7,SNR=4.3						
WRA				LR	LR	03 37 50.8	
	comp=Z,158nm,19.6s,MS3.7,baz=95,slow=34						
ASAR	**Alice Springs**	**32.16**	**248**	P	**P**	**03 26 57.8**	**-0.6**
	0.9nm,0.5s,mb3.8,baz=75,slow=9.7,SNR=18						
RAR	**Rarotonga**	**32.83**	**107**	LR	LR	03 37 06.4	
	comp=Z,281nm,21.6s,MS3.9,baz=0.0,slow=30						
FITZ	**Fitzroy Crossi**	**39.38**	**259**	*e*P	**P**	**03 28 00.1**	**-0.2**
	2.4nm,1.2s,mb3.8						
PPT	**Papeete**	**42.32**	**101**	*e*S	**S**	**03 34 50.1**	**+6.6**
	72nm,25.0s						
PPT				*e*LQ		03 38 30.5	
	184nm,28.2s						
PPT				*e*LR	LR	03 40 24.4	
	218nm,23.8s,baz=271						
TBI	**Tubuai**	**42.54**	**109**	*e*LR	LR	03 40 31.5	
	275nm,24.0s,baz=279						
MJAR	**Matsushiro Arr**	**57.10**	**333**	P	**P**	**03 30 16.5**	**-0.2**
	1.3nm,0.9s,mb4.0,baz=167,slow=7.2,SNR=4.7						
KSRS	**Korea Array**	**62.89**	**326**	LR	LR	03 56 53.9	
	comp=Z,33nm,19.1s,MS3.5,baz=175,slow=35						
VNDA	**Vanda**	**63.36**	**181**	LR	LR	03 55 33.3	
	comp=Z,40nm,20.1s,MS3.6,baz=64,slow=33						
PETK	**Petropavlovsk-**	**67.47**	**354**	LR	LR	03 54 36.6	
	comp=Z,58nm,21.1s,MS3.8,baz=337,slow=30						
SONM	**Songino Array**	**81.63**	**324**	P	**P**	**03 32 49.0**	**+0.8**
	0.7nm,0.9s,mb3.6,baz=147,slow=8.5,SNR=4.6						
SONM				LR	LR	04 05 39.8	
	comp=Z,63nm,20.6s,MS4.0,baz=99,slow=34						
MAW	**Mawson**	**82.08**	**202**	LR	LR	04 03 09.4	
	comp=Z,118nm,18.9s,MS4.3,baz=241,slow=31						
COLD	**Coldfoot**	**87.13**	**16**	*e*P	**P**	**03 33 14.9**	**-0.6**
	1.6nm,0.8s,mb4.3						
PDAR	**Pinedale Array**	**95.15**	**47**	LR	LR	04 08 18.5	
	comp=Z,59nm,20.0s,MS4.0,baz=158,slow=30						
MKAR	**Makanchi Array**	**96.31**	**317**	P	**P**	**03 33 59.2**	**+0.5**
	0.5nm,0.8s,mb4.0,baz=100,slow=6.3,SNR=4.1						
MKAR				LR	LR	04 15 55.3	
	comp=Z,45nm,20.4s,MS3.9,baz=262,slow=35						
ZALV	**Zalesovo Beam**	**96.53**	**324**	LR	LR	04 19 52.0	
	comp=Z,31nm,18.7s,MS3.8,baz=39,slow=37						
YKA	**Yellowknife Ar**	**97.43**	**27**	LR	LR	04 12 48.8	
	comp=Z,32nm,19.0s,MS3.8,baz=210,slow=32						
CDF	**Champ du Feu**	**141.81**	**338**	*e*PKP1	PKPdf	03 40 00.1	-1.6
HAU	**Haudompre**	**142.49**	**338**	*e*PKP1	PKPdf	03 40 01.9	-1.1
HAU				*e*MLR	MLR		
	comp=Z,76nm,22.0s,MS4.1						
CABF	**La Chapelle**	**143.76**	**337**	*e*PKP1	PKPdf	03 40 03.1	-2.1
LOR	**Lormes**	**143.99**	**340**	*e*PKP1	PKPdf	03 40 03.1	-2.5
LOR				*e*MLR	MLR		
	comp=Z,76nm,22.5s,MS4.1						
SSF	**Saint Saulge**	**144.29**	**340**	*e*PKP1	PKPdf	03 40 03.8	-2.3
	comp=Z,3.1nm,0.7s						
LPL	**La Plagne**	**144.41**	**335**	*e*PKP1	PKPdf	03 40 04.6	-1.8
LPG	**La Plagne**	**144.42**	**335**	*e*PKP1	PKPdf	03 40 04.9	-1.5
SMF	**Signal de Mont**	**144.54**	**339**	*e*PKP1	PKPdf	03 40 04.6	-2.0
	comp=Z,5.6nm,0.8s						
AVF	**Avril sur Loir**	**144.58**	**340**	*e*PKP1	PKPdf	03 40 04.4	-2.3
	comp=Z,17nm,1.3s						
BGF	**Bois d'Agland**	**144.95**	**340**	*e*PKP1	PKPdf	03 40 05.8	-1.5
	comp=Z,18nm,1.1s						
MBDF	**Montbardon**	**145.04**	**334**	*e*PKP1	PKPbc	03 40 06.1	-0.8
ORIF	**Oris-en-Rattie**	**145.24**	**336**	*e*PKP1	PKPbc	03 40 07.3	-0.3
	comp=Z,5.5nm,0.6s						
ORIF				*e*MLR	MLR		
	comp=Z,82nm,22.5s,MS4.2						
SBF	**Sospel**	**145.44**	**333**	*e*PKP1	PKPbc	03 40 07.3	-0.9
FRF	**La Foret Royal**	**146.03**	**333**	*e*PKP1	PKPbc	03 40 09.2	-0.9
	comp=Z,38nm,1.4s						
SMRF	**Simiane la Rot**	**146.15**	**335**	*e*PKP1	PKPbc	03 40 10.1	-0.3
LMR	**La Mourre**	**146.27**	**333**	*e*PKP1	PKPbc	03 40 09.9	-0.9
	comp=Z,17nm,1.0s						
LASF	**Ste Croix**	**146.74**	**337**	*e*PKP1	PKPbc	03 40 11.6	-0.6
KEST	**Kesra**	**150.33**	**320**	PKPbc	PKPbc	03 40 26.7	+4.9
	comp=Z,0.6nm,0.5s,baz=183,slow=4.0,SNR=6.9						

*NIED **13** 03:34:00, 3830N×141.90E, h44km, Mw3.6 Best double couple: M0:2.79000×10^14 NP1:φs=16.00000°, δ=66.00000°, λ=104.00000°. NP2:φs=165.00000°, δ=27.00000°, λ=61.00000°.*

JMA 13 03:34:12.7±0.1, 3831N×14189E, h46km±1km, M3.8, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.45**	**289**	⇓P	Pn	03 34 23.2	+0.1
JIO				S	Sn	03 34 30.5	+0.1
OFUJ	**Ofunato**	**0.79**	**347**	⇓P	Pn	03 34 27.4	-0.1
OFUJ				S	Sn	03 34 37.7	-0.5
JMK	**Ichinoseki**	**0.83**	**321**	⇓P	Pn	03 34 28.4	+0.4
JMK				*e*S	Sn	03 34 39.5	+0.4
JOU	**Okura**	**0.97**	**274**	⇓P	Pn	03 34 30.4	+0.6
JOU				*e*S	Sn	03 34 43.4	+1.0
JMM	**Marumori**	**0.97**	**243**	⇓P	Pn	03 34 29.6	-0.3
JMM				*e*S	Sn	03 34 41.9	-0.7
JFK	**Kawauchi**	**1.24**	**221**	⇓P	Pn	03 34 33.2	-0.4
JFK				*e*S	Sn	03 34 48.7	-0.4
JOM	**Ohasama**	**1.25**	**338**	⇓P	Pn	03 34 34.2	+0.5
JYK	**Kaneyama**	**1.34**	**297**	⇓P	Pn	03 34 35.6	+0.6
JYS	**Shiratake**	**1.44**	**267**	⇓P	Pn	03 34 36.9	+0.6
JYS				*e*S	Sn	03 34 55.2	+1.2
JFT	**Otama**	**1.46**	**238**	⇓P	Pn	03 34 37.1	+0.5
MAT	**Matsushiro**	**3.42**	**240**	P	Pn	03 35 05.1	+1.6
MAT				S	Sn	03 35 46.7	+3.9

*ISCJB **13** 03:44:12.4±1.6, 354N±0.1×2426E±008, h13km±7km, Error ellipse: s-maj=24.9km s-min=9.5km az=10.4*
*CSEM **13** 03:44:14.4, 3539N×2424E, h5km, MD3.2, After ATH*
*ATH **13** 03:44:14.5, 3539N×2424E, h5km, MD3.2/4*

ISC 13 03:44:12.2±2.8, 353N±02×243E±01, h6km±17km, n9, σ0°33/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.14**	**325**	*e*PB	**Pg**	**03 44 14.5**	**-0.5**
VAM				*e*SB	**Sg**	**03 44 16.7**	**-0.3**
VAM	**Vamos**	**0.14**	**325**	*e*PG	**Pg**	**03 44 15.0**	**0.0**
VAM	**Vamos**	**0.14**	**325**	*e*Pg	**Pg**	**03 44 15.0**	**0.0**
NPS	**Neapolis**	**1.08**	**91**	*e*PN	**Pn**	**03 44 33.7**	**-0.1**
KYTH	**Kithira**	**1.42**	**314**	*e*PB	**Pg**	**03 44 40.5**	**+0.6**
VLI	**Velias**	**1.80**	**323**	*e*PB	**Pg**	**03 44 46.5**	**-0.2**
APE	**Apeiranthos**	**2.03**	**29**	*e*PN	**Pn**	**03 44 46.6**	**-0.3**
APE	**Apeiranthos**	**2.03**	**29**	*e*PN	**Pg**	**03 44 51.5**	**+0.4**
APE	**Apeiranthos**	**2.03**	**29**	*e*Pn	**Pg**	**03 44 51.5**	**+0.4**

NNC 13 04:06:05.9±7.3, 3715N×7137E, h139km±144km, mb3.3, mpv4.0, 1C-4D, Error ellipse: s-maj=67.9km s-min=39.6km az=5.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.99**	**354**	⇓P	Pn	04 07 32.7	+0.5
	14nm,0.3s,baz=173,slow=14,SNR=395						
KK31				⇑S	Sn	04 08 39.6	0.0
	4.8nm,0.4s,baz=172,slow=24,SNR=8.9						
TKM2	**Tokmak 2**	**6.62**	**28**	⇓P	Pn	04 07 40.1	-0.6
	3.1nm,0.8s						
TKM2				⇓S	Sn	04 08 56.9	+2.1
	3.2nm,0.7s						
AB31	**Akbulak array**	**14.67**	**329**	⇓P	Pn	04 09 26.5	0.0
	0.9nm,0.3s,baz=135,slow=15,SNR=68						

*ISCJB **13** 04:06:11.9±1.0, 3933N±003×20.11E±005, h3km±6km, Error ellipse: s-maj=7.1km s-min=4.8km az=178.0*
*NEIC **13** 04:06:13.6, 3932N×2018E, h0km, MD3.3(ATH), ML3.0(THE), After THE.*
*ATH **13** 04:06:13.8, 3933N×2022E, h28km±3km, MD3.3/4*
*THE **13** 04:06:13.6, 3932N×2018E, h0km, ML3.0*
*CSEM **13** 04:06:14.3±0.3, 3929N×2022E, h2km, ML3.0, Error ellipse: s-maj=6.2km s-min=4.2km az=81.0*

ISC 13 04:06:14.2±0.7, 3931N±003×2023E±005, h5km±6km, n19, σ1°08/30, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.24**	**20**	*e*Pg	**Pg**	**04 06 17.9**	**-0.9**
IGT				*e*Sg	**Sg**	**04 06 21.7**	**-0.2**
KEK	**Kerkira**	**0.52**	**321**	*e*PN	**Pg**	**04 06 24.8**	**+0.6**
KEK				*e*SN	**Sg**	**04 06 32.0**	**+1.0**
JAN	**Janina**	**0.59**	**54**	*e*PN	**Pg**	**04 06 25.1**	**-0.5**
JAN				*e*SN	**Sg**	**04 06 34.7**	**+1.4**
VLS	**Valsamata**	**1.17**	**166**	*e*Pg	**Pg**	**04 06 36.2**	**-0.3**
VLS				*e*Sg	**Sg**	**04 06 52.7**	**+1.1**
VLS	**Valsamata**	**1.17**	**166**	*e*Pn	**Pn**	**04 06 36.5**	**-0.6**
VLS				*e*Sg	**Sg**	**04 06 52.7**	**+1.1**
VLS				*e*Sn	**Sn**	**04 06 53.2**	**-0.2**
EVR	**Evrytania**	**1.29**	**107**	*e*PN	**Pn**	**04 06 37.9**	**-1.0**
THL	**Klokotos Trika**	**1.41**	**79**	*e*Pg	**Pg**	**04 06 39.6**	**-1.5**
THL				*e*Sg	**Sg**	**04 07 00.9**	**+1.5**
THL	**Klokotos Trika**	**1.41**	**79**	*e*PN	**Pn**	**04 06 39.8**	**-0.7**
AGG	**Agios Georgios**	**1.66**	**99**	*e*Pb	**Pb**	**04 06 43.8**	**-1.4**
AGG				*e*Sb	**Sb**	**04 07 07.8**	**+1.4**
FNA	**Florina**	**1.72**	**31**	*e*Pb	**Pb**	**04 06 44.9**	**-1.3**
FNA				*e*Sb	**Sb**	**04 07 08.3**	**+0.2**
BIA	**Bitola**	**1.90**	**26**	*e*Pn	**Pn**	**04 06 50.7**	**+3.4**
BIA	**Bitola**	**1.90**	**26**	*e*Pn	**Pn**	**04 06 50.6**	**+3.3**
LIT	**Litokhoron**	**1.92**	**65**	*e*Pb	**Pb**	**04 06 47.7**	**-1.9**
LIT				*e*Sb	**Sb**	**04 07 13.2**	**-0.6**
KRUS	**Krusevo**	**2.20**	**20**	*i* Pn	**Pn**	**04 06 53.0**	**+1.6**
KRUS	**Krusevo**	**2.20**	**20**	*i* Pn	**Pn**	**04 06 52.9**	**+1.5**
XOR	**Xorichti**	**2.30**	**88**	*e*Pn	**Pn**	**04 06 53.3**	**+0.5**
PAIG	**Paliouri**	**2.74**	**76**	*e*Pn	**Pn**	**04 06 58.9**	**+0.1**
PAIG	**Paliouri**	**2.74**	**76**	*e*Pn	**Pn**	**04 06 58.8**	**0.0**
DID	**Didima**	**2.97**	**126**	*e*Pn	**Pn**	**04 07 01.4**	**-0.6**
DID				*e*Sn	**Sn**	**04 07 39.5**	**+1.5**

MAN 13 04:22:07, 1538N×12122E, h1km, mb4.6, ML3.6, MS3.6, 6C-5D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.21**	**326**	⇓*i* P	Pg	04 22 16.1	+5.0
PCPH				*i* S	Sg	04 22 18.2	+4.3
BALP	**Baler**	**0.49**	**44**	*e*P	Pg	04 22 16.5	0.0
BALP				*e*S	Sg	04 22 22.2	-0.7
NZB	**Bigte**	**0.53**	**193**	⇑*e*P	Pg	04 22 20.7	+3.6
NZB				*e*S	Sg	04 22 28.1	+4.1
QVPH	**Quezon City--P**	**0.74**	**192**	⇑*e*P	Pg	04 22 24.4	+3.2
QVPH				*e*S	Sg	04 22 37.1	+6.2
POLP	**Polilio Island**	**0.95**	**133**	*e*P	Pg	04 22 25.8	+0.5
NBP	**Mount Natib**	**1.00**	**231**	⇑*e*P	Pg	04 22 29.3	+3.0
NBP				*e*S	Sg	04 22 42.3	+3.0
BCPH	**Baguio City Da**	**1.17**	**328**	⇑*i* P	Pg	04 22 29.5	+0.1
BCPH				*i* S	Sg	04 22 45.8	+1.2
LBPH	**Los Banos**	**1.22**	**182**	⇑*e*P	Pg	04 22 32.2	+1.7
LBPH				*e*S	Sg	04 22 46.0	-0.3
TGY	**Tagaytay City**	**1.30**	**192**	⇓*e*P	Pg	04 22 35.0	+3.0
TGY				*e*S	Sg	04 22 54.5	+5.6
SCZP	**Santa Cruz**	**1.32**	**287**	*e*P	Pg	04 22 32.7	+0.3
BOLP	**Bolinao**	**1.60**	**308**	*e*P	Pn	04 22 36.9	+0.4
CAUP	**Cauayan**	**1.66**	**20**	*e*P	Pn	04 22 36.7	-0.5
CAUP				*e*S	Sn	04 22 59.5	+0.3
GQP	**Guinayangan**	**1.89**	**141**	⇓*e*P	Pn	04 22 41.4	+1.0
GQP				*e*S	Sn	04 23 06.1	+1.2
LUBP	**Lubang**	**1.89**	**210**	*e*P	Pn	04 22 42.7	+2.2
LUBP				*e*S	Sn	04 23 08.4	+3.5
PALP	**Palanan**	**2.03**	**35**	⇓*e*P	Pn	04 22 43.8	+1.4
PALP				*e*S	Sn	04 23 10.7	+2.2
PALP	**Palanan**	**2.03**	**35**	*e*P	Pn	04 22 44.9	+2.5
PALP				*e*S	Sn	04 23 11.2	+2.8
ABRA	**Dolores**	**2.31**	**348**	*e*P	Pn	04 22 47.6	+1.5
APYP	**Conner**	**2.46**	**1**	*e*P	Pn	04 22 49.9	+1.5
APYP				*e*S	Sn	04 23 21.6	+2.5
SIPP	**Brgy, Tapao**	**2.63**	**344**	⇑*i* P	Pn	04 22 54.1	+3.5
SIPP				*i* S	Sn	04 23 32.1	+9.0
OTRP	**Odiongan**	**3.10**	**165**	*e*P	Pn	04 23 03.3	+6.2
PVCP	**Virac**	**3.35**	**122**	⇓*e*P	Pn	04 23 02.1	+1.6

*CSEM **13** 04:22:06.6±0.1, 3258N×4900E, h16km, ML3.0, Error ellipse: s-maj=4.8km s-min=2.1km az=117.0*
*THR **13** 04:22:06.5±0.7, 3258N×4899E, h16km±5km, ML3.0*
*ISCJB **13** 04:22:07.8±1.2, 3253N±006×490E±0.1, h20km±14km, Error ellipse: s-maj=19.7km s-min=6.6km az=24.6*

ISC 13 04:22:07.1±2.0, 3256N±007×490E±01, h4km±17km, n11, σ0°25/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.48**	**198**	*e*Pg	**Pg**	**04 22 16.3**	**0.0**
ASAO	**Ashtian**	**2.17**	**24**	*e*Pn	**Pn**	**04 22 44.3**	**+0.3**
ASAO				*e*Sg	**Sb**	**04 23 14.2**	**+0.1**
ASAO				AML	AML	04 23 22.2	
	comp=N,107nm,0.7s						
ASAO	**Ashtian**	**2.17**	**24**	*e*Pn	**Pn**	**04 22 44.3**	**+0.3**
	SNR=52						
ASAO				*e*Sg	**Sb**	**04 23 14.2**	**+0.1**
	SNR=91						
SNGE	**Sanandaj**	**2.86**	**332**	*e*Pn	**Pn**	**04 22 53.5**	**0.0**
SNGE				AML	AML	04 23 51.1	
	comp=N,39nm,0.7s						
MIB	**Mutribah**	**3.09**	**207**	*e*P	**Pn**	**04 22 56.6**	**0.0**
	baz=205						
MIB				AML	AML	04 23 35.7	
	comp=Z,59nm,0.4s,baz=205						
NASN	**Na'in**	**3.24**	**85**	*e*Pn	**Pn**	**04 22 58.8**	**0.0**
NASN				AML	AML	04 23 55.9	
	comp=E,36nm,0.4s						
RST	**Umm Al-Ruwaisa**	**3.49**	**210**	*e*P	**Pn**	**04 23 02.1**	**-0.1**
NAY	**Al-Naaiem**	**3.62**	**205**	*e*P	**Pn**	**04 23 03.6**	**-0.4**
	baz=203						
NAY				AML	AML	04 23 46.6	
	comp=Z,20nm,0.5s,baz=203						
CHTH	**Charan**	**3.78**	**28**	*e*Pn	**Pn**	**04 23 06.0**	**-0.2**
RDF	**Al-Radifah**	**3.83**	**199**	*e*P	**Pn**	**04 23 07.4**	**+0.6**
	baz=197						
RDF				AML	AML	04 23 51.5	
	comp=Z,18nm,0.4s,baz=197						
DAMV	**Damavand**	**3.94**	**38**	*e*Pn	**Pn**	**04 23 08.1**	**-0.3**
DAMV				AML	AML	04 24 21.8	
	comp=E,26nm,0.7s						

IDC 13 04:33:30.4±0.6, 2976S×17931W, h323km±8km, mb3.1/3, mb1 3.4/4, mb1mx3.1/16, mbtmp3.3/4, Error ellipse: s-maj=23.9km s-min=21.6km az=88.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.32**	**68**	P	Pn	04 34 16.8	+1.9
	181nm,0.3s,baz=86,slow=22,SNR=13						
RAO				S	S	04 34 50.0	-0.3
	227nm,0.3s,baz=148,slow=19,SNR=5.5						
URZ	**Urewera**	**8.98**	**198**	P	Pn	04 35 35.9	-0.1
	4.4nm,0.3s,baz=280,slow=3.2,SNR=20						
URZ				S	S	04 37 13.2	-5.2
	8.2nm,0.3s,baz=68,slow=21,SNR=18						
ASAR	**Alice Springs**	**42.01**	**267**	P	P	04 40 51.0	-0.1
	0.4nm,0.5s,baz=102,slow=7.6,SNR=5.7						
WB2	**Warramunga Arr**	**42.93**	**272**	*e*P	P	04 40 58.8	+0.3
WRA	**Warramunga Arr**	**42.94**	**272**	P	P	04 40 58.4	-0.2
	1.5nm,0.7s,baz=110,slow=8.0,SNR=12						
QSPA	**South Pole Qui**	**60.35**	**180**	P	P	04 43 06.0	+0.7
	1.2nm,0.5s,baz=19,slow=2.8,SNR=9.2						
ARCES	**ARCESS Array B**	**137.72**	**347**	PKP	PKPdf	04 52 16.7	+1.3
	1.4nm,0.7s,baz=41,slow=2.0,SNR=9.5						
NB2	**NORSAR Subarra**	**147.94**	**350**	PKP	PKPdf	04 52 36.4	+2.9
	comp=Z,0.9nm,0.5s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**147.94**	**350**	PKPbc	PKPbc	04 52 36

IFIR	Firoozkooh	3.45	245	Pn		Pn	04 38 16.5	-0.1
IPRN	Peran	3.54	256	ePn		Pn	04 38 18.1	+0.3
IPRN				e			04 39 24.6	
IDMV	Damavand	4.00	248	ePn		Pn	04 38 24.9	+0.7
IDMV				e			04 38 41.7	
IDMV	Damavand	4.00	248	Pn		Pn	04 38 24.8	+0.6
DAMV	Damavand	4.03	249	ePn		Pn	04 38 27.2	+2.6
DAMV				AML		AML	04 39 41.1	
	comp=E,372nm,0.5s							
DAMV				AML		AML	04 39 47.2	
	comp=N,283nm,0.4s							
IAFJ	Afjeh	4.14	253	Pn		Pn	04 38 26.6	+0.5
IAFJ	Afjeh	4.14	253	ePn		Pn	04 38 26.7	+0.6
IAFJ				e			04 39 49.2	
IVRN	Varamin	4.49	243	ePn		Pn	04 38 30.1	-0.9
IVRN				e			04 39 53.8	
ISFB	Sefidab	4.51	233	ePn		Pn	04 38 30.1	-1.1
ISFB				e			04 38 46.5	
CHTH	Charan	4.58	256	ePn		Pn	04 38 35.3	+3.2
THKV	Tehran--Karaj	4.76	257	AML		AML	04 39 59.1	
	comp=N,273nm,0.5s							
THKV				AML		AML	04 40 07.2	
	comp=E,253nm,0.6s							
IR3	Iran Long-Peri	4.80	251	ePn		Pn	04 38 34.5	-0.7
IMHD	Mahdasht	5.00	255	ePn		Pn	04 38 38.8	+0.9
IMHD				e			04 39 02.8	
IMHD	Mahdasht	5.00	255	Pn		Pn	04 38 38.7	+0.8
IKOO	Kooshah	5.12	157	ePn		Pn	04 38 39.0	-0.7
IKOO				e			04 40 23.2	
ICHK	Chekchek	5.22	201	ePn		Pn	04 38 39.8	-1.2
ICHK				e			04 40 14.3	
ICHK	Chekchek	5.22	201	Pn		Pn	04 38 39.7	-1.3
IZEF	Zefreh	5.51	221	ePn		Pn	04 38 44.1	-0.8
IZEF				e			04 40 26.2	
IKLH	Kolahrood	5.61	228	ePn		Pn	04 38 45.5	-0.9
IKLH				e			04 40 36.3	
IBAF	Bafgh	5.62	189	ePn		Pn	04 38 45.6	-0.9
IBAF				e			04 40 39.8	
IRAZ	Razeghan	5.66	254	ePn		Pn	04 38 47.0	0.0
IRAZ				e			04 40 39.3	
IRAZ	Razeghan	5.66	254	Pn		Pn	04 38 46.9	-0.1
ASAO	Ashtian	5.94	246	ePn		Pn	04 38 53.2	+2.4
ASAO				eSg		Sg	04 40 32.3	-0.5
IMEH	Mehriz	5.98	196	ePn		Pn	04 38 50.3	-1.2
IMEH				e			04 40 45.6	
IGAR	Gharneh	6.04	220	ePn		Pn	04 38 51.1	-1.2
IGAR				e			04 40 29.7	
GOBA	Gobu	6.26	303	S		Sn	04 40 08.9	+1.8
IPIR	Pirpir	6.47	228	ePn		Pn	04 39 00.6	+2.5
IPIR				e			04 39 03.7	
IPIR	Pirpir	6.47	228	Pn		Pn	04 39 00.5	+2.4
ALIB	Ii-Bayraml	6.57	297	P		Pn	04 39 00.9	+1.5
	SNR=5.7							
ALIB				S		Sn	04 40 14.8	+0.1
GLBA	Ciilabad	6.78	290	P		Pn	04 39 01.3	-1.1
	SNR=24							
ISRB	Sarab	7.13	278	ePn		Pn	04 39 06.5	-0.6
ISRB				e			04 39 11.0	
ISRB	Sarab	7.13	278	Pn		Pn	04 39 06.4	-0.7
SIZA	Siyzn	7.14	306	P		Pn	04 39 10.2	+2.9
	SNR=12							
KRBR	Kerman	7.16	179	ePn		Pn	04 39 09.0	+1.3
PQL	Pirkuli	7.21	303	P		Pn	04 39 09.7	+1.5
	SNR=4.3							
IHRS	Heris	7.65	282	ePn		Pn	04 39 13.3	-1.1
IHRS				e			04 40 51.5	
IBST	Bostanabad	7.74	277	ePn		Pn	04 39 13.7	-1.8
IBST				e			04 40 49.6	
SNGE	Sanandaj	7.76	257	ePn		Pn	04 39 18.8	+3.0
SEKA	Sheki	8.34	302	P		Pn	04 39 23.6	-0.1
	SNR=12							
ITBZ	Tabriz	8.35	281	ePn		Pn	04 39 24.2	+0.3
ITBZ				e			04 39 28.3	
IAZR	Azarshahr	8.46	277	ePn		Pn	04 39 25.2	-0.2
IAZR				e			04 39 38.0	
IMRD	Marand	8.74	284	ePn		Pn	04 39 28.4	-0.9
IMRD				e			04 41 30.3	
IMRD	Marand	8.74	284	Pn		Pn	04 39 28.3	-1.0
ISHB	Shabestar	8.77	281	ePn		Pn	04 39 28.3	-1.4
ISHB				e			04 39 47.2	
DGRG	David-gareji	9.69	300	P		Pn	04 39 41.9	-0.3
GNI	Garni	9.74	291	P		Pn	04 39 46.0	+3.1
	comp=E,2.0nm,0.3s,baz=63,slow=4.3,SNR=12							
GNI	Garni	9.74	291	eP		Pn	04 39 46.4	+3.5
GNI				pmax		pmax		
	comp=Z,24nm,0.7s							
AKH	Akhalkalaki	11.00	297	P		Pn	04 39 59.7	-0.5
ONI	Oni	11.45	302	P		Pn	04 40 06.4	0.0
AB31	Akbulak array	12.33	10	⇑Pn		Pn	04 40 16.9	-1.5
	comp=Z,1.6nm,0.5s,baz=190,slow=13,SNR=33							
AB31				⇑Sn		Sn	04 42 29.7	-6.4
	comp=Z,3.5nm,0.7s,baz=193,slow=22,SNR=3.5							
KIV	Kislovodsk	12.56	307	eP		Pn	04 40 21.0	-0.5
KIV				eS		Sn	04 42 40.3	-1.3
KIV				pmax		pmax		
	comp=Z,13nm,0.9s							
AKTK	Aktyubinsk	13.31	4	P		Pn	04 40 30.4	-1.3
AKTK				LR		LR	04 46 52.7	
AKTO	Aktyubinsk	13.31	4	P		Pn	04 40 30.4	-1.3
	comp=Z,0.8nm,0.3s,baz=184,slow=13,SNR=25							
AKTO				LR		LR	04 46 52.7	
	comp=Z,103nm,20.1s,baz=172,slow=43							
EKS2	Erkin-Say	14.28	62	ePn		Pn	04 40 44.3	-0.7
	comp=Z,4.9nm,1.1s							
TKM2	Tokmak 2	15.64	63	eP		Pn	04 41 02.2	-1.1
TKM2				pmax		pmax		
	comp=Z,4.0nm,0.8s							
TKM2	Tokmak 2	15.64	63	eP		Pn	04 41 02.2	-1.1
	comp=Z,4.0nm,0.8s							
TKM2	Tokmak 2	15.64	63	ePn		Pn	04 41 02.2	-1.0
	comp=Z,3.5nm,0.8s							
ANN	Anapa	16.33	304	eP		Pn	04 41 08.6	-3.6
ANN				pmax		pmax		
	comp=Z,27nm,1.1s							
ASF	Jabal al Asfar	16.94	259	P		Pn	04 41 23.1	+3.1
	comp=Z,0.1nm,0.3s,baz=299,slow=5.1,SNR=5.1							
BRVK	Borovoye	18.55	27	eP		Pn	04 41 39.0	-0.8
BRVK				pmax		pmax		
	comp=Z,9.0nm,0.8s							
BRVK	Borovoye	18.55	27	eP		Pn	04 41 39.0	-0.8
	comp=Z,9.0nm,0.8s							
BRVK	Borovoye	18.55	27	eP		Pn	04 41 39.0	-0.7
	comp=Z,9.3nm,0.8s							
BVA0	Borovoye Array	18.56	27	⇑P		Pn	04 41 40.4	+0.5
	comp=Z,2.7nm,0.8s,baz=219,slow=7.6,SNR=80							
BVAR	Borovoye Array	18.56	27	P		Pn	04 41 38.3	-1.6
	comp=Z,0.9nm,0.3s,baz=213,slow=11,SNR=50							
BVAR				LR		LR	04 50 00.3	
	comp=Z,62nm,19.2s,baz=103,slow=41							
SIM	Simferopol'	18.61	302	eP		Pn	04 41 42.8	+2.2
SIM				pmax		pmax		
	comp=Z,21nm,1.2s							
SIM	Simferopol'	18.61	302	eP		Pn	04 41 42.8	+2.2
	comp=Z,21nm,1.2s							
ARU	Arti	19.32	3	d iP		Pn	04 41 47.2	-1.9
ARU				pmax		pmax		
	comp=Z,8.0nm,1.2s							
ARU	Arti	19.32	3	i P		Pn	04 41 47.2	-1.9
	comp=Z,8.0nm,1.2s							
ARU	Arti	19.32	3	eP		Pn	04 41 47.6	-1.5
	comp=Z,6.1nm,0.6s							
KURBB	Kurchatov Array	20.66	42	⇑P		P	04 42 04.9	+2.2
	comp=Z,1.1nm,1.0s							
KURK	Kurchatov	20.76	42	⇓P		P	04 42 04.3	+0.6
	comp=Z,5.7nm,0.9s							
KURK	Kurchatov	20.76	42	eP		P	04 42 04.4	+0.6
KURK				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KURK	Kurchatov	20.76	42	eP		P	04 42 04.4	+0.6
	comp=Z,5.2nm,0.9s							
MK31	Makanchi Array	21.31	55	⇑P		P	04 42 10.6	+0.9
	comp=Z,2.3nm,0.6s,mb3.7,baz=242,slow=11,SNR=25							
MK31	Makanchi Array	21.31	55	eP		P	04 42 10.5	+0.7
MK31	Makanchi Array	21.31	55	eP		P	04 42 10.5	+0.8
MKAR	Makanchi Array	21.31	55	P		P	04 42 10.0	+0.3
	comp=Z,2.8nm,0.7s,mb3.7,baz=246,slow=10,SNR=13							
MKAR	Makanchi Array	21.31	55	P		P	04 42 10.0	+0.3
TIRR	Tirgusor	22.46	298	⇓iP		P	04 42 25.4	+3.3
OBN	Obninsk	22.55	329	eP		P	04 42 23.4	+0.5
OBN				e			04 42 40.7	
OBN				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.0							
OBN	Obninsk	22.55	329	eP		P	04 42 23.4	+0.5
	comp=Z,7.0nm,1.0s,mb4.0							
AKASG	Malin Array Be	23.74	313	P		P	04 42 33.9	-1.4
	comp=Z,6.2nm,0.8s,mb4.1,baz=118,slow=8.8,SNR=18							
AKBB	Malin Array Si	23.74	313	eP		P	04 42 34.0	-1.3
AKBB	Malin Array Si	23.74	313	eP		P	04 42 34.0	-1.3
KIEV	Kiev	23.75	313	eP		P	04 42 33.3	-2.1
KIEV				pmax		pmax		
	comp=Z,12nm,0.8s,mb4.4							
KIEV	Kiev	23.75	313	eP		P	04 42 33.3	-2.1
	comp=Z,12nm,0.8s,mb4.4							
KIEV	Kiev	23.75	313	eP		P	04 42 33.3	-2.1
	comp=Z,12nm,0.8s,mb4.4							
MLR	Muntele Rosu	24.36	300	⇓iP		P	04 42 44.4	+3.4
BURAR	Bucovina Array	25.26	304	⇓iP		P	04 42 52.2	+3.0
ZAL	Zalesovo	25.67	40	P		P	04 42 53.5	+0.7
ZALV	Zalesovo Beam	25.68	40	P		P	04 42 53.5	+0.6
	comp=Z,1.1nm,0.5s,mb3.6,baz=246,slow=9.4,SNR=5.0							
ZALV				LR		LR	04 53 50.7	
	comp=Z,37nm,19.8s,MS2.9,baz=92,slow=38							
KLMR	Klimovskoe	26.06	341	P		P	04 43 03.8	+7.5
KLMR				pmax		pmax		
	comp=Z,13nm,1.3s,mb4.3							
DRGR		26.78	302	⇓iP		P	04 43 05.3	+2.3
GERES	GERESS Array B	33.05	304	P		P	04 43 58.0	-0.4
	comp=Z,0.5nm,0.7s,mb3.6,baz=119,slow=7.8,SNR=5.2							
ARCES	ARCESS Array B	36.52	342	P		P	04 44 28.4	+0.2
	comp=Z,1.8nm,0.7s,mb4.0,baz=104,slow=5.1,SNR=5.4							
NB2	NORSAR Subarra	37.01	325	P		P	04 44 31.5	-0.9
	comp=Z,0.8nm,0.6s,mb3.7,baz=112,slow=8.6							
NOA	NORSAR Array B	37.01	325	P		P	04 44 31.0	-1.4
	comp=Z,2.6nm,0.9s,mb4.1,baz=112,slow=8.2,SNR=7.4							
NOA				LR		LR	05 01 27.9	
	comp=Z,52nm,18.1s,MS3.4,baz=120,slow=39							
NOA	NORSAR Array B	37.01	325	P		P	04 44 31.0	-1.4
NOA				LR		LR	05 01 27.9	
CMAR	Chiang Mai Arr	41.44	105	P		P	04 45 09.6	-0.4
	comp=Z,0.8nm,0.3s,mb3.8,baz=298,slow=8.4,SNR=5.7							
TORD	Torodi Ar. Bea	54.30	259	P		P	04 46 49.9	+0.1
	comp=Z,1.4nm,1.2s,mb3.8,baz=138,slow=3.4,SNR=9.8							
BILL	Bilibino	62.87	23	eP		P	04 47 47.6	-1.1
BILL				eSS		SS	05 00 19.3	-3.2
BILL				pmax		pmax		
	comp=Z,10.0nm,1.5s,mb4.7							
BILL	Bilibino	62.87	23	eP		P	04 47 47.6	-1.1
	comp=Z,10.0nm,1.5s,mb4.7							
PETK	Petropavlovsk-	67.23	40	P		P	04 48 14.5	-2.8
	comp=Z,4.4nm,0.8s,mb4.5,baz=300,slow=9.8,SNR=4.1							

NIED ***13*** *04:43:00, 47.10N×141.90E, h5km, Mw3.6 Best double couple: M0=2.77000×10^14 NP1:φs=188.00000°, δ=55.00000°, λ=106.00000°. NP2:φs=342.00000°, δ=38.00000°, λ=69.00000°.*
ISCJB ***13*** *04:43:12.2±0.7, 46.93N±0.003×141.63E±0.005, h1km±7km, Error ellipse: s-maj=5.8km s-min=5.1km az=168.1*
JMA ***13*** *04:43:12.2±0.8, 47.08N×141.86E, h26km, M3.6*
SKHL ***13*** *04:43:12.2±0.6, 46.80N×141.70E, h10km, mb4.2/2*

ISC 13 04:43:14.9±0.7, 46.88N±0.003×141.76E±0.005, h11km±7km, n10, σ1.9±32/20, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	0.69	83	ePg	Pg	04 43 27.0	-1.2
YSS				eSg	Sg	04 43 37.6	+0.4
YSS				A		04 43 39.6	
	2μm,0.3s						
YSS				AMS	AMS	04 44 08.0	
	700nm,5.0s						
YSS				AMS	AMS	04 44 08.0	
	800nm,5.0s						
YSS				AMS	AMS	04 44 08.0	
	600nm,5.0s						
JWK2	Keihoku	1.56	176	P	Pn	04 43 41.8	-0.7
JWK2				eS	Sn	04 44 03.7	+1.0
JRR	Rishiri	1.77	190	P	Pn	04 43 45.2	-0.1
JRR				eS	Sn	04 44 09.5	+1.8
JSE	Soyaes	2.00	163	P	Pn	04 43 47.5	-1.1
UGL	Uglegorsk	2.21	5	ePg	Pg	04 43 57.5	+0.2
UGL				AMB	AMB	04 44 02.0	
	49nm,0.4s						
UGL				eS	Sn	04 44 18.0	-0.8
UGL				A		04 44 20.0	
	92nm,0.5s						
UGL				eSg	Sg	04 44 30.0	+4.0
UGL				A		04 44 32.0	
	80nm,0.6s						
JSS	Shosan	2.48	178	P	Pn	04 43 55.2	+0.1
TYV	Tymovskoe	4.04	8	ePg	Pg	04 44 34.0	+1.9
TYV				AMB	AMB	04 44 35.5	
	9.0nm,0.3s						
TYV				eSg	Sg	04 45 32.0	+7.6
TYV				A		04 45 33.3	
	9.0nm,0.3s						
TEY	Ternei	4.04	245	ePg	Pg	04 44 30.0	-2.2
TEY				eSg	Sg	04 45 26.0	+1.5
TEY				A		04 45 27.7	
	17nm,0.6s						
GRNR	Gornyy	5.25	320	eP	Pn	04 44 31.0	-2.2
GRNR				ePg	Pg	04 44 53.0	-2.5
GRNR				eSg	Sg	04 46 04.0	+0.5
GRNR				A		04 46 05.0	
	16nm,0.3s						
GRNR				A		04 46 05.0	
	11nm,0.3s						
EKMR	Ekimchan	8.40	321	eSg	Sn	04 47 47.5	+56
EKMR				eSg	Sn	04 47 54.8	+64

BUC 13 04:43:49.8±0.9, 45.56N×26.47E, h127km±7km, MD2.7/2, 5C-2D, Error ellipse: s-maj=5.7km s-min=4.8km az=43.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.32	23	⇑iP	Pn	04 44 07.9	+0.3
PLOR				i S	Sn	04 44 19.7	-1.3
VRI	Vrincioaia	0.36	30	⇑iP	Pn	04 44 07.9	+0.2
VRI				i S	Sn	04 44 20.6	-0.7
VRI	Vrincioaia	0.36	30	⇑iP	Pn	04 44 07.9	+0.2
VRI				i S	Sn	04 44 20.6	-0.7
VRI	Vrincioaia	0.36	30	S	Sn	04 44 20.6	-0.7
MLR	Muntele Rosu	0.38	260	⇓iP	Pn	04 44 08.2	+0.4
MLR				i S	Sn	04 44 21.3	-0.1
MLR	Muntele Rosu	0.38	260	⇓iP	Pn	04 44 08.2	+0.4
MLR				i S	Sn	04 44 21.3	-0.1
TIRR	Tirgusor	1.76	128	⇑iP	Pn	04 44 21.2	+0.5
TIRR				i S	Sn	04 44 44.5	+0.3
TIRR	Tirgusor	1.76	128	⇑iP	Pn	04 44 21.2	+0.5
TIRR				i S	Sn	04 44 44.5	+0.3

ISCJB ***13*** *05:11:28.8±0.5, 38.33N±0.003×21.78E±0.004, h12km±6km, Error ellipse: s-maj=4.8km s-min=4.3km az=25.6*
ATH ***13*** *05:11:28.9, 38.31N×21.76E, h23km±3km, MD3.3/7*
NEIC ***13*** *05:11:29.8, 38.32N×21.77E, h4km, MD3.3(ATH), ML3.0(THE), After THE.*
CSEM ***13*** *05:11:29.9±0.1, 38.30N×21.77E, h12km, MD3.3, Error ellipse: s-maj=1.9km s-min=1.6km az=168.0*
THE ***13*** *05:11:29.8, 38.32N×21.77E, h3km, ML3.0*

ISC 13 05:11:29.7±0.4, 38.32N±0.002×21.77E±0.003, h14km±6km, n17, σ0.86/29, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.35	222	⇓iPB	Pg	05 11 36.6	-0.3
RLS				eSB	Sg	05 11 42.4	+0.7
EVR	Evrytania	0.60	3	ePN	Pg	05 11 41.3	-0.1
EVR				eSN	Sg	05 11 49.5	+0.2
KFL	Anninata	0.80	255	ePg	Pg	05 11 45.0	-0.3
KFL				eSg	Sg	05 11 56.3	+0.5
AGG	Agios Georgios	0.83	32	eSg	Sg	05 11 57.2	+0.6
AGG				eSg	Sg	05 12 02.0	+5.4
AGG	Agios Georgios	0.83	32	eSg	Sg	05 11 57.2	+0.6
VLS	Valsamata	0.94	262	ePb	Pb	05 11 46.9	-0.9
VLS				eSn	Sn	05 12 02.2	+0.4
LTK	Loutraki	0.99	107	ePg	Pg	05 11 48.3	-0.6
LTK				eSg	Sg	05 12 02.7	+0.9
LKR	Lokris	1.02	71	ePg	Pg	05 11 48.3	-1.1
LKR				eSg	Sg	05 12 04.0	+1.3
VLX	Vlachokerasia	1.06	153	ePg	Pg	05 11 49.3	-1.0
VLX				eSg	Sg	05 12 05.8	+1.7
VLX	Vlachokerasia	1.06	153	ePg	Pg	05 11 49.3	-1.0
VLX				eSg	Sg	05 12 05.8	+1.6
ITM	Ithomi	1.15	174	ePN	Pn	05 11 50.8	-0.6
THL	Klokotos Trika	1.26	9	ePg	Pg	05 11 53.8	-0.2
THL				eSg	Sg	05 12 11.2	+0.8
THL	Klokotos Trika	1.26	9	ePN	Pn	05 11 53.7	+0.8
THL	Klokotos Trika	1.26	9	ePg	Pg	05 11 53.8	-0.1
THL				eSg	Sg	05 12 11.1	+0.8
DID	Didima	1.42	125	ePg	Pg	05 11 55.8	-1.2
DID				eSg	Sg	05 12 15.2	-0.2
XOR	Xorichti	1.52	46	ePg	Pg	05 11 57.1	-2.0
VLI	Veliai	1.85	149	ePN	Pn	05 12 01.8	+0.8

NEIC ***13*** *05:26:21.2, 35.32S×70.94W, h108km, MD3.5(GUC), After GUC.*

GUC 13 05:26:21.2±0.8, 35.32S×70.94W, h108km±4km, MD3.5, ML3.5, 10C-15D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.39	323	⇓iP	Pn	05 26 37.4	+0.2
NICH				i S	Sn	05 26 50.1	+1.0
TALC	Talca	0.57	261	⇓iP	Pn	05 26 38.0	-0.3
TALC				i S	Sn	05 26 51.2	0.0
TALC				AML	AML	05 26 52.4	
	comp=E,12μm,0.2s						
TALC	Talca	0.57	261	⇓iP	Pn	05 26 38.0	-0.3
TALC				i S	Sn	05 26 51.2	0.0
SFDO	San Fernando	0.70	355	⇑iP	Pn	05 26 39.5	+0.1
SFDO				i S	Sn	05 26 53.6	+0.5
CICH	Cipreses	1.08	24	⇑iP	Pn	05 26 43.3	+0.2
CICH				i S	Sn	05 27 02.6	+3.0
CACH	El Canelo	1.23	13	⇓iP	Pn	05 26 45.1	+0.3
CACH				i S	Sn	05 27 03.7	+1.2
CNCO	Chanco	1.36	252	⇑iP	Pn	05 26 47.6	+1.3
CNCO				i S	Sn	05 27 07.0	+1.8
CNCO				AML	AML	05 27 13.7	
	comp=N,125nm,0.3s						
CNCO	Chanco	1.36	252	⇑iP	Pn	05 26 47.6	+1.3
CNCO				i S	Sn	05 27 07.0	+1.8
CHCH	Chadas Angostu	1.40	10	⇓iP	Pn	05 26 47.2	+0.5
CHCH				i S	Sn	05 27 06.8	+0.8
LNV	Longovilo	1.41	344	⇑iP	Pn	05 26 47.1	+0.3
LNV				i S	Sn	05 27 06.2	0.0
CCHI	Chillan	1.58	215	i P	Pn	05 26 49.5	+0.7
CCHI				i S	Sn	05 27 10.9	+1.0
CCHI				AML	AML	05 27 13.6	
	comp=N,351nm,0.4s						
CCHI	Chillan	1.58	215	i P	Pn	05 26 49.5	+0.7
CCHI				i S	Sn	05 27 10.9	+1.0
LMEL	Las Melosas	1.59	23	⇓iP	Pn	05 26 49.7	+0.7
LMEL				AML	AML	05 27 16.6	
	comp=N,1μm,0.2s						
TACH	Talagante	1.66	0	⇓iP	Pn	05 26 50.0	+0.2
COCH	Cobquecura	1.71	241	⇑iP	Pn	05 26 51.0	+0.6
COCH				i S	Sn	05 27 13.0	+0.3
COCH				AML	AML	05 27 19.6	
	comp=N,276nm,0.2s						
COCH	Cobquecura	1.71	241	⇑iP	Pn	05 26 51.0	+0.6
COCH				i S	Sn	05 27 13.0	+0.3
PCH	Pirque	1.73	12	⇓iP	Pn	05 26 51.3	+0.7
PCH				i S	Sn	05 27 15.2	+2.1
SJCH	San Jose de Ma	1.74	16	⇓iP	Pn	05 26 51.1	+0.3
SJCH				AML	AML	05 27 18.9	
	comp=N,511nm,0.4s						
ANTU	Antumapu	1.76	8	⇓iP	Pn	05 26 51.8	+0.8
ANTU				i S	Sn	05 27 15.8	+2.0
ANTU				AML	AML	05 27 17.5	
	comp=N,518nm,0.3s						
ANTU	Antumapu	1.76	8	⇓iP	Pn	05 26 51.8	+0.8
ANTU				S	Sn	05 27 15.8	+2.0
RCDM	Rinconada Maip	1.82	4	⇓iP	Pn	05 26 52.4	+0.5
RCDM				i S	Sn	05 27 15.9	+0.6
RCDM				AML	AML	05 27 17.4	
	comp=E,1μm,0.1s						
RCDM	Rinconada Maip	1.82	4	⇓iP	Pn	05 26 52.4	+0.5
RCDM				i S	Sn	05 27 15.9	+0.6
SAN	Santiago	1.87	7	eP	Pn	05 26 53.0	+0.6
SAN				i S	Sn	05 27 17.7	+1.4
SAN				AML	AML	05 27 19.9	
	comp=E,370nm,0.3s						
SAN	Santiago	1.87	7	eP	Pn	05 26 53.0	+0.6
SAN				i S	Sn	05 27 17.7	+1.4
LCCH	Las Cruces	1.91	344	⇑iP	Pn	05 26 53.2	+0.3
LCCH				i S	Sn	05 27 17.8	+0.7
DSCH	Colegio Aleman	1.94	9	eP	Pn	05 26 54.0	+0.7
DSCH				i S	Sn	05 27 18.8	+1.1
DSCH				AML	AML	05 27 21.9	
	comp=E,130nm,0.1s						
DSCH	Colegio Aleman	1.94	9	eP	Pn	05 26 54.0	+0.7
DSCH				i S	Sn	05 27 18.8	+1.1
CLCH	Cerro Calan	1.94	10	AML	AML	05 27 22.0	
	comp=E,654nm,0.3s						
FCH	Farellones	2.05	15	AML	AML	05 27 25.1	
	comp=E,438nm,0.2s						
PEL	Peldehue	2.18	6	⇓iP	Pn	05 26 56.9	+0.5
PEL				i S	Sn	05 27 24.2	+1.0
PEL				AML	AML	05 27 30.5	
	comp=E,767nm,0.4s						
ROCH	El Roble	2.34	359	⇑iP	Pn	05 26 59.1	+0.6
IHA	Instituto Hidr	2.36	346	⇑iP	Pn	05 26 59.2	+0.5
JACH	Jahuel	2.64	6	⇓iP	Pn	05 27 02.8	+0.4
JACH				i S	Sn	05 27 35.0	+0.9

IDC 13 05:48:15.9±44.0, 1012S×17782E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/17, mbtmp4.1/3, MS4.4/1, Ms1 4.4/1, ms1mx2.9/23, Error ellipse: s-maj=798.2km s-min=139.4km az=67.0, North of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.87	232	P	P	05 55 51.2	-0.3
	1.4nm,0.4s,baz=44,slow=7.3,SNR=8.5						
WRA	Warramunga Arr	43.00	252	P	P	05 56 17.6	+0.2
	1.0nm,0.7s,baz=84,slow=8.0,SNR=12						
ASAR	Alice Springs	43.94	246	P	P	05 56 24.8	-0.2

LVC LR LR 06 05 51.9
comp=Z,292nm,18.3s,baz=324,slow=40
LVC Limon Verde 8.56 171 *e*Pn **Pn 06 02 18.7 +0.9**
SIV San Ignacio 9.20 103 Pn **Pn 06 02 26.3 -0.3**
11nm,0.3s,baz=278,slow=12,SNR=151
SIV Sn **Sn 06 04 09.5 +0.8**
7.6nm,0.3s,baz=221,slow=17,SNR=4.8
SIV Lg 06 05 03.0
21nm,0.3s,baz=263,slow=21,SNR=6.6
ATAH Atahualpa 10.57 311 Pn **Pn 06 02 38.4 -7.0**
0.3nm,0.3s,baz=143,slow=18,SNR=2.6
OTAV Otavalo 16.34 330 *e*P **Pn 06 04 01.1 -1.2**
CPUP Villa Florida 17.24 137 P **Pn 06 04 14.7 +1.2**
0.2nm,0.3s,baz=322,slow=11,SNR=5.4
CPUP LR LR 06 10 45.4
comp=Z,73nm,19.4s,baz=89,slow=36
CPUP Villa Florida 17.24 137 *e*P **Pn 06 04 16.0 +2.6**
CPUP pmax pmax
comp=Z,25nm,1.3s
CPUP Villa Florida 17.24 137 *e*P **Pn 06 04 16.0 +2.5**
comp=Z,25nm,1.3s
CFAA Coronel Fontan 17.51 174 P **Pn 06 04 16.8 +0.1**
comp=Z,0.1nm,0.3s,baz=339,slow=9.9,SNR=12
ROSC El Rosal 19.25 348 P **Pn 06 04 38.9 +1.0**
comp=Z,0.9nm,0.3s,baz=104,slow=22,SNR=5.8
ROSC El Rosal 19.25 348 *e*P **Pn 06 04 39.6 +1.6**
BDFB Brasilia 21.69 97 P **P 06 05 04.3 +1.5**
comp=Z,7.1nm,0.9s,mb4.1,baz=251,slow=17,SNR=17
BDFB LR LR 06 13 22.2
comp=Z,36nm,20.4s,baz=234,slow=36
SDV Santo Domingo 22.86 359 P **P 06 05 12.5 -2.7**
comp=Z,6.6nm,0.4s,mb4.4,baz=189,slow=10,SNR=14
SDV Santo Domingo 22.86 359 *e*P **P 06 05 12.3 -2.9**
PCRV Puerto La Cruz 24.81 14 P **P 06 05 33.0 -0.4**
comp=Z,4.9nm,0.7s,mb4.2,baz=232,slow=6.0,SNR=2.9
PCRV LR LR 06 14 25.3
comp=Z,62nm,18.1s,baz=2.2,slow=35
TRQA Tornquist 24.98 164 *e*P **P 06 05 33.1 -1.7**
PLCA Paso Flores 26.51 180 P **P 06 05 47.9 -0.7**
comp=Z,4.7nm,0.8s,mb4.1,baz=333,slow=11,SNR=6.4
PLCA Paso Flores 26.51 180 *e*P **P 06 05 48.0 -0.6**
comp=Z,0.7nm,0.5s
GOGA Godfrey 48.88 345 *e*P **P 06 08 55.8 -0.8**
GOGA *e**PP pP 06 09 11.1 -0.5
GOGA Godfrey 48.88 345 *e*P **P 06 08 55.8 -0.9**
GOGA *e*pP pP 06 09 11.1 -0.5
GOGA *e*sP sP 06 09 18.9 +0.7
JCT Junction City 52.61 328 *e*P **P 06 09 23.5 -1.2**
JCT pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
JCT Junction City 52.61 328 *e*P **P 06 09 23.5 -1.2**
comp=Z,6.7nm,0.8s,mb4.6
MIAR Mount Ida 53.18 336 *e*P **P 06 09 28.5 -0.3**
SIUC Southern Illin 54.51 342 *e*P **P 06 09 35.2 -3.3**
FVM French Village 55.13 341 *e*P **P 06 09 40.3 -2.7**
CCM Cathedral Cave 55.47 340 *e*P **P 06 09 41.7 -3.7**
CCM pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CCM Cathedral Cave 55.47 340 *e*P **P 06 09 41.7 -3.7**
comp=Z,4.6nm,0.8s,mb4.6
WMOK Wichita Mounta 55.57 332 *e*P **P 06 09 44.4 -1.8**
GDL2 Guadalupe Moun 56.39 325 *e*P **P 06 09 52.2 +0.1**
AMTX Amarillo 57.07 329 *e*P **P 06 09 55.5 -1.4**
comp=Z,5.2nm,0.6s,mb4.7
319A Douglas 58.65 321 ⇑P **P 06 10 08.1 +0.1**
baz=59
219A White Tail Can 59.07 322 ⇑P **P 06 10 11.5 +0.6**
baz=59
BNM Barren Site 59.10 325 *e*P **P 06 10 11.7 +0.5**
LPM Los Pinos Moun 59.22 325 *e*P **P 06 10 12.0 0.0**
218A Dragoon 59.53 321 ⇓P **P 06 10 13.8 -0.3**
baz=60
LAZ Ladron 59.57 325 *e*P **P 06 10 14.6 +0.3**
ANMO Albuquerque 59.60 326 *e*P **P 06 10 14.3 -0.3**
ANMO pmax pmax
comp=Z,4.0nm,0.6s
ANMO Albuquerque 59.60 326 *e*P **P 06 10 14.3 -0.3**
comp=Z,3.6nm,0.6s,mb4.6
119A Ashpeak Ranch, 59.63 322 ⇓P **P 06 10 14.9 +0.1**
baz=60
217A Green Valley 59.86 320 ⇑P **P 06 10 16.5 +0.1**
baz=60
118A Homack Ranch, 59.95 322 ⇑P **P 06 10 17.2 +0.2**
baz=60
TUC Tucson 60.21 321 *e*P **P 06 10 18.5 -0.3**
117A Oracle 60.36 321 P **P 06 10 19.9 0.0**
baz=61,SNR=10
216A Three Points, 60.42 320 ⇓P **P 06 10 20.4 +0.2**
baz=61
Y19A Nutrioso 60.45 323 P **P 06 10 21.3 +0.9**
baz=61,SNR=8.1
Z17A San Carlos Hig 60.70 322 ⇑P **P 06 10 22.9 +0.8**
baz=61
Y18A Canyon Day Jun 60.78 322 ⇓P **P 06 10 23.0 +0.4**
baz=61
X19A St. Johns 60.81 324 ⇓P **P 06 10 23.2 +0.4**
baz=61
116A Eloy 60.95 320 ⇑P **P 06 10 24.3 +0.5**
baz=61
Y17A Roosevelt 61.20 322 ⇑P **P 06 10 25.8 +0.2**
baz=61
SDCO Great Sand Dun 61.22 329 *e*P **P 06 10 25.2 -0.3**
comp=Z,7.2nm,0.8s,mb4.8
214A Organ Pipe Nat 61.24 319 ⇑P **P 06 10 26.4 +0.6**
baz=62
X18A Snowflake 61.26 323 P **P 06 10 26.5 +0.6**
baz=62,SNR=8.7
Z16A Peralta Trail, 61.31 321 ⇓P **P 06 10 26.7 +0.5**
baz=62
V19A Window Rock 61.59 325 ⇓P **P 06 10 28.7 +0.6**
baz=62
X17A Forest Lakes 61.63 322 P **P 06 10 29.1 +0.7**
baz=62,SNR=7.9
Y16A Circle Bar Ran 61.71 322 P **P 06 10 29.7 +0.7**
baz=62,SNR=10
Z15A Gila River Ind 61.72 321 ⇓P **P 06 10 29.5 +0.5**
baz=62
X16A Lo Mia Camp, P 62.06 322 P **P 06 10 31.8 +0.4**
baz=62,SNR=11
V18A Ganado 62.09 324 ⇑P **P 06 10 31.7 +0.2**
baz=62
Y15A Casa Rosa Ranc 62.28 321 ⇓P **P 06 10 33.2 +0.5**
baz=62
113A Mohawk Valley, 62.38 319 ⇓P **P 06 10 33.3 -0.2**
baz=63
MVCO Mesa Verde 62.38 326 ⇓P **P 06 10 33.7 +0.3**
baz=63
MVCO Mesa Verde 62.38 326 *e*P **P 06 10 33.5 +0.1**
T19A Beclabito 62.39 326 P **P 06 10 33.3 -0.1**
baz=63,SNR=10
U18A Rough Rock, Ch 62.56 325 P **P 06 10 34.7 +0.1**
baz=63,SNR=12
W16A Flagstaff 62.59 323 ⇓P **P 06 10 35.1 +0.4**
baz=63
X15A Humboldt 62.59 322 ⇑P **P 06 10 34.9 +0.1**
baz=63
Y14A Wickenburg 62.68 321 ⇑P **P 06 10 35.5 +0.1**
baz=63
WUAZ Wupatki 62.79 323 ⇓P **P 06 10 36.1 0.0**
baz=63
WUAZ Wupatki 62.79 323 *e*P **P 06 10 36.8 +0.7**
ISCO Idaho Springs 62.87 330 *e*P **P 06 10 36.4 -0.2**
X14A Yava 62.97 321 ⇑P **P 06 10 37.5 +0.1**
baz=63
SMCO Snowmass 63.06 329 *e*P **P 06 10 44.6 +6.8**
comp=Z,6.3nm,0.8s,mb4.8
W15A Williams 63.08 322 ⇓P **P 06 10 38.2 +0.1**
baz=63
T18A Mexican Hat 63.08 325 P **P 06 10 37.9 -0.1**
baz=63,SNR=10
PV01 Paradox Valley 63.10 327 *e*P **P 06 10 38.3 +0.1**
S19A Harvey Farm, M 63.12 326 P **P 06 10 38.0 -0.3**
baz=63,SNR=12
U17A Shonto 63.14 324 P **P 06 10 38.9 +0.5**
baz=63,SNR=6.3
V15A Kaibab Nationa 63.46 323 ⇑P **P 06 10 40.9 +0.3**
baz=64
T17A Navajo Res., N 63.50 325 P **P 06 10 41.4 +0.6**
baz=64,SNR=15
PV10 Paradox Valley 63.53 327 *e*P **P 06 10 40.5 -0.5**
S18A Hurst Farm, Bl 63.55 326 P **P 06 10 41.2 +0.1**
baz=64,SNR=13
R19A Curley Farm, L 63.59 327 ⇓P **P 06 10 41.1 -0.2**
baz=64
W14A Seligman 63.59 322 ⇑P **P 06 10 41.8 +0.3**
baz=64
V14A Boquillas Ranc 63.89 322 ⇑P **P 06 10 44.4 +1.0**
baz=64
T16A Glen Canyon Da 63.89 324 ⇓P **P 06 10 43.9 +0.5**
baz=64
U15A North Rim 63.95 323 P **P 06 10 44.6 +0.8**
baz=64,SNR=8.6
S17A Black Ridge (B 63.95 325 P **P 06 10 43.9 +0.1**
baz=64,SNR=8.0
R18A Canyonlands Na 64.00 326 P **P 06 10 43.7 -0.4**
baz=64,SNR=12
BC3 Big Chuckw Mtn 64.03 319 ⇓P **P 06 10 44.6 +0.2**
baz=64
Q19A Hogan Spring (64.08 327 P **P 06 10 44.5 -0.1**
baz=64,SNR=22
IRM Iron Mountain 64.16 320 ⇑P **P 06 10 45.4 +0.2**
baz=64
MONP Monument Peak 64.17 318 ⇑P **P 06 10 46.1 +0.8**
baz=64
T15A Red Dirt Ranch 64.41 324 P **P 06 10 47.9 +1.0**
baz=65,SNR=15
S16A Weppner Ranch, 64.46 325 P **P 06 10 47.1 0.0**
baz=65,SNR=22
R17A Hanksville Air 64.46 326 P **P 06 10 47.1 0.0**
baz=65,SNR=32
U14A Mt Trumbull 64.47 323 P **P 06 10 47.8 +0.6**
baz=65,SNR=9.2
V13A Grand Canyon W 64.56 322 ⇑P **P 06 10 48.3 +0.5**
baz=65
Q18A Rafter H Ranch 64.64 327 P **P 06 10 48.2 -0.1**
baz=65,SNR=8.2
SRU San Rafael 64.86 326 *e*P **P 06 10 49.5 -0.2**
MSU Marysvale 65.34 325 *e*P **P 06 10 53.3 +0.5**
TMUT Trail Mountain 65.36 326 *e*P **P 06 10 53.3 +0.3**
ARUT Antelope Range 65.55 324 *e*P **P 06 10 55.1 +0.9**
SHPR Sheep Range 65.71 322 *e*P **P 06 10 56.0 +0.8**
MPU Maple Canyon 66.11 326 *e*P **P 06 10 58.6 +0.9**
AGMN Agassiz Refuge 66.14 342 *e*P **P 06 10 55.2 -2.6**
DAU Daniels Canyon 66.19 327 *e*P **P 06 10 58.9 +0.7**
NLU North Lily Min 66.30 326 *e*P **P 06 10 59.5 +0.5**
TPNV Topopah Spring 66.66 321 *e*P **P 06 11 02.4 +1.1**
DUG Dugway 66.87 326 *e*P **P 06 11 02.8 +0.2**
PDAR Pinedale Array 67.05 330 P **P 06 11 02.8 -0.9**
comp=Z,2.1nm,0.5s,mb4.4,baz=118,slow=8.4,SNR=26
BW06 Boulder Array 67.05 330 *e*P **P 06 11 03.9 +0.2**
comp=Z,18nm,1.7s,mb4.8
ISA Isabella 67.22 319 *e*P **P 06 11 05.6 +0.7**
SPUT South Promonto 67.46 327 *e*P **P 06 11 06.4 +0.1**
BGU Big Grassy Mou 67.50 326 *e*P **P 06 11 06.4 -0.2**
VNA1 Neumayer--Stat 67.68 161 *e*P **P 06 11 08.0 +0.7**
VNA1 *e* 06 11 11.9
ULM Lac du Bonnet 67.89 343 P **P 06 11 06.0 -2.9**
comp=Z,4.2nm,0.7s,mb4.6,baz=148,slow=5.6,SNR=7.6
ULM LR LR 06 40 08.8
comp=Z,62nm,18.3s,MS3.9,baz=62,slow=35
LIC Lamto 67.92 77 *e*P **P 06 11 09.0 -0.8**
comp=Z,170nm,1.8s
HVU Hansel Valley 67.97 327 *e*P **P 06 11 09.4 -0.1**
TIC Toumodi 68.06 77 *e*P **P 06 11 10.1 -0.6**
comp=Z,66nm,1.1s,mb5.6
REDW Red Top Meadow 68.13 329 *e*P **P 06 11 10.2 -0.2**
comp=Z,18nm,1.4s,mb4.9
SNOW Snow King Moun 68.15 329 *e*P **P 06 11 10.7 +0.1**
comp=Z,6.6nm,0.7s,mb4.8
LOHW Long Hollow 68.19 330 *e*P **P 06 11 10.7 -0.2**
DBIC Dimbokro 68.22 77 P **P 06 11 11.5 -0.2**
comp=Z,12nm,1.0s,mb4.9,baz=209,slow=5.7,SNR=4.3
KIC Kosan Boka 68.24 77 *e*P **P 06 11 11.1 -0.7**
comp=Z,198nm,1.3s
TPAW Teton Pass 68.27 329 *e*P **P 06 11 11.4 +0.1**
comp=Z,5.4nm,0.8s,mb4.6
RRI2 Red Ridge 68.35 329 *e*P **P 06 11 11.8 -0.1**
MOOW Moose Ponds 68.36 330 *e*P **P 06 11 11.0 -0.9**
comp=Z,8.3nm,1.2s,mb4.6
LAO LASA Array 68.55 334 *e*P **P 06 11 13.3 +0.3**
comp=Z,5.4nm,0.6s,mb4.7
FLWY Flagg Ranch 68.58 330 *e*P **P 06 11 14.4 +1.1**
ELK Elko 68.59 325 *e*P **P 06 11 13.8 +0.4**
SCHQ Schefferville 68.75 2 P **P 06 11 13.6 -0.5**
comp=Z,2.5nm,0.6s,mb4.3,baz=196,slow=9.9,SNR=3.6
LKWY Lake 68.80 330 *e*P **P 06 11 15.8 +1.2**
LKWY pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
LKWY Lake 68.80 330 *e*P **P 06 11 15.8 +1.2**
comp=Z,2.3nm,0.3s,mb4.6
NVAR Mina Array Bea 68.86 321 P **P 06 11 14.5 -0.7**
comp=Z,1.0nm,0.8s,mb3.8,baz=150,slow=6.8,SNR=9.0
YMR Madison River 69.14 330 *e*P **P 06 11 17.5 +0.8**
comp=Z,12nm,0.8s,mb4.9
GCMT Greycliff 69.37 332 *e*P **P 06 11 17.9 -0.3**
QLMT Earthquake Lak 69.49 330 *e*P **P 06 11 20.2 +1.4**
SNAA Sanae 69.69 162 *e*P **P 06 11 19.6 -0.2**
SNAA *e* 06 11 23.4
SNAA Sanae 69.69 162 *e*P **P 06 11 19.7 -0.1**
SNAA pmax pmax
comp=Z,10.0nm,0.7s
SNAA Sanae 69.69 162 *e*P **P 06 11 19.7 -0.1**
comp=Z,9.7nm,0.7s,mb4.8
MCMT McKenzie Canyo 70.18 329 P **P 06 11 23.7 +0.6**
BOZ Bozeman (W) 70.18 331 *e*P **P 06 11 22.8 -0.3**
BOZ pmax pmax
comp=Z,17nm,1.6s,mb4.7
BOZ Bozeman (W) 70.18 331 *e*P **P 06 11 22.8 -0.4**
comp=Z,17nm,1.6s,mb4.7
PAHR Pah Rah Range 70.31 322 *e*P **P 06 11 25.1 +1.1**
comp=Z,12nm,0.9s,mb4.8
DLMT Dillon 70.44 330 *e*P **P 06 11 25.2 +0.5**
comp=Z,8.0nm,1.1s,mb4.6
HRY Holter Researc 71.06 331 *e*P **P 06 11 28.4 0.0**
EGMT Eagleton 71.10 333 *e*P **P 06 11 27.6 -1.0**
comp=Z,7.3nm,0.6s,mb4.8
CHMT Chamberlain Mo 71.88 331 *e*P **P 06 11 33.7 +0.3**
MSO Missoula 72.15 330 *e*P **P 06 11 35.2 +0.2**
LBCM Butte Creek Ri 72.19 322 P **P 06 11 35.4 0.0**
MOD Modoc 72.23 323 *e*P **P 06 11 35.8 +0.2**
BMO Blue Mountains 72.48 327 *e*P **P 06 11 36.8 -0.2**
WDC Whiskeytown Da 72.76 321 *e*P **P 06 11 37.4 -1.4**
YBH Yreka Blue Hor 73.55 322 P **P 06 11 41.8 -1.6**
comp=Z,1nm,0.6s,mb4.2,baz=152,slow=5.7,SNR=9.5
KHMM Horse Mountain 73.66 321 *e*P **P 06 11 44.9 +0.8**
WALA Waterton Lakes 73.73 332 *e*P **P 06 11 43.6 -0.7**
comp=Z,23nm,1.8s,mb4.8
HUMO Hull Mountain 74.22 322 *e*P **P 06 11 47.7 +0.4**
comp=Z,23nm,2.5s,mb4.7
HAWA Hanford 74.67 327 *e*P **P 06 11 50.2 +0.4**
comp=Z,13nm,1.3s,mb4.7
RSW Rattlesnake Hi 74.70 327 *e*P **P 06 11 49.5 -0.6**
KBO Bosley Butte 74.75 322 *e*P **P 06 11 51.6 +1.2**
OD2 Odessa Site #2 74.90 328 *e*P **P 06 11 51.3 +0.2**
OD2 epP pP 06 12 08.8 +1.7
COR Corvallis 75.61 324 *e*P **P 06 11 55.9 +0.6**
COR pmax pmax
comp=Z,12nm,1.0s,mb4.8
COR Corvallis 75.61 324 *e*P **P 06 11 55.9 +0.6**
comp=Z,12nm,1.0s,mb4.8
ETW Entiat 75.87 328 *e*P **P 06 11 56.6 -0.1**
RVC Mount Rainier- 76.32 326 P **P 06 11 59.7 +0.5**
KMOR Kings Mountain 76.35 325 P **P 06 12 00.2 +0.8**
TOA0 Torodi Ar. Sit 76.36 73 *e*P **P 06 11 59.5 -0.8**
TORD Torodi Ar. Bea 76.36 73 P **P 06 11 59.3 -0.9**
comp=Z,8.2nm,0.7s,mb4.7,baz=270,slow=4.5,SNR=38
EDM Edmonton 76.51 335 *e*P **P 06 11 58.6 -1.6**
BMW Boistfort Moun 76.71 326 *e*P **P 06 12 01.6 +0.1**
RPW Rockport 77.02 328 *e*P **P 06 12 00.2 -3.0**
JCW Jim Creek 77.08 327 *e*P **P 06 12 02.9 -0.6**
GNW Green Mountain 77.16 327 *e*P **P 06 12 02.5 -1.5**
comp=Z,19nm,1.6s,mb4.8
NLWA Neilton Lookou 77.61 326 *e*P **P 06 12 05.6 -1.0**
comp=Z,11nm,1.2s,mb4.7
ESDC Sonseca Array 81.65 46 P **P 06 12 30.1 +1.4**
comp=Z,0.5nm,0.4s,mb3.8,baz=267,slow=4.9,SNR=5.8
TSUM Tsumeb 83.60 108 P **P 06 12 38.5 -0.8**
comp=Z,3.9nm,1.0s,mb4.5,baz=276,slow=4.2,SNR=4.2
YKA Yellowknife Ar 83.79 341 P **P 06 12 37.5 -1.7**
comp=Z,3.1nm,0.7s,mb4.6,baz=135,slow=5.2,SNR=21
YKA Yellowknife Ar 83.79 341 P **P 06 12 37.5 -1.7**
VNDA Vanda 83.83 190 P **P 06 12 39.8 +0.4**
comp=Z,1.4nm,0.8s,mb4.1,baz=142,slow=3.0,SNR=6.5
YKW3 Yellowknife Ar 83.84 341 *e*P **P 06 12 37.9 -1.5**
SYO Syowa Base 83.88 160⇑*e*P **P 06 12 37.5 -2.2**
SYO Syowa Base 83.88 160⇑*e*PcP PcP 06 12 41.0 -2.7
MAW Mawson 91.77 164 P **P 06 13 17.5 -0.2**
comp=Z,1.6nm,0.8s,mb4.4,baz=7.2,slow=5.8,SNR=4.3
INK Inuvik 93.56 341 LR LR 06 54 18.6
comp=Z,48nm,19.5s,MS4.0,baz=36,slow=35
STKA Stephens Creek 124.93 213 *e*PKP PKPdf 06 19 10.8 0.0
comp=Z,2.1nm,0.6s
STKA Stephens Creek 124.93 213 PKP PKPdf 06 19 10.9 +0.1
comp=Z,2.0nm,0.6s,baz=360,slow=3.9,SNR=7.2
ASAR Alice Springs 135.56 213 PKP PKPdf 06 19 30.6 -0.5
comp=Z,2.2nm,0.8s,baz=145,slow=2.6,SNR=18
ZALV Zalesovo Beam 135.74 21 PKP PKPdf 06 19 30.0 -0.4
comp=Z,2.8nm,0.6s,baz=295,slow=3.7,SNR=12
WB2 Warramunga Arr 138.30 216 *e*PKP PKPdf 06 19 35.5 -0.8
WRA Warramunga Arr 138.31 216 PKP PKPdf 06 19 35.5 -0.7
comp=Z,3.6nm,0.7s,baz=133,slow=1.8,SNR=18
MKAR Makanchi Array 140.22 30 PKP PKPdf 06 19 36.9 -2.0
comp=Z,0.2nm,0.3s,baz=333,slow=2.3,SNR=2.7
FITZ Fitzroy Crossi 144.29 207 *e*PKP PKPdf 06 19 45.1 -1.9
comp=Z,6.2nm,0.7s
FITZ Fitzroy Crossi 144.29 207 PKP PKPdf 06 19 45.2 -1.9
comp=Z,3.2nm,0.6s,baz=187,slow=4.7,SNR=18
WMQ Urumqi 144.97 28 *e*PKP PKPdf 06 19 44.8 -2.6
WMQ LR LR
comp=N,125nm,20.0s,MS5.0
WMQ LR LR
comp=E,184nm,18.0s,MS5.0
WMQ LR LR
comp=Z,207nm,16.0s,MS5.0
KAKA Kakadu 145.03 221 *e*PKP PKPdf 06 19 47.2 -1.2
comp=Z,19nm,0.9s
MDJ Mudanjiang 145.17 335 PKP PKPdf 06 19 47.6 -0.2
MDJ PP PP
comp=Z,112nm,5.2s
MDJ LR LR
comp=N,172nm,29.2s,MS4.9
MDJ LR LR
comp=E,211nm,29.2s,MS4.9
MDJ LR LR
comp=Z,257nm,20.0s
MJAR Matsushiro Arr 146.06 316 PKPbc PKPbc 06 19 50.0 -0.5
comp=Z,8.1nm,0.8s,baz=74,slow=2.0,SNR=37
SONM Songino Array 146.28 4 PKPbc PKPbc 06 19 50.2 -0.5
comp=Z,2.8nm,0.7s,baz=330,slow=3.0,SNR=14
KSRS Korea Array 151.61 328 PKPbc PKPbc 06 20 02.8 -1.9
comp=Z,2.4nm,0.7s,baz=2.2,slow=1.6,SNR=7.3
HHC Hu-ho-hao-te 153.32 357 *e*PKP PKPdf 06 20 03.5 +2.6
HHC PKS 06 23 36.8
HHC PP PP 06 24 00.3 +7.3
HHC SKS SKSdf 06 26 59.1 -4.1
HHC SKKS SKKSac 06 30 36.8 -2.6
HHC SS SS 06 43 21.9 -0.3
HHC PP PP
comp=Z,39nm,6.2s
HHC LR LR
comp=N,119nm,17.8s,MS4.9
HHC LR LR
comp=E,136nm,19.0s,MS4.9
HHC LR LR
comp=Z,91nm,17.8s,MS4.6
BJI Beijing 153.54 349 PKP PKPdf 06 20 00.9 -0.3
BJI LR LR
comp=N,661nm,18.5s
BJI LR LR
comp=E,1μm,14.1s
BJI LR LR
comp=Z,817nm,16.9s,MS5.6
LZH Lanzhou 157.53 12 *e*PKP PKPdf 06 20 02.0 -4.7
CD2 Chengdu 162.45 17 *e*PKP PKPdf 06 20 10.5 -1.9
KMI Kunming 167.30 29 PKP PKPdf 06 20 15.6 -1.1
KMI PP PP 06 25 07.8 -1.2
KMI SS SS 06 45 46.3 -3.9
KMI LR LR
comp=N,180nm,11.2s
KMI LR LR
comp=E,154nm,15.2s
KMI LR LR
comp=Z,129nm,22.2s
GYA Guiyang 167.42 12 PKP PKPdf 06 20 15.8 -1.0
GYA PKP2 PKPab 06 21 22.0 -0.1
GYA PKS 06 23 46.0
GYA PP PP 06 25 11.4 +2.3
GYA PP PP
comp=Z,80nm,8.9s

ISCJB ***13*** *06:00:18.5±0.3,4833N±002×656E±002,h7km±4km, Error ellipse: s-maj=2.9km s-min=2.4km az=153.7*
CSEM ***13*** *06:00:20.8±0.0,4835N×666E,h12km,ML3.0/20, Error ellipse: s-maj=1.0km s-min=0.8km az=170.0*
STR ***13*** *06:00:20.4±0.1,4836N×665E,h10km,Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
LDG ***13*** *06:00:21.0±0.1,4833N×665E,h10km,Md3.0/4,Ml3.0/21, Error ellipse: s-maj=1.4km s-min=1.0km az=161.0*
NEIC ***13*** *06:00:21.0,4833N×665E,h10km,ML2.3(SZGRF), ML2.6(STR),ML3.0(LDG), After LDG.*
BGR ***13*** *06:00:22.4±1.1,4838N×678E,h10km,ML2.3/4, Error ellipse: s-maj=12.2km s-min=5.6km az=34.0*

ISC 13 06:00:19.8±0.2,4832N±002×661E±002,h14km±3km,n79, σ1§**04**/144**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.36**	**209**	*e*Pg	**Pg**	**06 00 28.6**	**+1.5**
HAU				*e*Sg	**Sg**	**06 00 32.9**	**+0.8**
	90nm,0.2s						
HAU	**Haudompre**	**0.36**	**209**	*e*Pg	**Pg**	**06 00 28.6**	**+1.5**
HAU				*e*Sg	**Sg**	**06 00 32.9**	**+0.8**
	45nm,0.2s						
ECH	**Echery**	**0.38**	**106**	Pg	**Pg**	**06 00 27.9**	**+0.4**
ECH				Sg	**Sg**	**06 00 32.5**	**-0.2**
THEF	**They Montfort**	**0.43**	**257**	Pg	**Pg**	**06 00 29.7**	**+1.4**
THEF				Sg	**Sg**	**06 00 35.9**	**+1.8**
CDF	**Champ du Feu**	**0.45**	**78**	*e*Pg	**Pg**	**06 00 29.0**	**+0.2**
CDF				*e*Sg	**Sg**	**06 00 34.6**	**-0.3**
	62nm,0.3s						
CDF				*e*Sn	**Sg**	**06 00 37.8**	**+2.9**
CDF	**Champ du Feu**	**0.45**	**78**	*e*Pg	**Pg**	**06 00 29.0**	**+0.2**
CDF				*e*Sg	**Sg**	**06 00 34.6**	**-0.3**
	31nm,0.3s						
CDF				*e*Sn	**Sg**	**06 00 37.8**	**+2.9**
HINF	**Hinteralfeld**	**0.53**	**162**	*e*Pg	**Pg**	**06 00 31.1**	**+0.8**
HINF				*e*Sg	**Sg**	**06 00 38.1**	**+0.8**
	92nm,0.2s						
HINF				*e*Sn	**Sg**	**06 00 41.1**	**+3.8**
HINF	**Hinteralfeld**	**0.53**	**162**	*e*Pg	**Pg**	**06 00 31.1**	**+0.8**
HINF				*e*Sg	**Sg**	**06 00 38.1**	**+0.8**
	46nm,0.2s						
HINF				*e*Sn	**Sg**	**06 00 41.1**	**+3.8**
MOF	**Molkenrain**	**0.59**	**143**	Pg	**Pg**	**06 00 32.0**	**+0.7**
LIBD	**Limburg**	**0.69**	**104**	Pg	**Pg**	**06 00 33.7**	**+0.5**
RFYF	**Reffroy**	**0.82**	**293**	*e*Pn	**Pn**	**06 00 37.3**	**+0.4**
	baz=117						
RFYF				*e*Sn	**Sn**	**06 00 48.9**	**+0.2**
	130nm,0.2s						
RFYF	**Reffroy**	**0.82**	**293**	*e*Pn	**Pn**	**06 00 37.3**	**+0.4**
RFYF				*e*Sn	**Sn**	**06 00 48.9**	**+0.2**
	65nm,0.2s						
LANF	**Langenberg**	**1.03**	**50**	Pg	**Pg**	**06 00 39.3**	**-0.4**
FELD	**Feldberg im Sc**	**1.03**	**115**	Pg	**Pg**	**06 00 40.1**	**+0.3**
FELD				Sg	**Sg**	**06 00 53.6**	**+0.3**
BBS	**Basel-Blauen**	**1.05**	**144**	Pg	**Pg**	**06 00 40.9**	**+0.8**
MEZF	**Maizieres J'vi**	**1.05**	**280**	*e*Pg	**Pg**	**06 00 41.4**	**+1.3**
	baz=96						
MEZF				*e*Sg	**Sg**	**06 00 55.5**	**+1.6**
	61nm,0.3s						
MEZF	**Maizieres J'vi**	**1.05**	**280**	*e*Pg	**Pg**	**06 00 41.4**	**+1.3**
MEZF				*e*Sg	**Sg**	**06 00 55.5**	**+1.6**
	31nm,0.3s						
SFTF	**Sexfontaines**	**1.06**	**264**	*e*Pg	**Pg**	**06 00 41.9**	**+1.7**
SFTF	baz=89						
				*e*Sg	**Sg**	**06 00 55.4**	**+1.4**
	41nm,0.2s						
SFTF	**Sexfontaines**	**1.06**	**264**	*e*Pg	**Pg**	**06 00 41.9**	**+1.7**
SFTF				*e*Sg	**Sg**	**06 00 55.4**	**+1.4**
	20nm,0.2s						
SFTF	**Sexfontaines**	**1.06**	**264**	*e*Pn	**Pn**	**06 00 41.0**	**+0.8**
SFTF				*e*Pg	**Pg**	**06 00 41.9**	**+1.7**
SFTF				*e*Sg	**Sg**	**06 00 55.4**	**+1.4**
BFO	**Black Forest**	**1.15**	**89**	*e*Pg	**Pg**	**06 00 41.5**	**-0.4**
BFO				*e*Sg	**Sg**	**06 00 54.6**	**-2.3**
BFO	**Black Forest**	**1.15**	**89**	*e*Pg	**Pg**	**06 00 41.5**	**-0.4**
BFO				*e*Sg	**Sg**	**06 00 54.6**	**-2.3**
WLF	**Walferdange**	**1.38**	**348**	*e*Pg	**Pg**	**06 00 46.9**	**+0.6**
WLF				*e*Sg	**Sg**	**06 01 04.9**	**+0.7**
WLF	**Walferdange**	**1.38**	**348**	P	**Pn**	**06 00 47.0**	**+2.4**
KTD	**Kalmit**	**1.40**	**44**	Pg	**Pg**	**06 00 46.9**	**+0.2**
KTD				Sg	**Sg**	**06 01 04.4**	**-0.4**
RUP	**Ruppelstein**	**1.41**	**12**	Pg	**Pg**	**06 00 46.9**	**-0.1**
RUP				Sg	**Sg**	**06 01 04.7**	**-0.6**

SPAK	**Spaichingen-Ko**	**1.47 98**	Pg		**Pg**	06 00 48.3	+0.2
CABF	**La Chapelle**	**1.75 192**	*e*Pg		**Pg**	06 00 54.1	+0.7
CABF			*e*Sg		**Sg**	06 01 15.1	-0.9
	45nm,0.5s						
CABF	**La Chapelle**	**1.75 192**	*e*Pg		**Pg**	06 00 54.1	+0.7
CABF			*e*Sg		**Sg**	06 01 15.1	-0.9
	22nm,0.5s						
CABF	**La Chapelle**	**1.75 192**	*e*Pn		**Pn**	06 00 50.5	+0.8
CABF			*e*Pg		**Pg**	06 00 54.1	+0.7
CABF			*e*Sg		**Sg**	06 01 15.1	-0.9
GIVF	**Givet**	**2.13 327**	*e*Pg		**Pg**	06 01 00.4	-0.3
GIVF			*e*Sg		**Sg**	06 01 27.0	-1.4
	15nm,0.2s						
GIVF	**Givet**	**2.13 327**	*e*Pg		**Pg**	06 01 00.4	-0.3
GIVF			*e*Sg		**Sg**	06 01 27.0	-1.4
	7.6nm,0.2s						
LOR	**Lormes**	**2.13 241**	*e*Pn		**Pn**	06 00 55.4	+0.4
	baz=64						
LOR	**Lormes**	**2.13 241**	*e*Pg		**Pg**	06 01 01.3	+0.6
	baz=63						
LOR			*e*Sg		**Sg**	06 01 28.3	-0.1
	20nm,0.2s						
LOR	**Lormes**	**2.13 241**	*e*Pg		**Pg**	06 01 01.3	+0.6
LOR			*e*Sg		**Sg**	06 01 28.3	-0.1
	9.8nm,0.2s						
LOR	**Lormes**	**2.13 241**	*e*Pn		**Pn**	06 00 55.4	+0.4
LOR			*e*Pg		**Pg**	06 01 01.3	+0.6
LOR			*e*Sg		**Sg**	06 01 28.3	-0.1
DOU	**Dourbes**	**2.21 324**	P		**Pg**	06 01 02.7	+6.6
TNS	**Taunus Mts**	**2.25 32**	*e*Sg		**Sg**	06 01 30.4	-1.7
BCLA	**Clavier**	**2.27 338**	P		**Pg**	06 01 04.5	+1.2
BCLA			S		**Pg**	06 01 04.8	+1.5
	comp=N,10nm,0.0s						
BAIF	**Baives**	**2.35 319**	*e*Pg		**Pg**	06 01 04.1	-0.7
BAIF			*e*Sg		**Sg**	06 01 34.5	-0.7
	comp=N,6.8nm,0.3s						
BAIF	**Baives**	**2.35 319**	*e*Pg		**Pg**	06 01 04.1	-0.7
BAIF			*e*Sg		**Sg**	06 01 34.5	-0.7
	comp=N,3.4nm,0.3s						
SSF	**Saint Saulge**	**2.45 240**	*e*Pg		**Pg**	06 01 07.2	+0.5
SSF			*e*Sg		**Sg**	06 01 38.9	+0.5
	comp=N,12nm,0.3s						
SSF	**Saint Saulge**	**2.45 240**	*e*Pg		**Pg**	06 01 07.2	+0.5
SSF			*e*Sg		**Sg**	06 01 38.9	+0.5
	comp=N,5.8nm,0.3s						
SSF	**Saint Saulge**	**2.45 240**	*e*Pn		**Pn**	06 00 59.6	+0.3
SSF			*e*Pg		**Pg**	06 01 07.2	+0.5
SSF			*e*Sg		**Sg**	06 01 38.9	+0.5
SMF	**Signal de Mont**	**2.52 229**	*e*Pg		**Pg**	06 01 08.7	+0.6
SMF			*e*Sg		**Sg**	06 01 40.9	+0.2
	comp=N,29nm,0.3s						
SMF	**Signal de Mont**	**2.52 229**	*e*Pg		**Pg**	06 01 08.7	+0.6
SMF			*e*Sg		**Sg**	06 01 40.9	+0.2
	comp=N,14nm,0.3s						
SMF	**Signal de Mont**	**2.52 229**	*e*Pn		**Pn**	06 01 00.0	-0.3
SMF			*e*Pg		**Pg**	06 01 08.7	+0.6
SMF			*e*Sg		**Sg**	06 01 40.9	+0.2
AVF	**Avril sur Loir**	**2.69 236**	*e*Pg		**Pg**	06 01 11.0	-0.3
AVF			*e*Sg		**Sg**	06 01 44.9	-1.2
	comp=N,6.0nm,0.2s						
AVF	**Avril sur Loir**	**2.69 236**	*e*Pg		**Pg**	06 01 11.0	-0.3
AVF			*e*Sg		**Sg**	06 01 44.9	-1.2
	comp=N,3.0nm,0.2s						
AVF	**Avril sur Loir**	**2.69 236**	*e*Pn		**Pn**	06 01 02.7	+0.1
AVF			*e*Pg		**Pg**	06 01 11.0	-0.3
AVF			*e*Sg		**Sg**	06 01 44.9	-1.2
HYF	**Humbligny**	**2.88 250**	*e*Sg		**Sg**	06 01 53.0	+0.8
BGF	**Bois d'Agland**	**3.10 237**	*e*Pg		**Pg**	06 01 19.1	-0.2
BGF			*e*Sg		**Sg**	06 01 57.8	-1.7
	comp=N,20nm,0.3s						
BGF	**Bois d'Agland**	**3.10 237**	*e*Pg		**Pg**	06 01 19.1	-0.2
BGF			*e*Sg		**Sg**	06 01 57.8	-1.7
	comp=N,10nm,0.3s						
BGF	**Bois d'Agland**	**3.10 237**	*e*Pn		**Pn**	06 01 08.3	0.0
BGF			*e*Pg		**Pg**	06 01 19.1	-0.2
BGF			*e*Sg		**Sg**	06 01 57.8	-1.7
PLDF	**La Plantade**	**3.11 222**	Pg		**Pg**	06 01 20.0	+0.5
AGO	**Saint Agoulin**	**3.28 228**	Pg		**Pg**	06 01 22.7	0.0
GRA1	**Grafenberg Arr**	**3.33 64**	Sg		**Sg**	06 02 04.8	-2.0
GRF	**Grafenberg Arr**	**3.33 64**	*e*Sg		**Sg**	06 02 04.8	-1.9
ORIF	**Oris-en-Rattie**	**3.44 189**	*e*Pg		**Pg**	06 01 24.9	-0.8
ORIF			*e*Sg		**Sg**	06 02 08.2	-2.1
	comp=N,4.3nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.44 189**	*e*Pg		**Pg**	06 01 24.9	-0.8
ORIF			*e*Sg		**Sg**	06 02 08.2	-2.1
	comp=N,2.2nm,0.3s						
PYM	**Petit Puy Mans**	**3.56 225**	Pg		**Pg**	06 01 28.0	0.0
TCF	**Toulx Ste Croi**	**3.62 237**	*e*Pg		**Pg**	06 01 28.1	-1.0
TCF			*e*Sg		**Sg**	06 02 14.3	-1.7
	comp=N,5.2nm,0.3s						
TCF	**Toulx Ste Croi**	**3.62 237**	*e*Pg		**Pg**	06 01 28.1	-1.0
TCF			*e*Sg		**Sg**	06 02 14.3	-1.7
	comp=N,2.6nm,0.3s						
TCF	**Toulx Ste Croi**	**3.62 237**	*e*Pn		**Pn**	06 01 15.4	0.0
TCF			*e*Pg		**Pg**	06 01 28.1	-1.0
TCF			*e*Sg		**Sg**	06 02 14.3	-1.7
VIVF	**Saint-Julien-l**	**3.71 202**	*e*Sg		**Sg**	06 02 16.3	-2.8
	comp=N,5.4nm,0.3s						
VIVF	**Saint-Julien-l**	**3.71 202**	*e*Sg		**Sg**	06 02 16.3	-2.8
	comp=N,2.7nm,0.3s						
LDF	**La Druitiere**	**4.49 276**	*e*Sg		**Sg**	06 02 42.4	-1.4
	comp=N,3.4nm,0.3s						
LDF	**La Druitiere**	**4.49 276**	*e*Sg		**Sg**	06 02 42.4	-1.4
	comp=N,1.7nm,0.3s						
CAF	**Calviac**	**4.62 224**	*e*Sg		**Sg**	06 02 47.6	-0.5
	comp=N,3.9nm,0.4s						
CAF	**Calviac**	**4.62 224**	*e*Sg		**Sg**	06 02 47.6	-0.5
	comp=N,2.0nm,0.4s						
RJF	**Les Rejaudoux**	**4.62 231**	*e*Sg		**Sg**	06 02 46.4	-1.6
	comp=N,4.2nm,0.3s						
RJF	**Les Rejaudoux**	**4.62 231**	*e*Sg		**Sg**	06 02 46.4	-1.6
	comp=N,2.1nm,0.3s						
LASF	**Ste Croix**	**4.66 205**	*e*Pn		**Pn**	06 01 29.8	+0.1
FLN	**La Foliniere**	**4.73 278**	*e*Pn		**Pn**	06 01 31.6	+0.9
FLN			*e*Sg		**Sg**	06 02 50.4	-1.2
	comp=N,2.3nm,0.2s						
FLN	**La Foliniere**	**4.73 278**	*e*Pn		**Pn**	06 01 31.6	+0.9
FLN			*e*Sg		**Sg**	06 02 50.4	-1.2
	comp=N,1.1nm,0.2s						
MFF	**Saint Martin d**	**4.89 252**	*e*Sg		**Sg**	06 02 54.6	-2.3
	comp=N,1.4nm,0.2s						
MFF	**Saint Martin d**	**4.89 252**	*e*Sg		**Sg**	06 02 54.6	-2.3
	comp=N,0.7nm,0.2s						
GRR	**Gorron**	**4.98 274**	*e*Sn		**Sn**	06 02 27.9	-3.5
GRR			*e*Sg		**Sg**	06 02 58.2	-1.4
	comp=N,3.9nm,0.3s						
GRR	**Gorron**	**4.98 274**	*e*Sn		**Sn**	06 02 27.9	-3.5
GRR			*e*Sg		**Sg**	06 02 58.2	-1.4
	comp=N,2.0nm,0.3s						

CSEM ***13*** *06:03:22.3±0.9, 2896N×1655W, h25km±44km, mb3.6/6, Error ellipse: s-maj=15.3km s-min=6.9km az=134.0, After MDD*

MDD 13 06:03:21.8±0.9, 2888N×1661W, h0km, mb2.0/6, mbLg1.7/5, Error ellipse: s-maj=6.4km s-min=3.0km az=16.0, PRIMO TT MODEL: CANARY, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBAJ	**Bajamar**	**0.41**	**145**	P	Pg	06 03 30.4	+0.8
	4.3nm,0.2s,SNR=7.9						
EBAJ				S	Sg	06 03 36.9	+1.9
	9.8nm,0.3s,SNR=14						
EBAJ	**Bajamar**	**0.41**	**145**	P	Pg	06 03 30.4	+0.7
	4.3nm,0.2s,SNR=7.9						
EBAJ				S	Sg	06 03 36.9	+1.9
	9.8nm,0.3s,SNR=14						
CICO	**Icod de los Vi**	**0.54**	**191**	P	Pg	06 03 34.0	+1.9
	0.4nm,0.2s,SNR=7.9						
CICO				S	Sg	06 03 41.7	+2.7
	0.7nm,0.2s,SNR=7.9						
CRAJ	**Montana Rajada**	**0.61**	**179**	P	Pg	06 03 35.0	+1.5
	3.2nm,0.1s,SNR=7.9						
CRAJ				S	Sg	06 03 43.2	+1.8
	24nm,0.1s,SNR=7.9						
CRAJ	**Montana Rajada**	**0.61**	**179**	P	Pg	06 03 35.0	+1.5
	3.2nm,0.1s,SNR=7.9						
CRAJ				S	Sg	06 03 43.2	+1.8
	24nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**0.65**	**180**	P	Pg	06 03 34.3	0.0
	0.5nm,0.1s,SNR=7.9						
CCAN				S	Sg	06 03 43.6	+0.8
	1.5nm,0.1s,SNR=7.9						
CHIO	**Chio**	**0.66**	**196**	P	Pg	06 03 34.8	+0.3
	5.1nm,0.1s,SNR=10						
CHIO				S	Sg	06 03 44.8	+1.8
	16nm,0.2s,SNR=5.5						
EGOM	**La Gomera**	**0.89**	**217**	P	Pg	06 03 37.3	-1.5
	2.1nm,0.1s,SNR=7.9						
EGOM				S	Sg	06 03 49.3	-1.1
	12nm,0.1s,SNR=8.7						
EGOM	**La Gomera**	**0.89**	**217**	P	Pg	06 03 37.3	-1.5
	2.1nm,0.1s,SNR=7.9						
EGOM				S	Sg	06 03 49.3	-1.1
	12nm,0.1s,SNR=8.7						

NIED ***13*** *06:47:00, 3000N×13130E, h20km, Mw4.6 Best double couple: M0 9.77000×10^15 NP1:φ±23.00000°, δ72.00000°, λ87.00000°. NP2:φ±213.00000°, δ19.00000°, λ100.00000°.*
BJI ***13*** *06:47:11.9, 2978N×13121E, h39km, mB4.6, mb4.3, Ms4.2, Msz4.2*
MOS ***13*** *06:47:12.8±0.9, 3007N×13106E, h33km, mb4.9/14, Error ellipse: s-maj=11.2km s-min=7.4km az=102.7*
NEIC ***13*** *06:47:13.0, 3002N×13127E, h33km, mb4.8/15, MW4.6(NIED), After JMA.*
NEIC Recorded [1 JMA] on Tanega-shima and Yaku-shima.
JMA ***13*** *06:47:13.0±0.2, 3002N×13127E, h33km±2km, M4.4*
JMA Felt I J1.
ISCJB ***13*** *06:47:14.0±0.6, 3006N±003×131.18E±005, h47km±4km, mb4.5/38, MS4.0/15, Error ellipse: s-maj=7.4km s-min=4.4km az=29.6*
IDC ***13*** *06:47:16.2±1.9, 3013N×13096E, h43km±18km, mb4.0/17, mb1 4.1/21, mb1mx4.1/28, mbtmp4.0/21, ML3.6/4, MS3.8/11, Ms1 3.9/11, ms1mx3.6/29, Error ellipse: s-maj=16.9km s-min=10.7km az=102.0*

ISC 13 06:47:15.8±0.5, 3009N±003×13108E±004, h42km±4km, n103, o0§91/103, mb4.5/38, MS4.0/15, 7C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.57**	**351**	⇓P	**Pn**	**06 47 26.0**	**-1.6**
JTN				S	**Sn**	**06 47 35.6**	**-0.3**
JKC	**Kuchinoerabu**	**0.85**	**296**	P	**Pn**	**06 47 31.7**	**+0.3**
JNN	**Nakanoshima**	**1.08**	**257**	P	**Pn**	**06 47 34.8**	**+0.4**
JTSR	**Tashiro 2**	**1.08**	**353**	⇑P	**Pn**	**06 47 33.8**	**-0.7**
JTSR				*e*S	**Sn**	**06 47 49.4**	**+1.1**
JNAR	**Kushima--Naru**	**1.44**	**6**	P	**Pn**	**06 47 38.8**	**-0.7**
JSU	**Suzuyama**	**1.51**	**339**	⇑P	**Pn**	**06 47 40.1**	**-0.3**
JSU				*e*S	**Sn**	**06 48 00.5**	**+1.6**
JTZ	**Takazaki**	**1.81**	**0**	P	**Pn**	**06 47 43.8**	**-0.7**
JSJ	**Shimokoshiki**	**1.97**	**324**	⇑P	**Pn**	**06 47 46.1**	**-0.6**
JSJ				*e*S	**Sn**	**06 48 13.6**	**+3.4**
JZO	**Okuchi**	**2.09**	**349**	⇑P	**Pn**	**06 47 47.8**	**-0.5**
JAM	**Amami Oshima**	**2.11**	**218**	P	**Pn**	**06 47 48.5**	**-0.1**
JAM				*e*S	**Sn**	**06 48 14.2**	**+0.5**
JOW	**Kunigami**	**4.08**	**218**	P	**Pn**	**06 48 16.1**	**+0.4**
	7.6nm,0.3s,baz=120,slow=23,SNR=6.7						
JOW				S	**Sn**	**06 49 01.5**	**-0.7**
	16nm,0.3s,baz=180,slow=27,SNR=7.7						
KSRS	**Korea Array**	**7.80**	**341**	P	**Pn**	**06 49 08.0**	**+1.3**
	1.1nm,0.3s,baz=158,slow=14,SNR=16						
KSRS	**Korea Array**	**7.80**	**341**	P	**Pn**	**06 49 08.0**	**+1.3**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SSE	**Sheshan**	**8.59**	**279**	P	**Pn**	**06 49 17.4**	**-0.2**
SSE				S	**Sn**	**06 50 53.5**	**+0.4**
SSE				AMB	AMB		
	comp=Z,21nm,0.7s						
SSE				AMB	AMB		
	comp=Z,79nm,4.2s						
SSE				LR	LR		
	comp=N,425nm,15.2s						
SSE				LR	LR		
	comp=E,225nm,15.2s						
SSE				LR	LR		
	comp=Z,463nm,11.4s						
MAJO	**Matsushiro**	**8.77**	**41**	*e*P	**Pn**	**06 49 19.8**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,11nm,0.4s						
MAJO	**Matsushiro**	**8.77**	**41**	*e*Pn	**Pn**	**06 49 19.8**	**-0.2**
	comp=Z,11nm,0.4s						
MAT	**Matsushiro**	**8.77**	**41**	P	**Pn**	**06 49 19.6**	**-0.4**
MAT				*e*S	**Sn**	**06 50 57.0**	**-0.5**
MJAR	**Matsushiro Arr**	**8.77**	**41**	P	**Pn**	**06 49 20.2**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=232,slow=13,SNR=10						
CBIJ	**Chichi jima**	**10.20**	**104**	LR	LR	06 53 23.7	
	comp=Z,168nm,18.3s,baz=61,slow=36						
VLA	**Vladivostok**	**13.02**	**3**	*e*P	**Pn**	**06 50 18.7**	**+0.6**
VLA				pmax	pmax		
	comp=Z,145nm,1.6s						
VLA				MLR	MLR		
	comp=Z,400nm,14.0s						
CN2	**Changchun**	**14.40**	**343**	*e*P	**Pn**	**06 50 43.9**	**+7.0**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,15.0s						
CN2				LR	LR		
	comp=E,500nm,15.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
WHN	**Wuhan**	**14.46**	**276**	P	**Pn**	**06 50 39.4**	**+1.5**
WHN				S	**Sn**	**06 53 27.6**	**+11**
WHN				LR	LR		
	comp=Z,2μm,10.7s						
ASAJ	**Asahikawa**	**16.72**	**30**	P	**Pn**	**06 51 08.2**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=73,slow=30,SNR=4.7						
ASAJ				LR	LR	06 57 47.5	
	comp=Z,407nm,20.4s,baz=12,slow=38						
YSS	**Yuzh-Sakhalins**	**19.12**	**25**	*e*P	**Pn**	**06 51 45.0**	**+8.8**
YSS				MLR	MLR		
	comp=Z,200nm,17.0s						
YSS	**Yuzh-Sakhalins**	**19.12**	**25**	*e*P	**Pn**	**06 51 32.8**	**-3.4**
	comp=Z,17nm,1.9s						
KLR	**Kul'dur**	**19.12**	**1**	*e*P	**Pn**	**06 51 30.6**	**-5.6**
KLR				MLR	MLR		
	comp=N,900nm,15.0s						
XAN	**Xi'an**	**19.18**	**288**	P	**Pn**	**06 51 34.8**	**-2.3**
XAN				AP	pP	06 51 46.8	+0.6
XAN				AMB	AMB		
	comp=Z,7.0nm,1.5s						
XAN				AMB	AMB		
	comp=Z,114nm,11.2s						
XAN				LR	LR		
	comp=N,340nm,14.0s						
XAN				LR	LR		
	comp=E,362nm,18.1s						
XAN				LR	LR		
	comp=Z,497nm,13.2s						
GUMO	**Guam**	**20.78**	**139**	LR	LR	06 58 34.8	
	comp=Z,117nm,18.7s,MS3.3,baz=276,slow=32						
GYA	**Guiyang**	**21.80**	**266**	⇑*e*P	**P**	**06 52 05.3**	**+1.0**
GYA				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.0						
QIZ	**Qiongzhong**	**22.20**	**245**	P	**P**	**06 52 06.8**	**-1.8**
QIZ				S	**S**	**06 56 08.0**	**-2.8**
QIZ				AMB	AMB		
	comp=Z,122nm,6.1s						
QIZ				LR	LR		
	comp=N,395nm,18.8s						
QIZ				LR	LR		
	comp=Z,482nm,19.0s,MS3.9						
SONM	**Songino Array**	**25.95**	**320**	P	**P**	**06 52 42.8**	**-1.3**
	comp=Z,3.1nm,0.4s,mb4.2,baz=137,slow=10,SNR=28						
SONM				LR	LR	07 03 52.4	
	comp=Z,291nm,21.4s,MS3.8,baz=263,slow=38						
ZAK	**Zakamensk**	**29.07**	**322**	*e*P	**P**	**06 53 10.6**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb3.8						
PETK	**Petropavlovsk-**	**30.10**	**33**	LR	LR	07 06 46.5	
	comp=Z,84nm,18.3s,MS3.4,baz=245,slow=39						
CHTO	**Chiang Mai**	**31.23**	**256**	*e*P	**P**	**06 53 31.3**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
CHTO	**Chiang Mai**	**31.23**	**256**	*e*P	**P**	**06 53 31.3**	**-0.2**
	comp=Z,6.9nm,0.6s,mb4.7						
CMAR	**Chiang Mai Arr**	**31.40**	**256**	P	**P**	**06 53 32.9**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.0,baz=50,slow=8.2,SNR=6.5						
CMAR				LR	LR	07 08 05.8	
	comp=Z,239nm,19.1s,MS3.9,baz=273,slow=40						
HVS	**Khovu-Aksy**	**34.79**	**318**	⇓*e*P	**P**	**06 54 03.5**	**+1.3**
HVS				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
HVS				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.8						
ODAN	**Odare**	**38.37**	**276**	*e*P	**P**	**06 54 32.7**	**-0.3**
	comp=Z,32nm,0.9s,mb5.1						
RAMN	**Ramite**	**39.03**	**277**	*e*P	**P**	**06 54 37.7**	**-0.8**
JIRN	**Jiri**	**39.20**	**278**	*e*P	**P**	**06 54 40.6**	**+0.7**
GUN	**Gumba**	**39.40**	**278**	*e*P	**P**	**06 54 42.3**	**+0.7**
	comp=Z,72nm,0.7s,mb5.5						
PKI	**Pulchoki**	**39.89**	**278**	*e*P	**P**	**06 54 45.3**	**-0.4**
KKN	**Kakani**	**39.95**	**278**	*e*P	**P**	**06 54 46.3**	**+0.1**
DMN	**Daman**	**40.14**	**278**	*e*P	**P**	**06 54 47.2**	**-0.6**
GKN	**Gorkha**	**40.45**	**279**	*e*P	**P**	**06 54 50.5**	**+0.2**
ZAA0	**Zalesovo Array**	**40.84**	**319**	*e*P	**P**	**06 54 53.4**	**+0.2**
ZALV	**Zalesovo Beam**	**40.84**	**319**	P	**P**	**06 54 52.4**	**-0.8**
	comp=Z,1.6nm,0.4s,mb4.0,baz=115,slow=9.7,SNR=7.4						
ZALV				PcP	PcP	06 56 53.1	-0.3
	comp=Z,1.5nm,0.6s,baz=99,slow=4.7,SNR=5.4						
ZALV				LR	LR	07 15 04.8	
	comp=Z,76nm,18.0s,MS3.6,baz=214,slow=41						
ZAL	**Zalesovo**	**40.85**	**319**	P	**P**	**06 54 52.4**	**-0.9**
ZAL						06 56 53.1	
MK31	**Makanchi Array**	**41.00**	**308**	*e*P	**P**	**06 54 54.7**	**+0.1**
MKAR	**Makanchi Array**	**41.00**	**308**	P	**P**	**06 54 54.3**	**-0.3**
	comp=Z,2.9nm,0.5s,mb4.2,baz=91,slow=11,SNR=26						
MKAR				PcP	PcP	06 56 54.4	+0.4
	comp=Z,1.5nm,0.7s,baz=76,slow=5.1,SNR=6.6						
MKAR				LR	LR	07 13 36.8	
	comp=Z,106nm,20.0s,MS3.7,baz=292,slow=39						
MKAR	**Makanchi Array**	**41.00**	**308**	P	**P**	**06 54 54.3**	**-0.3**
MKAR						06 56 54.4	
DANN	**Dangsing**	**41.11**	**280**	*e*P	**P**	**06 54 55.6**	**-0.2**
	comp=Z,30nm,0.5s,mb5.2						
KOLN	**Koldanda**	**41.39**	**279**	*e*P	**P**	**06 54 57.6**	**-0.5**
	comp=Z,19nm,0.7s,mb4.8						
TIXI	**Tiksi**	**41.63**	**359**	⇑*e*P	**P**	**06 54 59.1**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.0						
KURK	**Kurchatov**	**43.88**	**313**	*d i*P	**P**	**06 55 17.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
KURK				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.4						
KURK	**Kurchatov**	**43.88**	**313**	*e*P	**P**	**06 55 17.3**	**-0.7**
	comp=Z,4.9nm,0.8s,mb4.3						
TKM2	**Tokmak 2**	**45.64**	**302**	*e*P	**P**	**06 55 33.4**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
TKM2	**Tokmak 2**	**45.64**	**302**	*e*P	**P**	**06 55 33.4**	**+1.3**
	comp=Z,14nm,0.8s,mb5.0						
EKS2	**Erkin-Say**	**46.99**	**302**	*e*P	**P**	**06 55 43.2**	**+0.5**
	comp=Z,4.2nm,0.8s,mb4.4						
AML	**Almayashu**	**47.09**	**301**	*e*P	**P**	**06 55 44.9**	**+1.4**
	comp=Z,4.0nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**48.20**	**187**	*e*P	**P**	**06 55 53.0**	**+0.8**
	comp=Z,2.7nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**48.20**	**187**	P	**P**	**06 55 52.6**	**+0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=17,slow=13,SNR=5.3						
BRVK	**Borovoye**	**49.24**	**316**	*e*P	**P**	**06 56 00.1**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
BRVK	**Borovoye**	**49.24**	**316**	*e*P	**P**	**06 56 00.1**	**+0.2**
	comp=Z,12nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**49.84**	**176**	P	**P**	**06 56 04.3**	**-0.4**
	comp=Z,1.6nm,0.7s,mb4.2,baz=354,slow=8.4,SNR=6.7						
WB2	**Warramunga Arr**	**49.84**	**176**	*e*P	**P**	**06 56 05.1**	**+0.4**
ASAR	**Alice Springs**	**53.51**	**177**	P	**P**	**06 56 33.6**	**+1.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=10,slow=12,SNR=16						
ARU	**Arti**	**55.99**	**320**	*d i*P	**P**	**06 56 49.4**	**-0.3**
ARU				*e*PPP		07 00 10.3	
ARU				*e*S	**S**	**07 04 35.5**	**+0.8**
ARU				*e*SS	SS	07 08 17.2	-3.5
ARU				pmax	pmax		
	comp=Z,23nm,1.7s,mb4.9						
ARU				MLR	MLR		
	comp=Z,429nm,17.0s,MS4.6						
ARU	**Arti**	**55.99**	**320**	*e*P	**P**	**06 56 49.8**	**+0.1**
	comp=Z,6.4nm,0.3s,mb5.1						
KDAK	**Kodiak Island**	**57.93**	**38**	P	**P**	**06 57 03.6**	**+0.1**
	comp=Z,5.1nm,0.6s,mb4.7,baz=269,slow=6.2,SNR=10						
STKA	**Stephens Creek**	**62.43**	**170**	*e*P	**P**	**06 57 34.9**	**+0.5**
STKA	**Stephens Creek**	**62.43**	**170**	P	**P**	**06 57 34.8**	**+0.4**
	comp=Z,2.4nm,0.9s,mb4.3,baz=108,slow=5.6,SNR=5.4						
INK	**Inuvik**	**64.36**	**24**	P	**P**	**06 57 46.3**	**-0.5**
	comp=Z,2.9nm,0.6s,mb4.5,baz=329,slow=3.5,SNR=7.5						
HYT	**Haines Junctio**	**64.89**	**33**	*e*P	**P**	**06 57 51.6**	**+1.1**
KEV	**Kevo**	**66.78**	**338**	*e*p	**P**	**06 58 02.0**	**-0.5**
	comp=Z,3.1nm,0.4s,mb4.7						
KEV	**Kevo**	**66.78**	**338**	*e*P	**P**	**06 58 02.0**	**-0.5**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
ARCES	**ARCESS Array B**	**67.35**	**338**	P	**P**	**06 58 05.9**	**-0.1**
	comp=Z,1.9nm,0.4s,mb4.5,baz=61,slow=7.5,SNR=28						
ARCES				LR	LR	07 33 02.9	
	comp=Z,204nm,18.6s,MS4.4,baz=330,slow=41						
JOF	**Joensuu**

ellipse: s-maj=6.6km s-min=3.6km az=91.0
ATH 13 06:49:05.6, 3927N×2023E, h19km, MD3.5/7
THE 13 06:49:06.0, 3926N×2021E, h1km, ML3.5

ISC 13 06:49:05.4±0.7, 3927N±002×2018E±006, h6km±5km, n17, σ0°76/29, 1C-1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**24**	*e*Pg	**Pg**	**06 49 10.5**	**-0.5**
IGT				*e*Sg	**Sg**	**06 49 15.1**	**+0.4**
KEK	**Kerkira**	**0.53**	**326**	*e*PN	**Pg**	**06 49 16.6**	**+1.0**
JAN	**Janina**	**0.64**	**53**	*e*PB	**Pb**	**06 49 17.0**	**-2.0**
JAN				*e*SN	**Sg**	**06 49 26.3**	**+0.2**
VLS	**Valsamata**	**1.14**	**164**	*e*Pg	**Pg**	**06 49 26.3**	**-0.9**
VLS				*e*Sg	**Sg**	**06 49 42.9**	**+0.9**
VLS	**Valsamata**	**1.14**	**164**	*e*Pn	**Pn**	**06 49 27.2**	**-0.5**
VLS				*e*Sg	**Sg**	**06 49 42.8**	**+0.9**
VLS				*e*Sn	**Sn**	**06 49 43.0**	**-0.6**
KFL	**Anninata**	**1.25**	**158**	*e*Pg	**Pg**	**06 49 28.9**	**-0.5**
KFL				*e*Sg	**Sg**	**06 49 46.4**	**+0.8**
EVR	**Evrytania**	**1.31**	**105**	*e*PN	**Pn**	**06 49 29.8**	**-0.4**
THL	**Klokotos Trika**	**1.45**	**78**	*e*Pg	**Pg**	**06 49 32.2**	**-0.9**
THL				*e*Sg	**Sg**	**06 49 52.8**	**+0.9**
RLS	**Riolos of Patr**	**1.57**	**140**	*e*PN	**Pn**	**06 49 34.4**	**+0.7**
KZN	**Kozani**	**1.60**	**49**	*e*PN	**Pn**	**06 49 34.8**	**+0.7**
AGG	**Agios Georgios**	**1.69**	**98**	*e*Pb	**Pb**	**06 49 35.5**	**-1.2**
AGG				*e*Sb	**Sb**	**06 49 59.1**	**+0.9**
FNA	**Florina**	**1.77**	**31**	*e*Pb	**Pb**	**06 49 37.9**	**-0.2**
FNA				*e*Sb	**Sb**	**06 50 01.0**	**+0.5**
LIT	**Litokhoron**	**1.96**	**64**	*e*Pb	**Pb**	**06 49 40.9**	**-0.6**
LIT				*e*Sb	**Sb**	**06 50 05.2**	**-1.0**
PLG	**Polygyros**	**2.74**	**65**	*e*Pn	**Pn**	**06 49 50.6**	**+0.8**
PLG				*e*Sn	**Sn**	**06 50 23.4**	**+0.2**
DID	**Didima**	**2.98**	**125**	*e*Pn	**Pn**	**06 49 52.7**	**-0.3**
DID				*e*Sn	**Sn**	**06 50 29.8**	**+0.8**
BARS	**Barje**	**3.75**	**19**	⇑*i*Pn	**Pn**	**06 50 04.2**	**+0.5**
DIVS	**Divíbare**	**4.83**	**358**	⇓*i*Pn	**Pn**	**06 50 18.5**	**+0.1**

NEIC 13 07:06:44.9, 3432S×7246W, h37km, MD3.5(GUC), After GUC.

GUC 13 07:06:44.9±0.6, 3432S×7246W, h37km±2km, MD3.5, ML2.5, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.94**	**68**	⇑*i*P	Pn	07 07 02.3	+0.7
LNV				*i* S	Sn	07 07 15.3	+1.4
LCCH	**Las Cruces**	**1.12**	**42**	*i* S	Sn	07 07 19.7	+1.5
SFDO	**San Fernando**	**1.23**	**104**	⇓*i*P	Pn	07 07 06.4	+0.7
SFDO				*i* S	Sn	07 07 23.1	+2.0
TACH	**Talagante**	**1.43**	**63**	*i* P	Pn	07 07 09.6	+1.3
TACH				*i* S	Sn	07 07 28.5	+2.6
CHCH	**Chadas Angostu**	**1.55**	**76**	⇑*i*P	Pn	07 07 11.4	+1.5
CHCH				*i* S	Sn	07 07 31.5	+2.6
CACH	**El Canelo**	**1.56**	**83**	⇓*i*P	Pn	07 07 12.2	+2.2
CACH				*i* S	Sn	07 07 32.7	+3.6
RCDM	**Rinconada Maip**	**1.61**	**60**	*e*P	Pn	07 07 11.6	+0.9
RCDM				*i* S	Sn	07 07 32.1	+1.9
RCDM				AML	AML	07 07 36.5	
	comp=E,72nm,0.3s						
RCDM	**Rinconada Maip**	**1.61**	**60**	*e*P	Pn	07 07 11.6	+0.9
RCDM				*i* S	Sn	07 07 32.1	+1.9
CICH	**Cipreses**	**1.69**	**91**	⇑*i*P	Pn	07 07 13.8	+1.9
CICH				*i* S	Sn	07 07 37.2	+4.8
ANTU	**Antumapu**	**1.69**	**64**	*e*P	Pn	07 07 13.5	+1.6
ANTU				AML	AML	07 07 42.8	
	comp=E,75nm,0.4s						
LMEL	**Las Melosas**	**1.93**	**77**	⇓*i*P	Pn	07 07 16.9	+1.7
LMEL				*i* S	Sn	07 07 41.9	+3.6
LMEL				AML	AML	07 07 48.0	
	comp=N,87nm,0.2s						
LMEL	**Las Melosas**	**1.93**	**77**	⇓*i*P	Pn	07 07 16.9	+1.7
LMEL				*i* S	Sn	07 07 41.9	+3.6

NNC 13 07:19:46.3±8.9, 3916N×7255E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=73.2km s-min=34.0km az=168.0

ISC 13 07:19:41.7±3.3, 390N±02×728E±02, h10km, n10, σ1°13/12, 3C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.25**	**12**	P	**Pn**	**07 20 32.1**	**-0.6**
	SNR=36						
KZA	**Kyzart**	**3.64**	**30**	P	**Pn**	**07 20 37.5**	**-0.5**
	SNR=8.9						
EKS2	**Erkin-Say**	**3.78**	**11**	P	**Pn**	**07 20 40.2**	**+0.2**
	SNR=8.9						
AAK	**Ala-Archa**	**3.90**	**19**	P	**Pn**	**07 20 41.4**	**-0.2**
	SNR=6.4						
KBK	**Karagaybulak**	**4.04**	**23**	P	**Pb**	**07 20 49.7**	**-3.4**
	SNR=6.0						
ULHL	**Ulahol**	**4.20**	**37**	P	**Pn**	**07 20 45.7**	**-0.1**
	SNR=6.1						
CHMS	**Chumysh**	**4.31**	**19**	P	**Pn**	**07 20 46.9**	**-0.3**
	SNR=5.5						
TKM2	**Tokmak 2**	**4.50**	**27**	⇓Pn	**Pn**	**07 20 52.3**	**+2.5**
	4.7nm,0.6s						
TKM2				⇑Sn	**Sn**	**07 21 49.1**	**+6.9**
	12nm,0.6s						
KK31	**Karatay Array**	**4.50**	**338**	⇓Pn	**Pn**	**07 20 53.0**	**+3.0**
	2.9nm,0.5s,baz=153,slow=16,SNR=28						
KK31				⇑Sn	**Sn**	**07 21 42.4**	**+0.1**
	6.3nm,0.4s,baz=156,slow=30,SNR=4.8						
AB31	**Akbulak array**	**13.82**	**322**	⇑P	**Pn**	**07 22 56.9**	**-0.7**
	2.8nm,1.3s,baz=299,slow=8.2,SNR=5.4						

ISCJB 13 07:34:43.6±2.0, 1148N±007×126.14E±006, h14km±12km, mb3.9/6, Error ellipse: s-maj=11.9km s-min=9.5km az=142.7
IDC 13 07:34:43.3±1.1, 1142N×12598E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, MS3.1/2, Ms1 3.1/2, ms1mx2.4/26, Error ellipse: s-maj=42.2km s-min=20.5km az=64.0
NEIC 13 07:34:44.8±0.6, 1142N×12599E, h10km, Error ellipse: s-maj=25.2km s-min=11.6km az=65.0
MAN 13 07:34:48, 1126N×12585E, h1km, mb4.4, ML3.2, MS3.0

ISC 13 07:34:45.1±1.7, 1148N±006×12605E±007, h11km±10km, n18, σ0°87/19, mb3.9/6, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.61**	**282**	*e*P	**Pg**	**07 34 58.0**	**+1.1**
PLP	**Palo**	**1.09**	**254**	⇑*e*P	**Pb**	**07 35 05.0**	**-1.0**
PLP				*i* S	**Sb**	**07 35 20.3**	**+0.1**
OCLP	**Ormoc**	**1.47**	**253**	*e*P	**Pg**	**07 35 13.8**	**+0.4**
CNP	**Catarman**	**1.70**	**307**	*e*P	**Pn**	**07 35 15.2**	**+0.6**
SCPH	**Surigao**	**1.77**	**198**	⇓*e*P	**Pn**	**07 35 15.5**	**-0.1**
MSLP	**Maasin**	**1.77**	**221**	*e*P	**Pn**	**07 35 17.7**	**+2.0**
TBP	**Tagbilaran**	**2.79**	**231**	*e*P	**Pb**	**07 35 34.5**	**-0.4**
TBP				*e*S	**Sb**	**07 36 08.6**	**-0.5**
PVCP	**Virac**	**2.80**	**319**	*e*P	**Pg**	**07 35 36.0**	**-2.8**
DAV	**Davao City (W)**	**4.40**	**186**	LR	LR	07 37 56.0	
	comp=Z,191nm,18.1s,baz=240,slow=44						
CMAR	**Chiang Mai Arr**	**27.07**	**288**	P	**P**	**07 40 27.1**	**-0.7**
	1.1nm,0.3s,mb3.9,baz=90,slow=9.0,SNR=4.2						
WRA	**Warramunga Arr**	**32.27**	**165**	P	**P**	**07 41 14.1**	**+0.2**
	0.4nm,0.7s,mb3.3,baz=346,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**35.76**	**168**	P	**P**	**07 41 43.5**	**-0.6**
	0.2nm,0.5s,mb3.4,baz=346,slow=7.8,SNR=5.0						
STKA	**Stephens Creek**	**45.61**	**161**	P	**P**	**07 43 05.0**	**-0.5**
	1.4nm,0.6s,mb4.1,baz=323,slow=10,SNR=3.9						
PETK	**Petropavlovsk-**	**48.64**	**25**	P	**P**	**07 43 29.2**	**+0.3**
	4.9nm,1.0s,mb4.5,baz=234,slow=10,SNR=3.5						
PETK				LR	LR	08 05 31.3	
	comp=Z,24nm,18.6s,baz=111,slow=38						
PETK	**Petropavlovsk-**	**48.64**	**25**	P	**P**	**07 43 29.2**	**+0.3**
PETK				LR	LR	08 05 31.3	
MK31	**Makanchi Array**	**50.94**	**322**	P	**P**	**07 43 47.0**	**+0.5**
MKAR	**Makanchi Array**	**50.94**	**322**	P	**P**	**07 43 46.7**	**+0.2**
	1.6nm,0.7s,mb4.1,baz=116,slow=8.6,SNR=14						
MKAR	**Makanchi Array**	**50.94**	**322**	P	**P**	**07 43 46.7**	**+0.2**

IDC 13 07:58:42.7±1.9, 5364N×8795E, h0km, mb1 3.4/2, mb1mx3.2/23, mbtmp3.4/2, ML3.4/2, Error ellipse: s-maj=18.0km s-min=4.1km az=99.0
NNC 13 07:58:45.5±4.8, 5362N×8747E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=39.6km s-min=27.7km az=54.0

ISC 13 07:58:45.7±2.1, 536N±01×875E±02, h2km±15km, n7, σ1°04/13, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.62**	**282**	Pg	**Pg**	**07 59 16.5**	**-0.2**
	8.5nm,0.3s,baz=96,slow=17,SNR=39						
ZALV				Lg		07 59 41.4	
	15nm,0.3s,baz=100,slow=24,SNR=18						
KURBB	**Kurchatov Arra**	**6.29**	**245**	⇑Pn	**Pn**	**08 00 20.6**	**+1.1**
	0.8nm,0.4s,baz=59,slow=13						
KURBB				⇓Sn	**Sn**	**08 01 32.1**	**+0.3**
	0.9nm,0.6s						
MK31	**Makanchi Array**	**7.62**	**208**	⇑Pn	**Pn**	**08 00 37.8**	**+0.1**
	0.4nm,0.4s,baz=31,slow=14,SNR=14						
MK31				⇑Sn	**Sn**	**08 02 05.4**	**+0.9**
	1.5nm,0.7s,baz=35,slow=28,SNR=4.1						
MKAR	**Makanchi Array**	**7.62**	**208**	Pn	**Pn**	**08 00 37.6**	**-0.1**
	0.5nm,0.3s,baz=30,slow=14,SNR=15						
MKAR				Sn	**Sn**	**08 02 03.0**	**-1.5**
	0.3nm,0.3s,baz=35,slow=30,SNR=5.4						
MKAR				Lg		08 02 46.6	
	0.3nm,0.3s,baz=31,slow=31,SNR=5.7						
VOSK	**Vostochnaya**	**9.96**	**271**	⇓Pn	**Pn**	**08 01 08.9**	**-0.8**
	0.7nm,0.5s						
VOSK				⇓Sn	**Sn**	**08 03 03.7**	**+1.8**
	2.4nm,0.6s						
BVA0	**Borovoye Array**	**10.25**	**273**	⇑Pn	**Pn**	**08 01 12.5**	**-1.3**
	0.4nm,0.9s,baz=71,slow=16,SNR=7.5						
BVA0				⇓Sn	**Sn**	**08 03 08.8**	**-0.4**
	0.6nm,0.9s,baz=72,slow=24,SNR=2.7						
BVAR	**Borovoye Array**	**10.25**	**273**	Pn	**Pn**	**08 01 15.3**	**+1.6**
	0.3nm,0.3s,baz=63,slow=17,SNR=6.4						
BVAR				Sn	**Sn**	**08 03 07.8**	**-1.4**

IDC 13 08:11:59.6±4.3, 3966S×17556E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.5/14, mbtmp3.4/2, Error ellipse: s-maj=192.6km s-min=38.1km az=36.0
ISCJB 13 08:12:10.4±0.4, 4047S±003×17465E±007, h86km±6km, mb3.3/2, Error ellipse: s-maj=8.9km s-min=3.7km az=22.1
NEIC 13 08:12:12.5, 4043S×17466E, h64km, ML3.8(WEL), After WEL.

ISC 13 08:12:11.4±0.4, 4046S±003×17467E±007, h78km±7km, n61, σ0°92/62, mb3.3/2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.44**	**155**	P	**Pn**	**08 12 24.3**	**-0.1**
KIW				S	**Sn**	**08 12 32.8**	**-1.2**
CAW	**Cannon Point**	**0.71**	**155**	P	**Pn**	**08 12 27.4**	**+0.4**
MRZ	**Mangatainoka R**	**0.72**	**106**	P	**Pn**	**08 12 27.2**	**+0.1**
WAZ	**Wanganui**	**0.75**	**19**	P	**Pn**	**08 12 27.0**	**-0.4**
WAZ				S	**Sn**	**08 12 38.7**	**-0.5**
MRW	**Makara Radio**	**0.77**	**178**	P	**Pn**	**08 12 28.2**	**+0.6**
MRW				S	**Sn**	**08 12 40.0**	**+0.4**
TCW	**Tory Channel**	**0.81**	**201**	P	**Pn**	**08 12 28.4**	**+0.4**
WEL	**Wellington**	**0.83**	**175**	P	**Pn**	**08 12 28.9**	**+0.7**
SNZO	**South Karori**	**0.85**	**178**	P	**Pn**	**08 12 29.1**	**+0.6**
MTW	**Mount Morrison**	**0.94**	**138**	P	**Pn**	**08 12 29.9**	**+0.3**
BHW	**Baring Head**	**0.96**	**171**	P	**Pn**	**08 12 30.7**	**+0.9**
MSWZ	**Moikau Station**	**1.05**	**155**	P	**Pn**	**08 12 32.1**	**+1.2**
TSZ	**Takapari Road**	**1.07**	**68**	P	**Pn**	**08 12 31.1**	**0.0**
PAWZ	**Paruwai Farm**	**1.08**	**148**	P	**Pn**	**08 12 32.4**	**+1.1**
RAEZ	**Rainy Point**	**1.19**	**350**	P	**Pn**	**08 12 32.9**	**+0.2**
NNZ	**Nelson**	**1.23**	**232**	P	**Pn**	**08 12 33.5**	**+0.3**
NRZ	**Ngariki Road**	**1.26**	**333**	P	**Pn**	**08 12 30.8**	**-2.7**
NEZ	**North Egmont**	**1.27**	**340**	P	**Pn**	**08 12 34.0**	**+0.4**
VRZ	**Vera Road**	**1.34**	**3**	P	**Pn**	**08 12 34.6**	**+0.1**
WNVZ	**Wahianoa**	**1.34**	**33**	P	**Pn**	**08 12 34.6**	**+0.1**
MOVZ	**Moawhango**	**1.34**	**39**	P	**Pn**	**08 12 34.6**	**0.0**
PKE	**Pukeiti**	**1.37**	**337**	P	**Pn**	**08 12 35.0**	**+0.1**
DRZ	**Dome Shelter**	**1.37**	**31**	P	**Pn**	**08 12 35.9**	**+1.0**
FWVZ	**Far West T-bar**	**1.38**	**30**	P	**Pn**	**08 12 35.2**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.39**	**205**	P	**Pn**	**08 12 36.1**	**+1.0**
TUVZ	**Tukino**	**1.41**	**33**	P	**Pn**	**08 12 36.1**	**+0.6**
WPVZ	**Whakapapa**	**1.43**	**29**	P	**Pn**	**08 12 35.8**	**+0.2**
NGZ	**Ngauruhoe**	**1.47**	**30**	P	**Pn**	**08 12 36.6**	**+0.4**
TWVZ	**Taurewa**	**1.51**	**23**	P	**Pn**	**08 12 36.4**	**-0.3**
WTVZ	**West Tongariro**	**1.52**	**28**	P	**Pn**	**08 12 36.8**	**-0.1**
KATZ	**Kakaramea**	**1.68**	**28**	P	**Pn**	**08 12 39.4**	**+0.4**
RITZ	**Rihia Road**	**1.74**	**32**	P	**Pn**	**08 12 40.4**	**+0.6**
RATZ	**Rangitukua**	**1.81**	**29**	P	**Pn**	**08 12 41.5**	**+0.9**
THZ	**Tophouse**	**1.86**	**225**	P	**Pn**	**08 12 42.2**	**+0.9**
BKZ	**Black Stump Fm**	**1.91**	**48**	P	**Pn**	**08 12 41.6**	**-0.4**
WATZ	**Wairara**	**1.94**	**26**	P	**Pn**	**08 12 43.0**	**+0.7**
HIZ	**Hauiti**	**1.95**	**4**	P	**Pn**	**08 12 43.0**	**+0.4**
WHTZ	**Whakaora**	**2.05**	**29**	P	**Pn**	**08 12 44.9**	**+1.0**
KHZ	**Kahutara**	**2.13**	**203**	P	**Pn**	**08 12 45.4**	**+0.5**
DSZ	**Denniston Nort**	**2.52**	**238**	P	**Pn**	**08 12 50.2**	**+0.1**
KNZ	**Kokohu**	**2.73**	**59**	P	**Pn**	**08 12 51.2**	**-1.8**
TOZ	**Tahuroa Road**	**2.81**	**14**	P	**Pn**	**08 12 54.1**	**+0.1**
URZ	**Urewera**	**2.90**	**42**	P	**Pn**	**08 12 53.4**	**-1.9**
LTZ	**Lake Taylor**	**2.93**	**217**	P	**Pn**	**08 12 55.7**	**0.0**
MWZ	**Matawai**	**3.07**	**47**	P	**Pn**	**08 12 56.0**	**-1.6**
MKAZ	**Moumakai**	**3.37**	**7**	P	**Pn**	**08 13 02.1**	**+0.4**
OTAZ	**Otara**	**3.51**	**3**	P	**Pn**	**08 13 04.4**	**+0.8**
MQZ	**McQueen's Vall**	**3.57**	**204**	P	**Pn**	**08 13 02.6**	**-1.8**
PUZ	**Puketiti**	**3.67**	**51**	P	**Pn**	**08 13 02.5**	**-3.2**
KUZ	**Kuaotunu**	**3.80**	**13**	P	**Pn**	**08 13 07.4**	**-0.2**
WVZ	**Waitaha Valley**	**3.93**	**227**	P	**Pn**	**08 13 08.8**	**-0.5**
MXZ	**Matakaoa Point**	**4.05**	**46**	P	**Pn**	**08 13 08.8**	**-2.2**
RPZ	**Rata Peaks**	**4.22**	**218**	P	**Pn**	**08 13 12.2**	**-1.0**
WCZ	**Waipu Caves**	**4.52**	**357**	P	**Pn**	**08 13 17.5**	**+0.1**
FOZ	**Fox Glacier**	**4.83**	**228**	P	**Pn**	**08 13 19.2**	**-2.4**
LBZ	**Lake Benmore**	**5.14**	**219**	P	**Pn**	**08 13 25.0**	**-0.7**
ODZ	**Otahua Downs**	**5.45**	**212**	P	**Pn**	**08 13 28.2**	**-1.8**
TUZ	**Tuapeka**	**6.61**	**212**	P	**Pn**	**08 13 44.7**	**-1.1**
ASAR	**Alice Springs**	**38.01**	**284**	P	**P**	**08 19 23.4**	**+1.5**
	0.1nm,0.3s,mb3.1,baz=125,slow=7.0,SNR=4.8						
WRA	**Warramunga Arr**	**39.97**	**289**	P	**P**	**08 19 39.3**	**+1.0**
	0.4nm,0.5s,mb3.5,baz=128,slow=7.8,SNR=13						
TORD	**Torodi Ar. Bea**	**152.10**	**195**	PKPbc	PKPbc	08 31 59.8	+1.7
	0.2nm,0.4s,baz=183,slow=3.5,SNR=6.5						
TORD				PKPab	PKPab	08 32 09.8	+2.0
	0.9nm,1.0s,baz=153,slow=3.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**152.10**	**195**	PKPbc	PKPbc	08 31 59.8	+1.7
TORD				PKPab	PKPab	08 32 09.8	+2.0

ISCJB 13 08:21:20.3±2.9, 1839N±010×1463E±03, h77km±26km, mb3.5/7, Error ellipse: s-maj=47.8km s-min=16.0km az=0.4
IDC 13 08:21:22.3±3.7, 1835N×14634E, h83km±32km, mb3.3/7, mb1 3.5/9, mb1mx3.3/21, mbtmp3.3/9, Error ellipse: s-maj=45.4km s-min=15.7km az=88.0

ISC 13 08:21:21.1±2.5, 1842N±009×1463E±03, h71km±22km, n9, σ0°98/10, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.00**	**196**	P	**Pn**	**08 22 33.4**	**-0.3**
	9.0nm,0.3s,baz=14,slow=17,SNR=4.2						
GUMO				S	**Sn**	**08 23 31.1**	**+0.8**
	4.0nm,0.3s,baz=342,slow=19,SNR=3.1						
MJAR	**Matsushiro Arr**	**19.42**	**340**	P	**Pn**	**08 25 42.6**	**-0.8**
	0.2nm,0.3s,baz=179,slow=8.3,SNR=3.1						
WRA	**Warramunga Arr**	**39.90**	**198**	P	**P**	**08 28 47.9**	**-0.4**
	0.3nm,0.5s,mb3.4,baz=19,slow=8.5,SNR=16						
FITZ	**Fitzroy Crossi**	**41.60**	**210**	P	**P**	**08 29 02.7**	**+0.4**
	0.3nm,0.3s,mb3.5,baz=24,slow=8.7,SNR=4.0						
ASAR	**Alice Springs**	**43.55**	**197**	P	**P**	**08 29 16.2**	**-1.8**
	0.1nm,0.5s,mb2.8,baz=30,slow=6.6,SNR=3.2						
SONM	**Songino Array**	**43.73**	**321**	P	**P**	**08 29 20.7**	**+1.4**
	0.4nm,0.6s,mb3.4,baz=138,slow=9.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**58.59**	**323**	P	**P**	**08 31 09.4**	**-1.1**
	0.4nm,0.3s,mb3.9,baz=101,slow=7.6,SNR=2.4						
NVAR	**Mina Array Bea**	**82.84**	**52**	P	**P**	**08 33 38.5**	**+0.5**
	0.3nm,0.6s,mb3.3,baz=252,slow=6.2,SNR=3.7						
ARCES	**ARCESS Array B**	**82.94**	**342**	P	**P**	**08 33 39.1**	**+1.3**
	2.1nm,0.7s,mb4.1,baz=53,slow=8.0,SNR=3.7						

ISCJB 13 08:28:49.5±0.6, 2369N±005×9375E±004, h68km±7km, mb4.1/19, Error ellipse: s-maj=9.9km s-min=5.3km az=28.7
BJI 13 08:28:50.1, 2401N×9381E, h44km, mB4.8, mb4.3, ML4.1, Ms3.7, Msz3.3
IDC 13 08:28:50.9±0.6, 2381N×9411E, h61km±4km, mb3.8/14, mb1 4.0/15, mb1mx3.8/25, mbtmp3.9/15, MS3.3/2, Ms1 3.3/2, ms1mx2.8/32, Error ellipse: s-maj=29.2km s-min=10.4km az=55.0
NEIC 13 08:28:51.5±0.4, 2376N×9387E, mb4.3/6, Error ellipse: s-maj=15.2km s-min=5.3km az=221.0

ISC 13 08:28:51.2±0.5, 2376N±005×9380E±004, h62km±6km, h66km±2.1km: pP-P, n55, σ1°30/65, mb4.2/19, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.02**	**7**	*i* P	**Pn**	**08 29 09.0**	**-0.7**
IMP				*i* x	x	08 29 27.0	
SHL	**Shillong**	**2.50**	**316**	*e*P	**Pn**	**08 29 30.0**	**+0.4**
SHL				*e*S	**Sn**	**08 29 59.0**	**+0.1**
TURI	**Tura**	**3.62**	**300**	*ex*	x	08 30 41.0	
GTK	**Gangtok**	**5.88**	**308**	*e*P	**Pn**	**08 30 15.0**	**-0.8**
GTK				*e*S	**Sn**	**08 31 18.0**	**-3.8**
LSA	**Lhasa**	**6.37**	**339**	P	**Pn**	**08 30 24.3**	**+1.8**
LSA				S	**Sn**	**08 31 33.3**	**-0.5**
LSA				Smax			
	comp=N,100nm,0.8s						
LSA				Smax			
	comp=E,100nm,0.8s						
TAPN	**Taplejung**	**6.56**	**304**	*e*Pn	**Pn**	**08 30 26.8**	**+1.7**
ODAN	**Odare**	**6.57**	**299**	*e*Pn	**Pn**	**08 30 26.8**	**+1.6**
ODAN				*e*Sn	**Sn**	**08 31 37.6**	**-1.1**
	comp=E,607nm,0.4s						
CHTO	**Chiang Mai**	**6.87**	**135**	*e*Pn	**Pn**	**08 30 29.2**	**-0.2**
	comp=E,23nm,0.7s						
CMAR	**Chiang Mai Arr**	**7.13**	**137**	P	**Pn**	**08 30 32.0**	**-1.0**
	comp=E,1.9nm,0.3s,baz=314,slow=14,SNR=71						
CMAR				Lg		08 32 32.0	
	comp=E,1.0nm,0.3s,baz=314,slow=31,SNR=4.3						
RAMN	**Ramite**	**7.25**	**297**	*e*Pn	**Pn**	**08 30 36.2**	**+1.7**
BOK	**Bokaro**	**7.25**	**272**	*e*P	**Pn**	**08 30 36.8**	**+2.3**
BOK				*e*S	**Sn**	**08 31 54.6**	**-0.8**
BOK				AML	AML	08 31 59.3	
	comp=N,221nm,0.4s						
BOK				AML	AML	08 32 01.4	
	comp=E,222nm,0.4s						
JIRN	**Jiri**	**7.88**	**301**	*e*Pn	**Pn**	**08 30 44.9**	**+1.7**
JIRN				*e*Sn	**Sn**	**08 32 09.0**	**-2.0**
GUN	**Gumba**	**8.24**	**302**	*e*Pn	**Pn**	**08 30 48.5**	**+0.3**
GUN				*e*Sn	**Sn**	**08 32 17.5**	**-2.3**
	comp=E,616nm,0.6s						
KMI	**Kunming**	**8.26**	**79**	P	**Pn**	**08 30 49.5**	**+1.2**
KMI				S	**Sn**	**08 32 18.9**	**-1.3**
KMI				Smax			
	comp=N,18nm,1.6s						
KMI				Smax			
	comp=E,14nm,1.7s						
KMI				LR	LR		
	comp=N,392nm,9.2s						
KMI				LR	LR		
	comp=E,205nm,12.3s						
KMI				LR	LR		
	comp=Z,232nm,13.6s						
PKI	**Pulchoki**	**8.47**	**298**	*e*Pn	**Pn**	**08 30 51.8**	**+0.6**
PKI				*e*Sn	**Sn**	**08 32 23.0**	**-2.3**
KKN	**Kakani**	**8.66**	**299**	*e*Pn	**Pn**	**08 30 54.0**	**+0.1**
KKN				*e*Sn	**Sn**	**08 32 28.0**	**-2.1**
DMN	**Daman**	**8.73**	**298**	*e*Pn	**Pn**	**08 30 55.4**	**+0.6**
GKN	**Gorkha**	**9.27**	**299**	*e*Pn	**Pn**	**08 31 02.5**	**+0.3**
GKN				*e*Sn	**Sn**	**08 32 41.4**	**-3.5**
KOLN	**Koldanda**	**10.02**	**296**	*e*Pn	**Pn**	**08 31 12.2**	**-0.3**
KOLN				*e*Sn	**Sn**	**08 32 58.6**	**-4.8**
	comp=Z,277nm,0.5s						
DANN	**Dangsing**	**10.12**	**299**	*e*Pn	**Pn**	**08 31 13.7**	**0.0**
DANN				*e*Sn	**Sn**	**08 33 01.3**	**-4.4**
VIS	**Vishakhapatnam**	**11.49**	**240**	*e*S	**Sn**	**08 33 33.4**	**-5.9**
GYA	**Guiyang**	**11.96**	**74**	P	**Pn**	**08 31 42.0**	**+3.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
NDI	**New Delhi**	**15.67**	**292**	*e*P	**Pn**	**08 32 29.0**	**+0.8**
NDI				*ex*	x	08 35 08.0	
GTA	**Gaotai**	**16.41**	**17**	*e*P	**Pn**	**08 32 34.9**	**-2.6**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s						
PSI	**Prapat**	**21.42**	**166**	P	**P**	**08 33 38.0**	**+3.8**
	comp=Z,9.0nm,1.0s,mb4.1,baz=336,slow=17,SNR=4.4						
PSI	**Prapat**	**21.42**	**166**	P	**P**	**08 33 38.0**	**+3.8**
KBL	**Kabul**	**24.08**	**302**	*e*P	**P**	**08 34 07.2**	**+6.3**
TKM2	**Tokmak 2**	**24.33**	**326

TORD	**Torodi Ar. Bea**	29.69	61	P		P	08 50 45.6	+0.4
	1.3nm,0.9s,baz=246,slow=8.8,SNR=4.6							
CPUP	**Villa Florida**	40.29	228	LR		LR	09 08 26.6	
	comp=Z,56nm,19.2s,baz=265,slow=36							
LPAZ	**La Paz**	45.41	248	LR		LR	09 12 16.5	
	comp=Z,30nm,20.8s,baz=247,slow=36							
STKA	**Stephens Creek**	144.94	160	PKP		PKPdf	09 04 16.4	-0.8
	0.8nm,0.7s,baz=214,slow=3.6,SNR=3.6							
ASAR	**Alice Springs**	147.97	141	PKPbc		PKPbc	09 04 24.9	-0.6
	0.6nm,0.5s,baz=209,slow=1.7,SNR=11							
WRA	**Warramunga Arr**	150.87	136	PKPbc		PKPbc	09 04 32.4	-0.5
	0.3nm,0.8s,baz=241,slow=2.8,SNR=3.6							
WRA				PKPab		PKPab	09 04 39.8	-0.1
	0.3nm,0.8s,baz=226,slow=3.3,SNR=3.5							

*IDC **13** 09:09:34.6±8.3, 1121S×16271E, h56km±59km, mb3.8/4, mb1 4.0/5, mb1mx3.6/18, mbtmp3.9/5, ML4.6/1, Error ellipse: s-maj=59.7km s-min=32.7km az=97.0*
*NEIC **13** 09:09:56.8±5.7, 1024S×16069E, h158km±14km, mb4.3/2, Error ellipse: s-maj=120.9km s-min=24.0km az=111.0*

ISC 13 09:09:35.2±5.1, 112S±02×1627E±03, h62km±35km, n10, σ0§65/12, mb4.0/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	3.23	302	P	Pn	09 10 23.0	-0.4
	59nm,0.3s,baz=271,slow=14,SNR=20						
HNR				S	Sn	09 11 00.9	+0.2
	40nm,0.3s,baz=83,slow=16,SNR=4.6						
HNR	**Honiara**	3.23	302	P	Pn	09 10 23.0	-0.4
HNR				S	Sn	09 11 00.9	+0.2
CTA	**Charters Tower**	18.14	239	P	Pn	09 13 46.3	+3.4
	0.2nm,0.3s,baz=70,slow=13,SNR=3.8						
CTAO	**Charters Tower**	18.14	239	eP	Pn	09 13 43.6	+0.8
	22nm,1.3s						
WB2	**Warramunga Arr**	28.64	249	eP	P	09 15 25.1	-1.0
WRA	**Warramunga Arr**	28.65	249	P	P	09 15 26.4	+0.3
	0.8nm,0.3s,mb3.9,baz=79,slow=9.3,SNR=8.5						
ASAR	**Alice Springs**	30.09	242	P	P	09 15 38.9	0.0
	0.8nm,0.4s,mb3.9,baz=68,slow=9.9,SNR=26						
FITZ	**Fitzroy Crossi**	36.47	255	P	P	09 16 34.1	-0.4
	2.5nm,0.6s,mb4.3,baz=86,slow=7.5,SNR=9.3						
KAPI	**Kappang**	42.93	275	P	P	09 17 22.9	-5.4
SONM	**Songino Array**	77.04	325	P	P	09 21 22.0	+0.5
	0.9nm,0.7s,mb3.8,baz=134,slow=4.2,SNR=5.3						

*NEIC **13** 09:09:40.6±0.9, 1814S×17407W, h10km, mb4.4/1, Error ellipse: s-maj=25.6km s-min=12.8km az=122.0*
*IDC **13** 09:09:42.4±1.3, 1833S×17449W, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/21, mbtmp4.1/8, Error ellipse: s-maj=39.7km s-min=24.8km az=140.0*
*ISCJB **13** 09:09:45.6±1.2, 184S±02×1745W±02, h33km, mb4.1/9, Error ellipse: s-maj=27.7km s-min=23.2km az=44.4*

ISC 13 09:09:47.9±1.2, 184S±02×1745W±02, h35km, n14, σ0§83/13, mb4.1/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	5.18	31	P	Px	09 10 52.3	
	8.1nm,0.3s,baz=220,slow=16,SNR=17						
AFI				S	Sx	09 11 40.7	
	21nm,0.3s,baz=280,slow=19,SNR=8.5						
URZ	**Urewera**	21.10	199	P	P	09 14 27.6	-1.7
	5.0nm,0.4s,mb4.2,baz=350,slow=14,SNR=13						
RPZ	**Rata Peaks**	28.02	203	P	P	09 15 37.4	+1.9
	4.3nm,0.5s,mb4.3,baz=72,slow=6.4,SNR=3.1						
CTA	**Charters Tower**	37.01	261	P	P	09 16 55.2	+0.7
	4.0nm,0.7s,mb4.3,baz=88,slow=11,SNR=8.0						
STKA	**Stephens Creek**	41.66	243	P	P	09 17 33.9	+0.8
	1.9nm,1.0s,mb3.7,baz=89,slow=13,SNR=2.9						
STKA	**Stephens Creek**	41.66	243	P	P	09 17 33.9	+0.8
WB2	**Warramunga Arr**	48.16	259	eP	P	09 18 24.8	-0.3
WB2	**Warramunga Arr**	48.16	259	eP	P	09 18 24.9	-0.1
WRAB	**Tennant Creek**	48.17	259	eP	P	09 18 24.7	-0.3
WRA	**Warramunga Arr**	48.18	259	P	P	09 18 24.7	-0.5
	1.3nm,0.4s,mb4.3,baz=97,slow=7.5,SNR=38						
ASAR	**Alice Springs**	48.22	254	P	P	09 18 25.4	-0.1
	1.4nm,0.5s,mb4.3,baz=88,slow=8.1,SNR=24						
KAKA	**Kakadu**	51.27	268	eP	P	09 18 48.6	-0.1
	4.4nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	56.59	260	P	P	09 19 27.1	-0.5
	0.8nm,0.8s,mb3.8,baz=104,slow=4.2,SNR=2.5						
NVAR	**Mina Array Bea**	77.26	42	P	P	09 21 38.6	0.0
	0.1nm,0.3s,mb3.2,baz=234,slow=11,SNR=2.6						

*ISCJB **13** 09:13:13.2±1.0, 2987N±004×3621E±006, h0km, Error ellipse: s-maj=7.2km s-min=5.4km az=10.8*
*SGS **13** 09:13:13.4, 3005N×3614E, h1km*
*CSEM **13** 09:13:13.4, 3005N×3614E, h2km, ML2.8, After SNSN*
*GII **13** 09:13:14.8±1.4, 2991N×3611E, h0km, ML2.3/6, EXPLOSION*

ISC 13 09:13:13.2±1.1, 2986N±004×3626E±006, h0km, n12, σ0§75/21, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	1.16	261	Pg	Pg	09 13 34.9	-0.4
EIL				Sg	Sg	09 13 51.8	+1.5
ZFRI	**Zfri**	1.17	307	Pg	Pg	09 13 34.9	-0.6
ZFRI				Sg	Sg	09 13 50.7	0.0
MBRI	**Mt Berech**	1.17	267	Pg	Pg	09 13 34.9	-0.7
MBRI				Sg	Sg	09 13 51.8	+0.9
HQLS		1.18	242	P	Pg	09 13 35.4	-0.5
HQLS		1.18	242	P	Pg	09 13 35.4	-0.5
HQLS				S	Sg	09 13 51.8	+0.6
PRNI	**Paran**	1.20	295	Pg	Pg	09 13 35.3	-0.8
PRNI				Sg	Sg	09 13 51.1	-0.6
JLOS		1.31	211	P	Pg	09 13 38.6	+0.4
KRMI	**Paran Flat**	1.36	281	Pg	Pg	09 13 38.3	-0.9
KRMI				Sg	Sg	09 13 56.1	-0.7
MZDA	**Masada**	1.64	332	Pn	Pn	09 13 43.6	+0.3
MZDA				Sn	Sn	09 14 04.6	-0.5
DSI	**Dead Sea**	1.87	336	Pn	Pn	09 13 47.3	+0.9
DSI				Sn	Sn	09 14 12.1	+1.4
KZIT	**Kziot**	1.92	303	Pn	Pn	09 13 47.9	+0.7
KZIT				Sn	Sn	09 14 12.1	+0.1
RSHS		2.01	220	P	Pn	09 13 47.7	-0.7

*CSEM **13** 09:18:19.3±0.3, 3481N×2464E, h0km±2km, ML4.0, Error ellipse: s-maj=6.6km s-min=2.8km az=174.0*
*ATH **13** 09:18:19.6, 3491N×2459E, h8km±1km, MD4.5/10*
*THE **13** 09:18:19.8, 3483N×2466E, h0km, ML4.0*
*NEIC **13** 09:18:19.6, 3491N×2459E, h8km, MD3.9(ATH), ML4.0(THE), After ATH.*
*ISCJB **13** 09:18:19.5±0.5, 3481N±004×2467E±003, h10km, mb3.8/13, Error ellipse: s-maj=5.3km s-min=3.5km az=173.4*
*IDC **13** 09:18:20.0±0.8, 3486N×2460E, h0km, mb3.8/12, mb1 3.9/15, mb1mx3.9/27, mbtmp3.8/15, ML3.9/3, Error ellipse: s-maj=20.4km s-min=9.2km az=125.0*

ISC 13 09:18:21.3±0.5, 3486N±004×2469E±003, h10km, n60, σ1§22/73, mb3.8/13, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	0.18	34	ePg	Pg	09 18 24.4	-0.9
SIVA				eSg	Sg	09 18 28.4	+0.5
IDI	**Anoyia**	0.46	22	Pg	Pg	09 18 28.5	-1.7
	144nm,0.3s,baz=204,slow=16,SNR=446						
IDI				Lg		09 18 35.9	
	752nm,0.3s,baz=127,slow=20,SNR=57						
GVD	**Gavdhos**	0.49	267	ePB	Pg	09 18 27.6	-3.3
VAM	**Vamos**	0.67	324	‖ iPB	Pg	09 18 31.0	-3.3
VAM	**Vamos**	0.67	324	‖ iPb	Pg	09 18 31.0	-3.3
VAM				eSb	Sg	09 18 39.2	-3.9
LAST	**Lasithi**	0.71	65	ePg	Pg	09 18 33.6	-1.4
LAST				eSg	Sg	09 18 45.2	+0.7
KARN	**Karanos**	0.83	311	ePg	Pg	09 18 34.2	-3.0
KARN				eSg	Sg	09 18 47.4	-0.6
NPS	**Neapolis**	0.86	62	ePG	Pg	09 18 37.0	-0.8
NPS				eSB	Sg	09 18 48.7	-0.3
ZKR	**Zakros**	1.28	78	ePg	Pn	09 18 43.8	-1.5
ZKR				eSg	Sg	09 19 02.3	-0.2
THR6	**Thira Island,**	1.60	21	ePn	Pn	09 18 48.7	-0.9
THR6	**Thira Island,**	1.60	21	ePb	Pn	09 18 48.8	-0.8
THR6	**Thira Island**	1.60	21	ePb	Pn	09 18 48.8	-0.8
THR1	**Thera Island**	1.63	23	ePn	Pn	09 18 48.5	-1.5
THR1	**Thera Island**	1.63	23	ePb	Pn	09 18 49.2	-0.8
THR1				eSb	Sb	09 19 12.0	-0.1
THR1	**Thera Island**	1.63	23	ePb	Pn	09 18 49.2	-0.8
THR1				eSb	Sb	09 19 12.0	0.0
SANT	**Santorini**	1.63	23	ePb	Pn	09 18 48.7	-1.3
SANT				eSb	Sb	09 19 10.8	-1.2
SANT	**Santorini**	1.63	23	ePn	Pn	09 18 49.6	-0.4
SANT	**Santorini**	1.63	23	ePn	Pn	09 18 49.6	-0.4
THR5	**Thira Island,**	1.64	19	ePn	Pn	09 18 49.6	-0.5
THR5	**Thira Island,**	1.64	19	ePb	Pn	09 18 49.2	-0.9
THR5	**Thira Island,**	1.64	19	ePb	Pn	09 18 49.2	-1.0
KYTH	**Kithira**	1.95	317	ePn	Pn	09 18 54.0	-0.4
KARP	**Karpathos**	2.14	71	ePN	Pn	09 18 58.2	+1.2
APE	**Apeiranthos**	2.31	17	ePn	Pn	09 18 58.5	-0.8
APE				eSn	Sg	09 19 35.8	+0.4
APE	**Apeiranthos**	2.31	17	ePn	Pn	09 18 58.4	-0.8
APE				eSn	Sn	09 19 28.2	+0.5
APE	**Apeiranthos**	2.31	17	ePn	Pn	09 18 58.4	-0.9
APE	**Apeiranthos**	2.31	17	ePb	Pn	09 18 59.1	-0.2
APE				eSn	Sn	09 19 28.2	+0.5
VLI	**Veliai**	2.33	323	ePN	Pn	09 18 59.0	-0.7
DID	**Didima**	2.89	336	ePn	Pn	09 19 07.6	+0.3
NAIG	**Nisos Aigina**	3.05	342	ePB	Pn	09 19 10.1	+0.6
KVR	**Kavouri**	3.05	346	ePB	Pn	09 19 10.0	+0.5
VLX	**Vlachokerasia**	3.12	324	ePn	Pn	09 19 11.6	+1.1
VLX	**Vlachokerasia**	3.12	324	ePn	Pn	09 19 10.7	+0.2
VLX	**Vlachokerasia**	3.12	324	ePn	Pn	09 19 10.7	+0.2
PTL	**Penteli**	3.25	348	ePN	Pn	09 19 12.5	+0.3
LTK	**Loutraki**	3.44	337	ePn	Pn	09 19 16.1	+1.1
CHOS	**Chios island**	3.68	17	ePn	Pn	09 19 17.9	-0.4
CHOS	**Chios island**	3.68	17	ePn	Pn	09 19 17.9	-0.3
CHOS	**Chios island**	3.68	17	ePn	Pn	09 19 18.0	-0.2
LKR	**Lokris**	4.01	341	ePn	Pn	09 19 23.7	+0.9
AGG	**Agios Georgios**	4.56	336	ePn	Pn	09 19 31.9	+1.6
CUC	**Castrocucco**	8.71	309	ePn	Pn	09 20 28.4	+1.1
	11nm,0.6s						
EIL	**Elat**	10.11	118	Pn	Pn	09 20 46.2	-0.3
	0.7nm,0.3s,baz=340,slow=15,SNR=3.8						
EIL				Sn	Sn	09 22 32.4	-7.6
	0.7nm,0.3s,baz=263,slow=23,SNR=3.6						
EIL	**Elat**	10.11	118	Pn	Pn	09 20 46.2	-0.3
GERES	**GERESS Array B**	16.16	333	Pn	Pn	09 22 10.5	+2.1
	0.2nm,0.3s,baz=148,slow=12,SNR=7.6						
AKASG	**Malin Array Be**	16.17	10	Pn	Pn	09 22 09.2	+0.7
	1.4nm,0.3s,baz=340,slow=11,SNR=9.3						
DAVOX	**Davos/Dischmat**	16.32	321	Pn	Pn	09 22 14.0	+3.6
	0.1nm,0.3s,baz=334,slow=21,SNR=2.5						
ESDC	**Sonseca Array**	23.25	290	P	P	09 23 26.9	-1.9
	0.4nm,0.4s,mb3.2,baz=81,slow=8.2,SNR=3.5						
NOA	**NORSAR Array B**	27.59	346	P	P	09 24 09.9	+1.7
	0.2nm,0.5s,mb3.0,baz=152,slow=9.6,SNR=2.5						
EKA	**Eskdalemuir Ar**	28.06	325	P	P	09 24 16.4	+3.8
	2.0nm,0.8s,mb3.8,baz=126,slow=9.7,SNR=4.2						
AKTO	**Aktyubinsk**	28.74	47	P	P	09 24 21.3	+2.6
	1.0nm,0.5s,mb3.8,baz=252,slow=9.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	30.00	230	P	P	09 24 28.1	-2.1
	1.0nm,0.6s,mb3.8,baz=34,slow=8.8,SNR=19						
ARCES	**ARCESS Array B**	34.73	1	P	P	09 25 09.9	-1.2
	1.2nm,0.7s,mb3.9,baz=176,slow=9.7,SNR=4.8						
BVAR	**Borovoye Array**	36.83	46	P	P	09 25 30.5	+1.2
	0.5nm,0.6s,mb3.5,baz=222,slow=7.8,SNR=3.1						
MKAR	**Makanchi Array**	44.26	56	P	P	09 26 31.0	+0.2
	2.8nm,0.7s,mb4.1,baz=279,slow=7.3,SNR=14						
ZALV	**Zalesovo Beam**	45.49	46	P	P	09 26 40.2	-0.2
	1.9nm,0.4s,mb4.3,baz=274,slow=7.5,SNR=7.1						
SONM	**Songino Array**	59.98	50	P	P	09 28 27.1	-0.6
	0.6nm,0.5s,mb3.9,baz=287,slow=7.5,SNR=5.6						
YKA	**Yellowknife Ar**	77.61	342	P	P	09 30 18.8	+1.6
	0.3nm,0.4s,mb3.5,baz=27,slow=5.3,SNR=3.4						
KSRS	**Korea Array**	78.77	52	P	P	09 30 26.5	+2.3
	1.1nm,0.7s,mb3.9,baz=337,slow=5.6,SNR=3.5						
MJAR	**Matsushiro Arr**	85.81	48	P	P	09 31 03.3	+2.3
	0.6nm,0.8s,mb3.9,baz=297,slow=6.5,SNR=3.3						

MAN 13 09:19:02, 1415N×12358E, h59km, mb4.1, ML2.9, MS2.6, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	0.78	135	↑ eP	Pn	09 19 19.1	+1.8
GQP	**Guinayangan**	1.13	258	‖ iP	Pn	09 19 22.7	+1.0
GQP				i S	Sn	09 19 38.5	+2.1
POLP	**Polilio Island**	1.69	290	eP	Pn	09 19 30.7	+1.5
POLP				eS	Sn	09 19 51.7	+1.8

*ISCJB **13** 09:20:11.8±1.2, 3938N±005×2004E±009, h15km±9km, Error ellipse: s-maj=11.4km s-min=7.4km az=10.9*
*NEIC **13** 09:20:11.8, 3932N×2007E, h2km, MD3.3(ATH), ML3.0(THE), After THE.*
*THE **13** 09:20:11.8, 3932N×2007E, h1km, ML3.0*
*ATH **13** 09:20:12.9, 3937N×2028E, h33km±7km, MD3.3/4*
*CSEM **13** 09:20:13.4±0.1, 3931N×2030E, h10km, ML3.0, Error ellipse: s-maj=2.6km s-min=1.7km az=76.0*

ISC 13 09:20:12.8±0.8, 3931N±004×2020E±007, h5km±8km, n10, σ1§16/16, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	0.25	25	ePg	Pg	09 20 17.6	-0.1
IGT				eSg	Sg	09 20 21.5	+0.5
KEK	**Kerkira**	0.51	323	ePN	Pg	09 20 23.9	+1.2
JAN	**Janina**	0.62	55	ePN	Pg	09 20 24.0	-0.6
VLS	**Valsamata**	1.17	165	ePg	Pg	09 20 34.8	-0.4
VLS				eSg	Sg	09 20 51.2	+1.0
VLS	**Valsamata**	1.17	165	ePn	Pn	09 20 36.6	+0.9
VLS				eSg	Sg	09 20 51.2	+0.9
VLS				eSn	Sn	09 20 52.2	+0.2
KFL	**Anninata**	1.28	159	ePg	Pg	09 20 36.2	-1.1
THL	**Klokotos Trika**	1.43	79	ePg	Pg	09 20 38.5	-1.7
THL				eSg	Sg	09 21 00.4	+1.6
THL	**Klokotos Trika**	1.43	79	ePn	Pn	09 20 37.3	-2.1
THL	**Klokotos Trika**	1.43	79	ePg	Pg	09 20 38.5	-1.7
AGG	**Agios Georgios**	1.68	99	ePb	Pb	09 20 43.2	-1.0
AGG				eSb	Sb	09 21 07.5	+1.9

*ISCJB **13** 09:31:12.7±0.5, 3992N±002×2905E±003, h1km±4km, Error ellipse: s-maj=4.1km s-min=3.1km az=151.6*
*CSEM **13** 09:31:12.7±0.1, 3992N×2904E, h10km, MD2.9, Error ellipse: s-maj=1.5km s-min=1.3km az=28.0*
*DDA **13** 09:31:12.3, 4003N×2902E, h18km±5km, Md3.2*
*ISK **13** 09:31:12.5, 3990N×2905E, h8km, MD2.9*

ISC 13 09:31:13.4±0.4, 3992N±002×2905E±003, h6km±4km, n32, σ0§86/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	0.45	227	ePG	Pg	09 31 21.6	-0.6
DST				eSG	Sg	09 31 28.3	+0.3
DURS	**Dursunbey**	0.55	235	i P	Pg	09 31 23.2	-0.8
DURS				i S	Sg	09 31 32.2	+1.2
YLV	**Yalova**	0.69	21	ePG	Pg	09 31 26.1	-0.7
YLV				eSG	Sg	09 31 37.1	+1.3
ADVT	**Abdulvahap**	0.74	45	ePG	Pg	09 31 26.5	-1.1
ADVT				eSG	Sg	09 31 37.6	+0.5
BTOK	**Tokmak**	0.80	259	i P	Pg	09 31 27.9	-0.9
BTOK				i S	Sg	09 31 39.2	0.0
GDZ	**Gediz**	0.89	158	i P	Pg	09 31 31.0	+0.5
GDZ				i S	Sg	09 31 46.8	+4.7
DEMI	**Demirci**	0.91	197	i P	Pg	09 31 30.3	-0.6
DEMI				i S	Sg	09 31 47.2	+4.5
BALB	**Balikesir**	0.94	253	ePG	Pg	09 31 30.3	-1.3
BALB				eSG	Sg	09 31 44.2	+0.3
BNT	**Bandirma**	0.97	297	ePG	Pg	09 31 32.3	+0.2
BNT				eSG	Sg	09 31 46.8	+2.1
EDC	**Edincik**	1.01	296	ePG	Pg	09 31 32.6	-0.1
EDC				eSG	Sg	09 31 46.8	+1.0
HRT	**Hereke**	1.02	27	ePG	Pg	09 31 33.4	+0.4
GPA	**Golpazari**	1.03	69	ePG	Pg	09 31 33.1	-0.1
BALY	**Balya**	1.12	261	i P	Pg	09 31 33.8	-1.0
BALY				i S	Sg	09 31 50.0	+0.6
ALT	**Altintas**	1.19	136	ePN	Pn	09 31 36.1	-0.4
BGKT	**Bogazkoy**	1.28	351	ePN	Pn	09 31 36.5	-1.4
SILT	**Sile**	1.31	20	ePN	Pn	09 31 37.7	-0.6
KLYT	**Kilyos**	1.33	360	ePN	Pn	09 31 38.0	-0.6
AKS	**Akhisar**	1.41	223	ePN	Pn	09 31 39.1	-0.5
KULA	**Kula-Manisa**	1.43	192	ePN	Pn	09 31 39.4	-0.5
ESKT	**Eskisehir**	1.44	105	i P	Pn	09 31 40.2	+0.2
ESKT				i S	Sb	09 32 02.4	+3.1
SEYT	**Eskypehyr**	1.44	105	i P	Pn	09 31 40.2	+0.2
SEYT				i S	Sb	09 32 02.4	+3.2
SLVT	**Silivri**	1.46	334	ePN	Pn	09 31 39.6	-0.7
KHAL	**Karahalli**	1.58	167	i P	Pn	09 31 42.3	+0.3
KHAL				i S	Sn	09 32 03.1	+0.4
MFT	**Murefte**	1.61	303	ePN	Pn	09 31 41.7	-0.6
RKY	**Sarkoy-Tekirda**	1.63	299	ePN	Pn	09 31 41.7	-0.9
SART	**Tekirdag**	1.63	299	i P	Pn	09 31 41.7	-0.9
SART				i S	Sn	09 32 05.0	+1.2
HENT	**Hendek**	1.68	57	i P	Pn	09 31 43.5	+0.3
HENT				i S	Sn	09 32 08.7	+3.7
SHUT	**Suhut-Afyon**	1.79	139	ePN	Pn	09 31 45.0	+0.1
AYVA	**Ayvalik**	1.92	252	i P	Pn	09 31 48.1	+1.4
AYVA				i S	Sn	09 32 15.3	+4.2
EZN	**Ezine**	2.10	268	ePN	Pn	09 31 48.8	-0.3
BOZC	**Bozcaada**	2.31	269	i P	Pn	09 31 52.0	+0.1
BOZC				i S	Sn	09 32 26.5	+5.9
KIZT	**Kizilcal**	2.42	114	ePN	Pn	09 31 54.3	+0.8

*NIED **13** 09:32:00, 4660N×153.10E, h32km, Mw4.2 Best double couple: M0:1.96000×10^15 NP1:φ0=129.00000°, δ87.00000°, λ-22.00000°. NP2:φ0=220.00000°, δ68.00000°, λ-177.00000°.*
*SKHL **13** 09:32:01.8±2.3, 4660N×15280E, h58km±19km, mb4.6/2*
*JMA **13** 09:32:01.3±0.9, 4659N×15309E, h30km, M4.7*
*ISCJB **13** 09:32:02.6±0.8, 4667N±006×15273E±008, h54km±7km, mb4.0/19, MS3.4/5, Error ellipse: s-maj=11.7km s-min=5.5km az=136.0*
*MOS **13** 09:32:03.5±1.0, 4683N×15251E, h54km, mb4.1/5, Error ellipse: s-maj=15.0km s-min=9.7km az=79.1*
*NEIC **13** 09:32:06.5±0.9, 4676N×15268E, h70km±8km, mb4.4/1, Error ellipse: s-maj=11.8km s-min=6.8km az=133.0*
*BJI **13** 09:32:06.4, 4680N×15270E, h70km, mB4.6, mb4.4, Ms4.6, Msz4.4*
*IDC **13** 09:32:06.3±2.7, 4675N×15269E, h67km±24km, mb3.7/16, mb1 3.8/19, mb1mx3.8/27, mbtmp3.7/19, MS3.2/8, Ms1 3.2/8, ms1mx3.0/34, Error ellipse: s-maj=17.1km s-min=13.8km az=123.0*

ISC 13 09:32:04.8±0.7, 4666N±005×15277E±008, h56km±6km, n82, σ1§26/92, mb4.0/19, MS3.4/5, 1C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	3.71	249	↑ iP	Pn	09 32 56.5	-3.0
KUR				AMB	AMB	09 32 56.5	
	50nm,0.5s						
KUR				AMB	AMB	09 32 56.5	
	150nm,0.5s						
KUR				eS	Sn	09 33 39.3	-2.6
KUR				A		09 33 53.6	
	1μm,1.5s						
KUR				A		09 33 53.6	
	2μm,1.5s						
KUR				A		09 33 55.5	
	590nm,0.5s						
KUR				A		09 33 55.5	
	400nm,0.5s						
SKR	**Severo-Kuril's**	4.60	28	ePN	Pn	09 33 11.0	-0.6
SKR				eS	Sn	09 34 01.2	-2.5
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax			
	comp=N,240nm,0.2s						
SKR				smax			
	comp=E,240nm,0.2s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
SKR	**Severo-Kuril's**	4.60	28	eP	Pn	09 33 11.0	-0.6
SKR				AMB	AMB	09 33 14.0	
	comp=Z,30nm,0.5s						
SKR				AMB	AMB	09 33 14.0	
	comp=Z,40nm,0.5s						
SKR				eS	Sn	09 34 01.2	-2.5
SKR				A		09 34 08.0	
	comp=Z,240nm,0.2s						
SKR				A		09 34 08.0	
	comp=Z,40nm,0.3s						
YUK	**Yuzh-Kuril'sk**	5.53	244	eP	Pn	09 33 25.0	+0.5
YUK				AMB	AMB	09 33 31.0	
	comp=Z,180nm,0.4s						
YUK				AMB	AMB	09 33 31.0	
	comp=Z,160nm,0.5s						
YUK				A		09 34 48.5	
	comp=Z,230nm,0.5s						
YUK				A		09 34 48.5	
	comp=Z,870nm,0.7s						
YUK				A		09 34 48.9	
	comp=Z,2μm,0.7s						
YUK				A		09 34 48.9	
	comp=Z,2μm,1.0s						
NEM2	**Nemuro 2**	5.97	239	P	Pn	09 33 29.0	-1.5
NEM2				eS	Sn	09 34 33.8	-3.7
JRA	**Rausu**	6.04	246	P	Pn	09 33 32.9	+1.4
JNK	**Nakash**	6.47	245	P	Pn	09 33 38.1	+0.8
JNK				eS	Sn	09 34 50.2	+0.4
JTKR	**Abashiri--Toko**	6.80	250	P	Pn	09 33 43.4	+1.5
JAK	**Akkeshi**	6.81	240	P	Pn	09 33 40.6	-1.4
JAK				eS	Sn	09 34 54.8	-3.2
YSS	**Yuzh-Sakhalins**	6.88	276	ePN	Pn	09 33 46.0	+3.0
YSS	**Yuzh-Sakhalins**	6.88	276	ePn	Pn	09 33 45.0	+2.0
	comp=Z,26nm,0.8s						
YSS				eSn	Sn	09 35 00.3	+0.4
JMP	**Maruseppu**	7.14	252	P	Pn	09 33 48.3	+1.8
PEA0B	**Petropavlovsk-**	7.20	24	ePn	Pn	09 33 47.3	+0.1
PETK	**Petropavlovsk-**	7.20	24	P	Pn	09 33 48.3	+1.1
	comp=Z,0.5nm,0.3s,baz=192,slow=13,SNR=4.0			

YAK	**Yakutsk**	**20.27 328**	P		**P**	**09 36 33.8**	**-1.6**
	comp=Z,15nm,0.7s						
KSRS	**Korea Array**	**20.55 252**	P		**P**	**09 36 40.1**	**+1.6**
	comp=Z,3.6nm,0.6s,baz=57,slow=11,SNR=9.9						
KSRS			LR		LR	09 43 29.7	
	comp=Z,46nm,21.0s,MS2.8,baz=55,slow=33						
KSRS	**Korea Array**	**20.55 252**	P		**P**	**09 36 40.1**	**+1.6**
KSRS			pmax		pmax		
	comp=Z,4.0nm,0.6s						
KSRS			MLR		MLR		
	comp=Z,46nm,21.0s,MS2.8						
CBIJ	**Chichi jima**	**21.25 207**	P		**P**	**09 36 46.2**	**+0.1**
	comp=Z,40nm,0.3s,baz=330,slow=17,SNR=6.4						
SONM	**Songino Array**	**31.14 289**	P		**P**	**09 38 18.2**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.5,baz=43,slow=8.7,SNR=3.2						
SONM			LR		LR	09 51 41.5	
	comp=Z,88nm,18.9s,MS3.5,baz=248,slow=38						
WHN	**Wuhan**	**33.68 255**	⇓P		**P**	**09 38 41.0**	**+0.7**
INK	**Inuvik**	**41.86 32**	P		**P**	**09 39 48.7**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.0,baz=295,slow=9.3,SNR=4.4						
INK	**Inuvik**	**41.86 32**	P		**P**	**09 39 48.7**	**-0.1**
ZALV	**Zalesovo Beam**	**42.48 306**	P		**P**	**09 39 52.5**	**-1.4**
	comp=Z,0.9nm,0.4s,mb3.8,baz=68,slow=7.4,SNR=3.1						
ZALV			PcP		PcP	09 41 46.5	+0.8
	comp=Z,0.5nm,0.3s,baz=100,slow=4.8,SNR=4.7						
ZALV			LR		LR	09 58 42.8	
	comp=Z,60nm,19.6s,MS3.5,baz=126,slow=38						
ZAL	**Zalesovo**	**42.49 306**	P		**P**	**09 39 52.5**	**-1.6**
ZAL						09 41 46.6	
MKAR	**Makanchi Array**	**46.78 297**	P		**P**	**09 40 27.1**	**-1.2**
	comp=Z,0.7nm,0.5s,mb3.9,baz=63,slow=7.2,SNR=5.5						
MKAR			PcP		PcP	09 42 00.9	+0.2
	comp=Z,0.4nm,0.3s,baz=57,slow=5.3,SNR=4.2						
MKAR			LR		LR	10 01 25.8	
	comp=Z,84nm,19.2s,MS3.7,baz=249,slow=38						
MKAR	**Makanchi Array**	**46.78 297**	*e*P		**P**	**09 40 27.4**	**-0.9**
MKAR			pmax		pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**47.22 304**	⇓*e*P		**P**	**09 40 31.2**	**-0.5**
KURK			pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BVAR	**Borovoye Array**	**50.74 309**	P		**P**	**09 40 56.6**	**-2.0**
	comp=Z,0.6nm,0.3s,mb3.9,baz=50,slow=9.5,SNR=2.7						
BVAR			PcP		PcP	09 42 15.1	+0.2
	comp=Z,0.7nm,0.3s,baz=73,slow=4.6,SNR=3.9						
BVAR			LR		LR	10 01 30.3	
	comp=Z,40nm,21.9s,MS3.4,baz=194,slow=35						
BVAR	**Borovoye Array**	**50.74 309**	P		**P**	**09 40 56.6**	**-2.0**
BVAR						09 42 15.1	
BVAR	**Borovoye Array**	**50.74 309**	P		**P**	**09 40 56.6**	**-2.0**
BVAR			PcP		PcP	09 42 15.1	+0.2
BVAR			LR		LR	10 01 30.3	
ARCES	**ARCESS Array B**	**57.87 341**	P		**P**	**09 41 49.5**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.9,baz=39,slow=7.8,SNR=5.2						
ARCES	**ARCESS Array B**	**57.87 341**	P		**P**	**09 41 49.5**	**-0.6**
AKTK	**Aktyubinsk**	**58.62 312**	P		**P**	**09 41 56.5**	**+0.9**
AKTO	**Aktyubinsk**	**58.62 312**	P		**P**	**09 41 56.5**	**+0.9**
	comp=Z,0.8nm,0.6s,mb4.0,baz=78,slow=9.3,SNR=2.8						
JOF	**Joensuu**	**61.31 334**	*e*p		**P**	**09 42 13.4**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.2						
NVAR	**Mina Array Bea**	**62.68 62**	P		**P**	**09 42 23.6**	**+0.1**
	comp=Z,0.4nm,0.3s,mb4.0,baz=318,slow=15,SNR=11						
KAF	**Kangasniemi**	**63.43 335**	*e*p		**P**	**09 42 27.5**	**-0.5**
FINES	**FINESS Array B**	**64.03 335**	*e*P		**P**	**09 42 31.0**	**-1.0**
PDAR	**Pinedale Array**	**64.99 54**	P		**P**	**09 42 40.0**	**+1.5**
	comp=Z,0.3nm,0.6s,mb3.5,baz=297,slow=4.3,SNR=3.9						
OBN	**Obninsk**	**65.25 325**	*e*P		**P**	**09 42 41.0**	**+0.9**
OBN			*e*SS		SS	09 55 35.0	+3.5
OBN			pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
NB2	**NORSAR Subarra**	**68.24 341**	P		**P**	**09 42 58.9**	**-0.1**
	comp=Z,3.2nm,0.6s,mb4.5,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.24 341**	P		**P**	**09 42 59.1**	**+0.1**
	comp=Z,3.8nm,0.8s,mb4.5,baz=28,slow=6.4,SNR=13						
WRA	**Warramunga Arr**	**68.35 199**	P		**P**	**09 43 00.2**	**+0.1**
	comp=Z,0.6nm,0.9s,mb3.6,baz=17,slow=6.7,SNR=5.4						
WRA	**Warramunga Arr**	**68.35 199**	*e*P		**P**	**09 43 01.0**	**+0.9**
HFS	**Hagfors**	**68.46 339**	P		**P**	**09 42 59.9**	**-0.5**
	comp=Z,4.2nm,0.5s,mb4.8,baz=57,slow=5.3,SNR=28						
AKASG	**Malin Array Be**	**71.50 326**	P		**P**	**09 43 18.7**	**-0.4**
	comp=Z,2.1nm,0.4s,mb4.4,baz=32,slow=6.1,SNR=7.8						
ASAR	**Alice Springs**	**72.05 198**	P		**P**	**09 43 23.9**	**+1.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=12,slow=5.6,SNR=18						
ASAR	**Alice Springs**	**72.05 198**	*e*P		**P**	**09 43 24.1**	**+1.5**
ASAR			pmax		pmax		
	comp=Z,1.0nm,0.6s						
CLL	**Collm**	**76.45 335**	⇓*i*P		**P**	**09 43 48.2**	**+0.1**
	comp=Z,7.0nm,1.2s,mb4.5						
GERES	**GERESS Array B**	**78.44 334**	P		**P**	**09 43 59.3**	**+0.1**
	comp=Z,0.6nm,0.3s,mb4.0,baz=29,slow=6.7,SNR=5.3						
PLCA	**Paso Flores**	**148.43 95**	PKPbc		PKPbc	09 51 44.8	+0.4
	comp=Z,4.1nm,1.1s,baz=270,slow=6.1,SNR=3.0						
PLCA	**Paso Flores**	**148.43 95**	PKP2		PKPbc	09 51 44.8	+0.4
PLCA			pmax		pmax		
	comp=Z,4.0nm,1.1s						

*CSEM **13** 09:35:07.2, 3588N×098E, h0km, ML3.5, After ALG*

CRAAG 13 09:35:07.2, 3588N×098E, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EANR	**'Ain N'Sour**	**0.12**	**56**	P	Pg	09 35 11.0	+1.5
OKGL	**Djebel Kef Gue**	**0.31**	**300**	P	Pg	09 35 15.0	+1.8
ECHA	**Ech Chlef**	**0.41**	**50**	P	Pg	09 35 15.0	-0.1
OJGS	**Djebel Guires**	**0.42**	**206**	P	Pg	09 35 18.0	+2.7
ETRT	**Tiaret**	**0.56**	**152**	P	Pg	09 35 19.5	+1.6
OJBR	**Djebel Berber**	**0.60**	**240**	P	Pg	09 35 16.0	-2.6
EBNR	**Beni Rached**	**0.60**	**47**	P	Pg	09 35 21.0	+2.2
EMHD	**Djebel Mahouad**	**1.63**	**78**	P	Pn	09 35 42.0	+4.9

MAN 13 09:39:11, 1067N×12496E, h1km, mb4.3, ML3.2, MS3.0, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.49**	**3**	⇓*e*P	Pg	09 39 21.1	+0.7
PLP				*i* S	Sg	09 39 29.1	+2.4
OCLP	**Ormoc**	**0.51**	**318**	*e*P	Pg	09 39 21.8	+1.0
MSLP	**Maasin**	**0.55**	**190**	*e*P	Pg	09 39 23.1	+1.6
MSLP				*e*S	Sg	09 39 33.3	+4.7
SCPH	**Surigao**	**1.03**	**149**	⇑*e*P	Pg	09 39 31.6	+0.8
SCPH				*e*S	Sg	09 39 47.1	+3.0
BESP	**Borongan**	**1.03**	**27**	*e*P	Pg	09 39 32.2	+1.3
TBP	**Tagbilaran**	**1.46**	**228**	*e*P	Pn	09 39 38.6	+0.2
TBP				*e*S	Sg	09 39 58.8	+1.0
CNP	**Cataraman**	**1.85**	**351**	*e*P	Pn	09 39 44.1	+0.3
CNP				*e*S	Sn	09 40 10.9	+3.0

*ISCJB **13** 09:55:34.3±1.4, 3932N±007×203E±0.1, h8km±13km, Error ellipse: s-maj=17.6km s-min=8.9km az=149.7*
*NEIC **13** 09:55:34.8, 3929N×2025E, h3km, MD3.6(ATH), After ATH.*
*ATH **13** 09:55:34.3, 3935N×2026E, h35km, MD3.6/4*
*CSEM **13** 09:55:34.8, 3929N×2025E, h3km, MD3.6, After ATH*

ISC 13 09:55:34.9±1.4, 3931N±007×203E±01, h16km±12km, n7, σ0°37/8, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.55**	**318**	*e*PN	**Pg**	**09 55 45.7**	**0.0**
JAN	**Janina**	**0.57**	**52**	*e*PN	**Pg**	**09 55 45.6**	**-0.5**
VLS	**Valsamata**	**1.16**	**168**	*e*PN	**Pn**	**09 55 56.3**	**-0.1**
EVR	**Evrytania**	**1.26**	**108**	*e*PN	**Pn**	**09 55 58.0**	**+0.2**
EVR	**Evrytania**	**1.26**	**108**	*e*Pn	**Pg**	**09 55 59.5**	**+0.3**
TIR	**Tirane**	**2.06**	**351**	*e*Pn	**Pb**	**09 56 11.7**	**-0.2**
TIR				*e*Sg	**Sg**	**09 56 41.5**	**+0.3**
KRUS	**Krusevo**	**2.19**	**20**	*e*Pn	**Pb**	**09 56 14.1**	**0.0**

*ISCJB **13** 10:11:10.6±0.2, 3051S×004×17749W±005, h14km, mb5.0/56, MS5.0/11, Error ellipse: s-maj=6.4km s-min=5.2km az=139.5*
*BJI **13** 10:11:10.5, 2961S×17676W, h9km, mB5.5, mb5.2, Ms5.3, Msz4.9*
*NEIC **13** 10:11:11.4±0.2, 3052S×17757W, h10km, mb5.1/38, Error ellipse: s-maj=11.1km s-min=6.6km az=142.0*
*MOS **13** 10:11:14.2±1.1, 3035S×17755W, h33km, mb5.2/22, Error ellipse: s-maj=14.1km s-min=10.5km az=68.8*
*IDC **13** 10:11:16.1±1.9, 3027S×17727W, h49km±16km, mb4.4/15, mb1 4.5/15, mb1mx4.5/18, mbtmp4.3/15, MS4.4/4,*

Ms1 4.4/4, ms1mx3.7/37, Error ellipse: s-maj=19.2km s-min=14.7km az=92.0

ISC 13 10:11:12.3±0.2, 3046S±004×17749W±005, h14km, h14km±8km: pP-P, n473, σ0°82/427, mb5.0/56, MS5.0/11, 119C-123D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.25**	**343**	P	**Pn**	**10 11 33.9**	**-1.5**
	785nm,0.3s,baz=222,slow=2.2,SNR=34						
RAO				S	**Sb**	**10 11 51.1**	**-0.6**
	2μm,0.3s,baz=45,slow=20,SNR=14						
RAO	**Raoul Island**	**1.25**	**343**	P	**Pn**	**10 11 33.9**	**-1.5**
RAO				S	**Sb**	**10 11 51.1**	**-0.6**
URZ	**Urewera**	**8.97**	**208**	P	**Pn**	**10 13 17.1**	**-4.3**
	2.0nm,0.3s,baz=310,slow=5.5,SNR=15						
URZ				S	**Sn**	**10 14 59.5**	**-2.6**
	4.6nm,0.3s,baz=64,slow=2.9,SNR=3.9						
SNZO	**South Karori**	**12.54**	**208**	*e*Pn	**Pn**	**10 14 08.4**	**-1.7**
SNZO				*e*Sn	**Sn**	**10 16 21.2**	**-8.3**
RPZ	**Rata Peaks**	**16.06**	**211**	P	**Pn**	**10 14 54.7**	**-2.8**
	3.1nm,0.3s,baz=53,slow=4.8,SNR=17						
RPZ				S	**Sn**	**10 17 41.4**	**-14**
	0.6nm,0.3s,baz=52,slow=18,SNR=3.9						
RPZ	**Rata Peaks**	**16.06**	**211**	P	**Pn**	**10 14 54.7**	**-2.9**
RPZ				S	**Sn**	**10 17 41.4**	**-14**
DZM	**Mont Dzumac**	**16.64**	**296**	*e*Pn	**Pn**	**10 15 04.8**	**-0.3**
RAR	**Rarotonga**	**18.39**	**64**	P	**Pn**	**10 15 16.7**	**-10**
	1.2nm,0.3s,baz=270,slow=15,SNR=3.8						
RAR				S	Sn	10 18 20.6	-32
	0.8nm,0.3s,baz=90,slow=15,SNR=2.6						
TBI	**Tubuai**	**25.94**	**81**	*e*LR	LR	10 22 59.3	
	959nm,26.2s,baz=248						
PPT	**Papeete**	**28.46**	**70**	*e*LR	LR	10 24 05.2	
	634nm,22.2s,baz=234						
PPT	**Papeete**	**28.46**	**70**	LR	LR	10 26 04.2	
	comp=Z,504nm,19.1s,MS4.1,baz=247,slow=32						
CTA	**Charters Tower**	**34.24**	**279**	⇓*i*P	**P**	**10 18 00.5**	**+2.7**
	14nm,1.2s,mb4.8						
CTA	**Charters Tower**	**34.24**	**279**	P	**P**	**10 18 00.1**	**+2.3**
	4.2nm,0.5s,mb4.7,baz=94,slow=11,SNR=9.1						
CTA				LR	LR	10 31 03.2	
	comp=Z,3μm,18.2s,MS5.0,baz=187,slow=34						
CTA	**Charters Tower**	**34.24**	**279**	⇓*i*P	**P**	**10 18 00.5**	**+2.7**
CTA				pmax	pmax		
	comp=Z,14nm,1.2s						
CTAO	**Charters Tower**	**34.24**	**279**	*e*P	**P**	**10 17 59.1**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
CTAO	**Charters Tower**	**34.24**	**279**	*e*P	**P**	**10 17 59.1**	**+1.3**
	comp=Z,12nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**34.89**	**257**	*e*P	**P**	**10 18 05.5**	**+2.2**
	comp=Z,22nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**34.89**	**257**	P	**P**	**10 18 05.4**	**+2.1**
	comp=Z,18nm,0.9s,mb5.0,baz=102,slow=8.6,SNR=27						
RKT	**Rikitea**	**38.48**	**90**	*e*S	**S**	**10 24 15.7**	**-13**
	comp=Z,901nm,37.0s						
RKT				*e*LR	LR	10 28 36.4	
	comp=Z,698nm,27.0s						
ASAR	**Alice Springs**	**43.54**	**267**	P	**P**	**10 19 16.2**	**+0.5**
	comp=Z,3.8nm,0.6s,mb4.3,baz=105,slow=7.3,SNR=69						
WB2	**Warramunga Arr**	**44.53**	**272**	*e*P	**P**	**10 19 23.3**	**-0.4**
WRAB	**Tennant Creek**	**44.53**	**272**	P	**P**	**10 19 24.6**	**+0.9**
	comp=Z,167nm,0.8s,mb5.9,SNR=12						
WRAB	**Tennant Creek**	**44.53**	**272**	⇓*e*P	**P**	**10 19 23.6**	**-0.1**
WRAB	**Tennant Creek**	**44.53**	**272**	*e*P	**P**	**10 19 23.8**	**+0.1**
	comp=Z,14nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**44.54**	**272**	P	**P**	**10 19 23.7**	**0.0**
	comp=Z,18nm,0.7s,mb5.0,baz=111,slow=8.0,SNR=96						
SBA	**Scott Base**	**48.02**	**184**	*e*P	**P**	**10 19 53.6**	**+3.3**
SBA				pmax	pmax		
	comp=Z,65nm,1.6s,mb5.4						
SBA	**Scott Base**	**48.02**	**184**	*e*P	**P**	**10 19 53.5**	**+3.2**
	comp=Z,65nm,1.6s,mb5.4						
VNDA	**Vanda**	**48.09**	**186**	P	**P**	**10 19 53.1**	**+2.2**
	comp=Z,4.5nm,1.1s,mb4.4,baz=15,slow=7.0,SNR=7.3						
VNDA	**Vanda**	**48.09**	**186**	*e*P	**P**	**10 19 53.7**	**+2.8**
KAKA	**Kakadu**	**49.37**	**280**	*e*P	**P**	**10 20 01.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.80**	**270**	*e*P	**P**	**10 20 27.2**	**-0.1**
	comp=Z,13nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**52.80**	**270**	P	**P**	**10 20 27.3**	**0.0**
	comp=Z,6.7nm,0.8s,mb4.6,baz=136,slow=7.4,SNR=21						
KLBR	**Kellerberrin**	**54.75**	**251**	*e*P	**P**	**10 20 40.7**	**-0.7**
QSPA	**South Pole Qui**	**59.66**	**180**	P	**P**	**10 21 17.1**	**+1.7**
	comp=Z,26nm,1.1s,mb5.2,baz=30,slow=1.2,SNR=48						
MIR	**Mirnyy**	**62.27**	**207**	*e*P	**P**	**10 21 35.0**	**+1.6**
MIR				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.9						
PMSA	**Palmer Station**	**72.03**	**156**	LR	LR	10 46 52.6	
	comp=Z,297nm,20.9s,MS4.5,baz=317,slow=30						
MAW	**Mawson**	**72.41**	**200**	*e*P	**P**	**10 22 38.8**	**+1.3**
	comp=Z,6.1nm,0.7s,mb4.6						
MAW	**Mawson**	**72.41**	**200**	P	**P**	**10 22 38.1**	**+0.5**
	comp=Z,10nm,1.0s,mb4.7,baz=126,slow=7.2,SNR=16						
MAW	**Mawson**	**72.41**	**200**	*e*P	**P**	**10 22 38.8**	**+1.3**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SYO	**Syowa Base**	**77.16**	**193**	⇑*e*P	**P**	**10 23 03.8**	**-1.2**
SYO	**Syowa Base**	**77.16**	**193**	⇑*e*PcP	PcP	10 23 16.5	+0.7
SNAA	**Sanae**	**78.09**	**178**	*e*P	**P**	**10 23 10.7**	**+0.5**
SNAA				*e*	pP	10 23 14.8	-0.1
SNAA				*e*		10 23 20.7	
SNAA	**Sanae**	**78.09**	**178**	*e*P	**P**	**10 23 10.1**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SNAA	**Sanae**	**78.09**	**178**	*e*P	**P**	**10 23 10.1**	**0.0**
	comp=Z,4.8nm,0.9s,mb4.4						
MJAR	**Matsushiro Arr**	**78.54**	**325**	P	**P**	**10 23 11.6**	**-1.4**
	comp=Z,1.5nm,0.4s,mb4.2,baz=84,slow=11,SNR=4.1						
MAT	**Matsushiro**	**78.54**	**325**	P	**P**	**10 23 10.3**	**-2.7**
MAT				S	S	10 33 11.0	+2.0
VNA2	**Neumayer--Watz**	**78.66**	**177**	*e*P	**P**	**10 23 13.6**	**+0.3**
VNA2				*e*	pP	10 23 17.4	-0.7
VNA2				*e*		10 23 20.7	
VNA2				*e*		10 23 24.6	
VNA1	**Neumayer--Stat**	**78.89**	**176**	*e*P	**P**	**10 23 15.1**	**+0.5**
VNA1				*e*	pP	10 23 19.6	+0.3
VNA1				*e*		10 23 22.4	
VNA1				*e*		10 23 25.2	
PLCA	**Paso Flores**	**82.15**	**133**	P	**P**	**10 23 30.1**	**-2.6**
	comp=Z,7.5nm,1.0s,mb4.6,baz=246,slow=3.3,SNR=3.5						
PLCA	**Paso Flores**	**82.15**	**133**	*e*P	**P**	**10 23 31.5**	**-1.1**
PLCA				pmax	pmax		
	comp=Z,12nm,1.1s						
PLCA	**Paso Flores**	**82.15**	**133**	*e*P	**P**	**10 23 31.5**	**-1.1**
	comp=Z,12nm,1.1s,mb4.8						
KSRS	**Korea Array**	**84.67**	**319**	P	**P**	**10 23 44.2**	**-1.2**
	comp=Z,1.9nm,0.8s,mb4.3,baz=132,slow=5.6,SNR=6.3						
HAST	**Hastings Reser**	**84.70**	**42**	⇑P	**P**	**10 23 47.8**	**+2.2**
	baz=85						
YSS	**Yuzh-Sakhalins**	**84.99**	**334**	⇓*e*P	**P**	**10 23 47.0**	**+0.2**
YSS				*e*	pP	10 23 53.0	+1.5
YSS				*e*S	S	10 34 16.0	+0.9
YSS				MLR	MLR		
	comp=N,800nm,19.0s						
YSS				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**84.99**	**334**	*e*P	**P**	**10 23 47.5**	**+0.7**
	comp=Z,20nm,0.8s,mb5.3						
U04C	**Hernandez Rese**	**85.13**	**43**	⇓P	**P**	**10 23 49.7**	**+1.9**
	baz=85						
BAR	**Barrett**	**85.18**	**48**	*e*P	**P**	**10 23 49.6**	**+1.5**
PACP	**Pacheco Peak**	**85.28**	**42**	⇑P	**P**	**10 23 50.0**	**+1.4**
	baz=86						
MWC	**Mount Wilson**	**85.32**	**46**	*e*P	**P**	**10 23 49.7**	**+0.9**
MURC	**Murrieta**	**85.45**	**47**	⇓P	**P**	**10 23 51.1**	**+1.7**
	baz=86						
ARVC	**Arvin**	**85.45**	**45**	⇓P	**P**	**10 23 50.9**	**+1.5**
	baz=86						
MONP	**Monument Peak**	**85.48**	**48**	P	**P**	**10 23 51.1**	**+1.6**
	baz=86,SNR=5.6						
DVTC	**Desert V Tower**	**85.53**	**48**	⇓P	**P**	**10 23 51.1**	**+1.2**
	baz=86						
BFSC	**Mount Baldy St**	**85.58**	**46**	P	**P**	**10 23 51.8**	**+1.7**
	baz=86,SNR=6.3						
NSHM	**Saint Helena R**	**85.59**	**40**	*e*P	**P**	**10 23 48.8**	**-1.2**
S04C	**Ingram Canyon,**	**85.61**	**41**	⇓P	**P**	**10 23 51.8**	**+1.7**
	baz=86						
HOPS	**Hopland**	**85.67**	**39**	⇓P	**P**	**10 23 52.0**	**+1.7**
	baz=86						
HOPS	**Hopland**	**85.67**	**39**	*e*P	**P**	**10 23 52.7**	**+2.3**
	comp=Z,32nm,1.4s,mb5.4						
VES	**Vestal, Richgr**	**85.78**	**44**	⇓P	**P**	**10 23 51.9**	**+0.9**
	baz=86,SNR=7.6						
EDW2	**Edwards Air Fo**	**85.80**	**45**	P	**P**	**10 23 52.1**	**+1.0**
	baz=86,SNR=9.9						
P01C	**Double 8 Ranch**	**85.86**	**39**	⇑P	**P**	**10 23 53.0**	**+1.7**
	baz=86						
SWSC	**Sam W. Stewart**	**85.91**	**48**	⇓P	**P**	**10 23 52.8**	**+1.1**
	baz=86						
PFO	**Pinyon Flat Ob**	**85.92**	**47**	⇓P	**P**	**10 23 51.9**	**+0.1**
	baz=86						
PFO	**Pinyon Flat Ob**	**85.92**	**47**	*e*P	**P**	**10 23 52.3**	**+0.5**
MNRC	**McLaughlin Nat**	**85.94**	**40**	⇓P	**P**	**10 23 52.5**	**+0.8**
	baz=86,SNR=11						
PETK	**Petropavlovsk-**	**85.97**	**345**	P	**P**	**10 23 50.5**	**-1.0**
	comp=Z,8.9nm,0.7s,mb5.1,baz=124,slow=7.0,SNR=10						
Q03C	**Winters**	**86.00**	**40**	⇑P	**P**	**10 23 52.6**	**+0.5**
	baz=86						
ISA	**Isabella**	**86.03**	**44**	*e*P	**P**	**10 23 53.5**	**+1.2**
ISA				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.2						
ISA	**Isabella**	**86.03**	**44**	P	**P**	**10 23 52.7**	**+0.4**
	baz=86,SNR=12						
ISA	**Isabella**	**86.03**	**44**	*e*P	**P**	**10 23 53.5**	**+1.3**
	comp=Z,21nm,1.2s,mb5.2						
S05C	**Merced**	**86.07**	**42**	⇓P	**P**	**10 23 52.9**	**+0.4**
	baz=86						
O01C	**Eel River Cons**	**86.08**	**38**	⇑P	**P**	**10 23 53.0**	**+0.6**
	baz=86						
T06C	**Millerton Lake**	**86.20**	**43**	P	**P**	**10 23 51.6**	**-1.4**
	baz=86,SNR=11						
GASB	**Alder Springs**	**86.33**	**39**	⇓P	**P**	**10 23 54.2**	**+0.5**
	baz=86,SNR=17						
LRMC	**Laurel Mountai**	**86.38**	**45**	⇓P	**P**	**10 23 54.1**	**+0.1**
	baz=87						
HELL	**Mitchell Peak**	**86.38**	**43**	⇓P	**P**	**10 23 54.6**	**+0.6**
	baz=87,SNR=8.0						
JCC	**Jacoby Creek**	**86.46**	**38**	⇓P	**P**	**10 23 55.1**	**+0.8**
	baz=87						
BELC	**Belle Mtn.**	**86.47**	**47**	⇑P	**P**	**10 23 54.7**	**+0.3**
	baz=87,SNR=12						
Q04C	**Lincoln**	**86.50**	**41**	⇓P	**P**	**10 23 54.5**	**0.0**
	baz=87						
CMB	**Columbia Colle**	**86.51**	**42**	*e*P	**P**	**10 23 53.7**	**-0.9**
CMB				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.1						
CMB	**Columbia Colle**	**86.51**	**42**	P	**P**	**10 23 54.8**	**+0.2**
	baz=87,SNR=16						
CMB	**Columbia Colle**	**86.51**	**42**	*e*P	**P**	**10 23 53.7**	**-0.9**
	comp=Z,14nm,1.1s,mb5.1						
SUTB	**Sutter Butte**	**86.55**	**40**	⇓P	**P**	**10 23 54.4**	**-0.4**
	baz=87						
BC3	**Big Chuckw Mtn**	**86.59**	**48**	⇑P	**P**	**10 23 54.7**	**-0.4**
	baz=87,SNR=11						
GLA	**Glamis**	**86.60**	**48**	*e*P	**P**	**10 23 56.6**	**+1.4**
GLA				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.3						
GLA	**Glamis**	**86.60**	**48**	⇓P	**P**	**10 23 54.5**	**-0.6**
	baz=87,SNR=9.0						
GLA	**Glamis**	**86.60**	**48**	*e*P	**P**	**10 23 56.6**	**+1.5**
	comp=Z,25nm,1.3s,mb5.3						
KCC	**Kaiser Creek**	**86.64**	**43**	⇑P	**P**	**10 23 54.7**	**-0.6**
	baz=87,SNR=6.1						
KHMM	**Horse Mountain**	**86.66**	**38**	*e*P	**P**	**10 23 55.7**	**+0.5**
O02C	**Red Bluff**	**86.66**	**39**	⇑P	**P**	**10 23 54.7**	**-0.6**
	baz=87,SNR=29						
S06C	**San Francisco**	**86.71**	**42**	⇑P	**P**	**10 23 54.6**	**-0.9**
	baz=87,SNR=10						
CWC	**Cottonwood Cre**	**86.78**	**44**	⇓P	**P**	**10 23 55.3**	**-0.6**
	baz=87						
OHCM	**Honcut**	**86.79**	**40**	*e*P	**P**	**10 23 56.5**	**+0.6**
HEC	**Hector,Ludlow**	**86.80**	**46**	⇑P	**P**	**10 23 55.5**	**-0.6**
	baz=87						
LAVA	**Lava Cap Winer**	**86.80**	**41**	⇓P	**P**	**10 23 55.3**	**-0.6**
	baz=87						
GSC	**Goldstone**	**86.81**	**46**	*e*P	**P**	**10 23 56.0**	**-0.1**
GSC				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.2						
GSC	**Goldstone**	**86.81**	**46**	⇑P	**P**	**10 23 55.6**	**-0.5**
	baz=87,SNR=9.7						
GSC	**Goldstone**	**86.81**	**46**	*e*P	**P**	**10 23 56.0**	**-0.

baz=88
Z14A Wintersburg 88.02 49 ⇑P P 10 24 01.4 -0.6
baz=88
115A Sonoran Desert 88.08 50 ⇑P P 10 24 02.2 -0.1
baz=88
K02A Glendale 88.14 37 ⇑P P 10 24 02.3 0.0
baz=88,SNR=5.0
S09A Goldfield 88.15 44 ⇓P P 10 24 02.0 -0.5
baz=88,SNR=5.7
216A Three Points, 88.17 51 ⇓P P 10 24 02.5 -0.3
baz=88
PAHR Pah Rah Range 88.22 41 eP P 10 24 03.6 +0.8
X13A Yucca 88.22 48 ⇑P P 10 24 02.1 -0.8
baz=88,SNR=9.2
TPNV Topopah Spring 88.23 45 eP P 10 24 04.2 +1.3
TPNV pmax pmax
comp=Z,21nm,1.4s,mb5.2
TPNV Topopah Spring 88.23 45 ⇓P P 10 24 02.0 -0.9
baz=88,SNR=11
TPNV Topopah Spring 88.23 45 eP P 10 24 04.2 +1.3
comp=Z,21nm,1.4s,mb5.2
O06A Flanigan 88.28 40 ⇓P P 10 24 02.8 -0.3
baz=88
HUMO Hull Mountain 88.30 37 P P 10 24 03.4 +0.3
baz=88,SNR=11
HUMO Hull Mountain 88.30 37 eP P 10 24 03.2 +0.1
comp=Z,26nm,1.5s,mb5.2
V12A Nelson 88.30 46 ⇑P P 10 24 03.4 +0.1
baz=88,SNR=6.5
M04C Macdoel 88.30 38 ⇓P P 10 24 03.7 +0.5
baz=88
Y14A Wickenburg 88.34 49 ⇓P P 10 24 02.9 -0.6
baz=88,SNR=8.5
116A Eloy 88.34 50 ⇑P P 10 24 03.4 -0.1
baz=88
M05C Lookout 88.38 39 ⇑P P 10 24 03.5 0.0
baz=89
TPH Tonopah 88.38 43 eP P 10 24 03.0 -0.6
TPH pmax pmax
comp=Z,22nm,1.3s,mb5.2
TPH Tonopah 88.38 43 eP P 10 24 03.0 -0.6
comp=Z,22nm,1.3s,mb5.2
U11A Corn Creek 88.41 45 ⇓P P 10 24 03.6 -0.2
baz=89
217A Green Valley 88.46 51 ⇓P P 10 24 04.4 +0.3
baz=89
Q08A Gabbs 88.49 42 ⇓P P 10 24 03.8 -0.2
baz=89,SNR=7.7
W13A Hualapai Mount 88.50 47 ⇓P P 10 24 05.0 +0.7
baz=89
J02A Umpqua 88.52 36 ⇓P P 10 24 04.4 +0.4
baz=89,SNR=6.6
L04A Klamath Falls 88.55 38 ⇓P P 10 24 04.2 -0.1
baz=89
R09A Tonopah 88.58 43 ⇑P P 10 24 04.1 -0.4
baz=89,SNR=16
SHPR Sheep Range 88.61 46 eP P 10 24 06.6 +1.9
M06C Likely Place G 88.64 39 ⇓P P 10 24 05.1 +0.4
baz=89
S10A Tonopah Range, 88.65 44 P P 10 24 05.1 +0.2
baz=89,SNR=18
N06A Buffalo Meadow 88.68 40 ⇑P P 10 24 04.9 0.0
baz=89,SNR=10
WHN Wuhan 88.73 307 ⇓P P 10 24 05.6 +0.2
X14A Yava 88.75 48 ⇓P P 10 24 06.0 +0.6
baz=89,SNR=9.6
Y15A Casa Rosa Ranc 88.79 49 ⇓P P 10 24 05.4 -0.2
baz=89,SNR=7.4
TUC Tucson 88.80 51 eP P 10 24 07.2 +1.5
TUC pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
TUC Tucson 88.80 51 eP P 10 24 07.2 +1.5
comp=Z,7.6nm,1.1s,mb4.9
318A Bisbee 88.81 52 ⇓P P 10 24 05.4 -0.4
baz=89
O07A Toulon 88.82 41 ⇓P P 10 24 05.4 -0.2
baz=89,SNR=8.6
CFAA Coronel Fontan 88.85 126 LR LR 10 55 19.0
comp=Z,31nm,18.9s,baz=6.9,slow=30
MDJ Mudanjiang 88.92 325 P P 10 24 07.9 +2.0
MDJ AP pP 10 24 11.3 +0.6
MDJ XP sP 10 24 12.6 +0.1
MDJ PP PP 10 27 37.8 +1.9
MDJ S S 10 34 50.5 -2.7
MDJ AMB AMB
comp=Z,6.0nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,57nm,3.6s
MDJ LR LR
comp=N,355nm,37.9s
MDJ LR LR
comp=Z,326nm,28.4s
V13A Grand Canyon W 88.92 47 ⇓P P 10 24 06.3 +0.1
baz=89,SNR=12
U12A Valley of Fire 88.94 46 ⇓P P 10 24 06.7 +0.4
baz=89
S11A Rachel 88.98 44 ⇓P P 10 24 07.4 +1.0
baz=89
117A Oracle 88.99 51 ⇓P P 10 24 06.2 -0.4
baz=89,SNR=5.5
Z16A Peralta Trail, 89.00 50 ⇑P P 10 24 07.3 +0.6
baz=89
L05A Lakeview 89.03 38 ⇓P P 10 24 07.3 +0.8
baz=89,SNR=5.8
T11A Corn Creek, Al 89.04 45 P P 10 24 07.3 +0.6
baz=89,SNR=21
R10A Warm Springs 89.07 44 ⇑P P 10 24 07.7 +0.9
baz=89,SNR=23
W14A Seligman 89.09 48 ⇓P P 10 24 07.7 +0.7
baz=89,SNR=12
I03A Eugene 89.10 36 ⇑P P 10 24 06.8 0.0
baz=89
X15A Humboldt 89.18 49 ⇑P P 10 24 06.5 -0.9
baz=89,SNR=7.4
N07B Gerlach 89.18 40 ⇓P P 10 24 07.2 0.0
baz=89
J04A Umpqua Nationa 89.19 37 ⇑P P 10 24 07.7 +0.5
baz=89
MOD Modoc 89.21 39 ⇓P P 10 24 07.5 +0.1
baz=89
MOD Modoc 89.21 39 eP P 10 24 07.4 0.0
comp=Z,8.0nm,1.2s,mb4.9
319A Douglas 89.26 53 ⇓P P 10 24 08.1 +0.2
baz=89
U13A Pakoon Wash 89.29 46 ⇓P P 10 24 07.3 -0.6
baz=90,SNR=15
Y16A Circle Bar Ran 89.30 49 ⇓P P 10 24 07.3 -0.7
baz=90,SNR=11
V14A Boquillas Ranc 89.34 47 ⇑P P 10 24 08.0 -0.1
baz=90,SNR=14
P09A Austin 89.40 42 ⇑P P 10 24 07.9 -0.5
baz=90
I04A Tendick Farm, 89.42 36 P P 10 24 07.7 -0.6
baz=90,SNR=9.2
K05A Summer Lake 89.46 38 ⇓P P 10 24 08.1 -0.5
baz=90,SNR=11
M07A Soldier Meadow 89.48 40 ⇑P P 10 24 08.2 -0.5
baz=90
S12A Delamar Landin 89.50 45 ⇓P P 10 24 08.7 -0.2
baz=90,SNR=19
R11A Troy Canyon, C 89.53 44 ⇓P P 10 24 08.4 -0.6
baz=90
118A Homack Ranch, 89.55 51 ⇑P P 10 24 08.8 -0.4
baz=90,SNR=11
W15A Williams 89.59 48 ⇑P P 10 24 08.7 -0.7
baz=90
H03A Soap Creek Ran 89.60 35 ⇓P P 10 24 08.9 -0.2
baz=90,SNR=6.6
Y17A Roosevelt 89.61 50 ⇑P P 10 24 08.4 -1.1
baz=90,SNR=5.6
219A White Tail Can 89.65 52 ⇑P P 10 24 09.0 -0.7
baz=90
N08A GE Springer Mi 89.65 41 ⇑P P 10 24 08.7 -0.8
baz=90,SNR=10.0
X16A Lo Mia Camp, P 89.66 49 ⇑P P 10 24 08.6 -1.1
baz=90,SNR=12
J05A Fort Rock 89.67 37 P P 10 24 08.9 -0.6
baz=90,SNR=13
T13A Saint George 89.71 46 ⇑P P 10 24 09.5 -0.3
baz=90,SNR=8.3
U14A Mt Trumbull 89.78 47 P P 10 24 10.2 0.0
baz=90,SNR=18
O09A Fish Creek Ran 89.78 42 ⇑P P 10 24 10.2 0.0
baz=90,SNR=6.7
Q11A Duckwater 89.81 44 ⇑P P 10 24 10.4 +0.1
baz=90,SNR=6.7
L07A Adell 89.82 39 P P 10 24 11.0 +0.8
baz=90,SNR=9.7

K06A Valley Falls 89.86 38 P P 10 24 10.3 -0.1
baz=90,SNR=6.9
BMN Battle Mountai 89.94 42 eP P 10 24 11.3 +0.5
BMN pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
BMN Battle Mountai 89.94 42 eP P 10 24 11.3 +0.5
comp=Z,8.5nm,1.1s,mb5.0
M08A Happy Creek Ra 89.96 40 ⇓P P 10 24 10.8 -0.1
baz=90
W16A Flagstaff 90.01 48 ⇑P P 10 24 11.8 +0.4
baz=90,SNR=7.0
X17A Forest Lakes 90.02 49 ⇓P P 10 24 11.7 +0.3
baz=90,SNR=6.5
N09A Rock Creek Ran 90.04 41 ⇓P P 10 24 10.4 -0.9
baz=90
V15A Kaibab Nationa 90.05 48 P P 10 24 11.2 -0.2
baz=90,SNR=12
G03A Yamhill 90.06 35 ⇑P P 10 24 11.8 +0.5
baz=90
119A Ashpeak Ranch, 90.08 51 ⇓P P 10 24 11.0 -0.7
baz=90,SNR=6.1
S13A Holt Ranch, En 90.09 45 ⇑P P 10 24 11.1 -0.6
baz=90,SNR=11
R12A Pony Springs, 90.11 44 ⇓P P 10 24 11.3 -0.4
baz=90
H04A Detroit Lake 90.16 36 P P 10 24 11.2 -0.5
baz=90,SNR=12
Y18A Canyon Day Jun 90.19 50 P P 10 24 11.9 -0.3
baz=90,SNR=12
J06A Christmas Vall 90.22 38 P P 10 24 11.5 -0.6
baz=90,SNR=17
O10A Cortez Mining, 90.26 42 ⇓P P 10 24 11.1 -1.2
baz=90
K07A Rock Creek Ran 90.32 39 P P 10 24 11.9 -0.7
baz=90,SNR=10
TIA Tai'an 90.33 313 eP P 10 24 12.3 -0.5
U15A North Rim 90.35 47 P P 10 24 12.7 -0.2
baz=90,SNR=31
F03A Seaside 90.36 34 ⇓P P 10 24 13.2 +0.5
baz=91
WUAZ Wupatki 90.37 48 ⇑P P 10 24 12.4 -0.5
baz=90,SNR=11
WUAZ Wupatki 90.37 48 eP P 10 24 14.6 +1.6
comp=Z,15nm,1.0s,mb5.3
CCUT Cedar City 90.38 46 eP P 10 24 20.0 +7.1
G04A Mulino 90.38 35 ⇑P P 10 24 12.8 0.0
baz=91
R13A O'Grain Ranch, 90.40 45 ⇓P P 10 24 12.6 -0.4
baz=91,SNR=8.6
Z19A T-Link Ranch, 90.42 51 ⇓P P 10 24 13.2 0.0
baz=91
Q12A Willow Creek R 90.43 44 ⇓P P 10 24 12.8 -0.4
baz=91
CN2 Changchun 90.45 323 eP P 10 24 12.8 -0.3
CN2 AMB AMB
comp=Z,20nm,1.6s,mb5.2
CN2 AMB AMB
comp=Z,200nm,3.0s
L08A Fields 90.48 40 P P 10 24 13.1 -0.2
baz=91,SNR=9.6
ARUT Antelope Range 90.48 45 eP P 10 24 14.7 +1.3
WVOR Wild Horse Val 90.48 39 eP P 10 24 12.6 -0.7
WVOR pmax pmax
comp=Z,15nm,1.4s,mb5.1
WVOR Wild Horse Val 90.48 39 eP P 10 24 12.6 -0.7
comp=Z,15nm,1.4s,mb5.1
S14A Cedar City 90.63 46 ⇓P P 10 24 13.7 -0.5
baz=91
O11A Cowboy Ranch, 90.65 43 ⇓P P 10 24 13.7 -0.5
baz=91,SNR=5.8
T15A Red Dirt Ranch 90.66 47 ⇑P P 10 24 13.5 -0.7
baz=91,SNR=11
I06A Prineville 90.67 37 ⇑P P 10 24 14.4 +0.3
baz=91,SNR=20
X18A Snowflake 90.70 50 ⇑P P 10 24 14.4 -0.1
baz=91,SNR=6.2
L09A Wilkinson Ranc 90.74 40 P P 10 24 15.0 +0.4
baz=91,SNR=6.4
J07A Hines 90.75 38 P P 10 24 14.9 +0.3
baz=91,SNR=6.0
K08A Mann Creek Ran 90.76 39 ⇓P P 10 24 14.8 +0.1
baz=91,SNR=10
E03A Lebam 90.80 34 ⇑P P 10 24 14.9 +0.2
baz=91
Y19A Nutrioso 90.82 51 ⇑P P 10 24 15.0 -0.1
baz=91,SNR=14
VIPM Ingram Point 90.84 37 P P 10 24 14.7 -0.2
Q13A Wheeler Ranch, 90.86 44 ⇑P P 10 24 14.7 -0.5
baz=91
BMW Boistfort Moun 90.91 34 eP P 10 24 15.0 -0.2
F04A Amboy 90.92 35 ⇓P P 10 24 14.8 -0.5
baz=91
CROR Criterion Ridg 90.98 36 P P 10 24 15.1 -0.5
G05A Wamic 90.99 36 ⇑P P 10 24 15.1 -0.5
baz=91
M10A I.L. Ranch, Tu 91.04 41 ⇑P P 10 24 15.3 -0.7
baz=91,SNR=7.2
N11A Elko Archery C 91.04 42 ⇑P P 10 24 15.3 -0.7
baz=91
X19A St. Johns 91.08 50 ⇓P P 10 24 16.1 -0.2
baz=91
S15A Panguitch 91.08 46 ⇑P P 10 24 16.4 +0.2
baz=91,SNR=8.3
I07A Izee 91.13 38 ⇑P P 10 24 15.8 -0.4
baz=91,SNR=6.6
H06A Lindquist Farm 91.14 37 P P 10 24 16.0 -0.3
baz=91,SNR=17
K09A Rome 91.16 40 P P 10 24 16.2 -0.2
baz=91,SNR=12
P13A Bates Ranch, G 91.18 44 ⇓P P 10 24 16.5 -0.1
baz=91,SNR=13
T16A Glen Canyon Da 91.19 47 ⇓P P 10 24 16.9 +0.1
baz=91,SNR=6.8
J08A Circle Bar Ran 91.19 39 P P 10 24 16.6 0.0
baz=91,SNR=7.6
ERK Elk Rock 91.23 35 P P 10 24 17.4 +0.7
NLWA Neilton Lookou 91.26 33 ⇓P P 10 24 17.1 +0.3
baz=92
NLWA Neilton Lookou 91.26 33 eP P 10 24 17.0 +0.2
comp=Z,12nm,1.1s,mb5.1
O12A Currie 91.27 43 ⇓P P 10 24 17.2 +0.1
baz=92
ELK Elko 91.29 42 eP P 10 24 19.2 +2.1
ELK pmax pmax
comp=Z,13nm,1.5s
ELK Elko 91.29 42 eP P 10 24 19.2 +2.1
comp=Z,13nm,1.5s,mb5.0
KLR Kul'dur 91.30 329 eP P 10 24 12.8 -4.2
TDL Tradedollar La 91.32 35 P P 10 24 17.2 +0.1
Q14A Sevier Lake (B 91.33 45 ⇑P P 10 24 17.4 +0.1
baz=92,SNR=10
F05A White Salmon 91.37 35 ⇓P P 10 24 17.3 0.0
baz=92
M11A Holland Ranch, 91.41 41 ⇑P P 10 24 17.5 -0.2
baz=92
V18A Ganado 91.42 49 ⇓P P 10 24 17.2 -0.7
baz=92,SNR=9.8
H07A Lands Inn, Kim 91.45 37 P P 10 24 18.0 +0.3
baz=92,SNR=13
L10A Juniper Basin 91.45 41 P P 10 24 17.0 -0.8
baz=92,SNR=10
R15A Junction 91.46 46 ⇓P P 10 24 17.6 -0.3
baz=92
N12A Clover Valley, 91.47 42 ⇓P P 10 24 17.9 -0.1
baz=92,SNR=6.6
U17A Shonto 91.49 48 ⇓P P 10 24 17.7 -0.4
baz=92
I08A Drewsey 91.51 38 ⇑P P 10 24 17.7 -0.3
baz=92
J09A Fry Pan Ranch, 91.57 39 P P 10 24 18.1 -0.3
baz=92,SNR=8.7
S16A Weppner Ranch, 91.58 46 ⇓P P 10 24 18.1 -0.5
baz=92
F06A Goldendale 91.63 36 ⇓P P 10 24 18.3 -0.3
baz=92
O13A Hicks Ranch, I 91.63 43 ⇓P P 10 24 18.0 -0.8
baz=92
T17A Navajo Res., N 91.64 47 ⇓P P 10 24 17.6 -1.3
baz=92,SNR=6.9
K10A MacKenzie Ranc 91.68 40 P P 10 24 18.1 -0.8
baz=92,SNR=12
E05A Randle 91.69 35 P P 10 24 18.4 -0.4
baz=92,SNR=7.2
MSU Marysvale 91.71 45 eP P 10 24 18.6 -0.5
G07A Ruggs Ranch, H 91.85 37 P P 10 24 19.3 -0.3
baz=92,SNR=7.0
H08A Prairie City 91.87 38 ⇑P P 10 24 19.1 -0.6
baz=92,SNR=6.6

GNW Green Mountain 91.88 34 eP P 10 24 20.1 +0.4
comp=Z,14nm,1.3s,mb5.1
U18A Rough Rock, Ch 91.89 48 ⇓P P 10 24 19.0 -1.0
baz=92,SNR=5.1
M12A Wells 91.90 42 ⇓P P 10 24 18.9 -1.1
baz=92,SNR=5.7
L11A Cat Creek Ranc 91.91 41 ⇓P P 10 24 19.3 -0.7
baz=92
C04A Brinnon 91.92 33 ⇑P P 10 24 19.7 -0.2
baz=92
GYA Guiyang 91.96 300 P P 10 24 23.8 +3.2
GYA PP PP 10 28 05.4 +4.9
GYA SKS 10 34 55.8
GYA S S 10 35 23.0 +1.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,570nm,20.4s,MS5.1
GYA LR LR
comp=E,550nm,21.8s,MS5.1
GYA LR LR
comp=Z,590nm,20.7s,MS5.0
N13A Wendover, West 91.96 43 ⇓P P 10 24 19.7 -0.5
baz=92,SNR=5.8
I09A Lost Marbles R 92.00 39 ⇑P P 10 24 20.6 +0.3
baz=92
R16A Teasdale 92.00 46 ⇑P P 10 24 20.9 +0.4
baz=92
D05A Enumclaw 92.02 34 ⇓P P 10 24 20.1 -0.2
baz=92,SNR=7.4
S17A Black Ridge (B 92.03 47 ⇑P P 10 24 20.1 -0.5
baz=92,SNR=6.3
E06A Yakima 92.07 35 ⇑P P 10 24 20.6 0.0
baz=92
K11A Parker Ranch, 92.14 40 ⇑P P 10 24 20.9 -0.2
baz=92,SNR=6.9
G08A Pilot Rock 92.24 37 P P 10 24 21.1 -0.2
baz=92,SNR=13
P15A Leamington 92.30 45 ⇑P P 10 24 21.2 -0.7
baz=92
M13A Montello 92.30 42 ⇑P P 10 24 21.9 +0.1
baz=92
L12A House Creek Ra 92.31 41 ⇑P P 10 24 21.8 -0.1
baz=92,SNR=5.8
T18A Mexican Hat 92.31 48 ⇑P P 10 24 21.8 -0.2
baz=92,SNR=16
LAZ Ladron 92.50 51 eP P 10 24 22.8 0.0
H09A Durkee 92.50 38 ⇑P P 10 24 22.5 -0.1
baz=93,SNR=8.0
N14A Grayback Hills 92.56 43 ⇑P P 10 24 23.0 0.0
baz=93
R17A Hanksville Air 92.56 46 ⇑P P 10 24 22.7 -0.4
baz=93,SNR=6.8
D06A Cle Elum 92.58 35 ⇑P P 10 24 22.9 0.0
baz=93
RSW Rattlesnake Hi 92.66 36 eP P 10 24 22.4 -0.9
MFID Camas Ranch 92.68 40 ⇑P P 10 24 23.2 -0.3
baz=93
HAWA Hanford 92.69 36 eP P 10 24 23.7 +0.3
K12A Draper Farm, C 92.69 41 ⇓P P 10 24 22.8 -0.8
baz=93
B05A Bryant 92.72 33 ⇓P P 10 24 23.0 -0.6
baz=93
A04A Legoe Bay, Lum 92.76 33 ⇑P P 10 24 23.1 -0.6
baz=93
TMUT Trail Mountain 92.79 45 eP P 10 24 26.0 +1.9
BMO Blue Mountains 92.81 38 eP P 10 24 23.2 -0.9
BMO pmax pmax
comp=Z,10.0nm,1.5s,mb5.0
BMO Blue Mountains 92.81 38 eP P 10 24 23.2 -0.8
comp=Z,10nm,1.5s,mb5.0
G09A Cove 92.85 38 ⇑P P 10 24 23.4 -0.8
baz=93
M14A Sheep Mountain 92.87 43 ⇓P P 10 24 23.9 -0.5
baz=93,SNR=15
L13A Double Diamond 92.89 42 ⇑P P 10 24 24.2 -0.3
baz=93
I11A Placerville 92.93 40 ⇓P P 10 24 24.2 -0.4
baz=93
H10A Noah's Angus R 92.94 39 ⇓P P 10 24 24.3 -0.4
baz=93,SNR=5.9
J12A Stokes Ranch, 92.98 40 ⇑P P 10 24 24.7 -0.2
baz=93,SNR=9.2
R18A Canyonlands Na 93.05 47 ⇑P P 10 24 25.2 -0.1
baz=93,SNR=8.7
F09A S2 Ranch, Elgi 93.06 37 ⇓P P 10 24 25.5 +0.3
baz=93
SRU San Rafael 93.10 46 eP P 10 24 26.3 +0.8
SRU pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
SRU San Rafael 93.10 46 ⇓P P 10 24 25.4 -0.1
baz=93,SNR=6.9
SRU San Rafael 93.10 46 eP P 10 24 26.3 +0.8
comp=Z,7.7nm,1.2s,mb5.0
S19A Harvey Farm, M 93.15 48 ⇓P P 10 24 25.9 +0.1
baz=93
K13A Stover Farm, H 93.17 41 P P 10 24 26.4 +0.6
baz=93,SNR=5.5
P17A Butcher Ranch, 93.18 45 ⇑P P 10 24 26.3 +0.4
baz=93
G10A Bishop Farm, J 93.20 38 ⇓P P 10 24 25.5 -0.4
baz=93,SNR=7.0
L14A Malta 93.27 42 ⇑P P 10 24 25.6 -0.6
baz=93
ANMO Albuquerque 93.27 51⇑eP P 10 24 27.1 +0.7
ANMO Albuquerque 93.27 51 eP P 10 24 26.9 +0.5
comp=Z,12nm,1.6s,mb5.1
BJI Beijing 93.27 315 P P 10 24 26.9 +0.6
BJI AMB AMB
comp=Z,13nm,0.6s,mb5.5
Q18A Rafter H Ranch 93.33 46 ⇓P P 10 24 26.5 -0.1
baz=94
HVU Hansel Valley 93.38 43 eP P 10 24 28.1 +1.3
HVU pmax pmax
comp=Z,14nm,1.2s,mb5.3
HVU Hansel Valley 93.38 43 eP P 10 24 28.1 +1.3
comp=Z,14nm,1.2s,mb5.3
R19A Curley Farm, L 93.39 47 ⇓P P 10 24 26.5 -0.4
baz=94
H11A Donnelly 93.41 39 P P 10 24 26.4 -0.5
baz=94,SNR=17
D08A Wollman Farm, 93.45 36 ⇑P P 10 24 26.3 -0.7
baz=94
E09A Wood Farm, Sta 93.48 37 ⇑P P 10 24 26.5 -0.6
baz=94
HLID Hailey 93.56 40 ⇑P P 10 24 26.9 -0.7
baz=94,SNR=6.9
HLID Hailey 93.56 40 eP P 10 24 27.3 -0.3
PV10 Paradox Valley 93.58 47 eP P 10 24 28.2 +0.4
J13A Cove Ranch, Pi 93.59 41 ⇑P P 10 24 26.9 -0.8
baz=94,SNR=7.8
F10A Beach Ranch, E 93.60 37 P P 10 24 26.6 -1.0
baz=94,SNR=6.7
K14A Jones Ranch, D 93.62 42 ⇓P P 10 24 27.0 -0.9
baz=94
G11A Walters Elk Ra 93.73 38 ⇑P P 10 24 27.4 -0.9
baz=94,SNR=14
PV01 Paradox Valley 93.74 48 eP P 10 24 27.8 -0.7
L15A Malad City 93.75 43 ⇑P P 10 24 28.4 0.0
baz=94,SNR=8.5
M16A Huntsville 93.77 44 ⇓P P 10 24 28.6 +0.1
baz=94
Q19A Hogan Spring (93.79 47 ⇑P P 10 24 28.8 +0.1
baz=94
CMAR Chiang Mai Arr 93.83 289 P P 10 24 30.1 +0.7
comp=Z,1.1nm,0.3s,mb4.7,baz=143,slow=7.7,SNR=3.2
H12A Diamond D Ranc 93.94 40 ⇑P P 10 24 29.0 -0.3
baz=94,SNR=9.3
I13A Wildhorse Cree 93.95 40 ⇑P P 10 24 29.3 -0.1
baz=94
E10A Myers Farm, Un 94.00 37 ⇑P P 10 24 29.6 +0.2
baz=94
K15A Arbon 94.08 42 ⇓P P 10 24 30.2 +0.3
baz=94
KMI Kunming 94.24 297 P P 10 24 33.3 +2.2
KMI AP pP 10 24 37.0 +1.1
KMI XP sP 10 24 38.4 +0.8
KMI PP PP 10 28 22.4 +4.0
KMI S S 10 35 43.0 +0.7
KMI AMB AMB
comp=Z,5.0nm,0.8s,mb5.0
KMI AMB AMB
comp=Z,69nm,4.8s
KMI LR LR
comp=N,352nm,21.2s,MS4.9

KMI LR LR
comp=E,322nm,22.8s,MS4.9
KMI LR LR
comp=Z,718nm,24.5s,MS5.0
D10A Wagner Farm, O 94.28 37 ⇓P **P 10 24 30.2 -0.6**
baz=94
H13A Challis 94.29 40 ⇑P **P 10 24 30.8 -0.1**
baz=94
L16A Fish Haven 94.31 43 ⇓P **P 10 24 30.9 -0.2**
baz=94
E11A Bogner Ranch, 94.38 38 ⇑P **P 10 24 30.4 -0.9**
baz=95
RAGM Ragged Mountai 94.43 16 *e*P **P 10 24 29.8 -1.3**
F12A Elk City 94.50 38 ⇑P **P 10 24 30.4 -1.4**
baz=95,SNR=8.4
G13A Cobalt 94.63 39 ⇑P **P 10 24 31.8 -0.7**
baz=95
K16A Soda Springs 94.72 42 ⇑P **P 10 24 32.0 -0.9**
baz=95
AHID Auburn Hatcher 94.96 43 *e*P **P 10 24 34.8 +0.8**
J16A Bone 94.98 42 ⇑P **P 10 24 33.5 -0.5**
baz=95
F13A Darby 95.02 39 ⇓P **P 10 24 33.3 -0.9**
baz=95
RRI2 Red Ridge 95.19 42 *e*P **P 10 24 37.0 +1.9**
MCMT McKenzie Canyo 95.23 40 *e*P **P 10 24 34.5 -0.7**
SMCO Snowmass 95.36 47 *e*P **P 10 24 31.0 -4.9**
comp=Z,6.5nm,0.8s,mb5.1
REDW Red Top Meadow 95.47 42 *e*P **P 10 24 37.1 +0.8**
TPAW Teton Pass 95.49 42 *e*P **P 10 24 38.6 +2.2**
SDCO Great Sand Dun 95.50 49 *e*P **P 10 24 38.1 +1.5**
SNOW Snow King Moun 95.59 42 *e*P **P 10 24 38.3 +1.5**
G15A Dillon 95.64 40 ⇓P **P 10 24 35.8 -1.2**
baz=96
DLMT Dillon 95.70 40 *e*P **P 10 24 38.7 +1.4**
comp=Z,9.0nm,1.4s,mb5.0
IMW Indian Meadow 95.74 42 *e*P **P 10 24 38.6 +1.1**
comp=Z,11nm,1.4s,mb5.1
LOHW Long Hollow 95.77 42 *e*P **P 10 24 39.7 +2.0**
MOOW Moose Ponds 95.77 42 *e*P **P 10 24 40.4 +2.7**
comp=Z,11nm,1.7s,mb5.0
PDAR Pinedale Array 95.87 43 P **P 10 24 37.5 -0.6**
comp=Z,1.3nm,1.1s,mb4.3,baz=202,slow=0.8,SNR=7.6
FLWY Flagg Ranch 95.99 42 *e*P **P 10 24 39.8 +1.2**
QLMT Earthquake Lak 96.03 41 *e*P **P 10 24 39.9 +1.1**
BOZ Bozeman (W) 96.42 40 *e*P **P 10 24 41.7 +1.1**
BOZ pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
BOZ Bozeman (W) 96.42 40 ⇓P **P 10 24 40.9 +0.4**
baz=97,SNR=9.7
BOZ Bozeman (W) 96.42 40 *e*P **P 10 24 41.7 +1.2**
comp=Z,10nm,1.4s,mb5.1
CD2 Chengdu 96.49 302 *e*P **P 10 24 43.1 +1.8**
CD2 AP pP 10 24 47.3 +1.2
CD2 XP sP 10 24 50.6 +2.8
CD2 PP PP 10 28 40.1 +4.3
CD2 SKS 10 35 18.1
CD2 S S 10 36 00.4 -1.2
CD2 XS sS 10 36 08.4 -1.2
CD2 SS SS 10 42 38.4 +2.5
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,40nm,8.2s
CD2 LR LR
comp=N,250nm,16.8s,MS5.0
CD2 LR LR
comp=E,320nm,16.8s,MS5.0
CD2 LR LR
comp=Z,210nm,18.4s,MS4.7
HHC Hu-ho-hao-te 96.59 314 *e*P **P 10 24 43.1 +1.6**
HHC AP pP 10 24 48.0 +1.7
HHC XP sP 10 24 50.1 +2.1
HHC PP PP 10 28 41.3 +5.0
HHC SKS 10 35 18.9
HHC S S 10 36 01.3 -0.7
HHC XS sS 10 36 10.1 +0.1
HHC AMB AMB
comp=Z,13nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,124nm,6.0s
HHC LR LR
comp=N,322nm,17.8s,MS5.0
HHC LR LR
comp=E,316nm,19.0s,MS5.0
HHC LR LR
comp=Z,334nm,19.0s,MS4.8
LZH Lanzhou 99.11 306 *e*P **P 10 24 54.0 +1.1**
LZH AP pP 10 24 58.5 +0.7
LZH XP sP 10 25 02.0 +2.5
LZH *e*SKS 10 35 31.4
LZH *e*S S 10 36 21.3 -2.3
LZH XS sS 10 36 34.1 +2.4
LZH SS SS 10 43 14.8 +2.2
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,107nm,4.6s
LZH LR LR
comp=N,1μm,16.4s
LZH LR LR
comp=Z,2μm,17.2s,MS5.6
BRAL Brewton 105.32 63 *e*Pdif Pdif 10 25 15.3 -5.2
WMQ Urumqi 113.60 308 *e*PKP PKiKP 10 29 50.4 +0.5
MKAR Makanchi Array 118.14 310 PKP PKPdf 10 29 56.6 -1.8
comp=Z,0.5nm,0.6s,baz=80,slow=2.1,SNR=5.4
MKAR Makanchi Array 118.14 310 *i* PKIKP PKPdf 10 29 55.7 -2.8
MKAR pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 118.36 318 PKP PKPdf 10 29 56.1 -2.6
comp=Z,0.6nm,0.5s,baz=114,slow=3.6,SNR=3.0
ZAL Zalesovo 118.37 318 PKIKP PKPdf 10 29 56.1 -2.6
KURK Kurchatov 121.40 314 *i* PKIKP PKPdf 10 30 03.6 -1.0
BVAR Borovoye Array 126.75 316 PKP PKPdf 10 30 12.9 -1.9
comp=Z,2.5nm,0.7s,baz=79,slow=3.2,SNR=12
AKTK Aktyubinsk 134.46 312 PKP PKPdf 10 30 29.9 +0.3
AKTO Aktyubinsk 134.46 312 PKP PKPdf 10 30 29.9 +0.3
comp=Z,1.7nm,0.7s,baz=119,slow=5.7,SNR=7.1
KEV Kevo 138.27 347 *e*pkp PKPdf 10 30 32.0 -4.0
JOF Joensuu 142.63 339 *e*pkp PKPdf 10 30 36.9 -7.2
DGRG David-gareji 143.94 300 P PKPdf 10 30 44.9 -2.2
MTA Mtatsminda 144.35 300 P PKPdf 10 30 46.5 -1.3
GNI Garni 144.49 298 *i* PKIKP PKPdf 10 30 47.4 -0.7
MOS Moscow 144.63 326 *e*PKIKP PKPdf 10 30 49.7 +1.9
KAF Kangasniemi 144.75 341 *e*pkp PKPdf 10 30 43.8 -4.0
comp=Z,11nm,0.6s,baz=39,slow=3.2
ONI Oni 145.26 302 P PKPbc 10 30 49.4 +0.3
AKH Akhalkalaki 145.35 300 P PKPbc 10 30 49.8 +0.4
OBN Obninsk 145.47 325 ⇑ *i* PKIKP PKPdf 10 30 48.2 -1.1
OBN pmax pmax
comp=Z,16nm,0.6s
KIV Kislovodsk 145.62 304 *i* PKP2 PKPab 10 30 50.3 -0.2
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,694nm,19.0s,MS5.5
VRSR Storozhevoye 145.86 318 *e*PKP2 PKPab 10 30 49.4 -1.7
VRSR pmax pmax
comp=E,4.0nm,0.9s
VRSR pmax pmax
comp=Z,6.0nm,0.9s
VRSR pmax pmax
comp=N,3.0nm,0.7s
NB2 NORSAR Subarra 148.87 352 PKP PKPdf 10 30 56.6 +1.8
comp=Z,7.0nm,0.8s,baz=11,slow=2.9
NOA NORSAR Array B 148.87 352 PKPbc PKPbc 10 30 56.6 -2.1
comp=Z,3.6nm,0.8s,baz=13,slow=4.8,SNR=12
ANN Anapa 149.12 307 *i* PKP2 PKPbc 10 31 01.3 +1.4
ANN pmax pmax
comp=Z,33nm,1.4s
MALT Malatya 149.48 295 *e*PKP2 PKPbc 10 31 01.1 +0.1
MNK Minsk 149.87 330 *e*PKP2 PKPbc 10 31 01.0 -0.4
AKASG Malin Array Be 151.61 323 PKPbc PKPbc 10 31 03.5 -2.1
comp=Z,9.7nm,0.7s,baz=46,slow=2.6,SNR=18
AKBB Malin Array Si 151.61 323 *e*PKIKP PKPbc 10 31 04.0 -1.6
KIEV Kiev 151.62 323 *e*PKIKP PKPbc 10 31 03.8 -1.9
ESK Eskdalemuir 154.82 8 *e*PKP2 PKPab 10 31 24.6 -3.0
CRVS Cervenica-Dubn 156.61 327 *e*PKP PKPab 10 31 42.1 +6.5
DPC Dobruska-Polom 157.59 336 *e*PKPAB PKPab 10 31 40.0 +0.3
CLL Collm 157.75 342 *e*(PKPdf) PKPdf 10 31 10.0 +2.1
CLL *e*(pPKPab) 10 31 53.0
BRG Berggiesshubel 157.89 341 *e*PKP PKPab 10 31 40.6 -0.3
comp=Z,4.0nm,0.8s
BRG *i* 10 31 53.2
comp=Z,6.2nm,0.9s
PVCC Panska Ves 158.00 339 *e*PKP2 PKPab 10 31 50.0 +8.5
PVCC Panska Ves 158.00 339 *e*pPKP PKPab 10 31 50.0 +8.5
PRU Pruhonice 158.49 338 *e*PKP2 PKPab 10 31 52.3 +8.7
PRU Pruhonice 158.49 338 *e*pPKP PKPab 10 31 52.3 +8.7
NKC Novy Kostel 158.88 342 *e*PKP2 PKPab 10 31 56.3 +11
NKC Novy Kostel 158.88 342 *e*pPKP PKPab 10 31 56.3 +11
KHC Kasperske Hory 159.54 339 *e*PKP2 PKPab 10 31 47.4 -0.8
KHC MLR MLR
comp=Z,2μm,20.5s,MS6.0
KHC Kasperske Hory 159.54 339 *e*PKPAB PKPab 10 31 47.4 -0.8
KHC *e*pPKP pPKPdf 10 32 00.0 +45
GRF Grafenberg Arr 159.69 344 *e*PKP PKPab 10 31 48.5 -0.3
GERES GERESS Array B 159.75 338 PKPab PKPab 10 31 47.6 -1.5
comp=Z,0.7nm,0.7s,baz=62,slow=3.2,SNR=4.4
TORD Torodi Ar. Bea 162.76 177 PKP PKPdf 10 31 14.5 0.0
comp=Z,1.3nm,1.0s,baz=191,slow=0.8,SNR=3.7
TORD PKPab PKPab 10 32 01.6 -1.4
comp=Z,1.7nm,0.8s,baz=178,slow=3.6,SNR=6.1

CSEM ***13*** *10:12:31.0, 3384N×3561E, h24km, ML2.6, After GRAL*
GRAL ***13*** *10:12:31.0±0.3, 3384N×3561E, h25km±2km, MD2.6*
Gll 13 10:11:59.3±8.6, 3248N×3590E, h0km, ML1.8/2,
EXPLOSION, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.39**	**234**	Pg	Pg	10 12 08.3	+1.6
HMDT				Sg	Sg	10 12 14.3	+2.6
MMLI	**Mount Malkishu**	**0.41**	**264**	Pg	Pg	10 12 08.0	+0.9
MMLI				Sg	Sg	10 12 15.8	+3.5
RCY	**Rachaya**	**1.00**	**356**	*e*Pg	Pg	10 12 38.9	+20
RCY				*e*Sg	Sg	10 12 44.7	+13
BHL	**Bhannes**	**1.44**	**352**	*e*Pg	Pg	10 12 35.1	+8.3
BHL				*e*Sg	Sg	10 12 38.2	-7.2
HWQ	**Hawqa**	**1.79**	**1**	*e*Pg	Pg	10 12 40.7	+7.0

ISCJB ***13*** *10:27:21.3±0.3, 6052S×1538E±0.1, h10km, mb5.3/34, MS5.6/215, Error ellipse: s-maj=9.6km s-min=5.3km az=178.4*
IDC ***13*** *10:27:21.1±0.4, 6062S×15397E, h0km, mb5.0/17, mb1 5.1/18, mb1mx5.1/19, mbtmp5.0/18, ML4.5/1, MS5.6/22, Ms1 5.6/22, ms1mx5.6/23, Error ellipse: s-maj=19.1km s-min=10.0km az=75.0*
DJA ***13*** *10:27:22, 6035S×15561E, h10km, mb5.8/39*
NEIC ***13*** *10:27:23.1±0.2, 6055S×15379E, h10km, mb5.6/19, MS5.6/184, MW5.9, Error ellipse: s-maj=10.5km s-min=6.4km az=76.0, Moment Tensor Solution. s4 Moment tensor: Scale 10^17Nm; Mrr0.03; Mθθ6.09; Mφφ-6.12; Mrθ1.27; Mθφ-5.04; Mφr1.70; Best double couple: M0 8.20000×10^17 NP1:φs245.00000°, δ84.00000°, λ-167.00000°. NP2:φs154.00000°, δ77.00000°, λ-6.00000°. Principal axes: T 7.9600, Plg5.0000°, Azm19.0000°; N 0.4600, Plg76.0000°, Azm271.0000°; P -8.4200, Plg14.0000°, Azm110.0000°;*
GCMT ***13*** *10:27:23.1±0.1, 6032S×153.19E, h19km, MW6.1/108, Moment Tensor Solution. s108,c233; s101,c369; Duration: 28 8 Moment tensor: Scale 10^18Nm; Mrr-0.25±.01; Mθθ1.49±.01; Mφφ-1.24±.01; Mrθ0.33±.03; Mθφ-1.29±.01; Mφr0.30±.03; Best double couple: M0 1.93700×10^18 NP1:φs156.00000°, δ76.00000°, λ-7.00000°. NP2:φs248.00000°, δ84.00000°, λ-166.00000°. Principal axes: T 2.0200, Plg5.0000°, Azm21.0000°; N -0.1640, Plg75.0000°, Azm272.0000°; P -1.8550, Plg14.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***13*** *10:27:23.4±1.5, 6032S×15360E, h10km, mb5.6/11, MS5.6/47 Error ellipse: s-maj=26.7km s-min=8.4km az=92.9*
BJI ***13*** *10:27:23.0, 6050S×15380E, h10km, mB5.8, mb5.6, Ms5.8, Msz5.6*
ISC 13 10:27:23.0±0.3, 6051S±004×1539E±01, h10km,
(h22km±3.9km:pP-P), n457, σ0§98/125, mb5.3/34,
MS5.6/215, 37C-10D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.61**	**26**	*e*P	**Pn**	**10 28 58.1**	**-2.0**
MCQ	**Macquarie Isla**	**6.61**	**26**	*e*P	**Pn**	**10 29 00.3**	**+0.2**
DRV	**Dumont d'Urvil**	**8.73**	**219**	P	**Pn**	**10 29 29.0**	**-0.1**
DRV				R		10 31 00.0	
VNDA	**Vanda**	**17.29**	**174**	P	**Pn**	**10 31 18.5**	**-5.5**
	4.4nm,0.3s,baz=342,slow=13,SNR=94						
VNDA				LR	LR	10 37 16.1	
	comp=Z,19μm,20.8s,baz=348,slow=35						
VNDA	**Vanda**	**17.29**	**174**	*e*P	**Pn**	**10 31 18.1**	**-6.0**
VNDA				*e*		10 34 48.7	
VNDA				pmax	pmax		
	comp=Z,131nm,1.4s						
VNDA	**Vanda**	**17.29**	**174**	*e*Pn	**Pn**	**10 31 18.1**	**-6.0**
	comp=Z,131nm,1.4s						
VNDA				*e*Sn	**Sn**	**10 34 48.6**	**+13**
SBA	**Scott Base**	**17.92**	**171**	*e*P	**Pn**	**10 31 31.8**	**-0.1**
SBA	**Scott Base**	**17.92**	**171**	*e*Pn	**Pn**	**10 31 26.6**	**-5.2**
SBA				*e*Sn	**Sn**	**10 35 10.1**	**+19**
TAU	**Tasmania Unive**	**18.08**	**344**	Pn	**Pn**	**10 31 34.1**	**+0.1**
	comp=Z,1μm,1.2s,SNR=10						
TAU	**Tasmania Unive**	**18.08**	**344**	*e*P	**Pn**	**10 31 33.9**	**-0.1**
TAU				pmax	pmax		
	comp=Z,970nm,1.8s						
TAU	**Tasmania Unive**	**18.08**	**344**	*e*P	**Pn**	**10 31 33.8**	**-0.2**
	comp=Z,966nm,1.8s						
RPZ	**Rata Peaks**	**19.73**	**39**	P	**Pn**	**10 31 53.5**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=205,slow=9.1,SNR=30						
RPZ				LR	LR	10 38 13.7	
	comp=Z,41μm,20.7s,baz=193,slow=33						
CASY	**Casey**	**19.91**	**235**	P	**Pn**	**10 31 59.4**	**+3.4**
SNZO	**South Karori**	**23.08**	**43**	PFAKE		10 32 40.0	+11
SNZO				LR	LR		
	comp=Z,19μm,22.0s,MS5.5						
TOO	**Toolangi**	**23.57**	**343**	⇑ *i*P	**P**	**10 32 33.4**	**-0.3**
TOO				*i* S	**S**	**10 36 56.0**	**+8.7**
CNB	**Canberra Magne**	**25.38**	**351**	⇑ *i*P	**P**	**10 32 50.6**	**+0.4**
CAN	**Canberra**	**25.41**	**351**	*e*P	**P**	**10 32 50.8**	**+0.4**
URZ	**Urewera**	**26.63**	**44**	P	**P**	**10 33 01.8**	**+0.3**
	comp=Z,44nm,0.8s,mb5.0,baz=242,slow=6.9,SNR=15						
URZ				LR	LR	10 42 20.8	
	comp=Z,17μm,21.8s,MS5.6,baz=356,slow=34						
RIV	**Riverview**	**26.75**	**355**	*e*P	**P**	**10 33 03.8**	**+1.2**
MIR	**Mirnyy**	**26.79**	**231**	α *i*P	**P**	**10 33 02.5**	**-0.1**
MIR				*i*		10 34 00.0	
MIR				*i* S	**S**	**10 37 41.0**	**+2.9**
MIR				*i*		10 38 50.0	
MIR				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.0						
MIR				pmax	pmax		
	comp=Z,1μm,3.0s						
MIR				MLR	MLR		
	comp=Z,9μm,11.0s,MS5.6						
QSPA	**South Pole Qui**	**29.58**	**180**	P	**P**	**10 33 27.7**	**+0.3**
	comp=Z,21nm,1.1s,mb4.8,baz=6.5,slow=4.6,SNR=27						
QSPA				LR	LR	10 44 32.1	
	comp=Z,12μm,21.9s,MS5.5,baz=17,slow=35						
QSPA	**South Pole Qui**	**29.58**	**180**	P	**P**	**10 33 27.7**	**+0.2**
QSPA				LR	LR	10 44 32.1	
STKA	**Stephens Creek**	**29.78**	**339**	⇑ *i*P	**P**	**10 33 30.2**	**+0.6**
	comp=Z,76nm,1.0s,mb5.4						
STKA				*i* S	**S**	**10 38 34.5**	**+8.8**
STKA	**Stephens Creek**	**29.78**	**339**	P	**P**	**10 33 30.2**	**+0.7**
	comp=Z,82nm,0.9s,mb5.5,baz=158,slow=8.9,SNR=98						
STKA				LR	LR	10 42 47.8	
	comp=Z,16μm,21.9s,MS5.6,baz=166,slow=31						
ARMA	**Armidale**	**30.13**	**356**	*e*P	**P**	**10 33 33.5**	**+0.8**
ARMA				*e*S	**S**	**10 38 38.8**	**+7.5**
FORT	**Forrest**	**34.34**	**318**	*e*P	**P**	**10 34 09.1**	**-0.5**
	comp=Z,107nm,0.9s,mb5.8						
NWAO	**Narrogin (SRO)**	**36.50**	**302**	P	**P**	**10 34 29.0**	**+0.9**
	comp=Z,20nm,1.0s,mb4.9,baz=166,slow=7.7,SNR=3.3						
NWAO	**Narrogin (SRO)**	**36.50**	**302**	P	**P**	**10 34 29.0**	**+0.9**
NWAO				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
RAO	**Raoul Island**	**36.52**	**44**	LR	LR	10 48 50.7	
	comp=Z,18μm,18.3s,MS5.9,baz=200,slow=35						
RAO	**Raoul Island**	**36.52**	**44**	PFAKE		10 34 40.0	+12
RAO				LR	LR		
	comp=Z,22μm,22.0s,MS5.9						
MAW	**Mawson**	**36.94**	**220**	*e*P	**P**	**10 34 30.9**	**-0.7**
	comp=Z,18nm,1.1s,mb4.8						
MAW				*e*PP	PP	10 35 42.8	-13
MAW				*e*S	**S**	**10 40 15.3**	**-0.8**
MAW	**Mawson**	**36.94**	**220**	P	**P**	**10 34 31.7**	**+0.1**
	comp=Z,7.9nm,0.9s,mb4.5,baz=117,slow=8.8,SNR=19						
MAW				LR	LR	10 49 56.7	
	comp=Z,9μm,18.1s,MS5.6,baz=115,slow=37						
MAW	**Mawson**	**36.94**	**220**	*e*P	**P**	**10 34 31.7**	**+0.1**
MAW				pmax	pmax		
	comp=Z,55nm,1.2s						
KLBR	**Kellerberrin**	**37.45**	**304**	*e*P	**P**	**10 34 34.9**	**-1.3**
	comp=Z,82nm,1.2s,mb5.4						
MUN	**Mundaring**	**37.75**	**302**	*e*P	**P**	**10 34 37.9**	**-0.9**
MUN				*e*S	**S**	**10 40 30.6**	**+1.5**
ASAR	**Alice Springs**	**39.36**	**330**	P	**P**	**10 34 52.0**	**-0.4**
	comp=Z,37nm,1.0s,mb5.1,baz=163,slow=10.0,SNR=191						
DZM	**Mont Dzumac**	**39.41**	**18**	*e*P	**P**	**10 34 53.8**	**+1.0**
CTA	**Charters Tower**	**40.75**	**349**	*e*P	**P**	**10 35 04.3**	**+0.4**
	comp=Z,155nm,1.0s,mb5.6						
CTA				*i* S	**S**	**10 41 19.7**	**+5.5**
CTA				*e*SS	SS	10 44 22.4	+7.6
CTA	**Charters Tower**	**40.75**	**349**	P	**P**	**10 35 04.4**	**+0.5**
	comp=Z,198nm,1.0s,mb5.7,baz=179,slow=8.2,SNR=104						
CTA				S	**S**	**10 41 17.4**	**+3.2**
	comp=Z,2.6nm,1.1s,baz=108,slow=19,SNR=1.9						
CTA				LR	LR	10 49 19.8	
	comp=Z,19μm,20.2s,MS5.9,baz=178,slow=32						
CTA	**Charters Tower**	**40.75**	**349**	*e*P	**P**	**10 35 04.3**	**+0.4**
CTA				*i* S	**S**	**10 41 19.7**	**+5.5**
CTA				pmax	pmax		
	comp=Z,155nm,1.0s						
CTAO	**Charters Tower**	**40.75**	**349**	*e*P	**P**	**10 35 04.3**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,241nm,1.0s,mb5.8						
CTAO				MLR	MLR		
	comp=Z,21μm,22.0s,MS6.0						
CTAO	**Charters Tower**	**40.75**	**349**	*e*P	**P**	**10 35 04.3**	**+0.4**
	comp=Z,241nm,1.0s,mb5.8						
CTAO				LR	LR		
	comp=Z,21μm,22.0s,MS6.0						
SYO	**Syowa Base**	**42.51**	**209**	⇑ *e*P	**P**	**10 35 15.6**	**-2.2**
SYO	**Syowa Base**	**42.51**	**209**	⇑ *e*P	**P**	**10 35 19.4**	**+1.6**
WB2	**Warramunga Arr**	**42.84**	**332**	⇑ *i*P	**P**	**10 35 19.6**	**-1.4**
WB2				*e*S	**S**	**10 41 45.0**	**-0.2**
WB2				*e*SS	SS	10 44 47.6	-8.6
WRA	**Warramunga Arr**	**42.84**	**332**	P	**P**	**10 35 19.8**	**-1.3**
	comp=Z,98nm,1.0s,mb5.5,baz=166,slow=7.1,SNR=262						
WRA				S	**S**	**10 41 51.2**	**+6.0**
	comp=Z,3.6nm,1.5s,baz=182,slow=14,SNR=3.6						
WRA				LR	LR	10 50 41.2	
	comp=Z,7μm,18.5s,MS5.6,baz=160,slow=33						
WRA	**Warramunga Arr**	**42.84**	**332**	P	**P**	**10 35 19.8**	**-1.2**
WRA				S	**S**	**10 41 51.3**	**+6.1**
WRAB	**Tennant Creek**	**42.85**	**332**	*e*P	**P**	**10 35 19.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,139nm,1.0s,mb5.6						
WRAB				MLR	MLR		
	comp=Z,10μm,20.0s,MS5.7						
WRAB	**Tennant Creek**	**42.85**	**332**	*e*P	**P**	**10 35 19.7**	**-1.4**
	comp=Z,139nm,1.0s,mb5.6						
WRAB				LR	LR		
	comp=Z,10μm,20.0s,MS5.7						
MBWA	**Marble Bar**	**46.06**	**313**	*e*P	**P**	**10 35 45.8**	**-1.0**
	comp=Z,124nm,1.0s,mb5.8						
MBWA				LR	LR		
	comp=Z,12μm,19.0s,MS5.9						
NVL	**N'lazarevskaya**	**46.33**	**196**	*d i*P	**P**	**10 35 49.7**	**+1.4**
NVL						10 37 41.3	
NVL				*e*S	**S**	**10 42 42.6**	**+7.8**
NVL				pmax	pmax		
	comp=Z,76nm,1.7s,mb5.3						
NVL				MLR	MLR		
	comp=N,9μm,20.0s,MS5.8						
NVL				MLR	MLR		
	comp=E,3μm,20.0s,MS5.8						
NVL				MLR	MLR		
	comp=Z,13μm,20.0s,MS5.9						
MAIT	**Maitri**	**46.33**	**196**	*e*P	**P**	**10 35 45.8**	**-2.5**
FITZ	**Fitzroy Crossi**	**46.94**	**322**	⇑ *i*P	**P**	**10 35 53.0**	**-0.6**
	comp=Z,110nm,1.0s,mb5.7						
FITZ				*e*S	**S**	**10 42 45.0**	**+0.4**
FITZ				*e*SS	SS	10 45 55.8	-15
FITZ	**Fitzroy Crossi**	**46.94**	**322**	P	**P**	**10 35 53.4**	**-0.3**
	comp=Z,74nm,1.1s,mb5.5,baz=170,slow=11,SNR=95						
FITZ				LR	LR	10 53 35.3	
	comp=Z,5μm,19.5s,MS5.5,baz=343,slow=34						
SNAA	**Sanae**	**47.12**	**190**	*e*P	**P**	**10 35 54.3**	**-0.2**
SNAA				*e*	pP	10 35 56.7	-0.9
SNAA				*e*		10 36 03.9	
SNAA				*e*		10 36 12.2	
SNAA	**Sanae**	**47.12**	**190**	P	**P**	**10 35 53.4**	**-1.0**
	comp=Z,12nm,1.2s,mb4.7,baz=197,slow=10.0,SNR=26						
SNAA	**Sanae**	**47.12**	**190**	*e*P	**P**	**10 35 54.0**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,32nm,1.1s						
SNAA	**Sanae**	**47.12**	**190**	*e*P	**P**	**10 35 54.0**	**-0.5**
	comp=Z,32nm,1.1s,mb5.2						
COEN	**Coen**	**47.14**	**346**	*e*P	**P**	**10 35 54.6**	**-0.6**
	comp=Z,125nm,1.3s,mb5.7						
VNA2	**Neumayer--Watz**	**48.19**	**188**	*e*P	**P**	**10 36 01.8**	**-1.0**
VNA2				*e*	pP	10 36 04.8	-1.2
VNA2				*e*		10 36 11.1	
VNA2				*e*		10 36 20.3	
VNA1	**Neumayer--Stat**	**48.52**	**188**	*e*P	**P**	**10 36 04.6**	**-0.8**
VNA1				*e*	pP	10 36 07.4	-1.1
VNA1				*e*		10 36 13.8	
VNA1				*e*		10 36 23.8	
KAKA	**Kakadu**	**50.26**	**332**	⇑ *i*P	**P**	**10 36 17.9**	**-1.4**
	comp=Z,191nm,1.2s,mb6.0						
RAR	**Rarotonga**	**50.84**	**60**	LR	LR	10 53 46.8	
	comp=Z,3μm,18.6s,MS5.3,baz=168,slow=31						
HNR	**Honiara**	**51.17**	**8**	LR	LR	10 55 09.6	
	comp=Z,21μm,18.4s,MS6.2,baz=172,slow=32						
HNR	**Honiara**	**51.17**	**8**	PFAKE		10 36 40.0	+14
HNR				LR	LR		
	comp=Z,19μm,19.0s,MS6.1						
PMG	**Port Moresby**	**51.25**	**351**	*e*P	**P**	**10 36 27.4**	**+0.7**
PMG				pmax	pmax		
	comp=Z,215nm,1.1s						
PMG				MLR	MLR		
	comp=Z,16μm,19.0s						
PMG	**Port Moresby**	**51.25**	**351**	*e*P	**P**	**10 36 27.4**	**+0.7**
	comp=Z,215nm,1.1s,mb6.0						
PMG				LR	LR		
	comp=Z,16μm,19.0s,MS6.0						
PMSA	**Palmer Station**	**51.83**	**160**	PFAKE		10 36 40.0	+10
PMSA				LR	LR		
	comp=Z,6μm,19.0s,MS5.7						
AFI	**Afiamalu**	**52.81**	**43**	LR	LR	10 56 35.5	
	comp=Z,5μm,21.9s,MS5.5,baz=200,slow=33						
AFI	**Afiamalu**	**52.81**	**43**	PFAKE		10 36 50.0	+12
AFI				LR	LR		
	comp=Z,3μm,22.0s,MS5.2						
TBI	**Tubuai**	**53.66**	**72**	*e*S	**S**	**10 44 27.4**	**+9.3**
	comp=Z,2μm,29.0s						
TBI				*e*LR	LR	10 52 04.7	
	comp=Z,7μm,30.8s,baz=213						
BATI	**Baumata**	**54.99**	**323**	LR	LR	10 58 39.2	
	comp=Z,6μm,18.2s,MS5.7,baz=4.3,slow=34						
FUNA	**Funafuti**	**55.21**	**31**	PFAKE		10 37 10.0	+14
FUNA				LR	LR		
	comp=Z,8μm,22.0s,MS5.7						
PPT	**Papeete**	**58.59**	**69**	*e*S	**S**	**10 45 31.6**	**+7.9**
	comp=Z,4μm,29.0s						
PPT				*e*SS	SS	10 49 26.3	+10
	comp=Z,3μm,30.0s						
PPT				*e*LQ		10 52 13.6	
	comp=Z,6μm,27.2s						
PPT				*e*LR	LR	10 54 38.0	
	comp=Z,5μm,23.8s,baz=215						
PPT	**Papeete**	**58.59**	**69**	LR	LR	10 55 50.3	
	comp=Z,2μm,20.0s,MS5.3,baz=218,slow=29						
RKT	**Rikitea**	**60.87**	**86**	*e*S	**S**	**10 46 03.8**	**+11**
	comp=Z,4μm,32.8s						
RKT				*e*SS	SS	10 50 00.2	+8.4
	comp=Z,522nm,33.0s						
RKT				*e*LR	LR	10 55 33.3	
	comp=Z,7μm,32.5s,baz=208						
KAPI	**Kappang**	**61.10**	**320**	P	**P**	**10 37 36.6**	**-0.5**
	comp=Z,265nm,1.1s,mb6.3,SNR=7.5						
KAPI

PTCN Pitcairn Islan 61.65 91 PFAKE 10 37 50.0 +9.2
PTCN LR LR
comp=Z,3μm,20.0s,MS5.5
COCO West Island 63.56 294 PFAKE 10 38 10.0 +16
COCO LR LR
comp=Z,3μm,22.0s,MS5.4
RPN Rapa Nui 69.98 110 PFAKE 10 38 50.0 +16
RPN LR LR
comp=Z,2μm,22.0s,MS5.3
KSM Kuching 70.37 313 ⇓P **P 10 38 36.8 -0.1**
KSM Kuching 70.37 313 *e*P **P 10 38 36.3 -0.6**
TSM Tawau 70.47 321 ⇑P **P 10 38 36.7 -0.8**
SBUM Sibu 70.60 315 ⇑P **P 10 38 38.6 +0.3**
DAV Davao City (W) 70.97 330 LR LR 11 11 08.7
comp=Z,2μm,19.9s,MS5.4,baz=140,slow=37
DAV Davao City (W) 70.97 330 PFAKE 10 38 50.0 +9.5
DAV LR LR
comp=Z,3μm,21.0s,MS5.5
BTM Bintulu 71.00 316 ⇓P **P 10 38 41.4 +0.7**
SDKM Sandakan 71.95 321 ⇓P **P 10 38 45.3 -1.1**
KKM Kota Kinabalu 72.64 320 ⇑P **P 10 38 49.9 -0.6**
KKM Kota Kinabalu 72.64 320 *e*P **P 10 38 49.1 -1.4**
KKM LR LR
comp=Z,3μm,20.0s,MS5.5
PLCA Paso Flores 72.75 146 P **P 10 38 49.8 -1.2**
comp=Z,6.9nm,1.1s,mb4.5,baz=188,slow=10,SNR=3.6
PLCA Paso Flores 72.75 146 P **P 10 38 49.8 -1.2**
PLCA LR LR
comp=Z,4μm,20.0s,MS5.7
XMAS Kiritimati 72.79 52 PFAKE 10 39 00.0 +8.6
XMAS LR LR
comp=Z,3μm,20.0s,MS5.6
MYKOM Kota Tinggi 73.11 307 ⇑P **P 10 38 54.4 +1.0**
KDM Kudat 73.27 321 ⇑P **P 10 38 54.6 +0.4**
KGM Kluang 73.53 306 ⇑P **P 10 38 56.6 +0.8**
GUMO Guam 74.20 351 LR LR 11 10 55.7
comp=Z,2μm,18.1s,MS5.4,baz=182,slow=35
GUMO Guam 74.20 351 *e*P **P 10 39 00.0 +0.4**
GUMO MLR MLR
comp=Z,2μm,19.0s,MS5.5
FRIM Kepong 75.32 305 ⇓P **P 10 39 06.5 +0.2**
KTGM Kuala Trenggan 76.62 308 ⇑P **P 10 39 13.2 -0.4**
IPM Ipoh 76.69 305 ⇓P **P 10 39 14.3 +0.2**
TRQA Tornquist 77.47 152 PFAKE 10 39 30.0 +12
TRQA LR LR
comp=Z,3μm,19.0s,MS5.6
KULM Kulim 77.58 305 ⇓P **P 10 39 19.2 +0.2**
DGAR Diego Garcia 79.39 274 PFAKE 10 39 40.0 +11
DGAR LR LR
comp=Z,2μm,20.0s,MS5.4
SUR Sutherland 79.80 219 PFAKE 10 39 40.0 +8.8
SUR LR LR
comp=Z,2μm,20.0s,MS5.5
ABPO Ambohimpanom 81.54 246 PFAKE 10 39 50.0 +9.3
ABPO LR LR
comp=Z,887nm,20.0s,MS5.1
BOSA Boshof 81.82 224 P **P 10 39 42.4 +0.3**
comp=Z,9.8nm,1.1s,mb4.7,baz=228,slow=4.5,SNR=3.6
BOSA LR LR 11 13 28.2
comp=Z,1μm,18.3s,MS5.3,baz=157,slow=34
CFAA Coronel Fontan 81.94 145 P **P 10 39 41.5 -1.1**
comp=Z,1.2nm,0.9s,baz=219,slow=4.6,SNR=17
TRIS Tristan da Cun 82.12 191 PFAKE 10 39 50.0 +6.6
TRIS LR LR
comp=Z,8μm,22.0s,MS6.0
LCO Las Campanas 83.64 142 PFAKE 10 40 00.0 +8.5
LCO LR LR
comp=Z,1μm,22.0s,MS5.2
LBTB Lobatse 85.00 226 *e*P **P 10 40 00.1 +1.7**
LBTB pmax pmax
comp=Z,27nm,1.3s,mb5.2
LBTB MLR MLR
comp=Z,1μm,19.0s,MS5.2
LBTB Lobatse 85.00 226 *e*P **P 10 40 00.1 +1.7**
comp=Z,27nm,1.3s,mb5.2
LBTB LR LR
comp=Z,1μm,19.0s,MS5.2
QIZ Qiongzhong 86.87 319 P **P 10 40 09.3 +1.8**
QIZ AP pP 10 40 16.4 +5.6
QIZ XP sP 10 40 20.3 +8.3
QIZ S S 10 50 49.6 +4.3
QIZ XS sS 10 50 58.8 +8.0
QIZ SS SS 10 56 28.6 +0.5
QIZ AMB AMB
comp=Z,22nm,2.1s,mb5.0
QIZ AMB AMB
comp=Z,237nm,5.8s
QIZ LR LR
comp=N,3μm,25.3s,MS5.8
QIZ LR LR
comp=E,4μm,26.1s,MS5.8
PALK Pallekele 88.14 288 PFAKE 10 40 20.0 +6.2
PALK LR LR
comp=Z,2μm,19.0s,MS5.5
YHNB Yeheng 88.92 331 PFAKE 10 40 30.0 +13
YHNB LR LR
comp=Z,2μm,20.0s,MS5.6
TATO Taipei 89.19 331 PFAKE 10 40 30.0 +12
TATO LR LR
comp=Z,2μm,20.0s,MS5.5
POHA Pohakuloa 89.77 47 PFAKE 10 40 30.0 +8.8
POHA LR LR
comp=Z,3μm,21.0s,MS5.7
CPUP Villa Florida 89.79 152 P **P 10 40 20.4 -1.1**
comp=Z,2.6nm,0.8s,mb4.6,baz=183,slow=5.3,SNR=6.1
CPUP LR LR 11 18 35.9
comp=Z,2μm,18.4s,MS5.7,baz=176,slow=34
CPUP Villa Florida 89.79 152 *e*P **P 10 40 22.8 +1.3**
CPUP pmax pmax
comp=Z,128nm,2.1s
CPUP Villa Florida 89.79 152 *e*P **P 10 40 22.8 +1.3**
comp=Z,128nm,2.1s,mb5.9
MSEY Mahe Island 90.11 260 PFAKE 10 40 30.0 +6.8
MSEY LR LR
comp=Z,1μm,19.0s,MS5.4
LVC Limon Verde 90.18 141 P **P 10 40 23.9 +0.5**
comp=Z,12nm,1.0s,mb5.2,baz=264,slow=1.8,SNR=7.9
LVC Limon Verde 90.18 141 *e*P **P 10 40 24.2 +0.8**
LVC *ep*P pP 10 40 32.4 +5.7
LVC LR LR
comp=Z,2μm,20.0s,MS5.5
CM31 Chiang Mai Arr 90.22 309 PFAKE 10 40 30.0 +6.6
CM31 LR LR
comp=Z,3μm,22.0s,MS5.7
CMAR Chiang Mai Arr 90.22 309 P **P 10 40 23.3 -0.1**
comp=Z,2.0nm,0.7s,mb4.5,baz=185,slow=3.2,SNR=16
CMAR PP PP 10 43 57.4 -0.1
comp=Z,1.2nm,0.7s,baz=146,slow=7.7,SNR=3.4
CMAR LR LR 11 18 24.0
comp=Z,3μm,19.7s,MS5.7,baz=151,slow=34
CMAR Chiang Mai Arr 90.22 309 *i* P **P 10 40 23.7 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 90.22 309 P **P 10 40 23.3 -0.1**
CMAR PP PP 10 43 57.4 -0.1
CMAR LR LR 11 18 24.0
KIP Kipapa 90.43 44 PFAKE 10 40 40.0 +16
KIP LR LR
comp=Z,2μm,20.0s,MS5.5
CHTO Chiang Mai 90.55 309 *e*P **P 10 40 25.3 +0.4**
CHTO *e**PP pP 10 40 33.0 +4.7
CHTO pmax pmax
comp=Z,13nm,0.9s,mb5.3
CHTO Chiang Mai 90.55 309 *e*P **P 10 40 24.3 -0.6**
comp=Z,13nm,0.9s,mb5.3
CHTO *ep*P pP 10 40 33.0 +4.7
CHTO LR LR
comp=Z,4μm,22.0s,MS5.8
MIDW Midway 91.48 25 PFAKE 10 40 40.0 +11
MIDW LR LR
comp=Z,3μm,20.0s,MS5.7
LSZ Lusaka 92.94 232 PFAKE 10 40 50.0 +14
LSZ LR LR
comp=Z,1μm,19.0s,MS5.3
TSUM Tsumeb 93.10 221 PFAKE 10 40 50.0 +13
TSUM LR LR
comp=Z,2μm,19.0s,MS5.5
GYA Guiyang 94.82 319 ⇑*i*P **P 10 40 47.5 +3.0**
GYA AP pP 10 40 56.9 +9.1
GYA PP PP 10 44 38.4 +4.8
GYA SKS 10 51 20.4
GYA S S 10 51 56.9 -0.9
GYA SS SS 10 58 23.8 +0.9
GYA AMB AMB
comp=Z,90nm,1.0s,mb6.2
GYA AMB AMB
comp=Z,870nm,5.9s
GYA LR LR
comp=N,6μm,22.4s,MS6.1
GYA LR LR
comp=E,6μm,21.8s,MS6.1
GYA LR LR
comp=Z,5μm,22.7s,MS5.9
KMI Kunming 94.92 315 P **P 10 40 45.6 +0.6**
KMI AP pP 10 40 56.6 +8.3
KMI XP sP 10 40 59.9 +10
KMI PP PP 10 44 35.4 +1.0
KMI SKS 10 51 20.4
KMI S S 10 51 56.8 -2.0
KMI XS sS 10 52 11.3 +7.0
KMI SS SS 10 58 24.8 +0.5
KMI AMB AMB
comp=Z,6.0nm,1.6s,mb4.8
KMI AMB AMB
comp=Z,169nm,5.4s
KMI LR LR
comp=N,2μm,22.4s,MS5.8
KMI LR LR
comp=E,3μm,19.6s,MS5.8
KMI LR LR
comp=Z,3μm,23.4s,MS5.7
SSE Sheshan 95.14 332 P **P 10 40 46.8 +1.0**
SSE XP sP 10 41 00.1 +10
SSE PP PP 10 44 34.6 -1.5
SSE S S 10 51 57.5 -2.9
SSE XS sS 10 52 13.6 +7.7
SSE AMB AMB
comp=Z,52nm,0.8s,mb6.0
SSE AMB AMB
comp=Z,244nm,3.6s
SSE LR LR
comp=N,783nm,20.8s,MS5.4
SSE LR LR
comp=E,1μm,20.8s,MS5.4
SSE LR LR
comp=Z,1μm,15.5s
LPAZ La Paz 96.35 140 P **P 10 40 52.1 +0.2**
comp=Z,1.3nm,0.8s,mb4.4,baz=166,slow=6.1,SNR=5.5
LPAZ LR LR 11 17 38.2
comp=Z,1μm,20.7s,MS5.3,baz=262,slow=31
LPAZ La Paz 96.35 140 *e*P **P 10 40 53.3 +1.4**
LPAZ LR LR
comp=Z,1μm,22.0s,MS5.4
NJ2 Nanjing 96.61 331 *e*P **P 10 40 54.3 +1.8**
NJ2 S S 10 52 05.0 -8.1
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.9
NJ2 AMB AMB
comp=Z,300nm,3.8s
NJ2 LR LR
comp=N,2μm,19.9s
NJ2 LR LR
comp=E,2μm,25.0s
NJ2 LR LR
comp=Z,2μm,32.3s
NNA Nana 97.29 130 PFAKE 10 41 10.0 +14
NNA LR LR
comp=Z,2μm,20.0s,MS5.5
MJAR Matsushiro Arr 97.56 347 P **P 10 40 56.5 -0.2**
comp=Z,0.5nm,0.4s,mb4.4,baz=169,slow=5.2,SNR=6.3
MJAR PP PP 10 44 53.0 -1.7
comp=Z,2.6nm,1.0s,baz=168,slow=6.6,SNR=4.4
MJAR LR LR 11 26 20.9
comp=Z,1μm,19.9s,MS5.4,baz=180,slow=36
MJAR Matsushiro Arr 97.56 347 P **P 10 40 56.5 -0.2**
MJAR 10 44 53.0
MAJO Matsushiro 97.56 347 PFAKE 10 41 10.0 +13
MAJO LR LR
comp=Z,2μm,20.0s,MS5.5
MAT Matsushiro 97.56 347 PP PP 10 44 44.0 -11
INCN Inchon 100.18 338 PFAKE 10 41 20.0 +11
INCN LR LR
comp=Z,2μm,21.0s,MS5.7
KMBO Kilima Mbogo 101.83 246 PFAKE 10 41 30.0 +13
KMBO LR LR
comp=Z,605nm,20.0s,MS5.1
SHEL Horse Pasture 102.05 200 PFAKE 10 41 30.0 +12
SHEL LR LR
comp=Z,5μm,20.0s,MS6.0
BDFB Brasilia 102.08 158 PFAKE 10 41 30.0 +12
BDFB LR LR
comp=Z,1μm,20.0s,MS5.4
DL2 Dalian 102.54 335 *e*P Pdif 10 41 17.3 -2.4
DL2 PP PP 10 45 34.9 +2.3
DL2 SKS 10 51 58.6
DL2 S Sdif 10 53 05.8 +1.5
DL2 SS SS 11 00 14.9 +3.8
DL2 AMB AMB
comp=Z,10.0nm,1.0s
DL2 AMB AMB
comp=Z,150nm,4.9s
DL2 LR LR
comp=N,640nm,23.6s,MS5.3
DL2 LR LR
comp=E,880nm,25.0s,MS5.3
DL2 LR LR
comp=Z,1μm,24.2s,MS5.3
MDJ Mudanjiang 106.64 342 PDIF Pdif 10 41 41.1 +3.2
MDJ PP PP 10 46 03.4 +0.5
MDJ S Sdif 10 53 43.8 +5.4
MDJ PP PP
comp=Z,173nm,11.7s
MDJ LR LR
comp=Z,2μm,37.7s,MS5.4
HHC Hu-ho-hao-te 106.79 328 *e*PDIF Pdif 10 41 37.4 -1.2
HHC PP PP 10 46 05.6 +1.5
HHC S Sdif 10 53 31.5 -8.2
HHC PP PP
comp=Z,139nm,7.3s
HHC LR LR
comp=N,907nm,21.3s,MS5.5
HHC LR LR
comp=E,1μm,20.7s,MS5.5
HHC LR LR
comp=Z,2μm,19.8s,MS5.5
YSS Yuzh-Sakhalins 107.49 352 PFAKE 10 46 00.0 +11
YSS LR LR
comp=Z,840nm,22.0s,MS5.2
OTAV Otavalo 107.80 124 PFAKE 10 46 00.0 +10
OTAV LR LR
comp=Z,1μm,21.0s,MS5.4
ASCN Ascension 111.15 192 PFAKE 10 46 10.0 +13
ASCN LR LR
comp=Z,3μm,19.0s,MS5.9
PET Petropavlovsk 113.25 3 PFAKE 10 46 10.0 +11
PET LR LR
comp=Z,2μm,20.0s,MS5.7
SMY Shemya 114.04 13 PFAKE 10 46 10.0 +9.1
SMY LR LR
comp=Z,4μm,21.0s,MS6.0
BCIP Isla Barro Col 115.24 118 PFAKE 10 46 20.0 +16
BCIP LR LR
comp=Z,537nm,21.0s,MS5.1
TGUH Tegucigalpa,Un 116.18 109 PFAKE 10 46 20.0 +14
TGUH LR LR
comp=Z,738nm,21.0s,MS5.3
SNCC San Nicolas Is 116.70 69 PFAKE 10 46 20.0 +13
SNCC LR LR
comp=Z,2μm,20.0s,MS5.7
WMQ Urumqi 117.08 312 PKP PKPdf 10 46 07.8 +0.8
WMQ PP PP 10 47 20.3 +2.6
WMQ PKS 10 49 43.1
WMQ SKS SKSdf 10 53 14.9 -3.7
WMQ SKKS SKKSac 10 54 09.1 -8.2
WMQ PP PP
comp=Z,126nm,11.0s
WMQ LR LR
comp=N,2μm,28.0s,MS5.7
WMQ LR LR
comp=E,1μm,26.2s,MS5.7
WMQ LR LR
comp=Z,2μm,27.8s,MS5.7
BAR Barrett 117.56 72 PFAKE 10 46 20.0 +12
BAR LR LR
comp=Z,2μm,20.0s,MS5.7
ZAK Zakamensk 117.82 326 *e*PKIKP PKPdf 10 45 59.5 -8.7
ZAK *e* 10 47 24.1
ZAK pmax pmax
comp=Z,3.0nm,1.4s
MWC Mount Wilson 118.19 70 PFAKE 10 46 20.0 +10
MWC LR LR
comp=Z,2μm,20.0s,MS5.7
PFO Pinyon Flat Ob 118.43 72 PFAKE 10 46 20.0 +10
PFO LR LR
comp=Z,2μm,20.0s,MS5.7
SAO San Andreas Ge 118.73 66 PFAKE 10 46 20.0 +10
SAO LR LR
comp=Z,1μm,19.0s,MS5.6
GLA Glamis 118.74 73 PFAKE 10 46 20.0 +9.4
GLA LR LR
comp=Z,1μm,22.0s,MS5.5
SDV Santo Domingo 118.80 128 PFAKE 10 46 20.0 +8.7
SDV LR LR
comp=Z,904nm,20.0s,MS5.4
TLY Talaya 118.89 327 *i* PKIKP PKPdf 10 46 09.5 -0.7
TLY *e* 10 47 30.7
TLY *e*PPP 10 50 02.6
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY MLR MLR
comp=Z,2μm,22.0s,MS5.8
TLY Talaya 118.89 327 PFAKE 10 46 20.0 +10
TLY LR LR
comp=Z,1μm,21.0s,MS5.6
ISA Isabella 119.18 69 *e*PKIKP PKPdf 10 46 12.0 +0.6
ISA MLR MLR
comp=Z,1μm,20.0s,MS5.6
MCCM Marconi Confer 119.23 64 PFAKE 10 46 20.0 +8.6
MCCM LR LR
comp=Z,904nm,19.0s,MS5.4
GSC Goldstone 119.66 70 PFAKE 10 46 20.0 +7.7
GSC LR LR
comp=Z,1μm,19.0s,MS5.6
HOPS Hopland 119.85 63 PFAKE 10 46 20.0 +7.5
HOPS LR LR
comp=Z,2μm,20.0s,MS5.7
TUC Tucson 120.06 77 PFAKE 10 46 30.0 +17
TUC LR LR
comp=Z,1μm,20.0s,MS5.5
DAC Darwin (Calif) 120.09 69 PFAKE 10 46 30.0 +17
DAC LR LR
comp=Z,2μm,20.0s,MS5.8
CMB Columbia Colle 120.26 66 PFAKE 10 46 30.0 +17
CMB LR LR
comp=Z,2μm,20.0s,MS5.6
UCH Uchtor 120.95 302 PFAKE 10 46 30.0 +15
UCH LR LR
comp=Z,643nm,22.0s,MS5.2
TEIG Tepich 121.03 104 PFAKE 10 46 30.0 +15
TEIG LR LR
comp=Z,711nm,20.0s,MS5.3
TKM2 Tokmak 2 121.07 303 *e*PKIKP PKPdf 10 46 14.1 -0.6
TKM2 MLR MLR
comp=Z,1μm,21.0s,MS5.5
AML Almayashu 121.22 301 *e*PKPdf PKPdf 10 46 14.3 -0.7
AML LR LR
comp=Z,996nm,20.0s,MS5.5
TPNV Topopah Spring 121.26 70 *e*PKIKP PKPdf 10 46 15.6 +0.3
TPNV MLR MLR
comp=Z,2μm,20.0s,MS5.7
HVS Khovu-Aksy 121.33 320 *i* PKIKP PKPdf 10 46 14.6 -0.4
WDC Whiskeytown Da 121.38 62 PFAKE 10 46 30.0 +15
WDC LR LR
comp=Z,1μm,19.0s,MS5.5
FRU Bishkek 121.41 302 *e*PKIKP PKPdf 10 46 27.0 +12
FRU *e* 10 47 55.0
FRU MLR MLR
comp=Z,800nm,20.0s,MS5.4
NVAR Mina Array Bea 121.52 67 PKP PKPdf 10 46 15.4 -0.3
comp=Z,0.5nm,0.8s,baz=212,slow=4.9,SNR=4.1
EKS2 Erkin-Say 121.62 301 PFAKE 10 46 30.0 +14
EKS2 LR LR
comp=Z,1μm,22.0s,MS5.4
MK31 Makanchi Array 121.62 310 *e*PKIKP PKPdf 10 46 17.6 +1.9
MK31 MLR MLR
comp=Z,1μm,22.0s,MS5.5
MKAR Makanchi Array 121.62 310 PKP PKPdf 10 46 13.9 -1.7
comp=Z,2.8nm,1.1s,baz=145,slow=3.0,SNR=9.3
TPH Tonopah 121.73 68 PFAKE 10 46 30.0 +14
TPH LR LR
comp=Z,1μm,19.0s,MS5.5
YBH Yreka Blue Hor 122.25 62 *e*PKIKP PKPdf 10 46 15.5 -1.6
YBH MLR MLR
comp=Z,1μm,21.0s
WUAZ Wupatki 122.39 74 PFAKE 10 46 30.0 +12
WUAZ LR LR
comp=Z,985nm,19.0s,MS5.5
KVTX Kingsville 122.47 91 PFAKE 10 46 30.0 +12
KVTX LR LR
comp=Z,2μm,19.0s,MS5.9
HUMO Hull Mountain 122.85 61 *e*PKPdf PKPdf 10 46 18.3 +0.1
HUMO LR LR
comp=Z,1μm,22.0s,MS5.5
MOD Modoc 123.44 63 *e*PKPdf PKPdf 10 46 15.9 -3.4
MOD LR LR
comp=Z,1μm,22.0s,MS5.6
LAZ Ladron 123.53 78 *e*PKPdf PKPdf 10 46 24.0 +4.3
YAK Yakutsk 123.62 347 *i* PKP PKPdf 10 46 19.1 +0.1
YAK LR LR
comp=Z,1μm,21.0s,MS5.6
BMN Battle Mountai 123.63 66 PFAKE 10 46 30.0 +10
BMN LR LR
comp=Z,2μm,19.0s,MS5.7
JCT Junction City 123.94 87 *e*PKIKP PKPdf 10 46 20.2 -0.5
JCT MLR MLR
comp=Z,1μm,21.0s,MS5.5
DBIC Dimbokro 123.94 206 PFAKE 10 46 30.0 +8.7
DBIC LR LR
comp=Z,1μm,20.0s,MS5.6
COR Corvallis 124.30 59 PFAKE 10 46 30.0 +9.1
COR LR LR
comp=Z,2μm,21.0s,MS5.7
ANMO Albuquerque 124.30 79 PFAKE 10 46 30.0 +8.8
ANMO LR LR
comp=Z,1μm,20.0s,MS5.7
MVU Marysvale 124.40 72 PFAKE 10 46 30.0 +8.7
MVU LR LR
comp=Z,1μm,20.0s,MS5.6
MSU Marysvale 124.43 72 *e*PKIKP PKPdf 10 46 21.8 +0.5
WVOR Wild Horse Val 124.60 64 *e*PKIKP PKPdf 10 46 21.6 +0.1
WVOR MLR MLR
comp=Z,1μm,22.0s,MS5.5
ELK Elko 124.79 68 PKP PKPdf 10 46 23.8 +1.8
comp=Z,0.3nm,0.3s,baz=223,slow=18,SNR=3.1
ELK Elko 124.79 68 *e*PKPdf PKPdf 10 46 25.2 +3.3
ELK LR LR
comp=Z,1μm,19.0s,MS5.7
GRGR Grenville 125.10 136 PFAKE 10 46 30.0 +6.6
GRGR LR LR
comp=Z,755nm,19.0s,MS5.4
MVCO Mesa Verde 125.13 75 *e*PKPdf PKPdf 10 46 22.9 +0.1
MVCO LR LR
comp=Z,974nm,22.0s,MS5.4
KDAK Kodiak Island 125.18 32 PFAKE 10 46 30.0 +7.9
KDAK LR LR
comp=Z,557nm,20.0s,MS5.2
DUG Dugway 125.47 70 *e*PKIKP PKPdf 10 46 22.1 -1.2
DUG MLR MLR
comp=Z,2μm,20.0s,MS5.7
HKT Hockley 125.47 91 PFAKE 10 46 40.0 +16
HKT LR LR
comp=Z,981nm,19.0s,MS5.5
SRU San Rafael 125.68 72 *e*PKIKP PKPdf 10 46 24.1 +0.4
PV10 Paradox Valley 125.80 74 *e*PKPdf PKPdf 10 46 25.3 +1.3
PV01 Paradox Valley 125.83 75 *e*PKPdf PKPdf 10 46 24.2 +0.2
MPU Maple Canyon 125.88 71 PFAKE 10 46 40.0 +16
MPU LR LR
comp=Z,2μm,22.0s,MS5.7
BGU Big Grassy Mou 125.95 69 *e*PKPdf PKPdf 10 46 25.7 +1.5
KURK Kurchatov 126.22 310 PFAKE 10 46 40.0 +16
KURK LR LR
comp=Z,924nm,20.0s,MS5.5
NLWA Neilton Lookou 126.31 57 PFAKE 10 46 40.0 +15
NLWA LR LR
comp=Z,1μm,21.0s,MS5.6
AMTX Amarillo 126.58 83 PFAKE 10 46 40.0 +14
AMTX LR LR
comp=Z,1μm,19.0s,MS5.7
ZAL Zalesovo 126.62 317 PKIKP PKPdf 10 46 24.0 -1.0
ZAL 10 48 24.8
ZALV Zalesovo Beam 126.63 317 PKP PKPdf 10 46 24.0 -1.0
comp=Z,0.5nm,0.3s,baz=146,slow=2.8,SNR=3.3
ZALV PP PP 10 48 24.8 +2.2
comp=Z,0.9nm,0.7s,baz=112,slow=4.0,SNR=4.4
ZALV Zalesovo Beam 126.63 317 PKP PKPdf 10 46 24.0 -1.0

ZALV PP PP 10 48 24.8 +2.2
BBGH Gun Hill 126.75 138 PFAKE 10 46 40.0 +13
BBGH LR LR
comp=Z,2µm,22.0s,MS5.6
SDCO Great Sand Dun 127.00 77 *e*PKPdf PKPdf 10 46 30.4 +4.1
SDCO LR LR
comp=Z,791nm,19.0s,MS5.4
BMO Blue Mountains 127.11 63 PFAKE 10 46 40.0 +14
BMO LR LR
comp=Z,1µm,22.0s,MS5.6
RSW Rattlesnake Hi 127.32 60 *e*PKPdf PKPdf 10 46 29.3 +2.7
HAWA Hanford 127.34 60 *e*PKPdf PKPdf 10 46 27.5 +0.8
HAWA LR LR
comp=Z,1µm,21.0s,MS5.6
HLID Hailey 127.39 66 *e*PKPdf PKPdf 10 46 28.7 +1.9
HLID LR LR
comp=Z,962nm,21.0s,MS5.5
NATX Nacogdoches 127.53 91 PFAKE 10 46 40.0 +12
NATX LR LR
comp=Z,908nm,19.0s,MS5.5
WMOK Wichita Mounta 127.89 85 *e*PKIKP PKPdf 10 46 28.5 +0.4
WMOK MLR MLR
comp=Z,2µm,20.0s,MS5.7
AHID Auburn Hatcher 128.28 69 PFAKE 10 46 40.0 +11
AHID LR LR
comp=Z,1µm,19.0s,MS5.6
TORD Torodi Ar. Bea 128.52 215 PKP PKPdf 10 46 27.9 -2.0
comp=Z,2.1nm,1.0s,baz=166,slow=1.0,SNR=4.8
TORD Torodi Ar. Bea 128.52 215 PKP PKPdf 10 46 27.9 -2.0
ISCO Idaho Springs 128.56 76 *e*PKIKP PKPdf 10 46 31.1 +1.9
ISCO MLR MLR
comp=Z,1µm,19.0s,MS5.6
BILL Bilibino 128.56 6 PFAKE 10 46 40.0 +12
BILL LR LR
comp=Z,2µm,21.0s,MS5.9
REDW Red Top Meadow 128.86 69 *e*PKPdf PKPdf 10 46 34.3 +4.7
TPAW Teton Pass 128.92 69 *e*PKPdf PKPdf 10 46 29.9 +0.1
SJG San Juan 128.95 128 PFAKE 10 46 40.0 +9.4
SJG LR LR
comp=Z,681nm,19.0s,MS5.4
BW06 Boulder Array 129.00 70 PFAKE 10 46 40.0 +10
BW06 LR LR
comp=Z,2µm,20.0s,MS5.7
PDAR Pinedale Array 129.00 70 PKP PKPdf 10 46 30.6 +0.6
comp=Z,0.7nm,0.9s,baz=191,slow=2.8,SNR=3.5
LOHW Long Hollow 129.17 69 *e*PKPdf PKPdf 10 46 31.3 +1.1
MOOW Moose Ponds 129.21 69 *e*PKPdf PKPdf 10 46 30.7 +0.4
IMW Indian Meadow 129.24 68 *e*PKPdf PKPdf 10 46 31.1 +0.8
PMR Palmer 129.36 31 PFAKE 10 46 40.0 +10
PMR LR LR
comp=Z,3µm,21.0s,MS5.9
FLWY Flagg Ranch 129.49 68 *e*PKPdf PKPdf 10 46 32.8 +2.0
DLMT Dillon 129.61 66 *e*PKPdf PKPdf 10 46 32.8 +1.8
SIT Sitka 129.70 42 PFAKE 10 46 40.0 +9.2
SIT LR LR
comp=Z,4µm,20.0s,MS6.1
YMR Madison River 129.82 68 PFAKE 10 46 40.0 +8.6
YMR LR LR
comp=Z,2µm,19.0s,MS5.9
NEW Newport 129.83 60 PFAKE 10 46 40.0 +8.7
NEW LR LR
comp=Z,2µm,21.0s,MS5.7
DIV Divide 129.86 33 *e*PKPdf PKPdf 10 46 31.3 +0.3
VBMS Vicksburg 129.95 94 PFAKE 10 46 40.0 +7.9
VBMS LR LR
comp=Z,677nm,21.0s,MS5.3
LKWY Lake 130.00 68 PFAKE 10 46 40.0 +8.2
LKWY LR LR
comp=Z,2µm,19.0s,MS5.9
MSO Missoula 130.13 64 *e*PKPdf PKPdf 10 46 31.4 -0.5
MSO LR LR
comp=Z,990nm,20.0s,MS5.5
WRAK Wrangell Islan 130.20 44 PFAKE 10 46 40.0 +8.2
WRAK LR LR
comp=Z,2µm,20.0s,MS5.9
BOZ Bozeman (W) 130.26 66 *e*PKIKP PKPdf 10 46 33.1 +0.9
BOZ MLR MLR
comp=Z,1µm,19.0s,MS5.6
MIAR Mount Ida 130.31 90 PFAKE 10 46 40.0 +7.3
MIAR LR LR
comp=Z,793nm,19.0s,MS5.4
CBKS Cedar Bluff 130.64 81 *e*PKIKP PKPdf 10 46 34.5 +1.3
CBKS MLR MLR
comp=Z,2µm,19.0s,MS5.8
BRAL Brewton 130.67 98 PFAKE 10 46 50.0 +16
BRAL LR LR
comp=Z,541nm,20.0s,MS5.2
RLMT Red Lodge 130.94 69 PFAKE 10 46 50.0 +16
RLMT LR LR
comp=Z,859nm,19.0s,MS5.5
DWPF Disney 130.98 106 PFAKE 10 46 50.0 +16
DWPF LR LR
comp=Z,650nm,20.0s,MS5.3
MCK McKinley 131.21 30 PKIKP PKPdf 10 46 41.5 +8.1
BVAR Borovoye Array 131.21 307 PKP PKPdf 10 46 33.4 -0.4
comp=Z,0.6nm,0.5s,baz=132,slow=2.1,SNR=3.0
BRVK Borovoye 131.28 307 *i* PKIKP PKPdf 10 46 33.2 -0.7
BRVK MLR MLR
comp=Z,1µm,20.0s,MS5.6
OXF Oxford 132.34 93 PFAKE 10 46 50.0 +13
OXF LR LR
comp=Z,853nm,19.0s,MS5.5
KSU1 Kansas State U 132.39 83 PFAKE 10 46 50.0 +13
KSU1 LR LR
comp=Z,1µm,20.0s,MS5.7
COLA College 132.42 29 PFAKE 10 46 50.0 +14
COLA LR LR
comp=Z,3µm,21.0s,MS6.0
RSSD Black Hills 132.63 73 *e*PKIKP PKPdf 10 46 38.3 +1.5
RSSD MLR MLR
comp=Z,1µm,19.0s,MS5.7
EGMT Eagleton 132.90 66 PFAKE 10 46 50.0 +13
EGMT LR LR
comp=Z,1µm,21.0s,MS5.6
TIXI Tiksi 133.02 349 *i* PKIKP PKPdf 10 46 37.3 +0.6
TIXI pmax pmax
comp=Z,12nm,1.7s
TIXI MLR MLR
comp=Z,2µm,19.0s,MS5.8
TIXI Tiksi 133.02 349 *i* PKP PKPdf 10 46 36.7 0.0
TIXI LR LR
comp=Z,2µm,20.0s,MS5.8
GNI Garni 133.05 278 PFAKE 10 46 50.0 +12
GNI LR LR
comp=Z,1µm,22.0s,MS5.5
PLAL Pickwick Lake 133.38 94 *e*PKPdf PKPdf 10 46 38.9 +0.4
PLAL LR LR
comp=Z,1µm,20.0s,MS5.6
LAO LASA Array 133.52 69 PFAKE 10 46 50.0 +12
LAO LR LR
comp=Z,1µm,19.0s,MS5.6
GLAT Glass 133.80 92 *e*PKPdf PKPdf 10 46 40.3 +1.0
EGAK Eagle 134.06 33 PFAKE 10 46 50.0 +11
EGAK LR LR
comp=Z,2µm,22.0s,MS5.8
CCM Cathedral Cave 134.23 89 PFAKE 10 46 50.0 +10
CCM LR LR
comp=Z,969nm,20.0s,MS5.5
GOGA Godfrey 134.38 100 PFAKE 10 46 50.0 +10
GOGA LR LR
comp=Z,776nm,21.0s,MS5.4
MALT Malatya 134.75 271 *e*PKIKP PKPdf 10 46 40.8 -0.2
MALT MLR MLR
comp=Z,2µm,22.0s,MS5.7
NHSC New Hope 135.72 103 PFAKE 10 46 50.0 +7.0
NHSC LR LR
comp=Z,1µm,21.0s,MS5.5
DGMT Dagmar 135.76 69 PFAKE 10 46 50.0 +7.5
DGMT LR LR
comp=Z,1µm,20.0s,MS5.5
ECSD EROS,Sioux Fal 135.91 79 *e*PKPdf PKPdf 10 46 44.8 +1.8
ECSD LR LR
comp=Z,1µm,20.0s,MS5.7
SCIA State Center 136.20 84 PFAKE 10 47 00.0 +16
SCIA LR LR
comp=Z,2µm,20.0s,MS5.8
TZTN Tazewell 136.84 97 PFAKE 10 47 00.0 +15
TZTN LR LR
comp=Z,842nm,19.0s,MS5.5
KIV Kislovodsk 136.93 280 *i* PKIKP PKPdf 10 46 51.1 +6.3
KIV pmax pmax
comp=Z,16nm,1.1s
KIV Kislovodsk 136.93 280 PFAKE 10 47 00.0 +15
KIV LR LR
comp=Z,692nm,19.0s,MS5.4

ISP Isparta 138.29 263 PFAKE 10 47 00.0 +12
ISP LR LR
comp=Z,734nm,20.0s,MS5.4
JFWS Jewell Farm 138.42 85 PFAKE 10 47 00.0 +12
JFWS LR LR
comp=Z,2µm,20.0s,MS5.9
ARU Arti 138.44 304 *i* PKIKP PKPdf 10 46 45.2 -2.0
ARU MLR MLR
comp=Z,2µm,22.0s,MS5.7
ARU Arti 138.44 304 *i* PKP PKPdf 10 46 45.0 -2.2
ARU LR LR
comp=Z,1µm,21.0s,MS5.7
CNNC Cliffs of the 138.56 104 PFAKE 10 47 00.0 +12
CNNC LR LR
comp=Z,921nm,20.0s,MS5.5
ANTO Ankara 138.74 267 PFAKE 10 47 00.0 +12
ANTO LR LR
comp=Z,596nm,21.0s,MS5.3
ELN Prospectdale 138.75 99 *e*PKPdf PKPdf 10 46 48.8 +0.4
BLA Blacksburg 138.90 99 *e*PKIKP PKPdf 10 46 48.9 +0.2
BLA MLR MLR
comp=Z,804nm,20.0s,MS5.5
AGMN Agassiz Refuge 139.56 75 PFAKE 10 47 00.0 +10
AGMN LR LR
comp=Z,1µm,20.0s,MS5.7
SANT Santorini 139.59 257 PFAKE 10 47 00.0 +10
SANT LR LR
comp=Z,499nm,19.0s,MS5.3
ACSO Alum Creek Sta 139.99 94 PFAKE 10 47 00.0 +9.4
ACSO LR LR
comp=Z,1µm,21.0s,MS5.6
ANN Anapa 140.12 276 *i* PKIKP PKPdf 10 46 53.4 +2.8
ANN pmax pmax
comp=Z,36nm,1.5s
YKA Yellowknife Ar 140.86 47 PKP PKPdf 10 46 50.1 -1.3
comp=Z,2.7nm,0.9s,baz=228,slow=2.7,SNR=5.0
ULM Lac du Bonnet 140.90 73 PFAKE 10 47 00.0 +8.1
ULM LR LR
comp=Z,2µm,22.0s,MS5.9
MCWV Mont Chateau 141.09 98 PFAKE 10 47 00.0 +7.4
MCWV LR LR
comp=Z,1µm,21.0s,MS5.7
AAM Ann Arbor 141.22 91 PFAKE 10 47 00.0 +7.3
AAM LR LR
comp=Z,1µm,20.0s,MS5.6
COWI Conover 141.28 83 *e*PKPdf PKPdf 10 46 53.3 +0.6
COWI LR LR
comp=Z,2µm,20.0s,MS5.8
EYMN Ely 141.42 79 *e*PKPdf PKPdf 10 46 53.7 +0.9
EYMN LR LR
comp=Z,2µm,19.0s,MS5.9
BBSR BB Station 142.21 120 PFAKE 10 47 10.0 +15
BBSR LR LR
comp=Z,749nm,20.0s,MS5.5
GLMI Grayling 142.59 88 PFAKE 10 47 10.0 +15
GLMI LR LR
comp=Z,1µm,19.0s,MS5.7
KDZ Kurdzhali 143.72 262 *e*P PKPdf 10 46 55.0 -2.2
TIRR Tirgusor 144.32 268 ⇑*i*P PKPdf 10 47 02.4 +4.3
TIRR Tirgusor 144.32 268 *e*PKPdf PKPdf 10 46 58.1 -0.1
MMB Musomiste 144.50 261 *i* P PKPdf 10 46 56.4 -2.2
HARR Harsova 144.73 268 PKIKP PKPdf 10 47 04.0 +5.2
BINY Binghamton 144.92 98 *e*PKPbc PKPdf 10 46 57.3 -2.0
BINY LR LR
comp=Z,1µm,20.0s,MS5.7
PVL Pavlikeni 144.94 264 *e*P PKiKP 10 47 05.0 +1.9
PGB Panagyurishte 145.01 262 *e*P PKPbc 10 47 01.9 +3.1
ZIMR 145.25 265 PKIKP PKiKP 10 47 06.3 +2.6
SADO Sadowa 145.26 92 PKPbc PKPbc 10 46 58.0 -1.6
baz=264,slow=4.7
VTS Vitosha 145.51 261 *e*P PKPbc 10 47 03.0 +2.6
VTS Vitosha 145.51 261 ⇑*i*P PKPbc 10 47 05.1 +4.7
KIS Kishinev 145.92 272 *e*PKP2 PKPab 10 47 04.0 +1.9
KIS *e* 10 50 20.0
TIP Timpagrande 145.97 251 PFAKE 10 47 10.0 +8.8
TIP LR LR
comp=Z,764nm,20.0s,MS5.5
VRI Vrincioaia 146.16 269 ⇑*i*P PKPbc 10 47 06.1 +3.8
VRI Vrincioaia 146.16 269 ⇑P PKPbc 10 47 06.1 +3.8
PLOR Plostina 146.19 269 ⇑*i*P PKPdf 10 47 03.5 +2.2
MLR Muntele Rosu 146.28 267 ⇓*i*P PKPdf 10 47 01.8 +0.3
MLR Muntele Rosu 146.28 267 ⇓P PKPdf 10 47 01.8 +0.3
QUA2 Belchertown 146.75 102 *e*PKPdf PKPdf 10 47 03.0 +0.7
QUA2 *e*PKPab PKPab 10 47 08.8 +3.4
FCC Fort Churchill 146.96 62 *e*PKIKP PKPdf 10 47 03.5 +1.3
CUC Castrocucco 147.06 251 *e*PKPbc PKPbc 10 47 04.9 -0.2
NCB Newcomb 147.10 98 *e*PKPdf PKPdf 10 47 03.4 +0.5
NCB *e*PKPbc PKPbc 10 47 06.0 +0.9
NCB LR LR
comp=Z,1µm,20.0s,MS5.7
MOS Moscow 147.21 291 *e*PKP2 PKPab 10 47 06.6 -0.2
HRV Adam Dziewonsk 147.31 103 PFAKE 10 47 10.0 +6.7
HRV LR LR
comp=Z,1µm,20.0s,MS5.8
WES Weston 147.33 103 PFAKE 10 47 10.0 +6.7
WES LR LR
comp=Z,2µm,21.0s,MS5.8
OBN Obninsk 147.34 289 ⇑*i*PKIKP PKPdf 10 47 04.2 +1.3
OBN *e* 10 50 31.1
OBN *e*SS SS 11 09 30.7 -3.5
OBN pmax pmax
comp=Z,60nm,1.4s
OBN Obninsk 147.34 289 ⇑*e*PKP PKPdf 10 47 04.3 +1.4
OBN LR LR
comp=Z,1µm,24.0s,MS5.7
LONY Lake Ozonia 147.40 97 *e*PKPbc PKPbc 10 47 05.3 -0.5
LONY LR LR
comp=Z,1µm,20.0s,MS5.6
MDV Middlebury 147.63 99 *e*PKPdf PKPdf 10 47 04.7 +0.9
MDV *e*PKPab PKPab 10 47 08.7 -0.2
GZR Gura Zlata 147.78 264 ⇑*i*P PKPbc 10 47 06.9 0.0
GZR Gura Zlata 147.78 264 ⇑P PKPdf 10 47 06.9 +2.9
HNH Hanover 147.85 100 *e*PKPdf PKPdf 10 47 04.5 +0.4
HNH *e*PKPab PKPab 10 47 10.9 +1.2
FFD Franklin Falls 147.99 101 *e*PKPdf PKPdf 10 47 06.3 +1.9
FRNY Flat Rock 148.04 98 *e*PKPab PKPab 10 47 09.7 -0.8
BURAR Bucovina Array 148.13 270 ⇑*i*P PKPab 10 47 14.4 +3.7
AKASG Malin Array Be 148.18 277 PKPbc PKPbc 10 47 05.8 -2.0
comp=Z,1.0nm,0.6s,baz=109,slow=1.8,SNR=15
AKBB Malin Array Si 148.18 277 *e*PKPbc PKPbc 10 47 07.9 +0.1
AKBB *e*PKPab PKPab 10 47 10.8 0.0
KIEV Kiev 148.19 277 *e*PKPbc PKPbc 10 47 08.0 +0.1
KIEV *e*PKPab PKPab 10 47 10.9 +0.1
KIEV LR LR
comp=Z,910nm,20.0s,MS5.6
LBNH Lisbon 148.42 100 *e*PKP2 PKPab 10 47 09.1 -2.9
LBNH MLR MLR
comp=Z,1µm,20.0s,MS5.7
BZS Buzias 148.51 264 ⇑*i*P PKPab 10 47 12.2 -0.1
DRGR 148.80 266 ⇓*i*P PKPbc 10 47 09.8 +0.3
DRGR 148.80 266 P PKPdf 10 47 09.1 +3.5
MDT Midelt 148.92 217 PKPbc PKPbc 10 47 09.7 -0.5
comp=Z,0.5nm,0.4s,baz=162,slow=18,SNR=1.8
KLMR Klimovskoe 149.07 300 *i* PKIKP PKPbc 10 47 08.9 -0.8
KLMR *e* 10 50 44.7
KLMR *e* 10 54 11.3
KLMR *e*SS SS 11 09 53.8 +0.3
KLMR pmax pmax
comp=Z,189nm,1.4s
AQU L'Aquila 150.04 251 PFAKE 10 47 20.0 +12
AQU LR LR
comp=Z,1µm,22.0s,MS5.7
LVV L'vov 150.18 272 *e*PKIKP PKPbc 10 47 13.1 +0.3
UZH Uzhgorod 150.26 269 *e*PKIKP PKPdf 10 47 05.3 -2.6
PKSM Moragy 150.39 262 ⇑*i*P PKPdf 10 47 10.1 +1.9
PKSM Moragy 150.39 262 ⇑P PKPdf 10 47 10.1 +1.9
PKSM P 10 47 13.1
PKME Peaks-Kenny Pk 150.45 101 PFAKE 10 47 20.0 +12
PKME LR LR
comp=Z,2µm,20.0s,MS5.8
KOLS Kolonicke sedl 150.47 269 *e*PKP PKPbc 10 47 14.3 +0.8
KOLS *e* 10 47 26.8
KWP Kalwaria 150.71 270 PFAKE 10 47 20.0 +11
KWP LR LR
comp=Z,2µm,22.0s,MS5.8
CRVS Cervenica-Dubn 150.85 268 *e*PKIKP PKPbc 10 47 13.9 -0.5
CRVS *e* 10 47 20.8
CRVS Cervenica-Dubn 150.85 268 *e*PKP PKPbc 10 47 13.9 -0.5
CRVS *e* 10 47 20.8
CRVS *e* 12 02 42.6
PSZ Piszkesteto 150.96 265 ⇑*e*PKP pPKPdf 10 47 15.8 +3.4
PSZ Piszkesteto 150.96 265 *e*PKPbc PKPbc 10 47 16.0 +1.3
PSZ LR LR
comp=Z,1µm,22.0s,MS5.6
KECS Kecovo 151.05 267 *e*PKIKP PKPbc 10 47 14.1 -0.8
KECS *e* 10 47 20.5
KECS Kecovo 151.05 267 *e*PKP PKPbc 10 47 14.0 -0.9
KECS *e* 10 47 20.5
KECS *e* 10 47 29.6
KECS Kecovo 151.05 267 *e*PKP PKPbc 10 47 14.1 -0.8
KECS *e* 10 47 20.5
KECS *e* 10 47 29.6
BUD Budapest 151.09 264 ⇑*e*PKP pPKPdf 10 47 18.5 +5.9
MNK Minsk 151.14 282 *e*PKIKP PKPdf 10 47 13.0 +4.0
KOLL Kolacno 152.15 265 *e*PKIKP PKPbc 10 47 20.3 +2.9
KOLL *e* 10 47 25.7
KOLL Kolacno 152.15 265 *e*PKP PKPbc 10 47 20.3 +2.9
KOLL *e* 10 47 25.7
KOLL *e* 10 47 32.3
PGF Pioggiola 152.21 246 *e*PKIKP PKPdf 10 47 12.1 +1.0
comp=Z,59nm,1.4s
RES Resolute Bay 152.29 32 *e*PKIKP PKPbc 10 47 17.0 0.0
SOP Sopron 152.44 262 *es*PKP/F PKPbc 10 47 21.5 +3.4
OJC Ojcow 152.53 269 *e*PKPdf PKPdf 10 47 16.7 +5.4
OJC *e*PP PP 10 51 08.5 +6.4
OJC *e*SKKSac SKKSac 10 57 53.8 +2.5
OJC *e*SS SS 11 10 38.1 +6.0
OJC L 12 07 33.0
comp=Z,1.8nm,22.1s
OJC Ojcow 152.53 269 *e*PKIKP PKPdf 10 47 16.7 +5.4
OJC *e* 10 51 08.5
OJC *e*SS SS 11 10 38.1 +6.0
MODS Modra-Piesok 152.56 263 *e*PKP PKPbc 10 47 17.8 -0.6
SFS San Fernando 152.79 217 PFAKE 10 47 20.0 +7.9
SFS LR LR
comp=Z,2µm,19.0s,MS6.0
VLC Villacollemand 152.83 250 PFAKE 10 47 20.0 +8.1
VLC LR LR
comp=Z,1µm,20.0s,MS5.7
OKC Ostrava-Krasne 153.10 267 *e*PKPAB PKPab 10 47 34.8 +3.6
OKC *e*SS 11 11 41.7
OKC *e*SKSSKS 11 17 04.4
OKC *ex* x 11 31 51.1
OKC AMS AMS 12 02 50.0
comp=Z,1µm,24.6s
SUW Suwalki 153.14 278 *e*PKP pPKPbc 10 47 25.4 +2.5
SUW Suwalki 153.14 278 *e*PKIKP pPKPbc 10 47 25.3 +2.4
MORC Moravsky Berou 153.36 266 *e*PKIKP PKPbc 10 47 19.4 -0.7
VRAC Vranov 153.52 264 PKPbc PKPbc 10 47 18.8 -1.7
comp=Z,1.5nm,0.3s,baz=39,slow=21,SNR=3.0
SBF Sospel 153.95 245 *e*PKIKP PKPdf 10 47 14.7 +1.1
APA Apatity 154.01 311 ⇑*i*PKP2 PKPab 10 47 34.5 -0.1
APA *i* 10 51 06.0
APA *i* PPP 10 54 38.0
APA pmax pmax
comp=Z,59nm,1.4s
PBDV Barranco-do-Ve 154.01 215 *e*LR LR 11 51 41.9
comp=Z,1µm,15.4s
TREC Trest 154.06 263 *e*PKPAB PKPab 10 47 31.1 -4.2
TREC AMS AMS 12 10 10.0
comp=Z,2µm,20.4s
PVAQ Vaqueiros 154.10 215 *e*PKPab PKPab 10 47 35.1 -0.7
PVAQ Vaqueiros 154.10 215 *e*LR LR 11 48 05.6
comp=Z,2µm,20.0s
PFVI Vila Bisbo 154.15 213 *e*LR LR 11 50 57.2
comp=Z,2µm,19.2s
MORF Marmelete 154.27 213 *e*LR LR 11 50 56.6
comp=Z,2µm,18.2s
DPC Dobruska-Polom 154.33 266 *e*PKPAB PKPab 10 47 39.9 +3.5
DPC *e*SS SS 11 11 00.3 +8.5
DPC *e*SKSSKS 11 16 58.5
DPC *ex* x 11 32 20.8
DPC AMS AMS 12 05 20.0
comp=Z,2µm,23.2s
UPC Upice 154.59 266 *e*PKPAB PKPab 10 47 33.6 -3.9
PBAR Barrancos 154.62 217 *e*PKPab PKPab 10 47 40.5 +2.6
PBAR Barrancos 154.62 217 *e*LR LR 11 47 41.7
comp=Z,1µm,18.0s
GERES GERESS Array B 154.63 261 PKPbc PKPbc 10 47 19.0 -3.9
comp=Z,1.1nm,0.8s,baz=110,slow=1.6,SNR=7.7
KSP Ksiaz 154.66 267 *e*PKIKP PKPbc 10 47 20.0 -2.8
KSP *e*SS SS 11 10 52.0 -3.3
SMRF Simiane la Rot 154.87 243 *e*PKIKP PKPdf 10 47 15.9 +1.1
KHC Kasperske Hory 154.88 261 *e*PKPDF PKPdf 10 47 17.5 +2.8
KHC ⇑*e*PKP PKPbc 10 47 26.0 +2.6
KHC *e*PKPAB PKPab 10 47 37.2 -1.6
KHC *e*SKS SKSdf 10 54 31.5 +11
KHC *e*SS SS 11 11 01.0 +3.3
KHC *e*SKSSKS 11 16 39.5
KHC *ex* x 11 31 38.7
KHC AMS AMS 12 11 10.0
comp=Z,2µm,20.5s
MBDF Montbardon 154.92 246 *e*PKIKP PKPdf 10 47 16.7 +1.8
PRU Pruhonice 154.98 264 *e*PKPAB PKPab 10 47 39.5 +0.3
PRU *e*SS SS 11 11 08.0 +9.3
PRU *e*SKSSKS 11 16 39.3
PRU *ex* x 11 32 14.0
PRU AMS AMS 12 10 40.0
comp=Z,2µm,20.6s
ESDC Sonseca Array 155.00 223 PKPbc PKPdf 10 47 23.9 +8.7
comp=Z,0.3nm,0.3s,baz=155,slow=1.3,SNR=3.8
PAB San Pablo 155.02 223 PFAKE 10 47 30.0 +15
PAB LR LR
comp=Z,1µm,22.0s,MS5.8
DAVOX Davos/Dischmat 155.03 253 PKPab PKPab 10 47 38.4 -1.0
comp=Z,3.1nm,0.9s,baz=78,slow=12,SNR=4.7
TUE Stuetta 155.05 252 *e*PKPbc PKPdf 10 47 24.8 +10
BNI Bardonecchia 155.22 246 *e*PKIKP PKPdf 10 47 16.1 +0.8
BNI MLR MLR
comp=Z,2µm,21.0s,MS6.0
EVO Evora 155.24 216 *e*PKIKP PKPdf 10 47 19.7 +4.2
EVO *e*MLR MLR
comp=Z,3µm,19.5s,MS5.8
PVCC Panska Ves 155.31 265 *e*PKPAB PKPab 10 47 40.6 0.0
PVCC *e*SS SS 11 11 23.6 +21
PVCC *ex* x 11 33 06.7
PVCC AMS AMS 12 10 50.0
comp=Z,2µm,20.4s
PESTR Estremoz 155.42 217 *e*LR LR 11 48 39.9
comp=Z,2µm,17.3s
ORIF Oris-en-Rattie 155.47 245 *e*PKIKP PKPdf 10 47 16.8 +1.2
ORIF *e*MLR MLR
comp=Z,2µm,23.0s,MS5.5
BRG Berggiesshubel 155.84 265 *e*PKP2 PKPab 10 47 41.2 -1.6
BRG pmax pmax
comp=Z,4.0nm,1.4s
BRG MLR MLR
comp=N,5µm,22.2s,MS6.3
BRG MLR MLR
comp=E,633nm,23.1s,MS6.3
BRG MLR MLR
comp=Z,764nm,27.7s,MS5.4
BRG Berggiesshubel 155.84 265 *e*PKP PKPab 10 47 41.2 -1.7
comp=Z,8.7nm,1.4s
BRG
comp=N,1µm,22.2s
BRG
comp=E,1µm,23.1s
BRG
comp=Z,2µm,27.7s
PMRV Marv??o 155.88 217 *e*PKPab PKPab 10 47 43.4 +0.1
PMRV Marv??o 155.88 217 *e*LR LR 11 48 54.5
comp=Z,1µm,14.8s
PMAFR Mafra 155.99 214 *e*LR LR 11 51 22.4
comp=Z,2µm,20.0s
NKC Novy Kostel 156.16 262 *e*PKPAB PKPab 10 47 45.8 +1.5
NKC *e*SS SS 11 11 20.6 +9.1
NKC *e*SKSSKS 11 16 50.1
NKC *ex* x 11 33 04.5
NKC AMS AMS 12 08 30.0
comp=Z,2µm,22.6s
EPF Esparros 156.32 234 *e*PKIKP PKPdf 10 47 18.4 +1.6
GRF Grafenberg Arr 156.41 260 *e*PKIKP PKPdf 10 47 23.3 +6.6
GRF *e* 10 51 34.2
GRF *e*SS SS 11 11 16.4 +2.2
GRF Grafenberg Arr 156.41 260 *e*PKP PKPdf 10 47 23.3 +6.6
GRF *e*PP PP 10 51 34.2 +10
GRF *e*SS SS 11 11 16.4 +2.2
GRF *e*L 12 06 16.3
comp=Z,1µm,21.8s
CLL Collm 156.57 264 *e*PKP2 PKPab 10 47 46.0 0.0
CLL MLR MLR
comp=Z,2µm,19.5s,MS5.9
CLL Collm 156.57 264 *e*PKPab PKPab 10 47 46.0 0.0
CLL *ep*PKPab pPKPab 10 47 50.0 +0.7
CLL *ex* x 10 48 00.0

CLL			*e*PP	PP	10 51 42.0	+17
CLL			*e*PPP		10 54 54.0	
CLL			*e*SKSP		11 01 40.0	
CLL			*e*PSKS		11 01 54.0	
CLL			*e*SKKSdf	SKKSdf	11 03 08.0	+14
CLL			*e*PPS		11 04 48.0	
CLL			*e*SS	SS	11 11 25.0	+9.0
CLL			*e*PSPS		11 12 47.0	
CLL			LmV		11 14 00.0	
	comp=Z,2μm,19.5s					
CLL			*e*(SSS)		11 16 48.0	
CLL			*e*x	x	11 18 11.0	
CLL			*e*SSSS		11 21 54.0	
KEV	**Kevo**	**156.65 315**	PFAKE		10 47 30.0	+14
KEV			LR	LR		
	comp=Z,3μm,22.0s,MS6.0					
CABF	**La Chapelle**	**156.67 248**	*e*PKIKP	PKPdf	10 47 18.4	+1.3
MTE	**Manteigas**	**156.82 218**	*e*LR	LR	11 52 16.2	
	comp=Z,2μm,18.7s					
MTE	**Manteigas**	**156.82 218**	PFAKE		10 47 30.0	+12
MTE			LR	LR		
	comp=Z,2μm,21.0s,MS5.9					
MOX	**Moxa**	**156.83 262**	*e*(P)	PKPab	10 47 53.7	+6.6
MOX			*e*		10 48 14.0	
MOX						
	comp=Z,800nm,21.0s					
BFO	**Black Forest**	**156.87 254**	PFAKE		10 47 30.0	+13
BFO			LR	LR		
	comp=Z,1μm,20.0s,MS5.8					
CMLA	**Cha da Macela**	**157.23 181**	PFAKE		10 47 30.0	+12
CMLA			LR	LR		
	comp=Z,1μm,20.0s,MS5.8					
MVO	**Moncorvo**	**157.36 220**	*e*LR	LR	11 52 41.9	
	comp=Z,1μm,19.7s					
CDF	**Champ du Feu**	**157.43 253**	*e*PKIKP	PKPdf	10 47 19.4	+1.4
	comp=Z,10nm,1.1s					
RJF	**Les Rejaudoux**	**157.69 239**	*e*PKIKP	PKPdf	10 47 19.3	+0.8
RJF			*e*MLR	MLR		
	comp=Z,2μm,22.5s,MS5.7					
RJF	**Les Rejaudoux**	**157.69 239**	*e*PKPdf	PKPdf	10 47 19.3	+0.8
RJF			LR	LR		
	comp=Z,2μm,22.5s,MS6.0					
SMF	**Signal de Mont**	**157.71 245**	*e*PKIKP	PKPdf	10 47 19.8	+1.3
	comp=Z,13nm,1.2s					
LFF	**La Frestale**	**157.72 238**	*e*PKIKP	PKPdf	10 47 19.7	+1.2
SPITS	**Spitsbergen Ar**	**157.76 338**	PKPab	PKPab	10 47 51.1	+0.7
	comp=Z,5.9nm,0.8s,baz=48,slow=2.9,SNR=4.8					
SCHQ	**Schefferville**	**157.77 87**	PFAKE		10 47 30.0	+12
SCHQ			LR	LR		
	comp=Z,3μm,22.0s,MS6.0					
BSD	**Bornholm Skovb**	**157.79 274**	*i* P	PKPdf	10 47 23.1	+4.8
BSD			*i*		10 56 17.7	
BSD			*i*		11 12 34.6	
BSD						
	comp=Z,2μm,21.0s					
BSD	**Bornholm Skovb**	**157.79 274**	*e*P	PKPdf	10 47 23.1	+4.8
BSD			*i*		10 56 17.7	
BSD			*i*		11 12 34.6	
AVF	**Avril sur Loir**	**158.04 245**	*e*PKIKP	PKPdf	10 47 19.8	+0.9
	comp=Z,9.9nm,1.2s					
KBS	**Kingsbay**	**158.12 341**	*e*SS	SS	11 11 36.8	+5.3
KBS	**Kingsbay**	**158.12 341**	PFAKE		10 47 30.0	+12
KBS			LR	LR		
	comp=Z,1μm,22.0s,MS5.8					
TCF	**Toulx Ste Croi**	**158.16 242**	*e*PKIKP	PKPdf	10 47 22.4	+3.4
LOR	**Lormes**	**158.18 246**	*e*PKIKP	PKPdf	10 47 20.8	+1.8
LOR			*e*MLR	MLR		
	comp=Z,3μm,22.2s,MS5.7					
LOR	**Lormes**	**158.18 246**	*e*PKPdf	PKPdf	10 47 20.8	+1.8
LOR			LR	LR		
	comp=Z,3μm,22.3s,MS6.0					
SSF	**Saint Saulge**	**158.18 245**	*e*PKIKP	PKPdf	10 47 21.4	+2.4
WLF	**Walferdange**	**158.83 254**	PFAKE		10 47 30.0	+10
WLF			LR	LR		
	comp=Z,2μm,22.0s,MS6.0					
TRO	**Tromso**	**159.47 315**	*e*PP	PP	10 51 40.0	-0.3
TRO			*e*SS	SS	11 11 47.7	+1.4
BAIF	**Baives**	**160.02 252**	*e*PKIKP	PKPdf	10 47 22.4	+1.3
ROSF	**Rostrenen**	**162.10 237**	*e*PKIKP	PKPdf	10 47 24.7	+1.4
	comp=Z,56nm,1.5s					
DAG	**Danmarks Havn**	**163.47 354**⇑	*i* P	PKPab	10 48 14.1	-1.3
	comp=Z,6.0nm,0.8s					
BER	**Bergen**	**164.57 283**	*e*SS	SS	11 12 40.2	+0.3
BER	**Bergen**	**164.57 283**	*e*PKIKP	PKPdf	10 47 22.6	-2.7
ESK	**Eskdalemuir**	**166.81 257**	PFAKE		10 47 40.0	+13
ESK			LR	LR		
	comp=Z,2μm,20.0s					
JMIC	**Jan Mayen**	**167.32 333**	*e*SS	SS	11 13 12.6	+5.6
SFJD	**Kangerlussuaq**	**167.42 49**	PFAKE		10 47 40.0	+13
SFJD			LR	LR		
	comp=Z,3μm,21.0s					
BORG	**Borgarnes**	**175.22 335**	PFAKE		10 47 40.0	+8.7
BORG			LR	LR		
	comp=Z,1μm,20.0s					

IDC 13 11:02:26.9±6.0, 2845S×17826W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, Error ellipse: s-maj=132.6km s-min=17.9km az=48.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.85**	**159**	Pn	Pn	11 02 45.6	-0.6
	124nm,0.3s,baz=271,slow=23,SNR=7.4						
RAO				Sn	Sg	11 03 01.9	+7.5
	170nm,0.3s,baz=261,slow=22,SNR=6.1						
STKA	**Stephens Creek**	**34.74**	**254**	P	P	11 09 18.4	-0.4
	1.2nm,0.8s,baz=85,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**43.02**	**265**	P	P	11 10 28.1	-0.3
	0.2nm,0.5s,baz=106,slow=7.1,SNR=6.5						
WRA	**Warramunga Arr**	**43.83**	**270**	P	P	11 10 35.5	+0.6
	1.2nm,0.6s,baz=111,slow=7.9,SNR=22						

ATH ***13*** *11:29:10.9, 3957N×2031E, h73km*
NEIC ***13*** *11:29:12.3, 3935N×2010E, h0km, ML2.6(THE), After THE.*
CSEM ***13*** *11:29:12.7±0.2, 3935N×2015E, h12km, ML2.6, Error ellipse: s-maj=4.1km s-min=2.7km az=100.0*
THE ***13*** *11:29:12.3, 3935N×2010E, h0km, ML2.6*
ISCJB ***13*** *11:29:13.0±0.9, 3931N±005×2022E±006, h10km±9km, Error ellipse: s-maj=8.8km s-min=7.4km az=15.8*

ISC 13 11:29:13.1±1.1, 3931N±006×2018E±006, h8km±10km, n9, σ1§06/14, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.25**	**29**	*e*Pg	**Pg**	11 29 17.5	-0.6
IGT				*e*Sg	**Sg**	11 29 21.5	+0.1
KEK	**Kerkira**	**0.49**	**324**	*e*P	**Pg**	11 29 23.8	+1.1
KEK				*e*S	**Sg**	11 29 33.2	+4.1
JAN	**Janina**	**0.62**	**56**	*e*P	**Pg**	11 29 23.6	-1.5
JAN				*e*S	**Sg**	11 29 33.0	-0.2
VLS	**Valsamata**	**1.18**	**164**	*e*Pg	**Pg**	11 29 35.5	-0.2
VLS	**Valsamata**	**1.18**	**164**	*e*P	**Pg**	11 29 36.1	+0.4
THL	**Klokotos Trika**	**1.44**	**79**	*e*Pg	**Pg**	11 29 39.8	-0.9
THL				*e*Sg	**Sg**	11 30 01.4	+1.9
AGG	**Agios Georgios**	**1.70**	**99**	*e*Pb	**Pb**	11 29 43.4	-1.1
AGG				*e*Sb	**Sb**	11 30 07.4	+1.4
TIR	**Tirane**	**2.04**	**353**	*e*Pn	**Pn**	11 29 47.1	-0.6
TIR	**Tirane**	**2.04**	**353**	*e*Pn	**Pn**	11 29 47.1	-0.6

ISCJB ***13*** *11:58:57.2±0.5, 1369N±009×572E±0.1, h10km, mb4.0/19, Error ellipse: s-maj=15.5km s-min=10.9km az=31.8*
IDC ***13*** *11:58:57.1±0.6, 1363N×5725E, h0km, mb4.0/16, mb1 4.1/16, mb1mx4.0/27, mbtmp4.0/16, Error ellipse: s-maj=19.4km s-min=14.4km az=131.0*
NEIC ***13*** *11:58:58.6±0.5, 1365N×5721E, h10km, mb4.4/2, Error ellipse: s-maj=16.8km s-min=11.6km az=121.0*
CSEM ***13*** *11:58:58.7, 1365N×5721E, h10km, mb4.4/2, After NEIC*

ISC 13 11:58:58.9±0.5, 1367N±008×572E±01, h10km, n29, σ1§07/25, mb4.0/19, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**24.66**	**235**	P	**P**	12 04 20.9	+0.9
	2.5nm,0.5s,mb4.0,baz=46,slow=14,SNR=6.5						
ASF	**Jabal al Asfar**	**26.18**	**318**	P	**P**	12 04 35.0	+1.3
	5.3nm,0.9s,mb4.1,baz=335,slow=6.5,SNR=6.6						
EKS2	**Erkin-Say**	**32.24**	**23**	*e*P	**P**	12 05 30.4	+3.0
	6.4nm,1.1s,mb4.4						
AKTK	**Aktyubinsk**	**36.67**	**1**	P	**P**	12 06 05.6	-0.1
AKTK	**Aktyubinsk**	**36.67**	**1**	P	**P**	12 06 05.5	-0.1
AKTO	**Aktyubinsk**	**36.67**	**1**	P	**P**	12 06 05.5	-0.1
	2.1nm,0.6s,mb4.1,baz=196,slow=9.0,SNR=6.7						
MK31	**Makanchi Array**	**39.14**	**27**	*e*P	**P**	12 06 26.1	-0.5
MK31	**Makanchi Array**	**39.14**	**27**	*e*P	**P**	12 06 26.1	-0.5
MKAR	**Makanchi Array**	**39.14**	**27**	P	**P**	12 06 27.3	+0.7
	1.0nm,0.8s,mb3.6,baz=205,slow=6.4,SNR=6.6						
CMAR	**Chiang Mai Arr**	**40.30**	**78**	P	**P**	12 06 38.1	+1.4
	2.5nm,0.9s,mb3.9,baz=276,slow=8.4,SNR=12						
BVAR	**Borovoye Array**	**40.64**	**12**	P	**P**	12 06 40.3	+1.4
	0.2nm,0.4s,mb3.1,baz=161,slow=9.2,SNR=2.4						
LSZ	**Lusaka**	**40.65**	**226**	P	**P**	12 06 40.2	+0.7
	2.9nm,0.6s,mb4.1,baz=44,slow=8.1,SNR=9.2						
ZALV	**Zalesovo Beam**	**45.68**	**22**	P	**P**	12 07 19.7	0.0
	1.3nm,0.6s,mb4.0,baz=226,slow=8.1,SNR=4.5						
LBTB	**Lobatse**	**49.29**	**219**	P	**P**	12 07 48.9	+0.7
	1.9nm,0.5s,mb4.4,baz=45,slow=8.6,SNR=3.9						
LBTB	**Lobatse**	**49.29**	**219**	P	**P**	12 07 48.9	+0.7
JOF	**Joensuu**	**52.49**	**345**	*e*p	**P**	12 08 09.6	-2.2
	3.0nm,0.6s,mb4.4						
KAF	**Kangasniemi**	**53.18**	**342**	*e*p	**P**	12 08 16.8	-0.1
	2.1nm,0.6s,mb4.2						
TORD	**Torodi Ar. Bea**	**53.92**	**276**	P	**P**	12 08 21.9	-1.2
	1.0nm,0.7s,mb3.9,baz=76,slow=5.1,SNR=6.7						
KEV	**Kevo**	**59.17**	**348**	*e*p	**P**	12 09 07.7	+8.1
ARCES	**ARCESS Array B**	**59.30**	**348**	P	**P**	12 08 58.6	-1.8
	2.3nm,0.8s,mb4.2,baz=134,slow=6.9,SNR=4.7						
KSRS	**Korea Array**	**66.55**	**55**	P	**P**	12 09 49.6	+0.3
	0.9nm,0.7s,mb3.9,baz=268,slow=7.2,SNR=4.1						
MJAR	**Matsushiro Arr**	**74.81**	**56**	P	**P**	12 10 39.1	-0.7
	0.4nm,0.7s,mb3.5,baz=267,slow=12,SNR=3.2						
MAW	**Mawson**	**81.15**	**178**	P	**P**	12 11 13.5	-0.6
	1.7nm,0.8s,mb4.0,baz=12,slow=5.9,SNR=4.3						
WRA	**Warramunga Arr**	**82.85**	**112**	P	**P**	12 11 23.0	-1.1
	2.6nm,1.0s,mb4.2,baz=297,slow=4.5,SNR=14						
ASAR	**Alice Springs**	**83.58**	**116**	P	**P**	12 11 27.0	-0.8
	0.9nm,0.7s,mb4.0,baz=291,slow=4.7,SNR=17						
PDAR	**Pinedale Array**	**122.55**	**348**	PKP	PKPdf	12 17 53.9	-1.1
	0.3nm,0.5s,baz=101,slow=1.5,SNR=3.7						
PDAR	**Pinedale Array**	**122.55**	**348**	PKP	PKPdf	12 17 53.8	-1.2
LPAZ	**La Paz**	**127.28**	**260**	PKP	PKPdf	12 18 05.3	+0.6
	0.7nm,0.7s,baz=162,slow=3.2,SNR=2.8						
NVAR	**Mina Array Bea**	**128.01**	**356**	PKP	PKPdf	12 18 05.2	-0.4
	0.2nm,0.6s,baz=75,slow=1.0,SNR=3.4						

ISCJB ***13*** *11:59:44.1±0.6, 6.11N±007×1259E±0.1, h116km±9km, mb3.8/4, Error ellipse: s-maj=17.7km s-min=9.6km az=23.8*
NEIC ***13*** *11:59:44.5±2.0, 6.12N×125.11E, h124km±10km, mb4.1/1, Error ellipse: s-maj=75.7km s-min=10.8km az=90.0*
IDC ***13*** *11:59:44.0±3.3, 6.15N×125.12E, h120km±16km, mb3.6/4, mb1 3.7/4, mb1mx3.3/19, mbtmp3.6/4, Error ellipse: s-maj=112.8km s-min=19.9km az=91.0*
MAN ***13*** *11:59:45, 622N×12595E, h113km, mb4.5, ML3.4, MS3.3*

ISC 13 11:59:45.2±0.6, 613N±007×1259E±01, h110km±9km, n21, σ0§78/26, mb3.8/4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.88**	**23**	*e*P	**Pn**	12 00 05.0	-0.3
GSPH	**General Santos**	**0.96**	**268**	⇓*i*P	**Pn**	12 00 06.5	+0.4
GSPH				*e*S	**Sn**	12 00 20.2	-1.6
DAV	**Davao City (W)**	**0.99**	**340**	P	**Pn**	12 00 06.6	+0.2
	76nm,0.3s,baz=271,slow=4.5,SNR=15						
DAV				S	**Sn**	12 00 23.4	+1.0
	202nm,0.3s,baz=114,slow=24,SNR=13						
DAV	**Davao City (W)**	**0.99**	**340**	*e*Pn	**Pn**	12 00 07.4	+0.9
DAV				S	**Sn**	12 00 23.4	+1.0
KCP	**Kidapawan**	**1.20**	**317**⇑	*i*P	**Pn**	12 00 08.8	+0.2
KCP				*i* S	**Sn**	12 00 27.1	+0.8
BUKP	**Musuan**	**1.93**	**334**	*e*P	**Pn**	12 00 17.4	0.0
BIPH	**Bislig**	**2.09**	**12**⇑	*e*P	**Pn**	12 00 18.9	-0.5
BIPH				*e*S	**Sn**	12 00 44.6	-0.9
BUTP	**Butuan**	**2.84**	**354**	*e*P	**Pn**	12 00 28.9	-0.2
PAGZ	**Pagadian**	**3.04**	**304**	*e*P	**Pn**	12 00 32.0	+0.2
KAKA	**Kakadu**	**19.81**	**161**	*e*P	**P**	12 04 08.7	+1.5
	5.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.08**	**181**	*e*P	**P**	12 04 48.4	-2.2
WRAB	**Tennant Creek**	**27.20**	**162**	*e*P	**P**	12 05 19.0	+0.3
WRA	**Warramunga Arr**	**27.20**	**162**	P	**P**	12 05 18.5	-0.2
	0.4nm,0.3s,mb3.4,baz=337,slow=11,SNR=12						
WB2	**Warramunga Arr**	**27.20**	**162**	*e*P	**P**	12 05 18.7	-0.1
WB2	**Warramunga Arr**	**27.20**	**162**	*e*P	**P**	12 05 18.8	0.0
ASAR	**Alice Springs**	**30.62**	**166**	P	**P**	12 05 49.4	+0.3
	0.5nm,0.4s,mb3.6,baz=339,slow=6.8,SNR=16						
ASAR				PcP	PcP	12 08 43.5	-1.5
	0.3nm,0.6s,baz=351,slow=2.9,SNR=4.2						
STKA	**Stephens Creek**	**40.65**	**159**	*e*P	**P**	12 07 15.5	+0.9
	2.4nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**40.65**	**159**	P	**P**	12 07 14.6	0.0
	2.9nm,0.8s,mb4.1,baz=345,slow=13,SNR=4.1						
STKA	**Stephens Creek**	**40.65**	**159**	*e*P	**P**	12 07 14.7	+0.1
PETK	**Petropavlovsk-**	**53.54**	**23**	P	**P**	12 08 54.2	-0.3
	2.9nm,0.9s,mb4.3,baz=193,slow=4.4,SNR=3.2						
COLD	**Coldfoot**	**82.01**	**23**	*e*P	**P**	12 11 52.9	+0.1

TIR ***13*** *12:05:39.8±0.4, 3938N×2005E, h16km±7km*
THE ***13*** *12:05:40.6, 3927N×2012E, h0km, ML3.3*
ATH ***13*** *12:05:41.7, 3928N×2025E, h4km, MD3.4/4*
NEIC ***13*** *12:05:41.7, 3928N×2025E, h4km, MD3.4(ATH), ML3.3(THE), After ATH.*
ISCJB ***13*** *12:05:41.9±0.6, 3929N±003×2020E±005, h10km, Error ellipse: s-maj=5.3km s-min=3.5km az=160.6*
CSEM ***13*** *12:05:42.4±0.2, 3928N×2019E, h2km, ML3.3, Error ellipse: s-maj=4.2km s-min=3.0km az=68.0*

ISC 13 12:05:42.1±0.6, 3928N±003×2019E±005, h10km, n19, σ1§13/32, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**24**	*e*Pg	**Pg**	12 05 45.7	-2.0
IGT				*e*Sg	**Sg**	12 05 50.4	-1.1
IGT	**Igoumenitsa**	**0.28**	**24**	*i* PG	**Pg**	12 05 45.7	-2.0
IGT				*i* SG	**Sg**	12 05 50.4	-1.1
KEK	**Kerkira**	**0.53**	**325**	*e*PG	**Pg**	12 05 52.0	-0.4
KEK				*e*SG	**Sg**	12 06 00.3	+1.0
SRN	**Sarande**	**0.62**	**347**	*e*PN	**Pg**	12 05 52.8	-1.3
SRN				*i* SN	**Sg**	12 06 04.6	+2.4
JAN	**Janina**	**0.64**	**54**	*e*PG	**Pg**	12 05 52.2	-2.2
VLS	**Valsamata**	**1.14**	**164**	*e*Pg	**Pg**	12 06 01.2	-2.8
VLS				*e*Sg	**Sg**	12 06 19.6	+0.7
VLS	**Valsamata**	**1.14**	**164**	*e*Pb	**Pb**	12 06 03.6	-0.3
VLS				*e*Sb	**Sb**	12 06 19.0	+0.2
VLS				*e*Sg	**Sg**	12 06 19.6	+0.7
THL	**Klokotos Trika**	**1.44**	**78**	*e*Pg	**Pg**	12 06 08.6	-1.2
THL				*e*Sg	**Sg**	12 06 29.8	+1.2
THL	**Klokotos Trika**	**1.44**	**78**	*e*PN	**Pn**	12 06 08.7	+0.4
AGG	**Agios Georgios**	**1.69**	**98**	*e*Pb	**Pn**	12 06 11.7	+0.1
AGG				*e*Sb	**Sb**	12 06 35.4	+0.9
FNA	**Florina**	**1.76**	**31**	*e*Pb	**Pn**	12 06 13.2	+0.6
FNA				*e*Sb	**Sb**	12 06 37.3	+0.7
FNA	**Florina**	**1.76**	**31**	*i* PG	**Pn**	12 06 13.2	+0.6
FNA				*i* SG	**Sg**	12 06 37.3	-1.3
LIT	**Litokhoron**	**1.96**	**64**	*e*Pn	**Pn**	12 06 16.1	+0.7
LIT				*e*Sn	**Sn**	12 06 41.0	+1.1
LIT	**Litokhoron**	**1.96**	**64**	*e*Pn	**Pn**	12 06 16.0	+0.7
LIT				*e*Sn	**Sn**	12 06 41.0	+1.1
TIR	**Tirane**	**2.08**	**353**	*i* PG	**Pn**	12 06 17.5	+0.5
TIR	**Tirane**	**2.08**	**353**	*e*Pn	**Pn**	12 06 17.5	+0.5
TIR	**Tirane**	**2.08**	**353**	*e*Pn	**Pn**	12 06 17.5	+0.5
KRUS	**Krusevo**	**2.24**	**21**	*i* Pn	**Pn**	12 06 20.0	+0.8
GRG	**Griva**	**2.39**	**45**	*e*Pn	**Pn**	12 06 21.0	-0.2

ISCJB ***13*** *12:06:59.5±0.6, 279S±01×866E±01, h10km, mb4.0/11, Error ellipse: s-maj=18.1km s-min=15.1km az=154.2*
IDC ***13*** *12:06:59.8±0.8, 2785S×8664E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/20, mbtmp4.0/11, Error ellipse: s-maj=22.7km s-min=18.2km az=153.0*
NEIC ***13*** *12:07:01.3±0.4, 2785S×8665E, h10km, Error ellipse: s-maj=13.1km s-min=11.0km az=154.0*

ISC 13 12:07:01.4±0.6, 278S±01×867E±01, h10km, n14, σ0§50/14, mb4.0/11, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**37.04**	**83**	P	**P**	12 14 11.9	+0.1
	1.0nm,0.8s,mb3.7,baz=208,slow=15,SNR=3.0						
MAW	**Mawson**	**42.30**	**193**	P	**P**	12 14 55.5	+0.6
	0.5nm,0.2s,mb3.7,baz=10,slow=6.1,SNR=3.9						
ASAR	**Alice Springs**	**42.56**	**95**	P	**P**	12 14 58.1	+0.5
	1.0nm,0.7s,mb3.7,baz=256,slow=6.3,SNR=11						
WRA	**Warramunga Arr**	**44.08**	**90**	P	**P**	12 15 10.1	+0.2
	2.5nm,0.6s,mb4.1,baz=256,slow=8.0,SNR=12						
STKA	**Stephens Creek**	**47.40**	**109**	P	**P**	12 15 34.7	-1.4
	1.1nm,0.6s,mb4.0,baz=260,slow=9.5,SNR=2.9						
STKA	**Stephens Creek**	**47.40**	**109**	P	**P**	12 15 34.7	-1.4
CMAR	**Chiang Mai Arr**	**47.53**	**16**	P	**P**	12 15 37.6	+0.5
	0.9nm,0.8s,mb3.9,baz=206,slow=8.0,SNR=3.9						
BOSA	**Boshof**	**53.56**	**254**	P	**P**	12 16 22.3	-0.4
	3.8nm,0.8s,mb4.4,baz=66,slow=4.3,SNR=4.5						
LBTB	**Lobatse**	**54.26**	**258**	P	**P**	12 16 27.9	0.0
	2.9nm,0.8s,mb4.2,baz=165,slow=9.3,SNR=4.4						
VNDA	**Vanda**	**59.83**	**166**	P	**P**	12 17 06.6	+0.1
	0.6nm,0.7s,mb3.7,baz=282,slow=7.3,SNR=4.1						
QSPA	**South Pole Qui**	**62.28**	**180**	P	**P**	12 17 23.2	+0.1
	4.6nm,0.8s,mb4.7,baz=298,slow=4.6,SNR=27						
QSPA	**South Pole Qui**	**62.28**	**180**	P	**P**	12 17 23.2	0.0
ZAA0	**Zalesovo Array**	**81.46**	**359**	*e*P	**P**	12 19 18.1	-0.2
ZALV	**Zalesovo Beam**	**81.46**	**359**	P	**P**	12 19 18.1	-0.3
	0.7nm,0.3s,mb4.0,baz=198,slow=4.1,SNR=2.9						

IDC 13 13:03:12.4±1.6, 2941S×17926E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=50.6km s-min=26.3km az=180.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.47**	**87**	Pn	Pn	13 03 54.1	+0.3
	121nm,0.3s,baz=52,slow=23,SNR=7.5						
RAO				Sn	Sn	13 04 17.1	-7.6
	185nm,0.3s,baz=106,slow=23,SNR=6.9						
URZ	**Urewera**	**9.00**	**191**	Pn	Pn	13 05 22.6	-1.0
	0.5nm,0.3s,baz=96,slow=9.2,SNR=6.6						
URZ				Sn	Sn	13 07 02.3	-3.4
	1.8nm,0.3s,baz=162,slow=20,SNR=10.0						
STKA	**Stephens Creek**	**32.40**	**256**	P	P	13 09 45.5	+1.6
	1.1nm,0.7s,baz=101,slow=16,SNR=3.1						
ASAR	**Alice Springs**	**40.78**	**267**	P	P	13 10 54.9	-0.7
	0.4nm,0.4s,baz=104,slow=7.0,SNR=16						
WRA	**Warramunga Arr**	**41.68**	**273**	P	P	13 11 02.4	-0.5
	0.4nm,0.4s,baz=109,slow=8.3,SNR=12						

NEIC ***13*** *13:41:54.2, 2861S×7084W, h34km, ML3.9(GUC), After GUC.*

GUC 13 13:41:54.2±0.6, 2861S×7084W, h34km±4km, MD3.7, ML3.9, 6C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.08**	**65**⇑	*i*P	Pb	13 42 00.2	+0.3
VACH				*i* S	Sb	13 42 04.1	+0.3
VACH				AML	AML	13 42 04.2	
	comp=N,89μm,0.1s						
VACH	**Vallenar**	**0.08**	**65**⇑	*i*P	Pb	13 42 00.2	+0.3
VACH				*i* S	Sb	13 42 04.1	+0.3
LCO	**Las Campanas**	**0.42**	**163**	*e*P	Pb	13 42 04.0	+0.4
LCO				*e*S	Sb	13 42 09.5	-0.6
CPCH	**Copiapo**	**1.32**	**19**⇑	*i*P	Pn	13 42 17.1	+0.8
CPCH				AML	AML	13 42 36.4	
	comp=N,9μm,0.1s						
LSCH	**La Serena**	**1.34**	**195**⇑	*i*P	Pn	13 42 17.3	+0.8
CDCH	**Caldera**	**1.53**	**0**	*i* P	Pn	13 42 20.3	+1.2
TLL	**Tololo Astrono**	**1.55**	**179**⇑	*i*P	Pn	13 42 21.7	+2.2
TLL				*i* S	Sn	13 42 42.0	+3.5
TLL				AML	AML	13 42 48.4	
	comp=N,293nm,0.7s						
TLL	**Tololo Astrono**	**1.55**	**179**⇑	*i*P	Pn	13 42 21.7	+2.2
TLL				*i* S	Sn	13 42 42.0	+3.5

ISCJB ***13*** *13:58:27.1±0.2, 4511N±001×1340E±001, h5km±2km, Error ellipse: s-maj=1.8km s-min=1.5km az=168.7*
PRU ***13*** *13:58:28.6, 4517N×1336E, h0km*
NEIC ***13*** *13:58:28.9±1.3, 4515N×1338E, h9km±10km, ML3.6(ROM), ML3.7(STR), ML3.7(LDG), ML3.7(LJU), ML3.9(FUR), Error ellipse: s-maj=3.1km s-min=2.0km az=165.0*
NEIC Felt [III] at Trieste; felt at Gorizia. Also felt [III] at Ljubljana, Slovenia.
VIE ***13*** *13:58:29.4±0.3, 4514N×1346E, h10km, mb3.4/15, ML4.0/16, Error ellipse: s-maj=2.6km s-min=1.7km az=175.0*
ROM ***13*** *13:58:29.1±0.1, 4514N×1340E, h10km, Ml3.4/28, Error ellipse: s-maj=3.5km s-min=1.4km az=93.0*
PDG ***13*** *13:58:29.2±0.5, 4514N×1343E, h16km±1km, MD5.0/1, ML4.0/9, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
LDG ***13*** *13:58:30.9±0.1, 4518N×1340E, h10km, Ml3.7/16, Error ellipse: s-maj=2.4km s-min=2.1km az=116.0*
CSEM ***13*** *13:58:31.0±0.1, 4527N×1339E, h10km, ML3.6/6, Error

LJU				*e*Sg	Sg	13 59 08.5	+1.0
LJU							
	comp=Z,1μm,0.1s						
LJU	**Ljubljana**	1.22	40	⇑*i*Pg	Pg	13 58 51.9	+0.2
LJU				*e*Sg	Sg	13 59 08.5	+1.0
LJU	**Ljubljana**	1.22	40	⇑*i*Pg	Pg	13 58 51.9	+0.3
LJU				*e*Sg	Sg	13 59 08.5	+1.0
BOO	**Bordano**	1.22	350	⇑*i*Pg	Pg	13 58 51.5	-0.2
VISS	**Visnje**	1.23	55	⇓*i*Pg	Pg	13 58 51.9	+0.2
VISS				*e*Sg	Sg	13 59 07.8	+0.2
VISS							
	comp=Z,1μm,0.2s						
VISS	**Visnje**	1.23	55	⇓*i*Pg	Pg	13 58 51.9	+0.2
VISS				*e*Sg	Sg	13 59 07.8	+0.2
VISS	**Visnje**	1.23	55	⇓*i*Pg	Pg	13 58 51.9	+0.2
VISS				*e*Sg	Sg	13 59 07.8	+0.2
TEOL	**Teolo**	1.24	282	⇑*i*Pg	Pg	13 58 52.0	-0.1
TEOL				*i* Sg	Sg	13 59 10.2	+2.0
GORS	**Gorjuse**	1.27	19	⇑*i*Pg	Pg	13 58 52.1	-0.5
GORS				*e*Sg	Sg	13 59 09.4	+0.2
GORS							
	comp=Z,1μm,0.2s						
GORS	**Gorjuse**	1.27	19	⇑*i*Pg	Pg	13 58 52.2	-0.4
GORS				*e*Sg	Sg	13 59 09.4	+0.3
GORS	**Gorjuse**	1.27	19	⇑*i*Pg	Pg	13 58 52.1	-0.5
GORS				*e*Sg	Sg	13 59 09.4	+0.2
PTCC	**Patocco-Chiusa**	1.29	359	⇑*i*Pg	Pg	13 58 52.4	-0.6
PTCC				Sg	Sg	13 59 09.4	-0.3
VNDS	**Vrh nad Dolski**	1.35	42	⇑*i*Pg	Pg	13 58 53.8	-0.2
VNDS				*i* Sg	Sg	13 59 11.1	-0.4
CGRP	**Cima Grappa**	1.36	305	⇑*i*Pg	Pg	13 58 53.5	-0.8
CGRP				*i* Sg	Sg	13 59 13.3	+1.4
RSM	**Repubblica di**	1.36	210	Pg	Pg	13 58 55.5	+1.2
	comp=Z,73nm,0.8s						
LSR	**Lussari**	1.36	4	⇑*i*Pg	Pg	13 58 53.7	-0.7
LSR				*i* Sg	Sg	13 59 12.9	+0.8
BOJS	**Bojanci**	1.37	73	⇓*i*Pg	Pg	13 58 54.1	-0.3
BOJS				*i* Sg	Sg	13 59 11.9	-0.2
BOJS							
	comp=Z,872nm,0.2s						
BOJS	**Bojanci**	1.37	73	⇓*i*Pg	Pg	13 58 54.1	-0.3
BOJS				*i* Sg	Sg	13 59 11.9	-0.2
BOJS	**Bojanci**	1.37	73	⇓*i*Pg	Pg	13 58 54.1	-0.3
BOJS				*i* Sg	Sg	13 59 11.9	-0.2
CSO	**Casso**	1.38	327	⇑*i*Pg	Pg	13 58 53.8	-0.9
CSO				*i* Sg	Sg	13 59 13.2	+0.6
PLRO	**Paularo**	1.45	353	⇑*i*Pg	Pg	13 58 54.8	-1.1
PLRO				*i* Sg	Sg	13 59 14.8	+0.1
PDKS	**Podkum**	1.47	49	*i* Pg	Pg	13 58 55.5	-0.9
PDKS				*e*Sg	Sg	13 59 14.9	-0.6
PDKS							
	comp=Z,657nm,0.2s						
PDKS	**Podkum**	1.47	49	*i* Pg	Pg	13 58 55.5	-0.9
PDKS				*e*Sg	Sg	13 59 14.9	-0.6
ZOU	**Zoufplan**	1.47	349	⇑*i*Pg	Pg	13 58 55.2	-1.2
ZOU				*i* Sg	Sg	13 59 13.9	-1.6
FSSB	**Fossombrone**	1.49	198	Pg	Pg	13 58 56.5	-0.2
	comp=Z,223nm,0.3s						
FAU	**Forcella Aurin**	1.49	319	⇑*i*Pg	Pg	13 58 55.8	-1.1
FAU				*i* Sg	Sg	13 59 15.0	-1.2
MYKA	**Terra Mystica**	1.52	6	⇑*i*Pn	Pn	13 58 56.5	0.0
MYKA				⇑*i*Pg	Pg	13 58 57.5	+0.1
MYKA				⇓*i*Sn	Sn	13 59 17.8	+0.9
MYKA				⇓*i*Sg	Sg	13 59 18.9	+1.6
	comp=Z,504nm,0.2s						
CTI	**Castel Tesino**	1.54	308	Pg	Pn	13 58 56.2	-0.5
	comp=Z,729nm,0.4s						
FVI	**Forni Avoltri**	1.54	344	Pg	Pn	13 58 56.4	-0.3
FVI				Sg	Sg	13 59 18.4	+0.6
	comp=Z,772nm,0.5s						
AOI	**Ancona**	1.57	175	Pg	Pg	13 58 57.7	-0.6
	comp=Z,334nm,0.5s						
LEGS	**Legarje**	1.59	58	*i* Pg	Pn	13 58 57.0	-0.3
LEGS				*i* Sg	Sg	13 59 18.4	-0.8
OBKA	**Obir**	1.61	30	⇓*e*Pn	Pn	13 58 57.3	-0.3
	SNR=164						
OBKA				⇓*i*Pg	Pg	13 58 58.6	-0.5
OBKA				⇑*i*Sn	Sn	13 59 19.7	+0.7
OBKA				⇑*i*Sg	Sg	13 59 21.3	+1.3
	comp=Z,917nm,0.2s						
OBKA	**Obir**	1.61	30	Pn	Pn	13 58 57.3	-0.3
	comp=Z,163nm,7.0s						
CRES	**Cresnjev**	1.61	63	*i* Pg	Pn	13 58 57.6	-0.1
CRES				*i* Sg	Sg	13 59 18.8	-1.3
CRES							
	comp=Z,347nm,0.2s						
CRES	**Cresnjev**	1.61	63	*i* Pg	Pn	13 58 57.6	-0.1
CRES				*i* Sg	Sg	13 59 18.8	-1.3
CRES	**Cresnjev**	1.61	63	*i* Pg	Pn	13 58 57.6	-0.1
CRES				*i* Sg	Sg	13 59 18.8	-1.3
SFI	**Santa Sofia**	1.64	223	Pg	Pg	13 58 58.7	-0.9
	comp=Z,138nm,0.4s						
ARVD	**Arcevia**	1.65	192	Pg	Pg	13 58 59.0	-0.8
	comp=Z,242nm,0.7s						
AFL	**Alpe Faloria**	1.65	329	⇑*i*Pg	Pg	13 58 58.8	-1.1
CING	**Cingoli**	1.74	185	Pg	Pn	13 58 59.9	+0.4
	comp=Z,221nm,0.6s						
ZAVS	**Zavodnje**	1.74	40	*i* Pn	Pn	13 58 59.0	-0.4
ZAVS				*e*Sn	Sn	13 59 22.4	+0.2
ABTA	**Abfaltersbach**	1.75	340	⇑*e*Pn	Pn	13 58 59.7	+0.2
	SNR=138						
ABTA				⇑*i*Sn	Sn	13 59 23.9	+1.6
ABTA				⇑*i*Sg	Sg	13 59 26.6	+2.3
	comp=Z,387nm,0.3s						
VMG	**Vicchio**	1.76	230	Pg	Pn	13 59 00.4	+0.8
	comp=Z,175nm,0.6s						
SEI	**Scarperia**	1.80	235	Pg	Pn	13 59 01.3	+1.1
	comp=Z,422nm,0.4s						
BADI	**Badiali**	1.81	208	Pg	Pg	13 59 01.6	-1.2
	comp=Z,635μm,50.0s						
FNVD	**Fontana Vidola**	1.88	241	Pg	Pg	13 59 02.7	-1.5
	comp=Z,214nm,0.5s						
SNTG	**Esanatoglia**	1.89	190	Pg	Pn	13 59 02.3	+0.9
	comp=Z,135nm,0.4s						
SOKA	**Soboth**	1.94	36	⇑*i*Pn	Pn	13 59 02.0	-0.1
SOKA				⇓*i*Pg	Pg	13 59 04.8	-0.6
SOKA				⇑*i*Sn	Sn	13 59 27.6	+0.6
MURB	**Monte Urbino**	1.95	199	Pg	Pn	13 59 03.6	+1.3
	comp=Z,703nm,0.3s						
KBA	**Koelnbreinsper**	1.96	359	⇑*e*Pn	Pn	13 59 02.8	+0.3
	SNR=76						
KBA				⇑*i*Sn	Sn	13 59 28.6	+0.9
KBA	**Koelnbreinsper**	1.96	359	Pn	Pn	13 59 02.8	+0.3
	comp=Z,75nm,8.0s						
KBA				Sn	Sn	13 59 28.6	+0.9
MAGA	**Magasa**	2.06	290	Pg	Pn	13 59 03.7	-0.1
	comp=Z,2μm,0.4s						
PZZT	**Monte Pizzetto**	2.06	242	Pg	Pn	13 59 04.7	+0.9
	comp=Z,147nm,0.6s						
SALO	**Salr**	2.09	285	Pg	Pn	13 59 03.9	-0.3
	comp=Z,1μm,0.6s						
ASS	**Assisi**	2.12	195	Pg	Pn	13 59 06.7	+2.1
	comp=Z,10.0nm,0.5s						
GSCL	**Gusciola**	2.14	250	Pg	Pn	13 59 04.7	-0.2
CRMI	**Carmignano**	2.19	234	Pg	Pn	13 59 05.7	+0.2
	comp=Z,140nm,1.0s						
MABI	**Malga Bissina**	2.23	296	Pg	Pn	13 59 06.8	+0.6
	comp=Z,151nm,0.3s						
SCE	**Schlegeis**	2.25	329	⇑*i*Pn	Pn	13 59 07.3	+0.8
BDI	**Bagni Di Lucca**	2.26	243	Pg	Pn	13 59 07.5	+1.0
	comp=Z,157nm,0.7s						
NRCA	**Norcia**	2.29	185	Pg	Pn	13 59 07.0	+0.1
	comp=Z,48nm,0.4s						
VLC	**Villacollemand**	2.35	247	⇑*i*Pg	Pn	13 59 08.7	+0.9
	comp=Z,126nm,0.9s						
VLC	**Villacollemand**	2.35	247	*e*Pn	Pn	13 59 08.6	+0.8
VLC	**Villacollemand**	2.35	247	*e*Pn	Pn	13 59 08.6	+0.8
VALM	**Valbona**	2.37	252	P	Pn	13 59 09.1	+1.0
MAIM	**Mastiano**	2.40	241	Pg	Pn	13 59 08.8	+0.3
	comp=Z,82nm,0.7s						
MAIM	**Mastiano**	2.40	241	P	Pn	13 59 09.0	+0.5
GRAM	**Graiana**	2.45	256	P	Pn	13 59 10.0	+0.8
GRAM				S	Sn	13 59 39.7	0.0
GRAM	**Graiana**	2.45	256	P	Pn	13 59 10.0	+0.8
WTTA	**Wattenberg**	2.47	331	⇓*e*Pn	Pn	13 59 10.3	+0.8
	SNR=35						
WTTA	**Wattenberg**	2.47	331	Pn	Pn	13 59 10.3	+0.8
	comp=Z,34nm,6.0s						
PII	**Pisa**	2.48	237	Pg	Pn	13 59 09.4	-0.2
	comp=Z,51nm,0.2s						
TERO	**Teramo**	2.50	176	Pg	Pn	13 59 10.2	+0.4
	comp=Z,154nm,0.6s						
SACS	**San Casciano d**	2.51	206	Pg	Pn	13 59 10.5	+0.6
	comp=Z,150nm,0.9s						
VINC	**Vinca**	2.51	248	P	Pn	13 59 11.0	+1.0
VINC	**Vinca**	2.51	248	P	Pn	13 59 11.0	+1.0
VINC				S	Sn	13 59 40.6	-0.6
VINC				S	Sn	13 59 40.6	-0.6
VINC	**Vinca**	2.51	248	P	Pn	13 59 11.0	+1.0
VINC				S	Sn	13 59 40.6	-0.6
BACM	**Baccana**	2.51	252	P	Pn	13 59 10.7	+0.7
LNSS	**Leonessa**	2.52	186	Pg	Pn	13 59 10.9	+0.7
	comp=Z,427nm,0.6s						
BGLD	**Berchtesgaden**	2.55	354	⇓*i*Pn	Pn	13 59 11.1	+0.5
WATA	**Walderalm**	2.56	331	⇓*e*Pn	Pn	13 59 11.8	+1.2
	SNR=54						
WATA	**Walderalm**	2.56	331	Pn	Pn	13 59 11.8	+1.2
	comp=Z,54nm,5.0s						
CAMP	**Campotosto**	2.58	180	Pg	Pn	13 59 10.9	0.0
	comp=Z,50nm,1.1s						
ARSA	**Arzberg**	2.60	34	⇓*i*Pg	Pg	13 59 17.6	-0.3
ARSA	**Arzberg**	2.60	34	*e*Pn	Pn	13 59 10.8	-0.4
	SNR=12						
ARSA				⇓*i*Pg	Pg	13 59 17.6	-0.3
ARSA				⇓*i*Sn	Sn	13 59 43.8	+0.5
ARSA	**Arzberg**	2.60	34	Pn	Pn	13 59 10.8	-0.4
	comp=Z,12nm,4.0s						
ARSA	**Arzberg**	2.60	34	Pg	Pg	13 59 17.6	-0.4
ARSA				Sn	Sn	13 59 43.8	+0.5
CODM	**Codolo**	2.63	255	P	Pn	13 59 12.7	+1.1
CODM				S	Sn	13 59 42.7	-1.3
CODM	**Codolo**	2.63	255	P	Pn	13 59 12.7	+1.1
RJOB	**Jochberg**	2.66	351	*e*Pn	Pn	13 59 12.8	+0.8
RJOB				*e*Sg	Sn	13 59 47.0	+2.3
FETA	**Feichten**	2.66	317	⇓*e*Pn	Pn	13 59 12.6	+0.6
	SNR=30						
FETA				⇓*i*Sn	Sn	13 59 46.7	+1.8
MDI	**Monti di Nese**	2.68	286	Pg	Pn	13 59 11.9	-0.4
	comp=Z,212nm,0.4s						
BLY	**Banja Luka**	2.71	96	*e*Pn	Pn	13 59 12.7	-0.1
BLY				*e*Sn	Sn	13 59 44.5	-1.7
VCEL	**Villa Celiera**	2.74	173	Pg	Pn	13 59 13.8	+0.7
	comp=Z,179nm,0.7s						
MOTA	**Moosalm**	2.74	325	⇑*e*Pn	Pn	13 59 14.7	+1.6
	SNR=17						
MOTA	**Moosalm**	2.74	325	Pn	Pn	13 59 14.7	+1.6
	comp=Z,16nm,7.0s						
AQU	**L'Aquila**	2.76	180	*e*Pn	Pn	13 59 13.9	+0.5
AQU	**L'Aquila**	2.76	180	*e*Pn	Pn	13 59 13.9	+0.5
MNS	**Montasola**	2.78	191	Pg	Pn	13 59 14.6	+0.9
	comp=Z,92nm,0.4s						
MOA	**Molln**	2.80	12	⇑*e*Pn	Pn	13 59 14.2	+0.2
	SNR=10.0						
MOA				⇑*i*Pg	Pg	13 59 21.8	-0.1
BOB	**Bobbio (Coli)**	2.83	264	Pg	Pn	13 59 15.1	+0.8
	comp=Z,182nm,0.5s						
SC2M	**Scurtabo**	2.84	257	P	Pn	13 59 16.0	+1.5
SC2M	**Scurtabo**	2.84	257	P	Pn	13 59 16.0	+1.4
FIAM	**Fiamignano**	2.85	184	Pg	Pn	13 59 16.1	+1.4
	comp=Z,108nm,0.7s						
DAVOX	**Davos/Dischmat**	2.97	305	Pg	Pn	13 59 18.4	+2.2
PTQR	**Pietraquaria**	3.09	180	Pg	Pn	13 59 19.4	+1.4
TUE	**Stuetta**	3.14	297	Pg	Pn	13 59 20.4	+1.7
	comp=Z,129nm,0.6s						
TUE	**Stuetta**	3.14	297	*e*Pn	Pn	13 59 19.8	+1.1
TUE	**Stuetta**	3.14	297	Pg	Pn	13 59 20.4	+1.7
	comp=Z,129nm,0.6s						
TUE	**Stuetta**	3.14	297	*e*Pn	Pn	13 59 19.8	+1.2
MUGIO	**Muggio**	3.17	286	Pg	Pn	13 59 18.8	-0.2
CERT	**Cerreto**	3.18	186	Pg	Pn	13 59 19.2	0.0
	comp=Z,55nm,0.6s						
DAVA	**Damuels**	3.27	313	⇑*i*Pn	Pn	13 59 22.3	+1.9
	SNR=17						
DAVA				⇓*i*Sn	Sn	14 00 01.2	+1.4
DAVA	**Damuels**	3.27	313	Pn	Pn	13 59 22.3	+1.9
	comp=Z,16nm,9.0s						
DAVA				Sn	Sn	14 00 01.2	+1.4
CSNA	**Conrad Observa**	3.29	30	⇑*i*Pn	Pn	13 59 20.4	-0.3
CONA	**Conrad Observa**	3.29	30	⇓*i*Pn	Pn	13 59 20.5	-0.2
VAI	**Varese**	3.34	285	Pg	Pn	13 59 21.1	-0.3
	comp=Z,58nm,0.4s						
SOP	**Sopron**	3.38	39	⇓*e*Pn	Pn	13 59 21.4	-0.5
SOP				*e*Sn	Sn	13 59 59.1	-3.3
FUR	**Furstenfeldbru**	3.38	335	*e*Pn	Pn	13 59 22.2	+0.3
FUR	**Furstenfeldbru**	3.38	335	Pn	Pn	13 59 22.2	+0.2
FUR	**Furstenfeldbru**	3.38	335	*e*Pn	Pn	13 59 22.2	+0.2
PCP	**Piancastagn**	3.50	262	P	Pn	13 59 24.6	+1.0
PCP	**Piancastagn**	3.50	262	P	Pn	13 59 24.6	+1.0
RHK3	**Tenkes**	3.50	76	*e*P	Pn	13 59 22.4	-1.2
GEC2	**GERESS Array S**	3.74	3	*e*Pn	Pn	13 59 26.5	-0.4
GEC2	**GERESS Array S**	3.74	3	*e*Pn	Pn	13 59 26.5	-0.4
FIN	**Finale Ligure**	3.81	258	P	Pn	13 59 26.9	-1.0
FIN	**Finale Ligure**	3.81	258	P	Pn	13 59 26.9	-0.9
STON	**Ston**	3.83	124	*e*Pn	Pn	13 59 28.4	+0.2
STON	**Ston**	3.83	124	*e*Pn	Pn	13 59 28.3	+0.2
PKSM	**Moragy**	3.84	72	⇓*e*Pn	Pn	13 59 26.6	-1.6
PKSM				*e*Sn	Sn	14 00 08.6	-5.3
RORO	**Rocca Rossa**	3.94	257	P	Pn	13 59 29.6	0.0
RORO	**Rocca Rossa**	3.94	257	P	Pn	13 59 29.6	0.0
ZST	**Bratislava**	4.00	38	*e*PN	Pn	13 59 30.0	-0.5
KHC	**Kasperske Hory**	4.02	2	*e*PN	Pn	13 59 30.1	-0.6
KHC				*ex*	x	13 59 38.0	
KHC				*ex*	x	14 00 24.0	
KHC				*e*SG	Sg	14 00 34.6	-2.7
	comp=Z,47nm,0.4s						
ROB	**Robourent**	4.02	260	P	Pn	13 59 30.1	-0.7
ROB	**Robourent**	4.02	260	P	Pn	13 59 30.1	-0.7
WET	**Wettzell**	4.05	355	*e*Pn	Pn	13 59 30.4	-0.7
WET				*e*Sn	Sn	14 00 15.2	-3.9
WET	**Wettzell**	4.05	355	*e*Pn	Pn	13 59 30.4	-0.7
WET				*e*Sn	Sn	14 00 15.1	-3.9
PGF	**Pioggiola**	4.09	233	*e*Pn	Pn	13 59 31.3	-0.3
PKSG		4.15	55	*e*S	Sn	14 00 25.5	+4.0
MODS	**Modra-Piesok**	4.21	38	*e*PN	Pn	13 59 32.9	-0.5
MODS				*e*SN	Sn	14 00 20.6	-2.5
MODS				*e*SG	Sg	14 00 43.7	+0.2
MODS	**Modra-Piesok**	4.21	38	*e*Pn	Pn	13 59 32.9	-0.5
MODS				*e*Sn	Sn	14 00 20.6	-2.5
TREB	**Trebinje**	4.31	122	*e*Pn	Pn	13 59 34.2	-0.5
TREB				*e*Sn	Sn	14 00 22.2	-3.2
BRY	**Bratogost**	4.32	119	⇑*i*Pn	Pn	13 59 35.6	+0.7
BRY				*e*Sn	Sn	14 00 26.2	+0.4
RSP	**Reno Superiore**	4.34	273	P	Pn	13 59 32.6	-2.6
ENR	**Entracque**	4.35	260	P	Pn	13 59 34.6	-0.7
ENR	**Entracque**	4.35	260	P	Pn	13 59 34.6	-0.7
BHB	**Bricherasio**	4.36	269	P	Pn	13 59 33.4	-2.0
SPAK	**Spaichingen-Ko**	4.36	315	Pn	Pn	13 59 35.9	+0.5
UPM	**Unac-Piva**	4.40	114	⇑*i*Pn	Pn	13 59 37.1	+1.1
UPM				*e*Sn	Sn	14 00 27.9	+0.1
STV	**Sant Anna di V**	4.42	261	P	Pn	13 59 35.7	-0.5
STV	**Sant Anna di V**	4.42	261	P	Pn	13 59 35.7	-0.5
LSD	**Lago del Serru**	4.42	277	P	Pn	13 59 36.2	0.0
SBF	**Sospel**	4.45	256	*e*Pn	Pn	13 59 35.8	-0.8
SBF				*e*Sn	Sn	14 00 25.6	-3.2
	comp=Z,92nm,0.6s						
SBF	**Sospel**	4.45	256	*e*Pn	Pn	13 59 35.8	-0.8
SBF				*e*Sn	Sn	14 00 25.6	-3.2
	comp=Z,46nm,0.6s						
HCY	**Herceg Novi**	4.55	124	⇑*i*Pn	Pn	13 59 38.0	-0.1
HCY				*e*Sn	Sn	14 00 31.7	+0.1
FELD	**Feldberg im Sc**	4.64	308	Pn	Pn	13 59 38.9	-0.3
FELD				Sg	Sg	14 00 57.8	+0.7
NKY	**Niksic**	4.65	118	⇑*i*Pn	Pn	13 59 40.3	+0.9
NKY				*e*Sn	Sn	14 00 33.6	-0.4
PLE	**Pljevlja**	4.67	110	⇓*i*Pn	Pn	13 59 39.9	+0.3
PLE				*e*Sn	Sn	14 00 33.6	-0.7
RRL	**Rocca Remolon**	4.69	270	P	Pn	13 59 38.4	-1.6
LPG	**La Plagne**	4.70	277	*e*Pn	Pn	13 59 40.5	+0.4
BBS	**Basel-Blauen**	4.71	302	Pn	Pn	13 59 40.6	+0.4
LPL	**La Plagne**	4.72	277	*e*Pn	Pn	13 59 42.0	+1.7
MBDF	**Montbardon**	4.72	268	*e*Pn	Pn	13 59 39.3	-1.1
MBDF				*e*Sn	Sn	14 00 29.9	-5.8
	comp=Z,41nm,0.5s						
MBDF	**Montbardon**	4.72	268	*e*Pn	Pn	13 59 39.3	-1.1
MBDF				*e*Sn	Sn	14 00 29.9	-5.8
	comp=Z,21nm,0.5s						
VRAC	**Vranov**	4.73	26	*e*Pn	Pn	13 59 41.0	+0.6
BFO	**Black Forest**	4.74	315	*e*Pn	Pn	13 59 40.6	0.0
BFO	**Black Forest**	4.74	315	*e*Pn	Pn	13 59 40.1	-0.5
BFO	**Black Forest**	4.74	315	*e*Pn	Pn	13 59 40.1	-0.6
BNI	**Bardonecchia**	4.76	272	*e*Pn	Pn	13 59 39.8	-1.1
BNI	**Bardonecchia**	4.76	272	*e*Pn	Pn	13 59 39.8	-1.1
DIVS	**Divibare**	4.82	100	*e*Pn	Pn	13 59 41.9	+0.2
PENC	**Penc**	4.87	55	*e*S	Sn	14 00 41.7	+2.4
KOLL	**Kolacno**	4.88	43	*e*PN	Pn	13 59 42.0	-0.5
KOLL				*e*SN	Sn	14 00 35.8	-3.7
BUM	**Brajici-Budva**	4.88	123	⇑*i*Pn	Pn	13 59 43.3	+0.7
BUM				*e*Sn	Sn	14 00 39.4	-0.2
PRU	**Pruhonice**	4.94	9	*e*PN	Pn	13 59 42.6	-0.7
PRU				*e*SG	Sg	14 01 03.7	-3.0
	comp=Z,28nm,0.5s						
PDG	**Podgorica**	5.02	120	⇑*i*Pn	Pn	13 59 45.1	+0.6
PDG				*e*Sn	Sn	14 00 42.9	-0.2
TTG	**Podgorica**	5.02	120	⇑*i*Pn	Pn	13 59 45.1	+0.6
TTG				*e*Sn	Sn	14 00 42.9	-0.2
FRF	**La Foret Royal**	5.08	255	*e*Pn	Pn	13 59 44.6	-0.8
FRF				*e*Sn	Sn	14 00 40.6	-4.0
	comp=Z,12nm,0.2s						
FRF	**La Foret Royal**	5.08	255	*e*Pn	Pn	13 59 44.6	-0.8
FRF				*e*Sn	Sn	14 00 40.6	-4.0
	comp=Z,6.1nm,0.2s						
MOF	**Molkenrain**	5.12	305	Pn	Pn	13 59 45.8	0.0
NKC	**Novy Kostel**	5.16	353	*e*PN	Pn	13 59 46.2	-0.2
NKC				*e*SG	Sg	14 01 10.3	-3.6
	comp=Z,32nm,0.4s						
BEY	**Berane**	5.20	113	⇑*i*Pn	Pn	13 59 48.2	+1.3
BEY				*e*Sn	Sn	14 00 46.6	-0.8
IVA	**Berane**	5.20	113	⇑*i*Pn	Pn	13 59 48.2	+1.3
IVA				*e*Sn	Sn	14 00 46.6	-0.8
LMR	**La Mourre**	5.26	253	*e*Pn	Pn	13 59 46.8	-1.0
LMR				*e*Sn	Sn	14 00 43.4	-5.5
	comp=Z,12nm,0.3s						
LMR	**La Mourre**	5.26	253	*e*Pn	Pn	13 59 46.8	-1.0
LMR				*e*Sn	Sn	14 00 43.4	-5.5
	comp=Z,6.2nm,0.3s						
HINF	**Hinteralfeld**	5.27	303	*e*Pn	Pn	13 59 47.5	-0.3
HINF				*e*Sn	Sn	14 00 45.0	-4.1
	comp=Z,35nm,0.4s						
HINF	**Hinteralfeld**	5.27	303	*e*Pn	Pn	13 59 47.5	-0.3
HINF				*e*Sn	Sn	14 00 45.0	-4.1
	comp=Z,17nm,0.4s						
PSZ	**Piszkesteto**	5.29	56	*e*Pn	Pn	13 59 46.4	-1.8
PSZ				*e*PB	Sn	14 00 52.4	+2.8
ULC	**Ulcinj**	5.29	124	⇓*i*Pn	Pn	13 59 48.6	+0.4
ULC				*e*Sn	Sn	14 00 49.2	-0.5
ECH	**Echery**	5.30	308	Pn	Pn	13 59 47.9	-0.4
ECH	**Echery**	5.30	308	*e*Pn	Pn	13 59 47.7	-0.6
ECH	**Echery**	5.30	308	*e*Pn	Pn	13 59 47.7	-0.6
CABF	**La Chapelle**	5.32	289	*e*Pn	Pn	13 59 48.5	-0.1
CABF				*e*Sn	Sn	14 00 46.2	-4.2
	comp=Z,15nm,0.5s						
CABF	**La Chapelle**	5.32	289	*e*Pn	Pn	13 59 48.5	-0.1
CABF				*e*Sn	Sn	14 00 46.2	-4.2
	comp=Z,7.3nm,0.5s						
ORIF	**Oris-en-Rattie**	5.33	271	*e*Pn	Pn	13 59 49.2	+0.4
ORIF				*e*Sn	Sn	14 00 47.8	-2.9
	comp=Z,35nm,0.4s						
ORIF	**Oris-en-Rattie**	5.33	271	*e*Pn	Pn	13 59 49.2	+0.4
ORIF				*e*Sn

JWK2	**Keihoku**	**1.53 176**	P	**Pn**	**14 04 35.5**	**-0.6**
JWK2			*e*S	**Sn**	**14 04 57.0**	**+0.9**
JRR	**Rishiri**	**1.73 191**	P	**Pn**	**14 04 38.5**	**-0.4**
JSE	**Soyaes**	**1.97 163**	P	**Pn**	**14 04 41.3**	**-0.9**
JSE			*e*S	**Sn**	**14 05 06.9**	**-0.1**
UGL	**Uglegorsk**	**2.25 5**	*e*P	**Pn**	**14 04 45.0**	**-1.1**
UGL			AMB	AMB	14 04 48.0	
23nm,0.7s						
UGL			*e*Pg	**Pg**	**14 04 52.0**	**+0.2**
UGL			AMB	AMB	14 04 56.0	
96nm,0.5s						
UGL			*e*S	**Sn**	**14 05 13.0**	**-0.9**
UGL			A		14 05 22.0	
120nm,0.4s						
UGL			A		14 05 22.0	
280nm,0.6s						
UGL			*e*Sg	**Sg**	**14 05 23.5**	**+2.6**
UGL			A		14 05 26.0	
231nm,0.5s						
UGL			A		14 05 26.0	
385nm,0.5s						
JYG	**Yagishiri**	**2.42 186**	P	**Pn**	**14 04 48.7**	**+0.2**
JYG			*e*S	**Sn**	**14 05 20.8**	**+2.5**
JSS	**Shosan**	**2.44 178**	P	**Pn**	**14 04 48.9**	**+0.2**
ASAJ	**Asahikawa**	**2.79 167**	P	**Pn**	**14 04 53.2**	**-0.3**
JKK2	**Kamakawa 2**	**3.05 166**	P	**Pn**	**14 04 57.0**	**0.0**
JKK2			*e*S	**Sn**	**14 05 35.0**	**+1.4**
JMP	**Maruseppu**	**3.05 158**	P	**Pn**	**14 04 55.7**	**-1.4**
JTKR	**Abashiri--Toko**	**3.24 151**	P	**Pn**	**14 04 59.0**	**-0.7**
TEY	**Ternei**	**4.02 245**	*e*Pg	**Pg**	**14 05 23.0**	**-2.7**
TEY			AMB	AMB	14 05 31.5	
12nm,0.5s						
TEY			*e*S	**Sn**	**14 05 51.0**	**-6.7**
TEY			*e*Sg	**Sg**	**14 06 19.0**	**+1.2**
TEY			A		14 06 23.0	
18nm,0.5s						
TYV	**Tymovskoe**	**4.07 8**	*e*P	**Pn**	**14 05 11.5**	**+0.4**
TYV			*e*Pg	**Pg**	**14 05 30.0**	**+3.4**
TYV			AMB	AMB	14 05 31.0	
10.0nm,0.4s						
TYV			*e*S	**Sn**	**14 05 59.0**	**+0.2**
TYV			*e*Sg	**Sg**	**14 06 27.5**	**+8.2**
TYV			A		14 06 33.0	
9.0nm,0.6s						
TYV			A		14 06 33.0	
11nm,0.6s						
GRNR	**Gornyy**	**5.28 320**	*e*P	**Pn**	**14 05 21.5**	**-6.2**
GRNR			AMB	AMB	14 05 22.5	
6.0nm,0.4s						
GRNR			*e*Pg	**Pg**	**14 05 45.0**	**-4.8**
GRNR			AMB	AMB	14 05 46.5	
6.0nm,0.3s						
GRNR			*e*Sg	**Sg**	**14 06 57.6**	**-0.5**
GRNR			A		14 07 06.5	
10.0nm,0.3s						
NKL	**Nikolayevsk**	**6.36 354**	*e*Sg	**Sg**	**14 07 39.0**	**+6.5**
KLR	**Kul'dur**	**7.12 293**	*e*rx	rx	14 06 16.4	
EKMR	**Ekimchan**	**8.43 321**	*e*Sg	Sx	14 08 40.8	
EKMR			A		14 08 46.0	
5.0nm,0.6s						

GRAL ***13*** *14:08:14.8±0.3,3376N×3555E,h23km±5km,MD2.9*
CSEM ***13*** *14:08:14.8,3376N×3555E,h23km,ML2.9,After GRAL*
GII ***13*** *14:08:15.5±2.0,3375N×3581E,h0km,ML2.4/8, EXPLOSION*
ISCJB ***13*** *14:08:16.3±0.6,3381N±003×3582E±008,h0km,Error ellipse: s-maj=10.2km s-min=3.8km az=8.2*

ISC 13 14:08:16.6±0.7,3381N±003×3582E±008,h0km,n15,σ1§05/27,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.17**	**303**	*i* Pg	**Pg**	**14 08 19.6**	**-0.3**
BHL	**Bhannes**	**0.17**	**303**	*i* Pg	**Pg**	**14 08 19.5**	**-0.3**
RCY	**Rachaya**	**0.33**	**180**	*i* Pg	**Pg**	**14 08 22.1**	**-0.9**
RCY				*e*Sg	**Sg**	**14 08 27.5**	**+0.3**
RCY	**Rachaya**	**0.33**	**180**	*i* Pg	**Pg**	**14 08 22.0**	**-0.9**
RCY				*e*Sg	**Sg**	**14 08 27.5**	**+0.3**
HWQ	**Hawqa**	**0.47**	**13**	*e*Pg	**Pg**	**14 08 26.0**	**+0.2**
HWQ				*e*Sg	**Sg**	**14 08 34.4**	**+2.5**
MATL	**Matirih**	**0.52**	**232**	*e*Pg	**Pg**	**14 08 21.6**	**-5.0**
HRI	**Mount Hermon**	**0.55**	**188**	Pg	**Pg**	**14 08 26.3**	**-0.9**
HRI				Sg	**Sg**	**14 08 34.6**	**+0.2**
KSHT	**Keshet**	**0.83**	**181**	Pg	**Pg**	**14 08 31.8**	**-0.8**
KSHT				Sg	**Sg**	**14 08 44.3**	**+1.0**
MMA0	**Mount Meron ar**	**0.87**	**204**	Pg	**Pg**	**14 08 32.3**	**-1.0**
MMA0				Sg	**Sg**	**14 08 46.6**	**+2.0**
HNTI	**Hanita**	**0.91**	**217**	Pg	**Pg**	**14 08 33.8**	**-0.2**
HNTI				Sg	**Sg**	**14 08 47.2**	**+1.4**
OFRI	**'Ofer**	**1.38**	**211**	Pn	**Pn**	**14 08 41.2**	**-2.0**
OFRI				Sn	**Sn**	**14 09 01.2**	**-0.9**
MMLI	**Mount Malkishu**	**1.41**	**194**	Pn	**Pn**	**14 08 42.1**	**-1.5**
MMLI				Sn	**Sn**	**14 09 03.8**	**+0.9**
HMDT	**Nahal Hemdat**	**1.58**	**189**	Pn	**Pn**	**14 08 44.9**	**-0.9**
HMDT				Sn	**Sn**	**14 09 07.1**	**+0.2**
SLTI	**Sal'it**	**1.70**	**203**	Pn	**Pn**	**14 08 47.0**	**-0.6**
SLTI				Sn	**Sn**	**14 09 10.6**	**+0.6**
DSI	**Dead Sea**	**2.27**	**190**	Pn	**Pn**	**14 08 55.3**	**0.0**
DSI				Sn	**Sn**	**14 09 25.3**	**+1.3**

ISCJB ***13*** *14:09:10.9±0.3,3941N±001×3.11W±002,h0km±2km,Error ellipse: s-maj=2.7km s-min=1.9km az=143.2*
CSEM ***13*** *14:09:15.6±0.1,3934N×2.94W,h12km,ML3.5/23,Error ellipse: s-maj=1.5km s-min=1.1km az=137.0*
INMG ***13*** *14:09:15.5±1.0,3932N×298W,h15km±3km,ML3.0,Error ellipse: s-maj=4.2km s-min=2.0km az=54.0*
MDD ***13*** *14:09:15.1±0.2,3933N×300W,h7km±2km,mbLg2.9/31, Error ellipse: s-maj=2.7km s-min=2.0km az=108.0,PRIMO MDD EMS: II CAMPO DE CRIPTANA.*
LDG ***13*** *14:09:15.1±0.1,3933N×300W,h5km,Ml3.5/4,Error ellipse: s-maj=1.5km s-min=1.1km az=112.0*
NEIC ***13*** *14:09:15.0,3933N×300W,h6km,ML3.5(LDG), MN2.9(MDD),After MDD.*
NEIC Felt [II] at Campo de Criptana.

ISC 13 14:09:13.2±0.3,3936N±001×305W±002,h8km±2km,n133,σ1§14/238,4C,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**0.77**	**294**	Pg	**Pg**	**14 09 30.2**	**+2.2**
37nm,0.3s,baz=109,slow=18,SNR=194							
ESDC				Lg		14 09 40.7	
202nm,0.3s,baz=111,slow=26,SNR=63							
ESDC	**Sonseca Array**	**0.77**	**294**	Pg	**Pg**	**14 09 30.2**	**+2.2**
37nm,0.3s,SNR=194							
ESDC				Lg		14 09 40.7	
202nm,0.3s,SNR=63							
EVIA	**Vianos**	**0.84**	**149**	Pg	**Pg**	**14 09 29.8**	**+0.5**
5.1nm,0.1s,SNR=29							
EVIA				Lg		14 09 40.0	
62nm,0.1s,SNR=5.0							
EBAN	**Banos Encina**	**1.33**	**206**	Pn	**Pn**	**14 09 38.6**	**+0.6**
22nm,0.2s,SNR=7.9							
EBAN				⇑Pg	**Pg**	**14 09 39.7**	**+1.1**
18nm,0.1s,SNR=18							
EBAN				Lg		14 09 56.5	
85nm,0.2s,SNR=5.0							
EBAN	**Banos Encina**	**1.33**	**206**	⇑Pg	**Pg**	**14 09 38.6**	**0.0**
EBAN				Lg		14 09 56.5	
ETOB	**Tobarra**	**1.37**	**121**	Pg	**Pg**	**14 09 38.2**	**-1.3**
64nm,0.2s,SNR=446							
ETOB				Lg		14 09 56.7	
203nm,0.2s,SNR=27							
ETOB	**Tobarra**	**1.37**	**121**	Pg	**Pg**	**14 09 38.2**	**-1.3**
64nm,0.2s,SNR=446							
ETOB				Lg		14 09 56.7	
203nm,0.2s,SNR=27							
GUD	**Guadarrama**	**1.53**	**327**	Pn	**Pn**	**14 09 42.2**	**+1.3**
0.6nm,0.1s,SNR=7.9							
GUD				Pg	**Pg**	**14 09 43.9**	**+1.3**
7.7nm,0.2s,SNR=32							
GUD				Lg		14 10 04.5	
100nm,0.2s,SNR=51							
EQES	**Quesada**	**1.56**	**181**	Pn	**Pn**	**14 09 41.5**	**+0.3**
1.5nm,0.1s,SNR=7.9							
EQES				Pg	**Pg**	**14 09 43.5**	**+0.5**
18nm,0.1s,SNR=85							
EQES				Lg		14 10 03.2	
179nm,0.3s,SNR=5.0							
EQES	**Quesada**	**1.56**	**181**	Pn	**Pn**	**14 09 41.5**	**+0.3**
1.5nm,0.1s,SNR=7.9							
EQES	**Quesada**	**1.56**	**181**	Pg	**Pg**	**14 09 43.5**	**+0.4**
18nm,0.1s,SNR=85							
EQES				Lg		14 10 03.2	
179nm,0.3s,SNR=5.0							
EHUE	**Huescar**	**1.59**	**167**	Pn	**Pn**	**14 09 41.6**	**0.0**
0.7nm,0.2s,SNR=7.9							
EHUE				Pg	**Pg**	**14 09 43.7**	**+0.1**
16nm,0.2s,SNR=7.9							
EHUE				Lg		14 10 04.0	
60nm,0.2s,SNR=7.9							
ETOR	**Torete**	**1.64**	**27**	⇑Pn	**Pn**	**14 09 43.1**	**+0.8**
42nm,0.1s,SNR=18							
ETOR				Pg	**Pg**	**14 09 45.5**	**+0.9**
290nm,0.2s,SNR=58							
ETOR				Lg		14 10 06.7	
723nm,0.2s,SNR=18							
EADA	**Adamuz**	**1.69**	**225**	⇑Pn	**Pn**	**14 09 43.9**	**+1.0**
13nm,0.1s,SNR=18							
EADA				Pg	**Pg**	**14 09 46.3**	**+0.7**
25nm,0.2s,SNR=142							
EADA				Sn	**Sn**	**14 10 05.0**	**+0.2**
18nm,0.1s,SNR=7.9							
EADA				Lg		14 10 08.4	
146nm,0.2s,SNR=29							
EADA	**Adamuz**	**1.69**	**225**	Pn	**Pn**	**14 09 43.9**	**+0.9**
13nm,0.1s,SNR=18							
EADA	**Adamuz**	**1.69**	**225**	Pg	**Pg**	**14 09 46.3**	**+0.7**
25nm,0.2s,SNR=142							
EADA				Sn	**Sn**	**14 10 05.0**	**+0.2**
18nm,0.1s,SNR=7.9							
ELUQ	**Luque**	**2.04**	**208**	Pg	**Pg**	**14 09 52.7**	**+0.5**
7.5nm,0.2s,SNR=7.9							
ELUQ				Lg		14 10 18.0	
8.6nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**2.08**	**136**	Pg	**Pg**	**14 09 52.7**	**-0.2**
70nm,0.3s,SNR=67							
EMUR				Lg		14 10 18.8	
81nm,0.3s,SNR=5.0							
EMUR	**La Murta**	**2.08**	**136**	Pg	**Pg**	**14 09 52.7**	**-0.3**
70nm,0.3s,SNR=67							
EQUE	**Quentar**	**2.18**	**188**	Pg	**Pg**	**14 09 54.1**	**-0.8**
4.9nm,0.2s,SNR=20							
EQUE				Lg		14 10 22.5	
25nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**2.22**	**62**	Pn	**Pn**	**14 09 51.7**	**+1.5**
7.6nm,0.1s,SNR=18							
EMOS				Sn	**Sn**	**14 10 18.0**	**+0.1**
12nm,0.1s,SNR=7.9							
EMOS				Lg		14 10 23.2	
40nm,0.3s,SNR=16							
EMOS	**Mosqueruela**	**2.22**	**62**	Pn	**Pn**	**14 09 51.7**	**+1.4**
7.6nm,0.1s,SNR=18							
EMOS				Sn	**Sn**	**14 10 18.0**	**+0.1**
12nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**2.26**	**236**	Pn	**Pn**	**14 09 52.4**	**+1.6**
7.5nm,0.1s,SNR=28							
ECAB				Sn	**Sn**	**14 10 18.9**	**+0.1**
13nm,0.1s,SNR=8.3							
ECAB				Lg		14 10 26.2	
163nm,0.4s,SNR=19							
ECAB	**El Cabril**	**2.26**	**236**	Pn	**Pn**	**14 09 52.4**	**+1.6**
7.5nm,0.1s,SNR=28							
ECAB				Sn	**Sn**	**14 10 18.9**	**+0.1**
13nm,0.1s,SNR=8.3							
EBEN	**Beniarda**	**2.30**	**106**	Pn	**Pn**	**14 09 51.2**	**-0.1**
3.4nm,0.2s,SNR=21							
EBEN				Pg	**Pg**	**14 09 56.8**	**-0.3**
29nm,0.3s,SNR=7.9							
EBEN				Sn	**Sn**	**14 10 17.9**	**-1.9**
2.6nm,0.2s,SNR=7.9							
EBEN				Lg		14 10 25.5	
23nm,0.4s,SNR=5.0							
EBEN	**Beniarda**	**2.30**	**106**	Pn	**Pn**	**14 09 51.2**	**-0.1**
3.4nm,0.2s,SNR=21							
EBEN	**Beniarda**	**2.30**	**106**	Pg	**Pg**	**14 09 56.8**	**-0.4**
29nm,0.3s,SNR=7.9							
EBEN				Sn	**Sn**	**14 10 17.9**	**-1.8**
2.6nm,0.2s,SNR=7.9							
ELOJ	**Sierra Loja**	**2.38**	**202**	Pg	**Pg**	**14 09 58.7**	**0.0**
2.4nm,0.1s,SNR=4.0							
ERON	**Agron**	**2.42**	**195**	Pg	**Pg**	**14 09 59.5**	**+0.1**
2.4nm,0.1s,SNR=4.0							
EBER	**Berja**	**2.47**	**177**	Pg	**Pg**	**14 09 59.7**	**-0.7**
20nm,0.4s,SNR=7.9							
EBER				Lg		14 10 32.1	
9.3nm,0.3s,SNR=7.9							
EBER	**Berja**	**2.47**	**177**	Pg	**Pg**	**14 09 59.7**	**-0.7**
20nm,0.4s,SNR=7.9							
ENIJ	**Nijar**	**2.48**	**164**	Pg	**Pg**	**14 10 00.6**	**-0.1**
7.0nm,0.3s,SNR=7.9							
ENIJ				Sn	**Sn**	**14 10 24.4**	**+0.1**
5.6nm,0.2s,SNR=7.9							
ENIJ				Lg		14 10 32.4	
18nm,0.3s,SNR=7.9							
ENIJ	**Nijar**	**2.48**	**164**	Pg	**Pg**	**14 10 00.6**	**-0.1**
7.0nm,0.3s,SNR=7.9							
ENIJ				Sn	**Sn**	**14 10 24.4**	**+0.1**
5.6nm,0.2s,SNR=7.9							
EGUA	**Guajares**	**2.56**	**189**	Pg	**Pg**	**14 10 01.6**	**-0.6**
EGUA	**Guajares**	**2.56**	**189**	Pg	**Pg**	**14 10 01.6**	**-0.6**
EGUA				Lg		14 10 37.2	
ERTA	**Horta de San J**	**3.04**	**57**	Pn	**Pn**	**14 10 01.4**	**-0.2**
0.7nm,0.2s,SNR=7.9							
ERTA				Pg	**Pg**	**14 10 10.8**	**-0.7**
1.0nm,0.1s,SNR=7.9							
ERTA				Sn	**Sn**	**14 10 37.4**	**-0.7**
4.1nm,0.2s,SNR=7.9							
ERTA				Lg		14 10 47.9	
17nm,0.3s,SNR=7.9							
ERTA	**Horta de San J**	**3.04**	**57**	Pn	**Pn**	**14 10 01.4**	**-0.2**
0.7nm,0.2s,SNR=7.9							
ERTA				Sn	**Sn**	**14 10 37.4**	**-0.7**
4.1nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**3.07**	**39**	Pg	**Pg**	**14 10 11.7**	**-0.2**
7.9nm,0.2s,SNR=7.9							
ESAC				Sn	**Sn**	**14 10 39.7**	**+0.9**
26nm,0.3s,SNR=4.0							
ESAC				Lg		14 10 51.2	
117nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**3.07**	**39**	Pn	**Pn**	**14 10 03.9**	**+2.0**
ESAC	**San Caprasio**	**3.07**	**39**	Pn	**Pn**	**14 10 03.9**	**+2.0**
ESAC				Pg	**Pg**	**14 10 11.7**	**-0.2**
ESAC				Sn	**Sn**	**14 10 39.7**	**+0.9**
ESAC				Lg		14 10 51.2	
EMIJ	**Mijas**	**3.11**	**207**	Pn	**Pn**	**14 10 04.0**	**+1.5**
1.4nm,0.3s,SNR=7.9							
EMIJ				Pg	**Pg**	**14 10 12.2**	**-0.6**
2.3nm,0.2s,SNR=7.9							
EMIJ				Lg		14 10 53.2	
5.8nm,0.2s,SNR=4.0							
EBAD	**Badajoz**	**3.15**	**260**	Pn	**Pn**	**14 10 04.0**	**+1.0**
1.2nm,0.1s,SNR=13							
EBAD				Sn	**Sn**	**14 10 39.7**	**-1.0**
25nm,0.2s,SNR=6.9							
EBAD				Lg		14 10 52.3	
57nm,0.2s,SNR=10							
EBAD	**Badajoz**	**3.15**	**260**	Pn	**Pn**	**14 10 04.0**	**+1.0**
1.2nm,0.1s,SNR=13							
EBAD				Sn	**Sn**	**14 10 39.7**	**-1.0**
25nm,0.2s,SNR=6.9							
EMIN	**Mina Concepcio**	**3.26**	**242**	Pn	**Pn**	**14 10 06.0**	**+1.4**
0.6nm,0.1s,SNR=6.6							
EMIN				Sn	**Sn**	**14 10 38.2**	**-5.3**
2.1nm,0.2s,SNR=7.9							
EMIN				Lg		14 10 54.0	
7.2nm,0.2s,SNR=15							
EMIN	**Mina Concepcio**	**3.26**	**242**	Pn	**Pn**	**14 10 06.0**	**+1.5**
0.6nm,0.1s,SNR=6.6							
ESPR	**Espera**	**3.33**	**223**	Pn	**Pn**	**14 10 07.0**	**+1.4**
1.0nm,0.1s,SNR=7.9							
ESPR				Sn	**Sn**	**14 10 45.7**	**+0.4**
6.8nm,0.3s,SNR=7.9							
ESPR				Lg		14 11 02.6	
8.6nm,0.3s,SNR=7.9							
ESPR	**Espera**	**3.33**	**223**	Pn	**Pn**	**14 10 07.0**	**+1.4**
1.0nm,0.1s,SNR=7.9							
ESPR				Sn	**Sn**	**14 10 45.7**	**+0.3**
6.8nm,0.3s,SNR=7.9							
PBAR	**Barrancos**	**3.34**	**250**	*e*Pn	**Pn**	**14 10 06.8**	**+1.2**
PBAR				*e*Sn	**Sn**	**14 10 44.6**	**-0.9**
PBAR				*e*Sg	**Sg**	**14 11 00.8**	**+0.4**
PBAR				A		14 11 05.6	
54nm,0.4s							
PBAR	**Barrancos**	**3.34**	**250**	Pn	**Pn**	**14 10 06.8**	**+1.2**
PBAR				Sn	**Sn**	**14 10 44.6**	**-0.9**
PBAR				Lg		14 11 00.8	
27nm,0.4s							
PBAR	**Barrancos**	**3.34**	**250**	*e*Pn	**Pn**	**14 10 06.8**	**+1.2**
PBAR				*e*Sg	**Sg**	**14 11 00.8**	**+0.4**
54nm,0.4s							
PMRV	**Marv??o**	**3.37**	**272**	*e*Pn	**Pn**	**14 10 07.1**	**+1.1**
PMRV	**Marv??o**	**3.37**	**272**	*e*Pg	**Pg**	**14 10 16.3**	**-1.3**
PMRV				*e*Sn	**Sn**	**14 10 44.8**	**-1.4**
PMRV				A		14 11 03.0	
33nm,0.3s							
PMRV	**Marv??o**	**3.37**	**272**	*e*Pg	**Pg**	**14 10 16.3**	**-1.3**
EIBI	**Ibiza**	**3.43**	**94**	Pn	**Pn**	**14 10 06.6**	**-0.2**
3.4nm,0.3s,SNR=7.9							
EIBI				Sn	**Sn**	**14 10 45.2**	**-2.5**
7.2nm,0.3s,SNR=7.9							
EIBI	**Ibiza**	**3.43**	**94**	Pn	**Pn**	**14 10 06.6**	**-0.3**
3.4nm,0.3s,SNR=7.9							
EIBI				Sn	**Sn**	**14 10 45.2**	**-2.5**
7.2nm,0.3s,SNR=7.9							
PCBR	**Castelo Branco**	**3.45**	**279**	*e*Pn	**Pn**	**14 10 09.4**	**+2.2**
PCBR				*e*Sn	**Sn**	**14 10 48.5**	**+0.2**
PCBR				*e*Sg	**Sg**	**14 11 01.6**	**-2.5**
PCBR				A		14 11 08.4	
19nm,0.3s							
PCBR	**Castelo Branco**	**3.45**	**279**	Pn	**Pn**	**14 10 09.4**	**+2.2**
PCBR				Sn	**Sn**	**14 10 48.5**	**+0.2**
PCBR				Lg		14 11 01.6	
9.3nm,0.3s							
PCBR	**Castelo Branco**	**3.45**	**279**	*e*Pn	**Pn**	**14 10 09.4**	**+2.2**
PCBR				*e*Sn	**Sn**	**14 10 48.5**	**+0.2**
MVO	**Moncorvo**	**3.54**	**302**	*e*Pn	**Pn**	**14 10 09.7**	**+1.3**
MVO				*e*Sn	**Sn**	**14 10 51.3**	**+0.9**
MVO				A		14 11 09.7	
23nm,0.4s							
MVO	**Moncorvo**	**3.54**	**302**	*e*Pn	**Pn**	**14 10 09.7**	**+1.3**
MVO				*e*Sn	**Sn**	**14 10 51.3**	**+0.9**
23nm,0.4s							
PESTR	**Estremoz**	**3.57**	**263**	*e*Pn	**Pn**	**14 10 10.0**	**+1.2**
PESTR				*e*Sn	**Sn**	**14 10 49.7**	**-1.4**
PESTR				*e*Sg	**Sg**	**14 11 06.3**	**-1.4**
PESTR				A		14 11 14.0	
37nm,0.4s							
PESTR	**Estremoz**	**3.57**	**263**	Pn	**Pn**	**14 10 10.0**	**+1.2**
PESTR				Sn	**Sn**	**14 10 49.7**	**-1.4**
PESTR				Lg		14 11 06.3	
18nm,0.4s							
PESTR	**Estremoz**	**3.57**	**263**	*e*Pn	**Pn**	**14 10 10.0**	**+1.2**
PESTR				*e*Sg	**Sg**	**14 11 06.3**	**-1.4**
37nm,0.4s							
EARA	**Aranguren**	**3.58**	**18**	Lg		14 11 09.0	
22nm,0.3s,SNR=7.9							
IUNC	**Unciti**	**3.58**	**19**	Pn	**Pn**	**14 10 10.3**	**+1.3**
0.4nm,0.1s,SNR=7.9							
IUNC				Pg	**Pg**	**14 10 21.9**	**+0.1**
1.9nm,0.2s,SNR=7.9							
IUNC				Lg		14 11 07.7	
5.2nm,0.2s,SNR=7.9							
MTE	**Manteigas**	**3.61**	**288**	*e*Pg	**Pg**	**14 10 23.1**	**+0.8**
MTE				*e*Sg	**Sg**	**14 11 08.4**	**-0.7**
MTE				A		14 11 14.1	
24nm,0.5s							
MTE	**Manteigas**	**3.61**	**288**	Pg	**Pg**	**14 10 23.1**	**+0.8**
MTE				Lg		14 11 08.4	
12nm,0.5s							
MTE	**Manteigas**	**3.61**	**288**	*e*Pg	**Pg**	**14 10 22.8**	**+0.5**
MTE				*e*Sg	**Sg**	**14 11 08.4**	**-0.7**
24nm,0.5s							
MTE	**Manteigas**	**3.61**	**288**	*e*Pg	**Pg**	**14 10 22.8**	**+0.5**
IPRE	**Itoiz**	**3.67**	**20**	Pg	**Pg**	**14 10 22.6**	**-0.9**
1.6nm,0.2s,SNR=7.9							
IPRE				Lg		14 11 11.0	
2.5nm,0.2s,SNR=4.0							
EPOB	**Poblet**	**3.73**	**56**	Pn	**Pn**	**14 10 11.2**	**+0.2**
0.8nm,0.2s,SNR=7.9							
EPOB				Sn	**Sn**	**14 10 52.5**	**-2.5**
2.3nm,0.3s,SNR=7.9							
EPOB				Lg		14 11 08.4	
5.8nm,0.4s,SNR=7.9							
EPOB	**Poblet**	**3.73**	**56**	Pn	**Pn**	**14 10 11.1**	**+0.1**
0.8nm,0.2s,SNR=7.9							
EPOB				Sn	**Sn**	**14 10 52.5**	**-2.5**
2.3nm,0.3s,SNR=7.9							
IUSE	**Utxeti**	**3.75**	**17**	Pn	**Pn**	**14 10 11.9**	**+0.5**
0.4nm,0.1s,SNR=7.9							
IUSE				Pg	**Pg**	**14 10 24.8**	**-0.3**
2.6nm,0.2s,SNR=7.9							
IUSE				Sn	**Sn**	**14 10 55.7**	**-0.1**
1.4nm,0.2s,SNR=7.9							
IUSE				Lg		14 11 14.6	
3.7nm,0.2s,SNR=7.9							
EORO	**Oroz-Betelu**	**3.76**	**20**	Pn	**Pn**	**14 10 11.7**	**+0.2**
0.3nm,0.1s,SNR=7.9							
EORO				Pg	**Pg**	**14 10 25.4**	**+0.2**
3.6nm,0.3s,SNR=7.9							
EORO				Sn	**Sn**	**14 10 56.0**	**0.0**
7.0nm,0.3s,SNR=7.9							
EORO				Lg		14 11 14.7	
29nm,0.4s,SNR=7.9							
EORO	**Oroz-Betelu**	**3.76**	**20**	Pg	**Pg**	**14 10 25.4**	**+0.2**
3.6nm,0.3s,SNR=7.9							
EORO				Sn	**Sn**	**14 10 56.0**	**+0.1**
7.0nm,0.3s,SNR=7.9							
ECAL	**Calabor**	**3.81**	**314**	Pn	**Pn**	**14 10 13.4**	**+1.3**
1.3nm,0.2s,SNR=7.9							
ECAL				Pg	**Pg**	**14 10 25.8**	**-0.3**
1.3nm,0.2s,SNR=8.5							
ECAL				Sn	**Sn**	**14 10 57.0**	**0.0**
6.2nm,0.2s,SNR=7.9							
ECAL				Lg		14 11 15.8	
28nm,0.4s,SNR=7.9							
ECAL	**Calabor**	**3.81**	**314**	Pn	**Pn**	**14 10 13.4**	**+1.3**
1.3nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**3.81**	**314**	Pg	**Pg**	**14 10 25.8**	**-0.3**
1.3nm,0.2s,SNR=8.5							
ECAL				Sn	**Sn**	**14 10 57.0**	**0.0**
6.2nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**3.88**	**356**	Pn	**Pn**	**14 10 15.5**	**+2.5**
0.6nm,0.2s,SNR=7.9							
ELAN				Pg	**Pg**	**14 10 26.4**	**-1.0**
3.0nm,0.2s,SNR=7.9							
ELAN				Sn	**Sn**	**14 10 58.2**	**-0.5**

PBEJ					Lg			14 11 19.1
	13nm,0.5s							
ETSF	**Etsaut**	**4.00**	**27**	*e*Pg		**Pg**	**14 10 29.4**	**-0.4**
ETSF				*e*Sn		**Sn**	**14 10 57.1**	**-4.7**
ETSF				*e*Sg		**Sg**	**14 11 20.2**	**-1.4**
	8.6nm,0.2s							
ETSF	**Etsaut**	**4.00**	**27**	Pn		**Pn**	**14 10 15.9**	**+1.2**
ETSF				Pg		**Pg**	**14 10 29.4**	**-0.4**
ETSF				Sn		**Sn**	**14 10 57.1**	**-4.7**
ETSF				Lg			14 11 20.2	
	4.3nm,0.2s							
ETSF	**Etsaut**	**4.00**	**27**	*e*Pg		**Pg**	**14 10 29.4**	**-0.4**
ETSF				*e*Sg		**Sg**	**14 11 20.2**	**-1.4**
	4.3nm,0.2s							
ETSF	**Etsaut**	**4.00**	**27**	*e*Pn		**Pn**	**14 10 15.9**	**+1.2**
ETSF				*e*Pg		**Pg**	**14 10 29.4**	**-0.4**
ETSF				*e*Sn		**Sn**	**14 10 57.1**	**-4.7**
ETSF				*e*Sg		**Sg**	**14 11 20.2**	**-1.4**
EALK	**Alkurruntz**	**4.02**	**16**	Pn		**Pn**	**14 10 17.1**	**+2.1**
	1.5nm,0.3s,SNR=7.9							
EALK				Pg		**Pg**	**14 10 29.9**	**-0.4**
	5.3nm,0.5s,SNR=7.9							
EALK				Sn		**Sn**	**14 11 01.7**	**-0.6**
	9.1nm,0.3s,SNR=7.9							
EALK				Lg			14 11 20.2	
	13nm,0.3s,SNR=7.9							
EALK	**Alkurruntz**	**4.02**	**16**	Pn		**Pn**	**14 10 17.1**	**+2.0**
	1.5nm,0.3s,SNR=7.9							
EVOP	**Sao Brissos**	**4.04**	**260**	*e*Pn		**Pn**	**14 10 15.8**	**+0.5**
EVOP	**Sao Brissos**	**4.04**	**260**	*e*Pg		**Pg**	**14 10 31.0**	**+0.4**
EVOP				*e*Sg		**Sg**	**14 11 21.9**	**-1.1**
	24nm,0.3s							
EBIE	**Bielsa**	**4.10**	**35**	Pn		**Pn**	**14 10 18.0**	**+1.8**
	0.5nm,0.2s,SNR=7.9							
EBIE				Pg		**Pg**	**14 10 30.4**	**-1.4**
	0.7nm,0.2s,SNR=7.0							
EBIE				Sn		**Sn**	**14 11 02.5**	**-1.8**
	2.1nm,0.2s,SNR=7.9							
EBIE				Lg			14 11 22.0	
	1.1nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**4.10**	**35**	Pn		**Pn**	**14 10 18.0**	**+1.8**
EBIE	**Bielsa**	**4.10**	**35**	Pg		**Pg**	**14 10 30.4**	**-1.4**
PVAQ	**Vaqueiros**	**4.16**	**243**	*e*Pn		**Pn**	**14 10 17.9**	**+1.0**
PVAQ				*e*Sn		**Sn**	**14 11 05.0**	**-0.7**
PVAQ				*e*Sg		**Sg**	**14 11 25.3**	**-1.4**
PVAQ				A			14 11 29.7	
	35nm,0.6s							
PVAQ	**Vaqueiros**	**4.16**	**243**	Pn		**Pn**	**14 10 17.9**	**+1.0**
PVAQ				Sn		**Sn**	**14 11 05.0**	**-0.7**
PVAQ				Lg			14 11 25.3	
	18nm,0.6s							
PVAQ	**Vaqueiros**	**4.16**	**243**	*e*Pn		**Pn**	**14 10 17.9**	**+1.0**
PVAQ				*e*Sg		**Sg**	**14 11 25.3**	**-1.4**
	35nm,0.6s							
MOE	**Montemor**	**4.22**	**260**	*e*Sn		**Sn**	**14 11 06.2**	**-1.0**
MOE				*e*Sg		**Sg**	**14 11 28.2**	**-0.4**
EARI	**Arriondas**	**4.26**	**338**	Pn		**Pn**	**14 10 20.6**	**+2.4**
	0.2nm,0.2s,SNR=4.0							
EARI				Pg		**Pg**	**14 10 34.5**	**-0.2**
	1.1nm,0.4s,SNR=7.9							
EARI				Sn		**Sn**	**14 11 07.0**	**-1.1**
	3.3nm,0.4s,SNR=7.9							
EARI				Lg			14 11 28.8	
	9.8nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**4.26**	**338**	Pn		**Pn**	**14 10 20.6**	**+2.3**
EARI	**Arriondas**	**4.26**	**338**	Pg		**Pg**	**14 10 34.5**	**-0.2**
PBDV	**Barranco-do-Ve**	**4.39**	**243**	*e*Sn		**Sn**	**14 11 11.2**	**-0.1**
PBDV				*e*Sg		**Sg**	**14 11 32.9**	**-1.1**
PBDV				A			14 11 40.0	
	25nm,0.7s							
PBDV	**Barranco-do-Ve**	**4.39**	**243**	Sn		**Sn**	**14 11 11.2**	**-0.1**
PBDV				Lg			14 11 32.9	
	12nm,0.7s							
EPF	**Esparros**	**4.47**	**34**	*e*Pg		**Pg**	**14 10 39.1**	**+0.4**
EPF				*e*Sn		**Sn**	**14 11 10.8**	**-2.5**
EPF				*e*Sg		**Sg**	**14 11 33.6**	**-3.0**
	21nm,0.3s							
EPF	**Esparros**	**4.47**	**34**	Pn		**Pn**	**14 10 22.0**	**+0.9**
EPF				Pg		**Pg**	**14 10 39.1**	**+0.4**
EPF				Sn		**Sn**	**14 11 10.8**	**-2.5**
EPF				Lg			14 11 33.6	
	11nm,0.3s							
EPF	**Esparros**	**4.47**	**34**	*e*Pg		**Pg**	**14 10 39.1**	**+0.4**
EPF				*e*Sn		**Sn**	**14 11 10.8**	**-2.5**
EPF				*e*Sg		**Sg**	**14 11 33.6**	**-3.0**
	11nm,0.3s							
EPF	**Esparros**	**4.47**	**34**	*e*Pn		**Pn**	**14 10 22.0**	**+0.9**
EPF				*e*Pg		**Pg**	**14 10 39.1**	**+0.4**
EPF				*e*Sn		**Sn**	**14 11 10.8**	**-2.5**
EPF				*e*Sg		**Sg**	**14 11 33.6**	**-3.0**
ETOS	**Mallorca**	**4.55**	**83**	Pn		**Pn**	**14 10 21.6**	**-0.7**
	0.5nm,0.1s,SNR=7.9							
ETOS				Sn		**Sn**	**14 11 11.6**	**-3.7**
	1.0nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	**4.55**	**83**	Pn		**Pn**	**14 10 21.6**	**-0.7**
ETOS				Sn		**Sn**	**14 11 11.6**	**-3.7**
ELOB	**Lobios**	**4.56**	**305**	Pn		**Pn**	**14 10 23.6**	**+1.1**
	0.9nm,0.1s,SNR=6.2							
ELOB				Sn		**Sn**	**14 11 14.3**	**-1.3**
	2.0nm,0.2s,SNR=7.9							
ELOB				Lg			14 11 39.1	
	5.6nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**4.56**	**305**	Pn		**Pn**	**14 10 23.6**	**+1.2**
ELOB				Sn		**Sn**	**14 11 14.3**	**-1.3**
PTEO	**Sao Teotonio**	**4.81**	**250**	*e*Pn		**Pn**	**14 10 27.0**	**+1.1**
PTEO				*e*Sn		**Sn**	**14 11 20.8**	**-1.0**
PTEO				A			14 11 58.9	
	32nm,0.6s							
PTEO	**Sao Teotonio**	**4.81**	**250**	Pn		**Pn**	**14 10 27.0**	**+1.1**
PTEO				Sn		**Sn**	**14 11 20.8**	**-1.0**
	16nm,0.6s							
MORF	**Marmelete**	**4.86**	**247**	*e*Sn		**Sn**	**14 11 21.7**	**-1.3**
MORF				A			14 11 54.1	
	9.0nm,0.3s							
MORF	**Marmelete**	**4.86**	**247**	Sn		**Sn**	**14 11 21.7**	**-1.3**
	9.0nm,0.3s							
PMAFR	**Mafra**	**4.86**	**267**	*e*Sn		**Sn**	**14 11 22.4**	**-0.7**
EPON	**Pontenova**	**5.02**	**323**	Pn		**Pn**	**14 10 30.1**	**+1.3**
	1.2nm,0.3s,SNR=7.9							
EPON				Sn		**Sn**	**14 11 24.8**	**-2.1**
	2.7nm,0.3s,SNR=7.9							
EPON				Lg			14 11 51.7	
	5.5nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**	**5.07**	**246**	*e*Sn		**Sn**	**14 11 25.9**	**-2.2**
PFVI				A			14 12 07.6	
	13nm,0.6s							
PFVI	**Vila Bisbo**	**5.07**	**246**	Sn		**Sn**	**14 11 25.9**	**-2.2**
	6.6nm,0.6s							
EJON	**La Jonquera**	**5.45**	**54**	Lg			14 12 04.6	
	3.4nm,0.4s,SNR=7.9							
MTLF	**Montolieu**	**5.61**	**43**	*e*Pg		**Pg**	**14 10 59.0**	**-1.6**
MTLF				*e*Sg		**Sg**	**14 12 09.8**	**-3.5**
	5.9nm,0.4s							
MTLF	**Montolieu**	**5.61**	**43**	Pg		**Pg**	**14 10 59.0**	**-1.6**
MTLF				Lg			14 12 09.8	
	3.0nm,0.4s							
EMAZ	**Mazaricos**	**5.73**	**311**	Lg			14 12 16.7	
	2.4nm,0.2s,SNR=7.9							

MAN 13 14:10:05, 1609N×12072E, h1km, mb4.1, ML2.9, MS2.7, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.32**	**336**	⇓*e*P	Pg	14 10 12.6	+1.4
BCPH				*e*S	Sg	14 10 17.2	+1.9
PCPH	**Palayan**	**0.64**	**145**	⇓*i*P	Pg	14 10 18.3	+1.1
PCPH				*i* S	Sg	14 10 27.5	+2.0
BOLP	**Bolinao**	**0.83**	**291**	*e*P	Pg	14 10 22.0	+1.1
BALP	**Baler**	**0.89**	**113**	*e*P	Pg	14 10 22.9	+0.7
BALP				*e*S	Sg	14 10 36.6	+2.9
CAUP	**Cauayan**	**1.36**	**51**	*e*P	Pg	14 10 30.9	-0.2
CAUP				*e*S	Sg	14 10 50.1	+1.4
ABRA	**Dolores**	**1.55**	**360**	*e*P	Pn	14 10 32.0	-1.8
APYP	**Conner**	**1.83**	**16**	*e*P	Pn	14 10 37.8	+0.1
APYP				*e*S	Sn	14 11 02.5	+0.9
LUBP	**Lubang**	**2.38**	**191**	*e*P	Pn	14 10 46.3	+1.1

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*CSEM **13** 14:17:15.9±0.6, 2682N×5791E, h30km, ML3.5/3, Error ellipse: s-maj=17.1km s-min=5.1km az=17.0*

ISC 13 14:17:17.2±4.5, 267N±04×577E±01, h10km, n10, σ1§02/12, 3C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.45**	**239**	P	**Pn**	**14 17 42.4**	**-1.0**
	SNR=311						
BANOM				⇑S	**Sn**	**14 18 02.5**	**0.0**
BANOM	**Banah**	**1.45**	**239**	Pn	**Pn**	**14 17 42.4**	**-1.0**
	SNR=311						
BANOM				Sn	**Sn**	**14 18 02.0**	**-0.5**
HATD	**Hatta, Dubai**	**2.31**	**218**	Pn	**Pn**	**14 17 53.5**	**-1.8**
ASHO	**Ashiyiah**	**2.46**	**217**	⇑P	**Pn**	**14 17 58.0**	**+0.7**
	SNR=16						
ASHO	**Ashiyiah**	**2.46**	**217**	Pn	**Pn**	**14 17 58.9**	**+1.5**
	SNR=11						
NAZ	**Nazwa, Dubai**	**2.48**	**228**	Pn	**Pn**	**14 17 57.4**	**-0.1**
FAQ	**Al Faqa, Dubai**	**2.69**	**225**	Pn	**Pn**	**14 18 01.6**	**+1.1**
	SNR=14						
ASUD	**Al Ashush, Dub**	**2.94**	**227**	Pn	**Pn**	**14 18 04.9**	**+0.9**
	SNR=16						
ASUD	**Al Ashush, Dub**	**2.94**	**227**	P	**Pn**	**14 18 05.5**	**+1.5**
	SNR=16						
BIDO	**Bidbid**	**3.16**	**173**	⇑P	**Pn**	**14 18 06.7**	**-0.3**
	SNR=9.9						

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*NEIC **13** 14:26:30.6, 3494N×2458E, h38km, MD3.6(ATH), After ATH.*

*CSEM **13** 14:26:30.6, 3494N×2458E, h38km, MD3.6, After ATH*

ATH 13 14:26:30.7, 3494N×2459E, h38km±3km, MD3.6/3, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.56**	**326**	⇓*i*PN	Pn	14 26 42.8	+0.5
VAM				*e*SN	Sn	14 26 51.9	+1.5
NPS	**Neapolis**	**0.90**	**69**	*e*PN	Pn	14 26 47.8	+1.0
NPS				*e*SN	Sn	14 27 00.1	+1.5
SANT	**Santorini**	**1.59**	**26**	*e*Pn	Pn	14 26 59.0	+2.6
KARP	**Karpathos**	**2.19**	**73**	*e*PN	Pn	14 27 06.5	+1.9

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*ATH **13** 14:28:27.2, 3652N×2456E, h26km±4km, MD3.4/7, ML3.4*

*ISCJB **13** 14:28:29.8±0.5, 3673N±004×2442E±004, h14km±5km, Error ellipse: s-maj=7.6km s-min=4.0km az=24.9*

*CSEM **13** 14:28:31.9±0.1, 3675N×2444E, h20km, ML3.4, Error ellipse: s-maj=5.5km s-min=1.5km az=35.0*

*THE **13** 14:28:31.7, 3673N×2448E, h13km*

*NEIC **13** 14:28:32.0±0.5, 3695N×2467E, h10km, ML3.0(ATH), Error ellipse: s-maj=9.9km s-min=4.2km az=220.0*

ISC 13 14:28:30.5±0.5, 3670N±004×2441E±004, h19km±5km, n22, σ0§97/35, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR5	**Thira Island,**	**0.80**	**110**	*e*Pg	**Pg**	**14 28 46.5**	**+0.2**
THR4	**Thira Island,**	**0.83**	**107**	*e*Pg	**Pg**	**14 28 46.8**	**+0.1**
THR4				*e*Sg	**Sg**	**14 28 58.1**	**+0.4**
THR3	**Thira Island,**	**0.85**	**110**	*e*Pg	**Pg**	**14 28 47.3**	**+0.2**
THR6	**Thira Island,**	**0.86**	**113**	*e*Pg	**Pg**	**14 28 47.8**	**+0.4**
THR6				*e*Sg	**Sg**	**14 28 59.2**	**+0.4**
SANT	**Santorini**	**0.90**	**111**	*e*Pg	**Pg**	**14 28 48.5**	**+0.3**
SANT				*e*Sg	**Sg**	**14 29 00.5**	**+0.4**
SANT	**Santorini**	**0.90**	**111**	*e*Pg	**Pg**	**14 28 48.5**	**+0.3**
SANT				*e*Sg	**Sg**	**14 29 00.4**	**+0.3**
THR1	**Thera Island**	**0.90**	**111**	*e*Pg	**Pg**	**14 28 48.6**	**+0.4**
THR1				*e*Sg	**Sg**	**14 29 00.7**	**+0.6**
THR1	**Thera Island**	**0.90**	**111**	*e*Pg	**Pg**	**14 28 48.6**	**+0.4**
THR1				*e*Sg	**Sg**	**14 29 00.6**	**+0.5**
APE	**Apeiranthos**	**0.97**	**67**	*e*Pg	**Pg**	**14 28 48.3**	**-1.1**
APE				*e*Sg	**Sg**	**14 29 01.3**	**-0.8**
APE	**Apeiranthos**	**0.97**	**67**	*e*PN	**Pn**	**14 28 46.3**	**-2.8**
APE				*e*SN	**Sn**	**14 28 59.0**	**-3.4**
APE	**Apeiranthos**	**0.97**	**67**	*e*Pg	**Pg**	**14 28 48.3**	**-1.1**
APE				*e*Sn	**Sn**	**14 28 59.0**	**-3.4**
APE				*e*Sg	**Sg**	**14 29 01.3**	**-0.8**
VLI	**Veliai**	**1.19**	**271**	*e*PN	**Pn**	**14 28 51.2**	**-0.9**
KVR	**Kavouri**	**1.24**	**336**	*e*PN	**Pn**	**14 28 53.5**	**+0.7**
DID	**Didima**	**1.24**	**311**	*e*Pg	**Pg**	**14 28 53.4**	**-1.1**
DID				*e*Sg	**Sg**	**14 29 11.2**	**+0.6**
NAIG	**Nisos Aigina**	**1.29**	**325**	*e*PN	**Pn**	**14 28 55.0**	**+1.5**
ATH	**Athens Observa**	**1.38**	**337**	*e*PN	**Pn**	**14 28 55.5**	**+0.6**
PTL	**Penteli**	**1.41**	**342**	*e*PN	**Pn**	**14 28 56.0**	**+0.7**
IDI	**Anoyia**	**1.46**	**165**	P	**Pn**	**14 28 56.7**	**+0.8**
LAST	**Lasithi**	**1.76**	**150**	*e*Pb	**Pb**	**14 29 00.9**	**-1.4**
ITM	**Ithomi**	**2.05**	**284**	P	**Pg**	**14 29 09.5**	**-0.4**
CHOS	**Chios island**	**2.13**	**37**	*e*Pn	**Pn**	**14 29 04.4**	**-0.7**
CHOS				*e*Sn	**Sn**	**14 29 32.8**	**+1.8**
SMG	**Samos**	**2.18**	**62**	*e*Pn	**Pn**	**14 29 03.8**	**-2.0**
SMG				P	**Pg**	**14 29 12.2**	**-0.2**

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*NEIC **13** 14:31:40.2, 3488N×2457E, h18km, MD3.6(ATH), After ATH.*

*CSEM **13** 14:31:40.2, 3488N×2457E, h18km, MD3.6, After ATH*

ATH 13 14:31:40.2, 3488N×2458E, h18km±2km, MD3.6/5, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.61**	**329**	⇓*i*PN	Pn	14 31 52.2	-1.8
VAM				*e*SN	Sg	14 32 01.2	+0.7
NPS	**Neapolis**	**0.93**	**65**	*e*PN	Pn	14 31 57.7	-0.6
NPS				*e*SN	Sn	14 32 10.3	-0.9
KARP	**Karpathos**	**2.22**	**72**	*e*PN	Pn	14 32 18.8	+2.8
VLI	**Veliai**	**2.27**	**324**	*e*PB	Pb	14 32 18.5	-2.1
APE	**Apeiranthos**	**2.32**	**19**	*e*PN	Pn	14 32 20.1	+2.7

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*NEIC **13** 14:38:55.5, 2742S×6949W, h104km, MD3.6(GUC), After GUC.*

GUC 13 14:38:55.5±0.8, 2742S×6949W, h104km±12km, MD3.6, ML3.7, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.77**	**274**	⇓*i*P	Pn	14 39 14.3	+0.4
CPCH				*i* S	Sn	14 39 28.1	+0.4
CDCH	**Caldera**	**1.24**	**286**	⇓*i*P	Pn	14 39 19.5	+0.6
CDCH				*i* S	Sn	14 39 36.7	+0.2
CDCH				AML	AML	14 39 37.8	
	comp=N,3μm,0.1s						
CDCH	**Caldera**	**1.24**	**286**	⇓*i*P	Pn	14 39 19.5	+0.6
CDCH				*i* S	Sn	14 39 36.7	+0.2
VACH	**Vallenar**	**1.61**	**224**	*e*P	Pn	14 39 23.6	+0.4
VACH				*i* S	Sn	14 39 45.0	+0.7
LCO	**Las Campanas**	**1.91**	**214**	*e*Pn	Pn	14 39 28.4	+1.3
LCO				*e*Sn	Sn	14 39 52.1	+0.9
CPN1	**Cerro Paranal**	**2.90**	**343**	⇓*i*P	Pn	14 39 41.0	+1.0
CPN1				AML	AML	14 40 18.2	
	comp=E,252nm,0.4s						
LSCH	**La Serena**	**2.92**	**211**	AML	AML	14 40 16.5	
	comp=N,104nm,0.3s						
TLL	**Tololo Astrono**	**2.97**	**203**	⇑*e*P	Pn	14 39 42.1	+1.1
TLL				AML	AML	14 40 23.3	
	comp=E,207nm,0.6s						
CEN1	**Los Morros**	**4.06**	**351**	⇑*i*P	Pn	14 39 53.0	-2.5
CEN1				*i* S	Sn	14 40 37.7	-4.4
CEN1				AML	AML	14 41 00.8	
	comp=E,56nm,0.6s						
LVC	**Limon Verde**	**4.81**	**6**	*e*Pn	Pn	14 40 06.3	+0.6

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*ISK **13** 14:40:33.7, 37.15N×3875E, h5km, MD3.3*

*DDA **13** 14:40:33.6, 3708N×3886E, h7km±4km, Md3.0*

*ISCJB **13** 14:40:34.7±0.8, 3709N±005×3881E±005, h10km, Error ellipse: s-maj=7.9km s-min=5.6km az=167.9*

*CSEM **13** 14:40:34.4±0.5, 37.16N×3875E, h5km, MD3.3, Error ellipse: s-maj=13.7km s-min=4.5km az=137.0*

ISC 13 14:40:34.5±1.4, 3708N±006×3882E±006, h7km±8km, n12, σ1§00/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.36**	**0**	*e*PG	**Pg**	**14 40 40.6**	**-0.9**
URFA				*e*SG	**Sg**	**14 40 46.2**	**-0.1**
GZT	**Gaziantep**	**1.04**	**286**	*i* P	**Pg**	**14 40 53.7**	**-0.7**
GZT				*i* S	**Sg**	**14 41 10.0**	**+2.1**
MALT	**Malatya**	**1.27**	**346**	*e*PN	**Pn**	**14 40 57.6**	**-1.1**
MALT				*e*SN	**Sn**	**14 41 15.1**	**-0.9**
GAZ	**Gaziantep**	**1.29**	**275**	*e*PN	**Pn**	**14 40 57.9**	**-1.1**
SVRC	**Sivrice-ELAZID**	**1.35**	**16**	*e*PN	**Pn**	**14 40 59.7**	**-0.1**
ELZG	**Elazig**	**1.42**	**5**	*i* P	**Pn**	**14 41 01.1**	**+0.3**
ELZG				*i* S	**Sb**	**14 41 21.0**	**+1.3**
MARD	**Mardin**	**1.58**	**81**	*i* P	**Pn**	**14 41 03.1**	**+0.2**
MARD				*i* S	**Sn**	**14 41 24.3**	**+0.6**
KMRS	**Kahramanmaras**	**1.59**	**286**	*e*PN	**Pn**	**14 41 03.0**	**-0.1**
PTK	**Pertek**	**1.86**	**14**	*e*PN	**Pn**	**14 41 07.7**	**+0.8**
DARE	**Darende-Malaty**	**2.03**	**337**	*e*PN	**Pn**	**14 41 06.4**	**-2.8**
SARI	**SarD1z-Kayseri**	**2.32**	**314**	*e*PN	**Pn**	**14 41 14.1**	**+1.0**
KOZT	**Kozan**	**2.42**	**280**	*e*PN	**Pn**	**14 41 14.9**	**+0.4**

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*NEIC **13** 14:42:26.8, 4553N×2629E, h160km, MG3.6(BUC), After BUC.*

*BUC **13** 14:42:26.8±0.4, 4551N×2626E, h155km±3km, MD4.2/3, Error ellipse: s-maj=3.3km s-min=2.8km az=18.0*

*ISCJB **13** 14:42:27.5±1.1, 4551N±005×2631E±007, h147km±8km, Error ellipse: s-maj=8.4km s-min=8.3km az=169.9*

*CSEM **13** 14:42:28.1±0.2, 4549N×2631E, h138km±1km, MD4.2/3, Error ellipse: s-maj=2.5km s-min=1.8km az=22.0*

ISC 13 14:42:27.7±1.1, 4551N±005×2631E±007, h150km±8km, n24, σ0§58/39, 9C-8D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.26**	**267**	⇑*i*P	**Pn**	**14 42 48.2**	**+0.1**
MLR				*i* S	**Sn**	**14 43 03.5**	**-0.1**
MLR	**Muntele Rosu**	**0.26**	**267**	P	**Pn**	**14 42 48.3**	**+0.2**
MLR				*i* S	**Sn**	**14 43 03.5**	**-0.1**
MLR	**Muntele Rosu**	**0.26**	**267**	P	**Pn**	**14 42 48.3**	**+0.2**
VRI	**Vrincioaia**	**0.47**	**39**	⇑*i*P	**Pn**	**14 42 48.8**	**-0.1**
VRI				*i* S	**Sn**	**14 43 04.9**	**-0.1**
VRI	**Vrincioaia**	**0.47**	**39**	⇑*i*P	**Pn**	**14 42 48.9**	**0.0**
VRI				*i* S	**Sn**	**14 43 05.3**	**+0.3**
VRI	**Vrincioaia**	**0.47**	**39**	P	**Pn**	**14 42 48.9**	**+0.1**
ODB	**Odobesti**	**0.59**	**63**	⇓*i*P	**Pn**	**14 42 50.5**	**+1.0**
ODB				*i* S	**Sn**	**14 43 07.3**	**+1.2**
ODB	**Odobesti**	**0.59**	**63**	⇑P	**Pn**	**14 42 50.5**	**+1.0**
ODB				S	**Sn**	**14 43 07.3**	**+1.1**
TUDR		**0.96**	**84**	⇓*i*P	**Pn**	**14 42 52.0**	**-0.1**
TUDR				*i* S	**Sn**	**14 43 10.7**	**0.0**
VARR		**1.15**	**70**	⇓*i*P	**Pn**	**14 42 54.1**	**+0.4**
VARR				*i* S	**Sn**	**14 43 13.6**	**0.0**
ONCR	**Oncesti**	**1.17**	**35**	⇑*i*P	**Pn**	**14 42 53.8**	**-0.1**
ONCR				*i* S	**Sn**	**14 43 12.9**	**-1.1**
BUC1	**Bucharest**	**1.18**	**190**	⇓*i*P	**Pn**	**14 42 53.9**	**-0.1**
BUC1				*i* S	**Sn**	**14 43 13.5**	**-0.6**
BUC1	**Bucharest**	**1.18**	**190**	⇑P	**Pn**	**14 42 53.9**	**-0.1**
BUC1				S	**Sn**	**14 43 13.5**	**-0.6**
HARR	**Harsova**	**1.41**	**125**	⇓*i*P	**Pn**	**14 42 56.4**	**+0.1**
HARR				*i* S	**Sn**	**14 43 18.4**	**+0.2**
HARR	**Harsova**	**1.41**	**125**	P	**Pn**	**14 42 56.3**	**0.0**
TLCR		**1.80**	**99**	⇑*i*P	**Pn**	**14 43 00.7**	**+0.3**
TLCR				*i* S	**Sn**	**14 43 25.8**	**+0.2**
TLCR		**1.80**	**99**	⇓P	**Pn**	**14 43 00.7**	**+0.3**
TLCR				S	**Sn**	**14 43 25.8**	**+0.2**
TIRR	**Tirgusor**	**1.82**	**124**	⇓*i*P	**Pn**	**14 43 00.9**	**+0.1**
TIRR				*i* S	**Sn**	**14 43 25.5**	**-0.6**
TIRR	**Tirgusor**	**1.82**	**124**	P	**Pn**	**14 43 00.9**	**+0.1**
BURAR	**Bucovina Array**	**2.24**	**341**	⇑*i*P	**Pn**	**14 43 06.7**	**+1.1**
BURAR	**Bucovina Array**	**2.24**	**341**	⇓P	**Pn**	**14 43 06.7**	**+1.1**
KIS	**Kishinev**	**2.29**	**48**	*i* S	**Sn**	**14 43 35.0**	**-0.9**
	800nm,0.5s						
DRGR		**2.81**	**298**	⇑*i*P	**Pn**	**14 43 11.7**	**-0.9**
DRGR		**2.81**	**298**	P	**Pn**	**14 43 11.8**	**-0.8**

IDC 13 14:56:21.8±1.9, 1525S×17364W, h254km±44km, mb3.4/5, mb1 3.5/6, mb1mx3.2/18, mbtmp3.4/6, Error ellipse: s-maj=65.8km s-min=25.8km az=39.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.24**	**54**	P	Pn	14 57 06.9	+0.1
	1.2nm,0.3s,baz=307,slow=16,SNR=4.5						
RPZ	**Rata Peaks**	**31.24**	**202**	P	P	15 02 18.1	+0.3
	5.8nm,0.3s,baz=328,slow=2.2,SNR=18						
STKA	**Stephens Creek**	**43.91**	**240**	P	P	15 04 03.0	-0.8
	0.6nm,0.6s,baz=58,slow=9.5,SNR=3.8						
WRA	**Warramunga Arr**	**49.65**	**257**	P	P	15 04 48.2	-0.1
	0.2nm,0.3s,baz=91,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**49.94**	**252**	P	P	15 04 50.6	+0.2
	1.3nm,0.3s,baz=92,slow=8.5,SNR=93						
VNDA	**Vanda**	**63.51**	**186**	P	P	15 06 24.5	-0.1
	0.4nm,0.3s,baz=67,slow=1.9,SNR=17						

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*SSNC **13** 14:58:45.1±2.0, 1812N×7004W, h0km±766km, MD4.0, ML4.5*

*ISCJB **13** 14:58:46.8±0.6, 1943N±007×6970W±003, h33km, Error ellipse: s-maj=10.5km s-min=4.0km az=12.8*

*NEIC **13** 14:58:51.2, 1934N×6960W, h25km, MD4.0(RSPR), After RSPR.*

*RSPR **13** 14:58:51.2, 1934N×6960W, h25km±68km, MD4.0/15, MD4.0/15*

ISC 13 14:58:48.4±0.6, 1938N±007×6971W±003, h35km, n64, σ1§19/83, 42C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDO	**Santo Domingo**	**0.95**	**192**	⇑*e*P	**Pn**	**14 59 05.8**	**+0.6**
STDO				*e*S	**Sn**	**14 59 17

CBYP				*e*S	**Sn**	**15 00 24.9**	**-3.4**
CPD	**Cerro la Pandu**	**3.84**	**110⇑**	*e*P	**Pn**	**14 59 45.1**	**+0.1**
CPD	**Cerro la Pandu**	**3.84**	**110⇑**	*e*P	**Pn**	**14 59 45.3**	**+0.3**
CPD	**Cerro la Pandu**	**3.84**	**110**	*e*S	**Sn**	**15 00 26.7**	**-2.2**
CPD	**Cerro la Pandu**	**3.84**	**110⇑**	*e*P	**Pn**	**14 59 45.3**	**+0.3**
CPD				*e*S	**Sn**	**15 00 26.7**	**-2.2**
HUMP	**Col San Antoni**	**3.86**	**108⇑**	*e*P	**Pn**	**14 59 45.4**	**+0.1**
HUMP	**Col San Antoni**	**3.86**	**108**	*e*S	**Sn**	**15 00 26.9**	**-2.5**
HUMP	**Col San Antoni**	**3.86**	**108⇑**	*e*P	**Pn**	**14 59 45.0**	**-0.2**
HUMP	**Col San Antoni**	**3.86**	**108**	*e*S	**Sn**	**15 00 26.4**	**-3.1**
HUMP	**Col San Antoni**	**3.86**	**108**	*e*Pn	**Pn**	**14 59 44.9**	**-0.4**
HUMP				⇑*e*P		14 59 45.0	
HUMP				*e*S	**Sn**	**15 00 26.4**	**-3.1**
HUMP				*e*Sn	**Sn**	**15 00 27.0**	**-2.4**
MTP	**Monte Pirata**	**4.14**	**107⇑**	*e*P	**Pn**	**14 59 49.4**	**+0.2**
MTP	**Monte Pirata**	**4.14**	**107**	*e*S	**Sn**	**15 00 34.0**	**-2.4**
MTP	**Monte Pirata**	**4.14**	**107⇑**	*e*P	**Pn**	**14 59 48.8**	**-0.4**
MTP	**Monte Pirata**	**4.14**	**107⇑**	*e*P	**Pn**	**14 59 48.8**	**-0.4**
MASC	**Masc**	**4.33**	**281**	*e*P	**Pn**	**14 59 51.8**	**+0.1**
	baz=120						
MASC				*e*S	**Sn**	**15 00 40.6**	**-0.4**
	comp=N,3μm,0.2s						
MASC				*e*			
	comp=E,4μm,0.2s						
RCC	**Rio Carpintero**	**5.67**	**277**	*e*P	**Pn**	**15 00 09.0**	**-1.2**
	baz=112						
RCC				*e*S	**Sn**	**15 01 11.4**	**-2.7**
	comp=N,45nm,0.3s						
RCC				*e*			
	comp=E,58nm,0.5s						

MAN 13 15:33:58, 1877N×12118E, h5km, mb4.3, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.91**	**176**	*e*P	Pg	15 34 17.0	+1.6
APYP				*e*S	Sg	15 34 31.8	+4.5
SGCP	**Mt. Cagua**	**0.98**	**123**	*e*P	Pg	15 34 17.8	+1.0
SIPP	**Brgy, Tapao**	**1.09**	**219⇑**	*i*P	Pg	15 34 20.0	+1.2
SIPP				*i* S	Sg	15 34 36.9	+3.9
ABRA	**Dolores**	**1.20**	**202**	*e*P	Pg	15 34 24.6	+3.5
CAUP	**Cauayan**	**1.92**	**161**	*e*P	Pn	15 34 35.4	+4.0

*ISCJB **13** 16:11:08.6±1.3, 2809N±008×5660E±010, h10km, Error ellipse: s-maj=13.1km s-min=10.9km az=30.6*
*THR **13** 16:11:13.2±0.3, 2785N×5666E, h14km±5km, ML3.1*
*CSEM **13** 16:11:14.1±0.1, 2797N×5664E, h16km, ML3.2/1, Error ellipse: s-maj=4.6km s-min=2.7km az=138.0*

ISC 13 16:11:09.9±1.3, 2809N±008×5657E±007, h9km±10km, n13, σ0§48/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.78**	**207**	*e*Pg	**Pg**	**16 11 25.5**	**+0.7**
BNDS				*e*Sg	**Sg**	**16 11 34.4**	**-0.5**
BNDS				AML	AML	16 11 41.2	
	comp=N,1μm,0.4s						
BNDS	**Bandar-Abbas**	**0.78**	**207**	*e*Pg	**Pg**	**16 11 25.5**	**+0.7**
	SNR=91						
BNDS				*e*Sg	**Sg**	**16 11 34.4**	**-0.5**
	comp=N,1μm,0.4s,SNR=91						
BANOM	**Banah**	**2.17**	**186**	P	**Pn**	**16 11 45.7**	**-0.6**
	SNR=27						
GHIR	**Ghir-Karzin**	**3.17**	**274**	*e*Pn	**Pb**	**16 12 06.2**	**-0.1**
GHIR				AML	AML	16 13 10.8	
	comp=E,45nm,0.5s						
GHIR				AML	AML	16 13 25.1	
	comp=N,42nm,0.8s						
NAZ	**Nazwa, Dubai**	**3.20**	**195**	Pn	**Pn**	**16 12 00.7**	**+0.3**
HATD	**Hatta, Dubai**	**3.28**	**187**	Pn	**Pn**	**16 12 01.3**	**-0.2**
ASHO	**Ashiyiah**	**3.43**	**188**	P	**Pn**	**16 12 03.2**	**-0.3**
	SNR=9.3						
FAQ	**Al Faqa, Dubai**	**3.45**	**195**	Pn	**Pn**	**16 12 04.1**	**+0.3**
	SNR=17						
ASUD	**Al Ashush, Dub**	**3.63**	**198**	Pn	**Pn**	**16 12 07.2**	**+0.9**
	SNR=27						
ZHSF	**Zahedan**	**3.99**	**67**	*e*Pn	**Pn**	**16 12 16.5**	**+5.3**
ZHSF				*e*Sg	**Sg**	**16 13 17.9**	**-0.1**
BTHS		**6.53**	**233**	P	**Pn**	**16 12 46.5**	**+0.3**
HRDDS		**8.22**	**233**	S	**Sn**	**16 14 37.1**	**-5.4**
HRDDS		**8.22**	**233**	P	**Pn**	**16 13 08.9**	**-0.6**

*MDD **13** 16:13:04.6±0.3, 3823N×934W, h41km±6km, mb3.8/9, Error ellipse: s-maj=3.1km s-min=1.7km az=75.0, PRIMO*

INMG 13 16:13:04.1±1.0, 3821N×931W, h31km±7km, ML1.8, Error ellipse: s-maj=3.3km s-min=3.0km az=86.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**0.74**	**2**	*e*P	Pn	16 13 17.2	-1.2
PMAFR				*e*S	Sb	16 13 27.1	-1.3
PMAFR				A		16 13 27.7	
	88nm,0.1s						
PMAFR	**Mafra**	**0.74**	**2**	P	Pn	16 13 17.2	-1.2
PMAFR				S	Sb	16 13 27.1	-1.3
	44nm,0.1s						
PTEO	**Sao Teotonio**	**0.81**	**145**	*e*P	Pn	16 13 18.4	-1.0
PTEO				*e*S	Sb	16 13 28.6	-1.7
PTEO				A		16 13 30.1	
	19nm,0.3s						
PTEO	**Sao Teotonio**	**0.81**	**145**	P	Pn	16 13 18.4	-1.0
PTEO				S	Sb	16 13 28.6	-1.7
	9.6nm,0.3s						
MOE	**Montemor**	**0.82**	**67**	*e*P	Pn	16 13 18.3	-1.1
MOE				*e*S	Sn	16 13 28.7	-1.8
MORF	**Marmelete**	**1.04**	**150**	*e*P	Pn	16 13 21.6	-1.0
MORF				*e*S	Sn	16 13 34.3	-1.8
MORF				A		16 13 37.0	
	17nm,0.1s						
MORF	**Marmelete**	**1.04**	**150**	P	Pn	16 13 21.6	-1.0
MORF				S	Sn	16 13 34.3	-1.8
	17nm,0.1s						
EVO	**Evora**	**1.07**	**72**	*e*P	Pn	16 13 21.6	-1.3
EVO				*e*S	Sn	16 13 34.7	-2.0
EVO				A		16 13 37.5	
	26nm,0.1s						
EVO	**Evora**	**1.07**	**72**	P	Pn	16 13 21.6	-1.3
EVO				S	Sn	16 13 34.7	-2.0
	26nm,0.1s						
PFVI	**Vila Bisbo**	**1.14**	**160**	*e*P	Pn	16 13 22.7	-1.2
PFVI				*e*S	Sn	16 13 36.0	-2.5
PFVI				A		16 13 40.3	
	10nm,0.1s						
PFVI	**Vila Bisbo**	**1.14**	**160**	P	Pn	16 13 22.7	-1.2
PFVI				S	Sn	16 13 36.0	-2.5
	5.2nm,0.1s						
PBEJ	**Beja**	**1.15**	**99**	*e*S	Sn	16 13 37.0	-1.8
PBEJ				A		16 13 39.3	
	7.1nm,0.2s						
PBEJ	**Beja**	**1.15**	**99**	S	Sn	16 13 37.0	-1.8
	3.6nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.46**	**131**	*e*P	Pn	16 13 28.3	0.0
PBDV				*e*S	Sn	16 13 44.0	-2.3
PVAQ	**Vaqueiros**	**1.50**	**122**	*e*P	Pn	16 13 27.7	-1.1
PVAQ				*e*S	Sn	16 13 46.2	-1.1
PVAQ				A		16 13 54.5	
	4.3nm,0.1s						
PVAQ	**Vaqueiros**	**1.50**	**122**	P	Pn	16 13 27.7	-1.1
PVAQ				S	Sn	16 13 46.2	-1.1
	2.2nm,0.1s						
PESTR	**Estremoz**	**1.50**	**64**	*e*P	Pn	16 13 27.4	-1.4
PESTR				*e*S	Sn	16 13 44.9	-2.4
PESTR				A		16 13 51.7	
	3.5nm,0.2s						
PESTR	**Estremoz**	**1.50**	**64**	P	Pn	16 13 27.4	-1.4
PESTR				S	Sn	16 13 44.9	-2.4
	1.8nm,0.2s						
EGRO	**El Granado**	**1.60**	**115**	P	Pn	16 13 29.0	-1.2
	0.6nm,0.1s,SNR=5.0						
EGRO				S	Sn	16 13 46.8	-2.9
	2.2nm,0.1s,SNR=4.6						
PBAR	**Barrancos**	**1.79**	**90**	*e*Pn	Pn	16 13 32.5	-0.3
PBAR				*e*Sn	Sn	16 13 52.1	-2.4
PBAR				A		16 13 56.7	
	4.7nm,0.1s						
PBAR	**Barrancos**	**1.79**	**90**	P	Pn	16 13 32.5	-0.3
PBAR				S	Sn	16 13 52.1	-2.4
	2.3nm,0.1s						
EBAD	**Badajoz**	**1.88**	**73**	P	Pn	16 13 31.9	-2.2
	1.3nm,0.1s,SNR=9.8						
EBAD				S	Sn	16 13 54.1	-2.7
	5.7nm,0.1s,SNR=6.5						
PMRV	**Marv??o**	**1.93**	**50**	*e*Pn	Pn	16 13 33.2	-1.5
PMRV				*e*Sn	Sn	16 13 54.9	-3.0
PMRV				A		16 13 57.1	
	4.1nm,0.2s						
EMIN	**Mina Concepcio**	**2.13**	**101**	P	Pn	16 13 36.5	-1.0
	0.6nm,0.1s,SNR=8.3						
EMIN				S	Sn	16 14 00.6	-2.3
	2.9nm,0.1s						
PVIS	**Viseu**	**2.73**	**23**	*e*Pn	Pn	16 13 44.4	-1.4
PVIS				*e*Sn	Sn	16 14 14.3	-3.4
PVIS				A		16 14 17.7	
	3.9nm,0.1s						
PVIS	**Viseu**	**2.73**	**23**	P	Pn	16 13 44.4	-1.4
PVIS				S	Sn	16 14 14.3	-3.4
	1.9nm,0.1s						
ESPR	**Espera**	**3.06**	**115**	P	Pn	16 13 49.4	-0.8
	1.3nm,0.2s,SNR=7.9						
ESPR				S	Sn	16 14 22.1	-3.6
	5.8nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**3.07**	**91**	P	Pn	16 13 50.0	-0.4
	4.9nm,0.2s,SNR=11						
ECAB				S	Sn	16 14 22.6	-3.5
	7.3nm,0.2s						
MVO	**Moncorvo**	**3.43**	**30**	*e*Pn	Pn	16 13 53.9	-1.5
MVO				*e*Sn	Sn	16 14 30.9	-4.1
MVO				A		16 14 33.1	
	2.1nm,0.1s						
MVO	**Moncorvo**	**3.43**	**30**	P	Pn	16 13 53.9	-1.5
MVO				S	Sn	16 14 30.9	-4.1
	1.1nm,0.1s						
PCAB	**Cabril**	**3.63**	**15**	*e*Pn	Pn	16 13 56.5	-1.6
PCAB				*e*Sn	Sn	16 14 35.5	-4.4
PCAB				A		16 14 37.7	
	4.9nm,0.2s						
PCAB	**Cabril**	**3.63**	**15**	P	Pn	16 13 56.5	-1.6
PCAB				S	Sn	16 14 35.5	-4.4
	2.5nm,0.2s						
EADA	**Adamuz**	**3.73**	**89**	P	Pn	16 13 59.0	-0.5
	0.6nm,0.2s,SNR=7.9						
EADA				S	Sn	16 14 38.2	-4.2
	6.4nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**3.77**	**14**	P	Pn	16 13 58.6	-1.6
	1.3nm,0.1s,SNR=7.2						
ELOB				S	Sn	16 14 37.7	-5.8
	2.2nm,0.1s						
ECAL	**Calabor**	**4.21**	**27**	P	Pn	16 14 04.8	-1.4
	0.6nm,0.1s,SNR=7.9						
ECAL				S	Sn	16 14 50.3	-4.0
	1.6nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.42**	**69**	P	Pn	16 14 07.8	-1.1
	3.1nm,0.3s,baz=254,slow=13,SNR=3.6						
ESDC				S	Sn	16 14 54.8	-4.5
	1.5nm,0.1s,SNR=7.9						

*ISCJB **13** 16:34:32.0±0.5, 00S±0.1×1784W±008, h10km, mb4.1/16, MS3.8/13, Error ellipse: s-maj=15.9km s-min=10.0km az=147.4*
*IDC **13** 16:34:32.2±0.8, 007S×1782W, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/26, mbtmp4.0/11, ML5.3/2, MS3.7/15, Ms1 3.7/15, ms1mx3.6/23, Error ellipse: s-maj=23.9km s-min=16.9km az=143.0*
*NEIC **13** 16:34:33.6±0.5, 003S×1785W, h10km, mb4.3/6, Error ellipse: s-maj=16.0km s-min=10.5km az=144.0*

ISC 13 16:34:33.9±0.5, 003S±010×1783W±008, h10km, n38, σ1§17/31, mb4.1/16, MS3.8/13, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**14.55**	**63**	Pn	**Pn**	**16 37 58.6**	**-1.3**
	24nm,0.3s,baz=235,slow=16,SNR=136						
DBIC				Sn	**Sn**	**16 40 32.6**	**-8.9**
	3.8nm,0.3s,baz=139,slow=15,SNR=4.2						
DBIC				LR	LR	16 42 43.4	
	comp=Z,206nm,20.9s,baz=219,slow=34						
DBIC	**Dimbokro**	**14.55**	**63**	*e*Pn	**Pn**	**16 37 58.5**	**-1.4**
DBIC				*e*Sn	**Sn**	**16 40 26.4**	**-15**
DBIC				LR	LR	16 42 43.4	
BBTS	**Babate**	**14.65**	**5**	Pn	**Pn**	**16 37 59.5**	**-1.8**
	8.2nm,0.3s,baz=206,slow=2.1,SNR=8.1						
BBTS				Sn	**Sn**	**16 40 31.4**	**-13**
	5.9nm,0.3s,baz=26,slow=23,SNR=12						
BBTS				LR	LR	16 42 25.6	
	comp=Z,247nm,22.0s,baz=225,slow=32						
TOA0	**Torodi Ar. Sit**	**23.36**	**55**	*e*Pn	**P**	**16 39 42.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**23.36**	**55**	P	**P**	**16 39 42.2**	**-0.7**
	18nm,1.0s,mb4.5,baz=239,slow=10,SNR=71						
TORD				LR	LR	16 47 36.0	
	comp=Z,187nm,21.0s,MS3.5,baz=235,slow=34						
TORD	**Torodi Ar. Bea**	**23.36**	**55**	P	**P**	**16 39 42.2**	**-0.7**
TORD				LR	LR	16 47 36.0	
TAM	**Tamanrasset**	**32.10**	**43**	*e*P	**P**	**16 41 03.2**	**+1.8**
MDT	**Midelt**	**34.96**	**20**	P	**P**	**16 41 28.5**	**+2.2**
	1.6nm,0.7s,mb4.1,baz=308,slow=10,SNR=6.5						
ESDC	**Sonseca Array**	**41.49**	**16**	P	**P**	**16 42 21.9**	**+0.7**
	1.1nm,0.8s,mb3.6,baz=203,slow=8.0,SNR=6.2						
KEST	**Kesra**	**43.65**	**33**	P	**P**	**16 42 39.2**	**+0.4**
	1.6nm,1.0s,mb3.7,baz=195,slow=7.1,SNR=3.7						
KEST				LR	LR	17 02 03.9	
	comp=Z,116nm,19.5s,MS3.8,baz=178,slow=38						
SIV	**San Ignacio**	**45.52**	**247**	P	**P**	**16 42 53.1**	**-1.0**
	1.0nm,0.9s,mb3.8,baz=85,slow=15,SNR=6.6						
CPUP	**Villa Florida**	**46.16**	**232**	LR	LR	17 03 29.9	
	comp=Z,109nm,18.1s,MS3.8,baz=268,slow=38						
LSZ	**Lusaka**	**47.90**	**111**	P	**P**	**16 43 13.3**	**+0.6**
	1.1nm,0.4s,mb4.2,baz=78,slow=4.6,SNR=5.6						
LSZ	**Lusaka**	**47.90**	**111**	P	**P**	**16 43 14.0**	**+1.3**
	1.9nm,0.6s,mb4.3						
BOSA	**Boshof**	**50.03**	**128**	P	**P**	**16 43 27.5**	**-1.4**
	1.4nm,0.6s,mb4.2,baz=304,slow=5.9,SNR=3.8						
BOSA				LR	LR	17 01 28.8	
	comp=Z,78nm,18.2s,MS3.8,baz=360,slow=32						
BOSA	**Boshof**	**50.03**	**128**	*e*P	**P**	**16 43 29.2**	**+0.3**
BOSA				LR	LR	17 01 28.8	
LPAZ	**La Paz**	**52.16**	**249**	P	**P**	**16 43 46.6**	**+1.5**
	0.8nm,0.8s,mb3.7,baz=298,slow=6.7,SNR=2.7						
LPAZ				LR	LR	17 03 35.2	
	comp=Z,68nm,19.7s,MS3.7,baz=273,slow=33						
LPAZ	**La Paz**	**52.16**	**249**	P	**P**	**16 43 45.6**	**+0.5**
LPAZ				LR	LR	17 03 35.1	
SDV	**Santo Domingo**	**53.33**	**281**	P	**P**	**16 43 53.3**	**-0.5**
	3.4nm,0.7s,mb4.4,baz=345,slow=5.1,SNR=4.1						
SDV	**Santo Domingo**	**53.33**	**281**	*e*P	**P**	**16 43 53.8**	**0.0**
	3.7nm,0.8s,mb4.4						
KMBO	**Kilima Mbogo**	**55.09**	**91**	LR	LR	17 06 42.3	
	comp=Z,73nm,20.0s,MS3.8,baz=96,slow=35						
GERES	**GERESS Array B**	**55.75**	**25**	P	**P**	**16 44 10.8**	**0.0**
	0.8nm,0.6s,mb3.9,baz=209,slow=7.6,SNR=7.7						
ROSC	**El Rosal**	**56.64**	**276**	LR	LR	17 04 52.3	
	comp=Z,85nm,21.1s,MS3.8,baz=19,slow=32						
LCO	**Las Campanas**	**58.07**	**235**	*e*P	**P**	**16 44 26.3**	**-1.4**
KECS	**Kecovo**	**58.55**	**29**	*e*P	**P**	**16 44 31.7**	**+1.1**
PLCA	**Paso Flores**	**62.58**	**223**	LR	LR	17 10 19.5	
	comp=Z,138nm,19.4s,MS4.1,baz=205,slow=34						
MALT	**Malatya**	**64.10**	**47**	*e*P	**P**	**16 45 10.0**	**+1.6**
	2.6nm,0.6s,mb4.4						
NOA	**NORSAR Array B**	**64.84**	**15**	P	**P**	**16 45 11.7**	**-1.1**
	1.1nm,0.7s,mb4.0,baz=210,slow=6.6,SNR=3.3						
NOA				LR	LR	17 12 14.4	
	comp=Z,36nm,21.5s,MS3.5,baz=225,slow=35						
KAF	**Kangasniemi**	**70.30**	**20**	*e*p	**P**	**16 45 48.1**	**+0.8**
	1.3nm,0.5s,mb4.1						
JOF	**Joensuu**	**72.60**	**21**	*e*p	**P**	**16 45 59.1**	**-2.1**
	2.2nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**75.20**	**14**	LR	LR	17 19 46.8	
	comp=Z,43nm,21.0s,MS3.7,baz=72,slow=36						
ULM	**Lac du Bonnet**	**82.38**	**321**	LR	LR	17 20 43.8	
	comp=Z,41nm,18.2s,MS3.8,baz=14,slow=34						
WMOK	**Wichita Mounta**	**82.58**	**305**	*e*P	**P**	**16 46 57.7**	**+0.2**
	3.0nm,1.0s,mb4.3						
SDCO	**Great Sand Dun**	**88.17**	**308**	*e*P	**P**	**16 47 26.3**	**+0.9**
	1.5nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**91.29**	**313**	LR	LR	17 28 15.2	
	comp=Z,34nm,18.5s,MS3.8,baz=243,slow=35						
ZALV	**Zalesovo Beam**	**97.45**	**36**	LR	LR	17 36 17.4	
	comp=Z,37nm,19.3s,MS3.9,baz=167,slow=38						
ASAR	**Alice Springs**	**143.84**	**133**	PKP	PKPdf	16 54 08.4	-1.9
	0.9nm,1.0s,baz=222,slow=2.5,SNR=7.3						
WRA	**Warramunga Arr**	**146.28**	**128**	PKPbc	PKPbc	16 54 15.9	+0.2
	0.4nm,0.8s,baz=238,slow=2.7,SNR=5.1						

*GRAL **13** 16:50:01.2±0.4, 3331N×3558E, h27km±4km, MD2.9*
*CSEM **13** 16:50:01.2, 3331N×3558E, h26km, ML2.9, After GRAL*
*GII **13** 16:50:02.1±1.4, 3346N×3561E, h0km, ML2.1/7, EXPLOSION*
*ISCJB **13** 16:50:03.1±0.6, 3345N±003×3552E±005, h0km, Error ellipse: s-maj=5.6km s-min=3.6km az=15.1*

ISC 13 16:50:03.7±0.6, 3346N±003×3554E±005, h0km, n12, σ1§12/19, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.18**	**278**	*e*Pg	**Pg**	**16 50 07.6**	**+0.4**
RCY	**Rachaya**	**0.23**	**85**	*e*Pg	**Pg**	**16 50 07.7**	**-0.5**
RCY				*e*Sg	**Sg**	**16 50 12.6**	**+1.4**
HRI	**Mount Hermon**	**0.26**	**141**	Pg	**Pg**	**16 50 07.2**	**-1.4**
HRI				Sg	**Sg**	**16 50 11.9**	**0.0**
BHL	**Bhannes**	**0.45**	**12**	*e*Pg	**Pg**	**16 50 12.1**	**-0.2**
BHL				*e*Sg	**Sg**	**16 50 20.5**	**+2.3**
MMA0	**Mount Meron ar**	**0.46**	**195**	Pg	**Pg**	**16 50 11.6**	**-0.9**
MMA0				Sg	**Sg**	**16 50 20.2**	**+1.6**
HNTI	**Hanita**	**0.49**	**219**	Sg	**Sg**	**16 50 23.0**	**+3.6**
KSHT	**Keshet**	**0.53**	**155**	Pg	**Pg**	**16 50 13.4**	**-0.5**
KSHT				Sg	**Sg**	**16 50 21.8**	**+1.1**
HWQ	**Hawqa**	**0.88**	**22**	*e*Pg	**Pg**	**16 50 19.1**	**-1.5**
OFRI	**'Ofer**	**0.96**	**209**	Pg	**Pg**	**16 50 21.6**	**-0.5**
MMLI	**Mount Malkishu**	**1.03**	**186**	Pg	**Pg**	**16 50 22.2**	**-1.2**
HMDT	**Nahal Hemdat**	**1.21**	**181**	Pg	**Pg**	**16 50 25.3**	**-1.6**
HMDT				Sg	**Sg**	**16 50 43.2**	**+0.7**
SLTI	**Sal'it**	**1.29**	**199**	Pg	**Pg**	**16 50 28.4**	**-0.1**
SLTI				Sg	**Sg**	**16 50 46.0**	**+0.8**

MAN 13 17:06:16, 1902N×12169E, h113km, mb4.5, ML3.4, MS3.3, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.85**	**156**	*e*P	Pn	17 06 37.5	+1.5
PIP	**Pasuquin**	**1.23**	**236⇑**	*i*P	Pn	17 06 42.5	+2.6
PIP				*i* S	Sn	17 06 59.3	+1.3
APYP	**Conner**	**1.23**	**200**	*e*P	Pn	17 06 41.2	+1.3
APYP				*e*S	Sn	17 06 57.7	-0.3
SIPP	**Brgy, Tapao**	**1.60**	**227⇓**	*i*P	Pn	17 06 46.1	+1.9
SIPP				*i* S	Sn	17 07 09.0	+3.3
ABRA	**Dolores**	**1.65**	**214**	*e*P	Pn	17 06 46.4	+1.5
PALP	**Palanan**	**2.07**	**160⇑**	*e*P	Pn	17 06 51.1	+1.1
PALP				*i* S	Sn	17 07 17.4	+1.3
CAUP	**Cauayan**	**2.07**	**176**	*e*P	Pn	17 06 52.8	+2.7
BOLP	**Bolinao**	**3.13**	**213**	*e*P	Pn	17 07 06.1	+2.3
BOLP				*e*S	Sn	17 07 42.2	+1.6
BALP	**Baler**	**3.27**	**182**	*e*P	Pn	17 07 07.2	+1.5
POLP	**Polilio Island**	**4.28**	**177**	*e*P	Pn	17 07 21.3	+2.1
PVCP	**Virac**	**5.89**	**156⇑**	*e*P	Pn	17 07 41.5	+0.5
BESP	**Borongan**	**8.22**	**153**	*e*P	Pn	17 08 10.0	-2.6

*ISCJB **13** 17:07:08.1±0.7, 860N±006×12735E±006, h10km, mb3.9/9, Error ellipse: s-maj=9.8km s-min=6.5km az=140.6*
*MAN **13** 17:07:08, 841N×12718E, h0km, mb4.8, ML3.7, MS3.7*
*IDC **13** 17:07:08.9±1.2, 868N×12711E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/21, mbtmp3.8/7, ML4.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/28, Error ellipse: s-maj=34.7km s-min=17.4km az=74.0*
*NEIC **13** 17:07:10.0±0.7, 867N×12715E, h10km, mb4.3/4, Error ellipse: s-maj=20.3km s-min=9.2km az=67.0*

ISC 13 17:07:10.2±0.7, 862N±006×12727E±007, h10km, n25, σ1§12/27, mb3.9/9, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.00**	**244⇓**	*e*P	**Pg**	**17 07 24.3**	**-5.2**
BIPH				*e*S	**Sg**	**17 07 30.3**	**-12**
BUTP	**Butuan**	**1.67**	**282**	*e*P	**Pn**	**17 07 37.9**	**-1.6**
MATI	**Mati**	**1.94**	**211**	*e*P	**Pn**	**17 07 39.8**	**-3.5**
SCPH	**Surigao**	**2.11**	**303⇓**	*e*P	**Pn**	**17 07 46.0**	**+0.5**
DAV	**Davao City (W)**	**2.28**	**228**	Pn	**Pn**	**17 07 47.4**	**-0.4**
	64nm,0.3s,baz=50,slow=10,SNR=7.4						
DAV				Sn	**Sn**	**17 08 16.4**	**+0.3**
	65nm,0.3s,baz=90,slow=20,SNR=4.4						
BUKP	**Musuan**	**2.31**	**252**	*e*P	**Pn**	**17 07 46.7**	**-1.6**
MSLP	**Maasin**	**2.82**	**302**	*e*P	**Pn**	**17 07 56.1**	**+0.8**
TBP	**Tagbilaran**	**3.53**	**288**	*e*P	**Pn**	**17 08 05.8**	**+0.6**
LLP	**Lapu-Lapu**	**3.67**	**298⇓**	*e*P	**Pn**	**17 08 08.3**	**+1.2**
LLP				*e*S	**Sn**	**17 08 53.6**	**+3.1**
PAGZ	**Pagadian**	**3.93**	**259**	*e*P	**Pn**	**17 08 10.5**	**0.0**
CNP	**Catarman**	**4.64**	**327**	*e*P	**Pn**	**17 08 24.3**	**+3.9**
IPIL	**Ipil**	**4.73**	**260**	*e*P	**Pn**	**17 08 22.5**	**+0.9**
GUMO	**Guam**	**17.95**	**72**	LR	LR	17 17 53.0	
	comp=Z,32nm,19.6s,baz=251,slow=36						
KAKA	**Kakadu**	**21.80**	**166**	*e*P	**P**	**17 12 02.4**	**-0.2**
	4.1nm,0.7s,mb4.0						
FITZ	**Fitzroy Crossi**	**26.60**	**183**	*e*P	**P**	**17 12 48.9**	**0.0**
	6.3nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**26.60**	**183**	P	**P**	**17 12 49.3**	**+0.4**
	3.1nm,0.6s,mb4.0,baz=16,slow=7.5,SNR=22						
CMAR	**Chiang Mai Arr**	**29.18**	**293**	P	**P**	**17 13 10.3**	**-1.8**
	1.2nm,0.8s,mb3.7,baz

LEM	Lembang	1.72	70	P		Pn	18 45 38.7	-1.0
	0.0nm,0.0s							
KLI	Kotabumi	2.78	336	P		Pn	18 45 56.3	+2.2
	0.0nm,0.0s							
CLJI	Cilicap	3.01	96	P		Pn	18 45 55.3	-2.0
	0.0nm,0.0s							
XMIS	Christmas Isla	3.05	186	*e*Pn		Pn	18 45 49.1	-8.7
BJII	Banjamegara	3.69	89	P		Pn	18 46 07.0	+0.5
	0.0nm,0.0s							
TPI	Tanjungpandan	4.93	20	P		Pn	18 46 24.5	+1.1
	93nm,0.9s							
KSI	Kapahiang	5.05	318	P		Pn	18 46 27.6	+2.5
	332nm,1.1s							
PPBI	Pangkal Pinang	5.23	2	P		Pn	18 46 29.7	+2.1
	145nm,0.8s							
SJI	Sawahan	5.74	93	P		Pn	18 46 33.1	-1.4
	180nm,0.8s							
KRKI	Karangkates	6.45	97	P		Pn	18 46 46.6	+2.4
	350nm,0.9s							
DSRI	Dabo	7.04	348	P		Pn	18 46 57.0	+4.6
	55nm,0.9s							
TPRI	Tanjung Pinang	8.42	350	P		Pn	18 47 16.7	+5.5
	27nm,0.6s							
DNP	Denpasar	9.22	98	P		Pn	18 47 25.6	+3.4
	344nm,0.7s							
KHKI	Kahang-Kahang	9.57	96	P		Pn	18 47 27.3	+0.2
	102nm,0.9s							
KGM	Kluang	9.75	344	⇓P		Pn	18 47 34.7	+5.2
SBUM	Sibu	11.61	33	⇑P		Pn	18 48 00.3	+5.4
BTM	Bintulu	12.71	34	⇑P		Pn	18 48 14.3	+4.4
KKM	Kota Kinabalu	16.83	38	⇑P		Pn	18 49 07.5	+4.0
KDI	Kendari	16.90	79	P		Pn	18 49 06.2	+1.8
	53nm,0.9s							
KDI	Kendari	16.90	79	⇑*e*P		Pn	18 49 05.6	+1.2
KDI				*e*S		S	18 52 13.4	-5.2
BATI	Baumata	17.68	100	P		Pn	18 49 15.1	+1.1
	139nm,0.8s							
BATI	Baumata	17.68	100	P		Pn	18 49 12.2	-1.8
	38nm,0.3s,baz=304,slow=1.5,SNR=53							
KDM	Kudat	17.89	37	⇓P		Pn	18 49 17.8	+1.3
MBWA	Marble Bar	19.05	137	*e*Pn		Pn	18 49 28.2	-2.2
	240nm,3.0s							
FITZ	Fitzroy Crossi	21.88	121	*e*P		P	18 49 59.7	0.0
	22nm,0.9s,mb4.6							
FITZ	Fitzroy Crossi	21.88	121	P		P	18 49 59.0	-0.7
	12nm,0.8s,mb4.4,baz=268,slow=4.1,SNR=19							
KAKA	Kakadu	26.56	104	*e*P		P	18 50 44.3	+0.2
QIZ	Qiongzhong	26.56	8	P		P	18 50 45.8	+1.8
QIZ				LR		LR		
	comp=N,494nm,14.7s							
QIZ				LR		LR		
	comp=Z,542nm,20.0s							
CMAR	Chiang Mai Arr	26.64	345	P		P	18 50 43.4	-1.3
	comp=Z,2.2nm,0.6s,mb3.9,baz=180,slow=8.5,SNR=21							
CMAR				PcP		PcP	18 54 09.2	+1.7
	comp=Z,0.7nm,0.8s,baz=190,slow=3.0,SNR=4.1							
WRA	Warramunga Arr	30.16	117	P		P	18 51 15.8	-0.3
	comp=Z,5.3nm,0.8s,mb4.3,baz=289,slow=10,SNR=9.8							
WRAB	Tennant Creek	30.17	117	*i*P		P	18 51 16.0	-0.2
ASAR	Alice Springs	31.27	124	P		P	18 51 25.9	+0.1
	comp=Z,7.9nm,0.9s,mb4.5,baz=297,slow=7.5,SNR=13							
KMI	Kunming	32.51	355	P		P	18 51 40.0	+3.4
KMI				AP		pP	18 51 49.6	-2.7
KMI				XP		sP	18 51 53.5	-6.4
KMI				AMB		AMB		
	comp=Z,3.0nm,0.9s,mb4.2							
KMI				AMB		AMB		
	comp=Z,46nm,3.7s							
KMI				LR		LR		
	comp=N,130nm,14.4s							
KMI				LR		LR		
	comp=E,301nm,14.4s							
KMI				LR		LR		
	comp=Z,195nm,17.8s							
GYA	Guiyang	33.69	1	⇑*i*P		P	18 51 48.3	+1.4
GYA				AP		pP	18 51 59.9	-2.8
GYA				PP		PP	18 53 04.8	+0.5
GYA				PCP		PcP	18 54 27.6	+2.0
GYA				AMB		AMB		
	comp=Z,20nm,1.2s,mb4.9							
GYA				AMB		AMB		
	comp=Z,90nm,4.8s							
GYA				LR		LR		
	comp=N,470nm,16.4s							
GYA				LR		LR		
	comp=E,450nm,17.8s							
GYA				LR		LR		
	comp=Z,490nm,16.7s							
CD2	Chengdu	38.18	357	*e*P		P	18 52 27.0	+1.7
CD2				AP		pP	18 52 36.8	-4.4
CD2				XP		sP	18 52 40.8	-7.9
CD2				PP		PP	18 53 58.9	+5.1
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
CD2				AMB		AMB		
	comp=Z,20nm,5.2s							
CD2				LR		LR		
	comp=N,180nm,18.2s							
CD2				LR		LR		
	comp=E,230nm,12.4s							
CD2				LR		LR		
	comp=Z,150nm,14.2s							
ODAN	Odare	38.56	333	*e*P		P	18 52 27.3	-1.3
	comp=Z,19nm,0.8s,mb4.9							
ODAN	Odare	38.56	333	*e*P		P	18 52 27.2	-1.4
	comp=Z,9.9nm,0.5s,mb4.8							
ODAN	Odare	38.56	333	*e*P		P	18 52 27.2	-1.4
	comp=Z,9.9nm,0.5s,mb4.8							
TAPN	Taplejung	38.84	334	*e*P		P	18 52 30.9	0.0
	comp=Z,31nm,0.8s,mb5.1							
TAPN	Taplejung	38.84	334	*e*P		P	18 52 30.6	-0.3
	comp=Z,31nm,0.8s,mb5.1							
TAPN	Taplejung	38.84	334	*e*P		P	18 52 30.6	-0.3
	comp=Z,31nm,0.8s,mb5.1							
RAMN	Ramite	39.00	332	*e*P		P	18 52 30.7	-1.5
	comp=Z,7.4nm,0.5s,mb4.7							
RAMN	Ramite	39.00	332	*e*P		P	18 52 30.7	-1.5
	comp=Z,7.4nm,0.5s,mb4.7							
LSA	Lhasa	39.57	340	*e*P		P	18 52 37.0	0.0
JIRN	Jiri	39.79	332	*e*P		P	18 52 38.3	-0.5
JIRN	Jiri	39.79	332	*e*P		P	18 52 38.6	-0.2
	comp=Z,28nm,0.7s,mb5.1							
JIRN	Jiri	39.79	332	*e*P		P	18 52 38.6	-0.2
	comp=Z,28nm,0.7s,mb5.1							
PKI	Pulchoki	40.09	331	*e*P		P	18 52 41.3	0.0
PKI	Pulchoki	40.09	331	*e*P		P	18 52 41.1	-0.2
PKI	Pulchoki	40.09	331	*e*P		P	18 52 41.1	-0.2
GUN	Gumba	40.15	332	*e*P		P	18 52 41.3	-0.5
	comp=Z,23nm,0.6s,mb5.1							
GUN	Gumba	40.15	332	*e*P		P	18 52 41.5	-0.3
GUN	Gumba	40.15	332	*e*P		P	18 52 41.5	-0.3
DMN	Daman	40.26	331	*e*P		P	18 52 41.8	-1.0
	comp=Z,19nm,0.8s,mb4.9							
DMN	Daman	40.26	331	*e*P		P	18 52 42.0	-0.8
	comp=Z,19nm,0.8s,mb4.9							
DMN	Daman	40.26	331	*e*P		P	18 52 42.0	-0.8
	comp=Z,19nm,0.8s,mb4.9							
KKN	Kakani	40.33	331	*e*P		P	18 52 42.7	-0.6
	comp=Z,21nm,0.8s,mb4.9							
KKN	Kakani	40.33	331	*e*P		P	18 52 42.9	-0.4
	comp=Z,21nm,0.8s,mb4.9							
KKN	Kakani	40.33	331	*e*P		P	18 52 42.9	-0.4
KKN				pmax		pmax		
	comp=Z,21nm,0.8s,mb4.9							
KKN	Kakani	40.33	331	*e*P		P	18 52 42.9	-0.4
	comp=Z,21nm,0.8s,mb4.9							
CTA	Charters Tower	40.97	112	*e*P		P	18 52 49.6	+0.9
	comp=Z,8.6nm,1.0s,mb4.3							
CTA	Charters Tower	40.97	112	P		P	18 52 49.5	+0.8
	comp=Z,11nm,0.9s,mb4.5,baz=287,slow=12,SNR=9.7							
CTA	Charters Tower	40.97	112	*e*P		P	18 52 49.6	+0.9
CTA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
CTAO	Charters Tower	40.97	112	*e*P		P	18 52 50.0	+1.3
CTAO				pmax		pmax		
	comp=Z,22nm,1.0s,mb4.7							
CTAO	Charters Tower	40.97	112	*e*P		P	18 52 50.0	+1.3
	comp=Z,22nm,1.0s,mb4.7							
STKA	Stephens Creek	41.11	131	*e*P		P	18 52 49.7	0.0
	comp=Z,12nm,0.8s,mb4.6							
STKA	Stephens Creek	41.11	131	P		P	18 52 49.9	+0.2
	comp=Z,18nm,0.8s,mb4.7,baz=304,slow=8.0,SNR=14							
STKA	Stephens Creek	41.11	131	*e*P		P	18 52 48.0	-1.7
NJ2	Nanjing	41.13	17	*e*P		P	18 52 51.3	+1.5
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.5							
KOLN	Koldanda	41.15	329	*e*P		P	18 52 48.9	-1.1
KOLN	Koldanda	41.15	329	*e*P		P	18 52 49.3	-0.7
	comp=Z,46nm,0.7s,mb5.2							
KOLN	Koldanda	41.15	329	*e*P		P	18 52 49.3	-0.7
	comp=Z,46nm,0.7s,mb5.2							
DANN	Dangsing	41.54	330	*e*P		P	18 52 52.9	-0.3
	comp=Z,33nm,0.6s,mb5.1							
DANN	Dangsing	41.54	330	*e*P		P	18 52 53.1	-0.1
	comp=Z,33nm,0.6s,mb5.1							
DANN	Dangsing	41.54	330	*e*P		P	18 52 53.1	-0.1
	comp=Z,33nm,0.6s,mb5.1							
EIDS	Eidsvold	46.52	118	*e*P		P	18 53 36.7	+3.4
GTA	Gaotai	46.95	353	*e*P		P	18 53 36.3	0.0
GTA				AP		pP	18 53 45.8	-6.9
GTA				XP		sP	18 53 50.0	-10
GTA				PP		PP	18 55 28.4	+0.9
GTA				AMB		AMB		
	comp=Z,6.0nm,0.7s,mb4.6							
GTA				AMB		AMB		
	comp=Z,82nm,5.1s							
GTA				LR		LR		
	comp=N,188nm,21.0s							
GTA				LR		LR		
	comp=E,161nm,19.8s							
GTA				LR		LR		
	comp=Z,199nm,18.6s							
SMLA	Simla	47.23	326	*i*P		P	18 53 38.4	-0.2
SMLA				*ex*		x	18 53 41.0	
	comp=Z,113nm,0.5s							
SMLA				*i*x		x	18 59 25.5	
BJI	Beijing	48.16	11	P		P	18 53 47.5	+1.9
BJI				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.1							
THN	Thein Dam	49.02	326	*e*P		P	18 53 50.0	-2.5
KSRS	Korea Array	49.13	23	P		P	18 53 53.2	0.0
	comp=Z,3.5nm,0.7s,mb4.5,baz=216,slow=7.4,SNR=12							
KSRS	Korea Array	49.13	23	P		P	18 53 53.2	0.0
KSRS				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.6							
MJAR	Matsushiro Arr	53.16	32	P		P	18 54 21.4	-2.1
	comp=Z,1.8nm,0.8s,mb4.0,baz=219,slow=7.3,SNR=5.3							
WMQ	Urumqi	53.63	344	*e*P		P	18 54 28.1	+1.4
WMQ				AP		pP	18 54 38.0	-5.4
WMQ				XP		sP	18 54 42.1	-8.6
WMQ				AMB		AMB		
	comp=Z,11nm,1.0s,mb4.7							
CN2	Changchun	53.95	17	*e*P		P	18 54 27.4	-1.6
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
KBL	Kabul	54.42	322	*e*P		P	18 54 32.0	-0.7
KBL				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
KBL	Kabul	54.42	322	*e*P		P	18 54 32.0	-0.6
	comp=Z,7.1nm,0.9s,mb4.6							
MDJ	Mudanjiang	56.00	20	P		P	18 54 46.4	+2.6
MDJ				AP		pP	18 54 55.3	-5.3
MDJ				AMB		AMB		
	comp=Z,8.0nm,2.6s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,57nm,4.7s							
TKM2	Tokmak 2	57.23	334	*e*P		P	18 54 51.2	-1.4
TKM2				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.9							
TKM2	Tokmak 2	57.23	334	*e*P		P	18 54 51.2	-1.4
	comp=Z,6.9nm,0.6s,mb4.9							
ZAK	Zakamensk	57.62	358	*e*P		P	18 54 54.4	-0.8
MK31	Makanchi Array	57.95	341	*e*P		P	18 54 56.7	-0.9
MKAR	Makanchi Array	57.95	341	P		P	18 54 56.6	-0.9
	comp=Z,4.7nm,0.6s,mb4.7,baz=142,slow=7.5,SNR=56							
CASY	Casey	58.84	178	*e*P		P	18 55 02.7	-0.8
HVS	Khovu-Aksy	59.28	351	⇓*e*P		P	18 55 07.7	+1.0
HVS				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.7							
KURK	Kurchatov	62.56	341	⇑*e*P		P	18 55 28.3	-0.7
KURK				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.9							
KURK				MLR		MLR		
	comp=Z,100nm,25.0s							
KURK	Kurchatov	62.56	341	*e*P		P	18 55 28.0	-1.0
	comp=Z,8.3nm,0.8s,mb4.9							
YSS	Yuzh-Sakhalins	63.21	27	⇓*e*P		P	18 55 33.0	-0.4
YSS				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.9							
YSS	Yuzh-Sakhalins	63.21	27	*e*P		P	18 55 32.4	-1.0
	comp=Z,10nm,0.9s,mb5.0							
ZAL	Zalesovo	63.69	346	P		P	18 55 35.7	-0.7
ZAA0	Zalesovo Array	63.70	346	*e*P		P	18 55 35.7	-0.7
ZALV	Zalesovo Beam	63.70	346	P		P	18 55 35.7	-0.8
	comp=Z,2.8nm,0.4s,mb4.7,baz=154,slow=5.9,SNR=21							
ZALV				LR		LR	19 25 52.5	
	comp=Z,87nm,18.3s,baz=250,slow=38							
ZALV	Zalesovo Beam	63.70	346	P		P	18 55 35.7	-0.8
ZALV				LR		LR	19 25 52.5	
MAW	Mawson	66.67	197	*e*P		P	18 55 56.0	+0.4
	comp=Z,5.9nm,1.1s,mb4.5							
MAW				*i*		pP	18 56 10.5	-2.3
MAW	Mawson	66.67	197	P		P	18 55 55.7	+0.1
	comp=Z,8.0nm,1.0s,mb4.7,baz=42,slow=7.2,SNR=16							
MAW	Mawson	66.67	197	*e*P		P	18 55 56.0	+0.4
MAW				*i*		pP	18 56 10.5	-2.3
MAW				pmax		pmax		
	comp=Z,6.0nm,1.1s							
RDF	Al-Radifah	66.84	306	*e*P		P	18 55 55.0	-2.4
	baz=306							
RPZ	Rata Peaks	66.95	134	P		P	18 55 58.1	+0.3
	comp=Z,11nm,0.9s,mb4.9,baz=166,slow=4.2,SNR=3.8							
UMR	Umm Al-Rimmam	66.96	306	*e*P		P	18 55 55.4	-2.7
	baz=306							
UMR				AMb		AMB	18 55 59.2	
	comp=Z,29nm,0.6s,mb5.5,baz=306							
NAY	Al-Naaiem	67.22	306	*e*P		P	18 55 57.7	-2.1
	baz=306							
NAY				AMb		AMB	18 56 00.5	
	comp=Z,11nm,0.9s,mb4.9,baz=306							
MIB	Mutribah	67.36	306	*e*P		P	18 55 58.3	-2.3
	baz=306							
MIB				AMb		AMB	18 56 06.8	
	comp=Z,13nm,0.7s,mb5.1,baz=306							
BRVK	Borovoye	67.44	338	P		P	18 55 59.7	-0.9
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.6							
BRVK	Borovoye	67.44	338	P		P	18 55 59.7	-0.9
	comp=Z,4.2nm,0.6s,mb4.7							
URZ	Urewera	70.62	128	LR		LR	19 26 49.3	
	comp=Z,195nm,18.0s,baz=30,slow=35							
YAK	Yakutsk	71.64	12	⇓*e*P		P	18 56 25.4	-0.9
YAK				pmax		pmax		
	comp=Z,21nm,1.1s,mb5.0							
YAK	Yakutsk	71.64	12	*e*P		P	18 56 25.6	-0.7
	comp=Z,7.7nm,0.6s,mb4.8							
SVE	Sverdlovsk	73.98	336	*e*P		P	18 56 41.8	+1.5
SVE				pmax		pmax		
	comp=Z,19nm,1.0s,mb5.0							
ARU	Arti	74.58	335	*c i*P		P	18 56 44.0	+0.2
ARU				*e*PPP			19 01 17.0	
ARU				*e*S		S	19 06 17.0	+2.9
ARU				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.8							
ARU	Arti	74.58	335	*e*P		P	18 56 44.4	+0.7
	comp=Z,14nm,1.1s,mb4.8							
SYO	Syowa Base	74.76	200	⇑*e*X		P	18 56 40.6	-4.1
VNDA	Vanda	75.74	169	P		P	18 56 50.5	+0.3
	comp=Z,2.2nm,0.9s,mb4.1,baz=283,slow=8.0,SNR=8.9							
LSZ	Lusaka	76.36	256	*e*P		P	18 56 55.6	+0.7
LSZ				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5							
LSZ	Lusaka	76.36	256	*e*P		P	18 56 55.6	+0.7
	comp=Z,4.2nm,0.7s,mb4.5							
KIV	Kislovodsk	76.53	318	*e*P		P	18 56 56.1	+0.9
KIV				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.6							
MALT	Malatya	77.38	312	⇑*i*P		P	18 57 01.2	+1.1
MALT	Malatya	77.38	312	⇑P		P	18 57 01.2	+1.0
BOSA	Boshof	78.37	242	P		P	18 57 05.9	0.0
	comp=Z,2.2nm,0.7s,mb4.2,baz=101,slow=15,SNR=4.8							
VRHR	Novokhopersk	80.16	325	*e*P		P	18 57 14.9	-0.2
VRHR				pmax		pmax		
	comp=Z,5.0nm,0.4s,mb4.8							
VRHR				pmax		pmax		
	comp=N,7.0nm,0.5s							
VRHR				pmax		pmax		
	comp=E,10.0nm,0.6s							
TIXI	Tiksi	80.35	7	*e*P		P	18 57 13.0	-2.7
TIXI				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.8							
VRSR	Storozhevoye	81.61	324	*e*P		P	18 57 23.2	+0.4
VRSR				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
VRSR				pmax		pmax		
	comp=N,3.0nm,1.0s							
VRSR				pmax		pmax		
	comp=E,3.0nm,1.8s							
OBN	Obninsk	84.54	327	⇑*e*P		P	18 57 39.2	+1.4
OBN				*e*PP		pP	18 57 48.6	-7.1
OBN				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb5.0							
KLMR	Klimovskoe	85.30	333	*e*P		P	18 57 41.1	-0.5
KLMR				pmax		pmax		
	comp=Z,20nm,1.8s,mb5.0							
TIRR	Tirgusor	86.38	316	⇓*i*P		P	18 57 47.7	+0.4
TIRR	Tirgusor	86.38	316	⇓P		P	18 57 47.7	+0.5
AKASG	Malin Array Be	87.40	322	P		P	18 57 50.7	-1.4
	comp=Z,2.3nm,0.7s,mb4.5,baz=86,slow=4.4,SNR=9.8							
KIEV	Kiev	87.41	322	*e*P		P	18 57 51.8	-0.3
KIEV				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.6							
KIEV	Kiev	87.41	322	*e*P		P	18 57 51.8	-0.3
	comp=Z,3.3nm,0.8s,mb4.6							
VRI	Vrincioaia	87.86	317	⇓*i*P		P	18 57 56.2	+1.8
VRI	Vrincioaia	87.86	317	⇓P		P	18 57 56.2	+1.8
MLR	Muntele Rosu	88.32	316	⇑*i*P		P	18 57 58.0	+1.4
MLR	Muntele Rosu	88.32	316	⇑P		P	18 57 58.0	+1.4
SNAA	Sanae	88.82	197	*e*P		P	18 57 59.7	+1.2
SNAA				*e*			18 58 00.7	
SNAA				*e*			18 58 06.1	
SNAA				*e*		pP	18 58 15.9	-0.6
SNAA	Sanae	88.82	197	*c i*P		P	18 57 59.7	+1.2
SNAA	Sanae	88.82	197	*e*P		P	18 57 59.6	+1.1
	comp=Z,9.0nm,1.3s,mb4.9							
BURAR	Bucovina Array	89.25	318	⇑*i*P		P	18 58 02.7	+1.8
BURAR	Bucovina Array	89.25	318	⇑P		P	18 58 02.7	+1.7
VTS	Vitosha	89.69	313	⇓*i*P		P	18 58 04.3	+1.2
VTS	Vitosha	89.69	313	⇓P		P	18 58 04.2	+1.2
VNA2	Neumayer--Watz	90.47	198	*e*P		P	18 58 07.5	+1.3
VNA2				*e*			18 58 08.5	
VNA2				*e*			18 58 14.1	
VNA2				*e*		pP	18 58 24.0	-0.2
VNA1	Neumayer--Stat	90.84	198	*e*P		P	18 58 10.1	+2.1
BZS	Buzias	91.33	316	⇓*i*P		P	18 58 11.4	+0.7
BZS	Buzias	91.33	316	⇓P		P	18 58 11.4	+0.7
KOLS	Kolonicke sedl	91.43	319	*e*P		P	18 58 12.2	+1.2
KECS	Kecovo	92.53	318	*e*P		P	18 58 14.7	-1.4
KECS				pmax		pmax		
	comp=Z,1.0nm,0.9s,mb4.2							
KECS	Kecovo	92.53	318	*e*P		P	18 58 14.7	-1.4
	comp=Z,1.4nm,0.9s,mb4.4							
PKSM	Moragy	93.47	316	⇑*i*P		P	18 58 21.2	+0.7
PKSM	Moragy	93.47	316	⇑P		P	18 58 21.2	+0.7
NVAR	Mina Array Bea	129.57	45	PKP		PKPdf	19 04 15.6	+1.6
	comp=Z,0.5nm,0.7s,baz=256,slow=4.1,SNR=4.3							
PDAR	Pinedale Array	132.93	36	PKP		PKPdf	19 04 19.4	-0.7
	comp=Z,0.4nm,0.4s,baz=270,slow=2.7,SNR=2.0							
WMOK	Wichita Mounta	144.53	36	*e*PKIKP		PKPdf	19 04 40.6	-1.0
BDFB	Brasilia	145.53	228	PKPbc		PKPbc	19 04 44.9	+0.9
	comp=Z,3.9nm,0.6s,baz=138,slow=8.5,SNR=11							
JCT	Junction City	146.69	43	*e*PKP2		PKPab	19 04 46.6	-1.7
MIAR	Mount Ida	147.55	31	*e*PKP2		PKPab	19 04 48.5	-3.1

*IDC **13** 18:45:23.5±0.7, 058S×12756E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.3/12, ML3.6/1, Error ellipse: s-maj=30.6km s-min=14.9km az=75.0*
*NEIC **13** 18:45:24.2±4.5, 054S×12766E, h6km±28km, mb4.8/5, Error ellipse: s-maj=11.2km s-min=6.0km az=51.0*
*BJI **13** 18:45:24.1, 050S×12770E, h5km, mB5.0, mb4.3*
*ISCJB **13** 18:45:26.3±0.4, 062S±005×12763E±007, h33km, mb4.9/24, Error ellipse: s-maj=10.4km s-min=5.5km az=153.5*

ISC 13 18:45:28.7±0.4, 064S±004×12760E±006, h35km, n47, σ0.98/48, mb4.9/24, 3C-5D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	Ternate	1.43	351	⇑*e*P	Pn	18 45 47.0	-5.2
AAI	Ambon	3.09	169	⇑*e*P	Pn	18 46 16.0	+1.0
MNI	Manado	3.44	307	⇓*e*P	Pn	18 46 18.5	-1.4
MNI				*e*S	Sn	18 47 02.0	+2.5
KDI	Kendari	5.97	236	⇓*e*P	Pn	18 46 55.0	+0.4
KDI				*e*S	Sn	18 47 58.8	-3.0
KAPI	Kappang	8.96	241	*e*P	Pn	18 47 34.8	-0.9
	25nm,0.6s						
MYLDM	Lahad Datu	10.77	303	⇓P	Pn	18 48 08.3	+7.8
TSM	Tawau	10.88	297	⇓P	Pn	18 48 00.6	-1.5
SDKM	Sandakan	12.11	301	⇓P	Pn	18 48 17.9	-1.1
KAKA	Kakadu	12.92	158	*e*P	Pn	18 48 28.6	-1.4
	12nm,0.6s						
KAKA				*e*S	Sn	18 50 42.5	-10
FITZ	Fitzroy Crossi	17.46	186	P	Pn	18 49 31.3	+1.7
	0.2nm,0.3s,baz=9.2,slow=14,SNR=9.5						
WRAB	Tennant Creek	20.29	161	*e*P	P	18 50 01.4	-0.2
	10nm,0.7s						
WRA	Warramunga Arr	20.29	161	P	P	18 50 01.4	-0.1
	7.5nm,0.6s,baz=339,slow=11,SNR=53						
WB2	Warramunga Arr	20.30	161	⇑*i*P	P	18 50 01.4	-0.2
ASAR	Alice Springs	23.70	165	P	P	18 50 37.7	+0.2
	3.7nm,0.6s,mb4.0,baz=347,slow=11,SNR=110						
ASAR				PcP	PcP	18 54 20.2	-1.0
	1.4nm,0.8s,baz=318,slow=1.2,SNR=5.9						
YHNB	Yeheng	25.87	347	*

OPO	**Ambohidratompo**	**80.70 251**	P	**P**	**18 57 38.6**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=75,slow=6.0,SNR=5.8					
ARCES	**ARCESS Array B**	**94.82 340**	P	**P**	**18 58 47.1**	**+0.6**
	comp=Z,1.6nm,0.7s,mb4.5,baz=80,slow=6.8,SNR=4.0					
TORD	**Torodi Ar. Bea**	**125.01 286**	PKP	PKPdf	19 04 26.2	-0.1
	comp=Z,0.8nm,0.7s,baz=45,slow=2.1,SNR=4.7					
TORD	**Torodi Ar. Bea**	**125.01 286**	PKP	PKPdf	19 04 26.2	-0.1

GUC 13 18:48:26.8±0.6, 2501S×6732W, h225km, ML3.7, 2C, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**2.83**	**277**	↑*i*P	Pn	18 49 18.1	+2.3
CPN1				*i* S	S	18 49 57.3	+2.9
CPN1				AML	AML	18 50 00.0	
	comp=N,111nm,0.2s						
CEN1	**Los Morros**	**3.08**	**301**	↑*i*P	Pn	18 49 21.1	+2.3
CEN1				*e*S	S	18 50 01.9	+2.3
CEN1				AML	AML	18 50 05.3	
	comp=N,32nm,0.5s						
ANCH	**Antofagasta**	**3.11**	**294**	*i* P	Pn	18 49 20.9	+1.9
ANCH				*e*S	S	18 50 02.5	+2.3
CDCH	**Caldera**	**3.77**	**236**	*e*S	S	18 50 16.6	+2.6
CDCH				AML	AML	18 50 18.0	
	comp=E,115nm,0.4s						

BJI ***13*** *18:49:33.0, 126S×12799E, h27km, mB5.1, mb5.1, Ms4.6, Msz4.2*

ISCJB ***13*** *18:49:35.9±1.0, 055S±003×12765E±003, h6km±6km, mb5.2/83, MS4.1/18, Error ellipse: s-maj=5.8km s-min=4.2km az=158.3*

IDC ***13*** *18:49:37.1±0.4, 059S×12737E, h0km, mb4.9/21, mb1 4.9/23, mb1mx4.8/26, mbtmp4.8/23, ML4.1/2, MS3.9/10, Ms1 3.9/10, ms1mx3.5/33, Error ellipse: s-maj=19.9km s-min=10.1km az=76.0*

MOS ***13*** *18:49:40.6±0.9, 045S×12740E, h33km, mb5.1/20, Error ellipse: s-maj=14.8km s-min=6.9km az=118.3*

GCMT ***13*** *18:49:41.2±0.2, 061S×12748E, h16km, MW4.9/64, Moment Tensor Solution. s30,c41; s64,c109; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.06±.16; Mθθ1.48±.09; Mφφ1.58±.12; Mrθ-0.35±.29; Mrφ1.62±.07; Mθφ0.69±.31; Best double couple: M0=3.20000×10^16 NP1:φs=57.00000°, δ=44.00000°, λ=-71.00000°. NP2: φs=211.00000°, δ=49.00000°, λ=-107.00000°. Principal axes: T 3.1610, Plg2.0000°, Azm314.0000°; N 0.0790, Plg13.0000°, Azm223.0000°; P -3.2400, Plg77.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *18:49:41.2±2.0, 060S×12748E, h28km±14km, mb5.2/26 Error ellipse: s-maj=8.2km s-min=4.2km az=62.0*

NEIC Felt [IV] at Labuha and [III] at Halmahera.

DJA ***13*** *18:49:46, 058S×12748E, h46km, ML5.3/5*

ISC 13 18:49:40.8±1.1, 058S±003×12763E±003, h26km±7km, h33km±.8km: pP-P, n216, σ1°12/211, mb5.2/83, MS4.1/18, 23C-17D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.38**	**349**	↑*e*P	**Pn**	**18 50 01.0**	**-3.5**
AAI	**Ambon**	**3.14**	**170**	P	**Pn**	**18 50 31.5**	**+2.9**
	0.0nm,0.0s						
AAI	**Ambon**	**3.14**	**170**	⇓*e*P	**Pn**	**18 50 28.5**	**-0.1**
AAI				*e*S	Sn	18 50 37.0	-28
MNI	**Manado**	**3.44**	**306**	P	**Pn**	**18 50 31.7**	**-1.1**
	0.0nm,0.0s						
MNI	**Manado**	**3.44**	**306**	⇓*e*P	**Pn**	**18 50 31.0**	**-1.8**
MNI				*e*S	**Sn**	**18 51 14.5**	**+1.8**
KDI	**Kendari**	**6.02**	**236**	P	**Pn**	**18 51 06.9**	**-1.4**
	174nm,0.8s						
KDI	**Kendari**	**6.02**	**236**	↑*e*P	**Pn**	**18 51 05.9**	**-2.4**
KDI				*e*S	**Sn**	**18 52 10.0**	**-6.5**
TLE	**Tual**	**7.16**	**135**	⇓*e*P	**Pn**	**18 51 21.0**	**-3.0**
PCI	**Palu**	**7.79**	**268**	P	**Pn**	**18 51 29.7**	**-3.0**
	297nm,1.1s						
DAV	**Davao City (W)**	**7.87**	**345**	LR	LR	18 54 03.0	
	comp=Z,356nm,21.7s,baz=186,slow=34						
DAV	**Davao City (W)**	**7.87**	**345**	*e*P	**Pn**	**18 51 35.0**	**+1.3**
KAPI	**Kappang**	**9.01**	**241**	Pn	**Pn**	**18 51 48.6**	**-0.8**
	726nm,0.5s,SNR=19						
KAPI	**Kappang**	**9.01**	**241**	P	**Pn**	**18 51 48.3**	**-1.1**
	SNR=9.7						
KAPI	**Kappang**	**9.01**	**241**	*e*Pn	**Pn**	**18 51 48.0**	**-1.4**
MKS	**Makassar**	**9.36**	**240**	⇓*e*P	**Pn**	**18 51 54.2**	**+0.1**
BATI	**Baumata**	**10.34**	**202**	P	**Pn**	**18 52 14.7**	**+7.1**
	82nm,1.1s						
BATI	**Baumata**	**10.34**	**202**	Pn	**Pn**	**18 52 05.0**	**-2.7**
	0.6nm,0.3s,baz=20,slow=14,SNR=2.8						
BATI				LR	LR	18 56 15.5	
	comp=Z,1μm,20.3s,baz=216,slow=39						
MYLDM	**Lahad Datu**	**10.76**	**302**	⇓P	**Pn**	**18 52 15.0**	**+1.6**
TSM	**Tawau**	**10.88**	**297**	⇓P	**Pn**	**18 52 13.4**	**-1.7**
SDKM	**Sandakan**	**12.11**	**301**	⇓P	**Pn**	**18 52 31.4**	**-0.5**
KAKA	**Kakadu**	**12.96**	**159**	*e*P	**Pn**	**18 52 41.3**	**-2.2**
	40nm,0.7s						
KAKA				*e*S	**Sn**	**18 54 58.1**	**-8.9**
BBKI	**Banjar Baru**	**13.09**	**257**	P	**Pn**	**18 52 49.1**	**+3.8**
	313nm,1.1s						
KDM	**Kudat**	**13.09**	**305**	↑P	**Pn**	**18 52 47.0**	**+1.7**
KKM	**Kota Kinabalu**	**13.16**	**300**	↑P	**Pn**	**18 52 50.7**	**+4.5**
KKM	**Kota Kinabalu**	**13.16**	**300**	*e*P	**Pn**	**18 52 47.1**	**+1.0**
BTM	**Bintulu**	**15.01**	**285**	↑P	**Pn**	**18 53 08.5**	**-3.0**
SBUM	**Sibu**	**15.69**	**281**	↑P	**Pn**	**18 53 19.0**	**-1.4**
SJI	**Sawahan**	**17.33**	**245**	P	**Pn**	**18 53 43.2**	**+2.0**
	153nm,1.7s						
KSM	**Kuching**	**17.43**	**277**	↑P	**Pn**	**18 53 42.5**	**0.0**
FITZ	**Fitzroy Crossi**	**17.52**	**186**	*e*P	**Pn**	**18 53 42.7**	**-0.8**
	17nm,0.9s						
FITZ				*e*S	**Sn**	**18 56 58.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**17.52**	**186**	P	**Pn**	**18 53 43.4**	**0.0**
	1.0nm,0.3s,baz=6.6,slow=14,SNR=11						
BJII	**Banjamegara**	**19.08**	**249**	P	**Pn**	**18 54 03.7**	**+1.1**
	324nm,1.5s						
TPI	**Tanjungpandan**	**20.08**	**264**	P	**P**	**18 54 13.1**	**+0.5**
	200nm,1.1s						
WRAB	**Tennant Creek**	**20.33**	**162**	P	**P**	**18 54 14.5**	**-0.7**
	314nm,1.0s,SNR=9.5						
WRAB	**Tennant Creek**	**20.33**	**162**	*c i*P	**P**	**18 54 14.9**	**-0.3**
WRAB	**Tennant Creek**	**20.33**	**162**	*e*P	**P**	**18 54 14.6**	**-0.6**
COEN	**Coen**	**20.33**	**131**	*e*P	**P**	**18 54 16.6**	**+1.2**
	74nm,1.0s						
WRA	**Warramunga Arr**	**20.33**	**162**	P	**P**	**18 54 15.0**	**-0.3**
	28nm,0.8s,baz=342,slow=12,SNR=35						
WRA				S	**S**	**18 57 51.6**	**-10**
	1.3nm,0.7s,baz=335,slow=20,SNR=4.5						
WB2	**Warramunga Arr**	**20.34**	**162**	*e*P	**P**	**18 54 14.5**	**-0.8**
WB2				*e*S	**S**	**18 57 55.6**	**-6.5**
LEM	**Lembang**	**20.90**	**252**	P	**P**	**18 54 22.7**	**+1.2**
	217nm,1.1s						
PMG	**Port Moresby**	**21.33**	**115**	*d i*P	**P**	**18 54 30.9**	**+4.8**
PMG	**Port Moresby**	**21.33**	**115**	*e*P	**P**	**18 54 31.5**	**+5.4**
	78nm,1.1s,mb5.0						
CBJI	**Citeko**	**21.52**	**254**	P	**P**	**18 54 29.2**	**+1.0**
	839nm,1.0s,mb6.1						
PPBI	**Pangkal Pinang**	**21.54**	**266**	P	**P**	**18 54 27.9**	**-0.5**
	55nm,0.9s,mb5.0						
DBJI	**Dramaga**	**21.65**	**254**	P	**P**	**18 54 30.8**	**+1.2**
	199nm,1.1s,mb5.5						
TNG	**Tangerang**	**21.66**	**255**	P	**P**	**18 54 32.3**	**+2.6**
	617nm,1.1s,mb6.0						
MBWA	**Marble Bar**	**21.86**	**200**	*e*P	**P**	**18 54 30.3**	**-1.4**
	182nm,1.8s,mb5.2						
SBJI	**Serang**	**22.14**	**255**	P	**P**	**18 54 36.3**	**+1.4**
	322nm,1.2s,mb5.6						
DSRI	**Dabo**	**23.05**	**270**	P	**P**	**18 54 44.2**	**-0.3**
	78nm,1.0s,mb5.1						
TPRI	**Tanjung Pinang**	**23.15**	**274**	P	**P**	**18 54 47.4**	**+1.9**
	48nm,1.0s,mb4.9						
ASAR	**Alice Springs**	**23.74**	**166**	P	**P**	**18 54 50.6**	**-0.6**
	17nm,0.5s,mb4.7,baz=346,slow=12,SNR=51						
ASAR				PcP	PcP	18 58 35.6	+0.7
	1.2nm,0.6s,baz=19,slow=1.4,SNR=4.9						
ASAR				S	**S**	**18 59 04.5**	**-0.4**
	6.3nm,1.1s,baz=348,slow=20,SNR=7.2						
MYKOM	**Kota Tinggi**	**23.89**	**276**	↑P	**P**	**18 54 52.3**	**-0.4**
KGM	**Kluang**	**24.44**	**276**	⇓P	**P**	**18 54 58.2**	**+0.4**
KTGM	**Kuala Trenggan**	**25.15**	**284**	↑P	**P**	**18 55 04.5**	**+0.3**
KSI	**Kapahiang**	**25.20**	**263**	P	**P**	**18 55 05.8**	**+1.1**
	204nm,1.2s,mb5.5						
RGRI	**Rengat**	**25.29**	**270**	P	**P**	**18 55 07.3**	**+1.8**
	190nm,0.4s,mb6.0						
YHNB	**Yeheng**	**25.82**	**347**	*e*P	**P**	**18 55 09.9**	**-0.3**
	163nm,1.0s,mb5.5						
TATO	**Taipei**	**26.09**	**347**	*e*P	**P**	**18 55 12.5**	**-0.1**
QIZ	**Qiongzhong**	**26.17**	**319**	P	**P**	**18 55 13.8**	**+0.4**
QIZ				S	**S**	**18 59 42.5**	**-1.4**
QIZ				AMB	AMB		
	comp=Z,44nm,1.7s,mb4.7						
QIZ				LR	LR		
	comp=N,494nm,13.7s						
QIZ				LR	LR		
	comp=Z,525nm,19.9s						
FRIM	**Kepong**	**26.26**	**278**	⇓P	**P**	**18 55 13.7**	**-0.7**
CTA	**Charters Tower**	**26.61**	**138**	*e*P	**P**	**18 55 19.7**	**+2.3**
	comp=Z,14nm,1.2s,mb4.4						
CTA	**Charters Tower**	**26.61**	**138**	P	**P**	**18 55 19.5**	**+2.1**
	comp=Z,13nm,0.9s,mb4.5,baz=322,slow=12,SNR=6.9						
CTA	**Charters Tower**	**26.61**	**138**	*e*P	**P**	**18 55 19.7**	**+2.3**
CTA				pmax	pmax		
	comp=Z,14nm,1.2s						
CTAO	**Charters Tower**	**26.61**	**138**	*e*P	**P**	**18 55 20.0**	**+2.6**
CTAO				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.7						
CTAO	**Charters Tower**	**26.61**	**138**	*e*P	**P**	**18 55 20.0**	**+2.6**
	comp=Z,25nm,1.1s,mb4.7						
IPM	**Ipoh**	**27.05**	**281**	↑P	**P**	**18 55 20.5**	**-0.9**
PPI	**Padang Panjang**	**27.23**	**270**	P	**P**	**18 55 23.1**	**0.0**
	comp=Z,137nm,1.3s,mb5.3						
JOW	**Kunigami**	**27.26**	**1**	P	**P**	**18 55 24.2**	**+1.1**
	comp=Z,62nm,0.9s,mb5.1,baz=191,slow=9.9,SNR=6.7						
KULM	**Kulim**	**27.57**	**283**	↑P	**P**	**18 55 25.9**	**-0.2**
PSI	**Prapat**	**28.89**	**277**	P	**P**	**18 55 35.6**	**-2.2**
	comp=Z,17nm,0.7s,mb4.9,baz=93,slow=7.5,SNR=21						
PSI	**Prapat**	**28.89**	**277**	↑*e*P	**P**	**18 55 36.7**	**-1.2**
FORT	**Forrest**	**30.04**	**179**	*e*P	**P**	**18 55 49.7**	**+1.9**
	comp=Z,26nm,0.6s,mb5.1						
CBIJ	**Chichi jima**	**30.88**	**26**	LR	LR	19 07 09.4	
	comp=Z,77nm,21.8s,MS3.3,baz=198,slow=34						
WHN	**Wuhan**	**33.43**	**339**	↑P	**P**	**18 56 18.8**	**+1.1**
WHN				S	**S**	**19 01 40.0**	**+2.4**
WHN				AMB	AMB		
	comp=Z,231nm,1.2s,mb6.0						
WHN				AMB	AMB		
	comp=Z,518nm,5.2s						
WHN				LR	LR		
	comp=Z,356nm,18.0s,MS4.1						
GYA	**Guiyang**	**33.63**	**325**	↑*i*P	**P**	**18 56 22.3**	**+2.8**
GYA				AP	pP	18 56 31.8	+4.6
GYA				XP	sP	18 56 37.8	+7.5
GYA				PP	PP	18 57 35.6	-0.3
GYA				S	**S**	**19 01 41.5**	**+0.7**
GYA				XS	sS	19 01 58.9	+5.4
GYA				SCP	ScP	19 02 42.0	-0.6
GYA				SCS	ScS	19 06 41.9	-2.1
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,570nm,16.9s,MS4.5						
GYA				LR	LR		
	comp=E,510nm,17.6s,MS4.5						
GYA				LR	LR		
	comp=Z,540nm,16.8s,MS4.3						
STKA	**Stephens Creek**	**33.81**	**158**	P	**P**	**18 56 21.6**	**+0.6**
	comp=Z,11nm,0.5s,mb5.1,baz=345,slow=8.7,SNR=12						
STKA	**Stephens Creek**	**33.81**	**158**	*e*P	**P**	**18 56 22.3**	**+1.3**
	comp=Z,29nm,1.0s,mb5.2						
CMAR	**Chiang Mai Arr**	**33.95**	**305**	P	**P**	**18 56 21.6**	**-0.7**
	comp=Z,4.8nm,0.9s,mb4.4,baz=130,slow=6.8,SNR=24						
CMAR				PcP	PcP	18 59 01.1	+0.6
	comp=Z,4.1nm,0.9s,baz=158,slow=1.5,SNR=11						
CHTO	**Chiang Mai**	**34.13**	**306**	P	**P**	**18 56 23.5**	**-0.4**
	SNR=5.5						
CHTO	**Chiang Mai**	**34.13**	**306**	*e*P	**P**	**18 56 22.8**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
CHTO	**Chiang Mai**	**34.13**	**306**	*e*P	**P**	**18 56 22.8**	**-1.2**
	comp=Z,20nm,1.1s,mb5.0						
KMI	**Kunming**	**35.11**	**318**	P	**P**	**18 56 33.8**	**+1.5**
KMI				AP	pP	18 56 43.4	+3.4
KMI				XP	sP	18 56 47.3	+4.1
KMI				PP	PP	18 57 53.9	+1.6
KMI				S	**S**	**19 02 04.4**	**+0.6**
KMI				XS	sS	19 02 20.3	+3.8
KMI				AMB	AMB		
	comp=Z,34nm,1.3s,mb5.1						
KMI				AMB	AMB		
	comp=Z,140nm,3.8s						
KMI				LR	LR		
	comp=N,257nm,14.3s,MS4.3						
KMI				LR	LR		
	comp=E,300nm,16.7s,MS4.3						
KMI				LR	LR		
	comp=Z,358nm,20.4s,MS4.1						
JHJ	**Hachijo jima 2**	**35.42**	**18**	LR	LR	19 08 42.7	
	comp=Z,137nm,18.9s,MS3.7,baz=211,slow=32						
ARMA	**Armidale**	**37.42**	**145**	*e*P	**P**	**18 56 52.5**	**+0.5**
KSRS	**Korea Array**	**37.85**	**0**	P	**P**	**18 56 56.0**	**+0.5**
	comp=Z,9.7nm,0.9s,mb4.5,baz=177,slow=9.5,SNR=22						
KSRS				LR	LR	19 12 52.8	
	comp=Z,79nm,19.9s,MS3.5,baz=303,slow=37						
MJAR	**Matsushiro Arr**	**38.22**	**14**	P	**P**	**18 56 58.0**	**-0.6**
	comp=Z,5.2nm,0.8s,mb4.3,baz=184,slow=9.1,SNR=14						
MJAR				LR	LR	19 13 09.5	
	comp=Z,302nm,18.6s,MS4.1,baz=185,slow=37						
MAJO	**Matsushiro**	**38.22**	**14**	*e*P	**P**	**18 56 58.0**	**-0.7**
MAT	**Matsushiro**	**38.22**	**14**	P	**P**	**18 56 57.7**	**-1.0**
MAT				S	**S**	**19 02 52.2**	**+1.3**
XAN	**Xi'an**	**38.66**	**335**	P	**P**	**18 57 02.3**	**-0.1**
XAN				AP	pP	18 57 12.1	+2.0
XAN				XP	sP	18 57 16.1	+2.8
XAN				PP	PP	18 58 34.8	+3.6
XAN				S	**S**	**19 02 55.3**	**-2.3**
XAN				AMB	AMB		
	comp=Z,61nm,0.7s,mb5.4						
XAN				AMB	AMB		
	comp=Z,45nm,3.3s						
XAN				LR	LR		
	comp=N,146nm,18.0s,MS3.9						
XAN				LR	LR		
	comp=E,115nm,21.8s,MS3.9						
XAN				LR	LR		
	comp=Z,351nm,17.6s,MS4.2						
CD2	**Chengdu**	**38.66**	**326**	↑*i*P	**P**	**18 57 02.4**	**-0.1**
CD2				AP	pP	18 57 12.3	+2.1
CD2				XP	sP	18 57 16.3	+2.9
CD2				PP	PP	18 58 35.8	+4.5
CD2				S	**S**	**19 02 57.5**	**-0.3**
CD2				XS	sS	19 03 13.8	+3.2
CD2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
CD2				LR	LR		
	comp=N,400nm,16.8s						
CD2				LR	LR		
	comp=E,340nm,10.4s						
CD2				LR	LR		
	comp=Z,530nm,14.4s,MS4.5						
TOO	**Toolangi**	**40.33**	**158**	*e*P	**P**	**18 57 19.0**	**+2.7**
BJI	**Beijing**	**41.76**	**347**	P	**P**	**18 57 27.3**	**-0.7**
BJI				S	**S**	**19 03 46.3**	**+2.6**
BJI				AMB	AMB		
	comp=Z,28nm,0.8s,mb4.9						
BJI				AMB	AMB		
	comp=Z,185nm,5.2s						
BJI				LR	LR		
	comp=N,165nm,17.6s,MS4.2						
BJI				LR	LR		
	comp=E,179nm,12.8s,MS4.2						
BJI				LR	LR		
	comp=Z,637nm,29.3s						
SNY	**Shenyang**	**42.37**	**356**	⇓P	**P**	**18 57 32.8**	**-0.2**
SNY				AMB	AMB		
	comp=Z,17nm,0.6s,mb4.8						
LZH	**Lanzhou**	**42.67**	**331**	*e*P	**P**	**18 57 36.8**	**+1.3**
LZH				AP	pP	18 57 45.8	+2.5
LZH				XP	sP	18 57 49.9	+3.5
LZH				PP	PP	18 59 19.3	+4.5
LZH				*e*S	**S**	**19 04 02.0**	**+4.7**
LZH				XS	sS	19 04 14.4	+4.2
LZH				AMB	AMB		
	comp=Z,102nm,1.1s,mb5.5						
LZH				AMB	AMB		
	comp=Z,179μm,3.0s						
LZH				LR	LR		
	comp=E,1μm,14.7s						
LZH				LR	LR		
	comp=Z,1μm,15.3s,MS5.0						
MDJ	**Mudanjiang**	**45.03**	**2**	P	**P**	**18 57 54.3**	**0.0**
MDJ				AP	pP	18 58 04.3	+2.1
MDJ				XP	sP	18 58 08.1	+2.8
MDJ				PP	PP	18 59 39.9	0.0
MDJ				S	**S**	**19 04 36.6**	**+5.0**
MDJ				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,99nm,6.1s						
MDJ				LR	LR		
	comp=N,96nm,35.3s,MS3.6						
MDJ				LR	LR		
	comp=E,96nm,32.1s,MS3.6						
MDJ				LR	LR		
	comp=Z,136nm,33.7s,MS3.6						
LSA	**Lhasa**	**46.00**	**314**	P	**P**	**18 58 03.4**	**+1.1**
LSA				AP	pP	18 58 11.4	+1.2
LSA				XP	sP	18 58 16.3	+3.0
LSA				PCP	PcP	18 59 39.3	+0.6
LSA				PP	PP	18 59 51.1	+0.6
LSA				S	**S**	**19 04 43.0**	**-3.0**
LSA				XS	sS	19 05 02.0	+3.0
LSA				SCS	ScS	19 07 56.4	-0.4
LSA				SS	SS	19 08 13.1	+1.8
LSA				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.6						
ASAJ	**Asahikawa**	**46.47**	**15**	P	**P**	**18 58 07.1**	**+1.4**
	comp=Z,6.8nm,0.8s,mb4.6,baz=244,slow=14,SNR=11						
GTA	**Gaotai**	**47.25**	**331**	↑P	**P**	**18 58 12.5**	**+0.6**
GTA				AP	pP	18 58 21.5	+1.7
GTA				XP	sP	18 58 26.3	+3.4
GTA				PP	PP	19 00 05.4	+2.3
GTA				S	**S**	**19 05 02.8**	**-0.8**
GTA				XS	sS	19 05 22.1	+5.6
GTA				AMB	AMB		
	comp=Z,47nm,1.0s,mb5.4						
GTA				AMB	AMB		
	comp=Z,144nm,5.1s						
GTA				LR	LR		
	comp=N,215nm,18.9s,MS4.3						
GTA				LR	LR		
	comp=E,284nm,20.1s,MS4.3						
GTA				LR	LR		
	comp=Z,106nm,13.5s						
TAPN	**Taplejung**	**47.34**	**309**	*e*P	**P**	**18 58 12.9**	**+0.1**
	comp=Z,147nm,1.1s,mb5.8						
ODAN	**Odare**	**47.36**	**308**	*e*P	**P**	**18 58 12.9**	**-0.1**
	comp=Z,175nm,1.0s,mb5.9						
RAMN	**Ramite**	**48.02**	**308**	*e*P	**P**	**18 58 18.5**	**+0.4**
	comp=Z,342nm,1.0s						
JIRN	**Jiri**	**48.68**	**309**	*e*P	**P**	**18 58 23.4**	**+0.2**
GUN	**Gumba**	**49.04**	**309**	*e*P	**P**	**18 58 26.2**	**+0.3**
	comp=Z,229nm,0.9s,mb6.2						
YSS	**Yuzh-Sakhalins**	**49.16**	**14**	*i* P	**P**	**18 58 26.2**	**-0.3**
YSS				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.7						
PKI	**Pulchoki**	**49.25**	**308**	*e*P	**P**	**18 58 27.4**	**-0.1**
KKN	**Kakani**	**49.45**	**308**	*e*P	**P**	**18 58 28.9**	**-0.2**
	comp=Z,138nm,0.9s,mb6.0						
DMN	**Daman**	**49.51**	**308**	*e*P	**P**	**18 58 29.5**	**0.0**
	comp=Z,164nm,1.0s,mb6.0						
KLR	**Kul'dur**	**49.74**	**4**	*e*P	**P**	**18 58 26.6**	**-4.3**
GKN	**Gorkha**	**50.05**	**308**	*e*P	**P**	**18 58 33.8**	**+0.1**
KOLN	**Koldanda**	**50.77**	**307**	*e*P	**P**	**18 58 39.3**	**+0.2**
	comp=Z,249nm,0.7s,mb6.2						
DANN	**Dangsing**	**50.90**	**308**	*e*P	**P**	**18 58 40.2**	**+0.1**
	comp=Z,320nm,0.7s						
HYB	**Hyderabad**	**51.51**	**293**	*i* P	**P**	**18 58 45.0**	**+0.2**
HYB	**Hyderabad**	**51.51**	**293**	*e*P	**P**	**18 58 43.5**	**-1.3**
SONM	**Songino Array**	**51.64**	**342**	P	**P**	**18 58 45.6**	**+0.3**
	comp=Z,8.4nm,0.8s,mb4.7,baz=161,slow=8.3,SNR=20						
SONM				LR	LR	19 20 45.5	
	comp=Z,288nm,19.7s,MS4.3,baz=192,slow=36						
ZAK	**Zakamensk**	**54.86**	**341**	*e*P	**P**	**18 59 09.0**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
TLY	**Talaya**	**55.88**	**342**	*e*P	**P**	**18 59 16.9**	**+0.7**
TLY				*e*		19 01 18.2	
TLY				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
TLY	**Talaya**	**55.88**	**342**	*e*P	**P**	**18 59 15.4**	**-0.8**
	comp=Z,7.2nm,0.6s,mb4.9						
IRK	**Irkutsk**	**56.18**	**343**	*e*P	**P**	**18 59 16.8**	**-1.6**
IRK				*e*		18 59 34.8	
IRK				pmax	pmax		
	comp=Z,27nm,2.8s,mb4.8						
MOY	**Mondy**	**56.71**	**340**	*e*P	**P**	**18 59 22.5**	**+0.3**
MOY				pmax	pmax		
	comp=Z,32nm,1.5s,mb5.1						
WMQ	**Urumqi**	**56.77**	**326**	P	**P**	**18 59 24.6**	**+1.9**
WMQ				AP	pP	18 59 34.8	+4.1
WMQ				XP	sP	18 59 38.6	+4.8
WMQ				PCP	PcP	19 00 20.6	+2.2
WMQ				PP	PP	19 01 32.1	+2.9
WMQ				SCP	ScP	19 04 15.6	-0.9
WMQ				*e*S	**S**	**19 07 13.1**	**-1.1**
WMQ				SCS	ScS	19 09 07.6	-2.8
WMQ				AMB	AMB		
	comp=Z,61nm,0.9s,mb5.6						
WMQ				LR	LR		
	comp=N,239nm,25.0s						
WMQ				LR	LR		
	comp=E,146nm,32.0s						
WMQ				LR	LR		
	comp=Z,106nm,22.5s,MS3.9						
RPZ	**Rata Peaks**	**57.76**	**144**	P	**P**	**18 59 32.7**	**+3.0**
	comp=Z,18nm,1.0s,mb5.0,baz=261,slow=3.5,SNR=4.4						
HVS	**Khovu-Aksy**	**59.01**	**336**	*i* P	**P**	**18 59 39.2**	**+0.9**
PETK	**Petropavlovsk-**	**59.09**	**21**	P	**P**	**18 59 40.2**	**+1.4**
	comp=Z,9.7nm,0.8s,mb4.9,baz=196,slow=5.9,SNR=8.9						
BOD	**Bodaibo**	**59.23**	**352**	*e*P	**P**	**18 59 39.0**	**-0.7**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
MK31	**Makanchi Array**	**61.60**	**326**	*e*P	**P**	**18 59 55.8**	**-0.3**
MKAR	**Makanchi Array**	**61.60**	**326**	P	**P**	**18 59 55.8**	**-0.4**
	comp=Z,20nm,0.7s,mb5.4,ba

comp=Z,29nm,0.8s,mb5.4
KURK Kurchatov 65.84 328 P **P 19 00 23.7 -0.3**
comp=Z,390nm,0.8s,SNR=52
KURK Kurchatov 65.84 328 P **P 19 00 23.4 -0.6**
SNR=34
KURK Kurchatov 65.84 328*c i*P **P 19 00 23.2 -0.8**
KURK pmax pmax
comp=Z,83nm,1.2s,mb5.6
KURK Kurchatov 65.84 328 *e*P **P 19 00 23.0 -1.0**
NVS Novosibirsk 66.10 334 *e*P **P 19 00 22.7 -2.9**
NVS pmax pmax
comp=N,27nm,1.3s
NVS pmax pmax
comp=E,22nm,1.3s
NVS pmax pmax
comp=Z,35nm,1.3s,mb5.2
CASY Casey 66.68 187 *e*P **P 19 00 28.8 -0.3**
comp=Z,17nm,1.0s,mb5.0
JMDO Jabal Madar 71.34 294 P **P 19 00 57.9 -1.0**
SNR=5.3
BVAR Borovoye Array 71.41 328 P **P 19 00 57.8 -0.9**
comp=Z,15nm,0.9s,mb4.9,baz=132,slow=6.2,SNR=61
BRVK Borovoye 71.48 328 P **P 19 00 58.8 -0.3**
comp=Z,152nm,1.0s,mb5.9,SNR=17
BRVK Borovoye 71.48 328 ⇑P **P 19 00 58.5 -0.7**
SNR=16
BRVK Borovoye 71.48 328 *e*P **P 19 00 58.1 -1.0**
SMDO Samad 71.49 294 ⇓P **P 19 00 59.1 -0.8**
SNR=5.4
BIDO Bidbid 71.49 295 P **P 19 00 59.6 -0.2**
SNR=8.4
TIXI Tiksi 72.11 0 *i* P **P 19 01 01.6 -1.0**
TIXI pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BSY Bisya 72.22 294 ⇓P **P 19 01 03.7 -0.5**
SNR=9.3
BILL Bilibino 73.47 14 *e*P **P 19 01 12.3 +1.6**
BILL *e*S S 19 10 41.8 +3.4
BILL pmax pmax
comp=Z,30nm,0.9s,mb5.2
HKL Haleakala 77.23 69 *e*P **P 19 01 31.2 -2.1**
AKTK Aktyubinsk 77.58 322 P **P 19 01 33.9 -0.7**
AKTO Aktyubinsk 77.58 322 P **P 19 01 33.9 -0.7**
comp=Z,12nm,0.7s,mb4.9,baz=106,slow=7.5,SNR=34
SVE Sverdlovsk 78.08 329⇓*e*P **P 19 01 36.2 -1.1**
SVE *e* 19 12 05.3
SVE pmax pmax
comp=Z,31nm,1.2s,mb5.1
ARU Arti 79.04 328 P **P 19 01 41.7 -0.9**
comp=Z,74nm,1.1s,mb5.5,SNR=7.0
ARU Arti 79.04 328*c i*P **P 19 01 40.9 -1.7**
ARU *e* 19 04 40.1
ARU *e*S S 19 11 37.1 -2.9
ARU pmax pmax
comp=Z,27nm,1.7s,mb4.9
ARU Arti 79.04 328 *e*P **P 19 01 41.2 -1.4**
comp=Z,18nm,1.1s,mb4.9
VNDA Vanda 79.06 173 P **P 19 01 42.6 +0.2**
comp=Z,12nm,0.9s,mb4.8,baz=320,slow=6.0,SNR=37
VNDA LR LR 19 34 35.5
comp=Z,120nm,21.0s,MS4.2,baz=330,slow=34
SBA Scott Base 79.97 172 *e*P **P 19 01 48.4 +1.1**
SBA pmax pmax
comp=Z,23nm,1.1s,mb5.0
SBA Scott Base 79.97 172 *e*P **P 19 01 48.4 +1.1**
comp=Z,23nm,1.1s,mb5.0
MAW Mawson 80.05 201 *e*P **P 19 01 47.8 -0.1**
comp=Z,5.6nm,0.9s,mb4.5
MAW Mawson 80.05 201 P **P 19 01 48.3 +0.4**
comp=Z,5.9nm,0.9s,mb4.5,baz=65,slow=6.1,SNR=15
MAW LR LR 19 37 20.3
comp=Z,59nm,18.7s,MS4.0,baz=246,slow=36
MAW Mawson 80.05 201 *e*P **P 19 01 47.8 -0.1**
MAW pmax pmax
comp=Z,6.0nm,0.9s
OPO Ambohidratompo 80.75 251 P **P 19 01 52.4 -0.2**
comp=Z,12nm,0.9s,mb4.8,baz=76,slow=6.9,SNR=15
SOKR Solikamsk 80.88 331*c i*P **P 19 01 52.1 -0.4**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
UMR Umm Al-Rimmam 81.51 300 *e*P **P 19 01 55.2 -1.3**
baz=300
UMR AMb AMB 19 02 02.0
comp=Z,45nm,1.6s,mb5.2,baz=300
RDF Al-Radifah 81.59 299 *e*P **P 19 01 56.2 -0.7**
baz=299
RDF AMb AMB 19 02 03.2
comp=Z,55nm,1.3s,mb5.3,baz=299
MIB Mutribah 81.86 300 *e*P **P 19 01 57.1 -1.2**
baz=300
MIB AMb AMB 19 01 58.7
comp=Z,63nm,0.9s,mb5.5,baz=300
NAY Al-Naaiem 81.89 300 *e*P **P 19 01 57.1 -1.4**
baz=299
NAY AMb AMB 19 01 58.2
comp=Z,38nm,0.8s,mb5.4,baz=299
SVW2 Sparrevohn 84.14 28 *e*P **P 19 02 11.6 +2.2**
KDAK Kodiak Island 85.04 32 LR LR 19 42 08.2
comp=Z,83nm,18.6s,MS4.2,baz=300,slow=37
KDAK Kodiak Island 85.04 32 *e*P **P 19 02 14.8 +0.7**
KDAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
KDAK Kodiak Island 85.04 32 *e*P **P 19 02 14.8 +0.8**
comp=Z,7.5nm,0.9s,mb4.8
RC01 Rabbit Creek A 86.94 29 *e*P **P 19 02 23.4 +0.1**
comp=Z,6.7nm,0.9s,mb4.9
SYO Syowa Base 88.75 201⇑*e*P **P 19 02 30.0 -1.9**
SYO Syowa Base 88.75 201⇓*e*PcP PcP 19 02 33.0 -0.5
SYO Syowa Base 88.75 201⇓*e*pP pP 19 02 41.0 +0.7
KMBO Kilima Mbogo 90.36 269⇑P **P 19 02 42.0 +1.3**
KMBO pmax pmax
comp=Z,2.0nm,0.3s
EGAK Eagle 91.04 25 *e*P **P 19 02 42.6 -0.1**
OBN Obninsk 91.08 325⇓*e*P **P 19 02 41.6 -1.5**
OBN pmax pmax
comp=Z,14nm,1.5s,mb5.1
DAWY Dawson 91.83 26 *e*P **P 19 02 47.4 +1.0**
HYT Haines Junctio 92.89 29 *e*P **P 19 02 52.5 +1.2**
ARCES ARCESS Array B 94.78 340 P **P 19 02 58.5 -1.3**
comp=Z,4.1nm,1.0s,mb4.8,baz=79,slow=6.3,SNR=4.8
OKC Ostrava-Krasne 102.92 321 AMS AMS 19 48 20.0
DPC Dobruska-Polom 103.91 322 AMS AMS 19 48 50.0
comp=Z,100nm,5.4s
TREC Trest 104.73 321 AMS AMS 19 48 10.0
comp=Z,100nm,17.3s
PVCC Panska Ves 104.93 323 AMS AMS 19 49 00.0
comp=Z,100nm,16.2s
PRU Pruhonice 105.11 322 AMS AMS 19 49 00.0
comp=Z,100nm,11.7s
CLL Collm 105.63 324 *e*PP PP 19 08 10.0 -1.0
KHC Kasperske Hory 105.98 321 AMS AMS 19 49 10.0
NKC Novy Kostel 106.31 323 AMS AMS 19 47 20.0
MCMT McKenzie Canyo 110.96 42 *e*PKiKP PKiKP 19 08 12.5 +0.4
SMCO Snowmass 117.17 45 *e*PP PP 19 09 36.1 +1.9
GDL2 Guadalupe Moun 121.83 52 *e*PKPdf PKPdf 19 08 37.0 +3.7
GDL2 *e*PP PP 19 10 00.1 -6.5
TORD Torodi Ar. Bea 125.02 286 PKP PKPdf 19 08 38.9 -1.0
comp=Z,4.1nm,0.9s,baz=34,slow=2.0,SNR=17
MIV Mineville/With 132.78 21 *e*PKPdf PKPdf 19 08 53.5 -0.4
MIV *e*PP PP 19 11 26.4 +8.8
PLCA Paso Flores 135.68 160 PKP PKPdf 19 09 00.4 +1.0
comp=Z,4.1nm,1.1s,baz=168,slow=5.7,SNR=5.1
LCO Las Campanas 145.75 151 *e*PKPdf PKPdf 19 09 19.8 +1.9
LVC Limon Verde 151.88 146 *e*PKPbc PKPbc 19 09 36.4 +2.0
CPUP Villa Florida 152.82 170 PKP PKPdf 19 09 29.2 -0.1
comp=Z,0.6nm,0.5s,baz=182,slow=3.0,SNR=3.6
CPUP PKPbc PKPbc 19 09 37.0 +0.6
comp=Z,5.8nm,0.8s,baz=192,slow=1.1,SNR=11
CPUP PKPab PKPab 19 09 47.2 +0.1
comp=Z,11nm,0.9s,baz=188,slow=5.1,SNR=8.9
CPUP Villa Florida 152.82 170 PKP PKPdf 19 09 29.2 -0.1
CPUP PKPbc PKPbc 19 09 37.0 +0.6
CPUP PKPab PKPab 19 09 47.2 +0.1
LPAZ La Paz 157.14 138 PKPab PKPab 19 10 05.9 +0.1
comp=Z,1.9nm,0.8s,baz=214,slow=4.3,SNR=4.8

IDC 13 18:56:29.4±7.5,328N×12853E,h193km±84km,mb3.4/7, mb1 3.6/8,mb1mx3.3/21,mbtmp3.5/8,Error ellipse: s-maj=34.1km s-min=13.4km az=76.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**14.24**	**200**	P		Pn	18 59 44.4	+1.8
	1.5nm,0.3s,baz=39,slow=6.5,SNR=3.7							
FITZ	**Fitzroy Crossi**	**21.43**	**188**	P		P	19 01 01.6	-0.9
	1.2nm,0.6s,baz=28,slow=12,SNR=3.9							
JOW	**Kunigami**	**23.42**	**359**	P		P	19 01 19.6	-1.6
	9.9nm,0.9s,baz=129,slow=16,SNR=5.4							
WRA	**Warramunga Arr**	**23.77**	**166**	P		P	19 01 24.5	+0.1
	1.7nm,0.4s,baz=344,slow=10.0,SNR=15							
ASAR	**Alice Springs**	**27.29**	**169**	P		P	19 01 56.4	+0.4
	1.2nm,0.5s,baz=355,slow=7.2,SNR=25							
CMAR	**Chiang Mai Arr**	**32.65**	**300**	P		P	19 02 43.8	+0.4
	2.1nm,1.0s,baz=157,slow=2.8,SNR=8.0							
MJAR	**Matsushiro Arr**	**34.28**	**14**	P		P	19 02 58.4	+1.2
	2.1nm,1.2s,baz=208,slow=6.7,SNR=4.5							
STKA	**Stephens Creek**	**37.10**	**161**	*e*P		P	19 03 22.1	+0.8
	1.1nm,0.3s							
STKA	**Stephens Creek**	**37.10**	**161**	P		P	19 03 20.9	-0.3
	1.8nm,0.4s,baz=341,slow=8.0,SNR=7.9							

SZGRF ***13*** *19:12:55.6,2168S×179.19E,h33km,South of Fiji Islands*
BJI ***13*** *19:13:58.7,1785S×17803W,h551km,mB4.6,mb4.6*
ISCJB ***13*** *19:13:58.4±0.8,1777S±006×17872W±005,h520km±9km, mb4.4/56,Error ellipse: s-maj=10.5km s-min=5.7km az=145.7*
NEIC ***13*** *19:13:59.8±0.8,1779S×17868W,h528km±8km,mb4.4/36, Error ellipse: s-maj=10.2km s-min=4.7km az=147.0*
IDC ***13*** *19:14:00.2±1.3,1779S×17860W,h535km±14km,mb4.1/18, mb1 4.3/19,mb1mx4.2/23,mbtmp4.2/19,Error ellipse: s-maj=12.2km s-min=10.0km az=145.0*
DJA ***13*** *19:14:00,18.11S×17875W,h525km,mb5.2/26*
ISC 13 19:13:58.8±0.7,1781S±006×17865W±005,h514km±8km, n177,σ0985/105,mb4.4/56,9C-23D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.67**	**61**	P		**P**	**19 15 52.8**	**+0.5**
	19nm,0.3s,baz=78,slow=6.4,SNR=25							
AFI				S		**S**	**19 17 23.9**	**-1.3**
	baz=81,slow=23,SNR=2.5							
AFI	**Afiamalu**	**7.67**	**61**	P		**P**	**19 15 52.8**	**+0.5**
AFI				S		**S**	**19 17 23.9**	**-1.3**
RAO	**Raoul Island**	**11.41**	**177**	S		**S**	**19 18 35.7**	**-0.7**
	49nm,0.3s,baz=151,slow=21,SNR=2.7							
DZM	**Mont Dzumac**	**14.64**	**251**	*e*P		**P**	**19 17 06.2**	**+1.2**
DZM	**Mont Dzumac**	**14.64**	**251**	*e*P		**P**	**19 17 06.0**	**+1.0**
URZ	**Urewera**	**20.71**	**189**	P		**P**	**19 18 01.8**	**-1.2**
	7.9nm,0.6s,baz=16,slow=5.2,SNR=4.5							
HNR	**Honiara**	**22.38**	**289**	P		**P**	**19 18 19.8**	**+1.4**
	50nm,0.5s,mb5.4,baz=285,slow=3.0,SNR=3.9							
ARMA	**Armidale**	**29.79**	**240**	⇓*i*P		**P**	**19 19 25.5**	**+1.9**
CTA	**Charters Tower**	**33.23**	**260**	⇓*i*P		**P**	**19 19 53.7**	**+0.5**
	32nm,0.7s,mb5.0							
CTA	**Charters Tower**	**33.23**	**260**	P		**P**	**19 19 53.7**	**+0.5**
	42nm,0.6s,mb5.1,baz=88,slow=10,SNR=60							
CTA				PcP		PcP	19 22 20.1	-0.8
	4.0nm,0.6s,baz=102,slow=4.3,SNR=4.1							
CTA				ScP		ScP	19 25 13.7	-2.7
	5.3nm,1.0s,baz=31,slow=5.9,SNR=2.6							
CTAO	**Charters Tower**	**33.23**	**260**	*e*P		**P**	**19 19 53.6**	**+0.4**
	49nm,0.8s,mb5.1							
PMG	**Port Moresby**	**34.21**	**280**	*e*P		**P**	**19 20 03.1**	**+1.6**
	96nm,0.8s,mb5.4							
COEN	**Coen**	**36.87**	**270**	*e*P		**P**	**19 20 21.3**	**-2.3**
	27nm,0.6s,mb5.0							
TOO	**Toolangi**	**37.05**	**231**	⇓*i*P		**P**	**19 20 26.2**	**+1.4**
STKA	**Stephens Creek**	**38.48**	**241**	⇓*i*P		**P**	**19 20 37.9**	**+1.4**
	38nm,0.5s,mb5.2							
STKA	**Stephens Creek**	**38.48**	**241**	P		**P**	**19 20 38.0**	**+1.4**
	44nm,0.5s,mb5.3,baz=93,slow=9.7,SNR=201							
WB2	**Warramunga Arr**	**44.41**	**259**	*e*P		**P**	**19 21 23.2**	**-0.6**
WRA	**Warramunga Arr**	**44.42**	**259**	P		**P**	**19 21 23.3**	**-0.6**
	29nm,0.5s,mb5.0,baz=94,slow=6.9,SNR=61							
WRA				PcP		PcP	19 22 56.0	-0.6
	6.3nm,0.7s,baz=90,slow=3.5,SNR=5.4							
WRA				ScP		ScP	19 25 57.5	-2.2
	2.0nm,0.9s,baz=96,slow=3.3,SNR=4.7							
WRA				S		**S**	**19 27 20.1**	**-1.0**
	0.4nm,0.8s,baz=36,slow=33,SNR=3.4							
ASAR	**Alice Springs**	**44.59**	**254**	P		**P**	**19 21 25.1**	**-0.1**
	247nm,0.6s,baz=86,slow=8.5,SNR=436							
ASAR				PcP		PcP	19 22 56.5	-0.7
	4.7nm,0.4s,baz=104,slow=4.4,SNR=4.6							
ASAR				S		**S**	**19 27 18.4**	**-5.1**
	1.6nm,0.9s,baz=93,slow=17,SNR=6.4							
KAKA	**Kakadu**	**47.35**	**269**	⇓*i*P		**P**	**19 21 45.9**	**-0.4**
	61nm,0.4s,mb5.5							
KAKA	**Kakadu**	**47.35**	**269**	*e*P		**P**	**19 21 45.7**	**-0.6**
GUMO	**Guam**	**47.63**	**309**	P		**P**	**19 21 48.3**	**0.0**
	80nm,0.6s,mb5.4,baz=159,slow=7.5,SNR=8.9							
FORT	**Forrest**	**49.84**	**245**	⇓*i*P		**P**	**19 22 04.2**	**-0.4**
	101nm,0.5s,mb5.5							
FITZ	**Fitzroy Crossi**	**52.82**	**261**	⇓*i*P		**P**	**19 22 26.4**	**+0.1**
	17nm,0.5s,mb4.6							
FITZ	**Fitzroy Crossi**	**52.82**	**261**	P		**P**	**19 22 26.5**	**+0.2**
	6.8nm,0.3s,mb4.4,baz=105,slow=4.2,SNR=14							
BATI	**Baumata**	**56.30**	**269**	P		**P**	**19 22 51.5**	**+0.6**
	40nm,0.6s,mb4.8,baz=151,slow=2.0,SNR=14							
MBWA	**Marble Bar**	**57.87**	**256**	*e*P		**P**	**19 23 00.8**	**-0.8**
	19nm,0.6s,mb4.5							
KLBR	**Kellerberrin**	**58.67**	**243**	⇓*i*P		**P**	**19 23 06.0**	**-0.8**
	42nm,0.7s,mb4.8							
MUN	**Mundaring**	**59.96**	**243**	*e*P		**P**	**19 23 13.9**	**-1.6**
VNDA	**Vanda**	**60.52**	**185**	P		**P**	**19 23 19.0**	**+0.6**
	1.3nm,0.6s,mb3.4,baz=355,slow=6.7,SNR=10							
CASY	**Casey**	**66.13**	**205**	*e*P		**P**	**19 23 54.7**	**+0.2**
MJAR	**Matsushiro Arr**	**67.69**	**323**	P		**P**	**19 24 03.7**	**-0.8**
	5.0nm,0.8s,mb4.1,baz=158,slow=6.2,SNR=27							
MAT	**Matsushiro**	**67.69**	**323**	P		**P**	**19 24 03.8**	**-0.8**
KSM	**Kuching**	**72.44**	**277**	*e*P		**P**	**19 24 33.9**	**+0.5**
PETK	**Petropavlovsk-**	**73.52**	**345**	P		**P**	**19 24 38.4**	**-0.3**
	5.0nm,0.6s,mb4.1,baz=130,slow=7.7,SNR=7.6							
KSRS	**Korea Array**	**74.47**	**318**	P		**P**	**19 24 44.6**	**+0.2**
	1.3nm,0.6s,mb3.6,baz=125,slow=6.5,SNR=6.0							
SAO	**San Andreas Ge**	**76.51**	**44**	*e*P		**P**	**19 24 56.1**	**+0.3**
	21nm,1.3s,mb4.4							
KIPM	**Iron Peak**	**76.98**	**40**	*e*P		**P**	**19 24 59.0**	**+0.7**
OHAK	**Old Harbor**	**77.69**	**14**	*e*P		**P**	**19 25 01.0**	**-0.8**
KRMB	**Red Mountain**	**77.75**	**39**	*e*P		**P**	**19 25 03.3**	**+0.9**
ISA	**Isabella**	**77.91**	**46**	*e*P		**P**	**19 25 03.6**	**+0.1**
	14nm,1.0s,mb4.2							
CMB	**Columbia Colle**	**77.92**	**43**	*e*P		**P**	**19 25 03.6**	**+0.2**
	12nm,0.9s,mb4.2							
KDAK	**Kodiak Island**	**78.36**	**14**	*e*P		**P**	**19 25 04.1**	**-1.2**
	11nm,0.8s,mb4.2							
YBH	**Yreka Blue Hor**	**78.59**	**39**	*e*P		**P**	**19 25 07.5**	**+0.5**
	6.7nm,0.8s,mb4.0							
MTUM	**Tungsten Hills**	**78.76**	**45**	*e*P		**P**	**19 25 08.6**	**+0.6**
LHEM	**Herd Peak**	**78.83**	**40**	P		**P**	**19 25 09.2**	**+0.9**
GSC	**Goldstone**	**78.88**	**47**	*e*P		**P**	**19 25 08.8**	**+0.1**
	1.5nm,0.5s,mb3.6							
HUMO	**Hull Mountain**	**78.97**	**38**	*e*P		**P**	**19 25 09.3**	**+0.3**
	9.1nm,1.0s,mb4.1							
GLA	**Glamis**	**79.17**	**50**	*e*P		**P**	**19 25 09.8**	**-0.4**
	3.8nm,0.8s,mb3.8							
HOG	**Hogback Mounta**	**79.50**	**39**	P		**P**	**19 25 12.7**	**+0.9**
NVAR	**Mina Array Bea**	**79.51**	**44**	P		**P**	**19 25 12.7**	**+0.7**
	8.7nm,0.8s,mb4.1,baz=224,slow=8.9,SNR=32							
TPNV	**Topopah Spring**	**80.12**	**46**	*e*P		**P**	**19 25 15.5**	**+0.3**
	11nm,1.2s,mb4.1							
MOD	**Modoc**	**80.16**	**40**	P		**P**	**19 25 15.7**	**+0.4**
KMOR	**Kings Mountain**	**80.49**	**36**	P		**P**	**19 25 17.1**	**+0.2**
BMN	**Battle Mountai**	**81.29**	**43**	*e*P		**P**	**19 25 21.6**	**+0.4**
	18nm,1.3s,mb4.3							
SLKM	**Skilak Lake**	**81.35**	**14**	*e*P		**P**	**19 25 20.0**	**-1.0**
WVOR	**Wild Horse Val**	**81.48**	**40**	P		**P**	**19 25 22.6**	**+0.5**
TUC	**Tucson**	**81.82**	**52**	*e*P		**P**	**19 25 25.1**	**+1.0**
	12nm,1.1s,mb4.2							
HDW	**Hoodsport**	**81.95**	**34**	P		**P**	**19 25 24.9**	**+0.5**
RAGM	**Ragged Mountai**	**82.61**	**16**	*e*P		**P**	**19 25 25.0**	**-2.4**
ELK	**Elko**	**82.74**	**43**	*e*P		**P**	**19 25 28.9**	**+0.3**
	8.0nm,1.0s,mb4.2							
WUAZ	**Wupatki**	**82.85**	**49**	*e*P		**P**	**19 25 30.3**	**+1.1**
	10nm,1.0s,mb4.3							
DIV	**Divide**	**82.96**	**15**	*e*P		**P**	**19 25 28.0**	**-1.1**
	6.3nm,0.6s,mb4.3							
BMRM	**Bremner River**	**83.12**	**16**	*e*P		**P**	**19 25 28.8**	**-1.2**
RSW	**Rattlesnake Hi**	**83.13**	**37**	*e*P		**P**	**19 25 30.6**	**+0.3**
ETW	**Entiat**	**83.41**	**35**	*e*P		**P**	**19 25 31.6**	**-0.1**
PSI	**Prapat**	**83.64**	**275**	P		**P**	**19 25 31.9**	**-1.9**
	22nm,0.7s,mb4.8,baz=360,slow=1.9,SNR=22							
PSI	**Prapat**	**83.64**	**275**	⇑*e*P		**P**	**19 25 32.4**	**-1.3**
WTV	**Waterville**	**83.67**	**36**	P		**P**	**19 25 32.8**	**-0.3**
MAW	**Mawson**	**83.88**	**200**	⇓*i*P		**P**	**19 25 33.7**	**-0.1**
	4.8nm,0.4s,mb4.4							
MAW	**Mawson**	**83.88**	**200**	P		**P**	**19 25 33.9**	**+0.1**
	6.9nm,0.5s,mb4.5,baz=130,slow=6.2,SNR=31							
TRF	**Thorofare Moun**	**83.96**	**12**	*e*P		**P**	**19 25 32.5**	**-1.6**
	17nm,0.7s,mb4.7							
OD2	**Odessa Site #2**	**84.19**	**36**	*e*P		**P**	**19 25 35.8**	**+0.1**
HLID	**Hailey**	**84.71**	**41**	*e*P		**P**	**19 25 38.8**	**+0.5**
	6.9nm,1.0s,mb4.1							
SRU	**San Rafael**	**85.11**	**46**	*e*P		**P**	**19 25 40.2**	**-0.1**
	3.6nm,0.7s,mb4.0							
XAN	**Xi'an**	**86.02**	**307**	P		**P**	**19 25 45.1**	**+0.3**
XAN				AMB		AMB		
	comp=Z,19nm,1.4s,mb4.5							
XAN				AMB		AMB		
	comp=Z,67nm,8.5s							
ANMO	**Albuquerque**	**86.22**	**52**	*e*P		**P**	**19 25 46.1**	**+0.4**
	comp=Z,2.8nm,0.9s,mb3.9							
MCMT	**McKenzie Canyo**	**86.31**	**41**	*e*P		**P**	**19 25 46.3**	**+0.3**
RRI2	**Red Ridge**	**86.56**	**42**	*e*P		**P**	**19 25 47.8**	**+0.7**
	comp=Z,18nm,0.8s,mb4.7							
DLMT	**Dillon**	**86.73**	**40**	*e*P		**P**	**19 25 48.1**	**+0.2**
	comp=Z,5.5nm,0.7s,mb4.3							
TPAW	**Teton Pass**	**86.87**	**42**	*e*P		**P**	**19 25 49.3**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.0							
REDW	**Red Top Meadow**	**86.87**	**43**	*e*P		**P**	**19 25 48.7**	**+0.1**
	comp=Z,11nm,0.9s,mb4.5							
IMW	**Indian Meadow**	**87.07**	**42**	*e*P		**P**	**19 25 50.3**	**+0.8**
	comp=Z,11nm,0.9s,mb4.5							
CHMT	**Chamberlain Mo**	**87.10**	**39**	*e*P		**P**	**19 25 49.0**	**-0.6**
MOOW	**Moose Ponds**	**87.12**	**42**	*e*P		**P**	**19 25 50.0**	**+0.2**
	comp=Z,3.0nm,0.3s,mb4.4							
LOHW	**Long Hollow**	**87.15**	**42**	*e*P		**P**	**19 25 50.0**	**+0.1**
	comp=Z,2.9nm,0.5s,mb4.2							
EGAK	**Eagle**	**87.18**	**15**	*e*P		**P**	**19 25 48.2**	**-1.4**
	comp=Z,2.3nm,0.5s,mb4.1							
QLMT	**Earthquake Lak**	**87.20**	**41**	*e*P		**P**	**19 25 51.2**	**+1.1**
COLD	**Coldfoot**	**87.36**	**11**	*e*P		**P**	**19 25 49.2**	**-1.2**
	comp=Z,94nm,1.2s,mb5.3							
PDAR	**Pinedale Array**	**87.44**	**44**	P		**P**	**19 25 51.1**	**-0.2**
	comp=Z,4.7nm,0.5s,mb4.4,baz=206,slow=2.8,SNR=34							
PDAR				PP		PP	19 29 24.2	-1.4
	comp=Z,0.7nm,0.7s,baz=256,slow=6.0,SNR=5.3							
KMI	**Kunming**	**87.58**	**297**	P		**P**	**19 25 52.9**	**+0.5**
KMI				AMB		AMB		
	comp=Z,11nm,1.2s,mb4.5							
CMAR	**Chiang Mai Arr**	**88.63**	**290**	P		**P**	**19 25 58.0**	**+0.5**
	comp=Z,6.0nm,0.9s,mb4.4,baz=108,slow=2.8,SNR=32							
RLMT	**Red Lodge**	**88.69**	**42**	*e*P		**P**	**19 25 57.6**	**+0.5**
	comp=Z,2.5nm,0.7s,mb4.2							
LZH	**Lanzhou**	**90.65**	**308**	*e*P		**P**	**19 26 07.3**	**+0.9**
LZH				AMB		AMB		
	comp=Z,21nm,1.2s,mb4.9							
LZH				AMB		AMB		
	comp=Z,108nm,4.2s							
SNAA	**Sanae**	**90.70**	**179**	*e*		**P**	**19 26 05.0**	**-1.0**
SNAA				*e*			19 26 06.6	
SNAA	**Sanae**	**90.70**	**179**	P		**P**	**19 26 04.8**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.2,baz=195,slow=14,SNR=26							
VNA2	**Neumayer--Watz**	**91.29**	**177**	*e*		**P**	**19 26 08.2**	**-0.6**
VNA2				*e*			19 26 10.2	
VNA2				*e*			19 26 20.8	
VNA1	**Neumayer--Stat**	**91.52**	**177**	*e*		**P**	**19 26 10.1**	**+0.3**
VNA1				*e*			19 26 11.7	
VNA1				*e*			19 26 22.5	
RSSD	**Black Hills**	**91.65**	**44**	*e*P		**P**	**19 26 10.2**	**-0.7**
	comp=Z,1.7nm,0.6s,mb4.2							
YKA	**Yellowknife Ar**	**94.34**	**25**	P		**P**	**19 26 20.7**	**-2.0**
	comp=Z,0.6nm,0.6s,mb3.9,baz=248,slow=4.6,SNR=3.6							
YKA	**Yellowknife Ar**	**94.34**	**25**	P		**P**	**19 26 20.7**	**-2.0**
ZALV	**Zalesovo Beam**	**108.01**	**322**	PKiKP		PKiKP	19 31 24.5	-3.1
	comp=Z,0.9nm,0.7s,baz=90,slow=1.5,SNR=3.9							
ZALV	**Zalesovo Beam**	**108.01**	**322**	PKPdf		PKiKP	19 31 24.5	-3.1
MKAR	**Makanchi Array**	**108.90**	**314**	PKiKP		PKiKP	19 31 27.5	-2.0
	comp=Z,0.9nm,0.5s,baz=167,slow=0.6,SNR=13							
MKAR	**Makanchi Array**	**108.90**	**314**	PKPdf		PKiKP	19 31 27.5	-2.0
BVAR	**Borovoye Array**	**116.62**	**321**	PKP		PKPdf	19 31 42.3	-1.7
	comp=Z,1.6nm,0.3s,baz=121,slow=2.1,SNR=19							
AKTK	**Aktyubinsk**	**124.64**	**320**	PKP		PKPdf	19 31 57.3	-2.2
AKTO	**Aktyubinsk**	**124.64**	**320**	PKP		PKPdf	19 31 57.3	-2.2
	comp=Z,1.2nm,0.7s,baz=72,slow=1.2,SNR=7.3							
ARCES	**ARCESS Array B**	**126.18**	**350**	PKP		PKPdf	19 32 01.5	-0.5
	comp=Z,1.1nm,0.7s,baz=355,slow=5.4,SNR=4.2							
SUR	**Sutherland**	**126.73**	**201**	PKP		PKPdf	19 32 04.0	-0.2
	comp=Z,5.1nm,0.7s,baz=190,slow=6.1,SNR=3.5							
BOSA	**Boshof**	**128.38**	**207**	PKP		PKPdf	19 32 07.2	-0.3
	comp=Z,8.9nm,1.3s,baz=86,slow=1.8,SNR=3.4							
LSZ	**Lusaka**	**137.80**	**220**	PKP		PKPdf	19 32 25.1	-0.3
	comp=Z,1.9nm,0.5s,baz=172,slow=1.0,SNR=6.9							
AKASG	**Malin Array Be**	**140.36**	**332**	PKhKP			19 32 20.3	
	comp=Z,0.6nm,0.3s,baz=42,slow=4.0,SNR=5.9							
MALT	**Malatya**	**141.77**	**310**	⇓*i*P		PKPdf	19 32 29.3	-2.6
MALT	**Malatya**	**141.77**	**310**	⇓P		PKPdf	19 32 29.3	-2.6
TLCR		**144.36**	**326**	⇓*i*P		PKPdf	19 32 35.4	-0.8
TLCR		**144.36**	**326**	⇓P		PKPdf	19 32 35.4	-0.8
BURAR	**Bucovina Array**	**144.42**

TORD PKPab PKPab 19 34 49.5 -0.9
comp=Z,0.9nm,0.6s,baz=179,slow=4.2,SNR=9.0

*IDC **13** 19:17:35.7±1.1,3408N×8170E,h0km,mb3.5/5,mb1 3.7/7, mb1mx3.5/24,mbtmp3.6/7,ML3.0/2,MS3.5/1,Ms1 3.6/1, ms1mx2.4/32,Error ellipse: s-maj=38.3km s-min=20.5km az=55.0*

*NEIC **13** 19:17:37.4±0.8,3409N×8171E,h10km,mb4.0/3,Error ellipse: s-maj=20.9km s-min=11.7km az=69.0*

*ISCJB **13** 19:17:38.7±0.8,34.17N±009×81.8E±0.1,h33km,mb3.6/5, Error ellipse: s-maj=15.7km s-min=12.5km az=160.8*

ISC 13 19:17:36.1±6.2,341N±01×818E±01,h0km±40km,n17, σ1§04/16,mb3.6/5,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	10.05	333	P	Pn	19 19 59.0	-2.6
	3.2nm,1.2s						
KBL	Kabul	10.56	276	P	Pn	19 20 09.0	+0.3
	3.3nm,0.8s						
MK31	Makanchi Array	12.68	2	eP	Pn	19 20 37.9	+0.3
MKAR	Makanchi Array	12.68	2	Pn	Pn	19 20 37.7	+0.2
	0.1nm,0.3s,baz=183,slow=14,SNR=11						
MKAR	Makanchi Array	12.68	2	Pn	Pn	19 20 37.7	+0.2
KURK	Kurchatov	16.76	353	eP	Pn	19 21 34.3	+2.2
	2.7nm,1.1s						
KURK				e		19 21 39.4	
ZALV	Zalesovo Beam	19.95	5	P	Pn	19 22 09.2	-1.9
	0.0nm,0.3s,baz=159,slow=25,SNR=2.3						
BVAR	Borovoye Array	20.59	340	P	P	19 22 16.3	-0.2
	3.0nm,0.9s,baz=127,slow=11,SNR=9.2						
BRVK	Borovoye	20.65	340	eP	P	19 22 18.2	+1.1
	11nm,1.2s						
CMAR	Chiang Mai Arr	21.84	131	P	P	19 22 30.2	0.0
	2.0nm,0.9s,mb3.6,baz=305,slow=11,SNR=5.8						
GERES	GERESS Array B	51.43	308	P	P	19 26 42.3	-0.4
	0.2nm,0.6s,mb3.2,baz=287,slow=28,SNR=4.4						
NOA	NORSAR Array B	51.55	324	LR	LR	19 51 17.7	
	comp=Z,42nm,19.3s,baz=55,slow=39						
LPG	La Plagne	56.81	306	eP	P	19 27 22.7	+0.6
LPL	La Plagne	56.82	306	eP	P	19 27 22.6	+0.4
	5.7nm,0.6s,mb4.5						
LPL	La Plagne	56.82	306	eP	P	19 27 22.6	+0.4
	2.8nm,0.6s,mb4.5						
WRA	Warramunga Arr	73.41	129	P	P	19 29 10.3	+0.1
	0.2nm,0.5s,mb3.5,baz=323,slow=5.5,SNR=2.7						
TORD	Torodi Ar. Bea	74.63	276	P	P	19 29 16.6	-0.9
	0.3nm,0.7s,mb3.5,baz=35,slow=4.2,SNR=6.4						

*NEIC **13** 19:21:19.9, 1790N×10153W,h36km,MD4.0(MEX),After MEX.*

MEX 13 19:21:19.9±0.6,1788N×10152W,h39km±9km,MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.28	168	iP	Pn	19 21 26.1	-1.8
ZIIG				iS	Sn	19 21 31.8	-1.5
CAIG	El Cayaco	1.46	125	eP	Pn	19 21 41.8	-1.9
CAIG				iS	Sn	19 21 59.8	-1.8
MMIG	Aquila	1.78	283	iP	Pn	19 21 47.3	-0.8
MMIG				iS	Sn	19 22 06.8	-2.7
MOIG	Morelia	1.81	10	iP	Pn	19 21 47.2	-1.4
MOIG				iS	Sn	19 22 08.2	-2.2
MEIG	Mezcala	1.81	88	iP	Pn	19 21 48.0	-0.7
MEIG				iS	Sn	19 22 08.7	-1.7
ACX	Acapulco	1.84	123	iP	Pn	19 21 49.0	0.0
PLIG	Platanillo	1.99	75	eP	Pn	19 21 49.5	-1.6
PLIG				iS	Sn	19 22 13.0	-1.7
PPM	Popocatepetl	2.99	66	iP	Pn	19 22 05.5	+0.6
PPM				iS	Sn	19 22 37.6	-1.9

*IDC **13** 19:34:51.9±0.7,435S×13888E,h0km,mb4.2/11, mb1 4.4/14,mb1mx4.3/16,mbtmp4.3/14,ML4.6/3,MS3.6/5, Ms1 3.5/5,ms1mx3.1/28,Error ellipse: s-maj=27.0km s-min=14.3km az=75.0*

*MOS **13** 19:34:56.1±1.5,449S×13851E,h33km,mb4.7/6,Error ellipse: s-maj=14.8km s-min=8.4km az=111.5*

*ISCJB **13** 19:34:58.4±1.8,457S±006×13858E±005,h57km±18km, mb4.2/19,MS3.6/3,Error ellipse: s-maj=10.2km s-min=8.7km az=26.9*

*NEIC **13** 19:34:58.2±1.6,445S×13872E,h42km±16km,mb4.4/8, Error ellipse: s-maj=12.7km s-min=9.6km az=47.0*

*DJA **13** 19:34:59,434S×13863E,h0km,ML4.4/1*

ISC 13 19:35:00.8±1.2,462S±005×13855E±005,h62km±12km, n64,σ1§26/56,mb4.2/19,2C-4D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.78	120	iP	Pn	19 37 20.5	+1.8
KAKA	Kakadu	10.05	217	⇓iP	Pn	19 37 23.8	+1.3
	221nm,0.4s						
KAKA				eS	Sn	19 39 12.7	-1.0
COEN	Coen	10.34	154	eP	Pn	19 37 24.2	-2.1
	6.6nm,0.5s						
WRAB	Tennant Creek	15.76	195	iP	Pn	19 38 38.4	-0.6
WRAB	Tennant Creek	15.76	195	eP	Pn	19 38 38.3	-0.6
	41nm,0.8s						
BATI	Baumata	15.76	249	Pn	Pn	19 38 40.7	+1.6
	6.2nm,0.3s,baz=353,slow=5.9,SNR=10						
BATI				Sn	Sn	19 41 30.9	-2.1
	2.3nm,0.3s,baz=101,slow=9.7,SNR=3.2						
WB2	Warramunga Arr	15.77	195	eP	Pn	19 38 38.2	-0.9
WB2				eS	S	19 41 26.1	-18
WRA	Warramunga Arr	15.77	195	Pn	Pn	19 38 36.0	-3.1
	0.6nm,0.3s,baz=4.3,slow=13,SNR=42						
WRA				Sn	Sn	19 41 24.1	-8.9
	2.9nm,0.3s,baz=16,slow=22,SNR=6.6						
WRA				Lg		19 43 26.8	
	0.5nm,0.3s,baz=9.6,slow=29,SNR=3.6						
WRA	Warramunga Arr	15.77	195	P	Pn	19 38 36.0	-3.1
WRA						19 41 24.1	
CTA	Charters Tower	17.11	155	eP	Pn	19 38 57.2	+1.4
	8.5nm,0.9s						
CTA	Charters Tower	17.11	155	P	Pn	19 38 56.4	+0.5
	0.5nm,0.3s,baz=336,slow=9.0,SNR=11						
CTA				S	S	19 42 02.7	-9.1
	0.3nm,0.3s,baz=62,slow=23,SNR=2.6						
CTA				Lg		19 44 04.5	
	0.4nm,0.3s,baz=223,slow=14,SNR=3.8						
CTA	Charters Tower	17.11	155	eP	Pn	19 38 57.2	+1.4
CTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTAO	Charters Tower	17.11	155	eP	Pn	19 38 57.1	+1.3
CTAO				pmax	pmax		
	comp=Z,15nm,1.0s						
CTAO	Charters Tower	17.11	155	eP	Pn	19 38 57.1	+1.3
	comp=Z,15nm,1.0s						
FITZ	Fitzroy Crossi	18.41	222	eP	Pn	19 39 13.4	+1.6
	comp=Z,21nm,0.7s						
FITZ				eS	S	19 42 24.8	-13
FITZ	Fitzroy Crossi	18.41	222	P	Pn	19 39 13.2	+1.5
	comp=Z,0.5nm,0.3s,baz=52,slow=15,SNR=19						
FITZ				S	S	19 42 27.5	-10
	comp=Z,4.0nm,0.3s,baz=191,slow=13,SNR=8.4						
FITZ				LR	LR	19 47 00.4	
	comp=Z,203nm,18.5s,baz=253,slow=39						
GUMO	Guam	19.15	19	LR	LR	19 45 58.0	
	comp=Z,49nm,19.6s,baz=174,slow=35						
ASAR	Alice Springs	19.46	193	P	Pn	19 39 25.2	+1.0
	comp=Z,3.1nm,0.3s,baz=24,slow=9.8,SNR=297						
ASAR				S	S	19 42 59.2	0.0
	comp=Z,0.9nm,0.3s,baz=17,slow=24,SNR=5.4						
HNR	Honiara	21.76	104	P	P	19 39 45.6	-1.9
	comp=Z,25nm,0.3s,mb5.1,baz=264,slow=12,SNR=4.1						
HNR	Honiara	21.76	104	P	P	19 39 45.6	-1.9
MBWA	Marble Bar	24.58	226	eP	P	19 40 17.0	+1.8
	comp=Z,16nm,0.7s,mb4.7						
STKA	Stephens Creek	27.26	174	P	P	19 40 41.0	+1.7
	comp=Z,2.5nm,0.8s,mb3.8,baz=20,slow=14,SNR=3.4						
STKA				LR	LR	19 53 53.7	
	comp=Z,172nm,19.6s,baz=19,slow=42						
NWAO	Narrogin (SRO)	34.48	213	LR	LR	19 55 10.6	
	comp=Z,151nm,18.9s,baz=182,slow=35						
JHJ	Hachijo jima 2	37.55	2	LR	LR	19 55 01.5	
	comp=Z,63nm,19.1s,baz=270,slow=32						
PSI	Prapat	40.27	280	P	P	19 42 32.6	+0.4
	comp=Z,2.9nm,0.4s,mb4.3,baz=343,slow=19,SNR=5.8						
MJAR	Matsushiro Arr	40.95	360	P	P	19 42 34.2	-3.2
	comp=Z,0.5nm,0.6s,mb3.3,baz=187,slow=8.8,SNR=4.6						
KSRS	Korea Array	43.01	348	P	P	19 42 50.1	-4.1
	comp=Z,0.6nm,0.6s,mb3.5,baz=305,slow=42,SNR=2.6						
CMAR	Chiang Mai Arr	45.27	302	P	P	19 43 12.9	+0.3
	comp=Z,6.7nm,0.9s,mb4.5,baz=121,slow=6.3,SNR=31						
CMAR				PcP	PcP	19 44 53.2	+1.5
	comp=Z,0.8nm,0.5s,baz=136,slow=3.2,SNR=4.4						
CHTO	Chiang Mai	45.43	302	eP	P	19 43 14.6	+0.8
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5						
CHTO	Chiang Mai	45.43	302	eP	P	19 43 14.6	+0.8
	comp=Z,9.3nm,1.1s,mb4.5						
RPZ	Rata Peaks	48.34	149	P	P	19 43 35.5	-0.8
	comp=Z,7.7nm,0.8s,mb4.8,baz=301,slow=5.8,SNR=2.9						
SONM	Songino Array	59.37	335	P	P	19 44 56.9	+0.3
	comp=Z,0.7nm,0.5s,mb3.9,baz=160,slow=7.7,SNR=3.8						
ZAK	Zakamensk	62.64	335	⇑iP	P	19 45 18.9	+0.2
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.4						
YAK	Yakutsk	66.81	355	iP	P	19 45 45.3	-0.3
HVS	Khovu-Aksy	67.47	331	dP	P	19 45 51.8	+1.7
MK31	Makanchi Array	71.20	323	eP	P	19 46 13.3	+0.1
MKAR	Makanchi Array	71.20	323	P	P	19 46 12.8	-0.4
	comp=Z,1.4nm,0.6s,mb4.1,baz=118,slow=7.4,SNR=18						
MKAR	Makanchi Array	71.20	323	iP	P	19 46 13.5	+0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	71.20	323	P	P	19 46 12.8	-0.4
ZAA0	Zalesovo Array	73.50	330	eP	P	19 46 25.8	-1.0
ZALV	Zalesovo Beam	73.50	330	P	P	19 46 25.9	-0.8
	comp=Z,3.6nm,0.6s,mb4.5,baz=115,slow=6.0,SNR=22						
ZAL	Zalesovo	73.50	330	P	P	19 46 25.9	-0.9
VNDA	Vanda	73.90	175	P	P	19 46 28.0	-0.7
	comp=Z,1.1nm,0.8s,mb3.9,baz=349,slow=5.1,SNR=5.6						
BILL	Bilibino	75.06	10	eP	P	19 46 37.1	+1.6
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KURK	Kurchatov	75.18	325	⇓eP	P	19 46 36.9	+0.3
KURK	Kurchatov	75.18	325	eP	P	19 46 36.0	-0.6
	comp=Z,1.8nm,0.8s,mb4.0						
TIXI	Tiksi	76.39	357	⇑eP	P	19 46 41.7	-1.4
MAW	Mawson	80.30	202	P	P	19 47 06.5	+1.7
	comp=Z,1.6nm,0.8s,mb4.0,baz=28,slow=5.5,SNR=5.0						
BRVK	Borovoye	80.85	325	eP	P	19 47 01.9	-6.1
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
BRVK	Borovoye	80.85	325	eP	P	19 47 01.9	-6.0
	comp=Z,6.4nm,1.1s,mb4.5						
ARU	Arti	88.30	327	dP	P	19 47 44.1	-1.3
ARU						19 51 14.1	
ARU				pmax	pmax		
	comp=Z,10.0nm,2.5s,mb4.6						
ARCES	ARCESS Array B	102.25	341	P	Pdif	19 48 47.2	-1.9
	comp=Z,2.0nm,0.7s,baz=39,slow=7.8,SNR=6.2						
OKC	Ostrava-Krasne	112.81	323	AMS	AMS	20 30 40.0	
DPC	Dobruska-Polom	113.70	324	AMS	AMS	20 31 20.0	
TREC	Trest	114.61	323	AMS	AMS	20 29 50.0	
PVCC	Panska Ves	114.66	324	AMS	AMS	20 30 50.0	
PRU	Pruhonice	114.90	324	AMS	AMS	20 29 00.0	
KHC	Kasperske Hory	115.83	323	AMS	AMS	20 30 30.0	
TORD	Torodi Ar. Bea	136.60	284	PKP	PKPdf	19 54 16.4	-0.6
	comp=Z,1.2nm,0.8s,baz=60,slow=1.8,SNR=5.2						
DBIC	Dimbokro	143.53	275	PKhKP		19 54 26.2	
	comp=Z,3.4nm,0.5s,baz=276,slow=21,SNR=5.4						
CPUP	Villa Florida	145.60	154	PKPbc	PKPbc	19 54 32.4	-0.7
	comp=Z,4.2nm,0.7s,baz=209,slow=3.3,SNR=13						
CPUP	Villa Florida	145.60	154	PKPbc	PKPbc	19 54 32.4	-0.7
LPAZ	La Paz	146.41	129	PKPbc	PKPbc	19 54 36.7	+0.9
	comp=Z,3.1nm,0.7s,baz=283,slow=2.6,SNR=14						
LPAZ	La Paz	146.41	129	PKPbc	PKPbc	19 54 36.7	+0.8

*MAN **13** 19:47:56,515N×12529E,h29km,mb5.0,ML3.9,MS4.0*

*ISCJB **13** 19:47:57.2±0.9,519N±007×12532E±008,h72km±13km, mb3.6/7,Error ellipse: s-maj=13.4km s-min=11.9km az=169.1*

*NEIC **13** 19:47:59.5±1.6,523N×12547E,h80km±18km,mb3.7/1, Error ellipse: s-maj=43.3km s-min=12.2km az=80.0*

*IDC **13** 19:47:59.1±2.6,520N×12530E,h75km±28km,mb3.4/6, mb1 3.7/7,mb1mx3.4/20,mbtmp3.6/7,Error ellipse: s-maj=48.6km s-min=14.9km az=81.0*

ISC 13 19:47:58.2±0.9,516N±007×12529E±009,h62km±14km, n20,σ1§24/27,mb3.6/7,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.98	340	⇑iP	Pn	19 48 14.1	-2.0
GSPH				eS	Sn	19 48 26.9	-2.4
KCP	Kidapawan	1.85	354	⇓iP	Pn	19 48 28.4	+0.8
KCP				iS	Sn	19 48 52.2	+2.3
DAV	Davao City (W)	1.92	9	P	Pn	19 48 29.3	+0.7
	141nm,0.3s,baz=180,slow=1.9,SNR=22						
DAV				S	Sn	19 48 57.6	+5.9
	184nm,0.3s,baz=166,slow=21,SNR=6.3						
MATI	Mati	2.02	28	eP	Pn	19 48 28.3	-1.7
MATI				eS	Sn	19 48 51.4	-2.8
CTBH	Cotabato--PC H	2.30	333	eP	Pn	19 48 33.8	+0.1
CTBH				iS	Sn	19 49 01.4	+0.5
BUKP	Musuan	2.71	355	eP	Pn	19 48 40.5	+1.1
BIPH	Bislig	3.19	19	⇑eP	Pn	19 48 45.6	-0.4
BIPH				eS	Sn	19 49 33.4	+11
PAGZ	Pagadian	3.27	325	eP	Pn	19 48 47.5	+0.4
IPIL	Ipil	3.76	314	eP	Pn	19 48 52.8	-0.9
IPIL				eS	Sn	19 49 32.6	-4.0
BUTP	Butuan	3.80	5	eP	Pn	19 48 55.2	+0.9
SCPH	Surigao	4.60	2	⇓eP	Pn	19 49 06.8	+1.6
CUYO	Cuyo Island	7.06	323	eP	Pn	19 49 38.9	0.0
BATI	Baumata	15.35	186	P	Pn	19 51 33.7	+2.5
	1.7nm,0.3s,baz=137,slow=1.1,SNR=6.5						
FITZ	Fitzroy Crossi	23.11	179	P	P	19 52 59.0	-0.1
	1.2nm,0.5s,mb3.6,baz=347,slow=19,SNR=11						
WRAB	Tennant Creek	26.48	161	eP	P	19 53 29.2	-0.6
	1.5nm,0.6s,mb3.7						
WRA	Warramunga Arr	26.48	161	P	P	19 53 29.2	-0.6
	0.7nm,0.5s,mb3.5,baz=331,slow=11,SNR=16						
ASAR	Alice Springs	29.86	164	P	P	19 53 59.7	-0.1
	0.2nm,0.6s,mb3.1,baz=340,slow=6.7,SNR=4.1						
MJAR	Matsushiro Arr	33.41	19	P	P	19 54 29.2	-1.7
	1.1nm,0.7s,mb3.9,baz=192,slow=8.5,SNR=7.8						
STKA	Stephens Creek	39.97	158	P	P	19 55 27.6	+0.9
	3.1nm,1.1s,mb4.0,baz=347,slow=9.2,SNR=4.5						
MKAR	Makanchi Array	55.57	325	P	P	19 57 27.4	0.0
	0.4nm,0.4s,mb3.8,baz=117,slow=7.9,SNR=12						

*IDC **13** 19:56:46.7±1.4,2125S×17124E,h0km,mb4.2/8, mb1 4.4/9,mb1mx4.2/18,mbtmp4.3/9,ML4.0/1,MS3.9/22, Ms1 3.9/22,ms1mx3.8/36,Error ellipse: s-maj=31.6km s-min=25.3km az=83.0*

*ISCJB **13** 19:56:48.8±3.5,211S±02×1714E±02,h41km±25km, mb4.3/9,MS3.9/18,Error ellipse: s-maj=37.6km s-min=15.6km az=40.6*

*NEIC **13** 19:56:53.7±2.7,2140S×17120E,h55km±22km,mb4.8/4, Error ellipse: s-maj=26.6km s-min=13.0km az=221.0*

*GCMT **13** 19:56:53.7±0.4,2122S×17145E,h21km±1km,MW4.9/54, Moment Tensor Solution. s24,c33; s54,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.60±.16; $M_{\theta\theta}$3.11±.14; $M_{\phi\phi}$-2.50±.13; $M_{r\theta}$0.79±.24; $M_{\theta\phi}$1.00±.12; $M_{\phi r}$0.35±.23; Best double couple: $M_0$3.07600×10^{16} NP1:ϕ_s126.00000°,δ77.00000°,λ4.00000°. NP2: ϕ_s35.00000°,δ86.00000°,λ167.00000°. Principal axes: T 3.4580, Plg12.0000°, Azm350.0000°; N -0.7540, Plg77.0000°, Azm198.0000°; P -2.6950, Plg6.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 19:56:52.7±3.2,213S±02×1713E±02,h54km±23km,n41, σ1§00/21,mb4.3/9,MS3.9/18,1D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.62	260	eP	Pn	19 57 59.5	-0.4
DZM	Mont Dzumac	4.62	260	eP	Pn	19 57 59.2	-0.7
RAO	Raoul Island	12.53	131	LR	LR	20 02 55.6	
	comp=Z,389nm,21.6s,baz=27,slow=29						
HNR	Honiara	16.11	315	LR	LR	20 05 55.3	
	comp=Z,477nm,20.2s,baz=178,slow=34						
URZ	Urewera	17.62	165	P	Pn	20 00 54.1	-0.3
	0.6nm,0.3s,baz=12,slow=6.8,SNR=14						
URZ				LR	LR	20 06 31.6	
	comp=Z,446nm,18.6s,baz=21,slow=33						
AFI	Afiamalu	17.68	68	LR	LR	20 05 52.8	
	comp=Z,248nm,21.7s,baz=260,slow=31						
ARMA	Armidale	19.90	239	eP	Pn	20 01 23.5	+1.7
RPZ	Rata Peaks	22.35	181	P	P	20 01 46.6	+0.6
	14nm,0.8s,mb4.4,baz=280,slow=6.2,SNR=5.4						
RPZ				LR	LR	20 08 51.5	
	comp=Z,521nm,21.8s,MS3.9,baz=28,slow=32						
CTA	Charters Tower	23.49	268	P	P	20 01 57.2	-0.7
	4.3nm,0.8s,mb3.9,baz=98,slow=13,SNR=4.1						
CTA				LR	LR	20 09 48.4	
	comp=Z,353nm,20.6s,MS3.8,baz=87,slow=33						
CTAO	Charters Tower	23.49	268	eP	P	20 01 58.6	+0.7
	32nm,1.4s,mb4.6						
RAR	Rarotonga	26.91	95	LR	LR	20 10 47.4	
	comp=Z,43nm,19.0s,MS3.0,baz=306,slow=31						
STKA	Stephens Creek	28.52	242	eP	P	20 02 47.5	+4.3
	10.0nm,0.9s,mb4.5						
STKA	Stephens Creek	28.52	242	P	P	20 02 44.6	+1.4
	3.6nm,0.8s,mb4.2,baz=76,slow=8.6,SNR=5.4						
STKA				LR	LR	20 13 45.0	
	comp=Z,152nm,20.4s,MS3.6,baz=232,slow=36						
WB2	Warramunga Arr	34.59	265	⇓iP	P	20 03 36.1	-0.6
WRAB	Tennant Creek	34.60	265	eP	P	20 03 36.3	-0.4
	20nm,1.2s,mb4.9						
ASAR	Alice Springs	34.61	259	P	P	20 03 36.9	+0.1
	2.7nm,0.7s,mb4.3,baz=85,slow=8.6,SNR=26						
WRA	Warramunga Arr	34.61	265	P	P	20 03 36.3	-0.5
	3.6nm,0.7s,mb4.4,baz=103,slow=7.8,SNR=23						
WRA				LR	LR	20 17 30.7	
	comp=Z,305nm,20.0s,MS4.0,baz=100,slow=36						
TBI	Tubuai	36.25	101	eLQ		20 11 53.4	
	402nm,29.5s						
TBI				eLR	LR	20 13 38.2	
	107nm,29.0s						
PPT	Papeete	36.98	91	eLQ		20 12 15.0	
	647nm,34.2s						
PPT				eLR	LR	20 13 48.4	
	401nm,29.0s						
PPT	Papeete	36.98	91	LR	LR	20 16 28.8	
	comp=Z,78nm,19.5s,MS3.5,baz=291,slow=32						
FITZ	Fitzroy Crossi	43.03	266	eP	P	20 04 48.0	+0.7
	22nm,0.8s,mb5.0						
FITZ	Fitzroy Crossi	43.03	266	P	P	20 04 47.6	+0.3
	14nm,0.9s,mb4.7,baz=121,slow=8.6,SNR=15						
FITZ				LR	LR	20 20 44.7	
	comp=Z,176nm,21.1s,MS3.9,baz=276,slow=34						
GUMO	Guam	43.33	321	LR	LR	20 20 48.3	
	comp=Z,195nm,22.0s,MS4.0,baz=237,slow=33						
MBWA	Marble Bar	47.92	260	P	P	20 05 24.1	-1.9
NWAO	Narrogin (SRO)	49.06	244	LR	LR	20 26 57.7	
	comp=Z,285nm,18.2s,MS4.3,baz=281,slow=37						
VNDA	Vanda	56.45	182	LR	LR	20 27 12.2	
	comp=Z,75nm,18.5s,MS3.8,baz=15,slow=32						
MJAR	Matsushiro Arr	65.49	331	P	P	20 07 30.3	0.0
	0.5nm,0.6s,mb3.7,baz=152,slow=5.1,SNR=4.5						
MJAR	Matsushiro Arr	65.49	331	P	P	20 07 30.3	0.0
QSPA	South Pole Qui	68.76	180	LR	LR	20 32 24.9	
	comp=Z,119nm,21.5s,MS4.1,baz=214,slow=31						
KSRS	Korea Array	71.31	325	LR	LR	20 33 03.6	
	comp=Z,61nm,21.4s,MS3.8,baz=300,slow=31						
PETK	Petropavlovsk-	75.04	352	LR	LR	20 35 04.0	
	comp=Z,144nm,21.5s,MS4.2,baz=329,slow=31						
SNAA	Sanae	87.19	182	e	P	20 09 31.4	-1.2
SNAA				e		20 09 37.8	
YBH	Yreka Blue Hor	87.42	43	LR	LR	20 39 46.7	
	comp=Z,46nm,19.3s,MS3.9,baz=239,slow=30						
VNA2	Neumayer--Watz	88.02	180	e	P	20 09 36.6	0.0
VNA2				e		20 09 42.2	
LPIG	La Paz	88.55	64	LR	LR	20 38 26.5	
	comp=Z,109nm,20.6s,MS4.3,baz=240,slow=28						
SONM	Songino Array	90.05	322	P	P	20 09 49.1	+2.8
	0.2nm,0.6s,mb3.6,baz=113,slow=3.7,SNR=2.9						
SONM				LR	LR	20 46 12.6	
	comp=Z,67nm,20.6s,MS4.0,baz=74,slow=33						
BBB	Bella Bella	90.13	32	LR	LR	20 41 22.2	
	comp=Z,61nm,19.2s,MS4.0,baz=217,slow=30						
CMIG	Matias Romero	99.45	75	LR	LR	20 45 51.7	
	comp=Z,52nm,20.8s,MS4.0,baz=200,slow=30						
BRG	Berggiesshubel	145.57	334	eP	PKPbc	20 16 29.1	+4.2
	5.0nm,1.1s						
KHC	Kasperske Hory	147.06	333	ePKP	PKPbc	20 16 32.0	+2.6
KHC				ex	x	20 16 49.5	
GERES	GERESS Array B	147.23	332	PKPbc	PKPbc	20 16 31.0	+1.2
	1.9nm,0.9s,baz=90,slow=1.3,SNR=13						

*ISCJB **13** 20:03:11.1±0.4,4370N±003×105.15W±004,h0km,mb3.8/3, Error ellipse: s-maj=5.3km s-min=4.1km az=137.3*

*IDC **13** 20:03:11.8±1.1,4351N×10533W,h0km,mb3.8/4, mb1 3.9/9,mb1mx3.7/26,mbtmp3.8/9,ML3.6/5,Error ellipse: s-maj=31.9km s-min=7.6km az=154.0*

*NEIC **13** 20:03:13.3±0.3,4371N×10521W,h0km,ML3.3,Error ellipse: s-maj=5.3km s-min=3.9km az=152.0,Suspected Mining explosion.*

NEIC 70 km [45 miles] SSE of Gillette.

ISC 13 20:03:13.1±0.3,4374N±003×10516W±004,h0km,n67, σ1§04/71,mb3.8/3,14C-7D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.90	64	eP	Pg	20 03 32.5	+2.1
PHWY	Pilot Hill	2.44	185	ePn	Pn	20 03 54.8	+0.6
RWWY	Rawlins	2.54	217	ePn	Pn	20 03 56.3	+0.7
RLMT	Red Lodge	3.25	297	ePn	Pn	20 04 05.2	0.0
PDAR	Pinedale Array	3.35	255	Pn	Pn	20 04 06.5	-0.3
	4.9nm,0.3s,baz=69,slow=16,SNR=48						
PDAR				Pg	Pg	20 04 12.7	-4.6
	21nm,0.3s,baz=72,slow=22,SNR=34						
PDAR				Lg		20 04 50

SRU	San Rafael	6.13	223	*e*Pn		Pn	20 04 43.5	-1.3
	12nm,0.4s							
SRU	San Rafael	6.13	223	⇑P		Pn	20 04 43.8	-1.1
	baz=7.9							
PV01	Paradox Valley	6.16	206	*e*Pn		Pn	20 04 45.9	+0.6
ECSD	EROS,Sioux Fal	6.20	87	*e*Pn		Pn	20 04 47.1	+1.4
	9.0nm,0.4s							
TMUT	Trail Mountain	6.34	228	*e*Pn		Pn	20 04 47.8	0.0
R18A	Canyonlands Na	6.43	215	⇑P		Pn	20 04 48.1	-0.9
	baz=8.2,SNR=18							
CHMT	Chamberlain Mo	6.53	302	*e*Pn		Pn	20 04 50.5	+0.2
S19A	Harvey Farm, M	6.70	208	⇑P		Pn	20 04 51.9	-0.8
	baz=8.4							
DUG	Dugway	6.71	241	*e*Pn		Pn	20 04 52.8	0.0
	6.3nm,0.4s							
HLID	Hailey	6.71	272	*e*Pn		Pn	20 04 53.3	+0.4
	2.3nm,0.4s							
R17A	Hanksville Air	6.76	220	⇓P		Pn	20 04 52.4	-1.2
	baz=8.5,SNR=7.8							
S18A	Hurst Farm, Bl	7.07	213	⇓P		Pn	20 04 57.2	-0.5
	baz=8.8,SNR=24							
MSU	Marysvale	7.43	228	*e*Pn		Pn	20 05 02.6	-0.2
S17A	Black Ridge (B	7.45	217	⇑P		Pn	20 05 02.2	-0.7
	baz=9.2,SNR=18							
T18A	Mexican Hat	7.51	210	⇑P		Pn	20 05 03.1	-0.7
	baz=9.2							
AGMN	Agassiz Refuge	7.92	52	Pn		Pn	20 05 09.4	0.0
	12nm,0.5s							
ELK	Elko	8.05	252	Pn		Pn	20 05 10.7	-0.6
	0.1nm,0.3s,baz=79,slow=16,SNR=2.7							
ULM	Lac du Bonnet	9.09	41	Pn		Pn	20 05 25.1	-0.4
	3.9nm,0.3s,baz=237,slow=11,SNR=24							
TKL	Tuckaleechee C	18.30	109	P		Pn	20 07 26.4	-1.8
TKL	Tuckaleechee C	18.30	109	P		Pn	20 07 26.4	-1.8
	0.8nm,0.3s,baz=290,slow=21,SNR=4.4							
YKA	Yellowknife Ar	19.59	347	P		Pn	20 07 44.8	+1.1
	0.1nm,0.3s,baz=154,slow=11,SNR=3.4							
ARCES	ARCESS Array B	61.40	18	P		P	20 13 30.0	-0.4
	1.0nm,0.4s,baz=333,slow=6.7,SNR=17							
ZALV	Zalesovo Beam	82.32	354	P		P	20 15 35.9	-0.3
	0.6nm,0.4s,mb4.0,baz=0.3,slow=7.0,SNR=3.4							
AFI	Afiamalu	83.41	244	P		P	20 15 41.2	-1.1
	37nm,0.9s,baz=106,slow=7.4,SNR=3.6							
SONM	Songino Array	84.67	339	P		P	20 15 49.0	+0.6
	0.3nm,0.5s,mb3.7,baz=8.3,slow=4.7,SNR=3.0							
MKAR	Makanchi Array	89.61	355	P		P	20 16 12.2	-0.3
	0.3nm,0.7s,mb3.7,baz=357,slow=4.8,SNR=2.9							

IDC ***13*** *20:22:11.9±0.6, 3103S×1338W, h0km, mb4.4/14, mb1 4.5/14, mb1mx4.3/23, mbtmp4.4/14, MS4.5/26, Ms1 4.5/26, ms1mx4.4/29, Error ellipse: s-maj=17.7km s-min=14.2km az=93.0*

ISCJB ***13*** *20:22:12.4±0.3, 3106S±006×134W±0.1, h10km, mb4.7/62, MS4.5/31, Error ellipse: s-maj=12.8km s-min=9.0km az=177.8*

GCMT ***13*** *20:22:13.7±0.2, 31.16S×1330W, h12km, MW5.1/86, Moment Tensor Solution. s40,c52; s86,c149; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.67±.11; Mθθ0.09±.12; Mφφ5.58±.10; Mrθ-1.12±.40; Mrφ-0.74±.10; Mθφ-0.15±.35; Best double couple: M0=5.78300×10^16 NP1:φs=3.00000°, δ46.00000°, λ-75.00000°. NP2: φs=162.00000°, δ46.00000°, λ-105.00000°. Principal axes: T 5.6790, Plg0.0000°, Azm262.0000°; N 0.2080, Plg11.0000°, Azm172.0000°; P -5.8870, Plg79.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *20:22:13.7±0.3, 3107S×1340W, h10km, mb4.8/28 Error ellipse: s-maj=9.1km s-min=8.0km az=78.0*

BJI ***13*** *20:22:13.7, 31.10S×1340W, h10km*

SZGRF ***13*** *20:22:17.1, 3060S×1351W, h35km, mb4.8, Southern Mid-Atlantic Ridge*

ISC 13 20:22:14.2±0.3, 3106S±006×134W±01, h10km, (h21km±9.2km:pP-P), n148, σ0§78/108, mb4.6/61, MS4.5/31, 2D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	29.03	102	LR	LR	20 37 13.7	
	comp=Z,2μm,20.5s,MS4.7,baz=96,slow=31						
TSUM	Tsumeb	30.30	74	P	P	20 28 25.5	-0.3
	9.0nm,1.0s,mb4.5,baz=230,slow=9.8,SNR=10						
TSUM				LR	LR	20 38 50.4	
	comp=Z,3μm,18.3s,MS5.0,baz=219,slow=33						
BOSA	Boshof	33.48	96	P	P	20 28 53.0	-0.7
	9.4nm,0.8s,mb4.7,baz=250,slow=7.8,SNR=11						
BOSA				LR	LR	20 40 00.3	
	comp=Z,1μm,19.9s,MS4.6,baz=261,slow=32						
LBTB	Lobatse	34.78	90	P	P	20 29 05.2	+0.2
	14nm,0.9s,mb4.8,baz=268,slow=7.7,SNR=13						
BDFB	Brasilia	35.15	288	LR	LR	20 41 11.0	
	comp=Z,630nm,18.9s,MS4.4,baz=295,slow=32						
DBIC	Dimbokro	38.38	14	LR	LR	20 41 09.6	
	comp=Z,329nm,20.8s,MS4.1,baz=168,slow=30						
CPUP	Villa Florida	38.67	266	LR	LR	20 43 00.3	
	comp=Z,1μm,20.3s,MS4.8,baz=126,slow=32						
VNA1	Neumayer--Stat	39.74	177	*e*	P	20 29 47.8	+1.2
VNA1				*e*	pP	20 29 49.6	-0.1
VNA2	Neumayer--Watz	40.06	177	*e*	P	20 29 49.5	+0.4
VNA2				*e*	pP	20 29 51.4	-0.8
LSZ	Lusaka	41.04	77	P	P	20 29 57.8	-0.1
	8.8nm,1.0s,mb4.4,baz=224,slow=7.5,SNR=19						
LSZ				ScP	ScP	20 35 46.2	-1.5
	0.6nm,0.7s,baz=53,slow=5.1,SNR=2.5						
SNAA	Sanae	41.07	175	P	P	20 29 56.8	-0.7
	0.7nm,1.1s,baz=337,slow=13,SNR=4.5						
SNAA				PcP	PcP	20 31 56.9	-0.1
	1.1nm,1.1s,baz=5.2,slow=3.7,SNR=4.2						
BBTS	Babate	45.55	356	P	P	20 30 34.1	-0.2
	23nm,0.8s,mb5.2,baz=201,slow=4.2,SNR=5.9						
PMSA	Palmer Station	45.83	208	LR	LR	20 46 21.4	
	comp=Z,464nm,18.1s,MS4.5,baz=74,slow=32						
SIV	San Ignacio	45.90	278	P	P	20 30 37.8	+0.6
	2.9nm,0.9s,mb4.2,baz=122,slow=12,SNR=9.1						
TOA0	Torodi Ar. Sit	46.27	20	*e*P	P	20 30 34.0	-6.0
TORD	Torodi Ar. Bea	46.27	20	P	P	20 30 38.8	-1.2
	6.7nm,1.0s,mb4.5,baz=196,slow=5.9,SNR=18						
TORD				ScP	ScP	20 36 07.3	-1.5
	0.9nm,0.9s,baz=177,slow=5.8,SNR=2.9						
TORD				LR	LR	20 46 09.3	
	comp=Z,715nm,19.8s,MS4.6,baz=205,slow=31						
CFAA	Coronel Fontan	46.45	254	LR	LR	20 47 08.5	
	comp=Z,80nm,18.6s,MS3.7,baz=130,slow=32						
LVC	Limon Verde	49.85	266	LR	LR	20 50 26.1	
	comp=Z,903nm,21.8s,MS4.7,baz=96,slow=34						
LPAZ	La Paz	51.79	273	P	P	20 31 20.9	-1.5
	2.0nm,0.8s,mb4.1,baz=254,slow=8.7,SNR=3.7						
LPAZ				LR	LR	20 53 47.3	
	comp=Z,880nm,18.0s,MS4.8,baz=280,slow=37						
LPAZ	La Paz	51.79	273	P	P	20 31 20.9	-1.5
LPAZ				LR	LR	20 53 47.3	
KMBO	Kilima Mbogo	56.32	68	LR	LR	20 54 58.0	
	comp=Z,1μm,18.2s,MS5.0,baz=277,slow=35						
MAW	Mawson	56.47	153	P	P	20 31 55.8	0.0
	2.7nm,0.8s,mb4.4,baz=267,slow=10.0,SNR=8.1						
MAW				LR	LR	20 51 10.8	
	comp=Z,356nm,20.2s,MS4.5,baz=252,slow=31						
TAM	Tamanrasset	56.52	21	*e*P	P	20 31 57.6	+1.0
QSPA	South Pole Qui	59.18	180	P	P	20 32 14.4	-0.3
	8.2nm,0.9s,mb4.8,baz=227,slow=4.5,SNR=23						
NNA	Nana	61.26	273	LR	LR	20 57 29.8	
	comp=Z,472nm,20.6s,MS4.6,baz=142,slow=35						
ATAH	Atahualpa	65.06	277	LR	LR	20 59 33.2	
	comp=Z,742nm,21.4s,MS4.8,baz=123,slow=34						
SDV	Santo Domingo	67.69	296	*e*P	P	20 33 11.5	-0.5
	5.7nm,0.8s,mb4.7						
PFVI	Vila Bisbo	67.97	4	*e*LR	LR	20 55 04.4	
	277nm,20.6s						
PBDV	Barranco-do-Ve	68.13	5	*e*LR	LR	20 55 04.8	
	165nm,29.8s						
MORF	Marmelete	68.15	4	*e*P	P	20 33 15.4	+1.1
	47nm,1.5s,mb5.3						
ROSC	El Rosal	68.17	290	LR	LR	21 03 22.8	
	comp=Z,621nm,18.7s,MS4.9,baz=294,slow=36						
PVAQ	Vaqueiros	68.31	5	*e*P	P	20 33 15.1	-0.2
	38nm,1.7s,mb5.2						
PVAQ	Vaqueiros	68.31	5	*e*LR	LR	20 55 02.8	
	170nm,32.7s						
PBEJ	Beja	68.92	5	*e*P	P	20 33 19.2	+0.1
PBAR	Barrancos	69.12	5	*e*LR	LR	20 55 59.5	
	145nm,20.0s						
EVO	Evora	69.41	4	*e*P	P	20 33 22.3	+0.2
	44nm,1.4s,mb4.9						
EVO				*e*MLR	MLR		
	comp=Z,379nm,21.8s,MS4.3						
PMAFR	Mafra	69.76	3	*e*LR	LR	20 56 11.7	
	comp=Z,109nm,26.7s						
PESTR	Estremoz	69.77	5	*e*P	P	20 33 25.7	+1.3
	comp=Z,19nm,1.2s,mb4.9						
PESTR	Estremoz	69.77	5	*e*LR	LR	20 56 05.1	
	comp=Z,222nm,19.9s						
KEST	Kesra	69.78	20	P	P	20 33 24.4	-0.1
	comp=Z,2.4nm,0.9s,mb4.1,baz=237,slow=6.5,SNR=7.8						
KEST				LR	LR	21 00 59.0	
	comp=Z,282nm,20.7s,MS4.5,baz=354,slow=33						
PMRV	Marv??o	70.34	5	*e*P	P	20 33 30.4	+2.5
	comp=Z,29nm,1.5s,mb5.0						
PMRV	Marv??o	70.34	5	*e*LR	LR	20 55 38.4	
	comp=Z,247nm,28.8s						
PCBR	Castelo Branco	70.75	5	*e*P	P	20 33 31.4	+1.1
	comp=Z,14nm,1.6s,mb4.6						
ESDC	Sonseca Array	70.91	8	P	P	20 33 30.7	-0.6
	comp=Z,0.6nm,0.6s,mb3.7,baz=182,slow=6.1,SNR=8.3						
ESDC				LR	LR	21 02 36.1	
	comp=Z,136nm,18.8s,MS4.2,baz=225,slow=34						
MTE	Manteigas	71.30	5	*e*LR	LR	20 56 58.7	
	comp=Z,206nm,26.4s						
PVIS	Viseu	71.59	4	*e*P	P	20 33 35.9	+0.5
	comp=Z,20nm,2.1s,mb4.7						
VNDA	Vanda	71.64	179	LR	LR	21 04 24.2	
	comp=Z,79nm,18.1s,MS4.0,baz=183,slow=35						
MVO	Moncorvo	72.10	5	*e*P	P	20 33 39.8	+1.4
	comp=Z,18nm,1.5s,mb4.8						
MVO	Moncorvo	72.10	5	*e*LR	LR	20 58 54.4	
	comp=Z,211nm,25.2s						
ETSF	Etsaut	74.53	10	*e*P	P	20 33 52.5	-0.2
SJPF	Ste Jean	74.64	9	*e*P	P	20 33 53.3	-0.1
	comp=Z,34nm,1.3s,mb4.8						
SJPF	Ste Jean	74.64	9	*e*P	P	20 33 53.3	-0.1
	comp=Z,17nm,1.3s,mb4.8						
EPF	Esparros	74.79	10	*e*P	P	20 33 53.9	-0.4
MTLF	Montolieu	75.40	12	*e*P	P	20 33 56.4	-1.4
PGF	Pioggiola	76.07	17	*e*P	P	20 34 00.5	-1.1
	comp=Z,18nm,1.1s,mb4.6						
PGF	Pioggiola	76.07	17	*e*P	P	20 34 00.5	-1.1
	comp=Z,9.1nm,1.1s,mb4.6						
LMR	La Mourre	76.24	15	*e*P	P	20 34 02.5	-0.1
	comp=Z,19nm,1.1s,mb4.6						
LMR	La Mourre	76.24	15	*e*P	P	20 34 02.5	-0.1
	comp=Z,9.4nm,1.1s,mb4.6						
LASF	Ste Croix	76.41	13	*e*P	P	20 34 03.0	-0.5
	comp=Z,10nm,1.0s,mb4.4						
CAF	Calviac	76.91	11	*e*P	P	20 34 05.7	-0.6
	comp=Z,14nm,1.2s,mb4.5						
CAF	Calviac	76.91	11	*e*P	P	20 34 05.7	-0.6
	comp=Z,7.0nm,1.2s,mb4.5						
RJF	Les Rejaudoux	77.19	11	*e*P	P	20 34 07.3	-0.6
RJF				*e*MLR	MLR		
	comp=Z,193nm,20.5s,MS4.1						
RJF	Les Rejaudoux	77.19	11	*e*P	P	20 34 07.3	-0.6
RJF				LR	LR		
	comp=Z,190nm,20.5s,MS4.4						
VIVF	Saint-Julien-l	77.32	13	*e*P	P	20 34 08.2	-0.4
ORIF	Oris-en-Rattie	77.62	14	*e*P	P	20 34 10.1	-0.2
	comp=Z,9.0nm,0.9s,mb4.4						
ORIF				*e*MLR	MLR		
	comp=Z,170nm,18.8s,MS4.1						
ORIF	Oris-en-Rattie	77.62	14	*e*P	P	20 34 10.1	-0.2
	comp=Z,4.5nm,0.9s,mb4.4						
MBDF	Montbardon	77.62	15	*e*P	P	20 34 10.3	0.0
	comp=Z,27nm,1.4s,mb4.7						
MBDF	Montbardon	77.62	15	*e*P	P	20 34 10.3	0.0
	comp=Z,14nm,1.4s,mb4.7						
MFF	Saint Martin d	78.21	9	*e*P	P	20 34 13.3	-0.3
TCF	Toulx Ste Croi	78.26	11	*e*P	P	20 34 13.6	-0.2
	comp=Z,17nm,1.3s,mb4.5						
TCF	Toulx Ste Croi	78.26	11	*e*P	P	20 34 13.6	-0.2
	comp=Z,8.4nm,1.3s,mb4.5						
LPG	La Plagne	78.35	14	*e*P	P	20 34 14.5	+0.1
	comp=Z,18nm,0.9s,mb4.7						
LPG	La Plagne	78.35	14	*e*P	P	20 34 14.5	+0.1
	comp=Z,9.2nm,0.9s,mb4.7						
LPL	La Plagne	78.37	14	*e*P	P	20 34 14.4	0.0
	comp=Z,19nm,1.0s,mb4.7						
LPL	La Plagne	78.37	14	*e*P	P	20 34 14.4	0.0
	comp=Z,9.7nm,1.0s,mb4.7						
BGF	Bois d'Agland	78.63	11	*e*P	P	20 34 15.3	-0.6
SMF	Signal de Mont	78.89	12	*e*P	P	20 34 16.7	-0.6
	comp=Z,31nm,1.3s,mb4.8						
SMF	Signal de Mont	78.89	12	*e*P	P	20 34 16.7	-0.6
	comp=Z,16nm,1.3s,mb4.8						
AVF	Avril sur Loir	78.94	12	*e*P	P	20 34 17.2	-0.4
	comp=Z,19nm,1.0s,mb4.7						
AVF	Avril sur Loir	78.94	12	*e*P	P	20 34 17.2	-0.4
	comp=Z,9.6nm,1.0s,mb4.7						
SSF	Saint Saulge	79.23	12	*e*P	P	20 34 18.6	-0.6
	comp=Z,22nm,1.2s,mb4.7						
SSF	Saint Saulge	79.23	12	*e*P	P	20 34 18.6	-0.6
	comp=Z,11nm,1.2s,mb4.7						
CABF	La Chapelle	79.28	14	*e*P	P	20 34 18.6	-0.8
	comp=Z,28nm,1.2s,mb4.8						
CABF	La Chapelle	79.28	14	*e*P	P	20 34 18.6	-0.8
	comp=Z,14nm,1.2s,mb4.8						
LOR	Lormes	79.49	12	*e*P	P	20 34 19.8	-0.8
	comp=Z,15nm,1.2s,mb4.5						
LOR				*e*MLR	MLR		
	comp=Z,247nm,20.8s,MS4.2						
LOR	Lormes	79.49	12	*e*P	P	20 34 19.8	-0.8
	comp=Z,7.6nm,1.2s,mb4.5						
LOR				LR	LR		
	comp=Z,250nm,20.8s,MS4.5						
DAVOX	Davos/Dischmat	80.27	16	LR	LR	21 07 14.0	
	comp=Z,220nm,20.9s,MS4.5,baz=270,slow=34						
HINF	Hinteralfeld	80.58	14	*e*P	P	20 34 25.4	-1.1
HAU	Haudompre	80.67	13	*e*P	P	20 34 26.1	-0.8
HAU				*e*MLR	MLR		
	comp=Z,158nm,21.5s,MS4.0						
HAU	Haudompre	80.67	13	*e*P	P	20 34 26.1	-0.8
HAU				LR	LR		
	comp=Z,160nm,21.5s,MS4.3						
MEZF	Maizieres J'vi	80.89	12	*e*P	P	20 34 27.7	-0.4
	comp=Z,13nm,0.9s,mb4.5						
MEZF	Maizieres J'vi	80.89	12	*e*P	P	20 34 27.7	-0.4
	comp=Z,13nm,0.9s,mb4.8						
BFO	Black Forest	81.38	14	*e*P	P	20 34 30.4	-0.3
	comp=Z,8.0nm,1.1s,mb4.6						
RJOB	Jochberg	81.88	17	*e*P	P	20 34 32.5	-0.9
	comp=Z,4.0nm,0.9s,mb4.3						
WLF	Walferdange	82.22	13	*e*P	P	20 34 36.1	+1.0
	comp=Z,10.0nm,1.1s,mb4.7						
BAIF	Baives	82.25	11	*e*P	P	20 34 34.7	-0.5
	comp=Z,49nm,1.4s,mb4.9						
BAIF	Baives	82.25	11	*e*P	P	20 34 34.7	-0.5
	comp=Z,24nm,1.4s,mb4.9						
GIVF	Givet	82.40	12	*e*P	P	20 34 35.6	-0.4
SOP	Sopron	82.86	20	⇓*e*PcP	PcP	20 34 40.7	-2.6
GERES	GERESS Array B	83.14	18	P	P	20 34 37.4	-2.5
	comp=Z,0.9nm,0.8s,mb3.9,baz=194,slow=5.0,SNR=9.8						
GERES				LR	LR	21 10 44.2	
	comp=Z,146nm,18.3s,MS4.4,baz=205,slow=35						
GERES	GERESS Array B	83.14	18	P	P	20 34 37.4	-2.5
GERES				LR	LR	21 10 44.2	
TNS	Taunus Mts	83.20	14	*e*P	P	20 34 41.3	+1.1
	comp=Z,22nm,1.9s,mb4.9						
WET	Wettzell	83.20	17	*e*P	P	20 34 40.6	+0.4
	comp=Z,9.0nm,1.1s,mb4.7						
GRA1	Grafenberg Arr	83.31	16	*e*P	P	20 34 40.4	-0.4
	comp=Z,14nm,1.1s,mb4.9						
GRA1				*e*pP	pP	20 34 50.6	+6.5
GRF	Grafenberg Arr	83.31	16	*e*P	P	20 34 40.4	-0.4
	comp=Z,14nm,1.1s,mb4.9						
GRF				*e*pP	pP	20 34 50.6	+6.5
KHC	Kasperske Hory	83.37	17	*e*P	P	20 34 41.2	+0.1
KHC				*e*x	x	20 34 51.1	
KHC				AMS	AMS	21 07 30.0	
	comp=Z,200nm,22.1s						
ZST	Bratislava	83.49	20	*e*P	P	20 34 41.6	-0.1
	comp=Z,11nm,1.3s,mb4.7						
ROTZ	Rotzenmuhle	83.61	16	*e*P	P	20 34 42.3	0.0
	comp=Z,8.0nm,1.1s,mb4.8						
MODS	Modra-Piesok	83.70	20	*e*P	P	20 34 43.0	+0.2
MANZ	Manzenberg	83.79	16	*e*P	P	20 34 43.3	+0.1
	comp=Z,9.0nm,1.4s,mb4.7						
TREC	Trest	84.02	19	*e*P	P	20 34 45.0	+0.6
TREC				*e*x	x	20 34 54.5	
TREC				AMS	AMS	21 09 40.0	
	comp=Z,300nm,17.0s						
PSZ	Piszkesteto	84.09	22	⇓*e*PcP	PcP	20 34 44.5	-4.2
PSZ	Piszkesteto	84.09	22	*e*P	P	20 34 44.6	-0.2
	comp=Z,13nm,0.9s,mb5.0						
NKC	Novy Kostel	84.11	16	AMS	AMS	21 09 10.0	
WERN	Wernitzgruen	84.14	16	*e*P	P	20 34 46.1	+1.1
	comp=Z,8.0nm,1.5s,mb4.6						
GUNZ	Gunzen	84.20	16	*e*P	P	20 34 45.0	-0.3
	comp=Z,3.0nm,0.9s,mb4.4						
WERD	Werda	84.27	16	*e*P	P	20 34 46.5	+0.8
	comp=Z,6.0nm,1.2s,mb4.6						
VRAC	Vranov	84.34	19	LR	LR	21 10 11.5	
	comp=Z,260nm,21.7s,MS4.6,baz=158,slow=34						
PRU	Pruhonice	84.41	18	*e*P	P	20 34 46.2	-0.2
PRU				*e*x	x	20 34 57.1	
PRU				AMS	AMS	21 09 40.0	
	comp=Z,200nm,23.2s						
KECS	Kecovo	84.78	22	*e*P	P	20 34 48.2	-0.1
	comp=Z,2.7nm,1.0s,mb4.3						
PVCC	Panska Ves	84.91	17	AMS	AMS	21 09 00.0	
	comp=Z,200nm,17.0s						
FBE	Freiberg	84.96	17	*e*P	P	20 34 49.8	+0.7
	comp=Z,14nm,1.4s,mb4.9						
MORC	Moravsky Berou	85.03	20	*e*P	P	20 34 49.5	0.0
	comp=Z,3.5nm,0.9s,mb4.5						
BRG	Berggiesshubel	85.06	17	*e*P	P	20 34 50.7	+1.0
	comp=Z,4.0nm,0.9s,mb4.5						
BRG	Berggiesshubel	85.06	17	*e*	P	20 34 50.7	+1.1
	comp=Z,3.5nm,0.9s,mb4.5						
CLZ	Clausthal	85.13	15	*e*P	P	20 34 50.2	+0.2
	comp=Z,3.0nm,0.7s,mb4.5						
DPC	Dobruska-Polom	85.21	19	*e*P	P	20 34 51.5	+1.1
DPC				*e*x	x	20 35 01.3	
DPC				AMS	AMS	21 09 50.0	
	comp=Z,200nm,21.9s						
CLL	Collm	85.23	16	*e*P	P	20 34 50.0	-0.5
	comp=Z,13nm,1.6s,mb4.8						
CLL				*e*x	x	20 35 00.0	
CLL				*e*PP	PP	20 38 08.0	-0.6
CLL				Lm		21 10 00.0	
	comp=Z,100nm,21.9s						
OKC	Ostrava-Krasne	85.26	20	*e*P	P	20 34 51.7	+1.0
OKC				AMS	AMS	21 09 30.0	
	comp=Z,200nm,19.9s						
UPC	Upice	85.27	18	*e*P	P	20 34 52.2	+1.5
UPC				*e*x	x	20 35 00.9	
CRVS	Cervenica-Dubn	85.46	22	*e*P	P	20 34 51.9	+0.2
KOLS	Kolonicke sedl	85.75	23	*e*P	P	20 34 54.6	+1.5
RUE	Ruedersdorf	86.50	16	*e*P	P	20 34 58.2	+1.4
	comp=Z,14nm,1.0s,mb5.2						
BSEG	Bad Segeberg	87.09	14	*e*P	P	20 35 00.1	+0.5
	comp=Z,8.0nm,1.1s,mb4.9						
AKASG	Malin Array Be	89.67	25	P	P	20 35 10.6	-1.3
	comp=Z,1.3nm,0.7s,mb4.4,baz=222,slow=4.5,SNR=6.6						
HFS	Hagfors	93.55	13	LR	LR	21 16 19.9	
	comp=Z,117nm,19.4s,MS4.3,baz=112,slow=35						
NOA	NORSAR Array B	93.93	12	LR	LR	21 17 25.3	
	comp=Z,123nm,19.1s,MS4.4,baz=190,slow=35						
BORG	Borgarnes	95.69	357	LR	LR	21 13 27.0	
	comp=Z,80nm,18.2s,MS4.2,baz=216,slow=32						
SCHQ	Schefferville	97.08	332	LR	LR	21 11 36.4	
	comp=Z,156nm,20.1s,MS4.5,baz=202,slow=30						
CCM	Cathedral Cave	99.96	308	*e*P	Pdif	20 36 02.2	+2.8
	comp=Z,5.7nm,0.7s						
TBI	Tubuai	111.47	223	*e*LR	LR	21 13 52.0	
	comp=Z,200nm,34.0s						
TAOE	Nuku Hiva Isla	115.43	241	*e*LR	LR	21 15 44.1	
	comp=Z,2μm,30.1s						
PPT	Papeete	115.92	227	*e*SS	SS	20 58 03.6	+1.5
	comp=Z,93nm,24.5s						
PPT	Papeete	115.92	227	*e*LR	LR	21 15 51.7	
	comp=Z,436nm,33.5s						
KAKA	Kakadu	125.48	138	*e*P	PKPdf	20 41 20.7	+4.4
	comp=Z,2.0nm,0.2s						
CN2	Changchun	145.25	57	*e*PKP	PKPdf	20 41 51.3	-0.6
KSRS	Korea Array	147.53	68	PKPbc	PKPbc	20 41 58.4	-0.2
	comp=Z,2.6nm,0.8s,baz=276,slow=3.9,SNR=5.4						
MDJ	Mudanjiang	148.05	54	PKP	PKPbc	20 41 59.8	0.0

NEIC ***13*** *20:30:59.5±1.2, 5262N×16028E, h10km, Error ellipse: s-maj=19.5km s-min=16.5km az=198.0*

MOS ***13*** *20:31:02.7±0.6, 5235N×15983E, h23km, mb4.4/1, Error ellipse: s-maj=23.5km s-min=10.0km az=85.4*

ISCJB ***13*** *20:31:05.8±0.8, 5249N±004×15967E±007, h42km±9km, mb3.5/6, Error ellipse: s-maj=9.5km s-min=4.4km az=44.3*

KRSC ***13*** *20:31:05.4±0.2, 5255N×15967E, h24km±23km, ML4.3*

IDC ***13*** *20:31:10.4±2.4, 5284N×15933E, h77km±16km, mb3.2/6, mb1 3.5/6, mb1mx3.2/21, mbtmp3.2/6, Error ellipse: s-maj=33.1km s-min=23.8km az=147.0*

ISC 13 20:31:07.1±0.8, 5249N±005×15957E±007, h40km±11km, n33, σ1§30/53, mb3.5/6, 2D, Off east coast of Kamchatka Peninsula

| Code | Station Name | Δ° | AZ° | Phase ID Op | IS

comp=Z,0.2nm,0.3s,mb3.5,baz=23,slow=7.2,SNR=4.7

*NEIC **13** 20:33:39.7±1.6,2468S×17989W,h500km,mb4.2/3,Error ellipse: s-maj=56.3km s-min=19.9km az=147.0*

IDC 13 20:33:37.8±5.5,2461S×17985W,h474km±39km,mb3.5/6,mb1 3.7/6,mb1mx3.3/15,mbtmp3.5/6,2D,Error ellipse: s-maj=78.3km s-min=31.4km az=130.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.63**	**271**	*eP*	P	20 39 21.6	+0.8
	7.0nm,0.3s						
CTA	**Charters Tower**	**31.63**	**271**	P	P	20 39 21.3	+0.4
	9.3nm,0.4s,baz=93,slow=11,SNR=18						
STKA	**Stephens Creek**	**34.60**	**249**	⇓*iP*	P	20 39 46.1	+0.2
	1.3nm,0.3s						
STKA	**Stephens Creek**	**34.60**	**249**	P	P	20 39 46.0	+0.1
	1.9nm,0.4s,baz=86,slow=8.8,SNR=20						
ASAR	**Alice Springs**	**42.06**	**261**	P	P	20 40 46.9	-0.1
	0.9nm,0.4s,baz=98,slow=8.7,SNR=49						
WB2	**Warramunga Arr**	**42.49**	**267**	⇓*iP*	P	20 40 49.7	-0.8
WRA	**Warramunga Arr**	**42.50**	**267**	P	P	20 40 49.9	-0.7
	3.6nm,0.3s,baz=99,slow=7.2,SNR=184						
WRA				ScP	ScP	20 45 37.7	-0.3
	0.8nm,0.8s,baz=98,slow=3.8,SNR=5.5						
FITZ	**Fitzroy Crossi**	**50.92**	**266**	*eP*	P	20 41 54.2	-0.3
	4.8nm,0.6s						
MJAR	**Matsushiro Arr**	**72.56**	**326**	P	P	20 44 15.8	0.0
	1.0nm,0.7s,baz=166,slow=5.5,SNR=5.8						
CMAR	**Chiang Mai Arr**	**89.90**	**290**	P	P	20 45 46.0	+0.1
	0.8nm,0.7s,baz=126,slow=3.2,SNR=5.0						
ARCES	**ARCESS Array B**	**132.60**	**348**	PKP	PKPdf	20 51 56.6	-0.3
	2.0nm,0.9s,baz=14,slow=6.2,SNR=4.1						
AKASG	**Malin Array Be**	**145.64**	**327**	PKPbc	PKPbc	20 52 21.5	-0.9
	0.9nm,0.4s,baz=41,slow=3.7,SNR=6.1						
AKASG	**Malin Array Be**	**145.64**	**327**	PKPbc	PKPbc	20 52 21.5	-0.9

*ISCJB **13** 20:46:50.6±0.6,2190S±005×6624W±007,h255km±7km,mb3.6/5,Error ellipse: s-maj=11.9km s-min=7.5km az=26.4*

*IDC **13** 20:46:51.8±0.9,2176S×6627W,h245km±9km,mb3.4/5,mb1 3.4/11,mb1mx3.3/23,mbtmp3.4/11,Error ellipse: s-maj=15.8km s-min=11.2km az=90.0*

*NEIC **13** 20:46:52.5±0.6,2176S×6626W,h252km±7km,mb4.3/1,Error ellipse: s-maj=10.9km s-min=9.5km az=77.0*

ISC 13 20:46:52.1±0.6,2184S±006×6627W±008,h249km±8km,n24,σ1§16/28,mb3.6/5,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.57**	**252**	P	**Pn**	**20 47 40.8**	**+0.9**
	9.2nm,0.3s,baz=53,slow=7.6,SNR=115						
LVC				S	**S**	**20 48 17.4**	**-0.3**
	30nm,0.3s,baz=299,slow=22,SNR=106						
LVC	**Limon Verde**	**2.57**	**252**	P	**Pn**	**20 47 40.8**	**+0.9**
LVC				S	**S**	**20 48 17.4**	**-0.3**
CEN1	**Los Morros**	**3.95**	**246**	*eP*	**Pn**	**20 47 57.8**	**+2.6**
CEN1				*i* S	**S**	**20 48 45.8**	**+0.5**
ANCH	**Antofagasta**	**4.24**	**244**	*eP*	**Pn**	**20 47 58.6**	**-0.1**
ANCH				*i* S	**S**	**20 48 47.7**	**-3.8**
CPN1	**Cerro Paranal**	**4.71**	**233**	*eP*	**Pn**	**20 48 04.5**	**+0.3**
CPN1				*i* S	**S**	**20 48 57.8**	**-3.9**
LPAZ	**La Paz**	**5.80**	**342**	P	**Pn**	**20 48 18.9**	**+1.1**
	3.1nm,0.3s,baz=146,slow=8.4,SNR=43						
LPAZ				S	**S**	**20 49 25.4**	**-0.8**
	0.5nm,0.3s,baz=326,slow=20,SNR=11						
CDCH	**Caldera**	**6.66**	**218**	*i* S	**S**	**20 49 37.9**	**-7.8**
SIV	**San Ignacio**	**7.62**	**41**	P	**Pn**	**20 48 40.1**	**-0.5**
	6.5nm,0.3s,baz=247,slow=10.0,SNR=122						
SIV				S	**S**	**20 50 03.5**	**-4.4**
	baz=319,slow=22,SNR=3.1						
LCO	**Las Campanas**	**8.19**	**208**	*eP*	**Pn**	**20 48 43.9**	**-3.7**
	9.8nm,0.3s						
CPUP	**Villa Florida**	**9.31**	**120**	P	**Pn**	**20 49 03.1**	**+1.3**
	0.3nm,0.3s,baz=270,slow=10,SNR=2.5						
CFAA	**Coronel Fontan**	**9.88**	**190**	P	**Pn**	**20 49 06.4**	**-2.6**
	0.4nm,0.3s,baz=5.4,slow=13,SNR=75						
CFAA				S	**S**	**20 50 49.4**	**-11**
	0.3nm,0.3s,baz=253,slow=21,SNR=10						
NNA	**Nana**	**14.08**	**312**	P	**Pn**	**20 50 01.1**	**-0.2**
	0.7nm,0.3s,baz=193,slow=18,SNR=1.9						
PLCA	**Paso Flores**	**19.18**	**190**	P	**P**	**20 51 00.2**	**+2.9**
	0.2nm,0.3s,baz=18,slow=9.5,SNR=7.1						
PLCA	**Paso Flores**	**19.18**	**190**	P	**P**	**20 51 00.2**	**+2.9**
TEIG	**Tepich**	**47.02**	**331**	P	**P**	**20 54 59.1**	**+0.3**
	14nm,1.2s,mb4.2,baz=146,slow=15,SNR=4.2						
SNAA	**Sanae**	**61.16**	**161**	P	**P**	**20 56 40.3**	**+0.4**
	0.3nm,0.6s,mb3.1,baz=298,slow=6.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**75.17**	**69**	P	**P**	**20 58 06.7**	**-0.9**
	0.8nm,0.4s,mb3.7,baz=252,slow=5.6,SNR=30						
TORD	**Torodi Ar. Bea**	**75.17**	**69**	P	**P**	**20 58 06.7**	**-0.9**
PDAR	**Pinedale Array**	**75.66**	**329**	P	**P**	**20 58 10.4**	**+0.7**
	0.3nm,0.5s,mb3.2,baz=99,slow=9.2,SNR=2.9						
ULM	**Lac du Bonnet**	**76.41**	**341**	P	**P**	**20 58 13.2**	**-0.6**
	1.6nm,0.5s,mb3.9,baz=187,slow=8.1,SNR=3.7						
ASAR	**Alice Springs**	**130.69**	**205**	PKP	PKPdf	21 05 33.8	-0.2
	0.2nm,0.6s,baz=120,slow=2.7,SNR=3.2						
WRA	**Warramunga Arr**	**133.85**	**207**	PKP	PKPdf	21 05 40.5	+0.4
	0.2nm,0.4s,baz=156,slow=1.8,SNR=7.4						
MKAR	**Makanchi Array**	**144.43**	**38**	PKP	PKPdf	21 05 56.0	-2.5
	0.4nm,0.7s,baz=316,slow=5.1,SNR=3.6						
MKAR	**Makanchi Array**	**144.43**	**38**	PKP	PKPdf	21 05 56.0	-2.5

MAN 13 21:03:52,1711N×11978E,h25km,mb3.9,ML2.6,MS2.3,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.74**	**170**	*eP*	Pb	21 04 06.5	+0.3
BOLP				*eS*	Sb	21 04 16.8	+0.8
SIPP	**Brgy, Tapao**	**1.03**	**39**	⇑*iP*	Pn	21 04 10.6	-0.3
SIPP				*i* S	Sb	21 04 24.4	-0.1
ABRA	**Dolores**	**1.04**	**59**	*eP*	Pn	21 04 09.7	-1.3
ABRA				*eS*	Sb	21 04 25.0	+0.4
SCZP	**Santa Cruz**	**1.33**	**174**	*eP*	Pn	21 04 15.1	0.0
CAUP	**Cauayan**	**1.96**	**95**	*eP*	Pn	21 04 24.7	+1.0
BALP	**Baler**	**2.20**	**128**	*eP*	Pn	21 04 27.7	+0.7

*ISCJB **13** 21:38:21.4±0.9,1746S±006×17905W±004,h484km±9km,mb4.4/64,Error ellipse: s-maj=10.4km s-min=5.2km az=152.2*

*SZGRF **13** 21:38:23.2,1750S×17864W,h33km,Fiji Islands region*

*MOS **13** 21:38:23.4±1.1,1712S×179.11W,h491km,mb4.5/19,Error ellipse: s-maj=12.2km s-min=9.2km az=136.4*

*BGS **13** 21:38:23.0±1.9,1738S×17907W,h492km,mb4.4(NEIC)*

*BJI **13** 21:38:23.0,1740S×179.10W,h491km,mB4.7,mb4.5*

*NEIC **13** 21:38:23.1±0.9,1738S×17907W,h492km±10km,mb4.4/40,Error ellipse: s-maj=10.3km s-min=5.3km az=144.0*

*IDC **13** 21:38:29.0±1.9,1780S×17897W,h571km±22km,mb3.9/17,mb1 4.0/17,mb1mx4.0/21,mbtmp3.9/17,Error ellipse: s-maj=12.8km s-min=9.5km az=121.0*

ISC 13 21:38:24.2±1.0,1747S±006×17903W±005,h504km±12km,h474km±2.3km;pP-P,n512,σ0§59/367,mb4.4/64,135C-103D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.83**	**64**	P	**P**	**21 40 17.8**	**-1.2**
	16nm,0.3s,baz=6.2,slow=2.3,SNR=14						
AFI				S	**S**	**21 41 48.0**	**-5.1**
	0.6nm,0.3s,baz=242,slow=21,SNR=3.1						
DZM	**Mont Dzumac**	**14.42**	**249**	*eP*	**P**	**21 41 30.1**	**+1.8**
DZM				*eS*	**S**	**21 44 00.4**	**+0.4**
URZ	**Urewera**	**20.99**	**189**	P	**P**	**21 42 28.3**	**-3.1**
	20nm,0.6s,baz=352,slow=6.2,SNR=7.2						
URZ				S	**S**	**21 45 42.7**	**-9.1**
	6.3nm,0.7s,baz=199,slow=6.9,SNR=3.8						
HNR	**Honiara**	**21.94**	**289**	P	**P**	**21 42 39.6**	**-0.7**
SNZO	**South Karori**	**24.36**	**191**	*eP*	**P**	**21 43 02.2**	**+0.6**
RPZ	**Rata Peaks**	**27.48**	**196**	P	**P**	**21 43 27.6**	**-1.5**
	6.9nm,0.4s,mb4.5,baz=353,slow=4.9,SNR=3.8						
ARMA	**Armidale**	**29.66**	**239**	*eP*	**P**	**21 43 49.4**	**+1.1**
CTA	**Charters Tower**	**32.94**	**260**	*eP*	**P**	**21 44 17.2**	**+0.6**
	9.2nm,0.7s,mb4.3						
CTA	**Charters Tower**	**32.94**	**260**	P	**P**	**21 44 17.2**	**+0.6**
	12nm,0.8s,mb4.4,baz=83,slow=11,SNR=14						
CTA	**Charters Tower**	**32.94**	**260**	*eP*	**P**	**21 44 17.2**	**+0.6**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CTA	**Charters Tower**	**32.94**	**260**	*eP*	**P**	**21 44 17.2**	**+0.6**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
CTA	**Charters Tower**	**32.94**	**260**	*eP*	**P**	**21 44 17.2**	**+0.6**
	comp=Z,9.3nm,0.8s,mb4.3						
TOO	**Toolangi**	**36.99**	**230**	*eP*	**P**	**21 44 50.7**	**+0.4**
STKA	**Stephens Creek**	**38.33**	**240**	⇓*iP*	**P**	**21 45 02.1**	**+0.8**
	comp=Z,20nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**38.33**	**240**	P	**P**	**21 45 02.1**	**+0.8**
	comp=Z,31nm,0.7s,mb4.8,baz=86,slow=8.7,SNR=50						
STKA	**Stephens Creek**	**38.33**	**240**	*eP*	**P**	**21 45 02.0**	**+0.7**
	comp=Z,37nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**44.12**	**259**	*eP*	**P**	**21 45 47.0**	**-0.6**
WB2				*eS*	**S**	**21 51 38.2**	**-5.3**
WB2				*e*SCS	ScS	21 54 48.8	-1.5
WRAB	**Tennant Creek**	**44.12**	**259**	*i P*	**P**	**21 45 46.9**	**-0.7**
WRAB	**Tennant Creek**	**44.12**	**259**	*eP*	**P**	**21 45 46.8**	**-0.8**
WRA	**Warramunga Arr**	**44.13**	**259**	P	**P**	**21 45 47.3**	**-0.4**
	comp=Z,7.2nm,0.8s,mb4.2,baz=94,slow=7.5,SNR=45						
WRA				S	**S**	**21 51 38.9**	**-4.8**
	comp=Z,0.7nm,0.8s,baz=92,slow=14,SNR=5.3						
ASAR	**Alice Springs**	**44.34**	**254**	P	**P**	**21 45 49.2**	**0.0**
	comp=Z,44nm,0.7s,mb5.0,baz=88,slow=8.6,SNR=337						
ASAR				ScP	ScP	21 50 24.2	-2.4
	comp=Z,0.9nm,0.5s,baz=91,slow=5.0,SNR=4.5						
ASAR				S	**S**	**21 51 43.4**	**-3.2**
	comp=Z,5.1nm,0.9s,baz=89,slow=17,SNR=22						
GUMO	**Guam**	**47.14**	**309**	P	**P**	**21 46 11.6**	**+0.9**
	comp=Z,46nm,0.6s,mb5.1,baz=204,slow=9.4,SNR=4.9						
FORT	**Forrest**	**49.66**	**244**	*eP*	**P**	**21 46 28.6**	**-0.8**
	comp=Z,44nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.52**	**260**	P	**P**	**21 46 49.5**	**-0.8**
MBWA	**Marble Bar**	**57.61**	**256**	*eP*	**P**	**21 47 25.4**	**-0.5**
	comp=Z,14nm,1.1s,mb4.2						
KLBR	**Kellerberrin**	**58.50**	**243**	*eP*	**P**	**21 47 30.8**	**-1.0**
	comp=Z,19nm,0.7s,mb4.5						
SBA	**Scott Base**	**60.82**	**183**	*eP*	**P**	**21 47 47.2**	**+0.7**
SBA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
SBA	**Scott Base**	**60.82**	**183**	*eP*	**P**	**21 47 47.2**	**+0.7**
	comp=Z,3.7nm,0.7s,mb3.9						
VNDA	**Vanda**	**60.83**	**185**	P	**P**	**21 47 45.4**	**-1.1**
	comp=Z,1.5nm,0.6s,mb3.6,baz=345,slow=5.4,SNR=8.8						
VNDA	**Vanda**	**60.83**	**185**	P	**P**	**21 47 45.4**	**-1.1**
CASY	**Casey**	**66.29**	**205**	*eP*	**P**	**21 48 20.8**	**-0.9**
	comp=Z,8.5nm,0.8s,mb4.4						
MJAR	**Matsushiro Arr**	**67.20**	**324**	P	**P**	**21 48 28.0**	**+0.2**
	comp=Z,11nm,0.7s,mb4.6,baz=158,slow=6.2,SNR=50						
MAJO	**Matsushiro**	**67.20**	**324**	*eP*	**P**	**21 48 27.4**	**-0.4**
MAT	**Matsushiro**	**67.20**	**324**	P	**P**	**21 48 28.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**72.76**	**334**	⇑*eP*	**P**	**21 49 02.0**	**+1.3**
PETK	**Petropavlovsk-**	**73.11**	**346**	P	**P**	**21 49 02.9**	**+0.4**
	comp=Z,18nm,0.8s,mb4.6,baz=130,slow=8.4,SNR=16						
KSRS	**Korea Array**	**73.98**	**319**	P	**P**	**21 49 09.4**	**+1.5**
	comp=Z,2.7nm,0.8s,mb3.9,baz=131,slow=6.3,SNR=6.7						
CHGN	**Chignik**	**75.51**	**12**	*eP*	**P**	**21 49 15.1**	**-0.9**
HAST	**Hastings Reser**	**76.24**	**44**	⇑P	**P**	**21 49 20.9**	**+0.3**
	baz=76						
V04C	**Ramage Ranch,**	**76.28**	**45**	⇑P	**P**	**21 49 21.1**	**+0.2**
	baz=76						
SAO	**San Andreas Ge**	**76.52**	**44**	*eP*	**P**	**21 49 21.8**	**-0.3**
PKM	**Peak Mountain**	**76.60**	**47**	⇓P	**P**	**21 49 23.1**	**+0.5**
	baz=77						
PKD	**Parkfield**	**76.68**	**45**	⇑P	**P**	**21 49 23.1**	**+0.1**
	baz=77						
HOPS	**Hopland**	**76.74**	**42**	⇓P	**P**	**21 49 23.5**	**+0.3**
	baz=77						
U04C	**Hernandez Rese**	**76.74**	**45**	⇓P	**P**	**21 49 23.9**	**+0.6**
	baz=77						
CVS	**Carmenet Viney**	**76.75**	**42**	⇑P	**P**	**21 49 24.0**	**+0.6**
	baz=77						
PACP	**Pacheco Peak**	**76.76**	**44**	⇓P	**P**	**21 49 23.8**	**+0.3**
	baz=77						
S04C	**Ingram Canyon,**	**77.01**	**44**	⇓P	**P**	**21 49 25.0**	**+0.2**
	baz=77						
MNRC	**McLaughlin Nat**	**77.07**	**42**	⇑P	**P**	**21 49 25.6**	**+0.5**
	baz=77						
GASB	**Alder Springs**	**77.35**	**41**	⇓P	**P**	**21 49 27.3**	**+0.8**
	baz=77						
KHMM	**Horse Mountain**	**77.43**	**40**	*eP*	**P**	**21 49 28.4**	**+1.4**
OHAK	**Old Harbor**	**77.45**	**14**	*eP*	**P**	**21 49 26.3**	**-0.4**
MWC	**Mount Wilson**	**77.48**	**48**	*eP*	**P**	**21 49 27.7**	**+0.3**
MWC				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
MWC	**Mount Wilson**	**77.48**	**48**	*eP*	**P**	**21 49 27.7**	**+0.2**
	comp=Z,10nm,0.6s,mb4.5						
MDJ	**Mudanjiang**	**77.49**	**325**	P	**P**	**21 49 28.5**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,102nm,8.4s						
O02C	**Red Bluff**	**77.60**	**41**	⇑P	**P**	**21 49 28.5**	**+0.5**
	baz=78						
N02C	**Big Bar**	**77.66**	**40**	⇓P	**P**	**21 49 28.4**	**+0.2**
	baz=78						
BFSC	**Mount Baldy St**	**77.77**	**48**	⇑P	**P**	**21 49 28.7**	**-0.3**
	baz=78						
M01C	**Crescent City**	**77.78**	**39**	⇑P	**P**	**21 49 29.2**	**+0.3**
	baz=78						
T06C	**Millerton Lake**	**77.82**	**45**	⇑P	**P**	**21 49 29.1**	**-0.1**
	baz=78						
EDW2	**Edwards Air Fo**	**77.87**	**47**	⇓P	**P**	**21 49 29.4**	**-0.1**
	baz=78						
CMB	**Columbia Colle**	**77.93**	**44**	*eP*	**P**	**21 49 29.7**	**-0.1**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
CMB	**Columbia Colle**	**77.93**	**44**	⇑P	**P**	**21 49 29.7**	**-0.1**
	baz=78						
CMB	**Columbia Colle**	**77.93**	**44**	*eP*	**P**	**21 49 29.7**	**0.0**
	comp=Z,4.9nm,0.8s,mb4.0						
ISA	**Isabella**	**77.94**	**46**	*eP*	**P**	**21 49 30.3**	**+0.4**
ISA				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
ISA	**Isabella**	**77.94**	**46**	⇑P	**P**	**21 49 30.0**	**+0.1**
	baz=78						
ISA	**Isabella**	**77.94**	**46**	*eP*	**P**	**21 49 30.3**	**+0.4**
	comp=Z,11nm,0.9s,mb4.3						
MONP	**Monument Peak**	**77.98**	**50**	⇑P	**P**	**21 49 30.4**	**+0.2**
	baz=78						
WDC	**Whiskeytown Da**	**77.99**	**40**	*eP*	**P**	**21 49 30.5**	**+0.5**
WDC				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.2						
WDC	**Whiskeytown Da**	**77.99**	**40**	⇓P	**P**	**21 49 30.1**	**+0.1**
	baz=78						
WDC	**Whiskeytown Da**	**77.99**	**40**	*eP*	**P**	**21 49 30.5**	**+0.4**
	comp=Z,16nm,1.5s,mb4.2						
ORV	**Oroville**	**78.06**	**42**	⇑P	**P**	**21 49 30.2**	**-0.2**
	baz=78						
DVTC	**Desert V Tower**	**78.10**	**50**	⇓P	**P**	**21 49 30.7**	**-0.1**
	baz=78						
HELL	**Mitchell Peak**	**78.10**	**45**	⇓P	**P**	**21 49 30.3**	**-0.5**
	baz=78						
KDAK	**Kodiak Island**	**78.12**	**14**	*eP*	**P**	**21 49 29.2**	**-1.1**
S06C	**San Francisco**	**78.20**	**44**	⇑P	**P**	**21 49 30.8**	**-0.4**
	baz=78						
KCC	**Kaiser Creek**	**78.25**	**45**	⇑P	**P**	**21 49 31.3**	**-0.2**
	baz=78						
L02A	**Cave Junction**	**78.27**	**39**	⇑P	**P**	**21 49 31.7**	**+0.1**
	baz=78						
M02C	**Callahan**	**78.27**	**40**	⇓P	**P**	**21 49 31.7**	**+0.2**
	baz=78						
PFO	**Pinyon Flat Ob**	**78.32**	**49**	⇑P	**P**	**21 49 31.6**	**-0.4**
	baz=78						
SWSC	**Sam W. Stewart**	**78.46**	**50**	⇓P	**P**	**21 49 32.4**	**-0.4**
	baz=78						
P05C	**Yuba Gap, Truc**	**78.49**	**42**	⇓P	**P**	**21 49 32.7**	**-0.1**
	baz=79						
R05C	**Kirkwood Meado**	**78.50**	**43**	⇓P	**P**	**21 49 32.8**	**0.0**
	baz=79						
YBH	**Yreka Blue Hor**	**78.56**	**39**	*eP*	**P**	**21 49 33.6**	**+0.5**
YBH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YBH	**Yreka Blue Hor**	**78.56**	**39**	⇓P	**P**	**21 49 33.3**	**+0.3**
	baz=79						
YBH	**Yreka Blue Hor**	**78.56**	**39**	*eP*	**P**	**21 49 33.6**	**+0.5**
	comp=Z,7.8nm,0.8s,mb4.3						
K02A	**Glendale**	**78.70**	**38**	⇑P	**P**	**21 49 33.7**	**-0.1**
	baz=79						
O04C	**Chester**	**78.75**	**41**	⇑P	**P**	**21 49 34.2**	**+0.1**
	baz=79						
MTUM	**Tungsten Hills**	**78.77**	**45**	*eP*	**P**	**21 49 35.0**	**+0.7**
HATC	**Hat Creek Radi**	**78.80**	**41**	⇑P	**P**	**21 49 34.4**	**+0.1**
	baz=79						
R06C	**Coleville**	**78.81**	**44**	⇓P	**P**	**21 49 34.7**	**+0.2**
	baz=79						
MPMC	**Manual Prospec**	**78.83**	**47**	⇓P	**P**	**21 49 34.9**	**+0.2**
	baz=79						
BELC	**Belle Mtn.**	**78.84**	**49**	⇑P	**P**	**21 49 34.9**	**+0.1**
	baz=79						
GSC	**Goldstone**	**78.92**	**48**	*eP*	**P**	**21 49 35.4**	**+0.3**
GSC				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.4						
GSC	**Goldstone**	**78.92**	**48**	*eP*	**P**	**21 49 35.4**	**+0.3**
	comp=Z,21nm,1.7s,mb4.4						
HUMO	**Hull Mountain**	**78.93**	**39**	⇓P	**P**	**21 49 35.4**	**+0.4**
	baz=79,SNR=8.9						
HUMO	**Hull Mountain**	**78.93**	**39**	*eP*	**P**	**21 49 35.8**	**+0.8**
	comp=Z,8.4nm,1.0s,mb4.2						
J02A	**Umpqua**	**79.01**	**38**	⇓P	**P**	**21 49 35.5**	**0.0**
	baz=79						
HEC	**Hector,Ludlow**	**79.02**	**48**	⇑P	**P**	**21 49 35.6**	**-0.1**
	baz=79						
WCN	**Washoe City**	**79.04**	**43**	⇓P	**P**	**21 49 35.9**	**+0.2**
	baz=79						
BC3	**Big Chuckw Mtn**	**79.06**	**50**	⇑P	**P**	**21 49 36.0**	**+0.1**
	baz=79						
S08C	**White Mtn Res**	**79.12**	**45**	⇓P	**P**	**21 49 36.5**	**+0.4**
	baz=79						
M04C	**Macdoel**	**79.12**	**40**	⇓P	**P**	**21 49 36.2**	**+0.2**
	baz=79						
GLA	**Glamis**	**79.23**	**50**	⇑P	**P**	**21 49 37.2**	**+0.3**
	baz=79						
I02A	**Mapleton**	**79.25**	**37**	⇑P	**P**	**21 49 36.8**	**+0.1**
	baz=79						
M05C	**Lookout**	**79.30**	**40**	P	**P**	**21 49 37.2**	**+0.2**
	baz=79,SNR=8.2						
CN2	**Changchun**	**79.31**	**323**	*eP*	**P**	**21 49 37.8**	**+0.8**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
L04A	**Klamath Falls**	**79.31**	**39**	⇑P	**P**	**21 49 37.4**	**+0.4**
	baz=79						
O06A	**Flanigan**	**79.47**	**42**	⇓P	**P**	**21 49 38.1**	**+0.1**
	baz=80						
FURC	**Furnace Creek,**	**79.48**	**46**	⇑P	**P**	**21 49 38.0**	**-0.1**
	baz=80						
PAHR	**Pah Rah Range**	**79.50**	**43**	*eP*	**P**	**21 49 38.5**	**+0.4**
	comp=Z,11nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**21 49 38.7**	**+0.4**
	comp=Z,6.2nm,0.7s,mb4.2,baz=225,slow=8.8,SNR=38						
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**21 49 38.7**	**+0.4**
N06A	**Buffalo Meadow**	**79.78**	**42**	⇓P	**P**	**21 49 39.6**	**0.0**
	baz=80,SNR=9.6						
J04A	**Umpqua Nationa**	**79.80**	**38**	⇓P	**P**	**21 49 39.9**	**+0.3**
	baz=80,SNR=6.6						
L05A	**Lakeview**	**79.89**	**40**	⇑P	**P**	**21 49 40.4**	**+0.3**
	baz=80,SNR=6.3						
I04A	**Tendick Farm,**	**79.95**	**38**	⇑P	**P**	**21 49 40.1**	**-0.3**
	baz=80						
H03A	**Soap Creek Ran**	**79.96**	**37**	⇓P	**P**	**21 49 40.7**	**+0.2**
	baz=80						
TPH	**Tonopah**	**80.06**	**45**	*eP*	**P**	**21 49 41.4**	**+0.3**
TPH				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
TPH	**Tonopah**	**80.06**	**45**	*eP*	**P**	**21 49 41.4**	**+0.3**
	comp=Z,8.9nm,1.0s,mb4.2						
O07A	**Toulon**	**80.07**	**42**	⇓P	**P**	**21 49 41.1**	**0.0**
	baz=80,SNR=12						
MOD	**Modoc**	**80.13**	**40**	⇓P	**P**	**21 49 41.4**	**0.0**
	baz=80,SNR=10.0						
MOD	**Modoc**	**80.13**	**40**	*eP*	**P**	**21 49 41.6**	**+0.2**
TPNV	**Topopah Spring**	**80.14**	**46**	*eP*	**P**	**21 49 42.0**	**+0.4**
K05A	**Summer Lake**	**80.23**	**39**	⇑P	**P**	**21 49 42.3**	**+0.4**
	baz=80,SNR=12						
Y13A	**Salome**	**80.33**	**50**	⇓P	**P**	**21 49 42.7**	**+0.1**
	baz=80						
J05A	**Fort Rock**	**80.35**	**39**	P	**P**	**21 49 43.0**	**+0.5**
	baz=80,SNR=20						
N07B	**Gerlach**	**80.35**	**42**	⇓P	**P**	**21 49 42.7**	**+0.1**
	baz=80,SNR=7.5						
S10A	**Tonopah Range,**	**80.40**	**45**	⇑P	**P**	**21 49 42.9**	**0.0**
	baz=80,SNR=11						
SVW2	**Sparrevohn**	**80.52**	**11**	*eP*	**P**	**21 49 42.1**	**-0.9**
M07A	**Soldier Meadow**	**80.55**	**41**	⇑P	**P**	**21 49 43.8**	**+0.2**
	baz=81						
F03A	**Seaside**	**80.56**	**36**	⇓P	**P**	**21 49 43.6**	**0.0**
	baz=81						
H04A	**Detroit Lake**	**80.60**	**37**	⇓P	**P**	**21 49 43.2**	**-0.5**
	baz=81						
K06A	**Valley Falls**	**80.67**	**40**	P	**P**	**21 49 44.4**	**+0.3**

TUC **Tucson** 81.90 53 eP P 21 49 51.5 +0.7
TUC pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
TUC **Tucson** 81.90 53 eP P 21 49 51.5 +0.7
comp=Z,10nm,1.1s,mb4.3
E05A **Randle** 81.94 36 ⇓P P 21 49 50.0 -0.6
baz=82
R12A **Pony Springs,** 81.96 46 P P 21 49 51.2 +0.3
baz=82,SNR=7.2
C04A **Brinnon** 81.96 34 ⇑P P 21 49 50.9 +0.2
baz=82
U14A **Mt Trumbull** 82.03 48 P P 21 49 52.0 +0.6
baz=82,SNR=20
117A **Oracle** 82.05 52 P P 21 49 52.2 +0.6
baz=82,SNR=6.1
J08A **Circle Bar Ran** 82.06 40 ⇑P P 21 49 51.1 -0.2
baz=82,SNR=11
H07A **Lands Inn, Kim** 82.08 38 ⇓P P 21 49 51.1 -0.2
baz=82,SNR=18
Y16A **Circle Bar Ran** 82.09 51 ⇓P P 21 49 52.0 +0.3
baz=82,SNR=5.7
S13A **Holt Ranch, En** 82.11 47 ⇑P P 21 49 51.9 +0.2
baz=82,SNR=5.1
318A **Bisbee** 82.12 54 ⇑P P 21 49 52.5 +0.6
baz=82,SNR=7.8
TTA **Tatalina** 82.15 10 eP P 21 49 51.2 -0.1
Q12A **Willow Creek R** 82.16 45 ⇓P P 21 49 52.0 0.0
baz=82,SNR=6.0
K09A **Rome** 82.17 41 ⇑P P 21 49 51.9 0.0
baz=82,SNR=24
EYAK **Cordova Ski Ar** 82.24 16 eP P 21 49 50.6 -1.2
M10A **I.L. Ranch, Tu** 82.30 42 ⇑P P 21 49 52.9 +0.3
baz=82,SNR=14
I08A **Drewsey** 82.30 39 ⇓P P 21 49 52.5 -0.1
baz=82,SNR=13
218A **Dragoon** 82.32 53 ⇑P P 21 49 53.5 +0.6
baz=82,SNR=6.6
PMR **Palmer** 82.32 14 eP P 21 49 51.2 -1.0
R13A **O'Grain Ranch,** 82.33 46 ⇓P P 21 49 53.1 +0.3
baz=82
X16A **Lo Mia Camp, P** 82.36 50 P P 21 49 53.8 +0.7
baz=82,SNR=14
E06A **Yakima** 82.37 36 ⇓P P 21 49 52.6 -0.2
baz=82
RAGM **Ragged Mountai** 82.39 16 eP P 21 49 52.0 -0.6
G07A **Ruggs Ranch, H** 82.40 38 P P 21 49 52.8 -0.2
baz=82,SNR=9.0
T14A **Hurricane** 82.40 47 ⇓P P 21 49 53.3 +0.1
baz=82
V15A **Kaibab Nationa** 82.47 49 ⇑P P 21 49 54.0 +0.4
baz=82,SNR=5.3
Y17A **Roosevelt** 82.47 51 ⇑P P 21 49 53.8 +0.2
baz=82
J09A **Fry Pan Ranch,** 82.50 40 ⇓P P 21 49 53.5 0.0
baz=83,SNR=6.9
ARUT **Antelope Range** 82.50 47 eP P 21 49 54.0 +0.3
W16A **Flagstaff** 82.60 50 ⇑P P 21 49 54.6 +0.3
baz=83,SNR=6.4
L10A **Juniper Basin** 82.63 42 ⇑P P 21 49 54.3 +0.1
baz=83,SNR=16
319A **Douglas** 82.64 54 ⇑P P 21 49 55.1 +0.6
baz=83,SNR=5.4
C05A **Tolt Reservoir** 82.65 35 ⇑P P 21 49 53.7 -0.5
baz=83
118A **Homack Ranch,** 82.67 53 ⇓P P 21 49 55.1 +0.5
baz=83
U15A **North Rim** 82.67 48 P P 21 49 55.4 +0.8
baz=83,SNR=21
Q13A **Wheeler Ranch,** 82.67 45 ⇓P P 21 49 54.5 0.0
baz=83,SNR=11
DIV **Divide** 82.73 16 eP P 21 49 53.4 -0.9
comp=Z,25nm,0.8s,mb4.8
M11A **Holland Ranch,** 82.73 43 ⇑P P 21 49 55.2 +0.4
baz=83
ELK **Elko** 82.74 43 eP P 21 49 54.9 +0.1
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK **Elko** 82.74 43 eP P 21 49 54.9 +0.1
comp=Z,9.2nm,1.0s,mb4.3
K10A **MacKenzie Ranc** 82.74 41 P P 21 49 55.0 +0.2
baz=83,SNR=8.7
B05A **Bryant** 82.76 34 ⇑P P 21 49 54.5 -0.2
baz=83
D06A **Cle Elum** 82.82 36 ⇑P P 21 49 54.9 -0.2
baz=83
G08A **Pilot Rock** 82.83 38 P P 21 49 55.1 -0.1
baz=83,SNR=13
O12A **Currie** 82.83 44 ⇑P P 21 49 55.4 +0.1
baz=83,SNR=9.2
T15A **Red Dirt Ranch** 82.88 48 ⇓P P 21 49 55.6 0.0
baz=83,SNR=10.0
BMRM **Bremner River** 82.90 16 eP P 21 49 54.3 -0.8
WUAZ **Wupatki** 82.91 49 eP P 21 49 56.9 +1.1
comp=Z,11nm,0.9s,mb4.4
P13A **Bates Ranch, G** 82.92 45 P P 21 49 56.0 +0.2
baz=83,SNR=15
N12A **Clover Valley,** 82.93 43 P P 21 49 56.0 +0.2
baz=83,SNR=9.3
BJI **Beijing** 83.06 316 P P 21 49 57.0 +0.6
BJI AMB AMB
comp=Z,12nm,0.9s,mb4.4
RSW **Rattlesnake Hi** 83.08 37 P P 21 49 56.8 +0.4
HAWA **Hanford** 83.11 37 eP P 21 49 56.5 0.0
comp=Z,13nm,0.9s,mb4.5
Y18A **Canyon Day Jun** 83.11 52 ⇓P P 21 49 57.3 +0.4
baz=83
L11A **Cat Creek Ranc** 83.13 42 P P 21 49 57.1 +0.3
baz=83,SNR=15
J10A **Berg Farm, Mel** 83.15 41 ⇑P P 21 49 56.5 -0.3
baz=83
Q14A **Sevier Lake (B** 83.19 46 P P 21 49 57.4 +0.3
baz=83,SNR=24
S15A **Panguitch** 83.20 47 ⇑P P 21 49 57.9 +0.7
baz=83
SEY **Seymchan** 83.22 347 d iP P 21 49 56.7 0.0
119A **Ashpeak Ranch,** 83.23 53 ⇓P P 21 49 57.9 +0.5
baz=83
PSI **Prapat** 83.26 275 P P 21 49 57.6 -0.5
comp=Z,2.2nm,0.4s,mb4.0,baz=14,slow=20,SNR=5.1
H09A **Durkee** 83.26 39 ⇓P P 21 49 57.2 -0.1
baz=83,SNR=5.5
K11A **Parker Ranch,** 83.27 41 P P 21 49 57.7 +0.3
baz=83,SNR=6.9
M12A **Wells** 83.29 43 ⇓P P 21 49 57.6 +0.1
baz=83
D07A **Quincy** 83.31 36 ⇑P P 21 49 57.3 -0.3
baz=83
ETW **Entiat** 83.34 36 eP P 21 49 57.8 +0.1
WRAK **Wrangell Islan** 83.35 24 eP P 21 49 57.7 +0.3
comp=Z,3.5nm,0.3s,mb4.4
E08A **Dider Farm, El** 83.44 37 ⇑P P 21 49 58.1 0.0
baz=84
I10A **Payette** 83.47 40 ⇑P P 21 49 58.7 +0.2
baz=84
N13A **Wendover, West** 83.48 44 ⇑P P 21 49 58.6 0.0
baz=84,SNR=5.7
T16A **Glen Canyon Da** 83.48 48 ⇓P P 21 49 58.9 +0.2
baz=84
X18A **Snowflake** 83.51 51 ⇑P P 21 49 59.1 +0.3
baz=84
R15A **Junction** 83.51 47 ⇓P P 21 49 59.4 +0.6
baz=84
G09A **Cove** 83.52 39 ⇓P P 21 49 58.6 0.0
baz=84
BMO **Blue Mountains** 83.57 39 eP P 21 49 58.4 -0.5
WTV **Waterville** 83.61 36 P P 21 49 58.6 -0.4
P14A **Drum Mountains** 83.62 45 ⇑P P 21 49 59.9 +0.6
baz=84,SNR=5.2
KTH **Kantishna Hill** 83.67 12 eP P 21 49 57.1 -1.9
comp=Z,2µm,0.6s
TRF **Thorofare Moun** 83.71 13 eP P 21 49 58.1 -1.0
comp=Z,34nm,0.8s,mb4.9
MSU **Marysvale** 83.72 47 eP P 21 50 00.7 +0.9
MFID **Camas Ranch** 83.73 41 P P 21 49 59.7 0.0
baz=84,SNR=6.9
M13A **Montello** 83.75 43 P P 21 50 00.1 +0.2
baz=84,SNR=6.7
S16A **Weppner Ranch,** 83.76 47 ⇑P P 21 49 59.9 -0.1
baz=84
H10A **Noah's Angus R** 83.77 40 ⇑P P 21 49 59.3 -0.5
baz=84,SNR=7.3
Y19A **Nutrioso** 83.78 52 ⇓P P 21 50 00.7 +0.5
baz=84,SNR=6.0
D08A **Wollman Farm,** 83.83 37 ⇓P P 21 49 60.0 -0.1
baz=84
I11A **Placerville** 83.90 40 P P 21 50 00.6 0.0
baz=84,SNR=7.4
K12A **Draper Farm, C** 83.91 42 ⇓P P 21 50 00.5 -0.1
baz=84
G10A **Bishop Farm, J** 83.92 39 ⇑P P 21 50 00.3 -0.3
baz=84
B07A **Winthrop** 83.95 35 ⇑P P 21 50 00.2 -0.4
baz=84
T17A **Navajo Res., N** 83.99 48 ⇓P P 21 50 01.6 +0.4
baz=84
MAW **Marson** 84.07 200 P P 21 49 59.8 -1.3
comp=Z,1.3nm,0.7s,mb3.6,baz=123,slow=7.1,SNR=5.5
J12A **Stokes Ranch,** 84.10 41 P P 21 50 01.8 +0.2
baz=84,SNR=9.3
OD2 **Odessa Site #2** 84.13 36 eP P 21 50 01.2 -0.3
A07A **Ashnola River,** 84.14 34 ⇓P P 21 50 01.4 -0.2
baz=84
C08A **Higginbotham F** 84.16 36 ⇓P P 21 50 01.2 -0.5
baz=84
D09A **Jones Farm, Ri** 84.18 37 ⇓P P 21 50 01.5 -0.3
baz=84
W19A **Sanders** 84.18 51 ⇑P P 21 50 02.2 0.0
baz=84
F10A **Beach Ranch, E** 84.22 38 ⇓P P 21 50 01.3 -0.8
baz=84
MCK **McKinley** 84.25 13 eP P 21 50 00.9 -0.9
MCK pmax pmax
comp=Z,21nm,1.0s,mb4.6
MCK **McKinley** 84.25 13 eP P 21 50 00.9 -0.8
comp=Z,21nm,1.0s,mb4.6
H11A **Donnelly** 84.28 40 ⇓P P 21 50 02.2 -0.2
baz=84
GYA **Guiyang** 84.31 300 P P 21 50 04.3 +1.3
GYA AP pP 21 51 49.8 -3.7
GYA XP sP 21 52 37.6 -7.5
GYA PP PP 21 53 28.0 +1.0
GYA SKS 21 59 38.4
GYA S S 21 59 47.8 +1.1
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
B08A **Colville Reser** 84.32 35 ⇑P P 21 50 01.6 -0.9
baz=84
M14A **Sheep Mountain** 84.36 43 P P 21 50 02.9 0.0
baz=84,SNR=8.7
G11A **Walters Elk Ra** 84.49 39 ⇓P P 21 50 03.0 -0.4
baz=84
C09A **Chrisman Ranch** 84.60 36 ⇑P P 21 50 03.4 -0.5
baz=85
HLID **Hailey** 84.69 41 ⇑P P 21 50 04.6 +0.2
baz=85
HLID **Hailey** 84.69 41 eP P 21 50 04.7 +0.3
comp=Z,6.9nm,0.8s,mb4.3
A08A **Turner Farm, O** 84.69 35 ⇓P P 21 50 03.8 -0.5
baz=85
R17A **Hanksville Air** 84.70 47 ⇓P P 21 50 04.5 -0.1
baz=85
T18A **Mexican Hat** 84.72 49 P P 21 50 04.9 +0.2
baz=85,SNR=15
J13A **Cove Ranch, Pi** 84.76 41 ⇓P P 21 50 05.0 +0.3
baz=85
D10A **Wagner Farm, O** 84.77 37 ⇑P P 21 50 03.7 -1.0
baz=85
F11A **Grangeville** 84.81 39 ⇓P P 21 50 03.1 -1.8
baz=85
HYT **Haines Junctio** 84.83 19 eP P 21 50 04.8 +0.1
S18A **Hurst Farm, Bl** 84.88 48 ⇓P P 21 50 05.0 -0.5
baz=85
M15A **Larsen Ranch,** 84.93 44 ⇑P P 21 50 05.2 -0.4
baz=85
K14A **Jones Ranch, D** 84.98 43 ⇑P P 21 50 05.6 -0.2
baz=85
B09A **Rice** 85.02 36 ⇑P P 21 50 05.3 -0.6
baz=85
E11A **Bogner Ranch,** 85.02 38 ⇑P P 21 50 05.0 -0.9
baz=85
I13A **Wildhorse Cree** 85.05 41 ⇓P P 21 50 06.3 +0.2
baz=85
A09A **Danville** 85.08 35 ⇓P P 21 50 05.6 -0.6
baz=85
L15A **Malad City** 85.23 43 ⇑P P 21 50 06.7 -0.4
baz=85
R18A **Canyonlands Na** 85.26 47 ⇓P P 21 50 07.1 -0.3
baz=85
F12A **Elk City** 85.28 39 ⇑P P 21 50 06.7 -0.5
baz=85
D11A **Klaveano Farm,** 85.31 38 ⇓P P 21 50 06.3 -1.0
baz=85
Q18A **Rafter H Ranch** 85.41 47 ⇑P P 21 50 07.5 -0.6
baz=86
K15A **Arbon** 85.46 43 ⇑P P 21 50 08.1 -0.1
baz=86
COLA **College** 85.48 13 eP P 21 50 06.2 -1.6
COLA pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
COLA **College** 85.48 13 eP P 21 50 06.2 -1.6
comp=Z,9.0nm,0.8s,mb4.5
NEW **Newport** 85.50 36 eP P 21 50 07.3 -1.0
NEW pmax pmax
comp=Z,3.0nm,0.7s
NEW **Newport** 85.50 36 eP P 21 50 07.3 -1.0
comp=Z,3.0nm,0.7s,mb4.0
XAN **Xi'an** 85.53 308 P P 21 50 09.6 +0.9
XAN AMB AMB
comp=Z,18nm,1.2s,mb4.6
XAN AMB AMB
comp=Z,48nm,5.2s
G13A **Cobalt** 85.57 40 ⇑P P 21 50 08.3 -0.4
baz=86
HWUT **Hardware Ranch** 85.58 44 eP P 21 50 07.4 -1.4
A10A **Northport** 85.65 35 ⇑P P 21 50 08.6 -0.4
baz=86
F13A **Darby** 85.85 39 ⇑P P 21 50 09.4 -0.6
baz=86
BILL **Bilibino** 85.94 355 d iP P 21 50 10.0 +0.1
BILL pmax pmax
comp=Z,15nm,0.7s,mb4.7
BILL **Bilibino** 85.94 355 eP P 21 50 09.9 0.0
comp=Z,17nm,0.4s,mb5.0
B11A **Sandpoint** 86.02 36 ⇑P P 21 50 10.3 -0.5
baz=86
E13A **Victor** 86.27 39 ⇓P P 21 50 10.8 -1.1
baz=86
ANMO **Albuquerque** 86.29 52 ⇓eP P 21 50 12.5 +0.1
MCMT **McKenzie Canyo** 86.29 41 P P 21 50 12.6 +0.5
A11A **Hall Mountain,** 86.30 36 ⇓P P 21 50 12.3 +0.2
baz=86
J16A **Bone** 86.33 43 ⇓P P 21 50 12.8 +0.4
baz=86
D13A **Huson** 86.44 38 ⇓P P 21 50 11.2 -1.5
baz=86
HHC **Hu-ho-hao-te** 86.54 315 eP P 21 50 13.9 +0.5
HHC AP pP 21 52 01.4 -3.4
HHC XP sP 21 52 49.3 -6.8
HHC PP PP 21 53 45.1 +0.5
HHC SKS 21 59 52.9
HHC S S 22 00 08.0 +0.4
HHC XS sS 22 03 17.1 -8.9
HHC SS SS 22 06 06.4 +2.9
HHC AMB AMB
comp=Z,15nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,122nm,4.6s
RRI2 **Red Ridge** 86.56 43 eP P 21 50 13.8 +0.4
E14A **Clinton** 86.67 39 ⇑P P 21 50 13.3 -0.5
baz=87
G15A **Dillon** 86.68 41 ⇑P P 21 50 13.9 0.0
baz=87
A12A **Yaak River Ran** 86.69 36 ⇓P P 21 50 13.5 -0.4
baz=87
DLMT **Dillon** 86.71 40 eP P 21 50 14.4 +0.4
comp=Z,8.3nm,0.8s,mb4.5
GDL2 **Guadalupe Moun** 86.80 55 eP P 21 50 15.4 +0.5
TPAW **Teton Pass** 86.86 43 eP P 21 50 15.5 +0.6
comp=Z,10nm,0.9s,mb4.6
EGAK **Eagle** 86.95 15 eP P 21 50 14.4 -0.4
D14A **Greenough** 86.99 39 ⇓P P 21 50 14.2 -1.2
baz=87
F15A **Butte** 87.00 40 ⇑P P 21 50 14.8 -0.7
baz=87
LRM **Limekiln Ridge** 87.02 40 eP P 21 50 15.5 0.0
IMW **Indian Meadow** 87.06 42 eP P 21 50 16.5 +0.7
CHMT **Chamberlain Mo** 87.06 39 eP P 21 50 15.3 -0.4
B13A **Whitefish** 87.08 37 ⇓P P 21 50 14.9 -0.8
baz=87
COLD **Coldfoot** 87.09 11 eP P 21 50 15.0 -0.4
comp=Z,11nm,0.9s,mb4.6
KMI **Kunming** 87.11 297 P P 21 50 17.3 +0.8
KMI AP pP 21 52 02.8 -5.2
KMI XP sP 21 52 52.3 -6.9
KMI AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
KMI AMB AMB
comp=Z,137nm,8.5s
MOOW **Moose Ponds** 87.11 42 eP P 21 50 16.2 +0.2
LOHW **Long Hollow** 87.14 43 eP P 21 50 16.5 +0.4
comp=Z,6.5nm,0.7s,mb4.5
QLMT **Earthquake Lak** 87.18 41 eP P 21 50 17.2 +0.9
E15A **Deer Lodge** 87.19 39 ⇓P P 21 50 16.0 -0.3
baz=87
BOZ **Bozeman (W)** 87.44 40 eP P 21 50 17.7 +0.2
BW06 **Boulder Array** 87.44 44 eP P 21 50 17.4 -0.2
comp=Z,13nm,1.4s,mb4.5
PDAR **Pinedale Array** 87.44 44 P P 21 50 17.4 -0.3
comp=Z,3.8nm,0.5s,mb4.4,baz=216,slow=3.4,SNR=12
D15A **Lincoln** 87.56 39 ⇑P P 21 50 17.7 -0.4
baz=88
SDCO **Great Sand Dun** 88.13 50 eP P 21 50 20.4 -0.5
comp=Z,12nm,2.0s,mb4.3
CMAR **Chiang Mai Arr** 88.18 290 P P 21 50 22.6 +0.9
comp=Z,2.4nm,0.9s,mb3.9,baz=107,slow=2.6,SNR=12
CD2 **Chengdu** 88.33 303 eP P 21 50 22.5 +0.4
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,30nm,8.2s
RLMT **Red Lodge** 88.68 42 eP P 21 50 23.9 +0.6
comp=Z,18nm,1.7s,mb4.6
LZH **Lanzhou** 90.16 308 eP P 21 50 32.3 +1.9
LZH AP pP 21 52 20.0 -2.6
LZH XP sP 21 53 09.5 -4.2
LZH AMB AMB
comp=Z,16nm,1.5s,mb4.6
LZH AMB AMB
comp=Z,83nm,4.8s
INK **Inuvik** 91.62 15 eP P 21 50 35.0 -1.4
comp=Z,226nm,1.0s
RSSD **Black Hills** 91.66 44 eP P 21 50 35.9 -1.3
EFI **East Falkland** 94.15 148 P P 21 50 50.3 +1.8
YKA **Yellowknife Ar** 94.18 25 P P 21 50 47.1 -1.2
comp=Z,2.7nm,0.7s,mb4.4,baz=242,slow=4.2,SNR=6
TIXI **Tiksi** 95.58 345 ⇓eP P 21 50 53.3 -1.1
TIXI pmax pmax
comp=Z,4.0nm,1.4s,mb4.4
ZAK **Zakamensk** 95.68 321 eP P 21 50 55.1 -0.2
ZAK pmax pmax
comp=Z,1.0nm,1.3s,mb3.8
TRQA **Tornquist** 99.18 135 ePdif Pdif 21 51 12.9 +1.8
ZALV **Zalesovo Beam** 107.52 322 PKiKP PKiKP 21 55 50.9 -2.2
comp=Z,0.8nm,0.6s,baz=116,slow=1.1,SNR=5.8
MKAR **Makanchi Array** 108.41 314 PKiKP PKiKP 21 55 53.0 -1.9
comp=Z,0.8nm,0.5s,baz=187,slow=0.6,SNR=15
KURK **Kurchatov** 111.11 318 ePKiKP PKiKP 21 55 57.4 -2.5
ARU **Arti** 122.16 326 i PKiKP PKPdf 21 56 19.7 -1.3
ARU 21 58 01.9
ARU **Arti** 122.16 326 ePKPdf PKPdf 21 56 19.6 -1.3
ARCES **ARCESS Array B** 125.78 350 PKP PKPdf 21 56 26.1 -1.5
comp=Z,3.2nm,0.8s,baz=1.0,slow=1.4,SNR=6.2
OBN **Obninsk** 133.64 332 ePKiKP PKPdf 21 56 42.9 0.0
OBN ePS PS 22 09 42.9 -2.5
OBN pmax pmax
comp=Z,3.0nm,0.7s
NOA **NORSAR Array B** 135.87 353 PKP PKPdf 21 56 46.1 -0.8
comp=Z,0.7nm,0.7s,baz=26,slow=2.0,SNR=3.8
KIV **Kislovodsk** 136.13 316 ePKPdf PKPdf 21 56 47.2 -0.6
AKASG **Malin Array Be** 139.90 332 PKhKP 21 56 46.3
comp=Z,0.7nm,0.4s,baz=43,slow=4.0,SNR=5.8
MALT **Malatya** 141.28 310 ePKiKP PKPdf 21 56 55.1 -2.3
TLCR 143.88 326 ⇓iP PKPdf 21 57 00.7 -1.1
LHO **Holmfirth** 143.93 3 eP PKPdf 21 56 58.7 -2.9
BURAR **Bucovina Array** 143.95 332 ⇑iP PKPdf 21 57 00.8 -1.0
OJC **Ojcow** 144.00 339 ePKP PKPdf 21 57 00.5 -1.3
YRC **Rhoscolyn** 144.03 6 eP PKPdf 21 56 59.6 -2.2
WPM1 **Penmaenmawr** 144.08 5 eP PKPdf 21 56 59.8 -2.1
KOLS **Kolonicke sedl** 144.16 336 ePKP PKPdf 21 57 01.3 -0.9
KOLS **Kolonicke sedl** 144.16 336 ePKP PKPdf 21 57 01.4 -0.8
YLL **Llanberis** 144.18 5 eP PKPdf 21 56 59.9 -2.2
KBI1 **Birley Grange** 144.24 3 eP PKPdf 21 57 00.4 -1.8
STNC **Stoke** 144.37 3 eP PKPdf 21 57 01.2 -1.2
UZH **Uzhgorod** 144.40 336 ePKiKP PKPdf 21 57 03.0 +0.4
KWE **Weaver Farm** 144.46 3 eP PKPdf 21 57 01.3 -1.2
SBD1 **Bryn Du** 144.48 4 eP PKPdf 21 57 01.1 -1.5
NIE **Niedzica** 144.50 338 ePKP PKPdf 21 57 02.7 0.0
VRI **Vrincioaia** 144.50 328 ⇑iP PKPdf 21 57 02.2 -0.6
CRVS **Cervenica-Dubn** 144.50 337 ePKP PKPdf 21 57 02.3 -0.5
KSP **Ksiaz** 144.52 343 ePKiKP PKPdf 21 57 02.4 -0.3
PLOR **Plostina** 144.55 329 PKiKP PKPdf 21 57 03.2 +0.3
PLOR **Plostina** 144.55 329 ⇑iP PKPdf 21 57 02.9 0.0
ANTO **Ankara** 144.55 316 PKiKP PKPdf 21 57 03.5 +0.4
ANTO **Ankara** 144.55 316 ⇑iP PKPdf 21 57 03.0 -0.1
ANTO **Ankara** 144.55 316 ePKP PKPdf 21 57 03.2 0.0
TIRR **Tirgusor** 144.57 325 ⇑iP PKPdf 21 57 02.6 -0.4
HARR **Harsova** 144.68 326 PKiKP PKPdf 21 57 03.7 +0.5
CWF **Charnwood Fore** 144.76 2 eP PKPdf 21 57 02.2 -0.9
OKC **Ostrava-Krasne** 144.87 341 ePKP PKPdf 21 57 03.3 0.0
HLM1 **Long Mynd** 144.90 4 eP PKPdf 21 57 02.2 -1.1
CLZ **Clausthal** 144.90 350 ePKPbc PKPdf 21 57 03.1 -0.2
CLL **Collm** 144.91 347 ePKPbc PKPdf 21 57 02.6 -0.8
CLL **Collm** 144.91 347 ⇑iPKPbc PKPdf 21 57 03.1 -0.3
comp=Z,29nm,0.7s
CLL i x x 21 57 04.4
comp=Z,29nm,0.9s
CLL i PKiKP PKiKP 21 57 07.3 -0.1
CLL **Collm** 144.91 347 ⇑iPKP PKPdf 21 57 03.1 -0.3
CLL i 21 57 04.4
DPC **Dobruska-Polom** 144.96 343 ePKP PKPdf 21 57 04.2 +0.7
BRG **Berggiesshubel** 145.10 346 ePKPbc PKPbc 21 57 02.9 -1.5
BRG **Berggiesshubel** 145.10 346 i PKP PKPdf 21 57 04.0 +0.3
comp=Z,16nm,0.8s
MORC **Moravsky Berou** 145.11 341 ⇑iP PKPdf 21 57 03.9 +0.1
MORC **Moravsky Berou** 145.11 341 ePKP PKPdf 21 57 04.3 +0.6
MLR **Muntele Rosu** 145.15 329 ⇑iP PKPdf 21 57 05.0 +1.0
MLR **Muntele Rosu** 145.15 329 P PKPdf 21 57 04.6 +0.6
KECS **Kecovo** 145.21 337 i PKP PKPdf 21 57 04.5 +0.5
WTSB **Winterswijk** 145.27 354 ePKP PKPdf 21 57 03.9 -0.1
comp=Z,47nm,2.2s
HTR **Trewern Hill** 145.30 5 eP PKPdf 21 57 03.4 -0.6
HAE **Alders End** 145.40 4 eP PKPdf 21 57 03.7 -0.5
MCH1 **Michaelchurch** 145.41 4 eP PKPdf 21 57 03.7 -0.5
DRGR 145.68 333 ⇑iP PKPdf 21 57 05.8 +1.0
DRGR 145.68 333 P PKPdf 21 57 05.9 +1.1
PRU **Pruhonice** 145.77 344 ePKP PKPdf 21 57 06.1 +1.2
HGH **Gray Hill** 145.78 4 eP PKPdf 21 57 04.9 0.0
VRAC **Vranov** 145.81 342 ⇓iP PKPdf 21 57 06.5 +1.5
VRAC **Vranov** 145.81 342 P PKPdf 21 57 06.2 +1.3
MOX **Moxa** 145.82 348 eP PKPdf 21 57 05.9 +1.0
comp=Z,22nm,1.5s
KOLL **Kolacno** 145.87 339 i PKP PKPdf 21 57 06.7 +1.6
PSZ **Piszkesteto** 145.90 337 ⇑iP PKPdf 21 57 06.6 +1.4
PSZ **Piszkesteto** 145.90 337 ePKPdf PKPdf 21 57 05.4 +0.2
NKC **Novy Kostel** 146.04 347 ePKP PKPdf 21 57 06.8 +1.5
TREC **Trest** 146.15 343 ePKP PKPdf 21 57 06.9 +1.4
MANZ **Manzenberg** 146.34 347 ePKPbc PKPbc 21 57 06.6 -1.4
MODS **Modra-Piesok** 146.42 340 i PKP PKPdf 21 57 08.5 +2.5
ROTZ **Rotzenmuhle** 146.53 347 ePKPbc PKPbc 21 57 07.9 -0.7
HGN **Heimansgroeve** 146.55 354 ePKP PKPdf 21 57 07.4 +1.2
comp=Z,17nm,1.6s
UCC **Uccle** 146.64 356 PKPbc PKPbc 21 57 08.0 -0.9
MEM **Membach** 146.69 354 PKPbc PKPbc 21 57 08.4 -0.5
TNS **Taunus Mts** 146.78 351 ePKPbc PKPbc 21 57 08.3 -0.9
TNS ePKPab PKPab 21 57 11.5 -0.4
KHC **Kasperske Hory** 146.80 345 ePKP PKPbc 21 57 08.9 -0.4
KHC ex x 21 57 12.3
GRA1 **Grafenberg Arr** 146.81 348 ePKPbc PKPbc 21 57 08.9 -0.4
GRA1 ePKPab PKPab 21 57 11.6 -0.5
GRF **Grafenberg Arr** 146.81 348 ePKPbc PKPbc 21 57 08.9 -0.4
GRF ePKPab PKPab 21 57 11.6 -0.5
BCLA **Clavier** 146.94 355 PKPab PKPab 21 57 11.4 -1.2
WET **Wettzell** 146.96 346 ePKPbc PKPbc 21 57 08.5 -1.3
WET ePKPab PKPab 21 57 12.6 -0.1
GEC2 **GERESS Array S** 147.03 344 ePKPbc PKPbc 21 57 09.0 -1.0
GERES **GERESS Array B** 147.03 344 PKPbc PKPbc 21 57 09.1 -0.9
comp=Z,8.7nm,0.8s,baz=25,slow=2.6,SNR=61
BZS **Buzias** 147.08 333 ⇑iP PKPbc 21 57 09.3 -0.9
BZS **Buzias** 147.08 333 P PKPbc 21 57 09.4 -0.8
CONA **Conrad Observa** 147.26 341 i P PKPbc 21 57 10.3 -0.3
comp=Z,17nm,0.8s,SNR=20
CSNA **Conrad Observa** 147.26 341 ⇑iP PKPbc 21 57 10.4 -0.2
comp=Z,16nm,0.8s
GIVF **Givet** 147.30 355 ⇑iPKP1 PKPbc 21 57 10.0 -0.6
comp=Z,43nm,0.9s
DOU **Dourbes** 147.32 356 PKPbc PKPbc 21 57 09.9 -0.8
BAIF **Baives** 147.38 356 ⇑iPKP1 PKPbc 21 57 10.3 -0.5
comp=Z,34nm,1.0s

WLF	**Walferdange**	**147.61**	**354**	PKPbc	PKPbc	21 57 11.0	-0.4
WLF	**Walferdange**	**147.61**	**354**	*e*PKPbc	PKPbc	21 57 10.3	-1.1
WLF				*e*PKPab	PKPab	21 57 15.1	-0.2
WLF	**Walferdange**	**147.61**	**354**	*e*PKPdf	PKPdf	21 57 08.1	+0.1
WLF				*e*PKPab	PKPab	21 57 11.4	-3.9
PKSM	**Moragy**	**147.80**	**337**	⇓*i*P	PKPbc	21 57 11.2	-0.8
PKSM	**Moragy**	**147.80**	**337**	P	PKPbc	21 57 11.1	-0.9
STU	**Stuttgart**	**148.07**	**350**	*e*PKPbc	PKPbc	21 57 11.7	-0.9
STU				*e*PKPab	PKPab	21 57 16.6	-0.6
FUR	**Furstenfeldbru**	**148.25**	**347**	*e*PKPbc	PKPbc	21 57 12.6	-0.5
FUR				*e*PKPab	PKPab	21 57 17.7	-0.2
RJOB	**Jochberg**	**148.29**	**345**	*e*PKPbc	PKPbc	21 57 12.5	-0.7
RJOB				*e*PKPab	PKPab	21 57 18.2	0.0
VTS	**Vitosha**	**148.60**	**328**	⇓*i*P	PKPbc	21 57 14.1	-0.1
SOKA	**Soboth**	**148.63**	**341**	⇑*i*P	PKPbc	21 57 12.9	-1.2
	comp=Z,10nm,1.1s						
BFO	**Black Forest**	**148.64**	**351**	*e*PKPbc	PKPbc	21 57 12.6	-1.5
BFO				*e*PKPab	PKPab	21 57 18.6	-1.0
CDF	**Champ du Feu**	**148.71**	**352**	⇑*i*PKP1	PKPbc	21 57 13.6	-0.6
	comp=Z,12nm,0.6s						
KBA	**Koelnbreinsper**	**148.76**	**344**	⇑*i*P	PKPbc	21 57 13.1	-1.3
	comp=Z,6.4nm,0.5s						
FLN	**La Foliniere**	**148.76**	**2**	⇑*i*PKP1	PKPbc	21 57 13.3	-1.1
	comp=Z,45nm,0.9s						
MEZF	**Maizieres J'vi**	**148.87**	**355**	⇑*i*PKP1	PKPbc	21 57 14.2	-0.4
LDF	**La Druitiere**	**148.94**	**1**	⇑*i*PKP1	PKPbc	21 57 13.6	-1.2
	comp=Z,10.0nm,0.5s						
WATA	**Walderalm**	**148.96**	**346**	⇑*i*P	PKPbc	21 57 14.1	-0.8
	comp=Z,6.2nm,0.5s						
WTTA	**Wattenberg**	**149.01**	**346**	⇑*i*P	PKPbc	21 57 14.4	-0.7
	comp=Z,15nm,0.6s						
ROSF	**Rostrenen**	**149.02**	**6**	⇑*i*PKP1	PKPbc	21 57 13.7	-1.3
GRR	**Gorron**	**149.13**	**2**	⇑*i*PKP1	PKPbc	21 57 14.4	-0.9
	comp=Z,15nm,0.6s						
SGMF	**Saint Gilles**	**149.16**	**5**	⇑*i*PKP1	PKPbc	21 57 14.2	-1.2
	comp=Z,46nm,1.0s						
HAU	**Haudompre**	**149.23**	**353**	⇑*i*PKP1	PKPbc	21 57 14.7	-0.8
	comp=Z,14nm,0.7s						
ABTA	**Abfaltersbach**	**149.28**	**344**	*i* P	PKPbc	21 57 14.3	-1.3
	comp=Z,24nm,1.1s,SNR=13						
HINF	**Hinteralfeld**	**149.35**	**352**	⇑*i*PKP1	PKPbc	21 57 14.8	-1.0
	comp=Z,12nm,0.9s						
LJU	**Ljubljana**	**149.36**	**341**	*i* PKPbc	PKPbc	21 57 14.9	-1.0
DAVA	**Damuels**	**149.37**	**348**	⇑*i*P	PKPbc	21 57 15.2	-0.7
	comp=Z,16nm,1.0s						
FETA	**Feichten**	**149.45**	**347**	⇑*i*P	PKPbc	21 57 15.4	-0.6
	comp=Z,15nm,1.0s,SNR=7.8						
BOJS	**Bojanci**	**149.61**	**340**	*e*PKPbc	PKPbc	21 57 15.9	-0.6
JAVS	**Javornik**	**149.63**	**342**	*i* PKPbc	PKPbc	21 57 15.3	-1.3
SKDS	**Skadanscina**	**149.96**	**342**	*i* PKPbc	PKPbc	21 57 15.9	-1.4
LOR	**Lormes**	**150.19**	**356**	⇑*i*PKP1	PKPbc	21 57 17.1	-0.7
	comp=Z,20nm,0.6s						
HYF	**Humbligny**	**150.25**	**358**	⇑*i*PKP1	PKPbc	21 57 17.5	-0.5
TUE	**Stuetta**	**150.26**	**348**	*e*PKPdf	PKPdf	21 57 10.8	-1.5
TUE				*e*PKPbc	PKPbc	21 57 17.4	-0.6
TUE				*e*PKPab	PKPab	21 57 26.0	-0.4
SSF	**Saint Saulge**	**150.42**	**356**	⇑*i*PKP1	PKPbc	21 57 17.7	-0.7
	comp=Z,19nm,0.6s						
CABF	**La Chapelle**	**150.63**	**353**	⇑*i*PKP1	PKPbc	21 57 18.7	-0.2
	comp=Z,34nm,1.0s						
AVF	**Avril sur Loir**	**150.69**	**357**	⇑*i*PKP1	PKPbc	21 57 17.9	-1.1
	comp=Z,8.4nm,0.7s						
SMF	**Signal de Mont**	**150.81**	**356**	*e*PKP1	PKPbc	21 57 18.4	-0.9
MFF	**Saint Martin d**	**150.94**	**2**	⇑*i*PKP1	PKPbc	21 57 18.5	-1.1
	comp=Z,19nm,0.7s						
BGF	**Bois d'Agland**	**150.95**	**357**	⇑*i*PKP1	PKPbc	21 57 18.8	-0.8
	comp=Z,16nm,0.6s						
TCF	**Toulx Ste Croi**	**151.25**	**358**	⇑*i*PKP1	PKPbc	21 57 19.3	-1.0
	comp=Z,24nm,1.1s						
LPL	**La Plagne**	**151.62**	**351**	⇑*i*PKP1	PKPbc	21 57 21.2	0.0
	comp=Z,6.6nm,0.7s						
LPG	**La Plagne**	**151.64**	**351**	*e*PKP1	PKPbc	21 57 21.2	0.0
	comp=Z,10nm,0.8s						
BNI	**Bardonecchia**	**152.09**	**351**	*e*PKPbc	PKPbc	21 57 21.8	-0.4
BNI				*e*PKPab	PKPab	21 57 33.8	-0.2
RJF	**Les Rejaudoux**	**152.24**	**359**	*e*PKP1	PKPbc	21 57 21.5	-1.0
	comp=Z,18nm,1.0s						
ORIF	**Oris-en-Rattie**	**152.32**	**352**	⇑*i*PKP1	PKPbc	21 57 22.1	-0.6
	comp=Z,5.8nm,0.7s						
MBDF	**Montbardon**	**152.39**	**351**	*e*PKP1	PKPbc	21 57 22.3	-0.6
	comp=Z,11nm,0.7s						
VIVF	**Saint-Julien-l**	**152.52**	**354**	⇑*i*PKP1	PKPbc	21 57 22.6	-0.6
CAF	**Calviac**	**152.61**	**358**	⇑*i*PKP1	PKPbc	21 57 22.6	-0.8
	comp=Z,6.0nm,0.6s						
LASF	**Ste Croix**	**153.36**	**355**	*e*PKP1	PKPbc	21 57 24.4	-0.6
PCAB	**Cabril**	**154.64**	**16**	*e*PKPab	PKPab	21 57 44.5	-0.5
MVO	**Moncorvo**	**155.40**	**15**	*e*PKPab	PKPab	21 57 47.6	-0.7
PVIS	**Viseu**	**155.60**	**16**	*e*PKPab	PKPab	21 57 48.8	-0.4
MTE	**Manteigas**	**155.99**	**16**	*e*PKPab	PKPab	21 57 50.4	-0.5
PTOM	**Tomar**	**156.47**	**18**	*e*PKPab	PKPab	21 57 52.3	-0.7
PCBR	**Castelo Branco**	**156.53**	**17**	*e*PKPab	PKPab	21 57 52.6	-0.7
PMRV	**Marv??o**	**156.94**	**17**	*e*PKPab	PKPab	21 57 54.4	-0.6
PESTR	**Estremoz**	**157.41**	**18**	*e*PKPab	PKPab	21 57 56.3	-0.8
ESDC	**Sonseca Array**	**157.46**	**10**	PKPab	PKPab	21 57 56.4	-0.8
	comp=Z,1.7nm,0.8s,baz=344,slow=3.8,SNR=12						
PBAR	**Barrancos**	**158.21**	**17**	*e*PKPab	PKPab	21 58 00.0	-0.6
PVAQ	**Vaqueiros**	**158.72**	**19**	*e*PKPab	PKPab	21 58 02.7	-0.1
KEST	**Kesra**	**160.35**	**339**	PKPab	PKPab	21 58 10.1	+0.1
	comp=Z,1.3nm,0.9s,baz=109,slow=21,SNR=5.0						
TORD	**Torodi Ar. Bea**	**175.65**	**189**	PKP	PKPdf	21 57 34.0	-2.9
	comp=Z,0.5nm,0.7s,baz=278,slow=0.6,SNR=5.0						

NEIC ***13*** *21:41:31.3±1.3, 893S×123.16E, h90km±14km, mb3.8/2, Error ellipse: s-maj=24.1km s-min=11.2km az=45.0*
IDC ***13*** *21:41:31.7±5.9, 787S×12426E, h131km±65km, mb3.2/1, mb1 3.5/4, mb1mx3.2/17, mbtmp3.4/4, MS2.9/1, Ms1 2.9/1, ms1mx2.7/10, Error ellipse: s-maj=82.3km s-min=31.6km az=45.0*
ISCJB ***13*** *21:41:33.8±1.7, 8.1S±0.1×12422E±008, h166km±12km, mb3.6/2, Error ellipse: s-maj=24.5km s-min=11.1km az=20.6*

ISC 13 21:41:33.5±2.1, 80S±02×12424E±008, h152km±16km, n16, σ1°23/23, mb3.6/2, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.24**	**195**	P	**Pn**	**21 42 11.9**	**+0.3**
	51nm,0.3s,baz=28,slow=2.2,SNR=53						
BATI				S	**Sn**	**21 42 40.9**	**-0.1**
	55nm,0.3s,baz=104,slow=22,SNR=11						
BATI				LR	LR	21 43 08.2	
	comp=Z,269nm,20.9s,baz=58,slow=40						
KAPI	**Kappang**	**5.37**	**304**	Pn	**Pn**	**21 42 46.0**	**-6.0**
KAKA	**Kakadu**	**9.31**	**121**	*e*P	**Pn**	**21 43 46.2**	**+1.8**
	9.5nm,0.5s						
KAKA				*e*S	**Sn**	**21 45 25.8**	**-2.0**
FITZ	**Fitzroy Crossi**	**10.11**	**172**	*e*P	**Pn**	**21 43 52.2**	**-2.8**
	1.6nm,0.2s						
FITZ				*e*S	**Sn**	**21 45 37.2**	**-10**
FITZ	**Fitzroy Crossi**	**10.11**	**172**	P	**Pn**	**21 43 52.3**	**-2.7**
	0.2nm,0.3s,baz=7.0,slow=12,SNR=11						
FITZ				S	**Sn**	**21 45 38.7**	**-8.3**
	2.7nm,0.3s,baz=138,slow=17,SNR=16						
FITZ	**Fitzroy Crossi**	**10.11**	**172**	*e*Pn	**Pn**	**21 43 49.8**	**-5.2**
FITZ				*e*S	**Sn**	**21 45 37.2**	**-10**
WRA	**Warramunga Arr**	**15.36**	**141**	P	**Pn**	**21 45 02.3**	**-0.1**
	0.7nm,0.3s,baz=318,slow=13,SNR=25						
WRA				S	**S**	**21 47 46.6**	**-7.2**
	0.4nm,0.3s,baz=319,slow=26,SNR=4.5						
WRAB	**Tennant Creek**	**15.36**	**141**	*e*Pn	**Pn**	**21 45 04.6**	**+2.2**
	1.8nm,0.5s						
WB2	**Warramunga Arr**	**15.37**	**141**	*e*P	**Pn**	**21 45 03.8**	**+1.3**
WB2				*e*S	**S**	**21 47 40.6**	**-13**
ASAR	**Alice Springs**	**18.10**	**150**	P	**P**	**21 45 35.6**	**+1.9**
	0.3nm,0.3s,baz=329,slow=12,SNR=22						
TAU	**Tasmania Unive**	**40.23**	**154**	P	**P**	**21 48 55.1**	**-0.1**
MKAR	**Makanchi Array**	**66.09**	**330**	P	**P**	**21 52 03.8**	**-0.3**
	0.3nm,0.5s,mb3.3,baz=131,slow=7.7,SNR=6.5						
SNAA	**Sanae**	**93.29**	**195**	P	**P**	**21 54 29.6**	**-1.0**
	1.1nm,1.0s,mb3.9						
BOSA	**Boshof**	**94.01**	**241**	P	**P**	**21 54 34.1**	**-0.7**
TAOE	**Nuku Hiva Isla**	**94.27**	**100**	*e*P	**P**	**21 54 45.4**	**+9.1**
LBTB	**Lobatse**	**94.40**	**244**	*e*P	**P**	**21 54 36.9**	**+0.2**

TEH ***13*** *21:42:37.0, 3751N×4660E, h4km, ML3.6*
THR ***13*** *21:43:28.4±0.5, 3739N×4663E, h14km±6km, ML3.2*
ISCJB ***13*** *21:43:29.9±0.4, 3755N±003×4663E±003, h10km, Error ellipse: s-maj=4.4km s-min=3.5km az=2.4*
CSEM ***13*** *21:43:30.6±0.1, 3747N×4690E, h10km, ML3.6, Error ellipse: s-maj=4.5km s-min=2.4km az=92.0*

ISC 13 21:43:30.9±0.4, 3756N±003×4663E±003, h10km, n26, σ0°98/31, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBST	**Bostanabad**	**0.26**	**56**	*e*Pg	**Pg**	**21 43 35.7**	**-0.4**
IBST				*e*		21 43 35.9	
IBST				*e*Sg	**Sg**	**21 43 40.6**	**+1.1**
IAZR	**Azarshahr**	**0.53**	**283**	*e*Pg	**Pg**	**21 43 40.5**	**-0.6**
IAZR				*e*Sg	**Sg**	**21 43 46.8**	**-1.2**
IAZR				*e*		21 43 53.3	
ITBZ	**Tabriz**	**0.77**	**331**	*e*Pg	**Pg**	**21 43 46.1**	**+0.3**
ITBZ				*e*		21 43 59.7	
IHRS	**Heris**	**0.83**	**23**	*e*Pg	**Pg**	**21 43 47.1**	**+0.3**
IHRS				*e*		21 44 03.6	
ISRB	**Sarab**	**0.87**	**72**	*e*Pg	**Pg**	**21 43 45.7**	**-1.9**
ISRB				*e*		21 43 46.2	
ISHB	**Shabestar**	**1.08**	**313**	*e*Pg	**Pg**	**21 43 51.1**	**-0.5**
ISHB				*e*		21 44 14.0	
IMRD	**Marand**	**1.36**	**328**	*e*Pg	**Pg**	**21 43 56.8**	**-0.2**
IMRD				*e*		21 44 01.9	
GRMI	**Germi**	**1.60**	**38**	*e*Pg	**Pg**	**21 44 00.1**	**-1.5**
GRMI				*e*Sg	**Sg**	**21 44 23.2**	**+0.8**
GRMI				AML	AML	21 44 27.5	
	comp=N,206nm,0.5s						
GRMI				AML	AML	21 44 27.6	
	comp=E,292nm,0.4s						
GRMI	**Germi**	**1.60**	**38**	*e*Pg	**Pg**	**21 44 00.1**	**-1.5**
	SNR=90						
GRMI				*e*Sg	**Sg**	**21 44 23.2**	**+0.9**
	SNR=90						
HAKT	**HAKKARI**	**2.32**	**271**	*i* P	**Pn**	**21 44 10.8**	**+1.8**
HAKT	**HAKKARI**	**2.32**	**271**	*i* P	**Pn**	**21 44 10.9**	**+1.8**
HAKT				*i* S	**Sg**	**21 44 45.9**	**+0.5**
SNGE	**Sanandaj**	**2.53**	**166**	*e*Pg	**Pn**	**21 44 11.4**	**-0.6**
SNGE				*e*Sg	**Sn**	**21 44 42.6**	**-0.2**
ILIN	**Lien**	**2.65**	**174**	*e*Pn	**Pn**	**21 44 14.2**	**+0.6**
ILIN				*e*		21 44 57.2	
TVAN	**Van**	**2.72**	**292**	*i* P	**Pb**	**21 44 18.9**	**-0.7**
IVIS	**Veis**	**3.03**	**176**	*e*Pn	**Pn**	**21 44 19.3**	**+0.4**
IVIS	**Veis**	**3.03**	**176**	*e*Pn	**Pn**	**21 44 19.2**	**+0.3**
IVIS				*e*		21 45 11.5	
MSL	**Mosul**	**3.10**	**247**	*ex*	x	21 44 27.0	
MSL				*ex*	x	21 45 10.0	
MSL				*ex*	x	21 45 18.0	
MSL				*ex*	x	21 45 27.0	
IGHG	**Ghaleghazi**	**3.22**	**181**	*e*Pn	**Pn**	**21 44 22.3**	**+0.8**
IGHG				*e*		21 45 18.3	
IRAZ	**Razeghan**	**3.42**	**128**	*e*Pn	**Pn**	**21 44 22.9**	**-1.4**
IRAZ				*e*		21 44 34.8	
IKOM	**Komasi**	**3.45**	**168**	*e*Pn	**Pn**	**21 44 19.6**	**-5.1**
IKOM				*e*		21 45 32.2	
TUTA	**Tutak**	**3.51**	**303**	*i* P	**Pb**	**21 44 34.6**	**+1.5**
CHTH	**Charan**	**3.97**	**113**	*e*Pn	**Pn**	**21 44 30.5**	**-1.4**
CHTH				AML	AML	21 45 35.6	
	comp=N,32nm,0.5s						
IAFJ	**Afjeh**	**4.43**	**111**	*e*Pn	**Pn**	**21 44 38.7**	**+0.6**
IAFJ				*e*		21 44 39.6	
MARD	**Mardin**	**4.66**	**269**	*i* P	**Pb**	**21 44 52.5**	**-0.2**
IDMV	**Damavand**	**4.78**	**113**	*e*Pn	**Pn**	**21 44 43.0**	**+0.1**
IDMV				*e*		21 46 17.9	
ISHM	**Shahmirzad**	**5.64**	**106**	*e*Pn	**Pn**	**21 44 56.7**	**+2.0**
ISHM				*e*		21 46 44.1	

ISCJB ***13*** *21:47:40.9±0.6, 2891S±003×699W±0.1, h113km±10km, Error ellipse: s-maj=15.1km s-min=5.6km az=177.9*
NEIC ***13*** *21:47:41.4, 2892S×6991W, h108km, MD3.4(GUC), After GUC.*
GUC ***13*** *21:47:41.4±0.8, 2892S×6991W, h108km±13km, MD3.4, ML3.3*
IDC ***13*** *21:47:42.0±2.9, 2886S×6977W, h95km±21km, mb3.2/1, mb1 3.2/3, mb1mx3.1/16, mbtmp3.2/3, Error ellipse: s-maj=62.9km s-min=18.7km az=79.0*

ISC 13 21:47:41.9±0.7, 2890S±003×699W±01, h110km±10km, n19, σ0°50/28, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.70**	**261**	*e*Pn	**Pn**	**21 48 00.6**	**+0.4**
LCO				*e*Sn	**Sn**	**21 48 14.4**	**+0.5**
VACH	**Vallenar**	**0.81**	**294**	*i* P	**Pn**	**21 48 01.0**	**-0.2**
VACH				*i* S	**Sn**	**21 48 15.8**	**+0.1**
VACH				AML	AML	21 48 17.5	
	comp=N,4μm,0.1s						
VACH	**Vallenar**	**0.81**	**294**	*i* P	**Pn**	**21 48 01.0**	**-0.2**
VACH				*i* S	**Sn**	**21 48 15.8**	**+0.1**
TLL	**Tololo Astrono**	**1.48**	**211**	⇑*i*P	**Pn**	**21 48 09.1**	**+0.7**
TLL				*i* S	**Sn**	**21 48 29.4**	**+0.8**
TLL				AML	AML	21 48 31.2	
	comp=N,266nm,0.5s						
TLL	**Tololo Astrono**	**1.48**	**211**	⇑*i*P	**Pn**	**21 48 09.1**	**+0.7**
TLL				*i* S	**Sn**	**21 48 29.4**	**+0.8**
LSCH	**La Serena**	**1.53**	**229**	⇑*i*P	**Pn**	**21 48 08.9**	**-0.1**
LSCH				*i* S	**Sn**	**21 48 28.9**	**-0.8**
LSCH				AML	AML	21 48 36.7	
	comp=N,116nm,0.4s						
LSCH	**La Serena**	**1.53**	**229**	⇑*i*P	**Pn**	**21 48 08.9**	**-0.1**
LSCH				*i* S	**Sn**	**21 48 28.9**	**-0.8**
CPCH	**Copiapo**	**1.59**	**346**	⇑*i*P	**Pn**	**21 48 09.4**	**-0.3**
CPCH				*i* S	**Sn**	**21 48 30.9**	**0.0**
CDCH	**Caldera**	**2.00**	**336**	*i* P	**Pn**	**21 48 15.1**	**+0.3**
CDCH				*i* S	**Sn**	**21 48 40.0**	**0.0**
CDCH				AML	AML	21 48 46.9	
	comp=N,360nm,0.5s						
CDCH	**Caldera**	**2.00**	**336**	*i* P	**Pn**	**21 48 15.1**	**+0.3**
CDCH				*i* S	**Sn**	**21 48 40.0**	**0.0**
OVCH	**Ovalle**	**2.04**	**213**	*i* P	**Pn**	**21 48 14.8**	**-0.4**
OVCH				*i* S	**Sn**	**21 48 40.0**	**-0.8**
OVCH				AML	AML	21 48 40.5	
	comp=N,532nm,0.5s						
CFAA	**Coronel Fontan**	**3.06**	**152**	P	**Pn**	**21 48 29.0**	**+0.4**
	comp=N,1.0nm,0.3s,baz=334,slow=11,SNR=137						
CFAA				S	**Sn**	**21 49 04.2**	**-0.4**
	comp=N,1.8nm,0.3s,baz=177,slow=15,SNR=21						
JACH	**Jahuel**	**3.81**	**189**	*i* P	**Pn**	**21 48 38.7**	**+0.1**
PCH	**Pirque**	**4.73**	**186**	*i* P	**Pn**	**21 48 50.9**	**-0.1**
LVC	**Limon Verde**	**6.33**	**8**	P	**Pn**	**21 49 11.7**	**-1.0**
	comp=N,1.6nm,0.3s,baz=192,slow=8.1,SNR=11						
TORD	**Torodi Ar. Bea**	**80.75**	**69**	P	**P**	**21 59 44.1**	**+0.7**
	comp=N,0.5nm,1.1s,baz=274,slow=6.2,SNR=5.1						
WRA	**Warramunga Arr**	**126.09**	**209**	PKP	PKPdf	22 06 32.9	+1.0
	comp=N,0.2nm,0.4s,baz=156,slow=1.5,SNR=6.2						
ZALV	**Zalesovo Beam**	**148.93**	**29**	PKPbc	PKPbc	22 07 18.5	+2.2
	comp=N,0.5nm,0.4s,baz=298,slow=3.1,SNR=3.0						
MKAR	**Makanchi Array**	**151.92**	**43**	PKPbc	PKPbc	22 07 25.5	+1.8
	comp=N,0.3nm,0.6s,baz=318,slow=3.0,SNR=3.5						

IDC 13 22:13:05.2±2.9, 5555S×3445W, h0km, mb4.2/2, mb1 4.2/2, mb1mx3.7/15, mbtmp4.2/2, Error ellipse: s-maj=96.6km s-min=47.8km az=13.0, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**18.96**	**153**	*e*	Pn	22 17 18.1	-10
VNA1				*e*		22 17 22.4	
VNA2	**Neumayer--Watz**	**19.36**	**153**	*e*	Pn	22 17 23.2	-10
VNA2				*e*		22 17 27.3	
LPAZ	**La Paz**	**46.88**	**313**	P	P	22 21 37.6	+0.6
	0.9nm,0.5s,baz=153,slow=8.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**74.87**	**37**	P	P	22 24 47.5	+0.1
	1.7nm,0.4s,baz=200,slow=6.2,SNR=52						
SONM	**Songino Array**	**154.82**	**91**	PKPbc	PKPbc	22 33 07.5	+0.3
	1.4nm,0.7s,baz=232,slow=1.6,SNR=4.3						

IDC ***13*** *22:23:02.9±0.5, 3097S×1343W, h0km, mb4.5/17, mb1 4.6/17, mb1mx4.5/20, mbtmp4.5/17, MS5.2/25, Ms1 5.2/25, ms1mx5.1/26, Error ellipse: s-maj=15.9km s-min=13.9km az=155.0*
ISCJB ***13*** *22:23:03.0±0.2, 3097S±004×1345W±005, h10km, mb5.1/147, MS5.1/207, Error ellipse: s-maj=6.7km s-min=5.1km az=28.9*
SZGRF ***13*** *22:23:03.2, 3136S×1375W, h33km, mb5.5, MS4.8, Southern Mid-Atlantic Ridge*
MOS ***13*** *22:23:03.3±0.9, 3090S×1342W, h10km, mb5.5/53, MS5.0/38, Error ellipse: s-maj=12.8km s-min=4.4km az=75.3*
GCMT ***13*** *22:23:04.5±0.1, 3107S×1337W, h12km, MW5.5/107, Moment Tensor Solution. s77,c132; s107,c217; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr-2.48±.03; Mθθ0.08±.03; Mφφ2.41±.03; Mrθ-0.47±.09; Mφθ-0.57±.03; Mφr0.41±.08; Best double couple: M0 2.58800×10^17 NP1:φs355.00000°, δ40.00000°, λ-77.00000°. NP2:φs159.00000°, δ51.00000°, λ-100.00000°. Principal axes: T 2.5930, Plg6.0000°, Azm256.0000°; N -0.0030, Plg8.0000°, Azm165.0000°; P -2.5830, Plg80.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***13*** *22:23:04.4, 3100S×1340W, h10km, mB5.7, Ms5.7, Msz5.4*
NEIC ***13*** *22:23:04.5±0.2, 3099S×1341W, h10km, mb5.3/102, MS5.1/170, MW5.4, Error ellipse: s-maj=5.7km s-min=4.0km az=128.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^17Nm; Mrr-1.59; Mθθ0.79; Mφφ0.80; Mrθ-0.11; Mθφ-1.00; Mφr-0.21; Best double couple: M0 1.70000×10^17 NP1:φs324.00000°, δ47.00000°, λ-78.00000°. NP2:φs126.00000°, δ44.00000°, λ-103.00000°. Principal axes: T 1.8000, Plg1.0000°, Azm45.0000°; N -0.1700, Plg9.0000°, Azm135.0000°; P -1.6300, Plg81.0000°, Azm307.0000°;*
DJA ***13*** *22:23:13, 3184S×1247W, h10km, mb5.0/11*

ISC 13 22:23:04.7±0.2, 3099S±004×1343W±005, h10km, (h27km±3.5km:pP-P), n706, σ0°87/508, mb5.1/147, MS5.1/207, 7C-25D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**6.13**	**172**	*e*Pn	**Pn**	**22 24 34.5**	**-0.8**
	570nm,1.2s						
SHEL	**Horse Pasture**	**16.53**	**27**	P	**Pn**	**22 26 55.3**	**-1.4**
SHEL				pmax	pmax		
	comp=Z,703nm,1.3s						
SHEL	**Horse Pasture**	**16.53**	**27**	Pn	**Pn**	**22 26 55.3**	**-1.4**
	comp=Z,703nm,1.3s						
HOPE	**Hope Point**	**28.55**	**209**	PFAKE		22 29 10.0	+10
HOPE				LR	LR		
	comp=Z,5.0nm,19.0s						
SUR	**Sutherland**	**29.10**	**102**	LR	LR	22 38 05.1	
	comp=Z,9μm,20.8s,MS5.4,baz=252,slow=31						
SUR	**Sutherland**	**29.10**	**102**	PFAKE		22 29 20.0	+14
SUR				LR	LR		
	comp=Z,9μm,20.0s,MS5.4						
TSUM	**Tsumeb**	**30.34**	**75**	*e*P	**P**	**22 29 16.7**	**0.0**
	comp=Z,77nm,1.3s,mb5.3						
TSUM				LR	LR		
	comp=Z,15μm,20.0s,MS5.6						
SPB	**Sao Paulo**	**31.01**	**275**	*e*P	**P**	**22 29 22.8**	**+0.2**
BOSA	**Boshof**	**33.54**	**96**	P	**P**	**22 29 43.5**	**-1.2**
	comp=Z,20nm,1.0s,mb5.0,baz=256,slow=8.3,SNR=15						
BOSA				LR	LR	22 40 41.6	
	comp=Z,6μm,20.3s,MS5.3,baz=261,slow=32						
BOSA	**Boshof**	**33.54**	**96**	*e*P	**P**	**22 29 43.8**	**-1.0**
BOSA				*e*		22 32 25.0	
BOSA				pmax	pmax		
	comp=Z,81nm,1.4s,mb5.5						
BOSA				MLR	MLR		
	comp=Z,6μm,20.0s,MS5.3						
BOSA	**Boshof**	**33.54**	**96**	*e*P	**P**	**22 29 43.8**	**-0.9**
	comp=Z,82nm,1.4s,mb5.5						
BOSA				*e*PcP	PcP	22 32 25.0	-0.4
BOSA				LR	LR		
	comp=Z,6μm,20.0s,MS5.3						
LBTB	**Lobatse**	**34.84**	**90**	P	**P**	**22 29 55.0**	**-1.1**
	comp=Z,31nm,1.0s,mb5.2,baz=265,slow=9.8,SNR=18						
LBTB	**Lobatse**	**34.84**	**90**	P	**P**	**22 29 55.0**	**-1.1**
BDFB	**Brasilia**	**35.07**	**288**	P	**P**	**22 29 57.8**	**-0.3**
	comp=Z,9.9nm,0.9s,mb4.8,baz=132,slow=11,SNR=20						
BDFB				LR	LR	22 41 42.1	
	comp=Z,3μm,20.7s,MS5.0,baz=296,slow=32						
BDFB	**Brasilia**	**35.07**	**288**	P	**P**	**22 29 59.7**	**+1.6**
BDFB				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BDFB	**Brasilia**	**35.07**	**288**	P	**P**	**22 29 59.6**	**+1.6**
	comp=Z,10nm,1.0s,mb4.7						
BDFB				LR	LR	22 41 42.1	
LIC	**Lamto**	**37.87**	**14**	*e*P	**P**	**22 30 21.3**	**-0.6**
	comp=Z,133nm,1.5s,mb5.1,baz=204						
LIC				*e*MLR	MLR		
	comp=Z,1μm,20.8s,MS4.5						
LIC	**Lamto**	**37.87**	**14**	*e*P	**P**	**22 30 20.9**	**-1.0**
	comp=Z,110nm,1.5s,mb5.4			

TOA0 Torodi Ar. Sit 46.23 21 *eP* **P 22 31 29.8 -0.4**
TOA0 PcP PcP 22 33 05.8 0.0
TORD Torodi Ar. Bea 46.23 21 P **P 22 31 29.5 -0.7**
comp=Z,6.8nm,0.8s,mb4.6,baz=197,slow=8.6,SNR=26
TORD LR LR 22 47 00.2
comp=Z,3µm,20.1s,MS5.3,baz=195,slow=31
PLCA Paso Flores 46.58 241 P **P 22 31 33.1 +0.3**
comp=Z,6.6nm,0.9s,mb4.6,baz=89,slow=5.3,SNR=9.6
PLCA LR LR 22 50 13.0
comp=Z,3µm,18.0s,MS5.2,baz=89,slow=35
SYO Syowa Base 48.39 157‖ *eP* **P 22 31 44.4 -2.0**
SYO Syowa Base 48.39 157‖ *eP* **P 22 31 50.6 +4.2**
LCO Las Campanas 49.16 257 PFAKE 22 32 10.0 +17
LCO LR LR
comp=Z,5µm,21.0s,MS5.4
LVC Limon Verde 49.79 265 *eP* **P 22 31 57.4 -0.4**
comp=Z,11nm,0.9s,mb4.9
LVC *e*PcP PcP 22 33 19.1 +0.4
LVC *e*S **S 22 39 07.3 -0.1**
LVC LR LR
comp=Z,4µm,21.0s,MS5.4
LPAZ La Paz 51.73 273 P **P 22 32 11.5 -1.0**
comp=Z,3.1nm,0.9s,mb4.2,baz=75,slow=9.7,SNR=6.9
LPAZ LR LR 22 54 38.2
comp=Z,4µm,18.0s,MS5.5,baz=126,slow=37
ABPO Ambohimpanom 55.66 93 *eP* **P 22 32 43.0 +1.7**
ABPO pmax pmax
comp=Z,61nm,1.7s,mb5.3
ABPO MLR MLR
comp=Z,4µm,20.0s,MS5.5
ABPO Ambohimpanom 55.66 93 *eP* **P 22 32 43.0 +1.7**
comp=Z,61nm,1.7s,mb5.4
ABPO LR LR
comp=Z,4µm,20.0s,MS5.5
KMBO Kilima Mbogo 56.36 68 P **P 22 32 47.4 +1.0**
comp=Z,2.4nm,1.1s,mb4.2,baz=227,slow=4.2,SNR=8.0
KMBO LR LR 22 55 49.2
comp=Z,5µm,18.2s,MS5.6,baz=249,slow=35
KMBO Kilima Mbogo 56.36 68 *i P* **P 22 32 50.0 +3.7**
KMBO Kilima Mbogo 56.36 68 *eP* **P 22 32 50.6 +4.2**
comp=Z,44nm,1.8s,mb5.2
KMBO LR LR 22 55 49.2
TAM Tamanrasset 56.48 21 *eP* **P 22 32 46.7 -0.2**
TAM *e* 22 33 43.7
MAW Mawson 56.55 153 *eP* **P 22 32 46.7 -0.2**
comp=Z,3.6nm,0.4s,mb4.8
MAW *e*S **S 22 40 43.5 +5.3**
MAW Mawson 56.55 153 P **P 22 32 46.7 -0.2**
comp=Z,6.2nm,0.9s,mb4.6,baz=277,slow=9.1,SNR=11
MAW LR LR 22 52 22.8
comp=Z,1µm,19.6s,MS5.1,baz=275,slow=31
MAW Mawson 56.55 153 *eP* **P 22 32 50.8 +3.9**
MAW *e*S **S 22 40 43.9 +5.6**
NNA Nana 61.19 273 LR LR 22 59 01.1
comp=Z,2µm,18.5s,MS5.3,baz=153,slow=35
NNA Nana 61.19 273 P **P 22 33 20.3 +0.3**
NNA *e*PP PP 22 35 38.7 +3.9
NNA *e*S S 22 41 15.1 -25
NNA LR LR
comp=Z,2µm,20.0s,MS5.3
BBGH Gun Hill 62.35 308 PFAKE 22 33 40.0 +12
BBGH LR LR
comp=Z,2µm,20.0s,MS5.3
GRGR Grenville 63.09 305 PFAKE 22 33 40.0 +7.4
GRGR LR LR
comp=Z,695nm,21.0s,MS4.8
PCRV Puerto La Cruz 63.91 301 LR LR 22 59 00.1
comp=Z,3µm,20.4s,MS5.5,baz=113,slow=34
FDF Fort de France 64.56 308 P **P 22 33 45.2 +2.9**
RTC Rabat Centre 64.93 6 *eP* **P 22 33 44.5 +0.2**
ATAH Atahualpa 64.99 277 LR LR 23 00 23.9
comp=Z,3µm,22.0s,MS5.5,baz=132,slow=34
SFS San Fernando 67.44 6 *eP* **P 22 34 00.7 +0.3**
SFS *e* 22 36 31.2
SFS MLR MLR
comp=Z,1µm,21.0s,MS5.2
SFS San Fernando 67.44 6 *eP* **P 22 34 00.7 +0.3**
SFS *e*PP PP 22 36 31.2 +1.7
SFS *e*S S 22 42 38.3 -18
SFS LR LR
comp=Z,1µm,21.0s,MS5.2
ETRT Tiaret 67.47 13 P **P 22 34 02.0 +1.4**
SDV Santo Domingo 67.60 296 LR LR 23 01 51.2
comp=Z,5µm,19.1s,MS5.7,baz=144,slow=34
SDV Santo Domingo 67.60 296 *eP* **P 22 34 01.9 0.0**
SDV *e*S S 22 42 55.8 -3.3
SDV LR LR
comp=Z,1µm,20.0s,MS5.2
EMIJ Mijas 67.69 8 P **P 22 34 00.6 -1.3**
comp=Z,90nm,1.6s,mb5.5
ESPR Espera 67.88 7 P **P 22 34 03.0 -0.2**
comp=Z,192nm,2.0s,mb5.8
PFVI Vila Bisbo 67.91 4 *eP* **P 22 34 04.0 +0.7**
comp=Z,86nm,0.9s,mb5.8
PFVI Vila Bisbo 67.91 4 *e*LR LR 22 55 25.7
comp=Z,1µm,22.2s
EANR `Ain N'Sour 67.97 13 P **P 22 34 00.0 -3.7**
PBDV Barranco-do-Ve 68.07 5 *eP* **P 22 34 04.8 +0.5**
comp=Z,80nm,1.9s,mb5.4
PBDV *e*S S 22 43 06.4 +2.6
PBDV Barranco-do-Ve 68.07 5 *e*LR LR 22 54 24.6
comp=Z,879nm,18.9s
MORF Marmelete 68.09 4 *eP* **P 22 34 04.7 +0.3**
comp=Z,51nm,3.4s
MORF Marmelete 68.09 4 *e*LQ 22 54 23.4
MORF *e*LR LR 22 55 33.5
MORF A 23 00 20.3
comp=Z,1µm,8.6s
ROSC El Rosal 68.09 290 LR LR 23 04 13.5
comp=Z,3µm,18.5s,MS5.5,baz=174,slow=36
MIR Mirnyy 68.15 156 *eP* **P 22 34 05.0 +0.4**
MIR *i* 22 34 30.0
MIR pmax pmax
comp=Z,100nm,1.0s,mb5.8
MIR MLR MLR
comp=Z,1µm,18.0s,MS5.1
ECHA Ech Chlef 68.22 13 P **P 22 34 05.5 +0.2**
PVAQ Vaqueiros 68.25 5 *eP* **P 22 34 05.3 -0.1**
comp=Z,55nm,1.6s,mb5.3
PVAQ *e*S S 22 43 10.7 +4.8
PVAQ *e*LQ 22 53 04.0
PVAQ *e*LR LR 22 54 39.1
comp=Z,819nm,31.8s
ERON Agron 68.25 8 P **P 22 34 05.5 +0.1**
comp=Z,5.5nm,0.8s,mb4.6
PTEO Sao Teotonio 68.32 4 *eP* **P 22 34 06.6 +0.7**
comp=Z,46nm,1.4s,mb5.3
ELOJ Sierra Loja 68.34 8 P **P 22 34 05.9 -0.1**
ELOJ pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ELOJ Sierra Loja 68.34 8 P **P 22 34 05.9 -0.1**
comp=Z,3.2nm,0.6s,mb4.5
EBNR Beni Rached 68.39 13 P **P 22 34 05.0 -1.3**
EGRO El Granado 68.40 5 P **P 22 34 06.5 +0.2**
comp=Z,13nm,0.7s,mb5.1
ECOG Cogollos-Vega 68.54 8 P **P 22 34 07.2 -0.1**
ECOG pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ECOG Cogollos-Vega 68.54 8 P **P 22 34 07.2 0.0**
comp=Z,3.2nm,0.6s,mb4.4
EMHD Djebel Mahouad 68.58 14 P **P 22 34 10.0 +2.4**
EMIN Mina Concepcio 68.69 6 P **P 22 34 08.4 +0.2**
comp=Z,134nm,1.9s,mb5.5
ELUQ Luque 68.73 8 P **P 22 34 08.1 -0.4**
ELUQ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ELUQ Luque 68.73 8 P **P 22 34 08.1 -0.4**
comp=Z,8.9nm,0.8s,mb4.8
PBEJ Beja 68.86 5 *eP* **P 22 34 09.4 +0.2**
comp=Z,40nm,1.2s,mb5.2
OTAV Otavalo 68.86 284 *eP* **P 22 34 11.8 +1.9**
comp=Z,67nm,1.9s,mb5.2
OTAV *e*PP PP 22 36 49.4 +7.3
OTAV *e*S S 22 43 21.1 +6.7
OTAV LR LR
comp=Z,4µm,19.0s,MS5.7
PBAR Barrancos 69.07 5 *eP* **P 22 34 10.4 -0.1**
comp=Z,63nm,1.8s,mb5.2
PBAR *e*S S 22 43 18.9 +3.3
PBAR *e*LQ 22 50 45.5
PBAR *e*LR LR 22 54 27.0
comp=Z,738nm,22.2s
ECAB El Cabril 69.12 7 P **P 22 34 10.9 +0.1**
comp=Z,17nm,0.9s,mb5.0
EQES Quesada 69.12 9 P **P 22 34 11.1 +0.2**
comp=Z,4.5nm,0.8s,mb4.5

SET Setif 69.14 16 P **P 22 34 13.0 +2.0**
ABA Alger-Bouzarea 69.18 14 P **P 22 34 12.0 +0.7**
EHUE Huescar 69.19 9 P **P 22 34 10.8 -0.5**
EHUE pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
EHUE Huescar 69.19 9 P **P 22 34 10.8 -0.5**
comp=Z,6.9nm,0.8s,mb4.6
EADA Adamuz 69.30 7 P **P 22 34 10.9 -1.0**
comp=Z,116nm,1.9s,mb5.5
EVO Evora 69.35 5 *i P* **P 22 34 12.3 0.0**
comp=Z,91nm,1.3s,mb5.3
EVO *e*MLR MLR
comp=Z,2µm,22.0s,MS5.0
EVO Evora 69.35 5 *eP* **P 22 34 12.4 +0.1**
comp=Z,56nm,1.7s,mb5.2
EBAN Banos Encina 69.39 8 P **P 22 34 11.7 -0.8**
EBAN pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
EBAN Banos Encina 69.39 8 P **P 22 34 11.7 -0.8**
comp=Z,3.5nm,0.6s,mb4.5
EMUR La Murta 69.42 10 P **P 22 34 14.2 +1.5**
comp=Z,100nm,1.5s,mb5.5
CASM Ain Smara 69.46 17 P **P 22 34 11.0 -2.0**
LIS Lisbon 69.46 4 *eP* **P 22 34 11.7 -1.3**
MSEY Mahe Island 69.55 83 PFAKE 22 34 30.0 +16
MSEY LR LR
comp=Z,3µm,20.0s,MS5.5
DFRA Djebel Bou Aff 69.58 17 P **P 22 34 15.0 +1.2**
EBAD Badajoz 69.65 5 P **P 22 34 15.4 +1.3**
comp=Z,130nm,2.3s,mb5.5
CKFL Kef-Lekhel 69.65 17 P **P 22 34 09.0 -5.2**
PMAFR Mafra 69.69 3 *eP* **P 22 34 15.7 +1.3**
comp=Z,73nm,2.0s,mb5.3
PMAFR *e*S S 22 43 25.1 +2.1
PMAFR Mafra 69.69 3 *e*LR LR 22 56 47.7
comp=Z,514nm,21.6s
PESTR Estremoz 69.71 5 *eP* **P 22 34 14.8 +0.3**
comp=Z,56nm,1.3s,mb5.3
PESTR *e*S S 22 43 25.8 +2.6
PESTR *e*LQ 22 51 17.0
PESTR *e*LR LR 22 54 49.9
comp=Z,1µm,19.1s
KEST Kesra 69.74 20 P **P 22 34 15.4 +0.7**
comp=Z,4.2nm,0.9s,mb4.4,baz=158,slow=1.5,SNR=15
KEST LR LR 23 02 09.6
comp=Z,1µm,19.4s,MS5.2,baz=318,slow=34
MTP Monte Pirata 69.92 307 *eP* **P 22 34 14.9 -1.3**
MTP PcP PcP 22 34 39.1 +0.5
EVIA Vianos 70.02 9 P **P 22 34 16.9 +0.5**
EVIA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
EVIA Vianos 70.02 9 P **P 22 34 16.9 +0.5**
comp=Z,2.3nm,0.6s,mb4.3
HUMP Col San Antoni 70.16 307 *eP* **P 22 34 17.4 -0.3**
comp=Z,4.7nm,0.5s,mb4.7
ETOB Tobarra 70.16 10 P **P 22 34 18.3 +1.1**
comp=Z,208nm,2.6s,mb5.6
PMRV Marv??o 70.28 5 *eP* **P 22 34 18.2 +0.2**
comp=Z,65nm,0.7s,mb5.7
PMRV *e*S S 22 43 36.0 +6.1
PMRV Marv??o 70.28 5 *e*LQ 22 53 42.5
PMRV *e*LR LR 22 55 28.4
comp=Z,1µm,25.3s
SJG San Juan 70.34 307 *eP* **P 22 34 13.6 -5.3**
SJG *e*S S 22 43 18.8 -13
SJG LR LR
comp=Z,527nm,20.0s,MS4.8
PTOM Tomar 70.40 4 *eP* **P 22 34 19.4 +0.7**
comp=Z,56nm,1.4s,mb5.3
PAB San Pablo 70.68 7 PFAKE 22 34 30.0 +10
PAB LR LR
comp=Z,505nm,19.0s,MS4.8
PCBR Castelo Branco 70.69 5 *eP* **P 22 34 21.5 +1.0**
comp=Z,32nm,1.4s,mb5.1
ESDC Sonseca Array 70.85 8 P **P 22 34 21.5 0.0**
comp=Z,1.6nm,0.7s,mb4.1,baz=186,slow=6.6,SNR=16
ESDC LR LR 23 03 26.6
comp=Z,632nm,18.6s,MS4.9,baz=175,slow=34
ESDC Sonseca Array 70.85 8 P **P 22 34 21.2 -0.3**
comp=Z,5.0nm,1.1s,mb4.4
MTE Manteigas 71.24 5 *eP* **P 22 34 23.7 -0.1**
comp=Z,37nm,1.1s,mb5.2
MTE *e*S S 22 43 47.0 +6.0
MTE Manteigas 71.24 5 *e*LQ 22 54 17.7
MTE *e*LR LR 22 55 53.8
comp=Z,956nm,17.9s
MTE Manteigas 71.24 5 *eP* **P 22 34 24.2 +0.4**
comp=Z,64nm,1.8s,mb5.2
MTE *e*PP PP 22 37 03.0 +0.7
MTE *e*S S 22 43 31.1 -10
MTE LR LR
comp=Z,1µm,22.0s,MS5.1
SBA Scott Base 71.41 180 *eP* **P 22 34 24.1 -0.4**
SBA *e* 22 37 03.7
SBA *e*S S 22 43 51.7 +9.4
SBA MLR MLR
comp=Z,915nm,20.0s,MS5.0
PVIS Viseu 71.53 4 *eP* **P 22 34 25.8 +0.2**
comp=Z,37nm,2.2s,mb4.9
VNDA Vanda 71.70 179 P **P 22 34 26.9 +0.6**
comp=Z,2.5nm,0.9s,mb4.2,baz=201,slow=6.4,SNR=9.5
VNDA LR LR 23 01 52.4
comp=Z,941nm,20.0s,MS5.0,baz=173,slow=32
EMOS Mosqueruela 72.00 10 P **P 22 34 29.1 +0.6**
comp=Z,178nm,2.0s,mb5.7
MVO Moncorvo 72.04 5 *eP* **P 22 34 28.7 +0.1**
comp=Z,38nm,1.6s,mb5.1
MVO *e*S S 22 43 59.9 +10
MVO *e*LQ 22 52 09.1
MVO *e*LR LR 22 55 59.3
comp=Z,848nm,28.5s
ETOR Torete 72.22 9 P **P 22 34 29.5 -0.2**
ETOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ETOR Torete 72.22 9 P **P 22 34 29.5 -0.2**
comp=Z,7.6nm,0.9s,mb4.6
PCAB Cabril 72.51 4 *eP* **P 22 34 31.3 -0.1**
comp=Z,60nm,1.4s,mb5.3
ELOB Lobios 72.67 4 P **P 22 34 32.5 +0.1**
comp=Z,168nm,1.8s,mb5.7
ERTA Horta de San J 72.71 11 P **P 22 34 32.3 -0.4**
comp=Z,124nm,1.8s,mb5.5
ECAL Calabor 72.83 5 P **P 22 34 33.8 +0.4**
comp=Z,84nm,1.5s,mb5.5
EPOB Poblet 73.22 11 P **P 22 34 35.4 -0.3**
comp=Z,103nm,1.8s,mb5.5
ESAC San Caprasio 73.33 10 P **P 22 34 36.1 -0.2**
comp=Z,95nm,1.3s,mb5.6
STS Santiago 73.65 4 P **P 22 34 38.3 +0.2**
STS pmax pmax
comp=Z,14nm,0.9s,mb4.9
STS Santiago 73.65 4 P **P 22 34 38.3 +0.2**
comp=Z,14nm,0.9s,mb4.9
CASY Casey 74.07 160 *eP* **P 22 34 40.4 -0.1**
CASY Casey 74.07 160 *eP* **P 22 34 39.9 -0.6**
CASY *e*PcP PcP 22 34 54.6 -1.0
CEL Celeste 74.13 24 *eP* **P 22 34 41.3 +0.2**
comp=Z,41nm,1.5s,mb5.1
EPON Pontenova 74.18 5 P **P 22 34 40.6 -0.6**
comp=Z,15nm,1.1s,mb4.8
EARI Arriondas 74.31 6 P **P 22 34 42.6 +0.6**
comp=Z,12nm,1.6s,mb4.6
EBIE Bielsa 74.37 10 P **P 22 34 42.6 +0.2**
comp=Z,6.7nm,1.2s,mb4.5
VALF Valcebollere 74.40 12 *eP* **P 22 34 42.0 -0.5**
ELAN Lanestosa 74.43 8 P **P 22 34 43.3 +0.6**
comp=Z,9.7nm,0.9s,mb4.7
ETSF Etsaut 74.47 10 *eP* **P 22 34 42.7 -0.2**
comp=Z,63nm,1.3s,mb5.1
ETSF Etsaut 74.47 10 *eP* **P 22 34 42.7 -0.2**
ETSF pmax pmax
comp=Z,32nm,1.3s,mb5.1
ETSF Etsaut 74.47 10 *eP* **P 22 34 42.7 -0.2**
comp=Z,32nm,1.3s,mb5.1
LARF Larrau 74.55 9 *eP* **P 22 34 43.7 +0.3**
SJPF Ste Jean 74.59 9 *eP* **P 22 34 43.6 0.0**
comp=Z,124nm,1.6s,mb5.3
SJPF Ste Jean 74.59 9 *eP* **P 22 34 43.6 0.0**
SJPF pmax pmax
comp=Z,62nm,1.6s,mb5.3
SJPF Ste Jean 74.59 9 *eP* **P 22 34 43.6 0.0**
comp=Z,62nm,1.6s,mb5.3
ELIZ Elizondo 74.60 9 P **P 22 34 44.2 +0.5**
ELIZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ELIZ Elizondo 74.60 9 P **P 22 34 44.2 +0.5**

comp=Z,10.0nm,1.0s,mb4.7
EJON La Jonquera 74.61 12 P **P 22 34 43.4 -0.3**
comp=Z,10nm,1.6s,mb4.5
SALF Salau 74.61 11 *eP* **P 22 34 44.2 +0.5**
FILF Fillols 74.65 12 *eP* **P 22 34 43.3 -0.7**
EALK Alkurruntz 74.66 9 P **P 22 34 45.0 +1.0**
comp=Z,95nm,2.1s,mb5.4
REYF Montagne du Re 74.67 10 *eP* **P 22 34 44.3 +0.2**
LABF Labassere 74.71 10 *eP* **P 22 34 44.5 +0.2**
OSSF Osses 74.72 9 *eP* **P 22 34 44.2 -0.2**
EPF Esparros 74.74 10 *eP* **P 22 34 44.1 -0.4**
comp=Z,63nm,1.5s,mb5.0
EPF Esparros 74.74 10 *eP* **P 22 34 44.1 -0.4**
EPF pmax pmax
comp=Z,32nm,1.5s,mb5.0
EPF Esparros 74.74 10 *eP* **P 22 34 44.1 -0.4**
comp=Z,32nm,1.5s,mb5.0
VAM Vamos 74.93 31 *eP* **P 22 34 46.6 +0.8**
BCIP Isla Barro Col 75.03 291 PFAKE 22 35 00.0 +13
BCIP LR LR
comp=Z,2µm,20.0s,MS5.4
TIP Timpagrande 75.25 24 *eP* **P 22 34 47.5 0.0**
TIP *e*PP PP 22 37 36.3 -0.2
TIP *e*S S 22 44 16.7 -10
TIP LR LR
comp=Z,897nm,20.0s,MS5.1
MTLF Montolieu 75.35 12 *eP* **P 22 34 46.6 -1.4**
comp=Z,53nm,1.5s,mb4.9
MTLF Montolieu 75.35 12 *eP* **P 22 34 46.6 -1.4**
MTLF pmax pmax
comp=Z,26nm,1.5s,mb4.9
MTLF Montolieu 75.35 12 *eP* **P 22 34 46.6 -1.4**
comp=Z,26nm,1.5s,mb4.9
NPS Neapolis 75.44 32 *eP* **P 22 34 46.4 -2.4**
ITM Ithomi 75.46 29 *eP* **P 22 34 49.8 +1.0**
VLI Veliai 75.49 29 *eP* **P 22 34 51.2 +2.2**
RLS Riolos of Patr 76.03 28 *eP* **P 22 34 53.6 +1.6**
PGF Pioggiola 76.03 17 *eP* **P 22 34 51.6 -0.3**
comp=Z,64nm,1.6s,mb5.0
PGF Pioggiola 76.03 17 *eP* **P 22 34 51.6 -0.3**
PGF pmax pmax
comp=Z,32nm,1.6s,mb5.0
PGF Pioggiola 76.03 17 *eP* **P 22 34 51.6 -0.3**
comp=Z,32nm,1.6s,mb5.0
LMR La Mourre 76.19 15 *eP* **P 22 34 52.8 0.0**
comp=Z,83nm,1.7s,mb5.1
LMR La Mourre 76.19 15 *eP* **P 22 34 52.8 0.0**
LMR pmax pmax
comp=Z,41nm,1.7s,mb5.1
LMR La Mourre 76.19 15 *eP* **P 22 34 52.8 0.0**
comp=Z,41nm,1.7s,mb5.1
DID Didima 76.28 29 *eP* **P 22 34 52.7 -0.8**
SANT Santorini 76.29 31 *eP* **P 22 34 52.8 -0.8**
SANT Santorini 76.29 31 *eP* **P 22 34 48.9 -4.7**
SANT *e*S S 22 44 46.4 +8.2
SANT LR LR
comp=Z,310nm,19.0s,MS4.6
LASF Ste Croix 76.36 13 *eP* **P 22 34 53.2 -0.6**
comp=Z,98nm,1.7s,mb5.2
KARP Karpathos 76.39 33 *eP* **P 22 34 55.2 +1.0**
SMRF Simiane la Rot 76.60 14 *eP* **P 22 34 55.1 0.0**
comp=Z,72nm,1.6s,mb5.0
SMRF Simiane la Rot 76.60 14 *eP* **P 22 34 55.1 0.0**
comp=Z,72nm,1.6s,mb5.3
LTK Loutraki 76.61 29 *eP* **P 22 34 54.8 -0.5**
LFF La Frestale 76.66 10 *eP* **P 22 34 55.0 -0.5**
comp=Z,167nm,1.7s,mb5.4
LFF La Frestale 76.66 10 *eP* **P 22 34 55.0 -0.5**
LFF pmax pmax
comp=Z,84nm,1.7s,mb5.4
LFF La Frestale 76.66 10 *eP* **P 22 34 55.0 -0.5**
comp=Z,84nm,1.7s,mb5.4
KEK Kerkira 76.82 26 *eP* **P 22 34 58.1 +1.6**
CAF Calviac 76.86 11 *eP* **P 22 34 55.9 -0.7**
comp=Z,59nm,1.6s,mb5.0
CAF Calviac 76.86 11 *eP* **P 22 34 55.9 -0.7**
CAF pmax pmax
comp=Z,29nm,1.6s,mb5.0
CAF Calviac 76.86 11 *eP* **P 22 34 55.9 -0.7**
comp=Z,29nm,1.6s,mb5.0
ATH Athens Observa 76.88 29 *eP* **P 22 34 57.8 +1.0**
SBF Sospel 76.90 15 *eP* **P 22 34 56.0 -0.8**
EVR Evrytania 76.90 28 *eP* **P 22 34 58.5 +1.5**
APE Apeiranthos 76.90 31 *eP* **P 22 34 57.0 0.0**
APE Apeiranthos 76.90 31 *eP* **P 22 34 58.1 +1.1**
TOUF Mont Tournerai 77.00 15 *eP* **P 22 34 57.7 +0.3**
AUTN L'Aution 77.03 15 *eP* **P 22 34 58.1 +0.6**
SAOF Saorge 77.05 15 *eP* **P 22 34 57.3 -0.3**
AQU L'Aquila 77.05 20 *eP* **P 22 34 57.7 0.0**
AQU 22 37 51.5
AQU *e*S S 22 44 52.7 +6.5
AQU pmax pmax
comp=Z,72nm,1.7s,mb5.3
AQU MLR MLR
comp=Z,2µm,21.0s,MS5.5
AQU L'Aquila 77.05 20 *eP* **P 22 34 57.7 0.0**
comp=Z,72nm,1.7s,mb5.3
AQU PP PP 22 37 51.5 -0.1
AQU *e*S S 22 44 52.7 +6.5
AQU LR LR
comp=Z,2µm,21.0s,MS5.5
RJF Les Rejaudoux 77.14 11 *eP* **P 22 34 57.5 -0.6**
comp=Z,95nm,1.6s,mb5.2
RJF *e*MLR MLR
comp=Z,873nm,20.0s,MS4.8
RJF Les Rejaudoux 77.14 11 *eP* **P 22 34 57.5 -0.6**
RJF pmax pmax
comp=Z,48nm,1.6s,mb5.2
RJF MLR MLR
comp=Z,870nm,20.0s,MS5.1
RJF Les Rejaudoux 77.14 11 *eP* **P 22 34 57.5 -0.6**
comp=Z,48nm,1.6s,mb5.2
RJF LR LR
comp=Z,870nm,20.0s,MS5.1
LKR Lokris 77.15 28 *eP* **P 22 34 57.6 -0.8**
LKR Lokris 77.15 28 *eP* **P 22 34 58.8 +0.4**
JAN Janina 77.17 26 *eP* **P 22 35 00.0 +1.6**
AGG Agios Georgios 77.20 28 *eP* **P 22 34 55.3 -3.4**
VIVF Saint-Julien-I 77.27 13 *eP* **P 22 34 58.4 -0.5**
comp=Z,48nm,1.1s,mb5.0
VIVF Saint-Julien-I 77.27 13 *eP* **P 22 34 58.4 -0.5**
VIVF pmax pmax
comp=Z,24nm,1.1s,mb5.0
VIVF Saint-Julien-I 77.27 13 *eP* **P 22 34 58.4 -0.5**
comp=Z,24nm,1.1s,mb5.0
LBL Lubilhac 77.36 12 *eP* **P 22 34 59.2 -0.2**
ARG Arkhangelos 77.39 33 *eP* **P 22 35 01.4 +1.6**
THL Klokotos Trika 77.54 27 *eP* **P 22 34 58.8 -1.8**
THL Klokotos Trika 77.54 27 *eP* **P 22 34 58.8 -1.7**
ORIF Oris-en-Rattie 77.57 14 *eP* **P 22 35 00.5 0.0**
comp=Z,57nm,1.3s,mb5.0
ORIF *e*MLR MLR
comp=Z,774nm,20.8s,MS4.7
ORIF Oris-en-Rattie 77.57 14 *eP* **P 22 35 00.5 0.0**
ORIF pmax pmax
comp=Z,28nm,1.3s,mb5.0
ORIF Oris-en-Rattie 77.57 14 *eP* **P 22 35 00.5 0.0**
comp=Z,28nm,1.3s,mb5.0
MBDF Montbardon 77.58 15 *eP* **P 22 35 00.6 0.0**
comp=Z,62nm,1.4s,mb5.0
MBDF Montbardon 77.58 15 *eP* **P 22 35 00.6 0.0**
MBDF pmax pmax
comp=Z,31nm,1.4s,mb5.0
MBDF Montbardon 77.58 15 *eP* **P 22 35 00.6 0.0**
comp=Z,31nm,1.4s,mb5.0
NEO Neokhori 77.80 28 *eP* **P 22 35 02.3 +0.3**
XOR Xorichti 77.84 28 *eP* **P 22 35 02.0 -0.2**
BNI Bardonecchia 77.86 14 *eP* **P 22 35 01.1 -1.1**
BNI *e* 22 37 58.4
BNI *e*S S 22 45 05.0 +10
BNI MLR MLR
comp=Z,1µm,20.0s,MS5.2
VLC Villacollemand 77.89 17 PFAKE 22 35 10.0 +7.6
VLC LR LR
comp=Z,587nm,19.0s,MS4.9
KZN Kozani 78.08 27 *eP* **P 22 35 04.2 +0.7**
AGO Saint Agoulin 78.14 12 *eP* **P 22 35 04.6 +0.9**
PLDF La Plantade 78.14 12 *eP* **P 22 35 03.6 -0.1**
MFF Saint Martin d 78.16 9 *eP* **P 22 35 03.3 -0.5**
comp=Z,105nm,1.7s,mb5.2
MFF Saint Martin d 78.16 9 *eP* **P 22 35 03.3 -0.5**
MFF pmax pmax
comp=Z,52nm,1.7s,mb5.2
MFF Saint Martin d 78.16 9 *eP* **P 22 35 03.3 -0.5**
comp=Z,52nm,1.7s,mb5.2

LIT	**Litokhoron**	**78.19**	**27**	*eP*	**P**	**22 35 03.5**	**-0.7**
TCF	**Toulx Ste Croi**	**78.21**	**11**	*eP*	**P**	**22 35 03.8**	**-0.3**
	comp=Z,140nm,1.9s,mb5.3						
TCF	**Toulx Ste Croi**	**78.21**	**11**	*eP*	**P**	**22 35 03.8**	**-0.3**
TCF				pmax	pmax		
	comp=Z,70nm,1.9s,mb5.3						
TCF	**Toulx Ste Croi**	**78.21**	**11**	*eP*	**P**	**22 35 03.8**	**-0.3**
	comp=Z,70nm,1.9s,mb5.3						
CHOS	**Chios island**	**78.23**	**31**	*eP*	**P**	**22 35 06.0**	**+1.6**
TIR	**Tirane**	**78.27**	**25**	*eP*	**P**	**22 35 04.9**	**+0.3**
LPG	**La Plagne**	**78.31**	**14**	*eP*	**P**	**22 35 04.8**	**+0.2**
	comp=Z,45nm,1.0s,mb5.1						
LPG	**La Plagne**	**78.31**	**14**	*eP*	**P**	**22 35 04.8**	**+0.2**
LPG				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
LPG	**La Plagne**	**78.31**	**14**	*eP*	**P**	**22 35 04.8**	**+0.2**
	comp=Z,22nm,1.0s,mb5.0						
LPL	**La Plagne**	**78.32**	**14**	*eP*	**P**	**22 35 04.7**	**0.0**
	comp=Z,55nm,1.1s,mb5.1						
LPL	**La Plagne**	**78.32**	**14**	*eP*	**P**	**22 35 04.7**	**0.0**
LPL				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
LPL	**La Plagne**	**78.32**	**14**	*eP*	**P**	**22 35 04.7**	**0.0**
	comp=Z,28nm,1.1s,mb5.1						
FNA	**Florina**	**78.34**	**26**	*eP*	**P**	**22 35 05.6**	**+0.6**
AYDN	**Tasoluk**	**78.45**	**32**	*i* P	**P**	**22 35 06.6**	**+1.0**
PAIG	**Paliouri**	**78.52**	**28**	*eP*	**P**	**22 35 04.6**	**-1.3**
BGF	**Bois d'Agland**	**78.58**	**11**	*eP*	**P**	**22 35 05.7**	**-0.4**
	comp=Z,92nm,1.7s,mb5.1						
BGF	**Bois d'Agland**	**78.58**	**11**	*eP*	**P**	**22 35 05.7**	**-0.4**
BGF				pmax	pmax		
	comp=Z,46nm,1.7s,mb5.1						
BGF	**Bois d'Agland**	**78.58**	**11**	*eP*	**P**	**22 35 05.7**	**-0.4**
	comp=Z,46nm,1.7s,mb5.1						
PLG	**Polygyros**	**78.80**	**28**	*eP*	**P**	**22 35 06.7**	**-0.8**
PLG	**Polygyros**	**78.80**	**28**	*eP*	**P**	**22 35 08.2**	**+0.7**
SMF	**Signal de Mont**	**78.84**	**12**	*eP*	**P**	**22 35 07.0**	**-0.5**
	comp=Z,157nm,1.8s,mb5.3						
SMF	**Signal de Mont**	**78.84**	**12**	*eP*	**P**	**22 35 07.0**	**-0.5**
SMF				pmax	pmax		
	comp=Z,79nm,1.8s,mb5.3						
SMF	**Signal de Mont**	**78.84**	**12**	*eP*	**P**	**22 35 07.0**	**-0.5**
	comp=Z,79nm,1.8s,mb5.3						
HORT	**Hortiatis**	**78.85**	**28**	*eP*	**P**	**22 35 08.6**	**+0.8**
STON	**Ston**	**78.87**	**23**	P	**P**	**22 35 05.4**	**-2.4**
GRG	**Griva**	**78.89**	**27**	*eP*	**P**	**22 35 05.4**	**-2.6**
AVF	**Avril sur Loir**	**78.89**	**12**	*eP*	**P**	**22 35 07.4**	**-0.4**
	comp=Z,80nm,1.3s,mb5.2						
AVF	**Avril sur Loir**	**78.89**	**12**	*eP*	**P**	**22 35 07.4**	**-0.4**
AVF				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
AVF	**Avril sur Loir**	**78.89**	**12**	*eP*	**P**	**22 35 07.4**	**-0.4**
	comp=Z,40nm,1.3s,mb5.2						
GOLH	**Golhisar**	**78.89**	**34**	*i* P	**P**	**22 35 09.1**	**+1.0**
OUR	**Ouranopolis**	**78.98**	**28**	*eP*	**P**	**22 35 08.9**	**+0.4**
CSS	**Prodhromos**	**78.99**	**38**	*eP*	**P**	**22 35 01.6**	**-7.1**
CSS	**Prodhromos**	**78.99**	**38**	*eP*	**P**	**22 35 12.3**	**+3.6**
CSS				*eS*	S	22 44 54.5	-13
DNZL	**Cakiroluk**	**79.02**	**33**	*i* P	**P**	**22 35 09.6**	**+0.9**
PRK	**Paraskevi**	**79.03**	**30**	*eP*	**P**	**22 35 07.0**	**-1.8**
PRK	**Paraskevi**	**79.03**	**30**	*eP*	**P**	**22 35 09.7**	**+0.9**
QUIF	**Quistinic**	**79.09**	**7**	*eP*	**P**	**22 35 08.3**	**-0.6**
	comp=Z,47nm,1.1s,mb5.0						
QUIF	**Quistinic**	**79.09**	**7**	*eP*	**P**	**22 35 08.3**	**-0.6**
QUIF				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
QUIF	**Quistinic**	**79.09**	**7**	*eP*	**P**	**22 35 08.3**	**-0.6**
	comp=Z,24nm,1.1s,mb5.0						
SOH	**Sokhos**	**79.14**	**28**	*eP*	**P**	**22 35 07.8**	**-1.6**
SSF	**Saint Saulge**	**79.18**	**12**	*eP*	**P**	**22 35 08.8**	**-0.6**
	comp=Z,30nm,1.1s,mb4.8						
SSF	**Saint Saulge**	**79.18**	**12**	*eP*	**P**	**22 35 08.8**	**-0.6**
SSF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
SSF	**Saint Saulge**	**79.18**	**12**	*eP*	**P**	**22 35 08.8**	**-0.6**
	comp=Z,15nm,1.1s,mb4.8						
CABF	**La Chapelle**	**79.23**	**14**	*eP*	**P**	**22 35 08.8**	**-0.9**
	comp=Z,59nm,1.2s,mb5.1						
CABF	**La Chapelle**	**79.23**	**14**	*eP*	**P**	**22 35 08.8**	**-0.9**
CABF				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.1						
CABF	**La Chapelle**	**79.23**	**14**	*eP*	**P**	**22 35 08.8**	**-0.9**
	comp=Z,30nm,1.3s,mb5.1						
KNT	**Kendrikon**	**79.25**	**27**	*eP*	**P**	**22 35 10.3**	**+0.3**
VAY	**Valandovo**	**79.26**	**27**	*eP*	**P**	**22 35 09.2**	**-0.8**
VAY	**Valandovo**	**79.26**	**27**	‖ *iP*	**P**	**22 35 09.4**	**-0.6**
SKO	**Skopje**	**79.40**	**26**	‖ *eP*	**P**	**22 35 10.8**	**+0.1**
AKHS	**Akhisar**	**79.41**	**32**	*i* P	**P**	**22 35 10.5**	**-0.4**
BOZC	**Bozcaada**	**79.44**	**30**	*i* P	**P**	**22 35 10.9**	**-0.1**
STIP	**Stip**	**79.44**	**26**	*eP*	**P**	**22 35 11.1**	**+0.1**
STIP	**Stip**	**79.44**	**26**	‖ *eP*	**P**	**22 35 10.7**	**-0.3**
LOR	**Lormes**	**79.44**	**12**	*eP*	**P**	**22 35 10.1**	**-0.7**
	comp=Z,63nm,1.4s,mb5.0						
LOR				*e*MLR	MLR		
	comp=Z,1μm,20.5s,MS4.9						
LOR	**Lormes**	**79.44**	**12**	*eP*	**P**	**22 35 10.1**	**-0.7**
LOR				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.0						
LOR				MLR	MLR		
	comp=Z,1μm,20.5s,MS5.2						
LOR	**Lormes**	**79.44**	**12**	*eP*	**P**	**22 35 10.1**	**-0.7**
	comp=Z,31nm,1.4s,mb5.0						
LOR				LR	LR		
	comp=Z,1μm,20.5s,MS5.2						
SGMF	**Saint Gilles**	**79.48**	**7**	*eP*	**P**	**22 35 10.4**	**-0.6**
	comp=Z,125nm,1.4s,mb5.3						
SGMF	**Saint Gilles**	**79.48**	**7**	*eP*	**P**	**22 35 10.4**	**-0.6**
SGMF				pmax	pmax		
	comp=Z,62nm,1.4s,mb5.3						
SGMF	**Saint Gilles**	**79.48**	**7**	*eP*	**P**	**22 35 10.4**	**-0.6**
	comp=Z,62nm,1.4s,mb5.3						
ROSF	**Rostrenen**	**79.49**	**7**	*eP*	**P**	**22 35 10.6**	**-0.5**
	comp=Z,126nm,1.3s,mb5.4						
ROSF	**Rostrenen**	**79.49**	**7**	*eP*	**P**	**22 35 10.6**	**-0.5**
ROSF				pmax	pmax		
	comp=Z,63nm,1.3s,mb5.4						
ROSF	**Rostrenen**	**79.49**	**7**	*eP*	**P**	**22 35 10.6**	**-0.5**
	comp=Z,63nm,1.3s,mb5.4						
NVLJ	**Novalja**	**79.50**	**20**	P	**P**	**22 35 10.4**	**-0.8**
BBSR	**BB Station**	**79.53**	**318**	*eP*	**P**	**22 35 10.5**	**-1.2**
BBSR				*eS*	S	22 45 14.1	+0.8
BBSR				LR	LR		
	comp=Z,479nm,20.0s,MS4.8						
KHAL	**Karahalli**	**79.77**	**33**	*i* P	**P**	**22 35 13.3**	**+0.4**
NVR	**Nevrokopi**	**79.80**	**28**	*eP*	**P**	**22 35 13.7**	**+0.8**
TUE	**Stuetta**	**79.81**	**16**	*eP*	**P**	**22 35 11.4**	**-1.4**
	comp=Z,18nm,1.3s,mb4.8						
TUE				*e*PcP	PcP	22 35 18.8	-1.6
GRR	**Gorron**	**79.82**	**8**	*eP*	**P**	**22 35 11.9**	**-0.9**
	comp=Z,38nm,1.2s,mb4.9						
GRR	**Gorron**	**79.82**	**8**	*eP*	**P**	**22 35 11.9**	**-0.9**
GRR				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
GRR	**Gorron**	**79.82**	**8**	*eP*	**P**	**22 35 11.9**	**-0.9**
	comp=Z,19nm,1.2s,mb4.9						
ISP	**Isparta**	**79.83**	**34**	*eP*	**P**	**22 35 14.7**	**+1.5**
TKTP	**Tekketepe**	**79.90**	**34**	*i* P	**P**	**22 35 13.8**	**+0.3**
DEMI	**Demirci**	**79.96**	**32**	*i* P	**P**	**22 35 12.7**	**-1.1**
BALY	**Balya**	**80.03**	**31**	*i* P	**P**	**22 35 13.1**	**-1.1**
LDF	**La Druitiere**	**80.11**	**9**	*eP*	**P**	**22 35 13.8**	**-0.6**
	comp=Z,119nm,1.7s,mb5.2						
LDF	**La Druitiere**	**80.11**	**9**	*eP*	**P**	**22 35 13.8**	**-0.6**
LDF				pmax	pmax		
	comp=Z,59nm,1.7s,mb5.2						
LDF	**La Druitiere**	**80.11**	**9**	*eP*	**P**	**22 35 13.8**	**-0.6**
	comp=Z,59nm,1.7s,mb5.2						
FLN	**La Foliniere**	**80.23**	**9**	*eP*	**P**	**22 35 14.5**	**-0.6**
	comp=Z,142nm,1.7s,mb5.3						
FLN				*e*MLR	MLR		
	comp=Z,2μm,20.0s,MS5.1						
FLN	**La Foliniere**	**80.23**	**9**	*eP*	**P**	**22 35 14.5**	**-0.6**
FLN				pmax	pmax		
	comp=Z,71nm,1.7s,mb5.3						
FLN				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.4						
FLN	**La Foliniere**	**80.23**	**9**	*eP*	**P**	**22 35 14.5**	**-0.6**
	comp=Z,71nm,1.7s,mb5.3						
FLN				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
RDO	**Rodhopi**	**80.30**	**29**	*eP*	**P**	**22 35 15.8**	**+0.1**
ALN	**Alexandroupoli**	**80.31**	**29**	*eP*	**P**	**22 35 13.4**	**-2.2**
BBS	**Basel-Blauen**	**80.34**	**14**	*eP*	**P**	**22 35 15.2**	**-0.5**
GDZ	**Gediz**	**80.34**	**33**	*i* P	**P**	**22 35 15.8**	**-0.1**
HINF	**Hinteralfeld**	**80.54**	**14**	*eP*	**P**	**22 35 15.6**	**-1.1**
VOY	**Vojsko**	**80.56**	**19**	*eP*	**P**	**22 35 17.2**	**+0.3**

VOY				*e*		22 35 28.1	
VTS	**Vitosha**	**80.60**	**27**	P	**P**	**22 35 20.3**	**+3.1**
HAU	**Haudompre**	**80.62**	**13**	*eP*	**P**	**22 35 16.2**	**-1.0**
HAU				*e*MLR	MLR		
	comp=Z,537nm,21.8s,MS4.6						
HAU	**Haudompre**	**80.62**	**13**	*eP*	**P**	**22 35 16.2**	**-1.0**
HAU				LR	LR		
	comp=Z,540nm,21.8s,MS4.9						
SART	**Tekirdag**	**80.62**	**30**	*i* P	**P**	**22 35 16.4**	**-1.0**
MOF	**Molkenrain**	**80.63**	**14**	*eP*	**P**	**22 35 16.3**	**-0.9**
DAVA	**Damuels**	**80.70**	**16**	‖ *iP*	**P**	**22 35 17.1**	**-0.6**
	comp=Z,18nm,1.3s,mb4.8						
DIVS	**Divibare**	**80.73**	**24**	*eP*	**P**	**22 35 20.6**	**+2.7**
THEF	**They Montfort**	**80.76**	**13**	*eP*	**P**	**22 35 18.7**	**+0.8**
PLD	**Plovdiv**	**80.77**	**28**	*eP*	**P**	**22 35 16.2**	**-1.9**
FELD	**Feldberg im Sc**	**80.83**	**14**	*eP*	**P**	**22 35 17.8**	**-0.5**
MEZF	**Maizieres J'vi**	**80.85**	**12**	*eP*	**P**	**22 35 18.0**	**-0.4**
	comp=Z,109nm,1.5s,mb5.3						
MEZF	**Maizieres J'vi**	**80.85**	**12**	*eP*	**P**	**22 35 18.0**	**-0.4**
	comp=Z,109nm,1.5s,mb5.6						
ABTA	**Abfaltersbach**	**80.85**	**18**	‖ *iP*	**P**	**22 35 18.2**	**-0.3**
	comp=Z,20nm,1.5s,mb4.8,SNR=8.2						
ECH	**Echery**	**80.98**	**14**	*eP*	**P**	**22 35 18.7**	**-0.4**
ECH	**Echery**	**80.98**	**14**	*eP*	**P**	**22 35 18.8**	**-0.3**
ECH				*e*PcP	PcP	22 35 25.2	-0.3
ULDT	**Uludag**	**81.03**	**32**	*i* P	**P**	**22 35 20.4**	**+0.8**
WTTA	**Wattenberg**	**81.10**	**17**	*i* D	**P**	**22 35 21.4**	**+1.6**
SNR=7.3							
WTTA	**Wattenberg**	**81.10**	**17**	D	**P**	**22 35 21.4**	**+1.6**
SNR=7.3							
KDHN	**Kadinhani**	**81.14**	**35**	*i* P	**P**	**22 35 16.9**	**-3.4**
CDF	**Champ du Feu**	**81.19**	**14**	*eP*	**P**	**22 35 19.2**	**-1.0**
SPAK	**Spaichingen-Ko**	**81.22**	**15**	*eP*	**P**	**22 35 17.8**	**-2.6**
YAYL	**Yayladag**	**81.28**	**39**	*i* P	**P**	**22 35 20.2**	**-0.8**
ESKT	**Eskisehir**	**81.33**	**33**	*i* P	**P**	**22 35 21.9**	**+0.7**
BFO	**Black Forest**	**81.33**	**14**	*eP*	**P**	**22 35 20.2**	**-0.8**
BFO				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
BFO	**Black Forest**	**81.33**	**14**	*eP*	**P**	**22 35 20.2**	**-0.8**
	comp=Z,25nm,1.2s,mb5.0						
BFO	**Black Forest**	**81.33**	**14**	*eP*	**P**	**22 35 19.9**	**-1.1**
BFO				LR	LR		
	comp=Z,719nm,22.0s,MS5.0						
SOKA	**Soboth**	**81.47**	**19**	‖ *iP*	**P**	**22 35 22.1**	**+0.4**
	comp=Z,17nm,1.1s,mb4.9						
ELBA	**Cataica**	**81.54**	**31**	*i* P	**P**	**22 35 21.8**	**-0.5**
JMB	**Yambol**	**81.84**	**29**	*eP*	**P**	**22 35 24.6**	**+0.8**
RJOB	**Jochberg**	**81.84**	**18**	*eP*	**P**	**22 35 22.6**	**-1.1**
	comp=Z,8.0nm,1.1s,mb4.6						
FUR	**Furstenfeldbru**	**81.85**	**16**	*eP*	**P**	**22 35 23.4**	**-0.3**
FUR				pmax	pmax		
	comp=Z,54nm,1.4s,mb5.3						
FUR	**Furstenfeldbru**	**81.85**	**16**	*eP*	**P**	**22 35 23.4**	**-0.3**
	comp=Z,54nm,1.4s,mb5.3						
STU	**Stuttgart**	**81.94**	**15**	*eP*	**P**	**22 35 23.6**	**-0.6**
	comp=Z,39nm,1.3s,mb5.2						
PKSM	**Moragy**	**82.15**	**22**	‖ *iP*	**P**	**22 35 25.4**	**+0.1**
PKSM	**Moragy**	**82.15**	**22**	P	**P**	**22 35 25.4**	**+0.1**
WLF	**Walferdange**	**82.17**	**13**	P	**P**	**22 35 25.5**	**+0.2**
	comp=Z,26nm,1.7s,mb4.9						
WLF	**Walferdange**	**82.17**	**13**	*eP*	**P**	**22 35 25.9**	**+0.6**
WLF				*e*		22 38 37.5	
WLF				*eS*	S	22 45 38.4	-1.7
WLF				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.3						
WLF				MLR	MLR		
	comp=Z,455nm,19.0s,MS4.9						
WLF	**Walferdange**	**82.17**	**13**	*eP*	**P**	**22 35 25.4**	**+0.1**
	comp=Z,48nm,1.4s,mb5.2						
WLF				*e*PP	PP	22 38 29.3	-4.8
WLF	**Walferdange**	**82.17**	**13**	*eP*	**P**	**22 35 25.9**	**+0.6**
	comp=Z,55nm,1.4s,mb5.3						
WLF				*e*PP	PP	22 38 37.5	+3.4
WLF				*eS*	S	22 45 38.4	-1.7
WLF				LR	LR		
	comp=Z,455nm,19.0s,MS4.9						
BAIF	**Baives**	**82.20**	**11**	*eP*	**P**	**22 35 25.0**	**-0.5**
	comp=Z,118nm,1.7s,mb5.2						
BAIF	**Baives**	**82.20**	**11**	*eP*	**P**	**22 35 25.0**	**-0.5**
BAIF				pmax	pmax		
	comp=Z,59nm,1.7s,mb5.2						
BAIF	**Baives**	**82.20**	**11**	*eP*	**P**	**22 35 25.0**	**-0.5**
	comp=Z,59nm,1.7s,mb5.2						
DOU	**Dourbes**	**82.30**	**12**	P	**P**	**22 35 27.0**	**+1.0**
MOA	**Molln**	**82.33**	**18**	‖ *iP*	**P**	**22 35 25.7**	**-0.5**
	comp=Z,14nm,1.1s,mb4.8						
GIVF	**Givet**	**82.35**	**12**	*eP*	**P**	**22 35 25.7**	**-0.6**
RUP	**Ruppelstein**	**82.38**	**13**	*eP*	**P**	**22 35 25.8**	**-0.6**
ANTO	**Ankara**	**82.52**	**34**	*eP*	**P**	**22 35 28.1**	**+0.6**
ANTO				*e*	pP	22 35 31.6	+0.8
ANTO				pmax	pmax		
	comp=Z,137nm,2.0s,mb5.6						
ANTO				MLR	MLR		
	comp=Z,354nm,21.0s,MS4.7						
ANTO	**Ankara**	**82.52**	**34**	P	**P**	**22 35 29.7**	**+2.2**
ANTO	**Ankara**	**82.52**	**34**	*eP*	**P**	**22 35 28.1**	**+0.6**
	comp=Z,137nm,2.0s,mb5.6						
ANTO				*e*PcP	PcP	22 35 31.6	-0.9
ANTO				LR	LR		
	comp=Z,354nm,21.0s,MS4.7						
ANDN	**Andirin**	**82.56**	**38**	*i* P	**P**	**22 35 26.9**	**-0.9**
BZS	**Buzias**	**82.62**	**24**	‖ *iP*	**P**	**22 35 27.7**	**-0.1**
BZS	**Buzias**	**82.62**	**24**	P	**P**	**22 35 27.9**	**+0.1**
TOD	**Tromm**	**82.64**	**14**	*eP*	**P**	**22 35 27.5**	**-0.3**
AVNT	**Avonos**	**82.70**	**36**	*i* P	**P**	**22 35 27.2**	**-1.2**
DGAR	**Diego Garcia**	**82.72**	**94**	PFAKE		22 35 40.0	+11
DGAR				LR	LR		
	comp=Z,3μm,20.0s,MS5.6						
SGKT	**Sivrigoynuk**	**82.72**	**33**	*i* P	**P**	**22 35 28.9**	**+0.4**
BCLA	**Clavier**	**82.74**	**12**	P	**P**	**22 35 28.1**	**-0.2**
	comp=Z,32nm,2.4s,mb4.9						
SOP	**Sopron**	**82.83**	**20**	‖ *ePcP*	PcP	22 35 29.4	-4.2
GZR	**Gura Zlata**	**82.84**	**25**	‖ *iP*	**P**	**22 35 29.0**	**0.0**
CONA	**Conrad Observa**	**82.85**	**19**	‖ *iP*	**P**	**22 35 29.2**	**+0.2**
	comp=Z,17nm,1.4s,mb4.9,SNR=8.7						
GZT	**Gaziantep**	**83.04**	**39**	*i* P	**P**	**22 35 30.0**	**-0.3**
MEM	**Membach**	**83.05**	**12**	P	**P**	**22 35 30.8**	**+0.9**
	comp=Z,10nm,1.7s,mb4.6						
GEC2	**GERESS Array S**	**83.09**	**18**	*eP*	**P**	**22 35 29.8**	**-0.4**
GEC2				*e*		22 38 37.2	
GEC2				pmax	pmax		
	comp=Z,50nm,2.1s,mb5.2						
GEC2	**GERESS Array S**	**83.09**	**18**	*eP*	**P**	**22 35 29.8**	**-0.4**
	comp=Z,50nm,2.1s,mb5.2						
GEC2				*e*PP	PP	22 38 37.2	-4.5
GERES	**GERESS Array B**	**83.09**	**18**	P	**P**	**22 35 29.8**	**-0.4**
	comp=Z,2.1nm,0.9s,mb4.2,baz=193,slow=5.5,SNR=16						
GERES				PP	PP	22 38 39.7	-2.1
	comp=Z,1.2nm,1.0s,baz=189,slow=7.8,SNR=4.7						
GERES				LR	LR	23 11 53.8	
	comp=Z,687nm,19.0s,MS5.0,baz=204,slow=35						
GERES	**GERESS Array B**	**83.09**	**18**	P	**P**	**22 35 29.8**	**-0.4**
GERES						22 38 39.7	
CDAG	**Cicekdag**	**83.11**	**35**	*i* P	**P**	**22 35 29.3**	**-1.2**
TNS	**Taunus Mts**	**83.15**	**14**	*eP*	**P**	**22 35 30.6**	**+0.1**
TNS				*e*		22 38 39.5	
TNS				pmax	pmax		
	comp=Z,53nm,1.7s,mb5.3						
TNS	**Taunus Mts**	**83.15**	**14**	*eP*	**P**	**22 35 30.6**	**+0.1**
	comp=Z,53nm,1.7s,mb5.3						
TNS				*e*PP	PP	22 38 39.5	-2.7
WET	**Wettzell**	**83.16**	**17**	*eP*	**P**	**22 35 30.0**	**-0.5**
WET				pmax	pmax		
	comp=Z,93nm,2.2s,mb5.4						
WET	**Wettzell**	**83.16**	**17**	*eP*	**P**	**22 35 30.0**	**-0.5**
	comp=Z,93nm,2.2s,mb5.4						
GRFO	**Grafenberg**	**83.26**	**16**	*eL*		23 09 47.2	
	comp=Z,497nm,21.6s						
GRA1	**Grafenberg Arr**	**83.27**	**16**	*eP*	**P**	**22 35 30.8**	**-0.3**
	comp=Z,74nm,1.4s,mb5.5						
GRA1				*e*pP	pP	22 35 37.1	+2.7
GRF	**Grafenberg Arr**	**83.27**	**16**	*eP*	**P**	**22 35 30.8**	**-0.3**
GRF				*e**PP	pP	22 35 37.1	+2.7
GRF				pmax	pmax		
	comp=Z,74nm,1.4s,mb5.5						
GRF	**Grafenberg Arr**	**83.27**	**16**	*eP*	**P**	**22 35 30.8**	**-0.3**
GRF				*e**PP	pP	22 35 37.1	+2.7
GRF				pmax	pmax		
	comp=Z,74nm,1.4s,mb5.5						
GRF	**Grafenberg Arr**	**83.27**	**16**	*eP*	**P**	**22 35 30.8**	**-0.3**
	comp=Z,74nm,1.4s,mb5.5						
GRF				*e*pP	pP	22 35 37.1	+2.7
KHC	**Kasperske Hory**	**83.33**	**17**	*eP*	**P**	**22 35 30.9**	**-0.5**
KHC				*e*		22 35 36.7	

KHC				*e*		22 38 49.3	
KHC				*eS*	S	22 45 54.8	+2.9
KHC				MLR	MLR		
	comp=Z,800nm,22.6s,MS5.0						
KHC	**Kasperske Hory**	**83.33**	**17**	*eP*	**P**	**22 35 30.9**	**-0.5**
KHC				*e*PCP	PcP	22 35 36.7	+0.9
KHC				*e*pP	pP	22 35 41.7	+7.0
KHC				*ex*	x	22 38 30.5	
KHC				*e*PP	PP	22 38 49.3	+5.7
KHC				*eS*	S	22 45 54.8	+2.9
KHC				*ex*	x	22 51 09.1	
KHC				AMS	AMS	23 08 10.0	
	comp=Z,800nm,22.6s						
BUD	**Budapest**	**83.40**	**21**	‖ *e*PcP	PcP	22 35 31.5	-4.6
PINB	**Pinarbasi**	**83.41**	**37**	*i* P	**P**	**22 35 32.6**	**+0.5**
ZST	**Bratislava**	**83.45**	**20**	*eP*	**P**	**22 35 32.3**	**+0.3**
ZST				*e*		22 35 38.3	
ZST				pmax	pmax		
	comp=Z,126nm,2.2s,mb5.6						
ZST				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.2						
ZST	**Bratislava**	**83.45**	**20**	*eP*	**P**	**22 35 32.3**	**+0.3**
ZST				*e*pP	pP	22 35 38.3	+2.9
ZST	**Bratislava**	**83.45**	**20**	*eP*	**P**	**22 35 32.3**	**+0.3**
	comp=Z,126nm,2.2s,mb5.6						
ZST				*e*		22 35 38.3	
ZST				LR	LR		
	comp=Z,100nm,20.0s,MS4.2						
ROTZ	**Rotzenmuhle**	**83.57**	**16**	*eP*	**P**	**22 35 32.4**	**-0.2**
	comp=Z,31nm,1.4s,mb5.2						
ROTZ				*e*PP	PP	22 38 42.7	-2.9
MODS	**Modra-Piesok**	**83.66**	**20**	*eP*	**P**	**22 35 33.5**	**+0.4**
MANZ	**Manzenberg**	**83.75**	**16**	*eP*	**P**	**22 35 33.2**	**-0.3**
	comp=Z,65nm,2.0s,mb5.4						
MANZ				*e*PP	PP	22 38 44.9	-2.2
TGUH	**Tegucigalpa,Un**	**83.78**	**290**	*eP*	**P**	**22 35 34.1**	**-0.5**
TGUH				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
ILGA	**Ilgaz**	**83.89**	**34**	*i* P	**P**	**22 35 32.8**	**-1.7**
TREC	**Trest**	**83.98**	**19**	*eP*	**P**	**22 35 34.3**	**-0.5**
TREC				*e*		22 35 39.8	
TREC				*e*		22 38 42.9	
TREC				*eS*	S	22 46 00.4	+1.9
TREC				*eSS*	SS	22 51 22.9	-4.7
TREC				MLR	MLR		
	comp=Z,1μm,20.5s,MS5.2						
TREC	**Trest**	**83.98**	**19**	*eP*	**P**	**22 35 34.3**	**-0.5**
TREC				*e*PCP	PcP	22 35 39.8	+1.1
TREC				*e*pP	pP	22 35 45.2	+7.1
TREC				*e*PP	PP	22 38 42.9	-6.1
TREC				*eS*	S	22 46 00.4	+1.9
TREC				*eSS*	SS	22 51 22.9	-4.7
TREC				AMS	AMS	23 10 30.0	
	comp=Z,1μm,20.5s						
DRGR		**84.02**	**24**	⇑ *iP*	**P**	**22 35 35.3**	**+0.3**
DRGR		**84.02**	**24**	P	**P**	**22 35 35.2**	**+0.2**
UBBA	**Unterbreizbach**	**84.05**	**15**	*eP*	**P**	**22 35 35.3**	**+0.3**
	comp=Z,93nm,2.4s,mb5.5						
PSZ	**Piszkesteto**	**84.06**	**22**	P	**P**	**22 35 35.6**	**+0.4**
PSZ	**Piszkesteto**	**84.06**	**22**	‖ *e*PcP	PcP	22 35 35.2	-3.8
PSZ	**Piszkesteto**	**84.06**	**22**	‖ *iP*	**P**	**22 35 35.2**	**0.0**
PSZ	**Piszkesteto**	**84.06**	**22**	*eP*	**P**	**22 35 35.2**	**0.0**
PSZ				*e*PP	PP	22 38 49.7	+0.1
PSZ				*eS*	S	22 45 57.9	-1.4
PSZ				LR	LR		
	comp=Z,613nm,19.0s,MS5.0						
BHD	**Baghdad**	**84.06**	**45**	*ex*	x	22 35 33.7	
BHD	**Baghdad**	**84.06**	**45**	*ex*	x	22 46 55.0	
NKC	**

comp=Z,376nm,17.6s
BRG Berggiesshubel 85.02 17 *e*P **P 22 35 40.9 +1.0**
comp=Z,22nm,1.9s,mb5.0
BRG *e* 22 35 50.7
BRG S S 22 46 10.0 +1.2
BRG *e* 22 47 14.0
BRG SS SS 22 51 43.0 +0.1
BRG LR LR
comp=Z,230nm,17.6s,MS4.6
CLZ Clausthal 85.09 15 *e*P **P 22 35 40.7 +0.4**
CLZ *e* 22 38 56.8
CLZ pmax pmax
comp=Z,87nm,2.1s,mb5.5
CLZ Clausthal 85.09 15 *e*P **P 22 35 40.7 +0.4**
comp=Z,87nm,2.1s,mb5.5
CLZ *e*PP PP 22 38 56.8 -1.2
DPC Dobruska-Polom 85.17 19 *e*P **P 22 35 41.0 +0.3**
DPC *e* 22 35 47.7
DPC *e* 22 38 57.6
DPC *e*S S 22 46 13.6 +3.3
DPC *e*SS SS 22 51 38.5 -6.6
DPC MLR MLR
comp=Z,800nm,26.2s,MS5.0
DPC Dobruska-Polom 85.17 19 *e*P **P 22 35 41.0 +0.3**
DPC *e*PCP PcP 22 35 47.7 +3.8
DPC *e*pP pP 22 35 52.6 +8.5
DPC *e*PP PP 22 38 57.6 -1.1
DPC *e*S S 22 46 13.6 +3.3
DPC *e*x x 22 51 38.5
DPC AMS AMS 23 08 00.0
comp=Z,800nm,26.2s
CLL Collm 85.19 16⇓*i*P **P 22 35 40.7 -0.1**
CLL *i* 22 35 46.3
CLL *i* 22 38 58.4
CLL *e*S S 22 46 13.0 +2.5
CLL pmax pmax
comp=Z,63nm,2.1s,mb5.4
CLL MLR MLR
comp=Z,500nm,22.2s,MS4.9
CLL Collm 85.19 16 *e*P **P 22 35 40.7 -0.1**
comp=Z,81nm,2.0s,mb5.5
CLL *e*PP PP 22 38 57.3 -1.5
CLL Collm 85.19 16⇓*i*P **P 22 35 40.7 -0.1**
comp=Z,63nm,2.1s,mb5.4
CLL *i* (PcP) PcP 22 35 46.3 +2.4
CLL *i* (sP) sP 22 35 51.3 +6.0
comp=Z,81nm,2.0s
CLL *i* x x 22 35 58.9
CLL *i* PP PP 22 38 58.4 -0.4
comp=Z,24nm,1.7s
CLL *e*S S 22 46 13.0 +2.5
CLL *e*PS 22 47 10.0
CLL *e*PPS 22 47 38.0
CLL *e*SS SS 22 51 46.0 +0.6
CLL *e*SSSS 22 58 03.0
CLL Collm 85.19 16⇓*i*P **P 22 35 40.7 -0.1**
comp=Z,63nm,2.1s,mb5.4
CLL *i* 22 35 46.3
CLL *i* 22 35 51.3
CLL *i* PP PP 22 38 58.4 -0.4
CLL *e*S S 22 46 13.0 +2.5
CLL LR LR
comp=Z,500nm,22.2s,MS4.9
OKC Ostrava-Krasne 85.22 20 *e*P **P 22 35 40.9 -0.1**
OKC *e* 22 35 47.7
OKC *e* 22 38 55.2
OKC *e*S S 22 46 15.3 +4.4
OKC *e*SS SS 22 51 47.0 +1.1
OKC Ostrava-Krasne 85.22 20 *e*P **P 22 35 40.9 -0.1**
OKC *e*PCP PcP 22 35 47.7 +3.6
OKC *e*pP pP 22 35 52.2 +7.9
OKC *e*PP PP 22 38 55.2 -3.9
OKC *e*S S 22 46 15.3 +4.4
OKC *e*SS SS 22 51 47.0 +1.1
OKC AMS AMS 23 07 50.0
comp=Z,600nm,27.0s
OKC Ostrava-Krasne 85.22 20 *e*P **P 22 35 40.9 -0.1**
OKC *e*PcP PcP 22 35 47.7 +3.6
OKC *e*pP pP 22 35 52.2 +7.9
OKC *e*PP PP 22 38 55.2 -3.9
OKC *e*S S 22 46 15.3 +4.4
OKC *e*SS SS 22 51 47.0 +1.1
UPC Upice 85.23 18 *e*P **P 22 35 41.4 +0.4**
UPC *e* 22 35 47.9
UPC Upice 85.23 18 *e*P **P 22 35 41.4 +0.4**
UPC *e*PCP PcP 22 35 47.9 +3.8
UPC *e*pP pP 22 35 53.1 +8.8
MSL Mosul 85.36 43 *e*x x 22 35 51.0
CRVS Cervenica-Dubn 85.42 22 *e*P **P 22 35 42.1 +0.1**
UZH Uzhgorod 85.46 23 *e*P **P 22 35 43.0 +0.8**
NIE Niedzica 85.51 21 *e*P **P 22 35 44.8 +2.4**
KSP Ksiaz 85.61 18 *e*P **P 22 35 42.6 -0.3**
comp=Z,200nm,2.7s,mb5.9
KSP *e*PcP PcP 22 35 49.8 +4.0
KSP *e*pP pP 22 36 00.2 +14
KSP *e*S S 22 46 15.2 +0.5
KSP *e*SS SS 22 51 50.7 -0.8
KSP LMZ 23 09 55.2
comp=Z,2μm,24.2s
KSP Ksiaz 85.61 18 *e*P **P 22 35 42.4 -0.5**
KSP *e*S S 22 46 14.0 -0.6
KSP *e*SS SS 22 51 50.0 -1.5
KSP LR LR
comp=Z,2μm,24.2s,MS5.5
BURAR Bucovina Array 85.61 25⇑*i*P **P 22 35 43.9 +0.9**
KOLS Kolonicke sedl 85.72 23 *e*P **P 22 35 45.0 +1.5**
KOLS *e* 22 35 57.0
OJC Ojcow 86.06 21 *e*P **P 22 35 44.9 -0.2**
OJC *e*PP PP 22 39 11.3 +5.4
OJC *e*S S 22 46 18.5 -0.5
OJC *e*SS SS 22 52 04.7 +6.6
OJC L 23 12 53.6
comp=Z,0.6nm,20.2s
ESK Eskdalemuir 86.41 6 *e*P **P 22 35 46.7 0.0**
ESK *e* 22 39 14.4
ESK MLR MLR
comp=Z,687nm,19.0s,MS5.1
ESK Eskdalemuir 86.41 6 *e*P **P 22 35 46.7 0.0**
ESK *e*PP PP 22 39 14.4 +5.8
ESK *e*S S 22 46 34.9 +13
ESK LR LR
comp=Z,687nm,19.0s,MS5.1
KWP Kalwaria 86.46 23 *e*P **P 22 35 47.8 +0.6**
KWP *e*PcP PcP 22 35 54.4 +4.8
KWP *e*S S 22 46 30.5 +7.5
KWP *e*SS PKKPdf 22 53 32.2 -7.8
KWP LMZ 23 06 34.0
comp=Z,700nm,33.3s
KWP Kalwaria 86.46 23 *e*P **P 22 35 47.8 +0.6**
KWP *e* 22 35 54.4
KWP *e*S S 22 46 30.5 +7.5
KWP Kalwaria 86.46 23 *e*P **P 22 35 47.8 +0.6**
KWP *e*PcP PcP 22 35 54.4 +4.8
KWP *e*S S 22 46 30.5 +7.5
KWP *e*SS PKKPdf 22 53 32.2 -7.8
KIS Kishinev 86.47 27 *e*P **P 22 35 48.0 +0.7**
KIS *e* 22 39 12.0
KIS *e* 22 46 18.0
KIS MLR MLR
comp=Z,600nm,20.0s,MS5.0
KIS MLR MLR
comp=Z,500nm,20.0s
HAKT HAKKARI 86.60 42 *i*P **P 22 35 48.5 +0.3**
BSEG Bad Segeberg 87.04 14 *e*PP PP 22 39 16.6 +2.8
LVV L'vov 87.07 23 *e*P **P 22 35 50.9 +0.8**
LVV *e*S S 22 46 30.4 +1.5
LVV MLR MLR
comp=N,200nm,19.0s,MS4.7
LVV MLR MLR
comp=Z,400nm,19.0s,MS4.8
LVV MLR MLR
comp=E,200nm,18.0s,MS4.7
SIM Simferopol' 87.08 32 *e*P **P 22 35 59.8 +9.5**
SIM *e* 22 46 34.0
SIM *e*PS 22 47 58.0
TUTA Tutak 87.38 40 *i*P **P 22 35 52.5 +0.6**
DWPF Disney 87.48 305 *e*P **P 22 35 53.3 +0.6**
DWPF *e*S S 22 46 39.8 +6.0
DWPF LR LR
comp=Z,1μm,21.0s,MS5.3
TEIG Tepich 88.01 295 LR LR 23 14 24.9
comp=Z,2μm,21.2s,MS5.4,baz=275,slow=35
TEIG Tepich 88.01 295 *e*P **P 22 35 54.8 -0.6**
TEIG *e*PcP PcP 22 35 56.8 -0.4
TEIG *e*S S 22 46 33.7 -5.5
TEIG LR LR
comp=Z,2μm,21.0s,MS5.4
GKP Gorka Klasztor 88.05 18 *e*P **P 22 35 55.0 +0.3**
comp=Z,200nm,2.4s,mb5.9
GKP *e*pP pP 22 36 06.0 +7.9
GKP *e*S S 22 46 42.1 +3.9
GKP *e*SS SS 22 52 30.2 +3.0
GKP LMZ 23 10 57.6
comp=Z,600nm,22.7s
GKP Gorka Klasztor 88.05 18 *e*P **P 22 35 55.0 +0.2**
comp=Z,0.2nm,2.4s
GKP *e*pP pP 22 36 06.0 +7.9
GKP *e*S S 22 46 42.1 +3.9
GKP *e*SS SS 22 52 30.2 +3.0
GKP LR LR
comp=Z,600nm,22.7s,MS5.0
WAR Warsaw 88.20 20 *e*P **P 22 35 58.3 +2.8**
WAR *e*PcP PcP 22 36 04.6 +7.4
WAR *e*S S 22 46 44.4 +4.7
WAR LMZ 23 09 30.8
comp=Z,700nm,28.2s
WAR Warsaw 88.20 20 *e*P **P 22 35 58.3 +2.8**
WAR *e* 22 36 04.6
WAR *e*S S 22 46 44.4 +4.7
WAR Warsaw 88.20 20 *e*P **P 22 35 58.3 +2.8**
WAR *e*PcP PcP 22 36 04.6 +7.4
WAR *e*S S 22 46 44.4 +4.7
WAR LR LR
comp=Z,700nm,28.2s,MS4.9
ANN Anapa 88.50 34 *e*P **P 22 35 58.3 +1.2**
ANN *e* 22 46 24.8
GNI Garni 88.97 41 *e*P **P 22 36 00.5 +1.1**
GNI *e* 22 39 31.7
GNI *e*S S 22 46 51.6 +4.1
GNI MLR MLR
comp=Z,881nm,19.0s
COP Copenhagen 89.12 14 *i*P **P 22 36 01.0 +1.3**
COP *i* 22 39 35.4
COP *e* 22 48 01.7
COP *i* 22 52 43.8
COP MLR MLR
comp=Z,330nm,19.0s,MS4.8
COP Copenhagen 89.12 14 *i*P **P 22 36 01.0 +1.3**
COP *i* 22 39 35.4
COP *i*S S 22 46 58.0 +10
COP *e* 22 48 01.7
COP *i* 22 52 43.8
COP
comp=Z,320nm,19.0s
AKH Akhalkalaki 89.14 39 P **P 22 36 01.7 +1.4**
BSD Bornholm Skovb 89.15 16⇓*i*P **P 22 36 00.2 +0.3**
BSD *i* 22 39 30.8
BSD
comp=Z,460nm,21.0s
BSD Bornholm Skovb 89.15 16⇓*i*P **P 22 36 00.2 +0.3**
BSD *i* 22 39 30.8
MUD Monsted U'grnd 89.20 12 *i*P pP 22 36 10.4 +7.0
MUD *i*S S 22 47 02.0 +13
MUD
comp=Z,9μm,21.0s
MUD Monsted U'grnd 89.20 12 *i*P pP 22 36 10.4 +7.0
MUD *i*S S 22 47 02.0 +13
CNNC Cliffs of the 89.50 312 PFAKE 22 36 10.0 +8.0
CNNC LR LR
comp=Z,536nm,20.0s,MS5.0
KIEV Kiev 89.63 26 *e*P **P 22 36 01.6 -0.7**
KIEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
KIEV MLR MLR
comp=Z,352nm,21.0s,MS4.8
KIEV Kiev 89.63 26 *e*P **P 22 36 01.6 -0.6**
comp=Z,4.6nm,0.8s,mb4.9
KIEV LR LR
comp=Z,352nm,21.0s,MS4.8
AKASG Malin Array Be 89.64 26 P **P 22 36 01.8 -0.5**
comp=Z,0.4nm,0.3s,mb4.2,baz=216,slow=4.4,SNR=11
AKASG LR LR 23 15 25.2
comp=Z,288nm,20.2s,MS4.7,baz=210,slow=35
NHSC New Hope 89.65 310 PFAKE 22 36 10.0 +7.2
NHSC LR LR
comp=Z,599nm,20.0s,MS5.0
ONI Oni 89.93 38 P **P 22 36 12.1 +8.2**
TBLG Delisi 90.04 39 P **P 22 36 03.4 -1.0**
TBLG Delisi 90.04 39 P **P 22 36 05.4 +0.9**
MTA Mtatsminda 90.05 40 P **P 22 36 04.8 +0.3**
DGRG David-gareji 90.20 40 P **P 22 35 57.4 -7.7**
WES Weston 90.34 321 PFAKE 22 36 20.0 +14
WES LR LR
comp=Z,910nm,21.0s,MS5.2
SUW Suwalki 90.39 21 *e*P **P 22 36 05.9 +0.2**
comp=Z,300nm,3.1s
SUW *e*PcP PcP 22 36 12.3 +5.4
SUW LMZ 23 13 29.4
comp=Z,600nm,23.6s
SUW Suwalki 90.39 21 *e*P **P 22 36 05.9 +0.2**
SUW *e*PcP PcP 22 36 12.3 +5.5
KIV Kislovodsk 90.49 37 *e*P **P 22 36 06.6 +0.1**
KIV *e* 22 39 41.7
KIV *e* 22 46 34.9
KIV *e*SS SS 22 53 02.4 -0.7
KIV *e*SSS 22 56 38.9
KIV pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
KIV Kislovodsk 90.49 37 PFAKE 22 36 20.0 +14
KIV LR LR
comp=Z,409nm,19.0s,MS4.9
HRV Adam Dziewonsk 90.55 321 PFAKE 22 36 20.0 +13
HRV LR LR
comp=Z,564nm,22.0s,MS5.0
URVA University of 90.75 314 *e*P **P 22 36 07.9 +0.1**
BRNJ Basking Ridge 91.00 318 *e*P **P 22 36 07.5 -1.4**
SDMD Soldier's Deli 91.50 316 *e*P **P 22 36 11.8 +0.5**
CMIG Matias Romero 91.58 289 LR LR 23 19 57.2
comp=Z,747nm,18.1s,MS5.2,baz=108,slow=37
LBNH Lisbon 91.93 322 PFAKE 22 36 20.0 +6.9
LBNH LR LR
comp=Z,766nm,22.0s,MS5.1
GOGA Godfrey 92.04 308 PFAKE 22 36 20.0 +6.1
GOGA LR LR
comp=Z,610nm,20.0s,MS5.0
MNK Minsk 92.27 23 *e*P **P 22 36 13.0 -1.4**
BLA Blacksburg 92.32 313 PFAKE 22 36 30.0 +15
BLA LR LR
comp=Z,521nm,20.0s,MS5.0
MAK Makhachkala 92.39 40 *e*P **P 22 36 18.2 +2.9**
MAK *e* 22 40 02.3
MAK *e*S SKSac 22 46 48.4 -0.2
MAK *e* 22 47 22.7
MAK pmax pmax
comp=Z,16nm,1.1s,mb5.3
MIV Mineville/With 92.67 321 *e*pP 22 36 47.6
BINY Binghamton 92.80 319 PFAKE 22 36 30.0 +13
BINY LR LR
comp=Z,446nm,19.0s,MS4.9
NCB Newcomb 92.97 321 PFAKE 22 36 30.0 +12
NCB LR LR
comp=Z,527nm,21.0s,MS5.0
BRAL Brewton 93.14 304 PFAKE 22 36 30.0 +11
BRAL LR LR
comp=Z,1μm,21.0s,MS5.3
MCWV Mont Chateau 93.46 315 PFAKE 22 36 30.0 +10
MCWV LR LR
comp=Z,622nm,20.0s,MS5.1
TKL Tuckaleechee C 93.56 310 LR LR 23 14 49.4
comp=Z,401nm,19.8s,MS4.9,baz=137,slow=33
LONY Lake Ozonia 93.60 321 PFAKE 22 36 30.0 +9.2
LONY LR LR
comp=Z,395nm,20.0s,MS4.9
NOA NORSAR Array B 93.88 12 LR LR 23 18 06.4
comp=Z,532nm,19.5s,MS5.0,baz=195,slow=35
TZTN Tazewell 93.93 311 PFAKE 22 36 30.0 +7.4
TZTN LR LR
comp=Z,759nm,19.0s,MS5.2
VRSR Storozhevoye 94.04 30 *e*P **P 22 36 23.2 +0.5**
VRSR pmax pmax
comp=Z,4.0nm,1.6s,mb4.6
VRSR pmax pmax
comp=N,3.0nm,1.3s
VRSR pmax pmax
comp=E,4.0nm,1.1s
ACSO Alum Creek Sta 95.73 314 P **P 22 36 32.3 +1.5**
ACSO *e*PP PP 22 40 26.8 +3.9
ACSO *e*S S 22 48 16.8 +29
ACSO LR LR
comp=Z,455nm,20.0s,MS5.0
PLAL Pickwick Lake 96.07 307 PFAKE 22 36 40.0 +7.6
PLAL LR LR
comp=Z,676nm,22.0s,MS5.1
VBMS Vicksburg 96.27 304 PFAKE 22 36 40.0 +6.6
VBMS LR LR
comp=Z,1μm,22.0s,MS5.3
WCI Wyandotte Cave 96.69 311 PFAKE 22 36 50.0 +15
WCI LR LR
comp=Z,566nm,20.0s,MS5.0
OXF Oxford 96.73 306 PFAKE 22 36 50.0 +15
OXF LR LR
comp=Z,519nm,21.0s,MS5.0
SCHQ Schefferville 96.99 332 LR LR 23 12 27.5
comp=Z,478nm,21.8s,MS4.9,baz=248,slow=31
SCHQ Schefferville 96.99 332 P **P 22 36 35.6 -0.4**
SCHQ *e*PP PP 22 40 44.5 +12
SCHQ *e*S S 22 48 16.7 +18
SCHQ LR LR
comp=Z,795nm,22.0s,MS5.2
AAM Ann Arbor 97.36 315 PFAKE 22 36 50.0 +12
AAM LR LR
comp=Z,590nm,21.0s,MS5.0
HKT Hockley 98.97 299 PFAKE 22 37 00.0 +14
HKT LR LR
comp=Z,465nm,20.0s,MS5.0
NATX Nacogdoches 99.02 302 PFAKE 22 37 00.0 +14
NATX LR LR
comp=Z,583nm,20.0s,MS5.1
KVTX Kingsville 99.33 296 PFAKE 22 37 00.0 +13
KVTX LR LR
comp=Z,885nm,20.0s,MS5.3
GLMI Grayling 99.37 317 PFAKE 22 37 00.0 +13
GLMI LR LR
comp=Z,508nm,21.0s,MS5.0
MIAR Mount Ida 99.66 304 *e*P Pdif 22 36 44.0 -4.6
MIAR *e* 22 40 58.4
MIAR MLR MLR
comp=Z,764nm,20.0s,MS5.2
CCM Cathedral Cave 99.87 308 PFAKE 22 37 00.0 +11
CCM LR LR
comp=Z,555nm,20.0s,MS5.1
COCO West Island 100.56 111 PFAKE 22 37 00.0 +7.4
COCO LR LR
comp=Z,540nm,19.0s,MS5.1
SFJD Kangerlussuaq 101.67 346 PFAKE 22 37 10.0 +13
SFJD LR LR
comp=Z,367nm,21.0s,MS4.9
JFWS Jewell Farm 101.75 313 PFAKE 22 37 10.0 +12
JFWS LR LR
comp=Z,574nm,21.0s,MS5.1
JCT Junction City 102.22 298 PFAKE 22 37 10.0 +10
JCT LR LR
comp=Z,283nm,20.0s,MS4.8
RKT Rikitea 102.33 233 *e*SP SP 22 50 19.6 +1.7
comp=Z,197nm,33.5s
RKT Rikitea 102.33 233 *e*LQ 23 05 56.2
comp=Z,384nm,32.5s
RKT *e*LR LR 23 10 40.6
comp=Z,1μm,35.0s
COWI Conover 102.73 316 PFAKE 22 37 10.0 +7.8
COWI LR LR
comp=Z,491nm,20.0s,MS5.0
SCIA State Center 103.13 311 PFAKE 22 37 20.0 +16
SCIA LR LR
comp=Z,540nm,22.0s,MS5.0
WMOK Wichita Mounta 103.49 302 *e*Pdif Pdif 22 37 05.5 -0.1
WMOK *e*PP PP 22 41 06.7 -15
WMOK LR LR
comp=Z,518nm,22.0s,MS5.0
KSU1 Kansas State U 104.03 307 PFAKE 22 37 20.0 +12
KSU1 LR LR
comp=Z,412nm,22.0s,MS4.9
KEV Kevo 104.64 13 PFAKE 22 37 20.0 +9.3
KEV LR LR
comp=Z,674nm,21.0s,MS5.2
EYMN Ely 105.06 317 PFAKE 22 41 40.0 +13
EYMN LR LR
comp=Z,531nm,20.0s,MS5.1
AMTX Amarillo 105.67 301 PFAKE 22 41 40.0 +12
AMTX LR LR
comp=Z,113nm,19.0s,MS4.4
CBKS Cedar Bluff 106.06 306 PFAKE 22 41 40.0 +11
CBKS LR LR
comp=Z,741nm,22.0s,MS5.2
ECSD EROS,Sioux Fal 106.20 311 PFAKE 22 41 40.0 +11
ECSD LR LR
comp=Z,549nm,21.0s,MS5.1
AGMN Agassiz Refuge 107.81 316 PFAKE 22 41 40.0 +8.1
AGMN LR LR
comp=Z,425nm,21.0s,MS5.0
AML Almayashu 108.08 51 PFAKE 22 41 40.0 +7.4
AML LR LR
comp=Z,805nm,21.0s,MS5.3
UCH Uchtor 108.67 52 PFAKE 22 41 50.0 +16
UCH LR LR
comp=Z,657nm,20.0s,MS5.2
ULM Lac du Bonnet 108.68 318 PFAKE 22 41 40.0 +6.5
ULM LR LR
comp=Z,596nm,20.0s,MS5.2
ANMO Albuquerque 109.23 300 PFAKE 22 41 50.0 +15
ANMO LR LR
comp=Z,462nm,19.0s,MS5.1
SDCO Great Sand Dun 109.69 303 PFAKE 22 41 50.0 +14
SDCO LR LR
comp=Z,456nm,20.0s,MS5.0
TKM2 Tokmak 2 109.69 51 PFAKE 22 41 50.0 +14
TKM2 LR LR
comp=Z,1μm,21.0s,MS5.5
BRVK Borovoye 110.59 40 PFAKE 22 41 50.0 +13
BRVK LR LR
comp=Z,1μm,20.0s,MS5.5
ISCO Idaho Springs 110.60 305 PFAKE 22 41 50.0 +13
ISCO LR LR
comp=Z,712nm,21.0s,MS5.2
KBS Kingsbay 110.65 5 PFAKE 22 41 50.0 +14
KBS LR LR
comp=Z,354nm,19.0s,MS5.0
RSSD Black Hills 111.22 309 PFAKE 22 41 50.0 +12
RSSD LR LR
comp=Z,695nm,20.0s,MS5.2
MBWA Marble Bar 111.38 133 PFAKE 22 41 50.0 +10
MBWA LR LR
comp=Z,1μm,19.0s,MS5.5
TUC Tucson 111.44 296 PFAKE 22 41 50.0 +11
TUC LR LR
comp=Z,429nm,19.0s,MS5.0
TBI Tubuai 111.48 223 *e*SS SS 22 57 56.8 +3.1
comp=Z,596nm,28.8s
TBI Tubuai 111.48 223 *e*LR LR 23 14 42.7
comp=Z,874nm,34.2s,baz=144
MVCO Mesa Verde 111.66 301 PFAKE 22 41 50.0 +10
MVCO LR LR
comp=Z,802nm,22.0s,MS5.3
DGMT Dagmar 112.96 314 PFAKE 22 41 50.0 +8.4
DGMT LR LR
comp=Z,542nm,21.0s,MS5.1
WUAZ Wupatki 113.15 299 PFAKE 22 41 50.0 +7.6
WUAZ LR LR
comp=Z,414nm,21.0s,MS5.0
LAO LASA Array 113.60 311 PFAKE 22 41 50.0 +7.1
LAO LR LR
comp=Z,494nm,19.0s,MS5.1
BW06 Boulder Array 114.46 306 PFAKE 22 42 00.0 +15
BW06 LR LR
comp=Z,394nm,21.0s,MS5.0
KURK Kurchatov 114.52 44 PFAKE 22 42 00.0 +15
KURK LR LR
comp=Z,1μm,19.0s,MS5.5
MVU Marysvale 114.87 301 PFAKE 22 42 00.0 +14
MVU LR LR
comp=Z,652nm,21.0s,MS5.2
GLA Glamis 114.87 295 PFAKE 22 42 00.0 +14
GLA LR LR
comp=Z,433nm,20.0s,MS5.1
MPU Maple Canyon 114.97 303 PFAKE 22 42 00.0 +14
MPU LR LR
comp=Z,1μm,22.0s,MS5.4
RLMT Red Lodge 115.07 309 PFAKE 22 42 00.0 +14
RLMT LR LR
comp=Z,681nm,21.0s,MS5.2
TAOE Nuku Hiva Isla 115.41 241 *e*LR LR 23 16 35.1

comp=Z,7μm,26.2s,baz=159
HWUT Hardware Ranch 115.47 305 PKPdf PKPdf 22 41 47.0 +0.3
HWUT *e*PKKP PKKPbc 22 52 22.3 +1.8
HWUT LR LR
comp=Z,642nm,20.0s,MS5.2
AHID Auburn Hatcher 115.53 306 PFAKE 22 42 00.0 +13
AHID LR LR
comp=Z,564nm,21.0s,MS5.2
LKWY Lake 115.64 308 PFAKE 22 42 00.0 +13
LKWY LR LR
comp=Z,708nm,20.0s,MS5.3
DUG Dugway 115.89 303 PFAKE 22 42 00.0 +12
DUG LR LR
comp=Z,360nm,19.0s,MS5.0
PPT Papeete 115.91 227 *e*SP SP 22 52 30.5 -1.3
comp=Z,443nm,26.2s
PPT *e*SS SS 22 58 54.4 +1.8
comp=Z,855nm,28.2s
PPT Papeete 115.91 227 *e*LR LR 23 16 46.1
comp=Z,2μm,34.0s,baz=143
BAR Barrett 116.18 294 PFAKE 22 42 00.0 +12
BAR LR LR
comp=Z,345nm,19.0s,MS5.0
EGMT Eagleton 116.31 312 PFAKE 22 42 00.0 +12
EGMT LR LR
comp=Z,456nm,22.0s,MS5.0
PFO Pinyon Flat Ob 116.34 295 PFAKE 22 42 00.0 +11
PFO LR LR
comp=Z,359nm,20.0s,MS5.0
BOZ Bozeman (W) 116.81 309 PFAKE 22 42 00.0 +11
BOZ LR LR
comp=Z,452nm,22.0s,MS5.0
GSC Goldstone 117.21 297 PFAKE 22 42 00.0 +10
GSC LR LR
comp=Z,479nm,21.0s,MS5.1
FITZ Fitzroy Crossi 117.31 135 *e*P PKPdf 22 41 49.2 -1.8
comp=Z,3.4nm,0.6s
FITZ Fitzroy Crossi 117.31 135 *e*P PKPdf 22 41 49.2 -1.8
FITZ *e*PKPdf PKPdf 22 41 50.2 -0.8
FITZ Fitzroy Crossi 117.31 135 *e*P PKPdf 22 41 49.6 -1.4
comp=Z,3.8nm,0.7s
TPNV Topopah Spring 117.34 298 PFAKE 22 42 00.0 +10
TPNV LR LR
comp=Z,466nm,22.0s,MS5.1
MWC Mount Wilson 117.81 295 PFAKE 22 42 00.0 +8.6
MWC LR LR
comp=Z,335nm,20.0s,MS5.0
ELK Elko 117.82 303 PFAKE 22 42 00.0 +8.8
ELK LR LR
comp=Z,617nm,21.0s,MS5.2
HLID Hailey 118.08 306 PFAKE 22 42 00.0 +8.4
HLID LR LR
comp=Z,468nm,21.0s,MS5.1
CM31 Chiang Mai Arr 118.13 84 PFAKE 22 42 00.0 +7.5
CM31 LR LR
comp=Z,773nm,21.0s,MS5.3
DAC Darwin (Calif) 118.14 297 PFAKE 22 42 00.0 +8.0
DAC LR LR
comp=Z,380nm,21.0s,MS5.0
WMQ Urumqi 118.26 54 *e*PKP PKPdf 22 41 51.6 -0.4
WMQ PP PP 22 43 12.1 +3.8
WMQ PKS 22 45 27.0
WMQ SKS SKSdf 22 48 58.8 -5.2
WMQ SKKS SKKSac 22 50 00.1 -8.2
WMQ SS SS 22 59 21.3 -3.0
WMQ PP PP
comp=Z,28nm,6.3s
WMQ LR LR
comp=N,638nm,21.4s,MS5.5
WMQ LR LR
comp=E,929nm,22.1s,MS5.5
WMQ LR LR
comp=Z,1μm,22.1s,MS5.4
CHTO Chiang Mai 118.29 84 PFAKE 22 42 00.0 +7.2
CHTO LR LR
comp=Z,702nm,22.0s,MS5.2
ISA Isabella 118.61 296 *e*PKIKP PKPdf 22 41 52.9 0.0
ISA MLR MLR
comp=Z,400nm,21.0s,MS5.0
SNCC San Nicolas Is 118.62 293 PFAKE 22 42 00.0 +7.0
SNCC LR LR
comp=Z,603nm,21.0s,MS5.2
MSO Missoula 118.69 310 PFAKE 22 42 00.0 +7.3
MSO LR LR
comp=Z,371nm,20.0s,MS5.0
RAR Rarotonga 118.86 216 PFAKE 22 42 10.0 +16
RAR LR LR
comp=Z,1.0nm,20.0s
BMN Battle Mountai 119.16 302 PFAKE 22 42 10.0 +16
BMN LR LR
comp=Z,791nm,22.0s,MS5.3
BMO Blue Mountains 120.44 307 PFAKE 22 42 10.0 +14
BMO LR LR
comp=Z,547nm,21.0s,MS5.2
WRA Warramunga Arr 120.64 144 PKP PKPdf 22 41 56.2 -1.2
comp=Z,1.3nm,0.8s,baz=233,slow=2.0,SNR=4.7
WRAB Tennant Creek 120.66 144 PFAKE 22 42 10.0 +13
WRAB LR LR
comp=Z,898nm,19.0s,MS5.4
WVOR Wild Horse Val 120.74 304 PFAKE 22 42 10.0 +13
WVOR LR LR
comp=Z,415nm,20.0s,MS5.1
CMB Columbia Colle 120.81 298 PFAKE 22 42 10.0 +13
CMB LR LR
comp=Z,348nm,20.0s,MS5.0
NEW Newport 121.13 311 *e*PKIKP PKPdf 22 41 57.4 +0.1
NEW MLR MLR
comp=Z,579nm,22.0s
SAO San Andreas Ge 121.24 297 PFAKE 22 42 10.0 +12
SAO LR LR
comp=Z,363nm,19.0s,MS5.0
MOD Modoc 121.80 303 PFAKE 22 42 10.0 +11
MOD LR LR
comp=Z,437nm,20.0s,MS5.1
HAWA Hanford 122.32 308 PFAKE 22 42 10.0 +10
HAWA LR LR
comp=Z,451nm,22.0s,MS5.1
MCCM Marconi Confer 122.72 298 PFAKE 22 42 10.0 +9.2
MCCM LR LR
comp=Z,276nm,22.0s,MS4.9
KAPI Kappang 122.75 120 PFAKE 22 42 10.0 +8.4
KAPI LR LR
comp=Z,728nm,21.0s,MS5.3
HOPS Hopland 123.09 299 PFAKE 22 42 10.0 +8.6
HOPS LR LR
comp=Z,430nm,21.0s,MS5.1
WDC Whiskeytown Da 123.10 301 PFAKE 22 42 10.0 +8.6
WDC LR LR
comp=Z,517nm,21.0s,MS5.2
YBH Yreka Blue Hor 123.50 302 PFAKE 22 42 10.0 +7.9
YBH LR LR
comp=Z,470nm,21.0s,MS5.1
HVS Khovu-Aksy 123.87 46 *i* PKIKP PKPdf 22 42 03.5 +1.0
HUMO Hull Mountain 123.88 303 *e*PKPdf PKPdf 22 42 02.5 -0.4
HUMO LR LR
comp=Z,441nm,21.0s,MS5.1
KMI Kunming 124.03 79 PKP PKPdf 22 42 02.8 -0.9
KMI XPKP 22 42 08.4
KMI PP PP 22 43 53.5 +5.4
KMI SKKS SKKSac 22 50 44.8 -2.0
KMI SS SS 23 00 40.0 +1.1
KMI PP PP
comp=Z,214nm,4.3s
KMI LR LR
comp=N,441nm,19.9s,MS5.2
KMI LR LR
comp=E,382nm,19.9s,MS5.2
COR Corvallis 124.54 305 PFAKE 22 42 20.0 +16
COR LR LR
comp=Z,336nm,20.0s,MS5.0
NLWA Neilton Lookou 125.43 309 PFAKE 22 42 20.0 +14
NLWA LR LR
comp=Z,557nm,22.0s,MS5.2
CTAO Charters Tower 125.59 156 PFAKE 22 42 20.0 +13
CTAO LR LR
comp=Z,795nm,20.0s,MS5.4
GTA Gaotai 125.91 62 *e*PKP PKPdf 22 42 08.8 +2.0
GTA PKS 22 45 40.8
GTA SKS SKSdf 22 49 14.4 -4.3
GTA SKKS SKKSac 22 50 58.9 +0.8
GTA PP PP
comp=Z,216nm,9.3s
GTA LR LR
comp=N,742nm,18.3s,MS5.5
GTA LR LR
comp=E,594nm,19.5s,MS5.5
GTA LR LR
comp=Z,886nm,27.6s
KKM Kota Kinabalu 126.76 107 PFAKE 22 42 20.0 +11
KKM LR LR
comp=Z,693nm,20.0s,MS5.3
CD2 Chengdu 126.81 73 *e*PKP PKPdf 22 42 07.4 -1.4
CD2 PP PP 22 44 09.4 +2.8
CD2 PKS 22 45 42.8
CD2 SKS SKSdf 22 49 14.3 -6.5
CD2 SKKS SKKSac 22 50 56.9 -7.3
CD2 SS SS 23 01 10.3 -3.4
CD2 PP PP
comp=Z,210nm,10.8s
CD2 LR LR
comp=N,690nm,16.8s
CD2 LR LR
comp=E,760nm,22.8s
CD2 LR LR
comp=Z,850nm,18.0s,MS5.5
QIZ Qiongzhong 127.72 89 PKP PKPdf 22 42 08.4 -2.5
QIZ PP PP
comp=Z,161nm,5.4s
QIZ LR LR
comp=E,702nm,20.7s
QIZ LR LR
comp=Z,788nm,27.9s
GYA Guiyang 127.81 79 PDIF Pdif 22 38 55.3 +1.6
GYA PKP PKPdf 22 42 11.8 +0.9
GYA PP PP 22 44 18.4 +5.1
GYA PKS 22 45 46.8
GYA SKS SKSdf 22 49 20.0 -2.8
GYA SKKS SKKSac 22 51 08.6 -2.1
GYA SS SS 23 01 27.9 +1.6
GYA PP PP
comp=Z,190nm,7.6s
GYA LR LR
comp=N,870nm,22.9s,MS5.5
GYA LR LR
comp=E,710nm,21.6s,MS5.5
GYA LR LR
comp=Z,840nm,20.8s,MS5.4
LZH Lanzhou 128.26 66 *e*PKP PKPdf 22 42 07.0 -4.4
LZH XPKP 22 42 21.3
LZH PP PP 22 44 14.1 -1.9
LZH PKS 22 45 42.0
LZH PP PP
comp=Z,171nm,5.3s
LZH LR LR
comp=E,1μm,19.8s
LZH LR LR
comp=Z,2μm,20.4s,MS5.7
INK Inuvik 129.47 335 *e*PKIKP PKPdf 22 42 12.7 0.0
ZAK Zakamensk 129.85 48 *e*PKIKP PKPdf 22 42 13.2 -0.8
ZAK *e* 22 44 27.5
ZAK pmax pmax
comp=Z,3.0nm,2.4s
TLY Talaya 130.11 46 PFAKE 22 42 30.0 +16
TLY LR LR
comp=Z,883nm,20.0s,MS5.5
WRAK Wrangell Islan 131.05 320 PFAKE 22 42 30.0 +14
WRAK LR LR
comp=Z,468nm,21.0s,MS5.2
SONM Songino Array 131.79 52 PKP PKPdf 22 42 16.6 -1.1
comp=Z,0.3nm,0.3s,baz=249,slow=4.1,SNR=3.6
SIT Sitka 132.61 321 PFAKE 22 42 30.0 +11
SIT LR LR
comp=Z,697nm,22.0s,MS5.3
DAWY Dawson 132.99 331 PKPdf PKPdf 22 42 18.5 -1.0
HYT Haines Junctio 133.03 326 *e*PKPdf PKPdf 22 42 19.7 0.0
EGAK Eagle 133.48 332 PFAKE 22 42 30.0 +10
EGAK LR LR
comp=Z,515nm,21.0s,MS5.2
TIXI Tiksi 134.52 16 *i*PKIKP PKPdf 22 42 23.4 +1.2
TIXI Tiksi 134.52 16 PFAKE 22 42 30.0 +7.8
TIXI LR LR
comp=Z,687nm,22.0s,MS5.3
HHC Hu-ho-hao-te 135.03 62 *e*PKP PKPdf 22 42 20.3 -3.8
HHC PP PP 22 44 59.8 +0.3
HHC PKS 22 45 54.8
HHC SS SS 23 02 50.1 -3.8
HHC PP PP
comp=Z,149nm,6.6s
HHC LR LR
comp=N,932nm,19.5s,MS5.6
HHC LR LR
comp=E,706nm,23.5s,MS5.6
HHC LR LR
comp=Z,1μm,21.8s,MS5.6
BOD Bodaibo 135.41 37 *e*PKIKP PKPdf 22 42 24.1 -0.1
COLD Coldfoot 135.69 338 *e*PKPdf PKPdf 22 42 25.0 +0.5
PMG Port Moresby 135.73 152 PFAKE 22 42 40.0 +14
PMG LR LR
comp=Z,538nm,20.0s,MS5.3
COLA College 136.05 334 PFAKE 22 42 40.0 +15
COLA LR LR
comp=Z,399nm,20.0s,MS5.1
BMRM Bremner River 136.31 328 *e*PKPdf PKPdf 22 42 27.6 +1.8
BPAW Bear Paw Mtn. 137.61 334 *e*PKPdf PKPdf 22 42 26.9 -1.2
TRF Thorofare Moun 137.67 333 *e*PKPdf PKPdf 22 42 28.2 0.0
PMR Palmer 138.06 330 PFAKE 22 42 40.0 +11
PMR LR LR
comp=Z,316nm,19.0s,MS5.1
BJT Baijiatuan 138.47 63 PFAKE 22 42 40.0 +10
BJT LR LR
comp=Z,262nm,19.0s,MS5.0
BJI Beijing 138.47 63 PKP PKPdf 22 42 30.5 0.0
BJI XPKP 22 42 35.1
BJI SS SS 23 03 36.0 +1.0
BJI LR LR
comp=N,325nm,21.2s
BJI LR LR
comp=E,363nm,27.1s
BJI LR LR
comp=Z,641nm,35.5s
RC01 Rabbit Creek A 138.55 330 *e*PKPdf PKPdf 22 42 30.3 +0.3
SEW Seward 138.85 328 PKPdf PKPdf 22 42 29.6 -0.9
FUNA Funafuti 138.88 199 PFAKE 22 42 40.0 +7.9
FUNA LR LR
comp=Z,6μm,19.0s,MS6.3
SLKM Skilak Lake 139.02 329 *e*PKIKP PKPdf 22 42 31.8 +1.0
HNR Honiara 139.31 170 PFAKE 22 42 40.0 +7.1
HNR LR LR
comp=Z,473nm,19.0s,MS5.3
NJ2 Nanjing 139.57 76 *e*PKP PKPdf 22 42 34.6 +1.9
NJ2 PP PP 22 45 32.5 +4.3
NJ2 PKS 22 46 05.0
NJ2 PP PP
comp=Z,460nm,8.3s
NJ2 LR LR
comp=N,650nm,26.9s,MS5.5
NJ2 LR LR
comp=E,970nm,24.0s,MS5.5
NJ2 LR LR
comp=Z,970nm,24.0s,MS5.5
YHNB Yeheng 139.75 88 PFAKE 22 42 40.0 +6.7
YHNB LR LR
comp=Z,768nm,21.0s,MS5.4
TATO Taipei 139.95 87 PFAKE 22 42 50.0 +16
TATO LR LR
comp=Z,961nm,19.0s,MS5.6
HIA Hailar 140.54 49 PFAKE 22 42 50.0 +16
HIA LR LR
comp=Z,350nm,21.0s,MS5.1
KDAK Kodiak Island 141.32 326 PFAKE 22 42 50.0 +15
KDAK LR LR
comp=Z,132nm,21.0s,MS4.7
SSE Sheshan 141.33 78 PKP PKPdf 22 42 31.6 -4.4
SSE PP PP 22 45 38.5 -0.5
SSE SS SS 23 04 02.8 -6.2
SSE PP PP
comp=Z,487nm,4.1s
SSE LR LR
comp=N,243nm,14.2s,MS5.4
SSE LR LR
comp=E,440nm,14.1s,MS5.4
SSE LR LR
comp=Z,531nm,14.7s,MS5.4
BILL Bilibino 142.92 0 *i* PKIKP PKPdf 22 42 38.6 +1.0
BILL *e* 22 49 46.3
BILL pmax pmax
comp=Z,13nm,1.2s
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.9
BILL Bilibino 142.92 0 PFAKE 22 42 50.0 +12
BILL LR LR
comp=Z,1μm,22.0s,MS5.6
CN2 Changchun 145.27 57 *e*PKP PKPdf 22 42 41.0 -1.5
INCN Inchon 146.54 68 PFAKE 22 43 00.0 +15
INCN LR LR
comp=Z,684nm,19.0s,MS5.5
SEY Seymchan 146.77 12 *d i*PKP2 PKPab 22 42 46.4 -1.0
KSRS Korea Array 147.57 68 PKPbc PKPbc 22 42 48.8 -0.4
comp=Z,4.3nm,0.9s,baz=287,slow=1.9,SNR=12
MDJ Mudanjiang 148.06 54 PKP PKPdf 22 42 49.5 +2.4
MDJ XPKP 22 42 51.8
MDJ PP PP 22 46 24.8 +6.2
MDJ PP PP
comp=Z,173nm,8.1s
MDJ LR LR
comp=E,625nm,28.0s
MDJ LR LR
comp=Z,876nm,26.9s,MS5.4
MDJ Mudanjiang 148.06 54 PFAKE 22 43 00.0 +13
MDJ LR LR
comp=Z,260nm,20.0s,MS5.0
KLR Kul'dur 148.11 45 *e*PKHKP 22 42 44.8
KLR *e* 22 46 28.0
KLR pmax pmax
comp=Z,150nm,2.2s
MAT Matsushiro 155.83 69 PKP PKPdf 22 43 01.0 +1.9
MAJO Matsushiro 155.83 69 PFAKE 22 43 10.0 +11
MAJO LR LR
comp=Z,545nm,22.0s,MS5.3
MJAR Matsushiro Arr 155.83 69 PKP PKPdf 22 43 00.4 +1.4
comp=Z,0.9nm,0.7s,baz=289,slow=3.8,SNR=5.3
PET Petropavlovsk 157.24 12 *e*PKIKP PKPdf 22 43 06.5 +6.2
PET *e* 22 47 18.4
PET *e*SS SS 23 07 05.7 +1.9
PET *e*SSS 23 13 05.4
PET pmax pmax
comp=Z,300nm,4.3s
PET Petropavlovsk 157.24 12 PFAKE 22 43 10.0 +10
PET LR LR
comp=Z,873nm,22.0s,MS5.5
MIDW Midway 165.75 263 PFAKE 22 43 20.0 +10
MIDW LR LR
comp=Z,888nm,21.0s

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*JMA **13** 22:30:56.1±0.5, 3153N×14227E, h0km, M3.7*
*ISCJB **13** 22:30:57.7±1.9, 316N±0.1×1427E±0.1, h33km, mb3.6/2, Error ellipse: s-maj=18.1km s-min=15.4km az=28.5*
*IDC **13** 22:31:06.2±2.6, 3123N×14027E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=101.6km s-min=25.1km az=81.0*
ISC 13 22:31:00.3±1.9, 316N±01×1427E±02, h35km, n12, σ0 95/15, mb3.6/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.90**	**303**	P	**Pn**	**22 31 40.7**	**-3.3**
JHJ	**Hachijo jima 2**	**2.93**	**303**	Pn	**Pn**	**22 31 40.6**	**-3.7**
	5.1nm,0.3s,baz=235,slow=23,SNR=5.2						
JHJ				Sn	**Sn**	**22 32 18.8**	**+0.5**
	4.6nm,0.3s,baz=72,slow=18,SNR=6.9						
BSO1	**Boso 1**	**3.41**	**335**	P	**Pn**	**22 31 50.3**	**-0.7**
BSO3	**Boso 3**	**3.72**	**331**	P	**Pn**	**22 31 54.6**	**-0.7**
JYT	**Yasato**	**5.10**	**336**	P	**Pn**	**22 32 15.4**	**+1.1**
JHO	**Hitachi**	**5.34**	**341**	P	**Pn**	**22 32 18.3**	**+0.8**
JHO				*e*S	**Sn**	**22 33 18.7**	**+0.9**
JRY	**Ryogami san**	**5.46**	**325**	P	**Pn**	**22 32 19.2**	**0.0**
MJAR	**Matsushiro Arr**	**6.22**	**324**	Pn	**Pn**	**22 32 29.8**	**+0.3**
	0.8nm,0.3s,baz=160,slow=11,SNR=8.4						
MAT	**Matsushiro**	**6.22**	**324**	P	**Pn**	**22 32 29.7**	**+0.1**
JMK	**Ichinoseki**	**7.47**	**351**	P	**Pn**	**22 32 47.5**	**+0.7**
JMK				*e*S	**Sn**	**22 34 08.8**	**-1.4**
MKAR	**Makanchi Array**	**48.09**	**307**	P	**P**	**22 39 35.7**	**-0.7**
	0.6nm,0.7s,mb3.6,baz=106,slow=8.9,SNR=5.2						
WRA	**Warramunga Arr**	**51.84**	**190**	P	**P**	**22 40 11.4**	**+6.4**
	0.2nm,0.3s,mb3.5,baz=7.3,slow=7.8,SNR=5.0						

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*ISCJB **13** 22:32:55.0±0.9, 1717S±006×17700W±009, h350km±12km, mb4.2/21, Error ellipse: s-maj=14.5km s-min=9.6km az=19.3*
*NEIC **13** 22:32:56.8±1.1, 1716S×17694W, h357km±13km, mb4.2/15, Error ellipse: s-maj=12.6km s-min=8.9km az=109.0*
*IDC **13** 22:32:56.3±1.6, 1718S×17703W, h349km±20km, mb4.0/9, mb1 4.1/10, mb1mx3.8/19, mbtmp4.0/10, Error ellipse: s-maj=19.3km s-min=13.1km az=84.0*
ISC 13 22:32:56.1±0.9, 1715S±007×17691W±009, h350km±11km, n47, σ0 95/44, mb4.2/21, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.91**	**58**	P	**Pn**	**22 34 27.4**	**+1.5**
	13nm,0.3s,baz=137,slow=0.6,SNR=14						
AFI				S	**S**	**22 35 37.5**	**-1.1**
	8.2nm,0.3s,baz=44,slow=21,SNR=2.6						
RAO	**Raoul Island**	**12.08**	**184**	S	**S**	**22 37 44.7**	**-8.2**
	118nm,0.3s,baz=286,slow=22,SNR=4.1						
RAO	**Raoul Island**	**12.08**	**184**	P	**Pn**	**22 35 38.8**	**+0.1**
URZ	**Urewera**	**21.67**	**193**	P	**P**	**22 37 17.5**	**-1.7**
	9.8nm,0.4s,mb4.4,baz=9.3,slow=1.0,SNR=15						
URZ				S	**S**	**22 40 53.9**	**-0.2**
	4.5nm,0.6s,baz=10.0,slow=22,SNR=2.5						
SNZO	**South Karori**	**25.13**	**195**	*e*P	**P**	**22 37 49.4**	**-1.0**
	16nm,0.6s,mb4.4						
RPZ	**Rata Peaks**	**28.37**	**199**	P	**P**	**22 38 18.9**	**-0.3**
	6.7nm,0.5s,mb4.2,baz=81,slow=23,SNR=6.7						
ARMA	**Armidale**	**31.55**	**239**	*e*P	**P**	**22 38 48.2**	**+1.0**
CTA	**Charters Tower**	**34.99**	**259**	*e*P	**P**	**22 39 16.8**	**+0.1**
	5.4nm,0.9s,mb3.8						
CTAO	**Charters Tower**	**34.99**	**259**	*e*P	**P**	**22 39 16.9**	**+0.1**
	11nm,1.1s,mb4.0						
PMG	**Port Moresby**	**35.76**	**278**	P	**P**	**22 39 25.2**	**+1.8**
	13nm,0.7s,mb4.3						
TOO	**Toolangi**	**38.75**	**231**	*e*P	**P**	**22 39 49.0**	**+1.1**
TAU	**Tasmania Unive**	**39.76**	**222**	P	**P**	**22 39 57.1**	**+1.1**
STKA	**Stephens Creek**	**40.24**	**241**	*e*P	**P**	**22 40 00.8**	**+0.6**
	23nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**40.24**	**241**	P	**P**	**22 40 00.7**	**+0.4**
	35nm,1.0s,mb4.5,baz=84,slow=9.6,SNR=43						
STKA	**Stephens Creek**	**40.24**	**241**	*e*P	**P**	**22 40 01.1**	**+0.8**
	26nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**46.17**	**259**	*e*P	**P**	**22 40 46.2**	**-1.1**
WRAB	**Tennant Creek**	**46.17**	**259**	*e*P	**P**	**22 40 46.5**	**-0.8**
	3.0nm,0.6s,mb3.6						
WRAB				*e*pP	pP	22 41 57.1	-1.0
WRA	**Warramunga Arr**	**46.18**	**259**	P	**P**	**22 40 46.4**	**-1.0**
	4.4nm,0.6s,mb3.8,baz=98,slow=7.0,SNR=72						
ASAR	**Alice Springs**	**46.37**	**253**	P	**P**	**22 40 49.1**	**+0.2**
	56nm,0.6s,mb4.9,baz=89,slow=8.5,SNR=562						
ASAR				S	**S**	**22 47 04.5**	**-5.0**
	1.9nm,1.0s,baz=95,slow=17,SNR=9.5						
KAKA	**Kakadu**	**49.03**	**268**	*e*P	**P**	**22 41 08.8**	**-0.4**
	15nm,0.4s,mb4.6						
FORT	**Forrest**	**51.62**	**244**	*e*P	**P**	**22 41 27.3**	**-0.9**
	30nm,0.5s,mb4.9						
MBWA	**Marble Bar**	**59.65**	**255**	*e*P	**P**	**22 42 24.0**	**-0.9**
	6.2nm,0.8s,mb4.1						
KLBR	**Kellerberrin**	**60.44**	**243**	*e*P	**P**	**22 42 29.2**	**-0.9**
	128nm,2.0s,mb5.0						
NWAO	**Narrogin (SRO)**	**60.83**	**242**	*e*P	**P**	**22 42 32.6**	**0.0**
SBA	**Scott Base**	**61.26**	**184**	*e*P	**P**	**22 42 37.3**	**+2.6**
	3.4nm,0.7s,mb3.9						
VNDA	**Vanda**	**61.32**	**185**	P	**P**	**22 42 36.4**	**+1.3**
	1.8nm,0.7s,mb3.6,baz=4.3,slow=6.9,SNR=6.0						
CASY	**Casey**	**67.42**	**205**	*e*P	**P**	**22 43 13.9**	**-0.5**
	3.6nm,0.7s,mb4.2						
MJAR	**Matsushiro Arr**	**68.17**	**322**	P	**P**	**22 43 19.8**	**+0.2**
	2.4nm,0.7s,mb4.0,baz=152,slow=6.7,SNR=11						
MJAR	**Matsushiro Arr**	**68.17**	**322**	P	**P**	**22 43 19.8**	**+0.2**
MAJO	**Matsushiro**	**68.17**	**322**	*e*P	**P**	**22 43 19.6**	**0.0**
	4.8nm,0.9s,mb4.2						
TATO	**Taipei**	**73.17**	**303**	P	**P**	**22 43 49.7**	**+0.1**
PETK	**Petropavlovsk-**	**73.33**	**344**	P	**P**	**22 43 50.5**	**+0.5**
	3.6nm,0.8s,mb4.2,baz=102,slow=8.4,SNR=4.5						
PETK	**Petropavlovsk-**	**73.33**	**344**	P	**P**	**22 43 50.5**	**+0.5**
PMR	**Palmer**	**81.54**	**13**	P	**P**	**22 44 35.1**	**+0.3**
MAW	**Mawson**	**85.05**	**199**	P	**P**	**22 44 52.6**	**-0.1**
	2.1nm,0.6s,mb4.2,baz=125,slow=3.6,SNR=9.5						
SYO	**Syowa Base**	**90.20**	**192**	*e*P	**P**	**22 45 15.2**	**-1.9**
INK	**Inuvik**	**90.79**	**15**	*e*P	**P**	**22 45 18.8**	**-0.8**
PLCA	**Paso Flores**	**90.81**	**133**	PFAKE		22 45 30.0	+10
PLCA				LR	LR		
	comp=Z,3μm,19.0s						
SNAA	**Sanae**	**91.31**	**178**	*e*	**P**	**22 45 22.0**	**-0.2**

SNAA				*e*			22 45 23.7		
SNAA	**Sanae**	**91.31**	**178**	*e*P		**P**	**22 45 22.2**	**0.0**	
	comp=Z,2.1nm,0.9s,mb4.1								
VNA2	**Neumayer--Watz**	**91.85**	**177**	*e*		**P**	**22 45 25.5**	**+0.8**	
VNA2				*e*			22 45 26.8		
VNA1	**Neumayer--Stat**	**92.07**	**176**	*e*		**P**	**22 45 26.7**	**+1.0**	
VNA1				*e*			22 45 28.2		
WCI	**Wyandotte Cave**	**100.88**	**53**	*e*Pdif	Pdif		22 46 07.0	+1.2	
	comp=Z,9.4nm,0.4s								
ELN	**Prospectdale**	**104.98**	**55**	*e*Pdif	Pdif		22 46 23.3	-0.8	
BLA	**Blacksburg**	**105.23**	**55**	*e*Pdif	Pdif		22 46 28.3	+3.1	
	comp=Z,27nm,0.9s								
KIV	**Kislovodsk**	**137.29**	**317**	PKPdf	PKPdf		22 51 38.3	0.0	
TORD	**Torodi Ar. Bea**	**175.79**	**161**	PKPab	PKPab		22 54 07.2	+1.4	
	comp=Z,1.0nm,0.9s,baz=178,slow=3.4,SNR=4.4								

ISCJB ***13*** *22:57:13.7±0.4, 682N±007×7299W±008, h173km±7km, mb4.0/5, Error ellipse: s-maj=17.1km s-min=5.6km az=42.0*
NEIC ***13*** *22:57:14.8±0.6, 668N×7293W, h174km±8km, mb4.3/2, Error ellipse: s-maj=20.0km s-min=7.7km az=131.0*
IDC ***13*** *22:57:14.3±0.7, 677N×7294W, h164km±10km, mb3.7/4, mb1 4.0/7, mb1mx3.5/20, mbtmp3.9/7, Error ellipse: s-maj=33.3km s-min=7.7km az=132.0*
FUNV ***13*** *22:57:19.5, 702N×7285W, h146km, MW4.1*

ISC 13 22:57:14.7±0.4, 685N±007×7302W±008, h158km±6km, n30, σ0=97/36, mb4.0/5, 9C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**35**	⇑*i*P	**Pn**	**22 57 43.5**	**+1.4**
CAPV				*e*S	**Sn**	**22 58 00.6**	**-2.7**
ROSC	**El Rosal**	**2.37**	**213**	P	**Pn**	**22 57 55.6**	**+0.9**
	175nm,0.3s,baz=56,slow=6.4,SNR=332						
ROSC				S	**Sn**	**22 58 26.4**	**+0.8**
	264nm,0.3s,baz=75,slow=20,SNR=14						
VIGV	**El Vigia**	**2.57**	**40**	*e*P	**Pn**	**22 57 57.9**	**+0.9**
VIGV				*e*S	**Sn**	**22 58 25.8**	**-3.9**
SOCV	**Socops**	**2.57**	**56**	⇑*i*P	**Pn**	**22 57 58.1**	**+1.0**
SOCV				*e*S	**Sn**	**22 58 26.0**	**-3.9**
SDV	**Santo Domingo**	**3.11**	**49**	P	**Pn**	**22 58 04.9**	**+1.2**
	153nm,0.3s,baz=241,slow=6.3,SNR=490						
SDV				S	**Sn**	**22 58 42.0**	**+0.2**
	63nm,0.3s,baz=296,slow=19,SNR=14						
ELOV	**Elorza**	**3.51**	**87**	⇑*i*P	**Pn**	**22 58 09.6**	**+0.7**
VIRV	**Villa del Rosa**	**3.68**	**9**	*e*P	**Pn**	**22 58 10.7**	**-0.2**
VIRV				*e*S	**Sn**	**22 58 50.2**	**-4.6**
QARV	**Quebrada Arrib**	**4.15**	**36**	⇑*i*P	**Pn**	**22 58 18.0**	**+1.0**
QARV				*e*S	**Sn**	**22 59 00.1**	**-5.6**
SANV	**Sanarito**	**4.34**	**52**	⇑*e*P	**Pn**	**22 58 19.7**	**+0.2**
CURV	**Curarigua**	**4.36**	**44**	⇑*i*P	**Pn**	**22 58 20.2**	**+0.4**
CURV				*e*S	**Sn**	**22 59 04.0**	**-6.6**
DABV	**Dabajuro**	**4.68**	**30**	*e*P	**Pn**	**22 58 24.5**	**+0.5**
TEPV	**Terepaima**	**4.89**	**51**	⇑*i*P	**Pn**	**22 58 27.0**	**+0.3**
SIQV	**Siquisique**	**4.93**	**40**	⇑*i*P	**Pn**	**22 58 27.2**	**-0.1**
SIQV				*e*S	**Sn**	**22 59 17.1**	**-7.0**
IMOV	**Isla Los Monje**	**5.86**	**21**	*e*P	**Pn**	**22 58 39.3**	**-0.2**
TURV	**Turiamo**	**6.24**	**55**	*e*P	**Pn**	**22 58 44.0**	**-0.7**
BIRV	**Birongo**	**7.58**	**61**	*e*P	**Pn**	**22 59 01.0**	**-1.5**
CUPV	**Ccepira**	**7.83**	**66**	⇑*e*P	**Pn**	**22 59 04.5**	**-1.2**
OTAV	**Otavalo**	**8.52**	**220**	*e*Pn	**Pn**	**22 59 14.0**	**-1.0**
	6.6nm,0.6s						
OTAV				*e*Sn	**Sn**	**23 00 48.6**	**-1.3**
PCRV	**Puerto La Cruz**	**8.92**	**68**	P	**Pn**	**22 59 19.7**	**-0.7**
	2.1nm,0.3s,baz=224,slow=6.5,SNR=16						
AOPR	**Arecibo Observ**	**12.95**	**28**	Pn	**Pn**	**23 00 15.3**	**+2.3**
LPAZ	**La Paz**	**23.50**	**168**	pP	pP	23 02 43.2	+2.5
	2.3nm,0.7s,baz=339,slow=13,SNR=10						
SIV	**San Ignacio**	**25.60**	**153**	pP	pP	23 03 00.0	-2.1
	0.6nm,0.4s,baz=315,slow=14,SNR=4.2						
CCM	**Cathedral Cave**	**35.18**	**335**	*e*P	**P**	**23 03 53.6**	**0.0**
	9.9nm,1.1s,mb4.3						
ULM	**Lac du Bonnet**	**47.29**	**340**	P	**P**	**23 05 31.3**	**-0.7**
	3.1nm,0.4s,mb4.3,baz=133,slow=8.2,SNR=6.5						
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**23 05 38.1**	**-0.1**
	4.2nm,0.6s,mb4.2,baz=216,slow=9.3,SNR=5.9						
PDAR	**Pinedale Array**	**48.11**	**324**	P	**P**	**23 05 38.9**	**+0.4**
	0.5nm,0.6s,mb3.3,baz=102,slow=6.8,SNR=4.0						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**23 07 25.8**	**-0.3**
	1.5nm,0.6s,mb4.0,baz=134,slow=6.8,SNR=8.5						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**23 07 25.8**	**-0.3**
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	PKPbc	23 16 43.9	-1.5
	1.1nm,0.7s,baz=114,slow=3.6,SNR=10						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	PKPbc	23 16 47.0	-1.4
	0.8nm,0.4s,baz=108,slow=2.4,SNR=5.1						

MAN 13 22:58:36, 1646N×12034E, h15km, mb4.3, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.25**	**109**	⇑*i*P	Pg	22 58 42.7	+1.4
BCPH				*i*S	Sg	22 58 47.4	+2.4
BOLP	**Bolinao**	**0.42**	**259**	*e*P	Pg	22 58 45.1	+0.7
SCZP	**Santa Cruz**	**0.80**	**211**	*e*P	Pg	22 58 50.0	-1.4
BALP	**Baler**	**1.39**	**121**	*e*P	Pn	22 59 00.6	-0.2
BALP				*e*S	Sn	22 59 19.4	+0.4

IDC 13 23:12:43.2±2.3, 1532S×16665E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/16, mbtmp3.8/7, Error ellipse: s-maj=72.9km s-min=28.8km az=132.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.10**	**257**	P	P	23 19 03.0	-0.6
	0.3nm,0.5s,baz=86,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**31.90**	**250**	P	P	23 19 11.3	+0.7
	0.9nm,0.7s,baz=72,slow=10,SNR=8.6						
MJAR	**Matsushiro Arr**	**58.15**	**333**	P	P	23 22 39.8	+1.0
	1.0nm,0.8s,baz=168,slow=8.3,SNR=2.5						
PETK	**Petropavlovsk-**	**68.58**	**354**	P	P	23 23 47.1	-0.5
	1.7nm,0.7s,baz=144,slow=5.2,SNR=2.6						
CMAR	**Chiang Mai Arr**	**74.64**	**294**	P	P	23 24 24.5	-0.5
	0.2nm,0.4s,baz=101,slow=4.7,SNR=2.5						
SONM	**Songino Array**	**82.61**	**324**	P	P	23 25 08.6	+0.4
	0.2nm,0.3s,baz=144,slow=5.4,SNR=2.3						
ZALV	**Zalesovo Beam**	**97.51**	**324**	P	P	23 26 17.5	-1.5
	0.2nm,0.3s,baz=112,slow=6.4,SNR=1.9						
ARCES	**ARCESS Array B**	**120.67**	**345**	PKP	PKPdf	23 31 35.6	-0.9
	2.8nm,1.0s,baz=69,slow=3.0,SNR=3.9						
GERES	**GERESS Array B**	**139.89**	**332**	PKP	PKPdf	23 32 14.1	+0.7
	0.1nm,0.4s,baz=243,slow=40,SNR=3.8						
LOR	**Lormes**	**145.08**	**339**	*e*PKP1	PKPbc	23 32 21.4	-0.7
	20nm,1.2s						
SSF	**Saint Saulge**	**145.38**	**340**	*e*PKP1	PKPbc	23 32 22.7	-0.3
	22nm,0.9s						
GRR	**Gorron**	**145.45**	**345**	*e*PKP1	PKPbc	23 32 22.3	-0.9
	11nm,0.7s						
LPL	**La Plagne**	**145.47**	**335**	*e*PKP1	PKPbc	23 32 23.6	+0.2
	9.8nm,0.8s						
LPG	**La Plagne**	**145.48**	**335**	*e*PKP1	PKPbc	23 32 23.8	+0.4
	11nm,0.8s						
SMF	**Signal de Mont**	**145.63**	**339**	*e*PKP1	PKPbc	23 32 23.2	-0.6
	15nm,1.0s						
AVF	**Avril sur Loir**	**145.67**	**340**	*e*PKP1	PKPbc	23 32 23.2	-0.8
	11nm,0.9s						
BGF	**Bois d'Agland**	**146.04**	**340**	*e*PKP1	PKPbc	23 32 24.6	-0.5
	12nm,0.8s						
MBDF	**Montbardon**	**146.09**	**334**	*e*PKP1	PKPbc	23 32 26.3	+1.0
	12nm,1.0s						
ORIF	**Oris-en-Rattie**	**146.31**	**335**	*e*PKP1	PKPbc	23 32 26.0	0.0
	20nm,0.7s						
TCF	**Toulx Ste Croi**	**146.49**	**340**	*e*PKP1	PKPbc	23 32 26.0	-0.5
	11nm,1.0s						
SBF	**Sospel**	**146.49**	**332**	*e*PKP1	PKPbc	23 32 26.0	-0.6
	24nm,0.7s						
PGF	**Pioggiola**	**146.76**	**329**	*e*PKP1	PKPbc	23 32 27.1	-0.3
	24nm,0.9s						
MFF	**Saint Martin d**	**146.92**	**343**	*e*PKP1	PKPbc	23 32 27.1	-0.6
	22nm,0.9s						
FRF	**La Foret Royal**	**147.08**	**333**	*e*PKP1	PKPbc	23 32 27.8	-0.5
	19nm,1.0s						
SMRF	**Simiane la Rot**	**147.21**	**334**	*e*PKP1	PKPbc	23 32 28.8	+0.2
	8.3nm,0.8s						
LMR	**La Mourre**	**147.32**	**333**	*e*PKP1	PKPbc	23 32 28.6	-0.3
	16nm,1.0s						
RJF	**Les Rejaudoux**	**147.58**	**340**	*e*PKP1	PKPbc	23 32 29.2	-0.4
	8.3nm,0.8s						
CAF	**Calviac**	**147.74**	**339**	*e*PKP1	PKPbc	23 32 30.0	0.0
	7.2nm,0.8s						
LASF	**Ste Croix**	**147.81**	**336**	*e*PKP1	PKPbc	23 32 30.3	0.0
	21nm,1.2s						
LFF	**La Frestale**	**148.16**	**341**	*e*PKP1	PKPbc	23 32 30.8	-0.4
	23nm,1.0s						
MTLF	**Montolieu**	**149.06**	**338**	*e*PKP1	PKPbc	23 32 33.6	+0.1
	12nm,0.9s						
ETSF	**Etsaut**	**150.40**	**341**	*e*PKP1	PKPbc	23 32 37.1	+0.2
	10nm,0.7s						
KEST	**Kesra**	**151.27**	**319**	PKPbc	PKPbc	23 32 40.4	+1.3
	0.6nm,0.7s,baz=119,slow=10,SNR=2.3						

ISCJB ***13*** *23:43:24.6±0.4, 4625N±001×1567E±003, h2km±4km, Error ellipse: s-maj=3.2km s-min=2.4km az=11.2*
CSEM ***13*** *23:43:25.2±0.1, 4620N×1567E, h15km, ML3.2/5, Error ellipse: s-maj=1.2km s-min=0.8km az=110.0*
VIE ***13*** *23:43:25.3±0.3, 4622N×1564E, h6km±1km, mb2.0/5, ML2.4/5, Error ellipse: s-maj=1.8km s-min=1.1km az=107.0 29 km E of Celje*
NEIC ***13*** *23:43:25.8±0.3, 4621N×1562E, h5km, ML2.3(LJU), ML2.5(SZGRF), Error ellipse: s-maj=3.8km s-min=2.5km az=117.0*
NEIC Felt [IV] at Rogatec.
LJU ***13*** *23:43:25.3, 4621N×1563E, h14km, ML2.3*
PRU ***13*** *23:43:26.5, 4621N×1560E, h0km*

ISC 13 23:43:25.6±0.3, 4621N±001×1567E±003, h5km±3km, n69, σ0=91/118, 15C-20D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLS	**Golise**	**0.21**	**190**	⇓*i*Pg	**Pg**	**23 43 29.7**	**+0.1**
GOLS				*i*Sg	**Sg**	**23 43 32.7**	**+0.4**
GOLS							
	comp=Z,1μm,0.2s						
GOLS	**Golise**	**0.21**	**190**	Pg	**Pg**	**23 43 29.7**	**+0.1**
GOLS				*i*Sg	**Sg**	**23 43 32.7**	**+0.4**
	comp=Z,1μm,0.2s						
GOLS	**Golise**	**0.21**	**190**	⇓*i*Pg	**Pg**	**23 43 29.7**	**+0.1**
GOLS				*i*Sg	**Sg**	**23 43 32.7**	**+0.4**
CESS	**Cesta pri Krsk**	**0.28**	**211**	⇓*i*Pg	**Pg**	**23 43 31.2**	**+0.2**
CESS				*i*Sg	**Sg**	**23 43 35.1**	**+0.3**
CESS							
	comp=Z,563nm,0.2s						
CESS	**Cesta pri Krsk**	**0.28**	**211**	⇓*i*Pg	**Pg**	**23 43 31.2**	**+0.2**
CESS				*i*Sg	**Sg**	**23 43 35.1**	**+0.4**
	comp=Z,563nm,0.2s						
CESS	**Cesta pri Krsk**	**0.28**	**211**	⇓*i*Pg	**Pg**	**23 43 31.2**	**+0.2**
CESS				*i*Sg	**Sg**	**23 43 35.1**	**+0.3**
GCIS	**Gornji Cirnik**	**0.35**	**185**	⇓*i*Pg	**Pg**	**23 43 32.3**	**0.0**
GCIS							
	comp=Z,123nm,0.1s						
GCIS	**Gornji Cirnik**	**0.35**	**185**	⇓*i*Pg	**Pg**	**23 43 32.3**	**0.0**
	comp=Z,123nm,0.1s						
LEGS	**Legarje**	**0.36**	**223**	*i*Pg	**Pg**	**23 43 32.8**	**+0.2**
LEGS				*i*Sg	**Sg**	**23 43 37.6**	**+0.3**
CRES	**Cresnjev**	**0.42**	**201**	⇓*i*Pg	**Pg**	**23 43 33.6**	**0.0**
CRES				*i*Sg	**Sg**	**23 43 39.2**	**+0.2**
CRES							
	comp=Z,86nm,0.2s						
CRES	**Cresnjev**	**0.42**	**201**	⇓*i*Pg	**Pg**	**23 43 33.6**	**0.0**
CRES				*i*Sg	**Sg**	**23 43 39.2**	**+0.2**
	comp=Z,86nm,0.2s						
CRES	**Cresnjev**	**0.42**	**201**	⇓*i*Pg	**Pg**	**23 43 33.6**	**0.0**
CRES				*i*Sg	**Sg**	**23 43 39.2**	**+0.2**
KOGS	**Kog**	**0.46**	**59**	*i*Pg	**Pg**	**23 43 35.4**	**+0.9**
KOGS				*i*Sg	**Sg**	**23 43 42.3**	**+1.8**
PDKS	**Podkum**	**0.49**	**252**	⇑*i*PG	**Pg**	**23 43 35.2**	**+0.1**
PDKS				*i*Sg	**Sg**	**23 43 42.0**	**+0.5**
ZAVS	**Zavodnje**	**0.50**	**296**	*i*Pg	**Pg**	**23 43 35.4**	**+0.1**
ZAVS				*e*Sg	**Sg**	**23 43 42.3**	**+0.6**
PERS	**Pernice**	**0.57**	**318**	⇓*i*Pg	**Pg**	**23 43 36.8**	**+0.2**
PERS				*i*Sg	**Sg**	**23 43 44.2**	**+0.2**
BISS	**Bistriski jare**	**0.58**	**319**	⇓*i*Pg	**Pg**	**23 43 36.8**	**+0.2**
BISS				*i*Sg	**Sg**	**23 43 44.4**	**+0.3**
SOKA	**Soboth**	**0.64**	**317**	⇓*i*Pg	**Pg**	**23 43 37.9**	**-0.1**
SOKA				⇓*i*Sg	**Sg**	**23 43 46.2**	**-0.1**
	comp=Z,47nm,0.4s						
VNDS	**Vrh nad Dolski**	**0.69**	**261**	⇑*i*Pg	**Pg**	**23 43 38.5**	**-0.2**
VNDS	**Vrh nad Dolski**	**0.69**	**261**	⇑*i*Pg	**Pg**	**23 43 38.5**	**-0.2**
VISS	**Visnje**	**0.71**	**235**	⇑*i*Pg	**Pg**	**23 43 38.8**	**-0.4**
BOJS	**Bojanci**	**0.77**	**203**	*i*Pg	**Pg**	**23 43 39.6**	**-0.7**
BOJS							
	comp=Z,31nm,0.2s						
BOJS	**Bojanci**	**0.77**	**203**	*i*Pg	**Pg**	**23 43 39.7**	**-0.6**
	comp=Z,31nm,0.2s						
LJU	**Ljubljana**	**0.82**	**258**	*i*Pg	**Pg**	**23 43 40.9**	**-0.3**
LJU				*e*Sg	**Sg**	**23 43 52.5**	**+0.7**
LJU							
	comp=Z,54nm,0.1s						
LJU	**Ljubljana**	**0.82**	**258**	*i*Pg	**Pg**	**23 43 40.9**	**-0.3**
LJU				*e*Sg	**Sg**	**23 43 52.5**	**+0.7**
	comp=Z,54nm,0.1s						
LJU	**Ljubljana**	**0.82**	**258**	*i*Pg	**Pg**	**23 43 40.9**	**-0.3**
LJU				*e*Sg	**Sg**	**23 43 52.5**	**+0.7**
OBKA	**Obir**	**0.83**	**291**	⇑*e*PG	**Pg**	**23 43 41.1**	**-0.5**
	SNR=27						
OBKA				⇑*i*Sg	**Sg**	**23 43 52.2**	**-0.2**
	comp=Z,43nm,0.2s						
OBKA	**Obir**	**0.83**	**291**	Pg	**Pg**	**23 43 41.1**	**-0.5**
	comp=Z,27nm,4.0s						
OBKA				Sg	**Sg**	**23 43 52.2**	**-0.2**
	comp=Z,43nm,0.2s						
CEY	**Cerknica**	**0.99**	**242**	*i*Pg	**Pg**	**23 43 43.9**	**-0.7**
ARSA	**Arzberg**	**1.04**	**354**	*e*Pg	**Pg**	**23 43 44.9**	**-0.7**
	SNR=60						
ARSA				⇑*i*Sg	**Sg**	**23 43 58.6**	**-0.5**
	comp=Z,33nm,0.3s						
ARSA	**Arzberg**	**1.04**	**354**	Pg	**Pg**	**23 43 44.9**	**-0.7**
	comp=Z,60nm,1.0s						
ARSA				Sg	**Sg**	**23 43 58.6**	**-0.5**
	comp=Z,33nm,0.3s						
KNDS	**Knezji Dol**	**1.14**	**233**	*e*Pg	**Pg**	**23 43 47.1**	**-0.2**
KNDS				*e*Sg	**Sg**	**23 44 02.9**	**+0.9**
KNDS							
	comp=Z,26nm,0.2s						
KNDS	**Knezji Dol**	**1.14**	**233**	*e*Pg	**Pg**	**23 43 47.1**	**-0.2**
KNDS				*e*Sg	**Sg**	**23 44 02.9**	**+0.9**
	comp=Z,26nm,0.2s						
KNDS	**Knezji Dol**	**1.14**	**233**	*e*Pg	**Pg**	**23 43 47.1**	**-0.2**
KNDS				*e*Sg	**Sg**	**23 44 02.9**	**+0.9**
JAVS	**Javornik**	**1.17**	**255**	*i*Pg	**Pg**	**23 43 46.8**	**-1.1**
JAVS				*e*Sg	**Sg**	**23 44 03.9**	**+0.8**
VOY	**Vojsko**	**1.25**	**262**	⇑*i*PG	**Pg**	**23 43 48.5**	**-1.1**
VOY				*e*Sg	**Sg**	**23 44 06.5**	**+0.7**
SKDS	**Skadanscina**	**1.34**	**241**	*i*Pg	**Pg**	**23 43 50.1**	**-1.2**
DRE	**Drenchia**	**1.41**	**269**	⇓*i*PG	**Pg**	**23 43 51.4**	**-1.2**
DRE				*i*Sg	**Sg**	**23 44 12.3**	**+1.4**
ROBS	**Robic**	**1.50**	**272**	*i*Pg	**Pg**	**23 43 52.9**	**-1.5**
LSR	**Lussari**	**1.51**	**281**	⇑*i*Pg	**Pg**	**23 43 53.4**	**-1.1**
LSR				*i*Sg	**Sg**	**23 44 15.2**	**+1.2**
LSR	**Lussari**	**1.51**	**281**	*i*Pg	**Pg**	**23 43 53.4**	**-1.1**
LSR				*i*Sg	**Sg**	**23 44 15.2**	**+1.1**
SOP	**Sopron**	**1.59**	**22**	*e*Pn	**Pn**	**23 43 52.6**	**-1.7**
SOP				*e*SB	**Sb**	**23 44 18.6**	**+2.8**
COLI	**Coloredo**	**1.60**	**268**	⇓*i*Pg	**Pg**	**23 43 54.6**	**-1.6**
COLI				*i*Sg	**Sg**	**23 44 17.4**	**+0.6**
BAD	**Bernadia**	**1.69**	**272**	⇑*i*Pg	**Pg**	**23 43 55.9**	**-2.0**
BAD				*i*Sg	**Sg**	**23 44 19.6**	**-0.2**
CONA	**Conrad Observa**	**1.72**	**4**	⇓*e*Pn	**Pn**	**23 43 56.0**	**-0.1**
	SNR=12						
CONA				⇑*i*Sn	**Sn**	**23 44 18.8**	**+0.4**
CONA	**Conrad Observa**	**1.72**	**4**	Pn	**Pn**	**23 43 56.0**	**-0.1**
	comp=Z,11nm,6.0s						
CONA				*i*Sn	**Sn**	**23 44 18.9**	**+0.5**
CSNA	**Conrad Observa**	**1.72**	**4**	⇑*i*Pn	**Pn**	**23 43 56.3**	**+0.2**
CSNA				⇓*i*Sn	**Sn**	**23 44 19.0**	**+0.5**
NVLJ	**Novalja**	**1.75**	**199**	*e*Pn	**Pn**	**23 43 57.0**	**+0.5**
NVLJ				Sn	**Sn**	**23 44 20.6**	**+1.6**
NVLJ	**Novalja**	**1.75**	**199**	*e*Pn	**Pn**	**23 43 56.9**	**+0.5**
NVLJ				Sn	**Sn**	**23 44 20.6**	**+1.6**
KBA	**Koelnbreinsper**	**1.82**	**299**	⇑*i*Pg	**Pg**	**23 44 00.1**	**-0.4**
KBA				⇑*i*Sg	**Sg**	**23 44 24.8**	**+0.7**
	comp=Z,12nm,0.5s						
RHK3	**Tenkes**	**1.82**	**99**	*e*Pg	**Pg**	**23 43 56.2**	**-4.3**
PKSM	**Moragy**	**2.06**	**89**	⇑*e*Pn	**Pn**	**23 43 59.2**	**-1.6**
PKSM	**Moragy**	**2.06**	**89**	*e*Pg	**Pg**	**23 44 08.6**	**+3.6**
PKSG		**2.21**	**57**	*e*Pn	**Pn**	**23 44 02.2**	**-0.6**
PKSG				*e*Sn	**Sn**	**23 44 30.3**	**-0.1**
ZST	**Bratislava**	**2.21**	**26**	*e*PG	**Pg**	**23 44 07.8**	**-0.1**
ZST				*e*		23 44 37.4	
ABTA	**Abfaltersbach**	**2.25**	**285**	*e*Pg	**Pg**	**23 44 07.0**	**-1.7**
	SNR=14						
ABTA				⇓*i*Sg	**Sg**	**23 44 39.0**	**+1.2**
MODS	**Modra-Piesok**	**2.42**	**26**	*e*PG	**Pg**	**23 44 12.8**	**+0.9**
MODS				*e*		23 44 44.8	
PENC	**Penc**	**2.93**	**56**	⇓*e*Pn	**Pn**	**23 44 12.6**	**-0.1**
PENC				*e*Sn	**Sn**	**23 44 48.3**	**+0.1**
GEC2	**GERESS Array S**	**2.95**	**334**	*e*Pg	**Pg**	**23 44 14.1**	**-8.0**
GEC2				*e*Sg	**Sg**	**23 44 59.6**	**-0.8**
KOLL	**Kolacno**	**3.00**	**37**	*e*PN	**Pn**	**23 44 14.0**	**+0.2**
KOLL				*e*		23 44 47.6	
KOLL	**Kolacno**	**3.00**	**37**	*e*Pn	**Pn**	**23 44 14.1**	**+0.3**
KOLL				*e*		23 44 47.6	
VRAC	**Vranov**	**3.16**	**11**	*e*Pn	**Pn**	**23 44 16.1**	**+0.2**
VRAC				*e*Sn	**Sn**	**23 44 52.2**	**-1.7**
KHC	**Kasperske Hory**	**3.24**	**335**	*e*PN	**Pn**	**23 44 18.5**	**+1.5**
KHC				*e*PG	**Pg**	**23 44 28.0**	**+0.3**
KHC				*e*SN	**Sn**	**23 44 56.0**	**0.0**
KHC				*e*SG	**Sg**	**23 45 09.3**	**-0.4**
	comp=Z,14nm,1.3s						
PSZ	**Piszkesteto**	**3.35**	**58**	*e*Sn	**Sn**	**23 44 57.2**	**-1.4**
PRU	**Pruhonice**	**3.85**	**349**	*e*PN	**Pn**	**23 44 27.6**	**+2.2**
PRU				*e*SG	**Sg**	**23 45 30.0**	**+0.8**
	comp=Z,5.8nm,0.7s						
DPC	**Dobruska-Polom**	**4.16**	**6**	*e*SG	**Sg**	**23 45 41.7**	**+2.5**
	comp=Z,3.7nm,0.9s						
NKC	**Novy Kostel**	**4.56**	**333**	*e*SG	**Sg**	**23 45 51.1**	**-0.9**
	comp=Z,11nm,1.4s						
BRG	**Berggiesshubel**	**4.80**	**347**	SG	**Sg**	**23 45 58.6**	**-1.1**
	comp=Z,1.5nm,0.6s						
CLL	**Collm**	**5.39**	**342**	*e*Sg	**Sg**	**23 46 19.0**	**+0.3**

THE ***13*** *23:44:07.8, 36.13N×28.12E, h27km, ML3.7*
ISCJB ***13*** *23:44:15.8±0.6, 3673N±003×2742E±003, h2km±5km, Error ellipse: s-maj=5.3km s-min=3.4km az=135.2*
CSEM ***13*** *23:44:15.0±0.1, 3674N×2736E, h5km, MD3.2, Error ellipse: s-maj=2.7km s-min=2.2km az=36.0*
ATH ***13*** *23:44:16.0, 3675N×2756E, h59km±13km, MD3.2/5*
ISK ***13*** *23:44:16.2, 3681N×2746E, h2km, MD3.2*
NEIC ***13*** *23:44:16.0, 3675N×2756E, h59km, MD3.2(ATH), After ATH.*
DDA ***13*** *23:44:16.5, 3678N×2747E, h7km±2km, Md3.4*

ISC 13 23:44:15.8±0.7, 3672N±003×2736E±004, h2km±5km, n30, σ0=89/46, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.34**	**354**	*e*PG	**Pg**	**23 44 21.9**	**-0.6**
BODT				*e*SG	**Sg**	**23 44 27.7**	**+0.7**
BDRM	**Kayabasi**	**0.35**	**11**	*i*P	**Pg**	**23 44 22.4**	**-0.3**
BDRM				*i*S	**Sg**	**23 44 26.8**	**-0.4**
MLSB	**Milas**	**0.67**	**30**	*e*PG	**Pg**	**23 44 28.2**	**-0.4**
MLSB				*e*SG	**Sg**	**23 44 35.8**	**-1.5**
ARG	**Arkhangelos**	**0.80**	**129**	*e*P	**Pg**	**23 44 30.7**	**-0.4**
ARG				*e*S	**Sg**	**23 44 42.0**	**+0.5**
YER	**Yerkesik**	**0.85**	**60**	*e*PG	**Pg**	**23 44 31.4**	**-0.8**
GCAM	**G?zelcaml?**	**0.98**	**354**	*i*P	**Pg**	**23 44 34.5**	**-0.2**
GCAM				*i*S	**Sg**	**23 44 48.9**	**+1.4**
TURN	**Turunc**	**1.01**	**81**	*i*P	**Pg**	**23 44 28.5**	**-6.8**
TURN				*i*S	**Sg**	**23 44 38.5**	**-10**
AYDN	**Tasoluk**	**1.03**	**24**	*i*P	**Pg**	**23 44 34.6**	**-1.0**
AYDN				*i*S	**Sg**	**23 44 48.4**	**-0.5**
DALT	**Dalyan (Mudla)**	**1.03**	**87**	*e*PG	**Pg**	**23 44 34.8**	**-0.7**
SMG	**Samos**	**1.07**	**337**	*e*P	**Pg**	**23 44 36.2**	**-0.2**
SMG				*e*S	**Sg**	**23 44 51.8**	**+1.5**
KARP	**Karpathos**	**1.18**	**188**	*e*P	**Pg**	**23 44 38.4**	**0.0**

OUR	Ouranopolis	3.11	69	ePn	Pn	00 01 16.2	+0.6

KRSC 14 00:15:03.0±0.3, 5526N×16226E, h22km±21km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.77	204	eP	Pb	00 15 16.1	-1.5
MKZ				i S	Sb	00 15 26.2	-1.4
KBTR	Krutoberegovo	1.00	18	eP	Pb	00 15 19.2	-2.4
KBTR				i S	Sb	00 15 31.8	-2.6
ZLN	Zelenaya	1.12	313	eP	Pn	00 15 23.5	+0.2
ZLN				i S	Sb	00 15 38.6	+0.8
TUMR	Tumrok	1.21	272	i P	Pn	00 15 25.0	+0.5
TUMR				i S	Sn	00 15 42.0	+1.8
BZMR	Bezymyannaya	1.21	305	eP	Pn	00 15 25.1	+0.5
BZMR				i S	Sn	00 15 41.4	+1.1
KMNR	Kamenistaya	1.25	294	eP	Pn	00 15 26.0	+0.9
KMNR				i S	Sn	00 15 43.2	+1.9
KPT	Kopyto	1.36	302	eP	Pn	00 15 28.2	+1.7
KPT				i S	Sn	00 15 46.9	+3.1
KRSR	Krestovskiy	1.36	316	eP	Pn	00 15 26.5	-0.1
KRSR				i S	Sn	00 15 44.0	+0.2
KLY	Klyuchi	1.39	320	P	Pn	00 15 25.5	-1.6
KLY				i S	Sn	00 15 42.8	-1.9
SRKR	Sorokina	1.53	337	eP	Pn	00 15 29.6	+0.7
SRKR				i S	Sn	00 15 48.3	+0.3
KOZ	Kozyrevsk	1.57	302	eP	Pn	00 15 31.6	+2.1
KOZ				i S	Sn	00 15 52.8	+3.7
SRDR	Sredinnyy	1.79	307	eP	Pn	00 15 34.2	+1.8
SRDR				i S	Sn	00 15 56.9	+2.5
NLC	Nalytchevo	2.70	220	P	Pn	00 15 44.9	-0.2
NLC				i S	Sn	00 16 16.4	-0.7
AVH	Avacha	2.87	227	P	Pn	00 15 49.2	+1.8
AVH				i S	Sn	00 16 23.0	+1.7
GNL	Ganaly	2.97	240	eP	Pn	00 15 49.4	+0.7
PET	Petropavlovsk	3.08	225	P	Pn	00 15 52.8	+2.5
PET				i S	Sn	00 16 29.8	+3.3
RUS	Russkaya	3.60	220	P	Pn	00 15 57.3	-0.1

ISCJB 14 00:35:16.9±3.6, 345S±01×1790W±02, h57km±29km, mb4.2/6, Error ellipse: s-maj=29.6km s-min=21.9km az=151.0
NEIC 14 00:35:18.8±2.4, 3449S×17891W, h63km±20km, mb4.3/4, Error ellipse: s-maj=18.7km s-min=13.9km az=56.0
IDC 14 00:35:18.7±1.5, 3430S×17989E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/16, mbtmp4.1/4, ML3.6/1, Error ellipse: s-maj=39.2km s-min=38.1km az=176.0

ISC 14 00:35:19.0±3.3, 345S±01×1790W±02, h61km±27km, n25, σ0°45/20, mb4.2/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.92	219	Pn	Pn	00 36 30.4	0.0
URZ	2.7nm,0.3s,baz=6.4,slow=6.6,SNR=7.7			Sn	Sn	00 37 32.3	+6.3
TAU	3.7nm,0.3s,baz=139,slow=20,SNR=3.9 Tasmania Unive	27.49	242	P	P	00 40 59.0	-0.4
STKA	Stephens Creek	32.98	263	P	P	00 41 48.3	+0.3
CTAO	Charters Tower	33.98	286	eP	P	00 41 57.0	+0.9
PMG	3.6nm,0.7s,mb4.4 Port Moresby	39.81	301	P	P	00 42 46.6	+0.2
ASAR	Alice Springs	42.26	272	P	P	00 43 06.5	0.0
WB2	3.3nm,0.7s,mb4.1,baz=112,slow=7.6,SNR=34 Warramunga Arr	43.60	277	eP	P	00 43 16.9	-0.4
WRAB	Tennant Creek	43.61	277	eP	P	00 43 16.8	-0.6
WRA	3.4nm,0.6s,mb4.2 Warramunga Arr	43.62	277	P	P	00 43 16.7	-0.7
SBA	3.4nm,0.8s,mb4.1,baz=120,slow=7.5,SNR=12 Scott Base	43.91	184	P	P	00 43 19.2	+0.1
FITZ	Fitzroy Crossi	51.67	274	P	P	00 44 19.5	-0.4
FITZ	1.0nm,0.7s,mb3.9,baz=152,slow=15,SNR=5.9 Fitzroy Crossi	51.67	274	eP	P	00 44 19.8	-0.1
MBWA	2.9nm,0.7s,mb4.3 Marble Bar	55.09	267	eP	P	00 44 45.8	+0.9
MIDW	Midway	62.38	2	P	P	00 45 35.0	-0.2
SNAA	Sanae	74.10	179	eP	P	00 46 48.0	0.0
MAJO	2.5nm,1.1s,mb4.1 Matsushiro	81.16	326	P	P	00 47 27.3	-0.4
MDJ	Mudanjiang	91.54	326	P	P	00 48 19.1	+0.5
ENH	Enshi	93.25	305	P	P	00 48 27.1	+0.2
BJT	Baijiatuan	95.26	316	eP	P	00 48 35.6	-0.2
JOF	Joensuu	145.86	336	epkp	PKPdf	00 54 47.1	-2.7
KAF	Kangasniemi	148.07	338	epkp	PKPdf	00 54 53.8	+0.3
NOA	baz=16,slow=1.8 NORSAR Array B	152.63	349	PKPbc	PKPbc	00 55 17.2	+9.5
AKASG	1.0nm,0.9s,baz=20,slow=4.7,SNR=3.9 Malin Array Be	153.90	317	PKPbc	PKPbc	00 55 18.0	+7.2
AKASG	0.3nm,0.3s,baz=67,slow=3.0,SNR=5.0			PKPab	PKPab	00 55 28.0	+3.7
AKASG	0.5nm,0.3s,baz=42,slow=3.4,SNR=4.9 Malin Array Be	153.90	317	PKPbc	PKPbc	00 55 18.0	+7.2
AKASG				PKPab	PKPab	00 55 28.0	+3.7
TORD	Torodi Ar. Bea	158.75	182	PKPab	PKPab	00 55 53.1	+7.3
	0.8nm,1.0s,baz=167,slow=2.8,SNR=7.6						

IDC 14 00:54:03.6±2.4, 454N×12356E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.9/3, Error ellipse: s-maj=331.4km s-min=24.8km az=63.0
ISCJB 14 00:54:34.6±3.2, 443N±009×1240E±01, h323km±37km, mb3.5/10, Error ellipse: s-maj=21.0km s-min=11.2km az=149.9
NEIC 14 00:54:35.9±4.2, 449N×12404E, h315km±49km, mb3.7/7, Error ellipse: s-maj=18.4km s-min=10.3km az=59.0

ISC 14 00:54:38.2±3.8, 442N±009×1241E±01, h344km±46km, n20, σ1°12/20, mb3.5/10, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	Kuching	14.04	258	P	P	00 57 41.5	-1.1
QIZ	Qiongzhong	20.08	317	P	P	00 58 50.7	+3.3
FITZ	Fitzroy Crossi	22.44	176	eP	P	00 59 03.1	-5.7
GUMO	1.9nm,0.9s,mb3.3 Guam	22.46	65	eP	P	00 59 08.8	-0.4
MBWA	101nm,0.5s Marble Bar	25.77	189	P	P	00 59 38.3	-0.6
WRAB	Tennant Creek	26.23	158	eP	P	00 59 43.7	+0.7
WRA	1.6nm,0.3s,mb3.7 Warramunga Arr	26.24	158	P	P	00 59 43.7	+0.6
WB2	1.0nm,0.3s,mb3.5,baz=336,slow=9.6,SNR=6.1 Warramunga Arr	26.24	158	eP	P	00 59 43.8	+0.7
ENH	Enshi	29.16	333	P	P	01 00 10.6	+1.8
ASAR	Alice Springs	29.52	161	P	P	01 00 12.0	0.0
CTAO	0.3nm,0.3s,mb3.0,baz=343,slow=6.9,SNR=5.5 Charters Tower	32.70	139	eP	P	01 00 39.9	+0.2
MAJO	2.1nm,0.6s,mb3.5 Matsushiro	34.51	20	P	P	01 00 54.4	-0.6
STKA	Stephens Creek	39.77	156	P	P	01 01 42.5	+3.6
TLY	1.8nm,0.4s,mb3.6 Talaya	50.08	344	eP	P	01 02 57.5	-1.5
TAU	1.9nm,0.5s,mb3.6 Tasmania Unive	51.61	158	P	P	01 03 07.9	-2.5
MK31	Makanchi Array	55.48	326	eP	P	01 03 37.7	-0.6
MK31				ePcP	PcP	01 04 37.6	+3.9
MKAR	Makanchi Array	55.48	326	P	P	01 03 37.6	-0.7
UCH	0.7nm,0.3s,mb3.4,baz=125,slow=7.7,SNR=13 Uchtor	57.87	318	eP	P	01 03 56.4	+1.4
KBL	1.9nm,0.4s,mb3.8 Kabul	58.99	308	P	P	01 04 03.8	+0.9
KURK	Kurchatov	59.74	328	eP	P	01 04 07.5	-0.1
	1.1nm,0.4s,mb3.6						

TEH 14 00:57:48.3, 3117N×4807E, h27km, ML3.7
IDC 14 00:58:22.8±2.2, 3120N×4809E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/25, mbtmp3.9/6, Error ellipse: s-maj=59.2km s-min=25.0km az=151.0
ISCJB 14 00:58:25.6±0.3, 3124N±003×4827E±004, h10km, mb3.6/5, Error ellipse: s-maj=5.4km s-min=3.9km az=20.0
THR 14 00:58:25.0±0.4, 3116N×4816E, h14km±5km, ML3.6
CSEM 14 00:58:27.7±0.1, 3128N×4824E, h25km, ML3.7, Error ellipse: s-maj=2.5km s-min=1.8km az=122.0
SGS 14 00:58:28.2, 3116N×4812E, h11km
NEIC 14 00:58:28.4, 3117N×4807E, h27km, ML3.6(THR), MN3.7(TEH), After TEH.

ISC 14 00:58:26.8±0.3, 3122N±003×4820E±004, h10km, n68, σ1°17/72, mb3.6/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.02	30	ePg	Pg	00 58 45.3	-1.3
SHGR				AML	AML	00 59 03.9	
	comp=N,1μm,0.8s						
SHGR				AML	AML	00 59 19.1	
	comp=E,1μm,0.6s						
SHGR	Shooshtar-Gavs	1.02	30	ePg	Pg	00 58 44.0	-2.6
MIB	Mutribah	1.59	208	eP	Pn	00 58 55.8	+0.7
MIB				eS	Sn	00 59 16.7	+1.0
	comp=E,537nm,0.6s						
MIB	Mutribah	1.59	208	eP	Pn	00 58 55.8	+0.7
	baz=205						
MIB				eS	Sn	00 59 16.7	+1.0
	baz=205						
MIB				AML	AML	00 59 23.1	
	comp=Z,537nm,0.6s,baz=205						
UMR	Umm Al-Rimmam	1.71	194	eP	Pn	00 58 57.6	+0.9
RST	Umm Al-Ruwaisa	2.00	211	eP	Pn	00 59 01.2	+0.5
NAY	Al-Naaiem	2.13	203	eP	Pn	00 59 03.3	+0.8
	baz=201						
NAY				AML	AML	00 59 37.0	
	comp=Z,191nm,0.6s,baz=201						
RDF	Al-Radifah	2.35	194	eP	Pn	00 59 07.4	+1.8
	baz=192						
RDF				AML	AML	00 59 40.4	
	comp=Z,100nm,0.4s,baz=192						
IPIR	Pirpir	2.72	57	ePn	Pn	00 59 12.8	+2.3
IPIR				e		01 00 08.0	
IKOM	Komasi	3.00	349	ePn	Pn	00 59 14.9	+0.4
IKOM	Komasi	3.00	349	Pn	Pn	00 59 14.8	+0.3
IGHG	Ghaleghazi	3.39	337	ePn	Pn	00 59 19.5	-0.3
IGHG				e		01 00 55.5	
IGAR	Gharneh	3.48	69	ePn	Pn	00 59 22.7	+1.7
IGAR				e		01 00 33.4	
IVIS	Veis	3.49	341	Pn	Pn	00 59 20.5	-0.6
IVIS	Veis	3.49	341	ePn	Pn	00 59 20.6	-0.5
IVIS				e		01 00 25.7	
IKLH	Kolahrood	3.55	53	ePn	Pn	00 59 23.6	+1.6
IKLH				e		01 00 36.8	
IKLH	Kolahrood	3.55	53	Pn	Pn	00 59 23.5	+1.5
ASAO	Ashtian	3.66	24	ePn	Pn	00 59 24.4	+0.9
ASAO				AML	AML	01 00 25.7	
	comp=N,94nm,0.7s						
ASAO	Ashtian	3.66	24	ePn	Pn	00 59 24.0	+0.5
BHD	Baghdad	3.83	303	ex	x	00 59 23.0	
BHD				ex	x	01 00 07.0	
ILIN	Lien	3.83	345	ePn	Pn	00 59 25.8	-0.1
ILIN				e		00 59 30.1	
IZEF	Zefreh	3.89	63	ePn	Pn	00 59 27.7	+1.1
IZEF				e		00 59 28.6	
SNGE	Sanandaj	3.93	350	ePn	Pn	00 59 27.9	+0.7
SNGE	Sanandaj	3.93	350	ePn	Pn	00 59 27.0	-0.2
NASN	Na'in	4.22	67	ePn	Pn	00 59 32.1	+0.9
NASN	Na'in	4.22	67	ePn	Pn	00 59 32.0	+0.8
IRAZ	Razeghan	4.42	19	ePn	Pn	00 59 34.7	+0.8
IRAZ				e		00 59 38.5	
IRAZ	Razeghan	4.42	19	Pn	Pn	00 59 34.6	+0.7
ISRV	Sarvestan	4.63	112	Pn	Pn	00 59 37.6	+0.8
ISRV				eSn	Sn	01 00 28.7	-2.0
ISRV	Sarvestan	4.63	112	ePn	Pn	00 59 37.6	+0.8
ISRV				eSn	Sn	01 00 28.7	-2.0
ISRV				e		01 01 22.1	
IR3	Iran Long-Peri	4.86	28	ePn	Pn	00 59 40.7	+0.7
ASYS		5.00	223	P	Pn	00 59 40.4	-1.6
GHIR	Ghir-Karzin	5.09	124	ePn	Pn	00 59 42.9	-0.2
GHIR	Ghir-Karzin	5.09	124	ePn	Pn	00 59 42.0	-1.2
CHTH	Charan	5.28	27	ePn	Pn	00 59 46.5	+0.8
CHTH	Charan	5.28	27	ePn	Pn	00 59 46.0	+0.3
ICHK	Chekchek	5.39	77	ePn	Pn	00 59 48.1	+0.8
ICHK				eSn	Sn	01 00 47.2	-2.2
ICHK	Chekchek	5.39	77	ePn	Pn	00 59 48.1	+0.8
ICHK				eSn	Sn	01 00 47.2	-2.2
ICHK				e		01 01 03.3	
IAFJ	Afjeh	5.48	31	ePn	Pn	00 59 48.7	+0.2
IAFJ				e		01 01 32.0	
IMEH	Mehriz	5.49	87	ePn	Pn	00 59 49.2	+0.5
IMEH				e		01 01 02.0	
ILAS	Lasjerd	5.75	43	ePn	Pn	00 59 47.4	-4.9
IFIR	Firoozkooh	5.83	40	ePn	Pn	00 59 53.0	-0.3
IFIR	Firoozkooh	5.83	40	Pn	Pn	00 59 52.9	-0.4
IPRN	Peran	6.08	33	ePn	Pn	00 59 57.8	+1.0
IPRN	Peran	6.08	33	Pn	Pn	00 59 57.7	+0.9
ISHM	Shahmirzad	6.25	42	ePn	Pn	00 59 59.8	+0.7
ISHM	Shahmirzad	6.25	42	Pn	Pn	00 59 59.7	+0.6
IBAF	Bafgh	6.31	85	ePn	Pn	01 00 00.1	+0.1
IBAF				e		01 00 16.7	
IANJ	Anjilo	6.39	47	ePn	Pn	00 59 59.9	-1.1
IBST	Bostanabad	6.55	351	ePn	Pn	01 00 03.5	+0.2
ISRB	Sarab	6.60	356	ePn	Pn	01 00 03.5	-0.4
ISRB	Sarab	6.60	356	Pn	Pn	01 00 03.4	-0.5
MSL	Mosul	6.61	321	ex	x	01 00 42.0	
MSL				ex	x	01 02 16.0	
IKIA	Kiasar	6.75	41	ePn	Pn	01 00 07.7	+1.7
IKIA	Kiasar	6.75	41	Pn	Pn	01 00 07.6	+1.6
BTHS		7.52	161	P	Pn	01 00 15.7	-0.9
HRDDS		8.34	172	P	Pn	01 00 27.1	-0.7
LYLS		9.18	186	P	Pn	01 00 38.0	-1.4
AKTK	Aktyubinsk	20.55	18	P	P	01 03 04.0	-1.4
AKTK	Aktyubinsk	20.55	18	P	P	01 03 04.0	-1.4
AKTO	Aktyubinsk	20.55	18	P	P	01 03 04.0	-1.4
	comp=N,2.4nm,0.8s,baz=204,slow=14,SNR=4.2						
AKASG	Malin Array Be	24.04	330	P	P	01 03 38.4	-3.5
	comp=N,0.3nm,0.2s,mb3.3,baz=133,slow=8.2,SNR=4.7						
AKASG	Malin Array Be	24.04	330	P	P	01 03 38.3	-3.6
BVAR	Borovoye Array	27.10	30	P	P	01 04 08.7	-0.9
	comp=N,1.0nm,0.8s,mb3.4,baz=218,slow=9.4,SNR=5.2						
MKAR	Makanchi Array	30.43	49	P	P	01 04 36.6	-2.8
	comp=N,0.7nm,0.6s,mb3.6,baz=252,slow=6.6,SNR=6.7						
ZALV	Zalesovo Beam	34.67	38	P	P	01 05 14.8	-1.5
	comp=N,0.7nm,0.4s,mb3.9,baz=261,slow=9.4,SNR=4.6						
TORD	Torodi Ar. Bea	46.29	258	P	P	01 06 49.9	-3.0
	comp=N,1.6nm,1.0s,mb3.9,baz=53,slow=7.4,SNR=6.0						
TORD	Torodi Ar. Bea	46.29	258	P	P	01 06 49.9	-3.0

IDC 14 01:52:24.1±35.0, 6.11N×12705E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=590.3km s-min=104.5km az=161.0
NEIC 14 01:52:30.7±1.5, 543N×12686E, h10km, mb4.3/3, Error ellipse: s-maj=60.6km s-min=20.6km az=65.0
ISCJB 14 01:52:32.8±1.7, 52N±003×1265E±04, h33km, mb4.1/7, Error ellipse: s-maj=71.4km s-min=21.0km az=152.7

ISC 14 01:52:34.6±1.6, 54N±02×1268E±04, h35km, n8, σ0°95/8, mb4.1/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.36	183	P	P	01 57 42.2	+1.9
	0.7nm,0.5s,mb3.4,baz=10,slow=12,SNR=5.1						
WRAB	Tennant Creek	26.22	164	eP	P	01 58 06.2	-0.1
	2.9nm,0.4s,mb4.2						
WRA	Warramunga Arr	26.23	164	P	P	01 58 06.2	-0.2
	3.1nm,0.3s,mb4.3,baz=343,slow=10,SNR=24						
WB2	Warramunga Arr	26.23	164	eP	P	01 58 06.2	-0.2
MBWA	Marble Bar	27.28	195	eP	P	01 58 14.2	-1.7
	11nm,1.1s,mb4.3						
ASAR	Alice Springs	29.68	167	P	P	01 58 38.1	+0.8
	0.7nm,0.5s,mb3.7,baz=0.5,slow=8.7,SNR=13						
STKA	Stephens Creek	39.63	160	P	P	02 00 02.5	-0.6
	3.8nm,0.4s,mb4.5,baz=338,slow=9.3,SNR=18						
EKS2	Erkin-Say	59.71	317	eP	P	02 02 36.1	+0.3
	1.8nm,0.8s,mb4.2						

DDA 14 02:02:25.9, 3903N×2694E, h7km±7km, Md3.3
THE 14 02:02:25.6, 3906N×2703E, h12km, ML2.7
ISK 14 02:02:25.9, 3901N×2696E, h11km, MD3.0
ISCJB 14 02:02:27.0±0.4, 3901N±002×2694E±003, h17km±7km, Error ellipse: s-maj=4.6km s-min=3.5km az=139.4
CSEM 14 02:02:26.2±0.1, 3898N×2702E, h20km, MD3.3, Error ellipse: s-maj=2.2km s-min=1.4km az=92.0

ISC 14 02:02:26.7±0.4, 3902N±002×2695E±003, h12km±4km, n26, σ0°71/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	Ayvalik	0.35	325	i P	Pg	02 02 33.9	0.0
AYVA				i S	Sg	02 02 39.2	+0.6
PRK	Paraskevi	0.58	294	ePg	Pg	02 02 37.9	-0.1
PRK				eSg	Sg	02 02 46.4	+0.8
BLCB	Balcova	0.64	174	ePG	Pg	02 02 38.5	-0.6
BLCB				eSG	Sg	02 02 47.9	+0.5
BLCB	Balcova	0.64	174	ePg	Pg	02 02 38.4	-0.7
BLCB				eSg	Sg	02 02 48.6	+1.2
BLCB	Balcova	0.64	174	ePg	Pg	02 02 38.3	-0.8
BLCB				eSg	Sg	02 02 47.9	+0.4
KDAG	Bornova	0.66	158	i P	Pg	02 02 38.8	-0.8
KDAG				i S	Sg	02 02 49.0	+0.7
IZM	Izmir	0.67	158	ePG	Pg	02 02 38.7	-0.9
IZM				eSG	Sg	02 02 48.4	0.0
AKHS	Akhisar	0.69	101	i P	Pg	02 02 39.9	-0.1
AKHS				i S	Sg	02 02 48.6	-0.4
AKS	Akhisar	0.69	101	ePG	Pg	02 02 40.1	0.0
AKS				eSG	Sg	02 02 49.2	+0.2
BALY	Balya	0.89	35	i P	Pg	02 02 43.4	-0.5
BALY				i S	Sg	02 02 56.1	+0.6
EZN	Ezine	0.94	329	ePG	Pg	02 02 44.7	-0.2
CHOS	Chios island	0.94	228	ePg	Pg	02 02 43.9	-1.0
CHOS				eSg	Sg	02 02 58.9	+1.7
BALB	Balikesir	0.95	49	ePG	Pg	02 02 44.6	-0.5
BOZC	Bozcaada	1.08	320	i P	Pb	02 02 46.7	-0.6
BOZC				i S	Sb	02 02 59.3	-2.0
BTOK	Tokmak	1.12	48	i P	Pb	02 02 47.9	-0.1
BTOK				i S	Sb	02 03 03.7	+1.2
LPK	Lapseki	1.36	354	ePN	Pn	02 02 51.6	+0.1
DEMI	Demirci	1.37	88	i P	Pn	02 02 52.0	+0.3
DEMI				i S	Sn	02 03 10.0	+0.2
DST	Dursunbey	1.43	65	ePN	Pn	02 02 52.4	0.0
KULA	Kula-Manisa	1.43	110	ePN	Pn	02 02 52.5	+0.1
BNT	Bandirma	1.53	29	ePN	Pn	02 02 53.0	-0.8
KCT	Karacabey	1.65	41	ePN	Pn	02 02 55.0	-0.5
RKY	Sarkoy-Tekirda	1.68	6	ePN	Pn	02 02 55.6	-0.2
SART	Tekirdag	1.68	6	i P	Pn	02 02 55.9	0.0
SART				i S	Sn	02 03 18.2	+1.0
MFT	Murefte	1.79	8	ePN	Pn	02 02 56.6	-0.7
ENEZ	Enez	1.82	341	ePN	Pn	02 02 58.9	+1.1
YLV	Yalova	2.42	50	ePN	Pn	02 03 07.0	+0.9

CSEM 14 02:03:22.7±0.1, 3670N×2710E, h136km±2km, MD3.3, Error ellipse: s-maj=3.1km s-min=1.8km az=4.0
ISCJB 14 02:03:23.5±0.4, 3668N±003×2704E±003, h147km±4km, mb3.3/2, Error ellipse: s-maj=5.5km s-min=3.8km az=170.7
IDC 14 02:03:23.6±2.0, 3669N×2702E, h136km±19km, mb3.0/2, mb1 3.2/6, mb1mx3.0/25, mbtmp3.0/6, Error ellipse: s-maj=31.0km s-min=12.2km az=6.0
ATH 14 02:03:25.6, 3676N×2693E, h127km±4km
NEIC 14 02:03:25.5, 3676N×2693E, h128km, MD2.9(ISK), After ATH.
ISK 14 02:03:25.1, 3677N×2701E, h130km, MD3.3
THE 14 02:03:27.8, 3678N×2665E, h0km
DDA 14 02:03:27.4, 3663N×2742E, h7km±1km, Md3.3
HLW 14 02:03:28.1, 3636N×2734E, h33km, Mb3.9

ISC 14 02:03:24.4±0.4, 3669N±003×2704E±003, h144km±4km, n42, σ0°93/60, mb3.3/2, 5C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	Bodrum	0.43	30	ePG	Pn	02 03 44.1	-0.5
BODT				eSG	Sn	02 03 58.4	-1.7
BDRM	Kayabasi	0.50	40	i P	Pn	02 03 45.4	+0.4
BDRM				i S	Sn	02 04 00.9	+0.3
MLSB	Milas	0.84	44	ePG	Pn	02 03 46.7	-0.5
ARG	Arkhangelos	0.99	118	eP	Pn	02 03 49.8	+1.3
ARG				eS	Sn	02 04 08.1	+1.3
SMG	Samos	1.03	351	eP	Pn	02 03 48.4	-0.4
YER	Yerkesik	1.09	65	ePN	Pn	02 03 49.5	+0.1
TURN	Turunc	1.27	81	i P	Pn	02 03 48.9	-2.1
TURN				i S	Sn	02 04 06.2	-5.1
TURN	Turunc	1.27	81	i P	Pn	02 03 48.9	-2.1
TURN				i S	Sn	02 04 06.2	-5.1
DALT	Dalyan (Mudla)	1.28	86	ePN	Pn	02 03 51.6	+0.4
BLCB	Balcova	1.69	360	ePN	Pn	02 03 54.8	-0.8
ZKR	Zakros	1.71	203	ePb	Pn	02 03 57.3	+1.6
ZKR				eSb	Sn	02 04 21.3	+1.6
NPS	Neapolis	1.83	220	eP	Pn	02 03 58.0	+0.8
NPS				eS	Sn	02 04 21.6	-0.7
DNZL	Cakiroluk	1.89	57	i P	Pn	02 03 58.8	+1.0
DNZL				i S	Sn	02 04 24.1	+0.7
LAST	Lasithi	1.98	220	ePb	Pn	02 03 59.2	+0.3
LAST				eSb	Sn	02 04 24.9	-0.5
GOLH	Golhisar	2.09	74	i P	Pn	02 04 01.6	+1.4
GOLH				i S	Sn	02 04 27.3	-0.4
AKAS	Kas	2.12	102	i P	Pn	02 04 01.5	+1.0
AKAS				i S	Sn	02 04 26.5	-1.6
IDI	Anoyia	2.23	232	P	Pn	02 04 02.3	+0.3
	1.0nm,0.3s,baz=292,slow=7.7,SNR=45						
IDI				S	Sn	02 04 29.5	-1.3
	13nm,0.3s,baz=117,slow=21,SNR=31						
ELL	Elmali	2.30	88	ePN	Pn	02 04 03.2	+0.4
SIVA	Sivas	2.46	228	ePn	Pn	02 04 05.6	+0.9
SIVA				eSn	Sn	02 04 34.8	-0.9
VAM	Vamos	2.63	242	eP	Pn	02 04 07.3	+0.4
KARN	Karanos	2.84	244	ePn	Pn	02 04 10.0	+0.6
KARN				eSn	Sn	02 04 43.4	-0.8
DID	Didima	3.15	286	ePn	Pn	02 04 13.6	+0.2
VLI	Veliai	3.30	272	eP	Pn	02 04 16.3	+1.0
VLX	Vlachokerasia	3.79	282	ePn	Pn	02 04 22.2	+0.5
VLX				eSn	Sn	02 05 04.4	-1.8
ITM	Ithomi	4.13	278	eP	Pn	02 04 27.4	+1.3
AGG	Agios Georgios	4.40	303	ePn	Pn	02 04 30.5	+0.8
SLUM		5.40	197	⇑P	Pn	02 04 43.2	+0.2
HMAT	Matruh	5.58	180	⇑P	Pn	02 04 44.7	-0.8
HMAT				S	Sn	02 05 40.5	-8.2
HNAT	Natroun	7.65	156	P	Pn	02 05 12.7	-0.4
MMAI	Mount Meron Ar	7.79	116	P	Pn	02 05 14.3	-0.7
	6.7nm,0.3s,baz=312,slow=12,SNR=35						
MMAI				S	Sn	02 06 42.0	+0.3
	2.2nm,0.3s,baz=312,slow=20,SNR=4.8						
KOT	Kottamia	7.84	148	⇑P	Pn	02 05 15.0	-0.8
HRSH	Kfar Ka'horesh	7.86	118	⇑P	Pn	02 05 16.5	+0.5
RSH		7.97	134	P

*ISCJB **14** 02:20:37.8±1.2,3929N∧008×70.35E∧007, h33km, Error ellipse: s-maj=12.5km s-min=7.3km az=20.6*
*IDC **14** 02:20:44.6±10.0,3961N×7065E, h81km±108km, mb3.1/1, mb1 3.5/4, mb1mx3.2/25, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=91.7km s-min=41.3km az=16.0*
ISC 14 02:20:40.3±1.5,**393N**∧01×**7042E**±008,**h35**km,**n17,**
σ0§**88**/22,**3C-5D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.79**	**40**	P	**Pn**	**02 21 35.9**	**-0.3**
	SNR=68						
KK31	**Karatay Array**	**3.83**	**1**	⇓Pn	**Pn**	**02 21 38.9**	**+2.2**
	2.9nm,0.3s,baz=180,slow=14,SNR=179						
KK31				⇑Sn	**Sn**	**02 22 31.0**	**+11**
	18nm,0.5s,baz=52,slow=37,SNR=4.7						
KK31				⇓Lg		02 22 41.2	
	18nm,0.4s,baz=187,slow=31,SNR=5.4						
EKS2	**Erkin-Say**	**4.24**	**36**	P	**Pn**	**02 21 41.9**	**-0.4**
	SNR=26						
UCH	**Uchtor**	**4.29**	**45**	P	**Pn**	**02 21 43.6**	**+0.6**
	SNR=7.3						
KZA	**Kyzart**	**4.62**	**51**	P	**Pn**	**02 21 48.4**	**+0.8**
	SNR=24						
KBK	**Karagaybulak**	**4.82**	**44**	P	**Pn**	**02 21 50.7**	**+0.4**
	SNR=14						
CHMS	**Chumysh**	**4.96**	**40**	P	**Pn**	**02 21 52.0**	**-0.2**
	SNR=22						
USP	**Ospenovka**	**5.04**	**36**	P	**Pn**	**02 21 53.1**	**-0.3**
	SNR=34						
ULHL	**Ulahol**	**5.33**	**54**	P	**Pn**	**02 21 57.3**	**0.0**
	SNR=14						
TKM2	**Tokmak 2**	**5.35**	**45**	⇓Pn	**Pn**	**02 21 56.7**	**-0.9**
	16nm,0.7s						
TKM2				⇓Sn	**Sn**	**02 23 03.7**	**+5.8**
	23nm,0.8s						
TKM2	**Tokmak 2**	**5.35**	**45**	P	**Pn**	**02 21 58.4**	**+0.8**
	SNR=7.4						
MKAR	**Makanchi Array**	**11.48**	**45**	P	**Pn**	**02 23 20.7**	**-0.9**
	0.1nm,0.3s,baz=231,slow=13,SNR=7.0						
AB31	**Akbulak array**	**12.47 327**		Pn	**Pn**	**02 23 33.8**	**-1.4**
	2.6nm,0.5s,baz=150,slow=11,SNR=72						
AB31				⇑Sn	**Sn**	**02 25 53.2**	**+0.4**
	7.0nm,0.8s,baz=152,slow=21,SNR=7.5						
AKTO	**Aktyubinsk**	**14.19 326**		⇓Pn	**Pn**	**02 23 57.6**	**-0.9**
	0.9nm,1.3s						
AKTO				⇑Sn	**Sn**	**02 26 34.2**	**-0.3**
	2.1nm,1.5s						
AKTO	**Aktyubinsk**	**14.19 326**		P	**Pn**	**02 23 58.3**	**-0.2**
	0.5nm,0.3s,baz=138,slow=13,SNR=8.0						
AKTO				S	**Sn**	**02 26 34.9**	**+0.4**
	0.3nm,0.3s,baz=340,slow=17,SNR=5.5						
ZALV	**Zalesovo Beam**	**17.65**	**29**	P	**Pn**	**02 24 39.9**	**-3.3**
	0.5nm,0.3s,baz=226,slow=11,SNR=14						
TORD	**Torodi Ar. Bea**	**65.36**	**267**	P	**P**	**02 31 20.0**	**+0.6**
	0.3nm,0.6s,baz=54,slow=6.7,SNR=4.5						

IDC 14 02:22:53.2±10.0,**1356S**×**17931W,h408**km±116km,
mb3.4/5,**mb1 3.7**/5,**mb1mx3.3**/16,**mbtmp3.4**/5,**Error ellipse: s-maj=142.3km s-min=31.4km az=151.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.13 236**		P	P	02 29 51.6	-0.1
	1.8nm,0.5s,baz=76,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**44.73 255**		P	P	02 30 28.3	-0.1
	0.4nm,0.3s,baz=88,slow=7.2,SNR=5.3						
ASAR	**Alice Springs**	**45.29 250**		P	P	02 30 32.6	0.0
	12nm,0.4s,baz=85,slow=8.7,SNR=203						
NVAR	**Mina Array Bea**	**76.94**	**45**	P	P	02 34 02.9	+0.8
	0.6nm,0.6s,baz=226,slow=7.9,SNR=4.7						
PDAR	**Pinedale Array**	**84.82**	**44**	P	P	02 34 43.0	-0.1
	0.6nm,0.6s,baz=193,slow=3.2,SNR=6.6						
ARCES	**ARCESS Array B 121.91 350**			PKP	PKPdf	02 40 58.8	-0.4
	1.9nm,0.8s,baz=64,slow=2.8,SNR=6.1						
GERES	**GERESS Array B 143.21 346**			PKP	PKPdf	02 41 39.6	+0.1
	0.6nm,0.5s,baz=0.0,slow=2.7,SNR=8.7						

*ISCJB **14** 02:47:29.1±0.5,2844N∧003×105.18E∧006, h10km, mb3.8/9, Error ellipse: s-maj=7.8km s-min=4.7km az=169.4*
*NEIC **14** 02:47:30.7±0.6,2842N×10533E, h10km, Error ellipse: s-maj=20.1km s-min=10.2km az=75.0*
*BJI **14** 02:47:31.3,2837N×10498E, h18km, mB4.6, mb4.6, ML3.7, Ms3.6, Ms23.4*
*IDC **14** 02:47:34.8±0.8,2837N×105.16E, h43km±7km, mb3.6/9, mb1 3.9/11, mb1mx3.7/23, mbtmp3.7/11, ML4.2/2, Error ellipse: s-maj=28.5km s-min=14.5km az=60.0*
ISC 14 02:47:31.1±0.4,**2840N**±003×**10505E**±006,**h10**km,**n19,**
σ1§**21**/26,**mb3.8**/9,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.41 143**		P	**Pn**	**02 48 11.3**	**+0.7**
GYA				PG	**Pg**	**02 48 16.8**	**-0.5**
GYA				S	**Sn**	**02 48 42.3**	**+2.1**
GYA				SG	**Sg**	**02 48 48.4**	**-0.2**
GYA				Smax			
	comp=N,440nm,0.6s						
GYA				Smax			
	comp=E,530nm,0.6s						
CD2	**Chengdu**	**2.74 336**		*e*P	**Pn**	**02 48 15.9**	**+0.7**
CD2				PG	**Pg**	**02 48 23.1**	**-0.6**
CD2				Smax			
	comp=N,1μm,0.5s						
CD2				Smax			
	comp=E,1μm,0.6s						
KMI	**Kunming**	**3.86 213**		PG	**Pg**	**02 48 33.8**	**-11**
KMI				Smax			
	comp=N,21nm,1.4s						
KMI				Smax			
	comp=E,34nm,1.3s						
XAN	**Xi'an**	**6.53**	**30**	P	**Pn**	**02 49 07.8**	**+0.6**
XAN				S	**Sn**	**02 50 20.8**	**-0.9**
XAN				SG	**Sg**	**02 51 02.5**	**+1.8**
XAN				Smax			
	comp=N,84nm,1.2s						
XAN				Smax			
	comp=E,91nm,1.3s						
LZH	**Lanzhou**	**7.73 353**		*e*P	**Pn**	**02 49 28.6**	**+4.9**
LZH				*e*S	**Sn**	**02 50 57.0**	**+5.7**
LZH				Smax			
	comp=N,55nm,1.0s						
LZH				Smax			
	comp=E,117nm,1.3s						
LZH				LR	LR		
	comp=E,314nm,8.2s						
LZH				LR	LR		
	comp=Z,251nm,9.3s						
CMAR	**Chiang Mai Arr**	**11.37 211**		P	**Pn**	**02 50 15.2**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=19,slow=12,SNR=10						
SONM	**Songino Array**	**19.43**	**3**	P	**Pn**	**02 51 57.5**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=190,slow=13,SNR=9.7						
KSRS	**Korea Array**	**21.18**	**59**	P	**P**	**02 52 16.5**	**-0.1**
	comp=Z,1.5nm,0.5s,mb3.6,baz=241,slow=10,SNR=4.9						
MK31	**Makanchi Array**	**25.58 322**		*e*P	**P**	**02 53 00.6**	**+0.3**
MKAR	**Makanchi Array**	**25.58 322**		P	**P**	**02 53 02.1**	**+1.8**
	comp=Z,3.3nm,0.8s,mb3.9,baz=125,slow=10,SNR=14						
MKAR				sP	sP	02 53 17.7	+13
	comp=Z,1.0nm,0.7s,baz=138,slow=9.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**29.51 335**		P	**P**	**02 53 34.2**	**-1.2**
	comp=Z,1.2nm,0.3s,mb4.1,baz=126,slow=9.3,SNR=3.9						
AKTK	**Aktyubinsk**	**41.60 315**		P	**P**	**02 55 20.8**	**+1.6**
AKTO	**Aktyubinsk**	**41.60 315**		P	**P**	**02 55 20.8**	**+1.6**
	comp=Z,1.2nm,0.7s,mb3.6,baz=89,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**55.78 146**		P	**P**	**02 57 07.4**	**-1.0**
	comp=Z,0.6nm,0.3s,mb4.1,baz=336,slow=8.0,SNR=5.1						
WRA				pP	pP	02 57 18.6	+7.0
	comp=Z,0.6nm,0.4s,baz=336,slow=8.4,SNR=3.2						
WB2	**Warramunga Arr**	**55.78 146**		*e*P	**P**	**02 57 07.3**	**-1.1**
ASAR	**Alice Springs**	**58.76 149**		P	**P**	**02 57 27.8**	**-1.6**
	comp=Z,0.4nm,0.3s,mb3.9,baz=332,slow=6.9,SNR=6.5						
ASAR				pP	pP	02 57 40.6	+8.0
	comp=Z,0.5nm,0.5s,baz=322,slow=6.2,SNR=1.6						
ARCES	**ARCESS Array B**	**60.05 336**		P	**P**	**02 57 36.2**	**-1.6**
	comp=Z,2.7nm,0.9s,mb4.3,baz=89,slow=7.9,SNR=8.0						
GERES	**GERESS Array B**	**70.03 315**		P	**P**	**02 58 41.6**	**-1.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=59,slow=5.1,SNR=4.1						
YKA	**Yellowknife Ar**	**84.02**	**17**	P	**P**	**03 00 00.6**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.6,baz=326,slow=5.3,SNR=4.9						

*DJA **14** 03:03:19,316S×13107E, h70km, ML4.6/2*
*ISCJB **14** 03:03:36.7±1.2,306S∧009×1297E∧03, h33km, Error ellipse: s-maj=49.3km s-min=13.0km az=179.5*
*NEIC **14** 03:03:38.4±1.0,303S×12965E, h35km, mb3.8/1, Error ellipse: s-maj=42.9km s-min=11.3km az=90.0*
*IDC **14** 03:03:41.9±3.8,302S×12927E, h75km±36km, mb3.8/2, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, ML4.1/2, Error ellipse: s-maj=80.9km s-min=15.3km az=84.0*
ISC 14 03:03:39.4±1.9,**307S**±009×**1297E**±03,**h45**km±20km,**n8,**
σ0§**83**/10,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.96 164**		*e*Pn	**Pn**	**03 06 00.3**	**+0.3**
	37nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.46 195**		P	**Pn**	**03 07 14.2**	**-0.4**
	0.3nm,0.3s,baz=335,slow=15,SNR=9.7						
WRAB	**Tennant Creek**	**17.37 165**		*e*Pn	**Pn**	**03 07 37.8**	**-0.8**
	6.8nm,0.8s						
WRA	**Warramunga Arr**	**17.37 165**		P	**Pn**	**03 07 39.4**	**+0.8**
	1.0nm,0.3s,baz=345,slow=12,SNR=15						
WRA				S	**S**	**03 10 57.1**	**-0.9**
	0.2nm,0.3s,baz=353,slow=22,SNR=4.3						
WB2	**Warramunga Arr**	**17.38 165**		*e*P	**Pn**	**03 07 38.0**	**-0.7**
ASAR	**Alice Springs**	**20.88 169**		P	**P**	**03 08 19.1**	**+1.2**
	14nm,0.6s,baz=346,slow=9.8,SNR=142						
ASAR				S	**S**	**03 12 10.6**	**+2.2**
	0.8nm,0.7s,baz=353,slow=22,SNR=4.9						
MJAR	**Matsushiro Arr**	**40.20**	**11**	P	**P**	**03 11 11.7**	**+0.2**
	0.5nm,0.6s,baz=186,slow=9.8,SNR=4.2						
HYT	**Haines Junctio**	**94.03**	**29**	*e*P	**P**	**03 16 52.2**	**-0.4**

*TIR **14** 03:17:47.7±5.4,3915N×2054E, h10km±999km*
*CSEM **14** 03:17:51.9±0.1,3933N×2018E, h2km, ML3.4, Error ellipse: s-maj=2.6km s-min=2.2km az=107.0*
*ISCJB **14** 03:17:51.3±0.5,3930N∧002×2018E∧004, h6km±4km, Error ellipse: s-maj=4.6km s-min=3.4km az=171.0*
*ATH **14** 03:17:51.7,3927N×2031E, h17km±2km, MD3.6/9*
*NEIC **14** 03:17:52.7,3930N×2025E, h1km, MD3.6(ATH), ML3.4(THE), After THE.*
*THE **14** 03:17:52.7,3930N×2025E, h0km, ML3.4*
ISC 14 03:17:52.2±0.5,**3932N**∧002×**2024E**±004,**h4**km±4km,**n44,**
σ1§**06**/66,**2C-1D,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**19**	*e*Pg	**Pg**	**03 17 56.3**	**-0.4**
IGT				*e*Sg	**Sg**	**03 17 59.9**	**+0.3**
IGT	**Igoumenitsa**	**0.23**	**19**	*i* PG	**Pg**	**03 17 56.3**	**-0.3**
IGT				*i* SG	**Sg**	**03 17 59.9**	**+0.3**
KEK	**Kerkira**	**0.52 319**		⇑*i*PN	**Pg**	**03 18 02.6**	**+0.4**
KEK				*e*SN	**Sg**	**03 18 12.3**	**+3.3**
KEK	**Kerkira**	**0.52 319**		⇑*i*Pn	**Pg**	**03 18 02.6**	**+0.4**
KEK				*e*Sn	**Sg**	**03 18 12.2**	**+3.2**
JAN	**Janina**	**0.58**	**54**	⇓*i*PN	**Pg**	**03 18 02.5**	**-0.9**
SRN	**Sarande**	**0.59 342**		*e*PG	**Pg**	**03 18 03.1**	**-0.5**
SRN				*i* SG	**Sg**	**03 18 19.1**	**+7.8**
LKD	**Levkas**	**0.69 152**		*e*Pg	**Pg**	**03 18 04.3**	**-1.2**
LKD				*e*Sg	**Sg**	**03 18 15.9**	**+1.6**
TPE	**Tepelena**	**0.99 350**		*e*PG	**Pg**	**03 18 13.2**	**+1.9**
TPE				*i* SG	**Sg**	**03 18 29.6**	**+5.5**
VLS	**Valsamata**	**1.17 166**		*e*Pg	**Pg**	**03 18 13.9**	**-0.8**
VLS				*e*Sg	**Sg**	**03 18 31.0**	**+1.1**
VLS	**Valsamata**	**1.17 166**		*e*Pn	**Pn**	**03 18 13.0**	**-2.4**
VLS	**Valsamata**	**1.17 166**		*e*Pg	**Pg**	**03 18 13.9**	**-0.8**
VLS				*e*Sg	**Sg**	**03 18 31.0**	**+1.1**
KFL	**Anninata**	**1.28 160**		*e*Pg	**Pg**	**03 18 16.9**	**+0.2**
KFL				*e*Sg	**Sg**	**03 18 35.2**	**+1.9**
EVR	**Evrytania**	**1.29 108**		*e*PN	**Pn**	**03 18 15.4**	**-1.6**
THL	**Klokotos Trika**	**1.40**	**79**	*e*Pg	**Pg**	**03 18 16.9**	**-2.2**
THL				*e*Sg	**Sg**	**03 18 39.0**	**+1.9**
THL	**Klokotos Trika**	**1.40**	**79**	*e*Pn	**Pn**	**03 18 17.4**	**-1.1**
THL				*e*Sg	**Sg**	**03 18 39.0**	**+1.9**
KZN	**Kozani**	**1.54**	**50**	*e*PN	**Pn**	**03 18 20.5**	**0.0**
KZN				*e*SN	**Sn**	**03 18 41.3**	**+0.4**
RLS	**Riolos of Patr**	**1.58 142**		*e*PN	**Pn**	**03 18 20.5**	**-0.6**
AGG	**Agios Georgios**	**1.65 100**		*e*Pb	**Pb**	**03 18 21.5**	**-1.8**
AGG				*e*Sb	**Sb**	**03 18 45.4**	**+1.0**
FNA	**Florina**	**1.71**	**30**	*e*Pb	**Pb**	**03 18 23.9**	**-0.3**
FNA				*e*Sb	**Sb**	**03 18 45.6**	**-0.3**
FNA	**Florina**	**1.71**	**30**	*i* PG	**Pg**	**03 18 23.9**	**-1.0**
FNA				*i* SG	**Sg**	**03 18 45.6**	**-1.4**
BIA	**Bitola**	**1.89**	**26**	*e*Pb	**Pb**	**03 18 27.2**	**-0.2**
BIA				*e*Sb	**Sb**	**03 18 52.0**	**+0.7**
BIA	**Bitola**	**1.89**	**26**	*i* Pn	**Pn**	**03 18 27.4**	**+2.0**
BIA	**Bitola**	**1.89**	**26**	*i* Pn	**Pn**	**03 18 27.3**	**+2.0**
LIT	**Litokhoron**	**1.91**	**65**	*e*Pb	**Pb**	**03 18 26.3**	**-1.3**
LIT				*e*Sb	**Sb**	**03 18 50.9**	**-0.8**
TIR	**Tirane**	**2.05 352**		*e*Pn	**Pn**	**03 18 27.4**	**0.0**
LKR	**Lokris**	**2.25 106**		*e*Pn	**Pn**	**03 18 30.6**	**+0.3**
LKR	**Lokris**	**2.25 106**		*e*PN	**Pn**	**03 18 30.0**	**-0.3**
XOR	**Xorichti**	**2.29**	**88**	*e*Pn	**Pn**	**03 18 31.5**	**+0.7**
NEO	**Neokhori**	**2.32**	**89**	*e*PB	**Pb**	**03 18 30.4**	**-4.2**
GRG	**Griva**	**2.33**	**45**	*e*Pn	**Pn**	**03 18 32.4**	**+1.0**
LTK	**Loutraki**	**2.50 120**		*e*Pn	**Pn**	**03 18 33.9**	**+0.2**
LTK	**Loutraki**	**2.50 120**		*e*Pn	**Pn**	**03 18 33.8**	**+0.2**
HORT	**Hortiatis**	**2.54**	**59**	*e*Pn	**Pn**	**03 18 34.5**	**+0.2**
HORT				*e*Sn	**Sn**	**03 19 06.8**	**+1.1**
TIP	**Timpagrande**	**2.71 268**		*e*Pn	**Pn**	**03 18 36.3**	**-0.2**
TIP	**Timpagrande**	**2.71 268**		*e*Pn	**Pn**	**03 18 36.4**	**-0.2**
PAIG	**Paliouri**	**2.73**	**76**	*e*Pn	**Pn**	**03 18 36.4**	**-0.4**
PAIG				*e*Sn	**Sn**	**03 19 09.0**	**-1.2**
KNT	**Kendrikon**	**2.75**	**47**	*e*Pn	**Pn**	**03 18 38.3**	**+1.2**
SOH	**Sokhos**	**2.82**	**57**	*e*Pn	**Pn**	**03 18 38.8**	**+0.6**
SOH				*e*Sn	**Sn**	**03 19 14.2**	**+1.6**
AOS	**Alonnisos**	**2.83**	**92**	*e*Pn	**Pn**	**03 18 38.4**	**+0.2**
DID	**Didima**	**2.97 127**		*e*Pn	**Pn**	**03 18 40.0**	**-0.1**
DID				*e*Sn	**Sn**	**03 19 16.1**	**-0.1**
OUR	**Ouranopolis**	**3.06**	**69**	*e*Pn	**Pn**	**03 18 42.0**	**+0.6**
SG1	**Sgolgore (BA)**	**3.12 300**		*e*Pn	**Pn**	**03 18 41.9**	**-0.4**
CEL	**Celeste**	**3.56 254**		*e*Pn	**Pn**	**03 18 47.4**	**-0.8**
CEL	**Celeste**	**3.56 254**		*e*Pn	**Pn**	**03 18 47.4**	**-0.8**

*NEIC **14** 03:23:21.0,2862N×6128E, h18km, MN4.3(TEH), After TEH.*
*ISCJB **14** 03:23:40.9±0.6,2998N∧005×5993E∧005, h10km, Error ellipse: s-maj=7.6km s-min=5.2km az=39.6*
*CSEM **14** 03:23:41.7±0.1,3002N×5997E, h20km, ML3.4, Error ellipse: s-maj=6.3km s-min=2.4km az=30.0*
*TEH **14** 03:23:41.8,2862N×6128E, h18km, ML4.3*
*THR **14** 03:23:42.0±0.3,2998N×5996E, h19km±13km, ML3.4*
ISC 14 03:23:42.5±0.6,**2995N**±005×**5998E**±005,**h10**km,**n21,**
σ1§**06**/27,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHSF	**Zahedan**	**0.77 116**		*e*Pg	**Pg**	**03 23 57.1**	**-0.3**
ZHSF				*e*Sg	**Sg**	**03 24 08.2**	**+0.7**
ZHSF				AML	AML	03 24 14.0	
	comp=N,921nm,0.4s						
ZHSF	**Zahedan**	**0.77 116**		*e*Pg	**Pg**	**03 23 57.1**	**-0.3**
	SNR=91						
ZHSF				*e*Sg	**Sg**	**03 24 08.2**	**+0.7**
	SNR=91						
IKOO	**Kooshah**	**2.61 342**		*e*Pn	**Pn**	**03 24 24.8**	**+0.1**
IKOO				*e*		03 25 09.7	
IDAH	**Dahanechah**	**2.79 358**		*e*Pn	**Pn**	**03 24 24.7**	**-2.4**
IDAH				*e*		03 24 40.5	
IDAH				*e*Sn	**Sg**	**03 25 13.0**	**+1.0**
ITEG	**Tejag**	**3.12 341**		*e*Pn	**Pn**	**03 24 32.1**	**+0.3**
ITEG				*e*		03 25 25.1	
IBAF	**Bafgh**	**4.13 294**		*e*Pn	**Pn**	**03 24 45.2**	**-0.5**
IBAF				*e*Sn	**Sb**	**03 25 47.4**	**+2.1**
IBAF	**Bafgh**	**4.13 294**		*e*Pn	**Pn**	**03 24 45.2**	**-0.5**
IBAF				*e*Sn	**Sb**	**03 25 47.4**	**+2.1**
IBAF				*e*		03 25 55.8	
IBAF	**Bafgh**	**4.13 294**		Pn	**Pn**	**03 24 45.1**	**-0.6**
IBAF				Sn	**Sb**	**03 25 47.3**	**+2.0**
BNDS	**Bandar-Abbas**	**4.20 234**		*e*Pn	**Pn**	**03 24 47.4**	**+0.8**
BNDS				AML	AML	03 26 02.1	
	comp=N,65nm,0.7s						
IMEH	**Mehriz**	**4.84 289**		*e*Pn	**Pn**	**03 24 54.1**	**-1.3**
IMEH				*e*		03 26 28.0	
ICHK	**Chekchek**	**5.30 297**		*e*Pn	**Pn**	**03 25 01.2**	**-0.5**
ICHK				*e*		03 26 40.0	
GHIR	**Ghir-Karzin**	**6.33 257**		*e*Pn	**Pn**	**03 25 16.8**	**+0.8**
IZEF	**Zefreh**	**7.17 296**		*e*Pn	**Pn**	**03 25 26.4**	**-0.9**
IZEF	**Zefreh**	**7.17 296**		*e*Pn	**Pn**	**03 25 26.8**	**-0.5**
IZEF				*e*		03 27 53.4	
IANJ	**Anjilo**	**7.51 319**		*e*Pn	**Pn**	**03 25 31.6**	**-0.4**
IANJ				*e*		03 27 47.5	
IANJ	**Anjilo**	**7.51 319**		Pn	**Pn**	**03 25 31.5**	**-0.5**
IKLH	**Kolahrood**	**7.91 297**		*e*Pn	**Pb**	**03 25 56.6**	**-3.1**
IKLH				*e*		03 28 12.5	
ISHM	**Shahmirzad**	**8.11 318**		*e*Pn	**Pn**	**03 25 40.9**	**+0.7**
ISHM	**Shahmirzad**	**8.11 318**		Pn	**Pn**	**03 25 40.8**	**+0.6**
MRVT	**Maraveh tapeh**	**8.34 338**		*e*Pn	**Pn**	**03 25 44.0**	**+0.6**
MRVT	**Maraveh tapeh**	**8.34 338**		*e*Pn	**Pn**	**03 25 44.0**	**+0.5**
	SNR=54						

*NEIC **14** 03:36:37.1,1463N×9390W, h22km, MD4.3(MEX), After MEX.*
MEX 14 03:36:37.1±1.0,**1463N×9391W,h20**km±90km,**MD4.3, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.61**	**80**	*e*P	Pn	03 37 01.0	-3.4
THIG				*i* S	Sn	03 37 20.4	-4.3
TGIG		**2.27**	**19**	*i* P	Pn	03 37 10.5	-3.0
TGIG				*i* S	Sn	03 37 37.2	-3.7
CCIG	**Comitan**	**2.37**	**46**	*i* P	Pn	03 37 13.7	-1.2
CCIG				*i* S	Sn	03 37 39.5	-3.9
SCX	**San Cristobal**	**2.43**	**30**	*i* P	Pn	03 37 14.1	-1.6
SCX				*i* S	Sn	03 37 42.6	-2.3
OXX	**Oaxaca**	**3.65 312**		*i* P	Pn	03 37 31.3	-1.2
OXX				*i* S	Sn	03 38 10.5	-4.5
VHO	**Vista Hermosa**	**3.65 312**		*i* P	Pn	03 37 30.4	-2.1
VHO				*i* S	Sn	03 38 11.0	-4.0
TPIG	**Tehuac#an**	**5.02 319**		*i* P	Pn	03 37 50.5	-0.9
TPIG				*i* S	Sn	03 38 49.1	+0.2

*ATH **14** 03:37:46.0,3949N×2028E, h83km±1km*
*ISCJB **14** 03:37:55.3±0.8,3957N∧004×2101E∧006, h10km, Error ellipse: s-maj=6.5km s-min=5.0km az=168.8*
*CSEM **14** 03:37:55.0±0.2,3973N×2107E, h8km, ML3.1, Error ellipse: s-maj=7.7km s-min=4.2km az=151.0*
*TIR **14** 03:38:00.5±0.3,3948N×2066E, h6km*
*THE **14** 03:38:01.8,3941N×2057E, h10km, ML3.1*
*NEIC **14** 03:38:01.8,3941N×2057E, h10km, ML3.1(THE), After THE.*
ISC 14 03:37:55.6±0.8,**3960N**±004×**2106E**±006,**h10**km,**n11,**
σ0§**93**/16,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.17 290**		*e*P	**Pg**	**03 38 00.3**	**+1.0**
IGT	**Igoumenitsa**	**0.56 263**		*e*Pg	**Pg**	**03 38 06.0**	**-0.6**
IGT				*e*Sg	**Sg**	**03 38 10.0**	**-3.9**
IGT	**Igoumenitsa**	**0.56 263**		*i* PG	**Pg**	**03 38 06.0**	**-0.6**
IGT				*i* SG	**Sg**	**03 38 10.0**	**-3.9**
THL	**Klokotos Trika**	**0.74**	**92**	*e*P	**Pg**	**03 38 10.4**	**+0.4**
SRN	**Sarande**	**0.86 289**		*i* SN	**Sg**	**03 38 23.4**	**0.0**
KZN	**Kozani**	**0.90**	**38**	*e*P	**Pg**	**03 38 11.5**	**-1.4**
LKD	**Levkas**	**0.94 200**		*e*Pg	**Pg**	**03 38 14.6**	**+0.8**
LKD				*e*Sg	**Sg**	**03 38 25.9**	**-0.3**
FNA	**Florina**	**1.21**	**12**	*e*Pg	**Sg**	**03 38 28.2**	**-6.4**
FNA	**Florina**	**1.21**	**12**	*i* PG	**Sg**	**03 38 28.2**	**-6.3**
VLS	**Valsamata**	**1.47 194**		*e*Pg	**Pg**	**03 38 24.6**	**+0.8**
VLS				*e*Sg	**Sg**	**03 38 41.9**	**-0.9**
KFL	**Anninata**	**1.50 188**		*e*Pg	**Pg**	**03 38 25.9**	**+1.4**
KFL				*e*Sg	**Sg**	**03 38 43.0**	**-1.0**

*JMA **14** 03:42:11.8±0.5,4704N×14182E, h7km, M3.5*
*SKHL **14** 03:42:12.9±0.1,4680N×14170E, h10km, mb4.0/2*
*ISCJB **14** 03:42:14.3±0.8,4686N∧003×14175E∧006, h4km±7km, Error ellipse: s-maj=6.6km s-min=5.0km az=9.2*
ISC 14 03:42:16.4±0.7,**4686N**±003×**14184E**±005,**h14**km±6km,
n13,σ1§**14**/21,**1C,Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.64**	**81**	⇑*e*Pg	**Pg**	**03 42 27.6**	**-1.3**
YSS				*e*Sg	**Sg**	**03 42 37.9**	**+0.6**
YSS				A		03 42 40.3	
	750nm,0.3s						
JWK2	**Keihoku**	**1.55 178**		P	**Pn**	**03 42 42.8**	**-0.7**
JWK2				*e*S	**Sn**	**03 43 04.9**	**+1.6**
JRR	**Rishiri**	**1.76 192**		P	**Pn**	**03 42 45.5**	**-1.0**
JRR				*e*S	**Sn**	**03 43 10.2**	**+1.5**
JSE	**Soyaes**	**1.97 164**		P	**Pn**	**03 42 48.2**	**-1.2**
JSE				*e*S	**Sn**	**03 43 15.5**	**+1.6**
UGL	**Uglegorsk**	**2.22**	**4**	*e*Pg	**Pg**	**03 42 59.0**	**-0.1**
UGL				AMB	AMB	03 43 03.0	
	90nm,1.0s						
UGL				*e*S	**Sn**	**03 43 21.0**	**+0.9**
UGL				A		03 43 23.0	
	62nm,0.5s						
UGL				*e*Sg	**Sg**	**03 43 30.5**	**+2.6**
UGL				A		03 43 32.0	
	121nm,0.6s						
UGL				A		03 43

JRR	Rishiri	1.78	192	P	Pn	03 46 12.9	-0.2
JRR				eS	Sn	03 46 37.0	+1.5
JSE	Soyaes	2.00	164	P	Pn	03 46 14.8	-1.3
JSE				eS	Sn	03 46 40.9	0.0
UGL	Uglegorsk	2.20	4	ePN	Pn	03 46 20.0	+1.2
UGL				e		03 46 45.0	
UGL				pmax	pmax		
comp=Z,46nm,0.7s							
UGL				smax			
comp=N,185nm,0.5s							
UGL				smax			
comp=E,308nm,0.5s							
UGL	Uglegorsk	2.20	4	eP	Pn	03 46 18.0	-0.8
UGL				ePg	Pg	03 46 24.8	-0.1
UGL				AMB	AMB	03 46 30.0	
comp=E,328nm,0.9s							
UGL				eS	Sn	03 46 45.0	-0.9
UGL				A		03 46 52.0	
comp=E,185nm,0.5s							
UGL				A		03 46 52.0	
comp=E,308nm,0.5s							
UGL				eSg	Sg	03 46 57.0	+3.6
UGL				A		03 46 59.0	
comp=E,318nm,0.6s							
JSS	Shosan	2.49	179	P	Pn	03 46 22.6	-0.1
ASAJ	Asahikawa	2.82	169	P	Pn	03 46 26.9	-0.5
ASAJ	Asahikawa	2.82	169	Pn	Pn	03 46 27.0	-0.4
comp=E,3.7nm,0.3s,baz=18,slow=11,SNR=11							
ASAJ				Pg	Pg	03 46 33.8	-3.0
comp=E,16nm,0.3s,baz=25,slow=13,SNR=23							
ASAJ				Sn	Sn	03 47 04.3	+3.2
comp=E,9.3nm,0.3s,baz=34,slow=31,SNR=5.9							
ASAJ				Lg		03 47 11.4	
comp=E,14nm,0.3s,baz=119,slow=31,SNR=8.0							
ASAJ	Asahikawa	2.82	169	PN	Pn	03 46 27.0	-0.4
ASAJ						03 47 04.4	
ASAJ				pmax	pmax		
comp=Z,4.0nm,0.3s							
ASAJ				smax			
comp=N,9.0nm,0.3s							
JMP	Maruseppu	3.08	159	P	Pn	03 46 29.8	-1.1
JKK2	Kamakawa 2	3.08	167	P	Pn	03 46 30.3	-0.7
JHR	Hokuryu	3.14	181	P	Pn	03 46 32.1	+0.3
JTKR	Abashiri--Toko	3.26	152	P	Pn	03 46 32.0	-1.5
JAB	Ashibetsu	3.39	175	P	Pn	03 46 36.5	+1.3
TYV	Tymovskoe	4.02	8	eP	Pn	03 46 43.3	-0.5
TYV				ePg	Pg	03 47 00.5	+0.8
TYV				AMB	AMB	03 47 06.0	
comp=N,34nm,0.8s							
TYV				eSg	Sg	03 47 56.8	+5.1
TYV				A		03 48 03.0	
comp=N,18nm,0.5s							
TYV				AMS	AMS	03 48 48.0	
comp=N,500nm,10.0s							
YUK	Yuzh-Kuril'sk	4.03	134	eS	Sn	03 47 31.5	+0.6
YUK				A		03 47 38.0	
comp=N,2μm,1.0s							
YUK				A		03 47 49.5	
comp=N,250nm,0.6s							
TEY	Ternei	4.08	245	eP	Pn	03 46 43.0	-1.7
TEY				ePg	Pg	03 47 00.5	-0.3
TEY				AMB	AMB	03 47 05.5	
comp=N,220nm,0.3s							
TEY				eS	Sn	03 47 29.0	-3.2
TEY				eSg	Sg	03 47 55.0	+1.3
TEY				A		03 47 57.0	
comp=N,53nm,0.5s							
KUR	Kuril'sk	4.52	109	eP	Pn	03 46 51.0	+0.3
KUR				eS	Sn	03 47 42.0	-1.1
KUR				A		03 47 46.5	
comp=N,90nm,0.7s							
KUR				A		03 47 46.5	
comp=N,50nm,0.7s							
GRNR	Gornyy	5.27	319	eP	Pn	03 46 55.0	-6.0
GRNR				ePg	Pg	03 47 19.0	-4.6
GRNR				AMB	AMB	03 47 26.0	
comp=N,10.0nm,0.8s							
GRNR				eS	Sn	03 47 54.3	-7.3
GRNR				eSg	Sg	03 48 31.0	-0.9
GRNR				A		03 48 33.0	
comp=N,23nm,0.6s							
GRNR				A		03 48 33.0	
comp=N,42nm,0.6s							
NKL	Nikolayevsk	6.32	354	eP	Pn	03 47 16.0	+0.7
NKL				AMB	AMB	03 47 19.0	
comp=N,11nm,0.3s							
NKL				eS	Sn	03 48 27.7	+0.5
NKL				A		03 48 31.0	
comp=N,18nm,0.4s							
OKH	Okha	6.71	6	eP	Pn	03 47 24.0	+3.2
OKH				ePg	Pg	03 47 55.0	+3.9
OKH				eS	Sn	03 48 39.0	+2.1
MAJO	Matsushiro	10.68	196	ePN	Pn	03 48 19.2	+4.0
MAJO				pmax	pmax		
comp=Z,4.0nm,0.8s							
MAJO	Matsushiro	10.68	196	ePn	Pn	03 48 19.2	+4.0
comp=Z,3.6nm,0.8s							
MAT	Matsushiro	10.68	196	P	Pn	03 48 16.7	+1.5
MAT				eS	Sn	03 50 26.0	+11
MJAR	Matsushiro Arr	10.68	196	Pn	Pn	03 48 17.4	+2.2
comp=Z,0.2nm,0.3s,baz=2,3,slow=15,SNR=12							
PETK	Petropavlovsk-	11.96	53	LR	LR	03 53 08.0	
comp=Z,44nm,18.5s,baz=74,slow=38							
KSRS	Korea Array	13.95	232	Pn	Pn	03 49 00.9	+1.1
comp=Z,0.3nm,0.3s,baz=145,slow=33,SNR=2.9							
SONM	Songino Array	23.89	285	P	P	03 50 56.0	+0.2
comp=Z,0.9nm,0.9s,mb3.2,baz=82,slow=8.7,SNR=8.1							
SONM				LR	LR	04 00 54.4	
comp=Z,175nm,18.6s,MS3.6,baz=278,slow=38							
BILL	Bilibino	24.62	22⇑	eP	P	03 51 03.6	+1.4
BILL				pmax	pmax		
comp=Z,23nm,1.2s,mb4.6							
BILL				MLR	MLR		
comp=Z,100nm,21.0s,MS3.3							
ZAK	Zakamensk	25.51	292	eP	P	03 51 10.1	-0.4
ZAK				pmax	pmax		
comp=Z,6.0nm,1.2s,mb4.0							
ZALV	Zalesovo Beam	36.12	303	LR	LR	04 09 08.6	
comp=Z,18nm,21.6s,MS2.8,baz=31,slow=39							
MK31	Makanchi Array	39.85	292	eP	P	03 53 15.0	-0.5
MKAR	Makanchi Array	39.85	292	P	P	03 53 14.9	-0.7
comp=Z,1.9nm,0.8s,mb3.9,baz=75,slow=9.3,SNR=10.0							
MKAR				LR	LR	04 10 57.4	
comp=Z,169nm,18.4s,MS3.9,baz=266,slow=38							
MKAR	Makanchi Array	39.85	292	i P	P	03 53 14.8	-0.7
MKAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
TRF	Thorofare Moun	40.00	40	eP	P	03 53 16.1	-0.4
comp=Z,7.2nm,1.1s,mb4.3							
KURK	Kurchatov	40.68	299⇓	eP	P	03 53 21.5	-0.9
KURK				pmax	pmax		
comp=Z,4.0nm,1.3s,mb3.9							
COLA	College	40.84	38	eP	P	03 53 23.4	0.0
COLA				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.2							
COLA	College	40.84	38	eP	P	03 53 23.4	0.0
comp=Z,4.9nm,0.8s,mb4.2							
BMRM	Bremner River	43.13	43	eP	P	03 53 42.4	+0.2
EGAK	Eagle	43.66	37	eP	P	03 53 45.5	-0.9
comp=Z,11nm,0.9s,mb4.6							
BVAR	Borovoye Array	44.61	305	P	P	03 53 54.5	+0.3
comp=Z,0.4nm,0.4s,mb3.6,baz=84,slow=5.9,SNR=3.3							
INK	Inuvik	45.63	31	P	P	03 54 01.6	-0.6
comp=Z,1.7nm,0.7s,mb4.1,baz=290,slow=12,SNR=9.0							
TKM2	Tokmak 2	45.82	290	eP	P	03 54 04.7	+0.7
TKM2				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
TKM2	Tokmak 2	45.82	290	eP	P	03 54 04.7	+0.7
comp=Z,2.6nm,0.9s,mb4.2							
HYT	Haines Junctio	46.47	42	eP	P	03 54 10.1	+1.3
YKA	Yellowknife Ar	55.27	33	P	P	03 55 14.3	-0.7
comp=Z,1.6nm,0.8s,mb4.1,baz=302,slow=6.5,SNR=6.9							
YKA	Yellowknife Ar	55.27	33	P	P	03 55 14.3	-0.7
YKA				pmax	pmax		
comp=Z,2.0nm,0.8s							
OBN	Obninsk	60.53	320⇑	eP	P	03 55 51.8	-0.3
OBN				e		03 58 08.8	
OBN				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.7							
KIV	Kislovodsk	64.87	308	eP	P	03 56 21.4	+0.2
KIV				pmax	pmax		
comp=Z,13nm,1.2s,mb4.8							
KIV				MLR	MLR		
comp=Z,71nm,18.0s,MS3.9							
NOA	NORSAR Array B	65.27	336	P	P	03 56 22.6	-0.9
comp=Z,0.6nm,0.6s,mb3.8,baz=32,slow=6.3,SNR=3.5							
AKASG	Malin Array Be	66.80	320	P	P	03 56 32.6	-0.9
comp=Z,0.5nm,0.3s,mb4.1,baz=50,slow=5.1,SNR=4.2							
NVAR	Mina Array Bea	69.02	56	P	P	03 56 47.9	+0.2
comp=Z,1.4nm,0.8s,mb3.9,baz=291,slow=6.3,SNR=7.2							
ASAR	Alice Springs	70.58	188	P	P	03 56 57.1	-0.1
comp=Z,1.3nm,0.8s,mb3.9,baz=8.7,slow=4.2,SNR=8.0							
PDAR	Pinedale Array	70.67	48	P	P	03 56 57.6	-0.2
comp=Z,1.0nm,0.8s,mb3.8,baz=325,slow=2.3,SNR=6.9							
GERES	GERESS Array B	74.54	327	P	P	03 57 20.2	-0.5
comp=Z,0.3nm,0.6s,mb3.4,baz=76,slow=5.6,SNR=4.0							
RPZ	Rata Peaks	93.85	159	LR	LR	04 36 27.3	
comp=Z,188nm,21.1s,MS4.5,baz=142,slow=32							
BDFB	Brasilia	147.79	18	PKPbc	PKPbc	04 05 29.0	+1.8
comp=Z,1.0nm,0.7s,baz=83,slow=26,SNR=3.5							

NIED **14** *04:13:00, 47.10N×141.80E, h5km, Mw5.4 Best double couple: M0=1.25000×10^17 NP1:φs=203.00000°, δ54.00000°, λ92.00000°. NP2:φs=19.00000°, δ36.00000°, λ87.00000°.*
JMA **14** *04:13:29.9±0.5, 47.15N×141.80E, h18km, M5.8*
JMA Felt II J1.
ISCJB **14** *04:13:32.0±0.5, 46.83N±0.02×141.83E±0.02, h7km±3km, mb5.2/257, MS5.1/238, Error ellipse: s-maj=2.9km s-min=2.0km az=165.5*
IDC **14** *04:13:32.4±0.3, 46.94N×141.85E, h0km, mb4.9/23, mb1 5.0/27, mb1mx5.0/28, mbtmp5.0/27, ML4.6/4, MS5.0/30, Ms1 5.0/30, ms1mx4.9/38, Error ellipse: s-maj=13.8km s-min=9.4km az=98.0*
SKHL **14** *04:13:32.1±0.9, 46.80N×141.70E, h10km, mb5.1/11, mbh5.6/4, mbv5.8/7, ms5.7/7, msh5.7/6*
BJI **14** *04:13:32.6, 46.98N×141.81E, h16km, mB5.5, mb5.1, ML5.2, Ms5.7, Msz5.6*
MOS **14** *04:13:33.8±0.9, 46.84N×141.77E, h18km, mb5.5/103, MS5.2/71, Error ellipse: s-maj=8.8km s-min=6.1km az=88.3*
MOS Felt (IV-V) at Nevel'sk, Ogon'ki, Kholmsk; (III-IV) at Yuzhno-Sakhalinsk.
NEIC **14** *04:13:34.5±0.1, 46.88N×141.75E, h10km, mb5.4/160, MS5.0/177, MW5.5, Error ellipse: s-maj=3.3km s-min=2.2km az=162.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^17Nm; Mrr=2.05; Mθθ=0.15; Mφφ=-1.90; Mrθ=0.07; Mθφ=0.56; Mφr=0.76; Best double couple: M0=2.20000×10^17 NP1:φs=9.00000°, δ55.00000°, λ82.00000°. NP2:φs=203.00000°, δ36.00000°, λ102.00000°. Principal axes: T 2.2000, Plg78.0000°, Azm249.0000°; N -0.0200, Plg7.0000°, Azm14.0000°; P -2.1800, Plg10.0000°, Azm105.0000°;*
NEIC Felt [III] at Yuzhno-Sakhalinsk. Felt at Kholmsk. Recorded [2 JMA] in northern Hokkaido and [1 JMA] on Rebun-to.
SZGRF **14** *04:13:34.8, 46.15N×141.33E, h33km, mb5.3, MS5.4, Sakhalin Island, Russia*
GCMT **14** *04:13:34.5±0.1, 46.86N×141.74E, h12km, MW5.4/105, Moment Tensor Solution. s78,c144; s105,c214; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr=1.45±.02; Mθθ=0.01±.02; Mφφ=-1.46±.02; Mrθ=0.07±.04; Mθφ=-0.32±.01; Mφr=-0.02±.04; Best double couple: M0=1.49000×10^17 NP1:φs=15.00000°, δ45.00000°, λ94.00000°. NP2:φs=189.00000°, δ45.00000°, λ86.00000°. Principal axes: T 1.4540, Plg87.0000°, Azm15.0000°; N 0.0690, Plg3.0000°, Azm192.0000°; P -1.5260, Plg0.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA **14** *04:13:36, 46.95N×141.69E, h10km, mb5.4/24*
ISC 14 04:13:35.0±0.5, 4683N±002×14180E±002, h14km±3km, h10km±1.5km: pP-P, n1312, σ0=73/1191, mb5.2/257, MS5.1/238, 220C-213D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	0.67	79	κ iPN	Pg	04 13 46.2	-1.7
YSS				i		04 13 57.1	
YSS				smax			
comp=E,30μm,0.4s							
YSS				MLR	MLR		
comp=N,30μm,5.0s							
YSS				MLR	MLR		
comp=E,34μm,5.0s							
YSS				MLR	MLR		
comp=Z,39μm,5.0s							
YSS	Yuzh-Sakhalins	0.67	79	⇓iPg	Pg	04 13 46.2	-1.7
YSS				⇓iPg	Pg	04 13 46.2	-1.7
YSS				⇓iPg	Pg	04 13 46.2	-1.7
YSS				i Sg	Sg	04 13 57.1	+0.4
YSS				A		04 14 01.3	
comp=Z,30μm,0.4s							
YSS				AMS	AMS	04 14 27.0	
comp=Z,395μm,5.0s							
YSS				AMS	AMS	04 14 27.0	
comp=Z,303μm,5.0s							
YSS				AMS	AMS	04 14 27.0	
comp=Z,338μm,5.0s							
YSS				AMS	AMS	04 14 27.0	
comp=Z,386μm,5.0s							
YSS	Yuzh-Sakhalins	0.67	79	ePg	Pg	04 13 47.1	-0.9
JWK2	Keihoku	1.51	177	P	Pn	04 14 01.1	-0.5
JWK2				eS	Sn	04 14 24.3	+3.2
JRR	Rishiri	1.72	192	P	Pn	04 14 04.5	0.0
JRR				eS	Sn	04 14 29.7	+3.4
JSE	Soyaes	1.95	163	⇑P	Pn	04 14 07.0	-0.6
UGL	Uglegorsk	2.26	4	ePN	Pn	04 14 10.5	-1.3
UGL				S	Sn	04 14 41.0	+1.5
UGL				pmax	pmax		
comp=Z,810nm,0.7s							
UGL				pmax	pmax		
comp=N,334nm,0.6s							
UGL				pmax	pmax		
comp=E,557nm,0.5s							
UGL				smax			
comp=N,6μm,0.7s							
UGL				smax			
comp=E,10μm,0.6s							
UGL	Uglegorsk	2.26	4	eP	Pn	04 14 11.0	-0.8
UGL				AMB	AMB	04 14 15.0	
comp=E,334nm,0.6s							
UGL				AMB	AMB	04 14 15.0	
comp=E,557nm,0.6s							
UGL				AMB	AMB	04 14 15.0	
comp=E,810nm,0.6s							
UGL				AMB	AMB	04 14 16.0	
comp=E,8μm,7.0s							
UGL				AMB	AMB	04 14 16.0	
comp=E,4μm,7.0s							
UGL				AMB	AMB	04 14 16.0	
comp=E,8μm,7.0s							
UGL				ePg	Pg	04 14 19.0	+0.7
UGL				eS	Sn	04 14 40.5	+1.0
UGL				A		04 14 46.0	
comp=E,6μm,0.7s							
UGL				A		04 14 46.0	
comp=E,10μm,0.7s							
UGL				eSg	Sg	04 14 49.0	+1.5
JYG	Yagishiri	2.42	186	P	Pn	04 14 14.0	0.0
JSS	Shosan	2.43	179	P	Pn	04 14 14.3	+0.1
ASAJ	Asahikawa	2.77	168	P	Pn	04 14 19.1	+0.3
ASAJ	Asahikawa	2.77	168	Pn	Pn	04 14 19.2	+0.4
comp=E,80nm,0.3s,baz=11,slow=13,SNR=91							
ASAJ				Lg		04 15 04.5	
comp=E,298nm,0.3s,baz=106,slow=32,SNR=5.3							
JMP	Maruseppu	3.03	158	P	Pn	04 14 21.3	-1.1
JKK2	Kamakawa 2	3.03	167	⇑P	Pn	04 14 22.4	0.0
JHR	Hokuryu	3.08	181	P	Pn	04 14 24.1	+0.9
JTKR	Abashiri--Toko	3.22	152	P	Pn	04 14 23.9	-1.1
JAB	Ashibetsu	3.34	175	P	Pn	04 14 27.9	+1.2
JSK	Shakotan	3.60	196	P	Pn	04 14 29.9	-0.4
YUK	Yuzh-Kuril'sk	4.00	133	eP	Pn	04 14 35.6	-0.1
YUK				AMB	AMB	04 14 40.0	
comp=E,2μm,1.1s							
YUK				AMB	AMB	04 14 40.6	
comp=E,730nm,0.5s							
YUK				AMB	AMB	04 14 40.6	
comp=E,570nm,0.5s							
YUK				AMB	AMB	04 14 40.6	
comp=E,170nm,0.3s							
YUK				eS	Sn	04 15 19.8	-2.5
YUK				A		04 15 21.5	
comp=E,1μm,0.6s							
YUK				A		04 16 05.0	
comp=E,58μm,17.0s							
YUK				A		04 16 05.0	
comp=E,34μm,17.0s							
YUK				AMS	AMS	04 16 49.0	
comp=E,53μm,12.0s							
YUK				AMS	AMS	04 16 49.0	
comp=E,72μm,12.0s							
YUK				AMS	AMS	04 16 49.0	
comp=E,47μm,9.0s							
TEY	Ternei	4.04	246	eP	Pn	04 14 35.0	-1.4
TEY				ePg	Pg	04 14 52.0	-0.4
TEY				eS	Sn	04 15 20.3	-3.2
TEY				eSg	Sg	04 15 46.5	+1.7
TYV	Tymovskoe	4.08	8	eP	Pn	04 14 37.0	+0.2
TYV				AMB	AMB	04 14 46.0	
comp=E,4μm,8.0s							
TYV				ePg	Pg	04 14 55.5	+2.5
TYV				eSg	Sg	04 15 53.0	+7.2
TYV				AMS	AMS	04 17 04.0	
comp=E,43μm,10.0s							
KUR	Kuril'sk	4.51	108	ePN	Pn	04 14 39.0	-3.8
KUR				pmax	pmax		
comp=N,170nm,0.7s							
KUR				pmax	pmax		
comp=E,110nm,0.7s							
KUR				pmax	pmax		
comp=Z,720nm,0.7s							
KUR	Kuril'sk	4.51	108	eP	Pn	04 14 40.0	-2.8
KUR				AMB	AMB	04 14 56.2	
comp=Z,170nm,0.7s							
KUR				AMB	AMB	04 14 56.2	
comp=Z,110nm,0.7s							
KUR				AMB	AMB	04 14 56.2	
comp=Z,720nm,0.7s							
KUR				eS	Sn	04 15 31.6	-3.5
KUR				A		04 15 41.3	
comp=Z,710nm,0.7s							
KUR				A		04 15 41.3	
comp=Z,410nm,0.7s							
KUR				A		04 16 08.0	
comp=Z,13μm,8.0s							
KUR				A		04 16 08.0	
comp=Z,33μm,8.0s							
KUR				AMS	AMS	04 16 36.0	
comp=Z,34μm,16.0s							
KUR				AMS	AMS	04 16 36.0	
comp=Z,48μm,16.0s							
KUR	Kuril'sk	4.51	108	⇓iP	Pn	04 14 40.0	-2.8
GRNR	Gornyy	5.31	320	eP	Pn	04 14 47.3	-6.4
GRNR				AMB	AMB	04 14 48.6	
comp=Z,110nm,0.5s							
GRNR				ePg	Pg	04 15 11.0	-5.5
GRNR				eSg	Sg	04 16 24.0	-1.2
NKL	Nikolayevsk	6.37	354	eP	Pn	04 15 03.0	-5.3
NKL				AMB	AMB	04 15 05.0	
comp=Z,78nm,0.8s							
NKL				AMB	AMB	04 15 05.0	
comp=Z,210nm,0.8s							
NKL				AMB	AMB	04 15 10.0	
comp=Z,1μm,9.0s							
NKL				AMB	AMB	04 15 10.0	
comp=Z,1μm,9.0s							
NKL				ePg	Pg	04 15 33.0	-3.8
NKL				eS	Sn	04 16 15.0	-5.8
NKL				eSg	Sg	04 17 00.5	+1.3
NKL				A		04 17 03.0	
comp=Z,250nm,0.7s							
NKL				AMS	AMS	04 18 16.0	
comp=Z,18μm,15.0s							
NKL				AMS	AMS	04 18 16.0	
comp=Z,12μm,11.0s							
OKH	Okha	6.77	6	ePN	Pn	04 15 17.6	+3.8
OKH				eS	Sb	04 16 46.6	-6.3
OKH				pmax	pmax		
comp=Z,3μm,9.0s							
OKH				smax			
comp=N,3μm,4.4s							
OKH	Okha	6.77	6	eP	Pn	04 15 15.3	+1.5
OKH				AMB	AMB	04 15 28.8	
comp=N,4μm,8.0s							
OKH				AMB	AMB	04 15 28.8	
comp=N,3μm,9.0s							
OKH				eS	Sn	04 16 30.0	-0.6
OKH				A		04 16 50.0	
comp=N,3μm,4.4s							
OKH				AMS	AMS	04 19 30.0	
comp=N,31μm,13.0s							
OKH				AMS	AMS	04 19 30.0	
comp=N,26μm,14.0s							
OKH				AMS	AMS	04 19 30.0	
comp=N,15μm,10.0s							
KLR	Kul'dur	7.16	293	ePN	Pn	04 15 13.8	-5.3
KLR				e		04 16 54.5	
KLR				pmax	pmax		
comp=E,2μm,10.0s							
KLR				pmax	pmax		
comp=Z,2μm,10.0s							
KLR				MLR	MLR		
comp=E,25μm,13.0s							
KLR				MLR	MLR		
comp=Z,31μm,13.0s							
KLR	Kul'dur	7.16	293	eP	Pn	04 15 13.8	-5.3
KLR				eP		04 15 14.0	
KLR				AMB	AMB	04 15 27.0	
comp=Z,2μm,10.0s							
KLR				AMB	AMB	04 15 27.0	
comp=Z,2μm,10.0s							
KLR				AMB	AMB	04 15 27.0	
comp=Z,6μm,10.0s							
KLR				erx	rx	04 16 54.5	
KLR				AMS	AMS	04 18 30.0	
comp=Z,25μm,13.0s							
KLR				AMS	AMS	04 18 30.0	
comp=Z,31μm,13.0s							
KLR				AMS	AMS	04 18 30.0	
comp=Z,5μm,13.0s							
VLA	Vladivostok	7.94	246	PN	Pn	04 15 28.0	-1.9
VLA				MLR	MLR		
comp=Z,12μm,9.3s							
EKMR	Ekimchan	8.46	321	eP	Pn	04 15 31.0	-5.9
EKMR				AMB	AMB	04 15 36.0	
comp=Z,13nm,0.5s							
EKMR				AMB	AMB	04 15 36.0	
comp=Z,9.0nm,0.5s							
EKMR				AMB	AMB	04 15 36.0	
comp=Z,20nm,0.5s							
EKMR				eS	Sn	04 17 16.5	+4.4
EKMR				eSg	Sn	04 18 07.0	+55
EKMR				A		04 18 18.5	
comp=Z,760nm,1.0s							
EKMR				A		04 18 18.5	
comp=Z,300nm,1.0s							
EKMR				A		04 18 18.5	
comp=Z,440nm,1.0s							
MDJ	Mudanjiang	8.82	260	P	Pn	04 15 41.5	-0.5
MDJ				S	Sn	04 17 21.6	+0.5
MDJ				PCP	PcP	04 22 10.5	+2.9
MDJ				SCP	ScP	04 25 40.1	+1.2
MDJ				PCS	PcS	04 25 42.8	+2.2
MDJ				SCS	ScS	04 29 15.8	+3.0
MDJ				AMB	AMB		
comp=Z,10.0nm,0.8s							
MDJ				AMB	AMB		
comp=Z,1μm,9.6s							
MDJ				LR	LR		
comp=N,14μm,11.0s							
MDJ				LR	LR		
comp=E,21μm,12.7s							
MDJ				LR	LR		
comp=Z,32μm,14.5s							
MDJ	Mudanjiang	8.82	260	ePn	Pn	04 15 43.7	+1.7
comp=Z,40nm,0.8s							
SKR	Severo-Kuril's	10.21	63	PN	Pn	04 16 06.0	+5.1
SKR				eS	Sn	04 18 11.0	+16
SKR				pmax	pmax		
comp=Z,40nm,0.5s							
SKR				smax			
comp=N,5μm,8.0s							
SKR				smax			
comp=E,6μm,8.0s							
SKR				MLR	MLR		
comp=N,15μm,12.0s							
SKR				MLR	MLR		
comp=E,19μm,12.0s							
SKR				MLR	MLR		

comp=Z,21μm,12.0s
SKR Severo-Kuril's 10.21 63 *e*P **Pn 04 16 05.5 +4.6**
SKR AMB AMB 04 16 06.3
comp=Z,40nm,0.5s
SKR *e*S **Sn 04 18 11.0 +16**
SKR A 04 18 23.0
comp=Z,5μm,8.0s
SKR A 04 18 23.0
comp=Z,6μm,8.0s
SKR A 04 18 23.0
comp=Z,4μm,8.0s
SKR A 04 18 23.0
comp=Z,5μm,8.0s
SKR A 04 18 23.0
comp=Z,6μm,8.0s
SKR A 04 18 23.0
comp=Z,4μm,8.0s
SKR AMS AMS 04 20 22.0
comp=Z,15μm,16.0s
SKR AMS AMS 04 20 22.0
comp=Z,17μm,16.0s
SKR AMS AMS 04 20 22.0
comp=Z,24μm,16.0s
SKR AMS AMS 04 20 22.0
comp=Z,15μm,16.0s
SKR AMS AMS 04 20 22.0
comp=Z,17μm,16.0s
SKR AMS AMS 04 20 22.0
comp=Z,23μm,16.0s
SKR AMS AMS 04 21 39.0
comp=Z,14μm,12.0s
SKR AMS AMS 04 21 39.0
comp=Z,19μm,12.0s
SKR AMS AMS 04 21 39.0
comp=Z,21μm,12.0s
SKR AMS AMS 04 21 39.0
comp=Z,15μm,12.0s
SKR AMS AMS 04 21 39.0
comp=Z,19μm,12.0s
SKR AMS AMS 04 21 39.0
comp=Z,21μm,12.0s
MAJO Matsushiro 10.62 196 *e*PN **Pn 04 16 08.8 +2.2**
MAT Matsushiro 10.62 196 P **Pn 04 16 07.4 +0.8**
MAT S **Sn 04 18 05.0 -0.3**
MJAR Matsushiro Arr 10.62 196 Pn **Pn 04 16 09.1 +2.5**
comp=Z,1.8nm,0.3s,baz=13,slow=13,SNR=55
BMKR Bomnak 11.37 319 *e*P **Pn 04 16 13.3 -3.5**
BMKR AMB AMB 04 16 17.6
comp=Z,35nm,1.0s
BMKR *e*Sg 04 19 41.0
BMKR A 04 19 47.0
comp=Z,262nm,1.1s
ZEA Zeya 11.58 312 *e*P **Pn 04 16 16.8 -2.9**
ZEA AMB AMB 04 16 18.5
comp=Z,43nm,1.2s
ZEA AMB AMB 04 16 28.0
comp=Z,300nm,7.0s
ZEA AMB AMB 04 16 28.0
comp=Z,600nm,7.0s
ZEA AMB AMB 04 16 28.0
comp=Z,1μm,8.0s
ZEA *e*S **Sn 04 18 34.0 +5.3**
ZEA A 04 18 43.0
comp=Z,600nm,6.0s
ZEA AMS AMS 04 21 04.0
comp=Z,13μm,6.0s
ZEA AMS AMS 04 21 04.0
comp=Z,17μm,12.0s
ZEA AMS AMS 04 21 04.0
comp=Z,16μm,11.0s
CN2 Changchun 11.90 261 *e*P **Pn 04 16 26.1 +2.0**
CN2 AMB AMB
comp=Z,10.0nm,1.3s
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,26μm,13.0s
CN2 LR LR
comp=E,29μm,13.0s
CN2 LR LR
comp=Z,34μm,14.0s
PETK Petropavlovsk- 12.00 53 Pn **Pn 04 16 28.0 +2.6**
comp=Z,1.2nm,0.3s,baz=230,slow=13,SNR=10
PETK LR LR 04 21 02.6
comp=Z,4μm,20.9s,baz=91,slow=38
KROS Kirovskiy 12.09 314 *e*P **Pn 04 16 24.0 -2.6**
KROS AMB AMB 04 16 32.5
comp=Z,13nm,0.7s
KROS *e*Sg 04 20 00.5
KROS A 04 20 12.2
comp=Z,2μm,1.9s
PET Petropavlovsk 12.49 54 *e*PN **Pn 04 16 33.5 +1.4**
PET pmax pmax
comp=Z,29nm,0.8s
PET MLR MLR
comp=Z,6μm,17.0s
PET MLR MLR
comp=Z,7μm,17.0s
PET Petropavlovsk 12.49 54 *e*P **Pn 04 16 32.8 +0.7**
PET ⇑*i*P 04 16 32.8
PET AMB AMB 04 16 40.0
comp=Z,1μm,5.7s
PET AMB AMB 04 16 40.5
comp=Z,23nm,0.5s
PET AMB AMB 04 16 41.1
comp=Z,1μm,7.1s
PET *e*S **Sn 04 18 56.8 +5.9**
PET A 04 19 15.1
comp=Z,4μm,10.0s
PET AMS AMS 04 22 48.4
comp=Z,11μm,11.0s
PET Petropavlovsk 12.49 54 *e*Pn **Pn 04 16 32.8 +0.7**
JHJ Hachijo jima 2 13.78 187 Pn **Pn 04 16 50.3 +0.5**
comp=Z,25nm,0.3s,baz=6.0,slow=19,SNR=4.9
KSRS Korea Array 13.90 233 Pn **Pn 04 16 55.8 +4.4**
comp=Z,0.8nm,0.3s,baz=47,slow=12,SNR=19
KSRS LR LR 04 21 21.4
comp=Z,3μm,21.9s,baz=48,slow=33
KSRS Korea Array 13.90 233 P **Pn 04 16 55.8 +4.4**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,3μm,21.9s
SNY Shenyang 13.96 256 P **Pn 04 16 56.8 +4.6**
SNY S **Sn 04 19 34.0 +7.1**
SNY XS 04 19 41.1
SNY SS 04 19 47.3
SNY AMB AMB
comp=Z,60nm,1.6s
SNY AMB AMB
comp=Z,3μm,6.6s
SNY LR LR
comp=E,29μm,11.8s
SNY LR LR
comp=Z,31μm,13.1s
CLNS Chul'man 14.44 320 *e*P **Pn 04 16 52.8 -5.8**
CLNS *e*S **Sn 04 19 38.3 -0.1**
CLNS pmax pmax
comp=Z,23nm,1.5s
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS pmax pmax
comp=E,17nm,1.4s
CLNS smax
comp=N,453nm,16.3s
CLNS smax
comp=E,469nm,14.6s
CLNS MLR MLR
comp=Z,6μm,11.0s
CLNS MLR MLR
comp=N,2μm,10.0s
CLNS MLR MLR
comp=E,5μm,12.0s
HIA Hailar 14.95 287 *e*P **Pn 04 17 07.0 +1.4**
HIA pmax pmax
comp=Z,70nm,0.9s
HIA Hailar 14.95 287 *e*Pn **Pn 04 17 07.0 +1.4**
comp=Z,70nm,0.9s
YAK Yakutsk 16.74 340*d i*P **Pn 04 17 28.3 -0.4**
YAK *e*S **Sn 04 20 40.6 +6.4**
YAK pmax pmax
comp=Z,121nm,1.6s
YAK pmax pmax
comp=N,74nm,1.2s
YAK pmax pmax
comp=E,46nm,1.5s
YAK smax
comp=N,608nm,7.1s
YAK smax
comp=E,1μm,6.1s
YAK MLR MLR
comp=Z,5μm,11.0s
YAK MLR MLR
comp=N,5μm,13.0s
YAK MLR MLR
comp=E,1μm,10.0s
YAK Yakutsk 16.74 340 *e*Pn **Pn 04 17 28.3 -0.4**
comp=E,88nm,0.9s
DL2 Dalian 16.74 249⇑*i*P **Pn 04 17 31.0 +2.1**
DL2 S **Sn 04 20 41.0 +6.4**
DL2 AMB AMB
comp=Z,30nm,1.1s
DL2 AMB AMB
comp=Z,2μm,7.6s
DL2 LR LR
comp=N,13μm,12.4s
DL2 LR LR
comp=E,9μm,12.8s
DL2 LR LR
comp=Z,7μm,10.5s
SEY Seymchan 17.21 16⇓*e*P **Pn 04 17 35.4 +0.8**
CIT Chita 19.03 296 *e*P **Pn 04 17 54.0 -3.0**
CIT pmax pmax
comp=Z,345nm,3.7s
CBIJ Chichi jima 19.70 179 P **Pn 04 18 04.3 -0.9**
comp=Z,5.4nm,0.3s,baz=340,slow=16,SNR=6.0
CBIJ LR LR 04 25 38.6
comp=Z,2μm,19.4s,baz=347,slow=37
BJI Beijing 19.75 259 P **Pn 04 18 03.8 -2.0**
BJI S **Sn 04 21 46.8 -0.6**
BJI AMB AMB
comp=Z,36nm,1.2s
BJI AMB AMB
comp=Z,2μm,10.7s
BJI LR LR
comp=N,18μm,14.8s
BJI LR LR
comp=E,20μm,14.2s
BJI LR LR
comp=Z,11μm,16.6s
BJT Baijiatuau 19.77 259 *e*P **Pn 04 18 04.6 -1.4**
BJT pmax pmax
comp=Z,31nm,0.9s
BJT Baijiatuau 19.77 259 *e*P **Pn 04 18 04.6 -1.4**
comp=Z,31nm,0.9s
BOD Bodaibo 20.08 313 *e*P **P 04 18 07.6 -0.1**
BOD pmax pmax
comp=Z,50nm,1.4s
TIA Tai'an 21.22 249⇓P **P 04 18 19.3 -0.9**
TIA S **S 04 22 11.5 -4.1**
TIA AMB AMB
comp=Z,91nm,1.3s,mb5.0
TIA LR LR
comp=N,5μm,12.0s,MS5.5
TIA LR LR
comp=E,10μm,11.0s,MS5.5
SMY Shemya 21.55 62 PFAKE 04 18 40.0 +16
SMY LR LR
comp=Z,4μm,21.0s,MS4.8
SSE Sheshan 22.34 233 P **P 04 18 32.4 +0.1**
SSE S **S 04 22 32.4 -5.2**
SSE AMB AMB
comp=Z,48nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,525nm,3.9s
SSE LR LR
comp=N,2μm,14.0s,MS4.8
SSE LR LR
comp=E,2μm,14.1s,MS4.8
SSE LR LR
comp=Z,1μm,13.4s,MS4.6
HHC Hu-ho-hao-te 22.53 266 *e*P **P 04 18 34.5 +0.3**
HHC AP 04 18 38.8
HHC XP sP 04 18 41.5 +1.5
HHC PP 04 19 01.9
HHC PCP PcP 04 22 31.1 +3.6
HHC S **S 04 22 34.6 -6.4**
HHC XS sS 04 22 42.0 -5.5
HHC SS 04 23 15.6
HHC SCP ScP 04 26 06.3 +1.8
HHC PCS PcS 04 26 08.1 +1.8
HHC AMB AMB
comp=Z,15nm,1.2s,mb4.3
HHC LR LR
comp=N,9μm,10.8s,MS5.7
HHC LR LR
comp=E,13μm,11.6s,MS5.7
HHC LR LR
comp=Z,15μm,13.2s,MS5.6
JOW Kunigami 22.64 213 P **P 04 18 36.1 +0.6**
comp=Z,15nm,0.6s,mb4.6,baz=7.1,slow=8.1,SNR=4.8
NJ2 Nanjing 22.95 238 *e*P **P 04 18 38.3 -0.3**
NJ2 AP 04 18 43.3
NJ2 XP sP 04 18 46.6 +2.1
NJ2 PP 04 19 08.0
NJ2 S **S 04 22 49.0 +0.6**
NJ2 AMB AMB
comp=Z,30nm,1.1s,mb4.6
NJ2 AMB AMB
comp=Z,540nm,9.9s
NJ2 LR LR
comp=N,2μm,13.7s,MS5.1
NJ2 LR LR
comp=E,4μm,13.1s,MS5.1
NJ2 LR LR
comp=Z,4μm,13.1s,MS5.1
TIY Taiyuan 23.45 258 P **P 04 18 44.8 +0.9**
TIY S **S 04 22 55.5 -1.0**
TIY AMB AMB
comp=Z,1μm,8.5s
TIY LR LR
comp=N,4μm,7.9s
TIY LR LR
comp=E,5μm,9.5s
TIY LR LR
comp=Z,6μm,9.2s
BTO Baotou 23.69 266 *e*P **P 04 18 45.8 -0.4**
SONM Songino Array 23.89 285 P **P 04 18 47.7 -0.3**
comp=Z,22nm,0.9s,mb4.6,baz=78,slow=7.9,SNR=81
SONM PcP PcP 04 22 30.6 +0.3
comp=Z,3.2nm,0.8s,baz=130,slow=0.8,SNR=4.3
SONM LR LR 04 28 47.9
comp=Z,11μm,18.2s,MS5.4,baz=169,slow=38
SONM Songino Array 23.89 285 P **P 04 18 47.7 -0.3**
SONM 04 22 30.6
BILL Bilibino 24.68 22⇑*i*P **P 04 18 55.9 +1.0**
BILL *e* 04 19 28.3
BILL pmax pmax
comp=Z,152nm,1.5s,mb5.3
BILL MLR MLR
comp=Z,3μm,15.0s,MS4.9
BILL Bilibino 24.68 22 *e*P **P 04 18 55.4 +0.5**
comp=Z,167nm,1.3s,mb5.4
BILL LR LR
comp=Z,3μm,19.0s,MS4.8
IRK Irkutsk 24.75 297⇑*i*P **P 04 18 55.6 -0.1**
IRK pmax pmax
comp=Z,313nm,1.4s,mb5.7
AMKA Amchitka 24.78 66 *e*P **P 04 18 56.3 +0.2**
TLY Talaya 25.17 295 P **P 04 19 00.7 +1.2**
SNR=45
TLY Talaya 25.17 295*c i*P **P 04 18 59.1 -0.5**
TLY *e* 04 19 33.0
TLY *e*S **S 04 23 30.2 +6.2**
TLY *e*SS 04 24 34.5
TLY pmax pmax
comp=Z,82nm,1.1s,mb5.2
TLY MLR MLR
comp=Z,7μm,11.0s,MS5.4
TLY Talaya 25.17 295 *e*P **P 04 19 00.4 +0.8**
comp=Z,71nm,1.1s,mb5.1
TLY LR LR
comp=Z,6μm,22.0s,MS5.0
ZAK Zakamensk 25.52 292⇑*i*P **P 04 19 03.0 +0.2**
ZAK pmax pmax
comp=Z,121nm,1.3s,mb5.3
TIXI Tiksi 25.64 351 *e*P **P 04 19 03.3 -0.3**
TIXI *e*S **S 04 23 32.0 +0.9**
TIXI pmax pmax
comp=Z,33nm,1.3s,mb4.7
TIXI MLR MLR
comp=Z,4μm,13.0s,MS5.1
TIXI Tiksi 25.64 351⇑*i*P **P 04 19 03.5 -0.1**
TIXI LR LR
comp=Z,2μm,20.0s,MS4.7
WHN Wuhan 26.71 242⇑P **P 04 19 11.9 -1.8**
WHN AP pP 04 19 16.4 -1.5
WHN S **S 04 23 51.9 +3.2**
WHN AMB AMB
comp=Z,47nm,0.6s,mb5.2
WHN AMB AMB
comp=Z,2μm,6.2s
WHN LR LR
comp=N,3μm,8.5s
WHN LR LR
comp=E,12μm,9.7s
WHN LR LR
comp=Z,12μm,12.1s,MS5.7
MOY Mondy 26.82 296 *e*P **P 04 19 15.2 +0.7**
MOY pmax pmax
comp=Z,96nm,3.6s
TATO Taipei 27.17 224 PFAKE 04 19 30.0 +12
TATO LR LR
comp=Z,2μm,22.0s,MS4.6
YHNB Yeheng 27.48 223 *e*P **P 04 19 21.2 +0.5**
comp=Z,271nm,2.0s,mb5.4
YHNB LR LR
comp=Z,2μm,19.0s,MS4.6
XAN Xi'an 27.88 255 P **P 04 19 22.8 -1.4**
XAN AP pP 04 19 27.0 -1.4
XAN XP sP 04 19 30.0 -0.2
XAN PP 04 20 18.9
XAN S **S 04 24 11.8 +4.7**
XAN XS sS 04 24 20.0 +5.9
XAN AMB AMB
comp=Z,7.0nm,1.3s,mb4.1
XAN AMB AMB
comp=Z,432nm,8.3s
XAN LR LR
comp=N,4μm,14.2s,MS5.4
XAN LR LR
comp=E,5μm,13.4s,MS5.4
XAN LR LR
comp=Z,9μm,14.1s,MS5.5
QZH Quanzhou 28.62 228 *i* P **P 04 19 33.0 +2.1**
QZH AMB AMB
comp=Z,2μm,8.3s
QZH LR LR
comp=N,4μm,12.5s,MS5.4
QZH LR LR
comp=E,4μm,11.8s,MS5.4
QZH LR LR
comp=Z,4μm,10.9s,MS5.3
ENH Enshi 29.93 248 PFAKE 04 19 50.0 +7.6
ENH LR LR
comp=Z,3.0nm,19.0s
LZH Lanzhou 30.13 263⇑P **P 04 19 44.5 +0.3**
LZH AP pP 04 19 47.6 -0.8
LZH XP sP 04 19 49.3 -0.9
LZH PP PP 04 20 42.8 -9.3
LZH S **S 04 24 42.4 -0.1**
LZH SS SS 04 26 17.0 -34
LZH AMB AMB
comp=Z,96nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,360nm,5.9s
LZH LR LR
comp=N,14μm,13.9s
LZH LR LR
comp=Z,16μm,14.9s,MS5.8
GTA Gaotai 31.23 272 P **P 04 19 54.8 +1.0**
GTA AP pP 04 19 58.5 +0.4
GTA XP sP 04 19 59.8 0.0
GTA PCP PcP 04 22 48.8 +0.7
GTA S **S 04 25 01.3 +1.7**
GTA XS sS 04 25 08.8 +2.2
GTA SS SS 04 26 47.6 -25
GTA SCS ScS 04 30 25.5 -2.2
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.4
GTA AMB AMB
comp=Z,530nm,7.5s
GTA LR LR
comp=N,5μm,15.6s,MS5.7
GTA LR LR
comp=E,10μm,12.9s,MS5.7
GTA LR LR
comp=Z,14μm,13.2s,MS5.8
KRAR Krasnoyarsk 31.25 305⇑*e*P **P 04 19 54.8 +1.0**
KRAR pmax pmax
comp=Z,34nm,0.5s,mb5.4
KRAR MLR MLR
comp=Z,11μm,24.0s,MS5.5
HVS Khovu-Aksy 31.41 296*c i*P **P 04 19 56.9 +1.6**
HVS pmax pmax
comp=Z,445nm,1.7s,mb6.0
HVS MLR MLR
comp=Z,15μm,12.0s,MS5.9
GUMO Guam 33.23 175 LR LR 04 33 26.5
comp=Z,1μm,19.6s,MS4.7,baz=12,slow=36
GUMO Guam 33.23 175 PFAKE 04 20 20.0 +8.5
GUMO LR LR
comp=Z,1μm,19.0s,MS4.6
CD2 Chengdu 33.24 255⇓*i*P **P 04 20 11.3 -0.2**
CD2 AP pP 04 20 15.8 0.0
CD2 XP sP 04 20 18.6 +1.1
CD2 PP PP 04 21 21.8 -4.9
CD2 PCP PcP 04 22 55.3 +1.5
CD2 S **S 04 25 28.3 -2.8**
CD2 SS SS 04 27 27.9 -26
CD2 SCS ScS 04 30 36.4 -1.8
CD2 AMB AMB
comp=Z,50nm,1.4s,mb5.2
CD2 AMB AMB
comp=Z,600nm,7.2s
CD2 LR LR
comp=N,8μm,19.2s,MS5.6
CD2 LR LR
comp=E,8μm,16.8s,MS5.6
CD2 LR LR
comp=Z,5μm,16.8s,MS5.3
GYA Guiyang 34.36 246⇑*i*P **P 04 20 20.6 -0.7**
GYA PP PP 04 21 40.8 +1.7
GYA PCP PcP 04 22 58.3 +1.3
GYA S **S 04 25 51.3 +2.9**
GYA SCP ScP 04 26 44.6 +3.1
GYA SS SS 04 27 58.0 -19
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,600nm,8.1s
GYA LR LR
comp=N,6μm,13.8s,MS5.6
GYA LR LR
comp=E,5μm,13.2s,MS5.6
GYA LR LR
comp=Z,4μm,12.3s,MS5.4
ZALV Zalesovo Beam 36.14 303 P **P 04 20 36.3 -0.1**
comp=Z,16nm,0.8s,mb5.0,baz=78,slow=7.9,SNR=44
ZALV PcP PcP 04 23 01.1 -0.7
comp=Z,12nm,0.8s,baz=82,slow=2.0,SNR=9.4
ZALV LR LR 04 35 41.7
comp=Z,1μm,20.5s,MS4.7,baz=80,slow=37
ZAL Zalesovo 36.16 303 P **P 04 20 36.3 -0.2**
ZAL 04 23 01.1
SDPT Sand Point 36.28 55 *e*P **P 04 20 37.4 -0.1**
comp=Z,44nm,0.8s,mb5.4
MIDW Midway 36.83 106 PFAKE 04 20 50.0 +7.5
MIDW LR LR
comp=Z,2μm,20.0s,MS4.9
NVS Novosibirsk 36.85 305 *e*P **P 04 20 39.8 -2.6**
NVS pmax pmax
comp=E,48nm,1.5s
NVS pmax pmax
comp=Z,50nm,1.5s,mb5.1
NVS pmax pmax
comp=N,13nm,1.3s
CHGN Chignik 37.23 53 *e*P **P 04 20 45.9 +0.3**
TTA Tatalina 37.53 42 *e*P **P 04 20 48.4 +0.3**
WMQ Urumqi 37.53 286 P **P 04 20 49.0 +0.7**
WMQ AP pP 04 20 53.4 +0.8
WMQ XP sP 04 20 56.0 +1.6
WMQ PP PP 04 22 17.1 +3.3
WMQ PCP PcP 04 23 08.0 +1.9
WMQ S **S 04 26 37.0 +0.2**
WMQ XS sS 04 26 44.0 +0.1
WMQ SCP ScP 04 26 53.0 +0.1
WMQ SS SS 04 29 08.3 -13

WMQ SCS ScS 04 31 00.0 -1.1
WMQ AMB AMB
comp=Z,64nm,0.8s,mb5.4
WMQ AMB AMB
comp=Z,162nm,7.1s
WMQ LR LR
comp=N,5μm,18.2s,MS5.5
WMQ LR LR
comp=E,4μm,16.0s,MS5.5
WMQ LR LR
comp=Z,7μm,17.0s,MS5.5
KMI Kunming 37.79 249 P **P 04 20 50.5 -0.2**
KMI AP pP 04 20 59.3 +4.3
KMI XP sP 04 21 03.4 +6.7
KMI PP PP 04 22 21.8 +4.9
KMI S **S 04 26 43.3 +2.3**
KMI AMB AMB
comp=Z,58nm,1.4s,mb5.1
KMI AMB AMB
comp=Z,772nm,5.0s
KMI LR LR
comp=N,6μm,12.6s,MS5.7
KMI LR LR
comp=E,5μm,12.6s,MS5.7
KMI LR LR
comp=Z,5μm,12.6s,MS5.5
SVW2 Sparrevohn 37.92 45 *e*P **P 04 20 51.7 +0.3**
QIZ Qiongzhong 38.12 234 ⇑P **P 04 20 54.3 +0.8**
QIZ PP PP 04 22 23.3 +2.7
QIZ S **S 04 26 47.3 +1.3**
QIZ AMB AMB
comp=Z,30nm,1.4s,mb4.8
QIZ AMB AMB
comp=Z,582nm,6.5s
QIZ LR LR
comp=E,4μm,13.9s
QIZ LR LR
comp=Z,2μm,12.9s,MS5.1
QIZ Qiongzhong 38.12 234 PFAKE 04 21 10.0 +17
QIZ LR LR
comp=Z,1μm,22.0s,MS4.7
IMA2 Indian Mountai 38.34 36 *e*P **P 04 20 55.0 +0.1**
CHUM Lake Minchumin 39.10 40 *e*P **P 04 21 02.1 +0.9**
comp=Z,37nm,0.8s,mb5.2
PPLA Purkeypile 39.28 41 *e*P **P 04 21 03.8 +1.1**
comp=Z,37nm,0.6s,mb5.3
COLD Coldfoot 39.66 34 *e*P **P 04 21 05.2 -0.8**
comp=Z,60nm,0.3s,mb5.8
KTH Kantishna Hill 39.75 40 *e*P **P 04 21 07.6 +0.9**
comp=Z,2μm,0.6s
OHAK Old Harbor 39.79 50 *e*P **P 04 21 06.5 -0.6**
comp=Z,64nm,0.7s,mb5.5
MK31 Makanchi Array 39.86 293 *e*P **P 04 21 07.4 -0.4**
MKAR Makanchi Array 39.86 293 P **P 04 21 07.3 -0.5**
comp=Z,33nm,0.8s,mb5.1,baz=79,slow=8.8,SNR=78
MKAR LR LR 04 38 41.6
comp=Z,12μm,18.5s,MS5.8,baz=66,slow=38
KDAK Kodiak Island 40.03 49 P **P 04 21 08.1 -1.0**
comp=Z,27nm,0.6s,mb5.1,baz=280,slow=5.5,SNR=18
KDAK LR LR 04 38 18.8
comp=Z,3μm,21.1s,MS5.1,baz=174,slow=37
KDAK Kodiak Island 40.03 49 *e*P **P 04 21 09.2 +0.1**
KDAK LR LR
comp=Z,758nm,22.0s,MS4.5
TRF Thorofare Moun 40.05 40 *e*P **P 04 21 09.3 +0.2**
comp=Z,2μm,0.6s
FIB Fire Island 40.50 44 *e*P **P 04 21 14.5 +1.6**
comp=Z,93nm,0.7s,mb5.6
MCK McKinley 40.60 40 *e*P **P 04 21 13.8 +0.1**
SLKM Skilak Lake 40.61 45 *e*P **P 04 21 13.4 -0.4**
KURK Kurchatov 40.70 300 P **P 04 21 14.6 -0.1**
SNR=40
KURK Kurchatov 40.70 300 *e*P **P 04 21 13.8 -0.9**
KURK LR LR
comp=Z,5μm,19.0s,MS5.4
RC01 Rabbit Creek A 40.72 44 *e*P **P 04 21 14.4 -0.3**
comp=Z,57nm,0.7s,mb5.3
COLA College 40.89 38⇓*e*P **P 04 21 15.0 -1.1**
COLA College 40.89 38 *e*P **P 04 21 15.8 -0.3**
comp=Z,63nm,0.9s,mb5.2
COLA LR LR
comp=Z,2μm,19.0s,MS4.9
PMR Palmer 40.91 43 *e*P **P 04 21 16.1 -0.2**
PMR pmax pmax
comp=Z,35nm,0.9s,mb5.0
PMR MLR MLR
comp=Z,2μm,21.0s,MS4.9
PMR Palmer 40.91 43 *e*P **P 04 21 16.1 -0.2**
comp=Z,35nm,0.9s,mb5.0
PMR LR LR
comp=Z,2μm,21.0s,MS4.9
SEW Seward 41.07 45 *e*P **P 04 21 17.3 -0.3**
DAV Davao City (W) 41.99 204 PFAKE 04 21 40.0 +14
DAV LR LR
comp=Z,1μm,19.0s,MS4.7
LSA Lhasa 42.51 265 P **P 04 21 30.5 +0.7**
LSA AP pP 04 21 39.4 +5.3
LSA XP sP 04 21 43.9 +8.0
LSA PP PP 04 23 11.8 +3.5
LSA PCP PcP 04 23 18.0 -4.3
LSA SCP ScP 04 27 07.4 -5.1
LSA PCS PcS 04 27 11.0 -3.4
LSA S **S 04 27 54.9 +3.4**
LSA SCS ScS 04 31 28.3 -2.7
LSA AMB AMB
comp=Z,20nm,0.8s,mb4.9
LSA AMB AMB
comp=Z,450nm,7.3s
LSA LR LR
comp=N,1μm,17.9s,MS5.4
LSA LR LR
comp=E,4μm,15.2s,MS5.4
LSA LR LR
comp=Z,5μm,16.1s,MS5.5
LSA Lhasa 42.51 265 *e*P **P 04 21 31.0 +1.2**
LSA pmax pmax
comp=Z,19nm,0.9s,mb4.8
LSA MLR MLR
comp=Z,5μm,20.0s,MS5.4
LSA Lhasa 42.51 265 *e*P **P 04 21 31.0 +1.2**
comp=Z,18nm,0.9s,mb4.8
LSA LR LR
comp=Z,5μm,20.0s,MS5.4
DIV Divide 42.59 43 *e*P **P 04 21 30.1 +0.1**
EYAK Cordova Ski Ar 42.75 44 *e*P **P 04 21 31.6 +0.2**
comp=Z,45nm,0.5s,mb5.5
MENT Mentasta 43.07 40 *e*P **P 04 21 34.1 +0.2**
BMRM Bremner River 43.18 43 *e*P **P 04 21 34.8 0.0**
RAGM Ragged Mountai 43.30 44 *e*P **P 04 21 36.7 +0.9**
EGAK Eagle 43.71 37 *e*P **P 04 21 38.4 -0.6**
comp=Z,72nm,0.7s,mb5.5
EGAK LR LR
comp=Z,2μm,19.0s,MS4.9
DAWY Dawson 44.64 38 *e*P **P 04 21 46.1 -0.4**
SHL Shillong 44.66 260 *e*P **P 04 21 46.0 -1.1**
SHL *ex* x 04 28 21.0
BRVK Borovoye 44.68 306 P **P 04 21 46.8 -0.2**
SNR=25
BRVK Borovoye 44.68 306 *e*P **P 04 21 46.8 -0.2**
BRVK pmax pmax
comp=Z,67nm,1.3s,mb5.3
BRVK MLR MLR
comp=Z,5μm,20.0s,MS5.4
BRVK Borovoye 44.68 306 *e*P **P 04 21 46.8 -0.2**
comp=Z,67nm,1.3s,mb5.3
BRVK LR LR
comp=Z,5μm,20.0s,MS5.4
CHTO Chiang Mai 44.78 246 *e*P **P 04 21 48.6 +0.5**
CHTO pmax pmax
comp=Z,16nm,0.9s,mb4.8
CHTO MLR MLR
comp=Z,2μm,19.0s,MS5.1
CHTO Chiang Mai 44.78 246 *e*P **P 04 21 48.6 +0.4**
comp=Z,16nm,0.9s,mb4.9
CHTO LR LR
comp=Z,2μm,19.0s,MS5.1
AAA Alma-Ata 44.79 290 *i*P **P 04 21 48.0 0.0**
AAA *i*S **S 04 28 26.1 +1.5**
AAA pmax pmax
comp=Z,1μm,9.9s
AAA smax
comp=N,1μm,10.4s
AAA MLR MLR
comp=Z,7μm,14.4s,MS5.7
CM31 Chiang Mai Arr 45.05 246 PFAKE 04 22 00.0 +10
CM31 LR LR
comp=Z,4μm,19.0s,MS5.3
CMAR Chiang Mai Arr 45.05 246 P **P 04 21 50.0 -0.3**
comp=Z,5.1nm,0.9s,mb4.3,baz=32,slow=7.3,SNR=25
CMAR PcP PcP 04 23 32.8 +1.7
comp=Z,2.9nm,0.4s,baz=8.9,slow=3.1,SNR=9.1
CMAR LR LR 04 43 07.1
comp=Z,2μm,18.6s,MS5.1,baz=219,slow=39
CMAR Chiang Mai Arr 45.05 246 P **P 04 21 50.0 -0.3**
CMAR 04 23 32.8
INK Inuvik 45.69 31 P **P 04 21 54.0 -0.8**
comp=Z,12nm,0.6s,mb5.0,baz=304,slow=6.8,SNR=34
INK Inuvik 45.69 31 P **P 04 21 54.0 -0.8**
INK pmax pmax
comp=Z,12nm,0.6s
INK Inuvik 45.69 31 *e*P **P 04 21 54.2 -0.6**
comp=Z,723nm,0.7s
ULHL Ulahol 45.74 289 P **P 04 21 55.1 -0.4**
SNR=43
TKM2 Tokmak 2 45.83 290 *e*P **P 04 21 56.8 +0.6**
TKM2 pmax pmax
comp=Z,49nm,1.0s,mb5.4
TKM2 MLR MLR
comp=Z,3μm,19.0s,MS5.3
TKM2 Tokmak 2 45.83 290 P **P 04 21 57.2 +0.9**
SNR=49
TKM2 Tokmak 2 45.83 290 *e*P **P 04 21 56.8 +0.5**
comp=Z,49nm,1.0s,mb5.4
TKM2 LR LR
comp=Z,3μm,19.0s,MS5.3
KKM Kota Kinabalu 46.22 217 PFAKE 04 22 10.0 +10
KKM LR LR
comp=Z,1μm,22.0s,MS4.9
TAPN Taplejung 46.34 265 *e*P **P 04 22 01.2 +0.8**
USP Ospenovka 46.37 291 P **P 04 22 00.0 -0.4**
SNR=42
KBK Karagaybulak 46.38 290 P **P 04 22 01.2 +0.7**
SNR=14
KZA Kyzart 46.47 290 P **P 04 22 03.2 +2.0**
SNR=11
FRU Bishkek 46.50 291 *e*P **P 04 22 00.0 -1.5**
FRU *e* 04 23 54.0
FRU *e*S **S 04 29 00.0 +11**
FRU pmax pmax
comp=Z,55nm,2.1s,mb5.1
FRU MLR MLR
comp=E,5μm,16.0s,MS5.8
FRU MLR MLR
comp=Z,6μm,16.0s,MS5.6
FRU MLR MLR
comp=N,7μm,12.0s,MS5.8
HYT Haines Junctio 46.52 42 *e*P **P 04 22 02.2 +0.8**
UCH Uchtor 46.87 290 PFAKE 04 22 20.0 +16
UCH LR LR
comp=Z,565nm,20.0s,MS4.5
ODAN Odare 46.87 265 *e*P **P 04 22 05.1 +0.5**
EKS2 Erkin-Say 47.12 291 P **P 04 22 07.0 +0.6**
SNR=28
EKS2 Erkin-Say 47.12 291 PFAKE 04 22 20.0 +14
EKS2 LR LR
comp=Z,3μm,20.0s,MS5.3
JIRN Jiri 47.18 266 *e*P **P 04 22 07.3 +0.3**
comp=Z,76nm,1.0s,mb5.6
GUN Gumba 47.23 267 *e*P **P 04 22 08.4 +1.0**
comp=Z,98nm,1.1s,mb5.7
KSH Kashi 47.30 286 *e*P **P 04 22 08.9 +1.1**
KSH AP pP 04 22 13.8 +1.6
KSH XP sP 04 22 15.9 +2.0
KSH PCP PcP 04 23 40.8 +2.2
KSH PP PP 04 23 59.5 +0.8
KSH *e*SCP ScP 04 27 32.6 +0.6
KSH S **S 04 28 59.1 -1.5**
KSH XS sS 04 29 07.9 +0.1
KSH SCS ScS 04 32 00.1 -1.2
KSH SS SS 04 32 20.9 -6.8
KSH AMB AMB
comp=Z,203nm,1.1s,mb6.0
KSH AMB AMB
comp=Z,2μm,4.1s
RAMN Ramite 47.35 265 *e*P **P 04 22 08.7 +0.3**
AML Almayashu 47.44 290 P **P 04 22 09.8 +0.9**
SNR=9.4
AML Almayashu 47.44 290 *e*P **P 04 22 09.5 +0.6**
comp=Z,13nm,0.9s,mb4.8
AML LR LR
comp=Z,4μm,20.0s,MS5.3
KKN Kakani 47.72 267 *e*P **P 04 22 11.0 -0.2**
comp=Z,50nm,1.1s,mb5.5
KKN Kakani 47.72 267 *e*P **P 04 22 11.0 -0.2**
KKN pmax pmax
comp=Z,50nm,1.1s,mb5.5
PKI Pulchoki 47.77 267 *e*P **P 04 22 12.2 +0.6**
DMN Daman 47.95 267 *e*P **P 04 22 12.9 -0.1**
comp=Z,68nm,1.2s,mb5.6
GKN Gorkha 48.03 268 *e*P **P 04 22 14.0 +0.4**
SKAG Skagway 48.04 43 *e*P **P 04 22 13.8 +0.5**
comp=Z,14nm,1.0s,mb4.9
SVE Sverdlovsk 48.30 313⇑*e*P **P 04 22 15.2 -0.1**
SVE *e* 04 24 10.4
SVE *e*S **S 04 29 21.6 +7.2**
SVE pmax pmax
comp=Z,67nm,0.9s,mb5.7
SVE MLR MLR
comp=Z,3μm,13.0s,MS5.4
DANN Dangsing 48.41 269 *e*P **P 04 22 16.7 +0.1**
comp=Z,131nm,0.7s,mb6.0
KOLN Koldanda 48.89 268 *e*P **P 04 22 19.9 -0.3**
comp=Z,56nm,1.0s,mb5.6
SOKR Solíkamsk 48.99 318*c i*P **P 04 22 21.0 +0.4**
SOKR 04 24 13.5
SOKR S **S 04 29 32.8 +8.7**
SOKR pmax pmax
comp=Z,50nm,1.6s,mb5.3
SOKR MLR MLR
comp=Z,2μm,15.0s,MS5.2
SIT Sitka 49.05 46 *e*P **P 04 22 22.1 +1.0**
SIT pmax pmax
comp=Z,35nm,0.8s,mb5.4
SIT MLR MLR
comp=Z,1μm,19.0s,MS5.0
SIT Sitka 49.05 46 *e*P **P 04 22 22.1 +1.0**
comp=Z,35nm,0.8s,mb5.4
SIT LR LR
comp=Z,1μm,19.0s,MS5.0
CAL Calcutta 49.09 259 *ex* x 04 22 29.4
CAL *ex* x 04 29 44.9
ARU Arti 49.50 313 P **P 04 22 24.9 +0.3**
comp=Z,250nm,1.0s,mb6.2,SNR=5.6
ARU Arti 49.50 313⇓*e*P **P 04 22 24.3 -0.3**
ARU *e* 04 23 44.9
ARU *e* 04 24 19.3
ARU *e*S **S 04 29 32.6 +1.2**
ARU pmax pmax
comp=Z,100nm,1.7s,mb5.6
ARU MLR MLR
comp=Z,2μm,14.0s,MS5.3
ARU Arti 49.50 313 *e*P **P 04 22 24.3 -0.2**
ARU LR LR
comp=Z,1μm,21.0s,MS4.9
BOK Bokaro 49.90 263 *e*P **P 04 22 28.2 +0.2**
BOK AMb AMB 04 22 30.0
comp=Z,48nm,1.4s,mb5.3
BOK *ex* x 04 29 48.4
WRAK Wrangell Islan 50.80 46 *e*P **P 04 22 35.9 +1.5**
comp=Z,39nm,1.3s,mb5.2
WRAK LR LR
comp=Z,1μm,19.0s,MS4.9
CRAG Craig 50.86 47 *e*P **P 04 22 36.2 +1.3**
DLBC Dease Lake 50.96 43 *e*P **P 04 22 37.1 +1.6**
KBS Kingsbay 51.08 349 *e*P **P 04 22 38.7 +2.5**
KBS *e*PP PP 04 24 33.5 +1.0
KBS *e*S **S 04 29 54.6 +1.7**
KBS *i* 04 33 52.9
KBS AMS AMS 04 46 47.8
comp=Z,1μm,19.1s,MS4.9
KBS Kingsbay 51.08 349*c i*P **P 04 22 38.9 +2.6**
KBS Kingsbay 51.08 349 PFAKE 04 22 50.0 +14
KBS LR LR
comp=Z,1μm,19.0s,MS4.9
SMLA Simla 51.23 276 *e*P **P 04 22 36.8 -1.2**
SMLA AMb AMB 04 22 39.6
comp=Z,149nm,1.0s,mb5.9
NDI New Delhi 52.70 274 *e*P **P 04 22 48.0 -0.9**
KSM Kuching 52.85 221 *e*P **P 04 22 51.1 +0.9**
BJO Bjornoya 53.08 344 AMS AMS 04 48 54.4
comp=Z,1μm,19.4s,MS5.0
RES Resolute Bay 53.08 16 *e*P **P 04 22 50.8 -0.4**
KDI Kendari 53.33 204⇓*e*P **P 04 22 57.1 +3.4**
BLSP Bilaspur 53.57 264 *i*P **P 04 22 54.6 -0.9**
BLSP AMb AMB 04 22 57.5
comp=Z,68nm,0.8s,mb5.6
APA Apatity 53.97 333⇑*i*P **P 04 22 57.7 -0.1**
APA *e* 04 24 00.0
APA *i*PPP 04 26 04.0
APA *i*S **S 04 30 30.0 -2.6**
APA pmax pmax
comp=Z,11nm,0.7s,mb4.9
APA MLR MLR
comp=Z,1μm,21.0s,MS5.0
KEV Kevo 54.46 337 *e*P **P 04 23 02.1 +0.8**
KEV pmax pmax
comp=Z,14nm,0.9s,mb4.9
KEV MLR MLR
comp=Z,1μm,20.0s,MS5.0
KEV Kevo 54.46 337 *e*P **P 04 23 02.1 +0.8**
comp=Z,14nm,0.9s,mb4.9
KEV LR LR
comp=Z,1μm,20.0s,MS5.0
KBL Kabul 54.67 285 *e*P **P 04 23 02.8 -0.5**
KBL pmax pmax
comp=Z,38nm,0.9s,mb5.4
KBL Kabul 54.67 285 *e*P **P 04 23 02.8 -0.6**
comp=Z,38nm,0.9s,mb5.4
ARCES ARCESS Array B 55.00 337 P **P 04 23 03.6 -1.6**
comp=Z,12nm,1.1s,mb4.9,baz=59,slow=7.5,SNR=8.2
ARCES LR LR 04 51 25.8
comp=Z,1μm,20.0s,MS5.0,baz=182,slow=41
ARE0 ARCESS Array S 55.00 337 *e*P **P 04 23 06.2 +1.0**
KAPI Kappang 55.19 207 *e*P **P 04 23 06.3 -0.8**
KAPI LR LR
comp=Z,347nm,20.0s,MS4.4
YKW3 Yellowknife Ar 55.28 33 *e*P **P 04 23 07.3 0.0**
YKA Yellowknife Ar 55.32 33 P **P 04 23 06.7 -0.9**
comp=Z,8.8nm,0.7s,mb4.9,baz=305,slow=6.9,SNR=60
YKA PcP PcP 04 24 07.0 -1.1
comp=Z,1.1nm,0.6s,baz=305,slow=4.1,SNR=2.5
YKA LR LR 04 51 02.2
comp=Z,709nm,18.2s,MS4.8,baz=220,slow=41
YKA Yellowknife Ar 55.32 33 *i*P **P 04 23 06.6 -1.0**
YKA pmax pmax
comp=Z,9.0nm,0.7s
YKA Yellowknife Ar 55.32 33 P **P 04 23 06.7 -0.9**
YKA PcP PcP 04 24 07.0 -1.1
YKA LR LR 04 51 02.2
KLMR Klimovskoe 55.78 325*c i*P **P 04 23 10.2 -0.7**
KLMR *e* 04 24 08.1
KLMR *e* 04 25 10.6
KLMR *e*S **S 04 31 02.7 +5.8**
VIS Vishakhapatnam 55.80 259 *e*P **P 04 23 11.6 0.0**
VIS AMb AMB 04 23 13.6
comp=Z,56nm,0.9s,mb5.6
AJM Ajmer 55.85 274 *e*P **P 04 23 12.0 0.0**
AJM AMb AMB 04 23 15.9
comp=Z,41nm,1.1s,mb5.4
PMG Port Moresby 56.18 174 PFAKE 04 23 30.0 +16
PMG LR LR
comp=Z,477nm,19.0s,MS4.6
TRO Tromso 56.60 339 *e*P **P 04 23 16.9 +0.3**
TRO *e*S **S 04 31 08.0 +0.3**
TRO *e*SS SS 04 34 56.4 +2.2
TRO AMS AMS 04 52 53.3
comp=Z,795nm,17.8s,MS4.9
POHA Pohakuloa 57.23 96 PFAKE 04 23 30.0 +8.2
POHA LR LR
comp=Z,1μm,20.0s,MS5.0
JOF Joensuu 57.56 329 *e*p **P 04 23 22.7 -0.9**
comp=Z,22nm,0.7s,mb5.3
AKL Akola 58.04 267 *e*P **P 04 23 26.5 -1.0**
AKL AMb AMB 04 23 29.6
comp=Z,64nm,0.9s,mb5.6
HNR Honiara 58.30 159 LR LR 04 44 50.6
comp=Z,588nm,21.8s,MS4.7,baz=90,slow=32
HNR Honiara 58.30 159 PFAKE 04 23 40.0 +11
HNR LR LR
comp=Z,700nm,22.0s,MS4.7
BATI Baumata 59.05 201 LR LR 04 46 51.8
comp=Z,745nm,19.3s,MS4.8,baz=288,slow=34
MOS Moscow 59.71 321 *e*P **P 04 23 37.1 -1.5**
MOS *e* 04 24 26.0
MOS pmax pmax
comp=Z,73nm,1.3s,mb5.5
MOS MLR MLR
comp=Z,900nm,15.0s,MS5.0
KAF Kangasniemi 59.83 331 *e*p **P 04 23 38.2 -1.1**
comp=Z,12nm,0.6s,mb5.1,baz=45,slow=6.5
KAF Kangasniemi 59.83 331 *e*P **P 04 23 38.2 -1.1**
KAF pmax pmax
comp=Z,12nm,0.6s,mb5.1
KAKA Kakadu 59.86 191 *e*P **P 04 23 39.4 -0.6**
comp=Z,30nm,0.6s,mb5.5
B04A Port Angeles 59.91 51 ⇑P **P 04 23 40.5 +0.4**
baz=60
LATR Latur 59.91 265 *e*P **P 04 23 39.3 -1.2**
LATR AMb AMB 04 23 42.5
comp=Z,53nm,0.9s,mb5.6
A04A Legoe Bay, Lum 59.92 50 ⇓P **P 04 23 40.4 +0.3**
baz=60
A05A Maple Falls 60.07 49 ⇑P **P 04 23 40.7 -0.5**
baz=60
NLWA Neilton Lookou 60.12 51 ⇓P **P 04 23 41.1 -0.5**
baz=60,SNR=7.9
NLWA Neilton Lookou 60.12 51 PFAKE 04 23 50.0 +8.4
NLWA LR LR
comp=Z,759nm,19.0s,MS4.8
MBW Mount Baker 60.30 49 P **P 04 23 42.9 +0.1**
A06A Chilliwack 60.32 49 ⇓P **P 04 23 42.4 -0.5**
baz=60
MOR8 Moi Rana 60.33 338 *e*P **P 04 23 41.9 -0.8**
D03A Wishkah Elem. 60.34 52 ⇓P **P 04 23 42.8 -0.3**
baz=60
HDW Hoodsport 60.40 51 P **P 04 23 44.1 +0.7**
C04A Brinnon 60.40 51 ⇑P **P 04 23 43.2 -0.2**
baz=60,SNR=5.4
COEN Coen 60.51 178 *e*P **P 04 23 44.6 +0.1**
comp=Z,12nm,1.0s,mb5.0
B05A Bryant 60.52 50 ⇑P **P 04 23 44.2 -0.1**
baz=60
OBN Obninsk 60.57 320⇑*e*P **P 04 23 44.0 -0.5**
OBN *e* 04 25 55.3
OBN *i*S **S 04 32 02.9 +3.2**
OBN pmax pmax
comp=Z,52nm,0.9s,mb5.7
OBN MLR MLR
comp=Z,2μm,19.0s,MS5.3
OBN Obninsk 60.57 320⇓*e*P **P 04 23 44.1 -0.4**
OBN LR LR
comp=Z,2μm,19.0s,MS5.3
JMIC Jan Mayen 60.57 349 *e*S **S 04 32 03.7 +4.4**
JMIC AMS AMS 04 54 15.9
comp=Z,357nm,18.2s,MS4.5
JMIC Jan Mayen 60.57 349 *e*P **P 04 23 48.9 +4.6**
JMIC *i* 04 32 05.8
JMIC LR LR
comp=Z,360nm,18.2s,MS4.5
JCW Jim Creek 60.65 50 *e*P **P 04 23 45.0 -0.2**
B06A Marblemount 60.68 49 ⇓P **P 04 23 44.9 -0.5**
baz=60
RPW Rockport 60.71 49 P **P 04 23 45.7 +0.1**
E03A Lebam 60.81 52 ⇑P **P 04 23 45.9 -0.3**
baz=61,SNR=8.0
VRHR Novokhopersk 60.81 315 *e*P **P 04 23 43.7 -2.5**
VRHR pmax pmax
comp=Z,6.0nm,0.3s,mb5.2
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.5s
VRHR MLR MLR
comp=Z,3μm,14.0s,MS5.6
VRHR MLR MLR
comp=N,2μm,12.0s,MS5.6
VRHR MLR MLR
comp=E,2μm,13.0s,MS5.6
A07A Ashnola River, 60.92 48 ⇓P **P 04 23 46.5 -0.5**
baz=61,SNR=7.2
BMW Boistfort Moun 61.03 52 *e*P **P 04 23 48.8 +1.0**
C05A Tolt Reservoir 61.09 50 ⇓P **P 04 23 47.7 -0.5**
baz=61,SNR=6.0
F03A Seaside 61.19 53 ⇓P **P 04 23 48.6 -0.3**
baz=61
E04A Onalaska 61.23 52 ⇓P **P 04 23 49.0 -0.2**
baz=61

D05A	Enumclaw	61.25	51	⇓P		P	04 23 48.9	-0.3
	baz=61,SNR=5.8							
C06A	Tall Timber Ra	61.36	49	⇑P		P	04 23 49.5	-0.5
	baz=61							
B07A	Winthrop	61.43	49	⇓P		P	04 23 49.8	-0.6
	baz=61,SNR=9.3							
A08A	Turner Farm, O	61.55	48	⇓P		P	04 23 50.9	-0.4
	baz=61,SNR=26							
FMW	Mount Fremont	61.58	51	P		P	04 23 52.0	+0.5
TDL	Tradedollar La	61.66	52	P		P	04 23 53.1	+1.1
G03A	Yamhill	61.73	53	⇓P		P	04 23 52.1	-0.4
	baz=62,SNR=5.0							
H02A	Toledo	61.74	54	⇓P		P	04 23 52.0	-0.6
	baz=62							
E05A	Randle	61.77	51	⇓P		P	04 23 52.1	-0.7
	baz=62,SNR=9.5							
F04A	Amboy	61.81	52	⇑P		P	04 23 52.7	-0.3
	baz=62,SNR=6.7							
D06A	Cle Elum	61.85	50	⇑P		P	04 23 52.9	-0.5
	baz=62							
ETW	Entiat	61.86	49	eP		P	04 23 53.9	+0.5
A09A	Danville	61.88	47	P		P	04 23 53.2	-0.3
	baz=62,SNR=28							
B08A	Colville Reser	61.90	48	⇑P		P	04 23 52.9	-0.7
	baz=62,SNR=8.6							
VRSR	Storozhevoye	61.91	316	eP		P	04 23 52.9	-0.7
VRSR				e*PP		pP	04 23 56.0	-2.1
VRSR				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.7							
VRSR				pmax		pmax		
	comp=N,6.0nm,1.5s							
VRSR				pmax		pmax		
	comp=E,6.0nm,1.8s							
VRSR				MLR		MLR		
	comp=E,260nm,11.0s,MS4.8							
VRSR				MLR		MLR		
	comp=Z,410nm,11.0s,MS4.8							
VRSR				MLR		MLR		
	comp=N,250nm,12.0s,MS4.8							
C07A	Waterville	61.95	49	⇓P		P	04 23 53.3	-0.6
	baz=62,SNR=7.1							
H03A	Soap Creek Ran	62.13	54	⇑P		P	04 23 54.9	-0.3
	baz=62,SNR=8.7							
COR	Corvallis	62.18	54	PFAKE			04 24 10.0	+14
COR				LR		LR		
	comp=Z,842nm,22.0s,MS4.9							
EBG	Ellensburg	62.18	50	P		P	04 23 56.3	+0.7
E06A	Yakima	62.20	51	⇑P		P	04 23 55.4	-0.2
	baz=62,SNR=12							
G04A	Mulino	62.24	53	⇑P		P	04 23 56.1	+0.2
	baz=62,SNR=7.7							
VSU	Vasula	62.25	327	⇓eP		P	04 23 55.6	-0.2
I02A	Mapleton	62.26	54	⇓P		P	04 23 56.5	+0.4
	baz=62							
NSS	Namsos	62.27	338	eS		S	04 32 24.2	+3.2
NSS				AMS		AMS	04 55 31.6	
	comp=Z,2μm,20.2s,MS5.2							
KAD	Karad	62.31	266	eP		P	04 23 56.0	-0.8
KAD				AMb		AMB	04 23 58.0	
	comp=Z,87nm,1.0s,mb5.8							
D07A	Quincy	62.31	50	⇓P		P	04 23 56.5	+0.1
	baz=62							
F05A	White Salmon	62.36	52	⇓P		P	04 23 56.7	-0.1
	baz=62							
A10A	Northport	62.39	47	⇓P		P	04 23 56.1	-0.9
	baz=62,SNR=17							
C08A	Higginbotham F	62.41	49	⇑P		P	04 23 56.5	-0.6
	baz=62,SNR=7.7							
B09A	Rice	62.46	48	⇑P		P	04 23 56.8	-0.6
	baz=62,SNR=6.9							
SSOR	Sweet Springs	62.47	53	P		P	04 23 59.0	+1.5
TDH	Tom, Dick, Har	62.56	52	P		P	04 23 58.8	+0.7
I03A	Eugene	62.58	54	⇓P		P	04 23 58.5	+0.2
	baz=62,SNR=11							
K01A	Sixes	62.65	56	⇑P		P	04 23 58.6	-0.2
	baz=62							
H04A	Detroit Lake	62.73	53	⇑P		P	04 23 58.7	-0.6
	baz=62,SNR=38							
E07A	Sunnyside	62.78	50	⇓P		P	04 23 59.3	-0.2
	baz=63							
C09A	Chrisman Ranch	62.80	48	P		P	04 23 59.1	-0.6
	baz=63,SNR=6.5							
F06A	Goldendale	62.80	51	⇑P		P	04 23 60.0	+0.3
	baz=63							
J02A	Umpqua	62.80	55	⇓P		P	04 23 59.9	+0.1
	baz=63,SNR=20							
OD2	Odessa Site #2	62.84	49	eP		P	04 24 00.0	+0.1
G05A	Wamic	62.85	52	⇓P		P	04 24 00.1	0.0
	baz=63							
MAK	Makhachkala	62.88	305	eP		P	04 24 00.5	+0.2
MAK				e			04 24 34.4	
MAK				e			04 26 15.4	
MAK				ePPP			04 27 57.9	
MAK				eS		S	04 32 33.9	+4.6
MAK				e			04 33 55.4	
MAK				eSS		SS	04 36 39.1	+5.4
MAK				pmax		pmax		
	comp=Z,276nm,1.5s,mb6.2							
MAK				MLR		MLR		
	comp=Z,3μm,17.0s,MS5.5							
MAK	Makhachkala	62.88	305	i P		P	04 23 58.7	-1.6
D08A	Wollman Farm,	62.95	49	⇑P		P	04 24 00.2	-0.5
	baz=63							
B10A	Chitwood Farm,	63.01	47	⇑P		P	04 24 00.8	-0.3
	baz=63							
A11A	Hall Mountain,	63.01	46	⇓P		P	04 24 00.8	-0.3
	baz=63,SNR=23							
RSW	Rattlesnake Hi	63.02	50	eP		P	04 24 02.0	+0.8
HAWA	Hanford	63.06	50	PFAKE			04 24 10.0	+8.6
HAWA				LR		LR		
	comp=Z,648nm,20.0s,MS4.8							
NEW	Newport	63.08	47	PFAKE			04 24 10.0	+8.5
NEW				LR		LR		
	comp=Z,946nm,20.0s,MS5.0							
F07A	Phinny Hill Vi	63.17	51	⇑P		P	04 24 01.7	-0.5
	baz=63							
I04A	Tendick Farm,	63.18	54	⇓P		P	04 24 02.2	-0.1
	baz=63,SNR=37							
K02A	Glendale	63.23	55	⇑P		P	04 24 02.4	-0.3
	baz=63,SNR=13							
E08A	Dider Farm, El	63.24	50	⇑P		P	04 24 02.8	+0.1
	baz=63,SNR=8.4							
D09A	Jones Farm, Ri	63.26	49	⇑P		P	04 24 02.3	-0.5
	baz=63							
VTHM	Trough	63.30	52	P		P	04 24 04.1	+1.1
B11A	Sandpoint	63.35	47	⇑P		P	04 24 03.2	-0.1
	baz=63,SNR=7.5							
A12A	Yaak River Ran	63.38	46	⇑P		P	04 24 03.7	+0.2
	baz=63							
L02A	Cave Junction	63.56	56	⇓P		P	04 24 05.4	+0.6
	baz=63,SNR=9.4							
I05A	Bend	63.57	53	⇓P		P	04 24 05.3	+0.4
	baz=63							
HUMO	Hull Mountain	63.64	55	⇓P		P	04 24 05.5	+0.2
	baz=63,SNR=12							
HUMO	Hull Mountain	63.64	55	PFAKE			04 24 20.0	+15
HUMO				LR		LR		
	comp=Z,771nm,22.0s,MS4.8							
J04A	Umpqua Nationa	63.70	54	⇑P		P	04 24 05.9	+0.2
	baz=64,SNR=8.5							
E09A	Wood Farm, Sta	63.70	49	⇓P		P	04 24 05.3	-0.4
	baz=64							
H06A	Lindquist Farm	63.71	52	⇑P		P	04 24 05.5	-0.2
	baz=64,SNR=7.9							
B12A	Libby	63.72	46	⇑P		P	04 24 05.9	+0.2
	baz=64							
G07A	Ruggs Ranch, H	63.72	51	⇓P		P	04 24 06.0	+0.2
	baz=64,SNR=6.4							
KRMB	Red Mountain	63.80	57	eP		P	04 24 07.6	+1.2
D10A	Wagner Farm, O	63.80	48	⇑P		P	04 24 05.9	-0.4
	baz=64,SNR=8.3							
GOA	Goa	63.82	265	ex		x	04 24 29.3	
GOA				AMb		AMB	04 24 45.7	
	comp=Z,61nm,1.7s,mb5.4							
F08A	Pendleton	63.84	50	⇓P		P	04 24 06.7	0.0
	baz=64							
KTRM	Thompson Ridge	63.85	56	P		P	04 24 07.7	+1.0
A13A	Flathead Natio	63.98	45	⇓P		P	04 24 06.8	-0.7
	baz=64							
LNOR	Lincton Mounta	64.06	50	eP		P	04 24 08.8	+0.8
G08A	Pilot Rock	64.08	51	⇓P		P	04 24 08.0	-0.2
	baz=64,SNR=9.4							
J05A	Fort Rock	64.16	54	⇓P		P	04 24 08.9	+0.2
	baz=64,SNR=42							
JCC	Jacoby Creek	64.19	57	⇓P		P	04 24 08.3	-0.6
	baz=64							
H07A	Lands Inn, Kim	64.22	52	⇓P		P	04 24 09.5	+0.4
	baz=64,SNR=5.9							
E10A	Myers Farm, Un	64.26	49	P		P	04 24 09.7	+0.3
	baz=64,SNR=5.9							
D11A	Klaveano Farm,	64.28	48	⇓P		P	04 24 09.0	-0.5
	baz=64,SNR=8.6							
I06A	Prineville	64.29	53	⇑P		P	04 24 09.6	+0.1
	baz=64,SNR=10							
K04A	Chilquin	64.32	54	⇑P		P	04 24 09.8	0.0
	baz=64							
B13A	Whitefish	64.33	46	⇓P		P	04 24 09.5	-0.3
	baz=64,SNR=25							
YBH	Yreka Blue Hor	64.35	56	⇓P		P	04 24 10.5	+0.5
	baz=64,SNR=32							
YBH	Yreka Blue Hor	64.35	56	PFAKE			04 24 20.0	+10
YBH				LR		LR		
	comp=Z,650nm,20.0s,MS4.8							
F09A	S2 Ranch, Elgi	64.36	50	⇓P		P	04 24 09.7	-0.4
	baz=64							
M02C	Callahan	64.49	56	⇑P		P	04 24 11.3	+0.4
	baz=64,SNR=18							
L04A	Klamath Falls	64.52	55	⇑P		P	04 24 11.6	+0.5
	baz=64,SNR=9.2							
F10A	Beach Ranch, E	64.54	49	⇑P		P	04 24 11.3	+0.1
	baz=64							
I07A	Izee	64.58	52	⇓P		P	04 24 11.7	+0.2
	baz=64,SNR=8.5							
N02C	Big Bar	64.60	57	⇓P		P	04 24 11.7	0.0
	baz=64							
MNK	Minsk	64.67	324	⇓eP		P	04 24 10.0	-1.9
MNK				pmax		pmax		
	comp=Z,140nm,1.0s,mb6.0							
MNK				MLR		MLR		
	comp=Z,4μm,14.0s,MS5.8							
G09A	Cove	64.71	50	⇓P		P	04 24 12.2	-0.1
	baz=64,SNR=7.3							
K05A	Summer Lake	64.72	54	⇑P		P	04 24 12.5	+0.1
	baz=64,SNR=55							
H08A	Prairie City	64.74	51	⇓P		P	04 24 12.3	-0.2
	baz=64,SNR=23							
O01C	Eel River Cons	64.75	58	⇓P		P	04 24 13.0	+0.4
	baz=65							
C13A	Hot Springs	64.75	47	⇑P		P	04 24 12.3	-0.3
	baz=64,SNR=6.4							
J06A	Christmas Vall	64.78	53	⇑P		P	04 24 12.9	+0.1
	baz=65,SNR=24							
D12A	Red Ives Fores	64.78	47	⇑P		P	04 24 12.6	-0.1
	baz=65,SNR=7.5							
M04C	Macdoel	64.81	55	⇓P		P	04 24 13.2	+0.2
	baz=65,SNR=28							
E11A	Bogner Ranch,	64.81	48	P		P	04 24 13.2	+0.2
	baz=65,SNR=18							
KIV	Kislovodsk	64.89	308	P		P	04 24 13.9	+0.4
	SNR=30							
KIV	Kislovodsk	64.89	308	eP		P	04 24 13.7	+0.2
KIV				e			04 26 38.7	
KIV				eS		S	04 32 56.2	+1.9
KIV				pmax		pmax		
	comp=Z,159nm,1.2s,mb5.9							
KIV				pmax		pmax		
	comp=Z,369nm,6.3s							
KIV				MLR		MLR		
	comp=Z,2μm,18.0s,MS5.4							
KIV	Kislovodsk	64.89	308	⇓i P		P	04 24 13.8	+0.3
KIV	Kislovodsk	64.89	308	PFAKE			04 24 30.0	+16
KIV				LR		LR		
	comp=Z,3μm,20.0s,MS5.5							
M03C	McCloud	64.98	56	⇓P		P	04 24 14.4	+0.2
	baz=65,SNR=7.3							
MOL	Molde	65.01	339	AMS		AMS	04 56 28.2	
	comp=Z,1μm,21.7s,MS5.1							
K06A	Valley Falls	65.02	54	⇑P		P	04 24 14.7	+0.3
	baz=65,SNR=30							
G10A	Bishop Farm, J	65.05	50	⇑P		P	04 24 14.2	-0.4
	baz=65,SNR=22							
LASM	Arnica Sink	65.07	55	P		P	04 24 16.0	+1.2
KOD	Kodaikanal	65.10	258	eP		P	04 24 14.8	-0.4
KOD				AMb		AMB	04 24 18.1	
	comp=Z,94nm,0.3s,mb6.2							
C14A	Swan Lake	65.10	46	⇑P		P	04 24 14.5	-0.3
	baz=65,SNR=18							
PALK	Pallekele	65.12	253	PFAKE			04 24 30.0	+15
PALK				LR		LR		
	comp=Z,1μm,20.0s,MS5.1							
F11A	Grangeville	65.15	49	⇓P		P	04 24 14.4	-0.7
	baz=65							
J07A	Hines	65.16	53	⇓P		P	04 24 15.2	-0.1
	baz=65							
KCPM	Cahto Peak	65.18	58	eP		P	04 24 16.6	+1.1
H09A	Durkee	65.18	51	⇑P		P	04 24 15.4	0.0
	baz=65,SNR=8.9							
L05A	Lakeview	65.20	54	⇓P		P	04 24 16.0	+0.5
	baz=65,SNR=29							
WDC	Whiskeytown Da	65.20	57	⇓P		P	04 24 15.8	+0.2
	baz=65,SNR=7.5							
WDC	Whiskeytown Da	65.20	57	PFAKE			04 24 30.0	+14
WDC				LR		LR		
	comp=Z,478nm,22.0s,MS4.7							
D13A	Huson	65.20	47	P		P	04 24 15.4	-0.1
	baz=65,SNR=32							
I08A	Drewsey	65.20	52	⇓P		P	04 24 15.8	+0.3
	baz=65,SNR=12							
MTA	Mtatsminda	65.23	305	P		P	04 24 15.5	-0.2
TBLG	Delisi	65.23	305	P		P	04 24 17.5	+1.7
BMO	Blue Mountains	65.25	50	PFAKE			04 24 30.0	+14
BMO				LR		LR		
	comp=Z,800nm,20.0s,MS4.9							
NB2	NORSAR Subarra	65.31	336	P		P	04 24 15.4	-0.6
	comp=Z,11nm,0.7s,mb5.0,baz=34,slow=6.5							
NOA	NORSAR Array B	65.31	336	P		P	04 24 15.3	-0.6
	comp=Z,9.8nm,0.8s,mb4.9,baz=35,slow=6.4,SNR=34							
NOA				LR		LR	04 56 32.3	
	comp=Z,1μm,19.6s,MS5.1,baz=0.0,slow=40							
NOA	NORSAR Array B	65.31	336	P		P	04 24 15.3	-0.6
NOA				LR		LR	04 56 32.3	
O02C	Red Bluff	65.32	57	⇓P		P	04 24 16.6	+0.3
	baz=65,SNR=8.7							
ONI	Oni	65.39	307	P		P	04 24 17.0	+0.3
G11A	Walters Elk Ra	65.42	49	P		P	04 24 16.6	-0.3
	baz=65,SNR=54							
P01C	Double 8 Ranch	65.47	58	⇓P		P	04 24 17.7	+0.4
	baz=65,SNR=6.8							
M05C	Lookout	65.48	55	⇑P		P	04 24 17.2	-0.1
	baz=65,SNR=21							
MOD	Modoc	65.59	54	⇑P		P	04 24 17.9	-0.2
	baz=65,SNR=10							
MOD	Modoc	65.59	54	PFAKE			04 24 30.0	+12
MOD				LR		LR		
	comp=Z,744nm,19.0s,MS4.9							
I09A	Lost Marbles R	65.61	51	⇑P		P	04 24 18.4	+0.3
	baz=65							
J08A	Circle Bar Ran	65.62	52	⇑P		P	04 24 18.3	+0.1
	baz=65,SNR=21							
MSO	Missoula	65.64	47	PFAKE			04 24 30.0	+12
MSO				LR		LR		
	comp=Z,666nm,21.0s,MS4.8							
K07A	Rock Creek Ran	65.65	53	P		P	04 24 18.8	+0.4
	baz=65,SNR=44							
HATC	Hat Creek Radi	65.66	56	⇓P		P	04 24 18.5	0.0
	baz=66,SNR=11							
D14A	Greenough	65.69	47	P		P	04 24 18.5	-0.1
	baz=66,SNR=31							
GASB	Alder Springs	65.71	57	⇑P		P	04 24 18.9	0.0
	baz=66,SNR=12							
F12A	Elk City	65.71	48	⇑P		P	04 24 18.4	-0.4
	baz=66,SNR=52							
H10A	Noah's Angus R	65.72	50	⇓P		P	04 24 18.6	-0.2
	baz=66,SNR=35							
E13A	Victor	65.78	47	⇓P		P	04 24 18.7	-0.5
	baz=66,SNR=6.5							
O03C	Acorn Hollow,	65.87	57	⇑P		P	04 24 20.1	+0.1
	baz=66							
HOPS	Hopland	65.94	58	⇑P		P	04 24 20.4	0.0
	baz=66							
HOPS	Hopland	65.94	58	PFAKE			04 24 30.0	+10
HOPS				LR		LR		
	comp=Z,1μm,20.0s,MS5.1							
M06C	Likely Place G	65.95	55	⇓P		P	04 24 20.5	+0.1
	baz=66							
J09A	Fry Pan Ranch,	66.02	52	⇓P		P	04 24 21.0	+0.2
	baz=66,SNR=30							
H11A	Donnelly	66.03	50	P		P	04 24 21.1	+0.2
	baz=66,SNR=12							
I10A	Payette	66.03	51	⇑P		P	04 24 20.8	-0.1
	baz=66,SNR=7.6							
K08A	Mann Creek Ran	66.04	53	⇑P		P	04 24 21.1	+0.2
	baz=66,SNR=23							
L07A	Adell	66.05	54	P		P	04 24 21.6	+0.6
	baz=66,SNR=46							
SFJD	Kangerlussuaq	66.11	5	i P		P	04 24 20.3	-0.7
SFJD				i S		S	04 33 11.5	+3.0
SFJD				pmax		pmax		
	comp=Z,36nm,0.9s,mb5.4							
SFJD				MLR		MLR		
	comp=Z,900nm,18.0s,MS5.0							
SFJD	Kangerlussuaq	66.11	5	i P		P	04 24 20.3	-0.7
	comp=Z,36nm,0.9s,mb5.4							
SFJD				i S		S	04 33 11.5	+3.0
SFJD								
	comp=Z,890nm,18.0s							
AKH	Akhalkalaki	66.15	306	P		P	04 24 24.2	+2.5
E14A	Clinton	66.15	47	P		P	04 24 21.5	-0.1
	baz=66,SNR=9.9							
WVOR	Wild Horse Val	66.15	53	eP		P	04 24 22.4	+0.7
WVOR				pmax		pmax		
	comp=Z,23nm,1.1s,mb5.1							
WVOR				MLR		MLR		
	comp=Z,610nm,19.0s,MS4.8							
WVOR	Wild Horse Val	66.15	53	eP		P	04 24 22.4	+0.7
	comp=Z,23nm,1.1s,mb5.1							
WVOR				LR		LR		
	comp=Z,610nm,19.0s,MS4.8							
F13A	Darby	66.16	48	P		P	04 24 21.5	-0.2
	baz=66,SNR=9.0							
O04C	Chester	66.20	56	⇓P		P	04 24 22.6	+0.6
	baz=66,SNR=8.8							
ELFS	Eagle Lake Fie	66.20	56	⇑P		P	04 24 22.7	+0.6
	baz=66							
D15A	Lincoln	66.20	46	⇓P		P	04 24 21.7	-0.3
	baz=66,SNR=14							
FITZ	Fitzroy Crossi	66.25	197	eP		P	04 24 22.5	+0.1
	comp=Z,28nm,1.0s,mb5.2							
FITZ	Fitzroy Crossi	66.25	197	P		P	04 24 22.7	+0.3
	comp=Z,24nm,1.1s,mb5.1,baz=7.1,slow=8.1,SNR=22							
GNI	Garni	66.28	304	P		P	04 24 24.5	+2.0
	SNR=12							
GNI	Garni	66.28	304	c i P		P	04 24 23.7	+1.1
GNI				pmax		pmax		
	comp=Z,88nm,1.9s							
GNI				MLR		MLR		
	comp=Z,2μm,17.0s							
GNI	Garni	66.28	304	PFAKE			04 24 30.0	+7.4
GNI				LR		LR		
	comp=Z,1μm,21.0s,MS5.2							
MNRC	McLaughlin Nat	66.38	58	⇑P		P	04 24 23.4	+0.1
	baz=66,SNR=8.6							
K09A	Rome	66.47	52	⇑P		P	04 24 23.9	+0.2
	baz=66,SNR=23							
ORV	Oroville	66.47	57	⇑P		P	04 24 23.3	-0.5
	baz=66,SNR=5.4							
L08A	Fields	66.48	53	⇑P		P	04 24 23.4	-0.4
	baz=66,SNR=11							
J10A	Berg Farm, Mel	66.50	51	⇑P		P	04 24 23.8	-0.1
	baz=66							
NSHM	Saint Helena R	66.52	58	eP		P	04 24 24.1	0.0
SUTB	Sutter Butte	66.53	57	⇑P		P	04 24 23.4	-0.7
	baz=66							
O05C	Quincy	66.53	56	⇓P		P	04 24 24.2	0.0
	baz=66							
M07A	Soldier Meadow	66.56	54	⇑P		P	04 24 24.3	0.0
	baz=66,SNR=70							
E15A	Deer Lodge	66.57	47	⇓P		P	04 24 23.7	-0.6
	baz=66,SNR=8.2							
I11A	Placerville	66.60	50	P		P	04 24 24.5	0.0
	baz=66,SNR=14							
MCCM	Marconi Confer	66.61	59	⇑P		P	04 24 24.1	-0.6
	baz=66							
MCCM	Marconi Confer	66.61	59	PFAKE			04 24 40.0	+15
MCCM				LR		LR		
	comp=Z,743nm,20.0s,MS4.9							
N06A	Buffalo Meadow	66.62	55	⇑P		P	04 24 24.6	-0.1
	baz=66,SNR=38							
F14A	Wisdom	66.63	47	⇑P		P	04 24 24.3	-0.4
	baz=66							
G13A	Cobalt	66.69	48	⇓P		P	04 24 24.7	-0.4
	baz=66,SNR=9.3							
TRD	Trivandrum	66.70	257	eP		P	04 24 24.7	-0.9
TRD				AMb		AMB	04 24 27.3	
	comp=Z,88nm,1.0s,mb5.7							
CVS	Carmenet Viney	66.72	58	⇑P		P	04 24 25.3	-0.1
	baz=66							
SOC	Sochi	66.74	309	d i P		P	04 24 25.0	-0.4
SOC				e*SP		sP	04 24 28.8	-2.8
SOC				e			04 24 52.4	
SOC				e			04 26 51.3	
SOC				ePPP			04 28 38.7	
SOC				eS		S	04 33 15.4	-1.4
SOC				e			04 34 23.6	
SOC				eSS		SS	04 37 40.4	+6.7
SOC				pmax		pmax		
	comp=Z,71nm,1.2s,mb5.6							
SOC				MLR		MLR		
	comp=Z,1μm,18.0s,MS5.2							
H12A	Diamond D Ranc	66.74	49	⇑P		P	04 24 25.3	-0.1
	baz=66							
WRAB	Tennant Creek	66.78	188	⇓eP		P	04 24 25.5	-0.3
WRAB	Tennant Creek	66.78	188	eP		P	04 24 24.0	-1.8
	comp=Z,13nm,0.8s,mb5.0							
WRAB				ePcP		PcP	04 24 55.1	+0.5
WRAB				LR		LR		
	comp=Z,479nm,22.0s,MS4.7							
Q03C	Winters	66.79	58	⇓P		P	04 24 26.2	+0.4
	baz=67							
WB2	Warramunga Arr	66.79	188	eP		P	04 24 25.3	-0.6
WRA	Warramunga Arr	66.80	188	P		P	04 24 25.4	-0.4
	comp=Z,12nm,0.9s,mb4.9,baz=4.1,slow=6.7,SNR=34							
WRA				PKP2bc			04 52 56.5	
	comp=Z,5.2nm,1.2s,baz=198,slow=2.2,SNR=6.8							
WRA				LR		LR	04 53 45.5	
	comp=Z,288nm,20.1s,MS4.5,baz=15,slow=36							
WRA	Warramunga Arr	66.80	188	i P		P	04 24 25.3	-0.6
WRA				pmax		pmax		
	comp=Z,12nm,0.9s							
WRA	Warramunga Arr	66.80	188	P		P	04 24 25.4	-0.4
WRA				⇑e			04 52 56.5	
WRA				LR		LR	04 53 45.5	
AKASG	Malin Array Be	66.83	320	P		P	04 24 24.8	-1.1
	comp=Z,20nm,0.7s,mb5.2,baz=39,slow=6.8,SNR=43							
AKASG				LR		LR	04 55 55.1	
	comp=Z,2μm,18.3s,MS5.4,baz=45,slow=38							
AKASG	Malin Array Be	66.83	320	i P		P	04 24 24.7	-1.2
AKASG				pmax		pmax		
	comp=Z,20nm,0.7s							
AKBB	Malin Array Si	66.83	320	eP		P	04 24 25.2	-0.7
KIEV	Kiev	66.84	320	eP		P	04 24 25.3	-0.7
KIEV				pmax		pmax		
	comp=Z,30nm,0.9s,mb5.3							
KIEV				MLR		MLR		
	comp=Z,2μm,20.0s,MS5.3							
KIEV	Kiev	66.84	320	eP		P	04 24 25.3	-0.7
	comp=Z,30nm,0.9s,mb5

MFID	**Camas Ranch**	67.00	51	⇑P	P	04 24 27.2	0.0
	baz=67,SNR=34						
O06A	**Flanigan**	67.02	55	⇓P	P	04 24 26.7	-0.5
	baz=67,SNR=27						
Q04C	**Lincoln**	67.02	57	⇓P	P	04 24 26.7	-0.6
	baz=67						
H13A	**Challis**	67.04	49	⇑P	P	04 24 26.8	-0.5
	baz=67						
F15A	**Butte**	67.05	47	⇓P	P	04 24 27.1	-0.3
	baz=67,SNR=24						
N07B	**Gerlach**	67.08	54	⇑P	P	04 24 27.8	+0.1
	baz=67						
ANN	**Anapa**	67.09	312	*e*P	P	04 24 22.8	-4.9
ANN				*e*S	S	04 33 13.5	-7.5
ANN				pmax	pmax		
	comp=Z,66nm,1.2s,mb5.5						
P05C	**Yuba Gap, Truc**	67.16	57	⇓P	P	04 24 27.6	-0.5
	baz=67,SNR=5.5						
DYDN	**Diyadin**	67.29	304	*i* P	P	04 24 30.1	+1.1
P06A	**Stead Airport,**	67.31	56	⇑P	P	04 24 28.7	-0.4
	baz=67						
BDM	**Black Diamond**	67.33	58	⇓P	P	04 24 28.7	-0.6
	baz=67						
K11A	**Parker Ranch,**	67.34	51	⇓P	P	04 24 29.3	0.0
	baz=67						
BER	**Bergen**	67.44	338	*e*P	P	04 24 27.6	-2.0
BER				AMS	AMS	04 58 00.8	
	comp=Z,1μm,20.5s,MS5.0						
LAVA	**Lava Cap Winer**	67.45	57	P	P	04 24 30.5	+0.5
	baz=67,SNR=6.2						
JRSC	**Jasper Ridge**	67.48	59	⇑P	P	04 24 30.1	-0.2
	baz=67						
M09A	**Marrel Ranch,**	67.49	53	⇑P	P	04 24 30.3	+0.1
	baz=67,SNR=5.9						
J12A	**Stokes Ranch,**	67.50	50	⇓P	P	04 24 30.3	0.0
	baz=67,SNR=15						
G15A	**Dillon**	67.53	47	P	P	04 24 30.4	0.0
	baz=67,SNR=104						
N08A	**GE Springer Mi**	67.55	54	⇑P	P	04 24 30.5	-0.2
	baz=67,SNR=28						
O07A	**Toulon**	67.56	55	⇑P	P	04 24 30.8	+0.1
	baz=67,SNR=25						
I13A	**Wildhorse Cree**	67.56	49	P	P	04 24 31.0	+0.3
	baz=67,SNR=74						
L10A	**Juniper Basin**	67.58	52	⇓P	P	04 24 30.6	-0.2
	baz=67,SNR=11						
BOZ	**Bozeman (W)**	67.62	47	⇑P	P	04 24 30.6	-0.4
	baz=67,SNR=29						
BOZ	**Bozeman (W)**	67.62	47	PFAKE		04 24 40.0	+9.0
BOZ				LR	LR		
	comp=Z,637nm,19.0s,MS4.9						
WENL	**Wente Brothers**	67.62	59	⇑P	P	04 24 30.9	-0.2
	baz=67						
WCN	**Washoe City**	67.64	56	⇓P	P	04 24 31.2	0.0
	baz=67						
HLID	**Hailey**	67.65	50	⇑P	P	04 24 31.0	-0.2
	baz=67,SNR=18						
HLID	**Hailey**	67.65	50	PFAKE		04 24 40.0	+8.8
HLID				LR	LR		
	comp=Z,664nm,21.0s,MS4.8						
R04C	**Big Horse Panc**	67.67	58	⇑P	P	04 24 31.0	-0.5
	baz=68						
BNLO	**Ben Lomond (Sa**	67.71	59	⇓P	P	04 24 31.1	-0.6
	baz=68						
N09A	**Rock Creek Ran**	67.84	54	⇓P	P	04 24 32.3	-0.2
	baz=68,SNR=6.6						
R05C	**Kirkwood Meado**	67.86	57	⇓P	P	04 24 32.2	-0.5
	baz=68,SNR=13						
O08A	**Rochester Mine**	67.87	54	⇓P	P	04 24 32.4	-0.3
	baz=68,SNR=6.1						
TUTA	**Tutak**	67.88	304	*i* P	P	04 24 33.6	+0.9
J13A	**Cove Ranch, Pi**	67.89	50	⇓P	P	04 24 32.7	0.0
	baz=68,SNR=23						
L11A	**Cat Creek Ranc**	67.90	52	⇑P	P	04 24 33.0	+0.2
	baz=68,SNR=40						
M10A	**I.L. Ranch, Tu**	67.92	53	⇑P	P	04 24 32.8	-0.2
	baz=68,SNR=8.7						
S04C	**Ingram Canyon,**	67.95	58	⇓P	P	04 24 32.5	-0.7
	baz=68						
HOMI	**Horasan**	67.96	305	*i* P	P	04 24 34.0	+0.7
P07A	**Fallon**	67.97	55	⇑P	P	04 24 33.7	+0.4
	baz=68						
K12A	**Draper Farm, C**	68.03	51	⇓P	P	04 24 33.7	0.0
	baz=68,SNR=11						
CMB	**Columbia Colle**	68.14	57	⇓P	P	04 24 34.2	-0.2
	baz=68,SNR=24						
CMB	**Columbia Colle**	68.14	57	PFAKE		04 24 50.0	+16
CMB				LR	LR		
	comp=Z,710nm,20.0s,MS4.9						
BMN	**Battle Mountai**	68.30	54	PFAKE		04 24 50.0	+15
BMN				LR	LR		
	comp=Z,681nm,21.0s,MS4.9						
PACP	**Pacheco Peak**	68.31	59	⇑P	P	04 24 35.4	-0.1
	baz=68						
L12A	**House Creek Ra**	68.31	51	⇓P	P	04 24 35.6	+0.2
	baz=68,SNR=9.9						
P08A	**Dixie Valley**	68.32	55	⇓P	P	04 24 36.0	+0.5
	baz=68						
R06C	**Coleville**	68.35	57	⇓P	P	04 24 36.0	+0.4
	baz=68,SNR=20						
SAO	**San Andreas Ge**	68.38	59	PFAKE		04 24 50.0	+14
SAO				LR	LR		
	comp=Z,526nm,20.0s,MS4.8						
M11A	**Holland Ranch,**	68.39	52	⇑P	P	04 24 36.3	+0.4
	baz=68,SNR=27						
K13A	**Stover Farm, H**	68.46	50	⇑P	P	04 24 35.8	-0.5
	baz=68						
GCMT	**Greycliff**	68.49	45	*e*P	P	04 24 37.4	+1.0
N10A	**Dunphy**	68.49	53	⇑P	P	04 24 36.6	+0.1
	baz=68						
O09A	**Fish Creek Ran**	68.49	54	⇑P	P	04 24 36.5	0.0
	baz=68,SNR=13						
S06C	**San Francisco**	68.56	57	⇓P	P	04 24 37.0	0.0
	baz=68,SNR=25						
HAST	**Hastings Reser**	68.58	59	⇑P	P	04 24 36.8	-0.3
	baz=68						
HAKT	**HAKKARI**	68.63	302	*i* P	P	04 24 37.3	-0.1
S05C	**Merced**	68.64	58	⇑P	P	04 24 37.3	-0.2
	baz=68,SNR=5.6						
YMR	**Madison River**	68.64	47	*e*P	P	04 24 39.1	+1.6
	comp=Z,47nm,1.3s,mb5.3						
YMR				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
SIM	**Simferopol'**	68.67	313	*e*P	P	04 24 37.6	0.0
SIM				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
SIM				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.4						
SIM	**Simferopol'**	68.67	313	*e*P	P	04 24 38.4	+0.8
T05C	**Eagle Field, D**	68.75	59	⇑P	P	04 24 38.1	-0.1
	baz=69						
KOPT	**Kop Dagi**	68.76	306	*i* P	P	04 24 39.0	+0.8
O10A	**Cortez Mining,**	68.79	53	⇑P	P	04 24 38.6	+0.2
	baz=69,SNR=8.2						
XMAS	**Kiritimati**	68.84	111	PFAKE		04 24 50.0	+11
XMAS				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
N11A	**Elko Archery C**	68.85	53	⇓P	P	04 24 38.7	-0.1
	baz=69						
M12A	**Wells**	68.87	52	⇓P	P	04 24 39.5	+0.6
	baz=69,SNR=10						
R07C	**Lee Vining**	68.87	57	⇓P	P	04 24 39.2	+0.3
	baz=69						
L13A	**Double Diamond**	68.92	51	⇓P	P	04 24 39.6	+0.4
	baz=69,SNR=14						
P09A	**Austin**	68.95	54	⇓P	P	04 24 39.6	+0.2
	baz=69						
Q08A	**Gabbs**	68.98	55	⇓P	P	04 24 39.6	0.0
	baz=69,SNR=20						
LKWY	**Lake**	69.00	47	PFAKE		04 24 50.0	+10
LKWY				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
K14A	**Jones Ranch, D**	69.01	50	⇓P	P	04 24 40.4	+0.7
	baz=69,SNR=43						
BSD	**Bornholm Skovb**	69.01	331	⇑*i*P	P	04 24 38.5	-1.0
BSD				*i*		04 27 16.6	
BSD				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.3						
BSD	**Bornholm Skovb**	69.01	331	⇑*i*P	P	04 24 38.5	-1.0
	comp=Z,44nm,1.2s,mb5.3						
BSD				*i*		04 27 16.6	
BSD							
	comp=Z,1μm,18.0s						
BSD	**Bornholm Skovb**	69.01	331	⇑*i*P	P	04 24 38.5	-1.0
	comp=Z,44nm,1.2s,mb5.3						
BSD				*i*		04 27 16.6	
V03C	**Hunter Liggett**	69.01	60	⇓P	P	04 24 40.3	+0.4
	baz=69						
U04C	**Hernandez Rese**	69.05	59	⇑P	P	04 24 40.6	+0.6
	baz=69						
NVAR	**Mina Array Bea**	69.06	56	P	P	04 24 39.0	-1.2
	comp=Z,4.8nm,0.7s,mb4.6,baz=297,slow=5.0,SNR=36						
NVAR				PKP2bc		04 52 49.8	
	comp=Z,1.4nm,1.0s,baz=141,slow=5.0,SNR=5.5						
NVAR	**Mina Array Bea**	69.06	56	P	P	04 24 39.0	-1.2
NVAR				⇑*e*		04 52 49.8	
WAR	**Warsaw**	69.07	326	*e*P	P	04 24 44.3	+4.3
WAR				*e*S	S	04 33 52.8	+8.4
WAR				LMZ		04 53 16.3	
	comp=Z,2μm,26.4s						
WAR	**Warsaw**	69.07	326	*e*P	P	04 24 44.3	+4.4
WAR				*e*S	S	04 33 52.8	+8.4
WAR				LR	LR		
	comp=Z,2μm,26.4s,MS5.2						
DGMT	**Dagmar**	69.10	41	PFAKE		04 24 50.0	+10
DGMT				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
RLMT	**Red Lodge**	69.16	46	PFAKE		04 24 50.0	+9.4
RLMT				LR	LR		
	comp=Z,772nm,22.0s,MS4.9						
ELK	**Elko**	69.17	52	*e*P	P	04 24 41.3	+0.5
	comp=Z,7.6nm,1.0s,mb4.6						
ELK				LR	LR		
	comp=Z,720nm,22.0s,MS4.9						
N12A	**Clover Valley,**	69.20	52	⇓P	P	04 24 41.4	+0.4
	baz=69,SNR=22						
R08A	**Mina**	69.23	56	⇓P	P	04 24 41.2	0.0
	baz=69						
T06C	**Millerton Lake**	69.23	58	⇓P	P	04 24 41.5	+0.3
	baz=69						
KCC	**Kaiser Creek**	69.24	57	P	P	04 24 41.9	+0.6
	baz=69,SNR=7.9						
K15A	**Arbon**	69.25	49	⇓P	P	04 24 41.7	+0.5
	baz=69						
P10A	**Eureka**	69.28	54	⇓P	P	04 24 41.5	+0.1
	baz=69,SNR=5.5						
J16A	**Bone**	69.31	48	⇑P	P	04 24 42.3	+0.8
	baz=69						
MLAC	**Mammoth Lakes**	69.31	57	⇑P	P	04 24 42.0	+0.3
	baz=69						
M13A	**Montello**	69.32	51	⇓P	P	04 24 41.8	+0.2
	baz=69,SNR=14						
L14A	**Malta**	69.33	50	⇑P	P	04 24 42.2	+0.4
	baz=69,SNR=13						
COP	**Copenhagen**	69.36	332	*i* P	P	04 24 41.6	-0.1
COP				*i* S	S	04 33 50.6	+2.9
COP				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.1						
COP				MLR	MLR		
	comp=Z,510nm,18.0s,MS4.8						
COP	**Copenhagen**	69.36	332	*i* P	P	04 24 41.6	-0.1
	comp=Z,31nm,1.2s,mb5.1						
COP				*i* S	S	04 33 50.6	+2.9
COP							
	comp=Z,720nm,19.0s						
O11A	**Cowboy Ranch,**	69.37	53	⇓P	P	04 24 42.4	+0.5
	baz=69,SNR=5.4						
Q09A	**Carvers**	69.42	55	⇑P	P	04 24 42.5	+0.1
	baz=69						
HATD	**Hatta, Dubai**	69.47	285	P	P	04 24 42.9	+0.1
	SNR=7.2						
PKD	**Parkfield**	69.47	59	⇓P	P	04 24 42.5	-0.2
	baz=69						
LAO	**LASA Array**	69.49	43	PFAKE		04 24 50.0	+7.4
LAO				LR	LR		
	comp=Z,1μm,21.0s,MS5.1						
V04C	**Ramage Ranch,**	69.49	60	⇓P	P	04 24 42.5	-0.3
	baz=69						
HOQ	**Hoqain**	69.53	283	P	P	04 24 43.2	0.0
	SNR=5.3						
ASHO	**Ashiyiah**	69.62	285	P	P	04 24 43.9	+0.2
	SNR=7.6						
K16A	**Soda Springs**	69.63	49	⇑P	P	04 24 43.6	0.0
	baz=69,SNR=26						
N13A	**Wendover, West**	69.65	52	⇓P	P	04 24 44.3	+0.6
	baz=69						
M14A	**Sheep Mountain**	69.65	51	⇑P	P	04 24 44.1	+0.4
	baz=69,SNR=34						
MTUM	**Tungsten Hills**	69.66	57	*e*P	P	04 24 44.8	+1.0
GKP	**Gorka Klasztor**	69.68	328	*e*P	P	04 24 44.7	+1.0
GKP				LMZ		04 57 58.1	
	comp=Z,3μm,19.1s						
GKP	**Gorka Klasztor**	69.68	328	*e*P	P	04 24 44.7	+1.0
GKP				LR	LR		
	comp=Z,3μm,19.1s,MS5.6						
LVV	**L'vov**	69.72	322	*e*P	P	04 24 46.4	+2.4
LVV				*e*		04 27 25.4	
LVV				*e*S	S	04 33 55.8	+3.7
LVV				*e*PS		04 34 25.4	
LVV				*e*SS	SS	04 38 21.6	+2.2
LVV				MLR	MLR		
	comp=N,300nm,16.0s,MS5.0						
LVV				MLR	MLR		
	comp=E,600nm,16.0s,MS5.0						
LVV				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.9						
MUD	**Monsted U'grnd**	69.73	334	*i* P	P	04 24 43.6	-0.3
MUD				*i* S	S	04 34 07.5	+16
MUD							
	comp=Z,4μm,20.0s						
MUD	**Monsted U'grnd**	69.73	334	*e*P	P	04 24 43.6	-0.3
MUD				*i* S	S	04 34 07.5	+16
KIS	**Kishinev**	69.73	318	*e*P	P	04 24 43.0	-1.1
KIS				*e*		04 25 13.0	
KIS				*e*		04 27 18.0	
KIS				*e*PPP		04 28 57.0	
KIS				*e*S	S	04 33 50.0	-2.3
KIS				*e*PS		04 34 20.0	
KIS				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.5						
KIS				MLR	MLR		
	comp=E,2μm,16.0s						
KIS				MLR	MLR		
	comp=Z,3μm,18.0s						
O12A	**Currie**	69.77	52	⇑P	P	04 24 44.7	+0.2
	baz=70,SNR=14						
S08C	**White Mtn Res**	69.78	57	⇑P	P	04 24 45.1	+0.5
	baz=70,SNR=9.1						
L15A	**Malad City**	69.81	50	⇑P	P	04 24 44.7	0.0
	baz=70,SNR=14						
HELL	**Mitchell Peak**	69.86	58	P	P	04 24 45.0	0.0
	baz=70,SNR=30						
Q10A	**Clear Creek Ra**	69.86	55	⇑P	P	04 24 45.3	+0.2
	baz=70,SNR=9.5						
PTRM	**Twissleman Ran**	69.87	59	*e*P	P	04 24 46.0	+0.8
R09A	**Tonopah**	69.89	55	P	P	04 24 45.7	+0.4
	baz=70,SNR=27						
TPH	**Tonopah**	69.92	56	PFAKE		04 25 00.0	+15
TPH				LR	LR		
	comp=Z,609nm,21.0s,MS4.8						
AHID	**Auburn Hatcher**	69.93	49	PFAKE		04 25 00.0	+15
AHID				LR	LR		
	comp=Z,551nm,21.0s,MS4.8						
M15A	**Larsen Ranch,**	70.16	50	P	P	04 24 47.0	+0.2
	baz=70,SNR=26						
S09A	**Goldfield**	70.17	56	⇓P	P	04 24 47.1	+0.1
	baz=70,SNR=26						
BSY	**Bisya**	70.18	282	P	P	04 24 47.9	+0.6
	SNR=5.3						
N14A	**Grayback Hills**	70.20	51	⇑P	P	04 24 47.3	+0.2
	baz=70,SNR=26						
BGU	**Big Grassy Mou**	70.23	51	*e*P	P	04 24 48.0	+0.7
Q11A	**Duckwater**	70.27	54	⇓P	P	04 24 47.5	0.0
	baz=70						
O13A	**Hicks Ranch, I**	70.28	52	⇑P	P	04 24 48.1	+0.4
	baz=70						
R10A	**Warm Springs**	70.29	55	⇑P	P	04 24 48.0	+0.2
	baz=70,SNR=9.0						
L16A	**Fish Haven**	70.30	49	⇑P	P	04 24 47.6	-0.1
	baz=70,SNR=9.0						
S10A	**Tonopah Range,**	70.39	55	⇓P	P	04 24 48.0	-0.2
	baz=70,SNR=9.8						
VES	**Vestal, Richgr**	70.41	58	⇓P	P	04 24 49.1	+0.7
	baz=70						
KWP	**Kalwaria**	70.41	323	*e*P	P	04 24 50.2	+2.0
KWP				LMZ		05 04 04.1	
	comp=Z,800nm,20.9s						
KWP	**Kalwaria**	70.41	323	*e*P	P	04 24 50.2	+1.9
KWP				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
MARD	**Mardin**	70.48	304	*i* P	P	04 24 49.0	+0.1
HWUT	**Hardware Ranch**	70.52	50	PFAKE		04 25 00.0	+11
HWUT				LR	LR		
	comp=Z,440nm,19.0s,MS4.7						
ASAR	**Alice Springs**	70.52	188	P	P	04 24 49.5	+0.4
	comp=Z,20nm,0.8s,mb5.1,baz=7.7,slow=4.6,SNR=76						
ASAR				PKPPKP		04 52 52.1	
	comp=Z,1.4nm,1.1s,baz=149,slow=2.6,SNR=4.6						
N15A	**Stansbury Isla**	70.53	51	⇑P	P	04 24 49.2	0.0
	baz=70,SNR=11						
Q12A	**Willow Creek R**	70.59	53	⇑P	P	04 24 49.6	+0.1
	baz=70,SNR=5.8						
GRAC	**Grapevine Rang**	70.59	56	⇑P	P	04 24 50.1	+0.5
	baz=70						
PKM	**Peak Mountain**	70.62	60	⇓P	P	04 24 50.1	+0.3
	baz=70						
R11A	**Troy Canyon, C**	70.65	54	P	P	04 24 50.4	+0.5
	baz=70,SNR=16						
ELZG	**Elazig**	70.66	306	*i* P	P	04 24 50.3	+0.3
M16A	**Huntsville**	70.69	50	⇑P	P	04 24 50.3	+0.2
	baz=70						
BW06	**Boulder Array**	70.72	48	PFAKE		04 25 00.0	+10
BW06				LR	LR		
	comp=Z,623nm,21.0s,MS4.8						
PDAR	**Pinedale Array**	70.72	48	P	P	04 24 50.0	-0.2
	comp=Z,12nm,0.7s,mb5.0,baz=337,slow=1.9,SNR=29						
PDAR				PKPPKP		04 52 44.0	
	comp=Z,0.4nm,0.9s,baz=123,slow=4.4,SNR=4.1						
PDAR				LR	LR	04 56 01.8	
	comp=Z,500nm,20.9s,MS4.8,baz=151,slow=36						
P13A	**Bates Ranch, G**	70.74	53	⇑P	P	04 24 50.8	+0.3
	baz=70,SNR=14						
DUG	**Dugway**	70.86	51	⇓P	P	04 24 51.6	+0.4
	baz=71,SNR=36						
DUG	**Dugway**	70.86	51	PFAKE		04 25 00.0	+8.8
DUG				LR	LR		
	comp=Z,562nm,20.0s,MS4.8						
ISA	**Isabella**	70.88	58	⇑P	P	04 24 51.7	+0.3
	baz=71,SNR=7.7						
ISA	**Isabella**	70.88	58	PFAKE		04 25 00.0	+8.6
ISA				LR	LR		
	comp=Z,484nm,21.0s,MS4.7						
BURAR	**Bucovina Array**	70.89	320	⇓*i*P	P	04 24 50.9	-0.3
DAC	**Darwin (Calif)**	70.97	57	PFAKE		04 25 00.0	+8.1
DAC				LR	LR		
	comp=Z,676nm,22.0s,MS4.9						
ARVC	**Arvin**	71.05	59	⇑P	P	04 24 52.7	+0.3
	baz=71						
S11A	**Rachel**	71.06	55	⇓P	P	04 24 52.8	+0.4
	baz=71,SNR=20						
TLCR		71.07	317	⇑*i*P	P	04 24 52.0	-0.4
Q13A	**Wheeler Ranch,**	71.09	53	⇓P	P	04 24 52.8	+0.2
	baz=71,SNR=32						
MALT	**Malatya**	71.10	306	⇓*i*P	P	04 24 53.3	+0.7
MALT	**Malatya**	71.10	306	PFAKE		04 25 00.0	+7.4
MALT				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
N16A	**Rees Ranch, Co**	71.10	50	⇓P	P	04 24 53.1	+0.5
	baz=71						
OJC	**Ojcow**	71.13	325	*e*P	P	04 24 52.1	-0.5
OJC				*e*S	S	04 34 12.3	+3.7
OJC				L		04 58 26.0	
	comp=Z,1.8nm,20.2s						
KOLS	**Kolonicke sedl**	71.14	323	*e*P	P	04 24 52.4	-0.3
P14A	**Drum Mountains**	71.16	52	⇑P	P	04 24 53.2	+0.2
	baz=71,SNR=20						
MPMC	**Manual Prospec**	71.18	57	P	P	04 24 53.6	+0.5
	baz=71,SNR=8.7						
R12A	**Pony Springs,**	71.21	54	⇓P	P	04 24 53.3	0.0
	baz=71,SNR=12						
ULM	**Lac du Bonnet**	71.23	35	P	P	04 24 51.5	-1.7
	comp=Z,22nm,0.6s,mb5.2,baz=320,slow=5.6,SNR=15						
ULM				LR	LR	04 58 34.4	
	comp=Z,937nm,18.7s,MS5.1,baz=155,slow=38						
ULM	**Lac du Bonnet**	71.23	35	*e*P	P	04 24 52.0	-1.2
	comp=Z,23nm,0.7s,mb5.2						
ULM				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
FURC	**Furnace Creek,**	71.25	57	⇓P	P	04 24 53.6	0.0
	baz=71,SNR=7.8						
TPNV	**Topopah Spring**	71.26	56	P	P	04 24 53.7	+0.1
	baz=71,SNR=30						
TPNV	**Topopah Spring**	71.26	56	PFAKE		04 25 10.0	+16
TPNV				LR	LR		
	comp=Z,812nm,20.0s,MS5.0						
UZH	**Uzhgorod**	71.36	322	*e*P	P	04 24 56.0	+2.0
N17A	**Moffit Pass**	71.38	50	⇓P	P	04 24 53.8	-0.5
	baz=71,SNR=10						
CTKT	**Corum**	71.42	310	*i* P	P	04 24 55.1	+0.5
LRMC	**Laurel Mountai**	71.47	58	⇓P	P	04 24 55.0	+0.1
	baz=71						
Q14A	**Sevier Lake (B**	71.47	53	⇓P	P	04 24 55.1	+0.2
	baz=71,SNR=24						
CRVS	**Cervenica-Dubn**	71.50	323	*e*P	P	04 24 54.9	+0.1
CRVS	**Cervenica-Dubn**	71.50	323	*e*P	P	04 24 55.0	+0.2
BALT	**Daday**	71.50	311	*i* P	P	04 24 55.9	+0.9
BSEG	**Bad Segeberg**	71.50	332	*e*P	P	04 24 56.3	+1.5
	comp=Z,29nm,1.3s,mb5.0						
VRI	**Vrincioaia**	71.53	318	⇓*i*P	P	04 24 55.0	-0.1
VRI	**Vrincioaia**	71.53	318	P	P	04 24 55.9	+0.8
RUE	**Ruedersdorf**	71.55	329	*e*P	P	04 24 56.2	+1.1
	comp=Z,54nm,1.1s,mb5.4						
O16A	**Springville**	71.56	51	⇑P	P	04 24 55.8	+0.4
	baz=71						
NIE	**Niedzica**	71.56	324	*e*P	P	04 24 56.1	+0.9
S12A	**Delamar Landin**	71.59	55	⇓P	P	04 24 55.8	+0.2
	baz=71,SNR=29						
U10A	**Ash Meadows, A**	71.59	56	⇑P	P	04 24 55.8	+0.1
	baz=71,SNR=6.7						
P15A	**Leamington**	71.60	52	⇓P	P	04 24 55.8	+0.2
	baz=71						
T11A	**Corn Creek, Al**	71.64	55	⇓P	P	04 24 55.8	-0.1
	baz=71,SNR=33						
R13A	**O'Grain Ranch,**	71.67	54	⇓P	P	04 24 55.7	-0.4
	baz=72						
ILGA	**Ilgaz**	71.67	311	*i* P	P	04 24 56.4	+0.3
UMR	**Umm Al-Rimmam**	71.69	294	*e*P	P	04 24 54.0	-2.3
	baz=294						
UMR				AMb	AMB	04 24 57.1	
	comp=Z,59nm,0.9s,mb5.5,baz=294						
EDW2	**Edwards Air Fo**	71.71	58	⇓P	P	04 24 55.8	-0.6
	baz=72,SNR=11						
MIB	**Mutribah**	71.76	294	*e*P	P	04 24 54.8	-1.9
	baz=294						
MIB				AMb	AMB	04 24 58.0	
	comp=Z,78nm,0.8s,mb5.7,baz=294						
TIRR	**Tirgusor**	71.81	316	*e*P	P	04 24 56.1	-0.7
TIRR				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
TIRR	**Tirgusor**	71.81	316	⇑*i*P	P	04 24 56.6	-0.2
TIRR	**Tirgusor**	71.81	316	*e*P	P	04 24 56.1	-0.7
	comp=Z,15nm,0.9s,mb4.9						
P16A	**Fountain Green**	71.90	51

MWC Mount Wilson 72.13 59 PFAKE 04 25 10.0 +11
MWC LR LR
comp=Z,649nm,21.0s,MS4.9
S13A Holt Ranch, En 72.16 54 ⇓P **P 04 24 58.9 -0.1**
baz=72,SNR=11
MLR Muntele Rosu 72.18 318 ⇑*i*P **P 04 24 59.6 +0.6**
MLR Muntele Rosu 72.18 318 P **P 04 24 59.9 +0.9**
RST Umm Al-Ruwaisa 72.18 294 *e*P **P 04 24 57.4 -1.9**
baz=294
RST AMb AMB 04 25 00.2
comp=Z,2.0nm,0.9s,mb4.0,baz=294
NAY Al-Naaiem 72.20 294 *e*P **P 04 24 57.6 -1.9**
baz=294
NAY AMb AMB 04 25 00.1
comp=Z,28nm,0.9s,mb5.2,baz=294
KECS Kecovo 72.22 323 *e*P **P 04 24 59.2 0.0**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 72.22 323 *e*P **P 04 24 59.2 0.0**
comp=Z,4.4nm,0.8s,mb4.4
ELDT Eldivan 72.23 311 *i*P **P 04 24 59.7 +0.2**
ARUT Antelope Range 72.24 54 *e*P **P 04 24 59.5 0.0**
GZT Gaziantep 72.26 306 *i*P **P 04 25 00.6 +1.0**
O18A Roosevelt 72.30 50 ⇓P **P 04 25 00.0 +0.2**
baz=72,SNR=9.3
BFSC Mount Baldy St 72.36 59 ⇑P **P 04 24 59.6 -0.7**
baz=72,SNR=6.8
UPC Upice 72.36 327 *e*P **P 04 25 00.4 +0.4**
UPC *e*pP pP 04 25 02.1 -2.4
CDAG Cicekdag 72.37 309 *i*P **P 04 25 00.3 +0.1**
MORC Moravsky Berou 72.37 326 *e*P **P 04 25 00.4 +0.3**
MORC pmax pmax
comp=Z,28nm,0.9s,mb5.2
MORC Moravsky Berou 72.37 326 ⇑*i*P **P 04 25 00.9 +0.8**
MORC Moravsky Berou 72.37 326 *e*P **P 04 25 00.4 +0.4**
comp=Z,28nm,0.9s,mb5.2
DPC Dobruska-Polom 72.37 327 *e*P **P 04 25 01.1 +1.0**
DPC *e*pP pP 04 25 02.5 -2.1
DPC *e*PP PP 04 27 40.3 0.0
DPC *e*S S 04 34 29.0 +6.2
DPC AMS AMS 05 00 00.0
comp=Z,2μm,15.8s
MVU Marysvale 72.40 52 PFAKE 04 25 10.0 +10
MVU LR LR
comp=Z,749nm,22.0s,MS4.9
S14A Cedar City 72.41 53 ⇑P **P 04 25 00.3 -0.3**
baz=72
RSSD Black Hills 72.43 44 PFAKE 04 25 10.0 +9.5
RSSD LR LR
comp=Z,827nm,20.0s,MS5.0
P17A Butcher Ranch, 72.49 51 ⇓P **P 04 25 01.0 +0.1**
baz=72,SNR=8.6
V11A Goodsprings 72.52 56 ⇑P **P 04 25 01.4 +0.2**
baz=72
TUQ Turquoise Mtn. 72.52 57 ⇑P **P 04 25 00.6 -0.6**
baz=72,SNR=22
T13A Saint George 72.53 54 ⇑P **P 04 25 00.9 -0.4**
baz=72,SNR=10
R15A Junction 72.58 53 ⇑P **P 04 25 01.7 +0.2**
baz=72,SNR=7.6
U12A Valley of Fire 72.60 55 ⇓P **P 04 25 01.9 +0.3**
baz=72
DRGR 72.61 321 ⇑*i*P **P 04 25 02.2 +0.6**
DRGR 72.61 321 P **P 04 25 02.0 +0.4**
P18A Preston Nutter 72.64 50 ⇑P **P 04 25 01.7 -0.2**
baz=72,SNR=22
Q16A Castle Valley 72.66 51 ⇓P **P 04 25 01.1 -0.9**
baz=72
HEC Hector,Ludlow 72.71 57 ⇓P **P 04 25 01.1 -1.3**
baz=72,SNR=6.8
AVNT Avonos 72.72 308 *i*P **P 04 25 01.8 -0.6**
ANDN Andirin 72.78 307 *i*P **P 04 25 02.8 +0.1**
AGMN Agassiz Refuge 72.79 36 PFAKE 04 25 10.0 +7.4
AGMN LR LR
comp=Z,860nm,20.0s,MS5.0
CLL Collm 72.79 329 ⇓*i*P **P 04 25 02.3 -0.2**
CLL *e* 04 27 52.0
CLL *e*S S 04 34 24.0 -3.6
CLL pmax pmax
comp=Z,41nm,1.1s,mb5.3
CLL MLR MLR
comp=Z,2μm,18.3s,MS5.3
CLL Collm 72.79 329 *e*P **P 04 25 02.2 -0.3**
comp=Z,41nm,1.1s,mb5.3
CLL Collm 72.79 329 ⇓*i*P **P 04 25 02.3 -0.2**
comp=Z,41nm,1.1s,mb5.3
CLL *e*PP PP 04 27 52.0 +8.2
CLL *e*PPP 04 29 31.0
CLL *e*S S 04 34 24.0 -3.6
CLL *e*PPS 04 35 16.0
CLL *e*SS SS 04 39 08.0 +1.7
CLL *e*x x 04 39 52.0
CLL *e*SSS 04 42 18.0
CLL *e*x x 04 43 09.0
CLL LmV 04 59 00.0
comp=Z,2μm,18.3s
CLL Collm 72.79 329 ⇓*i*P **P 04 25 02.3 -0.2**
comp=Z,41nm,1.1s,mb5.3
CLL *e*PP PP 04 27 52.0 +8.2
CLL *e*S S 04 34 24.0 -3.6
CLL LR LR
comp=Z,2μm,18.3s,MS5.3
BRG Berggiesshubel 72.82 328 *e*P **P 04 25 02.7 0.0**
BRG *e* 04 25 20.4
BRG *e* 04 27 41.2
BRG pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BRG MLR MLR
comp=Z,2μm,15.7s,MS5.4
BRG Berggiesshubel 72.82 328 *e*P **P 04 25 02.8 +0.1**
comp=Z,16nm,1.2s,mb4.8
BRG Berggiesshubel 72.82 328 *e*P **P 04 25 02.7 0.0**
comp=Z,16nm,1.2s,mb4.8
BRG *e* 04 25 20.4
comp=Z,24nm,1.6s
BRG *e*PP PP 04 27 41.2 -2.9
comp=Z,2.7nm,0.7s
BRG S S 04 34 36.0 +8.1
BRG *e* 04 44 31.2
comp=Z,2.7nm,0.6s
BRG
comp=N,2μm,17.2s
BRG
comp=E,1μm,14.2s
BRG
comp=Z,3μm,15.7s
BRG Berggiesshubel 72.82 328 *e*P **P 04 25 02.7 0.0**
comp=Z,9.7nm,1.2s,mb4.6
BRG *e* 04 25 20.4
BRG *e*PP PP 04 27 41.2 -2.9
BRG S S 04 34 36.0 +8.1
BRG *e* 04 44 31.2
BRG LR LR
comp=Z,2μm,15.7s,MS5.4
SRU San Rafael 72.87 51 ⇓P **P 04 25 02.9 -0.3**
baz=73,SNR=14
PVCC Panska Ves 72.87 328 *e*P **P 04 25 03.6 +0.6**
PVCC *e*pP pP 04 25 05.1 -2.5
PVCC *e*PP PP 04 27 45.9 +1.3
PVCC *e*S S 04 34 36.4 +7.8
PVCC AMS AMS 04 59 50.0
comp=Z,3μm,16.2s
SGKT Sivrigoynuk 72.88 311 *i*P **P 04 25 03.0 -0.3**
PSZ Piszkesteto 72.91 323 ⇑*e*P **P 04 25 03.8 +0.5**
PSZ Piszkesteto 72.91 323 ⇑*i*P **P 04 25 03.3 0.0**
PSZ Piszkesteto 72.91 323 *e*P **P 04 25 03.9 +0.6**
comp=Z,28nm,1.1s,mb5.1
PSZ LR LR
comp=Z,992nm,22.0s,MS5.0
S15A Panguitch 72.92 53 ⇓P **P 04 25 04.3 +0.7**
baz=73,SNR=8.0
V12A Nelson 72.92 56 ⇑P **P 04 25 03.8 +0.1**
baz=73,SNR=5.9
U13A Pakoon Wash 72.93 55 ⇓P **P 04 25 04.0 +0.4**
baz=73,SNR=18
T14A Hurricane 72.96 54 ⇓P **P 04 25 04.2 +0.4**
baz=73
FBE Freiberg 72.99 329 *e*P **P 04 25 03.9 +0.2**
comp=Z,35nm,1.1s,mb5.2
KOLL Kolacno 72.99 325 *e*P **P 04 25 03.9 +0.1**
ANTO Ankara 73.02 310 P **P 04 25 05.2 +1.1**
SNR=9.4
ANTO Ankara 73.02 310 ⇑*i*P **P 04 25 04.3 +0.2**
ANTO Ankara 73.02 310 *e*P **P 04 25 04.6 +0.5**
comp=Z,28nm,0.9s,mb5.2
ANTO LR LR
comp=Z,1μm,19.0s,MS5.2
MURC Murrieta 73.08 59 ⇓P **P 04 25 05.0 +0.5**
baz=73
Q18A Rafter H Ranch 73.08 51 ⇓P **P 04 25 04.1 -0.4**
baz=73,SNR=8.1
VRAC Vranov 73.11 326 LR LR 05 00 09.0
comp=Z,2μm,19.4s,MS5.5,baz=27,slow=38
VRAC Vranov 73.11 326 ⇑*i*P **P 04 25 05.4 +0.9**
VRAC Vranov 73.11 326 P **P 04 25 04.6 +0.1**
GMRC Granite Mounta 73.14 57 ⇑P **P 04 25 04.7 -0.2**
baz=73,SNR=23
PRD Provadia 73.24 316 P **P 04 25 06.5 +1.2**
CLZ Clausthal 73.25 331 *e*P **P 04 25 05.3 +0.1**
CLZ pmax pmax
comp=Z,59nm,1.3s,mb5.4
CLZ Clausthal 73.25 331 *e*P **P 04 25 05.3 +0.1**
comp=Z,59nm,1.3s,mb5.4
R17A Hanksville Air 73.27 51 ⇓P **P 04 25 05.2 -0.4**
baz=73,SNR=30
S16A Weppner Ranch, 73.30 53 ⇓P **P 04 25 05.8 0.0**
baz=73,SNR=29
V13A Grand Canyon W 73.33 55 ⇑P **P 04 25 06.3 +0.3**
baz=73,SNR=10
PRU Pruhonice 73.33 328 *e*P **P 04 25 05.8 +0.1**
PRU *e**PP pP 04 25 07.8 -2.5
PRU *e* 04 27 48.4
PRU *e*S S 04 34 40.7 +7.0
PRU MLR MLR
comp=Z,2μm,20.2s,MS5.5
PRU Pruhonice 73.33 328 *e*P **P 04 25 05.8 +0.1**
PRU *e*pP pP 04 25 07.8 -2.5
PRU *e*PP PP 04 27 48.4 0.0
PRU *e*S S 04 34 40.7 +7.0
PRU *e*x x 04 40 16.4
PRU AMS AMS 04 59 50.0
comp=Z,2μm,20.2s
U14A Mt Trumbull 73.37 54 ⇑P **P 04 25 06.5 +0.2**
baz=73,SNR=25
T15A Red Dirt Ranch 73.38 53 ⇑P **P 04 25 06.0 -0.3**
baz=73,SNR=5.6
BELC Belle Mtn. 73.50 58 ⇓P **P 04 25 06.5 -0.6**
baz=73,SNR=6.0
PFO Pinyon Flat Ob 73.51 58 *e*P **P 04 25 07.6 +0.5**
PFO pmax pmax
comp=Z,15nm,1.0s,mb4.9
PFO MLR MLR
comp=Z,780nm,21.0s,MS5.0
PFO Pinyon Flat Ob 73.51 58 ⇓P **P 04 25 06.9 -0.2**
baz=73,SNR=5.7
PFO Pinyon Flat Ob 73.51 58 *e*P **P 04 25 07.6 +0.5**
comp=Z,15nm,1.0s,mb4.9
PFO LR LR
comp=Z,780nm,21.0s,MS5.0
TREC Trest 73.54 327 *e*P **P 04 25 07.6 +0.6**
TREC *e*pP pP 04 25 09.2 -2.4
TREC *e*S S 04 34 39.8 +3.6
TREC AMS AMS 05 00 40.0
comp=Z,2μm,15.7s
MODS Modra-Piesok 73.60 325 *e*P **P 04 25 07.9 +0.5**
BUD Budapest 73.62 324 ⇓*e*P **P 04 25 08.5 +1.0**
Q19A Hogan Spring (73.65 50 ⇓P **P 04 25 07.4 -0.4**
baz=73,SNR=26
GZR Gura Zlata 73.67 320 ⇑*i*P **P 04 25 08.3 +0.4**
GZR Gura Zlata 73.67 320 P **P 04 25 08.3 +0.4**
IBBN Ibbenburen 73.70 333 *e*P **P 04 25 08.7 +0.8**
comp=Z,34nm,0.9s,mb5.3
R18A Canyonlands Na 73.73 51 ⇓P **P 04 25 07.7 -0.7**
baz=74,SNR=7.0
NEE2 Needles Airpor 73.74 56 ⇑P **P 04 25 08.0 -0.5**
baz=74
WERD Werda 73.75 329 *e*P **P 04 25 08.2 0.0**
comp=Z,35nm,1.4s,mb5.1
S17A Black Ridge (B 73.80 52 ⇑P **P 04 25 08.6 -0.2**
baz=74,SNR=24
ZST Bratislava 73.81 325 *e*P **P 04 25 09.1 +0.5**
ZST pmax pmax
comp=Z,32nm,1.3s,mb5.1
ZST Bratislava 73.81 325 *e*P **P 04 25 09.1 +0.5**
comp=Z,32nm,1.3s,mb5.1
MOX Moxa 73.83 330 *e*P **P 04 25 08.8 +0.1**
comp=Z,35nm,1.4s,mb5.1
MOX *e* 04 28 03.0
MOX
comp=Z,2μm,19.0s
MOX Moxa 73.83 330 *e*P **P 04 25 08.8 +0.1**
MOX *e* 04 28 03.0
MOX pmax pmax
comp=Z,35nm,1.4s,mb5.1
MOX MLR MLR
comp=Z,2μm,19.0s,MS5.3
MOX Moxa 73.83 330 *e*P **P 04 25 08.4 -0.3**
comp=Z,32nm,1.3s,mb5.1
U15A North Rim 73.86 54 ⇑P **P 04 25 09.2 +0.1**
baz=74,SNR=26
WERN Wernitzgruen 73.86 329 *e*P **P 04 25 09.1 +0.2**
comp=Z,24nm,1.1s,mb5.0
IRM Iron Mountain 73.87 57 ⇓P **P 04 25 09.0 -0.3**
baz=74,SNR=21
NKC Novy Kostel 73.88 329 *e*P **P 04 25 09.5 +0.5**
NKC *e*pP pP 04 25 10.9 -2.7
NKC *e*PP PP 04 28 01.5 +8.4
NKC *e*S S 04 34 47.3 +7.3
NKC AMS AMS 04 57 50.0
comp=Z,2μm,20.5s
NKC Novy Kostel 73.88 329 *e*P **P 04 25 09.5 +0.5**
NKC *e*pP pP 04 25 10.9 -2.7
NKC *e*PP PP 04 28 01.5 +8.4
NKC *e*S S 04 34 47.3 +7.3
T16A Glen Canyon Da 73.89 53 ⇑P **P 04 25 09.6 +0.3**
baz=74
W13A Hualapai Mount 73.92 56 ⇑P **P 04 25 09.5 0.0**
baz=74,SNR=7.4
V14A Boquillas Ranc 73.98 55 ⇓P **P 04 25 09.5 -0.4**
baz=74,SNR=24
BZS Buzias 74.01 321 ⇑*i*P **P 04 25 10.0 +0.2**
BZS Buzias 74.01 321 P **P 04 25 09.8 0.0**
MONP Monument Peak 74.04 59 ⇑P **P 04 25 09.8 -0.4**
baz=74,SNR=5.1
BAR Barrett 74.04 59 *e*P **P 04 25 10.2 0.0**
comp=Z,8.1nm,0.9s,mb4.7
BAR LR LR
comp=Z,542nm,22.0s,MS4.8
ESK Eskdalemuir 74.04 340 PFAKE 04 25 20.0 +10
ESK LR LR
comp=Z,854nm,20.0s,MS5.0
BC3 Big Chuckw Mtn 74.06 58 P **P 04 25 10.5 +0.2**
baz=74,SNR=6.8
R19A Curley Farm, L 74.14 51 ⇑P **P 04 25 10.8 +0.1**
baz=74
S18A Hurst Farm, Bl 74.19 52 ⇑P **P 04 25 10.5 -0.5**
baz=74,SNR=33
PV10 Paradox Valley 74.20 50 *e*P **P 04 25 12.3 +1.3**
MANZ Manzenberg 74.21 329 *e*P **P 04 25 10.7 -0.2**
comp=Z,14nm,1.2s,mb4.8
UBBA Unterbreizbach 74.23 331 *e*P **P 04 25 10.6 -0.5**
comp=Z,23nm,1.3s,mb5.0
T17A Navajo Res., N 74.26 53 ⇓P **P 04 25 11.2 -0.3**
baz=74,SNR=9.0
ESKT Eskisehir 74.28 311 *i*P **P 04 25 10.4 -1.2**
ELBA Catalca 74.29 314 *i*P **P 04 25 12.7 +1.2**
WTSB Winterswijk 74.29 333 ⇑*i*P **P 04 25 11.1 -0.2**
comp=Z,45nm,1.6s,mb5.2
W14A Seligman 74.30 55 P **P 04 25 11.9 +0.3**
baz=74,SNR=12
X13A Yucca 74.32 56 P **P 04 25 12.0 +0.2**
baz=74,SNR=27
ROTZ Rotzenmuhle 74.36 329 *e*P **P 04 25 11.9 +0.1**
comp=Z,22nm,1.2s,mb5.0
V15A Kaibab Nationa 74.36 54 ⇓P **P 04 25 12.1 0.0**
baz=74,SNR=20
KDHN Kadinhani 74.37 310 *i*P **P 04 25 10.7 -1.4**
SWSC Sam W. Stewart 74.37 59 ⇑P **P 04 25 11.1 -1.0**
baz=74
KHC Kasperske Hory 74.39 328 *e*P **P 04 25 11.9 -0.1**
KHC *e**PP pP 04 25 14.2 -2.4
KHC *e* 04 27 58.6
KHC MLR MLR
comp=Z,3μm,17.9s,MS5.6
KHC Kasperske Hory 74.39 328 *e*P **P 04 25 11.9 -0.1**
KHC *e*pP pP 04 25 14.2 -2.4
KHC *e*PP PP 04 27 58.6 +1.1
KHC *e*S S 04 34 53.9 +8.2
KHC *e*x x 04 40 26.9
KHC AMS AMS 05 00 40.0
comp=Z,3μm,17.9s
SOP Sopron 74.44 325 ⇓*e*P **P 04 25 13.7 +1.4**
CONA Conrad Observa 74.52 326 *i*P **P 04 25 13.7 +0.9**
comp=Z,39nm,1.0s,mb5.3,SNR=21
CONA Conrad Observa 74.52 326 *i*pP **P 04 25 13.7 +0.9**
comp=Z,39nm,1.0s,mb5.3,SNR=21
CSNA Conrad Observa 74.52 326 ⇓*i*P **P 04 25 13.5 +0.7**
comp=Z,36nm,1.0s,mb5.3
CSNA Conrad Observa 74.52 326 ⇓*i*pP **P 04 25 13.5 +0.7**
comp=Z,36nm,1.0s,mb5.3
Y12C Blythe 74.53 57 ⇓P **P 04 25 12.6 -0.4**
baz=74,SNR=7.7
GEC2 GERESS Array S 74.58 327 *e*P **P 04 25 12.9 -0.2**
GEC2 pmax pmax
comp=Z,13nm,1.0s,mb4.8
GEC2 GERESS Array S 74.58 327 *e*P **P 04 25 12.9 -0.2**
comp=Z,13nm,1.0s,mb4.8
GERES GERESS Array B 74.58 327 P **P 04 25 12.4 -0.7**
comp=Z,6.9nm,0.8s,mb4.6,baz=36,slow=5.6,SNR=38
GERES LR LR 05 01 04.0
comp=Z,2μm,20.0s,MS5.5,baz=30,slow=38
BUG Bochum--Univer 74.60 332 *e*P **P 04 25 13.1 -0.1**
comp=Z,54nm,1.4s,mb5.3
S19A Harvey Farm, M 74.61 51 ⇑P **P 04 25 13.1 -0.4**
baz=74,SNR=13
PV01 Paradox Valley 74.62 50 *e*P **P 04 25 13.9 +0.3**
U17A Shonto 74.63 53 ⇑P **P 04 25 13.5 -0.1**
baz=74,SNR=6.6
WET Wettzell 74.63 328 *e*P **P 04 25 13.6 +0.2**
WET pmax pmax
comp=Z,31nm,1.1s,mb5.2
WET Wettzell 74.63 328 *e*P **P 04 25 13.6 +0.2**
comp=Z,31nm,1.1s,mb5.2
T18A Mexican Hat 74.66 52 P **P 04 25 13.4 -0.3**
baz=74,SNR=29
ULDT Uludag 74.69 313 *i*P **P 04 25 14.0 +0.1**
GRA1 Grafenberg Arr 74.77 329 *e*P **P 04 25 14.6 +0.4**
comp=Z,51nm,1.1s,mb5.4
GRA1 *e*S S 04 34 54.5 +4.5
GRA1 LR LR
comp=Z,2μm,18.9s,MS5.4
GRF Grafenberg Arr 74.77 329 *e*P **P 04 25 14.6 +0.4**
GRF *e*S S 04 34 54.5 +4.5
GRF pmax pmax
comp=Z,51nm,1.1s,mb5.4
GRF MLR MLR
comp=Z,2μm,18.9s,MS5.4
GRF Grafenberg Arr 74.77 329 *e*P **P 04 25 14.6 +0.4**
GRF *e*S S 04 34 54.5 +4.5
GRF pmax pmax
comp=Z,51nm,1.1s,mb5.4
GRF MLR MLR
comp=Z,2μm,18.9s,MS5.4
GRF Grafenberg Arr 74.77 329 *e*P **P 04 25 14.6 +0.4**
GRF *e*S S 04 34 54.5 +4.5
GRF *e*L 05 00 55.6
comp=Z,2μm,18.9s
W15A Williams 74.78 55 ⇓P **P 04 25 15.0 +0.5**
baz=75
PKSM Moragy 74.79 323 ⇓*i*P **P 04 25 14.4 0.0**
PKSM Moragy 74.79 323 P **P 04 25 14.2 -0.2**
EYMN Ely 74.80 34 PFAKE 04 25 30.0 +16
EYMN LR LR
comp=Z,1μm,19.0s,MS5.2
GLA Glamis 74.86 58 ⇓P **P 04 25 14.9 0.0**
baz=75
GLA Glamis 74.86 58 PFAKE 04 25 30.0 +15
GLA LR LR
comp=Z,636nm,21.0s,MS4.9
Y13A Salome 74.88 57 ⇑P **P 04 25 15.1 -0.1**
baz=75
ISCO Idaho Springs 74.91 47 PFAKE 04 25 30.0 +15
ISCO LR LR
comp=Z,861nm,21.0s,MS5.0
X14A Yava 74.94 56 ⇓P **P 04 25 15.7 +0.3**
baz=75,SNR=6.6
WUAZ Wupatki 75.03 54 ⇑P **P 04 25 16.4 +0.5**
baz=75
WUAZ Wupatki 75.03 54 PFAKE 04 25 30.0 +14
WUAZ LR LR
comp=Z,643nm,21.0s,MS4.9
MOA Molln 75.19 326 ⇑*i*P **P 04 25 16.7 0.0**
comp=Z,13nm,0.8s,mb4.9,SNR=7.4
MOA Molln 75.19 326 ⇑*i*pP **P 04 25 16.7 0.0**
comp=Z,13nm,0.8s,mb4.9,SNR=7.4
U18A Rough Rock, Ch 75.19 52 ⇑P **P 04 25 16.7 -0.1**
baz=75,SNR=9.7
ARSA Arzberg 75.20 325 ⇑*i*P **P 04 25 17.2 +0.5**
comp=Z,24nm,1.1s,mb5.0,SNR=15
ARSA Arzberg 75.20 325 ⇑*i*pP **P 04 25 17.2 +0.5**
comp=Z,24nm,1.1s,mb5.0,SNR=15
SART Tekirdag 75.25 314 *i*P **P 04 25 16.7 -0.4**
W16A Flagstaff 75.25 54 ⇑P **P 04 25 17.6 +0.4**
baz=75,SNR=5.3
Y14A Wickenburg 75.26 56 P **P 04 25 17.5 +0.2**
baz=75,SNR=17
X15A Humboldt 75.30 55 P **P 04 25 18.0 +0.5**
baz=75,SNR=22
GDZ Gediz 75.31 312 *i*P **P 04 25 16.6 -0.9**
MVCO Mesa Verde 75.35 51 ⇑P **P 04 25 17.6 -0.2**
baz=75
MVCO Mesa Verde 75.35 51 PFAKE 04 25 30.0 +12
MVCO LR LR
comp=Z,546nm,22.0s,MS4.8
T19A Beclabito 75.35 52 ⇓P **P 04 25 17.5 -0.3**
baz=75,SNR=10
112A Yuma 75.37 58 ⇑P **P 04 25 17.7 -0.3**
baz=75
DURS Dursunbey 75.44 313 *i*P **P 04 25 17.7 -0.5**
HGN Heimansgroeve 75.61 333 ⇑*i*P **P 04 25 18.6 -0.4**
comp=Z,26nm,0.9s,mb5.2
HGN Heimansgroeve 75.61 333 *e*PP PP 04 28 09.6 +1.9
HGN Heimansgroeve 75.61 333 *i*S S 04 35 07.4 +8.2
HGN Heimansgroeve 75.61 333 *e*SS SS 04 39 42.3 -6.8
Y15A Casa Rosa Ranc 75.63 56 ⇓P **P 04 25 19.4 -0.1**
baz=75,SNR=9.7
BEBN Eben Emael 75.66 333 P **P 04 25 19.6 +0.3**
comp=Z,8.0nm,1.2s,mb4.5
TKTP Tekketepe 75.67 311 *i*P **P 04 25 18.4 -1.2**
VTS Vitosha 75.67 318 P **P 04 25 20.0 +0.5**
VTS Vitosha 75.67 318 ⇓*i*P **P 04 25 19.4 -0.1**
RZN Rozhen 75.67 317 P **P 04 25 19.0 -0.5**
TOD Tromm 75.67 331 *e*P **P 04 25 19.1 -0.3**
113A Mohawk Valley, 75.67 57 ⇓P **P 04 25 18.9 -0.8**
baz=76,SNR=6.9
V18A Ganado 75.68 53 ⇓P **P 04 25 19.3 -0.4**
baz=76,SNR=23
ISP Isparta 75.72 310 PFAKE 04 25 30.0 +10
ISP LR LR
comp=Z,2μm,19.0s,MS5.4
Z14A Wintersburg 75.72 56 ⇓P **P 04 25 19.6 -0.3**
baz=76
MEM Membach 75.72 333 P **P 04 25 19.2 -0.4**
comp=Z,14nm,1.2s,mb4.8
W17A Winslow 75.72 54 ⇑P **P 04 25 19.8 -0.1**
baz=76
BALY Balya 75.76 313 *i*P **P 04 25 19.7 -0.4**
X16A Lo Mia Camp, P 75.80 55 ⇑P **P 04 25 20.6 +0.3**
baz=76,SNR=8.5
RJOB Jochberg 75.84 327 *e*P **P 04 25 21.2 +0.8**
comp=Z,29nm,1.2s,mb5.1
KHAL Karahalli 75.85 311 *i*P **P 04 25 19.9 -0.6**
SCHQ Schefferville 75.86 17 P **P 04 25 19.4 -0.9**
comp=Z,18nm,0.7s,mb5.1,baz=6.7,slow=6.9,SNR=14
SCHQ Schefferville 75.86 17 *e*P **P 04 25 19.7 -0.6**
comp=Z,59nm,1.2s,mb5.4
SCHQ LR LR
comp=Z,1μm,21.0s,MS5.1
SOKA Soboth 75.86 325 ⇑*i*P **P 04 25 20.4 -0.2**
PERS Pernice 75.87 325 *i*P **P 04 25 20.2 -0.3**
FUR Furstenfeldbru 76.03 328 *e*P **P 04 25 22.0 +0.5**
FUR pmax pmax
comp=Z,77nm,1.2s,mb5.5
FUR Furstenfeldbru 76.03 328 *e*P **P 04 25 22.0 +0.5**
comp=Z,77nm,1.2s,mb5.5
UCC Uccle 76.06 334 P **P 04 25 23.1 +1.5**
BCLA Clavier 76.10 333 P **P 04 25 21.4 -0.5**
comp=Z,15nm,1.5s,mb4.7
ECSD EROS,Sioux Fal 76.11 40 PFAKE 04 25 30.0 +8.0
ECSD LR LR
comp=Z,2μm,21.0s,MS5.3
V19A Window Rock 76.16 52 ⇓P **P 04 25 22.3 -0.1**
baz=76
RUP Ruppelstein 76.17 332 *e*P **P 04 25 21.7 -0.5**
Y16A Circle Bar Ran 76.17 55 ⇑P **P 04 25 22.2 -0.3**
baz=76,SNR=10

KBA Koelnbreinsper 76.18 327⇑*i*P P 04 25 22.7 +0.3
comp=Z,54nm,0.9s,mb5.5,SNR=43
KBA Koelnbreinsper 76.18 327⇑*i*pP P 04 25 22.7 +0.3
comp=Z,54nm,0.9s,mb5.5,SNR=43
KBA Koelnbreinsper 76.18 327⇑*i*P P 04 25 22.7 +0.4
KBA pmax pmax
comp=Z,54nm,0.9s,mb5.5
OBKA Obir 76.19 326⇓*i*P P 04 25 22.1 -0.3
comp=Z,23nm,0.9s,mb5.1,SNR=11
MMB Musomiste 76.21 317 P P 04 25 22.8 +0.2
X17A Forest Lakes 76.21 54⇑P P 04 25 22.4 -0.3
baz=76,SNR=6.7
W18A Petrified Fore 76.23 53⇓P P 04 25 22.6 -0.2
baz=76
STU Stuttgart 76.25 330 *e*P P 04 25 23.8 +1.1
comp=Z,37nm,1.0s,mb5.3
AKHS Akhisar 76.32 313 *i* P P 04 25 22.3 -1.0
ASF Jabal al Asfar 76.38 303 LR LR 05 02 52.3
comp=Z,595nm,18.6s,MS4.9,baz=266,slow=39
W19A Sanders 76.42 53⇓P P 04 25 23.9 0.0
baz=76
MYKA Terra Mystica 76.44 326⇓*i*P P 04 25 23.5 -0.3
comp=Z,43nm,1.0s,mb5.3
BOZC Bozcaada 76.45 314 *i* P P 04 25 23.4 -0.6
WLF Walferdange 76.49 332 PFAKE 04 25 40.0 +16
WLF LR LR
comp=Z,2µm,21.0s,MS5.3
SDCO Great Sand Dun 76.52 49 PFAKE 04 25 40.0 +16
SDCO LR LR
comp=Z,585nm,20.0s,MS4.9
GIVF Givet 76.53 333 *e*P P 04 25 23.4 -0.9
LANF Langenberg 76.55 331 *e*P P 04 25 23.9 -0.5
X18A Snowflake 76.55 54⇓P P 04 25 24.4 -0.2
baz=76
Z16A Peralta Trail, 76.60 55⇑P P 04 25 24.6 -0.3
baz=76
DOU Dourbes 76.61 333 P P 04 25 24.6 -0.1
comp=Z,12nm,1.7s,mb4.6
115A Sonoran Desert 76.61 56⇑P P 04 25 24.2 -0.8
baz=76
MMAI Mount Meron Ar 76.62 304 LR LR 05 03 22.1
comp=Z,2µm,18.1s,MS5.4,baz=15,slow=39
WATA Walderalm 76.62 328⇓*i*P P 04 25 24.9 0.0
comp=Z,44nm,1.1s,mb5.3,SNR=6.8
WATA Walderalm 76.62 328⇓*i*pP P 04 25 24.9 0.0
comp=Z,44nm,1.1s,mb5.3,SNR=6.8
WATA Walderalm 76.62 328⇓*i*P P 04 25 24.9 +0.1
WATA pmax pmax
comp=Z,44nm,1.1s,mb5.3
VISS Visnje 76.66 325 *i* P P 04 25 24.7 -0.4
Y17A Roosevelt 76.66 55⇓P P 04 25 24.6 -0.7
baz=76,SNR=6.6
WTTA Wattenberg 76.66 328⇑*i*P P 04 25 24.6 -0.5
comp=Z,94nm,1.5s,mb5.5,SNR=25
WTTA Wattenberg 76.66 328⇑*i*P P 04 25 24.6 -0.5
WTTA pmax pmax
comp=Z,94nm,1.5s,mb5.5
BOJS Bojanci 76.75 325 *e*P P 04 25 25.1 -0.5
BAIF Baives 76.76 333 *e*P P 04 25 24.7 -0.8
MOTA Moosalm 76.79 328⇓*i*P P 04 25 25.7 -0.1
comp=Z,66nm,1.2s,mb5.5,SNR=29
MOTA Moosalm 76.79 328⇓*i*P P 04 25 25.7 -0.1
MOTA pmax pmax
comp=Z,66nm,1.2s,mb5.4
RETA Reutte 76.79 328⇑*i*P P 04 25 25.8 0.0
comp=Z,34nm,1.3s,mb5.1,SNR=14
RETA Reutte 76.79 328⇑*i*pP P 04 25 25.8 0.0
comp=Z,34nm,1.3s,mb5.1,SNR=14
214A Organ Pipe Nat 76.82 57⇑P P 04 25 26.1 -0.2
baz=77
VOY Vojsko 76.84 326 *e*P P 04 25 25.7 -0.4
JAVS Javornik 76.89 325 *i* P P 04 25 25.5 -0.9
BFO Black Forest 76.93 330 *e*P P 04 25 26.2 -0.3
BFO pmax pmax
comp=Z,37nm,1.1s,mb5.2
BFO MLR MLR
comp=Z,872nm,19.0s,MS5.1
BFO Black Forest 76.93 330 *e*P P 04 25 26.2 -0.3
comp=Z,37nm,1.1s,mb5.2
BFO LR LR
comp=Z,872nm,19.0s,MS5.1
VAY Valandovo 76.96 318⇑*i*P P 04 25 26.1 -0.8
SKO Skopje 76.96 319⇑*e*P P 04 25 26.5 -0.4
SPAK Spaichingen-Ko 76.97 330 *e*P P 04 25 26.7 -0.1
X19A St. Johns 76.99 53⇓P P 04 25 27.0 -0.1
baz=77,SNR=43
116A Eloy 77.01 56⇓P P 04 25 27.3 +0.1
baz=77
Y18A Canyon Day Jun 77.06 54⇓P P 04 25 27.0 -0.5
baz=77,SNR=24
Z17A San Carlos Hig 77.17 55⇓P P 04 25 27.9 -0.2
baz=77
FETA Feichten 77.20 328⇑*i*P P 04 25 28.5 +0.4
comp=Z,42nm,1.2s,mb5.2,SNR=24
FETA Feichten 77.20 328⇑*i*pP P 04 25 28.5 +0.4
comp=Z,42nm,1.2s,mb5.2,SNR=24
AYDN Tasoluk 77.21 312 *i* P P 04 25 28.1 -0.2
CDF Champ du Feu 77.21 331 *e*P P 04 25 27.6 -0.5
comp=Z,66nm,1.2s,mb5.1
CDF Champ du Feu 77.21 331 *e*P P 04 25 27.6 -0.5
CDF pmax pmax
comp=Z,33nm,1.2s,mb5.1
CDF Champ du Feu 77.21 331 *e*P P 04 25 27.6 -0.5
comp=Z,33nm,1.2s,mb5.1
COWI Conover 77.23 34 PFAKE 04 25 40.0 +12
COWI LR LR
comp=Z,511nm,20.0s,MS4.8
DAVA Damuels 77.28 329⇑*i*P P 04 25 28.3 -0.2
comp=Z,39nm,1.0s,mb5.3,SNR=21
Y19A Nutrioso 77.36 54⇓P P 04 25 29.7 +0.5
baz=77,SNR=5.9
ECH Echery 77.42 331 *e*P P 04 25 27.8 -1.5
ECH Echery 77.42 331 *e*P P 04 25 29.2 -0.1
FELD Feldberg im Sc 77.43 330 *e*P P 04 25 28.9 -0.5
TURN Turunc 77.44 311 *i* P P 04 25 31.8 +2.1
KRUS Krusevo 77.53 318⇑*i*P P 04 25 30.6 +0.6
117A Oracle 77.55 56⇑P P 04 25 30.1 -0.2
baz=77
216A Three Points, 77.56 56⇑P P 04 25 30.3 -0.1
baz=77,SNR=6.8
Z18A Geronimo 77.57 55⇑P P 04 25 30.2 -0.2
baz=77
DAVOX Davos/Dischmat 77.71 328 LR LR 05 01 39.0
comp=Z,2µm,18.7s,MS5.4,baz=22,slow=37
TUC Tucson 77.72 56 *e*P P 04 25 31.6 +0.3
TUC pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TUC MLR MLR
comp=Z,410nm,22.0s,MS4.7
TUC Tucson 77.72 56 *e*P P 04 25 31.6 +0.4
comp=Z,4.5nm,0.8s,mb4.5
TUC LR LR
comp=Z,410nm,22.0s,MS4.7
MOF Molkenrain 77.75 331 *e*P P 04 25 28.9 -2.2
THEF They Montfort 77.80 332 *e*P P 04 25 27.8 -3.6
Z19A T-Link Ranch, 77.84 54⇑P P 04 25 32.1 +0.2
baz=78
MEZF Maizieres J'vi 77.86 332 *e*P P 04 25 31.4 -0.4
comp=Z,90nm,1.2s,mb5.3
MEZF Maizieres J'vi 77.86 332 *e*P P 04 25 31.4 -0.4
comp=Z,90nm,1.2s,mb5.6
HINF Hinteralfeld 77.87 331 *e*P P 04 25 30.7 -1.1
comp=Z,36nm,1.2s,mb4.9
HINF Hinteralfeld 77.87 331 *e*P P 04 25 30.7 -1.1
HINF pmax pmax
comp=Z,18nm,1.2s,mb4.9
HINF Hinteralfeld 77.87 331 *e*P P 04 25 30.7 -1.1
comp=Z,18nm,1.2s,mb4.9
BDRM Kayabasi 77.89 312 *i* P P 04 25 32.2 +0.1
118A Homack Ranch, 77.94 55⇓P P 04 25 32.3 -0.2
baz=78,SNR=29
BBS Basel-Blauen 77.95 330 *e*P P 04 25 32.1 -0.2
ANMO Albuquerque 78.13 51⇓*e*P P 04 25 34.6 +1.1
ANMO Albuquerque 78.13 51 PFAKE 04 25 50.0 +16
ANMO LR LR
comp=Z,364nm,20.0s,MS4.7
TUE Stuetta 78.17 329 *e*P P 04 25 33.2 -0.2
comp=Z,40nm,1.2s,mb5.2
LAZ Ladron 78.18 52 *e*P P 04 25 34.6 +0.8
119A Ashpeak Ranch, 78.22 55⇑P P 04 25 34.0 0.0
baz=78
FORT Forrest 78.24 192 *e*P P 04 25 34.3 +0.5
comp=Z,22nm,0.7s,mb5.2
STKA Stephens Creek 78.34 180 *e*P P 04 25 34.5 +0.1
STKA Stephens Creek 78.34 180 P P 04 25 34.4 0.0
comp=Z,5.0nm,0.8s,mb4.5,baz=351,slow=5.7,SNR=8.4
STKA LR LR 04 57 59.8
comp=Z,398nm,19.9s,MS4.8,baz=117,slow=34
218A Dragoon 78.39 56⇑P P 04 25 35.2 +0.2
baz=78,SNR=6.1
CBKS Cedar Bluff 78.57 44 PFAKE 04 25 50.0 +14
CBKS LR LR
comp=Z,713nm,21.0s,MS5.0
BNM Barren Site 78.65 52 *e*P P 04 25 37.2 +0.8
219A White Tail Can 78.81 55⇓P P 04 25 37.9 +0.5
baz=79
318A Bisbee 78.82 56⇓P P 04 25 37.3 -0.1
baz=79,SNR=18
SCIA State Center 79.05 39 PFAKE 04 25 50.0 +12
SCIA LR LR
comp=Z,1µm,20.0s,MS5.3
CABF La Chapelle 79.18 331 *e*P P 04 25 38.6 -0.5
comp=Z,46nm,1.3s,mb5.0
CABF La Chapelle 79.18 331 *e*P P 04 25 38.6 -0.5
CABF pmax pmax
comp=Z,23nm,1.3s,mb5.0
CABF La Chapelle 79.18 331 *e*P P 04 25 38.6 -0.5
comp=Z,23nm,1.3s,mb5.0
OG01 Vacheresse 79.22 330 *e*P P 04 25 39.5 +0.2
319A Douglas 79.27 55⇑P P 04 25 39.6 -0.2
baz=79,SNR=6.3
FLN La Foliniere 79.30 336 *e*P P 04 25 38.8 -0.9
comp=Z,163nm,1.5s,mb5.5
FLN *e*MLR MLR
comp=Z,1µm,22.0s,MS5.0
FLN La Foliniere 79.30 336 *e*P P 04 25 38.8 -0.9
FLN pmax pmax
comp=Z,81nm,1.5s,mb5.4
FLN MLR MLR
comp=Z,1µm,22.0s,MS5.3
FLN La Foliniere 79.30 336 *e*P P 04 25 38.8 -0.9
comp=Z,81nm,1.5s,mb5.4
FLN LR LR
comp=Z,1µm,22.0s,MS5.3
LOR Lormes 79.33 332 *e*P P 04 25 39.0 -0.9
comp=Z,122nm,1.2s,mb5.4
LOR *e*MLR MLR
comp=Z,1µm,22.0s,MS4.9
LOR Lormes 79.33 332 *e*P P 04 25 39.0 -0.9
LOR pmax pmax
comp=Z,61nm,1.2s,mb5.4
LOR MLR MLR
comp=Z,1µm,22.0s,MS5.2
LOR Lormes 79.33 332 *e*P P 04 25 39.0 -0.9
comp=Z,61nm,1.2s,mb5.4
LOR LR LR
comp=Z,1µm,22.0s,MS5.2
EIL Elat 79.35 302 LR LR 05 05 13.7
comp=Z,971nm,18.5s,MS5.2,baz=274,slow=39
LDF La Druitiere 79.35 335 *e*P P 04 25 39.2 -0.8
comp=Z,120nm,1.5s,mb5.3
LDF La Druitiere 79.35 335 *e*P P 04 25 39.2 -0.8
LDF pmax pmax
comp=Z,60nm,1.5s,mb5.3
LDF La Druitiere 79.35 335 *e*P P 04 25 39.2 -0.8
comp=Z,60nm,1.5s,mb5.3
SANT Santorini 79.44 313 PFAKE 04 25 50.0 +9.3
SANT LR LR
comp=Z,842nm,20.0s,MS5.1
JFWS Jewell Farm 79.46 36 PFAKE 04 25 50.0 +9.4
JFWS LR LR
comp=Z,759nm,19.0s,MS5.1
GRAM Graiana 79.60 327 P P 04 25 41.3 -0.1
SSF Saint Saulge 79.63 332 *e*P P 04 25 40.6 -0.9
comp=Z,36nm,1.1s,mb4.9
SSF Saint Saulge 79.63 332 *e*P P 04 25 40.6 -0.9
SSF pmax pmax
comp=Z,18nm,1.1s,mb4.9
SSF Saint Saulge 79.63 332 *e*P P 04 25 40.6 -0.9
comp=Z,18nm,1.1s,mb4.9
VALM Valbona 79.65 327 P P 04 25 41.5 -0.2
HYF Humbligny 79.71 333 *e*P P 04 25 41.5 -0.5
SARO Sassorosso 79.73 327 P P 04 25 41.9 -0.2
GRR Gorron 79.75 336 *e*P P 04 25 41.4 -0.7
comp=Z,177nm,1.4s,mb5.5
GRR Gorron 79.75 336 *e*P P 04 25 41.4 -0.7
GRR pmax pmax
comp=Z,89nm,1.4s,mb5.5
GRR Gorron 79.75 336 *e*P P 04 25 41.4 -0.7
comp=Z,88nm,1.4s,mb5.5
VLC Villacollemand 79.76 327 PFAKE 04 25 50.0 +7.7
VLC LR LR
comp=Z,2µm,19.0s,MS5.5
CODM Codolo 79.76 327 P P 04 25 41.9 -0.4
BACM Baccana 79.78 327 P P 04 25 42.2 -0.1
RSL Roselend 79.80 330 *e*P P 04 25 42.6 +0.1
LSD Lago del Serru 79.82 329 P P 04 25 43.0 +0.5
KSU1 Kansas State U 79.82 42 PFAKE 04 25 50.0 +7.3
KSU1 LR LR
comp=Z,965nm,22.0s,MS5.1
VINC Vinca 79.86 327 P P 04 25 42.2 -0.6
SC2M Scurtabo 79.87 327 P P 04 25 42.2 -0.7
SMF Signal de Mont 79.89 332 *e*P P 04 25 42.2 -0.7
comp=Z,143nm,1.1s,mb5.5
SMF Signal de Mont 79.89 332 *e*P P 04 25 42.2 -0.7
SMF pmax pmax
comp=Z,72nm,1.1s,mb5.5
SMF Signal de Mont 79.89 332 *e*P P 04 25 42.2 -0.7
comp=Z,72nm,1.1s,mb5.5
OG05 Jujurieux 79.89 331 *e*P P 04 25 41.9 -1.0
LPL La Plagne 79.91 330 *e*P P 04 25 43.1 0.0
comp=Z,45nm,1.0s,mb5.1
LPL La Plagne 79.91 330 *e*P P 04 25 43.1 0.0
LPL pmax pmax
comp=Z,22nm,1.0s,mb5.0
LPL La Plagne 79.91 330 *e*P P 04 25 43.1 0.0
comp=Z,22nm,1.0s,mb5.0
AVF Avril sur Loir 79.92 332 *e*P P 04 25 42.4 -0.7
comp=Z,208nm,1.3s,mb5.6
AVF Avril sur Loir 79.92 332 *e*P P 04 25 42.4 -0.7
AVF pmax pmax
comp=Z,104nm,1.3s,mb5.6
AVF Avril sur Loir 79.92 332 *e*P P 04 25 42.4 -0.7
comp=Z,104nm,1.3s,mb5.6
LPG La Plagne 79.92 330 *e*P P 04 25 43.2 +0.1
comp=Z,104nm,1.3s,mb5.3
LPG La Plagne 79.92 330 *e*P P 04 25 43.2 +0.1
LPG pmax pmax
comp=Z,52nm,1.3s,mb5.3
LPG La Plagne 79.92 330 *e*P P 04 25 43.2 +0.1
comp=Z,52nm,1.3s,mb5.3
MAIM Mastiano 79.93 327 P P 04 25 42.1 -1.1
GLMI Grayling 79.99 32 PFAKE 04 25 50.0 +6.5
GLMI LR LR
comp=Z,968nm,19.0s,MS5.2
RSP Reno Superiore 80.05 329 P P 04 25 43.9 +0.1
AQU L'Aquila 80.11 324 *e*P P 04 25 44.8 +0.6
AQU pmax pmax
comp=Z,58nm,1.1s,mb5.4
AQU MLR MLR
comp=Z,2µm,19.0s,MS5.4
AQU L'Aquila 80.11 324⇓*i*P P 04 25 45.3 +1.1
AQU L'Aquila 80.11 324 *e*P P 04 25 44.8 +0.6
comp=Z,58nm,1.1s,mb5.4
AQU LR LR
comp=Z,2µm,19.0s,MS5.4
PCP Piancastagn 80.11 328 P P 04 25 44.7 +0.5
BGF Bois d'Agland 80.28 333 *e*P P 04 25 44.4 -0.6
comp=Z,70nm,1.3s,mb5.1
BGF Bois d'Agland 80.28 333 *e*P P 04 25 44.4 -0.6
BGF pmax pmax
comp=Z,35nm,1.3s,mb5.1
BGF Bois d'Agland 80.28 333 *e*P P 04 25 44.4 -0.6
comp=Z,35nm,1.3s,mb5.1
BHB Bricherasio 80.31 329 P P 04 25 44.8 -0.4
BNI Bardonecchia 80.33 330 *e*P P 04 25 45.7 +0.3
BNI pmax pmax
comp=Z,41nm,1.3s,mb5.2
BNI MLR MLR
comp=Z,2µm,22.0s,MS5.3
BNI Bardonecchia 80.33 330 *e*P P 04 25 45.7 +0.3
comp=Z,41nm,1.3s,mb5.2
BNI LR LR
comp=Z,2µm,22.0s,MS5.3
SGMF Saint Gilles 80.34 337 *e*P P 04 25 45.0 -0.3
RRL Rocca Remolon 80.41 329 P P 04 25 45.5 -0.3
ROSF Rostrenen 80.45 337 *e*P P 04 25 45.6 -0.3
comp=Z,154nm,1.4s,mb5.5
ROSF Rostrenen 80.45 337 *e*P P 04 25 45.6 -0.3
ROSF pmax pmax
comp=Z,77nm,1.4s,mb5.4
ROSF Rostrenen 80.45 337 *e*P P 04 25 45.6 -0.3
comp=Z,77nm,1.4s,mb5.4
FIN Finale Ligure 80.52 328 P P 04 25 44.9 -1.5
PLDF La Plantade 80.56 332 *e*P P 04 25 46.9 +0.4
IDI Anoyia 80.57 312 LR LR 05 08 46.4
comp=Z,445nm,19.1s,MS4.8,baz=252,slow=41
ROB Robourent 80.57 328 P P 04 25 45.4 -1.2
MBDF Montbardon 80.59 329 *e*P P 04 25 45.9 -0.8
comp=Z,24nm,0.9s,mb4.8
MBDF Montbardon 80.59 329 *e*P P 04 25 45.9 -0.8
MBDF pmax pmax
comp=Z,12nm,0.9s,mb4.8
MBDF Montbardon 80.59 329 *e*P P 04 25 45.9 -0.8
comp=Z,12nm,0.9s,mb4.8
AGO Saint Agoulin 80.64 332 *e*P P 04 25 47.6 +0.6
RORO Rocca Rossa 80.66 328 P P 04 25 45.8 -1.3
AMTX Amarillo 80.69 48 PFAKE 04 26 00.0 +13
AMTX LR LR
comp=Z,451nm,19.0s,MS4.8
TCF Toulx Ste Croi 80.72 333 *e*P P 04 25 47.0 -0.4
comp=Z,54nm,1.1s,mb5.1
TCF Toulx Ste Croi 80.72 333 *e*P P 04 25 47.0 -0.4
TCF pmax pmax
comp=Z,27nm,1.1s,mb5.1
TCF Toulx Ste Croi 80.72 333 *e*P P 04 25 47.0 -0.4
comp=Z,27nm,1.1s,mb5.1
ORIF Oris-en-Rattie 80.73 330 *e*P P 04 25 47.2 -0.3
comp=Z,41nm,0.9s,mb5.1
ORIF *e*MLR MLR
comp=Z,1µm,21.2s,MS5.0
ORIF Oris-en-Rattie 80.73 330 *e*P P 04 25 47.2 -0.3
ORIF pmax pmax
comp=Z,20nm,0.9s,mb5.0
ORIF Oris-en-Rattie 80.73 330 *e*P P 04 25 47.2 -0.3
comp=Z,20nm,0.9s,mb5.1
STV Sant Anna di V 80.81 329 P P 04 25 45.4 -2.5
QUIF Quistinic 80.81 337 *e*P P 04 25 47.5 -0.4
comp=Z,192nm,1.5s,mb5.5
QUIF Quistinic 80.81 337 *e*P P 04 25 47.5 -0.4
QUIF pmax pmax
comp=Z,96nm,1.5s,mb5.5
QUIF Quistinic 80.81 337 *e*P P 04 25 47.5 -0.4
comp=Z,96nm,1.5s,mb5.5
SSB Saint Sauveur 80.86 331 *e*P P 04 25 48.1 -0.1
SSB Saint Sauveur 80.86 331 *e*P P 04 25 47.6 -0.6
COLF Collangettes 80.93 332 *e*P P 04 25 48.5 -0.1
PYM Petit Puy Mans 80.95 332 *e*P P 04 25 49.1 +0.5
SAOF Saorge 80.95 328 *e*P P 04 25 48.3 -0.4
AUTN L'Aution 80.99 329 *e*P P 04 25 47.2 -1.7
KLBR Kellerberrin 81.02 201 *e*P P 04 25 49.3 +0.4
comp=Z,36nm,0.9s,mb5.3
NEGI Seborga 81.02 328 P P 04 25 47.4 -1.6
TOUF Mont Tournerai 81.04 329 *e*P P 04 25 48.0 -1.1
CUC Castrocucco 81.06 321 *e*P P 04 25 48.3 -1.1
comp=Z,40nm,1.4s,mb5.2
SBF Sospel 81.10 328 *e*P P 04 25 48.3 -1.2
comp=Z,129nm,1.2s,mb5.4
SBF Sospel 81.10 328 *e*P P 04 25 48.3 -1.2
SBF pmax pmax
comp=Z,65nm,1.2s,mb5.4
SBF Sospel 81.10 328 *e*P P 04 25 48.3 -1.2
comp=Z,65nm,1.2s,mb5.4
LUCF Luceram 81.11 329 *e*P P 04 25 49.3 -0.2
MFF Saint Martin d 81.16 335 *e*P P 04 25 49.5 -0.2
comp=Z,172nm,1.5s,mb5.5
MFF Saint Martin d 81.16 335 *e*P P 04 25 49.5 -0.2
MFF pmax pmax
comp=Z,86nm,1.5s,mb5.5
MFF Saint Martin d 81.16 335 *e*P P 04 25 49.5 -0.2
comp=Z,86nm,1.5s,mb5.5
MVIF Mont Vial 81.17 329 *e*P P 04 25 49.3 -0.6
VIVF Saint-Julien-l 81.19 331 *e*P P 04 25 49.7 -0.3
comp=Z,63nm,1.0s,mb5.2
VIVF Saint-Julien-l 81.19 331 *e*P P 04 25 49.7 -0.3
VIVF pmax pmax
comp=Z,32nm,1.0s,mb5.2
VIVF Saint-Julien-l 81.19 331 *e*P P 04 25 49.7 -0.3
comp=Z,32nm,1.0s,mb5.2
OCF Saint Nazaire 81.22 330 *e*P P 04 25 49.4 -0.7
OG26 St.-Nazaire-De 81.22 330 *e*P P 04 25 49.4 -0.7
REVF Revere 81.23 328 *e*P P 04 25 48.6 -1.6
TIP Timpagrande 81.32 320 *e*P P 04 25 51.3 +0.6
comp=Z,40nm,1.4s,mb5.2
TIP LR LR
comp=Z,829nm,22.0s,MS5.0
LBL Lubilhac 81.33 332 *e*P P 04 25 51.4 +0.7
CALN Calern 81.39 329 *e*P P 04 25 51.2 +0.2
FRF La Foret Royal 81.65 329 *e*P P 04 25 51.3 -1.1
comp=Z,56nm,1.4s,mb5.0
FRF La Foret Royal 81.65 329 *e*P P 04 25 51.3 -1.1
FRF pmax pmax
comp=Z,28nm,1.4s,mb5.0
FRF La Foret Royal 81.65 329 *e*P P 04 25 51.3 -1.1
comp=Z,28nm,1.4s,mb5.0
SMRF Simiane la Rot 81.66 330 *e*P P 04 25 52.1 -0.3
comp=Z,59nm,1.5s,mb5.0
SMRF Simiane la Rot 81.66 330 *e*P P 04 25 52.1 -0.3
comp=Z,59nm,1.5s,mb5.3
PGF Pioggiola 81.66 327 *e*P P 04 25 51.5 -1.0
comp=Z,68nm,1.4s,mb5.1
PGF Pioggiola 81.66 327 *e*P P 04 25 51.5 -1.0
PGF pmax pmax
comp=Z,34nm,1.4s,mb5.1
PGF Pioggiola 81.66 327 *e*P P 04 25 51.5 -1.0
comp=Z,34nm,1.4s,mb5.1
MUN Mundaring 81.77 202 *e*P P 04 25 54.8 +1.9
CORF Corte 81.82 327 *e*P P 04 25 53.2 -0.1
RJF Les Rejaudoux 81.82 333 *e*P P 04 25 53.0 -0.3
comp=Z,114nm,1.5s,mb5.3
RJF *e*MLR MLR
comp=Z,2µm,22.5s,MS5.2
RJF Les Rejaudoux 81.82 333 *e*P P 04 25 53.0 -0.3
RJF pmax pmax
comp=Z,57nm,1.5s,mb5.3
RJF MLR MLR
comp=Z,2µm,22.5s,MS5.5
RJF Les Rejaudoux 81.82 333 *e*P P 04 25 53.0 -0.3
comp=Z,57nm,1.5s,mb5.3
RJF LR LR
comp=Z,2µm,22.5s,MS5.5
LMR La Mourre 81.89 329 *e*P P 04 25 52.7 -1.0
comp=Z,100nm,1.3s,mb5.3
LMR La Mourre 81.89 329 *e*P P 04 25 52.7 -1.0
LMR pmax pmax
comp=Z,50nm,1.3s,mb5.3
LMR La Mourre 81.89 329 *e*P P 04 25 52.7 -1.0
comp=Z,50nm,1.3s,mb5.3
CAF Calviac 81.98 332 *e*P P 04 25 54.3 +0.2
comp=Z,114nm,1.3s,mb5.3
CAF Calviac 81.98 332 *e*P P 04 25 54.3 +0.2
CAF pmax pmax
comp=Z,57nm,1.3s,mb5.3
CAF Calviac 81.98 332 *e*P P 04 25 54.3 +0.2
comp=Z,57nm,1.3s,mb5.3
LASF Ste Croix 82.16 331 *e*P P 04 25 55.0 -0.1
comp=Z,74nm,1.3s,mb5.2
WMOK Wichita Mounta 82.26 46 *e*P P 04 25 54.8 -1.0
WMOK pmax pmax
comp=Z,24nm,1.4s,mb4.9
WMOK MLR MLR
comp=Z,457nm,19.0s,MS4.9
WMOK Wichita Mounta 82.26 46 *e*P P 04 25 54.8 -1.0
comp=Z,24nm,1.4s,mb4.9
WMOK LR LR
comp=Z,457nm,19.0s,MS4.9
LFF La Frestale 82.39 333 *e*P P 04 25 56.3 0.0
comp=Z,179nm,1.4s,mb5.5
LFF La Frestale 82.39 333 *e*P P 04 25 56.3 0.0
LFF pmax pmax
comp=Z,89nm,1.4s,mb5.5
LFF La Frestale 82.39 333 *e*P P 04 25 56.3 0.0
comp=Z,89nm,1.4s,mb5.5
NWAO Narrogin (SRO) 82.42 201 P P 04 25 56.7 +0.4
comp=Z,52nm,0.9s,mb5.5,baz=29,slow=5.5,SNR=12
NWAO Narrogin (SRO) 82.42 201 *e*P P 04 25 56.6 +0.3
NWAO pmax pmax
comp=Z,54nm,1.0s
NWAO Narrogin (SRO) 82.42 201 *e*P P 04 25 56.6 +0.3
comp=Z,54nm,1.0s,mb5.4
CEL Celeste 82.46 320 *e*P P 04 25 56.1 -0.6
comp=Z,46nm,1.4s,mb5.2
AAM Ann Arbor 82.52 32 PFAKE 04 26 10.0 +13
AAM LR LR
comp=Z,537nm,21.0s,MS4.9
CCM Cathedral Cave 83.09 39 *e*P P 04 25 58.9 -1.1
CCM pmax pmax
comp=Z,21nm,1.2s,mb5.0

CCM MLR MLR
comp=Z,1μm,19.0s,MS5.3
CCM Cathedral Cave 83.09 39 *eP* **P 04 25 58.9 -1.1**
comp=Z,21nm,1.2s,mb5.0
CCM LR LR
comp=Z,1μm,19.0s,MS5.3
MTLF Montolieu 83.35 332 *eP* **P 04 26 01.2 -0.1**
comp=Z,48nm,1.4s,mb5.0
MTLF Montolieu 83.35 332 *eP* **P 04 26 01.2 -0.1**
MTLF pmax pmax
comp=Z,24nm,1.4s,mb5.0
MTLF Montolieu 83.35 332 *eP* **P 04 26 01.2 -0.1**
comp=Z,24nm,1.4s,mb5.0
LONY Lake Ozonia 83.45 25 PFAKE 04 26 10.0 +8.2
LONY LR LR
comp=Z,749nm,20.0s,MS5.1
LRDF Laroque-de-Fa 83.61 331 *eP* **P 04 26 03.7 +1.1**
OLIL Olney 83.85 37 *eP* **P 04 26 03.1 -0.9**
comp=Z,22nm,0.8s,mb5.3
EJON La Jonquera 83.93 331 P **P 04 26 04.1 -0.1**
comp=Z,43nm,1.2s,mb5.5
FILF Fillols 83.94 331 *eP* **P 04 26 05.0 +0.7**
CARF Carcanieres 83.95 331 *eP* **P 04 26 05.2 +0.8**
MLS Moulis 84.06 332 *eP* **P 04 26 05.7 +0.8**
TOO Toolangi 84.08 177 *eP* **P 04 26 05.9 +1.1**
NCB Newcomb 84.14 25 *eP* **P 04 26 04.2 -1.1**
comp=Z,24nm,1.1s,mb5.2
NCB LR LR
comp=Z,673nm,20.0s,MS5.0
EPF Esparros 84.23 333 *eP* **P 04 26 05.3 -0.5**
comp=Z,33nm,1.0s,mb5.1
EPF Esparros 84.23 333 *eP* **P 04 26 05.3 -0.5**
EPF pmax pmax
comp=Z,17nm,1.0s,mb5.1
EPF Esparros 84.23 333 *eP* **P 04 26 05.3 -0.5**
comp=Z,17nm,1.0s,mb5.1
RESF Ens 84.44 333 *eP* **P 04 26 08.5 +1.7**
VIEF Viey 84.47 333 *eP* **P 04 26 08.3 +1.3**
LBNH Lisbon 84.55 24 PFAKE 04 26 20.0 +13
LBNH LR LR
comp=Z,752nm,21.0s,MS5.0
ACSO Alum Creek Sta 84.57 33 PFAKE 04 26 20.0 +12
ACSO LR LR
comp=Z,601nm,22.0s,MS4.9
EBIE Bielsa 84.61 333 P **P 04 26 09.3 +1.6**
comp=Z,26nm,1.3s,mb5.2
EALK Alkurruntz 84.63 334 P **P 04 26 08.9 +1.1**
comp=Z,20nm,1.4s,mb5.0
ETSF Etsaut 84.63 333 *eP* **P 04 26 08.2 +0.4**
comp=Z,46nm,1.1s,mb5.2
ETSF Etsaut 84.63 333 *eP* **P 04 26 08.2 +0.4**
ETSF pmax pmax
comp=Z,23nm,1.1s,mb5.2
ETSF Etsaut 84.63 333 *eP* **P 04 26 08.2 +0.4**
comp=Z,23nm,1.1s,mb5.2
SJPF Ste Jean 84.64 334 *eP* **P 04 26 08.1 +0.2**
comp=Z,11nm,0.8s,mb4.7
SJPF Ste Jean 84.64 334 *eP* **P 04 26 08.1 +0.2**
SJPF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
SJPF Ste Jean 84.64 334 *eP* **P 04 26 08.1 +0.2**
comp=Z,5.4nm,0.8s,mb4.7
PARMO Parma 84.90 39 *eP* **P 04 26 09.4 +0.1**
MIAR Mount Ida 84.93 43 *eP* **P 04 26 09.3 -0.2**
MIAR pmax pmax
comp=Z,27nm,1.1s,mb5.3
MIAR Mount Ida 84.93 43 *eP* **P 04 26 09.3 -0.2**
comp=Z,27nm,1.1s,mb5.3
WCI Wyandotte Cave 85.02 36 PFAKE 04 26 20.0 +10
WCI LR LR
comp=Z,1μm,20.0s,MS5.2
JCT Junction City 85.12 50 *eP* **P 04 26 10.5 0.0**
comp=Z,25nm,1.1s,mb5.2
JCT LR LR
comp=Z,50nm,22.0s,MS3.9
ELAN Lanestosa 85.19 335 P **P 04 26 10.2 -0.4**
comp=Z,35nm,1.2s,mb5.4
BINY Binghamton 85.22 27 *eP* **P 04 26 10.4 -0.4**
comp=Z,13nm,0.8s,mb5.1
BINY LR LR
comp=Z,764nm,19.0s,MS5.1
FFD Franklin Falls 85.34 24 *eP* **P 04 26 11.3 0.0**
comp=Z,37nm,1.0s,mb5.5
HBAR Harrisburg 85.43 40 *eP* **P 04 26 12.3 +0.4**
EPOB Poblet 85.51 331 P **P 04 26 12.6 +0.3**
comp=Z,88nm,1.1s,mb5.9
EARI Arriondas 85.62 337 P **P 04 26 12.4 -0.3**
comp=Z,166nm,1.5s,mb6.0
ESAC San Caprasio 85.67 333 P **P 04 26 13.9 +0.8**
comp=Z,122nm,0.8s,mb6.2
RAR Rarotonga 85.76 127 PFAKE 04 26 30.0 +16
RAR LR LR
comp=Z,1.0nm,19.0s
ERTA Horta de San J 86.11 332 P **P 04 26 15.9 +0.6**
comp=Z,97nm,1.3s,mb5.9
EPON Pontenova 86.11 338 P **P 04 26 14.3 -0.9**
comp=Z,82nm,1.0s,mb5.9
MCWV Mont Chateau 86.22 31 *eP* **P 04 26 16.3 +0.5**
comp=Z,26nm,1.0s,mb5.4
MCWV LR LR
comp=Z,865nm,19.0s,MS5.2
HRV Adam Dziewonsk 86.25 24 PFAKE 04 26 30.0 +14
HRV LR LR
comp=Z,502nm,19.0s,MS4.9
ETOS Mallorca 86.34 330 P **P 04 26 17.1 +0.7**
comp=Z,99nm,2.7s,mb5.6
WES Weston 86.43 24 PFAKE 04 26 30.0 +13
WES LR LR
comp=Z,1μm,19.0s,MS5.2
NATX Nacogdoches 86.70 45 *eP* **P 04 26 19.2 +0.9**
comp=Z,69nm,0.9s,mb5.9
NATX LR LR
comp=Z,547nm,20.0s,MS5.0
OXF Oxford 86.86 40 *eP* **P 04 26 18.5 -0.5**
OXF pmax pmax
comp=Z,49nm,1.0s,mb5.7
OXF MLR MLR
comp=Z,567nm,21.0s,MS5.0
OXF Oxford 86.86 40 *eP* **P 04 26 18.5 -0.6**
comp=Z,49nm,1.0s,mb5.7
OXF LR LR
comp=Z,567nm,21.0s,MS5.0
EMOS Mosqueruela 86.90 332 P **P 04 26 20.3 +1.1**
comp=Z,98nm,1.7s,mb5.8
ETOR Torete 86.99 333 P **P 04 26 20.4 +0.8**
ETOR pmax pmax
comp=Z,27nm,1.2s,mb5.3
ETOR Torete 86.99 333 P **P 04 26 20.4 +0.8**
comp=Z,27nm,1.2s,mb5.3
PLAL Pickwick Lake 87.05 39 *eP* **P 04 26 19.0 -0.9**
comp=Z,28nm,1.1s,mb5.4
PLAL LR LR
comp=Z,1μm,20.0s,MS5.3
KEST Kesra 87.39 323 P **P 04 26 20.8 -0.8**
comp=Z,2.7nm,0.7s,mb4.6,baz=300,slow=6.9,SNR=14
KEST LR LR 05 10 48.0
comp=Z,516nm,18.5s,MS5.0,baz=179,slow=39
EIBI Ibiza 87.51 330 P **P 04 26 22.9 +0.8**
comp=Z,26nm,1.1s,mb5.4
TZTN Tazewell 87.57 35 PFAKE 04 26 30.0 +7.5
TZTN LR LR
comp=Z,769nm,19.0s,MS5.1
HKT Hockley 87.59 47 PFAKE 04 26 30.0 +7.3
HKT LR LR
comp=Z,673nm,21.0s,MS5.0
ELN Prospectdale 88.04 33 *eP* **P 04 26 24.0 -0.7**
MVO Moncorvo 88.10 337 *eP* **P 04 26 24.4 -0.5**
MVO Moncorvo 88.10 337 *eS* S 04 37 15.5 +7.2
MVO Moncorvo 88.10 337 *eLR* LR 04 55 50.3
comp=Z,856nm,20.2s
BLA Blacksburg 88.18 32 *eP* **P 04 26 24.5 -0.8**
BLA pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
BLA MLR MLR
comp=Z,918nm,19.0s,MS5.2
BLA Blacksburg 88.18 32 *eP* **P 04 26 24.5 -0.9**
comp=Z,10nm,0.7s,mb5.2
BLA LR LR
comp=Z,918nm,19.0s,MS5.2
TKL Tuckaleechee C 88.25 36 *eP* **P 04 26 24.7 -1.0**
VBMS Vicksburg 88.28 42 *eP* **P 04 26 26.1 +0.2**
comp=Z,47nm,0.8s,mb5.8
VBMS LR LR
comp=Z,885nm,19.0s,MS5.2
KVTX Kingsville 88.47 50 PFAKE 04 26 40.0 +13
KVTX LR LR
comp=Z,534nm,22.0s,MS4.9

ESDC Sonseca Array 88.62 334 P **P 04 26 27.0 -0.3**
comp=Z,5.2nm,0.6s,mb5.0,baz=19,slow=3.5,SNR=24
ESDC LR LR 05 11 21.7
comp=Z,806nm,18.8s,MS5.2,baz=25,slow=39
ESDC Sonseca Array 88.62 334 P **P 04 26 27.6 +0.3**
comp=Z,14nm,0.6s,mb5.5
ETOB Tobarra 88.81 332 P **P 04 26 31.1 +2.8**
comp=Z,199nm,2.8s,mb6.0
PPT Papeete 88.82 117 *eS* S 04 37 06.9 -8.5
comp=Z,434nm,26.5s
PPT *eSS* SS 04 43 02.2 -5.9
comp=Z,337nm,27.0s
PPT *eLQ* 04 50 40.4
comp=Z,495nm,27.0s
PPT *eLR* LR 04 54 47.9
comp=Z,3μm,26.2s,baz=320
PPT Papeete 88.82 117 LR LR 05 03 35.2
comp=Z,883nm,19.2s,MS5.2,baz=282,slow=34
PAB San Pablo 88.85 334 *eP* **P 04 26 28.4 -0.1**
PAB pmax pmax
comp=Z,11nm,0.9s,mb5.2
PAB MLR MLR
comp=Z,1μm,19.0s,MS5.3
PAB San Pablo 88.85 334 *eP* **P 04 26 28.4 -0.1**
comp=Z,11nm,0.9s,mb5.2
PAB LR LR
comp=Z,1μm,19.0s,MS5.3
URVA University of 88.89 30 *eP* **P 04 26 28.8 +0.1**
MTE Manteigas 88.96 337 *eP* **P 04 26 31.4 +2.5**
comp=Z,44nm,1.9s,mb5.5
MTE Manteigas 88.96 337 PFAKE 04 26 40.0 +11
MTE LR LR
comp=Z,571nm,19.0s,MS5.0
EVIA Vianos 89.12 333 P **P 04 26 30.5 +0.7**
EVIA pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
EVIA Vianos 89.12 333 P **P 04 26 30.5 +0.7**
comp=Z,5.6nm,0.6s,mb5.1
EMUR La Murta 89.44 332 P **P 04 26 31.5 +0.3**
comp=Z,17nm,1.5s,mb5.2
PCBR Castelo Branco 89.46 337 *eP* **P 04 26 31.4 +0.1**
comp=Z,34nm,1.1s,mb5.6
PMRV Marv??o 89.82 337 *eP* **P 04 26 33.5 +0.5**
comp=Z,31nm,1.4s,mb5.5
PMRV Marv??o 89.82 337 *eS* S 04 37 28.9 +4.3
PMRV Marv??o 89.82 337 *eLR* LR 04 54 49.0
PMRV A 05 09 21.4
comp=Z,614nm,5.5s
EHUE Huescar 89.90 333 P **P 04 26 35.0 +1.6**
EHUE pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
EHUE Huescar 89.90 333 P **P 04 26 35.0 +1.6**
comp=Z,7.0nm,1.2s,mb4.9
PTOM Tomar 89.92 337 *eP* **P 04 26 32.9 -0.6**
comp=Z,37nm,1.8s,mb5.4
EQES Quesada 90.06 333 P **P 04 26 36.4 +2.2**
comp=Z,14nm,1.3s,mb5.1
EADA Adamuz 90.19 334 P **P 04 26 35.0 +0.3**
comp=Z,20nm,1.3s,mb5.3
GOGA Godfrey 90.33 36 *eP* **P 04 26 34.8 -0.7**
GOGA pmax pmax
comp=Z,34nm,1.1s,mb5.6
GOGA MLR MLR
comp=Z,1μm,20.0s,MS5.4
GOGA Godfrey 90.33 36 *eP* **P 04 26 34.8 -0.7**
comp=Z,34nm,1.1s,mb5.6
GOGA LR LR
comp=Z,1μm,20.0s,MS5.4
EBAD Badajoz 90.35 336 P **P 04 26 35.2 -0.3**
comp=Z,17nm,1.5s,mb5.2
PESTR Estremoz 90.40 337 *eP* **P 04 26 35.3 -0.4**
comp=Z,35nm,1.4s,mb5.5
PESTR Estremoz 90.40 337 *eS* S 04 37 34.6 +4.7
PESTR Estremoz 90.40 337 *eLR* LR 04 54 34.7
comp=Z,648nm,11.5s
JSC Jenkinsville 90.45 34 *eP* **P 04 26 36.8 +0.8**
ECAB El Cabril 90.53 335 P **P 04 26 36.8 +0.5**
comp=Z,26nm,1.4s,mb5.4
ECOG Cogollos-Vega 90.70 333 P **P 04 26 37.7 +0.5**
ECOG pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
ECOG Cogollos-Vega 90.70 333 P **P 04 26 37.7 +0.5**
comp=Z,4.9nm,0.9s,mb4.8
PMAFR Mafra 90.77 338 *eS* S 04 37 35.2 +1.9
PMAFR Mafra 90.77 338 *eLQ* 04 50 20.2
PMAFR *eLR* LR 04 55 21.4
comp=Z,754nm,44.5s
EVO Evora 90.83 337 *eP* **P 04 26 37.0 -0.7**
comp=Z,43nm,1.5s,mb5.3
EVO *eMLR* MLR
comp=Z,1μm,17.5s,MS5.1
EVO Evora 90.83 337 *eP* **P 04 26 37.6 -0.1**
comp=Z,29nm,1.1s,mb5.5
CNNC Cliffs of the 90.86 32 PFAKE 04 26 50.0 +12
CNNC LR LR
comp=Z,774nm,19.0s,MS5.2
MSEY Mahe Island 90.86 264 PFAKE 04 26 50.0 +12
MSEY LR LR
comp=Z,823nm,22.0s,MS5.1
BRAL Brewton 90.87 40 *eP* **P 04 26 38.7 +0.7**
comp=Z,33nm,0.6s,mb5.8
BRAL LR LR
comp=Z,768nm,22.0s,MS5.1
PBAR Barrancos 90.90 336 *eP* **P 04 26 37.8 -0.3**
comp=Z,40nm,1.4s,mb5.6
PBAR Barrancos 90.90 336 *eS* S 04 37 39.2 +4.7
PBAR Barrancos 90.90 336 *eLQ* 04 50 24.2
PBAR *eLR* LR 04 55 45.9
comp=Z,1μm,25.3s
ELOJ Sierra Loja 91.00 333 P **P 04 26 40.0 +1.4**
ELOJ pmax pmax
comp=Z,23nm,1.2s,mb5.4
ELOJ Sierra Loja 91.00 333 P **P 04 26 40.0 +1.5**
comp=Z,23nm,1.2s,mb5.4
EMIN Mina Concepcio 91.17 336 P **P 04 26 39.5 +0.1**
comp=Z,28nm,1.5s,mb5.4
PBEJ Beja 91.27 336 *eP* **P 04 26 40.4 +0.6**
comp=Z,31nm,1.3s,mb5.5
EGRO El Granado 91.62 336 P **P 04 26 43.0 +1.6**
comp=Z,28nm,1.2s,mb5.5
ESPR Espera 91.77 335 P **P 04 26 42.7 +0.6**
comp=Z,20nm,1.2s,mb5.3
PVAQ Vaqueiros 91.81 336 *eS* S 04 37 48.0 +5.2
PVAQ Vaqueiros 91.81 336 *eLR* LR 04 56 58.5
comp=Z,1μm,16.6s
NHSC New Hope 91.91 34 PFAKE 04 26 50.0 +7.2
NHSC LR LR
comp=Z,1μm,19.0s,MS5.3
PTEO Sao Teotonio 91.95 337 *eP* **P 04 26 42.7 -0.2**
comp=Z,43nm,1.6s,mb5.5
PBDV Barranco-do-Ve 92.02 336 *eS* S 04 37 47.0 +2.3
PBDV Barranco-do-Ve 92.02 336 *eLQ* 04 56 17.0
PBDV *eLR* LR 04 59 28.1
comp=Z,1μm,20.0s
MORF Marmelete 92.15 337 *eS* S 04 37 50.8 +4.9
MORF Marmelete 92.15 337 *eLR* LR 05 02 50.5
comp=Z,758nm,20.3s
SFS San Fernando 92.25 335 PFAKE 04 27 00.0 +16
SFS LR LR
comp=Z,3μm,20.0s,MS5.7
PFVI Vila Bisbo 92.36 337 *eS* S 04 37 50.1 +2.3
PFVI Vila Bisbo 92.36 337 *eLR* LR 05 01 50.1
comp=Z,631nm,27.4s
TBI Tubuai 93.30 121 *eSS* SS 04 44 10.0 -2.8
comp=Z,188nm,25.2s
TBI *eLQ* 04 52 03.6
comp=Z,286nm,34.2s
TBI *eLR* LR 04 56 38.9
comp=Z,2μm,24.5s,baz=315
RTC Rabat Centre 94.75 334 PFAKE 04 27 10.0 +14
RTC LR LR
comp=Z,953nm,22.0s,MS5.2
MDT Midelt 95.14 332 LR LR 05 10 36.8
comp=Z,756nm,21.6s,MS5.1,baz=32,slow=36
DWPF Disney 95.81 37 PFAKE 04 27 10.0 +9.2
DWPF LR LR
comp=Z,604nm,20.0s,MS5.1
BBSR BB Station 97.62 22 PFAKE 04 27 20.0 +11
BBSR LR LR
comp=Z,558nm,21.0s,MS5.0
TEIG Tepich 99.44 47 PFAKE 04 27 30.0 +13
TEIG LR LR
comp=Z,386nm,20.0s,MS4.9
KMBO Kilima Mbogo 100.76 280 PFAKE 04 27 30.0 +7.0
KMBO LR LR
comp=Z,1μm,19.0s,MS5.4
RKT Rikitea 102.08 111 *ePS* PS 04 40 47.0 +1.0

comp=Z,338nm,27.2s
RKT Rikitea 102.08 111 *eLR* LR 05 00 48.4
comp=Z,1μm,35.5s
TGUH Tegucigalpa,Un 105.13 49 PFAKE 04 32 10.0 +13
TGUH LR LR
comp=Z,266nm,20.0s,MS4.8
ABPO Ambohimpanom 106.69 260 PFAKE 04 32 10.0 +10
ABPO LR LR
comp=Z,653nm,20.0s,MS5.2
TORD Torodi Ar. Bea 110.42 318 PKiKP PKiKP 04 32 05.6 -1.4
comp=Z,0.8nm,0.8s,baz=20,slow=2.7,SNR=10
TORD PP PP 04 32 36.2 -5.1
comp=Z,2.8nm,0.9s,baz=30,slow=6.6,SNR=8.6
SJG San Juan 110.62 28 PFAKE 04 32 20.0 +13
SJG LR LR
comp=Z,433nm,20.0s,MS5.0
BCIP Isla Barro Col 113.06 45 PFAKE 04 32 20.0 +8.0
BCIP LR LR
comp=Z,427nm,22.0s,MS5.0
CASY Casey 115.30 193 PFAKE 04 32 30.0 +15
CASY LR LR
comp=Z,579nm,22.0s,MS5.1
LSZ Lusaka 117.12 277 PFAKE 04 32 30.0 +10
LSZ LR LR
comp=Z,1μm,19.0s,MS5.5
BBGH Gun Hill 117.30 24 PFAKE 04 32 30.0 +10
BBGH LR LR
comp=Z,934nm,19.0s,MS5.4
SDV Santo Domingo 117.46 37 PFAKE 04 32 30.0 +10
SDV LR LR
comp=Z,121nm,20.0s,MS4.5
GRGR Grenville 117.66 26 PFAKE 04 32 30.0 +9.1
GRGR LR LR
comp=Z,437nm,21.0s,MS5.1
DBIC Dimbokro 119.07 321 PFAKE 04 32 40.0 +16
DBIC LR LR
comp=Z,871nm,22.0s,MS5.3
OTAV Otavalo 121.40 49 PFAKE 04 32 40.0 +12
OTAV LR LR
comp=Z,227nm,20.0s,MS4.8
VNDA Vanda 124.70 175 PKP PKPdf 04 32 32.8 +0.4
comp=Z,2.1nm,0.9s,baz=292,slow=5.9,SNR=2.4
VNDA Vanda 124.70 175 PKPdf PKPdf 04 32 32.8 +0.4
VNDA LR LR
comp=Z,266nm,19.0s,MS4.9
LBTB Lobatse 125.51 270 *e*PKIKP PKPdf 04 32 35.5 0.0
LBTB MLR MLR
comp=Z,646nm,19.0s,MS5.3
TSUM Tsumeb 127.06 282 *e*PKPdf PKPdf 04 32 38.6 -0.1
TSUM LR LR
comp=Z,845nm,20.0s,MS5.4
BOSA Boshof 128.04 267 PKP PKPdf 04 32 40.5 +0.3
comp=Z,4.8nm,1.1s,baz=76,slow=1.6,SNR=3.4
MAW Mawson 128.39 209 PKP PKPdf 04 32 38.6 -1.1
comp=Z,2.9nm,1.0s,baz=312,slow=2.1,SNR=3.9
MAW Mawson 128.39 209 PKIKP PKPdf 04 32 38.6 -1.1
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 128.39 209 *e*PKPdf PKPdf 04 32 39.9 +0.2
NNA Nana 132.44 56 PFAKE 04 33 00.0 +11
NNA LR LR
comp=Z,384nm,22.0s,MS5.1
QSPA South Pole Qui 136.56 180 PKhKP 04 32 48.6
comp=Z,2.1nm,0.8s,baz=243,slow=2.8,SNR=2.8
QSPA PKP PKPdf 04 32 54.9 +0.1
comp=Z,3.1nm,0.8s,baz=336,slow=1.8,SNR=5.8
QSPA South Pole Qui 136.56 180 PKP PKPdf 04 32 54.9 +0.1
LPAZ La Paz 140.72 49 PKP PKPdf 04 33 05.5 +1.2
comp=Z,3.0nm,0.7s,baz=321,slow=5.2,SNR=9.6
LPAZ La Paz 140.72 49 PKIKP PKPdf 04 33 05.5 +1.2
LPAZ pmax pmax
comp=Z,3.0nm,0.7s
LPAZ La Paz 140.72 49 *e*PKPdf PKPdf 04 33 05.8 +1.5
LPAZ LR LR
comp=Z,326nm,22.0s,MS5.0
SIV San Ignacio 143.85 39 PKhKP 04 33 06.5
comp=Z,2.2nm,0.6s,baz=292,slow=1.7,SNR=11
SIV PKP PKPdf 04 33 09.8 -0.1
comp=Z,4.2nm,0.6s,baz=334,slow=2.2,SNR=23
LVC Limon Verde 145.43 56 PKPbc PKPbc 04 33 12.7 +0.2
comp=Z,10nm,0.6s,baz=289,slow=4.8,SNR=6.3
LVC Limon Verde 145.43 56 *e*PKPbc PKPbc 04 33 12.6 +0.2
NVL N'lazarevskaya 146.31 207 PKP2 PKPab 04 33 14.2 -0.4
NVL pmax pmax
comp=Z,69nm,1.2s
MAIT Maitri 146.34 207 *e*PKPdif 04 33 10.9
BDFB Brasilia 147.85 18 PKPbc PKPbc 04 33 18.3 -1.3
comp=Z,5.1nm,0.7s,baz=326,slow=12,SNR=9.4
BDFB Brasilia 147.85 18 PKP2 PKPbc 04 33 18.3 -1.3
BDFB pmax pmax
comp=Z,5.0nm,0.7s
BDFB Brasilia 147.85 18 PFAKE 04 33 30.0 +13
BDFB LR LR
comp=Z,491nm,20.0s,MS5.3
LCO Las Campanas 149.09 66 PKPbc PKPbc 04 33 23.4 +0.8
LCO *e*PKPab PKPab 04 33 27.4 +0.6
SNAA Sanae 150.09 202 *e*PKPdf PKPdf 04 33 21.5 +2.9
SNAA Sanae 150.09 202 *e*PKPdf PKPdf 04 33 21.5 +2.9
SNAA *e* 04 33 23.3
SNAA *e* 04 33 31.2
SNAA *e* 04 36 58.6
SNAA *e* 05 57 16.4
SNAA Sanae 150.09 202 PKPbc PKPbc 04 33 23.1 -0.5
comp=Z,4.7nm,1.0s,baz=85,slow=2.1,SNR=12
SNAA Sanae 150.09 202 *e*PKPbc PKPbc 04 33 23.2 -0.5
SNAA *e*PKPab PKPab 04 33 30.9 +1.2
VNA2 Neumayer--Watz 151.70 201 *e*PKPdf PKPbc 04 33 25.4 -2.1
VNA2 Neumayer--Watz 151.70 201 *e*PKPdf PKPbc 04 33 25.4 -2.1
VNA2 *e* 04 33 28.9
VNA2 *e* 04 33 32.2
VNA2 *e* 04 33 38.3
VNA2 *e* 05 57 16.7
VNA1 Neumayer--Stat 152.10 201 *e*PKPdf PKPbc 04 33 27.2 -1.2
VNA1 Neumayer--Stat 152.10 201 *e*PKPdf PKPbc 04 33 27.2 -1.2
VNA1 *e* 04 33 30.3
VNA1 *e* 04 33 34.0
VNA1 *e* 04 33 39.8
CFAA Coronel Fontan 152.41 67 PKPbc PKPbc 04 33 29.4 -0.9
comp=Z,1.8nm,0.7s,baz=311,slow=4.5,SNR=3.2
CPUP Villa Florida 154.54 43 PKPbc PKPbc 04 33 33.9 -1.2
comp=Z,0.3nm,0.5s,baz=18,slow=15,SNR=2.9
CPUP PKPab PKPab 04 33 48.5 -1.0
comp=Z,1.8nm,0.7s,baz=328,slow=6.8,SNR=5.2
CPUP Villa Florida 154.54 43 PKIKP PKPbc 04 33 33.9 -1.2
CPUP 04 33 48.6
CPUP pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 155.97 87 PKP PKPdf 04 33 28.8 +0.7
comp=Z,3.0nm,1.0s,baz=48,slow=6.1,SNR=3.4
PLCA PKPab PKPab 04 33 54.9 -0.5
comp=Z,8.0nm,0.9s,baz=275,slow=17,SNR=3.5
PLCA Paso Flores 155.97 87 PKP PKPdf 04 33 28.8 +0.7
PLCA PKPab PKPab 04 33 54.9 -0.5
HOPE Hope Point 172.46 188 PFAKE 04 33 50.0 +7.6
HOPE LR LR
comp=Z,4.0nm,22.0s

ISCJB ***14*** *04:19:54.7±2.0, 1509S±007×1670E±0.1, h90km±16km, mb4.3/15, Error ellipse: s-maj=21.2km s-min=7.8km az=154.3*
IDC ***14*** *04:19:55.0±2.8, 1508S×167.11E, h78km±23km, mb4.2/15, mb1 4.2/16, mb1mx4.1/23, mbtmp4.2/16, MS3.6/2, Ms1 3.6/2, ms1mx3.2/21, Error ellipse: s-maj=22.9km s-min=12.6km az=69.0*
NEIC ***14*** *04:19:56.3±1.3, 1509S×16705E, h90km±11km, mb4.5/3, Error ellipse: s-maj=13.5km s-min=7.9km az=66.0*
ISC 14 04:19:56.5±1.6, 1508S±007×1671E±01, h92km±13km, n57, σ0974/33, mb4.3/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.98**	**185**	*eP*	**Pn**	**04 21 36.1**	**+0.1**
DZM				*eS*	**Sn**	**04 22 53.8**	**-0.1**
DZM	**Mont Dzumac**	**6.98**	**185**	*e*Pn	**Pn**	**04 21 36.0**	**0.0**
DZM				*e*Sn	**Sn**	**04 22 54.1**	**+0.3**
HNR	**Honiara**	**8.93**	**308**	P	**Pn**	**04 22 02.8**	**0.0**
baz=52,slow=5.6,SNR=3.9							
HNR				S	**Sn**	**04 23 41.6**	**-0.1**
22nm,0.3s,baz=86,slow=19,SNR=3.1							
HNR	**Honiara**	**8.93**	**308**	P	**Pn**	**04 22 02.8**	**0.0**
HNR				S	**Sn**	**04 23 41.6**	**-0.1**
PMG	**Port Moresby**	**20.24**	**284**	*eP*	**P**	**04 24 24.6**	**+0.1**
55nm,0.9s							

CTA	Charters Tower	20.44	253	eP	P	04 24 24.6	-2.0
	12nm,0.9s						
CTA	Charters Tower	20.44	253	P	P	04 24 25.0	-1.6
	21nm,1.0s,baz=75,slow=10,SNR=9.8						
CTAO	Charters Tower	20.44	253	eP	P	04 24 25.2	-1.5
	25nm,1.0s						
URZ	Urewera	24.74	161	P	P	04 25 09.2	-0.1
	47nm,0.9s,mb4.9,baz=351,slow=5.9,SNR=15						
URZ				LR	LR	04 33 06.4	
	comp=Z,109nm,21.5s,baz=331,slow=32						
RPZ	Rata Peaks	28.74	174	P	P	04 25 45.8	+0.6
	16nm,0.8s,mb4.7,baz=18,slow=3.6,SNR=9.9						
WRA	Warramunga Arr	31.54	256	P	P	04 26 10.7	+0.4
	4.1nm,0.9s,mb4.1,baz=85,slow=9.1,SNR=9.5						
RAR	Rarotonga	32.06	106	LR	LR	04 35 50.6	
	comp=Z,180nm,20.3s,baz=162,slow=30						
ASAR	Alice Springs	32.36	250	P	P	04 26 18.1	+0.8
	7.1nm,1.0s,mb4.3,baz=88,slow=8.9,SNR=14						
ASAR				ScP	ScP	04 32 41.0	+2.2
	0.9nm,0.9s,baz=72,slow=3.1,SNR=5.8						
FITZ	Fitzroy Crossi	39.75	260	P	P	04 27 21.0	+0.5
	5.2nm,0.7s,mb4.5,baz=82,slow=9.0,SNR=10						
MJAR	Matsushiro Arr	58.12	333	P	P	04 29 39.3	-1.2
	1.2nm,0.6s,mb4.1,baz=170,slow=8.2,SNR=5.2						
VNDA	Vanda	62.51	181	P	P	04 30 10.2	+0.4
	2.2nm,0.7s,mb4.2,baz=1.5,slow=6.0,SNR=11						
KSRS	Korea Array	63.91	326	P	P	04 30 19.6	-0.1
	0.6nm,0.3s,mb3.9,baz=126,slow=6.2,SNR=4.0						
PETK	Petropavlovsk-	68.39	354	P	P	04 30 48.7	+0.7
	5.2nm,0.7s,mb4.5,baz=139,slow=9.1,SNR=5.3						
PETK	Petropavlovsk-	68.39	354	P	P	04 30 48.7	+0.7
QSPA	South Pole Qui	74.95	180	P	P	04 31 27.3	+0.2
	9.5nm,0.8s,mb4.5,baz=17,slow=1.8,SNR=30						
QSPA	South Pole Qui	74.95	180	P	P	04 31 27.3	+0.2
SONM	Songino Array	82.66	324	P	P	04 32 10.7	+1.0
	0.9nm,0.5s,mb3.8,baz=149,slow=6.2,SNR=5.3						
WDC	Whiskeytown Da	85.45	46	eP	P	04 32 23.9	-0.2
	1.0nm,0.6s,mb3.9						
SNAA	Sanae	93.19	183	ePKPdf	P	04 32 58.8	-1.3
SNAA	Sanae	93.19	183	ePKPdf	P	04 32 58.8	-1.3
SNAA				e		04 33 01.9	
SNAA	Sanae	93.19	183	P	P	04 32 58.4	-1.7
	0.9nm,0.7s,mb4.2,baz=161,slow=2.8,SNR=14						
VNA2	Neumayer--Watz	94.12	182	ePKPdf	P	04 33 03.6	-0.8
VNA2	Neumayer--Watz	94.12	182	ePKPdf	P	04 33 03.6	-0.8
VNA2				e		04 33 06.7	
MKAR	Makanchi Array	97.31	316	P	P	04 33 20.5	+1.2
	1.0nm,0.6s,mb4.4,baz=94,slow=7.3,SNR=10						
ZALV	Zalesovo Beam	97.55	324	P	P	04 33 19.4	-0.8
	0.6nm,0.4s,mb4.5,baz=126,slow=6.1,SNR=3.9						
ARCES	ARCESS Array B	120.54	345	PKP	PKPdf	04 38 35.4	-1.4
	1.7nm,0.8s,baz=72,slow=2.4,SNR=9.7						
KMBO	Kilima Mbogo	127.82	257	ePKPdf	PKPdf	04 38 57.0	+4.6
TUE	Stuetta	143.57	334	ePKPdf	PKPdf	04 39 19.5	-1.1
AQU	L'Aquila	144.61	325	ePKPdf	PKPdf	04 39 23.0	+0.5
CABF	La Chapelle	144.77	337	ePKP1	PKPdf	04 39 22.1	-0.6
	31nm,1.0s						
LOR	Lormes	145.00	340	ePKP1	PKPdf	04 39 22.3	-0.7
	29nm,1.1s						
SSF	Saint Saulge	145.29	340	ePKP1	PKPbc	04 39 23.4	-0.1
	58nm,1.1s						
GRR	Gorron	145.32	346	ePKP1	PKPbc	04 39 22.8	-0.7
LPL	La Plagne	145.43	335	ePKP1	PKPbc	04 39 24.4	+0.4
	36nm,1.1s						
LPG	La Plagne	145.44	335	ePKP1	PKPbc	04 39 24.5	+0.5
	31nm,1.0s						
SMF	Signal de Mont	145.55	339	ePKP1	PKPbc	04 39 24.1	-0.2
	63nm,1.2s						
AVF	Avril sur Loir	145.58	340	ePKP1	PKPbc	04 39 24.1	-0.3
	35nm,1.3s						
BNI	Bardonecchia	145.83	335	ePKPdf	PKPdf	04 39 25.7	+1.2
BGF	Bois d'Agland	145.95	340	ePKP1	PKPbc	04 39 25.3	-0.2
MBDF	Montbardon	146.06	334	ePKP1	PKPbc	04 39 25.6	-0.3
ORIF	Oris-en-Rattie	146.26	336	ePKP1	PKPbc	04 39 26.5	0.0
	21nm,0.9s						
TCF	Toulx Ste Croi	146.40	341	ePKP1	PKPbc	04 39 26.4	-0.5
	37nm,1.2s						
SBF	Sospel	146.46	333	ePKP1	PKPbc	04 39 26.6	-0.5
	29nm,0.8s						
PGF	Pioggiola	146.75	330	ePKP1	PKPbc	04 39 27.7	-0.3
	24nm,1.1s						
VIVF	Saint-Julien-l	146.78	337	ePKP1	PKPbc	04 39 29.4	+1.4
	15nm,0.9s						
MFF	Saint Martin d	146.80	344	ePKP1	PKPbc	04 39 27.5	-0.5
	36nm,1.1s						
LMR	La Mourre	147.29	333	ePKP1	PKPbc	04 39 28.0	-1.5
	26nm,1.3s						
RJF	Les Rejaudoux	147.49	341	ePKP1	PKPbc	04 39 28.6	-1.4
	32nm,1.5s						
MTLF	Montolieu	148.99	338	ePKP1	PKPbc	04 39 33.6	-0.4
	19nm,1.3s						
KEST	Kesra	151.35	320	PKPbc	PKPbc	04 39 39.4	-0.5
	0.7nm,0.8s,baz=10,slow=2.5,SNR=2.9						
KEST				PKPab	PKPab	04 39 49.0	+0.7
	0.5nm,0.4s,baz=63,slow=2.3,SNR=3.0						
ESDC	Sonseca Array	154.27	344	PKPab	PKPab	04 40 01.0	+0.6
	0.1nm,0.2s,baz=35,slow=3.4,SNR=4.9						
TORD	Torodi Ar. Bea	165.67	264	PKP	PKPdf	04 39 51.5	+0.1
	0.4nm,0.7s,baz=129,slow=2.0,SNR=3.1						
TORD				PKPab	PKPab	04 40 50.8	-0.1
	0.4nm,0.9s,baz=87,slow=4.6,SNR=2.5						

ISCJB ***14*** *04:30:13.5±0.7, 3933N±003×20.18E±005, h12km±4km, Error ellipse: s-maj=7.1km s-min=4.3km az=173.5*
THE ***14*** *04:30:13.1, 3933N×2006E, h0km, ML3.5*
NEIC ***14*** *04:30:14.3, 3930N×2026E, h29km, MD3.6(ATH), ML3.5(THE), After ATH.*
CSEM ***14*** *04:30:14.6±0.1, 3928N×2032E, h5km, ML3.5, Error ellipse: s-maj=2.5km s-min=1.4km az=66.0*
ATH ***14*** *04:30:14.3, 3930N×2026E, h29km±2km, MD3.6/7*

ISC 14 04:30:15.2±0.5, 3932N±003×2028E±005, h12km±4km, n20, σ1§26/31, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.22	10	ePg	Pg	04 30 19.1	-0.8
IGT				eSg	Sg	04 30 23.1	0.0
IGT	Igoumenitsa	0.22	10	i PG	Pg	04 30 19.1	-0.8
IGT				i SG	Sg	04 30 23.1	0.0
KEK	Kerkira	0.54	317	ePN	Pg	04 30 25.6	-0.2
KEK				eSN	Sg	04 30 34.3	+1.3
JAN	Janina	0.56	52	ePN	Pg	04 30 26.2	+0.1
SRN	Sarande	0.60	339	ePN	Pg	04 30 26.3	-0.6
SRN				i SN	Sg	04 30 42.8	+7.9
LKD	Levkas	0.68	155	ePg	Pg	04 30 27.2	-1.1
LKD				eSg	Sg	04 30 39.3	+2.1
LKD	Levkas	0.68	155	ePg	Pg	04 30 27.2	-1.1
VLS	Valsamata	1.17	168	ePg	Pg	04 30 35.6	-2.1
VLS				eSg	Sg	04 30 54.1	+1.3
VLS	Valsamata	1.17	168	ePn	Pn	04 30 35.8	-1.5
VLS				eSn	Sn	04 30 52.8	-0.2
EVR	Evrytania	1.25	108	ePN	Pn	04 30 37.8	-0.7
KFL	Anninata	1.27	162	ePg	Pg	04 30 38.3	-1.3
KFL				eSg	Sg	04 30 57.8	+1.6
THL	Klokotos Trika	1.36	79	ePg	Pg	04 30 40.6	-0.8
THL				eSg	Sg	04 31 02.8	+3.6
THL	Klokotos Trika	1.36	79	ePN	Pn	04 30 40.0	0.0
THL				eSN	Sn	04 30 58.6	+0.6
THL	Klokotos Trika	1.36	79	ePg	Pg	04 30 40.7	-0.7
THL				eSn	Sn	04 30 58.6	+0.6
KZN	Kozani	1.51	49	ePB	Pb	04 30 41.2	-2.0
RLS	Riolos of Patr	1.56	143	ePN	Pn	04 30 42.2	-0.5
BIA	Bitola	1.88	25	ePn	Pn	04 30 49.7	+2.7
KRUS	Krusevo	2.18	20	i Pn	Pn	04 30 53.9	+2.7
KRUS	Krusevo	2.18	20	i Pn	Pn	04 30 53.8	+2.6
SG1	Sgolgore (BA)	3.15	300	ePn	Pn	04 31 05.1	+0.5

JMA ***14*** *04:41:50.7±0.5, 4705N×14180E, h18km, M3.3*
ISCJB ***14*** *04:41:51.5±2.9, 470N±0.1×1416E±02, h21km±16km, Error ellipse: s-maj=28.3km s-min=11.4km az=44.4*
SKHL ***14*** *04:41:52.0±0.2, 4669N×14171E, h10km, mb4.3/1*

ISC 14 04:41:55.1±2.2, 468N±01×1418E±02, h9km±29km, n8, σ1§04/11, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	0.67	74	ePg	Pg	04 42 06.0	-1.9
YSS				eSg	Sg	04 42 18.0	+1.3
YSS				A		04 42 20.0	
	550nm,0.4s						
JWK2	Keihoku	1.46	178	P	Pn	04 42 20.7	-0.8
JWK2				eS	Sn	04 42 42.0	+1.3
JRR	Rishiri	1.68	192	P	Pn	04 42 23.9	-0.6
JRR				eS	Sb	04 42 48.3	+1.2
JSE	Soyaes	1.89	163	P	Pn	04 42 26.4	-1.1
UGL	Uglegorsk	2.31	4	ePg	Pg	04 42 40.5	+1.1
UGL				AMB	AMB	04 42 45.0	
	58nm,0.5s						
JYG	Yagishiri	2.36	187	P	Pn	04 42 33.7	-0.2
JSS	Shosan	2.38	179	P	Pn	04 42 34.1	0.0
JKK2	Kamakawa 2	2.98	167	P	Pn	04 42 41.9	-0.4

ISCJB ***14*** *05:04:43.2±0.9, 4570N±005×2100E±004, h1km±9km, Error ellipse: s-maj=7.7km s-min=5.0km az=175.3*
BUC ***14*** *05:04:44.1±0.2, 4570N×2109E, h11km, MD2.9/3, Error ellipse: s-maj=1.9km s-min=0.9km az=76.0*
BEO ***14*** *05:04:45.0±0.4, 4569N×2102E, ML2.1/4*

ISC 14 05:04:44.1±0.8, 4569N±005×2103E±004, h7km±8km, n10, σ1§01/18, 1C-3D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZS	Buzias	0.42	100	ePg	Pg	05 04 52.3	+0.1
BZS				eSg	Sg	05 04 58.3	+0.7
BZS	Buzias	0.42	100	⇓iP	Pg	05 04 52.1	-0.1
BZS				i S	Sg	05 04 58.9	+1.3
FGSL	Fruska Gora	1.01	239	ePg	Pg	05 05 03.1	-0.4
FGSL				eSg	Sg	05 05 16.7	0.0
GZR	Gura Zlata	1.26	103	⇓iP	Pn	05 05 07.4	-0.7
GZR				i S	Sb	05 05 24.3	-0.3
DRGR		1.60	46	⇓iP	Pn	05 05 12.8	0.0
DRGR				i S	Sn	05 05 33.8	0.0
PKSM	Moragy	1.75	288	ePn	Pn	05 05 15.3	+0.5
PKSM				eSg	Sg	05 05 40.6	+0.3
DIVS	Divibare	1.75	205	ePn	Pn	05 05 16.2	+1.3
DIVS				eSg	Sg	05 05 39.9	-0.6
PSZ	Piszkesteto	2.36	341	⇓ePn	Pn	05 05 19.9	-3.4
PSZ				e	Sn	05 05 45.7	-6.8
ZAPS	Zavoj	2.67	154	ePn	Pb	05 05 30.3	-2.0
BARS	Barje	2.93	169	ePn	Pn	05 05 33.4	+2.4

ISCJB ***14*** *05:27:12.3±1.4, 2.13N±006×12675E±007, h39km±13km, mb4.3/17, Error ellipse: s-maj=12.9km s-min=8.7km az=153.7*
IDC ***14*** *05:27:15.5±3.2, 202N×12670E, h52km±30km, mb3.9/14, mb1 4.0/14, mb1mx4.0/18, mbtmp3.9/14, Error ellipse: s-maj=30.5km s-min=10.3km az=78.0*
NEIC ***14*** *05:27:17.3±3.0, 205N×12667E, h68km±29km, mb4.6/6, Error ellipse: s-maj=21.3km s-min=8.7km az=77.0*

ISC 14 05:27:11.3±3.2, 209N±005×12675E±007, h17km±20km, n29, σ0§73/33, mb4.3/17, 2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	Ternate	1.44	155	⇓eP	Pn	05 27 36.0	-0.6
MNI	Manado	2.02	251	⇓eP	Pn	05 27 45.0	+0.4
MNI				eS	Sn	05 28 09.5	+0.1
KAKA	Kakadu	15.76	159	eP	Pn	05 30 56.0	+3.4
	9.7nm,0.5s						
KAKA	Kakadu	15.76	159	eP	Pn	05 30 56.0	+3.4
	8.0nm,0.8s						
KAKA				S	Sn	05 33 58.3	+11
FITZ	Fitzroy Crossi	20.10	183	eP	P	05 31 44.8	+0.5
	6.1nm,0.4s						
FITZ	Fitzroy Crossi	20.10	183	P	P	05 31 44.6	+0.3
	3.4nm,0.5s,baz=17,slow=11,SNR=30						
WRAB	Tennant Creek	23.12	162	eP	P	05 32 16.8	0.0
	7.2nm,0.4s,mb4.5						
WRAB				epP		05 32 28.9	
WRAB				S	S	05 36 28.2	+0.7
WRA	Warramunga Arr	23.13	162	P	P	05 32 16.3	-0.6
	5.1nm,0.4s,mb4.3,baz=340,slow=11,SNR=62						
WRA				S	S	05 36 24.3	-3.3
	0.5nm,0.8s,baz=341,slow=18,SNR=3.4						
WB2	Warramunga Arr	23.13	162	eP	P	05 32 16.2	-0.7
WB2	Warramunga Arr	23.13	162	eP	P	05 32 16.8	-0.1
ASAR	Alice Springs	26.53	165	P	P	05 32 47.9	-0.4
	0.9nm,0.4s,mb3.7,baz=347,slow=7.9,SNR=12						
ASAR				S	S	05 37 27.7	+5.6
	0.5nm,0.7s,baz=349,slow=18,SNR=3.1						
CMAR	Chiang Mai Arr	31.74	303	P	P	05 33 34.7	0.0
	0.7nm,0.4s,mb3.9,baz=107,slow=5.6,SNR=4.3						
FORT	Forrest	32.71	178	eP	P	05 33 43.4	+0.3
	13nm,0.4s,mb5.2						
KLBR	Kellerberrin	34.57	194	eP	P	05 33 59.9	+0.6
	29nm,1.2s,mb5.1						
KSRS	Korea Array	35.20	2	P	P	05 34 05.0	+0.4
	1.0nm,0.5s,mb4.0,baz=179,slow=9.5,SNR=4.1						
MAT	Matsushiro	35.88	16	P	P	05 34 10.4	-0.1
MJAR	Matsushiro Arr	35.88	16	P	P	05 34 10.7	+0.2
	2.3nm,0.7s,mb4.2,baz=183,slow=9.7,SNR=14						
NWAO	Narrogin (SRO)	35.97	194	P	P	05 34 11.2	-0.2
	4.1nm,0.7s,mb4.5,baz=27,slow=6.8,SNR=3.3						
STKA	Stephens Creek	36.60	159	P	P	05 34 16.5	-0.2
	2.7nm,0.6s,mb4.3,baz=330,slow=8.6,SNR=6.2						
STKA	Stephens Creek	36.60	159	eP	P	05 34 17.6	+0.9
SONM	Songino Array	48.85	342	P	P	05 35 55.1	-0.7
	1.0nm,0.6s,mb4.0,baz=155,slow=8.4,SNR=7.0						
PETK	Petropavlovsk-	56.93	22	P	P	05 36 56.9	+1.4
	2.8nm,0.8s,mb4.4,baz=209,slow=2.6,SNR=3.2						
MK31	Makanchi Array	58.91	326	eP	P	05 37 08.6	-0.9
MKAR	Makanchi Array	58.91	326	P	P	05 37 08.2	-1.3
	2.4nm,0.6s,mb4.4,baz=117,slow=8.8,SNR=13						
ZALV	Zalesovo Beam	62.05	333	P	P	05 37 31.6	+0.8
	0.8nm,0.3s,mb4.3,baz=134,slow=6.2,SNR=2.4						
KURK	Kurchatov	63.12	328	eP	P	05 37 37.9	-0.2
	5.5nm,0.6s,mb4.9						
VNDA	Vanda	81.81	173	P	P	05 39 28.2	-0.7
	0.9nm,0.6s,mb3.9,baz=321,slow=7.1,SNR=4.3						
ARCES	ARCESS Array B	91.98	340	P	P	05 40 19.2	+0.4
	1.6nm,0.9s,mb4.4,baz=88,slow=5.0,SNR=2.9						
TORD	Torodi Ar. Bea	123.43	287	PKP	PKPdf	05 46 09.0	+0.2
	0.7nm,1.0s,baz=100,slow=1.8,SNR=2.9						

MOS ***14*** *05:38:05.6±0.9, 1942N×15524W, h10km, mb5.8/43, MS4.7/44, Error ellipse: s-maj=7.6km s-min=5.3km az=48.6*
NEIC ***14*** *05:38:06.0, 1935N×15507W, h10km, mb5.6/97, ME5.6, MS4.8/160, MW5.4, ML5.4(HVO), Moment Tensor Solution. s37 Moment tensor: Scale 10^{17}Nm; M_{rr}1.32; $M_{\theta\theta}$-0.82; $M_{\phi\phi}$-0.50; $M_{r\theta}$0.51; $M_{\theta\phi}$-0.65; M_{rf}0.96; Best double couple: $M_0$1.70000×10^{17} NP1:ϕ_s37.00000°, δ65.00000°, λ78.00000°. NP2:ϕ_s245.00000°, δ28.00000°, λ115.00000°. Principal axes: T 1.7500, Plg68.0000°, Azm284.0000°; N -0.0800, Plg11.0000°, Azm43.0000°; P -1.6700, Plg19.0000°, Azm137.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism. After HVO.*
NEIC Felt [VII] at Kurtistown; [VI] at Kea'au; [V] at Hakalau, Hilo, Honomu, Mountain View, Ninole, Pahoa, Papa'ikou and Pepeekeo; [IV] at Hawaii National Park, Honoka'a, Kapaau, Kealakekua, Laupahoehoe, Na'alehu, Pa'auilo and Volcano; [III] at Captain Cook, Hawi, Holualoa, Kailua Kona, Kamuela, Pahala and Waikoloa. Felt at Honaunau, 'O'okala and Papa'aloa. Felt [II] at Honolulu, O'ahu. Also felt at Hana and Kula, Maui.
ISCJB ***14*** *05:38:06.6±0.7, 1932N±003×155.15W±002, h17km±4km, mb5.4/149, MS4.8/193 Error ellipse: s-maj=5.7km s-min=3.4km az=166.7*
GCMT ***14*** *05:38:06.0±0.2, 1920N×15489W, h12km, MW5.4/97, Moment Tensor Solution. s57,c81; s97,c187; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.84±.01; $M_{\theta\theta}$-0.73±.01; $M_{\phi\phi}$-0.10±.01; $M_{r\theta}$0.81±.04; $M_{\theta\phi}$-0.32±.01; $M_{\theta f}$0.85±.04; Best double couple: $M_0$1.45000×10^{17} NP1:ϕ_s262.00000°, δ21.00000°, λ122.00000°. NP2: ϕ_s49.00000°, δ73.00000°, λ79.00000°. Principal axes: T 1.4850, Plg61.0000°, Azm303.0000°; N -0.0680, Plg11.0000°, Azm52.0000°; P -1.4160, Plg27.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***14*** *05:38:06.3±0.4, 1945N×15509W, h0km, mb5.0/32, mb1 5.0/32, mb1mx5.0/35, mbtmp5.0/32, MS4.7/21, Ms1 4.7/21, ms1mx4.6/28 Error ellipse: s-maj=13.6km s-min=11.8km az=140.0*
BJI ***14*** *05:38:08.8, 2021N×15547W, h9km, mB5.6, mb5.3, Ms5.2, Msz4.9*

ISC 14 05:38:07.1±0.8, 1930N±003×15518W±002, h10km±4km, h14km±.8km: pP-P, n875, σ0§71/765, mb5.4/149, MS4.8/193, 125C-145D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	Steam Cracks	0.10	28	ePg	Pg	05 38 08.5	-1.1
KHU	Kahuku	0.42	263	ePg	Pg	05 38 15.9	+0.5
KHU				eSg	Sg	05 38 25.4	+4.5
POHA	Pohakuloa	0.56	324	ePg	Pg	05 38 17.2	-0.9
KKH	Kailua Kona	0.87	294	P	Pg	05 38 21.8	-2.0
HKL	Haleakala	1.73	324	eP	Pn	05 38 33.4	-3.9
HON	Honolulu	3.33	308	eP	Pn	05 38 54.9	-4.3
KIP	Kipapa	3.40	309	e iP	Pn	05 38 55.8	-4.4
KIP	Kipapa	3.40	309	ePn	Pn	05 38 55.7	-4.5
MIDW	Midway	22.14	298	PFAKE		05 43 10.0	+7.0
MIDW				LR	LR		
	comp=Z,4μm,19.0s,MS4.8						
FARB	Farallon Islan	33.47	50	⇓P	P	05 44 45.1	-1.4
	baz=33						
MCCM	Marconi Confer	33.74	49	⇑P	P	05 44 47.6	-1.2
	baz=34						
BNLO	Ben Lomond (Sa	33.85	51	⇑P	P	05 44 47.9	-1.9
	baz=34						
KCPM	Cahto Peak	33.92	46	eP	P	05 44 51.1	+0.7
HOPS	Hopland	33.97	48	⇑P	P	05 44 50.7	-0.1
	baz=34						
HOPS	Hopland	33.97	48	eP	P	05 44 51.1	+0.3
	comp=Z,89nm,1.4s,mb5.5						
HOPS				LR	LR		
	comp=Z,544nm,20.0s,MS4.3						
O01C	Eel River Cons	33.98	46	⇑P	P	05 44 50.7	-0.1
	baz=34						
P01C	Double 8 Ranch	33.99	47	⇑P	P	05 44 51.0	-0.1
	baz=34						
HAST	Hastings Reser	34.04	53	⇑P	P	05 44 50.7	-0.7
	baz=34						
KIPM	Iron Peak	34.05	46	eP	P	05 44 52.3	+0.8
NSHM	Saint Helena R	34.09	49	eP	P	05 44 51.9	0.0
CVS	Carmenet Viney	34.12	49	⇑P	P	05 44 51.3	-0.9
	baz=34						
V03C	Hunter Liggett	34.15	54	⇑P	P	05 44 51.7	-0.7
	baz=34						
JCC	Jacoby Creek	34.16	44	⇓P	P	05 44 52.5	0.0
	baz=34						
SAO	San Andreas Ge	34.25	52	eP	P	05 44 53.4	+0.1
SAO				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
SAO				MLR	MLR		
	comp=Z,427nm,22.0s						
SAO	San Andreas Ge	34.25	52	eP	P	05 44 53.4	+0.1
	comp=Z,30nm,0.8s,mb5.3						
SAO				eTT		06 19 51.8	
SAO				LR	LR		
	comp=Z,427nm,22.0s						
V04C	Ramage Ranch,	34.30	55	⇑P	P	05 44 53.2	-0.5
	baz=34						
WENL	Wente Brothers	34.34	51	⇓P	P	05 44 54.2	+0.1
	baz=34						
MNRC	McLaughlin Nat	34.36	48	⇑P	P	05 44 54.1	-0.1
	baz=34,SNR=13						
KHMM	Horse Mountain	34.39	44	eP	P	05 44 55.5	+1.0
BDM	Black Diamond	34.39	50	⇓P	P	05 44 54.2	-0.3
	baz=34						
PACP	Pacheco Peak	34.46	52	⇑P	P	05 44 54.9	-0.2
	baz=34,SNR=12						
GASB	Alder Springs	34.51	47	⇓P	P	05 44 56.0	+0.5
	baz=34,SNR=11						
Q03C	Winters	34.56	49	⇓P	P	05 44 56.2	+0.2
	baz=34						
KRMB	Red Mountain	34.59	43	eP	P	05 44 56.8	+0.6
U04C	Hernandez Rese	34.61	53	⇓P	P	05 44 56.5	+0.1
	baz=34,SNR=9.9						
S04C	Ingram Canyon,	34.61	51	⇑P	P	05 44 56.1	-0.3
	baz=34,SNR=10						
M01C	Crescent City	34.62	43	⇓P	P	05 44 56.7	+0.3
	baz=34						
N02C	Big Bar	34.65	45	P	P	05 44 57.2	+0.5
	baz=34,SNR=18						
PKD	Parkfield	34.65	54	P	P	05 44 56.6	-0.2
	baz=34,SNR=6.4						
O02C	Red Bluff	34.69	46	P	P	05 44 58.0	+0.9
	baz=35,SNR=19						
KBO	Bosley Butte	34.74	42	eP	P	05 44 58.7	+1.2
KBO				eTT		06 20 33.2	
BSC	Santa Cruz Isl	34.78	58	⇑P	P	05 44 57.4	-0.5
	baz=35						
PMOR	Pomariorio Ree	34.83	168	eP	P	05 44 59.4	+0.9
	comp=Z,184nm,1.2s,mb5.9						
SBC	Santa Barbara	34.84	57	⇑P	P	05 44 58.1	-0.3
	baz=35						
SMMC	Simmler	34.87	56	⇓P	P	05 44 57.4	-1.3
	baz=35						
T05C	Eagle Field, D	34.88	53	⇑P	P	05 44 59.1	+0.4
	baz=35						
PKM	Peak Mountain	34.89	56	⇓P	P	05 44 58.7	-0.2
	baz=35						
K01A	Sixes	34.91	41	⇑P	P	05 44 59.1	+0.2
	baz=35						
SUTB	Sutter Butte	34.97	48	⇑P	P	05 44 58.8	-0.7
	baz=35						
KEBM	Edson Butte	35.03	41	eP	P	05 44 60.0	0.0
KEBM				eTT		06 21 09.3	
WDC	Whiskeytown Da	35.05	46	eP	P	05 45 00.8	+0.7
WDC				pmax	pmax		
	comp=Z,88nm,1.9s,mb5.4						
WDC				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.7						
WDC	Whiskeytown Da	35.05	46	⇑P	P	05 44 59.9	-0.2
	baz=35,SNR=7.1						
WDC	Whiskeytown Da	35.05	46	eP	P	05 45 00.8	+0.6
	comp=Z,88nm,1.9s,mb5.4						
WDC				eTT		06 20 10.5	
WDC				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
Q04C	Lincoln	35

AKUT	Akutan	35.71	349	eP	P	05 45 07.0	+1.4
ARVC	Arvin	35.73	56	⇑P	P	05 45 05.4	-0.7
	baz=36,SNR=9.8						
VES	Vestal, Richgr	35.75	55	⇓P	P	05 45 05.4	-0.8
	baz=36,SNR=20						
HUMO	Hull Mountain	35.75	42	⇑P	P	05 45 06.2	0.0
	baz=36,SNR=13						
HUMO	Hull Mountain	35.75	42	eP	P	05 45 07.1	+0.9
	comp=Z,168nm,2.3s,mb5.6						
HUMO				eTT		06 20 44.5	
HUMO				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
J02A	Umpqua	35.76	41	⇓P	P	05 45 06.4	+0.2
	baz=36,SNR=7.1						
FMP	Fort Macarthur	35.78	59	⇓P	P	05 45 05.8	-0.8
	baz=36						
P05C	Yuba Gap, Truc	35.83	49	P	P	05 45 07.2	+0.2
	baz=36,SNR=12						
S06C	San Francisco	35.84	51	P	P	05 45 06.8	-0.3
	baz=36,SNR=21						
HATC	Hat Creek Radi	35.88	46	⇓P	P	05 45 07.5	+0.2
	baz=36,SNR=10						
O05C	Quincy	35.89	48	⇓P	P	05 45 07.4	0.0
	baz=36						
DECC	Green Verdugo	35.89	58	⇑P	P	05 45 06.6	-0.9
	baz=36						
O04C	Chester	35.92	47	⇑P	P	05 45 07.7	0.0
	baz=36						
I02A	Mapleton	35.95	40	⇓P	P	05 45 08.3	+0.5
	baz=36						
R05C	Kirkwood Meado	35.98	50	⇑P	P	05 45 07.8	-0.4
	baz=36,SNR=30						
KCC	Kaiser Creek	36.04	53	⇓P	P	05 45 08.2	-0.5
	baz=36,SNR=23						
HELL	Mitchell Peak	36.05	54	P	P	05 45 08.6	-0.2
	baz=36,SNR=30						
M04C	Macdoel	36.08	44	⇑P	P	05 45 09.1	+0.1
	baz=36,SNR=16						
MWC	Mount Wilson	36.10	58	eP	P	05 45 09.5	+0.2
MWC				pmax	pmax		
	comp=Z,149nm,1.4s,mb5.7						
MWC				MLR	MLR		
	comp=Z,925nm,19.0s,MS4.6						
MWC	Mount Wilson	36.10	58	eP	P	05 45 09.5	+0.2
	comp=Z,150nm,1.4s,mb5.7						
MWC				LR	LR		
	comp=Z,925nm,19.0s,MS4.6						
ISA	Isabella	36.16	56	eP	P	05 45 09.9	+0.1
ISA	Isabella	36.16	56	P	P	05 45 09.8	0.0
	baz=36,SNR=50						
ISA	Isabella	36.16	56	PFAKE		05 45 20.0	+10
ISA				LR	LR		
	comp=Z,1µm,20.0s,MS4.6						
H02A	Toledo	36.22	39	⇑P	P	05 45 10.3	+0.1
	baz=36						
L04A	Klamath Falls	36.23	44	⇑P	P	05 45 10.7	+0.5
	baz=36						
BEKR	Beckwourth	36.24	48	P	P	05 45 10.3	-0.1
	baz=36,SNR=14						
I03A	Eugene	36.27	40	⇓P	P	05 45 11.0	+0.5
	baz=36						
ELFS	Eagle Lake Fie	36.30	47	⇓P	P	05 45 11.0	+0.1
	baz=36						
EDW2	Edwards Air Fo	36.33	57	⇓P	P	05 45 10.2	-1.0
	baz=36,SNR=16						
M05C	Lookout	36.34	45	⇓P	P	05 45 10.8	-0.4
	baz=36,SNR=16						
R06C	Coleville	36.37	51	⇑P	P	05 45 11.5	0.0
	baz=36,SNR=28						
BFSC	Mount Baldy St	36.42	58	⇓P	P	05 45 11.2	-0.9
	baz=36,SNR=9.9						
WCN	Washoe City	36.44	49	P	P	05 45 12.4	+0.2
	baz=36,SNR=15						
P06A	Stead Airport,	36.49	49	⇑P	P	05 45 12.9	+0.3
	baz=36						
MLAC	Mammoth Lakes	36.51	52	⇑P	P	05 45 12.8	+0.1
	baz=36,SNR=11						
R07C	Lee Vining	36.51	51	⇓P	P	05 45 12.7	0.0
	baz=36						
K04A	Chilquin	36.54	43	⇑P	P	05 45 13.2	+0.2
	baz=36						
109C	Camp Elliot, M	36.57	61	⇓P	P	05 45 13.0	-0.3
	baz=36						
COR	Corvallis	36.58	39	eP	P	05 45 13.8	+0.5
COR				MLR	MLR		
	comp=Z,1µm,22.0s,MS4.7						
J04A	Umpqua Nationa	36.61	42	⇑P	P	05 45 13.9	+0.4
	baz=36,SNR=7.0						
MTUM	Tungsten Hills	36.62	53	eP	P	05 45 14.2	+0.6
MTUM				eTT		06 20 26.6	
H03A	Soap Creek Ran	36.64	39	⇓P	P	05 45 14.2	+0.5
	baz=37						
MURC	Murrieta	36.64	59	⇑P	P	05 45 13.3	-0.6
	baz=36,SNR=20						
CWC	Cottonwood Cre	36.70	54	⇓P	P	05 45 13.8	-0.6
	baz=37						
I04A	Tendick Farm,	36.70	41	P	P	05 45 14.7	+0.4
	baz=37,SNR=13						
M06C	Likely Place G	36.72	46	⇓P	P	05 45 14.9	+0.4
	baz=37,SNR=14						
LRMC	Laurel Mountai	36.73	56	P	P	05 45 14.6	0.0
	baz=37,SNR=23						
O06A	Flanigan	36.73	48	P	P	05 45 15.0	+0.4
	baz=37,SNR=23						
TIN	Tinemaha	36.78	53	⇑P	P	05 45 14.8	-0.2
	baz=37						
AFI	Afiamalu	36.83	208	P	P	05 45 17.8	+2.2
	comp=Z,37nm,0.8s,mb5.3,baz=230,slow=7.9,SNR=3.7						
AFI				LR	LR	05 57 56.8	
	comp=Z,761nm,19.3s,MS4.5,baz=119,slow=32						
L05A	Lakeview	36.86	44	⇑P	P	05 45 15.9	+0.2
	baz=37,SNR=15						
PAHR	Pah Rah Range	36.86	49	eP	P	05 45 16.4	+0.7
	comp=Z,253nm,2.0s,mb5.7						
PAHR				eTT		06 20 31.8	
BAR	Barrett	36.88	61	eP	P	05 45 16.3	+0.3
	comp=Z,259nm,2.0s,mb5.7						
S08C	White Mtn Res	36.96	53	P	P	05 45 17.3	+0.7
	baz=37,SNR=30						
N06A	Buffalo Meadow	36.97	47	P	P	05 45 16.9	+0.3
	baz=37,SNR=19						
Q07A	Schurz	36.99	50	⇑P	P	05 45 16.9	+0.2
	baz=37,SNR=6.5						
G03A	Yamhill	37.00	38	⇓P	P	05 45 17.2	+0.4
	baz=37,SNR=6.0						
CHGN	Chignik	37.02	357	eP	P	05 45 16.7	-0.1
BBRC	Big Bear Sol-O	37.02	58	⇓P	P	05 45 17.3	+0.1
	baz=37						
DAC	Darwin (Calif)	37.02	55	PFAKE		05 45 30.0	+13
DAC				LR	LR		
	comp=Z,471nm,21.0s,MS4.2						
MPMC	Manual Prospec	37.04	55	P	P	05 45 17.7	+0.4
	baz=37,SNR=31						
PPT	Papeete	37.05	171	eP	P	05 45 18.3	+0.9
	comp=Z,71nm,1.2s,mb5.4						
PPT				eS	S	05 51 02.2	-1.2
	comp=Z,493nm,24.8s						
PPT				eLQ		05 53 04.6	
	comp=Z,683nm,24.2s						
PPT				eLR	LR	05 55 16.7	
	comp=Z,6µm,25.0s,baz=352						
PPT	Papeete	37.05	171	P	P	05 45 18.6	+1.2
	comp=Z,45nm,0.9s,mb5.3,baz=101,slow=7.8,SNR=5.4						
PPT				LR	LR	05 57 03.7	
	comp=Z,2µm,18.6s,MS5.0,baz=314,slow=31						
PPT	Papeete	37.05	171	eP	P	05 45 18.3	+0.9
PPT				eS	S	05 51 02.2	-1.2
PPT				pmax	pmax		
	comp=Z,71nm,1.2s						
PPT	Papeete	37.05	171	eP	P	05 45 18.3	+0.9
	comp=Z,71nm,1.2s,mb5.4						
PPT				eS	S	05 51 02.2	-1.2
PPT				eLQ		05 53 04.6	
TIAR	Tiarei	37.07	171	eP	P	05 45 18.2	+0.6
	comp=Z,477nm,0.9s						
RRX	Edison Barstow	37.11	57	⇑P	P	05 45 17.7	-0.3
	baz=37						
MONP	Monument Peak	37.13	61	⇓P	P	05 45 17.9	-0.2
	baz=37,SNR=30						
K05A	Summer Lake	37.14	43	P	P	05 45 19.0	+1.0
	baz=37,SNR=25						
MOD	Modoc	37.15	45	⇓P	P	05 45 17.3	-0.8
	baz=37,SNR=40						
MOD	Modoc	37.15	45	eP	P	05 45 18.5	+0.3
MOD				eTT		06 20 49.1	
MOD				LR	LR		
	comp=Z,2µm,21.0s,MS4.8						
P07A	Fallon	37.15	49	⇑P	P	05 45 18.6	+0.4
	baz=37						
NVAR	Mina Array Bea	37.17	51	P	P	05 45 17.9	-0.6
	comp=Z,4.9nm,0.7s,mb4.4,baz=244,slow=9.1,SNR=44						
NVAR				PcP	PcP	05 47 39.8	+1.4
	comp=Z,4.9nm,1.1s,baz=210,slow=3.1,SNR=3.4						
J05A	Fort Rock	37.19	42	⇓P	P	05 45 18.6	+0.1
	baz=37,SNR=23						
F03A	Seaside	37.19	37	⇑P	P	05 45 18.8	+0.4
	baz=37,SNR=5.9						
PFO	Pinyon Flat Ob	37.25	60	eP	P	05 45 19.2	+0.1
PFO				pmax	pmax		
	comp=Z,245nm,2.0s,mb5.7						
PFO				MLR	MLR		
	comp=Z,931nm,20.0s,MS4.6						
PFO	Pinyon Flat Ob	37.25	60	⇑P	P	05 45 18.5	-0.6
	baz=37,SNR=21						
PFO	Pinyon Flat Ob	37.25	60	eP	P	05 45 19.2	+0.1
	comp=Z,245nm,2.0s,mb5.7						
PFO				LR	LR		
	comp=Z,931nm,20.0s,MS4.6						
R08A	Mina	37.29	51	⇑P	P	05 45 19.3	-0.1
	baz=37						
H04A	Detroit Lake	37.31	40	P	P	05 45 19.7	+0.3
	baz=37,SNR=13						
DVTC	Desert V Tower	37.35	61	⇑P	P	05 45 19.7	-0.2
	baz=37						
GSC	Goldstone	37.37	57	eP	P	05 45 20.4	+0.3
GSC				pmax	pmax		
	comp=Z,119nm,1.5s,mb5.5						
GSC	Goldstone	37.37	57	⇑P	P	05 45 20.0	-0.1
	baz=37,SNR=27						
GSC	Goldstone	37.37	57	eP	P	05 45 20.4	+0.3
	comp=Z,119nm,1.5s,mb5.5						
GSC				eTT		06 20 59.9	
O07A	Toulon	37.40	48	P	P	05 45 20.8	+0.5
	baz=37,SNR=27						
GRAC	Grapevine Rang	37.41	54	P	P	05 45 21.0	+0.5
	baz=37,SNR=16						
G04A	Mulino	37.41	39	⇑P	P	05 45 20.3	0.0
	baz=37						
FUNA	Funafuti	37.45	225	PFAKE		05 45 30.0	+9.1
FUNA				LR	LR		
	comp=Z,10µm,19.0s,MS5.6						
E03A	Lebam	37.54	36	⇓P	P	05 45 21.2	-0.2
	baz=38,SNR=5.1						
N07B	Gerlach	37.58	47	⇓P	P	05 45 21.9	+0.1
	baz=38,SNR=11						
K06A	Valley Falls	37.59	44	P	P	05 45 22.4	+0.6
	baz=38,SNR=22						
Q08A	Gabbs	37.60	51	P	P	05 45 21.9	-0.1
	baz=38,SNR=36						
I05A	Bend	37.60	41	⇑P	P	05 45 22.3	+0.4
	baz=38,SNR=8.3						
HEC	Hector,Ludlow	37.63	58	⇓P	P	05 45 21.9	-0.4
	baz=38						
FURC	Furnace Creek,	37.65	55	P	P	05 45 22.8	+0.3
	baz=38,SNR=30						
SWSC	Sam W. Stewart	37.66	61	⇑P	P	05 45 22.2	-0.4
	baz=38,SNR=9.7						
BMW	Boistfort Moun	37.69	37	eP	P	05 45 23.2	+0.6
M07A	Soldier Meadow	37.69	46	P	P	05 45 23.4	+0.7
	baz=38,SNR=30						
BELC	Belle Mtn.	37.71	59	P	P	05 45 23.2	+0.2
	baz=38,SNR=50						
S09A	Goldfield	37.74	53	P	P	05 45 23.2	-0.1
	baz=38,SNR=26						
D03A	Wishkah Elem.	37.76	36	⇑P	P	05 45 24.1	+0.8
	baz=38						
P08A	Dixie Valley	37.79	49	⇑P	P	05 45 23.6	0.0
	baz=38						
AMKA	Amchitka	37.79	334	eP	P	05 45 24.4	+1.0
C03A	Quillayute Air	37.84	34	⇓P	P	05 45 25.0	+1.1
	baz=38						
L07A	Adell	37.84	45	P	P	05 45 24.8	+0.8
	baz=38,SNR=23						
F04A	Amboy	37.85	38	⇑P	P	05 45 24.0	0.0
	baz=38						
TPH	Tonopah	37.86	52	eP	P	05 45 24.9	+0.7
TPH				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.7						
J06A	Christmas Vall	37.87	43	P	P	05 45 24.6	+0.4
	baz=38,SNR=31						
NLWA	Neilton Lookou	37.87	35	P	P	05 45 25.2	+1.0
	baz=38,SNR=9.6						
NLWA	Neilton Lookou	37.87	35	eP	P	05 45 25.4	+1.3
NLWA				LR	LR		
	comp=Z,2µm,22.0s,MS5.0						
OHAK	Old Harbor	37.89	2	eP	P	05 45 24.3	+0.1
	comp=Z,303nm,1.8s,mb5.7						
SHOC	Shoshone	37.94	56	⇓P	P	05 45 24.7	-0.2
	baz=38,SNR=31						
O08A	Rochester Mine	37.96	48	⇑P	P	05 45 25.3	+0.3
	baz=38						
HOOD	Mount Hood Mea	37.97	39	eP	P	05 45 25.9	+0.8
R09A	Tonopah	38.02	52	P	P	05 45 25.5	-0.1
	baz=38,SNR=15						
U10A	Ash Meadows, A	38.04	55	⇓P	P	05 45 25.7	-0.1
	baz=38,SNR=15						
E04A	Onalaska	38.05	37	⇓P	P	05 45 26.0	+0.4
	baz=38						
VFP	Flag Point	38.08	39	P	P	05 45 26.3	+0.3
BC3	Big Chuckw Mtn	38.08	60	⇓P	P	05 45 25.8	-0.3
	baz=38,SNR=20						
TUQ	Turquoise Mtn.	38.10	57	⇓P	P	05 45 25.9	-0.4
	baz=38,SNR=26						
DIB	Dawson Inlet,	38.13	22	T		06 25 34.1	
G05A	Wamic	38.13	40	P	P	05 45 27.1	+0.7
	baz=38,SNR=9.0						
Q09A	Carvers	38.14	51	⇓P	P	05 45 26.3	-0.3
	baz=38						
VIB	Van Inlet	38.15	22	T		06 25 31.7	
	SNR=2346						
GMRC	Granite Mounta	38.16	58	⇓P	P	05 45 25.9	-0.9
	baz=38,SNR=32						
I06A	Prineville	38.16	42	P	P	05 45 27.5	+0.9
	baz=38,SNR=31						
N08A	GE Springer Mi	38.16	48	⇓P	P	05 45 27.1	+0.3
	baz=38,SNR=10						
K07A	Rock Creek Ran	38.20	44	P	P	05 45 27.6	+0.5
	baz=38,SNR=37						
TPNV	Topopah Spring	38.26	54	eP	P	05 45 27.9	+0.3
TPNV				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.4						
TPNV				MLR	MLR		
	comp=Z,902nm,19.0s,MS4.6						
TPNV	Topopah Spring	38.26	54	P	P	05 45 28.0	+0.4
	baz=38,SNR=40						
TPNV	Topopah Spring	38.26	54	eP	P	05 45 27.9	+0.3
	comp=Z,72nm,1.0s,mb5.3						
TPNV				eTT		06 21 09.3	
TPNV				LR	LR		
	comp=Z,902nm,19.0s,MS4.6						
M08A	Happy Creek Ra	38.26	47	⇑P	P	05 45 27.8	+0.2
	baz=38,SNR=26						
S10A	Tonopah Range,	38.28	53	P	P	05 45 27.9	+0.1
	baz=38,SNR=30						
D04A	Dobbs Creek Ra	38.30	36	⇓P	P	05 45 28.5	+0.8
	baz=38						
F05A	White Salmon	38.38	39	P	P	05 45 29.1	+0.6
	baz=38,SNR=9.1						
P09A	Austin	38.42	50	⇓P	P	05 45 29.0	+0.1
	baz=38						
IRM	Iron Mountain	38.43	59	P	P	05 45 28.9	-0.2
	baz=38,SNR=25						
J07A	Hines	38.47	43	⇑P	P	05 45 29.3	+0.1
	baz=38,SNR=10						
H06A	Lindquist Farm	38.47	41	P	P	05 45 29.8	+0.5
	baz=38,SNR=35						
HDW	Hoodsport	38.47	35	P	P	05 45 30.2	+1.0
B04A	Port Angeles	38.47	34	⇓P	P	05 45 30.1	+0.8
	baz=38						
KDAK	Kodiak Island	38.47	2	P	P	05 45 30.0	+0.9
	comp=Z,33nm,0.8s,mb5.1,baz=191,slow=6.9,SNR=24						
KDAK	Kodiak Island	38.47	2	eP	P	05 45 29.8	+0.7
KDAK				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.3						
KDAK				MLR	MLR		
	comp=Z,668nm,20.0s,MS4.5						
KDAK	Kodiak Island	38.47	2	eP	P	05 45 29.8	+0.7
	comp=Z,69nm,1.0s,mb5.3						
KDAK				LR	LR		
	comp=Z,668nm,20.0s,MS4.5						
GLA	Glamis	38.48	61	eP	P	05 45 30.2	+0.7
GLA				pmax	pmax		
	comp=Z,373nm,2.0s,mb5.8						
GLA	Glamis	38.48	61	⇑P	P	05 45 29.2	-0.2
	baz=38,SNR=17						
GLA	Glamis	38.48	61	eP	P	05 45 30.2	+0.7
	comp=Z,373nm,2.0s,mb5.8						
WVOR	Wild Horse Val	38.49	45	P	P	05 45 29.6	+0.1
WVOR				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.0						
WVOR	Wild Horse Val	38.49	45	P	P	05 45 29.8	+0.3
WVOR				LR	LR		
	comp=Z,1µm,21.0s,MS4.7						
GNW	Green Mountain	38.55	36	eP	P	05 45 30.3	+0.5
C04A	Brinnon	38.56	35	P	P	05 45 30.9	+1.0
	baz=38,SNR=14						
E05A	Randle	38.58	38	P	P	05 45 30.6	+0.5
	baz=38,SNR=14						
L08A	Fields	38.59	46	P	P	05 45 30.6	+0.3
	baz=38,SNR=24						
112A	Yuma	38.59	62	⇓P	P	05 45 30.2	-0.3
	baz=38						
V11A	Goodsprings	38.59	56	⇑P	P	05 45 30.5	+0.1
	baz=38,SNR=16						
O09A	Fish Creek Ran	38.60	49	P	P	05 45 30.9	+0.5
	baz=38,SNR=23						
R10A	Warm Springs	38.61	52	P	P	05 45 31.0	+0.4
	baz=38,SNR=21						
N09A	Rock Creek Ran	38.62	48	P	P	05 45 31.3	+0.7
	baz=38,SNR=25						
LON	Longmire	38.65	37	P	P	05 45 31.1	+0.4
LDFC	Landfair	38.67	58	eP	P	05 45 31.6	+0.5
RVC	Mount Rainier-	38.67	37	P	P	05 45 31.8	+0.9
I07A	Izee	38.67	42	P	P	05 45 31.9	+0.9
	baz=39,SNR=31						
BMN	Battle Mountai	38.67	49	eP	P	05 45 31.7	+0.7
BMN				pmax	pmax		
	comp=Z,135nm,1.9s,mb5.3						
BMN				MLR	MLR		
	comp=Z,710nm,20.0s,MS4.5						
BMN	Battle Mountai	38.67	49	eP	P	05 45 31.7	+0.7
	comp=Z,135nm,1.9s,mb5.3						
BMN				LR	LR		
	comp=Z,710nm,20.0s,MS4.5						
Q10A	Clear Creek Ra	38.71	51	P	P	05 45 31.7	+0.3
	baz=39,SNR=16						
F06A	Goldendale	38.72	39	P	P	05 45 32.1	+0.8
	baz=39,SNR=8.8						
K08A	Mann Creek Ran	38.72	45	P	P	05 45 31.9	+0.5
	baz=39,SNR=64						
U11A	Corn Creek	38.78	56	⇓P	P	05 45 32.5	+0.5
	baz=39						
D05A	Enumclaw	38.80	37	P	P	05 45 33.2	+1.3
	baz=39,SNR=14						
S11A	Rachel	38.84	54	P	P	05 45 32.9	+0.4
	baz=39,SNR=26						
Y12C	Blythe	38.86	60	⇓P	P	05 45 32.6	-0.1
	baz=39,SNR=15						
PGC	Sidney	38.86	34	eP	P	05 45 33.2	+0.7
	comp=Z,366nm,2.2s,mb5.7						
H07A	Lands Inn, Kim	38.88	42	⇑P	P	05 45 32.9	+0.2
	baz=39,SNR=21						
M09A	Marrel Ranch,	38.89	47	P	P	05 45 33.6	+0.8
	baz=39,SNR=23						
W12A	Cal Nev Ari	38.91	57	⇓P	P	05 45 33.1	+0.1
	baz=39						
GSM	Grass Mountain	38.91	37	P	P	05 45 33.9	+1.0
P10A	Eureka	38.93	50	⇑P	P	05 45 33.3	+0.1
	baz=39,SNR=12						
SHPR	Sheep Range	38.98	55	eP	P	05 45 34.1	+0.5
L09A	Wilkinson Ranc	38.98	46	⇑P	P	05 45 33.9	+0.4
	baz=39,SNR=18						
NEE2	Needles Airpor	38.99	58	⇓P	P	05 45 33.2	-0.6
	baz=39						
J08A	Circle Bar Ran	39.01	44	P	P	05 45 34.1	+0.4
	baz=39,SNR=29						
E06A	Yakima	39.02	38	P	P	05 45 34.8	+1.0
	baz=39,SNR=46						
V12A	Nelson	39.02	57	⇓P	P	05 45 34.4	+0.3
	baz=39,SNR=33						
T11A	Corn Creek, Al	39.13	54	P	P	05 45 35.2	+0.3
	baz=39,SNR=42						
O10A	Cortez Mining,	39.14	49	⇓P	P	05 45 35.2	+0.3
	baz=39,SNR=11						
G07A	Ruggs Ranch, H	39.14	41	P	P	05 45 35.3	+0.4
	baz=39,SNR=24						
R11A	Troy Canyon, C	39.17	53	P	P	05 45 35.4	+0.2
	baz=39,SNR=46						
I08A	Drewsey	39.19	43	P	P	05 45 35.8	+0.5
	baz=39,SNR=37						
K09A	Rome	39.22	45	P	P	05 45 35.8	+0.2
	baz=39,SNR=31						
C05A	Tolt Reservoir	39.25	36	⇑P	P	05 45 36.0	+0.3
	baz=39,SNR=7.2						
Q11A	Duckwater	39.27	52	P	P	05 45 36.4	+0.4
	baz=39,SNR=47						
PDMCI	Parker Dam,Lak	39.28	59	⇓P	P	05 45 35.6	-0.6
	baz=39,SNR=12						
N10A	Dunphy	39.28	49	⇑P	P	05 45 36.2	0.0
	baz=39						
A04A	Legoe Bay, Lum	39.30	34	⇓P	P	05 45 36.7	+0.6
	baz=39						
F07A	Phinny Hill Vi	39.30	40	⇓P	P	05 45 36.5	+0.3
	baz=39						
113A	Mohawk Valley,	39.30	62	⇓P	P	05 45 35.9	-0.5
	baz=39,SNR=11						
B05A	Bryant	39.35	35	P	P	05 45 37.5	+0.9
	baz=39,SNR=18						
T12A	Moapa	39.38	55	⇑P	P	05 45 36.7	-0.3
	baz=39						
JCW	Jim Creek	39.40	35	eP	P	05 45 37.9	+0.9
H08A	Prairie City	39.41	42	P	P	05 45 37.5	+0.4
	baz=39,SNR=37						
P11A	Circle Ranch,	39.42	51	⇑P	P	05 45 37.3	0.0
	baz=39,SNR=17						
Y13A	Salome	39.44	60	⇓P	P	05 45 36.9	-0.6
	baz=39,SNR=14						
U12A	Valley of Fire	39.44	56	⇓P	P	05 45 37.7	+0.2
	baz=39						
D06A	Cle Elum	39.45	37	⇓P	P	05 45 38.1	+0.7
	baz=39,SNR=10						
J09A	Fry Pan Ranch,	39.47	44	P	P	05 45 38.1	+0.4
	baz=39,SNR=41						
S12A	Delamar Landin	39.51	54	⇓P	P	05 45 38.1	0.0
	baz=39,SNR=23						
M10A	I.L. Ranch, Tu	39.56	47	⇑P	P	05 45 39.0	+0.6
	baz=39,SNR=22						
X13A	Yucca	39.59	59	⇑P	P	05 45 38.3	-0.5
	baz=40,SNR=33						
G08A	Pilot Rock	39.59	41	P	P	05 45 38.8	+0.2
	baz=40,SNR=40						
W13A	Hualapai Mount	39.65	58	P	P	05 45 39.6	+0.4
	baz=40,SNR=50						
E07A	Sunnyside	39.69	39	⇓P	P	05 45 39.6	+0.2
	baz=40						
O11A	Cowboy Ranch,	39.69	50	⇑P	P	05 45 39.6	+0.1
	baz=40,SNR=12						
V13A	Grand Canyon W	39.74	57	P	P	05 45 40.1	+0.1
	baz=40,SNR=39						
I09A	Lost Marbles R	39.75	43	⇑P	P	05 45 39.8	-0.2
	baz=40,SNR=8.6						
RSW	Rattlesnake Hi	39.76	39	eP	P	05 45 40.7	+0.7
MBW	Mount Baker	39.76	35	P	P	05 45 40.8	+0.8
CRAG	Craig	39.77	20	eP	P	05 45 40.5	+0.5
	comp=Z,96nm,1.8s,mb5.2						
RPW	Rockport	39.78	35	eP	P	05 45 40.3	+0.2
HAWA	Hanford	39.79	39	eP	P	05 45 40.9	+0.6
	comp=Z,183nm,1.9s,mb5.5						
HAWA				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
A

214A **Organ Pipe Nat** 39.98 63 ⇓P P 05 45 42.1 +0.1
baz=40,SNR=14
M11A **Holland Ranch,** 40.05 48 P P 05 45 43.4 +0.9
baz=40,SNR=25
T13A **Saint George** 40.08 55 P P 05 45 43.2 +0.4
baz=40,SNR=21
Z14A **Wintersburg** 40.08 61 ⇓P P 05 45 42.6 -0.3
baz=40
H09A **Durkee** 40.11 42 ⇓P P 05 45 42.7 -0.3
baz=40,SNR=9.1
E08A **Dider Farm, El** 40.12 39 P P 05 45 43.5 +0.4
baz=40,SNR=19
Y14A **Wickenburg** 40.13 60 ⇑P P 05 45 42.5 -0.9
baz=40,SNR=24
J10A **Berg Farm, Mel** 40.16 45 ⇓P P 05 45 43.3 -0.1
baz=40
C07A **Waterville** 40.16 37 P P 05 45 43.8 +0.4
baz=40,SNR=12
A06A **Chilliwack** 40.17 34 ⇓P P 05 45 43.6 +0.2
baz=40
ELK **Elko** 40.20 49 *e*P P 05 45 44.2 +0.5
ELK pmax pmax
comp=Z,166nm,2.0s
ELK MLR MLR
comp=Z,1μm,19.0s
ELK **Elko** 40.20 49 *e*P P 05 45 44.2 +0.4
comp=Z,166nm,2.0s,mb5.4
ELK LR LR
comp=Z,1μm,19.0s,MS4.7
S13A **Holt Ranch, En** 40.26 54 P P 05 45 44.8 +0.5
baz=40,SNR=65
LNOR **Lincton Mounta** 40.28 40 P P 05 45 44.6 +0.2
LNOR **Lincton Mounta** 40.28 40 *e*P P 05 45 44.7 +0.3
W14A **Seligman** 40.32 58 ⇓P P 05 45 44.6 -0.2
baz=40,SNR=21
G09A **Cove** 40.32 42 P P 05 45 44.6 -0.1
baz=40,SNR=36
X14A **Yava** 40.33 59 ⇑P P 05 45 44.8 -0.1
baz=40,SNR=20
R13A **O'Grain Ranch,** 40.34 53 ⇑P P 05 45 45.0 0.0
baz=40,SNR=20
L11A **Cat Creek Ranc** 40.34 47 P P 05 45 45.4 +0.4
baz=40,SNR=54
N12A **Clover Valley,** 40.38 49 P P 05 45 45.8 +0.6
baz=40,SNR=23
V14A **Boquillas Ranc** 40.39 57 ⇓P P 05 45 45.1 -0.3
baz=40,SNR=18
K11A **Parker Ranch,** 40.39 46 P P 05 45 45.6 +0.3
baz=40,SNR=29
O12A **Currie** 40.39 50 ⇑P P 05 45 45.5 +0.1
baz=40,SNR=12
I10A **Payette** 40.41 44 ⇓P P 05 45 45.9 +0.4
baz=40
BMO **Blue Mountains** 40.42 42 *e*P P 05 45 45.0 -0.6
BMO LR LR
comp=Z,1μm,20.0s,MS4.8
F09A **S2 Ranch, Elgi** 40.44 41 P P 05 45 46.0 +0.4
baz=40,SNR=24
SIT **Sitka** 40.48 17 *e*P P 05 45 46.9 +1.0
SIT pmax pmax
comp=Z,123nm,1.5s,mb5.4
SIT MLR MLR
comp=Z,2μm,20.0s,MS5.0
SIT **Sitka** 40.48 17 *e*P P 05 45 46.9 +1.0
comp=Z,123nm,1.5s,mb5.4
SIT LR LR
comp=Z,2μm,20.0s,MS5.0
D08A **Wollman Farm,** 40.49 39 P P 05 45 46.3 +0.2
baz=40,SNR=17
U14A **Mt Trumbull** 40.50 56 P P 05 45 46.7 +0.3
baz=40,SNR=32
RAR **Rarotonga** 40.52 187 P P 05 45 48.1 +1.7
comp=Z,42nm,0.9s,mb5.1,baz=277,slow=8.1,SNR=3.2
RAR LR LR 05 58 56.9
comp=Z,2μm,18.8s,MS4.9,baz=354,slow=31
RAR **Rarotonga** 40.52 187 P P 05 45 48.1 +1.6
RAR pmax pmax
comp=Z,42nm,0.9s
Q13A **Wheeler Ranch,** 40.52 52 ⇓P P 05 45 46.2 -0.2
baz=40,SNR=24
B07A **Winthrop** 40.55 36 P P 05 45 47.0 +0.5
baz=40,SNR=18
115A **Sonoran Desert** 40.58 62 ⇑P P 05 45 46.5 -0.5
baz=40
ARUT **Antelope Range** 40.64 54 *e*P P 05 45 47.3 -0.1
ARUT **Antelope Range** 40.64 54 *e*P P 05 45 47.7 +0.2
M12A **Wells** 40.66 48 P P 05 45 48.2 +0.7
baz=40,SNR=30
H10A **Noah's Angus R** 40.66 43 P P 05 45 47.5 -0.1
baz=41,SNR=49
P13A **Bates Ranch, G** 40.67 51 ⇑P P 05 45 47.7 +0.1
baz=40,SNR=25
E09A **Wood Farm, Sta** 40.68 40 ⇑P P 05 45 47.4 -0.2
baz=41,SNR=6.4
Y15A **Casa Rosa Ranc** 40.69 60 ⇑P P 05 45 47.4 -0.5
baz=40,SNR=23
Z15A **Gila River Ind** 40.72 61 ⇑P P 05 45 47.8 -0.4
baz=41
T14A **Hurricane** 40.73 55 ⇓P P 05 45 48.0 -0.2
baz=41,SNR=20
A07A **Ashnola River,** 40.73 35 P P 05 45 48.8 +0.8
baz=41,SNR=22
G10A **Bishop Farm, J** 40.74 42 ⇓P P 05 45 48.2 +0.1
baz=41,SNR=21
MFID **Camas Ranch** 40.78 45 P P 05 45 48.5 -0.1
baz=41,SNR=17
OD2 **Odessa Site #2** 40.78 38 P P 05 45 48.5 0.0
C08A **Higginbotham F** 40.80 37 P P 05 45 48.8 +0.2
baz=41,SNR=34
WRAK **Wrangell Islan** 40.81 19 *e*P P 05 45 49.5 +1.0
comp=Z,62nm,1.2s,mb5.1
WRAK LR LR
comp=Z,1μm,20.0s,MS4.8
S14A **Cedar City** 40.84 54 ⇑P P 05 45 49.2 +0.1
baz=41,SNR=14
L12A **House Creek Ra** 40.85 47 P P 05 45 49.6 +0.6
baz=41,SNR=36
D09A **Jones Farm, Ri** 40.85 39 P P 05 45 49.3 +0.2
baz=41,SNR=10.0
X15A **Humboldt** 40.86 59 ⇓P P 05 45 48.9 -0.4
baz=41,SNR=34
I11A **Placerville** 40.89 44 P P 05 45 49.4 -0.1
baz=41,SNR=21
O13A **Hicks Ranch, I** 40.90 50 ⇓P P 05 45 49.8 +0.2
baz=41
B08A **Colville Reser** 40.94 37 P P 05 45 49.4 -0.3
baz=41,SNR=15
SEW **Seward** 40.96 4 *e*P P 05 45 48.9 -0.9
W15A **Williams** 40.96 58 ⇓P P 05 45 50.3 +0.1
baz=41,SNR=15
N13A **Wendover, West** 40.97 49 ⇓P P 05 45 50.3 +0.1
baz=41,SNR=13
F10A **Beach Ranch, E** 40.98 41 P P 05 45 50.1 -0.1
baz=41,SNR=79
116A **Eloy** 40.99 62 ⇑P P 05 45 49.8 -0.7
baz=41
SMY **Shemya** 41.01 332 *e*P P 05 45 50.8 +0.5
comp=Z,1μm,2.7s,mb6.1
SMY LR LR
comp=Z,1μm,20.0s,MS4.8
Q14A **Sevier Lake (B** 41.08 52 P P 05 45 51.4 +0.2
baz=41,SNR=32
R14A **James Farms, M** 41.09 53 ⇓P P 05 45 50.9 -0.2
baz=41
K12A **Draper Farm, C** 41.10 47 P P 05 45 51.5 +0.3
baz=41,SNR=22
216A **Three Points,** 41.13 63 ⇓P P 05 45 51.9 +0.3
baz=41
V15A **Kaibab Nationa** 41.17 57 P P 05 45 52.2 +0.4
baz=41,SNR=27
M13A **Montello** 41.17 49 P P 05 45 52.0 +0.3
baz=41,SNR=23
H11A **Donnelly** 41.19 43 P P 05 45 51.8 -0.1
baz=41,SNR=35
U15A **North Rim** 41.20 56 P P 05 45 52.6 +0.5
baz=41,SNR=34
J12A **Stokes Ranch,** 41.20 46 P P 05 45 52.2 +0.1
baz=41,SNR=43
C09A **Chrisman Ranch** 41.25 38 P P 05 45 52.4 +0.1
baz=41,SNR=15
T15A **Red Dirt Ranch** 41.26 56 ⇓P P 05 45 52.4 -0.2
baz=41,SNR=13
A08A **Turner Farm, O** 41.29 36 P P 05 45 53.0 +0.4
baz=41,SNR=52
E10A **Myers Farm, Un** 41.30 40 ⇓P P 05 45 52.2 -0.5
baz=41
PNT **Penticton** 41.30 35 P P 05 45 53.0 +0.3
SLKM **Skilak Lake** 41.31 4 *e*P P 05 45 52.9 +0.3

G11A **Walters Elk Ra** 41.33 42 P P 05 45 53.0 0.0
baz=41,SNR=37
Z16A **Peralta Trail,** 41.34 61 ⇓P P 05 45 53.2 0.0
baz=41,SNR=18
Y16A **Circle Bar Ran** 41.38 60 ⇑P P 05 45 53.7 +0.1
baz=41,SNR=38
P14A **Drum Mountains** 41.41 52 ⇓P P 05 45 53.9 +0.1
baz=41,SNR=26
S15A **Panguitch** 41.44 55 ⇓P P 05 45 54.6 +0.6
baz=41,SNR=21
D10A **Wagner Farm, O** 41.47 39 ⇓P P 05 45 53.3 -0.8
baz=41,SNR=9.4
X16A **Lo Mia Camp, P** 41.49 60 ⇑P P 05 45 54.9 +0.4
baz=41,SNR=23
W16A **Flagstaff** 41.54 59 ⇑P P 05 45 54.8 -0.1
baz=41,SNR=20
L13A **Double Diamond** 41.57 48 P P 05 45 55.6 +0.5
baz=42,SNR=29
F11A **Grangeville** 41.61 41 P P 05 45 54.4 -1.0
baz=42,SNR=17
R15A **Junction** 41.63 54 ⇓P P 05 45 55.7 +0.1
baz=42,SNR=16
B09A **Rice** 41.64 37 P P 05 45 55.1 -0.4
baz=42,SNR=16
217A **Green Valley** 41.64 64 ⇓P P 05 45 55.7 -0.1
baz=42,SNR=29
K13A **Stover Farm, H** 41.67 47 ⇓P P 05 45 55.8 -0.1
baz=42,SNR=6.5
A09A **Danville** 41.68 36 P P 05 45 55.9 0.0
baz=42,SNR=18
N14A **Grayback Hills** 41.70 50 P P 05 45 56.5 +0.4
baz=42,SNR=62
TUC **Tucson** 41.73 63 *e*P P 05 45 57.2 +0.7
TUC MLR MLR
comp=Z,534nm,19.0s,MS4.4
WUAZ **Wupatki** 41.74 58 ⇓P P 05 45 56.5 -0.1
baz=42,SNR=11
WUAZ **Wupatki** 41.74 58 *e*P P 05 45 57.7 +1.2
comp=Z,313nm,1.9s,mb5.6
WUAZ LR LR
comp=Z,1μm,21.0s,MS4.7
EYAK **Cordova Ski Ar** 41.75 7 *e*P P 05 45 56.7 +0.5
comp=Z,124nm,0.9s,mb5.5
SVW2 **Sparrevohn** 41.75 360 *e*P P 05 45 56.3 +0.1
MVU **Marysvale** 41.76 53 PFAKE 05 46 10.0 +13
MVU LR LR
comp=Z,969nm,19.0s,MS4.7
Q15A **Fillmore** 41.76 53 ⇓P P 05 45 56.9 +0.3
baz=42
DUG **Dugway** 41.77 51 *e*P P 05 45 57.1 +0.3
DUG pmax pmax
comp=Z,226nm,2.5s,mb5.4
DUG **Dugway** 41.77 51 P P 05 45 57.2 +0.5
baz=42,SNR=16
DUG **Dugway** 41.77 51 *e*P P 05 45 57.1 +0.4
comp=Z,226nm,2.5s,mb5.4
HLID **Hailey** 41.78 45 ⇓P P 05 45 57.2 +0.5
baz=42,SNR=44
HLID **Hailey** 41.78 45 *e*P P 05 45 57.0 +0.2
HLID LR LR
comp=Z,2μm,21.0s,MS4.8
MSU **Marysvale** 41.78 53 *e*P P 05 45 57.5 +0.6
E11A **Bogner Ranch,** 41.79 41 P P 05 45 55.6 -1.1
baz=42,SNR=12
M14A **Sheep Mountain** 41.80 49 ⇑P P 05 45 57.0 +0.1
baz=42,SNR=14
117A **Oracle** 41.80 62 P P 05 45 57.5 +0.4
baz=42,SNR=33
C10A **Spilker Farm,** 41.82 38 ⇑P P 05 45 56.8 -0.2
baz=42
BGU **Big Grassy Mou** 41.84 50 *e*P P 05 45 57.5 +0.2
Y17A **Roosevelt** 41.87 61 ⇓P P 05 45 57.7 +0.1
baz=42,SNR=25
J13A **Cove Ranch, Pi** 41.88 46 P P 05 45 57.9 +0.3
baz=42,SNR=24
RC01 **Rabbit Creek A** 41.92 4 *e*P P 05 45 57.7 +0.1
comp=Z,214nm,1.5s,mb5.6
T16A **Glen Canyon Da** 41.94 56 ⇓P P 05 45 57.7 -0.4
baz=42,SNR=20
P15A **Leamington** 41.99 52 ⇓P P 05 45 58.4 -0.1
baz=42,SNR=8.4
X17A **Forest Lakes** 42.00 60 ⇓P P 05 45 58.7 0.0
baz=42,SNR=23
D11A **Klaveano Farm,** 42.03 40 ⇑P P 05 45 57.9 -0.9
baz=42
S16A **Weppner Ranch,** 42.04 55 P P 05 45 59.5 +0.5
baz=42,SNR=41
L14A **Malta** 42.05 48 ⇑P P 05 45 58.8 -0.1
baz=42,SNR=20
O15A **The Old Anders** 42.05 51 ⇓P P 05 45 59.4 +0.4
baz=42,SNR=15
B10A **Chitwood Farm,** 42.11 38 ⇓P P 05 45 59.0 -0.3
baz=42
I13A **Wildhorse Cree** 42.12 45 P P 05 45 59.8 +0.3
baz=42,SNR=45
Z17A **San Carlos Hig** 42.12 61 ⇑P P 05 45 58.9 -0.8
baz=42
F12A **Elk City** 42.12 42 P P 05 45 58.8 -0.7
baz=42,SNR=36
NEW **Newport** 42.15 38 *e*P P 05 45 59.3 -0.4
N15A **Stansbury Isla** 42.20 50 ⇑P P 05 46 00.5 +0.3
baz=42
W17A **Winslow** 42.20 59 ⇑P P 05 46 00.7 +0.4
baz=42
NLU **North Lily Min** 42.25 51 *e*P P 05 46 01.0 +0.3
A10A **Northport** 42.26 37 ⇓P P 05 46 00.2 -0.4
baz=42,SNR=5.4
K14A **Jones Ranch, D** 42.27 47 P P 05 46 01.0 +0.3
baz=42,SNR=20
H13A **Challis** 42.28 44 ⇓P P 05 46 00.4 -0.4
baz=42
HVU **Hansel Valley** 42.29 49 *e*P P 05 46 01.4 +0.4
318A **Bisbee** 42.31 64 ⇓P P 05 46 01.0 -0.2
baz=42,SNR=17
DIV **Divide** 42.31 7 *e*P P 05 46 00.9 +0.1
comp=Z,119nm,1.6s,mb5.3
218A **Dragoon** 42.32 63 ⇑P P 05 46 01.2 -0.1
baz=42,SNR=35
SPUT **South Promonto** 42.38 49 *e*P P 05 46 02.1 +0.5
NOQ **North Oquirrh** 42.41 50 *e*P P 05 46 02.8 +0.8
M15A **Larsen Ranch,** 42.42 49 P P 05 46 02.2 +0.1
baz=42,SNR=45
Z18A **Geronimo** 42.45 62 ⇑P P 05 46 02.7 +0.3
baz=42
118A **Homack Ranch,** 42.45 63 ⇓P P 05 46 02.2 -0.2
baz=42,SNR=30
P16A **Fountain Green** 42.46 52 ⇓P P 05 46 02.6 +0.3
baz=42,SNR=16
PMR **Palmer** 42.46 4 *e*P P 05 46 01.9 -0.1
PMR **Palmer** 42.46 4 *e*P P 05 46 01.8 -0.2
comp=Z,226nm,1.7s,mb5.5
PMR LR LR
comp=Z,1μm,21.0s,MS4.8
T17A **Navajo Res., N** 42.49 56 P P 05 46 03.4 +0.7
baz=42,SNR=26
G13A **Cobalt** 42.50 43 P P 05 46 02.2 -0.4
baz=42,SNR=29
U17A **Shonto** 42.52 57 ⇓P P 05 46 02.9 0.0
baz=42,SNR=18
Y18A **Canyon Day Jun** 42.55 61 ⇑P P 05 46 03.0 -0.2
baz=42,SNR=39
MPU **Maple Canyon** 42.59 51 *e*P P 05 46 04.5 +1.1
MPU LR LR
comp=Z,2μm,22.0s,MS5.0
SKAG **Skagway** 42.59 15 *e*P P 05 46 03.7 +0.6
comp=Z,38nm,1.0s,mb5.1
D12A **Red Ives Fores** 42.63 40 ⇓P P 05 46 03.2 -0.4
baz=42
S17A **Black Ridge (B** 42.63 55 ⇓P P 05 46 03.0 -0.8
baz=42,SNR=17
L15A **Malad City** 42.64 48 P P 05 46 03.9 +0.1
baz=42,SNR=23
Q16A **Castle Valley** 42.65 53 ⇓P P 05 46 04.1 +0.2
baz=42,SNR=35
B11A **Sandpoint** 42.67 38 ⇓P P 05 46 03.1 -0.8
baz=43
TMUT **Trail Mountain** 42.72 53 *e*P P 05 46 05.4 +1.0
F13A **Darby** 42.72 42 P P 05 46 03.5 -0.9
baz=43,SNR=31
X18A **Snowflake** 42.73 60 ⇑P P 05 46 04.5 -0.2
baz=43,SNR=26
O16A **Springville** 42.74 51 ⇑P P 05 46 05.0 +0.4
baz=43
TBI **Tubuai** 42.76 172 *e*S S 05 52 28.1 -0.7
comp=Z,441nm,25.0s
TBI *e*LQ 05 55 45.8
comp=Z,1μm,29.2s
TBI *e*LR LR 05 57 47.1

comp=Z,4μm,27.8s,baz=347
K15A **Arbon** 42.76 47 ⇓P P 05 46 04.5 -0.2
baz=43
R17A **Hanksville Air** 42.88 54 P P 05 46 06.2 +0.5
baz=43,SNR=51
319A **Douglas** 42.91 64 ⇓P P 05 46 06.1 0.0
baz=43,SNR=16
A11A **Hall Mountain,** 42.93 37 P P 05 46 06.1 0.0
baz=43,SNR=20
V18A **Ganado** 42.94 58 ⇑P P 05 46 06.0 -0.2
baz=43,SNR=26
M16A **Huntsville** 42.97 50 P P 05 46 06.6 +0.2
baz=43,SNR=36
DAU **Daniels Canyon** 42.98 51 *e*P P 05 46 07.5 +0.9
N16A **Rees Ranch, Co** 42.98 50 ⇓P P 05 46 06.7 +0.2
baz=43,SNR=9.7
219A **White Tail Can** 42.98 64 ⇑P P 05 46 07.0 +0.3
baz=43
W18A **Petrified Fore** 42.99 59 ⇓P P 05 46 06.8 0.0
baz=43
119A **Ashpeak Ranch,** 43.03 62 ⇑P P 05 46 07.2 +0.2
baz=43,SNR=20
G14A **Jackson** 43.06 44 ⇓P P 05 46 06.8 -0.4
baz=43,SNR=7.4
E13A **Victor** 43.08 42 P P 05 46 06.8 -0.5
baz=43,SNR=25
HWUT **Hardware Ranch** 43.10 49 *e*P P 05 46 07.7 +0.1
HWUT LR LR
comp=Z,827nm,21.0s,MS4.6
P17A **Butcher Ranch,** 43.11 52 ⇑P P 05 46 07.8 +0.1
baz=43,SNR=18
U18A **Rough Rock, Ch** 43.11 57 ⇑P P 05 46 07.5 -0.2
baz=43,SNR=25
Z19A **T-Link Ranch,** 43.12 62 ⇓P P 05 46 08.0 +0.2
baz=43
B12A **Libby** 43.14 38 ⇓P P 05 46 07.7 -0.1
baz=43
SRU **San Rafael** 43.19 53 P P 05 46 08.5 +0.3
baz=43,SNR=39
SRU **San Rafael** 43.19 53 *e*P P 05 46 09.0 +0.8
DLBC **Dease Lake** 43.19 19 *e*P P 05 46 09.2 +1.3
D13A **Huson** 43.20 41 P P 05 46 07.8 -0.5
baz=43,SNR=35
Y19A **Nutrioso** 43.22 61 ⇓P P 05 46 08.9 +0.3
baz=43,SNR=36
T18A **Mexican Hat** 43.25 56 P P 05 46 08.9 +0.2
baz=43,SNR=65
X19A **St. Johns** 43.25 60 ⇑P P 05 46 09.1 +0.2
baz=43,SNR=27
S18A **Hurst Farm, Bl** 43.27 55 ⇑P P 05 46 08.5 -0.4
baz=43,SNR=40
W19A **Sanders** 43.27 59 ⇑P P 05 46 09.1 +0.1
baz=43,SNR=17
MCMT **McKenzie Canyo** 43.30 44 *e*P P 05 46 09.0 -0.1
MCMT *e*TT 06 21 57.2
L16A **Fish Haven** 43.32 49 P P 05 46 09.4 +0.1
baz=43,SNR=46
A12A **Yaak River Ran** 43.33 38 P P 05 46 09.3 +0.1
baz=43,SNR=8.7
HYT **Haines Junctio** 43.33 13 *e*P P 05 46 10.4 +1.3
F14A **Wisdom** 43.34 43 ⇓P P 05 46 09.2 -0.2
baz=43
C13A **Hot Springs** 43.38 40 P P 05 46 09.6 -0.1
baz=43,SNR=80
MSO **Missoula** 43.40 41 *e*P P 05 46 09.3 -0.5
MSO LR LR
comp=Z,894nm,20.0s,MS4.7
N17A **Moffit Pass** 43.43 50 P P 05 46 10.7 +0.4
baz=43,SNR=55
K16A **Soda Springs** 43.46 48 ⇑P P 05 46 10.5 0.0
baz=43,SNR=9.0
Q18A **Rafter H Ranch** 43.48 53 ⇑P P 05 46 10.4 -0.3
baz=43,SNR=21
R18A **Canyonlands Na** 43.49 54 ⇓P P 05 46 10.2 -0.5
baz=43,SNR=27
E14A **Clinton** 43.51 42 P P 05 46 10.7 -0.1
baz=43,SNR=34
P18A **Preston Nutter** 43.52 52 ⇑P P 05 46 11.1 +0.1
baz=43,SNR=15
J16A **Bone** 43.59 47 ⇓P P 05 46 11.5 0.0
baz=44
TTA **Tatalina** 43.59 359 *e*P P 05 46 11.0 -0.2
V19A **Window Rock** 43.65 58 ⇓P P 05 46 12.0 0.0
baz=44
G15A **Dillon** 43.67 44 P P 05 46 12.0 0.0
baz=44,SNR=21
DLMT **Dillon** 43.67 44 *e*P P 05 46 12.2 +0.1
comp=Z,92nm,1.2s,mb5.4
B13A **Whitefish** 43.76 39 P P 05 46 12.5 -0.3
baz=44,SNR=19
D14A **Greenough** 43.78 41 P P 05 46 12.3 -0.6
baz=44,SNR=29
AHID **Auburn Hatcher** 43.78 48 *e*P P 05 46 07.7 -5.3
comp=Z,158nm,2.3s,mb5.3
AHID LR LR
comp=Z,645nm,20.0s,MS4.5
RRI2 **Red Ridge** 43.82 47 *e*P P 05 46 13.9 +0.6
T19A **Beclabito** 43.86 57 ⇑P P 05 46 13.5 -0.2
baz=44,SNR=18
O18A **Roosevelt** 43.86 52 P P 05 46 14.2 +0.5
baz=44,SNR=23
CHMT **Chamberlain Mo** 43.87 41 *e*P P 05 46 13.1 -0.5
F15A **Butte** 43.92 43 P P 05 46 14.1 +0.1
baz=44,SNR=17
C14A **Swan Lake** 43.92 40 ⇑P P 05 46 13.3 -0.8
baz=44
LRM **Limekiln Ridge** 43.94 43 *e*P P 05 46 14.3 0.0
S19A **Harvey Farm, M** 43.95 55 ⇓P P 05 46 14.1 -0.3
baz=44,SNR=36
R19A **Curley Farm, L** 43.96 55 ⇑P P 05 46 14.0 -0.6
baz=44,SNR=10.0
A13A **Flathead Natio** 44.05 38 ⇓P P 05 46 14.8 -0.2
baz=44
E15A **Deer Lodge** 44.05 42 P P 05 46 14.8 -0.3
baz=44,SNR=18
Q19A **Hogan Spring (** 44.10 54 P P 05 46 15.3 -0.4
baz=44,SNR=21
TPAW **Teton Pass** 44.12 47 *e*P P 05 46 16.1 +0.4
comp=Z,101nm,1.0s,mb5.5
REDW **Red Top Meadow** 44.15 47 *e*P P 05 46 16.4 +0.5
PV10 **Paradox Valley** 44.15 54 *e*P P 05 46 16.1 0.0
SNOW **Snow King Moun** 44.24 47 *e*P P 05 46 17.1 +0.4
QLMT **Earthquake Lak** 44.25 45 *e*P P 05 46 17.4 +0.7
IMW **Indian Meadow** 44.26 46 *e*P P 05 46 16.9 0.0
comp=Z,56nm,1.3s,mb5.1
N18A **Larsen Ranch,** 44.29 51 ⇓P P 05 46 16.3 -0.8
baz=44,SNR=6.5
MENT **Mentasta** 44.31 7 *e*P P 05 46 17.0 +0.1
MVCO **Mesa Verde** 44.34 56 ⇓P P 05 46 17.7 +0.2
baz=44,SNR=35
MVCO **Mesa Verde** 44.34 56 *e*P P 05 46 18.3 +0.7
MOOW **Moose Ponds** 44.34 47 *e*P P 05 46 17.4 -0.1
comp=Z,72nm,1.5s,mb5.2
D15A **Lincoln** 44.38 42 P P 05 46 17.3 -0.4
baz=44,SNR=25
LOHW **Long Hollow** 44.40 47 *e*P P 05 46 17.9 0.0
comp=Z,110nm,1.6s,mb5.3
BOZ **Bozeman (W)** 44.41 44 P P 05 46 17.8 -0.1
baz=44,SNR=30
BOZ **Bozeman (W)** 44.41 44 *e*P P 05 46 17.8 -0.2
BOZ LR LR
comp=Z,926nm,19.0s,MS4.7
PV01 **Paradox Valley** 44.46 55 *e*P P 05 46 18.5 -0.1
YMR **Madison River** 44.50 45 *e*P P 05 46 20.0 +1.2
comp=Z,50nm,1.2s,mb5.2
YMR LR LR
comp=Z,2μm,19.0s,MS5.1
YFT **Old Faithful** 44.51 46 *e*P P 05 46 21.1 +2.2
YNR **Norris Junctio** 44.71 45 *e*P P 05 46 22.9 +2.5
LKWY **Lake** 44.84 46 *e*P P 05 46 23.7 +2.2
LKWY pmax pmax
comp=Z,51nm,1.5s,mb5.1
LKWY MLR MLR
comp=Z,3μm,19.0s,MS5.3
LKWY **Lake** 44.84 46 *e*P P 05 46 23.7 +2.2
comp=Z,51nm,1.5s,mb5.1
LKWY LR LR
comp=Z,3μm,19.0s,MS5.3
BPAW **Bear Paw Mtn.** 44.86 3 *e*P P 05 46 19.7 -1.6
comp=Z,170nm,1.4s,mb5.7
BW06 **Boulder Array** 44.87 48 *e*P P 05 46 20.9 -0.8
BW06 LR LR
comp=Z,389nm,21.0s,MS4.3
PDAR **Pinedale Array** 44.87 48 P P 05 46 21.1 -0.5
comp=Z,14nm,0.9s,mb4.8,baz=251,slow=4.5,SNR=98
PDAR LR LR 06 02 59.6
comp=Z,12nm,19.3s,baz=355,slow=33

LAZ Ladron 45.01 60 eP P 05 46 23.8 +0.8
LENM Lemitar 45.12 61 eP P 05 46 24.5 +0.7
Y22C IRIS PASSCAL I 45.15 61 ⇓P P 05 46 23.9 -0.2
baz=45
BNM Barren Site 45.40 61 eP P 05 46 26.7 +0.6
LPM Los Pinos Moun 45.42 61 eP P 05 46 27.0 +0.8
ANMO Albuquerque 45.63 60d iP P 05 46 25.6 -2.3
ANMO Albuquerque 45.63 60 eP P 05 46 28.4 +0.5
comp=Z,70nm,1.5s,mb5.4
ANMO LR LR
comp=Z,496nm,20.0s,MS4.5
GCMT Greycliff 45.74 44 eP P 05 46 29.2 +0.6
RLMT Red Lodge 45.79 45 eP P 05 46 29.5 +0.5
comp=Z,121nm,1.8s,mb5.5
RLMT LR LR
comp=Z,1μm,21.0s,MS4.8
COLA College 45.81 4 eP P 05 46 28.0 -0.8
COLA pmax pmax
comp=Z,155nm,1.6s,mb5.7
COLA MLR MLR
comp=Z,911nm,20.0s,MS4.7
COLA College 45.81 4 eP P 05 46 28.0 -0.8
comp=Z,155nm,1.6s,mb5.7
COLA LR LR
comp=Z,911nm,20.0s,MS4.7
SMCO Snowmass 45.89 54 eP P 05 46 25.7 -4.2
RWWY Rawlins 46.26 50 eP P 05 46 32.3 -0.5
EGAK Eagle 46.41 8 eP P 05 46 33.5 0.0
EGAK LR LR
comp=Z,2μm,21.0s,MS5.0
EGMT Eagleton 46.48 41 ⇑P P 05 46 33.7 -0.7
baz=46,SNR=19
EGMT Eagleton 46.48 41 eP P 05 46 34.3 -0.1
comp=Z,52nm,1.0s,mb5.4
EGMT LR LR
comp=Z,643nm,20.0s,MS4.6
RKT Rikitea 46.55 154 eP P 05 46 35.8 +0.7
comp=Z,260nm,1.5s,mb6.0
RKT eS S 05 53 20.8 -3.1
comp=Z,1μm,36.8s
RKT eLR LR 05 59 34.1
comp=Z,3μm,27.5s,baz=336
RKT Rikitea 46.55 154 eP P 05 46 35.8 +0.7
comp=Z,260nm,1.5s,mb5.9
RKT eS S 05 53 20.8 -3.1
EDM Edmonton 46.71 33 eP P 05 46 35.2 -0.9
IMA2 Indian Mountai 46.75 1 eP P 05 46 35.3 -0.9
SDCO Great Sand Dun 46.78 56 eP P 05 46 36.9 0.0
SDCO LR LR
comp=Z,421nm,20.0s,MS4.4
ISCO Idaho Springs 47.05 53 eP P 05 46 39.0 +0.1
ISCO MLR MLR
comp=Z,913nm,19.0s,MS4.8
GDL2 Guadalupe Moun 47.14 64 eP P 05 46 41.0 +1.2
LAO LASA Array 48.30 44 eP P 05 46 48.8 +0.3
LAO LR LR
comp=Z,1μm,20.0s,MS4.9
PET Petropavlovsk 48.93 325 eP P 05 46 53.6 +0.3
PET e 05 48 48.8
PET eS S 05 54 02.8 +5.6
PET pmax pmax
comp=Z,34nm,0.9s,mb5.4
PET MLR MLR
comp=Z,300nm,15.0s,MS4.4
PET Petropavlovsk 48.93 325⇑iP P 05 46 52.9 -0.4
PET LR LR
comp=Z,842nm,21.0s,MS4.7
RSSD Black Hills 49.10 48 eP P 05 46 53.8 -1.0
RSSD MLR MLR
comp=Z,587nm,19.0s,MS4.6
PETK Petropavlovsk- 49.49 324 P P 05 46 58.2 +0.6
comp=Z,26nm,0.8s,mb5.3,baz=101,slow=13,SNR=26
PETK LR LR 06 04 57.5
comp=Z,493nm,19.6s,MS4.5,baz=126,slow=33
AMTX Amarillo 49.54 60 eP P 05 46 58.1 -0.2
AMTX LR LR
comp=Z,221nm,20.0s,MS4.2
DGMT Dagmar 50.14 42 eP P 05 47 02.9 +0.3
DGMT LR LR
comp=Z,1μm,19.0s,MS4.9
PTCN Pitcairn Islan 50.41 150 PFAKE 05 47 20.0 +15
PTCN LR LR
comp=Z,3μm,19.0s,MS5.3
INK Inuvik 50.85 10 P P 05 47 06.3 -1.3
comp=Z,55nm,1.1s,mb5.4,baz=203,slow=8.7,SNR=52
INK Inuvik 50.85 10 P P 05 47 06.4 -1.3
INK pmax pmax
comp=Z,55nm,1.1s
INK Inuvik 50.85 10 eP P 05 47 06.5 -1.2
JCT Junction City 51.02 66 eP P 05 47 09.0 -0.5
YKA Yellowknife Ar 51.38 23 P P 05 47 10.8 -1.0
comp=Z,12nm,0.7s,mb4.9,baz=232,slow=7.4,SNR=85
YKA PcP PcP 05 48 25.4 -0.9
comp=Z,2.5nm,0.9s,baz=235,slow=3.2,SNR=5.3
YKA LR LR 06 05 16.2
comp=Z,524nm,18.1s,MS4.6,baz=210,slow=32
YKA Yellowknife Ar 51.38 23 P P 05 47 10.8 -1.0
YKA 05 48 25.4
YKA Yellowknife Ar 51.38 23 P P 05 47 10.8 -1.0
YKA PcP PcP 05 48 25.4 -0.9
YKA LR LR 06 05 16.2
CBKS Cedar Bluff 51.41 55 eP P 05 47 12.3 -0.1
YKW3 Yellowknife Ar 51.42 23 eP P 05 47 11.1 -0.9
WMOK Wichita Mounta 51.91 61 eP P 05 47 15.3 -0.9
WMOK MLR MLR
comp=Z,639nm,19.0s,MS4.7
HNR Honiara 52.64 241 LR LR 06 04 59.9
comp=Z,863nm,20.2s,MS4.8,baz=2.8,slow=31
HNR Honiara 52.64 241 PFAKE 05 47 30.0 +8.2
HNR LR LR
comp=Z,1μm,19.0s,MS4.9
KVTX Kingsville 52.81 70 PFAKE 05 47 30.0 +7.0
KVTX LR LR
comp=Z,1μm,22.0s,MS4.9
KSU1 Kansas State U 53.87 55 eP P 05 47 30.6 0.0
KSU1 LR LR
comp=Z,439nm,20.0s,MS4.5
ECSD EROS,Sioux Fal 54.31 50 eP P 05 47 32.1 -1.6
ECSD LR LR
comp=Z,225nm,19.0s,MS4.2
BILL Bilibino 54.39 343c iP P 05 47 33.1 -0.8
BILL e 05 49 36.4
BILL eS S 05 55 19.7 +7.8
BILL pmax pmax
comp=Z,293nm,2.5s,mb5.8
BILL Bilibino 54.39 343 eP P 05 47 33.1 -0.7
comp=Z,68nm,0.9s,mb5.6
BILL LR LR
comp=Z,811nm,20.0s,MS4.8
HKT Hockley 54.47 67 P P 05 47 34.0 -1.1
HKT pmax pmax
comp=Z,30nm,0.6s,mb5.4
HKT Hockley 54.47 67 eP P 05 47 35.1 0.0
comp=Z,30nm,0.6s,mb5.4
HKT LR LR
comp=Z,267nm,19.0s,MS4.3
NATX Nacogdoches 55.38 64 eP P 05 47 42.0 +0.3
NATX LR LR
comp=Z,802nm,20.0s,MS4.8
AGMN Agassiz Refuge 55.50 44 eP P 05 47 40.6 -1.7
AGMN LR LR
comp=Z,2μm,22.0s,MS5.1
DZM Mont Dzumac 55.66 224 eP P 05 47 47.2 +3.5
ULM Lac du Bonnet 55.84 42 P P 05 47 42.9 -1.8
comp=Z,33nm,1.1s,mb5.3,baz=273,slow=8.1,SNR=24
ULM LR LR 06 10 11.0
comp=Z,541nm,18.3s,MS4.7,baz=270,slow=35
ULM Lac du Bonnet 55.84 42 eP P 05 47 42.9 -1.8
comp=Z,70nm,1.1s,mb5.6
ULM LR LR
comp=Z,540nm,20.0s,MS4.6
MIAR Mount Ida 56.20 61 eP P 05 47 46.8 -0.8
SEY Seymchan 56.25 334⇑eP P 05 47 47.7 +0.3
SCIA State Center 56.63 52 eP P 05 47 49.8 -0.6
SCIA LR LR
comp=Z,906nm,20.0s,MS4.9
YSS Yuzh-Sakhalins 57.15 314 iP P 05 47 54.0 -0.1
YSS e 05 48 44.0
YSS e 05 50 07.0
YSS ePPP 05 51 26.0
YSS eS S 05 55 46.0 -3.4
YSS ePS 05 56 02.0
YSS e 05 57 45.0
YSS pmax pmax
comp=Z,120nm,1.5s,mb5.7
YSS pmax pmax
comp=Z,1μm,6.0s
YSS MLR MLR
comp=Z,700nm,16.0s,MS4.9
YSS Yuzh-Sakhalins 57.15 314⇑iP P 05 47 54.4 +0.3
YSS LR LR
comp=Z,245nm,21.0s,MS4.3
UALR University of 57.21 61 eP P 05 47 54.0 -0.7
GUMO Guam 57.55 274 P P 05 47 58.2 +0.8
comp=Z,121nm,0.9s,mb5.9,baz=197,slow=5.5,SNR=5.6
GUMO Guam 57.55 274 P P 05 47 58.2 +0.8
GUMO pmax pmax
comp=Z,121nm,0.9s,mb5.9
GUMO Guam 57.55 274 eP P 05 47 58.4 +1.0
comp=Z,234nm,1.2s,mb6.1
CCM Cathedral Cave 58.04 57 eP P 05 47 59.2 -1.3
CCM pmax pmax
comp=Z,104nm,1.7s,mb5.6
CCM MLR MLR
comp=Z,289nm,19.0s,MS4.4
CCM Cathedral Cave 58.04 57 eP P 05 47 59.2 -1.3
comp=Z,104nm,1.7s,mb5.6
CCM LR LR
comp=Z,289nm,19.0s,MS4.4
EYMN Ely 58.35 45 PFAKE 05 48 10.0 +7.5
EYMN LR LR
comp=Z,2μm,20.0s,MS5.2
FVM French Village 58.69 57 eP P 05 48 02.9 -2.1
FVM pmax pmax
comp=Z,60nm,1.3s,mb5.5
FVM French Village 58.69 57 eP P 05 48 02.9 -2.2
comp=Z,60nm,1.3s,mb5.5
FCC Fort Churchill 58.78 32 eP P 05 48 03.9 -1.3
VBMS Vicksburg 58.87 64 PFAKE 05 48 20.0 +14
VBMS LR LR
comp=Z,475nm,19.0s,MS4.6
JFWS Jewell Farm 58.87 51 eP P 05 48 04.6 -1.6
JFWS pmax pmax
comp=Z,134nm,1.4s,mb5.8
JFWS MLR MLR
comp=Z,541nm,20.0s,MS4.7
JFWS Jewell Farm 58.87 51 eP P 05 48 04.6 -1.6
comp=Z,134nm,1.4s,mb5.8
JFWS LR LR
comp=Z,541nm,20.0s,MS4.7
GNAR Gosnell 59.07 59 eP P 05 48 08.1 +0.4
PARMO Parma 59.26 58 eP P 05 48 08.4 -0.6
HALT Halls 59.62 59 eP P 05 48 11.1 -0.4
OXF Oxford 59.64 61 eP P 05 48 11.0 -0.7
OXF pmax pmax
comp=Z,84nm,1.2s,mb5.7
OXF MLR MLR
comp=Z,479nm,19.0s,MS4.7
OXF Oxford 59.64 61 eP P 05 48 11.0 -0.7
comp=Z,84nm,1.2s,mb5.7
OXF LR LR
comp=Z,479nm,19.0s,MS4.7
GLAT Glass 59.65 59 eP P 05 48 12.0 +0.3
SIUC Southern Illin 59.65 57 eP P 05 48 10.8 -0.8
COWI Conover 59.81 47 eP P 05 48 10.7 -1.9
comp=Z,77nm,1.3s,mb5.6
COWI LR LR
comp=Z,490nm,19.0s,MS4.7
MJAR Matsushiro Arr 60.22 302 P P 05 48 16.4 +0.8
comp=Z,20nm,0.9s,mb5.1,baz=91,slow=4.2,SNR=73
MJAR LR LR 06 09 19.0
comp=Z,356nm,20.2s,MS4.5,baz=105,slow=31
MAJO Matsushiro 60.22 302 eP P 05 48 16.7 +1.1
MAJO pmax pmax
comp=Z,38nm,0.8s,mb5.5
MAJO MLR MLR
comp=Z,572nm,19.0s,MS4.7
MAJO Matsushiro 60.22 302 eP P 05 48 16.7 +1.1
comp=Z,38nm,0.8s,mb5.5
MAJO LR LR
comp=Z,572nm,19.0s,MS4.7
MAT Matsushiro 60.22 302 P P 05 48 16.4 +0.8
MAT S S 05 56 27.0 -2.7
OLIL Olney 60.50 56 eP P 05 48 16.9 -0.6
comp=Z,192nm,1.5s,mb5.9
PLAL Pickwick Lake 60.71 60 eP P 05 48 16.9 -2.0
comp=Z,74nm,1.6s,mb5.6
PLAL LR LR
comp=Z,652nm,21.0s,MS4.8
USIN University of 60.87 57 eP P 05 48 19.5 -0.5
BLO Bloomington 61.71 55 eP P 05 48 25.1 -0.6
BLO pmax pmax
comp=Z,347nm,2.0s,mb6.1
BLO Bloomington 61.71 55 eP P 05 48 25.1 -0.6
comp=Z,347nm,2.0s,mb6.1
BRAL Brewton 61.92 65 PFAKE 05 48 40.0 +13
BRAL LR LR
comp=Z,551nm,20.0s,MS4.7
WCI Wyandotte Cave 61.94 56 eP P 05 48 26.0 -1.3
WCI pmax pmax
comp=Z,105nm,1.5s,mb5.8
WCI MLR MLR
comp=Z,209nm,19.0s,MS4.3
WCI Wyandotte Cave 61.94 56 eP P 05 48 26.0 -1.2
comp=Z,106nm,1.5s,mb5.8
WCI LR LR
comp=Z,209nm,19.0s,MS4.3
SWET Sewanee 62.44 60 eP P 05 48 29.7 -1.0
TEIG Tepich 62.55 77 PFAKE 05 48 40.0 +8.3
TEIG LR LR
comp=Z,384nm,19.0s,MS4.6
GLMI Grayling 62.97 49 eP P 05 48 33.1 -0.9
comp=Z,86nm,0.9s,mb5.9
GLMI LR LR
comp=Z,461nm,20.0s,MS4.7
CPCT Cooper Cave 63.57 59 eP P 05 48 37.2 -1.0
PMG Port Moresby 63.57 249 PFAKE 05 48 50.0 +12
PMG LR LR
comp=Z,654nm,20.0s,MS4.8
AAM Ann Arbor 63.74 52 PFAKE 05 48 50.0 +11
AAM LR LR
comp=Z,495nm,19.0s,MS4.7
RES Resolute Bay 63.82 15 eP P 05 48 37.2 -1.9
comp=Z,4μm,1.7s
TKL Tuckaleechee C 64.15 59 eP P 05 48 40.5 -1.5
TZTN Tazewell 64.25 58 eP P 05 48 41.5 -1.2
comp=Z,111nm,1.5s,mb5.7
ACSO Alum Creek Sta 64.38 54 eP P 05 48 42.9 -0.5
comp=Z,171nm,1.6s,mb5.8
ACSO LR LR
comp=Z,312nm,19.0s,MS4.5
KLR Kul'dur 64.64 316 eP P 05 48 41.0 -3.9
KLR pmax pmax
comp=E,94nm,2.2s
KLR pmax pmax
comp=Z,120nm,2.2s,mb5.5
GOGA Godfrey 64.66 61 eP P 05 48 43.5 -1.9
GOGA pmax pmax
comp=Z,139nm,1.5s,mb5.8
GOGA MLR MLR
comp=Z,634nm,19.0s,MS4.8
GOGA Godfrey 64.66 61 eP P 05 48 43.5 -1.9
comp=Z,138nm,1.5s,mb5.8
GOGA LR LR
comp=Z,634nm,19.0s,MS4.8
VLA Vladivostok 64.74 309 eP P 05 48 42.6 -3.1
VLA MLR MLR
comp=Z,500nm,17.8s,MS4.8
TGUH Tegucigalpa,Un 64.91 83 eP P 05 48 45.7 -1.5
comp=Z,44nm,1.1s,mb5.4
TGUH LR LR
comp=Z,348nm,20.0s,MS4.5
YAK Yakutsk 66.17 330c iP P 05 48 53.8 -0.9
YAK e*PP pP 05 48 57.3 -0.6
YAK e 05 51 17.8
YAK ePPP 05 52 51.8
YAK eS S 05 57 43.6 +0.3
YAK e 05 58 49.9
YAK eSS SS 06 02 04.1 +5.4
YAK pmax pmax
comp=Z,31nm,0.9s,mb5.3
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,19nm,1.5s
YAK smax
comp=N,503nm,7.2s
YAK smax
comp=E,820nm,9.2s
MDJ Mudanjiang 66.30 311 P P 05 48 55.8 0.0
MDJ PCP PcP 05 49 25.8 0.0
MDJ S S 05 57 46.8 +1.4
MDJ AMB AMB
comp=Z,42nm,1.8s,mb5.2
MDJ LR LR
comp=N,390nm,14.4s
MDJ LR LR
comp=E,709nm,24.3s
MDJ LR LR
comp=Z,900nm,25.6s
MDJ Mudanjiang 66.30 311 eP P 05 48 55.9 +0.1
comp=Z,86nm,1.5s,mb5.6
MDJ LR LR
comp=Z,599nm,22.0s,MS4.8
JSC Jenkinsville 66.37 60 eP P 05 48 56.0 -0.4
ALLY Alegheny Colle 66.40 52 eP P 05 48 55.4 -1.1
comp=Z,96nm,1.2s,mb5.7
ELN Prospectdale 66.40 57 eP P 05 48 55.7 -0.9
BLA Blacksburg 66.67 57 PFAKE 05 49 10.0 +12
BLA LR LR
comp=Z,351nm,21.0s,MS4.5
MCWV Mont Chateau 66.83 54 eP P 05 48 58.6 -0.7
comp=Z,122nm,1.5s,mb5.7
MCWV LR LR
comp=Z,559nm,20.0s,MS4.8
COW Cow Castle Cre 66.96 61 eP P 05 49 00.5 +0.3
DWPF Disney 67.20 67 eP P 05 49 02.3 +0.4
comp=Z,150nm,1.5s,mb5.8
DWPF LR LR
comp=Z,485nm,19.0s,MS4.7
TIXI Tiksi 67.40 341c iP P 05 49 02.2 -0.2
TIXI eS S 05 58 00.3 +2.4
TIXI e 05 58 57.9
TIXI pmax pmax
comp=Z,155nm,2.7s,mb5.6
TIXI MLR MLR
comp=Z,438nm,19.0s,MS4.7
TIXI Tiksi 67.40 341 eP P 05 49 02.9 +0.5
comp=Z,99nm,1.6s,mb5.6
TIXI LR LR
comp=Z,488nm,20.0s,MS4.7
NHSC New Hope 67.43 61 PFAKE 05 49 10.0 +6.8
NHSC LR LR
comp=Z,266nm,19.0s,MS4.5
KSRS Korea Array 68.33 303 P P 05 49 09.8 +1.1
comp=Z,16nm,1.0s,mb5.0,baz=81,slow=6.2,SNR=25
KSRS LR LR 06 16 46.6
comp=Z,329nm,19.1s,MS4.6,baz=78,slow=34
CLNS Chul'man 68.58 324 eP P 05 49 02.3 -7.7
CLNS pmax pmax
comp=Z,32nm,1.3s,mb5.1
URVA University of 68.89 56 eP P 05 49 11.5 -0.8
CNNC Cliffs of the 68.97 59 PFAKE 05 49 20.0 +7.1
CNNC LR LR
comp=Z,304nm,20.0s,MS4.5
SDMD Soldier's Deli 69.17 54 eP P 05 49 13.2 -0.8
comp=Z,95nm,1.4s,mb5.5
INCN Inchon 69.34 304 PFAKE 05 49 30.0 +15
INCN LR LR
comp=Z,465nm,19.0s,MS4.7
CN2 Changchun 69.35 310 ⇑P P 05 49 14.3 -0.7
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,18.0s,MS5.1
CN2 LR LR
comp=E,700nm,18.0s,MS5.1
CN2 LR LR
comp=Z,800nm,21.0s,MS4.9
BINY Binghamton 69.42 51 eP P 05 49 14.4 -1.1
comp=Z,52nm,1.0s,mb5.4
BINY LR LR
comp=Z,718nm,19.0s,MS4.9
CTA Charters Tower 69.47 239 P P 05 49 18.9 +2.9
comp=Z,2.6nm,0.3s,mb4.7,baz=22,slow=6.2,SNR=6.8
CTA Charters Tower 69.47 239 P P 05 49 18.9 +2.8
CTAO Charters Tower 69.47 239 PFAKE 05 49 30.0 +14
CTAO LR LR
comp=Z,778nm,20.0s,MS5.0
JOW Kunigami 69.89 292 P P 05 49 19.3 +0.6
comp=Z,28nm,0.8s,mb5.2,baz=138,slow=13,SNR=3.7
LONY Lake Ozonia 70.11 49 eP P 05 49 18.2 -1.5
comp=Z,102nm,1.6s,mb5.5
LONY LR LR
comp=Z,409nm,19.0s,MS4.7
NCB Newcomb 70.45 49 PFAKE 05 49 30.0 +8.2
NCB LR LR
comp=Z,465nm,20.0s,MS4.7
FRNY Flat Rock 70.78 48 eP P 05 49 22.6 -1.3
comp=Z,104nm,1.3s,mb5.6
ACCN Adirondack Com 70.94 50 eP P 05 49 24.0 -0.8
comp=Z,54nm,1.4s,mb5.3
CPNY Central Park 71.14 52 eP P 05 49 24.9 -1.2
comp=Z,226nm,1.6s,mb5.8
ARMA Armidale 71.14 227 eP P 05 49 29.1 +3.0
PAL Palisades 71.14 52 eP P 05 49 25.6 -0.5
PAL pmax pmax
comp=Z,163nm,1.5s,mb5.7
PAL Palisades 71.14 52 eP P 05 49 25.6 -0.5
comp=Z,163nm,1.5s,mb5.7
MDV Middlebury 71.19 49 eP P 05 49 25.0 -1.4
HNH Hanover 71.88 49 eP P 05 49 29.0 -1.5
comp=Z,225nm,1.5s,mb5.9
LBNH Lisbon 72.05 49 eP P 05 49 30.1 -1.4
LBNH e 05 49 46.2
LBNH pmax pmax
comp=Z,106nm,1.5s,mb5.5
LBNH MLR MLR
comp=Z,275nm,21.0s,MS4.5
LBNH Lisbon 72.05 49 eP P 05 49 30.1 -1.4
comp=Z,106nm,1.5s,mb5.5
LBNH ePcP PcP 05 49 46.2 -3.8
LBNH LR LR
comp=Z,275nm,21.0s,MS4.5
FFD Franklin Falls 72.37 49 eP P 05 49 33.0 -0.5
comp=Z,442nm,1.8s,mb6.1
HIA Hailar 72.46 317 PFAKE 05 49 40.0 +6.1
HIA LR LR
comp=Z,816nm,20.0s,MS5.0
HRV Adam Dziewonsk 72.61 50 PFAKE 05 49 50.0 +15
HRV LR LR
comp=Z,297nm,20.0s,MS4.6
BRYW Bryant College 72.73 51 eP P 05 49 32.1 -3.5
comp=Z,660nm,1.7s
WES Weston 72.81 50 eP P 05 49 32.7 -3.4
WES e 05 49 51.2
WES pmax pmax
comp=Z,363nm,1.6s,mb6.1
WES MLR MLR
comp=Z,1μm,20.0s,MS5.2
WES Weston 72.81 50 eP P 05 49 32.6 -3.4
comp=Z,363nm,1.6s,mb6.1
WES ePcP PcP 05 49 51.2 -2.1
WES LR LR
comp=Z,1μm,20.0s,MS5.2
DL2 Dalian 72.97 306⇑iP P 05 49 37.8 +0.7
DL2 S S 05 59 05.3 +1.1
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
DL2 AMB AMB
comp=Z,310nm,5.0s
DL2 LR LR
comp=N,340nm,23.4s,MS4.7
DL2 LR LR
comp=E,270nm,23.1s,MS4.7
DL2 LR LR
comp=Z,380nm,20.7s,MS4.7
BCIP Isla Barro Col 73.26 86 eP P 05 49 38.5 -0.7
comp=Z,171nm,1.5s,mb5.8
BCIP ePcP PcP 05 49 54.0 -1.7
BCIP LR LR
comp=Z,446nm,21.0s,MS4.7
SCHQ Schefferville 73.51 37 P P 05 49 38.4 -1.6
comp=Z,15nm,1.1s,mb4.8,baz=288,slow=9.6,SNR=3.7
SCHQ LR LR 06 20 53.4
comp=Z,295nm,18.2s,MS4.6,baz=301,slow=35
SCHQ Schefferville 73.51 37 eP P 05 49 38.3 -1.6
comp=Z,43nm,1.4s,mb5.2
SCHQ LR LR
comp=Z,666nm,21.0s,MS4.9
BOD Bodaibo 74.32 326 eP P 05 49 43.8 -0.8
BOD pmax pmax
comp=Z,65nm,2.0s,mb5.2
SSE Sheshan 75.01 298 P P 05 49 48.6 -0.6
SSE AP pP 05 49 52.4 0.0

SSE PP PP 05 52 34.4 -2.5
SSE S S 05 59 24.9 -2.5
SSE XS sS 05 59 30.3 -2.4
SSE AMB AMB
comp=Z,24nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,179nm,4.0s
SSE LR LR
comp=N,170nm,18.5s,MS4.8
SSE LR LR
comp=E,408nm,18.5s,MS4.8
SSE LR LR
comp=Z,461nm,18.0s,MS4.8
TATO Taipei 76.26 292 PFAKE 05 50 10.0 +14
TATO LR LR
comp=Z,770nm,19.0s,MS5.0
YHNB Yeheng 76.44 292 PFAKE 05 50 10.0 +13
YHNB LR LR
comp=Z,641nm,20.0s,MS4.9
NJ2 Nanjing 76.71 299 *e*P **P** **05 49 59.3 +0.4**
NJ2 AP pP 05 50 03.4 +1.3
NJ2 XP sP 05 50 07.0 +3.7
NJ2 PCP PcP 05 50 10.5 +0.2
NJ2 S S 05 59 49.0 +2.9
NJ2 XS sS 05 59 55.0 +3.6
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,550nm,9.4s
NJ2 LR LR
comp=N,430nm,29.6s,MS4.8
NJ2 LR LR
comp=E,490nm,25.3s,MS4.8
NJ2 LR LR
comp=Z,500nm,25.6s,MS4.7
BJI Beijing 76.84 308 P **P** **05 49 59.4 -0.1**
BJI S S 05 59 40.4 -6.9
BJI AMB AMB
comp=Z,47nm,1.8s,mb5.1
BJI AMB AMB
comp=Z,761nm,3.1s
BJI LR LR
comp=N,491nm,14.6s,MS5.1
BJI LR LR
comp=E,395nm,13.2s,MS5.1
BJT Baijiatuau 76.85 308 *e*P **P** **05 49 59.7 +0.2**
BJT pmax pmax
comp=Z,93nm,1.3s
BJT MLR MLR
comp=Z,585nm,21.0s
BJT Baijiatuau 76.85 308 *e*P **P** **05 49 59.7 +0.1**
comp=Z,93nm,1.3s,mb5.6
BJT LR LR
comp=Z,585nm,21.0s,MS4.9
TIA Tai'an 77.06 304 ⇑P **P** **05 50 00.6 -0.2**
TIA AMB AMB
comp=Z,64nm,0.8s,mb5.6
OTAV Otavalo 77.40 94 *e*P **P** **05 50 04.6 +1.5**
comp=Z,44nm,1.4s,mb5.2
OTAV LR LR
comp=Z,285nm,20.0s,MS4.6
DAV Davao City (W) 77.58 273 PFAKE 05 50 20.0 +16
DAV LR LR
comp=Z,530nm,20.0s,MS4.9
SFJD Kangerlussuaq 77.95 23⇑*i*P **P** **05 50 04.2 -0.9**
SFJD pmax pmax
comp=Z,58nm,1.1s,mb5.4
SFJD MLR MLR
comp=Z,760nm,18.0s,MS5.1
SFJD Kangerlussuaq 77.95 23⇑*i*P **P** **05 50 04.2 -0.9**
comp=Z,58nm,1.1s,mb5.4
SFJD *i* 05 51 56.7
SFJD
comp=Z,750nm,18.0s
STKA Stephens Creek 79.09 231 *e*P **P** **05 50 13.1 +1.1**
STKA Stephens Creek 79.09 231 P **P** **05 50 14.1 +2.1**
comp=Z,17nm,0.8s,mb5.0,baz=36,slow=6.5,SNR=11
STKA LR LR 06 20 25.4
comp=Z,431nm,19.9s,MS4.8,baz=46,slow=32
WRAB Tennant Creek 79.30 244 *e*P **P** **05 50 12.5 -0.9**
WB2 Warramunga Arr 79.30 244 *e*P **P** **05 50 12.0 -1.4**
WRA Warramunga Arr 79.31 244 P **P** **05 50 13.6 +0.1**
comp=Z,5.1nm,0.9s,mb4.4,baz=62,slow=5.5,SNR=16
SUMG Summit 79.32 16 *e*P **P** **05 50 11.2 -1.4**
comp=Z,25nm,1.3s,mb5.0
ROSC El Rosal 79.78 88 P **P** **05 50 18.4 +2.2**
comp=Z,7.9nm,0.7s,mb4.8,baz=107,slow=9.7,SNR=10
ROSC LR LR 06 16 26.5
comp=Z,259nm,21.4s,MS4.5,baz=355,slow=29
ROSC El Rosal 79.78 88 *e*P **P** **05 50 18.9 +2.7**
ATAH Atahualpa 79.94 101 P **P** **05 50 20.1 +3.0**
comp=Z,12nm,0.8s,mb4.8,baz=133,slow=9.0,SNR=11
HHC Hu-ho-hao-te 80.02 310 *e*P **P** **05 50 16.9 -0.1**
HHC AP pP 05 50 21.8 +1.6
HHC PCP PcP 05 50 24.6 +0.1
HHC PP PP 05 53 21.8 +3.2
HHC S S 06 00 18.8 -2.5
HHC XS sS 06 00 26.9 +0.2
HHC SKS 06 00 29.4
HHC SCS ScS 06 00 38.5 -3.7
HHC AMB AMB
comp=Z,27nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,516nm,7.1s
HHC LR LR
comp=N,456nm,15.6s,MS5.0
HHC LR LR
comp=E,385nm,16.2s,MS5.0
HHC LR LR
comp=Z,435nm,20.3s,MS4.8
DAG Danmarks Havn 80.68 9⇓*i*P **P** **05 50 19.0 -0.9**
DAG pmax pmax
comp=Z,44nm,1.4s,mb5.2
DAG Danmarks Havn 80.68 9⇓*i*P **P** **05 50 19.0 -0.9**
comp=Z,44nm,1.4s,mb5.2
WHN Wuhan 80.83 299 P **P** **05 50 22.0 +0.4**
WHN S S 06 00 34.3 +4.1
WHN AMB AMB
comp=Z,2μm,2.8s
WHN LR LR
comp=N,2μm,24.9s
WHN LR LR
comp=E,792nm,30.1s
WHN LR LR
comp=Z,1μm,23.6s,MS5.1
BTO Baotou 81.21 310 *e*P **P** **05 50 23.5 +0.1**
IRK Irkutsk 81.21 322 *e*P **P** **05 50 22.2 -1.0**
IRK pmax pmax
comp=Z,133nm,2.5s,mb5.4
ASAR Alice Springs 81.26 241 P **P** **05 50 24.4 +0.6**
comp=Z,12nm,0.9s,mb4.8,baz=72,slow=5.6,SNR=42
TAU Tasmania Unive 81.38 219 PFAKE 05 50 30.0 +6.0
TAU LR LR
comp=Z,734nm,19.0s,MS5.1
SONM Songino Array 81.40 318 P **P** **05 50 24.7 +0.4**
comp=Z,11nm,0.9s,mb4.8,baz=79,slow=3.2,SNR=53
SONM LR LR 06 24 49.3
comp=Z,545nm,18.2s,MS5.0,baz=69,slow=34
KBS Kingsbay 81.70 2 PFAKE 05 50 40.0 +15
KBS LR LR
comp=Z,432nm,19.0s,MS4.8
TLY Talaya 81.77 322 *e*P **P** **05 50 26.5 +0.4**
TLY *e* 05 53 34.1
TLY *e*S S 06 00 44.1 +4.9
TLY pmax pmax
comp=Z,53nm,2.1s,mb5.1
TLY Talaya 81.77 322 *e*P **P** **05 50 26.6 +0.4**
comp=Z,54nm,1.5s,mb5.2
TLY LR LR
comp=Z,612nm,21.0s,MS4.9
SDV Santo Domingo 82.00 83 PFAKE 05 50 40.0 +12
SDV LR LR
comp=Z,122nm,20.0s,MS4.3
ZAK Zakamensk 82.45 321⇓*i*P **P** **05 50 29.4 -0.3**
ZAK *e* 06 00 39.4
ZAK pmax pmax
comp=Z,17nm,2.2s,mb4.6
AOPR Arecibo Observ 82.68 73 *e*P **P** **05 50 30.3 -1.2**
comp=Z,10.0nm,0.6s,mb5.0
NNA Nana 83.16 105 P **P** **05 50 33.9 -0.2**
comp=Z,12nm,0.8s,mb5.0,baz=297,slow=9.0,SNR=5.8
NNA Nana 83.16 105 P **P** **05 50 33.9 -0.2**
NNA LR LR
comp=Z,694nm,20.0s,MS5.0
SJG San Juan 83.29 73 PFAKE 05 50 40.0 +5.3
SJG LR LR
comp=Z,309nm,20.0s,MS4.7
MOY Mondy 83.31 322 *e*P **P** **05 50 34.4 +0.2**
MOY pmax pmax
comp=Z,115nm,2.6s,mb5.5
CPD Cerro la Pandu 83.53 73 *e*P **P** **05 50 35.0 -0.9**
CPD pmax pmax
comp=Z,111nm,1.5s,mb5.8
CPD Cerro la Pandu 83.53 73 *e*P **P** **05 50 35.0 -0.9**
comp=Z,111nm,1.5s,mb5.8
HUMP Col San Antoni 83.56 73 *e*P **P** **05 50 35.4 -0.7**
comp=Z,55nm,1.1s,mb5.6
MTP Monte Pirata 83.84 73 *e*P **P** **05 50 35.8 -1.7**
XAN Xi'an 84.12 304 P **P** **05 50 37.3 -1.4**
XAN AP pP 05 50 50.4 +8.4
XAN S S 06 01 05.3 +1.5
XAN AMB AMB
comp=Z,33nm,1.5s,mb5.2
XAN AMB AMB
comp=Z,337nm,8.2s
XAN LR LR
comp=N,158nm,16.1s
XAN LR LR
comp=Z,503nm,17.2s,MS5.0
ENH Enshi 84.91 300 PFAKE 05 50 50.0 +7.3
ENH LR LR
comp=Z,3.0nm,20.0s
KKM Kota Kinabalu 86.72 275 PFAKE 05 51 00.0 +8.0
KKM LR LR
comp=Z,425nm,20.0s,MS4.8
KAPI Kappang 87.00 264 PFAKE 05 51 00.0 +6.6
KAPI LR LR
comp=Z,373nm,21.0s,MS4.8
PCRV Puerto La Cruz 87.20 80 P **P** **05 50 56.3 +1.9**
comp=Z,6.9nm,0.6s,mb5.1,baz=317,slow=7.1,SNR=5.1
LZH Lanzhou 87.31 307 ⇑P **P** **05 50 55.3 +0.8**
LZH AP pP 05 50 58.3 +0.5
LZH XP sP 05 50 59.5 +0.6
LZH PP PP 05 54 22.0 +3.6
LZH SKS 06 01 18.0
LZH *e*S S 06 01 32.3 -2.8
LZH XS sS 06 01 36.3 -4.2
LZH AMB AMB
comp=Z,105nm,1.8s,mb5.8
LZH AMB AMB
comp=Z,550nm,6.5s
LZH LR LR
comp=E,2μm,16.4s
LZH LR LR
comp=Z,2μm,17.2s,MS5.6
HVS Khovu-Aksy 87.67 324*d i*P **P** **05 50 57.0 +1.1**
QIZ Qiongzhong 88.34 289 P **P** **05 51 00.6 +0.9**
QIZ S S 06 01 38.3 -7.2
QIZ SS SS 06 07 34.0 -0.9
QIZ AMB AMB
comp=Z,19nm,1.9s,mb5.0
QIZ AMB AMB
comp=Z,329nm,7.8s
QIZ LR LR
comp=E,374nm,22.5s
QIZ LR LR
comp=Z,475nm,19.3s,MS4.9
QIZ Qiongzhong 88.34 289 PFAKE 05 51 10.0 +10
QIZ LR LR
comp=Z,496nm,19.0s,MS5.0
GYA Guiyang 88.54 297⇓*i*P **P** **05 51 00.8 +0.2**
GYA PP PP 05 54 30.3 +1.7
GYA SKS 06 01 26.8
GYA S S 06 01 44.0 -3.2
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.6
GYA AMB AMB
comp=Z,350nm,6.2s
GYA LR LR
comp=N,770nm,19.8s,MS5.3
GYA LR LR
comp=E,780nm,20.5s,MS5.3
GYA LR LR
comp=Z,660nm,20.1s,MS5.0
FORT Forrest 88.92 237 *e*P **P** **05 51 00.3 -1.8**
comp=Z,30nm,0.8s,mb5.7
GTA Gaotai 88.95 312 ⇑P **P** **05 51 03.0 +0.7**
GTA AP pP 05 51 06.6 +1.1
GTA XP sP 05 51 08.1 +1.4
GTA SKS 06 01 31.5
GTA S S 06 01 52.5 +1.9
GTA XS sS 06 02 00.5 +4.5
GTA AMB AMB
comp=Z,23nm,1.7s,mb5.2
GTA AMB AMB
comp=Z,414nm,7.5s
GTA LR LR
comp=N,419nm,19.8s,MS5.1
GTA LR LR
comp=E,500nm,18.0s,MS5.1
GTA LR LR
comp=Z,481nm,19.8s,MS4.9
CD2 Chengdu 89.30 302 *e*P **P** **05 51 03.0 -1.1**
CD2 AP pP 05 51 08.1 +0.7
CD2 XP sP 05 51 11.3 +2.8
CD2 PP PP 05 54 35.8 +1.3
CD2 SKS 06 01 30.3
CD2 S S 06 01 49.5 -4.7
CD2 XS sS 06 01 57.8 -1.8
CD2 SS SS 06 07 46.3 -1.9
CD2 AMB AMB
comp=Z,30nm,1.2s,mb5.5
CD2 AMB AMB
comp=Z,60nm,5.8s
CD2 LR LR
comp=N,560nm,15.8s,MS5.2
CD2 LR LR
comp=E,460nm,19.8s,MS5.2
CD2 LR LR
comp=Z,480nm,18.8s,MS5.0
GRGR Grenville 89.32 77 PFAKE 05 51 10.0 +5.6
GRGR LR LR
comp=Z,132nm,19.0s,MS4.4
ZALV Zalesovo Beam 90.81 329 P **P** **05 51 10.8 +0.2**
comp=Z,8.9nm,0.9s,mb5.1,baz=41,slow=5.3,SNR=13
ZALV LR LR 06 30 10.2
comp=Z,340nm,18.6s,MS4.8,baz=87,slow=34
ZALV Zalesovo Beam 90.81 329 P **P** **05 51 10.8 +0.2**
ZALV LR LR 06 30 10.2
ZAL Zalesovo 90.83 329 P **P** **05 51 10.8 +0.1**
NVS Novosibirsk 91.04 330 *e*P **P** **05 51 09.9 -1.8**
NVS *e*PPP 05 56 43.5
NVS *e*S SKSac 06 01 39.0 -4.8
NVS pmax pmax
comp=E,27nm,1.4s
NVS pmax pmax
comp=Z,44nm,1.4s,mb5.6
NVS pmax pmax
comp=N,24nm,1.7s
NVS smax
comp=N,29nm,2.4s
NVS smax
comp=E,42nm,2.4s
KEV Kevo 91.17 359 PFAKE 05 51 20.0 +8.0
KEV LR LR
comp=Z,444nm,19.0s,MS4.9
ARCES ARCESS Array B 91.41 360 P **P** **05 51 13.1 0.0**
comp=Z,10nm,1.1s,mb5.1,baz=353,slow=8.8,SNR=8.3
ARCES LR LR 06 34 53.0
comp=Z,308nm,18.3s,MS4.8,baz=2.4,slow=37
ARCES ARCESS Array B 91.41 360 P **P** **05 51 13.1 0.0**
ARCES LR LR 06 34 53.0
KMI Kunming 92.32 297 P **P** **05 51 17.5 -0.7**
KMI AP pP 05 51 22.1 +0.6
KMI XP sP 05 51 24.1 +1.4
KMI PP PP 05 54 57.0 -1.6
KMI SKS 06 01 48.8
KMI S S 06 02 19.3 -2.7
KMI XS sS 06 02 27.0 -0.5
KMI AMB AMB
comp=Z,12nm,1.7s,mb5.0
KMI AMB AMB
comp=Z,240nm,3.5s
KMI LR LR
comp=N,291nm,16.6s,MS4.9
KMI LR LR
comp=E,237nm,20.2s,MS4.9
KMI LR LR
comp=Z,408nm,28.5s
MBWA Marble Bar 92.44 249 PFAKE 05 51 30.0 +11
MBWA LR LR
comp=Z,538nm,20.0s,MS5.0
LPAZ La Paz 92.57 106 P **P** **05 51 20.0 +0.6**
comp=Z,7.4nm,0.9s,mb5.1,baz=294,slow=2.5,SNR=16
LPAZ LR LR 06 25 32.6
comp=Z,216nm,19.0s,MS4.6,baz=316,slow=31
LPAZ La Paz 92.57 106 *e*P **P** **05 51 20.0 +0.6**
LPAZ pmax pmax
comp=Z,7.0nm,0.8s
LPAZ MLR MLR
comp=Z,288nm,20.0s
LPAZ La Paz 92.57 106 *e*P **P** **05 51 20.0 +0.6**
comp=Z,6.6nm,0.8s,mb5.1
LPAZ LR LR
comp=Z,288nm,20.0s,MS4.7
APA Apatity 93.15 357⇓*i*P **P** **05 51 22.7 +1.5**
APA *i* 05 55 00.0
APA *i* 06 02 00.0
APA *i* S S 06 02 32.0 +4.2
APA *i* 06 03 40.0
APA pmax pmax
comp=Z,109nm,2.0s,mb5.9
APA MLR MLR
comp=Z,600nm,21.0s,MS5.0
LVC Limon Verde 93.94 112 *e*P **P** **05 51 28.2 +2.6**
LVC LR LR
comp=Z,790nm,21.0s,MS5.2
WMQ Urumqi 94.88 320 *e*P **P** **05 51 28.8 -0.8**
WMQ AP pP 05 51 33.6 +0.7
WMQ XP sP 05 51 35.8 +1.7
WMQ PP PP 05 55 19.8 +1.9
WMQ SKS 06 02 02.3
WMQ S S 06 02 39.3 -4.5
WMQ XS sS 06 02 47.4 -1.9
WMQ AMB AMB
comp=Z,8.0nm,0.8s,mb5.2
WMQ LR LR
comp=N,573nm,23.8s,MS5.0
WMQ LR LR
comp=E,279nm,20.0s,MS5.0
WMQ LR LR
comp=Z,397nm,21.8s,MS4.8
KURK Kurchatov 95.80 329*c i*P **P** **05 51 32.3 -1.3**
KURK Kurchatov 95.80 329 *e*P **P** **05 51 33.1 -0.6**
comp=Z,4.1nm,0.8s,mb4.9
KURK LR LR
comp=Z,599nm,20.0s,MS5.1
MK31 Makanchi Array 96.33 324 *e*P **P** **05 51 35.9 -0.3**
MKAR Makanchi Array 96.33 324 P **P** **05 51 36.2 0.0**
comp=Z,1.8nm,0.8s,mb4.6,baz=56,slow=4.5,SNR=11
MKAR LR LR 06 31 40.6
comp=Z,426nm,18.6s,MS5.0,baz=52,slow=33
MKAR Makanchi Array 96.33 324 P **P** **05 51 36.2 0.0**
MKAR LR LR 06 31 40.6
CFAA Coronel Fontan 97.37 121 P **P** **05 51 41.6 +0.5**
comp=Z,0.4nm,0.8s,baz=279,slow=4.8,SNR=7.9
BVAR Borovoye Array 97.91 334 P **P** **05 51 42.7 -0.4**
comp=Z,1.1nm,0.5s,mb4.6,baz=52,slow=5.8,SNR=5.6
BRVK Borovoye 97.93 334⇑*i*P **P** **05 51 42.4 -0.8**
BRVK MLR MLR
comp=Z,815nm,22.0s,MS5.2
CHTO Chiang Mai 98.02 293 PFAKE 05 51 50.0 +5.7
CHTO LR LR
comp=Z,262nm,19.0s,MS4.8
CM31 Chiang Mai Arr 98.16 293 PFAKE 05 52 00.0 +15
CM31 LR LR
comp=Z,337nm,20.0s,MS4.8
CMAR Chiang Mai Arr 98.16 293 P **P** **05 51 46.1 +1.1**
comp=Z,2.0nm,0.6s,mb4.8,baz=54,slow=3.5,SNR=9.5
CMAR LR LR 06 34 39.0
comp=Z,278nm,19.2s,MS4.8,baz=285,slow=35
PLCA Paso Flores 98.42 130 LR LR 06 25 36.4
comp=Z,852nm,18.6s,MS5.3,baz=319,slow=29
SIV San Ignacio 98.92 104 P **P** **05 51 47.1 -1.3**
comp=Z,1.1nm,0.8s,mb4.4,baz=298,slow=5.1,SNR=4.4
NOA NORSAR Array B 99.19 7 LR LR 06 34 01.5
comp=Z,292nm,19.8s,MS4.8,baz=335,slow=34
KLMR Klimovskoe 99.25 353 *e*P **P** **05 51 47.6 -1.4**
KLMR *e* 05 55 50.4
KLMR *e*S SKSac 06 02 22.8 -4.6
KLMR *e*PS PS 06 04 39.6 -7.9
KLMR pmax pmax
comp=Z,38nm,1.9s,mb5.6
ARU Arti 99.39 342 *e*P **P** **05 51 49.1 -0.6**
ARU pmax pmax
comp=Z,6.0nm,1.3s,mb5.0
ARU Arti 99.39 342 *e*P **P** **05 51 49.2 -0.5**
ARU LR LR
comp=Z,372nm,20.0s,MS4.9
SBA Scott Base 99.42 188 PFAKE 05 52 00.0 +11
SBA LR LR
comp=Z,1μm,20.0s,MS5.4
LSA Lhasa 99.67 306 PFAKE 05 52 00.0 +9.0
LSA LR LR
comp=Z,293nm,20.0s,MS4.8
VNDA Vanda 99.81 189 LR LR 06 29 51.3
comp=Z,622nm,18.9s,MS5.1,baz=10.0,slow=31
VNDA Vanda 99.81 189 PFAKE 05 52 00.0 +8.4
VNDA LR LR
comp=Z,852nm,20.0s,MS5.2
ESK Eskdalemuir 101.95 16 PFAKE 05 52 10.0 +8.9
ESK LR LR
comp=Z,572nm,21.0s,MS5.1
TKM2 Tokmak 2 102.46 324 PFAKE 05 52 10.0 +6.6
TKM2 LR LR
comp=Z,327nm,20.0s,MS4.8
UCH Uchtor 103.52 324 PFAKE 05 52 20.0 +12
UCH LR LR
comp=Z,165nm,20.0s,MS4.6
EKS2 Erkin-Say 103.63 325 PFAKE 05 52 20.0 +11
EKS2 LR LR
comp=Z,411nm,20.0s,MS5.0
AML Almayashu 104.03 325 PFAKE 05 52 20.0 +10
AML LR LR
comp=Z,286nm,20.0s,MS4.8
OBN Obninsk 105.21 353⇓*e*P Pdif 05 52 15.6 -0.1
OBN *i* 05 56 37.1
OBN *i* S SKSac 06 02 53.7 -2.2
OBN *e*PS PS 06 05 54.7 +4.0
OBN *e*SS SS 06 11 39.7 +10
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.8
OBN Obninsk 105.21 353 PFAKE 05 56 40.0 +10
OBN LR LR
comp=Z,410nm,22.0s,MS4.9
CLL Collm 108.94 8 *e*PP PP 05 57 01.0 -1.9
CLL *e*SKSac SKSac 06 03 08.0 -4.3
CLL *e*Sdif Sdif 06 04 36.0 -5.7
CLL *e*PS PS 06 06 22.0 -7.1
CLL *e*PPS 06 07 26.0
CLL *e*SS SS 06 12 28.0 +7.4
CLL *e*SSS 06 16 33.0
CLL *e*SSSS 06 19 52.0
CLL Lm 06 47 00.0
comp=N,200nm,18.2s
CLL Lm 06 47 00.0
comp=E,100nm,18.8s
CLL Lm 06 47 00.0
comp=Z,300nm,19.2s
CASY Casey 109.21 205 PFAKE 05 56 50.0 +13
CASY LR LR
comp=Z,496nm,20.0s,MS5.1
WLF Walferdange 109.37 13 PFAKE 05 56 50.0 +12
WLF LR LR
comp=Z,416nm,20.0s,MS5.0
BRG Berggiesshubel 109.48 7 *e*(P) PP 05 57 02.3 -4.6
comp=Z,3.3nm,0.9s
PVCC Panska Ves 109.89 7 *e*PP PP 05 57 11.1 +1.3
PVCC *e*SKS SKSac 06 03 22.6 +6.2
PVCC *e*PS PS 06 06 38.7 -0.1
PVCC *e*SS SS 06 12 44.3 +11
PVCC AMS AMS 06 45 30.0
comp=Z,300nm,15.9s
NKC Novy Kostel 109.91 8 *e*PP PP 05 57 13.3 +3.3
NKC *e*SKS SKSac 06 03 22.0 +5.5
NKC *e*PS PS 06 06 31.6 -7.4
NKC *e*SS SS 06 12 48.1 +14
NKC AMS AMS 06 45 40.0
comp=Z,400nm,18.9s
AKASG Malin Array Be 110.20 357 PP PP 05 57 12.2 +0.2
comp=Z,0.2nm,0.3s,baz=1.4,slow=7.3,SNR=5.1
AKASG Malin Array Be 110.20 357 *i* PKIKP PKiKP 05 56 43.7 +4.5
KIEV Kiev 110.21 357 PFAKE 05 56 50.0 +11
KIEV LR LR

comp=Z,479nm,20.0s,MS5.1
DPC Dobruska-Polom 110.25 6 *e*PP PP 05 57 15.6 +3.2
DPC *e*SKS SKSac 06 03 23.6 +5.7
DPC *e*PS PS 06 06 41.3 -1.0
DPC *e*SS SS 06 12 48.6 +10
DPC AMS AMS 06 42 50.0
comp=Z,200nm,16.8s
PRU Pruhonice 110.42 7 *e*PP PP 05 57 14.7 +1.0
PRU *e*SKS SKSac 06 03 24.0 +5.4
PRU *e*PS PS 06 06 43.9 +0.1
PRU *e*x x 06 12 52.7
PRU AMS AMS 06 43 50.0
comp=Z,300nm,20.0s
BDFB Brasilia 110.89 100 PFAKE 05 56 50.0 +8.6
BDFB LR LR
comp=Z,406nm,20.0s,MS5.0
OKC Ostrava-Krasne 110.92 5 *e*PP PP 05 57 20.0 +2.8
OKC *e*x x 06 03 28.9
OKC *e*PS PS 06 06 47.0 -1.4
OKC *e*SS SS 06 12 57.4 +10
OKC AMS AMS 06 45 20.0
comp=Z,200nm,18.4s
BFO Black Forest 111.08 12 PFAKE 05 56 50.0 +9.0
BFO LR LR
comp=Z,304nm,21.0s,MS4.9
KHC Kasperske Hory 111.14 8 *e*PP PP 05 57 18.9 0.0
KHC *e*x x 06 03 30.4
KHC *e*PS PS 06 06 51.1 +0.5
KHC *e*SS SS 06 12 52.2 +1.9
KHC AMS AMS 06 48 10.0
comp=Z,400nm,18.5s
TREC Trest 111.21 7 *e*PP PP 05 57 20.8 +1.4
KWP Kalwaria 111.35 1 PFAKE 05 56 50.0 +8.6
KWP LR LR
comp=Z,517nm,20.0s,MS5.1
GERES GERESS Array B 111.44 8 PKKPbc PKKPbc 06 07 45.1 +7.3
comp=Z,0.3nm,0.2s,baz=141,slow=5.1,SNR=3.9
KOLS Kolonicke sedl 112.04 2 *e*PP PP 05 57 24.0 -1.3
CRVS Cervenica-Dubn 112.04 2 *e*PP PP 05 57 21.2 -4.1
MODS Modra-Piesok 112.30 5 *e*PP PP 05 57 25.7 -1.4
PSZ Piszkesteto 112.95 4 PFAKE 05 56 50.0 +5.5
PSZ LR LR
comp=Z,326nm,20.0s,MS4.9
TUE Stuetta 113.06 12 PFAKE 05 57 00.0 +15
TUE LR LR
comp=Z,254nm,20.0s,MS4.8
MTE Manteigas 113.40 26 PFAKE 05 57 00.0 +14
MTE LR LR
comp=Z,315nm,21.0s,MS4.9
BNI Bardonecchia 113.86 14 PFAKE 05 57 00.0 +14
BNI LR LR
comp=Z,620nm,20.0s,MS5.2
JAVS Javornik 114.39 8 *i* PKPdf PKiKP 05 56 50.5 +3.1
BOJS Bojanci 114.92 7 *i* PKPdf PKiKP 05 56 51.2 +2.9
KIV Kislovodsk 114.96 346 PFAKE 05 57 00.0 +11
KIV LR LR
comp=Z,388nm,20.0s,MS5.0
ANN Anapa 115.18 350 *e*P Pdif 05 52 54.5 -5.5
ANN *e* 05 57 52.6
ANN pmax pmax
comp=Z,92nm,1.3s
ANN MLR MLR
comp=N,591nm,20.0s,MS5.3
ANN MLR MLR
comp=E,344nm,20.0s,MS5.3
ANN MLR MLR
comp=Z,372nm,20.0s,MS5.0
PAB San Pablo 115.42 25 PFAKE 05 57 00.0 +10
PAB LR LR
comp=Z,346nm,19.0s,MS5.0
ESDC Sonseca Array 115.46 24 PP PP 05 57 46.3 -3.6
comp=Z,2.4nm,1.0s,baz=330,slow=5.6,SNR=7.5
VLC Villacollemand 115.48 11 PFAKE 05 57 00.0 +10
VLC LR LR
comp=Z,351nm,21.0s,MS5.0
SIM Simferopol' 115.50 353 P Pdif 05 53 12.5 +11
SIM *e* 05 57 52.0
SIM MLR MLR
comp=Z,400nm,19.0s,MS5.0
SOC Sochi 115.95 348 *i* PKIKP PKPdf 05 56 55.8 +5.4
SOC *e* 05 57 56.6
SOC *e* 06 03 42.8
SOC *e*PS PS 06 07 28.3 -6.6
SOC *e*SS SS 06 13 59.1 +5.2
SOC MLR MLR
comp=Z,281nm,22.0s,MS4.8
SFS San Fernando 117.26 28 PFAKE 05 57 00.0 +6.8
SFS LR LR
comp=Z,528nm,22.0s,MS5.1
AQU L'Aquila 117.75 10 PFAKE 05 57 00.0 +6.0
AQU LR LR
comp=Z,271nm,21.0s,MS4.8
GNI Garni 118.01 343 *i* PKIKP PKPdf 05 56 53.1 -1.4
GNI Garni 118.01 343 PFAKE 05 57 10.0 +15
GNI LR LR
comp=Z,400nm,22.0s,MS5.0
PALK Pallekele 118.97 290 PFAKE 05 57 10.0 +13
PALK LR LR
comp=Z,274nm,21.0s,MS4.9
ANTO Ankara 120.67 353 PFAKE 05 57 10.0 +10
ANTO LR LR
comp=Z,216nm,19.0s,MS4.8
MALT Malatya 121.28 347 PFAKE 05 57 10.0 +9.1
MALT LR LR
comp=Z,203nm,22.0s,MS4.7
TIP Timpagrande 121.34 7 PFAKE 05 57 10.0 +9.1
TIP LR LR
comp=Z,256nm,20.0s,MS4.9
HOPE Hope Point 122.14 143 PFAKE 05 57 10.0 +8.2
HOPE LR LR
comp=Z,4.0nm,20.0s
ISP Isparta 122.91 355 PFAKE 05 57 10.0 +6.0
ISP LR LR
comp=Z,239nm,21.0s,MS4.8
KEST Kesra 123.34 15 PKP PKPdf 05 57 06.1 +1.2
comp=Z,0.6nm,0.6s,baz=293,slow=9.7,SNR=3.5
SANT Santorini 124.63 359 PFAKE 05 57 20.0 +13
SANT LR LR
comp=Z,236nm,21.0s,MS4.8
SNAA Sanae 125.19 170 PKP PKPdf 05 57 08.1 +0.8
comp=Z,0.8nm,0.8s,baz=220,slow=3.8,SNR=8.2
SNAA Sanae 125.19 170 PKIKP PKPdf 05 57 08.1 +0.9
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 125.19 170 *e*PKPdf PKPdf 05 57 08.2 +1.0
MAW Mawson 126.05 197 PFAKE 05 57 20.0 +11
MAW LR LR
comp=Z,1μm,21.0s,MS5.5
TORD Torodi Ar. Bea 140.52 37 PKhKP 05 57 30.6
comp=Z,2.2nm,0.8s,baz=323,slow=4.3,SNR=8.7
TORD PKP PKPdf 05 57 39.2 +1.5
comp=Z,2.3nm,0.6s,baz=331,slow=2.5,SNR=17
TORD PP PP 06 00 32.5 -2.8
comp=Z,3.7nm,0.9s,baz=317,slow=7.0,SNR=7.0
TORD Torodi Ar. Bea 140.52 37 PKP PKPdf 05 57 39.2 +1.5
TORD PP PP 06 00 32.5 -2.8
DBIC Dimbokro 141.00 51 PKP PKPdf 05 57 39.5 +0.9
comp=Z,6.0nm,0.7s,baz=92,slow=2.1,SNR=4.6
DBIC Dimbokro 141.00 51 PKP PKPdf 05 57 39.5 +0.9
DBIC LR LR
comp=Z,428nm,20.0s,MS5.2
MSEY Mahe Island 146.76 292 PFAKE 05 58 00.0 +11
MSEY LR LR
comp=Z,408nm,19.0s,MS5.2
KMBO Kilima Mbogo 158.22 325 PKP PKPdf 05 58 07.2 +1.6
comp=Z,2.2nm,0.9s,baz=18,slow=3.2,SNR=3.3
KMBO PKPab PKPab 05 58 40.8 +1.5
comp=Z,0.6nm,0.5s,baz=117,slow=4.5,SNR=3.3
KMBO Kilima Mbogo 158.22 325 PKP PKPdf 05 58 07.2 +1.6
KMBO PKPab PKPab 05 58 40.8 +1.5
KMBO LR LR
comp=Z,396nm,20.0s,MS5.2
OPO Ambohidratompo 158.83 268 PKPab PKPab 05 58 43.8 +1.8
comp=Z,1.8nm,0.7s,baz=152,slow=6.7,SNR=3.2
SUR Sutherland 166.49 165 PFAKE 05 58 20.0 +6.8
SUR LR LR
comp=Z,707nm,20.0s
BOSA Boshof 170.72 182 PKP PKPdf 05 58 17.8 +1.7
comp=Z,4.8nm,1.0s,baz=270,slow=1.0,SNR=3.4
BOSA PKPab PKPab 05 59 36.3 +2.7
comp=Z,5.5nm,1.0s,baz=196,slow=6.6,SNR=4.0
BOSA Boshof 170.72 182 PKIKP PKPdf 05 58 17.8 +1.7
BOSA pmax pmax
comp=Z,5.0nm,1.0s
BOSA pmax pmax
comp=Z,6.0nm,1.0s
TSUM Tsumeb 173.16 90 PFAKE 05 58 30.0 +13
TSUM LR LR
comp=Z,711nm,21.0s
LBTB Lobatse 174.27 187 *e*PKIKP PKPdf 05 58 16.5 -1.2
LBTB MLR MLR
comp=Z,783nm,19.0s
LSZ Lusaka 174.87 321 PKPab PKPab 05 59 55.2 +2.8
comp=Z,1.7nm,0.6s,baz=57,slow=3.0,SNR=4.8
LSZ Lusaka 174.87 321 PKP2 PKPab 05 59 55.2 +2.7
LSZ pmax pmax
comp=Z,2.0nm,0.6s
LSZ Lusaka 174.87 321 PFAKE 05 58 30.0 +12
LSZ LR LR
comp=Z,717nm,20.0s

IDC 14 05:42:19.9±16.0, 1183N×5728E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=549.8km s-min=35.7km az=81.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.74**	**26**	P	P	05 50 02.6	0.0
	0.4nm,0.6s,baz=215,slow=8.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**47.35**	**22**	P	P	05 50 55.4	-0.1
	1.7nm,0.4s,baz=211,slow=7.3,SNR=7.0						
WRA	**Warramunga Arr**	**82.11**	**112**	P	P	05 54 43.1	+0.1
	0.7nm,1.1s,baz=294,slow=4.5,SNR=5.5						
ASAR	**Alice Springs**	**82.74**	**116**	P	P	05 54 46.5	+0.2
	0.3nm,0.4s,baz=290,slow=5.0,SNR=3.9						

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*CSEM **14** 05:42:38.4±0.5, 3726N×2825E, h20km, MD2.7, Error ellipse: s-maj=15.2km s-min=6.7km az=34.0*
*ISK **14** 05:42:39.6, 37.18N×28.15E, h5km, MD2.7*
*ISCJB **14** 05:42:40.2±1.0, 3724N±006×2822E±007, h7km±8km, Error ellipse: s-maj=12.4km s-min=5.3km az=135.1*
*DDA **14** 05:42:40.2, 3726N×2824E, h7km±3km, Md2.6*
ISC 14 05:42:40.5±1.1, 3725N±006×2823E±006, h7km±17km, n7, σ0§70/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**160**	*e*PG	**Pg**	**05 42 42.2**	**-0.9**
YER				*e*SG	**Sg**	**05 42 44.9**	**0.0**
MLSB	**Milas**	**0.37**	**278**	*e*PG	**Pg**	**05 42 46.9**	**-0.9**
MLSB				*e*SG	**Sg**	**05 42 52.7**	**+0.2**
TURN	**Turunc**	**0.47**	**141**	*i* P	**Pg**	**05 42 49.3**	**-0.5**
TURN				*i* S	**Sg**	**05 42 57.3**	**+1.4**
AYDN	**Tasoluk**	**0.50**	**326**	*i* P	**Pg**	**05 42 50.0**	**-0.3**
AYDN				*i* S	**Sg**	**05 42 57.6**	**+0.8**
DALT	**Dalyan (Mudla)**	**0.57**	**146**	*e*PG	**Pg**	**05 42 51.5**	**-0.1**
BDRM	**Kayabasi**	**0.66**	**254**	*i* P	**Pg**	**05 42 53.6**	**+0.5**
BDRM				*i* S	**Sg**	**05 43 02.4**	**+0.7**
BODT	**Bodrum**	**0.76**	**256**	*e*PG	**Pg**	**05 42 54.2**	**-0.9**

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*ISCJB **14** 05:42:42.0±0.6, 2371S±005×6671W±0.10, h206km±10km, mb3.7/4, Error ellipse: s-maj=14.3km s-min=8.3km az=177.6*
*NEIC **14** 05:42:42.6±0.7, 2368S×6673W, h194km±10km, mb4.8/2, Error ellipse: s-maj=12.9km s-min=8.7km az=92.0*
*IDC **14** 05:42:43.1±0.9, 2366S×6669W, h196km±10km, mb3.6/4, mb1 3.6/11, mb1mx3.4/22, mbtmp3.5/11, Error ellipse: s-maj=14.6km s-min=12.7km az=100.0*
ISC 14 05:42:42.8±0.6, 2370S±005×6670W±010, h198km±10km, n22, σ1§02/30, mb3.7/4, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.31**	**297**	P	**Pn**	**05 43 25.8**	**+1.4**
	53nm,0.3s,baz=122,slow=6.9,SNR=129						
LVC				S	**Sn**	**05 43 57.5**	**+0.7**
	103nm,0.3s,baz=265,slow=20,SNR=27						
LVC	**Limon Verde**	**2.31**	**297**	*e*Pn	**Pn**	**05 43 25.8**	**+1.3**
LVC				*e*Sn	**Sn**	**05 43 57.7**	**+0.9**
LCO	**Las Campanas**	**6.40**	**213**	*e*Pn	**Pn**	**05 44 14.1**	**-1.1**
	22nm,0.3s						
LCO				*e*Sn	**Sn**	**05 45 18.7**	**-10**
LPAZ	**La Paz**	**7.49**	**349**	P	**Pn**	**05 44 30.6**	**+1.1**
	1.6nm,0.3s,baz=165,slow=6.9,SNR=38						
LPAZ				S	**Sn**	**05 45 53.8**	**-0.5**
	0.2nm,0.3s,baz=333,slow=15,SNR=3.3						
LPAZ	**La Paz**	**7.49**	**349**	*e*Pn	**Pn**	**05 44 30.8**	**+1.2**
LPAZ				*e*Sn	**Sn**	**05 45 52.5**	**-1.8**
LPAZ				S	**Sn**	**05 45 53.8**	**-0.5**
CFAA	**Coronel Fontan**	**8.00**	**189**	P	**Pn**	**05 44 35.4**	**-0.5**
	0.2nm,0.3s,baz=14,slow=13,SNR=38						
CFAA				S	**Sn**	**05 45 59.7**	**-6.3**
	1.1nm,0.3s,baz=146,slow=18,SNR=23						
CFAA	**Coronel Fontan**	**8.00**	**189**	P	**Pn**	**05 44 35.4**	**-0.5**
CFAA				S	**Sn**	**05 45 59.7**	**-6.3**
ARE	**Arequipa**	**8.49**	**327**	P	**Pn**	**05 44 40.0**	**-2.5**
ARE				*e*S	**Sn**	**05 46 12.0**	**-6.0**
CPUP	**Villa Florida**	**8.89**	**109**	P	**Pn**	**05 44 47.7**	**0.0**
	0.1nm,0.3s,baz=272,slow=12,SNR=5.5						
CPUP	**Villa Florida**	**8.89**	**109**	*e*Pn	**Pn**	**05 44 47.9**	**+0.3**
SIV	**San Ignacio**	**9.31**	**36**	P	**Pn**	**05 44 52.4**	**-0.9**
	1.8nm,0.3s,baz=235,slow=9.9,SNR=61						
SIV				S	**Sn**	**05 46 42.3**	**+4.7**
	0.2nm,0.3s,baz=135,slow=23,SNR=4.7						
TRQA	**Tornquist**	**14.87**	**165**	*e*Pn	**Pn**	**05 46 03.7**	**+0.3**
PLCA	**Paso Flores**	**17.29**	**190**	P	**Pn**	**05 46 31.6**	**-0.9**
	0.3nm,0.3s,baz=15,slow=11,SNR=6.3						
BDFB	**Brasilia**	**19.32**	**69**	P	**P**	**05 46 53.9**	**+0.7**
	0.7nm,0.3s,baz=249,slow=15,SNR=31						
BDFB	**Brasilia**	**19.32**	**69**	*e*P	**P**	**05 46 54.3**	**+1.2**
	20nm,0.9s						
SNAA	**Sanae**	**59.54**	**161**	P	**P**	**05 52 26.5**	**+1.5**
	0.4nm,0.5s,mb3.3,baz=271,slow=6.7,SNR=14						
DBIC	**Dimbokro**	**67.44**	**71**	P	**P**	**05 53 17.2**	**-0.4**
	4.8nm,0.7s,mb4.3,baz=150,slow=8.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**76.20**	**69**	P	**P**	**05 54 09.3**	**-0.4**
	3.5nm,0.5s,mb4.2,baz=259,slow=5.9,SNR=88						
TORD	**Torodi Ar. Bea**	**76.20**	**69**	P	**P**	**05 54 09.3**	**-0.4**
PDAR	**Pinedale Array**	**77.03**	**329**	P	**P**	**05 54 14.4**	**+0.7**
	0.3nm,0.7s,mb3.0,baz=134,slow=7.7,SNR=2.5						
MKAR	**Makanchi Array**	**146.12**	**39**	PKPbc	PKPbc	06 02 00.5	+1.1
	1.6nm,0.8s,baz=310,slow=4.1,SNR=7.9						
CMAR	**Chiang Mai Arr**	**165.62**	**109**	PKPab	PKPab	06 03 24.1	-0.2
	1.1nm,0.3s,baz=241,slow=5.8,SNR=4.3						

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*ISCJB **14** 05:52:32.7±0.5, 3049S±004×1780W±0.1, h33km, mb4.6/14, MS4.5/2, Error ellipse: s-maj=15.2km s-min=5.8km az=9.3*
*NEIC **14** 05:52:34.2±0.6, 3042S×17780W, h35km, mb5.1/5, Error ellipse: s-maj=17.0km s-min=12.6km az=99.0*
*IDC **14** 05:52:35.7±1.9, 3034S×17801W, h44km±18km, mb4.2/9, mb1 4.4/9, mb1mx4.2/14, mbtmp4.2/9, MS4.5/2, Ms1 4.5/2, ms1mx3.7/23, Error ellipse: s-maj=25.9km s-min=15.6km az=95.0*
ISC 14 05:52:30.2±2.0, 3046S±005×1780W±01, h6km±12km, n41, σ1§10/31, mb4.6/14, MS4.5/2, 2C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.21**	**3**	P	**Pn**	**05 52 53.9**	**+0.3**
	623nm,0.3s,baz=86,slow=20,SNR=25						
RAO				S	**Sg**	**05 53 08.6**	**-0.4**
	5μm,0.3s,baz=128,slow=23,SNR=17						
RAO	**Raoul Island**	**1.21**	**3**	*e*Pn	**Pn**	**05 52 53.9**	**+0.3**
RAO				*e*Sn	**Sn**	**05 53 09.1**	**-1.2**
URZ	**Urewera**	**8.77**	**206**	P	**Pn**	**05 54 37.6**	**0.0**
	2.9nm,0.3s,baz=289,slow=7.6,SNR=5.7						
URZ				S	**Sn**	**05 56 14.4**	**-2.4**
	11nm,0.3s,baz=195,slow=24,SNR=10						
RPZ	**Rata Peaks**	**15.84**	**210**	P	**Pn**	**05 56 12.1**	**-1.7**
	2.0nm,0.3s,baz=357,slow=0.8,SNR=9.6						
RPZ				S	**Sn**	**05 58 54.5**	**-15**
	1.1nm,0.3s,baz=75,slow=21,SNR=7.9						
ARMA	**Armidale**	**26.17**	**262**	*e*P	**P**	**05 58 10.7**	**+5.2**
CTA	**Charters Tower**	**33.83**	**279**	*e*P	**P**	**05 59 16.9**	**+3.5**
	15nm,0.5s,mb5.2						
CTAO	**Charters Tower**	**33.83**	**279**	*e*P	**P**	**05 59 15.5**	**+2.1**
	26nm,0.7s,mb5.3						
STKA	**Stephens Creek**	**34.48**	**257**	*e*P	**P**	**05 59 22.7**	**+3.7**
STKA	**Stephens Creek**	**34.48**	**257**	P	**P**	**05 59 22.8**	**+3.7**
	68nm,1.1s,mb5.5,baz=97,slow=9.9,SNR=40						
STKA	**Stephens Creek**	**34.48**	**257**	*e*P	**P**	**05 59 22.8**	**+3.8**
ASAR	**Alice Springs**	**43.12**	**267**	P	**P**	**06 00 32.5**	**+0.9**
	3.2nm,0.4s,mb4.4,baz=105,slow=7.7,SNR=52						
WB2	**Warramunga Arr**	**44.11**	**272**	⇑*i*P	**P**	**06 00 40.3**	**+0.8**
WRAB	**Tennant Creek**	**44.11**	**272**	*e*P	**P**	**06 00 40.5**	**+0.9**
	25nm,1.0s,mb4.9						
WRA	**Warramunga Arr**	**44.12**	**272**	P	**P**	**06 00 38.9**	**-0.7**
	0.9nm,1.0s,mb3.5,baz=112,slow=7.3,SNR=4.5						
WRA				LR	LR	06 19 32.6	
	comp=Z,430nm,18.4s,MS4.4,baz=55,slow=37						
VNDA	**Vanda**	**48.04**	**186**	P	**P**	**06 01 11.9**	**+2.1**
	1.4nm,0.3s,mb4.5,baz=14,slow=5.0,SNR=5.3						
FITZ	**Fitzroy Crossi**	**52.38**	**270**	*e*P	**P**	**06 01 44.0**	**+0.5**
	12nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.38**	**270**	LR	LR	06 25 22.1	
	comp=Z,493nm,18.2s,MS4.6,baz=228,slow=38						
CASY	**Casey**	**55.09**	**208**	*e*P	**P**	**06 02 02.4**	**-0.3**
	28nm,0.8s,mb5.3						
QSPA	**South Pole Qui**	**59.65**	**180**	P	**P**	**06 02 36.2**	**+1.6**
	4.0nm,0.8s,mb4.5,baz=36,slow=2.5,SNR=11						
MAW	**Mawson**	**72.26**	**201**	P	**P**	**06 03 56.2**	**+0.3**
	3.6nm,0.8s,mb4.4,baz=116,slow=7.9,SNR=10						
SYO	**Syowa Base**	**77.06**	**193**	⇑*e*P	**P**	**06 04 21.8**	**-2.0**
SNAA	**Sanae**	**78.09**	**178**	*e*	**P**	**06 04 29.0**	**-0.5**
SNAA				*e*		06 04 36.6	
MJAR	**Matsushiro Arr**	**78.30**	**325**	P	**P**	**06 04 29.9**	**-1.1**
	0.8nm,0.8s,mb3.7,baz=154,slow=4.1,SNR=4.8						
VNA2	**Neumayer--Watz**	**78.68**	**177**	*e*	**P**	**06 04 32.8**	**+0.1**
VNA2				*e*		06 04 40.7	
VNA1	**Neumayer--Stat**	**78.91**	**177**	*e*	**P**	**06 04 34.7**	**+0.7**
VNA1				*e*		06 04 43.0	
PLCA	**Paso Flores**	**82.45**	**133**	P	**P**	**06 04 53.2**	**-0.4**
	4.3nm,1.3s,mb4.2,baz=211,slow=16,SNR=3.4						
PETK	**Petropavlovsk-**	**85.87**	**346**	P	**P**	**06 05 10.0**	**-0.4**
	6.3nm,0.7s,mb4.9,baz=116,slow=6.2,SNR=10.0						
NVAR	**Mina Array Bea**	**88.27**	**43**	P	**P**	**06 05 23.0**	**+0.6**
	0.9nm,0.7s,mb4.1,baz=221,slow=9.4,SNR=8.9						
MKAR	**Makanchi Array**	**117.82**	**310**	PKP	PKPdf	06 11 16.1	-1.2
	1.2nm,0.6s,baz=116,slow=0.2,SNR=10						
ZALV	**Zalesovo Beam**	**118.09**	**318**	PKP	PKPdf	06 11 16.2	-1.3
	0.5nm,0.3s,baz=177,slow=2.5,SNR=2.1						
ARCES	**ARCESS Array B**	**138.65**	**348**	PKhKP		06 11 45.0	
	2.1nm,0.9s,baz=7.6,slow=3.7,SNR=4.2						
ARCES				PKP	PKPdf	06 11 55.5	-0.7
	3.6nm,0.7s,baz=356,slow=4.9,SNR=5.4						
JOF	**Joensuu**	**142.48**	**338**	*e*pkp	PKPdf	06 11 58.5	-4.7
KAF	**Kangasniemi**	**144.61**	**340**	*e*pkp	PKPdf	06 12 03.9	-3.1
	baz=39,slow=3.2						
NB2	**NORSAR Subarra**	**148.81**	**351**	PKP	PKPdf	06 12 16.7	+2.6
	comp=Z,5.4nm,0.8s,baz=12,slow=2.8						
NOA	**NORSAR Array B**	**148.81**	**351**	PKPbc	PKPbc	06 12 17.3	-0.7
	comp=Z,5.2nm,0.8s,baz=14,slow=4.3,SNR=14						
NOA	**NORSAR Array B**	**148.81**	**351**	PKPbc	PKPbc	06 12 17.3	-0.7
AKASG	**Malin Array Be**	**151.36**	**323**	PKPbc	PKPbc	06 12 23.6	-0.8
	comp=Z,16nm,0.7s,baz=38,slow=2.4,SNR=57						
AKBB	**Malin Array Si**	**151.36**	**323**	*e*PKPbc	PKPbc	06 12 23.6	-0.8
KHC	**Kasperske Hory**	**159.39**	**338**	*e*PKPab	PKPab	06 13 06.5	-0.4
GERES	**GERESS Array B**	**159.60**	**337**	PKPab	PKPab	06 13 07.1	-0.7
	comp=Z,0.3nm,0.3s,baz=76,slow=7.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**162.77**	**179**	PKPab	PKPab	06 13 22.2	-0.2
	comp=Z,1.7nm,0.8s,baz=173,slow=4.0,SNR=6.7						

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*IDC **14** 06:09:28.8±1.9, 3777N×2445E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.7/3, MS4.2/2, Ms1 4.2/2, ms1mx3.1/34, Error ellipse: s-maj=321.8km s-min=26.0km az=139.0*
*ISCJB **14** 06:09:28.9±0.5, 3852N±002×2379E±003, h9km±3km, mb3.6/3, MS4.1/2, Error ellipse: s-maj=3.9km s-min=2.9km az=166.8*
*ATH **14** 06:09:29.6, 3850N×2379E, h22km±1km, MD3.7/13, ML3.7*
*NEIC **14** 06:09:29.6, 3850N×2379E, h22km, ML3.7(ATH), ML4.2(THE), After ATH.*
*CSEM **14** 06:09:30.7±0.1, 3851N×2380E, h20km, ML3.7, Error ellipse: s-maj=2.8km s-min=2.1km az=82.0*
*THE **14** 06:09:31.1, 3852N×2377E, h15km, ML4.2*
ISC 14 06:09:29.5±0.5, 3853N±002×2380E±003, h7km±3km, n53, σ1§29/76, mb3.6/3, MS4.1/2, 4C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	**Penteli**	**0.48**	**174**	*e*PB	**Pg**	**06 09 38.5**	**-0.3**
ATH	**Athens Observa**	**0.56**	**186**	*e*PN	**Pg**	**06 09 40.3**	**0.0**
ATH				*e*SN	**Sg**	**06 09 48.2**	**+0.6**
LKR	**Lokris**	**0.64**	**281**	*e*Pg	**Pg**	**06 09 41.4**	**-0.4**
LKR				*e*Sg	**Sg**	**06 09 51.6**	**+1.6**
LKR	**Lokris**	**0.64**	**281**	*e*Pn	**Pg**	**06 09 41.9**	**+0.2**
LKR				*e*Sg	**Sg**	**06 09 51.6**	**+1.6**
AOS	**Alonnisos**	**0.64**	**6**	*e*Pg	**Pg**	**06 09 43.4**	**+1.6**
KVR	**Kavouri**	**0.70**	**182**	*e*PN	**Pn**	**06 09 42.5**	**-3.3**
NAIG	**Nisos Aigina**	**0.81**	**198**	*e*PN	**Pn**	**06 09 44.5**	**-2.7**
LTK	**Loutraki**	**0.83**	**232**	*e*Pg	**Pg**	**06 09 44.6**	**-0.7**
LTK				*e*Sg	**Sg**	**06 09 57.5**	**+1.4**
NEO	**Neokhori**	**0.89**	**330**	⇓*i*PN	**Pn**	**06 09 48.0**	**-0.4**
NEO				*e*SN	**Sn**	**06 09 59.9**	**-1.7**
XOR	**Xorichti**	**0.96**	**331**	*e*Pg	**Pg**	**06 09 48.7**	**+0.8**
XOR				*e*Sg	**Sg**	**06 10 02.2**	**+1.8**
DID	**Didima**	**1.11**	**204**	*e*Pg	**Pg**	**06 09 49.9**	**-0.9**
DID				*e*Sg	**Sg**	**06 10 04.8**	**-0.5**
AGG	**Agios Georgios**	**1.25**	**294**	*e*Pg	**Pg**	**06 09 53.4**	**0.0**
AGG				*e*Sg	**Sg**	**06 10 11.1**	**+1.6**
PAIG	**Paliouri**	**1.40**	**356**	*e*Pg	**Pg**	**06 09 55.2**	**-1.1**
PAIG				*e*Sg	**Sg**	**06 10 13.7**	**-0.8**
EVR	**Evrytania**	**1.60**	**285**	⇑*i*PN	**Pn**	**06 09 59.1**	**+0.9**
EVR				*e*SN	**Sn**	**06 10 19.6**	**+0.6**
VLX	**Vlachokerasia**	**1.61**	**224**	*e*Pg	**Pg**	**06 09 58.3**	**-2.1**
VLX				*e*Sg	**Sg**	**06 10 18.9**	**-2.4**
THL	**Klokotos Trika**	**1.73**	**307**	*e*Pb	**Pb**	**06 10 00.1**	**-1.5**
THL				*e*Sb	**Sb**	**06 10 21.6**	**-1.8**
THL	**Klokotos Trika**	**1.73**	**307**	⇓*i*Pn	**Pn**	**06 10 00.3**	**+0.4**
THL				*e*Sb	**Sb**	**06 10 21.6**	**-1.8**
CHOS	**Chios island**	**1.78**	**94**	*e*Pb	**Pb**	**06 10 01.1**	**-1.3**
CHOS				*e*Sb	**Sb**	**06 10 24.4**	**-0.5**
OUR	**Ouranopolis**	**1.81**	**5**	*e*Pb	**Pb**	**06 10 01.3**	**-1.6**
PLG	**Polygyros**	**1.86**	**352**	*e*Pb	**Pb**	**06 10 01.9**	**-1.9**
PLG				*e*Sb	**Sb**	**06 10 24.3**	**-2.9**
PLG	**Polygyros**	**1.86**	**352**	⇑*i*Pb	**Pb**	**06 10 02.2**	**-1.6**
PLG				*e*Sb	**Sb**	**06 10 24.3**	**-2.9**
PLG				*e*Sn	**Sn**	**06 10 25.8**	**+0.4**
LIT	**Litokhoron**	**1.87**	**328**	*e*Pb	**Pb**	**06 10 01.9**	**-2.0**
LIT				*e*Sb	**Sb**	**06 10 25.0**	**-2.4**
RLS	**Riolos of Patr**	**1.89**	**256**	*e*PN	**Pn**	**06 10 03.3**	**+1.1**
VLI	**Veliai**	**1.93**	**201**	⇑*i*PN	**Pn**	**06 10 02.9**	**+0.2**
ITM	**Ithomi**	**2.00**	**228**	⇑*i*PN	**Pn**	**06 10 04.8**	**+1.1**
ITM				*e*SN	**Sn**	**06 10 29.0**	**+0.1**
PRK	**Paraskevi**	**2.06**	**69**	*e*Pn	**Pn**	**06 10 05.2**	**+0.8**
PRK	**Paraskevi**	**2.06**	**69**	*e*PN	**Pn**	**06 10 05.4**	**+1.0**
HORT	**Hortiatis**	**2.13**	**346**	*e*Pn	**Pn**	**06 10 06.0**	**+0.5**
HORT				*e*Sn	**Sn**	**06 10 32.5**	**+0.3**
BOZC	**Bozcaada**	**2.19**	**53**	*i* P	**Pn**	**06 10 06.5**	**+0.3**
THE	**Thessaloniki**	**2.19**	**343**	*e*Pn	**Pn**	**06 10 06.2**	**-0.1**
THE				*e*Sn	**Sn**	**06 10 32.5**	**-1.1**
THE	**Thessaloniki**	**2

0.6nm,0.3s,mb3.8,baz=281,slow=10,SNR=3.4

IDC 14 06:14:58.7±3.4,3022S×13656E,h0km,mb1 3.1/3, mb1mx3.0/15,mbtmp2.8/3,ML2.5/3,Error ellipse: s-maj=86.1km s-min=15.8km az=44.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.09**	**123**	Pn	Pn	06 15 49.8	+1.1
	0.3nm,0.3s,baz=304,slow=14,SNR=4.1						
STKA				Sn	Sn	06 16 29.3	+3.0
	1.1nm,0.3s,baz=293,slow=16,SNR=5.4						
STKA				Lg		06 16 35.2	
	2.2nm,0.3s,baz=194,slow=22,SNR=8.9						
ASAR	**Alice Springs**	**7.73**	**326**	Pn	Pn	06 16 52.5	0.0
	0.0nm,0.3s,baz=152,slow=12,SNR=4.3						
ASAR				Sn	Sn	06 18 23.1	+2.3
	0.1nm,0.3s,baz=150,slow=22,SNR=4.9						
WRA	**Warramunga Arr**	**10.92**	**339**	Pn	Pn	06 17 35.8	-0.4
	0.1nm,0.3s,baz=156,slow=13,SNR=4.3						
WRA				Sn	Sn	06 19 39.0	-0.1
	0.0nm,0.3s,baz=162,slow=24,SNR=2.9						

IDC 14 06:18:46.2±1.4, 1010S×11936E, h0km, mb4.0/4, mb1 4.0/8, mb1mx3.9/18, mbtmp3.9/8, ML3.9/4, MS4.7/1, Ms1 4.5/1, ms1mx3.4/28, Error ellipse: s-maj=45.9km s-min=18.9km az=45.0

ISCJB 14 06:18:50.6±3.6, 102S±0.1×1195E±03, h54km±31km, mb3.9/4, Error ellipse: s-maj=48.8km s-min=9.8km az=159.9

NEIC 14 06:18:51.8±0.9, 997S×11972E, h35km, Error ellipse: s-maj=33.1km s-min=7.7km az=61.0

ISC 14 06:18:53.0±2.9,102S±01×1195E±03,h56km±25km,n12, σ0§53/16,mb3.9/4,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.08**	**90**	Pn	Pn	06 19 53.6	+0.8
	9.6nm,0.3s,baz=270,slow=18,SNR=5.2						
BATI				Sn	Sn	06 20 44.3	+4.9
	14nm,0.3s,baz=187,slow=17,SNR=4.3						
KAPI	**Kappang**	**5.17**	**3**	*e*Pn	Pn	06 20 03.0	-4.8
KAPI				*e*Sn	Sn	06 21 05.8	-0.3
FITZ	**Fitzroy Crossi**	**9.84**	**144**	Pn	Pn	06 21 11.4	-0.3
	0.7nm,0.3s,baz=332,slow=8.6,SNR=23						
FITZ				Sn	Sn	06 22 55.2	-5.5
	1.7nm,0.3s,baz=180,slow=18,SNR=18						
WRA	**Warramunga Arr**	**17.26**	**126**	P	Pn	06 22 49.9	-0.3
	0.3nm,0.3s,baz=294,slow=13,SNR=14						
WRA				S	S	06 25 52.5	-15
	0.3nm,0.3s,baz=297,slow=23,SNR=4.8						
WB2	**Warramunga Arr**	**17.27**	**126**	*e*P	Pn	06 22 50.0	-0.4
ASAR	**Alice Springs**	**19.17**	**136**	P	Pn	06 23 13.8	+0.4
	0.5nm,0.3s,baz=311,slow=13,SNR=25						
ASAR				S	S	06 26 37.0	-9.5
	0.1nm,0.3s,baz=306,slow=22,SNR=3.7						
MJAR	**Matsushiro Arr**	**49.72**	**20**	P	P	06 27 38.8	-0.7
	0.2nm,0.4s,mb3.5,baz=211,slow=6.8,SNR=2.7						
SONM	**Songino Array**	**58.95**	**350**	P	P	06 28 47.1	+0.8
	0.3nm,0.4s,mb3.7,baz=160,slow=8.6,SNR=3.9						
MKAR	**Makanchi Array**	**65.76**	**333**	P	P	06 29 32.4	+0.5
	1.9nm,0.6s,mb4.3,baz=148,slow=7.2,SNR=18						
MKAR	**Makanchi Array**	**65.76**	**333**	P	P	06 29 32.4	+0.5
ZALV	**Zalesovo Beam**	**70.34**	**339**	P	P	06 30 00.2	-0.3
	1.7nm,0.6s,mb4.2,baz=147,slow=4.5,SNR=6.6						
BOSA	**Boshof**	**88.88**	**241**	LR	LR	07 02 59.1	
	comp=Z,357nm,21.2s,baz=133,slow=30						

JMA 14 06:21:36.4±0.4, 4705N×14175E, h22km, M3.6

SKHL 14 06:21:36.7±0.3, 4680N×14170E, h10km, mb3.8/6

ISCJB 14 06:21:39.9±1.0, 4685N±004×14196E±008, h23km±10km, Error ellipse: s-maj=9.2km s-min=5.9km az=3.3

ISC 14 06:21:38.7±0.7,4684N±003×14181E±004,h10km±5km, n16,σ1§05/29,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.66**	**80**	*e*Pg	**Pg**	**06 21 51.0**	**-0.5**
YSS				AMB	AMB	06 21 51.8	
	50nm,0.7s						
YSS				*e*Sg	**Sg**	**06 22 01.0**	**+0.9**
YSS				A		06 22 03.0	
	950nm,0.4s						
YSS				A		06 22 03.0	
	3μm,0.4s						
YSS				AMS	AMS	06 22 16.0	
	900nm,8.0s						
JWK2	**Keihoku**	**1.52**	**178**	P	**Pn**	**06 22 05.9**	**-0.1**
JWK2				*e*S	**Sn**	**06 22 27.3**	**+1.5**
JRR	**Rishiri**	**1.73**	**192**	P	**Pn**	**06 22 08.9**	**0.0**
JRR				*e*S	**Sn**	**06 22 33.4**	**+2.3**
JSE	**Soyaes**	**1.96**	**164**	P	**Pn**	**06 22 11.5**	**-0.4**
JSE				*e*S	**Sn**	**06 22 38.0**	**+1.5**
UGL	**Uglegorsk**	**2.25**	**4**	*e*Pb	**Pb**	**06 22 19.0**	**-0.4**
UGL				*e*Pg	**Pg**	**06 22 22.5**	**+0.7**
UGL				AMB	AMB	06 22 25.0	
	58nm,0.5s						
UGL				*e*S	**Sn**	**06 22 43.0**	**-0.7**
UGL				A		06 22 53.0	
	157nm,0.9s						
UGL				A		06 22 53.0	
	217nm,0.9s						
UGL				*e*Sg	**Sg**	**06 22 55.5**	**+4.5**
UGL				A		06 22 56.5	
	179nm,0.4s						
JYG	**Yagishiri**	**2.43**	**186**	P	**Pn**	**06 22 18.9**	**+0.5**
JSS	**Shosan**	**2.44**	**179**	P	**Pn**	**06 22 18.4**	**-0.2**
JKK2	**Kamakawa 2**	**3.04**	**167**	P	**Pn**	**06 22 27.0**	**+0.2**
JTKR	**Abashiri--Toko**	**3.23**	**152**	P	**Pn**	**06 22 29.0**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**4.00**	**133**	*e*P	**Pn**	**06 22 38.5**	**-1.5**
YUK				*e*S	**Sn**	**06 23 25.3**	**-1.6**
YUK				A		06 23 32.8	
	116nm,0.5s						
TEY	**Ternei**	**4.05**	**245**	*e*P	**Pn**	**06 22 38.8**	**-2.0**
TEY				*e*Pg	**Pg**	**06 22 56.0**	**-0.4**
TEY				AMB	AMB	06 22 57.5	
	10.0nm,0.8s						
TEY				*e*Sg	**Sg**	**06 23 48.8**	**0.0**
TEY				A		06 23 52.5	
	19nm,0.7s						
TYV	**Tymovskoe**	**4.07**	**8**	*e*Pg	**Pg**	**06 22 58.0**	**+1.4**
TYV				AMB	AMB	06 22 59.0	
	9.0nm,0.4s						
TYV				*e*S	**Sn**	**06 23 30.6**	**+2.0**
TYV				A		06 23 34.5	
	7.0nm,0.5s						
TYV				*e*Sg	**Sg**	**06 23 57.0**	**+7.7**
TYV				A		06 23 59.0	
	9.0nm,0.3s						
KUR	**Kuril'sk**	**4.51**	**109**	*e*S	**Sn**	**06 23 38.5**	**-1.1**
KUR				A		06 23 40.0	
	45nm,0.4s						
GRNR	**Gornyy**	**5.30**	**320**	*e*P	**Pn**	**06 22 53.0**	**-4.9**
GRNR				*e*Pg	**Pg**	**06 23 20.5**	**+0.2**
GRNR				AMB	AMB	06 23 22.0	
	7.0nm,0.6s						
GRNR				*e*S	**Sn**	**06 23 53.2**	**-5.8**
GRNR				*e*Sg	**Sg**	**06 24 28.0**	**-0.9**
GRNR				A		06 24 29.0	
	10.0nm,0.5s						
KLR	**Kul'dur**	**7.16**	**293**	*e*rx	rx	06 25 24.2	
EKMR	**Ekimchan**	**8.45**	**321**	*e*Pg	Px	06 25 03.0	
EKMR				AMB	AMB	06 25 13.9	
	3.0nm,0.5s						

ISCJB 14 06:23:05.3±1.9, 1594S±005×16751E±007, h48km±16km, mb4.8/47, MS4.4/35, Error ellipse: s-maj=11.5km s-min=7.9km az=153.5

MOS 14 06:23:05.2±1.5, 1570S×16734E, h33km, mb5.3/12, MS4.7/8, Error ellipse: s-maj=12.6km s-min=10.3km az=132.3

BJI 14 06:23:06.8, 1600S×16750E, h64km, mB5.1, mb4.8, Ms4.9, Msz4.5

GCMT 14 06:23:08.9±0.2, 1600S×16736E, h84km±2km, MW5.1/78, Moment Tensor Solution. s65,c88; s78,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.25±.15; $M_{\theta\theta}$-3.69±.17; $M_{\phi\phi}$0.44±.17; $M_{r\theta}$3.02±.10; $M_{\theta\phi}$-0.67±.17; $M_{\phi r}$2.53±.10; Best double couple: $M_0$5.30600×10^{16}

NP1:φ±283.00000°, δ26.00000°, λ131.00000°. NP2: φ±59.00000°, δ70.00000°, λ72.00000°. Principal axes: T 5.3530, Plg61.0000°, Azm302.0000°; N -0.0890, Plg17.0000°, Azm65.0000°; P -5.2580, Plg23.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 14 06:23:08.9±0.2, 1596S×16752E, mb5.0/16 Error ellipse: s-maj=10.5km s-min=9.1km az=131.0

IDC 14 06:23:08.7±0.5, 1590S×16744E, h64km±3km, mb4.3/17, mb1 4.4/17, mb1mx4.3/20, mbtmp4.3/17, MS4.2/22, Ms1 4.2/22, ms1mx4.1/29, Error ellipse: s-maj=14.8km s-min=13.2km az=127.0

ISC 14 06:23:08.8±1.3,1598S±005×16753E±007,h66km±11km, h66km±1.2km:pP-P,n234,σ1§13/92,mb4.7/47,6C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.14**	**189**	*e*P	**Pn**	**06 24 36.5**	**-0.5**
DZM				*e*S	**Sn**	**06 25 43.3**	**-2.6**
DZM	**Mont Dzumac**	**6.14**	**189**	*e*Pn	**Pn**	**06 24 36.4**	**-0.6**
HNR	**Honiara**	**9.85**	**310**	P	**Pn**	**06 25 30.3**	**+2.6**
	27nm,0.3s,baz=94,slow=5.3,SNR=7.0						
HNR				S	**Sn**	**06 27 16.8**	**+0.1**
	31nm,0.3s,baz=114,slow=20,SNR=3.8						
HNR				LR	LR	06 27 48.1	
	comp=Z,428nm,18.6s,baz=176,slow=29						
HNR	**Honiara**	**9.85**	**310**	*e*P	**Pn**	**06 25 31.0**	**+3.3**
HNR				pmax	pmax		
	comp=Z,299nm,0.7s						
HNR	**Honiara**	**9.85**	**310**	*e*Pn	**Pn**	**06 25 31.0**	**+3.3**
	comp=Z,299nm,0.7s						
AFI	**Afiamalu**	**20.10**	**87**	P	**P**	**06 27 38.4**	**+1.1**
	comp=Z,50nm,1.0s,baz=270,slow=6.1,SNR=3.8						
AFI				LR	LR	06 32 44.8	
	comp=Z,205nm,20.6s,baz=257,slow=28						
ARMA	**Armidale**	**20.46**	**223**	*e*P	**P**	**06 27 41.8**	**+0.7**
CTA	**Charters Tower**	**20.63**	**255**	*e*P	**P**	**06 27 45.0**	**+1.9**
	comp=Z,18nm,1.3s						
CTA	**Charters Tower**	**20.63**	**255**	P	**P**	**06 27 43.6**	**+0.5**
	comp=Z,13nm,0.9s,baz=74,slow=12,SNR=8.4						
CTA	**Charters Tower**	**20.63**	**255**	*e*P	**P**	**06 27 45.0**	**+1.9**
CTA				pmax	pmax		
	comp=Z,18nm,1.3s						
CTAO	**Charters Tower**	**20.63**	**255**	*e*P	**P**	**06 27 44.9**	**+1.8**
COEN	**Coen**	**23.61**	**272**	*e*P	**P**	**06 28 13.8**	**-0.3**
	comp=Z,46nm,1.7s,mb4.5						
URZ	**Urewera**	**23.75**	**161**	P	**P**	**06 28 17.0**	**+2.0**
	comp=Z,14nm,0.9s,mb4.3,baz=153,slow=8.2,SNR=6.5						
URZ				LR	LR	06 36 33.1	
	comp=Z,1μm,20.0s,baz=158,slow=34						
RPZ	**Rata Peaks**	**27.81**	**175**	P	**P**	**06 28 52.5**	**+0.8**
	comp=Z,5.5nm,0.6s,mb4.3,baz=110,slow=4.8,SNR=6.2						
RPZ				LR	LR	06 38 37.8	
	comp=Z,959nm,20.9s,baz=351,slow=33						
STKA	**Stephens Creek**	**28.39**	**231**	*e*P	**P**	**06 28 58.2**	**+1.1**
STKA	**Stephens Creek**	**28.39**	**231**	P	**P**	**06 28 57.2**	**+0.2**
	comp=Z,4.8nm,0.8s,mb4.1,baz=36,slow=9.4,SNR=5.5						
STKA	**Stephens Creek**	**28.39**	**231**	*e*P	**P**	**06 28 56.5**	**-0.6**
	comp=Z,16nm,1.7s,mb4.3						
WB2	**Warramunga Arr**	**31.77**	**258**	↓*i*P	**P**	**06 29 25.7**	**-1.4**
WRAB	**Tennant Creek**	**31.77**	**258**	*e*P	**P**	**06 29 26.1**	**-1.0**
WRA	**Warramunga Arr**	**31.79**	**258**	P	**P**	**06 29 25.5**	**-1.8**
	comp=Z,4.9nm,0.9s,mb4.2,baz=87,slow=9.0,SNR=26						
WRA				PcP	PcP	06 32 17.2	-0.1
	comp=Z,0.3nm,0.4s,baz=85,slow=2.8,SNR=4.8						
WRA				ScP	ScP	06 35 56.4	+1.3
	comp=Z,1.1nm,0.9s,baz=90,slow=3.5,SNR=2.9						
WRA				LR	LR	06 40 45.7	
	comp=Z,391nm,21.3s,baz=105,slow=33						
WRA	**Warramunga Arr**	**31.79**	**258**	P	**P**	**06 29 25.5**	**-1.7**
WRA						06 32 17.2	
ASAR	**Alice Springs**	**32.48**	**251**	P	**P**	**06 29 32.4**	**-0.9**
	comp=Z,23nm,0.9s,mb4.9,baz=87,slow=9.2,SNR=84						
ASAR				pP	pP	06 29 47.8	-1.5
	comp=Z,14nm,0.9s,baz=76,slow=8.9,SNR=7.3						
ASAR				ScP	ScP	06 35 58.5	+1.1
	comp=Z,2.2nm,0.9s,baz=113,slow=4.6,SNR=7.7						
ASAR	**Alice Springs**	**32.48**	**251**	P	**P**	**06 29 32.4**	**-0.9**
ASAR				*PP	pP	06 29 47.8	-1.5
KAKA	**Kakadu**	**34.12**	**271**	*e*P	**P**	**06 29 47.8**	**+0.1**
	comp=Z,38nm,1.2s,mb5.1						
GUMO	**Guam**	**36.95**	**321**	LR	LR	06 43 39.5	
	comp=Z,471nm,21.6s,baz=103,slow=33						
FORT	**Forrest**	**38.89**	**241**	*e*P	**P**	**06 30 29.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**40.05**	**261**	*e*P	**P**	**06 30 37.3**	**-0.6**
	comp=Z,20nm,1.2s,mb4.8						
FITZ	**Fitzroy Crossi**	**40.05**	**261**	P	**P**	**06 30 37.0**	**-0.8**
	comp=Z,5.0nm,0.5s,mb4.6,baz=82,slow=11,SNR=23						
FITZ				pP	pP	06 30 53.2	-1.0
	comp=Z,7.4nm,1.0s,baz=95,slow=6.4,SNR=3.7						
FITZ				LR	LR	06 47 06.7	
	comp=Z,321nm,18.1s,baz=277,slow=36						
PPT	**Papeete**	**41.04**	**99**	*e*LR	LR	06 42 31.6	
	comp=Z,984nm,29.0s,baz=264						
PPT	**Papeete**	**41.04**	**99**	LR	LR	06 45 39.8	
	comp=Z,219nm,18.7s,baz=271,slow=33						
TBI	**Tubuai**	**41.04**	**107**	*e*LQ		06 40 39.1	
	comp=Z,389nm,34.0s						
TBI				*e*LR	LR	06 42 23.7	
	comp=Z,660nm,34.0s,baz=279						
BATI	**Baumata**	**43.05**	**272**	LR	LR	06 47 55.8	
	comp=Z,579nm,19.4s,baz=65,slow=35						
DAV	**Davao City (W)**	**47.42**	**296**	LR	LR	06 47 42.6	
	comp=Z,289nm,21.7s,baz=232,slow=31						
NWAO	**Narrogin (SRO)**	**48.33**	**240**	LR	LR	06 50 54.8	
	comp=Z,507nm,21.5s,baz=325,slow=34						
RKT	**Rikitea**	**54.37**	**107**	*e*LR	LR	06 48 36.3	
	comp=Z,552nm,34.0s,baz=275						
KKM	**Kota Kinabalu**	**55.30**	**289**	*e*P	**P**	**06 32 37.1**	**+1.0**
MJAR	**Matsushiro Arr**	**59.12**	**333**	P	**P**	**06 33 01.6**	**-1.0**
	comp=Z,9.2nm,1.0s,mb4.8,baz=166,slow=7.7,SNR=23						
MJAR				LR	LR	06 56 12.2	
	comp=Z,135nm,20.2s,baz=185,slow=34						
MAJO	**Matsushiro**	**59.12**	**333**	*e*P	**P**	**06 33 02.0**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**59.12**	**333**	*e*P	**P**	**06 33 02.0**	**-0.6**
	comp=Z,13nm,0.8s,mb5.0						
MAT	**Matsushiro**	**59.12**	**333**	P	**P**	**06 33 00.1**	**-2.5**
MAT				*e*S	**S**	**06 41 12.0**	**+7.0**
VNDA	**Vanda**	**61.62**	**181**	P	**P**	**06 33 20.6**	**+1.5**
	comp=Z,0.8nm,0.8s,mb3.8,baz=24,slow=7.3,SNR=4.1						
VNDA				pP	pP	06 33 36.5	0.0
	comp=Z,1.8nm,0.8s,baz=350,slow=6.1,SNR=5.1						
CASY	**Casey**	**62.47**	**202**	*e*P	**P**	**06 33 25.4**	**+0.5**
	comp=Z,17nm,1.4s,mb4.9						
ASAJ	**Asahikawa**	**64.00**	**340**	LR	LR	06 57 19.3	
	comp=Z,241nm,19.0s,baz=290,slow=32						
KSRS	**Korea Array**	**64.91**	**326**	P	**P**	**06 33 42.0**	**+0.6**
	comp=Z,2.5nm,0.8s,mb4.1,baz=144,slow=7.0,SNR=7.0						
KSRS				LR	LR	07 01 10.3	
	comp=Z,158nm,18.8s,baz=155,slow=35						
YSS	**Yuzh-Sakhalins**	**66.49**	**342**	↑*e*P	**P**	**06 33 51.5**	**+0.2**
YSS				pmax	pmax		
	comp=Z,78nm,1.5s,mb5.3						
QIZ	**Qiongzhong**	**66.56**	**299**	P	**P**	**06 33 52.8**	**+0.4**
QIZ				S	S	06 42 32.9	-5.9
QIZ				AMB	AMB		
	comp=Z,19nm,2.2s,mb4.5						
QIZ				LR	LR		
	comp=Z,410nm,29.7s						
NJ2	**Nanjing**	**66.74**	**316**	*e*P	**P**	**06 33 56.3**	**+3.0**
NJ2				PCP	PcP	06 34 25.3	+3.4
NJ2				S	S	06 42 37.0	-3.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,500nm,5.7s						
NJ2				LR	LR		
	comp=N,880nm,30.1s						
NJ2				LR	LR		
	comp=E,980nm,33.6s						
NJ2				LR	LR		
	comp=Z,1μm,33.5s						
PET	**Petropavlovsk**	**69.14**	**354**	*e*P	pP	06 34 24.8	-0.8
PET				*e*		06 36 37.9	
PET				*e*S	S	06 43 27.6	+19
PET				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.2						
PETK	**Petropavlovsk-**	**69.32**	**354**	P	**P**	**06 34 08.4**	**-0.6**
	comp=Z,8.8nm,1.0s,mb4.6,baz=138,slow=6.9,SNR=4.8						
MDJ	**Mudanjiang**	**69.50**	**332**	P	**P**	**06 34 11.0**	**+0.7**
MDJ				PP	PP	06 36 44.0	-0.9
MDJ				S	S	06 43 14.3	+1.5
MDJ				SCS	ScS	06 44 01.9	-3.9
MDJ				AMB	AMB		
	comp=Z,36nm,1.3s,mb5.0						
MDJ				LR	LR		
	comp=N,143nm,23.2s						
MDJ				LR	LR		
	comp=E,80nm,26.8s						
MDJ				LR	LR		
	comp=Z,222nm,24.4s						
MDJ	**Mudanjiang**	**69.50**	**332**	*e*P	**P**	**06 34 10.8**	**+0.5**
	comp=Z,37nm,1.0s,mb5.2						
CN2	**Changchun**	**70.84**	**329**	*e*P	**P**	**06 34 18.9**	**+0.4**
CN2				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.0						
KLR	**Kul'dur**	**72.25**	**336**	*e*P	**P**	**06 34 22.2**	**-4.6**
KLR				pmax	pmax		
	comp=E,68nm,1.6s						
KLR				pmax	pmax		
	comp=Z,160nm,1.6s,mb5.6						
GYA	**Guiyang**	**72.63**	**305**	P	**P**	**06 34 32.0**	**+2.4**
GYA				PCP	PcP	06 34 48.9	+2.1
GYA				PP	PP	06 37 15.0	+2.8
GYA				S	S	06 43 46.5	-3.3
GYA				SKS		06 44 21.3	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,5.2s						
BJT	**Baijiatuau**	**73.38**	**321**	*e*P	**P**	**06 34 34.5**	**+0.7**
BJT				pmax	pmax		
	comp=Z,65nm,2.0s						
BJT	**Baijiatuau**	**73.38**	**321**	*e*P	**P**	**06 34 34.5**	**+0.7**
	comp=Z,65nm,2.0s,mb5.1						
XAN	**Xi'an**	**74.72**	**313**	P	**P**	**06 34 42.3**	**+0.6**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.2						
XAN				AMB	AMB		
	comp=Z,247nm,13.8s						
KMI	**Kunming**	**75.17**	**302**	P	**P**	**06 34 46.1**	**+1.5**
KMI				PP	PP	06 37 37.3	+3.5
KMI				S	S	06 44 14.9	-3.6
KMI				SS	SS	06 49 08.9	-0.6
KMI				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,156nm,5.5s						
KMI				LR	LR		
	comp=N,164nm,20.5s						
KMI				LR	LR		
	comp=E,184nm,21.2s						
KMI				LR	LR		
	comp=Z,230nm,20.7s						
CMAR	**Chiang Mai Arr**	**75.69**	**294**	P	**P**	**06 34 47.8**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.0,baz=123,slow=4.6,SNR=9.2						
CMAR				pP	pP	06 35 06.5	+0.9
	comp=Z,1.6nm,0.4s,baz=123,slow=3.6,SNR=1.6						
CMAR				LR	LR	07 10 40.7	
	comp=Z,98nm,18.5s,baz=156,slow=38						
CMAR	**Chiang Mai Arr**	**75.69**	**294**	P	**P**	**06 34 47.8**	**+0.2**
CMAR				*PP	pP	06 35 06.5	+1.0
CHTO	**Chiang Mai**	**75.82**	**295**	*e*P	**P**	**06 34 48.6**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,28nm,2.0s,mb4.7						
CHTO	**Chiang Mai**	**75.82**	**295**	*e*P	**P**	**06 34 48.6**	**+0.2**
	comp=Z,28nm,2.0s,mb4.6						
HHC	**Hu-ho-hao-te**	**76.69**	**320**	*e*P	**P**	**06 34 52.8**	**-0.1**
HHC				PCP	PcP	06 35 04.3	+0.3
HHC				PP	PP	06 37 48.1	+1.7
HHC				S	S	06 44 28.9	-5.7
HHC				SKS		06 44 49.1	
HHC				SCS	ScS	06 44 55.0	-8.6
HHC				SS	SS	06 49 28.6	-3.4
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
HHC				AMB	AMB		
	comp=Z,252nm,4.9s						
HHC				LR	LR		
	comp=N,150nm,17.8s						
HHC				LR	LR		
	comp=E,216nm,17.8s						
HHC				LR	LR		
	comp=Z,242nm,25.0s						
CD2	**Chengdu**	**76.97**	**308**	*e*P	**P**	**06 34 56.0**	**+1.4**
CD2				PP	PP	06 37 52.3	+3.4
CD2				S	S	06 44 33.8	-4.2
CD2				SS	SS	06 49 35.8	-0.6
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,8.4s						
CD2				LR	LR		
	comp=N,250nm,18.0s						
CD2				LR	LR		
	comp=E,220nm,18.0s						
CD2				LR	LR		
	comp=Z,210nm,16.8s						
HIA	**Hailar**	**77.49**	**330**	*e*P	**P**	**06 34 57.6**	**+0.5**
HIA				pmax	pmax		
	comp=Z,54nm,1.4s						
HIA	**Hailar**	**77.49**	**330**	*e*P	**P**	**06 34 57.6**	**+0.5**
	comp=Z,54nm,1.4s,mb5.1						
LZH	**Lanzhou**	**79.34**	**312**	*e*P	**P**	**06 35 09.3**	**+1.6**
LZH				AP	pP	06 35 27.0	+1.3
LZH				XP	sP	06 35 35.5	+2.6
LZH				PP	PP	06 38 12.3	+3.7
LZH				S	S	06 44 56.0	-7.3
LZH				SKS		06 45 08.0	
LZH				SS	SS	06 50 09.6	-2.4
LZH				AMB	AMB		
	comp=Z,51nm,1.7s,mb5.1						
LZH				AMB	AMB		
	comp=Z,210nm,4.0s						
SEY	**Seymchan**	**79.55**	**353**	↑*e*P	**P**	**06 35 07.2**	**-0.9**
KDAK	**Kodiak Island**	**80.54**	**20**	LR	LR	07 07 00.4	
	comp=Z,78nm,21.6s,baz=282,slow=33						
MAW	**Mawson**	**80.83**	**202**	LR	LR	07 05 30.9	
	comp=Z,263nm,18.2s,baz=326,slow=31						
YAK	**Yakutsk**	**83.29**	**343**	*e*P	**P**	**06 35 26.4**	**-1.6**
YAK				pmax	pmax		
	comp=Z,93nm,1.8s,mb5.3						
YAK				pmax	pmax		
	comp=N,23nm,1.5s						
YAK				pmax	pmax		
	comp=E,14nm,1.4s						
YAK	**Yakutsk**	**83.29**	**343**	*e*P	**P**	**06 35 28.0**	**0.0**
	comp=E,124nm,1.7s,mb5.5						
SONM	**Songino Array**	**83.64**	**324**	P	**P**	**06 35 29.1**	**-1.0**
	comp=E,9.0nm,0.8s,mb4.6,baz=124,slow=3.5,SNR=41						
SONM				pP	pP	06 35 48.1	-0.1
	comp=E,6.2nm,1.0s,baz=136,slow=5.7,SNR=6.9						
SONM				LR	LR	07 13 43.9	
	comp=E,126nm,18.3s,baz=86,slow=36						
SONM	**Songino Array**	**83.64**	**324**	P	**P**	**06 35 29.1**	**-1.0**
SONM				*PP	pP	06 35 48.1	-0.2
GTA	**Gaotai**	**83.71**	**314**	P	**P**	**06 35 30.5**	**-0.1**
GTA				PP	PP	06 38 48.1	+3.5
GTA				SKS		06 45

ZAK	**Zakamensk**	**86.71 325**	⇑	*i*P	**P**		**06 35 43.8**	**-1.6**
ZAK				pmax	pmax			
comp=Z,12nm,1.5s,mb4.6								
ISA	**Isabella**	**86.73 52**		*e*P	pP		06 36 02.6	-1.5
TLY	**Talaya**	**87.16 326**		*e*P	**P**		**06 35 48.7**	**+1.2**
TLY				pmax	pmax			
comp=Z,5.0nm,0.9s,mb4.4								
MTUM	**Tungsten Hills**	**87.30 50**		*e*P	**P**		**06 35 53.6**	**+5.1**
SYO	**Syowa Base**	**87.58 197**	⇓	*e*P	**P**		**06 35 48.1**	**-1.3**
NVAR	**Mina Array Bea**	**87.89 49**		P	**P**		**06 35 51.5**	**+0.1**
comp=Z,0.1nm,0.5s,baz=233,slow=11,SNR=2.1								
NVAR				pP	pP		06 36 10.5	+0.8
comp=Z,2.5nm,0.8s,baz=240,slow=7.1,SNR=11								
TPNV	**Topopah Spring**	**88.87 51**		*e*P	pP		06 36 17.0	+2.7
SHPR	**Sheep Range**	**89.53 52**		*e*P	pP		06 36 14.6	-2.9
PMSA	**Palmer Station**	**90.51 160**		P	**P**		**06 36 04.7**	**+1.4**
comp=Z,12nm,0.8s,mb5.1								
BMO	**Blue Mountains**	**90.98 43**		*e*P	pP		06 36 28.1	+4.0
TIXI	**Tiksi**	**91.24 349**		*e*P	**P**		**06 36 04.5**	**-1.8**
TIXI				pmax	pmax			
comp=Z,20nm,1.7s,mb5.0								
SNAA	**Sanae**	**92.32 183**		*e*P	**P**		**06 36 10.8**	**-0.7**
SNAA				*e*			06 36 16.4	
SNAA	**Sanae**	**92.32 183**		*e*P	**P**		**06 36 11.6**	**+0.1**
SNAA				pmax	pmax			
comp=Z,7.0nm,1.5s								
SNAA	**Sanae**	**92.32 183**		*e*P	**P**		**06 36 11.6**	**+0.1**
comp=Z,6.8nm,1.5s,mb4.7								
HVS	**Khovu-Aksy**	**92.50 323**		*e*P	**P**		**06 36 13.5**	**+0.9**
HVS				pmax	pmax			
comp=Z,59nm,1.3s								
VNA2	**Neumayer--Watz**	**93.25 182**		*e*P	**P**		**06 36 17.0**	**+1.2**
VNA2				*e*			06 36 22.3	
VNA1	**Neumayer--Stat**	**93.54 181**		*e*P	**P**		**06 36 15.1**	**-2.0**
VNA1				*e*			06 36 20.5	
WMQ	**Urumqi**	**93.78 314**		*e*P	**P**		**06 36 18.8**	**+0.2**
WMQ				AMB	AMB			
comp=Z,8.0nm,1.0s,mb5.0								
WMQ				LR	LR			
comp=N,98nm,18.2s								
WMQ				LR	LR			
comp=E,142nm,22.2s								
WMQ				LR	LR			
comp=Z,168nm,22.8s								
INK	**Inuvik**	**93.99 19**		LR	LR		07 11 32.6	
comp=Z,150nm,20.0s,baz=32,slow=31								
MK31	**Makanchi Array**	**98.28 316**		*e*P	**P**		**06 36 39.3**	**+0.3**
MKAR	**Makanchi Array**	**98.28 316**		P	**P**		**06 36 38.2**	**-0.8**
comp=Z,0.5nm,0.6s,mb4.2,baz=98,slow=4.4,SNR=4.1								
MKAR				pP	pP		06 36 56.8	-0.6
comp=Z,1.0nm,0.8s,baz=93,slow=6.1,SNR=4.1								
MKAR				LR	LR		07 18 52.3	
comp=Z,105nm,18.5s,baz=140,slow=34								
MKAR	**Makanchi Array**	**98.28 316**		P	**P**		**06 36 38.2**	**-0.8**
MKAR				*PP	pP		06 36 56.8	-0.6
MKAR	**Makanchi Array**	**98.28 316**		P	**P**		**06 36 38.2**	**-0.8**
MKAR				pP	pP		06 36 56.8	-0.6
MKAR				LR	LR		07 18 52.3	
YKA	**Yellowknife Ar**	**98.54 27**		P	**P**		**06 36 39.6**	**-0.1**
comp=Z,0.8nm,0.9s,mb4.2,baz=254,slow=4.7,SNR=4.8								
YKA				pP	pP		06 36 57.5	-0.7
comp=Z,2.5nm,0.8s,baz=254,slow=4.7,SNR=10								
ZALV	**Zalesovo Beam**	**98.54 324**		P	**P**		**06 36 39.1**	**-0.9**
comp=Z,0.7nm,0.3s,mb4.6,baz=99,slow=3.8,SNR=4.7								
ZALV				pP	pP		06 36 56.6	-1.8
comp=Z,1.6nm,0.7s,baz=104,slow=6.3,SNR=1.8								
ZALV				LR	LR		07 15 49.5	
comp=Z,73nm,21.3s,baz=230,slow=32								
ZAL	**Zalesovo**	**98.55 324**		P	**P**		**06 36 39.1**	**-0.9**
ZAL				*PP	pP		06 36 56.6	-1.9
ARU	**Arti**	**113.65 325**	*i*	PKIKP	PKiKP		06 41 39.4	0.0
AKTK	**Aktyubinsk**	**114.57 318**		PKP	PKiKP		06 41 40.0	-1.3
AKTO	**Aktyubinsk**	**114.57 318**		PKP	PKiKP		06 41 40.0	-1.3
comp=Z,1.2nm,0.7s,baz=72,slow=3.2,SNR=4.7								
ROSC	**El Rosal**	**118.36 93**		PKP	PKPdf		06 41 48.3	-1.5
comp=Z,3.9nm,0.3s,baz=224,slow=2.7,SNR=7.1								
ARCES	**ARCESS Array B**	**121.52 345**		PKP	PKPdf		06 41 52.7	-1.5
comp=Z,1.1nm,0.3s,baz=81,slow=1.9,SNR=47								
ARCES				pPKP	pPKPdf		06 42 12.4	-0.9
comp=Z,2.8nm,0.6s,baz=48,slow=1.3,SNR=2.9								
BOSA	**Boshof**	**122.58 220**		PKP	PKPdf		06 41 57.8	+0.2
comp=Z,6.6nm,1.1s,baz=144,slow=7.2,SNR=3.9								
GNI	**Garni**	**125.10 308**	⇑	*i*PKIKP	PKPdf		06 42 01.5	-0.4
OBN	**Obninsk**	**125.89 328**	⇑	*i*PKIKP	PKPdf		06 42 02.9	-0.1
OBN				*e*PS	PS		06 53 53.2	-6.3
OBN				*e*SS	SS		07 01 16.3	+24
OBN				*e*SSS			07 05 27.3	
OBN				pmax	pmax			
comp=Z,20nm,1.2s								
VRSR	**Storozhevoye**	**126.01 322**	*i*	PKIKP	PKPdf		06 42 02.8	-0.5
VRSR				pmax	pmax			
comp=Z,1.0nm,0.5s								
VRSR				pmax	pmax			
comp=N,5.0nm,1.0s								
VRSR				pmax	pmax			
comp=E,1.0nm,0.5s								
NB2	**NORSAR Subarra**	**131.89 345**		PKPdf	PKPdf		06 42 14.2	0.0
comp=Z,1.5nm,1.0s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**131.89 345**		PKP	PKPdf		06 42 13.2	-1.0
comp=Z,1.3nm,0.9s,baz=31,slow=1.7,SNR=2.9								
NOA				pPKP	pPKPdf		06 42 33.2	-0.1
comp=Z,0.8nm,0.6s,baz=33,slow=2.0,SNR=3.2								
AKASG	**Malin Array Be**	**131.90 325**		PKP	PKPdf		06 42 13.7	-0.9
comp=Z,0.6nm,0.4s,baz=54,slow=1.5,SNR=11								
AKASG				SKPbc	SKPbc		06 45 35.5	+0.6
comp=Z,6.5nm,1.0s,baz=33,slow=3.5,SNR=9.8								
OKC	**Ostrava-Krasne**	**138.11 330**		AMS	AMS		07 40 00.0	
comp=Z,200nm,19.6s								
DPC	**Dobruska-Polom**	**138.60 332**		*e*PKP	PKPdf		06 42 31.5	+4.4
DPC				*e*PP	PP		06 45 19.2	+1.4
DPC				AMS	AMS		07 38 30.0	
comp=Z,200nm,25.3s								
UPC	**Upice**	**138.62 333**		*e*PKP	PKPdf		06 42 29.6	+2.5
PVCC	**Panska Ves**	**139.24 334**		*e*PKP	PKPdf		06 42 29.1	+0.9
PVCC				AMS	AMS		07 39 10.0	
comp=Z,200nm,23.7s								
BRG	**Berggiesshubel**	**139.24 334**		*e*PKP	PKPdf		06 42 30.0	+1.7
comp=Z,11nm,1.1s								
CLL	**Collm**	**139.29 336**	*i*	PKPdf	PKPdf		06 42 29.0	+0.7
comp=Z,9.0nm,1.1s								
CLL			*i*	PKiKP	PKiKP		06 42 32.6	+2.0
CLL				LmV			06 52 00.0	
comp=Z,100nm,20.4s								
CLL	**Collm**	**139.29 336**	*i*	PKP	PKPdf		06 42 29.0	+0.7
CLL			*i*				06 42 32.6	
PRU	**Pruhonice**	**139.65 333**		*e*PKP	PKPdf		06 42 30.9	+1.9
PRU				AMS	AMS		07 42 50.0	
comp=Z,200nm,17.2s								
TREC	**Trest**	**139.73 332**		AMS	AMS		07 39 20.0	
comp=Z,200nm,19.1s								
NKC	**Novy Kostel**	**140.35 335**		AMS	AMS		07 36 00.0	
comp=Z,200nm,25.7s								
KHC	**Kasperske Hory**	**140.71 333**		*e*PKP	PKPdf		06 42 31.7	+0.8
KHC				*e*PP	PP		06 45 30.2	-0.5
KHC				AMS	AMS		07 34 30.0	
comp=Z,200nm,26.5s								
GERES	**GERESS Array B**	**140.86 333**		PKP	PKPdf		06 42 31.8	+0.5
comp=Z,1.6nm,0.8s,baz=90,slow=1.7,SNR=7.4								
GERES				SKPbc	SKPbc		06 46 02.0	-0.3
comp=Z,1.1nm,0.9s,baz=45,slow=4.0,SNR=6.2								
BOJS	**Bojanci**	**142.49 327**	*i*	PKPdf	PKPdf		06 42 32.3	-2.0
BOJS			*i*	PKPbc	PKPdf		06 42 36.9	+2.6
JAVS	**Javornik**	**142.83 329**	*i*	PKPdf	PKPdf		06 42 32.7	-2.1
JAVS			*i*	PKPbc	PKPdf		06 42 38.0	+3.2
WTTA	**Wattenberg**	**142.97 332**	⇓	*i*P	PKPdf		06 42 31.8	-3.2
comp=Z,7.7nm,0.8s								
SKDS	**Skadanscina**	**143.09 329**	*i*	PKPbc	PKPdf		06 42 33.3	-2.0
WLF	**Walferdange**	**143.15 340**		PKP	PKPdf		06 42 34.9	-0.4
SPAK	**Spaichingen-Ko**	**143.50 336**		PKP	PKPdf		06 42 33.4	-2.6
FETA	**Feichten**	**143.55 333**	⇑	*i*P	PKPdf		06 42 33.4	-2.7
comp=Z,19nm,1.1s								
CDF	**Champ du Feu**	**143.82 338**		*e*PKP1	PKPdf		06 42 32.6	-3.9
comp=Z,24nm,1.0s								
FELD	**Feldberg im Sc**	**143.99 336**		PKP	PKPdf		06 42 34.7	-2.1
ECH	**Echery**	**144.03 338**		PKP	PKPdf		06 42 34.7	-2.2
MOF	**Molkenrain**	**144.34 337**		PKP	PKPdf		06 42 36.0	-1.4
HINF	**Hinteralfeld**	**144.47 337**		*e*PKP1	PKPdf		06 42 34.5	-3.2
HAU	**Haudompre**	**144.50 338**		*e*PKP1	PKPdf		06 42 34.8	-2.9
HAU				*e*MLR	MLR			
comp=Z,181nm,21.2s								
HAU	**Haudompre**	**144.50 338**		*e*PKP	PKPdf		06 42 34.8	-2.9
HAU				LR	LR			
comp=Z,180nm,21.3s								
BBS	**Basel-Blauen**	**144.52 336**		PKHKP			06 42 34.7	
MEZF	**Maizieres J'vi**	**144.52 340**		*e*PKP1	PKPdf		06 42 37.1	-0.6
TUE	**Stuetta**	**144.58 334**		*e*PKPdf	PKPdf		06 42 36.6	-1.3
TIP	**Timpagrande**	**145.54 318**		*e*PKPbc	PKPbc		06 42 40.4	+0.4
AQU	**L'Aquila**	**145.60 325**		*e*PKIKP	PKPdf		06 42 41.4	+1.6
CUC	**Castrocucco**	**145.67 320**		*e*PKPbc	PKPbc		06 42 40.2	-0.2
CABF	**La Chapelle**	**145.77 337**		*e*PKP1	PKPbc		06 42 39.8	-0.7
comp=Z,168nm,1.2s								
OG01	**Vacheresse**	**145.78 336**		PKP	PKPdf		06 42 40.3	+0.3
GRAM	**Graiana**	**145.78 331**		P	PKPdf		06 42 39.2	-0.9
VALM	**Valbona**	**145.80 330**		P	PKPdf		06 42 37.5	-2.5
SARO	**Sassorosso**	**145.85 330**		P	PKPdf		06 42 38.9	-1.2
FLN	**La Foliniere**	**145.86 346**		*e*PKP1	PKPbc		06 42 39.1	-1.6
FLN				*e*MLR	MLR			
comp=Z,158nm,21.8s								
FLN	**La Foliniere**	**145.86 346**		*e*PKP	PKPdf		06 42 39.1	-0.9
FLN				LR	LR			
comp=Z,160nm,21.8s								
LDF	**La Druitiere**	**145.93 345**		*e*PKP1	PKPbc		06 42 39.1	-1.8
BACM	**Baccana**	**145.94 331**		P	PKPdf		06 42 39.2	-1.2
CODM	**Codolo**	**145.96 331**		P	PKPdf		06 42 39.3	-1.1
LOR	**Lormes**	**145.99 340**		*e*PKP1	PKPbc		06 42 39.9	-1.2
comp=Z,110nm,1.2s								
LOR				*e*MLR	MLR			
comp=Z,221nm,20.2s								
LOR	**Lormes**	**145.99 340**		*e*PKP	PKPdf		06 42 39.9	-0.4
LOR				LR	LR			
comp=Z,220nm,20.3s								
VINC	**Vinca**	**146.00 330**		P	PKPdf		06 42 38.5	-2.0
MAIM	**Mastiano**	**146.01 330**		P	PKPdf		06 42 38.9	-1.6
SC2M	**Scurtabo**	**146.10 331**		P	PKPdf		06 42 39.4	-1.2
SSF	**Saint Saulge**	**146.29 340**		*e*PKP1	PKPbc		06 42 40.9	-1.1
comp=Z,62nm,0.8s								
GRR	**Gorron**	**146.30 346**		*e*PKP1	PKPbc		06 42 40.4	-1.6
LSD	**Lago del Serru**	**146.30 335**		PKIKP	PKPdf		06 42 40.7	-0.2
LPL	**La Plagne**	**146.43 335**		*e*PKP1	PKPbc		06 42 41.9	-0.6
comp=Z,25nm,0.8s								
LPG	**La Plagne**	**146.44 335**		*e*PKP1	PKPbc		06 42 42.0	-0.5
comp=Z,41nm,0.9s								
PCP	**Piancastagn**	**146.44 332**		PKP2	PKPab		06 42 41.9	-1.6
OG05	**Jujurieux**	**146.49 337**		PKP	PKPdf		06 42 42.5	+1.3
RSP	**Reno Superiore**	**146.51 334**		PKIKP	PKPdf		06 42 41.8	+0.5
SMF	**Signal de Mont**	**146.54 339**		*e*PKP1	PKPbc		06 42 41.3	-1.5
comp=Z,73nm,1.1s								
AVF	**Avril sur Loir**	**146.58 340**		*e*PKP1	PKPbc		06 42 41.5	-1.4
comp=Z,51nm,1.1s								
CEL	**Celeste**	**146.62 317**		*e*PKPbc	PKPbc		06 42 44.5	+1.2
BHB	**Bricherasio**	**146.76 334**		P	PKPdf		06 42 42.0	+0.3
BNI	**Bardonecchia**	**146.83 335**		*e*PKP2	PKPab		06 42 44.5	-0.5
FIN	**Finale Ligure**	**146.85 332**		PKIKP	PKPdf		06 42 42.7	+0.8
ROSF	**Rostrenen**	**146.86 349**		*e*PKP1	PKPbc		06 42 43.0	-0.6
comp=Z,124nm,1.4s								
RRL	**Rocca Remolon**	**146.89 335**		PKIKP	PKPdf		06 42 43.0	+1.1
ROB	**Robourent**	**146.93 333**		PKIKP	PKPdf		06 42 42.7	+0.7
BGF	**Bois d'Agland**	**146.95 340**		*e*PKP1	PKPbc		06 42 42.5	-1.4
comp=Z,41nm,0.8s								
RORO	**Rocca Rossa**	**146.99 332**		P	PKPdf		06 42 42.3	+0.2
MBDF	**Montbardon**	**147.06 334**		*e*PKP1	PKPbc		06 42 42.9	-1.4
comp=Z,29nm,1.1s								
PLDF	**La Plantade**	**147.21 339**		PKP	PKPbc		06 42 44.7	0.0
STV	**Sant Anna di V**	**147.21 333**		PKIKP	PKPdf		06 42 43.2	+0.7
ORIF	**Oris-en-Rattie**	**147.26 336**		*e*PKP1	PKPbc		06 42 43.9	-1.0
comp=Z,80nm,1.1s								
ORIF				*e*MLR	MLR			
comp=Z,266nm,19.8s								
AGO	**Saint Agoulin**	**147.30 340**		PKP	PKPdf		06 42 44.0	+1.5
SAOF	**Saorge**	**147.32 333**		PKP	PKPdf		06 42 43.8	+1.2
NEGI	**Seborga**	**147.36 332**		P	PKPdf		06 42 42.1	-0.6
AUTN	**L'Aution**	**147.36 333**		PKP	PKPdf		06 42 44.3	+1.6
TCF	**Toulx Ste Croi**	**147.39 341**		*e*PKP1	PKPbc		06 42 43.9	-1.3
comp=Z,47nm,1.0s								
TOUF	**Mont Tournerai**	**147.43 333**		PKP	PKPdf		06 42 44.3	+1.5
SBF	**Sospel**	**147.47 333**		*e*PKP1	PKPbc		06 42 43.7	-1.8
comp=Z,70nm,1.0s								
SSB	**Saint Sauveur**	**147.47 337**		PKP	PKPbc		06 42 45.2	-0.3
SSB	**Saint Sauveur**	**147.47 337**		*e*PKPbc	PKPbc		06 42 45.2	-0.2
SSB				*e*PKPab	PKPab		06 42 47.6	0.0
LUCF	**Luceram**	**147.48 333**		PKP	PKPdf		06 42 44.1	+1.2
MVIF	**Mont Vial**	**147.56 333**		PKP	PKPdf		06 42 44.3	+1.2
PYM	**Petit Puy Mans**	**147.61 340**		PKP	PKPbc		06 42 46.4	+0.6
PGF	**Pioggiola**	**147.76 330**		*e*PKP1	PKPbc		06 42 45.0	-1.3
comp=Z,76nm,0.9s								
VIVF	**Saint-Julien-l**	**147.78 337**		*e*PKP1	PKPbc		06 42 45.2	-1.1
MFF	**Saint Martin d**	**147.79 344**		*e*PKP1	PKPbc		06 42 44.7	-1.6
comp=Z,27nm,0.7s								
CORF	**Corte**	**147.87 329**		PKP	PKPbc		06 42 46.1	-0.5
LBL	**Lubilhac**	**147.98 339**		PKP	PKPbc		06 42 47.1	+0.3
FRF	**La Foret Royal**	**148.05 333**		*e*PKP1	PKPbc		06 42 45.5	-1.6
comp=Z,68nm,1.1s								
SMRF	**Simiane la Rot**	**148.16 335**		*e*PKP1	PKPbc		06 42 46.4	-1.0
comp=Z,55nm,1.1s								
LMR	**La Mourre**	**148.29 333**		*e*PKP1	PKPbc		06 42 46.2	-1.5
comp=Z,67nm,1.0s								
RJF	**Les Rejaudoux**	**148.49 341**		*e*PKP1	PKPbc		06 42 46.9	-1.2
comp=Z,146nm,1.5s								
RJF				*e*MLR	MLR			
comp=Z,195nm,19.8s								
RJF	**Les Rejaudoux**	**148.49 341**		*e*PKP	PKPbc		06 42 46.9	-1.2
RJF				LR	LR			
comp=Z,200nm,19.8s								
CAF	**Calviac**	**148.65 340**		*e*PKP1	PKPbc		06 42 47.3	-1.3
comp=Z,49nm,1.1s								
LASF	**Ste Croix**	**148.75 337**		*e*PKP1	PKPbc		06 42 47.8	-1.1
comp=Z,72nm,1.1s								
LFF	**La Frestale**	**149.05 342**		*e*PKP1	PKPbc		06 42 48.3	-1.3
MTLF	**Montolieu**	**149.99 338**		*e*PKP1	PKPbc		06 42 50.7	-1.3
comp=Z,59nm,1.3s								
LRDF	**Laroque-de-Fa**	**150.22 337**		PKP	PKPbc		06 42 51.7	-0.8
FILF	**Fillols**	**150.54 337**		PKP	PKPbc		06 42 51.4	-1.9
EPF	**Esparros**	**150.90 340**		*e*PKP1	PKPbc		06 42 52.4	-1.7
ETSF	**Etsaut**	**151.30 342**		*e*PKP1	PKPbc		06 42 54.2	-0.9
comp=Z,14nm,0.5s								
LARF	**Larrau**	**151.30 342**		PKP	PKPbc		06 42 54.7	-0.4
KEST	**Kesra**	**152.32 319**		PKPbc	PKPbc		06 42 57.0	-0.6
comp=Z,5.4nm,0.7s,baz=238,slow=2.4,SNR=16								
MVO	**Moncorvo**	**154.47 350**		*e*PKPab	PKPab		06 43 13.4	-3.2
PVIS	**Viseu**	**155.03 352**		*e*PKPab	PKPab		06 43 21.3	+2.3
ESDC	**Sonseca Array**	**155.25 344**		PKP	PKPdf		06 42 56.3	+1.5
comp=Z,0.3nm,0.3s,baz=325,slow=2.2,SNR=5.3								
ESDC				PKPab	PKPab		06 43 19.7	-0.2
comp=Z,1.1nm,0.7s,baz=21,slow=3.4,SNR=7.0								
MTE	**Manteigas**	**155.29 351**		*e*PKPab	PKPab		06 43 22.1	+2.0
PMRV	**Marv??o**	**156.22 350**		*e*PKPab	PKPab		06 43 24.2	+0.1
EVO	**Evora**	**157.19 351**		*e*PKP2	PKPab		06 43 28.4	+0.1
comp=Z,38nm,1.4s								
EVO				*e*MLR	MLR			
comp=Z,155nm,22.5s								
PBAR	**Barrancos**	**157.38 349**		*e*PKPab	PKPab		06 43 28.7	-0.4
PBEJ	**Beja**	**157.67 350**		*e*PKPab	PKPab		06 43 32.7	+2.3
PTEO	**Sao Teotonio**	**158.26 352**		*e*PKPab	PKPab		06 43 32.6	-0.4
TORD	**Torodi Ar. Bea**	**166.00 260**		PKP	PKPdf		06 43 05.5	-1.7
comp=Z,1.2nm,1.0s,baz=90,slow=1.5,SNR=6.5								
TORD				pPKP	pPKPdf		06 43 24.6	-1.7
comp=Z,1.1nm,1.0s,baz=257,slow=2.0,SNR=3.3								
TORD				pPKPab	pPKPab		06 44 24.6	-1.5
comp=Z,2.1nm,0.9s,baz=93,slow=3.0,SNR=5.5								

SKHL 14 06:34:02.6±0.3, 4681N×14169E, h10km, mb3.7/1, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.74**	**78**	*e*Pg	Pg	06 34 17.0	0.0
YSS				AMB	AMB	06 34 20.0	
50nm,0.3s							
YSS				*e*Sg	Sg	06 34 26.5	-0.2
YSS				A		06 34 29.5	
350nm,0.3s							
YSS				A		06 34 29.5	
500nm,0.3s							

NIED ***14*** *06:55:00, 2630N×143.20E, h5km, Mw4.5 Best double couple: M0 7.19000×10^15 NP1:φs 154.00000°, δ77.00000°, λ83.00000°. NP2:φs 2.00000°, δ15.00000°, λ117.00000°.*
ISCJB ***14*** *06:55:23.3±2.1, 2651N±004×14281E±009, h0km±13km, mb4.6/35, Error ellipse: s-maj=14.2km s-min=6.3km az=169.7*
JMA ***14*** *06:55:23.9, 2629N×143.18E, h67km, M4.5*
IDC ***14*** *06:55:24.8±0.6, 2642N×14281E, h0km, mb4.3/17, mb1 4.4/20, mb1mx4.3/25, mbtmp4.3/20, ML3.8/3, Error ellipse: s-maj=17.6km s-min=12.8km az=64.0*
BJI ***14*** *06:55:24.5, 2616N×14288E, h24km, mB4.8, mb4.6*
NEIC ***14*** *06:55:26.8±0.3, 2644N×142.72E, h10km, mb4.9/11, MW4.5(NIED), Error ellipse: s-maj=9.4km s-min=6.6km az=82.0*
MOS ***14*** *06:55:29.3±1.0, 2666N×142.71E, h33km, mb5.0/8, Error ellipse: s-maj=18.1km s-min=8.3km az=118.6*

ISC 14 06:55:25.5±2.0, 2644N±004×14289E±008, h5km±12km, n84, σ0 90/82, mb4.5/35, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.67**	**287**	P	**Pg**	**06 55 42.0**	**+3.6**
JHHJ				*e*S	**Sg**	**06 55 55.3**	**+8.3**
CBIJ	**Chichi jima**	**0.91**	**316**	Pn	**Pn**	**06 55 45.2**	**+0.2**
344nm,0.3s,baz=122,slow=14,SNR=60							
CBIJ				Sn	**Sn**	**06 56 00.8**	**+2.3**
987nm,0.3s,baz=100,slow=23,SNR=15							
BSO1	**Boso 1**	**8.35**	**349**	P	**Pn**	**06 57 26.8**	**-0.5**
BSO3	**Boso 3**	**8.58**	**347**	P	**Pn**	**06 57 30.7**	**+0.2**
JOD2	**Odawara 2**	**9.38**	**341**	*e*S	**Sn**	**06 59 26.8**	**-0.5**
JHU	**Hanno**	**9.88**	**343**	P	**Pn**	**06 57 47.8**	**-0.4**
JRY	**Ryogami san**	**10.14**	**341**	P	**Pn**	**06 57 52.7**	**+0.9**
JHO	**Hitachi**	**10.33**	**350**	P	**Pn**	**06 57 53.0**	**-1.4**
MJAR	**Matsushiro Arr**	**10.83**	**340**	Pn	**Pn**	**06 58 00.5**	**-0.8**
0.9nm,0.3s,baz=145,slow=12,SNR=24							
MJAR				Sn	**Sn**	**07 00 04.7**	**+1.8**
0.2nm,0.3s,baz=139,slow=24,SNR=4.5							
MAJO	**Matsushiro**	**10.84**	**340**	*e*P	**Pn**	**06 58 01.0**	**-0.3**
MAT	**Matsushiro**	**10.84**	**340**	P	**Pn**	**06 58 00.0**	**-1.3**
MAT				*e*S	**Sn**	**07 00 02.2**	**-0.8**
KSRS	**Korea Array**	**16.77**	**315**	Pn	**Pn**	**06 59 22.3**	**+1.1**
0.2nm,0.3s,baz=126,slow=12,SNR=3.2							
ASAJ	**Asahikawa**	**17.64**	**359**	P	**Pn**	**06 59 32.4**	**+0.3**
0.8nm,0.3s,baz=249,slow=8.6,SNR=7.8							
ASAJ	**Asahikawa**	**17.64**	**359**	P	**Pn**	**06 59 32.4**	**+0.4**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
KLR	**Kul'dur**	**24.34**	**342**	*e*P	**P**	**07 00 39.7**	**-4.5**
SONM	**Songino Array**	**35.62**	**317**	P	**P**	**07 02 23.4**	**-0.8**
comp=Z,1.8nm,0.7s,mb4.1,baz=135,slow=9.5,SNR=10							
BOD	**Bodaibo**	**37.42**	**335**	*e*P	**P**	**07 02 39.0**	**-0.4**
BOD				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.4							
GTA	**Gaotai**	**38.06**	**301**	*e*P	**P**	**07 02 44.1**	**-1.0**
GTA				AMB	AMB		
comp=Z,3.0nm,0.8s,mb4.1							
ZAK	**Zakamensk**	**38.52**	**319**	*e*P	**P**	**07 02 47.9**	**-0.9**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.1s,mb3.9							
CHTO	**Chiang Mai**	**41.11**	**269**	*e*P	**P**	**07 03 10.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**41.23**	**268**	P	**P**	**07 03 11.7**	**-0.1**
comp=Z,2.3nm,0.3s,mb4.2,baz=61,slow=8.5,SNR=18							
WRAB	**Tennant Creek**	**46.83**	**191**	*e*P	**P**	**07 03 56.6**	**+0.1**
WB2	**Warramunga Arr**	**46.84**	**191**	*e*P	**P**	**07 03 56.5**	**-0.1**
WRA	**Warramunga Arr**	**46.84**	**191**	P	**P**	**07 03 56.4**	**-0.2**
comp=Z,5.7nm,0.6s,mb4.7,baz=11,slow=8

comp=Z,2.8nm,0.9s,mb4.4,baz=43,slow=5.2,SNR=5.2
PSZ Piszkesteto 90.05 326 *e*P **P 07 08 30.4 +4.0**
PSZ pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
PSZ Piszkesteto 90.05 326 *e*P **P 07 08 30.4 +4.0**
comp=Z,5.0nm,0.7s,mb5.0
UTMT University of 100.77 40 *e*Pdif Pdif 07 09 23.8 +8.6
TORD Torodi Ar. Bea 125.49 311 PKP PKPdf 07 14 27.8 -0.9
comp=Z,0.6nm,0.9s,baz=39,slow=2.4,SNR=4.2
TORD Torodi Ar. Bea 125.49 311 PKP PKPdf 07 14 27.8 -0.9
LPAZ La Paz 149.47 77 PKPbc PKPbc 07 15 17.9 +1.4
comp=Z,0.9nm,0.6s,baz=291,slow=5.2,SNR=5.7
LPAZ La Paz 149.47 77 PKP2 PKPbc 07 15 18.0 +1.4
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 149.47 77 *e*PKPbc PKPbc 07 15 19.3 +2.7

IDC 14 07:02:25.2±4.2, 541S×12980E, h336km±47km, mb2.9/1, mb1 3.1/3, mb1mx2.8/14, mbtmp2.9/3, Error ellipse: s-maj=88.2km s-min=15.2km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.71**	**160**	*e*P		07 05 36.1	
	16nm,0.4s						
WRA	**Warramunga Arr**	**15.10**	**163**	P	P	07 05 41.3	-0.4
	0.4nm,0.3s,baz=343,slow=12,SNR=14						
WRA				S	S	07 08 23.9	-0.8
	0.1nm,0.3s,baz=343,slow=22,SNR=5.0						
WB2	**Warramunga Arr**	**15.11**	**163**	*e*P	P	07 05 41.4	-0.3
ASAR	**Alice Springs**	**18.57**	**168**	P	P	07 06 19.4	+0.3
	0.6nm,0.3s,baz=352,slow=9.9,SNR=17						
ASAR				S	S	07 09 33.9	+1.0
	0.2nm,0.3s,baz=352,slow=23,SNR=14						
MKAR	**Makanchi Array**	**66.80**	**327**	P	P	07 12 41.5	+0.1
	0.4nm,0.6s,baz=126,slow=7.5,SNR=4.7						

ISCJB 14 07:10:13.5±0.6, 3533N±003×14064E±005, h16km±10km, Error ellipse: s-maj=7.4km s-min=5.6km az=177.1
JMA 14 07:10:13.2±0.1, 3535N×14058E, h26km±2km, M2.4
IDC 14 07:10:15.3±1.8, 3476N×13691E, h0km, mb3.4/1, mb1 3.7/2, mb1mx3.2/22, mbtmp3.5/2, ML3.2/1, Error ellipse: s-maj=43.5km s-min=30.5km az=109.0
ISC 14 07:10:13.4±0.6, 3532N±003×14066E±005, h18km±4km, n10, σ0§87/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.33**	**239**	P	**Pg**	**07 10 19.9**	**-0.6**
KTR				S	**Sg**	**07 10 24.8**	**-0.5**
JCN	**Nagara**	**0.39**	**284**	P	**Pg**	**07 10 21.1**	**-0.3**
JCN				S	**Sg**	**07 10 27.3**	**+0.4**
CHOJ	**Chosi**	**0.41**	**23**	P	**Pg**	**07 10 22.0**	**+0.1**
CHOJ				S	**Sg**	**07 10 28.4**	**+0.8**
BSO4	**Boso 4**	**0.42**	**219**	P	**Pg**	**07 10 22.4**	**+0.3**
BSO3	**Boso 3**	**0.53**	**194**	P	**Pg**	**07 10 24.4**	**+0.3**
BSO1	**Boso 1**	**0.72**	**159**	P	**Pb**	**07 10 26.8**	**-0.5**
BSO1				*e*S	**Sb**	**07 10 37.7**	**+0.9**
JYT	**Yasato**	**0.98**	**337**	P	**Pb**	**07 10 29.7**	**-2.1**
JYT				*e*S	**Sb**	**07 10 43.6**	**-0.8**
MJAR	**Matsushiro Arr**	**2.33**	**302**	Pn	**Pn**	**07 10 51.4**	**+0.5**
	0.9nm,0.3s,baz=213,slow=10,SNR=8.9						
MAT	**Matsushiro**	**2.33**	**302**	P	**Pn**	**07 10 51.6**	**+0.7**
MAT				*e*S	**Sn**	**07 11 20.7**	**+1.6**
WRA	**Warramunga Arr**	**55.29**	**187**	P	**P**	**07 19 44.5**	**-1.2**
	0.9nm,1.2s,baz=360,slow=7.9,SNR=4.9						

JMA 14 07:10:38.5±0.1, 3702N×13550E, h355km, M2.6, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**1.43**	**193**	P	Pn	07 11 26.9	+0.1
JGM	**Miyama**	**1.64**	**143**	P	Pn	07 11 28.2	+0.2
KSRS	**Korea Array**	**6.06**	**276**	Pn	Pn	07 12 09.8	-0.3
	0.4nm,0.3s,baz=108,slow=13,SNR=6.9						

IDC 14 07:19:59.0±1.2, 003N×9748E, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.1/22, mbtmp4.3/11, ML3.9/2, Error ellipse: s-maj=40.2km s-min=15.4km az=65.0
DJA 14 07:19:59, 015S×9721E, h30km, ML4.2/1
BJI 14 07:20:01.1, 038S×9772E, h47km, mB5.2, mb4.6
ISCJB 14 07:20:03.6±3.2, 00N±01×974E±02, h48km±23km, mb4.3/15, Error ellipse: s-maj=36.2km s-min=9.2km az=146.7
NEIC 14 07:20:03.6±0.6, 006N×9748E, h30km, mb4.5/4, Error ellipse: s-maj=17.5km s-min=8.6km az=60.0
ISC 14 07:19:58.8±5.5, 01S±01×973E±01, h3km±33km, n29, σ0§70/28, mb4.3/15, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRSI	**Tarutung**	**2.67**	**39**	P	**Pn**	**07 20 43.6**	**+0.8**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**3.13**	**97**	P	**Pn**	**07 20 49.7**	**+0.6**
	0.0nm,0.0s						
PSI	**Prapat**	**3.29**	**30**	Pn	**Pn**	**07 20 46.6**	**-4.7**
	2.3nm,0.3s,baz=281,slow=15,SNR=6.4						
PSI				Sn	**Sn**	**07 21 20.4**	**-11**
	3.2nm,0.3s,baz=161,slow=16,SNR=5.1						
KRJI	**Kerinci**	**4.62**	**116**	P	**Sn**	**07 22 03.8**	**-0.1**
	0.0nm,0.0s						
BSI	**Banda Aceh**	**5.88**	**340**	P	**Pn**	**07 21 24.6**	**-2.4**
	0.0nm,0.0s						
CMAR	**Chiang Mai Arr**	**18.49**	**5**	P	**Pn**	**07 24 16.5**	**+0.3**
	0.6nm,0.3s,baz=196,slow=11,SNR=17						
CMAR	**Chiang Mai Arr**	**18.49**	**5**	P	**Pn**	**07 24 16.5**	**+0.3**
KKM	**Kota Kinabalu**	**19.84**	**72**	*e*P	**Pn**	**07 24 32.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**33.13**	**124**	*e*P	**P**	**07 26 36.5**	**0.0**
	5.3nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.13**	**124**	P	**P**	**07 26 36.4**	**-0.2**
	2.4nm,0.7s,mb4.2,baz=307,slow=8.3,SNR=6.6						
XAN	**Xi'an**	**35.65**	**17**	P	**P**	**07 26 57.9**	**-0.3**
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
XAN				AMB	AMB		
	comp=Z,28nm,3.4s						
GTA	**Gaotai**	**39.36**	**3**	*e*P	**P**	**07 27 30.3**	**+0.7**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**41.30**	**121**	P	**P**	**07 27 46.0**	**0.0**
	comp=Z,4.3nm,0.5s,mb4.3,baz=302,slow=9.0,SNR=57						
WRA				PcP	PcP	07 29 44.2	-0.6
	comp=Z,0.5nm,0.9s,baz=311,slow=2.9,SNR=4.7						
WRAB	**Tennant Creek**	**41.30**	**121**	*e*P	**P**	**07 27 45.8**	**-0.1**
	comp=Z,6.0nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**41.31**	**121**	*e*P	**P**	**07 27 45.8**	**-0.2**
ASAR	**Alice Springs**	**42.57**	**126**	P	**P**	**07 27 56.1**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.0,baz=299,slow=7.3,SNR=16						
ASAR				PcP	PcP	07 29 55.0	+6.1
	comp=Z,0.4nm,0.9s,baz=308,slow=3.4,SNR=4.2						
KSRS	**Korea Array**	**46.84**	**34**	P	**P**	**07 28 28.9**	**-1.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=219,slow=11,SNR=4.0						
EKS2	**Erkin-Say**	**47.51**	**336**	*e*P	**P**	**07 28 36.5**	**+1.2**
	comp=Z,3.9nm,0.9s,mb4.4						
SONM	**Songino Array**	**48.37**	**8**	P	**P**	**07 28 42.5**	**+0.7**
	comp=Z,2.8nm,0.7s,mb4.4,baz=189,slow=8.6,SNR=18						
MK31	**Makanchi Array**	**48.49**	**346**	*e*P	**P**	**07 28 43.3**	**+0.4**
MKAR	**Makanchi Array**	**48.49**	**346**	P	**P**	**07 28 43.2**	**+0.4**
	comp=Z,4.5nm,0.8s,mb4.6,baz=156,slow=7.7,SNR=21						
MKAR	**Makanchi Array**	**48.49**	**346**	P	**P**	**07 28 43.2**	**+0.4**
STKA	**Stephens Creek**	**52.44**	**131**	P	**P**	**07 29 13.5**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.3,baz=320,slow=17,SNR=4.7						
MJAR	**Matsushiro Arr**	**52.57**	**42**	P	**P**	**07 29 13.0**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.0,baz=228,slow=4.6,SNR=6.8						
KURK	**Kurchatov**	**53.04**	**345**	P	**P**	**07 29 16.7**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.3						
ZALV	**Zalesovo Beam**	**54.82**	**351**	P	**P**	**07 29 30.1**	**+0.1**
	comp=Z,3.4nm,0.3s,mb4.8,baz=183,slow=6.0,SNR=18						
ARCES	**ARCESS Array B**	**83.76**	**340**	P	**P**	**07 32 28.9**	**-0.1**
	comp=Z,1.9nm,0.9s,mb4.2,baz=19,slow=7.7,SNR=3.5						
CPUP	**Villa Florida**	**144.12**	**221**	PKP	PKPdf	07 39 37.0	+0.1
	comp=Z,1.8nm,0.7s,baz=322,slow=1.4,SNR=3.2						
JCT	**Junction City**	**145.67**	**27**	*e*PKPbc	PKPbc	07 39 39.4	-0.3

NEIC 14 07:22:29.8, 1486N×9330W, h21km, MD4.4(MEX), After MEX.
MEX 14 07:22:29.6±0.9, 1485N×9331W, h20km±62km, MD4.4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.01**	**87**	*i* P	Pb	07 22 45.2	-3.2
THIG				*i* S	Sb	07 22 57.6	-3.7
CCIG	**Comitan**	**1.82**	**38**	*e*P	Pn	07 22 58.2	-1.5
CCIG				*i* S	Sn	07 23 18.4	-3.8
CCIG	**Comitan**	**1.82**	**38**	*e*P	Pn	07 22 58.3	-1.4
CCIG				*i* S	Sn	07 23 18.4	-3.8
TGIG		**1.93**	**5**	*i* P	Pn	07 22 58.3	-2.9
TGIG				*i* S	Sn	07 23 21.1	-3.8
SCX	**San Cristobal**	**1.98**	**19**	*e*P	Pn	07 22 58.8	-3.2
SCX				*i* S	Sn	07 23 24.7	-1.6
SCX	**San Cristobal**	**1.98**	**19**	*e*P	Pn	07 22 58.8	-3.2
SCX				*i* S	Sn	07 23 25.3	-1.1
OXX	**Oaxaca**	**3.96**	**304**	*i* P	Pn	07 23 27.3	-1.9
VHO	**Vista Hermosa**	**3.96**	**304**	*i* P	Pn	07 23 28.1	-1.2
VHO				*i* S	Sn	07 24 11.5	-3.7
SCIG	**Sabancuy**	**4.57**	**26**	*i* P	Pn	07 23 34.9	-2.8
SCIG				*i* S	Sn	07 24 26.1	-4.1
PNIG	**Pinotepa**	**4.89**	**289**	*i* P	Pn	07 23 38.8	-3.2
PNIG				*i* S	Sn	07 24 28.9	-9.1
PNIG	**Pinotepa**	**4.89**	**289**	*i* P	Pn	07 23 38.8	-3.2
PNIG				*i* S	Sn	07 24 32.6	-5.4
TPIG	**Tehuac#an**	**5.26**	**313**	*i* S	Sn	07 24 46.0	-1.2

NIED 14 07:44:00, 4040N×142.10E, h62km, Mw3.7 Best double couple: M0=4.08000×10^14 NP1:φs=344.00000°, δ73.00000°, λ108.00000°. NP2:φs=116.00000°, δ24.00000°, λ45.00000°.
JMA 14 07:44:58.2±0.1, 4036N×14208E, h51km±1km, M3.5, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.43**	**272**	⇓P	Pn	07 45 08.7	0.0
JANG				S	Sn	07 45 16.1	-0.1
JTH	**Tanohata**	**0.45**	**202**	⇑P	Pn	07 45 09.0	+0.1
JTH				S	Sn	07 45 16.7	+0.1
JKZ	**Kuzumaki**	**0.69**	**237**	⇓P	Pn	07 45 12.1	+0.3
JKZ				S	Sn	07 45 21.8	+0.2
JTM	**Tenmabayashi**	**0.88**	**299**	⇓P	Pn	07 45 14.0	-0.3
JTM				S	Sn	07 45 25.4	-0.7
JOM	**Ohasama**	**1.07**	**215**	P	Pn	07 45 17.1	+0.2
JOM				S	Sn	07 45 30.7	0.0
JAH	**Hinai**	**1.12**	**262**	⇓P	Pn	07 45 17.7	+0.2
JAH				S	Sn	07 45 31.9	+0.1
JOT	**Ohata**	**1.29**	**323**	P	Pn	07 45 19.3	-0.5
JOT				S	Sn	07 45 34.6	-1.3

NEIC 14 07:46:28.6±1.1, 1936S×6984W, h64km±12km, Error ellipse: s-maj=17.5km s-min=11.6km az=80.0
ISCJB 14 07:46:29.3±0.8, 1938S±005×6966W±0.10, h86km±10km, mb3.5/5, Error ellipse: s-maj=16.1km s-min=7.7km az=163.1
IDC 14 07:46:30.7±2.0, 1940S×6962W, h83km±20km, mb3.4/5, mb1 3.7/9, mb1mx3.6/19, mbtmp3.5/9, MS3.1/3, Ms1 3.1/3, ms1mx2.8/19, Error ellipse: s-maj=28.8km s-min=14.4km az=96.0
ISC 14 07:46:30.6±0.8, 1939S±005×6966W±010, h82km±10km, n21, σ1§04/18, mb3.5/5, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.29**	**168**	P	**Pn**	**07 47 18.9**	**-1.0**
	51nm,0.3s,baz=345,slow=8.9,SNR=174						
LVC				S	**Sn**	**07 47 58.9**	**+1.0**
	49nm,0.3s,baz=251,slow=19,SNR=6.6						
LVC				LR	LR	07 48 35.4	
	comp=Z,177nm,18.2s,baz=196,slow=38						
ARE	**Arequipa**	**3.39**	**329**	*e*P	**Pn**	**07 47 16.0**	**-5.3**
ARE				*e*S	**Sn**	**07 48 00.0**	**-0.5**
LPAZ	**La Paz**	**3.41**	**26**	P	**Pn**	**07 47 23.4**	**+1.8**
	0.9nm,0.3s,baz=200,slow=8.1,SNR=23						
LPAZ				LR	LR	07 49 02.7	
	comp=Z,192nm,18.8s,baz=211,slow=45						
SIV	**San Ignacio**	**8.86**	**69**	P	**Pn**	**07 48 34.6**	**-1.3**
	1.3nm,0.3s,baz=258,slow=13,SNR=63						
NNA	**Nana**	**10.09**	**316**	P	**Pn**	**07 48 57.7**	**+5.0**
	0.6nm,0.3s,baz=154,slow=13,SNR=3.5						
CFAA	**Coronel Fontan**	**12.23**	**174**	P	**Pn**	**07 49 21.9**	**+0.2**
	0.0nm,0.3s,baz=8.7,slow=13,SNR=3.7						
CPUP	**Villa Florida**	**13.30**	**124**	P	**Pn**	**07 49 35.1**	**-0.9**
	0.4nm,0.3s,baz=315,slow=13,SNR=3.8						
BDFB	**Brasilia**	**20.98**	**83**	P	**P**	**07 51 10.4**	**+3.1**
	0.9nm,0.5s,baz=242,slow=17,SNR=5.3						
PLCA	**Paso Flores**	**21.29**	**182**	P	**P**	**07 51 10.3**	**-0.1**
	1.2nm,0.7s,mb3.3,baz=346,slow=12,SNR=3.0						
PLCA	**Paso Flores**	**21.29**	**182**	P	**P**	**07 51 10.3**	**-0.1**
ROSC	**El Rosal**	**24.52**	**349**	LR	LR	08 01 56.5	
	comp=Z,82nm,20.1s,baz=30,slow=38						
PDAR	**Pinedale Array**	**71.93**	**330**	P	**P**	**07 57 45.2**	**+0.2**
	0.1nm,0.4s,mb3.0,baz=120,slow=5.3,SNR=2.4						
NVAR	**Mina Array Bea**	**73.40**	**322**	P	**P**	**07 57 54.7**	**+0.9**
	0.4nm,0.8s,mb3.3,baz=141,slow=5.8,SNR=4.2						
NVAR	**Mina Array Bea**	**73.40**	**322**	P	**P**	**07 57 54.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**77.33**	**71**	P	**P**	**07 58 16.8**	**-0.1**
	0.9nm,0.5s,mb3.8,baz=254,slow=5.2,SNR=19						
TORD	**Torodi Ar. Bea**	**77.33**	**71**	P	**P**	**07 58 16.8**	**-0.1**
YKA	**Yellowknife Ar**	**88.97**	**341**	P	**P**	**07 59 14.5**	**-1.1**
	1.0nm,0.7s,mb3.9,baz=138,slow=5.5,SNR=4.8						
MKAR	**Makanchi Array**	**144.31**	**34**	PKP	PKPdf	08 05 56.1	-1.0
	0.3nm,0.6s,baz=306,slow=3.3,SNR=2.9						
MKAR	**Makanchi Array**	**144.31**	**34**	PKP	PKPdf	08 05 56.1	-1.0
MJAR	**Matsushiro Arr**	**150.19**	**311**	PKPbc	PKPbc	08 06 12.9	+0.5
	0.6nm,0.7s,baz=108,slow=1.4,SNR=4.5						
SONM	**Songino Array**	**151.44**	**6**	PKPbc	PKPbc	08 06 16.2	+1.3
	0.5nm,0.5s,baz=11,slow=2.0,SNR=3.6						
SONM				PKPab	PKPab	08 06 23.0	-0.4
	0.9nm,0.5s,baz=294,slow=1.0,SNR=5.1						

ISCJB 14 08:00:17.1±0.3, 6077N±002×8015W±005, h10km, mb3.2/2, Error ellipse: s-maj=3.9km s-min=3.4km az=143.3
OTT 14 08:00:22.6±0.1, 6092N×7994W, h5km, MN3.3/15, 96km west from Akulivik, Qc Boothia Ungava Seismic Zone.
IDC 14 08:00:22.0±1.2, 6080N×7996W, h0km, mb3.4/2, mb1 3.9/5, mb1mx3.5/25, mbtmp3.7/5, ML3.0/3, Error ellipse: s-maj=22.0km s-min=9.9km az=20.0
NEIC 14 08:00:24.7, 6091N×7981W, h18km, MN3.2(OTT), After OTT.
ISC 14 08:00:19.7±0.3, 6078N±002×8008W±005, h10km, n46, σ1§34/88, mb3.2/2, Hudson Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKVQ	**Akulivik**	**0.93**	**88**	PG	**Pg**	**08 00 38.5**	**+1.0**
AKVQ				SG	**Sg**	**08 00 49.9**	**+0.4**
AKVQ				Trac		08 00 50.2	
	comp=Z,173nm,0.1s						
IVKQ	**Ivujivik**	**1.94**	**31**	PG	**Pg**	**08 00 55.1**	**-1.8**
IVKQ				SG	**Sg**	**08 01 17.9**	**-4.1**
IVKQ				Trac		08 01 21.1	
	comp=Z,160nm,0.2s						
INUQ	**Inukjuak**	**2.54**	**156**	PN	**Pn**	**08 01 06.0**	**+5.0**
INUQ				SN	**Sn**	**08 01 36.6**	**+4.7**
INUQ				Trac		08 01 40.0	
	comp=Z,86nm,0.1s						
SNQN	**Sanikiluaq**	**4.28**	**174**	PN	**Pn**	**08 01 29.6**	**+4.9**
SNQN				PG	**Pg**	**08 01 40.6**	**-0.9**
SNQN				SN	**Sn**	**08 02 18.9**	**+4.3**
SNQN				LG		08 02 35.2	
SNQN				Trac		08 02 40.1	
	comp=Z,37nm,0.1s						
SEDN	**First Sedna Si**	**5.79**	**300**	PN	**Pn**	**08 01 47.5**	**+1.9**
SEDN				SN	**Sn**	**08 02 51.9**	**-0.1**
SEDN				LG		08 03 19.4	
SEDN				Trac		08 03 26.8	
	comp=Z,26nm,0.3s						
JOSN	**Second Sedna S**	**5.91**	**299**	PN	**Pn**	**08 01 49.7**	**+2.6**
JOSN				SN	**Sn**	**08 02 52.9**	**-1.9**
JOSN				LG		08 03 23.1	
JOSN				Trac		08 03 28.9	
	comp=Z,34nm,0.3s						
YRTN	**Rankin Inlet**	**6.06**	**295**	PN	**Pn**	**08 01 51.3**	**+2.1**
YRTN				SN	**Sn**	**08 02 57.9**	**-0.6**
YRTN				LG		08 03 27.8	
YRTN				Trac		08 03 32.8	
	comp=Z,31nm,0.4s						
FRB	**Frobisher Bay**	**6.15**	**56**	PN	**Pn**	**08 01 52.2**	**+1.7**
FRB				SN	**Sn**	**08 02 56.6**	**-4.1**
FRB				LG		08 03 24.7	
FRB				Trac		08 03 29.8	
	comp=Z,16nm,0.6s						
FRB	**Frobisher Bay**	**6.15**	**56**	*e*Pn	**Pn**	**08 01 52.0**	**+1.6**
FRB				*e*Sn	**Sn**	**08 02 55.9**	**-4.8**
QILN	**Qililugaq Expl**	**6.52**	**337**	PN	**Pn**	**08 01 56.4**	**+0.8**
QILN				SN	**Sn**	**08 03 05.0**	**-4.8**
QILN				LG		08 03 40.9	
QILN				Trac		08 03 49.6	
	comp=Z,14nm,0.3s						
KUQ	**Kuujjuuaa**	**6.52**	**109**	PN	**Pn**	**08 01 57.6**	**+2.0**
KUQ				SN	**Sn**	**08 03 09.2**	**-0.7**
KUQ				LG		08 03 40.6	
KUQ				Trac		08 03 41.9	
	comp=Z,24nm,0.3s						
SILO	**Sutton Inlier**	**6.83**	**204**	PN	**Pn**	**08 02 04.3**	**+4.5**
SILO				SN	**Sn**	**08 03 17.9**	**+0.3**
SILO				LG		08 03 52.0	
SILO				Trac		08 04 04.3	
	comp=Z,12nm,0.3s						
FCC	**Fort Churchill**	**7.36**	**260**	PN	**Pn**	**08 02 11.5**	**+4.5**
FCC				SN	**Sn**	**08 03 30.9**	**+0.5**
FCC				LG		08 04 08.7	
FCC				Trac		08 04 22.2	
	comp=Z,8.4nm,0.7s						
LG4Q	**La Grande 4**	**7.87**	**153**	PN	**Pn**	**08 02 17.0**	**+2.9**
LG4Q				SN	**Sn**	**08 03 38.2**	**-4.9**
LG4Q				LG		08 04 21.2	
LG4Q				Trac		08 04 26.5	
	comp=Z,26nm,0.4s						
SRLN	**Sarcpa Lake, N**	**7.92**	**351**	PN	**Pn**	**08 02 15.7**	**+0.9**
SRLN				SN	**Sn**	**08 03 37.8**	**-6.6**
SRLN				LG		08 04 23.2	
SRLN				Trac		08 04 32.2	
	comp=Z,8.7nm,0.6s						
VIMO	**Victor Mine**	**8.23**	**196**	PN	**Pn**	**08 02 23.6**	**+4.6**
VIMO				SN	**Sn**	**08 03 51.3**	**-0.7**
VIMO				LG		08 04 36.5	
LAIN	**Lailor River,**	**8.49**	**352**	PN	**Pn**	**08 02 23.1**	**+0.6**
LAIN				SN	**Sn**	**08 03 52.4**	**-5.8**
LAIN				LG		08 04 38.6	
LAIN				LG		08 04 40.5	
LAIN				Trac		08 04 52.0	
	comp=Z,5.5nm,0.8s						
STLN	**Stellar Camp,**	**8.64**	**325**	PN	**Pn**	**08 02 25.3**	**+0.7**
STLN				SN	**Sn**	**08 03 56.5**	**-5.5**
STLN				LG		08 04 47.4	
STLN				Trac		08 04 58.5	
	comp=Z,6.3nm,0.5s						
ILON	**Igloolik, Nuna**	**8.66**	**356**	PN	**Pn**	**08 02 23.9**	**-0.9**
ILON				SN	**Sn**	**08 03 56.6**	**-5.7**
ILON				LG		08 04 44.3	
ILON				Trac		08 04 55.4	
	comp=Z,15nm,0.6s						
AP3N	**Apex site 3 Nu**	**8.90**	**350**	PN	**Pn**	**08 02 29.7**	**+1.5**
AP3N				SN	**Sn**	**08 04 00.1**	**-8.2**
AP3N				LG		08 04 50.6	
SCHQ	**Schefferville**	**9.24**	**124**	Pn	**Pn**	**08 02 33.6**	**+0.8**
	1.1nm,0.3s,baz=312,slow=12,SNR=16						
SCHQ				Sn	**Sn**	**08 04 11.9**	**-4.7**
	1.3nm,0.3s,baz=212,slow=18,SNR=5.0						
SCHQ				Lg		08 05 02.2	
	1.9nm,0.3s,baz=58,slow=14,SNR=4.6						
SCHQ	**Schefferville**	**9.24**	**124**	PN	**Pn**	**08 02 33.9**	**+1.1**
SCHQ				SN	**Sn**	**08 04 13.6**	**-3.0**
SCHQ				LG		08 05 07.2	
SCHQ				Trac		08 05 14.9	
	comp=Z,6.9nm,0.4s						
GIFN	**Gifford Fjord,**	**9.28**	**357**	PN	**Pn**	**08 02 32.4**	**-0.8**
GIFN				SN	**Sn**	**08 04 09.8**	**-7.7**
GIFN				LG		08 05 00.8	
GIFN				Trac		08 05 14.4	
	comp=Z,9.5nm,0.4s						
MALO	**McAlpine Lake**	**10.78**	**179**	PN	**Pn**	**08 02 54.9**	**+0.9**
MALO				SN	**Sn**	**08 04 48.5**	**-6.0**
MALO				LG		08 05 51.7	
MALO				Trac		08 06 05.8	
	comp=Z,47nm,1.1s						
PKLO	**Pickle Lake**	**10.91**	**216**	PN	**Pn**	**08 02 59.0**	**+3.2**
PKLO				SN	**Sn**	**08 04 55.4**	**-2.3**
PKLO				LG		08 05 56.4	
NANO	**Nakina Ontario**	**11.15**	**203**	PN	**Pn**	**08 03 00.7**	**+1.7**
NANO				SN	**Sn**	**08 05 01.1**	**-2.4**
KAPO	**Kapuskasing**	**11.44**	**188**	PN	**Pn**	**08 03 02.9**	**-0.1**
KAPO				SN	**Sn**	**08 05 05.0**	**-5.7**
GTO	**Geraldton**	**11.73**	**202**	PN	**Pn**	**08 03 08.7**	**+1.8**
GTO				SN	**Sn**	**08 05 15.6**	**-2.1**
GTO				Trac		08 05 20.8	
	comp=Z,3.1nm,0.2s						
GTO				LG		08 06 21.6	
PINU	**Pond Inlet**	**12.00**	**3**	PN	**Pn**	**08 03 03.7**	**-6.7**
PINU				SN	**Sn**	**08 05 04.6**	**-20**
PINU				LG		08 06 17.3	
PINU				Trac		08 06 30.5	
	comp=Z,32nm,0.4s						
MNQ	**Manicouagan**	**12.07**	**143**	PN	**Pn**	**08 03 11.8**	**+0.3**
MNQ				SN	**Sn**	**08 05 21.7**	**-4.4**
MNQ				LG		08 06 35.3	
MNQ				Trac		08 06 38.9	
	comp=Z,2.2nm,0.3s						
KILO	**Kirkland Lake**	**12.31**	**179**	PN	**Pn**	**08 03 16.4**	**+1.5**
KILO				SN	**Sn**	**08 05 24.6**	**-7.4**
PNPO	**Pukaskwa Natio**	**12.72**	**199**	PN	**Pn**	**08 03 20.1**	**-0.3**
PNPO				SN	**Sn**	**08 05 37.0**	**-5.0**
SOLO	**Sioux Lookout**	**12.73**	**217**	PN	**Pn**	**08 03 21.3**	**+0.7**
SOLO				SN	**Sn**	**08 05 37.0**	**-5.3**
SOLO				LG		08 06 54.6	
SOLO				Trac		08 07 12.0	
	comp=Z,1.6nm,0.4s						
VLDQ	**Val d'Or**	**12.79**	**172**	PN	**Pn**	**08 03 20.9**	**-0.5**
VLDQ				SN	**Sn**	**08 05 31.0**	**-13**
SMQ	**Clarke City**	**12.98**	**139**	PN	**Pn**	**08 03

MNI	Manado	1.32 249	⇓eP	Pn	08 10 18.0	+0.7
TNE	Ternate	1.72 131	⇓eP	Pn	08 10 22.0	-0.8
FITZ	Fitzroy Crossi	19.91 181	P	Pn	08 14 22.6	-2.8
	0.1nm,0.3s,baz=346,slow=8.3,SNR=3.8					
WRA	Warramunga Arr	23.20 160	P	P	08 14 59.2	+0.5
	1.2nm,0.4s,mb3.7,baz=333,slow=11,SNR=46					
WRA			S	S	08 19 06.9	-0.5
	0.7nm,0.8s,baz=342,slow=18,SNR=7.4					
WB2	Warramunga Arr	23.20 160	eP	P	08 14 59.2	+0.5
ASAR	Alice Springs	26.55 164	P	P	08 15 31.4	+2.0
	0.5nm,0.3s,mb3.5,baz=347,slow=11,SNR=11					
MJAR	Matsushiro Arr	36.23 17	P	P	08 16 55.2	+0.9
	0.6nm,0.8s,mb3.6,baz=196,slow=7.2,SNR=4.5					
SONM	Songino Array	48.80 342	P	P	08 18 37.0	+0.9
	0.6nm,0.6s,mb3.8,baz=147,slow=7.4,SNR=3.7					
MK31	Makanchi Array	58.67 326	eP	P	08 19 47.8	-0.6
MKAR	Makanchi Array	58.67 326	P	P	08 19 47.8	-0.6
	1.4nm,0.5s,mb4.3,baz=118,slow=8.4,SNR=20					
KURK	Kurchatov	62.91 328	eP	P	08 20 15.7	-1.5
	4.2nm,0.6s,mb4.8					

MAN 14 08:40:16, 1029N×12180E, h1km, mb3.7, ML2.4, MS1.9, Panay

ISCJB 14 08:42:29.4±0.7, 3933N±003×2025E±005, h11km±6km, Error ellipse: s-maj=6.8km s-min=4.8km az=165.8
CSEM 14 08:42:29.2±0.3, 3935N×2022E, h12km, ML2.9, Error ellipse: s-maj=5.8km s-min=3.9km az=78.0
NEIC 14 08:42:29.6, 3933N×2020E, h2km, MD3.3(ATH), ML2.9(THE), After THE.
THE 14 08:42:29.6, 3933N×2020E, h1km, ML2.9
ATH 14 08:42:30.0, 3976N×2027E, h54km±4km, MD3.3/4
ISC 14 08:42:29.9±0.7, 3934N±003×2024E±005, h15km±5km, n11, σ1°04/21, 2C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.21	20	ePg	Pg	08 42 33.8	-0.9
IGT				eSg	Sg	08 42 37.1	-0.8
KEK	Kerkira	0.51	318	⇑iP	Pg	08 42 40.3	+0.3
KEK				eS	Sg	08 42 48.5	+1.7
JAN	Janina	0.57	56	⇑iP	Pg	08 42 40.9	-0.2
JAN				eS	Sg	08 42 49.7	+1.0
LKD	Levkas	0.70	153	ePg	Pg	08 42 42.5	-1.2
LKD				eSg	Sg	08 42 53.0	0.0
EVR	Evrytania	1.29	109	eP	Pn	08 42 55.1	+1.8
KFL	Anninata	1.30	161	ePg	Pg	08 42 53.9	-1.0
KFL				eSg	Sg	08 43 12.8	+0.9
THL	Klokotos Trika	1.39	80	ePg	Pg	08 42 56.0	-0.7
THL				eSg	Sg	08 43 15.7	+0.9
THL	Klokotos Trika	1.39	80	eP	Pn	08 42 54.4	-0.3
THL				eS	Sn	08 43 11.3	-1.5
THL	Klokotos Trika	1.39	80	ePg	Pg	08 42 56.0	-0.7
THL				eS	Sn	08 43 11.3	-1.5
THL				eSg	Sg	08 43 15.7	+0.9
AGG	Agios Georgios	1.65	100	ePb	Pb	08 42 59.6	-0.4
AGG				eSb	Sb	08 43 22.5	+1.8
KRUS	Krusevo	2.17	20	ePn	Pn	08 43 04.4	-1.0

ISCJB 14 08:55:27.9±1.4, 182S±01×1780W±01, h453km±20km, mb3.7/9, Error ellipse: s-maj=23.5km s-min=15.4km az=39.9
IDC 14 08:55:28.9±2.0, 1819S×17792W, h451km±27km, mb3.3/8, mb1 3.5/9, mb1mx3.4/18, mbtmp3.3/9, Error ellipse: s-maj=22.0km s-min=14.9km az=133.0
NEIC 14 08:55:29.2±1.1, 1821S×17793W, h456km±16km, mb3.9/2, Error ellipse: s-maj=17.9km s-min=11.5km az=132.0
ISC 14 08:55:29.2±1.3, 182S±01×1779W±01, h454km±20km, n15, σ0°72/15, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.32	55	P	P	08 57 17.6	+0.1
	4.5nm,0.3s,baz=99,slow=1.7,SNR=9.0						
AFI	Afiamalu	7.32	55	P	P	08 57 17.6	+0.1
RAO	Raoul Island	10.98	180	P	P	08 57 57.0	+0.1
	54nm,0.3s,baz=177,slow=23,SNR=4.5						
URZ	Urewera	20.43	191	P	P	08 59 32.6	-1.6
	5.1nm,0.5s,baz=343,slow=16,SNR=6.1						
CTA	Charters Tower	33.83	261	eP	P	09 01 32.9	+0.5
	3.7nm,0.8s,mb3.9						
STKA	Stephens Creek	38.87	242	eP	P	09 02 15.3	+1.1
STKA	Stephens Creek	38.87	242	P	P	09 02 15.4	+1.3
	5.1nm,0.7s,mb4.1,baz=94,slow=9.0,SNR=13						
WB2	Warramunga Arr	45.00	260	eP	P	09 03 02.5	-0.5
WRA	Warramunga Arr	45.01	260	P	P	09 03 02.3	-0.8
	0.8nm,0.3s,mb3.6,baz=97,slow=7.7,SNR=59						
ASAR	Alice Springs	45.13	255	P	P	09 03 04.2	+0.3
	8.1nm,0.5s,mb4.4,baz=90,slow=8.7,SNR=201						
KAKA	Kakadu	48.02	269	eP	P	09 03 26.2	+0.1
	4.1nm,0.7s,mb3.9						
VNDA	Vanda	60.17	185	P	P	09 04 52.4	+1.0
	0.5nm,0.4s,mb3.3,baz=355,slow=4.9,SNR=5.4						
MJAR	Matsushiro Arr	68.42	323	P	P	09 05 44.0	-0.5
	0.7nm,0.5s,mb3.5,baz=163,slow=5.8,SNR=4.5						
NVAR	Mina Array Bea	79.34	44	P	P	09 06 47.4	+0.6
	0.6nm,0.6s,mb3.3,baz=222,slow=8.3,SNR=6.0						
PDAR	Pinedale Array	87.27	43	P	P	09 07 26.0	-0.5
	0.3nm,0.8s,mb3.1,baz=278,slow=4.3,SNR=3.7						

DDA 14 09:05:41.0, 3688N×2773E, h8km±7km, Md2.8
CSEM 14 09:05:45.8±0.3, 3722N×2819E, h12km, MD2.9, Error ellipse: s-maj=12.0km s-min=4.7km az=18.0
ISK 14 09:05:45.2, 3729N×2826E, h6km, MD2.9
ISCJB 14 09:05:47.0±0.7, 3720N±005×2820E±004, h10km±6km, Error ellipse: s-maj=9.2km s-min=4.7km az=28.0
ISC 14 09:05:47.3±0.8, 3721N±005×2822E±004, h10km±9km, n8, σ1°03/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.09	145	ePG	Pg	09 05 49.0	-0.8
YER				eSG	Sg	09 05 51.7	+0.2
MLSB	Milas	0.36	284	ePG	Pg	09 05 53.1	-1.4
MLSB				eSG	Sg	09 05 59.3	0.0
TURN	Turunc	0.46	137	iP	Pg	09 05 55.6	-0.5
TURN				iS	Sg	09 06 04.0	+1.8
AYDN	Tasoluk	0.53	329	iP	Pg	09 05 56.5	-1.0
AYDN				iS	Sg	09 06 06.4	+2.0
DALT	Dalyan (Mudla)	0.55	143	ePG	Pg	09 05 57.5	-0.5
BDRM	Kayabasi	0.64	257	iP	Pg	09 05 58.4	-1.2
BDRM				iS	Sg	09 06 08.9	+1.0
BODT	Bodrum	0.74	259	ePG	Pg	09 06 00.8	-0.7
BODT				eSG	Sg	09 06 12.4	+1.2
GOLH	Golhisar	1.07	88	iP	Pb	09 06 08.2	+0.4
GOLH				iS	Sg	09 06 30.8	+9.0

NEIC 14 09:16:02.9±0.9, 3276N×14041E, h10km, MG3.3(JMA), Error ellipse: s-maj=39.7km s-min=10.9km az=83.0
IDC 14 09:16:03.7±1.4, 3259N×13902E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/20, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=37.8km s-min=16.1km az=121.0
ISCJB 14 09:16:04.5±1.0, 3319N±005×1410E±01, h67km±13km, mb3.5/2, Error ellipse: s-maj=15.0km s-min=8.7km az=177.2
JMA 14 09:16:04.4±0.2, 3321N×14107E, h47km, M3.3
ISC 14 09:16:05.6±1.2, 3317N±006×1410E±01, h53km±16km, n17, σ0°92/24, mb3.5/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.01	267	P	Pn	09 16 23.3	-0.1
JHJ	Hachijo jima 2	1.03	267	Pn	Pn	09 16 23.4	-0.4
	150nm,0.3s,baz=251,slow=22,SNR=300						
JHJ				Sn	Sn	09 16 36.5	-0.8
	205nm,0.3s,baz=69,slow=22,SNR=12						
BSO1	Boso 1	1.48	359	P	Pn	09 16 28.6	-1.2
BSO3	Boso 3	1.68	346	P	Pn	09 16 31.7	-0.8
JKO	Kozu shima	1.86	303	P	Pn	09 16 35.4	+0.4
JKO				S	Sn	09 16 58.1	+0.7
JIM2	Oshima 3	2.03	320	P	Pn	09 16 36.8	-0.5
JIM2				eS	Sn	09 17 01.0	-0.4
JIZS	Izushimoda	2.35	312	P	Pn	09 16 42.4	+0.7
JOD2	Odawara 2	2.63	323	P	Pn	09 16 45.4	-0.1
JOD2				S	Sn	09 17 15.1	-1.0
JHU	Hanno	3.03	332	P	Pn	09 16 51.0	0.0
JHU				S	Sn	09 17 24.5	-1.6
JYN	Shimob	3.09	319	P	Pn	09 16 53.8	+2.0
JHO	Hitachi	3.45	354	P	Pn	09 16 56.7	-0.1
MJAR	Matsushiro Arr	4.08	326	Pn	Pn	09 17 06.6	+1.3
	1.5nm,0.3s,baz=161,slow=10,SNR=15						
MJAR				Sn	Sn	09 17 52.8	+1.1
	1.3nm,0.3s,baz=310,slow=6.6,SNR=7.0						
MAJO	Matsushiro	4.08	326	eP	Pn	09 17 07.1	+1.7
MAT	Matsushiro	4.08	326	P	Pn	09 17 06.7	+1.3
MAT				S	Sn	09 17 51.0	-0.8
YSS	Yuzh-Sakhalins	13.83	5	eP	Pn	09 19 25.1	+6.5
	50nm,0.3s						
WRA	Warramunga Arr	53.20	188	P	P	09 25 18.0	-0.5
	0.8nm,0.7s,mb3.8,baz=4.1,slow=7.5,SNR=12						
ASAR	Alice Springs	56.92	188	P	P	09 25 45.0	-0.3
	0.1nm,0.4s,mb3.2,baz=4.3,slow=6.9,SNR=4.5						

CSEM 14 09:20:08.0, 4024N×2035E, h12km, MD3.5/2, After ATH
ATH 14 09:20:08.4, 4018N×2033E, h23km, MD3.4/3, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.62	221	ePb	Pb	09 20 20.8	+0.3
KEK				eSb	Sb	09 20 30.4	+1.6
JAN	Janina	0.66	142	ePN	Pn	09 20 21.4	-0.9
JAN				eSN	Sn	09 20 30.6	-1.3
THL	Klokotos Trika	1.44	115	ePN	Pn	09 20 35.1	+2.1

IDC 14 09:28:12.7±9.4, 805S×11820E, h220km±105km, mb2.7/2, mb1 2.8/4, mb1mx2.7/18, mbtmp2.7/4, Error ellipse: s-maj=158.9km s-min=34.7km az=49.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.33	145	P	Pn	09 31 01.8	+0.5
	0.1nm,0.3s,baz=259,slow=21,SNR=7.0						
FITZ				S	S	09 33 11.4	-7.5
	0.1nm,0.3s,baz=33,slow=23,SNR=4.8						
WRA	Warramunga Arr	19.59	129	P	P	09 32 24.2	-0.3
	0.1nm,0.3s,baz=300,slow=12,SNR=8.8						
WRA				S	S	09 36 01.8	+8.2
	0.0nm,0.3s,baz=1.4,slow=15,SNR=3.0						
ASAR	Alice Springs	21.62	138	P	P	09 32 46.0	+0.2
	0.4nm,0.5s,baz=311,slow=9.2,SNR=7.5						
MKAR	Makanchi Array	63.26	333	P	P	09 38 17.9	+0.1
	0.2nm,0.3s,baz=152,slow=5.6,SNR=3.2						

ISCJB 14 09:35:34.7±0.7, 3930N±002×2021E±004, h3km±6km, Error ellipse: s-maj=5.7km s-min=4.0km az=178.5
THE 14 09:35:34.3, 3935N×2008E, h4km, ML3.6
CSEM 14 09:35:35.3±0.2, 3928N×2022E, h8km, ML3.6, Error ellipse: s-maj=4.6km s-min=2.0km az=105.0
ATH 14 09:35:35.2, 3924N×2024E, h12km±11km, MD3.6/7
NEIC 14 09:35:35.2, 3924N×2024E, h12km, MD3.6(ATH), ML3.6(THE), After ATH.
ISC 14 09:35:35.5±0.6, 3927N±003×2025E±004, h6km±6km, n23, σ1°05/35, 2C-5D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.27	14	ePg	Pg	09 35 39.8	-1.0
IGT				eSg	Sg	09 35 43.5	-0.9
KEK	Kerkira	0.56	322	⇑iPB	Pg	09 35 46.4	+0.1
KEK				eSB	Sg	09 35 54.6	+1.0
JAN	Janina	0.61	50	⇑iPB	Pb	09 35 46.5	-2.0
JAN				eSB	Sg	09 35 56.0	+0.9
LKD	Levkas	0.64	151	ePg	Pg	09 35 48.4	+0.6
LKD				eSg	Sg	09 36 00.8	+4.6
VLS	Valsamata	1.12	166	ePg	Pg	09 35 56.9	-0.1
VLS				eSg	Sg	09 36 15.0	+3.5
VLS	Valsamata	1.12	166	⇓iPB	Pb	09 35 56.3	-1.0
VLS				eSB	Sb	09 36 11.6	-0.5
VLS	Valsamata	1.12	166	ePg	Pg	09 35 56.9	-0.1
VLS				eSb	Sb	09 36 11.6	-0.5
KFL	Anninata	1.23	160	ePg	Pg	09 35 58.2	-0.9
KFL				eSg	Sg	09 36 18.8	+3.7
EVR	Evrytania	1.27	106	ePB	Pb	09 35 59.4	-0.3
THL	Klokotos Trika	1.40	77	ePg	Pg	09 36 00.3	-2.1
THL				eSg	Sg	09 36 21.4	+0.9
THL	Klokotos Trika	1.40	77	⇓iPB	Pb	09 36 01.7	-0.3
THL				eSB	Sb	09 36 20.5	+0.4
THL	Klokotos Trika	1.40	77	⇓iPb	Pb	09 36 01.7	-0.3
THL				eSb	Sb	09 36 20.5	+0.4
THL				eSg	Sg	09 36 21.4	+0.9
RLS	Riolos of Patr	1.54	141	ePB	Pb	09 36 04.1	-0.3
KZN	Kozani	1.57	48	ePB	Pb	09 36 05.2	+0.4
BIA	Bitola	1.93	25	iPn	Pn	09 36 11.3	+2.4
BIA	Bitola	1.93	25	iPn	Pn	09 36 11.2	+2.4
KRUS	Krusevo	2.23	20	iPn	Pn	09 36 14.7	+1.7
KRUS	Krusevo	2.23	20	iPn	Pn	09 36 14.6	+1.6
SG1	Sgolgore (BA)	3.15	301	ePn	Pn	09 36 26.0	+0.4
CEL	Celeste	3.55	255	eP	Pn	09 36 30.5	-0.5
CEL	Celeste	3.55	255	eP	Pn	09 36 30.4	-0.6
BARS	Barje	3.74	18	⇓iPn	Pn	09 36 33.8	+0.2
DIVS	Divibare	4.83	358	⇓iPn	Pn	09 36 47.7	-0.9

MAN 14 09:44:33, 1017N×12502E, h44km, mb3.7, ML2.5, MS2.0, Leyte

TAP 14 10:02:34.9, 2437N×12102E, h9km, ML3.7, 5C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWT	Tachien	0.18	129	⇑iP	Pg	10 02 39.3	+0.6
TWT				S	Sg	10 02 41.6	+0.3
TWQ1	Liyutan	0.23	264	⇓iP	Pg	10 02 40.5	+1.1
TWQ1				S	Sg	10 02 44.2	+1.6
NSY	Sanyi	0.24	281	⇑iP	Pg	10 02 41.1	+1.4
NSY				S	Sg	10 02 45.5	+2.5
NSTT	Nanjuang	0.26	356	⇓iP	Pg	10 02 41.0	+0.9
NSTT				S	Sg	10 02 44.8	+1.1
NNS	Nan Shan	0.33	78	⇓iP	Pg	10 02 42.2	+0.9
NNS				S	Sg	10 02 46.5	+0.7
TCU	Taichung	0.38	235	P	Pg	10 02 44.3	+1.9
TCU				S	Sg	10 02 50.2	+2.7
HSN	Hsinchu	0.43	354	eP	Pg	10 02 45.4	+2.0
HSN				S	Sg	10 02 52.7	+3.7
TYC	Yuchr	0.49	198	⇓iP	Pg	10 02 45.1	+0.8
TYC				S	Sg	10 02 52.6	+1.9
SMLT	Sun Moon Lake	0.50	193	⇓iP	Pg	10 02 45.4	+0.9
SMLT				S	Sg	10 02 53.5	+2.5
ENTT	Nioudou	0.56	62	⇓iP	Pg	10 02 46.4	+0.6
ENTT				S	Sg	10 02 53.5	+0.2
WNT	Mingjian	0.58	212	eP	Pg	10 02 47.9	+1.9
WNT				S	Sg	10 02 58.1	+4.5
TWD	Chiawan	0.60	119	⇑iP	Pg	10 02 47.6	+1.1
TWD				S	Sg	10 02 55.3	+1.0
NCU	National Centr	0.62	14	eP	Pg	10 02 48.9	+2.1
NCU				S	Sg	10 02 57.6	+2.7
ENA	Nanau	0.66	85	eP	Pg	10 02 48.4	+0.8
ENA				S	Sg	10 02 56.3	0.0
HWA	Hwalien	0.66	126	P	Pg	10 02 48.8	+1.1
HWA				S	Sg	10 02 57.7	+1.4
ESF	Shoufeng Towns	0.67	138	eP	Pg	10 02 48.5	+0.7
ESF				S	Sg	10 02 56.9	+0.4
ESL	Shilin	0.67	146	⇑iP	Pg	10 02 48.8	+1.0
ESL				S	Sg	10 02 56.6	0.0
TWE	Neicheng	0.69	59	⇓iP	Pg	10 02 48.7	+0.6
TWE				S	Sg	10 02 58.0	+0.9
ILA	Ilan	0.77	59	eP	Pg	10 02 50.5	+0.8
TWC	Suao	0.79	72	P	Pg	10 02 50.6	+0.4
TWC				S	Sg	10 03 00.0	-0.5
TWA	Mucha	0.80	40	P	Pg	10 02 50.9	+0.7
TWA				S	Sg	10 03 02.7	+2.1
WGK	Gukeng	0.80	212	eP	Pg	10 02 51.9	+1.7
WGK				S	Sg	10 03 04.0	+3.3
TAP1	Taipei	0.81	34	P	Pg	10 02 51.3	+0.9
TAP1				S	Sg	10 03 03.4	+2.4
TWS1	Kuangyinshan	0.81	26	P	Pg	10 02 52.5	+1.9
TWS1				S	Sg	10 03 04.2	+3.1
CHN5	Tsauling	0.83	202	⇓iP	Pg	10 02 52.5	+1.6
CHN5				S	Sg	10 03 04.6	+3.0
WTCT	Ta-ch'eng	0.84	233	P	Pg	10 02 52.5	+1.4
WTCT				S	Sg	10 03 04.9	+2.8
ALS	Alishan	0.88	193	P	Pg	10 02 52.8	+1.0
ALS				S	Sg	10 03 06.2	+2.9
YUS	Yu-Shan	0.88	184	eP	Pg	10 02 52.1	+0.3
EHY	Hungye	0.90	162	eP	Pg	10 02 52.8	+0.6
EHY				S	Sg	10 03 04.5	+0.5
CHN2	Minshiung	0.97	211	eP	Pg	10 02 54.8	+1.2
CHN2				S	Sg	10 03 08.7	+2.5
NWF	Wu-fen Shan	0.98	45	eP	Pg	10 02 54.2	+0.4
NWF				S	Sg	10 03 08.8	+2.3
CHY	Chiayi	1.02	212	eP	Pg	10 02 55.3	+0.7
CHY				S	Sg	10 03 10.2	+2.3
WSF	Szhu	1.03	225	P	Pg	10 02 55.5	+0.8
WSF				S	Sg	10 03 10.7	+2.5
TWF1	Yuli	1.04	166	eP	Pg	10 02 55.3	+0.3
TWF1				S	Sg	10 03 09.2	+0.7
TWY	Chenhua	1.04	30	eP	Pg	10 02 55.7	+0.8
TWY				S	Sg	10 03 10.6	+2.0
TWB1	Santiao Chiao	1.09	54	eP	Pg	10 02 55.8	0.0
TWB1				S	Sg	10 03 10.8	+0.9
CHN4	Tsaushan	1.09	201	eP	Pg	10 02 56.5	+0.8
CHN4				S	Sg	10 03 13.1	+3.2
ELDTW	Lidau	1.18	180	eP	Pb	10 02 58.3	+0.9
WTP	Ta-pu	1.18	198	⇓iP	Pb	10 02 58.0	+0.6
WTP				S	Sb	10 03 15.3	+2.4
TWK	Hsinying	1.20	204	⇓P	Pb	10 02 58.4	+0.6
TWK				S	Sb	10 03 15.8	+2.4
STYT	Tauyuan	1.23	191	iP	Pn	10 02 59.1	+0.8
STYT				S	Sb	10 03 16.4	+2.3
CHN8	Yiju	1.26	216	eP	Pn	10 02 59.3	+0.6
CHN8				S	Sb	10 03 17.4	+2.2
CHN1	Nanshi	1.26	201	⇓iP	Pn	10 02 59.5	+0.7
CHN1				S	Sb	10 03 17.3	+2.1
CHKT	Chengkung	1.30	166	eP	Pn	10 03 00.8	+1.5
CHKT				S	Sb	10 03 19.1	+2.6
SGST	Jiashian	1.34	197	eP	Pn	10 03 00.6	+0.7
SGST				S	Sb	10 03 20.6	+3.0
SCLT	Jiali	1.41	213	eP	Pn	10 03 01.8	+1.0
SCLT				S	Sn	10 03 22.1	+2.6
TAI1	Yung-k'ang	1.51	209	eP	Pn	10 03 03.5	+1.3
TWG	Pinlang	1.54	178	eP	Pn	10 03 04.7	+2.1
TWG				S	Sn	10 03 26.3	+3.5
PNG	Penghu	1.56	239	P	Pn	10 03 03.5	+0.7
PNG				S	Sn	10 03 24.3	+1.1
TWM1	Shoushan	1.63	200	eP	Pn	10 03 05.2	+1.3
WDGT	Dungji	1.67	229	eP	Pn	10 03 05.2	+0.9
WDGT				S	Sn	10 03 27.4	+1.6
ECL	Taimali	1.77	182	eP	Pn	10 03 07.3	+1.6
YOJ	Yonaguni jima	1.82	87	eP	Pn	10 03 07.4	+1.0
TAW	Tawu	2.01	183	eP	Pn	10 03 10.1	+1.1
SCZT	Fangliau	2.02	191	⇑P	Pn	10 03 11.1	+1.9
KNM	Kinmen	2.36	272	eP	Pn	10 03 17.0	+3.2
LAY	Lan-yu	2.37	168	eP	Pn	10 03 15.6	+1.6
TWK1	Hengchun	2.42	185	eP	Pn	10 03 15.8	+1.1

IDC 14 10:04:32.7±1.2, 2181N×14316E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.7/5, Error ellipse: s-maj=46.2km s-min=24.2km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.38	192	P	P	10 12 28.8	-0.2
	1.2nm,0.9s,baz=18,slow=9.6,SNR=5.5						
ASAR	Alice Springs	46.09	192	P	P	10 12 58.8	+0.1
	0.5nm,0.7s,baz=15,slow=12,SNR=8.7						
ZALV	Zalesovo Beam	54.11	322	P	P	10 13 58.6	-0.6
	1.0nm,0.3s,baz=97,slow=9.4,SNR=2.7						
MKAR	Makanchi Array	54.61	313	P	P	10 14 03.4	+0.4
	0.3nm,0.6s,baz=92,slow=10.0,SNR=4.6						
NVAR	Mina Array Bea	83.09	51	P	P	10 17 01.1	+0.6
	0.6nm,0.7s,baz=270,slow=4.5,SNR=5.7						

NSSC 14 10:14:40.2, 3631N×3705E, h20km±9km, 15D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRWC	Darouich	0.43	315	⇑P	Pb	10 14 50.0	+0.7
DRWC				⇓S	Sg	10 14 56.1	+0.9
DRWC	Darouich	0.43	315	⇓P	Pb	10 14 49.7	+0.5
DRWC				⇓S	Sg	10 14 56.1	+0.8
BTCH	Batrach	0.55	240	⇑P	Pb	10 14 49.8	-1.3
BTCH				⇓S	Sb	10 14 54.9	-3.7
BTCH	Batrach	0.55	240	⇓P	Pb	10 14 50.0	-1.1
BTCH				⇓S	Sb	10 15 01.0	+2.4
WRDH	Warideh	0.95	213	⇑P	Pb	10 14 58.4	+0.4
WRDH				⇓S	Sb	10 15 11.7	+1.4
WRDH	Warideh	0.95	213	⇑P	Pb	10 14 57.8	-0.3
WRDH				⇓S	Sb	10 15 11.4	+1.2
SLNF	Slenfeh	0.98	223	⇑P	Pb	10 14 58.1	-0.4
SLNF				⇓S	Sb	10 15 10.4	-0.5
SLNF	Slenfeh	0.98	223	⇓P	Pb	10 14 58.5	0.0
SLNF				⇓S	Sb	10 15 12.5	+1.5
ARNB	Al Arnab	0.98	243	⇓P	Pb	10 14 57.0	-1.5
ARNB				⇓S	Sb	10 15 12.3	+1.3
BIDA	Albida	1.42	205	⇓P	Pn	10 15 05.5	+0.5
BIDA				⇓S	Sn	10 15 23.9	+0.8

ISCJB 14 10:31:04.6±0.8, 2761N±004×565E±02, h10km, Error ellipse: s-maj=21.2km s-min=5.1km az=6.0
CSEM 14 10:31:05.8±0.2, 2766N×5632E, h2km, ML3.4/3, Error ellipse: s-maj=11.2km s-min=3.4km az=82.0
THR 14 10:31:07.1±0.4, 2762N×5621E, h14km±4km, ML3.0
ISC 14 10:31:05.7±0.8, 2758N±004×565E±02, h10km, n10, σ0°46/13, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.35	239	ePg	Pg	10 31 12.1	-0.6
BNDS				AML	AML	10 31 19.3	
	comp=N,3μm,0.3s						
BANOM	Banah	1.66	187	P	Pn	10 31 34.8	-0.1
	SNR=121						
BANOM				⇑S	Sn	10 31 56.7	+0.5
KRBR	Kerman	2.40	5	ePn	Pb	10 31 48.4	-0.6
KRBR				eSg	Sg	10 32 22.8	-0.1
KRBR				AML	AML	10 32 24.6	
	comp=E,135nm,0.4s						
KRBR	Kerman	2.40	5	ePn	Pb	10 31 48.4	-0.6
	SNR=52						
KRBR				eSg	Sg	10 32 22.8	-0.1
	SNR=90						
NAZ	Nazwa, Dubai	2.69	197	Pn	Pn	10

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CD2                                   Smax
      comp=E,270nm,0.6s
KMI   Kunming          3.78 212  PG    Pg   10 59 43.8 -2.0
KMI                              SG    Sg   11 00 35.8 +1.0
KMI                              Smax
      comp=N,10.0nm,0.9s
KMI                              Smax
      comp=E,8.0nm,0.9s
XAN   Xi'an            6.61  30  P     Pn   11 00 12.3 +1.2
XAN                              PG    Pg   11 00 31.9 -8.0
XAN                              SG    Sg   11 02 04.5 -1.0
XAN                              Smax
      comp=N,29nm,1.0s
XAN                              Smax
      comp=E,31nm,1.4s
MKAR  Makanchi Array   25.57 322  P     P    11 04 04.3 +1.1
      comp=E,1.2nm,0.9s,mb3.4,baz=124,slow=10,SNR=7.2
WRA   Warramunga Arr   55.78 146  P     P    11 08 09.1 -2.4
      comp=E,0.2nm,0.3s,mb3.6,baz=337,slow=8.2,SNR=13
ASAR  Alice Springs    58.76 149  P     P    11 08 30.9 -1.7
      comp=E,0.1nm,0.4s,mb3.2,baz=338,slow=5.7,SNR=5.0
```

*ISCJB **14** 11:08:53.8±0.6, 4750N±007×1474E±01, h393km±6km, mb3.6/12, Error ellipse: s-maj=14.1km s-min=8.1km az=35.9*
*MOS **14** 11:08:54.3±1.1, 4765N×14739E, h411km, mb4.1/4, Error ellipse: s-maj=25.9km s-min=15.5km az=69.8*
*JMA **14** 11:08:54.4±0.4, 4676N×14807E, h442km, M3.2*
*BJI **14** 11:08:54.0, 4761N×14724E, h388km, mB4.6, mb4.4*
*NEIC **14** 11:08:56.0±0.7, 4764N×14734E, h401km±8km, mb3.4/1, Error ellipse: s-maj=15.7km s-min=10.2km az=134.0*
*IDC **14** 11:08:56.0±1.6, 4762N×14733E, h402km±19km, mb3.0/7, mb1 3.3/10, mb1mx3.1/22, mbtmp3.0/10, Error ellipse: s-maj=19.3km s-min=13.8km az=119.0*

ISC 14 11:08:55.0±0.6,**4748N**±007×**1474E**±01,**h388**km±6km,**n56,** σ**1**§**39**/**71**,**mb3.6**/12,**2C,Northwest of Kuril Islands**

```
Code  Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op    ISC               h m s    ISC
YSS   Yuzh-Sakhalins   3.19 262c iPN   Pn               11 10 01.1 +2.4
YSS   Yuzh-Sakhalins   3.19 262  ePN   Pn               11 10 01.0 +2.2
JTKR  Abashiri--Toko   4.26 216  P     Pn               11 10 10.1 +1.2
JTKR                             eS    S                11 11 10.1 +1.4
NEM2  Nemuro 2         4.27 196  P     Pn               11 10 07.2 -1.8
NEM2                             eS    S                11 11 04.7 -4.2
JNK   Nakash           4.31 206  P     Pn               11 10 09.6 +0.2
JMP   Maruseppu        4.46 220  P     Pn               11 10 12.1 +1.2
JMP                              eS    S                11 11 13.8 +1.5
ASAJ  Asahikawa        4.74 226  P     Pn               11 10 16.2 +2.6
ASAJ  Asahikawa        4.74 226  P     Pn               11 10 16.1 +2.4
      0.6nm,0.3s,baz=50,slow=8.8,SNR=7.8
ASAJ  Asahikawa        4.74 226  PN    Pn               11 10 16.1 +2.5
ASAJ                             pmax  pmax
      comp=Z,1.0nm,0.3s
JAK   Akkeshi          4.86 204  P     Pn               11 10 13.8 -1.2
JAK                              eS    S                11 11 15.9 -3.9
JAR   Ashorobuto       4.89 212  P     Pn               11 10 15.5 +0.3
JSS   Shosan           4.92 233  P     Pn               11 10 18.2 +2.6
JOB   Onbets           5.21 210  P     Pn               11 10 18.0 -0.6
JOB                              eS    S                11 11 24.2 -2.3
JHR   Hokuryu          5.44 229  P     Pn               11 10 22.9 +1.9
JCH   Churui           5.63 212  P     Pn               11 10 22.0 -1.1
JCH                              eS    S                11 11 29.9 -4.8
JBT2  Biratori 2       5.88 219  eS    S                11 11 38.0 -1.7
JNBK  Urakawa-nobuka   6.14 214  P     Pn               11 10 26.9 -1.8
JNBK                             eS    S                11 11 38.9 -6.1
JEM   Erimo            6.23 210  eS    S                11 11 40.2 -6.6
JEW   Eniwo            6.24 224  P     Pn               11 10 32.8 +3.0
JEW                              S     S                11 11 45.0 -2.0
JSK   Shakotan         6.37 232  P     Pn               11 10 32.4 +1.2
JSH   Shimam           7.09 230  P     Pn               11 10 39.6 +0.3
JSH                              eS    S                11 12 00.5 -3.9
JKB   Kayabe           7.18 221  P     Pn               11 10 39.2 -1.2
JKB                              eS    S                11 12 00.2 -6.2
JYM2  Yakumo 2         7.31 225  P     Pn               11 10 41.0 -0.8
JYM2                             eS    S                11 12 04.6 -4.5
JOT   Ohata            7.59 219  P     Pn               11 10 44.9 -0.1
JOT                              S     S                11 12 07.2 -7.7
JSR   Shiriuchi        7.75 222  P     Pn               11 10 46.7 -0.1
JTM   Tenmabayashi     8.08 216  eS    S                11 12 17.7 -7.5
JANG  Nango            8.26 213  eS    S                11 12 21.2 -7.9
PETK  Petropavlovsk-   8.69  46  P     Pn               11 10 57.3 -0.1
      comp=Z,0.8nm,0.3s,baz=218,slow=7.8,SNR=17
JOM   Ohasama          9.13 211  P     Pn               11 11 03.7 +0.8
JOM                              S     S                11 12 43.5 -4.3
JYA   Atsumi           10.49 215 P     Pn               11 11 20.2 +1.5
JMM   Marumori         10.75 209 P     Pn               11 11 22.8 +1.1
JMM                              eS    S                11 13 21.6 -0.5
JSD   Sado             11.56 219 P     Pn               11 11 32.2 +1.1
MAT   Matsushiro       12.86 215 P     P                11 11 44.9 +0.3
MAT   Matsushiro       12.86 215 P     P                11 11 47.2 +2.6
MJAR  Matsushiro Arr   12.86 215 P     P                11 11 46.4 +1.8
      comp=Z,0.7nm,0.3s,baz=16,slow=9.6,SNR=18
MJAR  Matsushiro Arr   12.86 215 ePN   Pn               11 11 44.9 -1.4
MJAR                             pmax  pmax
      comp=Z,1.0nm,0.3s
JRY   Ryogami san      13.07 212 P     P                11 11 50.2 +3.3
CN2   Changchun        15.75 265 eP    P                11 12 15.6 -0.3
CN2                              AMB   AMB
      comp=Z,10.0nm,0.7s
JAD   Aida             15.96 223 P     P                11 12 19.7 +1.5
KSRS  Korea Array      17.45 242 P     P                11 12 36.1 +1.9
      comp=Z,0.4nm,0.3s,baz=46,slow=10,SNR=12
KSRS  Korea Array      17.45 242 eP    P                11 12 36.1 +1.9
BILL  Bilibino         22.75 181↑P     P                11 13 21.6 -3.2
BILL                             eS    S                11 16 53.8 -10
BILL                             pmax  pmax
      comp=Z,6.0nm,0.4s,mb4.4
BILL                             MLR   MLR
      comp=Z,200nm,20.0s
HVS   Khovu-Aksy       34.53 296 eP    P                11 15 06.9 -1.3
HVS                              pmax  pmax
      comp=Z,6.0nm,0.8s,mb4.0
GTA   Gaotai           34.99 274 eP    P                11 15 13.4 +1.1
GTA                              AMB   AMB
      comp=Z,5.0nm,0.9s,mb3.8
MKAR  Makanchi Array   43.09 294 P     P                11 16 17.9 -0.5
      comp=Z,1.5nm,0.5s,mb3.5,baz=70,slow=7.6,SNR=13
MKAR  Makanchi Array   43.09 294 eP    P                11 16 17.8 -0.6
MKAR                             pmax  pmax
      comp=Z,2.0nm,0.5s
KURK  Kurchatov        43.66 301 eP    P                11 16 21.1 -1.7
KURK                             pmax  pmax
      comp=Z,2.0nm,0.8s,mb3.5
EKS2  Erkin-Say        50.40 293 eP    P                11 17 14.4 +0.2
      comp=Z,1.3nm,0.6s,mb3.4
ARCES ARCESS Array B   55.81 339 P     P                11 17 51.1 -1.7
      comp=Z,1.2nm,0.8s,mb3.3,baz=41,slow=14,SNR=2.8
NVAR  Mina Array Bea   65.51 59  P     P                11 18 58.4 +0.5
      comp=Z,0.3nm,0.6s,mb3.1,baz=282,slow=7.4,SNR=3.6
NVAR  Mina Array Bea   65.51 59  P     P                11 18 58.4 +0.4
NOA   NORSAR Array B   66.19 338 P     P                11 19 00.2 -1.6
      comp=Z,0.7nm,0.5s,mb3.6,baz=29,slow=6.5,SNR=3.5
NOA   NORSAR Array B   66.19 338 P     P                11 19 00.2 -1.6
PDAR  Pinedale Array   67.42 51  P     P                11 19 09.7 -0.2
      comp=Z,0.5nm,0.5s,mb3.4,baz=24,slow=1.5,SNR=7.6
WRA   Warramunga Arr   68.12 193 P     P                11 19 14.3 0.0
      comp=Z,0.8nm,0.5s,mb3.6,baz=8.9,slow=6.5,SNR=22
ASAR  Alice Springs    71.84 193 P     P                11 19 37.6 +1.0
      comp=Z,0.2nm,0.4s,mb3.0,baz=14,slow=5.3,SNR=6.2
```

*ISCJB **14** 11:16:29.8±1.0, 2983N±004×3622E±006, h0km, Error ellipse: s-maj=6.9km s-min=5.1km az=6.1*
*CSEM **14** 11:16:30.7, 3004N×3608E, h7km, ML2.7, After SNSN*
*SGS **14** 11:16:30.7, 3004N×3608E, h7km*
*GII **14** 11:16:30.4±1.1, 2984N×3616E, h0km, ML2.0/6, EXPLOSION*

ISC 14 11:16:29.8±1.1,**2982N**±004×**3627E**±006,**h0**km,**n13,** σ0§**84**/**22**,**Western Arabian Peninsula**

```
Code  Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op    ISC               h m s    ISC
HRFI  Mount Harif      1.09 282  Pg    Pg               11 16 50.1 -0.6
HRFI                             Sg    Sg               11 17 05.4 +0.6
EIL   Elat             1.16 263  Pg    Pg               11 16 51.6 -0.3
EIL                              Sg    Sg               11 17 07.9 +1.0
HQLS                   1.17 244  P     Pg               11 16 51.5 -0.8
HQLS                   1.17 244  P     Pg               11 16 51.5 -0.8
HQLS                             S     Sg               11 17 06.8 -0.7
MBRI  Mt Berech        1.18 269  Pg    Pg               11 16 51.6 -0.8
MBRI                             Sg    Sg               11 17 07.9 +0.3
PRNI  Paran            1.21 296  Pg    Pg               11 16 52.1 -1.0
PRNI                             Sg    Sg               11 17 08.5 -0.3
JLOS                   1.28 212  P     Pg               11 16 54.7 +0.4
JLOS                   1.28 212  P     Pg               11 16 54.7 +0.4
JLOS                             S     Sg               11 17 12.8 +1.9
KRMI  Paran Flat       1.37 283  Pg    Pg               11 16 54.7 -1.3
KRMI                             Sg    Sg               11 17 13.6 -0.2
MZDA  Masada           1.67 332  Pn    Pn               11 17 00.3 0.0
MZDA                             Sn    Sn               11 17 22.4 -0.1
DSI   Dead Sea         1.90 337  Pn    Pn               11 17 03.8 +0.3
DSI                              Sn    Sn               11 17 30.0 +1.9
KZIT  Kziot            1.94 304  Sn    Sn               11 17 29.7 +0.6
RSHS                   1.99 221  P     Pn               11 17 03.9 -0.8
```

*ISCJB **14** 11:25:16.5±0.8, 3472N±004×2593E±005, h11km±5km, mb4.0/3, Error ellipse: s-maj=8.9km s-min=3.3km az=40.8*
*IDC **14** 11:25:17.9±1.2, 3479N×2585E, h0km, mb4.0/3, mb1 3.9/7, mb1mx3.7/26, mbtmp3.8/7, ML3.8/4, Error ellipse: s-maj=23.4km s-min=10.6km az=25.0*
*ATH **14** 11:25:18.1, 3479N×2578E, h22km±1km, MD3.9/8*
*NEIC **14** 11:25:18.1, 3479N×2578E, h22km, MD3.9(ATH), ML3.8(THE), After ATH.*
*CSEM **14** 11:25:18.8±0.1, 3481N×2580E, h5km, ML3.8, Error ellipse: s-maj=3.5km s-min=1.9km az=26.0*
*THE **14** 11:25:22.4, 3502N×2579E, h0km, ML3.8*
*GII **14** 11:25:22.6±1.0, 3437N×2615E, h6km±178km, ML3.6/4*

ISC 14 11:25:17.8±0.8,**3476N**±004×**2587E**±004,**h4**km±5km,**n47,** σ1§**20**/**65**,**mb4.0**/3,**Crete**

```
Code  Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op    ISC               h m s    ISC
LAST  Lasithi          0.52 321  ePg   Pg               11 25 27.1 -0.6
LAST                             eSg   Sg               11 25 33.6 -0.9
NPS   Neapolis         0.55 337  ePB   Pg               11 25 28.0 -0.4
NPS                              eSB   Sg               11 25 34.8 -0.7
IDI   Anoyia           0.97 304  Pg    Pg               11 25 35.2 -1.1
      43nm,0.3s,baz=122,slow=15,SNR=299
IDI                              Lg                     11 25 48.8
      277nm,0.3s,baz=45,slow=21,SNR=31
KARP  Karpathos        1.32  53  ePN   Pn               11 25 43.5 +0.6
KARP                             eSN   Sn               11 26 02.8 +1.9
VAM   Vamos            1.52 296  ePN   Pn               11 25 45.0 -0.7
VAM                              eSN   Sn               11 26 04.5 -1.4
THR6  Thira Island,    1.64 346  ePg   Pn               11 25 47.0 -0.3
THR6  Thira Island,    1.64 346  ePg   Pn               11 25 47.0 -0.4
THR1  Thera Island     1.65 348  ePg   Pg               11 25 48.1 -1.2
SANT  Santorini        1.65 348  ePg   Pg               11 25 47.5 -1.9
SANT                             eSg   Sn               11 26 06.8 -2.2
THR3  Thira Island,    1.69 347  ePg   Pn               11 25 47.3 -0.8
THR5  Thira Island,    1.71 346  ePg   Pn               11 25 47.6 -0.8
APE   Apeiranthos      2.33 353  ePn   Pn               11 25 56.6 -0.2
APE                              eSn   Sn               11 26 23.9 -1.9
APE   Apeiranthos      2.33 353  ePn   Pn               11 25 56.7 -0.1
APE                              eSn   Sn               11 26 23.9 -1.9
ARG   Arkhangelos      2.35  51  ePN   Pn               11 25 58.5 +1.5
KYTH  Kithira          2.77 304  ePN   Pn               11 26 03.0 +0.1
SMG   Samos            3.05  15  ePN   Pn               11 26 07.1 +0.4
VLI   Velias           3.09 310  ePN   Pn               11 26 07.3 0.0
DID   Didima           3.48 323  ePn   Pn               11 26 13.2 +0.6
CHOS  Chios island     3.63   2  ePn   Pn               11 26 15.1 +0.4
VLX   Vlachokerasia    3.85 314  ePn   Pn               11 26 19.4 +1.7
LTK   Loutraki         4.02 325  ePn   Pn               11 26 21.4 +1.4
PRK   Paraskevi        4.49   4  ePn   Pn               11 26 27.2 +0.6
XOR   Xorichti         5.08 336  ePn   Pn               11 26 35.5 +0.9
AGG   Agios Georgios   5.12 327  ePn   Pn               11 26 36.3 +1.2
THL   Klokotos Trika   5.70 328  ePn   Pn               11 26 44.7 +1.5
MMAI  Mount Meron Ar   8.11 100  Pn    Pn               11 27 16.2 -0.1
      3.7nm,0.3s,baz=268,slow=12,SNR=6.6
KZIT  Kziot            8.13 116  Pn    Pn               11 27 17.4 +0.8
KZIT                             Sn    Sn               11 28 46.8 -2.2
HMDT  Nahal Hemdat     8.44 104  Pn    Pn               11 27 22.2 +1.5
HMDT                             Sn    Sn               11 28 55.9 -0.6
DSI   Dead Sea         8.58 109  Pn    Pn               11 27 23.9 +1.2
DSI                              Sn    Sn               11 28 58.8 -1.1
MZDA  Masada           8.68 111  Pn    Pn               11 27 25.1 +1.1
MZDA                             Sn    Sn               11 29 01.7 -0.6
CEL   Celeste          8.76 296  eP    Pn               11 27 25.0 -0.2
      7.3nm,0.6s
KRMI  Paran Flat       8.79 119  Pn    Pn               11 27 26.5 +0.9
KRMI                             Sn    Sn               11 29 03.5 -1.7
PRNI  Paran            8.87 117  Pn    Pn               11 27 27.7 +1.0
PRNI                             Sn    Sn               11 29 04.7 -2.3
HRFI  Mount Harif      9.06 119  Pn    Pn               11 27 30.9 +1.6
HRFI                             Sn    Sn               11 29 09.8 -2.0
MBRI  Mt Berech        9.11 120  Pn    Pn               11 27 31.1 +1.2
MBRI                             Sn    Sn               11 29 10.9 -2.1
EIL   Elat             9.21 121  Pn    Pn               11 27 31.1 -0.2
      0.8nm,0.3s,baz=336,slow=10.0,SNR=5.6
EIL                              Sn    Sn               11 29 14.1 -1.3
      0.7nm,0.3s,baz=220,slow=23,SNR=2.6
EIL   Elat             9.21 121  Sn    Sn               11 29 14.1 -1.3
EIL   Elat             9.21 121  Pn    Pn               11 27 31.1 -0.2
EIL                              Sn    Sn               11 29 14.1 -1.3
EIL   Elat             9.21 121  Pn    Pn               11 27 31.5 +0.1
EIL                              Sn    Sn               11 29 13.7 -1.6
CUC   Castrocucco      9.56 306  eP    Pn               11 27 35.9 -0.1
      17nm,0.9s
ASF   Jabal al Asfar   9.56 103  Pn    Pn               11 27 36.6 +0.5
      0.2nm,0.3s,baz=236,slow=7.3,SNR=2.3
VAE   Valguarnera      9.66 290  Pn    Pn               11 27 35.4 -2.1
      3.5nm,0.3s,baz=260,slow=8.0,SNR=2.4
AKASG Malin Array Be   16.12   8  Pn    Pn               11 29 07.1 +2.0
      0.8nm,0.3s,baz=205,slow=11,SNR=6.0
GERES GERESS Array B   16.72 331  Pn    Pn               11 29 13.6 +0.9
      0.1nm,0.3s,baz=165,slow=8.1,SNR=3.6
TORD  Torodi Ar. Bea   30.69 231  P     P                11 31 35.0 +1.4
      1.5nm,0.8s,mb3.9,baz=36,slow=8.7,SNR=13
ARCES ARCESS Array B   34.83 360  P     P                11 32 10.9 +1.6
      2.6nm,0.9s,mb4.2,baz=172,slow=7.3,SNR=3.7
MKAR  Makanchi Array   43.51  56  P     P                11 33 23.1 +0.9
      1.3nm,0.6s,mb3.9,baz=279,slow=6.7,SNR=17
```

*NEIC **14** 12:01:19.1, 17.16N×9500W, h155km, MD4.1(MEX), After MEX.*

MEX 14 12:01:20.7±0.9,**1720N×9496W**,**h128**km±16km,**MD4.0, Chiapas**

```
Code  Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op    ISC               h m s    ISC
TUIG  Tuzandepetl      0.98  32  iP    Pn               12 01 42.0 -1.2
TUIG                             iS    Sn               12 01 57.7 -2.6
TUIG  Tuzandepetl      0.98  32  iP    Pn               12 01 36.2 -7.0
TUIG                             iS    Sn               12 01 57.3 -3.0
VHO   Vista Hermosa    1.70 266  iP    Pn               12 01 50.4 -0.5
VHO                              iS    Sn               12 02 13.2 -0.8
VHO   Vista Hermosa    1.70 266  iP    Pn               12 01 50.4 -0.5
VHO                              iS    Sn               12 02 14.2 +0.1
HUIG  Huatulco         1.80 218  iP    Pn               12 01 50.0 -2.1
HUIG                             iS    Sn               12 02 14.8 -1.4
TGIG                   1.81 103  iP    Pn               12 01 51.2 -1.0
TGIG                             iS    Sn               12 02 14.9 -1.4
TPIG  Tehuac#an        2.59 298  iP    Pn               12 02 00.5 -1.5
TPIG                             iS    Sn               12 02 31.8 -1.9
CCIG  Comitan          2.85 108  eP    Pn               12 02 05.2 -0.2
CCIG                             iS    Sn               12 02 37.2 -2.5
CCIG  Comitan          2.85 108  eP    Pn               12 02 05.2 -0.2
CCIG                             iS    Sn               12 02 39.7 0.0
PNIG  Pinotepa         3.14 256  iP    Pn               12 02 06.3 -2.7
PNIG                             iS    Sn               12 02 41.6 -4.8
PNIG  Pinotepa         3.14 256  iP    Pn               12 02 05.9 -3.2
PNIG                             iS    Sn               12 02 42.8 -3.6
```

*CSEM **14** 12:04:10.7, 28.14N×5772E, h14km, ML3.2, After THR*
*THR **14** 12:04:10.7±0.5, 28.14N×5772E, h14km±5km, ML3.2*
*ISCJB **14** 12:04:12.2±1.0, 2827N±005×577E±0.1, h10km, Error ellipse: s-maj=12.9km s-min=6.9km az=3.4*

ISC 14 12:04:12.4±4.7,**282N**±01×**577E**±01,**h4**km±36km,**n5,** σ1§**31**/**7**,**1D,Southern Iran**

```
Code  Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op    ISC               h m s    ISC
BNDS  Bandar-Abbas     1.57 239  ePg   Pn               12 04 39.4 -1.7
BNDS                             AML   AML              12 04 58.3
      comp=N,351nm,0.5s
KRBR  Kerman           1.93 335  ePn   Pn               12 04 46.8 +0.8
KRBR                             eSg   Sg               12 05 14.4 0.0
BANOM Banah            2.61 209  P     Pn               12 04 56.8 +1.6
      SNR=14
BANOM                            ⇓S    Sn               12 05 27.4 0.0
ZHSF  Zahedan          3.04  62  ePn   Pn               12 05 00.7 -0.5
GHIR  Ghir-Karzin      4.15 272  ePn   Pn               12 05 16.2 -0.2
GHIR                             AML   AML              12 06 15.3
      comp=E,23nm,0.5s
```

*ISCJB **14** 12:28:02.4±0.8, 3482N±005×3326E±005, h56km±9km, Error ellipse: s-maj=9.0km s-min=6.5km az=31.5*
*CSEM **14** 12:28:02.0±0.3, 3497N×3321E, h47km±3km, Mw3.1, Error ellipse: s-maj=5.3km s-min=2.6km az=4.0*
*NIC **14** 12:28:02.9±0.2, 3498N×3326E, h51km, ML3.1, MW3.1*
*NEIC **14** 12:28:02.9, 3498N×3326E, h51km, MG3.1(NIC), After NIC.*
*GII **14** 12:28:04.8±0.9, 3468N×3344E, h9km, ML2.6/6, Mw2.8/2*

ISC 14 12:28:03.1±0.8,**3489N**±005×**3329E**±006,**h51**km±9km,**n22,** σ0§**69**/**34**,**3C-2D,Cyprus region**

```
Code  Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op    ISC               h m s    ISC
CSS   Prodhromos       0.08  27⇑iP    Pn               12 28 10.5 -0.5
      32nm,0.2s
CSS                              S     Sn               12 28 16.7 +0.1
MAMC  Mammari          0.29 349⇑iP    Pn               12 28 11.5 -0.7
SZAC  Souni-Zanaja     0.36 248⇓iP    Pn               12 28 13.0 +0.1
SZAC                             S     Sn               12 28 21.0 +1.2
PHNC  Paralimni        0.62  79 ⇑P    Pn               12 28 16.3 +0.4
PHNC                             S     Sn               12 28 29.1 +4.0
ALFC  Alevga           0.62 295⇓iP    Pn               12 28 15.0 -0.9
      40nm,0.3s
ALFC                             S     Sn               12 28 24.6 -0.6
PPCY  Paphos           0.77 270  P     Pn               12 28 17.3 -0.5
AKMC  Akamas           0.80 280  P     Pn               12 28 17.8 -0.4
HWQ   Hawqa            2.28 105  ePn   Pn               12 28 38.6 +0.4
RCY   Rachaya          2.52 123  ePn   Pn               12 28 41.4 -0.2
MMA0  Mount Meron ar   2.57 136  Pn    Pn               12 28 42.2 0.0
MMA0                             Sn    Sn               12 29 11.3 -0.9
KSDI  Kefar Szold      2.60 130  Pn    Pn               12 28 42.8 +0.1
KSDI                             Sn    Sn               12 29 12.0 -0.9
KSHT  Keshet           2.83 132  Pn    Pn               12 28 46.6 +0.7
SLTI  Sal'it           3.02 151  Sn    Sn               12 29 22.4 -1.0
MMLI  Mount Malkishu   3.02 143  Pn    Pn               12 28 48.7 +0.2
MMLI                             Sn    Sn               12 29 22.9 -0.6
HMDT  Nahal Hemdat     3.23 144  Pn    Pn               12 28 52.2 +0.9
HMDT                             Sn    Sn               12 29 28.4 0.0
DSI   Dead Sea         3.75 152  Pn    Pn               12 28 59.3 +0.9
DSI                              Sn    Sn               12 29 41.9 +0.6
MZDA  Masada           3.97 153  Pn    Pn               12 29 02.2 +0.7
MZDA                             Sn    Sn               12 29 45.8 -1.0
RTMI  Retamim          4.00 162  Sn    Sn               12 29 47.5 -0.1
KZIT  Kziot            4.08 166  Sn    Sn               12 29 49.3 -0.2
KRMI  Paran Flat       4.91 165  Pn    Pn               12 29 16.0 +1.6
KRMI                             Sn    Sn               12 30 09.6 -0.3
HRFI  Mount Harif      5.06 163  Sn    Sn               12 30 13.3 -0.3
MBRI  Mt Berech        5.26 164  Pn    Pn               12 29 20.2 +1.0
MBRI                             Sn    Sn               12 30 18.6 0.0
```

*IDC **14** 12:33:31.0±1.6, 3514N×13980E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.4/22, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=49.2km s-min=17.5km az=76.0*
*ISCJB **14** 12:33:31.4±0.6, 3530N±004×14033E±007, h32km±5km, mb3.2/3, Error ellipse: s-maj=9.9km s-min=5.1km az=160.1*
*JMA **14** 12:33:31.6±0.1, 3536N×14036E, h23km±2km, M2.9*
JMA Felt II J1.

ISC 14 12:33:31.6±0.6,**3532N**±004×**14034E**±007,**h25**km±4km,

```
n14,σ1§15/21,mb3.2/3,Near east coast of eastern
Honshu
Code  Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op    ISC               h m s    ISC
JCN   Nagara           0.15 312  P     Pb               12 33 36.8 +0.1
JCN                              S     Sb               12 33 41.1 +1.0
KTR   Katsuura         0.17 186  P     Pb               12 33 36.9 0.0
KTR                              S     Sb               12 33 40.9 +0.4
BSO4  Boso 4           0.33 180  P     Pb               12 33 39.8 +0.8
BSO3  Boso 3           0.54 165  P     Pb               12 33 42.9 +0.5
BSO1  Boso 1           0.85 141  P     Pb               12 33 46.3 -1.4
BSO1                             S     Sb               12 33 58.9 +0.3
JYT   Yasato           0.91 353  P     Pb               12 33 47.1 -1.7
JYT                              eS    Sb               12 33 59.6 -1.0
JOD2  Odawara 2        1.02 267  P     Pn               12 33 49.5 -0.9
JOD2                             S     Sb               12 34 02.8 -0.9
MJAR  Matsushiro Arr   2.11 306  Pn    Pn               12 34 06.5 +1.0
      3.3nm,0.3s,baz=142,slow=14,SNR=47
MAT   Matsushiro       2.12 306  P     Pn               12 34 05.6 +0.2
MAT                              eS    Sn               12 34 34.1 +3.2
JHJ   Hachijo jima 2   2.24 192  Pn    Pn               12 34 06.0 -1.1
      84nm,0.3s,baz=78,slow=6.0,SNR=106
JHJ                              Sn    Sn               12 34 32.1 -1.9
      36nm,0.3s,baz=76,slow=22,SNR=8.9
ASAJ  Asahikawa        8.96  11  Pn    Pn               12 35 43.6 +4.3
      0.5nm,0.3s,baz=190,slow=11,SNR=4.1
MKAR  Makanchi Array   44.31 303  P     P                12 41 39.1 -0.3
      0.1nm,0.3s,mb3.0,baz=86,slow=9.0,SNR=2.6
WRA   Warramunga Arr   55.25 187  P     P                12 43 04.7 +2.0
      0.3nm,0.4s,mb3.6,baz=2.8,slow=7.6,SNR=10
ASAR  Alice Springs    58.98 187  P     P                12 43 31.0 +1.9
      0.1nm,0.5s,mb3.1,baz=6.5,slow=6.7,SNR=4.8
```

*IDC **14** 12:33:44.0±0.8, 2185N×14321E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.1/23, mbtmp4.1/12, ML3.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/27, Error ellipse: s-maj=25.0km s-min=18.6km az=87.0*
*NEIC **14** 12:33:45.5±0.5, 2186N×14319E, h10km, mb4.3/1, Error ellipse: s-maj=18.3km s-min=10.3km az=86.0*
*ISCJB **14** 12:33:47.1±0.7, 2184N±009×1432E±02, h33km, mb4.1/12, Error ellipse: s-maj=22.5km s-min=12.5km az=173.0*

ISC 14 12:33:49.2±0.7,**2184N**±009×**1432E**±02,**h35**km,**n17,** σ1§**01**/**17**,**mb4.1**/12,**Mariana Islands region**

```
Code  Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op    ISC               h m s    ISC
MJAR  Matsushiro Arr   15.28 345  Pn    Pn               12 37 19.9 -2.4
      0.1nm,0.3s,baz=149,slow=12,SNR=3.2
MJAR  Matsushiro Arr   15.28 345  Pn    Pn               12 37 19.9 -2.4
KSRS  Korea Array      20.41 323  P     P                12 38 25.8 +2.5
      4.0nm,0.8s,baz=138,slow=11,SNR=12
KSRS                             LR    LR               12 44 49.6
      comp=Z,53nm,21.7s,baz=346,slow=33
SONM  Songino Array    39.24 320  P     P                12 41 14.5 +0.3
      1.9nm,0.6s,mb4.0,baz=129,slow=6.5,SNR=8.9
CMAR  Chiang Mai Arr   41.58 274  P     P                12 41 35.2 +1.3
      1.4nm,0.7s,mb3.7,baz=58,slow=10,SNR=8.5
WRAB  Tennant Creek    42.41 192  eP    P                12 41 40.1 -0.4
      6.2nm,1.1s,mb4.2
WRA   Warramunga Arr   42.42 192  P     P                12 41 40.2 -0.4
      2.1nm,1.0s,mb3.7,baz=13,slow=8.7,SNR=9.4
ASAR  Alice Springs    46.13 192  P     P                12 42 09.9 -0.3
      0.8nm,0.7s,mb3.8,baz=18,slow=10.0,SNR=16
ZALV  Zalesovo Beam    54.11 322  P     P                12 43 10.0 -0.5
      3.9nm,0.8s,mb4.4,baz=103,slow=6.5,SNR=14
ZALV  Zalesovo Beam    54.11 322  P     P                12 43 10.0 -0.5
MKAR  Makanchi Array   54.62 313  P     P                12 43 14.4 +0.2
      1.4nm,0.7s,mb4.1,baz=91,slow=9.6,SNR=11
BVAR  Borovoye Array   62.58 319  P     P                12 44 09.7 +0.1
      6.1nm,0.7s,mb4.8,baz=96,slow=7.8,SNR=14
INK   Inuvik           67.43  24  P     P                12 44 40.9 0.0
      2.3nm,0.9s,mb4.2,baz=346,slow=2.7,SNR=4.6
AKTK  Aktyubinsk       70.48 317  P     P                12 44 59.1 -1.0
AKTO  Aktyubinsk       70.48 317  P     P                12 44 59.1 -1.0
      0.5nm,0.4s,mb3.8,baz=93,slow=8.9,SNR=5.1
YKA   Yellowknife Ar   76.32  28  P     P                12 45 34.6 +0.3
      1.5nm,0.7s,mb4.0,baz=292,slow=5.9,SNR=8.4
NVAR  Mina Array Bea   83.04  51  P     P                12 46 12.7 +1.4
      1.3nm,0.8s,mb4.0,baz=273,slow=5.8,SNR=11
```

*CSEM **14** 12:42:02.3, 3485N×2465E, h5km, MD3.6, After ATH*

ATH 14 12:42:02.3,**3485N×2465E**,**h5**km,**MD3.6**/4,**Crete**

```
Code  Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op    ISC               h m s    ISC
GVD   Gavdhos          0.46 269  ePB   Pg               12 42 11.6 +0.4
VAM   Vamos            0.67 327  ePB   Pb               12 42 15.5 -0.9
NPS   Neapolis         0.89  62  ePB   Pb               12 42 19.1 -1.1
```

VLI Veliai 2.33 324 *e*PN Pn 12 42 44.5 +3.3

NEIC 14 13:00:26.2,3958S×17617E,h53km,ML4.1(WEL),**8C-3D, After WEL.,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.37**	**298**	⇓P	Pn	13 00 35.8	-0.4
MOVZ				S	Sn	13 00 42.6	-0.7
BKZ	**Black Stump Fm**	**0.48**	**31**	⇑P	Pn	13 00 37.3	-0.1
BKZ				S	Sn	13 00 45.6	+0.1
TSZ	**Takapari Road**	**0.51**	**198**	⇑P	Pn	13 00 37.6	-0.1
TUVZ	**Tukino**	**0.51**	**308**	⇓P	Pn	13 00 37.8	+0.1
WNVZ	**Wahianoa**	**0.51**	**299**	⇓P	Pn	13 00 37.8	+0.1
DRZ	**Dome Shelter**	**0.56**	**303**	⇑P	Pn	13 00 38.4	+0.1
FWVZ	**Far West T-bar**	**0.58**	**304**	⇑P	Pn	13 00 38.5	0.0
NGZ	**Ngauruhoe**	**0.60**	**312**	P	Pn	13 00 38.8	0.0
WPVZ	**Whakapapa**	**0.61**	**307**	P	Pn	13 00 39.0	+0.1
WTVZ	**West Tongariro**	**0.65**	**316**	⇑P	Pn	13 00 39.4	0.0
RITZ	**Rihia Road**	**0.65**	**338**	⇑P	Pn	13 00 39.6	+0.2
HATZ	**Hinemaiaia**	**0.69**	**355**	P	Pn	13 00 39.5	-0.4
KATZ	**Kakaramea**	**0.71**	**328**	⇑P	Pn	13 00 40.2	+0.1
TWVZ	**Taurewa**	**0.76**	**312**	P	Pn	13 00 40.6	-0.2
RATZ	**Rangitukua**	**0.78**	**336**	P	Pn	13 00 40.8	-0.2
WHTZ	**Whakaora**	**0.93**	**350**	P	Pn	13 00 42.9	-0.1
WAZ	**Wanganui**	**0.93**	**259**	P	Pn	13 00 44.0	+0.9
WATZ	**Wairara**	**0.93**	**339**	P	Pn	13 00 42.3	-0.8
MRZ	**Mangatainoka R**	**1.17**	**203**	⇑P	Pn	13 00 46.1	-0.2
VRZ	**Vera Road**	**1.19**	**292**	P	Pn	13 00 46.3	-0.1
KNZ	**Kokohu**	**1.29**	**65**	P	Pn	13 00 47.4	-0.5
TAZ	**Tarawera**	**1.37**	**11**	P	Pn	13 00 49.1	+0.1
RAEZ	**Rainy Point**	**1.41**	**281**	P	Pn	13 00 50.1	+0.7
HIZ	**Hauiti**	**1.48**	**316**	P	Pn	13 00 50.1	-0.3
URZ	**Urewera**	**1.51**	**29**	P	Pn	13 00 50.5	-0.3
KIW	**Kapiti Island**	**1.60**	**217**	P	Pn	13 00 51.7	-0.4
DFE	**Dawson Falls**	**1.62**	**278**	P	Sn	13 01 14.4	+2.3
MWZ	**Matawai**	**1.63**	**41**	P	Pn	13 00 51.9	-0.6
NEZ	**North Egmont**	**1.64**	**280**	P	Pn	13 00 53.6	+1.0
MTW	**Mount Morrison**	**1.66**	**198**	P	Pn	13 00 51.6	-1.3
PKE	**Pukeiti**	**1.73**	**282**	P	Pn	13 00 55.0	+1.1
CAW	**Cannon Point**	**1.74**	**209**	P	Pn	13 00 53.0	-1.0
NWEZ	**Newall Road**	**1.81**	**279**	P	Pn	13 00 56.2	+1.3
PAWZ	**Paruwai Farm**	**1.89**	**197**	P	Pn	13 00 54.4	-1.6
MSWZ	**Moikau Station**	**1.96**	**201**	P	Pn	13 00 55.6	-1.4
MRW	**Makara Radio**	**1.99**	**214**	P	Pn	13 00 56.5	-0.9
WEL	**Wellington**	**2.01**	**212**	P	Pn	13 00 56.6	-1.1
SNZO	**South Karori**	**2.06**	**212**	*e*Pn	Pn	13 00 56.8	-1.6
BHW	**Baring Head**	**2.08**	**208**	P	Pn	13 01 04.2	+5.6
TCW	**Tory Channel**	**2.18**	**221**	P	Pn	13 00 58.7	-1.3
PUZ	**Puketiti**	**2.22**	**48**	P	Pn	13 00 59.3	-1.2
MXZ	**Matakaoa Point**	**2.62**	**40**	P	Pn	13 01 05.8	-0.2
NNZ	**Nelson**	**2.69**	**232**	P	Pn	13 01 05.6	-1.3
BSWZ	**Blackbirch Sta**	**2.76**	**219**	P	Pn	13 01 06.2	-1.7
QRZ	**Quartz Range**	**3.05**	**245**	P	Pn	13 01 26.0	+14
THZ	**Tophouse**	**3.31**	**228**	P	Pn	13 01 14.0	-1.4
DSZ	**Dennistoun Nort**	**3.96**	**236**	P	Pn	13 01 22.4	-2.0
LTZ	**Lake Taylor**	**4.35**	**221**	P	Pn	13 01 26.7	-3.0
MQZ	**McQueen's Vall**	**4.89**	**211**	P	Pn	13 01 33.4	-3.8
WVZ	**Waitaha Valley**	**5.38**	**228**	P	Pn	13 01 47.8	+4.0
FOZ	**Fox Glacier**	**6.28**	**229**	P	Pn	13 01 58.0	+1.8
ODZ	**Otahua Downs**	**6.83**	**215**	P	Pn	13 01 59.9	-3.7
JCZ	**Jackson Bay**	**7.13**	**229**	P	Pn	13 02 10.3	+2.6
WB2	**Warramunga Arr**	**40.80**	**286**	*e*P	P	13 08 02.8	+0.3

*ISCJB **14** 13:29:56.0±0.6, 1087N±004×6183W±003, h72km±6km, Error ellipse: s-maj=7.5km s-min=5.0km az=171.0*
*FUNV **14** 13:29:56.6, 1092N×6168W, h42km, MW3.0*
*NEIC **14** 13:29:58.8, 1097N×6177W, h38km, MD2.8(TRN), After TRN.*
*TRN **14** 13:29:58.8, 1097N×6177W, h38km, MD2.8*
ISC 14 13:29:57.1±0.6,**1089N**±004×**6183W**±003,**h62**km±7km,**n20,** σ1§**13**/34,**1C-2D,Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.20**	**158**	*e*P	**Pn**	**13 30 07.2**	**+0.3**
TCE				*e*S	**Sn**	**13 30 12.3**	**-1.5**
GUIV	**Guiria**	**0.46**	**238**	⇓*e*P	**Pn**	**13 30 08.9**	**+0.1**
GUIV				*e*S	**Sn**	**13 30 17.1**	**-0.2**
TRN	**Trinidad (W)**	**0.48**	**120**	⇑*i*P	**Pn**	**13 30 09.6**	**+0.5**
TRN				*e*S	**Sn**	**13 30 17.0**	**-0.8**
TPP	**Pointe-a-Pierr**	**0.68**	**147**	*e*P	**Pn**	**13 30 11.8**	**+0.5**
TPP				*e*S	**Sn**	**13 30 22.4**	**+0.8**
TBH	**Brigand Hill**	**0.85**	**118**	*e*P	**Pn**	**13 30 14.7**	**+1.4**
TBH				*e*S	**Sn**	**13 30 26.7**	**+1.4**
TPR	**Prospect**	**1.07**	**74**	*e*P	**Pn**	**13 30 16.8**	**+0.6**
TPR				*e*S	**Sn**	**13 30 29.2**	**-1.2**
GRW	**Mount Saint Ca**	**1.27**	**7**	*e*P	**Pn**	**13 30 19.6**	**+0.8**
GRW				*e*S	**Sn**	**13 30 33.7**	**-1.5**
GUNV	**Guanoco**	**1.31**	**237**	*e*P	**Pn**	**13 30 20.5**	**+1.1**
GUNV				*e*S	**Sn**	**13 30 38.3**	**+2.3**
TOSP	**Speyside**	**1.33**	**72**	*e*P	**Pn**	**13 30 22.2**	**+2.6**
TOSP				*e*S	**Sn**	**13 30 35.2**	**-1.3**
ITEV	**Isla Los Testi**	**1.36**	**290**	*e*P	**Pn**	**13 30 20.3**	**+0.3**
ITEV				*e*S	**Sn**	**13 30 37.7**	**+0.5**
CRUV	**Carupano**	**1.40**	**261**	⇓*i*P	**Pn**	**13 30 20.8**	**+0.3**
CRUV				*e*S	**Sn**	**13 30 38.5**	**+0.4**
RIOV	**Rio Grande**	**2.80**	**180**	*e*P	**Pn**	**13 30 38.3**	**-1.3**
PCRV	**Puerto La Cruz**	**2.85**	**256**	*e*P	**Pn**	**13 30 41.0**	**+0.8**
IBAV	**Isla La Blanqu**	**2.85**	**289**	*e*P	**Pn**	**13 30 40.6**	**+0.3**
GURV	**El Guri**	**3.35**	**202**	*e*P	**Pn**	**13 30 45.9**	**-1.2**
CUPV	**Cœpira**	**3.98**	**258**	*e*P	**Pn**	**13 30 56.4**	**+0.7**
CUPV				*e*S	**Sn**	**13 31 39.8**	**-1.3**
MERV	**Las Mercedes**	**4.69**	**250**	*e*S	**Sn**	**13 31 56.0**	**-2.6**
LUEV	**Luepa**	**5.03**	**176**	*e*P	**Pn**	**13 31 08.1**	**-1.9**
CAOV	**Caicara del Or**	**5.67**	**232**	*e*P	**Pn**	**13 31 18.9**	**0.0**
CAOV				*e*S	**Sn**	**13 32 19.0**	**-3.8**
BAUV	**El Baul**	**6.42**	**253**	*e*P	**Pn**	**13 31 28.7**	**-0.4**
BAUV				*e*S	**Sn**	**13 32 36.2**	**-4.8**

*ISCJB **14** 13:31:12.9±0.9, 209S±02×1785W±01, h500km, mb3.8/8, Error ellipse: s-maj=26.8km s-min=15.9km az=154.8*
*NEIC **14** 13:31:15.9±1.5, 2065S×17836W, h545km±26km, mb4.0/4, Error ellipse: s-maj=28.7km s-min=17.5km az=179.0*
*IDC **14** 13:31:17.9±23.0, 2059S×17852W, h555km±238km, mb3.3/6, mb1 3.5/6, mb1mx3.1/18, mbtmp3.3/6, Error ellipse: s-maj=153.6km s-min=35.7km az=53.0*
ISC 14 13:31:14.1±0.9,**209S**±02×**1785W**±01,**h500**km,**n16,** σ0§**88**/15,**mb3.8**/8,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.43**	**44**	P	**P**	**13 33 25.6**	**+0.1**
CTA	**Charters Tower**	**32.99**	**265**	P	**P**	**13 37 08.4**	**+1.2**
	3.2nm,0.3s,mb4.2,baz=91,slow=9.6,SNR=5.8						
CTAO	**Charters Tower**	**32.99**	**265**	*e*P	**P**	**13 37 08.4**	**+1.1**
	3.5nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**37.21**	**244**	*e*P	**P**	**13 37 43.1**	**+0.7**
STKA	**Stephens Creek**	**37.21**	**244**	P	**P**	**13 37 43.1**	**+0.8**
	3.1nm,0.5s,mb4.0,baz=108,slow=8.4,SNR=15						
STKA	**Stephens Creek**	**37.21**	**244**	*e*P	**P**	**13 37 43.1**	**+0.7**
ASAR	**Alice Springs**	**43.98**	**257**	P	**P**	**13 38 36.8**	**+0.1**
	4.5nm,0.5s,mb4.1,baz=95,slow=8.2,SNR=105						
WB2	**Warramunga Arr**	**44.08**	**263**	*e*P	**P**	**13 38 36.7**	**-0.7**
WRA	**Warramunga Arr**	**44.09**	**263**	P	**P**	**13 38 37.0**	**-0.5**
	1.8nm,0.3s,mb4.0,baz=96,slow=7.3,SNR=191						
KAKA	**Kakadu**	**47.52**	**272**	*e*P	**P**	**13 39 02.9**	**-0.9**
	2.2nm,0.3s,mb4.0						
FITZ	**Fitzroy Crossi**	**52.52**	**263**	*e*P	**P**	**13 39 40.7**	**+0.2**
	7.5nm,1.7s,mb3.7						
FITZ	**Fitzroy Crossi**	**52.52**	**263**	P	**P**	**13 39 40.7**	**+0.2**
	1.1nm,0.4s,mb3.5,baz=126,slow=8.7,SNR=8.1						
SBA	**Scott Base**	**57.48**	**184**	*e*P	**P**	**13 40 12.7**	**-1.6**
	1.1nm,0.7s,mb3.3						
QSPA	**South Pole Qui**	**69.21**	**180**	P	**P**	**13 41 30.9**	**+1.4**
	1.1nm,1.0s,mb3.4,baz=272,slow=0.4,SNR=5.3						
QSPA	**South Pole Qui**	**69.21**	**180**	P	**P**	**13 41 30.9**	**+1.4**
AKASG	**Malin Array Be**	**143.10**	**330**	PKP	PKPdf	13 49 47.6	-2.9
	1.3nm,0.3s,baz=42,slow=4.2,SNR=10.0						

*NEIC **14** 13:32:39.9±1.0, 2501S×17970E, h472km±12km, mb4.2/9, Error ellipse: s-maj=11.2km s-min=7.5km az=147.0*
*ISCJB **14** 13:32:43.7±1.8, 2502S±008×17950E±009, h525km±22km, mb3.9/18, Error ellipse: s-maj=13.7km s-min=11.4km az=135.5*
*IDC **14** 13:32:43.7±1.6, 2508S×17960E, h514km±18km, mb3.5/11, mb1 3.7/13, mb1mx3.5/20, mbtmp3.5/13, Error ellipse: s-maj=17.1km s-min=12.6km az=159.0*
ISC 14 13:32:42.8±1.5,**2510S**±008×**17959E**±009,**h504**km±18km, **n39,** σ0§**72**/36,**mb3.9**/18,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.43**	**281**	*e*P	**P**	**13 35 29.9**	**+4.0**
URZ	**Urewera**	**13.29**	**189**	P	**P**	**13 35 32.5**	**-2.3**
	1.7nm,0.3s,baz=358,slow=4.5,SNR=13						
URZ				S	**S**	**13 37 57.4**	**+0.7**
	1.1nm,0.3s,baz=183,slow=22,SNR=11						
AFI	**Afiamalu**	**13.78**	**38**	P	**P**	**13 35 40.6**	**+0.4**
	4.0nm,0.3s,baz=47,slow=14,SNR=7.4						
AFI	**Afiamalu**	**13.78**	**38**	P	**P**	**13 35 36.1**	**-4.2**
SNZO	**South Karori**	**16.67**	**193**	*e*P	**P**	**13 36 09.5**	**-0.5**
RPZ	**Rata Peaks**	**19.84**	**198**	P	**P**	**13 36 39.9**	**+0.4**
	0.9nm,0.3s,baz=19,slow=15,SNR=7.3						
CTA	**Charters Tower**	**31.13**	**272**	*e*P	**P**	**13 38 20.9**	**+1.1**
	10nm,0.4s,mb4.6						
CTA	**Charters Tower**	**31.13**	**272**	P	**P**	**13 38 21.1**	**+1.3**
	14nm,0.4s,mb4.8,baz=93,slow=10,SNR=25						
CTAO	**Charters Tower**	**31.13**	**272**	*e*P	**P**	**13 38 21.0**	**+1.2**
STKA	**Stephens Creek**	**33.95**	**250**	*e*P	**P**	**13 38 44.6**	**+1.0**
STKA	**Stephens Creek**	**33.95**	**250**	P	**P**	**13 38 44.5**	**+0.9**
	2.8nm,0.5s,mb4.0,baz=97,slow=11,SNR=11						
ASAR	**Alice Springs**	**41.49**	**262**	P	**P**	**13 39 45.6**	**+0.2**
	2.2nm,0.4s,mb4.0,baz=97,slow=7.5,SNR=28						
ASAR				ScP	ScP	13 44 32.9	-0.4
	0.5nm,0.7s,baz=109,slow=4.4,SNR=5.1						
ASAR				S	**S**	**13 45 23.1**	**-1.2**
	0.5nm,0.7s,baz=96,slow=14,SNR=6.5						
WB2	**Warramunga Arr**	**41.96**	**268**	*e*P	**P**	**13 39 49.0**	**-0.2**
WRAB	**Tennant Creek**	**41.96**	**268**	*e*P	**P**	**13 39 48.8**	**-0.4**
	7.6nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**41.97**	**268**	P	**P**	**13 39 49.1**	**-0.2**
	7.6nm,0.4s,mb4.5,baz=103,slow=8.0,SNR=66						
WRA				ScP	ScP	13 44 36.1	+0.8
	1.4nm,0.8s,baz=100,slow=4.1,SNR=7.8						
KAKA	**Kakadu**	**46.06**	**277**	*e*P	**P**	**13 40 20.3**	**-0.8**
	5.6nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.38**	**267**	*e*P	**P**	**13 40 53.6**	**+0.3**
	8.8nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**50.38**	**267**	P	**P**	**13 40 53.3**	**-0.1**
	5.3nm,0.6s,mb4.1,baz=132,slow=8.6,SNR=18						
QSPA	**South Pole Qui**	**64.99**	**180**	P	**P**	**13 42 32.7**	**+0.8**
	0.4nm,0.6s,mb3.3,baz=270,slow=4.0,SNR=8.9						
MJAR	**Matsushiro Arr**	**72.67**	**326**	P	**P**	**13 43 19.0**	**+0.1**
	0.8nm,1.0s,mb3.2,baz=150,slow=5.6,SNR=4.1						
MAW	**Mawson**	**76.50**	**201**	P	**P**	**13 43 40.2**	**+0.1**
	0.9nm,0.5s,mb3.5,baz=112,slow=11,SNR=5.7						
FALS	**False Pass**	**80.95**	**10**	*e*P	**P**	**13 44 02.9**	**-0.9**
VNA3	**Neumayer Olymp**	**83.71**	**177**	*e*	**P**	**13 44 17.4**	**-0.3**
ISA	**Isabella**	**84.11**	**46**	*e*P	**P**	**13 44 20.4**	**+0.1**
	6.5nm,1.0s,mb4.1						
VNA2	**Neumayer--Watz**	**84.12**	**178**	*e*	**P**	**13 44 19.6**	**-0.2**
YBH	**Yreka Blue Hor**	**85.24**	**39**	P	**P**	**13 44 26.6**	**+1.0**
	1.6nm,0.7s,mb3.7,baz=187,slow=4.8,SNR=7.8						
NVAR	**Mina Array Bea**	**85.86**	**44**	P	**P**	**13 44 29.2**	**+0.4**
	2.1nm,0.8s,mb3.8,baz=222,slow=9.0,SNR=17						
NVAR	**Mina Array Bea**	**85.86**	**44**	P	**P**	**13 44 29.2**	**+0.4**
TPNV	**Topopah Spring**	**86.32**	**46**	*e*P	**P**	**13 44 31.0**	**0.0**
	3.6nm,0.8s,mb4.0						
MOD	**Modoc**	**86.75**	**40**	*e*P	**P**	**13 44 32.5**	**-0.3**
	1.3nm,0.7s,mb3.8						
WVOR	**Wild Horse Val**	**88.05**	**41**	*e*P	**P**	**13 44 39.2**	**+0.2**
	2.8nm,0.9s,mb4.0						
TMUT	**Trail Mountain**	**90.93**	**47**	*e*P	**P**	**13 44 52.8**	**+0.5**
SRU	**San Rafael**	**91.28**	**47**	*e*P	**P**	**13 44 54.0**	**-0.1**
	3.1nm,1.1s,mb4.2						
PDAR	**Pinedale Array**	**93.80**	**44**	P	**P**	**13 45 04.3**	**-1.2**
	0.4nm,0.9s,mb3.5,baz=272,slow=4.3,SNR=3.8						
ARCES	**ARCESS Array B**	**132.97**	**348**	PKP	PKPdf	13 50 59.6	-0.1
	2.2nm,0.9s,baz=83,slow=2.9,SNR=7.9						
ARCES				PP	PP	13 53 38.9	+6.1
	3.2nm,0.9s,baz=33,slow=4.6,SNR=5.6						
NB2	**NORSAR Subarra**	**143.20**	**351**	PKP	PKPdf	13 51 15.1	-3.4
	comp=Z,1.6nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.20**	**351**	PKP	PKPdf	13 51 15.5	-3.0
	comp=Z,3.6nm,0.8s,baz=22,slow=3.8,SNR=10.0						
AKASG	**Malin Array Be**	**145.76**	**326**	PKPbc	PKPbc	13 51 23.7	-1.2
	comp=Z,0.9nm,0.5s,baz=44,slow=4.4,SNR=4.4						
AKASG	**Malin Array Be**	**145.76**	**326**	PKPbc	PKPbc	13 51 23.7	-1.2

*ISCJB **14** 13:45:25.3±1.0, 690N±007×7296W±008, h174km±11km, Error ellipse: s-maj=14.5km s-min=9.3km az=38.6*
*FUNV **14** 13:45:25.0, 670N×73.15W, h164km, MW3.6*
*IDC **14** 13:45:29.4±7.1, 559N×7648W, h113km±72km, mb1 3.6/1, mb1mx3.0/19, mbtmp3.9/1, Error ellipse: s-maj=168.1km s-min=75.9km az=23.0*
ISC 14 13:45:25.7±0.9,**686N**±007×**7299W**±008,**h166**km±11km, **n17,** σ1§**00**/25,**5C,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**34**	*e*P	**Pn**	**13 45 54.6**	**+0.9**
CAPV				*e*S	**Sn**	**13 46 15.9**	**+0.6**
ROSC	**El Rosal**	**2.40**	**214**	P	**Pn**	**13 46 06.5**	**+0.1**
	43nm,0.3s,baz=285,slow=14,SNR=97						
ROSC				S	**Sn**	**13 46 35.3**	**-2.7**
	21nm,0.3s,baz=95,slow=19,SNR=8.6						
VIGV	**El Vigia**	**2.54**	**39**	⇑*e*P	**Pn**	**13 46 09.1**	**+1.0**
VIGV				*e*S	**Sn**	**13 46 41.3**	**+0.4**
SOCV	**Socops**	**2.54**	**56**	⇑*i*P	**Pn**	**13 46 09.6**	**+1.4**
SOCV				*e*S	**Sn**	**13 46 41.1**	**+0.2**
ELOV	**Elorza**	**3.48**	**87**	*e*P	**Pn**	**13 46 20.3**	**+0.6**
VIRV	**Villa del Rosa**	**3.66**	**9**	⇑*i*P	**Pn**	**13 46 21.4**	**-0.7**
VIRV				*e*S	**Sn**	**13 47 04.5**	**-1.6**
QARV	**Quebrada Arrib**	**4.12**	**36**	⇑*i*P	**Pn**	**13 46 28.8**	**+0.9**
SANV	**Sanarito**	**4.31**	**52**	*e*P	**Pn**	**13 46 31.4**	**+1.1**
SANV				*e*S	**Sn**	**13 47 20.0**	**-0.9**
CURV	**Curarigua**	**4.33**	**43**	*e*P	**Pn**	**13 46 31.5**	**+0.8**
CURV				*e*S	**Sn**	**13 47 21.1**	**-0.3**
DABV	**Dabajuro**	**4.66**	**30**	*e*P	**Pn**	**13 46 34.6**	**-0.3**
TEPV	**Terepaima**	**4.86**	**50**	*e*P	**Pn**	**13 46 38.4**	**+0.8**
SIQV	**Siquisique**	**4.90**	**40**	⇑*e*P	**Pn**	**13 46 38.4**	**+0.3**
SIQV				*e*S	**Sn**	**13 47 33.7**	**-1.1**
BAUV	**El Baul**	**5.32**	**67**	*e*P	**Pn**	**13 46 42.9**	**-0.7**
BAUV				*e*S	**Sn**	**13 47 41.9**	**-2.7**
CAOV	**Caicara del Or**	**6.63**	**86**	*e*P	**Pn**	**13 47 00.0**	**-0.9**
CAOV				*e*S	**Sn**	**13 48 10.1**	**-5.6**
CUPV	**Cœpira**	**7.79**	**65**	*e*P	**Pn**	**13 47 16.9**	**+0.6**
ASAR	**Alice Springs**	**149.24**	**234**	PKPbc	PKPbc	14 04 55.4	-0.1
	0.2nm,0.6s,baz=114,slow=4.2,SNR=7.2						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc	14 04 58.5	-0.1
	0.3nm,0.4s,baz=110,slow=2.3,SNR=12						

*IDC **14** 14:02:19.6±1.4, 21.19N×120.81E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, Error ellipse: s-maj=45.7km s-min=24.9km az=66.0*
*NEIC **14** 14:02:20.7±0.9, 21.39N×121.27E, h10km, MG4.0(JMA), Error ellipse: s-maj=39.4km s-min=13.1km az=83.0*
*ISCJB **14** 14:02:24.4±0.8, 2154N±005×12151E±008, h57km±11km, mb3.5/4, Error ellipse: s-maj=14.0km s-min=6.8km az=24.3*
*JMA **14** 14:02:24.8±0.5, 2151N×12160E, h42km, M4.0*
*TAP **14** 14:02:24.3, 2169N×121.35E, h24km±1km, ML3.7*
ISC 14 14:02:25.7±0.8,**2155N**±005×**12147E**±009,**h50**km±12km, **n17,** σ0§**87**/24,**mb3.5**/4,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.62**	**3**	*e*Pn	**Pn**	**14 03 04.2**	**-1.3**
NACB				*e*Sn	**Sn**	**14 03 32.7**	**-3.3**
YHNB	**Yeheng**	**3.11**	**358**	*e*Pn	**Pn**	**14 03 11.0**	**-1.2**
YOJ	**Yonaguni jima**	**3.23**	**26**	P	**Pn**	**14 03 14.3**	**+0.4**
YOJ				*e*S	**Sn**	**14 03 52.0**	**+0.9**
HATJ	**Hateruma jima**	**3.30**	**40**	P	**Pn**	**14 03 15.0**	**+0.1**
HATJ				*e*S	**Sn**	**14 03 52.2**	**-0.6**
TATO	**Taipei**	**3.41**	**0**	*e*Pn	**Pn**	**14 03 18.9**	**+2.4**
IRIF	**Iriomote-Funau**	**3.47**	**36**	P	**Pn**	**14 03 17.9**	**+0.7**
IRIF				*e*S	**Sn**	**14 03 57.3**	**+0.3**
JKRS	**Kuro-shima**	**3.56**	**41**	P	**Pn**	**14 03 18.8**	**+0.4**
JKRS				S	**Sn**	**14 04 00.1**	**+0.9**
APYP	**Conner**	**3.67**	**183**	*e*P	**Pn**	**14 03 20.0**	**0.0**
JIJ	**Ishigaki jima**	**3.73**	**41**	P	**Pn**	**14 03 20.4**	**-0.4**
JIJ				S	**Sn**	**14 04 02.1**	**-1.4**
ABRA	**Dolores**	**3.94**	**191**	*e*P	**Pn**	**14 03 24.0**	**+0.2**
JTJ	**Tarama**	**4.28**	**43**	P	**Pn**	**14 03 28.9**	**+0.5**
JTJ				*e*S	**Sn**	**14 04 17.1**	**+0.1**
MJAR	**Matsushiro Arr**	**20.86**	**41**	P	**P**	**14 07 11.5**	**+8.0**
	0.5nm,0.7s,baz=218,slow=10,SNR=4.2						
SONM	**Songino Array**	**28.90**	**339**	P	**P**	**14 08 20.2**	**+0.5**
	1.0nm,0.7s,mb3.7,baz=141,slow=9.6,SNR=4.4						
MKAR	**Makanchi Array**	**40.44**	**318**	P	**P**	**14 09 59.9**	**+0.8**
	0.4nm,0.6s,mb3.4,baz=114,slow=10,SNR=5.3						
ZALV	**Zalesovo Beam**	**42.61**	**329**	P	**P**	**14 10 16.6**	**-0.1**
	1.2nm,0.4s,mb3.9,baz=118,slow=7.4,SNR=7.5						
WRA	**Warramunga Arr**	**43.11**	**162**	P	**P**	**14 10 20.5**	**-0.7**
	0.2nm,0.4s,mb3.2,baz=343,slow=9.1,SNR=6.2						
WB2	**Warramunga Arr**	**43.12**	**162**	P	**P**	**14 10 20.8**	**-0.5**

*CSEM **14** 14:07:21.1±0.1, 37.37N×1364W, h5km, ML4.7/26, Error ellipse: s-maj=2.6km s-min=2.1km az=90.0*
*IDC **14** 14:07:23.8±1.3, 37.33N×1362W, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.8/26, mbtmp3.9/9, ML4.8/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/44, Error ellipse: s-maj=30.0km s-min=25.3km az=66.0*
*NEIC **14** 14:07:25.1±0.5, 3739N×1356W, h10km, MG4.7(MDD), Error ellipse: s-maj=6.7km s-min=4.4km az=112.0*
*ISCJB **14** 14:07:28.5±0.4, 3740N±003×1286W±003, h10km, mb3.8/6, MS3.0/2, Error ellipse: s-maj=3.8km s-min=3.7km az=136.8*
*MDD **14** 14:07:29.2±0.9, 3741N×1311W, h0km, mb4.7/37, Error ellipse: s-maj=9.1km s-min=6.5km az=100.0, PRIMO*
*IGIL **14** 14:07:29.0, 3732N×1344W, h33km, ML3.9*
*SFS **14** 14:07:30.0, 3743N×1330W, h0km, ML4.7*
*INMG **14** 14:07:31.7±0.9, 3736N×1347W, h10km, MD3.5, ML3.9, Error ellipse: s-maj=3.7km s-min=2.4km az=130.0*
*CNRM **14** 14:07:32.4, 3730N×1304W, h30km, MD4.3*
*LDG **14** 14:07:32.3±0.4, 3752N×1312W, h10km, Ml4.3/15, Error ellipse: s-maj=6.9km s-min=5.3km az=46.0*
ISC 14 14:07:31.8±0.5,**3747N**±003×**1282W**±003,**h10**km,**n169,** σ1§**34**/300,**mb3.8**/6,**MS3.0**/2,**1C-2D,Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIS	**Lisbon**	**3.15**	**66**	*e*P	**Pn**	**14 08 22.9**	**+1.4**
LIS				*e*S	**Sn**	**14 09 00.2**	**+1.0**
LIS				*e*S	**Sn**	**14 09 00.2**	**+1.0**
LIS				AML	AML	14 09 01.9	
	comp=Z,573nm,0.3s						
LIS	**Lisbon**	**3.15**	**66**	*e*P	**Pn**	**14 08 22.9**	**+1.4**
LIS				*e*S	**Sn**	**14 09 00.2**	**+1.0**
	comp=Z,573nm,0.3s						
PMAFR	**Mafra**	**3.16**	**61**	*e*Pn	**Pn**	**14 08 23.0**	**+1.5**
PMAFR				*e*Sn	**Sn**	**14 09 00.8**	**+1.5**
PMAFR				A		14 09 07.5	
	comp=Z,569nm,0.2s						
PMAFR	**Mafra**	**3.16**	**61**	*e*Pn	**Pn**	**14 08 23.0**	**+1.5**
PMAFR				*e*Sn	**Sn**	**14 09 00.8**	**+1.5**
	comp=Z,569nm,0.2s						
INMG	**Instituto de M**	**3.19**	**65**	*e*Pn	**Pn**	**14 08 23.9**	**+1.9**
INMG				*e*Sn	**Sn**	**14 09 01.3**	**+1.2**
PFVI	**Vila Bisbo**	**3.20**	**95**	*e*Pn	**Pn**	**14 08 23.4**	**+1.2**
PFVI				*e*Sn	**Sn**	**14 09 00.8**	**+0.5**
PFVI				A		14 09 07.3	
	comp=Z,150nm,0.3s						

comp=E,5.6nm,0.3s,SNR=27
EBAD S Sn 14 09 38.0 -0.7
comp=E,56nm,0.4s,SNR=8.0
PCBR Castelo Branco 4.81 59 *e*Pn Pn 14 08 45.1 +0.9
PCBR *e*Sn Sn 14 09 39.5 -0.4
PCBR A 14 09 42.5
comp=E,58nm,0.4s
PCBR Castelo Branco 4.81 59 *e*Pn Pn 14 08 45.1 +0.9
PCBR *e*Sn Sn 14 09 39.5 -0.4
comp=E,58nm,0.4s
EMIN Mina Concepcio 4.89 85 Pn Pn 14 08 46.1 +0.7
comp=E,5.2nm,0.3s,SNR=42
EMIN Sn Sn 14 09 42.2 +0.2
comp=E,25nm,0.3s
EMIN Mina Concepcio 4.89 85 P Pn 14 08 46.1 +0.7
comp=E,5.2nm,0.3s,SNR=42
EMIN S Sn 14 09 42.2 +0.2
comp=E,25nm,0.3s
PTO Porto 4.91 40 *e*Pn Pn 14 08 44.8 -0.9
PTO *e*Sn Sn 14 09 39.8 -2.7
PTO A 14 09 41.7
comp=E,211nm,0.1s
PTO Porto 4.91 40 *e*Pn Pn 14 08 44.8 -0.9
PTO *e*Sn Sn 14 09 39.8 -2.7
comp=E,211nm,0.1s
PVIS Viseu 5.02 48 *e*Pn Pn 14 08 47.3 +0.2
PVIS *e*Sn Sn 14 09 44.3 -0.9
PVIS A 14 09 48.1
comp=E,62nm,0.2s
PVIS Viseu 5.02 48 *e*Pn Pn 14 08 47.3 +0.2
PVIS *e*Sn Sn 14 09 44.3 -0.9
comp=E,62nm,0.2s
MTE Manteigas 5.05 53 *e*Pn Pn 14 08 48.0 +0.5
MTE *e*Sn Sn 14 09 45.6 -0.3
MTE A 14 09 49.6
comp=E,140nm,0.3s
MTE Manteigas 5.05 53 *e*Pn Pn 14 08 48.0 +0.5
MTE *e*Sn Sn 14 09 45.6 -0.3
comp=E,140nm,0.3s
MTE Manteigas 5.05 53 *e*Pn Pn 14 08 47.8 +0.2
comp=E,108nm,0.3s
MTE *e*Sn Sn 14 09 44.3 -1.6
ESPR Espera 5.59 94 Pn Pn 14 08 56.4 +1.4
comp=E,11nm,0.3s,SNR=14
ESPR Sn Sn 14 09 59.5 +0.2
comp=E,23nm,0.3s
ESPR Espera 5.59 94 P Pn 14 08 56.4 +1.4
comp=E,11nm,0.3s,SNR=14
ESPR S Sn 14 09 59.5 +0.2
comp=E,23nm,0.3s
PCAB Cabril 5.63 40 *e*Pn Pn 14 08 55.2 -0.3
PCAB *e*Sn Sn 14 09 56.5 -3.6
PCAB A 14 09 59.4
comp=E,108nm,0.4s
PCAB Cabril 5.63 40 *e*Pn Pn 14 08 55.2 -0.3
PCAB *e*Sn Sn 14 09 56.5 -3.6
comp=E,108nm,0.4s
ELOB Lobios 5.72 38 Pn Pn 14 08 55.8 -1.0
comp=E,17nm,0.3s,SNR=55
ELOB Sn Sn 14 09 58.8 -3.7
comp=E,54nm,0.6s
ELOB Lobios 5.72 38 P Pn 14 08 55.8 -1.0
comp=E,17nm,0.3s,SNR=55
ELOB S Sn 14 09 58.8 -3.8
comp=E,54nm,0.6s
MVO Moncorvo 5.81 49 *e*Pn Pn 14 08 58.0 0.0
MVO *e*Sn Sn 14 10 02.4 -2.3
MVO A 14 10 06.3
comp=E,126nm,0.5s
MVO Moncorvo 5.81 49 *e*Pn Pn 14 08 58.0 0.0
MVO *e*Sn Sn 14 10 02.4 -2.3
comp=E,126nm,0.5s
ECAB El Cabril 5.89 82 Pn Pn 14 09 01.0 +1.9
comp=E,30nm,0.5s,SNR=29
ECAB Sn Sn 14 10 06.0 -0.7
comp=E,52nm,0.4s
ECAB El Cabril 5.89 82 P Pn 14 09 01.0 +1.8
comp=E,30nm,0.5s,SNR=29
ECAB S Sn 14 10 06.1 -0.7
comp=E,52nm,0.4s
LIJA Lijar 5.95 93 Pn Pn 14 09 02.0 +2.1
LIJA Sn Sn 14 10 06.0 -2.1
ECEU Ceuta 6.18 102 Sn Sn 14 10 13.4 -0.4
comp=E,15nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.21 27 Pn Pn 14 09 01.6 -2.0
comp=E,21nm,0.3s,SNR=22
EMAZ Sn Sn 14 10 07.1 -7.5
comp=E,92nm,0.3s,SNR=16
EMAZ Mazaricos 6.21 27 P Pn 14 09 01.6 -1.9
comp=E,21nm,0.3s,SNR=22
EMAZ S Sn 14 10 07.1 -7.5
comp=E,92nm,0.3s,SNR=16
STS Santiago 6.32 30 Pn Pn 14 09 03.9 -1.1
comp=E,22nm,0.2s,SNR=20
STS Sn Sn 14 10 09.9 -7.4
comp=E,12nm,0.4s
DKH Dar Kharkhour 6.33 106 *e*P Pn 14 09 04.0 -1.1
DKH *i*S Sn 14 10 12.0 -5.4
JHA Jbel Lahdid 6.36 153 *i*P Pn 14 09 02.5 -3.0
JHA *i*S Sn 14 10 10.5 -7.6
ECAL Calabor 6.48 44 Pn Pn 14 09 06.9 -0.2
comp=E,39nm,0.3s,SNR=33
ECAL Sn Sn 14 10 17.6 -3.4
comp=E,54nm,0.2s
ECAL Calabor 6.48 44 P Pn 14 09 06.9 -0.2
comp=E,39nm,0.3s,SNR=33
ECAL S Sn 14 10 17.6 -3.5
comp=E,54nm,0.2s
EMIJ Mijas 6.50 96 Pn Pn 14 09 08.6 +1.1
comp=E,6.0nm,0.4s,SNR=4.1
EMIJ Sn Sn 14 10 20.5 -1.2
comp=E,7.0nm,0.2s
EADA Adamuz 6.56 81 Pn Pn 14 09 09.6 +1.2
comp=E,8.8nm,0.4s,SNR=23
EADA Sn Sn 14 10 22.4 -0.8
comp=E,18nm,0.3s
EADA Adamuz 6.56 81 P Pn 14 09 09.6 +1.3
comp=E,8.8nm,0.4s,SNR=23
EADA S Sn 14 10 22.4 -0.8
comp=E,18nm,0.3s
CIA Chichaoua 6.77 149 *i*P Pn 14 09 09.5 -1.8
CIA *i*S Sn 14 10 22.0 -6.4
ELUQ Luque 6.80 87 Pn Pn 14 09 13.5 +1.9
comp=E,3.3nm,0.2s,SNR=5.3
ELUQ Sn Sn 14 10 27.9 -1.2
comp=E,13nm,0.1s,SNR=7.9
PAB San Pablo 6.96 70 *e*Pn Pn 14 09 14.5 +0.7
comp=E,10.0nm,0.4s
PAB San Pablo 6.96 70 *e*Pn Pn 14 09 14.5 +0.7
comp=E,10.0nm,0.4s
PAB *e*Sn Sn 14 10 21.1 -12
EBAN Banos Encina 7.19 82 Pn Pn 14 09 18.1 +1.2
comp=E,4.5nm,0.3s,SNR=7.0
EBAN Sn Sn 14 10 37.1 -1.5
comp=E,12nm,0.4s
ERON Agron 7.21 91 Sn Sn 14 10 37.9 -1.2
comp=E,1.1nm,0.1s,SNR=7.9
EPON Pontenova 7.28 35 Pn Pn 14 09 17.1 -1.1
comp=E,17nm,0.4s,SNR=32
EPON Sn Sn 14 10 34.1 -6.6
comp=E,11nm,0.4s,SNR=5.9
EPON Pontenova 7.28 35 P Pn 14 09 17.1 -1.0
comp=E,17nm,0.4s,SNR=32
EPON S Sn 14 10 34.1 -6.7
comp=E,11nm,0.4s,SNR=5.9
ESDC Sonseca Array 7.28 70 Pn Pn 14 09 18.2 0.0
comp=E,9.8nm,0.3s,baz=257,slow=13,SNR=26
ESDC Sn Sn 14 10 38.2 -2.6
comp=E,22nm,0.3s,baz=260,slow=24,SNR=35
ESDC Sonseca Array 7.28 70 Pn Pn 14 09 19.1 +1.0
comp=E,6.1nm,0.3s,baz=256,slow=12,SNR=22
ESDC Sn Sn 14 10 38.2 -2.6
comp=E,5.0nm,0.2s,baz=257,slow=13,SNR=8.6
ESDC Sonseca Array 7.28 70 P Pn 14 09 19.1 +0.9
comp=E,6.1nm,0.3s,SNR=22
ESDC S Sn 14 10 38.2 -2.7
comp=E,5.0nm,0.2s,SNR=8.6
KIB El Ksiba 7.40 129 *i*P Pn 14 09 19.0 -0.8
KIB *i*S Sn 14 10 37.0 -6.8
MIF Mishlifen 7.40 121 *e*P Pn 14 09 21.0 +1.2
MIF *i*S Sn 14 10 39.0 -4.8
EGUA Guajares 7.42 92 Sn Sn 14 10 42.7 -1.6
comp=E,91nm,0.6s,SNR=7.9
TZC Tazercounte 7.43 134 *i*P Pn 14 09 19.0 -1.3
TZC *i*S Sn 14 10 37.0 -7.6
GUD Guadarrama 7.45 62 Pn Pn 14 09 21.8 +1.3
comp=E,3.7nm,0.3s,SNR=5.6
GUD Sn Sn 14 10 41.8 -3.2
comp=E,21nm,0.4s
OUK Oukaimeden 7.46 145 *i*P Pn 14 09 19.0 -1.7
OUK *i*S Sn 14 10 37.0 -8.5
EQUE Quentar 7.48 89 Pn Pn 14 09 23.0 +2.1
comp=E,2.5nm,0.3s,SNR=4.9
EQUE Sn Sn 14 10 45.0 -0.8
comp=E,4.5nm,0.3s,SNR=4.7
AOF Agadir Oufela 7.51 158 *e*P Pn 14 09 18.0 -3.4
AOF *i*S Sn 14 10 36.0 -11
EQES Quesada 7.74 85 Pn Pn 14 09 24.9 +0.3
comp=E,11nm,0.3s
EQES Sn Sn 14 10 51.2 -1.0
comp=E,3.2nm,0.4s,SNR=4.7
EQES Quesada 7.74 85 P Pn 14 09 24.9 +0.4
comp=E,11nm,0.3s
EQES S Sn 14 10 51.2 -1.1
comp=E,3.2nm,0.4s,SNR=4.7
CZD Col de Zad 7.75 123 *i*P Pn 14 09 24.5 -0.1
CZD *i*S Sn 14 10 47.0 -5.4
TZK Tazeka 7.79 113 *i*P Pn 14 09 25.0 -0.1
TZK *i*S Sn 14 10 48.0 -5.3
EBER Berja 7.95 91 Pn Pn 14 09 29.1 +1.7
comp=E,0.7nm,0.2s,SNR=4.0
EBER Sn Sn 14 10 55.9 -1.4
comp=E,3.6nm,0.3s,SNR=7.9
EBER Berja 7.95 91 P Pn 14 09 29.1 +1.7
comp=E,0.7nm,0.2s,SNR=4.0
EBER S Sn 14 10 55.9 -1.4
comp=E,3.6nm,0.3s,SNR=7.9
YBT Youssef Ben Ta 8.04 160 Pn Pn 14 09 26.0 -2.7
YBT Sn Sn 14 10 50.0 -10
EHUE Huescar 8.12 84 Pn Pn 14 09 31.9 +2.2
comp=E,0.9nm,0.2s,SNR=7.9
EHUE Sn Sn 14 10 59.2 -2.3
comp=E,3.6nm,0.1s,SNR=7.9
MDT Midelt 8.16 122 Pn Pn 14 09 30.1 -0.2
comp=E,1.2nm,0.3s,baz=299,slow=12,SNR=36
MDT Sn Sn 14 10 59.0 -3.7
comp=E,5.3nm,0.3s,baz=38,slow=20,SNR=23
MDT LR LR 14 12 21.4
comp=E,44nm,21.8s,baz=325,slow=34
EARI Arriondas 8.22 43 Pn Pn 14 09 31.5 +0.4
comp=E,3.9nm,0.4s,SNR=27
EARI Sn Sn 14 10 58.5 -5.6
comp=E,4.8nm,0.3s,SNR=6.5
EARI Arriondas 8.22 43 P Pn 14 09 31.5 +0.4
comp=E,3.9nm,0.4s,SNR=27
EARI S Sn 14 10 58.5 -5.6
comp=E,4.8nm,0.3s,SNR=6.5
EVIA Vianos 8.22 79 Pn Pn 14 09 32.4 +1.2
comp=E,6.4nm,0.4s,SNR=6.5
EVIA Sn Sn 14 11 02.1 -1.9
comp=E,8.1nm,0.4s,SNR=5.7
EFAM Famara 8.34 184 Pn Pn 14 09 27.5 -5.2
comp=E,3.2nm,0.2s,SNR=7.9
EFAM Sn Sn 14 10 48.4 -19
comp=E,14nm,0.2s,SNR=7.9
EFAM Famara 8.34 184 P Pn 14 09 27.5 -5.2
comp=E,3.2nm,0.2s,SNR=7.9
EFAM S Sn 14 10 48.4 -19
comp=E,14nm,0.2s,SNR=7.9
ZFT Errachidia 8.82 125 *i*P Pn 14 09 38.0 -1.4
ZFT *i*S Sn 14 11 13.0 -5.9
ETOB Tobarra 8.97 79 Pn Pn 14 09 42.4 +1.0
comp=E,3.2nm,0.5s,SNR=7.2
ETOB Sn Sn 14 11 19.9 -2.5
comp=E,4.0nm,0.3s,SNR=6.3
ETOB Tobarra 8.97 79 P Pn 14 09 42.4 +1.0
comp=E,3.2nm,0.5s,SNR=7.2
ETOB S Sn 14 11 19.9 -2.5
comp=E,4.0nm,0.3s,SNR=6.3
ETOR Torete 9.01 65 Pn Pn 14 09 43.6 +1.7
comp=E,30nm,0.3s,SNR=7.7
ETOR Sn Sn 14 11 20.2 -3.1
comp=E,10nm,0.3s,SNR=6.5
CFTV Fuerteventura 9.09 187 Pn Pn 14 09 33.5 -10
comp=E,14nm,0.2s,SNR=12
CFTV Sn Sn 14 11 02.2 -23
comp=E,13nm,0.9s
ELAN Lanestosa 9.19 48 Pn Pn 14 09 45.2 +0.8
comp=E,2.3nm,0.3s,SNR=11
ELAN Sn Sn 14 11 21.8 -5.9
comp=E,6.6nm,1.7s,SNR=7.9
ELAN Lanestosa 9.19 48 P Pn 14 09 45.2 +0.9
comp=E,2.3nm,0.3s,SNR=11
ELAN S Sn 14 11 21.8 -5.9
comp=E,6.6nm,1.7s,SNR=7.9
EBAJ Bajamar 9.38 199 Sn Sx 14 11 08.7
comp=E,8.3nm,0.2s,SNR=7.9
EBAJ Bajamar 9.38 199 S Sx 14 11 08.7
comp=E,8.3nm,0.2s,SNR=7.9
EOSO Osorio 9.65 195 Sn Sx 14 11 11.9
comp=E,18nm,0.4s,SNR=6.9
EOSO Osorio 9.65 195 S Sx 14 11 11.9
comp=E,18nm,0.4s,SNR=6.9
EBEN Beniarda 10.01 79 Sn Sn 14 11 44.2 -3.7
comp=E,0.9nm,0.2s,SNR=7.9
EBEN Beniarda 10.01 79 S Sn 14 11 44.2 -3.7
comp=E,0.9nm,0.2s,SNR=7.9
EMOS Mosqueruela 10.05 69 Pn Pn 14 09 57.0 +0.9
comp=E,3.0nm,0.3s,SNR=8.1
EMOS Sn Sn 14 11 44.8 -4.1
comp=E,5.7nm,0.3s,SNR=5.6
EMOS Mosqueruela 10.05 69 P Pn 14 09 57.0 +0.9
comp=E,3.0nm,0.3s,SNR=8.1
EMOS S Sn 14 11 44.8 -4.1
comp=E,5.7nm,0.3s,SNR=5.6
IUNC Unciti 10.15 55 Pn Pn 14 09 58.6 +1.0
comp=E,3.5nm,0.2s,SNR=7.9
IUNC Sn Sn 14 11 46.7 -4.7
comp=E,6.5nm,0.3s,SNR=7.9
IUNC Unciti 10.15 55 P Pn 14 09 58.6 +1.1
comp=E,3.5nm,0.2s,SNR=7.9
IUNC S Sn 14 11 46.7 -4.6
comp=E,6.5nm,0.3s,SNR=7.9
IUSE Utxeti 10.21 54 Pn Pn 14 09 59.4 +1.0
comp=E,1.0nm,0.2s,SNR=7.9
IUSE Sn Sn 14 11 47.6 -5.2
comp=E,2.1nm,0.2s,SNR=7.9
IUSE Utxeti 10.21 54 P Pn 14 09 59.3 +1.0
comp=E,1.0nm,0.2s,SNR=7.9
IPRE Itoiz 10.27 55 Pn Pn 14 09 59.9 +0.8
comp=E,1.9nm,0.2s,SNR=7.9
EORO Oroz-Betelu 10.34 55 Pn Pn 14 10 00.5 +0.4
comp=E,2.0nm,0.4s,SNR=7.5
EORO Sn Sn 14 11 51.0 -4.9
comp=E,2.5nm,0.3s,SNR=6.0
EALK Alkurruntz 10.37 53 Pn Pn 14 10 01.7 +1.3
comp=E,4.2nm,0.4s,SNR=5.6
EALK Sn Sn 14 11 52.1 -4.5
comp=E,4.5nm,0.4s,SNR=5.5
ESAC San Caprasio 10.43 62 Pn Pn 14 10 03.5 +2.1
comp=E,9.8nm,0.3s,SNR=7.9
ESAC Sn Sn 14 11 54.5 -3.8
comp=E,6.4nm,0.2s,SNR=7.9
ESAC San Caprasio 10.43 62 P Pn 14 10 03.5 +2.1
comp=E,9.8nm,0.3s
ESAC S Sn 14 11 54.5 -3.8
SJPF Ste Jean 10.49 54 *e*Pn Pn 14 10 03.3 +1.1
SJPF *e*Sn Sn 14 11 54.2 -5.6
comp=E,13nm,0.3s
SJPF Ste Jean 10.49 54 *e*Pn Pn 14 10 03.3 +1.1
SJPF *e*Sn Sn 14 11 54.2 -5.6
comp=E,6.6nm,0.3s
ERTA Horta de San J 10.78 67 Sn Sn 14 12 02.8 -4.1
comp=E,0.9nm,0.1s,SNR=7.9
ETSF Etsaut 10.83 56 *e*Pn Pn 14 10 07.9 +1.1
ETSF *e*Sn Sn 14 12 04.0 -4.1
comp=E,11nm,0.3s
ETSF Etsaut 10.83 56 *e*Pn Pn 14 10 07.9 +1.1
ETSF *e*Sn Sn 14 12 04.0 -4.1
comp=E,5.7nm,0.3s
EBIE Bielsa 11.21 58 Pn Pn 14 10 13.0 +1.0
comp=E,3.7nm,0.3s,SNR=7.9
EBIE Sn Sn 14 12 12.2 -5.2
comp=E,1.8nm,0.2s,SNR=7.9
EBIE Bielsa 11.21 58 P Pn 14 10 13.0 +0.9
comp=E,3.7nm,0.3s
LABF Labassere 11.31 56 P Pn 14 10 14.8 +1.3
RESF Ens 11.39 58 P Pn 14 10 15.7 +1.2
EPF Esparros 11.48 57 *e*Pn Pn 14 10 17.6 +1.8
EPF *e*Sn Sn 14 12 18.7 -5.4
comp=E,25nm,0.5s
EPF Esparros 11.48 57 *e*Pn Pn 14 10 17.6 +1.8
EPF *e*Sn Sn 14 12 18.7 -5.4
comp=E,13nm,0.5s
QUIF Quistinic 12.62 31 *e*Pn Pn 14 10 29.2 -2.0
QUIF *e*Sn Sn 14 12 38.8 -13
comp=E,5.1nm,0.2s
QUIF Quistinic 12.62 31 *e*Pn Pn 14 10 29.2 -2.0
QUIF *e*Sn Sn 14 12 38.8 -13
comp=E,2.5nm,0.2s
MTLF Montolieu 12.87 58 *e*Pn Pn 14 10 36.4 +1.7
MTLF *e*Sn Sn 14 12 52.4 -5.5
comp=E,2.7nm,0.4s
MTLF Montolieu 12.87 58 *e*Pn Pn 14 10 36.4 +1.7
MTLF *e*Sn Sn 14 12 52.4 -5.5
comp=E,1.4nm,0.4s
ROSF Rostrenen 12.91 30 *e*Pn Pn 14 10 32.3 -2.9
ROSF *e*Sn Sn 14 12 46.3 -13
comp=E,4.6nm,0.3s
ROSF Rostrenen 12.91 30 *e*Pn Pn 14 10 32.3 -2.9
ROSF *e*Sn Sn 14 12 46.3 -13
comp=E,2.3nm,0.3s
MFF Saint Martin d 13.10 42 *e*Pn Pn 14 10 36.8 -1.1
MFF *e*Sn Sn 14 12 54.2 -9.4
comp=E,10nm,0.5s
MFF Saint Martin d 13.10 42 *e*Pn Pn 14 10 36.8 -1.1
MFF *e*Sn Sn 14 12 54.2 -9.4
comp=E,5.1nm,0.5s
SGMF Saint Gilles 13.13 32 *e*Pn Pn 14 10 35.8 -2.5
SGMF *e*Sn Sn 14 12 50.6 -14
comp=E,7.3nm,0.4s
SGMF Saint Gilles 13.13 32 *e*Pn Pn 14 10 35.8 -2.5
SGMF *e*Sn Sn 14 12 50.6 -14
comp=E,3.7nm,0.4s
RJF Les Rejaudoux 13.30 49 *e*Pn Pn 14 10 40.8 +0.3
RJF *e*Sn Sn 14 13 01.6 -6.8
comp=E,8.0nm,0.3s
RJF Les Rejaudoux 13.30 49 *e*Pn Pn 14 10 40.8 +0.3
RJF *e*Sn Sn 14 13 01.6 -6.8
comp=E,4.0nm,0.3s
CAF Calviac 13.45 52 *e*Pn Pn 14 10 41.9 -0.7
CAF *e*Sn Sn 14 13 06.2 -5.8
comp=E,2.6nm,0.3s
CAF Calviac 13.45 52 *e*Pn Pn 14 10 41.9 -0.7
CAF *e*Sn Sn 14 13 06.2 -5.8
comp=E,1.3nm,0.3s
TCF Toulx Ste Croi 14.23 47 *e*Pn Pn 14 10 53.0 -0.3
TCF *e*Sn Sn 14 13 22.9 -8.2
comp=E,3.3nm,0.3s
TCF Toulx Ste Croi 14.23 47 *e*Pn Pn 14 10 53.0 -0.3
TCF *e*Sn Sn 14 13 22.9 -8.2
comp=E,1.6nm,0.3s
FLN La Foliniere 14.42 35 *e*Sn Sn 14 13 23.1 -13
comp=E,5.7nm,0.4s
FLN La Foliniere 14.42 35 *e*Sn Sn 14 13 23.1 -13
comp=E,2.8nm,0.4s
LDF La Druitiere 14.46 36 *e*Pn Pn 14 10 54.3 -2.1
LDF *e*Sn Sn 14 13 23.3 -13
comp=E,3.9nm,0.5s
LDF La Druitiere 14.46 36 *e*Pn Pn 14 10 54.3 -2.1
LDF *e*Sn Sn 14 13 23.3 -13
comp=E,2.0nm,0.5s
AVF Avril sur Loir 15.17 47 *e*Pn Pn 14 11 05.4 -0.5
DAVOX Davos/Dischmat 19.18 54 LR LR 14 19 48.1
comp=E,34nm,19.3s,baz=80,slow=38
GERES GERESS Array B 22.32 51 P P 14 12 29.3 -0.1
comp=E,0.8nm,0.6s,mb3.4,baz=262,slow=9.3,SNR=7.3
BBTS Babate 22.95 189 LR LR 14 20 58.5
comp=E,69nm,19.5s,MS3.1,baz=267,slow=36
TORD Torodi Ar. Bea 27.47 148 P P 14 13 13.9 -4.3
comp=E,1.5nm,0.6s,mb3.7,baz=328,slow=9.8,SNR=7.1
HFS Hagfors 28.27 28 LR LR 14 24 38.8
comp=E,30nm,19.6s,MS2.9,baz=173,slow=36
AKASG Malin Array Be 32.52 52 P P 14 13 59.5 -3.0
comp=E,0.7nm,0.4s,mb3.9,baz=263,slow=8.7,SNR=5.3
ARCES ARCESS Array B 38.13 21 P P 14 14 48.1 -2.5
comp=E,2.5nm,0.5s,mb4.2,baz=223,slow=8.4,SNR=23
ZALV Zalesovo Beam 64.78 40 P P 14 18 08.1 -2.2
comp=E,0.8nm,0.6s,mb4.0,baz=308,slow=7.3,SNR=6.0
MKAR Makanchi Array 66.96 48 P P 14 18 21.9 -2.5
comp=E,0.7nm,0.7s,mb3.8,baz=292,slow=6.4,SNR=4.3
WRA Warramunga Arr 146.54 68 PKPbc PKPbc 14 27 09.6 -4.1
comp=E,0.7nm,0.8s,baz=314,slow=3.9,SNR=7.2

*ISK **14** 14:08:57.4, 39.18N×2765E, h10km, MD2.9*
*CSEM **14** 14:08:57.6±0.1, 39.16N×2765E, h12km, MD2.8, Error ellipse: s-maj=3.2km s-min=1.8km az=68.0*
*ISCJB **14** 14:08:58.7±0.7, 39.12N±004×2757E±006, h7km±9km, Error ellipse: s-maj=8.1km s-min=5.7km az=149.8*
*DDA **14** 14:08:58.9, 39.10N×2754E, h7km±5km, Md2.8*

ISC 14 14:08:59.3±0.7, 3911N±004×2758E±006, h16km±8km, n9, σ1907/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.29**	**142**	*e*PG		**Pg**	**14 09 04.3**	**-1.2**
AKS				*e*SG		**Sg**	**14 09 09.7**	**+0.1**
AKHS	**Akhisar**	**0.29**	**142**	*i* P		**Pg**	**14 09 04.8**	**-0.7**
AKHS				*i* S		**Sg**	**14 09 10.1**	**+0.5**
BALY	**Balya**	**0.63**	**3**	*i* P		**Pg**	**14 09 10.5**	**-1.2**
BALY				*i* S		**Sg**	**14 09 21.7**	**+1.6**
IZM	**Izmir**	**0.75**	**200**	*e*PG		**Pg**	**14 09 13.9**	**0.0**
IZM				*e*SG		**Sg**	**14 09 25.7**	**+1.8**
DEMI	**Demirci**	**0.89**	**94**	*i* P		**Pb**	**14 09 17.5**	**+1.2**
DEMI				*i* S		**Sg**	**14 09 28.7**	**+0.6**
KULA	**Kula-Manisa**	**1.03**	**125**	*e*PG		**Pg**	**14 09 17.7**	**-1.5**
KULA				*e*SG		**Sg**	**14 09 32.1**	**-0.5**
EZN	**Ezine**	**1.21**	**307**	*e*PN		**Pn**	**14 09 21.1**	**-0.5**
ULDT	**Uludag**	**1.58**	**49**	*i* P		**Pn**	**14 09 28.1**	**+1.3**
ULDT				*i* S		**Sn**	**14 09 52.2**	**+5.3**
RKY	**Sarkoy-Tekirda**	**1.61**	**349**	*e*PN		**Pn**	**14 09 25.7**	**-1.4**

JMA 14 14:17:14.2±0.2, 2767N×12746E, h130km±4km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.78**	**144**	P		Pn	14 17 35.5	+0.3
JIH				S		Sn	14 17 51.2	+0.2
JAGN	**Aguni-jima**	**1.09**	**190**	P		Pn	14 17 38.0	0.0
JAGN				S		Sn	14 17 55.8	-0.3
JOW	**Kunigami**	**1.11**	**139**	P		Pn	14 17 38.3	+0.2
JOW				S		Sn	14 17 55.6	-0.7
JTK	**Tokunoshima**	**1.33**	**85**	P		Pn	14 17 40.6	+0.2
JTK				*e*S		Sn	14 17 59.8	-0.5
JKE	**Kume jima 2**	**1.47**	**204**	P		Pn	14 17 41.7	-0.3
NAH1	**Naha**	**1.48**	**172**	P		Pn	14 17 42.1	+0.1
NAH1				S		Sn	14 18 02.5	-0.7
JJT2	**Tamagusuku 2**	**1.55**	**170**	P		Pn	14 17 43.2	+0.3
JJT2				*e*S		Sn	14 18 04.7	0.0
JAM	**Amami Oshima**	**2.04**	**68**	P		Pn	14 17 48.5	-0.1
JAM				*e*S		Sn	14 18 15.0	+0.1
JZK	**Kikaishima**	**2.31**	**73**	*e*S		Sn	14 18 21.2	+0.2
JNN	**Nakanoshima**	**3.03**	**44**	P		Pn	14 18 01.9	+0.7
JNN				*e*S		Sn	14 18 39.0	+1.6

IDC 14 14:21:06.0±26.0, 2197S×17312W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=492.1km s-min=149.4km az=77.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.90**	**265**	P		P	14 28 26.2	+1.1
	2.6nm,0.3s,baz=96,slow=12,SNR=9.2							
STKA	**Stephens Creek**	**41.32**	**246**	P		P	14 28 51.8	-1.8
	2.5nm,0.9s,baz=90,slow=6.1,SNR=4.4							
ASAR	**Alice Springs**	**48.63**	**257**	P		P	14 29 51.8	-0.2
	0.3nm,0.5s,baz=95,slow=8.8,SNR=8.1							
WB2	**Warramunga Arr**	**48.91**	**262**	*e*P		P	14 29 54.3	+0.2
WRA	**Warramunga Arr**	**48.92**	**262**	P		P	14 29 54.4	+0.2
	1.1nm,0.3s,baz=98,slow=8.3,SNR=81							

IDC 14 14:31:48.5±7.1, 323N×12719E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/18, mbtmp4.0/3, Error ellipse: s-maj=135.9km s-min=112.2km az=78.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.08**	**163**	P		P	14 37 05.8	0.0
	3.8nm,0.6s,baz=343,slow=10,SNR=49							
WB2	**Warramunga Arr**	**24.08**	**163**	*e*P		P	14 37 06.0	+0.2
ASAR	**Alice Springs**	**27.53**	**167**	P		P	14 37 37.7	+0.7
	0.5nm,0.6s,baz=356,slow=8.4,SNR=15							
STKA	**Stephens Creek**	**37.51**	**160**	P		P	14 39 03.6	-0.6
	2.3nm,0.6s,baz=345,slow=9.1,SNR=6.1							

*IDC **14** 14:35:09.6±6.5, 3622N×7106E, h197km±60km, mb3.3/6, mb1 3.4/8, mb1mx3.1/24, mbtmp3.3/8, Error ellipse: s-maj=32.4km s-min=18.6km az=28.0*
*ISCJB **14** 14:35:11.7±0.4, 3649N±003×7127E±006, h223km±5km, mb3.4/6, Error ellipse: s-maj=8.3km s-min=4.6km az=151.2*
*MOS **14** 14:35:12.8±1.1, 3653N×7108E, h235km, mb4.5/1, Error ellipse: s-maj=19.3km s-min=13.1km az=91.2*
*NEIC **14** 14:35:13.7±0.8, 3657N×7108E, h230km±9km, mb4.8/6, Error ellipse: s-maj=12.8km s-min=8.1km az=63.0*
*NNC **14** 14:35:19.5±1.3, 3708N×7124E, h234km±12km, mb2.4, mpv3.4, Error ellipse: s-maj=12.4km s-min=9.0km az=32.0*

ISC 14 14:35:13.0±0.4, 3649N±004×7116E±007, h221km±6km, n38, σ1§10/49, mb3.4/6, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.60**	**222**	*e*Pn	**Pn**	**14 36 00.2**	**+0.8**
KBL				*e*Sn	**S**	**14 36 35.5**	**-0.2**
THN	**Thein Dam**	**5.53**	**136**	*e*P	**Pn**	**14 36 34.5**	**-0.1**
THN				*e*S	**S**	**14 37 35.6**	**-3.8**
DLH	**Dalhousie**	**5.59**	**133**	*e*P	**Pn**	**14 36 34.0**	**-1.4**
DLH				*e*S	**S**	**14 37 36.0**	**-4.8**
AML	**Almayashu**	**5.96**	**18**	*e*Pn	**Pn**	**14 36 39.9**	**-0.1**
	35nm,0.5s						
AML				*e*Sn	**S**	**14 37 44.7**	**-4.6**
UCH	**Uchtor**	**6.29**	**23**	*e*Pn	**Pn**	**14 36 44.0**	**-0.1**
EKS2	**Erkin-Say**	**6.48**	**17**	*e*Pn	**Pn**	**14 36 46.8**	**+0.2**
	4.1nm,0.5s						
KK31	**Karatay Array**	**6.62**	**356**	⇑P	**Pn**	**14 36 48.0**	**-0.4**
	1.7nm,0.5s,baz=176,slow=12,SNR=40						
KK31				⇑S	**S**	**14 37 58.5**	**-6.0**
	3.1nm,0.3s,baz=183,slow=15,SNR=4.0						
SDNR	**Sundarnagar**	**6.93**	**134**	*e*P	**Pn**	**14 36 51.4**	**-1.1**
SDNR				*e*S	**S**	**14 38 05.6**	**-6.3**
TKM2	**Tokmak 2**	**7.27**	**27**	⇓P	**Pn**	**14 36 56.2**	**-0.5**
	1.6nm,0.4s						
TKM2				⇑S	**S**	**14 38 14.9**	**-4.8**
	3.9nm,0.8s						
TKM2	**Tokmak 2**	**7.27**	**27**	*e*Pn	**Pn**	**14 36 56.4**	**-0.4**
SMLA	**Simla**	**7.32**	**135**	*i* P	**Pn**	**14 36 56.8**	**-0.7**
SMLA				*i* S	**S**	**14 38 16.7**	**-4.3**
SMLA				*e*x	x	14 38 18.4	
	comp=N,476nm,0.4s						
SMLA				*e*x	x	14 38 19.6	
	comp=E,449nm,0.3s						
KLP	**Kalpa**	**7.69**	**128**	*e*P	**Pn**	**14 37 01.9**	**-0.3**
KLP				*e*S	**S**	**14 38 24.7**	**-4.9**
SONA	**Sohna**	**9.62**	**147**	*e*S	**S**	**14 39 05.6**	**-10**
MK31	**Makanchi Array**	**13.22**	**35**	*e*P	**Pn**	**14 38 11.9**	**-0.4**
MKAR	**Makanchi Array**	**13.22**	**35**	P	**Pn**	**14 38 12.2**	**-0.2**
	comp=E,0.3nm,0.3s,baz=221,slow=9.7,SNR=8.4						
DANN	**Dangsing**	**13.38**	**124**	*e*P	**Pn**	**14 38 18.2**	**+3.7**
	comp=E,15nm,0.4s						
GKN	**Gorkha**	**14.19**	**123**	*e*P	**Pn**	**14 38 28.2**	**+3.7**
DMN	**Daman**	**14.76**	**123**	*e*P	**Pn**	**14 38 34.3**	**+2.9**
	comp=E,20nm,0.4s						
KKN	**Kakani**	**14.77**	**122**	*e*P	**Pn**	**14 38 33.2**	**+1.7**
	comp=E,24nm,0.5s						
KKN	**Kakani**	**14.77**	**122**	*e*P	**Pn**	**14 38 33.2**	**+1.7**
KKN				pmax	pmax		
	comp=Z,24nm,0.5s						
PKI	**Pulchoki**	**14.99**	**122**	*e*P	**Pn**	**14 38 37.2**	**+3.0**
AB31	**Akbulak array**	**15.15**	**331**	⇑P	**Pn**	**14 38 36.7**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=141,slow=12,SNR=14						
AB31				⇓S	**S**	**14 41 19.3**	**-4.2**
	comp=Z,0.6nm,0.6s,baz=145,slow=25,SNR=4.2						
JIRN	**Jiri**	**15.47**	**120**	*e*P	**Pn**	**14 38 40.1**	**+0.1**
	comp=Z,34nm,0.5s						
TAPN	**Taplejung**	**16.73**	**118**	*e*P	**P**	**14 38 54.2**	**+0.6**
	comp=Z,13nm,0.4s						
ODAN	**Odare**	**16.81**	**120**	*e*P	**P**	**14 38 56.4**	**+2.0**
AKTK	**Aktyubinsk**	**16.85**	**330**	P	**P**	**14 38 55.8**	**+1.2**
AKTO	**Aktyubinsk**	**16.85**	**330**	⇓P	**P**	**14 38 54.9**	**+0.3**
	comp=Z,0.8nm,1.1s						
AKTO				S	**S**	**14 41 55.0**	**-3.8**
AKTO	**Aktyubinsk**	**16.85**	**330**	P	**P**	**14 38 55.8**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=131,slow=10,SNR=5.9						
ARCES	**ARCESS Array B**	**41.20**	**338**	P	**P**	**14 42 36.4**	**+0.9**
	comp=Z,2.1nm,0.9s,mb3.6,baz=108,slow=8.0,SNR=9.0						
ARCES	**ARCESS Array B**	**41.20**	**338**	P	**P**	**14 42 36.4**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,14nm,0.5s						
NB2	**NORSAR Subarra**	**44.46**	**323**	P	**P**	**14 43 02.2**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.2,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.46**	**323**	P	**P**	**14 43 02.4**	**+0.5**
	comp=Z,1.1nm,0.7s,mb3.3,baz=97,slow=7.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**65.84**	**269**	P	**P**	**14 45 33.4**	**-1.7**
	comp=Z,0.4nm,0.3s,mb3.5,baz=50,slow=6.0,SNR=14						
YKA	**Yellowknife Ar**	**81.25**	**3**	P	**P**	**14 47 04.1**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.2,baz=356,slow=23,SNR=3.0						
WRA	**Warramunga Arr**	**81.88**	**122**	P	**P**	**14 47 06.9**	**-0.9**
	comp=Z,0.5nm,0.5s,mb3.4,baz=324,slow=4.9,SNR=22						
WRAB	**Tennant Creek**	**81.88**	**122**	*e*P	**P**	**14 47 06.7**	**-1.1**
WB2	**Warramunga Arr**	**81.89**	**122**	*e*P	**P**	**14 47 06.6**	**-1.2**
ASAR	**Alice Springs**	**84.14**	**125**	P	**P**	**14 47 18.4**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.4,baz=316,slow=4.9,SNR=10						

*ISCJB **14** 15:11:11.9±0.3, 4833N±002×661E±002, h10km, Error ellipse: s-maj=2.9km s-min=2.2km az=167.3*
*CSEM **14** 15:11:13.8±0.1, 4834N×668E, h12km, ML2.6/10, Error ellipse: s-maj=1.4km s-min=0.9km az=174.0*
*STR **14** 15:11:13.3±0.2, 4835N×667E, h10km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **14** 15:11:14.1±0.1, 4832N×666E, h13km, Ml2.6/13, Error ellipse: s-maj=2.1km s-min=1.3km az=158.0*
*NEIC **14** 15:11:14.1, 4832N×666E, h13km, ML2.3(STR), ML2.6(LDG), After LDG.*

ISC 14 15:11:12.9±0.3, 4831N±002×665E±002, h19km±3km, n47, σ0§94/99, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.35**	**106**	Pg	**Pg**	**15 11 20.9**	**+0.5**
ECH				Sg	**Sg**	**15 11 25.5**	**+0.1**
HAU	**Haudompre**	**0.37**	**213**	*e*Pg	**Pg**	**15 11 21.7**	**+1.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**15 11 25.6**	**-0.2**
	30nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**0.37**	**213**	*e*Pg	**Pg**	**15 11 21.7**	**+1.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**15 11 25.6**	**-0.2**
	15nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**0.43**	**76**	*e*Pg	**Pg**	**15 11 22.0**	**+0.3**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**15 11 27.4**	**-0.3**
	47nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**0.43**	**76**	*e*Pg	**Pg**	**15 11 22.0**	**+0.3**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**15 11 27.4**	**-0.3**
	24nm,0.2s,SNR=1.0						
THEF	**They Montfort**	**0.45**	**259**	Pg	**Pg**	**15 11 22.6**	**+0.5**
THEF				Sg	**Sg**	**15 11 29.0**	**+0.7**
HINF	**Hinteralfeld**	**0.52**	**165**	*e*Pg	**Pg**	**15 11 24.1**	**+0.8**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**15 11 31.0**	**+0.8**
	68nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sg**	**15 11 33.9**	**+3.7**
HINF	**Hinteralfeld**	**0.52**	**165**	*e*Pg	**Pg**	**15 11 24.1**	**+0.8**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**15 11 31.0**	**+0.8**
	34nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sg**	**15 11 33.9**	**+3.7**
MOF	**Molkenrain**	**0.56**	**145**	Pg	**Pg**	**15 11 25.1**	**+0.9**
FELD	**Feldberg im Sc**	**1.01**	**115**	Pg	**Pg**	**15 11 32.5**	**0.0**
FELD				Sg	**Sg**	**15 11 46.2**	**+0.5**
LANF	**Langenberg**	**1.02**	**49**	Pg	**Pg**	**15 11 32.3**	**-0.4**
LANF				Sg	**Sg**	**15 11 45.3**	**-0.7**
MEZF	**Maizieres J'vi**	**1.08**	**281**	*e*Sg	**Sg**	**15 11 48.9**	**+0.9**
	16nm,0.2s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.08**	**281**	*e*Sg	**Sg**	**15 11 48.9**	**+0.9**
	8.1nm,0.2s,SNR=1.0						
SFTF	**Sexfontaines**	**1.08**	**265**	*e*Pg	**Pg**	**15 11 34.9**	**+1.0**
	baz=81						
SFTF				*e*Sg	**Sg**	**15 11 49.2**	**+1.1**
	21nm,0.2s						
SFTF	**Sexfontaines**	**1.08**	**265**	*e*Pg	**Pg**	**15 11 34.9**	**+1.0**
SFTF				*e*Sg	**Sg**	**15 11 49.2**	**+1.1**
	10nm,0.2s						
SFTF	**Sexfontaines**	**1.08**	**265**	*e*Pn	**Pn**	**15 11 34.0**	**+0.9**
SFTF				*e*Pg	**Pg**	**15 11 34.9**	**+1.0**
SFTF				*e*Sg	**Sg**	**15 11 49.2**	**+1.1**
BFO	**Black Forest**	**1.12**	**89**	*e*Pg	**Pg**	**15 11 34.6**	**0.0**
	SNR=3.6						
BFO				*e*Sg	**Sg**	**15 11 47.4**	**-1.9**
	SNR=13						
BFO	**Black Forest**	**1.12**	**89**	*e*P	**Pn**	**15 11 34.9**	**+1.3**
BFO				*e*S	**Sb**	**15 11 47.1**	**-0.8**
BFO	**Black Forest**	**1.12**	**89**	*e*P	**Pn**	**15 11 34.9**	**+1.3**
BFO				*e*S	**Sb**	**15 11 47.1**	**-0.8**
WLF	**Walferdange**	**1.39**	**347**	*e*Pg	**Pg**	**15 11 40.4**	**+0.6**
	SNR=1.2						
WLF				*e*Sg	**Sg**	**15 11 57.1**	**-0.8**
	SNR=3.3						
CABF	**La Chapelle**	**1.75**	**193**	*e*Pg	**Pg**	**15 11 47.0**	**+0.5**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**15 12 05.2**	**+1.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**15 12 09.6**	**+0.4**
	6.7nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.75**	**193**	*e*Pg	**Pg**	**15 11 47.0**	**+0.5**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**15 12 05.2**	**+1.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**15 12 09.6**	**+0.4**
	3.3nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.75**	**193**	*e*Pn	**Pn**	**15 11 43.3**	**+1.1**
CABF				*e*Pg	**Pg**	**15 11 47.0**	**+0.5**
CABF				*e*Sn	**Sn**	**15 12 05.2**	**+1.3**
CABF				*e*Sg	**Sg**	**15 12 09.6**	**+0.4**
LOR	**Lormes**	**2.15**	**242**	*e*Pn	**Pn**	**15 11 48.2**	**+0.4**
	baz=68						
LOR	**Lormes**	**2.15**	**242**	*e*Pg	**Pg**	**15 11 54.7**	**+0.5**
	baz=67,SNR=1.0						
LOR				*e*Sg	**Sg**	**15 12 21.6**	**-0.5**
	8.0nm,0.2s,baz=70,SNR=1.0						
LOR	**Lormes**	**2.15**	**242**	*e*Pg	**Pg**	**15 11 54.7**	**+0.5**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**15 12 21.6**	**-0.5**
	4.0nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.15**	**242**	*e*Pn	**Pn**	**15 11 48.2**	**+0.4**
LOR				*e*Pg	**Pg**	**15 11 54.7**	**+0.5**
LOR				*e*Sg	**Sg**	**15 12 21.6**	**-0.5**
GIVF	**Givet**	**2.15**	**327**	*e*Sg	**Sg**	**15 12 21.6**	**-0.6**
	4.6nm,0.2s,SNR=1.0						
GIVF	**Givet**	**2.15**	**327**	*e*Sg	**Sg**	**15 12 21.6**	**-0.6**
	2.3nm,0.2s,SNR=1.0						
BAIF	**Baives**	**2.37**	**318**	*e*Pg	**Pg**	**15 11 57.5**	**-0.9**
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pg	**Pg**	**15 12 00.8**	**+0.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**15 12 32.1**	**0.0**
	5.3nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pg	**Pg**	**15 12 00.8**	**+0.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**15 12 32.1**	**0.0**
	2.7nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pn	**Pn**	**15 11 52.5**	**+0.4**
SSF				*e*Pg	**Pg**	**15 12 00.8**	**+0.6**
SSF				*e*Sg	**Sg**	**15 12 32.1**	**0.0**
SMF	**Signal de Mont**	**2.53**	**230**	*e*Pg	**Pg**	**15 12 01.7**	**+0.2**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 12 33.2**	**-1.1**
	4.9nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.53**	**230**	*e*Pg	**Pg**	**15 12 01.7**	**+0.2**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 12 33.2**	**-1.1**
	2.5nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.53**	**230**	*e*Pn	**Pn**	**15 11 52.7**	**-0.3**
SMF				*e*Pg	**Pg**	**15 12 01.7**	**+0.2**
SMF				*e*Sg	**Sg**	**15 12 33.2**	**-1.1**
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pg	**Pg**	**15 12 05.0**	**+0.3**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**15 12 25.6**	**-1.9**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**15 12 36.8**	**-2.9**
	3.5nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pg	**Pg**	**15 12 05.0**	**+0.3**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**15 12 25.6**	**-1.9**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**15 12 36.8**	**-2.9**
	1.8nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pn	**Pn**	**15 11 55.5**	**+0.2**
AVF				*e*Pg	**Pg**	**15 12 05.0**	**+0.3**
AVF				*e*Sn	**Sn**	**15 12 25.6**	**-1.9**
AVF				*e*Sg	**Sg**	**15 12 36.8**	**-2.9**
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pg	**Pg**	**15 12 12.5**	**-0.2**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**15 12 50.9**	**-2.3**
	8.2nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pg	**Pg**	**15 12 12.5**	**-0.2**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**15 12 50.9**	**-2.3**
	4.1nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pn	**Pn**	**15 12 00.7**	**-0.4**
BGF				*e*Pg	**Pg**	**15 12 12.5**	**-0.2**
BGF				*e*Sg	**Sg**	**15 12 50.9**	**-2.3**
ORIF	**Oris-en-Rattie**	**3.44**	**189**	*e*Pg	**Pg**	**15 12 18.2**	**-0.5**
ORIF				*e*Sg	**Sg**	**15 13 01.0**	**-2.3**
	1.8nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.44**	**189**	*e*Pg	**Pg**	**15 12 18.2**	**-0.5**
ORIF				*e*Sg	**Sg**	**15 13 01.0**	**-2.3**
	0.9nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.64**	**238**	*e*Pn	**Pn**	**15 12 08.2**	**0.0**
VIVF	**Saint-Julien-l**	**3.72**	**202**	*e*Sg	**Sg**	**15 13 10.0**	**-2.2**
	2.4nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.72**	**202**	*e*Sg	**Sg**	**15 13 10.0**	**-2.2**
	1.2nm,0.3s,SNR=1.0						

*ISCJB **14** 15:16:21.9±3.0, 233S±01×1800W±0.1, h554km±38km, mb4.2/17, Error ellipse: s-maj=18.3km s-min=14.5km az=140.8*
*IDC **14** 15:16:21.8±2.1, 2332S×17985W, h539km±23km, mb3.6/9, mb1 3.8/10, mb1mx3.4/20, mbtmp3.6/10, Error ellipse: s-maj=25.0km s-min=16.0km az=157.0*
*NEIC **14** 15:16:22.6±2.2, 2335S×17989W, h554km±27km, mb4.4/9, Error ellipse: s-maj=18.3km s-min=10.4km az=184.0*

ISC 14 15:16:21.5±2.8, 2345S±01×1799W±01, h537km±33km, n33, σ0§76/30, mb4.2/17, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.06**	**189**	P	**P**	**15 19 31.6**	**+0.1**
	3.1nm,0.3s,baz=62,slow=4.5,SNR=15						
URZ				S	**S**	**15 22 04.8**	**-3.3**
	0.7nm,0.3s,baz=173,slow=9.8,SNR=3.2						
RPZ	**Rata Peaks**	**21.62**	**198**	P	**P**	**15 20 33.7**	**+1.1**
	5.8nm,0.6s,mb4.4,baz=284,slow=9.7,SNR=2.1						
HNR	**Honiara**	**23.75**	**302**	P	**P**	**15 20 59.0**	**+6.9**
	70nm,0.9s,mb5.3,baz=114,slow=3.3,SNR=6.0						
CTA	**Charters Tower**	**31.58**	**269**	*e*P	**P**	**15 22 00.9**	**+0.5**
	8.1nm,0.3s,mb4.7						
CTA	**Charters Tower**	**31.58**	**269**	P	**P**	**15 22 01.3**	**+0.9**
	14nm,0.5s,mb4.8,baz=96,slow=11,SNR=21						
CTAO	**Charters Tower**	**31.58**	**269**	*e*P	**P**	**15 22 01.0**	**+0.6**
	13nm,0.5s,mb4.7						
TOO	**Toolangi**	**32.82**	**236**	*e*P	**P**	**15 22 12.2**	**+1.5**
STKA	**Stephens Creek**	**35.02**	**247**	*e*P	**P**	**15 22 30.3**	**+1.0**
STKA	**Stephens Creek**	**35.02**	**247**	P	**P**	**15 22 30.4**	**+1.1**
	5.7nm,0.7s,mb4.2,baz=86,slow=9.2,SNR=14						
STKA	**Stephens Creek**	**35.02**	**247**	*e*P	**P**	**15 22 30.1**	**+0.8**
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**15 23 27.7**	**-0.1**
	5.8nm,0.7s,mb4.2,baz=102,slow=7.2,SNR=63						
ASAR				ScP	ScP	15 28 09.3	+0.3
	0.9nm,0.9s,baz=106,slow=3.3,SNR=4.9						
WB2	**Warramunga Arr**	**42.54**	**266**	⇓*i*P	**P**	**15 23 29.5**	**-0.8**
WB2	**Warramunga Arr**	**42.54**	**266**	*e*P	**P**	**15 23 29.6**	**-0.7**
WRAB	**Tennant Creek**	**42.54**	**266**	*e*P	**P**	**15 23 29.7**	**-0.6**
	8.1nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**15 23 29.9**	**-0.4**
	2.5nm,0.3s,mb4.2,baz=90,slow=6.1,SNR=208						
WRA				ScP	ScP	15 28 09.7	-0.7
	1.1nm,1.0s,baz=99,slow=3.9,SNR=5.1						
KAKA	**Kakadu**	**46.37**	**275**	*e*P	**P**	**15 23 59.1**	**-0.8**
	11nm,0.9s,mb4.4						
FORT	**Forrest**	**46.59**	**249**	*e*P	**P**	**15 24 00.9**	**-0.5**
	25nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**50.98**	**265**	*e*P	**P**	**15 24 34.1**	**+0.1**
	3.5nm,0.4s,mb4.0						
VNDA	**Vanda**	**54.91**	**185**	*e*P	**P**	**15 25 00.9**	**-0.2**
	0.2nm,0.5s						
KLBR	**Kellerberrin**	**55.29**	**247**	*e*P	**P**	**15 25 04.4**	**-0.1**
	18nm,1.0s,mb4.3						
YBH	**Yreka Blue Hor**	**83.61**	**39**	P	**P**	**15 27 52.8**	**-0.6**
	1.6nm,0.8s,mb3.6,baz=214,slow=4.5,SNR=5.9						
NVAR	**Mina Array Bea**	**84.30**	**44**	P	**P**	**15 27 57.4**	**+0.5**
	1.3nm,0.8s,mb3.5,baz=226,slow=8.4,SNR=11						
SNAA	**Sanae**	**85.19**	**179**	*e*	**P**	**15 28 00.2**	**-0.5**
SNAA				*e*		15 28 02.9	
VNA3	**Neumayer Olymp**	**85.39**	**177**	*e*	**P**	**15 28 01.7**	**0.0**
VNA3				*e*		15 28 04.1	
VNA2	**Neumayer--Watz**	**85.81**	**178**	*e*	**P**	**15 28 05.1**	**+1.4**
VNA2				*e*		15 28 07.7	
HLID	**Hailey**	**89.63**	**41**	*e*P	**P**	**15 28 22.1**	**+0.1**
	1.6nm,0.9s,mb3.9						
SRU	**San Rafael**	**89.76**	**47**	*e*P	**P**	**15 28 21.6**	**-1.1**
	4.4nm,0.9s,mb4.3						
ANMO	**Albuquerque**	**90.55**	**52**	P	**P**	**15 28 26.9**	**+0.4**
	1.4nm,0.7s,mb4.0,baz=187,slow=4.4,SNR=3.2						
PDAR	**Pinedale Array**	**92.24**	**44**	P	**P**	**15 28 34.3**	**+0.3**
	0.8nm,0.8s,mb3.8,baz=226,slow=3.9,SNR=6.3						
ARCES	**ARCESS Array B**	**131.39**	**348**	PKP	PKPdf	15 34 30.8	-1.3
	2.7nm,0.8s,baz=354,slow=7.6,SNR=4.1						
AKASG	**Malin Array Be**	**144.59**	**328**	PKP	PKPdf	15 34 55.1	-1.6
	1.1nm,0.4s,baz=46,slow=4.1,SNR=6.5						
CLL	**Collm**	**150.38**	**344**	*i* PKPbc	PKPbc	15 35 11.4	-0.6
	comp=Z,6.0nm,0.9s						
CLL				*i* PKPab	PKPab	15 35 19.2	-1.6
BRG	**Berggiesshubel**	**150.52**	**342**	*e*P	PKPbc	15 35 11.8	-0.6
	comp=Z,7.0nm,1.1s						

*ISCJB **14** 15:43:25.7±0.7, 3870N±003×2927E±006, h10km, Error ellipse: s-maj=6.4km s-min=4.7km az=8.7*
*DDA **14** 15:43:25.2, 3871N×2925E, h7km±5km, Md2.8*
*CSEM **14** 15:43:25.2, 3871N×2925E, h7km, MD2.8, After ERD*

ISC 14 15:43:26.2±0.7, 3869N±003×2928E±006, h10km, n7, σ1§05/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHAL	**Karahalli**	**0.36**	**152**	*i* P	**Pg**	**15 43 33.0**	**-0.3**
KHAL				*i* S	**Sg**	**15 43 38.4**	**+0.3**
GDZ	**Gediz**	**0.43**	**22**	*i* P	**Pg**	**15 43 33.5**	**-1.1**
GDZ				*i* S	**Sg**	**15 43 40.0**	**-0.3**
KULA	**Kula-Manisa**	**0.51**	**250**	*e*PG	**Pg**	**15 43 35.2**	**-1.0**
KULA				*e*SG	**Sg**	**15 43 42.9**	**0.0**
ALT	**Altintas**	**0.74**	**61**	*e*PG	**Pg**	**15 43 38.9**	**-1.7**
TKTP	**Tekketepe**	**1.05**	**128**	*i* P	**Pg**	**15 43 47.9**	**+1.6**
TKTP				*i* S	**Sg**	**15 44 06.0**	**+6.1**
TKTP	**Tekketepe**	**1.05**	**128**	*i* P	**Pg**	**15 43 47.9**	**+1.6**
TKTP				*i* S	**Sg**	**15 44 05.9**	**+6.0**
ULDT	**Uludag**	**1.45**	**356**	*i* P	**Pn**	**15 43 53.8**	**+1.3**
ULDT				*i* S	**Sg**	**15 44 14.3**	**+1.3**

*IDC **14** 15:53:02.6±1.1, 181N×12726E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/16, mbtmp3.4/5, MS3.4/1, Ms1 3.4/1, ms1mx2.7/20, Error ellipse: s-maj=64.0km s-min=19.4km az=76.0*
*ISCJB **14** 15:53:11.2±4.1, 18N±01×1274E±02, h88km±42km, mb3.4/5, Error ellipse: s-maj=43.8km s-min=19.6km az=158.1*

ISC 14 15:53:11.7±3.9, 18N±02×1274E±02, h75km±42km, n6, σ0§51/7, mb3.4/5, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.56**	**262**	⇓*e*P	**Pn**	**15 53 51.5**	**+0.4**
MNI				*e*S	**Sn**	**15 54 21.0**	**-0.3**
WRA	**Warramunga Arr**	**22.64**	**163**	P	**P**	**15 58 06.6**	**0.0**
	1.3nm,0.5s,mb3.5,baz=340,slow=11,SNR=45						
WRA				LR	LR	16 06 24.9	
	comp=Z,83nm,18.8s,baz=330,slow=35						
ASAR	**Alice Springs**	**26.08**	**166**	P	**P**	**15 58 38.4**	**0.0**
	0.2nm,0.6s,mb2.8,baz=347,slow=7.8,SNR=7.3						
MJAR	**Matsushiro Arr**	**36.01**	**15**	P	**P**	**16 00 05.0**	**-0.6**
	0.2nm,0.3s,mb3.5,baz=188,slow=8.8,SNR=3.9						
SONM	**Songino Array**	**49.34**	**341**	P	**P**	**16 01 53.8**	**+0.6**
	0.3nm,0.7s,mb3.4,baz=145,slow=5.3,SNR=2.7						
MKAR	**Makanchi Array**	**59.52**	**326**	P	**P**	**16 03 07.1**	**0.0**
	0.7nm,0.5s,mb4.0,baz=118,slow=8.3,SNR=6.8						

*MOS **14** 16:17:24.9±2.1, 4285N×4727E, h12km, mb4.5/1, Error ellipse: s-maj=9.5km s-min=7.6km az=12.8*
*ISCJB **14** 16:17:25.3±0.7, 4309N±003×4745E±005, h10km, Error ellipse: s-maj=6.5km s-min=3.5km az=139.8*
*TIF **14** 16:17:26.1, 4302N×4728E, h14

comp=E,0.3nm,0.5s,baz=246,slow=12,SNR=13
AB31 ⇑Sn **Sn** **16 21 55.3 -5.3**
comp=E,1.6nm,0.8s,baz=257,slow=28,SNR=4.5

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*IDC **14** 16:26:05.5±1.5,2006S×16878E,h0km,mb4.2/10,*
mb1 4.4/10,mb1mx4.3/16,mbtmp4.2/10,MS3.7/10,
Ms1 3.7/10,ms1mx3.5/23,Error ellipse: s-maj=53.4km
s-min=20.9km az=147.0
*NEIC **14** 16:26:07.0±0.5,2002S×16873E,h10km,mb4.4/3,Error*
ellipse: s-maj=17.9km s-min=9.4km az=142.0
*ISCJB **14** 16:26:09.3±0.6,2004S±009×1686E±0.1,h33km,mb4.3/11,*
MS3.7/7,Error ellipse: s-maj=17.9km s-min=7.3km
az=39.2
*SZGRF **14** 16:26:09.3,2098S×169.14E,h41km,Vanuatu Islands*
ISC 14 16:26:09.0±6.0,2007S±010×1687E±01,h19km±36km,n72,
σ0°76°/27,mb4.3/12,MS3.7/7,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.88**	**226**	*e*P	**Pn**	**16 26 53.4**	**-0.3**
DZM				*e*S	**Sn**	**16 27 27.7**	**-0.2**
DZM	**Mont Dzumac**	**2.88**	**226**	*e*Pn	**Pn**	**16 26 52.9**	**-0.8**
DZM				*e*Sn	**Sn**	**16 27 26.9**	**-1.0**
HNR	**Honiara**	**13.52**	**320**	LR	LR	16 33 41.4	
	comp=Z,155nm,19.2s,baz=179,slow=34						
ARMA	**Armidale**	**18.52**	**233**	*e*P	**Pn**	**16 30 30.9**	**+6.5**
URZ	**Urewera**	**19.55**	**160**	LR	LR	16 37 00.1	
	comp=Z,235nm,18.8s,baz=215,slow=34						
AFI	**Afiamalu**	**19.67**	**75**	LR	LR	16 36 36.6	
	comp=Z,327nm,18.4s,baz=296,slow=32						
CTA	**Charters Tower**	**21.05**	**266**	*e*P	**P**	**16 30 56.6**	**+4.6**
	7.9nm,0.8s,mb4.1						
CTA	**Charters Tower**	**21.05**	**266**	P	**P**	**16 30 52.1**	**+0.1**
	5.5nm,0.6s,mb4.0,baz=74,slow=18,SNR=2.1						
CTA				LR	LR	16 37 48.0	
	comp=Z,167nm,19.3s,MS3.4,baz=82,slow=33						
CTA	**Charters Tower**	**21.05**	**266**	*e*P	**P**	**16 30 56.6**	**+4.6**
CTA				LR	LR	16 37 48.0	
CTAO	**Charters Tower**	**21.05**	**266**	*e*P	**P**	**16 30 51.8**	**-0.2**
	9.1nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**26.95**	**239**	*e*P	**P**	**16 31 50.9**	**+1.6**
STKA	**Stephens Creek**	**26.95**	**239**	P	**P**	**16 31 50.5**	**+1.2**
	3.4nm,0.8s,mb4.0,baz=53,slow=7.1,SNR=6.8						
STKA				LR	LR	16 42 06.3	
	comp=Z,228nm,20.4s,MS3.7,baz=23,slow=36						
WB2	**Warramunga Arr**	**32.21**	**264**	*e*P	**P**	**16 32 35.6**	**-0.5**
WRAB	**Tennant Creek**	**32.22**	**264**	*e*P	**P**	**16 32 35.6**	**-0.5**
WRA	**Warramunga Arr**	**32.23**	**264**	P	**P**	**16 32 35.6**	**-0.6**
	3.3nm,0.7s,mb4.3,baz=101,slow=8.3,SNR=38						
WRA				LR	LR	16 45 05.3	
	comp=Z,144nm,19.2s,MS3.7,baz=150,slow=35						
WRA	**Warramunga Arr**	**32.23**	**264**	P	**P**	**16 32 35.6**	**-0.6**
WRA				LR	LR	16 45 05.3	
ASAR	**Alice Springs**	**32.41**	**257**	P	**P**	**16 32 38.0**	**+0.2**
	19nm,0.7s,mb5.0,baz=86,slow=9.1,SNR=229						
TBI	**Tubuai**	**38.94**	**103**	*e*LR	LR	16 44 35.4	
	78nm,22.5s						
PPT	**Papeete**	**39.53**	**94**	*e*S	Sx	16 40 02.1	
	31nm,23.8s						
PPT				*e*LR	LR	16 44 55.8	
	120nm,24.2s						
PPT	**Papeete**	**39.53**	**94**	LR	LR	16 45 34.7	
	comp=Z,140nm,21.1s,MS3.8,baz=224,slow=30						
FITZ	**Fitzroy Crossi**	**40.63**	**265**	*e*P	**P**	**16 33 49.0**	**+1.0**
	22nm,0.8s,mb4.8						
SBA	**Scott Base**	**57.83**	**180**	*e*P	**P**	**16 36 00.0**	**+1.3**
	3.0nm,0.8s,mb4.4						
MJAR	**Matsushiro Arr**	**63.24**	**333**	P	**P**	**16 36 35.6**	**-0.5**
	1.2nm,0.9s,mb4.0,baz=159,slow=6.7,SNR=4.7						
PETK	**Petropavlovsk-**	**73.49**	**353**	P	**P**	**16 37 39.6**	**-0.3**
	4.4nm,0.7s,mb4.5,baz=142,slow=7.2,SNR=4.4						
MAW	**Mawson**	**77.47**	**202**	LR	LR	17 05 17.9	
	comp=Z,65nm,20.0s,MS4.0,baz=247,slow=30						
CMAR	**Chiang Mai Arr**	**78.36**	**295**	P	**P**	**16 38 09.8**	**+1.4**
	0.8nm,0.6s,mb3.8,baz=139,slow=4.7,SNR=5.2						
SONM	**Songino Array**	**87.56**	**323**	P	**P**	**16 38 56.0**	**+0.5**
	1.6nm,0.8s,mb4.3,baz=136,slow=5.5,SNR=9.0						
YBH	**Yreka Blue Hor**	**88.27**	**44**	P	**P**	**16 38 58.6**	**-0.4**
	0.6nm,0.4s,mb4.2,baz=140,slow=4.6,SNR=4.3						
SNAA	**Sanae**	**88.31**	**183**	*e*	**P**	**16 38 58.5**	**-0.3**
SNAA				*e*	pP	16 39 02.5	-2.9
SNAA				*e*		16 39 11.1	
SNAA	**Sanae**	**88.31**	**183**	LR	LR	17 19 47.8	
	comp=Z,26nm,19.7s,MS3.7,baz=27,slow=36						
VNA2	**Neumayer--Watz**	**89.21**	**181**	*e*	**P**	**16 39 02.8**	**-0.3**
VNA2				*e*	pP	16 39 07.6	-2.0
VNA2				*e*		16 39 16.0	
NVAR	**Mina Array Bea**	**89.75**	**49**	P	**P**	**16 39 05.2**	**-0.9**
	1.2nm,1.0s,mb4.2,baz=224,slow=9.4,SNR=6.0						
NVAR	**Mina Array Bea**	**89.75**	**49**	P	**P**	**16 39 05.2**	**-0.9**
PDAR	**Pinedale Array**	**97.57**	**47**	LR	LR	17 18 54.7	
	comp=Z,43nm,18.2s,MS4.0,baz=69,slow=32						
CLZ	**Clausthal**	**144.04**	**337**	*e*PKPbc	PKPdf	16 45 41.5	-1.5
MOX	**Moxa**	**144.51**	**335**	*e*(P)	PKPdf	16 45 42.4	-1.5
MOX				*e*		16 45 54.4	
MOX	**Moxa**	**144.51**	**335**	*e*PKPbc	PKPdf	16 45 42.4	-1.5
MOX				*ep*PKPbc		16 45 54.2	
IBBN	**Ibbenburen**	**144.56**	**340**	*e*PKPbc	PKPdf	16 45 42.4	-1.5
KHC	**Kasperske Hory**	**144.81**	**331**	*e*PKP	PKPdf	16 45 43.0	-1.5
MANZ	**Manzenberg**	**144.81**	**334**	*e*PKPbc	PKPdf	16 45 43.5	-0.9
MANZ				*ep*PKPbc		16 45 56.0	
ROTZ	**Rotzenmuhle**	**144.94**	**333**	*e*PKPbc	PKPdf	16 45 43.9	-0.8
ROTZ				*ep*PKPbc		16 45 56.0	
GEC2	**GERESS Array S**	**144.96**	**331**	*e*PKPbc	PKPdf	16 45 43.9	-0.8
GEC2				*ep*PKPbc		16 45 55.6	
GERES	**GERESS Array B**	**144.96**	**331**	PKPbc	PKPdf	16 45 43.8	-0.9
	1.9nm,0.7s,baz=45,slow=4.0,SNR=15						
UBBA	**Unterbreizbach**	**145.00**	**336**	*e*PKPbc	PKPdf	16 45 43.5	-1.2
UBBA				*ep*PKPbc		16 45 56.1	
WET	**Wettzell**	**145.11**	**332**	*e*PKPbc	PKPbc	16 45 44.5	0.0
GRA1	**Grafenberg Arr**	**145.41**	**334**	*e*PKPbc	PKPbc	16 45 45.8	+0.4
GRF	**Grafenberg Arr**	**145.41**	**334**	*e*PKPbc	PKPbc	16 45 45.8	+0.4
BUG	**Bochum--Univer**	**145.45**	**339**	*e*PKPbc	PKPbc	16 45 45.1	-0.4
WLF	**Walferdange**	**147.34**	**339**	*e*PKPbc	PKPbc	16 45 51.5	+0.4
WLF				*ep*PKPbc	pPKPbc	16 46 03.3	+5.5
GIVF	**Givet**	**147.40**	**341**	*e*PKP1	PKPbc	16 45 51.1	-0.2
	31nm,0.9s						
BAIF	**Baives**	**147.62**	**341**	*e*PKP1	PKPbc	16 45 51.8	-0.1
	18nm,0.7s						
BFO	**Black Forest**	**147.65**	**335**	*e*PKPbc	PKPbc	16 45 51.7	-0.3
CDF	**Champ du Feu**	**147.99**	**336**	*e*PKP1	PKPbc	16 45 52.0	-0.9
	12nm,0.8s						
HINF	**Hinterzarten**	**148.64**	**336**	*e*PKP1	PKPbc	16 45 54.1	-0.6
HAU	**Haudompre**	**148.67**	**337**	*e*PKP1	PKPbc	16 45 54.5	-0.2
TUE	**Stuetta**	**148.69**	**332**	*e*PKPbc	PKPbc	16 45 55.2	+0.4
MEZF	**Maizieres J'vi**	**148.71**	**339**	*e*PKP1	PKPbc	16 45 55.0	+0.2
	25nm,0.8s						
CABF	**La Chapelle**	**149.93**	**336**	*e*PKP1	PKPbc	16 45 58.2	+0.3
FLN	**La Foliniere**	**150.07**	**346**	*e*PKP1	PKPbc	16 45 57.5	-0.7
LDF	**La Druitiere**	**150.15**	**345**	*e*PKP1	PKPbc	16 45 57.7	-0.7
LOR	**Lormes**	**150.18**	**339**	*e*PKP1	PKPbc	16 45 58.3	-0.2
	8.5nm,0.7s						
SSF	**Saint Saulge**	**150.48**	**339**	*e*PKP1	PKPbc	16 45 59.1	-0.1
	12nm,0.8s						
GRR	**Gorron**	**150.51**	**346**	*e*PKP1	PKPbc	16 45 58.7	-0.6
LPL	**La Plagne**	**150.57**	**334**	*e*PKP1	PKPbc	16 45 59.7	+0.2
LPG	**La Plagne**	**150.57**	**334**	*e*PKP1	PKPbc	16 45 59.8	+0.3
BNI	**Bardonecchia**	**150.96**	**333**	*e*PKPbc	PKPbc	16 45 59.8	-0.7
SGMF	**Saint Gilles**	**151.00**	**348**	*e*PKP1	PKPbc	16 45 59.8	-0.6
	101nm,1.2s						
MBDF	**Montbardon**	**151.18**	**333**	*e*PKP1	PKPbc	16 46 00.4	-0.6
ORIF	**Oris-en-Rattie**	**151.41**	**334**	*e*PKP1	PKPbc	16 46 01.2	-0.3
	5.9nm,0.8s						
TCF	**Toulx Ste Croi**	**151.59**	**340**	*e*PKP1	PKPbc	16 46 01.5	-0.3
PGF	**Pioggiola**	**151.79**	**327**	*e*PKP1	PKPbc	16 46 01.8	-0.6
	11nm,0.9s						
RJF	**Les Rejaudoux**	**152.68**	**340**	*e*PKP1	PKPbc	16 46 04.0	-0.4
	19nm,1.1s						

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*TIF **14** 16:36:32.6,4231N×4549E,h13km±2km*
*ISCJB **14** 16:36:35.0±1.2,4227N±004×454E±0.1,h33km,Error*
ellipse: s-maj=12.0km s-min=5.6km az=171.9
*MOS **14** 16:36:36.2±0.5,4222N×4504E,h29km,mb3.8/1,Error*
ellipse: s-maj=36.6km s-min=13.9km az=112.0
*CSEM **14** 16:36:36.0,4222N×4504E,h29km,mb3.8,Error ellipse:*
s-maj=36.6km s-min=13.9km az=220.0,After OBN
ISC 14 16:36:34.2±1.4,4230N±006×455E±01,h26km±11km,n11,
σ1°12°/22,Eastern Caucasus

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

TBLG	**Delisi**	**0.78**	**223**	Pg	**Pb**	**16 36 48.3**	**-0.8**
TBLG				Sg	**Sb**	**16 37 00.7**	**+1.4**
TBLG	**Delisi**	**0.78**	**223**	P	**Pb**	**16 36 48.3**	**-0.8**
TBLG				S	**Sb**	**16 37 00.7**	**+1.4**
MTA	**Mtatsminda**	**0.78**	**219**	P	**Pb**	**16 36 48.3**	**-0.8**
MTA				S	**Sb**	**16 37 00.3**	**+1.0**
DGRG	**David-gareji**	**0.85**	**184**	P	**Pb**	**16 36 50.4**	**0.0**
DGRG				S	**Sb**	**16 37 06.0**	**+4.7**
SNJR	**Sundja**	**0.90**	**329**	*e*Pg	**Pn**	**16 36 51.9**	**+0.7**
SNJR				*e*Sg	**Sb**	**16 37 06.8**	**+4.0**
LACR	**Lac**	**1.00**	**302**	*i* Pg	**Pn**	**16 36 51.2**	**-1.4**
LACR				*i* Sg	**Sb**	**16 37 05.2**	**-0.5**
ARNR	**Ardon**	**1.24**	**316**	*e*Pg	**Pn**	**16 36 56.3**	**+0.5**
ARNR				*e*Sg	**Sn**	**16 37 14.5**	**+2.8**
ZEI	**Tsey**	**1.24**	**293**	*e*Pg	**Pn**	**16 36 54.2**	**-1.6**
ZEI				*e*Sg	**Sn**	**16 37 11.1**	**-0.6**
BTKR	**Batakoyurt**	**1.26**	**328**	*e*Pg	**Pn**	**16 36 57.7**	**+1.6**
BTKR				*e*Sg	**Sn**	**16 37 17.1**	**+4.8**
DIGR	**Digorskoe uzhe**	**1.51**	**294**	*e*Pg	**Pn**	**16 36 58.3**	**-1.2**
DIGR				*e*Sg	**Sn**	**16 37 18.3**	**0.0**
ONI	**Oni**	**1.51**	**281**	P	**Pb**	**16 37 01.0**	**-0.5**
ONI				S	**Sn**	**16 37 22.4**	**+4.1**

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*NEIC **14** 17:00:07.5,5660N×13553W,h5km,ML3.1(AEIC),*
ML3.4(PGC),After PGC.
PGC 14 17:00:07.5±1.9,5660N×13553W,h5km,ML3.4/10,4D,
51km Ssw of Sitka, Ak Southeastern Alaska,
Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIT	**Sitka**	**0.47**	**14**	P	Pg	17 00 15.8	-0.6
SIT				S	Sg	17 00 21.2	-1.3
CRAG	**Craig**	**1.77**	**129**	P	Pn	17 00 35.9	-2.8
CRAG				S	Sn	17 01 01.4	-0.1
WRAK	**Wrangell Islan**	**1.77**	**95**	P	Pn	17 00 35.9	-2.9
WRAK				S	Sn	17 00 58.9	-2.7
SKAG	**Skagway**	**2.87**	**2**	P	Pn	17 00 53.8	0.0
PLBC	**Pleasant Camp**	**2.90**	**352**	⇑Pn	Pn	17 00 53.9	-0.2
PLBC				⇑Sg	Sg	17 01 36.7	-3.7
NDB	**Naden**	**3.04**	**150**	⇑Pn	Pn	17 00 54.3	-1.8
NDB				⇑Sg	Sg	17 01 41.8	-3.2
DLBC	**Dease Lake**	**3.49**	**56**	⇓Pn	Pn	17 01 01.1	-1.2
RUBB	**Prince Rupert**	**3.77**	**125**	⇑Pn	Pn	17 01 05.5	-0.7
RUBB				⇑Sg	Sg	17 02 04.4	-4.1
VIB	**Van Inlet**	**3.77**	**152**	⇓Pn	Pn	17 01 05.2	-1.0
VIB				⇓Sn	Sn	17 01 48.9	-2.0
VIB				⇑Sg	Sg	17 02 04.6	-4.0
DIB	**Dawson Inlet,**	**3.84**	**151**	⇑Pn	Pn	17 01 05.3	-1.8
DIB				⇑Sn	Sn	17 01 49.8	-2.7
MOBC	**Moresby Island**	**4.03**	**148**	⇑Pn	Pn	17 01 08.6	-1.1
MOBC				⇑Sg	Sg	17 02 12.8	-4.0
WHY	**Whitehorse**	**4.08**	**4**	⇑Pn	Pn	17 01 10.6	+0.1
WHY	**Whitehorse**	**4.08**	**4**	P	Pn	17 01 10.4	-0.1
WHY				Pn	Pn	17 01 10.6	+0.1
HYT	**Haines Junctio**	**4.36**	**347**	⇓Pn	Pn	17 01 12.9	-1.3
HYT	**Haines Junctio**	**4.36**	**347**	*e*Pn	Pn	17 01 14.6	+0.4
HYT				*e*Sg	Sg	17 02 18.2	-9.1
BNB	**Barry Inlet**	**4.59**	**150**	⇑Pn	Pn	17 01 17.1	-0.4
RAGM	**Ragged Mountai**	**6.11**	**312**	*e*Pn	Pn	17 01 41.8	+3.5
BMRM	**Bremner River**	**6.43**	**317**	*e*Pn	Pn	17 01 43.7	+1.1
EGAK	**Eagle**	**8.65**	**344**	*e*Pn	Pn	17 02 13.3	+0.2
	1.8nm,0.3s						
EGAK				*e*Sg	Sn	17 04 37.2	+46

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*IDC **14** 17:00:16.5±0.6,3733S×7526W,h0km,mb4.2/10,*
mb1 4.3/14,mb1mx4.2/20,mbtmp4.2/14,ML4.1/4,MS3.6/2,
Ms1 3.6/2,ms1mx2.9/26,Error ellipse: s-maj=24.2km
s-min=16.2km az=94.0
*ISCJB **14** 17:00:20.0±1.4,37.19S±003×7499W±005,h32km±10km,*
mb4.4/24,Error ellipse: s-maj=7.0km s-min=4.1km
az=36.5
*NEIC **14** 17:00:20.1,3721S×7490W,h19km,mb4.5/18,*
ML4.4(GUC),After GUC.
*GUC **14** 17:00:20.1±0.7,3721S×7490W,h19km±4km,ML4.4*
ISC 14 17:00:21.1±1.4,3721S±003×7503W±004,h28km±10km,
n74,σ0°94°/92,mb4.4/24,11C-3D,Off coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**2.10**	**60**	⇓*i*P	**Pn**	**17 00 53.7**	**-0.7**
COCH				*i* S	**Sn**	**17 01 19.3**	**-0.3**
COCH				AML	AML	17 01 21.7	
	comp=N,1μm,0.2s						
COCH	**Cobquecura**	**2.10**	**60**	⇓*i*P	**Pn**	**17 00 53.7**	**-0.7**
COCH				*i* S	**Sn**	**17 01 19.3**	**-0.3**
CCHI	**Chillan**	**2.44**	**77**	⇑*i*P	**Pn**	**17 01 01.4**	**+2.2**
CCHI				*i* S	**Sn**	**17 01 30.7**	**+2.5**
CCHI				AML	AML	17 01 34.0	
	comp=N,2μm,0.5s						
CCHI	**Chillan**	**2.44**	**77**	⇑*i*P	**Pn**	**17 01 01.4**	**+2.2**
CCHI				*i* S	**Sn**	**17 01 30.7**	**+2.5**
TMU	**Temuco**	**2.45**	**129**	⇑*i*P	**Pn**	**17 00 58.9**	**-0.4**
TMU				*i* S	**Sn**	**17 01 28.9**	**+0.5**
CNCO	**Chanco**	**2.49**	**55**	*e*P	**Pn**	**17 00 59.6**	**-0.3**
CNCO				*i* S	**Sn**	**17 01 29.3**	**0.0**
TALC	**Talca**	**3.29**	**58**	⇑*i*P	**Pn**	**17 01 10.9**	**+0.2**
TALC				*i* S	**Sn**	**17 01 49.1**	**+0.2**
TALC				AML	AML	17 01 56.2	
	comp=E,3μm,0.2s						
TALC	**Talca**	**3.29**	**58**	⇑*i*P	**Pn**	**17 01 10.9**	**+0.2**
TALC				*i* S	**Sn**	**17 01 49.1**	**+0.2**
NICH	**Los Niches**	**3.78**	**56**	*i* P	**Pn**	**17 01 18.4**	**+0.8**
NICH				*e*S	**Sn**	**17 02 01.4**	**+0.2**
SFDO	**San Fernando**	**4.16**	**53**	⇑*i*P	**Pn**	**17 01 22.9**	**+0.1**
SFDO				*i* S	**Sn**	**17 02 10.1**	**-0.5**
LNV	**Longovilo**	**4.39**	**43**	⇑*i*P	**Pn**	**17 01 25.2**	**-0.7**
LNV				*i* S	**Sn**	**17 02 15.4**	**-0.7**
LCCH	**Las Cruces**	**4.68**	**38**	⇓*i*P	**Pn**	**17 01 28.5**	**-1.4**
LCCH				*i* S	**Sn**	**17 02 22.1**	**-1.1**
CICH	**Cipreses**	**4.73**	**54**	*e*P	**Pn**	**17 01 31.0**	**+0.4**
CICH				*i* S	**Sn**	**17 02 24.0**	**-0.5**
CHCH	**Chadas Angostu**	**4.84**	**49**	*e*P	**Pn**	**17 01 32.4**	**+0.3**
TACH	**Talagante**	**4.87**	**45**	⇑*i*P	**Pn**	**17 01 32.3**	**-0.3**
TACH				*e*S	**Sn**	**17 02 27.0**	**-1.0**
PLCA	**Paso Flores**	**4.96**	**137**	Pn	**Pn**	**17 01 33.6**	**-0.1**
	comp=E,1.2nm,0.3s,baz=295,slow=9.9,SNR=36						
PLCA				Sn	**Sn**	**17 02 26.5**	**-3.6**
	comp=E,1.6nm,0.3s,baz=316,slow=23,SNR=3.8						
PLCA	**Paso Flores**	**4.96**	**137**	*e*Pn	**Pn**	**17 01 33.1**	**-0.6**
PLCA				*e*Sn	**Sn**	**17 02 29.4**	**-0.7**
RCDM	**Rinconada Maip**	**5.07**	**44**	*e*P	**Pn**	**17 01 35.1**	**-0.2**
RCDM				*i* S	**Sn**	**17 02 31.8**	**-1.0**
ANTU	**Antumapu**	**5.11**	**46**	*i* S	**Sn**	**17 02 33.5**	**-0.3**
PCH	**Pirque**	**5.14**	**47**	*e*P	**Pn**	**17 01 36.3**	**+0.1**
LMEL	**Las Melosas**	**5.17**	**51**	*e*P	**Pn**	**17 01 37.3**	**+0.6**
LMEL				*i* S	**Sn**	**17 02 38.9**	**+3.5**
ROCH	**El Roble**	**5.36**	**39**	⇑*i*P	**Pn**	**17 01 39.7**	**+0.5**
ROCH				*i* S	**Sn**	**17 02 40.3**	**+0.3**
PEL	**Peldehue**	**5.39**	**43**	*e*P	**Pn**	**17 01 39.7**	**0.0**
PEL				*i* S	**Sn**	**17 02 40.8**	**-0.2**
FCH	**Farellones**	**5.48**	**46**	⇑*i*P	**Pn**	**17 01 41.2**	**+0.4**
FCH				*i* S	**Sn**	**17 02 43.5**	**+0.5**
JACH	**Jahuel**	**5.80**	**40**	⇑*i*P	**Pn**	**17 01 45.4**	**+0.1**
JACH				*i* S	**Sn**	**17 02 50.7**	**-0.2**
TLL	**Tololo Astrono**	**7.85**	**28**	*e*P	**Pn**	**17 02 11.9**	**-1.6**
CFAA	**Coronel Fontan**	**7.92**	**47**	Pn	**Pn**	**17 02 14.8**	**+0.4**
	comp=E,0.9nm,0.3s,baz=208,slow=13,SNR=39						
CFAA				Sn	**Sn**	**17 03 44.2**	**+1.1**
	comp=E,0.8nm,0.3s,baz=301,slow=23,SNR=7.2						
CFAA	**Coronel Fontan**	**7.92**	**47**	Pn	**Pn**	**17 02 14.8**	**+0.4**
CFAA				Sn	**Sn**	**17 03 44.2**	**+1.1**
LCO	**Las Campanas**	**8.94**	**25**	*e*Pn	**Pn**	**17 02 25.3**	**-3.1**
	comp=E,11nm,0.4s						
LCO				*e*Sn	**Sn**	**17 04 07.1**	**-1.1**
TRQA	**Tornquist**	**10.39**	**99**	*e*Pn	**Pn**	**17 02 49.6**	**+1.4**
	comp=E,6.6nm,0.7s						
LVC	**Limon Verde**	**15.48**	**22**	Pn	**Pn**	**17 03 58.4**	**+0.9**
	comp=E,0.2nm,0.3s,baz=163,slow=19,SNR=3.6						
LVC	**Limon Verde**	**15.48**	**22**	*e*Pn	**Pn**	**17 03 56.2**	**-1.2**
	comp=E,6.0nm,0.7s						
CPUP	**Villa Florida**	**18.52**	**59**	P	**Pn**	**17 04 37.8**	**+2.1**
	comp=E,0.4nm,0.3s,baz=222,slow=12,SNR=5.1						
CPUP				LR	LR	17 12 14.5	
	comp=E,82nm,19.7s,baz=52,slow=38						
CPUP	**Villa Florida**	**18.52**	**59**	*e*Pn	**Pn**	**17 04 35.2**	**-0.4**
	comp=E,13nm,0.7s						

LPAZ	**La Paz**	**21.71**	**18**	P	**P**	**17 05 13.6**	**+3.5**
	comp=E,3.7nm,0.8s,mb3.9,baz=197,slow=5.5,SNR=13						
LPAZ	**La Paz**	**21.71**	**18**	*e*P	**P**	**17 05 13.0**	**+2.9**
	comp=E,3.3nm,0.8s,mb3.8						
SIV	**San Ignacio**	**24.48**	**34**	P	**P**	**17 05 38.8**	**+0.9**
	comp=E,3.7nm,0.9s,mb3.8,baz=221,slow=8.6,SNR=12						
PMSA	**Palmer Station**	**28.37**	**170**	P	**P**	**17 06 10.5**	**-2.0**
	comp=E,6.5nm,1.0s,mb4.2						
OTAV	**Otavalo**	**37.39**	**354**	*e*P	**P**	**17 07 34.1**	**+2.5**
	comp=E,5.6nm,1.0s,mb4.3						
SDV	**Santo Domingo**	**46.03**	**6**	P	**P**	**17 08 41.6**	**-0.8**
	comp=E,9.2nm,1.2s,mb4.6						
VNA2	**Neumayer--Watz**	**48.05**	**156**	*e*	**P**	**17 08 57.2**	**-0.3**
VNA2				*e*		17 08 59.8	
SNAA	**Sanae**	**49.58**	**157**	*e*	**P**	**17 09 08.9**	**-0.3**
SNAA				*e*		17 09 11.6	
SNAA				*e*		18 38 53.2	
SNAA	**Sanae**	**49.58**	**157**	P	**P**	**17 09 08.8**	**-0.4**
	comp=E,2.6nm,0.9s,mb4.3,baz=278,slow=5.6,SNR=19						
SNAA	**Sanae**	**49.58**	**157**	*e*P	**P**	**17 09 08.7**	**-0.5**
	comp=E,16nm,1.3s,mb4.9						
QSPA	**South Pole Qui**	**53.03**	**180**	P	**P**	**17 09 34.4**	**-0.6**
	comp=E,3.8nm,1.1s,mb4.3,baz=133,slow=1.4,SNR=8.6						
VNDA	**Vanda**	**60.48**	**192**	P	**P**	**17 10 26.9**	**-1.0**
	comp=E,1.4nm,0.9s,mb4.0						
PPT	**Papeete**	**67.44**	**265**	LR	LR	17 32 53.0	
	comp=E,102nm,20.1s,baz=112,slow=29						
MAW	**Mawson**	**70.78**	**164**	P	**P**	**17 11 33.5**	**-0.9**
	comp=E,4.7nm,0.9s,mb4.4,baz=230,slow=6.2,SNR=5.4						
OXF	**Oxford**	**72.60**	**348**	P	**P**	**17 11 43.3**	**-2.3**
	comp=E,31nm,1.3s,mb5.1						
SWET	**Sewanee**	**72.76**	**351**	*e*P	**P**	**17 11 46.8**	**+0.2**
MIAR	**Mount Ida**	**73.44**	**344**	P	**P**	**17 11 50.1**	**-0.5**
CASY	**Casey**	**76.75**	**182**	*e*P	**P**	**17 12 08.6**	**-0.9**
	comp=E,5.3nm,0.9s,mb4.5						
ANMO	**Albuquerque**	**77.51**	**334**	*e*P	**P**	**17 12 14.3**	**+0.3**
	comp=E,2.4nm,0.9s,mb4.1						
DBIC	**Dimbokro**	**78.49**	**72**	P	**P**	**17 12 20.7**	**+0.7**
	comp=E,13nm,1.1s,mb4.8,baz=234,slow=7.0,SNR=3.4						
DBIC	**Dimbokro**	**78.49**	**72**	P	**P**	**17 12 20.6**	**+0.6**
SDCO	**Great Sand Dun**	**79.72**	**336**	*e*P	**P**	**17 12 27.1**	**+1.0**
	comp=E,1.8nm,1.0s,mb4.0						
MSU	**Marysvale**	**82.77**	**331**	P	**P**	**17 12 43.5**	**+1.3**
ECSD	**EROS,Sioux Fal**	**82.91**	**344**	*e*P	**P**	**17 12 42.8**	**-0.1**
	comp=E,9.9nm,1.1s,mb4.8						
ISA	**Isabella**	**82.96**	**326**	*e*P	**P**	**17 12 44.6**	**+1.3**
	comp=E,3.5nm,0.8s,mb4.4						
DUG	**Dugway**	**84.47**	**332**	*e*P	**P**	**17 12 51.8**	**+0.8**
	comp=E,2.9nm,0.7s,mb4.5						
RSSD	**Black Hills**	**85.11**	**339**	P	**P**	**17 12 53.4**	**-0.7**
	comp=E,3.6nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**85.19**	**327**	P	**P**	**17 12 55.6**	**+1.0**
	comp=E,0.6nm,0.7s,mb3.8,baz=165,slow=6.2,SNR=6.0						
PDAR	**Pinedale Array**	**85.58**	**335**	P	**P**	**17 12 56.7**	**+0.2**
	comp=E,1.4nm,1.0s,mb4.2,baz=141,slow=5.0,SNR=10						
AGMN	**Agassiz Refuge**	**87.13**	**346**	*e*P	**P**

VAM	**Vamos**	**2.30**	**299**	*e*PB		**Pn**	**17 20 45.4**	**+0.4**
CSS	**Prodhromos**	**5.54**	**81**	*e*Pn		**Pn**	**17 21 30.7**	**+1.1**
CSS				*e*Sn		**Sn**	**17 22 33.1**	**+0.8**
CSS	**Prodhromos**	**5.54**	**81**	*e*Pn		**Pn**	**17 21 30.7**	**+1.1**
CSS				*e*Sn		**Sn**	**17 22 33.1**	**+0.8**
MMAI	**Mount Meron Ar**	**7.41**	**98**	Pn		**Pn**	**17 21 55.3**	**+0.1**
	2.1nm,0.3s,baz=309,slow=11,SNR=8.1							
MMAI				Sn		**Sn**	**17 23 16.2**	**-2.0**
	2.6nm,0.3s,baz=275,slow=23,SNR=4.6							
EIL	**Elat**	**8.43**	**121**	Pn		**Pn**	**17 22 09.7**	**+0.5**
	0.4nm,0.3s,baz=353,slow=8.1,SNR=4.7							
EIL				Sn		**Sn**	**17 23 40.9**	**-2.4**
	1.1nm,0.3s,baz=126,slow=22,SNR=6.7							
EIL	**Elat**	**8.43**	**121**	Pn		**Pn**	**17 22 09.7**	**+0.5**
EIL				Sn		**Sn**	**17 23 40.9**	**-2.4**
TIP	**Timpagrande**	**9.31**	**304**	P		**Pn**	**17 22 19.7**	**-1.5**
AKASG	**Malin Array Be**	**16.49**	**6**	Pn		**Pn**	**17 23 57.9**	**-0.3**
	1.2nm,0.3s,baz=193,slow=11,SNR=4.9							
GERES	**GERESS Array B**	**17.43**	**330**	P		**Pn**	**17 24 09.1**	**-0.7**
	0.1nm,0.3s,baz=138,slow=16,SNR=4.6							
HFS	**Hagfors**	**27.20**	**346**	P		**P**	**17 25 48.1**	**-1.8**
	1.5nm,0.8s,mb3.6,baz=169,slow=8.7,SNR=3.8							
TORD	**Torodi Ar. Bea**	**30.92**	**233**	P		**P**	**17 26 24.5**	**+1.0**
	0.6nm,0.8s,mb3.5,baz=38,slow=7.2,SNR=2.8							
ARCES	**ARCESS Array B**	**35.29**	**359**	P		**P**	**17 26 59.2**	**-1.8**
	2.4nm,1.0s,mb4.1,baz=182,slow=9.1,SNR=5.1							
MKAR	**Makanchi Array**	**43.23**	**56**	P		**P**	**17 28 09.5**	**+2.0**
	0.7nm,0.5s,mb3.6,baz=284,slow=7.0,SNR=7.9							
MKAR	**Makanchi Array**	**43.23**	**56**	P		**P**	**17 28 09.5**	**+2.0**
ZALV	**Zalesovo Beam**	**44.72**	**46**	P		**P**	**17 28 20.5**	**+1.1**
	1.1nm,0.4s,mb4.0,baz=266,slow=9.2,SNR=9.0							
SONM	**Songino Array**	**59.08**	**51**	P		**P**	**17 30 08.5**	**+2.0**
	0.6nm,0.7s,mb3.8,baz=289,slow=8.0,SNR=5.5							

*NEIC **14** 17:23:56.2, 1725N×9422W, h171km, MD4.2(MEX), After MEX.*

MEX 14 17:23:56.3±1.0, 1718N×9424W, h172km±10km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.62**	**262**	*i* P		Pn	17 24 19.4	-1.3
CMIG				*i* S		Sn	17 24 37.0	-2.3
TGIG		**1.14**	**110**	*i* P		Pn	17 24 23.5	-0.9
TGIG				*i* S		Sn	17 24 43.2	-2.6
CCIG	**Comitan**	**2.21**	**114**	*e*P		Pn	17 24 34.1	-1.0
CCIG				*i* S		Sn	17 25 04.1	-1.0
HUIG	**Huatulco**	**2.27**	**232**	*i* P		Pn	17 24 33.3	-2.6
HUIG				*i* S		Sn	17 25 05.9	-0.6
OXX	**Oaxaca**	**2.37**	**268**	*i* P		Pn	17 24 37.7	+0.7
OXX				*i* S		Sn	17 25 10.8	+2.3
VHO	**Vista Hermosa**	**2.38**	**268**	*i* P		Pn	17 24 36.6	-0.5
VHO				*i* S		Sn	17 25 08.1	-0.6
VHO	**Vista Hermosa**	**2.38**	**268**	*i* P		Pn	17 24 36.6	-0.5
VHO				*i* S		Sn	17 25 08.6	-0.1
THIG		**2.95**	**140**	*i* S		Sn	17 25 19.7	-1.3
TPIG	**Tehuac#an**	**3.22**	**293**	*i* P		Pn	17 24 46.8	-0.5
TPIG				*i* S		Sn	17 25 24.1	-2.7
PNIG	**Pinotepa**	**3.80**	**259**	*i* P		Pn	17 24 52.2	-2.5
PNIG				*i* S		Sn	17 25 37.8	-2.3
PLIG	**Platanillo**	**5.15**	**284**	*i* P		Pn	17 25 12.2	+0.1
PLIG				*i* S		Sn	17 26 11.4	-0.1

*ISCJB **14** 17:25:06.5±2.8, 1025±01×1611E±02, h64km±21km, mb4.2/10, Error ellipse: s-maj=29.8km s-min=17.7km az=23.0*
*IDC **14** 17:25:06.8±3.8, 1022S×161.15E, h52km±30km, mb4.0/10, mb1 4.1/11, mb1mx3.9/21, mbtmp4.0/11, ML4.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/25, Error ellipse: s-maj=27.3km s-min=18.0km az=98.0*

ISC 14 17:25:07.1±2.9, 1025±01×1611E±02, h55km±23km, n18, σ0981/15, mb4.2/10, MS3.4/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.38**	**301**	P		**Pn**	**17 25 28.9**	**-1.2**
	531nm,0.3s,baz=128,slow=1.6,SNR=459							
HNR				S		**Sn**	**17 25 48.0**	**+0.8**
	2μm,0.3s,baz=289,slow=5.0,SNR=17							
CTA	**Charters Tower**	**17.42**	**234**	P		**Pn**	**17 29 07.8**	**+1.3**
	0.7nm,0.3s,baz=58,slow=14,SNR=11							
CTA				LR		LR	17 33 50.1	
	comp=Z,103nm,20.2s,baz=227,slow=30							
AFI	**Afiamalu**	**26.74**	**101**	LR		LR	17 38 26.9	
	comp=Z,112nm,19.8s,MS3.4,baz=47,slow=30							
WB2	**Warramunga Arr**	**27.60**	**246**	*e*P		**P**	**17 30 49.2**	**-0.3**
WRA	**Warramunga Arr**	**27.61**	**246**	P		**P**	**17 30 49.2**	**-0.4**
	1.6nm,0.6s,mb3.9,baz=76,slow=9.1,SNR=13							
GUMO	**Guam**	**28.58**	**325**	LR		LR	17 41 13.9	
	comp=Z,83nm,19.2s,MS3.4,baz=135,slow=34							
ASAR	**Alice Springs**	**29.25**	**239**	P		**P**	**17 31 03.0**	**-1.1**
	0.8nm,0.5s,mb3.7,baz=66,slow=10,SNR=15							
FITZ	**Fitzroy Crossi**	**35.27**	**253**	*e*P		**P**	**17 31 56.3**	**-0.6**
	5.4nm,0.9s,mb4.5							
FITZ	**Fitzroy Crossi**	**35.27**	**253**	P		**P**	**17 31 56.1**	**-0.8**
	1.4nm,0.6s,mb4.0,baz=84,slow=12,SNR=5.2							
BATI	**Baumata**	**36.87**	**267**	P		**P**	**17 32 10.8**	**+0.1**
	23nm,0.7s,mb5.2,baz=141,slow=13,SNR=3.6							
NWAO	**Narrogin (SRO)**	**46.27**	**234**	LR		LR	17 54 05.7	
	comp=Z,54nm,18.4s,MS3.5,baz=22,slow=38							
PETK	**Petropavlovsk-**	**63.08**	**358**	LR		LR	17 57 26.2	
	comp=Z,25nm,20.2s,MS3.4,baz=282,slow=31							
VNDA	**Vanda**	**67.35**	**180**	P		**P**	**17 35 56.6**	**+0.6**
	0.9nm,0.8s,mb3.9,baz=332,slow=4.0,SNR=5.0							
SONM	**Songino Array**	**75.31**	**325**	P		**P**	**17 36 45.7**	**+1.3**
	2.0nm,0.8s,mb4.1,baz=143,slow=5.6,SNR=13							
KDAK	**Kodiak Island**	**77.48**	**23**	P		**P**	**17 36 57.1**	**+0.6**
	6.1nm,0.8s,mb4.6,baz=219,slow=16,SNR=4.8							
QSPA	**South Pole Qui**	**79.85**	**180**	P		**P**	**17 37 09.7**	**+0.4**
	2.2nm,0.7s,mb4.2,baz=333,slow=1.2,SNR=15							
MKAR	**Makanchi Array**	**89.79**	**318**	P		**P**	**17 37 59.5**	**-0.2**
	0.4nm,0.5s,mb4.0,baz=98,slow=8.9,SNR=3.6							
YKA	**Yellowknife Ar**	**96.28**	**28**	P		**P**	**17 38 28.2**	**-1.1**
	0.8nm,0.6s,mb4.3,baz=260,slow=4.6,SNR=6.0							

*TEH **14** 17:27:14.5, 3650N×5179E, h2km, ML3.5*
*ISCJB **14** 17:27:42.8±0.8, 3644N±004×5184E±004, h10km, Error ellipse: s-maj=6.1km s-min=4.5km az=168.7*
*THR **14** 17:27:42.4±0.8, 3646N×5178E, h39km±18km, ML3.3*
*CSEM **14** 17:27:42.4, 3646N×5178E, h39km, ML3.3, After THR*

ISC 14 17:27:43.3±0.8, 3645N±004×5183E±004, h10km, n19, σ0999/28, 1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRN	**Peran**	**0.46**	**117**	*e*Pg		**Pg**	**17 27 51.7**	**-0.7**
IPRN				*e*			17 28 00.9	
IAFJ	**Afjeh**	**0.60**	**189**	*e*Pg		**Pg**	**17 27 54.4**	**-0.6**
IAFJ				*e*Sg		**Sg**	**17 28 02.3**	**-0.7**
IAFJ				*e*			17 28 04.0	
IAFJ				*e*			17 28 04.5	
CHTH	**Charan**	**0.79**	**226**	*e*Pg		**Pg**	**17 27 57.4**	**-1.1**
CHTH				*e*Sg		**Sg**	**17 28 08.6**	**-0.2**
DAMV	**Damavand**	**0.83**	**172**	*e*Pg		**Pg**	**17 27 58.7**	**-0.7**
DAMV				*e*Sg		**Sg**	**17 28 11.1**	**+1.0**
DAMV				AML	AML		17 28 12.0	
	comp=E,665nm,0.3s							
DAMV	**Damavand**	**0.83**	**172**	*e*Pg		**Pg**	**17 27 58.7**	**-0.6**
	SNR=109							
DAMV				*e*Sg		**Sg**	**17 28 11.1**	**+1.0**
	comp=E,665nm,0.3s,SNR=109							
IDMV	**Damavand**	**0.89**	**169**	*e*Pg		**Pg**	**17 27 59.8**	**-0.7**
IDMV				*e*Sg		**Sg**	**17 28 12.2**	**+0.1**
IDMV				*e*			17 28 13.5	
THKV	**Tehran--Karaj**	**0.94**	**235**	*e*Pg		**Pg**	**17 28 00.3**	**-1.1**
THKV				AML	AML		17 28 16.0	
	comp=N,1μm,0.5s							
THKV				AML	AML		17 28 17.1	
	comp=E,1μm,0.4s							
IFIR	**Firoozkooh**	**1.10**	**137**	*e*Pg		**Pg**	**17 28 04.0**	**-0.6**
IFIR				*e*Sg		**Sg**	**17 28 18.8**	**-0.1**
IFIR				*e*			17 28 22.2	
IR3	**Iran Long-Peri**	**1.17**	**214**	*e*Pg		**Pg**	**17 28 04.7**	**-1.2**
ISHM	**Shahmirzad**	**1.35**	**118**	*e*Pg		**Pg**	**17 28 08.0**	**-1.2**
ISHM				*e*			17 28 32.8	
ILAS	**Lasjerd**	**1.41**	**139**	*e*Pg		**Pg**	**17 28 09.8**	**-0.6**
ILAS				*e*Sg		**Sg**	**17 28 29.7**	**+1.0**
ILAS				*e*			17 28 31.2	
IVRN	**Varamin**	**1.46**	**183**	*e*Pn		**Pn**	**17 28 10.1**	**+0.4**
IVRN				⇓*e*Pn		**Pn**	**17 28 10.1**	**+0.4**
IVRN				*e*			17 28 12.4	
IVRN				*e*			17 28 12.4	
IVRN				*e*Sg		**Sg**	**17 28 30.4**	**+0.2**
IKIA	**Kiasar**	**1.52**	**99**	*e*Pg		**Pg**	**17 28 11.0**	**-1.5**
IKIA				*e*			17 28 38.5	
IGLO	**Ghaloghah**	**1.61**	**88**	*e*Pn		**Pn**	**17 28 12.7**	**+0.8**
IGLO				*e*			17 28 41.8	
IRAZ	**Razeghan**	**1.86**	**236**	*e*Pn		**Pn**	**17 28 16.5**	**+1.2**
IRAZ				*e*			17 28 43.4	
IANJ	**Anjilo**	**1.96**	**120**	*e*Pn		**Pn**	**17 28 18.0**	**+1.4**
IANJ				*e*			17 28 53.5	
ISFB	**Sefidab**	**2.12**	**171**	*e*Pn		**Pn**	**17 28 20.5**	**+1.6**
ISFB				*e*			17 28 22.4	
ASAO	**Ashtian**	**2.40**	**218**	*e*Pg		**Pn**	**17 28 24.8**	**+2.0**
ASAO				AML	AML		17 29 01.2	
	comp=N,93nm,0.4s							
IKLH	**Kolahrood**	**3.13**	**184**	*e*Pn		**Pn**	**17 28 34.1**	**+1.3**
IKLH				*e*			17 28 42.8	

*CSEM **14** 17:39:51.9±0.1, 3330N×4826E, h5km, ML3.7, Error ellipse: s-maj=1.8km s-min=1.5km az=97.0*
*ISCJB **14** 17:39:52.8±0.4, 3325N±003×4827E±003, h10km, Error ellipse: s-maj=4.4km s-min=3.5km az=150.7*
*SGS **14** 17:39:53.5, 3358N×4810E, h56km*
*THR **14** 17:39:55.2±1.7, 3326N×4832E, h39km±10km, ML3.6*
*TEH **14** 17:39:57.9, 3317N×4818E, h5km, ML3.7*

ISC 14 17:39:53.8±0.3, 3324N±002×4824E±003, h10km, n35, σ1911/45, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.11**	**327**	*e*Pg		**Pg**	**17 40 12.7**	**-2.5**
IKOM				*e*Sg		**Sg**	**17 40 28.1**	**-1.6**
IKOM	**Komasi**	**1.11**	**327**	*e*Pg		**Pg**	**17 40 12.7**	**-2.5**
IKOM				*e*Sg		**Sg**	**17 40 28.1**	**-1.6**
IKOM				*e*			17 40 43.5	
SHGR	**Shooshtar-Gavs**	**1.22**	**157**	*e*Pg		**Pg**	**17 40 18.1**	**+0.8**
SHGR				AML	AML		17 40 40.0	
	comp=N,1μm,1.0s							
SHGR				AML	AML		17 40 40.3	
	comp=E,1μm,0.6s							
IVIS	**Veis**	**1.73**	**318**	*e*Pn		**Pn**	**17 40 25.1**	**+1.2**
IVIS				*e*			17 40 58.1	
IGHG	**Ghaleghazi**	**1.77**	**308**	*e*Pn		**Pn**	**17 40 25.0**	**+0.5**
IGHG				*e*Sn		**Sn**	**17 40 47.6**	**+0.6**
IGHG				*e*			17 41 09.4	
ASAO	**Ashtian**	**1.97**	**48**	*e*Pg		**Pg**	**17 40 28.7**	**-3.0**
ASAO				*e*Sg		**Sg**	**17 40 55.7**	**-1.6**
ASAO				AML	AML		17 40 59.5	
	comp=E,489nm,0.8s							
ASAO	**Ashtian**	**1.97**	**48**	*e*Pg		**Pg**	**17 40 28.7**	**-3.0**
	SNR=97							
ASAO				*e*Sg		**Sg**	**17 40 55.7**	**-1.6**
	SNR=97							
ILIN	**Lien**	**1.98**	**328**	*e*Pn		**Pn**	**17 40 27.7**	**+0.3**
ILIN				*e*Sn		**Sn**	**17 40 53.8**	**+1.5**
ILIN	**Lien**	**1.98**	**328**	*e*Pn		**Pn**	**17 40 27.7**	**+0.3**
ILIN				*e*Sn		**Sn**	**17 40 53.8**	**+1.5**
ILIN				*e*			17 41 10.1	
SNGE	**Sanandaj**	**1.99**	**338**	*e*P		**Pn**	**17 40 28.9**	**+1.4**
SNGE				*e*Sg		**Sg**	**17 40 56.9**	**-0.9**
IPIR	**Pirpir**	**2.29**	**103**	*e*Pn		**Pn**	**17 40 33.0**	**+1.3**
IPIR				*e*			17 41 09.4	
IRAZ	**Razeghan**	**2.57**	**32**	*e*Pn		**Pn**	**17 40 36.3**	**+0.8**
IRAZ				*e*			17 40 41.5	
IKLH	**Kolahrood**	**2.79**	**87**	*e*Pn		**Pn**	**17 40 38.7**	**+0.1**
IKLH				*e*Sn		**Sn**	**17 41 13.4**	**+1.1**
IKLH	**Kolahrood**	**2.79**	**87**	*e*Pn		**Pn**	**17 40 38.7**	**+0.1**
IKLH				*e*Sn		**Sn**	**17 41 13.4**	**+1.1**
IKLH				*e*			17 41 35.3	
BHD	**Baghdad**	**3.24**	**272**	*ex*		x	17 40 45.0	
BHD				*ex*		x	17 41 39.0	
IVRN	**Varamin**	**3.38**	**58**	*e*Pn		**Pn**	**17 40 46.7**	**+0.1**
IVRN				*e*			17 40 59.0	
IZEF	**Zefreh**	**3.45**	**95**	*e*Pn		**Pn**	**17 40 48.3**	**+0.8**
IZEF				*e*			17 41 59.6	
MIB	**Mutribah**	**3.51**	**193**	*e*P		**Pn**	**17 40 49.4**	**+1.0**
	baz=192							
MIB				AML	AML		17 41 47.5	
	comp=Z,49nm,0.6s,baz=192							
CHTH	**Charan**	**3.57**	**41**	*e*Pn		**Pn**	**17 40 49.4**	**+0.2**
UMR	**Umm Al-Rimmam**	**3.71**	**187**	*e*P		**Pn**	**17 40 51.6**	**+0.5**
NASN	**Na'in**	**3.86**	**95**	*e*Pn		**Pn**	**17 40 52.8**	**-0.4**
IAFJ	**Afjeh**	**3.87**	**47**	*e*Pn		**Pn**	**17 40 53.9**	**+0.5**
IAFJ				*e*			17 42 00.5	
DAMV	**Damavand**	**3.89**	**51**	*e*Pn		**Pn**	**17 40 53.7**	**0.0**
IDMV	**Damavand**	**3.90**	**52**	*e*Pn		**Pn**	**17 40 54.0**	**+0.2**
IDMV				*e*			17 41 05.4	
IDMV				*e*Sn		**Sn**	**17 41 40.1**	**+0.4**
NAY	**Al-Naaiem**	**4.07**	**192**	*e*P		**Pn**	**17 40 57.0**	**+0.9**
	baz=192							
NAY				AML	AML		17 42 03.6	
	comp=Z,12nm,0.1s,baz=192							
RDF	**Al-Radifah**	**4.34**	**188**	*e*P		**Pn**	**17 41 01.4**	**+1.5**
	baz=187							
RDF				AML	AML		17 42 06.8	
	comp=Z,34nm,0.4s,baz=187							
IFIR	**Firoozkooh**	**4.43**	**56**	*e*Pn		**Pn**	**17 41 01.1**	**+0.1**
IFIR				*e*			17 41 22.1	
KFJS		**5.04**	**183**	S		**Sn**	**17 42 06.2**	**-1.6**
KFJS		**5.04**	**183**	P		**Pn**	**17 41 09.5**	**0.0**
IPAR	**Pars**	**5.32**	**128**	*e*Pn		**Pn**	**17 41 11.9**	**-1.4**
ISRV	**Sarvestan**	**5.67**	**131**	*e*Pn		**Pn**	**17 41 16.5**	**-1.6**
ISRV				*e*			17 42 32.2	
ASYS		**6.64**	**212**	S		**Sn**	**17 42 41.5**	**-5.6**
ASYS		**6.64**	**212**	P		**Pn**	**17 41 29.3**	**-2.1**
BOQSS		**7.41**	**172**	P		**Pn**	**17 41 41.5**	**-0.5**
HRDDS		**10.33**	**174**	P		**Pn**	**17 42 20.6**	**-1.5**

IDC 14 17:41:05.5±16.0, 1814S×17716W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=397.5km s-min=50.1km az=119.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.76**	**260**	P	P	17 49 29.1	0.0
	0.3nm,0.4s,baz=96,slow=7.4,SNR=17						
ASAR	**Alice Springs**	**45.87**	**254**	P	P	17 49 29.9	-0.1
	1.1nm,0.8s,baz=89,slow=9.1,SNR=13						
MJAR	**Matsushiro Arr**	**68.80**	**323**	P	P	17 52 11.6	-0.1
	0.4nm,0.8s,baz=154,slow=6.3,SNR=4.9						

NEIC 14 17:57:10.4, 3839S×17756E, h64km, ML4.0(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.06**	**335**	P		Pn	17 57 19.5	-0.3
MWZ				S		Sn	17 57 27.2	+0.6
URZ	**Urewera**	**0.38**	**290**	P		Pn	17 57 21.3	-0.2
PUZ	**Puketiti**	**0.63**	**60**	P		Pn	17 57 24.1	0.0
KNZ	**Kokohu**	**0.64**	**172**	P		Pn	17 57 24.2	0.0
EDRZ	**Edgecumbe**	**0.71**	**293**	P		Pn	17 57 25.0	+0.1
MARZ	**Manawahe**	**0.81**	**300**	P		Pn	17 57 26.0	-0.1
MARZ				S		Sn	17 57 37.2	-0.5
TAZ	**Tarawera**	**0.84**	**280**	P		Pn	17 57 26.8	+0.2
WIZ	**White Island**	**0.91**	**341**	P		Pn	17 57 27.1	-0.3
MXZ	**Matakaoa Point**	**1.01**	**36**	P		Pn	17 57 29.1	+0.3
UTU	**Utuhina**	**1.10**	**281**	P		Pn	17 57 30.4	+0.6
KARZ	**Kaharoa**	**1.10**	**289**	P		Pn	17 57 29.5	-0.4
BKZ	**Black Stump Fm**	**1.14**	**227**	P		Pn	17 57 30.4	0.0
HATZ	**Hinemaiaia**	**1.25**	**246**	P		Pn	17 57 31.5	-0.4
WHTZ	**Whakaora**	**1.29**	**257**	P		Pn	17 57 32.5	+0.2
RITZ	**Rihia Road**	**1.46**	**246**	P		Pn	17 57 34.6	0.0
WATZ	**Wairara**	**1.47**	**257**	P		Pn	17 57 34.6	-0.1
RATZ	**Rangitukua**	**1.48**	**251**	P		Pn	17 57 34.7	-0.2
KATZ	**Kakaramea**	**1.57**	**248**	P		Pn	17 57 36.2	+0.1
WTVZ	**West Tongariro**	**1.70**	**244**	P		Pn	17 57 37.7	-0.2
NGZ	**Ngauruhoe**	**1.72**	**242**	P		Pn	17 57 37.9	-0.2
TUVZ	**Tukino**	**1.73**	**239**	P		Pn	17 57 38.0	-0.2
MOVZ	**Moawhango**	**1.74**	**234**	P		Pn	17 57 37.7	-0.7
TOZ	**Tahuroa Road**	**1.75**	**291**	P		Pn	17 57 38.3	-0.2
WPVZ	**Whakapapa**	**1.77**	**242**	P		Pn	17 57 38.6	-0.2
FWVZ	**Far West T-bar**	**1.79**	**240**	P		Pn	17 57 38.8	-0.3
DRZ	**Dome Shelter**	**1.79**	**240**	P		Pn	17 57 39.0	-0.1
TWVZ	**Taurewa**	**1.79**	**247**	P		Pn	17 57 38.6	-0.5
WNVZ	**Wahianoa**	**1.80**	**238**	P		Pn	17 57 38.8	-0.3
TSZ	**Takapari Road**	**2.08**	**216**	P		Pn	17 57 41.2	-1.8
HIZ	**Hauiti**	**2.13**	**266**	P		Pn	17 57 43.9	+0.3
KUZ	**Kuaotunu**	**2.20**	**318**	P		Pn	17 57 44.2	-0.4
MKAZ	**Moumakai**	**2.29**	**303**	P		Pn	17 57 44.9	-0.9
VRZ	**Vera Road**	**2.31**	**251**	P		Pn	17 57 46.2	+0.1
WAZ	**Wanganui**	**2.42**	**235**	P		Pn	17 57 47.6	0.0
RAEZ	**Rainy Point**	**2.63**	**249**	P		Pn	17 57 51.2	+0.8
MRZ	**Mangatainoka R**	**2.74**	**213**	P		Pn	17 57 49.1	-2.8
NEZ	**North Egmont**	**2.84**	**251**	P		Pn	17 57 54.5	+1.1
PKE	**Pukeiti**	**2.91**	**253**	P		Pn	17 57 54.8	+0.6
NWEZ	**Newall Road**	**3.02**	**252**	P		Pn	17 57 57.4	+1.7
MTW	**Mount Morrison**	**3.19**	**209**	P		Pn	17 57 54.3	-3.8
KIW	**Kapiti Island**	**3.21**	**219**	P		Pn	17 57 55.4	-2.9
CAW	**Cannon Point**	**3.33**	**214**	P		Pn	17 57 56.3	-3.6
PAWZ	**Paruwai Farm**	**3.41**	**208**	P		Pn	17 57 57.1	-4.0
MSWZ	**Moikau Station**	**3.51**	**210**	P		Pn	17 57 58.3	-4.1
MRW	**Makara Radio**	**3.59**	**217**	P		Pn	17 57 59.7	-3.9
WEL	**Wellington**	**3.60**	**216**	P		Pn	17 57 59.9	-3.8
SNZO	**South Karori**	**3.65**	**216**	P		Pn	17 58 00.3	-4.1
BHW	**Baring Head**	**3.66**	**214**	P		Pn	17 58 00.1	-4.3
TCW	**Tory Channel**	**3.79**	**221**	P		Pn	17 58 02.5	-3.7
NNZ	**Nelson**	**4.28**	**227**	P		Pn	17 58 09.3	-3.7
BSWZ	**Blackbirch Sta**	**4.36**	**219**	P		Pn	17 58 10.0	-4.1
THZ	**Tophouse**	**4.91**	**225**	P		Pn	17 58 17.3	-4.3
LTZ	**Lake Taylor**	**5.96**	**221**	P		Pn	17 58 30.3	-5.6
CRLZ	**Canterbury Las**	**6.39**	**214**	P		Pn	17 58 35.8	-6.0
MQZ	**McQueen's Vall**	**6.48**	**213**	P		Pn	17 58 36.8	-6.2
WVZ	**Waitaha Valley**	**6.98**	**226**	P		Pn	17 58 44.3	-5.6
RPZ	**Rata Peaks**	**7.24**	**221**	P		Pn	17 58 48.5	-5.0
FOZ	**Fox Glacier**	**7.88**	**227**	P		Pn	17 58 55.1	-7.1
LBZ	**Lake Benmore**	**8.16**	**220**	P		Pn	17 59 00.7	-5.3
ODZ	**Otahua Downs**	**8.42**	**216**	P		Pn	17 59 03.0	-6.6
WKZ	**Wanaka**	**9.07**	**222**	P		Pn	17 59 12.8	-5.6
EAZ	**Earnscleugh**	**9.20**	**219**	P		Pn	17 59 14.4	-5.8
TUZ	**Tuapeka**	**9.58**	**215**	P		Pn	17 59 19.7	-5.7

*SZGRF **14** 18:19:20.7, 5215N×3596W, h34km, mb4.8, MS3.7, Reykjanes Ridge*
*MOS **14** 18:19:40.5±1.1, 5266N×3150W, h10km, mb4.9/76, Error ellipse: s-maj=7.3km s-min=4.7km az=162.3*
*CSEM **14** 18:19:40.8±0.0, 5283N×3151W, h10km, mb4.7/99, Ms3.4, Error ellipse: s-maj=2.4km s-min=1.1km az=11.0*
*IDC **14** 18:19:41.6±0.5, 5281N×3141W, h0km, mb4.4/25, mb1 4.5/26, mb1mx4.4/33, mbtmp4.4/26, ML4.4/1, MS3.8/29, Ms1 3.8/29, ms1mx3.7/38, Error ellipse: s-maj=14.0km s-min=11.9km az=173.0*
*NEIC **14** 18:19:42.7±0.2, 5279N×3147W, h10km, mb4.7/139, Error ellipse: s-maj=7.1km s-min=2.6km az=191.0*
*ISCJB **14** 18:19:42.5±2.3, 5279N±004×3153W±003, h15km±14km, mb4.6/184, MS3.8/41, Error ellipse: s-maj=6.3km s-min=2.7km az=10.9*
*BJI **14** 18:19:43.4, 5344N×3153W, h10km, mB5.1, mb4.7, Ms4.5, Msz4.5*
*BGS **14** 18:19:53.3±1.9, 5278N×3012W, h10km, mb5.3*

ISC 14 18:19:41.7±1.6, 5283N±003×3149W±002, h1km±10km, n795, σ1902/784, mb4.7/184, MS3.8/41, 131C-111D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.04**	**20**	Pn		**Pn**	**18 22 52.4**	**+4.6**
	3.6nm,0.3s,baz=180,slow=11,SNR=12							
BORG				Sn		**Sn**	**18 25 11.0**	**-2.3**
	0.6nm,0.3s,baz=221,slow=20,SNR=2.3							
BORG	**Borgarnes**	**13.04**	**20**	*e*P		**Pn**	**18 22 51.6**	**+3.8**
BORG	**Borgarnes**	**13.04**	**20**	*e*Pn		**Pn**	**18 22 51.6**	**+3.8**
DSB	**Dublin**	**15.10**	**78**	*e*Pn		**Pn**	**18 23 13.6**	**-2.3**
	22nm,0.8s							
KAC	**Achnashellach**	**15.63**	**62**	*e*P		**Pn**	**18 23 24.9**	**+2.0**
KAC	**Achnashellach**	**15.63**	**62

EPON Pontenova 18.76 111 P Pn 18 24 05.0 +2.8
comp=Z,6.1nm,0.3s
EPON Pontenova 18.76 111 P Pn 18 24 05.0 +2.8
comp=Z,6.1nm,0.3s
SGMF Saint Gilles 18.88 92 *e*P **Pn 18 24 01.0 -2.7**
comp=Z,9.3nm,0.5s
SGMF Saint Gilles 18.88 92 *e*P **Pn 18 24 01.0 -2.7**
SGMF pmax pmax
comp=Z,5.0nm,0.5s
SGMF Saint Gilles 18.88 92 *e*P **Pn 18 24 01.0 -2.7**
comp=Z,4.7nm,0.5s
ELOB Lobios 19.20 115 P Pn 18 24 09.8 +2.2
comp=Z,11nm,0.8s
ELOB Lobios 19.20 115 P Pn 18 24 09.8 +2.2
comp=Z,11nm,0.8s
GRR Gorron 19.86 91 *e*P **Pn 18 24 12.5 -2.9**
EARI Arriondas 19.88 108 P Pn 18 24 13.1 -2.6
comp=Z,19nm,0.7s
EARI Arriondas 19.88 108 P Pn 18 24 13.1 -2.7
comp=Z,19nm,0.7s
ECAL Calabor 19.88 113 P Pn 18 24 15.1 -0.7
comp=Z,12nm,0.8s
ECAL Calabor 19.88 113 P Pn 18 24 15.2 -0.6
comp=Z,12nm,0.8s
FLN La Foliniere 19.93 89 *e*P **Pn 18 24 13.7 -2.6**
comp=Z,113nm,1.2s
FLN *e*MLR MLR
comp=Z,333nm,20.5s
FLN La Foliniere 19.93 89 *e*P **Pn 18 24 13.7 -2.6**
FLN pmax pmax
comp=Z,57nm,1.2s
FLN La Foliniere 19.93 89 *e*P **Pn 18 24 13.7 -2.6**
comp=Z,57nm,1.2s
SUMG Summit 20.05 354 *e*P **P 18 24 20.6 +4.8**
comp=Z,6.7nm,1.0s
LDF La Druitiere 20.22 89 *e*P **P 18 24 16.4 -1.4**
comp=Z,48nm,0.9s
LDF La Druitiere 20.22 89 *e*P **P 18 24 16.4 -1.4**
LDF pmax pmax
comp=Z,24nm,0.9s
LDF La Druitiere 20.22 89 *e*P **P 18 24 16.4 -1.4**
comp=Z,24nm,0.9s
MVO Moncorvo 20.25 115 *e*P **P 18 24 19.2 +1.0**
comp=Z,31nm,1.6s
MVO *e*S **S 18 28 11.2 +5.3**
MTE Manteigas 20.50 118 *e*P **P 18 24 21.6 +0.7**
comp=Z,51nm,1.5s
MTE *e*S **S 18 28 18.2 +7.2**
MTE Manteigas 20.50 118 *e*P **P 18 24 20.2 -0.7**
comp=Z,34nm,1.2s
PMAFR Mafra 20.65 123 *e*P **P 18 24 22.7 +0.1**
comp=Z,77nm,1.5s
PMAFR *e*S **S 18 28 15.8 +1.8**
SCHQ Schefferville 20.82 290 P **P 18 24 21.8 -2.5**
comp=Z,4.3nm,0.5s,baz=85,slow=5.2,SNR=18
SCHQ LR LR 18 30 38.9
comp=Z,170nm,20.5s,MS3.4,baz=270,slow=32
SCHQ Schefferville 20.82 290 *e*P **P 18 24 21.2 -3.1**
comp=Z,15nm,0.9s
MENF Mencas 20.87 83 *e*P **P 18 24 27.8 +2.9**
PCBR Castelo Branco 20.94 119 *e*P **P 18 24 26.4 +0.7**
comp=Z,36nm,1.0s
ELAN Lanestosa 20.95 106 P P 18 24 24.9 -0.9
comp=Z,31nm,1.1s
ELAN Lanestosa 20.95 106 P P 18 24 24.9 -0.9
comp=Z,31nm,1.1s
MFF Saint Martin d 21.09 95 *e*P **P 18 24 25.5 -1.8**
comp=Z,89nm,0.9s,mb4.8
MFF Saint Martin d 21.09 95 *e*P **P 18 24 25.5 -1.8**
MFF pmax pmax
comp=Z,44nm,0.9s,mb4.8
MFF Saint Martin d 21.09 95 *e*P **P 18 24 25.5 -1.8**
comp=Z,44nm,0.9s,mb4.8
PMRV Marv??o 21.28 119 *e*P **P 18 24 30.1 +0.7**
comp=Z,24nm,0.8s,mb4.6
PMRV *e*S **S 18 28 33.6 +7.2**
PESTR Estremoz 21.59 121 *e*P **P 18 24 33.9 +1.2**
comp=Z,15nm,1.2s,mb4.3
PESTR *e*S **S 18 28 30.6 -1.9**
EVO Evora 21.62 122 *e*P **P 18 24 28.9 -4.2**
comp=Z,25nm,0.9s,mb4.4
EVO *e*MLR MLR
comp=Z,157nm,20.2s,MS3.1
EBAD Badajoz 21.98 120 P P 18 24 38.7 +1.9
comp=Z,4.2nm,0.6s,mb4.0
EBAD Badajoz 21.98 120 P P 18 24 38.7 +1.9
comp=Z,4.2nm,0.6s,mb4.0
PTEO Sao Teotonio 22.02 125 *e*P **P 18 24 37.5 +0.2**
comp=Z,35nm,1.3s,mb4.6
PBEJ Beja 22.08 123 *e*P **P 18 24 38.4 +0.4**
EALK Alkurruntz 22.09 104 P P 18 24 38.1 +0.1
comp=Z,17nm,0.8s,mb4.5
EALK Alkurruntz 22.09 104 P P 18 24 38.1 0.0
comp=Z,17nm,0.8s,mb4.5
ELIZ Elizondo 22.11 104 P P 18 24 37.7 -0.6
ELIZ pmax pmax
comp=Z,12nm,3.2s
ELIZ Elizondo 22.11 104 P P 18 24 37.7 -0.6
comp=Z,12nm,3.2s
ELIZ Elizondo 22.11 104 P P 18 24 37.7 -0.6
comp=Z,12nm,3.2s
UCC Uccle 22.12 81 P P 18 24 38.1 -0.2
comp=Z,39nm,1.3s,mb4.7
GUD Guadarrama 22.20 112 P P 18 24 39.5 +0.3
GUD pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
GUD Guadarrama 22.20 112 P P 18 24 39.5 +0.3
comp=Z,4.0nm,0.6s,mb4.0
MORF Marmelete 22.24 125 *e*P **P 18 24 41.6 +1.9**
comp=Z,33nm,1.7s,mb4.5
BAIF Baives 22.28 83 *e*P **P 18 24 38.0 -2.0**
comp=Z,140nm,1.3s,mb4.9
BAIF Baives 22.28 83 *e*P **P 18 24 38.0 -2.0**
BAIF pmax pmax
comp=Z,70nm,1.3s,mb4.9
BAIF Baives 22.28 83 *e*P **P 18 24 38.0 -2.0**
comp=Z,70nm,1.3s,mb4.9
SJPF Ste Jean 22.32 104 *e*P **P 18 24 38.1 -2.4**
comp=Z,31nm,1.2s,mb4.3
SJPF Ste Jean 22.32 104 *e*P **P 18 24 38.1 -2.4**
SJPF pmax pmax
comp=Z,15nm,1.2s,mb4.3
SJPF Ste Jean 22.32 104 *e*P **P 18 24 38.1 -2.4**
comp=Z,15nm,1.2s,mb4.3
PBAR Barrancos 22.39 121 *e*P **P 18 24 42.2 +0.9**
comp=Z,20nm,1.6s,mb4.3
PBAR *e*S **S 18 28 48.7 +0.5**
LFF La Frestale 22.47 98 *e*P **P 18 24 39.2 -2.8**
comp=Z,34nm,0.7s,mb4.6
LFF La Frestale 22.47 98 *e*P **P 18 24 39.2 -2.8**
LFF pmax pmax
comp=Z,17nm,0.7s,mb4.6
LFF La Frestale 22.47 98 *e*P **P 18 24 39.2 -2.8**
comp=Z,17nm,0.7s,mb4.6
HYF Humbligny 22.47 91 *e*P **P 18 24 39.9 -2.1**
DOU Dourbes 22.50 82 P **P 18 24 42.5 +0.1**
comp=Z,20nm,1.4s,mb4.5
PVAQ Vaqueiros 22.63 123 *e*P **P 18 24 41.3 -2.6**
comp=Z,24nm,1.7s,mb4.5
PVAQ *e*S **S 18 28 54.1 +1.3**
GIVF Givet 22.64 82 *e*P **P 18 24 42.7 -1.1**
comp=Z,77nm,1.2s,mb4.8
GIVF Givet 22.64 82 *e*P **P 18 24 42.7 -1.1**
GIVF pmax pmax
comp=Z,38nm,1.2s,mb4.8
GIVF Givet 22.64 82 *e*P **P 18 24 42.7 -1.1**
comp=Z,38nm,1.2s,mb4.8
PBDV Barranco-do-Ve 22.65 124 *e*S **S 18 28 53.4 +0.3**
TCF Toulx Ste Croi 22.67 93 *e*P **P 18 24 41.8 -2.3**
comp=Z,65nm,1.0s,mb4.8
TCF Toulx Ste Croi 22.67 93 *e*P **P 18 24 41.8 -2.3**
TCF pmax pmax
comp=Z,33nm,1.0s,mb4.8
TCF Toulx Ste Croi 22.67 93 *e*P **P 18 24 41.8 -2.3**
comp=Z,32nm,1.0s,mb4.8
RJF Les Rejaudoux 22.74 96 *e*P **P 18 24 42.1 -2.8**
comp=Z,33nm,1.0s,mb4.5
RJF *e*MLR MLR
comp=Z,312nm,20.2s,MS3.4
RJF Les Rejaudoux 22.74 96 *e*P **P 18 24 42.1 -2.8**
RJF pmax pmax
comp=Z,17nm,1.0s,mb4.5
RJF MLR MLR
comp=Z,310nm,20.3s,MS3.7
RJF Les Rejaudoux 22.74 96 *e*P **P 18 24 42.1 -2.8**
comp=Z,17nm,1.0s,mb4.5
RJF LR LR
comp=Z,310nm,20.3s,MS3.7
BCLA Clavier 22.81 81 P **P 18 24 44.9 -0.7**
comp=Z,15nm,1.2s,mb4.4
ETSF Etsaut 22.84 103 *e*P **P 18 24 43.4 -2.6**
PAB San Pablo 22.84 115 *e*P **P 18 24 45.7 -0.4**
PAB pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
PAB San Pablo 22.84 115 *e*P **P 18 24 45.7 -0.4**
comp=Z,9.0nm,1.0s,mb4.2
PAB San Pablo 22.84 115 *e*P **P 18 24 45.7 -0.4**
comp=Z,9.4nm,1.0s,mb4.3
BGF Bois d'Agland 22.92 92 *e*P **P 18 24 44.5 -2.4**
comp=Z,46nm,0.7s,mb4.8
BGF Bois d'Agland 22.92 92 *e*P **P 18 24 44.5 -2.4**
BGF pmax pmax
comp=Z,23nm,0.7s,mb4.8
BGF Bois d'Agland 22.92 92 *e*P **P 18 24 44.5 -2.4**
comp=Z,23nm,0.7s,mb4.8
ESDC Sonseca Array 22.97 114 P **P 18 24 46.8 -0.6**
comp=Z,3.3nm,0.8s,mb3.9,baz=317,slow=9.2,SNR=8.7
ESDC LR LR 18 31 30.9
comp=Z,101nm,20.8s,MS3.2,baz=320,slow=31
ESDC Sonseca Array 22.97 114 P **P 18 24 46.6 -0.8**
comp=Z,1.9nm,0.6s,mb3.8
ESDC Sonseca Array 22.97 114 P **P 18 24 46.6 -0.7**
comp=Z,1.9nm,0.6s,mb3.8
SSF Saint Saulge 23.09 90 *e*P **P 18 24 46.7 -1.9**
comp=Z,39nm,0.8s,mb4.7
SSF Saint Saulge 23.09 90 *e*P **P 18 24 46.7 -1.9**
SSF pmax pmax
comp=Z,19nm,0.8s,mb4.7
SSF Saint Saulge 23.09 90 *e*P **P 18 24 46.7 -1.9**
comp=Z,19nm,0.8s,mb4.7
AVF Avril sur Loir 23.12 91 *e*P **P 18 24 47.0 -1.9**
comp=Z,47nm,0.9s,mb4.7
AVF Avril sur Loir 23.12 91 *e*P **P 18 24 47.0 -1.9**
AVF pmax pmax
comp=Z,24nm,0.9s,mb4.7
AVF Avril sur Loir 23.12 91 *e*P **P 18 24 47.0 -1.9**
comp=Z,24nm,0.9s,mb4.7
MEM Membach 23.17 80 P P 18 24 49.5 +0.1
comp=Z,17nm,1.5s,mb4.4
LOR Lormes 23.21 90 *e*P **P 18 24 47.6 -2.2**
comp=Z,16nm,0.5s,mb4.5
LOR *e*MLR MLR
comp=Z,364nm,22.2s,MS3.5
LOR Lormes 23.21 90 *e*P **P 18 24 47.6 -2.2**
LOR pmax pmax
comp=Z,8.0nm,0.5s,mb4.5
LOR MLR MLR
comp=Z,360nm,22.3s,MS3.8
LOR Lormes 23.21 90 *e*P **P 18 24 47.6 -2.2**
comp=Z,8.3nm,0.5s,mb4.5
LOR LR LR
comp=Z,360nm,22.3s,MS3.8
CAF Calviac 23.27 96 *e*P **P 18 24 48.3 -2.2**
comp=Z,26nm,1.1s,mb4.4
CAF Calviac 23.27 96 *e*P **P 18 24 48.3 -2.2**
CAF pmax pmax
comp=Z,13nm,1.1s,mb4.4
CAF Calviac 23.27 96 *e*P **P 18 24 48.3 -2.2**
comp=Z,13nm,1.1s,mb4.4
ETOR Torete 23.27 109 P P 18 24 49.8 -0.8
ETOR pmax pmax
comp=Z,12nm,0.6s,mb4.6
ETOR Torete 23.27 109 P P 18 24 49.8 -0.8
comp=Z,12nm,0.6s,mb4.6
AGO Saint Agoulin 23.34 93 *e*P **P 18 24 52.1 +0.8**
EBIE Bielsa 23.38 103 P P 18 24 48.7 -3.0
comp=Z,13nm,0.7s,mb4.6
EBIE Bielsa 23.38 103 P P 18 24 48.7 -3.0
comp=Z,13nm,0.7s,mb4.6
MEZF Maizieres J'vi 23.39 86 *e*P **P 18 24 50.1 -1.7**
comp=Z,101nm,1.0s,mb5.0
MEZF Maizieres J'vi 23.39 86 *e*P **P 18 24 50.1 -1.7**
comp=Z,51nm,1.0s,mb5.0
SMF Signal de Mont 23.48 91 *e*P **P 18 24 49.9 -2.9**
comp=Z,38nm,0.9s,mb4.6
SMF Signal de Mont 23.48 91 *e*P **P 18 24 49.9 -2.9**
SMF pmax pmax
comp=Z,19nm,0.9s,mb4.6
SMF Signal de Mont 23.48 91 *e*P **P 18 24 49.9 -2.9**
comp=Z,19nm,0.9s,mb4.6
KONO Kongsberg 23.51 57 *e*P **P 18 24 52.9 0.0**
BUG Bochum--Univer 23.64 78 *e*P **P 18 24 54.7 +0.4**
comp=Z,24nm,1.1s,mb4.6
IBBN Ibbenburen 23.67 75 *e*P **P 18 24 55.8 +1.3**
comp=Z,30nm,0.7s,mb4.9
PLDF La Plantade 23.68 93 *e*P **P 18 24 53.9 -0.8**
ESPR Espera 24.00 121 P P 18 24 59.2 +1.5
comp=Z,16nm,1.3s,mb4.4
ESPR Espera 24.00 121 P P 18 24 59.2 +1.6
comp=Z,16nm,1.3s,mb4.4
RUP Ruppelstein 24.13 82 *e*P **P 18 24 59.4 +0.6**
NAO01 NORSAR Array S 24.14 54 *e*P **P 18 24 59.5 +0.7**
comp=Z,14nm,1.0s,mb4.5
NAO01 NORSAR Array S 24.14 54 *e*P **P 18 24 59.5 +0.7**
comp=Z,14nm,1.0s,mb4.5
MTLF Montolieu 24.23 99 *e*P **P 18 24 57.1 -2.7**
comp=Z,22nm,0.7s,mb4.5
MTLF Montolieu 24.23 99 *e*P **P 18 24 57.1 -2.7**
MTLF pmax pmax
comp=Z,11nm,0.7s,mb4.5
MTLF Montolieu 24.23 99 *e*P **P 18 24 57.1 -2.7**
comp=Z,11nm,0.7s,mb4.5
NB2 NORSAR Subarra 24.30 53 P P 18 25 00.5 +0.2
comp=Z,11nm,1.1s,mb4.3,baz=273,slow=9.3
NOA NORSAR Array B 24.30 53 P P 18 25 00.7 +0.4
comp=Z,2.3nm,0.6s,mb3.9,baz=272,slow=9.3,SNR=8.3
NOA LR LR 18 33 51.0
comp=Z,220nm,18.4s,MS3.7,baz=270,slow=35
HAU Haudompre 24.39 86 *e*P **P 18 24 58.7 -2.5**
comp=Z,47nm,0.7s,mb4.8
HAU *e*MLR MLR
comp=Z,232nm,20.0s,MS3.4
HAU Haudompre 24.39 86 *e*P **P 18 24 58.7 -2.5**
HAU pmax pmax
comp=Z,24nm,0.7s,mb4.8
HAU MLR MLR
comp=Z,230nm,20.0s,MS3.7
HAU Haudompre 24.39 86 *e*P **P 18 24 58.7 -2.5**
comp=Z,24nm,0.7s,mb4.8
HAU LR LR
comp=Z,230nm,20.0s,MS3.7
EMOS Mosqueruela 24.48 108 P P 18 25 01.4 -0.6
comp=Z,12nm,0.7s,mb4.5
EMOS Mosqueruela 24.48 108 P P 18 25 01.4 -0.7
comp=Z,12nm,0.7s,mb4.5
ERTA Horta de San J 24.56 106 P P 18 24 59.6 -3.2
comp=Z,8.0nm,2.5s,mb4.0
BSEG Bad Segeberg 24.71 71 *e*P **P 18 25 04.1 +0.1**
comp=Z,30nm,1.1s,mb4.9
CDF Champ du Feu 24.78 85 *e*P **P 18 25 03.6 -1.1**
HINF Hinteralfeld 24.78 86 *e*P **P 18 25 02.3 -2.4**
comp=Z,19nm,0.7s,mb4.7
HINF Hinteralfeld 24.78 86 *e*P **P 18 25 02.3 -2.4**
HINF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
HINF Hinteralfeld 24.78 86 *e*P **P 18 25 02.3 -2.4**
comp=Z,9.7nm,0.7s,mb4.7
EQES Quesada 24.79 116 P P 18 25 06.0 +1.2
comp=Z,8.0nm,0.9s,mb4.5
EQES Quesada 24.79 116 P P 18 25 06.0 +1.1
comp=Z,8.0nm,0.9s,mb4.5
ECH Echery 24.79 85 *e*P **P 18 25 05.5 +0.7**
ECH Echery 24.79 85 *e*P **P 18 25 04.4 -0.4**
ECH Echery 24.79 85 *e*P **P 18 25 04.4 -0.4**
LASF Ste Croix 24.81 96 *e*P **P 18 25 02.7 -2.3**
comp=Z,70nm,1.4s,mb4.9
LASF Ste Croix 24.81 96 *e*P **P 18 25 02.7 -2.3**
comp=Z,35nm,1.4s,mb4.9
LANF Langenberg 24.86 83 *e*P **P 18 25 06.1 +0.7**
CABF La Chapelle 24.86 89 *e*P **P 18 25 04.5 -1.0**
comp=Z,103nm,1.4s,mb5.1
CABF La Chapelle 24.86 89 *e*P **P 18 25 04.5 -1.0**
CABF pmax pmax
comp=Z,52nm,1.4s,mb5.1
CABF La Chapelle 24.86 89 *e*P **P 18 25 04.5 -1.0**
comp=Z,52nm,1.4s,mb5.1
VIVF Saint-Julien-l 24.88 94 *e*P **P 18 25 03.9 -1.8**
comp=Z,60nm,1.3s,mb4.9
VIVF Saint-Julien-l 24.88 94 *e*P **P 18 25 03.9 -1.8**
VIVF pmax pmax
comp=Z,30nm,1.3s,mb4.9
VIVF Saint-Julien-l 24.88 94 *e*P **P 18 25 03.9 -1.8**
comp=Z,30nm,1.3s,mb4.9
MOF Molkenrain 24.93 86 *e*P **P 18 25 05.7 -0.4**
ETOB Tobarra 25.03 113 P **P 18 25 08.9 +1.8**
comp=Z,13nm,0.8s,mb4.7
ETOB Tobarra 25.03 113 P **P 18 25 08.8 +1.8**
comp=Z,13nm,0.8s,mb4.7
EHUE Huescar 25.04 115 P **P 18 25 07.7 +0.5**
EHUE pmax pmax
comp=Z,154nm,2.9s,mb5.2
EHUE Huescar 25.04 115 P **P 18 25 07.7 +0.5**
comp=Z,154nm,2.9s,mb5.2
CLZ Clausthal 25.35 75 *e*P **P 18 25 10.6 +0.8**
CLZ pmax pmax
comp=Z,32nm,1.1s,mb5.0
CLZ Clausthal 25.35 75 *e*P **P 18 25 10.6 +0.8**
comp=Z,32nm,1.1s,mb5.0
BFO Black Forest 25.45 84 *e*P **P 18 25 10.3 -0.5**
BFO pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
BFO Black Forest 25.45 84 *e*P **P 18 25 10.3 -0.5**
comp=Z,9.0nm,1.1s,mb4.4
FELD Feldberg im Sc 25.45 85 *e*P **P 18 25 10.5 -0.3**
UBBA Unterbreizbach 25.47 78 *e*P **P 18 25 11.8 +0.8**
comp=Z,6.0nm,1.1s,mb4.2
HFS Hagfors 25.55 55 P **P 18 25 12.2 +0.6**
comp=Z,5.0nm,0.8s,mb4.2,baz=265,slow=11,SNR=7.8
HFS LR LR 18 34 01.9
comp=Z,308nm,21.6s,MS3.8,baz=299,slow=34
ORIF Oris-en-Rattie 25.58 93 *e*P **P 18 25 11.0 -1.0**
comp=Z,34nm,1.0s,mb4.6
ORIF *e*MLR MLR
comp=Z,255nm,21.2s,MS3.4
ORIF Oris-en-Rattie 25.58 93 *e*P **P 18 25 11.0 -1.0**
ORIF pmax pmax
comp=Z,17nm,1.0s,mb4.6
ORIF Oris-en-Rattie 25.58 93 *e*P **P 18 25 11.0 -1.0**
comp=Z,17nm,1.0s,mb4.6
STU Stuttgart 25.78 83 *e*P **P 18 25 13.7 -0.1**
STU pmax pmax
comp=Z,41nm,0.9s,mb5.1
STU Stuttgart 25.78 83 *e*P **P 18 25 13.7 -0.1**
comp=Z,34nm,0.7s,mb5.1
STU *e*pP 18 25 23.2
STU Stuttgart 25.78 83 *e*P **P 18 25 13.7 -0.1**
comp=Z,41nm,0.9s,mb5.1
LPL La Plagne 25.79 91 *e*P **P 18 25 11.9 -2.0**
LPG La Plagne 25.81 91 *e*P **P 18 25 12.3 -1.8**
SMRF Simiane la Rot 25.90 95 *e*P **P 18 25 13.3 -1.6**
MBDF Montbardon 26.22 92 *e*P **P 18 25 15.7 -2.1**
comp=Z,18nm,1.0s,mb4.4
MBDF Montbardon 26.22 92 *e*P **P 18 25 15.7 -2.1**
MBDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
MBDF Montbardon 26.22 92 *e*P **P 18 25 15.7 -2.1**
comp=Z,9.1nm,1.0s,mb4.4
RGN Rugen 26.26 68 P **P 18 25 18.1 0.0**
RGN Rugen 26.26 68 P **P 18 25 18.1 +0.1**
MOX Moxa 26.49 77 *e*P **P 18 25 20.1 -0.1**
comp=Z,20nm,1.5s,mb4.5
MOX
comp=Z,300nm,19.0s
MOX Moxa 26.49 77 *e*P **P 18 25 20.1 -0.1**
MOX pmax pmax
comp=Z,20nm,1.5s,mb4.5
MOX MLR MLR
comp=Z,300nm,19.0s,MS3.9
MOX Moxa 26.49 77 *e*P **P 18 25 20.3 +0.1**
comp=Z,11nm,1.0s,mb4.4
GRA1 Grafenberg Arr 26.62 79 *e*P **P 18 25 21.7 +0.3**
comp=Z,200nm,19.7s
GRA1 *e*pP 18 25 30.9
GRA1 Grafenberg Arr 26.62 79 *e*P **P 18 25 21.7 +0.3**
comp=Z,27nm,1.3s,mb4.8
GRA1 *e*pP 18 25 30.9
GRA1 LR LR
comp=Z,200nm,19.7s,MS3.7
GRF Grafenberg Arr 26.62 79 *e*P **P 18 25 21.7 +0.3**
GRF pmax pmax
comp=Z,27nm,1.3s,mb4.8
GRF MLR MLR
comp=Z,200nm,19.7s,MS3.7
GRF Grafenberg Arr 26.62 79 *e*P **P 18 25 21.7 +0.3**
GRF pmax pmax
comp=Z,27nm,1.3s,mb4.8
GRF MLR MLR
comp=Z,200nm,19.7s,MS3.7
GRF Grafenberg Arr 26.62 79 *e*P **P 18 25 21.7 +0.3**
comp=Z,27nm,1.3s,mb4.8
GRF *e*pP 18 25 30.9
GRF *e*L 18 35 01.6
comp=Z,176nm,19.7s
GRF Grafenberg Arr 26.62 79 *e*P **P 18 25 21.7 +0.3**
comp=Z,200nm,19.7s
GRF *e*pP 18 25 30.9
DAVA Damuels 26.85 85⇑ *i*P **P 18 25 23.6 +0.2**
comp=Z,8.9nm,1.1s,mb4.4
TUE Stuetta 26.91 87 *e*P **P 18 25 24.8 +0.8**
comp=Z,22nm,1.0s,mb4.8
TUE Stuetta 26.91 87 *e*P **P 18 25 24.8 +0.8**
comp=Z,22nm,1.0s,mb4.8
WERD Werda 26.98 77 *e*P **P 18 25 24.3 -0.3**
comp=Z,15nm,1.3s,mb4.6
DAVOS Davos 27.00 86 P **P 18 25 26.8 +1.9**
BSD Bornholm Skovb 27.01 66⇑ *i*P **P 18 25 24.8 0.0**
BSD pmax pmax
comp=Z,12nm,1.0s,mb4.6
BSD Bornholm Skovb 27.01 66⇑ *i*P **P 18 25 24.8 0.0**
comp=Z,12nm,1.0s,mb4.6
GUNZ Gunzen 27.02 77 *e*P **P 18 25 25.0 0.0**
comp=Z,13nm,1.2s,mb4.5
MANZ Manzenberg 27.04 78 *e*P **P 18 25 25.1 0.0**
comp=Z,6.0nm,1.0s,mb4.3
CLL Collm 27.07 75⇑ *i*P **P 18 25 25.2 -0.2**
CLL *i* 18 25 28.8
CLL pmax pmax
comp=Z,18nm,0.8s,mb4.8
CLL MLR MLR
comp=Z,200nm,22.6s,MS3.6
CLL Collm 27.07 75 *e*P **P 18 25 25.2 -0.2**
comp=Z,18nm,0.8s,mb4.8
CLL Collm 27.07 75⇑ *i*P **P 18 25 25.2 -0.2**
comp=Z,18nm,0.8s,mb4.8
CLL *i* pP 18 25 28.8
CLL Collm 27.07 75⇑ *i*P **P 18 25 25.2 -0.2**
comp=Z,18nm,0.8s,mb4.8
CLL *i* 18 25 28.8
CLL LR LR
comp=Z,200nm,22.6s,MS3.6
DAVOX Davos/Dischmat 27.08 86 P **P 18 25 26.8 +1.2**
comp=Z,12nm,0.7s,mb4.7,baz=310,slow=11,SNR=36
DAVOX LR LR 18 35 48.7
comp=Z,105nm,21.5s,MS3.4,baz=298,slow=36
DAVOX Davos/Dischmat 27.08 86 P **P 18 25 26.8 +1.2**
DAVOX LR LR 18 35 48.7
RUE Ruedersdorf 27.12 72 *e*P **P 18 25 25.7 -0.2**
comp=Z,14nm,0.7s,mb4.8
RUE Ruedersdorf 27.12 72 P **P 18 25 25.3 -0.6**
comp=Z,31nm,1.2s,mb4.9
RUE Ruedersdorf 27.12 72 P **P 18 25 25.3 -0.6**
comp=Z,31nm,1.2s,mb4.9
ROTZ Rotzenmuhle 27.18 79 *e*P **P 18 25 27.0 +0.6**
comp=Z,29nm,1.8s,mb4.7
RETA Reutte 27.29 84⇑ *i*P **P 18 25 27.6 +0.2**
comp=Z,22nm,1.1s,mb4.8,SNR=8.9
FUR Furstenfeldbru 27.30 82 *e*P **P 18 25 27.8 +0.3**
FUR pmax pmax
comp=Z,32nm,0.8s,mb5.1
FUR Furstenfeldbru 27.30 82 *e*P **P 18 25 27.8 +0.3**
comp=Z,32nm,0.8s,mb5.1
FBE Freiberg 27.42 76 *e*P **P 18 25 28.7 +0.2**
comp=Z,19nm,1.1s,mb4.7
FETA Feichten 27.48 85⇓ *i*P **P 18 25 29.9 +0.7**
comp=Z,10nm,1.3s,mb4.4
FETA Feichten 27.48 85⇓ *i*pP pP 18 25 29.9 +0.5
comp=Z,10nm,1.3s
MOTA Moosalm 27.56 84⇑ *i*P **P 18 25 30.1 +0.2**
comp=Z,18nm,1.2s,mb4.8,SNR=8.3
MOTA Moosalm 27.56 84⇑ *i*P **P 18 25 30.1 +0.3**
MOTA pmax pmax
comp=Z,18nm,1.2s,mb4.8
BRG Berggiesshubel 27.78 76 *e*P **P 18 25 31.7 -0.1**
comp=Z,11nm,0.9s,mb4.7
BRG *e*pP 18 25 39.5
BRG Berggiesshubel 27.78 76 *i* P **P 18 25 31.8 0.0**
comp=Z,10nm,0.9s,mb4.7
BRG
comp=N,199nm,10.2s
BRG
comp=E,307nm,14.4s

BRG
comp=Z,349nm,20.8s
MDT Midelt 27.81 125 P **P 18 25 31.7 -0.5**
comp=Z,1.6nm,0.8s,mb3.9,baz=300,slow=5.8,SNR=4.8
MDT LR LR 18 33 46.3
comp=Z,67nm,20.6s,MS3.2,baz=342,slow=30
WET Wettzell 27.84 80 *eP* **P 18 25 32.7 +0.4**
WET pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
WET Wettzell 27.84 80 *eP* **P 18 25 32.7 +0.4**
comp=Z,4.0nm,0.9s,mb4.2
WATA Walderalm 27.85 84⇑*iP* **P 18 25 32.8 +0.4**
comp=Z,8.7nm,0.9s,mb4.6,SNR=6.2
WATA Walderalm 27.85 84⇑*iP*pP pP 18 25 32.8 +0.2
comp=Z,8.7nm,0.9s,SNR=6.2
WATA Walderalm 27.85 84⇑*iP* **P 18 25 32.8 +0.4**
WATA pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
WTTA Wattenberg 27.92 84⇑*iP* **P 18 25 33.7 +0.6**
comp=Z,16nm,0.9s,mb4.9
WTTA Wattenberg 27.92 84⇑*iP*pP pP 18 25 33.7 +0.4
comp=Z,16nm,0.9s
WTTA Wattenberg 27.92 84⇑*iP* **P 18 25 33.7 +0.6**
WTTA pmax pmax
comp=Z,17nm,0.9s,mb4.9
KHC Kasperske Hory 28.26 79 *eP* **P 18 25 36.3 +0.2**
KHC *ex* x 18 25 45.5
KHC AMS AMS 18 36 30.0
comp=Z,200nm,12.9s
PVCC Panska Ves 28.28 76 *eP* **P 18 25 36.7 +0.4**
PVCC AMS AMS 18 36 30.0
comp=Z,400nm,13.9s
RJOB Jochberg 28.40 82 *eP* **P 18 25 37.5 +0.2**
comp=Z,9.0nm,1.0s,mb4.5
GEC2 GERESS Array S 28.45 80 *eP* **P 18 25 37.9 +0.1**
GEC2 *e**PP 18 25 47.0
GEC2 pmax pmax
comp=Z,14nm,1.1s,mb4.7
GEC2 GERESS Array S 28.45 80 *eP* **P 18 25 37.9 +0.1**
comp=Z,14nm,1.1s,mb4.7
GEC2 *eP*P 18 25 47.0
GERES GERESS Array B 28.45 80 P **P 18 25 37.8 0.0**
comp=Z,5.5nm,0.8s,mb4.4,baz=297,slow=8.8,SNR=41
GERES LR LR 18 36 07.4
comp=Z,159nm,18.9s,MS3.6,baz=292,slow=35
PRU Pruhonice 28.48 77 *eP* **P 18 25 38.1 +0.1**
PRU AMS AMS 18 36 50.0
comp=Z,300nm,13.2s
KBA Koelnbreinsper 29.04 83⇑*iP* **P 18 25 43.6 +0.6**
comp=Z,6.5nm,0.7s,mb4.6
KBA Koelnbreinsper 29.04 83⇑*iP*pP pP 18 25 43.6 +0.4
comp=Z,6.5nm,0.7s
KBA Koelnbreinsper 29.04 83⇑*iP* **P 18 25 43.6 +0.6**
KBA pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
KBA Koelnbreinsper 29.04 83⇑*iP* **P 18 25 43.6 +0.6**
comp=Z,6.5nm,0.6s,mb4.6
UPC Upice 29.14 75 *eP* **P 18 25 44.6 +0.7**
TREC Trest 29.32 78 *eP* **P 18 25 46.4 +0.9**
TREC *ex* x 18 25 55.5
TREC AMS AMS 18 37 00.0
comp=Z,300nm,15.7s
DPC Dobruska-Polom 29.38 75 *eP* **P 18 25 46.5 +0.5**
DPC *ex* x 18 25 56.1
DPC AMS AMS 18 37 10.0
comp=Z,300nm,17.4s
MYKA Terra Mystica 29.43 84⇑*iP* **P 18 25 46.7 +0.2**
comp=Z,28nm,0.6s,mb5.3
VRAC Vranov 29.97 77 LR LR 18 36 40.6
comp=Z,192nm,19.0s,MS3.8,baz=296,slow=34
OBKA Obir 30.04 83⇑*iP* **P 18 25 51.7 -0.2**
comp=Z,26nm,0.7s,mb5.2,SNR=13
SOKA Soboth 30.24 83⇑*iP* **P 18 25 53.2 -0.5**
comp=Z,7.1nm,0.5s,mb4.8
MORC Moravsky Berou 30.34 76 *eP* **P 18 25 54.2 -0.3**
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
MORC Moravsky Berou 30.34 76⇓*iP* **P 18 25 54.6 +0.1**
MORC Moravsky Berou 30.34 76 *eP* **P 18 25 54.2 -0.3**
comp=Z,5.9nm,0.9s,mb4.4
MORC Moravsky Berou 30.34 76 *eP* **P 18 25 54.2 -0.2**
comp=Z,5.9nm,0.9s,mb4.4
SPITS Spitsbergen Ar 30.49 18 P **P 18 25 55.9 +0.3**
comp=Z,5.3nm,0.8s,mb4.4,baz=211,slow=11,SNR=2.9
SPITS LR LR 18 34 35.8
comp=Z,160nm,19.9s,MS3.7,baz=200,slow=29
ARCES ARCESS Array B 30.65 35 P **P 18 25 57.5 +0.5**
comp=Z,4.8nm,0.9s,mb4.5,baz=252,slow=8.8,SNR=18
ARCES LR LR 18 35 34.3
comp=Z,232nm,20.2s,MS3.8,baz=267,slow=31
ARCES ARCESS Array B 30.65 35 P **P 18 25 57.5 +0.4**
OKC Ostrava-Krasne 30.66 75 *eP* **P 18 25 57.9 +0.5**
OKC AMS AMS 18 38 00.0
comp=Z,200nm,11.9s
SOP Sopron 30.68 80⇑*es*P sP 18 26 16.0 +18
ZST Bratislava 30.77 79 *iP* **P 18 25 58.5 +0.2**
ZST pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ZST MLR MLR
comp=Z,100nm,12.5s,MS3.7
ZST Bratislava 30.77 79 *iP* **P 18 25 58.5 +0.2**
comp=Z,7.0nm,1.1s,mb4.5
ZST LR LR
comp=Z,100nm,12.5s,MS3.7
MODS Modra-Piesok 30.79 78 *eP* **P 18 25 58.6 +0.1**
KEV Kevo 31.19 35 *ep* **P 18 26 02.6 +0.8**
comp=Z,7.7nm,0.8s,mb4.7
KEV Kevo 31.19 35 *eP* **P 18 26 02.6 +0.8**
KEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KOLL Kolacno 31.37 77 *eP* **P 18 26 04.3 +0.7**
KAF Kangasniemi 31.40 50 *ep* **P 18 26 03.7 -0.1**
comp=Z,17nm,0.5s,mb5.2,baz=274,slow=8.6
KAF Kangasniemi 31.40 50 *eP* **P 18 26 03.7 -0.1**
KAF pmax pmax
comp=Z,17nm,0.5s,mb5.2
OJC Ojcow 31.47 74 *eP* **P 18 26 04.6 +0.1**
AQU L'Aquila 31.55 91 P **P 18 26 04.7 -0.6**
AQU pmax pmax
comp=Z,11nm,1.0s,mb4.7
AQU L'Aquila 31.55 91 P **P 18 26 04.7 -0.6**
comp=Z,11nm,1.0s,mb4.7
AQU L'Aquila 31.55 91 P **P 18 26 04.7 -0.6**
comp=Z,11nm,1.0s,mb4.7
SUW Suwalki 31.93 66 *eP* **P 18 26 07.7 -0.8**
SUW pmax pmax
comp=Z,73nm,1.0s,mb5.6
SUW Suwalki 31.93 66 *eP* **P 18 26 07.7 -0.8**
comp=Z,73nm,1.0s,mb5.6
SUW Suwalki 31.93 66 *eP* **P 18 26 07.7 -0.7**
comp=Z,73nm,1.0s,mb5.6
NIE Niedzica 32.12 75 *eP* **P 18 26 11.0 +0.8**
VSU Vasula 32.42 56 *eP* **P 18 26 13.5 +0.8**
PSZ Piszkesteto 32.56 78⇓*eP* **P 18 26 15.2 +1.2**
PSZ Piszkesteto 32.56 78⇓*iP* **P 18 26 15.2 +1.2**
PSZ Piszkesteto 32.56 78 *eP* **P 18 26 14.6 +0.6**
comp=Z,7.3nm,0.9s,mb4.6
PSZ Piszkesteto 32.56 78 *eP* **P 18 26 14.7 +0.6**
comp=Z,7.3nm,0.9s,mb4.6
KECS Kecovo 32.64 76 *eP* **P 18 26 15.1 +0.3**
KECS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KECS Kecovo 32.64 76 *eP* **P 18 26 15.1 +0.3**
comp=Z,4.8nm,0.8s,mb4.5
PKSM Moragy 32.64 81⇓*iP* **P 18 26 14.3 -0.5**
PKSM Moragy 32.64 81⇓P **P 18 26 14.3 -0.5**
CRVS Cervenica-Dubn 33.02 75 *eP* **P 18 26 18.6 +0.5**
KEST Kesra 33.32 104 P **P 18 26 20.3 -0.5**
comp=Z,2.0nm,0.5s,mb4.3,baz=312,slow=1.9,SNR=8.1
KOLS Kolonicke sedl 33.48 75 *iP* **P 18 26 22.6 +0.5**
JOF Joensuu 33.53 47 *ep* **P 18 26 22.2 -0.2**
comp=Z,13nm,0.5s,mb5.1
APA Apatity 33.62 39⇑*iP* **P 18 26 23.6 +0.5**
APA pmax pmax
comp=Z,29nm,1.0s,mb5.2
APA MLR MLR
comp=Z,300nm,19.0s,MS4.0
APA Apatity 33.62 39 *iP* **P 18 26 23.6 +0.5**
comp=Z,300nm,19.0s
FGSL Fruska Gora 33.89 82 *iP* **P 18 26 25.6 -0.1**
BEO Beograd 34.47 82 *eP* **P 18 26 30.8 0.0**
DIVS Divibare 34.57 84 *iP* **P 18 26 31.5 -0.1**
DRGR 34.78 78⇑*iP* **P 18 26 33.1 -0.3**
DRGR 34.78 78⇑P **P 18 26 33.1 -0.3**
GZR Gura Zlata 35.54 80⇓*iP* **P 18 26 40.2 +0.2**
GZR Gura Zlata 35.54 80⇓P **P 18 26 40.2 +0.2**

BURAR Bucovina Array 35.84 75⇓*iP* **P 18 26 43.9 +1.4**
BURAR Bucovina Array 35.84 75⇓P **P 18 26 43.9 +1.4**
BARS Barje 36.38 84 *iP* **P 18 26 47.2 0.0**
KIEV Kiev 36.66 68 *eP* **P 18 26 48.8 -0.7**
KIEV pmax pmax
comp=Z,19nm,0.8s,mb4.9
KIEV Kiev 36.66 68 *eP* **P 18 26 48.8 -0.7**
comp=Z,19nm,0.8s,mb4.9
KIEV Kiev 36.66 68 *eP* **P 18 26 48.8 -0.6**
comp=Z,20nm,0.8s,mb4.9
AKASG Malin Array Be 36.66 68 P **P 18 26 49.1 -0.4**
comp=Z,9.1nm,0.7s,mb4.7,baz=299,slow=8.4,SNR=18
AKASG LR LR 18 42 23.1
comp=Z,204nm,18.4s,MS3.9,baz=300,slow=37
AKBB Malin Array Si 36.66 68 *eP* **P 18 26 48.9 -0.6**
AKBB *e* 18 26 57.7
VTS Vitosha 37.35 83⇑*iP* **P 18 26 55.9 +0.4**
VTS Vitosha 37.35 83⇑P **P 18 26 55.9 +0.4**
MLR Muntele Rosu 37.37 78⇑*iP* **P 18 26 56.4 +0.8**
MLR Muntele Rosu 37.37 78⇑P **P 18 26 56.4 +0.8**
VRI Vrincioaia 37.64 77⇑*iP* **P 18 26 59.4 +1.6**
VRI Vrincioaia 37.64 77⇑P **P 18 26 59.4 +1.6**
KLMR Klimovskoe 37.84 49 *eP* **P 18 26 58.8 -0.6**
KLMR *e* 18 28 26.8
OBN Obninsk 38.66 59⇓*eP* **P 18 27 05.9 -0.5**
OBN *e* 18 28 31.9
OBN pmax pmax
comp=Z,27nm,1.0s,mb4.8
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.0
OBN Obninsk 38.66 59 *eP* **P 18 27 06.0 -0.4**
comp=Z,32nm,0.8s,mb5.0
OBN Obninsk 38.66 59 *eP* **P 18 27 06.0 -0.4**
comp=Z,32nm,0.8s,mb5.0
ULM Lac du Bonnet 38.94 293 P **P 18 27 06.8 -2.0**
comp=Z,7.8nm,0.8s,mb4.4,baz=45,slow=4.0,SNR=4.9
ULM LR LR 18 41 46.4
comp=Z,50nm,19.1s,MS3.4,baz=338,slow=34
TIRR Tirgusor 39.41 77⇑*iP* **P 18 27 11.3 -1.4**
TIRR Tirgusor 39.41 77⇑P **P 18 27 11.3 -1.4**
BBTS Babate 39.89 157 LR LR 18 39 44.9
comp=Z,92nm,19.7s,MS3.6,baz=327,slow=30
TAM Tamanrasset 41.12 122 P **P 18 27 28.9 +1.7**
TAM Tamanrasset 41.12 122 P **P 18 27 28.9 +1.7**
VRSR Storozhevoye 41.91 63 *eP* **P 18 27 33.3 0.0**
VRSR pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
VRSR pmax pmax
comp=N,4.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,1.0s
YKA Yellowknife Ar 42.46 317 P **P 18 27 36.4 -1.2**
comp=E,1.9nm,0.9s,mb3.8,baz=58,slow=8.8,SNR=7.0
YKA PcP PcP 18 29 28.9 -1.5
comp=E,0.7nm,0.6s,baz=61,slow=3.8,SNR=4.2
YKA LR LR 18 42 29.1
comp=E,29nm,20.9s,MS3.1,baz=180,slow=32
YKA Yellowknife Ar 42.46 317 P **P 18 27 36.4 -1.3**
YKA 18 29 28.9
YKA Yellowknife Ar 42.46 317 PcP PcP 18 29 28.9 -1.5
YKA Yellowknife Ar 42.46 317 P **P 18 27 36.4 -1.2**
YKA PcP PcP 18 29 28.9 -1.5
YKA LR LR 18 42 29.1
ECSD EROS,Sioux Fal 42.90 285 *eP* **P 18 27 41.3 -0.1**
comp=E,11nm,0.8s,mb4.6
ECSD EROS,Sioux Fal 42.90 285 *eP* **P 18 27 41.3 -0.1**
comp=E,11nm,0.8s,mb4.6
IDI Anoyia 42.95 91 P **P 18 27 41.6 -0.4**
comp=E,7.8nm,0.8s,mb4.5,baz=259,slow=11,SNR=5.7
ANN Anapa 44.48 71 *eP* **P 18 27 48.6 -5.6**
ANN pmax pmax
comp=Z,49nm,1.2s,mb5.1
ANN MLR MLR
comp=Z,257nm,18.0s,MS4.2
ANTO Ankara 44.76 80 *eP* **P 18 27 57.3 +0.9**
ANTO pmax pmax
comp=Z,30nm,1.2s,mb5.1
ANTO Ankara 44.76 80 *eP* **P 18 27 57.3 +0.9**
comp=Z,30nm,1.2s,mb5.1
ANTO Ankara 44.76 80 *eP* **P 18 27 57.3 +0.9**
comp=Z,30nm,1.2s,mb5.1
SOKR Solikamsk 46.10 45*dP* **P 18 28 08.2 +1.4**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.1
INK Inuvik 46.30 330 P **P 18 28 08.3 0.0**
comp=Z,3.4nm,1.1s,mb4.3,baz=78,slow=19,SNR=4.9
INK Inuvik 46.30 330 *eP* **P 18 28 08.2 -0.1**
comp=Z,196nm,0.9s,mb6.1
INK Inuvik 46.30 330 *eP* **P 18 28 08.2 -0.1**
comp=Z,196nm,0.9s,mb6.1
MIAR Mount Ida 46.91 273 P **P 18 28 16.6 +3.1**
MIAR pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
MIAR Mount Ida 46.91 273 P **P 18 28 16.6 +3.1**
comp=Z,6.6nm,1.1s,mb4.7
TORD Torodi Ar. Bea 47.60 134 P **P 18 28 17.1 -1.9**
comp=Z,11nm,0.8s,mb5.1,baz=332,slow=8.4,SNR=47
EGMT Eagleton 47.78 297⇓P **P 18 28 19.1 -1.0**
baz=48
EGMT Eagleton 47.78 297 *eP* **P 18 28 19.4 -0.7**
comp=Z,45nm,1.1s,mb5.5
EGMT Eagleton 47.78 297 *eP* **P 18 28 19.4 -0.7**
comp=Z,45nm,1.1s,mb5.5
KIV Kislovodsk 47.99 69 *eP* **P 18 28 22.2 +0.4**
KIV pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KIV MLR MLR
comp=Z,89nm,17.0s,MS3.8
KIV Kislovodsk 47.99 69 *eP* **P 18 28 22.3 +0.5**
comp=Z,3.8nm,0.6s,mb4.7
KIV Kislovodsk 47.99 69 *eP* **P 18 28 22.3 +0.5**
comp=Z,3.8nm,0.6s,mb4.7
ARU Arti 48.66 48*cP* **P 18 28 27.4 +0.6**
ARU *e* 18 29 52.0
ARU *e* 18 30 19.7
ARU *e*PPP 18 31 10.4
ARU pmax pmax
comp=Z,23nm,1.0s,mb5.2
ARU Arti 48.66 48 *eP* **P 18 28 27.0 +0.2**
comp=Z,26nm,1.0s,mb5.2
ARU Arti 48.66 48 *e*PcP PcP 18 29 52.0 0.0
ARU Arti 48.66 48 *eP* **P 18 28 27.0 +0.2**
comp=Z,26nm,1.0s,mb5.2
GCMT Greycliff 49.09 295 *eP* **P 18 28 30.2 -0.1**
MALT Malatya 49.11 78 *eP* **P 18 28 31.2 +0.7**
MALT pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MALT Malatya 49.11 78 *eP* **P 18 28 31.2 +0.7**
comp=Z,5.2nm,0.6s,mb4.7
MALT Malatya 49.11 78 *eP* **P 18 28 31.2 +0.6**
comp=Z,5.2nm,0.6s,mb4.7
RLMT Red Lodge 49.28 294 *eP* **P 18 28 31.9 +0.1**
comp=Z,7.4nm,1.0s,mb4.7
RLMT Red Lodge 49.28 294 *eP* **P 18 28 31.9 +0.2**
comp=Z,7.4nm,1.0s,mb4.7
SVE Sverdlovsk 49.34 46 *eP* **P 18 28 32.6 +0.6**
SVE pmax pmax
comp=Z,13nm,0.8s,mb5.0
WALA Waterton Lakes 49.36 301 *eP* **P 18 28 30.9 -1.4**
comp=Z,31nm,1.2s,mb5.2
WALA Waterton Lakes 49.36 301 *eP* **P 18 28 30.9 -1.4**
comp=Z,31nm,1.2s,mb5.2
PHWY Pilot Hill 49.54 288 P **P 18 28 34.1 +0.3**
PHWY Pilot Hill 49.54 288 P **P 18 28 34.1 +0.4**
A13A Flathead Natio 49.70 301⇑P **P 18 28 33.3 -1.5**
baz=50
HRY Holter Researc 49.70 297 *eP* **P 18 28 33.9 -1.0**
HRY Holter Researc 49.70 297 *eP* **P 18 28 33.9 -1.0**
D15A Lincoln 49.86 298⇓P **P 18 28 35.7 -0.4**
baz=50,SNR=10
WMOK Wichita Mounta 49.92 277 *eP* **P 18 28 41.2 +4.4**
C14A Swan Lake 50.07 299⇑P **P 18 28 36.3 -1.4**
baz=50
B13A Whitefish 50.07 300⇑P **P 18 28 36.7 -1.0**
baz=50
PCRV Puerto La Cruz 50.23 224 LR LR 18 46 45.3
comp=Z,131nm,19.8s,MS3.9,baz=52,slow=32
BOZ Bozeman (W) 50.25 296 *eP* **P 18 28 38.3 -0.8**
BOZ pmax pmax
comp=Z,11nm,0.9s,mb4.8
BOZ Bozeman (W) 50.25 296⇓P **P 18 28 38.5 -0.6**
baz=50
BOZ Bozeman (W) 50.25 296 *eP* **P 18 28 38.3 -0.8**
comp=Z,11nm,0.9s,mb4.8
BOZ Bozeman (W) 50.25 296 *eP* **P 18 28 38.3 -0.8**
comp=Z,11nm,0.9s,mb4.8

RWWY Rawlins 50.30 289 *eP* **P 18 28 40.8 +1.3**
comp=Z,19nm,0.9s,mb5.0
RWWY Rawlins 50.30 289 *eP* **P 18 28 40.8 +1.2**
comp=Z,19nm,0.9s,mb5.0
CHMT Chamberlain Mo 50.34 298 *eP* **P 18 28 38.0 -1.7**
CHMT Chamberlain Mo 50.34 298 *eP* **P 18 28 38.0 -1.7**
C13A Hot Springs 50.56 300⇓P **P 18 28 40.3 -1.1**
baz=50
YFT Old Faithful 50.57 294 *eP* **P 18 28 44.8 +3.2**
F15A Butte 50.60 297⇓P **P 18 28 41.2 -0.5**
baz=50
ISCO Idaho Springs 50.60 286 P **P 18 28 42.3 +0.4**
ISCO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ISCO Idaho Springs 50.60 286 P **P 18 28 42.3 +0.4**
comp=Z,2.0nm,0.8s,mb4.1
ISCO Idaho Springs 50.60 286 P **P 18 28 42.3 +0.4**
comp=Z,2.4nm,0.8s,mb4.2
A11A Hall Mountain, 50.69 302⇑P **P 18 28 41.7 -0.7**
baz=50
FLWY Flagg Ranch 50.73 294 *eP* **P 18 28 49.8 +7.1**
comp=Z,9.3nm,0.8s,mb4.8
MSO Missoula 50.76 298 *eP* **P 18 28 43.7 +0.8**
comp=Z,6.8nm,1.1s,mb4.5
MSO Missoula 50.76 298 *eP* **P 18 28 43.7 +0.8**
comp=Z,6.9nm,1.1s,mb4.5
E14A Clinton 50.78 298⇓P **P 18 28 42.5 -0.6**
baz=51
D13A Huson 50.87 299⇑P **P 18 28 43.0 -0.7**
baz=51
EGAK Eagle 50.90 329 *eP* **P 18 28 42.9 -0.8**
comp=Z,9.7nm,1.1s,mb4.7
EGAK Eagle 50.90 329 *eP* **P 18 28 42.9 -0.9**
comp=Z,9.7nm,1.1s,mb4.7
DBIC Dimbokro 50.91 145 P **P 18 28 42.4 -2.0**
comp=Z,3.6nm,0.7s,mb4.4,baz=355,slow=8.6,SNR=5.2
DBIC LR LR 18 47 20.5
comp=Z,153nm,21.7s,MS4.0,baz=332,slow=33
DBIC Dimbokro 50.91 145 P **P 18 28 41.8 -2.6**
DBIC Dimbokro 50.91 145 P **P 18 28 41.8 -2.6**
PDAR Pinedale Array 50.94 292 P **P 18 28 46.0 +1.7**
comp=Z,2.8nm,0.5s,mb4.5,baz=66,slow=8.8,SNR=12
PDAR LR LR 18 49 12.5
comp=Z,68nm,19.3s,MS3.7,baz=60,slow=35
PDAR Pinedale Array 50.94 292 P **P 18 28 46.0 +1.7**
DLMT Dillon 50.96 296 *eP* **P 18 28 45.2 +0.7**
comp=Z,9.0nm,0.9s,mb4.7
DLMT Dillon 50.96 296 *eP* **P 18 28 45.1 +0.7**
comp=Z,9.0nm,0.9s,mb4.7
MOOW Moose Ponds 50.97 294 *eP* **P 18 28 45.1 +0.5**
comp=Z,7.8nm,1.2s,mb4.5
MOOW Moose Ponds 50.97 294 *eP* **P 18 28 45.1 +0.5**
comp=Z,7.8nm,1.2s,mb4.5
LOHW Long Hollow 50.98 293 *eP* **P 18 28 45.1 +0.5**
comp=Z,9.9nm,1.1s,mb4.7
LOHW Long Hollow 50.98 293 *eP* **P 18 28 45.1 +0.5**
comp=Z,9.9nm,1.1s,mb4.7
IMW Indian Meadow 50.98 294 P **P 18 28 46.4 +1.7**
comp=Z,4.3nm,0.8s,mb4.4
IMW Indian Meadow 50.98 294 P **P 18 28 46.4 +1.7**
comp=Z,4.3nm,0.8s,mb4.4
B11A Sandpoint 51.02 301⇓P **P 18 28 43.8 -1.1**
baz=51
G15A Dillon 51.03 296⇓P **P 18 28 44.1 -0.9**
baz=51
E13A Victor 51.13 298⇑P **P 18 28 45.0 -0.8**
baz=51
TPAW Teton Pass 51.25 293 *eP* **P 18 28 47.2 +0.5**
comp=Z,13nm,0.9s,mb4.9
TPAW Teton Pass 51.25 293 *eP* **P 18 28 47.2 +0.5**
comp=Z,13nm,0.9s,mb4.9
REDW Red Top Meadow 51.28 293 *eP* **P 18 28 48.6 +1.7**
comp=Z,6.3nm,0.9s,mb4.5
REDW Red Top Meadow 51.28 293 *eP* **P 18 28 48.6 +1.7**
comp=Z,6.3nm,0.9s,mb4.5
D12A Red Ives Fores 51.37 300⇑P **P 18 28 46.3 -1.2**
baz=51
G14A Jackson 51.51 297⇑P **P 18 28 48.3 -0.3**
baz=51
NEW Newport 51.52 302 *eP* **P 18 28 47.3 -1.3**
NEW Newport 51.52 302 *eP* **P 18 28 47.2 -1.4**
RRI2 Red Ridge 51.55 294 *eP* **P 18 28 50.7 +1.8**
comp=Z,9.2nm,1.0s,mb4.7
AMTX Amarillo 51.57 279 *eP* **P 18 28 47.3 -1.9**
AMTX Amarillo 51.57 279 *eP* **P 18 28 47.4 -1.8**
F13A Darby 51.63 298⇓P **P 18 28 48.1 -1.4**
baz=51
J16A Bone 51.76 294⇑P **P 18 28 49.6 -0.9**
baz=52
COLD Coldfoot 51.78 334 *eP* **P 18 28 49.8 -0.5**
comp=Z,5.2nm,0.8s,mb4.5
COLD Coldfoot 51.78 334 *eP* **P 18 28 49.8 -0.5**
comp=Z,5.2nm,0.8s,mb4.5
D11A Klaveano Farm, 51.89 300⇑P **P 18 28 50.3 -1.1**
baz=52
SDCO Great Sand Dun 51.90 284 *eP* **P 18 28 50.6 -1.0**
comp=Z,2.2nm,0.9s,mb4.1
SDCO Great Sand Dun 51.90 284 *eP* **P 18 28 50.6 -1.0**
comp=Z,2.2nm,0.9s,mb4.1
B09A Rice 51.95 302 P **P 18 28 50.9 -0.9**
baz=52,SNR=9.8
G13A Cobalt 52.02 297⇓P **P 18 28 52.1 -0.3**
baz=52,SNR=11
F12A Elk City 52.14 298⇑P **P 18 28 52.5 -0.8**
baz=52
N18A Larsen Ranch, 52.17 290⇓P **P 18 28 53.1 -0.5**
baz=52
A08A Turner Farm, O 52.18 304⇑P **P 18 28 52.4 -1.2**
baz=52
E11A Bogner Ranch, 52.26 299⇓P **P 18 28 52.9 -1.3**
baz=52
HYT Haines Junctio 52.35 323 *eP* **P 18 28 56.9 +2.3**
H13A Challis 52.38 296⇑P **P 18 28 54.7 -0.3**
baz=52,SNR=11
L16A Fish Haven 52.48 292⇓P **P 18 28 54.5 -1.4**
baz=52
F11A Grangeville 52.54 299⇑P **P 18 28 55.2 -1.0**
baz=52
B08A Colville Reser 52.59 303⇑P **P 18 28 55.2 -1.4**
baz=52
A07A Ashnola River, 52.68 304⇑P **P 18 28 56.3 -0.9**
baz=52
H12A Diamond D Ranc 52.71 297⇑P **P 18 28 56.9 -0.7**
baz=52,SNR=5.7
I13A Wildhorse Cree 52.72 296⇑P **P 18 28 57.7 +0.1**
baz=52
J14A Carey 52.78 295⇓P **P 18 28 57.5 -0.6**
baz=53
HWUT Hardware Ranch 52.83 292 *eP* **P 18 28 57.7 -0.7**
comp=Z,32nm,0.8s,mb5.3
O18A Roosevelt 52.83 290⇓P **P 18 28 58.8 +0.3**
baz=53
N17A Moffit Pass 52.85 291⇑P **P 18 28 59.0 +0.4**
baz=53
D09A Jones Farm, Ri 52.91 301⇓P **P 18 28 57.7 -1.2**
baz=53
G11A Walters Elk Ra 52.92 298 P **P 18 28 57.8 -1.2**
baz=53,SNR=7.9
B07A Winthrop 52.93 303⇑P **P 18 28 57.6 -1.5**
baz=53
L15A Malad City 53.02 293⇓P **P 18 28 59.3 -0.6**
baz=53
M16A Huntsville 53.05 292⇑P **P 18 28 59.5 -0.6**
baz=53
J13A Cove Ranch, Pi 53.09 295⇑P **P 18 28 59.5 -0.9**
baz=53,SNR=5.5
K14A Jones Ranch, D 53.11 294⇑P **P 18 29 00.1 -0.4**
baz=53
HLID Hailey 53.12 296⇑P **P 18 29 00.3 -0.3**
baz=53
HLID Hailey 53.12 296 *eP* **P 18 29 00.8 +0.2**
comp=Z,9.6nm,1.0s,mb4.7
HLID Hailey 53.12 296 *eP* **P 18 29 00.8 +0.2**
comp=Z,9.6nm,1.0s,mb4.7
N16A Rees Ranch, Co 53.23 291⇑P **P 18 29 01.2 -0.2**
baz=53
H11A Donnelly 53.23 298⇑P **P 18 29 00.9 -0.5**
baz=53
HVU Hansel Valley 53.39 293 P **P 18 29 04.9 +2.3**
HVU pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
HVU Hansel Valley 53.39 293 P **P 18 29 04.9 +2.3**
comp=Z,10.0nm,1.0s,mb4.7
P18A Preston Nutter 53.39 289⇓P **P 18 29 03.1 +0.4**
baz=53
C07A Waterville 53.40 303⇑P **P 18 29 02.3 -0.3**
baz=53
M15A Larsen Ranch, 53.42 292⇓P **P 18 29 02.2 -0.6**

baz=53,SNR=15
PV01 Paradox Valley 53.43 287 P P 18 29 03.0 +0.1
PV01 Paradox Valley 53.43 287 P P 18 29 03.0 0.0
G10A Bishop Farm, J 53.44 299 ⇓P P 18 29 02.2 -0.7
baz=53
DAU Daniels Canyon 53.44 291 eP P 18 29 04.4 +1.4
DAU Daniels Canyon 53.44 291 eP P 18 29 04.4 +1.4
JCT Junction City 53.50 274 P P 18 29 06.3 +2.7
JCT pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
JCT Junction City 53.50 274 P P 18 29 06.3 +2.7
comp=Z,4.4nm,0.7s,mb4.6
SPUT South Promonto 53.52 292 eP P 18 29 04.4 +0.8
SPUT South Promonto 53.52 292 eP P 18 29 04.4 +0.8
PV10 Paradox Valley 53.54 287 eP P 18 29 04.6 +0.9
PV10 Paradox Valley 53.54 287 eP P 18 29 04.6 +0.8
IMA2 Indian Mountai 53.57 335 eP P 18 29 03.6 0.0
IMA2 Indian Mountai 53.57 335 eP P 18 29 03.6 0.0
F09A S2 Ranch, Elgi 53.58 300 ⇑P P 18 29 03.0 -0.9
baz=53
ETW Entiat 53.59 303 eP P 18 29 01.3 -2.7
LNOR Lincton Mounta 53.67 300 eP P 18 29 05.2 +0.6
LNOR Lincton Mounta 53.67 300 eP P 18 29 05.2 +0.6
Q18A Rafter H Ranch 53.68 289 ⇑P P 18 29 04.9 +0.1
baz=54
J12A Stokes Ranch, 53.70 296 ⇑P P 18 29 04.1 -0.8
baz=54
H10A Noah's Angus R 53.70 298 ⇓P P 18 29 04.1 -0.8
baz=54
I11A Placerville 53.73 297 ⇓P P 18 29 04.7 -0.3
baz=54
G09A Cove 53.80 299 ⇓P P 18 29 05.4 -0.2
baz=54
L13A Double Diamond 53.84 294 ⇓P P 18 29 06.0 +0.2
baz=54
N15A Stansbury Isla 53.84 292 ⇑P P 18 29 06.3 +0.4
baz=54
M14A Sheep Mountain 53.89 293 ⇑P P 18 29 06.7 +0.4
baz=54
SRU San Rafael 53.90 289 eP P 18 29 07.5 +1.1
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SRU San Rafael 53.90 289 ⇓P P 18 29 06.0 -0.3
baz=54
SRU San Rafael 53.90 289 eP P 18 29 07.5 +1.1
comp=Z,6.0nm,0.8s,mb4.7
SRU San Rafael 53.90 289 eP P 18 29 07.5 +1.2
comp=Z,5.5nm,0.8s,mb4.6
MFID Camas Ranch 53.99 296 ⇓P P 18 29 06.7 -0.3
baz=54
LTY Liberty 53.99 303 P P 18 29 05.0 -1.9
LTY Liberty 53.99 303 P P 18 29 05.0 -1.9
K12A Draper Farm, C 54.00 295 ⇑P P 18 29 07.1 +0.1
baz=54,SNR=5.0
MVCO Mesa Verde 54.02 286 eP P 18 29 09.3 +2.1
comp=Z,9.4nm,0.9s,mb4.8
MVCO Mesa Verde 54.02 286 eP P 18 29 09.3 +2.1
comp=Z,9.4nm,0.9s,mb4.8
S19A Harvey Farm, M 54.02 287 ⇑P P 18 29 07.1 -0.2
baz=54
R18A Canyonlands Na 54.03 288 ⇑P P 18 29 07.0 -0.3
baz=54
MCK McKinley 54.03 331 P P 18 29 06.9 -0.1
MCK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MCK McKinley 54.03 331 P P 18 29 06.9 -0.1
comp=Z,7.0nm,1.1s,mb4.6
MCK McKinley 54.03 331 P P 18 29 06.9 0.0
comp=Z,7.4nm,1.1s,mb4.6
BGU Big Grassy Mou 54.10 292 eP P 18 29 09.0 +1.2
BGU Big Grassy Mou 54.10 292 eP P 18 29 09.0 +1.2
TMUT Trail Mountain 54.17 290 P P 18 29 06.3 -2.0
TMUT Trail Mountain 54.17 290 P P 18 29 06.3 -2.0
EBG Ellensburg 54.17 302 P P 18 29 07.0 -1.2
EBG Ellensburg 54.17 302 P P 18 29 07.0 -1.3
NLU North Lily Min 54.22 291 P P 18 29 08.6 -0.1
NLU North Lily Min 54.22 291 P P 18 29 08.6 0.0
N14A Grayback Hills 54.24 292 ⇑P P 18 29 08.6 -0.2
baz=54
BPAW Bear Paw Mtn. 54.35 332 P P 18 29 04.0 -5.3
comp=Z,7.6nm,0.9s,mb4.7
ANMO Albuquerque 54.37 283 P P 18 29 05.0 -4.8
ANMO pmax pmax
comp=Z,5.0nm,1.2s
ANMO Albuquerque 54.37 283 P P 18 29 05.0 -4.8
comp=Z,5.3nm,1.2s,mb4.5
L12A House Creek Ra 54.39 295 ⇓P P 18 29 09.7 -0.2
baz=54
Q16A Castle Valley 54.40 289 ⇓P P 18 29 09.0 -1.1
baz=54
G08A Pilot Rock 54.41 300 ⇑P P 18 29 09.5 -0.5
baz=54
DUG Dugway 54.47 291 ⇑P P 18 29 09.3 -1.2
baz=54
DUG Dugway 54.47 291 eP P 18 29 08.8 -1.7
DUG Dugway 54.47 291 eP P 18 29 08.8 -1.7
R17A Hanksville Air 54.48 289 ⇓P P 18 29 09.8 -0.8
baz=54,SNR=11
K11A Parker Ranch, 54.53 296 ⇓P P 18 29 10.6 -0.3
baz=54
S18A Hurst Farm, Bl 54.56 287 ⇑P P 18 29 10.9 -0.3
baz=54,SNR=7.2
T19A Beclabito 54.58 286 ⇓P P 18 29 10.8 -0.5
baz=54
E06A Yakima 54.63 302 ⇓P P 18 29 10.0 -1.6
baz=54
H08A Prairie City 54.78 299 ⇓P P 18 29 11.7 -0.9
baz=55
L11A Cat Creek Ranc 54.78 295 ⇓P P 18 29 12.2 -0.5
baz=55
G07A Ruggs Ranch, H 54.80 300 ⇑P P 18 29 12.4 -0.4
baz=55
T18A Mexican Hat 54.87 287 ⇑P P 18 29 13.0 -0.4
baz=55
K10A MacKenzie Ranc 54.98 296 ⇑P P 18 29 13.7 -0.5
baz=55
BNM Barren Site 55.02 282 eP P 18 29 14.4 -0.2
BNM Barren Site 55.02 282 eP P 18 29 14.4 -0.2
P14A Drum Mountains 55.03 291 ⇑P P 18 29 15.2 +0.6
baz=55
TIXI Tiksi 55.05 7 eP P 18 29 15.8 +1.5
TIXI e 18 29 23.8
TIXI pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
TIXI Tiksi 55.05 7 eP P 18 29 15.7 +1.4
comp=Z,9.9nm,0.6s,mb5.0
TIXI Tiksi 55.05 7 eP P 18 29 15.7 +1.5
comp=Z,9.9nm,0.6s,mb5.0
S17A Black Ridge (B 55.06 288 ⇓P P 18 29 13.9 -0.9
baz=55
J09A Fry Pan Ranch, 55.08 297 ⇑P P 18 29 14.7 -0.2
baz=55
H07A Lands Inn, Kim 55.20 300 ⇓P P 18 29 15.1 -0.6
baz=55,SNR=7.2
MSU Marysvale 55.25 290 eP P 18 29 16.7 +0.5
MSU Marysvale 55.25 290 eP P 18 29 16.7 +0.5
M11A Holland Ranch, 55.30 294 ⇓P P 18 29 16.1 -0.4
baz=55
V19A Window Rock 55.36 285 ⇑P P 18 29 16.9 -0.1
baz=55
J08A Circle Bar Ran 55.45 298 ⇑P P 18 29 17.5 -0.1
baz=55
ELK Elko 55.46 294 eP P 18 29 18.0 +0.3
ELK pmax pmax
comp=Z,10.0nm,1.0s
ELK Elko 55.46 294 eP P 18 29 18.0 +0.3
comp=Z,10.0nm,1.0s,mb4.8
ELK Elko 55.46 294 eP P 18 29 18.0 +0.3
comp=Z,9.5nm,1.0s,mb4.8
S16A Weppner Ranch, 55.46 288 ⇓P P 18 29 17.4 -0.3
baz=55
K09A Rome 55.50 297 ⇑P P 18 29 18.0 +0.1
baz=55,SNR=11
T17A Navajo Res., N 55.50 287 ⇑P P 18 29 18.6 +0.6
baz=55
O12A Currie 55.51 293 ⇑P P 18 29 17.5 -0.5
baz=55
H06A Lindquist Farm 55.51 300 ⇓P P 18 29 17.0 -1.0
baz=55,SNR=7.7
I07A Izee 55.51 299 ⇓P P 18 29 17.7 -0.3
baz=55
NLWA Neilton Lookou 55.52 305 ⇑P P 18 29 17.8 -0.2
baz=55
NLWA Neilton Lookou 55.52 305 eP P 18 29 17.4 -0.6
comp=Z,26nm,1.2s,mb5.1
NLWA Neilton Lookou 55.52 305 eP P 18 29 17.4 -0.6
comp=Z,26nm,1.2s,mb5.1
Q14A Sevier Lake (B 55.55 291 ⇑P P 18 29 18.4 0.0
baz=55,SNR=5.4
P13A Bates Ranch, G 55.65 292 ⇓P P 18 29 19.0 -0.1
baz=56,SNR=5.5
BMW Boistfort Moun 55.82 303 eP P 18 29 18.6 -1.6
BMW Boistfort Moun 55.82 303 eP P 18 29 18.6 -1.6
K08A Mann Creek Ran 55.89 297 ⇑P P 18 29 20.9 +0.2
baz=56,SNR=6.1
E03A Lebam 55.94 304 ⇓P P 18 29 20.4 -0.6
baz=56
I06A Prineville 55.98 299 ⇑P P 18 29 21.2 -0.2
baz=56
W19A Sanders 55.98 285 ⇑P P 18 29 21.5 0.0
baz=56
BRVK Borovoye 56.02 45 eP P 18 29 19.9 -1.6
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BRVK Borovoye 56.02 45 eP P 18 29 19.9 -1.6
comp=Z,9.0nm,0.9s,mb4.8
BRVK Borovoye 56.02 45 eP P 18 29 19.9 -1.6
comp=Z,9.3nm,0.9s,mb4.8
BRVK e 18 29 30.7
WVOR Wild Horse Val 56.17 297 eP P 18 29 21.7 -1.0
WVOR pmax pmax
comp=Z,22nm,1.1s,mb5.1
WVOR Wild Horse Val 56.17 297 eP P 18 29 21.7 -1.0
comp=Z,22nm,1.1s,mb5.1
WVOR Wild Horse Val 56.17 297 eP P 18 29 21.7 -1.0
comp=Z,22nm,1.1s,mb5.1
L08A Fields 56.18 297 ⇓P P 18 29 23.4 +0.6
baz=56,SNR=7.8
W18A Petrified Fore 56.18 285 ⇓P P 18 29 23.0 +0.1
baz=56
K07A Rock Creek Ran 56.32 298 ⇓P P 18 29 23.6 -0.2
baz=56
Q12A Willow Creek R 56.40 292 ⇓P P 18 29 24.4 0.0
baz=56
T15A Red Dirt Ranch 56.40 288 ⇓P P 18 29 24.6 +0.2
baz=56
J06A Christmas Vall 56.42 299 ⇓P P 18 29 24.3 -0.3
baz=56
ARUT Antelope Range 56.47 290 P P 18 29 19.1 -5.9
R13A O'Grain Ranch, 56.50 290 ⇓P P 18 29 24.3 -0.8
baz=56
CCUT Cedar City 56.59 290 eP P 18 29 34.7 +8.9
M08A Happy Creek Ra 56.71 296 ⇑P P 18 29 26.0 -0.5
baz=56,SNR=6.5
Y19A Nutrioso 56.71 284 ⇑P P 18 29 26.7 0.0
baz=56
U15A North Rim 56.76 288 ⇓P P 18 29 27.2 +0.2
baz=57
R12A Pony Springs, 56.76 291 ⇑P P 18 29 26.8 -0.2
baz=57
T14A Hurricane 56.77 289 ⇓P P 18 29 27.0 -0.1
baz=57
L07A Adell 56.84 297 ⇓P P 18 29 27.4 0.0
baz=57
S13A Holt Ranch, En 56.86 290 ⇑P P 18 29 27.5 -0.2
baz=57
WUAZ Wupatki 56.86 286 P P 18 29 27.5 -0.3
comp=Z,20nm,1.4s,mb5.0
WUAZ Wupatki 56.86 286 P P 18 29 27.5 -0.2
comp=Z,20nm,1.4s,mb5.0
O09A Fish Creek Ran 56.94 294 ⇓P P 18 29 28.1 -0.1
baz=57,SNR=5.3
J05A Fort Rock 56.98 299 P P 18 29 28.5 0.0
baz=57,SNR=11
Q11A Duckwater 57.00 292 ⇓P P 18 29 28.7 0.0
baz=57
N08A GE Springer Mi 57.03 295 ⇑P P 18 29 29.3 +0.4
baz=57
V15A Kaibab Nationa 57.11 287 ⇑P P 18 29 30.0 +0.5
baz=57
M07A Soldier Meadow 57.18 297 ⇓P P 18 29 30.4 +0.4
baz=57
K05A Summer Lake 57.18 299 ⇑P P 18 29 30.1 +0.2
baz=57,SNR=8.7
I04A Tendick Farm, 57.24 301 ⇓P P 18 29 30.5 +0.2
baz=57
W16A Flagstaff 57.25 286 ⇑P P 18 29 31.5 +1.0
baz=57
T13A Saint George 57.27 289 ⇓P P 18 29 32.1 +1.4
baz=57
U14A Mt Trumbull 57.28 288 ⇑P P 18 29 30.9 +0.2
baz=57
Y18A Canyon Day Jun 57.30 284 ⇑P P 18 29 31.1 +0.3
baz=57
R11A Troy Canyon, C 57.30 292 ⇓P P 18 29 30.7 -0.1
baz=57
X17A Forest Lakes 57.36 285 ⇑P P 18 29 31.5 +0.2
baz=57
S12A Delamar Landin 57.40 291 ⇓P P 18 29 32.0 +0.4
baz=57
Q10A Clear Creek Ra 57.43 293 ⇓P P 18 29 33.1 +1.4
baz=57
MOD Modoc 57.44 298 ⇓P P 18 29 32.0 +0.3
baz=57
MOD Modoc 57.44 298 P P 18 29 33.0 +1.3
comp=Z,6.2nm,0.6s,mb4.8
MOD Modoc 57.44 298 P P 18 29 33.0 +1.3
comp=Z,6.2nm,0.6s,mb4.8
N07B Gerlach 57.49 296 ⇓P P 18 29 32.5 +0.4
baz=57
I03A Eugene 57.57 301 ⇑P P 18 29 33.0 +0.3
baz=57
L05A Lakeview 57.62 298 ⇓P P 18 29 33.5 +0.4
baz=57,SNR=9.1
X16A Lo Mia Camp, P 57.67 286 ⇓P P 18 29 34.2 +0.7
baz=58
U13A Pakoon Wash 57.73 289 ⇑P P 18 29 35.2 +1.4
baz=58,SNR=6.0
V14A Boquillas Ranc 57.78 288 ⇑P P 18 29 35.5 +1.2
baz=58
Y17A Roosevelt 57.83 285 ⇑P P 18 29 35.8 +1.1
baz=58
T11A Corn Creek, Al 57.87 290 ⇑P P 18 29 36.1 +1.3
baz=58
O07A Toulon 57.87 295 ⇓P P 18 29 35.1 +0.3
baz=58
S11A Rachel 57.88 291 ⇑P P 18 29 36.1 +1.1
baz=58
N06A Buffalo Meadow 57.98 296 ⇓P P 18 29 36.4 +0.8
baz=58
M06C Likely Place G 58.01 297 ⇑P P 18 29 36.6 +0.8
baz=58
118A Homack Ranch, 58.07 283 ⇓P P 18 29 37.9 +1.6
baz=58
W14A Seligman 58.07 287 ⇓P P 18 29 37.2 +0.9
baz=58
Y16A Circle Bar Ran 58.08 285 ⇓P P 18 29 37.3 +1.0
baz=58
X15A Humboldt 58.09 286 ⇑P P 18 29 37.4 +1.0
baz=58
L04A Klamath Falls 58.09 299 ⇓P P 18 29 37.2 +0.8
baz=58
V13A Grand Canyon W 58.14 288 ⇑P P 18 29 37.3 +0.6
baz=58
J02A Umpqua 58.15 301 ⇑P P 18 29 37.1 +0.4
baz=58
S10A Tonopah Range, 58.17 292 P P 18 29 38.0 +1.1
baz=58,SNR=11
R09A Tonopah 58.21 293 P P 18 29 38.3 +1.1
baz=58,SNR=16
Q08A Gabbs 58.26 294 ⇓P P 18 29 37.7 +0.1
baz=58
M05C Lookout 58.27 298 ⇓P P 18 29 38.2 +0.6
baz=58
HUMO Hull Mountain 58.35 300 ⇑P P 18 29 37.5 -0.7
baz=58
HUMO Hull Mountain 58.35 300 eP P 18 29 34.8 -3.4
comp=Z,1.9nm,0.6s,mb4.3
O06A Flanigan 58.39 296 ⇓P P 18 29 38.9 +0.5
baz=58,SNR=8.6
TPH Tonopah 58.41 292 P P 18 29 37.8 -0.8
TPH pmax pmax
comp=Z,17nm,0.9s,mb5.1
TPH Tonopah 58.41 292 P P 18 29 37.8 -0.8
comp=Z,17nm,0.9s,mb5.1
TPH Tonopah 58.41 292 P P 18 29 37.8 -0.8
comp=Z,17nm,0.9s,mb5.1
PAHR Pah Rah Range 58.47 295 P P 18 29 35.9 -3.1
comp=Z,14nm,1.0s,mb5.0
K02A Glendale 58.52 300 ⇓P P 18 29 39.5 +0.1
baz=58
Y15A Casa Rosa Ranc 58.52 286 ⇓P P 18 29 40.0 +0.5
baz=58
ELFS Eagle Lake Fie 58.56 297 ⇓P P 18 29 40.9 +1.2
baz=58
319A Douglas 58.56 282 ⇑P P 18 29 40.6 +0.8
baz=58
117A Oracle 58.57 284 ⇓P P 18 29 41.6 +1.8
baz=58
W13A Hualapai Mount 58.61 288 ⇑P P 18 29 41.5 +1.4
baz=58
TPNV Topopah Spring 58.66 291 eP P 18 29 42.1 +1.7
TPNV pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TPNV Topopah Spring 58.66 291 ⇓P P 18 29 40.9 +0.5
baz=58
TPNV Topopah Spring 58.66 291 eP P 18 29 42.1 +1.7
comp=Z,8.0nm,0.9s,mb4.8
TPNV Topopah Spring 58.66 291 eP P 18 29 42.1 +1.7
comp=Z,8.0nm,0.9s,mb4.8
S09A Goldfield 58.66 292 ⇑P P 18 29 41.4 +1.0
baz=58
BILL Bilibino 58.73 352⇑eP P 18 29 48.8 +8.4
BILL e 18 31 53.8
BILL eS S 18 37 35.8 -10
BILL pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
NVAR Mina Array Bea 58.77 293 P P 18 29 41.0 -0.1
comp=Z,0.6nm,0.4s,mb4.0,baz=57,slow=6.8,SNR=5.8
NVAR Mina Array Bea 58.77 293 P P 18 29 41.0 -0.1
HATC Hat Creek Radi 58.82 297 ⇓P P 18 29 42.2 +0.8
baz=59
YBH Yreka Blue Hor 58.84 299 P P 18 29 38.7 -2.9
YBH pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 58.84 299 ⇓P P 18 29 41.1 -0.4
baz=59
YBH Yreka Blue Hor 58.84 299 P P 18 29 38.7 -2.9
comp=Z,4.1nm,1.0s,mb4.4
BEKR Beckwourth 58.89 296 ⇑P P 18 29 42.6 +0.7
baz=59,SNR=5.1
Y14A Wickenburg 58.92 286 ⇓P P 18 29 43.7 +1.4
baz=59
X13A Yucca 58.94 287 ⇓P P 18 29 42.7 +0.3
baz=59
L02A Cave Junction 59.01 300 ⇓P P 18 29 42.3 -0.5
baz=59
M02C Callahan 59.16 299 ⇑P P 18 29 43.0 -0.8
baz=59
ROSC El Rosal 59.32 232 P P 18 29 45.5 +0.4
comp=Z,9.1nm,0.6s,mb5.0,baz=85,slow=19,SNR=5.2
ROSC LR LR 18 51 04.9
comp=Z,100nm,21.0s,MS3.9,baz=211,slow=32
PDMCI Parker Dam,Lak 59.33 287 ⇓P P 18 29 45.8 +0.7
baz=59
FURC Furnace Creek, 59.34 291 ⇓P P 18 29 45.2 +0.1
baz=59
S08C White Mtn Res 59.35 293 ⇓P P 18 29 45.9 +0.7
baz=59
115A Sonoran Desert 59.35 285 ⇑P P 18 29 45.3 0.0
baz=59
P05C Yuba Gap, Truc 59.42 296 ⇓P P 18 29 46.4 +0.8
baz=59
R05C Kirkwood Meado 59.56 295 ⇑P P 18 29 47.4 +0.9
baz=59
KRMB Red Mountain 59.62 300 eP P 18 29 46.2 -0.8
KRMB Red Mountain 59.62 300 eP P 18 29 46.2 -0.7
MTUM Tungsten Hills 59.67 293 P P 18 29 46.8 -0.6
MTUM Tungsten Hills 59.67 293 P P 18 29 46.8 -0.6
ORV Oroville 59.73 296 ⇑P P 18 29 47.9 +0.1
baz=60
GMRC Granite Mounta 59.86 289 ⇓P P 18 29 48.8 +0.1
baz=60
OHCM Honcut 59.88 296 eP P 18 29 48.7 -0.1
OHCM Honcut 59.88 296 eP P 18 29 48.7 0.0
NVS Novosibirsk 59.90 37⇑iP P 18 29 49.4 +0.7
NVS pmax pmax
comp=N,11nm,1.4s
NVS pmax pmax
comp=Z,29nm,1.4s,mb5.1
Y12C Blythe 59.94 287 ⇓P P 18 29 49.8 +0.5
baz=60
MPMC Manual Prospec 59.99 291 ⇓P P 18 29 49.7 +0.1
baz=60
IRM Iron Mountain 60.01 288 ⇓P P 18 29 50.5 +0.7
baz=60
S06C San Francisco 60.02 294 ⇑P P 18 29 50.4 +0.6
baz=60
GSC Goldstone 60.15 290 eP P 18 29 49.5 -1.2
GSC pmax pmax
comp=Z,14nm,1.1s,mb4.9
GSC Goldstone 60.15 290 ⇑P P 18 29 51.6 +0.9
baz=60
GSC Goldstone 60.15 290 eP P 18 29 49.5 -1.2
comp=Z,14nm,1.1s,mb4.9
GSC Goldstone 60.15 290 eP P 18 29 49.5 -1.2
comp=Z,14nm,1.1s,mb4.9
CMB Columbia Colle 60.20 295 P P 18 29 54.2 +3.2
CMB pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
CMB Columbia Colle 60.20 295 ⇑P P 18 29 51.5 +0.5
baz=60
CMB Columbia Colle 60.20 295 P P 18 29 54.2 +3.2
comp=Z,5.2nm,1.0s,mb4.5
113A Mohawk Valley, 60.21 286 ⇑P P 18 29 51.8 +0.6
baz=60
214A Organ Pipe Nat 60.23 285 ⇓P P 18 29 51.5 +0.2
baz=60
MIB Mutribah 60.32 79 eP P 18 29 51.8 -0.1
comp=Z,46nm,0.8s,mb5.6
MIB Mutribah 60.32 79 eP P 18 29 51.8 -0.1
baz=79
MIB AMb AMB 18 29 53.5
comp=Z,46nm,0.8s,mb5.6,baz=79
RST Umm Al-Ruwaisa 60.33 79 eP P 18 29 51.8 -0.2
comp=Z,1.6nm,0.7s,mb4.2
RST Umm Al-Ruwaisa 60.33 79 eP P 18 29 51.8 -0.2
baz=80
RST AMb AMB 18 29 52.6
comp=Z,2.0nm,0.7s,mb4.3,baz=80
HELL Mitchell Peak 60.41 293 ⇑P P 18 29 53.0 +0.5
baz=60
LRMC Laurel Mountai 60.52 291 ⇑P P 18 29 54.2 +1.0
baz=60
BC3 Big Chuckw Mtn 60.55 288 ⇓P P 18 29 54.8 +1.4
baz=60
T06C Millerton Lake 60.56 293 ⇑P P 18 29 54.2 +0.7
baz=60
BELC Belle Mtn. 60.62 288 ⇓P P 18 29 54.4 +0.5
baz=60
GLA Glamis 60.62 287 ⇑P P 18 29 54.1 +0.1
baz=60
NAY Al-Naaiem 60.66 79 eP P 18 29 53.9 -0.4
comp=Z,17nm,0.7s,mb5.3
NAY Al-Naaiem 60.66 79 eP P 18 29 53.9 -0.4
baz=80
NAY AMb AMB 18 29 54.7
comp=Z,17nm,0.7s,mb5.3,baz=80
MNRC McLaughlin Nat 60.73 297 ⇓P P 18 29 55.1 +0.5
baz=60
P01C Double 8 Ranch 60.78 298 ⇑P P 18 29 55.3 +0.3
baz=61
ISA Isabella 60.83 291 P P 18 29 56.2 +0.8
ISA pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ISA Isabella 60.83 291 ⇑P P 18 29 56.2 +0.8
baz=61
ISA Isabella 60.83 291 P P 18 29 56.2 +0.8
comp=Z,7.0nm,0.8s,mb4.8
ISA Isabella 60.83 291 P P 18 29 56.2 +0.9
comp=Z,7.3nm,0.8s,mb4.9
HOPS Hopland 60.98 297 ⇓P P 18 29 56.8 +0.5
baz=61
HOPS Hopland 60.98 297 P P 18 29 57.3 +1.0
comp=Z,28nm,1.2s,mb5.3
HOPS Hopland 60.98 297 P P 18 29 57.3 +1.0
comp=Z,28nm,1.2s,mb5.3
RDF Al-Radifah 61.08 79 eP P 18 29 57.5 +0.4
comp=Z,34nm,1.0s,mb5.4
RDF Al-Radifah 61.08 79 eP P 18 29 57.5 +0.3
baz=80
RDF AMb AMB 18 29 59.0
comp=Z,34nm,1.0s,mb5.4,baz=80
EDW2 Edwards Air Fo 61.12 290 ⇓P P 18 29 57.8 +0.5
baz=61
PFO Pinyon Flat Ob 61.16 288 P P 18 29 54.2 -3.4
PFO pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
PFO Pinyon Flat Ob 61.16 288 P P 18 29 54.2 -3.4
comp=Z,4.9nm,0.7s,mb4.8
ZAA0 Zalesovo Array 61.18 37 eP P 18 29 57.6 +0.2

ZALV Zalesovo Beam 61.18 37 P P 18 29 58.0 +0.6
comp=Z,5.7nm,0.6s,mb4.9,baz=315,slow=7.7,SNR=32
ZALV LR LR 18 56 14.7
comp=Z,28nm,18.5s,MS3.5,baz=252,slow=36
ZALV Zalesovo Beam 61.18 37 P P 18 29 58.0 +0.6
ZALV LR LR 18 56 14.7
ZAL Zalesovo 61.18 37 P P 18 29 58.0 +0.6
KURK Kurchatov 61.26 43 *eP* **P 18 29 56.7 -1.3**
KURK pmax pmax
comp=Z,6.0nm,1.3s,mb4.6
KURK Kurchatov 61.26 43 *eP* **P 18 29 57.2 -0.8**
KURK Kurchatov 61.26 43 *eP* **P 18 29 57.1 -0.9**
comp=Z,3.3nm,0.6s,mb4.6
KURK *e* 18 30 05.9
YAK Yakutsk 64.52 10 *eP* **P 18 30 19.1 -0.4**
YAK Yakutsk 64.52 10 *eP* **P 18 30 19.1 -0.4**
EKS2 Erkin-Say 65.24 52 *eP* **P 18 30 25.5 +0.9**
comp=Z,75nm,0.6s,mb6.1
EKS2 Erkin-Say 65.24 52 *eP* **P 18 30 25.5 +0.9**
comp=Z,75nm,0.6s,mb6.1
AML Almayashu 65.61 52 *eP* **P 18 30 28.2 +1.3**
comp=Z,7.1nm,0.7s,mb5.0
AML Almayashu 65.61 52 *eP* **P 18 30 28.2 +1.3**
comp=Z,7.1nm,0.7s,mb5.0
MK31 Makanchi Array 65.83 44 *eP* **P 18 30 28.6 +0.3**
MKAR Makanchi Array 65.83 44 P **P 18 30 28.8 +0.5**
comp=Z,7.9nm,0.7s,mb5.0,baz=328,slow=6.7,SNR=80
MKAR LR LR 18 58 30.4
comp=Z,120nm,21.8s,MS4.1,baz=318,slow=35
MKAR Makanchi Array 65.83 44 P **P 18 30 28.8 +0.5**
MKAR LR LR 18 58 30.4
TKM2 Tokmak 2 65.90 50 *eP* **P 18 30 29.6 +0.8**
TKM2 pmax pmax
comp=Z,26nm,0.6s,mb5.6
TKM2 Tokmak 2 65.90 50 *eP* **P 18 30 29.6 +0.8**
comp=Z,26nm,0.6s,mb5.6
TKM2 Tokmak 2 65.90 50 *eP* **P 18 30 29.6 +0.8**
comp=Z,26nm,0.6s,mb5.6
BOD Bodaibo 66.18 19 *eP* **P 18 30 29.7 -0.7**
HVS Khovu-Aksy 66.62 34 *d iP* **P 18 30 35.5 +2.2**
HVS pmax pmax
comp=Z,50nm,1.3s,mb5.6
BDFB Brasilia 69.66 197 LR LR 18 55 17.0
comp=Z,63nm,18.0s,MS3.9,baz=183,slow=31
ZAK Zakamensk 70.31 29 *eP* **P 18 31 04.0 +7.6**
SIV San Ignacio 73.14 210 P **P 18 31 15.0 +1.3**
comp=Z,1.8nm,1.0s,mb4.2,baz=180,slow=19,SNR=3.8
SONM Songino Array 73.50 28 P **P 18 31 16.2 +0.6**
comp=Z,5.1nm,0.8s,mb4.7,baz=333,slow=6.7,SNR=36
SONM LR LR 19 05 05.1
comp=Z,77nm,19.8s,MS4.0,baz=339,slow=37
LPAZ La Paz 75.75 216 P **P 18 31 31.6 +2.8**
comp=Z,1.6nm,0.9s,mb4.2,baz=0.0,slow=9.1,SNR=3.4
LPAZ LR LR 19 02 54.1
comp=Z,76nm,18.2s,MS4.0,baz=148,slow=34
LPAZ La Paz 75.75 216 P **P 18 31 31.0 +2.1**
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
LPAZ La Paz 75.75 216 P **P 18 31 31.0 +2.1**
comp=Z,3.0nm,0.9s,mb4.4
GTA Gaotai 78.92 36 *eP* **P 18 31 47.3 +0.8**
GTA AP 18 31 52.3
GTA XP sP 18 31 54.9 +8.1
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
MDJ Mudanjiang 81.58 14 P **P 18 31 59.8 -1.0**
MDJ AMB AMB
comp=Z,8.0nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,67nm,4.1s
MDJ Mudanjiang 81.58 14 *eP* **P 18 32 00.3 -0.5**
comp=Z,6.1nm,0.8s,mb4.8
MDJ Mudanjiang 81.58 14 *eP* **P 18 32 00.3 -0.5**
comp=Z,6.1nm,0.8s,mb4.8
CPUP Villa Florida 81.98 203 P **P 18 32 04.8 +1.9**
comp=Z,0.6nm,0.4s,mb4.0,baz=2.4,slow=3.9,SNR=3.5
CPUP LR LR 19 07 05.9
comp=Z,61nm,18.3s,MS4.0,baz=124,slow=35
LSZ Lusaka 84.98 123 *eP* **P 18 32 18.1 -0.5**
LSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
LSZ Lusaka 84.98 123 *eP* **P 18 32 18.1 -0.5**
comp=Z,6.0nm,0.8s,mb4.9
LSZ Lusaka 84.98 123 *eP* **P 18 32 18.1 -0.4**
comp=Z,5.7nm,0.8s,mb4.8
KSRS Korea Array 88.33 16 P **P 18 32 34.5 -0.4**
comp=Z,1.0nm,0.6s,mb4.3,baz=351,slow=5.3,SNR=4.1
KSRS LR LR 19 14 12.0
comp=Z,53nm,18.3s,MS4.0,baz=320,slow=37
BOSA Boshof 94.94 132 LR LR 19 13 10.4
comp=Z,81nm,18.6s,MS4.2,baz=127,slow=34
CMAR Chiang Mai Arr 97.09 47 LR LR 19 21 00.5
comp=Z,114nm,20.6s,MS4.3,baz=247,slow=38
PLCA Paso Flores 99.12 209 LR LR 19 14 23.2
comp=Z,76nm,20.8s,MS4.2,baz=358,slow=33
SNAA Sanae 125.84 169 *e*PKIKP PKPdf 18 38 48.9 +5.4
WRAB Tennant Creek 145.38 24 *e*PKIKP PKPdf 18 39 20.6 -0.6
WRA Warramunga Arr 145.39 24 PKPbc PKPbc 18 39 19.8 -1.3
comp=Z,7.2nm,1.0s,baz=346,slow=3.5,SNR=39
WB2 Warramunga Arr 145.39 24 *eP* PKPbc 18 39 20.6 -0.5
WB2 *e* 18 39 28.2
ASAR Alice Springs 148.83 27 PKPbc PKPbc 18 39 29.1 -1.6
comp=Z,0.7nm,0.4s,baz=1.3,slow=1.7,SNR=20

IDC 14 18:31:00.2±2.8, 810S×7452W, h167km±44km, mb3.9/2, mb1 3.6/6, mb1mx3.4/21, mbtmp3.6/6, Error ellipse: s-maj=61.3km s-min=18.5km az=42.0, Peru-Brazil border region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ATAH Atahualpa 4.00 286 P Pn 18 32 01.9 +1.1
baz=80,slow=6.1
ATAH S Sn 18 32 48.0 -0.1
20nm,0.3s,baz=47,slow=19,SNR=16
NNA Nana 4.49 210 P Pn 18 32 07.0 -0.2
9.5nm,0.3s,baz=21,slow=8.1,SNR=15
NNA S Sn 18 32 54.3 -5.4
22nm,0.3s,baz=336,slow=19,SNR=4.8
LPAZ La Paz 10.25 143 P Pn 18 33 23.2 -0.1
0.3nm,0.3s,baz=349,slow=7.7,SNR=4.5
SIV San Ignacio 15.30 122 P Pn 18 34 29.5 +1.8
0.6nm,0.3s,baz=304,slow=13,SNR=12
CPUP Villa Florida 24.40 140 P P 18 35 59.4 -3.8
0.4nm,0.3s,baz=304,slow=7.7,SNR=3.4
DBIC Dimbokro 70.99 80 P P 18 42 00.0 -0.3
2.0nm,0.3s,baz=228,slow=7.0,SNR=6.5
TORD Torodi Ar. Bea 78.57 75 P P 18 42 43.9 +0.1
1.0nm,0.6s,baz=270,slow=5.1,SNR=8.5
WRA Warramunga Arr 140.21 225 PKP PKPdf 18 50 12.0 +2.0
0.2nm,0.4s,baz=126,slow=1.8,SNR=4.9

*ISCJB **14** 18:33:24.1±0.6, 2153S±006×682W±0.1, h126km±9km, mb4.3/3, Error ellipse: s-maj=19.2km s-min=8.9km az=7.7*
*NEIC **14** 18:33:24.6±1.0, 2162S×6825W, h117km±11km, mb4.5/4, Error ellipse: s-maj=20.5km s-min=11.4km az=108.0*
*IDC **14** 18:33:25.4±0.9, 2157S×68.19W, h120km±12km, mb4.0/4, mb1 3.9/7, mb1mx3.6/18, mbtmp3.8/7, Error ellipse: s-maj=31.6km s-min=16.8km az=118.0*
ISC 14 18:33:25.3±0.6, 2152S±005×682W±01, h119km±9km, n15, σ0°74/20, mb4.3/3, Chile-Bolivia border region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
LVC Limon Verde 1.27 211 P **Pn 18 33 50.8 +0.8**
121nm,0.3s,baz=16,slow=8.3,SNR=270
LVC S **Sn 18 34 08.8 0.0**
512nm,0.3s,baz=242,slow=19,SNR=58
LVC Limon Verde 1.27 211 *e*Pn **Pn 18 33 50.4 +0.3**
LVC *e*Sn **Sn 18 34 08.3 -0.5**
LPAZ La Paz 5.21 1 P **Pn 18 34 43.2 +2.1**
3.0nm,0.3s,baz=183,slow=8.0,SNR=19
LPAZ S **Sn 18 35 39.1 -1.0**
baz=215,slow=18,SNR=2.0
LPAZ La Paz 5.21 1 *e*Pn **Pn 18 34 42.9 +1.8**
9.5nm,0.4s
LCO Las Campanas 7.79 196 *e*Pn **Pn 18 35 11.5 -4.5**
54nm,1.5s
LCO *e*Sn **Sn 18 36 34.0 -8.6**
SIV San Ignacio 8.71 52 P **Pn 18 35 27.8 -0.6**
2.0nm,0.3s,baz=247,slow=13,SNR=12
SIV S **Sn 18 37 00.5 -4.3**
0.4nm,0.3s,baz=309,slow=24,SNR=6.7
CFAA Coronel Fontan 10.04 180 P **Pn 18 35 42.2 -4.1**
0.1nm,0.3s,baz=360,slow=13,SNR=8.0
CFAA S **Sn 18 37 28.5 -8.6**
0.1nm,0.3s,baz=275,slow=17,SNR=3.0
CPUP Villa Florida 11.03 118 Pn **Pn 18 35 59.8 +0.2**
18nm,1.1s
TRQA Tornquist 17.33 163 *e*P **Pn 18 37 19.5 -0.2**
16nm,1.2s
PLCA Paso Flores 19.25 185 P **P 18 37 40.5 +0.1**
0.2nm,0.3s,baz=345,slow=11,SNR=9.4
BDFB Brasilia 20.00 76 P **P 18 37 48.9 +0.2**
2.4nm,0.6s,baz=209,slow=13,SNR=4.4
DBIC Dimbokro 68.10 73 P **P 18 44 13.2 +0.4**
3.8nm,0.7s,mb4.3,baz=133,slow=2.1,SNR=3.5
TORD Torodi Ar. Bea 76.74 70 P **P 18 45 04.2 +0.1**
4.5nm,0.6s,mb4.4,baz=254,slow=5.4,SNR=53
YKA Yellowknife Ar 91.43 340 P **P 18 46 17.0 -0.5**
1.1nm,0.5s,mb4.2,baz=133,slow=4.5,SNR=8.4
MKAR Makanchi Array 145.26 36 PKPbc PKPbc 18 52 48.3 -0.6
1.1nm,0.6s,baz=314,slow=4.8,SNR=12

*CSEM **14** 18:43:18.7±0.1, 3781N×2316E, h100km, ML3.0, Error ellipse: s-maj=2.8km s-min=2.1km az=67.0*
*THE **14** 18:43:19.9, 3777N×2318E, h95km, ML3.0*
*ISCJB **14** 18:43:20.0±0.7, 3777N±003×2317E±005, h95km±7km, Error ellipse: s-maj=7.5km s-min=4.9km az=156.6*
*NEIC **14** 18:43:22.5, 3777N×2300E, h39km, MD3.1(ATH), After ATH.*
*ATH **14** 18:43:22.5, 3777N×2300E, h39km±6km, MD3.1/8, ML2.7*
ISC 14 18:43:20.7±0.8, 3777N±003×2317E±006, h92km±7km, n22, σ0°57/34, 3C-1D, Southern Greece
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DID Didima 0.27 168 *e*Pg **Pn 18 43 33.8 -0.4**
DID *e*Sg **Sn 18 43 44.6 +0.4**
LTK Loutraki 0.30 328 *e*Pg **Pn 18 43 33.9 -0.4**
LTK *e*Sg **Sn 18 43 44.2 -0.2**
LTK Loutraki 0.30 328 *e*Pg **Pn 18 43 33.8 -0.5**
LTK *e*Sg **Sn 18 43 44.2 -0.2**
ATH Athens Observa 0.48 65 *e*PN **Pn 18 43 35.5 +0.1**
KVR Kavouri 0.48 83 *e*PN **Pn 18 43 35.6 +0.2**
PTL Penteli 0.62 63 *e*PN **Pn 18 43 37.0 +0.4**
VLX Vlachokerasia 0.74 238 *e*Pg **Pn 18 43 37.3 -0.5**
VLX *e*Sg **Sn 18 43 50.5 0.0**
LKR Lokris 0.89 351 *e*Pg **Pn 18 43 38.9 -0.4**
LKR Lokris 0.89 351 *e*Pg **Pn 18 43 38.8 -0.4**
LKR Lokris 0.89 351 ‖ *i*Pn **Pn 18 43 39.2 0.0**
VLI Veliai 1.07 190 ‖ *i*PN **Pn 18 43 42.0 +0.7**
VLI *e*SN **Sn 18 43 56.9 +0.2**
ITM Ithomi 1.15 239 ‖ *i*PN **Pn 18 43 42.5 +0.3**
ITM *e*SN **Sn 18 43 56.6 -1.8**
AGG Agios Georgios 1.41 332 *e*Pg **Pn 18 43 44.9 -0.5**
AGG *e*Sg **Sn 18 44 04.8 +0.7**
KYTH Kithira 1.49 184 *e*PN **Pn 18 43 47.5 +1.1**
AOS Alonnisos 1.50 22 *e*Pg **Pn 18 43 46.2 -0.3**
EVR Evrytania 1.56 317 ‖ *i*PN **Pn 18 43 47.6 +0.3**
EVR *e*SN **Sn 18 44 07.7 +0.2**
XOR Xorichti 1.59 1 *e*Pg **Pn 18 43 47.2 -0.4**
THL Klokotos Trika 2.00 334 *e*Pn **Pn 18 43 52.5 -0.5**
THL *e*Sn **Sn 18 44 18.1 +0.5**
VLS Valsamata 2.08 282 *e*Pn **Pn 18 43 53.9 0.0**
VLS *e*Sn **Sn 18 44 20.2 +0.9**
LKD Levkas 2.19 296 *e*Pn **Pn 18 43 55.0 -0.4**
LKD *e*Sn **Sn 18 44 22.0 0.0**
KARN Karanos 2.44 165 *e*Pn **Pn 18 43 59.1 +0.3**
KARN *e*Sn **Sn 18 44 28.2 +0.2**
LAST Lasithi 3.20 144 *e*Pn **Pn 18 44 07.9 -1.0**

MEX 14 18:46:57.4±0.8, 1696N×10009W, h9km±48km, MD3.5, Near coast of Guerrero
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CAIG El Cayaco 0.19 297 *i*P Pg 18 47 00.8 -0.5
CAIG *i*S Sg 18 47 03.9 -0.1
ACX Acapulco 0.20 119 *i*P Pg 18 47 01.1 -0.4
MEIG Mezcala 1.06 25 *e*P Pg 18 47 14.3 -3.5
MEIG *i*S Sg 18 47 27.7 -3.8
PLIG Platanillo 1.53 22 *i*P Pn 18 47 22.9 -2.1
PLIG *i*S Sn 18 47 40.3 -4.6

*ISCJB **14** 18:51:49.4±4.8, 265N±0.1×1432E±02, h24km±34km, mb4.0/1, Error ellipse: s-maj=38.3km s-min=16.3km az=161.2*
*IDC **14** 18:51:49.8±1.4, 2635N×14268E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=51.7km s-min=15.3km az=67.0*
*NEIC **14** 18:51:53.9±0.8, 2647N×14289E, h35km, mb4.3/6, Error ellipse: s-maj=29.4km s-min=9.3km az=73.0*
ISC 14 18:51:49.6±7.2, 264N±01×1428E±03, h3km±48km, n16, σ0°79/17, mb4.0/11, Bonin Islands region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CBIJ Chichi jima 0.90 320 Pn **Pn 18 52 09.4 +0.3**
64nm,0.3s,baz=102,slow=22,SNR=24
CBIJ Sn **Sn 18 52 29.3 +6.6**
109nm,0.3s,baz=271,slow=23,SNR=9.5
MJAR Matsushiro Arr 10.85 340 Pn **Pn 18 54 26.9 +1.2**
0.2nm,0.3s,baz=142,slow=13,SNR=8.0
MAJO Matsushiro 10.85 340 P **Pn 18 54 24.0 -1.8**
HNR Honiara 39.31 153 P **P 18 59 21.0 +0.9**
72nm,0.4s,baz=122,slow=23,SNR=30
CMAR Chiang Mai Arr 41.18 268 P **P 18 59 35.5 -0.2**
0.5nm,0.8s,mb3.2,baz=65,slow=7.2,SNR=4.3
LSA Lhasa 45.43 287 P **P 19 00 11.0 +1.2**
3.7nm,1.0s,mb4.2
WRAB Tennant Creek 46.79 191 *e*P **P 19 00 19.5 -1.0**
4.4nm,0.6s,mb4.6
WRA Warramunga Arr 46.80 191 P **P 19 00 20.8 +0.2**
3.5nm,0.7s,mb4.4,baz=9.6,slow=8.6,SNR=25
ZALV Zalesovo Beam 50.39 319 P **P 19 00 47.7 -0.2**
0.7nm,0.6s,mb3.9,baz=91,slow=6.5,SNR=4.7
ZALV Zalesovo Beam 50.39 319 P **P 19 00 47.7 -0.2**
ASAR Alice Springs 50.52 191 P **P 19 00 48.8 -0.4**
0.4nm,0.9s,mb3.3,baz=29,slow=5.9,SNR=4.4
MKAR Makanchi Array 51.36 310 P **P 19 00 55.6 +0.2**
0.3nm,0.6s,mb3.4,baz=92,slow=7.9,SNR=3.4
TKM2 Tokmak 2 56.29 305 P **P 19 01 31.6 +0.1**
1.9nm,0.8s,mb4.2
EKS2 Erkin-Say 57.65 305 P **P 19 01 40.1 -1.0**
1.4nm,0.9s,mb4.0
AML Almayashu 57.78 305 *e*P **P 19 01 42.7 +0.6**
3.2nm,0.7s,mb4.5
BRVK Borovoye 59.01 318 *e*P **P 19 01 50.2 -0.2**
1.7nm,0.7s,mb4.2

*NEIC **14** 18:56:43.7, 1605N×97.16W, h8km, MD3.8(MEX), After MEX.*
MEX 14 18:56:44.1±0.6, 1606N×9717W, h10km±8km, MD3.8, Oaxaca
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PNIG Pinotepa 0.98 290 *i*P Pg 18 56 59.8 -3.1
PNIG *i*S Sg 18 57 12.8 -2.9
HUIG Huatulco 1.06 106 *e*P Pg 18 57 01.7 -2.8
HUIG *i*S Sg 18 57 13.9 -4.3
VHO Vista Hermosa 1.09 22 *i*P Pb 18 57 01.7 -3.4
VHO *i*S Sg 18 57 15.4 -4.0
OXX Oaxaca 1.10 23 *i*P Pb 18 57 02.2 -3.1
OXX *i*S Sg 18 57 16.8 -2.9
TPIG Tehuac#an 2.36 356 *i*P Pn 18 57 19.8 -3.1
TPIG *i*S Sn 18 57 48.7 -3.1
CMIG Matias Romero 2.42 65 *e*P Pn 18 57 21.3 -2.5
CMIG *i*S Sn 18 57 48.6 -4.9

*ISCJB **14** 19:11:20.5±0.6, 3795N±002×2700E±005, h5km±6km, Error ellipse: s-maj=7.1km s-min=3.7km az=160.6*
*DDA **14** 19:11:20.8, 3797N×2706E, h7km±5km, Md2.8*
*ISK **14** 19:11:20.0, 3796N×2702E, h9km, MD2.9*
*CSEM **14** 19:11:20.4±0.1, 3797N×2707E, h8km, MD2.8, Error ellipse: s-maj=2.1km s-min=1.0km az=69.0*
*THE **14** 19:11:21.6, 3802N×2699E, h1km, ML2.6*
ISC 14 19:11:21.1±0.5, 3796N±002×2702E±005, h9km±6km, n16, σ0°62/27, Turkey
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
GCAM G?zelcaml? 0.31 147 *i*P **Pg 19 11 27.2 0.0**
GCAM *i*S **Sg 19 11 31.8 +0.4**
BLCB Balcova 0.42 2 PG **Pg 19 11 28.7 -0.7**
BLCB *e*SG **Sg 19 11 35.1 0.0**
BLCB Balcova 0.42 2 *e*Pg **Pg 19 11 29.2 -0.3**
BLCB *e*Sg **Sg 19 11 34.8 -0.3**
BLCB Balcova 0.42 2 *e*Pg **Pg 19 11 29.2 -0.2**
BLCB *e*Sg **Sg 19 11 35.1 0.0**
IZM Izmir 0.48 24 PG **Pg 19 11 29.9 -0.6**
IZM *e*SG **Sg 19 11 37.2 +0.5**
KDAG Bornova 0.48 24 *i*P **Pg 19 11 30.3 -0.3**
KDAG *i*S **Sg 19 11 36.9 0.0**
AYDN Tasoluk 0.74 113 *i*P **Pg 19 11 35.6 +0.1**
AYDN *i*S **Sg 19 11 48.8 +3.6**
CHOS Chios island 0.87 300 *e*Pg **Pg 19 11 37.3 -0.6**
CHOS *e*Sg **Sg 19 11 49.9 +0.7**
MLSB Milas 0.90 138 *e*PG **Pg 19 11 37.9 -0.5**
MLSB *e*SG **Sg 19 11 50.4 +0.4**
BODT Bodrum 0.93 165 *e*PG **Pg 19 11 38.5 -0.4**
BDRM Kayabasi 0.95 159 *i*P **Pg 19 11 39.7 +0.2**
BDRM *i*S **Sg 19 11 51.7 -0.2**
AKS Akhisar 1.11 34 *e*PN **Pn 19 11 41.6 -1.2**
YER Yerkesik 1.30 129 *e*PN **Pn 19 11 45.0 -0.3**
KULA Kula-Manisa 1.41 66 *e*PN **Pn 19 11 46.5 -0.3**
BALY Balya 1.84 15 *i*P **Pn 19 11 54.3 +1.5**
BALY *i*S **Sn 19 12 20.6 +4.5**
EZN Ezine 1.94 344 *e*PN **Pn 19 11 54.7 +0.5**

MAN 14 19:15:28, 1792N×12001E, h3km, mb4.1, ML2.9, MS2.6, 1D, Luzon
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PIP Pasuquin 0.70 55 ‖ *i*P Pg 19 15 42.7 +1.2
PIP *i*S Sg 19 15 51.1 +0.5
ABRA Dolores 0.72 112 *e*P Pg 19 15 42.6 +0.9
ABRA *e*S Sg 19 15 52.0 +0.9
BOLP Bolinao 1.53 184 *e*P Pn 19 15 56.3 0.0
CAUP Cauayan 1.98 119 *e*P Pn 19 16 03.8 +1.4
PALP Palanan 2.45 110 *e*P Pn 19 16 10.0 +1.1
BALP Baler 2.63 145 *e*P Pn 19 16 13.5 +2.1

*IDC **14** 19:19:10.1±1.8, 529N×93.17E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, Error ellipse: s-maj=73.4km s-min=20.1km az=61.0*
*ISCJB **14** 19:19:14.8±0.9, 55N±0.1×9366E±009, h33km, mb3.8/9, Error ellipse: s-maj=17.0km s-min=10.4km az=35.2*
*NEIC **14** 19:19:14.8±0.8, 536N×9326E, h30km, mb3.8/3, Error ellipse: s-maj=22.3km s-min=10.3km az=70.0*
ISC 14 19:19:15.7±1.0, 54N±01×933E±02, h35km, n12, σ0°63/13, mb3.8/9, 1C, Off west coast of northern Sumatera
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
BSI Banda Aceh 1.99 86 ‖ *e*P **Pn 19 19 37.0 -10**
BSI *e*S **Sn 19 20 00.0 -11**
CMAR Chiang Mai Arr 14.12 22 Pn **Pn 19 22 33.8 +0.4**
baz=219,slow=14,SNR=5.0
CHTO Chiang Mai 14.45 22 *e*Pn **Pn 19 22 36.9 -0.9**
2.1nm,0.9s
LSA Lhasa 24.28 355 *e*P **P 19 24 30.8 +1.0**
1.2nm,0.6s,mb3.5
TKM2 Tokmak 2 40.54 340 P **P 19 26 50.3 -1.3**
0.8nm,0.6s,mb3.5
MKAR Makanchi Array 42.34 349 P **P 19 27 06.6 +0.3**
0.7nm,0.5s,mb3.6,baz=168,slow=8.3,SNR=8.6
SONM Songino Array 43.77 13 P **P 19 27 17.8 0.0**
0.8nm,0.8s,mb3.5,baz=194,slow=8.5,SNR=7.5
SONM PcP PcP 19 29 04.6 +0.5
0.3nm,0.5s,baz=180,slow=4.2,SNR=3.5
WRA Warramunga Arr 47.55 123 P **P 19 27 48.1 -0.1**
2.6nm,0.8s,mb4.3,baz=300,slow=9.2,SNR=22
WRAB Tennant Creek 47.55 123 *e*P **P 19 27 48.3 +0.1**
5.1nm,0.9s,mb4.5
ZALV Zalesovo Beam 48.91 353 P **P 19 27 58.8 +0.7**
0.9nm,0.6s,mb4.0,baz=167,slow=7.4,SNR=4.8
ASAR Alice Springs 49.01 128 P **P 19 27 59.4 0.0**
0.4nm,0.4s,mb3.8,baz=296,slow=7.5,SNR=18
ARCES ARCESS Array B 77.32 341 P **P 19 31 06.1 -0.3**
1.1nm,0.7s,mb3.9,baz=86,slow=3.8,SNR=5.8

IDC 14 19:22:13.5±2.7, 550N×9243E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/22, mbtmp3.4/5, Error ellipse: s-maj=100.4km s-min=24.0km az=62.0, Off west coast of northern Sumatera
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CMAR Chiang Mai Arr 14.36 26 Pn Pn 19 25 39.4 +1.2
0.2nm,0.3s,baz=225,slow=14,SNR=10
MKAR Makanchi Array 42.06 350 P P 19 30 06.4 -0.5
0.2nm,0.4s,baz=164,slow=9.9,SNR=4.6
WRA Warramunga Arr 48.34 123 P P 19 30 57.1 -0.3
0.4nm,0.9s,baz=303,slow=9.7,SNR=3.1
ZALV Zalesovo Beam 48.69 354 P P 19 30 59.6 +0.2
0.3nm,0.3s,baz=158,slow=9.6,SNR=4.3
ASAR Alice Springs 49.77 127 P P 19 31 08.5 +0.2
0.2nm,0.8s,baz=301,slow=7.8,SNR=3.1

*IDC **14** 19:27:03.1±0.7, 2187N×143.19E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/22, mbtmp4.1/13, ML3.2/1, MS3.4/12, Ms1 3.5/12, ms1mx3.2/29, Error ellipse: s-maj=24.0km s-min=15.0km az=81.0*
*BJI **14** 19:27:04.6, 2190N×143.10E, h10km, mB4.8, mb4.3, Ms3.8, Msz3.7*
*NEIC **14** 19:27:04.6±0.3, 2189N×143.14E, h10km, mb4.5/12, Error ellipse: s-maj=12.8km s-min=7.6km az=76.0*
*ISCJB **14** 19:27:06.4±0.4, 2183N±007×143.1E±0.1, h33km, mb4.3/26, MS3.4/10, Error ellipse: s-maj=14.3km s-min=9.1km az=163.2*
ISC 14 19:27:08.5±0.4, 2184N±007×1432E±01, h35km, (h25km±8.4km: pP-P), n46, σ1°03/38, mb4.3/26, MS3.4/10, Mariana Islands region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
GUMO Guam 8.37 169 LR LR 19 31 48.1
comp=Z,129nm,19.8s,baz=100,slow=34
JOW Kunigami 14.45 293 LR LR 19 35 10.6
comp=Z,201nm,19.4s,baz=103,slow=34
MJAR Matsushiro Arr 15.27 345 Pn **Pn 19 30 38.5 -2.9**
0.1nm,0.3s,baz=174,slow=12,SNR=3.6
KSRS Korea Array 20.39 323 P **P 19 31 45.9 +3.6**
2.9nm,0.9s,baz=142,slow=10,SNR=8.9
KSRS LR LR 19 38 29.2
comp=Z,93nm,18.7s,MS3.2,baz=2.9,slow=34
ASAJ Asahikawa 22.22 359 LR LR 19 40 55.5
comp=Z,35nm,19.9s,MS2.8,baz=337,slow=38
DAV Davao City (W) 22.45 232 LR LR 19 39 04.6
comp=Z,136nm,21.8s,MS3.3,baz=7.7,slow=32
PETK Petropavlovsk- 33.14 16 LR LR 19 45 08.6
comp=Z,46nm,21.4s,MS3.2,baz=8.7,slow=33
LZH Lanzhou 36.95 301 *e*P **P 19 34 15.6 +1.2**
LZH AP pP 19 34 20.8 -3.8
LZH XP sP 19 34 24.1 -4.7
LZH AMB AMB
comp=Z,17nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,86nm,5.2s
SONM Songino Array 39.22 320 P **P 19 34 33.5 +0.2**
comp=Z,3.0nm,1.0s,mb4.0,baz=129,slow=7.2,SNR=18
SONM LR LR 19 50 53.0
comp=Z,70nm,18.1s,MS3.5,baz=176,slow=36
GTA Gaotai 40.77 305 *e*P **P 19 34 46.9 +0.6**
GTA AP pP 19 34 51.8 -4.8
GTA XP sP 19 34 54.0 -6.8
GTA AMB AMB
comp=Z,4.0nm,1.8s,mb3.8
CMAR Chiang Mai Arr 41.55 274 P **P 19 34 54.2 +1.3**
comp=Z,1.2nm,0.8s,mb3.5,baz=56,slow=10,SNR=6.7
CMAR LR LR 19 52 06.7
comp=Z,77nm,20.9s,MS3.5,baz=346,slow=36
CTA Charters Tower 41.78 176 P **P 19 34 56.0 +1.4**
comp=Z,7.4nm,0.9s,mb4.3,baz=28,slow=8.6,SNR=5.2
CTAO Charters Tower 41.78 176 *e*Pn **P 19 34 56.1 +1.4**
comp=Z,11nm,1.0s,mb4.4
CTAO *e*P 19 34 56.2

WRAB Tennant Creek 42.40 192 P **P 19 34 59.0 -0.8**
comp=Z,11nm,1.1s,mb4.4
WB2 Warramunga Arr 42.41 192 *eP* **P 19 34 59.2 -0.6**
WB2 *e* pP 19 35 11.6 +1.5
WRA Warramunga Arr 42.41 192 P **P 19 34 58.8 -1.0**
comp=Z,3.2nm,0.9s,mb3.9,baz=11,slow=9.1,SNR=14
TLY Talaya 42.64 324 *eP* **P 19 35 02.0 +0.6**
ASAR Alice Springs 46.12 192 P **P 19 35 28.9 -0.5**
comp=Z,0.9nm,0.8s,mb3.8,baz=15,slow=9.7,SNR=17
LSA Lhasa 47.17 291 P **P 19 35 39.2 +1.4**
comp=Z,4.9nm,1.1s,mb4.3
WMQ Urumqi 50.48 309 *eP* **P 19 36 04.3 +1.4**
WMQ AP pP 19 36 14.3 +0.9
WMQ XP sP 19 36 18.3 +0.7
WMQ AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
STKA Stephens Creek 53.43 182 P **P 19 36 25.0 0.0**
comp=Z,4.3nm,0.8s,mb4.4,baz=326,slow=8.4,SNR=4.7
STKA Stephens Creek 53.43 182 *eP* **P 19 36 24.8 -0.1**
comp=Z,7.3nm,1.0s,mb4.6
ZAA0 Zalesovo Array 54.09 322 *eP* **P 19 36 28.4 -1.2**
ZALV Zalesovo Beam 54.09 322 P **P 19 36 28.6 -1.0**
comp=Z,3.6nm,0.9s,mb4.3,baz=100,slow=6.2,SNR=15
ZALV LR LR 20 01 56.9
comp=Z,20nm,19.0s,MS3.2,baz=245,slow=39
ZALV Zalesovo Beam 54.09 322 P **P 19 36 28.6 -1.0**
ZALV LR LR 20 01 56.9
MKAR Makanchi Array 54.59 313 P **P 19 36 33.0 -0.3**
comp=Z,0.8nm,0.7s,mb3.9,baz=92,slow=10.0,SNR=8.0
MKAR LR LR 20 01 01.0
comp=Z,24nm,18.3s,MS3.3,baz=54,slow=37
MKAR Makanchi Array 54.59 313 P **P 19 36 33.0 -0.3**
MKAR LR LR 20 01 01.0
KURK Kurchatov 57.36 317 *eP* **P 19 36 52.4 -0.7**
comp=Z,11nm,1.1s,mb4.8
TKM2 Tokmak 2 59.24 308 *eP* **P 19 37 06.6 +0.2**
comp=Z,4.6nm,1.0s,mb4.5
EKS2 Erkin-Say 60.59 308 *eP* **P 19 37 15.6 -0.1**
AML Almayashu 60.69 307 *eP* **P 19 37 16.8 +0.5**
comp=Z,4.4nm,0.9s,mb4.6
BVAR Borovoye Array 62.55 319 P **P 19 37 28.8 +0.1**
comp=Z,5.4nm,0.8s,mb4.7,baz=96,slow=7.7,SNR=28
BRVK Borovoye 62.61 319 *eP* **P 19 37 28.4 -0.7**
comp=Z,2.2nm,0.8s,mb4.3
INK Inuvik 67.44 24 P **P 19 37 59.6 -0.6**
comp=Z,2.4nm,0.8s,mb4.3,baz=264,slow=8.1,SNR=3.8
ARU Arti 69.14 324 *eP* **P 19 38 08.7 -2.4**
comp=Z,2.9nm,0.9s,mb4.2
YKA Yellowknife Ar 76.34 28 P **P 19 38 53.6 0.0**
comp=Z,1.7nm,0.8s,mb4.0,baz=291,slow=5.6,SNR=8.7
PPT Papeete 76.61 115 LR LR 20 09 18.2
comp=Z,80nm,18.7s,MS4.1,baz=46,slow=33
YBH Yreka Blue Hor 78.74 50 *eP* **P 19 39 08.1 +0.6**
comp=Z,2.9nm,1.0s,mb4.2
KIV Kislovodsk 82.31 314 P **P 19 39 26.4 -0.3**
comp=Z,9.4nm,1.0s,mb4.7
NVAR Mina Array Bea 83.07 51 P **P 19 39 31.7 +1.0**
comp=Z,2.2nm,0.9s,mb4.2,baz=270,slow=6.0,SNR=15
TPNV Topopah Spring 85.14 52 P **P 19 39 41.8 +0.5**
comp=Z,3.7nm,0.9s,mb4.5
QLMT Earthquake Lak 85.17 44 *eP* **P 19 39 42.5 +1.3**
PDAR Pinedale Array 87.30 45 LR LR 20 16 39.4
comp=Z,41nm,18.4s,MS3.9,baz=252,slow=34
AKASG Malin Array Be 87.38 324 P **P 19 39 49.7 -2.3**
comp=Z,1.2nm,0.8s,mb4.2,baz=48,slow=4.2,SNR=4.8
AKASG Malin Array Be 87.38 324 P **P 19 39 49.7 -2.3**
LPAZ La Paz 149.94 85 PKPbc PKPbc 19 46 56.4 +0.5
comp=Z,1.7nm,0.9s,baz=358,slow=7.0,SNR=7.0

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*IDC **14** 19:30:54.2±6.3, 4.10S×144.08E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/16, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=233.8km s-min=26.9km az=98.0*
*ISCJB **14** 19:30:57.8±1.0, 42S±0.1×1439E±0.1, h33km, mb3.7/5, Error ellipse: s-maj=21.0km s-min=14.5km az=178.6*
*NEIC **14** 19:30:59.2±1.0, 4.19S×143.82E, h30km, mb4.0/2, Error ellipse: s-maj=20.4km s-min=14.3km az=91.0*
ISC 14 19:30:59.9±1.0, 42S±0.1×1438E±0.1, h35km, n9, σ0§97/9, mb3.7/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.13**	**148**	*e*Pn	**Pn**	**19 32 27.4**	**-0.7**
KAKA	**Kakadu**	**14.09**	**232**	*e*P	**Pn**	**19 34 16.4**	**-0.7**
5.1nm,0.5s							
WRAB	**Tennant Creek**	**18.17**	**210**	*e*Pn	**Pn**	**19 35 10.2**	**+0.7**
5.3nm,0.7s							
WRA	**Warramunga Arr**	**18.18**	**210**	P	**Pn**	**19 35 11.0**	**+1.3**
0.3nm,0.3s,baz=36,slow=12,SNR=20							
ASAR	**Alice Springs**	**21.60**	**205**	P	**P**	**19 35 47.7**	**+0.8**
1.3nm,0.7s,mb3.4,baz=32,slow=11,SNR=12							
FITZ	**Fitzroy Crossi**	**22.54**	**231**	*e*P	**P**	**19 35 54.5**	**-2.5**
2.6nm,0.3s,mb4.1							
MKAR	**Makanchi Array**	**74.12**	**321**	P	**P**	**19 42 32.8**	**+0.1**
0.1nm,0.3s,mb3.2,baz=108,slow=4.7,SNR=4.4							
ZALV	**Zalesovo Beam**	**75.83**	**328**	P	**P**	**19 42 42.3**	**-0.1**
0.4nm,0.5s,mb3.6,baz=115,slow=7.3,SNR=3.7							
BVAR	**Borovoye Array**	**83.48**	**324**	P	**P**	**19 43 24.4**	**+0.5**
0.7nm,0.4s,mb4.0,baz=118,slow=6.0,SNR=5.4							

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*IDC **14** 19:35:19.1±1.0, 10.12N×126.36E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, MS3.6/1, Ms1 3.6/1, ms1mx2.7/26, Error ellipse: s-maj=64.6km s-min=16.6km az=66.0*
*NEIC **14** 19:35:23.8±0.6, 10.21N×126.54E, h35km, mb4.4/2, Error ellipse: s-maj=33.1km s-min=10.9km az=66.0*
*ISCJB **14** 19:35:26.8±0.7, 9.98N±004×126.14E±007, h78km±6km, mb3.8/11, Error ellipse: s-maj=11.1km s-min=5.3km az=162.6*
*MAN **14** 19:35:27, 10.00N×126.08E, h21km, mb4.8, ML3.7, MS3.7*
ISC 14 19:35:28.0±0.7, 997N±004×12612E±007, h68km±6km, n33, σ1§10/40, mb3.8/11, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.65**	**253**	⇓*e*P	**Pn**	**19 35 39.2**	**-2.9**
SCPH				*e*S	**Sn**	**19 35 48.8**	**-3.8**
BUTP	**Butuan**	**1.11**	**206**	*e*P	**Pn**	**19 35 46.6**	**-1.2**
BUTP				*e*S	**Sn**	**19 36 02.9**	**+0.4**
MSLP	**Maasin**	**1.25**	**278**	*e*P	**Pn**	**19 35 48.6**	**-0.9**
MSLP				*e*S	**Sn**	**19 36 05.2**	**-0.5**
PLP	**Palo**	**1.63**	**317**	⇑*e*P	**Pn**	**19 35 52.9**	**-1.7**
PLP				*i* S	**Sn**	**19 36 14.9**	**+0.1**
BESP	**Borongan**	**1.75**	**338**	*e*P	**Pn**	**19 35 56.3**	**0.0**
BESP				*e*S	**Sn**	**19 36 19.8**	**+2.1**
BIPH	**Bislig**	**1.79**	**172**	*i* S	**Sn**	**19 36 17.8**	**-0.8**
OCLP	**Ormoc**	**1.83**	**306**	*e*P	**Pn**	**19 35 57.7**	**+0.4**
LLP	**Lapu-Lapu**	**2.15**	**279**	⇓*i*P	**Pn**	**19 36 01.7**	**+0.1**
LLP				*i* S	**Sn**	**19 36 27.4**	**+0.2**
TBP	**Tagbilaran**	**2.24**	**263**	*e*P	**Pn**	**19 36 03.1**	**+0.2**
TBP				*e*S	**Sn**	**19 36 28.7**	**-0.8**
BUKP	**Musuan**	**2.33**	**207**	*e*P	**Pn**	**19 36 05.9**	**+1.9**
CNP	**Catarman**	**2.90**	**331**	*e*P	**Pn**	**19 36 11.5**	**-0.3**
CNP				*e*S	**Sn**	**19 36 46.7**	**+1.1**
MATI	**Mati**	**3.01**	**177**	*e*P	**Pn**	**19 36 14.9**	**+1.5**
PAGZ	**Pagadian**	**3.43**	**232**	*e*P	**Pn**	**19 36 20.1**	**+1.0**
GUIM	**Jordan**	**3.53**	**281**	*e*P	**Pn**	**19 36 20.7**	**+0.3**
RCP	**Roxas**	**3.67**	**296**	⇓*e*P	**Pn**	**19 36 25.2**	**+2.9**
PVCP	**Virac**	**4.08**	**332**	*e*P	**Pn**	**19 36 26.6**	**-1.4**
IPIL	**Ipil**	**4.12**	**239**	*e*P	**Pn**	**19 36 32.0**	**+3.5**
CUYO	**Cuyo Island**	**5.09**	**280**	*e*P	**Pn**	**19 36 37.2**	**-4.6**
CMAR	**Chiang Mai Arr**	**27.63**	**291**	P	**P**	**19 41 10.8**	**+1.4**
0.8nm,0.6s,mb3.5,baz=88,slow=7.3,SNR=5.5							
FITZ	**Fitzroy Crossi**	**27.90**	**181**	LR	LR	19 53 44.9	
comp=Z,123nm,18.8s,baz=196,slow=39							
WRA	**Warramunga Arr**	**30.81**	**165**	P	**P**	**19 41 37.1**	**-0.4**
0.2nm,0.4s,mb3.2,baz=341,slow=8.8,SNR=4.0							
ASAR	**Alice Springs**	**34.29**	**167**	P	**P**	**19 42 07.9**	**0.0**
0.2nm,0.3s,mb3.4,baz=351,slow=7.1,SNR=6.5							
SONM	**Songino Array**	**41.25**	**340**	P	**P**	**19 43 07.0**	**+0.7**
0.6nm,0.6s,mb3.6,baz=159,slow=9.5,SNR=6.1							
STKA	**Stephens Creek**	**44.17**	**161**	P	**P**	**19 43 31.1**	**+1.0**
2.9nm,1.0s,mb4.0,baz=342,slow=7.7,SNR=4.2							
MK31	**Makanchi Array**	**52.17**	**323**	*e*P	**P**	**19 44 31.2**	**-0.4**
MKAR	**Makanchi Array**	**52.17**	**323**	P	**P**	**19 44 31.6**	**-0.1**
1.4nm,0.7s,mb4.1,baz=116,slow=6.3,SNR=15							
ZALV	**Zalesovo Beam**	**54.81**	**331**	P	**P**	**19 44 49.7**	**-1.2**
0.5nm,0.3s,mb4.0,baz=138,slow=9.4,SNR=4.2							
ZALV	**Zalesovo Beam**	**54.81**	**331**	P	**P**	**19 44 49.7**	**-1.2**
KURK	**Kurchatov**	**56.23**	**326**	*e*P	**P**	**19 45 00.7**	**-0.4**
2.1nm,0.7s,mb4.3							
BVAR	**Borovoye Array**	**61.83**	**326**	P	**P**	**19 45 39.4**	**-0.4**
0.3nm,0.5s,mb3.6,baz=114,slow=6.6,SNR=3.6							
ARU	**Arti**	**69.39**	**327**	*e*P	**P**	**19 46 27.2**	**-1.2**
2.6nm,0.5s,mb4.3							
ARCES	**ARCESS Array B**	**84.42**	**340**	P	**P**	**19 47 52.8**	**+0.1**
2.9nm,0.9s,mb4.1,baz=74,slow=6.4,SNR=5.8							
INK	**Inuvik**	**84.62**	**22**	P	**P**	**19 47 50.1**	**-3.5**

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*NEIC **14** 19:55:57.8, 3384S×7104W, h74km, MD3.3(GUC), After GUC.*
NEIC Felt [II] at San Antonio and Santiago.
GUC 14 19:55:57.8±0.7, 3384S×7104W, h74km±3km, MD3.3, ML3.5, 12C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.21**	**24**	⇑*i*P	Pn	19 56 09.1	+0.1
TACH				*i* S	Sn	19 56 17.3	+0.2
LNV	**Longovilo**	**0.33**	**250**	⇓*i*P	Pn	19 56 09.8	+0.2
LNV				*i* S	Sn	19 56 18.7	+0.4
CHCH	**Chadas Angostu**	**0.33**	**106**	⇑*i*P	Pn	19 56 09.9	+0.3
CHCH				*i* S	Sn	19 56 18.7	+0.4
ANTU	**Antumapu**	**0.43**	**51**	⇑*i*P	Pn	19 56 10.9	+0.5
ANTU				*i* S	Sn	19 56 20.9	+1.3
ANTU				AML	AML	19 56 21.2	
comp=E,4μm,0.2s							
ANTU	**Antumapu**	**0.43**	**51**	⇑*i*P	Pn	19 56 10.9	+0.5
ANTU				*i* S	Sn	19 56 20.9	+1.3
CACH	**El Canelo**	**0.45**	**127**	⇓*i*P	Pn	19 56 11.5	+0.9
CACH				*i* S	Sn	19 56 22.1	+2.2
PCH	**Pirque**	**0.49**	**63**	⇓*i*P	Pn	19 56 11.1	+0.3
PCH				*i* S	Sn	19 56 21.2	+0.7
SAN	**Santiago**	**0.50**	**39**	⇓*i*P	Pn	19 56 11.4	+0.4
SAN				*i* S	Sn	19 56 21.4	+0.7
SAN				AML	AML	19 56 22.8	
comp=E,3μm,0.3s							
SAN	**Santiago**	**0.50**	**39**	⇓*i*P	Pn	19 56 11.4	+0.4
SAN				*i* S	Sn	19 56 21.4	+0.7
LCCH	**Las Cruces**	**0.58**	**309**	⇓*i*P	Pn	19 56 11.7	0.0
LCCH				*e*S	Sn	19 56 21.9	0.0
DSCH	**Colegio Aleman**	**0.59**	**41**	⇑*i*P	Pn	19 56 12.3	+0.5
DSCH				*i* S	Sn	19 56 23.1	+0.9
DSCH				AML	AML	19 56 23.5	
comp=N,2μm,0.3s							
DSCH	**Colegio Aleman**	**0.59**	**41**	⇑*i*P	Pn	19 56 12.3	+0.5
DSCH				*i* S	Sn	19 56 23.1	+0.9
CLCH	**Cerro Calan**	**0.61**	**43**	AML	AML	19 56 25.2	
comp=N,7μm,0.5s							
CICH	**Cipreses**	**0.70**	**133**	⇓*i*P	Pn	19 56 13.6	+0.7
CICH				*i* S	Sn	19 56 25.4	+1.3
PEL	**Peldehue**	**0.76**	**23**	⇑*i*P	Pn	19 56 14.3	+0.6
PEL				*i* S	Sn	19 56 26.6	+1.3
PEL				AML	AML	19 56 27.3	
comp=N,5μm,0.4s							
SFDO	**San Fernando**	**0.77**	**179**	⇑*i*P	Pn	19 56 14.2	+0.5
FCH	**Farellones**	**0.81**	**51**	⇑*i*P	Pn	19 56 15.0	+0.8
FCH				*i* S	Sn	19 56 27.9	+1.5
FCH				AML	AML	19 56 30.3	
comp=E,2μm,0.2s							
ROCH	**El Roble**	**0.87**	**1**	⇑*i*P	Pn	19 56 15.9	+1.0
ROCH				*i* S	Sn	19 56 29.3	+1.7
IHA	**Instituto Hidr**	**0.96**	**328**	⇑*i*P	Pn	19 56 16.6	+0.6
JACH	**Jahuel**	**1.22**	**18**	⇑*i*P	Pn	19 56 19.7	+0.5
JACH				*i* S	Sn	19 56 36.2	+1.0
TALC	**Talca**	**1.63**	**197**	⇓*i*P	Pn	19 56 24.8	+0.2
TALC				*i* S	Sn	19 56 45.2	+0.4
TLL	**Tololo Astrono**	**3.67**	**3**	*i* P	Pn	19 56 52.7	+0.5
TLL				*e*S	Sn	19 57 35.4	+1.1
LCO	**Las Campanas**	**4.83**	**4**	*e*Pn	Pn	19 57 06.8	-1.1
LCO				*e*Sn	Sn	19 58 00.5	-2.1

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*ISCJB **14** 19:57:42.3±0.4, 2743N±004×140.42E±009, h358km±4km, mb3.9/23, Error ellipse: s-maj=12.5km s-min=5.3km az=165.4*
*IDC **14** 19:57:42.3±0.6, 2738N×140.34E, h343km±6km, mb3.6/12, mb1 3.7/16, mb1mx3.6/23, mbtmp3.6/16, Error ellipse: s-maj=17.5km s-min=10.4km az=78.0*
*NEIC **14** 19:57:43.1±0.9, 2742N×140.25E, h349km±9km, mb4.1/11, Error ellipse: s-maj=9.5km s-min=6.1km az=96.0*
*JMA **14** 19:57:44.0±0.3, 2758N×140.87E, h364km±4km, M4.2*
ISC 14 19:57:43.3±0.4, 2746N±004×14039E±009, h350km±4km, n57, σ1§22/67, mb3.9/23, 1C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.64**	**102**	P	**Pn**	**19 58 32.5**	**+0.3**
57nm,0.3s,baz=50,slow=1.7,SNR=25							
CBIJ				S	**S**	**19 59 09.3**	**-2.0**
170nm,0.3s,baz=292,slow=23,SNR=51							
JHHJ	**Haha-jima-NKT**	**1.79**	**117**	P	**Pn**	**19 58 33.8**	**+0.6**
JHHJ				S	**S**	**19 59 12.8**	**-0.3**
JHJ2	**Mitsune**	**5.66**	**355**	P	**Pn**	**19 59 11.5**	**+1.4**
JHJ2				*e*S	**S**	**20 00 19.5**	**-0.9**
JHJ	**Hachijo jima 2**	**5.67**	**355**	P	**Pn**	**19 59 11.3**	**+1.1**
50nm,0.3s,baz=147,slow=4.5,SNR=127							
JHJ				S	**S**	**20 00 17.1**	**-3.5**
8.4nm,0.3s,baz=52,slow=19,SNR=2.6							
JKO	**Kozu shima**	**6.79**	**351**	P	**Pn**	**19 59 25.3**	**+2.2**
BSO1	**Boso 1**	**7.19**	**4**	P	**Pn**	**19 59 28.2**	**+0.4**
BSO1				S	**S**	**20 00 50.0**	**-2.8**
JWZ	**Kozaga**	**7.28**	**327**	P	**Pn**	**19 59 31.6**	**+2.9**
BSO3	**Boso 3**	**7.32**	**1**	P	**Pn**	**19 59 30.3**	**+1.0**
BSO3				S	**S**	**20 00 51.3**	**-4.3**
BSO4	**Boso 4**	**7.51**	**360**	P	**Pn**	**19 59 32.4**	**+0.9**
BSO4				S	**S**	**20 00 57.9**	**-1.7**
JIE	**Ise**	**7.60**	**336**	P	**Pn**	**19 59 35.3**	**+2.7**
JKN2	**Miekihoku**	**7.63**	**333**	P	**Pn**	**19 59 35.7**	**+2.8**
HMMJ	**Hamamatsu 2**	**7.72**	**343**	P	**Pn**	**19 59 35.7**	**+1.7**
HMMJ				S	**S**	**20 01 03.3**	**-0.9**
JOD2	**Odawara 2**	**7.86**	**352**	P	**Pn**	**19 59 36.9**	**+1.3**
JOD2				S	**S**	**20 01 03.9**	**-3.3**
JRY	**Ryogami san**	**8.63**	**352**	P	**Pn**	**19 59 45.2**	**+0.5**
JRY				S	**S**	**20 01 19.4**	**-4.6**
MJAR	**Matsushiro Arr**	**9.25**	**349**	P	**Pn**	**19 59 51.5**	**-0.6**
2.6nm,0.3s,baz=166,slow=11,SNR=40							
MAJO	**Matsushiro**	**9.25**	**349**	*e*Pn	**Pn**	**19 59 52.1**	**+0.1**
16nm,0.6s							
MAJO				*e*Sn	**S**	**20 01 37.3**	**-0.2**
MAT	**Matsushiro**	**9.25**	**349**	P	**Pn**	**19 59 49.4**	**-2.7**
MAT				*e*S	**S**	**20 01 34.4**	**-3.1**
JHS	**Saijyo**	**9.76**	**322**	P	**Pn**	**20 00 01.3**	**+3.1**
KSRS	**Korea Array**	**14.48**	**317**	P	**P**	**20 00 53.2**	**+1.1**
0.4nm,0.3s,baz=133,slow=12,SNR=10							
ASAJ	**Asahikawa**	**16.72**	**6**	P	**P**	**20 01 17.9**	**+1.6**
0.3nm,0.3s,baz=210,slow=6.4,SNR=4.0							
SONM	**Songino Array**	**33.35**	**317**	P	**P**	**20 03 49.8**	**+0.2**
1.1nm,0.4s,mb3.4,baz=125,slow=9.0,SNR=21							
SONM				PcP	PcP	20 06 21.7	-0.4
0.3nm,0.5s,baz=99,slow=2.8,SNR=3.5							
SONM				ScP	ScP	20 09 32.1	-0.6
1.3nm,1.0s,baz=144,slow=5.8,SNR=7.2							
NIKO	**Nikolski**	**45.15**	**41**	P	**P**	**20 05 25.3**	**-0.8**
26nm,1.1s,mb4.3							
WRAB	**Tennant Creek**	**47.47**	**188**	*e*P	**P**	**20 05 43.4**	**-0.9**
10nm,0.8s,mb4.1							
WB2	**Warramunga Arr**	**47.48**	**188**	⇑*i*P	**P**	**20 05 43.8**	**-0.6**
WRA	**Warramunga Arr**	**47.48**	**188**	P	**P**	**20 05 43.8**	**-0.6**
9.4nm,0.5s,mb4.2,baz=5.7,slow=7.7,SNR=152							
WRA				ScP	ScP	20 10 26.2	-2.1
2.3nm,0.8s,baz=5.8,slow=4.4,SNR=14							
FITZ	**Fitzroy Crossi**	**47.49**	**199**	*e*P	**P**	**20 05 44.6**	**+0.1**
5.9nm,0.8s,mb3.9							
ZALV	**Zalesovo Beam**	**48.17**	**319**	P	**P**	**20 05 48.4**	**-0.8**
0.8nm,0.3s,mb3.4,baz=92,slow=9.3,SNR=6.0							
ZALV				PcP	PcP	20 07 08.9	-1.5
0.8nm,0.3s,baz=111,slow=4.4,SNR=4.4							
MKAR	**Makanchi Array**	**49.02**	**309**	P	**P**	**20 05 55.1**	**-0.6**
0.6nm,0.6s,mb3.0,baz=85,slow=6.0,SNR=6.0							
MKAR				PcP	PcP	20 07 13.9	+0.3
0.8nm,0.8s,baz=97,slow=5.3,SNR=5.2							
MKAR				ScP	ScP	20 10 33.7	-0.9
0.8nm,0.7s,baz=88,slow=4.8,SNR=6.9							
MKAR	**Makanchi Array**	**49.02**	**309**	P	**P**	**20 05 55.1**	**-0.6**
MKAR				PcP	PcP	20 07 13.9	+0.3
MKAR				ScP	ScP	20 10 33.7	-0.9
ASAR	**Alice Springs**	**51.21**	**188**	P	**P**	**20 06 11.8**	**-0.5**
1.3nm,0.5s,mb3.4,baz=2.6,slow=4.7,SNR=44							
ASAR				ScP	ScP	20 10 42.0	-2.3
1.0nm,0.9s,baz=36,slow=3.2,SNR=7.0							
KURK	**Kurchatov**	**51.59**	**314**	*e*P	**P**	**20 06 14.7**	**-0.1**
4.6nm,1.1s,mb3.7							
MBWA	**Marble Bar**	**52.30**	**205**	*e*P	**P**	**20 06 19.7**	**-0.6**
12nm,0.9s,mb4.2							
TKM2	**Tokmak 2**	**53.90**	**305**	P	**P**	**20 06 31.7**	**0.0**
KDAK	**Kodiak Island**	**55.03**	**37**	P	**P**	**20 06 40.4**	**+1.0**
6.6nm,0.7s,mb4.1,baz=44,slow=6.8,SNR=8.3							
KDAK	**Kodiak Island**	**55.03**	**37**	P	**P**	**20 06 40.4**	**+1.0**
EKS2	**Erkin-Say**	**55.26**	**305**	*e*P	**P**	**20 06 41.1**	**-0.2**
PMR	**Palmer**	**56.99**	**33**	P	**P**	**20 06 50.0**	**-3.1**
COLD	**Coldfoot**	**57.03**	**26**	*e*P	**P**	**20 06 54.8**	**+1.5**
1.3nm,0.7s,mb3.4							
MCK	**McKinley**	**57.21**	**30**	*e*P	**P**	**20 06 55.6**	**+1.0**
6.3nm,0.8s,mb4.0							
BMRM	**Bremner River**	**59.17**	**33**	*e*P	**P**	**20 07 09.3**	**+1.2**
KBL	**Kabul**	**60.43**	**296**	P	**P**	**20 07 16.2**	**-0.9**
EGAK	**Eagle**	**60.62**	**29**	*e*P	**P**	**20 07 18.5**	**+0.8**
1.3nm,0.6s,mb3.5							
ARU	**Arti**	**63.16**	**322**	P	**P**	**20 07 34.4**	**-0.3**
INK	**Inuvik**	**63.37**	**25**	P	**P**	**20 07 36.2**	**+0.4**
1.7nm,0.5s,mb3.9,baz=310,slow=4.1,SNR=5.2							
KEV	**Kevo**	**72.11**	**340**	*e*p	**P**	**20 08 29.2**	**-0.7**
14nm,1.4s,mb4.5							
YKA	**Yellowknife Ar**	**72.58**	**28**	P	**P**	**20 08 33.2**	**+0.5**
3.5nm,0.7s,mb4.2,baz=296,slow=6.0,SNR=13							
YKA	**Yellowknife Ar**	**72.58**	**28**	P	**P**	**20 08 33.2**	**+0.5**
ARCES	**ARCESS Array B**	**72.67**	**340**	P	**P**	**20 08 33.8**	**+0.6**
3.3nm,0.6s,mb4.2,baz=73,slow=9.0,SNR=21							
JOF	**Joensuu**	**74.05**	**333**	*e*p	**P**	**20 08 41.0**	**-0.2**
6.6nm,0.6s,mb4.5							
KAF	**Kangasniemi**	**76.45**	**334**	*e*p	**P**	**20 08 54.3**	**-0.5**
4.5nm,0.5s,mb4.5,baz=55,slow=5.2							
AKASG	**Malin Array Be**	**81.38**	**323**	P	**P**	**20 09 19.8**	**-1.8**
0.2nm,0.3s,mb3.4,baz=51,slow=5.1,SNR=6.7							
AKASG	**Malin Array Be**	**81.38**	**323**	P	**P**	**20 09 19.8**	**-1.8**
NB2	**NORSAR Subarra**	**82.68**	**338**	P	**P**	**20 09 27.2**	**-0.9**
comp=Z,2.7nm,0.7s,mb4.2,baz=46,slow=4.8							
NOA	**NORSAR Array B**	**82.68**	**338**	P	**P**	**20 09 27.5**	**-0.6**
comp=Z,3.2nm,0.6s,mb4.3,baz=46,slow=5.0,SNR=15							
GERES	**GERESS Array B**	**90.37**	**328**	P	**P**	**20 10 04.6**	**-0.8**
comp=Z,0.4nm,0.5s,mb3.6,baz=44,slow=5.9,SNR=6.7							
TORD	**Torodi Ar. Bea**	**123.14**	**310**	PKP	PKPdf	20 15 59.1	-0.4
comp=Z,0.5nm,0.6s,baz=46,slow=2.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**123.14**	**310**	PKP	PKPdf	20 15 59.1	-0.4

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*SZGRF **14** 20:01:01.4, 8.78S×139.5W, h33km, mb4.7, Ascension Island region*
*ISCJB **14** 20:01:04.7±0.4, 7.81S±007×135.2W±007, h10km, mb4.5/34, MS3.7/14, Error ellipse: s-maj=12.7km s-min=8.1km az=44.9*
*IDC **14** 20:01:05.1±0.7, 7.81S×134.0W, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.0/26, mbtmp4.1/13, ML3.5/1, MS3.8/12, Ms1 3.8/12, ms1mx3.6/24, Error ellipse: s-maj=27.0km s-min=15.7km az=131.0*
*NEIC **14** 20:01:06.6±0.4, 7.82S×135.9W, h10km, mb4.7/26, Error ellipse: s-maj=12.7km s-min=7.7km az=142.0*
ISC 14 20:01:07.0±0.4, 784S±007×1341W±009, h10km, n71, σ0§78/64, mb4.5/34, MS3.7/14, 1C, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**0.94**	**265**	*e*Pg	**Pg**	**20 01 19.8**	**-5.3**
DBIC	**Dimbokro**	**16.75**	**31**	Pn	**Pn**	**20 05 02.9**	**+1.0**
0.2nm,0.3s,baz=159,slow=14,SNR=2.3							
DBIC				LR	LR	20 09 55.7	
comp=Z,155nm,21.4s,baz=193,slow=32							
DBIC	**Dimbokro**	**16.75**	**31**	Pn	**Pn**	**20 05 02.9**	**+1.0**
DBIC				LR	LR	20 09 55.7	
BBTS	**Babate**	**22.57**	**352**	P	**P**	**20 06 08.2**	**+0.6**
15nm,0.6s,mb4.6,baz=119,slow=1.4,SNR=3.5							
BBTS				LR	LR	20 13 09.3	
comp=Z,76nm,19.6s,MS3.1,baz=207,slow=32							
TORD	**Torodi Ar. Bea**	**25.69**	**36**	P	**P**	**20 06 36.6**	**-0.9**
18nm,1.0s,mb4.6,baz=221,slow=8.6,SNR=34							
TORD				LR	LR	20 15 28.4	
comp=Z,102nm,20.3s,MS3.3,baz=185,slow=34							
TSUM	**Tsumeb**	**32.12**	**114**	LR	LR	20 17 45.5	
comp=Z,266nm,20.5s,MS3.9,baz=318,slow=31							
BDFB	**Brasilia**	**34.71**	**254**	P	**P**	**20 07 56.0**	**-1.4**
1.3nm,0.7s,mb4.0,baz=59,slow=19,SNR=3.4							
BDFB		

MEZF	Maizieres J'vi	58.41	14	*e*P		P	20 11 02.4	-0.3
	comp=Z,19nm,0.9s,mb4.8							
MEZF	Maizieres J'vi	58.41	14	*e*P		P	20 11 02.4	-0.3
	comp=Z,19nm,0.9s,mb5.1							
CDF	Champ du Feu	58.91	16	*e*P		P	20 11 05.2	-0.9
BAIF	Baives	59.67	13	*e*P		P	20 11 10.6	-0.8
	comp=Z,26nm,1.1s,mb4.9							
BAIF	Baives	59.67	13	*e*P		P	20 11 10.6	-0.8
	comp=Z,13nm,1.1s,mb4.9							
GIVF	Givet	59.85	13	*e*P		P	20 11 11.9	-0.7
PLCA	Paso Flores	60.22	227	LR		LR	20 35 13.8	
	comp=Z,122nm,18.4s,MS4.1,baz=253,slow=34							
GRA1	Grafenberg Arr	61.20	18	*e*P		P	20 11 21.8	0.0
	comp=Z,5.0nm,1.0s,mb4.6							
GRF	Grafenberg Arr	61.20	18	*e*P		P	20 11 21.8	0.0
	comp=Z,5.0nm,1.0s,mb4.6							
GERES	GERESS Array B	61.26	20	P		P	20 11 21.8	-0.4
	comp=Z,1.6nm,0.8s,mb4.2,baz=197,slow=7.8,SNR=13							
GERES				PP		PP	20 13 35.1	-2.3
	comp=Z,0.5nm,0.7s,baz=212,slow=9.5,SNR=3.7							
ROSC	El Rosal	62.06	280	LR		LR	20 36 17.0	
	comp=Z,140nm,19.5s,MS4.1,baz=18,slow=34							
SNAA	Sanae	64.10	176	P		P	20 11 40.9	0.0
	comp=Z,1.2nm,0.9s,mb3.9,baz=360,slow=7.7,SNR=6.2							
SNAA	Sanae	64.10	176	*e*P		P	20 11 42.9	+2.0
	comp=Z,5.6nm,1.1s,mb4.5							
OTAV	Otavalo	65.32	274	P		P	20 11 55.9	+5.9
	comp=Z,4.9nm,1.1s,mb4.5							
MALT	Malatya	66.56	42	*e*P		P	20 11 57.9	+0.5
	comp=Z,3.5nm,0.9s,mb4.4							
KIEV	Kiev	68.96	27	*e*P		P	20 12 11.2	-1.1
	comp=Z,14nm,1.3s,mb4.7							
AKASG	Malin Array Be	68.97	27	P		P	20 12 11.5	-0.8
	comp=Z,4.0nm,0.7s,mb4.4,baz=228,slow=6.8,SNR=24							
SYO	Syowa Base	70.04	162	⇑*e*P		P	20 12 18.2	-0.5
NB2	NORSAR Subarra	71.34	12	P		P	20 12 26.4	-0.3
	comp=Z,2.4nm,0.8s,mb4.2,baz=202,slow=6.9							
NOA	NORSAR Array B	71.34	12	P		P	20 12 26.8	+0.1
	comp=Z,2.4nm,0.8s,mb4.2,baz=203,slow=6.6,SNR=6.1							
KIV	Kislovodsk	72.22	39	P		P	20 12 30.8	-1.5
	comp=Z,16nm,1.2s,mb4.8							
MCWV	Mont Chateau	77.31	314	*e*P		P	20 12 57.5	-4.5
	comp=Z,24nm,1.2s,mb5.0							
ARCES	ARCESS Array B	81.71	13	P		P	20 13 23.8	-1.4
	comp=Z,2.6nm,0.7s,mb4.2,baz=259,slow=1.2,SNR=9.0							
WMOK	Wichita Mounta	90.63	305	P		P	20 14 10.4	+0.4
	comp=Z,2.7nm,1.0s,mb4.5							
PDAR	Pinedale Array	99.78	312	LR		LR	20 55 60.0	
	comp=Z,42nm,18.0s,MS4.0,baz=327,slow=33							

KRSC 14 20:10:55.0±0.9, 5233N×16068E, h17km±17km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	0.87	333	P		Pb	20 11 12.1	+0.5
SPN				*i* S		Sb	20 11 24.7	+1.8
NLC	Nalytchevo	1.17	317	*e*P		Pn	20 11 17.3	+0.8
NLC				*e*S		Sb	20 11 33.6	+2.0
RUS	Russkaya	1.33	275	*i* P		Pn	20 11 18.3	-0.5
RUS				*i* S		Sn	20 11 35.1	-1.0
PET	Petropavlovsk	1.42	300	*e*P		Pn	20 11 20.8	+0.9
PET				*e*S		Sn	20 11 39.9	+1.7
AVH	Avacha	1.51	309	P		Pn	20 11 22.5	+1.3
AVH				*i* S		Sn	20 11 42.8	+2.4
GNL	Ganaly	2.15	311	*e*P		Pn	20 11 32.4	+2.4
GNL				*i* S		Sn	20 11 59.3	+3.2
MKZ	Mys Kozlova	2.32	15	P		Pn	20 11 32.9	+0.6
MKZ				*i* S		Sn	20 12 00.1	-0.3
MIPR	Malaya Ipel'ka	2.41	270	P		Pn	20 11 35.3	+1.7
TUMR	Tumrok	2.98	354	P		Pn	20 11 44.2	+2.8
KMNR	Kamenistaya	3.44	356	P		Pn	20 11 51.2	+3.4
KBTR	Krutoberegovo	4.08	17	P		Pn	20 11 57.6	+1.0

ISCJB 14 20:21:46.8±0.8, 3930N×0030±0.005, h70km±5km, Error ellipse: s-maj=7.1km s-min=4.4km az=175.3
THE 14 20:21:47.7, 3934N×0011E, h1km, ML3.2
NEIC 14 20:21:47.7, 3934N×0011E, h1km, MD3.5(ATH), ML3.2(THE), After THE.
ATH 14 20:21:48.1, 3925N×0025E, h18km±1km, MD3.5/5
CSEM 14 20:21:49.1±0.3, 3928N×0025E, h10km, ML3.2, Error ellipse: s-maj=6.8km s-min=4.4km az=85.0

ISC 14 20:21:48.4±0.7, 3924N±0030×2023E±0.05, h4km±5km, n18, σ1°19/34, 2C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	Igoumenitsa	0.30	15	*e*Pg		Pg	20 21 52.5	-1.7
IGT				*e*Sg		Sg	20 21 56.4	-1.9
IGT	Igoumenitsa	0.30	15	*i* PG		Pg	20 21 52.5	-1.8
IGT				*i* SG		Sg	20 21 56.4	-1.9
IGT	Igoumenitsa	0.30	15	*e*Pg		Pg	20 21 52.5	-1.8
IGT				*e*Sg		Sg	20 21 56.4	-1.9
KEK	Kerkira	0.58	325	*e*PN		Pg	20 21 59.2	-0.3
KEK				*e*SN		Sg	20 22 08.0	+0.9
LKD	Levkas	0.62	148	*e*Pg		Pg	20 22 01.2	+0.9
LKD				*e*Sg		Sg	20 22 13.6	+5.2
JAN	Janina	0.64	49	⇑*i*PB		Pb	20 21 59.3	-2.8
JAN				*e*SN		Sg	20 22 08.8	-0.1
SRN	Sarande	0.67	345	*e*PN		Pg	20 21 59.9	-1.3
SRN				*i* SN		Sg	20 22 11.4	+1.6
VLS	Valsamata	1.10	165	*e*Pg		Pg	20 22 10.4	+1.0
VLS				*e*Sg		Sg	20 22 27.8	+4.2
VLS	Valsamata	1.10	165	*e*PN		Pn	20 22 09.3	-1.2
VLS				*e*SN		Sn	20 22 24.9	-1.1
VLS	Valsamata	1.10	165	*e*Pg		Pg	20 22 10.4	+1.0
VLS				*e*Sn		Sn	20 22 24.9	-1.1
VLS				*e*Sg		Sg	20 22 27.8	+4.2
EVR	Evrytania	1.27	104	⇑*i*PN		Pn	20 22 12.5	-0.4
EVR				*e*SN		Sn	20 22 29.3	-1.1
THL	Klokotos Trika	1.42	76	*e*Pg		Pg	20 22 15.0	-0.6
THL				*e*Sg		Sg	20 22 35.7	+1.6
KZN	Kozani	1.60	48	*e*PN		Pn	20 22 17.6	+0.2
KZN				*e*SN		Sn	20 22 38.9	+0.5
FNA	Florina	1.78	29	*e*Sb		Sb	20 22 46.1	+2.0
FNA				*e*Sb		Sb	20 22 43.6	-0.5
FNA	Florina	1.78	29	*e*Sb		Sb	20 22 43.6	-0.6
LIT	Litokhoron	1.95	63	*e*Pn		Pn	20 22 22.8	+0.6
LIT				*e*Sn		Sn	20 22 47.6	+0.6
BIA	Bitola	1.97	25	*e*Pn		Pn	20 22 24.6	+2.1
DID	Didima	2.93	125	*e*Pn		Pn	20 22 36.7	+1.0

ISCJB 14 20:22:20.4±0.3, 4219N±0020×12189W±0.02, h4km±3km, Error ellipse: s-maj=3.1km s-min=2.9km az=9.8
NEIC 14 20:22:20.3, 4219N×12181W, h0km, MD2.7(SEA), After SEA.

ISC 14 20:22:20.7±0.3, 4219N±0020×12190W±0.02, h6km±3km, n40, σ0°98/57, 13C-18D, Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
L04A	Klamath Falls	0.01	169	P		Pg	20 22 21.1	-0.6
	baz=0.1,SNR=829							
L04A				⇓S		Sg	20 22 22.6	+0.2
	baz=0.1							
KFAL	Klamath Falls	0.11	50	P		Pg	20 22 22.5	-0.5
LAB	Little Aspen B	0.15	302	P		Pg	20 22 24.9	+1.2
HOG	Hogback Mounta	0.15	69	⇑P		Pg	20 22 23.3	-0.4
VSP	Spence Mountai	0.16	345	P		Pg	20 22 24.5	+0.6
BUOR	Burton Butte	0.28	289	P		Pg	20 22 27.4	+1.3
M04C	Macdoel	0.41	174	⇑P		Pg	20 22 28.8	+0.3
	baz=0.4							
M04C				⇑S		Sg	20 22 35.4	+1.5
	baz=0.4							
K04A	Chilquin	0.44	16	⇓P		Pg	20 22 29.2	-0.1
	baz=0.4							
K04A				⇑S		Sg	20 22 36.5	+1.5
	baz=0.4							
LHEM	Herd Peak	0.61	203	P		Pg	20 22 33.0	+0.6
LASM	Arnica Sink	0.64	158	P		Pg	20 22 32.8	-0.1
YBH	Yreka Blue Hor	0.76	233	*e*Pg		Pg	20 22 34.5	-0.8
YBH				*e*Sg		Sg	20 22 45.8	+0.7
L05A	Lakeview	0.80	100	⇑P		Pg	20 22 35.3	-0.8
	baz=0.7,SNR=18							
HUMO	Hull Mountain	0.89	298	⇓P		Pg	20 22 37.2	-0.6
	baz=0.9							
HUMO				⇓S		Sg	20 22 50.4	+1.0
	baz=0.9							
HUMO	Hull Mountain	0.89	298	*e*Pg		Pg	20 22 36.8	-1.0
BBOR	Butler Butte	0.91	321	P		Pg	20 22 37.9	-0.2
K05A	Summer Lake	0.92	54	⇓P		Pg	20 22 37.5	-0.8
	baz=0.9,SNR=25							
K05A				⇓S		Sg	20 22 51.2	+1.1
	baz=0.9							
M05C	Lookout	1.00	146	⇓P		Pg	20 22 38.7	-1.2
	baz=1.0,SNR=10							
M05C				⇓S		Sg	20 22 53.4	+0.5
	baz=1.0							
LTIM	Timbered Crate	1.06	163	P		Pg	20 22 40.1	-0.9
KTRM	Thompson Ridge	1.14	256	P		Pg	20 22 42.3	-0.2
J05A	Fort Rock	1.20	24	⇑P		Pg	20 22 42.7	-1.0
	baz=1.2,SNR=35							
J05A				⇓S		Sg	20 22 59.5	+0.4
	baz=1.2							
MOD	Modoc	1.22	103	⇑P		Pg	20 22 42.4	-1.7
	baz=1.2							
MOD				⇓S		Sg	20 22 59.9	+0.1
	baz=1.2							
MOD	Modoc	1.22	103	*e*Pg		Pg	20 22 41.8	-2.2
K02A	Glendale	1.31	297	⇓P		Pn	20 22 44.3	-1.2
	baz=1.4							
K02A				⇓S		Sb	20 23 02.4	-0.5
	baz=1.4							
K06A	Valley Falls	1.36	63	⇑P		Pn	20 22 44.9	-1.3
	baz=1.3,SNR=42							
K06A				⇑S		Sb	20 23 04.4	+0.2
	baz=1.3							
DBO	Dodson Butte	1.36	314	P		Pn	20 22 46.1	-0.1
LBCM	Butte Creek Ri	1.41	163	P		Pn	20 22 46.4	-0.5
KRMB	Red Mountain	1.65	247	*e*Pn		Pg	20 22 52.2	0.0
KRMB				*e*Sn		Sg	20 23 17.9	+4.4
J06A	Christmas Vall	1.67	50	⇑P		Pn	20 22 49.7	-0.7
	baz=1.6,SNR=12							
J06A				⇓Sb		Sb	20 23 14.8	+1.8
	baz=1.6							
WDC	Whiskeytown Da	1.68	197	*e*Pn		Pn	20 22 47.1	-3.5
WDC				*e*Sn		Sn	20 23 12.8	+0.3
J02A	Umpqua	1.71	314	⇓Sb		Sb	20 23 15.7	+1.6
	baz=1.7							
KBO	Bosley Butte	1.73	272	*e*Pn		Pg	20 22 53.8	-0.1
KBO				*e*Sn		Sg	20 23 21.8	+5.5
KEBM	Edson Butte	1.93	292	*e*Pn		Pn	20 22 54.7	+0.7
KEBM				*e*Sn		Sg	20 23 21.5	-1.1
O04C	Chester	1.96	162	⇓Sb		Sb	20 23 22.5	+1.0
	baz=2.0							
K07A	Rock Creek Ran	2.02	75	⇓P		Pn	20 22 54.3	-1.0
	baz=2.0,SNR=27							
K07A				⇑Sb		Sb	20 23 24.8	+1.5
	baz=2.0							
N06A	Buffalo Meadow	2.11	132	⇓Sb		Sb	20 23 27.3	+1.5
	baz=2.1							
I06A	Prineville	2.14	35	⇑Pb		Pb	20 22 59.4	-0.5
	baz=2.1							
M07A	Soldier Meadow	2.19	111	⇑Sb		Sb	20 23 29.7	+1.7
	baz=2.1							
WVOR	Wild Horse Val	2.43	83	*e*Pn		Pn	20 22 58.8	-2.1
K08A	Mann Creek Ran	2.58	77	⇓P		Pn	20 23 01.7	-1.2
	baz=2.5							
HEBO	Mount Hebo	3.31	337	Pn		Pn	20 23 17.5	+4.5

KRSC 14 20:35:04.2±0.7, 5095N×15779E, h36km±36km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIPR	Malaya Ipel'ka	1.48	335	*e*P		Pn	20 35 28.2	0.0
RUS	Russkaya	1.55	17	*e*P		Pn	20 35 31.6	+2.3
RUS				*i* S		Sn	20 35 51.9	+3.7
PET	Petropavlovsk	2.15	14	P		Pn	20 35 40.9	+3.5
AVH	Avacha	2.39	14	P		Pn	20 35 44.2	+3.4
AVH				*i* S		Sn	20 36 13.2	+4.4
SPN	Mys Shipunski	2.56	32	P		Pn	20 35 45.7	+2.6
SPN				*i* S		Sn	20 36 15.2	+2.3
GNL	Ganaly	2.75	2	P		Pn	20 35 50.0	+4.3

CSEM 14 20:43:14.6, 1251N×4592E, h6km, ML3.7, After DHMR

DHMR 14 20:43:14.6±0.6, 1251N×4592E, h6km±20km, ML3.7, 2C, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADEN	Aden	0.95	286	⇑*i*P		Pg	20 43 32.6	-0.3
ADEN				*i* S		Sg	20 43 46.1	+0.7
	1μm,0.5s							
ADEN	Aden	0.95	286	⇑*i*P		Pg	20 43 32.6	-0.4
ADEN				*i* S		Sg	20 43 46.1	+0.7
ADEN				AML	AML		20 43 47.8	
	comp=E,3μm,0.5s							
BDHA	Al Bayda'	1.50	347	*i* P		Pn	20 43 42.3	+0.3
	comp=E,422nm,0.4s							
BDHA	Al Bayda'	1.50	347	*i* P		Pn	20 43 42.3	+0.3
BDHA				AML	AML		20 43 57.1	
	comp=Z,843nm,0.4s							
DHBB	Dhamar BB	2.54	324	*i* P		Pn	20 43 58.7	+2.4
DHBB				*i* S		Sn	20 44 33.5	+6.1

CSEM 14 20:54:37.6, 3893N×2320E, h52km, MD3.5/2, After ATH

ATH 14 20:54:37.6, 3893N×2320E, h52km±13km, MD2.8/3, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKR	Lokris	0.32	209	*e*P		Pn	20 54 47.4	+0.3
LKR				*e*S		Sn	20 54 55.0	+1.2
NEO	Neokhori	0.38	3	⇑*i*P		Pn	20 54 48.8	+1.2
NEO				*e*S		Sn	20 54 55.5	+0.7
ATH	Athens Observa	1.04	157	*e*P		Pn	20 54 56.6	+0.7

CSEM 14 21:15:28.1, 3795N×2138E, h17km, MD3.7/3, After ATH

ATH 14 21:15:28.1, 3795N×2138E, h17km±2km, MD3.1/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	Riolos of Patr	0.13	32	*e*PB		Pg	21 15 32.3	+0.4
RLS				*e*SB		Sg	21 15 34.8	+0.3
VLS	Valsamata	0.66	290	*e*PN		Pn	21 15 41.0	-1.7
VLS				*e*SN		Sg	21 15 51.1	+1.1
EVR	Evrytania	1.02	19	*e*PN		Pn	21 15 47.9	+0.3
EVR				*e*SN		Sn	21 16 01.7	+0.1

IDC 14 21:33:20.1±7.8, 2174N×14280E, h242km±77km, mb3.1/8, mb1 3.3/8, mb1mx3.2/20, mbtmp3.1/8, Error ellipse: s-maj=38.5km s-min=14.9km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	Korea Array	20.27	324	P	P	21 37 37.9	+0.4
	0.4nm,0.3s,baz=141,slow=8.0,SNR=7.4						
SONM	Songino Array	39.08	321	P	P	21 40 23.5	-0.3
	1.0nm,0.7s,baz=130,slow=7.4,SNR=7.1						
WRA	Warramunga Arr	42.24	192	P	P	21 40 49.7	-0.2
	0.6nm,0.7s,baz=18,slow=9.1,SNR=6.5						
ASAR	Alice Springs	45.95	191	P	P	21 41 19.2	0.0
	0.4nm,0.8s,baz=7.4,slow=7.2,SNR=4.0						
ZALV	Zalesovo Beam	53.96	322	P	P	21 42 18.3	-0.6
	1.7nm,0.9s,baz=104,slow=6.3,SNR=6.6						
MKAR	Makanchi Array	54.41	313	P	P	21 42 23.3	+1.0
	0.6nm,0.7s,baz=98,slow=8.7,SNR=5.1						
YKA	Yellowknife Ar	76.58	28	P	P	21 44 43.0	-0.5
	0.5nm,0.4s,baz=293,slow=6.3,SNR=2.8						
NVAR	Mina Array Bea	83.39	51	P	P	21 45 22.1	+1.6
	0.2nm,0.4s,baz=278,slow=4.3,SNR=4.9						

IDC 14 21:50:06.5±0.4, 4040N×12663E, h0km, mb4.7/20, mb1 4.8/20, mb1mx4.7/22, mbtmp4.7/20, MS3.9/13, Ms1 3.9/13, ms1mx3.6/26, Error ellipse: s-maj=22.0km s-min=9.1km az=77.0
MOS 14 21:50:10.5±1.0, 4090N×12655E, h33km, mb5.3/26, Error ellipse: s-maj=11.2km s-min=5.8km az=116.3
BJI 14 21:50:11.0, 3640N×12678E, h75km, mB5.0, mb4.9, Ms4.3, Msz4.2
NEIC 14 21:50:12.9±0.8, 4070N×12664E, h44km±7km, mb5.1/42, Error ellipse: s-maj=5.6km s-min=3.8km az=80.0
ISCJB 14 21:50:13.4±0.5, 4040N±0020×12670E±0.04, h63km±4km, mb5.0/90, Error ellipse: s-maj=6.3km s-min=3.9km az=179.7
MAN 14 21:50:15, 3940N×12624E, h66km, mb5.3, ML4.3, MS4.6
DJA 14 21:50:19, 3800N×12672E, h50km, ML5.1/6

ISC 14 21:50:15.2±0.5, 4040N±0020×12670E±0.04, h65km±3km, h64km±2.6km: pP-P, n270, σ1°11/259, mb4.9/90, 32C-24D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	2.67	319	⇓*e*P		Pn	21 50 54.1	-1.9
MATI	Mati	2.92	351	*e*P		Pn	21 50 58.6	-0.6
MNI	Manado	3.18	216	P		Pn	21 51 02.5	-0.4
	0.0nm,0.0s							
MNI	Manado	3.18	216	⇓*e*P		Pn	21 51 02.5	-0.4
MNI				*e*S		Sn	21 51 47.0	+7.4
DAV	Davao City (W)	3.21	340	Pn		Pn	21 51 01.6	-1.6
	34nm,0.3s,baz=182,slow=2.5,SNR=9.6							
DAV				Sn		Sn	21 51 37.0	-3.3
	67nm,0.3s,baz=276,slow=19,SNR=5.3							
DAV				LR		LR	21 52 40.0	
	comp=Z,2μm,18.6s,baz=355,slow=48							
DAV	Davao City (W)	3.21	340	*e*Pn		Pn	21 51 00.6	-2.6
DAV				Sn		Sn	21 51 35.6	-4.6
DMPH	Davao City--Mi	3.24	339	*e*P		Pn	21 51 05.3	+1.5
DMPH				*e*S		Sn	21 51 58.6	+17
TNE	Ternate	3.30	168	⇓*e*P		Pn	21 51 00.0	-4.6
KCP	Kidapawan	3.35	332	⇑*e*P		Pn	21 51 05.9	+0.7
CTBH	Cotabato--PC H	3.99	322	*e*P		Pn	21 51 13.6	-0.4
CTBH				*i* S		Sn	21 52 03.5	+4.0
BIPH	Bislig	4.13	355	⇑*i*P		Pn	21 51 17.8	+2.0
BIPH				*i* S		Sn	21 52 12.1	+9.2
BUKP	Musuan	4.14	337	*e*P		Pn	21 51 15.9	-0.2
LBMI	Labuha	4.72	170	P		Pn	21 51 22.7	-1.2
	0.0nm,0.0s							
BUTP	Butuan	5.01	348	*e*P		Pn	21 51 30.7	+2.8
PAGZ	Pagadian	5.02	319	*e*P		Pn	21 51 27.6	-0.4
IPIL	Ipil	5.54	312	*e*P		Pn	21 51 34.2	-0.9
IPIL				*e*S		Sn	21 52 34.8	-2.7
SCPH	Surigao	5.83	348	⇑*e*P		Pn	21 51 42.3	+3.2
TBP	Tagbilaran	6.28	334	*e*P		Pn	21 51 45.6	+0.3
MSLP	Maasin	6.32	343	*e*P		Pn	21 51 48.0	+2.1
LLP	Lapu-Lapu	6.80	337	*e*P		Pn	21 51 51.5	-0.9
OCLP	Ormoc	7.26	344	*e*P		Pn	21 52 05.3	+6.5
MYLDM	Lahad Datu	8.25	278	⇓P		Pn	21 52 15.9	+3.6
RCP	Roxas	8.43	333	⇓*e*P		Pn	21 52 19.5	+4.8
PCI	Palu	8.44	235	P		Pn	21 52 13.9	-0.9
	0.0nm,0.0s							
PCI	Palu	8.44	235	⇑*e*P		Pn	21 52 13.0	-1.8
TSM	Tawau	8.80	272	⇑P		Pn	21 52 23.6	+3.7
KDI	Kendari	8.93	207	P		Pn	21 52 20.4	-1.2
	0.0nm,0.0s							
KDI	Kendari	8.93	207	⇑*e*P		Pn	21 52 20.3	-1.3
KDI				*e*S		Sn	21 54 00.6	-0.1
SDKM	Sandakan	9.60	280	⇑P		Pn	21 52 34.4	+3.7
KDM	Kudat	10.22	287	⇑P		Pn	21 52 43.3	+4.0
SMKI	Samarinda	10.48	245	P		Pn	21 52 45.1	+2.4
	0.0nm,0.0s							
KKM	Kota Kinabalu	10.63	281	⇑P		Pn	21 52 48.6	+3.8
KKM	Kota Kinabalu	10.63	281	*e*Pn		Pn	21 52 43.9	-0.9
KKM				*e*Sn		Sn	21 54 38.9	-3.4
KAPI	Kappang	11.36	218	*e*Pn		Pn	21 52 59.0	+4.2
BTM	Bintulu	13.61	267	⇑P		Pn	21 53 31.5	+6.1
BBKI	Banjar Baru	14.00	238	P		Pn	21 53 33.8	+3.3
	0.0nm,0.0s							
BATI	Baumata	14.47	192	Pn		Pn	21 53 38.0	+1.2
	2.0nm,0.3s,baz=49,slow=9.3,SNR=2.1							
SBUM	Sibu	14.54	264	⇓P		Pn	21 53 40.8	+3.1
JAY	Jayapura	15.44	115	P		Pn	21 53 47.9	-1.3
	0.0nm,0.0s							
PBKI	Pangkalan Bun	16.45	246	P		Pn	21 54 04.0	+2.0
	0.0nm,0.0s							
KSM	Kuching	16.57	262	⇓P		Pn	21 54 05.9	+2.4
KSM	Kuching	16.57	262	*e*Pn		Pn	21 54 02.9	-0.6
KAKA	Kakadu	17.59	161	*e*P		Pn	21 54 12.1	-4.0
	25nm,0.5s							
TPI	Tanjungpandan	20.20	251	P		P	21 54 47.7	+2.9
	0.0nm,0.0s							
GUMO	Guam	20.29	61	LR		LR	22 01 05.1	
	comp=Z,259nm,21.3s,baz=144,slow=32							
NACB	Ninganchiao	20.61	347	P		P	21 54 48.8	-0.4
YHNB	Yeheng	21.14	346	*e*P		P	21 54 53.6	-1.2
	34nm,0.6s,mb4.8							
LEM	Lembang	21.89	241	P		P	21 55 04.7	+1.6
	0.0nm,0.0s							
FITZ	Fitzroy Crossi	22.03	183	*e*P		P	21 55 03.4	-1.0
	22nm,0.6s,mb4.7							
FITZ				*e*S		S	21 58 56.8	-7.1
FITZ	Fitzroy Crossi	22.03	183	P		P	21 55 02.8	-1.6
	5.5nm,0.4s,mb4.2,baz=20,slow=12,SNR=20							
QIZ	Qiongzhong	22.20	313	P		P	21 55 07.3	+1.0
QIZ				S		S	21 59 09.6	+2.4
QIZ				AMB	AMB			
	comp=Z,36nm,1.6s,mb4.5							
QIZ				AMB	AMB			
	comp=Z,157nm,2.6s,mb4.9							
TPRI	Tanjung Pinang	22.36	263	P		P	21 55 06.5	-1.6
	comp=Z,0.0nm,0.0s							
CBJI	Citeko	22.38	242	P		P	21 55 08.3	+0.1
	comp=Z,0.0nm,0.0s							
JOW	Kunigami	22.71	4	P		P	21 55 10.7	-0.9
	comp=Z,29nm,0.7s,mb4.7,baz=182,slow=8.0,SNR=9.4							
JOW				LR		LR	22 02 52.4	
	comp=Z,144nm,21.4s,baz=76,slow=34							
MYKOM	Kota Tinggi	22.93	265	⇓P		P	21 55 15.2	+1.2
KGM	Kluang	23.43	266	⇓P		P	21 55 19.9	+1.0
KTGM	Kuala Trenggan	23.52	274	⇑P		P	21 55 20

GYA LR LR
comp=Z,660nm,20.1s
CM31 Chiang Mai Arr 30.69 300 *eP* **P 21 56 23.3 -0.7**
CMAR Chiang Mai Arr 30.69 300 P **P 21 56 23.7 -0.3**
comp=Z,11nm,0.8s,mb4.6,baz=113,slow=6.9,SNR=49
CMAR PcP PcP 21 59 21.8 +1.0
comp=Z,0.8nm,0.4s,baz=95,slow=2.3,SNR=4.2
CMAR ScP ScP 22 03 03.4 +5.4
comp=Z,0.5nm,0.3s,baz=161,slow=1.5,SNR=6.1
CMAR LR LR 22 08 28.8
comp=Z,142nm,20.8s,baz=125,slow=36
CMAR Chiang Mai Arr 30.69 300 P **P 21 56 23.7 -0.3**
CMAR 21 59 21.8
CMAR 22 03 03.4
CHTO Chiang Mai 30.83 301 *eP* **P 21 56 24.6 -0.7**
CHTO pmax pmax
comp=Z,19nm,0.8s,mb4.9
CHTO Chiang Mai 30.83 301 *eP* **P 21 56 24.6 -0.7**
comp=Z,19nm,0.8s,mb4.9
KMI Kunming 31.14 315 P **P 21 56 28.4 +0.5**
KMI AP pP 21 56 46.6 +2.8
KMI XP sP 21 56 55.4 +3.9
KMI PP PP 21 57 35.0 -4.3
KMI S **S 22 01 30.3 +1.1**
KMI XS sS 22 02 00.4 +4.1
KMI SS SS 22 03 21.3 -23
KMI SSS 22 03 45.8
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb4.5
KMI AMB AMB
comp=Z,96nm,4.0s
KMI LR LR
comp=N,211nm,17.9s
KMI LR LR
comp=E,256nm,21.8s
KMI LR LR
comp=Z,310nm,23.1s
KS15 Wonju Array Si 33.26 2 *eP* **P 21 56 42.9 -3.4**
KSRS Korea Array 33.27 2 P **P 21 56 46.9 +0.5**
comp=Z,9.2nm,0.9s,mb4.6,baz=179,slow=9.9,SNR=28
KSRS PcP PcP 21 59 29.5 +2.0
comp=Z,6.1nm,0.8s,baz=188,slow=2.8,SNR=16
COCO West Island 33.78 241 P **P 21 56 50.3 -0.9**
MAJO Matsushiro 34.03 17 *eP* **P 21 56 51.4 -1.7**
MAJO *e* 21 59 29.8
MAT Matsushiro 34.03 17 P **P 21 56 49.8 -3.3**
MJAR Matsushiro Arr 34.03 17 P **P 21 56 50.8 -2.3**
comp=Z,1.6nm,0.6s,mb4.0,baz=187,slow=9.5,SNR=13
MJAR PcP PcP 21 59 31.7 +2.0
comp=Z,3.5nm,0.8s,baz=176,slow=3.0,SNR=12
MJAR LR LR 22 08 49.7
comp=Z,155nm,20.8s,baz=185,slow=33
MJAR Matsushiro Arr 34.03 17 P **P 21 56 50.8 -2.3**
MJAR 21 59 31.7
XAN Xi'an 34.12 333 P **P 21 56 51.9 -2.0**
XAN AP pP 21 57 07.3 -2.6
XAN PP PP 21 58 06.5 -5.8
XAN S **S 22 02 09.3 -6.1**
XAN AMB AMB
comp=Z,72nm,0.9s,mb5.5
XAN AMB AMB
comp=Z,100nm,6.3s
XAN LR LR
comp=N,131nm,16.7s
XAN LR LR
comp=E,95nm,20.0s
XAN LR LR
comp=Z,306nm,20.3s
CD2 Chengdu 34.37 324⇓ *iP* **P 21 56 55.4 -0.7**
CD2 AP pP 21 57 10.6 -1.5
CD2 XP sP 21 57 20.3 +0.5
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,50nm,5.8s
CD2 LR LR
comp=N,200nm,16.8s
CD2 LR LR
comp=E,240nm,16.8s
CD2 LR LR
comp=Z,280nm,18.0s
DL2 Dalian 35.01 353 ⇑P **P 21 57 02.4 +1.0**
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.3
KLBR Kellerberrin 36.45 193 *eP* **P 21 57 13.3 -0.5**
comp=Z,27nm,0.9s,mb5.2
BJT Baijiatuau 37.06 347 *eP* **P 21 57 18.6 -0.3**
BJT *e* 21 59 39.7
BJT pmax pmax
comp=Z,30nm,0.7s
BJT Baijiatuau 37.06 347 *eP* **P 21 57 18.6 -0.3**
comp=Z,30nm,0.7s,mb5.3
BJT *e*PcP PcP 21 59 39.7 +1.2
BJI Beijing 37.08 347 P **P 21 57 18.8 -0.3**
BJI S **S 22 03 02.4 +2.0**
BJI AMB AMB
comp=Z,38nm,0.8s,mb5.4
BJI AMB AMB
comp=Z,67nm,3.7s
BJI LR LR
comp=N,137nm,19.0s
BJI LR LR
comp=E,163nm,19.2s
BJI LR LR
comp=Z,232nm,21.4s
MUN Mundaring 37.19 195 *eP* **P 21 57 19.7 -0.4**
NWAO Narrogin (SRO) 37.85 193 *eP* **P 21 57 26.0 +0.3**
NWAO pmax pmax
comp=Z,7.0nm,0.6s
NWAO Narrogin (SRO) 37.85 193 *eP* **P 21 57 26.0 +0.3**
comp=Z,7.2nm,0.6s,mb4.7
LZH Lanzhou 38.22 329 *eP* **P 21 57 29.3 +0.5**
LZH AP pP 21 57 46.0 +1.0
LZH XP sP 21 57 53.4 +0.8
LZH PP PP 21 59 02.0 +4.6
LZH PCP PcP 21 59 44.4 +2.2
LZH SCP ScP 22 03 23.4 -1.1
LZH XS sS 22 03 47.0 +1.6
LZH SS SS 22 06 00.1 -8.3
LZH AMB AMB
comp=Z,89nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,250nm,4.0s
LZH LR LR
comp=E,1μm,13.6s
LZH LR LR
comp=Z,2μm,15.0s
STKA Stephens Creek 38.43 159 *eP* **P 21 57 31.3 +0.7**
STKA Stephens Creek 38.43 159 P **P 21 57 31.0 +0.3**
comp=Z,17nm,0.7s,mb5.0,baz=334,slow=7.6,SNR=28
HHC Hu-ho-hao-te 39.09 342 *eP* **P 21 57 35.8 -0.3**
HHC AP pP 21 57 51.1 -1.2
HHC PP PP 21 59 11.0 +4.2
HHC PCP PcP 21 59 42.1 -2.7
HHC SCP ScP 22 03 28.3 +0.6
HHC S **S 22 03 30.8 -0.1**
HHC PCS PcS 22 03 33.8 -0.6
HHC SS SS 22 06 17.3 -8.5
HHC SCS ScS 22 07 38.0 -1.1
HHC AMB AMB
comp=Z,21nm,1.8s,mb4.7
HHC AMB AMB
comp=Z,63nm,5.1s
HHC LR LR
comp=N,224nm,19.0s
HHC LR LR
comp=E,115nm,16.7s
HHC LR LR
comp=Z,196nm,25.0s
CN2 Changchun 39.61 359 *eP* **P 21 57 40.5 +0.2**
MDJ Mudanjiang 40.49 3 P **P 21 57 47.6 0.0**
MDJ AP pP 21 58 03.6 -0.3
MDJ PP PP 21 59 20.5 -1.5
MDJ S **S 22 03 54.4 +2.7**
MDJ AMB AMB
comp=Z,10.0nm,1.6s,mb4.4
MDJ AMB AMB
comp=Z,68nm,4.2s
MDJ LR LR
comp=N,41nm,25.3s
MDJ LR LR
comp=E,58nm,25.6s
MDJ LR LR
comp=Z,41nm,22.3s
ARMA Armidale 41.74 147 *eP* **P 21 57 59.3 +1.2**

LSA Lhasa 42.21 311 P **P 21 58 03.3 +1.3**
LSA AMB AMB
comp=Z,20nm,0.7s,mb5.0
LSA Lhasa 42.21 311 *eP* **P 21 58 02.1 +0.1**
LSA *e* 21 59 56.1
LSA pmax pmax
comp=Z,14nm,0.6s,mb4.9
LSA Lhasa 42.21 311 *eP* **P 21 58 02.1 +0.1**
comp=Z,14nm,0.6s,mb4.9
LSA *e*PcP PcP 21 59 56.1 +0.9
ASAJ Asahikawa 42.30 17 P **P 21 58 01.9 -0.6**
comp=Z,7.3nm,0.7s,mb4.5,baz=227,slow=16,SNR=12
GTA Gaotai 42.81 329 P **P 21 58 06.3 -0.4**
GTA AP pP 21 58 23.1 0.0
GTA XP sP 21 58 31.3 +0.6
GTA PP PP 21 59 50.1 +2.9
GTA S **S 22 04 26.4 +0.2**
GTA XS sS 22 04 56.1 +2.0
GTA SS SS 22 07 33.4 -6.2
GTA AMB AMB
comp=Z,11nm,1.0s,mb4.5
GTA AMB AMB
comp=Z,80nm,3.9s
GTA LR LR
comp=N,218nm,17.8s
GTA LR LR
comp=E,207nm,18.7s
GTA LR LR
comp=Z,274nm,18.7s
TAPN Taplejung 43.81 306 *eP* **P 21 58 14.5 -0.4**
comp=Z,65nm,1.0s,mb5.3
ODAN Odare 43.86 305 *eP* **P 21 58 14.5 -0.9**
comp=Z,49nm,0.7s,mb5.3
RAMN Ramite 44.54 305 *eP* **P 21 58 20.2 -0.6**
comp=Z,39nm,0.8s,mb5.2
JIRN Jiri 45.16 306 *eP* **P 21 58 25.5 -0.2**
comp=Z,43nm,0.8s,mb5.2
KLR Kul'dur 45.23 5 *eP* **P 21 58 20.6 -5.2**
HIA Hailar 45.45 354 *c iP* **P 21 58 28.4 +0.8**
HIA Hailar 45.45 354 *eP* **P 21 58 28.4 +0.9**
comp=Z,39nm,1.0s,mb5.1
GUN Gumba 45.52 306 *eP* **P 21 58 27.9 -0.6**
comp=Z,37nm,0.6s,mb5.3
PKI Pulchoki 45.76 305 *eP* **P 21 58 29.3 -1.2**
PALK Pallekele 45.87 276 *eP* **P 21 58 31.3 -0.2**
KKN Kakani 45.95 305 *eP* **P 21 58 31.3 -0.7**
comp=Z,9.7nm,0.4s,mb4.9
KKN Kakani 45.95 305 *eP* **P 21 58 31.3 -0.7**
KKN pmax pmax
comp=Z,10.0nm,0.4s,mb4.9
DMN Daman 46.02 305 *eP* **P 21 58 31.5 -1.0**
comp=Z,23nm,0.9s,mb4.9
SONM Songino Array 46.99 341 P **P 21 58 39.8 0.0**
comp=Z,8.0nm,0.9s,mb4.4,baz=159,slow=9.0,SNR=42
SONM PcP PcP 22 00 12.6 +1.5
comp=Z,2.6nm,0.6s,baz=165,slow=2.5,SNR=6.6
SONM LR LR 22 19 56.5
comp=Z,127nm,19.3s,baz=158,slow=38
SONM Songino Array 46.99 341 P **P 21 58 39.8 +0.1**
SONM 22 00 12.6
KOLN Koldanda 47.32 305 *eP* **P 21 58 42.0 -0.7**
comp=Z,51nm,0.7s,mb5.4
DANN Dangsing 47.41 305 *eP* **P 21 58 43.1 -0.2**
comp=Z,83nm,0.6s,mb5.6
ZAK Zakamensk 50.22 341 *eP* **P 21 59 03.9 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
TLY Talaya 51.22 342 *eP* **P 21 59 12.5 +0.5**
TLY pmax pmax
comp=Z,17nm,0.9s,mb5.1
TLY MLR MLR
comp=Z,155nm,24.0s
TLY Talaya 51.22 342 *eP* **P 21 59 13.1 +1.1**
comp=Z,16nm,0.9s,mb5.0
MOY Mondy 52.08 340 *eP* **P 21 59 19.0 +0.6**
MOY pmax pmax
comp=Z,17nm,1.1s,mb5.0
WMQ Urumqi 52.45 325 P **P 21 59 21.5 +0.2**
WMQ AP pP 21 59 37.3 -0.9
WMQ XP sP 21 59 44.3 -1.3
WMQ PCP PcP 22 00 31.5 +0.3
WMQ PP PP 22 01 22.1 +1.4
WMQ SCP ScP 22 04 22.1 -0.8
WMQ *e*S **S 22 06 41.9 -0.9**
WMQ SCS ScS 22 09 02.3 -2.9
WMQ SS SS 22 10 18.3 -3.3
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.9
WMQ LR LR
comp=N,185nm,21.5s
WMQ LR LR
comp=E,119nm,24.0s
WMQ LR LR
comp=Z,158nm,21.0s
CLNS Chul'man 52.66 359 *eP* **P 21 59 23.9 +1.3**
CLNS pmax pmax
comp=Z,13nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=E,3.0nm,0.7s
DDI Dehra Dun 52.76 305 *ex* x 21 59 21.4
NDI New Delhi 52.92 303 *eP* **P 21 59 22.0 -3.1**
HVS Khovu-Aksy 54.44 335 *d iP* **P 21 59 36.9 +1.1**
HVS pmax pmax
comp=Z,85nm,1.3s,mb5.6
BOD Bodaibo 54.55 352 *eP* **P 21 59 37.3 +0.9**
BOD pmax pmax
comp=Z,18nm,1.1s,mb5.0
PETK Petropavlovsk- 55.15 22 P **P 21 59 40.7 -0.2**
comp=Z,3.9nm,0.7s,mb4.5,baz=208,slow=6.3,SNR=3.3
PETK Petropavlovsk- 55.15 22 P **P 21 59 40.7 -0.2**
MKAR Makanchi Array 57.28 325 P **P 21 59 55.6 -0.5**
comp=Z,8.3nm,0.5s,mb5.1,baz=128,slow=8.3,SNR=40
MKAR PcP PcP 22 00 50.4 +0.6
comp=Z,7.5nm,0.7s,baz=115,slow=3.4,SNR=7.6
MKAR LR LR 22 26 33.6
comp=Z,143nm,18.6s,baz=135,slow=38
MKAR Makanchi Array 57.28 325⇑ *eP* **P 21 59 55.5 -0.6**
YAK Yakutsk 57.90 2 *eP* **P 22 00 00.0 -0.2**
YAK pmax pmax
comp=Z,43nm,0.8s,mb5.5
YAK pmax pmax
comp=N,28nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK Yakutsk 57.90 2 *eP* **P 21 59 59.8 -0.4**
comp=E,57nm,0.9s,mb5.6
TKM2 Tokmak 2 59.49 318 *eP* **P 22 00 11.1 -0.5**
TKM2 pmax pmax
comp=Z,17nm,1.2s,mb5.0
TKM2 Tokmak 2 59.49 318 *eP* **P 22 00 11.1 -0.6**
comp=Z,17nm,1.2s,mb5.0
UCH Uchtor 59.92 317 *eP* **P 22 00 14.9 +0.3**
comp=Z,6.3nm,0.9s,mb4.7
ZAA0 Zalesovo Array 60.30 333 *eP* **P 22 00 15.8 -1.1**
ZAA0 *e*PcP PcP 22 01 01.2 -0.3
ZAA0 *e*PP PP 22 02 29.6 -0.9
ZALV Zalesovo Beam 60.30 333 P **P 22 00 15.7 -1.2**
comp=Z,4.0nm,0.6s,mb4.6,baz=128,slow=7.0,SNR=22
ZALV PcP PcP 22 01 00.8 -0.7
comp=Z,2.6nm,0.7s,baz=160,slow=4.6,SNR=3.9
ZALV LR LR 22 28 06.2
comp=Z,53nm,19.6s,baz=230,slow=38
ZAL Zalesovo 60.30 333 P **P 22 00 15.7 -1.2**
ZAL 22 01 00.9
AML Almayashu 60.44 317 *eP* **P 22 00 17.9 -0.2**
comp=Z,128nm,0.6s,mb6.1
AML *e*PcP PcP 22 01 03.6 +1.2
EKS2 Erkin-Say 60.60 318 *eP* **P 22 00 19.2 0.0**
comp=Z,16nm,1.1s,mb5.0
EKS2 *e*PcP PcP 22 01 03.0 0.0
KBL Kabul 61.31 307 *eP* **P 22 00 23.0 -1.2**
KBL *e* 22 01 05.2
KBL *e* 22 02 39.4
KBL pmax pmax
comp=Z,20nm,1.0s,mb5.1
KBL Kabul 61.31 307 *eP* **P 22 00 22.9 -1.3**
comp=Z,20nm,1.0s,mb5.1
KBL *e*PcP PcP 22 01 05.2 -0.9
KBL *e*PP PP 22 02 39.4 -0.5
KURK Kurchatov 61.46 327⇑ *eP* **P 22 00 24.2 -0.7**
KURK pmax pmax
comp=Z,26nm,0.9s,mb5.3
KURK Kurchatov 61.46 327 *eP* **P 22 00 23.9 -1.0**

NVS Novosibirsk 61.58 333⇑ *iP* **P 22 00 23.8 -1.8**
NVS pmax pmax
comp=Z,16nm,1.1s,mb5.0
NVS pmax pmax
comp=N,12nm,1.0s
SEY Seymchan 61.74 13⇑ *eP* **P 22 00 28.3 +1.8**
BRVK Borovoye 67.11 327 *eP* **P 22 01 01.3 -0.5**
TIXI Tiksi 67.53 1 *i P* **P 22 01 03.6 -0.5**
TIXI pmax pmax
comp=Z,18nm,1.0s,mb4.9
TIXI Tiksi 67.53 1 *eP* **P 22 01 04.1 -0.1**
BILL Bilibino 69.26 15⇑ *eP* **P 22 01 15.0 0.0**
BILL *e**PP pP 22 01 38.1 +5.5
BILL *e* 22 03 44.7
BILL *e*S S 22 10 17.2 +1.2
BILL pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
SVE Sverdlovsk 73.68 328 *eP* **P 22 01 41.5 -0.3**
SVE pmax pmax
comp=Z,20nm,0.9s,mb4.8
ARU Arti 74.66 328 P **P 22 01 46.3 -1.2**
comp=Z,136nm,0.6s,mb5.9,SNR=12
ARU Arti 74.66 328 *c iP* **P 22 01 46.5 -1.0**
ARU *e* pP 22 01 59.8 -5.5
ARU *e* 22 04 31.1
ARU *e*PPP 22 06 20.9
ARU *e*S S 22 11 17.4 -0.9
ARU *e*SSS 22 19 17.4
ARU pmax pmax
comp=Z,21nm,1.0s,mb4.8
ARU Arti 74.66 328 *eP* **P 22 01 46.6 -0.9**
comp=Z,15nm,0.7s,mb4.8
RDF Al-Radifah 78.56 299 *eP* **P 22 02 08.6 -1.6**
baz=299
RDF AMb AMB 22 02 14.7
comp=Z,32nm,1.3s,mb5.0,baz=299
MIB Mutribah 78.77 299 *eP* **P 22 02 09.8 -1.5**
baz=299
MIB AMb AMB 22 02 11.6
comp=Z,41nm,0.8s,mb5.3,baz=299
NAY Al-Naaiem 78.84 299 *eP* **P 22 02 09.6 -2.1**
baz=299
NAY AMb AMB 22 02 11.4
comp=Z,16nm,0.7s,mb5.0,baz=299
RST Umm Al-Ruwaisa 79.06 299 *eP* **P 22 02 10.9 -1.9**
baz=299
RST AMb AMB 22 02 13.5
comp=Z,1.0nm,1.0s,baz=299
SVW2 Sparrevohn 80.55 29 *eP* **P 22 02 21.8 +1.6**
TTA Tatalina 80.64 27 *eP* **P 22 02 21.7 +1.0**
ABPO Ambohimpanom 81.39 250 *eP* **P 22 02 25.7 +0.1**
ABPO pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
ABPO Ambohimpanom 81.39 250 *eP* **P 22 02 25.7 +0.2**
comp=Z,6.9nm,0.7s,mb4.6
IMA2 Indian Mountai 82.11 24 *eP* **P 22 02 30.2 +1.8**
PPLA Purkeypile 82.37 27 *eP* **P 22 02 30.3 +0.5**
comp=Z,9.1nm,0.9s,mb4.6
PPLA *e*PcP PcP 22 02 35.3 +0.4
PPLA *e*PP PP 22 05 38.5 -0.7
KIV Kislovodsk 82.90 314 *eP* **P 22 02 33.8 +0.8**
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
KIV MLR MLR
comp=Z,32nm,19.0s
KIV Kislovodsk 82.90 314⇑ *iP* **P 22 02 34.9 +1.9**
KIV Kislovodsk 82.90 314 *eP* **P 22 02 33.7 +0.7**
comp=Z,5.4nm,0.8s,mb4.4
KTH Kantishna Hill 83.00 27 *eP* **P 22 02 34.0 +0.9**
comp=Z,33nm,1.6s,mb4.9
SLKM Skilak Lake 83.09 30 *eP* **P 22 02 34.4 +0.8**
TRF Thorofare Moun 83.28 27 *eP* **P 22 02 35.6 +1.1**
comp=Z,11nm,0.9s,mb4.7
RC01 Rabbit Creek A 83.37 29 *eP* **P 22 02 35.0 0.0**
RC01 *e*PcP PcP 22 02 40.1 +0.8
COLD Coldfoot 83.62 23 *eP* **P 22 02 37.4 +1.2**
comp=Z,111nm,1.3s,mb5.5
VNDA Vanda 83.74 173 P **P 22 02 37.1 +0.5**
comp=Z,2.2nm,0.6s,mb4.2,baz=314,slow=6.9,SNR=15
VNDA LR LR 22 39 19.1
comp=Z,113nm,19.8s,baz=313,slow=35
MCK McKinley 83.90 26 *eP* **P 22 02 38.6 +0.9**
MCK pmax pmax
comp=Z,14nm,0.9s,mb4.8
MCK McKinley 83.90 26 *eP* **P 22 02 38.6 +0.9**
comp=Z,14nm,0.9s,mb4.8
MAW Mawson 84.03 200 P **P 22 02 39.0 +0.7**
KLMR Klimovskoe 85.12 331 *i P* **P 22 02 43.9 0.0**
PPT Papeete 85.24 108 *e*LR LR 22 29 33.6
comp=Z,92nm,27.5s
DIV Divide 85.29 29 *eP* **P 22 02 45.2 +0.5**
comp=Z,24nm,0.9s,mb5.1
VRSR Storozhevoye 85.31 321 *eP* **P 22 02 45.1 0.0**
VRSR pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
VRSR pmax pmax
comp=N,1.0nm,1.0s
VRSR pmax pmax
comp=E,3.0nm,1.3s
BMRM Bremner River 85.86 29 *eP* **P 22 02 48.2 +0.6**
TBI Tubuai 85.94 114 *e*LR LR 22 29 49.3
comp=E,94nm,29.0s
MALT Malatya 86.16 308 *eP* **P 22 02 49.5 -0.1**
MALT *e* 22 03 01.5
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MALT Malatya 86.16 308⇑ *iP* **P 22 02 52.0 +2.4**
MALT Malatya 86.16 308 *eP* **P 22 02 49.5 -0.1**
comp=Z,4.3nm,0.8s,mb4.4
MALT *e* 22 03 01.5
MOS Moscow 86.17 325 *eP* **P 22 02 48.6 -0.6**
MOS pmax pmax
comp=Z,74nm,1.0s,mb5.6
ANN Anapa 86.66 315 *eP* **P 22 02 48.7 -3.2**
ANN pmax pmax
comp=Z,27nm,1.0s,mb5.1
OBN Obninsk 86.79 325⇑ *iP* **P 22 02 51.8 -0.5**
OBN pmax pmax
comp=Z,88nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,100nm,19.0s
OBN Obninsk 86.79 325 *eP* **P 22 02 51.8 -0.5**
comp=Z,77nm,1.1s,mb5.5
JOF Joensuu 88.89 333 *ep* **P 22 03 01.7 -0.4**
comp=Z,28nm,0.7s,mb5.4
HYT Haines Junctio 89.33 29 *eP* **P 22 03 04.7 +0.4**
KMBO Kilima Mbogo 89.53 269 P **P 22 03 07.0 +0.8**
comp=Z,8.0nm,0.9s,mb4.9,baz=42,slow=8.4,SNR=17
KMBO Kilima Mbogo 89.53 269 *eP* **P 22 03 07.0 +0.8**
KEV Kevo 89.59 340 *ep* **P 22 03 06.4 +1.1**
ARCES ARCESS Array B 90.14 340 P **P 22 03 07.1 -0.8**
comp=Z,3.6nm,0.7s,mb4.6,baz=76,slow=5.6,SNR=12
ARCES LR LR 22 46 29.5
comp=Z,98nm,19.4s,baz=87,slow=38
KAF Kangasniemi 91.31 332 *ep* **P 22 03 12.8 -0.6**
comp=Z,18nm,0.8s,mb5.3,baz=75,slow=4.3
KAF Kangasniemi 91.31 332 *eP* **P 22 03 12.8 -0.6**
KAF pmax pmax
comp=Z,18nm,0.8s,mb5.2
AKASG Malin Array Be 91.63 321 P **P 22 03 14.7 -0.5**
comp=Z,9.0nm,0.8s,mb5.1,baz=73,slow=4.3,SNR=30
KIEV Kiev 91.64 321 *eP* **P 22 03 14.6 -0.6**
KIEV pmax pmax
comp=Z,17nm,1.1s,mb5.2
KIEV Kiev 91.64 321 *eP* **P 22 03 14.6 -0.7**
comp=Z,17nm,1.1s,mb5.2
TIRR Tirgusor 93.10 315⇓ *iP* **P 22 03 22.3 +0.2**
TIRR Tirgusor 93.10 315 ⇓P **P 22 03 22.3 +0.2**
TAOE Nuku Hiva Isla 93.72 99 *e*LR LR 22 33 30.4
comp=Z,684nm,25.1s
VRI Vrincioaia 94.05 316⇓ *iP* **P 22 03 27.3 +0.8**
VRI Vrincioaia 94.05 316 ⇓P **P 22 03 27.3 +0.8**
PLOR Plostina 94.10 316⇑ *iP* **P 22 03 27.3 +0.6**
SUW Suwalki 94.65 325 *eP* **P 22 03 28.8 -0.2**
SUW Suwalki 94.65 325 *eP* **P 22 03 28.8 -0.2**
MLR Muntele Rosu 94.65 316⇑ *iP* **P 22 03 29.8 +0.6**
MLR Muntele Rosu 94.65 316 ⇑P **P 22 03 29.8 +0.5**
BURAR Bucovina Array 94.75 318⇑ *iP* **P 22 03 29.7 +0.1**
BURAR Bucovina Array 94.75 318 ⇑P **P 22 03 29.7 +0.1**
KOLS Kolonicke sedl 96.39 320 *eP* **P 22 03 37.6 +0.5**
UZH Uzhgorod 96.44 320 *c iP* **P 22 03 38.0 +0.7**
DRGR 96.59 318⇓ *iP* **P 22 03 38.2 +0.2**
DRGR 96.59 318 ⇓P **P 22 03 38.2 +0.2**
CRVS Cervenica-Dubn 96.91 320 *eP* **P 22 03 39.9 +0.5**
NIE Niedzica 97.51 321 *eP* **P 22 03 43.1 +1.0**

OJC	Ojcow	97.62	322	*e*P	P	22 03 40.9	-1.7
KECS	Kecovo	97.64	320	*i* P	P	22 03 42.8	0.0
KECS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb5.1						
KECS	Kecovo	97.64	320	*i* P	P	22 03 42.8	0.0
	comp=Z,6.0nm,0.9s,mb5.1						
NB2	NORSAR Subarra	98.49	334	P	P	22 03 45.7	-0.6
	comp=Z,1.2nm,0.7s,mb4.5,baz=66,slow=4.6						
NOA	NORSAR Array B	98.49	334	P	P	22 03 45.9	-0.4
	comp=Z,1.4nm,0.6s,mb4.7,baz=66,slow=4.6,SNR=8.2						
NOA				LR	LR	22 53 01.1	
	comp=Z,60nm,19.4s,baz=50,slow=38						
OKC	Ostrava-Krasne	98.75	322	*e*P	P	22 03 47.8	+0.1
KOLL	Kolacno	98.95	320	PDIF	P	22 03 44.2	-4.4
KOLL	Kolacno	98.95	320	*e*P	P	22 03 44.2	-4.4
MORC	Moravsky Berou	99.14	322	⇓*i*P	P	22 03 50.0	+0.6
MORC	Moravsky Berou	99.14	322	⇓P	P	22 03 50.0	+0.6
YKA	Yellowknife Ar	99.23	24	P	P	22 03 50.5	+0.9
	comp=Z,0.6nm,0.7s,mb4.2,baz=302,slow=3.9,SNR=2.8						
LSZ	Lusaka	99.25	255	*e*P	P	22 03 50.2	-0.4
LSZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.9						
LSZ	Lusaka	99.25	255	*e*P	P	22 03 50.2	-0.5
	comp=Z,3.7nm,1.0s,mb4.9						
PKSM	Moragy	99.46	318	⇓*i*P	P	22 03 50.8	-0.1
PKSM	Moragy	99.46	318	⇓P	P	22 03 50.8	-0.1
KSP	Ksiaz	99.58	323	*e*P	Pdif	22 03 52.0	+0.8
KSP	Ksiaz	99.58	323	*e*P	Pdif	22 03 52.0	+0.8
DPC	Dobruska-Polom	99.71	322	*e*P	Pdif	22 03 52.9	+1.1
UPC	Upice	99.85	323	*e*P	Pdif	22 03 53.5	+1.0
TREC	Trest	100.56	322	*e*P	Pdif	22 03 56.6	+1.0
PVCC	Panska Ves	100.71	323	*e*PDIF	Pdif	22 03 57.5	+1.2
PRU	Pruhonice	100.91	322	*e*PDIF	Pdif	22 03 58.0	+0.8
BRG	Berggiesshubel	100.97	323	*e*P	Pdif	22 03 58.0	+0.6
BRG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BRG	Berggiesshubel	100.97	323	*e*PKP	Pdif	22 03 58.0	+0.6
	comp=Z,13nm,0.9s						
CLL	Collm	101.37	324	*i* Pdif	Pdif	22 03 59.5	+0.3
	comp=Z,4.0nm,0.7s						
KHC	Kasperske Hory	101.80	322	*e*PDIF	Pdif	22 04 01.8	+0.7
GERES	GERESS Array B	101.82	322	P	Pdif	22 04 02.0	+0.8
	comp=Z,2.1nm,0.8s,baz=76,slow=6.2,SNR=19						
GRA1	Grafenberg Arr	103.03	323	*e*Pdif	Pdif	22 04 07.6	+1.0
GRF	Grafenberg Arr	103.03	323	*e*Pdiff	Pdif	22 04 07.6	+1.0
NVAR	Mina Array Bea	106.72	48	PKKP	PKKPab	22 20 08.0	-0.9
	comp=Z,0.5nm,0.6s,baz=136,slow=4.7,SNR=4.3						
PDAR	Pinedale Array	111.14	41	PKKPbc	PKKPab	22 19 48.5	-0.7
	comp=Z,1.2nm,0.8s,baz=108,slow=8.0,SNR=8.4						
RSSD	Black Hills	113.96	38	*e*PKIKP	PKiKP	22 08 47.6	+0.5
ANMO	Albuquerque	116.83	47	⇑*i*PKIKP	PKPdf	22 08 54.7	+1.8
ECSD	EROS,Sioux Fal	118.55	34	*e*PKPdf	PKPdf	22 08 57.0	+1.1
SCHQ	Schefferville	120.27	9	PKP	PKPdf	22 08 59.9	+1.0
	comp=Z,1.9nm,0.8s,baz=0.0,slow=3.0,SNR=5.0						
WMOK	Wichita Mounta	122.43	44	*e*PKIKP	PKPdf	22 09 04.4	+0.7
TOA0	Torodi Ar. Sit	122.79	288	*e*PKPdf	PKPdf	22 09 05.3	+0.5
TORD	Torodi Ar. Bea	122.79	288	PKP	PKPdf	22 09 05.3	+0.5
	comp=Z,3.3nm,0.7s,baz=75,slow=1.7,SNR=24						
TORD				PP	PP	22 10 44.9	+1.4
	comp=Z,1.0nm,0.9s,baz=44,slow=6.6,SNR=3.7						
JCT	Junction City	123.88	49	*e*PKIKP	PKPdf	22 09 07.8	+1.2
MIAR	Mount Ida	126.07	41	*e*PKIKP	PKPdf	22 09 12.5	+1.9
PLAL	Pickwick Lake	129.26	37	*e*PKPdf	PKPdf	22 09 17.2	+0.5
CPUP	Villa Florida	157.50	171	PKPab	PKPab	22 10 37.2	+0.7
	comp=Z,2.5nm,0.9s,baz=151,slow=6.1,SNR=5.5						
SDV	Santo Domingo	158.47	53	*e*PKPdf	PKPdf	22 10 06.6	+0.3

JMA 14 22:01:15.7±0.2,2549N×14099E,h185km,M3.8,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.56	43	P	Pn	22 01 48.8	+0.2
JHHJ				S	Sn	22 02 13.7	-0.4
CBIJ	Chichi jima	1.93	34	P	Pn	22 01 52.6	+0.3
CBIJ				S	Sn	22 02 21.3	+0.5
JHJ2	Mitsune	7.66	353	P	Pn	22 03 05.2	+0.7
JHJ2				*e*S	Sn	22 04 28.0	-2.7
BSO1	Boso 1	9.13	360	P	Pn	22 03 23.6	-0.1
BSO2	Boso 2	9.23	359	*e*S	Sn	22 05 06.4	-1.7
BSO3	Boso 3	9.29	358	P	Pn	22 03 24.5	-1.3
BSO4	Boso 4	9.48	357	P	Pn	22 03 29.3	+1.0
JOD2	Odawara 2	9.88	351	P	Pn	22 03 33.8	+0.4
JHO	Hitachi	11.09	358	P	Pn	22 03 48.5	-0.7
JHO				*e*S	Sn	22 05 45.9	-6.6

ISCJB 14 22:21:06.2±0.5,4147N±002×4385E±004,h10km,Error ellipse: s-maj=4.6km s-min=3.1km az=3.7
NSSP 14 22:21:06.6,4143N×4397E,h5km,ML3.2
CSEM 14 22:21:06.5±0.3,4144N×4388E,h2km,ML3.2,Error ellipse: s-maj=7.7km s-min=3.7km az=68.0
TIF 14 22:21:06.3,4144N×4393E,h13km±2km
MOS 14 22:21:08.1±1.2,4149N×4393E,h7km,mb4.2/1,Error ellipse: s-maj=26.2km s-min=8.6km az=80.2

ISC 14 22:21:07.3±0.5,4145N±002×4392E±004,h0km±9km,n20, σ0°79/33,2D,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STE	Stepanavan	0.57	143	⇓P	Pg	22 21 18.0	-0.1
TBLG	Delisi	0.68	65	Pg	Pg	22 21 20.1	-0.2
TBLG				Sg	Sg	22 21 29.5	+0.5
MTA	Mtatsminda	0.70	70	P	Pg	22 21 20.2	-0.5
MTA				S	Sg	22 21 30.3	+0.5
DGRG	David-gareji	1.10	90	P	Pg	22 21 28.2	0.0
DGRG				S	Sn	22 21 45.3	-0.3
ONI	Oni	1.18	343	P	Pg	22 21 29.5	-0.3
ONI				S	Sg	22 21 46.0	+0.8
ZEI	Tsey	1.32	359	*i* Pg	Pg	22 21 32.6	+0.1
ZEI				*e*Sg	Sg	22 21 51.0	+1.4
LACR	Lac	1.40	12	*i* Pg	Pg	22 21 33.4	-0.7
LACR				*i* Sg	Sg	22 21 52.7	+0.4
GNI	Garni	1.44	154	⇓P	Pn	22 21 35.0	+0.4
GNI				S	Sg	22 21 54.9	+1.3
DIGR	Digorskoe uzhe	1.47	350	*i* Pg	Pg	22 21 34.7	-0.7
DIGR				*i* Sg	Sg	22 21 54.9	+0.5
SNJR	Sundja	1.75	22	*i* Pn	Pg	22 21 40.1	-0.7
SNJR				*e*Sg	Sg	22 22 04.4	+1.0
ARNR	Ardon	1.76	9	*i* Pn	Pg	22 21 40.9	-0.1
ARNR				*e*Sg	Sg	22 22 05.3	+1.6
LSNR	Lesken	1.82	358	*i* Pn	Pg	22 21 41.9	-0.3
LSNR				*e*Sg	Sg	22 22 06.0	+0.2
DYDN	Diyadin	1.91	185	*i* P	Pg	22 21 44.2	+0.3
DYDN	Diyadin	1.91	185	*i* P	Pg	22 21 44.2	+0.3
BTKR	Batakoyurt	1.98	13	*i* Pn	Pg	22 21 44.4	-0.7
BTKR				*e*Sg	Sg	22 22 10.6	-0.1
HOMI	Horasan	2.08	228	*e*P	Pg	22 21 46.5	-0.6
TRKR	Terskaya	2.35	15	*e*Pn	Pg	22 21 48.8	-3.5
TRKR				*e*Sn	Sg	22 22 20.2	-2.5
ERZM	Erzurum	2.48	232	*e*P	Pg	22 21 54.9	+0.1
KOPT	Kop Dagi	2.96	242	*i* P	Pg	22 22 04.2	+0.1
MAK	Makhachkala	3.06	59	*e*PN	Pg	22 22 04.7	-1.3
MAK				MLR	MLR		
	comp=Z,128nm,7.0s						

IDC 14 22:41:11.2±1.1,2220N×14479E,h0km,mb3.7/7, mb1 4.0/7,mb1mx3.8/19,mbtmp3.7/7,MS3.4/7,Ms1 3.4/7, ms1mx3.0/35,Error ellipse: s-maj=36.1km s-min=23.2km az=80.0
MOS 14 22:41:13.9±0.9,2224N×14476E,h33km,mb4.4/4,Error ellipse: s-maj=20.6km s-min=11.7km az=111.2
ISCJB 14 22:41:14.2±0.5,2216N±006×1447E±0.1,h33km,mb4.1/14, MS3.4/6,Error ellipse: s-maj=15.3km s-min=8.8km az=171.1
NEIC 14 22:41:16.1±0.4,2217N×14472E,h35km,mb4.5/6,Error ellipse: s-maj=12.8km s-min=7.2km az=81.0

ISC 14 22:41:16.4±0.5,2214N±006×1447E±01,h35km,n34, σ0°75/30,mb4.1/14,MS3.4/6,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.45	336	LR	LR	22 44 32.7	
	comp=Z,126nm,20.7s,baz=139,slow=37						
GUMO	Guam	8.50	179	*e*P	Pn	22 43 15.2	-1.8
MAJO	Matsushiro	15.43	340	P	Pn	22 44 48.1	-3.3
KSRS	Korea Array	21.05	320	LR	LR	22 53 30.7	
	comp=Z,74nm,18.1s,MS3.1,baz=171,slow=35						
YHNB	Yeheng	21.56	281	P	P	22 46 02.6	-0.3

ASAJ	Asahikawa	21.99	356	LR	LR	22 55 31.8	
	comp=Z,31nm,18.7s,MS2.8,baz=171,slow=39						
BJT	Baijiatuau	30.07	313	P	P	22 47 20.8	-1.5
KSM	Kuching	39.26	243	P	P	22 48 42.0	+0.1
SONM	Songino Array	39.92	319	P	P	22 48 46.6	-0.4
	0.3nm,0.5s,mb3.3,baz=128,slow=6.7,SNR=4.2						
SONM				LR	LR	23 04 22.7	
	comp=Z,70nm,18.9s,MS3.5,baz=248,slow=35						
CTAO	Charters Tower	41.99	178	P	P	22 49 04.8	+0.5
ZAK	Zakamensk	42.88	321	*e*P	P	22 49 11.5	+0.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.2s,mb3.5						
CMAR	Chiang Mai Arr	42.96	274	P	P	22 49 13.0	+0.6
	comp=Z,0.5nm,0.4s,mb3.6,baz=53,slow=11,SNR=4.6						
WRAB	Tennant Creek	43.02	194	*e*P	P	22 49 12.8	+0.2
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
WRAB	Tennant Creek	43.02	194	*e*P	P	22 49 12.8	+0.2
	comp=Z,6.5nm,1.1s,mb4.3						
WB2	Warramunga Arr	43.03	194	P	P	22 49 12.9	+0.2
WRA	Warramunga Arr	43.03	194	P	P	22 49 13.2	+0.5
	comp=Z,2.0nm,1.0s,mb3.8,baz=12,slow=8.3,SNR=7.4						
FITZ	Fitzroy Crossi	44.13	207	*e*P	P	22 49 20.7	-0.9
	comp=Z,32nm,1.5s,mb4.8						
ASAR	Alice Springs	46.72	194	P	P	22 49 42.8	+0.7
	comp=Z,0.4nm,0.6s,mb3.5,baz=19,slow=14,SNR=5.5						
ZALV	Zalesovo Beam	54.76	321	P	P	22 50 42.9	+0.5
	comp=Z,0.3nm,0.4s,mb3.7,baz=48,slow=4.4,SNR=3.5						
ZALV				LR	LR	23 14 14.6	
	comp=Z,29nm,18.6s,MS3.4,baz=44,slow=36						
ZAL	Zalesovo	54.77	321	P	P	22 50 42.9	+0.5
MKAR	Makanchi Array	55.45	312	P	P	22 50 47.4	0.0
	comp=Z,0.3nm,0.6s,mb3.5,baz=106,slow=11,SNR=3.3						
MCK	McKinley	59.94	28	*e*P	P	22 51 18.3	-0.4
MCK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
MCK	McKinley	59.94	28	*e*P	P	22 51 18.3	-0.4
	comp=Z,2.3nm,0.4s,mb4.6						
TKM2	Tokmak 2	60.20	308	P	P	22 51 20.5	-0.4
AML	Almayashu	61.66	307	*e*P	P	22 51 31.8	+1.0
	comp=Z,2.0nm,0.9s,mb4.2						
PALK	Pallekele	63.24	267	P	P	22 51 41.5	-0.3
BRVK	Borovoye	63.33	319	*e*P	P	22 51 42.6	+0.9
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
BRVK	Borovoye	63.33	319	*e*P	P	22 51 42.6	+0.8
	comp=Z,1.1nm,0.4s,mb4.3						
TAU	Tasmania Unive	64.76	178	*e*P	P	22 51 51.3	+0.2
KBL	Kabul	66.37	299	*e*P	P	22 52 02.3	+0.4
INK	Inuvik	66.60	24	P	P	22 52 02.0	-0.8
PPT	Papeete	75.44	116	LR	LR	23 19 06.4	
	comp=Z,109nm,21.6s,MS4.1,baz=346,slow=30						
SNOW	Snow King Moun	84.99	45	P	P	22 53 48.9	+0.6
	comp=Z,14nm,0.4s,mb5.4						
PDAR	Pinedale Array	86.08	45	P	P	22 53 54.0	+0.3
	comp=Z,2.6nm,0.5s,mb4.7,baz=56,slow=28,SNR=17						
PDAR				LR	LR	23 25 13.2	
	comp=Z,31nm,20.1s,MS3.7,baz=62,slow=31						

ISCJB 14 22:43:21.4±0.6,2168S±005×6663W±009,h242km±9km, mb3.9/2,Error ellipse: s-maj=13.1km s-min=7.5km az=176.7
IDC 14 22:43:22.0±0.8,2162S×6657W,h222km±13km,mb3.8/2, mb1 3.4/8,mb1mx3.3/21,mbtmp3.4/8,Error ellipse: s-maj=18.9km s-min=12.8km az=101.0
NEIC 14 22:43:22.3±0.6,2163S×6662W,h231km±8km,mb3.8/1, Error ellipse: s-maj=10.7km s-min=7.7km az=87.0

ISC 14 22:43:22.4±0.6,2163S±005×6661W±009,h231km±8km, n19,σ0°67/21,mb3.9/2,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.35	245	P	Pn	22 44 07.7	+1.0
	17nm,0.3s,baz=51,slow=7.5,SNR=146						
LVC				S	S	22 44 41.1	-0.5
	13nm,0.3s,baz=228,slow=19,SNR=22						
LPAZ	La Paz	5.50	345	P	Pn	22 44 45.1	+1.2
	6.3nm,0.3s,baz=152,slow=8.4,SNR=143						
LPAZ				S	S	22 45 48.5	-0.4
	0.6nm,0.3s,baz=270,slow=20,SNR=9.3						
SIV	San Ignacio	7.68	44	P	Pn	22 45 10.7	-0.9
	30nm,0.3s,baz=254,slow=9.4,SNR=545						
LCO	Las Campanas	8.23	206	*e*Pn	Pn	22 45 17.9	-0.7
CPUP	Villa Florida	9.69	121	P	Pn	22 45 37.5	+0.3
	0.3nm,0.3s,baz=238,slow=8.1,SNR=4.8						
CPUP	Villa Florida	9.69	121	P	Pn	22 45 37.5	+0.3
CFAA	Coronel Fontan	10.04	188	P	Pn	22 45 41.4	-0.3
	0.3nm,0.3s,baz=9.5,slow=12,SNR=19						
CFAA				S	S	22 47 27.6	-6.7
	0.5nm,0.3s,baz=217,slow=16,SNR=13						
NNA	Nana	13.70	313	*e*Pn	Pn	22 46 27.6	0.0
TRQA	Tornquist	16.85	167	*e*P	P	22 47 03.5	-0.1
	2.0nm,0.5s						
ATAH	Atahualpa	18.47	320	P	P	22 47 22.2	+0.8
	0.4nm,0.3s,baz=135,slow=20,SNR=2.9						
BDFB	Brasilia	18.59	74	P	P	22 47 23.0	+0.3
	0.2nm,0.3s,baz=205,slow=17,SNR=3.8						
PLCA	Paso Flores	19.34	189	P	P	22 47 34.0	+3.6
	0.1nm,0.3s,baz=337,slow=14,SNR=3.4						
PLCA	Paso Flores	19.34	189	P	P	22 47 30.0	-0.4
OTAV	Otavalo	24.62	330	P	P	22 48 21.3	-0.6
SDV	Santo Domingo	30.58	352	P	P	22 49 14.0	-0.9
TORD	Torodi Ar. Bea	75.39	69	P	P	22 54 41.0	-0.2
	1.4nm,0.5s,mb3.9,baz=257,slow=5.7,SNR=47						
TORD				pP	pP	22 55 37.4	+1.8
	1.3nm,0.7s,baz=257,slow=5.2,SNR=5.4						
BOSA	Boshof	81.49	117	P	P	22 55 15.1	+0.8
	4.5nm,1.1s,mb4.0,baz=242,slow=9.1,SNR=3.2						
BOSA	Boshof	81.49	117	P	P	22 55 15.1	+0.7
MKAR	Makanchi Array	144.46	38	PKP	PKPdf	23 02 32.1	+1.2
	0.8nm,0.6s,baz=305,slow=4.3,SNR=7.0						

KRSC 14 22:47:19.9±1.1,5053N×15647E,h178km±58km,ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	Malaya Ipel'ka	1.76	6	*e*P	Pn	22 47 52.8	-1.3
RUS	Russkaya	2.29	33	*e*P	Pn	22 48 02.4	+2.4
RUS				*e*S	Sn	22 48 33.1	+1.9
SDLR	Sedlovina	3.13	28	*e*P	Pn	22 48 11.6	+1.7
SDLR				S	Sn	22 48 49.8	+0.8
NLC	Nalytchevo	3.19	33	S	Sn	22 48 51.9	+1.7
GNL	Ganaly	3.30	15	P	Pn	22 48 14.5	+2.5
SPN	Mys Shipunski	3.39	39	P	Pn	22 48 14.1	+1.0
SPN				S	Sn	22 48 54.5	-0.1
KBTR	Krutoberegovo	6.84	31	*e*P	Pn	22 48 57.8	+0.1

MAN 14 22:54:00,1726N×12047E,h29km,mb4.6,ML3.5,MS3.5, 1C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.45	30	*e*P	Pb	22 54 09.5	-0.1
ABRA				*e*S	Sb	22 54 15.9	-0.2
SIPP	Brgy, Tapao	0.66	359	⇑*i*P	Pb	22 54 13.5	+0.4
SIPP				*i* S	Sb	22 54 23.3	+1.4
BCPH	Baguio City Da	0.88	173	⇓*i*P	Pn	22 54 16.0	-0.5
BCPH				*e*S	Sb	22 54 27.6	-0.5
BOLP	Bolinao	1.02	212	*e*P	Pn	22 54 17.8	-0.7
CAUP	Cauayan	1.33	103	*e*P	Pn	22 54 24.3	+1.7
PCPH	Palayan	1.79	160	⇓*e*P	Pn	22 54 29.9	+0.9
BALP	Baler	1.84	145	*e*P	Pn	22 54 30.7	+1.0
BALP				*e*S	Sn	22 54 52.4	+0.4

ISCJB 14 23:02:23.1±0.7,3826N±003×2034E±004,h4km±4km, Error ellipse: s-maj=5.8km s-min=3.7km az=136.2
ATH 14 23:02:23.2,3823N×2034E,h17km±1km,MD3.7/13,ML3.8
NEIC 14 23:02:23.2,3823N×2034E,h17km,ML3.7(THE), ML3.8(ATH),After ATH.
CSEM 14 23:02:24.6±0.1,3830N×2038E,h2km,ML3.8,Error ellipse: s-maj=2.2km s-min=1.3km az=49.0
THE 14 23:02:25.1,3833N×2043E,h1km,ML3.7

ISC 14 23:02:23.9±0.8,3828N±003×2036E±004,h1km±5km,n29, σ1°11/48,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.21	119	*e*Pg	Pg	23 02 28.4	+0.5
VLS				*e*Sg	Sg	23 02 31.5	+1.0
VLS	Valsamata	0.21	119	*e*PB	Pg	23 02 28.6	+0.7
VLS				*e*SB	Sg	23 02 31.9	+1.4
VLS	Valsamata	0.21	119	*e*Pb	Pg	23 02 28.6	+0.7
VLS				*e*Sg	Sg	23 02 31.5	+1.0
VLS				*e*Sb	Sg	23 02 31.9	+1.4
KFL	Anninata	0.38	116	*e*Pg	Pg	23 02 31.1	0.0
KFL				*e*Sg	Sg	23 02 36.7	+0.7
LKD	Levkas	0.48	28	*e*Pg	Pg	23 02 32.1	-1.1
LKD				*e*Sg	Sg	23 02 38.8	-0.7
RLS	Riolos of Patr	0.90	104	*e*PN	Pn	23 02 40.5	-3.1
RLS				*e*SN	Sn	23 02 53.7	-3.5
IGT	Igoumenitsa	1.25	359	*e*Pg	Pg	23 02 47.1	-0.8
IGT				*e*Sg	Sg	23 03 03.9	-0.2
EVR	Evrytania	1.30	60	*e*PN	Pn	23 02 48.0	-1.1
JAN	Janina	1.43	15	*e*PN	Pn	23 02 51.2	+0.3
JAN				*e*SN	Sn	23 03 11.0	+0.7
KEK	Kerkira	1.50	343	*e*PN	Pn	23 02 51.8	0.0
ITM	Ithomi	1.66	131	*e*PN	Pn	23 02 53.2	-0.8
ITM				*e*SN	Sn	23 03 14.7	-1.2
AGG	Agios Georgios	1.71	64	*e*Pb	Pb	23 02 54.1	-2.0
AGG				*e*Sb	Sb	23 03 18.7	+0.6
THL	Klokotos Trika	1.82	45	*e*Pb	Pb	23 02 56.6	-1.3
THL				*e*Sb	Sb	23 03 23.5	+2.3
THL	Klokotos Trika	1.82	45	*e*Pn	Pn	23 02 56.8	+0.5
THL				*e*Sb	Sb	23 03 23.5	+2.3
LTK	Loutraki	2.07	96	*e*Pn	Pn	23 03 00.2	+0.5
LTK				*e*Sn	Sn	23 03 26.0	-0.1
LKR	Lokris	2.11	79	*e*PN	Pn	23 03 00.4	+0.2
DID	Didima	2.40	108	*e*Pn	Pn	23 03 05.1	+0.8
NEO	Neokhori	2.46	64	*e*PN	Pn	23 03 05.4	+0.3
XOR	Xorichti	2.46	63	*e*Pn	Pn	23 03 06.0	+0.9
NAIG	Nisos Aigina	2.53	101	*e*PB	Pb	23 03 06.6	-3.4
VLI	Veliai	2.58	126	*e*PB	Pb	23 03 06.8	-4.0
FNA	Florina	2.62	17	*e*Pn	Pn	23 03 07.7	+0.4
FNA				*e*Sn	Sn	23 03 39.1	-0.7
ATH	Athens Observa	2.67	96	*e*PN	Pn	23 03 07.5	-0.4
KVR	Kavouri	2.73	98	*e*PN	Pn	23 03 09.0	+0.2
KRUS	Krusevo	3.16	12	*i* Pn	Pn	23 03 17.7	+3.0
CEL	Celeste	3.51	271	*e*Pn	Pn	23 03 20.7	+1.2
CEL				*e*Sn	Sn	23 04 00.3	-1.4
CEL	Celeste	3.51	271	*e*Pn	Pn	23 03 20.7	+1.1
CEL				*e*Sn	Sn	23 04 00.3	-1.4
CUC	Castrocucco	3.93	297	*e*Pn	Pn	23 03 28.1	+2.9
CUC				*e*Sn	Sn	23 04 12.2	+0.3
CUC	Castrocucco	3.93	297	*e*Pn	Pn	23 03 28.1	+3.0
CUC				*e*Sn	Sn	23 04 12.2	+0.4

IDC 14 23:38:32.4±0.9,3780N×7698E,h0km,mb3.8/9, mb1 3.9/11,mb1mx3.7/24,mbtmp3.7/11,ML3.2/2,MS3.1/2, Ms1 3.1/2,ms1mx2.6/26,Error ellipse: s-maj=21.7km s-min=20.6km az=11.0
ISCJB 14 23:38:33.1±0.4,3800N±002×77.15E±005,h10km, mb3.8/12,Error ellipse: s-maj=5.9km s-min=3.4km az=2.8
MOS 14 23:38:35.4±3.3,3773N×7722E,h33km,mb4.3/2,Error ellipse: s-maj=16.0km s-min=9.3km az=91.0
NEIC 14 23:38:39.1±1.4,3793N×7708E,h50km±13km,mb4.3/2, Error ellipse: s-maj=15.4km s-min=12.2km az=156.0
BJI 14 23:38:40.6,38.18N×7730E,h33km,mb4.1,ML4.1
NNC 14 23:38:43.5±21.0,37.18N×7546E,h183km±191km,mb3.1, mpv4.2,Error ellipse: s-maj=175.2km s-min=139.0km az=4.0

ISC 14 23:38:34.6±0.9,3790N±003×7707E±006,h7km±5km,n50, σ1°51/74,mb3.8/12,8C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.83	332	⇑*i*PG	Pg	23 39 10.1	+0.5
KSH				SG	Sg	23 39 36.1	+2.8
KSH				Smax			
	comp=N,6μm,0.3s						
KSH				Smax			
	comp=E,10μm,0.3s						
UCH	Uchtor	4.75	336	*e*Pn	Pn	23 39 50.8	+4.3
UCH				*e*Pg	Pg	23 40 03.0	-2.5
UCH				*e*Sn	Sn	23 40 36.2	-5.5
UCH				*e*Sg	Sg	23 41 06.7	-0.3
AML	Almayashu	4.96	330	*e*Pn	Pn	23 39 52.6	+3.2
AML				*e*Pg	Pg	23 40 07.7	-1.8
AML				*e*Sn	Sn	23 40 39.2	-7.8
TKM2	Tokmak 2	5.14	348	⇑P	Pb	23 40 07.3	+2.5
	comp=E,22nm,0.7s						
TKM2				⇑S	Sg	23 41 15.4	-4.2
	comp=E,60nm,0.7s						
TKM2	Tokmak 2	5.14	348	*e*P	Pn	23 39 51.8	-0.1
TKM2				*e*		23 40 51.3	
TKM2	Tokmak 2	5.14	348	*e*Pn	Pn	23 39 51.8	-0.1
TKM2				*e*Pg	Pg	23 40 08.8	-4.3
TKM2				*e*Sn	Sn	23 40 51.3	-0.2
TKM2				*e*Sg	Sg	23 41 20.3	+0.7
CHCP	Chirah Chowk	5.24	217	P	Pn	23 39 57.0	+3.7
FRU	Bishkek	5.27	340	*e*P	Pb	23 40 06.5	-0.5
FRU				pmax	pmax		
	comp=Z,60nm,1

GTA	**Gaotai**	**17.83**	**78**	*eP*	**Pn**	**23 42 45.8**	**+2.7**
GTA				AP	pP	23 42 49.3	+3.5
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s						
ZAK	**Zakamensk**	**22.44**	**48**	*eP*	**P**	**23 43 29.7**	**-4.2**
ZAK				*e*		23 43 34.1	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
SONM	**Songino Array**	**23.55**	**56**	P	**P**	**23 43 46.8**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.0,baz=263,slow=12,SNR=2.6						
KIV	**Kislovodsk**	**26.54**	**294**	*eP*	**P**	**23 44 11.7**	**-1.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.4						
KIV	**Kislovodsk**	**26.54**	**294**	*eP*	**P**	**23 44 11.7**	**-1.1**
	comp=Z,3.5nm,0.3s,mb4.4						
CMAR	**Chiang Mai Arr**	**27.21**	**129**	P	**P**	**23 44 18.4**	**-0.6**
	comp=Z,0.9nm,0.3s,mb3.7,baz=316,slow=10.0,SNR=4.1						
TIRR	**Tirgusor**	**36.76**	**296**	*eP*	**P**	**23 45 40.8**	**-1.7**
TIRR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
TIRR	**Tirgusor**	**36.76**	**296**	*eP*	**P**	**23 45 40.8**	**-1.7**
	comp=Z,2.1nm,0.8s,mb4.0						
TIRR				*e*PP	PP	23 47 01.9	-4.1
ARCES	**ARCESS Array B**	**41.79**	**336**	P	**P**	**23 46 22.8**	**-1.4**
	comp=Z,4.1nm,1.1s,mb4.0,baz=97,slow=9.9,SNR=5.1						
GERES	**GERESS Array B**	**46.09**	**305**	P	**P**	**23 46 59.9**	**+0.9**
	comp=Z,0.1nm,0.3s,mb3.3,baz=56,slow=2.5,SNR=4.4						
NB2	**NORSAR Subarra**	**46.22**	**322**	P	**P**	**23 46 59.1**	**-0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**46.22**	**322**	P	**P**	**23 47 00.0**	**+0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=90,slow=7.5,SNR=4.0						
ESDC	**Sonseca Array**	**61.04**	**299**	P	**P**	**23 48 48.1**	**-0.8**
	comp=Z,0.3nm,0.6s,mb3.6,baz=54,slow=6.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**70.56**	**272**	P	**P**	**23 49 48.4**	**-2.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=46,slow=5.7,SNR=14						
TORD	**Torodi Ar. Bea**	**70.56**	**272**	P	**P**	**23 49 48.4**	**-2.2**
WRA	**Warramunga Arr**	**78.76**	**126**	P	**P**	**23 50 36.4**	**-1.5**
	comp=Z,0.3nm,0.5s,mb3.4,baz=321,slow=4.5,SNR=3.5						
DBIC	**Dimbokro**	**79.57**	**270**	P	**P**	**23 50 40.5**	**-2.2**
	comp=Z,3.6nm,1.0s,mb4.3,baz=114,slow=17,SNR=3.0						

*CSEM **14** 23:49:23.6±0.5, 43.40N×47.58E, h2km, mb4.6, Error ellipse: s-maj=10.1km s-min=6.0km az=62.0*
*ISCJB **14** 23:49:24.7±0.4, 43.32N±003×47.37E±003, h10km, Error ellipse: s-maj=3.9km s-min=3.2km az=37.6*
*MOS **14** 23:49:24.4±2.0, 43.13N×47.31E, h8km, mb4.6/1, Error ellipse: s-maj=11.8km s-min=7.8km az=19.2*
MOS Felt (II) at Makhachkala.
*TIF **14** 23:49:26.1, 42.92N×47.26E, h16km±1km*

ISC 14 23:49:25.9±0.4, 4329N±002×4738E±003, h10km, n37, σ1°39/63, 7C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.34**	**164**	⇓*i*PG	**Pg**	**23 49 31.6**	**-1.0**
MAK				*i*		23 49 36.4	
MAK				pmax	pmax		
	comp=Z,1μm,0.2s						
MAK				smax			
	comp=N,8μm,0.2s						
MAK				smax			
	comp=E,8μm,0.2s						
MAK	**Makhachkala**	**0.34**	**164**	*i* Pg	**Pg**	**23 49 31.6**	**-1.0**
MAK				*i* Sg	**Sg**	23 49 36.4	-0.7
SNJR	**Sundja**	**1.89**	**264**	⇑*i*PN	**Pn**	23 49 57.6	-0.6
SNJR				*e*S	**Sg**	23 50 25.6	-1.1
SNJR	**Sundja**	**1.89**	**264**	*e*Sg	**Sg**	23 50 25.6	-1.1
TRKR	**Terskaya**	**1.97**	**284**	⇓*i*PN	**Pn**	23 50 00.9	+1.5
TRKR				*i* S	**Sg**	23 50 30.8	+1.4
BTKR	**Batakoyurt**	**2.07**	**273**	*i* Pn	**Pn**	23 50 01.0	+0.3
BTKR				*e*Sg	**Sg**	23 50 31.7	-0.8
SEKA	**Sheki**	**2.08**	**184**	P	**Pn**	23 49 59.9	-0.9
	SNR=66						
SEKA				S	**Sn**	23 50 28.0	+1.2
KMSR	**Komsomolskaya**	**2.25**	**273**	⇓*i*PN	**Pn**	23 50 03.4	+0.2
KMSR				*e*S	**Sn**	23 50 35.6	+4.6
ARNR	**Ardon**	**2.27**	**269**	⇓*i*PN	**Pn**	23 50 03.2	-0.2
ARNR				*i* S	**Sn**	23 50 35.1	+3.7
PRTR	**Priterechnaya**	**2.30**	**283**	*e*PN	**Pn**	23 50 05.1	+1.2
PRTR				*e*S	**Sg**	23 50 38.2	-1.6
LACR	**Lac**	**2.31**	**260**	*i* Pn	**Pn**	23 50 02.5	-1.4
LACR				*i* Sn	**Sn**	23 50 34.3	+2.0
DGRG	**David-gareji**	**2.36**	**220**	P	**Pn**	23 50 03.7	-1.0
DGRG				S	**Sg**	23 50 45.2	+3.4
SIZA	**Siyzn**	**2.48**	**152**	P	**Pn**	23 50 10.0	+3.6
	SNR=16						
SIZA				S	**Sn**	23 50 42.3	+5.6
MTA	**Mtatsminda**	**2.49**	**231**	P	**Pn**	23 50 05.1	-1.3
MTA				S	**Sn**	23 50 40.5	+3.7
TBLG	**Delisi**	**2.50**	**232**	Pn	**Pn**	23 50 05.6	-0.9
TBLG				Sg	**Sg**	23 50 47.7	+1.6
ZEI	**Tsey**	**2.60**	**260**	*e*Pn	**Pn**	23 50 06.7	-1.3
ZEI				*e*Sn	**Sn**	23 50 41.3	+1.6
PQL	**Pirkuli**	**2.66**	**160**	P	**Pn**	23 50 10.1	+1.4
	SNR=13						
PQL				S	**Sg**	23 50 49.3	-1.9
GANJ	**Ganja**	**2.75**	**197**	P	**Pn**	23 50 07.2	-2.9
	SNR=53						
DIGR	**Digorskoe uzhe**	**2.81**	**263**	*e*Pn	**Pn**	23 50 09.9	-0.9
DIGR				*e*Sn	**Sn**	23 50 46.5	+1.8
ONI	**Oni**	**2.97**	**258**	P	**Pn**	23 50 17.2	+4.1
ONI				S	**Sg**	23 50 59.2	-2.1
BRDA	**Brd**	**3.02**	**183**	P	**Pn**	23 50 15.6	+1.8
	SNR=8.2						
BRDA				S	**Sn**	23 50 55.8	+5.7
SHAR	**Shatzhatmas**	**3.46**	**279**	*c i*PN	**Pn**	23 50 18.4	-1.3
KIV	**Kislovodsk**	**3.47**	**283**	*c i*PN	**Pn**	23 50 18.8	-1.2
ALIB	**Ii-Bayraml**	**3.54**	**159**	P	**Pn**	23 50 23.5	+2.6
	SNR=2.8						
GOF	**Gofitskoye**	**3.59**	**301**	*e*PN	**Pb**	23 50 28.3	-1.2
GOF				*e*S	**Sb**	23 51 12.9	-0.2
GNI	**Garni**	**3.70**	**213**	*e*PN	**Pn**	23 50 21.1	-2.1
GLBA	**Cilabad**	**4.11**	**169**	P	**Pn**	23 50 27.6	-1.2
	SNR=3.7						
NAX	**Nakhchivan**	**4.35**	**200**	P	**Pn**	23 50 33.3	+1.3
	SNR=5.2						
NAX				S	**Sn**	23 51 31.0	+8.3
ANN	**Anapa**	**7.33**	**285**	*e*P	**Pn**	23 51 11.9	-1.0
ANN				*e*S	**Sn**	23 52 36.5	+0.5
ANN				pmax	pmax		
	comp=Z,46nm,1.6s						
ANN	**Anapa**	**7.33**	**285**	*e*P	**Pn**	23 51 11.9	-1.0
	comp=Z,46nm,1.6s						
ANN				*e*S	**Sn**	23 52 36.5	+0.5
AKTO	**Aktyubinsk**	**10.20**	**42**	⇑Pn	**Pn**	23 51 55.7	+3.4
	comp=Z,0.5nm,0.7s						
AKTO				⇑Sn	**Sn**	23 53 45.1	-1.5
	comp=Z,0.7nm,0.6s						
AB31	**Akbulak array**	**10.54**	**51**	Pn	**Pn**	23 52 00.3	+3.3
	comp=Z,1.7nm,0.6s,baz=236,slow=12,SNR=43						
AB31				⇑Sn	**Sn**	23 53 55.8	+0.8
	comp=Z,7.3nm,0.8s,baz=226,slow=18,SNR=6.4						
AB31	**Akbulak array**	**10.54**	**51**	Sn	**Sn**	23 53 55.8	+0.8
	comp=Z,7.3nm,0.8s,SNR=6.4						
OBN	**Obninsk**	**13.76**	**333**	⇑*e*P	**Pn**	23 52 41.5	+0.6
OBN				*e*S	**Sn**	23 55 14.2	+0.5
OBN				pmax	pmax		
	comp=Z,13nm,1.8s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
OBN	**Obninsk**	**13.76**	**333**	*e*P	**Pn**	23 52 41.5	+0.6
	comp=Z,13nm,1.8s						
OBN				*e*S	**Sn**	23 55 14.2	+0.5
	comp=Z,100nm,16.0s						
AKASG	**Malin Array Be**	**14.42**	**307**	*e*P	**Pn**	23 52 50.7	+0.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**14.42**	**307**	*e*P	**Pn**	23 52 50.7	+0.9
	comp=Z,1.0nm,0.4s						

*BUG **15** 00:04:46.9, 51.43N×65.3E, h1km, ML1.8*
*NEIC **15** 00:04:47.8, 51.55N×65.6E, h1km, ML2.5(LDG), After LDG.*
*ISCJB **15** 00:04:47.2±0.7, 51.41N±003×64.5E±005, h0km, Error ellipse: s-maj=5.3km s-min=3.6km az=146.5*
*BNS **15** 00:04:47.7±0.9, 51.57N×65.0E, h1km, ML1.9*
*LDG **15** 00:04:47.8±0.3, 51.55N×65.6E, h1km, Ml2.5/8, Error ellipse: s-maj=4.1km s-min=3.2km az=11.0, Suspected Mining induced.*
*CSEM **15** 00:04:47.6±0.3, 51.55N×65.8E, h1km, ML2.5/8, Error ellipse: s-maj=4.6km s-min=3.6km az=8.0*

ISC 15 00:04:47.8±0.7, 5148N±003×645E±005, h0km, n36, σ1°26/67, 3C, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RODG	**Roetgen-Dahlhe**	**0.37**	**207**	*e*Pg	**Pg**	**00 04 56.8**	**+1.9**
RODG				*e*Sg	**Sg**	**00 05 03.5**	**+3.7**
BUG	**Bochum--Univer**	**0.51**	**94**	⇑*e*Pg	**Pg**	**00 04 56.6**	**-1.0**
BUG				Sg	**Sg**	**00 05 03.6**	**-0.6**
WTSB	**Winterswijk**	**0.54**	**23**	*e*Pg	**Pg**	**00 04 59.4**	**+1.3**
HGN	**Heimansgroeve**	**0.79**	**205**	⇑*i*Pg	**Pg**	**00 05 05.5**	**+2.7**
	16nm,0.1s						
HGN				*e*Sg	**Sg**	**00 05 17.6**	**+4.6**
	11nm,0.9s						
HGN	**Heimansgroeve**	**0.79**	**205**	⇑*i*Pg	**Pg**	**00 05 05.5**	**+2.7**
	16nm,0.1s						
HGN	**Heimansgroeve**	**0.79**	**205**	*ex*	x	00 05 15.1	
HGN				*e*Sg	**Sg**	**00 05 17.6**	**+4.6**
	11nm,0.9s						
DREG	**Dreilaegerbach**	**0.83**	**190**	*e*Pg	**Pg**	**00 05 04.4**	**+0.8**
KLL	**Kalltalsperre**	**0.84**	**186**	*e*Pg	**Pg**	**00 05 05.7**	**+1.9**
KLL				*e*Sg	**Sg**	**00 05 18.3**	**+3.7**
MEM	**Membach**	**0.91**	**198**	P	**Pg**	**00 05 06.2**	**+0.9**
STB	**Steinbach**	**0.92**	**164**	*e*Pg	**Pg**	**00 05 06.5**	**+1.2**
STB				*e*Sg	**Sg**	**00 05 20.5**	**+3.3**
	45nm,0.3s						
BCLA	**Clavier**	**1.28**	**215**	P	**Pg**	**00 05 13.9**	**+1.5**
KOE	**Koeppel**	**1.33**	**142**	*e*Pg	**Pg**	**00 05 12.6**	**-0.6**
KOE				*e*Sg	**Sg**	**00 05 30.7**	**+0.3**
BGG	**Burgeitz**	**1.39**	**156**	*e*Pg	**Pg**	**00 05 14.1**	**-0.3**
BGG				*e*Sg	**Sg**	**00 05 32.4**	**0.0**
	8.0nm,0.3s						
GIVF	**Givet**	**1.72**	**218**	*e*Pn	**Pn**	**00 05 18.6**	**-0.4**
GIVF				*e*Sn	**Sn**	**00 05 40.1**	**-1.5**
GIVF				*e*Sg	**Sg**	**00 05 44.6**	**+1.5**
	13nm,0.3s						
GIVF	**Givet**	**1.72**	**218**	*e*Pn	**Pn**	**00 05 18.6**	**-0.4**
GIVF				*e*Sn	**Sn**	**00 05 40.1**	**-1.5**
GIVF				*e*Sg	**Sg**	**00 05 44.6**	**+1.5**
	6.4nm,0.3s						
WLF	**Walferdange**	**1.82**	**186**	*e*Pg	**Pg**	**00 05 22.6**	**-0.1**
	SNR=1.9						
WLF				*e*Sg	**Sg**	**00 05 45.6**	**-0.7**
	SNR=3.8						
WLF	**Walferdange**	**1.82**	**186**	P	**Pn**	**00 05 22.9**	**+2.6**
WLF	**Walferdange**	**1.82**	**186**	P	**Pn**	**00 05 22.9**	**+2.5**
WLF				Sg	**Sg**	**00 05 45.6**	**-0.8**
	SNR=1.0						
BAIF	**Baives**	**2.01**	**226**	*e*Sn	**Sn**	**00 05 47.0**	**-1.8**
BAIF				*e*Sg	**Sg**	**00 05 52.5**	**+0.1**
	5.2nm,0.3s						
BAIF	**Baives**	**2.01**	**226**	*e*Sn	**Sn**	**00 05 47.0**	**-1.8**
BAIF				*e*Sg	**Sg**	**00 05 52.5**	**+0.1**
	2.6nm,0.3s						
MEZF	**Maizieres J'vi**	**3.11**	**197**	*e*Pg	**Pg**	**00 05 46.9**	**-0.5**
MEZF				*e*Sn	**Sn**	**00 06 14.7**	**-1.2**
MEZF				*e*Sg	**Sg**	**00 06 29.5**	**+1.8**
	5.4nm,0.5s						
MEZF	**Maizieres J'vi**	**3.11**	**197**	*e*Pg	**Pg**	**00 05 46.9**	**-0.5**
MEZF				*e*Sn	**Sn**	**00 06 14.7**	**-1.2**
MEZF				*e*Sg	**Sg**	**00 06 29.5**	**+1.8**
	2.7nm,0.5s						
CDF	**Champ du Feu**	**3.11**	**170**	*e*Pn	**Pn**	**00 05 37.5**	**-0.6**
CDF				*e*Sg	**Sg**	**00 06 26.8**	**-1.0**
	6.4nm,0.6s						
CDF	**Champ du Feu**	**3.11**	**170**	*e*Pn	**Pn**	**00 05 37.5**	**-0.6**
CDF				*e*Sg	**Sg**	**00 06 26.8**	**-1.0**
	3.2nm,0.6s						
SFTF	**Sexfontaines**	**3.40**	**196**	*e*Pn	**Pn**	**00 05 40.7**	**-1.3**
SFTF				*e*Sg	**Sg**	**00 06 36.9**	**-0.1**
	5.9nm,0.4s						
SFTF	**Sexfontaines**	**3.40**	**196**	*e*Pn	**Pn**	**00 05 40.7**	**-1.3**
SFTF				*e*Sg	**Sg**	**00 06 36.9**	**-0.1**
	3.0nm,0.4s						
HAU	**Haudompre**	**3.48**	**181**	*e*Sg	**Sg**	**00 06 37.8**	**-1.6**
	2.2nm,0.3s						
HAU	**Haudompre**	**3.48**	**181**	*e*Sg	**Sg**	**00 06 37.8**	**-1.6**
	1.1nm,0.3s						
LOR	**Lormes**	**4.54**	**203**	*e*Pn	**Pn**	**00 05 57.2**	**-0.5**
LOR				*e*Sn	**Sn**	**00 06 47.2**	**-3.9**
LOR				*e*Sg	**Sg**	**00 07 13.2**	**-0.4**
	1.7nm,0.3s						
LOR	**Lormes**	**4.54**	**203**	*e*Pn	**Pn**	**00 05 57.2**	**-0.5**
LOR				*e*Sn	**Sn**	**00 06 47.2**	**-3.9**
LOR				*e*Sg	**Sg**	**00 07 13.2**	**-0.4**
	0.9nm,0.3s						
SSF	**Saint Saulge**	**4.82**	**205**	*e*Pn	**Pn**	**00 06 00.7**	**-0.9**
SSF				*e*Sn	**Sn**	**00 06 54.6**	**-3.5**
SSF				*e*Sg	**Sg**	**00 07 22.2**	**-0.4**
	2.1nm,0.4s						
SSF	**Saint Saulge**	**4.82**	**205**	*e*Pn	**Pn**	**00 06 00.7**	**-0.9**
SSF				*e*Sn	**Sn**	**00 06 54.6**	**-3.5**
SSF				*e*Sg	**Sg**	**00 07 22.2**	**-0.4**
	1.0nm,0.4s						
FLN	**La Foliniere**	**5.22**	**241**	*e*Pn	**Pn**	**00 06 06.2**	**-0.9**
BGF	**Bois d'Agland**	**5.46**	**207**	*e*Sn	**Sn**	**00 07 09.5**	**-4.4**
GRR	**Gorron**	**5.64**	**240**	*e*Sn	**Sn**	**00 07 14.7**	**-3.6**
MFF	**Saint Martin d**	**6.53**	**224**	*e*Sn	**Sn**	**00 07 35.8**	**-4.2**

*NIED **15** 00:23:00, 41.50N×142.00E, h56km, Mw3.7 Best double couple: M0:3.75000×10^14 NP1:φs=16.00000°, δ71.00000°, λ95.00000°. NP2:φs=181.00000°, δ19.00000°, λ75.00000°.*
*ISCJB **15** 00:23:24.5±0.4, 41.48N±003×142.02E±005, h72km±3km, mb3.9/9, Error ellipse: s-maj=6.8km s-min=3.9km az=33.6*
*JMA **15** 00:23:24.8±0.1, 41.49N×142.01E, h63km±2km, M3.6 Broadband fault plane solution: P waves. NP1: φs=176.00000°, δ12.00000°, λ79.00000°. NP2:φs=7.00000°, δ78.00000°, λ92.00000°. Principal axes: T Plg57.0000°, Azm280.0000°; N Plg2.0000°, Azm186.0000°; P Plg33.0000°, Azm95.0000°;*
JMA Felt I J1.
*MOS **15** 00:23:25.6±1.2, 41.45N×142.24E, h96km, mb4.8/1 Error ellipse: s-maj=15.4km s-min=10.7km az=86.4*
*IDC **15** 00:23:26.8±1.9, 41.50N×142.25E, h88km±15km, mb3.5/7, mb1 3.5/10, mb1mx3.4/23, mbtmp3.5/10, Error ellipse: s-maj=32.4km s-min=13.9km az=104.0*
*NEIC **15** 00:23:28.1±1.4, 41.40N×142.11E, h100km±14km, MW3.7(NIED), Error ellipse: s-maj=12.8km s-min=11.2km az=69.0*

ISC 15 00:23:25.4±0.4, 4148N±003×14201E±005, h66km±3km, n39, σ1°01/53, mb3.9/9, 2C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.73**	**263**	⇓P	**Pn**	**00 23 39.7**	**-0.6**
JOT				S	**Sn**	**00 23 50.8**	**-0.5**
JKB	**Kayabe**	**0.84**	**300**	⇓P	**Pn**	**00 23 40.7**	**-1.0**
JKB				*e*S	**Sn**	**00 23 53.4**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.97**	**34**	⇑P	**Pn**	**00 23 42.1**	**-1.3**
JTM	**Tenmabayashi**	**0.99**	**226**	⇓P	**Pn**	**00 23 43.4**	**-0.2**
JTM				S	**Sn**	**00 23 56.6**	**-0.4**
JEM	**Erimo**	**1.01**	**58**	⇑P	**Pn**	**00 23 43.2**	**-0.6**
JEM				*e*S	**Sn**	**00 23 57.4**	**-0.1**
JANG	**Nango**	**1.17**	**199**	⇓P	**Pn**	**00 23 45.1**	**-0.7**
JANG				*e*S	**Sn**	**00 24 00.1**	**-0.9**
JSR	**Shiriuchi**	**1.20**	**273**	⇓P	**Pn**	**00 23 45.8**	**-0.4**
JSR				*e*S	**Sn**	**00 24 02.1**	**+0.4**
JEW	**Eniwo**	**1.42**	**343**	⇓P	**Pn**	**00 23 48.9**	**-0.3**
JEW				*e*S	**Sn**	**00 24 06.5**	**-0.6**
JCH	**Churui**	**1.52**	**41**	P	**Pn**	**00 23 50.6**	**+0.2**
JCH				*e*S	**Sn**	**00 24 10.5**	**+1.2**
JFR	**Furan**	**1.74**	**14**	P	**Pn**	**00 23 53.2**	**-0.2**
JFR				*e*S	**Sn**	**00 24 15.3**	**+0.7**
JOSM	**Okushiri--Mats**	**1.99**	**289**	P	**Pn**	**00 23 56.0**	**-0.8**
JOSM				*e*S	**Sn**	**00 24 20.3**	**-0.4**
ASAJ	**Asahikawa**	**2.67**	**9**	P	**Pn**	**00 24 06.7**	**+0.7**
	6.9nm,0.3s,baz=228,slow=8.9,SNR=34						
ASAJ				S	**Sn**	**00 24 39.1**	**+1.8**
	4.3nm,0.3s,baz=8.5,slow=29,SNR=9.7						
ASAJ	**Asahikawa**	**2.67**	**9**	P	**Pn**	**00 24 06.7**	**+0.7**
ASAJ				S	**Sn**	**00 24 39.1**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
MAJO	**Matsushiro**	**5.75**	**212**	*e*P	**Pn**	**00 24 50.3**	**+2.2**
MAJO				*e*		00 25 56.0	
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**5.75**	**212**	*e*Pn	**Pn**	**00 24 50.3**	**+2.2**
	comp=Z,5.1nm,0.5s						
MAJO				*e*Sn	**Sn**	**00 25 56.0**	**+3.3**
MAT	**Matsushiro**	**5.75**	**212**	P	**Pn**	**00 24 50.6**	**+2.5**
MAT				*e*S	**Sn**	**00 25 56.3**	**+3.6**
MJAR	**Matsushiro Arr**	**5.75**	**212**	P	**Pn**	**00 24 50.6**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=25,slow=14,SNR=9.8						
KSRS	**Korea Array**	**11.61**	**254**	P	**Pn**	**00 26 14.1**	**+5.9**
	comp=Z,0.4nm,0.3s,baz=61,slow=14,SNR=5.6						
HIA	**Hailar**	**17.43**	**304**	*e*P	**Pn**	**00 27 26.0**	**+2.1**
BJT	**Baijiatuau**	**19.61**	**274**	*e*P	**Pn**	**00 27 51.0**	**+0.8**
TATO	**Taipei**	**23.69**	**232**	P	**P**	**00 28 30.7**	**-0.4**
SONM	**Songino Array**	**25.95**	**296**	P	**P**	**00 28 52.0**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.4,baz=93,slow=9.4,SNR=5.9						
ZALV	**Zalesovo Beam**	**39.39**	**308**	P	**P**	**00 30 48.5**	**+0.3**
	comp=Z,1.5nm,0.5s,mb4.1,baz=90,slow=7.9,SNR=7.2						
ZAL	**Zalesovo**	**39.40**	**308**	P	**P**	**00 30 48.6**	**+0.2**
MKAR	**Makanchi Array**	**42.29**	**298**	P	**P**	**00 31 12.2**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.7,baz=82,slow=12,SNR=9.7						
PMR	**Palmer**	**44.84**	**39**	*e*P	**P**	**00 31 31.1**	**-1.4**
PMR				*e*		00 33 11.0	
BRVK	**Borovoye**	**48.07**	**310**	P	**P**	**00 31 56.8**	**-1.1**
EKS2	**Erkin-Say**	**49.38**	**296**	*e*P	**P**	**00 32 08.7**	**+0.6**
	comp=Z,4.7nm,1.1s,mb4.3						
EKS2				*e*PcP	PcP	00 33 29.5	-0.2
AML	**Almayashu**	**49.65**	**295**	P	**P**	**00 32 11.2**	**+1.0**
INK	**Inuvik**	**50.25**	**29**	*e*P	**P**	**00 32 15.3**	**+0.9**
	comp=Z,41nm,0.4s						
RES	**Resolute Bay**	**58.19**	**15**	*e*P	**P**	**00 33 11.8**	**-0.2**
	comp=Z,150nm,0.7s						
CTAO	**Charters Tower**	**61.38**	**175**	*e*P	**P**	**00 33 32.6**	**-1.8**
CTAO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
CTAO	**Charters Tower**	**61.38**	**175**	*e*P	**P**	**00 33 32.6**	**-1.8**
	comp=Z,8.4nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**61.52**	**188**	P	**P**	**00 33 34.8**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.5,baz=7.0,slow=7.6,SNR=6.8						
KIV	**Kislovodsk**	**68.38**	**310**	P	**P**	**00 34 18.3**	**-1.5**
KIV	**Kislovodsk**	**68.38**	**310**	P	**P**	**00 34 18.3**	**-1.5**
HFS	**Hagfors**	**70.24**	**335**	P	**P**	**00 34 30.6**	**-0.3**
	comp=Z,0.7nm,0.3s,mb3.9,baz=46,slow=6.2,SNR=7.2						
NOA	**NORSAR Array B**	**70.28**	**337**	P	**P**	**00 34 31.0**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.3,baz=52,slow=7.9,SNR=2.5						
AKASG	**Malin Array Be**	**71.09**	**322**	P	**P**	**00 34 35.5**	**-0.8**
	comp=Z,0.5nm,0.3s,mb3.8,baz=41,slow=6.9,SNR=4.0						

*ISCJB **15** 00:29:36.8±1.6, 39.23N±009×20.27E±007, h10km, Error ellipse: s-maj=13.8km s-min=6.3km az=21.3*
*ATH **15** 00:29:36.5, 39.22N×20.28E, h14km±7km, MD3.5/5*
*NEIC **15** 00:29:36.5, 39.22N×20.28E, h14km, MD3.5(ATH), After ATH.*
*CSEM **15** 00:29:37.1±0.5, 39.27N×20.24E, h2km, MD3.5, Error ellipse: s-maj=13.9km s-min=6.1km az=26.0*

ISC 15 00:29:36.2±2.0, 392N±01×2028E±007, h1km±13km, n7, σ0°49/10, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.64**	**43**	*e*PB	**Pg**	**00 29 47.7**	**-0.8**
JAN				*e*SB	**Sg**	**00 29 57.2**	**+0.3**
KEK	**Kerkira**	**0.65**	**325**	*e*PB	**Pg**	**00 29 47.9**	**-0.7**
KEK				*e*SB	**Sg**	**00 29 57.6**	**+0.6**
EVR	**Evrytania**	**1.22**	**102**	*e*PB	**Pb**	**00 30 00.3**	**+0.3**
THL	**Klokotos Trika**	**1.39**	**74**	*e*PB	**Pg**	**00 30 03.5**	**+0.6**
THL				*e*SB	**Sb**	**00 30 21.1**	**-0.2**
KZN	**Kozani**	**1.60**	**45**	*e*PB	**Pb**	**00 30 06.4**	**-0.2**
BIA	**Bitola**	**2.00**	**23**	*i* Pn	**Pb**	**00 30 13.0**	**-0.3**
KRUS	**Krusevo**	**2.30**	**18**	*i* Pn	**Pn**	**00 30 15.6**	**+0.3**

*ISCJB **15** 00:52:27.6±1.3, 54.25S±006×147.1E±0.1, h181km±13km, mb4.2/4, Error ellipse: s-maj=20.0km s-min=8.8km az=17.7*
*NEIC **15** 00:52:30.0±1.5, 54.55S×147.03E, h188km±14km, mb4.3/6, Error ellipse: s-maj=16.3km s-min=11.3km az=88.0*
*IDC **15** 00:52:35.3±3.0, 55.57S×146.96E, h237km±31km, mb3.8/2, mb1 3.9/4, mb1mx3.3/17, mbtmp3.7/4, Error ellipse: s-maj=53.2km s-min=24.4km az=119.0*

ISC 15 00:52:31.6±1.2, 556S±006×1470E±01, h201km±12km, n29, σ1°03/31, mb4.2/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.83**	**177**	*e*Pn	**Pn**	**00 53 28.6**	**-2.8**
PMG				*e*S	**Sn**	**00 54 07.7**	**-11**
CTA	**Charters Tower**	**14.46**	**183**	P	**Pn**	**00 55 48.9**	**+1.7**
	0.6nm,0.3s,baz=14,slow=14,SNR=3.3	

14nm,0.3s,baz=114,slow=25,SNR=4.8
JMJ Miyako jima 2 2.66 283 *e*S **Sn 00 54 42.4 +1.0**
JIH Iheya 2.79 357 *e*S **Sn 00 54 43.7 -1.0**
JTJ Tarama 3.16 278 P **Pn 00 54 18.0 +0.7**
JTJ *e*S **Sn 00 54 52.7 -1.1**
JMZ Minamidaito 2 3.21 60 P **Pn 00 54 15.4 -2.6**
JTK Tokunoshima 3.61 11 *e*S **Sn 00 55 05.0 +0.1**
JIJ Ishigaki jima 3.65 273 P **Pn 00 54 24.4 +0.3**
JIJ *e*S **Sn 00 55 04.1 -1.8**
JKRS Kuro-shima 3.77 271 P **Pn 00 54 26.4 +0.7**
JKRS *e*S **Sn 00 55 07.6 -1.3**
IRIF Iriomote-Funau 4.03 272 P **Pn 00 54 29.3 +0.1**
JAM Amami Oshima 4.36 17 P **Pn 00 54 34.6 +0.8**
JAM *e*S **Sn 00 55 20.7 -2.7**
DAV Davao City (W) 17.24 189 LR LR 01 03 32.5
comp=Z,85nm,18.9s,baz=223,slow=35
MKAR Makanchi Array 42.82 314 P **P 01 01 28.2 +3.7**
0.7nm,0.5s,mb3.6,baz=102,slow=9.4,SNR=4.8
ZALV Zalesovo Beam 43.80 324 P **P 01 01 34.8 +2.5**
0.7nm,0.5s,mb3.6,baz=107,slow=7.9,SNR=4.1
WRA Warramunga Arr 44.32 172 P **P 01 01 36.0 -0.8**
2.0nm,0.9s,mb3.9,baz=350,slow=8.7,SNR=7.4

ISCJB ***15*** *01:18:52.1±0.6, 3929N±003×20.13E±003, h6km±4km, Error ellipse: s-maj=4.8km s-min=4.3km az=24.8*
NEIC ***15*** *01:18:52.5, 3929N×2011E, h3km, MD3.7(ATH), ML3.4(THE), After THE.*
THE ***15*** *01:18:52.5, 3929N×2011E, h2km, ML3.4*
ATH ***15*** *01:18:53.8, 3927N×2028E, h17km±2km, MD3.7/8*
CSEM ***15*** *01:18:54.4±0.1, 3931N×2021E, h15km, ML3.4, Error ellipse: s-maj=2.3km s-min=2.1km az=17.0*
ISC 15 01:18:53.7±0.5, 3927N±003×2020E±003, h7km±4km, n29, σ1°25/44, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**21**	*e*Pg	**Pg**	**01 18 58.1**	**-1.0**
IGT				*e*Sg	**Sg**	**01 19 02.7**	**-0.2**
IGT	**Igoumenitsa**	**0.28**	**21**	*i* PG	**Pg**	**01 18 58.1**	**-1.1**
IGT				*i* SG	**Sg**	**01 19 02.7**	**-0.2**
KEK	**Kerkira**	**0.54**	**325**	*e*PN	**Pg**	**01 19 04.5**	**+0.4**
KEK				*e*SN	**Sg**	**01 19 13.9**	**+2.7**
JAN	**Janina**	**0.63**	**52**	*e*PN	**Pg**	**01 19 04.6**	**-1.2**
JAN				*e*SN	**Sg**	**01 19 13.4**	**-0.7**
LKD	**Levkas**	**0.66**	**148**	*e*Pg	**Pg**	**01 19 05.0**	**-1.4**
LKD				*e*Sg	**Sg**	**01 19 17.2**	**+2.2**
TPE	**Tepelena**	**1.03**	**352**	*e*PG	**Pg**	**01 19 16.2**	**+2.7**
TPE				*i* SG	**Sg**	**01 19 18.4**	**-8.5**
VLS	**Valsamata**	**1.13**	**164**	*e*Pg	**Pg**	**01 19 14.7**	**-0.7**
VLS				*e*Sg	**Sg**	**01 19 32.0**	**+1.9**
KFL	**Anninata**	**1.25**	**158**	*e*Pg	**Pg**	**01 19 17.1**	**-0.5**
EVR	**Evrytania**	**1.30**	**105**	*e*PN	**Pn**	**01 19 17.3**	**-0.9**
EVR				*e*SN	**Sn**	**01 19 34.4**	**-1.3**
THL	**Klokotos Trika**	**1.43**	**78**	*e*Pg	**Pg**	**01 19 18.8**	**-2.3**
THL				*e*Sg	**Sg**	**01 19 40.7**	**+1.0**
THL	**Klokotos Trika**	**1.43**	**78**	*e*Pn	**Pn**	**01 19 19.9**	**-0.1**
THL				*e*Sn	**Sn**	**01 19 39.3**	**+0.2**
RLS	**Riolos of Patr**	**1.56**	**140**	*e*PN	**Pn**	**01 19 22.4**	**+0.6**
KZN	**Kozani**	**1.59**	**49**	*e*PN	**Pn**	**01 19 23.4**	**+1.2**
KZN				*e*SN	**Sn**	**01 19 43.7**	**+0.8**
AGG	**Agios Georgios**	**1.67**	**98**	*e*Pb	**Pb**	**01 19 22.7**	**-2.0**
AGG				*e*Sb	**Sb**	**01 19 47.1**	**+1.1**
OHR	**Ohrid**	**1.89**	**14**	*i* Pn	**Pn**	**01 19 27.5**	**+1.1**
OHR	**Ohrid**	**1.89**	**14**	*i* Pn	**Pn**	**01 19 27.4**	**+1.1**
BIA	**Bitola**	**1.94**	**26**	*e*Pn	**Pn**	**01 19 28.2**	**+1.1**
BIA	**Bitola**	**1.94**	**26**	*e*Pn	**Pn**	**01 19 28.1**	**+1.0**
KRUS	**Krusevo**	**2.24**	**21**	*e*Pn	**Pn**	**01 19 26.4**	**-4.8**
KRUS	**Krusevo**	**2.24**	**21**	*e*Pn	**Pn**	**01 19 26.3**	**-4.8**
LKR	**Lokris**	**2.27**	**105**	*e*PB	**Pb**	**01 19 31.4**	**-3.5**
NEO	**Neokhori**	**2.34**	**88**	*e*PN	**Pn**	**01 19 34.0**	**+1.5**
TIP	**Timpagrande**	**2.68**	**269**	*e*Pg	**Pg**	**01 19 44.9**	**-0.1**
TIP	**Timpagrande**	**2.68**	**269**	*e*Pg	**Pg**	**01 19 44.9**	**-0.1**
SG1	**Sgolgore (BA)**	**3.12**	**301**	*e*Pn	**Pn**	**01 19 44.1**	**+0.8**
CEL	**Celeste**	**3.52**	**255**	*e*Pn	**Pn**	**01 19 48.5**	**-0.2**
CEL				*e*Sn	**Sn**	**01 20 29.3**	**-1.2**
CEL	**Celeste**	**3.52**	**255**	*e*Pn	**Pn**	**01 19 48.5**	**-0.1**
CEL				*e*Sn	**Sn**	**01 20 29.3**	**-1.2**
BOJS	**Bojanci**	**7.22**	**331**	*e*Pn	**Pn**	**01 20 38.4**	**-1.2**
BOJS				*e*Sn	**Sn**	**01 21 55.6**	**-6.2**
CRES	**Cresnjev**	**7.43**	**333**	*e*Pn	**Pn**	**01 20 41.3**	**-1.1**

IDC 15 01:34:42.8±52.0, 1764S×17659W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/16, mbtmp4.3/3, Error ellipse: s-maj=961.5km s-min=162.7km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.28**	**241**	P	P	01 42 21.8	0.0
2.3nm,0.4s,baz=95,slow=12,SNR=4.1
WRA Warramunga Arr 46.39 259 P P 01 43 10.6 -0.8
0.3nm,0.3s,baz=95,slow=8.0,SNR=6.0
ASAR Alice Springs 46.53 254 P P 01 43 12.9 +0.4
5.6nm,0.4s,baz=89,slow=8.5,SNR=85

IDC ***15*** *01:42:13.9±1.5, 4022N×5140E, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.6/25, mbtmp3.9/7, ML4.4/3, MS2.6/1, Ms1 2.6/1, ms1mx1.9/40, Error ellipse: s-maj=33.0km s-min=16.9km az=134.0*
NEIC ***15*** *01:42:19.5±9.2, 4055N×5130E, h31km±68km, mb3.6/3, Error ellipse: s-maj=31.0km s-min=14.8km az=187.0*
MOS ***15*** *01:42:20.8±0.6, 4092N×5139E, h28km, mb3.8/1, Error ellipse: s-maj=17.8km s-min=12.6km az=74.5*
CSEM ***15*** *01:42:21.7±0.1, 4104N×5145E, h30km, mb3.8, Error ellipse: s-maj=5.2km s-min=1.8km az=153.0*
ISCJB ***15*** *01:42:23.5±0.8, 4095N±007×5144E±006, h58km±13km, mb3.5/5, Error ellipse: s-maj=11.8km s-min=6.6km az=157.6*
NNC ***15*** *01:42:26.4±13.0, 4072N×5283E, h0km, mb3.8, Error ellipse: s-maj=105.3km s-min=83.9km az=34.0*
ISC 15 01:42:23.9±0.8, 4079N±007×5148E±006, h53km±12km, n36, σ1°06/50, mb3.5/5, 6C-1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.08**	**250**	P	**Pn**	**01 42 43.4**	**+0.6**
SNR=3.0
GALA S **Sn 01 43 04.7 +7.9**
GOBA Gobu 1.39 254 P **Pn 01 42 46.1 -0.9**
SNR=3.8
GOBA S **Sn 01 43 07.8 +3.6**
SIZA Siyzn 1.98 279 P **Pn 01 42 55.5 +0.5**
SNR=5.8
PQL Pirkuli 2.19 271 P **Pn 01 42 57.1 -0.8**
SNR=2.9
PQL S **Sn 01 43 25.0 +1.1**
SEKA Sheki 3.27 279 P **Pn 01 43 11.3 -1.3**
SNR=4.6
SEKA S **Sn 01 43 51.3 +1.0**
DBC Dubki 4.12 304 *e*PN **Pn 01 43 28.0 +3.7**
DLMR Dylym 4.28 304 *e*PN **Pn 01 43 35.0 +8.6**
DGRG David-gareji 4.66 280 P **Pn 01 43 30.3 -1.4**
MTA Mtatsminda 5.12 282 P **Sn 01 44 34.8 -1.0**
TBLG Delisi 5.17 283 P **Sn 01 44 36.9 -0.1**
AB31 Akbulak array 10.36 32 ⇑Pn **Pn 01 44 48.7 -1.0**
1.4nm,0.3s,baz=200,slow=13,SNR=71
AB31 ⇑Sn **Sn 01 46 43.9 -0.3**
2.0nm,0.3s,baz=195,slow=23,SNR=8.2
AKTK Aktyubinsk 10.67 23 Pn **Pn 01 44 53.9 0.0**
AKTK S **Sn 01 46 54.0 +2.3**
AKTK Aktyubinsk 10.67 23 Pn **Pn 01 44 53.9 0.0**
AKTK Sn **Sn 01 46 54.0 +2.3**
AKTO Aktyubinsk 10.67 23 Pn **Pn 01 44 53.9 +0.1**
2.7nm,0.3s,baz=204,slow=12,SNR=36
AKTO Sn **Sn 01 46 54.0 +2.3**
4.5nm,0.3s,baz=224,slow=22,SNR=15
KK31 Karatay Array 14.35 74 Pn **Pn 01 45 39.7 -4.2**
1.7nm,0.7s,baz=200,slow=13,SNR=15
KK31 ⇑Sn **Sn 01 48 14.5 -7.1**
0.6nm,0.5s,baz=200,slow=13,SNR=2.9
ARU Arti 16.32 14 *e*P **Pn 01 46 07.5 -1.7**
ARU Arti 16.32 14 *e*Pn **Pn 01 46 07.5 -1.8**
EKS2 Erkin-Say 16.74 76 *e*P **Pn 01 46 15.7 +1.0**
1.9nm,0.6s
EKS2 Erkin-Say 16.74 76 *e*P **Pn 01 46 15.7 +1.0**
1.9nm,0.6s
BRVK Borovoye 17.69 40 *e*P **Pn 01 46 26.0 -0.3**
BRVK *e* 01 49 38.9
BRVK pmax pmax
comp=Z,3.0nm,0.5s
BRVK Borovoye 17.69 40 *e*P **Pn 01 46 26.0 -0.3**
comp=Z,2.7nm,0.5s
BRVK *e*S **S 01 49 38.9 -8.3**
BRVK Borovoye 17.69 40 *e*P **Pn 01 46 26.0 -0.3**
comp=Z,2.7nm,0.5s
BRVK *e*Sn **Sn 01 49 38.9 -3.5**
BVA0 Borovoye Array 17.72 40 ⇑Pn **Pn 01 46 27.0 +0.4**
comp=Z,0.7nm,0.7s,baz=200,slow=13,SNR=4.3
BVA0 ⇑Sn **Sn 01 49 37.3 -5.8**
comp=Z,0.4nm,0.7s,baz=200,slow=13,SNR=6.9
BVAR Borovoye Array 17.72 40 P **Pn 01 46 27.1 +0.5**
comp=Z,1.2nm,0.3s,baz=232,slow=11,SNR=30
BVAR S **S 01 49 37.7 -10**
comp=Z,0.5nm,0.3s,baz=225,slow=25,SNR=6.0
VOSK Vostochnaya 17.84 41 ⇑Pn **Pn 01 46 27.9 -0.3**
comp=Z,1.2nm,0.5s,baz=200,slow=13
VOSK ⇓Sn **Sn 01 49 39.5 -6.6**
comp=Z,1.9nm,0.6s,baz=200,slow=13
AKASG Malin Array Be 18.36 310 P **Pn 01 46 33.4 -1.0**
comp=Z,1.2nm,0.3s,baz=97,slow=8.3,SNR=3.6
KURK Kurchatov 21.27 53 *e*P **P 01 47 06.5 +1.0**
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb3.6
KURK Kurchatov 21.27 53 *e*P **P 01 47 06.5 +0.9**
comp=Z,1.6nm,0.6s,mb3.5
MK31 Makanchi Array 22.94 65 *e*P **P 01 47 22.8 -0.6**
MK31 Makanchi Array 22.94 65 *e*P **P 01 47 22.8 -0.6**
MKAR Makanchi Array 22.94 65 P **P 01 47 22.7 -0.7**
comp=Z,1.5nm,0.7s,mb3.5,baz=256,slow=10,SNR=14
ZAL Zalesovo 25.84 48 P **P 01 47 50.8 +0.7**
ZALV Zalesovo Beam 25.86 48 P **P 01 47 50.8 +0.5**
comp=Z,1.7nm,0.5s,mb3.8,baz=257,slow=11,SNR=8.2
ZALV LR LR 01 59 22.3
comp=Z,13nm,20.5s,baz=238,slow=39
ARCES ARCESS Array B 31.87 343 P **P 01 48 44.2 +0.7**
comp=Z,1.3nm,0.8s,mb3.8,baz=145,slow=9.6,SNR=4.5
ARCES ARCESS Array B 31.87 343 P **P 01 48 44.2 +0.7**
TORD Torodi Ar. Bea 51.35 252 P **P 01 51 18.6 -4.6**
comp=Z,0.1nm,0.6s,mb2.9,baz=57,slow=8.1,SNR=3.7

ISCJB ***15*** *02:07:34.9±0.7, 558S±0.1×279W±02, h33km, mb4.1/6, Error ellipse: s-maj=18.7km s-min=14.7km az=172.6*
NEIC ***15*** *02:07:44.3±3.4, 5579S×2799W, h108km±30km, mb4.2/6, Error ellipse: s-maj=15.3km s-min=11.6km az=47.0*
IDC ***15*** *02:07:46.1±10.0, 5582S×28.19W, h121km±91km, mb3.6/4, mb1 3.8/4, mb1mx3.5/16, mbtmp3.6/4, MS3.6/1, Ms1 3.5/1, ms1mx3.0/17, Error ellipse: s-maj=37.3km s-min=22.9km az=74.0*
ISC 15 02:07:38.1±5.6, 558S±02×279W±03, h45km±56km, n17, σ0°49/11, mb4.1/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA Sanae 19.15 156 *e*P **Pn 02 11 58.5 +0.2**
13nm,0.9s
PMSA Palmer Station 19.75 228 *e*P **Pn 02 12 05.5 0.0**
4.3nm,0.6s
CPUP Villa Florida 36.32 312 P **P 02 14 36.4 -0.9**
0.3nm,0.3s,mb3.6,baz=119,slow=13,SNR=2.8
BOSA Boshof 46.32 77 LR LR 02 31 56.2
comp=Z,75nm,21.2s,baz=327,slow=31
VNDA Vanda 46.81 183 P **P 02 16 02.6 +0.1**
1.3nm,0.6s,mb4.0,baz=143,slow=5.1,SNR=9.6
VNDA Vanda 46.81 183 *e*P **P 02 16 02.4 -0.1**
1.5nm,0.7s,mb4.0
LPAZ La Paz 49.88 306 P **P 02 16 27.8 +1.0**
0.8nm,0.3s,mb4.2,baz=147,slow=5.5,SNR=8.8
LPAZ La Paz 49.88 306 *e*P **P 02 16 27.3 +0.5**
0.9nm,0.4s,mb4.2
CASY Casey 54.29 161 *e*P **P 02 16 58.7 -0.3**
2.8nm,0.9s,mb4.2
LSZ Lusaka 58.68 70 *e*P **P 02 17 30.2 -0.5**
2.2nm,0.8s,mb4.2
TOA0 Torodi Ar. Sit 73.04 30 *e*P **P 02 19 03.2 +0.1**
TORD Torodi Ar. Bea 73.04 30 P **P 02 19 03.6 +0.6**
2.6nm,0.7s,mb4.3,baz=198,slow=6.1,SNR=21
ARCES ARCESS Array B 130.86 22 PKP PKPdf 02 26 40.8 -1.7
2.4nm,0.9s,baz=236,slow=3.1,SNR=3.8
YKA Yellowknife Ar 135.69 318 PKP PKPdf 02 26 51.0 -0.8
0.3nm,0.3s,baz=136,slow=2.0,SNR=4.9
YKA Yellowknife Ar 135.69 318 PKP PKPdf 02 26 51.0 -0.8
KDAK Kodiak Island 150.32 297 PKPbc PKPbc 02 27 21.1 -1.8
6.5nm,1.0s,baz=153,slow=4.5,SNR=5.0
SONM Songino Array 151.14 87 PKPbc PKPbc 02 27 23.7 -1.4
1.8nm,0.7s,baz=227,slow=2.7,SNR=12

NIED ***15*** *02:07:00, 3880N×14160E, h50km, Mw3.6 Best double couple: M*$_0$*3.10000×10*^{14} *NP1:*ϕ_s*=331.00000°, δ77.00000°, λ72.00000°. NP2:*ϕ_s*=206.00000°, δ23.00000°, λ143.00000°.*
ISCJB ***15*** *02:07:48.4±0.7, 3881N±004×14169E±009, h79km±4km, mb4.0/5, Error ellipse: s-maj=12.2km s-min=5.1km az=16.7*
JMA ***15*** *02:07:49.9, 3882N×14159E, h73km±1km, M3.6 Broadband fault plane solution: P waves. NP1:*ϕ_s*=242.00000°, δ23.00000°, λ-22.00000°. NP2:*ϕ_s*=353.00000°, δ81.00000°, λ-112.00000°. Principal axes: T Plg33.0000°, Azm101.0000°; N Plg22.0000°, Azm356.0000°; P Plg49.0000°, Azm239.0000°;*
JMA Felt II J1.
NEIC ***15*** *02:07:52.1±1.4, 3874N×14156E, h100km, mb4.3/2 Error ellipse: s-maj=28.0km s-min=12.7km az=97.0*
IDC ***15*** *02:07:59.5±15.0, 3846N×14076E, h146km±90km, mb3.4/3, mb1 3.4/4, mb1mx3.1/20, mbtmp3.3/4, MS2.5/1, Ms1 2.5/1, ms1mx1.8/26, Error ellipse: s-maj=224.1km s-min=23.4km az=65.0*
ISC 15 02:07:49.4±0.7, 3881N±004×14169E±009, h73km±4km, n23, σ0°62/34, mb4.0/5, 8C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ Ofunato 0.27 356 ⇓P **Pn 02 08 01.3 +0.5**
OFUJ S **Sn 02 08 09.5 +0.4**
JMK Ichinoseki 0.40 291 ⇑P **Pn 02 08 01.5 -0.1**
JMK S **Sn 02 08 10.0 -0.6**
JIO Ouri 0.45 217 ⇑P **Pn 02 08 02.2 +0.1**
JIO S **Sn 02 08 11.0 -0.3**
JOM Ohasama 0.73 335 ⇑P **Pn 02 08 05.1 +0.2**
JOM S **Sn 02 08 16.1 -0.3**
JOU Okura 0.92 241 ⇑P **Pn 02 08 07.0 -0.1**
JOU S **Sn 02 08 20.0 -0.2**
JYK Kaneyama 1.05 276 ⇑P **Pn 02 08 08.3 -0.3**
JMM Marumori 1.18 217 ⇓P **Pn 02 08 09.8 -0.5**
JMM S **Sn 02 08 24.9 -1.0**
JYS Shirataka 1.41 246 ⇑P **Pn 02 08 13.3 +0.1**
JYS *e*S **Sn 02 08 30.9 -0.3**
JYA Atsumi 1.56 263 ⇑P **Pn 02 08 15.1 -0.2**
JYA *e*S **Sn 02 08 34.4 -0.5**
JANG Nango 1.57 355 ⇓P **Pn 02 08 15.3 -0.1**
JANG *e*S **Sn 02 08 34.6 -0.4**
JFK Kawauchi 1.58 204 ⇓P **Pn 02 08 15.6 +0.1**
JFK S **Sn 02 08 35.0 -0.2**
JAH Hinai 1.60 330 ⇑P **Pn 02 08 16.4 +0.6**
JAH S **Sn 02 08 36.3 +0.5**
MAJO Matsushiro 3.57 232 *e*Pn **Pn 02 08 43.6 +1.1**
MAT Matsushiro 3.57 232 P **Pn 02 08 43.9 +1.4**
MAT *e*S **Sn 02 09 24.5 +1.0**
MJAR Matsushiro Arr 3.57 232 P **Pn 02 08 44.0 +1.6**
2.5nm,0.3s,baz=42,slow=11,SNR=48
JHJ Hachijo jima 2 5.89 196 S **Sn 02 10 15.9 -4.1**
5.8nm,0.3s,baz=76,slow=23,SNR=6.9
DAV Davao City (W) 34.79 209 LR LR 02 27 15.6
comp=Z,7.4nm,19.7s,baz=313,slow=34
ZALV Zalesovo Beam 40.90 311 P **P 02 15 24.1 0.0**
1.3nm,0.5s,mb4.0,baz=82,slow=6.8,SNR=5.7
MK31 Makanchi Array 43.38 301 *e*P **P 02 15 44.2 -0.3**
MKAR Makanchi Array 43.38 301 P **P 02 15 44.0 -0.5**
1.7nm,0.7s,mb3.9,baz=86,slow=9.2,SNR=10
KURK Kurchatov 45.03 307 *e*P **P 02 15 56.6 -0.9**
4.3nm,0.8s,mb4.2
TKM2 Tokmak 2 49.00 297 *e*P **P 02 16 28.9 +0.4**
1.1nm,0.3s,mb4.3
WRA Warramunga Arr 58.85 188 P **P 02 17 39.7 -0.7**
0.2nm,0.4s,mb3.5,baz=5.0,slow=7.0,SNR=4.3

NIED ***15*** *02:15:00, 2430N×128.10E, h35km, Mw4.4 Best double couple: M*$_0$*4.35000×10*^{15} *NP1:*ϕ_s*=291.00000°, δ78.00000°, λ-37.00000°. NP2:*ϕ_s*=30.00000°, δ54.00000°, λ-165.00000°.*
ISCJB ***15*** *02:15:55.1±1.6, 2421N±004×12808E±004, h23km±13km, mb4.2/14, MS3.7/10, Error ellipse: s-maj=6.6km s-min=5.2km az=136.0*
JMA ***15*** *02:15:55.9±0.5, 2423N×12829E, h64km, M4.4*
NEIC ***15*** *02:15:56.3±5.1, 2431N×12885E, h28km±39km, mb4.5/5, MW4.4(NIED), Error ellipse: s-maj=32.1km s-min=6.7km az=62.0*
BJI ***15*** *02:15:56.4, 2439N×128.10E, h7km, mB4.5, mb4.2, Ms3.8, Msz3.7*
IDC ***15*** *02:15:57.5±4.3, 2436N×12888E, h38km±39km, mb3.9/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, MS3.5/12, Ms1 3.6/12, ms1mx3.2/39, Error ellipse: s-maj=37.5km s-min=14.8km az=66.0*
ISC 15 02:15:58.0±1.7, 2426N±003×12810E±004, h35km±14km, n51, σ1°39/58, mb4.2/14, MS3.7/10, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2 Tamagusuku 2 1.90 351 P **Pn 02 16 28.2 +0.2**
JJT2 S **Sn 02 16 50.9 +0.2**
NAH1 Naha 1.98 349 P **Pn 02 16 29.0 0.0**
NAH1 S **Sn 02 16 52.1 -0.4**
JKE Kume jima 2 2.38 330 P **Pn 02 16 34.7 +0.2**
JKE *e*S **Sn 02 17 02.2 -0.3**
JAGN Aguni-jima 2.45 342 P **Pn 02 16 35.7 +0.2**
JAGN S **Sn 02 17 03.3 -0.9**
JOGS Gusukube 2.50 282 *e*S **Sn 02 17 08.4 +2.9**
JOW Kunigami 2.57 4 P **Pn 02 16 36.6 -0.6**
JOW *e*S **Sn 02 17 04.6 -2.6**
JOW Kunigami 2.57 4 Pn **Pn 02 16 36.0 -1.1**
82nm,0.3s,baz=171,slow=15,SNR=146
JOW Sn **Sn 02 17 04.5 -2.7**
118nm,0.3s,baz=126,slow=22,SNR=18
JOW LR LR 02 17 40.0
comp=Z,618nm,21.1s,baz=259,slow=41
JMJ Miyako jima 2 2.61 283 *e*S **Sn 02 17 07.9 -0.4**
JIH Iheya 2.77 358 P **Pn 02 16 40.0 +0.1**
JIH S **Sn 02 17 10.6 -1.5**
JTJ Tarama 3.12 278 P **Pn 02 16 45.1 +0.4**
JTJ *e*S **Sn 02 17 19.6 -1.1**
JMZ Minamidaito 2 3.23 61 P **Pn 02 16 42.1 -4.2**
JMZ *e*S **Sn 02 17 17.6 -6.0**
JTK Tokunoshima 3.60 12 P **Pn 02 16 50.7 -0.6**
JTK *e*S **Sn 02 17 28.3 -4.3**
JIJ Ishigaki jima 3.61 273 P **Pn 02 16 51.2 -0.3**
JIJ S **Sn 02 17 30.5 -2.4**
JKRS Kuro-shima 3.73 271 P **Pn 02 16 53.2 +0.1**
JKRS *e*S **Sn 02 17 35.3 -0.6**
HATJ Hateruma jima 3.93 268 P **Pn 02 16 55.1 -0.7**
HATJ *e*S **Sn 02 17 40.2 -0.5**
IRIF Iriomote-Funau 3.99 272 P **Pn 02 16 56.2 -0.4**
IRIF *e*S **Sn 02 17 40.5 -1.6**
JAM Amami Oshima 4.36 18 P **Pn 02 17 01.7 0.0**
JAM *e*S **Sn 02 17 48.3 -2.9**
JZK Kikaishima 4.38 22 P **Pn 02 17 02.7 +0.7**
NACB Ninganchiao 5.94 271 *e*Pn **Pn 02 17 21.1 -2.4**
YHNB Yeheng 6.14 275 *e*Pn **Pn 02 17 26.3 +0.1**
40nm,0.4s
KSRS Korea Array 13.16 359 Pn **Pn 02 19 03.0 +0.7**
0.2nm,0.3s,baz=178,slow=14,SNR=8.2
KSRS LR LR 02 24 24.1
comp=Z,195nm,18.8s,baz=81,slow=39
JHJ Hachijo jima 2 13.53 47 LR LR 02 22 59.2
comp=Z,113nm,19.3s,baz=298,slow=32
BJI Beijing 18.67 330 P **Pn 02 20 15.5 +2.0**
BJI AMB AMB
comp=Z,7.0nm,1.4s
BJI LR LR
comp=N,159nm,13.2s
BJI LR LR
comp=E,160nm,11.3s
BJI LR LR
comp=Z,58nm,16.9s
XAN Xi'an 19.35 305 P **Pn 02 20 24.1 +2.3**
XAN AP pP 02 20 32.4 +2.7
XAN XP sP 02 20 38.3 +4.1
XAN S **Sn 02 24 04.6 +6.8**
XAN AMB AMB
comp=Z,8.0nm,0.8s
XAN AMB AMB
comp=Z,58nm,3.6s
XAN LR LR
comp=N,149nm,11.0s
XAN LR LR
comp=E,98nm,12.2s
XAN LR LR
comp=Z,182nm,11.9s
CN2 Changchun 19.62 354 *e*P **Pn 02 20 25.9 +1.0**
LZH Lanzhou 23.99 305 *e*P **P 02 21 14.0 +4.7**
LZH AMB AMB
comp=Z,22nm,1.4s,mb4.4
LZH AMB AMB
comp=Z,85nm,4.2s
CMAR Chiang Mai Arr 27.73 264 LR LR 02 32 15.4
comp=Z,57nm,21.4s,MS3.1,baz=85,slow=34
GTA Gaotai 28.24 309 *e*P **P 02 21 49.8 +2.1**
GTA AP pP 02 21 54.5 -3.2
GTA XP sP 02 21 56.9 -5.1
GTA AMB AMB
comp=Z,2.0nm,0.8s,mb3.8
SONM Songino Array 29.16 329 P **P 02 21 56.9 +1.1**
comp=Z,0.5nm,0.5s,mb3.5,baz=145,slow=9.5,SNR=5.8
SONM LR LR 02 33 43.3
comp=Z,58nm,21.0s,MS3.2,baz=233,slow=36
MK31 Makanchi Array 42.78 314 *e*P **P 02 23 54.8 +2.6**
MKAR Makanchi Array 42.78 314 P **P 02 23 55.0 +2.9**
comp=Z,4.4nm,0.6s,mb4.3,baz=96,slow=9.3,SNR=21
ZAA0 Zalesovo Array 43.76 324 *e*P **P 02 24 02.1 +2.2**
ZALV Zalesovo Beam 43.76 324 P **P 02 24 02.4 +2.5**
comp=Z,4.4nm,0.6s,mb4.4,baz=111,slow=8.0,SNR=16
ZALV LR LR 02 43 42.9
comp=Z,34nm,19.2s,MS3.3,baz=233,slow=38
WRAB Tennant Creek 44.34 172 *e*P **P 02 24 03.5 -1.4**
comp=Z,7.6nm,0.8s,mb4.5
WRA Warramunga Arr 44.35 172 P **P 02 24 03.9 -1.1**
comp=Z,7.5nm,0.8s,mb4.5,baz=353,slow=8.9,SNR=37
WB2 Warramunga Arr 44.35 172 *e*P **P 02 24 03.8 -1.2**
HNR Honiara 45.69 133 P **P 02 24 11.6 -4.2**
comp=Z,147nm,0.3s,baz=242,slow=7.7,SNR=10.0
KURK Kurchatov 46.18 318 *e*P **P 02 24 21.7 +2.5**
comp=Z,7.9nm,1.1s,mb4.6
TKM2 Tokmak 2 46.74 307 *e*P **P 02 24 27.3 +3.5**
comp=Z,2.7nm,0.6s,mb4.3
CTA Charters Tower 47.49 157 LR LR 02 42 50.0
comp=Z,129nm,18.7s,MS3.9,baz=50,slow=34
ASAR Alice Springs 47.97 173 P **P 02 24 32.8 -0.6**
comp=Z,1.1nm,0.8s,mb4.0,baz=0.6,slow=14,SNR=12
EKS2 Erkin-Say 48.05 306 *e*P **P 02 24 37.8 +3.9**
comp=Z,2.2nm,0.7s,mb4.3
BRVK Borovoye 51.75 319 *e*P **P 02 25 04.8 +3.0**
comp=Z,3.0nm,0.7s,mb4.3
STKA Stephens Creek 57.29 166 LR LR 02 50 56.6
comp=Z,91nm,20.5s,MS3.9,baz=25,slow=37
INK Inuvik 70.75 23 P **P 02 27 07.1 -3.1**
comp=Z,0.7nm,0.3s,mb4.0,baz=321,slow=2.8,SNR=10
ARCES ARCESS Array B 71.80 339 LR LR 03 01 15.0
comp=Z,46nm,19.8s,MS3.8,baz=7.0,slow=38
AKASG Malin Array Be 76.95 320 P **P 02 27 48.0 +1.1**
comp=Z,0.1nm,0.3s,mb3.2,baz=57,slow=4.8,SNR=4.7
MMAI Mount Meron Ar 79.31 301 LR LR 03 07 27.2
comp=Z,46nm,19.7s,MS3.8,baz=110,slow=39
NOA NORSAR Array B 81.03 334 LR LR 03 08 13.9
comp=Z,36nm,18.4s,MS3.8,baz=65,slow=39
GERES GERESS Array B 86.70 323 LR LR 03 09 31.3
comp=Z,43nm,19.1s,MS3.9,baz=83,slow=37
ELK Elko 92.61 43 LR LR 03 02 20.8
comp=Z,318nm,21.3s,MS4.7,baz=318,slow=30

MDD ***15*** *02:30:13.7±0.8, 3677N×1186W, h0km, mb4.7/52, Error ellipse: s-maj=8.3km s-min=6.1km az=89.0, PRIMO*
ISCJB ***15*** *02:30:14.0±0.5, 3684N±003×1159W±003, h10km, Error ellipse: s-maj=4.2km s-min=3.7km az=135.8*
NEIC ***15*** *02:30:14.4, 3683N×1184W, h0km, MG4.8(MDD), After MDD.*
SFS ***15*** *02:30:14.0, 3684N×1180W, h0km, ML4.7*

*LDG **15** 02:30:16.8±0.2,3680N×1194W,h20km,Ml3.9/17,Error ellipse: s-maj=3.6km s-min=2.7km az=52.0*
*INMG **15** 02:30:16.9±0.8,3680N×1180W,h10km,MD3.3,ML3.4, Error ellipse: s-maj=3.2km s-min=2.5km az=75.0*
*IGIL **15** 02:30:16.8,3673N×1190W,h30km,ML3.5*
*CNRM **15** 02:30:18.4,3644N×1179W,h30km,MD4.0*
*CSEM **15** 02:30:20.0±0.2,3673N×1127W,h20km,ML3.9/6,Error ellipse: s-maj=4.4km s-min=2.4km az=54.0*
ISC 15 02:30:18.1±0.5,3698N±003×1152W±003,h10km,n187,
σ1§06/331,7C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.16**	**85**	*i* Pn	**Pn**	**02 30 54.1**	**0.0**
PFVI				*e*Sn	**Sn**	**02 31 22.0**	**+1.1**
PFVI				A		02 31 27.1	
	91nm,0.2s						
PFVI	**Vila Bisbo**	**2.16**	**85**	⇑P	**Pn**	**02 30 54.1**	**0.0**
PFVI				S	**Sn**	**02 31 22.0**	**+1.1**
	45nm,0.2s						
PTEO	**Sao Teotonio**	**2.30**	**75**	*i* Pn	**Pn**	**02 30 56.6**	**+0.5**
PTEO				*e*Sn	**Sn**	**02 31 26.4**	**+2.0**
PTEO				A		02 31 28.9	
	81nm,0.3s						
PTEO	**Sao Teotonio**	**2.30**	**75**	⇑P	**Pn**	**02 30 56.6**	**+0.5**
PTEO				S	**Sn**	**02 31 26.4**	**+2.0**
	40nm,0.3s						
MORF	**Marmelete**	**2.31**	**81**	*i* Pn	**Pn**	**02 30 56.6**	**+0.3**
MORF				*e*Sn	**Sn**	**02 31 27.0**	**+2.2**
MORF				A		02 31 31.5	
	119nm,0.1s						
MORF	**Marmelete**	**2.31**	**81**	⇑P	**Pn**	**02 30 56.6**	**+0.3**
MORF				S	**Sn**	**02 31 27.0**	**+2.2**
	119nm,0.1s						
LIS	**Lisbon**	**2.55**	**47**	*e*P	**Pn**	**02 31 00.5**	**+0.9**
LIS				*e*S	**Sn**	**02 31 31.9**	**+1.2**
LIS				*e*S	**Sn**	**02 31 31.9**	**+1.2**
LIS				AML	AML	02 31 32.2	
	comp=N,152nm,0.5s						
LIS	**Lisbon**	**2.55**	**47**	*e*P	**Pn**	**02 31 00.5**	**+0.9**
LIS				*e*S	**Sn**	**02 31 31.9**	**+1.2**
PMAFR	**Mafra**	**2.65**	**41**	*i* Pn	**Pn**	**02 31 01.7**	**+0.8**
PMAFR				*e*Sn	**Sn**	**02 31 35.1**	**+2.1**
PMAFR				A		02 31 37.3	
	comp=N,544nm,0.2s						
PMAFR	**Mafra**	**2.65**	**41**	⇑P	**Pn**	**02 31 01.7**	**+0.8**
PMAFR				S	**Sn**	**02 31 35.1**	**+2.1**
	comp=N,544nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.88**	**84**	*e*Pn	**Pn**	**02 31 04.4**	**+0.3**
PBDV				*e*Sn	**Sn**	**02 31 40.2**	**+1.5**
PBDV				A		02 31 46.7	
	comp=N,46nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.88**	**84**	*e*Pn	**Pn**	**02 31 04.4**	**+0.3**
PBDV				*e*Sn	**Sn**	**02 31 40.2**	**+1.5**
	comp=N,46nm,0.1s						
MOE	**Montemor**	**2.94**	**58**	*e*Pn	**Pn**	**02 31 05.7**	**+0.7**
MOE				*e*Sn	**Sn**	**02 31 42.4**	**+2.0**
PVAQ	**Vaqueiros**	**3.06**	**81**	*e*Pn	**Pn**	**02 31 07.1**	**+0.5**
PVAQ				*e*Sn	**Sn**	**02 31 44.1**	**+0.8**
PVAQ				A		02 31 49.4	
	comp=N,82nm,0.2s						
PVAQ	**Vaqueiros**	**3.06**	**81**	*e*Pn	**Pn**	**02 31 07.1**	**+0.5**
PVAQ				*e*Sn	**Sn**	**02 31 44.1**	**+0.8**
	comp=N,82nm,0.2s						
PBEJ	**Beja**	**3.09**	**69**	*e*Pn	**Pn**	**02 31 07.2**	**+0.3**
PBEJ				*e*Sn	**Sn**	**02 31 45.1**	**+1.3**
PBEJ				A		02 31 49.9	
	comp=N,60nm,0.2s						
PBEJ	**Beja**	**3.09**	**69**	*e*Pn	**Pn**	**02 31 07.2**	**+0.3**
PBEJ				*e*Sn	**Sn**	**02 31 45.1**	**+1.3**
	comp=N,60nm,0.2s						
EVOP	**Sao Brissos**	**3.10**	**59**	*e*Pn	**Pn**	**02 31 07.4**	**+0.3**
EVOP				*e*Sn	**Sn**	**02 31 46.1**	**+1.9**
	comp=N,75nm,0.3s						
ALMR	**Almeirim**	**3.18**	**46**	*e*P	**Pn**	**02 31 08.9**	**+0.8**
ALMR				*e*S	**Sn**	**02 31 46.6**	**+0.5**
ALMR				*e*S	**Sn**	**02 31 46.8**	**+0.7**
ALMR				AML	AML	02 31 49.3	
	comp=N,197nm,0.1s						
ALMR	**Almeirim**	**3.18**	**46**	*e*P	**Pn**	**02 31 08.9**	**+0.7**
ALMR				*e*S	**Sn**	**02 31 46.6**	**+0.5**
EVO	**Evora**	**3.18**	**60**	*e*Pn	**Pn**	**02 31 07.4**	**-0.8**
EVO				*e*Sn	**Sn**	**02 31 46.1**	**-0.1**
	comp=N,150nm,0.3s						
EVO	**Evora**	**3.18**	**60**	*e*Pn	**Pn**	**02 31 08.8**	**+0.6**
EVO				*e*Sn	**Sn**	**02 31 48.0**	**+1.8**
EVO				A		02 31 51.5	
	comp=N,121nm,0.1s						
EVO	**Evora**	**3.18**	**60**	⇑P	**Pn**	**02 31 08.8**	**+0.6**
EVO				S	**Sn**	**02 31 48.0**	**+1.8**
	comp=N,60nm,0.1s						
EGRO	**El Granado**	**3.27**	**79**	P	**Pn**	**02 31 09.7**	**+0.3**
	comp=N,16nm,0.1s,SNR=83						
EGRO				S	**Sn**	**02 31 49.1**	**+0.8**
	comp=N,55nm,0.1s,SNR=5.1						
EGRO	**El Granado**	**3.27**	**79**	P	**Pn**	**02 31 09.7**	**+0.3**
	comp=N,16nm,0.1s,SNR=83						
EGRO				S	**Sn**	**02 31 49.1**	**+0.8**
	comp=N,55nm,0.1s,SNR=5.1						
ERIP	**Rio Piedras**	**3.43**	**82**	⇓P	**Pn**	**02 31 11.9**	**+0.3**
	comp=N,36nm,0.1s,SNR=18						
ERIP				S	**Sn**	**02 31 53.7**	**+1.5**
	comp=N,55nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**3.59**	**42**	*e*Pn	**Pn**	**02 31 14.5**	**+0.6**
PTOM				*e*Sn	**Sn**	**02 31 58.2**	**+1.9**
PTOM				A		02 32 02.1	
	comp=N,112nm,0.2s						
PTOM	**Tomar**	**3.59**	**42**	*e*Pn	**Pn**	**02 31 14.5**	**+0.6**
PTOM				*e*Sn	**Sn**	**02 31 58.2**	**+1.9**
	comp=N,112nm,0.2s						
PESTR	**Estremoz**	**3.63**	**58**	*e*Pn	**Pn**	**02 31 14.6**	**+0.2**
PESTR				*e*Sn	**Sn**	**02 31 58.9**	**+1.6**
PESTR				A		02 32 06.0	
	comp=N,27nm,0.3s						
PESTR	**Estremoz**	**3.63**	**58**	*e*Pn	**Pn**	**02 31 14.6**	**+0.2**
PESTR				*e*Sn	**Sn**	**02 31 58.9**	**+1.6**
	comp=N,27nm,0.3s						
PBAR	**Barrancos**	**3.75**	**70**	*e*Pn	**Pn**	**02 31 16.5**	**+0.4**
PBAR				*e*Sn	**Sn**	**02 32 01.1**	**+0.8**
PBAR				A		02 32 08.0	
	comp=N,30nm,0.1s						
PBAR	**Barrancos**	**3.75**	**70**	*e*Pn	**Pn**	**02 31 16.5**	**+0.4**
PBAR				*e*Sn	**Sn**	**02 32 01.1**	**+0.8**
	comp=N,30nm,0.1s						
EMIN	**Mina Concepcio**	**3.94**	**77**	P	**Pn**	**02 31 18.7**	**+0.1**
	comp=N,30nm,0.1s,SNR=349						
EMIN				S	**Sn**	**02 32 05.4**	**+0.5**
	comp=N,26nm,0.3s,SNR=8.3						
EMIN	**Mina Concepcio**	**3.94**	**77**	P	**Pn**	**02 31 18.7**	**+0.1**
	comp=N,30nm,0.1s,SNR=349						
EMIN				S	**Sn**	**02 32 05.4**	**+0.5**
	comp=N,26nm,0.3s,SNR=8.3						
EBAD	**Badajoz**	**3.98**	**62**	P	**Pn**	**02 31 19.4**	**+0.2**
	comp=N,28nm,0.1s,SNR=258						
EBAD				S	**Sn**	**02 32 06.9**	**+1.0**
	comp=N,77nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.98**	**62**	P	**Pn**	**02 31 19.4**	**+0.2**
	comp=N,28nm,0.1s,SNR=258						
EBAD				S	**Sn**	**02 32 06.9**	**+1.0**
	comp=N,77nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**4.07**	**52**	*e*Pn	**Pn**	**02 31 20.7**	**+0.3**
PMRV				*e*Sn	**Sn**	**02 32 08.6**	**+0.6**
PMRV				A		02 32 09.9	
	comp=N,102nm,0.3s						
PMRV	**Marv??o**	**4.07**	**52**	*e*Pn	**Pn**	**02 31 20.7**	**+0.3**
PMRV				*e*Sn	**Sn**	**02 32 08.6**	**+0.6**
	comp=N,102nm,0.3s						
PCBR	**Castelo Branco**	**4.27**	**47**	*e*Pn	**Pn**	**02 31 23.6**	**+0.4**
PCBR				*e*Sn	**Sn**	**02 32 13.8**	**+0.8**
PCBR				A		02 32 15.7	
	comp=N,39nm,0.2s						
PCBR	**Castelo Branco**	**4.27**	**47**	*e*Pn	**Pn**	**02 31 23.6**	**+0.4**
PCBR				*e*Sn	**Sn**	**02 32 13.8**	**+0.8**
	comp=N,39nm,0.2s						
SCRT	**Cerro San Cris**	**4.30**	**93**	P	**Pn**	**02 31 22.9**	**-0.7**
SCRT	**Cerro San Cris**	**4.30**	**93**	*e*P	**Pn**	**02 31 22.9**	**-0.7**
CNIL	**Conil**	**4.43**	**96**	P	**Pn**	**02 31 25.2**	**-0.3**
CNIL	**Conil**	**4.43**	**96**	*e*P	**Pn**	**02 31 25.2**	**-0.2**
GIBL	**Gibalbin**	**4.45**	**90**	P	**Pn**	**02 31 25.6**	**0.0**
GIBL	**Gibalbin**	**4.45**	**90**	*e*P	**Pn**	**02 31 25.6**	**-0.1**
ESPR	**Espera**	**4.54**	**90**	⇑P	**Pn**	**02 31 26.6**	**-0.2**
	comp=N,28nm,0.1s,SNR=18						
ESPR				S	**Sn**	**02 32 19.3**	**-0.4**
	comp=N,195nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.54**	**90**	P	**Pn**	**02 31 26.6**	**-0.3**
	comp=N,28nm,0.1s,SNR=18						
ESPR				S	**Sn**	**02 32 19.3**	**-0.4**
	comp=N,195nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**4.62**	**41**	*e*Pn	**Pn**	**02 31 28.5**	**+0.6**
MTE				*e*Sn	**Sn**	**02 32 22.3**	**+0.7**
MTE				A		02 32 27.3	
	comp=N,82nm,0.3s						
MTE	**Manteigas**	**4.62**	**41**	P	**Pn**	**02 31 28.5**	**+0.6**
MTE				S	**Sn**	**02 32 22.3**	**+0.7**
	comp=N,41nm,0.3s						
MTE	**Manteigas**	**4.62**	**41**	*e*Pn	**Pn**	**02 31 28.3**	**+0.4**
MTE				*e*Sn	**Sn**	**02 32 22.3**	**+0.7**
	comp=N,82nm,0.3s						
MTE	**Manteigas**	**4.62**	**41**	*e*Pn	**Pn**	**02 31 28.3**	**+0.4**
PVIS	**Viseu**	**4.68**	**36**	*e*Pn	**Pn**	**02 31 29.1**	**+0.3**
PVIS				*e*Sn	**Sn**	**02 32 23.1**	**-0.1**
PVIS				A		02 32 27.2	
	comp=N,133nm,0.1s						
PVIS	**Viseu**	**4.68**	**36**	*e*Pn	**Pn**	**02 31 29.1**	**+0.3**
PVIS				*e*Sn	**Sn**	**02 32 23.1**	**-0.1**
	comp=N,133nm,0.1s						
PTO	**Porto**	**4.73**	**28**	*e*Pn	**Pn**	**02 31 29.9**	**+0.4**
PTO				*e*Sn	**Sn**	**02 32 24.0**	**-0.4**
PTO				A		02 32 27.2	
	comp=N,141nm,0.1s						
PTO	**Porto**	**4.73**	**28**	*e*Pn	**Pn**	**02 31 29.9**	**+0.4**
PTO				*e*Sn	**Sn**	**02 32 24.0**	**-0.4**
	comp=N,141nm,0.1s						
EJIF	**Jimena Fronter**	**4.89**	**94**	P	**Pn**	**02 31 31.7**	**+0.1**
	comp=N,9.3nm,0.4s,SNR=7.9						
EJIF				S	**Sn**	**02 32 29.5**	**+1.2**
	comp=N,4.3nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**4.89**	**94**	P	**Pn**	**02 31 31.7**	**0.0**
	comp=N,9.3nm,0.4s,SNR=7.9						
EJIF				S	**Sn**	**02 32 29.5**	**+1.2**
	comp=N,4.3nm,0.2s,SNR=7.9						
LIJA	**Lijar**	**4.90**	**89**	P	**Pn**	**02 31 31.9**	**+0.1**
LIJA				S	**Sn**	**02 32 28.0**	**-0.5**
LIJA	**Lijar**	**4.90**	**89**	*e*P	**Pn**	**02 31 31.9**	**+0.1**
LIJA				*e*S	**Sn**	**02 32 28.0**	**-0.5**
ECAB	**El Cabril**	**4.97**	**75**	⇑P	**Pn**	**02 31 33.1**	**+0.3**
	comp=N,42nm,0.2s,SNR=18						
ECAB				S	**Sn**	**02 32 30.0**	**-0.3**
	comp=N,21nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.97**	**75**	P	**Pn**	**02 31 33.1**	**+0.3**
	comp=N,42nm,0.2s,SNR=18						
ECAB				S	**Sn**	**02 32 30.0**	**-0.3**
	comp=N,21nm,0.2s,SNR=7.9						
AVE	**Averroes**	**4.98**	**136**	P	**Pn**	**02 31 27.0**	**-5.9**
ECEU	**Ceuta**	**5.07**	**100**	P	**Pn**	**02 31 33.4**	**-0.7**
	comp=N,20nm,0.2s,SNR=24						
ECEU				S	**Sn**	**02 32 27.8**	**-4.9**
	comp=N,4.3nm,0.1s,SNR=7.9						
ECEU	**Ceuta**	**5.07**	**100**	P	**Pn**	**02 31 33.4**	**-0.7**
	comp=N,20nm,0.2s,SNR=24						
ECEU				S	**Sn**	**02 32 27.8**	**-4.9**
	comp=N,4.3nm,0.1s,SNR=7.9						
REAL	**Reales**	**5.09**	**94**	*e*P	**Pn**	**02 31 34.9**	**+0.4**
REAL				*e*S	**Sn**	**02 32 32.0**	**-1.3**
DKH	**Dar Kharkhour**	**5.20**	**105**	*i* P	**Pn**	**02 31 35.0**	**-0.9**
DKH				*i* S	**Sn**	**02 32 31.0**	**-4.9**
EMIJ	**Mijas**	**5.43**	**92**	P	**Pn**	**02 31 38.3**	**-0.9**
	comp=N,3.8nm,0.1s,SNR=38						
EMIJ				S	**Sn**	**02 32 41.3**	**-0.4**
	comp=N,4.9nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.44**	**29**	*e*Pn	**Pn**	**02 31 39.2**	**-0.1**
PCAB				*e*Sn	**Sn**	**02 32 41.1**	**-0.8**
PCAB				A		02 32 43.1	
	comp=N,46nm,0.1s						
PCAB	**Cabril**	**5.44**	**29**	*e*Pn	**Pn**	**02 31 39.2**	**-0.1**
PCAB				*e*Sn	**Sn**	**02 32 41.1**	**-0.8**
	comp=N,46nm,0.1s						
MVO	**Moncorvo**	**5.45**	**39**	*e*Pn	**Pn**	**02 31 39.5**	**+0.2**
MVO				*e*Sn	**Sn**	**02 32 41.4**	**-0.6**
MVO				A		02 32 44.7	
	comp=N,57nm,0.3s						
MVO	**Moncorvo**	**5.45**	**39**	P	**Pn**	**02 31 39.5**	**+0.2**
MVO				S	**Sn**	**02 32 41.4**	**-0.6**
	comp=N,28nm,0.3s						
JHA	**Jbel Lahdid**	**5.50**	**161**	P	**Pn**	**02 31 32.0**	**-8.1**
JHA				S	**Sn**	**02 32 26.0**	**-17**
JHA	**Jbel Lahdid**	**5.50**	**161**	*i* P	**Pn**	**02 31 32.0**	**-8.1**
ELOB	**Lobios**	**5.57**	**28**	P	**Pn**	**02 31 41.0**	**+0.1**
	comp=N,1.8nm,0.1s,SNR=20						
ELOB				S	**Sn**	**02 32 42.8**	**-2.2**
	comp=N,35nm,0.1s,SNR=13						
ELOB	**Lobios**	**5.57**	**28**	P	**Pn**	**02 31 41.0**	**0.0**
	comp=N,1.8nm,0.1s,SNR=20						
EADA	**Adamuz**	**5.64**	**76**	P	**Pn**	**02 31 41.9**	**0.0**
	comp=N,12nm,0.1s,SNR=169						
EADA				S	**Sn**	**02 32 46.6**	**-0.2**
	comp=N,15nm,0.2s,SNR=5.8						
EADA	**Adamuz**	**5.64**	**76**	P	**Pn**	**02 31 42.0**	**0.0**
EADA				S	**Sn**	**02 32 46.6**	**-0.2**
	comp=N,15nm,0.2s,SNR=5.8						
ELUQ	**Luque**	**5.81**	**82**	P	**Pn**	**02 31 44.9**	**+0.5**
	comp=N,4.0nm,0.2s,SNR=13						
ELUQ				S	**Sn**	**02 32 51.2**	**+0.2**
	comp=N,5.7nm,0.2s,SNR=7.9						
CIA	**Chichaoua**	**5.86**	**156**	P	**Pn**	**02 31 38.0**	**-7.1**
CIA				S	**Sn**	**02 32 37.0**	**-15**
ELOJ	**Sierra Loja**	**5.89**	**86**	P	**Pn**	**02 31 45.9**	**+0.5**
	comp=N,4.5nm,0.3s,SNR=28						
ELOJ				S	**Sn**	**02 32 52.3**	**-0.7**
	comp=N,1.9nm,0.2s,SNR=7.9						
ERON	**Agron**	**6.17**	**87**	P	**Pn**	**02 31 50.4**	**+1.1**
	comp=N,4.9nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.18**	**35**	P	**Pn**	**02 31 49.8**	**+0.4**
	comp=N,20nm,0.2s,SNR=27						
ECAL				S	**Sn**	**02 32 58.1**	**-2.0**
	comp=N,43nm,0.2s,SNR=11						
ECAL	**Calabor**	**6.18**	**35**	P	**Pn**	**02 31 49.8**	**+0.4**
	comp=N,20nm,0.2s,SNR=27						
PAB	**San Pablo**	**6.20**	**63**	*e*Pn	**Pn**	**02 31 49.6**	**0.0**
	comp=N,8.1nm,0.5s						
PAB	**San Pablo**	**6.20**	**63**	*e*Pn	**Pn**	**02 31 49.6**	**0.0**
	comp=N,8.1nm,0.5s						
EBAN	**Banos Encina**	**6.25**	**77**	P	**Pn**	**02 31 50.3**	**-0.2**
	comp=N,7.3nm,0.1s,SNR=26						
EBAN				S	**Sn**	**02 33 01.0**	**-0.9**
	comp=N,2.3nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.27**	**17**	P	**Pn**	**02 31 49.6**	**-1.1**
	comp=N,11nm,0.2s,SNR=5.2						
EMAZ				S	**Sn**	**02 32 56.9**	**-5.5**
	comp=N,55nm,0.1s,SNR=23						
KIB	**El Ksiba**	**6.29**	**133**	P	**Pn**	**02 31 46.0**	**-5.0**
KIB				S	**Sn**	**02 32 51.0**	**-12**
KIB	**El Ksiba**	**6.29**	**133**	*i* P	**Pn**	**02 31 46.0**	**-5.0**
STS	**Santiago**	**6.32**	**20**	P	**Pn**	**02 31 51.0**	**-0.4**
	comp=N,2.6nm,0.1s,SNR=7.9						
STS				S	**Sn**	**02 32 57.6**	**-6.0**
	comp=N,25nm,0.1s,SNR=7.9						
TZC	**Tazercounte**	**6.36**	**138**	P	**Pn**	**02 31 47.5**	**-4.4**
TZC				S	**Sn**	**02 32 53.0**	**-12**
TZC	**Tazercounte**	**6.36**	**138**	*i* P	**Pn**	**02 31 47.5**	**-4.4**
ECOG	**Cogollos-Vega**	**6.36**	**85**	P	**Pn**	**02 31 51.9**	**0.0**
	comp=N,5.1nm,0.4s,SNR=11						
ECOG				S	**Sn**	**02 33 04.5**	**0.0**
	comp=N,2.8nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**6.37**	**31**	P	**Pn**	**02 31 52.5**	**+0.5**
	comp=N,6.1nm,0.1s,SNR=7.9						
ERUA				S	**Sn**	**02 33 02.3**	**-2.5**
	comp=N,25nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**6.37**	**89**	P	**Pn**	**02 31 52.5**	**+0.4**
	comp=N,9.6nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**02 33 03.4**	**-1.6**
	comp=N,8.7nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**6.46**	**86**	P	**Pn**	**02 31 53.6**	**+0.3**
	comp=N,4.6nm,0.3s,SNR=40						
EQUE				S	**Sn**	**02 33 06.8**	**-0.2**
	comp=N,2.0nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**6.46**	**86**	P	**Pn**	**02 31 53.6**	**+0.3**
	comp=N,4.6nm,0.3s,SNR=40						
EQUE				S	**Sn**	**02 33 06.8**	**-0.3**
	comp=N,2.0nm,0.1s,SNR=7.9						
OUK	**Oukaimeden**	**6.50**	**151**	P	**Pn**	**02 31 46.5**	**-7.4**
OUK				S	**Sn**	**02 32 52.0**	**-16**
ESDC	**Sonseca Array**	**6.52**	**63**	P	**Pn**	**02 31 54.0**	**-0.1**
	comp=N,13nm,0.1s,baz=247,slow=13,SNR=133						
ESDC				S	**Sn**	**02 33 08.6**	**+0.1**
	comp=N,3.7nm,0.1s,baz=248,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**6.52**	**63**	P	**Pn**	**02 31 54.0**	**-0.1**
	comp=N,13nm,0.1s,SNR=133						
ESDC				S	**Sn**	**02 33 08.6**	**+0.1**
	comp=N,3.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**6.78**	**80**	P	**Pn**	**02 31 57.9**	**+0.3**
	comp=N,3.7nm,0.1s,SNR=64						
EQES				S	**Sn**	**02 33 14.4**	**-0.4**
	comp=N,3.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**6.78**	**80**	P	**Pn**	**02 31 57.9**	**+0.3**
	comp=N,3.7nm,0.1s,SNR=64						
EQES				S	**Sn**	**02 33 14.4**	**-0.4**
	comp=N,3.6nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**6.81**	**55**	P	**Pn**	**02 31 58.6**	**+0.5**
	comp=N,4.5nm,0.3s,SNR=49						
GUD				S	**Sn**	**02 33 15.4**	**-0.3**
	comp=N,3.7nm,0.2s,SNR=7.9						
EBER	**Berja**	**6.91**	**88**	P	**Pn**	**02 31 59.2**	**-0.3**
	comp=N,1.7nm,0.2s,SNR=14						
EBER				S	**Sn**	**02 33 16.1**	**-2.1**
	comp=N,2.3nm,0.3s,SNR=7.9						
EBER	**Berja**	**6.91**	**88**	P	**Pn**	**02 31 59.2**	**-0.3**
	comp=N,1.7nm,0.2s,SNR=14						
EBER				S	**Sn**	**02 33 16.1**	**-2.0**
	comp=N,2.3nm,0.3s,SNR=7.9						
EALB	**Alboran**	**6.92**	**96**	P	**Pn**	**02 31 58.3**	**-1.3**
	comp=N,1.8nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**02 33 13.3**	**-4.9**
	comp=N,5.5nm,0.2s,SNR=7.9						
EALB	**Alboran**	**6.92**	**96**	P	**Pn**	**02 31 58.3**	**-1.2**
	comp=N,1.8nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**02 33 13.3**	**-4.9**
	comp=N,5.5nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**7.15**	**81**	P	**Pn**	**02 32 02.8**	**0.0**
	comp=N,1.2nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**02 33 22.9**	**-1.2**
	comp=N,2.2nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.17**	**26**	P	**Pn**	**02 32 03.0**	**0.0**
	comp=N,2.9nm,0.1s,SNR=20						
EPON				S	**Sn**	**02 33 20.5**	**-3.8**
	comp=N,12nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.17**	**26**	P	**Pn**	**02 32 03.0**	**+0.1**
	comp=N,2.9nm,0.1s,SNR=20						
YBT	**Youssef Ben Ta**	**7.28**	**167**	P	**Pn**	**02 31 56.0**	**-8.5**
YBT				S	**Sn**	**02 33 08.0**	**-19**
EVIA	**Vianos**	**7.33**	**74**	P	**Pn**	**02 32 04.8**	**-0.4**
	comp=N,7.0nm,0.1s,SNR=20						
EVIA				S	**Sn**	**02 33 27.8**	**-0.5**
	comp=N,2.6nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**7.95**	**35**	P	**Pn**	**02 32 14.3**	**+0.7**
	comp=N,6.0nm,0.4s,SNR=28						
EARI				S	**Sn**	**02 33 41.0**	**-2.6**
	comp=N,4.6nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**7.95**	**35**	P	**Pn**	**02 32 14.3**	**+0.6**
	comp=N,6.0nm,0.4s,SNR=28						
EFAM	**Famara**	**8.01**	**193**	P	**Pn**	**02 32 00.6**	**-14**
EFAM				S	Sn	02 33 19.4	-26
ETOB	**Tobarra**	**8.06**	**75**	P	**Pn**	**02 32 14.6**	**-0.7**
	comp=N,8.5nm,0.3s,SNR=63						
ETOB				S	**Sn**	**02 33 45.4**	**-1.1**
	comp=N,1.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**8.06**	**75**	P	**Pn**	**02 32 14.6**	**-0.7**
	comp=N,8.5nm,0.3s,SNR=63						
ETOB				S	**Sn**	**02 33 45.4**	**-1.1**
	comp=N,1.1nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**8.22**	**81**	P	**Pn**	**02 32 17.8**	**+0.3**
	comp=N,2.6nm,0.3s,SNR=8.1						
EMUR				S	**Sn**	**02 33 48.9**	**-1.5**
	comp=N,1.8nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**8.22**	**81**	P	**Pn**	**02 32 17.8**	**+0.3**
	comp=N,2.6nm,0.3s,SNR=8.1						
EMUR				S	**Sn**	**02 33 48.9**	**-1.5**
	comp=N,1.8nm,0.3s,SNR=7.9						
ETOR	**Torete**	**8.31**	**60**	P	**Pn**	**02 32 18.5**	**-0.1**
	comp=N,118nm,0.1s,SNR=188						
ETOR				S	**Sn**	**02 33 50.3**	**-2.3**
	comp=N,30nm,0.3s,SNR=7.9						
CFUE	**Fuerteventura**	**8.55**	**194**	P	**Pn**	**02 32 07.8**	**-14**
	comp=N,5.8nm,0.3s,SNR=7.9						
CFUE				S	Sn	02 33 30.4	-28
	comp=N,9.3nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**8.79**	**42**	P	**Pn**	**02 32 25.6**	**+0.4**
	comp=N,1.1nm,0.2s,SNR=5.7						
ELAN				S	**Sn**	**02 34 02.5**	**-1.8**
	comp=N,2.9nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.79**	**42**	P	**Pn**	**02 32 25.6**	**+0.4**
	comp=N,1.1nm,0.2s,SNR=5.7						
CFTV	**Fuerteventura**	**8.81**	**195**	P	**Pn**	**02 32 10.7**	**-15**
	comp=N,0.6nm,0.2s,SNR=7.9					

comp=N,4.6nm,0.3s
EPOB Poblet 10.71 62 P **Pn 02 32 51.1 -0.4**
comp=N,2.9nm,0.3s,SNR=13
EPOB S **Sn 02 34 47.5 -3.9**
comp=N,0.3nm,0.2s,SNR=7.9
EPOB Poblet 10.71 62 P **Pn 02 32 51.1 -0.4**
comp=N,2.9nm,0.3s
EPOB S **Sn 02 34 47.5 -3.9**
EPF Esparros 10.91 53 *e*Pn **Pn 02 32 55.1 +0.8**
EPF *e*Sn **Sn 02 34 53.9 -2.5**
comp=N,5.1nm,0.4s
EPF Esparros 10.91 53 *e*Pn **Pn 02 32 55.1 +0.8**
EPF *e*Sn **Sn 02 34 53.9 -2.5**
comp=N,2.5nm,0.4s
ETOS Mallorca 11.59 72 P **Pn 02 33 04.7 +1.2**
comp=N,1.1nm,0.4s,SNR=7.9
LFF La Frestale 12.20 46 *e*Pn **Pn 02 33 11.6 -0.3**
LFF *e*Sn **Sn 02 35 23.0 -4.9**
comp=N,1.4nm,0.2s
LFF La Frestale 12.20 46 P **Pn 02 33 11.6 -0.3**
LFF S **Sn 02 35 23.0 -4.9**
comp=N,0.7nm,0.2s
MTLF Montolieu 12.27 55 *e*Pn **Pn 02 33 13.7 +0.8**
MTLF *e*Sn **Sn 02 35 25.8 -3.9**
comp=N,0.6nm,0.3s
MTLF Montolieu 12.27 55 P **Pn 02 33 13.7 +0.8**
MTLF S **Sn 02 35 25.8 -3.9**
comp=N,0.3nm,0.3s
EJON La Jonquera 12.36 59 P **Pn 02 33 13.5 -0.6**
comp=N,0.6nm,0.3s
EJON La Jonquera 12.36 59 P **Pn 02 33 13.5 -0.5**
comp=N,0.6nm,0.3s
QUIF Quistinic 12.54 27 *e*Pn **Pn 02 33 16.2 -0.3**
QUIF *e*Sn **Sn 02 35 28.8 -7.4**
comp=N,2.4nm,0.3s
QUIF Quistinic 12.54 27 *e*Pn **Pn 02 33 16.2 -0.3**
QUIF *e*Sn **Sn 02 35 28.8 -7.4**
comp=N,1.2nm,0.3s
MFF Saint Martin d 12.81 38 *e*Pn **Pn 02 33 19.2 -1.0**
MFF *e*Sn **Sn 02 35 38.4 -4.4**
comp=N,1.3nm,0.3s
MFF Saint Martin d 12.81 38 P **Pn 02 33 19.2 -1.0**
MFF S **Sn 02 35 38.4 -4.4**
comp=N,0.6nm,0.3s
RJF Les Rejaudoux 12.86 46 *e*Pn **Pn 02 33 19.7 -1.2**
RJF *e*Sn **Sn 02 35 38.1 -5.9**
comp=N,2.9nm,0.2s
RJF Les Rejaudoux 12.86 46 *e*Pn **Pn 02 33 19.7 -1.2**
RJF *e*Sn **Sn 02 35 38.1 -5.9**
comp=N,1.5nm,0.2s
ROSF Rostrenen 12.86 25 *e*Pn **Pn 02 33 19.6 -1.3**
ROSF *e*Sn **Sn 02 35 36.6 -7.4**
comp=N,1.6nm,0.3s
ROSF Rostrenen 12.86 25 *e*Pn **Pn 02 33 19.6 -1.3**
ROSF *e*Sn **Sn 02 35 36.6 -7.4**
comp=N,0.8nm,0.3s
CAF Calviac 12.96 48 *e*Pn **Pn 02 33 21.2 -1.1**
CAF *e*Sn **Sn 02 35 41.4 -5.2**
comp=N,59nm,1.7s
CAF Calviac 12.96 48 P **Pn 02 33 21.2 -1.1**
CAF S **Sn 02 35 41.4 -5.2**
comp=N,29nm,1.7s
SGMF Saint Gilles 13.04 27 *e*Pn **Pn 02 33 22.1 -1.3**
SGMF *e*Sn **Sn 02 35 42.9 -5.6**
comp=N,0.6nm,0.2s
SGMF Saint Gilles 13.04 27 *e*Pn **Pn 02 33 22.1 -1.3**
SGMF *e*Sn **Sn 02 35 42.9 -5.6**
comp=N,0.3nm,0.2s
LASF Ste Croix 13.66 54 *e*Pn **Pn 02 33 32.0 +0.1**
TCF Toulx Ste Croi 13.83 43 *e*Pn **Pn 02 33 32.9 -1.3**
TCF *e*Sn **Sn 02 36 02.2 -5.6**
comp=N,2.8nm,0.4s
TCF Toulx Ste Croi 13.83 43 P **Pn 02 33 32.9 -1.3**
TCF S **Sn 02 36 02.2 -5.6**
comp=N,1.4nm,0.4s
LDF La Druitiere 14.29 32 *e*Sn **Sn 02 36 10.4 -8.4**
comp=N,0.9nm,0.3s
LDF La Druitiere 14.29 32 *e*Sn **Sn 02 36 10.4 -8.4**
comp=N,0.4nm,0.3s
BGF Bois d'Agland 14.35 44 *e*Sn **Sn 02 36 16.3 -4.0**
comp=N,8.0nm,0.4s
BGF Bois d'Agland 14.35 44 S **Sn 02 36 16.3 -4.0**
comp=N,4.0nm,0.4s
AVF Avril sur Loir 14.77 44 *e*Pn **Pn 02 33 45.1 -1.8**
SMF Signal de Mont 14.96 45 *e*Pn **Pn 02 33 48.7 -0.8**
SSF Saint Saulge 15.01 43 *e*Pn **Pn 02 33 49.1 -1.1**
SSF *e*Sn **Sn 02 36 28.8 -7.7**
comp=N,1.2nm,0.4s
SSF Saint Saulge 15.01 43 *e*Pn **Pn 02 33 49.1 -1.1**
SSF *e*Sn **Sn 02 36 28.8 -7.7**
comp=N,0.6nm,0.4s
LOR Lormes 15.33 43 *e*Pn **Pn 02 33 54.0 -0.4**
FRF La Foret Royal 15.33 59 *e*Pn **Pn 02 33 55.1 +0.6**

IDC 15 02:31:09.7±47.0, 1514S×17659W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, Error ellipse: s-maj=876.6km s-min=160.4km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.52**	**239**	P	P	02 38 58.2	-0.8
	0.8nm,0.4s,baz=100,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**46.91**	**257**	P	P	02 39 43.0	+0.6
	0.2nm,0.3s,baz=89,slow=8.1,SNR=9.0						
ASAR	**Alice Springs**	**47.27**	**252**	P	P	02 39 45.2	0.0
	3.5nm,0.6s,baz=88,slow=8.3,SNR=29						

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*ISCJB **15** 02:41:11.8±0.3, 4565N±003×2661E±004, h144km, Error ellipse: s-maj=5.0km s-min=3.8km az=146.5*
*BUC **15** 02:41:12.4±0.7, 4566N×2662E, h144km±8km, MD4.3/5, Error ellipse: s-maj=5.7km s-min=4.9km az=134.0*
*CSEM **15** 02:41:13.1±0.2, 4560N×2658E, h130km±1km, MD4.3/3, Error ellipse: s-maj=2.5km s-min=1.8km az=5.0*
*SOF **15** 02:41:13.7, 4560N×2655E, h130km, MD2.7*
*NEIC **15** 02:41:15.1, 4559N×2658E, h120km, MG3.4(BUC), After BUC.*

ISC 15 02:41:13.0±0.7, 4565N±003×2661E±005, h137km±6km, n45, σ0°90/73, 19C-10D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.23**	**22**	⇑*i*P	**Pn**	**02 41 32.2**	**+0.4**
VRI				*i* S	**Sn**	**02 41 45.8**	**-0.3**
VRI	**Vrincioaia**	**0.23**	**22**	⇓*i*P	**Pn**	**02 41 32.2**	**+0.4**
VRI				*i* S	**Sn**	**02 41 45.8**	**-0.3**
VRI	**Vrincioaia**	**0.23**	**22**	P	**Pn**	**02 41 32.2**	**+0.4**
ODB	**Odobesti**	**0.34**	**69**	⇓*i*P	**Pn**	**02 41 33.4**	**+1.3**
ODB				*i* S	**Sn**	**02 41 48.7**	**+2.1**
ODB	**Odobesti**	**0.34**	**69**	⇑P	**Pn**	**02 41 33.4**	**+1.3**
ODB				S	**Sn**	**02 41 48.5**	**+1.9**
ODB	**Odobesti**	**0.34**	**69**	⇑P	**Pn**	**02 41 33.4**	**+1.2**
ODB				S	**Sn**	**02 41 48.5**	**+1.9**
MLR	**Muntele Rosu**	**0.49**	**251**	⇑*i*P	**Pn**	**02 41 33.6**	**+0.7**
MLR				*i* S	**Sn**	**02 41 48.4**	**+0.5**
MLR	**Muntele Rosu**	**0.49**	**251**	P	**Pn**	**02 41 33.5**	**+0.6**
ISR	**Istrita**	**0.54**	**185**	⇑*i*P	**Pn**	**02 41 33.9**	**+0.8**
ISR	**Istrita**	**0.54**	**185**	⇓P	**Pn**	**02 41 34.0**	**+0.9**
SNX	**Sinaia**	**0.82**	**249**	⇓*i*P	**Pn**	**02 41 36.3**	**+1.2**
SNX	**Sinaia**	**0.82**	**249**	⇑P	**Pn**	**02 41 36.3**	**+1.2**
TESR		**0.86**	**2**	⇓*i*P	**Pn**	**02 41 34.9**	**-0.5**
TESR				*i* S	**Sn**	**02 41 50.4**	**-2.0**
VARR		**0.90**	**75**	⇑*i*P	**Pn**	**02 41 36.0**	**+0.3**
VARR				*i* S	**Sn**	**02 41 52.6**	**-0.4**
ONCR	**Oncesti**	**0.93**	**29**	⇓*i*P	**Pn**	**02 41 35.8**	**-0.2**
ONCR				*i* S	**Sn**	**02 41 52.4**	**-1.1**
BERR	**Berezeni**	**1.29**	**56**	⇑*i*P	**Pn**	**02 41 39.6**	**+0.3**
BERR				*i* S	**Sn**	**02 41 59.0**	**-0.4**
HARR	**Harsova**	**1.34**	**135**	⇑*i*P	**Pn**	**02 41 40.4**	**+0.4**
HARR				*i* S	**Sn**	**02 41 59.7**	**-0.8**
HARR	**Harsova**	**1.34**	**135**	P	**Pn**	**02 41 40.4**	**+0.5**
BUC1	**Bucharest**	**1.37**	**198**	⇑*i*P	**Pn**	**02 41 40.8**	**+0.6**
BUC1				*i* S	**Sn**	**02 42 00.9**	**0.0**
BUC1	**Bucharest**	**1.37**	**198**	P	**Pn**	**02 41 40.9**	**+0.7**
TLCR		**1.62**	**106**	⇑*i*P	**Pn**	**02 41 43.3**	**+0.3**
TLCR				*i* S	**Sn**	**02 42 05.8**	**-0.1**
TLCR		**1.62**	**106**	P	**Pn**	**02 41 43.5**	**+0.5**
TLCR				*i* S	**Sn**	**02 42 05.8**	**-0.1**
TLCR		**1.62**	**106**	P	**Pn**	**02 41 43.5**	**+0.5**
TLCR				S	**Sn**	**02 42 05.7**	**-0.2**
CVD	**Cernavoda**	**1.68**	**142**	⇑*i*P	**Pn**	**02 41 44.0**	**+0.4**
CVD				*i* S	**Sn**	**02 42 06.0**	**-1.0**
CVD	**Cernavoda**	**1.68**	**142**	⇑P	**Pn**	**02 41 44.0**	**+0.4**
CVD				S	**Sn**	**02 42 06.0**	**-1.0**
TIRR	**Tirgusor**	**1.75**	**132**	⇑*i*P	**Pn**	**02 41 44.8**	**+0.3**
TIRR				*i* S	**Sn**	**02 42 08.1**	**-0.4**
TIRR	**Tirgusor**	**1.75**	**132**	⇑*i*P	**Pn**	**02 41 44.8**	**+0.3**
TIRR				S	**Sn**	**02 42 08.4**	**-0.1**
TIRR	**Tirgusor**	**1.75**	**132**	P	**Pn**	**02 41 44.8**	**+0.3**
TIRR				S	**Sn**	**02 42 08.4**	**0.0**
KIS	**Kishinev**	**2.04**	**48**	⇓*i*P	**Pn**	**02 41 47.7**	**-0.1**
KIS				*i* S	**Sn**	**02 42 12.9**	**-1.6**
KIS	**Kishinev**	**2.04**	**48**	⇑P	**Pn**	**02 41 47.5**	**-0.3**
KIS				*i* S	**Sn**	**02 42 12.5**	**-2.0**
	700nm,0.6s						
BURAR	**Bucovina Array**	**2.18**	**334**	⇑*i*P	**Pn**	**02 41 51.0**	**+1.4**
BURAR				*i* S	**Sn**	**02 42 21.3**	**+3.6**
BURAR	**Bucovina Array**	**2.18**	**334**	⇑P	**Pn**	**02 41 51.0**	**+1.5**
ZIMR		**2.18**	**204**	⇓*i*P	**Pn**	**02 41 49.9**	**+0.3**
ZIMR				*i* S	**Sn**	**02 42 16.8**	**-0.9**
PSN	**Preselentsi**	**2.27**	**150**	Pg	**Pn**	**02 41 51.5**	**+0.8**
CRAR	**CRAIOVA**	**2.39**	**237**	⇑*i*P	**Pn**	**02 41 52.5**	**+0.3**
CRAR				*i* S	**Sn**	**02 42 21.3**	**-1.0**
SZH	**Strazhica**	**2.44**	**192**	Pg	**Pn**	**02 41 53.0**	**+0.3**
PRD	**Provadia**	**2.52**	**167**	Pg	**Pn**	**02 41 54.8**	**+1.0**
GZR	**Gura Zlata**	**2.71**	**266**	⇓*i*P	**Pn**	**02 41 56.6**	**+0.5**
GZR				*i* S	**Sn**	**02 42 30.1**	**+0.8**
GZR	**Gura Zlata**	**2.71**	**266**	P	**Pn**	**02 41 56.4**	**+0.3**
GZR				S	**Sn**	**02 42 30.2**	**+0.9**
BOLS	**Boljevac**	**3.79**	**243**	*e*Pn	**Pn**	**02 42 08.9**	**-1.2**
VTS	**Vitosha**	**3.92**	**220**	⇓*i*P	**Pn**	**02 42 12.0**	**+0.1**
VTS				*i* S	**Sn**	**02 42 55.7**	**-1.8**
VTS	**Vitosha**	**3.92**	**220**	P	**Pn**	**02 42 12.0**	**+0.1**
SVIS	**Svilajnac**	**4.07**	**252**	*e*Pn	**Pn**	**02 42 12.6**	**-1.3**
RZN	**Rozhen**	**4.20**	**200**	Pg	**Pn**	**02 42 15.9**	**+0.4**
DIVS	**Divibare**	**4.95**	**254**	*e*Pn	**Pn**	**02 42 23.9**	**-1.6**

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*THR **15** 02:53:55.1±0.3, 2839N×5698E, h15km, ML3.3*
*CSEM **15** 02:53:55.7±0.1, 2851N×5648E, h10km, ML3.7/2, Error ellipse: s-maj=3.2km s-min=1.8km az=92.0*
*ISCJB **15** 02:53:56.7±1.4, 2835N±006×567E±02, h95km±26km, Error ellipse: s-maj=26.7km s-min=9.1km az=176.0*

ISC 15 02:53:58.2±1.5, 2836N±006×567E±02, h72km±42km, n18, σ0°66/20, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.07**	**207**	*e*Pg	**Pn**	**02 54 17.6**	**+0.1**
BNDS				AML	AML	02 54 38.0	
	comp=N,798nm,0.5s						
KRBR	**Kerman**	**1.62**	**2**	*e*Pg	**Pn**	**02 54 24.6**	**-0.1**
KRBR				AML	AML	02 54 54.9	
	comp=E,297nm,0.3s						
KRBR	**Kerman**	**1.62**	**2**	*e*Pg	**Pn**	**02 54 24.6**	**-0.2**
	SNR=90						
BANOM	**Banah**	**2.45**	**189**	P	**Pn**	**02 54 34.8**	**-1.1**
	SNR=23						
BANOM	**Banah**	**2.45**	**189**	Pn	**Pn**	**02 54 34.9**	**-1.0**
	SNR=6.6						
BANOM				Sn	**Sn**	**02 55 04.3**	**-0.6**
GHIR	**Ghir-Karzin**	**3.28**	**270**	*e*Pn	**Pn**	**02 54 51.3**	**+4.1**
GHIR				AML	AML	02 56 02.4	
	comp=N,67nm,0.6s						
NAZ	**Nazwa, Dubai**	**3.48**	**196**	Pn	**Pn**	**02 54 50.3**	**+0.3**
	SNR=6.8						
HATD	**Hatta, Dubai**	**3.55**	**189**	Pn	**Pn**	**02 54 51.3**	**+0.4**
ASHO	**Ashiyiah**	**3.70**	**189**	Pn	**Pn**	**02 54 52.9**	**-0.1**
FAQ	**Al Faqa, Dubai**	**3.73**	**196**	Pn	**Pn**	**02 54 53.7**	**+0.3**
	SNR=20						
FAQ				S	**Sn**	**02 55 36.8**	**+0.7**
ASUD	**Al Ashush, Dub**	**3.92**	**199**	Pn	**Pn**	**02 54 56.8**	**+0.9**
	SNR=56						
BTHS		**6.79**	**232**	P	**Pn**	**02 55 35.4**	**+0.2**
RDF	**Al-Radifah**	**8.07**	**276**	*e*P	**Pn**	**02 55 53.0**	**+0.4**
MIB	**Mutribah**	**8.33**	**282**	*e*P	**Pn**	**02 55 56.3**	**+0.1**
	baz=282						
MIB				AML	AML	02 57 21.9	
	comp=Z,7.0nm,0.6s,baz=282						
NAY	**Al-Naaiem**	**8.36**	**278**	*e*P	**Pn**	**02 55 56.7**	**+0.2**
	baz=279						
NAY				AML	AML	02 57 28.6	
	comp=Z,2.0nm,0.5s,baz=279						
HRDDS		**8.48**	**232**	S	**Sn**	**02 57 28.2**	**-4.3**
HRDDS		**8.48**	**232**	P	**Pn**	**02 55 58.2**	**-0.1**
LYLS		**10.63**	**236**	P	**Pn**	**02 56 25.9**	**-1.8**

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*IDC **15** 02:58:16.7±0.7, 3128N×8533E, h0km, mb3.8/13, mb1 4.1/15, mb1mx3.9/26, mbtmp3.8/15, ML4.4/1, MS3.2/5, Ms1 3.2/5, ms1mx3.0/33, Error ellipse: s-maj=25.6km s-min=15.1km az=43.0*
*BJI **15** 02:58:22.6, 3140N×8532E, h86km, mB4.5, mb4.3*
*ISCJB **15** 02:58:23.7±0.9, 3122N±006×8529E±006, h70km±10km, mb3.7/17, Error ellipse: s-maj=11.3km s-min=7.4km az=24.9*
*MOS **15** 02:58:23.9±1.2, 3126N×8533E, h71km, mb4.1/4, Error ellipse: s-maj=18.0km s-min=9.3km az=121.6*
*NEIC **15** 02:58:25.6±1.4, 3128N×8535E, h71km±14km, mb4.0/6, Error ellipse: s-maj=14.4km s-min=6.5km az=225.0*
*NDI **15** 02:58:27.1±3.1, 3161N×8511E, h71km, ML3.8, mb4.0(NEIC)*

ISC 15 02:58:25.1±0.8, 3130N±006×8532E±006, h66km±9km, n48, σ0°93/48, mb3.7/17, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**4.74**	**250**	*e*P	**Pn**	**02 59 35.0**	**+0.9**
PTH				*e*x	x	03 00 32.2	
JOSI	**Joshimath**	**5.01**	**263**	*e*P	**Pn**	**02 59 39.2**	**+1.5**
JOSI				*e*S	**Sn**	**03 00 29.2**	**-5.1**
LSA	**Lhasa**	**5.28**	**106**	P	**Pn**	**02 59 42.6**	**+1.2**
LSA	**Lhasa**	**5.28**	**106**	*e*P	**Pn**	**02 59 42.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,115nm,1.0s						
LSA	**Lhasa**	**5.28**	**106**	*e*Pn	**Pn**	**02 59 42.5**	**+1.0**
	comp=Z,115nm,1.0s						
KLP	**Kalpa**	**6.05**	**274**	*e*P	**Pn**	**02 59 51.6**	**-0.3**
KLP				*e*S	**Sn**	**03 00 52.4**	**-7.4**
DDI	**Dehra Dun**	**6.32**	**263**	*e*P	**Pn**	**02 59 55.8**	**+0.1**
DDI				*e*x	x	03 00 27.5	
SMLA	**Simla**	**6.99**	**271**	*i* P	**Pn**	**03 00 03.8**	**-1.0**
SMLA				*e*S	**Sn**	**03 01 15.6**	**-7.2**
SMLA				*e*x	x	03 01 30.6	
	comp=N,93nm,0.3s						
SMLA				*e*x	x	03 01 32.6	
	comp=E,100nm,0.3s						
NDI	**New Delhi**	**7.50**	**252**	*e*x	x	03 00 09.5	
NDI				*e*x	x	03 01 36.0	
AYAN	**Aya Nagar**	**7.65**	**251**	*e*P	**Pn**	**03 00 12.9**	**-1.0**
AYAN				*e*x	x	03 01 19.7	
SONA	**Sohna**	**7.78**	**249**	*e*P	**Pn**	**03 00 15.1**	**-0.5**
SONA				*e*x	x	03 01 38.6	
KBL	**Kabul**	**14.05**	**288**	*e*P	**Pn**	**03 01 34.9**	**-6.0**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBL	**Kabul**	**14.05**	**288**	*e*Pn	**Pn**	**03 01 34.9**	**-6.0**
	comp=Z,8.7nm,0.9s						
EKS2	**Erkin-Say**	**14.60**	**324**	*e*P	**Pn**	**03 01 49.3**	**+1.3**
	comp=Z,3.1nm,0.7s						
MK31	**Makanchi Array**	**15.65**	**352**	*e*P	**Pn**	**03 02 03.3**	**+1.8**
MKAR	**Makanchi Array**	**15.65**	**352**	Pn	**Pn**	**03 01 56.6**	**-4.9**
	comp=Z,0.0nm,0.3s,baz=163,slow=13,SNR=5.5						
MKAR				LR	LR	03 08 56.8	
	comp=Z,121nm,18.4s,baz=170,slow=41						
CHTO	**Chiang Mai**	**17.50**	**132**	*e*P	**Pn**	**03 02 23.5**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,19nm,1.0s						
CHTO	**Chiang Mai**	**17.50**	**132**	*e*P	**Pn**	**03 02 23.4**	**-1.3**
	comp=Z,19nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.76**	**133**	P	**Pn**	**03 02 26.6**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=313,slow=11,SNR=37						
KURK	**Kurchatov**	**20.03**	**347**	*e*P	**Pn**	**03 02 51.0**	**-3.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURK	**Kurchatov**	**20.03**	**347**	*e*P	**Pn**	**03 02 51.0**	**-3.8**
	comp=Z,6.3nm,0.9s						
ENH	**Enshi**	**20.78**	**87**	*e*P	**P**	**03 03 01.8**	**+1.0**
	comp=Z,0.6nm,0.4s						
ZAL	**Zalesovo**	**22.63**	**359**	P	**P**	**03 03 19.4**	**-0.9**
ZALV	**Zalesovo Beam**	**22.64**	**359**	P	**P**	**03 03 19.4**	**-1.0**
	comp=Z,1.7nm,0.6s,mb3.6,baz=187,slow=11,SNR=6.6						
ZALV				LR	LR	03 11 57.4	
	comp=Z,18nm,20.9s,baz=195,slow=36						
SONM	**Songino Array**	**23.05**	**38**	P	**P**	**03 03 24.8**	**0.0**
	comp=Z,0.5nm,0.8s,mb2.9,baz=243,slow=9.4,SNR=2.7						
ZAK	**Zakamensk**	**23.30**	**30**	*e*P	**P**	**03 03 17.2**	**-10**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.5						
BVAR	**Borovoye Array**	**24.27**	**338**	P	**P**	**03 03 36.3**	**+0.3**
	comp=Z,2.1nm,0.7s,mb3.6,baz=140,slow=9.4,SNR=7.9						
BRVK	**Borovoye**	**24.34**	**338**	*e*P	**P**	**03 03 36.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb3.9						
BRVK	**Borovoye**	**24.34**	**338**	*e*P	**P**	**03 03 36.7**	**+0.2**
	comp=Z,3.9nm,0.7s,mb3.9						
AKTK	**Aktyubinsk**	**27.89**	**321**	P	**P**	**03 04 08.0**	**-0.6**
AKTO	**Aktyubinsk**	**27.89**	**321**	P	**P**	**03 04 08.0**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.2,baz=117,slow=4.5,SNR=2.8						
GNI	**Garni**	**33.87**	**297**	LR	LR	03 21 11.4	
	comp=Z,37nm,19.1s,baz=109,slow=41						
KSRS	**Korea Array**	**35.47**	**68**	LR	LR	03 22 52.6	
	comp=Z,44nm,18.9s,baz=214,slow=42						
MALT	**Malatya**	**38.80**	**294**	*e*P	**P**	**03 05 44.9**	**+1.4**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
MALT	**Malatya**	**38.80**	**294**	*e*P	**P**	**03 05 44.9**	**+1.5**
	comp=Z,2.0nm,0.8s,mb4.0						
ASF	**Jabal al Asfar**	**40.91**	**284**	P	**P**	**03 06 00.7**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.8,baz=130,slow=7.2,SNR=3.3						
ASF				LR	LR	03 25 25.1	
	comp=Z,64nm,18.7s,baz=263,slow=40						
MJAR	**Matsushiro Arr**	**43.75**	**68**	P	**P**	**03 06 22.9**	**-1.1**
	comp=Z,0.6nm,0.7s,mb3.5,baz=287,slow=11,SNR=4.5						
AKASG	**Malin Array Be**	**45.36**	**312**	P	**P**	**03 06 36.2**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.8,baz=82,slow=7.4,SNR=6.9						
GERES	**GERESS Array B**	**55.50**	**310**	P	**P**	**03 07 55.3**	**+2.1**
	comp=Z,0.5nm,0.7s,mb3.7,baz=46,slow=6.1,SNR=6.2						
NOA	**NORSAR Array B**	**55.55**	**325**	P	**P**	**03 07 54.1**	**+0.7**
	comp=Z,1.8nm,1.0s,mb4.1,baz=86,slow=7.2,SNR=2.9						
WRA	**Warramunga Arr**	**69.34**	**131**	P	**P**	**03 09 26.3**	**+0.4**
	comp=Z,3.6nm,0.7s,mb4.3,baz=326,slow=6.4,SNR=42						
WRAB	**Tennant Creek**	**69.34**	**131**	*e*P	**P**	**03 09 26.1**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**69.34**	**131**	*e*P	**P**	**03 09 26.1**	**+0.2**
	comp=Z,3.8nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**69.34**	**131**	*e*P	**P**	**03 09 26.2**	**+0.3**
ASAR	**Alice Springs**	**71.77**	**134**	P	**P**	**03 09 41.2**	**+0.7**
	comp=Z,2.3nm,0.7s,mb4.1,baz=317,slow=5.4,SNR=23						
TOA0	**Torodi Ar. Sit**	**77.91**	**278**	*e*P	**P**	**03 10 15.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**77.91**	**278**	P	**P**	**03 10 16.1**	**-0.3**
	comp=Z,1.3nm,0.8s,mb3.7,baz=51,slow=4.8,SNR=7.3						
YKA	**Yellowknife Ar**	**85.17**	**9**	P	**P**	**03 10 54.1**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=342,slow=5.8,SNR=4.3						

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*ISCJB **15** 03:04:14.1±0.9, 209N±0.1×942E±0.1, h77km±12km, mb3.8/8, Error ellipse: s-maj=24.0km s-min=7.5km az=42.0*
*NEIC **15** 03:04:15.7±0.5, 2088N×9418E, h75km±6km, mb4.1/2, Error ellipse: s-maj=13.1km s-min=4.4km az=222.0*
*IDC **15** 03:04:15.6±4.4, 2091N×9420E, h72km±39km, mb3.5/6, mb1 3.7/8, mb1mx3.4/23, mbtmp3.5/8, ML3.9/2, Error ellipse: s-maj=44.3km s-min=17.0km az=63.0*

ISC 15 03:04:15.9±0.7, 209N±01×942E±01, h74km±10km, n23, σ0°56/23, mb3.8/8, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**4.92**	**114**	*e*Pn	**Pn**	**03 05 27.5**	**+0.1**
CHTO				*e*Sn	**Sn**	**03 06 08.2**	**-15**
CMAR	**Chiang Mai Arr**	**5.08**	**118**	P	**Pn**	**03 05 29.6**	**0.0**
	1.3nm,0.3s,baz=291,slow=14,SNR=9.3						
CMAR				Lg		03 06 44.4	
	1.1nm,0.3s,baz=282,slow=29,SNR=4.3						
ODAN	**Odare**	**8.61**	**315**	*e*P	**Pn**	**03 06 18.5**	**+0.8**
TAPN	**Taplejung**	**8.74**	**319**	*e*P	**Pn**	**03 06 19.7**	**+0.2**
	22nm,0.3s						
RAMN	**Ramite**	**9.20**	**312**	*e*P	**Pn**	**03 06 25.9**	**+0.1**
	20nm,0.3s						
JIRN	**Jiri**	**9.94**	**314**	*e*P	**Pn**	**03 06 36.3**	**+0.5**
GUN	**Gumba**	**10.31**	**314**	*e*P	**Pn**	**03 06 40.7**	**-0.2**
PKI	**Pulchoki**	**10.41**	**311**	*e*P	**Pn**	**03 06 42.7**	**+0.3**
	16nm,0.3s						
KKN	**Kakani**	**10.64**	**312**	*e*P	**Pn**	**03 06 46.0**	**+0.6**
	7.3nm,0.2s						
DMN	**Daman**	**10.65**	**311**	*e*P	**Pn**	**03 06 46.2**	**+0.6**
	5.5nm,0.2s						
GKN	**Gorkha**	**11.22**	**311**	*e*P	**Pn**	**03 06 52.4**	**-1.0**
	5.0nm,0.3s						
KOLN	**Koldanda**	**11.84**	**307**	*e*P	**Pn**	**03 07 01.1**	**-0.7**
	17nm,0.2s						
DANN	**Dangsing**	**12.05**	**310**	*e*P	**Pn**	**03 07 03.7**	**-0.9**
	16nm,0.3s						
PSI	**Prapat**	**18.56**	**165**	P	**Pn**	**03 08 27.5**	**-0.5**
	0.4nm,0.3s,baz=0.0,slow=18,SNR=2.7						
MKAR	**Makanchi Array**	**27.60**	**342**	P	**P**	**03 09 56.6**	**+0.6**
	0.3nm,0.4s,mb3.1,baz=140,slow=9.1,SNR=4.0						
SONM	**Songino Array**	**28.63**	**17**	P	**P**	**03 10 05.3**	**+0.1**
	0.3nm,0.4s,mb3.2,baz=187,slow=7.3,SNR=3.6						
KURK	**Kurchatov**	**32.19**	**341**	*e*P	**P**	**03 10 36.3**	**-0.3**
	1.6nm,0.7s,mb3.9						
ZALV	**Zalesovo Beam**	**33.77**	**350**	P	**P**	**03 10 49.1**	**-1.2**
	0.5nm,0.4s,mb3.7,baz=171,slow=10,SNR=2.1						
WRA	**Warramunga Arr**	**56.48**	**133**	P	**P**	**03 13 50.3**	**-0.1**
	1.4nm,0.4s,mb4.3,baz=318,slow

LPAZ				S	Sn	03 16 32.9	-2.7
CPUP	**Villa Florida**	**8.86**	**107**	P	Pn	03 15 22.6	+0.8
comp=N,0.3nm,0.3s,baz=279,slow=12,SNR=3.9							
SIV	**San Ignacio**	**9.62**	**35**	P	Pn	03 15 30.0	-1.6
comp=N,1.0nm,0.3s,baz=233,slow=12,SNR=19							
PLCA	**Paso Flores**	**16.97**	**190**	P	Pn	03 17 04.6	+1.0
comp=N,0.1nm,0.3s,baz=6.7,slow=18,SNR=3.2							
PLCA	**Paso Flores**	**16.97**	**190**	P	Pn	03 17 04.6	+1.0
BDFB	**Brasilia**	**19.50**	**68**	P	P	03 17 29.9	-0.3
comp=N,0.1nm,0.3s,baz=251,slow=18,SNR=3.8							
TORD	**Torodi Ar. Bea**	**76.38**	**69**	P	P	03 24 46.2	0.0
comp=N,0.3nm,0.4s,baz=257,slow=5.9,SNR=18							

*MOS **15** 03:28:58.0±1.8,5545N×11027E,h5km,mb4.2/1,Error ellipse: s-maj=71.0km s-min=22.5km az=136.3*

BYKL 15 03:28:58.8±0.3,5543N×11035E,h7km±7km,3C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.57**	**307**	*e*Pg	Pg	03 29 09.7	-0.2
NIZ				*e*Sg	Sg	03 29 18.2	+0.9
NIZ				Pmax			
39nm,0.2s							
NIZ				Smax			
263nm,0.4s							
KMO	**Kumora**	**0.67**	**46**	*e*PG	Pg	03 29 10.4	-1.2
KMO				*e*		03 29 18.4	
KMO				pmax	pmax		
comp=Z,125nm,0.3s							
KMO				smax			
comp=N,559nm,0.9s							
KMO	**Kumora**	**0.67**	**46**	⇑*i*Pg	Pg	03 29 10.6	-1.0
KMO				*e*Sg	Sg	03 29 19.1	-1.1
KMO				Pmax			
comp=N,138nm,0.3s							
KMO				Smax			
comp=N,550nm,1.0s							
YOA	**Uoyan**	**1.05**	**47**	*e*Pg	Pg	03 29 17.8	-1.1
YOA				*e*Sg	Sg	03 29 32.8	+0.3
YOA				Pmax			
comp=N,211nm,0.4s							
YOA				Smax			
comp=N,775nm,1.0s							
SYVR	**Suvo**	**1.79**	**187**	*e*Pg	Pg	03 29 30.9	-2.1
SYVR				*e*Sg	Sg	03 29 56.2	0.0
SYVR				Pmax			
comp=N,38nm,0.9s							
SYVR				Smax			
comp=N,328nm,1.2s							
UKT	**Uakit**	**1.87**	**87**	⇑*i*Pg	Pg	03 29 31.6	-3.0
UKT				*e*Sg	Sg	03 29 56.9	-1.8
UKT				Pmax			
comp=N,61nm,0.7s							
UKT				Smax			
comp=N,278nm,0.7s							
MXMB	**Maximikha**	**2.37**	**204**	*e*Pg	Pg	03 29 41.3	-2.8
MXMB				*e*Sg	Sg	03 30 13.2	-1.5
MXMB				Pmax			
comp=N,14nm,0.3s							
MXMB				Smax			
comp=N,258nm,0.7s							
OGRR	**Ongureny**	**2.41**	**223**	*e*	Pn	03 29 40.0	+1.5
OGRR				*e*Pg	Pg	03 29 41.9	-2.9
OGRR				*e*Sg	Sg	03 30 13.0	-3.0
OGRR				Pmax			
comp=N,20nm,0.4s							
OGRR				Smax			
comp=N,113nm,1.0s							
BOD	**Bodaibo**	**3.13**	**39**	*e*Pn	Pn	03 29 48.8	+0.3
BOD				*e*Pg	Pg	03 29 54.3	-4.5
BOD				*e*Sg	Sg	03 30 35.2	-4.1
BOD				Pmax			
comp=N,9.0nm,0.3s							
BOD				Smax			
comp=N,53nm,0.7s							
NLYR	**Nelyaty**	**3.19**	**68**	*e*PN	Pn	03 29 49.5	+0.2
NLYR				*e*		03 29 56.3	
NLYR				*e*		03 30 36.8	
NLYR				pmax	pmax		
comp=Z,29nm,0.6s							
NLYR				smax			
comp=N,154nm,1.2s							
NLYR	**Nelyaty**	**3.19**	**68**	*e*Pn	Pn	03 29 50.0	+0.7
NLYR				*e*Pg	Pg	03 29 56.2	-3.7
NLYR				*e*Sg	Sg	03 30 37.8	-3.4
NLYR				Pmax			
comp=N,31nm,0.6s							
NLYR				Smax			
comp=N,93nm,0.7s							
TRG	**Tyrgan**	**3.56**	**223**	*e*	Pn	03 29 54.9	+0.5
TRG				*e*Pg	Pg	03 30 01.7	-5.3
TRG				*e*Sg	Sg	03 30 48.8	-4.4
TRG				Pmax			
comp=N,7.0nm,0.4s							
TRG				Smax			
comp=N,68nm,0.9s							
UUDB	**Ulan-Yde**	**3.91**	**205**	*e*	Pg	03 30 10.3	-3.4
UUDB				*e*Sg	Sg	03 31 00.7	-3.6
UUDB				Smax			
comp=N,47nm,1.1s							
HRMR	**Khuramsha**	**4.31**	**209**	*e*	Pn	03 30 06.1	+1.4
HRMR				*e*Pg	Pg	03 30 16.1	-5.3
HRMR				*e*Sg	Sg	03 31 13.5	-3.7
HRMR				Pmax			
comp=N,17nm,0.8s							
HRMR				Smax			
comp=N,153nm,0.6s							
CRS	**Chara**	**4.67**	**68**	*e*PN	Pg	03 30 20.6	-7.5
CRS				*e*		03 31 23.1	
CRS				pmax	pmax		
comp=Z,23nm,0.9s							
CRS				smax			
comp=N,118nm,1.5s							
CRS	**Chara**	**4.67**	**68**	*e*Pg	Pg	03 30 22.8	-5.3
CRS				*e*Sg	Sg	03 31 24.0	-4.5
CRS				Pmax			
comp=N,16nm,1.0s							
CRS				Smax			
comp=N,55nm,1.0s							
LSTR	**Listvyanka**	**4.85**	**225**	*e*	Pg	03 30 46.0	+14
LSTR				*e*Sg	Sg	03 31 27.1	-7.2
LSTR				Smax			
comp=N,21nm,0.7s							
TLY	**Talaya**	**5.48**	**230**	*e*PN	Pg	03 30 35.6	-8.2
TLY				pmax	pmax		
comp=Z,7.0nm,0.7s							
TLY	**Talaya**	**5.48**	**230**	*e*Pg	Pg	03 30 36.4	-7.4
TLY				*e*Sg	Sg	03 31 47.2	-7.5
TLY				Pmax			
comp=Z,8.0nm,0.5s							
TLY				Smax			
comp=Z,30nm,1.0s							
TUP	**Tupik**	**5.63**	**96**	*e*PN	Pn	03 30 22.1	-0.7
TUP				*e*S	Sn	03 31 27.1	-0.5
TUP				*e*		03 31 54.6	
TUP				pmax	pmax		
comp=Z,9.0nm,0.6s							
TUP				smax			
comp=N,48nm,0.9s							
TUP	**Tupik**	**5.63**	**96**	*e*Sg	Sg	03 31 53.3	-6.1
TUP				Pmax			
comp=N,4.0nm,0.3s							
TUP				Smax			
comp=N,48nm,0.7s							
KPC	**Khapcheranga**	**5.87**	**167**	*e*	Pg	03 31 00.6	+10
KPC				*e*Sg	Sg	03 31 59.0	-8.0
KPC				Smax			
comp=N,29nm,0.8s							
ARS	**Arshan**	**5.88**	**237**	*e*	Pn	03 30 29.2	+3.0
ARS				*e*Pg	Pg	03 30 44.2	-7.1
ARS				*e*		03 31 34.2	
ARS				*e*Sg	Sg	03 32 00.8	-6.5
ARS				Pmax			
comp=N,15nm,0.5s							
ARS				Smax			
comp=N,104nm,0.7s							
ZAK	**Zakamensk**	**6.62**	**223**	*e*	Pg	03 31 32.5	+27
ZAK				*e*Sg	Sg	03 32 25.8	-5.3
ZAK				Smax			
comp=N,16nm,1.4s							
MOY	**Mondy**	**6.73**	**240**	*e*PN	Pn	03 30 40.4	+2.5
MOY				*e*		03 31 59.5	
ORL	**Orlik**	**6.86**	**249**	*e*PN	Pn	03 30 40.2	+0.6
ORL				*e*		03 31 02.6	
ORL				*e*		03 32 31.8	
ORL				pmax	pmax		
comp=Z,6.0nm,0.6s							
ORL				smax			
comp=N,49nm,1.8s							
ORL	**Orlik**	**6.86**	**249**	⇑*i*Pn	Pn	03 30 40.6	+1.0
ORL				*e*		03 31 58.3	
ORL				*e*Sg	Sg	03 32 32.1	-6.6
ORL				Smax			
comp=N,33nm,0.6s							

*MOS **15** 03:29:15.9±2.3,5544N×11039E,h19km,mb4.2/1,Error ellipse: s-maj=25.6km s-min=13.2km az=60.7*

BYKL 15 03:29:15.3±0.4,5544N×11039E,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.59**	**305**	*e*PG	Pg	03 29 27.7	+1.2
NIZ				*e*S	Sg	03 29 34.8	+0.7
NIZ	**Nizh Angarsk**	**0.59**	**305**	*e*Sg	Sg	03 29 34.1	0.0
NIZ				Smax			
506nm,1.2s							
KMO	**Kumora**	**0.64**	**45**	*e*PG	Pg	03 29 27.2	-0.4
KMO				*e*		03 29 35.0	
KMO				pmax	pmax		
comp=Z,342nm,0.3s							
KMO				smax			
comp=N,1μm,0.8s							
KMO	**Kumora**	**0.64**	**45**	*e*Pg	Pg	03 29 26.3	-1.3
KMO				*e*Sg	Sg	03 29 35.3	-0.6
KMO				Pmax			
comp=N,300nm,0.3s							
KMO				Smax			
comp=N,1μm,1.1s							
YOA	**Uoyan**	**1.02**	**47**	*e*PG	Pg	03 29 33.5	-1.4
YOA				*e*		03 29 48.0	
YOA				pmax	pmax		
comp=Z,361nm,0.3s							
YOA				smax			
comp=N,1μm,0.5s							
YOA	**Uoyan**	**1.02**	**47**	*e*Pg	Pg	03 29 33.6	-1.3
YOA				*e*Sg	Sg	03 29 47.5	-0.7
YOA				Pmax			
comp=N,260nm,0.4s							
YOA				Smax			
comp=N,1μm,2.3s							
SYVR	**Suvo**	**1.80**	**187**	*e*PN	Pn	03 29 47.7	+0.2
SYVR				*e*		03 30 12.6	
SYVR				pmax	pmax		
comp=Z,44nm,0.4s							
SYVR				smax			
comp=E,369nm,0.8s							
SYVR	**Suvo**	**1.80**	**187**	*e*Pg	Pg	03 29 47.3	-2.5
SYVR				*e*Sg	Sg	03 30 11.9	-1.2
SYVR				Pmax			
comp=E,59nm,0.6s							
SYVR				Smax			
comp=E,469nm,1.0s							
UKT	**Uakit**	**1.84**	**87**	*e*Pg	Pg	03 29 47.7	-2.9
UKT				*e*Sg	Sg	03 30 12.1	-2.4
UKT				Pmax			
comp=E,95nm,0.6s							
UKT				Smax			
comp=E,409nm,0.9s							
MXMB	**Maximikha**	**2.38**	**204**	*e*Pg	Pg	03 29 58.1	-2.9
MXMB				*e*Sg	Sg	03 30 28.9	-2.9
MXMB				Pmax			
comp=E,25nm,0.3s							
MXMB				Smax			
comp=E,303nm,0.8s							
OGRR	**Ongureny**	**2.43**	**223**	*e*PN	Pn	03 29 57.9	+1.7
OGRR				*e*		03 30 29.1	
OGRR				pmax	pmax		
comp=Z,27nm,0.5s							
OGRR				smax			
comp=E,143nm,1.1s							
OGRR	**Ongureny**	**2.43**	**223**	*e*Pg	Pg	03 29 58.0	-3.8
OGRR				*e*Sg	Sg	03 30 29.3	-3.9
OGRR				Pmax			
comp=E,29nm,0.3s							
OGRR				Smax			
comp=E,143nm,0.9s							
BOD	**Bodaibo**	**3.11**	**38**	*e*	Pn	03 30 04.0	-1.5
BOD				*e*Sg	Sg	03 30 50.1	-5.0
BOD				Smax			
comp=E,109nm,1.0s							
NLYR	**Nelyaty**	**3.17**	**68**	*e*Pg	Pg	03 30 12.0	-3.9
NLYR				*e*Sg	Sg	03 30 52.9	-4.0
NLYR				Pmax			
comp=E,32nm,0.6s							
NLYR				Smax			
comp=E,155nm,0.9s							
TRG	**Tyrgan**	**3.59**	**223**	*e*Pg	Pg	03 30 19.8	-4.2
TRG				*e*Sg	Sg	03 31 06.8	-3.7
TRG				Pmax			
comp=E,10.0nm,0.3s							
TRG				Smax			
comp=E,70nm,2.0s							
CIT	**Chita**	**3.91**	**150**	*e*Sg	Sg	03 31 15.3	-5.4
CIT				Smax			
comp=E,107nm,0.3s							
UUDB	**Ulan-Yde**	**3.93**	**205**	*e*Sg	Sg	03 31 18.8	-2.7
UUDB				Smax			
comp=E,68nm,1.1s							
FFNB	**Fofonovo**	**4.02**	**214**	*e*Sg	Sg	03 31 21.5	-2.9
FFNB				Smax			
comp=E,118nm,0.6s							
HRMR	**Khuramsha**	**4.33**	**210**	*e*Pg	Pg	03 30 33.3	-5.0
HRMR				*e*Sg	Sg	03 31 29.8	-4.6
HRMR				Pmax			
comp=E,6.0nm,0.1s							
HRMR				Smax			
comp=E,185nm,0.5s							
CRS	**Chara**	**4.64**	**68**	*e*	Pg	03 30 45.2	+1.0
CRS				*e*Sg	Sg	03 31 38.8	-5.4
CRS				Smax			
comp=E,117nm,1.6s							
LSTR	**Listvyanka**	**4.87**	**225**	*e*Sg	Sg	03 31 44.0	-7.6
LSTR				Smax			
comp=E,48nm,1.6s							
TLY	**Talaya**	**5.51**	**230**	*e*S	Sn	03 31 37.3	-5.1
TLY				pmax	pmax		
comp=Z,7.0nm,0.7s							
TLY				smax			
comp=E,42nm,1.3s							
TLY	**Talaya**	**5.51**	**230**	*e*Pg	Pg	03 30 54.2	-6.6
TLY				*e*Sg	Sg	03 32 05.7	-6.4
TLY				Pmax			
comp=E,7.0nm,0.4s							
TLY				Smax			
comp=E,42nm,1.0s							
TUP	**Tupik**	**5.61**	**97**	*e*PN	Pn	03 30 39.7	-0.1
TUP	**Tupik**	**5.61**	**97**	*e*Pg	Pg	03 30 39.9	-23
KPC	**Khapcheranga**	**5.87**	**167**	*e*Pg	Pg	03 30 59.2	-8.5
KPC				*e*Sg	Sg	03 32 15.2	-8.6
KPC				Pmax			
comp=E,10.0nm,0.5s							
KPC				Smax			
comp=E,36nm,1.1s							
ARS	**Arshan**	**5.90**	**237**	*e*	Pg	03 31 03.2	-5.1
ARS				*e*Sg	Sg	03 32 19.8	-4.9
ARS				Smax			
comp=E,148nm,0.9s							
ZAK	**Zakamensk**	**6.64**	**223**	*e*Sg	Sg	03 32 43.2	-5.3
ZAK				Smax			
comp=E,20nm,0.9s							
ORL	**Orlik**	**6.88**	**249**	*e*	Pg	03 31 15.3	-12
ORL				*e*		03 32 15.6	
ORL				*e*Sg	Sg	03 32 46.6	-10
ORL				Smax			
comp=E,55nm,1.8s							
IENR	**Ienga**	**8.19**	**79**	*e*Sg	Sg	03 33 30.6	-7.4

*DDA **15** 03:44:38.9,3743N×2723E,h3km±4km,Md3.3*
*ISCJB **15** 03:44:40.9±0.5,3749N±002×2725E±003,h3km±4km, Error ellipse: s-maj=4.7km s-min=3.3km az=158.6*
*CSEM **15** 03:44:40.1±0.1,3748N×2729E,h2km,MD3.3,Error ellipse: s-maj=2.1km s-min=1.3km az=54.0*
*ISK **15** 03:44:40.4,3748N×2727E,h4km,MD3.1*
*ATH **15** 03:44:46.2,3772N×2684E,h10km±9km,MD3.3/3*

ISC 15 03:44:41.2±0.5,3747N±002×2722E±003,h3km±4km,n25, σ1§02/39,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.23**	**2**	*i*P	Pg	03 44 45.1	-0.5
GCAM				*i*S	Sg	03 44 49.5	+0.9
SMG	**Samos**	**0.39**	**308**	*e*PG	Pg	03 44 48.0	-0.6
BODT	**Bodrum**	**0.42**	**170**	*e*PG	Pg	03 44 49.3	+0.1
BDRM	**Kayabasi**	**0.45**	**156**	*i*P	Pg	03 44 48.8	-0.9
BDRM				*i*S	Sg	03 44 55.9	+0.5
MLSB	**Milas**	**0.48**	**112**	*e*PG	Pg	03 44 49.6	-0.7
MLSB				*e*SG	Sg	03 44 56.5	0.0
AYDN	**Tasoluk**	**0.55**	**70**	*i*P	Pg	03 44 51.0	-0.9
AYDN				*i*S	Sg	03 44 59.1	+0.1
YER	**Yerkesik**	**0.91**	**112**	*e*PG	Pg	03 44 57.9	-0.7
BLCB	**Balcova**	**0.92**	**351**	*e*PG	Pg	03 44 59.0	+0.2
BLCB				*e*SG	Sg	03 45 12.3	+1.5
IZM	**Izmir**	**0.92**	**2**	*e*PG	Pg	03 44 58.0	-0.8
KDAG	**Bornova**	**0.93**	**2**	*i*P	Pg	03 44 57.1	-1.9
KDAG				*i*S	Sg	03 45 11.7	+0.7
TURN	**Turunc**	**1.26**	**118**	*i*P	Pg	03 45 01.3	-4.0
TURN				*i*S	Sg	03 45 15.6	-5.9
DALT	**Dalyan (Mudla)**	**1.33**	**121**	*e*PN	Pn	03 45 06.2	-0.5
APE	**Apeiranthos**	**1.41**	**254**	*e*PN	Pn	03 45 09.0	+1.3
APE				*e*SB	Sb	03 45 26.9	+0.5
AKHS	**Akhisar**	**1.48**	**18**	*i*P	Pn	03 45 06.7	-1.9
AKHS				*i*S	Sb	03 45 26.9	-1.6
KULA	**Kula-Manisa**	**1.54**	**47**	*e*PN	Pn	03 45 09.9	+0.4
PRK	**Paraskevi**	**1.92**	**337**	*e*PB	Pb	03 45 16.4	-0.4
PRK				*e*SB	Sn	03 45 37.5	-1.9
DEMI	**Demirci**	**1.96**	**36**	*i*P	Pn	03 45 16.6	+1.3
DEMI				*i*S	Sg	03 45 45.8	+1.7
KHAL	**Karahalli**	**2.00**	**63**	*i*P	Pn	03 45 14.5	-1.4
KHAL				*i*S	Sg	03 45 46.2	+0.6
BALB	**Balikesir**	**2.22**	**13**	*e*PN	Pn	03 45 19.1	+0.2
ELL	**Elmali**	**2.27**	**108**	*e*PN	Pn	03 45 19.1	-0.4
AKAS	**Kas**	**2.28**	**122**	*i*P	Pn	03 45 21.7	+2.1
AKAS				*i*S	Sb	03 45 52.2	+0.8
BALY	**Balya**	**2.28**	**8**	*i*P	Pn	03 45 21.3	+1.6
BALY				*i*S	Sn	03 45 48.1	-0.3
DST	**Dursunbey**	**2.40**	**27**	*e*PN	Pn	03 45 22.3	+1.0
EZN	**Ezine**	**2.45**	**344**	*e*PN	Pn	03 45 22.8	+0.7
ALT	**Altintas**	**2.77**	**54**	*e*PN	Pn	03 45 26.0	-0.4

*MOS **15** 03:49:09.9±0.9,228N×10146W,h10km,mb4.9/19,Error ellipse: s-maj=20.2km s-min=8.8km az=93.4*
*IDC **15** 03:49:09.5±0.7,223N×10163W,h0km,mb4.5/12, mb1 4.7/13,mb1mx4.5/19,mbtmp4.5/13,MS4.1/20, Ms1 4.1/20,ms1mx4.0/29,Error ellipse: s-maj=31.9km s-min=12.3km az=58.0*
*BJI **15** 03:49:10.3,224N×10144W,h10km,mB5.3,Ms5.0,Msz4.8*
*ISCJB **15** 03:49:10.8±0.4,228N±006×10133W±006,h10km, mb4.6/65,MS4.1/20,Error ellipse: s-maj=11.2km s-min=5.6km az=136.9*
*GCMT **15** 03:49:11.3±0.3,230N×101.11W,h17km±1km,MW5.1/66, Moment Tensor Solution. s27,c33; s66,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.35±.33; $M_{\theta\theta}$5.34±.21; $M_{\phi\phi}$-0.99±.23; $M_{r\theta}$0.89±.46; $M_{\theta\phi}$-1.00±.14; $M_{\phi r}$0.01±.66; Best double couple: $M_0$5.00200×10^{16} NP1:ϕ_s101.00000°,δ40.00000°,λ-86.00000°. NP2: ϕ_s276.00000°,δ50.00000°,λ-93.00000°. Principal axes: T 5.5710, Plg5.0000°, Azm9.0000°; N -1.1410, Plg3.0000°, Azm278.0000°; P -4.4330, Plg84.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 03:49:11.3±0.3,2.19N×10156W,h10km,mb4.7/60 Error ellipse: s-maj=8.6km s-min=4.7km az=62.0*

ISC 15 03:49:12.6±0.4,227N±006×10135W±006,h10km,n302, σ0§71/275,mb4.6/65,MS4.1/20,64C-69D,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**16.04**	**23**	Pn	Pn	03 52 59.5	+1.1
baz=63,slow=6.0,SNR=4.6							
CMIG				LR	LR	03 57 42.3	
comp=Z,2μm,18.9s,baz=198,slow=32							
TGUH	**Tegucigalpa,Un**	**18.18**	**49**	*e*P	Pn	03 53 28.0	+2.6
69nm,1.1s							
TEIG	**Tepich**	**21.94**	**35**	LR	LR	04 01 21.7	
comp=Z,1μm,21.1s,MS4.3,baz=240,slow=33							
BCIP	**Isla Barro Col**	**22.46**	**71**	*e*P	P	03 54 13.4	+1.3
55nm,1.3s,mb4.8							
OTAV	**Otavalo**	**22.98**	**95**	*e*P	P	03 54 19.0	+1.3
258nm,2.1s,mb5.3							
LPIG	**La Paz**	**23.37**	**339**	LR	LR	04 01 27.2	
comp=Z,926nm,20.0s,MS4.2,baz=172,slow=32							
ATAH	**Atahualpa**	**24.69**	**112**	P	P	03 54 36.6	+2.5
16nm,1.1s,mb4.4,baz=279,slow=8.4,SNR=9.4							
ATAH				LR	LR	04 01 58.1	
comp=Z,265nm,20.2s,MS3.7,baz=128,slow=31							
ROSC	**El Rosal**	**27.09**	**84**	P	P	03 54 52.4	-3.4
9.6nm,0.4s,mb4.6,baz=261,slow=22,SNR=6.8							
ROSC				LR	LR	04 04 02.9	
comp=Z,103nm,19.3s,MS3.4,baz=326,slow=33							
ROSC	**El Rosal**	**27.09**	**84**	*e*P	P	03 54 53.7	-2.1
HKT	**Hockley**	**28.02**	**10**	*e*P	P	03 55 04.2	+0.2
HKT				pmax	pmax		
comp=Z,45nm,2.0s,mb4.8							
HKT	**Hockley**	**28.02**	**10**	*e*P	P	03 55 04.2	+0.2
comp=Z,45nm,2.0s,mb4.8							
JCT	**Junction City**	**28.10**	**3**	*e*P	P	03 55 04.0	-0.6
JCT				pmax	pmax		
comp=Z,44nm,1.3s,mb4.9							
JCT	**Junction City**	**28.10**	**3**	*e*P	P	03 55 04.0	-0.6
comp=Z,44nm,1.3s,mb4.9							
NNA	**Nana**	**28.17**	**121**	LR	LR	04 03 43.8	
comp=Z,263nm,19.7s,MS3.8,baz=308,slow=31							
319A	**Douglas**	**29.91**	**346**	⇓P	P	03 55 21.1	+0.4
baz=30							
NATX	**Nacogdoches**	**30.01**	**11**	*e*P	P	03 55 22.1	+0.5
comp=Z,38nm,0.9s,mb5.1							
318A	**Bisbee**	**30.14**	**345**	⇑P	P	03 55 23.4	+0.6
baz=30							
219A	**White Tail Can**	**30.50**	**347**	⇑P	P	03 55 26.4	+0.4
baz=31							
218A	**Dragoon**	**30.66**	**345**	⇑P	P	03 55 27.7	+0.3
baz=31							
216A	**Three Points,**	**31.07**	**343**	⇑P	P	03 55 31.1	+0.1
baz=31							
TUC	**Tucson**	**31.18**	**344**	*e*P	P	03 55 31.5	-0.4
TUC				pmax	pmax		
comp=Z,15nm,1.8s,mb4.5							
TUC	**Tucson**	**31.18**	**344**	*e*P	P	03 55 31.4	-0.5
comp=Z,15nm,1.8s,mb4.5							
SDV	**Santo Domingo**	**31.25**	**77**	*e*P	P	03 55 33.7	+0.9
comp=Z,22nm,1.1s,mb4.9							
118A	**Homack Ranch,**	**31.28**	**346**	⇑P	P	03 55 32.8	0.0
baz=31							
117A	**Oracle**	**31.41**	**345**	⇑P	P	03 55 34.3	+0.3
baz=32							
BNM	**Barren Site**	**32.10**	**352**	*e*P	P	03 55 40.1	+0.1
Y19A	**Nutrioso**	**32.38**	**348**	⇑P	P	03 55 42.8	+0.3
baz=32							
WMOK	**Wichita Mounta**	**32.39**	**4**	*e*P	P	03 55 41.5	-1.1
WMOK				pmax	pmax		
comp=Z,11nm,1.5s,mb4.5							
WMOK	**Wichita Mounta**	**32.39**	**4**	*e*P	P	03 55 41.5	-1.1
comp=Z,11nm,1.5s,mb4.5							
AMTX	**Amarillo**	**32.45**	**359**	*e*P	P	03 55 42.8	-0.3
comp=Z,4.5nm,0.6s,mb4.5							
Y17A	**Roosevelt**	**32.50**	**345**	⇓P	P	03 55 43.6	0.0
baz=33							
113A	**Mohawk Valley,**	**32.51**	**340**	⇓P	P	03 55 43.9	+0.3
baz=33							
ANMO	**Albuquerque**	**32.86**	**352**	*e*P	P	03 55 47.2	+0.5
ANMO				pmax	pmax		
comp=Z,3.0nm,0.9s							
ANMO	**Albuquerque**	**32.86**	**352**	*e*P	P	03 55 47.1	+0.4
comp=Z,2.9nm,0.9s,mb4.2							
MIAR	**Mount Ida**	**32.92**	**12**	*e*P	P	03 55 47.0	-0.2
MIAR				pmax	pmax		
comp=Z,30nm,1.2s,mb5.1							
MIAR	**Mount Ida**	**32.92**	**12**	*e*P	P	03 55 47.0	-0.2
comp=Z,30nm,1.2s,mb5.1							
X17A	**Forest Lakes**	**33.10**	**346**	P	P	03 55 50.0	+1.2
baz=33,SNR=7.6							
Y15A	**Casa Rosa Ranc**	**33.15**	**343**	⇓P	P	03 55 49.6	+0.4
baz=33							
X15A	**Humboldt**	**33.62**	**344**	⇓P	P	03 55 53.9	+0.5

baz=34
X14A Yava 33.80 343 ⇑P **P 03 55 55.4 +0.5**
baz=34
BC3 Big Chuckw Mtn 33.90 339 ⇑P **P 03 55 56.3 +0.5**
baz=34
W16A Flagstaff 34.01 345 ⇓P **P 03 55 57.3 +0.6**
baz=34
PDMCI Parker Dam,Lak 34.03 341 ⇓P **P 03 55 57.4 +0.5**
baz=34
X13A Yucca 34.20 342 ⇑P **P 03 55 58.6 +0.2**
baz=34
V18A Ganado 34.22 348 ⇑P **P 03 55 58.8 +0.3**
baz=34
PFO Pinyon Flat Ob 34.24 337 ⇑P **P 03 55 59.2 +0.5**
baz=34
IRM Iron Mountain 34.25 339 ⇓P **P 03 55 59.2 +0.5**
baz=34
WUAZ Wupatki 34.37 345 ⇓P **P 03 56 00.7 +0.8**
baz=34
WUAZ Wupatki 34.37 345 *eP* **P 03 55 59.1 -0.7**
comp=Z,11nm,1.2s,mb4.7
BELC Belle Mtn. 34.41 338 ⇓P **P 03 56 00.7 +0.5**
baz=34
W14A Seligman 34.55 343 ⇓P **P 03 56 02.4 +1.0**
baz=35
PLAL Pickwick Lake 34.81 19 *eP* **P 03 56 03.2 -0.5**
comp=Z,14nm,1.1s,mb4.8
V14A Boquillas Ranc 34.95 343 ⇓P **P 03 56 05.4 +0.6**
baz=35
GNAR Gosnell 35.13 16 *eP* **P 03 56 06.9 +0.4**
GOGA Godfrey 35.22 26 *eP* **P 03 56 06.6 -0.6**
GOGA pmax pmax
comp=Z,20nm,1.2s,mb4.9
GOGA Godfrey 35.22 26 *eP* **P 03 56 06.6 -0.6**
comp=Z,20nm,1.2s,mb4.9
MVCO Mesa Verde 35.39 350 ⇓P **P 03 56 08.9 +0.3**
baz=36
MVCO Mesa Verde 35.39 350 *eP* **P 03 56 09.0 +0.4**
comp=Z,94nm,2.3s,mb5.3
V13A Grand Canyon W 35.41 342 ⇑P **P 03 56 09.3 +0.5**
baz=36
U15A North Rim 35.47 345 ⇑P **P 03 56 10.3 +1.0**
baz=36
SDCO Great Sand Dun 35.51 354 *eP* **P 03 56 10.5 +0.9**
comp=Z,3.4nm,1.0s,mb4.2
V12A Nelson 35.57 341 ⇑P **P 03 56 10.6 +0.4**
baz=36
T18A Mexican Hat 35.58 348 ⇑P **P 03 56 10.6 +0.3**
baz=36
TUQ Turquoise Mtn. 35.67 339 ⇓P **P 03 56 11.8 +0.8**
baz=36
U14A Mt Trumbull 35.70 344 ⇑P **P 03 56 11.9 +0.6**
baz=36
S19A Harvey Farm, M 36.03 349 ⇑P **P 03 56 14.4 +0.3**
baz=36
S18A Hurst Farm, Bl 36.14 348 ⇑P **P 03 56 15.6 +0.6**
baz=36
T13A Saint George 36.47 343 ⇑P **P 03 56 18.4 +0.5**
baz=37
NHSC New Hope 36.54 31 *eP* **P 03 56 15.2 -3.4**
comp=Z,60nm,1.1s,mb5.3
R18A Canyonlands Na 36.79 349 P **P 03 56 21.4 +0.9**
baz=37,SNR=7.2
MPMC Manual Prospec 36.80 338 ⇓P **P 03 56 21.3 +0.6**
baz=37
ISA Isabella 36.83 336 ⇓P **P 03 56 21.5 +0.5**
baz=37
FVM French Village 36.93 14 *eP* **P 03 56 21.0 -0.8**
FVM pmax pmax
comp=Z,11nm,1.0s,mb4.6
FVM French Village 36.93 14 *eP* **P 03 56 21.0 -0.8**
comp=Z,11nm,1.0s,mb4.6
R17A Hanksville Air 36.99 348 P **P 03 56 22.8 +0.5**
baz=37,SNR=6.8
SIUC Southern Illin 37.00 16 *eP* **P 03 56 22.3 -0.1**
comp=Z,41nm,1.0s,mb5.2
TKL Tuckaleechee C 37.01 24 *eP* **P 03 56 22.5 0.0**
T11A Corn Creek, Al 37.07 341 P **P 03 56 23.8 +0.7**
baz=37,SNR=8.5
TPNV Topopah Spring 37.15 340 ⇓P **P 03 56 24.3 +0.6**
baz=37
Q19A Hogan Spring (37.22 350 ⇓P **P 03 56 24.5 +0.2**
baz=37
MSU Marysvale 37.41 346 *eP* **P 03 56 26.3 +0.4**
ISCO Idaho Springs 37.56 355 *eP* **P 03 56 27.2 +0.1**
ISCO pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
ISCO Idaho Springs 37.56 355 *eP* **P 03 56 27.2 +0.1**
comp=Z,8.4nm,1.2s,mb4.3
Q16A Castle Valley 37.56 347 ⇓P **P 03 56 28.1 +1.0**
baz=38
GRAC Grapevine Rang 37.59 339 ⇓P **P 03 56 28.2 +0.9**
baz=38
LPAZ La Paz 37.64 121 P **P 03 56 29.6 +1.5**
comp=Z,9.2nm,0.9s,mb4.5,baz=304,slow=8.6,SNR=33
LPAZ PcP PcP 03 58 45.5 -0.2
comp=Z,1.9nm,0.7s,baz=346,slow=3.0,SNR=5.2
LPAZ LR LR 04 09 51.3
comp=Z,200nm,18.7s,MS3.9,baz=278,slow=33
LPAZ La Paz 37.64 121 *eP* **P 03 56 29.4 +1.3**
LPAZ *e* 03 58 46.0
LPAZ pmax pmax
comp=Z,9.0nm,0.9s
LPAZ La Paz 37.64 121 *eP* **P 03 56 29.4 +1.3**
comp=Z,9.3nm,0.9s,mb4.5
LPAZ *e*PcP PcP 03 58 46.0 +0.2
USIN University of 37.68 18 *eP* **P 03 56 27.8 -0.3**
comp=Z,29nm,1.0s,mb5.0
TZTN Tazewell 37.86 24 *eP* **P 03 56 29.4 -0.4**
comp=Z,15nm,1.1s,mb4.6
HELL Mitchell Peak 37.93 337 P **P 03 56 31.1 +0.8**
baz=38,SNR=6.8
Q14A Sevier Lake (B 38.14 345 ⇑P **P 03 56 32.6 +0.6**
baz=38,SNR=8.4
S10A Tonopah Range, 38.14 340 P **P 03 56 32.8 +0.7**
baz=38,SNR=8.7
S09A Goldfield 38.18 339 ⇑P **P 03 56 32.7 +0.3**
baz=38
R11A Troy Canyon, C 38.20 342 ⇑P **P 03 56 33.8 +1.3**
baz=38
OLIL Olney 38.26 17 *eP* **P 03 56 32.7 -0.4**
comp=Z,35nm,1.1s,mb5.0
Q13A Wheeler Ranch, 38.30 344 P **P 03 56 34.5 +1.1**
baz=38,SNR=9.0
S08C White Mtn Res 38.32 338 ⇑P **P 03 56 34.2 +0.6**
baz=38,SNR=6.3
WCI Wyandotte Cave 38.36 19 *eP* **P 03 56 33.5 -0.4**
WCI pmax pmax
comp=Z,15nm,1.0s,mb4.7
WCI Wyandotte Cave 38.36 19 *eP* **P 03 56 33.5 -0.4**
comp=Z,15nm,1.0s,mb4.7
R09A Tonopah 38.59 340 ⇓P **P 03 56 36.4 +0.5**
baz=39
O18A Roosevelt 38.63 349 P **P 03 56 37.0 +0.8**
baz=39,SNR=6.4
Q11A Duckwater 38.68 342 ⇓P **P 03 56 37.5 +0.9**
baz=39
P13A Bates Ranch, G 38.77 344 ⇓P **P 03 56 37.8 +0.5**
baz=39
DUG Dugway 39.16 346 *eP* **P 03 56 41.1 +0.5**
DUG pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
DUG Dugway 39.16 346 ⇑P **P 03 56 41.1 +0.5**
baz=39
DUG Dugway 39.16 346 *eP* **P 03 56 41.1 +0.5**
comp=Z,4.6nm,0.9s,mb4.2
NVAR Mina Array Bea 39.20 339 P **P 03 56 39.5 -1.4**
comp=Z,1.6nm,0.7s,mb3.9,baz=162,slow=8.5,SNR=9.7
N18A Larsen Ranch, 39.26 350 ⇓P **P 03 56 42.2 +0.8**
baz=40
N17A Moffit Pass 39.44 349 ⇓P **P 03 56 43.7 +0.7**
baz=40
Q08A Gabbs 39.45 339 ⇑P **P 03 56 43.6 +0.7**
baz=40,SNR=7.2
ELN Prospectdale 39.62 26 *eP* **P 03 56 44.0 -0.4**
O12A Currie 39.73 344 ⇑P **P 03 56 46.0 +0.6**
baz=40
BGU Big Grassy Mou 39.91 346 *eP* **P 03 56 46.7 -0.1**
M16A Huntsville 39.96 348 ⇑P **P 03 56 47.9 +0.6**
baz=40
R05C Kirkwood Meado 40.10 337 ⇑P **P 03 56 49.1 +0.7**
baz=40
LVC Limon Verde 40.16 130 P **P 03 56 50.1 +1.0**
comp=Z,8.0nm,0.8s,mb4.5,baz=313,slow=7.0,SNR=5.4
LVC Limon Verde 40.16 130 *eP* **P 03 56 51.0 +1.8**
comp=Z,106nm,1.9s,mb5.2
HWUT Hardware Ranch 40.23 348 *eP* **P 03 56 50.0 +0.6**
comp=Z,18nm,1.3s,mb4.7

M15A Larsen Ranch, 40.28 347 P **P 03 56 50.2 +0.4**
baz=40,SNR=8.3
ELK Elko 40.31 344 *eP* **P 03 56 50.9 +0.7**
comp=Z,143nm,0.6s
N12A Clover Valley, 40.35 344 ⇓P **P 03 56 51.2 +0.6**
baz=40
O09A Fish Creek Ran 40.37 341 ⇓P **P 03 56 51.0 +0.3**
baz=40
M14A Sheep Mountain 40.53 346 P **P 03 56 52.5 +0.6**
baz=41,SNR=13
L16A Fish Haven 40.59 348 ⇑P **P 03 56 52.7 +0.2**
baz=41
M13A Montello 40.60 345 ⇑P **P 03 56 53.0 +0.5**
baz=41
HVU Hansel Valley 40.66 347 *eP* **P 03 56 52.2 -0.8**
HVU pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
HVU Hansel Valley 40.66 347 *eP* **P 03 56 52.2 -0.8**
comp=Z,5.9nm,1.0s,mb4.2
L15A Malad City 40.78 347 P **P 03 56 54.2 +0.2**
baz=41,SNR=8.1
P05C Yuba Gap, Truc 40.83 337 ⇑P **P 03 56 55.2 +0.8**
baz=41
O07A Toulon 40.94 339 ⇑P **P 03 56 55.7 +0.4**
baz=41
BW06 Boulder Array 40.99 351 *eP* **P 03 56 54.9 -0.8**
comp=Z,9.7nm,1.0s,mb4.4
PDAR Pinedale Array 40.99 351 P **P 03 56 55.5 -0.2**
comp=Z,5.1nm,0.8s,mb4.2,baz=156,slow=7.8,SNR=40
PDAR PcP PcP 03 58 53.3 -2.5
comp=Z,0.7nm,0.8s,baz=131,slow=6.8,SNR=3.6
PDAR LR LR 04 13 30.9
comp=Z,225nm,19.8s,MS4.0,baz=183,slow=36
PDAR Pinedale Array 40.99 351 P **P 03 56 55.5 -0.2**
PDAR PcP PcP 03 58 53.3 -2.5
PDAR LR LR 04 13 30.9
L14A Malta 41.01 346 P **P 03 56 56.7 +0.8**
baz=41,SNR=9.1
L13A Double Diamond 41.23 346 ⇓P **P 03 56 57.5 -0.2**
baz=41
N08A GE Springer Mi 41.23 341 ⇑P **P 03 56 58.4 +0.7**
baz=41
O06A Flanigan 41.28 338 ⇑P **P 03 56 58.6 +0.4**
baz=41
ACSO Alum Creek Sta 41.30 21 *eP* **P 03 56 57.4 -0.9**
comp=Z,17nm,1.1s,mb4.6
RKT Rikitea 41.35 231 *e*LQ 04 06 38.8
RKT comp=Z,660nm,29.5s
*e*LR LR 04 08 26.8
comp=Z,418nm,30.0s,baz=45
ORV Oroville 41.40 336 ⇓P **P 03 56 59.4 +0.3**
baz=42
K15A Arbon 41.47 348 ⇓P **P 03 56 59.7 0.0**
baz=42
K14A Jones Ranch, D 41.48 347 ⇓P **P 03 56 59.8 0.0**
baz=42
ECSD EROS,Sioux Fal 41.50 5 *eP* **P 03 56 58.8 -1.1**
comp=Z,15nm,1.3s,mb4.5
L12A House Creek Ra 41.55 345 P **P 03 57 00.8 +0.4**
baz=42,SNR=6.9
JFWS Jewell Farm 41.67 12 *eP* **P 03 56 59.5 -1.8**
JFWS pmax pmax
comp=Z,24nm,1.1s,mb4.7
JFWS Jewell Farm 41.67 12 *eP* **P 03 56 59.5 -1.8**
comp=Z,24nm,1.1s,mb4.8
RSSD Black Hills 41.74 357 *eP* **P 03 57 01.8 -0.1**
RSSD pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
RSSD Black Hills 41.74 357 *eP* **P 03 57 01.8 -0.1**
comp=Z,8.1nm,1.0s,mb4.3
L11A Cat Creek Ranc 41.77 344 P **P 03 57 02.3 +0.1**
baz=42,SNR=10.0
REDW Red Top Meadow 41.79 350 *eP* **P 03 57 02.3 0.0**
comp=Z,15nm,1.3s,mb4.5
K13A Stover Farm, H 41.79 346 ⇓P **P 03 57 02.4 +0.1**
baz=42,SNR=7.9
N06A Buffalo Meadow 41.80 339 ⇓P **P 03 57 02.5 +0.2**
baz=42
SNOW Snow King Moun 41.87 350 *eP* **P 03 57 02.6 -0.3**
comp=Z,145nm,2.3s,mb5.2
O04C Chester 41.89 337 ⇑P **P 03 57 03.1 -0.1**
baz=42
L10A Juniper Basin 41.90 343 ⇑P **P 03 57 03.2 0.0**
baz=42
TPAW Ten Pass 41.93 350 *eP* **P 03 57 03.8 +0.4**
comp=Z,4.5nm,0.7s,mb4.2
K12A Draper Farm, C 41.98 345 ⇓P **P 03 57 03.7 -0.2**
baz=42
LOHW Long Hollow 41.98 350 *eP* **P 03 57 03.5 -0.4**
comp=Z,8.3nm,0.9s,mb4.4
M07A Soldier Meadow 42.13 340 ⇑P **P 03 57 05.1 0.0**
baz=42
MOOW Moose Ponds 42.14 350 *eP* **P 03 57 04.2 -1.0**
comp=Z,5.0nm,1.0s,mb4.1
IMW Indian Meadow 42.32 350 *eP* **P 03 57 06.2 -0.4**
comp=Z,10nm,1.1s,mb4.4
K11A Parker Ranch, 42.41 344 ⇓P **P 03 57 07.2 -0.2**
baz=43
HATC Hat Creek Radi 42.46 337 ⇓P **P 03 57 08.1 +0.3**
baz=43
J13A Cove Ranch, Pi 42.52 346 ⇑P **P 03 57 08.5 +0.3**
baz=43
L08A Fields 42.57 341 ⇑P **P 03 57 08.8 +0.2**
baz=43
J12A Stokes Ranch, 42.61 345 ⇓P **P 03 57 08.6 -0.3**
baz=43
K10A MacKenzie Ranc 42.66 343 ⇑P **P 03 57 09.1 -0.2**
baz=43,SNR=6.6
WDC Whiskeytown Da 42.69 336 ⇑P **P 03 57 09.5 -0.2**
baz=43
HLID Hailey 42.73 346 ⇓P **P 03 57 10.0 0.0**
baz=43
HLID Hailey 42.73 346 *eP* **P 03 57 10.0 0.0**
comp=Z,12nm,1.7s,mb4.4
L07A Adell 42.74 340 ⇓P **P 03 57 10.1 0.0**
baz=43
M05C Lookout 42.81 338 ⇓P **P 03 57 10.7 0.0**
baz=43
K09A Rome 42.84 342 P **P 03 57 10.3 -0.5**
baz=43,SNR=6.8
WVOR Wild Horse Val 42.88 341 *eP* **P 03 57 10.9 -0.3**
WVOR pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
WVOR Wild Horse Val 42.88 341 *eP* **P 03 57 10.9 -0.3**
comp=Z,5.6nm,0.9s,mb4.3
MFID Camas Ranch 42.95 344 ⇑P **P 03 57 12.0 +0.3**
baz=43
I13A Wildhorse Cree 42.99 346 ⇑P **P 03 57 11.9 -0.2**
baz=43,SNR=10
K08A Mann Creek Ran 43.10 341 P **P 03 57 13.3 +0.3**
baz=43,SNR=11
M03C McCloud 43.11 337 ⇓P **P 03 57 12.8 -0.3**
baz=43
N02C Big Bar 43.20 336 ⇓P **P 03 57 13.6 -0.2**
baz=43
RLMT Red Lodge 43.24 352 *eP* **P 03 57 13.3 -0.8**
comp=Z,6.4nm,1.2s,mb4.2
L05A Lakeview 43.29 339 ⇓P **P 03 57 14.5 -0.1**
baz=43
QLMT Earthquake Lak 43.31 350 *eP* **P 03 57 15.0 +0.4**
K07A Rock Creek Ran 43.31 341 ⇓P **P 03 57 15.1 +0.4**
baz=44
J09A Fry Pan Ranch, 43.44 343 ⇑P **P 03 57 15.8 +0.2**
baz=44
M04C Macdoel 43.44 338 ⇓P **P 03 57 15.8 0.0**
baz=44
I11A Placerville 43.45 345 ⇓P **P 03 57 15.6 -0.2**
baz=44
M02C Callahan 43.50 336 ⇓P **P 03 57 16.5 +0.3**
baz=44,SNR=7.4
H13A Challis 43.64 347 P **P 03 57 17.7 +0.4**
baz=44,SNR=10.0
J08A Circle Bar Ran 43.67 342 ⇓P **P 03 57 17.2 -0.3**
baz=44
YBH Yreka Blue Hor 43.73 337 P **P 03 57 16.7 -1.4**
comp=Z,2.4nm,0.7s,mb4.0,baz=129,slow=4.6,SNR=13
YBH Yreka Blue Hor 43.73 337 *eP* **P 03 57 16.4 -1.7**
YBH pmax pmax
comp=Z,3.0nm,0.8s
YBH Yreka Blue Hor 43.73 337 P **P 03 57 17.1 -1.0**
baz=44,SNR=6.7
YBH Yreka Blue Hor 43.73 337 *eP* **P 03 57 16.4 -1.7**
comp=Z,2.7nm,0.8s,mb4.0
H12A Diamond D Ranc 43.77 346 ⇓P **P 03 57 18.6 +0.3**
baz=44,SNR=7.6
G15A Dillon 43.84 349 ⇑P **P 03 57 19.0 +0.1**
baz=44
K05A Summer Lake 43.91 339 P **P 03 57 20.2 +0.7**

baz=44,SNR=8.7
GCMT Greycliff 43.96 352 *eP* **P 03 57 18.3 -1.5**
DLMT Dillon 44.05 349 *eP* **P 03 57 20.1 -0.4**
comp=Z,7.5nm,1.0s,mb4.4
J06A Christmas Vall 44.12 340 P **P 03 57 21.2 +0.1**
baz=44,SNR=11
G13A Cobalt 44.13 347 P **P 03 57 21.3 +0.1**
baz=44,SNR=17
BOZ Bozeman (W) 44.14 350 *eP* **P 03 57 20.0 -1.3**
BOZ pmax pmax
comp=Z,72nm,2.8s,mb4.9
BOZ Bozeman (W) 44.14 350 ⇓P **P 03 57 20.9 -0.4**
baz=44
BOZ Bozeman (W) 44.14 350 *eP* **P 03 57 20.0 -1.2**
comp=Z,72nm,2.8s,mb4.9
H11A Donnelly 44.20 345 ⇑P **P 03 57 21.6 -0.2**
baz=44
F15A Butte 44.48 349 ⇑P **P 03 57 23.9 -0.1**
baz=45
J05A Fort Rock 44.52 339 ⇑P **P 03 57 24.4 0.0**
baz=45
I07A Izee 44.64 341 ⇑P **P 03 57 26.1 +0.8**
baz=45
I06A Prineville 44.75 341 P **P 03 57 26.7 +0.5**
baz=45,SNR=11
H08A Prairie City 44.78 342 ⇓P **P 03 57 26.1 -0.3**
baz=45
J04A Umpqua Nationa 44.80 338 ⇓P **P 03 57 26.6 0.0**
baz=45
F13A Darby 44.82 347 ⇓P **P 03 57 26.2 -0.5**
baz=45
G11A Walters Elk Ra 44.91 345 P **P 03 57 26.4 -1.1**
baz=45,SNR=7.4
K02A Glendale 44.92 337 ⇓P **P 03 57 26.7 -0.8**
baz=45,SNR=6.7
F12A Elk City 45.00 346 ⇓P **P 03 57 27.1 -1.1**
baz=45
E15A Deer Lodge 45.07 349 ⇓P **P 03 57 28.3 -0.5**
baz=45
H07A Lands Inn, Kim 45.12 342 ⇓P **P 03 57 28.9 -0.2**
baz=45
I05A Bend 45.30 340 ⇓P **P 03 57 30.4 -0.2**
baz=45
F11A Grangeville 45.34 345 ⇑P **P 03 57 29.8 -1.1**
baz=46
I04A Tendick Farm, 45.38 339 P **P 03 57 30.9 -0.3**
baz=46,SNR=5.5
E13A Victor 45.41 348 ⇑P **P 03 57 30.7 -0.7**
baz=46
J02A Umpqua 45.46 337 ⇑P **P 03 57 31.5 -0.3**
baz=46
H06A Lindquist Farm 45.49 341 ⇑P **P 03 57 32.0 -0.1**
baz=46
G08A Pilot Rock 45.56 343 ⇓P **P 03 57 32.7 +0.1**
baz=46
D15A Lincoln 45.65 349 ⇑P **P 03 57 32.5 -0.7**
baz=46
CHMT Chamberlain Mo 45.66 349 *eP* **P 03 57 32.5 -1.0**
G07A Ruggs Ranch, H 45.76 342 ⇑P **P 03 57 34.0 -0.2**
baz=46
I03A Eugene 45.86 338 ⇑P **P 03 57 34.7 -0.3**
baz=46
D14A Greenough 45.87 348 ⇑P **P 03 57 34.4 -0.7**
baz=46
H04A Detroit Lake 46.08 339 ⇑P **P 03 57 36.1 -0.6**
baz=46
CFAA Coronel Fontan 46.08 140 P **P 03 57 37.2 +0.3**
comp=Z,0.8nm,1.0s,baz=314,slow=9.0,SNR=11
CFAA Coronel Fontan 46.08 140 P **P 03 57 37.2 +0.3**
D13A Huson 46.08 348 ⇓P **P 03 57 35.8 -1.0**
baz=46
I02A Mapleton 46.09 337 ⇑P **P 03 57 36.6 -0.3**
baz=46
AGMN Agassiz Refuge 46.10 5 *eP* **P 03 57 35.5 -1.3**
comp=Z,13nm,1.3s,mb4.7
EGMT Eagleton 46.16 352 ⇓P **P 03 57 36.7 -0.6**
baz=46
EGMT Eagleton 46.16 352 *eP* **P 03 57 36.3 -1.0**
comp=Z,10nm,1.1s,mb4.7
EYMN Ely 46.29 9 *eP* **P 03 57 37.1 -1.3**
comp=Z,18nm,1.0s,mb5.0
H03A Soap Creek Ran 46.47 338 ⇓P **P 03 57 39.1 -0.7**
baz=47
D11A Klaveano Farm, 46.47 346 ⇓P **P 03 57 38.7 -1.1**
baz=47
C14A Swan Lake 46.58 348 ⇓P **P 03 57 39.8 -0.8**
baz=47
D10A Wagner Farm, O 46.71 345 P **P 03 57 41.5 -0.2**
baz=47,SNR=7.3
HAWA Hanford 46.73 343 *eP* **P 03 57 41.3 -0.6**
comp=Z,5.8nm,0.9s,mb4.5
B13A Whitefish 47.30 348 ⇑P **P 03 57 46.0 -0.2**
baz=48
E06A Yakima 47.31 342 ⇑P **P 03 57 46.2 -0.2**
baz=48
E05A Randle 47.57 341 ⇓P **P 03 57 48.1 -0.3**
baz=48
NEW Newport 47.80 346 *eP* **P 03 57 48.1 -2.0**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 47.80 346 *eP* **P 03 57 48.1 -2.0**
comp=Z,6.3nm,1.0s,mb4.6
A13A Flathead Natio 47.82 348 ⇓P **P 03 57 50.1 -0.2**
baz=48
C08A Higginbotham F 47.86 344 ⇓P **P 03 57 50.3 -0.3**
baz=48
ULM Lac du Bonnet 48.03 5 P **P 03 57 50.4 -1.5**
comp=Z,7.6nm,1.0s,mb4.7,baz=190,slow=6.9,SNR=9.2
ULM LR LR 04 17 50.1
comp=Z,252nm,18.8s,MS4.2,baz=226,slow=36
ULM Lac du Bonnet 48.03 5 *eP* **P 03 57 50.2 -1.7**
comp=Z,15nm,1.3s,mb4.8
E03A Lebam 48.17 339 ⇓P **P 03 57 53.1 +0.1**
baz=48
C05A Tolt Reservoir 48.55 342 ⇑P **P 03 57 55.5 -0.4**
baz=49
NLWA Neilton Lookou 49.01 340 ⇑P **P 03 57 59.0 -0.4**
baz=49
JCW Jim Creek 49.07 342 *eP* **P 03 57 58.1 -1.8**
B05A Bryant 49.19 342 ⇑P **P 03 58 00.3 -0.6**
baz=49
CPUP Villa Florida 51.13 127 P **P 03 58 16.0 0.0**
comp=Z,18nm,0.8s,mb5.0,baz=276,slow=8.5,SNR=41
CPUP LR LR 04 16 39.3
comp=Z,121nm,18.2s,MS4.0,baz=280,slow=32
CPUP Villa Florida 51.13 127 *eP* **P 03 58 15.9 -0.1**
CPUP pmax pmax
comp=Z,75nm,0.9s
CPUP Villa Florida 51.13 127 *eP* **P 03 58 15.8 -0.1**
comp=Z,75nm,0.9s,mb5.6
PLCA Paso Flores 51.19 150 P **P 03 58 15.8 -0.4**
comp=Z,7.7nm,1.0s,mb4.6,baz=313,slow=9.8,SNR=10.0
PLCA Paso Flores 51.19 150 *eP* **P 03 58 16.1 0.0**
PLCA pmax pmax
comp=Z,16nm,1.2s
PLCA Paso Flores 51.19 150 *eP* **P 03 58 16.1 -0.1**
comp=Z,16nm,1.2s,mb4.8
PPT Papeete 51.45 245 *e*S **S 04 05 23.9 -15**
comp=Z,57nm,27.2s
PPT *e*LQ 04 10 52.4
comp=Z,349nm,25.0s
PPT *e*LR LR 04 12 58.8
comp=Z,315nm,27.5s,baz=60
PPT Papeete 51.45 245 LR LR 04 12 54.5
comp=Z,67nm,18.9s,MS3.7,baz=328,slow=28
TBI Tubuai 53.30 239 *e*LR LR 04 14 01.8
comp=Z,298nm,27.0s,baz=67
TRQA Tornquist 54.15 142 *eP* **P 03 58 37.1 -1.0**
comp=Z,6.5nm,1.0s,mb4.5
BDFB Brasilia 55.64 111 P **P 03 58 48.9 -0.4**
comp=Z,9.6nm,1.0s,mb4.8,baz=281,slow=15,SNR=15
BDFB LR LR 04 21 14.0
comp=Z,94nm,20.9s,MS3.9,baz=320,slow=34
SCHQ Schefferville 59.44 22 P **P 03 59 13.4 -2.0**
comp=Z,8.7nm,1.0s,mb4.8,baz=213,slow=5.1,SNR=7.0
SCHQ LR LR 04 25 24.2
comp=Z,154nm,18.4s,MS4.2,baz=69,slow=36
SCHQ Schefferville 59.44 22 *eP* **P 03 59 13.4 -2.0**
comp=Z,12nm,1.1s,mb4.8
YKA Yellowknife Ar 60.90 353 P **P 03 59 23.4 -1.8**
comp=Z,4.0nm,1.0s,mb4.5,baz=161,slow=6.9,SNR=13
YKA LR LR 04 26 10.2
comp=Z,195nm,18.1s,MS4.3,baz=130,slow=36
YKA Yellowknife Ar 60.90 353 P **P 03 59 23.4 -1.8**
YKA LR LR 04 26 10.2
EGAK Eagle 68.63 343 *eP* **P 04 00 14.3 -1.3**
comp=Z,5.3nm,1.1s,mb4.4
INK Inuvik 69.46 348 LR LR 04 31 13.4

comp=Z,287nm,18.3s,MS4.5,baz=324,slow=36
MCK McKinley 70.42 340 *eP* **P 04 00 25.4 -1.3**
COLA College 70.78 341 *eP* **P 04 00 27.7 -1.2**
AFI Afiamalu 71.60 255 LR LR 04 26 13.1
comp=Z,109nm,18.7s,MS4.2,baz=108,slow=31
COLD Coldfoot 73.01 342 *eP* **P 04 00 41.5 -0.7**
comp=Z,4.0nm,0.3s,mb4.8
URZ Urewera 84.75 231 LR LR 04 30 07.6
comp=Z,124nm,18.1s,MS4.3,baz=32,slow=29
VNA1 Neumayer--Stat 93.15 161 *eP* **P 04 02 33.2 +6.6**
VNA1 *e* pP 04 02 35.5 +5.5
VNDA Vanda 93.67 193 LR LR 04 37 06.8
comp=Z,115nm,21.1s,MS4.3,baz=122,slow=31
SNAA Sanae 94.82 162 *eP* **P 04 02 33.5 -0.8**
SNAA *e* pP 04 02 36.3 -1.3
SNAA Sanae 94.82 162 *eP* **P 04 02 33.3 -1.0**
SNAA pmax pmax
comp=Z,4.0nm,1.0s
SNAA Sanae 94.82 162 *eP* **P 04 02 33.3 -1.0**
comp=Z,4.0nm,1.0s,mb4.8
DBIC Dimbokro 96.18 83 LR LR 04 39 50.6
comp=Z,63nm,18.8s,MS4.1,baz=130,slow=32
NOA NORSAR Array B 98.76 27 LR LR 04 44 19.9
comp=Z,84nm,19.9s,MS4.2,baz=300,slow=34
MDJ Mudanjiang 114.97 322 PKP PKiKP 04 07 52.8 -1.3
SOC Sochi 122.54 33 *i* PKIKP PKPdf 04 08 04.9 -3.8
ASAR Alice Springs 122.54 243 PKP PKPdf 04 08 06.5 -2.8
comp=Z,0.4nm,0.7s,baz=123,slow=3.4,SNR=4.0
WRA Warramunga Arr 122.90 248 PKP PKPdf 04 08 05.9 -4.1
comp=Z,1.5nm,0.9s,baz=97,slow=1.3,SNR=8.0
BRVK Borovoye 124.43 6 *e*PKIKP PKPdf 04 08 11.2 -0.8
SONM Songino Array 124.53 338 PKP PKPdf 04 08 10.9 -1.5
comp=Z,0.6nm,0.9s,baz=161,slow=0.4,SNR=4.4
KURK Kurchatov 127.22 0 *e*PKIKP PKPdf 04 08 14.8 -2.7
MK31 Makanchi Array 131.04 357 *e*PKIKP PKPdf 04 08 22.6 -2.3
WMQ Urumqi 133.41 351 *e*PKP PKPdf 04 08 27.8 -1.6
CD2 Chengdu 139.25 326 *e*PKP PKPdf 04 08 37.9 -2.8
GYA Guiyang 140.66 318 PKP PKPdf 04 08 42.3 -1.0
GYA PP PP 04 11 44.8 +2.8
GYA PKS 04 12 16.9
GYA SKS SKSdf 04 15 49.8 -4.3
GYA SKKS SKKSac 04 18 33.0 -4.0
GYA PP PP
comp=Z,80nm,8.0s
GYA LR LR
comp=N,170nm,21.8s,MS4.9
GYA LR LR
comp=E,180nm,22.5s,MS4.9
GYA LR LR
comp=Z,160nm,21.1s,MS4.8
KMI Kunming 144.13 321 PKP PKPdf 04 08 47.1 -2.4
ABPO Ambohimpanom 145.03 121 *e*PKIKP PKPdf 04 08 50.4 -0.8
LSA Lhasa 146.04 340 PKP PKPbc 04 08 53.3 -0.2
CMAR Chiang Mai Arr 151.31 317 PKP PKPdf 04 09 00.5 -1.0
comp=Z,1.0nm,0.3s,baz=202,slow=1.0,SNR=4.5
CMAR PKPbc PKPbc 04 09 07.3 -0.2
comp=Z,1.2nm,0.4s,baz=350,slow=1.8,SNR=9.8

SZGRF ***15*** *04:16:48.3, 19.16S×176.04W, h33km, Fiji Islands region*
ISCJB ***15*** *04:17:47.2±0.8, 18.12S±0.07×177.96W±0.06, h526km±10km, mb4.4/44, Error ellipse: s-maj=11.9km s-min=7.7km az=149.3*
IDC ***15*** *04:17:49.6±1.5, 18.10S×177.90W, h543km±18km, mb3.8/21, mb1 3.9/23, mb1mx3.9/24, mbtmp3.9/23, Error ellipse: s-maj=12.8km s-min=9.6km az=158.0*
MOS ***15*** *04:17:49.9±2.5, 18.14S×178.07W, h535km, mb4.6/9, Error ellipse: s-maj=12.5km s-min=10.3km az=175.4*
BJI ***15*** *04:17:51.3, 18.10S×178.00W, h567km, mB4.6, mb4.5*
NEIC ***15*** *04:17:51.3±1.1, 18.15S×177.96W, h568km±12km, mb4.6/18, Error ellipse: s-maj=9.4km s-min=6.3km az=162.0*
DJA ***15*** *04:17:56, 18.28S×178.22W, h602km, mb4.9/15*
ISC 15 04:17:47.9±0.8, 18.12S±0.07×177.91W±0.06, h523km±10km, h581km±3.3km; pP-P, n188, σ0.93/85, mb4.4/44, 8C-18D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.23**	**56**	P	**P**	**04 19 38.2**	**+1.0**
AFI	16nm,0.3s,baz=143,slow=2.4,SNR=12			S	**S**	**04 21 04.8**	**-1.8**
	baz=138,slow=15,SNR=1.3						
AFI	**Afiamalu**	**7.23**	**56**	*eP*	**P**	**04 19 37.6**	**+0.4**
AFI	comp=Z,259nm,0.7s			pmax	pmax		
AFI	**Afiamalu**	**7.23**	**56**	*e*Pn	**P**	**04 19 37.6**	**+0.4**
	comp=Z,258nm,0.7s						
RAR	**Rarotonga**	**17.35**	**103**	P	**P**	**04 21 22.1**	**+0.9**
	comp=Z,2.6nm,0.3s,baz=251,slow=7.5,SNR=7.9						
PPT	**Papeete**	**26.96**	**93**	P	**P**	**04 22 48.4**	**+0.9**
	comp=Z,23nm,0.6s,mb5.0,baz=291,slow=23,SNR=4.2						
CNB	**Canberra Magne**	**33.68**	**233**	*eP*	**P**	**04 23 46.2**	**+1.0**
CTA	**Charters Tower**	**33.88**	**261**	*eP*	**P**	**04 23 47.7**	**+0.5**
	comp=Z,21nm,0.7s,mb4.8						
CTA	**Charters Tower**	**33.88**	**261**	P	**P**	**04 23 47.6**	**+0.5**
	comp=Z,23nm,0.6s,mb4.8,baz=88,slow=9.4,SNR=28						
CTA	**Charters Tower**	**33.88**	**261**	*eP*	**P**	**04 23 47.7**	**+0.5**
CTA	comp=Z,21nm,0.7s			pmax	pmax		
CTAO	**Charters Tower**	**33.88**	**261**	*eP*	**P**	**04 23 47.0**	**-0.2**
CTAO	comp=Z,29nm,0.8s,mb4.9			pmax	pmax		
CTAO	**Charters Tower**	**33.88**	**261**	*eP*	**P**	**04 23 47.0**	**-0.1**
	comp=Z,28nm,0.8s,mb4.8						
PMG	**Port Moresby**	**34.97**	**280**	*eP*	**P**	**04 23 57.5**	**+1.2**
PMG	**Port Moresby**	**34.97**	**280**	*eP*	**P**	**04 23 57.3**	**+1.0**
	comp=Z,49nm,0.9s,mb5.0						
TOO	**Toolangi**	**37.41**	**231**	*eP*	**P**	**04 24 17.2**	**+1.0**
COEN	**Coen**	**37.59**	**271**	*eP*	**P**	**04 24 18.4**	**+0.5**
	comp=Z,12nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**38.95**	**242**	⇓*iP*	**P**	**04 24 29.7**	**+0.9**
	comp=Z,15nm,0.6s,mb4.7						
STKA				*e*PCP	PcP	04 26 26.5	+0.3
STKA	**Stephens Creek**	**38.95**	**242**	P	**P**	**04 24 29.8**	**+1.0**
	comp=Z,26nm,0.8s,mb4.8,baz=92,slow=10.0,SNR=32						
STKA				PcP	PcP	04 26 25.9	-0.3
	comp=Z,0.9nm,0.4s,baz=100,slow=6.1,SNR=2.9						
WB2	**Warramunga Arr**	**45.05**	**260**	⇓*iP*	**P**	**04 25 16.3**	**-0.8**
WB2				*e*PCP	PcP	04 26 46.2	-0.8
WRAB	**Tennant Creek**	**45.06**	**260**	*eP*	**P**	**04 25 16.5**	**-0.6**
WRAB	comp=Z,19nm,0.6s,mb4.8			pmax	pmax		
WRAB	**Tennant Creek**	**45.06**	**260**	*eP*	**P**	**04 25 16.5**	**-0.6**
	comp=Z,19nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**45.06**	**260**	P	**P**	**04 25 16.7**	**-0.5**
	comp=Z,18nm,0.7s,mb4.7,baz=96,slow=7.0,SNR=440						
WRA				PcP	PcP	04 26 46.5	-0.6
	comp=Z,5.1nm,0.8s,baz=94,slow=3.5,SNR=7.8						
WRA				S	**S**	**04 31 12.3**	**-5.8**
	comp=Z,0.9nm,0.8s,baz=100,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**45.20**	**254**	P	**P**	**04 25 18.3**	**+0.1**
	comp=Z,71nm,0.6s,mb5.4,baz=87,slow=9.0,SNR=666						
ASAR				PcP	PcP	04 26 46.9	-0.6
	comp=Z,4.6nm,0.5s,baz=103,slow=3.9,SNR=11						
ASAR				S	**S**	**04 31 16.1**	**-3.7**
	comp=Z,6.0nm,0.9s,baz=95,slow=15,SNR=28						
KAKA	**Kakadu**	**48.06**	**269**	*eP*	**P**	**04 25 39.7**	**-0.3**
	comp=Z,24nm,0.6s,mb4.9						
GUMO	**Guam**	**48.38**	**308**	P	**P**	**04 25 43.1**	**+0.8**
	comp=Z,141nm,0.7s,baz=183,slow=8.9,SNR=8.1						
FORT	**Forrest**	**50.35**	**245**	*eP*	**P**	**04 25 55.8**	**-0.9**
	comp=Z,31nm,0.5s,mb5.0						
FORT				*e*PCP	PcP	04 27 05.4	-0.7
FITZ	**Fitzroy Crossi**	**53.47**	**261**	*eP*	**P**	**04 26 19.2**	**-0.1**
	comp=Z,7.8nm,1.0s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.47**	**261**	P	**P**	**04 26 19.4**	**+0.1**
	comp=Z,3.5nm,0.5s,mb4.0,baz=64,slow=22,SNR=17						
BATI	**Baumata**	**57.01**	**269**	P	**P**	**04 26 45.2**	**+1.1**
	comp=Z,40nm,0.6s,mb4.8,baz=339,slow=3.3,SNR=3.3						
MBWA	**Marble Bar**	**58.49**	**256**	*eP*	**P**	**04 26 53.1**	**-1.0**
	comp=Z,14nm,0.6s,mb4.4						
KLBR	**Kellerberrin**	**59.16**	**244**	*eP*	**P**	**04 26 56.7**	**-1.8**
	comp=Z,22nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**59.54**	**242**	P	**P**	**04 27 00.3**	**-0.7**
	comp=Z,7.0nm,0.7s,mb4.1,baz=146,slow=5.9,SNR=4.2						
VNDA	**Vanda**	**60.28**	**185**	P	**P**	**04 27 06.1**	**+1.0**
	comp=Z,0.9nm,0.6s,mb3.3,baz=347,slow=8.5,SNR=7.7						
VNDA	**Vanda**	**60.28**	**185**	*eP*	**P**	**04 27 05.9**	**+0.8**
VNDA	comp=Z,1.0nm,0.6s			pmax	pmax		
VNDA	**Vanda**	**60.28**	**185**	*eP*	**P**	**04 27 05.9**	**+0.8**
	comp=Z,0.8nm,0.6s						
MUN	**Mundaring**	**60.46**	**243**	*eP*	**P**	**04 27 06.9**	**-0.2**
JHJ	**Hachijo jima 2**	**65.03**	**321**	P	**P**	**04 27 36.5**	**0.0**
	comp=Z,126nm,1.0s,mb5.3,baz=254,slow=23,SNR=5.4						
CASY	**Casey**	**66.15**	**205**	⇓*iP*	**P**	**04 27 42.3**	**-0.6**
MJAR	**Matsushiro Arr**	**68.36**	**323**	P	**P**	**04 27 56.5**	**-0.5**
	comp=Z,7.4nm,0.8s,mb4.3,baz=160,slow=5.9,SNR=36						
MAJO	**Matsushiro**	**68.36**	**323**	*eP*	**P**	**04 27 56.5**	**-0.5**
MAJO	comp=Z,15nm,1.0s,mb4.5			pmax	pmax		
MAJO	**Matsushiro**	**68.36**	**323**	*eP*	**P**	**04 27 56.5**	**-0.5**
	comp=Z,15nm,1.0s,mb4.5						
MAT	**Matsushiro**	**68.36**	**323**	P	**P**	**04 27 56.4**	**-0.6**
ASAJ	**Asahikawa**	**71.69**	**331**	P	**P**	**04 28 17.6**	**+1.0**
	comp=Z,8.3nm,0.8s,mb4.2,baz=115,slow=6.3,SNR=5.1						
KSM	**Kuching**	**73.19**	**277**	*eP*	**P**	**04 28 25.9**	**0.0**
PETK	**Petropavlovsk-**	**74.00**	**345**	P	**P**	**04 28 29.2**	**-0.5**
	comp=Z,8.6nm,0.8s,mb4.2,baz=116,slow=9.9,SNR=8.3						
PETK	**Petropavlovsk-**	**74.00**	**345**	P	**P**	**04 28 29.2**	**-0.5**
KSRS	**Korea Array**	**75.17**	**318**	P	**P**	**04 28 37.4**	**+0.8**
	comp=Z,3.0nm,0.7s,mb3.8,baz=133,slow=6.1,SNR=8.4						
YBH	**Yreka Blue Hor**	**78.38**	**39**	P	**P**	**04 28 54.9**	**+0.8**
	comp=Z,0.9nm,0.6s,mb3.3,baz=170,slow=3.1,SNR=4.8						
MDJ	**Mudanjiang**	**78.63**	**325**	P	**P**	**04 28 56.5**	**+1.1**
MDJ				AP	pP	04 30 58.3	+11
MDJ				PP	PP	04 32 05.3	+2.3
MDJ				S	S	04 38 07.4	-1.9
MDJ				SCS	ScS	04 38 24.1	-4.2
MDJ				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,35nm,3.2s						
NVAR	**Mina Array Bea**	**79.24**	**44**	P	**P**	**04 29 00.2**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=232,slow=6.8,SNR=3.3						
TUC	**Tucson**	**81.45**	**52**	*eP*	**P**	**04 29 12.0**	**+1.6**
TUC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
TUC	**Tucson**	**81.45**	**52**	*eP*	**P**	**04 29 12.0**	**+1.5**
	comp=Z,1.0nm,0.7s,mb3.4						
MAW	**Mawson**	**83.83**	**200**	P	**P**	**04 29 21.5**	**-0.3**
	comp=Z,4.5nm,0.8s,mb4.0,baz=108,slow=3.2,SNR=5.1						
PSI	**Prapat**	**84.38**	**275**	⇓*eP*	**P**	**04 29 24.6**	**-1.0**
HLID	**Hailey**	**84.47**	**41**	*eP*	**P**	**04 29 25.4**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.4						
MCK	**McKinley**	**84.64**	**13**	*eP*	**P**	**04 29 24.5**	**-1.1**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
MCK	**McKinley**	**84.64**	**13**	*eP*	**P**	**04 29 24.5**	**-1.2**
	comp=Z,9.1nm,1.0s,mb4.3						
GYA	**Guiyang**	**85.55**	**300**	P	**P**	**04 29 32.0**	**+1.0**
GYA				AP	pP	04 31 38.3	+13
GYA				PP	PP	04 33 03.5	+4.1
GYA				SKS		04 38 59.0	
GYA				S	S	04 39 14.8	-4.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
COLA	**College**	**85.87**	**12**	*eP*	**P**	**04 29 30.3**	**-1.3**
COLA				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
COLA	**College**	**85.87**	**12**	*eP*	**P**	**04 29 30.2**	**-1.3**
	comp=Z,5.4nm,1.0s,mb4.1						
BILL	**Biiibino**	**86.68**	**354**	*eP*	**P**	**04 29 35.3**	**-0.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
XAN	**Xi'an**	**86.77**	**307**	P	**P**	**04 29 37.6**	**+1.0**
XAN				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.8						
XAN				AMB	AMB		
	comp=Z,41nm,3.8s						
HIA	**Hailar**	**86.81**	**324**	*eP*	**P**	**04 29 36.9**	**+0.5**
DAWY	**Dawson**	**87.15**	**16**	*eP*	**P**	**04 29 37.7**	**0.0**
PDAR	**Pinedale Array**	**87.17**	**43**	P	**P**	**04 29 38.3**	**0.0**
	comp=Z,0.4nm,0.7s,baz=217,slow=1.5,SNR=4.5						
EGAK	**Eagle**	**87.29**	**15**	*eP*	**P**	**04 29 37.8**	**-0.5**
	comp=Z,4.7nm,1.0s,mb4.1						
KMI	**Kunming**	**88.35**	**297**	P	**P**	**04 29 45.3**	**+1.1**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
SYO	**Syowa Base**	**89.06**	**193**	⇑*eP*	**P**	**04 29 44.0**	**-2.7**
CMAR	**Chiang Mai Arr**	**89.40**	**290**	P	**P**	**04 29 50.5**	**+1.2**
	comp=Z,5.9nm,0.7s,mb4.5,baz=109,slow=2.8,SNR=27						
CHTO	**Chiang Mai**	**89.52**	**290**	*eP*	**P**	**04 29 49.7**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CHTO	**Chiang Mai**	**89.52**	**290**	*eP*	**P**	**04 29 49.7**	**0.0**
	comp=Z,5.4nm,0.7s,mb4.5						
CD2	**Chengdu**	**89.58**	**303**	*eP*	**P**	**04 29 47.3**	**-2.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,8.2s						
SNAA Sanae		**90.38**	**178**	*eP*	**P**	**04 29 51.8**	**-0.9**
SNAA				*e*		04 29 54.1	
SNAA Sanae		**90.38**	**178**	*eP*	**P**	**04 29 51.3**	**-1.4**
SNAA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SNAA Sanae		**90.38**	**178**	*eP*	**P**	**04 29 51.3**	**-1.4**
	comp=Z,3.0nm,0.8s,mb4.2						
PLCA Paso Flores		**90.84**	**133**	P	**P**	**04 29 55.9**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=225,slow=1.4,SNR=4.4						
VNA1 Neumayer--Stat		**91.17**	**177**	*eP*	**P**	**04 29 56.9**	**+0.5**
VNA1				*e*		04 29 59.4	
LZH Lanzhou		**91.39**	**308**	*eP*	**P**	**04 29 57.5**	**-0.6**
LZH				AP	pP	04 32 05.0	+11
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,90nm,4.2s						
INK Inuvik		**91.96**	**15**	P	**P**	**04 29 58.1**	**-1.8**
	comp=Z,1.9nm,0.9s,mb4.1,baz=226,slow=5.2,SNR=16						
INK Inuvik		**91.96**	**15**	*eP*	**P**	**04 29 57.8**	**-2.1**
SONM Songino Array		**94.02**	**319**	P	**P**	**04 30 09.9**	**+0.2**
	comp=Z,0.5nm,0.4s,mb4.0,baz=132,slow=5.3,SNR=6.0						
YKA Yellowknife Ar		**94.32**	**25**	P	**P**	**04 30 10.0**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.8,baz=236,slow=4.7,SNR=5.2						
GTA Gaotai		**95.53**	**310**	*eP*	**P**	**04 30 17.3**	**+0.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.6						
LPAZ La Paz		**102.88**	**112**	P	Pdif	04 30 50.1	+0.7
	comp=Z,1.1nm,1.0s,baz=204,slow=4.7,SNR=4.4						
MK31 Makanchi Array		**109.62**	**314**	*e*PKP	PKiKP	04 35 17.0	-2.0
MKAR Makanchi Array		**109.62**	**314**	PKiKP	PKiKP	04 35 17.3	-1.7
	comp=Z,1.0nm,0.5s,baz=196,slow=1.0,SNR=9.2						
MKAR Makanchi Array		**109.62**	**314**	PKPdf	PKiKP	04 35 17.3	-1.7
KURK Kurchatov		**112.30**	**318**	*e*PKIKP	PKiKP	04 35 22.0	-1.9
TKM2 Tokmak 2		**114.08**	**310**	*e*PKIKP	PKiKP	04 35 26.3	-1.3
BVAR Borovoye Array		**117.31**	**321**	PKP	PKPdf	04 35 32.1	-1.4
	comp=Z,2.0nm,0.6s,baz=90,slow=1.5,SNR=12						
BRVK Borovoye		**117.37**	**321**	*e*PKIKP	PKPdf	04 35 32.0	-1.6
ARU Arti		**123.29**	**326**	PKIKP	PKPdf	04 35 42.9	-2.0
AKTK Aktyubinsk		**125.34**	**320**	PKP	PKPdf	04 35 47.5	-1.5
AKTO Aktyubinsk		**125.34**	**320**	PKP	PKPdf	04 35 47.5	-1.5
	comp=Z,1.4nm,0.6s,baz=63,slow=4.5,SNR=5.0						
ARCES ARCESS Array B		**126.60**	**350**	PKP	PKPdf	04 35 50.0	-0.9
	comp=Z,1.9nm,0.8s,baz=69,slow=0.8,SNR=9.9						
NOA NORSAR Array B		**136.63**	**354**	PKP	PKPdf	04 36 08.3	-1.7
	comp=Z,0.7nm,0.7s,baz=12,slow=4.0,SNR=2.7						
AKASG Malin Array Be		**140.96**	**333**	PKP	PKPdf	04 36 19.4	+1.2
	comp=Z,1.8nm,0.6s,baz=44,slow=4.1,SNR=6.4						
MALT Malatya		**142.51**	**310**	⇓*iP*	PKPdf	04 36 18.8	-2.6
MALT Malatya		**142.51**	**310**	*e*PKPdf	PKPdf	04 36 18.7	-2.6
KIS Kishinev		**143.78**	**329**	*e*PKHKP		04 36 21.0	
LVV L'vov		**143.79**	**336**	*i* PKHKP		04 36 21.6	
OJC Ojcow		**144.97**	**340**	*e*PKP	PKPdf	04 36 25.3	+0.1
TLCR		**145.01**	**326**	⇑*iP*	PKPdf	04 36 26.3	+0.8
BURAR Bucovina Array		**145.02**	**332**	⇑*iP*	PKPdf	04 36 26.9	+1.5
KOLS Kolonicke sedl		**145.19**	**337**	*e*PKP	PKPdf	04 36 26.3	+0.6
UZH Uzhgorod		**145.42**	**336**	*d iP*KIKP	PKPdf	04 36 27.3	+1.2
KSP Ksiaz		**145.44**	**344**	*e*PKP	PKPdf	04 36 26.9	+0.9
KSP Ksiaz		**145.44**	**344**	*e*PKP	PKPdf	04 36 27.2	+1.2
NIE Niedzica		**145.49**	**339**	*e*PKP	PKPdf	04 36 27.4	+1.2
CRVS Cervenica-Dubn		**145.51**	**337**	*e*PKP	PKPdf	04 36 26.6	+0.4
VRI Vrincioaia		**145.60**	**329**	⇑*iP*	PKPdf	04 36 27.8	+1.3
PLOR Plostina		**145.65**	**329**	⇓*iP*	PKPdf	04 36 27.9	+1.3
TIRR Tirgusor		**145.71**	**326**	⇑*iP*	PKPdf	04 36 27.9	+1.2
CLZ Clausthal		**145.72**	**351**	*e*PKPbc	PKPbc	04 36 26.1	-1.9
ANTO Ankara		**145.76**	**316**	⇓*iP*	PKPdf	04 36 28.8	+1.9
ANTO Ankara		**145.76**	**316**	*e*PKPbc	PKPbc	04 36 28.1	-0.4
CLL Collm		**145.77**	**348**	*e*PKPbc	PKPbc	04 36 27.5	-0.7
CLL Collm		**145.77**	**348**	⇓*i*PKPbc	PKPbc	04 36 27.5	-0.7
	comp=Z,25nm,1.0s						
UPC Upice		**145.82**	**344**	*e*PKP	PKPdf	04 36 28.3	+1.6
OKC Ostrava-Krasne		**145.82**	**341**	*e*PKP	PKPdf	04 36 27.9	+1.2
DPC Dobruska-Polom		**145.88**	**344**	*e*PKP	PKPdf	04 36 28.4	+1.6
BRG Berggiesshubel		**145.98**	**347**	*e*PKPbc	PKPbc	04 36 28.4	-0.4
BRG Berggiesshubel		**145.98**	**347**	*i* PKP	PKPdf	04 36 28.4	+1.4
BRG	comp=Z,12nm,1.0s			*i*		04 36 45.0	
MORC Moravsky Berou		**146.06**	**342**	*e*PKIKP	PKPdf	04 36 28.7	+1.6
PVCC Panska Ves		**146.16**	**346**	*e*PKP	PKPbc	04 36 29.2	-0.1
KECS Kecovo		**146.22**	**338**	*e*PKP	PKPdf	04 36 29.1	+1.7
MLR Muntele Rosu		**146.25**	**329**	⇑*iP*	PKPdf	04 36 29.0	+1.4
MOX Moxa		**146.67**	**349**	*e*(PKP)	PKPbc	04 36 30.3	-0.4
MOX Moxa		**146.67**	**349**	*e*PKPbc	PKPbc	04 36 29.7	-1.0
PRU Pruhonice		**146.67**	**345**	*e*PKP	PKPbc	04 36 30.6	-0.1
DRGR		**146.74**	**334**	⇓*iP*	PKPbc	04 36 30.5	-0.5
VRAC Vranov		**146.75**	**343**	⇑*iP*	PKPab	04 36 33.9	+0.2
UBBA Unterbreizbach		**146.77**	**351**	*e*PKPbc	PKPbc	04 36 30.0	-1.0
KOLL Kolacno		**146.85**	**340**	*e*PKP	PKPbc	04 36 31.3	+0.1
NKC Novy Kostel		**146.90**	**348**	*e*PKP	PKPbc	04 36 31.4	+0.1
PSZ Piszkesteto		**146.91**	**338**	⇓*iP*	PKPdf	04 36 30.0	+1.4
PSZ Piszkesteto		**146.91**	**338**	*e*PKPbc	PKPbc	04 36 30.8	-0.6
TREC Trest		**147.07**	**344**	*e*PKP	PKPbc	04 36 31.3	-0.5
MANZ Manzenberg		**147.20**	**348**	*e*PKPbc	PKPbc	04 36 31.8	-0.3
MODS Modra-Piesok		**147.38**	**341**	*e*PKP	PKPbc	04 36 32.5	-0.2
ROTZ Rotzenmuhle		**147.39**	**348**	*e*PKPbc	PKPbc	04 36 32.3	-0.3
GRA1 Grafenberg Arr		**147.65**	**349**	*e*PKPbc	PKPbc	04 36 33.1	-0.2
GRF Grafenberg Arr		**147.65**	**349**	*e*PKPbc	PKPbc	04 36 33.1	-0.2
KHC Kasperske Hory		**147.69**	**346**	*e*PKP	PKPbc	04 36 33.3	-0.1
WET Wettzell		**147.84**	**347**	*e*PKPbc	PKPbc	04 36 33.4	-0.4
GEC2 GERESS Array S		**147.93**	**346**	*e*PKPbc	PKPbc	04 36 33.5	-0.6
GERES GERESS Array B		**147.93**	**346**	PKPbc	PKPbc	04 36 33.6	-0.5
	comp=Z,6.5nm,0.7s,baz=358,slow=4.5,SNR=30						
GIVF Givet		**148.01**	**357**	*e*PKP1	PKPbc	04 36 33.2	-1.0
	comp=Z,35nm,1.0s						
BAIF Baives		**148.09**	**357**	*e*PKP1	PKPbc	04 36 33.6	-0.8
	comp=Z,92nm,1.4s						
CONA Conrad Observa		**148.21**	**342**	⇓*iP*	PKPbc	04 36 34.6	-0.2
	comp=Z,19nm,1.5s						
CSNA Conrad Observa		**148.21**	**342**	⇓*iP*	PKPbc	04 36 34.6	-0.2
	comp=Z,17nm,1.5s						
WLF Walferdange		**148.36**	**355**	*e*PKPbc	PKPbc	04 36 34.7	-0.4
WLF Walferdange		**148.36**	**355**	*e*PKPbc	PKPbc	04 36 35.0	-0.1
PKSM Moragy		**148.81**	**338**	⇓*iP*	PKPbc	04 36 36.0	-0.3
FUR Furstenfeldbru		**149.10**	**348**	*e*PKPab	PKPab	04 36 42.5	-0.9
FLN La Foliniere		**149.36**	**3**	*e*PKP1	PKPbc	04 36 36.2	-1.4
BFO Black Forest		**149.44**	**352**	*e*PKHKP	PKPbc	04 36 36.7	-1.1
BFO Black Forest		**149.44**	**352**	*e*PKPdf	PKPdf	04 36 33.0	+0.3
BFO				*e*PKPbc	PKPbc	04 36 36.7	-1.1
BFO				*e*PKPab	PKPab	04 36 44.1	-0.6
CDF Champ du Feu		**149.49**	**353**	*e*PKP1	PKPbc	04 36 37.0	-0.9
	comp=Z,17nm,0.8s						
LDF La Druitiere		**149.55**	**3**	*e*PKP1	PKPbc	04 36 36.5	-1.5
SOKA Soboth		**149.58**	**342**	⇓*iP*	PKPbc	04 36 36.9	-1.2
	comp=Z,8.7nm,1.1s						
MEZF Maizieres J'vi		**149.60**	**356**	*e*PKP1	PKPbc	04 36 37.4	-0.7
KBA Koelnbreinsper		**149.67**	**345**	⇑*iP*	PKPbc	04 36 37.3	-1.1
	comp=Z,7.3nm,0.6s,SNR=7.2						
SGMF Saint Gilles		**149.70**	**6**	*e*PKP1	PKPbc	04 36 37.6	-0.8
GRR Gorron		**149.71**	**4**	*e*PKP1	PKPbc	04 36 37.2	-1.2
	comp=Z,34nm,0.9s						
WATA Walderalm		**149.84**	**347**	⇓*iP*	PKPbc	04 36 37.9	-0.9
	comp=Z,5.2nm,0.5s						
WTTA Wattenberg		**149.89**	**347**	⇓*iP*	PKPbc	04 36 38.2	-0.7
	comp=Z

1.4nm,0.7s,mb4.1,baz=267,slow=5.4,SNR=9.2
PDAR Pinedale Array 87.33 45 P P 04 31 26.7 +0.3
0.3nm,0.7s,mb3.7,baz=318,slow=1.2,SNR=3.0
TORD Torodi Ar. Bea 128.62 309 PKP PKPdf 04 37 46.4 -0.8
0.4nm,1.1s,baz=357,slow=2.9,SNR=3.3
PLCA Paso Flores 145.88 131 PKPbc PKPbc 04 38 18.6 -0.2
1.2nm,1.0s,baz=244,slow=4.2,SNR=4.1
LPAZ La Paz 149.97 85 PKPbc PKPbc 04 38 31.3 +0.8
0.5nm,0.6s,baz=198,slow=3.2,SNR=3.2

NNC 15 05:28:37.0±3.0,5410N×8689E,h0km,mb3.9,mpv3.7,
9C-3D,Error ellipse: s-maj=23.6km s-min=16.3km
az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.09**	**240**	⇑Pn	Pn	05 30 09.4	+1.4
	9.1nm,0.7s						
KURK				⇑Sn	Sn	05 31 19.8	+1.4
	7.4nm,0.8s						
KURK				⇑Lg		05 31 54.7	
	37nm,1.0s						
KURBB	**Kurchatov Arra**	**6.19**	**239**	⇑Pn	Pn	05 30 10.8	+1.3
	2.4nm,0.5s,baz=52,slow=13						
KURBB				⇑Sn	Sn	05 31 24.0	+3.1
	2.2nm,0.7s						
KURBB				⇑Lg		05 31 56.3	
	9.3nm,1.1s						
MK31	**Makanchi Array**	**7.88**	**204**	Pn	Pn	05 30 35.7	+3.1
	2.0nm,0.5s,baz=24,slow=12,SNR=20						
MK31				⇑Sn	Sn	05 32 07.5	+5.1
	3.9nm,0.8s,baz=27,slow=26,SNR=5.4						
MK31				⇑Lg		05 32 47.0	
	20nm,0.9s,baz=28,slow=27,SNR=3.9						
VOSK	**Vostochnaya**	**9.60**	**268**	⇑Pn	Pn	05 30 54.4	-1.8
	3.0nm,0.6s						
VOSK				⇓Sn	Sn	05 32 44.7	-0.1
	10nm,0.7s						
BVA0	**Borovoye Array**	**9.88**	**270**	⇓Pn	Pn	05 30 59.9	-0.2
	0.3nm,0.6s,baz=71,slow=13,SNR=9.8						
BVA0				⇓Sn	Sn	05 32 49.3	-2.2
	1.0nm,1.1s,baz=75,slow=24,SNR=5.0						

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*ISCJB **15** 05:41:58.3±0.7,3928N±002×2018E±003,h2km±5km,*
Error ellipse: s-maj=4.5km s-min=4.0km az=12.7
*CSEM **15** 05:41:58.9±0.1,3930N×2016E,h2km,ML3.2,Error*
ellipse: s-maj=2.1km s-min=1.8km az=105.0
*NEIC **15** 05:41:59.8,3927N×2023E,h1km,MD3.5(ATH),*
ML3.2(THE),After THE.
*THE **15** 05:41:59.8,3927N×2023E,h1km,ML3.2*
*ATH **15** 05:41:59.4,3928N×2023E,h20km±2km,MD3.5/7*
ISC 15 05:41:59.4±0.6,3928N±002×2021E±003,h2km±4km,n30,
σ0§93/47,5D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.27**	**21**	*e*Pg	**Pg**	**05 42 04.0**	**-0.6**
IGT				*e*Sg	**Sg**	05 42 08.5	+0.4
KEK	**Kerkira**	**0.54**	**324**	⇓*i*PN	**Pg**	**05 42 10.4**	**+0.7**
JAN	**Janina**	**0.62**	**53**	⇓*i*PB	**Pg**	**05 42 10.4**	**-0.9**
JAN				*e*SB	**Sg**	**05 42 20.0**	**+0.6**
LKD	**Levkas**	**0.67**	**149**	*e*Pg	**Pg**	**05 42 11.2**	**-0.9**
LKD				*e*Sg	**Sg**	**05 42 21.8**	**+1.0**
VLS	**Valsamata**	**1.14**	**165**	*e*Pg	**Pg**	**05 42 19.8**	**-1.5**
VLS				*e*Sg	**Sg**	**05 42 38.1**	**+2.0**
VLS	**Valsamata**	**1.14**	**165**	⇓*i*Pn	**Pn**	**05 42 21.2**	**-1.1**
VLS				*e*Sg	**Sg**	**05 42 38.1**	**+2.1**
KFL	**Anninata**	**1.25**	**159**	*e*Pg	**Pg**	**05 42 24.0**	**+0.6**
KFL				*e*Sg	**Sg**	**05 42 40.6**	**+0.9**
EVR	**Evrytania**	**1.30**	**106**	⇓*i*PN	**Pn**	**05 42 23.4**	**-1.0**
THL	**Klokotos Trika**	**1.43**	**78**	*e*Pg	**Pg**	**05 42 26.9**	**+0.1**
THL				*e*Sg	**Sg**	**05 42 45.1**	**-0.1**
THL	**Klokotos Trika**	**1.43**	**78**	⇓*i*Pn	**Pn**	**05 42 26.5**	**+0.3**
THL	**Klokotos Trika**	**1.43**	**78**	*e*Pg	**Pg**	**05 42 26.9**	**+0.2**
THL				*e*Sg	**Sg**	**05 42 45.2**	**0.0**
RLS	**Riolos of Patr**	**1.57**	**141**	*e*PN	**Pn**	**05 42 28.3**	**+0.1**
KZN	**Kozani**	**1.58**	**49**	*e*PN	**Pn**	**05 42 28.2**	**-0.2**
AGG	**Agios Georgios**	**1.67**	**98**	*e*Pb	**Pb**	**05 42 29.5**	**-1.3**
AGG				*e*Sb	**Sb**	**05 42 52.9**	**+0.7**
FNA	**Florina**	**1.75**	**30**	*e*Pb	**Pb**	**05 42 31.3**	**-0.9**
FNA				*e*Sb	**Sb**	**05 42 54.9**	**+0.3**
LIT	**Litokhoron**	**1.94**	**64**	*e*Sb	**Sb**	**05 43 01.8**	**+1.7**
TIR	**Tirane**	**2.08**	**353**	Pn	**Pn**	**05 42 36.0**	**+0.8**
TIR	**Tirane**	**2.08**	**353**	Pn	**Pn**	**05 42 36.0**	**+0.8**
KRUS	**Krusevo**	**2.23**	**21**	*e*Pn	**Pn**	**05 42 37.9**	**+0.5**
KRUS	**Krusevo**	**2.23**	**21**	*e*Pn	**Pn**	**05 42 37.8**	**+0.5**
TIP	**Timpagrande**	**2.68**	**269**	Pn	**Pn**	**05 42 43.4**	**-0.1**
TIP				Sn	**Sn**	**05 43 18.1**	**+1.6**
TIP	**Timpagrande**	**2.68**	**269**	Pn	**Pn**	**05 42 43.4**	**-0.1**
TIP				Sn	**Sn**	**05 43 18.1**	**+1.6**
PLG	**Polygyros**	**2.72**	**65**	*e*Pn	**Pn**	**05 42 44.1**	**+0.1**
PLG				*e*Sn	**Sn**	**05 43 17.7**	**+0.2**
PAIG	**Paliouri**	**2.76**	**75**	*e*Pn	**Pn**	**05 42 43.9**	**-0.7**
PAIG	**Paliouri**	**2.76**	**75**	*e*Pn	**Pn**	**05 42 43.8**	**-0.7**
DID	**Didima**	**2.97**	**126**	*e*Pn	**Pn**	**05 42 46.3**	**-1.1**
DID				*e*Sn	**Sn**	**05 43 23.2**	**-0.3**
CEL	**Celeste**	**3.52**	**255**	*e*Pn	**Pn**	**05 42 54.3**	**-0.8**
CEL				Sn	**Sn**	**05 43 32.0**	**-5.3**
CEL	**Celeste**	**3.52**	**255**	*e*Pn	**Pn**	**05 42 54.3**	**-0.7**
CEL				Sn	**Sn**	**05 43 32.0**	**-5.2**
AQU	**L'Aquila**	**6.01**	**303**	*e*Pn	**Pn**	**05 43 26.8**	**-2.4**
AQU	**L'Aquila**	**6.01**	**303**	*e*Pn	**Pn**	**05 43 26.8**	**-2.4**
AQU				Sn	**Sn**	**05 44 39.5**	**+1.0**

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*ISCJB **15** 06:06:13.5±0.9,3161N±005×5023E±007,h10km,Error*
ellipse: s-maj=8.7km s-min=7.5km az=27.4
*THR **15** 06:06:13.7±0.8,3166N×5033E,h14km±10km,ML3.2*
*CSEM **15** 06:06:13.5±0.1,3159N×5030E,h18km,ML3.2,Error*
ellipse: s-maj=4.4km s-min=3.0km az=117.0
ISC 15 06:06:14.6±0.9,3161N±006×5025E±007,h10km,n11,
σ0§82/15,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.33**	**292**	*e*Pg	**Pg**	**06 06 38.5**	**-1.5**
SHGR				*e*Sg	**Sg**	**06 06 57.6**	**+0.3**
NASN	**Na'in**	**2.48**	**61**	*e*Pn	**Pn**	**06 06 54.8**	**-0.2**
ASAO	**Ashtian**	**2.94**	**356**	*e*Pn	**Pn**	**06 07 01.9**	**+0.6**
ASAO				*e*Sg	**Sn**	**06 07 44.1**	**+7.4**
ASAO				AML	AML	06 07 52.5	
	comp=N,70nm,0.7s						
ASAO	**Ashtian**	**2.94**	**356**	*e*Pn	**Pn**	**06 07 01.9**	**+0.6**
	SNR=52						
ASAO				*e*Sg	**Sn**	**06 07 44.1**	**+7.5**
	SNR=90						
UMR	**Umm Al-Rimmam**	**2.99**	**227**	*e*P	**Pn**	**06 07 01.8**	**-0.3**
MIB	**Mutribah**	**3.08**	**235**	*e*P	**Pn**	**06 07 02.6**	**-0.7**
	baz=235						
MIB				AML	AML	06 07 56.6	
	comp=Z,37nm,0.4s,baz=235						
NAY	**Al-Naaiem**	**3.50**	**229**	*e*P	**Pn**	**06 07 08.6**	**-0.5**
	baz=228						
NAY				AML	AML	06 08 05.1	
	comp=Z,17nm,0.5s,baz=228						
RDF	**Al-Radifah**	**3.55**	**222**	*e*P	**Pn**	**06 07 09.4**	**-0.3**
RDF				*e*S	**Sn**	**06 07 53.2**	**+1.5**
	comp=Z,39nm,0.4s						
RDF	**Al-Radifah**	**3.55**	**222**	*e*P	**Pn**	**06 07 09.4**	**-0.3**
	baz=221						
RDF				*e*S	**Sn**	**06 07 53.2**	**+1.6**
	baz=221						
RDF				AML	AML	06 08 00.2	
	comp=Z,39nm,0.4s,baz=221						
SNGE	**Sanandaj**	**4.24**	**326**	*e*Pn	**Pn**	**06 07 20.2**	**+1.0**
SNGE				AML	AML	06 08 40.0	
	comp=N,34nm,0.6s						
BHD	**Baghdad**	**5.23**	**290**	*ex*	x	06 07 10.5	
BHD				*ex*	x	06 07 51.6	

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*ISCJB **15** 06:30:10.1±0.8,3601N±005×2168E±006,h10km,Error*
ellipse: s-maj=7.3km s-min=6.4km az=43.8
*THE **15** 06:30:10.5,3602N×2167E,h0km,ML2.0*
*NEIC **15** 06:30:10.5,3602N×2167E,h0km,MD3.6(ATH),*
ML3.3(THE),After THE.
*CSEM **15** 06:30:11.6±0.2,3603N×2180E,h15km,ML2.0,Error*
ellipse: s-maj=6.2km s-min=3.1km az=27.0
*ATH **15** 06:30:11.2,3601N×2167E,h45km,MD3.6/4*

ISC 15 06:30:10.0±1.5,3600N±005×2171E±007,h2km±10km,n21,
σ1§05/26,1C-1D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.11**	**75**	*e*P	**Pg**	**06 30 32.0**	**+0.7**
ITM	**Ithomi**	**1.19**	**8**	⇓*i*P	**Pg**	**06 30 32.8**	**0.0**
ITM				*e*S	**Sg**	**06 30 47.4**	**-0.8**
VLI	**Veliai**	**1.22**	**54**	⇑*i*P	**Pg**	**06 30 33.6**	**+0.1**
VLX	**Vlachokerasia**	**1.47**	**21**	*e*Pg	**Pg**	**06 30 36.8**	**-1.3**
VLX				*e*Sg	**Sg**	**06 30 58.1**	**+0.9**
KARN	**Karanos**	**1.90**	**108**	*e*Pb	**Pb**	**06 30 44.0**	**-1.4**
DID	**Didima**	**1.94**	**39**	*e*Pb	**Pb**	**06 30 44.6**	**-1.5**
DID				*e*Sb	**Sb**	**06 31 10.9**	**+0.3**
VAM	**Vamos**	**2.11**	**106**	*e*P	**Pn**	**06 30 45.5**	**-0.9**
LTK	**Loutraki**	**2.25**	**26**	*e*Pn	**Pn**	**06 30 48.1**	**-0.1**
NAIG	**Nisos Aigina**	**2.26**	**39**	*e*PB	**Pb**	**06 30 55.0**	**+3.5**
VLS	**Valsamata**	**2.35**	**338**	*e*Pn	**Pn**	**06 30 49.9**	**+0.3**
PTL	**Penteli**	**2.67**	**40**	*e*PB	**Pb**	**06 30 59.0**	**+0.4**
LKD	**Levkas**	**2.83**	**343**	*e*Pn	**Pn**	**06 30 57.1**	**+1.0**
LKR	**Lokris**	**2.83**	**21**	*e*Pn	**Pn**	**06 30 56.1**	**-0.2**
EVR	**Evrytania**	**2.91**	**2**	*e*PN	**Pn**	**06 31 00.0**	**+2.7**
AGG	**Agios Georgios**	**3.05**	**9**	*e*Pn	**Pn**	**06 30 58.6**	**-0.7**
LAST	**Lasithi**	**3.19**	**104**	*e*Pn	**Pn**	**06 31 02.1**	**+1.0**
IGT	**Igoumenitsa**	**3.69**	**343**	*e*Pn	**Pn**	**06 31 08.0**	**0.0**
CEL	**Celeste**	**5.16**	**298**	Pn	**Pn**	**06 31 29.6**	**+1.3**
CEL	**Celeste**	**5.16**	**298**	Pn	**Pn**	**06 31 29.6**	**+1.3**
CUC	**Castrocucco**	**6.12**	**312**	*e*Pn	**Pn**	**06 31 41.6**	**+0.1**
CUC				Sn	**Sn**	**06 32 49.5**	**-2.5**
CUC	**Castrocucco**	**6.12**	**312**	*e*Pn	**Pn**	**06 31 41.6**	**+0.1**
CUC				Sn	**Sn**	**06 32 49.5**	**-2.6**

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*IDC **15** 06:35:37.0±1.3,3631N×2193E,h0km,mb3.7/4,mb1 3.6/6,*
mb1mx3.4/25,mbtmp3.5/6,ML3.2/2,MS2.9/2,Ms1 2.9/2,
ms1mx2.3/36,Error ellipse: s-maj=33.5km s-min=23.2km
az=124.0
*ISCJB **15** 06:35:38.2±1.1,3612N±004×2173E±004,h2km±7km,*
mb3.7/4,Error ellipse: s-maj=6.9km s-min=5.6km az=11.6
*THE **15** 06:35:41.0,3623N×2171E,h0km,ML3.9*
*NEIC **15** 06:35:41.0,3623N×2171E,h0km,MD3.8(ATH),*
ML3.9(THE),After THE.
*ATH **15** 06:35:42.4,3633N×2178E,h18km±3km,MD3.8/15,ML3.9*
*CSEM **15** 06:35:42.1±0.2,3627N×2177E,h10km,ML3.9,Error*
ellipse: s-maj=4.0km s-min=2.4km az=23.0
ISC 15 06:35:39.4±1.2,3613N±004×2179E±004,h1km±7km,n58,
σ1§04/70,mb3.8/4,3C-2D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.02**	**81**	*e*PB	**Pb**	**06 36 01.0**	**+1.2**
KYTH	**Kithira**	**1.02**	**81**	*e*Pb	**Pb**	**06 36 00.5**	**+0.7**
ITM	**Ithomi**	**1.06**	**6**	⇑*i*PN	**Pn**	**06 35 59.7**	**-1.7**
VLI	**Veliai**	**1.10**	**57**	⇓*i*PN	**Pn**	**06 36 02.3**	**+0.4**
VLI				*e*SN	**Sn**	**06 36 15.8**	**-1.8**
VLX	**Vlachokerasia**	**1.33**	**21**	*e*Pg	**Pg**	**06 36 04.6**	**-0.3**
VLX				*e*Sg	**Sg**	**06 36 22.8**	**+0.6**
DID	**Didima**	**1.80**	**40**	*e*Pb	**Pb**	**06 36 12.9**	**-0.2**
DID				*e*Sb	**Sb**	**06 36 37.0**	**+0.8**
DID	**Didima**	**1.80**	**40**	*e*Pb	**Pb**	**06 36 12.9**	**-0.3**
DID				*e*Sb	**Sb**	**06 36 37.0**	**+0.8**
KARN	**Karanos**	**1.87**	**112**	*e*Pn	**Pn**	**06 36 15.6**	**+3.1**
RLS	**Riolos of Patr**	**1.95**	**352**	*e*PN	**Pn**	**06 36 13.8**	**+0.2**
VAM	**Vamos**	**2.08**	**109**	*e*PN	**Pn**	**06 36 20.5**	**+5.0**
LTK	**Loutraki**	**2.11**	**26**	*e*Pn	**Pn**	**06 36 15.2**	**-0.6**
LTK				*e*Sn	**Sn**	**06 36 45.1**	**+2.4**
LTK	**Loutraki**	**2.11**	**26**	*e*Pn	**Pn**	**06 36 15.2**	**-0.7**
LTK				*e*Sn	**Sn**	**06 36 45.1**	**+2.3**
NAIG	**Nisos Aigina**	**2.12**	**39**	*e*PN	**Pn**	**06 36 17.5**	**+1.5**
KFL	**Anninata**	**2.14**	**338**	*e*Pn	**Pn**	**06 36 16.9**	**+0.7**
VLS	**Valsamata**	**2.26**	**335**	*e*Pn	**Pn**	**06 36 18.1**	**+0.1**
KVR	**Kavouri**	**2.32**	**42**	*e*PN	**Pn**	**06 36 20.5**	**+1.8**
ATH	**Athens Observa**	**2.40**	**39**	*e*PB	**Pb**	**06 36 20.6**	**-2.8**
PTL	**Penteli**	**2.54**	**40**	*e*PB	**Pb**	**06 36 23.0**	**-2.7**
PTL	**Penteli**	**2.54**	**40**	*e*Pb	**Pb**	**06 36 24.0**	**-1.7**
IDI	**Anoyia**	**2.66**	**107**	Pn	**Pn**	**06 36 22.5**	**-0.8**
	0.7nm,0.3s,baz=299,slow=19,SNR=6.4						
IDI				Sn	**Sn**	**06 36 56.2**	**+0.1**
	5.6nm,0.3s,baz=244,slow=22,SNR=5.8						
LKR	**Lokris**	**2.70**	**20**	*e*Pn	**Pn**	**06 36 24.5**	**+0.6**
LKR	**Lokris**	**2.70**	**20**	⇑*i*Pn	**Pn**	**06 36 24.1**	**+0.2**
LKD	**Levkas**	**2.73**	**341**	*e*Pn	**Pn**	**06 36 25.1**	**+0.7**
LKD				*e*Sn	**Sn**	**06 36 57.9**	**-0.1**
EVR	**Evrytania**	**2.79**	**0**	⇑*i*PN	**Pn**	**06 36 25.8**	**+0.7**
AGG	**Agios Georgios**	**2.92**	**8**	*e*Pn	**Pn**	**06 36 26.6**	**-0.4**
AGG				*e*Sn	**Sn**	**06 37 03.7**	**+1.0**
XOR	**Xorichti**	**3.42**	**18**	*e*Pn	**Pn**	**06 36 33.1**	**-0.7**
THL	**Klokotos Trika**	**3.44**	**3**	*e*Pn	**Pn**	**06 36 34.1**	**0.0**
THL				*e*Sn	**Sn**	**06 37 14.2**	**-1.2**
THL	**Klokotos Trika**	**3.44**	**3**	*e*Pn	**Pn**	**06 36 34.0**	**-0.1**
THL				*e*Sn	**Sn**	**06 37 14.2**	**-1.2**
AOS	**Alonnisos**	**3.46**	**28**	*e*Pn	**Pn**	**06 36 34.4**	**0.0**
IGT	**Igoumenitsa**	**3.59**	**342**	*e*Pn	**Pn**	**06 36 35.7**	**-0.5**
JAN	**Janina**	**3.60**	**348**	*e*PN	**Pn**	**06 36 37.0**	**+0.6**
LIT	**Litokhoron**	**4.01**	**8**	*e*Pn	**Pn**	**06 36 42.5**	**+0.6**
PAIG	**Paliouri**	**4.08**	**21**	*e*Pn	**Pn**	**06 36 42.0**	**-0.9**
KZN	**Kozani**	**4.17**	**360**	*e*PN	**Pn**	**06 36 45.5**	**+1.3**
PLG	**Polygyros**	**4.44**	**17**	*e*PN	**Pn**	**06 36 48.0**	**+0.2**
HORT	**Hortiatis**	**4.58**	**13**	*e*Pn	**Pn**	**06 36 49.2**	**-0.6**
FNA	**Florina**	**4.66**	**356**	*e*Pn	**Pn**	**06 36 50.4**	**-0.5**
TIP	**Timpagrande**	**5.03**	**309**	*e*Pn	**Pn**	**06 36 56.7**	**+0.8**
TIP	**Timpagrande**	**5.03**	**309**	*e*Pn	**Pn**	**06 36 56.7**	**+0.8**
TIP				Sn	**Sn**	**06 37 44.4**	**-10**
CEL	**Celeste**	**5.17**	**296**	*e*Pn	**Pn**	**06 36 58.0**	**+0.1**
	9.2nm,0.7s						
CEL	**Celeste**	**5.17**	**296**	*e*Pn	**Pn**	**06 36 58.0**	**+0.1**
	9.2nm,0.7s						
KRUS	**Krusevo**	**5.25**	**356**	*i*Pn	**Pn**	**06 36 58.6**	**-0.4**
TIR	**Tirane**	**5.43**	**344**	*e*Pn	**Pn**	**06 37 02.0**	**+0.6**
TIR	**Tirane**	**5.43**	**344**	*e*Pn	**Pn**	**06 37 02.0**	**+0.6**
PE1	**Pezze di Greco**	**5.79**	**325**	*e*Pn	**Pn**	**06 37 05.1**	**-1.4**
CUC	**Castrocucco**	**6.09**	**311**	*e*Pn	**Pn**	**06 37 12.1**	**+1.5**
CUC				*e*Sn	**Sn**	**06 38 15.2**	**-5.7**
CUC	**Castrocucco**	**6.09**	**311**	*e*Pn	**Pn**	**06 37 12.1**	**+1.5**
CUC				*e*Sn	**Sn**	**06 38 15.2**	**-5.7**
SG1	**Sgolgore (BA)**	**6.18**	**321**	*e*Pn	**Pn**	**06 37 11.0**	**-0.8**
BARS	**Barje**	**6.68**	**0**	⇓*i*Pn	**Pn**	**06 37 17.3**	**-1.3**
AKASG	**Malin Array Be**	**15.52**	**18**	Pn	**Pn**	**06 39 14.9**	**-4.4**
	0.6nm,0.3s,baz=210,slow=14,SNR=5.2						
AKASG	**Malin Array Be**	**15.52**	**18**	Pn	**Pn**	**06 39 14.9**	**-4.4**
GNI	**Garni**	**18.48**	**71**	LR	LR	06 48 19.3	
	comp=Z,19nm,19.1s,baz=302,slow=42						
TORD	**Torodi Ar. Bea**	**29.16**	**223**	P	**P**	**06 41 41.9**	**-0.3**
	0.4nm,0.9s,mb3.2,baz=23,slow=8.9,SNR=2.6						
ARCES	**ARCESS Array B**	**33.53**	**2**	P	**P**	**06 42 16.8**	**-3.4**
	0.5nm,0.4s,mb3.8,baz=178,slow=9.3,SNR=7.7						
ARCES	**ARCESS Array B**	**33.53**	**2**	P	**P**	**06 42 16.8**	**-3.4**
SPITS	**Spitsbergen Ar**	**42.22**	**358**	LR	LR	07 02 59.1	
	comp=Z,33nm,19.0s,baz=70,slow=39						
MKAR	**Makanchi Array**	**45.54**	**57**	P	**P**	**06 43 56.0**	**-4.6**
	0.6nm,0.4s,mb4.0,baz=271,slow=7.2,SNR=8.9						
ZALV	**Zalesovo Beam**	**46.33**	**47**	P	**P**	**06 44 01.7**	**-4.9**
	1.0nm,0.4s,mb4.2,baz=281,slow=8.5,SNR=3.1						

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*ISCJB **15** 06:48:53.7±2.0,7.16S±006×806W±0.1,h45km±18km,*
mb3.9/8,MS3.2/4,Error ellipse: s-maj=19.4km
s-min=9.6km az=164.0
*NEIC **15** 06:48:56.9±1.4,7.18S×8040W,h56km±12km,mb3.7/1,*
Error ellipse: s-maj=20.8km s-min=8.7km az=66.0
*IDC **15** 06:48:56.3±3.3,723S×8054W,h51km±30km,mb3.6/8,*
mb1 3.8/12,mb1mx3.7/22,mbtmp3.7/12,ML3.7/3,MS3.3/7,
Ms1 3.3/7,ms1mx3.0/26,Error ellipse: s-maj=27.1km
s-min=20.9km az=25.0
ISC 15 06:48:56.6±1.7,715S±006×805W±01,h52km±16km,n24,
σ0§90/19,mb3.9/7,MS3.2/4,Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.11**	**86**	P	**Pn**	**06 49 29.1**	**-0.4**
	84nm,0.3s,baz=286,slow=5.6,SNR=201						
ATAH				S	**Sn**	**06 49 56.3**	**+1.8**
	206nm,0.3s,baz=136,slow=16,SNR=18						
NNA	**Nana**	**6.01**	**143**	P	**Pn**	**06 50 22.0**	**-1.1**
	6.0nm,0.3s,baz=322,slow=12,SNR=8.9						
NNA				S	**Sn**	**06 51 24.5**	**-6.2**
	4.2nm,0.3s,baz=204,slow=22,SNR=3.3						
NNA	**Nana**	**6.01**	**143**	*e*Pn	**Pn**	**06 50 22.3**	**-0.8**
NNA				Sn	**Sn**	**06 51 31.5**	**+0.8**
OTAV	**Otavalo**	**7.62**	**16**	*e*Pn	**Pn**	**06 50 46.0**	**+0.9**
	13nm,0.7s						
OTAV				Sn	**Sn**	**06 52 09.5**	**-0.8**
ROSC	**El Rosal**	**13.43**	**28**	LR	LR	06 57 59.4	
	comp=Z,65nm,19.7s,baz=16,slow=40						
LPAZ	**La Paz**	**15.14**	**128**	P	**Pn**	**06 52 28.1**	**+0.8**
	0.0nm,0.3s,baz=324,slow=12,SNR=3.0						
LPAZ				LR	LR	06 58 43.2	
	comp=Z,61nm,21.1s,baz=88,slow=39						
LPAZ	**La Paz**	**15.14**	**128**	*e*Pn	**Pn**	**06 52 26.5**	**-0.8**
	5.1nm,1.1s						
LPAZ				LR	LR	06 58 43.2	
SDV	**Santo Domingo**	**18.73**	**32**	P	**Pn**	**06 53 10.5**	**-1.6**
	0.4nm,0.3s,baz=236,slow=11,SNR=3.3						
SDV				LR	LR	07 01 32.6	
	comp=Z,131nm,20.0s,baz=196,slow=40						
SIV	**San Ignacio**	**20.96**	**116**	P	**P**	**06 53 34.4**	**-1.1**
	1.1nm,0.6s,baz=300,slow=12,SNR=9.7						
PCRV	**Puerto La Cruz**	**23.37**	**43**	LR	LR	07 04 36.4	
	comp=Z,133nm,18.2s,MS3.4,baz=276,slow=40						
CMIG	**Matias Romero**	**27.97**	**330**	LR	LR	07 03 44.9	
	comp=Z,30nm,19.9s,MS2.9,baz=42,slow=32						
SJG	**San Juan**	**28.83**	**29**	LR	LR	07 07 56.3	
	comp=Z,41nm,18.2s,MS3.1,baz=92,slow=39						
CPUP	**Villa Florida**	**29.17**	**134**	LR	LR	07 07 53.1	
	comp=Z,97nm,19.9s,MS3.4,baz=247,slow=39						
PDAR	**Pinedale Array**	**56.28**	**335**	P	**P**	**06 58 32.8**	**+0.8**
	0.7nm,0.8s,mb3.7,baz=112,slow=10,SNR=5.2						
NVAR	**Mina Array Bea**	**57.36**	**325**	P	**P**	**06 58 40.3**	**+0.7**
	0.5nm,0.7s,mb3.6,baz=142,slow=6.3,SNR=5.5						
ULM	**Lac du Bonnet**	**58.70**	**349**	P	**P**	**06 58 48.5**	**-0.3**
	4.6nm,0.9s,mb4.5,baz=166,slow=8.1,SNR=7.6						
YBH	**Yreka Blue Hor**	**62.08**	**325**	P	**P**	**06 59 12.7**	**+0.6**
	1.1nm,0.9s,mb4.0,baz=103,slow=3.7,SNR=5.0						
YKA	**Yellowknife Ar**	**74.22**	**344**	P	**P**	**07 00 27.7**	**+0.1**
	1.0nm,0.8s,mb3.8,baz=136,slow=5.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**84.08**	**76**	P	**P**	**07 01 21.8**	**-0.8**
	1.1nm,0.9s,mb4.0,baz=290,slow=6.1,SNR=6.0						
ESDC	**Sonseca Array**	**84.29**	**49**	P	**P**	**07 01 23.8**	**+0.7**
	0.6nm,0.6s,mb3.9,baz=246,slow=4.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**131.85**	**12**	PKP	PKPdf	07 08 03.8	-0.3
	0.7nm,0.3s,baz=319,slow=4.2,SNR=3.5						
WRA	**Warramunga Arr**	**136.40**	**231**	PKP	PKPdf	07 08 14.0	+0.4
	0.7nm,0.8s,baz=125,slow=1.6,SNR=4.6						
MKAR	**Makanchi Array**	**137.83**	**18**	PKP	PKPdf	07 08 16.3	+0.8
	0.3nm,0.6s,baz=53,slow=5.6,SNR=2.5						
SONM	**Songino Array**	**139.04**	**353**	PKP	PKPdf	07 08 18.4	+0.8
	0.2nm,0.4s,baz=318,slow=1.9,SNR=2.7						

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*ISCJB **15** 06:52:37.2±0.6,2189N×003×12161E±003,h10km,*
mb3.7/8,Error ellipse: s-maj=4.7km s-min=4.1km
az=152.7
*TAP **15** 06:52:37.9,2193N×12156E,h14km,ML3.8*
TAP Felt III J at Lanyu.
*NEIC **15** 06:52:41.3±1.0,2186N×12167E,h35km,Error ellipse:*
s-maj=26.0km s-min=17.1km az=83.0
*IDC **15** 06:52:49.8±11.0,2180N×12180E,h121km±117km,*
mb3.4/9,mb1 3.5/9,mb1mx3.4/21,mbtmp3.4/9,Error
ellipse: s-maj=52.6km s-min=21.3km az=63.0
ISC 15 06:52:39.0±0.6,2196N±003×12156E±003,h10km,n50,
σ1§07/73,mb3.7/8,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.08**	**356**	⇓*i*P	**Pg**	**06 52 41.4**	**+0.1**
TSEB	**Hengchuen, Pin**	**0.61**	**265**	*e*P	**Pg**	**06 52 51.8**	**+0.9**
TSEB				S	**Sg**	**06 53 00.9**	**+2.0**
TWK1	**Hengchun**	**0.70**	**269**	*e*P	**Pg**	**06 52 51.8**	**-0.7**
TWK1				S	**Sg**	**06 53 02.2**	**+0.6**
TAW	**Tawu**	**0.73**	**303

Error ellipse: s-maj=10.8km s-min=9.0km az=118.0
BGS 15 07:47:48.5±2.8, 674S×15496E, h76km, mb4.9(NEIC)
ISC 15 07:47:46.7±2.0, 674S±008×15498E±008, h59km±17km, n106, σ1§03/85, mb4.7/46, MS3.9/14, 4C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res (ISC)
HNR	**Honiara**	**5.60**	**119**		LR		LR	07 50 57.3	
	comp=Z,688nm,21.0s,baz=181,slow=36								
PMG	**Port Moresby**	**8.19**	**251**	*e*P			**Pn**	**07 49 43.9**	**+1.0**
PMG								07 51 12.2	
PMG					pmax		pmax		
	comp=Z,87nm,0.8s								
PMG	**Port Moresby**	**8.19**	**251**	*e*Pn			**Pn**	**07 49 43.9**	**+1.0**
	comp=Z,87nm,0.8s								
PMG					Sn		Sn	07 51 12.2	-1.8
COEN	**Coen**	**13.65**	**237**	*e*Pn			**Pn**	**07 50 59.1**	**+1.6**
	comp=Z,24nm,0.9s								
CTA	**Charters Tower**	**15.74**	**212**	*e*P			**Pn**	**07 51 24.7**	**-0.1**
	comp=Z,11nm,0.8s								
CTA	**Charters Tower**	**15.74**	**212**	Pn			**Pn**	**07 51 24.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=12,slow=11,SNR=3.5								
CTA					LR		LR	07 55 19.1	
	comp=Z,176nm,20.9s,baz=37,slow=29								
CTA	**Charters Tower**	**15.74**	**212**	*e*P			**Pn**	**07 51 24.7**	**-0.1**
CTA					pmax		pmax		
	comp=Z,11nm,0.8s								
CTAO	**Charters Tower**	**15.74**	**212**	*e*P			**Pn**	**07 51 28.6**	**+3.8**
CTAO					pmax		pmax		
	comp=Z,40nm,1.6s								
CTAO	**Charters Tower**	**15.74**	**212**	*e*P			**Pn**	**07 51 28.6**	**+3.8**
	comp=Z,40nm,1.6s								
GUMO	**Guam**	**22.55**	**334**		LR		LR	07 59 33.5	
	comp=Z,186nm,18.6s,MS3.5,baz=155,slow=32								
KAKA	**Kakadu**	**22.99**	**253**	*e*P			**P**	**07 52 44.7**	**-1.9**
	comp=Z,35nm,0.9s,mb4.8								
WRAB	**Tennant Creek**	**23.94**	**235**	⇓*i*P			**P**	**07 52 55.9**	**+0.4**
WRAB	**Tennant Creek**	**23.94**	**235**	*e*P			**P**	**07 52 55.1**	**-0.4**
	comp=Z,20nm,0.8s,mb4.6								
WB2	**Warramunga Arr**	**23.94**	**235**	*e*P			**P**	**07 52 54.9**	**-0.6**
WRA	**Warramunga Arr**	**23.95**	**235**	P			**P**	**07 52 55.2**	**-0.5**
	comp=Z,6.7nm,0.6s,mb4.2,baz=57,slow=9.4,SNR=44								
WRA					PcP		PcP	07 56 37.2	+0.4
	comp=Z,2.6nm,0.7s,baz=60,slow=2.3,SNR=8.8								
WRA					LR		LR	08 01 46.6	
	comp=Z,317nm,20.4s,MS3.8,baz=55,slow=35								
WRA	**Warramunga Arr**	**23.95**	**235**	P			**P**	**07 52 55.2**	**-0.4**
WRA								07 56 37.2	
ASAR	**Alice Springs**	**26.33**	**228**	P			**P**	**07 53 16.6**	**-0.7**
	comp=Z,6.8nm,1.0s,mb4.2,baz=61,slow=9.1,SNR=46								
STKA	**Stephens Creek**	**27.96**	**205**	*e*P			**P**	**07 53 30.6**	**-1.1**
	comp=Z,6.4nm,0.9s,mb4.2								
STKA	**Stephens Creek**	**27.96**	**205**	P			**P**	**07 53 30.3**	**-1.4**
	comp=Z,6.5nm,1.0s,mb4.2,baz=54,slow=13,SNR=5.6								
STKA					LR		LR	08 04 37.9	
	comp=Z,469nm,19.9s,MS4.1,baz=28,slow=36								
FITZ	**Fitzroy Crossi**	**30.75**	**246**	*e*P			**P**	**07 53 56.7**	**+0.1**
	comp=Z,7.3nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**30.75**	**246**	P			**P**	**07 53 56.7**	**+0.1**
	comp=Z,5.5nm,0.8s,mb4.5,baz=98,slow=9.9,SNR=12								
FITZ					LR		LR	08 06 44.9	
	comp=Z,363nm,18.4s,MS4.1,baz=76,slow=37								
FITZ	**Fitzroy Crossi**	**30.75**	**246**	*e*P			**P**	**07 53 57.4**	**+0.8**
	comp=Z,15nm,1.2s,mb4.7								
FITZ					LR		LR	08 06 44.9	
DAV	**Davao City (W)**	**32.38**	**295**		LR		LR	08 07 16.6	
	comp=Z,167nm,18.2s,MS3.8,baz=212,slow=36								
AFI	**Afiamalu**	**33.44**	**105**		LR		LR	08 06 03.1	
	comp=Z,159nm,18.9s,MS3.8,baz=269,slow=33								
RPZ	**Rata Peaks**	**39.45**	**162**		LR		LR	08 07 19.4	
	comp=Z,200nm,19.4s,MS4.0,baz=61,slow=30								
KSRS	**Korea Array**	**50.70**	**332**	P			**P**	**07 56 38.9**	**-1.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=154,slow=9.8,SNR=6.2								
QIZ	**Qiongzhong**	**51.32**	**301**	P			**P**	**07 56 43.0**	**-2.4**
QIZ				S			**S**	**08 03 50.8**	**-10**
QIZ					AMB		AMB		
	comp=Z,27nm,1.7s,mb4.9								
QIZ					LR		LR		
	comp=Z,297nm,18.8s,MS4.3								
ASAJ	**Asahikawa**	**51.84**	**349**		LR		LR	08 16 09.8	
	comp=Z,99nm,20.6s,MS3.8,baz=40,slow=33								
PPT	**Papeete**	**55.08**	**107**	*e*LR			LR	08 13 36.7	
	comp=Z,68nm,22.0s								
PPT	**Papeete**	**55.08**	**107**	LR			LR	08 16 27.8	
	comp=Z,87nm,18.2s,MS3.9,baz=252,slow=31								
TBI	**Tubuai**	**55.79**	**114**	*e*LQ				08 11 43.2	
	comp=Z,227nm,31.0s								
TBI				*e*LR			LR	08 14 01.4	
	comp=Z,133nm,24.2s								
MDJ	**Mudanjiang**	**55.99**	**338**	P			**P**	**07 57 19.6**	**+0.5**
MDJ					AMB		AMB		
	comp=Z,8.0nm,2.1s,mb4.4								
GYA	**Guiyang**	**57.29**	**307**	P			**P**	**07 57 29.4**	**+0.8**
GYA					PCP		PcP	07 58 22.6	+0.2
GYA					PP		PP	07 59 38.8	+2.3
GYA					PCS		PcS	08 02 21.8	-1.8
GYA					S		**S**	**08 05 10.3**	**-10**
GYA					AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8								
GYA					AMB		AMB		
	comp=Z,80nm,5.2s								
XAN	**Xi'an**	**59.51**	**316**	P			**P**	**07 57 43.6**	**-0.4**
XAN					AP		pP	07 57 53.8	-6.1
XAN					AMB		AMB		
	comp=Z,5.0nm,1.0s,mb4.5								
XAN					AMB		AMB		
	comp=Z,50nm,3.6s								
PETK	**Petropavlovsk-**	**59.66**	**2**	P			**P**	**07 57 44.4**	**-0.3**
	comp=Z,3.2nm,0.6s,mb4.5,baz=147,slow=6.3,SNR=4.3								
PETK					LR		LR	08 19 19.3	
	comp=Z,70nm,20.1s,MS3.8,baz=344,slow=32								
KMI	**Kunming**	**59.86**	**304**	P			**P**	**07 57 48.3**	**+1.7**
KMI					AMB		AMB		
	comp=Z,22nm,1.1s,mb5.1								
CMAR	**Chiang Mai Arr**	**60.66**	**295**	P			**P**	**07 57 53.5**	**+1.3**
	comp=Z,9.9nm,0.9s,mb5.0,baz=113,slow=5.1,SNR=32								
CHTO	**Chiang Mai**	**60.78**	**296**	*e*P			**P**	**07 57 54.2**	**+1.2**
CHTO					pmax		pmax		
	comp=Z,17nm,1.1s,mb5.1								
CHTO	**Chiang Mai**	**60.78**	**296**	*e*P			**P**	**07 57 54.2**	**+1.2**
	comp=Z,17nm,1.1s,mb5.1								
CD2	**Chengdu**	**61.64**	**310**	*e*P			**P**	**07 57 58.1**	**-0.5**
CD2					AMB		AMB		
	comp=Z,10.0nm,0.9s,mb5.0								
CD2					AMB		AMB		
	comp=Z,20nm,8.4s								
LZH	**Lanzhou**	**64.12**	**315**	*e*P			**P**	**07 58 13.9**	**-1.1**
LZH					PCP		PcP	07 58 48.8	-0.9
LZH					AMB		AMB		
	comp=Z,16nm,1.2s,mb4.9								
LZH					AMB		AMB		
	comp=Z,70nm,5.3s								
GTA	**Gaotai**	**68.54**	**317**	P			**P**	**07 58 44.6**	**+1.4**
GTA					AMB		AMB		
	comp=Z,4.0nm,0.8s,mb4.4								
RKT	**Rikitea**	**69.05**	**112**	*e*LR			LR	08 20 06.2	
	comp=Z,192nm,29.2s								
SONM	**Songino Array**	**69.11**	**327**	P			**P**	**07 58 46.6**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.2,baz=133,slow=6.4,SNR=13								
SHL	**Shillong**	**69.15**	**300**	*e*P			**P**	**07 58 50.0**	**+2.7**
SEY	**Seymchan**	**69.50**	**359**	⇑*i*P			**P**	**07 58 47.7**	**-0.9**
VNDA	**Vanda**	**70.84**	**178**	P			**P**	**07 58 57.2**	**+0.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=316,slow=6.8,SNR=8.9								
VNDA	**Vanda**	**70.84**	**178**	*e*P			**P**	**07 58 57.7**	**+1.0**
VNDA					pmax		pmax		
	comp=Z,3.0nm,0.9s								
VNDA	**Vanda**	**70.84**	**178**	*e*P			**P**	**07 58 57.7**	**+1.0**
	comp=Z,2.7nm,0.9s,mb4.2								
LSA	**Lhasa**	**71.11**	**304**	P			**P**	**07 59 00.8**	**+1.6**
ZAK	**Zakamensk**	**72.27**	**328**	*e*P			**P**	**07 59 04.6**	**-1.1**
ZAK					pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.3								
TLY	**Talaya**	**72.83**	**329**	⇑*i*P			**P**	**07 59 07.5**	**-1.5**
TLY					pmax		pmax		
	comp=Z,5.0nm,1.7s,mb4.2								
TAPN	**Taplejung**	**73.26**	**301**	*e*P			**P**	**07 59 12.8**	**+0.7**
	comp=Z,50nm,0.9s,mb5.4								
ODAN	**Odare**	**73.39**	**300**	*e*P			**P**	**07 59 13.4**	**+0.5**
	comp=Z,91nm,0.8s,mb5.7								
RAMN	**Ramite**	**74.09**	**300**	*e*P			**P**	**07 59 17.9**	**+0.9**
	comp=Z,25nm,0.8s,mb5.2								
JIRN	**Jiri**	**74.64**	**301**	*e*P			**P**	**07 59 21.2**	**+1.1**
	comp=Z,29nm,0.7s,mb5.3								
GUN	**Gumba**	**74.97**	**301**	*e*P			**P**	**07 59 23.0**	**+0.9**
	comp=Z,61nm,0.7s,mb5.7								
BILL	**Bilibino**	**75.02**	**4**	⇑*i*P			**P**	**07 59 21.3**	**-0.2**
BILL				*e*			pP	07 59 36.3	-1.6
BILL					pmax		pmax		
	comp=Z,13nm,1.0s,mb4.8								
PKI	**Pulchoki**	**75.28**	**301**	*e*P			**P**	**07 59 24.6**	**+0.8**
KKN	**Kakani**	**75.45**	**301**	*e*P			**P**	**07 59 25.5**	**+0.7**
	comp=Z,31nm,0.8s,mb5.3								
KKN	**Kakani**	**75.45**	**301**	*e*P			**P**	**07 59 25.5**	**+0.7**
KKN					pmax		pmax		
	comp=Z,31nm,0.8s,mb5.3								
DMN	**Daman**	**75.55**	**301**	*e*P			**P**	**07 59 25.9**	**+0.5**
	comp=Z,76nm,0.9s,mb5.6								
GKN	**Gorkha**	**76.06**	**301**	*e*P			**P**	**07 59 28.9**	**+0.6**
KOLN	**Koldanda**	**76.88**	**300**	*e*P			**P**	**07 59 33.1**	**+0.2**
	comp=Z,21nm,0.7s,mb5.2								
DANN	**Dangsing**	**76.89**	**301**	*e*P			**P**	**07 59 33.3**	**+0.3**
	comp=Z,29nm,0.7s,mb5.3								
HVS	**Khovu-Aksy**	**77.86**	**326**	⇓*i*P			**P**	**07 59 38.9**	**+1.0**
HVS					pmax		pmax		
	comp=Z,34nm,1.3s,mb5.1								
WMQ	**Urumqi**	**78.63**	**317**	*e*P			**P**	**07 59 41.3**	**-1.0**
TIXI	**Tiksi**	**80.10**	**352**	*e*P			**P**	**07 59 46.5**	**-3.2**
	comp=Z,12nm,0.3s,mb5.3								
PMR	**Palmer**	**80.56**	**24**	*e*P			**P**	**07 59 52.5**	**+0.1**
PMR					pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3								
PMR	**Palmer**	**80.56**	**24**	*e*P			**P**	**07 59 52.5**	**+0.1**
	comp=Z,4.4nm,1.0s,mb4.3								
CHUM	**Lake Minchumin**	**80.68**	**21**	*e*P			**P**	**07 59 52.6**	**-0.4**
	comp=Z,8.7nm,1.0s,mb4.6								
IMA2	**Indian Mountai**	**81.56**	**19**	*e*P			**P**	**07 59 57.8**	**+0.2**
MCK	**McKinley**	**81.82**	**22**	P			**P**	**07 59 57.5**	**-1.5**
MCK					pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5								
MCK	**McKinley**	**81.82**	**22**	P			**P**	**07 59 57.5**	**-1.5**
	comp=Z,7.1nm,1.0s,mb4.5								
COLA	**College**	**82.84**	**21**	⇑*i*P			**P**	**08 00 02.9**	**-1.5**
COLA	**College**	**82.84**	**21**	*e*P			**P**	**08 00 03.0**	**-1.3**
	comp=Z,5.1nm,0.8s,mb4.6								
COLA				*e*PcP			PcP	08 00 07.7	-1.3
MK31	**Makanchi Array**	**83.20**	**319**	*e*P			**P**	**08 00 06.3**	**-0.3**
MKAR	**Makanchi Array**	**83.20**	**319**	P			**P**	**08 00 06.6**	**0.0**
	comp=Z,4.1nm,0.8s,mb4.5,baz=101,slow=5.6,SNR=25								
MKAR					LR		LR	08 39 05.3	
	comp=Z,75nm,18.7s,MS4.1,baz=176,slow=37								
ZALV	**Zalesovo Beam**	**83.96**	**326**	P			**P**	**08 00 09.2**	**-1.1**
	comp=Z,1.2nm,0.4s,mb4.3,baz=126,slow=9.1,SNR=3.1								
ZAL	**Zalesovo**	**83.97**	**326**	P			**P**	**08 00 09.2**	**-1.1**
MAW	**Mawson**	**84.63**	**203**	P			**P**	**08 00 13.7**	**+0.2**
	comp=Z,3.4nm,0.7s,mb4.6,baz=348,slow=11,SNR=5.0								
HYT	**Haines Junctio**	**85.15**	**27**	*e*P			**P**	**08 00 17.1**	**+1.0**
EGAK	**Eagle**	**85.28**	**23**	*e*P			**P**	**08 00 16.1**	**-0.6**
	comp=Z,5.0nm,0.9s,mb4.6								
SKAG	**Skagway**	**85.65**	**29**	*e*P			**P**	**08 00 19.4**	**+0.7**
DAWY	**Dawson**	**85.67**	**24**	*e*P			**P**	**08 00 19.6**	**+1.0**
NVAR	**Mina Array Bea**	**91.57**	**52**	P			**P**	**08 00 48.0**	**+0.7**
	comp=Z,2.8nm,0.9s,mb4.6,baz=248,slow=6.6,SNR=14								
BVAR	**Borovoye Array**	**92.08**	**323**	P			**P**	**08 00 47.4**	**-1.9**
	comp=Z,0.4nm,0.3s,mb4.2,baz=134,slow=4.3,SNR=3.6								
YKW3	**Yellowknife Ar**	**96.11**	**28**	*e*P			**P**	**08 01 07.9**	**+0.3**
YKA	**Yellowknife Ar**	**96.11**	**28**	P			**P**	**08 01 07.5**	**-0.1**
	comp=Z,5.4nm,0.9s,mb5.0,baz=270,slow=4.7,SNR=16								
YKA					LR		LR	08 43 23.5	
	comp=Z,32nm,18.3s,MS3.8,baz=210,slow=35								
YKA	**Yellowknife Ar**	**96.11**	**28**	P			**P**	**08 01 07.5**	**-0.1**
YKA					LR		LR	08 43 23.5	
EDM	**Edmonton**	**96.34**	**37**	P			**P**	**08 01 08.6**	**-0.3**
PDAR	**Pinedale Array**	**98.54**	**48**	P			**P**	**08 01 19.1**	**+0.1**
	comp=Z,0.8nm,1.0s,mb4.2,baz=292,slow=4.0,SNR=6.2								
PDAR					LR		LR	08 42 01.8	
	comp=Z,55nm,18.8s,MS4.1,baz=155,slow=33								
KAF	**Kangasniemi**	**113.24**	**336**	*e*p			PKiKP	08 06 17.1	-0.2
KAF	**Kangasniemi**	**113.24**	**336**	*e*P			PKiKP	08 06 17.1	-0.2
MNK	**Minsk**	**116.39**	**329**	*e*P			Pdif	08 02 40.0	+1.8
RSC	**Scourie**	**126.27**	**347**	*e*P			PKPdf	08 06 42.3	-0.2
REB	**Eisgbrachaidh**	**126.50**	**347**	*e*P			PKPdf	08 06 42.0	-0.9
RRR	**Rubha Reidh**	**126.86**	**347**	*e*P			PKPdf	08 06 43.1	-0.4
KPL	**Plockton**	**127.30**	**347**	*e*P			PKPdf	08 06 43.7	-0.7
LPAZ	**La Paz**	**131.59**	**119**	PKP			PKPdf	08 06 54.8	+1.0
	comp=Z,1.1nm,0.9s,baz=343,slow=5.5,SNR=3.8								
CPUP	**Villa Florida**	**134.58**	**138**	PKP			PKPdf	08 06 59.8	+0.6
	comp=Z,1.0nm,0.6s,baz=208,slow=4.5,SNR=4.1								
MDT	**Midelt**	**147.85**	**327**	PKPbc			PKPbc	08 07 26.2	+0.6
	comp=Z,2.2nm,0.9s,baz=288,slow=0.7,SNR=3.4								
BDFB	**Brasilia**	**148.17**	**134**	PKPbc			PKPbc	08 07 26.9	0.0
	comp=Z,6.9nm,0.8s,baz=180,slow=13,SNR=13								
TOA0	**Torodi Ar. Sit**	**152.94**	**286**	*e*PKPbc			PKPbc	08 07 37.6	-0.7
TORD	**Torodi Ar. Bea**	**152.94**	**286**	PKPbc			PKPbc	08 07 37.7	-0.7
	comp=Z,8.6nm,0.8s,baz=58,slow=2.1,SNR=36								
TORD	**Torodi Ar. Bea**	**152.94**	**286**	PKPbc			PKPbc	08 07 37.7	-0.7

ISCJB 15 07:50:55.7±0.7, 3929N×2015E×004, h1km±5km, Error ellipse: s-maj=4.8km s-min=4.2km az=179.1
NEIC 15 07:50:56.6, 3929N×2015E, h0km, MD3.6(ATH), ML3.3(THE), After THE,
ATH 15 07:50:56.9, 3925N×2028E, h18km±2km, MD3.6/7
THE 15 07:50:56.6, 3929N×2015E, h0km, ML3.3
CSEM 15 07:50:57.9±0.1, 3928N×2030E, h5km, ML3.3, Error ellipse: s-maj=2.9km s-min=2.4km az=57.0
ISC 15 07:50:57.2±0.5, 3928N±002×2021E±004, h2km±4km, n31, σ1§12/47, 2C-4D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res (ISC)
IGT	**Igoumenitsa**	**0.27**	**21**	*e*Pg			**Pg**	**07 51 01.7**	**-0.7**
IGT					*e*Sg		**Sg**	**07 51 05.5**	**-0.3**
KEK	**Kerkira**	**0.54**	**324**	⇓*i*PN			**Pg**	**07 51 08.3**	**+0.8**
KEK					*e*SN		**Sg**	**07 51 17.3**	**+2.8**
JAN	**Janina**	**0.62**	**53**	⇓*i*PB			**Pg**	**07 51 08.1**	**-1.0**
JAN					*e*SN		**Sg**	**07 51 17.0**	**-0.2**
LKD	**Levkas**	**0.67**	**149**	*e*Pg			**Pg**	**07 51 09.6**	**-0.5**
LKD					*e*Sg		**Sg**	**07 51 20.4**	**+1.7**
VLS	**Valsamata**	**1.14**	**165**	*e*Pg			**Pg**	**07 51 18.0**	**-1.1**
VLS					*e*Sg		**Sg**	**07 51 34.4**	**+0.5**
VLS	**Valsamata**	**1.14**	**165**	⇑*i*Pn			**Pn**	**07 51 18.2**	**-2.0**
VLS					*e*Sg		**Sg**	**07 51 34.4**	**+0.5**
KFL	**Anninata**	**1.25**	**159**	*e*Pg			**Pg**	**07 51 21.2**	**0.0**
KFL					*e*Sg		**Sg**	**07 51 39.2**	**+1.7**
EVR	**Evrytania**	**1.30**	**106**	⇓*i*PN			**Pn**	**07 51 21.0**	**-1.3**
THL	**Klokotos Trika**	**1.43**	**78**	*e*Pg			**Pg**	**07 51 22.9**	**-1.6**
THL					*e*Sg		**Sg**	**07 51 44.8**	**+1.7**
THL	**Klokotos Trika**	**1.43**	**78**	⇓*i*PN			**Pn**	**07 51 23.0**	**-1.1**
RLS	**Riolos of Patr**	**1.57**	**141**	*e*PN			**Pn**	**07 51 24.8**	**-1.2**
KZN	**Kozani**	**1.58**	**49**	⇑*i*PN			**Pn**	**07 51 26.4**	**+0.2**
AGG	**Agios Georgios**	**1.67**	**98**	*e*Pb			**Pb**	**07 51 27.4**	**-1.2**
AGG					*e*Sb		**Sb**	**07 51 51.2**	**+1.2**
FNA	**Florina**	**1.75**	**30**	*e*Pb			**Pb**	**07 51 28.6**	**-1.3**
FNA					*e*Sb		**Sb**	**07 51 52.7**	**+0.4**
LIT	**Litokhoron**	**1.94**	**64**	*e*Pn			**Pn**	**07 51 31.8**	**+0.6**
LIT					*e*Sn		**Sn**	**07 51 57.2**	**+1.2**
TIR	**Tirane**	**2.08**	**353**	Pn			**Pn**	**07 51 32.0**	**-1.1**
TIR					Sn		**Sn**	**07 51 57.5**	**-2.0**
TIR	**Tirane**	**2.08**	**353**	Pn			**Pn**	**07 51 32.0**	**-1.1**
TIR					Sn		**Sn**	**07 51 57.5**	**-2.0**
KRUS	**Krusevo**	**2.23**	**21**	*i* Pn			**Pn**	**07 51 35.6**	**+0.5**
XOR	**Xorichti**	**2.31**	**87**	*e*Pn			**Pn**	**07 51 36.3**	**+0.1**
HORT	**Hortiatis**	**2.58**	**58**	*e*Pn			**Pn**	**07 51 40.1**	**+0.2**
HORT					*e*Sn		**Sn**	**07 52 12.2**	**+0.3**
TIP	**Timpagrande**	**2.68**	**269**	Pn			**Pn**	**07 51 42.4**	**+1.1**
TIP	**Timpagrande**	**2.68**	**269**	Pn			**Pn**	**07 51 42.4**	**+1.0**
PLG	**Polygyros**	**2.72**	**65**	*e*Pn			**Pn**	**07 51 41.3**	**-0.5**
PLG					*e*Sn		**Sn**	**07 52 16.4**	**+1.1**
PAIG	**Paliouri**	**2.76**	**75**	*e*Pn			**Pn**	**07 51 42.0**	**-0.3**
SOH	**Sokhos**	**2.86**	**56**	*e*Pn			**Pn**	**07 51 43.1**	**-0.7**
SOH					*e*Sn		**Sn**	**07 52 20.9**	**+2.1**
DID	**Didima**	**2.97**	**126**	*e*Pn			**Pn**	**07 51 44.5**	**-0.7**
OUR	**Ouranopolis**	**3.09**	**69**	*e*Pn			**Pn**	**07 51 47.0**	**0.0**
SG1	**Sgolgore (BA)**	**3.12**	**301**	*e*Pn			**Pn**	**07 51 48.5**	**+1.1**
CUC	**Castrocucco**	**3.47**	**283**	*e*Pn			**Pn**	**07 51 54.1**	**+2.0**
CEL	**Celeste**	**3.52**	**255**	*e*Pn			**Pn**	**07 51 51.7**	**-1.2**
CEL	**Celeste**	**3.52**	**255**	*e*Pn			**Pn**	**07 51 51.7**	**-1.2**

IDC 15 08:03:02.9±1.0, 978N×12268E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/19, mbtmp4.1/5, MS3.2/3, Ms1 3.3/3, ms1mx2.8/26, Error ellipse: s-maj=183.8km s-min=18.9km az=67.0
MAN 15 08:03:06, 974N×12220E, h15km, mb4.3, ML3.2, MS3.0
ISCJB 15 08:03:07.2±0.4, 972N±004×12221E±004, h53km±7km, mb4.1/7, MS3.1/3, Error ellipse: s-maj=7.7km s-min=5.3km az=37.6

NEIC 15 08:03:07.6±0.8, 971N×12253E, h35km, mb4.4/2, Error ellipse: s-maj=18.1km s-min=13.3km az=48.0
ISC 15 08:03:08.3±0.4, 975N±004×12224E±004, h46km±8km, n30, σ1§30/33, mb4.1/7, MS3.1/3, 1C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res (ISC)
AAP	**Anini-y**	**0.73**	**336**	⇓*e*P			**Pn**	**08 03 22.2**	**0.0**
AAP					*e*S		**Sn**	**08 03 31.0**	**-1.4**
GUIM	**Jordan**	**0.94**	**21**	*e*P			**Pn**	**08 03 23.4**	**-1.7**
GUIM					*e*S		**Sn**	**08 03 35.5**	**-1.8**
SNPH	**Sibulan**	**1.06**	**112**	*e*P			**Pn**	**08 03 25.0**	**-1.8**
SNPH					*i* S		**Sn**	**08 03 42.0**	**+1.6**
TBP	**Tagbilaran**	**1.60**	**92**	*e*P			**Pn**	**08 03 33.6**	**-0.5**
TBP					*e*S		**Sn**	**08 03 46.4**	**-7.2**
CUYO	**Cuyo Island**	**1.63**	**312**	*e*P			**Pn**	**08 03 34.3**	**-0.2**
CUYO					*e*S		**Sn**	**08 03 54.6**	**+0.4**
RCP	**Roxas**	**1.87**	**15**	⇑*e*P			**Pn**	**08 03 41.1**	**+3.3**
RCP					*e*S		**Sn**	**08 04 04.6**	**+4.4**
IPIL	**Ipil**	**1.98**	**170**	*e*P			**Pn**	**08 03 38.1**	**-1.2**
PAGZ	**Pagadian**	**2.20**	**149**	*e*P			**Pn**	**08 03 43.5**	**+1.2**
OTRP	**Odiongan**	**2.61**	**355**	*e*P			**Pn**	**08 03 48.7**	**+0.8**
MSLP	**Maasin**	**2.61**	**81**	*e*P			**Pn**	**08 03 49.3**	**+1.4**
SJMP	**San Jose**	**2.91**	**338**	*e*P			**Pn**	**08 03 52.3**	**+0.1**
BUSP	**Coron**	**3.01**	**318**	*e*P			**Pn**	**08 03 52.9**	**-0.5**
ENPP	**El Nido**	**3.12**	**298**	*e*P			**Pn**	**08 03 55.1**	**0.0**
BUKP	**Musuan**	**3.35**	**123**	*e*P			**Pn**	**08 04 00.2**	**+2.0**
PPR	**Puerto Princes**	**3.46**	**271**	⇓*e*P			**Pn**	**08 04 02.0**	**+2.3**
LUBP	**Lubang**	**4.42**	**334**	*e*P			**Pn**	**08 04 13.6**	**+0.8**
BATP	**Bataraza**	**4.48**	**258**	*e*P			**Pn**	**08 04 12.2**	**-1.5**
KKM	**Kota Kinabalu**	**7.01**	**239**	*e*Pn			**Pn**	**08 04 51.0**	**+2.5**
KKM					Sn		**Sn**	**08 06 06.2**	**-0.7**
GUMO	**Guam**	**22.48**	**78**	LR			LR	08 15 19.3	
	comp=Z,47nm,20.6s,MS2.9,baz=216,slow=33								
CMAR	**Chiang Mai Arr**	**24.17**	**294**	LR			LR	08 18 19.9	
	comp=Z,63nm,19.6s,MS3.1,baz=180,slow=37								
KAKA	**Kakadu**	**24.51**	**155**	*e*P			**P**	**08 08 22.4**	**-1.1**
	12nm,0.6s,mb4.6								
WRAB	**Tennant Creek**	**31.81**	**158**	*e*P			**P**	**08 09 27.7**	**-1.1**
	6.1nm,1.7s,mb4.2								
WRA	**Warramunga Arr**	**31.82**	**158**	P			**P**	**08 09 27.4**	**-1.4**
	1.5nm,0.4s,mb4.2,baz=339,slow=9.5,SNR=12								
WB2

GKP *eSg* **Sg** **08 04 33.2 +2.1**
GKP Gorka Klasztor 1.94 20 *ePn* **Pn** **08 04 03.1 +0.1**
GKP *ePg* **Pg** **08 04 06.7 +0.7**
GKP *ePP* 08 04 10.9
GKP *eSg* **Sg** **08 04 33.2 +2.0**
CLL Collm 1.95 267 *ePn* **Pn** **08 04 02.3 -0.8**
CLL *eSg* **Sg** **08 04 31.2 -0.3**
CLL Collm 1.95 267 *i Pn* **Pn** **08 04 02.2 -0.9**
CLL *ePg* **Pg** **08 04 05.0 -1.2**
CLL *i x* x 08 04 08.5
CLL *i Sg* **Sg** **08 04 30.9 -0.6**
comp=Z,795nm,1.0s
CLL *i x* x 08 04 40.5
CLL Collm 1.95 267 *ePn* **Pn** **08 04 01.9 -1.2**
CLL Collm 1.95 267 *ePg* **Pg** **08 04 05.0 -1.2**
CLL Sg **Sg** **08 04 31.2 -0.3**
CLL Collm 1.95 267 *i Pn* **Pn** **08 04 02.2 -0.9**
CLL *ePg* **Pg** **08 04 05.0 -1.2**
CLL *i Sg* **Sg** **08 04 30.9 -0.6**
OKC Ostrava-Krasne 2.08 141 *ePg* **Pg** **08 04 08.4 -0.2**
OKC *eS* **Sg** **08 04 34.7 -0.9**
OKC Ostrava-Krasne 2.08 141 *ePn* **Pn** **08 04 04.0 -0.9**
OKC *ePG* **Pg** **08 04 08.4 -0.2**
OKC *eSG* **Sg** **08 04 34.7 -0.9**
comp=Z,729nm,0.5s
VRAC Vranov 2.18 172 Pn **Pn** **08 04 06.8 +0.6**
comp=Z,28nm,0.3s,baz=346,slow=13,SNR=43
VRAC Lg 08 04 38.2
comp=Z,37nm,0.3s,baz=232,slow=20,SNR=5.8
VRAC Vranov 2.18 172 ⇊*iP* **Pn** **08 04 06.2 0.0**
VRAC Vranov 2.18 172 S **Sn** **08 04 38.6 +4.8**
VRAC Vranov 2.18 172 *ePn* **Pn** **08 04 06.4 +0.2**
VRAC *eSg* **Sg** **08 04 38.1 -0.6**
comp=Z,530nm,0.6s
VRAC Vranov 2.18 172 ⇊P **Pn** **08 04 06.2 0.0**
TREC Trest 2.20 191 *eP* **Pn** **08 04 06.7 +0.1**
TREC *e* 08 04 39.7
TREC smax
comp=N,668nm,0.4s
TREC Trest 2.20 191 *ePn* **Pn** **08 04 06.5 -0.1**
TREC Trest 2.20 191 *ePN* **Pn** **08 04 06.7 +0.1**
TREC *ePG* **Pg** **08 04 10.7 -0.3**
TREC *eSG* **Sg** **08 04 39.7 +0.2**
comp=Z,668nm,0.4s
KRUC Moravsky 2.41 175 *ePn* **Pn** **08 04 09.7 +0.3**
KRUC Moravsky 2.41 175 *ePg* **Pg** **08 04 13.5 -1.4**
KRUC *eSg* **Sg** **08 04 46.0 -0.1**
comp=Z,390nm,0.5s
WERD Werda 2.61 249 *ePn* **Pn** **08 04 12.2 +0.1**
WERD *eSg* **Sg** **08 04 51.9 -0.7**
NKC Novy Kostel 2.62 244 *ePn* **Pn** **08 04 12.4 0.0**
NKC Novy Kostel 2.62 244 *ePN* **Pn** **08 04 12.5 +0.1**
NKC *ePG* **Pg** **08 04 19.7 +0.6**
NKC *eSG* **Sg** **08 04 54.6 +1.5**
comp=Z,907nm,0.4s
OJC Ojcow 2.65 117 *ePn* **Pn** **08 04 10.7 -2.0**
OJC *ePg* **Pg** **08 04 19.2 -0.4**
OJC *eSn* **Sn** **08 04 41.1 -4.4**
OJC *eSg* **Sg** **08 04 54.4 +0.5**
OJC Ojcow 2.65 117 *ePn* **Pn** **08 04 10.8 -1.9**
OJC *eSg* **Sg** **08 04 54.7 +0.8**
OJC Ojcow 2.65 117 *eP* **Pn** **08 04 10.7 -2.0**
OJC *e* 08 04 41.1
KHC Kasperske Hory 2.84 216 *eP* **Pn** **08 04 15.3 0.0**
KHC *e* 08 04 50.8
KHC Kasperske Hory 2.84 216 *ePn* **Pn** **08 04 15.2 -0.1**
KHC Kasperske Hory 2.84 216 *ePg* **Pg** **08 04 21.8 -1.4**
KHC *eS* **Sn** **08 04 50.8 +0.6**
KHC *eSg* **Sg** **08 05 00.1 +0.1**
KHC Kasperske Hory 2.84 216 *ePN* **Pn** **08 04 15.3 0.0**
KHC *ePG* **Pg** **08 04 21.8 -1.4**
KHC *eSN* **Sn** **08 04 50.8 +0.6**
KHC *eSG* **Sg** **08 05 00.9 +0.9**
comp=Z,322nm,0.4s
MGBB Grossbuechelbe 2.89 240 ⇊*iPn* **Pn** **08 04 15.9 -0.1**
MANZ Manzenberg 2.94 241 *ePn* **Pn** **08 04 16.9 +0.2**
MANZ *eSg* **Sg** **08 05 01.4 -1.7**
MOX Moxa 2.95 256 *ePn* **Pn** **08 04 16.6 -0.3**
MOX *eSg* **Sg** **08 05 03.1 -0.4**
MOX Moxa 2.95 256 *i PN* **Pn** **08 04 16.5 -0.4**
MOX *i PG* **Pg** **08 04 24.4 -0.9**
MOX *i SG* **Sg** **08 05 04.2 +0.7**
MOX
comp=Z,300nm,10.0s
MOX Moxa 2.95 256 *ePn* **Pn** **08 04 16.4 -0.5**
MOX Moxa 2.95 256 *i Pg* **Pg** **08 04 24.4 -0.9**
MOX Sg **Sg** **08 05 03.1 -0.4**
MOX Moxa 2.95 256 *i Pn* **Pn** **08 04 16.5 -0.4**
MOX *i Pg* **Pg** **08 04 24.4 -0.9**
MOX *i Sg* **Sg** **08 05 04.2 +0.7**
ROTZ Rotzenmuhle 3.01 237 *ePn* **Pn** **08 04 17.8 +0.2**
ROTZ *eSg* **Sg** **08 05 04.1 -1.2**
GEC2 GERESS Array S 3.04 212 *ePn* **Pn** **08 04 18.4 +0.3**
GEC2 *eSg* **Sg** **08 05 06.4 0.0**
GEC2 GERESS Array S 3.04 212 *ePn* **Pn** **08 04 18.1 0.0**
GEC2 Sg **Sg** **08 05 06.4 0.0**
GEC2 GERESS Array S 3.04 212 *ePn* **Pn** **08 04 18.1 0.0**
GEC2 *eSn* **Sn** **08 04 58.9 +3.7**
GERES GERESS Array B 3.04 212 Pn **Pn** **08 04 18.0 -0.1**
comp=Z,30nm,0.3s,baz=31,slow=13,SNR=238
GERES Pg **Pg** **08 04 25.6 -1.5**
comp=Z,59nm,0.3s,baz=26,slow=17,SNR=64
GERES Lg 08 05 05.3
comp=Z,69nm,0.3s,baz=33,slow=22,SNR=6.1
GERES GERESS Array B 3.04 212 Pg **Pg** **08 04 25.6 -1.4**
LIKS Likavka 3.09 140 *ePN* **Pn** **08 04 20.2 +1.5**
LIKS *ePG* **Pg** **08 04 28.2 +0.3**
LIKS *eSG* **Sg** **08 05 08.5 +0.6**
WET Wettzell 3.11 223 *ePn* **Pn** **08 04 19.1 0.0**
WET *eSg* **Sg** **08 05 07.2 -1.4**
WET Wettzell 3.11 223 *ePn* **Pn** **08 04 18.9 -0.1**
WET Sg **Sg** **08 05 07.2 -1.4**
WET Wettzell 3.11 223 *ePn* **Pn** **08 04 19.1 +0.1**
WET *eSg* **Sg** **08 05 07.2 -1.4**
WAR Warsaw 3.15 74 *ePn* **Pn** **08 04 19.9 +0.3**
MODS Modra-Piesok 3.18 166 *ePN* **Pn** **08 04 21.5 +1.5**
MODS *ePG* **Pg** **08 04 29.1 -0.6**
MODS *eSG* **Sg** **08 05 10.3 -0.6**
KOLL Kolacno 3.24 152 *ePN* **Pn** **08 04 20.9 0.0**
KOLL *eSG* **Sg** **08 05 12.6 -0.3**
ZST Bratislava 3.33 168 *ePN* **Pn** **08 04 23.0 +0.9**
ZST *ePG* **Pg** **08 04 30.8 -1.8**
ZST *eSG* **Sg** **08 05 14.2 -1.5**
NIE Niedzica 3.38 126 *ePn* **Pn** **08 04 22.8 +0.1**
NIE *ePg* **Pg** **08 04 32.8 -0.7**
NIE *eSg* **Sg** **08 05 17.5 +0.3**
CONA Conrad Observa 3.54 183 *i Pn* **Pn** **08 04 25.2 +0.3**
SNR=79
CONA ⇑*iPg* **Pg** **08 04 35.4 -1.2**
CONA ⇓*iSg* **Sg** **08 05 22.5 0.0**
comp=Z,387nm,0.4s
CONA Conrad Observa 3.54 183 Pn **Pn** **08 04 25.2 +0.3**
comp=Z,79nm,3.0s
CSNA Conrad Observa 3.54 183 ⇊*iPn* **Pn** **08 04 25.2 +0.3**
CSNA ⇑*iPg* **Pg** **08 04 35.2 -1.4**
CSNA ⇑*iSg* **Sg** **08 05 21.9 -0.6**
comp=Z,384nm,0.5s
GRA1 Grafenberg Arr 3.58 242 *ePn* **Pn** **08 04 25.9 +0.4**
GRA1 *eSg* **Sg** **08 05 23.7 -0.1**
GRF Grafenberg Arr 3.58 242 *ePn* **Pn** **08 04 25.9 +0.4**
GRF *eSg* **Sg** **08 05 23.7 -0.1**
GRF Grafenberg Arr 3.58 242 *ePn* **Pn** **08 04 25.9 +0.4**
GRF *eSg* **Sg** **08 05 23.7 -0.1**
CLZ Clausthal 3.59 278 *ePn* **Pn** **08 04 25.4 -0.3**
CLZ Clausthal 3.59 278 *ePn* **Pn** **08 04 25.4 -0.3**
BSD Bornholm Skovb 3.73 349 *i P* **Pn** **08 04 25.5 -2.1**
BSD *i* 08 04 31.7
BSD *i S* **Sn** **08 05 06.3 -5.9**
SOP Sopron 3.79 175 ⇊*ePn* **Pn** **08 04 28.9 +0.5**
SOP *eSn* **Sb** **08 05 24.0 +1.0**
SOP Sopron 3.79 175 ⇑*ePn* **Pn** **08 04 28.9 +0.5**
MOA Molln 3.81 199 *i Pn* **Pn** **08 04 28.9 +0.3**
SNR=112
MOA ⇓*iSg* **Sg** **08 05 31.2 +0.2**
comp=Z,519nm,0.5s
HROE Hohe Rhon--Fla 3.87 259 ⇊*iPn* **Pn** **08 04 29.2 -0.3**
KECS Kecovo 4.11 135 *ePN* **Pn** **08 04 32.1 -0.6**
KECS *ePG* **Pg** **08 04 47.4 -0.1**
KECS *eSG* **Sg** **08 05 40.2 -0.4**
PENC Penc 4.21 149 ⇑*ePn* **Pn** **08 04 34.8 +0.6**
ARSA Arzberg 4.23 185 ⇑*iPn* **Pn** **08 04 35.2 +0.8**
SNR=24
ARSA ⇓*iSg* **Sg** **08 05 44.2 -0.5**
comp=Z,441nm,0.6s
ARSA Arzberg 4.23 185 Pn **Pn** **08 04 35.2 +0.7**
comp=Z,24nm,4.0s
ARSA Sg **Sg** **08 05 44.2 -0.4**
comp=Z,441nm,0.6s
CRVS Cervenica-Dubn 4.29 125 *ePN* **Pn** **08 04 35.3 +0.1**
CRVS *ePG* **Pg** **08 04 49.2 -1.8**
CRVS *eSG* **Sg** **08 05 46.2 -0.3**
BGLD Berchtesgaden 4.31 209 ⇑*iPn* **Pn** **08 04 35.9 +0.3**
PSZ Piszkesteto 4.31 144 ⇓*ePn* **Pn** **08 04 36.2 +0.6**
PSZ *eSB* **Sb** **08 05 46.6 +8.6**
PSZ Piszkesteto 4.31 144 ⇑*iP* **Pn** **08 04 36.1 +0.5**
PSZ Piszkesteto 4.31 144 *ePn* **Pn** **08 04 36.1 +0.5**
PSZ Piszkesteto 4.31 144 *ePn* **Pn** **08 04 36.1 +0.5**
PKSG 4.33 159 ⇑*ePn* **Pn** **08 04 36.2 +0.3**
BUD Budapest 4.41 153 *ePn* **Pn** **08 04 35.8 -1.1**
KWP Kalwaria 4.59 111 *ePg* **Pg** **08 04 53.6 -3.1**
KWP *eSn* **Sg** **08 05 57.4 +1.2**
KWP *eSg* **Sg** **08 06 12.2 +16**
KWP Kalwaria 4.59 111 ⇑*iP* **Pg** **08 04 53.5 -3.2**
KWP Kalwaria 4.59 111 *ePg* **Pg** **08 04 53.7 -3.0**
KOLS Kolonicke sedl 4.70 120 *ePN* **Pn** **08 04 40.4 -0.5**
KOLS *e* 08 05 00.0
KBA Koelnbreinsper 4.74 203 *i Pn* **Pn** **08 04 42.2 +0.7**
SNR=94
KBA ⇑*iSg* **Sg** **08 06 01.3 +0.2**
comp=Z,206nm,0.5s
SOKA Soboth 4.84 189 ⇓*iPn* **Pn** **08 04 43.1 +0.3**
SOKA ⇑*iSg* **Sg** **08 06 04.0 -0.2**
comp=Z,112nm,0.8s
PERS Pernice 4.87 188 *ePn* **Pn** **08 04 44.9 +1.7**
UZH Uzhgorod 4.89 123 *eP* **Pn** **08 04 38.0 -5.5**
UZH *eS* **Sn** **08 05 33.0 -7.7**
UZH smax
comp=N,200nm,0.9s
UZH smax
comp=E,200nm,0.9s
SUW Suwalki 5.00 56 *ePn* **Pn** **08 04 44.4 -0.7**
SUW *ePg* **Pg** **08 05 09.3 +4.7**
SUW *eSn* **Sg** **08 06 10.6 +1.3**
SUW Suwalki 5.00 56 *ePn* **Pn** **08 04 44.4 -0.6**
SUW *ePg* **Pg** **08 05 09.3 +4.7**
SUW *eSn* **Sg** **08 06 10.6 +1.3**
TOD Tromm 5.01 251 P **Pn** **08 04 44.3 -0.9**
TOD S **Sn** **08 05 39.8 -4.0**
KOGS Kog 5.02 179 *ePn* **Pn** **08 04 46.1 +0.8**
KOGS *eSn* **Sg** **08 06 10.8 +0.9**
OBKA Obir 5.06 192 ⇓*iPn* **Pn** **08 04 46.3 +0.5**
SNR=9.4
OBKA ⇑*iSg* **Sg** **08 06 11.4 +0.2**
comp=E,338nm,0.9s
OBKA Obir 5.06 192 Pn **Pn** **08 04 46.3 +0.5**
SNR=9.4
OBKA Sg **Sg** **08 06 11.4 +0.1**
comp=E,338nm,0.9s
OBKA Obir 5.06 192 ⇓*iPn* **Pn** **08 04 46.3 +0.5**
OBKA *i Sg* **Sg** **08 06 11.4 +0.2**
WATA Walderalm 5.08 217 ⇓*iPn* **Pn** **08 04 46.5 +0.4**
SNR=38
WATA ⇑*iSg* **Sg** **08 06 14.1 +2.2**
comp=E,127nm,0.6s
WTTA Wattenberg 5.12 217 ⇓*iPn* **Pn** **08 04 47.2 +0.6**
SNR=22
WTTA ⇑*iSg* **Sg** **08 06 14.4 +1.4**
comp=E,166nm,0.5s
STU Stuttgart 5.20 242 P **Pn** **08 04 47.0 -0.7**
STU pmax pmax
comp=Z,27nm,0.4s
STU Stuttgart 5.20 242 Pn **Pn** **08 04 47.0 -0.7**
comp=Z,27nm,0.4s
MOTA Moosalm 5.25 220 ⇑*iPn* **Pn** **08 04 48.9 +0.4**
SNR=57
MOTA ⇓*iSg* **Sg** **08 06 19.0 +1.5**
comp=Z,129nm,0.6s
MOTA Moosalm 5.25 220 Pn **Pn** **08 04 48.9 +0.4**
SNR=57
MOTA Sg **Sg** **08 06 19.0 +1.5**
comp=Z,129nm,0.6s
ABTA Abfaltersbach 5.27 208 ⇑*iPn* **Pn** **08 04 49.7 +0.9**
SNR=44
ABTA ⇑*iSg* **Sg** **08 06 19.5 +1.4**
comp=Z,139nm,0.5s
RETA Reutte 5.29 223 *i Pn* **Pn** **08 04 48.9 0.0**
SNR=44
RETA ⇓*iSg* **Sg** **08 06 20.1 +1.6**
comp=Z,124nm,0.5s
RETA Reutte 5.29 223 Pn **Pn** **08 04 48.9 -0.1**
SNR=44
RETA Sg **Sg** **08 06 20.1 +1.6**
comp=Z,124nm,0.5s
LVV L'vov 5.30 105 *eP* **Pn** **08 04 45.4 -3.8**
LVV *eS* **Sn** **08 05 48.8 -2.1**
LVV MLR MLR
comp=Z,300nm,2.0s
LVV L'vov 5.30 105 *eP* **Pn** **08 04 45.4 -3.8**
comp=Z,300nm,2.0s
LVV *eS* **Sn** **08 05 48.8 -2.1**
PKSM Moragy 5.51 161 ⇑*iP* **Pn** **08 04 52.6 +0.5**
PKSM Moragy 5.51 161 ⇓*ePn* **Pn** **08 04 52.6 +0.5**
PKSM Moragy 5.51 161 ⇑P **Pn** **08 04 52.6 +0.6**
VOY Vojsko 5.63 196 *ePn* **Pn** **08 04 54.2 +0.6**
VOY *e* 08 05 15.2
VOY *eSn* **Sg** **08 06 29.4 0.0**
VOY *e* 08 06 32.0
VOY Vojsko 5.63 196 *ePn* **Pn** **08 04 54.2 +0.6**
VOY *eSn* **Sg** **08 06 29.4 0.0**
CRES Cresnjev 5.65 185 *ePn* **Pn** **08 04 54.9 +0.9**
FETA Feichten 5.67 220 ⇑*iPn* **Pn** **08 04 54.7 +0.5**
SNR=10.0
FETA ⇑*iSg* **Sg** **08 06 33.2 +2.4**
comp=Z,128nm,0.9s
RHK3 Tenkes 5.75 165 ⇓*ePn* **Pn** **08 04 56.5 +1.1**
WTSB Winterswijk 5.81 279 ⇑*iPn* **Pn** **08 04 56.4 +0.3**
comp=Z,21nm,0.5s
WTSB Winterswijk 5.81 279 *eSn* **Sg** **08 06 37.4 +2.1**
DAVA Damuels 5.83 227 ⇑*iPn* **Pn** **08 04 56.2 -0.2**
SNR=9.5
DAVA ⇓*iSg* **Sg** **08 06 39.7 +3.8**
comp=Z,243nm,1.0s
LANF Langenberg 5.88 248 P **Pn** **08 04 56.1 -1.0**
BFO Black Forest 5.92 241 *eP* **Pn** **08 04 56.8 -0.9**
BFO pmax pmax
comp=Z,41nm,0.5s
BFO Black Forest 5.92 241 *eP* **Pn** **08 04 56.8 -0.9**
comp=Z,41nm,0.5s
BFO Black Forest 5.92 241 *ePn* **Pn** **08 04 56.8 -0.9**
comp=Z,41nm,0.5s
BFO *eSg* **Sg** **08 06 40.7 +1.8**
RUP Ruppelstein 6.03 257 P **Pn** **08 04 58.8 -0.3**
DAVOS Davos 6.21 224 P **Pn** **08 05 02.2 +0.6**
DAVOX Davos/Dischmat 6.21 224 Pn **Pn** **08 05 02.2 +0.5**
comp=Z,4.6nm,0.3s,baz=24,slow=14,SNR=34
DAVOX Pg **Pg** **08 05 26.0 -1.9**
comp=Z,5.2nm,0.3s,baz=68,slow=11,SNR=6.4
DAVOX Lg 08 06 47.4
comp=Z,7.6nm,0.3s,baz=357,slow=22,SNR=4.5
DAVOX Davos/Dischmat 6.21 224 Pg **Pg** **08 05 26.0 -1.8**
FELD Feldberg im Sc 6.37 239 P **Pn** **08 05 01.9 -1.9**
DRGR 6.37 135 ⇓*iP* **Pn** **08 05 03.7 -0.1**
DRGR 6.37 135 S **Sn** **08 06 08.3 -8.9**
DRGR 6.37 135 ⇓P **Pn** **08 05 03.7 -0.1**
MEM Membach 6.43 266 P **Pn** **08 05 04.5 -0.1**
HGN Heimansgroeve 6.45 268 *ePn* **Pn** **08 05 07.2 +2.4**
HGN Heimansgroeve 6.45 268 *eSn* **Sg** **08 06 51.1 -4.6**
CDF Champ du Feu 6.46 245 *ePn* **Pn** **08 05 03.6 -1.5**
CDF *ePg* **Pg** **08 05 32.5 -0.1**
WLF Walferdange 6.59 258 P **Pn** **08 05 07.0 +0.1**
WLF Walferdange 6.59 258 *eP* **Pn** **08 05 07.2 +0.3**
WLF pmax pmax
comp=Z,18nm,0.6s
WLF Walferdange 6.59 258 *ePn* **Pn** **08 05 07.2 +0.3**
comp=Z,18nm,0.6s
WLF Sg **Sg** **08 06 58.2 -2.2**
WLF Walferdange 6.59 258 *ePn* **Pn** **08 05 07.2 +0.3**
comp=Z,18nm,0.6s
WLF Sg **Sg** **08 06 58.2 -2.2**
BEBN Eben Emael 6.60 268 P **Pn** **08 05 10.0 +3.0**
ECH Echery 6.64 244 P **Pn** **08 05 07.7 +0.2**
ECH Echery 6.64 244 *ePn* **Pn** **08 05 06.4 -1.1**
TUE Stuetta 6.69 224 *ePn* **Pn** **08 05 08.8 +0.6**
comp=Z,16nm,0.5s
TUE Stuetta 6.69 224 *ePn* **Pn** **08 05 08.8 +0.6**
comp=Z,16nm,0.5s
BCLA Clavier 6.91 266 P **Pn** **08 05 11.4 +0.2**
NVLJ Novalja 6.95 187 *ePn* **Pn** **08 05 12.9 +1.1**
HINF Hinteralfeld 7.03 242 *ePg* **Pg** **08 05 41.8 -1.6**
HINF *eSg* **Sg** **08 07 10.7 -3.7**
comp=Z,211nm,0.8s
HINF Hinteralfeld 7.03 242 *eSg* **Sg** **08 07 10.7 -3.7**
comp=Z,106nm,0.8s
HINF Hinteralfeld 7.03 242 *ePn* **Pn** **08 05 12.1 -0.8**
HINF *ePg* **Pg** **08 05 41.8 -1.6**
HINF *eSg* **Sg** **08 07 10.7 -3.7**
BURAR Bucovina Array 7.07 119 ⇑*iP* **Pn** **08 05 13.1 -0.3**
BURAR Bucovina Array 7.07 119 ⇑P **Pn** **08 05 13.1 -0.3**
HAU Haudompre 7.21 245 *ePg* **Pg** **08 05 44.6 -2.2**
HAU *eSg* **Sg** **08 07 16.0 -4.1**
comp=Z,189nm,0.9s
HAU Haudompre 7.21 245 *eSg* **Sg** **08 07 16.0 -4.1**
comp=Z,95nm,0.9s
HAU Haudompre 7.21 245 *ePn* **Pn** **08 05 14.5 -0.8**
HAU *ePg* **Pg** **08 05 44.6 -2.2**
HAU *eSg* **Sg** **08 07 16.0 -4.1**
GIVF Givet 7.28 264 *ePn* **Pn** **08 05 16.5 +0.1**
THEF They Montfort 7.30 248 P **Pn** **08 05 15.8 -0.8**
DOU Dourbes 7.43 264 P **Pn** **08 05 19.1 +0.8**
BAIF Baives 7.68 264 *ePn* **Pn** **08 05 21.4 -0.4**
MEZF Maizieres J'vi 7.72 252 *ePn* **Pn** **08 05 20.1 -2.2**
baz=63
SFTF Sexfontaines 7.86 250 *ePn* **Pn** **08 05 22.0 -2.3**
GRAM Graiana 8.06 212 P **Pn** **08 05 27.8 +0.7**
GRAM Graiana 8.06 212 P **Pn** **08 05 27.8 +0.7**
VALM Valbona 8.13 211 P **Pn** **08 05 29.7 +1.7**
VALM Valbona 8.13 211 P **Pn** **08 05 29.7 +1.8**
CABF La Chapelle 8.18 238 *ePg* **Pg** **08 06 03.3 -2.0**
CABF *eSg* **Sg** **08 07 48.8 -2.4**
comp=Z,509nm,1.3s
CABF La Chapelle 8.18 238 *ePn* **Pn** **08 05 27.2 -1.4**
CABF *ePg* **Pg** **08 06 03.3 -2.0**
CABF *eSg* **Sg** **08 07 48.8 -2.4**
CODM Codolo 8.22 213 P **Pn** **08 05 30.5 +1.2**
CODM Codolo 8.22 213 P **Pn** **08 05 30.5 +1.3**
SARO Sassorosso 8.23 210 P **Pn** **08 05 30.2 +0.9**
SARO Sassorosso 8.23 210 P **Pn** **08 05 30.2 +0.9**
BACM Baccana 8.25 212 P **Pn** **08 05 30.9 +1.3**
BACM Baccana 8.25 212 P **Pn** **08 05 30.9 +1.3**
VLC Villacollemand 8.25 210 *ePn* **Pn** **08 05 31.1 +1.4**
comp=Z,7.7nm,0.7s
KIEV Kiev 8.29 90 *eP* **Pn** **08 05 28.4 -1.7**
KIEV pmax pmax
comp=Z,47nm,0.6s
KIEV Kiev 8.29 90 *ePn* **Pn** **08 05 28.4 -1.8**
comp=Z,47nm,0.6s
AKASG Malin Array Be 8.30 90 Pn **Pn** **08 05 28.1 -2.1**
comp=Z,13nm,0.3s,baz=279,slow=12,SNR=37
AKASG Pg **Pg** **08 05 54.9 -13**
comp=Z,3.8nm,0.3s,baz=286,slow=14,SNR=8.1
AKASG Lg 08 07 56.7
comp=Z,2.2nm,0.3s,baz=277,slow=26,SNR=4.7
AKASG Malin Array Be 8.30 90 Pn **Pn** **08 05 28.1 -2.1**
AKASG Pg **Pg** **08 05 54.9 -13**
AKASG Lg 08 07 56.7
SC2M Scurtabo 8.32 215 P **Pn** **08 05 31.6 +1.0**
SC2M Scurtabo 8.32 215 P **Pn** **08 05 31.6 +1.0**
VINC Vinca 8.35 211 P **Pn** **08 05 32.5 +1.6**
VINC Vinca 8.35 211 P **Pn** **08 05 32.5 +1.6**
MAIM Mastiano 8.44 209 P **Pn** **08 05 32.5 +0.2**
MAIM Mastiano 8.44 209 P **Pn** **08 05 32.5 +0.2**
LSD Lago del Serru 8.45 228 P **Pn** **08 05 33.3 +0.9**
LSD Lago del Serru 8.45 228 P **Pn** **08 05 33.3 +1.0**
GENL Genova Univers 8.53 217 P **Pn** **08 05 34.9 +1.5**
GENL Genova Univers 8.53 217 P **Pn** **08 05 34.9 +1.5**
PCP Piancastagn 8.58 219 P **Pn** **08 05 35.2 +1.1**
PCP Piancastagn 8.58 219 P **Pn** **08 05 35.1 +1.1**
LPL La Plagne 8.61 230 *ePn* **Pn** **08 05 35.2 +0.7**
LPG La Plagne 8.61 230 *ePn* **Pn** **08 05 35.2 +0.6**
LPG *ePg* **Pg** **08 06 11.4 -2.2**
RSP Reno Superiore 8.63 226 P **Pn** **08 05 34.3 -0.6**
HFS Hagfors 8.80 352 Pn **Pn** **08 05 35.8 -1.3**
comp=Z,1.7nm,0.3s,baz=179,slow=13,SNR=24
HFS Sn **Sn** **08 07 10.7 -6.2**
comp=Z,1.9nm,0.3s,baz=190,slow=24,SNR=4.2
BHB Bricherasio 8.87 225 P **Pn** **08 05 37.3 -0.9**
BNI Bardonecchia 8.98 228 *eP* **Pn** **08 05 40.5 +0.9**
BNI pmax pmax
comp=Z,6.0nm,0.6s
BNI Bardonecchia 8.98 228 *ePn* **Pn** **08 05 40.5 +0.9**
comp=Z,6.1nm,0.6s
BNI Bardonecchia 8.98 228 *ePn* **Pn** **08 05 40.5 +0.9**
comp=Z,6.1nm,0.6s
BNI Sn **Sn** **08 07 32.6 +11**
FIN Finale Ligure 8.99 219 P **Pn** **08 05 40.7 +1.0**
FIN Finale Ligure 8.99 219 P **Pn** **08 05 40.7 +1.0**
LOR Lormes 9.02 247 *ePn* **Pn** **08 05 38.1 -2.1**
baz=59
LOR *eSg* **Sg** **08 08 14.9 -3.4**
comp=Z,188nm,1.3s
RRL Rocca Remolon 9.03 227 P **Pn** **08 05 40.7 +0.4**
RRL Rocca Remolon 9.03 227 P **Pn** **08 05 40.7 +0.4**
ROB Robourent 9.05 221 P **Pn** **08 05 40.9 +0.3**
RORO Rocca Rossa 9.12 219 P **Pn** **08 05 41.9 +0.3**
MBDF Montbardon 9.18 226 *ePn* **Pn** **08 05 42.2 -0.2**
VSU Vasula 9.30 37 ⇑*iP* **Pn** **08 05 42.5 -1.4**
STV Sant Anna di V 9.32 223 P **Pn** **08 05 44.1 -0.2**
SSF Saint Saulge 9.34 247 *ePn* **Pn** **08 05 42.7 -1.8**
SSF *ePg* Pn 08 06 25.2 +41
SSF *eSg* Sn 08 08 25.1 +55
SMF Signal de Mont 9.38 244 *ePg* Px 08 06 24.8
SMF *eSg* Sx 08 08 26.1
comp=Z,74nm,0.7s
SMF Signal de Mont 9.38 244 *ePn* **Pn** **08 05 43.5 -1.6**
SMF *ePg* Pn 08 06 24.8 +40
SMF *eSg* Sn 08 08 26.1 +55
SAOF Saorge 9.43 221 P **Pn** **08 05 45.9 0.0**
ORIF Oris-en-Rattie 9.45 230 *ePn* **Pn** **08 05 46.0 -0.1**
AUTN L'Aution 9.48 221 P **Pn** **08 05 46.0 -0.5**
NEGI Seborga 9.49 220 P **Pn** **08 05 46.4 -0.2**
TOUF Mont Tournerai 9.54 222 P **Pn** **08 05 47.5 +0.2**
AVF Avril sur Loir 9.57 246 *ePg* Px 08 06 27.5
AVF *eSg* Sx 08 08 32.1
comp=Z,120nm,1.2s
AVF Avril sur Loir 9.57 246 *ePn* **Pn** **08 05 45.8 -2.0**
AVF *ePg* Pn 08 06 27.5 +40
AVF *eSg* Sn 08 08 32.1 +56
SBF Sospel 9.59 221 *ePn* **Pn** **08 05 48.4 +0.5**
LUCF Luceram 9.60 221 P **Pn** **08 05 48.4 +0.3**
REVF Revere 9.71 221 P **Pn** **08 05 50.0 +0.3**
HYF Humbligny 9.73 250 *ePn* **Pn** **08 05 49.7 -0.3**
CALN Calern 9.90 222 P **Pn** **08 05 52.6 +0.3**
NB2 NORSAR Subarra 9.98 346 Pn **Pn** **08 05 49.2 -4.0**
comp=Z,2.4nm,0.6s,baz=162,slow=14
NOA NORSAR Array B 9.98 346 Pn **Pn** **08 05 49.9 -3.3**
comp=Z,1.5nm,0.3s,baz=174,slow=13,SNR=11
NOA Sn **Sn** **08 07 39.4 -6.4**
comp=Z,1.1nm,0.3s,baz=309,slow=3.0,SNR=3.5
NOA NORSAR Array B 9.98 346 Pn **Pn** **08 05 49.9 -3.3**
NOA Sn **Sn** **08 07 39.4 -6.4**
BGF Bois d'Agland 9.99 246 *ePg* Px 08 06 36.2
BGF *eSg* Sx 08 08 42.2
comp=Z,71nm,0.7s
BGF Bois d'Agland 9.99 246 *eSg* Sx 08 08 42.2
comp=Z,36nm,0.7s
BGF Bois d'Agland 9.99 246 *ePn* **Pn** **08 05 51.3 -2.2**
BGF *ePg* Pn 08 06 36.2 +43
BGF *eSg* Sn 08 08 42.2 +56
VIVF Saint-Julien-l 10.09 234 *ePn* **Pn** **08 05 54.7 -0.2**
PGF Pioggiola 10.14 211 *ePn* **Pn** **08 05 55.2 -0.4**
FRF La Foret Royal 10.16 223 *ePn* **Pn** **08 05 55.9 +0.1**
SMRF Simiane la Rot 10.31 228 *ePn* **Pn** **08 05 57.6 -0.2**
LMR La Mourre 10.40 222 *ePn* **Pn** **08 05 59.1 0.0**
LDF La Druitiere 10.83 261 *ePn* **Pn** **08 06 04.1 -0.8**
FLN La Foliniere 10.99 262 *ePn* **Pn** **08 06 06.3 -0.8**
baz=86
LASF Ste Croix 11.06 233 *ePn* **Pn** **08 06 07.5 -0.6**
MFF Saint Martin d 11.72 252 *ePn* **Pn** **08 06 16.1 -1.0**
ESK Eskdalemuir 12.15 296 *eP* **Pn** **08 06 19.2 -3.8**
MTLF Montolieu 12.41 235 *ePn* **Pn** **08 06 24.6 -2.0**
SGMF Saint Gilles 12.46 262 *ePn* **Pn** **08 06 26.3 -0.9**
OBN Obninsk 12.77 65 ⇑*iP* **Pn** **08 06 25.5 -5.9**
OBN *eSS* 08 09 06.2
OBN pmax pmax
comp=Z,20nm,0.7s
NSS Namsos 13.29 352 *eP* **Pn** **08 06 34.0 -4.4**
MOS Moscow 13.46 63 *eP* **Pn** **08 06 34.3 -6.5**

JOF	Joensuu	14.09	30	*e*p		Pn	08 06 41.4	-7.9
MOR8	Moi Rana	14.78	357	⇓*i*P		Pn	08 06 55.5	-3.3
MOR8					AMb	AMB	08 06 57.1	
	comp=Z,14nm,0.5s							
MOR8	Moi Rana	14.78	357	⇓*i*P		Pn	08 06 55.5	-3.3
	comp=Z,14nm,0.5s							
STOK	Stokkvaagen	15.00	355	*e*P		Pn	08 06 58.4	-3.4
STOK					AMb	AMB	08 07 00.0	
	comp=Z,55nm,1.4s							
STOK	Stokkvaagen	15.00	355	*e*P		Pn	08 06 58.4	-3.4
	comp=Z,55nm,1.4s							
KTK1	Kautokeino	17.94	8	⇓*i*P		Pn	08 07 35.0	-4.3
KTK1					AMb	AMB	08 07 39.0	
	comp=Z,36nm,1.8s							
KTK1	Kautokeino	17.94	8	⇓*i*P		Pn	08 07 35.0	-4.3
	comp=Z,36nm,1.8s							
ARCES	ARCESS Array B	18.67	10	Pn		Pn	08 07 43.0	-5.3
	comp=Z,3.0nm,0.3s,baz=193,slow=12,SNR=44							
ARE0	ARCESS Array S	18.67	10	*e*P		Pn	08 07 43.7	-4.5
KEV	Kevo	19.06	12	*e*p		Pn	08 07 48.0	-5.0
KIV	Kislovodsk	19.32	102	*e*P		Pn	08 07 54.4	-1.9
KIV					pmax	pmax		
	comp=Z,7.0nm,0.8s							
KIV	Kislovodsk	19.32	102	*e*P		Pn	08 07 54.4	-1.9
	comp=Z,7.0nm,0.8s							
GNI	Garni	22.79	109	⇑*i*P		P	08 08 32.5	-0.3
GNI					pmax	pmax		
	comp=Z,23nm,1.7s							
GNI	Garni	22.79	109	*i* P		P	08 08 32.5	-0.3
	comp=Z,23nm,1.7s,mb4.4							
ARU	Arti	25.16	62	*d*iP		P	08 08 54.1	-1.3
ARU				*e*PPP			08 09 33.1	
ARU				*e*S		S	08 13 21.3	+0.2
ARU					pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7							
ARU	Arti	25.16	62	*i* P		P	08 08 54.1	-1.3
	comp=Z,16nm,1.0s,mb4.7							
ARU	Arti	25.16	62	*e*P		P	08 08 53.7	-1.7
	comp=Z,10nm,0.5s,mb4.8							
AKTK	Aktyubinsk	26.17	76	P		P	08 09 04.3	-0.3
AKTK	Aktyubinsk	26.17	76	P		P	08 09 04.3	-0.3
AKTO	Aktyubinsk	26.17	76	P		P	08 09 04.3	-0.3
	comp=Z,6.8nm,0.6s,mb4.5,baz=284,slow=9.4,SNR=20							
SPITS	Spitsbergen Ar	26.83	0	P		P	08 09 10.2	-0.1
	comp=Z,3.1nm,0.5s,mb4.3,baz=283,slow=11,SNR=7.6							
BRVK	Borovoye	32.54	65	*e*P		P	08 10 01.9	+0.8
BRVK					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
BRVK	Borovoye	32.54	65	*e*P		P	08 10 01.9	+0.8
	comp=Z,5.2nm,0.8s,mb4.5							
BRVK	Borovoye	32.54	65	*e*P		P	08 10 01.9	+0.7
	comp=Z,5.2nm,0.8s,mb4.5							
BVAR	Borovoye Array	32.61	66	P		P	08 10 02.5	+0.7
	comp=Z,3.4nm,0.5s,mb4.5,baz=292,slow=8.3,SNR=26							
KURK	Kurchatov	38.21	66	⇑*i*P		P	08 10 49.4	-0.5
KURK					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2							
KURK	Kurchatov	38.21	66	*i* P		P	08 10 49.4	-0.5
	comp=Z,4.0nm,0.8s,mb4.2							
NVS	Novosibirsk	39.01	58	*e*P		P	08 10 56.5	-0.1
NVS				*e*			08 12 28.0	
TORD	Torodi Ar. Bea	39.95	202	P		P	08 11 04.9	+0.1
	comp=Z,3.8nm,0.7s,mb4.1,baz=9.6,slow=8.4,SNR=24							
ZAL	Zalesovo	40.22	59	P		P	08 11 07.7	+1.0
ZALV	Zalesovo Beam	40.23	59	P		P	08 11 07.7	+1.0
	comp=Z,1.1nm,0.5s,mb3.8,baz=279,slow=9.8,SNR=5.5							
MKAR	Makanchi Array	42.23	69	P		P	08 11 23.4	0.0
	comp=Z,1.2nm,0.7s,mb3.7,baz=302,slow=6.7,SNR=13							
MKAR					PP	PP	08 12 59.6	-1.1
	comp=Z,0.6nm,0.6s,baz=306,slow=8.3,SNR=4.4							
HVS	Khovu-Aksy	46.33	58	⇑*i*P		P	08 11 55.8	-0.3
SCHQ	Schefferville	47.10	308	P		P	08 12 00.8	-1.2
	comp=Z,2.7nm,0.7s,mb4.5,baz=71,slow=8.2,SNR=7.4							
SCHQ	Schefferville	47.10	308	P		P	08 12 00.8	-1.2
TLY	Talaya	51.16	53	⇓*i*P		P	08 12 34.2	+1.1
TLY					pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3							
TLY	Talaya	51.16	53	*i* P		P	08 12 34.2	+1.1
	comp=Z,7.0nm,1.7s,mb4.3							
ZAK	Zakamensk	51.76	55	*e*P		P	08 12 38.4	+0.8
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.1							
ZAK	Zakamensk	51.76	55	*e*P		P	08 12 38.4	+0.8
	comp=Z,4.0nm,1.5s,mb4.1							
SONM	Songino Array	54.95	55	P		P	08 13 01.7	+0.6
	comp=Z,1.6nm,0.8s,mb4.1,baz=299,slow=7.9,SNR=13							
YKA	Yellowknife Ar	59.90	336	P		P	08 13 35.8	-0.1
	comp=Z,3.1nm,0.6s,mb4.5,baz=28,slow=6.8,SNR=21							
YKA	Yellowknife Ar	59.90	336	P		P	08 13 35.8	-0.1
ULM	Lac du Bonnet	63.40	318	P		P	08 13 59.1	-0.5
	comp=Z,1.1nm,0.6s,mb4.1,baz=42,slow=8.3,SNR=4.9							
CHUM	Lake Minchumin	64.64	354	*e*P		P	08 14 08.6	+1.0
CHUM	Lake Minchumin	64.64	354	*e*P		P	08 14 08.6	+1.0
EGMT	Eagleton	70.60	325	*e*P		P	08 14 46.3	+0.8
	comp=Z,8.1nm,0.7s,mb5.0							
EGMT	Eagleton	70.60	325	*e*PP		PP	08 17 19.0	-2.1
EGMT	Eagleton	70.60	325	*e*P		P	08 14 46.3	+0.8
	comp=Z,8.1nm,0.7s,mb5.0							
EGMT				*e*PP		PP	08 17 19.0	-2.1
CMAR	Chiang Mai Arr	71.36	84	P		P	08 14 50.3	-0.2
	comp=Z,1.4nm,0.6s,mb4.3,baz=314,slow=7.1,SNR=6.4							
GCMT	Greycliff	72.46	323	*e*P		P	08 14 57.7	+1.0
GCMT	Greycliff	72.46	323	*e*P		P	08 14 57.7	+1.0
BOZ	Bozeman (W)	73.30	325	*e*P		P	08 15 02.9	+1.2
BOZ					pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.6							
BOZ	Bozeman (W)	73.30	325	*e*P		P	08 15 02.9	+1.2
	comp=Z,7.5nm,1.4s,mb4.6							
BOZ	Bozeman (W)	73.30	325	*e*P		P	08 15 02.9	+1.1
	comp=Z,7.5nm,1.4s,mb4.6							
OD2	Odessa Site #2	74.17	330	*e*P		P	08 15 07.4	+0.6
OD2	Odessa Site #2	74.17	330	*e*P		P	08 15 07.4	+0.5
FLWY	Flagg Ranch	74.29	323	*e*P		P	08 15 10.2	+2.6
	comp=Z,8.7nm,1.3s,mb4.6							
FLWY	Flagg Ranch	74.29	323	*e*P		P	08 15 10.2	+2.6
	comp=Z,8.7nm,1.3s,mb4.6							
IMW	Indian Meadow	74.54	323	*e*P		P	08 15 11.0	+2.0
	comp=Z,4.6nm,0.8s,mb4.6							
IMW	Indian Meadow	74.54	323	*e*P		P	08 15 11.0	+1.9
	comp=Z,4.6nm,0.8s,mb4.6							
MOOW	Moose Ponds	74.60	323	*e*P		P	08 15 11.1	+1.7
	comp=Z,10nm,1.4s,mb4.7							
MOOW	Moose Ponds	74.60	323	*e*P		P	08 15 11.1	+1.7
	comp=Z,10nm,1.4s,mb4.7							
LOHW	Long Hollow	74.66	323	*e*P		P	08 15 11.2	+1.5
	comp=Z,2.5nm,0.7s,mb4.3							
LOHW	Long Hollow	74.66	323	*e*P		P	08 15 11.2	+1.4
	comp=Z,2.5nm,0.7s,mb4.3							
PDAR	Pinedale Array	74.98	322	P		P	08 15 11.9	+0.3
	comp=Z,1.5nm,0.5s,mb4.2,baz=48,slow=6.1,SNR=26							
RRI2	Red Ridge	75.16	323	*e*P		P	08 15 15.2	+2.6
	comp=Z,5.9nm,0.8s,mb4.7							
GNW	Green Mountain	75.25	333	*e*P		P	08 15 14.1	+1.0
	comp=Z,5.8nm,0.8s,mb4.7							
GNW	Green Mountain	75.25	333	*e*P		P	08 15 14.1	+1.1
	comp=Z,5.8nm,0.8s,mb4.7							
HLID	Hailey	76.10	325	*e*P		P	08 15 19.2	+1.2
	comp=Z,3.8nm,0.8s,mb4.6							
HLID	Hailey	76.10	325	*e*P		P	08 15 19.2	+1.2
	comp=Z,3.8nm,0.8s,mb4.6							
BGU	Big Grassy Mou	77.89	323	*e*P		P	08 15 29.3	+1.2
BGU	Big Grassy Mou	77.89	323	*e*P		P	08 15 29.3	+1.2
DUG	Dugway	78.44	323	*e*P		P	08 15 32.6	+1.4
DUG					pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7							
DUG	Dugway	78.44	323	*e*P		P	08 15 32.6	+1.4
	comp=Z,3.7nm,0.6s,mb4.7							
DUG	Dugway	78.44	323	*e*P		P	08 15 32.6	+1.4
	comp=Z,3.7nm,0.6s,mb4.7							
SRU	San Rafael	78.48	320	*e*P		P	08 15 32.1	+0.7
SRU					pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3							
SRU	San Rafael	78.48	320	*e*P		P	08 15 32.1	+0.7
	comp=Z,1.9nm,0.8s,mb4.3							
SRU	San Rafael	78.48	320	*e*P		P	08 15 32.1	+0.7
	comp=Z,1.9nm,0.8s,mb4.3							
PV10	Paradox Valley	78.51	319	*e*P		P	08 15 33.4	+1.8
PV10	Paradox Valley	78.51	319	*e*P		P	08 15 33.4	+1.8
MJAR	Matsushiro Arr	78.77	44	P		P	08 15 33.1	0.0
	comp=Z,0.4nm,0.4s,mb3.9,baz=342,slow=5.4,SNR=4.2							
MOD	Modoc	79.58	328	*e*P		P	08 15 38.8	+1.4
	comp=Z,9.4nm,1.1s,mb4.6							
MOD	Modoc	79.58	328	*e*P		P	08 15 38.9	+1.4
	comp=Z,9.4nm,1.1s,mb4.6							
BOSA	Boshof	80.13	172	P		P	08 15 41.8	+1.5
	comp=Z,3.1nm,0.8s,mb4.3,baz=280,slow=6.8,SNR=3.7							
ANMO	Albuquerque	80.31	315	*i* P		P	08 15 42.4	+0.9
NVAR	Mina Array Bea	82.01	325	P		P	08 15 51.4	+0.9
	comp=Z,0.5nm,0.6s,mb3.9,baz=53,slow=6.5,SNR=4.6							
NVAR	Mina Array Bea	82.01	325	P		P	08 15 51.4	+0.9
WRA	Warramunga Arr	122.88	81	PKP		PKPdf	08 22 25.2	-1.6
	comp=Z,0.5nm,0.9s,baz=310,slow=2.4,SNR=2.9							
ASAR	Alice Springs	125.37	84	PKP		PKPdf	08 22 30.9	-0.6
	comp=Z,0.5nm,0.6s,baz=340,slow=1.7,SNR=9.7							

IDC ***15*** *08:19:18.2±3.7, 579S×15104E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.4/15, mbtmp3.5/2, Error ellipse: s-maj=135.2km s-min=50.2km az=118.0*
ISCJB ***15*** *08:19:20.1±1.0, 56S±0.1×1508E±0.1, h33km, mb4.0/4, Error ellipse: s-maj=23.7km s-min=11.2km az=41.2*
NEIC ***15*** *08:19:22.5±1.0, 565S×15083E, h35km, mb4.8/3, Error ellipse: s-maj=24.7km s-min=15.3km az=132.0*
ISC 15 08:19:22.0±1.0, 55S±01×1508E±01, h35km, n9, σ1$01/9, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.30	223	*e*Pn	Pn	08 20 35.7	-3.0
PMG				*e*Sn	Sn	08 21 39.0	+0.3
KAKA	Kakadu	19.48	247	*e*P	Pn	08 23 45.9	-1.6
	4.0nm,1.0s						
GUMO	Guam	19.86	343	P	Pn	08 23 52.3	+0.4
	97nm,1.5s						
WRAB	Tennant Creek	21.49	227	*e*P	P	08 24 08.9	+1.0
	47nm,1.9s,mb4.5						
WB2	Warramunga Arr	21.50	227	*e*P	P	08 24 08.2	+0.2
WRA	Warramunga Arr	21.50	227	P	P	08 24 08.4	+0.4
	0.7nm,0.4s,mb3.4,baz=53,slow=11,SNR=15						
ASAR	Alice Springs	24.31	220	P	P	08 24 37.2	+0.8
	1.1nm,0.8s,mb3.4,baz=58,slow=8.6,SNR=8.7						
FUNA	Funafuti	28.34	98	P	P	08 25 12.5	-0.4
	29nm,1.1s,mb4.8						
TORD	Torodi Ar. Bea	148.61	286	PKPbc	PKPbc	08 39 08.6	+2.2
	0.3nm,0.7s,baz=53,slow=2.3,SNR=4.5						

ATH ***15*** *08:39:53.2, 3743N×1967E, h20km±4km, MD3.9/13*
CSEM ***15*** *08:39:55.1±0.1, 3743N×1980E, h10km, ML3.9, Error ellipse: s-maj=1.8km s-min=1.2km az=36.0*
ISCJB ***15*** *08:39:55.1±0.6, 3770N±004×1962E±003, h10km, Error ellipse: s-maj=5.3km s-min=3.1km az=11.9*
THE ***15*** *08:39:56.3, 3746N×1989E, h10km, ML3.9*
NEIC ***15*** *08:39:56.3, 3746N×1989E, h10km, MD3.9(ATH), ML3.9(THE), After THE.*
PDG ***15*** *08:39:57.0±0.8, 3776N×1964E, h11km±3km, ML3.7/8, Error ellipse: s-maj=3.6km s-min=2.7km az=90.0*
ISC 15 08:39:57.3±0.9, 3758N±003×1970E±003, h27km±7km, n67, σ1$10/99, 11C-7D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.92	49	*e*Pg	Pb	08 40 13.4	-1.2
VLS				*e*Sg	Sb	08 40 26.4	-0.1
VLS	Valsamata	0.92	49	⇓*i*PN	Pb	08 40 13.4	-1.2
VLS				*e*SN	Sn	08 40 27.9	+1.1
VLS	Valsamata	0.92	49	*e*Pg	Pb	08 40 13.4	-1.2
VLS				*e*Sg	Sb	08 40 26.4	0.0
VLS				*e*Sn	Sn	08 40 27.9	+1.1
KFL	Anninata	1.01	58	*e*Pg	Pn	08 40 14.7	-0.9
KFL				*e*Sg	Sb	08 40 28.1	-0.8
LKD	Levkas	1.35	33	*e*Pg	Pn	08 40 21.1	+0.7
LKD				*e*Sg	Sn	08 40 39.8	+2.5
RLS	Riolos of Patr	1.48	71	⇑*i*PN	Pn	08 40 21.7	-0.3
ITM	Ithomi	1.82	102	⇑*i*PB	Pb	08 40 25.0	-4.8
IGT	Igoumenitsa	2.01	14	*e*Pn	Pn	08 40 29.9	+0.5
EVR	Evrytania	2.13	51	⇑*i*PN	Pn	08 40 32.2	+1.2
KEK	Kerkira	2.13	2	*e*PB	Pb	08 40 31.6	-3.6
JAN	Janina	2.26	23	*e*PB	Pb	08 40 34.0	-3.4
SRN	Sarande	2.31	6	*e*PN	Pn	08 40 43.3	+10
AGG	Agios Georgios	2.52	54	*e*Pn	Pn	08 40 37.2	+0.8
AGG				*e*Sn	Sn	08 41 07.4	+1.2
LTK	Loutraki	2.62	79	*e*Pn	Pn	08 40 36.9	-0.9
LTK				*e*Sn	Sn	08 41 07.8	-1.0
THL	Klokotos Trika	2.69	42	*e*Pn	Pn	08 40 40.0	+1.3
THL				*e*Sn	Sn	08 41 12.5	+2.2
THL	Klokotos Trika	2.69	42	⇓*i*PN	Pn	08 40 40.0	+1.3
VLI	Veliai	2.72	107	⇑*i*PN	Pn	08 40 38.7	-0.5
DID	Didima	2.81	90	*e*Pn	Pn	08 40 38.7	-1.7
DID				*e*Sn	Sn	08 41 12.1	-1.2
LKR	Lokris	2.81	67	*e*PN	Pn	08 40 41.0	+0.6
TIP	Timpagrande	2.81	305	*e*Pn	Pn	08 40 41.4	+1.0
TIP				Sn	Sn	08 41 09.6	-3.8
TIP	Timpagrande	2.81	305	*e*Pn	Pn	08 40 41.4	+1.0
TIP				Sn	Sn	08 41 09.6	-3.8
KYTH	Kithira	2.97	115	*e*PN	Pn	08 40 42.0	-0.6
KYTH	Kithira	2.97	115	*e*Pb	Pb	08 40 42.5	-7.0
CEL	Celeste	3.09	284	*e*Pn	Pn	08 40 44.9	+0.7
CEL				Sn	Sn	08 41 18.5	-1.7
CEL	Celeste	3.09	284	*e*Pn	Pn	08 40 44.9	+0.7
CEL				Sn	Sn	08 41 18.5	-1.7
KZN	Kozani	3.16	30	⇓*i*PN	Pn	08 40 46.8	+1.5
XOR	Xorichti	3.27	56	*e*Pn	Pn	08 40 46.4	-0.3
LIT	Litokhoron	3.33	40	*e*Pn	Pn	08 40 48.1	+0.6
FNA	Florina	3.45	22	*e*Pn	Pn	08 40 50.8	+1.5
BIA	Bitola	3.66	20	*i* Pn	Pn	08 40 53.2	+1.2
BIA	Bitola	3.66	20	*i* Pn	Pn	08 40 53.1	+1.1
PE1	Pezze di Greco	3.67	332	*e*Pn	Pn	08 40 53.5	+1.2
PE1				*e*Sn	Sn	08 41 34.0	-0.7
TIR	Tirane	3.76	2	*e*Pn	Pn	08 40 52.5	-1.0
TIR	Tirane	3.76	2	*e*Pn	Pn	08 40 52.5	-1.0
TIR				Sn	Sn	08 41 30.3	-6.6
CUC	Castrocucco	3.88	310	Pn	Pn	08 40 57.3	+2.3
CUC				*e*Sn	Sn	08 41 40.3	+0.6
CUC	Castrocucco	3.88	310	Pn	Pn	08 40 57.3	+2.2
CUC				*e*Sn	Sn	08 41 40.3	+0.6
PAIG	Paliouri	3.89	52	*e*Pn	Pn	08 40 55.1	-0.2
QSH	Qafa e Shtames	3.94	2	*e*PN	Pn	08 41 01.5	+5.6
KRUS	Krusevo	3.97	17	*i* Pn	Pn	08 40 57.5	+1.2
SG1	Sgolgore (BA)	4.01	325	*e*Pn	Pn	08 40 58.6	+1.7
SG1				*e*Sn	Sn	08 41 41.9	-1.1
KARN	Karanos	4.03	121	*e*Pn	Pn	08 40 55.0	-2.2
PLG	Polygyros	4.04	45	*e*Pn	Pn	08 40 57.2	0.0
PLG	Polygyros	4.04	45	*e*PN	Pn	08 40 58.0	+0.8
PLG	Polygyros	4.04	45	*e*Pn	Pn	08 40 57.2	0.0
PHP	Peshkopia	4.14	8	*e*PN	Pn	08 40 59.7	+1.1
VAM	Vamos	4.22	120	*e*PN	Pn	08 40 58.5	-1.3
VAM	Vamos	4.22	120	*e*Pn	Pn	08 40 58.0	-1.8
SOH	Sokhos	4.30	40	*e*Pn	Pn	08 41 02.0	+1.1
ULC	Ulcinj	4.39	356	⇑*i*Pn	Pn	08 41 01.8	-0.3
ULC				*e*Sn	Sn	08 41 51.6	-0.7
PUK	Puka	4.46	2	*e*PN	Pn	08 41 03.6	+0.6
BUM	Brajici-Budva	4.75	353	⇓*i*Pn	Pn	08 41 07.2	+0.1
BUM				*e*Sn	Sn	08 42 00.5	-0.8
BCI	Bajram Curri	4.79	3	*e*PN	Pn	08 41 08.3	+0.7
PDG	Podgorica	4.86	356	⇑*i*Pn	Pn	08 41 08.5	0.0
PDG				*e*Sn	Sn	08 42 02.6	-1.2
TTG	Podgorica	4.86	356	⇑*i*Pn	Pn	08 41 08.5	0.0
TTG				*e*Sn	Sn	08 42 02.6	-1.2
HCY	Herceg Novi	4.95	350	⇓*i*Pn	Pn	08 41 09.7	-0.1
HCY				*e*Sn	Sn	08 42 04.6	-1.5
PVY	Plav	5.01	2	⇑*i*Pn	Pn	08 41 11.3	+0.6
PVY				*e*Sn	Sn	08 42 07.0	-0.7
NKY	Niksic	5.25	354	⇓*i*Pn	Pn	08 41 14.2	+0.2
NKY				*e*Sn	Sn	08 42 12.5	-1.1
BEY	Berane	5.29	2	⇑*i*Pn	Pn	08 41 14.5	+0.1
BEY				*e*Sn	Sn	08 42 13.4	-1.0
IVA	Berane	5.29	2	⇑*i*Pn	Pn	08 41 14.5	+0.1
IVA				*e*Sn	Sn	08 42 13.4	-1.0
BRY	Bratogost	5.39	351	⇑*i*Pn	Pn	08 41 15.9	+0.1
BRY				*e*Sn	Sn	08 42 15.6	-1.3
BARS	Barje	5.47	17	*e*Pn	Pn	08 41 17.2	+0.2
UPM	Unac-Piva	5.65	354	⇓*i*Pn	Pn	08 41 19.5	+0.1
UPM				*e*Sn	Sn	08 42 21.8	-1.5
DIVS	Divibare	6.51	2	*e*Pn	Pn	08 41 31.2	-0.1
BOJS	Bojanci	8.59	339	*e*Pn	Pn	08 42 01.1	+1.3
BOJS				*e*Sn	Sn	08 43 32.0	-3.7
BOJS	Bojanci	8.59	339	Pn	Pn	08 42 01.0	+1.3
CRES	Cresnjev	8.83	340	*e*Pn	Pn	08 42 03.5	+0.5
CRES				*e*Sn	Sn	08 43 38.4	-3.1
PDKS	Podkum	9.17	339	*e*Pn	Pn	08 42 07.9	+0.2

ISCJB ***15*** *09:03:12.4±0.9, 1326N±009×1442E±02, h144km±11km, mb3.6/9, Error ellipse: s-maj=37.4km s-min=14.5km az=172.2*
IDC ***15*** *09:03:13.5±0.6, 1329N×14435E, h141km±9km, mb3.4/9, mb1 3.5/9, mb1mx3.5/21, mbtmp3.4/9, Error ellipse: s-maj=35.7km s-min=14.2km az=82.0*
NEIC ***15*** *09:03:14.0±0.8, 1327N×14436E, h147km±9km, mb4.0/1, Error ellipse: s-maj=25.1km s-min=10.9km az=81.0*
ISC 15 09:03:13.9±0.8, 1329N±009×1444E±02, h146km±10km, n13, σ0$69/13, mb3.6/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.58	59	P	Pn	09 03 35.5	+0.2
	709nm,0.3s,baz=170,slow=2.1,SNR=425						
GUMO				S	Sn	09 03 51.3	-0.2
	1um,0.3s,baz=18,slow=22,SNR=88						
JOW	Kunigami	20.21	314	P	P	09 07 38.8	+1.3
	18nm,0.6s,baz=143,slow=14,SNR=6.0						
MJAR	Matsushiro Arr	23.80	348	P	P	09 08 12.4	-0.9
	3.0nm,0.7s,mb3.9,baz=166,slow=8.2,SNR=18						
MAJO	Matsushiro	23.81	348	*e*P	P	09 08 13.6	+0.2
	4.6nm,0.8s,mb4.1						
MAT	Matsushiro	23.81	348	P	P	09 08 12.4	-0.9
KSRS	Korea Array	28.18	332	P	P	09 08 52.4	-0.4
	0.8nm,0.5s,mb3.7,baz=141,slow=9.1,SNR=4.9						
WRA	Warramunga Arr	34.46	197	P	P	09 09 47.1	-0.8
	0.8nm,0.7s,mb3.6,baz=21,slow=9.6,SNR=11						
ASAR	Alice Springs	38.12	196	P	P	09 10 19.4	+0.5
	0.4nm,0.7s,mb3.1,baz=21,slow=14,SNR=4.5						
STKA	Stephens Creek	44.98	183	P	P	09 11 14.4	-0.2
	1.3nm,0.5s,mb3.9,baz=14,slow=8.3,SNR=5.1						
SONM	Songino Array	46.69	325	P	P	09 11 28.4	+0.5
	0.5nm,0.6s,mb3.3,baz=148,slow=8.4,SNR=3.6						
MKAR	Makanchi Array	61.36	316	P	P	09 13 13.9	-0.5
	0.3nm,0.4s,mb3.5,baz=89,slow=10,SNR=4.5						
NVAR	Mina Array Bea	87.50	51	P	P	09 15 46.6	+1.1
	0.3nm,0.4s,mb3.4,baz=264,slow=5.7,SNR=4.6						
TORD	Torodi Ar. Bea	134.62	304	PKP	PKPdf	09 22 16.3	+0.2
	0.5nm,0.8s,baz=60,slow=1.6,SNR=3.7						

ISCJB ***15*** *09:05:43.9±0.8, 3936N±004×2019E±008, h18km±8km, Error ellipse: s-maj=10.2km s-min=6.9km az=178.7*
CSEM ***15*** *09:05:43.5±0.1, 3933N×2019E, h12km, ML2.9, Error ellipse: s-maj=4.2km s-min=2.0km az=80.0*
ATH ***15*** *09:05:43.2, 3945N×2025E, h51km±3km, MD3.2/4*
THE ***15*** *09:05:43.9, 3929N×2020E, h0km, ML2.9*
ISC 15 09:05:43.9±0.9, 3931N±003×2020E±008, h5km±9km, n10, σ1$04/19, 2C-1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.24	24	*e*Pg	Pg	09 05 48.2	-0.5
IGT				*e*Sg	Sg	09 05 52.2	+0.4
KEK	Kerkira	0.51	322	⇑*i*P	Pg	09 05 54.3	+0.6
JAN	Janina	0.61	55	⇑*i*P	Pg	09 05 54.7	-0.9
JAN				*e*S	Sg	09 06 03.8	+0.3
LKD	Levkas	0.69	150	*e*Pg	Pg	09 05 56.4	-0.9
LKD				*e*Sg	Sg	09 06 06.6	+0.3
VLS	Valsamata	1.17	165	*e*Pg	Pg	09 06 05.7	-0.7
VLS				*e*Sg	Sg	09 06 22.8	+1.3
VLS	Valsamata	1.17	165	⇓*i*P	Pg	09 06 06.4	+0.1
VLS				*e*Sg	Sg	09 06 22.8	+1.3
VLS				*e*S	Sg	09 06 23.3	+1.8
KFL	Anninata	1.28	159	*e*Pg	Pg	09 06 07.4	-1.0
KFL				*e*Sg	Sg	09 06 26.2	+1.1
THL	Klokotos Trika	1.43	79	*e*P	Pn	09 06 07.2	-3.2
AGG	Agios Georgios	1.68	99	*e*Pb

Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.95±.02; $M_{\theta\theta}$0.05±.02; $M_{\phi\phi}$-1.00±.02; $M_{r\theta}$-0.12±.04; $M_{\theta\phi}$-0.44±.01; $M_{\phi r}$0.78±.04; Best double couple: $M_0$1.32300×10^{17} NP1:ϕ_s220.00000°, δ32.00000°, λ124.00000°. NP2:ϕ_s2.00000°, δ64.00000°, λ71.00000°. Principal axes: T 1.2760, Plg66.0000°, Azm238.0000°; N 0.0940, Plg17.0000°, Azm10.0000°; P -1.3690, Plg17.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BJI **15** *10:12:44.3, 14.10N×146.50E, h43km, mB5.4, mb5.1, Ms5.3, Msz5.1*

DJA **15** *10:13:20, 17.21N×139.44E, h100km, mb5.1/5*

ISC 15 10:12:45.3±0.8, 14.11N±003×146.59E±002, h53km±7km, h51km±.9km:pP-P, n859, σ0s81/732, mb5.2/139, MS5.1/211, 227C-201D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.75**	**253**	Pn		**Pn**		**10 13 12.5**	**-0.8**
	2μm,0.3s,baz=114,slow=6.0,SNR=481								
GUMO				Sn		**Sn**		**10 13 37.9**	**+3.6**
	870nm,0.3s,baz=18,slow=23,SNR=17								
GUMO	**Guam**	**1.75**	**253**	*e*Pn		**Pn**		**10 13 11.7**	**-1.6**
CBIJ	**Chichi jima**	**13.56**	**343**	LR		LR		10 20 27.2	
	comp=Z,4μm,18.9s,baz=168,slow=34								
JHJ	**Hachijo jima 2**	**19.91**	**343**	P		**Pn**		**10 17 10.8**	**-3.9**
	12nm,0.3s,baz=100,slow=19,SNR=9.0								
JOW	**Kunigami**	**21.29**	**309**	P		**P**		**10 17 28.0**	**+0.4**
	38nm,0.4s,mb5.1,baz=130,slow=15,SNR=24								
JOW				LR		LR		10 25 06.6	
	comp=Z,4μm,18.3s,MS4.8,baz=343,slow=35								
DAV	**Davao City (W)**	**21.79**	**253**	LR		LR		10 24 14.8	
	comp=Z,3μm,21.8s,MS4.7,baz=218,slow=32								
DAV	**Davao City (W)**	**21.79**	**253**	PFAKE				10 17 40.0	+6.9
DAV				LR		LR			
	comp=Z,3μm,20.0s,MS4.7								
BUKP	**Musuan**	**22.01**	**256**	*e*P		**P**		**10 17 36.6**	**+1.2**
PMG	**Port Moresby**	**23.37**	**179**	*e*P		**P**		**10 17 47.9**	**-1.6**
PMG				MLR		MLR			
	comp=Z,2μm,21.0s								
MJAR	**Matsushiro Arr**	**23.57**	**343**	P		**P**		**10 17 45.7**	**-5.5**
	comp=Z,11nm,0.7s,mb4.4,baz=166,slow=10,SNR=42								
MAJO	**Matsushiro**	**23.57**	**343**	*e*P		**P**		**10 17 47.2**	**-4.0**
MAJO				MLR		MLR			
	comp=Z,4μm,20.0s,MS4.8								
MAT	**Matsushiro**	**23.57**	**343**	P		**P**		**10 17 45.8**	**-5.4**
MAT				S		**S**		**10 21 58.0**	**-3.5**
CAUP	**Cauayan**	**24.02**	**280**	*e*P		**P**		**10 17 57.9**	**+2.4**
NACB	**Ninganchiao**	**25.61**	**297**	P		**P**		**10 18 07.9**	**-2.0**
	comp=Z,60nm,0.7s,mb5.2								
YHNB	**Yeheng**	**25.95**	**298**	*e*P		**P**		**10 18 14.3**	**+1.3**
	comp=Z,8.9nm,0.4s,mb4.7								
YHNB				LR		LR			
	comp=Z,6μm,20.0s,MS5.1								
TATO	**Taipei**	**25.96**	**298**	PFAKE				10 18 20.0	+6.9
TATO				LR		LR			
	comp=Z,4μm,21.0s,MS4.9								
HNR	**Honiara**	**26.88**	**150**	LR		LR		10 27 19.1	
	comp=Z,1μm,18.3s,MS4.5,baz=357,slow=33								
HNR	**Honiara**	**26.88**	**150**	PFAKE				10 18 30.0	+8.6
HNR				LR		LR			
	comp=Z,3μm,21.0s,MS4.8								
QZH	**Quanzhou**	**28.44**	**297**	P		**P**		**10 18 39.0**	**+3.6**
QZH				S		**S**		**10 23 21.5**	**+2.3**
QZH				LR		LR			
	comp=N,4μm,15.0s,MS5.2								
QZH				LR		LR			
	comp=E,2μm,10.8s,MS5.2								
QZH				LR		LR			
	comp=Z,2μm,19.3s								
KSRS	**Korea Array**	**28.58**	**328**	P		**P**		**10 18 35.3**	**-1.1**
	comp=Z,25nm,0.7s,mb5.0,baz=142,slow=8.9,SNR=34								
KSRS				LR		LR		10 30 04.4	
	comp=Z,3μm,18.0s,MS4.9,baz=130,slow=36								
KS15	**Wonju Array Si**	**28.59**	**328**	*e*P		**P**		**10 18 35.6**	**-0.9**
SSE	**Sheshan**	**28.80**	**310**	P		**P**		**10 18 39.3**	**+0.8**
SSE				AP		pP		10 18 52.3	+0.4
SSE				XP		sP		10 18 58.8	+0.7
SSE				S		**S**		**10 23 23.5**	**-1.2**
SSE				XS		sS		10 23 46.9	-0.4
SSE				AMB		AMB			
	comp=Z,34nm,0.7s,mb5.2								
SSE				AMB		AMB			
	comp=Z,263nm,5.4s								
SSE				LR		LR			
	comp=N,1μm,16.6s,MS4.8								
SSE				LR		LR			
	comp=E,1μm,16.6s,MS4.8								
SSE				LR		LR			
	comp=Z,2μm,12.9s,MS4.9								
MYLDM	**Lahad Datu**	**29.04**	**255**	⇑P		**P**		**10 18 43.3**	**+2.4**
INCN	**Inchon**	**29.28**	**326**	PFAKE				10 18 50.0	+7.3
INCN				LR		LR			
	comp=Z,4μm,19.0s,MS5.0								
YUK	**Yuzh-Kuril'sk**	**29.83**	**359**	P		**P**		**10 18 44.0**	**-3.5**
YUK				*e*PPP				10 19 52.0	
YUK				S		**S**		**10 23 36.0**	**-4.6**
YUK				pmax		pmax			
	comp=Z,2μm,3.0s								
YUK				smax					
	comp=N,2μm,5.0s								
YUK				smax					
	comp=E,3μm,5.0s								
YUK				MLR		MLR			
	comp=N,3μm,15.0s,MS5.2								
YUK				MLR		MLR			
	comp=E,2μm,15.0s,MS5.2								
YUK				MLR		MLR			
	comp=Z,3μm,15.0s,MS5.1								
ASAJ	**Asahikawa**	**30.10**	**354**	P		**P**		**10 18 49.8**	**0.0**
	comp=Z,16nm,0.7s,mb4.8,baz=208,slow=18,SNR=7.9								
ASAJ				LR		LR		10 32 17.0	
	comp=Z,2μm,18.8s,MS4.8,baz=311,slow=39								
KAKA	**Kakadu**	**30.11**	**208**	*e*P		**P**		**10 18 49.4**	**-0.8**
	comp=Z,15nm,0.6s,mb4.9								
SDKM	**Sandakan**	**30.12**	**257**	⇑P		**P**		**10 18 51.7**	**+1.3**
KKM	**Kota Kinabalu**	**30.93**	**258**	⇑P		**P**		**10 19 00.3**	**+2.8**
KKM	**Kota Kinabalu**	**30.93**	**258**	PFAKE				10 19 10.0	+12
KKM				LR		LR			
	comp=Z,2μm,21.0s,MS4.7								
NJ2	**Nanjing**	**31.00**	**310**	*e*P		**P**		**10 19 00.3**	**+2.3**
NJ2				AP		pP		10 19 10.5	-0.9
NJ2				XP		sP		10 19 16.8	-0.8
NJ2				PP		PP		10 20 02.3	-6.4
NJ2				S		**S**		**10 23 58.0**	**-1.2**
NJ2				XS		sS		10 24 17.5	-4.4
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.7								
NJ2				AMB		AMB			
	comp=Z,460nm,6.5s								
NJ2				LR		LR			
	comp=N,920nm,16.6s,MS4.9								
NJ2				LR		LR			
	comp=E,2μm,15.5s,MS4.9								
NJ2				LR		LR			
	comp=Z,2μm,15.5s,MS4.9								
VLA	**Vladivostok**	**31.56**	**339**	P		**P**		**10 18 56.0**	**-6.7**
VLA				*e*S		**S**		**10 24 08.3**	**+0.7**
VLA				MLR		MLR			
	comp=Z,4μm,16.2s,MS5.2								
KAPI	**Kappang**	**32.71**	**236**	*e*P		**P**		**10 19 13.4**	**+0.3**
KAPI				LR		LR			
	comp=Z,686nm,19.0s,MS4.4								
YSS	**Yuzh-Sakhalins**	**32.90**	**355**	*e*P		**P**		**10 19 11.7**	**-2.7**
YSS				*e*S		**S**		**10 24 29.0**	**+0.5**
YSS				MLR		MLR			
	comp=Z,2μm,17.0s,MS4.9								
YSS				MLR		MLR			
	comp=N,2μm,15.0s								
YSS	**Yuzh-Sakhalins**	**32.90**	**355**	PFAKE				10 19 30.0	+16
YSS				LR		LR			
	comp=Z,899nm,19.0s,MS4.5								
DL2	**Dalian**	**33.09**	**323**	⇑*i*P		**P**		**10 19 15.8**	**-0.4**
DL2				S		**S**		**10 24 31.8**	**+0.2**
DL2				XS		sS		10 24 52.8	-1.6
DL2				AMB		AMB			
	comp=Z,30nm,0.6s,mb5.4								
DL2				AMB		AMB			
	comp=Z,270nm,6.1s								
DL2				LR		LR			
	comp=N,1μm,15.7s,MS4.9								
DL2				LR		LR			
	comp=E,1μm,16.4s,MS4.9								
DL2				LR		LR			
	comp=Z,2μm,18.1s,MS4.8								
MDJ	**Mudanjiang**	**33.68**	**338**	P		**P**		**10 19 21.6**	**+0.4**
MDJ				AP		pP		10 19 34.6	-0.1
MDJ				XP		sP		10 19 40.8	-0.1
MDJ				PP		PP		10 20 38.5	+0.3
MDJ				S		**S**		**10 24 41.4**	**+0.9**
MDJ				XS		sS		10 25 03.4	+0.1
MDJ				SCP		ScP		10 25 41.0	+0.5
MDJ				PCS		PcS		10 25 46.3	+0.4
MDJ				AMB		AMB			
	comp=Z,9.0nm,1.1s,mb4.6								
MDJ				AMB		AMB			
	comp=Z,157nm,4.5s								
MDJ				LR		LR			
	comp=N,1μm,18.8s,MS4.9								
MDJ				LR		LR			
	comp=E,2μm,20.9s,MS4.9								
MDJ				LR		LR			
	comp=Z,3μm,18.2s,MS5.0								
MDJ	**Mudanjiang**	**33.68**	**338**	PFAKE				10 19 30.0	+8.8
MDJ				LR		LR			
	comp=Z,3μm,19.0s,MS5.0								
WHN	**Wuhan**	**33.85**	**304**	⇓P		**P**		**10 19 24.0**	**+1.1**
WHN				S		**S**		**10 24 43.9**	**+0.3**
WHN				LR		LR			
	comp=N,3μm,12.0s,MS5.3								
WHN				LR		LR			
	comp=E,2μm,12.7s,MS5.3								
WHN				LR		LR			
	comp=Z,4μm,17.0s,MS5.2								
CTA	**Charters Tower**	**33.98**	**181**	P		**P**		**10 19 23.2**	**-0.9**
	comp=Z,4.9nm,0.8s,mb4.5,baz=2.5,slow=14,SNR=3.2								
CTA				LR		LR		10 32 55.3	
	comp=Z,2μm,19.1s,MS4.8,baz=11,slow=36								
CTAO	**Charters Tower**	**33.98**	**181**	PFAKE				10 19 40.0	+16
CTAO				LR		LR			
	comp=Z,2μm,21.0s,MS4.8								
SNY	**Shenyang**	**34.07**	**329**	⇑P		**P**		**10 19 22.6**	**-2.1**
SNY				S		**S**		**10 24 49.0**	**+2.3**
SNY				AMB		AMB			
	comp=Z,258nm,8.7s								
SNY				LR		LR			
	comp=N,1μm,16.8s,MS5.1								
SNY				LR		LR			
	comp=E,3μm,14.1s,MS5.1								
SNY				LR		LR			
	comp=Z,3μm,17.4s,MS5.1								
CN2	**Changchun**	**34.69**	**333**	*e*P		**P**		**10 19 34.8**	**+4.8**
BTM	**Bintulu**	**34.79**	**255**	⇓P		**P**		**10 19 32.1**	**+0.8**
QIZ	**Qiongzhong**	**35.51**	**283**	P		**P**		**10 19 37.0**	**-0.4**
QIZ				AP		pP		10 19 49.6	-1.4
QIZ				XP		sP		10 19 55.6	-1.6
QIZ				PP		PP		10 20 58.3	-0.5
QIZ				S		**S**		**10 25 07.5**	**-1.9**
QIZ				XS		sS		10 25 32.0	-0.3
QIZ				AMB		AMB			
	comp=Z,16nm,1.7s,mb4.7								
QIZ				AMB		AMB			
	comp=Z,467nm,9.8s								
QIZ				LR		LR			
	comp=E,1μm,18.8s								
QIZ				LR		LR			
	comp=Z,2μm,18.7s,MS4.9								
QIZ	**Qiongzhong**	**35.51**	**283**	PFAKE				10 19 50.0	+13
QIZ				LR		LR			
	comp=Z,2μm,19.0s,MS4.9								
SBUM	**Sibu**	**35.86**	**254**	⇑P		**P**		**10 19 41.8**	**+1.3**
WRAB	**Tennant Creek**	**35.90**	**200**	P		**P**		**10 19 40.0**	**-0.7**
	comp=Z,313nm,0.8s,mb6.3,SNR=15								
WRAB	**Tennant Creek**	**35.90**	**200**	*c i*P		**P**		**10 19 39.6**	**-1.1**
WRAB	**Tennant Creek**	**35.90**	**200**	*e*P		**P**		**10 19 40.0**	**-0.7**
WRAB				LR		LR			
	comp=Z,2μm,19.0s,MS5.0								
WB2	**Warramunga Arr**	**35.91**	**200**	*e*P		**P**		**10 19 40.2**	**-0.5**
WRA	**Warramunga Arr**	**35.92**	**200**	P		**P**		**10 19 39.7**	**-1.1**
	comp=Z,26nm,0.9s,mb5.2,baz=21,slow=9.4,SNR=64								
WRA				LR		LR		10 33 33.2	
	comp=Z,2μm,19.8s,MS4.8,baz=10.0,slow=35								
WRA	**Warramunga Arr**	**35.92**	**200**	*i*P		**P**		**10 19 39.5**	**-1.3**
WRA				pmax		pmax			
	comp=Z,26nm,0.9s								
MIDW	**Midway**	**36.27**	**61**	PFAKE				10 20 00.0	+16
MIDW				LR		LR			
	comp=Z,2μm,19.0s,MS4.8								
KLR	**Kul'dur**	**37.09**	**344**	*e*P		**P**		**10 19 43.8**	**-6.6**
KLR				*e*S		**S**		**10 25 26.5**	**-6.2**
KLR				*e*SS		SS		10 28 06.5	-10
KLR				pmax		pmax			
	comp=Z,130nm,2.4s,mb5.3								
KLR				MLR		MLR			
	comp=N,9μm,15.0s								
BJT	**Baijiatuau**	**37.09**	**320**	⇑*i*P		**P**		**10 19 49.9**	**-0.7**
BJT				pmax		pmax			
	comp=Z,18nm,0.8s								
BJT				MLR		MLR			
	comp=Z,5μm,19.0s								
BJT	**Baijiatuau**	**37.09**	**320**	⇑*i*P		**P**		**10 19 49.9**	**-0.8**
	comp=Z,18nm,0.8s,mb5.0								
BJT				LR		LR			
	comp=Z,5μm,19.0s,MS5.3								
BJI	**Beijing**	**37.10**	**320**	P		**P**		**10 19 50.0**	**-0.7**
BJI				AP		pP		10 20 04.4	+0.1
BJI				XP		sP		10 20 10.5	0.0
BJI				PP		PP		10 21 15.1	-1.0
BJI				S		**S**		**10 25 32.3**	**-0.9**
BJI				XS		sS		10 25 57.5	+1.3
BJI				AMB		AMB			
	comp=Z,38nm,1.6s,mb5.0								
BJI				AMB		AMB			
	comp=Z,942nm,3.7s								
BJI				LR		LR			
	comp=N,4μm,17.8s,MS5.2								
BJI				LR		LR			
	comp=E,1μm,16.6s,MS5.2								
BJI				LR		LR			
	comp=Z,3μm,17.8s,MS5.2								
KSM	**Kuching**	**37.99**	**254**	⇑P		**P**		**10 19 58.8**	**+0.2**
KSM	**Kuching**	**37.99**	**254**	⇑*i*P		**P**		**10 19 58.1**	**-0.5**
KSM				*e*pP		pP		10 20 10.8	-1.4
KSM				*e*sP		sP		10 20 16.0	-2.4
FITZ	**Fitzroy Crossi**	**38.09**	**213**	*e*P		**P**		**10 19 59.2**	**-0.1**
	comp=Z,22nm,1.0s,mb4.8								
FITZ	**Fitzroy Crossi**	**38.09**	**213**	P		**P**		**10 19 58.9**	**-0.4**
	comp=Z,26nm,1.2s,mb4.8,baz=36,slow=13,SNR=13								
TIY	**Taiyuan**	**38.34**	**314**	⇑*i*P		**P**		**10 20 01.3**	**0.0**
TIY				PP		PP		10 21 31.4	+1.6
TIY				PCP		PcP		10 22 17.9	+3.7
TIY				S		**S**		**10 25 50.3**	**-1.9**
TIY				PCS		PcS		10 26 05.3	+2.0
TIY				AMB		AMB			
	comp=Z,672nm,4.1s								
TIY				LR		LR			
	comp=N,2μm,14.1s,MS5.3								
TIY				LR		LR			
	comp=E,3μm,14.4s,MS5.3								
TIY				LR		LR			
	comp=Z,5μm,16.8s,MS5.4								
GYA	**Guiyang**	**39.25**	**295**	⇑*i*P		**P**		**10 20 11.3**	**+2.3**
GYA				AP		pP		10 20 24.8	+2.1
GYA				XP		sP		10 20 30.4	+1.5
GYA				PP		PP		10 21 43.8	+3.9
GYA				PCP		PcP		10 22 19.6	+2.3
GYA				SCP		ScP		10 26 06.8	+5.2
GYA				S		**S**		**10 26 10.0**	**+3.9**
GYA				XS		sS		10 26 29.4	+0.2
GYA				SS		SS		10 28 53.3	-7.8
GYA				AMB		AMB			
	comp=Z,40nm,1.0s,mb5.1								
GYA				AMB		AMB			
	comp=Z,140nm,5.2s								
GYA				LR		LR			
	comp=N,770nm,18.8s,MS4.8								
GYA				LR		LR			
	comp=E,880nm,17.5s,MS4.8								
GYA				LR		LR			
	comp=Z,760nm,18.1s,MS4.6								
FUNA	**Funafuti**	**39.40**	**123**	PFAKE				10 20 20.0	+10
FUNA				LR		LR			
	comp=Z,9μm,20.0s,MS5.6								
ASAR	**Alice Springs**	**39.54**	**198**	P		**P**		**10 20 09.8**	**-1.5**
	comp=Z,3.1nm,0.5s,mb4.3,baz=22,slow=9.6,SNR=27								
ASAR	**Alice Springs**	**39.54**	**198**	P		**P**		**10 20 09.8**	**-1.5**
PETK	**Petropavlovsk-**	**39.90**	**10**	P		**P**		**10 20 13.9**	**-0.1**
	comp=Z,2.8nm,0.8s,mb4.1,baz=171,slow=10,SNR=3.7								
PETK				LR		LR		10 35 34.8	
	comp=Z,2μm,20.2s,MS4.9,baz=200,slow=34								
PET	**Petropavlovsk**	**39.99**	**11**	*e*P		**P**		**10 20 15.7**	**+1.0**
PET				*e*S		**S**		**10 26 19.4**	**+3.0**
PET				MLR		MLR			
	comp=Z,2μm,17.0s,MS5.0								
PET				MLR		MLR			
	comp=Z,2μm,15.0s								
PET	**Petropavlovsk**	**39.99**	**11**	PFAKE				10 20 30.0	+15
PET				LR		LR			
	comp=Z,2μm,19.0s,MS4.9								
HHC	**Hu-ho-hao-te**	**40.49**	**318**	*e*P		**P**		**10 20 18.6**	**-0.5**
HHC				AP		pP		10 20 31.0	-1.8
HHC				XP		sP		10 20 36.3	-2.7
HHC				PCP		PcP		10 22 23.1	+2.2
HHC				SCP		ScP		10 26 05.5	-0.6
HHC				PCS		PcS		10 26 11.5	0.0
HHC				S		**S**		**10 26 24.6**	**+0.4**
HHC				XS		sS		10 26 43.8	-3.6
HHC				SS		SS		10 29 19.4	-5.9
HHC				SCS		ScS		10 30 19.3	-1.0
HHC				AMB		AMB			
	comp=Z,30nm,1.4s,mb4.8								
HHC				AMB		AMB			
	comp=Z,695nm,4.7s								
HHC				LR		LR			
	comp=N,2μm,18.0s,MS5.1								
HHC				LR		LR			
	comp=E,2μm,18.4s,MS5.1								
HHC				LR		LR			
	comp=Z,3μm,17.6s,MS5.1								
HIA	**Hailar**	**41.41**	**333**	PFAKE				10 20 40.0	+14
HIA				LR		LR			
	comp=Z,3μm,20.0s,MS5.1								
KMI	**Kunming**	**42.56**	**292**	P		**P**		**10 20 37.9**	**+1.6**
KMI				AP		pP		10 20 51.3	+1.2
KMI				XP		sP		10 20 57.0	+0.7
KMI				PP		PP		10 22 19.1	+3.3
KMI				PCP		PcP		10 22 29.0	+0.9
KMI				SCP		ScP		10 26 15.3	+0.7
KMI				PCS		PcS		10 26 21.0	+0.7
KMI				S		**S**		**10 26 55.9**	**+0.5**
KMI				XS		sS		10 27 17.8	-0.8
KMI				SS		SS		10 29 58.3	-8.5
KMI				SCS		ScS		10 30 31.5	-2.0
KMI				AMB		AMB			
	comp=Z,15nm,1.3s,mb4.6								
KMI				AMB		AMB			
	comp=Z,376nm,6.4s								
KMI				LR		LR			
	comp=N,1μm,15.1s								
KMI				LR		LR			
	comp=E,2μm,20.9s								
KMI				LR		LR			
	comp=Z,2μm,17.4s,MS5.0								
CD2	**Chengdu**	**42.66**	**300**	⇓*i*P		**P**		**10 20 37.6**	**+0.6**
CD2				AP		pP		10 20 50.6	-0.3
CD2				XP		sP		10 20 55.8	-1.2
CD2				PP		PP		10 22 19.8	+3.1
CD2				PCP		PcP		10 22 29.8	+1.5
CD2				PCS		PcS		10 26 20.8	+0.3
CD2				S		**S**		**10 26 56.8**	**+0.1**
CD2				XS		sS		10 27 17.6	-2.4
CD2				SS		SS		10 30 01.8	-6.8
CD2				SCS		ScS		10 30 32.6	-1.3
CD2				AMB		AMB			
	comp=Z,40nm,0.8s,mb5.2								
CD2				AMB		AMB			
	comp=Z,500nm,9.6s								
CD2				LR		LR			
	comp=N,2μm,16.8s,MS5.2								
CD2				LR		LR			
	comp=E,2μm,20.4s,MS5.2								
CD2				LR		LR			
	comp=Z,3μm,20.4s,MS5.1								
MBWA	**Marble Bar**	**43.86**	**217**	*e*P		**P**		**10 20 46.8**	**0.0**
	comp=Z,184nm,1.8s,mb5.5								
MYKOM	**Kota Tinggi**	**43.96**	**258**	⇑P		**P**		**10 20 50.0**	**+2.2**
LZH	**Lanzhou**	**44.01**	**308**	⇑P		**P**		**10 20 49.1**	**+1.3**
LZH				AP		pP		10 21 02.8	+1.1
LZH				XP		sP		10 21 07.3	-0.5
LZH				PP		PP		10 22 33.3	+2.2
LZH				SCP		ScP		10 26 22.8	+2.5
LZH				S		**S**		**10 27 14.5**	**-1.8**
LZH				XS		sS		10 27 35.0	-4.7
LZH				SS		SS		10 30 30.0	-4.8
LZH				AMB		AMB			
	comp=Z,238nm,1.7s,mb5.7								
LZH				AMB		AMB			
	comp=Z,795nm,4.0s								
LZH				LR		LR			
	comp=E,2μm,13.5s								
LZH				LR		LR			
	comp=Z,3μm,16.2s,MS5.3								
SMY	**Shemya**	**44.31**	**24**	PFAKE				10 21 00.0	+10
SMY				LR		LR			
	comp=Z,3μm,20.0s,MS5.2								
ARMA	**Armidale**	**44.53**	**174**	*e*P		**P**		**10 20 51.3**	**-0.6**
CLNS	**Chul'man**	**45.75**	**344**	*e*P		**P**		**10 20 58.6**	**-2.7**
CLNS				*e**PP		pP		10 21 07.5	-7.7
CLNS				*e*				10 22 38.7	
CLNS				*e*				10 22 48.4	
CLNS				*e*S		**S**		**10 27 35.3**	**-5.5**
CLNS				*e*SS		SS		10 30 56.4	-9.3
CLNS				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
CLNS				pmax		pmax			
	comp=N,6.0nm,0.9s								
CLNS				pmax		pmax			
	comp=E,4.0nm,1.1s								
CLNS				smax					
	comp=N,242nm,14.1s								
CLNS				smax					
	comp=E,221nm,14.1s								
CLNS				MLR		MLR			
	comp=Z,2μm,15.0s,MS5.1								
CLNS				MLR		MLR			
	comp=N,2μm,16.0s								
CHTO	**Chiang Mai**	**45.83**	**283**	*e*P		**P**		**10 21 02.6**	**+0.1**
CHTO				MLR		MLR			
	comp=Z,1μm,19.0s,MS4.8								
CM31	**Chiang Mai Arr**	**45.84**	**282**	PFAKE				10 21 10.0	+7.4
CM31				LR		LR			
	comp=Z,1μm,19.0s,MS4.8								
CMAR	**Chiang Mai Arr**	**45.84**	**282**	P		**P**		**10 21 03.4**	**+0.8**
	comp=Z,5.0nm,0.4s,mb4.8,baz=81,slow=6.5,SNR=26								
STKA	**Stephens Creek**	**45.97**	**186**	*e*P		**P**		**10 21 02.2**	**-1.1**
	comp=Z,13nm,1.2s,mb4.7								
STKA	**Stephens Creek**	**45.97**	**186**	P		**P**		**10 21 01.6**	**-1.7**
	comp=Z,3.3nm,0.9s,mb4.3,baz=2.1,slow=6.2,SNR=4.9								
STKA				LR		LR		10 40 42.4	
	comp=Z,3μm,19.3s,MS5.3,baz=3.0,slow=37								
KULM	**Kulim**	**46.05**	**264**	⇓P		**P**		**10 21 06.2**	**+1.9**
SONM	**Songino Array**	**47.29**	**324**	P		**P**		**10 21 13.8**	**+0.3**
	comp=Z,16nm,0.6s,mb5.1,baz=135,slow=7.9,SNR=53								
SONM				LR		LR		10 41 49.2	
	comp=Z,2μm,18.9s,MS5.2,baz=118,slow=37		

YAK eS S 10 28 31.2 -0.8
YAK e 10 31 14.7
YAK eSS SS 10 31 58.3 -5.8
YAK eSSS 10 33 17.2
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.3
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax
comp=N,234nm,4.7s
YAK smax
comp=E,114nm,5.8s
YAK MLR MLR
comp=Z,2µm,21.0s,MS5.2
YAK MLR MLR
comp=N,1µm,14.0s
YAK MLR MLR
comp=E,440nm,14.0s
YAK Yakutsk 49.37 350 PFAKE 10 21 40.0 +11
YAK LR LR
comp=Z,2µm,19.0s,MS5.1
AFI Afiamalu 49.74 122 LR LR 10 38 57.8
comp=Z,1µm,18.3s,MS4.9,baz=320,slow=32
AFI Afiamalu 49.74 122 PFAKE 10 21 50.0 +17
AFI LR LR
comp=Z,2µm,19.0s,MS5.1
BOD Bodaibo 50.05 338 eP P 10 21 31.0 -3.5
BOD pmax pmax
comp=Z,8.0nm,1.9s,mb4.4
IRK Irkutsk 50.79 328 eP P 10 21 38.6 -1.6
IRK pmax pmax
comp=Z,72nm,2.4s,mb5.2
TLY Talaya 50.82 327 P P 10 21 41.7 +1.2
comp=Z,142nm,0.8s,mb6.0,SNR=6.7
TLY Talaya 50.82 327c iP P 10 21 39.5 -1.0
TLY e 10 23 36.9
TLY eS S 10 28 54.3 +1.7
TLY e 10 31 27.6
TLY eSS SS 10 32 28.5 +0.8
TLY pmax pmax
comp=Z,20nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,2µm,20.0s,MS5.0
TLY Talaya 50.82 327 eP P 10 21 41.0 +0.6
comp=Z,17nm,0.8s,mb5.0
TLY LR LR
comp=Z,2µm,19.0s,MS5.0
TOO Toolangi 51.41 181 eP pP 10 22 00.0 +0.8
MOY Mondy 52.24 326 eP P 10 21 51.5 +0.4
MOY pmax pmax
comp=Z,70nm,2.4s,mb5.2
NIKO Nikolski 52.34 32 eP P 10 21 54.0 +2.3
SHL Shillong 52.39 291 eP P 10 21 50.5 -2.1
SHL ex x 10 29 18.5
KLBR Kellerberrin 53.20 211 eP P 10 21 57.4 -0.9
comp=Z,12nm,0.6s,mb5.0
LSA Lhasa 53.25 297 P P 10 22 00.4 +1.5
LSA AP pP 10 22 09.4 -3.8
LSA XP sP 10 22 13.4 -5.8
LSA PCP PcP 10 23 10.3 +4.1
LSA PP PP 10 23 59.3 -0.2
LSA SCP ScP 10 26 58.3 -1.4
LSA PCS PcS 10 27 03.4 -1.9
LSA S S 10 29 19.0 -7.6
LSA SCS ScS 10 31 47.9 +3.6
LSA SS SS 10 33 03.9 -3.0
LSA AMB AMB
comp=Z,40nm,0.6s,mb5.5
LSA AMB AMB
comp=Z,420nm,7.6s
LSA LR LR
comp=N,570nm,16.8s,MS4.9
LSA LR LR
comp=E,750nm,18.1s,MS4.9
LSA LR LR
comp=Z,920nm,18.5s,MS4.9
LSA Lhasa 53.25 297⇑ iP P 10 22 00.6 +1.7
LSA pmax pmax
comp=Z,28nm,0.6s,mb5.4
LSA MLR MLR
comp=Z,938nm,20.0s,MS4.8
LSA Lhasa 53.25 297⇑ iP P 10 22 00.6 +1.7
comp=Z,28nm,0.6s,mb5.4
LSA LR LR
comp=Z,938nm,20.0s,MS4.8
UNV Unalaska Valle 54.00 32 eP P 10 22 05.3 +1.3
MUN Mundaring 54.29 212 eP P 10 22 05.7 -0.6
NWAO Narrogin (SRO) 54.53 210 P P 10 22 07.7 -0.4
comp=Z,5.2nm,0.6s,mb4.8,baz=40,slow=8.3,SNR=8.6
NWAO Narrogin (SRO) 54.53 210 P P 10 22 07.7 -0.4
NWAO LR LR
comp=Z,1µm,20.0s,MS5.0
BILL Bilibino 55.39 9⇓ iP P 10 22 13.4 -0.4
BILL pmax pmax
comp=Z,61nm,2.5s,mb5.2
BILL Bilibino 55.39 9 PFAKE 10 22 30.0 +16
BILL LR LR
comp=Z,1µm,22.0s,MS4.9
CAL Calcutta 55.65 288 eP P 10 22 16.9 +0.4
CAL ex x 10 29 19.9
HVS Khovu-Aksy 56.16 323d iP P 10 22 18.9 -0.7
HVS pmax pmax
comp=Z,55nm,0.6s,mb5.8
TAPN Taplejung 56.17 294 eP P 10 22 20.5 +0.4
comp=Z,37nm,0.5s,mb5.6
ODAN Odare 56.45 293 eP P 10 22 22.2 +0.1
XMAS Kiritimati 56.55 97 PFAKE 10 22 40.0 +17
XMAS LR LR
comp=Z,2µm,19.0s,MS5.3
TAU Tasmania Unive 56.74 179 PFAKE 10 22 40.0 +16
TAU LR LR
comp=Z,4µm,20.0s,MS5.5
RAMN Ramite 57.15 293 eP P 10 22 27.2 +0.1
JIRN Jiri 57.52 294 eP P 10 22 30.5 +0.8
comp=Z,48nm,0.8s,mb5.6
GUN Gumba 57.80 294 eP P 10 22 32.4 +0.8
comp=Z,44nm,0.5s,mb5.7
WMQ Urumqi 58.00 313 P P 10 22 34.8 +2.1
WMQ AP pP 10 22 47.5 +0.4
WMQ XP sP 10 22 52.8 -0.3
WMQ PCP PcP 10 23 26.3 +2.0
WMQ PP PP 10 24 45.3 +3.7
WMQ SCP ScP 10 27 21.1 +0.9
WMQ S S 10 30 29.6 +0.2
WMQ XS sS 10 30 51.6 -2.0
WMQ SCS ScS 10 32 16.8 -1.1
WMQ SS SS 10 34 22.3 +1.2
WMQ AMB AMB
comp=Z,41nm,0.8s,mb5.5
WMQ AMB AMB
comp=Z,93nm,6.2s
WMQ LR LR
comp=N,742nm,18.0s,MS5.1
WMQ LR LR
comp=E,1µm,18.1s,MS5.1
WMQ LR LR
comp=Z,2µm,18.2s,MS5.2
PKI Pulchoki 58.22 294 eP P 10 22 35.1 +0.5
KKN Kakani 58.33 294 eP P 10 22 35.3 -0.1
comp=Z,80nm,1.2s,mb5.6
KKN Kakani 58.33 294 eP P 10 22 35.3 -0.1
KKN pmax pmax
comp=Z,80nm,1.2s,mb5.6
DMN Daman 58.48 294 eP P 10 22 36.3 -0.1
comp=Z,55nm,0.9s,mb5.6
TIXI Tiksi 58.50 354 eP P 10 22 32.0 -3.8
TIXI eS S 10 30 32.7 -2.5
TIXI e 10 32 19.4
TIXI pmax pmax
comp=Z,26nm,3.1s
TIXI MLR MLR
comp=Z,942nm,18.0s,MS5.0
TIXI Tiksi 58.50 354 PFAKE 10 22 50.0 +14
TIXI LR LR
comp=Z,843nm,19.0s,MS4.9
GKN Gorkha 58.90 294 eP P 10 22 39.3 0.0
URZ Urewera 59.43 152 P P 10 22 42.7 0.0
comp=Z,8.4nm,0.8s,mb4.8,baz=176,slow=16,SNR=3.5
DANN Dangsing 59.67 295 eP P 10 22 44.8 +0.1
comp=Z,71nm,0.6s,mb5.9
KOLN Koldanda 59.82 294 eP P 10 22 45.9 +0.2
comp=Z,21nm,0.6s,mb5.3
SNZO South Karori 60.96 156 PFAKE 10 23 10.0 +17
SNZO LR LR
comp=Z,2µm,20.0s,MS5.3
ZALV Zalesovo Beam 62.18 324 P P 10 23 00.6 -0.6
comp=Z,17nm,0.6s,mb5.3,baz=108,slow=8.2,SNR=41
ZAL Zalesovo 62.19 324 P P 10 23 00.6 -0.7
MK31 Makanchi Array 62.28 316 eP P 10 23 02.1 +0.1
MK31 e 10 23 43.3
MKAR Makanchi Array 62.28 316 P P 10 23 02.5 +0.4
comp=Z,15nm,0.5s,mb5.4,baz=86,slow=8.8,SNR=129
MKAR LR LR 10 52 53.8
comp=Z,1µm,19.3s,MS5.1,baz=212,slow=39
SVW2 Sparrevohn 62.44 28 eP P 10 23 05.1 +2.3
KDAK Kodiak Island 62.75 32 P P 10 23 04.6 -0.3
comp=Z,6.3nm,0.6s,mb4.9,baz=279,slow=5.8,SNR=10.0
KDAK Kodiak Island 62.75 32 eP P 10 23 05.7 +0.8
KDAK pmax pmax
comp=Z,21nm,0.8s,mb5.3
KDAK MLR MLR
comp=Z,2µm,19.0s,MS5.3
KDAK Kodiak Island 62.75 32 eP P 10 23 05.7 +0.7
comp=Z,21nm,0.8s,mb5.3
KDAK LR LR
comp=Z,2µm,19.0s,MS5.3
RAR Rarotonga 63.28 123 PFAKE 10 23 20.0 +11
RAR LR LR
comp=Z,1.0nm,21.0s
NVS Novosibirsk 63.30 325⇓ iP P 10 23 08.5 -0.1
NVS i 10 23 49.2
NVS e 10 25 23.5
NVS i S S 10 31 36.3 -0.5
NVS pmax pmax
comp=N,33nm,1.2s
NVS pmax pmax
comp=E,86nm,1.2s
NVS pmax pmax
comp=Z,98nm,1.2s,mb5.8
NVS pmax pmax
comp=Z,48nm,2.4s,mb5.2
NVS pmax pmax
comp=N,28nm,1.9s
NVS pmax pmax
comp=E,44nm,2.3s
NVS smax
comp=N,88nm,2.9s
NVS smax
comp=E,75nm,3.3s
JOSI Joshimath 63.31 297 eP P 10 23 10.7 +1.6
JOSI AMb AMB 10 23 12.4
comp=Z,250nm,1.3s,mb6.2
MDRS Chennai 64.29 278⇑ eP P 10 23 14.0 -1.8
KLP Kalpa 64.41 298 eP P 10 23 16.9 +0.5
KLP AMb AMB 10 23 19.9
comp=Z,52nm,1.2s,mb5.4
PPLA Purkeypile 64.58 26 eP P 10 23 16.9 0.0
comp=Z,33nm,0.8s,mb5.4
DDI Dehra Dun 64.61 297 eP P 10 23 17.6 -0.1
CHUM Lake Minchumin 64.87 25⇓ iP P 10 23 19.1 +0.4
comp=Z,21nm,0.7s,mb5.3
ASOR Ausora 64.93 295 eP P 10 23 19.3 -0.5
PALK Pallekele 64.93 272 PFAKE 10 23 30.0 +10
PALK LR LR
comp=Z,619nm,19.0s,MS4.8
SEW Seward 64.98 30⇓ iP P 10 23 18.9 -0.6
SEW epP pP 10 23 33.9 -0.3
SEW esP sP 10 23 40.4 +0.3
RC01 Rabbit Creek A 65.12 29⇓ iP P 10 23 19.5 -0.9
comp=Z,27nm,0.7s,mb5.4
RC01 epP pP 10 23 35.6 +0.5
IMA2 Indian Mountai 65.12 23⇓ iP P 10 23 20.3 0.0
HYB Hyderabad 65.26 283 i P P 10 23 23.0 +0.9
KURK Kurchatov 65.27 320 P P 10 23 21.5 -0.1
comp=Z,428nm,0.7s,SNR=44
KURK Kurchatov 65.27 320 eP P 10 23 21.0 -0.6
KURK LR LR
comp=Z,2µm,19.0s,MS5.3
KTH Kantishna Hill 65.34 26⇓ iP P 10 23 21.2 -0.6
comp=Z,38nm,1.0s,mb5.4
BPAW Bear Paw Mtn. 65.49 25⇓ iP P 10 23 22.4 -0.4
comp=Z,48nm,1.3s,mb5.4
AYAN Aya Nagar 65.51 295 eP P 10 23 22.7 -0.9
AYAN AMb AMB 10 23 24.6
comp=Z,16nm,0.6s,mb5.2
PMR Palmer 65.54 28 eP P 10 23 23.7 +0.6
PMR pmax pmax
comp=Z,24nm,0.9s,mb5.2
PMR MLR MLR
comp=Z,904nm,20.0s,MS5.0
PMR Palmer 65.54 28 eP P 10 23 23.7 +0.5
comp=Z,24nm,0.9s,mb5.2
PMR LR LR
comp=Z,904nm,20.0s,MS5.0
SONA Sohna 65.56 295 eP P 10 23 23.6 -0.3
SONA AMb AMB 10 23 37.4
comp=Z,26nm,0.9s,mb5.3
TRF Thorofare Moun 65.58 26⇓ iP P 10 23 22.6 -0.7
comp=Z,24nm,0.9s,mb5.2
RTK Rohtak 66.10 296 ex x 10 22 43.6
MCK McKinley 66.24 26 eP P 10 23 26.9 -0.7
MCK pmax pmax
comp=Z,50nm,1.3s,mb5.4
MCK McKinley 66.24 26 eP P 10 23 26.9 -0.7
comp=Z,50nm,1.3s,mb5.4
THN Thein Dam 66.54 299 eP P 10 23 28.8 -1.3
TKM2 Tokmak 2 66.64 311⇑ iP P 10 23 31.2 +0.6
TKM2 pmax pmax
comp=Z,33nm,0.7s,mb5.5
TKM2 MLR MLR
comp=Z,900nm,19.0s,MS5.0
TKM2 Tokmak 2 66.64 311⇑ iP P 10 23 31.2 +0.6
comp=Z,33nm,0.7s,mb5.5
TKM2 LR LR
comp=Z,900nm,19.0s,MS5.0
COLD Coldfoot 66.84 22⇓ iP P 10 23 31.6 +0.3
comp=Z,22nm,0.6s,mb5.4
DIV Divide 66.99 29⇓ iP P 10 23 32.8 +0.4
comp=Z,17nm,0.7s,mb5.2
COLA College 67.02 25d iP P 10 23 34.5 +1.9
COLA College 67.02 25 eP P 10 23 31.9 -0.7
comp=Z,12nm,0.8s,mb5.0
COLA LR LR
comp=Z,2µm,20.0s,MS5.3
FRU Bishkek 67.36 311⇓ iP P 10 23 36.0 +0.9
FRU eS S 10 32 32.0 +5.1
FRU pmax pmax
comp=Z,130nm,2.2s,mb5.6
FRU MLR MLR
comp=Z,1µm,18.0s,MS5.1
RAGM Ragged Mountai 67.36 30 eP P 10 23 32.9 -1.9
BMRM Bremner River 67.51 29 eP P 10 23 35.1 -0.6
AJM Ajmer 67.86 293 ex x 10 22 07.0
EKS2 Erkin-Say 67.97 311⇑ iP P 10 23 39.3 +0.3
comp=Z,25nm,1.4s,mb5.1
EKS2 epP pP 10 23 51.6 -2.1
EKS2 LR LR
comp=Z,946nm,19.0s,MS5.0
AML Almayashu 68.03 310⇑ iP P 10 23 40.3 +0.9
comp=Z,23nm,1.0s,mb5.2
AML LR LR
comp=Z,804nm,19.0s,MS5.0
EGAK Eagle 69.79 26 PFAKE 10 24 00.0 +10
EGAK LR LR
comp=Z,1µm,20.0s,MS5.1
PPT Papeete 70.40 115 eS S 10 33 09.1 +5.5
comp=Z,2µm,27.5s
PPT Papeete 70.40 115 eLR LR 10 45 25.8
comp=Z,2µm,25.2s,baz=289
PPT Papeete 70.40 115 LR LR 10 49 12.5
comp=Z,1µm,19.6s,MS5.1,baz=251,slow=31
DAWY Dawson 70.43 27 eP P 10 23 53.5 -0.3
BRVK Borovoye 70.62 322 P P 10 23 55.5 +0.3
comp=Z,232nm,0.9s,mb6.1,SNR=10
BRVK Borovoye 70.62 322 eP P 10 23 54.7 -0.5
BRVK LR LR
comp=Z,3µm,20.0s,MS5.5
HYT Haines Junctio 70.92 30 eP P 10 23 57.7 +0.9
SIT Sitka 71.81 34 PFAKE 10 24 10.0 +7.8
SIT LR LR
comp=Z,1µm,19.0s,MS5.1
SKAG Skagway 71.91 32 eP P 10 24 02.8 -0.1
comp=Z,58nm,1.2s,mb5.4
KBL Kabul 71.97 302 eP P 10 24 04.5 +0.8
KBL pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KBL Kabul 71.97 302 eP P 10 24 04.5 +0.7
comp=Z,10nm,0.7s,mb4.9
TBI Tubuai 72.78 120 eS S 10 33 34.0 +3.2
comp=Z,427nm,27.2s
TBI Tubuai 72.78 120 eLR LR 10 45 34.0
comp=Z,2µm,32.0s,baz=298
INK Inuvik 73.25 22 P P 10 24 10.1 -0.6
comp=Z,4.1nm,0.7s,mb4.5,baz=256,slow=7.0,SNR=10
INK Inuvik 73.25 22 eP P 10 24 10.2 -0.4
WRAK Wrangell Islan 73.44 35 eP P 10 24 12.7 +0.8
comp=Z,11nm,0.9s,mb4.8
WRAK LR LR
comp=Z,985nm,19.0s,MS5.1
DLBC Dease Lake 74.65 33 P P 10 24 19.4 +0.4
baz=276,slow=5.1
DLBC Dease Lake 74.65 33 eP P 10 24 19.8 +0.8
SVE Sverdlovsk 76.11 326⇑ eP P 10 24 27.3 -0.1
SVE eS S 10 34 04.0 -3.1
SVE pmax pmax
comp=Z,88nm,2.0s,mb5.3
SVE MLR MLR
comp=Z,1µm,17.0s,MS5.2
TAOE Nuku Hiva Isla 76.17 103 eLR LR 10 47 20.8
comp=Z,6µm,31.4s
ARU Arti 77.29 325 P P 10 24 34.4 +0.3
comp=Z,124nm,0.8s,mb5.9,SNR=7.9
ARU Arti 77.29 325c iP P 10 24 33.4 -0.7
ARU e*PP pP 10 24 50.8 +1.8
ARU e 10 27 34.8
ARU ePPP 10 29 22.3
ARU eS S 10 34 19.8 -0.2
ARU eSS SS 10 39 13.4 -5.1
ARU pmax pmax
comp=Z,101nm,2.5s,mb5.3
ARU MLR MLR
comp=Z,2µm,18.0s,MS5.4
ARU Arti 77.29 325 eP P 10 24 34.3 +0.2
ARU LR LR
comp=Z,2µm,19.0s,MS5.3
SOKR Solikamsk 77.86 329 S S 10 34 25.2 -0.8
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.3
SOKR MLR MLR
comp=Z,1µm,17.0s,MS5.3
C03A Quillayute Air 78.91 43⇓ P P 10 24 43.7 +0.5
baz=79
NLWA Neilton Lookou 79.46 44⇑ P P 10 24 46.6 +0.4
baz=80
NLWA Neilton Lookou 79.46 44 eP P 10 24 47.0 +0.8
comp=Z,9.1nm,0.8s,mb4.8
NLWA LR LR
comp=Z,783nm,19.0s,MS5.1
PGC Sidney 79.53 42 eP P 10 24 47.3 +0.7
comp=Z,70nm,1.5s,mb5.4
D03A Wishkah Elem. 79.57 44⇓ P P 10 24 47.2 +0.4
baz=80
B04A Port Angeles 79.59 43⇓ P P 10 24 46.9 -0.1
baz=80,SNR=6.7
K01A Sixes 79.80 48⇑ P P 10 24 48.6 +0.5
baz=80
E03A Lebam 79.81 45⇓ P P 10 24 48.0 -0.1
baz=80
H02A Toledo 79.82 46⇓ P P 10 24 48.3 +0.1
baz=80
KEBM Edson Butte 79.89 48 eP P 10 24 50.7 +2.0
F03A Seaside 79.91 45⇑ P P 10 24 49.3 +0.6
baz=80
C04A Brinnon 80.00 43⇓ P P 10 24 49.2 0.0
baz=80,SNR=6.4
A04A Legoe Bay, Lum 80.01 42⇓ P P 10 24 49.4 +0.3
baz=80
I02A Mapleton 80.05 47⇓ P P 10 24 49.7 +0.2
baz=80
KBO Bosley Butte 80.08 49 eP P 10 24 51.7 +2.0
GNW Green Mountain 80.13 43 eP P 10 24 50.9 +1.1
comp=Z,46nm,1.5s,mb5.2
G03A Yamhill 80.21 46⇓ P P 10 24 50.8 +0.5
baz=80
M01C Crescent City 80.22 49⇑ P P 10 24 51.0 +0.6
baz=80
D04A Dobbs Creek Ra 80.22 44⇓ P P 10 24 50.4 0.0
baz=80
H03A Soap Creek Ran 80.31 46⇓ P P 10 24 50.9 0.0
baz=80,SNR=6.4
COR Corvallis 80.32 46 PFAKE 10 25 00.0 +9.0
COR LR LR
comp=Z,1µm,20.0s,MS5.2
J02A Umpqua 80.35 48⇓ P P 10 24 50.8 -0.3
baz=80
A05A Maple Falls 80.36 42⇓ P P 10 24 51.0 -0.1
baz=80
E04A Onalaska 80.37 44⇑ P P 10 24 51.7 +0.5
baz=80
KRMB Red Mountain 80.43 50 eP P 10 24 53.2 +1.6
KRMB epP pP 10 25 06.9 +0.2
KRMB esP sP 10 25 11.8 -0.8
I03A Eugene 80.45 47⇑ P P 10 24 51.0 -0.7
baz=80
JCC Jacoby Creek 80.47 50⇓ P P 10 24 51.9 0.0
baz=80
B05A Bryant 80.49 43⇑ P P 10 24 51.6 -0.1
baz=80
K02A Glendale 80.52 48⇓ P P 10 24 51.9 -0.2
baz=80
JCW Jim Creek 80.61 43 eP P 10 24 51.9 -0.5
KHMM Horse Mountain 80.68 50 eP P 10 24 54.4 +1.5
F04A Amboy 80.69 45⇓ P P 10 24 52.8 -0.2
baz=81
A06A Chilliwack 80.73 42⇓ P P 10 24 52.6 -0.5
baz=81
O01C Eel River Cons 80.75 51⇑ P P 10 24 54.1 +0.8
baz=81
D05A Emmclaw 80.76 44⇓ P P 10 24 53.7 +0.5
baz=81
G04A Mulino 80.79 46⇑ P P 10 24 53.4 0.0
baz=81
RPW Rockport 80.83 42 eP P 10 24 53.5 -0.2
B06A Marblemount 80.84 42⇑ P P 10 24 53.3 -0.4
baz=81
C05A Tolt Reservoir 80.86 43⇓ P P 10 24 53.4 -0.4
baz=81
HUMO Hull Mountain 80.93 48⇓ P P 10 24 54.7 +0.4
baz=81,SNR=21
HUMO Hull Mountain 80.93 48 eP P 10 24 55.2 +0.9
HUMO LR LR
comp=Z,1µm,20.0s,MS5.2
N02C Big Bar 81.01 50⇑ P P 10 24 54.3 -0.5
baz=81
KCPM Cahto Peak 81.01 51 eP P 10 24 55.4 +0.6
E05A Randle 81.03 44⇓ P P 10 24 54.3 -0.4
baz=81
KIPM Iron Peak 81.06 51 eP P 10 24 55.4 +0.3
H04A Detroit Lake 81.09 46⇑ P P 10 24 54.3 -0.8
baz=81,SNR=8.1
I04A Tendick Farm, 81.10 47⇓ P P 10 24 55.1 -0.1
baz=81
M02C Callahan 81.23 50⇑ P P 10 24 56.3 +0.4
baz=81,SNR=12
P01C Double 8 Ranch 81.24 52⇑ P P 10 24 56.2 +0.3
baz=81
YBH Yreka Blue Hor 81.28 49 LR LR 10 58 44.7
comp=Z,805nm,18.8s,MS5.1,baz=276,slow=34
YBH Yreka Blue Hor 81.28 49 P P 10 24 56.9 +0.8
baz=81,SNR=16
YBH Yreka Blue Hor 81.28 49 eP P 10 24 56.9 +0.7
YBH LR LR
comp=Z,732nm,19.0s,MS5.1
HOOD Mount Hood Mea 81.34 46 eP P 10 25 00.0 +3.7
C06A Tall Timber Ra 81.34 43⇓ P P 10 24 55.9 -0.4
baz=81
F05A White Salmon 81.36 45⇑ P P 10 24 56.2 -0.3
baz=81
J04A Umpqua Nationa 81.42 48⇓ P P 10 24 56.7 -0.2
baz=81
A07A Ashnola River, 81.45 42⇑ P P 10 24 57.0 +0.1
baz=81,SNR=9.2
O02C Red Bluff 81.52 51⇓ P P 10 24 57.3 -0.1
baz=82,SNR=7.5
D06A Cle Elum 81.52 44⇓ P P 10 24 57.2 0.0
baz=82
HOPS Hopland 81.53 52⇑ P P 10 24 57.0 -0.5
baz=82
HOPS Hopland 81.53 52 PFAKE 10 25 10.0 +12
HOPS LR LR
comp=Z,677nm,19.0s,MS5.0
E06A Yakima 81.56 44 P P 10 24 58.1 +0.6
baz=82,SNR=11
G05A Wamic 81.59 46⇑ P P 10 24 57.5 -0.2
baz=82
YKW3 Yellowknife Ar 81.61 28 eP P 10 24 56.8 -0.6

WDC Whiskeytown Da 81.62 50 *e*P **P 10 24 58.5 +0.5**
WDC pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
WDC MLR MLR
comp=Z,1µm,19.0s,MS5.2
WDC Whiskeytown Da 81.62 50 ⇑P **P 10 24 58.0 0.0**
baz=82,SNR=5.7
WDC Whiskeytown Da 81.62 50 *e*P **P 10 24 58.5 +0.6**
comp=Z,8.1nm,1.0s,mb4.6
WDC LR LR
comp=Z,1µm,19.0s,MS5.2
YKA Yellowknife Ar 81.63 28 P **P 10 24 56.3 -1.3**
comp=Z,3.3nm,0.6s,mb4.5,baz=285,slow=5.3,SNR=12
YKA LR LR 11 02 50.0
comp=Z,569nm,19.5s,MS4.9,baz=250,slow=37
YKA Yellowknife Ar 81.63 28 *i* P **P 10 24 56.2 -1.4**
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 81.63 28 P **P 10 24 56.3 -1.3**
YKA LR LR 11 02 50.0
GASB Alder Springs 81.67 51 ⇑P **P 10 24 58.8 +0.5**
baz=82,SNR=6.1
B07A Winthrop 81.74 42 ⇓P **P 10 24 58.6 +0.2**
baz=82
ETW Entiat 81.78 43 *e*P **P 10 25 00.3 +1.7**
ETW *e*pP pP 10 25 14.5 +0.7
L04A Klamath Falls 81.79 49 ⇑P **P 10 24 58.5 -0.3**
baz=82
M03C McCloud 81.80 50 ⇓P **P 10 24 59.2 +0.3**
baz=82
I05A Bend 81.84 47 ⇑P **P 10 24 59.3 +0.3**
baz=82
FARB Farallon Islan 81.84 53 ⇓P **P 10 24 58.4 -0.8**
baz=82
MCCM Marconi Confer 81.85 53 ⇑P **P 10 24 58.1 -1.1**
baz=82
MCCM Marconi Confer 81.85 53 PFAKE
MCCM LR LR 10 25 10.0 +11
comp=Z,685nm,20.0s,MS5.0
F06A Goldendale 81.85 45 ⇑P **P 10 24 59.2 +0.2**
baz=82
M04C Macdoel 81.91 49 ⇓P **P 10 24 59.1 -0.4**
baz=82,SNR=5.4
C07A Waterville 81.94 43 ⇑P **P 10 24 59.2 -0.3**
baz=82
NSHM Saint Helena R 81.98 52 *e*P **P 10 25 00.7 +0.8**
MNRC McLaughlin Nat 82.04 52 ⇓P **P 10 25 00.2 0.0**
baz=82
J05A Fort Rock 82.04 47 P **P 10 25 00.6 +0.4**
baz=82,SNR=16
D07A Quincy 82.10 43 ⇑P **P 10 25 00.4 +0.1**
baz=82
O03C Acorn Hollow, 82.12 51 ⇑P **P 10 25 00.2 -0.4**
baz=82
CVS Carmenet Viney 82.13 53 ⇑P **P 10 25 00.4 -0.3**
baz=82
A08A Turner Farm, O 82.19 42 ⇓P **P 10 25 00.1 -0.7**
baz=82,SNR=11
B08A Colville Reser 82.28 42 ⇑P **P 10 25 00.7 -0.6**
baz=82,SNR=9.1
E07A Sunnyside 82.32 44 ⇓P **P 10 25 01.5 +0.1**
baz=82
H06A Lindquist Farm 82.37 46 P **P 10 25 01.6 -0.2**
baz=82,SNR=9.6
HATC Hat Creek Radi 82.38 50 ⇑P **P 10 25 01.3 -0.6**
baz=82
K05A Summer Lake 82.40 48 ⇑P **P 10 25 01.9 -0.1**
baz=82,SNR=12
F07A Phinny Hill Vi 82.41 45 ⇑P **P 10 25 01.6 -0.3**
baz=82
SUTB Sutter Butte 82.47 52 ⇑P **P 10 25 01.4 -1.0**
baz=82
JRSC Jasper Ridge 82.49 53 ⇓P **P 10 25 02.8 +0.2**
baz=82
M05C Lookout 82.50 49 ⇑P **P 10 25 02.6 0.0**
baz=82,SNR=8.4
RSW Rattlesnake Hi 82.53 44 *e*P **P 10 25 03.2 +0.6**
HAWA Hanford 82.57 44 *e*P **P 10 25 03.4 +0.6**
HAWA LR LR
comp=Z,923nm,19.0s,MS5.2
L05A Lakeview 82.58 49 ⇓P **P 10 25 03.0 0.0**
baz=83,SNR=6.6
C08A Higginbotham F 82.59 43 ⇓P **P 10 25 02.6 -0.3**
baz=83
BNLO Ben Lomond (Sa 82.60 54 ⇑P **P 10 25 02.4 -0.8**
baz=83
ORV Oroville 82.61 51 ⇑P **P 10 25 02.3 -0.9**
baz=83,SNR=8.7
A09A Danville 82.62 41 ⇓P **P 10 25 03.0 -0.1**
baz=83
I06A Prineville 82.63 47 ⇓P **P 10 25 03.2 0.0**
baz=83,SNR=9.1
BDM Black Diamond 82.67 53 ⇑P **P 10 25 02.9 -0.7**
baz=83
OHCM Honcut 82.67 51 *e*P **P 10 25 03.7 +0.2**
G07A Ruggs Ranch, H 82.72 45 ⇑P **P 10 25 02.7 -1.0**
baz=83,SNR=7.8
O04C Chester 82.76 50 ⇓P **P 10 25 03.6 -0.4**
baz=83
J06A Christmas Vall 82.82 47 P **P 10 25 04.0 -0.2**
baz=83,SNR=7.5
WENL Wente Brothers 82.82 53 ⇓P **P 10 25 04.3 0.0**
baz=83
D08A Wollman Farm, 82.83 43 ⇑P **P 10 25 04.0 -0.2**
baz=83
K06A Valley Falls 82.85 48 ⇓P **P 10 25 04.3 0.0**
baz=83,SNR=9.0
Q04C Lincoln 82.86 52 ⇑P **P 10 25 04.2 -0.3**
baz=83
E08A Dider Farm, El 82.87 44 ⇓P **P 10 25 04.1 -0.2**
baz=83
OD2 Odessa Site #2 82.90 43 *e*P **P 10 25 05.1 +0.6**
OD2 *e*pP pP 10 25 19.5 -0.1
H07A Lands Inn, Kim 82.94 46 ⇑P **P 10 25 04.2 -0.6**
baz=83
O05C Quincy 82.97 51 ⇑P **P 10 25 04.6 -0.4**
baz=83
ELFS Eagle Lake Fie 82.97 50 ⇓P **P 10 25 04.6 -0.4**
baz=83
MOD Modoc 83.00 49 ⇑P **P 10 25 04.9 -0.3**
baz=83,SNR=11
MOD Modoc 83.00 49 *e*P **P 10 25 05.4 +0.2**
MOD LR LR
comp=Z,826nm,19.0s,MS5.1
M06C Likely Place G 83.03 49 ⇑P **P 10 25 05.7 +0.4**
baz=83,SNR=9.1
B09A Rice 83.03 42 P **P 10 25 05.4 +0.2**
baz=83,SNR=8.1
C09A Chrisman Ranch 83.09 43 ⇓P **P 10 25 05.0 -0.5**
baz=83
I07A Izee 83.09 46 ⇑P **P 10 25 05.1 -0.5**
baz=83,SNR=5.6
S04C Ingram Canyon, 83.18 53 ⇑P **P 10 25 05.5 -0.7**
baz=83,SNR=8.1
G08A Pilot Rock 83.20 45 ⇓P **P 10 25 05.9 -0.2**
baz=83,SNR=7.1
F08A Pendleton 83.21 45 ⇑P **P 10 25 05.9 -0.2**
baz=83
D09A Jones Farm, Ri 83.24 43 ⇓P **P 10 25 05.8 -0.5**
baz=83
HAST Hastings Reser 83.25 54 ⇑P **P 10 25 06.5 -0.1**
baz=83
SAO San Andreas Ge 83.25 54 PFAKE
SAO LR LR 10 25 20.0 +13
comp=Z,823nm,19.0s,MS5.1
A10A Northport 83.28 41 ⇓P **P 10 25 06.6 +0.2**
baz=83
PACP Pacheco Peak 83.32 54 ⇑P **P 10 25 06.6 -0.3**
baz=83
R04C Big Horse Ranc 83.32 52 ⇓P **P 10 25 06.0 -0.9**
baz=83
P05C Yuba Gap, Truc 83.34 51 ⇑P **P 10 25 06.4 -0.5**
baz=83
LAVA Lava Cap Winer 83.36 52 ⇓P **P 10 25 06.7 -0.4**
baz=83,SNR=11
J07A Hines 83.39 47 ⇑P **P 10 25 07.0 -0.1**
baz=83,SNR=10
BEKR Beckwourth 83.41 51 ⇓P **P 10 25 06.5 -0.8**
baz=83,SNR=11
E09A Wood Farm, Sta 83.48 44 ⇑P **P 10 25 07.5 0.0**
baz=84
LNOR Lincton Mounta 83.53 44 *e*P **P 10 25 07.1 -0.7**
V03C Hunter Liggett 83.58 55 ⇑P **P 10 25 08.5 +0.3**
baz=84
H08A Prairie City 83.58 46 ⇑P **P 10 25 07.8 -0.3**
baz=84,SNR=8.9
K07A Rock Creek Ran 83.59 48 ⇓P **P 10 25 07.9 -0.3**
baz=84,SNR=18
N06A Buffalo Meadow 83.60 50 ⇑P **P 10 25 08.1 -0.2**
baz=84
B10A Chitwood Farm, 83.66 42 ⇑P **P 10 25 08.5 +0.1**
baz=84
L07A Adell 83.68 48 P **P 10 25 09.0 +0.3**
baz=84,SNR=20
C10A Spilker Farm, 83.72 42 ⇑P **P 10 25 08.5 -0.2**
baz=84
NEW Newport 83.73 42 *e*P **P 10 25 08.8 0.0**
NEW pmax pmax
comp=Z,9.0nm,0.7s
NEW MLR MLR
comp=Z,739nm,20.0s
NEW Newport 83.73 42 *e*P **P 10 25 08.8 0.0**
comp=Z,9.4nm,0.7s,mb5.0
NEW LR LR
comp=Z,739nm,20.0s,MS5.1
O06A Flanigan 83.74 50 ⇑P **P 10 25 08.3 -0.7**
baz=84,SNR=11
I08A Drewsey 83.79 46 ⇓P **P 10 25 08.9 -0.3**
baz=84
CMB Columbia Colle 83.79 52 ⇓P **P 10 25 08.6 -0.7**
baz=84,SNR=8.2
CMB Columbia Colle 83.79 52 *e*P **P 10 25 09.3 0.0**
CMB LR LR
comp=Z,417nm,19.0s,MS4.8
P06A Stead Airport, 83.80 51 ⇑P **P 10 25 08.9 -0.4**
baz=84
F09A S2 Ranch, Elgi 83.83 45 ⇓P **P 10 25 09.3 0.0**
baz=84
U04C Hernandez Rese 83.86 54 ⇑P **P 10 25 09.8 +0.2**
baz=84
R05C Kirkwood Meado 83.88 52 ⇓P **P 10 25 09.4 -0.3**
baz=84,SNR=7.5
KBS Kingsbay 83.93 352 *e*P **P 10 25 06.8 -2.4**
KBS *e*PP PP 10 28 22.1 -0.7
KBS AMS AMS 11 06 09.6
comp=Z,720nm,19.4s,MS5.1
D10A Wagner Farm, O 83.93 43 ⇑P **P 10 25 09.4 -0.4**
baz=84
M07A Soldier Meadow 83.94 49 ⇑P **P 10 25 09.7 -0.3**
baz=84,SNR=9.8
V04C Ramage Ranch, 83.95 55 ⇑P **P 10 25 10.1 -0.1**
baz=84
WCN Washoe City 83.99 51 ⇓P **P 10 25 10.2 -0.1**
baz=84,SNR=5.2
J08A Circle Bar Ran 83.99 47 ⇑P **P 10 25 09.5 -0.7**
baz=84,SNR=5.4
S05C Merced 83.99 53 ⇑P **P 10 25 09.5 -0.8**
baz=84
G09A Cove 84.02 45 ⇓P **P 10 25 09.5 -0.8**
baz=84,SNR=6.8
A11A Hall Mountain, 84.05 41 ⇓P **P 10 25 11.0 +0.6**
baz=84
WVOR Wild Horse Val 84.09 48 *e*P **P 10 25 11.2 +0.5**
WVOR pmax pmax
comp=Z,17nm,1.1s,mb5.1
WVOR Wild Horse Val 84.09 48 *e*P **P 10 25 11.2 +0.4**
comp=Z,17nm,1.1s,mb5.1
K08A Mann Creek Ran 84.13 48 P **P 10 25 11.3 +0.4**
baz=84,SNR=14
PKD Parkfield 84.14 55 ⇓P **P 10 25 10.4 -0.7**
baz=84
PAHR Pah Rah Range 84.17 51 *e*P **P 10 25 12.6 +1.4**
E10A Myers Farm, Un 84.18 44 ⇑P **P 10 25 10.5 -0.6**
baz=84
B11A Sandpoint 84.18 42 ⇑P **P 10 25 11.4 +0.4**
baz=84
F10A Beach Ranch, E 84.22 44 ⇑P **P 10 25 10.7 -0.6**
baz=84
N07B Gerlach 84.23 50 P **P 10 25 11.6 +0.1**
baz=84,SNR=14
H09A Durkee 84.24 46 ⇑P **P 10 25 11.3 -0.2**
baz=84
L08A Fields 84.36 48 ⇑P **P 10 25 11.8 -0.3**
baz=84,SNR=12
I09A Lost Marbles R 84.36 46 ⇓P **P 10 25 11.3 -0.8**
baz=84
U05C Westside ANR, 84.38 54 ⇑P **P 10 25 10.9 -1.5**
baz=84
R06C Coleville 84.40 52 ⇓P **P 10 25 12.7 +0.3**
baz=84,SNR=5.9
BMO Blue Mountains 84.44 45 *e*P **P 10 25 12.5 0.0**
BMO MLR MLR
comp=Z,698nm,20.0s,MS5.0
O07A Toulon 84.45 50 ⇓P **P 10 25 12.2 -0.4**
baz=84
G10A Bishop Farm, J 84.46 45 ⇓P **P 10 25 11.8 -0.8**
baz=84,SNR=10
PTRM Twissleman Ran 84.47 55 *e*P **P 10 25 14.3 +1.5**
CASY Casey 84.50 194 *e*P **P 10 25 12.5 +0.4**
CASY LR LR
comp=Z,750nm,20.0s,MS5.1
J09A Fry Pan Ranch, 84.50 47 ⇓P **P 10 25 12.5 -0.3**
baz=84,SNR=9.0
M08A Happy Creek Ra 84.51 49 ⇓P **P 10 25 12.8 -0.1**
baz=84,SNR=5.9
A12A Yaak River Ran 84.51 41 ⇑P **P 10 25 12.8 +0.1**
baz=84
T06C Millerton Lake 84.55 53 ⇓P **P 10 25 12.5 -0.7**
baz=85,SNR=12
D11A Klaveano Farm, 84.55 43 ⇑P **P 10 25 12.2 -0.8**
baz=84
P07A Fallon 84.58 51 ⇓P **P 10 25 13.6 +0.3**
baz=85
V05C Boulder Hill, 84.66 55 ⇑P **P 10 25 14.3 +0.5**
baz=85
B12A Libby 84.67 41 ⇓P **P 10 25 13.4 -0.1**
baz=85
K09A Rome 84.68 47 ⇓P **P 10 25 12.7 -1.1**
baz=85,SNR=10
SMMC Simmler 84.72 55 ⇑P **P 10 25 13.3 -0.7**
baz=85
EDM Edmonton 84.75 36 *e*P **P 10 25 14.0 +0.2**
KCC Kaiser Creek 84.78 53 ⇑P **P 10 25 13.5 -0.8**
baz=85
Q07A Schurz 84.79 51 ⇑P **P 10 25 13.8 -0.6**
baz=85
R07C Lee Vining 84.81 52 ⇑P **P 10 25 14.5 0.0**
baz=85,SNR=8.5
E11A Bogner Ranch, 84.81 44 ⇓P **P 10 25 13.3 -1.0**
baz=85,SNR=9.7
N08A GE Springer Mi 84.85 49 ⇓P **P 10 25 14.3 -0.3**
baz=85,SNR=11
L09A Wilkinson Ranc 84.89 48 ⇓P **P 10 25 14.6 -0.2**
baz=85
H10A Noah's Angus R 84.90 45 ⇑P **P 10 25 14.0 -0.8**
baz=85,SNR=9.5
O08A Rochester Mine 84.95 50 ⇑P **P 10 25 14.9 -0.2**
baz=85
PKM Peak Mountain 84.96 55 ⇑P **P 10 25 15.7 +0.4**
baz=85
F11A Grangeville 84.97 44 ⇑P **P 10 25 13.8 -1.3**
baz=85
I10A Payette 84.98 46 ⇓P **P 10 25 15.0 -0.2**
baz=85
G11A Walters Elk Ra 85.02 45 ⇑P **P 10 25 14.2 -1.2**
baz=85,SNR=7.8
MLAC Mammoth Lakes 85.08 53 ⇓P **P 10 25 16.0 +0.1**
baz=85
RCTC Rector, Farmer 85.08 54 ⇑P **P 10 25 15.2 -0.6**
baz=85
SBC Santa Barbara 85.15 56 ⇑P **P 10 25 15.2 -1.0**
baz=85
P08A Dixie Valley 85.15 50 ⇓P **P 10 25 16.2 0.0**
baz=85
RKT Rikitea 85.16 115 *e*S S 10 35 48.2 +5.6
RKT comp=Z,715nm,36.8s *e*SS SS 10 41 20.6 +2.8
comp=Z,194nm,27.0s
RKT Rikitea 85.16 115 *e*LR LR 10 51 29.7
comp=Z,2µm,32.0s,baz=288
HELL Mitchell Peak 85.16 54 P **P 10 25 15.9 -0.3**
baz=85,SNR=9.4
J10A Berg Farm, Mel 85.18 47 ⇑P **P 10 25 15.8 -0.4**
baz=85
M09A Marrel Ranch, 85.19 49 ⇑P **P 10 25 15.9 -0.5**
baz=85
D12A Red Ives Fores 85.20 43 ⇓P **P 10 25 15.8 -0.4**
baz=85
K10A MacKenzie Ranc 85.27 47 P **P 10 25 16.7 0.0**
baz=85,SNR=12
N09A Rock Creek Ran 85.28 49 ⇓P **P 10 25 16.3 -0.5**
baz=85,SNR=6.6
NVAR Mina Array Bea 85.30 52 P **P 10 25 17.5 +0.6**
comp=Z,4.0nm,0.7s,mb4.7,baz=268,slow=5.4,SNR=26
A13A Flathead Natio 85.30 41 ⇑P **P 10 25 16.9 +0.2**
baz=85
BSC Santa Cruz Isl 85.32 56 ⇓P **P 10 25 16.5 -0.6**
baz=85
VES Vestal, Richgr 85.32 54 ⇓P **P 10 25 16.7 -0.4**
baz=85
MTUM Tungsten Hills 85.36 53 *e*P **P 10 25 17.7 +0.4**
H11A Donnelly 85.37 45 P **P 10 25 16.8 -0.3**
baz=85,SNR=8.6
B13A Whitefish 85.42 41 ⇑P **P 10 25 17.1 -0.2**
baz=85,SNR=12
R08A Mina 85.47 52 ⇓P **P 10 25 17.4 -0.4**
baz=86
Q08A Gabbs 85.47 51 ⇑P **P 10 25 17.5 -0.2**
baz=86,SNR=5.4
C13A Hot Springs 85.54 42 ⇓P **P 10 25 17.7 -0.2**
baz=86,SNR=9.7
APA Apatity 85.58 339 ⇑*i*P **P 10 25 16.7 -1.0**
APA *i* S S 10 35 40.0 -5.3
APA pmax pmax
comp=Z,36nm,1.0s,mb5.6
APA MLR MLR
comp=Z,1µm,21.0s,MS5.2
WALA Waterton Lakes 85.58 41 *e*P **P 10 25 18.9 +0.8**
SNCC San Nicolas Is 85.58 57 PFAKE 10 25 30.0 +12
SNCC LR LR
comp=Z,2µm,19.0s,MS5.4
BMN Battle Mountai 85.61 50 *e*P **P 10 25 19.3 +0.9**
BMN pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
BMN MLR MLR
comp=Z,1µm,19.0s,MS5.3
BMN Battle Mountai 85.61 50 *e*P **P 10 25 19.3 +0.9**
comp=Z,4.1nm,0.7s,mb4.8
BMN LR LR
comp=Z,1µm,19.0s,MS5.3
F12A Elk City 85.61 44 ⇑P **P 10 25 17.9 -0.4**
baz=86,SNR=6.4
I11A Placerville 85.62 46 ⇑P **P 10 25 18.1 -0.3**
baz=86,SNR=7.1
S08C White Mtn Res 85.62 53 P **P 10 25 19.1 +0.5**
baz=86,SNR=8.1
ARVC Arvin 85.69 55 ⇑P **P 10 25 18.2 -0.8**
baz=86
TIN Tinemaha 85.69 53 ⇑P **P 10 25 19.3 +0.4**
baz=86
O09A Fish Creek Ran 85.70 50 ⇓P **P 10 25 19.1 +0.3**
baz=86
L10A Juniper Basin 85.73 48 ⇑P **P 10 25 18.4 -0.6**
baz=86,SNR=6.3
BLG Laguna Peak 85.75 56 ⇑P **P 10 25 18.1 -1.1**
baz=86
D13A Huson 85.78 43 ⇓P **P 10 25 18.7 -0.4**
baz=86
M10A I.L. Ranch, Tu 85.83 48 ⇑P **P 10 25 19.6 +0.1**
baz=86
ISA Isabella 85.84 54 ⇑P **P 10 25 18.3 -1.4**
baz=86
ISA Isabella 85.84 54 *e*P **P 10 25 20.4 +0.7**
ISA LR LR
comp=Z,695nm,19.0s,MS5.1
MFID Camas Ranch 85.84 46 ⇓P **P 10 25 19.4 -0.1**
baz=86,SNR=9.0
K11A Parker Ranch, 85.87 47 ⇑P **P 10 25 19.1 -0.6**
baz=86,SNR=6.1
KLMR Klimovskoe 85.89 332 *e*P **P 10 25 15.7 -3.6**
KLMR *e*S S 10 35 36.7 -12
KLMR pmax pmax
comp=Z,69nm,1.5s,mb5.7
P09A Austin 85.89 50 ⇑P **P 10 25 19.4 -0.5**
baz=86
OSI Osito Adit 85.90 56 ⇑P **P 10 25 19.2 -0.8**
baz=86
CWC Cottonwood Cre 85.96 54 ⇓P **P 10 25 19.8 -0.4**
baz=86
Q09A Carvers 86.05 51 ⇓P **P 10 25 20.4 -0.2**
baz=86
C14A Swan Lake 86.05 42 ⇑P **P 10 25 19.9 -0.6**
baz=86
N10A Dunphy 86.06 49 ⇓P **P 10 25 20.8 +0.1**
baz=86
E13A Victor 86.14 43 ⇓P **P 10 25 19.6 -1.3**
baz=86
O10A Cortez Mining, 86.18 50 ⇓P **P 10 25 20.7 -0.5**
baz=86
MSO Missoula 86.19 43 *e*P **P 10 25 19.8 -1.4**
MSO comp=Z,3.4nm,1.0s,mb4.5 LR LR
comp=Z,415nm,19.0s,MS4.8
TPH Tonopah 86.21 52 *e*P **P 10 25 22.2 +0.8**
TPH pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
TPH MLR MLR
comp=Z,455nm,20.0s,MS4.9
TPH Tonopah 86.21 52 *e*P **P 10 25 22.1 +0.7**
comp=Z,5.7nm,0.7s,mb4.9
TPH LR LR
comp=Z,455nm,20.0s,MS4.9
H12A Diamond D Ranc 86.21 45 ⇓P **P 10 25 20.6 -0.7**
baz=86
F13A Darby 86.22 44 ⇑P **P 10 25 20.4 -0.9**
baz=86,SNR=18
L11A Cat Creek Ranc 86.23 48 ⇑P **P 10 25 21.4 0.0**
baz=86,SNR=5.6
R09A Tonopah 86.28 52 ⇑P **P 10 25 21.9 +0.1**
baz=86,SNR=8.9
S09A Goldfield 86.30 52 ⇑P **P 10 25 21.7 -0.1**
baz=86,SNR=9.0
DECC Green Verdugo 86.31 56 ⇓P **P 10 25 21.1 -0.9**
baz=86
GRAC Grapevine Rang 86.37 53 ⇑P **P 10 25 21.5 -0.7**
baz=86
DAC Darwin (Calif) 86.38 54 PFAKE 10 25 30.0 +7.7
DAC LR LR
comp=Z,833nm,19.0s,MS5.2
P10A Eureka 86.38 50 ⇓P **P 10 25 22.1 -0.1**
baz=86
M11A Holland Ranch, 86.40 48 ⇑P **P 10 25 22.5 +0.3**
baz=86
J12A Stokes Ranch, 86.40 46 P **P 10 25 23.1 +0.8**
baz=86,SNR=10
D14A Greenough 86.41 42 ⇓P **P 10 25 20.9 -1.3**
baz=86
EDW2 Edwards Air Fo 86.42 55 ⇑P **P 10 25 22.1 -0.4**
baz=86
CIS Catalina Islan 86.45 57 ⇓P **P 10 25 21.8 -1.0**
baz=86
G13A Cobalt 86.49 44 ⇑P **P 10 25 22.2 -0.5**
baz=86,SNR=20
LRMC Laurel Mountai 86.51 54 ⇑P **P 10 25 22.6 -0.4**
baz=86
MPMC Manual Prospec 86.52 54 ⇑P **P 10 25 22.7 -0.3**
baz=86,SNR=10.0
MWC Mount Wilson 86.53 56 *e*P **P 10 25 24.2 +1.1**
MWC MLR MLR
comp=Z,682nm,19.0s,MS5.1
KEV Kevo 86.54 342 *e*P **P 10 25 20.7 -1.7**
KEV pmax pmax
comp=Z,16nm,0.7s,mb5.4
KEV MLR MLR
comp=Z,1µm,20.0s,MS5.3
KEV Kevo 86.54 342 *e*P **P 10 25 20.7 -1.7**
comp=Z,16nm,0.7s,mb5.4
KEV LR LR
comp=Z,1µm,20.0s,MS5.3
N11A Elko Archery C 86.60 49 ⇑P **P 10 25 23.7 +0.4**
baz=87
E14A Clinton 86.61 43 ⇓P **P 10 25 22.7 -0.5**
baz=87
CHMT Chamberlain Mo 86.62 43 *e*P **P 10 25 22.6 -0.6**
H13A Challis 86.62 45 P **P 10 25 23.6 +0.3**
baz=87,SNR=11
Q10A Clear Creek Ra 86.64 51 ⇑P **P 10 25 23.1 -0.4**
baz=87
K12A Draper Farm, C 86.70 47 ⇑P **P 10 25 24.0 +0.3**
baz=87
S10A Tonopah Range, 86.73 52 ⇓P **P 10 25 23.9 0.0**
baz=87,SNR=13
L12A House Creek Ra 86.76 47 P **P 10 25 24.6 +0.6**
baz=87,SNR=9.2
HLID Hailey 86.79 46 ⇓P **P 10 25 23.6 -0.6**
baz=87,SNR=22
HLID Hailey 86.79 46 *e*P **P 10 25 24.2 0.0**
comp=Z,16nm,1.3s,mb5.1
O11A Cowboy Ranch, 86.84 50 ⇓P **P 10 25 24.1 -0.4**
baz=87,SNR=5.1
BFSC Mount Baldy St 86.85 56 ⇑P **P 10 25 24.1 -0.5**
baz=87
R10A Warm Springs 86.85 51 ⇑P **P 10 25 24.1 -0.5**
baz=87

F14A **Wisdom** 86.86 44 ⇑P P 10 25 24.0 -0.5
baz=87
I13A **Wildhorse Cree** 86.90 46 ⇓P P 10 25 24.8 +0.1
baz=87
FURC **Furnace Creek,** 86.90 53 ⇓P P 10 25 24.6 -0.3
baz=87
P11A **Circle Ranch,** 86.93 50 ⇓P P 10 25 24.6 -0.3
baz=87
G14A **Jackson** 86.97 44 ⇓P P 10 25 24.1 -0.8
baz=87
ELK **Elko** 86.98 49 *e*P P 10 25 26.1 +0.9
ELK *e**PP pP 10 25 40.2 -0.2
ELK pmax pmax
comp=Z,32nm,1.3s
ELK MLR MLR
comp=Z,1µm,19.0s
ELK **Elko** 86.98 49 *e*P P 10 25 26.1 +0.9
comp=Z,32nm,1.3s,mb5.4
ELK *e*pP pP 10 25 40.2 -0.1
ELK LR LR
comp=Z,1µm,19.0s,MS5.3
J13A **Cove Ranch, Pi** 87.00 46 ⇑P P 10 25 25.1 -0.1
baz=87,SNR=6.8
MAK **Makhachkala** 87.02 313 *e*P P 10 25 23.4 -1.9
MAK *e* 10 28 42.8
MAK *e*PPP 10 30 49.3
MAK *e*S S 10 35 46.9 -13
MAK *e* 10 36 02.2
MAK pmax pmax
comp=Z,234nm,1.6s,mb6.2
M12A **Wells** 87.03 48 ⇓P P 10 25 25.9 +0.5
baz=87,SNR=9.8
D15A **Lincoln** 87.06 42 ⇓P P 10 25 24.9 -0.5
baz=87
N12A **Clover Valley,** 87.10 49 ⇑P P 10 25 25.6 -0.1
baz=87,SNR=11
ARCES **ARCESS Array B** 87.10 342 P P 10 25 24.6 -0.5
comp=Z,11nm,0.7s,mb5.2,baz=64,slow=5.2,SNR=48
ARCES LR LR 11 09 29.0
comp=Z,2µm,18.4s,MS5.5,baz=67,slow=39
ARE0 **ARCESS Array S** 87.10 342 *e*P P 10 25 24.5 -0.7
E15A **Deer Lodge** 87.17 43 P P 10 25 25.9 0.0
baz=87,SNR=18
Q11A **Duckwater** 87.19 51 ⇑P P 10 25 26.3 +0.1
baz=87,SNR=8.1
RRX **Edison Barstow** 87.20 55 ⇑P P 10 25 25.8 -0.5
baz=87
GSC **Goldstone** 87.25 54 ⇑P P 10 25 26.1 -0.4
baz=87
GSC **Goldstone** 87.25 54 *e*P P 10 25 27.9 +1.3
GSC LR LR
comp=Z,697nm,19.0s,MS5.1
TPNV **Topopah Spring** 87.25 53 *e*P P 10 25 24.6 -1.9
TPNV pmax pmax
comp=Z,65nm,1.9s,mb5.5
TPNV MLR MLR
comp=Z,566nm,19.0s,MS5.0
TPNV **Topopah Spring** 87.25 53 ⇑P P 10 25 26.1 -0.4
baz=87
TPNV **Topopah Spring** 87.25 53 *e*P P 10 25 24.6 -2.0
comp=Z,65nm,1.9s,mb5.5
TPNV LR LR
comp=Z,566nm,19.0s,MS5.0
K13A **Stover Farm, H** 87.28 47 ⇓P P 10 25 26.6 0.0
baz=87
U10A **Ash Meadows, A** 87.33 53 ⇓P P 10 25 26.7 -0.2
baz=87
MURC **Murrieta** 87.38 56 ⇓P P 10 25 26.4 -0.8
baz=87
R11A **Troy Canyon, C** 87.38 51 ⇓P P 10 25 27.1 0.0
baz=87,SNR=12
BBRC **Big Bear Sol-O** 87.43 55 ⇑P P 10 25 27.0 -0.4
baz=87
F15A **Butte** 87.44 43 ⇑P P 10 25 26.8 -0.5
baz=87
S11A **Rachel** 87.45 52 ⇑P P 10 25 27.4 -0.1
baz=87,SNR=7.1
LRM **Limekiln Ridge** 87.47 43 *e*P P 10 25 27.9 +0.5
O12A **Currie** 87.48 49 ⇓P P 10 25 27.0 -0.5
baz=88,SNR=11
MCMT **McKenzie Canyo** 87.50 44 *e*P P 10 25 28.1 +0.5
SHOC **Shoshone** 87.50 54 ⇑P P 10 25 27.1 -0.7
baz=88
DLMT **Dillon** 87.51 44 *e*P P 10 25 27.6 0.0
L13A **Double Diamond** 87.54 47 ⇑P P 10 25 28.2 +0.3
baz=88
M13A **Montello** 87.59 48 ⇓P P 10 25 27.9 -0.2
baz=88
109C **Camp Elliot, M** 87.64 57 ⇓P P 10 25 27.0 -1.5
baz=88
G15A **Dillon** 87.65 44 ⇑P P 10 25 27.9 -0.4
baz=88,SNR=8.6
N13A **Wendover, West** 87.71 49 ⇓P P 10 25 28.1 -0.5
baz=88
HEC **Hector,Ludlow** 87.75 55 ⇑P P 10 25 28.0 -1.0
baz=88
Q12A **Willow Creek R** 87.76 50 ⇑P P 10 25 29.1 +0.2
baz=88,SNR=7.7
TUQ **Turquoise Mtn.** 87.91 54 ⇑P P 10 25 29.0 -0.7
baz=88
K14A **Jones Ranch, D** 87.95 47 ⇓P P 10 25 29.9 +0.1
baz=88,SNR=7.3
T11A **Corn Creek, Al** 87.96 52 ⇓P P 10 25 29.5 -0.4
baz=88
PFO **Pinyon Flat Ob** 87.98 56 *e*P P 10 25 30.4 +0.3
PFO *e**PP pP 10 25 46.0 +0.7
PFO pmax pmax
comp=Z,9.0nm,1.4s,mb4.8
PFO MLR MLR
comp=Z,511nm,20.0s,MS4.9
PFO **Pinyon Flat Ob** 87.98 56 ⇑P P 10 25 29.7 -0.4
baz=88
PFO **Pinyon Flat Ob** 87.98 56 *e*P P 10 25 30.4 +0.3
comp=Z,9.3nm,1.4s,mb4.8
PFO LR LR
comp=Z,764nm,19.0s,MS5.1
BAR **Barrett** 88.05 57 PFAKE 10 25 40.0 +10
BAR LR LR
comp=Z,1µm,19.0s,MS5.3
L14A **Malta** 88.06 47 ⇓P P 10 25 30.5 +0.2
baz=88,SNR=11
U11A **Corn Creek** 88.06 53 ⇓P P 10 25 30.7 +0.3
baz=88
BOZ **Bozeman (W)** 88.08 43 *e*P P 10 25 30.7 +0.4
BOZ *e**PP pP 10 25 46.0 +0.5
BOZ pmax pmax
comp=Z,14nm,1.1s,mb5.1
BOZ MLR MLR
comp=Z,511nm,20.0s,MS4.9
BOZ **Bozeman (W)** 88.08 43 ⇑P P 10 25 30.1 -0.1
baz=88,SNR=15
BOZ **Bozeman (W)** 88.08 43 *e*P P 10 25 30.7 +0.4
comp=Z,14nm,1.1s,mb5.1
BOZ *e*pP pP 10 25 46.0 +0.5
BOZ LR LR
comp=Z,511nm,20.0s,MS4.9
O13A **Hicks Ranch, I** 88.08 49 ⇑P P 10 25 30.6 +0.2
baz=88
R12A **Pony Springs,** 88.12 51 ⇓P P 10 25 30.7 +0.1
baz=88,SNR=9.3
M14A **Sheep Mountain** 88.14 48 P P 10 25 31.3 +0.6
baz=88,SNR=9.9
S12A **Delamar Landin** 88.14 52 ⇑P P 10 25 31.5 +0.7
baz=88
V11A **Goodsprings** 88.19 54 ⇓P P 10 25 31.2 +0.2
baz=88
MONP **Monument Peak** 88.20 57 ⇓P P 10 25 30.3 -0.9
baz=88
SHPR **Sheep Range** 88.21 53 *e*P P 10 25 32.3 +1.1
BELC **Belle Mtn.** 88.24 56 ⇓P P 10 25 30.5 -0.8
baz=88
P13A **Bates Ranch, G** 88.25 50 ⇓P P 10 25 31.0 -0.2
baz=88,SNR=19
GMRC **Granite Mounta** 88.29 55 ⇑P P 10 25 31.5 -0.1
baz=88
K15A **Arbon** 88.37 46 ⇑P P 10 25 32.3 +0.6
baz=88
Q13A **Wheeler Ranch,** 88.39 50 ⇓P P 10 25 31.8 -0.1
baz=88
N14A **Grayback Hills** 88.45 48 ⇑P P 10 25 32.0 -0.2
baz=88
QLMT **Earthquake Lak** 88.46 44 *e*P P 10 25 33.1 +0.9
HVU **Hansel Valley** 88.47 47 *e*P P 10 25 34.2 +2.0
T12A **Moapa** 88.49 53 ⇓P P 10 25 32.3 -0.2
baz=88,SNR=5.6
DVTC **Desert V Tower** 88.52 57 ⇓P P 10 25 32.4 -0.2
baz=88
JOF **Joensuu** 88.53 336 *e*p P 10 25 29.9 -2.1
comp=Z,22nm,0.6s,mb5.7
EGMT **Eagleton** 88.53 41 ⇓P P 10 25 32.1 -0.3
baz=88
EGMT **Eagleton** 88.53 41 *e*P P 10 25 32.5 +0.1
comp=Z,45nm,1.6s,mb5.5
EGMT LR LR
comp=Z,597nm,20.0s,MS5.0
BGU **Big Grassy Mou** 88.54 48 *e*P P 10 25 33.3 +0.7
LDFC **Landfair** 88.65 54 *e*P P 10 25 34.1 +0.9
R13A **O'Grain Ranch,** 88.65 51 ⇓P P 10 25 33.9 +0.8
baz=89,SNR=7.3
V12A **Nelson** 88.67 54 ⇑P P 10 25 33.6 +0.3
baz=89,SNR=12
L15A **Malad City** 88.67 47 ⇑P P 10 25 32.5 -0.7
baz=89
SWSC **Sam W. Stewart** 88.69 56 ⇑P P 10 25 32.9 -0.6
baz=89
U12A **Valley of Fire** 88.71 53 ⇓P P 10 25 33.5 0.0
baz=89
BC3 **Big Chuckw Mtn** 88.77 56 ⇓P P 10 25 33.3 -0.5
baz=89
MOS **Moscow** 88.77 328 *e*P P 10 25 31.2 -2.1
MOS *e* 10 29 03.0
MOS *e*S S 10 35 56.4 -20
MOS MLR MLR
comp=Z,2µm,19.0s,MS5.4
W12A **Cal Nev Ari** 88.77 54 ⇓P P 10 25 33.7 -0.1
baz=89
M15A **Larsen Ranch,** 88.80 48 ⇑P P 10 25 33.7 -0.1
baz=89
J16A **Bone** 88.83 46 ⇓P P 10 25 33.8 -0.1
baz=89
YMR **Madison River** 88.83 44 *e*P P 10 25 35.3 +1.4
comp=Z,26nm,1.0s,mb5.5
YMR *e*pP pP 10 25 50.2 +1.1
YMR LR LR
comp=Z,2µm,22.0s,MS5.6
IRM **Iron Mountain** 88.87 55 ⇓P P 10 25 34.3 0.0
baz=89,SNR=5.5
DAG **Danmarks Havn** 88.88 357⇓*e*P P 10 25 29.0 -4.5
DAG pmax pmax
comp=Z,2.0nm,0.5s,mb4.7
DAG **Danmarks Havn** 88.88 357⇓*i*P P 10 25 29.0 -4.5
comp=Z,2.1nm,0.5s,mb4.7
DAG **Danmarks Havn** 88.88 357⇓*e*P P 10 25 29.0 -4.5
comp=Z,2.1nm,0.5s,mb4.7
TRO **Tromso** 88.89 344 *e*P P 10 25 35.6 +1.9
TRO *e*SKS 10 35 59.5
TRO AMS AMS 11 10 11.1
comp=Z,486nm,18.3s,MS5.0
S13A **Holt Ranch, En** 88.90 52 ⇑P P 10 25 34.7 +0.3
baz=89,SNR=9.4
P14A **Drum Mountains** 88.91 49 ⇑P P 10 25 34.3 -0.1
baz=89
DUG **Dugway** 88.91 49⇓*i*P P 10 25 34.7 +0.3
DUG *e**PP pP 10 25 49.8 +0.2
DUG pmax pmax
comp=Z,26nm,0.9s,mb5.6
DUG MLR MLR
comp=Z,1µm,19.0s,MS5.3
DUG **Dugway** 88.91 49 ⇑P P 10 25 34.2 -0.2
baz=89,SNR=22
DUG **Dugway** 88.91 49⇓*i*P P 10 25 34.6 +0.3
comp=Z,26nm,0.9s,mb5.6
DUG *e*pP pP 10 25 49.8 +0.2
DUG LR LR
comp=Z,1µm,19.0s,MS5.3
N15A **Stansbury Isla** 88.92 48 ⇓P P 10 25 34.3 -0.1
baz=89
Q14A **Sevier Lake (B** 88.93 50 ⇑P P 10 25 34.6 +0.2
baz=89,SNR=12
K16A **Soda Springs** 88.98 46 ⇑P P 10 25 35.2 +0.6
baz=89,SNR=6.2
YFT **Old Faithful** 88.99 44 *e*P P 10 25 37.5 +2.8
RRI2 **Red Ridge** 89.01 46 *e*P P 10 25 35.6 +0.9
comp=Z,19nm,1.0s,mb5.4
RRI2 *e*pP pP 10 25 50.1 +0.2
YNR **Norris Junctio** 89.01 44 *e*P P 10 25 37.1 +2.4
T13A **Saint George** 89.03 52 ⇓P P 10 25 35.1 +0.1
baz=89,SNR=8.4
IMW **Indian Meadow** 89.09 45 *e*P P 10 25 36.1 +1.0
comp=Z,11nm,0.9s,mb5.2
IMW *e*pP pP 10 25 51.2 +0.9
NEE2 **Needles Airpor** 89.12 54 ⇑P P 10 25 35.1 -0.4
baz=89
O15A **The Old Anders** 89.14 49 ⇓P P 10 25 35.2 -0.2
baz=89
U13A **Pakoon Wash** 89.16 53 ⇓P P 10 25 35.9 +0.3
baz=89,SNR=11
ARUT **Antelope Range** 89.16 51 *e*P P 10 25 36.6 +1.0
FLWY **Flagg Ranch** 89.20 45 *e*P P 10 25 36.3 +0.7
comp=Z,25nm,0.8s,mb5.6
FLWY *e*pP pP 10 25 51.9 +1.1
FLWY *e*sP sP 10 25 57.7 +1.1
TPAW **Teton Pass** 89.22 45⇑*i*P P 10 25 37.3 +1.6
comp=Z,22nm,1.3s,mb5.3
LKWY **Lake** 89.25 44 *e*P P 10 25 38.2 +2.4
LKWY *e**PP pP 10 25 52.9 +1.8
LKWY pmax pmax
comp=Z,15nm,1.1s,mb5.2
LKWY MLR MLR
comp=Z,865nm,19.0s,MS5.2
LKWY **Lake** 89.25 44 *e*P P 10 25 38.2 +2.4
comp=Z,15nm,1.1s,mb5.2
LKWY *e*pP pP 10 25 52.9 +1.8
LKWY LR LR
comp=Z,865nm,19.0s,MS5.2
MOOW **Moose Ponds** 89.27 45⇓*i*P P 10 25 36.4 +0.4
comp=Z,45nm,1.8s,mb5.5
V13A **Grand Canyon W** 89.31 53 P P 10 25 37.1 +0.8
baz=89,SNR=11
MTA **Mtatsminda** 89.31 313 P P 10 25 34.7 -1.6
REDW **Red Top Meadow** 89.33 45 *e*P P 10 25 37.0 +0.8
comp=Z,34nm,1.5s,mb5.5
R14A **James Farms, M** 89.33 51 ⇓P P 10 25 35.6 -0.7
baz=89
GCMT **Greycliff** 89.33 43 *e*P P 10 25 37.1 +0.9
TBLG **Delisi** 89.34 313 P P 10 25 34.1 -2.2
AHID **Auburn Hatcher** 89.34 46 PFAKE 10 25 50.0 +14
AHID LR LR
comp=Z,735nm,19.0s,MS5.1
L16A **Fish Haven** 89.35 47 ⇑P P 10 25 36.7 +0.3
baz=89,SNR=9.0
SNOW **Snow King Moun** 89.36 45 *e*P P 10 25 37.5 +1.1
comp=Z,85nm,2.1s,mb5.7
S14A **Cedar City** 89.38 51 ⇓P P 10 25 36.6 0.0
baz=89
HWUT **Hardware Ranch** 89.38 47 *e*P P 10 25 37.0 +0.5
comp=Z,28nm,1.2s,mb5.5
HWUT *e*pP pP 10 25 51.8 +0.1
HWUT LR LR
comp=Z,782nm,20.0s,MS5.1
LOHW **Long Hollow** 89.42 45 *e*P P 10 25 37.5 +0.9
comp=Z,30nm,1.7s,mb5.3
M16A **Huntsville** 89.43 48 ⇓P P 10 25 36.3 -0.5
baz=89
GLA **Glamis** 89.44 56 ⇑P P 10 25 36.9 -0.1
baz=89
GLA **Glamis** 89.44 56 *e*P P 10 25 37.8 +0.8
GLA LR LR
comp=Z,764nm,19.0s,MS5.1
Y12C **Blythe** 89.48 55 ⇑P P 10 25 36.8 -0.4
baz=90
P15A **Leamington** 89.49 49 ⇓P P 10 25 36.6 -0.5
baz=90
NLU **North Lily Min** 89.53 49 *e*P P 10 25 38.1 +0.9
OBN **Obninsk** 89.58 327*c i*P P 10 25 35.4 -1.7
OBN *i*S S 10 36 04.5 -19
OBN *i*PS PS 10 37 34.7 -1.0
OBN pmax pmax
comp=Z,44nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,1µm,16.0s,MS5.4
OBN **Obninsk** 89.58 327 PFAKE 10 25 50.0 +13
OBN LR LR
comp=Z,1µm,19.0s,MS5.4
Q15A **Fillmore** 89.59 50 ⇓P P 10 25 37.5 -0.1
baz=90
W13A **Hualapai Mount** 89.60 54 ⇑P P 10 25 37.7 0.0
baz=90,SNR=8.6
PDMCI **Parker Dam,Lak** 89.63 55 ⇑P P 10 25 38.2 +0.4
baz=90
T14A **Hurricane** 89.65 52 ⇑P P 10 25 38.4 +0.5
baz=90
VRSR **Storozhevoye** 89.67 323 *e*P P 10 25 35.9 -1.7
VRSR pmax pmax
comp=Z,8.0nm,1.4s,mb4.9
VRSR pmax pmax
comp=N,5.0nm,1.5s
VRSR pmax pmax
comp=E,7.0nm,1.9s
VRSR MLR MLR
comp=Z,230nm,21.0s,MS4.6
VRSR MLR MLR
comp=N,130nm,17.0s,MS4.6
VRSR MLR MLR
comp=E,180nm,21.0s,MS4.6
N16A **Rees Ranch, Co** 89.70 48 ⇑P P 10 25 38.4 +0.4
baz=90
U14A **Mt Trumbull** 89.76 53 ⇓P P 10 25 38.7 +0.3
baz=90,SNR=14
JLU **Jordanelle** 89.78 48 *e*P P 10 25 39.2 +0.8
112A **Yuma** 89.78 57 ⇑P P 10 25 38.2 -0.4
baz=90
X13A **Yucca** 89.79 54 ⇑P P 10 25 38.7 +0.1
baz=90,SNR=9.7
RLMT **Red Lodge** 89.82 43 *e*P P 10 25 38.8 +0.3
comp=E,10.0nm,0.8s,mb5.2
RLMT LR LR
comp=Z,874nm,19.0s,MS5.2
MPU **Maple Canyon** 89.83 49 *e*P P 10 25 39.7 +1.0
comp=Z,25nm,1.3s,mb5.4
MPU *e*pP pP 10 25 53.6 -0.3
MPU LR LR
comp=Z,704nm,21.0s,MS5.1
GNI **Garni** 89.83 311*c i*P P 10 25 38.1 -0.6
GNI pmax pmax
comp=Z,25nm,1.7s
GNI **Garni** 89.83 311 PFAKE 10 25 50.0 +11
GNI LR LR
comp=Z,411nm,21.0s,MS4.8
O16A **Springville** 89.86 49 ⇓P P 10 25 38.9 0.0
baz=90
MVU **Marysvale** 89.87 50 PFAKE 10 25 50.0 +11
MVU LR LR
comp=Z,1µm,19.0s,MS5.3
MSU **Marysvale** 89.89 50 *e*P P 10 25 39.9 +0.9
MSU *e**PP pP 10 25 54.2 -0.1
R15A **Junction** 89.91 51 ⇑P P 10 25 39.8 +0.8
baz=90
P16A **Fountain Green** 89.94 49 ⇓P P 10 25 39.7 +0.5
baz=90
ONI **Oni** 89.98 314 P P 10 25 38.6 -0.7
DAU **Daniels Canyon** 89.98 48 *e*P P 10 25 40.3 +0.9
S15A **Panguitch** 90.01 51 ⇑P P 10 25 40.7 +1.1
baz=90
Y13A **Salome** 90.02 55 ⇓P P 10 25 39.8 +0.1
baz=90
KIV **Kislovodsk** 90.05 315 *e*P P 10 25 38.5 -1.1
KIV *e* 10 36 03.0
KIV *e*SS SS 10 42 25.3 -2.2
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
KIV MLR MLR
comp=Z,929nm,19.0s,MS5.2
KIV **Kislovodsk** 90.05 315 PFAKE 10 25 50.0 +10
KIV LR LR
comp=Z,1µm,19.0s,MS5.4
V14A **Boquillas Ranc** 90.06 53 ⇓P P 10 25 40.3 +0.5
baz=90,SNR=16
N17A **Moffit Pass** 90.11 48 ⇓P P 10 25 40.4 +0.4
baz=90
T15A **Red Dirt Ranch** 90.20 52 ⇑P P 10 25 40.7 +0.2
baz=90,SNR=7.0
W14A **Seligman** 90.20 54 ⇓P P 10 25 41.0 +0.5
baz=90,SNR=11
TMUT **Trail Mountain** 90.37 49 *e*P P 10 25 43.3 +2.1
113A **Mohawk Valley,** 90.37 56 ⇑P P 10 25 41.0 -0.4
baz=90
BW06 **Boulder Array** 90.42 46 PFAKE 10 25 50.0 +8.7
BW06 LR LR
comp=Z,684nm,20.0s,MS5.1
PDAR **Pinedale Array** 90.42 46 P P 10 25 40.6 -0.7
comp=Z,0.9nm,0.6s,mb4.3,baz=259,slow=0.7,SNR=9.5
PDAR LR LR 11 00 54.0
comp=Z,537nm,19.3s,MS5.0,baz=307,slow=32
U15A **North Rim** 90.44 52 ⇓P P 10 25 42.2 +0.6
baz=90,SNR=15
Q16A **Castle Valley** 90.52 50 ⇓P P 10 25 42.4 +0.5
baz=90
X14A **Yava** 90.57 54 P P 10 25 43.0 +0.7
baz=91,SNR=11
S16A **Weppner Ranch,** 90.57 51 ⇑P P 10 25 42.6 +0.4
baz=91,SNR=12
Y14A **Wickenburg** 90.64 55 ⇑P P 10 25 42.5 0.0
baz=91
P17A **Butcher Ranch,** 90.66 49 ⇑P P 10 25 42.9 +0.4
baz=91
V15A **Kaibab Nationa** 90.72 53 ⇑P P 10 25 43.3 +0.3
baz=91,SNR=16
W15A **Williams** 90.85 53 ⇑P P 10 25 44.1 +0.6
baz=91,SNR=5.2
Z14A **Wintersburg** 90.86 55 ⇑P P 10 25 44.2 +0.6
baz=91
T16A **Glen Canyon Da** 90.87 52 ⇓P P 10 25 43.5 -0.1
baz=91
O18A **Roosevelt** 90.93 48 ⇓P P 10 25 44.3 +0.5
baz=91
SRU **San Rafael** 90.93 49 *e*P P 10 25 44.5 +0.7
SRU pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
SRU **San Rafael** 90.93 49 ⇑P P 10 25 43.8 0.0
baz=91
SRU **San Rafael** 90.93 49 *e*P P 10 25 44.5 +0.7
comp=Z,5.7nm,0.7s,mb5.0
KAF **Kangasniemi** 90.93 336 *e*p P 10 25 40.9 -2.4
comp=Z,17nm,0.6s,mb5.6,baz=54,slow=4.4
KAF **Kangasniemi** 90.93 336 *e*P P 10 25 40.9 -2.4
KAF pmax pmax
comp=Z,17nm,0.6s,mb5.5
N18A **Larsen Ranch,** 90.93 47 ⇑P P 10 25 43.2 -0.6
baz=91
P18A **Preston Nutter** 90.97 49 ⇑P P 10 25 44.3 +0.4
baz=91
R17A **Hanksville Air** 91.02 50 ⇓P P 10 25 44.3 +0.1
baz=91,SNR=11
X15A **Humboldt** 91.08 54 P P 10 25 45.7 +1.1
baz=91,SNR=16
Y15A **Casa Rosa Ranc** 91.17 55 ⇑P P 10 25 45.2 +0.2
baz=91,SNR=13
S17A **Black Ridge (B** 91.20 51 ⇓P P 10 25 44.2 -0.9
baz=91,SNR=8.6
Q18A **Rafter H Ranch** 91.22 49 ⇑P P 10 25 44.5 -0.6
baz=91
LAO **LASA Array** 91.25 41 *e*P P 10 25 45.5 +0.3
comp=Z,22nm,0.8s,mb5.5
LAO LR LR
comp=Z,684nm,20.0s,MS5.1
214A **Organ Pipe Nat** 91.39 57 ⇓P P 10 25 46.3 +0.2
baz=91,SNR=12
T17A **Navajo Res., N** 91.40 51 ⇓P P 10 25 46.5 +0.5
baz=91
WUAZ **Wupatki** 91.44 53 ⇑P P 10 25 47.1 +0.8
baz=91
WUAZ **Wupatki** 91.44 53 *e*P P 10 25 47.6 +1.4
comp=Z,29nm,1.3s,mb5.5
WUAZ *e*pP pP 10 26 02.2 +0.7
W16A **Flagstaff** 91.44 53 ⇓P P 10 25 47.0 +0.7
baz=91
Z15A **Gila River Ind** 91.51 55 ⇓P P 10 25 46.8 +0.2
baz=92
115A **Sonoran Desert** 91.63 56 ⇑P P 10 25 47.6 +0.4
baz=92
R18A **Canyonlands Na** 91.63 50 ⇓P P 10 25 47.1 0.0
baz=92
U17A **Shonto** 91.64 52 ⇑P P 10 25 47.9 +0.7
baz=92
X16A **Lo Mia Camp, P** 91.73 54 ⇑P P 10 25 48.6 +0.9
baz=92
S18A **Hurst Farm, Bl** 91.79 51 ⇓P P 10 25 47.5 -0.3
baz=92
DGMT **Dagmar** 91.82 39 PFAKE 10 26 00.0 +12
DGMT LR LR
comp=Z,830nm,20.0s,MS5.2
Y16A **Circle Bar Ran** 91.87 55 ⇑P P 10 25 48.8 +0.6
baz=92,SNR=13
VNDA **Vanda** 91.88 177 LR LR 11 02 46.7
comp=Z,438nm,20.7s,MS4.9,baz=348,slow=33
Q19A **Hogan Spring (** 91.91 49 ⇑P P 10 25 48.1 -0.3
baz=92
T18A **Mexican Hat** 92.06 51 ⇑P P 10 25 48.9 -0.2
baz=92

Z16A Peralta Trail, 92.07 55 ⇑P **P 10 25 49.7 +0.4**
baz=92
W17A Winslow 92.09 53 ⇑P **P 10 25 49.8 +0.6**
baz=92
116A Eloy 92.09 56 ⇑P **P 10 25 49.5 +0.2**
baz=92
R19A Curley Farm, L 92.13 50 ⇓P **P 10 25 49.4 0.0**
baz=92
SOC Sochi 92.19 316*c i*P **P 10 25 46.2 -3.4**
SOC *e**SP sP 10 26 04.1 -6.5
SOC *e* 10 29 25.2
SOC *e*S SKSac 10 36 16.0 -2.6
SOC *e**SS S 10 36 43.4 -4.9
SOC *e*SS SS 10 43 00.8 +2.4
SOC *e*SSS 10 46 30.1
SOC pmax pmax
comp=Z,12nm,0.6s,mb5.4
MSEY Mahe Island 92.19 266 PFAKE 10 26 00.0 +10
MSEY LR LR
comp=Z,457nm,22.0s,MS4.9
X17A Forest Lakes 92.25 54 ⇓P **P 10 25 51.3 +1.3**
baz=92,SNR=9.5
PV10 Paradox Valley 92.27 50 *e*P **P 10 25 50.5 +0.5**
PV10 *e*pP pP 10 26 05.3 0.0
U18A Rough Rock, Ch 92.30 52 ⇑P **P 10 25 51.1 +0.9**
baz=92
S19A Harvey Farm, M 92.41 50 ⇓P **P 10 25 50.8 +0.1**
baz=92
Y17A Roosevelt 92.42 55 ⇓P **P 10 25 51.3 +0.4**
baz=92
RWWY Rawlins 92.43 46 *e*P **P 10 25 51.9 +1.2**
comp=Z,14nm,1.1s,mb5.2
216A Three Points, 92.47 56 ⇑P **P 10 25 51.5 +0.4**
baz=92
V18A Ganado 92.48 52 ⇓P **P 10 25 51.6 +0.6**
baz=92,SNR=9.0
PV01 Paradox Valley 92.70 50 *e*P **P 10 25 52.3 +0.3**
T19A Beclabito 92.80 51 ⇓P **P 10 25 52.6 0.0**
baz=93,SNR=10.0
W18A Petrified Fore 92.83 53 ⇓P **P 10 25 53.1 +0.4**
baz=93
Z17A San Carlos Hig 92.85 55 ⇑P **P 10 25 53.5 +0.7**
baz=93
X18A Snowflake 92.86 54 ⇓P **P 10 25 53.2 +0.4**
baz=93
117A Oracle 92.87 56 ⇑P **P 10 25 53.1 +0.2**
baz=93
TUC Tucson 92.91 56 *e*P **P 10 25 53.5 +0.4**
TUC pmax pmax
comp=Z,33nm,1.9s,mb5.4
TUC MLR MLR
comp=Z,542nm,20.0s,MS5.0
TUC Tucson 92.91 56 *e*P **P 10 25 53.5 +0.3**
comp=Z,33nm,1.9s,mb5.4
TUC LR LR
comp=Z,542nm,20.0s,MS5.0
Y18A Canyon Day Jun 93.04 54 ⇓P **P 10 25 54.6 +0.9**
baz=93,SNR=9.1
217A Green Valley 93.06 56 ⇓P **P 10 25 54.5 +0.6**
baz=93,SNR=7.4
MVCO Mesa Verde 93.07 51 ⇑P **P 10 25 53.8 0.0**
baz=93
MVCO Mesa Verde 93.07 51 PFAKE 10 26 10.0 +16
MVCO LR LR
comp=Z,394nm,19.0s,MS4.9
W19A Sanders 93.10 53 ⇓P **P 10 25 54.0 0.0**
baz=93
V19A Window Rock 93.16 52 ⇓P **P 10 25 54.9 +0.7**
baz=93
ANN Anapa 93.24 318 *e*P **P 10 25 52.3 -2.1**
ANN *e**PP pP 10 26 05.6 -4.0
ANN *e* 10 29 39.1
ANN *e*S SKSac 10 36 20.8 -3.5
ANN pmax pmax
comp=Z,42nm,4.6s
ANN MLR MLR
comp=Z,849nm,21.0s,MS5.2
Z18A Geronimo 93.26 55 ⇓P **P 10 25 55.2 +0.5**
baz=93
X19A St. Johns 93.41 53 ⇑P **P 10 25 55.9 +0.5**
baz=93
118A Homack Ranch, 93.46 55 ⇓P **P 10 25 56.5 +0.9**
baz=94,SNR=6.7
Y19A Nutrioso 93.59 54 ⇑P **P 10 25 57.1 +0.9**
baz=94,SNR=12
218A Dragoon 93.61 56 ⇓P **P 10 25 57.1 +0.8**
baz=94
RSSD Black Hills 93.66 43 *e*P **P 10 25 56.4 +0.1**
RSSD *e**PP pP 10 26 11.7 +0.1
RSSD pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
RSSD MLR MLR
comp=Z,617nm,19.0s,MS5.1
RSSD Black Hills 93.66 43 *e*P **P 10 25 56.4 +0.1**
comp=Z,6.8nm,0.7s,mb5.2
RSSD *e*pP pP 10 26 11.7 +0.1
RSSD LR LR
comp=Z,617nm,19.0s,MS5.1
Z19A T-Link Ranch, 93.80 54 ⇓P **P 10 25 57.7 +0.5**
baz=94
318A Bisbee 93.83 56 ⇑P **P 10 25 58.0 +0.6**
baz=94
119A Ashpeak Ranch, 93.95 55 ⇓P **P 10 25 58.6 +0.7**
baz=94
219A White Tail Can 94.24 56 ⇑P **P 10 25 59.7 +0.5**
baz=94
ISCO Idaho Springs 94.25 47 *e*P **P 10 26 00.9 +1.8**
ISCO *e**PP pP 10 26 15.1 +0.7
ISCO *e**PP PP 10 29 47.2 +1.1
ISCO pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
ISCO MLR MLR
comp=Z,836nm,19.0s,MS5.2
ISCO Idaho Springs 94.25 47 *e*P **P 10 26 00.8 +1.7**
comp=Z,8.6nm,1.1s,mb5.1
ISCO *e*pP pP 10 26 15.1 +0.7
ISCO *e*pP PP 10 29 47.2 +1.1
ISCO LR LR
comp=Z,836nm,19.0s,MS5.2
319A Douglas 94.42 56 ⇑P **P 10 26 00.1 0.0**
baz=94
MALT Malatya 95.07 311 PFAKE 10 26 10.0 +7.1
MALT LR LR
comp=Z,765nm,19.0s,MS5.2
LAZ Ladron 95.08 53 *e*P **P 10 26 04.9 +1.9**
LAZ *e*pP pP 10 26 18.8 +0.5
SDCO Great Sand Dun 95.10 49 *e*P **P 10 26 03.1 0.0**
comp=Z,2.7nm,0.8s,mb4.7
SDCO LR LR
comp=Z,852nm,19.0s,MS5.2
Y22C IRIS PASSCAL I 95.37 53 ⇑P **P 10 26 04.3 -0.1**
baz=95
ANMO Albuquerque 95.41 52 *e*P **P 10 26 05.4 +0.9**
ANMO *e**PP pP 10 26 20.4 +0.6
ANMO *e* 10 29 54.4
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO MLR MLR
comp=Z,726nm,19.0s
ANMO Albuquerque 95.41 52 *e*P **P 10 26 05.4 +0.9**
comp=Z,5.6nm,1.2s,mb4.9
ANMO *e*pP pP 10 26 20.4 +0.5
ANMO *e*PP PP 10 29 54.4 -0.9
ANMO LR LR
comp=Z,726nm,19.0s,MS5.2
AKASG Malin Array Be 95.55 325 LR LR 11 12 23.5
comp=Z,675nm,19.2s,MS5.1,baz=65,slow=38
AKASG Malin Array Be 95.55 325 *i* P **P 10 26 03.4 -1.4**
KIEV Kiev 95.56 325 PFAKE 10 26 20.0 +15
KIEV LR LR
comp=Z,731nm,19.0s,MS5.2
BNM Barren Site 95.57 53 *e*P **P 10 26 07.0 +1.7**
ULM Lac du Bonnet 95.87 35 P **P 10 26 05.0 -1.3**
comp=Z,2.5nm,0.8s,mb4.7,baz=33,slow=5.5,SNR=3.1
ULM LR LR 11 11 43.3
comp=Z,1μm,18.1s,MS5.4,baz=259,slow=37
ULM Lac du Bonnet 95.87 35 P **P 10 26 05.0 -1.3**
ULM LR LR 11 11 43.3
AGMN Agassiz Refuge 96.86 37 PFAKE 10 26 20.0 +9.2
AGMN LR LR
comp=Z,2μm,20.0s,MS5.5
NB2 NORSAR Subarra 97.15 340 P **P 10 26 09.9 -2.0**
comp=Z,6.6nm,1.1s,mb5.0,baz=44,slow=5.1
NOA NORSAR Array B 97.15 340 P **P 10 26 10.2 -1.6**
comp=Z,2.8nm,0.8s,mb4.8,baz=52,slow=4.3,SNR=6.4
NOA LR LR 11 13 14.7
comp=Z,509nm,19.5s,MS5.0,baz=70,slow=37
MNTX Cornudas Mount 97.43 55 PFAKE 10 26 30.0 +16
MNTX LR LR
comp=Z,4.0nm,20.0s
SFJD Kangerlussuaq 98.14 7 PFAKE 10 26 30.0 +14
SFJD LR LR
comp=Z,623nm,19.0s,MS5.1
ANTO Ankara 98.43 315 PFAKE 10 26 30.0 +12
ANTO LR LR
comp=Z,643nm,20.0s,MS5.1
ECSD EROS,Sioux Fal 98.64 41 PFAKE 10 26 30.0 +11
ECSD LR LR
comp=Z,635nm,19.0s,MS5.1
KONO Kongsberg 98.72 339 AMS AMS 11 17 54.3
comp=Z,650nm,14.9s,MS5.2
CBKS Cedar Bluff 98.81 46 PFAKE 10 26 30.0 +10
CBKS LR LR
comp=Z,732nm,19.0s,MS5.2
AMTX Amarillo 99.06 51 PFAKE 10 26 30.0 +9.0
AMTX LR LR
comp=Z,533nm,19.0s,MS5.1
BER Bergen 99.54 342 AMS AMS 11 16 53.4
comp=Z,629nm,18.6s,MS5.2
KWP Kalwaria 99.65 327 PFAKE 10 26 30.0 +6.8
KWP LR LR
comp=Z,2μm,20.0s,MS5.6
KSU1 Kansas State U 100.86 45 PFAKE 10 26 40.0 +11
KSU1 LR LR
comp=Z,823nm,19.0s,MS5.3
ISP Isparta 100.94 314 PFAKE 10 26 40.0 +11
ISP LR LR
comp=Z,394nm,20.0s,MS4.9
WMOK Wichita Mounta 101.28 50 PFAKE 10 26 40.0 +10
WMOK LR LR
comp=Z,519nm,19.0s,MS5.1
SCIA State Center 101.72 41 PFAKE 10 26 40.0 +7.6
SCIA LR LR
comp=Z,591nm,19.0s,MS5.1
OKC Ostrava-Krasne 101.89 329 AMS AMS 11 15 50.0
comp=Z,1μm,17.1s
COWI Conover 101.91 36 PFAKE 10 26 50.0 +17
COWI LR LR
comp=Z,2μm,19.0s,MS5.5
PSZ Piszkesteto 102.17 327 PFAKE 10 26 50.0 +16
PSZ LR LR
comp=Z,699nm,20.0s,MS5.2
JCT Junction City 102.31 54 PFAKE 10 26 50.0 +15
JCT LR LR
comp=Z,529nm,19.0s,MS5.1
DPC Dobruska-Polom 102.46 330 AMS AMS 11 14 50.0
comp=Z,1μm,17.8s
JFWS Jewell Farm 103.04 39 PFAKE 10 26 50.0 +12
JFWS LR LR
comp=Z,1μm,20.0s,MS5.4
ABPO Ambohimpanom 103.16 253 PFAKE 10 26 50.0 +11
ABPO LR LR
comp=Z,314nm,20.0s,MS4.8
PVCC Panska Ves 103.18 331 AMS AMS 11 17 00.0
comp=Z,1μm,17.9s
CLL Collm 103.38 332 *e*PS PS 10 40 08.0 +2.4
CLL LmH 10 10 00.0
comp=N,500nm,19.9s
CLL LmH 10 10 00.0
comp=E,600nm,18.5s
CLL *e*PPS 10 40 54.0
CLL *e*sSS 10 46 11.0
CLL *ex* x 10 50 39.0
PRU Pruhonice 103.56 330 *e*SP SP 10 39 59.9 -0.7
PRU AMS AMS 11 15 00.0
comp=E,900nm,19.8s
TREC Trest 103.56 330 AMS AMS 11 21 10.0
comp=E,900nm,15.2s
NKC Novy Kostel 104.38 332 AMS AMS 11 19 20.0
comp=E,1μm,15.2s
KHC Kasperske Hory 104.60 330 *e*PS PS 10 40 23.7 +5.2
KHC AMS AMS 11 19 40.0
comp=E,1μm,17.0s
KVTX Kingsville 105.06 56 PFAKE 10 31 10.0 +7.6
KVTX LR LR
comp=Z,682nm,19.0s,MS5.2
MIAR Mount Ida 105.18 48 PFAKE 10 31 10.0 +7.5
MIAR LR LR
comp=Z,759nm,20.0s,MS5.2
GLMI Grayling 105.22 35 PFAKE 10 31 10.0 +7.8
GLMI LR LR
comp=Z,1μm,19.0s,MS5.5
HKT Hockley 105.64 53 PFAKE 10 31 20.0 +17
HKT LR LR
comp=Z,606nm,20.0s,MS5.1
NATX Nacogdoches 105.71 51 PFAKE 10 31 20.0 +16
NATX LR LR
comp=Z,946nm,19.0s,MS5.4
SCHQ Schefferville 105.72 19 PFAKE 10 31 10.0 +7.1
SCHQ LR LR
comp=Z,689nm,19.0s,MS5.2
ESK Eskdalemuir 106.30 343 PFAKE 10 31 20.0 +16
ESK LR LR
comp=Z,622nm,19.0s,MS5.2
AAM Ann Arbor 107.33 37 PFAKE 10 31 20.0 +14
AAM LR LR
comp=Z,1μm,20.0s,MS5.5
WLF Walferdange 107.57 334 PFAKE 10 31 20.0 +14
WLF LR LR
comp=Z,1μm,20.0s,MS5.5
BFO Black Forest 107.62 332 PFAKE 10 31 20.0 +13
BFO LR LR
comp=Z,606nm,19.0s,MS5.2
OXF Oxford 108.15 46 PFAKE 10 31 20.0 +12
OXF LR LR
comp=Z,541nm,21.0s,MS5.1
WCI Wyandotte Cave 108.17 41 PFAKE 10 31 20.0 +12
WCI LR LR
comp=Z,800nm,19.0s,MS5.3
VBMS Vicksburg 108.55 49 PFAKE 10 31 20.0 +11
VBMS LR LR
comp=Z,974nm,20.0s,MS5.4
PLAL Pickwick Lake 108.82 45 PFAKE 10 31 20.0 +11
PLAL LR LR
comp=Z,580nm,20.0s,MS5.1
KMBO Kilima Mbogo 109.02 274 PFAKE 10 31 20.0 +10
KMBO LR LR
comp=Z,392nm,19.0s,MS5.0
ACSO Alum Creek Sta 109.02 38 PFAKE 10 31 20.0 +11
ACSO LR LR
comp=Z,880nm,20.0s,MS5.3
AQU L'Aquila 109.25 325 PFAKE 10 31 20.0 +10
AQU LR LR
comp=Z,1μm,21.0s,MS5.4
TIP Timpagrande 109.31 321 PFAKE 10 31 20.0 +10
TIP LR LR
comp=Z,675nm,19.0s,MS5.2
VLC Villacollemand 109.63 328 PFAKE 10 31 20.0 +10
VLC LR LR
comp=Z,1μm,20.0s,MS5.5
LONY Lake Ozonia 110.61 30 PFAKE 10 31 20.0 +7.7
LONY LR LR
comp=Z,898nm,21.0s,MS5.3
BNI Bardonecchia 110.81 331 PFAKE 10 31 20.0 +7.3
BNI LR LR
comp=Z,2μm,20.0s,MS5.6
TZTN Tazewell 110.93 41 PFAKE 10 31 30.0 +17
TZTN LR LR
comp=Z,620nm,20.0s,MS5.2
MCWV Mont Chateau 111.24 37 PFAKE 10 31 30.0 +16
MCWV LR LR
comp=Z,1μm,20.0s,MS5.5
NCB Newcomb 111.26 30 PFAKE 10 31 30.0 +16
NCB LR LR
comp=Z,848nm,20.0s,MS5.3
BINY Binghamton 111.64 33 PFAKE 10 31 30.0 +16
BINY LR LR
comp=Z,1μm,19.0s,MS5.5
BRAL Brewton 111.70 48 PFAKE 10 31 30.0 +15
BRAL LR LR
comp=Z,1μm,19.0s,MS5.4
LBNH Lisbon 112.17 29 PFAKE 10 31 30.0 +15
LBNH LR LR
comp=Z,939nm,19.0s,MS5.4
BLA Blacksburg 112.48 39 PFAKE 10 31 30.0 +14
BLA LR LR
comp=Z,1μm,20.0s,MS5.4
PKME Peaks-Kenny Pk 112.57 27 PFAKE 10 31 30.0 +14
PKME LR LR
comp=Z,471nm,19.0s,MS5.1
GOGA Godfrey 112.85 44 PFAKE 10 31 30.0 +13
GOGA LR LR
comp=Z,915nm,19.0s,MS5.4
HRV Adam Dziewonsk 113.65 30 PFAKE 10 31 30.0 +12
HRV LR LR
comp=Z,898nm,20.0s,MS5.4
NHSC New Hope 115.23 43 PFAKE 10 31 30.0 +8.5
NHSC LR LR
comp=Z,565nm,19.0s,MS5.2
CNNC Cliffs of the 115.31 39 PFAKE 10 31 30.0 +8.4
CNNC LR LR
comp=Z,1μm,20.0s,MS5.5
TEIG Tepich 116.18 59 PFAKE 10 31 40.0 +16
TEIG LR LR
comp=Z,423nm,20.0s,MS5.0
TGUH Tegucigalpa,Un 119.79 65 PFAKE 10 31 40.0 +9.3
TGUH LR LR
comp=Z,274nm,20.0s,MS4.9
PAB San Pablo 120.14 334 PFAKE 10 31 40.0 +9.3
PAB LR LR
comp=Z,561nm,19.0s,MS5.2
LSZ Lusaka 120.58 260 PFAKE 10 31 40.0 +7.9
LSZ LR LR
comp=Z,283nm,19.0s,MS4.9
MTE Manteigas 120.69 337 PFAKE 10 31 40.0 +8.2
MTE LR LR
comp=Z,534nm,21.0s,MS5.2
SFS San Fernando 123.52 334 PFAKE 10 31 50.0 +13
SFS LR LR
comp=Z,2μm,20.0s,MS5.8
BBSR BB Station 124.93 32 PFAKE 10 31 50.0 +10
BBSR LR LR
comp=Z,763nm,20.0s,MS5.4
RTC Rabat Centre 125.90 333 PFAKE 10 31 50.0 +8.0
RTC LR LR
comp=Z,74nm,19.0s,MS4.4
BCIP Isla Barro Col 128.47 66 PFAKE 10 32 00.0 +13
BCIP LR LR
comp=Z,304nm,19.0s,MS5.0
TSUM Tsumeb 131.01 257 PFAKE 10 32 00.0 +8.0
TSUM LR LR
comp=Z,246nm,19.0s,MS4.9
OTAV Otavalo 133.21 76 PFAKE 10 32 10.0 +14
OTAV LR LR
comp=Z,303nm,20.0s,MS5.0
SJG San Juan 134.54 46 PFAKE 10 32 10.0 +11
SJG LR LR
comp=Z,576nm,21.0s,MS5.3
TORD Torodi Ar. Bea 135.93 306 PKhKP 10 31 56.6
comp=Z,0.8nm,0.7s,baz=347,slow=0.7,SNR=4.9
TORD PP PP 10 34 39.7 -0.4
comp=Z,0.7nm,0.9s,baz=63,slow=6.6,SNR=3.7
SDV Santo Domingo 136.58 60 PFAKE 10 32 10.0 +7.4
SDV LR LR
comp=Z,120nm,19.0s,MS4.7
NNA Nana 137.68 92 PFAKE 10 32 20.0 +15
NNA LR LR
comp=Z,694nm,20.0s,MS5.4
PLCA Paso Flores 138.18 137 PKP PKPdf 10 32 05.1 +0.3
comp=Z,1.2nm,0.9s,baz=279,slow=20,SNR=2.6
HOPE Hope Point 139.84 177 PFAKE 10 32 20.0 +13
HOPE LR LR
comp=Z,5.0nm,21.0s
GRGR Grenville 141.75 48 PFAKE 10 32 20.0 +7.9
GRGR LR LR
comp=Z,562nm,20.0s,MS5.3
BBGH Gun Hill 142.53 45 PFAKE 10 32 30.0 +17
BBGH LR LR
comp=Z,743nm,19.0s,MS5.5
DBIC Dimbokro 144.94 304 PKPbc PKPdf 10 32 17.7 0.0
comp=Z,29nm,0.5s,baz=36,slow=3.4,SNR=65
DBIC Dimbokro 144.94 304 PKPbc PKPdf 10 32 17.7 0.0
DBIC LR LR
comp=Z,380nm,20.0s,MS5.2
KIC Kosan Boka 145.03 304⇑*i*PKP1 PKPbc 10 32 18.0 +0.7
comp=Z,711nm,1.2s
KIC Kosan Boka 145.03 304 *e*P PKPbc 10 32 18.0 +0.7
TIC Toumodi 145.09 304⇑*i*PKP1 PKPbc 10 32 18.0 +0.5
comp=Z,547nm,1.1s
TIC Toumodi 145.09 304 *e*P PKPbc 10 32 18.0 +0.5
TRQA Tornquist 145.22 139 PFAKE 10 32 30.0 +13
TRQA LR LR
comp=Z,493nm,20.0s,MS5.3
LVC Limon Verde 145.33 109 *e*PKPbc PKPbc 10 32 20.6 +2.6
LIC Lamto 145.34 304⇑*i*PKP1 PKPbc 10 32 18.9 +0.6
comp=Z,462nm,1.2s
LIC Lamto 145.34 304 *e*P PKPbc 10 32 18.9 +0.6
LPAZ La Paz 146.45 98 PKPbc PKPbc 10 32 22.2 +0.7
comp=Z,3.0nm,0.6s,baz=26,slow=5.5,SNR=11
LPAZ La Paz 146.45 98 PKPbc PKPbc 10 32 22.2 +0.7
LPAZ LR LR
comp=Z,433nm,19.0s,MS5.2
CPUP Villa Florida 154.53 122 PKPab PKPab 10 32 54.8 -0.8
comp=Z,0.9nm,0.6s,baz=172,slow=0.8,SNR=4.9
BDFB Brasilia 165.80 98 PFAKE 10 33 00.0 +15
BDFB LR LR
comp=Z,554nm,19.0s

IDC 15 10:17:53.9±16.0, 1980N×14584E, h115km±148km, mb3.6/10, mb1 3.8/10, mb1mx3.7/20, mbtmp3.6/10, Error ellipse: s-maj=41.1km s-min=18.9km az=76.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.07**	**197**	P	P	10 25 26.0	-0.3
0.6nm,0.5s,baz=20,slow=10.0,SNR=7.4							
SONM	**Songino Array**	**42.37**	**321**	P	P	10 25 36.8	+0.2
0.5nm,0.5s,baz=126,slow=8.5,SNR=5.1							
FITZ	**Fitzroy Crossi**	**42.57**	**209**	P	P	10 25 38.2	-0.3
1.4nm,0.5s,baz=34,slow=15,SNR=5.9							
ASAR	**Alice Springs**	**44.74**	**196**	P	P	10 25 56.0	+0.2
0.5nm,0.7s,baz=22,slow=7.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**57.23**	**322**	P	P	10 27 28.5	-0.4
4.4nm,0.5s,baz=115,slow=9.8,SNR=5.9							
MKAR	**Makanchi Array**	**57.80**	**313**	P	P	10 27 33.7	+0.6
0.8nm,0.6s,baz=79,slow=7.6,SNR=5.2							
YKA	**Yellowknife Ar**	**76.96**	**28**	P	P	10 29 33.0	-0.4
0.8nm,0.5s,baz=286,slow=6.3,SNR=4.3							
ARCES	**ARCESS Array B**	**81.49**	**342**	P	P	10 29 57.8	-0.2
1.8nm,0.8s,baz=80,slow=8.8,SNR=4.4							
NVAR	**Mina Array Bea**	**82.36**	**52**	P	P	10 30 03.5	+0.4
1.0nm,0.7s,baz=263,slow=6.5,SNR=4.8							
PDAR	**Pinedale Array**	**86.96**	**46**	P	P	10 30 27.0	+0.8
0.3nm,0.6s,baz=20,slow=2.9,SNR=2.9							
TORD	**Torodi Ar. Bea**	**131.86**	**310**	PKP	PKPdf	10 36 53.9	-0.5
0.4nm,0.5s,baz=25,slow=1.3,SNR=5.8							

IDC 15 10:18:21.5±38.0, 698S×12087E, h490km±34km, mb3.1/2, mb1 3.2/4, mb1mx2.8/18, mbtmp3.1/4, Error ellipse: s-maj=591.3km s-min=192.0km az=149.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.23**	**139**	P	P	10 19 41.2	0.0
15nm,0.3s,baz=325,slow=0.8,SNR=10							
WRA	**Warramunga Arr**	**18.35**	**136**	P	P	10 22 06.0	+0.4
0.4nm,0.3s,baz=315,slow=11,SNR=5.7							
ASAR	**Alice Springs**	**20.78**	**144**	P	P	10 22 27.5	-0.3
0.7nm,0.3s,baz=322,slow=8.1,SNR=4.6							
STKA	**Stephens Creek**	**31.42**	**145**	P	P	10 24 01.7	0.0
1.5nm,0.4s,baz=328,slow=9.5,SNR=6.3							

*ISCJB **15** 10:34:48.1±0.5, 3974N±003×14185E±008, h66km±3km, mb3.9/9, Error ellipse: s-maj=10.5km s-min=4.9km az=4.3*
*NEIC **15** 10:34:49.1, 3976N×14184E, h58km, mb4.4/1, After JMA.*
NEIC Recorded [2 JMA] in Iwate and [1 JMA] in Aomori Prefectures.
*JMA **15** 10:34:49.1, 3976N×14184E, h58km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs=201.00000°, δ28.00000°, λ92.00000°. NP2:φs19.00000°, δ62.00000°, λ89.00000°. Principal axes: T Plg73.0000°, Azm287.0000°; N Plg1.0000°, Azm20.0000°; P Plg17.0000°, Azm110.0000°;*
JMA Felt II J1.
*IDC **15** 10:34:51.1±1.7, 3971N×14189E, h86km±15km, mb3.7/8, mb1 3.8/13, mb1mx3.6/24, mbtmp3.8/13, MS3.8/1, Ms1 3.8/1, ms1mx3.2/35 Error ellipse: s-maj=27.7km s-min=11.6km az=97.0*
ISC 15 10:34:49.1±0.5, 3975N±003×14182E±008, h60km±3km, n30, σ0§94/41, mb3.9/9, 4C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.17**	**181**	⇑P	**Pn**	**10 34 58.4**	**0.0**
MIYJ				*e*S	**Sn**	**10 35 04.9**	**-0.2**
JTH	**Tanohata**	**0.19**	**10**	⇑P	**Pn**	**10 34 58.4**	**-0.2**
JTH				*e*S	**Sn**	**10 35 05.0**	**-0.3**
JKZ	**Kuzumaki**	**0.45**	**302**	⇓P	**Pn**	**10 35 00.6**	**+0.1**
JKZ				*e*S	**Sn**	**10 35 08.6**	**-0.2**
JOM	**Ohasama**	**0.49**	**236**	⇓P	**Pn**	**10 35 00.9**	**-0.1**
JOM				S	**Sn**	**10 35 09.5**	**-0.1**
JANG	**Nango**	**0.67**	**339**	⇓P	**Pn**	**10 35 02.6**	**-0.4**
JANG				*e*S	**Sn**	**10 35 12.3**	**-0.8**
OFUJ	**Ofunato**	**0.68**	**190**	⇑P	**Pn**	**10 35 03.1**	**0.0**
OFUJ				*e*S	**Sn**	**10 35 13.2**	**-0.1**
JMK	**Ichinoseki**	**0.92**	**211**	⇓P	**Pn**	**10 35 06.1**	**-0.1**
JMK				*e*S	**Sn**	**10 35 18.6**	**-0.1**
JAH	**Hinai**	**1.01**	**296**	⇓P	**Pn**	**10 35 07.3**	**0.0**
JAH				*e*S	**Sn**	**10 35 20.9**	**+0.1**
JTM	**Tenmabayashi**	**1.19**	**331**	⇓P	**Pn**	**10 35 09.3**	**-0.3**
JTM				*e*S	**Sn**	**10 35 24.8**	**-0.1**
JIO	**Ouri**	**1.34**	**196**	⇑P	**Pn**	**10 35 11.6**	**-0.1**
JYK	**Kaneyama**	**1.41**	**234**	⇓P	**Pn**	**10 35 12.6**	**+0.1**
MJAR	**Matsushiro Arr**	**4.28**	**223**	P	**Pn**	**10 35 54.9**	**+3.1**
	1.1nm,0.3s,baz=34,slow=13,SNR=33						
MAJO	**Matsushiro**	**4.29**	**223**	*e*Pn	**Pn**	**10 35 53.9**	**+2.1**
MAT	**Matsushiro**	**4.29**	**223**	P	**Pn**	**10 35 54.1**	**+2.3**
MAT				*e*S	**Sn**	**10 36 38.7**	**-1.8**
ASAJ	**Asahikawa**	**4.40**	**7**	P	**Pn**	**10 35 56.0**	**+2.6**
	2.9nm,0.3s,baz=218,slow=13,SNR=19						
ASAJ				S	**Sn**	**10 36 46.8**	**+3.5**
	2.5nm,0.3s,baz=180,slow=20,SNR=2.6						
JHJ	**Hachijo jima 2**	**6.82**	**195**	P	**Pn**	**10 36 26.2**	**-0.3**
	2.5nm,0.3s,baz=56,slow=22,SNR=5.5						
JHJ				S	**Sn**	**10 37 38.6**	**-4.0**
	5.3nm,0.3s,baz=49,slow=19,SNR=3.5						
KSRS	**Korea Array**	**11.12**	**263**	P	**Pn**	**10 37 28.9**	**+3.7**
	0.2nm,0.3s,baz=68,slow=14,SNR=5.7						
CBIJ	**Chichi jima**	**12.62**	**179**	LR	LR	10 41 59.5	
	comp=Z,414nm,19.6s,baz=132,slow=34						
JOW	**Kunigami**	**17.12**	**225**	P	**Pn**	**10 38 46.0**	**+1.6**
	8.8nm,0.3s,baz=96,slow=18,SNR=11						
SONM	**Songino Array**	**26.63**	**299**	P	**P**	**10 40 22.4**	**+0.5**
	0.8nm,0.8s,mb3.3,baz=79,slow=9.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**40.37**	**310**	P	**P**	**10 42 19.5**	**-1.3**
	4.3nm,0.6s,mb4.4,baz=100,slow=9.6,SNR=14						
MKAR	**Makanchi Array**	**43.00**	**300**	P	**P**	**10 42 42.0**	**-0.3**
	2.1nm,0.7s,mb4.0,baz=85,slow=10,SNR=20						
KURK	**Kurchatov**	**44.55**	**306**	*e*P	**P**	**10 42 54.2**	**-0.6**
	6.4nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**59.79**	**188**	P	**P**	**10 44 47.3**	**-0.7**
	1.4nm,0.8s,mb4.0,baz=5.2,slow=6.9,SNR=11						
ARCES	**ARCESS Array B**	**61.58**	**339**	P	**P**	**10 44 59.7**	**+0.1**
	2.3nm,0.9s,mb4.3,baz=38,slow=8.0,SNR=4.7						
ARCES	**ARCESS Array B**	**61.58**	**339**	P	**P**	**10 44 59.7**	**+0.1**
ASAR	**Alice Springs**	**63.52**	**188**	P	**P**	**10 45 11.7**	**-1.3**
	0.4nm,0.9s,mb3.4,baz=8.8,slow=8.4,SNR=4.4						
NOA	**NORSAR Array B**	**71.81**	**337**	P	**P**	**10 46 05.1**	**+0.2**
	0.8nm,0.8s,mb3.7,baz=38,slow=2.5,SNR=2.7						
NOA	**NORSAR Array B**	**71.81**	**337**	P	**P**	**10 46 05.1**	**+0.2**
AKASG	**Malin Array Be**	**72.36**	**322**	P	**P**	**10 46 07.9**	**-0.4**
	0.4nm,0.4s,mb3.7,baz=44,slow=5.9,SNR=7.0						

BEO ***15*** *10:43:28.4±0.4, 4487N×17.18E, h11km±2km*
PDG ***15*** *10:43:29.0±0.5, 4498N×1707E, h10km±2km, ML3.4/9, Error ellipse: s-maj=1.2km s-min=2.7km az=0.0*
PRU ***15*** *10:43:29.4, 4503N×1727E, h0km*
CSEM ***15*** *10:43:29.8±0.1, 4511N×1698E, h2km, ML3.4, Error ellipse: s-maj=4.2km s-min=1.8km az=52.0*
ISCJB ***15*** *10:43:29.0±0.2, 4506N±002×17.17E±003, h10km, Error ellipse: s-maj=3.2km s-min=2.0km az=151.4*
NEIC ***15*** *10:43:30.2±0.3, 4501N×17.17E, h10km, ML3.4(CSEM), ML3.4(PDG), Error ellipse: s-maj=8.4km s-min=3.4km az=56.0*
NEIC Felt at Banja Luka.
IPEC ***15*** *10:43:30.3±0.5, 4494N×1709E, h19km±3km, ML2.5/1, Error ellipse: s-maj=3.5km s-min=2.7km az=35.0*

ISC 15 10:43:30.1±0.2,4503N±002×1709E±003,h10km,n67, σ1°25/113,18C-14D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.28**	**167**	⇓*i*Pg	**Pg**	**10 43 31.3**	**-4.5**
BLY				*e*Sg	**Sg**	**10 43 33.3**	**-6.4**
BOJS	**Bojanci**	**1.39**	**291**	*i*Pn	**Pn**	**10 43 56.5**	**+1.0**
BOJS				*i*Sn	**Sn**	**10 44 15.1**	**+1.3**
BOJS							
	comp=Z,170nm,0.5s						
BOJS	**Bojanci**	**1.39**	**291**	*i*Pn	**Pn**	**10 43 56.5**	**+1.0**
BOJS				*i*Sn	**Sn**	**10 44 15.1**	**+1.3**
BOJS	**Bojanci**	**1.39**	**291**	*i*Pn	**Pn**	**10 43 56.5**	**+1.0**
BOJS				*i*Sn	**Sn**	**10 44 15.1**	**+1.3**
CRES	**Cresnjev**	**1.40**	**305**	*i*Pn	**Pn**	**10 43 55.5**	**-0.2**
PKSM	**Moragy**	**1.61**	**42**	*e*Pg	**Pg**	**10 43 59.5**	**-1.5**
PKSM				*e*Sg	**Sg**	**10 44 21.3**	**-0.5**
PKSM	**Moragy**	**1.61**	**42**	*e*Pn	**Pn**	**10 43 58.3**	**-0.3**
PKSM	**Moragy**	**1.61**	**42**	*e*Pg	**Pg**	**10 43 59.9**	**-1.1**
PKSM				*e*Sg	**Sg**	**10 44 21.3**	**-0.5**
PKSM				*e*Sn	**Sn**	**10 44 21.6**	**+2.3**
NVLJ	**Novalja**	**1.65**	**254**	*e*Pn	**Pn**	**10 43 58.9**	**-0.2**
NVLJ				Sn	**Sn**	**10 44 22.2**	**+1.8**
NVLJ	**Novalja**	**1.65**	**254**	*e*Pn	**Pn**	**10 43 58.8**	**-0.3**
NVLJ				Sn	**Sn**	**10 44 22.1**	**+1.8**
VISS	**Visnje**	**1.77**	**297**	*i*Pn	**Pg**	**10 44 03.2**	**-0.8**
VISS	**Visnje**	**1.77**	**297**	*i*Pn	**Pg**	**10 44 03.2**	**-0.8**
FGSL	**Fruska Gora**	**1.93**	**85**	*e*Pn	**Pn**	**10 43 59.6**	**-3.4**
FGSL				*e*Sg	**Sg**	**10 44 29.3**	**-2.8**
CEY	**Cerknica**	**2.01**	**292**	*e*Pg	**Pg**	**10 44 06.9**	**-1.7**
CEY				*e*Sg	**Sg**	**10 44 33.5**	**-1.2**
SOKA	**Soboth**	**2.19**	**320**	⇓*i*Sn	**Sn**	**10 44 31.3**	**-2.4**
SOKA	**Soboth**	**2.19**	**320**	⇑*i*Pn	**Pn**	**10 44 06.4**	**-0.2**
SOKA				⇑*e*Sn	**Sn**	**10 44 35.9**	**+2.2**
STON	**Ston**	**2.20**	**168**	*e*Pn	**Pn**	**10 44 04.2**	**-2.5**
STON				Sn	**Sn**	**10 44 30.9**	**-3.0**
STON	**Ston**	**2.20**	**168**	*e*Pn	**Pn**	**10 44 04.2**	**-2.5**
STON				Sn	**Sn**	**10 44 30.8**	**-3.1**
UPM	**Unac-Piva**	**2.25**	**144**	⇑*i*Pn	**Pn**	**10 44 06.5**	**-0.8**
UPM				*e*Sn	**Sn**	**10 44 35.8**	**+0.8**
DIVS	**Divibare**	**2.27**	**113**	*e*Pn	**Pn**	**10 44 03.8**	**-3.9**
DIVS				*e*Sg	**Sn**	**10 44 36.6**	**+0.9**
OBKA	**Obir**	**2.32**	**311**	⇓*i*Sn	**Sn**	**10 44 34.8**	**-2.0**
OBKA	**Obir**	**2.32**	**311**	⇑*i*Pn	**Pn**	**10 44 08.4**	**+0.1**
OBKA				⇓*e*Sn	**Sn**	**10 44 38.5**	**+1.6**
OBKA	**Obir**	**2.32**	**311**	⇑*i*Pn	**Pn**	**10 44 08.4**	**+0.1**
OBKA				*i*Sn	**Sn**	**10 44 34.8**	**-2.0**
BRY	**Bratogost**	**2.37**	**153**	⇓*i*Pn	**Pn**	**10 44 07.7**	**-1.3**
BRY				*e*Sn	**Sn**	**10 44 38.8**	**+0.7**
PLE	**Pljevlja**	**2.37**	**135**	⇑*i*Pn	**Pn**	**10 44 09.0**	**0.0**
PLE				*e*Sn	**Sn**	**10 44 40.3**	**+2.2**
VOY	**Vojsko**	**2.46**	**295**	*e*Pn	**Pn**	**10 44 12.3**	**+2.0**
VOY				*e*		10 44 15.5	
VOY				*e*Sn	**Sn**	**10 44 45.0**	**+4.6**
VOY				*e*		10 44 51.9	
ARSA	**Arzberg**	**2.48**	**334**	⇓*i*Sn	**Sn**	**10 44 39.1**	**-1.6**
ARSA				⇑*i*Sg	**Sg**	**10 44 46.2**	**-3.5**
	comp=Z,16nm,0.5s						
ARSA	**Arzberg**	**2.48**	**334**	⇓*e*Pn	**Pn**	**10 44 10.9**	**+0.4**
	SNR=25						
ARSA				⇑*i*Sn	**Sn**	**10 44 42.6**	**+1.9**
ARSA	**Arzberg**	**2.48**	**334**	⇓*e*Pn	**Pn**	**10 44 10.9**	**+0.4**
ARSA				Sn	**Sn**	**10 44 42.6**	**+1.8**
ARSA				Sg	**Sg**	**10 44 46.2**	**-3.5**
ARSA	**Arzberg**	**2.48**	**334**	⇓*e*Pn	**Pn**	**10 44 10.9**	**+0.4**
ARSA				*i*Sn	**Sn**	**10 44 39.1**	**-1.6**
ARSA				*i*Sg	**Sg**	**10 44 46.2**	**-3.5**
TREB	**Trebinje**	**2.48**	**158**	*e*Pn	**Pn**	**10 44 07.9**	**-2.7**
TREB				*e*Sg	**Sn**	**10 44 42.0**	**+1.1**
TREB	**Trebinje**	**2.48**	**158**	*e*Pn	**Pn**	**10 44 08.5**	**-2.1**
TREB				*e*Sn	**Sn**	**10 44 36.9**	**-4.0**
NKY	**Niksic**	**2.61**	**147**	⇓*i*Pn	**Pn**	**10 44 12.4**	**+0.1**
NKY				*e*Sn	**Sn**	**10 44 45.3**	**+1.3**
SOP	**Sopron**	**2.68**	**352**	*e*Sg	**Sg**	**10 45 04.0**	**+7.7**
HCY	**Herceg Novi**	**2.77**	**158**	⇑*i*Pn	**Pn**	**10 44 13.2**	**-1.4**
HCY				*e*Sn	**Sn**	**10 44 48.5**	**+0.4**
BUD	**Budapest**	**2.80**	**28**	*e*Sg	**Sg**	**10 45 01.6**	**+1.6**
BEY	**Berane**	**2.96**	**136**	⇑*i*Pn	**Pn**	**10 44 17.4**	**+0.3**
BEY				*e*Sn	**Sn**	**10 44 54.0**	**+1.4**
IVA	**Berane**	**2.96**	**136**	⇑*i*Pn	**Pn**	**10 44 17.4**	**+0.3**
IVA				*e*Sn	**Sn**	**10 44 54.0**	**+1.4**
BUM	**Brajici-Budva**	**3.02**	**154**	⇓*i*Pn	**Pn**	**10 44 17.0**	**-1.0**
BUM				*e*Sn	**Sn**	**10 44 55.3**	**+1.0**
CONA	**Conrad Observa**	**3.02**	**344**	*e*Pn	**Pn**	**10 44 18.6**	**+0.5**
	SNR=59						
CONA	**Conrad Observa**	**3.02**	**344**	*i*Pn	**Pn**	**10 44 18.6**	**+0.5**
	SNR=59						
CONA	**Conrad Observa**	**3.02**	**344**	Pn	**Pn**	**10 44 18.6**	**+0.6**
	comp=Z,58nm,6.0s						
CSNA	**Conrad Observa**	**3.02**	**344**	⇑*i*Sn	**Sn**	**10 44 52.5**	**-1.8**
CSNA	**Conrad Observa**	**3.02**	**344**	⇓*i*Pn	**Pn**	**10 44 18.7**	**+0.6**
CSNA				⇓*i*Sn	**Sn**	**10 44 55.6**	**+1.3**
PDG	**Podgorica**	**3.04**	**148**	⇑*i*Pn	**Pn**	**10 44 17.7**	**-0.5**
PDG				*e*Sn	**Sn**	**10 44 55.6**	**+1.1**
TTG	**Podgorica**	**3.04**	**148**	⇑*i*Pn	**Pn**	**10 44 17.7**	**-0.5**
TTG				*e*Sn	**Sn**	**10 44 55.6**	**+1.1**
PVY	**Plav**	**3.20**	**138**	⇑*i*Pn	**Pn**	**10 44 20.6**	**+0.1**
PVY				*e*Sn	**Sn**	**10 45 00.1**	**+1.4**
KBA	**Koelnbreinsper**	**3.32**	**310**	⇑*i*Pn	**Pn**	**10 44 22.8**	**+0.7**
MODS	**Modra-Piesok**	**3.35**	**2**	*e*PN	**Pn**	**10 44 21.4**	**-1.1**
MOA	**Molln**	**3.43**	**326**	⇑*i*Pn	**Pn**	**10 44 24.9**	**+1.2**
	SNR=50						
MOA	**Molln**	**3.43**	**326**	⇑*i*Pn	**Pn**	**10 44 24.9**	**+1.2**
ULC	**Ulcinj**	**3.44**	**152**	⇓*i*Pn	**Pn**	**10 44 23.4**	**-0.3**
ULC				*e*Sn	**Sn**	**10 45 04.8**	**+0.3**
PSZ	**Piszkesteto**	**3.48**	**33**	*e*Pg	**Pg**	**10 44 36.6**	**-0.2**
PSZ				*e*Sn	**Sg**	**10 45 21.5**	**-0.4**
PSZ	**Piszkesteto**	**3.48**	**33**	*e*Pn	**Pn**	**10 44 25.2**	**+0.9**
PSZ	**Piszkesteto**	**3.48**	**33**	*e*Pn	**Pn**	**10 44 25.2**	**+0.9**
PSZ				*e*Pg	**Pg**	**10 44 36.4**	**-0.4**
PSZ				*e*Sg	**Sg**	**10 45 21.8**	**0.0**
KOLL	**Kolacno**	**3.67**	**14**	*e*PN	**Pn**	**10 44 26.8**	**0.0**
BOLS	**Boljevac**	**3.68**	**107**	*e*Pn	**Pn**	**10 44 23.4**	**-3.7**
AQU	**L'Aquila**	**3.78**	**226**	P	**Pb**	**10 44 35.7**	**-1.2**
BARS	**Barje**	**4.07**	**121**	*e*Pn	**Pn**	**10 44 29.1**	**-3.2**
BARS				*e*Sg	**Sg**	**10 45 33.5**	**-7.1**
KRUC	**Moravsky**	**4.07**	**354**	*e*Pn	**Pn**	**10 44 32.3**	**0.0**
KRUC				*e*Sn	**Sn**	**10 45 20.6**	**+0.7**
	comp=Z,11nm,0.5s						
VRAC	**Vranov**	**4.30**	**356**	*e*Pn	**Pn**	**10 44 35.7**	**+0.2**
ZAPS	**Zavoj**	**4.36**	**112**	*e*Pn	**Pn**	**10 44 33.7**	**-2.6**
GEC2	**GERESS Array S**	**4.47**	**330**	*e*Pn	**Pn**	**10 44 38.8**	**+0.9**
KHC	**Kasperske Hory**	**4.76**	**331**	*e*Pn	**Pn**	**10 44 42.5**	**+0.7**
KHC	**Kasperske Hory**	**4.76**	**331**	*e*Pn	**Pn**	**10 44 42.7**	**+0.9**
KHC				*e*		10 44 45.5	
KHC				*e*		10 44 50.0	
KHC				*e*Sn	**Sn**	**10 45 36.7**	**-0.2**
MORC	**Moravsky Berou**	**4.76**	**4**	*e*Pn	**Pn**	**10 44 42.3**	**+0.4**
MORC	**Moravsky Berou**	**4.76**	**4**	*e*Pn	**Pn**	**10 44 42.5**	**+0.6**
MORC				*e*Sn	**Sn**	**10 45 33.9**	**-3.2**

ISCJB ***15*** *10:53:24.0±1.4, 209S±02×178.7W±0.1, h558km±23km, mb4.2/12, Error ellipse: s-maj=30.3km s-min=14.3km az=143.3*
NEIC ***15*** *10:53:24.5±1.0, 2097S×17862W, h556km±15km, mb4.6/7, Error ellipse: s-maj=21.7km s-min=9.9km az=144.0*
IDC ***15*** *10:53:25.8±1.9, 2100S×17865W, h569km±25km, mb3.4/6, mb1 3.7/8, mb1mx3.4/17, mbtmp3.5/8, Error ellipse: s-maj=36.6km s-min=13.8km az=150.0*

ISC 15 10:53:24.7±1.4,210S±02×1787W±01,h553km±21km,n23, σ0°78/21,mb4.2/12,4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.62**	**44**	P	**P**	**10 55 38.5**	**-0.3**
	5.8nm,0.3s,baz=223,slow=15,SNR=9.8						
AFI	**Afiamalu**	**9.62**	**44**	P	**P**	**10 55 38.5**	**-0.3**
URZ	**Urewera**	**17.61**	**191**	P	**P**	**10 56 57.8**	**-0.9**
	1.4nm,0.3s,baz=246,slow=8.4,SNR=5.7						
CNB	**Canberra Magne**	**31.45**	**236**	*e*P	**P**	**10 59 02.8**	**+1.5**
CTA	**Charters Tower**	**32.83**	**265**	*e*P	**P**	**10 59 14.0**	**+0.8**
	7.8nm,0.4s,mb4.6						
TOO	**Toolangi**	**35.12**	**234**	*e*P	**P**	**10 59 32.9**	**+0.7**
STKA	**Stephens Creek**	**37.02**	**245**	*e*P	**P**	**10 59 48.9**	**+0.9**
	10nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**37.02**	**245**	P	**P**	**10 59 49.0**	**+1.0**
	3.6nm,0.4s,mb4.2,baz=95,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**43.81**	**257**	P	**P**	**11 00 42.4**	**+0.2**
	8.4nm,0.5s,mb4.5,baz=92,slow=8.3,SNR=166						
ASAR				PcP	PcP	11 02 15.8	-0.6
	0.8nm,0.6s,baz=96,slow=4.2,SNR=5.8						
ASAR				S	**S**	**11 06 30.4**	**-2.8**
	0.6nm,0.8s,baz=91,slow=15,SNR=4.9						
WB2	**Warramunga Arr**	**43.91**	**263**	⇓*i*P	**P**	**11 00 42.5**	**-0.5**
WRAB	**Tennant Creek**	**43.91**	**263**	*e*P	**P**	**11 00 42.1**	**-0.9**
	3.2nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**43.92**	**263**	P	**P**	**11 00 42.7**	**-0.4**
	4.0nm,0.3s,mb4.4,baz=97,slow=7.4,SNR=112						
KAKA	**Kakadu**	**47.36**	**272**	⇓*i*P	**P**	**11 01 08.9**	**-0.5**
	4.2nm,0.3s,mb4.5						
FORT	**Forrest**	**48.54**	**247**	*e*P	**P**	**11 01 17.6**	**-0.3**
	13nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.35**	**263**	⇓*i*P	**P**	**11 01 45.5**	**-0.4**
	3.0nm,0.3s,mb4.1						
KLBR	**Kellerberrin**	**57.29**	**245**	⇓*i*P	**P**	**11 02 19.7**	**-0.5**
	36nm,1.1s,mb4.5						
MUN	**Mundaring**	**58.56**	**245**	*e*P	**P**	**11 02 29.0**	**+0.2**
NVAR	**Mina Array Bea**	**81.79**	**44**	P	**P**	**11 04 46.1**	**+0.1**
	0.3nm,0.6s,mb2.9,baz=237,slow=7.4,SNR=3.3						
CMAR	**Chiang Mai Arr**	**89.69**	**290**	P	**P**	**11 05 25.9**	**+1.3**
	0.9nm,0.6s,mb3.8,baz=68,slow=0.8,SNR=5.1						
PDAR	**Pinedale Array**	**89.73**	**43**	P	**P**	**11 05 24.2**	**+0.1**
	0.3nm,0.6s,mb3.3,baz=212,slow=5.3,SNR=3.9						
AKASG	**Malin Array Be**	**143.12**	**330**	PKhKP		11 11 51.7	
	1.8nm,0.4s,baz=44,slow=4.1,SNR=14						
AKASG	**Malin Array Be**	**143.12**	**330**	PKP	PKPdf	11 11 51.7	-4.0
GERES	**GERESS Array B**	**150.48**	**343**	PKPbc	PKPbc	11 12 13.1	-0.8
	0.1nm,0.3s,baz=318,slow=2.6,SNR=4.0						

ISCJB ***15*** *11:01:02.9±0.5, 3373N±004×13988E±006, h108km±3km, mb3.5/7, Error ellipse: s-maj=8.4km s-min=6.0km az=170.1*
JMA ***15*** *11:01:03.9±0.1, 3378N×13989E, h101km±2km, M3.3*
NEIC ***15*** *11:01:04.0, 3378N×13989E, h101km, MG3.3(JMA), After JMA.*
IDC ***15*** *11:01:04.0±0.5, 3358N×13966E, h106km±3km, mb3.3/7, mb1 3.5/8, mb1mx3.4/21, mbtmp3.3/8, MS3.3/1, Ms1 3.3/1, ms1mx2.7/20, Error ellipse: s-maj=32.2km s-min=9.3km az=73.0*

ISC 15 11:01:04.0±0.5,3374N±004×13987E±006,h103km±3km, n27,σ0°78/38,mb3.5/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.45**	**318**	P	**Pn**	**11 01 20.3**	**+0.6**
JMY				*e*S	**Sn**	**11 01 31.0**	**-0.5**
JHJ	**Hachijo jima 2**	**0.62**	**187**	P	**Pn**	**11 01 21.2**	**+0.2**
	333nm,0.3s,baz=254,slow=23,SNR=901						
JHJ				S	**Sn**	**11 01 34.0**	**+0.3**
	529nm,0.3s,baz=233,slow=20,SNR=20						
JHJ2	**Mitsune**	**0.62**	**184**	P	**Pn**	**11 01 21.2**	**+0.1**
JHJ2				*e*S	**Sn**	**11 01 34.4**	**+0.6**
JKO	**Kozu shima**	**0.76**	**307**	P	**Pn**	**11 01 21.9**	**-0.3**
JKO				*e*S	**Sn**	**11 01 35.5**	**-0.4**
JIM2	**Oshima 3**	**1.04**	**340**	P	**Pn**	**11 01 24.7**	**-0.4**
JIM2				*e*S	**Sn**	**11 01 40.3**	**-0.7**
BSO3	**Boso 3**	**1.19**	**26**	P	**Pn**	**11 01 26.6**	**-0.1**
BSO3				S	**Sn**	**11 01 44.6**	**+0.8**
JIZS	**Izushimoda**	**1.28**	**320**	P	**Pn**	**11 01 27.5**	**-0.2**
BSO1	**Boso 1**	**1.30**	**45**	P	**Pn**	**11 01 27.4**	**-0.5**
BSO1				*e*S	**Sn**	**11 01 45.3**	**-0.8**
BSO4	**Boso 4**	**1.31**	**17**	P	**Pn**	**11 01 28.3**	**+0.2**
BSO4				*e*S	**Sn**	**11 01 45.8**	**-0.5**
KTJJ	**Kamata 2**	**1.36**	**331**	P	**Pn**	**11 01 28.1**	**-0.6**
KTJJ				*e*S	**Sn**	**11 01 47.0**	**-0.4**
JOD2	**Odawara 2**	**1.65**	**337**	P	**Pn**	**11 01 32.1**	**-0.2**
JOD2				*e*S	**Sn**	**11 01 53.6**	**-0.2**
TK04	**Tokai 4**	**1.78**	**292**	P	**Pn**	**11 01 34.4**	**+0.6**
SHZ3	**Shizuoka 3**	**1.91**	**314**	P	**Pn**	**11 01 36.2**	**+0.7**
SHZ3				*e*S	**Sn**	**11 01 59.2**	**-0.3**
JYN	**Shimob**	**2.07**	**328**	P	**Pn**	**11 01 38.1**	**+0.6**
MJAR	**Matsushiro Arr**	**3.11**	**335**	P	**Pn**	**11 01 51.6**	**+0.4**
	5.8nm,0.3s,baz=165,slow=13,SNR=57						
MJAR				S	**Sn**	**11 02 30.1**	**+2.4**
	2.7nm,0.3s,baz=154,slow=23,SNR=5.4						
MAJO	**Matsushiro**	**3.11**	**335**	*e*Pn	**Pn**	**11 01 51.8**	**+0.6**
MAT	**Matsushiro**	**3.11**	**335**	P	**Pn**	**11 01 51.8**	**+0.5**
MAT				S	**Sn**	**11 02 24.2**	**-3.5**
ZALV	**Zalesovo Beam**	**43.28**	**315**	LR	LR	11 26 29.9	
	comp=Z,30nm,18.1s,baz=172,slow=35						
MKAR	**Makanchi Array**	**44.88**	**305**	P	**P**	**11 09 07.2**	**-0.7**
	0.5nm,0.8s,mb3.3,baz=86,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**53.64**	**186**	P	**P**	**11 10 12.7**	**-2.1**
	0.2nm,0.3s,mb3.6,baz=0.6,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**57.37**	**186**	P	**P**	**11 10 40.6**	**-0.8**
	0.3nm,0.6s,mb3.5,baz=20,slow=12,SNR=6.6						
STKA	**Stephens Creek**	**65.28**	**178**	P	**P**	**11 11 34.8**	**+0.2**
	2.8nm,1.0s,mb4.0,baz=343,slow=11,SNR=3.3						
AKASG	**Malin Array Be**	**76.13**	**322**	P	**P**	**11 12 39.4**	**-0.9**
	0.6nm,0.3s,mb3.8,baz=46,slow=6.1,SNR=4.4						
AKASG	**Malin Array Be**	**76.13**	**322**	P	**P**	**11 12 39.4**	**-0.9**
NVAR	**Mina Array Bea**	**77.99**	**52**	P	**P**	**11 12 52.8**	**+1.8**
	0.3nm,0.6s,mb3.2,baz=274,slow=6.0,SNR=4.4						
PDAR	**Pinedale Array**	**80.89**	**44**	P	**P**	**11 13 07.5**	**+0.9**
	0.3nm,0.6s,mb3.3,baz=312,slow=5.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**118.68**	**312**	PKP	PKPdf	11 19 39.3	-1.2
	0.3nm,0.6s,baz=40,slow=1.6,SNR=3.7						

ISCJB ***15*** *11:04:52.5±0.6, 3966N±002×2946E±005, h4km±7km, Error ellipse: s-maj=6.0km s-min=4.2km az=1.2*
CSEM ***15*** *11:04:52.1±0.2, 3964N×2946E, h10km, MD2.9, Error ellipse: s-maj=6.5km s-min=4.7km az=82.0*
DDA ***15*** *11:04:52.3, 3966N×2945E, h7km±1km, Md2.9*
ISK ***15*** *11:04:52.4, 3967N×2955E, h18km, MD2.6*

ISC 15 11:04:53.1±0.5,3966N±003×2946E±005,h9km±6km,n14, σ0°99/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.55**	**333**	*i*P	**Pg**	**11 05 02.5**	**-1.2**
ULDT				*i*S	**Sg**	**11 05 10.8**	**0.0**
GDZ	**Gediz**	**0.57**	**178**	*i*P	**Pg**	**11 05 03.8**	**-0.3**
GDZ				*i*S	**Sg**	**11 05 12.1**	**+0.6**
DST	**Dursunbey**	**0.64**	**266**	*e*PG	**Pg**	**11 05 06.9**	**+1.4**
ALT	**Altintas**	**0.79**	**140**	*e*PG	**Pg**	**11 05 07.3**	**-0.8**
GEMT	**Gemlik**	**0.81**	**345**	*e*PG	**Pg**	**11 05 09.4**	**+0.8**
GEMT				*e*SG	**Sg**	**11 05 20.7**	**+1.6**
ADVT	**Abdulvahap**	**0.81**	**15**	*e*PG	**Pg**	**11 05 07.9**	**-0.7**
ADVT				*e*SG	**Sg**	**11 05 19.1**	**0.0**
DEMI	**Demirci**	**0.84**	**223**	*i*P	**Pg**	**11 05 07.5**	**-1.7**
DEMI				*i*S	**Sg**	**11 05 20.6**	**+0.5**
YLV	**Yalova**	**0.91**	**356**	*e*PG	**Pg**	**11 05 10.4**	**-0.2**
KCT	**Karacabey**	**1.04**	**306**	*e*PN	**Pn**	**11 05 12.7**	**-1.2**
ESKT	**Eskisehir**	**1.08**	**97**	*i*P	**Pb**	**11 05 14.3**	**+0.2**
ESKT				*i*S	**Sb**	**11 05 30.3**	**+2.0**
SEYT	**Eskypehyr**	**1.08**	**97**	*i*P	**Pb**	**11 05

AB31 ⇓Sn **Sn** **11 15 50.0 -0.4**
0.2nm,0.3s,baz=123,slow=26,SNR=6.2

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*IDC **15** 11:11:29.4±1.1, 44.12N×8748E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/24, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=45.4km s-min=16.1km az=44.0*
*NNC **15** 11:11:29.9±3.9, 44.22N×8732E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=35.6km s-min=27.1km az=92.0*
*ISCJB **15** 11:11:31.6±1.1, 44.30N±008.8×875E±0.1, h26km±11km, mb3.4/3, Error ellipse: s-maj=19.1km s-min=7.6km az=139.9*
*BJI **15** 11:11:32.8, 44.08N×87.18E, h12km, mb4.1, ML3.2*

ISC 15 11:11:33.6±1.0, 4416N±008×874E±01, h24km±11km, n10, σ1°09/15, mb3.4/3, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.41**	**146**	PG	**Pb**	**11 11 41.0**	**-1.2**
WMQ				SG	**Sb**	**11 11 49.0**	**+0.9**
WMQ				Smax			
	comp=N,2μm,0.5s						
WMQ				Smax			
	comp=E,3μm,0.5s						
MK31	**Makanchi Array**	**4.44**	**308**	Pn	**Pn**	**11 12 39.9**	**+0.6**
	comp=E,1.6nm,0.5s,baz=122,slow=12,SNR=32						
MK31				Lg		11 13 51.1	
	comp=E,5.7nm,0.5s,baz=125,slow=28,SNR=4.2						
MKAR	**Makanchi Array**	**4.44**	**308**	Pn	**Pn**	**11 12 40.1**	**+0.8**
	comp=E,0.6nm,0.3s,baz=122,slow=15,SNR=40						
MKAR				Sn	**Sn**	**11 13 32.6**	**+2.4**
	comp=E,2.0nm,0.3s,baz=131,slow=26,SNR=6.5						
MKAR				Lg		11 13 52.0	
	comp=E,4.6nm,0.3s,baz=130,slow=28,SNR=7.6						
KURBB	**Kurchatov Arra**	**8.81**	**320**	Pn	**Pn**	**11 13 38.3**	**-1.1**
	comp=E,0.2nm,0.7s,baz=125,slow=28						
KURBB				Sn	**Sn**	**11 15 17.0**	**-0.8**
	comp=E,0.9nm,0.8s,baz=125,slow=28						
KURBB				Lg		11 16 11.6	
	comp=E,3.0nm,0.7s,baz=125,slow=28						
KURK	**Kurchatov**	**8.84**	**321**	Pn	**Pn**	**11 13 39.4**	**-0.3**
	comp=E,0.1nm,0.3s,baz=125,slow=28						
KURK				Sn	**Sn**	**11 15 16.8**	**-1.6**
	comp=E,1.3nm,0.4s,baz=125,slow=28						
KURK				Lg		11 16 10.7	
	comp=E,19nm,1.2s,baz=125,slow=28						
ZALV	**Zalesovo Beam**	**9.94**	**351**	Pn	**Pn**	**11 13 54.2**	**-0.5**
	comp=E,0.4nm,0.3s,baz=175,slow=17,SNR=3.9						
ZALV				Sn	**Sn**	**11 15 46.6**	**+1.2**
	comp=E,0.4nm,0.3s,baz=172,slow=26,SNR=6.5						
GTA	**Gaotai**	**10.43**	**113**	*eP*	**Pn**	**11 14 02.6**	**+1.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**76.90**	**135**	P	**P**	**11 23 22.5**	**-1.3**
	comp=Z,0.7nm,1.0s,mb3.6,baz=342,slow=6.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**77.89**	**277**	P	**P**	**11 23 30.6**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.5,baz=31,slow=5.4,SNR=4.8						
ASAR	**Alice Springs**	**79.81**	**137**	P	**P**	**11 23 39.3**	**-0.5**
	comp=Z,0.2nm,0.6s,mb3.2,baz=340,slow=5.2,SNR=4.1						

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*NIED **15** 11:34:00, 35.20N×14.070E, h26km, Mw4.0 Best double couple: M0 1.3000×10^15 NP1:φs 39.00000°, δ74.00000°, λ80.00000°. NP2:φs 252.00000°, δ18.00000°, λ122.00000°.*
*IDC **15** 11:34:21.3±0.8, 35.09N×140.48E, h0km, mb3.8/8, mb1 3.9/13, mb1mx3.8/25, mbtmp3.8/13, ML3.6/5, MS3.5/3, Ms1 3.5/3, ms1mx2.8/35, Error ellipse: s-maj=25.8km s-min=14.4km az=78.0*
*ISCJB **15** 11:34:23.7±0.5, 35.18N±003×140.67E±006, h33km, mb3.7/8, MS3.5/2, Error ellipse: s-maj=6.7km s-min=3.9km az=169.4*
*NEIC **15** 11:34:24.5, 35.25N×140.66E, h22km, MG3.5(JMA), After JMA.*
*JMA **15** 11:34:24.4±0.1, 35.25N×140.66E, h22km±2km, M3.5 Broadband fault plane solution: P waves. NP1: φs 277.00000°, δ31.00000°, λ124.00000°. NP2: φs 58.00000°, δ65.00000°, λ71.00000°. Principal axes: T Plg65.0000°, Azm296.0000°; N Plg17.0000°, Azm66.0000°; P Plg18.0000°, Azm162.0000°;*
JMA Felt I J1.

ISC 15 11:34:24.4±0.5, 3519N±003×14066E±005, h26km±4km, n22, σ0°92/30, mb3.7/8, MS3.5/2, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.28**	**261**	⇓P	**Pb**	**11 34 30.9**	**-0.3**
KTR				S	**Sb**	**11 34 34.6**	**-1.2**
BSO4	**Boso 4**	**0.33**	**232**	⇓P	**Pb**	**11 34 32.8**	**+0.9**
BSO3	**Boso 3**	**0.41**	**197**	⇓P	**Pb**	**11 34 34.0**	**+0.9**
BSO3				S	**Sb**	**11 34 40.2**	**+1.2**
JCN	**Nagara**	**0.43**	**301**	⇓P	**Pb**	**11 34 33.6**	**+0.1**
JCN				S	**Sb**	**11 34 40.1**	**+0.4**
CHOJ	**Chosi**	**0.53**	**18**	⇓P	**Pb**	**11 34 34.1**	**-1.1**
CHOJ				*eS*	**Sb**	**11 34 41.8**	**-0.7**
BSO1	**Boso 1**	**0.60**	**154**	⇓P	**Pb**	**11 34 36.1**	**-0.1**
BSO1				S	**Sb**	**11 34 45.3**	**+1.0**
JYT	**Yasato**	**1.10**	**340**	P	**Pn**	**11 34 42.9**	**-1.2**
JYT				*eS*	**Sn**	**11 34 58.3**	**-0.1**
JHJ	**Hachijo jima 2**	**2.19**	**200**	Pn	**Pn**	**11 34 57.9**	**-1.2**
	45nm,0.3s,baz=16,slow=5.0,SNR=34						
JHJ				Sn	**Sn**	**11 35 23.6**	**-1.8**
	266nm,0.3s,baz=255,slow=23,SNR=16						
MJAR	**Matsushiro Arr**	**2.40**	**305**	Pn	**Pn**	**11 35 01.6**	**-0.3**
	5.5nm,0.3s,baz=97,slow=13,SNR=50						
MAJO	**Matsushiro**	**2.40**	**305**	*e*Pn	**Pn**	**11 35 02.1**	**+0.1**
MAT	**Matsushiro**	**2.40**	**305**	P	**Pn**	**11 35 02.0**	**0.0**
MAT				*eS*	**Sn**	**11 35 31.9**	**+1.3**
CBIJ	**Chichi jima**	**8.18**	**170**	Pn	**Pn**	**11 36 20.1**	**-1.3**
	6.3nm,0.3s,baz=286,slow=22,SNR=3.8						
ASAJ	**Asahikawa**	**9.04**	**9**	Pn	**Pn**	**11 36 34.4**	**+1.3**
	0.9nm,0.3s,baz=240,slow=8.1,SNR=7.0						
KSRS	**Korea Array**	**10.52**	**286**	Pn	**Pn**	**11 36 52.1**	**-1.3**
	0.1nm,0.3s,baz=103,slow=14,SNR=2.6						
KSRS				LR	LR	11 40 48.8	
	comp=Z,207nm,18.0s,baz=161,slow=37						
SONM	**Songino Array**	**28.35**	**307**	P	**P**	**11 40 17.2**	**+1.1**
	0.3nm,0.3s,mb3.4,baz=108,slow=9.3,SNR=2.5						
SONM				LR	LR	11 52 02.9	
	comp=Z,107nm,19.3s,MS3.5,baz=318,slow=38						
ZALV	**Zalesovo Beam**	**42.72**	**314**	P	**P**	**11 42 19.6**	**+0.6**
	0.9nm,0.4s,mb3.8,baz=134,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**44.60**	**304**	P	**P**	**11 42 35.1**	**+0.9**
	1.1nm,0.7s,mb3.8,baz=86,slow=9.1,SNR=8.8						
MKAR				LR	LR	12 02 05.7	
	comp=Z,61nm,18.5s,MS3.6,baz=353,slow=37						
WRA	**Warramunga Arr**	**55.16**	**187**	P	**P**	**11 43 54.4**	**-0.2**
	0.8nm,0.3s,mb4.2,baz=5.5,slow=7.7,SNR=40						
ASAR	**Alice Springs**	**56.88**	**187**	P	**P**	**11 44 20.9**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=4.9,slow=6.6,SNR=9.5						
AKASG	**Malin Array Be**	**75.38**	**322**	P	**P**	**11 46 05.7**	**+0.2**
	0.8nm,0.5s,mb3.9,baz=46,slow=5.9,SNR=4.4						
NOA	**NORSAR Array B**	**75.64**	**337**	P	**P**	**11 46 06.9**	**+0.1**
	1.1nm,0.8s,mb3.9,baz=39,slow=5.7,SNR=2.8						
NVAR	**Mina Array Bea**	**76.59**	**52**	P	**P**	**11 46 16.1**	**+3.5**
	0.2nm,0.6s,mb3.2,baz=278,slow=6.1,SNR=3.2						

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*ISCJB **15** 12:00:48.9±0.3, 20.63S±004×69.05W±005, h81km, mb4.4/23, Error ellipse: s-maj=7.8km s-min=4.4km az=150.4*
*NEIC **15** 12:00:50.4±0.3, 20.74S×69.13W, mb4.3/12, Error ellipse: s-maj=9.0km s-min=6.1km az=59.0*
*IDC **15** 12:00:50.4±0.6, 20.74S×69.18W, h84km±6km, mb4.1/10, mb1 4.2/14, mb1mx4.0/20, mbtmp4.1/14, MS3.2/4, Ms1 3.2/4, ms1mx2.9/32, Error ellipse: s-maj=15.0km s-min=7.3km az=82.0*

ISC 15 12:00:50.7±0.3, 2068S±004×6907W±005, h83km, h83km±1.4km: pP-P, n55, σ0°97/59, mb4.4/23, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.93**	**176**	P	**Pn**	**12 01 21.5**	**-0.4**
	342nm,0.3s,baz=340,slow=9.6,SNR=1575						
LVC				S	**Sn**	**12 01 44.8**	**-0.7**
	930nm,0.3s,baz=334,slow=9.9,SNR=59						
LVC	**Limon Verde**	**1.93**	**176**	*e*Pn	**Pn**	**12 01 21.6**	**-0.3**
LVC				S	**Sn**	**12 01 44.8**	**-0.7**
LVC				*e*Sn	**Sn**	**12 01 45.2**	**-0.3**
LPAZ	**La Paz**	**4.45**	**12**	P	**Pn**	**12 02 01.2**	**+5.3**
	17nm,0.3s,baz=194,slow=8.0,SNR=157						
LPAZ				LR	LR	12 04 01.6	
	comp=Z,162nm,19.0s,baz=183,slow=42						
LPAZ	**La Paz**	**4.45**	**12**	*e*Pn	**Pn**	**12 02 00.8**	**+4.9**
LPAZ				*e*Sn	**Sn**	**12 02 44.2**	**-2.3**
LPAZ				LR	LR	12 04 01.6	
ARE	**Arequipa**	**4.78**	**331**	*e*P	**Pn**	**12 01 58.0**	**-2.4**
ARE				*e*S	**Sn**	**12 02 54.0**	**-0.5**
LCO	**Las Campanas**	**8.43**	**190**	*e*Pn	**Pn**	**12 02 51.2**	**+1.1**
	33nm,0.5s						
LCO				*e*Sn	**Sn**	**12 04 33.6**	**+10**
SIV	**San Ignacio**	**8.90**	**60**	P	**Pn**	**12 02 58.4**	**+1.7**
	13nm,0.3s,baz=250,slow=11,SNR=196						
SIV				S	**Sn**	**12 04 41.6**	**+6.3**
	baz=340,slow=22,SNR=4.1						
CFAA	**Coronel Fontan**	**10.91**	**176**	P	**Pn**	**12 03 17.5**	**-6.4**
	0.1nm,0.3s,baz=354,slow=15,SNR=5.8						
CFAA				S	**Sn**	**12 05 15.4**	**-8.7**
	0.2nm,0.3s,baz=254,slow=7.6,SNR=2.6						
CFAA				LR	LR	12 07 47.5	
	comp=Z,26nm,21.4s,baz=85,slow=38						
CFAA	**Coronel Fontan**	**10.91**	**176**	P	**Pn**	**12 03 17.5**	**-6.4**
CFAA				S	**Sn**	**12 05 15.4**	**-8.7**
CFAA				LR	LR	12 07 47.5	
NNA	**Nana**	**11.41**	**318**	P	**Pn**	**12 03 30.1**	**-0.7**
	1.0nm,0.3s,baz=177,slow=13,SNR=2.5						
NNA				S	**Sn**	**12 05 34.8**	**-1.7**
	2.3nm,0.3s,baz=192,slow=19,SNR=3.7						
CPUP	**Villa Florida**	**12.15**	**120**	P	**Pn**	**12 03 40.6**	**-0.2**
	0.8nm,0.3s,baz=283,slow=12,SNR=5.8						
CPUP				S	**Sn**	**12 05 52.6**	**-1.7**
	0.6nm,0.3s,baz=275,slow=18,SNR=2.3						
CPUP	**Villa Florida**	**12.15**	**120**	*e*Pn	**Pn**	**12 03 40.6**	**-0.2**
CPUP				S	**Sn**	**12 05 52.6**	**-1.7**
CPUP				*e*Sn	**Sn**	**12 05 54.2**	**-0.1**
TRQA	**Tornquist**	**18.38**	**162**	*e*P	**Pn**	**12 04 57.4**	**-2.5**
	10nm,0.9s						
PLCA	**Paso Flores**	**20.03**	**183**	P	**P**	**12 05 15.5**	**-1.5**
	0.3nm,0.3s,baz=360,slow=13,SNR=7.3						
SPB	**Sao Paulo**	**20.25**	**102**	*e*P	**P**	**12 05 20.4**	**+0.9**
BDFB	**Brasilia**	**20.61**	**79**	P	**P**	**12 05 23.4**	**0.0**
	9.9nm,0.6s,baz=264,slow=20,SNR=4.8						
BDFB				LR	LR	12 13 42.0	
	comp=Z,154nm,18.1s,baz=310,slow=37						
ROSC	**El Rosal**	**25.89**	**348**	LR	LR	12 18 05.4	
	comp=Z,153nm,18.2s,baz=22,slow=40						
SDV	**Santo Domingo**	**29.41**	**357**	P	**P**	**12 06 46.5**	**0.0**
	3.2nm,0.6s,mb4.1,baz=267,slow=2.2,SNR=3.7						
MIAR	**Mount Ida**	**59.66**	**337**	*e*P	**P**	**12 10 45.6**	**-0.7**
	2.1nm,0.8s,mb4.2						
LAZ	**Ladron**	**65.66**	**326**	*e*P	**P**	**12 11 27.2**	**+0.8**
LAZ				*e*pP	pP	12 11 48.3	+0.7
LAZ				*e*sP	sP	12 11 58.0	+1.4
SDCO	**Great Sand Dun**	**67.47**	**329**	*e*P	**P**	**12 11 38.3**	**+0.6**
	5.7nm,1.1s,mb4.3						
SDCO				*e*pP	pP	12 11 58.9	-0.1
SDCO				*e*sP	sP	12 12 08.7	+0.6
LIC	**Lamto**	**68.30**	**74**	*e*P	**P**	**12 11 43.0**	**-0.5**
	79nm,1.6s,mb5.3						
TIC	**Toumodi**	**68.48**	**74**	*e*P	**P**	**12 11 44.4**	**-0.3**
	26nm,0.2s,mb5.7						
MVCO	**Mesa Verde**	**68.53**	**327**	*e*P	**P**	**12 11 44.7**	**+0.3**
	3.2nm,0.6s,mb4.3						
KIC	**Kosan Boka**	**68.62**	**74**	*e*P	**P**	**12 11 44.6**	**-0.9**
	169nm,1.2s,mb5.8						
DBIC	**Dimbokro**	**68.64**	**74**	P	**P**	**12 11 45.8**	**+0.1**
	22nm,1.0s,mb5.0,baz=225,slow=4.9,SNR=12						
DBIC				pP	pP	12 12 08.9	+1.9
	5.1nm,0.6s,baz=180,slow=18,SNR=2.2						
WUAZ	**Wupatki**	**68.78**	**324**	*e*P	**P**	**12 11 47.2**	**+1.1**
	5.9nm,1.0s,mb4.4						
MSU	**Marysvale**	**71.42**	**326**	*e*P	**P**	**12 12 03.4**	**+1.2**
MSU				*e*pP	pP	12 12 25.0	+1.4
MSU				*e*sP	sP	12 12 34.2	+1.6
DUG	**Dugway**	**72.99**	**326**	*e*P	**P**	**12 12 12.0**	**+0.6**
	4.9nm,1.2s,mb4.2						
ISA	**Isabella**	**73.00**	**320**	*e*P	**P**	**12 12 12.3**	**+0.7**
	4.8nm,1.2s,mb4.2						
PDAR	**Pinedale Array**	**73.33**	**330**	P	**P**	**12 12 13.2**	**-0.1**
	0.8nm,0.7s,mb3.7,baz=143,slow=5.2,SNR=6.9						
PDAR				pP	pP	12 12 34.1	-0.8
	0.8nm,0.8s,baz=121,slow=7.4,SNR=3.7						
REDW	**Red Top Meadow**	**74.39**	**330**	*e*P	**P**	**12 12 20.3**	**+0.7**
	5.1nm,1.2s,mb4.1						
ULM	**Lac du Bonnet**	**74.49**	**343**	P	**P**	**12 12 19.6**	**-0.3**
	1.1nm,0.3s,mb4.0,baz=158,slow=11,SNR=4.2						
TPAW	**Teton Pass**	**74.53**	**330**	*e*P	**P**	**12 12 21.1**	**+0.7**
	5.0nm,1.1s,mb4.2						
NVAR	**Mina Array Bea**	**74.76**	**322**	P	**P**	**12 12 22.2**	**+0.4**
	1.8nm,1.1s,mb3.7,baz=145,slow=6.5,SNR=4.1						
IMW	**Indian Meadow**	**74.84**	**330**	*e*P	**P**	**12 12 23.1**	**+1.0**
	6.2nm,1.2s,mb4.2						
IMW				*e*pP	pP	12 12 43.6	-0.2
IMW				*e*sP	sP	12 12 53.7	+0.9
RLMT	**Red Lodge**	**75.02**	**332**	*e*P	**P**	**12 12 22.6**	**-0.6**
	1.4nm,0.6s,mb3.9						
SCHQ	**Schefferville**	**75.22**	**1**	P	**P**	**12 12 23.9**	**-0.2**
	1.6nm,0.4s,mb4.1,baz=169,slow=5.4,SNR=6.8						
HLID	**Hailey**	**76.27**	**328**	*e*P	**P**	**12 12 31.3**	**+1.0**
	5.5nm,1.1s,mb4.2						
MCMT	**McKenzie Canyo**	**76.44**	**330**	*e*P	**P**	**12 12 32.4**	**+1.2**
MCMT				*e*pP	pP	12 12 54.2	+1.2
MCMT				*e*sP	sP	12 13 03.3	+1.3
TOA0	**Torodi Ar. Sit**	**77.22**	**71**	*e*P	**P**	**12 12 36.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**77.22**	**71**	P	**P**	**12 12 36.0**	**-0.3**
	5.6nm,0.5s,mb4.5,baz=253,slow=5.4,SNR=82						
BOSA	**Boshof**	**83.96**	**118**	P	**P**	**12 13 12.1**	**-0.2**
	5.5nm,1.0s,mb4.3,baz=229,slow=3.7,SNR=4.3						
BOSA	**Boshof**	**83.96**	**118**	P	**P**	**12 13 12.1**	**-0.2**
TAM	**Tamanrasset**	**84.58**	**63**	*e*P	**P**	**12 13 17.0**	**+1.6**
YKA	**Yellowknife Ar**	**90.36**	**341**	P	**P**	**12 13 42.5**	**+0.3**
	1.5nm,0.7s,mb4.2,baz=129,slow=5.1,SNR=6.5						
YKA				pP	pP	12 14 04.1	-0.4
	2.5nm,0.7s,baz=135,slow=4.5,SNR=7.4						
YKA	**Yellowknife Ar**	**90.36**	**341**	P	**P**	**12 13 42.5**	**+0.3**
YKA				pP	pP	12 14 04.1	-0.4
ASAR	**Alice Springs**	**130.57**	**208**	PKP	PKPdf	12 19 51.7	-1.1
	0.5nm,0.8s,baz=128,slow=1.7,SNR=3.1						
ASAR	**Alice Springs**	**130.57**	**208**	PKP	PKPdf	12 19 51.7	-1.1
WRA	**Warramunga Arr**	**133.59**	**211**	PKP	PKPdf	12 19 57.3	-1.2
	0.2nm,0.4s,baz=149,slow=1.6,SNR=14						
ZALV	**Zalesovo Beam**	**141.27**	**25**	PKP	PKPdf	12 20 12.0	+0.5
	0.8nm,0.3s,baz=300,slow=3.3,SNR=5.4						
MK31	**Makanchi Array**	**145.05**	**35**	*e*PKPdf	PKPdf	12 20 18.5	0.0
MKAR	**Makanchi Array**	**145.05**	**35**	PKPbc	PKPbc	12 20 18.3	+0.3
	2.7nm,0.6s,baz=322,slow=3.5,SNR=17						
MJAR	**Matsushiro Arr**	**151.44**	**309**	PKPbc	PKPbc	12 20 34.5	-0.9
	0.6nm,0.6s,baz=84,slow=3.7,SNR=4.4						
SONM	**Songino Array**	**152.66**	**7**	PKPbc	PKPbc	12 20 38.0	+0.2
	0.5nm,0.7s,baz=11,slow=1.5,SNR=3.4						

MAN 15 12:03:35, 1311N×12013E, h6km, mb4.2, ML3.0, MS2.8, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.63**	**11**	*e*P	Pg	12 03 47.4	+0.2
LUBP				*e*S	Sg	12 03 55.9	+0.5
BUSP	**Coron**	**1.10**	**176**	*e*P	Pg	12 03 56.5	+0.3
BUSP				*e*S	Sg	12 04 12.8	+2.4
SJMP	**San Jose**	**1.16**	**124**	*e*P	Pg	12 03 57.0	-0.3
TGY	**Tagaytay City**	**1.26**	**39**	⇓*e*P	Pn	12 03 59.1	-0.1
TGY				*e*S	Sg	12 04 16.5	+0.9
LBPH	**Los Banos**	**1.46**	**44**	⇑*e*P	Pn	12 04 01.4	-0.5
NBP	**Mount Natib**	**1.65**	**10**	⇓*e*P	Pn	12 04 03.0	-1.5
ENPP	**El Nido**	**2.01**	**200**	*e*P	Pn	12 04 09.7	+0.2
CUYO	**Cuyo Island**	**2.41**	**159**	*e*P	Pn	12 04 14.1	-0.9
CUYO				*e*S	Sn	12 04 42.6	-2.2

IDC 15 12:15:46.4±3.4, 610S×14806E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=98.8km s-min=44.0km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**19.15**	**223**	*e*P	Pn	12 20 11.9	-0.3
WRA	**Warramunga Arr**	**19.16**	**223**	P	Pn	12 20 11.9	-0.5
	0.2nm,0.3s,baz=49,slow=11,SNR=17						
ASAR	**Alice Springs**	**22.15**	**217**	P	P	12 20 44.6	+0.8
	0.5nm,0.4s,baz=52,slow=9.0,SNR=21						
FITZ	**Fitzroy Crossi**	**24.92**	**239**	*e*P	P	12 21 11.6	+0.2
	5.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.92**	**239**	P	P	12 21 11.7	+0.3
	3.4nm,0.5s,baz=66,slow=8.9,SNR=21						
TORD	**Torodi Ar. Bea**	**146.14**	**284**	PKPbc	PKPbc	12 35 27.9	-1.7
	0.4nm,0.7s,baz=50,slow=3.8,SNR=2.4						

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*ISCJB **15** 12:23:09.8±0.6, 1933N±006×155.25W±004, h12km±3km, mb4.3/12, MS3.8/2, Error ellipse: s-maj=9.9km s-min=6.1km az=166.5*
*NEIC **15** 12:23:10.1, 1933N×155.21W, h10km, mb4.6/5, ML4.4(HVO), After HVO.*
NEIC Felt [III] at Captain Cook and Volcano; [II] at Hilo. Also felt at Hakalau, Hawaii National Park, Holualoa, Kamuela, Kea'au, Kurtistown, Mountain View, Na'alehu, Pa'auilo, Pahoa, Papa'aloa and Papa'ikou.
*IDC **15** 12:23:11.6±4.1, 1975N×155.35W, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/22, mbtmp4.0/8, MS3.8/2, Ms1 3.8/2, ms1mx2.9/38, Error ellipse: s-maj=120.3km s-min=26.1km az=170.0*

ISC 15 12:23:10.3±0.8, 1931N±005×15524W±004, h4km±4km, n26, σ0°80/28, mb4.3/12, MS3.8/2, 2C-1D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.14**	**53**	⇓*i*Pg	**Pg**	**12 23 12.8**	**-0.2**
STCH				*e*Sg	**Sg**	**12 23 15.5**	**+0.7**
KHU	**Kahuku**	**0.36**	**261**	*e*Pg	**Pg**	**12 23 17.9**	**+0.7**
KHU				*e*Sg	**Sg**	**12 23 22.8**	**+0.9**
HPO	**Honuapo**	**0.37**	**234**	*e*Pg	**Pg**	**12 23 17.3**	**0.0**
HPO				*e*Sg	**Sg**	**12 23 28.2**	**+6.1**
POHA	**Pohakuloa**	**0.53**	**329**	⇑*i*Pg	**Pg**	**12 23 20.0**	**-0.4**
POHA				*e*Sg	**Sg**	**12 23 27.2**	**0.0**
KKH	**Kailua Kona**	**0.81**	**296**	⇑*i*Pg	**Pg**	**12 23 23.8**	**-2.1**
HKL	**Haleakala**	**1.69**	**326**	Pn	**Pn**	**12 23 40.4**	**-0.3**
HKL				*e*Sn	**Sn**	**12 24 04.5**	**+1.7**
KIP	**Kipapa**	**3.35**	**309**	*e*Pn	**Pn**	**12 23 59.0**	**-4.4**
KIP				*e*Sn	**Sn**	**12 24 37.4**	**-6.2**
PPT	**Papeete**	**37.06**	**171**	LR	LR	12 43 45.0	
	comp=Z,59nm,19.2s,MS3.4,baz=339,slow=33						
NVAR	**Mina Array Bea**	**37.22**	**51**	P	**P**	**12 30 23.4**	**+0.5**
	0.2nm,0.6s,baz=232,slow=1,SNR=2.8						
DIB	**Dawson Inlet,**	**38.15**	**22**	T		13 10 28.8	
VIB	**Van Inlet**	**38.16**	**22**	T		13 10 41.2	
	SNR=113						
RRI2	**Red Ridge**	**43.86**	**47**	*e*P	**P**	**12 31 17.3**	**-0.4**
	10nm,1.2s,mb4.4						
CHMT	**Chamberlain Mo**	**43.90**	**41**	*e*P	**P**	**12 31 17.5**	**-0.6**
TPAW	**Teton Pass**	**44.16**	**47**	*e*P	**P**	**12 31 20.7**	**+0.5**
	7.5nm,1.3s,mb4.3						
REDW	**Red Top Meadow**	**44.19**	**47**	*e*P	**P**	**12 31 21.9**	**+1.5**
	13nm,1.3s,mb4.5						
TRF	**Thorofare Moun**	**44.24**	**3**	*e*P	**P**	**12 31 20.4**	**-0.1**
	4μm,1.0s						
KTH	**Kantishna Hill**	**44.31**	**3**	*e*P	**P**	**12 31 20.3**	**-0.7**
	30nm,1.1s,mb4.9						
PDAR	**Pinedale Array**	**44.91**	**48**	P	**P**	**12 31 26.1**	**0.0**
	0.7nm,0.9s,mb3.5,baz=249,slow=4.7,SNR=6.7						
EGAK	**Eagle**	**46.41**	**8**	*e*P	**P**	**12 31 38.0**	**+0.3**
	6.6nm,1.1s,mb4.5						
INK	**Inuvik**	**50.85**	**10**	P	**P**	**12 32 10.6**	**-1.2**
	5.6nm,1.0s,mb4.5,baz=194,slow=5.3,SNR=4.6						
YKA	**Yellowknife Ar**	**51.40**	**23**	P	**P**	**12 32 15.0**	**-1.1**
	2.4nm,1.1s,mb4.1,baz=231,slow=7.4,SNR=4.2						
ULM	**Lac du Bonnet**	**55.88**	**42**	P	**P**	**12 32 49.7**	**+0.6**
	1.8nm,0.7s,mb4.2,baz=268,slow=7.8,SNR=2.7						
MJAR	**Matsushiro Arr**	**60.16**	**302**	P	**P**	**12 33 19.1**	**-0.3**
	1.7nm,0.9s,mb4.1,baz=102,slow=5.2,SNR=5.5						
SONM	**Songino Array**	**81.36**	**318**	P	**P**	**12 35 28.5**	**+0.3**
	2.5nm,1.0s,mb4.1,baz=89,slow=3.5,SNR=10.0						
FITZ	**Fitzroy Crossi**	**86.10**	**249**	LR	LR	13 07 33.8	
	comp=Z,119nm,20.9s,MS4.3,baz=157,slow=31						
ZALV	**Zalesovo Beam**	**90.78**	**329**	P	**P**	**12 36 14.1**	**-0.5**
	0.8nm,0.5s,mb4.3,baz=49,slow=4.4,SNR=2.9						

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*TEH **15** 12:24:32.2, 27.87N×51.79E, h10km, ML3.8*
*ISCJB **15** 12:24:52.1±1.3, 27.82N±005×51.78E±005, h4km±8km, mb4.0/15, Error ellipse: s-maj=9.2km s-min=7.2km az=171.1*
*THR **15** 12:24:52.9±0.3, 27.75N×51.78E, h18km±5km, ML3.8*
*CSEM **15** 12:24:53.7±0.1, 27.85N×51.82E, h16km, mb4.1/3, Error ellipse: s-maj=3.6km s-min=2.5km az=16.0*
*IDC **15** 12:24:54.1±1.3, 27.94N×51.93E, h0km, mb3.9/12, mb1 4.0/12, mb1m

BVAR Borovoye Array 28.64 24 P P 12 30 51.7 -0.4
comp=E,1.0nm,0.4s,mb3.9,baz=212,slow=7.8,SNR=7.2
MKAR Makanchi Array 30.43 43 P P 12 31 07.7 -0.3
comp=E,1.4nm,0.6s,mb3.9,baz=221,slow=8.9,SNR=6.9
ZALV Zalesovo Beam 35.50 34 P P 12 31 51.2 -1.0
comp=E,3.6nm,0.4s,mb4.7,baz=228,slow=11,SNR=12
JOF Joensuu 37.54 345 *ep* **P 12 32 09.1 -0.4**
comp=E,2.9nm,0.3s,mb4.5
KAF Kangasniemi 38.19 341 *ep* **P 12 32 14.2 -0.8**
comp=E,1.3nm,0.5s,mb3.9,baz=143,slow=8.4
NB2 NORSAR Subarra 42.84 332 P **P 12 32 52.8 -0.7**
comp=Z,1.4nm,0.5s,mb4.0,baz=122,slow=8.6
NOA NORSAR Array B 42.84 332 P **P 12 32 53.0 -0.6**
comp=Z,1.3nm,0.5s,mb4.0,baz=123,slow=8.4,SNR=5.8
CMAR Chiang Mai Arr 44.08 92 P **P 12 33 03.4 -0.6**
comp=Z,0.7nm,0.4s,mb3.8,baz=290,slow=9.3,SNR=4.2
ARCES ARCESS Array B 44.41 347 P **P 12 33 05.5 -0.5**
comp=Z,0.6nm,0.4s,mb3.7,baz=145,slow=6.6,SNR=14
SONM Songino Array 46.40 49 P **P 12 33 21.7 -0.5**
comp=Z,0.4nm,0.5s,mb3.6,baz=286,slow=10,SNR=2.6
TORD Torodi Ar. Bea 48.88 263 P **P 12 33 42.5 +0.6**
comp=Z,1.5nm,0.8s,mb4.1,baz=53,slow=7.2,SNR=7.6
KSRS Korea Array 63.18 60 P **P 12 35 21.9 -2.0**
comp=Z,0.4nm,0.3s,mb4.0,baz=267,slow=7.3,SNR=4.4
WRA Warramunga Arr 92.80 111 P **P 12 38 10.1 +1.4**
comp=Z,0.3nm,0.8s,mb3.8,baz=312,slow=4.3,SNR=2.5

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*IGQ **15** 12:38:43.3, 309S×8065W, h12km±18km, Mb5.0, Ms4.9, Error ellipse: s-maj=21.3km s-min=4.4km az=121.5*
*MOS **15** 12:38:45.4±0.8, 307S×8041W, h33km, mb4.7/18, Error ellipse: s-maj=14.7km s-min=7.8km az=112.8*
*ISCJB **15** 12:38:48.0±0.2, 313S±003×8049W±003, h57km, mb4.6/69, MS3.8/11, Error ellipse: s-maj=4.3km s-min=3.8km az=167.7*
*IDC **15** 12:38:48.6±0.5, 309S×8041W, h48km±4km, mb4.1/17, mb1 4.3/22, mb1mx4.2/28, mbtmp4.2/22, MS3.8/8, Ms1 3.8/8, ms1mx3.4/26, Error ellipse: s-maj=18.0km s-min=10.4km az=67.0*
*NEIC **15** 12:38:50.0±0.2, 311S×8033W, mb4.7/52, MD4.9(IGQ), Error ellipse: s-maj=5.5km s-min=3.4km az=53.0*
NEIC Felt [II] at Tumbes, Peru. Also felt at Guayaquil and Loja, Ecuador.
*BJI **15** 12:38:57.9, 310S×8030W, h60km, mB5.4*
ISC 15 12:38:50.1±0.2, 310S±003×8039W±003, h59km, h59km±1.6km: pP-P, n205, σ0s80/186, mb4.6/69, MS3.8/11, 15C-4D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**2.07**	**351**	P		**Pn**	**12 39 18.8**	**-3.7**
CHIS	**Cerro-Chispas-**	**2.07**	**351**	S		**Sn**	**12 39 44.4**	**-2.8**
IGUA	**Igualata**	**2.38**	**48**	P		**Pn**	**12 39 26.4**	**-0.3**
ARRY	**Arrayan**	**2.50**	**51**	⇓P		**Pn**	**12 39 28.4**	**-0.1**
BILB	**Tungurahua vol**	**2.51**	**49**	⇓P		**Pn**	**12 39 28.9**	**+0.4**
PATA	**Patacocha**	**2.52**	**51**	⇓P		**Pn**	**12 39 29.1**	**+0.4**
JUI6	**Juive**	**2.54**	**49**	⇑P		**Pn**	**12 39 29.2**	**+0.2**
RETU	**Refugio**	**2.54**	**50**	P		**Pn**	**12 39 30.1**	**+1.1**
ULBA	**Ulba**	**2.58**	**50**	⇑P		**Pn**	**12 39 30.3**	**+0.9**
RUN5	**Runtun**	**2.58**	**50**	P		**Pn**	**12 39 29.6**	**0.0**
QIL2	**Quilotoa**	**2.67**	**34**	⇑P		**Pn**	**12 39 29.7**	**-1.0**
JAMA	**Jama**	**2.83**	**4**	P		**Pn**	**12 39 31.9**	**-1.0**
JAMA	**Jama**	**2.83**	**4**	S		**Sn**	**12 40 06.9**	**+1.0**
PISA	**Pisayambo**	**2.85**	**45**	⇓P		**Pn**	**12 39 34.4**	**+1.1**
CAMI	**Rancho Maria**	**3.06**	**38**	⇑P		**Pn**	**12 39 37.3**	**+1.2**
MAG1	**Magdalena**	**3.08**	**12**	⇑P		**Pn**	**12 39 34.0**	**-2.3**
TAMB	**Tambo**	**3.13**	**40**	⇑P		**Pn**	**12 39 38.5**	**+1.4**
VC1	**Cotopaxi 1**	**3.15**	**39**	⇑P		**Pn**	**12 39 38.7**	**+1.3**
JUA2	**San Juan 2**	**3.38**	**32**	⇑P		**Pn**	**12 39 40.8**	**+0.3**
TERV	**Terraza Guagua**	**3.42**	**32**	⇑P		**Pn**	**12 39 41.5**	**+0.6**
GGP	**Refugio Guagua**	**3.42**	**32**	⇑P		**Pn**	**12 39 40.9**	**-0.1**
PINO	**Pino**	**3.43**	**31**	⇑P		**Pn**	**12 39 40.9**	**-0.2**
ANTI	**Antisana**	**3.45**	**40**	⇑P		**Pn**	**12 39 42.3**	**+0.8**
YANA	**Yana**	**3.48**	**32**	⇑P		**Pn**	**12 39 42.2**	**+0.3**
OTAV	**Otavalo**	**3.84**	**30**	*e*Pn		**Pn**	**12 39 46.3**	**-0.5**
CAYA	**Cayambe**	**3.96**	**37**	⇑P		**Pn**	**12 39 49.4**	**+0.9**
COTA	**Cotacachi**	**3.99**	**31**	⇑P		**Pn**	**12 39 49.0**	**+0.2**
LAV3	**Lava3-Reventad**	**4.07**	**43**	P		**Pn**	**12 39 50.7**	**+0.8**
CONE	**Cono NE Rev Vo**	**4.08**	**42**	P		**Pn**	**12 39 50.8**	**+0.8**
ATAH	**Atahualpa**	**4.35**	**153**	P		**Pn**	**12 39 54.9**	**+1.1**
	8.9nm,0.3s,baz=339,slow=7.3,SNR=32							
ATAH				S		**Sn**	**12 40 43.6**	**+0.4**
	50nm,0.3s,baz=55,slow=16,SNR=4.0							
ATAH				LR		LR	12 41 57.5	
	comp=Z,2μm,21.0s,baz=223,slow=42							
NNA	**Nana**	**9.50**	**158**	P		**Pn**	**12 41 02.3**	**-2.0**
	3.0nm,0.3s,baz=324,slow=11,SNR=10							
NNA				S		**Sn**	**12 42 43.7**	**-6.0**
	2.3nm,0.3s,baz=237,slow=15,SNR=1.8							
ROSC	**El Rosal**	**9.96**	**37**	P		**Pn**	**12 41 08.8**	**-1.8**
	1.2nm,0.3s,baz=275,slow=23,SNR=2.3							
BCIP	**Isla Barro Col**	**12.20**	**3**	*e*Pn		**Pn**	**12 41 41.5**	**+0.3**
	36nm,1.0s							
BCIP				*e*Sn		**Sn**	**12 43 53.7**	**-2.1**
SDV	**Santo Domingo**	**15.38**	**39**	P		**Pn**	**12 42 23.2**	**-0.4**
	0.8nm,0.3s,baz=263,slow=8.8,SNR=16							
SDV				S		**S**	**12 45 25.6**	**-0.8**
	0.5nm,0.3s,baz=308,slow=12,SNR=2.4							
ARE	**Arequipa**	**15.90**	**147**	*e*P		**Pn**	**12 42 34.0**	**+3.7**
LPAZ	**La Paz**	**17.81**	**138**	P		**Pn**	**12 42 54.1**	**+0.1**
	0.4nm,0.3s,baz=329,slow=12,SNR=20							
TGUH	**Tegucigalpa,Un**	**18.36**	**338**	*e*Pn		**Pn**	**12 43 02.3**	**+1.5**
	39nm,1.1s							
PCRV	**Puerto La Cruz**	**20.50**	**50**	P		**P**	**12 43 23.0**	**-0.5**
	13nm,0.7s,baz=232,slow=6.4,SNR=5.5							
PCRV				LR		LR	12 52 42.1	
	comp=Z,494nm,19.2s,MS3.9,baz=223,slow=41							
LVC	**Limon Verde**	**22.36**	**151**	P		**P**	**12 43 45.1**	**+1.7**
	14nm,0.8s,mb4.5,baz=328,slow=8.8,SNR=5.1							
SIV	**San Ignacio**	**22.92**	**125**	P		**P**	**12 43 49.9**	**+0.5**
	3.6nm,0.8s,mb3.9,baz=308,slow=9.2,SNR=14							
TEIG	**Tepich**	**24.44**	**342**	P		**P**	**12 44 03.7**	**+0.2**
	5.0nm,0.6s,mb4.1,baz=21,slow=24,SNR=3.8							
TEIG	**Tepich**	**24.44**	**342**	P		**P**	**12 44 03.7**	**+0.2**
CMIG	**Matias Romero**	**24.64**	**325**	P		**P**	**12 44 04.5**	**-0.9**
	3.1nm,0.8s,mb3.9,baz=117,slow=12,SNR=3.7							
CMIG				LR		LR	12 51 35.2	
	comp=Z,148nm,21.5s,MS3.5,baz=282,slow=31							
AOPR	**Arecibo Observ**	**25.20**	**32**	*e*P		**P**	**12 44 11.0**	**+0.6**
	26nm,0.8s,mb4.8							
SJG	**San Juan**	**25.33**	**33**	P		**P**	**12 44 11.4**	**-0.2**
	34nm,0.8s,mb4.9,baz=228,slow=5.6,SNR=7.8							
CFAA	**Coronel Fontan**	**30.57**	**159**	P		**P**	**12 44 57.9**	**-0.5**
	0.2nm,0.3s,baz=223,slow=13,SNR=2.2							
CPUP	**Villa Florida**	**31.98**	**138**	P		**P**	**12 45 10.2**	**-0.6**
	0.5nm,0.4s,mb3.7,baz=284,slow=8.4,SNR=3.6							
CPUP				LR		LR	13 01 02.4	
	comp=Z,192nm,19.4s,MS3.8,baz=298,slow=42							
BDFB	**Brasilia**	**34.22**	**113**	LR		LR	13 01 28.8	
	comp=Z,86nm,18.2s,MS3.5,baz=276,slow=40							
JCT	**Junction City**	**38.20**	**332**	*e*P		**P**	**12 46 04.8**	**+0.6**
JCT				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.7							
JCT	**Junction City**	**38.20**	**332**	*e*P		**P**	**12 46 04.8**	**+0.5**
	comp=Z,8.9nm,0.6s,mb4.7							
PLCA	**Paso Flores**	**38.50**	**168**	P		**P**	**12 46 06.2**	**-0.4**
	comp=Z,3.3nm,1.1s,mb4.0,baz=315,slow=8.9,SNR=3.1							
PLCA				PcP		PcP	12 48 18.4	-0.2
	comp=Z,2.9nm,0.9s,baz=342,slow=8.7,SNR=4.2							
MIAR	**Mount Ida**	**39.45**	**343**	*e*P		**P**	**12 46 14.1**	**-0.6**
MIAR				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.3							
MIAR	**Mount Ida**	**39.45**	**343**	*e*P		**P**	**12 46 14.1**	**-0.5**
	comp=Z,4.5nm,0.8s,mb4.2							
TZTN	**Tazewell**	**39.55**	**356**	*e*P		**P**	**12 46 14.4**	**-1.1**
	comp=Z,6.0nm,0.7s,mb4.4							
WMOK	**Wichita Mounta**	**41.42**	**337**	*e*P		**P**	**12 46 30.4**	**-0.5**
WMOK				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.2							
WMOK	**Wichita Mounta**	**41.42**	**337**	*e*P		**P**	**12 46 30.4**	**-0.6**
	comp=Z,6.6nm,1.1s,mb4.2							
AMTX	**Amarillo**	**42.75**	**334**	*e*P		**P**	**12 46 41.6**	**-0.2**
	comp=Z,9.8nm,1.0s,mb4.5							
AMTX				*e*PcP		PcP	12 48 32.5	0.0
BNM	**Barren Site**	**44.54**	**328**	*e*P		**P**	**12 46 56.0**	**-0.2**
BNM				*ep*P		pP	12 47 12.6	+1.2
KSU1	**Kansas State U**	**44.58**	**342**	*e*P		**P**	**12 46 56.2**	**-0.2**
	comp=Z,29nm,0.8s,mb5.2							
LAZ	**Ladron**	**45.00**	**328**	*e*P		**P**	**12 47 00.9**	**+1.0**
ANMO	**Albuquerque**	**45.08**	**329**	*e*P		**P**	**12 47 01.2**	**+0.8**
ANMO				*e**PP		pP	12 47 16.9	+1.2
ANMO				pmax		pmax		
	comp=Z,5.0nm,0.8s							
ANMO	**Albuquerque**	**45.08**	**329**	*e*P		**P**	**12 47 01.2**	**+0.7**
	comp=Z,5.4nm,0.8s,mb4.4							
ANMO				*ep*P		pP	12 47 16.9	+1.2
TUC	**Tucson**	**45.51**	**323**	*e*P		**P**	**12 47 04.1**	**+0.2**
TUC				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
TUC	**Tucson**	**45.51**	**323**	*e*P		**P**	**12 47 04.1**	**+0.2**
	comp=Z,2.2nm,0.8s,mb4.1							
JFWS	**Jewell Farm**	**46.66**	**350**	*e*P		**P**	**12 47 11.0**	**-1.8**
JFWS				*e**PP		pP	12 47 27.6	-0.5
JFWS				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.9							
JFWS	**Jewell Farm**	**46.66**	**350**	*e*P		**P**	**12 47 11.0**	**-1.8**
	comp=Z,9.0nm,0.6s,mb4.9							
JFWS				*ep*P		pP	12 47 27.6	-0.5
SDCO	**Great Sand Dun**	**46.84**	**333**	*e*P		**P**	**12 47 15.0**	**+0.7**
	comp=Z,4.2nm,0.9s,mb4.4							
SDCO				*ep*P		pP	12 47 31.0	+1.4
MVCO	**Mesa Verde**	**47.87**	**330**	*e*P		**P**	**12 47 22.9**	**+0.6**
	comp=Z,13nm,1.5s,mb4.8							
MVCO				*ep*P		pP	12 47 39.8	+2.2
MVCO				*e*PcP		PcP	12 48 50.3	+0.1
WUAZ	**Wupatki**	**48.14**	**326**	*e*P		**P**	**12 47 25.5**	**+1.1**
	comp=Z,10nm,0.9s,mb4.9							
WUAZ				*ep*P		pP	12 47 41.3	+1.5
WUAZ				*e*PcP		PcP	12 48 51.8	+0.6
ISCO	**Idaho Springs**	**48.57**	**334**	*e*P		**P**	**12 47 28.0**	**+0.3**
ISCO				*e**PP		pP	12 47 44.1	+1.1
ISCO				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.4							
ISCO	**Idaho Springs**	**48.57**	**334**	*e*P		**P**	**12 47 28.0**	**+0.3**
	comp=Z,3.7nm,1.1s,mb4.3							
ISCO				*ep*P		pP	12 47 44.1	+1.0
ECSD	**EROS,Sioux Fal**	**48.85**	**344**	*e*P		**P**	**12 47 28.5**	**-1.2**
	comp=Z,12nm,0.8s,mb5.0							
MSU	**Marysvale**	**50.76**	**328**	*e*P		**P**	**12 47 45.3**	**+1.0**
MSU				*e*			12 49 01.8	
RWWY	**Rawlins**	**50.81**	**334**	*e*P		**P**	**12 47 45.3**	**+0.6**
	comp=Z,7.0nm,0.9s,mb4.6							
RWWY				*ep*P		pP	12 48 01.0	+0.9
GSC	**Goldstone**	**51.22**	**321**	*e*P		**P**	**12 47 48.8**	**+1.0**
GSC				*e**PP		pP	12 48 04.9	+1.6
GSC				*e*			12 49 00.2	
GSC				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
GSC	**Goldstone**	**51.22**	**321**	*e*P		**P**	**12 47 48.8**	**+0.9**
	comp=Z,5.5nm,0.9s,mb4.5							
GSC				*ep*P		pP	12 48 04.9	+1.6
GSC				*e*PcP		PcP	12 49 00.2	-2.3
RSSD	**Black Hills**	**51.58**	**338**	*e*P		**P**	**12 47 50.8**	**+0.5**
RSSD				*e**PP		pP	12 48 06.6	+0.8
RSSD				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
RSSD	**Black Hills**	**51.58**	**338**	*e*P		**P**	**12 47 50.8**	**+0.4**
	comp=Z,4.5nm,0.8s,mb4.5							
RSSD				*ep*P		pP	12 48 06.6	+0.8
DAU	**Daniels Canyon**	**51.70**	**330**	*e*P		**P**	**12 47 52.3**	**+0.9**
DAU				*e*			12 49 04.2	
JLU	**Jordanelle**	**51.94**	**330**	*e*P		**P**	**12 47 53.9**	**+0.8**
TPNV	**Topopah Spring**	**51.96**	**323**	*e*P		**P**	**12 47 54.6**	**+1.2**
TPNV				*e**PP		pP	12 48 10.3	+1.4
TPNV				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.4							
TPNV	**Topopah Spring**	**51.96**	**323**	*e*P		**P**	**12 47 54.6**	**+1.2**
	comp=Z,2.3nm,0.4s,mb4.5							
TPNV				*ep*P		pP	12 48 10.3	+1.4
DUG	**Dugway**	**52.33**	**329**	*e*P		**P**	**12 47 56.8**	**+0.8**
DUG				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
DUG	**Dugway**	**52.33**	**329**	*e*P		**P**	**12 47 56.8**	**+0.8**
	comp=Z,2.7nm,0.7s,mb4.3							
PDAR	**Pinedale Array**	**52.72**	**333**	P		**P**	**12 47 58.5**	**-0.4**
	comp=Z,5.1nm,0.9s,mb4.5,baz=125,slow=8.2,SNR=40							
PDAR				PcP		PcP	12 49 07.5	-0.5
	comp=Z,2.0nm,0.9s,baz=145,slow=6.6,SNR=2.6							
HWUT	**Hardware Ranch**	**52.76**	**331**	*e*P		**P**	**12 47 59.4**	**+0.2**
	comp=Z,10nm,0.8s,mb4.8							
HWUT				*ep*P		pP	12 48 14.3	-0.4
HWUT				*e*PcP		PcP	12 49 08.0	-0.1
AGMN	**Agassiz Refuge**	**52.94**	**347**	*e*P		**P**	**12 47 59.7**	**-0.7**
	comp=Z,15nm,0.8s,mb5.0							
BGU	**Big Grassy Mou**	**52.98**	**329**	*e*P		**P**	**12 48 01.3**	**+0.4**
MTUM	**Tungsten Hills**	**53.62**	**322**	*e*P		**P**	**12 48 06.1**	**+0.5**
REDW	**Red Top Meadow**	**53.77**	**333**	*e*P		**P**	**12 48 06.7**	**+0.1**
	comp=Z,14nm,1.1s,mb4.8							
REDW				*ep*P		pP	12 48 23.4	+1.3
REDW				*es*P		sP	12 48 28.8	-0.1
LOHW	**Long Hollow**	**53.86**	**333**	*e*P		**P**	**12 48 07.0**	**-0.2**
	comp=Z,4.4nm,0.9s,mb4.4							
LOHW				*e*PcP		PcP	12 49 12.2	0.0
TPAW	**Teton Pass**	**53.92**	**333**	*e*P		**P**	**12 48 07.8**	**+0.2**
	comp=Z,5.9nm,0.8s,mb4.6							
RRI2	**Red Ridge**	**53.98**	**332**	*e*P		**P**	**12 48 08.6**	**+0.5**
	comp=Z,12nm,0.8s,mb4.9							
MOOW	**Moose Ponds**	**54.03**	**333**	*e*P		**P**	**12 48 08.4**	**0.0**
	comp=Z,4.4nm,1.0s,mb4.3							
NVAR	**Mina Array Bea**	**54.16**	**323**	P		**P**	**12 48 10.5**	**+1.0**
	comp=Z,4.4nm,0.7s,mb4.5,baz=141,slow=7.0,SNR=37							
NVAR				PcP		PcP	12 49 14.0	+0.5
	comp=Z,1.0nm,0.6s,baz=148,slow=3.7,SNR=2.2							
NVAR	**Mina Array Bea**	**54.16**	**323**	P		**P**	**12 48 10.5**	**+1.0**
NVAR				PcP		PcP	12 49 14.0	+0.5
IMW	**Indian Meadow**	**54.23**	**333**	*e*P		**P**	**12 48 10.0**	**+0.1**
	comp=Z,4.7nm,0.8s,mb4.5							
IMW				*ep*P		pP	12 48 27.3	+1.8
IMW				*e*PcP		PcP	12 49 13.8	+0.2
FLWY	**Flagg Ranch**	**54.27**	**333**	*e*P		**P**	**12 48 10.5**	**+0.3**
	comp=Z,12nm,1.1s,mb4.8							
FLWY				*e*PP		PP	12 50 12.5	-0.1
RLMT	**Red Lodge**	**54.47**	**335**	*e*P		**P**	**12 48 11.3**	**-0.4**
	comp=Z,1.6nm,0.4s,mb4.3							
ULM	**Lac du Bonnet**	**54.79**	**348**	P		**P**	**12 48 13.0**	**-0.8**
	comp=Z,9.6nm,0.6s,mb5.0,baz=160,slow=7.8,SNR=19							
GCMT	**Greycliff**	**55.18**	**335**	*e*P		**P**	**12 48 16.9**	**+0.2**
GCMT				*ep*P		pP	12 48 33.1	+0.8
GCMT				*e*PcP		PcP	12 49 17.4	+0.2
QLMT	**Earthquake Lak**	**55.18**	**333**	*e*P		**P**	**12 48 17.9**	**+1.1**
HLID	**Hailey**	**55.62**	**330**	P		**P**	**12 48 20.1**	**+0.1**
MCMT	**McKenzie Canyo**	**55.82**	**333**	*e*P		**P**	**12 48 22.0**	**+0.6**
BOZ	**Bozeman (W)**	**55.90**	**334**	*e*P		**P**	**12 48 21.9**	**0.0**
BOZ				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.6							
BOZ	**Bozeman (W)**	**55.90**	**334**	*e*P		**P**	**12 48 21.9**	**-0.1**
	comp=Z,6.7nm,1.1s,mb4.6							
DLMT	**Dillon**	**56.11**	**333**	*e*P		**P**	**12 48 23.2**	**-0.2**
	comp=Z,4.9nm,1.0s,mb4.5							
WVOR	**Wild Horse Val**	**57.02**	**327**	P		**P**	**12 48 29.7**	**-0.2**
MOD	**Modoc**	**57.59**	**325**	*e*P		**P**	**12 48 34.0**	**0.0**
	comp=Z,4.7nm,0.7s,mb4.6							
MOD				*ep*P		pP	12 48 49.9	+0.1
MOD				*es*P		sP	12 48 56.1	-0.3
MOD				*e*PP		PP	12 50 36.4	-6.0
CHMT	**Chamberlain Mo**	**57.60**	**334**	*e*P		**P**	**12 48 34.4**	**+0.5**
LTIM	**Timbered Crate**	**57.81**	**324**	P		**P**	**12 48 35.8**	**+0.2**
MSO	**Missoula**	**57.84**	**333**	*e*P		**P**	**12 48 35.7**	**+0.1**
	comp=Z,9.2nm,1.3s,mb4.7							
WDC	**Whiskeytown Da**	**58.06**	**323**	*e*P		**P**	**12 48 35.5**	**-1.8**
WDC				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.6							
WDC	**Whiskeytown Da**	**58.06**	**323**	*e*P		**P**	**12 48 35.5**	**-1.8**
	comp=Z,3.7nm,0.7s,mb4.5							
KIPM	**Iron Peak**	**58.17**	**322**	*e*P		**P**	**12 48 38.9**	**+0.8**
LHEM	**Herd Peak**	**58.52**	**324**	P		**P**	**12 48 40.4**	**-0.1**
SCHQ	**Schefferville**	**58.82**	**9**	P		**P**	**12 48 40.4**	**-1.9**
	comp=Z,2.7nm,0.9s,mb4.3,baz=182,slow=8.0,SNR=2.9							
SCHQ				LR		LR	13 10 36.5	
	comp=Z,80nm,21.4s,MS3.8,baz=118,slow=32							
SCHQ	**Schefferville**	**58.82**	**9**	P		**P**	**12 48 40.4**	**-1.9**
SCHQ				LR		LR	13 10 36.5	
YBH	**Yreka Blue Hor**	**58.87**	**324**	*e*P		**P**	**12 48 42.1**	**-0.8**
YBH				pmax		pmax		
	comp=Z,7.0nm,0.8s							
YBH	**Yreka Blue Hor**	**58.87**	**324**	*e*P		**P**	**12 48 42.1**	**-0.9**
	comp=Z,6.6nm,0.8s,mb4.7							
BUOR	**Burton Butte**	**58.94**	**325**	P		**P**	**12 48 43.8**	**+0.3**
LNOR	**Lincton Mounta**	**59.20**	**330**	*e*P		**P**	**12 48 45.0**	**-0.1**
KTRM	**Thompson Ridge**	**59.37**	**324**	P		**P**	**12 48 46.5**	**+0.1**
KRMB	**Red Mountain**	**59.45**	**323**	*e*P		**P**	**12 48 47.5**	**+0.6**
HUMO	**Hull Mountain**	**59.56**	**325**	*e*P		**P**	**12 48 46.9**	**-0.8**
	comp=Z,3.3nm,0.9s,mb4.4							
IRO	**Indian Ridge**	**60.04**	**326**	P		**P**	**12 48 51.0**	**+0.1**
KBO	**Bosley Butte**	**60.06**	**324**	*e*P		**P**	**12 48 52.0**	**+0.9**
KEBM	**Edson Butte**	**60.52**	**324**	*e*P		**P**	**12 48 55.3**	**+1.1**
HOOD	**Mount Hood Mea**	**60.56**	**328**	P		**P**	**12 48 54.7**	**+0.2**
	comp=Z,8.8nm,0.8s,mb4.9							
WTV	**Waterville**	**61.29**	**331**	P		**P**	**12 48 59.8**	**+0.4**
ETW	**Entiat**	**61.41**	**330**	*e*P		**P**	**12 49 01.1**	**+0.9**
LON	**Longmire**	**61.59**	**329**	*e*P		**P**	**12 49 00.9**	**-0.5**
LON				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.6							
LON	**Longmire**	**61.59**	**329**	*e*P		**P**	**12 49 00.9**	**-0.5**
	comp=Z,4.7nm,0.9s,mb4.6							
RPW	**Rockport**	**62.57**	**330**	*e*P		**P**	**12 49 07.7**	**-0.2**
NLWA	**Neilton Lookou**	**63.07**	**328**	*e*P		**P**	**12 49 12.0**	**+0.7**
	comp=Z,3.1nm,0.6s,mb4.6							
YKA	**Yellowknife Ar**	**70.38**	**344**	P		**P**	**12 49 56.4**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.2,baz=144,slow=6.3,SNR=10							
YKA				pP		pP	12 50 12.6	-1.1
	comp=Z,1.2nm,0.6s,baz=141,slow=6.0,SNR=4.3							
YKA				LR		LR	13 24 21.6	
	comp=Z,39nm,19.0s,MS3.7,baz=55,slow=39							
YKA	**Yellowknife Ar**	**70.38**	**344**	P		**P**	**12 49 56.4**	**-1.1**
YKA				**PP		pP	12 50 12.6	-1.1
YKA	**Yellowknife Ar**	**70.38**	**344**	P		**P**	**12 49 56.4**	**-1.1**
YKA				pP		pP	12 50 12.6	-1.1
YKA				LR		LR	13 24 21.6	
LIC	**Lamto**	**75.82**	**83**	*e*P		**P**	**12 50 38.8**	**+8.1**
	comp=Z,95nm,2.0s,mb5.4							
TIC	**Toumodi**	**75.86**	**82**	*e*P		**P**	**12 50 39.4**	**+8.5**
	comp=Z,81nm,0.2s							
DBIC	**Dimbokro**	**76.02**	**82**	P		**P**	**12 50 31.8**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.3,baz=272,slow=5.8,SNR=3.6							
DBIC				pP		pP	12 50 45.7	-2.5
	comp=Z,8.6nm,0.8s,baz=240,slow=5.1,SNR=3.5							
DBIC				LR		LR	13 25 08.7	
	comp=Z,58nm,18.6s,MS3.9,baz=330,slow=37							
DBIC	**Dimbokro**	**76.02**	**82**	P		**P**	**12 50 31.8**	**-0.1**
DBIC				**PP		pP	12 50 45.7	-2.5
KIC	**Kosan Boka**	**76.11**	**83**	*e*P		**P**	**12 50 40.6**	**+8.2**
	comp=Z,142nm,1.2s,mb5.8							
EVO	**Evora**	**78.25**	**50**	*e*P		**P**	**12 50 43.1**	**-0.7**
	comp=Z,9.3nm,0.8s,mb4.5							
EVO				*e*MLR		MLR		
	comp=Z,86nm,18.8s,MS3.8							
MDT	**Midelt**	**79.77**	**56**	pP		pP	12 51 05.8	-3.0
	comp=Z,1.2nm,0.8s,baz=274,slow=6.7,SNR=2.6							
EGAK	**Eagle**	**80.77**	**338**	*e*P		**P**	**12 50 56.6**	**-0.3**
	comp=Z,14nm,1.1s,mb4.8							
EGAK				*ep*P		pP	12 51 11.3	-2.1
VNA3	**Neumayer Olymp**	**80.94**	**162**	*e*		**P**	**12 50 57.4**	**-0.4**
VNA3				*e*		pP	12 51 12.0	-2.3
VNA1	**Neumayer--Stat**	**81.21**	**161**	*e*		**P**	**12 50 59.2**	**0.0**
VNA1				*e*		pP	12 51 14.2	-1.5

WRA	**Warramunga Arr**	**138.92**	**235**	PKhKP		12 58 00.5	
	comp=Z,0.5nm,0.6s,baz=118,slow=2.8,SNR=6.9						
WRA				PKP	PKPdf	12 58 08.7	-2.2
	comp=Z,3.5nm,0.8s,baz=113,slow=2.0,SNR=28						
WRA				pPKP	pPKPdf	12 58 24.8	-3.4
	comp=Z,3.3nm,0.8s,baz=113,slow=1.8,SNR=9.3						
KAKA	**Kakadu**	**143.80**	**244**	*e*P	PKPdf	12 58 15.7	-4.1
	comp=Z,4.6nm,0.6s						
GTA	**Gaotai**	**143.86**	**360**	PKP	PKiKP	12 58 29.8	+7.1
FITZ	**Fitzroy Crossi**	**146.80**	**230**	*e*P	PKPdf	12 58 23.9	-0.9
	comp=Z,12nm,0.8s						
FITZ				*e*		12 58 39.6	
LZH	**Lanzhou**	**146.95**	**354**	*e*PKP	PKPdf	12 58 27.0	+2.4
LZH				PP	PP		
	comp=Z,130nm,4.0s						
XAN	**Xi'an**	**148.02**	**345**	PKP	PKPdf	12 58 28.8	+2.3
XAN				PP	PP		
	comp=Z,86nm,4.6s						
CMAR	**Chiang Mai Arr**	**164.73**	**2**	PKP	PKPdf	12 58 47.1	-1.3
	comp=Z,0.6nm,0.3s,baz=31,slow=16,SNR=4.2						
CMAR				pPKP	pPKPdf	12 59 02.4	-3.4
	comp=Z,0.9nm,0.5s,baz=324,slow=0.9,SNR=2.3						
CMAR				PKPab	PKPab	12 59 42.4	-1.5
	comp=Z,2.1nm,0.8s,baz=337,slow=5.7,SNR=6.8						
CMAR				pPKPab	pPKPab	12 59 55.9	-4.8
	comp=Z,0.7nm,0.4s,baz=339,slow=4.8,SNR=2.7						
CMAR	**Chiang Mai Arr**	**164.73**	**2**	PKIKP	PKPdf	12 58 47.1	-1.3
CMAR						12 59 02.4	
CMAR						12 59 42.4	

CSEM ***15*** *12:52:13.7±0.3, 37.19N×2787E, h25km, MD2.7, Error ellipse: s-maj=10.3km s-min=6.4km az=167.0*
ISK ***15*** *12:52:14.9, 37.20N×2789E, h15km, MD2.7*
ISCJB ***15*** *12:52:15.1±0.6, 37.15N±005×2791E±004, h15km±5km, Error ellipse: s-maj=7.9km s-min=4.9km az=11.3*
DDA ***15*** *12:52:17.9, 37.34N×2757E, h7km±7km, Md2.8*
ISC 15 12:52:15.5±1.2, 3715N±005×2792E±004, h12km±17km, n7, σ1°07/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.18**	**322**	*e*PG	**Pg**	**12 52 18.7**	**-0.9**
MLSB				*e*SG	**Sg**	**12 52 21.6**	**-0.8**
YER	**Yerkesik**	**0.29**	**93**	*e*PG	**Pg**	**12 52 22.0**	**+0.5**
YER				*e*SG	**Sg**	**12 52 27.1**	**+1.6**
BDRM	**Kayabasi**	**0.39**	**257**	*i* P	**Pg**	**12 52 22.7**	**-0.5**
BDRM				*i* S	**Sg**	**12 52 29.4**	**+1.0**
BODT	**Bodrum**	**0.49**	**260**	*e*PG	**Pg**	**12 52 24.5**	**-0.7**
BODT				*e*SG	**Sg**	**12 52 32.5**	**+0.8**
AYDN	**Tasoluk**	**0.51**	**356**	*i* P	**Pg**	**12 52 25.6**	**+0.1**
AYDN				*i* S	**Sg**	**12 52 32.8**	**+0.5**
TURN	**Turunc**	**0.61**	**117**	*i* P	**Pg**	**12 52 25.4**	**-2.1**
TURN				*i* S	**Sg**	**12 52 34.1**	**-1.4**
DALT	**Dalyan (Mudla)**	**0.69**	**123**	*e*PG	**Pg**	**12 52 30.4**	**+1.6**

IDC ***15*** *13:01:39.0±0.7, 069N×2933W, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/23, mbtmp4.1/10, MS3.7/7, Ms1 3.7/7, ms1mx3.4/19, Error ellipse: s-maj=35.2km s-min=15.2km az=143.0*
ISCJB ***15*** *13:01:39.1±0.6, 07N±02×293W±0.1, h10km, mb4.1/11, MS3.6/7, Error ellipse: s-maj=28.4km s-min=11.4km az=143.6*
NEIC ***15*** *13:01:40.9±0.6, 085N×2944W, h10km, mb4.6/1, Error ellipse: s-maj=27.6km s-min=12.8km az=144.0*
ISC 15 13:01:40.9±0.6, 07N±02×293W±01, h10km, n19, σ0°81/14, mb4.1/11, MS3.6/7, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**24.61**	**228**	P	**P**	**13 07 00.7**	**-0.9**
	3.0nm,0.8s,mb3.9,baz=51,slow=25,SNR=5.2						
BDFB				LR	LR	13 15 47.7	
	comp=Z,90nm,19.1s,MS3.3,baz=285,slow=34						
DBIC	**Dimbokro**	**25.10**	**76**	P	**P**	**13 07 06.2**	**+0.2**
	12nm,0.9s,mb4.4,baz=235,slow=13,SNR=7.6						
DBIC	**Dimbokro**	**25.10**	**76**	*e*P	**P**	**13 07 06.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**33.10**	**67**	P	**P**	**13 08 17.4**	**+0.1**
	0.9nm,0.6s,mb3.9,baz=259,slow=9.4,SNR=5.8						
TORD				LR	LR	13 21 46.5	
	comp=Z,64nm,19.4s,MS3.3,baz=270,slow=36						
SIV	**San Ignacio**	**35.48**	**241**	P	**P**	**13 08 37.4**	**-0.6**
	3.8nm,0.9s,mb4.3,baz=80,slow=10,SNR=17						
CPUP	**Villa Florida**	**38.12**	**223**	LR	LR	13 24 18.4	
	comp=Z,246nm,21.5s,MS4.0,baz=41,slow=36						
MDT	**Midelt**	**39.50**	**34**	P	**P**	**13 09 12.0**	**+0.2**
	1.7nm,0.7s,mb3.9,baz=226,slow=7.2,SNR=5.5						
LPAZ	**La Paz**	**41.87**	**244**	P	**P**	**13 09 32.1**	**+0.5**
	3.2nm,0.9s,mb4.0,baz=47,slow=7.3,SNR=11						
LPAZ				LR	LR	13 26 31.8	
	comp=Z,66nm,18.1s,MS3.5,baz=237,slow=36						
ESDC	**Sonseca Array**	**45.15**	**28**	P	**P**	**13 09 58.7**	**+0.9**
	1.3nm,0.7s,mb3.9,baz=225,slow=8.5,SNR=12						
LCO	**Las Campanas**	**49.38**	**230**	*e*P	**P**	**13 10 32.2**	**+1.3**
PLCA	**Paso Flores**	**55.71**	**217**	LR	LR	13 37 34.8	
	comp=Z,74nm,19.0s,MS3.8,baz=3.3,slow=39						
LBTB	**Lobatse**	**58.91**	**120**	*e*P	**P**	**13 11 44.8**	**+4.2**
	5.0nm,0.9s,mb4.5						
BOSA	**Boshof**	**59.74**	**124**	P	**P**	**13 11 46.2**	**-0.1**
	3.5nm,0.9s,mb4.4,baz=315,slow=2.9,SNR=3.7						
BOSA	**Boshof**	**59.74**	**124**	P	**P**	**13 11 46.2**	**-0.1**
GERES	**GERESS Array B**	**60.51**	**31**	P	**P**	**13 11 51.1**	**-0.1**
	0.7nm,0.6s,mb3.9,baz=218,slow=6.3,SNR=4.5						
AKASG	**Malin Array Be**	**70.03**	**35**	P	**P**	**13 12 51.2**	**-1.7**
	4.3nm,0.9s,mb4.4,baz=244,slow=6.4,SNR=8.1						
ARCES	**ARCESS Array B**	**77.63**	**17**	LR	LR	13 42 15.3	
	comp=Z,33nm,19.2s,MS3.7,baz=86,slow=31						
PDAR	**Pinedale Array**	**82.36**	**313**	LR	LR	13 44 00.6	
	comp=Z,59nm,19.5s,MS4.0,baz=329,slow=31						
ASAR	**Alice Springs**	**151.96**	**146**	PKPbc	PKPbc	13 21 36.8	-0.4
	0.4nm,0.5s,baz=204,slow=3.7,SNR=4.5						

IDC 15 13:29:58.5±1.8, 004N×12569E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=117.3km s-min=25.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.03**	**180**	*e*P	Pn	13 34 11.7	+1.0
	8.0nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.03**	**180**	P	Pn	13 34 11.6	+0.9
	0.1nm,0.3s,baz=10,0.slow=15,SNR=5.1						
WRA	**Warramunga Arr**	**21.59**	**157**	P	P	13 34 49.6	-0.5
	1.7nm,0.9s,baz=334,slow=11,SNR=16						
WB2	**Warramunga Arr**	**21.59**	**157**	*e*P	P	13 34 47.7	-2.4
ASAR	**Alice Springs**	**24.88**	**162**	P	P	13 35 23.2	+0.2
	0.4nm,0.5s,baz=346,slow=7.2,SNR=5.9						
MKAR	**Makanchi Array**	**60.02**	**327**	P	P	13 40 07.1	0.0
	0.6nm,0.4s,baz=138,slow=8.5,SNR=4.9						

ISCJB ***15*** *14:07:31.7±0.5, 3932N±003×2826E±005, h5km±9km, Error ellipse: s-maj=6.6km s-min=4.4km az=156.2*
ISK ***15*** *14:07:31.4, 3933N×2830E, h8km, MD2.7*
CSEM ***15*** *14:07:31.2±0.1, 3932N×2828E, h12km, MD2.7, Error ellipse: s-maj=3.0km s-min=2.3km az=90.0*
DDA ***15*** *14:07:31.9, 3930N×2823E, h7km±4km, Md2.8*
ISC 15 14:07:32.0±0.5, 3932N±003×2826E±004, h15km±9km, n12, σ0°53/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.41**	**45**	*e*PG	**Pg**	**14 07 39.5**	**-0.7**
BALB	**Balikesir**	**0.44**	**318**	*e*PG	**Pg**	**14 07 41.2**	**+0.5**
BALB				*e*SG	**Sg**	**14 07 47.7**	**+1.1**
DEMI	**Demirci**	**0.45**	**127**	*i* P	**Pg**	**14 07 40.9**	**0.0**
DEMI				*i* S	**Sg**	**14 07 47.3**	**+0.4**
AKHS	**Akhisar**	**0.56**	**218**	*i* P	**Pg**	**14 07 42.0**	**-1.0**
AKHS				*i* S	**Sg**	**14 07 50.1**	**-0.2**
AKS	**Akhisar**	**0.56**	**219**	*e*PG	**Pg**	**14 07 42.7**	**-0.2**
BALY	**Balya**	**0.65**	**311**	*i* P	**Pg**	**14 07 45.0**	**+0.3**
BALY				*i* S	**Sg**	**14 07 53.2**	**-0.1**
BALY	**Balya**	**0.65**	**311**	*i* P	**Pg**	**14 07 45.0**	**+0.3**
BALY				*i* S	**Sg**	**14 07 53.2**	**-0.1**
KULA	**Kula-Manisa**	**0.86**	**158**	*e*PG	**Pg**	**14 07 48.6**	**-0.1**
KCT	**Karacabey**	**0.95**	**5**	*e*PG	**Pg**	**14 07 49.6**	**-0.8**
KCT				*e*SG	**Sg**	**14 08 02.3**	**-0.6**
GDZ	**Gediz**	**0.98**	**103**	*i* P	**Pg**	**14 07 51.5**	**+0.6**
GDZ				*i* S	**Sg**	**14 08 03.9**	**+0.2**
ULDT	**Uludag**	**1.07**	**39**	*i* P	**Pb**	**14 07 52.3**	**+0.2**
ULDT				*i* S	**Sb**	**14 08 05.5**	**-0.4**
YLV	**Yalova**	**1.52**	**34**	*e*PN	**Pn**	**14 07 59.1**	**+0.5**

IDC 15 14:44:55.4±3.6, 1064N×9170E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, Error ellipse: s-maj=140.2km s-min=24.7km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.90**	**349**	P	P	14 52 05.6	-0.1
	0.3nm,0.6s,baz=159,slow=4.5,SNR=3.0						
SONM	**Songino Array**	**39.08**	**16**	P	P	14 52 24.5	+0.3
	0.2nm,0.3s,baz=200,slow=7.3,SNR=4.5						
WRA	**Warramunga Arr**	**51.82**	**126**	P	P	14 54 05.0	-0.5
	0.5nm,0.7s,baz=306,slow=8.3,SNR=6.2						
ASAR	**Alice Springs**	**53.53**	**130**	P	P	14 54 18.6	+0.4
	0.2nm,0.8s,baz=310,slow=6.9,SNR=6.1						

JMA ***15*** *14:51:21.1±0.5, 4691N×14168E, h0km, M3.2*
SKHL ***15*** *14:51:22.0±0.3, 4680N×14170E, h10km, mb3.7/1*
ISC 15 14:51:21.7±3.4, 470N±02×1416E±02, h10km, n4, σ0°52/6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.77**	**90**	*e*Pg	**Pg**	**14 51 36.0**	**-0.6**
YSS				AMB	AMB	14 51 38.0	
	50nm,0.3s						
YSS				*e*Sg	**Sg**	**14 51 47.0**	**+0.3**
YSS				A		14 51 48.4	
	600nm,0.3s						
JWK2	**Keihoku**	**1.66**	**173**	P	**Pn**	**14 51 50.8**	**0.0**
JWK2				*e*S	**Sn**	**14 52 11.8**	**-0.3**
JKK2	**Kamakawa 2**	**3.19**	**165**	P	**Pn**	**14 52 12.3**	**+0.4**
JMP	**Maruseppu**	**3.20**	**157**	P	**Pn**	**14 52 12.2**	**+0.2**

IDC ***15*** *15:03:20.5±0.9, 3730S×7520W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.8/16, mbtmp3.7/8, MS3.3/2, Ms1 3.2/2, ms1mx2.8/16, Error ellipse: s-maj=38.8km s-min=19.8km az=80.0*
NEIC ***15*** *15:03:21.9±0.6, 3728S×75.12W, h10km, MD3.8(GUC), Error ellipse: s-maj=11.6km s-min=7.6km az=118.0*
ISCJB ***15*** *15:03:23.4±1.8, 3722S±004×7507W±006, h30km±14km, mb3.7/7, Error ellipse: s-maj=9.5km s-min=5.5km az=32.7*
GUC ***15*** *15:03:24.3±0.5, 3737S×7499W, h120km±22km, MD3.8, ML4.2*
ISC 15 15:03:24.4±1.9, 3726S±004×7504W±007, h23km±14km, n33, σ0°94/44, mb3.7/7, 5C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**2.13**	**59**	*i* P	**Pn**	**15 03 56.7**	**-1.9**
COCH				*i* S	**Sn**	**15 04 23.6**	**-0.7**
TMU	**Temuco**	**2.42**	**128**	*i* P	**Pn**	**15 04 02.2**	**-0.3**
TMU				*i* S	**Sn**	**15 04 30.5**	**-1.0**
CCHI	**Chillan**	**2.46**	**75**	*i* P	**Pn**	**15 04 03.7**	**+0.6**
CCHI				*i* S	**Sn**	**15 04 34.0**	**+1.5**
CCHI				AML	AML	15 04 37.5	
	comp=N,807nm,0.5s						
CCHI	**Chillan**	**2.46**	**75**	*i* P	**Pn**	**15 04 03.7**	**+0.6**
CCHI				*i* S	**Sn**	**15 04 34.0**	**+1.5**
CNCO	**Chanco**	**2.53**	**54**	*i* P	**Pn**	**15 04 03.9**	**-0.2**
CNCO				*i* S	**Sn**	**15 04 34.9**	**+0.8**
LNCH	**Linares**	**3.11**	**64**	↑*i* P	**Pn**	**15 04 12.5**	**+0.5**
LNCH				*i* S	**Sn**	**15 04 49.3**	**+0.9**
LNCH				AML	AML	15 04 53.9	
	comp=N,480nm,0.8s						
LNCH	**Linares**	**3.11**	**64**	↑*i* P	**Pn**	**15 04 12.5**	**+0.5**
LNCH				*i* S	**Sn**	**15 04 49.3**	**+0.9**
SFDO	**San Fernando**	**4.20**	**52**	↑*i* P	**Pn**	**15 04 20.6**	**-1.0**
SFDO				*i* S	**Sn**	**15 05 14.2**	**-1.2**
CICH	**Cipreses**	**4.77**	**53**	↓*i* P	**Pn**	**15 04 35.6**	**+0.9**
CICH				*i* S	**Sn**	**15 05 29.6**	**+0.3**
CACH	**El Canelo**	**4.79**	**60**	↑*i* P	**Pn**	**15 04 36.1**	**+1.0**
CACH				*i* S	**Sn**	**15 05 30.4**	**+0.7**
PLCA	**Paso Flores**	**4.92**	**136**	Pn	**Pn**	**15 04 37.3**	**+0.4**
	comp=N,0.9nm,0.3s,baz=298,slow=12,SNR=22						
PLCA				Sn	**Sn**	**15 05 38.4**	**+5.3**
	comp=N,3.8nm,0.3s,baz=220,slow=24,SNR=7.3						
PLCA				LR	LR	15 06 29.9	
	comp=N,176nm,21.3s,baz=324,slow=38						
RCDM	**Rinconada Maip**	**5.11**	**44**	*i* P	**Pn**	**15 04 40.0**	**+0.4**
RCDM				*i* S	**Sn**	**15 05 37.5**	**-0.3**
PCH	**Pirque**	**5.18**	**47**	↓*i* P	**Pn**	**15 04 39.8**	**-0.7**
PCH				*i* S	**Sn**	**15 05 38.0**	**-1.6**
LMEL	**Las Melosas**	**5.21**	**51**	*e*P	**Pn**	**15 04 41.3**	**+0.4**
LMEL				*i* S	**Sn**	**15 05 40.7**	**+0.4**
FCH	**Farellones**	**5.52**	**46**	↑*i* P	**Pn**	**15 04 44.6**	**-0.6**
FCH				*i* S	**Sn**	**15 05 47.1**	**-0.8**
LCO	**Las Campanas**	**9.00**	**25**	*e*Pn	**Pn**	**15 05 29.8**	**-3.1**
CPUP	**Villa Florida**	**18.55**	**59**	P	**Pn**	**15 07 42.8**	**+2.9**
	comp=N,0.3nm,0.3s,baz=229,slow=5.8,SNR=3.0						
LPAZ	**La Paz**	**21.77**	**18**	P	**P**	**15 08 16.4**	**+1.9**
	comp=N,1.0nm,0.6s,mb3.4,baz=202,slow=8.4,SNR=4.1						
LPAZ	**La Paz**	**21.77**	**18**	*e*P	**P**	**15 08 16.1**	**+1.6**
	comp=N,1.4nm,0.9s,mb3.4						
VNA2	**Neumayer--Watz**	**48.00**	**156**	*e*	**P**	**15 12 01.3**	**+0.3**
VNA2				*e*	pP	15 12 07.8	-0.3
SNAA	**Sanae**	**49.53**	**157**	*e*	**P**	**15 12 12.8**	**+0.1**
SNAA				*e*	pP	15 12 19.2	-0.7
SNAA	**Sanae**	**49.53**	**157**	P	**P**	**15 12 12.5**	**-0.3**
	comp=N,1.1nm,0.8s,mb3.9,baz=249,slow=5.3,SNR=11						
SNAA	**Sanae**	**49.53**	**157**	*e*P	**P**	**15 12 12.7**	**0.0**
QSPA	**South Pole Qui**	**52.98**	**180**	P	**P**	**15 12 38.1**	**-0.4**
	comp=N,0.5nm,0.5s,mb3.7,baz=215,slow=6.5,SNR=9.5						
QSPA	**South Pole Qui**	**52.98**	**180**	P	**P**	**15 12 38.1**	**-0.4**
VNDA	**Vanda**	**60.42**	**192**	P	**P**	**15 13 31.3**	**-0.1**
	comp=N,0.6nm,0.9s,mb3.6,baz=162,slow=3.2,SNR=3.4						
PPT	**Papeete**	**67.43**	**265**	LR	LR	15 36 56.4	
	comp=N,31nm,18.5s,baz=96,slow=30						
NVAR	**Mina Array Bea**	**85.23**	**327**	P	**P**	**15 15 59.0**	**+0.2**
	comp=N,0.3nm,0.7s,mb3.5,baz=178,slow=6.3,SNR=2.7						
PDAR	**Pinedale Array**	**85.63**	**335**	P	**P**	**15 16 01.0**	**+0.3**
	comp=N,0.5nm,0.9s,mb3.8,baz=150,slow=6.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**87.59**	**72**	P	**P**	**15 16 10.2**	**-0.7**
	comp=N,0.3nm,0.5s,mb3.8,baz=225,slow=4.0,SNR=2.6						
AKTK	**Aktyubinsk**	**144.27**	**53**	PKP	PKPdf	15 22 55.9	-1.9
AKTO	**Aktyubinsk**	**144.27**	**53**	PKP	PKPdf	15 22 55.9	-1.9
	comp=N,2.9nm,0.8s,baz=288,slow=2.2,SNR=8.0						
ZALV	**Zalesovo Beam**	**158.29**	**33**	PKPab	PKPab	15 23 53.6	+0.4
	comp=N,1.0nm,0.3s,baz=289,slow=4.5,SNR=4.0						

MOS ***15*** *15:08:45.0±2.5, 5625N×16279E, h28km, mb4.2/1, Error ellipse: s-maj=32.6km s-min=13.4km az=73.2*
KRSC 15 15:08:45.1±0.5, 5627N×16281E, h11km±10km, ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.06**	**175**	*i* P	Pg	15 08 48.7	+1.4
SRKR	**Sorokina**	**0.99**	**294**	*i* P	Pg	15 09 03.6	-0.5
SRKR				*i* S	Sg	15 09 17.8	+0.8
ZLN	**Zelenaya**	**1.15**	**258**	*i* P	Pb	15 09 07.6	+0.6
ZLN				*i* S	Sb	15 09 23.9	+2.0
KLY	**Klyuchi**	**1.20**	**273**	*i* P	Pn	15 09 05.7	-2.1
KLY				*i* S	Sb	15 09 21.1	-2.3
KRSR	**Krestovskiy**	**1.25**	**269**	*i* P	Pn	15 09 08.4	-0.1
KRSR				*i* S	Sb	15 09 25.2	+0.4
BZMR	**Bezymyannaya**	**1.34**	**256**	*i* P	Pn	15 09 10.6	+0.9
BZMR				*i* S	Sb	15 09 28.6	+1.2
KPT	**Kopyto**	**1.48**	**259**	*e*P	Pn	15 09 12.9	+1.3
KPT				*i* S	Sn	15 09 33.0	+2.1
KMNR	**Kamenistaya**	**1.53**	**251**	*e*P	Pn	15 09 14.3	+1.9
KMNR				*i* S	Sn	15 09 35.7	+3.5
KOZR	**Kozyr**	**1.64**	**264**	PN	Pn	15 09 15.4	+1.6
KOZR				S	Sn	15 09 37.9	+3.0
KOZ	**Kozyrevsk**	**1.66**	**264**	*i* P	Pn	15 09 15.4	+1.4
KOZ				*i* S	Sn	15 09 37.9	+2.6
SRDR	**Sredinnyy**	**1.73**	**273**	*i* P	Pn	15 09 15.9	+0.9
SRDR				*i* S	Sn	15 09 38.1	+1.1
TUMR	**Tumrok**	**1.80**	**238**	*i* P	Pn	15 09 18.2	+2.2
TUMR				*i* S	Sn	15 09 41.8	+3.0
MKZ	**Mys Kozlova**	**1.82**	**200**	*e*P	Pn	15 09 17.6	+1.3
MKZ				*i* S	Sn	15 09 41.1	+1.7
SPN	**Mys Shipunski**	**3.57**	**208**	*e*P	Pn	15 09 40.6	+0.3
SPN				*i* S	Sn	15 10 22.4	0.0
NLC	**Nalytchevo**	**3.70**	**214**	*e*P	Pn	15 09 43.7	+1.6
NLC				*i* S	Sn	15 10 26.8	+1.2
GNL	**Ganaly**	**3.81**	**229**	*e*P	Pn	15 09 46.3	+2.7
AVH	**Avacha**	**3.83**	**220**	P	Pn	15 09 46.9	+3.1
AVH				*i* S	Sn	15 10 32.5	+3.8
PET	**Petropavlovsk**	**4.05**	**218**	*e*PN	Pn	15 09 50.0	+3.1
PET				*e*S	Sn	15 10 37.5	+3.2
PET				pmax	pmax		
	comp=Z,32nm,0.6s						
PET				smax			
	comp=E,66nm,0.8s						
PET				smax			
	comp=N,81nm,0.7s						
PET	**Petropavlovsk**	**4.05**	**218**	*e*P	Pn	15 09 49.5	+2.6
PET				*i* S	Sn	15 10 35.9	+1.6
RUS	**Russkaya**	**4.59**	**215**	*e*P	Pn	15 09 56.9	+2.5
RUS				*e*S	Sn	15 10 48.9	+1.2

IDC ***15*** *15:11:43.4±2.6, 3551N×14106E, h0km, mb3.4/3, mb1 3.4/5, mb1mx3.3/22, mbtmp3.3/5, ML3.0/2, Error ellipse: s-maj=63.2km s-min=21.7km az=57.0*
ISCJB ***15*** *15:11:48.6±0.5, 3540N±003×14060E±005, h37km±6km, mb3.3/3, Error ellipse: s-maj=7.2km s-min=5.3km az=174.7*
JMA ***15*** *15:11:49.3±0.1, 3544N×14053E, h29km±1km, M2.9*
JMA Felt I J1.
ISC 15 15:11:49.1±0.5, 3540N±003×14059E±005, h32km±3km, n15, σ0°89/26, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.32**	**273**	P	**Pb**	**15 11 56.7**	**-0.2**
JCN				S	**Sb**	**15 12 02.5**	**+0.2**
KTR	**Katsuura**	**0.34**	**222**	P	**Pb**	**15 11 56.8**	**-0.4**
KTR				S	**Sb**	**15 12 02.3**	**-0.4**
CHOJ	**Chosi**	**0.37**	**36**	P	**Pb**	**15 11 57.6**	**-0.1**
CHOJ				S	**Sb**	**15 12 03.5**	**-0.1**
BSO4	**Boso 4**	**0.46**	**207**	P	**Pb**	**15 11 59.7**	**+0.7**
BSO3	**Boso 3**	**0.60**	**186**	P	**Pb**	**15 12 01.7**	**+0.4**
BSO3				*e*S	**Sb**	**15 12 10.0**	**+0.5**
BSO1	**Boso 1**	**0.81**	**157**	P	**Pn**	**15 12 04.2**	**-0.1**
BSO1				S	**Sn**	**15 12 15.8**	**+0.6**
JYT	**Yasato**	**0.89**	**339**	P	**Pn**	**15 12 04.4**	**-1.0**
JYT				*e*S	**Sn**	**15 12 15.5**	**-1.6**
JIM2	**Oshima 3**	**1.17**	**235**	P	**Pn**	**15 12 08.3**	**-0.9**
JIM2				*e*S	**Sn**	**15 12 24.6**	**+0.5**
JOD2	**Odawara 2**	**1.23**	**264**	P	**Pn**	**15 12 10.0**	**-0.2**
JOD2				*e*S	**Sn**	**15 12 25.0**	**-0.7**
MJAR	**Matsushiro Arr**	**2.24**	**301**	Pn	**Pn**	**15 12 24.3**	**+0.3**
	2.2nm,0.3s,baz=131,slow=15,SNR=36						
MJAR				Sn	**Sn**	**15 12 56.2**	**+5.7**
	2.0nm,0.3s,baz=145,slow=13,SNR=5.6						
MAT	**Matsushiro**	**2.24**	**301**	P	**Pn**	**15 12 25.5**	**+1.5**
MAT				S	**Sn**	**15 12 53.6**	**+3.0**
JHJ	**Hachijo jima 2**	**2.37**	**197**	Pn	**Pn**	**15 12 24.8**	**-1.0**
	8.8nm,0.3s,baz=237,slow=12,SNR=16						
JHJ				Sn	**Sn**	**15 12 52.0**	**-1.8**
	17nm,0.3s,baz=286,slow=23,SNR=11						
MKAR	**Makanchi Array**	**44.44**	**303**	P	**P**	**15 19 58.1**	**+1.2**
	0.2nm,0.5s,mb3.1,baz=72,slow=5.0,SNR=2.7						
WRA	**Warramunga Arr**	**55.36**	**187**	P	**P**	**15 21 20.3**	**+0.3**
	0.4nm,0.8s,mb3.5,baz=23,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**59.08**	**187**	P	**P**	**15 21 47.2**	**+0.9**
	0.2nm,0.8s,mb3.2,baz=21,slow=9.2,SNR=3.0						

DDA ***15*** *15:23:27.9, 3873N×3118E, h7km±3km, Md3.1, Ml2.8*
CSEM ***15*** *15:23:27.3±0.1, 3872N×3118E, h8km, ML2.8, Error ellipse: s-maj=3.3km s-min=2.3km az=9.0*
ISCJB ***15*** *15:23:28.5±0.5, 3869N±004×3118E±003, h10km, Error ellipse: s-maj=5.2km s-min=3.3km az=4.1*
ISK ***15*** *15:23:28.0, 3868N×3117E, h5km, MD2.9*
ISC 15 15:23:28.9±0.5, 3870N±003×3117E±003, h7km±7km, n15, σ0°79/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.18**	**275**	*i* P	**Pg**	**15 23 32.4**	**-0.1**
BOLV				*i* S	**Sg**	**15 23 34.7**	**-0.2**
SHUT	**Suhut-Afyon**	**0.51**	**253**	*e*PG	**Pg**	**15 23 38.6**	**-0.2**
SHUT				*e*SG	**Sg**	**15 23 45.2**	**-0.2**
KIZT	**Kizilcal**	**0.58**	**72**	*e*PG	**Pg**	**15 23 40.4**	**+0.3**
KDHN	**Kadinhani**	**0.76**	**103**	*i* P	**Pg**	**15 23 43.0**	**-0.5**
KDHN				*i* S	**Sg**	**15 23 53.9**	**+0.6**
ESKT	**Eskisehir**	**0.85**	**343**	*i* P	**Pg**	**15 23 44.4**	**-1.0**
ESKT				*i* S	**Sg**	**15 23 57.9**	**+1.5**
SEYT	**Eskypehyr**	**0.85**	**343**

PVCP	**Virac**	**1.05**	**42**⇑	*i*P	Pn	15 31 49.2	-0.4
PVCP				*i*S	Sn	15 32 05.8	+2.7
CNP	**Cataman**	**1.25**	**104**	*e*P	Pn	15 31 52.6	+0.4
CNP				*e*S	Sn	15 32 11.5	+3.7
RCP	**Roxas**	**1.41**	**208**⇓	*e*P	Pn	15 31 56.6	+2.1
RCP				*e*S	Sn	15 32 16.1	+4.0
OTRP	**Odiongan**	**1.44**	**252**	*e*P	Pn	15 31 55.3	+0.4
OTRP				*e*S	Sn	15 32 13.2	+0.5
GQP	**Guinayangan**	**1.44**	**319**⇑	*e*P	Pn	15 31 55.3	+0.4
GQP				*e*S	Sn	15 32 15.6	+2.8
SJMP	**San Jose**	**2.28**	**261**	*e*P	Pn	15 32 08.0	+1.6
BESP	**Borongan**	**2.31**	**121**	*e*P	Pn	15 32 07.9	+1.0
GUIM	**Jordan**	**2.32**	**201**	*e*P	Pn	15 32 09.7	+2.6
POLP	**Polillo Island**	**2.39**	**323**	*e*P	Pn	15 32 10.0	+2.1
POLP				*e*S	Sn	15 32 47.1	+11
CUYO	**Cuyo Island**	**3.06**	**231**	*e*P	Pn	15 32 17.9	+0.7
BUSP	**Coron**	**3.25**	**256**	*e*P	Pn	15 32 21.1	+1.3
IPIL	**Ipil**	**5.07**	**190**	*e*P	Pn	15 32 47.0	+2.3

CASC 15 15:53:19.4±2.5, 1298N×8893W, h51km±41km, MD4.1, 3C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.63**	**8**	*e*P	x	15 53 32.5	
SNVI				*e*S	x	15 53 43.1	
VSM	**San Miguel**	**0.77**	**55**⇓	*e*P	x	15 53 34.8	
BOQS	**Boqueron**	**0.82**	**335**⇑	*e*P	x	15 53 34.8	
BOQS				*e*S	x	15 53 46.5	
CAHU	**Cacacuatique**	**1.05**	**42**	*e*P	x	15 53 38.2	
CAHU				*e*S	x	15 53 53.5	
SBLS	**San Blas**	**1.09**	**321**⇑	*e*P	x	15 53 38.3	
SBLS				*e*S	x	15 53 54.4	
LEON	**Leon**	**2.06**	**106**	*e*P	Pn	15 53 50.7	-0.9
TEL3	**Telica 3**	**2.07**	**101**⇑	*i*P	Pn	15 53 51.7	0.0
TEL3				*e*S	Sn	15 54 18.2	+1.8
TELN	**Telica**	**2.08**	**100**	*e*P	Pn	15 53 52.1	+0.3
TELN				*e*S	Sn	15 54 17.0	+0.5
NBG	**Las Nubes**	**2.11**	**319**	*e*P	Pn	15 53 54.1	+1.9
PCG	**Pacaya**	**2.15**	**311**	*e*P	Pn	15 53 54.1	+1.2
CNGN	**Cerro Negro**	**2.23**	**102**	*e*P	Pn	15 53 53.5	-0.3
CNGN				*e*S	Sn	15 54 23.2	+3.0
FUG	**Fuego 3**	**2.36**	**308**	*e*P	Pn	15 53 56.3	+0.6
FUG				*e*S	Sn	15 54 23.9	+0.4
COPN	**Copaltepe**	**2.41**	**109**	*e*P	Pn	15 53 55.8	-0.6
FG6		**2.46**	**310**	*e*P	Pn	15 53 58.7	+1.6
FG6				*e*S	Sn	15 54 28.2	+2.2
CSAN		**2.57**	**108**⇓	*e*P	Pn	15 53 58.6	+0.1
CSAN				*e*S	Sn	15 54 29.1	+0.5
APYN	**Apoyeque**	**2.62**	**106**⇓	*e*P	Pn	15 53 59.4	+0.1
APYN				*e*S	Sn	15 54 30.6	+0.7
XAVN	**Gruta Xavier**	**2.67**	**108**	*e*P	Pn	15 53 58.8	-1.1
XAVN				*e*S	Sn	15 54 30.6	-0.5
TISN	**Laguna Tiscapa**	**2.72**	**108**	*e*P	Pn	15 53 59.5	-1.2
MGAN	**Managua**	**2.74**	**107**	*e*P	Pn	15 53 59.1	-1.8
MGAN				*e*S	Sn	15 54 34.9	+2.0
CRUN	**El Crucero**	**2.75**	**111**	*e*P	Pn	15 54 02.8	+1.8
HUEN		**2.76**	**103**	*e*P	Pn	15 54 01.1	-0.1
JAT	**Jato**	**2.95**	**297**	*e*P	Pn	15 54 04.4	+0.6
JAT				*e*S	Sn	15 54 38.7	+0.7
APON	**Apoyo**	**2.99**	**110**	*e*S	Sn	15 54 41.5	+2.7
CONN	**Concepcion**	**3.52**	**113**	*e*P	Pn	15 54 12.5	+0.9
CONN				*e*S	Sn	15 54 51.5	-0.6
MADN	**Villa Maderas**	**3.67**	**115**	*e*P	Pn	15 54 14.0	+0.4
JCR	**Jicaral**	**4.87**	**129**	*e*P	Pn	15 54 31.8	+1.7
CAO	**Cobano**	**4.97**	**131**⇓	*e*P	Pn	15 54 32.8	+1.3
CGA2	**Cerro Gallo 2**	**5.27**	**124**	*e*P	Pn	15 54 38.7	+3.1
PRS1	**Puriscal**	**5.42**	**123**	*e*P	Pn	15 54 40.5	+2.8
BUS	**Buena Vista**	**6.11**	**123**⇓	*e*P	Pn	15 54 50.0	+2.9
CHI2		**17.13**	**118**⇓	*e*P		15 53 49.0	

IDC 15 16:00:41.2±2.3, 382N×12642E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=200.0km s-min=27.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.87**	**162**	P	P	16 06 05.6	-0.1
	0.9nm,0.6s,baz=341,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**28.28**	**165**	P	P	16 06 36.7	+0.2
	0.3nm,0.8s,baz=348,slow=8.5,SNR=3.0						
MKAR	**Makanchi Array**	**57.30**	**325**	P	P	16 10 30.9	+0.1
	0.3nm,0.4s,baz=116,slow=7.8,SNR=4.6						

IDC 15 16:05:39.7±1.9, 223N×6477E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/23, mbtmp3.9/6, MS3.6/4, Ms1 3.6/4, ms1mx3.1/33, Error ellipse: s-maj=72.2km s-min=26.2km az=54.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**37.16**	**62**	LR	LR	16 27 05.9	
	comp=Z,63nm,19.8s,baz=80,slow=35						
BOSA	**Boshof**	**48.75**	**228**	LR	LR	16 34 34.3	
	comp=Z,59nm,20.2s,baz=353,slow=36						
BVAR	**Borovoye Array**	**50.84**	**4**	LR	LR	16 37 25.5	
	comp=Z,52nm,20.4s,baz=140,slow=38						
ZALV	**Zalesovo Beam**	**54.12**	**14**	P	P	16 15 07.0	+0.7
	0.3nm,0.2s,baz=188,slow=9.0,SNR=5.3						
SONM	**Songino Array**	**57.87**	**32**	P	P	16 15 32.7	-0.6
	0.4nm,0.6s,baz=225,slow=6.1,SNR=4.5						
SONM				LR	LR	16 40 04.3	
	comp=Z,64nm,18.2s,baz=168,slow=36						
NOA	**NORSAR Array B**	**71.18**	**336**	P	P	16 16 59.3	-0.9
	1.9nm,1.0s,baz=117,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**71.63**	**112**	P	P	16 17 03.4	-0.3
	1.3nm,0.9s,baz=293,slow=5.7,SNR=7.1						
ASAR	**Alice Springs**	**71.88**	**116**	P	P	16 17 05.7	+0.5
	0.2nm,0.4s,baz=288,slow=6.7,SNR=4.0						
SPITS	**Spitsbergen Arr**	**79.94**	**351**	P	P	16 17 51.3	+1.2
	2.1nm,0.4s,baz=104,slow=16,SNR=7.5						

NEIC 15 16:29:50.7, 952N×8432W, h40km, MD4.2(CASC), 3C-3D, After CASC., Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.18**	**123**⇓	*i*P	Pn	16 29 58.0	+0.2
LCR2	**La Lucha 2**	**0.38**	**55**	*i*P	Pn	16 30 00.1	+0.2
PRS1	**Puriscal**	**0.46**	**1**⇑	*i*P	Pn	16 30 00.2	-0.7
PRS1				*e*S	Sn	16 30 05.8	-2.2
SJS	**Escuela Geolog**	**0.49**	**32**⇑	*e*P	Pn	16 30 01.7	+0.4
SJS				*e*S	Sn	16 30 09.8	+1.1
CGA2	**Cerro Gallo 2**	**0.51**	**344**⇑	*i*P	Pn	16 30 02.1	+0.5
BUS	**Buena Vista**	**0.56**	**87**⇓	*i*P	Pn	16 30 02.5	+0.3
JCR	**Jicaral**	**0.84**	**293**⇓	*e*P	Pn	16 30 05.9	-0.2
JCR				*e*S	Sn	16 30 18.1	+0.8
VCR	**Vista de Mar**	**1.42**	**295**	*e*P	Pn	16 30 13.8	-0.3
VCR				*e*S	Sn	16 30 31.9	+0.3
BCIP	**Isla Barro Col**	**4.44**	**94**	*e*P	Pn	16 30 56.1	+0.6

ISCJB ***15*** *16:51:40.4±1.0, 720S±003×15565E±003, h23km±6km, mb5.3/108, MS4.7/47, Error ellipse: s-maj=5.6km s-min=5.2km az=28.6*

IDC ***15*** *16:51:40.4±1.9, 731S×15560E, h13km±11km, mb5.0/18, mb1 5.0/19, mb1mx5.0/21, mbtmp5.0/19, ML4.7/1, MS4.6/7, Ms1 4.6/7, ms1mx4.1/16, Error ellipse: s-maj=13.9km s-min=12.9km az=85.0*

MOS ***15*** *16:51:42.6±1.1, 715S×15563E, h33km, mb5.6/38, MS4.8/25, Error ellipse: s-maj=7.4km s-min=6.7km az=98.0*

BJI ***15*** *16:51:42.1, 699S×15596E, h39km, mB5.2, mb5.2, Ms4.9, Msz4.7*

NEIC ***15*** *16:51:44.7±0.8, 725S×15565E, h45km±7km, mb5.3/62, MS4.8/20, Error ellipse: s-maj=5.1km s-min=4.4km az=163.0*

GCMT ***15*** *16:51:44.7±0.1, 752S×15578E, h20km, MW5.4/90, Moment Tensor Solution. s90,c156; s90,c150; Duration: 1s2 Moment tensor: Scale 10^17^Nm; M_{rr}1.22±.02; M_{tt}-0.84±.02; M_{pp}-0.37±.02; M_{rt}0.64±.04; M_{tp}0.74±.02; M_{pr}-0.58±.04; Best double couple: $M_0$1.56400×10^17^ NP1:φs302.00000°, δ28.00000°, λ83.00000°. NP2:φs130.00000°, δ62.00000°, λ94.00000°. Principal axes: T 1.4820, Plg73.0000°, Azm49.0000°; N 0.1670, Plg3.0000°, Azm308.0000°; P -1.6450,*

Plg17.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

DJA ***15*** *16:51:47, 748S×15587E, h40km, mb5.4/26*

ISC 15 16:51:45.0±0.7, 726S±003×15565E±003, h46km±6km, h45km±2.9km: pP-P, n369, σ0s97/245, mb5.3/108, MS4.7/47, 24C-15D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.77**	**117**	Pn	**Pn**	**16 52 53.3**	**-1.1**
	30nm,0.3s,baz=286,slow=3.5,SNR=23						
HNR				Sn	**Sn**	**16 53 56.7**	**+8.3**
	115nm,0.3s,baz=269,slow=22,SNR=10						
HNR				LR	LR	16 54 39.7	
	comp=Z,20μm,19.0s,baz=340,slow=37						
HNR	**Honiara**	**4.77**	**117**	*e*Pn	**Pn**	**16 52 52.6**	**-1.7**
HNR				*e*Sn	**Sn**	**16 53 56.4**	**+8.0**
PMG	**Port Moresby**	**8.67**	**255**	*e*P	**Pn**	**16 53 49.0**	**+1.0**
PMG				pmax	pmax		
	comp=Z,611nm,0.9s						
PMG	**Port Moresby**	**8.67**	**255**	*e*Pn	**Pn**	**16 53 49.0**	**+1.0**
	comp=Z,611nm,0.9s						
COEN	**Coen**	**13.95**	**240**	*e*Pn	**Pn**	**16 55 01.4**	**+1.3**
	comp=Z,89nm,1.1s						
COEN				*e*P		16 55 09.0	
CTA	**Charters Tower**	**15.67**	**215**	*e*P	**Pn**	**16 55 23.8**	**+1.0**
	comp=Z,55nm,0.8s						
CTA				*e*S	**S**	**16 58 24.0**	**-4.7**
CTA	**Charters Tower**	**15.67**	**215**	Pn	**Pn**	**16 55 23.5**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=36,slow=14,SNR=19						
CTA				Sn	**Sn**	**16 58 22.2**	**+6.7**
	comp=Z,0.1nm,0.3s,baz=240,slow=20,SNR=1.5						
CTA	**Charters Tower**	**15.67**	**215**	*e*P	**Pn**	**16 55 23.8**	**+1.0**
CTA				*e*S	**S**	**16 58 24.0**	**-4.7**
CTA				pmax	pmax		
	comp=Z,55nm,0.8s						
CTAO	**Charters Tower**	**15.67**	**215**	*e*P	**Pn**	**16 55 23.5**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,177nm,1.2s						
CTAO	**Charters Tower**	**15.67**	**215**	*e*P	**Pn**	**16 55 23.5**	**+0.7**
	comp=Z,177nm,1.2s						
GUMO	**Guam**	**23.32**	**333**	LR	LR	17 04 30.7	
	comp=Z,644nm,20.5s,MS4.1,baz=144,slow=33						
ARMA	**Armidale**	**23.34**	**189**	*e*P	**P**	**16 56 48.2**	**-1.3**
ARMA				*e*S	**S**	**17 00 57.9**	**-0.8**
KAKA	**Kakadu**	**23.48**	**255**	*e*P	**P**	**16 56 49.9**	**-1.0**
	comp=Z,73nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**24.20**	**237**	P	**P**	**16 56 57.0**	**-0.4**
	comp=Z,583nm,1.2s,mb5.9,SNR=35						
WRAB	**Tennant Creek**	**24.20**	**237**	*d*P	**P**	**16 56 56.6**	**-0.8**
WRAB	**Tennant Creek**	**24.20**	**237**	*e*P	**P**	**16 56 56.9**	**-0.5**
	comp=Z,144nm,1.2s,mb5.3						
WRAB				LR	LR		
	comp=Z,4μm,21.0s,MS4.9						
WB2	**Warramunga Arr**	**24.20**	**236**	⇓*i*P	**P**	**16 56 57.0**	**-0.4**
WB2				*e*		16 59 36.5	
WB2				*e*S	**S**	**17 01 10.8**	**-2.0**
WB2				*e*PCS	PcS	17 04 17.2	-0.1
WB2				*e*SCS	ScS	17 08 04.3	+4.5
WRA	**Warramunga Arr**	**24.21**	**236**	P	**P**	**16 56 56.9**	**-0.6**
	comp=Z,61nm,1.0s,mb5.0,baz=62,slow=9.5,SNR=111						
WRA				PcP	PcP	17 00 37.7	+0.4
	comp=Z,5.5nm,0.8s,baz=38,slow=1.3,SNR=4.9						
WRA				S	**S**	**17 01 12.9**	**0.0**
	comp=Z,1.1nm,0.8s,baz=43,slow=7.3,SNR=3.0						
WRA				ScP	ScP	17 04 16.9	+4.6
	comp=Z,4.7nm,1.1s,baz=67,slow=3.0,SNR=4.7						
WRA				PKiKP	PKiKP	17 08 19.0	-1.1
	comp=Z,1.0nm,0.7s,baz=341,slow=0.8,SNR=7.8						
WRA	**Warramunga Arr**	**24.21**	**236**	P	**P**	**16 56 56.9**	**-0.6**
WRA						17 00 37.7	
WRA				S	**S**	**17 01 12.9**	**0.0**
WRA	**Warramunga Arr**	**24.21**	**236**	P	**P**	**16 56 56.9**	**-0.6**
WRA				PcP	PcP	17 00 37.7	+0.4
WRA				S	**S**	**17 01 12.9**	**0.0**
WRA				ScP	ScP	17 04 16.9	+4.6
ASAR	**Alice Springs**	**26.49**	**230**	P	**P**	**16 57 17.1**	**-1.1**
	comp=Z,9.8nm,1.0s,mb4.3,baz=62,slow=9.9,SNR=46						
ASAR				PcP	PcP	17 00 42.8	+0.3
	comp=Z,4.3nm,1.0s,baz=106,slow=2.7,SNR=4.4						
ASAR				ScP	ScP	17 04 23.6	+4.8
	comp=Z,1.0nm,0.8s,baz=86,slow=3.0,SNR=4.1						
ASAR	**Alice Springs**	**26.49**	**230**	P	**P**	**16 57 17.1**	**-1.1**
ASAR						17 00 42.8	
STKA	**Stephens Creek**	**27.78**	**206**	*e*P	**P**	**16 57 28.8**	**-0.9**
	comp=Z,47nm,1.1s,mb5.0						
STKA				*e*S	**S**	**17 02 08.9**	**-0.4**
STKA				*e*SS		17 03 29.0	
STKA	**Stephens Creek**	**27.78**	**206**	P	**P**	**16 57 29.1**	**-0.6**
	comp=Z,42nm,1.0s,mb5.0,baz=27,slow=10,SNR=14						
STKA				ScP	ScP	17 04 26.4	+3.9
	comp=Z,2.7nm,0.7s,baz=26,slow=3.8,SNR=3.6						
CNB	**Canberra Magne**	**28.51**	**191**	*e*P	**P**	**16 57 35.9**	**-0.2**
CNB				*e*S	**S**	**17 02 23.2**	**+2.4**
CAN	**Canberra**	**28.59**	**191**	*e*P	**P**	**16 57 41.4**	**+4.6**
FITZ	**Fitzroy Crossi**	**31.15**	**247**	*e*P	**P**	**16 57 58.5**	**-1.2**
	comp=Z,30nm,0.7s,mb5.2						
FITZ				*e*PCP	PcP	17 00 54.8	+0.6
FITZ				*e*S	**S**	**17 03 02.9**	**+0.3**
FITZ				*e*SCS	ScS	17 08 36.2	+5.2
TOO	**Toolangi**	**31.55**	**196**	*e*P	**P**	**16 58 03.2**	**+0.2**
TOO				*e*S	**S**	**17 03 14.7**	**+6.3**
AFI	**Afiamalu**	**32.66**	**104**	P	**P**	**16 58 13.1**	**+0.1**
	comp=Z,56nm,0.9s,mb5.5,baz=289,slow=23,SNR=6.1						
DAV	**Davao City (W)**	**33.20**	**295**	LR	LR	17 10 11.2	
	comp=Z,511nm,18.6s,MS4.3,baz=283,slow=34						
FORT	**Forrest**	**34.85**	**224**	*e*P	**P**	**16 58 30.2**	**-1.7**
	comp=Z,30nm,0.7s,mb5.3						
FORT				*e*	pP	16 58 46.4	+2.2
FORT				*e*		16 59 09.5	
KAPI	**Kappang**	**35.76**	**271**	*e*P	**P**	**16 58 39.5**	**-0.4**
	comp=Z,72nm,1.0s,mb5.5						
URZ	**Urewera**	**36.46**	**151**	P	**P**	**16 58 49.7**	**+4.1**
	comp=Z,15nm,0.6s,mb5.1,baz=38,slow=4.4,SNR=8.8						
CBIJ	**Chichi jima**	**36.56**	**340**	LR	LR	17 13 28.4	
	comp=Z,567nm,18.1s,MS4.4,baz=146,slow=36						
MBWA	**Marble Bar**	**37.35**	**245**	*e*P	**P**	**16 58 52.7**	**-0.7**
	comp=Z,57nm,1.2s,mb5.3						
MBWA				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
RPZ	**Rata Peaks**	**38.74**	**162**	P	**P**	**16 59 04.4**	**-0.4**
	comp=Z,15nm,0.8s,mb4.8,baz=330,slow=4.1,SNR=4.3						
KLBR	**Kellerberrin**	**42.82**	**230**	*e*P	**P**	**16 59 36.4**	**-2.2**
	comp=Z,40nm,0.9s,mb5.2						
KLBR				*e*PP	PP	17 01 21.3	+2.7
JOW	**Kunigami**	**43.04**	**323**	LR	LR	17 17 17.3	
	comp=Z,710nm,18.9s,MS4.6,baz=153,slow=36						
NWAO	**Narrogin (SRO)**	**43.81**	**229**	*e*P	**P**	**16 59 45.4**	**-1.2**
MUN	**Mundaring**	**44.17**	**231**	*e*P	**P**	**16 59 49.2**	**-0.3**
RAR	**Rarotonga**	**45.21**	**113**	P	**P**	**16 59 57.5**	**-0.4**
	comp=Z,30nm,0.6s,mb5.3,baz=251,slow=5.3,SNR=4.2						
KSM	**Kuching**	**46.06**	**279**	*e*P	**P**	**17 00 05.5**	**+0.7**
MJAR	**Matsushiro Arr**	**46.54**	**341**	P	**P**	**17 00 06.8**	**-1.3**
	comp=Z,9.0nm,0.9s,mb4.7,baz=165,slow=7.9,SNR=37						
MJAR				PcP	PcP	17 01 42.0	+0.2
	comp=Z,9.6nm,0.7s,baz=158,slow=4.0,SNR=9.1						
MAJO	**Matsushiro**	**46.55**	**341**	*e*P	**P**	**17 00 05.4**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
MAJO	**Matsushiro**	**46.55**	**341**	*e*P	**P**	**17 00 05.4**	**-2.7**
	comp=Z,20nm,0.9s,mb5.0						
MAT	**Matsushiro**	**46.55**	**341**	P	**P**	**17 00 06.3**	**-1.8**
MAT				S	**S**	**17 06 53.0**	**-0.6**
XMAS	**Kiritimati**	**47.70**	**81**	*e*P	**P**	**17 00 16.8**	**-0.9**
	comp=Z,138nm,1.1s,mb5.9						
SSE	**Sheshan**	**50.42**	**321**	P	**P**	**17 00 38.8**	**+0.7**
SSE				S	**S**	**17 07 47.8**	**-0.6**
SSE				SCS	ScS	17 10 25.3	-0.2
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,151nm,4.8s						
SSE				LR	LR		
	comp=N,216nm,14.4s,MS4.5						
SSE				LR	LR		
	comp=E,220nm,14.5s,MS4.5						
SSE				LR	LR		
	comp=Z,342nm,14.0s,MS4.5						
KSRS	**Korea Array**	**51.48**	**332**	P	**P**	**17 00 46.4**	**+0.4**
	comp=Z,12nm,0.8s,mb4.8,baz=152,slow=8.7,SNR=36						
KSRS				PcP	PcP	17 02 00.5	+0.7
	comp=Z,5.3nm,0.7s,baz=155,slow=3.9,SNR=8.3						
KSRS				LR	LR	17 19 43.3	
	comp=Z,399nm,19.8s,MS4.4,baz=137,slow=33						
INCN	**Inchon**	**52.12**	**331**	P	**P**	**17 00 51.5**	**+0.8**
	comp=Z,118nm,1.4s,mb5.6						
QIZ	**Qiongzhong**	**52.16**	**301**	⇑P	**P**	**17 00 52.3**	**+1.0**
QIZ				AP	pP	17 01 04.3	+0.1
QIZ				S	**S**	**17 08 12.5**	**-0.2**
QIZ				AMB	AMB		
	comp=Z,44nm,1.3s,mb5.2						
QIZ				AMB	AMB		
	comp=Z,181nm,8.6s						
QIZ				LR	LR		
	comp=E,703nm,21.0s						
QIZ				LR	LR		
	comp=Z,1μm,20.7s,MS4.9						
QIZ	**Qiongzhong**	**52.16**	**301**	*e*P	**P**	**17 00 52.9**	**+1.6**
	comp=Z,65nm,1.4s,mb5.4						
ASAJ	**Asahikawa**	**52.48**	**348**	LR	LR	17 22 15.8	
	comp=Z,1μm,19.5s,MS4.9,baz=180,slow=35						
NJ2	**Nanjing**	**52.53**	**320**	*e*P	**P**	**17 00 54.3**	**+0.4**
NJ2				AP	pP	17 01 05.9	-0.9
NJ2				PCP	PcP	17 02 04.3	+0.5
NJ2				S	**S**	**17 08 15.5**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,60nm,1.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,140nm,10.0s						
NJ2				LR	LR		
	comp=N,320nm,23.4s,MS4.5						
NJ2				LR	LR		
	comp=E,450nm,24.2s,MS4.5						
NJ2				LR	LR		
	comp=Z,460nm,24.2s,MS4.4						
PPT	**Papeete**	**54.30**	**106**	*e*P	**P**	**17 01 08.7**	**+1.6**
	comp=Z,70nm,1.5s,mb5.4						
PPT				*e*S	**S**	**17 08 43.3**	**+1.3**
	comp=Z,713nm,26.0s						
PPT				*e*LQ		17 14 37.2	
	comp=Z,2μm,26.2s						
PPT				*e*LR	LR	17 16 56.5	
	comp=Z,739nm,24.5s,baz=274						
PPT	**Papeete**	**54.30**	**106**	*e*P	**P**	**17 01 08.7**	**+1.6**
PPT				*e*S	**S**	**17 08 43.3**	**+1.3**
PPT				pmax	pmax		
	comp=Z,70nm,1.5s						
PPT	**Papeete**	**54.30**	**106**	*e*P	**P**	**17 01 08.7**	**+1.6**
	comp=Z,70nm,1.5s,mb5.4						
PPT				*e*S	**S**	**17 08 43.3**	**+1.3**
PPT				*e*LQ		17 14 37.2	
PAE	**Paea**	**54.30**	**106**	*e*P	**P**	**17 01 08.2**	**+1.1**
	comp=Z,424nm,1.2s,mb6.2						
PAE	**Paea**	**54.30**	**106**	*e*P	**P**	**17 01 08.2**	**+1.1**
PAE				pmax	pmax		
	comp=Z,424nm,1.2s,mb6.2						
TIAR	**Tiarei**	**54.52**	**106**	*e*P	**P**	**17 01 10.1**	**+1.4**
	comp=Z,477nm,0.8s						
WHN	**Wuhan**	**54.58**	**316**	⇓P	**P**	**17 01 10.0**	**+1.1**
VLA	**Vladivostok**	**54.59**	**339**	*e*P	**P**	**17 01 07.0**	**-1.8**
VLA				pmax	pmax		
	comp=Z,143nm,1.6s,mb5.8						
VLA				MLR	MLR		
	comp=Z,400nm,17.7s,MS4.5						
TVO	**Taravao**	**54.62**	**107**	*e*P	**P**	**17 01 10.4**	**+0.9**
	comp=Z,291nm,0.8s,mb6.4						
TVO	**Taravao**	**54.62**	**107**	*e*P	**P**	**17 01 10.4**	**+0.9**
TVO				pmax	pmax		
	comp=Z,291nm,0.8s,mb6.4						
TBI	**Tubuai**	**54.98**	**113**	*e*S	**S**	**17 08 52.7**	**+1.7**
	comp=Z,180nm,33.8s						
TBI				*e*LQ		17 14 55.3	
	comp=Z,3μm,29.2s						
TBI				*e*LR	LR	17 17 16.3	
	comp=Z,1μm,31.5s,baz=285						
YSS	**Yuzh-Sakhalins**	**55.18**	**349**	*e*P	**P**	**17 01 12.8**	**-0.1**
YSS				*e*		17 09 06.0	
YSS				pmax	pmax		
	comp=Z,120nm,1.2s,mb5.8						
YSS				MLR	MLR		
	comp=Z,700nm,18.0s,MS4.8						
YSS				MLR	MLR		
	comp=N,600nm,17.0s						
YSS	**Yuzh-Sakhalins**	**55.18**	**349**	*e*P	**P**	**17 01 13.1**	**+0.2**
	comp=N,90nm,1.1s,mb5.7						
YSS				LR	LR		
	comp=Z,220nm,19.0s,MS4.3						
DL2	**Dalian**	**55.73**	**328**⇑	*i*P	**P**	**17 01 17.0**	**-0.1**
DL2				PCP	PcP	17 02 16.5	+0.6
DL2				S	**S**	**17 09 02.0**	**+1.5**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
DL2				AMB	AMB		
	comp=Z,100nm,8.2s						
DL2				LR	LR		
	comp=N,230nm,19.9s,MS4.4						
DL2				LR	LR		
	comp=E,170nm,17.2s,MS4.4						
DL2				LR	LR		
	comp=Z,270nm,17.5s,MS4.4						
PMOR	**Pomariorio Ree**	**55.80**	**103**	*e*P	**P**	**17 01 18.9**	**+0.9**
	comp=Z,242nm,1.0s,mb6.2						
TIA	**Tai'an**	**56.37**	**323**	⇑P	**P**	**17 01 20.3**	**-1.4**
TIA				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.2						
MDJ	**Mudanjiang**	**56.73**	**338**	P	**P**	**17 01 24.6**	**+0.6**
MDJ				AP	pP	17 01 36.3	-0.8
MDJ				SCP	ScP	17 06 16.1	+0.6
MDJ				PCS	PcS	17 06 21.0	+0.8
MDJ				S	**S**	**17 09 15.3**	**+1.9**
MDJ				AMB	AMB		
	comp=Z,52nm,1.9s,mb5

comp=Z,500nm,20.0s,MS4.7
PET MLR MLR
comp=Z,800nm,19.0s
PET Petropavlovsk 60.10 2⇑iP P 17 01 46.4 -1.0
PETK Petropavlovsk- 60.16 1 P P 17 01 48.2 +0.5
comp=Z,21nm,0.8s,mb5.2,baz=157,slow=6.2,SNR=16
TIY Taiyuan 60.20 321 eP **P 17 01 48.4 0.0**
TIY S **S 17 09 58.3 -0.7**
TIY LR LR
comp=N,283nm,11.9s,MS4.7
TIY LR LR
comp=E,216nm,12.1s,MS4.7
TIY LR LR
comp=Z,446nm,21.6s
XAN Xi'an 60.35 316 P **P 17 01 49.3 -0.2**
XAN AP pP 17 02 02.8 +0.2
XAN PP PP 17 04 04.0 +0.9
XAN S **S 17 09 57.9 -3.1**
XAN SS SS 17 13 55.4 -4.1
XAN AMB AMB
comp=Z,28nm,1.1s,mb5.2
XAN LR LR
comp=N,191nm,17.4s,MS4.5
XAN LR LR
comp=E,280nm,22.0s,MS4.5
XAN LR LR
comp=Z,662nm,20.0s,MS4.8
KMI Kunming 60.70 304 ⇑P **P 17 01 53.8 +1.7**
KMI PCP PcP 17 02 37.1 +1.2
KMI PP PP 17 04 11.1 +4.7
KMI PCS PcS 17 06 39.6 +0.9
KMI S **S 17 10 05.3 -0.5**
KMI SCS ScS 17 11 37.3 -2.3
KMI SS SS 17 14 07.8 +2.4
KMI AMB AMB
comp=Z,49nm,1.0s,mb5.6
KMI LR LR
comp=N,541nm,14.9s,MS4.9
KMI LR LR
comp=E,511nm,16.0s,MS4.9
KMI LR LR
comp=Z,711nm,18.8s,MS4.8
CMAR Chiang Mai Arr 61.49 295 P **P 17 01 58.4 +0.9**
comp=Z,22nm,0.8s,mb5.3,baz=117,slow=4.8,SNR=95
CMAR PKPPKP 17 31 09.2
comp=Z,0.3nm,0.3s,baz=270,slow=32,SNR=4.2
CMAR PKP2bc 17 31 17.9
comp=Z,0.8nm,0.3s,baz=285,slow=4.3,SNR=7.7
CMAR Chiang Mai Arr 61.49 295 P **P 17 01 58.4 +0.9**
CMAR P'P' 17 31 09.2
CMAR ⇑e 17 31 17.9
CHTO Chiang Mai 61.60 296 eP **P 17 01 58.5 +0.2**
CHTO pmax pmax
comp=Z,77nm,1.4s,mb5.6
CHTO MLR MLR
comp=Z,374nm,20.0s,MS4.5
CHTO Chiang Mai 61.60 296 eP **P 17 01 58.5 +0.2**
comp=Z,77nm,1.4s,mb5.6
CHTO LR LR
comp=Z,374nm,20.0s,MS4.5
CD2 Chengdu 62.48 310⇓iP **P 17 02 04.9 +0.9**
CD2 AP pP 17 02 17.8 +0.6
CD2 PCP PcP 17 02 43.3 +0.3
CD2 PP PP 17 04 24.8 +2.8
CD2 PCS PcS 17 06 45.3 -1.0
CD2 S **S 17 10 27.9 -0.3**
CD2 SCS ScS 17 11 48.6 -4.2
CD2 SS SS 17 14 34.5 +1.5
CD2 AMB AMB
comp=Z,140nm,0.8s,mb6.1
CD2 AMB AMB
comp=Z,340nm,8.4s
CD2 LR LR
comp=N,450nm,19.2s,MS5.0
CD2 LR LR
comp=E,830nm,16.8s,MS5.0
CD2 LR LR
comp=Z,630nm,18.0s,MS4.8
HHC Hu-ho-hao-te 62.69 324 eP **P 17 02 05.4 +0.2**
HHC AP pP 17 02 18.3 -0.1
HHC PCP PcP 17 02 43.3 -0.3
HHC PP PP 17 04 26.1 +2.5
HHC SCP ScP 17 06 40.6 -1.5
HHC PCS PcS 17 06 46.3 -0.6
HHC S **S 17 10 29.8 -0.6**
HHC SCS ScS 17 11 51.0 -2.9
HHC SS SS 17 14 37.5 +1.6
HHC AMB AMB
comp=Z,27nm,1.3s,mb5.2
HHC AMB AMB
comp=Z,116nm,4.0s
HHC LR LR
comp=N,326nm,23.1s,MS4.6
HHC LR LR
comp=E,341nm,19.4s,MS4.6
HHC LR LR
comp=Z,332nm,22.1s,MS4.5
BTO Baotou 63.46 323 eP **P 17 02 10.3 0.0**
HIA Hailar 64.44 335 eP **P 17 02 15.5 -1.0**
HIA pmax pmax
comp=Z,58nm,1.0s
HIA Hailar 64.44 335 eP **P 17 02 15.5 -1.0**
comp=Z,58nm,1.0s,mb5.6
LZH Lanzhou 64.96 315 ⇑P **P 17 02 21.5 +1.3**
LZH AP pP 17 02 34.1 +0.6
LZH PCP PcP 17 02 54.5 +1.5
LZH PP PP 17 04 47.0 +3.3
LZH eS **S 17 11 02.0 +3.2**
LZH SS SS 17 15 15.0 +3.5
LZH AMB AMB
comp=Z,84nm,1.4s,mb5.6
LZH AMB AMB
comp=Z,250nm,5.2s
LZH LR LR
comp=N,1μm,16.8s
LZH LR LR
comp=Z,2μm,17.2s,MS5.3
CASY Casey 66.54 198 eP **P 17 02 30.4 +0.5**
RKT Rikitea 68.24 112 eS S 17 11 40.4 +1.4
comp=Z,240nm,29.0s
RKT eSS SS 17 16 05.3 +2.5
comp=Z,294nm,30.5s
RKT eLQ 17 20 22.0
comp=Z,755nm,32.0s
RKT eLR LR 17 23 16.5
comp=Z,1μm,23.0s
CLNS Chul'man 68.67 342 eP **P 17 02 43.9 +0.5**
CLNS e 17 03 09.6
CLNS e 17 05 13.4
CLNS eS S 17 11 41.4 -1.4
CLNS eSS SS 17 16 11.3 +3.0
CLNS pmax pmax
comp=Z,58nm,1.1s,mb5.4
CLNS pmax pmax
comp=N,29nm,1.2s
CLNS pmax pmax
comp=E,11nm,1.2s
CLNS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CLNS smax
comp=N,81nm,10.9s
CLNS smax
comp=E,87nm,16.0s
CLNS MLR MLR
comp=E,217nm,16.0s,MS4.6
CLNS MLR MLR
comp=Z,132nm,16.0s,MS4.3
CLNS MLR MLR
comp=N,195nm,15.0s,MS4.6
CIT Chita 69.14 334 eP **P 17 02 47.1 +0.7**
CIT pmax pmax
comp=Z,193nm,2.0s,mb5.7
AKUT Akutan 69.21 23 P **P 17 02 45.7 -1.1**
GTA Gaotai 69.38 317 ⇑P **P 17 02 49.3 +1.1**
GTA PP PP 17 05 26.1 +4.0
GTA S S 17 11 53.0 +1.2
GTA SS SS 17 16 22.9 +3.0
GTA AMB AMB
comp=Z,25nm,1.5s,mb4.9
GTA AMB AMB
comp=Z,177nm,5.9s
GTA LR LR
comp=N,268nm,17.2s,MS4.7
GTA LR LR
comp=E,264nm,17.2s,MS4.7
GTA LR LR
comp=Z,473nm,19.9s,MS4.7
SONM Songino Array 69.91 327 P **P 17 02 52.1 +0.8**
comp=Z,23nm,0.8s,mb5.2,baz=134,slow=6.0,SNR=132
SONM PKPPKP 17 30 56.2
comp=Z,1.9nm,0.9s,baz=273,slow=2.6,SNR=10
SONM PKP2bc 17 31 03.4
comp=Z,2.6nm,1.0s,baz=220,slow=2.1,SNR=7.9
SONM Songino Array 69.91 327 P **P 17 02 52.1 +0.8**
SONM P'P' 17 30 56.2
SONM ⇑e 17 31 03.4
SHL Shillong 69.99 300⇑iP **P 17 02 56.0 +3.8**
comp=Z,90nm,1.0s,mb5.7
SHL ex x 17 11 47.0
SEY Seymchan 70.03 358⇑eP **P 17 02 51.2 -0.5**
VNDA Vanda 70.30 179 P **P 17 02 53.5 +0.3**
comp=Z,2.0nm,0.9s,baz=337,slow=7.9,SNR=8.8
VNDA PKPPKP 17 30 52.8
comp=Z,1.0nm,1.0s,baz=218,slow=3.0,SNR=3.5
VNDA Vanda 70.30 179 eP **P 17 02 51.5 -1.7**
VNDA pmax pmax
comp=Z,66nm,1.8s
VNDA Vanda 70.30 179 eP **P 17 02 51.5 -1.7**
comp=Z,66nm,1.8s,mb5.3
SBA Scott Base 70.80 178 eP **P 17 02 57.7 +1.5**
SBA pmax pmax
comp=Z,50nm,1.5s,mb5.2
SBA MLR MLR
comp=Z,606nm,19.0s,MS4.9
SBA Scott Base 70.80 178 eP **P 17 02 57.6 +1.4**
comp=Z,50nm,1.5s,mb5.2
SBA LR LR
comp=Z,606nm,19.0s,MS4.9
YAK Yakutsk 71.95 347c iP **P 17 03 03.2 -0.1**
YAK e*PP pP 17 03 11.3 -5.5
YAK e pP 17 03 18.6 +1.8
YAK e 17 05 41.0
YAK ePPP 17 07 27.2
YAK eS S 17 12 22.8 +1.9
YAK e 17 13 03.3
YAK eSSS 17 20 05.5
YAK pmax pmax
comp=Z,63nm,1.2s,mb5.4
YAK pmax pmax
comp=N,17nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,29nm,2.8s,mb4.7
YAK pmax pmax
comp=N,30nm,2.4s
YAK pmax pmax
comp=E,16nm,2.2s
YAK smax
comp=N,187nm,5.1s
YAK smax
comp=E,120nm,5.3s
YAK MLR MLR
comp=Z,412nm,24.0s,MS4.6
YAK MLR MLR
comp=N,265nm,21.0s,MS4.5
YAK MLR MLR
comp=E,73nm,21.0s,MS4.5
YAK Yakutsk 71.95 347 eP **P 17 03 02.6 -0.7**
comp=E,69nm,1.0s,mb5.5
YAK LR LR
comp=Z,340nm,19.0s,MS4.6
LSA Lhasa 71.96 304 P **P 17 03 05.4 +1.3**
LSA AP pP 17 03 14.3 -3.2
LSA XP sP 17 03 18.3 -4.5
LSA S S 17 12 25.8 +3.5
LSA AMB AMB
comp=Z,40nm,1.2s,mb5.2
LSA LR LR
comp=E,310nm,22.2s
LSA LR LR
comp=Z,460nm,21.9s,MS4.7
LSA Lhasa 71.96 304 eP **P 17 03 05.0 +0.9**
LSA pmax pmax
comp=Z,48nm,1.1s,mb5.3
LSA Lhasa 71.96 304 eP **P 17 03 05.0 +0.9**
comp=Z,48nm,1.1s,mb5.3
MIR Mirnyy 72.69 202⇓iP **P 17 03 09.0 +1.3**
MIR i 17 03 14.0
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.5
MIR MLR MLR
comp=Z,1μm,17.0s,MS5.2
ZAK Zakamensk 73.06 328⇓iP **P 17 03 10.3 +0.1**
ZAK pmax pmax
comp=Z,43nm,1.4s,mb5.2
BOD Bodaibo 73.10 338 eP **P 17 03 09.7 -0.5**
BOD pmax pmax
comp=Z,42nm,1.3s,mb5.2
TLY Talaya 73.62 329 P **P 17 03 14.5 +1.1**
comp=Z,127nm,1.2s,mb5.7,SNR=6.7
TLY Talaya 73.62 329c iP **P 17 03 13.8 +0.4**
TLY pmax pmax
comp=Z,58nm,1.7s,mb5.2
TLY Talaya 73.62 329⇑iP **P 17 03 13.9 +0.5**
IRK Irkutsk 73.64 330 eP **P 17 03 13.5 0.0**
IRK e pP 17 03 26.0 -1.0
IRK pmax pmax
comp=Z,103nm,2.0s,mb5.4
TAPN Taplejung 74.10 301 eP **P 17 03 18.1 +1.3**
comp=Z,186nm,1.1s,mb5.9
ODAN Odare 74.23 300 eP **P 17 03 18.2 +0.6**
comp=Z,184nm,0.9s,mb6.0
RAMN Ramite 74.93 300 eP **P 17 03 22.5 +0.9**
MOY Mondy 74.98 328 eP **P 17 03 21.8 +0.5**
MOY pmax pmax
comp=Z,98nm,2.7s,mb5.3
JIRN Jiri 75.48 301 eP **P 17 03 25.3 +0.5**
BILL Bilibino 75.50 4c iP **P 17 03 23.5 -0.5**
BILL pmax pmax
comp=Z,116nm,1.4s,mb5.6
BILL MLR MLR
comp=Z,400nm,17.0s,MS4.8
BILL Bilibino 75.50 4 eP **P 17 03 23.8 -0.2**
comp=Z,76nm,1.0s,mb5.6
GUN Gumba 75.81 301 eP **P 17 03 27.4 +0.7**
comp=Z,152nm,0.9s,mb5.9
PKI Pulchoki 76.12 301 eP **P 17 03 28.6 +0.2**
KKN Kakani 76.29 301 eP **P 17 03 29.6 +0.2**
comp=Z,106nm,1.1s,mb5.7
KKN Kakani 76.29 301 eP **P 17 03 29.6 +0.2**
KKN pmax pmax
comp=Z,106nm,1.1s,mb5.7
DMN Daman 76.39 301 eP **P 17 03 30.4 +0.4**
comp=Z,193nm,0.9s,mb6.0
OHAK Old Harbor 76.48 26 eP **P 17 03 29.2 -0.6**
GKN Gorkha 76.89 301 eP **P 17 03 33.3 +0.5**
MDRS Chennai 77.56 285 ex x 17 03 55.0
KOLN Koldanda 77.72 300 eP **P 17 03 37.5 +0.1**
comp=Z,86nm,1.1s,mb5.6
DANN Dangsing 77.73 301 eP **P 17 03 37.3 -0.2**
SVW2 Sparrevohn 78.00 22 P **P 17 03 38.8 +0.6**
HVS Khovu-Aksy 78.67 325d iP **P 17 03 42.9 +0.7**
TTA Tatalina 79.04 20 eP **P 17 03 43.9 0.0**
TTA pmax pmax
comp=Z,20nm,0.9s,mb5.0
TTA Tatalina 79.04 20 eP **P 17 03 43.9 0.0**
comp=Z,20nm,0.9s,mb5.1
WMQ Urumqi 79.46 317 P **P 17 03 47.5 +0.8**
WMQ PCP PcP 17 03 55.8 +1.2
WMQ PP PP 17 06 47.1 -0.5
WMQ S S 17 13 44.1 -0.5
WMQ SS SS 17 18 54.8 +1.7
WMQ AMB AMB
comp=Z,27nm,1.2s,mb5.0
WMQ AMB AMB
comp=Z,58nm,9.2s
WMQ LR LR
comp=N,313nm,25.2s,MS4.7
WMQ LR LR
comp=E,201nm,21.8s,MS4.7
WMQ LR LR
comp=Z,262nm,20.6s,MS4.6
HYB Hyderabad 79.97 289 iP **P 17 03 51.0 +1.0**
RC01 Rabbit Creek A 80.24 24 eP **P 17 03 49.2 -1.3**
comp=Z,15nm,0.6s,mb5.1
PPLA Purkeypile 80.38 22 eP **P 17 03 50.3 -0.9**
comp=Z,25nm,0.9s,mb5.1
TIXI Tiksi 80.71 352 eP **P 17 03 48.2 -4.6**
TIXI pmax pmax
comp=Z,48nm,2.1s,mb5.1
TIXI MLR MLR
comp=Z,364nm,17.0s,MS4.8
TIXI Tiksi 80.71 352 eP **P 17 03 52.8 0.0**
comp=Z,9.9nm,0.6s,mb4.9
PMR Palmer 80.77 23 eP **P 17 03 52.7 -0.6**
PMR pmax pmax
comp=Z,12nm,0.6s,mb5.0
PMR Palmer 80.77 23 eP **P 17 03 52.7 -0.6**
comp=Z,12nm,0.6s,mb5.0
CHUM Lake Minchumin 80.94 21 eP **P 17 03 53.8 -0.3**
comp=Z,11nm,0.7s,mb4.9
KTH Kantishna Hill 81.23 21 eP **P 17 03 53.9 -1.9**
comp=Z,28nm,1.2s,mb5.1
KRAR Krasnoyarsk 81.31 330⇑iP **P 17 03 56.9 +0.6**
KRAR pmax pmax
comp=Z,70nm,1.7s,mb5.3
TRF Thorofare Moun 81.40 22 eP **P 17 03 55.6 -1.1**
comp=Z,21nm,1.0s,mb5.0
BPAW Bear Paw Mtn. 81.53 21 eP **P 17 03 56.1 -1.2**
comp=Z,5.4nm,0.7s,mb4.6
IMA2 Indian Mountai 81.84 19 eP **P 17 03 58.2 -0.7**
DIV Divide 81.88 25 eP **P 17 03 59.2 0.0**
comp=Z,9.0nm,0.7s,mb4.8
MCK McKinley 82.06 22 eP **P 17 03 58.5 -1.6**
MCK pmax pmax
comp=Z,42nm,1.1s,mb5.3
MCK McKinley 82.06 22 eP **P 17 03 58.5 -1.6**
comp=Z,42nm,1.1s,mb5.3
BMRM Bremner River 82.29 25 eP **P 17 03 58.3 -3.0**
QSPA South Pole Qui 82.72 180 PKKP PKKPbc 17 22 22.2 -8.7
comp=Z,3.5nm,0.7s,baz=302,slow=4.2,SNR=11
DDI Dehra Dun 83.04 302 ex x 17 04 04.8
COLA College 83.09 21 eP **P 17 04 04.0 -1.4**
COLA pmax pmax
comp=Z,18nm,0.9s,mb5.1
COLA MLR MLR
comp=Z,847nm,21.0s,MS5.1
COLA College 83.09 21 eP **P 17 04 04.0 -1.4**
comp=Z,18nm,0.9s,mb5.1
COLA LR LR
comp=Z,847nm,21.0s,MS5.1
COLD Coldfoot 83.65 19 eP **P 17 04 06.8 -1.5**
comp=Z,12nm,1.2s,mb4.9
MK31 Makanchi Array 84.03 319 eP **P 17 04 10.7 0.0**
MKAR Makanchi Array 84.03 319 P **P 17 04 11.2 +0.6**
comp=Z,41nm,0.8s,mb5.6,baz=100,slow=6.3,SNR=173
MKAR PKKPbc PKKPbc 17 22 24.1 -3.0
comp=Z,1.1nm,1.0s,baz=358,slow=3.6,SNR=5.6
MKAR PKPPKP 17 30 31.6
comp=Z,0.5nm,0.8s,baz=256,slow=4.9,SNR=4.1
MKAR Makanchi Array 84.03 319 P **P 17 04 11.2 +0.6**
MKAR PKKPbc PKKPbc 17 22 24.1 -3.0
MKAR P'P' 17 30 31.6
KAD Karad 84.06 288 i x x 17 04 11.2
MAW Mawson 84.40 203 eP **P 17 04 12.6 +0.4**
comp=Z,13nm,0.9s,mb5.0
MAW Mawson 84.40 203 eP **P 17 04 12.6 +0.4**
MAW pmax pmax
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 84.76 326 P **P 17 04 13.9 -0.3**
comp=Z,22nm,0.7s,mb5.4,baz=124,slow=7.4,SNR=86
ZAL Zalesovo 84.77 326 P **P 17 04 13.9 -0.3**
EGAK Eagle 85.51 23 eP **P 17 04 17.4 -0.3**
SKAG Skagway 85.79 29 eP **P 17 04 19.5 +0.3**
comp=Z,42nm,1.4s,mb5.5
NVS Novosibirsk 85.93 326⇑iP **P 17 04 18.9 -1.1**
NVS eS S 17 14 38.9 -11
NVS pmax pmax
comp=Z,142nm,1.7s,mb5.9
NVS pmax pmax
comp=N,54nm,1.6s
NVS pmax pmax
comp=E,98nm,1.6s
KURK Kurchatov 87.44 322 P **P 17 04 26.8 -0.7**
comp=E,140nm,0.5s,mb6.5,SNR=11
KURK Kurchatov 87.44 322 eP **P 17 04 26.2 -1.3**
KURK pmax pmax
comp=Z,123nm,1.7s,mb5.9
KURK MLR MLR
comp=Z,346nm,20.0s,MS4.8
KURK Kurchatov 87.44 322 eP **P 17 04 26.2 -1.3**
comp=Z,123nm,1.7s,mb5.9
KURK LR LR
comp=Z,346nm,20.0s,MS4.8
TKM2 Tokmak 2 87.67 314 eP **P 17 04 28.9 +0.1**
TKM2 pmax pmax
comp=Z,13nm,0.8s,mb5.2
TKM2 Tokmak 2 87.67 314 P **P 17 04 29.5 +0.7**
SNR=17
TKM2 Tokmak 2 87.67 314 eP **P 17 04 28.9 +0.1**
comp=Z,13nm,0.8s,mb5.2
KZA Kyzart 87.75 313 P **P 17 04 30.6 +1.4**
SNR=12
KBK Karagaybulak 88.08 313 P **P 17 04 31.0 +0.3**
SNR=7.5
CHMS Chumysh 88.29 314 P **P 17 04 32.2 +0.4**
SNR=10
FRU Bishkek 88.36 313 eP **P 17 04 32.0 -0.1**
FRU pmax pmax
comp=Z,110nm,2.0s,mb5.7
AAK Ala-Archa 88.41 313 P **P 17 04 32.8 +0.5**
SNR=7.0
WDC Whiskeytown Da 88.49 49 P **P 17 04 32.0 -0.7**
USP Ospenovka 88.53 314 P **P 17 04 33.0 +0.1**
SNR=9.8
HUMO Hull Mountain 88.57 47 P **P 17 04 33.2 +0.2**
comp=Z,2.4nm,0.7s,mb4.6
YBH Yreka Blue Hor 88.58 48 eP **P 17 04 33.4 +0.3**
YBH pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 88.58 48 eP **P 17 04 33.4 +0.3**
comp=Z,3.6nm,1.0s,mb4.7
AML Almayashu 88.89 313 P **P 17 04 36.1 +1.5**
SNR=5.5
AML Almayashu 88.89 313 eP **P 17 04 35.9 +1.3**
comp=Z,19nm,1.0s,mb5.4
EKS2 Erkin-Say 88.93 313 P **P 17 04 35.4 +0.6**
SNR=8.8
EKS2 Erkin-Say 88.93 313 eP **P 17 04 35.0 +0.2**
comp=Z,18nm,1.0s,mb5.4
EKS2 LR LR
comp=Z,315nm,22.0s,MS4.7
CMB Columbia Colle 89.69 52 eP **P 17 04 38.2 -0.2**
CMB MLR MLR
comp=Z,302nm,20.0s,MS4.7
LON Longmire 90.15 43 eP **P 17 04 40.8 +0.4**
LON pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
LON Longmire 90.15 43 eP **P 17 04 40.8 +0.5**
comp=Z,6.6nm,0.7s,mb5.1
MOD Modoc 90.38 48 eP **P 17 04 42.5 +0.9**
comp=Z,6.8nm,1.2s,mb4.8
MOD LR LR
comp=Z,1μm,20.0s,MS5.3
ISA Isabella 90.84 54 eP **P 17 04 44.3 +0.4**
ISA pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
ISA Isabella 90.84 54 eP **P 17 04 44.3 +0.4**
comp=Z,4.0nm,1.1s,mb4.7
MWC Mount Wilson 90.98 56 eP **P 17 04 45.2 +0.7**
MWC pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
MWC Mount Wilson 90.98 56 eP **P 17 04 45.2 +0.6**
comp=Z,9.8nm,0.8s,mb5.2
KBL Kabul 91.28 304 eP **P 17 04 44.7 -1.2**
KBL pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
KBL Kabul 91.28 304 eP **P 17 04 44.6 -1.3**
comp=Z,8.7nm,0.8s,mb5.1
NVAR Mina Array Bea 91.37 52 P **P 17 04 47.6 +1.3**
comp=Z,3.2nm,1.1s,mb4.6,baz=244,slow=7.5,SNR=18
NVAR PP PP 17 08 23.9 -0.5
comp=Z,1.3nm,1.1s,baz=243,slow=6.5,SNR=4.1
NVAR Mina Array Bea 91.37 52 P **P 17 04 47.6 +1.3**
NVAR PP PP 17 08 23.9 -0.5
WVOR Wild Horse Val 91.69 48 eP **P 17 04 47.7 +0.1**
WVOR pmax pmax
comp=Z,8.0nm,1.3s,mb4.9
WVOR Wild Horse Val 91.69 48 eP **P 17 04 47.7 0.0**
comp=Z,7.9nm,1.3s,mb4.9
GSC Goldstone 92.14 55 eP **P 17 04 51.2 +1.3**
GSC pmax pmax
comp=Z,33nm,0.3s,mb6.1
GSC Goldstone 92.14 55 eP **P 17 04 51.2 +1.2**
comp=Z,32nm,0.3s,mb6.1
SYO Syowa Base 92.29 199⇑eP **P 17 04 48.0 -1.9**
TPNV Topopah Spring 92.80 53 eP **P 17 04 53.7 +0.8**

TPNV pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
TPNV MLR MLR
comp=Z,635nm,20.0s,MS5.1
TPNV Topopah Spring 92.80 53 *eP* **P 17 04 53.7 +0.8**
comp=Z,6.1nm,0.8s,mb5.1
TPNV LR LR
comp=Z,635nm,20.0s,MS5.1
BVAR Borovoye Array 92.90 323 P **P 17 04 52.1 -0.9**
comp=Z,23nm,0.9s,mb5.6,baz=106,slow=4.8,SNR=100
BVAR PKKPbc PKKPbc 17 22 03.6 -1.9
comp=Z,0.5nm,0.6s,baz=306,slow=5.1,SNR=4.4
BRVK Borovoye 92.97 323 P **P 17 04 52.4 -0.9**
comp=Z,166nm,1.0s,mb6.4,SNR=12
BRVK Borovoye 92.97 323 *eP* **P 17 04 51.9 -1.4**
BRVK pmax pmax
comp=Z,41nm,1.1s,mb5.8
BRVK Borovoye 92.97 323 *eP* **P 17 04 51.9 -1.3**
comp=Z,41nm,1.1s,mb5.8
MSU Marysvale 96.16 52 *eP* **P 17 05 09.9 +1.6**
YKA Yellowknife Ar 96.27 28 P **P 17 05 07.5 -0.7**
comp=Z,3.4nm,0.7s,mb4.9,baz=265,slow=4.5,SNR=20
YKA Yellowknife Ar 96.27 28 P **P 17 05 07.5 -0.7**
PDAR Pinedale Array 98.39 48 P **P 17 05 17.8 -0.4**
comp=Z,1.7nm,0.9s,mb4.6,baz=276,slow=1.3,SNR=11
ARU Arti 99.93 326*c i*P Pdif 17 05 22.8 -2.0
ARU *e* 17 09 28.1
ARU *e*PPP 17 11 38.5
ARU *e*S SKSac 17 15 58.8 -0.7
ARU pmax pmax
comp=Z,29nm,1.7s,mb5.4
ARU MLR MLR
comp=Z,279nm,20.0s,MS4.8
ARU Arti 99.93 326 *e*Pdif Pdif 17 05 23.2 -1.7
comp=Z,10nm,1.1s
SNAA Sanae 99.96 187 *e*Pdiff Pdif 17 05 24.9 -0.1
SNAA *e* 17 05 31.0
SNAA *e* 17 05 39.1
SNAA *e* 17 09 28.6
SNAA Sanae 99.96 187⇑*e*P Pdif 17 05 22.9 -2.1
VNA2 Neumayer--Watz 101.15 186 *e*Pdiff Pdif 17 05 30.3 0.0
VNA2 *e* 17 05 36.3
VNA2 *e* 17 05 43.9
VNA2 *e* 17 09 37.2
VNA2 *e* 17 09 54.7
VNA2 *e* 17 10 13.9
KLMR Klimovskoe 108.87 332 *e*P Pdif 17 06 02.6 -2.0
ARCES ARCESS Array B 110.03 343 PKiKP PKiKP 17 10 11.2 +0.3
comp=Z,3.5nm,0.7s,baz=95,slow=2.1,SNR=22
KIV Kislovodsk 111.49 314⇑*i*PKIKP PKiKP 17 10 13.9 -0.6
JOF Joensuu 111.58 336 *ep* PKiKP 17 10 13.5 -0.5
comp=Z,7.4nm,0.8s
OBN Obninsk 112.32 327⇑*e*PKP PKiKP 17 10 15.7 0.0
KAF Kangasniemi 113.99 337 *ep* PKiKP 17 10 17.6 -1.1
comp=Z,7.4nm,0.7s,baz=52,slow=1.9
PLCA Paso Flores 116.12 142 PKP PKPdf 17 10 23.0 -0.5
comp=Z,1.6nm,0.6s,baz=205,slow=7.2,SNR=6.5
PLCA PKKPbc PKKPbc 17 20 58.2 +3.4
comp=Z,3.8nm,0.8s,baz=65,slow=5.3,SNR=7.2
AKASG Malin Array Be 118.13 325 PKP PKPdf 17 10 26.7 -0.3
comp=Z,2.7nm,0.5s,baz=73,slow=1.9,SNR=12
AKASG PKKPbc PKKPbc 17 20 45.3 -2.6
comp=Z,0.2nm,0.4s,baz=258,slow=2.7,SNR=5.1
SUW Suwalki 119.78 330 *e*PKP PKPdf 17 10 30.1 +0.1
SUW Suwalki 119.78 330 *e*PKP PKPdf 17 10 30.1 +0.1
NOA NORSAR Array B 120.16 341 PKP PKPdf 17 10 30.3 -0.3
comp=Z,5.9nm,0.6s,baz=45,slow=2.0,SNR=21
BOSA Boshof 120.36 231 PKP PKPdf 17 10 31.8 -0.2
comp=Z,4.0nm,0.7s,baz=116,slow=3.9,SNR=8.0
BOSA Boshof 120.36 231 PKP PKPdf 17 10 31.8 -0.2
SUR Sutherland 121.67 225 PKP PKPdf 17 10 35.5 +1.1
comp=Z,4.5nm,0.7s,baz=105,slow=12,SNR=4.2
SCHQ Schefferville 121.72 27 PKP PKPdf 17 10 33.9 +0.2
comp=Z,1.3nm,0.8s,baz=288,slow=6.4,SNR=3.2
LBTB Lobatse 121.77 235 PKP PKPdf 17 10 34.6 -0.2
comp=Z,6.6nm,0.8s,baz=125,slow=5.1,SNR=8.4
KWP Kalwaria 122.33 326 *e*PKP PKPdf 17 10 35.7 +0.6
KWP Kalwaria 122.33 326 *e*PKP PKPdf 17 10 35.7 +0.6
KOLS Kolonicke sedl 122.94 325 *e*PKP PKPdf 17 10 37.5 +1.2
UZH Uzhgorod 123.08 325 *e*PKIKP PKPdf 17 10 36.5 -0.1
GKP Gorka Klasztor 123.10 332 *e*PKP PKPdf 17 10 37.8 +1.4
GKP Gorka Klasztor 123.10 332 *e*PKP PKPdf 17 10 37.8 +1.4
LSZ Lusaka 123.33 246 PKP PKPdf 17 10 37.7 -0.3
comp=Z,1.0nm,0.3s,baz=143,slow=1.8,SNR=6.1
CRVS Cervenica-Dubn 123.41 325 *e*PKP PKPdf 17 10 37.1 -0.1
NIE Niedzica 123.77 326 *e*PKP PKPdf 17 10 39.3 +1.4
OKC Ostrava-Krasne 124.70 328 *e*PKPdf PKPdf 17 10 40.7 +1.1
OKC AMS AMS 18 09 30.0
comp=Z,400nm,18.0s
PSZ Piszkesteto 124.82 325⇓*e*PKP PKPdf 17 10 40.1 +0.2
PSZ Piszkesteto 124.82 325 *e*PKPdf PKPdf 17 10 39.4 -0.5
KSP Ksiaz 125.06 330 *e*PKP PKPdf 17 10 40.7 +0.4
KSP Ksiaz 125.06 330 *e*PKP PKPdf 17 10 40.2 -0.1
MORC Moravsky Berou 125.06 328 *e*PKIKP PKPdf 17 10 40.8 +0.5
DPC Dobruska-Polom 125.34 329 *e*PKPdf PKPdf 17 10 41.9 +1.1
DPC AMS AMS 18 04 40.0
comp=Z,400nm,28.7s
UPC Upice 125.40 330 *e*PKPdf PKPdf 17 10 42.2 +1.3
BSEG Bad Segeberg 125.71 336 *e*PKPdf PKPdf 17 10 42.2 +0.8
MODS Modra-Piesok 126.02 327 *e*PKP PKPdf 17 10 43.2 +1.0
PVCC Panska Ves 126.11 330 *e*PKPdf PKPdf 17 10 42.7 +0.4
PVCC AMS AMS 18 12 00.0
comp=Z,400nm,22.6s
BRG Berggiesshubel 126.19 331 *e*PKPdf PKPdf 17 10 42.8 +0.4
BRG *ep*PKPdf pPKPdf 17 10 55.6 -1.1
BRG Berggiesshubel 126.19 331 *e*PKP PKPdf 17 10 42.4 0.0
comp=Z,32nm,1.4s
BRG
comp=N,294nm,19.7s
BRG
comp=E,197nm,15.3s
BRG
comp=Z,459nm,21.4s
ZST Bratislava 126.22 327 *e*PKIKP PKPdf 17 10 43.7 +1.1
ZST MLR MLR
comp=Z,100nm,22.0s,MS4.5
CLL Collm 126.35 332 *e*PKPdf PKPdf 17 10 42.9 +0.2
CLL *ep*PKPdf pPKPdf 17 10 56.2 -0.8
CLL Collm 126.35 332⇓*i*PKPdf PKPdf 17 10 42.8 +0.1
comp=Z,35nm,1.5s
CLL *i* pPKPdf pPKPdf 17 10 56.1 -0.9
CLL LmV 17 11 00.0
comp=Z,300nm,19.2s
CLL *e*PP PP 17 12 37.0 -0.7
CLL *e*PPP 17 15 18.0
CLL *e*PPS 17 24 13.0
CLL *e*SS SS 17 29 39.0 +1.2
CLL *ex* x 17 31 11.0
CLL *e*SSS 17 34 42.0
CLL *e*SSSS 17 38 00.0
CLL Collm 126.35 332⇓*i*PKP PKPdf 17 10 42.8 +0.1
CLL *i* 17 10 56.1
CLL *e*PP PP 17 12 37.0 -0.7
CLL LR LR
comp=Z,300nm,19.2s,MS5.0
TREC Trest 126.42 329 AMS AMS 18 09 00.0
comp=Z,400nm,17.0s
PRU Pruhonice 126.47 330 *e*PKPdf PKPdf 17 10 43.8 +0.8
PRU AMS AMS 18 06 30.0
comp=Z,300nm,21.1s
SOP Sopron 126.81 326⇓*e*PKP PKPdf 17 10 44.1 +0.4
CONA Conrad Observa 127.05 327⇓*i*P PKPdf 17 10 44.6 +0.4
comp=Z,25nm,1.7s
CSNA Conrad Observa 127.05 327⇓*i*P PKPdf 17 10 44.6 +0.5
comp=Z,24nm,1.8s
CLZ Clausthal 127.18 334 *e*PKPdf PKPdf 17 10 45.1 +0.8
CLZ *ep*PKPdf pPKPdf 17 10 58.0 -0.6
NKC Novy Kostel 127.33 331 *e*PKPdf PKPdf 17 10 45.8 +1.2
NKC AMS AMS 18 06 30.0
comp=Z,500nm,19.6s
MOX Moxa 127.45 332 *e*P PKPdf 17 10 45.6 +0.7
comp=Z,36nm,1.8s
MOX *e* 17 10 58.1
MOX
comp=Z,200nm,19.0s
MOX Moxa 127.45 332 *e*PKPdf PKPdf 17 10 45.1 +0.2
MOX *ep*PKPdf pPKPdf 17 10 58.2 -0.9
KHC Kasperske Hory 127.50 329 *e*PKIKP PKPdf 17 10 45.5 +0.5
KHC *e* 17 10 58.5
KHC MLR MLR
comp=Z,400nm,16.7s,MS5.2
KHC Kasperske Hory 127.50 329 *e*PKPdf PKPdf 17 10 45.5 +0.5
KHC *ep*PKP pPKPdf 17 10 58.5 -0.8
KHC *ex* x 17 12 02.5
KHC AMS AMS 18 06 40.0
comp=Z,400nm,16.7s
GEC2 GERESS Array S 127.61 329 *e*PKIKP PKPdf 17 10 45.4 +0.2
GERES GERESS Array B 127.61 329 PKP PKPdf 17 10 46.0 +0.7
comp=Z,4.6nm,0.6s,baz=55,slow=2.0,SNR=44
MANZ Manzenberg 127.66 331 *e*PKPdf PKPdf 17 10 45.9 +0.6
MANZ *ep*PKPdf pPKPdf 17 10 58.6 -0.9
ROTZ Rotzenmuhle 127.76 331 *e*PKPdf PKPdf 17 10 46.0 +0.5
WET Wettzell 127.84 330 *e*PKPdf PKPdf 17 10 46.2 +0.6
WET *ep*PKPdf pPKPdf 17 10 59.3 -0.6
IBBN Ibbenburen 127.96 336 *e*PKPdf PKPdf 17 10 46.6 +0.8
SOKA Soboth 128.25 326⇑*i*P PKPdf 17 10 46.9 +0.4
comp=Z,14nm,1.3s
GRA1 Grafenberg Arr 128.28 331 *e*PKPdf PKPdf 17 10 46.8 +0.3
GRA1 *e*PP PP 17 12 52.5 +2.1
GRA1 LR LR
comp=Z,200nm,20.2s,MS4.8
GRF Grafenberg Arr 128.28 331 *e*PKPdf PKPdf 17 10 46.8 +0.3
GRF *e*PP PP 17 12 52.5 +2.1
GRF *eL* 18 07 45.8
comp=Z,211nm,20.2s
BUG Bochum--Univer 128.81 335 *e*PKPdf PKPdf 17 10 47.6 +0.2
FUR Furstenfeldbru 129.28 330 *e*PKPdf PKPdf 17 10 49.1 +0.7
WTTA Wattenberg 129.69 329⇑*i*P PKPdf 17 10 49.1 -0.2
comp=Z,30nm,1.1s
STU Stuttgart 129.88 332 *e*PKPdf PKPdf 17 10 50.5 +1.0
MOTA Moosalm 129.91 329⇓*i*P PKPdf 17 10 49.9 +0.3
comp=Z,38nm,1.6s
MEM Membach 129.96 335 PKPdf PKPdf 17 10 50.6 +1.0
ROSC El Rosal 130.26 90 PKP PKPdf 17 10 51.3 -0.1
comp=Z,8.8nm,0.6s,baz=60,slow=8.1,SNR=6.7
BCLA Clavier 130.39 335 PKPdf PKPdf 17 10 49.3 -1.2
UCC Uccle 130.48 336 PKPdf PKPdf 17 10 51.2 +0.6
BFO Black Forest 130.60 332 *e*PKPdf PKPdf 17 10 51.3 +0.4
WLF Walferdange 130.61 334 *e*PKPdf PKPdf 17 10 52.1 +1.2
WLF Walferdange 130.61 334 *e*PKPdf PKPdf 17 10 52.2 +1.3
LPAZ La Paz 130.76 119 PKP PKPdf 17 10 52.7 +0.5
comp=Z,20nm,1.1s,baz=30,slow=6.4,SNR=3.7
LPAZ SKPbc SKPbc 17 14 16.6 +4.0
comp=Z,2.9nm,0.6s,baz=267,slow=3.7,SNR=9.4
LPAZ La Paz 130.76 119 *e*PKPdf PKPdf 17 10 52.0 -0.1
LPAZ LR LR
comp=Z,361nm,22.0s,MS5.0
DOU Dourbes 130.93 336 PKPdf PKPdf 17 10 53.3 +1.8
TSUM Tsumeb 131.03 237 PKP PKPdf 17 10 51.7 -0.9
comp=Z,5.1nm,0.9s,baz=124,slow=6.3,SNR=4.3
HINF Hinteralfeld 131.66 332 *e*PKIKP PKPdf 17 10 40.4 -13
LPL La Plagne 133.37 330 *e*PKIKP PKPdf 17 10 44.6 -12
LPG La Plagne 133.37 330 *e*PKIKP PKPdf 17 10 44.7 -12
LOR Lormes 133.42 334 *e*PKIKP PKPdf 17 10 44.2 -12
BNI Bardonecchia 133.72 330 *e*PKIKP PKPdf 17 10 58.1 +1.2
SSF Saint Saulge 133.73 334 *e*PKIKP PKPdf 17 10 44.9 -12
comp=Z,6.8nm,0.7s
CPUP Villa Florida 133.75 137 PKP PKPdf 17 10 57.0 -0.5
comp=Z,6.1nm,0.9s,baz=11,slow=2.4,SNR=8.1
CPUP SKPbc SKPbc 17 14 26.3 +3.4
comp=Z,1.8nm,0.7s,baz=136,slow=6.6,SNR=4.0
CPUP Villa Florida 133.75 137 *e*PKPdf PKPdf 17 10 57.8 +0.2
SMF Signal de Mont 133.90 333 *e*PKIKP PKPdf 17 10 45.0 -12
comp=Z,11nm,0.7s
SDV Santo Domingo 134.17 85 *e*PKPdf PKPdf 17 10 57.2 -1.4
ORIF Oris-en-Rattie 134.22 330 *e*PKIKP PKPdf 17 10 46.0 -12
KEST Kesra 138.12 317 PKP PKPdf 17 11 03.8 -1.7
comp=Z,2.1nm,1.0s,baz=352,slow=1.1,SNR=2.6
ETOR Torete 141.12 333 PKHKP 17 11 05.1
GUD Guadarrama 142.18 335 PKHKP 17 11 06.7
MVO Moncorvo 142.88 338 *e*PKP PKPdf 17 11 11.1 -2.8
ESDC Sonseca Array 142.90 334 PKhKP 17 11 10.1
comp=Z,3.9nm,0.8s,baz=25,slow=2.9,SNR=20
ESDC Sonseca Array 142.90 334 P PKPdf 17 11 10.5 -3.4
EMUR La Murta 143.05 329 P PKPdf 17 11 11.9 -2.4
EVIA Vianos 143.06 331 PKIKP PKPdf 17 11 11.7 -2.5
PVIS Viseu 143.59 339 *e*PKP PKPdf 17 11 13.3 -1.8
MTE Manteigas 143.74 338 *e*PKP PKPdf 17 11 13.4 -2.0
MTE Manteigas 143.74 338 *e*PKPpre 17 11 13.2
EHUE Huescar 143.75 330 PKIKP PKPdf 17 11 13.0 -2.5
EQES Quesada 143.99 331 P PKPdf 17 11 12.4 -3.5
EBAN Banos Encina 144.04 332 PKIKP PKPdf 17 11 13.3 -2.7
PCBR Castelo Branco 144.20 338 *e*PKP PKPdf 17 11 14.8 -1.4
EADA Adamuz 144.41 333 P PKPdf 17 11 15.7 -0.9
PMRV Marv??o 144.53 337 *e*PKP PKPdf 17 11 15.5 -1.3
EBER Berja 144.61 330 P PKPdf 17 11 15.5 -1.5
ECOG Cogollos-Vega 144.65 331 PKIKP PKPdf 17 11 15.4 -1.7
PTOM Tomar 144.75 338 *e*PKP PKPdf 17 11 16.6 -0.6
ELUQ Luque 144.75 332 PKIKP PKPdf 17 11 16.2 -1.0
ECAB El Cabril 144.86 334 P PKPdf 17 11 16.9 -0.5
EBAD Badajoz 144.96 336 P PKPdf 17 11 16.8 -0.7
ERON Agron 144.97 331 P PKPdf 17 11 16.1 -1.5
EGUA Guajares 145.00 330 PKIKP PKPdf 17 11 16.0 -1.7
ELOJ Sierra Loja 145.03 331 PKIKP PKPdf 17 11 16.8 -0.9
PESTR Estremoz 145.09 337 *e*PKP PKPdf 17 11 16.9 -0.9
EALB Alboran 145.43 329 P PKPbc 17 11 18.4 0.0
PBAR Barrancos 145.46 336 *e*PKP PKPdf 17 11 17.3 -1.1
EVO Evora 145.54 337 *e*PKIKP PKPdf 17 11 12.4 -6.2
EVO Evora 145.54 337 *e*PKP PKPdf 17 11 18.8 +0.2
PMAFR Mafra 145.65 339 *e*PKP PKPdf 17 11 19.5 +0.8
EMIN Mina Concepcio 145.66 335 P PKPdf 17 11 19.7 +0.9
MOE Montemor 145.68 337 *e*PKP PKPdf 17 11 17.0 -1.8
EMIJ Mijas 145.79 331 P PKPdf 17 11 20.5 +1.4
PBEJ Beja 145.93 336 *e*PKP PKPdf 17 11 19.9 +0.7
ESPR Espera 146.05 333 P PKPdf 17 11 21.1 +1.6
EGRO El Granado 146.19 336 P PKPdf 17 11 21.1 +1.4
EJIF Jimena Fronter 146.21 332 PKP2 PKPab 17 11 21.3 -0.3
PVAQ Vaqueiros 146.40 336 *e*PKP PKPdf 17 11 21.0 +0.9
PBDV Barranco-do-Ve 146.63 336 *e*PKP PKPbc 17 11 22.7 +0.7
PTEO Sao Teotonio 146.68 337 *e*PKP PKPbc 17 11 22.5 +0.3
MORF Marmelete 146.86 337 *e*PKP PKPbc 17 11 23.0 +0.3
PFVI Vila Bisbo 147.08 337 *e*PKP PKPbc 17 11 23.7 +0.4
BDFB Brasilia 147.33 134 PKPbc PKPbc 17 11 23.1 -1.5
comp=Z,30nm,0.6s,baz=206,slow=5.5,SNR=34
TAM Tamanrasset 147.38 301 *e*PKIKP PKPdf 17 11 22.7 +0.6
CAM3 Guarapari 147.96 151 *eP* PKPbc 17 11 25.8 -0.4
CAM3 *i* 17 11 27.0
CAM3 *i* 17 11 32.3
CAM3 *i* 17 11 36.9
CAM3 *i* 17 11 47.7
CAM3 *i* 17 11 57.6
CAM3 *i* 17 12 45.6
CAM3 *i* 17 12 45.6
TOA0 Torodi Ar. Sit 153.72 285 *e*PKPbc PKPbc 17 11 39.6 -0.4
TORD Torodi Ar. Bea 153.72 285 PKP PKPdf 17 11 32.0 -0.1
comp=Z,1.0nm,0.8s,baz=352,slow=3.0,SNR=4.1
TORD PKPbc PKPbc 17 11 39.9 -0.1
comp=Z,6.4nm,1.0s,baz=56,slow=1.4,SNR=9.3
TORD Torodi Ar. Bea 153.72 285 PKP PKPdf 17 11 32.0 -0.1
TORD PKPbc PKPbc 17 11 39.9 -0.1
KIC Kosan Boka 160.51 269 *e*PKP1 PKPab 17 12 19.2 -3.1
comp=Z,245nm,1.5s
DBIC Dimbokro 160.64 269 PKPab PKPab 17 12 23.4 +0.6
comp=Z,11nm,1.0s,baz=91,slow=6.9,SNR=3.4
LIC Lamto 160.78 268 *e*PKP1 PKPab 17 12 19.9 -3.6
comp=Z,107nm,1.7s
TIC Toumodi 160.80 269 *e*PKP1 PKPab 17 12 18.7 -4.9
comp=Z,188nm,1.4s

IDC ***15*** *16:52:57.1±1.1, 729S×15576E, h0km, mb4.8/8, mb1 4.8/8, mb1mx4.6/18, mbtmp4.8/8, MS4.7/2, Ms1 4.7/2, ms1mx3.7/16, Error ellipse: s-maj=51.2km s-min=32.9km az=62.0*
NEIC ***15*** *16:52:58.5±0.8, 728S×15582E, h10km, mb4.9/2, Error ellipse: s-maj=44.6km s-min=22.6km az=56.0*
MOS ***15*** *16:53:02.7±0.7, 689S×15555E, h33km, mb5.3/1, Error ellipse: s-maj=62.7km s-min=21.3km az=120.5*
ISC 15 16:53:02.8±4.3, 72S±06×1558E±06, h35km, n23, σ0§81/14, mb4.8/10, MS4.8/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**31.85**	**262**	LR	LR	17 13 19.4	
	comp=Z,3μm,18.3s,MS5.0,baz=104,slow=38						
MJAR	**Matsushiro Arr**	**46.54**	**340**	P	**P**	**17 01 25.5**	**-1.6**
	4.2nm,0.8s,mb4.4,baz=164,slow=8.3,SNR=5.3						
MJAR				PcP	PcP	17 03 01.0	0.0
	4.0nm,0.8s,baz=163,slow=4.0,SNR=4.8						
MJAR	**Matsushiro Arr**	**46.54**	**340**	P	**P**	**17 01 25.5**	**-1.6**
MJAR				PcP	PcP	17 03 01.0	0.0
ASAJ	**Asahikawa**	**52.46**	**348**	P	**P**	**17 02 12.5**	**+0.4**
	11nm,0.7s,mb4.9,baz=196,slow=4.8,SNR=3.8						
PETK	**Petropavlovsk-**	**60.12**	**1**	P	**P**	**17 03 07.4**	**+0.9**
	8.8nm,0.9s,mb4.8,baz=161,slow=9.2,SNR=3.3						
CMAR	**Chiang Mai Arr**	**61.56**	**295**	P	**P**	**17 03 17.6**	**+0.6**
	6.5nm,0.9s,mb4.8,baz=117,slow=4.7,SNR=2.8						
HIA	**Hailar**	**64.44**	**335**	*eP*	**P**	**17 03 35.7**	**+0.1**
HIA				pmax	pmax		
	comp=Z,15nm,0.9s						
HIA	**Hailar**	**64.44**	**335**	*eP*	**P**	**17 03 35.7**	**+0.1**
	comp=Z,15nm,0.9s,mb5.0						
SONM	**Songino Array**	**69.93**	**327**	P	**P**	**17 04 11.5**	**+1.1**
	comp=Z,5.5nm,0.6s,mb4.7,baz=144,slow=6.2,SNR=4.0						
TLY	**Talaya**	**73.64**	**329**	*eP*	**P**	**17 04 32.9**	**+0.3**
	comp=Z,6.1nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**84.07**	**319**	P	**P**	**17 05 30.4**	**+0.4**
	comp=Z,14nm,0.8s,mb5.1,baz=103,slow=5.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**84.79**	**326**	P	**P**	**17 05 33.0**	**-0.5**
	comp=Z,11nm,0.8s,mb5.0,baz=116,slow=6.9,SNR=5.1						
ZALV				LR	LR	17 44 21.2	
	comp=Z,172nm,18.6s,MS4.5,baz=138,slow=36						
ZALV	**Zalesovo Beam**	**84.79**	**326**	P	**P**	**17 05 33.0**	**-0.5**
ZALV				LR	LR	17 44 21.2	
ZAL	**Zalesovo**	**84.80**	**326**	P	**P**	**17 05 33.0**	**-0.5**
BVAR	**Borovoye Array**	**92.93**	**323**	P	**P**	**17 06 10.9**	**-1.3**
	comp=Z,6.0nm,0.8s,mb5.1,baz=100,slow=6.2,SNR=6.1						
AKASG	**Malin Array Be**	**118.16**	**325**	PKP	PKPdf	17 11 45.1	-1.1
	comp=Z,0.3nm,0.4s,baz=56,slow=2.5,SNR=6.8						
NB2	**NORSAR Subarra 120.16**		**341**	PKPdf	PKPdf	17 11 49.3	-0.5
	comp=Z,1.5nm,0.7s,baz=41,slow=1.9						
NOA	**NORSAR Array B 120.16**		**341**	PKP	PKPdf	17 11 49.4	-0.4
	comp=Z,1.9nm,0.7s,baz=47,slow=2.2,SNR=4.2						
CLL	**Collm**	**126.37**	**332**	*e*PKPdf	PKPdf	17 12 02.0	0.0
GERES	**GERESS Array B 127.63**		**329**	PKP	PKPdf	17 12 05.5	+1.0
	comp=Z,1.3nm,0.6s,baz=68,slow=1.2,SNR=4.3						
LPAZ	**La Paz**	**130.69**	**119**	PKP	PKPdf	17 12 12.7	+1.5
	comp=Z,3.5nm,0.9s,baz=320,slow=2.3,SNR=2.9						
ESDC	**Sonseca Array**	**142.91**	**334**	PKhKP		17 12 29.2	
	comp=Z,1.3nm,0.8s,baz=22,slow=3.0,SNR=4.3						
BDFB	**Brasilia**	**147.28**	**134**	PKPbc	PKPbc	17 12 42.3	-1.4
	comp=Z,5.4nm,0.7s,baz=191,slow=26,SNR=3.6						

ISCJB ***15*** *17:00:14.8±1.2, 283N±0.1×1050E±02, h8km±8km, mb3.5/3, Error ellipse: s-maj=38.9km s-min=5.6km az=150.0*
IDC ***15*** *17:00:15.2±2.6, 2822N×105.10E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/21, mbtmp3.6/4, Error ellipse: s-maj=75.7km s-min=28.2km az=92.0*
BJI ***15*** *17:00:17.5, 2836N×1049 2E, h15km, ML3.5, Ms3.2, Msz3.3*
ISC 15 17:00:17.1±1.3, 283N±01×1050E±02, h11km±8km, n6, σ1§11/12, mb3.5/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.40**	**141**	P	**Pn**	**17 00 58.1**	**+1.8**
GYA				PG	**Pg**	**17 01 04.0**	**+0.9**
GYA				S	**Sn**	**17 01 28.8**	**+3.1**
GYA				SG	**Sg**	**17 01 33.5**	**-0.7**
GYA				Smax			
	comp=N,310nm,0.6s						
GYA				Smax			
	comp=E,190nm,0.6s						
CD2	**Chengdu**	**2.77**	**338**	*eP*	**Pn**	**17 01 02.0**	**+0.4**
CD2				PG	**Pg**	**17 01 09.3**	**-1.0**
CD2				S	**Sn**	**17 01 35.8**	**+0.7**
CD2				SG	**Sg**	**17 01 47.0**	**+0.7**
CD2				Smax			
	comp=N,520nm,0.6s						
CD2				Smax			
	comp=E,440nm,0.6s						
SONM	**Songino Array**	**19.49**	**3**	P	**Pn**	**17 04 44.9**	**-0.5**
	comp=E,0.3nm,0.3s,baz=184,slow=12,SNR=5.1						
KSRS	**Korea Array**	**21.25**	**59**	P	**P**	**17 05 02.8**	**-0.6**
	comp=E,0.4nm,0.4s,mb3.8,baz=336,slow=8.3,SNR=20						
WRA	**Warramunga Arr**	**55.76**	**146**	P	**P**	**17 09 52.8**	**-1.4**
	comp=E,0.4nm,0.4s,mb3.8,baz=242,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**58.74**	**149**	P	**P**	**17 10 13.9**	**-1.2**
	comp=E,0.2nm,0.4s,mb3.5,baz=338,slow=7.3,SNR=9.6						

MAN 15 17:18:35, 1263N×12580E, h14km, mb4.1, ML2.9, MS2.6, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.08**	**199**	*eP*	Pb	17 18 54.0	-1.4
BESP				*eS*	Sb	17 19 09.2	-0.3
CNP	**Catarman**	**1.11**	**264**	*eP*	Pb	17 18 57.1	+1.0
PVCP	**Virac**	**1.87**	**301**	*eP*	Pn	17 19 07.3	+0.7
CAUP	**Cauayan**	**5.76**	**319**	*eP*	Pn	17 20 00.7	+0.6
APYP	**Conner**	**6.81**	**320**	*eP*	Pn	17 20 15.9	+1.3

PLV ***15*** *17:20:15.4±0.3, 2365N×10383E, h12km±1km, MD3.9*
ISCJB ***15*** *17:21:06.8±0.5, 2425N±003×1040 9E±005, h10km, mb3.3/4, Error ellipse: s-maj=6.5km s-min=4.1km az=154.6*
IDC ***15*** *17:21:08.7±1.4, 2443N×10390E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/21, mbtmp3.4/5, ML4.3/1, Error ellipse: s-maj=34.2km s-min=19.8km az=99.0*
BJI ***15*** *17:21:09.7, 2439N×1040 4E, h17km, ML3.4, Ms3.9, Msz3.5*
ISC 15 17:21:09.2±0.4, 2425N±003×10403E±005, h10km, n13, σ1§28/30, mb3.3/4, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.46**	**307**	PG	**Pg**	**17 21 35.8**	**-1.5**
KMI				SG	**Sg**	**17 21 55.3**	**-0.9**
KMI				Smax			
	comp=N,559nm,0.8s						
KMI				Smax			
	comp=E,440nm,0.6s						
GYA	**Guiyang**	**3.24**	**47**	P	**Pn**	**17 22 02.0**	**+1.9**
GYA				PG	**Pg**	**17 22 10.3**	**-1.0**
GYA				S	**Sn**	**17 22 42.6**	**+3.8**
GYA				SG	**Sg**	**17 22 52.3**	**-1.0**
GYA				Smax			
	comp=N,250nm,0.7s						
GYA				Smax			
	comp=E,240nm,0.6s						
MTZV	**Met**	**3.43**	**141**	*e*Pn	**Pn**	**17 22 04.5**	**+1.7**
MTZV				*e*Pg	**Pg**	**17 22 15.5**	**+0.5**
MTZV				*e*Sg	**Sg**	**17 22 56.3**	**-3.2**
BGV	**Bac-Giang**	**3.58**	**145**	*e*Pn	**Pn**	**17 22 05.8**	**+1.1**
BGV				*e*Pg	**Pg**	**17 22 17.2**	**-0.5**
BGV				*e*Sg	**Sg**	**17 22 59.2**	**-4.9**
HNV	**Hanoi**	**3.58**	**153**	*e*Pn	**Pn**	**17 22 05.3**	**+0.5**
HNV				*e*Pg	**Pg**	**17 22 16.6**	**-1.2**
HNV				*e*Sg	**Sg**	**17 22 58.5**	**-5.8**
DSV	**Doi Son**	**4.07**	**153**	*e*Pn	**Pn**	**17 22 11.6**	**+0.1**
DSV				*e*Pg	**Pg**	**17 22 25.1**	**-2.0**
DSV				*e*Sg	**Sg**	**17 23 12.5**	**-7.4**
PLV	**Phu-Lien**	**4.19**	**145**	*e*Pn	**Pn**	**17 22 14.4**	**+1.2**
PLV				*e*Pg	**Pg**	**17 22 28.9**	**-0.5**
PLV				*e*Sg	**Sg**	**17 23 18.9**	**-4.8**
CD2	**Chengdu**	**6.64**	**358**	*eP*	**Pn**	**17 22 48.0**	**+1.2**
CD2				S	**Sn**	**17 24 04.4**	**+1.9**
CD2				SG	**Sg**	**17 24 41.5**	**-0.8**
CD2				Smax			
	comp=N,20nm,1.4s						
CD2				Smax			
	comp=E,20nm,1.7s						
CMAR	**Chiang Mai Arr**	**7.46**	**220**	Pn	**Pn**	**17 22 59.9**	**+1.6**
	comp=E,1.3nm,0.3s,baz=28,slow=13,SNR=7.3						
CMAR				Pg	**Pg**	**17 23 26.0**	**-6.2**
	comp=E,0.2nm,0.3s,baz=27,slow=16,SNR=3.4						
CMAR				Lg		17 25 08.3	
	comp=E,0.4nm,0.3s,baz=50,slow=33,SNR=6.5						
SONM	**Songino Array**	**23.61**	**4**	P	**P**	**17 26 20.2**	**-0.2

*CSEM **15** 17:55:19.0±0.1, 39.33N×2027E, h2km, ML3.4, Error ellipse: s-maj=3.3km s-min=2.0km az=79.0*

ISC 15 17:55:18.5±0.7, 3932N±002×2021E±006, h1km±5km, n19, σ1§02/30, 4C-2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**23**	*e*Pg		**Pg**		**17 55 22.6**	**-0.3**
IGT				*e*Sg		**Sg**		**17 55 26.4**	**+0.4**
KEK	**Kerkira**	**0.51**	**321**	⇓*i*PN		**Pg**		**17 55 29.0**	**+0.8**
JAN	**Janina**	**0.60**	**56**	⇑*i*PN		**Pg**		**17 55 29.1**	**-0.9**
JAN				*e*SN		**Sg**		**17 55 37.6**	**-0.1**
LKD	**Levkas**	**0.70**	**151**	*e*Pg		**Pg**		**17 55 30.9**	**-1.1**
LKD				*e*Sg		**Sg**		**17 55 42.8**	**+1.8**
VLS	**Valsamata**	**1.18**	**165**	*e*Pg		**Pg**		**17 55 39.6**	**-1.5**
VLS				*e*Sg		**Sg**		**17 55 57.6**	**+1.2**
VLS	**Valsamata**	**1.18**	**165**	⇑*i*Pn		**Pn**		**17 55 40.6**	**-1.5**
VLS				*e*Sg		**Sg**		**17 55 57.6**	**+1.2**
VLS				*e*Sn		**Sn**		**17 55 58.1**	**-0.7**
KFL	**Anninata**	**1.29**	**159**	*e*Pg		**Pg**		**17 55 43.0**	**-0.2**
KFL				*e*Sg		**Sg**		**17 56 01.4**	**+1.4**
EVR	**Evrytania**	**1.30**	**107**	⇑*i*PN		**Pn**		**17 55 43.6**	**-0.3**
THL	**Klokotos Trika**	**1.42**	**80**	*e*Pg		**Pg**		**17 55 44.0**	**-1.7**
THL				*e*Sg		**Sg**		**17 56 04.4**	**+0.4**
THL	**Klokotos Trika**	**1.42**	**80**	⇓*i*Pn		**Pn**		**17 55 44.8**	**-0.6**
THL				*e*Sn		**Sn**		**17 56 04.4**	**-0.3**
KZN	**Kozani**	**1.55**	**50**	⇑*i*PN		**Pn**		**17 55 47.9**	**+0.6**
RLS	**Riolos of Patr**	**1.60**	**142**	*e*PN		**Pn**		**17 55 47.8**	**-0.1**
AGG	**Agios Georgios**	**1.67**	**100**	*e*Pb		**Pb**		**17 55 48.4**	**-1.7**
AGG				*e*Sb		**Sb**		**17 56 13.6**	**+2.0**
FNA	**Florina**	**1.71**	**31**	*e*Pb		**Pb**		**17 55 50.4**	**-0.4**
FNA				*e*Sb		**Sb**		**17 56 13.5**	**+0.7**
BIA	**Bitola**	**1.90**	**26**	*i* Pn		**Pn**		**17 55 53.8**	**+1.8**
LIT	**Litokhoron**	**1.92**	**65**	*e*Sb		**Sb**		**17 56 18.2**	**-0.6**
KRUS	**Krusevo**	**2.19**	**21**	*i* Pn		**Pn**		**17 55 57.3**	**+1.2**
KRUS	**Krusevo**	**2.19**	**21**	*i* Pn		**Pn**		**17 55 57.2**	**+1.1**
DID	**Didima**	**2.99**	**126**	*e*Pn		**Pn**		**17 56 06.9**	**-0.1**

*NIED **15** 18:03:00, 4320N×14700E, h35km, Mw4.4 Best double couple: M≥3.83000×10^15 NP1:φs39.00000°, δ68.00000°, λ83.00000°. NP2:φs236.00000°, δ23.00000°, λ106.00000°.*
*MOS **15** 18:03:27.5±1.5, 4321N×14707E, h31km, mb5.0/5, Error ellipse: s-maj=11.0km s-min=7.3km az=93.2*
*JMA **15** 18:03:29.5±0.4, 4324N×14699E, h39km±4km, M4.1*
*SKHL **15** 18:03:29.5±1.0, 4341N×14701E, h49km±13km, mb4.8/2*
*ISCJB **15** 18:03:30.6±0.8, 4336N±005×14695E±006, h45km±6km, mb4.2/24, MS3.8/5, Error ellipse: s-maj=9.7km s-min=6.0km az=142.7*
*BJI **15** 18:03:31.9, 4306N×14677E, h56km, mB4.9, mb4.6, Ms3.9, Msz3.6*
*NEIC **15** 18:03:31.9±1.2, 4332N×14675E, h38km±11km, mb4.6/7, Error ellipse: s-maj=12.9km s-min=7.7km az=144.0*
*IDC **15** 18:03:33.5±2.6, 4327N×14682E, h55km±24km, mb3.7/12, mb1 3.9/16, mb1mx3.8/23, mbtmp3.7/16, ML3.5/4, MS3.6/5, Ms1 3.7/5, ms1mx3.2/35, Error ellipse: s-maj=20.5km s-min=16.6km az=131.0*

ISC 15 18:03:32.1±0.7, 4328N±005×14688E±006, h42km±6km, n79, σ1§07/85, mb4.2/24, MS3.8/5, 4C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.83**	**276**	P			**Pn**	**18 03 46.3**	**-1.0**
NEM2				*e*S			**Sn**	**18 03 58.3**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.05**	**316**	⇓*i*PN			**Pn**	**18 03 49.0**	**-1.3**
YUK				*i* S			**Sn**	**18 04 02.9**	**-0.9**
YUK	comp=N,580nm,0.5s			pmax		pmax			
YUK	comp=E,380nm,0.5s			pmax		pmax			
YUK	comp=Z,1μm,0.5s			pmax		pmax			
YUK	comp=Z,3μm,0.8s			pmax		pmax			
YUK	comp=N,8μm,0.5s			smax					
YUK	comp=E,4μm,0.5s			smax					
YUK	comp=N,12μm,2.0s			smax					
YUK	comp=E,20μm,2.0s			smax					
YUK	**Yuzh-Kuril'sk**	**1.05**	**316**	⇓*i*P			**Pn**	**18 03 49.0**	**-1.3**
YUK				⇓*i*P				18 03 49.0	
YUK	comp=E,3μm,0.8s			AMB		AMB		18 03 49.5	
YUK	comp=E,580nm,0.5s			AMB		AMB		18 03 49.5	
YUK	comp=E,1μm,0.5s			AMB		AMB		18 03 49.5	
YUK				*i* S			**Sn**	**18 04 02.9**	**-0.9**
YUK	comp=E,12μm,2.0s			A				18 04 12.0	
YUK	comp=E,20μm,2.0s			A				18 04 12.0	
YUK	comp=E,8μm,0.5s			A				18 04 12.0	
YUK	comp=E,4μm,0.5s			A				18 04 12.0	
JRA	**Rausu**	**1.43**	**298**	P			**Pn**	**18 03 55.1**	**-0.5**
JNK	**Nakash**	**1.60**	**282**	P			**Pn**	**18 03 57.0**	**-0.9**
JNK				*e*S			**Sn**	**18 04 17.4**	**+0.1**
JAK	**Akkeshi**	**1.62**	**261**	P			**Pn**	**18 03 57.2**	**-0.9**
KUR	**Kuril'sk**	**2.08**	**20**	PN			**Pn**	**18 04 00.5**	**-3.9**
KUR				*e*S			**Sn**	**18 04 24.5**	**-4.5**
KUR	comp=N,130nm,0.8s			pmax		pmax			
KUR	comp=E,110nm,0.8s			pmax		pmax			
KUR	comp=Z,320nm,0.8s			pmax		pmax			
KUR	comp=N,4μm,1.0s			smax					
KUR	comp=E,2μm,1.0s			smax					
KUR	comp=N,2μm,0.8s			smax					
KUR	comp=E,750nm,0.8s			smax					
KUR	**Kuril'sk**	**2.08**	**20**	*e*P			**Pn**	**18 04 00.5**	**-3.9**
KUR				AMB		AMB		18 04 13.5	
KUR	comp=E,129nm,0.8s			AMB		AMB		18 04 13.5	
KUR	comp=E,107nm,0.8s			AMB		AMB		18 04 13.5	
KUR	comp=E,323nm,0.8s			*e*S			**Sn**	**18 04 24.5**	**-4.5**
KUR				A				18 04 42.0	
KUR	comp=E,4μm,1.0s			A				18 04 42.0	
KUR	comp=E,2μm,1.0s			A				18 04 42.2	
KUR	comp=E,2μm,0.8s			A				18 04 42.2	
KUR	comp=E,750nm,0.8s			A				18 04 42.2	
JOB	**Onbets**	**2.26**	**261**	P			**Pn**	**18 04 07.0**	**+0.1**
JTKR	**Abashiri--Toko**	**2.26**	**289**	P			**Pn**	**18 04 07.5**	**+0.6**
JAR	**Ashorobuto**	**2.27**	**271**	P			**Pn**	**18 04 07.1**	**+0.1**
JMP	**Maruseppu**	**2.65**	**287**	P			**Pn**	**18 04 13.8**	**+1.5**
JCH	**Churui**	**2.67**	**257**	P			**Pn**	**18 04 13.2**	**+0.7**
JKK2	**Kamakawa 2**	**3.06**	**283**	P			**Pn**	**18 04 19.7**	**+1.8**
JFR	**Furan**	**3.13**	**269**	P			**Pn**	**18 04 19.8**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.20**	**253**	P			**Pn**	**18 04 20.2**	**+0.4**
ASAJ	**Asahikawa**	**3.21**	**286**	P			**Pn**	**18 04 22.5**	**+2.5**
ASAJ	**Asahikawa**	**3.21**	**286**	P			**Pn**	**18 04 22.6**	**+2.6**
ASAJ	comp=E,6.3nm,0.3s,baz=127,slow=6.8,SNR=29			LR		LR		18 05 40.9	
ASAJ	comp=E,728nm,18.5s,baz=180,slow=40			LR		LR		18 05 40.9	
YSS	**Yuzh-Sakhalins**	**4.69**	**323**	*e*PN		MLR	**Pn**	**18 04 40.4**	**+0.2**
YSS	comp=N,400nm,16.0s			MLR		MLR			
YSS	comp=E,500nm,16.0s			MLR		MLR			
YSS	comp=Z,600nm,16.0s			MLR		MLR			
YSS	**Yuzh-Sakhalins**	**4.69**	**323**	*e*P			**Pn**	**18 04 40.4**	**+0.2**
YSS				*e*S			**Sn**	**18 05 34.0**	**+0.7**
MJAR	**Matsushiro Arr**	**9.46**	**228**	P			**Pn**	**18 05 44.9**	**-0.9**
MJAO	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=12 **Matsushiro**	**9.47**	**228**	*e*PN			**Pn**	**18 05 42.7**	**-3.1**
MAJO	comp=Z,5.0nm,0.7s			pmax		pmax			
MAJO	**Matsushiro**	**9.47**	**228**	*e*P			**Pn**	**18 05 42.7**	**-3.1**
MAT	comp=Z,5.4nm,0.7s **Matsushiro**	**9.47**	**228**	P			**Pn**	**18 05 44.3**	**-1.5**
SKR	**Severo-Kuril's**	**9.72**	**37**	*e*P			**Pn**	**18 05 49.0**	**-0.2**
KLR	**Kul'dur**	**12.03**	**305**	*e*PN			**Pn**	**18 06 22.4**	**+1.6**
PETK	**Petropavlovsk-**	**12.18**	**32**	P			**Pn**	**18 06 23.0**	**+0.2**
PETK	comp=Z,0.3nm,0.3s,baz=222,slow=15,SNR=5.8 **Petropavlovsk-**	**12.18**	**32**	P			**Pn**	**18 06 23.0**	**+0.2**
PET	**Petropavlovsk**	**12.51**	**35**	⇑*i*PN			**Pn**	**18 06 23.5**	**-3.7**
KSRS	**Korea Array**	**15.56**	**254**	P			**Pn**	**18 07 09.0**	**+0.6**
KSRS	comp=Z,0.1nm,0.3s,baz=63,slow=10,SNR=3.0			LR		LR		18 13 41.0	
KSRS	comp=Z,149nm,18.2s,baz=273,slow=39 **Korea Array**	**15.56**	**254**	P			**Pn**	**18 07 09.0**	**+0.6**
KSRS	comp=Z,149nm,18.2s			MLR		MLR			
SEY	**Seymchan**	**19.95**	**7**	⇑*i*P			**Pn**	**18 07 57.8**	**-4.3**
YAK	**Yakutsk**	**21.35**	**337**	⇑*i*P			**P**	**18 08 10.2**	**-5.2**
YAK	comp=Z,4.0nm,0.7s,mb3.9			pmax		pmax			
SONM	**Songino Array**	**28.47**	**293**	P			**P**	**18 09 23.5**	**+0.5**
SONM	comp=Z,2.4nm,0.8s,mb3.9,baz=88,slow=8.3,SNR=15			LR		LR		18 21 52.3	
GTA	comp=Z,217nm,18.6s,MS3.8,baz=78,slow=39 **Gaotai**	**35.18**	**280**	P			**P**	**18 10 23.1**	**+1.2**
GTA	comp=Z,3.0nm,0.9s,mb4.2			AMB		AMB			
IMA2	**Indian Mountai**	**39.18**	**34**	*e*P			**P**	**18 10 55.7**	**+0.3**
BPAW	**Bear Paw Mtn.**	**40.22**	**37**	*e*P			**P**	**18 11 05.1**	**+1.0**
KTH	**Kantishna Hill**	**40.24**	**38**	*e*P			**P**	**18 11 06.2**	**+2.0**
COLD	comp=Z,22nm,1.5s,mb4.7 **Coldfoot**	**40.65**	**32**	*e*P			**P**	**18 11 07.6**	**0.0**
ZALV	comp=Z,3.6nm,0.9s,mb4.0 **Zalesovo Beam**	**41.12**	**307**	PcP		PcP		18 13 10.8	+0.4
WMQ	comp=Z,0.5nm,0.4s,baz=95,slow=1.8,SNR=2.9 **Urumqi**	**42.09**	**292**	*e*P			**P**	**18 11 20.1**	**+0.4**
WMQ	comp=Z,9.0nm,1.0s,mb4.3			AMB		AMB			
WMQ	comp=Z,42nm,8.0s			AMB		AMB			
WMQ	comp=N,63nm,22.6s			LR		LR			
WMQ	comp=E,101nm,17.2s			LR		LR			
WMQ	comp=Z,106nm,18.2s,MS3.8			LR		LR			
MK31	**Makanchi Array**	**44.63**	**298**	*e*P			**P**	**18 11 40.1**	**0.0**
MKAR	**Makanchi Array**	**44.63**	**298**	P			**P**	**18 11 40.4**	**+0.3**
MKAR	comp=Z,3.2nm,0.7s,mb4.3,baz=75,slow=9.2,SNR=18			LR		LR		18 31 24.3	
MKAR	**Makanchi Array**	**44.63**	**298**	P			**P**	**18 11 40.4**	**+0.3**
MKAR	comp=Z,69nm,18.7s,MS3.6,baz=256,slow=38			LR		LR		18 31 24.3	
KURK	**Kurchatov**	**45.63**	**304**	*e*P			**P**	**18 11 46.4**	**-1.6**
KURK				pmax		pmax			
KURK	comp=Z,2.0nm,0.8s,mb4.1 **Kurchatov**	**45.63**	**304**	*e*P			**P**	**18 11 46.4**	**-1.6**
INK	comp=Z,2.4nm,0.8s,mb4.2 **Inuvik**	**46.91**	**30**	P			**P**	**18 11 58.3**	**+0.4**
CMAR	comp=Z,4.5nm,0.8s,mb4.5,baz=287,slow=8.4,SNR=6.3 **Chiang Mai Arr**	**47.20**	**254**	LR		LR		18 34 08.4	
TKM2	comp=Z,61nm,18.6s,MS3.6,baz=85,slow=39 **Tokmak 2**	**50.53**	**296**	*e*P			**P**	**18 12 26.9**	**+0.9**
TKM2				pmax		pmax			
TKM2	comp=Z,14nm,1.1s,mb4.8 **Tokmak 2**	**50.53**	**296**	*e*P			**P**	**18 12 26.9**	**+0.9**
EKS2	comp=Z,14nm,1.1s,mb4.8 **Erkin-Say**	**51.84**	**296**	*e*P			**P**	**18 12 36.4**	**+0.6**
ARU	**Arti**	**54.55**	**317**	*e*P			**P**	**18 12 52.5**	**-3.0**
ARU				*e*				18 13 53.9	
ARU				*e*S			**S**	**18 20 28.6**	**-3.0**
ARU				*e*SS			SS	18 24 11.8	-2.1
YKA	**Yellowknife Ar**	**56.30**	**33**	P			**P**	**18 13 08.5**	**+0.5**
YKA	comp=Z,1.0nm,0.7s,mb4.0,baz=300,slow=7.3,SNR=3.8 **Yellowknife Ar**	**56.30**	**33**	P			**P**	**18 13 08.5**	**+0.5**
KEV	**Kevo**	**59.08**	**339**	*e*p			**P**	**18 13 25.6**	**-1.8**
ARCES	**ARCESS Array B**	**59.62**	**340**	P			**P**	**18 13 31.1**	**-0.1**
JOF	comp=Z,0.9nm,0.6s,mb4.0,baz=36,slow=6.4,SNR=6.7 **Joensuu**	**62.41**	**332**	*e*p			**P**	**18 13 47.9**	**-2.3**
WRA	comp=Z,3.8nm,0.6s,mb4.7 **Warramunga Arr**	**63.96**	**193**	P			**P**	**18 14 00.3**	**-0.6**
KAF	comp=Z,0.9nm,0.8s,mb3.8,baz=13,slow=6.6,SNR=5.9 **Kangasniemi**	**64.64**	**333**	*e*p			**P**	**18 14 03.6**	**-1.3**
KAF	comp=Z,3.5nm,0.6s,mb4.6,baz=41,slow=6.3 **Kangasniemi**	**64.64**	**333**	*e*P			**P**	**18 14 03.6**	**-1.3**
KAF				pmax		pmax			
ASAR	comp=Z,4.0nm,0.6s,mb4.6 **Alice Springs**	**67.68**	**193**	P			**P**	**18 14 25.5**	**+0.8**
NVAR	comp=Z,0.5nm,0.9s,mb3.6,baz=12,slow=7.6,SNR=4.4 **Mina Array Bea**	**68.00**	**58**	P			**P**	**18 14 28.1**	**+1.3**
KIV	comp=Z,0.6nm,0.8s,mb3.7,baz=297,slow=6.0,SNR=3.4 **Kislovodsk**	**69.93**	**312**	*e*P			**P**	**18 14 34.4**	**-4.3**
KIV				pmax		pmax			
KIV	comp=Z,15nm,1.0s,mb4.9			MLR		MLR			
NB2	comp=Z,92nm,18.0s,MS4.1 **NORSAR Subarra**	**69.97**	**339**	P			**P**	**18 14 38.2**	**-0.4**
NOA	comp=Z,10nm,0.8s,mb4.8,baz=32,slow=6.5 **NORSAR Array B**	**69.97**	**339**	P			**P**	**18 14 38.5**	**-0.1**
PDAR	comp=Z,8.0nm,0.8s,mb4.7,baz=33,slow=6.1,SNR=18 **Pinedale Array**	**70.36**	**49**	P			**P**	**18 14 42.2**	**+0.8**
NOA	comp=Z,0.3nm,0.7s,mb3.3,baz=316,slow=2.5,SNR=3.0 **NORSAR Array B**	**69.97**	**339**	P			**P**	**18 14 38.5**	**-0.1**
AKASG	**Malin Array Be**	**71.84**	**324**	P			**P**	**18 14 49.3**	**-0.9**
AKBB	comp=Z,4.3nm,0.8s,mb4.4,baz=40,slow=6.3,SNR=14 **Malin Array Si**	**71.84**	**324**	*e*P			**P**	**18 14 49.8**	**-0.4**
KIEV	**Kiev**	**71.85**	**324**	*e*P			**P**	**18 14 49.3**	**-0.9**
KIEV				pmax		pmax			
KIEV	comp=Z,8.0nm,1.1s,mb4.6 **Kiev**	**71.85**	**324**	*e*P			**P**	**18 14 49.3**	**-1.0**
KOLS	comp=Z,8.3nm,1.1s,mb4.6 **Kolonicke sedl**	**76.11**	**326**	*e*P			**P**	**18 15 15.0**	**-0.1**
DPC	**Dobruska-Polom**	**77.27**	**330**	*e*P			**P**	**18 15 23.4**	**+1.7**
CLL	**Collm**	**77.64**	**332**	⇓*i*P			**P**	**18 15 23.8**	**+0.1**
CLL				*i* *PP		pP		18 15 33.8	-2.4
CLL				pmax		pmax			
CLL	comp=Z,12nm,1.3s,mb4.7 **Collm**	**77.64**	**332**	⇓*i*P			**P**	**18 15 23.8**	**+0.1**
CLL	comp=Z,12nm,1.3s,mb4.7			*i* PcP		PcP		18 15 33.8	0.0
CLL				*e*(sP)		sP		18 15 38.0	-2.9
CLL	**Collm**	**77.64**	**332**	⇓*i*P			**P**	**18 15 23.8**	**+0.1**
CLL	comp=Z,12nm,1.3s,mb4.7			*i* pP		pP		18 15 33.8	-2.4
KHC	**Kasperske Hory**	**79.27**	**331**	⇑*i*P			**P**	**18 15 30.8**	**-2.0**
KHC	**Kasperske Hory**	**79.27**	**331**	*e*P			**P**	**18 15 33.5**	**+0.7**
GERES	**GERESS Array B**	**79.47**	**331**	P			**P**	**18 15 33.7**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=5.2,slow=4.4,SNR=6.0								

*NIED **15** 18:21:00, 4550N×15060E, h65km, Mw4.2 Best double couple: M≥2.04000×10^15 NP1:φs229.00000°, δ67.00000°, λ56.00000°. NP2:φs109.00000°, δ40.00000°, λ143.00000°.*
*SKHL **15** 18:21:18.6±2.8, 4539N×15069E, h58km±19km, mb5.4/2*
*MOS **15** 18:21:19.4±1.2, 4618N×15011E, h33km, mb4.7/7, Error ellipse: s-maj=17.6km s-min=15.4km az=84.9*
*JMA **15** 18:21:19.3±0.5, 4554N×15062E, h30km, M4.7*
*ISCJB **15** 18:21:19.5±1.0, 4523N±007×1507E±01, h78km±8km, mb4.2/19, Error ellipse: s-maj=15.0km s-min=8.5km az=44.0*
*IDC **15** 18:21:24.1±2.6, 4559N×15045E, h90km±24km, mb3.5/8, mb1 3.7/12, mb1mx3.6/23, mbtmp3.5/12, MS3.2/5, Ms1 3.2/5, ms1mx3.0/30, Error ellipse: s-maj=24.3km s-min=15.8km az=136.0*
*NEIC **15** 18:21:24.4±1.0, 4556N×15046E, h94km±8km, mb4.5/7, Error ellipse: s-maj=11.9km s-min=7.8km az=129.0*

ISC 15 18:21:21.2±0.9, 4526N±007×1507E±01, h78km±7km, n80, σ1§15/82, mb4.2/19, 4C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.97**	**270**	*e*P			**Pn**	**18 21 47.0**	**-5.6**
KUR				AMB		AMB		18 21 55.5	
KUR	326nm,0.4s			AMB		AMB		18 21 55.5	
KUR	285nm,0.4s			AMB		AMB		18 21 55.5	
KUR	676nm,0.4s			*e*S			**Sn**	**18 22 10.4**	**-6.1**
KUR				A				18 22 11.8	
KUR	4μm,0.5s			A				18 22 11.8	
KUR	2μm,0.5s			A				18 22 12.0	
KUR	10μm,1.0s			A				18 22 12.0	
KUR	3μm,1.0s			A				18 22 12.0	
YUK	**Yuzh-Kuril'sk**	**3.64**	**252**	⇑*i*P			**Pn**	**18 22 16.0**	**+1.0**
YUK				AMB		AMB		18 22 16.4	
YUK	520nm,0.2s			*i* rx		rx		18 22 21.0	
YUK				*i* S			**Sn**	**18 22 57.0**	**+0.2**
YUK				A				18 23 05.9	
YUK	1μm,0.5s			A				18 23 05.9	
YUK	1μm,0.5s			A				18 23 07.0	
YUK	4μm,1.0s			A				18 23 07.0	
NEM2	3μm,1.0s **Nemuro 2**	**4.00**	**243**	P			**Pn**	**18 22 19.1**	**-1.0**
NEM2				*e*S			**Sn**	**18 23 03.7**	**-2.1**
JRA	**Rausu**	**4.17**	**253**	P			**Pn**	**18 22 23.6**	**+1.3**
JRA				*e*S			**Sn**	**18 23 11.0**	**+1.2**
JNK	**Nakash**	**4.57**	**251**	P			**Pn**	**18 22 28.4**	**+0.6**
JNK				*e*S			**Sn**	**18 23 19.9**	**+0.3**
JAK	**Akkeshi**	**4.85**	**244**	P			**Pn**	**18 22 31.0**	**-0.6**
JAK				*e*S			Sx	18 23 24.8	
JTKR	**Abashiri--Toko**	**4.99**	**257**	P			**Pn**	**18 22 34.5**	**+1.0**
JAR	**Ashorobuto**	**5.32**	**251**	P			**Pn**	**18 22 39.1**	**+1.1**
JAR				*e*S			Sx	18 23 39.6	
JMP	**Maruseppu**	**5.36**	**259**	P			**Pn**	**18 22 39.8**	**+1.3**
JOB	**Onbets**	**5.45**	**247**	P			**Pn**	**18 22 40.1**	**+0.3**
JOB				*e*S			Sx	18 23 40.4	
YSS	**Yuzh-Sakhalins**	**5.75**	**290**	*e*P			**Pn**	**18 22 45.8**	**+2.0**
YSS	**Yuzh-Sakhalins**	**5.75**	**290**	*e*P			**Pn**	**18 22 43.7**	**-0.1**
JKK2	**Kamakawa 2**	**5.82**	**259**	P			**Pn**	**18 22 46.2**	**+1.4**
ASAJ	**Asahikawa**	**5.86**	**262**	P			**Pn**	**18 22 46.9**	**+1.5**
ASAJ	2.5nm,0.3s,baz=96,slow=15,SNR=19 **Asahikawa**	**5.86**	**262**	PN			**Pn**	**18 22 46.9**	**+1.6**
ASAJ	comp=Z,3.0nm,0.3s			pmax		pmax			
JCH	**Churui**	**5.89**	**246**	P			**Pn**	**18 22 45.3**	**-0.5**
JCH				*e*S			Sx	18 23 49.9	
JFR	**Furan**	**6.16**	**253**	P			**Pn**	**18 22 50.7**	**+1.2**
JAB	**Ashibetsu**	**6.29**	**257**	P			**Pn**	**18 22 53.7**	**+2.4**
JEM	**Erimo**	**6.33**	**242**	P			**Pn**	**18 22 52.2**	**+0.3**
JNBK	**Urakawa-nobuka**	**6.45**	**245**	P			**Pn**	**18 22 52.5**	**-0.9**
JNBK				*e*S			Sx	18 24 01.7	
JBT2	**Biratori 2**	**6.47**	**250**	P			**Pn**	**18 22 53.7**	**0.0**
SKR	**Severo-Kuril's**	**6.54**	**32**	*e*P			**Pn**	**18 22 51.0**	**-3.7**
JNB	**Noboribetsu**	**7.49**	**251**	P			**Pn**	**18 23 07.3**	**-0.3**
JNB				*e*S			Sx	18 24 29.0	
TYV	**Tymovskoe**	**7.75**	**319**	*e*P			**Pn**	**18 23 11.5**	**+0.4**
JKB	**Kayabe**	**7.76**	**248**	P			**Pn**	**18 23 10.5**	**-0.8**
JKB				*e*S			Sx	18 24 32.7	
JYM2	**Yakumo 2**	**8.09**	**251**	P			**Pn**	**18 23 15.1**	**-0.7**
JANG	**Nango**	**8.30**	**237**	P			**Pn**	**18 23 16.3**	**-2.4**
JANG				*e*S			Sx	18 24 43.5	
JTM	**Tenmabayashi**	**8.33**	**241**	P			**Pn**	**18 23 17.6**	**-1.4**
JTM				*e*S			Sx	18 24 44.5	
JSR	**Shiriuchi**	**8.34**	**247**	P			**Pn**	**18 23 17.9**	**-1.3**
JTH	**Tanohata**	**8.39**	**234**	P			**Pn**	**18 23 16.9**	**-2.9**
JTH				*e*S			Sx	18 24 44.8	
JOSM	**Okushiri--Mats**	**8.71**	**253**	P			**Pn**	**18 23 23.6**	**-0.6**
OFUJ	**Ofunato**	**9.09**	**230**	P			**Pn**	**18 23 27.3**	**-2.2**
OFUJ				*e*S			Sx	18 25 02.7	
PETK	**Petropavlovsk-**	**9.10**	**28**	P			**Pn**	**18 23 29.9**	**+0.4**
PETK	comp=Z,0.5nm,0.3s,baz=202,slow=11,SNR=8.0 **Petropavlovsk-**	**9.10**	**28**	P			**Pn**	**18 23 29.9**	**+0.4**
JRG	**Rokugo**	**9.45**	**235**	P			**Pn**	**18 23 33.3**	**-1.1**
JIO	**Ouri**	**9.71**	**229**	P			**Pn**	**18 23 36.0**	**-2.0**
JIO				*e*S			Sx	18 25 17.2	
MJAR	**Matsushiro Arr**	**12.81**	**232**	P			**Pn**	**18 24 23.8**	**+3.7**
MJAR	comp=Z,0.1nm,0.3s,baz=21,slow=14,SNR=4.4			LR		LR		18 28 36.7	
KSRS	comp=Z,50nm,21.4s,baz=75,slow=34 **Korea Array**	**18.72**	**253**	P			**Pn**	**18 25 34.6**	**0.0**
KSRS	comp=Z,0.2nm,0.3s,baz=59,slow=11,SNR=11			LR		LR		18 33 23.5	
YAK	comp=Z,24nm,18.6s,baz=50,slow=38 **Yakutsk**	**20.73**	**332**	*e*P			**P**	**18 25 54.9**	**-0.1**
SONM	comp=Z,32nm,0.9s **Songino Array**	**30.24**	**291**	LR		LR		18 39 09.1	
ZALV	comp=Z,65nm,19.5s,baz=150,slow=36 **Zalesovo Beam**	**42.10**	**306**	PcP		PcP		18 30 59.1	+0.8
MKAR	comp=Z,0.9nm,0.7s,baz=92,slow=4.6,SNR=4.2 **Makanchi Array**	**46.11**	**298**	P			**P**	**18 29 37.0**	**-0.2**
MKAR	comp=Z,1.1nm,0.6s,mb3.7,baz=72,slow=8.2,SNR=13			PcP		PcP		18 31 12.7	+0.6
MKAR	comp=Z,0.4nm,0.5s,baz=72,slow=2.6,SNR=4.7			LR		LR		18 49 16.7	
MKAR	comp=Z,51nm,19.3s,baz=335,slow=36 **Makanchi Array**	**46.11**	**298**	P			**P**	**18 29 37.0**	**-0.2**
MKAR								18 31 12.7	
KURK	**Kurchatov**	**46.77**	**304**	⇑*i*P			**P**	**18 29 40.3**	**-2.0**
KURK				pmax		pmax			
CMAR	comp=Z,2.0nm,0.7s,mb4.0 **Chiang Mai Arr**	**50.35**	**255**	P			**P**	**18 30 12.3**	**+2.2**
BVAR	comp=Z,1.0nm,0.6s,mb3.9,baz=35,slow=7.5,SNR=8.2 **Borovoye Array**	**50.48**	**309**	LR		LR		18 52 55.9	
KBL	comp=Z,50nm,18.3s,baz=21,slow=38 **Kabul**	**61.01**	**291**	*e*P			**P**	**18 31 25.6**	**-0.7**
KBL				pmax		pmax			
KBL	comp=Z,5.0nm,0.8s,mb4.6 **Kabul**	**61.01**	**291**	*e*P			**P**	**18 31 25.6**	**-0.7**
NVAR	comp=Z,5.3nm,0.8s,mb4.6 **Mina Array Bea**	**64.65**	**60**	P			**P**	**18 31 52.6**	**+2.2**
WRA	comp=Z,0.6nm,0.7s,mb3.6,baz=285,slow=6.7,SNR=5.2 **Warramunga Arr**	**66.57**	**197**	P			**P**	**18 32 05.4**	**+2.6**
PDAR	comp=Z,1.0

ORIF	**Oris-en-Rattie**	**84.94**	**336**	*e*P	**P**	**18 33 47.2**	**-0.1**
	comp=Z,6.0nm,0.9s,mb4.5						
CAF	**Calviac**	**85.98**	**338**	*e*P	**P**	**18 33 52.4**	**-0.1**
	comp=Z,6.6nm,0.8s,mb4.3						
CAF	**Calviac**	**85.98**	**338**	*e*P	**P**	**18 33 52.4**	**-0.1**
CAF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CAF	**Calviac**	**85.98**	**338**	*e*P	**P**	**18 33 52.4**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.3						

MOS ***15*** *18:22:13.9±3.1, 54.34N×121.97E, h11km, mb4.2/1, Error ellipse: s-maj=58.2km s-min=40.4km az=35.3*

BYKL 15 18:22:14.6±0.5, 5430N×12179E, h23km±26km, 1C-3D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**1.08**	**277**	*e*P	Pn	18 22 33.8	-0.5
TUP				*e*		18 22 47.4	
TUP				pmax	pmax		
	comp=Z,169nm,0.1s						
TUP				smax			
	comp=E,1μm,0.1s						
TUP	**Tupik**	**1.08**	**277**	⇓*i*Pg	Pn	18 22 33.9	-0.4
	comp=E,14nm,0.2s						
TUP				⇑*i*Pg	Pn	18 22 33.9	-0.4
	comp=E,152nm,0.2s						
TUP				⇓*i*Pg	Pn	18 22 33.9	-0.4
	comp=E,149nm,0.2s						
TUP				*e*Sg	Sb	18 22 47.5	-0.8
TUP				*e*Sb	Sb	18 22 48.4	+0.1
TUP				Pmax			
	comp=E,169nm,0.1s						
TUP				max			
	comp=E,1μm,0.1s						
IENR	**Iengra**	**2.61**	**41**	*e*	Pn	18 23 00.6	+5.3
IENR				*e*Pg	Pn	18 23 03.2	+7.9
IENR				*e*Sg	Sn	18 23 37.1	+11
IENR				Pmax			
	comp=E,16nm,0.3s						
IENR				Smax			
	comp=E,404nm,0.9s						
KHNR	**Khani**	**2.82**	**339**	*e*Pn	Pn	18 22 59.6	+1.4
KHNR				*e*Pg	Pn	18 23 04.9	+6.7
KHNR				*e*Sg	Sn	18 23 42.1	+11
KROS	**Kirovskiy**	**3.03**	**85**	*e*Pn	Pn	18 22 59.6	-1.5
KROS				⇓*i*Pg	Pn	18 23 07.0	+5.9
KROS				*e*		18 23 35.6	
KROS				*e*Sg	Sn	18 23 47.2	+11
ZEA	**Zeya**	**3.27**	**98**	*e*Pg	Pn	18 23 12.4	+8.0
ZEA				*e*		18 23 45.6	
ZEA				*e*Sg	Sn	18 23 56.1	+14
CRS	**Chara**	**3.28**	**324**	*e*P	Pn	18 23 05.9	+1.4
CRS				*e*		18 23 54.4	
CRS				pmax	pmax		
	comp=Z,21nm,0.7s						
CRS				smax			
	comp=N,98nm,1.2s						
CRS	**Chara**	**3.28**	**324**	*e*Pn	Pn	18 23 06.4	+1.9
CRS				*e*Pg	Pn	18 23 12.8	+8.3
CRS				*e*Sg	Sn	18 23 54.1	+11
CRS				Pmax			
	comp=N,22nm,0.8s						
CRS				Smax			
	comp=N,98nm,1.3s						
NLYR	**Nelyaty**	**4.11**	**305**	*e*P	Pn	18 23 16.6	+0.8
NLYR				pmax	pmax		
	comp=Z,14nm,0.7s						
NLYR	**Nelyaty**	**4.11**	**305**	*e*Pn	Pn	18 23 18.7	+2.9
NLYR				*e*Pg	Pn	18 23 28.5	+13
NLYR				*e*Sg	Sn	18 24 21.4	+18
NLYR				Pmax			
	comp=Z,10.0nm,0.5s						
NLYR				Smax			
	comp=Z,206nm,0.6s						
UKT	**Uakit**	**4.86**	**287**	*e*P	Pn	18 23 40.0	+14
UKT				pmax	pmax		
	comp=Z,5.0nm,0.4s						
UKT	**Uakit**	**4.86**	**287**	*e*	Pn	18 23 33.5	+7.3
UKT				*e*Pg	Pn	18 23 41.8	+16
UKT				*e*Sg	Sn	18 24 43.5	+22
UKT				Pmax			
	comp=Z,8.0nm,0.5s						
UKT				Smax			
	comp=Z,167nm,1.4s						
HIA	**Hailar**	**5.20**	**195**	*e*Sg	Sn	18 24 54.8	+25
CIT	**Chita**	**5.46**	**249**	*e*Sg	Sn	18 25 03.7	+27
CIT				Smax			
	comp=Z,85nm,1.5s						
BOD	**Bodaibo**	**5.61**	**312**	*e*Pg	Pn	18 23 54.9	+18
BOD				*e*Sg	Sn	18 25 06.6	+27
BOD				Pmax			
	comp=Z,3.0nm,0.2s						
BOD				Smax			
	comp=Z,70nm,0.9s						
YOA	**Uoyan**	**6.05**	**292**	*e*	Pn	18 24 07.6	+25
YOA				*e*		18 24 57.6	
YOA				*e*Sg	Sn	18 25 22.0	+31
YOA				Smax			
	comp=Z,374nm,1.8s						
YLYR	**Ulyunkhan**	**6.21**	**280**	*e*Pn	Pn	18 23 45.1	+0.4
YLYR				*e*Pg	Pn	18 24 06.3	+22
YLYR				*e*Sg	Sn	18 25 26.3	+31
YLYR				Pmax			
	comp=Z,1.0nm,0.5s						
YLYR				Smax			
	comp=Z,66nm,1.1s						
KMO	**Kumora**	**6.29**	**289**	*e*Pn	Pn	18 23 46.6	+0.9
KMO				*e*		18 24 06.4	
KMO				*e*		18 24 54.0	
KMO				*e*Sg	Sn	18 25 29.6	+33
KMO				Smax			
	comp=Z,124nm,0.8s						
SYVR	**Suvo**	**6.99**	**270**	*e*P	Pn	18 24 18.3	+23
SYVR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SYVR	**Suvo**	**6.99**	**270**	*e*	Pn	18 24 06.4	+11
SYVR				*e*		18 24 18.1	
SYVR				*e*Sg	Sn	18 25 49.5	+36
SYVR				Smax			
	comp=Z,39nm,1.2s						
NIZ	**Nizh Angarsk**	**7.19**	**287**	*e*Sg	Sn	18 25 58.2	+39
NIZ				Smax			
	comp=Z,39nm,2.1s						
KPC	**Khapcheranga**	**7.41**	**235**	*e*P	Pn	18 24 01.1	-0.1
KPC				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KPC	**Khapcheranga**	**7.41**	**235**	*e*Pn	Pn	18 24 01.0	-0.2
KPC				*e*		18 24 28.3	
KPC				*e*Sg	Sn	18 26 02.4	+38
KPC				Smax			
	comp=Z,24nm,2.0s						
MXMB	**Maximikha**	**7.80**	**268**	*e*	Pn	18 24 59.5	+53
MXMB				*e*		18 25 26.3	
MXMB				*e*Sg	Sn	18 26 15.5	+42
MXMB				Smax			
	comp=Z,67nm,1.0s						
OGRR	**Ongureny**	**8.40**	**271**	*e*Sg	Sn	18 26 34.7	+46
OGRR				Smax			
	comp=Z,21nm,1.2s						
UUDB	**Ulan-Yde**	**8.85**	**260**	*e*Sg	Sn	18 26 50.9	+51
UUDB				Smax			
	comp=Z,22nm,1.2s						
TRG	**Tyrgan**	**9.33**	**267**	*e*Sg	Sn	18 27 03.8	+52
TRG				Smax			
	comp=Z,18nm,2.7s						
HRMR	**Khuramsha**	**9.34**	**259**	*e*		18 25 40.3	
HRMR				*e*Sg	Sn	18 27 05.4	+53
HRMR				Smax			
	comp=Z,51nm,0.6s						
ARS	**Arshan**	**11.88**	**266**	*e*		18 27 42.9	
ARS				*e*Sg	Sn	18 28 23.9	+70
ARS				Smax			
	comp=Z,13nm,0.8s						

NIED ***15*** *18:32:00, 24.30N×123.50E, h8km, Mw3.8 Best double couple: M0=4.89000×10^14 NP1:φs=134.00000°, δ49.00000°, λ-90.00000°. NP2:φs=314.00000°, δ41.00000°, λ-90.00000°.*

JMA 15 18:32:10.2±0.1, 2433N×12352E, h18km±2km, M3.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.19**	**89**	P	Pg	18 32 14.7	-0.3
IRIF				S	Sg	18 32 18.2	-0.1
HATJ	**Hateruma jima**	**0.38**	**136**	P	Pg	18 32 17.7	-0.4
HATJ				S	Sg	18 32 23.4	+0.1
JKRS	**Kuro-shima**	**0.46**	**102**	P	Pg	18 32 19.2	-0.3
JKRS				S	Sg	18 32 26.3	+0.6
YOJ	**Yonaguni jima**	**0.48**	**286**	P	Pg	18 32 19.8	-0.2
YOJ				S	Sg	18 32 26.8	+0.3
JIJ	**Ishigaki jima**	**0.57**	**87**	P	Pg	18 32 20.6	-0.9
JIJ				S	Sg	18 32 28.5	-0.7
JTJ	**Tarama**	**1.12**	**74**	P	Pn	18 32 30.6	-0.4
JTJ				S	Sb	18 32 45.6	+0.3
JMJ	**Miyako jima 2**	**1.69**	**73**	P	Pn	18 32 39.3	+0.5
JMJ				S	Sn	18 33 00.8	+0.9
JOGS	**Gusukube**	**1.77**	**76**	P	Pn	18 32 41.3	+1.4
JOGS				S	Sn	18 33 03.5	+1.5
JKE	**Kume jima 2**	**3.56**	**55**	P	Pn	18 33 05.1	+0.5
JKE				S	Sn	18 33 45.7	-0.5

ISCJB ***15*** *18:42:56.3±1.6, 268N±0.1×552.0E±0.05, h10km, Error ellipse: s-maj=18.5km s-min=6.0km az=173.8*
CSEM ***15*** *18:42:57.1, 266.8N×553.3E, h36km, ML2.7, After THR*
THR ***15*** *18:42:57.1±0.4, 266.8N×553.3E, h36km±4km, ML2.7*

ISC 15 18:42:58.0±1.6, 268N±0.1×552.4E±0.05, h10km, n8, σ0.57/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.01**	**55**	*e*Pg	**Pg**	**18 43 16.7**	**-0.7**
BNDS				*e*Sg	**Sg**	**18 43 30.9**	**+0.3**
BNDS				AML	AML	18 43 34.4	
	comp=N,188nm,0.2s						
BNDS	**Bandar-Abbas**	**1.01**	**55**	*e*Pg	**Pg**	**18 43 16.7**	**-0.8**
	SNR=103						
BNDS				*e*Sg	**Sg**	**18 43 30.9**	**+0.2**
	comp=N,188nm,0.2s,SNR=103						
GHIR	**Ghir-Karzin**	**2.48**	**307**	*e*Pn	**Pn**	**18 43 39.1**	**+0.6**
GHIR				*e*Sg	**Sg**	**18 44 17.6**	**-0.2**
GHIR				AML	AML	18 44 23.3	
	comp=E,29nm,0.5s						
GHIR				AML	AML	18 44 29.8	
	comp=N,24nm,0.4s						
GHIR	**Ghir-Karzin**	**2.48**	**307**	*e*Pn	**Pn**	**18 43 39.1**	**+0.6**
	SNR=54						
GHIR				*e*Sg	**Sg**	**18 44 17.6**	**-0.2**
	comp=N,24nm,0.4s,SNR=94						
KRBR	**Kerman**	**3.43**	**23**	*e*Pn	**Pn**	**18 43 51.8**	**+0.4**
KRBR				AML	AML	18 44 40.1	
	comp=N,14nm,0.6s						
KRBR				AML	AML	18 44 45.1	
	comp=E,12nm,0.8s						
RDF	**Al-Radifah**	**7.13**	**289**	*e*P	**Pn**	**18 44 43.0**	**+0.7**
	baz=147						
UMR	**Umm Al-Rimmam**	**7.18**	**294**	*e*P	**Pn**	**18 44 42.5**	**-0.5**
	baz=144						
NAY	**Al-Naaiem**	**7.47**	**291**	*e*P	**Pn**	**18 44 46.8**	**-0.3**
	baz=148						
NAY				*e*S	**Sn**	**18 46 07.9**	**-4.1**
	baz=148						

ISCJB ***15*** *19:04:34.8±0.7, 2097S±0.05×68.59W±0.08, h117km±9km, mb3.8/3, Error ellipse: s-maj=12.0km s-min=9.0km az=179.4*
NEIC ***15*** *19:04:36.1±0.8, 2092S×68.72W, h116km±10km, mb4.5/1, Error ellipse: s-maj=15.3km s-min=11.4km az=98.0*
IDC ***15*** *19:04:37.6±0.9, 21.16S×68.38W, h111km±12km, mb3.3/3, mb1 3.4/6, mb1mx3.3/19, mbtmp3.3/6, Error ellipse: s-maj=31.2km s-min=9.5km az=106.0*

ISC 15 19:04:36.1±0.7, 2098S±0.05×6859W±0.08, h110km±9km, n11, σ1.900/16, mb3.8/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.66**	**190**	P	**Pn**	**19 05 05.1**	**+0.3**
	46nm,0.3s,baz=14,slow=9.9,SNR=55						
LVC				S	**Sn**	**19 05 25.8**	**-0.8**
	87nm,0.3s,baz=105,slow=20,SNR=15						
LVC	**Limon Verde**	**1.66**	**190**	P	**Pn**	**19 05 05.1**	**+0.3**
LVC				S	**Sn**	**19 05 25.8**	**-0.8**
LPAZ	**La Paz**	**4.68**	**5**	P	**Pn**	**19 05 50.4**	**+5.6**
	1.6nm,0.3s,baz=196,slow=5.5,SNR=34						
LPAZ				S	**Sn**	**19 06 44.8**	**+6.8**
	0.3nm,0.3s,baz=241,slow=17,SNR=2.6						
ARE	**Arequipa**	**5.26**	**328**	*e*P	**Pn**	**19 05 52.0**	**-0.6**
ARE				*e*S	**Sn**	**19 06 53.0**	**+0.9**
SIV	**San Ignacio**	**8.69**	**56**	P	**Pn**	**19 06 39.7**	**+0.7**
	5.8nm,0.3s,baz=251,slow=12,SNR=88						
SIV				S	**Sn**	**19 08 14.2**	**-1.0**
	baz=170,slow=15,SNR=3.1						
CFAA	**Coronel Fontan**	**10.59**	**178**	S	**Sn**	**19 08 48.6**	**-13**
	0.1nm,0.3s,baz=155,slow=15,SNR=4.4						
PLCA	**Paso Flores**	**19.77**	**184**	P	**P**	**19 08 58.8**	**+1.4**
	0.1nm,0.3s,baz=19,slow=12,SNR=4.6						
BDFB	**Brasilia**	**20.24**	**78**	P	**P**	**19 09 04.0**	**+1.3**
	1.5nm,0.4s,baz=257,slow=18,SNR=3.6						
SNAA	**Sanae**	**62.68**	**161**	P	**P**	**19 14 48.5**	**-0.2**
	0.4nm,0.7s,mb3.5,baz=310,slow=7.5,SNR=4.5						
TPNV	**Topopah Spring**	**73.07**	**322**	*e*P	**P**	**19 15 52.2**	**-2.1**
	8.9nm,1.1s,mb4.5						
TORD	**Torodi Ar. Bea**	**76.90**	**70**	P	**P**	**19 16 16.6**	**-0.2**
	0.6nm,0.9s,mb3.3,baz=256,slow=5.7,SNR=5.8						

ISCJB ***15*** *19:08:01.7±0.6, 2444S±0.05×676W±0.1, h201km±16km, Error ellipse: s-maj=17.4km s-min=8.3km az=6.2*
IDC ***15*** *19:08:01.8±1.0, 2442S×67.60W, h189km±19km, mb3.3/2, mb1 3.4/5, mb1mx3.3/18, mbtmp3.4/5, Error ellipse: s-maj=32.9km s-min=13.7km az=82.0*
NEIC ***15*** *19:08:02.8±0.7, 24.39S×67.64W, h200km±16km, MG4.1(GUC), Error ellipse: s-maj=17.8km s-min=11.7km az=88.0*
GUC ***15*** *19:08:03.0±0.4, 24.43S×67.72W, h200km, ML4.1*

ISC 15 19:08:02.2±0.7, 2446S±0.05×674W±0.1, h183km±18km, n10, σ0.91/17, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.27**	**323**	P	**Pn**	**19 08 42.4**	**-0.1**
	23nm,0.3s,baz=148,slow=7.5,SNR=20						
LVC				S	**Sn**	**19 09 12.7**	**-1.1**
	111nm,0.3s,baz=253,slow=19,SNR=41						
CPN1	**Cerro Paranal**	**2.70**	**266**	⇑*i*P	**Pn**	**19 08 48.2**	**+0.9**
CPN1				*i* S	**Sn**	**19 09 23.2**	**+0.7**
CPN1				AML	AML	19 09 25.0	
	comp=N,419nm,0.4s						
CEN1	**Los Morros**	**2.73**	**292**	⇓*i*P	**Pn**	**19 08 48.9**	**+1.1**
CEN1				*e*S	**Sn**	**19 09 23.5**	**+0.3**
CEN1				AML	AML	19 09 25.1	
	comp=N,547nm,0.3s						
ANCH	**Antofagasta**	**2.82**	**285**	*e*P	**Pn**	**19 08 49.5**	**+0.7**
ANCH				*i* S	**Sn**	**19 09 24.2**	**-0.8**
CDCH	**Caldera**	**4.01**	**229**	⇓*i*P	**Pn**	**19 09 03.2**	**-0.3**
CDCH				*i* S	**Sn**	**19 09 50.5**	**-1.1**
CFAA	**Coronel Fontan**	**7.16**	**185**	P	**Pn**	**19 09 45.5**	**+1.2**
	comp=N,0.1nm,0.3s,baz=3.9,slow=13,SNR=6.1						
CFAA				S	**Sn**	**19 11 04.0**	**-1.0**
	comp=N,0.2nm,0.3s,baz=112,slow=22,SNR=6.0						
LPAZ	**La Paz**	**8.15**	**355**	P	**Pn**	**19 09 57.1**	**-0.4**
	comp=N,1.4nm,0.3s,baz=181,slow=9.4,SNR=21						
LPAZ				S	**Sn**	**19 11 23.2**	**-5.8**
	baz=24,slow=20,SNR=2.8						
CPUP	**Villa Florida**	**9.34**	**104**	P	**Pn**	**19 10 16.2**	**+3.3**
	comp=N,1.1nm,0.3s,baz=274,slow=13,SNR=6.2						
BDFB	**Brasilia**	**20.23**	**68**	P	**P**	**19 12 22.1**	**-1.2**
	comp=N,2.4nm,0.6s,baz=210,slow=16,SNR=5.2						
TORD	**Torodi Ar. Bea**	**77.11**	**69**	P	**P**	**19 19 35.9**	**+0.1**
	comp=N,0.6nm,0.8s,baz=250,slow=5.7,SNR=7.8						

ORF ***15*** *19:14:57.6, 33.87N×141.97E, h30km, mb5.5*
NIED ***15*** *19:15:00, 35.40N×140.60E, h35km, Mw5.3 Best double couple: M0=1.03000×10^17 NP1:φs=64.00000°, δ80.00000°, λ88.00000°. NP2:φs=258.00000°, δ10.00000°, λ104.00000°.*
BJI ***15*** *19:15:01.3, 35.30N×141.00E, h28km, mB5.0, mb5.1, Ms5.0, Msz4.9*
IDC ***15*** *19:15:02.8±0.4, 35.34N×140.34E, h0km, mb5.0/20, mb1 5.1/23, mb1mx5.1/24, mbtmp5.0/23, ML4.7/3, MS4.8/16, Ms1 4.8/16, ms1mx4.4/35, Error ellipse: s-maj=17.1km s-min=9.4km az=92.0*
JMA ***15*** *19:15:06.6±0.1, 35.44N×140.53E, h31km±2km, M5.3 Broadband fault plane solution: P waves. NP1: φs=257.00000°, δ30.00000°, λ90.00000°. NP2:φs=77.00000°, δ60.00000°, λ90.00000°. Principal axes: T Plg75.0000°, Azm347.0000°; N Plg0.0000°, Azm77.0000°; P Plg15.0000°, Azm167.0000°;*
JMA Felt IV J1.
MOS ***15*** *19:15:06.1±1.0, 35.39N×140.43E, h33km, mb5.6/104, MS5.0/36 Error ellipse: s-maj=9.1km s-min=5.7km az=114.1*
ISCJB ***15*** *19:15:07.2±0.1, 35.43N±0.02×140.32E±0.02, h32km, mb5.3/240, MS5.0/58, Error ellipse: s-maj=2.8km s-min=1.9km az=174.0*
NEIC ***15*** *19:15:10.3±0.6, 35.38N×140.27E, h49km±5km, mb5.3/157, MS5.2/12, MW5.3(NIED), Error ellipse: s-maj=3.7km s-min=2.6km az=170.0*
NEIC Felt at Ichikawa, Tokyo, Yokohama and Yokosuka. Recorded [4 JMA] in Chiba; [3 JMA] in Ibaraki, Kanagawa, Saitama and Tokyo; [2 JMA] in Gumma, Nagano, Tochigi and Yamanashi; [1 JMA] in Fukushima, Miyagi, Niigata and Shizuoka Prefectures.
GCMT ***15*** *19:15:10.3±0.2, 35.32N×140.63E, h37km, MW5.3/85, Moment Tensor Solution. s69,c106; s85,c148; Duration: 1!0 Moment tensor: Scale 10^17Nm; Mrr0.67±.02; Mθθ-0.68±.02; Mφφ0.01±.02; Mrθ0.55±.02; Mφφ-0.24±.01; Mφr0.29±.02; Best double couple: M0:0.94200×10^17 NP1:φs=261.00000°, δ25.00000°, λ104.00000°. NP2:φs=65.00000°, δ66.00000°, λ83.00000°. Principal axes: T 0.9060, Plg69.0000°, Azm322.0000°; N 0.0740, Plg6.0000°, Azm68.0000°; P -0.9790, Plg20.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***15*** *19:15:11.7, 36.30N×140.57E, h35km, mb5.4, MS5.1, Near east coast of eastern Honshu, Japan*
BGS ***15*** *19:15:13.1±1.7, 36.00N×139.59E, h39km, mb5.5*

ISC 15 19:15:09.0±0.1, 3542N±002×14029E±002, h34km, h34km±.5km: pP-P, n1148, σ0.77/1167, mb5.3/240, MS5.0/58, 311C-218D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.07**	**272**	⇓P	**Pb**	**19 15 14.1**	**-0.6**
JCN				S	**Sb**	**19 15 20.3**	**+1.7**
KTR	**Katsuura**	**0.27**	**176**	⇑P	**Pb**	**19 15 14.3**	**-2.1**
KTR				S	**Sb**	**19 15 20.2**	**-1.2**
BSO4	**Boso 4**	**0.43**	**175**	P	**Pb**	**19 15 17.1**	**-1.4**
TOK	**Tokyo**	**0.51**	**302**	P	**Pb**	**19 15 20.1**	**+0.4**
CHOJ	**Chosi**	**0.55**	**58**	⇓P	**Pb**	**19 15 15.1**	**-5.2**
CHOJ				S	**Sb**	**19 15 21.4**	**-6.7**
BSO3	**Boso 3**	**0.64**	**164**	P	**Pn**	**19 15 19.2**	**-2.4**
JYT	**Yasato**	**0.81**	**355**	⇓P	**Pn**	**19 15 21.9**	**-2.1**
JYT				S	**Sn**	**19 15 33.1**	**-1.8**
BSO1	**Boso 1**	**0.95**	**143**	P	**Pn**	**19 15 21.7**	**-4.2**
JIM2	**Oshima 3**	**0.99**	**226**	P	**Pn**	**19 15 25.9**	**-0.6**
JOD2	**Odawara 2**	**0.99**	**261**	⇑P	**Pn**	**19 15 27.5**	**+1.0**
ONAJ	**Iwakimizuishiy**	**1.73**	**14**	⇓P	**Pn**	**19 15 33.9**	**-2.7**
JFK	**Kawauchi**	**2.00**	**13**	P	**Pn**	**19 15 37.6**	**-2.8**
MJAR	**Matsushiro Arr**	**2.03**	**304**	Pn	**Pn**	**19 15 42.4**	**+1.6**
	133nm,0.3s,baz=102,slow=14,SNR=1986						
MAJO	**Matsushiro**	**2.03**	**304**	⇑*e*P	**Pn**	**19 15 42.7**	**+2.0**
MAT	**Matsushiro**	**2.03**	**304**	P	**Pn**	**19 15 42.9**	**+2.2**
MAT				S	**Sn**	**19 16 08.0**	**+3.1**
JFY	**Yanaizu**	**2.04**	**347**	⇓P	**Pn**	**19 15 40.1**	**-0.8**
JFT	**Otama**	**2.10**	**1**	⇓P	**Pn**	**19 15 40.2**	**-1.5**
JHJ	**Hachijo jima 2**	**2.33**	**191**	Pn	**Pn**	**19 15 42.7**	**-2.2**
	371nm,0.3s,baz=23,slow=3.1,SNR=380						
JHJ				Sn	**Sn**	**19 16 10.3**	**-2.0**
	1μm,0.3s,baz=72,slow=21,SNR=7.6						
JJN	**Nakama**	**2.41**	**315**	P	**Pn**	**19 15 47.9**	**+2.0**
JMM	**Marumori**	**2.48**	**9**	⇓P	**Pn**	**19 15 45.1**	**-1.8**
JYS	**Shiratake**	**2.81**	**356**	⇓P	**Pn**	**19 15 51.3**	**-0.1**
JOU	**Okura**	**2.96**	**6**	P	**Pn**	**19 15 52.4**	**-1.1**
JIO	**Ouri**	**3.15**	**15**	⇓P	**Pn**	**19 15 53.7**	**-2.4**
JYA	**Atsumi**	**3.20**	**352**	P	**Pn**	**19 15 57.2**	**+0.3**
JYK	**Kaneyama**	**3.50**	**1**	P	**Pn**	**19 16 00.5**	**-0.4**
OFUJ	**Ofunato**	**3.82**	**16**	⇓P	**Pn**	**19 16 02.8**	**-2.5**
JRG	**Rokugo**	**3.98**	**4**	⇓P	**Pn**	**19 16 07.4**	**-0.2**
JOM	**Ohasama**	**4.13**	**11**	P	**Pn**	**19 16 08.0**	**-1.6**
CBIJ	**Chichi jima**	**8.45**	**168**	Pn	**Pn**	**19 17 04.0**	**-5.0**
	104nm,0.3s,baz=326,slow=9.2,SNR=58						
ASAJ	**Asahikawa**	**8.87**	**11**	Pn	**Pn**	**19 17 11.6**	**-3.1**
	3.8nm,0.3s,baz=219,slow=16,SNR=31						
ASAJ				Sn	**Sn**	**19 18 54.0**	**+0.7**
	1.5nm,0.3s,baz=252,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**8.87**	**11**	P	**Pn**	**19 17 11.6**	**-3.0**
ASAJ						19 18 54.0	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**9.62**	**25**	*e*P	**Pn**	**19 17 24.5**	**-0.4**
YUK				*i* S	**Sn**	**19 19 03.0**	**-8.6**
YUK				pmax	pmax		
	comp=Z,230nm,0.5s						
YUK				smax			
	comp=N,2μm,0.8s						
YUK				smax			
	comp=E,750nm,0.8s						
YUK				smax			
	comp=N,4μm,1.5s						
YUK				smax			
	comp=E,3μm,1.5s						
YUK				MLR	MLR		
	comp=N,7μm,15.0s						
YUK				MLR	MLR		
	comp=E,6μm,15.0s						
YUK				MLR	MLR		
	comp=Z,7μm,15.0s						
VLA	**Vladivostok**	**10.07**	**322**	*de*P	**Pn**	**19 17 33.4**	**+2.3**
VLA				pmax	pmax		
	comp=Z,271nm,1.7s						
VLA				MLR	MLR		
	comp=Z,3μm,14.3s						
KSRS	**Korea Array**	**10.17**	**285**	Pn	**Pn**	**19 17 36.3**	**+3.8**
	comp=Z,1.6nm,0.3s,baz=102,slow=14,SNR=73						
KSRS				LR	LR	19 21 38.1	
	comp=Z,8μm,19.9s,baz=88,slow=38						
KSRS	**Korea Array**	**10.17**	**285**	P	**Pn**	**19 17 36.3**	**+3.8**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,8μm,19.9s						
INCN	**Inchon**	**11.19**	**285**	P	**Pn**	**19 17 48.1**	**+1.6**
	comp=Z,67nm,1.0s						
KUR	**Kuril'sk**	**11.38**	**28**	*e*P	**Pn**	**19 17 44.0**	**-5.0**
KUR				pmax	pmax		
	comp=E,190nm,1.0s						
KUR				pmax	pmax		
	comp=Z,430nm,1.0s						
YSS	**Yuzh-Sakhalins**	**11.68**	**8**	*e*P	**Pn**	**19 17 48.0**	**-5.0**
YSS				*e*S	**Sn**	**19 19 56.0**	**-6.1**
YSS				MLR	MLR		
	comp=N,7μm,15.0s						
YSS				MLR	MLR		
	comp=E,4μm,15.0s						
YSS				MLR	MLR		
	comp=Z,7μm,15.0s						
YSS	**Yuzh-Sakhalins**	**11.68**	**8**	*e*P	**Pn**	**19 17 49.7**	**-3.3**
	comp=Z,94nm,0.8s						
MDJ	**Mudanjiang**	**12.30**	**322**	P	**Pn**	**19 18 03.3**	**+1.6**
MDJ				AP		19 18 07.3	
MDJ				S	**Sn**	**19 20 21.3**	**+3.8**
MDJ				PCS	PcS	19 27 17.0	+0.9
MDJ				AMB	AMB		
	comp=Z,36nm,1.5s						
MDJ

CN2				LR	LR	
	comp=N,3μm,16.0s					
CN2				LR	LR	
	comp=E,4μm,16.0s					
CN2				LR	LR	
	comp=Z,4μm,18.0s					
SNY	**Shenyang**	**14.54**	**301**	⇑P	**Pn**	**19 18 34.6 +2.4**
SNY				AMB	AMB	
	comp=Z,198nm,0.9s					
SNY				LR	LR	
	comp=N,2μm,15.6s					
SNY				LR	LR	
	comp=E,4μm,21.6s					
SNY				LR	LR	
	comp=Z,4μm,21.3s					
KLR	**Kul'dur**	**15.16**	**338**	*e*P	**Pn**	**19 18 34.1 -6.4**
KLR				*e*		19 21 33.0
KLR				MLR	MLR	
	comp=E,2μm,15.0s					
KLR				MLR	MLR	
	comp=Z,4μm,15.0s					
DL2	**Dalian**	**15.28**	**289**	⇑*i*P	**Pn**	**19 18 45.3 +3.2**
DL2				S	**Sn**	**19 21 40.4 +10**
DL2				AMB	AMB	
	comp=Z,70nm,1.0s					
DL2				AMB	AMB	
	comp=Z,540nm,8.8s					
DL2				LR	LR	
	comp=N,810nm,12.8s					
DL2				LR	LR	
	comp=E,3μm,16.2s					
DL2				LR	LR	
	comp=Z,4μm,16.5s					
SSE	**Sheshan**	**16.55**	**260**	P	**Pn**	**19 18 59.3 +0.9**
SSE				XP	sP	19 19 13.9 +0.1
SSE				S	**Sn**	**19 22 00.9 -0.1**
SSE				XS	sS	19 22 25.1 -0.7
SSE				AMB	AMB	
	comp=Z,24nm,1.3s					
SSE				AMB	AMB	
	comp=Z,181nm,3.8s					
SSE				LR	LR	
	comp=N,2μm,10.3s					
SSE				LR	LR	
	comp=E,3μm,10.3s					
SSE				LR	LR	
	comp=Z,4μm,9.9s					
NJ2	**Nanjing**	**18.14**	**265**	*e*P	**Pn**	**19 19 20.6 +2.5**
NJ2				AP	pP	19 19 27.8 +0.7
NJ2				XP	sP	19 19 35.0 +3.6
NJ2				PP		19 19 37.5
NJ2				S	**Sn**	**19 22 43.0 +3.4**
NJ2				AMB	AMB	
	comp=Z,30nm,0.9s					
NJ2				AMB	AMB	
	comp=Z,490nm,7.7s					
NJ2				LR	LR	
	comp=N,790nm,20.2s					
NJ2				LR	LR	
	comp=E,2μm,17.6s					
NJ2				LR	LR	
	comp=Z,2μm,17.6s					
TIA	**Tai'an**	**18.80**	**279**	*e*P	**Pn**	**19 19 25.8 -0.4**
TIA				PP		19 19 48.0
TIA				S	**Sn**	**19 23 03.0 +7.5**
TIA				AMB	AMB	
	comp=Z,59nm,1.2s					
TIA				LR	LR	
	comp=N,1μm,11.0s					
TIA				LR	LR	
	comp=E,3μm,12.0s					
SKR	**Severo-Kuril's**	**19.08**	**32**	*e*P	**Pn**	**19 19 26.0 -3.4**
SKR				pmax	pmax	
	comp=N,1μm,4.0s					
SKR				pmax	pmax	
	comp=E,1μm,4.0s					
SKR				pmax	pmax	
	comp=Z,1μm,4.0s					
SKR				pmax	pmax	
	comp=E,110nm,1.0s					
SKR				pmax	pmax	
	comp=Z,130nm,1.0s					
SKR				pmax	pmax	
	comp=N,400nm,1.5s					
SKR				MLR	MLR	
	comp=N,2μm,16.0s					
SKR				MLR	MLR	
	comp=E,1μm,16.0s					
SKR				MLR	MLR	
	comp=Z,2μm,16.0s					
YHNB	**Yeheng**	**19.53**	**242**	P	**Pn**	**19 19 30.7 -4.3**
BJI	**Beijing**	**19.61**	**291**	P	**Pn**	**19 19 33.3 -2.5**
BJI				S	**Sn**	**19 23 08.8 -6.0**
BJI				AMB	AMB	
	comp=Z,105nm,1.2s					
BJI				LR	LR	
	comp=N,970nm,21.1s					
BJI				LR	LR	
	comp=E,2μm,18.8s					
BJI				LR	LR	
	comp=Z,3μm,23.4s					
BJT	**Baijiatuau**	**19.61**	**291**	*e*P	**Pn**	**19 19 33.0 -2.8**
BJT				pmax	pmax	
	comp=Z,85nm,0.9s					
BJT	**Baijiatuau**	**19.61**	**291**	*e*P	**Pn**	**19 19 33.0 -2.8**
	comp=Z,85nm,0.9s					
NACB	**Ninganchiao**	**19.68**	**240**	P	**Pn**	**19 19 35.2 -1.6**
HIA	**Hailar**	**20.46**	**319**	*e*P	**P**	**19 19 40.9 -2.6**
HIA				pmax	pmax	
	comp=Z,178nm,1.4s					
HIA	**Hailar**	**20.46**	**319**	*e*P	**P**	**19 19 40.9 -2.6**
	comp=Z,178nm,1.4s					
PETK	**Petropavlovsk-**	**21.54**	**29**	P	**P**	**19 19 54.5 -0.5**
	comp=Z,35nm,0.9s,mb4.8,baz=208,slow=5.9,SNR=32					
PETK				LR	LR	19 29 01.9
	comp=Z,1μm,18.7s,MS4.3,baz=221,slow=39					
PET	**Petropavlovsk**	**21.87**	**31***c*	*i*P	**P**	**19 19 58.1 -0.5**
PET				*e*S	**S**	**19 23 54.8 -3.4**
PET				pmax	pmax	
	comp=Z,187nm,1.2s,mb5.4					
PET				MLR	MLR	
	comp=Z,2μm,15.0s,MS4.6					
PET				MLR	MLR	
	comp=Z,2μm,17.0s					
PET	**Petropavlovsk**	**21.87**	**31**	*e*P	**P**	**19 19 57.8 -0.8**
	comp=Z,257nm,1.3s,mb5.5					
GUMO	**Guam**	**22.12**	**168**	P	**P**	**19 20 02.1 +0.6**
	comp=Z,287nm,1.1s,mb5.6,baz=272,slow=4.5,SNR=5.3					
WHN	**Wuhan**	**22.27**	**265**	⇓P	**P**	**19 20 02.9 -0.2**
WHN				S	**S**	**19 24 03.8 -2.6**
WHN				AMB	AMB	
	comp=Z,132nm,0.8s,mb5.4					
WHN				LR	LR	
	comp=N,3μm,11.1s,MS5.2					
WHN				LR	LR	
	comp=E,4μm,12.4s,MS5.2					
WHN				LR	LR	
	comp=E,6μm,13.8s,MS5.1					
TIY	**Taiyuan**	**22.46**	**284**	P	**P**	**19 20 10.8 +5.7**
TIY				LR	LR	
	comp=N,923nm,10.8s,MS5.0					
TIY				LR	LR	
	comp=E,3μm,15.4s,MS5.0					
TIY				LR	LR	
	comp=Z,4μm,15.8s,MS5.0					
HHC	**Hu-ho-hao-te**	**23.18**	**292**	*e*P	**P**	**19 20 11.4 -1.2**
HHC				AP		19 20 20.8
HHC				XP	sP	19 20 24.8 -1.2
HHC				PP		19 20 42.5
HHC				PCP	PcP	19 24 01.4 +1.4
HHC				S	**S**	**19 24 18.0 -3.8**
HHC				SCP	ScP	19 27 34.9 -0.4
HHC				PCS	PcS	19 27 39.0 -0.1
HHC				AMB	AMB	
	comp=Z,78nm,1.0s,mb5.1					
HHC				AMB	AMB	
	comp=Z,185nm,4.2s					
HHC				LR	LR	
	comp=N,1μm,15.6s,MS4.7					
HHC				LR	LR	
	comp=E,2μm,15.6s,MS4.7					
HHC				LR	LR	
	comp=Z,2μm,20.6s,MS4.5					
CLNS	**Chul'man**	**23.82**	**339**	*e*P	**P**	**19 20 18.7 +0.1**
CLNS				*e*		19 20 47.3
CLNS				*e*		19 23 57.5
CLNS				*e*S	**S**	**19 24 35.5 +3.6**
CLNS				*e*SS		19 25 30.6
CLNS				pmax	pmax	
	comp=Z,173nm,1.4s,mb5.3					
CLNS				pmax	pmax	
	comp=N,212nm,1.6s					
CLNS				pmax	pmax	
	comp=E,42nm,1.3s					
CLNS				smax		
	comp=N,457nm,12.8s					
CLNS				smax		
	comp=E,253nm,12.9s					
CLNS				MLR	MLR	
	comp=Z,3μm,18.0s,MS4.8					
CLNS				MLR	MLR	
	comp=N,3μm,19.0s,MS4.8					
CLNS				MLR	MLR	
	comp=E,342nm,15.0s,MS4.8					
BTO	**Baotou**	**24.34**	**291**	*e*P	**P**	**19 20 22.1 -1.4**
CIT	**Chita**	**25.26**	**319**	*e*P	**P**	**19 20 29.5 -2.3**
CIT				*e*		19 20 45.4
CIT				pmax	pmax	
	comp=Z,138nm,1.7s,mb5.2					
XAN	**Xi'an**	**25.77**	**276**	P	**P**	**19 20 36.4 -0.1**
XAN				AP	pP	19 20 46.3 +0.1
XAN				XP	sP	19 20 50.8 +0.5
XAN				PP		19 21 15.8
XAN				S	**S**	**19 25 00.3 -3.1**
XAN				AMB	AMB	
	comp=Z,29nm,1.1s,mb4.7					
XAN				AMB	AMB	
	comp=Z,124nm,6.2s					
XAN				LR	LR	
	comp=N,1μm,16.5s,MS4.7					
XAN				LR	LR	
	comp=E,2μm,17.4s,MS4.7					
XAN				LR	LR	
	comp=Z,2μm,20.9s,MS4.7					
YAK	**Yakutsk**	**27.47**	**349***c*	*i*P	**P**	**19 20 50.3 -1.2**
YAK				*e**PP	pP	19 20 59.8 -1.5
YAK				*e*		19 21 36.5
YAK				*e*S	**S**	**19 25 35.8 +6.1**
YAK				*e*SS		19 26 52.4
YAK				*e*		19 31 43.2
YAK				pmax	pmax	
	comp=Z,94nm,1.3s,mb5.2					
YAK				pmax	pmax	
	comp=N,58nm,1.4s					
YAK				pmax	pmax	
	comp=E,27nm,1.3s					
YAK				pmax	pmax	
	comp=Z,50nm,1.0s,mb5.0					
YAK				smax		
	comp=N,372nm,3.8s					
YAK				smax		
	comp=E,217nm,3.1s					
YAK				MLR	MLR	
	comp=Z,4μm,28.0s,MS4.9					
YAK				MLR	MLR	
	comp=N,2μm,17.0s					
YAK				MLR	MLR	
	comp=E,1μm,21.0s					
YAK	**Yakutsk**	**27.47**	**349**	*e*P	**P**	**19 20 50.1 -1.4**
	comp=E,116nm,0.9s,mb5.4					
SONM	**Songino Array**	**27.98**	**307**	P	**P**	**19 20 55.7 -0.6**
	comp=E,28nm,0.8s,mb5.0,baz=106,slow=8.8,SNR=146					
SONM				ScP	ScP	19 27 50.7 +1.7
	comp=E,2.3nm,1.1s,baz=123,slow=5.5,SNR=5.7					
SONM				LR	LR	19 32 38.7
	comp=E,3μm,20.4s,MS4.9,baz=101,slow=38					
BOD	**Bodaibo**	**28.45**	**330**	⇓*i*P	**P**	**19 20 59.6 -0.7**
BOD				pmax	pmax	
	comp=Z,70nm,0.8s,mb5.3					
SEY	**Seymchan**	**28.55**	**12**	⇑*e*P	**P**	**19 21 00.7 -0.5**
LZH	**Lanzhou**	**29.48**	**282**	*e*P	**P**	**19 21 10.1 +0.3**
LZH				AP	pP	19 21 20.3 +0.8
LZH				XP	sP	19 21 24.8 +1.2
LZH				PP	PP	19 22 06.1 -10
LZH				*e*S	**S**	**19 26 01.0 -0.9**
LZH				AMB	AMB	
	comp=Z,86nm,1.5s,mb5.3					
LZH				AMB	AMB	
	comp=Z,230nm,4.0s					
LZH				LR	LR	
	comp=E,3μm,12.1s					
LZH				LR	LR	
	comp=Z,3μm,14.4s,MS5.1					
GYA	**Guiyang**	**30.08**	**262**	⇑*i*P	**P**	**19 21 17.6 +2.5**
GYA				AP	pP	19 21 27.3 +2.4
GYA				XP	sP	19 21 31.8 +2.8
GYA				PP	PP	19 22 15.6 -7.7
GYA				PCP	PcP	19 24 18.0 +1.6
GYA				S	**S**	**19 26 11.5 0.0**
GYA				XS	sS	19 26 28.9 +1.3
GYA				AMB	AMB	
	comp=Z,40nm,1.0s,mb5.1					
GYA				AMB	AMB	
	comp=Z,160nm,5.0s					
GYA				LR	LR	
	comp=N,870nm,17.8s,MS4.6					
GYA				LR	LR	
	comp=E,680nm,16.5s,MS4.6					
GYA				LR	LR	
	comp=Z,660nm,17.1s,MS4.3					
IRK	**Irkutsk**	**30.55**	**315**	*e*P	**P**	**19 21 18.4 -0.6**
IRK				*e*		19 22 25.5
IRK				pmax	pmax	
	comp=Z,42nm,2.1s,mb4.9					
ZAK	**Zakamensk**	**30.60**	**311**	⇓*i*P	**P**	**19 21 18.9 -0.6**
ZAK				*e*		19 24 12.0
ZAK				pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.6					
ZAK				pmax	pmax	
	comp=Z,5.0nm,1.2s,mb4.2					
TLY	**Talaya**	**30.74**	**313***c*	*i*P	**P**	**19 21 20.4 -0.3**
TLY				*e*		19 22 37.6
TLY				*e*S	**S**	**19 26 29.2 +7.8**
TLY				*e*SS	SS	19 28 29.4 -3.7
TLY				pmax	pmax	
	comp=Z,19nm,0.9s,mb4.9					
TLY				MLR	MLR	
	comp=Z,2μm,15.0s,MS4.9					
CD2	**Chengdu**	**30.80**	**272**	*e*P	**P**	**19 21 20.9 -0.6**
CD2				AP	pP	19 21 30.4 -0.8
CD2				XP	sP	19 21 35.6 +0.3
CD2				PP	PP	19 22 22.5 -8.7
CD2				PCP	PcP	19 24 17.8 -0.4
CD2				S	**S**	**19 26 20.8 -1.9**
CD2				AMB	AMB	
	comp=Z,50nm,1.0s,mb5.3					
CD2				AMB	AMB	
	comp=Z,150nm,10.8s					
CD2				LR	LR	
	comp=N,2μm,16.8s,MS5.2					
CD2				LR	LR	
	comp=E,4μm,19.2s,MS5.2					
CD2				LR	LR	
	comp=Z,5μm,16.8s,MS5.2					
QIZ	**Qiongzhong**	**31.45**	**247**	P	**P**	**19 21 28.3 +1.0**
QIZ				S	**S**	**19 26 33.5 +0.5**
QIZ				AMB	AMB	
	comp=Z,10.0nm,1.3s,mb4.5					
QIZ				LR	LR	
	comp=N,949nm,24.1s,MS4.4					
QIZ				LR	LR	
	comp=E,551nm,25.6s,MS4.4					
QIZ				LR	LR	
	comp=Z,721nm,18.5s					
GTA	**Gaotai**	**32.20**	**289**	P	**P**	**19 21 34.6 +0.8**
GTA				AP	pP	19 21 44.3 +0.8
GTA				XP	sP	19 21 48.1 +0.5
GTA				PP	PP	19 22 43.3 -3.5
GTA				S	**S**	**19 26 46.3 +1.8**
GTA				XS	sS	19 27 01.8 +1.1
GTA				SS	SS	19 28 42.0 -21
GTA				AMB	AMB	
	comp=Z,14nm,0.9s,mb4.8					
GTA				AMB	AMB	
	comp=Z,159nm,4.5s					
GTA				LR	LR	
	comp=N,730nm,17.3s,MS4.8					
GTA				LR	LR	
	comp=E,2μm,19.0s,MS4.8					
GTA				LR	LR	
	comp=Z,3μm,19.9s,MS4.9					
MOY	**Mondy**	**32.32**	**312**	*e*P	**P**	**19 21 34.2 -0.5**
MOY				*e*		19 24 22.0
MOY				pmax	pmax	
	comp=Z,29nm,2.3s,mb4.7					
KMI	**Kunming**	**33.84**	**263**	P	**P**	**19 21 47.8 -0.4**
KMI				AP	pP	19 21 57.8 -0.2
KMI				PP	PP	19 23 03.8 -1.3
KMI				PCP	PcP	19 24 28.5 +1.9
KMI				S	**S**	**19 27 07.4 -2.7**
KMI				PCS	PcS	19 28 11.0 -1.8
KMI				SCS	ScS	19 32 05.8 -4.8
KMI				AMB	AMB	
	comp=Z,17nm,1.0s,mb4.9					
KMI				LR	LR	
	comp=N,1μm,13.0s,MS5.1					
KMI				LR	LR	
	comp=E,2μm,14.7s,MS5.1					
KMI				LR	LR	
	comp=Z,3μm,13.7s,MS5.2					
BILL	**Bilibino**	**35.83**	**16***c*	*i*P	**P**	**19 22 03.8 -1.1**
BILL				*i*		19 23 30.5
BILL				*i*		19 24 30.8
BILL				pmax	pmax	
	comp=Z,118nm,1.6s,mb5.6					
BILL				MLR	MLR	
	comp=Z,1μm,15.0s,MS4.8					
BILL	**Bilibino**	**35.83**	**16**	⇑*i*P	**P**	**19 22 03.9 -1.0**
MYLDM	**Lahad Datu**	**36.18**	**219**	⇑P	**P**	**19 22 11.3 +2.8**
HVS	**Khovu-Aksy**	**36.71**	**310***c*	*i*P	**P**	**19 22 12.3 -0.3**
HVS				pmax	pmax	
	comp=Z,292nm,1.3s,mb6.0					
TIXI	**Tiksi**	**36.79**	**354**	*e*P	**P**	**19 22 11.8 -1.2**
TIXI				*e*S	**S**	**19 27 48.0 -6.5**
TIXI				pmax	pmax	
	comp=Z,87nm,1.4s,mb5.4					
TIXI				MLR	MLR	
	comp=Z,2μm,18.0s,MS4.8					
TIXI	**Tiksi**	**36.79**	**354**	⇑*e*P	**P**	**19 22 11.3 -1.7**
KRAR	**Krasnoyarsk**	**38.02**	**318**	⇑*i*P	**P**	**19 22 23.4 -0.3**
KRAR				pmax	pmax	
	comp=Z,133nm,1.7s,mb5.4					
CHTO	**Chiang Mai**	**40.02**	**257**	*e*P	**P**	**19 22 39.6 -1.2**
CHTO				pmax	pmax	
	comp=Z,15nm,1.1s,mb4.6					
CHTO	**Chiang Mai**	**40.02**	**257**	*e*P	**P**	**19 22 39.6 -1.2**
	comp=Z,15nm,1.1s,mb4.6					
CMAR	**Chiang Mai Arr**	**40.22**	**256**	P	**P**	**19 22 42.0 -0.4**
	comp=Z,6.0nm,0.8s,mb4.4,baz=50,slow=6.1,SNR=16					
CMAR				PcP	PcP	19 24 47.0 +0.9
	comp=Z,3.6nm,0.9s,baz=20,slow=1.2,SNR=6.5					
CMAR				LR	LR	19 42 10.3
	comp=Z,914nm,18.1s,MS4.7,baz=63,slow=40					
CMAR	**Chiang Mai Arr**	**40.22**	**256**	P	**P**	**19 22 42.1 -0.3**
CMAR						19 24 47.0
WMQ	**Urumqi**	**40.78**	**298**	P	**P**	**19 22 48.8 +2.0**
WMQ				AP	pP	19 22 58.6 +1.8
WMQ				XP	sP	19 23 02.6 +1.8
WMQ				PP	PP	19 24 26.8 +5.8
WMQ				PCP	PcP	19 24 50.1 +2.6
WMQ				S	**S**	**19 28 57.3 +2.0**
WMQ				XS	sS	19 29 13.5 +1.9
WMQ				SS	SS	19 31 54.3 -2.4
WMQ				AMB	AMB	
	comp=Z,173nm,1.1s,mb5.6					
WMQ				AMB	AMB	
	comp=Z,106nm,8.7s					
WMQ				LR	LR	
	comp=N,736nm,18.2s,MS4.8					
WMQ				LR	LR	
	comp=E,1μm,21.8s,MS4.8					
WMQ				LR	LR	
	comp=Z,1μm,21.8s,MS4.8					
LSA	**Lhasa**	**41.47**	**276**	P	**P**	**19 22 54.0 +1.4**
LSA				AP	pP	19 23 02.8 +0.2
LSA				PP	PP	19 24 32.1 +3.4
LSA				S	**S**	**19 29 03.3 -2.5**
LSA				SS	SS	19 32 11.9 +1.1
LSA				AMB	AMB	
	comp=Z,40nm,1.1s,mb5.0					
LSA				LR	LR	
	comp=E,1μm,15.5s					
LSA				LR	LR	
	comp=Z,1μm,14.1s,MS5.0					
LSA	**Lhasa**	**41.47**	**276**	*e*P	**P**	**19 22 53.9 +1.2**
LSA				pmax	pmax	
	comp=Z,48nm,1.1s,mb5.0					
LSA	**Lhasa**	**41.47**	**276**	*e*P	**P**	**19 22 53.9 +1.3**
	comp=Z,48nm,1.1s,mb5.0					
SBUM	**Sibu**	**41.88**	**225**	⇑P	**P**	**19 22 58.5 +2.4**
ZALV	**Zalesovo Beam**	**42.35**	**314**	P	**P**	**19 22 59.5 -0.1**
	comp=Z,61nm,0.7s,mb5.3,baz=111,slow=8.1,SNR=184					
ZALV				PcP	PcP	19 24 52.0 -0.5
	comp=Z,4.7nm,0.4s,baz=122,slow=3.9,SNR=5.0					
ZALV				ScP	ScP	19 28 41.3 +0.8
	comp=Z,1.9nm,0.9s,baz=150,slow=6.8,SNR=3.7					
ZALV	**Zalesovo Beam**	**42.35**	**314**	P	**P**	**19 22 59.5 -0.1**
ZALV				PcP	PcP	19 24 52.0 -0.5
ZALV				ScP	ScP	19 28 41.3 +0.8
ZAL	**Zalesovo**	**42.36**	**314**	P	**P**	**19 22 59.5 -0.1**
ZAL						19 24 52.0
SHL	**Shillong**	**42.49**	**270**	*e*P	**P**	**19 23 03.5 +2.4**
NVS	**Novosibirsk**	**43.32**	**315**	⇑*i*P	**P**	**19 23 06.9 -0.4**
NVS				*e*S	**S**	**19 29 30.9 -1.5**
NVS				pmax	pmax	
	comp=E,175nm,1.5s					
NVS				pmax	pmax	
	comp=Z,150nm,1.5s,mb5.5					
NVS				pmax	pmax	
	comp=N,43nm,1.6s					
NVS				smax		
	comp=N,33nm,2.4s					
NVS				smax		
	comp=E,28nm,2.0s					
KSM	**Kuching**	**43.78**	**226**	⇓P	**P**	**19 23 11.9 +0.4**
KSM	**Kuching**	**43.78**	**226**	*e*P	**P**	**19 23 10.8 -0.7**
MK31	**Makanchi Array**	**44.23**	**303**	*e*P	**P**	**19 23 15.2 +0.4**
MKAR	**Makanchi Array**	**44.23**	**303**	P	**P**	**19 23 15.3 +0.5**
	comp=E,79nm,0.8s,mb5.5,baz=88,slow=9.3,SNR=284					
MKAR				ScP	ScP	19 28 49.6 +1.4
	comp=E,2.2nm,0.9s,baz=56,slow=3.6,SNR=3.7					
MKAR				LR	LR	19 42 41.6
	comp=E,2μm,18.3s,MS5.2,baz=81,slow=37					
PMG	**Port Moresby**	**45.05**	**170**	⇓*e*P	**P**	**19 23 25.3 +3.7**
TAPN	**Taplejung**	**45.16**	**275**	*e*P	**P**	**19 23 22.7 +0.2**
	comp=E,63nm,0.9s,mb5.5					
ODAN	**Odare**	**45.62**	**275**	*e*P	**P**	**19 23 26.1 0.0**
	comp=E,55nm,0.9s,mb5.5					
RAMN	**Ramite**	**46.23**	**275**	*e*P	**P**	**19 23 31.3 +0.4**
KURK	**Kurchatov**	**46.23**	**309**	P	**P**	**19 23 30.2 -0.4**
	comp=E,2μm,0.8s					
KURK	**Kurchatov**	**46.23**	**309**	⇑*e*P	**P**	**19 23 30.1 -0.5**
JIRN	**Jiri**	**46.27**	**276**	*e*P	**P**	**19 23 32.0 +0.7**
	comp=E,261nm,1.1s,mb6.1					
GUN	**Gumba**	**46.42**	**277**	*e*P	**P**	**19 23 33.3 +0.9**
	comp=E,195nm,1.1s,mb6.0					
PKI	**Pulchoki**	**46.94**	**276**	*e*P	**P**	**19 23 36.7 +0.2**
	comp=E,94nm,1.0s,mb5.7					
PKI	**Pulchoki**	**46.94**	**276**	*e*P	**P**	**19 23 36.7 +0.2**
PKI				pmax	pmax	
	comp=Z,94nm,1.0s,mb5.7					
KKN	**Kakani**	**46.96**	**277**	*e*P	**P**	**19 23 37.1 +0.5**
	comp=Z,124nm,1.0s,mb5.8					
KKN	**Kakani**	**46.96**	**277**	*e*P	**P**	**19 23 37.1 +0.5**
KKN				pmax	pmax	
	comp=Z,124nm,1.0s,mb5.8					
DMN	**Daman**	**47.17**	**277**	*e*P	**P**	**19 23 38.6 +0.3**
	comp=Z,104nm,1.1s,mb5.7					
KULM	**Kulim**	**47.22**	**240**	⇓P	**P**	**19 23 40.1 +1.4**
TTA	**Tatalina**	**47.27**	**34**	*e*P	**P**	**19 23 38.5 0.0**
SVW2	**Sparrevohn**	**47.36**	**36**	*e*P	**P**	**19 23 39.2 0.0**
GKN	**Gorkha**	**47.40**	**277**	*e*P	**P**	**19 23 40.7 +0.7**
IPM	**Ipoh**	**47.53**	**239**	⇓P	**P**	**19 23 39.9 -1.2**
MYKOM	**Kota Tinggi**	**47.57**	**234**	⇑P	**P**	**19 23 40.1 -1.4**
KGM	**Kluang**	**47.75**	**234**	⇓P	**P**	**19 23 47.0 +4.0**
DANN	**Dangsing**	**47.97**	**278**	*e*P	**P**	**19 23 45.5 +1.0**
	comp=Z,179nm,0.7s,mb6.2					
FRIM	**Kepong**	**48.00**	**237**	⇓P	**P**	**19 23 48.0 +3.2**
HNR	**Honiara**	**48.32**	**154**	LR	LR	19 42 25.9
	comp=Z,459nm,19.3s,MS4.5,baz=358,slow=34					
KOLN	**Koldanda**	**48.33**	**278**	*e*P	**P**	**19 23 47.9 +0.6**
	comp=Z,48nm,0.8s,mb5.6					
KAKA	**Kakadu**	**48.44**	**190**	*e*P	**P**	**19 23 46.3 -1.8**
	comp=Z,106nm,1.2s,mb5.8					
IMA2	**Indian Mountai**	**48.54**	**30**	*e*P	**P**	**19 23 48.1 -0.2**
KDAK	**Kodiak Island**	**48.91**	**41**	P	**P**	**19 23 50.0 -1.3**

comp=Z,264nm,0.8s,mb6.3,SNR=6.1
KDAK Kodiak Island 48.91 41 *e*P **P 19 23 50.2 -1.1**
KDAK pmax pmax
comp=Z,63nm,1.1s,mb5.6
KDAK Kodiak Island 48.91 41 *e*P **P 19 23 50.1 -1.1**
comp=Z,63nm,1.1s,mb5.6
COEN Coen 49.18 176 *e*P **P 19 23 53.1 -0.7**
comp=Z,43nm,1.3s,mb5.3
ULHL Ulaho! 49.32 298 P **P 19 23 56.9 +2.2**
SNR=7.8
KTH Kantishna Hill 49.59 33 *e*P **P 19 23 56.5 0.0**
comp=Z,82nm,1.4s,mb5.6
TKM2 Tokmak 2 49.61 299 *e*P **P 19 23 58.7 +1.8**
TKM2 pmax pmax
comp=Z,124nm,0.9s,mb5.9
TKM2 Tokmak 2 49.61 299 P **P 19 23 58.9 +2.0**
SNR=91
TKM2 Tokmak 2 49.61 299 *e*P **P 19 23 58.7 +1.8**
comp=Z,124nm,0.9s,mb5.9
KZA Kyzart 50.08 298 P **P 19 24 03.0 +2.6**
SNR=16
KBK Karagaybulak 50.14 299 P **P 19 24 03.5 +2.5**
SNR=54
CHMS Chumysh 50.20 300 P **P 19 24 02.5 +1.2**
SNR=27
USP Ospenovka 50.31 300 P **P 19 24 04.2 +2.0**
SNR=30
FRU Bishkek 50.33 299⇑*e*P **P 19 24 03.0 +0.6**
FRU *e* 19 31 19.0
FRU pmax pmax
comp=Z,175nm,1.3s,mb5.9
FRU MLR MLR
comp=Z,2μm,20.0s,MS5.2
PTH Pithoragarh 50.35 281 *e*P **P 19 24 03.6 +0.9**
PMR Palmer 50.47 36 *e*P **P 19 24 01.8 -1.3**
PMR pmax pmax
comp=Z,33nm,1.2s,mb5.2
PMR Palmer 50.47 36 *e*P **P 19 24 01.8 -1.2**
comp=Z,33nm,1.2s,mb5.2
AAK Ala-Archa 50.47 299 P **P 19 24 05.6 +2.1**
SNR=15
COLA College 50.93 32 *e*P **P 19 24 06.1 -0.4**
COLA pmax pmax
comp=Z,204nm,1.2s,mb5.9
COLA College 50.93 32 *e*P **P 19 24 06.1 -0.4**
comp=Z,204nm,1.2s,mb5.9
EKS2 Erkin-Say 50.98 299 P **P 19 24 09.3 +2.1**
SNR=18
EKS2 Erkin-Say 50.98 299 *e*P **P 19 24 08.4 +1.2**
comp=Z,18nm,0.8s,mb5.0
BRVK Borovoye 51.06 313 P **P 19 24 07.9 +0.2**
comp=Z,267nm,1.2s,mb6.0,SNR=36
BRVK Borovoye 51.06 313⇑*e*P **P 19 24 07.6 -0.1**
AML Almayashu 51.18 299 P **P 19 24 11.7 +2.9**
SNR=10
AML Almayashu 51.18 299 *e*P **P 19 24 10.3 +1.6**
comp=Z,200nm,0.8s,mb6.1
DDI Dehra Dun 51.77 283 *e*P **P 19 24 13.0 -0.3**
SMLA Simla 52.16 284 *i* P **P 19 24 17.3 +1.1**
SMLA *ex* x 19 24 22.3
comp=Z,166nm,0.8s
SMLA *i* x x 19 31 31.1
SMLA *i* S **S 19 31 37.1 -1.4**
THN Thein Dam 52.81 287 *e*P **P 19 24 20.7 -0.3**
EGAK Eagle 53.79 31 *e*P **P 19 24 27.0 -0.7**
comp=Z,44nm,1.3s,mb5.2
FITZ Fitzroy Crossi 55.01 197 *e*P **P 19 24 36.6 -0.5**
comp=Z,17nm,0.6s,mb5.2
WRAB Tennant Creek 55.33 187 P **P 19 24 38.0 -1.4**
comp=Z,531nm,1.1s,mb6.5,SNR=20
WRAB Tennant Creek 55.33 187*d i*P **P 19 24 38.1 -1.3**
WRAB Tennant Creek 55.33 187 *e*P **P 19 24 38.0 -1.4**
comp=Z,91nm,1.0s,mb5.8
WB2 Warramunga Arr 55.34 187 *e*P **P 19 24 37.8 -1.6**
WRA Warramunga Arr 55.34 187 P **P 19 24 37.8 -1.6**
comp=Z,42nm,1.0s,mb5.4,baz=0.7,slow=6.9,SNR=230
WRA ScP ScP 19 29 36.5 +0.6
comp=Z,2.4nm,1.1s,baz=3.1,slow=4.5,SNR=4.0
WRA S **S 19 32 24.3 +3.0**
comp=Z,1.6nm,1.0s,baz=8.0,slow=14,SNR=4.7
WRA LR LR 19 48 11.8
comp=Z,415nm,19.9s,MS4.5,baz=0.0,slow=36
WRA Warramunga Arr 55.34 187 P **P 19 24 37.8 -1.6**
WRA S **S 19 32 24.3 +2.9**
CTA Charters Tower 55.49 173 *e*P **P 19 24 40.8 +0.3**
comp=Z,11nm,1.1s,mb4.8
CTA Charters Tower 55.49 173 P **P 19 24 40.7 +0.2**
comp=Z,2.5nm,0.5s,mb4.5,baz=331,slow=10,SNR=4.1
CTA Charters Tower 55.49 173 *e*P **P 19 24 40.8 +0.3**
CTA pmax pmax
comp=Z,11nm,1.1s
SVE Sverdlovsk 55.77 319⇓*e*P **P 19 24 42.5 +0.3**
SVE *e* 19 26 50.4
SVE *e*PPP 19 28 01.1
SVE pmax pmax
comp=Z,63nm,0.7s,mb5.8
SVE MLR MLR
comp=Z,2μm,17.0s,MS5.2
AJM Ajmer 56.10 280 *i* P **P 19 24 45.0 0.0**
ARU Arti 56.98 319 P **P 19 24 50.7 -0.1**
comp=Z,567nm,0.6s,mb6.8,SNR=53
ARU Arti 56.98 319*c i*P **P 19 24 50.5 -0.3**
ARU *e* 19 25 42.6
ARU *e* 19 26 56.8
ARU *e*S **S 19 32 43.5 +1.0**
ARU *e*SS SS 19 36 31.7 +1.0
ARU pmax pmax
comp=Z,165nm,1.7s,mb5.8
ARU MLR MLR
comp=Z,1μm,18.0s,MS5.1
ARU Arti 56.98 319⇑*e*P **P 19 24 50.5 -0.3**
SOKR Solikamsk 57.07 323*c i*P **P 19 24 51.4 0.0**
SOKR pmax pmax
comp=Z,70nm,1.4s,mb5.5
SOKR MLR MLR
comp=Z,2μm,23.0s,MS5.2
KBL Kabul 57.15 291 *e*P **P 19 24 52.3 -0.1**
KBL pmax pmax
comp=Z,22nm,0.8s,mb5.2
KBL Kabul 57.15 291 *e*P **P 19 24 52.3 -0.1**
comp=Z,22nm,0.8s,mb5.2
HYB Hyderabad 57.26 269 *i* P **P 19 24 53.5 +0.2**
comp=Z,70nm,1.0s,mb5.7
SKAG Skagway 57.53 37 *e*P **P 19 24 55.1 +0.5**
comp=Z,40nm,0.8s,mb5.5
SIT Sitka 58.21 40 *e*P **P 19 24 59.7 +0.3**
SIT pmax pmax
comp=Z,58nm,1.5s,mb5.4
SIT Sitka 58.21 40 *e*P **P 19 24 59.7 +0.3**
comp=Z,58nm,1.5s,mb5.4
ASAR Alice Springs 59.07 187 P **P 19 25 04.5 -1.3**
comp=Z,6.2nm,0.7s,mb4.7,baz=3.9,slow=6.1,SNR=121
ASAR S **S 19 33 10.2 -0.2**
comp=Z,2.6nm,1.1s,baz=18,slow=14,SNR=8.0
ASAR PKP2bc 19 54 52.3
comp=Z,1.9nm,1.0s,baz=180,slow=3.0,SNR=4.6
ASAR Alice Springs 59.07 187 P **P 19 25 04.5 -1.2**
ASAR S **S 19 33 10.2 -0.2**
ASAR Alice Springs 59.07 187 P **P 19 25 04.5 -1.3**
ASAR S **S 19 33 10.2 -0.2**
ASAR ⇑*e* 19 54 52.3
MBWA Marble Bar 59.55 202 *e*P **P 19 25 07.7 -1.4**
comp=Z,24nm,0.7s,mb5.3
CRAG Craig 59.87 41 *e*P **P 19 25 11.3 +0.3**
comp=Z,20nm,0.7s,mb5.3
DLBC Dease Lake 60.46 37 *e*P **P 19 25 15.8 +0.8**
POO Poona 60.53 273⇓*i*P **P 19 25 15.0 -1.0**
comp=Z,70nm,1.0s,mb5.8
KAD Karad 60.88 271 *i* P **P 19 25 17.0 -1.5**
SPB4 Spitsbergen Ar 61.93 349 *e*P **P 19 25 24.8 +0.1**
KBS Kingsbay 62.09 350⇑*e*P **P 19 25 26.3 +0.6**
KBS Kingsbay 62.09 350⇑*e*P **P 19 25 26.4 +0.7**
APA Apatity 63.79 336⇓*i*P **P 19 25 36.5 -0.6**
APA *i* pP 19 25 46.5 -1.0
APA *i* 19 28 00.0
APA pmax pmax
comp=Z,43nm,1.2s,mb5.3
APA MLR MLR
comp=Z,2μm,18.0s,MS5.2
KEV Kevo 64.63 339 *ep* **P 19 25 41.5 -1.1**
comp=Z,55nm,1.3s,mb5.4
KEV Kevo 64.63 339 *e*P **P 19 25 41.5 -1.1**
KEV pmax pmax
comp=Z,55nm,1.3s,mb5.4
KLMR Klimovskoe 64.64 328 *e*P **P 19 25 41.3 -1.5**
ARCES ARCESS Array B 65.19 339 P **P 19 25 46.1 -0.1**
comp=Z,22nm,0.9s,mb5.2,baz=57,slow=8.8,SNR=44
ARCES LR LR 19 57 03.9
comp=Z,1μm,20.9s,MS5.2,baz=47,slow=39
ARE0 ARCESS Array S 65.19 339 *e*P **P 19 25 45.9 -0.4**
YKA Yellowknife Ar 65.66 29 P **P 19 25 48.6 -0.8**
comp=Z,11nm,0.8s,mb4.9,baz=298,slow=6.5,SNR=35
YKA LR LR 19 58 10.1
comp=Z,121nm,19.8s,MS4.1,baz=305,slow=39
FORT Forrest 66.84 191 *e*P **P 19 25 56.7 -0.6**
comp=Z,36nm,0.5s,mb5.7
STKA Stephens Creek 66.95 179 *e*P **P 19 25 57.8 -0.1**
comp=Z,8.1nm,0.9s,mb4.8
STKA Stephens Creek 66.95 179 P **P 19 25 57.2 -0.7**
comp=Z,7.1nm,0.9s,mb4.7,baz=304,slow=22,SNR=7.7
STKA LR LR 19 54 46.1
comp=Z,509nm,20.5s,MS4.7,baz=14,slow=36
STKA Stephens Creek 66.95 179 *e*P **P 19 25 56.6 -1.3**
JOF Joensuu 66.96 332 *ep* **P 19 25 56.6 -1.1**
comp=Z,34nm,0.6s,mb5.5
DAG Danmarks Havn 67.30 355⇓*i*P **P 19 25 59.6 -0.1**
DAG pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
DAG Danmarks Havn 67.30 355⇓*i*P **P 19 25 59.6 -0.1**
comp=Z,8.9nm,0.7s,mb4.9
C03A Quillayute Air 67.80 46 ⇑P **P 19 26 04.0 +0.7**
baz=68,SNR=10.0
MOS Moscow 68.01 323 *e*P **P 19 26 02.8 -1.7**
MOS *e* 19 26 25.7
MOS *e* 19 28 35.6
MOS *e*PPP 19 30 13.0
MOS pmax pmax
comp=Z,740nm,0.8s,mb6.8
MOS pmax pmax
comp=Z,400nm,2.8s,mb6.0
MOS MLR MLR
comp=Z,1μm,17.0s,MS5.2
VRHR Novokhopersk 68.28 318 *e*P **P 19 26 05.4 -0.8**
VRHR pmax pmax
comp=Z,30nm,0.7s,mb5.4
VRHR pmax pmax
comp=N,40nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR MLR MLR
comp=Z,970nm,15.0s,MS5.2
VRHR MLR MLR
comp=N,570nm,19.0s,MS5.2
VRHR MLR MLR
comp=E,1μm,14.0s,MS5.2
OSD Olympics--Snow 68.37 46 P **P 19 26 07.9 +1.0**
B04A Port Angeles 68.37 46 ⇓P **P 19 26 07.0 +0.1**
baz=68
NLWA Neilton Lookou 68.48 47 ⇓P **P 19 26 07.9 +0.3**
baz=68,SNR=16
NLWA Neilton Lookou 68.48 47 P **P 19 26 08.2 +0.6**
A04A Legoe Bay, Lum 68.51 45 ⇓P **P 19 26 07.7 -0.1**
baz=68
D03A Wishkah Elem. 68.67 47 ⇓P **P 19 26 09.7 +0.9**
A05A Maple Falls 68.73 44 ⇑P **P 19 26 08.4 -0.7**
baz=69
MAK Makhachkala 68.74 308*c i*P **P 19 26 08.2 -1.1**
MAK *e* 19 26 40.5
MAK *e* 19 28 38.9
MAK *e*S S 19 35 10.0 -0.2
MAK *e* 19 36 08.4
MAK pmax pmax
comp=Z,265nm,1.4s,mb6.0
MAK MLR MLR
comp=Z,2μm,18.0s,MS5.4
OBN Obninsk 68.85 323 P **P 19 26 09.0 -0.7**
comp=Z,283nm,1.3s,mb6.0,SNR=5.1
OBN Obninsk 68.85 323 *e*P **P 19 26 09.0 -0.7**
OBN *e* 19 26 35.1
OBN *i* 19 28 41.2
OBN pmax pmax
comp=Z,71nm,1.2s,mb5.5
OBN Obninsk 68.85 323⇑*e*P **P 19 26 09.1 -0.6**
C04A Brinnon 68.85 46 ⇓P **P 19 26 10.4 +0.5**
baz=69
CMW Cultus Mountai 69.00 45 P **P 19 26 11.7 +0.9**
GNW Green Mountain 69.01 46 P **P 19 26 11.4 +0.5**
A06A Chilliwack 69.03 44 ⇑P **P 19 26 10.3 -0.6**
baz=69
E03A Lebam 69.08 47 ⇓P **P 19 26 11.7 +0.4**
baz=69
B05A Bryant 69.09 45 ⇓P **P 19 26 11.6 +0.2**
baz=69
JCW Jim Creek 69.22 45 *e*P **P 19 26 12.5 +0.3**
B06A Marblemount 69.31 45 ⇓P **P 19 26 12.4 -0.3**
baz=69
BMW Boistfort Moun 69.31 47 P **P 19 26 13.0 +0.2**
KAF Kangasniemi 69.33 333 *ep* **P 19 26 11.2 -1.4**
comp=Z,44nm,0.9s,mb5.4,baz=50,slow=5.9
KAF Kangasniemi 69.33 333 *e*P **P 19 26 11.2 -1.4**
KAF pmax pmax
comp=Z,44nm,0.9s,mb5.4
RPW Rockport 69.33 45 *e*P **P 19 26 12.4 -0.5**
F03A Seaside 69.39 48 ⇓P **P 19 26 13.7 +0.5**
baz=69
VRSR Storozhevoye 69.54 319 *e*P **P 19 26 13.6 -0.5**
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR MLR MLR
comp=E,560nm,24.0s
VRSR MLR MLR
comp=N,140nm,17.0s
VRSR MLR MLR
comp=Z,140nm,17.0s
E04A Onalaska 69.56 47 ⇓P **P 19 26 15.1 +0.8**
baz=69
C05A Tolt Reservoir 69.61 46 ⇑P **P 19 26 14.7 +0.1**
baz=69,SNR=7.2
A07A Ashnola River, 69.67 44 ⇓P **P 19 26 14.4 -0.5**
baz=70,SNR=9.1
D05A Enumclaw 69.69 46 ⇓P **P 19 26 15.3 +0.2**
baz=70
G03A Yamhill 69.86 48 ⇑P **P 19 26 16.4 +0.2**
baz=70
KLBR Kellerberrin 69.94 200 *e*P **P 19 26 18.5 +1.9**
comp=Z,128nm,1.8s,mb5.5
C06A Tall Timber Ra 69.96 45 ⇓P **P 19 26 16.7 0.0**
baz=70
TDL Tradedollar La 69.98 47 P **P 19 26 17.8 +0.9**
LON Longmire 70.02 46 *e*P **P 19 26 16.6 -0.5**
LON pmax pmax
comp=Z,19nm,1.3s,mb4.9
LON Longmire 70.02 46 *e*P **P 19 26 16.6 -0.5**
comp=Z,19nm,1.3s,mb4.9
F04A Amboy 70.07 47 ⇑P **P 19 26 17.5 0.0**
baz=70
MPOR Mary's Peak 70.11 49 P **P 19 26 18.9 +1.2**
B07A Winthrop 70.13 44 ⇑P **P 19 26 17.6 -0.2**
baz=70,SNR=11
E05A Randle 70.15 47 ⇓P **P 19 26 17.6 -0.3**
baz=70
H03A Soap Creek Ran 70.18 49 ⇑P **P 19 26 18.8 +0.7**
baz=70,SNR=6.2
A08A Turner Farm, O 70.35 44 P **P 19 26 19.1 0.0**
baz=70,SNR=10
D06A Cle Elum 70.36 46 ⇓P **P 19 26 19.2 0.0**
baz=70
K01A Sixes 70.38 51 ⇓P **P 19 26 19.7 +0.3**
baz=70,SNR=5.8
G04A Mulino 70.41 48 ⇓P **P 19 26 19.7 +0.1**
baz=70
KEBM Edson Butte 70.44 51 *e*P **P 19 26 20.4 +0.6**
ETW Entiat 70.45 45 *e*P **P 19 26 19.4 -0.3**
GOF Gofitskoye 70.50 312 *e*P **P 19 26 17.3 -2.8**
GOF pmax pmax
comp=Z,153nm,1.5s,mb5.7
TBM Table Mountain 70.52 46 P **P 19 26 20.5 +0.4**
I03A Eugene 70.54 50 ⇓P **P 19 26 20.6 +0.2**
baz=70,SNR=5.8
C07A Waterville 70.56 45 ⇑P **P 19 26 20.0 -0.4**
baz=70,SNR=6.8
WTV Waterville 70.62 45 P **P 19 26 20.8 0.0**
E06A Yakima 70.62 46 ⇓P **P 19 26 20.7 0.0**
baz=70,SNR=15
B08A Colville Reser 70.63 44 ⇓P **P 19 26 20.4 -0.4**
baz=70,SNR=10
J02A Umpqua 70.67 50 ⇓P **P 19 26 21.2 0.0**
baz=70,SNR=6.6
F05A White Salmon 70.67 47 ⇓P **P 19 26 21.4 +0.2**
baz=70
A09A Danville 70.72 43 ⇓P **P 19 26 21.1 -0.3**
baz=70,SNR=8.0
MUN Mundaring 70.75 202 *e*P **P 19 26 26.3 +4.7**
KBO Bosley Butte 70.84 52 *e*P **P 19 26 22.6 +0.3**
HOOD Mount Hood Mea 70.85 48 *e*P **P 19 26 22.4 +0.2**
comp=Z,31nm,0.9s,mb5.2
H04A Detroit Lake 70.85 48 ⇑P **P 19 26 21.9 -0.4**
baz=71
DGRG David-gareji 70.86 308 P **P 19 26 19.7 -2.7**
D07A Quincy 70.87 45 ⇓P **P 19 26 22.0 -0.3**
baz=71
K02A Glendale 71.03 51 ⇓P **P 19 26 23.5 +0.2**
baz=71,SNR=13
G05A Wamic 71.09 48 ⇓P **P 19 26 23.8 +0.1**
baz=71
C08A Higginbotham F 71.09 44 ⇑P **P 19 26 23.2 -0.4**
baz=71,SNR=7.3
M01C Crescent City 71.09 52 ⇓P **P 19 26 23.9 +0.2**
baz=71,SNR=8.5
MTA Mtatsminda 71.11 308 P **P 19 26 23.8 -0.1**
MTA S pP 19 26 34.2 -0.2
TBLG Delisi 71.13 308 P **P 19 26 24.0 0.0**
TBLG S pP 19 26 33.6 -0.9
F06A Goldendale 71.14 47 ⇓P **P 19 26 24.2 +0.2**
baz=71
I04A Tendick Farm, 71.17 49 P **P 19 26 24.4 +0.2**
baz=71,SNR=11
B09A Rice 71.26 44 P **P 19 26 24.8 +0.1**
baz=71,SNR=13
L02A Cave Junction 71.27 51 ⇑P **P 19 26 25.1 +0.3**
baz=71,SNR=8.9
E07A Sunnyside 71.27 46 ⇓P **P 19 26 24.7 -0.1**
baz=71
KIV Kislovodsk 71.28 311 P **P 19 26 25.6 +0.8**
comp=Z,416nm,1.2s,mb6.2,SNR=18
KIV Kislovodsk 71.28 311 *e*P **P 19 26 25.0 +0.2**
KIV *e*S S 19 35 38.2 -1.7
KIV pmax pmax
comp=Z,91nm,1.2s,mb5.6
KIV pmax pmax
comp=Z,84nm,5.0s
KIV MLR MLR
comp=Z,521nm,20.0s,MS4.8
KIV Kislovodsk 71.28 311⇑*e*P **P 19 26 25.1 +0.3**
A10A Northport 71.29 43 ⇓P **P 19 26 24.6 -0.3**
baz=71,SNR=9.4
VSU Vasula 71.38 329⇑*i*P **P 19 26 24.9 -0.3**
KRMB Red Mountain 71.40 52 *e*P **P 19 26 26.0 +0.3**
HUMO Hull Mountain 71.44 51 ⇓P **P 19 26 25.8 -0.1**
baz=71,SNR=6.7
HUMO Hull Mountain 71.44 51 *e*P **P 19 26 25.7 -0.2**
comp=Z,14nm,1.3s,mb4.7
OD2 Odessa Site #2 71.49 45 *e*P **P 19 26 25.6 -0.5**
RSW Rattlesnake Hi 71.51 46 *e*P **P 19 26 26.7 +0.5**
ONI Oni 71.51 309 P **P 19 26 26.8 +0.5**
C09A Chrisman Ranch 71.53 44 ⇑P **P 19 26 25.8 -0.4**
baz=71,SNR=6.1
KTRM Thompson Ridge 71.54 51 P **P 19 26 27.5 +1.0**
HAWA Hanford 71.55 46 *e*P **P 19 26 26.6 +0.1**
comp=Z,47nm,1.5s,mb5.2
D08A Wollman Farm, 71.55 45 ⇓P **P 19 26 26.0 -0.4**
baz=71,SNR=8.6
F07A Phinny Hill Vi 71.58 47 ⇓P **P 19 26 26.9 +0.3**
baz=71
J04A Umpqua Nationa 71.65 50 ⇑P **P 19 26 27.4 +0.3**
baz=72
JCC Jacoby Creek 71.68 53 ⇑P **P 19 26 27.5 +0.1**
baz=72
I05A Bend 71.69 49 ⇓P **P 19 26 27.5 +0.2**
baz=72
E08A Dider Farm, El 71.77 46 ⇓P **P 19 26 27.8 0.0**
baz=72
B10A Chitwood Farm, 71.85 43 ⇑P **P 19 26 28.0 -0.2**
baz=72
D09A Jones Farm, Ri 71.90 45 ⇓P **P 19 26 28.4 -0.2**
baz=72,SNR=5.2
NEW Newport 71.92 43 P **P 19 26 28.2 -0.5**
GNI Garni 71.94 307⇑*e*P **P 19 26 29.8 +0.9**
H06A Lindquist Farm 71.95 48 ⇓P **P 19 26 28.8 -0.1**
baz=72,SNR=10
A11A Hall Mountain, 71.97 42 ⇓P **P 19 26 29.1 +0.2**
baz=72,SNR=14
YBH Yreka Blue Hor 72.06 51 *e*P **P 19 26 29.9 +0.3**
YBH pmax pmax
comp=Z,17nm,1.3s
YBH Yreka Blue Hor 72.06 51 P **P 19 26 30.2 +0.6**
baz=72,SNR=16
YBH Yreka Blue Hor 72.06 51 *e*P **P 19 26 29.9 +0.4**
comp=Z,17nm,1.3s,mb4.8
C10A Spilker Farm, 72.06 44 ⇑P **P 19 26 29.5 0.0**
baz=72
G07A Ruggs Ranch, H 72.07 47 ⇑P **P 19 26 29.5 0.0**
baz=72
M02C Callahan 72.14 52 ⇓P **P 19 26 30.9 +0.8**
baz=72,SNR=13
N02C Big Bar 72.15 52 P **P 19 26 30.7 +0.6**
baz=72,SNR=7.7
J05A Fort Rock 72.17 49 ⇓P **P 19 26 30.8 +0.5**
baz=72,SNR=19
O01C Eel River Cons 72.17 53 ⇑P **P 19 26 30.6 +0.3**
baz=72
K04A Chilquin 72.21 50 ⇓P **P 19 26 30.5 0.0**
baz=72
B11A Sandpoint 72.25 43 ⇓P **P 19 26 30.5 -0.1**
baz=72
E09A Wood Farm, Sta 72.29 45 ⇑P **P 19 26 30.7 -0.2**
baz=72,SNR=9.5
SUMG Summit 72.30 360 *e*P **P 19 26 31.3 +0.8**
comp=Z,7.4nm,0.8s,mb4.7
L04A Klamath Falls 72.34 51 ⇑P **P 19 26 31.3 0.0**
baz=72,SNR=6.0
A12A Yaak River Ran 72.37 42 ⇑P **P 19 26 31.6 +0.3**
baz=72
I06A Prineville 72.45 48 ⇓P **P 19 26 31.8 -0.1**
baz=72,SNR=11
G08A Pilot Rock 72.48 47 P **P 19 26 32.2 +0.2**
baz=72,SNR=7.2
H07A Lands Inn, Kim 72.49 48 ⇓P **P 19 26 31.8 -0.4**
baz=72
D10A Wagner Farm, O 72.50 44 P **P 19 26 32.1 0.0**
baz=72,SNR=6.2
LNOR Lincton Mounta 72.56 46 *e*P **P 19 26 32.6 +0.1**
KCPM Cahto Peak 72.56 54 *e*P **P 19 26 32.3 -0.4**
KIPM Iron Peak 72.57 53 *e*P **P 19 26 33.5 +0.9**
M04C Macdoel 72.58 51 ⇑P **P 19 26 32.8 0.0**
baz=72,SNR=9.8
B12A Libby 72.66 43 ⇑P **P 19 26 33.4 +0.3**
baz=72
M03C McCloud 72.67 52 ⇓P **P 19 26 33.2 -0.1**
baz=72
K05A Summer Lake 72.68 50 ⇓P **P 19 26 33.5 +0.3**
baz=72,SNR=22
WDC Whiskeytown Da 72.77 52 *e*P **P 19 26 33.8 -0.1**
WDC pmax pmax
comp=Z,14nm,1.0s,mb4.8
WDC Whiskeytown Da 72.77 52 ⇓P **P 19 26 33.9 0.0**
baz=73,SNR=7.7
WDC Whiskeytown Da 72.77 52 *e*P **P 19 26 33.8 -0.1**
comp=Z,14nm,1.0s,mb4.8
I07A Izee 72.80 48 P **P 19 26 34.3 +0.3**
baz=73,SNR=8.5
O02C Red Bluff 72.82 53 ⇑P **P 19 26 34.4 +0.3**
baz=73,SNR=15
P01C Double 8 Ranch 72.84 54 ⇓P **P 19 26 34.2 -0.1**
baz=73
J06A Christmas Vall 72.86 49 P **P 19 26 34.7 +0.4**
baz=73,SNR=16
F09A S2 Ranch, Elgi 72.87 46 ⇓P **P 19 26 34.5 +0.1**
baz=73
E10A Myers Farm, Un 72.91 45 ⇑P **P 19 26 34.1 -0.4**
baz=73
K06A Valley Falls 73.04 49 P **P 19 26 35.8 +0.4**
baz=73,SNR=13
D11A Klaveano Farm, 73.04 44 ⇑P **P 19 26 34.6 -0.7**
baz=73,SNR=5.5
A13A Flathead Natio 73.05 42 ⇓P **P 19 26 35.3 -0.1**
baz=73
H08A Prairie City 73.07 47 ⇓P **P 19 26 35.2 -0.3**
baz=73,SNR=11
L05A Lakeview 73.08 50 ⇓P **P 19 26 36.2 +0.5**
baz=73,SNR=10
F10A Beach Ranch, E 73.12 45 ⇑P **P 19 26 35.7 -0.2**
baz=73
GASB Alder Springs 73.15 53 ⇑P **P 19 26 36.9 +0.8**
baz=73,SNR=10

G09A	Cove	73.18	46	P	P	19 26 36.2	0.0
	baz=73,SNR=10						
M05C	Lookout	73.25	51	P	P	19 26 37.0	+0.4
	baz=73,SNR=11						
HOPS	Hopland	73.26	54	⇑P	P	19 26 36.6	-0.2
	baz=73						
SOC	Sochi	73.30	312	eP	P	19 26 37.1	+0.2
SOC				e*SP	sP	19 26 47.5	-3.9
SOC				e	pP	19 26 49.7	+2.2
SOC				ePPP		19 31 00.1	
SOC				eS	S	19 36 02.0	-1.1
SOC				e		19 36 42.2	
SOC				eSS	SS	19 40 43.3	-1.2
SOC				eSSS		19 44 02.5	
J07A	Hines	73.31	48	⇓P	P	19 26 37.4	+0.4
	baz=73,SNR=16						
B13A	Whitefish	73.33	42	⇓P	P	19 26 37.4	+0.3
	baz=73,SNR=25						
HATC	Hat Creek Radi	73.34	52	⇑P	P	19 26 37.2	-0.1
	baz=73						
O03C	Acorn Hollow,	73.41	53	⇑P	P	19 26 36.9	-0.7
	baz=73						
I08A	Drewsey	73.46	48	⇑P	P	19 26 38.2	+0.3
	baz=73,SNR=12						
MOD	Modoc	73.49	50	⇓P	P	19 26 37.9	-0.2
	baz=73						
MOD	Modoc	73.49	50	eP	P	19 26 38.6	+0.6
	comp=Z,8.1nm,0.6s,mb4.8						
E11A	Bogner Ranch,	73.50	45	⇑P	P	19 26 37.7	-0.3
	baz=73,SNR=9.5						
G10A	Bishop Farm, J	73.56	46	⇓P	P	19 26 38.2	-0.2
	baz=73,SNR=12						
H09A	Durkee	73.59	47	⇓P	P	19 26 38.9	+0.3
	baz=73						
D12A	Red Ives Fores	73.59	44	⇑P	P	19 26 38.3	-0.3
	baz=73						
C13A	Hot Springs	73.67	43	P	P	19 26 39.3	+0.2
	baz=74,SNR=28						
TVAN	Van	73.67	306	eP	P	19 26 43.0	+3.8
K07A	Rock Creek Ran	73.72	49	⇑P	P	19 26 39.6	+0.2
	baz=74,SNR=28						
MNRC	McLaughlin Nat	73.74	54	⇓P	P	19 26 40.0	+0.4
	baz=74,SNR=9.4						
M06C	Likely Place G	73.76	51	⇓P	P	19 26 39.8	+0.2
	baz=74						
F11A	Grangeville	73.79	45	⇓P	P	19 26 39.6	-0.2
	baz=74,SNR=19						
J08A	Circle Bar Ran	73.82	48	P	P	19 26 40.6	+0.6
	baz=74,SNR=12						
O04C	Chester	73.85	52	⇓P	P	19 26 40.6	+0.4
	baz=74						
I09A	Lost Marbles R	73.93	47	⇓P	P	19 26 40.4	-0.2
	baz=74,SNR=6.6						
SUTB	Sutter Butte	73.98	53	⇓P	P	19 26 40.4	-0.6
	baz=74						
HAKT	HAKKARI	73.99	305	iP	P	19 26 41.2	+0.1
ANN	Anapa	73.99	314	eP	P	19 26 40.3	-0.7
ANN				e		19 29 24.2	
ANN				eS	S	19 36 12.1	+1.2
ANN				pmax	pmax		
	comp=Z,79nm,1.3s,mb5.5						
ANN				MLR	MLR		
	comp=Z,788nm,23.0s,MS4.9						
ORV	Oroville	73.99	53	⇓P	P	19 26 40.4	-0.7
	baz=74,SNR=11						
G11A	Walters Elk Ra	74.00	45	P	P	19 26 40.8	-0.2
	baz=74,SNR=48						
FARB	Farallon Islan	74.00	55	⇓P	P	19 26 40.8	-0.4
	baz=74						
L07A	Adell	74.03	50	P	P	19 26 42.0	+0.8
	baz=74,SNR=29						
D13A	Huson	74.07	43	P	P	19 26 41.2	-0.1
	baz=74,SNR=20						
OHCM	Honcut	74.12	53	eP	P	19 26 41.3	-0.5
O05C	Quincy	74.15	52	⇑P	P	19 26 41.4	-0.6
	baz=74						
Q03C	Winters	74.16	54	⇑P	P	19 26 42.2	+0.1
	baz=74						
K08A	Mann Creek Ran	74.16	49	P	P	19 26 42.5	+0.5
	baz=74,SNR=23						
H10A	Noah's Angus R	74.17	46	⇑P	P	19 26 41.7	-0.4
	baz=74						
WVOR	Wild Horse Val	74.23	49	eP	P	19 26 42.4	0.0
WVOR				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
WVOR	Wild Horse Val	74.23	49	eP	P	19 26 42.4	0.0
	comp=Z,22nm,1.2s,mb5.0						
ERZM	Erzurum	74.27	308	iP	P	19 26 44.5	+1.9
J09A	Fry Pan Ranch,	74.27	48	⇑P	P	19 26 42.5	-0.1
	baz=74,SNR=9.7						
F12A	Elk City	74.39	45	P	P	19 26 43.2	0.0
	baz=74,SNR=70						
N06A	Buffalo Meadow	74.41	51	P	P	19 26 43.8	+0.2
	baz=74,SNR=22						
I10A	Payette	74.42	47	⇑P	P	19 26 43.4	-0.1
	baz=74						
Q04C	Lincoln	74.46	53	⇑P	P	19 26 43.5	-0.4
	baz=74						
M07A	Soldier Meadow	74.48	50	⇑P	P	19 26 44.0	+0.1
	baz=74,SNR=13						
MSO	Missoula	74.51	43	eP	P	19 26 43.7	-0.3
	comp=Z,22nm,1.3s,mb4.9						
H11A	Donnelly	74.54	46	⇓P	P	19 26 43.7	-0.5
	baz=74						
L08A	Fields	74.55	49	⇑P	P	19 26 44.2	-0.1
	baz=74,SNR=26						
BEKR	Beckwourth	74.56	52	⇓P	P	19 26 44.0	-0.4
	baz=74,SNR=21						
E13A	Victor	74.60	44	⇓P	P	19 26 43.7	-0.8
	baz=74,SNR=7.2						
D14A	Greenough	74.61	43	P	P	19 26 44.3	-0.2
	baz=74,SNR=16						
BDM	Black Diamond	74.62	54	⇑P	P	19 26 44.4	-0.4
	baz=74						
K09A	Rome	74.65	48	P	P	19 26 45.1	+0.3
	baz=74,SNR=18						
P05C	Yuba Gap, Truc	74.71	53	⇓P	P	19 26 45.1	-0.1
	baz=74						
O06A	Flanigan	74.74	51	P	P	19 26 45.7	+0.3
	baz=75,SNR=19						
J10A	Berg Farm, Mel	74.82	47	⇑P	P	19 26 45.6	-0.2
	baz=75						
CHMT	Chamberlain Mo	74.85	43	eP	P	19 26 45.4	-0.5
BNLO	Ben Lomond (Sa	74.86	55	⇑P	P	19 26 45.9	-0.3
	baz=75						
WENL	Wente Brothers	74.87	55	⇓P	P	19 26 45.9	-0.4
	baz=75						
F13A	Darby	74.89	44	⇑P	P	19 26 45.3	-0.9
	baz=75,SNR=16						
LAVA	Lava Cap Winer	74.92	53	⇑P	P	19 26 46.4	-0.1
	baz=75						
M08A	Happy Creek Ra	74.94	50	⇑P	P	19 26 47.1	+0.5
	baz=75,SNR=11						
N07B	Gerlach	74.94	51	⇓P	P	19 26 47.0	+0.5
	baz=75						
P06A	Stead Airport,	74.96	52	⇑P	P	19 26 46.2	-0.5
	baz=75						
E14A	Clinton	75.00	43	⇑P	P	19 26 46.1	-0.7
	baz=75						
AKASG	Malin Array Be	75.02	322	P	P	19 26 46.2	-0.6
	comp=Z,27nm,0.7s,mb5.3,baz=47,slow=5.9,SNR=120						
AKASG				LR	LR	20 02 37.8	
	comp=Z,2μm,19.0s,MS5.4,baz=40,slow=38						
AKASG	Malin Array Be	75.02	322	P	P	19 26 46.2	-0.6
AKASG				LR	LR	20 02 37.8	
AKBB	Malin Array Si	75.02	322	eP	P	19 26 46.1	-0.7
I11A	Placerville	75.03	47	⇑P	P	19 26 46.7	-0.3
	baz=75						
KIEV	Kiev	75.03	322	eP	P	19 26 46.1	-0.8
KIEV				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.4						
KIEV	Kiev	75.03	322	eP	P	19 26 46.1	-0.7
	comp=Z,43nm,0.8s,mb5.4						
L09A	Wilkinson Ranc	75.06	49	⇓P	P	19 26 47.1	-0.1
	baz=75						
R04C	Big Horse Ranc	75.07	54	⇓P	P	19 26 46.6	-0.7
	baz=75						
K10A	MacKenzie Ranc	75.12	48	P	P	19 26 48.1	+0.5
	baz=75,SNR=17						
D15A	Lincoln	75.18	43	⇑P	P	19 26 47.5	-0.3
	baz=75,SNR=10						
WCN	Washoe City	75.26	52	⇓P	P	19 26 48.2	-0.2
	baz=75						
H12A	Diamond D Ranc	75.31	46	⇓P	P	19 26 48.3	-0.3
	baz=75,SNR=23						
NB2	NORSAR Subarra	75.32	337	P	P	19 26 48.2	-0.2
	comp=Z,42nm,0.9s,mb5.4,baz=42,slow=5.9						
NOA	NORSAR Array B	75.32	337	P	P	19 26 48.1	-0.2
	comp=Z,29nm,0.9s,mb5.2,baz=40,slow=5.7,SNR=51						
NOA				LR	LR	20 02 16.7	
	comp=Z,1μm,21.3s,MS5.2,baz=15,slow=38						
O07A	Toulon	75.35	51	⇓P	P	19 26 48.9	0.0
	baz=75,SNR=12						
G13A	Cobalt	75.36	45	P	P	19 26 48.5	-0.3
	baz=75,SNR=18						
MFID	Camas Ranch	75.39	47	P	P	19 26 49.4	+0.3
	baz=75,SNR=11						
R05C	Kirkwood Meado	75.39	53	⇑P	P	19 26 49.5	+0.3
	baz=75						
F14A	Wisdom	75.43	44	⇓P	P	19 26 48.7	-0.6
	baz=75						
UMR	Umm Al-Rimmam	75.46	296	eP	P	19 26 49.4	-0.4
	baz=296						
UMR				AMb	AMB	19 26 58.2	
	comp=Z,34nm,0.7s,mb5.4,baz=296						
N08A	GE Springer Mi	75.47	50	P	P	19 26 50.1	+0.5
	baz=75,SNR=16						
E15A	Deer Lodge	75.48	43	⇓P	P	19 26 49.1	-0.4
	baz=75,SNR=13						
PACP	Pacheco Peak	75.52	55	⇑P	P	19 26 49.7	-0.2
	baz=75						
M09A	Marrel Ranch,	75.53	49	⇑P	P	19 26 50.4	+0.4
	baz=75,SNR=5.0						
CMB	Columbia Colle	75.55	54	eP	P	19 26 50.2	+0.1
CMB				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
CMB	Columbia Colle	75.55	54	⇓P	P	19 26 49.9	-0.2
	baz=75,SNR=6.9						
CMB	Columbia Colle	75.55	54	eP	P	19 26 50.2	+0.1
	comp=Z,23nm,1.1s,mb5.0						
NAO01	NORSAR Array S	75.58	337	eP	P	19 26 49.2	-0.6
	comp=Z,21nm,0.9s,mb5.1						
MIB	Mutribah	75.60	296	eP	P	19 26 49.8	-0.7
	baz=296						
MIB				AMb	AMB	19 27 02.8	
	comp=Z,55nm,0.9s,mb5.5,baz=296						
K11A	Parker Ranch,	75.63	48	P	P	19 26 51.1	+0.6
	baz=75,SNR=11						
GRSN	GIRESUNGRSN	75.67	310	eP	P	19 26 48.7	-2.0
HAST	Hastings Reser	75.69	56	⇑P	P	19 26 50.6	-0.4
	baz=76						
P07A	Fallon	75.69	52	⇑P	P	19 26 51.5	+0.6
	baz=76						
G14A	Jackson	75.71	44	⇑P	P	19 26 50.1	-0.8
	baz=76						
O08A	Rochester Mine	75.73	51	⇓P	P	19 26 51.6	+0.5
	baz=76						
SUW	Suwalki	75.76	327	eP	P	19 26 50.7	-0.3
SUW				epP	pP	19 27 00.9	-0.6
SUW				ePcP	PcP	19 27 03.0	-0.6
SUW				eSKS		19 37 06.1	
SUW				LMZ		20 00 27.5	
	comp=Z,700nm,25.4s						
SUW	Suwalki	75.76	327	eP	P	19 26 50.7	-0.3
SUW				epP	pP	19 27 01.0	-0.6
SUW				ePcP	PcP	19 27 02.9	-0.7
SUW				eSKS		19 37 06.1	
L10A	Juniper Basin	75.76	48	P	P	19 26 51.8	+0.6
	baz=76,SNR=13						
N09A	Rock Creek Ran	75.81	50	⇓P	P	19 26 51.8	+0.3
	baz=76,SNR=8.3						
SIM	Simferopol'	75.84	315	ceP	P	19 26 51.1	-0.5
SIM				eS	S	19 36 27.0	-4.5
SIM				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.4						
SIM				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.9						
R06C	Coleville	75.89	53	⇓P	P	19 26 52.6	+0.5
	baz=76,SNR=8.5						
F15A	Butte	75.91	44	P	P	19 26 52.2	+0.3
	baz=76,SNR=85						
RDF	Al-Radifah	75.91	295	eP	P	19 26 52.3	-0.1
	baz=295						
RDF				AMb	AMB	19 26 59.6	
	comp=Z,76nm,0.8s,mb5.7,baz=295						
J12A	Stokes Ranch,	75.92	47	⇑P	P	19 26 52.3	+0.2
	baz=76,SNR=9.5						
NAY	Al-Naaiem	75.97	296	eP	P	19 26 51.9	-0.8
	baz=296						
NAY				AMb	AMB	19 27 01.8	
	comp=Z,27nm,0.8s,mb5.2,baz=296						
S05C	Merced	75.97	54	⇓P	P	19 26 52.1	-0.4
	baz=76						
S06C	San Francisco	75.99	53	⇑P	P	19 26 52.4	-0.2
	baz=76						
M10A	I.L. Ranch, Tu	76.04	49	⇑P	P	19 26 53.5	+0.6
	baz=76,SNR=15						
MARD	Mardin	76.08	306	iP	P	19 26 53.7	+0.6
Q07A	Schurz	76.08	52	⇑P	P	19 26 53.5	+0.4
	baz=76						
EGMT	Eagleton	76.09	41	⇓P	P	19 26 52.9	-0.1
	baz=76						
EGMT	Eagleton	76.09	41	eP	P	19 26 52.7	-0.3
	comp=Z,102nm,1.1s,mb5.7						
V03C	Hunter Liggett	76.10	56	⇑P	P	19 26 53.7	+0.4
	baz=76						
I13A	Wildhorse Cree	76.11	46	P	P	19 26 53.9	+0.7
	baz=76,SNR=28						
P08A	Dixie Valley	76.12	51	⇓P	P	19 26 53.8	+0.5
	baz=76						
DLMT	Dillon	76.13	44	eP	P	19 26 53.7	+0.4
	comp=Z,74nm,1.2s,mb5.5						
HLID	Hailey	76.14	46	P	P	19 26 54.0	+0.6
	baz=76,SNR=11						
HLID	Hailey	76.14	46	eP	P	19 26 53.7	+0.3
	comp=Z,9.6nm,1.0s,mb4.7						
L11A	Cat Creek Ranc	76.15	48	P	P	19 26 54.2	+0.8
	baz=76,SNR=27						
DIYA	Diyarbakir	76.17	307	iP	P	19 26 54.8	+1.1
U04C	Hernandez Rese	76.22	55	⇓P	P	19 26 54.2	+0.3
	baz=76						
BMN	Battle Mountai	76.24	50	eP	P	19 26 54.3	+0.3
BMN				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
BMN	Battle Mountai	76.24	50	eP	P	19 26 54.3	+0.3
	comp=Z,12nm,0.9s,mb4.8						
MCMT	McKenzie Canyo	76.31	45	eP	P	19 26 54.0	-0.3
G15A	Dillon	76.31	44	P	P	19 26 54.5	+0.2
	baz=76,SNR=47						
J13A	Cove Ranch, Pi	76.38	46	⇑P	P	19 26 55.1	+0.4
	baz=76,SNR=8.5						
K12A	Draper Farm, C	76.39	47	⇓P	P	19 26 55.1	+0.3
	baz=76,SNR=7.8						
R07C	Lee Vining	76.40	53	⇓P	P	19 26 55.7	+0.7
	baz=76						
O09A	Fish Creek Ran	76.41	50	⇑P	P	19 26 55.1	+0.1
	baz=76,SNR=16						
BOZ	Bozeman (W)	76.51	43	eP	P	19 26 55.5	+0.1
BOZ				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
BOZ	Bozeman (W)	76.51	43	⇑P	P	19 26 55.6	+0.2
	baz=76						
BOZ	Bozeman (W)	76.51	43	eP	P	19 26 55.5	+0.1
	comp=Z,25nm,1.1s,mb5.1						
N10A	Dunphy	76.52	50	⇓P	P	19 26 56.3	+0.7
	baz=76						
M11A	Holland Ranch,	76.55	49	⇓P	P	19 26 56.5	+0.8
	baz=76,SNR=15						
V04C	Ramage Ranch,	76.56	56	⇓P	P	19 26 56.3	+0.4
	baz=76						
T06C	Millerton Lake	76.57	54	⇓P	P	19 26 55.7	-0.2
	baz=76,SNR=7.4						
ELZG	Elazig	76.58	308	iP	P	19 26 56.5	+0.4
L12A	House Creek Ra	76.61	48	⇓P	P	19 26 56.5	+0.4
	baz=76						
PKD	Parkfield	76.61	55	⇓P	P	19 26 56.2	0.0
	baz=76						
KCC	Kaiser Creek	76.65	54	⇓P	P	19 26 56.5	+0.1
	baz=76,SNR=6.9						
U05C	Westside ANR,	76.68	55	⇑P	P	19 26 56.6	0.0
	baz=76						
Q08A	Gabbs	76.68	52	P	P	19 26 56.9	+0.3
	baz=76,SNR=10						
NVAR	Mina Array Bea	76.69	52	P	P	19 26 56.8	+0.2
	comp=Z,2.0nm,0.6s,mb4.2,baz=291,slow=33,SNR=22						
O10A	Cortez Mining,	76.77	50	⇑P	P	19 26 57.8	+0.8
	baz=77,SNR=6.0						
P09A	Austin	76.79	51	⇑P	P	19 26 57.3	+0.1
	baz=77						
MLAC	Mammoth Lakes	76.80	53	⇑P	P	19 26 57.8	+0.6
	baz=77						
R08A	Mina	76.86	52	⇑P	P	19 26 58.1	+0.5
	baz=77						
K13A	Stover Farm, H	76.87	47	⇓P	P	19 26 58.1	+0.5
	baz=77						
N11A	Elko Archery C	76.94	49	⇓P	P	19 26 58.2	+0.3
	baz=77						
MALT	Malatya	77.05	308	⇑iP	P	19 26 59.7	+1.1
MALT	Malatya	77.05	308	P	P	19 27 00.3	+1.6
V05C	Boulder Hill,	77.08	55	⇓P	P	19 26 59.4	+0.5
	baz=77						
M12A	Wells	77.10	48	P	P	19 26 59.9	+1.1
	baz=77,SNR=25						
QLMT	Earthquake Lak	77.11	44	eP	P	19 26 59.6	+0.7
Q09A	Carvers	77.18	51	⇓P	P	19 26 59.3	0.0
	baz=77						
P10A	Eureka	77.18	50	⇑P	P	19 26 59.8	+0.5
	baz=77,SNR=7.0						
HELL	Mitchell Peak	77.21	54	⇓P	P	19 26 59.1	-0.5
	baz=77,SNR=6.1						
RCTC	Rector, Farmer	77.28	55	⇑P	P	19 26 59.6	-0.4
	baz=77						
L13A	Double Diamond	77.29	47	⇑P	P	19 26 60.0	+0.1
	baz=77						
ELK	Elko	77.29	49	eP	P	19 27 00.1	+0.2
ELK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ELK	Elko	77.29	49	eP	P	19 27 00.1	+0.2
	comp=Z,10nm,1.0s,mb4.7						
S08C	White Mtn Res	77.31	53	⇓P	P	19 27 00.1	0.0
	baz=77,SNR=12						
SMMC	Simmler	77.33	56	⇑P	P	19 27 00.6	+0.4
	baz=77						
N12A	Clover Valley,	77.35	49	⇑P	P	19 27 00.7	+0.4
	baz=77,SNR=14						
O11A	Cowboy Ranch,	77.39	50	P	P	19 27 01.0	+0.5
	baz=77,SNR=5.9						
K14A	Jones Ranch, D	77.47	47	⇓P	P	19 27 01.3	+0.4
	baz=77,SNR=7.1						
GCMT	Greycliff	77.51	42	eP	P	19 27 01.3	+0.2
TIN	Tinemaha	77.52	53	⇓P	P	19 27 01.4	+0.1
	baz=77						
KIS	Kishinev	77.53	319	eP	P	19 27 00.0	-1.1
KIS				e	pP	19 27 08.0	-3.7
M13A	Montello	77.58	48	⇑P	P	19 27 02.0	+0.4
	baz=77,SNR=11						
TPH	Tonopah	77.59	52	eP	P	19 27 01.8	+0.1
TPH				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
TPH	Tonopah	77.59	52	eP	P	19 27 01.8	+0.2
	comp=Z,30nm,1.1s,mb5.1						
R09A	Tonopah	77.59	52	⇓P	P	19 27 01.7	+0.1
	baz=77,SNR=6.7						
YNR	Norris Junctio	77.61	44	eP	P	19 27 02.8	+1.2
ATAB	Bozova	77.62	307	iP	P	19 27 02.9	+1.1
VES	Vestal, Richgr	77.65	55	⇑P	P	19 27 01.3	-0.8
	baz=78						
P11A	Circle Ranch,	77.67	50	⇑P	P	19 27 02.1	0.0
	baz=78						
YFT	Old Faithful	77.68	44	eP	P	19 27 04.1	+2.0
Q10A	Clear Creek Ra	77.68	51	⇓P	P	19 27 02.0	-0.1
	baz=78,SNR=6.6						
PKM	Peak Mountain	77.69	56	⇓P	P	19 27 02.9	+0.7
	baz=78						
L14A	Malta	77.74	47	⇑P	P	19 27 02.7	+0.3
	baz=78,SNR=8.9						
K15A	Arbon	77.77	46	⇓P	P	19 27 03.3	+0.7
	baz=78						
S09A	Goldfield	77.79	52	⇓P	P	19 27 02.9	+0.1
	baz=78,SNR=9.5						
N13A	Wendover, West	77.86	48	⇓P	P	19 27 03.6	+0.5
	baz=78						
O12A	Currie	77.88	49	P	P	19 27 03.8	+0.5
	baz=78,SNR=37						
WAR	Warsaw	77.91	327	eP	P	19 27 03.5	+0.3
WAR				LMZ		20 02 33.3	
	comp=Z,800nm,22.8s						
WAR	Warsaw	77.91	327	eP	P	19 27 03.5	+0.3
WAR				LR	LR		
	comp=Z,800nm,22.8s,MS5.0						
J16A	Bone	77.95	45	⇑P	P	19 27 04.5	+0.9
	baz=78						
IMW	Indian Meadow	77.96	44	eP	P	19 27 04.6	+1.0
	comp=Z,36nm,1.2s,mb5.2						
CWC	Cottonwood Cre	77.97	54	⇑P	P	19 27 03.6	-0.2
	baz=78						
FLWY	Flagg Ranch	77.98	44	eP	P	19 27 05.0	+1.3
	comp=Z,89nm,1.4s,mb5.5						
CTKT	Corum	77.99	311	iP	P	19 27 04.1	+0.2
M14A	Sheep Mountain	78.00	47	⇑P	P	19 27 04.2	+0.4
	baz=78,SNR=17						
SBC	Santa Barbara	78.02	56	⇓P	P	19 27 04.5	+0.4
	baz=78						
R10A	Warm Springs	78.06	51	⇓P	P	19 27 04.9	+0.6
	baz=78						
RRI2	Red Ridge	78.08	45	eP	P	19 27 04.3	+0.1
S10A	Tonopah Range,	78.08	52	P	P	19 27 04.9	+0.5
	baz=78,SNR=19						
GRAC	Grapevine Rang	78.11	53	⇓P	P	19 27 04.9	+0.4
	baz=78						
LVV	L'vov	78.14	324	eP	P	19 27 03.6	-0.9
LVV				eS	S	19 36 50.2	-6.2
LVV				eSS	SS	19 41 57.6	+0.1
Q11A	Duckwater	78.14	51	⇓P	P	19 27 04.7	0.0
	baz=78,SNR=7.7						
RLMT	Red Lodge	78.14	43	eP	P	19 27 04.6	0.0
	comp=Z,37nm,1.2s,mb5.2						
ISA	Isabella	78.16	55	eP	P	19 27 03.7	-1.1
ISA				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
ISA	Isabella	78.16	55	⇑P	P	19 27 03.9	-1.0
	baz=78,SNR=7.3						
ISA	Isabella	78.16	55	eP	P	19 27 03.7	-1.2
	comp=Z,11nm,1.3s,mb4.6						
GZT	Gaziantep	78.16	307	iP	P	19 27 06.0	+1.1
MOOW	Moose Ponds	78.16	44	eP	P	19 27 05.5	+0.8
HVU	Hansel Valley	78.17	47	eP	P	19 27 05.2	+0.4
HVU				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
HVU	Hansel Valley	78.17	47	eP	P	19 27 05.2	+0.4
	comp=Z,9.1nm,0.7s,mb4.8						
TPAW	Teton Pass	78.20	45	eP	P	19 27 05.7	+0.8
K16A	Soda Springs	78.23	46	⇑P	P	19 27 05.3	+0.1
	baz=78,SNR=11						
L15A	Malad City	78.27	47	⇓P	P	19 27 05.7	+0.4
	baz=78,SNR=9.7						
BALT	Daday	78.30	313	iP	P	19 27 06.5	+1.0
LOHW	Long Hollow	78.33	44	eP	P	19 27 06.4	+0.8
BSC	Santa Cruz Isl	78.33	57	⇓P	P	19 27 05.4	-0.4
	baz=78						
SNOW	Snow King Moun	78.33	45	eP	P	19 27 06.4	+0.7
	comp=Z,17nm,0.9s,mb5.0						
REDW	Red Top Meadow	78.34	45	eP	P	19 27 05.8	+0.1
	comp=Z,43nm,1.3s,mb5.2						
O13A	Hicks Ranch, I	78.43	49	⇑P	P	19 27 06.8	+0.6
	baz=78						
BSD	Bornholm Skovb	78.43	331	⇑iP	P	19 27 05.3	-0.7
	comp=Z,60nm,0.9s,mb5.5						
BSD				i	pP	19 27 15.5	-1.1
BSD							
	comp=Z,890nm,19.0s						
BSD	Bornholm Skovb	78.43	331	⇑iP	P	19 27 05.3	-0.7
	comp=Z,60nm,0.9s,mb5.5

comp=Z,46nm,1.3s,mb5.2
P13A Bates Ranch, G 78.81 49 P **P 19 27 09.0 +0.6**
baz=79,SNR=14
ANDN Andirin 78.81 308 *i* P **P 19 27 08.9 +0.5**
L16A Fish Haven 78.83 46 ⇓P **P 19 27 09.0 +0.6**
baz=79
GKP Gorka Klasztor 78.83 329 *e*P **P 19 27 09.0 +0.7**
GKP *e*S S 19 37 06.6 +3.0
GKP *e*SKS 19 37 24.2
GKP LMZ 20 04 50.2
comp=Z,1µm,20.0s
GKP Gorka Klasztor 78.83 329 *e*P **P 19 27 09.0 +0.8**
GKP *e*S S 19 37 06.6 +3.0
GKP *e*SKS 19 37 24.2
GKP LR LR
comp=Z,1µm,20.0s,MS5.2
CDAG Cicekdag 78.85 311 *i* P **P 19 27 08.9 +0.4**
N15A Stansbury Isla 78.86 48 ⇓P **P 19 27 09.0 +0.4**
baz=79,SNR=5.9
TPNV Topopah Spring 78.87 53 *e*P **P 19 27 08.6 -0.2**
TPNV pmax pmax
comp=Z,18nm,1.0s,mb5.0
TPNV Topopah Spring 78.87 53 *e*P **P 19 27 08.6 -0.2**
comp=Z,18nm,1.0s,mb5.0
KWP Kalwaria 78.91 324 *e*P **P 19 27 09.4 +0.7**
KWP *e*PcP PcP 19 27 17.1 -0.3
KWP *e*pP pP 19 27 19.6 +0.2
KWP *e*S S 19 36 58.1 -6.5
KWP *e*sS sS 19 37 13.4 -8.7
KWP LMZ 20 03 57.6
comp=Z,1µm,24.0s
KWP Kalwaria 78.91 324⇑*i*P **P 19 27 09.3 +0.6**
KWP Kalwaria 78.91 324 *e*P **P 19 27 09.4 +0.7**
KWP *e*PcP PcP 19 27 17.1 -0.2
KWP *e*pP pP 19 27 19.6 +0.3
KWP *e*S S 19 36 58.1 -6.5
KWP *e*sS sS 19 37 13.4 -8.7
EDW2 Edwards Air Fo 78.93 55 P **P 19 27 09.3 +0.1**
baz=79,SNR=12
COP Copenhagen 78.95 333 *i* P **P 19 27 09.4 +0.6**
COP *i* pP 19 27 18.8 -0.7
COP pmax pmax
comp=Z,45nm,0.9s,mb5.4
COP Copenhagen 78.95 333 *i* P **P 19 27 09.4 +0.6**
comp=Z,45nm,0.9s,mb5.4
COP *i* pP 19 27 18.8 -0.7
HWUT Hardware Ranch 79.00 47 *e*P **P 19 27 09.8 +0.4**
comp=Z,42nm,1.1s,mb5.3
BURAR Bucovina Array 79.01 321⇓*i*P **P 19 27 10.0 +0.7**
BURAR Bucovina Array 79.01 321 ⇓P **P 19 27 10.0 +0.6**
DECC Green Verdugo 79.06 56 ⇑P **P 19 27 09.4 -0.5**
baz=79
DUG Dugway 79.11 48 *e*P **P 19 27 10.2 +0.2**
DUG pmax pmax
comp=Z,42nm,1.3s,mb5.2
DUG Dugway 79.11 48 ⇑P **P 19 27 10.4 +0.4**
baz=79
DUG Dugway 79.11 48 *e*P **P 19 27 10.2 +0.2**
comp=Z,42nm,1.3s,mb5.2
Q13A Wheeler Ranch, 79.11 50 ⇑P **P 19 27 10.6 +0.6**
baz=79
R12A Pony Springs, 79.11 51 ⇑P **P 19 27 10.5 +0.5**
baz=79
U10A Ash Meadows, A 79.13 53 ⇓P **P 19 27 10.4 +0.2**
baz=79,SNR=7.6
M16A Huntsville 79.14 47 ⇓P **P 19 27 10.2 +0.1**
baz=79
NOQ North Oquirrh 79.25 48 *e*P **P 19 27 11.7 +0.9**
comp=Z,92nm,1.3s,mb5.5
O15A The Old Anders 79.26 48 ⇑P **P 19 27 10.7 -0.1**
baz=79
MWC Mount Wilson 79.26 56 *e*P **P 19 27 10.8 -0.2**
MWC pmax pmax
comp=Z,35nm,1.2s,mb5.2
MWC Mount Wilson 79.26 56 *e*P **P 19 27 10.8 -0.2**
comp=Z,35nm,1.2s,mb5.2
P14A Drum Mountains 79.31 49 P **P 19 27 11.7 +0.5**
baz=79,SNR=25
TIRR Tirgusor 79.36 317⇓*i*P **P 19 27 11.7 +0.4**
TIRR Tirgusor 79.36 317 ⇓P **P 19 27 11.7 +0.4**
VRI Vrincioaia 79.36 319⇑*i*P **P 19 27 12.6 +1.3**
VRI Vrincioaia 79.36 319 P **P 19 27 12.6 +1.3**
T11A Corn Creek, Al 79.37 52 ⇑P **P 19 27 11.5 0.0**
baz=79,SNR=10
S12A Delamar Landin 79.39 51 ⇑P **P 19 27 12.1 +0.5**
baz=79
FMP Fort Macarthur 79.40 56 ⇑P **P 19 27 11.7 0.0**
baz=79
PLOR Plostina 79.42 319⇑*i*P **P 19 27 12.6 +1.0**
PDAR Pinedale Array 79.45 45 P **P 19 27 11.5 -0.3**
comp=Z,5.8nm,0.8s,mb4.5,baz=298,slow=3.2,SNR=35
SHOC Shoshone 79.47 53 ⇑P **P 19 27 12.3 +0.3**
baz=79
HARR Harsova 79.47 318 ⇑P **P 19 27 12.7 +0.8**
HARR Harsova 79.47 318⇑*i*P **P 19 27 12.6 +0.7**
HARR Harsova 79.47 318 P **P 19 27 12.6 +0.7**
GSC Goldstone 79.47 54 *e*P **P 19 27 12.0 -0.1**
GSC pmax pmax
comp=Z,36nm,1.4s,mb5.1
GSC Goldstone 79.47 54 ⇑P **P 19 27 11.7 -0.4**
baz=79,SNR=7.7
GSC Goldstone 79.47 54 *e*P **P 19 27 12.0 -0.1**
comp=Z,36nm,1.4s,mb5.1
COBT Iskenderun 79.50 307 *i* P **P 19 27 13.2 +1.0**
CIS Catalina Islan 79.50 57 ⇑P **P 19 27 12.1 -0.2**
baz=79
N16A Rees Ranch, Co 79.51 47 ⇓P **P 19 27 12.7 +0.5**
baz=79
BFSC Mount Baldy St 79.53 55 P **P 19 27 12.6 +0.2**
baz=79,SNR=7.8
Q14A Sevier Lake (B 79.55 49 P **P 19 27 13.1 +0.6**
baz=79,SNR=30
KOLS Kolonicke sedl 79.59 324 *e*P **P 19 27 12.7 +0.2**
KOLS *e*PP PP 19 30 18.5 +5.8
RRX Edison Barstow 79.59 55 ⇑P **P 19 27 12.4 -0.4**
baz=79
R13A O'Grain Ranch, 79.60 50 ⇑P **P 19 27 13.1 +0.4**
baz=79,SNR=7.7
ANTO Ankara 79.67 312⇓*i*P **P 19 27 14.0 +0.9**
ANTO Ankara 79.67 312 P **P 19 27 14.1 +1.1**
JLU Jordanelle 79.68 47 *e*P **P 19 27 14.1 +1.0**
SGKT Sivrigoynuk 79.68 313 *i* P **P 19 27 13.9 +0.7**
NLU North Lily Min 79.70 48 *e*P **P 19 27 14.0 +0.7**
YURE YUREGIR 79.72 308 *e*P **P 19 27 13.8 +0.4**
U11A Corn Creek 79.75 53 ⇑P **P 19 27 13.9 +0.4**
baz=80
UZH Uzhgorod 79.79 323*d*i P **P 19 27 13.3 -0.2**
UZH *i* pP 19 27 25.0 +0.8
P15A Leamington 79.81 49 ⇑P **P 19 27 14.0 +0.1**
baz=80,SNR=9.1
N17A Moffit Pass 79.84 47 ⇓P **P 19 27 14.6 +0.6**
baz=80
OJC Ojcow 79.87 326 *e*P **P 19 27 14.1 +0.2**
YAYL Yayladag 79.88 307 *i* P **P 19 27 15.1 +0.8**
O16A Springville 79.89 48 ⇓P **P 19 27 15.0 +0.7**
baz=80,SNR=5.8
DAU Daniels Canyon 79.91 47 *e*P **P 19 27 15.1 +0.7**
MPU Maple Canyon 79.93 48 *e*P **P 19 27 15.4 +1.0**
comp=Z,70nm,1.3s,mb5.4
PSN Preselentsi 79.98 317 P **P 19 27 14.6 -0.1**
TUQ Turquoise Mtn. 79.98 54 ⇓P **P 19 27 15.1 +0.2**
baz=80,SNR=8.3
T12A Moapa 80.00 52 ⇑P **P 19 27 15.4 +0.5**
baz=80
CRVS Cervenica-Dubn 80.00 324 *e*P **P 19 27 14.9 +0.2**
CRVS *e*PP PP 19 30 17.8 +1.7
BBRC Big Bear Sol-O 80.01 55 ⇑P **P 19 27 14.6 -0.4**
baz=80
MLR Muntele Rosu 80.03 319⇓*i*P **P 19 27 15.4 +0.5**
MLR Muntele Rosu 80.03 319 P **P 19 27 15.6 +0.7**
S13A Holt Ranch, En 80.03 51 ⇓P **P 19 27 15.7 +0.6**
baz=80,SNR=10
V11A Goodsprings 80.06 53 ⇓P **P 19 27 15.5 +0.3**
baz=80
HEC Hector,Ludlow 80.07 54 ⇓P **P 19 27 15.2 -0.2**
baz=80,SNR=6.4
Q15A Fillmore 80.10 49 ⇑P **P 19 27 15.3 -0.1**
baz=80
R14A James Farms, M 80.12 50 ⇑P **P 19 27 15.2 -0.4**
baz=80
P16A Fountain Green 80.17 48 ⇓P **P 19 27 16.2 +0.5**
baz=80
ARUT Antelope Range 80.17 51 *e*P **P 19 27 15.9 +0.1**
NIE Niedzica 80.19 325 *e*P **P 19 27 16.5 +0.8**
MURC Murrieta 80.21 56 ⇓P **P 19 27 16.0 -0.1**
baz=80
U12A Valley of Fire 80.29 52 ⇓P **P 19 27 16.7 +0.3**
baz=80
T13A Saint George 80.34 51 ⇑P **P 19 27 17.2 +0.5**
baz=80,SNR=5.8
S14A Cedar City 80.36 50 ⇑P **P 19 27 17.2 +0.4**
baz=80
N18A Larsen Ranch, 80.50 46 ⇓P **P 19 27 17.3 -0.3**
baz=80,SNR=16
V12A Nelson 80.51 53 ⇑P **P 19 27 17.8 +0.1**
baz=80,SNR=7.7
MSU Marysvale 80.52 49 *e*P **P 19 27 18.1 +0.4**
GMRC Granite Mounta 80.54 54 P **P 19 27 18.1 +0.3**
baz=80,SNR=16
R15A Junction 80.64 50 ⇓P **P 19 27 18.7 +0.4**
baz=80
U13A Pakoon Wash 80.67 52 ⇓P **P 19 27 18.7 +0.2**
baz=80,SNR=19
109C Camp Elliot, M 80.69 56 ⇓P **P 19 27 17.8 -0.9**
baz=80
PFO Pinyon Flat Ob 80.70 55 P **P 19 27 18.6 -0.2**
comp=Z,195nm,1.1s,mb6.0,SNR=9.5
PFO Pinyon Flat Ob 80.70 55 *e*P **P 19 27 18.7 -0.1**
PFO pmax pmax
comp=Z,43nm,1.1s,mb5.3
PFO Pinyon Flat Ob 80.70 55 ⇑P **P 19 27 18.2 -0.5**
baz=80,SNR=15
PFO Pinyon Flat Ob 80.70 55 *e*P **P 19 27 18.7 -0.1**
comp=Z,43nm,1.1s,mb5.3
PRD Provadia 80.72 317 P **P 19 27 19.3 +0.6**
LDFC Landfair 80.72 54 *e*P **P 19 27 18.9 0.0**
comp=Z,46nm,1.2s,mb5.3
W12A Cal Nev Ari 80.75 53 ⇓P **P 19 27 18.7 -0.3**
baz=81
O18A Roosevelt 80.75 47 ⇑P **P 19 27 19.0 +0.1**
baz=81,SNR=6.9
KECS Kecovo 80.76 324 *e*P **P 19 27 19.1 +0.3**
KECS *e* 19 30 18.6
KECS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KECS Kecovo 80.76 324 *e*P **P 19 27 19.1 +0.3**
comp=Z,7.1nm,0.9s,mb4.6
KECS *e*PP PP 19 30 18.6 -3.8
BELC Belle Mtn. 80.78 55 ⇑P **P 19 27 18.4 -0.8**
baz=81,SNR=12
P17A Butcher Ranch, 80.81 48 ⇓P **P 19 27 19.6 +0.4**
baz=81,SNR=8.5
MEST Erdemli 80.82 308 *i* P **P 19 27 19.6 +0.3**
DRGR 80.83 322⇓*i*P **P 19 27 19.7 +0.5**
DRGR 80.83 322 P **P 19 27 19.5 +0.3**
T14A Hurricane 80.84 51 ⇑P **P 19 27 19.5 +0.1**
baz=81,SNR=7.6
RUE Ruedersdorf 80.84 330 *e*P **P 19 27 19.4 +0.3**
comp=Z,36nm,0.8s,mb5.3
URZ Urewera 80.85 151 LR LR 19 58 38.4
comp=Z,516nm,19.7s,MS4.9,baz=264,slow=32
Q16A Castle Valley 80.89 49 ⇑P **P 19 27 20.3 +0.6**
baz=81,SNR=6.8
OKC Ostrava-Krasne 80.89 326⇑*i*P **P 19 27 19.8 +0.3**
OKC *e*pP pP 19 27 29.8 -0.3
OKC AMS AMS 20 06 40.0
comp=Z,800nm,16.6s
OKC Ostrava-Krasne 80.89 326⇑*i*P **P 19 27 19.8 +0.3**
OKC *e*pP pP 19 27 29.8 -0.3
KDHN Kadinhani 80.91 311 *i* P **P 19 27 19.7 -0.1**
S15A Panguitch 80.92 50 ⇓P **P 19 27 20.2 +0.4**
baz=81
KSP Ksiaz 80.99 328 *e*P **P 19 27 19.9 0.0**
KSP *e*PcP PcP 19 27 24.5 -1.9
KSP *e*S S 19 37 20.7 -5.8
KSP *e*SKSac SKSac 19 37 29.9 -6.2
KSP LMZ 20 06 10.4
comp=Z,2µm,20.9s
KSP Ksiaz 80.99 328 *e*P **P 19 27 20.0 0.0**
KSP *e*pP pP 19 27 29.6 -1.0
KSP LR LR
comp=Z,2µm,20.9s,MS5.5
V13A Grand Canyon W 80.99 52 ⇑P **P 19 27 20.1 -0.1**
baz=81,SNR=16
P18A Preston Nutter 81.01 47 ⇓P **P 19 27 20.4 +0.1**
baz=81,SNR=13
BSEG Bad Segeberg 81.08 333 *e*P **P 19 27 20.3 -0.1**
BAR Barrett 81.11 56 *e*P **P 19 27 20.6 -0.3**
comp=Z,24nm,0.9s,mb5.1
MONP Monument Peak 81.15 56 ⇓P **P 19 27 20.9 -0.3**
baz=81,SNR=11
SRU San Rafael 81.16 48 ⇑P **P 19 27 21.0 -0.1**
baz=81,SNR=23
SRU San Rafael 81.16 48 *e*P **P 19 27 21.4 +0.3**
U14A Mt Trumbull 81.17 51 P **P 19 27 21.9 +0.7**
baz=81,SNR=18
MORC Moravsky Berou 81.21 327⇑*i*P **P 19 27 21.4 +0.3**
MORC Moravsky Berou 81.21 327 P **P 19 27 21.7 +0.5**
NEE2 Needles Airpor 81.23 54 ⇓P **P 19 27 21.4 -0.1**
baz=81
IRM Iron Mountain 81.25 54 P **P 19 27 21.7 +0.1**
baz=81,SNR=19
T15A Red Dirt Ranch 81.31 51 ⇑P **P 19 27 22.0 +0.1**
baz=81,SNR=6.5
DPC Dobruska-Polom 81.34 327⇑*i*P **P 19 27 22.5 +0.7**
DPC *e*pP pP 19 27 32.0 -0.5
DPC *e*PP PP 19 30 31.6 +4.5
DPC AMS AMS 20 06 40.0
comp=Z,900nm,20.0s
BC3 Big Chuckw Mtn 81.35 55 P **P 19 27 22.2 0.0**
baz=81,SNR=17
ULM Lac du Bonnet 81.35 33 P **P 19 27 21.2 -0.7**
comp=Z,15nm,0.8s,mb5.0,baz=311,slow=4.8,SNR=13
ULM LR LR 20 05 31.4
comp=Z,279nm,21.5s,MS4.6,baz=10,slow=37
UPC Upice 81.36 328⇑*e*P **P 19 27 22.6 +0.7**
S16A Weppner Ranch, 81.37 50 ⇓P **P 19 27 22.6 +0.3**
baz=81,SNR=8.6
Q18A Rafter H Ranch 81.41 48 P **P 19 27 22.5 +0.1**
baz=81,SNR=9.0
PSZ Piszkesteto 81.44 324⇑*e*P **P 19 27 22.9 +0.5**
PSZ Piszkesteto 81.44 324⇑*i*P **P 19 27 22.8 +0.4**
PSZ Piszkesteto 81.44 324 P **P 19 27 23.0 +0.7**
R17A Hanksville Air 81.48 49 ⇑P **P 19 27 23.0 +0.2**
baz=81,SNR=16
RWWY Rawlins 81.48 44 *e*P **P 19 27 22.3 -0.4**
SZH Strazhica 81.49 318 P **P 19 27 22.9 +0.1**
DVTC Desert V Tower 81.51 56 ⇓P **P 19 27 22.7 -0.4**
baz=81,SNR=7.8
W13A Hualapai Mount 81.51 53 P **P 19 27 23.2 +0.2**
baz=81,SNR=16
SWSC Sam W. Stewart 81.54 56 ⇑P **P 19 27 22.7 -0.5**
baz=81,SNR=7.2
ZIMR 81.55 318 P **P 19 27 23.6 +0.6**
ERMK Ermenek 81.57 309 *e*P **P 19 27 26.9 +3.6**
RSSD Black Hills 81.64 41 *e*P **P 19 27 23.0 -0.5**
RSSD pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
RSSD Black Hills 81.64 41 *e*P **P 19 27 23.0 -0.5**
comp=Z,7.5nm,0.8s,mb4.7
KOLL Kolacno 81.67 325 *e*P **P 19 27 22.8 -0.8**
ULDT Uludag 81.69 314 *i* P **P 19 27 24.6 +0.7**
V14A Boquillas Ranc 81.69 52 P **P 19 27 24.7 +0.7**
baz=82,SNR=40
U15A North Rim 81.73 51 P **P 19 27 24.9 +0.8**
baz=82,SNR=21
GZR Gura Zlata 81.75 321⇑*i*P **P 19 27 24.8 +0.7**
GZR Gura Zlata 81.75 321 P **P 19 27 24.6 +0.5**
PDMCI Parker Dam,Lak 81.83 54 ⇑P **P 19 27 24.3 -0.4**
baz=82,SNR=6.8
X13A Yucca 81.86 53 P **P 19 27 25.0 +0.2**
baz=82,SNR=27
T16A Glen Canyon Da 81.88 50 ⇑P **P 19 27 24.6 -0.4**
baz=82
Y12C Blythe 81.91 54 ⇑P **P 19 27 25.0 -0.2**
baz=82,SNR=6.5
S17A Black Ridge (B 81.91 49 ⇓P **P 19 27 25.1 0.0**
baz=82,SNR=7.1
W14A Seligman 81.97 52 P **P 19 27 26.0 +0.6**
baz=82,SNR=25
PVCC Panska Ves 81.97 328⇑*e*P **P 19 27 25.8 +0.7**
PVCC *e*pP pP 19 27 33.9 -1.9
PVCC AMS AMS 20 06 30.0
comp=Z,900nm,20.8s
BRG Berggiesshubel 81.97 329 *e*P **P 19 27 25.0 -0.2**
BRG *i* pP 19 27 35.1 -0.7
BRG *e* 19 30 32.3
BRG S S 19 37 41.0 +4.4
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRG MLR MLR
comp=Z,16µm,27.6s,MS6.2
BRG Berggiesshubel 81.97 329 *e*P **P 19 27 24.9 -0.3**
comp=Z,19nm,0.9s,mb5.0
BRG Berggiesshubel 81.97 329 *e*P **P 19 27 25.0 -0.2**
comp=Z,18nm,0.9s,mb5.0
BRG *i* pP 19 27 35.1 -0.7
BRG *e*PP PP 19 30 32.3 0.0
comp=Z,22nm,1.0s
BRG *e*PP PP 19 30 32.3 0.0
comp=Z,12nm,1.0s
BRG S S 19 37 41.0 +4.4
BRG *e* 19 37 54.5
comp=Z,24nm,2.0s
BRG SS SS 19 43 15.0 +20
BRG
comp=N,22µm,28.0s
BRG
comp=E,10µm,29.1s
BRG
comp=Z,27µm,27.6s
BRG Berggiesshubel 81.97 329 *e*P **P 19 27 25.0 -0.2**
comp=Z,11nm,0.9s,mb4.8
BRG *i* pP 19 27 35.1 -0.7
BRG *e*PP PP 19 30 32.3 0.0
BRG S S 19 37 41.0 +4.4
BRG *e* 19 37 54.5
BRG SS SS 19 43 15.0 +20
BRG LR LR
comp=Z,16µm,27.6s,MS6.2
VRAC Vranov 81.98 327⇑*i*P **P 19 27 26.3 +1.1**
VRAC Vranov 81.98 327 P **P 19 27 25.8 +0.6**
R18A Canyonlands Na 82.00 48 P **P 19 27 25.3 -0.3**
baz=82,SNR=21
Q19A Hogan Spring (82.02 48 P **P 19 27 25.9 +0.2**
baz=82,SNR=22
CLL Collm 82.04 330⇑*i*P **P 19 27 25.2 -0.3**
CLL *i* *PP pP 19 27 35.2 -1.0
CLL *i* 19 30 32.6
CLL *e*S S 19 37 37.0 -0.3
CLL pmax pmax
comp=Z,46nm,0.9s,mb5.4
CLL MLR MLR
comp=Z,900nm,18.7s,MS5.2
CLL Collm 82.04 330 *e*P **P 19 27 25.0 -0.5**
comp=Z,46nm,0.9s,mb5.4
CLL Collm 82.04 330⇑*i*P **P 19 27 25.2 -0.3**
comp=Z,46nm,0.9s,mb5.4
CLL *i* pP pP 19 27 35.2 -1.0
CLL *i* PP PP 19 30 32.6 -0.2
comp=Z,13nm,1.0s
CLL *e*S S 19 37 37.0 -0.3
CLL *e*PS 19 38 27.0
CLL *e*(SS) 19 43 42.0
CLL Collm 82.04 330⇑*i*P **P 19 27 25.2 -0.3**
comp=Z,46nm,0.9s,mb5.4
CLL *i* pP pP 19 27 35.2 -1.0
CLL *i* PP PP 19 30 32.6 -0.2
CLL *e*S S 19 37 37.0 -0.3
CLL LR LR
comp=Z,900nm,18.7s,MS5.2
GLA Glamis 82.13 55 *e*P **P 19 27 26.4 +0.1**
GLA pmax pmax
comp=Z,36nm,1.0s,mb5.3
GLA Glamis 82.13 55 ⇓P **P 19 27 26.4 +0.1**
baz=82,SNR=15
GLA Glamis 82.13 55 *e*P **P 19 27 26.4 +0.1**
comp=Z,36nm,1.0s,mb5.2
GDZ Gediz 82.16 313 *i* P **P 19 27 25.9 -0.4**
BUD Budapest 82.16 324⇑*e*P **P 19 27 26.7 +0.5**
V15A Kaibab Nationa 82.18 51 ⇓P **P 19 27 27.0 +0.5**
baz=82,SNR=12
BZS Buzias 82.19 322⇑*i*P **P 19 27 26.5 +0.1**
BZS Buzias 82.19 322 P **P 19 27 26.5 +0.1**
T17A Navajo Res., N 82.31 50 ⇓P **P 19 27 26.9 -0.3**
baz=82
Y13A Salome 82.33 54 P **P 19 27 27.9 +0.5**
baz=82,SNR=5.3
CSS Prodhromos 82.33 308 *e*P **P 19 27 27.3 0.0**
comp=Z,24nm,0.8s,mb5.2
MODS Modra-Piesok 82.34 326 *i* P **P 19 27 28.0 +0.9**
MODS *e*PP PP 19 30 40.1 +4.7
MODS Modra-Piesok 82.34 326 *i* P **P 19 27 28.1 +1.0**
MODS *e*PP PP 19 30 40.1 +4.7
S18A Hurst Farm, Bl 82.38 49 P **P 19 27 27.6 +0.1**
baz=82,SNR=34
PRU Pruhonice 82.38 328⇑*i*P **P 19 27 27.6 +0.3**
PRU *e*pP pP 19 27 38.0 0.0
PRU *e*PP PP 19 30 36.5 +0.8
PRU AMS AMS 20 08 40.0
comp=Z,1µm,14.2s
R19A Curley Farm, L 82.45 48 ⇓P **P 19 27 28.0 +0.1**
baz=82,SNR=6.4
TREC Trest 82.48 327⇑*i*P **P 19 27 28.2 +0.4**
TREC AMS AMS 20 08 30.0
comp=Z,900nm,19.0s
W15A Williams 82.51 52 ⇑P **P 19 27 28.6 +0.3**
baz=82
X14A Yava 82.55 53 P **P 19 27 29.1 +0.6**
baz=82,SNR=19
ZST Bratislava 82.55 326 *e*P **P 19 27 29.3 +1.1**
ZST pmax pmax
comp=Z,17nm,1.1s,mb5.0
ZST MLR MLR
comp=Z,200nm,17.7s,MS4.5
ZST Bratislava 82.55 326 *e*P **P 19 27 29.3 +1.1**
ZST *e*PP PP 19 30 48.5 +11
ZST Bratislava 82.55 326 *e*P **P 19 27 29.3 +1.1**
comp=Z,17nm,1.1s,mb5.0
ZST *e*PP PP 19 30 48.5 +11
ZST LR LR
comp=Z,200nm,17.7s,MS4.5
112A Yuma 82.61 55 ⇓P **P 19 27 28.7 -0.2**
baz=82
KHAL Karahalli 82.61 312 *i* P **P 19 27 28.7 0.0**
DEMI Demirci 82.64 313 *e*P **P 19 27 30.3 +1.4**
U17A Shonto 82.65 50 P **P 19 27 29.6 +0.7**
baz=82,SNR=16
CLZ Clausthal 82.69 331 *e*P **P 19 27 28.9 0.0**
CLZ pmax pmax
comp=Z,40nm,1.0s,mb5.4
CLZ Clausthal 82.69 331 *e*P **P 19 27 28.9 0.0**
comp=Z,40nm,1.0s,mb5.4
PHWY Pilot Hill 82.73 44 *e*P **P 19 27 29.2 -0.1**
Y14A Wickenburg 82.80 53 ⇓P **P 19 27 29.4 -0.4**
baz=83,SNR=13
T18A Mexican Hat 82.80 49 P **P 19 27 29.6 -0.1**
baz=83,SNR=25
BALY Balya 82.84 314 *i* P **P 19 27 28.8 -1.2**
KDZ Kurdzhali 82.85 317 P **P 19 27 30.4 +0.5**
S19A Harvey Farm, M 82.87 48 ⇑P **P 19 27 29.9 -0.2**
baz=83,SNR=18
WUAZ Wupatki 82.88 51 ⇑P **P 19 27 30.4 +0.2**
baz=83
WUAZ Wupatki 82.88 51 *e*P **P 19 27 30.7 +0.5**
comp=Z,62nm,1.5s,mb5.4
PLD Plovdiv 82.94 317 *e*P **P 19 27 30.6 +0.2**
X15A Humboldt 82.96 53 ⇑P **P 19 27 30.8 +0.2**
baz=83,SNR=23
KAC Achnashellach 83.00 342 *e*P **P 19 27 29.9 -0.5**
113A Mohawk Valley, 83.01 55 ⇑P **P 19 27 30.6 -0.3**
baz=83,SNR=7.3
W16A Flagstaff 83.04 52 ⇑P **P 19 27 31.1 +0.1**
baz=83,SNR=6.0
NKC Novy Kostel 83.08 329⇑*i*P **P 19 27 31.1 +0.1**
NKC *e*pP pP 19 27 41.2 -0.4
NKC AMS AMS 20 06 40.0
comp=Z,600nm,17.9s
NKC Novy Kostel 83.08 329⇑*i*P **P 19 27 31.1 +0.1**
NKC *e*pP pP 19 27 41.2 -0.4
MOX Moxa 83.11 330 *e*P **P 19 27 31.2 +0.1**
comp=Z,24nm,1.1s,mb5.1
MOX *e* pP 19 27 40.9 -0.9
MOX
comp=Z,600nm,19.0s
MOX Moxa 83.11 330 *e*P **P 19 27 31.2 +0.1**
MOX *e* pP 19 27 40.9 -0.9
MOX pmax pmax
comp=Z,24nm,1.1s,mb5.1
MOX MLR MLR
comp=Z,600nm,19.0s,MS5.0
MOX Moxa 83.11 330 *e*P **P 19 27 30.9 -0.2**
comp=Z,20nm,1.1s,mb5.1
SOP Sopron 83.18 326⇑*e*P **P 19 27 32.2 +0.7**
Z14A Wintersburg 83.19 54 ⇑P **P 19 27 31.4 -0.4**
baz=83
RZN Rozhen 83.21 317 P **P 19 27 32.7 +0.9**

Y15A Casa Rosa Ranc 83.23 53 P P 19 27 32.4 +0.4
baz=83,SNR=19
KPL Plockton 83.23 342 *eP* **P 19 27 31.2 -0.4**
KPL AMb AMB 19 27 33.1
comp=Z,122nm,1.2s,mb5.8
PKSM Moragy 83.25 323⇑*iP* **P 19 27 31.8 -0.1**
PKSM Moragy 83.25 323 P **P 19 27 32.0 +0.1**
U18A Rough Rock, Ch 83.26 50⇓**P P 19 27 32.6 +0.5**
baz=83,SNR=33
AKHS Akhisar 83.29 313 *iP* **P 19 27 34.2 +2.0**
CONA Conrad Observa 83.32 326⇑*iP* **P 19 27 32.8 +0.6**
comp=Z,67nm,1.7s,mb5.4,SNR=16
CONA Conrad Observa 83.32 326⇑*iPcP* **P 19 27 32.8 +0.6**
comp=Z,67nm,1.7s,mb5.4,SNR=16
CSNA Conrad Observa 83.32 326⇑*iP* **P 19 27 32.9 +0.7**
comp=Z,59nm,1.7s,mb5.3
CSNA Conrad Observa 83.32 326⇑*iPcP* **P 19 27 32.9 +0.7**
comp=Z,59nm,1.7s,mb5.3
IBBN Ibbenburen 83.32 333 *eP* **P 19 27 31.6 -0.5**
comp=Z,59nm,1.1s,mb5.5
MANZ Manzenberg 83.41 329 *eP* **P 19 27 32.6 -0.1**
comp=Z,16nm,0.9s,mb5.0
VTS Vitosha 83.43 319 P **P 19 27 33.7 +0.8**
VTS Vitosha 83.43 319⇓*iP* **P 19 27 33.5 +0.6**
VTS Vitosha 83.43 319 P **P 19 27 34.0 +1.1**
KHC Kasperske Hory 83.44 328⇑*iP* **P 19 27 32.8 0.0**
KHC *e**PP pP 19 27 43.1 -0.4
KHC *e* 19 30 40.9
KHC MLR MLR
comp=Z,1µm,16.8s,MS5.3
KHC Kasperske Hory 83.44 328⇑*iP* **P 19 27 32.8 0.0**
KHC *e*pP pP 19 27 43.1 -0.4
KHC *e*sP sP 19 27 53.0 +5.6
KHC *e*PP PP 19 30 40.9 -3.4
KHC AMS AMS 20 08 40.0
comp=Z,1µm,16.8s
X16A Lo Mia Camp, P 83.52 52⇑**P P 19 27 33.7 +0.2**
baz=83,SNR=18
T19A Beclabito 83.52 49 P **P 19 27 34.0 +0.5**
baz=83,SNR=33
ROTZ Rotzenmuhle 83.54 329 *eP* **P 19 27 33.8 +0.5**
comp=Z,36nm,1.3s,mb5.3
W17A Winslow 83.57 51⇓**P P 19 27 33.8 +0.1**
baz=83
GEC2 GERESS Array S 83.60 328 *eP* **P 19 27 33.4 -0.2**
GERES GERESS Array B 83.60 328 P **P 19 27 33.2 -0.4**
comp=Z,12nm,1.0s,mb5.0,baz=43,slow=4.5,SNR=55
GERES PP PP 19 30 47.8 +2.1
comp=Z,2.0nm,0.9s,baz=56,slow=10.0,SNR=5.1
GERES LR LR 20 09 06.8
comp=Z,708nm,18.4s,MS5.1,baz=13,slow=39
GERES GERESS Array B 83.60 328 P **P 19 27 33.2 -0.4**
GERES 19 30 47.8
MVCO Mesa Verde 83.60 48 *eP* **P 19 27 34.2 +0.3**
comp=Z,40nm,1.1s,mb5.5
ISCO Idaho Springs 83.63 45 *eP* **P 19 27 34.4 +0.4**
ISCO pmax pmax
comp=Z,45nm,1.5s,mb5.4
ISCO Idaho Springs 83.63 45 *eP* **P 19 27 34.4 +0.4**
comp=Z,44nm,1.5s,mb5.4
V18A Ganado 83.67 50⇓**P P 19 27 34.7 +0.4**
baz=84,SNR=12
ESY Stoneypath 83.68 340 *eP* **P 19 27 33.5 -0.4**
WET Wettzell 83.73 328 *eP* **P 19 27 34.4 +0.1**
WET pmax pmax
comp=Z,16nm,1.1s,mb5.1
WET Wettzell 83.73 328 *eP* **P 19 27 34.4 +0.1**
comp=Z,16nm,1.1s,mb5.1
Z15A Gila River Ind 83.75 53⇑**P P 19 27 34.6 -0.2**
baz=84
MMB Musomiste 83.83 318 P **P 19 27 35.3 +0.3**
Y16A Circle Bar Ran 83.83 53⇓**P P 19 27 35.4 +0.3**
baz=84,SNR=15
AKAS Kas 83.90 310 *iP* **P 19 27 35.0 -0.4**
EAB Aberfoyle 83.92 341 *eP* **P 19 27 34.5 -0.6**
KDAG Bornova 83.92 313 *iP* **P 19 27 34.7 -0.8**
ARSA Arzberg 83.97 326 *iP* **P 19 27 35.8 +0.2**
comp=Z,15nm,1.0s,mb5.1,SNR=10
X17A Forest Lakes 83.98 52⇑**P P 19 27 36.4 +0.6**
baz=84,SNR=7.6
KKB Krupnik 83.99 318 P **P 19 27 36.4 +0.6**
GRA1 Grafenberg Arr 84.01 330 *eP* **P 19 27 36.0 +0.3**
comp=Z,56nm,1.0s,mb5.7
GRA1 *e*pP pP 19 27 46.2 -0.2
GRA1 *e*PP PP 19 30 53.2 +4.2
GRA1 LR LR
comp=Z,800nm,19.3s,MS5.1
GRF Grafenberg Arr 84.01 330 *eP* **P 19 27 36.0 +0.3**
GRF *e**PP pP 19 27 46.2 -0.2
GRF *e* 19 30 53.2
GRF pmax pmax
comp=Z,56nm,1.0s,mb5.7
GRF MLR MLR
comp=Z,800nm,19.3s,MS5.1
GRF Grafenberg Arr 84.01 330 *eP* **P 19 27 36.0 +0.3**
GRF *e**PP pP 19 27 46.2 -0.2
GRF *e* 19 30 53.2
GRF pmax pmax
comp=Z,56nm,1.0s,mb5.7
GRF MLR MLR
comp=Z,800nm,19.3s,MS5.1
GRF Grafenberg Arr 84.01 330 *eP* **P 19 27 36.0 +0.3**
comp=Z,56nm,1.0s,mb5.7
GRF *e*pP pP 19 27 46.2 -0.2
GRF *e*PP PP 19 30 53.2 +4.2
GRF *e*L 20 12 16.7
comp=Z,801nm,19.3s
AYDN Tasoluk 84.04 312 *iP* **P 19 27 36.7 +0.6**
115A Sonoran Desert 84.07 54⇑**P P 19 27 36.2 -0.2**
baz=84,SNR=9.7
MOA Molln 84.10 327 *iP* **P 19 27 36.3 +0.1**
comp=Z,30nm,1.5s,mb5.2,SNR=13
TURN Turunc 84.11 311 *iP* **P 19 27 37.4 +0.9**
214A Organ Pipe Nat 84.14 55⇑**P P 19 27 36.8 +0.1**
baz=84,SNR=14
W18A Petrified Fore 84.17 51⇓**P P 19 27 37.0 +0.2**
baz=84
BUG Bochum--Univer 84.19 333 *eP* **P 19 27 35.8 -0.8**
comp=Z,16nm,1.0s,mb5.1
Z16A Peralta Trail, 84.20 53⇑**P P 19 27 37.1 +0.1**
baz=84
V19A Window Rock 84.22 50⇑**P P 19 27 37.1 +0.1**
baz=84,SNR=7.1
PGBU Glenifferbraes 84.29 341 *eP* **P 19 27 37.0 0.0**
PGBU AMb AMB 19 27 49.7
comp=Z,117nm,1.4s,mb5.8
Y17A Roosevelt 84.36 52 P **P 19 27 38.0 +0.3**
baz=84,SNR=15
W19A Sanders 84.39 51⇑**P P 19 27 38.5 +0.6**
baz=84,SNR=6.3
X18A Snowflake 84.40 51⇑**P P 19 27 38.1 +0.1**
baz=84,SNR=6.7
116A Eloy 84.50 54⇑**P P 19 27 38.4 -0.1**
baz=84
OUR Ouranopolis 84.54 316 *eP* **P 19 27 39.0 +0.4**
SOH Sokhos 84.56 317 *eP* **P 19 27 38.5 -0.1**
KNT Kendrikon 84.58 318 *eP* **P 19 27 38.7 -0.1**
STIP Stip 84.60 318 *eP* **P 19 27 38.5 -0.4**
STIP Stip 84.60 318⇑*eP* **P 19 27 38.5 -0.4**
SOKA Soboth 84.62 326⇑*iP* **P 19 27 38.8 -0.1**
comp=Z,62nm,1.2s,mb5.6
VAY Valandovo 84.65 318 *eP* **P 19 27 37.5 -1.6**
VAY Valandovo 84.65 318⇑*iP* **P 19 27 38.5 -0.7**
BDRM Kayabasi 84.69 312 *iP* **P 19 27 39.7 +0.3**
PPT Papeete 84.74 116 *eS* S 19 38 06.2 +0.8
comp=Z,69nm,24.0s
PPT Papeete 84.74 116 *eLQ* 19 50 18.5
comp=Z,533nm,28.5s
PPT *eLR* LR 19 54 02.5
comp=Z,613nm,22.5s,baz=320
PPT Papeete 84.74 116 LR LR 19 58 07.7
comp=Z,342nm,20.8s,MS4.7,baz=356,slow=30
SKO Skopje 84.81 319 *eP* **P 19 27 40.9 +1.0**
SKO Skopje 84.81 319⇑*iP* **P 19 27 41.1 +1.2**
DOBS Dobrina 84.81 325 *eP* **P 19 27 39.4 -0.4**
DOBS *e* 19 31 00.0
PLG Polygyros 84.81 317 *eP* **P 19 27 39.5 -0.5**
Y18A Canyon Day Jun 84.83 52⇓**P P 19 27 40.2 +0.1**
baz=85,SNR=20
Z17A San Carlos Hig 84.85 53⇑**P P 19 27 40.6 +0.3**
baz=85
HORT Hortiatis 84.85 317 *eP* **P 19 27 38.4 -1.7**
X19A St. Johns 84.89 51 P **P 19 27 41.2 +0.7**
baz=85,SNR=28
PLE Pljevlja 84.93 321⇓*iP* **P 19 27 41.7 +1.2**

PAIG Paliouri 84.98 316 *eP* **P 19 27 38.8 -2.0**
EYMN Ely 84.99 32 *eP* **P 19 27 39.4 -1.3**
comp=Z,42nm,1.3s,mb5.4
GRG Griva 84.99 318 *eP* **P 19 27 40.5 -0.4**
IVA Berane 84.99 320⇓*iP* **P 19 27 41.8 +1.0**
216A Three Points, 85.02 54⇑**P P 19 27 41.1 -0.1**
baz=85,SNR=5.6
CRES Cresnjev 85.06 325 *eP* **P 19 27 40.6 -0.5**
SDCO Great Sand Dun 85.06 47 *eP* **P 19 27 41.7 +0.5**
comp=Z,32nm,1.2s,mb5.3
TOD Tromm 85.06 331 *eP* **P 19 27 41.0 0.0**
KBA Koelnbreinsper 85.09 327 *iP* **P 19 27 41.0 -0.2**
comp=Z,13nm,1.1s,mb5.0,SNR=14
KBA Koelnbreinsper 85.09 327 *iP* **P 19 27 41.0 -0.2**
KBA pmax pmax
comp=Z,13nm,1.1s,mb5.0
HPK Haverah Park 85.10 339⇑*eP* **P 19 27 40.5 -0.6**
HPK AMb AMB 19 27 52.0
comp=Z,160nm,1.6s,mb5.9
117A Oracle 85.13 53 P **P 19 27 42.0 +0.2**
baz=85,SNR=13
PVY Plav 85.15 320⇓*iP* **P 19 27 41.5 -0.1**
FUR Furstenfeldbru 85.16 329 *eP* **P 19 27 41.5 -0.1**
FUR pmax pmax
comp=Z,52nm,0.9s,mb5.7
FUR Furstenfeldbru 85.16 329 *eP* **P 19 27 41.5 -0.1**
comp=Z,52nm,0.9s,mb5.7
GAL1 Galloway 85.18 341⇑*eP* **P 19 27 41.2 -0.3**
GAL1 AMb AMB 19 27 42.3
comp=Z,132nm,1.2s,mb5.9
Y19A Nutriosso 85.21 51 P **P 19 27 43.0 +0.9**
baz=85,SNR=11
HGN Heimansgroeve 85.24 333⇑*eP* **P 19 27 41.3 -0.6**
comp=Z,23nm,1.2s,mb5.2
HGN Heimansgroeve 85.24 333 *eS* S 19 38 03.6 -6.0
Z18A Geronimo 85.26 52⇑**P P 19 27 42.8 +0.4**
baz=85
TUC Tucson 85.27 53 *eP* **P 19 27 42.7 +0.3**
TUC pmax pmax
comp=Z,12nm,1.0s,mb5.0
TUC Tucson 85.27 53 *eP* **P 19 27 42.7 +0.3**
comp=Z,12nm,1.0s,mb5.0
UPM Unac-Piva 85.27 321⇓*iP* **P 19 27 41.3 -0.9**
MYKA Terra Mystica 85.29 326⇑*iP* **P 19 27 41.5 -0.8**
comp=Z,18nm,0.7s,mb5.3
BEBN Eben Emael 85.31 333 P **P 19 27 42.2 0.0**
comp=Z,9.5nm,0.9s,mb4.9
LJU Ljubljana 85.33 325 *eP* **P 19 27 41.9 -0.6**
KRUS Krusevo 85.33 319 *eP* **P 19 27 43.4 +0.8**
MEM Membach 85.34 333 P **P 19 27 41.9 -0.5**
comp=Z,21nm,1.2s,mb5.2
BOJS Bojanci 85.39 325 *iP* **P 19 27 42.4 -0.3**
NKY Niksic 85.50 321⇓*iP* **P 19 27 42.8 -0.6**
LHO Holmfirth 85.52 338⇑*eP* **P 19 27 43.0 -0.3**
LIT Litokhoron 85.53 317 *eP* **P 19 27 42.9 -0.7**
STU Stuttgart 85.56 330 *eP* **P 19 27 43.0 -0.5**
STU pmax pmax
comp=Z,48nm,1.0s,mb5.7
STU Stuttgart 85.56 330 *eP* **P 19 27 43.3 -0.2**
comp=Z,53nm,0.9s,mb5.8
STU Stuttgart 85.56 330 *eP* **P 19 27 43.0 -0.5**
comp=Z,48nm,1.0s,mb5.7
217A Green Valley 85.58 54⇓**P P 19 27 43.8 -0.2**
baz=85,SNR=16
118A Homack Ranch, 85.59 53 P **P 19 27 44.5 +0.5**
baz=85,SNR=14
VOY Vojsko 85.63 326 *eP* **P 19 27 42.7 -1.2**
VOY *e* pP 19 27 53.2 -1.5
Z19A T-Link Ranch, 85.63 52⇓**P P 19 27 44.0 -0.2**
baz=85
TTG Podgorica 85.64 320⇓*iP* **P 19 27 42.9 -1.2**
BRY Bratogost 85.67 321 *eP* **P 19 27 43.2 -1.0**
RUP Ruppelstein 85.67 332 *eP* **P 19 27 43.9 -0.2**
WATA Walderalm 85.67 328⇓*iP* **P 19 27 44.0 -0.1**
comp=Z,6.5nm,1.0s,mb4.8
WATA Walderalm 85.67 328⇓*iPcP* PcP 19 27 44.0 -2.9
comp=Z,6.5nm,1.0s
WATA Walderalm 85.67 328⇓*iP* **P 19 27 44.0 -0.1**
WATA pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
KBI1 Birley Grange 85.68 338 *eP* **P 19 27 44.1 +0.1**
WTTA Wattenberg 85.70 328 *iP* **P 19 27 44.0 -0.3**
comp=Z,22nm,1.6s,mb5.2,SNR=7.6
WTTA Wattenberg 85.70 328 *iPcP* **P 19 27 44.0 -0.3**
comp=Z,22nm,1.6s,mb5.2,SNR=7.6
WTTA Wattenberg 85.70 328 *iP* **P 19 27 44.0 -0.3**
WTTA pmax pmax
comp=Z,22nm,1.6s,mb5.1
ABTA Abfaltersbach 85.71 327⇑*iP* **P 19 27 43.1 -1.2**
comp=Z,22nm,1.6s,mb5.2,SNR=11
ECSD EROS,Sioux Fal 85.75 38 *eP* **P 19 27 43.7 -0.9**
comp=Z,18nm,0.9s,mb5.3
OHR Ohrid 85.75 319⇑*iP* **P 19 27 43.3 -1.4**
BCLA Clavier 85.75 333 P **P 19 27 44.4 -0.1**
comp=Z,22nm,1.3s,mb5.2
UCC Uccle 85.79 334 P **P 19 27 44.5 -0.1**
MOTA Moosalm 85.87 328⇓*iP* **P 19 27 45.0 -0.1**
comp=Z,15nm,1.2s,mb5.1,SNR=8.4
MOTA Moosalm 85.87 328⇓*iPcP* **P 19 27 45.0 -0.1**
comp=Z,15nm,1.2s,mb5.1,SNR=8.4
MOTA Moosalm 85.87 328⇓*iP* **P 19 27 45.0 -0.1**
MOTA pmax pmax
comp=Z,15nm,1.2s,mb5.1
RETA Reutte 85.91 328⇓*iP* **P 19 27 45.2 -0.1**
comp=Z,29nm,1.2s,mb5.4
RETA Reutte 85.91 328⇓*iPcP* **P 19 27 45.2 -0.1**
comp=Z,29nm,1.2s,mb5.4
BUM Brajici-Budva 85.92 321⇓*iP* **P 19 27 44.9 -0.5**
119A Ashpeak Ranch, 85.94 52⇓**P P 19 27 45.7 -0.1**
baz=86,SNR=7.2
LANF Langenberg 85.95 331 *eP* **P 19 27 45.4 -0.1**
218A Dragoon 85.96 53⇓**P P 19 27 45.8 -0.1**
baz=86,SNR=16
ULC Ulcinj 85.97 320⇓*iP* **P 19 27 45.5 -0.2**
KWE Weaver Farm 85.98 338 *eP* **P 19 27 45.2 -0.3**
HCY Herceg Novi 86.02 321⇓*iP* **P 19 27 45.5 -0.4**
WLF Walferdange 86.05 332 P **P 19 27 46.3 +0.4**
comp=Z,27nm,1.6s,mb5.2
WLF Walferdange 86.05 332 *eP* **P 19 27 46.1 +0.2**
WLF pmax pmax
comp=Z,46nm,1.3s,mb5.5
WLF Walferdange 86.05 332 *eP* **P 19 27 45.9 0.0**
comp=Z,39nm,1.2s,mb5.5
WLF Walferdange 86.05 332 *eP* **P 19 27 46.1 +0.1**
comp=Z,46nm,1.3s,mb5.5
CWF Charnwood Fore 86.05 338⇑*eP* **P 19 27 45.4 -0.5**
CWF AMb AMB 19 27 52.1
comp=Z,76nm,1.8s,mb5.6
GIVF Givet 86.19 333⇑*iP* **P 19 27 45.8 -0.8**
comp=Z,42nm,1.0s,mb5.3
GIVF Givet 86.19 333⇑*iP* **P 19 27 45.8 -0.8**
GIVF pmax pmax
comp=Z,21nm,1.0s,mb5.3
GIVF Givet 86.19 333⇑*iP* **P 19 27 45.8 -0.8**
comp=Z,21nm,1.0s,mb5.3
LAZ Ladron 86.26 50 *eP* **P 19 27 47.5 +0.2**
BFO Black Forest 86.26 330 P **P 19 27 46.5 -0.5**
comp=Z,204nm,1.0s,mb6.3,SNR=11
BFO Black Forest 86.26 330 *eP* **P 19 27 46.6 -0.4**
BFO pmax pmax
comp=Z,40nm,1.0s,mb5.6
BFO Black Forest 86.26 330 *eP* **P 19 27 46.6 -0.4**
comp=Z,40nm,1.0s,mb5.6
DOU Dourbes 86.28 333 P **P 19 27 46.5 -0.6**
comp=Z,23nm,2.8s,mb4.9
FETA Feichten 86.28 328 *iP* **P 19 27 46.8 -0.4**
comp=Z,16nm,1.1s,mb5.1,SNR=24
FETA Feichten 86.28 328 *iPcP* **P 19 27 46.8 -0.4**
comp=Z,16nm,1.1s,mb5.1,SNR=24
ANMO Albuquerque 86.32 49 *eP* **P 19 27 48.3 +0.7**
ANMO pmax pmax
comp=Z,23nm,1.2s
ANMO Albuquerque 86.32 49 *eP* **P 19 27 48.3 +0.7**
comp=Z,23nm,1.2s,mb5.3
318A Bisbee 86.34 54⇑**P P 19 27 47.5 -0.2**
baz=86,SNR=12
DAVA Damuels 86.44 329⇓*iP* **P 19 27 47.8 -0.1**
comp=Z,31nm,1.2s,mb5.4,SNR=13
DAVA Damuels 86.44 329⇓*iPcP* **P 19 27 47.8 -0.1**
comp=Z,31nm,1.2s,mb5.4,SNR=13
BAIF Baives 86.45 333⇑*iP* **P 19 27 47.1 -0.8**
comp=Z,29nm,0.9s,mb5.2
BAIF Baives 86.45 333⇑*iP* **P 19 27 47.1 -0.8**
BAIF pmax pmax
comp=Z,15nm,0.9s,mb5.2
BAIF Baives 86.45 333⇑*iP* **P 19 27 47.1 -0.8**
comp=Z,15nm,0.9s,mb5.2
219A White Tail Can 86.46 53⇑**P P 19 27 48.3 -0.1**
baz=86,SNR=17
LENM Lemitar 86.52 50 *eP* **P 19 27 49.5 +0.9**
YLL Llanberis 86.56 339 *eP* **P 19 27 48.0 -0.4**
Y22C IRIS PASSCAL I 86.61 50⇑**P P 19 27 48.7 -0.3**
baz=86
CDF Champ du Feu 86.62 331⇑*iP* **P 19 27 48.2 -0.6**
comp=Z,67nm,0.9s,mb5.6
CDF Champ du Feu 86.62 331⇑*iP* **P 19 27 48.2 -0.6**
CDF pmax pmax
comp=Z,34nm,0.9s,mb5.6
CDF Champ du Feu 86.62 331⇑*iP* **P 19 27 48.2 -0.6**
comp=Z,34nm,0.9s,mb5.6
DMUB Kingscourt 86.63 341 *eP* **P 19 27 51.0 +2.3**
LPM Los Pinos Moun 86.64 50 *eP* **P 19 27 49.7 +0.6**
TAOE Nuku Hiva Isla 86.67 103 *eLR* LR 19 55 29.6
comp=Z,4µm,26.8s
BNM Barren Site 86.74 50 *eP* **P 19 27 49.7 0.0**
FELD Feldberg im Sc 86.75 330 *eP* **P 19 27 48.4 -1.0**
YRE Yr Eifl 86.77 340 *eP* **P 19 27 49.3 -0.1**
ECH Echery 86.82 331 *eP* **P 19 27 49.3 -0.5**
319A Douglas 86.84 53⇓**P P 19 27 50.3 +0.1**
baz=87
MOF Molkenrain 87.13 331 *eP* **P 19 27 50.6 -0.7**
SCHQ Schefferville 87.14 15 P **P 19 27 51.0 -0.2**
comp=Z,22nm,0.8s,mb5.4,baz=355,slow=5.2,SNR=31
MCH1 Michaelchurch 87.22 338⇑*eP* **P 19 27 51.0 -0.6**
MCH1 AMb AMB 19 27 53.8
comp=Z,78nm,2.4s,mb5.5
HTR Trewern Hill 87.22 338 *eP* **P 19 27 51.4 -0.3**
DCN Croghan 87.23 341 *eP* **P 19 27 52.0 +0.4**
HINF Hinteralfeld 87.27 331 *eP* **P 19 27 50.7 -1.2**
comp=Z,24nm,1.0s,mb5.1
HINF Hinteralfeld 87.27 331 *eP* **P 19 27 50.7 -1.2**
HINF pmax pmax
comp=Z,12nm,1.0s,mb5.1
HINF Hinteralfeld 87.27 331 *eP* **P 19 27 50.7 -1.2**
comp=Z,12nm,1.0s,mb5.1
THEF They Montfort 87.28 331 *eP* **P 19 27 51.2 -0.8**
TUE Stuetta 87.31 328 *eP* **P 19 27 51.6 -0.6**
comp=Z,16nm,1.0s,mb5.2
HAU Haudompre 87.31 331⇑*iP* **P 19 27 51.1 -1.1**
comp=Z,50nm,1.2s,mb5.3
HAU *e*MLR MLR
comp=Z,1µm,21.0s,MS4.9
HAU Haudompre 87.31 331⇑*iP* **P 19 27 51.1 -1.1**
HAU pmax pmax
comp=Z,25nm,1.2s,mb5.3
HAU MLR MLR
comp=Z,1µm,21.0s,MS5.2
HAU Haudompre 87.31 331⇑*iP* **P 19 27 51.1 -1.1**
comp=Z,25nm,1.2s,mb5.3
HAU LR LR
comp=Z,1µm,21.0s,MS5.2
MEZF Maizieres J'vi 87.42 332⇑*iP* **P 19 27 52.1 -0.5**
comp=Z,59nm,1.0s,mb5.5
MEZF Maizieres J'vi 87.42 332⇑*iP* **P 19 27 52.1 -0.5**
comp=Z,59nm,1.0s,mb5.8
COWI Conover 87.44 32 *eP* **P 19 27 51.9 -0.9**
comp=Z,22nm,1.2s,mb5.3
HGH Gray Hill 87.47 338⇑*eP* **P 19 27 52.5 -0.3**
CBKS Cedar Bluff 87.63 43 *eP* **P 19 27 52.2 -1.7**
CBKS pmax pmax
comp=Z,57nm,1.3s,mb5.6
CBKS Cedar Bluff 87.63 43 *eP* **P 19 27 52.2 -1.7**
comp=Z,57nm,1.3s,mb5.6
TBI Tubuai 88.49 120 *eS* S 19 38 40.2 -1.4
comp=Z,88nm,35.5s
TBI Tubuai 88.49 120 *eLQ* 19 52 03.5
comp=Z,266nm,32.2s
TBI *eLR* LR 19 55 36.8
comp=Z,544nm,26.0s,baz=311
CABF La Chapelle 88.55 330 *eP* **P 19 27 57.2 -0.9**
AQU L'Aquila 88.64 324⇓*iP* **P 19 27 59.2 +0.6**
SCIA State Center 88.78 37 *eP* **P 19 27 59.4 +0.1**
comp=Z,41nm,1.2s,mb5.6
LOR Lormes 88.89 332⇑*iP* **P 19 27 58.8 -0.9**
comp=Z,27nm,1.2s,mb5.2
LOR *e*MLR MLR
comp=Z,732nm,20.8s,MS4.8
LOR Lormes 88.89 332⇑*iP* **P 19 27 58.8 -0.9**
LOR pmax pmax
comp=Z,14nm,1.2s,mb5.2
LOR MLR MLR
comp=Z,730nm,20.8s,MS5.1
LOR Lormes 88.89 332⇑*iP* **P 19 27 58.8 -0.9**
comp=Z,14nm,1.2s,mb5.2
LOR LR LR
comp=Z,730nm,20.8s,MS5.1
LPL La Plagne 89.17 329⇑*iP* **P 19 28 00.5 -0.5**
comp=Z,30nm,0.9s,mb5.3
LPL La Plagne 89.17 329⇑*iP* **P 19 28 00.5 -0.5**
LPL pmax pmax
comp=Z,15nm,0.9s,mb5.3
LPL La Plagne 89.17 329⇑*iP* **P 19 28 00.5 -0.5**
comp=Z,15nm,0.9s,mb5.3
LPG La Plagne 89.18 329⇑*iP* **P 19 28 00.6 -0.5**
comp=Z,27nm,0.8s,mb5.3
LPG La Plagne 89.18 329⇑*iP* **P 19 28 00.6 -0.5**
LPG pmax pmax
comp=Z,14nm,0.8s,mb5.3
LPG La Plagne 89.18 329⇑*iP* **P 19 28 00.6 -0.5**
comp=Z,14nm,0.8s,mb5.3
CUC Castrocucco 89.19 321 *eP* **P 19 27 59.5 -1.7**
comp=Z,7.8nm,1.0s,mb5.0
SSF Saint Saulge 89.19 332⇑*iP* **P 19 28 00.3 -0.8**
comp=Z,41nm,1.2s,mb5.3
SSF Saint Saulge 89.19 332⇑*iP* **P 19 28 00.3 -0.8**
SSF pmax pmax
comp=Z,20nm,1.2s,mb5.3
SSF Saint Saulge 89.19 332⇑*iP* **P 19 28 00.3 -0.8**
comp=Z,20nm,1.2s,mb5.3
FLN La Foliniere 89.20 335 *eP* **P 19 28 00.1 -1.0**
FLN *e*MLR MLR
comp=Z,1µm,19.5s,MS5.0
FLN La Foliniere 89.20 335 *eP* **P 19 28 00.1 -1.0**
FLN LR LR
comp=Z,1µm,19.5s,MS5.3
LDF La Druitiere 89.22 335 *eP* **P 19 28 00.2 -1.0**
comp=Z,18nm,0.8s,mb5.2
LDF La Druitiere 89.22 335 *eP* **P 19 28 00.2 -1.0**
LDF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
LDF La Druitiere 89.22 335 *eP* **P 19 28 00.2 -1.0**
comp=Z,9.1nm,0.8s,mb5.2
AMTX Amarillo 89.26 47 *eP* **P 19 28 01.7 0.0**
comp=Z,13nm,0.8s,mb5.3
HYF Humbligny 89.35 333 *eP* **P 19 28 01.7 -0.1**
SMF Signal de Mont 89.41 332⇑*iP* **P 19 28 01.2 -0.9**
comp=Z,55nm,1.3s,mb5.4
SMF Signal de Mont 89.41 332⇑*iP* **P 19 28 01.2 -0.9**
SMF pmax pmax
comp=Z,27nm,1.3s,mb5.4
SMF Signal de Mont 89.41 332⇑*iP* **P 19 28 01.2 -0.9**
comp=Z,27nm,1.3s,mb5.4
AVF Avril sur Loir 89.48 332⇑*iP* **P 19 28 01.6 -0.8**
comp=Z,36nm,0.8s,mb5.5
AVF Avril sur Loir 89.48 332⇑*iP* **P 19 28 01.6 -0.8**
AVF pmax pmax
comp=Z,18nm,0.8s,mb5.5
AVF Avril sur Loir 89.48 332⇑*iP* **P 19 28 01.6 -0.8**
comp=Z,18nm,0.8s,mb5.5
BNI Bardonecchia 89.57 329 *eP* **P 19 28 01.9 -1.0**
BNI pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
BNI Bardonecchia 89.57 329 *eP* **P 19 28 01.9 -1.0**
comp=Z,8.0nm,0.8s,mb5.1
GRR Gorron 89.65 335⇑*iP* **P 19 28 02.6 -0.6**
comp=Z,121nm,1.2s,mb5.8
GRR Gorron 89.65 335⇑*iP* **P 19 28 02.6 -0.6**
GRR pmax pmax
comp=Z,61nm,1.2s,mb5.8
GRR Gorron 89.65 335⇑*iP* **P 19 28 02.6 -0.6**
comp=Z,60nm,1.2s,mb5.8
MBDF Montbardon 89.79 329⇑*iP* **P 19 28 02.8 -1.1**
comp=Z,21nm,0.9s,mb5.2
MBDF Montbardon 89.79 329⇑*iP* **P 19 28 02.8 -1.1**
MBDF pmax pmax
comp=Z,11nm,0.9s,mb5.2
MBDF Montbardon 89.79 329⇑*iP* **P 19 28 02.8 -1.1**
comp=Z,11nm,0.9s,mb5.2
BGF Bois d'Agland 89.86 332 *eP* **P 19 28 03.7 -0.6**
ORIF Oris-en-Rattie 90.01 330⇑*iP* **P 19 28 04.2 -0.8**
comp=Z,16nm,0.9s,mb5.0
ORIF *e*MLR MLR
comp=Z,923nm,21.8s,MS4.9

ORIF	**Oris-en-Rattie**	**90.01**	**330**⇑	*i*P	**P**	**19 28 04.2**	**-0.8**
ORIF				pmax	pmax		
comp=Z,8.0nm,0.9s,mb5.0							
ORIF	**Oris-en-Rattie**	**90.01**	**330**⇑	*i*P	**P**	**19 28 04.2**	**-0.8**
comp=Z,7.9nm,0.9s,mb5.0							
SAOF	**Saorge**	**90.05**	**328**	*e*P	**P**	**19 28 03.7**	**-1.5**
PLDF	**La Plantade**	**90.05**	**331**	*e*P	**P**	**19 28 05.5**	**+0.4**
AUTN	**L'Aution**	**90.10**	**328**	*e*P	**P**	**19 28 04.4**	**-1.0**
TOUF	**Mont Tournerai**	**90.16**	**328**	*e*P	**P**	**19 28 04.9**	**-0.8**
SBF	**Sospel**	**90.20**	**328**⇑	*i*P	**P**	**19 28 04.5**	**-1.4**
comp=Z,50nm,0.9s,mb5.6							
SBF	**Sospel**	**90.20**	**328**⇑	*i*P	**P**	**19 28 04.5**	**-1.4**
SBF				pmax	pmax		
comp=Z,25nm,0.9s,mb5.5							
SBF	**Sospel**	**90.20**	**328**⇑	*i*P	**P**	**19 28 04.5**	**-1.4**
comp=Z,25nm,0.9s,mb5.5							
REVF	**Revere**	**90.33**	**328**	*e*P	**P**	**19 28 04.9**	**-1.6**
TCF	**Toulx Ste Croi**	**90.33**	**332**⇑	*i*P	**P**	**19 28 05.9**	**-0.5**
comp=Z,104nm,1.7s,mb5.6							
TCF	**Toulx Ste Croi**	**90.33**	**332**⇑	*i*P	**P**	**19 28 05.9**	**-0.5**
TCF				pmax	pmax		
comp=Z,52nm,1.7s,mb5.6							
TCF	**Toulx Ste Croi**	**90.33**	**332**⇑	*i*P	**P**	**19 28 05.9**	**-0.5**
comp=Z,52nm,1.7s,mb5.6							
SGMF	**Saint Gilles**	**90.34**	**336**	*e*P	**P**	**19 28 06.0**	**-0.4**
CEL	**Celeste**	**90.43**	**319**	*e*P	**P**	**19 28 06.2**	**-0.9**
comp=Z,19nm,0.8s,mb5.5							
PYM	**Petit Puy Mans**	**90.47**	**332**	*e*P	**P**	**19 28 07.2**	**+0.1**
ROSF	**Rostrenen**	**90.50**	**337**	*e*P	**P**	**19 28 06.8**	**-0.4**
comp=Z,284nm,1.6s,mb6.0							
ROSF	**Rostrenen**	**90.50**	**337**	*e*P	**P**	**19 28 06.8**	**-0.4**
ROSF				pmax	pmax		
comp=Z,142nm,1.6s,mb6.0							
ROSF	**Rostrenen**	**90.50**	**337**	*e*P	**P**	**19 28 06.8**	**-0.4**
comp=Z,142nm,1.6s,mb6.0							
PGF	**Pioggiola**	**90.55**	**326**⇑	*i*P	**P**	**19 28 06.4**	**-1.1**
comp=Z,27nm,1.0s,mb5.2							
PGF	**Pioggiola**	**90.55**	**326**⇑	*i*P	**P**	**19 28 06.4**	**-1.1**
PGF				pmax	pmax		
comp=Z,14nm,1.0s,mb5.2							
PGF	**Pioggiola**	**90.55**	**326**⇑	*i*P	**P**	**19 28 06.4**	**-1.1**
comp=Z,14nm,1.0s,mb5.2							
VIVF	**Saint-Julien-l**	**90.55**	**330**⇑	*i*P	**P**	**19 28 06.8**	**-0.7**
comp=Z,46nm,1.1s,mb5.4							
VIVF	**Saint-Julien-l**	**90.55**	**330**⇑	*i*P	**P**	**19 28 06.8**	**-0.7**
VIVF				pmax	pmax		
comp=Z,23nm,1.1s,mb5.4							
VIVF	**Saint-Julien-l**	**90.55**	**330**	*i*P	**P**	**19 28 06.8**	**-0.7**
comp=Z,23nm,1.1s,mb5.4							
FRF	**La Foret Royal**	**90.78**	**328**⇑	*i*P	**P**	**19 28 07.2**	**-1.4**
comp=Z,39nm,0.9s,mb5.4							
FRF	**La Foret Royal**	**90.78**	**328**⇑	*i*P	**P**	**19 28 07.2**	**-1.4**
FRF				pmax	pmax		
comp=Z,20nm,0.9s,mb5.5							
FRF	**La Foret Royal**	**90.78**	**328**⇑	*i*P	**P**	**19 28 07.2**	**-1.4**
comp=Z,20nm,0.9s,mb5.4							
QUIF	**Quistinic**	**90.83**	**336**⇑	*i*P	**P**	**19 28 08.1**	**-0.6**
comp=Z,426nm,1.9s,mb6.2							
QUIF	**Quistinic**	**90.83**	**336**⇑	*i*P	**P**	**19 28 08.1**	**-0.6**
QUIF				pmax	pmax		
comp=Z,213nm,1.9s,mb6.2							
QUIF	**Quistinic**	**90.83**	**336**⇑	*i*P	**P**	**19 28 08.1**	**-0.6**
comp=Z,213nm,1.9s,mb6.2							
SMRF	**Simiane la Rot**	**90.90**	**329**	*e*P	**P**	**19 28 08.5**	**-0.6**
comp=Z,84nm,1.3s,mb5.6							
SMRF	**Simiane la Rot**	**90.90**	**329**	*e*P	**P**	**19 28 08.5**	**-0.6**
comp=Z,84nm,1.3s,mb5.9							
MFF	**Saint Martin d**	**90.94**	**334**	*e*P	**P**	**19 28 09.0**	**-0.2**
comp=Z,90nm,1.0s,mb5.8							
MFF	**Saint Martin d**	**90.94**	**334**	*e*P	**P**	**19 28 09.0**	**-0.2**
MFF				pmax	pmax		
comp=Z,45nm,1.0s,mb5.8							
MFF	**Saint Martin d**	**90.94**	**334**	*e*P	**P**	**19 28 09.0**	**-0.2**
comp=Z,45nm,1.0s,mb5.8							
LMR	**La Mourre**	**91.02**	**328**⇑	*i*P	**P**	**19 28 08.5**	**-1.2**
comp=Z,70nm,1.0s,mb5.7							
LMR	**La Mourre**	**91.02**	**328**⇑	*i*P	**P**	**19 28 08.5**	**-1.2**
LMR				pmax	pmax		
comp=Z,35nm,1.0s,mb5.6							
LMR	**La Mourre**	**91.02**	**328**⇑	*i*P	**P**	**19 28 08.5**	**-1.2**
comp=Z,35nm,1.0s,mb5.7							
WMOK	**Wichita Mounta**	**91.06**	**45**	*e*P	**P**	**19 28 09.4**	**-0.7**
WMOK				pmax	pmax		
comp=Z,29nm,1.4s,mb5.4							
WMOK	**Wichita Mounta**	**91.06**	**45**	*e*P	**P**	**19 28 09.4**	**-0.7**
comp=Z,29nm,1.4s,mb5.4							
RJF	**Les Rejaudoux**	**91.42**	**332**	*e*P	**P**	**19 28 11.3**	**-0.2**
comp=Z,71nm,1.1s,mb5.6							
RJF				*e*MLR	MLR		
comp=Z,1μm,22.0s,MS5.1							
RJF	**Les Rejaudoux**	**91.42**	**332**	*e*P	**P**	**19 28 11.3**	**-0.2**
RJF				pmax	pmax		
comp=Z,35nm,1.1s,mb5.6							
RJF				MLR	MLR		
comp=Z,1μm,22.0s,MS5.4							
RJF	**Les Rejaudoux**	**91.42**	**332**	*e*P	**P**	**19 28 11.3**	**-0.2**
comp=Z,35nm,1.1s,mb5.6							
RJF				LR	LR		
comp=Z,1μm,22.0s,MS5.4							
LASF	**Ste Croix**	**91.53**	**330**	*e*P	**P**	**19 28 10.7**	**-1.3**
comp=Z,58nm,1.2s,mb5.5							
CAF	**Calviac**	**91.53**	**332**⇑	*i*P	**P**	**19 28 12.0**	**0.0**
comp=Z,56nm,1.0s,mb5.5							
CAF	**Calviac**	**91.53**	**332**⇑	*i*P	**P**	**19 28 12.0**	**0.0**
CAF				pmax	pmax		
comp=Z,28nm,1.0s,mb5.5							
CAF	**Calviac**	**91.53**	**332**⇑	*i*P	**P**	**19 28 12.0**	**0.0**
comp=Z,28nm,1.0s,mb5.5							
LFF	**La Frestale**	**92.02**	**333**⇑	*i*P	**P**	**19 28 14.2**	**-0.1**
comp=Z,105nm,1.1s,mb5.8							
LFF	**La Frestale**	**92.02**	**333**⇑	*i*P	**P**	**19 28 14.2**	**-0.1**
LFF				pmax	pmax		
comp=Z,52nm,1.1s,mb5.8							
LFF	**La Frestale**	**92.02**	**333**⇑	*i*P	**P**	**19 28 14.2**	**-0.1**
comp=Z,52nm,1.1s,mb5.8							
MTLF	**Montolieu**	**92.80**	**331**⇑	*i*P	**P**	**19 28 17.7**	**-0.2**
comp=Z,51nm,1.1s,mb5.6							
MTLF	**Montolieu**	**92.80**	**331**⇑	*i*P	**P**	**19 28 17.7**	**-0.2**
MTLF				pmax	pmax		
comp=Z,26nm,1.1s,mb5.6							
MTLF	**Montolieu**	**92.80**	**331**⇑	*i*P	**P**	**19 28 17.7**	**-0.2**
comp=Z,26nm,1.1s,mb5.6							
FVM	**French Village**	**93.16**	**38**	*e*P	**P**	**19 28 17.2**	**-2.5**
FVM				pmax	pmax		
comp=Z,8.0nm,0.6s,mb5.3							
FVM	**French Village**	**93.16**	**38**	*e*P	**P**	**19 28 17.2**	**-2.5**
comp=Z,8.1nm,0.6s,mb5.3							
JCT	**Junction City**	**93.46**	**49**	*e*P	**P**	**19 28 20.5**	**-0.8**
JCT				pmax	pmax		
comp=Z,10.0nm,0.8s,mb5.3							
JCT	**Junction City**	**93.46**	**49**	*e*P	**P**	**19 28 20.5**	**-0.8**
comp=Z,10nm,0.8s,mb5.3							
MLS	**Moulis**	**93.56**	**331**	*e*P	**P**	**19 28 21.2**	**-0.3**
EPF	**Esparros**	**93.80**	**332**	*e*P	**P**	**19 28 20.8**	**-1.7**
comp=Z,22nm,1.1s,mb5.2							
EPF	**Esparros**	**93.80**	**332**	*e*P	**P**	**19 28 20.8**	**-1.7**
EPF				pmax	pmax		
comp=Z,11nm,1.1s,mb5.2							
EPF	**Esparros**	**93.80**	**332**	*e*P	**P**	**19 28 20.8**	**-1.7**
comp=Z,11nm,1.1s,mb5.2							
RESF	**Ens**	**93.99**	**332**	*e*P	**P**	**19 28 24.1**	**+0.7**
MIAR	**Mount Ida**	**94.13**	**42**	*e*P	**P**	**19 28 23.6**	**-0.6**
MIAR				pmax	pmax		
comp=Z,34nm,1.4s,mb5.6							
MIAR	**Mount Ida**	**94.13**	**42**	*e*P	**P**	**19 28 23.6**	**-0.6**
comp=Z,34nm,1.4s,mb5.6							
ETSF	**Etsaut**	**94.25**	**332**	*e*P	**P**	**19 28 23.8**	**-0.8**
comp=Z,31nm,1.0s,mb5.4							
ETSF	**Etsaut**	**94.25**	**332**	*e*P	**P**	**19 28 23.8**	**-0.8**
ETSF				pmax	pmax		
comp=Z,16nm,1.0s,mb5.4							
ETSF	**Etsaut**	**94.25**	**332**	*e*P	**P**	**19 28 23.8**	**-0.8**
comp=Z,16nm,1.0s,mb5.4							
SJPF	**Ste Jean**	**94.32**	**333**	*e*P	**P**	**19 28 23.9**	**-1.0**
comp=Z,44nm,1.3s,mb5.4							
SJPF	**Ste Jean**	**94.32**	**333**	*e*P	**P**	**19 28 23.9**	**-1.0**
SJPF				pmax	pmax		
comp=Z,22nm,1.3s,mb5.4							
SJPF	**Ste Jean**	**94.32**	**333**	*e*P	**P**	**19 28 23.9**	**-1.0**
comp=Z,22nm,1.3s,mb5.4							
KEST	**Kesra**	**95.74**	**322**	P	**P**	**19 28 30.9**	**-0.7**
comp=Z,0.8nm,0.6s,mb4.3,baz=6.3,slow=1.8,SNR=3.7							
ESDC	**Sonseca Array**	**98.33**	**333**	P	**P**	**19 28 42.2**	**-0.9**
comp=Z,0.7nm,0.6s,mb4.4,baz=21,slow=4.4,SNR=5.0							
RKT	**Rikitea**	**98.99**	**112**	*e*SS	SS	19 47 02.1	-1.1
comp=Z,139nm,29.8s							
RKT	**Rikitea**	**98.99**	**112**	*e*LR	LR	20 00 41.3	
comp=Z,673nm,23.2s,baz=308							
VNDA	**Vanda**	**113.44**	**175**	PKiKP	PKiKP	19 33 40.4	-1.7
comp=Z,0.8nm,0.9s,baz=326,slow=3.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**117.80**	**313**	PKP	PKPdf	19 33 51.0	-1.4
comp=Z,3.0nm,0.9s,baz=28,slow=0.9,SNR=14							
TORD				PKKPbc	PKKPbc	19 44 15.5	+3.5
comp=Z,0.6nm,0.8s,baz=213,slow=3.6,SNR=5.1							
TORD	**Torodi Ar. Bea**	**117.80**	**313**	PKP	PKPdf	19 33 51.0	-1.4
TORD				PKKPbc	PKKPbc	19 44 15.5	+3.5
SYO	**Syowa Base**	**126.36**	**206**⇑	*e*PKPdf	PKPdf	19 34 05.6	-1.4
SYO	**Syowa Base**	**126.36**	**206**⇑	*e*X		19 34 16.5	
DBIC	**Dimbokro**	**126.81**	**315**	PKP	PKPdf	19 34 07.9	-1.8
comp=Z,7.1nm,0.9s,baz=308,slow=8.7,SNR=3.9							
SDV	**Santo Domingo**	**127.15**	**40**	*e*PKPdf	PKPdf	19 34 10.0	-0.3
LPAZ	**La Paz**	**148.29**	**60**	PKPbc	PKPbc	19 34 52.3	+0.3
comp=Z,9.0nm,0.9s,baz=323,slow=2.9,SNR=24							

NIED ***15*** *19:16:00,3550N×14050E,h20km,Mw4.6 Best double couple: M₀9.57000×10¹⁵ NP1:φ₀≈63.00000°,δ80.00000°, λ79.00000°. NP2:φ₀≈291.00000°,δ14.00000°,λ137.00000°.*

JMA 15 19:16:18.4±0.2,3546N×14051E,h27km±3km,M4.2,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.26**	**261**	*e*S	Sb	19 16 31.0	+1.6
KTR	**Katsuura**	**0.35**	**207**	P	Pb	19 16 25.9	-0.4
KTR				*e*S	Sb	19 16 32.2	+0.5
CHOJ	**Chosi**	**0.37**	**49**	P	Pb	19 16 26.7	0.0
CHOJ				S	Sb	19 16 32.1	-0.2
JYT	**Yasato**	**0.81**	**342**	P	Pb	19 16 33.4	-0.4
JYT				*e*S	Sb	19 16 44.3	-0.1
JIM2	**Oshima 3**	**1.15**	**230**	*e*S	Sn	19 16 52.4	-1.2
JOD2	**Odawara 2**	**1.18**	**261**	*e*S	Sn	19 16 54.4	+0.2

CASC 15 19:17:18.3±3.3,919N×8381W,h0km±6km,MD4.0,6C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.36**	**7**	⇓*i*P	Pg	19 17 29.1	+3.8
BUS				*e*S	Sg	19 17 35.2	+5.2
BAR1		**0.49**	**84**	⇑*e*P	Pg	19 17 28.8	+1.1
SJS	**Escuela Geolog**	**0.78**	**342**	⇑*e*P	Pg	19 17 35.1	+1.8
SJS				*e*S	Sg	19 17 46.3	+2.9
ACR	**Cerro Adams**	**0.83**	**130**	*e*P	Pg	19 17 33.8	-0.4
PRS1	**Puriscal**	**0.93**	**328**	⇑*i*P	Pg	19 17 37.2	+1.0
PRS1				*e*S	Sg	19 17 49.2	+0.9
CGA2	**Cerro Gallo 2**	**1.04**	**321**	⇑*e*P	Pg	19 17 39.5	+1.1
CTCR	**Cotoan**	**1.07**	**106**	⇑*i*P	Pg	19 17 37.4	-1.5
LIO	**Limon**	**1.11**	**43**	⇓*e*P	Pg	19 17 37.2	-2.3
BRU2	**Volcan**	**1.17**	**110**	⇑*e*P	Pg	19 17 38.8	-2.0
TBS2		**1.20**	**109**	*e*S	Sg	19 18 01.0	+4.0
CAO	**Cobano**	**1.38**	**292**	⇓*e*P	Pg	19 17 44.7	0.0
CAO				*e*S	Sg	19 18 02.7	+0.1
JCR	**Jicaral**	**1.44**	**297**	*e*P	Pn	19 17 46.5	+0.8
VCR	**Vista de Mar**	**2.02**	**297**	*e*P	Pn	19 17 54.5	+0.8
HUEN		**3.90**	**324**	*e*P	Pn	19 18 19.8	+0.4
CSAN		**3.93**	**319**	*e*P	Pn	19 18 20.3	+0.3

IDC ***15*** *19:56:13.2±1.0,4109S×17365E,h124km±13km,mb3.5/3, mb1 3.8/5,mb1mx3.5/16,mbtmp3.6/5,Error ellipse: s-maj=29.9km s-min=8.6km az=131.0*
ISCJB ***15*** *19:56:14.8±0.4,4095S±004×17340E±007,h138km±4km, mb3.7/3,Error ellipse: s-maj=9.9km s-min=5.6km az=32.6*
NEIC ***15*** *19:56:16.0,4094S×17344E,h136km,MG4.8(WEL),After WEL.*
NEIC Felt in the Marlborough and Wellington areas.

ISC 15 19:56:15.8±0.4,4093S±004×17342E±007,h133km±4km, n44,σ0°72/49,mb3.7/3,8C-5D,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.29**	**187**	P	**Pn**	**19 56 34.6**	**+0.4**
NNZ				S	**Sn**	**19 56 48.1**	**-0.1**
TCW	**Tory Channel**	**0.70**	**114**	⇓P	**Pn**	**19 56 37.3**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.85**	**157**	⇓P	**Pn**	**19 56 38.3**	**+0.7**
THZ	**Tophouse**	**0.92**	**205**	⇓P	**Pn**	**19 56 38.6**	**+0.4**
THZ				S	**Sn**	**19 56 54.4**	**-0.8**
CMWZ	**Cape Campbell**	**1.01**	**144**	⇓P	**Pn**	**19 56 39.9**	**+0.9**
CMWZ				S	**Sn**	**19 56 57.4**	**+0.7**
MRW	**Makara Radio**	**1.01**	**107**	⇑P	**Pn**	**19 56 39.4**	**+0.4**
SNZO	**South Karori**	**1.04**	**112**	P	**Pn**	**19 56 39.5**	**+0.2**
SNZO				P		19 56 39.7	
WEL	**Wellington**	**1.07**	**110**	P	**Pn**	**19 56 40.0**	**+0.4**
KIW	**Kapiti Island**	**1.13**	**87**	⇑P	**Pn**	**19 56 40.6**	**+0.5**
BHW	**Baring Head**	**1.19**	**114**	P	**Pn**	**19 56 40.9**	**+0.1**
CAW	**Cannon Point**	**1.26**	**99**	⇑P	**Pn**	**19 56 41.6**	**+0.2**
MSWZ	**Moikau Station**	**1.46**	**110**	⇑P	**Pn**	**19 56 43.7**	**+0.1**
MSWZ				S	**Sn**	**19 57 03.0**	**-1.8**
DSZ	**Denniston Nort**	**1.47**	**236**	P	**Pn**	**19 56 43.6**	**-0.1**
KHZ	**Kahutara**	**1.49**	**177**	P	**Pn**	**19 56 44.2**	**+0.3**
PAWZ	**Paruwai Farm**	**1.58**	**107**	⇑P	**Pn**	**19 56 44.9**	**0.0**
MTW	**Mount Morrison**	**1.59**	**99**	⇑P	**Pn**	**19 56 45.1**	**+0.1**
MRZ	**Mangatainoka R**	**1.66**	**81**	⇑P	**Pn**	**19 56 45.8**	**0.0**
WAZ	**Wanganui**	**1.68**	**46**	P	**Pn**	**19 56 47.0**	**+0.9**
NEZ	**North Egmont**	**1.74**	**17**	P	**Pn**	**19 56 46.7**	**-0.1**
PKE	**Pukeiti**	**1.79**	**14**	P	**Pn**	**19 56 47.9**	**+0.5**
RAEZ	**Rainy Point**	**1.80**	**25**	P	**Pn**	**19 56 48.4**	**+0.8**
LTZ	**Lake Taylor**	**2.04**	**205**	⇓P	**Pn**	**19 56 50.1**	**-0.2**
VRZ	**Vera Road**	**2.08**	**30**	P	**Pn**	**19 56 51.3**	**+0.5**
TSZ	**Takapari Road**	**2.12**	**67**	P	**Pn**	**19 56 50.9**	**-0.5**
WNVZ	**Wahianoa**	**2.31**	**47**	P	**Pn**	**19 56 53.8**	**+0.1**
FWVZ	**Far West T-bar**	**2.34**	**45**	P	**Pn**	**19 56 54.1**	**0.0**
MOVZ	**Moawhango**	**2.35**	**50**	⇑P	**Pn**	**19 56 53.9**	**-0.3**
WPVZ	**Whakapapa**	**2.37**	**44**	P	**Pn**	**19 56 54.5**	**0.0**
TUVZ	**Tukino**	**2.38**	**47**	P	**Pn**	**19 56 54.7**	**0.0**
WTVZ	**West Tongariro**	**2.46**	**43**	P	**Pn**	**19 56 55.4**	**-0.2**
HIZ	**Hauiti**	**2.66**	**25**	P	**Pn**	**19 56 57.7**	**-0.4**
RITZ	**Rihia Road**	**2.70**	**45**	P	**Pn**	**19 56 58.4**	**-0.3**
CRLZ	**Canterbury Las**	**2.71**	**192**	P	**Pn**	**19 56 57.3**	**-1.4**
RPZ	**Rata Peaks**	**3.29**	**212**	P	**Pn**	**19 57 04.7**	**-1.5**
16nm,0.3s,baz=50,slow=7.9,SNR=118							
RPZ				S	**Sn**	**19 57 41.2**	**-4.0**
124nm,0.3s,baz=34,slow=15,SNR=26							
RPZ	**Rata Peaks**	**3.29**	**212**	P	**Pn**	**19 57 04.7**	**-1.5**
RPZ				S	**Sn**	**19 57 41.2**	**-4.0**
URZ	**Urewera**	**3.90**	**48**	P	**Pn**	**19 57 12.0**	**-2.3**
24nm,0.3s,baz=237,slow=7.5,SNR=71							
URZ				S	**Sn**	**19 57 56.5**	**-3.2**
112nm,0.3s,baz=315,slow=20,SNR=56							
ASAR	**Alice Springs**	**37.21**	**285**	P	**P**	**20 03 14.1**	**-0.2**
0.6nm,0.4s,mb3.5,baz=128,slow=7.6,SNR=12							
WRA	**Warramunga Arr**	**39.24**	**290**	P	**P**	**20 03 31.3**	**0.0**
1.1nm,0.3s,mb3.9,baz=126,slow=8.3,SNR=37							
FITZ	**Fitzroy Crossi**	**46.70**	**285**	P	**P**	**20 04 31.3**	**0.0**
1.3nm,0.7s,mb3.7,baz=180,slow=4.0,SNR=3.4							
SNAA	**Sanae**	**67.67**	**181**	*e*	**P**	**20 06 57.9**	**0.0**
VNA2	**Neumayer--Watz**	**68.45**	**180**	*e*	**P**	**20 07 03.1**	**+0.3**
VNA1	**Neumayer--Stat**	**68.72**	**179**	*e*	**P**	**20 07 05.6**	**+1.1**
ARCES	**ARCESS Array B**	**146.80**	**340**	PKPbc	PKPbc	20 15 39.0	-1.9
1.4nm,0.8s,baz=54,slow=2.1,SNR=3.6							
TORD	**Torodi Ar. Bea**	**151.39**	**197**	PKPbc	PKPbc	20 15 52.2	-2.0
0.3nm,0.5s,baz=160,slow=2.6,SNR=13							

ISCJB ***15*** *20:02:16.8±0.7,4013N±003×2154E±007,h7km±8km, Error ellipse: s-maj=8.9km s-min=3.8km az=159.3*
ATH ***15*** *20:02:16.7,4021N×2181E,h31km,MD3.1/4*
NEIC ***15*** *20:02:17.6,4013N×2155E,h2km,MD3.1(ATH), ML2.6(THE),After THE.*
CSEM ***15*** *20:02:17.2±0.1,4014N×2150E,h12km,ML2.6,Error ellipse: s-maj=3.6km s-min=1.6km az=73.0*
THE ***15*** *20:02:17.6,4013N×2155E,h1km,ML2.6*

ISC 15 20:02:17.6±0.7,4012N±003×2154E±007,h11km±8km,n17, σ0°78/29,1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.26**	**44**	*e*PB	**Pg**	**20 02 22.5**	**-0.3**
THL	**Klokotos Trika**	**0.67**	**146**	*e*Pg	**Pg**	**20 02 30.1**	**-0.3**
THL				*e*Sg	**Sg**	**20 02 39.5**	**+0.3**
THL	**Klokotos Trika**	**0.67**	**146**	⇓*i*Pn	**Pg**	**20 02 30.1**	**-0.4**
THL				*e*Sn	**Sg**	**20 02 40.3**	**+1.1**
FNA	**Florina**	**0.67**	**349**	*e*Pg	**Pg**	**20 02 29.9**	**-0.6**
FNA				*e*Sg	**Sg**	**20 02 39.5**	**+0.1**
FNA	**Florina**	**0.67**	**349**	*e*Pg	**Pg**	**20 02 30.0**	**-0.6**
FNA				*e*Sg	**Sg**	**20 02 39.5**	**+0.1**
LIT	**Litokhoron**	**0.73**	**91**	*e*Pg	**Pg**	**20 02 30.4**	**-1.3**
LIT				*e*Sg	**Sg**	**20 02 41.6**	**+0.4**
BIA	**Bitola**	**0.91**	**350**	*i*Pg	**Pg**	**20 02 33.9**	**-1.2**
BIA				*i*Sg	**Sg**	**20 02 47.8**	**+0.8**
BIA				*i*Sg	**Sg**	**20 02 48.1**	**+1.1**
BIA	**Bitola**	**0.91**	**350**	*e*Pg	**Pg**	**20 02 33.9**	**-1.2**
BIA				*e*Sg	**Sg**	**20 02 48.1**	**+1.1**
GRG	**Griva**	**1.06**	**38**	*e*Pg	**Pg**	**20 02 37.9**	**-0.1**
GRG				*e*Sg	**Sg**	**20 02 52.2**	**+0.3**
EVR	**Evrytania**	**1.22**	**170**	*e*PN	**Pn**	**20 02 40.5**	**-0.1**
AGG	**Agios Georgios**	**1.26**	**151**	*e*Pg	**Pg**	**20 02 41.4**	**-0.3**
AGG				*e*Sg	**Sg**	**20 02 59.2**	**+1.2**
KRUS	**Krusevo**	**1.27**	**350**	*i*Pg	**Pg**	**20 02 41.1**	**-0.8**
KRUS				*i*Sg	**Sg**	**20 03 00.2**	**+1.9**
KRUS	**Krusevo**	**1.27**	**350**	*i*Pg	**Pg**	**20 02 41.0**	**-0.9**
KRUS				*i*Sg	**Sg**	**20 03 00.1**	**+1.8**
HORT	**Hortiatis**	**1.28**	**68**	*e*Pg	**Pg**	**20 02 41.7**	**-0.6**
KNT	**Kendrikon**	**1.47**	**44**	*e*Pg	**Pn**	**20 02 44.3**	**+0.3**
PLG	**Polygyros**	**1.48**	**80**	*e*PN	**Pn**	**20 02 39.6**	**-4.6**
XOR	**Xorichti**	**1.48**	**120**	*e*Pg	**Pn**	**20 02 44.2**	**+0.1**

NIED ***15*** *20:04:00,3540N×14060E,h32km,Mw3.9 Best double couple: M₀9.10000×10¹⁴ NP1:φ₀≈62.00000°,δ72.00000°, λ104.00000°. NP2:φ₀≈204.00000°,δ23.00000°,λ54.00000°.*
IDC ***15*** *20:04:08.3±1.3,3536N×14075E,h0km,mb3.8/8, mb1 3.9/12,mb1mx3.8/25,mbtmp3.9/12,ML3.5/4,MS3.2/1, Ms1 3.2/1,ms1mx2.1/45,Error ellipse: s-maj=43.4km s-min=15.3km az=75.0*
ISCJB ***15*** *20:04:12.1±0.5,3534N±003×14064E±005,h39km±5km, mb3.9/10,Error ellipse: s-maj=7.4km s-min=5.4km az=2.4*
NEIC ***15*** *20:04:13.2,3541N×14055E,h28km,mb4.5/2, MW3.9(NIED),After JMA.*
NEIC Recorded [2 JMA] in Chiba Prefecture.
JMA ***15*** *20:04:13.2±0.1,3541N×14055E,h28km±2km,M4.0 Broadband fault plane solution: P waves. NP1: φ₀≈254.00000°,δ27.00000°,λ96.00000°. NP2:φ₀≈67.00000°, δ63.00000°,λ87.00000°. Principal axes: T Plg72.0000°, Azm329.0000°; N Plg3.0000°, Azm68.0000°; P Plg18.0000°, Azm159.0000°;*
JMA Felt II J1.

ISC 15 20:04:12.9±0.5,3535N±003×14062E±005,h31km±3km, n26,σ0°80/34,mb3.9/10,3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.32**	**230**	P	**Pb**	**20 04 20.5**	**-0.2**
KTR				*e*S	**Sb**	**20 04 26.0**	**0.0**
JCN	**Nagara**	**0.34**	**281**	⇓P	**Pb**	**20 04 20.8**	**-0.2**
JCN				*e*S	**Sb**	**20 04 26.3**	**-0.3**
CHOJ	**Chosi**	**0.40**	**29**	⇓P	**Pb**	**20 04 21.6**	**-0.3**
CHOJ				*e*S	**Sb**	**20 04 27.7**	**-0.3**
BSO4	**Boso 4**	**0.43**	**212**	P	**Pb**	**20 04 23.2**	**+1.0**
BSO3	**Boso 3**	**0.56**	**189**	⇓P	**Pb**	**20 04 25.3**	**+1.0**
BSO1	**Boso 1**	**0.76**	**157**	P	**Pn**	**20 04 27.6**	**+0.2**
JYT	**Yasato**	**0.94**	**339**	P	**Pn**	**20 04 28.9**	**-1.0**
JYT				*e*S	**Sn**	**20 04 40.2**	**-2.0**
JIM2	**Oshima 3**	**1.16**	**237**	P	**Pn**	**20 04 32.2**	**-0.7**
JIM2				*e*S	**Sn**	**20 04 46.5**	**-1.2**
JOD2	**Odawara 2**	**1.25**	**266**	P	**Pn**	**20 04 34.1**	**-0.1**
JOD2				S	**Sn**	**20 04 49.

comp=Z,11µm,20.2s,baz=312,slow=38
ANIG Ahuacatlan 4.57 72 *i* P **Pn 20 19 58.2 -1.7**
ANIG *i* S **Sn 20 20 50.9 -0.9**
R15V 4.93 95 *e*P **Pn 20 20 03.0 -1.8**
COLM Colima 5.20 95 *i* P **Pn 20 20 06.2 -2.3**
EZ5V 5.26 91 *i* P **Pn 20 20 08.1 -1.3**
MMIG Aquila 5.69 103 *e*P **Pn 20 20 13.3 -2.0**
MMIG *i* S **Sn 20 21 16.4 -2.9**
SFJM Santa Fe 5.82 81 *i* P **Pn 20 20 16.0 -1.0**
SFJM Santa Fe 5.82 81 *i* P **Pn 20 20 16.6 -0.4**
ZIIG Zihuatanejo 7.60 105 *i* P **Pn 20 20 40.4 -1.1**
ZIIG *i* S **Sn 20 22 03.5 -2.8**
ZIIG Zihuatanejo 7.60 105 *i* P **Pn 20 20 40.4 -1.1**
ZIIG *i* S **Sn 20 22 07.6 +1.3**
HPIG 7.90 23 *i* P **Pn 20 20 45.4 -0.2**
HPIG *e*S **Sn 20 22 13.7 +0.1**
CAIG El Cayaco 8.86 106 *i* P **Pn 20 20 59.1 +0.3**
CAIG *i* S **Sn 20 22 36.2 -1.1**
MEIG Mezcala 9.22 99 *i* P **Pn 20 21 03.8 +0.1**
ACX Acapulco 9.23 106 *i* P **Pn 20 21 02.0 -1.9**
ACX Acapulco 9.23 106 *i* P **Pn 20 21 06.1 +2.2**
PLIG Platanillo 9.24 96 *i* P **Pn 20 21 03.8 -0.1**
PLIG *i* S **Sn 20 22 45.9 -0.7**
PLIG Platanillo 9.24 96 *i* P **Pn 20 21 03.8 -0.1**
PLIG *i* S **Sn 20 22 49.9 +3.3**
HSIG 9.43 350 *i* P **Pn 20 21 05.0 -1.5**
HSIG *i* S **Sn 20 22 49.4 -1.8**
DEIG Demacu 9.55 85 *e*P **Pn 20 21 10.5 +2.2**
YAIG Yautepec 9.58 93 *i* P **Pn 20 21 09.4 +0.8**
PPM Popocatepetl 9.97 92 *i* P **Pn 20 21 15.7 +1.7**
PPM *i* P 20 21 16.6
PPM *i* S **Sn 20 23 01.7 -3.0**
LNIG Linares 10.37 58 *i* P **Pn 20 21 18.1 -1.4**
LNIG *i* S **Sn 20 23 12.7 -1.8**
CGIG 10.68 6 *i* P **Pn 20 21 25.5 +1.8**
CGIG *i* S **Sn 20 23 20.1 -1.9**
PNIG Pinotepa 11.01 106 *i* P **Pn 20 21 26.4 -1.8**
PNIG *i* S **Sn 20 23 30.1 +0.1**
319A Douglas 11.64 360 P **Pn 20 21 37.9 +1.1**
baz=12,SNR=41
318A Bisbee 11.72 357 P **Pn 20 21 38.9 +1.0**
baz=12,SNR=58
LVIG Laguna Verde 12.02 88 *i* P **Pn 20 21 42.2 +0.2**
VHO Vista Hermosa 12.09 100 *e*P **Pn 20 21 42.2 -0.9**
VHO *i* S **Sn 20 23 51.6 -5.1**
OXX Oaxaca 12.10 100 *e*P **Pn 20 21 46.4 +3.3**
217A Green Valley 12.12 353 P **Pn 20 21 44.5 +1.1**
baz=12,SNR=213
218A Dragoon 12.26 357 P **Pn 20 21 46.2 +1.0**
baz=12,SNR=38
219A White Tail Can 12.26 360 P **Pn 20 21 46.3 +1.1**
baz=12,SNR=63
216A Three Points, 12.43 351 P **Pn 20 21 48.7 +1.1**
baz=12,SNR=36
214A Organ Pipe Nat 12.64 346 P **Pn 20 21 50.7 +0.2**
baz=12,SNR=23
117A Oracle 12.90 354 P **Pn 20 21 55.1 +1.0**
baz=13,SNR=85
118A Homack Ranch, 12.91 357 P **Pn 20 21 54.9 +0.7**
baz=13,SNR=32
116A Eloy 13.02 350 ⇑P **Pn 20 21 56.1 +0.5**
baz=13,SNR=23
119A Ashpeak Ranch, 13.02 360 ⇑P **Pn 20 21 56.3 +0.7**
baz=13,SNR=20
115A Sonoran Desert 13.24 349 ⇓P **Pn 20 21 59.2 +0.6**
baz=13
Z18A Geronimo 13.36 357 ⇓P **Pn 20 22 01.2 +0.8**
baz=13
Z19A T-Link Ranch, 13.55 360 ⇑P **Pn 20 22 03.5 +0.7**
baz=13
Z17A San Carlos Hig 13.60 355 P **Pn 20 22 04.5 +0.9**
baz=14,SNR=14
113A Mohawk Valley, 13.66 343 P **Pn 20 22 04.2 -0.2**
baz=14,SNR=32
112A Yuma 13.68 340 ⇓P **Pn 20 22 04.6 0.0**
baz=14
Z16A Peralta Trail, 13.74 352 ⇓P **Pn 20 22 05.8 +0.3**
baz=14,SNR=10
Z15A Gila River Ind 13.80 349 ⇑P **Pn 20 22 07.0 +0.7**
baz=14
CMIG Matias Romero 13.81 98 Pn **Pn 20 22 07.6 +1.1**
1.8nm,0.3s,baz=281,slow=11,SNR=39
CMIG Sn **Sn 20 24 43.2 +4.7**
baz=139,slow=18,SNR=1.6
CMIG LR LR 20 27 11.9
comp=Z,6µm,18.1s,baz=27,slow=36
CMIG Matias Romero 13.81 98 Pn **Pn 20 22 07.6 +1.1**
CMIG Sn **Sn 20 24 43.2 +4.7**
CMIG LR LR 20 27 11.9
Z14A Wintersburg 14.03 347 ⇓P **Pn 20 22 09.4 0.0**
baz=14,SNR=6.7
Y17A Roosevelt 14.03 354 P **Pn 20 22 10.1 +0.7**
baz=14,SNR=48
Y18A Canyon Day Jun 14.05 357 P **Pn 20 22 10.5 +0.8**
baz=14,SNR=31
TUIG Tuzandepetl 14.06 94 *i* P **Pn 20 22 10.8 +0.9**
Y19A Nutrioso 14.21 360 P **Pn 20 22 12.8 +1.0**
baz=14,SNR=78
GLA Glamis 14.23 340 *e*P **Pn 20 22 11.5 -0.7**
GLA pmax pmax
comp=Z,124nm,1.1s
GLA Glamis 14.23 340 ⇓P **Pn 20 22 11.5 -0.7**
baz=14,SNR=31
GLA Glamis 14.23 340 *e*Pn **Pn 20 22 11.5 -0.7**
comp=Z,124nm,1.1s
Y16A Circle Bar Ran 14.28 352 P **Pn 20 22 13.4 +0.6**
baz=14,SNR=82
DVTC Desert V Tower 14.33 336 ⇑P **Pn 20 22 12.1 -1.4**
baz=14,SNR=14
SWSC Sam W. Stewart 14.46 337 ⇓P **Pn 20 22 13.9 -1.4**
baz=14,SNR=13
Y22C IRIS PASSCAL I 14.46 8 ⇓P **Pn 20 22 16.5 +1.1**
baz=14
Y15A Casa Rosa Ranc 14.48 349 P **Pn 20 22 15.6 0.0**
baz=14,SNR=104
LENM Lemitar 14.55 7 *e*Pn **Pn 20 22 17.1 +0.7**
BAR Barrett 14.57 334 *e*Pn **Pn 20 22 15.8 -1.0**
comp=Z,46nm,1.1s
Y14A Wickenburg 14.59 347 P **Pn 20 22 16.9 -0.1**
baz=14,SNR=52
MONP Monument Peak 14.65 335 ⇑P **Pn 20 22 17.3 -0.6**
baz=14,SNR=18
X17A Forest Lakes 14.66 355 P **Pn 20 22 18.9 +1.0**
baz=14,SNR=52
Y13A Salome 14.66 345 ⇑P **Pn 20 22 18.2 +0.2**
baz=14,SNR=14
X19A St. Johns 14.68 360 P **Pn 20 22 19.2 +1.1**
baz=14,SNR=39
LPM Los Pinos Moun 14.74 8 *e*Pn **Pn 20 22 19.4 +0.4**
Y12C Blythe 14.79 342 ⇓P **Pn 20 22 19.3 -0.3**
baz=15,SNR=22
X18A Snowflake 14.80 357 P **Pn 20 22 20.9 +1.1**
baz=15,SNR=75
X16A Lo Mia Camp, P 14.81 353 P **Pn 20 22 20.2 +0.4**
baz=15,SNR=80
109C Camp Elliot, M 14.94 333 ⇓P **Pn 20 22 20.0 -1.6**
baz=15
X15A Humboldt 14.99 350 P **Pn 20 22 22.7 +0.5**
baz=15,SNR=93
BC3 Big Chuckw Mtn 14.99 339 ⇓P **Pn 20 22 21.6 -0.7**
baz=15,SNR=30
X14A Yava 15.09 348 ⇑P **Pn 20 22 23.4 -0.1**
baz=15,SNR=29
PDMCI Parker Dam,Lak 15.21 344 P **Pn 20 22 25.1 0.0**
baz=15,SNR=26
PFO Pinyon Flat Ob 15.30 336 Pn **Pn 20 22 25.0 -1.4**
comp=Z,0.2nm,0.3s,baz=164,slow=9.7,SNR=13
PFO Sn **Sn 20 25 13.4 -1.4**
comp=Z,0.3nm,0.3s,baz=358,slow=7.8,SNR=2.1
PFO LR LR 20 27 58.9
comp=Z,4µm,18.8s,baz=153,slow=36
PFO Pinyon Flat Ob 15.30 336 *e*P **Pn 20 22 25.6 -0.8**
PFO pmax pmax
comp=Z,46nm,0.9s
PFO Pinyon Flat Ob 15.30 336 ⇓P **Pn 20 22 25.4 -1.0**
baz=15,SNR=15
PFO Pinyon Flat Ob 15.30 336 *e*Pn **Pn 20 22 25.6 -0.8**
comp=Z,46nm,0.9s
IRM Iron Mountain 15.36 341 P **Pn 20 22 26.5 -0.6**
baz=15,SNR=51
W19A Sanders 15.36 359 P **Pn 20 22 28.1 +1.0**
baz=15,SNR=41
W18A Petrified Fore 15.38 358 ⇑P **Pn 20 22 27.9 +0.6**
baz=15
ANMO Albuquerque 15.39 8 Pn **Pn 20 22 27.6 +0.2**
comp=Z,0.2nm,0.3s,baz=196,slow=12,SNR=36
ANMO Sn **Sn 20 25 20.9 +4.1**
comp=Z,0.1nm,0.3s,baz=39,slow=18,SNR=1.9
ANMO LR LR 20 28 51.4
comp=Z,399nm,18.3s,baz=192,slow=40
ANMO Albuquerque 15.39 8 P **Pn 20 22 27.7 +0.2**
ANMO 20 25 20.9
ANMO Albuquerque 15.39 8 Pn **Pn 20 22 27.6 +0.2**
ANMO Sn **Sn 20 25 20.9 +4.1**
ANMO LR LR 20 28 51.4
W17A Winslow 15.39 355 ⇓P **Pn 20 22 28.1 +0.6**
baz=15
X13A Yucca 15.41 345 P **Pn 20 22 27.5 -0.2**
baz=15,SNR=63
W16A Flagstaff 15.49 353 ⇑P **Pn 20 22 29.6 +0.9**
baz=15,SNR=37
BELC Belle Mtn. 15.49 338 P **Pn 20 22 28.7 -0.1**
baz=15,SNR=78
TGIG 15.52 98 *i* P **Pn 20 22 28.8 -0.5**
TGIG *i* S S 20 25 14.5 -20
MURC Murrieta 15.59 334 ⇓P **Pn 20 22 29.4 -0.6**
baz=16,SNR=8.5
W15A Williams 15.67 351 P **Pn 20 22 31.2 +0.1**
baz=16,SNR=19
NEE2 Needles Airpor 15.77 343 ⇓P **Pn 20 22 31.9 -0.6**
baz=16
HKT Hockley 15.83 47 *e*P **Pn 20 22 31.7 -1.5**
HKT pmax pmax
comp=Z,471nm,1.9s
HKT Hockley 15.83 47 *e*Pn **Pn 20 22 31.7 -1.5**
comp=Z,471nm,1.9s
W14A Seligman 15.84 348 P **Pn 20 22 33.8 +0.5**
baz=16,SNR=81
WUAZ Wupatki 15.88 353 ⇓P **Pn 20 22 34.4 +0.5**
baz=16
W13A Hualapai Mount 15.90 346 P **Pn 20 22 34.2 +0.1**
baz=16,SNR=30
CIS Catalina Islan 15.95 331 ⇓P **Pn 20 22 35.6 +0.9**
baz=16,SNR=6.8
V19A Window Rock 15.96 0 ⇑P **Pn 20 22 35.3 +0.4**
baz=16
V18A Ganado 15.97 358 P **Pn 20 22 35.8 +0.8**
baz=16,SNR=11
BBRC Big Bear Sol-O 16.06 336 ⇑P **Pn 20 22 36.2 0.0**
baz=16
GMRC Granite Mounta 16.09 340 P **Pn 20 22 36.3 -0.2**
baz=16,SNR=72
LDFC Landfair 16.20 342 ⇓*e*Pn **Pn 20 22 38.7 +0.8**
comp=Z,320nm,1.4s
V14A Boquillas Ranc 16.26 348 P **Pn 20 22 39.1 +0.5**
baz=16,SNR=45
V15A Kaibab Nationa 16.28 351 P **Pn 20 22 40.0 +1.1**
baz=16,SNR=152
BFSC Mount Baldy St 16.33 334 ⇑P **Pn 20 22 39.0 -0.6**
baz=16,SNR=7.2
W12A Cal Nev Ari 16.34 343 ⇑P **Pn 20 22 39.8 +0.1**
baz=16
HEC Hector,Ludlow 16.36 339 P **Pn 20 22 39.9 0.0**
baz=16,SNR=36
MWC Mount Wilson 16.49 333 ⇑*e*P **Pn 20 22 41.6 +0.1**
MWC pmax pmax
comp=Z,103nm,1.4s
MWC Mount Wilson 16.49 333 ⇑*e*Pn **Pn 20 22 41.6 0.0**
comp=Z,103nm,1.4s
CCIG Comitan 16.56 99 *i* P **Pn 20 22 42.3 -0.2**
DECC Green Verdugo 16.62 333 ⇑P **Pn 20 22 42.5 -0.7**
baz=16
RRX Edison Barstow 16.64 337 ⇑P **Pn 20 22 43.0 -0.5**
baz=16
V13A Grand Canyon W 16.65 346 P **Pn 20 22 44.0 +0.4**
baz=16,SNR=62
U18A Rough Rock, Ch 16.68 358 ⇓P **Pn 20 22 43.9 0.0**
baz=16,SNR=13
V12A Nelson 16.74 344 ⇑P **Pn 20 22 45.1 +0.4**
baz=17,SNR=29
TUQ Turquoise Mtn. 16.78 341 ⇑P **Pn 20 22 45.6 +0.4**
baz=17,SNR=22
BLG Laguna Peak 16.84 331 ⇓P **Pn 20 22 45.4 -0.5**
baz=17
U17A Shonto 16.90 356 ⇓P **Pn 20 22 46.8 +0.2**
baz=17,SNR=9.7
U15A North Rim 16.90 351 P **Pn 20 22 47.9 +1.2**
baz=17,SNR=48
GSC Goldstone 16.95 338 ⇑*i*P **Pn 20 22 47.1 -0.2**
GSC pmax pmax
comp=Z,70nm,1.2s
GSC Goldstone 16.95 338 P **Pn 20 22 47.6 +0.3**
baz=17,SNR=27
GSC Goldstone 16.95 338 ⇑*i*Pn **Pn 20 22 47.1 -0.2**
comp=Z,70nm,1.2s
SCIG Sabancuy 16.99 89 *i* P **Pn 20 22 46.5 -1.5**
V11A Goodsprings 17.00 342 ⇑P **Pn 20 22 48.5 +0.5**
baz=17,SNR=29
EDW2 Edwards Air Fo 17.02 335 ⇑P **Pn 20 22 47.8 -0.4**
baz=17,SNR=15
U14A Mt Trumbull 17.03 349 P **Pn 20 22 49.2 +0.9**
baz=17,SNR=73
T19A Beclabito 17.08 0 P **Pn 20 22 49.4 +0.5**
baz=17,SNR=26
OSI Osito Adit 17.11 332 ⇓P **Pn 20 22 49.0 -0.2**
baz=17
U13A Pakoon Wash 17.18 347 P **Pn 20 22 51.3 +1.0**
baz=17,SNR=47
T17A Navajo Res., N 17.30 356 ⇑P **Pn 20 22 52.1 +0.5**
baz=17
SHOC Shoshone 17.32 340 ⇓P **Pn 20 22 52.2 +0.3**
baz=17,SNR=16
U12A Valley of Fire 17.33 345 ⇓P **Pn 20 22 52.6 +0.6**
baz=17,SNR=14
T16A Glen Canyon Da 17.35 354 ⇓P **Pn 20 22 53.2 +0.9**
baz=17,SNR=8.6
T18A Mexican Hat 17.39 358 P **Pn 20 22 53.1 +0.3**
baz=17,SNR=50
LRMC Laurel Mountai 17.43 336 ⇑P **Pn 20 22 52.9 -0.4**
baz=17,SNR=14
T15A Red Dirt Ranch 17.49 351 P **Pn 20 22 55.1 +1.1**
baz=17,SNR=56
U11A Corn Creek 17.54 343 ⇑P **Pn 20 22 55.4 +0.7**
baz=17
ARVC Arvin 17.59 333 ⇓P **Pn 20 22 55.1 -0.1**
baz=18
T14A Hurricane 17.64 350 ⇓P **Pn 20 22 57.1 +1.3**
baz=18,SNR=37
T12A Moapa 17.65 345 ⇑P **Pn 20 22 56.6 +0.5**
baz=18
NATX Nacogdoches 17.74 44 ⇑*i*Pn **Pn 20 22 56.2 -0.8**
T13A Saint George 17.75 347 ⇑P **Pn 20 22 58.1 +0.8**
baz=18,SNR=17
U10A Ash Meadows, A 17.81 341 P **Pn 20 22 58.6 +0.6**
baz=18,SNR=13
PKM Peak Mountain 17.84 330 ⇓P **Pn 20 22 58.3 0.0**
baz=18,SNR=8.4
MPMC Manual Prospec 17.87 338 P **Pn 20 22 58.8 +0.1**
baz=18,SNR=43
ISA Isabella 17.90 335 ⇓*e*P **Pn 20 22 58.4 -0.7**
ISA pmax pmax
comp=Z,29nm,1.3s
ISA Isabella 17.90 335 ⇑P **Pn 20 22 58.5 -0.5**
baz=18,SNR=12
ISA Isabella 17.90 335 ⇓*e*Pn **Pn 20 22 58.4 -0.6**
comp=Z,30nm,1.3s
S17A Black Ridge (B 17.94 356 P **Pn 20 23 00.5 +1.0**
baz=18,SNR=40
S18A Hurst Farm, Bl 17.95 358 P **Pn 20 23 00.3 +0.7**
baz=18,SNR=90
S19A Harvey Farm, M 17.99 0 P **Pn 20 23 00.7 +0.6**
baz=18,SNR=114
FURC Furnace Creek, 18.03 340 ⇓P **Pn 20 23 00.5 -0.1**
baz=18,SNR=14
S16A Weppner Ranch, 18.09 354 P **Pn 20 23 02.2 +0.8**
baz=18,SNR=45
S15A Panguitch 18.14 352 P **Pn 20 23 03.5 +1.6**
baz=18,SNR=12
SMMC Simmler 18.26 331 ⇑P **Pn 20 23 03.5 +0.1**
baz=18
T11A Corn Creek, Al 18.27 344 P **Pn 20 23 03.9 +0.4**
baz=18,SNR=43
TPNV Topopah Spring 18.27 342 ⇓*e*P **Pn 20 23 04.1 +0.5**
TPNV pmax pmax
comp=Z,150nm,1.3s
TPNV Topopah Spring 18.27 342 ⇓*e*Pn **Pn 20 23 04.1 +0.5**
comp=Z,150nm,1.3s
S13A Holt Ranch, En 18.29 348 P **Pn 20 23 04.7 +0.9**
baz=18,SNR=32
VES Vestal, Richgr 18.30 334 ⇑P **Pn 20 23 03.7 -0.2**
baz=18,SNR=14
S14A Cedar City 18.34 350 ⇑P **Pn 20 23 05.1 +0.7**
baz=18
CWC Cottonwood Cre 18.43 337 ⇓P **Pn 20 23 05.8 +0.3**
baz=18
S12A Delamar Landin 18.53 346 P **Pn 20 23 07.1 +0.4**
baz=18,SNR=15
R19A Curley Farm, L 18.54 360 P **Pn 20 23 07.0 +0.2**
baz=18,SNR=15
R18A Canyonlands Na 18.64 358 P **Pn 20 23 08.0 0.0**
baz=18,SNR=62
PTRM Twissleman Ran 18.64 331 *e*Pn **Pn 20 23 08.1 0.0**
R15A Junction 18.65 352 P **Pn 20 23 09.1 +0.9**
baz=18,SNR=11
GRAC Grapevine Rang 18.68 339 ⇓P **Pn 20 23 08.8 +0.3**
baz=18
V05C Boulder Hill, 18.68 332 ⇓P **Pn 20 23 08.4 -0.1**
baz=19
R17A Hanksville Air 18.71 356 P **Pn 20 23 08.8 0.0**
baz=19,SNR=65
RCTC Rector, Farmer 18.77 334 ⇓P **Pn 20 23 09.6 -0.1**
baz=19
S11A Rachel 18.78 344 ⇓P **Pn 20 23 09.8 0.0**
baz=19,SNR=14
R14A James Farms, M 18.84 351 ⇑P **Pn 20 23 09.8 -0.6**
baz=19
R13A O'Grain Ranch, 18.89 348 ⇓P **Pn 20 23 10.9 -0.1**
baz=19,SNR=73
V04C Ramage Ranch, 18.94 329 ⇑P **Pn 20 23 10.7 -0.9**
baz=19
HELL Mitchell Peak 19.00 335 P **Pn 20 23 12.4 0.0**
baz=19,SNR=35
TIN Tinemaha 19.03 337 ⇑P **Pn 20 23 12.3 -0.4**
baz=19
PKD Parkfield 19.03 331 ⇑P **Pn 20 23 11.5 -1.3**
baz=19
R12A Pony Springs, 19.16 347 P **Pn 20 23 14.1 -0.2**
baz=19,SNR=25
U05C Westside ANR, 19.17 332 ⇑P **Pn 20 23 14.4 0.0**
baz=19
Q19A Hogan Spring (19.20 360 P **Pn 20 23 13.9 -0.9**
baz=19,SNR=72
Q16A Castle Valley 19.24 355 ⇑P **Pn 20 23 14.6 -0.6**
baz=19,SNR=6.6
S10A Tonopah Range, 19.28 342 ⇑P **Pn 20 23 15.3 -0.5**
baz=19
S09A Goldfield 19.29 340 ⇓P **Pn 20 23 15.4 -0.4**
baz=19
Q18A Rafter H Ranch 19.36 358 ⇑P **Pn 20 23 15.5 -1.2**
baz=19,SNR=32
SRU San Rafael 19.39 357 ⇓P **Pn 20 23 15.7 -1.3**
baz=19
S08C White Mtn Res 19.40 338 ⇑P **Pn 20 23 16.9 -0.3**
baz=19
R11A Troy Canyon, C 19.41 345 ⇑P **Pn 20 23 16.8 -0.5**
baz=19
MTUM Tungsten Hills 19.41 337 *e*P **Pn 20 23 16.7 -0.7**
V03C Hunter Liggett 19.42 329 ⇓P **Pn 20 23 16.6 -0.8**
baz=19
Q15A Fillmore 19.44 352 ⇓P **Pn 20 23 16.8 -0.9**
baz=19,SNR=8.8
U04C Hernandez Rese 19.49 331 ⇓P **Pn 20 23 17.3 -1.0**
baz=19,SNR=16
R10A Warm Springs 19.54 343 ⇓P **Pn 20 23 18.4 -0.4**
baz=19
Q14A Sevier Lake (B 19.55 350 P **Pn 20 23 18.3 -0.7**
baz=19,SNR=93
T06C Millerton Lake 19.56 334 P **Pn 20 23 17.3 -1.8**
baz=19,SNR=13
TPH Tonopah 19.61 341 *e*P **Pn 20 23 19.1 -0.6**
TPH pmax pmax
comp=Z,79nm,1.3s
TPH Tonopah 19.61 341 *e*P **Pn 20 23 19.1 -0.6**
comp=Z,79nm,1.3s
Q13A Wheeler Ranch, 19.65 349 ⇓P **Pn 20 23 18.9 -1.2**
baz=20
TEIG Tepich 19.65 85 P **Pn 20 23 20.2 -0.2**
comp=Z,0.7nm,0.3s,baz=305,slow=8.8,SNR=8.4
TEIG S S 20 27 00.8 +2.5
baz=344,slow=21,SNR=1.5
TEIG LR LR 20 31 16.1
comp=Z,2µm,20.5s,baz=262,slow=38
TEIG Tepich 19.65 85 *e*P **Pn 20 23 20.1 -0.2**
KCC Kaiser Creek 19.68 335 ⇓P **Pn 20 23 19.7 -0.8**
baz=20
R09A Tonopah 19.71 341 ⇓P **Pn 20 23 19.5 -1.4**
baz=20
MLAC Mammoth Lakes 19.76 337 ⇓P **Pn 20 23 20.6 -0.9**
baz=20
P17A Butcher Ranch, 19.76 356 ⇓P **Pn 20 23 20.0 -1.4**
baz=20,SNR=17
HAST Hastings Reser 19.87 329 ⇓P **Pn 20 23 22.8 0.0**
baz=20
P18A Preston Nutter 19.89 358 P **Pn 20 23 21.9 -1.0**
baz=20,SNR=68
Q12A Willow Creek R 19.89 347 P **Pn 20 23 22.0 -1.0**
baz=20,SNR=67
Q11A Duckwater 19.89 345 ⇓P **Pn 20 23 21.8 -1.2**
baz=20
P16A Fountain Green 19.97 354 ⇑P **Pn 20 23 22.9 -0.9**
baz=20
P15A Leamington 19.99 353 ⇑P **P 20 23 22.8 +0.6**
baz=20
Q10A Clear Creek Ra 20.07 343 ⇓P **P 20 23 24.0 +0.9**
baz=20
S05C Merced 20.11 333 ⇓P **P 20 23 22.8 -0.7**
baz=20
P14A Drum Mountains 20.11 351 ⇑P **P 20 23 24.5 +1.0**
baz=20
SAO San Andreas Ge 20.12 330 *e*P **P 20 23 23.3 -0.4**
SAO pmax pmax
comp=Z,26nm,1.0s
SAO San Andreas Ge 20.12 330 *e*P **P 20 23 23.2 -0.4**
comp=Z,26nm,1.0s
P13A Bates Ranch, G 20.13 349 ⇓P **P 20 23 24.4 +0.6**
baz=20
R08A Mina 20.14 339 ⇓P **P 20 23 24.7 +0.8**
baz=20
R07C Lee Vining 20.24 337 ⇓P **P 20 23 26.2 +1.2**
baz=20
PACP Pacheco Peak 20.25 331 ⇓P **P 20 23 25.0 0.0**
baz=20
ISCO Idaho Springs 20.27 8 *e*P **P 20 23 25.9 +0.6**
NVAR Mina Array Bea 20.28 339 P **P 20 23 25.6 +0.3**
comp=Z,70nm,1.1s,baz=170,slow=13,SNR=44
NVAR PKP2ab 21 01 38.1
comp=Z,2.4nm,1.1s,baz=151,slow=3.4,SNR=4.6
Q09A Carvers 20.30 342 ⇓P **P 20 23 25.9 +0.3**
baz=20
O18A Roosevelt 20.52 358 ⇑P **P 20 23 28.6 +0.7**
baz=20
O16A Springville 20.55 355 ⇓P **P 20 23 28.4 +0.2**
baz=20
Q08A Gabbs 20.55 340 ⇑P **P 20 23 29.3 +1.0**
baz=20
P11A Circle Ranch, 20.59 345 ⇓P **P 20 23 29.4 +0.7**
baz=20
S04C Ingram Canyon, 20.67 332 ⇑P **P 20 23 28.9 -0.8**
baz=21
O15A The Old Anders 20.71 353 ⇑P **P 20 23 31.2 +1.1**
baz=21
CMB Columbia Colle 20.72 334 *e*P **P 20 23 29.8 -0.3**
CMB pmax pmax
comp=Z,25nm,1.0s
CMB Columbia Colle 20.72 334 ⇓P **P 20 23 29.6 -0.5**
baz=21
CMB Columbia Colle 20.72 334 *e*P **P 20 23 29.8 -0.3**
comp=Z,25nm,1.0s
DAU Daniels Canyon 20.73 356 *e*P **P 20 23 30.5 +0.3**
BNLO Ben Lomond (Sa 20.76 330 ⇓P **P 20 23 30.1 -0.5**
baz=21
R06C Coleville 20.77 337 ⇑P **P 20 23 31.6 +0.9**
baz=21
O13A Hicks Ranch, I 20.79 350 ⇓P **P 20 23 31.6 +0.8**
baz=21
P10A Eureka 20.83 344 ⇓P **P 20 23 32.3 +1.0**
baz=21
Q07A Schurz 20.91 339 ⇑P **P 20 23 32.8 +0.6**
baz=21
P09A Austin 20.95 343 ⇓P **P 20 23 33.2 +0.6**
baz=21
WENL Wente Brothers 20.96 331 ⇑P **P 20 23 33.3 +0.5**
baz=21
JRSC Jasper Ridge 21.01 330 ⇓P **P 20 23 32.4 -0.8**
baz=21
O12A Currie 21.06 348 ⇑P **P 20 23 34.3 +0.6**
baz=21
O11A Cowboy Ranch, 21.12 346 ⇑P **P 20 23 35.0 +0.6**
baz=21
R04C Big Horse Ranc 21.13 334 ⇓P **P 20 23 34.3 -0.3**
baz=21
R05C Kirkwood Meado 21.17 336 ⇑P **P 20 23 35.6 +0.6**

baz=21
N16A Rees Ranch, Co 21.21 355 ⇓P P 20 23 36.2 +0.8
baz=21
N18A Larsen Ranch, 21.22 359 ⇓P P 20 23 35.8 +0.4
baz=21
N17A Moffit Pass 21.23 357 ⇑P P 20 23 35.9 +0.3
BDM Black Diamond 21.29 331 ⇑P P 20 23 36.8 +0.6
baz=21
N15A Stansbury Isla 21.32 353 ⇓P P 20 23 36.8 +0.3
baz=21
P08A Dixie Valley 21.36 341 ⇓P P 20 23 37.8 +0.8
baz=21
N14A Grayback Hills 21.37 352 ⇑P P 20 23 37.4 +0.4
baz=21
O10A Cortez Mining, 21.47 345 ⇓P P 20 23 38.6 +0.4
baz=21
LAVA Lava Cap Winer 21.48 335 ⇓P P 20 23 38.4 +0.2
baz=21
P07A Fallon 21.48 339 ⇓P P 20 23 39.4 +1.1
baz=21
N13A Wendover, West 21.53 350 ⇓P P 20 23 39.1 +0.3
baz=21
O09A Fish Creek Ran 21.54 343 ⇑P P 20 23 39.8 +0.9
WCN Washoe City 21.57 337 ⇓P P 20 23 40.1 +0.8
baz=21
FARB Farallon Islan 21.61 329 ⇑P P 20 23 38.9 -0.8
baz=22
ELK Elko 21.62 347 P P 20 23 40.0 +0.3
comp=Z,25nm,1.0s,mb4.6,baz=168,slow=8.7,SNR=66
M16A Huntsville 21.66 355 ⇓P P 20 23 40.3 +0.2
baz=22
N12A Clover Valley, 21.68 348 ⇓P P 20 23 40.7 +0.3
baz=22
TGUH Tegucigalpa,Un 21.68 102 eP P 20 23 44.0 +3.3
comp=Z,446nm,1.1s,mb5.8
N11A Elko Archery C 21.79 346 ⇑P P 20 23 41.6 0.0
baz=22
BMN Battle Mountai 21.79 343 eP P 20 23 42.0 +0.4
BMN pmax pmax
comp=Z,56nm,1.3s,mb4.8
BMN Battle Mountai 21.79 343 eP P 20 23 42.0 +0.3
comp=Z,56nm,1.3s,mb4.8
PAHR Pah Rah Range 21.80 338 eP P 20 23 42.6 +0.9
comp=Z,40nm,1.1s,mb4.8
Q04C Lincoln 21.81 334 ⇓P P 20 23 41.6 -0.2
baz=22
CVS Carmenet Viney 21.87 331 ⇑P P 20 23 42.1 -0.4
baz=22
N10A Dunphy 21.88 345 ⇓P P 20 23 42.6 0.0
baz=22
M15A Larsen Ranch, 21.88 353 ⇑P P 20 23 42.6 0.0
baz=22
P05C Yuba Gap, Truc 21.89 336 ⇑P P 20 23 43.3 +0.6
baz=22
MCCM Marconi Confer 21.91 330 ⇓P P 20 23 42.4 -0.5
baz=22
Q03C Winters 21.91 332 ⇑P P 20 23 43.5 +0.6
baz=22
O08A Rochester Mine 21.93 341 ⇑P P 20 23 43.0 0.0
baz=22
HWUT Hardware Ranch 21.94 355 eP P 20 23 43.5 +0.4
P06A Stead Airport, 21.96 337 ⇓P P 20 23 43.9 +0.6
baz=22
M13A Montello 22.02 350 ⇓P P 20 23 44.1 +0.1
baz=22
M14A Sheep Mountain 22.03 352 ⇑P P 20 23 44.1 -0.1
baz=22
O07A Toulon 22.04 340 ⇑P P 20 23 44.8 +0.5
baz=22
NSHM Saint Helena R 22.08 331 eP P 20 23 44.3 -0.4
M12A Wells 22.20 349 ⇓P P 20 23 46.2 +0.2
baz=22
N09A Rock Creek Ran 22.27 343 ⇑P P 20 23 46.7 +0.1
baz=22
OHCM Honcut 22.27 334 eP P 20 23 47.0 +0.2
BEKR Beckwourth 22.29 337 ⇑P P 20 23 47.4 +0.5
baz=22
MNRC McLaughlin Nat 22.30 332 ⇑P P 20 23 47.3 +0.2
baz=22
SUTB Sutter Butte 22.31 333 ⇑P P 20 23 47.1 0.0
baz=22
L16A Fish Haven 22.34 356 ⇓P P 20 23 46.9 -0.5
baz=22
O06A Flanigan 22.36 338 ⇑P P 20 23 48.2 +0.5
baz=22
N08A GE Springer Mi 22.37 342 ⇑P P 20 23 47.6 -0.2
baz=22
M11A Holland Ranch, 22.39 347 ⇓P P 20 23 48.6 +0.6
baz=22
L15A Malad City 22.41 354 ⇓P P 20 23 47.9 -0.3
baz=22
ORV Oroville 22.46 334 ⇑P P 20 23 49.4 +0.6
baz=22
L14A Malta 22.54 352 ⇓P P 20 23 49.6 0.0
baz=22
O05C Quincy 22.58 336 ⇑P P 20 23 50.4 +0.4
baz=22
N07B Gerlach 22.63 340 ⇓P P 20 23 50.5 0.0
baz=22
M10A I.L. Ranch, Tu 22.65 346 ⇑P P 20 23 51.2 +0.5
baz=22
HOPS Hopland 22.68 331 ⇑P P 20 23 51.4 +0.3
baz=23
HOPS Hopland 22.68 331 eP P 20 23 50.3 -0.7
comp=Z,118nm,1.4s,mb5.1
M09A Marrel Ranch, 22.78 344 ⇓P P 20 23 52.2 +0.1
baz=23
N06A Buffalo Meadow 22.88 339 ⇑P P 20 23 53.4 +0.2
baz=23
L12A House Creek Ra 22.93 349 ⇓P P 20 23 53.4 -0.2
baz=23
O04C Chester 22.96 336 ⇑P P 20 23 54.5 +0.5
baz=23
PDAR Pinedale Array 23.01 359 P P 20 23 53.5 -1.0
comp=Z,9.9nm,0.7s,mb4.3,baz=161,slow=9.4,SNR=64
PDAR PKP2ab 21 01 24.5
comp=Z,1.2nm,0.9s,baz=112,slow=1.6,SNR=4.4
K14A Jones Ranch, D 23.03 352 ⇓P P 20 23 54.0 -0.8
baz=23
O03C Acorn Hollow, 23.06 334 ⇓P P 20 23 54.7 -0.4
baz=23
GASB Alder Springs 23.06 333 ⇑P P 20 23 55.7 +0.6
baz=23
M08A Happy Creek Ra 23.06 342 ⇑P P 20 23 55.1 0.0
baz=23
ELFS Eagle Lake Fie 23.08 337 ⇓P P 20 23 55.6 +0.3
baz=23
L11A Cat Creek Ranc 23.09 347 ⇑P P 20 23 55.5 +0.2
baz=23
K15A Arbon 23.10 354 ⇑P P 20 23 55.2 -0.2
baz=23
L10A Juniper Basin 23.16 346 ⇑P P 20 23 56.1 0.0
baz=23
K16A Soda Springs 23.16 355 ⇑P P 20 23 55.8 -0.2
baz=23
P01C Double 8 Ranch 23.18 331 ⇑P P 20 23 56.2 -0.2
baz=23
M07A Soldier Meadow 23.24 341 ⇓P P 20 23 57.0 0.0
baz=23
K13A Stover Farm, H 23.26 351 ⇑P P 20 23 56.9 -0.2
baz=23
K12A Draper Farm, C 23.38 349 ⇑P P 20 23 58.2 -0.1
baz=23
L09A Wilkinson Ranc 23.39 344 ⇑P P 20 23 58.6 +0.1
baz=23
KCPM Cahto Peak 23.47 331 eP P 20 23 60.0 +0.8
M06C Likely Place G 23.51 338 ⇑P P 20 24 00.1 +0.5
baz=23
O02C Red Bluff 23.52 333 ⇑P P 20 23 59.3 -0.4
baz=23
KIPM Iron Peak 23.52 332 eP P 20 24 00.1 +0.3
HATC Hat Creek Radi 23.53 336 ⇓P P 20 23 59.2 -0.5
baz=23
J16A Bone 23.60 356 ⇓P P 20 24 00.6 +0.2
baz=24
K11A Parker Ranch, 23.73 347 ⇑P P 20 24 01.8 +0.2
baz=24
L08A Fields 23.74 343 ⇑P P 20 24 01.4 -0.2
baz=24
WDC Whiskeytown Da 23.76 334 eP P 20 23 59.7 -2.1
WDC pmax pmax
comp=Z,13nm,1.2s,mb4.2
WDC Whiskeytown Da 23.76 334 ⇓P P 20 24 00.5 -1.3
baz=24
WDC Whiskeytown Da 23.76 334 eP P 20 23 59.7 -2.1
comp=Z,13nm,1.2s,mb4.2

HALT Halls 23.78 43 eP P 20 24 02.1 0.0
L07A Adell 23.87 341 ⇑P P 20 24 03.3 +0.5
baz=24
M05C Lookout 23.89 337 ⇑P P 20 24 03.0 0.0
baz=24
DCID1 Drake Creek 23.89 356 eP P 20 24 03.7 +0.7
K10A MacKenzie Ranc 23.92 346 ⇓P P 20 24 03.2 0.0
baz=24
O01C Eel River Cons 23.95 331 ⇓P P 20 24 03.7 +0.2
baz=24
J13A Cove Ranch, Pi 24.01 351 ⇑P P 20 24 04.4 +0.3
baz=24
J12A Stokes Ranch, 24.01 349 ⇑P P 20 24 04.3 +0.2
baz=24
GLAT Glass 24.03 42 eP P 20 24 05.6 +1.2
WVOR Wild Horse Val 24.04 343 P P 20 24 04.4 0.0
K09A Rome 24.05 344 ⇑P P 20 24 04.3 -0.1
baz=24
MOD Modoc 24.07 339 ⇑P P 20 24 04.6 -0.1
baz=24
MOD Modoc 24.07 339 eP P 20 24 04.9 +0.2
comp=Z,87nm,1.2s,mb5.1
M03C McCloud 24.18 336 ⇓P P 20 24 05.6 0.0
baz=24
HLID Hailey 24.20 351 ⇓P P 20 24 06.2 +0.3
baz=24
K08A Mann Creek Ran 24.28 343 ⇑P P 20 24 06.8 +0.3
baz=24
N02C Big Bar 24.28 333 ⇑P P 20 24 06.6 0.0
baz=24
MFID Camas Ranch 24.30 348 ⇓P P 20 24 07.0 +0.3
baz=24
UTMT University of 24.34 43 P P 20 24 08.5 +1.2
L05A Lakeview 24.38 339 ⇑P P 20 24 08.1 +0.7
baz=24
K07A Rock Creek Ran 24.46 342 ⇑P P 20 24 08.5 +0.4
baz=24
I13A Wildhorse Cree 24.50 351 ⇑P P 20 24 09.5 +0.9
baz=24
M04C Macdoel 24.51 337 ⇑P P 20 24 08.1 -0.6
baz=24
J10A Berg Farm, Mel 24.51 347 ⇓P P 20 24 08.9 +0.3
baz=24
M02C Callahan 24.57 335 ⇓P P 20 24 08.9 -0.3
baz=24
JCC Jacoby Creek 24.59 332 ⇑P P 20 24 09.1 -0.3
baz=24
J09A Fry Pan Ranch, 24.66 345 ⇓P P 20 24 10.1 +0.1
baz=24
RSSD Black Hills 24.73 9 eP P 20 24 11.0 +0.3
RSSD pmax pmax
comp=Z,29nm,0.9s,mb4.8
RSSD Black Hills 24.73 9 eP P 20 24 11.0 +0.3
comp=Z,29nm,0.9s,mb4.8
YBH Yreka Blue Hor 24.80 335 P P 20 24 09.3 -2.0
comp=Z,5.1nm,1.0s,mb4.0,baz=170,slow=6.5,SNR=9.1
YBH Yreka Blue Hor 24.80 335 ⇑P P 20 24 11.2 -0.1
baz=25
I11A Placerville 24.81 348 ⇓P P 20 24 11.6 +0.3
baz=25
J08A Circle Bar Ran 24.86 344 ⇑P P 20 24 11.7 -0.1
baz=25
K06A Valley Falls 24.86 340 ⇓P P 20 24 12.0 +0.2
baz=25
L04A Klamath Falls 24.87 337 ⇑P P 20 24 11.6 -0.3
baz=25
YNR Norris Junctio 24.98 357 eP P 20 24 13.9 +1.0
K05A Summer Lake 25.00 339 ⇑P P 20 24 13.7 +0.6
baz=25
J07A Hines 25.10 342 ⇑P P 20 24 13.8 -0.2
baz=25
KRMB Red Mountain 25.11 333 eP P 20 24 13.7 -0.5
I10A Payette 25.15 347 ⇑P P 20 24 14.4 0.0
baz=25
K04A Chilquin 25.19 338 ⇑P P 20 24 14.7 -0.2
baz=25
H12A Diamond D Ranc 25.24 350 ⇑P P 20 24 15.7 +0.4
baz=25
J06A Christmas Vall 25.24 341 ⇑P P 20 24 15.2 -0.1
baz=25
I09A Lost Marbles R 25.25 345 ⇑P P 20 24 14.8 -0.6
baz=25
I08A Drewsey 25.40 344 ⇓P P 20 24 16.6 -0.1
baz=25
M01C Crescent City 25.47 333 ⇓P P 20 24 16.7 -0.8
baz=25
L02A Cave Junction 25.51 335 ⇓P P 20 24 17.6 -0.2
baz=25
G15A Dillon 25.55 355 ⇓P P 20 24 18.6 +0.5
baz=25
H11A Donnelly 25.58 349 ⇓P P 20 24 18.3 -0.1
baz=26
J05A Fort Rock 25.62 339 ⇓P P 20 24 19.0 +0.3
baz=26
H10A Noah's Angus R 25.62 347 ⇓P P 20 24 18.0 -0.7
baz=26
HUMO Hull Mountain 25.64 336 eP P 20 24 18.8 -0.2
comp=Z,11nm,1.2s,mb4.3
G13A Cobalt 25.68 352 ⇓P P 20 24 19.5 +0.3
baz=26
G14A Jackson 25.73 353 ⇑P P 20 24 19.9 +0.2
baz=26
I07A Izee 25.81 343 ⇑P P 20 24 20.2 -0.2
baz=26
KBO Bosley Butte 25.82 334 eP P 20 24 20.4 -0.1
I06A Prineville 25.89 342 ⇑P P 20 24 21.0 -0.1
baz=26
H09A Durkee 25.89 346 ⇓P P 20 24 20.6 -0.6
baz=26
K02A Glendale 25.98 335 ⇑P P 20 24 21.8 -0.3
baz=26
LCCM Lewis and Clar 26.17 356 P P 20 24 24.2 +0.5
F15A Butte 26.22 355 ⇓P P 20 24 23.9 -0.2
baz=26
F14A Wisdom 26.28 353 ⇓P P 20 24 24.5 -0.2
baz=26
H07A Lands Inn, Kim 26.30 343 ⇓P P 20 24 24.6 -0.2
baz=26
G11A Walters Elk Ra 26.30 349 ⇑P P 20 24 24.2 -0.7
baz=26
G10A Bishop Farm, J 26.37 347 ⇑P P 20 24 24.6 -0.9
baz=26
F13A Darby 26.37 352 ⇓P P 20 24 25.2 -0.3
baz=26
KEBM Edson Butte 26.41 334 eP P 20 24 26.4 +0.5
I05A Bend 26.41 340 ⇓P P 20 24 26.1 +0.2
baz=26
I04A Tendick Farm, 26.47 338 ⇑P P 20 24 25.3 -1.1
baz=26
F12A Elk City 26.48 350 ⇓P P 20 24 25.6 -0.9
baz=26
G09A Cove 26.50 346 ⇓P P 20 24 25.8 -0.9
baz=26
J02A Umpqua 26.52 336 ⇓P P 20 24 26.5 -0.4
baz=26
H06A Lindquist Farm 26.64 342 ⇑P P 20 24 27.5 -0.5
baz=26
F11A Grangeville 26.75 349 ⇓P P 20 24 28.0 -1.0
baz=27
G08A Pilot Rock 26.79 345 ⇑P P 20 24 28.5 -0.8
baz=27
E15A Deer Lodge 26.82 355 ⇑P P 20 24 29.2 -0.3
baz=27
E14A Clinton 26.89 353 ⇑P P 20 24 30.2 +0.1
baz=27
F09A S2 Ranch, Elgi 26.93 346 ⇑P P 20 24 29.8 -0.8
baz=27
I03A Eugene 26.93 337 ⇓P P 20 24 30.5 -0.1
baz=27
E13A Victor 27.00 352 ⇑P P 20 24 30.6 -0.5
baz=27
LAO LASA Array 27.04 4 eP P 20 24 31.5 0.0
comp=Z,31nm,0.7s,mb5.0
RNO Roman Nose 27.05 336 P P 20 24 32.4 +0.7
I02A Mapleton 27.16 336 ⇓P P 20 24 32.6 -0.1
baz=27
H04A Detroit Lake 27.17 339 ⇓P P 20 24 32.0 -0.7
baz=27
E11A Bogner Ranch, 27.22 349 ⇑P P 20 24 32.0 -1.1
baz=27
G05A Wamic 27.40 341 ⇑P P 20 24 34.4 -0.4
baz=27
D15A Lincoln 27.42 355 ⇓P P 20 24 34.6 -0.3
baz=27
TKL Tuckaleechee C 27.43 49 P P 20 24 34.1 -1.1
comp=Z,6.4nm,0.7s,mb4.3,baz=184,slow=4.4,SNR=6.6
H03A Soap Creek Ran 27.55 338 ⇓P P 20 24 35.9 -0.2
baz=27

D14A Greenough 27.55 354 ⇓P P 20 24 35.8 -0.3
baz=27
F07A Phinny Hill Vi 27.60 344 ⇑P P 20 24 36.3 -0.3
baz=28
D13A Huson 27.67 352 ⇓P P 20 24 36.3 -0.9
baz=28
F06A Goldendale 27.71 342 ⇓P P 20 24 37.2 -0.4
baz=28
E09A Wood Farm, Sta 27.75 347 ⇑P P 20 24 36.3 -1.6
baz=28
H02A Toledo 27.80 337 ⇑P P 20 24 37.2 -1.2
baz=28
D11A Klaveano Farm, 27.91 350 ⇓P P 20 24 38.4 -0.8
baz=28
F05A White Salmon 28.02 342 ⇓P P 20 24 39.9 -0.4
baz=28
D10A Wagner Farm, O 28.09 348 ⇓P P 20 24 39.6 -1.2
baz=28
G03A Yamhill 28.10 339 ⇓P P 20 24 40.3 -0.7
baz=28
HEBO Mount Hebo 28.18 338 eP P 20 24 42.0 +0.3
comp=Z,44nm,1.2s,mb5.0
E07A Sunnyside 28.20 344 ⇑P P 20 24 41.8 -0.1
baz=28
C14A Swan Lake 28.25 353 ⇓P P 20 24 41.5 -0.8
baz=28
C13A Hot Springs 28.26 352 ⇑P P 20 24 41.4 -1.0
baz=28
EGMT Eagleton 28.27 359 eP P 20 24 41.7 -0.7
F04A Amboy 28.36 340 ⇓P P 20 24 42.8 -0.5
baz=28
D08A Wollman Farm, 28.44 346 ⇑P P 20 24 43.2 -0.8
baz=28
E06A Yakima 28.48 343 ⇓P P 20 24 44.4 0.0
baz=28
E05A Randle 28.72 342 ⇓P P 20 24 46.7 +0.1
baz=29
D07A Quincy 28.82 345 ⇓P P 20 24 47.5 +0.1
baz=29
C10A Spilker Farm, 28.83 349 ⇑P P 20 24 46.9 -0.5
baz=29
B13A Whitefish 28.93 353 ⇓P P 20 24 47.8 -0.6
baz=29
C09A Chrisman Ranch 29.00 347 ⇓P P 20 24 48.5 -0.4
baz=29
D06A Cle Elum 29.04 343 ⇓P P 20 24 49.6 +0.2
baz=29
E04A Onalaska 29.04 341 ⇓P P 20 24 49.9 +0.5
baz=29
C08A Higginbotham F 29.15 346 ⇓P P 20 24 49.8 -0.5
baz=29
B12A Libby 29.17 351 ⇓P P 20 24 50.1 -0.5
baz=29
B11A Sandpoint 29.26 350 ⇓P P 20 24 50.7 -0.5
baz=29
E03A Lebam 29.27 339 ⇓P P 20 24 51.2 -0.3
baz=29
B10A Chitwood Farm, 29.27 349 ⇓P P 20 24 51.2 -0.3
baz=29
C07A Waterville 29.30 345 ⇓P P 20 24 51.5 -0.2
baz=29
D05A Enumclaw 29.36 342 ⇑P P 20 24 52.0 -0.2
baz=29
D04A Dobbs Creek Ra 29.53 341 ⇑P P 20 24 53.5 -0.2
baz=29
WALA Waterton Lakes 29.55 354 eP P 20 24 53.0 -0.8
B09A Rice 29.57 348 ⇑P P 20 24 53.8 -0.2
baz=29
A12A Yaak River Ran 29.64 351 ⇓P P 20 24 54.3 -0.4
baz=30
C06A Tall Timber Ra 29.73 344 ⇑P P 20 24 54.8 -0.6
baz=30
C05A Tolt Reservoir 29.73 343 ⇓P P 20 24 54.9 -0.5
baz=30
B08A Colville Reser 29.76 346 ⇓P P 20 24 55.6 -0.1
baz=30
A11A Hall Mountain, 29.77 350 ⇑P P 20 24 55.3 -0.4
baz=30
D03A Wishkah Elem. 29.84 340 ⇑P P 20 24 55.9 -0.5
baz=30
GNW Green Mountain 29.94 341 eP P 20 24 56.9 -0.4
comp=Z,12nm,1.1s,mb4.5
A10A Northport 29.99 349 ⇓P P 20 24 57.6 -0.2
baz=30
B07A Winthrop 30.03 345 ⇓P P 20 24 58.0 -0.2
baz=30
NLWA Neilton Lookou 30.11 340 ⇓P P 20 24 58.9 0.0
baz=30
NLWA Neilton Lookou 30.11 340 eP P 20 24 59.2 +0.3
comp=Z,7.3nm,0.8s,mb4.5
C04A Brinnon 30.12 341 ⇓P P 20 24 58.2 -0.7
baz=30
A09A Danville 30.18 348 ⇓P P 20 24 58.9 -0.5
baz=30
A08A Turner Farm, O 30.30 347 ⇓P P 20 24 59.9 -0.6
baz=30
B05A Bryant 30.36 343 ⇑P P 20 25 00.2 -0.8
baz=30
B06A Marblemount 30.43 344 ⇑P P 20 25 01.1 -0.5
baz=30
B04A Port Angeles 30.59 341 ⇓P P 20 25 02.8 -0.3
baz=30
A07A Ashnola River, 30.64 345 ⇑P P 20 25 03.2 -0.4
baz=30
C03A Quillayute Air 30.83 340 ⇑P P 20 25 05.6 +0.4
baz=31
A04A Legoe Bay, Lum 30.95 342 ⇑P P 20 25 05.9 -0.3
baz=31
A06A Chilliwack 30.96 344 ⇑P P 20 25 05.9 -0.4
baz=31
A05A Maple Falls 31.03 343 ⇓P P 20 25 06.3 -0.6
baz=31
ULM Lac du Bonnet 32.27 16 P P 20 25 16.6 -1.2
comp=Z,24nm,0.9s,mb5.0,baz=211,slow=8.3,SNR=15
BBB Bella Bella 35.64 340 P P 20 25 44.6 -2.4
comp=Z,4.2nm,0.8s,mb4.4,baz=321,slow=6.5,SNR=2.9
OTAV Otavalo 35.77 119 eP P 20 25 52.6 +4.0
comp=Z,112nm,1.3s,mb5.6
ROSC El Rosal 36.99 109 P P 20 26 01.1 +2.0
comp=Z,5.5nm,0.5s,mb4.7,baz=272,slow=20,SNR=5.4
SDV Santo Domingo 38.77 101 P P 20 26 16.8 +2.7
comp=Z,76nm,0.8s,mb5.5,baz=313,slow=3.2,SNR=81
AOPR Arecibo Observ 40.05 85 eP P 20 26 26.8 +2.1
comp=Z,16nm,0.9s,mb4.8
ATAH Atahualpa 40.27 128 P P 20 26 30.7 +4.2
comp=Z,23nm,0.8s,mb4.9,baz=322,slow=6.7,SNR=15
SJG San Juan 40.66 85 eP P 20 26 30.5 +0.7
SJG pmax pmax
comp=Z,64nm,0.9s
SJG San Juan 40.66 85 eP P 20 26 30.5 +0.7
comp=Z,64nm,0.9s,mb5.3
CPD Cerro la Pandu 40.89 85 eP P 20 26 31.4 -0.3
CPD pmax pmax
comp=Z,68nm,0.9s,mb5.3
CPD Cerro la Pandu 40.89 85 eP P 20 26 31.4 -0.2
comp=Z,68nm,0.9s,mb5.3
MTP Monte Pirata 41.22 85 eP P 20 26 35.0 +0.6
DLBC Dease Lake 41.58 344 P P 20 26 37.8 +1.0
baz=163,slow=6.9
YKA Yellowknife Ar 42.93 356 P P 20 26 46.6 -1.1
comp=Z,15nm,0.8s,mb4.8,baz=171,slow=7.9,SNR=65
YKA PKP2ab 20 59 56.5
comp=Z,1.9nm,0.7s,baz=98,slow=5.1,SNR=9.2
NNA Nana 44.77 132 eP P 20 27 06.4 +3.3
comp=Z,57nm,1.2s,mb5.3
HYT Haines Junctio 45.70 341 eP P 20 27 11.1 +1.2
SCHQ Schefferville 47.46 32 P P 20 27 23.6 -0.2
comp=Z,7.3nm,0.8s,mb4.7,baz=242,slow=6.8,SNR=8.1
INK Inuvik 50.94 349 P P 20 27 50.2 0.0
comp=Z,46nm,0.9s,mb5.4,baz=152,slow=8.6,SNR=61
INK Inuvik 50.94 349 P P 20 27 50.2 0.0
LPAZ La Paz 53.91 129 P P 20 28 15.6 +2.7
comp=Z,13nm,0.8s,mb4.9,baz=331,slow=7.5,SNR=63
LCO Las Campanas 61.02 141 eP P 20 29 05.4 +2.7
comp=Z,39nm,1.2s,mb5.4
CPUP Villa Florida 68.00 130 P P 20 29 50.0 +1.6
comp=Z,12nm,0.8s,mb5.0,baz=295,slow=6.4,SNR=26
CPUP Villa Florida 68.00 130 eP P 20 29 49.9 +1.5
CPUP pmax pmax
comp=Z,62nm,0.9s
CPUP Villa Florida 68.00 130 eP P 20 29 49.9 +1.5
comp=Z,62nm,0.9s,mb5.6
BDFB Brasilia 69.63 116 P P 20 30 00.5 +1.7
comp=Z,13nm,0.9s,mb4.8,baz=282,slow=12,SNR=19
PLCA Paso Flores 70.02 150 eP P 20 30 05.1 +4.4
PLCA pmax pmax
comp=Z,13nm,1.1s
PLCA Paso Flores 70.02 150 eP P 20 30 05.1 +4.4

comp=Z,13nm,1.1s,mb4.8
DAG Danmarks Havn 71.10 14⇓ *i*P **P 20 30 06.0 -0.8**
DAG pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
DAG Danmarks Havn 71.10 14⇓ *i*P **P 20 30 06.0 -0.8**
comp=Z,4.7nm,0.6s,mb4.6
SPB Sao Paulo 73.98 123 *e*P **P 20 30 26.5 +1.7**
ARCES ARCESS Array B 85.38 15 P **P 20 31 25.6 -0.3**
comp=Z,5.7nm,0.6s,mb4.9,baz=323,slow=3.5,SNR=52
EVO Evora 86.29 50 *e*P **P 20 31 33.8 +2.8**
comp=Z,18nm,0.9s,mb5.0
TCF Toulx Ste Croi 89.82 40 *e*P **P 20 31 53.0 +5.3**
comp=Z,12nm,1.0s,mb4.9
TCF Toulx Ste Croi 89.82 40 *e*P **P 20 31 53.0 +5.3**
TCF pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
TCF Toulx Ste Croi 89.82 40 *e*P **P 20 31 53.0 +5.3**
comp=Z,6.3nm,1.0s,mb4.9
SSF Saint Saulge 90.23 39 *e*P **P 20 31 54.9 +5.4**
comp=Z,8.9nm,0.9s,mb4.8
SSF Saint Saulge 90.23 39 *e*P **P 20 31 54.9 +5.4**
SSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SSF Saint Saulge 90.23 39 *e*P **P 20 31 54.9 +5.4**
comp=Z,4.4nm,0.9s,mb4.8
LOR Lormes 90.33 39 *e*P **P 20 31 56.3 +6.3**
comp=Z,16nm,0.9s,mb5.1
LOR Lormes 90.33 39 *e*P **P 20 31 56.3 +6.3**
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
LOR Lormes 90.33 39 *e*P **P 20 31 56.3 +6.3**
comp=Z,8.1nm,0.9s,mb5.0
MDJ Mudanjiang 96.58 322 P **P 20 32 18.8 0.0**
MDJ AMB AMB
comp=Z,16nm,1.0s,mb5.4
TORD Torodi Ar. Bea 104.55 70 PKiKP PKiKP 20 37 12.9 +2.0
comp=Z,2.0nm,0.8s,baz=347,slow=3.2,SNR=5.6
PMG Port Moresby 105.91 266 *e*P Pdif 20 33 03.6 +3.4
comp=Z,481nm,1.3s
HHC Hu-ho-hao-te 108.87 328 *e*PDIF Pdif 20 33 15.8 +2.4
HHC PP PP 20 37 50.3 +5.6
HHC S Sdif 20 45 16.9 -2.5
HHC SS SS 20 52 59.6 +0.1
WMQ Urumqi 114.93 347 *e*PKP PKiKP 20 37 32.0 +2.2
LZH Lanzhou 116.33 330 *e*PKP PKPdf 20 37 35.3 +2.6
CD2 Chengdu 120.56 327 *e*PKP PKPdf 20 37 42.5 +1.5
WRA Warramunga Arr 120.59 258 PKP PKPdf 20 37 40.9 -0.3
comp=Z,1.8nm,0.6s,baz=79,slow=2.3,SNR=3.7
GYA Guiyang 122.43 322 PDIF Pdif 20 34 15.3 +1.6
GYA PKP PKPdf 20 37 45.8 +1.1
GYA PP PP 20 39 25.0 +4.7
GYA PKS 20 41 20.4
GYA SKS SKSdf 20 44 51.8 -1.9
GYA SKKS SKKSac 20 46 12.0 -5.4
GYA PP PP
comp=Z,120nm,7.8s
GYA LR LR
comp=N,170nm,20.8s
GYA LR LR
comp=E,280nm,21.5s
GYA LR LR
comp=Z,160nm,20.1s
KMI Kunming 125.70 324 PKP PKPdf 20 37 49.8 -1.2
MBWA Marble Bar 134.29 259 *e*P Pdif 20 35 10.1 +3.7
PSI Prapat 144.48 306 PKP PKPdf 20 38 25.1 -1.0
comp=Z,29nm,1.1s,baz=9.6,slow=4.7,SNR=4.5

BJI ***15*** *20:22:08.0, 50.23N×177.70W, h12km, mB6.7, mb6.2, Ms6.4, Msz6.0*
IDC ***15*** *20:22:10.4±1.1, 50.39N×177.56W, h5km±5km, mb5.9/42, mb1 6.0/43, mb1mx6.0/43, mbtmp5.9/43, ML5.1/1, MS6.1/32, Ms1 6.1/32, ms1mx6.0/42, Error ellipse: s-maj=8.8km s-min=5.3km az=159.0*
ISCJB ***15*** *20:22:11.0±0.1, 50.26N±.002×177.55W±.001, h18km, mb6.2/387, MS6.2/203, Error ellipse: s-maj=2.9km s-min=1.3km az=7.5*
GCMT ***15*** *20:22:11.1±0.1, 50.28N×177.69W, h12km, MW6.5/113, Moment Tensor Solution. s106,c245; s113,c481; Duration: 4s2 Moment tensor: Scale 10^18^Nm; Mrr=5.87±.03; Mθθ=6.40±.03; Mφφ=-0.53±.03; Mrθ=1.13±.08; Mθφ=0.15±.03; Mφr=0.46±.08; Best double couple: M0=6.25900×10^18^ NP1:φs=264.00000°, δ=40.00000°, λ=-98.00000°. NP2:φs=94.00000°, δ=50.00000°, λ=-84.00000°. Principal axes: T 6.5050, Plg=5.0000°, Azm=179.0000°; N -0.4920, Plg=5.0000°, Azm=270.0000°; P -6.0140, Plg=83.0000°, Azm=43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***15*** *20:22:11.1±0.1, 50.32N×177.55W, h9km, mb6.3/233, ME6.8, MS6.2/121, ML5.9(AEIC) Error ellipse: s-maj=3.0km s-min=1.9km az=186.0 Broadband fault plane solution: P waves. NP1:φs=21.00000°, δ=62.00000°, λ=-157.00000°. NP2:φs=280.00000°, δ=70.00000°, λ=-30.00000°. Principal axes: T Plg=5.0000°, Azm=332.0000°; N Plg=0.0000°, Azm=0.0000°; P Plg=35.0000°, Azm=238.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt on Adak.
MOS ***15*** *20:22:13.3±1.0, 50.31N×177.57W, h33km, mb6.6/107, MS6.2/82 Error ellipse: s-maj=6.1km s-min=3.6km az=96.2*
BGS ***15*** *20:22:14.0, 50.77N×178.02W, h8km, mb6.6*
IGIL ***15*** *20:22:15.9, 50.57N×177.51W, h21km, MS6.3*
SZGRF ***15*** *20:22:17.4, 50.30N×178.78W, h52km, mb6.5, MS6.3, Andreanof Islands, Aleutian Islands, United States*
DJA ***15*** *20:22:34, 50.17N×178.12W, h185km, Mwp6.4/48*
ISC 15 20:22:13.0±0.1, 50.34N±.002×177.58W±.001, h19km, h19km±1.3km; pP-P, n1912, σ0.82/1852, mb6.2/387, MS6.2/203, 226C-444D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**2.24**	**299**	P	**Pn**	**20 22 47.6**	**-1.4**
AMKA				S	**Sn**	**20 23 14.9**	**-1.2**
SMY	**Shemya**	**5.72**	**298**	P	**Pn**	**20 23 36.3**	**-0.5**
SMY				S	**Sn**	**20 24 41.3**	**-0.6**
NIKO	**Nikolski**	**6.04**	**61**	P	**Pn**	**20 23 39.7**	**-1.5**
NIKO				S	**Sn**	**20 24 47.4**	**-2.3**
FX1	**Attu Island--F**	**6.31**	**297**	P	**Pn**	**20 23 44.5**	**-0.4**
OKCD	**Okmok Cone D**	**6.63**	**58**	P	**Pn**	**20 23 49.2**	**0.0**
UNV	**Unalaska Valle**	**7.67**	**58**	P	**Pn**	**20 24 03.1**	**-0.4**
UNV				S	**Sn**	**20 25 26.7**	**-3.2**
AKLV	**Akutan Long Va**	**8.09**	**57**	P	**Pn**	**20 24 08.3**	**-1.0**
SPIA	**Saint Paul Isl**	**8.11**	**30**	P	**Pn**	**20 24 11.2**	**+1.6**
FALS	**False Pass**	**9.73**	**57**	*e*Pn	**Pn**	**20 24 31.0**	**-0.7**
SDPT	**Sand Point**	**11.48**	**58**	*e*Pn	**Pn**	**20 24 53.5**	**-2.3**
CHGN	**Chignik**	**12.90**	**55**	*e*Pn	**Pn**	**20 25 12.9**	**-2.1**
PET	**Petropavlovsk**	**14.97**	**290**	*i*P	**Pn**	**20 25 43.2**	**-0.2**
PET				pmax	pmax		
	comp=Z,13μm,6.7s						
PET				pmax	pmax		
	comp=Z,30μm,5.3s						
PET				pmax	pmax		
	comp=Z,1μm,1.3s						
PET				pmax	pmax		
	comp=E,33μm,5.3s						
PET				pmax	pmax		
	comp=E,985nm,1.4s						
PET				MLR	MLR		
	comp=Z,35μm,17.0s						
PET				MLR	MLR		
	comp=Z,28μm,16.0s						
PET	**Petropavlovsk**	**14.97**	**290**	*e*Pn	**Pn**	**20 25 43.5**	**+0.1**
PETK	**Petropavlovsk-**	**15.55**	**290**	Pn	**Pn**	**20 25 50.4**	**-0.5**
	comp=Z,7.3nm,0.3s,baz=85,slow=17,SNR=130						
PETK				Sn	**Sn**	**20 28 35.4**	**-7.1**
	comp=Z,2.9nm,0.3s,baz=98,slow=20,SNR=3.5						
PETK	**Petropavlovsk-**	**15.55**	**290**	Pn	**Pn**	**20 25 50.4**	**-0.5**
PETK				Sn	**Sn**	**20 28 35.4**	**-7.1**
OHAK	**Old Harbor**	**15.87**	**55**	*e*Pn	**Pn**	**20 25 49.8**	**-5.2**
	comp=Z,1μm,0.8s						
SVW2	**Sparrevohn**	**16.33**	**40**	*e*Pn	**Pn**	**20 26 00.5**	**-0.4**
KDAK	**Kodiak Island**	**16.39**	**53**	Pn	**Pn**	**20 25 56.2**	**-5.4**
	comp=Z,23nm,0.3s,baz=261,slow=5.2,SNR=62						
KDAK				Sn	**Sn**	**20 28 59.9**	**-2.9**
	comp=Z,25nm,0.3s,baz=312,slow=5.0,SNR=6.0						
KDAK	**Kodiak Island**	**16.39**	**53**	*e*P	**Pn**	**20 25 56.1**	**-5.6**
KDAK				pmax	pmax		
	comp=Z,864nm,0.7s						
KDAK	**Kodiak Island**	**16.39**	**53**	*e*Pn	**Pn**	**20 25 56.1**	**-5.6**
	comp=Z,864nm,0.7s						
SKR	**Severo-Kuril's**	**16.71**	**281**	*e*P	**Pn**	**20 26 06.0**	**+0.1**
SKR				pmax	pmax		
	comp=Z,1μm,1.0s						
SKR				pmax	pmax		
	comp=N,12μm,6.0s						
SKR				pmax	pmax		
	comp=E,36μm,6.0s						
SKR				pmax	pmax		
	comp=Z,38μm,6.0s						
SKR				MLR	MLR		
	comp=N,46μm,18.0s						
SKR				MLR	MLR		
	comp=E,48μm,18.0s						
SKR				MLR	MLR		
	comp=Z,39μm,18.0s						
TTA	**Tatalina**	**17.20**	**35**	*e*P	**Pn**	**20 26 11.2**	**-0.6**
SLKM	**Skilak Lake**	**18.42**	**46**	P	**Pn**	**20 26 24.4**	**-2.6**
SLKM	**Skilak Lake**	**18.42**	**46**	*e*P	**Pn**	**20 26 24.2**	**-2.7**
RC01	**Rabbit Creek A**	**18.86**	**45**	*e*P	**Pn**	**20 26 30.6**	**-1.7**
	comp=Z,27nm,1.2s						
CHUM	**Lake Minchumin**	**19.11**	**35**	*e*P	**Pn**	**20 26 34.3**	**-0.9**
	comp=Z,2μm,0.5s						
PMR	**Palmer**	**19.32**	**44**	*e*P	**Pn**	**20 26 37.2**	**-0.6**
KTH	**Kantishna Hill**	**19.46**	**37**	*e*P	**Pn**	**20 26 37.2**	**-2.3**
	comp=Z,26nm,1.2s						
BILL	**Bilibino**	**19.47**	**342**	*d i*P	**Pn**	**20 26 38.7**	**-0.8**
BILL				*e*S	**Sn**	**20 30 22.0**	**+4.9**
BILL				pmax	pmax		
	comp=Z,3μm,1.3s						
BILL				MLR	MLR		
	comp=Z,34μm,16.0s						
BILL	**Bilibino**	**19.47**	**342**	*i* P	**Pn**	**20 26 38.8**	**-0.7**
IMA2	**Indian Mountai**	**19.96**	**29**	*e*Pn	**Pn**	**20 26 43.1**	**-2.3**
MCK	**McKinley**	**20.32**	**38**	*e*P	**P**	**20 26 45.6**	**-2.0**
EYAK	**Cordova Ski Ar**	**20.53**	**48**	*e*P	**P**	**20 26 48.5**	**-1.4**
	comp=Z,245nm,0.6s						
SEY	**Seymchan**	**20.54**	**319⇑**	*e*P	**P**	**20 26 50.2**	**+0.2**
SEY	**Seymchan**	**20.54**	**319⇑**	*e*P	**P**	**20 26 50.3**	**+0.3**
DIV	**Divide**	**20.69**	**46**	*e*Pn	**P**	**20 26 51.2**	**-0.3**
BMRM	**Bremner River**	**21.19**	**47**	*e*P	**P**	**20 26 57.6**	**+0.6**
COLA	**College**	**21.28**	**36**	*c i*P	**P**	**20 26 57.1**	**-0.9**
COLA	**College**	**21.28**	**36⇑**	*i*P	**P**	**20 26 57.2**	**-0.8**
COLA				LR	LR		
	comp=Z,97μm,19.0s,MS6.2						
MIDW	**Midway**	**22.09**	**180**	*e*P	**P**	**20 27 04.6**	**-2.3**
	comp=Z,1μm,1.1s,mb6.3						
EGAK	**Eagle**	**23.85**	**39**	*e*P	**P**	**20 27 22.9**	**-1.8**
	comp=Z,974nm,1.2s,mb6.1						
EGAK				LR	LR		
	comp=Z,102μm,21.0s,MS6.3						
YUK	**Yuzh-Kuril'sk**	**25.45**	**270⇓**	*i*P	**P**	**20 27 39.0**	**-0.4**
YUK				*e*		20 28 28.0	
YUK				*e*		20 31 10.0	
YUK				*i* S	**S**	**20 32 06.0**	**+0.7**
YUK				pmax	pmax		
	comp=E,23μm,5.0s						
YUK				pmax	pmax		
	comp=Z,42μm,5.0s						
YUK				pmax	pmax		
	comp=N,10μm,6.0s						
YUK				pmax	pmax		
	comp=Z,2μm,0.9s,mb6.7						
YUK				pmax	pmax		
	comp=N,1μm,0.7s						
YUK				pmax	pmax		
	comp=E,9μm,1.4s						
YUK				smax			
	comp=E,36μm,9.0s						
YUK				smax			
	comp=N,37μm,7.0s						
YUK				MLR	MLR		
	comp=Z,22μm,16.0s,MS5.8						
YUK				MLR	MLR		
	comp=N,19μm,13.0s,MS6.0						
YUK				MLR	MLR		
	comp=E,21μm,12.0s,MS6.0						
SKAG	**Skagway**	**25.54**	**53**	*e*P	**P**	**20 27 40.8**	**+0.6**
SIT	**Sitka**	**25.56**	**58**	*e*P	**P**	**20 27 41.1**	**+0.8**
YSS	**Yuzh-Sakhalins**	**26.21**	**278**	*i*P	**P**	**20 27 47.0**	**+0.7**
YSS				*e*PPP		20 28 38.0	
YSS				*e*S	**S**	**20 32 15.0**	**-2.3**
YSS				pmax	pmax		
	comp=Z,1μm,1.1s,mb6.3						
YSS				pmax	pmax		
	comp=Z,16μm,8.0s						
YSS				MLR	MLR		
	comp=Z,25μm,19.0s,MS5.8						
YSS				MLR	MLR		
	comp=N,22μm,17.0s,MS5.8						
YSS				MLR	MLR		
	comp=E,14μm,17.0s,MS5.8						
CRAG	**Craig**	**26.93**	**62**	*e*P	**P**	**20 27 54.5**	**+1.8**
WRAK	**Wrangell Islan**	**27.25**	**60**	*e*P	**P**	**20 27 57.2**	**+1.7**
	comp=E,377nm,1.3s,mb5.8						
ASAJ	**Asahikawa**	**27.50**	**272**	P	**P**	**20 27 58.4**	**+0.4**
	comp=E,258nm,0.9s,mb5.8,baz=41,slow=6.0,SNR=27						
ASAJ				PcP	PcP	20 31 15.8	+0.1
	comp=E,104nm,1.1s,baz=270,slow=3.0,SNR=3.7						
ASAJ				S	**S**	**20 32 40.4**	**+2.7**
	comp=E,12nm,0.9s,baz=211,slow=19,SNR=2.0						
ASAJ				LR	LR	20 38 45.5	
	comp=E,18μm,18.3s,MS5.7,baz=60,slow=36						
ASAJ	**Asahikawa**	**27.50**	**272**	P	**P**	**20 27 58.4**	**+0.4**
ASAJ						20 31 15.8	
ASAJ				S	**S**	**20 32 40.4**	**+2.7**
ASAJ				pmax	pmax		
	comp=Z,258nm,0.9s						
ASAJ				smax			
	comp=N,12nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,18μm,18.3s						
VIB	**Van Inlet**	**27.66**	**66**	P	**P**	**20 28 00.2**	**+0.9**
	SNR=396						
VIB				T		20 57 12.6	
	SNR=2.8						
DIB	**Dawson Inlet,**	**27.70**	**66**	P	**P**	**20 28 00.4**	**+0.7**
DIB				T		20 57 10.5	
INK	**Inuvik**	**27.89**	**34**	P	**P**	**20 28 00.7**	**-0.5**
	comp=Z,32nm,0.3s,mb5.4,baz=233,slow=5.3,SNR=66						
INK				PcP	PcP	20 31 14.6	-1.6
	comp=Z,64nm,1.1s,baz=294,slow=3.9,SNR=3.1						
INK				S	**S**	**20 32 43.0**	**-0.4**
	comp=Z,9.2nm,0.9s,baz=150,slow=20,SNR=2.5						
INK				LR	LR	20 39 50.4	
	comp=Z,46μm,20.2s,MS6.0,baz=238,slow=38						
INK				P3KPbc		21 00 24.9	
	comp=Z,8.1nm,1.1s,baz=44,slow=4.8,SNR=10.0						
INK	**Inuvik**	**27.89**	**34**	P	**P**	**20 28 00.7**	**-0.5**
INK						20 31 14.6	
INK				S	**S**	**20 32 43.0**	**-0.3**
INK	**Inuvik**	**27.89**	**34**	P	**P**	**20 28 00.7**	**-0.5**
INK				PcP	PcP	20 31 14.6	-1.6
INK				S	**S**	**20 32 43.0**	**-0.4**
INK				LR	LR	20 39 50.4	
INK				*e*		21 00 24.9	
DLBC	**Dease Lake**	**28.31**	**55**	P	**P**	**20 28 06.2**	**+1.1**
	baz=271,slow=7.7						
DLBC				PcP	PcP	20 31 16.4	-1.0
	baz=332,slow=2.6						
DLBC				S	**S**	**20 32 46.6**	**-3.5**
	baz=358,slow=17						
DLBC	**Dease Lake**	**28.31**	**55**	P	**P**	**20 28 06.2**	**+1.1**
DLBC				PcP	PcP	20 31 16.4	-1.0
DLBC				S	**S**	**20 32 46.6**	**-3.5**
BBB	**Bella Bella**	**30.53**	**67**	P	**P**	**20 28 25.5**	**+0.8**
	comp=Z,213nm,1.1s,mb5.9,baz=286,slow=9.5,SNR=29						
BBB				PcP	PcP	20 31 23.1	-0.1
	comp=Z,63nm,0.9s,baz=264,slow=6.2,SNR=4.3						
BBB				S	**S**	**20 33 28.5**	**+3.4**
	comp=Z,4.3nm,0.9s,baz=319,slow=17,SNR=1.2						
BBB	**Bella Bella**	**30.53**	**67**	P	**P**	**20 28 25.5**	**+0.8**
BBB				PcP	PcP	20 31 23.1	-0.1
BBB				S	**S**	**20 33 28.5**	**+3.4**
YAK	**Yakutsk**	**30.69**	**313**	*c i*P	**P**	**20 28 25.1**	**-1.0**
YAK				*e*PP	pP	20 28 38.2	+6.3
YAK				*e*PPP		20 29 35.1	
YAK				*e*		20 31 22.9	
YAK				*e*S	**S**	**20 33 23.8**	**-3.7**
YAK				pmax	pmax		
	comp=Z,693nm,1.1s,mb6.4						
YAK				pmax	pmax		
	comp=N,86nm,1.7s						
YAK				pmax	pmax		
	comp=E,557nm,1.4s						
YAK				smax			
	comp=N,3μm,2.4s						
YAK				smax			
	comp=E,3μm,2.1s						
YAK				MLR	MLR		
	comp=Z,37μm,22.0s,MS6.0						
YAK				MLR	MLR		
	comp=N,24μm,15.0s						
YAK				MLR	MLR		
	comp=E,30μm,18.0s						
YAK	**Yakutsk**	**30.69**	**313**	*e*P	**P**	**20 28 24.7**	**-1.4**
TIXI	**Tiksi**	**31.93**	**331**	*d i*P	**P**	**20 28 35.6**	**-1.3**
TIXI				*e*PPP		20 29 45.9	
TIXI				*e*S	**S**	**20 33 40.4**	**-6.2**
TIXI				pmax	pmax		
	comp=Z,340nm,2.0s,mb5.8						
TIXI				pmax	pmax		
	comp=N,55nm,0.9s						
TIXI				pmax	pmax		
	comp=E,240nm,2.2s						
TIXI				pmax	pmax		
	comp=Z,6μm,13.1s						
TIXI				MLR	MLR		
	comp=Z,76μm,16.0s,MS6.5						
TIXI				MLR	MLR		
	comp=N,19μm,14.0s,MS6.0						
TIXI				MLR	MLR		
	comp=E,15μm,13.0s,MS6.0						
TIXI	**Tiksi**	**31.93**	**331**	*e*P	**P**	**20 28 35.0**	**-1.8**
	comp=E,261nm,1.1s,mb6.0						
KLR	**Kul'dur**	**32.23**	**288⇑**	*i*P	**P**	**20 28 35.3**	**-4.4**
KLR				*e*S	**S**	**20 33 55.5**	**+3.8**
KLR				pmax	pmax		
	comp=N,3μm,9.0s						
KLR				pmax	pmax		
	comp=E,4μm,9.0s						
KLR				pmax	pmax		
	comp=Z,8μm,9.0s						
KLR				MLR	MLR		
	comp=Z,19μm,17.0s,MS5.9						
KIP	**Kipapa**	**32.71**	**145⇓**	*i*P	**P**	**20 28 44.8**	**+0.6**
KIP	**Kipapa**	**32.71**	**145**	PFAKE		20 29 00.0	+16
KIP				LR	LR		
	comp=Z,49μm,20.0s,MS6.2						
HON	**Honolulu**	**32.81**	**145**	*e*P	**P**	**20 28 47.3**	**+2.2**
CLNS	**Chul'man**	**33.86**	**304**	*e*P	**P**	**20 28 52.9**	**-1.0**
C03A	**Quillayute Air**	**34.16**	**73**	⇓P	**P**	**20 28 57.3**	**+0.8**
	baz=34,SNR=22						
MAJO	**Matsushiro**	**34.41**	**264**	*e*P	**P**	**20 28 59.0**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,530nm,1.3s,mb6.3						
MAJO	**Matsushiro**	**34.41**	**264**	*e*P	**P**	**20 28 59.0**	**+0.1**
	comp=Z,530nm,1.3s,mb6.3						
MAT	**Matsushiro**	**34.41**	**264**	P	**P**	**20 28 59.1**	**+0.2**
MAT				S	**S**	**20 34 26.0**	**+0.1**
MJAR	**Matsushiro Arr**	**34.41**	**264**	P	**P**	**20 28 59.1**	**+0.2**
	comp=Z,127nm,1.2s,mb5.7,baz=50,slow=6.8,SNR=191						
MJAR				PcP	PcP	20 31 34.3	+0.2
	comp=Z,111nm,1.1s,baz=355,slow=0.4,SNR=12						
MJAR				S	**S**	**20 34 26.0**	**+0.2**
	comp=Z,4.3nm,1.0s,baz=213,slow=1.6,SNR=2.6						
MJAR				ScP	ScP	20 35 20.4	+2.4
	comp=Z,8.1nm,1.1s,baz=44,slow=2.4,SNR=4.2						
MJAR				LR	LR	20 42 01.0	
	comp=Z,15μm,18.5s,MS5.8,baz=65,slow=35						
MJAR				P3KPbc		21 00 00.1	
	comp=Z,1.1nm,0.8s,baz=218,slow=4.6,SNR=6.0						
MJAR	**Matsushiro Arr**	**34.41**	**264**	P	**P**	**20 28 59.1**	**+0.2**
MJAR						20 31 34.3	
MJAR				S	**S**	**20 34 26.1**	**+0.2**
MJAR	**Matsushiro Arr**	**34.41**	**264**	P	**P**	**20 28 59.1**	**+0.2**
MJAR				PcP	PcP	20 31 34.3	+0.2
MJAR				S	**S**	**20 34 26.1**	**+0.2**
MJAR				ScP	ScP	20 35 20.4	+2.4
MJAR				LR	LR	20 42 01.0	
MJAR				*e*		21 00 00.1	
PGC	**Sidney**	**34.55**	**71**	*e*P	**P**	**20 29 00.0**	**0.0**
	comp=Z,403nm,1.3s,mb6.2						
B04A	**Port Angeles**	**34.76**	**72**	⇓P	**P**	**20 29 02.6**	**+0.8**
	baz=34,SNR=11						
VLA	**Vladivostok**	**34.80**	**278**	*e*P	**P**	**20 28 58.8**	**-3.4**
NLWA	**Neilton Lookou**	**34.81**	**74**	⇑P	**P**	**20 29 03.2**	**+0.9**
	baz=35						
NLWA	**Neilton Lookou**	**34.81**	**74**	*e*P	**P**	**20 29 03.1**	**+0.8**
A04A	**Legoe Bay, Lum**	**34.97**	**71**	P	**P**	**20 29 04.7**	**+1.1**
	baz=35,SNR=21						
D03A	**Wishkah Elem.**	**34.99**	**74**	⇑P	**P**	**20 29 05.3**	**+1.5**
	baz=35						
POHA	**Pohakuloa**	**35.17**	**142**	*e*P	**P**	**20 29 06.0**	**+0.4**
	comp=Z,230nm,0.9s,mb6.1						
VDB	**Vedder Mountai**	**35.21**	**70**	P	**P**	**20 29 05.8**	**+0.1**
C04A	**Brinnon**	**35.23**	**73**	P	**P**	**20 29 06.5**	**+0.7**
	baz=35,SNR=34						
A05A	**Maple Falls**	**35.23**	**70**	P	**P**	**20 29 06.3**	**+0.4**
	baz=35,SNR=32						
E03A	**Lebam**	**35.37**	**75**	P	**P**	**20 29 07.8**	**+0.8**
	baz=35,SNR=18						
GNW	**Green Mountain**	**35.38**	**73**	P	**P**	**20 29 07.8**	**+0.6**
YKW3	**Yellowknife Ar**	**35.38**	**45**	*e*P	**P**	**20 29 07.2**	**+0.2**
YKA	**Yellowknife Ar**	**35.40**	**46**	P	**P**	**20 29 07.6**	**+0.5**
	comp=Z,173nm,1.0s,mb6.0,baz=278,slow=8.6,SNR=135						
YKA				PcP	PcP	20 31 37.5	+1.0
	comp=Z,38nm,0.9s,baz=288,slow=2.9,SNR=5.3						
YKA				S	**S**	**20 34 39.7**	**-0.8**
	comp=Z,4.0nm,0.9s,baz=59,slow=38,SNR=2.4						
YKA	**Yellowknife Ar**	**35.40**	**46**	*i* P	**P**	**20 29 07.5**	**+0.4**
YKA				pmax	pmax		
	comp=Z,173nm,1.0s						
YKA	**Yellowknife Ar**	**35.40**	**46**	P	**P**	**20 29 07.6**	**+0.5**
YKA				PcP	PcP	20 31 37.5	+1.0
YKA				S	**S**	**20 34 39.7**	**-0.8**
MDJ	**Mudanjiang**	**35.53**	**282**	P	**P**	**20 29 07.3**	**-1.1**
MDJ				AP	pP	20 29 13.4	-0.9
MDJ				XP	sP	20 29 16.1	-0.5
MDJ				PP	PP	20 30 27.6	-1.4
MDJ				AMB	AMB		
	comp=Z,88nm,1.2s,mb5.6						
MDJ				AMB	AMB		
	comp=Z,6μm,8.1s						
MDJ				LR	LR		
	comp=N,22μm,19.4s,MS5.9						
MDJ				LR	LR		
	comp=E,8μm,22.1s,MS5.9						
MDJ				LR	LR		
	comp=Z,22μm,17.9s,MS6.0						
MDJ	**Mudanjiang**	**35.53**	**282**	*e*P	**P**	**20 29 07.5**	**-1.0**
	comp=Z,258nm,0.9s,mb6.2						
B05A	**Bryant**	**35.53**	**71**	P	**P**	**20 29 08.6**	**+0.1**
	baz=35,SNR=65						
A06A	**Chilliwack**	**35.56**	**70**	⇓P	**P**	**20 29 08.7**	**0.0**
	baz=35,SNR=28						
D04A	**Dobbs Creek Ra**	**35.59**	**73**	⇑P	**P**	**20 29 09.9**	**+1.0**
	baz=35						
KHU	**Kahuku**	**35.60**	**143**	*e*P	**P**	**20 29 10.7**	**+1.4**
BMW	**Boistfort Moun**	**35.61**	**75**	*e*P	**P**	**20 29 09.8**	**+0.7**
F03A	**Seaside**	**35.65**	**76**	⇑P	**P**	**20 29 10.0**	**+0.5**
	baz=35,SNR=13						
JCW	**Jim Creek**	**35.66**	**71**	*e*P	**P**	**20 29 09.8**	**+0.3**
B06A	**Marblemount**	**35.80**	**71**	P	**P**	**20 29 10.7**	**0.0**
	baz=36,SNR=17						
RPW	**Rockport**	**35.81**	**71**	*e*P	**P**	**20 29 10.5**	**-0.3**
HEBO	**Mount Hebo**	**35.86**	**77**	*e*P	**P**	**20 29 12.1**	**+0.7**
	comp=Z,306nm,1.2s,mb6.1						
E04A	**Onalaska**	**35.87**	**74**	⇑P	**P**	**20 29 12.3**	**+0.9**
	baz=36						
H02A	**Toledo**	**35.96**	**78**	⇓P	**P**	**20 29 13.2**	**+1.0**
	baz=36,SNR=25						
C05A	**Tolt Reservoir**	**36.02**	**72**	P	**P**	**20 29 13.1**	**+0.4**
	baz=36,SNR=26						
D05A	**Enumclaw**	**36.06**	**73**	P	**P**	**20 29 14.0**	**+1.1**
	baz=36,SNR=30						
G03A	**Yamhill**	**36.11**	**76**	⇓P

COR pmax pmax
comp=Z,647nm,1.6s,mb6.3
COR MLR MLR
comp=Z,33µm,19.0s,MS6.1
COR Corvallis 36.44 78 *eP* **P 20 29 17.3 +1.0**
comp=Z,647nm,1.6s,mb6.3
COR LR LR
comp=Z,33µm,19.0s,MS6.1
E05A Randle 36.48 74 P **P 20 29 16.4 -0.1**
baz=36,SNR=38
K01A Sixes 36.59 81 P **P 20 29 18.3 +0.7**
baz=36,SNR=57
B07A Winthrop 36.64 70 P **P 20 29 18.3 +0.3**
baz=36,SNR=136
KEBM Edson Butte 36.65 81 *eP* **P 20 29 19.0 +1.0**
G04A Mulino 36.66 76 ⇓P **P 20 29 18.6 +0.5**
baz=36,SNR=16
D06A Cle Elum 36.76 72 P **P 20 29 19.4 +0.5**
baz=36,SNR=20
I03A Eugene 36.76 78 P **P 20 29 19.9 +0.9**
baz=36,SNR=35
J02A Umpqua 36.88 79 P **P 20 29 21.0 +1.0**
baz=37,SNR=142
ETW Entiat 36.88 71 *eP* **P 20 29 20.1 0.0**
A08A Turner Farm, O 36.94 69 P **P 20 29 20.6 +0.1**
baz=37,SNR=112
E06A Yakima 36.97 73 P **P 20 29 21.2 +0.5**
baz=37,SNR=46
F05A White Salmon 36.98 75 P **P 20 29 21.2 +0.4**
baz=37,SNR=14
C07A Waterville 37.01 71 P **P 20 29 21.0 -0.1**
baz=37,SNR=35
KBO Bosley Butte 37.05 82 *eP* **P 20 29 22.6 +1.1**
WTV Waterville 37.07 71 P **P 20 29 21.4 -0.2**
H04A Detroit Lake 37.09 77 P **P 20 29 22.2 +0.3**
baz=37,SNR=88
HOOD Mount Hood Mea 37.12 76 *eP* **P 20 29 22.9 +0.8**
comp=Z,330nm,1.2s,mb6.0
B08A Colville Reser 37.16 70 ⇑P **P 20 29 22.6 +0.3**
baz=37
K02A Glendale 37.23 80 ⇓P **P 20 29 23.7 +0.7**
baz=37
D07A Quincy 37.29 72 P **P 20 29 23.5 0.0**
baz=37,SNR=27
M01C Crescent City 37.31 82 P **P 20 29 24.6 +0.9**
baz=37,SNR=118
A09A Danville 37.34 69 P **P 20 29 24.1 +0.2**
baz=37,SNR=61
G05A Wamic 37.37 75 P **P 20 29 24.8 +0.7**
baz=37,SNR=44
I04A Tendick Farm, 37.39 78 ⇓P **P 20 29 24.5 +0.1**
baz=37,SNR=240
F06A Goldendale 37.45 74 ⇓P **P 20 29 25.2 +0.4**
baz=37,SNR=15
L02A Cave Junction 37.48 81 ⇓P **P 20 29 25.8 +0.7**
baz=37,SNR=56
C08A Higginbotham F 37.59 71 P **P 20 29 25.8 -0.2**
baz=37,SNR=45
KRMB Red Mountain 37.62 82 *eP* **P 20 29 27.2 +0.9**
E07A Sunnyside 37.65 73 P **P 20 29 26.9 +0.4**
baz=37,SNR=9.6
HUMO Hull Mountain 37.65 80 P **P 20 29 27.3 +0.7**
baz=37,SNR=172
HUMO Hull Mountain 37.65 80 *eP* **P 20 29 27.2 +0.6**
HUMO LR LR
comp=Z,39µm,19.0s,MS6.2
BBOR Butler Butte 37.68 80 P **P 20 29 27.8 +1.0**
B09A Rice 37.84 69 P **P 20 29 28.2 +0.1**
baz=38,SNR=92
RSW Rattlesnake Hi 37.88 73 *eP* **P 20 29 28.7 +0.2**
F07A Phinny Hill Vi 37.91 74 P **P 20 29 29.1 +0.4**
baz=38,SNR=19
HAWA Hanford 37.92 73 *eP* **P 20 29 29.0 +0.2**
comp=Z,216nm,0.9s,mb5.9
HAWA LR LR
comp=Z,26µm,19.0s,MS6.0
JCC Jacoby Creek 37.92 83 P **P 20 29 29.9 +1.0**
baz=38,SNR=42
I05A Bend 37.92 77 ⇓P **P 20 29 29.0 +0.1**
baz=38,SNR=28
A10A Northport 37.95 68 P **P 20 29 29.1 +0.1**
baz=38,SNR=47
OD2 Odessa Site #2 37.96 71 *eP* **P 20 29 28.7 -0.5**
D08A Wollman Farm, 37.99 72 P **P 20 29 28.9 -0.4**
baz=38,SNR=53
C09A Chrisman Ranch 38.04 70 P **P 20 29 29.5 -0.3**
baz=38,SNR=56
KHMM Horse Mountain 38.08 83 *eP* **P 20 29 31.5 +1.3**
E08A Dider Farm, El 38.17 72 P **P 20 29 30.8 -0.1**
baz=38,SNR=22
H06A Lindquist Farm 38.22 76 P **P 20 29 31.4 0.0**
baz=38,SNR=119
YBH Yreka Blue Hor 38.27 81 P **P 20 29 33.0 +1.2**
comp=Z,172nm,1.0s,mb5.7,baz=315,slow=4.0,SNR=87
YBH S **S 20 35 28.2 +3.6**
comp=Z,1.5nm,0.7s,baz=190,slow=11,SNR=1.5
YBH LR LR 20 43 37.2
comp=Z,34µm,19.3s,MS6.2,baz=296,slow=34
YBH Yreka Blue Hor 38.27 81 P **P 20 29 33.0 +1.2**
YBH S **S 20 35 28.2 +3.6**
YBH pmax pmax
comp=Z,172nm,1.0s
YBH smax
comp=N,2.0nm,0.7s
YBH MLR MLR
comp=Z,34µm,19.3s
YBH Yreka Blue Hor 38.27 81 P **P 20 29 32.9 +1.2**
baz=38,SNR=323
YBH Yreka Blue Hor 38.27 81 *eP* **P 20 29 32.9 +1.1**
D09A Jones Farm, Ri 38.36 71 P **P 20 29 32.0 -0.4**
baz=38,SNR=34
M02C Callahan 38.36 82 P **P 20 29 33.9 +1.3**
baz=38,SNR=232
N02C Big Bar 38.38 83 P **P 20 29 33.8 +1.1**
baz=38,SNR=250
J05A Fort Rock 38.39 78 P **P 20 29 33.8 +1.1**
baz=38,SNR=197
K04A Chilquin 38.42 79 P **P 20 29 34.1 +1.0**
baz=38,SNR=38
O01C Eel River Cons 38.43 84 ⇓P **P 20 29 34.4 +1.2**
baz=38,SNR=111
B10A Chitwood Farm, 38.45 69 ⇑P **P 20 29 33.2 0.0**
baz=38,SNR=5.5
CN2 Changchun 38.52 283 ⇓P **P 20 29 33.3 -0.6**
CN2 LR LR
comp=N,30µm,20.0s,MS6.2
CN2 LR LR
comp=E,18µm,20.0s,MS6.2
CN2 LR LR
comp=Z,24µm,20.0s,MS6.0
NEW Newport 38.53 69 *eP* **P 20 29 33.5 -0.4**
L04A Klamath Falls 38.55 80 P **P 20 29 35.0 +0.9**
baz=38,SNR=104
C10A Spilker Farm, 38.62 70 ⇓P **P 20 29 34.4 -0.3**
baz=38
EDM Edmonton 38.65 60 *eP* **P 20 29 35.1 +0.2**
A11A Hall Mountain, 38.67 68 P **P 20 29 35.7 +0.6**
baz=38,SNR=165
I06A Prineville 38.69 77 ⇓P **P 20 29 35.9 +0.6**
baz=38,SNR=12
E09A Wood Farm, Sta 38.71 72 ⇓P **P 20 29 35.0 -0.4**
baz=38
H07A Lands Inn, Kim 38.77 75 P **P 20 29 35.7 -0.2**
baz=38,SNR=62
M04C Macdoel 38.79 81 P **P 20 29 37.1 +1.0**
baz=39,SNR=99
G08A Pilot Rock 38.80 74 P **P 20 29 36.0 -0.2**
baz=38,SNR=66
KIPM Iron Peak 38.83 84 *eP* **P 20 29 37.1 +0.6**
KCPM Cahto Peak 38.83 85 *eP* **P 20 29 37.4 +0.8**
M03C McCloud 38.89 81 ⇑P **P 20 29 37.7 +0.7**
baz=39,SNR=24
K05A Summer Lake 38.89 79 ⇓P **P 20 29 37.8 +0.8**
baz=39,SNR=266
B11A Sandpoint 38.90 68 P **P 20 29 37.0 0.0**
baz=39,SNR=34
LNOR Lincton Mounta 38.93 73 *eP* **P 20 29 37.0 -0.3**
D10A Wagner Farm, O 38.99 71 P **P 20 29 37.1 -0.6**
baz=39,SNR=36
WDC Whiskeytown Da 39.00 83 P **P 20 29 38.6 +0.6**
baz=39,SNR=138
WDC Whiskeytown Da 39.00 83 *eP* **P 20 29 38.6 +0.6**
I07A Izee 39.06 76 P **P 20 29 38.8 +0.4**
baz=39,SNR=229
O02C Red Bluff 39.06 83 ⇑P **P 20 29 38.8 +0.3**
baz=39,SNR=315
J06A Christmas Vall 39.08 78 P **P 20 29 39.1 +0.5**
baz=39,SNR=237
A12A Yaak River Ran 39.10 67 P **P 20 29 39.2 +0.5**
baz=39,SNR=23
P01C Double 8 Ranch 39.11 85 ⇑P **P 20 29 39.4 +0.5**
baz=39,SNR=195
BOD Bodaibo 39.23 308 ⇑*iP* **P 20 29 38.5 -1.1**
BOD *e* 20 35 36.8
BOD pmax pmax
comp=Z,599nm,1.2s,mb6.2
F09A S2 Ranch, Elgi 39.24 73 P **P 20 29 40.0 +0.1**
baz=39,SNR=44
K06A Valley Falls 39.26 78 P **P 20 29 40.9 +0.8**
baz=39,SNR=181
L05A Lakeview 39.28 80 P **P 20 29 41.4 +1.1**
baz=39,SNR=136
B12A Libby 39.35 68 P **P 20 29 41.1 +0.3**
baz=39,SNR=15
E10A Myers Farm, Un 39.36 71 ⇑P **P 20 29 40.6 -0.3**
baz=39
GASB Alder Springs 39.40 84 P **P 20 29 42.6 +1.3**
baz=39,SNR=168
HIA Hailar 39.41 294 *eP* **P 20 29 40.6 -0.6**
HIA pmax pmax
comp=Z,567nm,0.9s
HIA MLR MLR
comp=Z,19µm,20.0s
HIA Hailar 39.41 294 *eP* **P 20 29 40.6 -0.6**
comp=Z,567nm,0.9s,mb6.3
HIA LR LR
comp=Z,19µm,20.0s,MS5.9
M05C Lookout 39.46 81 P **P 20 29 42.5 +0.8**
baz=39,SNR=307
F10A Beach Ranch, E 39.53 72 P **P 20 29 41.8 -0.6**
baz=39,SNR=47
G09A Cove 39.53 73 P **P 20 29 42.2 -0.1**
baz=39,SNR=41
J07A Hines 39.55 77 P **P 20 29 43.1 +0.6**
baz=39,SNR=84
HOPS Hopland 39.55 85 P **P 20 29 42.9 +0.3**
baz=39,SNR=78
HOPS Hopland 39.55 85 *eP* **P 20 29 43.0 +0.4**
comp=Z,572nm,1.3s,mb6.1
HOPS LR LR
comp=Z,30µm,19.0s,MS6.1
HATC Hat Creek Radi 39.55 82 P **P 20 29 43.5 +0.9**
baz=39,SNR=173
D11A Klaveano Farm, 39.56 70 P **P 20 29 41.7 -0.8**
baz=39,SNR=16
O03C Acorn Hollow, 39.65 83 ⇓P **P 20 29 43.3 -0.1**
baz=39
MOD Modoc 39.70 79 ⇓P **P 20 29 44.3 +0.6**
baz=40,SNR=182
MOD Modoc 39.70 79 *eP* **P 20 29 44.3 +0.5**
MOD LR LR
comp=Z,29µm,19.0s,MS6.1
I08A Dreyey 39.73 76 P **P 20 29 44.4 +0.3**
baz=40,SNR=162
H09A Durkee 39.91 74 P **P 20 29 45.4 -0.1**
baz=40,SNR=24
G10A Bishop Farm, J 39.93 73 P **P 20 29 45.5 -0.1**
baz=40,SNR=96
K07A Rock Creek Ran 39.94 78 ⇑P **P 20 29 46.4 +0.6**
baz=40
M06C Likely Place G 39.96 81 ⇓P **P 20 29 46.4 +0.4**
baz=40,SNR=107
E11A Bogner Ranch, 39.97 71 P **P 20 29 44.8 -1.1**
baz=40,SNR=22
MNRC McLaughlin Nat 40.02 85 ⇓P **P 20 29 47.5 +1.1**
baz=40,SNR=42
BMO Blue Mountains 40.03 74 *eP* **P 20 29 46.3 -0.2**
BMO LR LR
comp=Z,30µm,21.0s,MS6.1
B13A Whitefish 40.06 68 P **P 20 29 46.5 -0.1**
baz=40,SNR=87
O04C Chester 40.07 82 P **P 20 29 47.8 +1.0**
baz=40,SNR=92
WALA Waterton Lakes 40.07 66 *eP* **P 20 29 46.8 0.0**
J08A Circle Bar Ran 40.08 76 P **P 20 29 47.2 +0.4**
baz=40,SNR=105
NSHM Saint Helena R 40.12 85 *eP* **P 20 29 47.4 +0.1**
ELFS Eagle Lake Fie 40.13 81 ⇑P **P 20 29 48.3 +1.0**
baz=40
D12A Red Ives Fores 40.15 70 ⇑P **P 20 29 46.9 -0.6**
baz=40
MCCM Marconi Confer 40.16 86 ⇓P **P 20 29 47.5 -0.1**
baz=40,SNR=18
MCCM Marconi Confer 40.16 86 *eP* **P 20 29 48.0 +0.4**
comp=Z,345nm,1.2s,mb6.0
MCCM LR LR
comp=Z,26µm,19.0s,MS6.1
I09A Lost Marbles R 40.21 75 P **P 20 29 47.9 -0.1**
baz=40,SNR=26
F11A Grangeville 40.23 72 P **P 20 29 47.8 -0.3**
baz=40,SNR=22
ORV Oroville 40.23 83 P **P 20 29 48.0 -0.2**
baz=40,SNR=90
SUTB Sutter Butte 40.24 84 ⇓P **P 20 29 47.8 -0.4**
baz=40
L07A Adell 40.24 79 P **P 20 29 48.9 +0.7**
baz=40,SNR=97
CVS Carmenet Viney 40.32 86 P **P 20 29 49.2 +0.2**
baz=40,SNR=64
C13A Hot Springs 40.32 69 ⇓P **P 20 29 48.6 -0.2**
baz=40
FARB Farallon Islan 40.35 87 ⇓P **P 20 29 49.1 -0.2**
baz=40
OHCM Honcut 40.37 84 *eP* **P 20 29 49.2 -0.1**
O05C Quincy 40.37 82 ⇓P **P 20 29 49.8 +0.4**
baz=40,SNR=52
RES Resolute Bay 40.38 24 *eP* **P 20 29 50.5 +1.5**
K08A Mann Creek Ran 40.40 77 P **P 20 29 50.0 +0.4**
baz=40,SNR=255
G11A Walters Elk Ra 40.40 72 P **P 20 29 48.7 -0.8**
baz=40,SNR=48
Q03C Winters 40.43 85 ⇑P **P 20 29 50.1 +0.2**
baz=40,SNR=27
KSRS Korea Array 40.45 273 P **P 20 29 50.6 +0.6**
comp=Z,209nm,0.9s,mb5.8,baz=58,slow=7.8,SNR=166
KSRS PcP PcP 20 31 53.0 +0.4
comp=Z,59nm,0.9s,baz=60,slow=3.2,SNR=8.6
KSRS LR LR 20 45 50.5
comp=Z,5µm,19.3s,MS5.3,baz=46,slow=35
KSRS Korea Array 40.45 273 P **P 20 29 50.6 +0.6**
KSRS 20 31 53.0
KSRS pmax pmax
comp=Z,209nm,0.9s,mb5.9
KSRS MLR MLR
comp=Z,5µm,19.3s,MS5.3
WVOR Wild Horse Val 40.46 78 *eP* **P 20 29 50.0 -0.1**
comp=Z,17µm,1.3s
KS15 Wonju Array Si 40.48 273 *eP* **P 20 29 50.7 +0.4**
H10A Noah's Angus R 40.51 74 P **P 20 29 50.3 -0.2**
baz=40,SNR=149
J09A Fry Pan Ranch, 40.53 76 ⇑P **P 20 29 50.7 +0.1**
baz=40
N06A Buffalo Meadow 40.62 81 P **P 20 29 52.0 +0.6**
baz=40,SNR=335
D13A Huson 40.66 69 P **P 20 29 50.9 -0.8**
baz=40,SNR=57
M07A Soldier Meadow 40.69 79 ⇓P **P 20 29 52.6 +0.6**
baz=40
Q04C Lincoln 40.72 84 ⇓P **P 20 29 52.3 0.0**
baz=40
SNY Shenyang 40.73 281 ⇓P **P 20 29 52.5 +0.2**
SNY S **S 20 36 03.3 +1.7**
SNY AMB AMB
comp=Z,533nm,1.5s,mb6.0
SNY LR LR
comp=N,7µm,15.6s,MS6.0
SNY LR LR
comp=E,17µm,20.1s,MS6.0
SNY LR LR
comp=Z,16µm,17.7s,MS5.9
I10A Payette 40.73 75 ⇑P **P 20 29 52.5 +0.1**
baz=40,SNR=18
C14A Swan Lake 40.77 68 ⇓P **P 20 29 52.3 -0.2**
baz=40
L08A Fields 40.77 78 ⇓P **P 20 29 53.1 +0.4**
baz=40
BEKR Beckwourth 40.78 82 P **P 20 29 53.0 +0.3**
baz=41,SNR=47
SAC San Andreas 40.79 86 *eP* **P 20 29 53.3 +0.4**
F12A Elk City 40.84 71 P **P 20 29 52.8 -0.4**
baz=41,SNR=133
K09A Rome 40.89 77 ⇓P **P 20 29 53.5 -0.1**
baz=41
H11A Donnelly 40.91 73 P **P 20 29 53.4 -0.3**
baz=41,SNR=17
BDM Black Diamond 40.92 86 ⇑P **P 20 29 53.8 -0.1**
baz=41
P05C Yuba Gap, Truc 40.95 83 P **P 20 29 54.5 +0.4**
baz=41,SNR=119
O06A Flanigan 40.95 81 ⇓P **P 20 29 54.7 +0.5**
baz=41
JRSC Jasper Ridge 41.01 87 ⇑P **P 20 29 54.2 -0.5**
baz=41
J10A Berg Farm, Mel 41.10 75 ⇑P **P 20 29 55.0 -0.3**
baz=41,SNR=5.4
MSO Missoula 41.10 69 *eP* **P 20 29 54.8 -0.6**
E13A Victor 41.14 70 P **P 20 29 55.0 -0.6**
baz=41,SNR=33
N07B Gerlach 41.15 80 ⇑P **P 20 29 56.3 +0.5**
baz=41
M08A Happy Creek Ra 41.15 79 ⇓P **P 20 29 56.2 +0.4**
baz=41
LAVA Lava Cap Winer 41.18 84 P **P 20 29 56.2 +0.2**
baz=41,SNR=51
P06A Stead Airport, 41.18 82 ⇓P **P 20 29 56.5 +0.5**
baz=41,SNR=14
WENL Wente Brothers 41.19 86 ⇓P **P 20 29 56.4 +0.3**
baz=41
BNLO Ben Lomond (Sa 41.22 87 P **P 20 29 56.1 -0.2**
baz=41,SNR=16
D14A Greenough 41.24 69 P **P 20 29 55.8 -0.6**
baz=41,SNR=122
INCN Inchon 41.26 274 P **P 20 29 57.6 +0.9**
SNR=27
INCN Inchon 41.26 274 *eP* **P 20 29 57.0 +0.3**
comp=Z,578nm,0.9s,mb6.2
INCN LR LR
comp=Z,11µm,21.0s,MS5.7
L09A Wilkinson Ranc 41.29 78 P **P 20 29 57.5 +0.5**
baz=41,SNR=16
R04C Big Horse Ranc 41.34 85 ⇑P **P 20 29 57.0 -0.3**
baz=41,SNR=18
I11A Placerville 41.35 74 ⇓P **P 20 29 56.9 -0.5**
baz=41
K10A MacKenzie Ranc 41.38 76 ⇑P **P 20 29 58.0 +0.4**
baz=41
F13A Darby 41.38 71 ⇑P **P 20 29 57.1 -0.5**
baz=41
CHMT Chamberlain Mo 41.47 69 *eP* **P 20 29 57.5 -0.9**
WCN Washoe City 41.49 82 ⇓P **P 20 29 59.5 +0.9**
baz=41
PAHR Pah Rah Range 41.49 82 *eP* **P 20 29 58.9 +0.3**
comp=Z,505nm,1.1s,mb6.1
S04C Ingram Canyon, 41.53 86 ⇑P **P 20 29 59.3 +0.3**
baz=41
O07A Toulon 41.55 81 ⇓P **P 20 29 59.8 +0.7**
baz=41
E14A Clinton 41.58 70 ⇑P **P 20 29 59.0 -0.2**
baz=41
R05C Kirkwood Meado 41.63 83 ⇑P **P 20 30 00.3 +0.5**
baz=41
N08A GE Springer Mi 41.68 80 ⇓P **P 20 30 00.4 +0.3**
baz=42
MFID Camas Ranch 41.69 75 P **P 20 29 59.9 -0.3**
baz=41,SNR=45
H12A Diamond D Ranc 41.69 73 P **P 20 29 59.6 -0.6**
baz=41,SNR=82
CIT Chita 41.73 300 *eP* **P 20 30 00.7 +0.3**
CIT *e* 20 30 14.9
CIT *e* 20 31 58.0
CIT pmax pmax
comp=Z,2µm,2.9s,mb6.2
M09A Marrel Ranch, 41.75 78 ⇓P **P 20 30 01.0 +0.3**
baz=42
G13A Cobalt 41.79 72 ⇑P **P 20 30 00.6 -0.5**
baz=42
CMB Columbia Colle 41.82 84 ⇑P **P 20 30 01.9 +0.6**
baz=42
CMB Columbia Colle 41.82 84 *eP* **P 20 30 01.7 +0.3**
CMB LR LR
comp=Z,21µm,20.0s,MS6.0
D15A Lincoln 41.85 68 P **P 20 30 00.9 -0.5**
baz=42,SNR=84
PACP Pacheco Peak 41.86 86 ⇑P **P 20 30 01.7 +0.1**
baz=42
P07A Fallon 41.90 82 ⇑P **P 20 30 02.2 +0.2**
baz=42
SAO San Andreas Ge 41.90 87 *eP* **P 20 30 01.8 -0.2**
K11A Parker Ranch, 41.90 76 ⇓P **P 20 30 02.0 +0.1**
baz=42
O08A Rochester Mine 41.94 80 ⇑P **P 20 30 02.6 +0.4**
baz=42
F14A Wisdom 41.95 70 ⇓P **P 20 30 02.7 +0.4**
baz=42
L10A Juniper Basin 42.01 77 ⇑P **P 20 30 02.9 +0.1**
baz=42
N09A Rock Creek Ran 42.02 79 ⇑P **P 20 30 03.3 +0.3**
baz=42
HAST Hastings Reser 42.06 87 P **P 20 30 03.5 +0.2**
baz=42,SNR=53
E15A Deer Lodge 42.08 69 P **P 20 30 02.7 -0.6**
baz=42,SNR=62
R06C Coleville 42.13 83 ⇑P **P 20 30 04.6 +0.7**
baz=42
G14A Jackson 42.19 71 ⇑P **P 20 30 03.8 -0.4**
baz=42
J12A Stokes Ranch, 42.23 75 ⇓P **P 20 30 04.7 +0.2**
baz=42
S05C Merced 42.27 85 ⇑P **P 20 30 04.8 -0.2**
baz=42
M10A I.L. Ranch, Tu 42.27 78 ⇑P **P 20 30 05.2 +0.3**
baz=42
Q07A Schurz 42.30 82 ⇓P **P 20 30 05.6 +0.4**
baz=42
P08A Dixie Valley 42.32 81 ⇓P **P 20 30 06.0 +0.6**
baz=42
L11A Cat Creek Ranc 42.40 76 ⇓P **P 20 30 06.3 +0.3**
baz=42
BMN Battle Mountai 42.45 79 *eP* **P 20 30 06.6 +0.2**
BMN MLR MLR
comp=Z,26µm,19.0s,MS6.1
F15A Butte 42.47 70 ⇓P **P 20 30 06.1 -0.4**
baz=42
I13A Wildhorse Cree 42.48 73 ⇓P **P 20 30 06.4 -0.2**
baz=42
HLID Hailey 42.48 74 ⇓P **P 20 30 06.8 +0.2**
baz=42
HLID Hailey 42.48 74 PFAKE 20 30 20.0 +13
HLID LR LR
comp=Z,22µm,20.0s,MS6.0
V03C Hunter Liggett 42.49 87 ⇑P **P 20 30 07.3 +0.5**
baz=42
LRM Limekiln Ridge 42.50 70 *eP* **P 20 30 05.9 -0.8**
U04C Hernandez Rese 42.57 87 ⇓P **P 20 30 08.1 +0.7**
baz=42
O09A Fish Creek Ran 42.62 80 ⇑P **P 20 30 08.3 +0.5**
baz=42
R07C Lee Vining 42.64 83 ⇑P **P 20 30 08.7 +0.7**
baz=42
DLMT Dillon 42.65 71 *eP* **P 20 30 07.5 -0.4**
K12A Draper Farm, C 42.68 75 ⇓P **P 20 30 08.3 +0.1**
baz=42
J13A Cove Ranch, Pi 42.72 74 ⇑P **P 20 30 08.4 -0.1**
baz=42
N10A Dunphy 42.73 79 ⇓P **P 20 30 08.8 +0.1**
baz=42
MCMT McKenzie Canyo 42.77 71 *eP* **P 20 30 08.3 -0.7**
M11A Holland Ranch, 42.79 77 ⇓P **P 20 30 09.6 +0.5**
baz=42
G15A Dillon 42.81 71 ⇓P **P 20 30 08.9 -0.4**
baz=42
T06C Millerton Lake 42.87 85 ⇑P **P 20 30 09.7 -0.2**
baz=43
L12A House Creek Ra 42.88 76 ⇓P **P 20 30 10.4 +0.6**
baz=43
Q08A Gabbs 42.90 82 ⇑P **P 20 30 10.6 +0.5**
baz=43
NVAR Mina Array Bea 42.92 83 P **P 20 30 08.8 -1.4**
comp=Z,98nm,0.9s,mb5.5,baz=292,slow=7.8,SNR=85
NVAR PcP PcP 20 32 02.1 +1.4
comp=Z,49nm,1.0s,baz=244,slow=1.7,SNR=5.3
KCC Kaiser Creek 42.92 85 ⇑P **P 20 30 10.9 +0.6**
baz=43
V04C Ramage Ranch, 42.96 88 ⇑P **P 20 30 11.2 +0.6**
baz=43
PKD Parkfield 42.98 87 ⇑P **P 20 30 11.0 +0.2**
baz=43
O10A Cortez Mining, 42.98 79 ⇓P **P 20 30 11.5 +0.8**
baz=43
EGMT Eagleton 43.00 66 *eP* **P 20 30 10.1 -0.6**
comp=Z,320nm,0.8s,mb6.1
EGMT LR LR
comp=Z,25µm,20.0s,MS6.1

P09A Austin 43.00 80 ⇑P P 20 30 11.6 +0.7
baz=43
U05C Westside ANR, 43.01 86 ⇑P P 20 30 11.9 +0.9
baz=43
MLAC Mammoth Lakes 43.05 84 ⇑P P 20 30 12.2 +0.9
baz=43
BOZ Bozeman (W) 43.08 70 ⇑P P 20 30 11.2 -0.3
baz=43
BOZ Bozeman (W) 43.08 70 *e*P P 20 30 11.1 -0.4
BOZ LR LR
comp=Z,17μm,20.0s,MS5.9
R08A Mina 43.09 82 ⇓P P 20 30 12.2 +0.6
baz=43
N11A Elko Archery C 43.16 78 ⇓P P 20 30 12.5 +0.3
baz=43
K13A Stover Farm, H 43.18 75 ⇓P P 20 30 12.4 +0.1
baz=43
M12A Wells 43.34 77 ⇓P P 20 30 14.1 +0.4
baz=43
PTRM Twissleman Ran 43.37 87 *e*P P 20 30 14.1 +0.2
MTUM Tungsten Hills 43.39 84 *e*P P 20 30 14.7 +0.7
P10A Eureka 43.39 80 ⇑P P 20 30 14.6 +0.6
baz=43
Q09A Carvers 43.39 81 ⇓P P 20 30 14.7 +0.6
baz=43
V05C Boulder Hill, 43.44 87 ⇑P P 20 30 15.2 +0.8
baz=43
HELL Mitchell Peak 43.50 85 ⇑P P 20 30 14.9 0.0
baz=43
ELK Elko 43.52 78 P P 20 30 15.2 +0.1
comp=Z,72nm,0.9s,mb5.4,baz=301,slow=7.6,SNR=70
ELK Elko 43.52 78 *e*P P 20 30 15.2 +0.2
ELK LR LR
comp=Z,36μm,19.0s,MS6.3
S08C White Mtn Res 43.55 84 ⇑P P 20 30 16.4 +1.0
baz=43
L13A Double Diamond 43.57 75 ⇑P P 20 30 15.9 +0.5
baz=43
N12A Clover Valley, 43.58 78 ⇑P P 20 30 16.0 +0.4
baz=43
RCTC Rector, Farmer 43.59 86 ⇓P P 20 30 15.9 +0.2
baz=43
O11A Cowboy Ranch, 43.60 79 ⇓P P 20 30 16.1 +0.4
baz=43
DL2 Dalian 43.60 279 *i*P P 20 30 15.3 -0.5
DL2 PCP PcP 20 32 02.5 -0.5
DL2 PCS PcS 20 35 54.3 -1.4
DL2 S **S 20 36 43.9 -0.2**
DL2 SCS ScS 20 40 06.1 -8.0
DL2 AMB AMB
comp=Z,310nm,1.1s,mb6.0
DL2 AMB AMB
comp=Z,3μm,5.9s
DL2 LR LR
comp=N,10μm,16.1s,MS5.8
DL2 LR LR
comp=E,2μm,16.5s,MS5.8
DL2 LR LR
comp=Z,6μm,16.3s,MS5.6
QLMT Earthquake Lak 43.63 71 *e*P P 20 30 15.3 -0.6
SMMC Simmler 43.72 87 ⇑P P 20 30 17.0 +0.3
baz=44
TIN Tinemaha 43.78 84 ⇓P P 20 30 18.0 +0.8
baz=44
K14A Jones Ranch, D 43.80 74 ⇑P P 20 30 17.3 +0.1
baz=44
R09A Tonopah 43.81 82 ⇓P P 20 30 17.8 +0.3
baz=44
TPH Tonopah 43.81 82 *e*P P 20 30 17.7 +0.2
TPH pmax pmax
comp=Z,257nm,1.0s,mb5.9
TPH Tonopah 43.81 82 *e*P P 20 30 17.7 +0.3
comp=Z,257nm,1.0s,mb5.9
M13A Montello 43.84 76 ⇑P P 20 30 17.7 0.0
baz=44
P11A Circle Ranch, 43.88 80 ⇑P P 20 30 18.4 +0.4
baz=44
Q10A Clear Creek Ra 43.89 81 ⇓P P 20 30 18.3 +0.2
baz=44
VES Vestal, Richgr 43.98 86 ⇑P P 20 30 18.3 -0.5
baz=44
YMR Madison River 44.00 71 *e*P P 20 30 19.1 +0.2
comp=Z,299nm,1.2s,mb5.9
S09A Goldfield 44.02 83 ⇓P P 20 30 19.3 +0.2
baz=44
L14A Malta 44.04 75 ⇓P P 20 30 19.5 +0.3
baz=44
PKM Peak Mountain 44.09 88 ⇑P P 20 30 20.4 +0.6
baz=44
O12A Currie 44.10 78 ⇓P P 20 30 19.7 0.0
baz=44
N13A Wendover, West 44.10 77 ⇓P P 20 30 19.5 -0.2
baz=44
K15A Arbon 44.12 74 ⇓P P 20 30 20.3 +0.5
baz=44
YNR Norris Junctio 44.15 70 *e*P P 20 30 20.6 +0.6
GCMT Greycliff 44.18 68 *e*P P 20 30 20.0 -0.4
YFT Old Faithful 44.19 71 *e*P P 20 30 21.7 +1.3
CWC Cottonwood Cre 44.25 85 ⇓P P 20 30 21.3 +0.3
baz=44
M14A Sheep Mountain 44.27 76 ⇑P P 20 30 21.2 +0.1
baz=44
R10A Warm Springs 44.27 81 ⇑P P 20 30 21.2 0.0
baz=44
S10A Tonopah Range, 44.30 82 ⇑P P 20 30 21.3 0.0
baz=44
Q11A Duckwater 44.35 80 ⇓P P 20 30 21.8 +0.1
baz=44
J16A Bone 44.36 73 ⇑P P 20 30 22.5 +0.7
baz=44
GRAC Grapevine Rang 44.36 84 ⇑P P 20 30 22.3 +0.5
baz=44
LKWY Lake 44.39 70 *e*P P 20 30 23.5 +1.5
LKWY MLR MLR
comp=Z,13μm,20.0s,MS5.8
IMW Indian Meadow 44.43 71 *e*P P 20 30 22.4 +0.1
DCID1 Drake Creek 44.44 72 *e*P P 20 30 20.9 -1.5
SBC Santa Barbara 44.44 88 ⇑P P 20 30 22.8 +0.3
baz=44
HVU Hansel Valley 44.47 75 *e*P P 20 30 23.1 +0.4
ISA Isabella 44.48 86 *e*P P 20 30 22.2 -0.6
ISA pmax pmax
comp=Z,260nm,1.0s,mb5.9
ISA Isabella 44.48 86 ⇑P P 20 30 22.2 -0.6
baz=44
ISA Isabella 44.48 86 PFAKE 20 30 30.0 +7.2
ISA LR LR
comp=Z,15μm,20.0s,MS5.9
RRI2 Red Ridge 44.49 72 *e*P P 20 30 23.1 +0.3
comp=Z,186nm,0.9s,mb5.8
ARVC Arvin 44.58 87 ⇑P P 20 30 23.2 -0.5
baz=44
L15A Malad City 44.58 75 ⇑P P 20 30 23.7 +0.1
baz=44
K16A Soda Springs 44.61 73 ⇓P P 20 30 24.6 +0.8
baz=44
MOOW Moose Ponds 44.63 72 *e*P P 20 30 23.6 -0.3
TPAW Teton Pass 44.64 72 *e*P P 20 30 24.3 +0.2
comp=Z,345nm,1.5s,mb6.0
O13A Hicks Ranch, I 44.65 78 ⇑P P 20 30 24.2 0.0
baz=44
DAC Darwin (Calif) 44.66 85 PFAKE 20 30 40.0 +16
DAC LR LR
comp=Z,17μm,21.0s,MS6.0
R11A Troy Canyon, C 44.69 81 ⇓P P 20 30 24.2 -0.2
baz=44
N14A Grayback Hills 44.74 76 ⇓P P 20 30 24.8 0.0
baz=44
Q12A Willow Creek R 44.76 80 ⇓P P 20 30 25.2 +0.2
baz=44
REDW Red Top Meadow 44.77 72 *e*P P 20 30 25.3 +0.2
comp=Z,389nm,1.4s,mb6.0
SNOW Snow King Moun 44.78 72 *e*P P 20 30 26.0 +0.9
comp=Z,1μm,2.2s,mb6.3
RLMT Red Lodge 44.78 69 *e*P P 20 30 25.0 -0.1
comp=Z,572nm,1.2s,mb6.3
BSC Santa Cruz Isl 44.78 89 ⇑P P 20 30 25.1 -0.2
baz=45
LOHW Long Hollow 44.79 72 *e*P P 20 30 25.3 +0.1
comp=Z,937nm,2.5s,mb6.2
BGU Big Grassy Mou 44.79 76 *e*P P 20 30 24.9 -0.3
M15A Larsen Ranch, 44.85 75 ⇑P P 20 30 25.8 +0.1
baz=45
MPMC Manual Prospec 44.86 85 ⇓P P 20 30 25.8 -0.1
baz=45
SPUT South Promonto 44.94 75 *e*P P 20 30 26.6 +0.1
AHID Auburn Hatcher 44.95 73 *e*P P 20 30 27.0 +0.5
AHID LR LR
comp=Z,22μm,19.0s,MS6.1
OSI Osito Adit 44.97 87 ⇑P P 20 30 26.8 +0.1
baz=45
OSI Osito Adit 44.97 87 *e*P P 20 30 26.8 0.0
comp=Z,193nm,0.8s,mb6.0
S11A Rachel 45.00 82 ⇑P P 20 30 27.1 +0.1
baz=45
FURC Furnace Creek, 45.01 84 ⇑P P 20 30 27.1 +0.1
baz=45
P13A Bates Ranch, G 45.02 79 ⇑P P 20 30 27.2 0.0
baz=45
BLG Laguna Peak 45.07 88 ⇓P P 20 30 27.3 -0.2
baz=45
LRMC Laurel Mountai 45.09 85 ⇓P P 20 30 27.3 -0.4
baz=45
TPNV Topopah Spring 45.11 83 *e*P P 20 30 27.7 -0.1
TPNV pmax pmax
comp=Z,264nm,0.8s,mb6.1
TPNV Topopah Spring 45.11 83 *e*P P 20 30 27.7 -0.1
comp=Z,264nm,0.8s,mb6.1
N15A Stansbury Isla 45.13 76 ⇑P P 20 30 28.1 +0.1
baz=45
L16A Fish Haven 45.17 74 ⇓P P 20 30 28.5 +0.3
baz=45
EDW2 Edwards Air Fo 45.27 86 ⇑P P 20 30 28.9 -0.2
baz=45
HWUT Hardware Ranch 45.31 75 *e*P P 20 30 29.1 -0.3
HWUT LR LR
comp=Z,14μm,20.0s,MS5.9
Q13A Wheeler Ranch, 45.32 79 ⇓P P 20 30 29.6 +0.1
baz=45
R12A Pony Springs, 45.32 80 ⇑P P 20 30 29.3 -0.2
baz=45
DUG Dugway 45.35 77 *e*P P 20 30 28.9 -0.8
DUG pmax pmax
comp=Z,336nm,1.2s,mb6.0
DUG MLR MLR
comp=Z,20μm,20.0s,MS6.0
DUG Dugway 45.35 77 ⇓P P 20 30 29.8 +0.1
baz=45
DUG Dugway 45.35 77 *e*P P 20 30 28.9 -0.8
comp=Z,336nm,1.2s,mb6.0
DUG LR LR
comp=Z,20μm,20.0s,MS6.0
U10A Ash Meadows, A 45.38 83 ⇑P P 20 30 30.3 +0.3
baz=45
M16A Huntsville 45.44 75 ⇓P P 20 30 30.4 0.0
baz=45
DECC Green Verdugo 45.45 87 ⇓P P 20 30 30.2 -0.4
baz=45
O15A The Old Anders 45.51 77 ⇑P P 20 30 31.1 +0.1
baz=45
NOQ North Oquirrh 45.52 76 *e*P P 20 30 31.4 +0.4
P14A Drum Mountains 45.54 78 ⇓P P 20 30 31.3 +0.1
baz=45
T11A Corn Creek, Al 45.58 82 ⇑P P 20 30 31.5 -0.1
baz=45
S12A Delamar Landin 45.59 81 ⇓P P 20 30 32.1 +0.4
baz=45
MWC Mount Wilson 45.64 87 *e*P P 20 30 31.9 -0.2
MWC pmax pmax
comp=Z,311nm,1.1s,mb6.2
MWC Mount Wilson 45.64 87 *e*P P 20 30 31.9 -0.2
comp=Z,311nm,1.1s,mb6.2
CTU Camp Tracy 45.72 76 *e*P P 20 30 32.8 +0.2
SHOC Shoshone 45.73 84 ⇓P P 20 30 32.7 -0.1
baz=46
LAO LASA Array 45.74 66 *e*P P 20 30 32.7 0.0
LAO LR LR
comp=Z,29μm,20.0s,MS6.2
Q14A Sevier Lake (B 45.76 79 ⇑P P 20 30 33.3 +0.3
baz=46
GSC Goldstone 45.77 85 *e*P P 20 30 32.9 -0.2
GSC pmax pmax
comp=Z,432nm,1.1s,mb6.3
GSC MLR MLR
comp=Z,16μm,20.0s,MS6.0
GSC Goldstone 45.77 85 ⇓P P 20 30 33.1 0.0
baz=46
GSC Goldstone 45.77 85 *e*P P 20 30 32.9 -0.1
comp=Z,432nm,1.1s,mb6.3
GSC LR LR
comp=Z,16μm,20.0s,MS6.0
N16A Rees Ranch, Co 45.80 75 ⇑P P 20 30 33.2 -0.1
baz=46
R13A O'Grain Ranch, 45.81 80 ⇓P P 20 30 33.3 -0.1
baz=46
FMP Fort Macarthur 45.82 88 ⇓P P 20 30 33.0 -0.5
baz=46
BFSC Mount Baldy St 45.89 87 ⇑P P 20 30 34.0 -0.1
baz=46
BW06 Boulder Array 45.89 72 *e*P P 20 30 32.8 -1.2
comp=Z,221nm,1.0s,mb6.0
BW06 LR LR
comp=Z,17μm,19.0s,MS6.0
PDAR Pinedale Array 45.89 72 P P 20 30 33.4 -0.6
comp=Z,132nm,0.9s,mb5.9,baz=300,slow=3.3,SNR=129
PDAR LR LR 20 49 05.0
comp=Z,14μm,18.3s,MS6.0,baz=120,slow=35
RRX Edison Barstow 45.91 86 ⇑P P 20 30 33.9 -0.2
baz=46
CIS Catalina Islan 45.94 88 ⇑P P 20 30 33.8 -0.7
baz=46
NLU North Lily Min 45.95 77 *e*P P 20 30 34.5 0.0
JLU Jordanelle 45.96 76 *e*P P 20 30 35.0 +0.5
DGMT Dagmar 45.98 62 *e*P P 20 30 34.1 -0.4
comp=Z,446nm,1.0s,mb6.3
DGMT LR LR
comp=Z,26μm,19.0s,MS6.2
U11A Corn Creek 45.98 83 ⇑P P 20 30 34.8 +0.1
baz=46
P15A Leamington 46.05 77 ⇑P P 20 30 35.0 -0.2
baz=46
SHPR Sheep Range 46.07 83 *e*P P 20 30 35.1 -0.3
SCI San Clemente I 46.12 89 ⇓P P 20 30 35.5 -0.5
baz=46
FCC Fort Churchill 46.13 46 *e*P P 20 30 35.7 +0.1
N17A Moffit Pass 46.15 75 ⇓P P 20 30 35.6 -0.3
baz=46
O16A Springville 46.16 76 ⇓P P 20 30 36.1 +0.1
baz=46
MPU Maple Canyon 46.19 76 *e*P P 20 30 36.7 +0.4
MPU LR LR
comp=Z,29μm,20.0s,MS6.2
DAU Daniels Canyon 46.19 76 *e*P P 20 30 36.7 +0.4
T12A Moapa 46.22 82 ⇓P P 20 30 36.5 -0.1
baz=46
S13A Holt Ranch, En 46.24 81 ⇓P P 20 30 36.8 +0.1
baz=46
TUQ Turquoise Mtn. 46.24 84 ⇓P P 20 30 36.6 -0.2
baz=46
V11A Goodsprings 46.31 83 ⇓P P 20 30 37.2 -0.1
baz=46
Q15A Fillmore 46.32 78 ⇑P P 20 30 37.4 0.0
baz=46
R14A James Farms, M 46.33 79 ⇓P P 20 30 37.3 -0.2
baz=46
BBRC Big Bear Sol-O 46.34 86 ⇓P P 20 30 37.6 -0.1
baz=46
HEC Hector,Ludlow 46.36 85 ⇑P P 20 30 37.8 +0.1
baz=46
BJI Beijing 46.37 284 P P 20 30 37.9 +0.2
BJI PP PP 20 32 25.9 -0.5
BJI S **S 20 37 23.3 -0.7**
BJI SS SS 20 40 40.0 -9.3
BJI AMB AMB
comp=Z,331nm,1.2s,mb6.1
BJI AMB AMB
comp=Z,12μm,9.7s
BJI LR LR
comp=N,23μm,15.8s,MS6.2
BJI LR LR
comp=E,5μm,15.1s,MS6.2
BJI LR LR
comp=Z,14μm,19.2s,MS5.9
ARUT Antelope Range 46.38 80 *e*P P 20 30 37.4 -0.4
BJT Baijiatuau 46.38 284 *e*P P 20 30 37.7 -0.2
BJT pmax pmax
comp=Z,782nm,1.1s
BJT MLR MLR
comp=Z,20μm,19.0s
BJT Baijiatuau 46.38 284 *e*P P 20 30 37.7 -0.2
comp=Z,782nm,1.1s,mb6.5
BJT LR LR
comp=Z,20μm,19.0s,MS6.1
P16A Fountain Green 46.41 77 ⇓P P 20 30 38.5 +0.4
baz=46
U12A Valley of Fire 46.51 82 ⇑P P 20 30 39.0 +0.1
baz=46
T13A Saint George 46.55 81 ⇓P P 20 30 39.3 +0.1
baz=46
S14A Cedar City 46.57 80 ⇑P P 20 30 39.2 -0.1
baz=46
MURC Murrieta 46.59 87 ⇑P P 20 30 39.1 -0.4
baz=46
IRK Irkutsk 46.66 304 *e*P P 20 30 39.4 -0.5
IRK *e* 20 32 12.2
IRK *e* 20 32 35.1
IRK *e*S **S 20 37 30.4 +2.4**
IRK pmax pmax
comp=Z,1μm,2.5s,mb6.4
MSU Marysvale 46.74 78 P P 20 30 37.1 -3.6
MSU Marysvale 46.74 78 *e*P P 20 30 40.5 -0.1
V12A Nelson 46.75 83 ⇑P P 20 30 40.7 -0.1
baz=46
GMRC Granite Mounta 46.82 85 ⇑P P 20 30 41.1 -0.3
baz=47
N18A Larsen Ranch, 46.84 74 ⇓P P 20 30 40.8 -0.7
baz=47
R15A Junction 46.86 79 ⇓P P 20 30 41.8 +0.2
baz=47
TMUT Trail Mountain 46.88 77 *e*P P 20 30 34.1 -7.6
U13A Pakoon Wash 46.88 82 ⇓P P 20 30 42.0 +0.2
baz=47
LDFC Landfair 46.99 84 *e*P P 20 30 42.6 0.0
W12A Cal Nev Ari 47.00 84 ⇓P P 20 30 42.4 -0.3
baz=47
T14A Hurricane 47.04 81 ⇑P P 20 30 43.2 +0.2
baz=47
O18A Roosevelt 47.05 75 ⇑P P 20 30 43.2 +0.1
baz=47
PFO Pinyon Flat Ob 47.06 87 P P 20 30 42.8 -0.5
comp=Z,135nm,1.1s,mb5.8,baz=313,slow=6.6,SNR=38
PFO PcP PcP 20 32 17.6 +2.5
comp=Z,74nm,1.0s,baz=319,slow=2.9,SNR=3.6
PFO Pinyon Flat Ob 47.06 87 ⇑P P 20 30 42.8 -0.5
baz=47
PFO Pinyon Flat Ob 47.06 87 *e*P P 20 30 42.8 -0.4
P17A Butcher Ranch, 47.06 76 ⇓P P 20 30 43.2 0.0
baz=47
BELC Belle Mtn. 47.10 86 ⇑P P 20 30 42.9 -0.7
baz=47
109C Camp Elliot, M 47.11 88 ⇓P P 20 30 43.4 -0.2
baz=47
Q16A Castle Valley 47.12 77 ⇓P P 20 30 43.7 0.0
baz=47
S15A Panguitch 47.12 79 ⇑P P 20 30 44.0 +0.3
baz=47
V13A Grand Canyon W 47.22 82 ⇓P P 20 30 44.6 +0.1
baz=47
P18A Preston Nutter 47.28 76 ⇓P P 20 30 45.1 +0.2
baz=47
TLY Talaya 47.28 304 P P 20 30 45.6 +0.8
SNR=110
TLY Talaya 47.28 304 *d*iP P 20 30 45.2 +0.5
TLY *e* 20 32 40.2
TLY *e*S **S 20 37 39.2 +2.3**
TLY *e*SS SS 20 41 00.6 -3.2
TLY pmax pmax
comp=Z,417nm,1.5s,mb6.1
TLY Talaya 47.28 304 *e*P P 20 30 45.3 +0.6
U14A Mt Trumbull 47.38 81 ⇑P P 20 30 45.8 +0.1
baz=47
SRU San Rafael 47.41 77 ⇓P P 20 30 45.9 0.0
baz=47
NEE2 Needles Airpor 47.49 84 ⇑P P 20 30 46.2 -0.5
baz=47
T15A Red Dirt Ranch 47.51 80 ⇓P P 20 30 47.1 +0.4
baz=47
BAR Barrett 47.52 88 *e*P P 20 30 46.4 -0.4
comp=Z,245nm,1.2s,mb6.1
BAR LR LR
comp=Z,13μm,19.0s,MS5.9
IRM Iron Mountain 47.54 85 ⇓P P 20 30 46.8 -0.2
baz=47
MONP Monument Peak 47.55 87 ⇑P P 20 30 47.0 0.0
baz=47
S16A Weppner Ranch, 47.58 79 ⇓P P 20 30 47.5 +0.3
baz=47
Q18A Rafter H Ranch 47.66 76 ⇑P P 20 30 47.3 -0.6
baz=47
BC3 Big Chuckw Mtn 47.67 86 ⇑P P 20 30 47.1 -0.9
baz=48
GUMO Guam 47.69 233 P P 20 30 46.2 -2.1
comp=Z,309nm,0.8s,mb6.4,baz=175,slow=1.1,SNR=13
GUMO LR LR 20 47 28.7
comp=Z,7μm,19.6s,MS5.6,baz=36,slow=32
R17A Hanksville Air 47.71 78 ⇓P P 20 30 48.0 -0.2
baz=48
W13A Hualapai Mount 47.75 83 ⇑P P 20 30 48.2 -0.5
baz=48
SONM Songino Array 47.82 298 P P 20 30 49.5 +0.6
comp=Z,310nm,1.1s,mb6.3,baz=60,slow=6.5,SNR=347
SONM PcP PcP 20 32 19.0 +1.5
comp=Z,146nm,1.1s,baz=105,slow=2.8,SNR=4.5
SONM S **S 20 37 48.8 +4.3**
comp=Z,12nm,1.2s,baz=29,slow=13,SNR=2.1
SONM LR LR 20 52 24.8
comp=Z,30μm,19.5s,MS6.3,baz=59,slow=38
SONM Songino Array 47.82 298 P P 20 30 49.5 +0.6
SONM 20 32 19.0
SONM S **S 20 37 48.8 +4.3**
SONM Songino Array 47.82 298 P P 20 30 49.5 +0.6
SONM PcP PcP 20 32 19.0 +1.5
SONM S **S 20 37 48.8 +4.3**
SONM LR LR 20 52 24.8
DVTC Desert V Tower 47.90 87 ⇑P P 20 30 49.6 -0.2
baz=48
SWSC Sam W. Stewart 47.91 87 ⇑P P 20 30 49.2 -0.6
baz=48
V14A Boquillas Ranc 47.91 82 ⇓P P 20 30 50.1 +0.2
baz=48
U15A North Rim 47.94 81 ⇓P P 20 30 50.3 +0.3
baz=48
TIA Tai'an 48.08 279 ⇓P P 20 30 50.6 -0.5
TIA XP sP 20 31 02.0 +2.6
TIA S **S 20 37 46.5 -2.0**
TIA XS sS 20 38 02.0 +3.7
TIA AMB AMB
comp=Z,899nm,1.2s,mb6.7
TIA LR LR
comp=N,3μm,14.0s,MS5.9
TIA LR LR
comp=E,9μm,15.0s,MS5.9
T16A Glen Canyon Da 48.09 80 ⇑P P 20 30 50.7 -0.5
baz=48
PDMCI Parker Dam,Lak 48.10 84 ⇑P P 20 30 50.9 -0.4
baz=48
X13A Yucca 48.11 84 ⇓P P 20 30 50.8 -0.5
baz=48
S17A Black Ridge (B 48.13 78 ⇓P P 20 30 51.4 -0.2
baz=48
ZAK Zakamensk 48.16 302 ⇓*i*P P 20 30 52.4 +0.8
ZAK *e* 20 32 19.2
ZAK *e* 20 37 46.4
ZAK pmax pmax
comp=Z,650nm,1.2s,mb6.5
W14A Seligman 48.19 83 ⇑P P 20 30 51.9 -0.1
baz=48
Y12C Blythe 48.20 85 ⇑P P 20 30 51.6 -0.5
baz=48
R18A Canyonlands Na 48.24 77 ⇑P P 20 30 51.5 -0.9
baz=48
Q19A Hogan Spring (48.29 76 ⇑P P 20 30 51.8 -0.9
baz=48
V15A Kaibab Nationa 48.39 81 ⇑P P 20 30 53.6 +0.1
baz=48
RSSD Black Hills 48.44 67 *e*P P 20 30 52.5 -1.3
RSSD pmax pmax
comp=Z,59nm,0.5s,mb5.9
RSSD Black Hills 48.44 67 *e*P P 20 30 52.5 -1.3
comp=Z,59nm,0.5s,mb5.9
GLA Glamis 48.46 86 *e*P P 20 30 53.6 -0.5
GLA pmax pmax
comp=Z,265nm,1.0s,mb6.2
GLA MLR MLR
comp=Z,11μm,20.0s,MS5.9
GLA Glamis 48.46 86 ⇓P P 20 30 53.7 -0.4
baz=48
GLA Glamis 48.46 86 *e*P P 20 30 53.6 -0.5
comp=Z,265nm,1.0s,mb6.2
GLA LR LR
comp=Z,11μm,20.0s,MS5.9

T17A	**Navajo Res., N**	**48.52**	**79**	⇓P	**P**	**20 30 54.0**	**-0.5**
	baz=48						
S18A	**Hurst Farm, Bl**	**48.60**	**78**	⇓P	**P**	**20 30 54.6**	**-0.5**
	baz=48						
Y13A	**Salome**	**48.61**	**84**	⇓P	**P**	**20 30 54.7**	**-0.5**
	baz=48						
MOY	**Mondy**	**48.70**	**305**	*e*P	**P**	**20 30 56.4**	**+0.7**
MOY				pmax	pmax		
	comp=Z,1μm,1.8s,mb6.7						
R19A	**Curley Farm, L**	**48.70**	**77**	⇑P	**P**	**20 30 54.9**	**-0.9**
	baz=48						
W15A	**Williams**	**48.73**	**82**	⇑P	**P**	**20 30 56.3**	**+0.1**
	baz=48						
HHC	**Hu-ho-hao-te**	**48.73**	**288**	*e*P	**P**	**20 30 56.3**	**+0.2**
HHC				AP	pP	20 31 02.8	+0.7
HHC				XP	sP	20 31 05.3	+0.9
HHC				PCP	PcP	20 32 23.9	+3.0
HHC				PP	PP	20 32 48.3	-0.7
HHC				AMB	AMB		
	comp=Z,548nm,1.4s,mb6.4						
HHC				AMB	AMB		
	comp=Z,11μm,5.9s						
HHC				LR	LR		
	comp=N,25μm,21.4s,MS6.2						
HHC				LR	LR		
	comp=E,13μm,19.4s,MS6.2						
HHC				LR	LR		
	comp=Z,16μm,18.8s,MS6.0						
SSE	**Sheshan**	**48.77**	**271**	P	**P**	**20 30 56.5**	**0.0**
SSE				XP	sP	20 31 09.3	+4.5
SSE				PP	PP	20 32 50.0	+0.4
SSE				S	**S**	**20 37 56.8**	**-1.6**
SSE				XS	sS	20 38 12.6	+4.4
SSE				SCS	ScS	20 40 47.9	0.0
SSE				AMB	AMB		
	comp=Z,368nm,1.7s,mb6.1						
SSE				AMB	AMB		
	comp=Z,8μm,6.9s						
SSE				LR	LR		
	comp=N,7μm,11.2s,MS6.0						
SSE				LR	LR		
	comp=E,5μm,11.2s,MS6.0						
SSE				LR	LR		
	comp=Z,7μm,11.9s,MS5.9						
PV10	**Paradox Valley**	**48.78**	**77**	*e*P	**P**	**20 30 56.4**	**-0.1**
X14A	**Yava**	**48.78**	**83**	⇓P	**P**	**20 30 56.3**	**-0.2**
	baz=49						
U17A	**Shonto**	**48.86**	**79**	⇑P	**P**	**20 30 56.4**	**-0.7**
	baz=49						
112A	**Yuma**	**48.95**	**86**	⇑P	**P**	**20 30 57.5**	**-0.4**
	baz=49						
T18A	**Mexican Hat**	**49.02**	**78**	⇑P	**P**	**20 30 57.4**	**-0.9**
	baz=49						
Y14A	**Wickenburg**	**49.05**	**84**	⇓P	**P**	**20 30 58.1**	**-0.5**
	baz=49						
WUAZ	**Wupatki**	**49.08**	**81**	⇓P	**P**	**20 30 58.7**	**-0.1**
	baz=49						
S19A	**Harvey Farm, M**	**49.11**	**77**	⇓P	**P**	**20 30 58.4**	**-0.6**
	baz=49						
X15A	**Humboldt**	**49.19**	**83**	⇑P	**P**	**20 30 59.7**	**0.0**
	baz=49						
PV01	**Paradox Valley**	**49.22**	**76**	*e*P	**P**	**20 30 59.0**	**-0.9**
PHWY	**Pilot Hill**	**49.23**	**71**	*e*P	**P**	**20 30 58.9**	**-1.0**
W16A	**Flagstaff**	**49.25**	**82**	⇓P	**P**	**20 31 00.4**	**+0.3**
	baz=49						
113A	**Mohawk Valley,**	**49.32**	**85**	⇑P	**P**	**20 31 00.0**	**-0.7**
	baz=49						
Z14A	**Wintersburg**	**49.46**	**84**	⇑P	**P**	**20 31 00.9**	**-0.8**
	baz=49						
U18A	**Rough Rock, Ch**	**49.47**	**79**	⇓P	**P**	**20 31 01.3**	**-0.5**
	baz=49						
Y15A	**Casa Rosa Ranc**	**49.47**	**83**	⇑P	**P**	**20 31 01.7**	**-0.2**
	baz=49						
ULM	**Lac du Bonnet**	**49.61**	**57**	P	**P**	**20 31 01.7**	**-1.0**
	comp=Z,68nm,0.5s,mb6.0,baz=304,slow=8.2,SNR=49						
ULM				S	**S**	**20 38 08.5**	**-1.2**
	comp=Z,7.6nm,0.9s,baz=197,slow=19,SNR=2.1						
ULM				LR	LR	20 52 20.0	
	comp=Z,29μm,21.1s,MS6.3,baz=315,slow=36						
ULM	**Lac du Bonnet**	**49.61**	**57**	P	**P**	**20 31 01.7**	**-1.0**
ULM				S	**S**	**20 38 08.5**	**-1.2**
ULM				LR	LR	20 52 20.0	
NJ2	**Nanjing**	**49.64**	**274**	*e*P	**P**	**20 31 02.6**	**-0.5**
NJ2				AP	pP	20 31 10.1	+1.0
NJ2				XP	sP	20 31 12.8	+1.4
NJ2				PCP	PcP	20 32 23.0	-1.4
NJ2				S	**S**	**20 38 10.0**	**-0.5**
NJ2				XS	sS	20 38 22.5	+2.2
NJ2				AMB	AMB		
	comp=Z,260nm,1.1s,mb6.2						
NJ2				AMB	AMB		
	comp=Z,6μm,6.3s						
NJ2				LR	LR		
	comp=N,2μm,20.4s,MS5.8						
NJ2				LR	LR		
	comp=E,8μm,18.8s,MS5.8						
NJ2				LR	LR		
	comp=Z,8μm,18.7s,MS5.8						
RW3	**Ridgway**	**49.70**	**76**	*e*P	**P**	**20 30 56.0**	**-7.5**
X16A	**Lo Mia Camp, P**	**49.74**	**82**	⇑P	**P**	**20 31 04.0**	**+0.1**
	baz=50						
T19A	**Beclabito**	**49.74**	**78**	⇓P	**P**	**20 31 03.4**	**-0.5**
	baz=50						
W17A	**Winslow**	**49.78**	**81**	⇓P	**P**	**20 31 03.9**	**-0.3**
	baz=50						
BTO	**Baotou**	**49.82**	**288**	*e*P	**P**	**20 31 05.1**	**+0.7**
BTO				S	**S**	**20 38 11.9**	**-1.0**
V18A	**Ganado**	**49.87**	**80**	⇑P	**P**	**20 31 04.8**	**-0.1**
	baz=50						
Z15A	**Gila River Ind**	**50.01**	**84**	⇑P	**P**	**20 31 05.5**	**-0.5**
	baz=50						
ISCO	**Idaho Springs**	**50.03**	**73**	*e*P	**P**	**20 31 05.6**	**-0.5**
ISCO				MLR	MLR		
	comp=Z,22μm,19.0s,MS6.2						
Y16A	**Circle Bar Ran**	**50.06**	**83**	⇑P	**P**	**20 31 06.2**	**-0.1**
	baz=50						
TIY	**Taiyuan**	**50.10**	**284**	*i* P	**P**	**20 31 07.1**	**+0.6**
TIY				S	**S**	**20 38 15.8**	**-1.0**
TIY				AMB	AMB		
	comp=Z,8μm,6.6s						
TIY				LR	LR		
	comp=N,16μm,15.0s,MS6.2						
TIY				LR	LR		
	comp=E,12μm,16.2s,MS6.2						
TIY				LR	LR		
	comp=Z,14μm,17.4s,MS6.0						
X17A	**Forest Lakes**	**50.19**	**82**	⇓P	**P**	**20 31 07.5**	**+0.2**
	baz=50						
115A	**Sonoran Desert**	**50.35**	**84**	⇓P	**P**	**20 31 08.5**	**0.0**
	baz=50						
KRAR	**Krasnoyarsk**	**50.36**	**313**	*d i*P	**P**	**20 31 07.6**	**-0.7**
KRAR				pmax	pmax		
	comp=Z,3μm,1.4s,mb7.1						
KRAR				MLR	MLR		
	comp=Z,25μm,17.0s,MS6.3						
W18A	**Petrified Fore**	**50.37**	**80**	⇑P	**P**	**20 31 08.5**	**-0.1**
	baz=50						
V19A	**Window Rock**	**50.43**	**79**	⇓P	**P**	**20 31 09.1**	**0.0**
	baz=50						
Z16A	**Peralta Trail,**	**50.44**	**83**	⇓P	**P**	**20 31 08.9**	**-0.3**
	baz=50						
214A	**Organ Pipe Nat**	**50.46**	**86**	⇓P	**P**	**20 31 09.0**	**-0.3**
	baz=50						
Y17A	**Roosevelt**	**50.58**	**82**	⇑P	**P**	**20 31 10.0**	**-0.2**
	baz=50						
W19A	**Sanders**	**50.60**	**80**	⇑P	**P**	**20 31 10.4**	**0.0**
	baz=50						
X18A	**Snowflake**	**50.61**	**81**	⇑P	**P**	**20 31 10.5**	**0.0**
	baz=50						
AGMN	**Agassiz Refuge**	**50.72**	**59**	*e*P	**P**	**20 31 09.7**	**-1.4**
	comp=Z,205nm,0.9s,mb6.1						
AGMN				LR	LR		
	comp=Z,26μm,21.0s,MS6.2						
116A	**Eloy**	**50.77**	**84**	⇑P	**P**	**20 31 11.2**	**-0.5**
	baz=51						
KBS	**Kingsbay**	**50.88**	**358**	*e*P	**P**	**20 31 11.9**	**0.0**
KBS				*e*S	**S**	**20 38 30.9**	**+4.2**
KBS				AMS	AMS	20 53 49.6	
	comp=Z,25μm,22.3s,MS6.2						
KBS	**Kingsbay**	**50.88**	**358**	*e*P	**P**	**20 31 11.0**	**-0.9**
KBS				LR	LR		
	comp=Z,28μm,19.0s,MS6.3						
Y18A	**Canyon Day Jun**	**51.04**	**82**	⇓P	**P**	**20 31 13.8**	**+0.1**
	baz=51						
XMAS	**Kiritimati**	**51.06**	**154**	*e*P	**P**	**20 31 14.8**	**+0.8**
	comp=Z,166nm,1.1s,mb5.9						
Z17A	**San Carlos Hig**	**51.08**	**83**	⇑P	**P**	**20 31 14.1**	**0.0**
	baz=51						
X19A	**St. Johns**	**51.10**	**81**	⇓P	**P**	**20 31 14.0**	**-0.1**
	baz=51						
216A	**Three Points,**	**51.30**	**85**	⇓P	**P**	**20 31 15.4**	**-0.3**
	baz=51						
SDCO	**Great Sand Dun**	**51.37**	**75**	*e*P	**P**	**20 31 16.0**	**-0.1**
117A	**Oracle**	**51.38**	**84**	⇑P	**P**	**20 31 16.1**	**-0.2**
	baz=51						
Y19A	**Nutrioso**	**51.42**	**81**	⇓P	**P**	**20 31 16.9**	**+0.3**
	baz=51						
SPB4	**Spitsbergen Ar**	**51.47**	**356**	*e*P	**P**	**20 31 16.0**	**-0.4**
Z18A	**Geronimo**	**51.49**	**83**	⇑P	**P**	**20 31 17.0**	**-0.1**
	baz=51						
TUC	**Tucson**	**51.52**	**84**	*e*P	**P**	**20 31 17.0**	**-0.4**
TUC				pmax	pmax		
	comp=Z,323nm,1.5s,mb6.0						
TUC	**Tucson**	**51.52**	**84**	*e*P	**P**	**20 31 17.0**	**-0.4**
	comp=Z,323nm,1.5s,mb6.0						
118A	**Homack Ranch,**	**51.83**	**83**	⇓P	**P**	**20 31 19.3**	**-0.3**
	baz=52						
Z19A	**T-Link Ranch,**	**51.85**	**82**	⇓P	**P**	**20 31 19.8**	**0.0**
	baz=52						
217A	**Green Valley**	**51.85**	**84**	⇓P	**P**	**20 31 19.7**	**-0.2**
	baz=52						
119A	**Ashpeak Ranch,**	**52.17**	**82**	⇓P	**P**	**20 31 21.8**	**-0.4**
	baz=52						
218A	**Dragoon**	**52.21**	**84**	⇓P	**P**	**20 31 22.5**	**0.0**
	baz=52						
DAG	**Danmarks Havn**	**52.46**	**6**	⇑*i*P	**P**	**20 31 22.6**	**-1.1**
DAG				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.9						
DAG				MLR	MLR		
	comp=Z,74μm,21.0s,MS6.7						
DAG	**Danmarks Havn**	**52.46**	**6**α	*i*P	**P**	**20 31 22.6**	**-1.1**
	comp=Z,140nm,0.9s,mb5.9						
DAG							
	comp=Z,74μm,21.0s						
DAG	**Danmarks Havn**	**52.46**	**6**	*i* P	**P**	**20 31 22.6**	**-1.1**
	comp=Z,140nm,0.9s,mb5.9						
DAG				LR	LR		
	comp=Z,74μm,21.0s,MS6.7						
LAZ	**Ladron**	**52.47**	**79**	*e*P	**P**	**20 31 24.0**	**-0.4**
ANMO	**Albuquerque**	**52.54**	**78**	P	**P**	**20 31 24.4**	**-0.5**
	comp=Z,56nm,1.1s,mb5.4,baz=316,slow=7.8,SNR=24						
ANMO				PcP	PcP	20 32 38.2	+3.1
	comp=Z,52nm,0.9s,baz=282,slow=2.7,SNR=4.0						
ANMO	**Albuquerque**	**52.54**	**78**	P	**P**	**20 31 24.4**	**-0.5**
ANMO						20 32 38.2	
ANMO				pmax	pmax		
	comp=Z,56nm,1.1s						
ANMO	**Albuquerque**	**52.54**	**78**	*e*P	**P**	**20 31 24.5**	**-0.5**
ANMO				LR	LR		
	comp=Z,19μm,20.0s,MS6.1						
318A	**Bisbee**	**52.60**	**84**	⇓P	**P**	**20 31 25.0**	**-0.5**
	baz=52						
219A	**White Tail Can**	**52.70**	**83**	⇑P	**P**	**20 31 25.7**	**-0.5**
	baz=52						
LENM	**Lemitar**	**52.73**	**79**	*e*P	**P**	**20 31 26.6**	**+0.3**
HVS	**Khovu-Aksy**	**52.76**	**308**	*c i*P	**P**	**20 31 26.0**	**-0.3**
HVS				MLR	MLR		
	comp=Z,55μm,17.0s,MS6.7						
TATO	**Taipei**	**52.78**	**265**	*e*P	**P**	**20 31 29.6**	**+2.8**
Y22C	**IRIS PASSCAL I**	**52.82**	**79**	⇑P	**P**	**20 31 26.6**	**-0.4**
	baz=53						
LPM	**Los Pinos Moun**	**52.85**	**79**	*e*P	**P**	**20 31 27.1**	**-0.1**
BNM	**Barren Site**	**52.95**	**79**	*e*P	**P**	**20 31 27.7**	**-0.3**
ECSD	**EROS,Sioux Fal**	**53.00**	**64**	*e*P	**P**	**20 31 26.4**	**-1.8**
	comp=Z,342nm,1.5s,mb6.1						
ECSD				LR	LR		
	comp=Z,29μm,20.0s,MS6.3						
YHNB	**Yeheng**	**53.07**	**265**	*e*P	**P**	**20 31 27.9**	**-1.1**
	comp=Z,71nm,0.7s,mb5.7						
319A	**Douglas**	**53.10**	**84**	⇓P	**P**	**20 31 28.6**	**-0.5**
	baz=53						
NACB	**Ninganchiao**	**53.28**	**264**	*e*P	**P**	**20 31 29.2**	**-1.3**
	comp=Z,471nm,1.3s,mb6.3						
EYMN	**Ely**	**53.29**	**57**	*e*P	**P**	**20 31 29.1**	**-1.1**
	comp=Z,186nm,0.9s,mb6.0						
EYMN				LR	LR		
	comp=Z,27μm,20.0s,MS6.3						
WHN	**Wuhan**	**53.52**	**275**	⇓P	**P**	**20 31 31.3**	**-0.8**
WHN				AP	pP	20 31 37.3	-0.9
WHN				S	**S**	**20 38 58.8**	**-5.2**
WHN				AMB	AMB		
	comp=Z,1μm,1.4s,mb6.7						
WHN				AMB	AMB		
	comp=Z,14μm,4.2s						
WHN				LR	LR		
	comp=N,10μm,16.8s,MS6.4						
WHN				LR	LR		
	comp=E,24μm,15.2s,MS6.4						
WHN				LR	LR		
	comp=Z,22μm,15.8s,MS6.3						
SUMG	**Summit**	**54.12**	**14**	*e*P	**P**	**20 31 36.3**	**+0.3**
CBKS	**Cedar Bluff**	**54.22**	**70**	*e*P	**P**	**20 31 36.5**	**-0.7**
CBKS				pmax	pmax		
	comp=Z,310nm,0.9s,mb6.2						
CBKS				MLR	MLR		
	comp=Z,13μm,19.0s,MS6.0						
CBKS	**Cedar Bluff**	**54.22**	**70**	*e*P	**P**	**20 31 36.5**	**-0.7**
	comp=Z,310nm,0.9s,mb6.2						
CBKS				LR	LR		
	comp=Z,13μm,19.0s,MS6.0						
XAN	**Xi'an**	**54.63**	**282**	P	**P**	**20 31 39.5**	**-0.8**
XAN				AP	pP	20 31 46.3	0.0
XAN				XP	sP	20 31 49.1	+0.5
XAN				PP	PP	20 33 40.3	-2.2
XAN				S	**S**	**20 39 14.8**	**-4.2**
XAN				XS	sS	20 39 23.5	-5.4
XAN				SS	SS	20 42 54.3	-7.1
XAN				AMB	AMB		
	comp=Z,59nm,1.1s,mb5.5						
XAN				AMB	AMB		
	comp=Z,5μm,8.1s						
XAN				LR	LR		
	comp=N,4μm,14.3s,MS6.1						
XAN				LR	LR		
	comp=E,12μm,18.1s,MS6.1						
XAN				LR	LR		
	comp=Z,14μm,17.8s,MS6.1						
QZH	**Quanzhou**	**54.66**	**267**	⇓*i*P	**P**	**20 31 40.5**	**0.0**
QZH				S	**S**	**20 39 22.3**	**+2.8**
QZH				AMB	AMB		
	comp=Z,960nm,1.3s,mb6.7						
QZH				AMB	AMB		
	comp=Z,15μm,4.0s						
QZH				LR	LR		
	comp=N,8μm,12.7s						
QZH				LR	LR		
	comp=E,3μm,9.7s						
QZH				LR	LR		
	comp=Z,5μm,14.6s,MS5.7						
BJO	**Bjornoya**	**54.94**	**355**	*e*P	**P**	**20 31 41.7**	**-0.2**
BJO				AMb	AMB	20 31 47.3	
	comp=Z,591nm,0.3s,mb7.0						
BJO				*e*S	**S**	**20 39 24.8**	**+2.8**
ZALV	**Zalesovo Beam**	**55.31**	**315**	P	**P**	**20 31 44.0**	**-0.9**
	comp=Z,63nm,0.8s,mb5.7,baz=72,slow=4.8,SNR=71						
ZALV				LR	LR	20 55 01.3	
	comp=Z,8μm,19.8s,MS5.8,baz=66,slow=36						
ZALV				PKPPKP		21 01 45.6	
	comp=Z,0.6nm,0.2s,baz=215,slow=1.8,SNR=6.1						
ZAL	**Zalesovo**	**55.33**	**315**	P	**P**	**20 31 44.0**	**-1.0**
NVS	**Novosibirsk**	**55.46**	**316**	⇓*i*P	**P**	**20 31 44.7**	**-1.2**
NVS				*e*		20 32 44.9	
NVS				*e*		20 33 47.4	
NVS				*i* S	**S**	**20 39 28.7**	**-0.8**
NVS				*i*		20 41 32.7	
NVS				*e*SSS		20 45 16.1	
NVS				pmax	pmax		
	comp=E,620nm,2.4s						
NVS				pmax	pmax		
	comp=Z,756nm,2.4s,mb6.3						
NVS				pmax	pmax		
	comp=N,460nm,2.7s						
NVS				pmax	pmax		
	comp=Z,197nm,1.9s,mb5.8						
NVS				pmax	pmax		
	comp=N,172nm,2.7s						
NVS				pmax	pmax		
	comp=E,94nm,2.4s						
NVS				smax			
	comp=N,265nm,2.2s						
NVS				smax			
	comp=E,340nm,2.0s						
AMTX	**Amarillo**	**55.57**	**75**	*e*P	**P**	**20 31 44.1**	**-2.9**
	comp=E,226nm,1.4s,mb6.0						
AMTX				LR	LR		
	comp=Z,15μm,20.0s,MS6.1						
GDL2	**Guadalupe Moun**	**55.66**	**79**	*e*P	**P**	**20 31 47.2**	**-0.6**
COWI	**Conover**	**55.70**	**57**	*e*P	**P**	**20 31 46.6**	**-1.2**
	comp=Z,197nm,1.3s,mb6.0						
COWI				LR	LR		
	comp=Z,23μm,20.0s,MS6.2						
KSU1	**Kansas State U**	**55.91**	**68**	*e*P	**P**	**20 31 47.8**	**-1.6**
	comp=Z,248nm,0.8s,mb6.3						
KSU1				LR	LR		
	comp=Z,17μm,20.0s,MS6.1						
SCIA	**State Center**	**56.09**	**64**	*e*P	**P**	**20 31 49.7**	**-0.9**
	comp=Z,260nm,0.7s,mb6.4						
SFJD	**Kangerlussuaq**	**56.33**	**22**	PKP2bc		21 01 58.5	
	comp=Z,12nm,0.6s,baz=312,slow=2.5,SNR=9.2						
SFJD	**Kangerlussuaq**	**56.33**	**22**	*i* P	**P**	**20 31 51.6**	**-0.3**
SFJD				*i* S	**S**	**20 39 39.5**	**-1.2**
SFJD				pmax	pmax		
	comp=Z,246nm,0.8s,mb6.3						
SFJD				MLR	MLR		
	comp=Z,20μm,18.0s,MS6.2						
SFJD	**Kangerlussuaq**	**56.33**	**22**	*i* P	**P**	**20 31 51.6**	**-0.3**
	comp=Z,246nm,0.8s,mb6.3						
SFJD				*i* S	**S**	**20 39 39.5**	**-1.2**
SFJD				*i*		20 40 27.4	
SFJD							
	comp=Z,20μm,18.0s						
LZH	**Lanzhou**	**56.43**	**288**	⇓*i*P	**P**	**20 31 54.0**	**+0.8**
LZH				AP	pP	20 31 59.9	+0.7
LZH				XP	sP	20 32 02.9	+1.4
LZH				PP	PP	20 34 02.0	+3.4
LZH				AMB	AMB		
	comp=Z,2μm,1.2s,mb6.9						
LZH				AMB	AMB		
	comp=Z,7μm,4.0s						
LZH				LR	LR		
	comp=E,18μm,15.7s						
LZH				LR	LR		
	comp=Z,20μm,17.1s,MS6.3						
GTA	**Gaotai**	**56.68**	**293**	P	**P**	**20 31 55.3**	**+0.4**
GTA				AP	pP	20 32 01.3	+0.3
GTA				XP	sP	20 32 04.1	+0.8
GTA				PP	PP	20 34 02.8	+2.1
GTA				S	**S**	**20 39 45.8**	**-0.4**
GTA				XS	sS	20 39 55.3	-0.9
GTA				SS	SS	20 43 35.0	+1.5
GTA				AMB	AMB		
	comp=Z,247nm,1.6s,mb6.0						
GTA				AMB	AMB		
	comp=Z,11μm,6.0s						
GTA				LR	LR		
	comp=N,24μm,18.9s,MS6.4						
GTA				LR	LR		
	comp=E,14μm,19.5s,MS6.4						
GTA				LR	LR		
	comp=Z,19μm,18.4s,MS6.2						
JFWS	**Jewell Farm**	**57.13**	**61**	*e*P	**P**	**20 31 56.2**	**-1.8**
JFWS				MLR	MLR		
	comp=Z,22μm,19.0s,MS6.3						
LPIG	**La Paz**	**57.45**	**91**	P	**P**	**20 31 59.8**	**-0.7**
	comp=Z,262nm,1.1s,mb6.2,baz=65,slow=1.7,SNR=24						
PALP	**Palanan**	**57.97**	**258**	*e*P	**P**	**20 32 04.9**	**+0.7**
APYP	**Conner**	**58.11**	**259**	*e*P	**P**	**20 32 03.6**	**-1.6**
CAUP	**Cauayan**	**58.44**	**258**	*e*P	**P**	**20 32 06.7**	**-0.8**
SIPP	**Brgy, Tapao**	**58.56**	**260**	⇑*i*P	**P**	**20 32 08.1**	**-0.3**
ABRA	**Dolores**	**58.61**	**260**	*e*P	**P**	**20 32 07.7**	**-1.0**
FUNA	**Funafuti**	**58.68**	**184**	*e*P	**P**	**20 32 10.4**	**+1.2**
	comp=Z,949nm,1.8s,mb6.5						
FUNA				LR	LR		
	comp=Z,23μm,21.0s,MS6.3						
JMIC	**Jan Mayen**	**58.73**	**4**	LR	LR	21 00 55.8	
	comp=Z,11μm,18.8s,MS6.0,baz=334,slow=40						
JMIC	**Jan Mayen**	**58.73**	**4**	⇑*i*P	**P**	**20 32 12.3**	**+3.5**
JMIC				*e*S	**S**	**20 40 19.4**	**+7.2**
JMIC				AMS	AMS	20 54 24.9	
	comp=Z,13μm,26.3s,MS5.9						
KEV	**Kevo**	**58.88**	**350**	P	**P**	**20 32 08.7**	**-1.2**
KEV				pmax	pmax		
	comp=Z,230nm,1.0s,mb6.2						
KEV	**Kevo**	**58.88**	**350**	*e*P	**P**	**20 32 07.3**	**-2.6**
	comp=Z,220nm,1.0s,mb6.1						
KEV				LR	LR		
	comp=Z,22μm,21.0s,MS6.3						
GLMI	**Grayling**	**58.95**	**56**	*e*P	**P**	**20 32 10.9**	**+0.1**
GLMI				LR	LR		
	comp=Z,26μm,19.0s,MS6.4						
ARCES	**ARCESS Array B**	**59.25**	**351**	P	**P**	**20 32 11.6**	**-0.9**
	comp=Z,189nm,0.8s,mb6.2,baz=16,slow=5.7,SNR=82						
ARCES				LR	LR	20 58 39.1	
	comp=Z,26μm,20.6s,MS6.3,baz=13,slow=37						
ARCES				PKPPKP		21 01 40.0	
	comp=Z,4.3nm,0.9s,baz=357,slow=2.4,SNR=4.3						
ARCES				PKP2bc		21 01 51.4	
	comp=Z,13nm,1.0s,baz=211,slow=2.4,SNR=17						
ARCES	**ARCESS Array B**	**59.25**	**351**	P	**P**	**20 32 11.6**	**-0.9**
ARCES				LR	LR	20 58 39.1	
ARCES				P'P'		21 01 40.0	
ARCES				⇑*e*		21 01 51.4	
ARE0	**ARCESS Array S**	**59.25**	**351**	*e*P	**P**	**20 32 11.3**	**-1.1**
GZH	**Guangzhou**	**59.34**	**270**	P	**P**	**20 32 09.6**	**-4.1**
GZH				S	**S**	**20 40 16.3**	**-5.0**
GZH				AMB	AMB		
	comp=Z,8μm,6.8s						
GZH				LR	LR		
	comp=N,2μm,15.4s,MS6.1						
GZH				LR	LR		
	comp=E,10μm,14.7s,MS6.1						
GZH				LR	LR		
	comp=Z,10μm,16.6s,MS6.0						
HKC	**Hong Kong Obse**	**59.37**	**269**	⇓*i*P	**P**	**20 32 14.0**	**+0.1**
HKC				*i* S	**S**	**20 40 24.0**	**+2.3**
BALP	**Baler**	**59.50**	**257**	*e*P	**P**	**20 32 14.0**	**-0.8**
PVCP	**Virac**	**59.53**	**254**	*e*P	**P**	**20 32 14.9**	**-0.2**
BCPH	**Baguio City Da**	**59.64**	**259**	⇓*e*P	**P**	**20 32 13.6**	**-2.3**
LVZ	**Lovozero**	**59.64**	**346**	P	**P**	**20 32 14.7**	**-0.5**
	comp=Z,4μm,0.8s,mb7.5,SNR=71						
JCT	**Junction City**	**59.70**	**78**	*e*P	**P**	**20 32 14.3**	**-1.8**
JCT				pmax	pmax		
	comp=Z,244nm,1.2s,mb6.1						
JCT				MLR	MLR		
	comp=Z,22μm,19.0s,MS6.3						
JCT	**Junction City**	**59.70**	**78**	*e*P	**P**	**20 32 14.3**	**-1.8**
	comp=Z,244nm,1.2s,mb6.1						
JCT				LR	LR		
	comp=Z,22μm,19.0s,MS6.3						
TRO	**Tromso**	**59.74**	**353**	*e*P	**P**	**20 32 15.3**	**-0.5**
TRO				AMb	AMB	20 32 20.7	
	comp=Z,270nm,1.2s,mb6.2						
TRO				*e*S	**S**	**20 40 26.5**	**+1.3**
TRO	**Tromso**	**59.74**	**353**	*e*P	**P**	**20 32 15.4**	**-0.4**
TRO				pmax	pmax		
	comp=Z,270nm,1.2s,mb6.2						
TRO	**Tromso**	**59.74**	**353**	*e*P	**P**	**20 32 15.3**	**-0.5**
	comp=Z,270nm,1.2s,mb6.2						
SLM	**Saint Louis**	**59.96**	**65**	*e*P	**P**	**20 32 16.4**	**-1.4**
CD2	**Chengdu**	**59.96**	**283**	⇓*i*P	**P**	**20 32 17.4**	**-0.5**
CD2				AP	pP	20 32 23.5	-0.5
CD2				XP	sP	20 32 26.8	+0.5
CD2				PCP	PcP	20 33 03.8	-0.2
CD2				PP	PP	20 34 31.3	+1.3
CD2				PCS	PcS	20 37

APA eS S 20 40 21.0 -9.3
APA i 20 41 00.0
APA i SS SS 20 44 35.0 +8.7
APA pmax pmax
comp=Z,148nm,1.0s,mb6.0
FVM French Village 60.29 65 eP P 20 32 18.0 -2.1
BESP Borongan 60.30 251 eP P 20 32 20.9 +0.5
KURK Kurchatov 60.31 315 P P 20 32 20.0 +0.1
SNR=310
KURK Kurchatov 60.31 315⇑eP P 20 32 19.5 -0.5
KURK pmax pmax
comp=Z,962nm,1.4s,mb6.6
KURK Kurchatov 60.31 315 eP P 20 32 19.7 -0.3
KURK LR LR
comp=Z,28μm,20.0s,MS6.4
SCHQ Schefferville 60.34 39 P P 20 32 19.9 -0.2
comp=Z,236nm,0.9s,mb6.2,baz=325,slow=7.3,SNR=102
SCHQ S S 20 40 35.8 +2.4
comp=Z,5.8nm,0.9s,baz=167,slow=18,SNR=3.9
SCHQ LR LR 20 59 13.1
comp=Z,23μm,20.4s,MS6.3,baz=318,slow=37
SCHQ PKPPKP 21 01 38.0
comp=Z,5.4nm,0.9s,baz=76,slow=4.2,SNR=5.8
SCHQ PKP2bc 21 01 48.4
comp=Z,8.8nm,0.8s,baz=34,slow=1.7,SNR=8.3
SCHQ Schefferville 60.34 39 P P 20 32 19.9 -0.2
SCHQ S S 20 40 35.8 +2.4
SCHQ LR LR 20 59 13.1
SCHQ P'P' 21 01 38.0
SCHQ ⇑e 21 01 48.4
GQP Guinayangan 60.35 255⇓eP P 20 32 20.5 -0.3
SCZP Santa Cruz 60.52 259 eP P 20 32 21.0 -0.9
WMQ Urumqi 60.57 304 P P 20 32 22.1 +0.2
WMQ AP pP 20 32 28.3 +0.3
WMQ XP sP 20 32 31.0 +0.8
WMQ PCP PcP 20 33 06.4 +0.2
WMQ PP PP 20 34 37.5 +2.5
WMQ SCP ScP 20 37 05.1 -1.2
WMQ AMB AMB
comp=Z,496nm,0.8s,mb6.7
WMQ AMB AMB
comp=Z,2μm,7.5s
WMQ LR LR
comp=N,70μm,28.4s,MS6.8
WMQ LR LR
comp=E,65μm,28.2s,MS6.8
WMQ LR LR
comp=Z,25μm,18.8s
MIAR Mount Ida 60.75 70 eP P 20 32 14.4 -8.9
comp=Z,193nm,0.9s,mb6.2
OLIL Olney 61.12 63 eP P 20 32 24.1 -1.7
comp=Z,194nm,0.7s,mb6.3
AAM Ann Arbor 61.17 58 eP P 20 32 25.8 -0.2
AAM MLR MLR
comp=Z,17μm,20.0s,MS6.2
SIUC Southern Illin 61.17 65 eP P 20 32 24.4 -1.7
comp=Z,102nm,0.8s,mb6.0
GYA Guiyang 61.22 278⇓iP P 20 32 28.8 +2.2
GYA AP pP 20 32 35.8 +3.2
GYA XP sP 20 32 39.4 +4.5
GYA PCP PcP 20 33 11.6 +2.5
GYA AMB AMB
comp=Z,80nm,1.0s,mb5.8
GYA AMB AMB
comp=Z,11μm,9.7s
GYA LR LR
comp=N,4μm,18.8s,MS5.9
GYA LR LR
comp=E,6μm,18.5s,MS5.9
GYA LR LR
comp=Z,5μm,18.1s,MS5.7
OCLP Ormoc 61.23 251 eP P 20 32 26.5 -0.2
MKAR Makanchi Array 61.30 310 P P 20 32 26.0 -0.8
comp=Z,167nm,0.9s,mb6.2,baz=54,slow=6.2,SNR=221
MKAR S S 20 40 46.9 +1.1
comp=Z,3.5nm,1.0s,baz=92,slow=10,SNR=2.2
MKAR LR LR 21 00 30.0
comp=Z,17μm,20.6s,MS6.2,baz=208,slow=38
MKAR PKPPKP 21 01 35.1
comp=Z,2.3nm,0.9s,baz=237,slow=3.6,SNR=6.7
MKAR PKP2bc 21 01 48.1
comp=Z,5.3nm,0.9s,baz=248,slow=5.1,SNR=6.3
MKAR PKP2ab 21 01 58.6
comp=Z,3.2nm,0.9s,baz=254,slow=0.9,SNR=3.8
MKAR Makanchi Array 61.30 310 P P 20 32 26.0 -0.8
MKAR S S 20 40 46.9 +1.1
MKAR Makanchi Array 61.30 310 P P 20 32 26.0 -0.8
MKAR S S 20 40 46.9 +1.1
MKAR LR LR 21 00 30.1
MKAR P'P' 21 01 35.1
MKAR ⇑e 21 01 48.1
MKAR P'P'ab 21 01 58.6
UALR University of 61.33 69 eP P 20 32 25.5 -1.7
comp=Z,170nm,1.3s,mb6.0
LOF Lofoten 61.56 355 eP P 20 32 31.5 +3.2
LOF AMb AMB 20 32 37.0
comp=Z,196nm,2.2s,mb5.8
PARMO Parma 61.58 66 eP P 20 32 26.5 -2.3
BLO Bloomington 61.72 62 eP P 20 32 28.5 -1.3
BLO pmax pmax
comp=Z,168nm,0.7s,mb6.3
BLO Bloomington 61.72 62 eP P 20 32 28.5 -1.2
comp=Z,168nm,0.7s,mb6.3
MSLP Maasin 61.80 251 eP P 20 32 30.0 -0.6
OTRP Odiongan 61.80 255 eP P 20 32 31.2 +0.6
HBAR Harrisburg 61.80 67 eP P 20 32 29.1 -1.3
SADO Sadowa 61.84 53 P P 20 32 29.9 -0.6
baz=324,slow=9.5
SADO S S 20 40 54.8 +2.0
baz=108,slow=13
LUBP Lubang 61.85 257 eP P 20 32 29.8 -1.1
USIN University of 61.90 64 eP P 20 32 29.8 -1.1
GNAR Gosnell 61.90 67 eP P 20 32 30.4 -0.6
SOKR Solikamsk 61.92 332c iP P 20 32 31.3 +0.5
SOKR S S 20 40 57.6 +4.3
SOKR pmax pmax
comp=Z,870nm,1.2s,mb6.8
RCP Roxas 61.97 253⇑eP P 20 32 34.2 +2.5
NATX Nacogdoches 62.00 73 eP P 20 32 31.4 -0.4
comp=Z,127nm,0.9s,mb6.0
GLAT Glass 62.12 66 eP P 20 32 32.4 -0.1
KALP Kalibo 62.13 254⇓eP P 20 32 49.8 +17
LLP Lapu-Lapu 62.20 251⇓iP P 20 32 32.2 -1.1
BRVK Borovoye 62.21 321 P P 20 32 33.2 +0.4
SNR=453
BRVK Borovoye 62.21 321 eP P 20 32 32.9 +0.1
BRVK LR LR
comp=Z,34μm,19.0s,MS6.5
BUTP Butuan 62.26 249 eP P 20 32 33.4 -0.3
SJMP San Jose 62.28 255 eP P 20 32 33.8 -0.1
UTMT University of 62.32 66 eP P 20 32 33.1 -0.8
HALT Halls 62.34 66 eP P 20 32 32.8 -1.2
BIPH Bislig 62.44 248⇑eP P 20 32 33.5 -1.3
HKT Hockley 62.53 75 eP P 20 32 34.4 -1.0
HKT pmax pmax
comp=Z,186nm,1.4s,mb6.0
HKT MLR MLR
comp=Z,17μm,21.0s,MS6.2
HKT Hockley 62.53 75 eP P 20 32 34.4 -1.0
comp=Z,186nm,1.4s,mb6.0
HKT LR LR
comp=Z,17μm,21.0s,MS6.2
HNR Honiara 62.66 205 LR LR 20 53 30.7
comp=Z,11μm,21.9s,MS6.0,baz=1.2,slow=30
HNR Honiara 62.66 205 PFAKE 20 32 50.0 +14
HNR LR LR
comp=Z,10μm,21.0s,MS6.0
TBP Tagbilaran 62.75 251 eP P 20 32 35.4 -1.5
GUIM Jordan 62.79 253 eP P 20 32 36.5 -0.7
SVE Sverdlovsk 62.89 328⇑eP P 20 32 38.0 +0.7
SVE e 20 35 00.2
SVE ePPP 20 36 33.9
SVE eS S 20 41 11.1 +5.5
SVE pmax pmax
comp=Z,631nm,0.9s,mb6.8
SVE pmax pmax
comp=Z,5μm,9.6s
KVTX Kingsville 62.93 79 PFAKE 20 32 50.0 +12
KVTX LR LR
comp=Z,22μm,19.0s,MS6.3
ACSO Alum Creek Sta 62.96 59 eP P 20 32 37.3 -0.8
ACSO LR LR
comp=Z,19μm,20.0s,MS6.3
BUSP Coron 63.20 256 eP P 20 32 39.2 -0.8
KONS Konsvik 63.21 355 eP P 20 32 39.5 +0.2
KONS AMb AMB 20 32 43.8
comp=Z,327nm,1.1s,mb6.4
OXF Oxford 63.26 68 eP P 20 32 38.3 -1.9
OXF pmax pmax
comp=Z,994nm,1.3s,mb6.8
OXF Oxford 63.26 68 eP P 20 32 38.3 -1.9
comp=Z,994nm,1.3s,mb6.8
FLOS Flostrand 63.36 355 eP P 20 32 40.0 -0.2
STOK Stokkvaagen 63.38 355 eP P 20 32 40.3 -0.2
STOK epP pP 20 32 42.9 -3.7
STOK AMb AMB 20 32 47.4
comp=Z,475nm,1.2s,mb6.5
STOK Stokkvaagen 63.38 355 eP P 20 32 40.3 -0.2
comp=Z,475nm,1.2s,mb6.5
BUKP Musuan 63.45 249 eP P 20 32 41.5 -0.1
MOR8 Moi Rana 63.46 355 eP P 20 32 39.3 -1.7
MOR8 epP pP 20 32 42.1 -4.9
MOR8 AMb AMB 20 32 44.1
comp=Z,191nm,0.8s,mb6.3
MOR8 Moi Rana 63.46 355 eP P 20 32 39.3 -1.7
comp=Z,191nm,0.8s,mb6.3
MATI Mati 63.48 247 eP P 20 32 40.6 -1.3
ALLY Alegheny Colle 63.50 56 eP P 20 32 41.5 -0.1
CUYO Cuyo Island 63.59 254 eP P 20 32 42.6 +0.1
BORG Borgarnes 63.78 11 PKP2bc 21 01 41.9
comp=Z,32nm,1.0s,baz=151,slow=2.8,SNR=4.7
BORG Borgarnes 63.78 11 eP P 20 32 44.6 +1.5
BORG pmax pmax
comp=Z,92nm,0.8s
BORG MLR MLR
comp=Z,12μm,19.0s
BORG Borgarnes 63.78 11 eP P 20 32 44.6 +1.6
comp=Z,92nm,0.8s,mb5.9
BORG LR LR
comp=Z,12μm,19.0s,MS6.1
DAV Davao City (W) 63.79 248 P P 20 32 43.4 -0.4
comp=Z,99nm,0.4s,mb6.2,baz=57,slow=11,SNR=11
DAV Davao City (W) 63.79 248⇑iP P 20 32 43.9 +0.1
DAV Davao City (W) 63.79 248 P P 20 32 43.4 -0.4
DAV LR LR
comp=Z,14μm,19.0s,MS6.2
ARU Arti 63.90 329 P P 20 32 44.9 +0.9
comp=Z,5μm,0.8s,mb7.5
ARU Arti 63.90 329d iP P 20 32 44.1 +0.1
ARU e 20 33 17.6
ARU ePPP 20 36 35.5
ARU eS S 20 41 20.0 +1.8
ARU e 20 42 26.9
ARU pmax pmax
comp=Z,995nm,1.2s,mb6.7
ARU Arti 63.90 329 eP P 20 32 44.0 0.0
ARU LR LR
comp=Z,25μm,20.0s,MS6.4
AFI Afiamalu 64.17 174 P P 20 32 46.4 +0.2
comp=Z,88nm,0.9s,mb5.8,baz=124,slow=19,SNR=4.2
AFI S S 20 41 27.1 +4.8
comp=Z,30nm,0.9s,baz=29,slow=19,SNR=2.1
AFI Afiamalu 64.17 174 P P 20 32 46.4 +0.2
AFI S S 20 41 27.1 +4.8
AFI LR LR
comp=Z,9μm,22.0s,MS5.9
VBMS Vicksburg 64.20 70 eP P 20 32 45.7 -0.7
LONY Lake Ozonia 64.25 51 eP P 20 32 45.3 -1.2
LONY LR LR
comp=Z,32μm,19.0s,MS6.5
ENPP El Nido 64.30 256 eP P 20 32 47.6 +0.4
PAGZ Pagadian 64.49 250 eP P 20 32 48.7 +0.3
QIZ Qiongzhong 64.52 269⇓P P 20 32 49.1 +0.5
QIZ PP PP 20 35 12.3 +1.9
QIZ S S 20 41 28.4 +1.6
QIZ AMB AMB
comp=Z,295nm,1.6s,mb6.1
QIZ AMB AMB
comp=Z,6μm,8.7s
QIZ LR LR
comp=E,8μm,17.4s
QIZ LR LR
comp=Z,7μm,14.4s,MS6.0
FRNY Flat Rock 64.58 50 eP P 20 32 47.0 -1.7
comp=Z,295nm,1.8s,mb6.0
KMI Kunming 64.65 279 P P 20 32 49.1 -0.3
KMI AP pP 20 32 56.3 +0.8
KMI XP sP 20 32 59.3 +1.5
KMI PCP PcP 20 33 24.0 +0.9
KMI PP PP 20 35 12.9 +1.5
KMI SCP 20 37 25.5
KMI PCS 20 37 28.0
KMI AMB AMB
comp=Z,313nm,1.4s,mb6.2
KMI AMB AMB
comp=Z,7μm,5.5s
KMI LR LR
comp=N,8μm,20.7s
KMI LR LR
comp=E,9μm,14.8s
KMI LR LR
comp=Z,7μm,13.3s
JOF Joensuu 64.80 346 ep P 20 32 48.1 -1.7
comp=Z,680nm,0.9s,mb6.7
SWET Sewanee 64.81 65 eP P 20 32 48.8 -1.5
NCB Newcomb 64.89 51 eP P 20 32 50.0 -0.7
comp=Z,104nm,0.6s,mb6.0
IPIL Ipil 65.02 251 eP P 20 32 50.2 -1.7
MCWV Mont Chateau 65.07 58 eP P 20 32 51.6 -0.3
MCWV LR LR
comp=Z,30μm,20.0s,MS6.5
KLMR Klimovskoe 65.22 341d iP P 20 32 52.1 -0.4
KLMR e 20 35 12.5
KLMR i S S 20 41 30.2 -4.1
KLMR eSS SS 20 45 50.5 +4.6
KLMR eSSS 20 48 46.5
KLMR pmax pmax
comp=Z,1μm,1.4s,mb6.8
NSS Namsos 65.23 355⇓iP P 20 32 51.8 -0.8
NSS AMb AMB 20 32 56.1
comp=Z,222nm,0.9s,mb6.2
NSS eS S 20 41 35.3 +0.9
NSS AMS AMS 20 59 05.7
comp=Z,22μm,21.8s,MS6.3
NSS Namsos 65.23 355⇓iP P 20 32 51.8 -0.8
comp=Z,222nm,0.9s,mb6.2
NSS LR LR
comp=Z,22μm,21.8s,MS6.3
TZTN Tazewell 65.24 62 eP P 20 32 52.2 -0.8
BINY Binghamton 65.29 53 eP P 20 32 53.1 -0.2
BINY LR LR
comp=Z,32μm,19.0s,MS6.5
MDV Middlebury 65.39 50 eP P 20 32 52.9 -1.0
CPCT Cooper Cave 65.46 64 eP P 20 32 53.1 -1.4
ACCN Adirondack Com 65.60 51 eP P 20 32 54.5 -0.8
comp=Z,149nm,0.8s,mb6.1
TKL Tuckaleechee C 65.74 63 P P 20 32 55.0 -1.3
comp=Z,80nm,0.9s,mb5.7,baz=292,slow=2.1,SNR=55
TKL S S 20 41 40.8 -0.7
comp=Z,2.6nm,0.7s,baz=167,slow=13,SNR=1.6
TKL LR LR 21 02 53.1
comp=Z,27μm,19.0s,MS6.5,baz=331,slow=37
TKL Tuckaleechee C 65.74 63 P P 20 32 54.8 -1.5
TKL Tuckaleechee C 65.74 63 P P 20 32 55.0 -1.3
TKL S S 20 41 40.8 -0.7
TKL LR LR 21 02 53.1
LBNH Lisbon 65.83 49 eP P 20 32 56.1 -0.7
LBNH MLR MLR
comp=Z,26μm,20.0s,MS6.4
HNH Hanover 66.05 50 eP P 20 32 57.9 -0.2
KAF Kangasniemi 66.30 348 ep P 20 32 57.9 -1.6
comp=Z,644nm,1.0s,mb6.6,baz=15,slow=5.8
KAF Kangasniemi 66.30 348 eP P 20 32 57.9 -1.6
KAF pmax pmax
comp=Z,644nm,1.0s,mb6.6
ELN Prospectdale 66.32 60 eP P 20 32 59.1 -0.9
AAA Alma-Ata 66.46 310 iP P 20 33 02.0 +1.2
AAA i S S 20 41 54.0 +4.0
AAA pmax pmax
comp=Z,10μm,4.4s
AAA smax
comp=E,7μm,5.9s
AAA MLR MLR
comp=Z,9μm,20.6s,MS6.0
BLA Blacksburg 66.51 60 eP P 20 33 00.4 -0.9
BLA pmax pmax
comp=Z,458nm,0.8s,mb6.6
BLA MLR MLR
comp=Z,15μm,19.0s,MS6.2
BLA Blacksburg 66.51 60 eP P 20 33 00.4 -0.9
comp=Z,458nm,0.8s,mb6.6
BLA LR LR
comp=Z,15μm,19.0s,MS6.2
FFD Franklin Falls 66.53 50 eP P 20 33 00.3 -1.0
comp=Z,145nm,0.8s,mb6.1
MVL Millersville 66.69 55 eP P 20 32 56.9 -5.5
comp=Z,141nm,0.9s,mb6.0
SDMD Soldier's Deli 66.86 56 eP P 20 33 02.7 -0.7
comp=Z,300nm,1.1s,mb6.2
BRNJ Basking Ridge 67.12 54 eP P 20 33 04.5 -0.6
comp=Z,333nm,0.6s,mb6.5
BRAL Brewton 67.13 69 eP P 20 33 03.7 -1.6
comp=Z,120nm,0.4s,mb6.3
BRAL LR LR
comp=Z,13μm,19.0s,MS6.2
BATP Bataraza 67.17 256 eP P 20 33 05.4 -0.3
PAL Palisades 67.22 53 eP P 20 33 05.4 -0.4
HRV Adam Dziewonsk 67.29 50 eP P 20 33 05.0 -1.1
HRV pmax pmax
comp=Z,151nm,1.1s,mb5.9
HRV MLR MLR
comp=Z,34μm,19.0s,MS6.6
HRV Adam Dziewonsk 67.29 50 eP P 20 33 05.0 -1.2
comp=Z,151nm,1.1s,mb5.9
HRV LR LR
comp=Z,34μm,19.0s,MS6.6
TAOE Nuku Hiva Isla 67.32 139 eP P 20 33 07.5 +0.9
comp=Z,3μm,1.1s,mb7.2
TAOE eS S 20 41 57.5 -3.4
comp=Z,193μm,27.0s
TAOE eSS SS 20 46 06.1 -15
comp=Z,28μm,28.4s
TAOE eLQ 20 49 48.6
comp=Z,169μm,33.5s
TAOE eLR LR 20 53 12.2
comp=Z,169μm,32.3s,baz=344
TAOE Nuku Hiva Isla 67.32 139 eP P 20 33 07.5 +0.9
comp=Z,3μm,1.1s,mb7.2
TAOE eS S 20 41 57.5 -3.4
TAOE eSS SS 20 46 06.1 -15
TAOE eLQ 20 49 48.6
CPNY Central Park 67.35 53 eP P 20 33 06.3 -0.3
MOL Molde 67.37 357⇑iP P 20 33 06.6 +0.3
MOL AMb AMB 20 33 13.3
comp=Z,431nm,0.3s,mb7.0
MOL eS S 20 42 01.1 +0.7
MOL AMS AMS 20 58 52.5
comp=Z,15μm,23.8s,MS6.1
TKM2 Tokmak 2 67.38 310 eP P 20 33 07.0 +0.3
TKM2 pmax pmax
comp=Z,1μm,1.2s,mb6.7
TKM2 Tokmak 2 67.38 310 P P 20 33 07.4 +0.7
SNR=383
TKM2 Tokmak 2 67.38 310 eP P 20 33 07.0 +0.3
comp=Z,1μm,1.2s,mb6.7
WES Weston 67.50 50 eP P 20 33 06.9 -0.6
GOGA Godfrey 67.52 65 eP P 20 33 05.5 -2.2
GOGA pmax pmax
comp=Z,93nm,0.8s,mb5.9
GOGA MLR MLR
comp=Z,30μm,20.0s,MS6.5
GOGA Godfrey 67.52 65 eP P 20 33 05.5 -2.2
comp=Z,93nm,0.8s,mb5.9
GOGA LR LR
comp=Z,30μm,20.0s,MS6.5
ULHL Ulahol 67.57 310 P P 20 33 08.6 +0.7
SNR=84
EMMW East Machias 67.60 46 eP P 20 33 07.6 -0.5
USP Ospenovka 67.65 311 P P 20 33 09.2 +0.8
SNR=498
CHMS Chumysh 67.73 311 P P 20 33 09.5 +0.6
SNR=189
BRYW Bryant College 67.74 51 eP P 20 33 08.3 -0.7
DOMB Dombas 67.85 357 eP P 20 33 09.5 +0.2
DOMB AMb AMB 20 33 12.3
comp=Z,343nm,1.8s,mb6.1
DOMB Dombas 67.85 357 eP P 20 33 09.5 +0.2
comp=Z,343nm,1.8s,mb6.1
KBK Karagaybulak 67.89 311 P P 20 33 10.6 +0.7
SNR=17
FRU Bishkek 67.92 311⇓iP P 20 33 11.0 +0.9
FRU e 20 35 43.0
FRU i S S 20 42 13.0 +5.3
FRU pmax pmax
comp=Z,13μm,5.0s
FRU MLR MLR
comp=Z,21μm,18.0s,MS6.4
PUL Pulkovo 67.94 345⇑eP P 20 33 09.8 -0.2
AAK Ala-Archa 68.13 311 P P 20 33 12.3 +0.8
SNR=178
JSC Jenkinsville 68.16 62 eP P 20 33 10.6 -1.1
KZA Kyzart 68.18 310 P P 20 33 13.1 +1.3
SNR=91
EKS2 Erkin-Say 68.46 311 P P 20 33 14.6 +1.1
SNR=15
EKS2 Erkin-Say 68.46 311 eP P 20 33 14.2 +0.7
comp=Z,729nm,1.0s,mb6.7
LSA Lhasa 68.53 291 P P 20 33 14.8 +0.7
LSA PP PP 20 35 50.8 +5.7
LSA S S 20 42 18.8 +3.5
LSA AMB AMB
comp=Z,9μm,8.3s
LSA LR LR
comp=N,7μm,15.7s,MS6.2
LSA LR LR
comp=E,11μm,17.0s,MS6.2
LSA LR LR
comp=Z,17μm,16.0s,MS6.4
LSA Lhasa 68.53 291 PFAKE 20 33 30.0 +16
LSA LR LR
comp=Z,9μm,19.0s,MS6.0
PPM Popocatepetl 68.56 86 iP P 20 33 13.6 -0.9
NB2 NORSAR Subarra 68.75 355 P P 20 33 14.7 -0.3
comp=Z,341nm,1.0s,mb6.2,baz=7.2,slow=6.5
NOA NORSAR Array B 68.75 355 P P 20 33 14.7 -0.3
comp=Z,153nm,0.8s,mb6.0,baz=3.8,slow=6.5,SNR=130
NOA PKP2ab 21 01 20.9
comp=Z,14nm,1.0s,baz=156,slow=3.0,SNR=11
NOA LR LR 21 01 21.4
comp=Z,15μm,22.0s,MS6.2,baz=5,0,slow=34
HYA Hoyanger 68.81 358⇑iP P 20 33 16.7 +1.3
HYA AMb AMB 20 33 20.8
comp=Z,495nm,1.4s,mb6.2
HYA Hoyanger 68.81 358⇑iP P 20 33 16.7 +1.3
comp=Z,495nm,1.4s,mb6.2
AML Almayashu 68.90 311 P P 20 33 17.7 +1.5
SNR=188
AML Almayashu 68.90 311 eP P 20 33 17.3 +1.1
comp=Z,381nm,0.8s,mb6.4
AML LR LR
comp=Z,29μm,20.0s,MS6.5
SUE Sulen 68.94 359 eP P 20 33 17.1 +0.9
SUE AMb AMB 20 33 19.2
comp=Z,144nm,1.6s,mb5.7
SUE Sulen 68.94 359 eP P 20 33 17.1 +0.9
comp=Z,144nm,1.6s,mb5.7
NAO01 NORSAR Array S 68.97 356 eP P 20 33 16.0 -0.4
comp=Z,70nm,0.8s,mb5.6
CAIG El Cayaco 69.00 88 iP P 20 33 15.6 -1.6
COW Cow Castle Cre 69.13 63 eP P 20 33 17.4 -0.5
KDM Kudat 69.22 255⇑P P 20 33 20.0 +1.4
CNNC Cliffs of the 69.35 60 eP P 20 33 18.7 -0.5
comp=Z,199nm,0.6s,mb6.2
CNNC LR LR
comp=Z,26μm,19.0s,MS6.5
HFS Hagfors 69.51 354 PKP2ab 21 01 24.7
comp=Z,7.5nm,1.0s,baz=120,slow=8.8,SNR=6.4
HFS LR LR 21 01 30.8
comp=Z,22μm,21.3s,MS6.4,baz=9,0,slow=34
ASK Askoy 69.51 359⇑iP P 20 33 19.3 -0.4
ASK AMb AMB 20 33 22.3
comp=Z,550nm,1.3s,mb6.3
ASK Askoy 69.51 359 eP P 20 33 19.3 -0.4
comp=Z,550nm,1.3s,mb6.3
MYLDM Lahad Datu 69.55 253⇑P P 20 33 22.3 +1.7
RUND Rundenannen 69.58 358 eP P 20 33 23.0 +2.9
RUND AMb AMB 20 33 25.6
comp=Z,437nm,1.7s,mb6.1
RUND Rundenannen 69.58 358 eP P 20 33 23.0 +2.9
comp=Z,437nm,1.7s,mb6.1
BER Bergen 69.61 358⇓iP P 20 33 21.7 +1.3
BER AMb AMB 20 33 23.8
comp=Z,320nm,1.7s,mb6.0
BER eS S 20 42 31.0 +3.9
BER AMS AMS 20 59 55.0
comp=Z,10μm,20.8s,MS6.0

BER Bergen 69.61 358 *e*P **P 20 33 21.7 +1.4**
BER pmax pmax
comp=Z,320nm,1.7s,mb6.0
BER MLR MLR
comp=Z,10μm,20.8s,MS6.0
BER Bergen 69.61 358 *e*P **P 20 33 21.7 +1.4**
comp=Z,320nm,1.7s,mb6.0
BER LR LR
comp=Z,10μm,20.8s,MS6.0
WAL1 Walls 69.72 2 *e*P **P 20 33 21.2 +0.2**
EGD Espegrend 69.73 359 *e*P **P 20 33 20.6 -0.4**
KSH Kashi 69.75 308 *e*P **P 20 33 22.8 +1.3**
KSH AP pP 20 33 30.9 +3.2
KSH XP sP 20 33 33.9 +3.9
KSH PCP PcP 20 33 45.1 +0.9
KSH PP PP 20 35 58.6 +3.3
KSH S S 20 42 27.0 -2.4
KSH XS sS 20 42 41.0 +1.4
KSH SCS ScS 20 43 17.8 -4.4
KSH SS SS 20 46 57.5 +0.5
KSH AMB AMB
comp=Z,1μm,1.3s,mb6.8
KSH LR LR
comp=Z,65μm,19.9s,MS6.9
VSU Vasula 69.75 347 *i*P **P 20 33 20.6 -0.6**
LRW Lerwick 69.85 2 *e*P **P 20 33 22.0 +0.2**
LRW AMb AMB 20 33 26.4
comp=Z,587nm,1.0s,mb6.5
OSL Oslo 69.88 356 *e*P **P 20 33 22.1 +0.1**
OSL AMb AMB 20 33 26.5
comp=Z,730nm,1.1s,mb6.5
OSL Oslo 69.88 356 *e*P **P 20 33 22.1 +0.1**
comp=Z,730nm,1.1s,mb6.5
PMOR Pomariorio Ree 70.09 149 *e*P **P 20 33 24.6 +0.9**
comp=Z,882nm,1.1s,mb6.6
KONO Kongsberg 70.22 356⇓*i*P **P 20 33 24.4 +0.4**
KONO *e*S S 20 42 37.3 +3.1
KONO AMb AMB 21 01 29.1
comp=Z,15μm,25.3s
KONO Kongsberg 70.22 356⇑*e*P **P 20 33 24.1 0.0**
KONO Kongsberg 70.22 356 *e*P **P 20 33 24.6 +0.5**
KKM Kota Kinabalu 70.28 255 ⇑P **P 20 33 25.9 +0.8**
KKM Kota Kinabalu 70.28 255 *e*P **P 20 33 25.3 +0.1**
KKM LR LR
comp=Z,5μm,21.0s,MS5.8
MOS Moscow 70.31 340α *i*P **P 20 33 25.4 +0.7**
MOS *e* 20 33 44.8
MOS *e* 20 36 01.7
MOS *e*PPP 20 37 45.8
MOS *e*S S 20 42 37.3 +1.9
MOS pmax pmax
comp=Z,2μm,0.9s,mb7.0
MOS pmax pmax
comp=Z,3μm,1.8s,mb6.9
MOS MLR MLR
comp=Z,28μm,17.0s,MS6.6
IMP Imphal 70.41 285 *i*P **P 20 33 24.0 -1.8**
IMP *ex* x 20 44 58.6
BLS5 Blasjo 70.55 358 *e*P **P 20 33 28.2 +2.1**
BLS5 AMb AMB 20 33 32.3
comp=Z,298nm,0.9s,mb6.2
BLS5 Blasjo 70.55 358 *e*P **P 20 33 28.2 +2.1**
comp=Z,298nm,0.9s,mb6.2
TSM Tawau 70.63 253 ⇓P **P 20 33 27.8 +0.5**
PNIG Pinotepa 70.86 87 *i*P **P 20 33 26.0 -2.6**
STAV Stavanger 71.06 358 *e*P **P 20 33 29.3 +0.1**
STAV AMb AMB 20 33 34.0
comp=Z,549nm,1.2s,mb6.4
STAV Stavanger 71.06 358 *e*P **P 20 33 29.3 +0.1**
comp=Z,549nm,1.2s,mb6.4
SHL Shillong 71.09 287⇓*i*x x 20 33 33.0
comp=Z,90nm,1.0s
SHL *e*S S 20 42 49.0 +3.5
OBN Obninsk 71.12 340*d i*P **P 20 33 28.9 -0.7**
OBN *i* 20 33 52.5
OBN *i* 20 36 05.2
OBN *i*S S 20 42 43.9 -1.0
OBN pmax pmax
comp=Z,2μm,0.9s,mb7.0
OBN MLR MLR
comp=Z,16μm,17.0s,MS6.3
OBN Obninsk 71.12 340 *i*P **P 20 33 28.9 -0.7**
OBN LR LR
comp=Z,16μm,17.0s,MS6.3
VHO Vista Hermosa 71.24 86 *i*P **P 20 33 31.9 +0.9**
RTO Tolsta 71.42 5⇓*e*P **P 20 33 31.4 0.0**
RSC Scourie 71.50 4 *e*P **P 20 33 32.0 +0.1**
SNART Snartemo 71.62 357 *e*P **P 20 33 33.3 +0.7**
SNART *e*pP pP 20 33 35.9 -2.9
SNART AMb AMB 20 33 37.2
comp=Z,415nm,0.8s,mb6.4
MLA1 Latheron 71.62 3 *e*P **P 20 33 32.8 +0.2**
CHTO Chiang Mai 71.64 277 P **P 20 33 32.8 -0.5**
SNR=78
CHTO Chiang Mai 71.64 277 *e*P **P 20 33 32.2 -1.1**
CHTO pmax pmax
comp=Z,266nm,1.0s,mb6.1
CHTO MLR MLR
comp=Z,5μm,20.0s,MS5.8
CHTO Chiang Mai 71.64 277 *e*P **P 20 33 32.2 -1.1**
comp=Z,266nm,1.0s,mb6.1
CHTO LR LR
comp=Z,5μm,20.0s,MS5.8
REB Eisghbrachaidh 71.72 4 *e*P **P 20 33 33.4 +0.2**
GTK Gangtok 71.78 291 *ex* x 20 33 30.0
RRH Rhenigidale 71.85 5⇓*e*P **P 20 33 34.4 +0.4**
CM31 Chiang Mai Arr 71.90 277 PFAKE 20 33 50.0 +15
CM31 LR LR
comp=Z,4μm,20.0s,MS5.7
CMAR Chiang Mai Arr 71.90 277 P **P 20 33 34.3 -0.6**
comp=Z,213nm,1.0s,mb6.0,baz=28,slow=5.9,SNR=172
CMAR PKiKP PKiKP 20 39 38.5 -0.6
comp=Z,3.6nm,1.0s,baz=195,slow=1.0,SNR=4.6
CMAR PKP2ab 21 01 14.1
comp=Z,2.4nm,1.1s,baz=249,slow=3.6,SNR=6.2
CMAR PKPPKP 21 01 24.4
comp=Z,4.3nm,1.1s,baz=237,slow=3.8,SNR=8.7
CMAR LR LR 21 04 27.0
comp=Z,5μm,18.2s,MS5.9,baz=163,slow=35
RRR Rubha Reidh 71.96 5⇓*e*P **P 20 33 34.9 +0.2**
MVH1 Achvaich 71.97 4⇓*e*P **P 20 33 35.0 +0.3**
PPT Papeete 71.97 152 *e*PP PP 20 36 15.1 -0.3
comp=Z,1μm,25.8s
PPT *e*S S 20 42 52.2 -3.2
comp=Z,25μm,26.5s
PPT *e*SS SS 20 47 29.4 -3.4
comp=Z,9μm,26.2s
PPT *e*LQ 20 51 54.7
comp=Z,24μm,27.0s
PPT *e*LR LR 20 55 02.4
comp=Z,60μm,39.0s,baz=342
PPT Papeete 71.97 152 P **P 20 33 35.0 -0.1**
comp=Z,103nm,1.0s,mb5.7,baz=309,slow=6.1,SNR=8.9
PPT LR LR 21 03 56.6
comp=Z,7μm,18.4s,MS5.9,baz=332,slow=35
PPT Papeete 71.97 152 *e*P **P 20 33 35.9 +0.8**
PPT *e* 20 36 15.1
PPT *e*S S 20 42 52.2 -3.2
PPT *e*SS SS 20 47 29.4 -3.4
PPT pmax pmax
comp=Z,424nm,1.6s
PPT Papeete 71.97 152 *e*P **P 20 33 35.9 +0.8**
comp=Z,424nm,1.6s,mb6.1
PPT *e*PP PP 20 36 15.1 -0.3
PPT *e*S S 20 42 52.2 -3.2
PPT *e*SS SS 20 47 29.4 -3.4
PPT *e*LQ 20 51 54.7
TIAR Tiarei 72.03 152 *e*P **P 20 33 36.3 +0.8**
comp=Z,4μm,1.1s,mb7.3
PAE Paea 72.06 152 *e*P **P 20 33 36.3 +0.7**
comp=Z,4μm,1.5s,mb7.2
PAE Paea 72.06 152 *e*P **P 20 33 36.3 +0.7**
PAE pmax pmax
comp=Z,4μm,1.5s,mb7.2
TVO Taravao 72.27 152 *e*P **P 20 33 37.8 +0.9**
comp=Z,2μm,1.1s,mb7.0
TVO Taravao 72.27 152 *e*P **P 20 33 37.8 +0.9**
TVO pmax pmax
comp=Z,2μm,1.1s,mb7.0
KSK Scoval 72.30 5 *e*P **P 20 33 37.5 +0.8**
TAPN Taplejung 72.30 291 *e*P **P 20 33 38.0 +0.8**
comp=Z,5μm,1.3s,mb7.2
KAC Achnashellach 72.34 4⇓*e*P **P 20 33 37.2 +0.2**
MCD Coleburn Disti 72.34 3⇓*e*P **P 20 33 37.4 +0.4**
CMIG Matias Romero 72.41 84 P **P 20 33 37.3 -0.6**
comp=Z,106nm,1.2s,mb5.7,baz=310,slow=5.1,SNR=20
IZAR Zarasai 72.44 346 *e*P **P 20 33 37.2 -0.3**
IZAR AMb AMB 20 33 41.9
comp=Z,186nm,0.9s,mb6.0
MDO Dochfour 72.44 4⇓*e*P **P 20 33 38.0 +0.4**
KPL Plockton 72.48 5 *e*P **P 20 33 38.5 +0.7**
KPL AMb AMB 20 33 42.1
comp=Z,664nm,1.0s,mb6.5
DWPF Disney 72.59 67 *e*P **P 20 33 38.1 -0.8**
comp=Z,312nm,1.4s,mb6.0
DWPF LR LR
comp=Z,16μm,22.0s,MS6.2
MME1 Meikle Cairn 72.62 3 *e*P **P 20 33 38.2 -0.4**
KSB Sheil Bridge 72.62 4⇓*e*P **P 20 33 39.0 +0.3**
COEN Coen 72.67 220 *e*P **P 20 33 38.5 -0.9**
comp=Z,279nm,1.3s,mb6.0
MEH Mehetia 72.73 151 *e*P **P 20 33 40.2 +0.6**
comp=Z,11μm,1.3s
IDID Didziasalis 72.78 346 *e*P **P 20 33 39.4 -0.2**
IDID AMb AMB 20 33 44.1
comp=Z,283nm,1.0s,mb6.1
IIGN Ignalina 72.83 346 *e*P **P 20 33 39.5 -0.4**
IIGN AMb AMB 20 33 44.4
comp=Z,251nm,1.1s,mb6.0
ODAN Odare 72.86 291 *e*P **P 20 33 40.9 +0.4**
comp=Z,2μm,1.3s,mb6.9
KAR1 Arisaig 72.89 5 *e*P **P 20 33 40.2 0.0**
RAR Rarotonga 72.95 163 P **P 20 33 42.2 +1.3**
comp=Z,65nm,0.8s,mb5.6,baz=245,slow=6.7,SNR=4.8
GUN Gumba 72.97 293 *e*P **P 20 33 42.2 +1.0**
JIRN Jiri 72.98 293 *e*P **P 20 33 42.3 +1.1**
comp=Z,3μm,1.2s,mb7.1
RAMN Ramite 73.26 292 *e*P **P 20 33 43.5 +0.6**
comp=Z,4μm,1.2s,mb7.2
MNK Minsk 73.39 345⇓*i*P **P 20 33 41.0 -2.2**
MNK *e* 20 34 02.0
MNK *e* 20 36 24.0
MNK *e*PPP 20 38 14.0
MNK *e*S S 20 43 06.0 -4.9
MNK *e*PS 20 43 48.0
MNK *e*SSS 20 51 00.0
MNK pmax pmax
comp=N,2μm,1.5s
MNK pmax pmax
comp=Z,3μm,1.5s,mb6.9
MNK pmax pmax
comp=E,2μm,1.5s
MNK smax
comp=N,22μm,4.0s
MNK MLR MLR
comp=E,45μm,22.0s,MS6.8
MNK MLR MLR
comp=Z,41μm,22.0s,MS6.7
MNK MLR MLR
comp=N,22μm,22.0s,MS6.8
KKN Kakani 73.42 293 *e*P **P 20 33 44.6 +0.8**
MUD Monsted U'grnd 73.43 356 *i*P **P 20 33 44.5 +1.1**
MUD *i*S S 20 43 15.1 +3.8
MUD
comp=Z,14μm,22.0s
MUD Monsted U'grnd 73.43 356 *i*P **P 20 33 44.5 +1.1**
MUD *i*S S 20 43 15.1 +3.8
PKI Pulchoki 73.50 293 *e*P **P 20 33 44.8 +0.5**
comp=Z,2μm,1.2s,mb6.9
PKI Pulchoki 73.50 293 *e*P **P 20 33 44.8 +0.5**
PKI pmax pmax
comp=Z,2μm,1.2s,mb6.9
VRHR Novokhopersk 73.58 335*d i*P **P 20 33 43.9 -0.5**
VRHR *e**SP sP 20 33 58.7 +5.8
VRHR *e* 20 36 29.3
VRHR *i*PPP 20 38 15.4
VRHR *e*S S 20 43 13.5 +0.3
VRHR pmax pmax
comp=N,650nm,1.5s
VRHR pmax pmax
comp=Z,730nm,1.5s,mb6.4
VRHR pmax pmax
comp=E,340nm,1.6s
VRHR MLR MLR
comp=Z,40μm,18.0s,MS6.7
VRHR MLR MLR
comp=N,24μm,17.0s,MS6.6
VRHR MLR MLR
comp=E,13μm,16.0s,MS6.6
VOR Voronezh 73.63 337⇓*i*P **P 20 33 43.5 -1.1**
VOR *e*S S 20 43 17.0 +3.3
VOR pmax pmax
comp=Z,2μm,1.4s,mb6.8
GKN Gorkha 73.64 294 *e*P **P 20 33 45.9 +0.8**
DMN Daman 73.65 293 *e*P **P 20 33 45.9 +0.7**
comp=Z,2μm,1.3s,mb6.9
EAB Aberfoyle 73.70 4⇓*e*P **P 20 33 45.2 +0.2**
DANN Dangsing 73.89 295 *e*P **P 20 33 47.2 +0.6**
comp=Z,3μm,1.1s,mb7.1
SHBG Sahibganj 73.91 290 *ex* x 20 33 12.5
EDI Edinburgh 74.01 3 *e*P **P 20 33 46.9 +0.1**
EDI AMb AMB 20 33 50.9
comp=Z,516nm,1.2s,mb6.3
COP Copenhagen 74.02 354⇓*i*P **P 20 33 47.5 +0.6**
COP *i* 20 33 57.9
COP *i*S S 20 43 19.7 +1.7
COP pmax pmax
comp=Z,456nm,0.9s,mb6.4
COP MLR MLR
comp=Z,7μm,23.0s,MS5.9
COP Copenhagen 74.02 354⇓*i*P **P 20 33 47.5 +0.6**
comp=Z,456nm,0.9s,mb6.4
COP *i* 20 33 57.9
COP *i*S S 20 43 19.7 +1.7
COP
comp=Z,7μm,23.0s
ESY Stoneypath 74.03 3⇓*e*P **P 20 33 46.9 -0.1**
PGBU Glenifferbraes 74.07 4 *e*P **P 20 33 47.5 +0.3**
PGBU AMb AMB 20 33 51.5
comp=Z,2μm,1.1s,mb6.8
VRSR Storozhevoye 74.10 337*d i*P **P 20 33 47.5 +0.1**
VRSR *e**SP sP 20 34 02.0 +6.1
VRSR *e* 20 36 31.1
VRSR *i*PPP 20 38 23.2
VRSR *e*S S 20 43 17.7 -1.4
VRSR *e*SS SS 20 48 02.8 0.0
VRSR pmax pmax
comp=Z,180nm,1.7s,mb5.7
VRSR pmax pmax
comp=N,120nm,1.3s
VRSR pmax pmax
comp=E,60nm,1.3s
VRSR smax
comp=N,2μm,7.0s
VRSR smax
comp=Z,690nm,6.7s
VRSR smax
comp=E,230nm,7.2s
VRSR MLR MLR
comp=N,3μm,17.0s,MS5.9
VRSR MLR MLR
comp=Z,5μm,17.0s,MS5.8
VRSR MLR MLR
comp=E,3μm,16.0s,MS5.9
EBL Broad Law 74.16 3 *e*P **P 20 33 47.4 -0.3**
TEIG Tepich 74.26 77 P **P 20 33 47.7 -1.1**
comp=E,28nm,0.4s,mb5.5,baz=332,slow=9.6,SNR=29
BSD Bornholm Skovb 74.40 353⇓*i*P **P 20 33 48.9 -0.2**
comp=E,352nm,0.9s,mb6.3
BSD *i*S S 20 43 25.5 +3.2
BSD
comp=Z,13μm,20.0s
BSD Bornholm Skovb 74.40 353⇓*i*P **P 20 33 48.9 -0.2**
comp=Z,352nm,0.9s,mb6.3
BSD *i*S S 20 43 25.5 +3.2
KOLN Koldanda 74.42 295 *e*P **P 20 33 50.0 +0.3**
comp=Z,1μm,1.1s,mb6.7
BTM Bintulu 74.44 256 ⇑P **P 20 33 50.3 +0.4**
XSO Sourhope Farm 74.47 3⇓*e*P **P 20 33 50.0 +0.5**
SUW Suwalki 74.57 347 *e*P **P 20 33 49.4 -0.7**
SUW *e*pP pP 20 33 52.5 -3.8
SUW *e*S S 20 43 23.4 -0.8
SUW LMZ 21 06 48.9
comp=Z,23μm,23.8s
SUW Suwalki 74.57 347 *e*P **P 20 33 49.4 -0.7**
SUW *e*pP pP 20 33 52.5 -3.8
SUW *e*S S 20 43 23.4 -0.8
ESK Eskdalemuir 74.61 3⇓*e*P **P 20 33 50.8 +0.4**
ESK AMb AMB 20 33 54.6
comp=Z,702nm,1.1s,mb6.5
ESK Eskdalemuir 74.61 3 *e*P **P 20 33 50.6 +0.3**
ESK pmax pmax
comp=Z,383nm,0.9s,mb6.3
ESK MLR MLR
comp=Z,10μm,20.0s,MS6.1
ESK Eskdalemuir 74.61 3 *e*P **P 20 33 50.6 +0.3**
comp=Z,383nm,0.9s,mb6.3
ESK LR LR
comp=Z,10μm,20.0s,MS6.1
ECK Cauldkaine Hil 74.75 3⇓*e*P **P 20 33 51.4 +0.3**
GAL1 Galloway 75.00 4 *e*P **P 20 33 52.8 +0.2**
GAL1 AMb AMB 20 33 56.8
comp=Z,925nm,1.1s,mb6.6
PTH Pithoragarh 75.01 298 *e*P **P 20 33 52.8 -0.3**
PTH *ex* x 20 34 07.0
GCD Castle Douglas 75.04 4⇓*e*P **P 20 33 52.9 +0.1**
DLH Dalhousie 75.07 303 *e*P **P 20 33 51.0 -2.4**
DLH *ex* x 20 34 05.0
XAL Allendale 75.10 3⇓*e*P **P 20 33 53.6 +0.4**
THN Thein Dam 75.29 303 *e*P **P 20 33 53.1 -1.6**
SDNR Sundarnagar 75.33 302 *e*P **P 20 33 54.6 -0.3**
CAL Calcutta 75.51 288 *e*P **P 20 33 57.9 +1.8**
CAL *e*S S 20 43 39.2 +3.6
SMLA Simla 75.51 301 *i*P **P 20 33 55.4 -0.5**
SMLA AMb AMB 20 33 59.4
comp=Z,1μm,1.1s,mb6.7
SMLA *i*x x 20 43 27.8
PONG Pong 75.53 303 *e*P **P 20 33 55.0 -1.1**
SBUM Sibu 75.56 256 ⇓P **P 20 33 56.8 +0.4**
GMM Mts of Mourne 75.56 5⇓*e*P **P 20 33 55.9 +0.1**
GIM North Isle of 75.58 4⇓*e*P **P 20 33 55.6 -0.4**
DDI Dehra Dun 75.63 300 *i*P **P 20 33 55.0 -1.7**
DDI *ex* x 20 36 13.8
BHK Bhakra 75.69 302 *e*P **P 20 33 56.2 -0.8**
WIM Isle of Man 75.72 4⇓*e*P **P 20 33 57.0 +0.3**
DMUB Kingscourt 75.84 6⇓*i*P **P 20 33 58.1 +0.7**
BSEG Bad Segeberg 75.89 355 *e*P **P 20 33 58.4 +0.7**
comp=Z,1μm,1.0s,mb6.8
GKP Gorka Klasztor 76.02 351 *e*P **P 20 33 58.4 -0.1**
GKP *e*pP pP 20 34 01.3 -3.3
GKP *e*PP PP 20 36 50.0 +1.7
GKP *e*S S 20 43 41.1 +0.9
GKP *e*sS sS 20 43 49.0 -1.5
GKP *e*SKS 20 44 02.9
GKP LMZ 21 06 32.3
comp=Z,21μm,21.9s
GKP Gorka Klasztor 76.02 351 *e*P **P 20 33 58.4 0.0**
GKP *e* 20 36 50.0
GKP *e*S S 20 43 41.1 +0.8
GKP *e* 20 44 02.9
GKP MLR MLR
comp=Z,21μm,21.9s,MS6.4
GKP Gorka Klasztor 76.02 351 *e*P **P 20 33 58.4 0.0**
GKP *e*pP pP 20 34 01.3 -3.4
GKP *e*PP PP 20 36 50.0 +1.7
GKP *e*S S 20 43 41.1 +0.8
GKP *e*sS sS 20 43 49.0 -1.5
GKP *e*SKS 20 44 02.9
GKP LR LR
comp=Z,21μm,21.9s,MS6.4
HPK Haverah Park 76.02 2 *e*P **P 20 33 58.7 +0.2**
HPK AMb AMB 20 34 02.8
comp=Z,1μm,1.3s,mb6.6
BOK Bokaro 76.05 290 *e*P **P 20 33 58.3 -0.8**
BOK AMb AMB 20 34 07.6
comp=Z,734nm,2.0s,mb6.3
LDU Leeds Universi 76.18 2⇓*e*P **P 20 33 58.7 -0.7**
DCN Croghan 76.37 6⇓*i*P **P 20 34 00.9 +0.4**
LHO Holmfirth 76.43 3⇓*e*P **P 20 34 00.7 -0.1**
KAKA Kakadu 76.45 230⇓*i*P **P 20 34 00.1 -1.3**
comp=Z,756nm,1.2s,mb6.5
DLF Lyons Farm 76.47 6⇓*i*P **P 20 34 01.5 +0.5**
WME Myndd Eilian 76.49 4⇓*e*P **P 20 34 00.5 -0.6**
DSB Dublin 76.53 5 *e*P **P 20 34 01.8 +0.4**
comp=Z,557nm,0.8s,mb6.5
WLF1 Llynfaes 76.59 4⇓*e*P **P 20 34 02.2 +0.5**
WLF1 AMb AMB 20 34 04.8
comp=Z,490nm,1.5s,mb6.2
WLF1 *e*S S 20 43 45.9 -0.7
WAR Warsaw 76.59 348 *e*P **P 20 34 02.2 +0.5**
WAR *e*pP pP 20 34 05.1 -2.8
WAR *e*S S 20 43 48.6 +2.0
WAR LMZ 21 04 41.3
comp=Z,15μm,25.6s
WAR Warsaw 76.59 348 *e*P **P 20 34 02.2 +0.5**
WAR *e*pP pP 20 34 05.1 -2.8
WAR *e*S S 20 43 48.6 +2.0
WAR LR LR
comp=Z,15μm,25.6s,MS6.2
YRC Rhoscolyn 76.62 4 *e*P **P 20 34 01.4 -0.5**
WPM1 Penmaenmawr 76.64 4⇓*e*P **P 20 34 02.1 +0.1**
KBI1 Birley Grange 76.73 2 *e*P **P 20 34 02.6 +0.1**
YLL Llanberis 76.75 4⇓*e*P **P 20 34 02.4 -0.2**
AKASG Malin Array Be 76.78 343 P **P 20 34 02.6 -0.2**
comp=Z,705nm,0.7s,mb6.7,baz=19,slow=5.6,SNR=510
AKASG S S 20 43 45.1 -3.6
comp=Z,0.2nm,0.3s,baz=9.2,slow=8.4,SNR=5.9
AKASG PKKPbc PKKPbc 20 53 10.4 0.0
comp=Z,0.5nm,0.4s,baz=244,slow=2.2,SNR=5.1
AKASG PKP2bc 21 01 08.0
comp=Z,0.4nm,0.5s,baz=200,slow=1.5,SNR=5.0
AKASG PKPPKP 21 01 16.0
comp=Z,0.6nm,0.5s,baz=228,slow=2.2,SNR=5.9
AKASG LR LR 21 15 59.2
comp=Z,16μm,18.8s,MS6.4,baz=10.0,slow=42
AKASG Malin Array Be 76.78 343 P **P 20 34 02.6 -0.2**
AKASG S S 20 43 45.1 -3.6
AKASG Malin Array Be 76.78 343 P **P 20 34 02.6 -0.2**
AKASG S S 20 43 45.1 -3.6
AKASG PKKPbc PKKPbc 20 53 10.4 0.0
AKASG ⇑*e* 21 01 08.0
AKASG P'P' 21 01 16.0
AKASG LR LR 21 15 59.2
AKBB Malin Array Si 76.78 343 *e*P **P 20 34 02.4 -0.4**
KIEV Kiev 76.79 343 *e*P **P 20 34 02.7 -0.2**
KIEV pmax pmax
comp=Z,1μm,0.9s,mb6.8
KIEV MLR MLR
comp=Z,16μm,19.0s,MS6.3
KIEV Kiev 76.79 343 *e*P **P 20 34 02.7 -0.2**
comp=Z,1μm,0.9s,mb6.8
KIEV LR LR
comp=Z,16μm,19.0s,MS6.3
STNC Stoke 76.87 3 *e*P **P 20 34 04.1 +0.8**
STNC AMb AMB 20 34 06.9
comp=Z,1μm,1.9s,mb6.5
KAPI Kappang 76.91 245 P **P 20 34 03.9 -0.2**
SNR=32
KAPI Kappang 76.91 245 *e*P **P 20 34 02.8 -1.2**
comp=Z,615nm,1.4s,mb6.3
KAPI LR LR
comp=Z,5μm,21.0s,MS5.8
SBD1 Bryn Du 77.02 4⇓*e*P **P 20 34 04.7 +0.6**
CTA Charters Tower 77.05 215⇓*i*P **P 20 34 04.0 -0.6**
comp=Z,150nm,1.1s,mb5.8
CTA *e*pP pP 20 34 10.2 -0.6
CTA *e*S S 20 43 51.8 -0.4
CTA Charters Tower 77.05 215 P **P 20 34 04.0 -0.6**
comp=Z,282nm,1.2s,mb6.1,baz=16,slow=6.0,SNR=50
CTA S S 20 43 55.0 +2.8
comp=Z,8.5nm,1.1s,baz=209,slow=18,SNR=2.2
CTA LR LR 21 08 26.8
comp=Z,7μm,18.2s,MS6.0,baz=22,slow=36
CTA Charters Tower 77.05 215⇓*i*P **P 20 34 04.0 -0.6**
CTA *e*PP pP 20 34 10.2 -0.6
CTA *e*S S 20 43 51.8 -0.4
CTA pmax pmax
comp=Z,150nm,1.1s
CTAO Charters Tower 77.05 215 *e*P **P 20 34 03.7 -0.9**
CTAO pmax pmax
comp=Z,659nm,1.3s,mb6.4
CTAO MLR MLR
comp=Z,7μm,20.0s,MS6.0
CTAO Charters Tower 77.05 215 *e*P **P 20 34 03.7 -0.9**
comp=Z,659nm,1.3s,mb6.4
CTAO LR LR
comp=Z,7μm,20.0s,MS6.0
ABA1 Baconsthorpe 77.15 1⇓*e*P **P 20 34 05.5 +0.6**
CWF Charnwood Fore 77.25 2⇓*e*P **P 20 34 05.5 0.0**
CWF AMb AMB 20 34 09.6
comp=Z,694nm,1.3s,mb6.4
NDI New Delhi 77.36 300 *e*P **P 20 34 05.0 -1.5**
AEU East Anglia Un 77.42 1⇓*e*P **P 20 34 06.4 0.0**
HLM1 Long Mynd 77.42 3⇓*e*P **P 20 34 06.7 +0.3**

TBI	**Tubuai**	**77.47**	**154**	*e*PP	PP	20 36 50.7	-11
	comp=Z,1μm,28.0s						
TBI				*e*S	S	20 43 54.9	-1.7
	comp=Z,16μm,30.8s						
TBI				*e*SS	SS	20 48 52.5	-3.9
	comp=Z,8μm,30.0s						
TBI				*e*LQ		20 53 54.2	
	comp=Z,16μm,32.0s						
TBI				*e*LR	LR	20 57 34.2	
	comp=Z,60μm,32.2s,baz=337						
TBI	**Tubuai**	**77.47**	**154**	*e*P	**P**	**20 34 08.3**	**+1.4**
	comp=Z,1μm,1.2s,mb6.7						
TBI				*e*PP	PP	20 36 50.7	-11
TBI				*e*S	S	20 43 54.9	-1.7
TBI				*e*SS	SS	20 48 52.5	-3.9
TBI				*e*LQ		20 53 54.2	
KSM	**Kuching**	**77.51**	**257**	⇑P	**P**	**20 34 07.7**	**+0.3**
KSM	**Kuching**	**77.51**	**257**	*e*P	**P**	**20 34 07.1**	**-0.4**
IBBN	**Ibbenburen**	**77.63**	**357**	*e*P	**P**	**20 34 08.2**	**+0.6**
	comp=Z,1μm,1.0s,mb6.9						
HTR	**Trewern Hill**	**77.85**	**4**	⇓*e*P	**P**	**20 34 08.9**	**+0.2**
MCH1	**Michaelchurch**	**77.94**	**3**	⇓*e*P	**P**	**20 34 09.0**	**-0.3**
MCH1				AMb	AMB	20 34 12.6	
	comp=Z,673nm,1.8s,mb6.3						
CLZ	**Clausthal**	**77.98**	**355**	*e*P	**P**	**20 34 10.2**	**+0.7**
CLZ				pmax	pmax		
	comp=Z,784nm,0.9s,mb6.6						
CLZ	**Clausthal**	**77.98**	**355**	*e*P	**P**	**20 34 10.2**	**+0.7**
	comp=Z,784nm,0.9s,mb6.6						
WTSB	**Winterswijk**	**78.01**	**357**	⇓*i*P	**P**	**20 34 09.9**	**+0.3**
	comp=Z,434nm,1.5s,mb6.2						
WTSB	**Winterswijk**	**78.01**	**357**	*i* x	x	20 34 13.4	
	comp=Z,663nm,1.3s						
WTSB	**Winterswijk**	**78.01**	**357**	*e*x	x	20 34 18.3	
SSW	**Stow on the Wo**	**78.01**	**3**	⇓*e*P	**P**	**20 34 10.0**	**+0.3**
SKP1	**Kophill**	**78.28**	**2**	*e*P	**P**	**20 34 10.8**	**-0.4**
HGH	**Gray Hill**	**78.31**	**3**	⇓*e*P	**P**	**20 34 11.7**	**+0.3**
CLL	**Collm**	**78.34**	**353**	⇓*i*P	**P**	**20 34 11.3**	**-0.2**
CLL				*i*		20 34 26.1	
CLL				*e*S	S	20 44 04.0	-1.5
CLL				pmax	pmax		
	comp=Z,293nm,1.0s,mb6.2						
CLL				MLR	MLR		
	comp=Z,22μm,26.6s,MS6.4						
CLL	**Collm**	**78.34**	**353**	*e*P	**P**	**20 34 11.2**	**-0.3**
	comp=Z,291nm,1.0s,mb6.2						
CLL	**Collm**	**78.34**	**353**	⇓*i*P	**P**	**20 34 11.3**	**-0.2**
	comp=Z,293nm,1.0s,mb6.2						
CLL				*i* (PcP)	PcP	20 34 18.6	-2.2
CLL				*i* x	x	20 34 26.1	
CLL				*e*x	x	20 34 45.0	
CLL				*e*PPP		20 38 57.0	
CLL				*e*S	S	20 44 04.0	-1.5
CLL				*e*PPS		20 45 15.0	
CLL				*e*SS	SS	20 49 27.0	+20
CLL				*e*PKKPbc	PKKPbc	20 53 07.0	0.0
CLL				*e*x	x	20 53 36.0	
CLL				*e*SSSS		20 54 48.0	
CLL				*e*PKPPKPdf		21 01 08.0	
CLL	**Collm**	**78.34**	**353**	⇓*i*P	**P**	**20 34 11.3**	**-0.2**
	comp=Z,293nm,1.0s,mb6.2						
CLL				*i*		20 34 26.1	
CLL				*e*S	S	20 44 04.0	-1.5
CLL				*e*P'P'		21 01 08.0	
CLL				LR	LR		
	comp=Z,22μm,26.6s,MS6.4						
SWN1	**Swindon**	**78.47**	**3**	*e*P	**P**	**20 34 13.0**	**+0.8**
SWN1				AMb	AMB	20 34 16.7	
	comp=Z,2μm,1.3s,mb6.9						
KSP	**Ksiaz**	**78.51**	**351**	*e*P	**P**	**20 34 12.1**	**-0.4**
KSP				*e*pP	pP	20 34 15.8	-2.8
KSP				*e*PP	PP	20 37 06.6	-2.6
KSP				*e*S	S	20 44 07.8	+0.4
KSP				*e*SKS		20 44 22.5	
KSP				LMZ		21 05 34.5	
	comp=Z,43μm,25.9s						
KSP	**Ksiaz**	**78.51**	**351**	⇓*e*P	**P**	**20 34 12.2**	**-0.3**
KSP				*e*S	S	20 44 04.5	-2.9
KSP				MLR	MLR		
	comp=Z,50μm,25.9s,MS6.7						
KSP	**Ksiaz**	**78.51**	**351**	⇓*e*P	**P**	**20 34 12.2**	**-0.3**
KSP				*e*PPP		20 38 50.0	
KSP				*e*S	S	20 44 04.5	-2.9
KSP				*e*SS	SS	20 49 04.0	-5.3
KSP				LR	LR		
	comp=Z,50μm,25.9s,MS6.7						
BUG	**Bochum--Univer**	**78.52**	**357**	*e*P	**P**	**20 34 12.6**	**+0.1**
	comp=Z,942nm,1.4s,mb6.5						
LVV	**L'vov**	**78.53**	**346**	*e*P	**P**	**20 34 12.6**	**0.0**
LVV				*i*		20 34 16.0	
LVV				*e*		20 38 57.4	
LVV				*i* S	S	20 44 08.4	+0.8
LVV				*e*PS		20 45 08.0	
BBSR	**BB Station**	**78.57**	**53**	*e*P	**P**	**20 34 12.3**	**-0.8**
	comp=Z,170nm,0.7s,mb6.1						
BBSR				LR	LR		
	comp=Z,11μm,19.0s,MS6.2						
WOL	**Wolverton**	**78.68**	**2**	⇓*e*P	**P**	**20 34 13.3**	**-0.1**
WOL				AMb	AMB	20 34 16.6	
	comp=Z,1μm,1.9s,mb6.5						
BRG	**Berggiesshubel**	**78.69**	**353**	*i* P	**P**	**20 34 13.6**	**+0.1**
BRG				*i*		20 34 27.8	
BRG				S	S	20 44 11.0	+1.6
BRG				SS	SS	20 49 15.0	+2.9
BRG				pmax	pmax		
	comp=Z,32nm,2.1s,mb4.9						
BRG	**Berggiesshubel**	**78.69**	**353**	*e*P	**P**	**20 34 13.3**	**-0.2**
	comp=Z,382nm,1.0s,mb6.3						
BRG	**Berggiesshubel**	**78.69**	**353**	*i* P	**P**	**20 34 13.6**	**+0.1**
	comp=Z,382nm,1.0s,mb6.3						
BRG				*i*		20 34 27.8	
	comp=Z,257nm,1.2s						
BRG				S	S	20 44 11.0	+1.6
BRG				*e*		20 44 43.0	
	comp=Z,17nm,1.4s						
BRG				SS	SS	20 49 15.0	+2.9
BRG				*e*		20 56 32.5	
	comp=Z,25nm,2.1s						
BRG				*e*PKPPKP		21 01 04.4	
	comp=Z,54nm,2.1s						
BRG							
	comp=N,220μm,28.0s						
BRG							
	comp=E,10μm,29.1s						
BRG							
	comp=Z,27μm,27.6s						
BRG	**Berggiesshubel**	**78.69**	**353**	*i* P	**P**	**20 34 13.6**	**+0.1**
	comp=Z,32nm,2.1s,mb4.9						
BRG				*i*		20 34 27.8	
BRG				S	S	20 44 11.0	+1.6
BRG				*e*		20 44 43.0	
BRG				SS	SS	20 49 15.0	+2.9
BRG				*e*		20 56 32.5	
BRG				*e*P'P'		21 01 04.4	
BRG				LR	LR		
	comp=Z,16μm,27.6s,MS6.2						
OJC	**Ojcow**	**78.73**	**349**	*e*P	**P**	**20 34 13.9**	**+0.2**
OJC				*e*PcP	PcP	20 34 24.9	+2.4
OJC				*e*PP	PP	20 37 13.0	+2.0
OJC				*e*S	S	20 44 06.4	-3.4
OJC				L		21 07 58.3	
	comp=Z,21nm,23.5s						
BWNR	**Bhubaneshwar**	**78.73**	**288**	*e*x	x	20 24 11.0	
TSA1	**Sevenoaks**	**78.78**	**1**	*e*P	**P**	**20 34 14.1**	**+0.1**
UPC	**Upice**	**78.87**	**351**	*i* P	**P**	**20 34 14.6**	**+0.1**
UPC				*e*PKKP	PKKPbc	20 53 07.8	+1.9
UPC				*e*PKPPKP		21 01 03.4	
HTL	**Hartland**	**78.88**	**4**	*e*P	**P**	**20 34 14.2**	**-0.3**
HTL				AMb	AMB	20 34 18.0	
	comp=Z,544nm,1.7s,mb6.2						
KWP	**Kalwaria**	**78.91**	**347**	*e*P	**P**	**20 34 15.4**	**+0.8**
KWP				*e*pP	pP	20 34 18.6	-2.4
KWP				*e*PP	PP	20 37 20.2	+7.6
KWP				*e*S	S	20 44 12.1	+0.4
KWP				LMZ		21 10 04.4	
	comp=Z,34μm,23.1s						
KWP	**Kalwaria**	**78.91**	**347**	⇓*i*P	**P**	**20 34 15.4**	**+0.7**
KWP	**Kalwaria**	**78.91**	**347**	*e*P	**P**	**20 34 15.4**	**+0.7**
KWP				*e*pP	pP	20 34 18.5	-2.4
KWP				*e*PP	PP	20 37 20.2	+7.6
KWP				*e*S	S	20 44 12.1	+0.4
KWP				LR	LR		
	comp=Z,25μm,20.0s,MS6.5						
TFO1	**Folkestone**	**78.92**	**1**	P	**P**	**20 34 14.9**	**+0.2**
TFO1				AMb	AMB	20 34 19.0	
	comp=Z,1μm,1.3s,mb6.7						
TFO1	**Folkestone**	**78.92**	**1**	⇓*e*P	**P**	**20 34 14.6**	**-0.1**
TFO1				*e*P		20 34 14.9	
TFO1				AMb	AMB	20 34 19.0	
	comp=Z,1μm,1.3s,mb6.7						
BATI	**Baumata**	**78.93**	**239**	P	**P**	**20 34 14.9**	**-0.3**
	comp=Z,315nm,0.9s,mb6.2,baz=132,slow=1.4,SNR=48						
PVCC	**Panska Ves**	**78.98**	**352**	*i* P	**P**	**20 34 15.1**	**0.0**
PVCC				*e**PP	pP	20 34 29.2	+7.9
PVCC				*e*		20 37 17.9	
PVCC				*e*S	S	20 44 14.9	+2.4
PVCC				MLR	MLR		
	comp=Z,25μm,25.0s,MS6.5						
PVCC	**Panska Ves**	**78.98**	**352**	*i* P	**P**	**20 34 15.1**	**0.0**
PVCC				*e*x	x	20 34 29.2	
PVCC				*e*PP	PP	20 37 17.9	+4.8
PVCC				*e*S	S	20 44 14.9	+2.4
PVCC				*e*x	x	20 49 36.0	
PVCC				*e*PKKP	PKKPbc	20 53 06.7	+1.1
PVCC				*e*PKPPKP		21 01 02.6	
PVCC				AMS	AMS	21 04 30.0	
	comp=Z,25μm,25.0s						
PVCC	**Panska Ves**	**78.98**	**352**	*i* P	**P**	**20 34 15.1**	**0.0**
PVCC				*e*pP	pP	20 34 29.2	+7.9
PVCC				*e*PP	PP	20 37 17.9	+4.8
PVCC				*e*S	S	20 44 14.9	+2.4
PVCC				*e*SS	SS	20 49 36.0	+20
PVCC				LR	LR		
	comp=Z,25μm,25.0s,MS6.5						
DPC	**Dobruska-Polom**	**78.99**	**351**	*i* P	**P**	**20 34 15.7**	**+0.6**
DPC				*e**PP	pP	20 34 30.9	+10
DPC				*e*		20 37 18.3	
DPC				*e*S	S	20 44 15.9	+3.3
DPC	**Dobruska-Polom**	**78.99**	**351**	*i* P	**P**	**20 34 15.7**	**+0.6**
DPC				*e*x	x	20 34 30.9	
DPC				*e*PP	PP	20 37 18.3	+5.1
DPC				*e*S	S	20 44 15.9	+3.3
DPC				*e*SS	SS	20 49 44.9	+28
DPC				*e*PKKP	PKKPbc	20 53 07.5	+1.9
DPC				*e*PKPPKP		21 01 02.4	
DPC				AMS	AMS	21 05 30.0	
	comp=Z,22μm,26.6s						
DPC	**Dobruska-Polom**	**78.99**	**351**	*i* P	**P**	**20 34 15.7**	**+0.6**
DPC				*e*pP	pP	20 34 30.9	+10
DPC				*e*PP	PP	20 37 18.3	+5.1
DPC				*e*S	S	20 44 15.9	+3.3
DPC				*e*SS	SS	20 49 44.9	+28
DPC				LR	LR		
	comp=Z,22μm,26.6s,MS6.4						
RAC	**Raciborz**	**79.06**	**350**	*e*P	**P**	**20 34 16.2**	**+0.7**
KTGM	**Kuala Trenggan**	**79.08**	**265**	⇑P	**P**	**20 34 16.6**	**+0.4**
MOX	**Moxa**	**79.09**	**354**	*b i*P	**P**	**20 34 16.1**	**+0.4**
	comp=Z,743nm,1.7s,mb6.3						
MOX				*e*		20 34 31.0	
MOX				*e*		20 37 17.0	
MOX							
	comp=Z,9μm,18.0s						
MOX	**Moxa**	**79.09**	**354**	⇑*i*P	**P**	**20 34 16.1**	**+0.4**
MOX				*e*		20 34 31.0	
MOX				*e*		20 37 17.0	
MOX				pmax	pmax		
	comp=Z,743nm,1.7s,mb6.3						
MOX				MLR	MLR		
	comp=Z,9μm,18.0s,MS6.2						
MOX	**Moxa**	**79.09**	**354**	*e*P	**P**	**20 34 15.9**	**+0.2**
	comp=Z,379nm,1.0s,mb6.3						
MOX	**Moxa**	**79.09**	**354**	*i* Pcr		20 34 16.1	
	comp=Z,743nm,1.7s						
MOX				*e*		20 34 31.0	
MOX				*e*		20 37 17.0	
MOX				LR	LR		
	comp=Z,9μm,18.0s,MS6.2						
MAK	**Makhachkala**	**79.10**	**328**	*c i*P	**P**	**20 34 17.1**	**+1.2**
MAK				*i*	pP	20 34 23.9	+1.8
MAK				*i*		20 37 17.4	
MAK				*e*PPP		20 39 07.4	
MAK				*i* S	S	20 44 17.9	+3.9
MAK				*i*		20 44 33.1	
MAK				pmax	pmax		
	comp=Z,1μm,1.2s,mb6.7						
MAK				pmax	pmax		
	comp=N,2μm,1.7s						
MAK				pmax	pmax		
	comp=E,1μm,1.7s						
MAK				MLR	MLR		
	comp=Z,26μm,17.0s,MS6.6						
MAK				MLR	MLR		
	comp=N,35μm,23.0s						
MAK				MLR	MLR		
	comp=E,39μm,20.0s						
BEBN	**Eben Emael**	**79.21**	**358**	P	**P**	**20 34 16.9**	**+0.6**
	comp=Z,212nm,1.5s,mb5.8						
UCC	**Uccle**	**79.23**	**359**	P	**P**	**20 34 16.7**	**+0.3**
HGN	**Heimansgroeve**	**79.23**	**358**	⇓*i*P	**P**	**20 34 16.9**	**+0.4**
	comp=Z,486nm,1.5s,mb6.2						
HGN	**Heimansgroeve**	**79.23**	**358**	*i* x	x	20 34 20.3	
	comp=Z,784nm,1.0s						
HGN	**Heimansgroeve**	**79.23**	**358**	*e*x	x	20 34 25.2	
HGN	**Heimansgroeve**	**79.23**	**358**	*e*PP	PP	20 37 13.6	-1.6
HGN	**Heimansgroeve**	**79.23**	**358**	*i* S	S	20 44 18.9	+3.7
HGN	**Heimansgroeve**	**79.23**	**358**	*e*SS	SS	20 49 47.6	+27
OKC	**Ostrava-Krasne**	**79.30**	**350**	*i* P	**P**	**20 34 17.2**	**+0.4**
OKC				*e**PP	pP	20 34 30.9	+7.8
OKC				*e*		20 37 19.4	
OKC				*e*S	S	20 44 18.2	+2.3
OKC	**Ostrava-Krasne**	**79.30**	**350**	*i* P	**P**	**20 34 17.2**	**+0.4**
OKC				*e*x	x	20 34 30.9	
OKC				*e*PP	PP	20 37 19.4	+3.6
OKC				*e*S	S	20 44 18.2	+2.3
OKC				*e*SS	SS	20 49 34.0	+13
OKC				*e*PKKP	PKKPbc	20 53 10.6	+5.7
OKC				*e*PKPPKP		21 01 01.9	
OKC				AMS	AMS	21 16 00.0	
	comp=Z,14μm,15.7s						
OKC	**Ostrava-Krasne**	**79.30**	**350**	*i* P	**P**	**20 34 17.2**	**+0.4**
OKC				*e*pP	pP	20 34 30.9	+7.8
OKC				*e*PP	PP	20 37 19.4	+3.6
OKC				*e*S	S	20 44 18.2	+2.3
OKC				*e*SS	SS	20 49 34.0	+13
OKC				*e*PKKP	PKKPbc	20 53 10.6	+5.7
OKC				*e*PKPPKP		21 01 01.9	
OKC				AMS	AMS	21 16 00.0	
	comp=Z,14μm,15.7s						
OKC	**Ostrava-Krasne**	**79.30**	**350**	*i* P	**P**	**20 34 17.2**	**+0.4**
OKC				*e*pP	pP	20 34 30.9	+7.8
OKC				*e*PP	PP	20 37 19.4	+3.6
OKC				*e*S	S	20 44 18.2	+2.3
OKC				*e*SS	SS	20 49 34.0	+13
OKC				*e*PKKP	PKKPbc	20 53 10.6	+5.7
OKC				*e*PKPPKP		21 01 01.9	
OKC				AMS	AMS	21 16 00.0	
	comp=Z,14μm,15.7s						
MEM	**Membach**	**79.39**	**358**	P	**P**	**20 34 18.0**	**+0.7**
	comp=Z,432nm,1.2s,mb6.3						
MORC	**Moravsky Berou**	**79.43**	**350**	P	**P**	**20 34 17.5**	**0.0**
MORC				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.9						
MORC	**Moravsky Berou**	**79.43**	**350**	⇓*i*P	**P**	**20 34 17.8**	**+0.3**
MORC	**Moravsky Berou**	**79.43**	**350**	P	**P**	**20 34 18.1**	**+0.5**
NKC	**Novy Kostel**	**79.44**	**353**	*i* P	**P**	**20 34 17.9**	**+0.3**
NKC				*e**PP	pP	20 34 32.0	+8.2
NKC				*e*		20 37 18.9	
NKC				*e*S	S	20 44 18.0	+0.6
NKC	**Novy Kostel**	**79.44**	**353**	*i* P	**P**	**20 34 17.9**	**+0.3**
NKC				*e*x	x	20 34 32.0	
NKC				*e*PP	PP	20 37 18.9	+1.9
NKC				*e*S	S	20 44 18.0	+0.6
NKC				*e*x	x	20 49 41.9	
NKC				*e*PKKP	PKKPbc	20 53 05.4	+0.8
NKC				*e*PKPPKP		21 00 58.2	
NKC				AMS	AMS	21 03 50.0	
	comp=Z,21μm,27.3s						
NKC	**Novy Kostel**	**79.44**	**353**	*i* P	**P**	**20 34 17.9**	**+0.3**
NKC				*e*pP	pP	20 34 32.0	+8.2
NKC				*e*PP	PP	20 37 18.9	+1.9
NKC				*e*S	S	20 44 18.0	+0.6
NKC				*e*SS	SS	20 49 41.9	+19
PRA	**Prague**	**79.45**	**352**	P	**P**	**20 34 17.0**	**-0.6**
NIE	**Niedzica**	**79.45**	**348**	*e*P	**P**	**20 34 18.2**	**+0.6**
DYA	**Yadsworthy**	**79.46**	**4**	⇓*e*P	**P**	**20 34 17.2**	**-0.5**
DYA				AMb	AMB	20 34 20.9	
	comp=Z,806nm,1.7s,mb6.4						
MENF	**Mencas**	**79.48**	**0**	⇑*e*P	**P**	**20 34 18.7**	**+0.9**
CSA1	**St Austell**	**79.50**	**5**	*e*P	**P**	**20 34 18.0**	**+0.1**
TGUH	**Tegucigalpa,Un**	**79.51**	**81**	*e*P	**P**	**20 34 19.0**	**+0.5**
	comp=Z,443nm,1.1s,mb6.3						
PRU	**Pruhonice**	**79.52**	**352**	*i* P	**P**	**20 34 18.2**	**+0.2**
PRU				*e**PP	pP	20 34 33.3	+9.0
PRU				*e*		20 37 22.6	
PRU				*e*S	S	20 44 19.9	+1.7
PRU				MLR	MLR		
	comp=Z,24μm,25.8s,MS6.4						
PRU	**Pruhonice**	**79.52**	**352**	*i* P	**P**	**20 34 18.2**	**+0.2**
PRU				*e*x	x	20 34 33.3	
PRU				*e*PP	PP	20 37 22.6	+5.0
PRU				*e*S	S	20 44 19.9	+1.7
PRU				*e*x	x	20 49 50.4	
PRU				*e*PKKP	PKKPbc	20 53 05.2	+0.8
PRU				*e*PKPPKP		21 00 59.5	
PRU				AMS	AMS	21 04 50.0	
	comp=Z,24μm,25.8s						
PRU	**Pruhonice**	**79.52**	**352**	*i* P	**P**	**20 34 18.2**	**+0.2**
PRU				*e*pP	pP	20 34 33.3	+9.0
PRU				*e*PP	PP	20 37 22.6	+5.0
PRU				*e*S	S	20 44 19.9	+1.7
PRU				*e*SS	SS	20 49 50.4	+26
PRU				LR	LR		
	comp=Z,24μm,25.8s,MS6.4						
BLSP	**Bilaspur**	**79.55**	**292**	*e*P	**P**	**20 34 17.0**	**-1.6**
BCLA	**Clavier**	**79.59**	**358**	P	**P**	**20 34 18.8**	**+0.3**
	comp=Z,294nm,1.5s,mb6.0						
KOLS	**Kolonicke sedl**	**79.65**	**347**	*i* P	**P**	**20 34 19.3**	**+0.5**
KOLS				*e*		20 34 43.9	
KOLS				*e*PP	PP	20 37 20.4	+1.6
KOLS				*e*S	S	20 44 20.3	+0.6
MANZ	**Manzenberg**	**79.72**	**354**	*e*P	**P**	**20 34 19.2**	**+0.1**
	comp=Z,217nm,1.1s,mb6.0						
CMA1	**Manaccan**	**79.75**	**5**	*e*P	**P**	**20 34 19.5**	**+0.2**
KIV	**Kislovodsk**	**79.76**	**332**	P	**P**	**20 34 20.3**	**+0.9**
	SNR=123						
KIV	**Kislovodsk**	**79.76**	**332**	*e*P	**P**	**20 34 19.5**	**+0.1**
KIV				*e*		20 37 18.1	
KIV				*e*PPP		20 39 12.7	
KIV				*e*S	S	20 44 18.0	-3.0
KIV				pmax	pmax		
	comp=Z,724nm,1.1s,mb6.5						
KIV				pmax	pmax		
	comp=Z,5μm,5.6s						
KIV	**Kislovodsk**	**79.76**	**332**	⇓*i*P	**P**	**20 34 19.9**	**+0.5**
KIV	**Kislovodsk**	**79.76**	**332**	⇓P	**P**	**20 34 19.9**	**+0.4**
KIV				*e*P		20 34 20.1	
KIV				LR	LR		
	comp=Z,25μm,20.0s,MS6.5						
CRVS	**Cervenica-Dubn**	**79.80**	**347**	*i* P	**P**	**20 34 20.1**	**+0.5**
CRVS				*e*S	S	20 44 22.2	+1.0
GIVF	**Givet**	**79.92**	**358**	⇓*i*P	**P**	**20 34 20.5**	**+0.3**
	comp=Z,2μm,1.6s,mb6.5						
GIVF	**Givet**	**79.92**	**358**	⇓*i*P	**P**	**20 34 20.5**	**+0.3**
GIVF				pmax	pmax		
	comp=Z,1μm,1.6s,mb6.5						
GIVF	**Givet**	**79.92**	**358**	⇓*i*P	**P**	**20 34 20.5**	**+0.3**
	comp=Z,1μm,1.6s,mb6.5						
ROTZ	**Rotzenmuhle**	**79.93**	**354**	*e*P	**P**	**20 34 20.8**	**+0.6**
	comp=Z,348nm,1.1s,mb6.2						
DOU	**Dourbes**	**79.93**	**359**	P	**P**	**20 34 20.8**	**+0.5**
	comp=Z,296nm,1.6s,mb6.0						
UZH	**Uzhgorod**	**79.95**	**347**	*c i*P	**P**	**20 34 20.3**	**-0.1**
UZH				*i*		20 34 35.0	
UZH				*i*		20 37 22.0	
UZH				*e*PPP		20 39 22.0	
UZH				*i* S	S	20 44 19.0	-3.8
UZH				*i*		20 44 40.0	
UZH				*e*SS	SS	20 49 30.0	-0.9
UZH				*i* SSS		20 53 00.0	
UZH				MLR	MLR		
	comp=Z,11μm,18.0s,MS6.2						
LIKS	**Likavka**	**79.97**	**349**	*e*P	**P**	**20 34 21.6**	**+1.1**
LIKS				*e*PP	PP	20 37 20.4	-0.9
BAIF	**Baives**	**79.97**	**359**	⇓*i*P	**P**	**20 34 21.0**	**+0.5**
	comp=Z,1μm,0.9s,mb6.5						
BAIF	**Baives**	**79.97**	**359**	⇓*i*P	**P**	**20 34 21.0**	**+0.5**
BAIF				pmax	pmax		
	comp=Z,609nm,0.9s,mb6.5						
BAIF	**Baives**	**79.97**	**359**	⇓*i*P	**P**	**20 34 21.0**	**+0.5**
	comp=Z,610nm,0.9s,mb6.5						
VRAC	**Vranov**	**80.00**	**351**	PKKPbc	PKKPbc	20 53 06.7	+3.3
	comp=Z,1.6nm,0.3s,baz=268,slow=3.1,SNR=3.8						
VRAC				PKP2bc		21 00 59.7	
	comp=Z,1.7nm,0.5s,baz=239,slow=23,SNR=4.0						
VRAC				PKPPKP		21 01 08.9	
	comp=Z,6.5nm,1.1s,baz=51,slow=3.2,SNR=4.3						
VRAC				LR	LR	21 15 11.2	
	comp=Z,17μm,20.0s,MS6.4,baz=11,slow=40						
VRAC	**Vranov**	**80.00**	**351**	⇑*i*P	**P**	**20 34 21.0**	**+0.4**
VRAC	**Vranov**	**80.00**	**351**	P	**P**	**20 34 21.1**	**+0.5**
GRA1	**Grafenberg Arr**	**80.07**	**354**	*e*P	**P**	**20 34 21.7**	**+0.7**
	comp=Z,641nm,1.1s,mb6.5						
GRA1				*e*pP	pP	20 34 36.6	+9.4
GRA1				*e*PP	PP	20 37 26.1	+3.9
GRA1				*e*S	S	20 44 27.2	+3.2
GRA1				*e*SS	SS	20 49 48.1	+15
GRA1				*e*P'P'		21 01 02.2	
GRA1				LR	LR		
	comp=Z,21μm,28.0s,MS6.3						
GRF	**Grafenberg Arr**	**80.07**	**354**	*e*P	**P**	**20 34 21.7**	**+0.7**
GRF				*e**PP	pP	20 34 36.6	+9.4
GRF				*e*		20 37 26.1	
GRF				*e*S	S	20 44 27.2	+3.2
GRF				pmax	pmax		
	comp=Z,641nm,1.1s,mb6.5						
GRF				MLR	MLR		
	comp=Z,21μm,28.0s,MS6.3						
GRF	**Grafenberg Arr**	**80.07**	**354**	*e*P	**P**	**20 34 21.7**	**+0.7**
GRF				*e**PP	pP	20 34 36.6	+9.4
GRF				*e*		20 37 26.1	
GRF				*e*S	S	20 44 27.2	+3.2
GRF				pmax	pmax		
	comp=Z,641nm,1.1s,mb6.5						
GRF	**Grafenberg Arr**	**80.07**	**354**	*e*P	**P**	**20 34 21.7**	**+0.7**
	comp=Z,641nm,1.1s,mb6.5						
GRF				*e*pP	pP	20 34 36.6	+9.4
GRF				*e*PP	PP	20 37 26.1	+3.9
GRF				*e*S	S	20 44 27.2	+3.2
GRF				*e*SS	SS	20 49 48.1	+15
GRF				*e*PKPPKPdf		21 01 02.2	
GRF				*e*L		21 04 30.9	
	comp=Z,21μm,28.0s						
GRF	**Grafenberg Arr**	**80.07**	**354**	*e*P	**P**	**20 34 21.7**	**+0.7**
	comp=Z,641nm,1.1s,mb6.5						
GRF				*e*pP	pP	20 34 36.6	+9.4
GRF				*e*PP	PP

KIS smax
comp=E,2μm,3.0s
KIS smax
comp=N,26μm,7.0s
KIS smax
comp=E,5μm,14.0s
KIS Kishinev 80.40 342⇓*i*P P 20 34 23.6 +0.8
KIS Kishinev 80.40 342 ⇓P P 20 34 23.6 +0.8
KHC Kasperske Hory 80.45 353 *i* P P 20 34 23.5 +0.4
KHC *e* 20 34 28.5 -0.8
KHC *e**PP pP 20 34 38.7 +9.4
KHC *e* 20 37 26.3
KHC *e*S S 20 44 31.3 +3.2
KHC Kasperske Hory 80.45 353 *i* P P 20 34 23.5 +0.4
KHC *e*pP pP 20 34 28.5 -0.8
KHC *e*x x 20 34 38.7
KHC *e*PP PP 20 37 26.3 +0.9
KHC *e*S S 20 44 31.3 +3.2
KHC *e*x x 20 49 58.3
KHC *e*PKKP PKKPbc 20 53 03.9 +1.5
KHC *e*PKPPKP 21 00 58.2
KHC AMS AMS 21 04 50.0
comp=E,23μm,29.0s
KHC Kasperske Hory 80.45 353 *i* P P 20 34 23.5 +0.4
KHC *e* pP 20 34 28.5 -0.8
KHC *e*pP pP 20 34 38.7 +9.4
KHC *e*PP PP 20 37 26.3 +0.9
KHC *e*S S 20 44 31.3 +3.2
KHC *e*SS SS 20 49 58.3 +20
KHC LR LR
comp=Z,23μm,29.0s,MS6.4
BURAR Bucovina Array 80.47 345⇓*i*P P 20 34 23.9 +0.7
BURAR Bucovina Array 80.47 345 P P 20 34 23.8 +0.6
ANN Anapa 80.48 336*d* *i*P P 20 34 22.2 -1.1
ANN *i* 20 37 26.8
ANN *i* S S 20 44 27.6 -0.9
ANN pmax pmax
comp=Z,448nm,1.5s,mb6.2
ANN pmax pmax
comp=Z,10μm,10.2s
ANN Anapa 80.48 336 *i* P P 20 34 22.0 -1.3
WET Wettzell 80.50 353 *e*P P 20 34 23.7 +0.4
comp=Z,207nm,1.2s,mb5.9
AJM Ajmer 80.50 300 *e*P P 20 34 21.5 -2.3
AJM AMb AMB 20 34 26.7
comp=Z,557nm,0.9s,mb6.5
KOLL Kolacno 80.51 349 *i* P P 20 34 24.0 +0.6
KOLL *e* 20 34 38.9
KOLL *e*S S 20 44 29.8 +1.1
KOLL Kolacno 80.51 349 *i* P P 20 34 24.0 +0.6
KOLL *e* 20 34 38.9
KOLL *e*S S 20 44 29.8 +1.1
KTD Kalmit 80.61 356⇑*e*P P 20 34 24.7 +0.8
KULM Kulim 80.70 267 ⇓P P 20 34 24.9 0.0
GEC2 GERESS Array S 80.73 352 *e*P P 20 34 24.5 -0.1
GERES GERESS Array B 80.73 352 P P 20 34 24.7 +0.1
comp=Z,107nm,0.8s,mb5.8,baz=29,slow=3.0,SNR=180
GERES S S 20 44 31.7 +0.7
comp=Z,0.5nm,0.7s,baz=57,slow=6.1,SNR=3.5
GERES PKKPbc PKKPbc 20 53 02.3 +0.5
comp=Z,4.0nm,0.9s,baz=177,slow=2.3,SNR=18
GERES PKP2bc 21 00 45.3
comp=Z,0.5nm,0.8s,baz=326,slow=4.0,SNR=4.1
GERES PKPPKP 21 01 08.9
comp=Z,1.9nm,0.8s,baz=187,slow=1.1,SNR=9.4
GERES LR LR 21 13 32.6
comp=Z,18μm,21.5s,MS6.4,baz=12,slow=38
GERES GERESS Array B 80.73 352 P P 20 34 24.7 +0.1
GERES S S 20 44 31.7 +0.7
GERES 20 53 02.3
GERES GERESS Array B 80.73 352 P P 20 34 24.7 +0.1
GERES S S 20 44 31.7 +0.7
GERES PKKPbc PKKPbc 20 53 02.3 +0.5
GERES ⇑*e* 21 00 45.3
GERES P'P' 21 01 08.9
GERES LR LR 21 13 32.6
ONI Oni 80.77 331 P P 20 34 25.5 +0.6
ONI S S 20 44 33.5 +1.9
MODS Modra-Piesok 80.84 350 *i* P P 20 34 26.2 +1.0
MODS *e* 20 34 39.7
MODS *e*S S 20 44 32.9 +0.7
LANF Langenberg 80.96 356⇑*e*P P 20 34 26.5 +0.7
SOC Sochi 80.97 334*d* *i*P P 20 34 26.0 0.0
SOC *e**PP pP 20 34 37.0 +4.8
SOC *e* 20 37 26.4
SOC *i* S S 20 44 35.2 +1.5
SOC *e*SS SS 20 49 54.1 +7.5
SOC Sochi 80.97 334 *i* P P 20 34 26.9 +0.9
PSZ Piszkesteto 80.98 348⇓*i*P P 20 34 26.8 +0.9
PSZ Piszkesteto 80.98 348 P P 20 34 27.0 +1.1
ZST Bratislava 81.04 350 *i* P P 20 34 27.3 +1.1
ZST *e* 20 34 40.7
ZST *e*S S 20 44 33.7 -0.5
ZST pmax pmax
comp=Z,395nm,1.0s,mb6.3
ZST MLR MLR
comp=Z,4μm,17.4s,MS5.8
ZST Bratislava 81.04 350 *i* P P 20 34 27.3 +1.1
ZST *e* 20 34 40.7
ZST *e*S S 20 44 33.7 -0.5
ZST Bratislava 81.04 350 *i* P P 20 34 27.3 +1.1
comp=Z,395nm,1.0s,mb6.3
ZST *e* 20 34 40.7
ZST *e*S S 20 44 33.7 -0.5
ZST LR LR
comp=Z,4μm,17.4s,MS5.8
STU Stuttgart 81.10 355 *e*P P 20 34 26.6 0.0
STU pmax pmax
comp=Z,507nm,1.3s,mb6.3
STU Stuttgart 81.10 355 *e*P P 20 34 26.6 0.0
comp=Z,427nm,1.2s,mb6.2
STU Stuttgart 81.10 355 *e*P P 20 34 26.6 +0.1
comp=Z,507nm,1.3s,mb6.3
TBLG Delisi 81.12 329 P P 20 34 27.5 +0.7
TBLG S S 20 44 39.9 +4.6
TBLG Delisi 81.12 329 P P 20 34 27.5 +0.8
TBLG S S 20 44 40.0 +4.6
MTA Mtatsminda 81.14 329 P P 20 34 27.4 +0.6
MTA S S 20 44 40.1 +4.6
DGRG David-gareji 81.16 329 P P 20 34 28.9 +1.9
DGRG S S 20 44 39.0 +3.2
SIM Simferopol' 81.18 338*de*P P 20 34 26.7 -0.4
SIM *e* 20 37 31.0
SIM *e*S S 20 44 38.0 +2.2
SIM pmax pmax
comp=Z,302nm,1.1s,mb6.1
SIM pmax pmax
comp=Z,3μm,10.0s
FLN La Foliniere 81.25 2⇓*i*P P 20 34 27.2 -0.2
comp=Z,2μm,1.2s,mb6.7
FLN *e*MLR MLR
comp=Z,17μm,18.8s,MS6.1
FLN La Foliniere 81.25 2⇓*i*P P 20 34 27.2 -0.2
FLN pmax pmax
comp=Z,1μm,1.2s,mb6.7
FLN MLR MLR
comp=Z,18μm,18.8s,MS6.4
FLN La Foliniere 81.25 2⇓*i*P P 20 34 27.2 -0.2
comp=Z,1μm,1.2s,mb6.7
FLN LR LR
comp=Z,18μm,18.8s,MS6.4
MYKOM Kota Tinggi 81.33 262 ⇓P P 20 34 28.2 -0.1
STR Strasbourg 81.35 356⇑*e*P P 20 34 29.3 +1.4
LDF La Druitiere 81.43 2⇓*i*P P 20 34 28.1 -0.2
comp=Z,1μm,1.0s,mb6.5
LDF La Druitiere 81.43 2⇓*i*P P 20 34 28.1 -0.2
LDF pmax pmax
comp=Z,634nm,1.0s,mb6.5
LDF La Druitiere 81.43 2⇓*i*P P 20 34 28.1 -0.2
comp=Z,634nm,1.0s,mb6.5
CONA Conrad Observa 81.44 351 *i* P P 20 34 29.1 +0.7
comp=Z,11μm,6.6s,SNR=354
CONA Conrad Observa 81.44 351 *i* pP P 20 34 29.1 +0.7
comp=Z,11μm,6.6s,SNR=354
CSNA Conrad Observa 81.44 351⇑*i*P P 20 34 29.3 +0.9
comp=Z,10μm,6.6s
CSNA Conrad Observa 81.44 351⇑*i*pP P 20 34 29.3 +0.9
comp=Z,10μm,6.6s
KGM Kluang 81.50 263 ⇑P P 20 34 29.5 +0.3
BUD Budapest 81.52 349⇓*e*PcP PcP 20 34 29.9 -4.8
MEZF Maizieres J'vi 81.52 358⇓*i*P P 20 34 29.2 +0.4
comp=Z,1μm,1.2s,mb6.5
MEZF Maizieres J'vi 81.52 358⇓*i*P P 20 34 29.2 +0.4
comp=Z,1μm,1.2s,mb6.8
CDF Champ du Feu 81.55 357⇓*i*P P 20 34 29.2 +0.3
comp=Z,545nm,1.3s,mb6.0
CDF Champ du Feu 81.55 357⇓*i*P P 20 34 29.2 +0.3
CDF pmax pmax
comp=Z,272nm,1.3s,mb6.0
CDF Champ du Feu 81.55 357⇓*i*P P 20 34 29.2 +0.3
comp=Z,272nm,1.3s,mb6.0
BFO Black Forest 81.58 356 *e*P P 20 34 29.2 +0.1
BFO pmax pmax
comp=Z,473nm,1.3s,mb6.3
BFO MLR MLR
comp=Z,11μm,21.0s,MS6.2
BFO Black Forest 81.58 356 *e*P P 20 34 29.2 +0.1
comp=Z,473nm,1.3s,mb6.3
BFO LR LR
comp=Z,11μm,21.0s,MS6.2
FUR Furstenfeldbru 81.58 354 *e*P P 20 34 29.4 +0.3
FUR pmax pmax
comp=Z,403nm,1.1s,mb6.3
FUR Furstenfeldbru 81.58 354 *e*P P 20 34 29.4 +0.3
comp=Z,403nm,1.1s,mb6.3
ROSF Rostrenen 81.59 4⇓*i*P P 20 34 29.4 +0.3
comp=Z,863nm,1.2s,mb6.3
ROSF Rostrenen 81.59 4⇓*i*P P 20 34 29.4 +0.3
ROSF pmax pmax
comp=Z,432nm,1.2s,mb6.3
ROSF Rostrenen 81.59 4⇓*i*P P 20 34 29.4 +0.3
comp=Z,432nm,1.2s,mb6.3
SOP Sopron 81.61 350⇓*e*PcP PcP 20 34 30.4 -4.7
GRR Gorron 81.62 2⇓*i*P P 20 34 29.3 0.0
comp=Z,2μm,0.9s,mb6.6
GRR Gorron 81.62 2⇓*i*P P 20 34 29.3 0.0
GRR pmax pmax
comp=Z,792nm,0.9s,mb6.6
GRR Gorron 81.62 2⇓*i*P P 20 34 29.3 0.0
comp=Z,792nm,0.9s,mb6.6
FRIM Kepong 81.64 265 ⇓P P 20 34 30.1 +0.1
MOA Molln 81.67 352 *i* P P 20 34 29.7 +0.2
comp=Z,9μm,6.3s,SNR=124
MOA Molln 81.67 352 *i* pP P 20 34 29.7 +0.2
comp=Z,9μm,6.3s,SNR=124
DRGR 81.68 346⇓*i*P P 20 34 30.2 +0.6
DRGR 81.68 346 P P 20 34 30.4 +0.7
SGMF Saint Gilles 81.70 3⇓*i*P P 20 34 30.0 +0.3
comp=Z,791nm,0.8s,mb6.4
SGMF Saint Gilles 81.70 3⇓*i*P P 20 34 30.0 +0.3
SGMF pmax pmax
comp=Z,396nm,0.8s,mb6.4
SGMF Saint Gilles 81.70 3⇓*i*P P 20 34 30.0 +0.3
comp=Z,396nm,0.8s,mb6.4
ECH Echery 81.75 357⇑*e*P P 20 34 30.8 +0.8
ECH Echery 81.75 357 P P 20 34 29.8 -0.2
THEF They Montfort 81.77 358⇑*e*P P 20 34 31.0 +0.9
SPAK Spaichingen-Ko 81.79 356⇑*e*P P 20 34 30.8 +0.6
LIBD Limburg 81.79 356 *e*P P 20 34 31.2 +1.0
WRAB Tennant Creek 81.80 225 *e*P P 20 34 28.4 -2.1
WRAB pmax pmax
comp=Z,631nm,1.4s,mb6.3
WRAB Tennant Creek 81.80 225 *e*P P 20 34 28.4 -2.0
comp=Z,631nm,1.4s,mb6.3
WB2 Warramunga Arr 81.81 225⇓*i*P P 20 34 28.9 -1.6
WB2 *e*pP pP 20 34 35.0 -1.8
WB2 *e*PP PP 20 37 34.3 -3.8
WB2 *e*S S 20 44 39.7 -2.9
WB2 Warramunga Arr 81.81 225 *e*P P 20 34 28.3 -2.2
WB2 ⇓*i*P 20 34 28.9
WB2 *e*pP pP 20 34 35.0 -1.8
WB2 *e*PP PP 20 37 34.3 -3.8
WB2 *e*S S 20 44 39.7 -2.9
WRA Warramunga Arr 81.81 225 P P 20 34 29.0 -1.6
comp=Z,65nm,0.8s,mb5.6,baz=32,slow=5.8,SNR=107
WRA S S 20 44 43.6 +0.9
comp=Z,1.4nm,1.1s,baz=56,slow=5.2,SNR=2.6
WRA PKKPbc PKKPbc 20 53 02.3 +1.8
comp=Z,2.8nm,0.8s,baz=222,slow=2.0,SNR=6.9
WRA PKP2bc 21 00 50.4
comp=Z,0.7nm,0.7s,baz=207,slow=1.1,SNR=6.5
WRA PKPPKP 21 01 07.0
comp=Z,2.3nm,1.0s,baz=218,slow=2.2,SNR=6.1
WRA LR LR 21 07 39.8
comp=Z,5μm,19.9s,MS5.9,baz=25,slow=33
WRA Warramunga Arr 81.81 225 P P 20 34 29.0 -1.5
WRA S S 20 44 43.6 +0.9
WRA Warramunga Arr 81.81 225 P P 20 34 29.0 -1.6
WRA S S 20 44 43.6 +0.9
WRA PKKPbc PKKPbc 20 53 02.3 +1.8
WRA ⇑*e* 21 00 50.4
WRA P'P' 21 01 07.0
WRA LR LR 21 07 39.8
VRI Vrincioaia 81.89 343⇓*i*P P 20 34 31.4 +0.6
VRI Vrincioaia 81.89 343 P P 20 34 31.5 +0.7
PLOR Plostina 81.92 343⇓*i*P P 20 34 31.6 +0.7
HAU Haudompre 81.98 357⇓*i*P P 20 34 31.3 +0.1
comp=Z,752nm,1.3s,mb6.2
HAU *e*MLR MLR
comp=Z,17μm,22.2s,MS6.1
HAU Haudompre 81.98 357⇓*i*P P 20 34 31.3 +0.1
HAU pmax pmax
comp=Z,376nm,1.3s,mb6.2
HAU MLR MLR
comp=Z,17μm,22.3s,MS6.4
HAU Haudompre 81.98 357⇓*i*P P 20 34 31.3 +0.1
comp=Z,376nm,1.3s,mb6.2
HAU LR LR
comp=Z,17μm,22.3s,MS6.4
QUIF Quistinic 82.01 4 *e*P P 20 34 31.6 +0.2
comp=Z,366nm,0.9s,mb6.0
QUIF Quistinic 82.01 4 *e*P P 20 34 31.6 +0.2
QUIF pmax pmax
comp=Z,183nm,0.9s,mb6.0
QUIF Quistinic 82.01 4 *e*P P 20 34 31.6 +0.2
comp=Z,183nm,0.9s,mb6.0
FELD Feldberg im Sc 82.05 356⇑*e*P P 20 34 32.1 +0.5
MOF Molkenrain 82.11 357⇑*e*P P 20 34 32.5 +0.6
NGP Nagpur 82.13 294 *i* P P 20 34 29.4 -3.0
NGP *i* x x 20 44 43.3
TLCR 82.14 342⇑*i*P P 20 34 32.8 +0.7
TLCR 82.14 342 P P 20 34 32.5 +0.5
ARSA Arzberg 82.14 351 *i* P P 20 34 32.9 +0.8
comp=Z,8μm,6.5s,SNR=182
ARSA Arzberg 82.14 351 *i* pP P 20 34 32.9 +0.8
comp=Z,8μm,6.5s,SNR=182
HINF Hinteralfeld 82.16 357 *e*P P 20 34 32.0 -0.1
comp=Z,437nm,1.4s,mb5.9
HINF Hinteralfeld 82.16 357 *e*P P 20 34 32.0 -0.1
HINF pmax pmax
comp=Z,218nm,1.4s,mb5.9
HINF Hinteralfeld 82.16 357 *e*P P 20 34 32.0 -0.1
comp=Z,218nm,1.4s,mb5.9
VIS Vishakhapatnam 82.20 288 *e*P P 20 34 31.7 -1.1
VIS AMb AMB 20 34 36.2
comp=Z,547nm,1.5s,mb6.3
RKT Rikitea 82.27 141 *e*S S 20 44 44.9 -2.4
comp=Z,10μm,36.8s
RKT *e*SS SS 20 49 51.3 -17
comp=Z,8μm,25.8s
RKT *e*LQ 20 56 08.6
comp=Z,16μm,28.8s
RKT *e*LR LR 20 59 43.8
comp=Z,41μm,31.5s,baz=329
RKT Rikitea 82.27 141 *e*P P 20 34 33.7 +0.8
RKT *e*S S 20 44 44.9 -2.4
RKT pmax pmax
comp=Z,507nm,1.6s,mb6.2
RKT Rikitea 82.27 141 *e*P P 20 34 33.7 +0.8
comp=Z,506nm,1.6s,mb6.2
RKT *e*S S 20 44 44.9 -2.4
RKT *e*SS SS 20 49 51.3 -17
RKT *e*LQ 20 56 08.6
RETA Reutte 82.29 354⇓*i*P P 20 34 33.2 +0.3
comp=Z,4μm,3.9s
RETA Reutte 82.29 354⇓*i*pP P 20 34 33.2 +0.3
comp=Z,4μm,3.9s
BCA Borcka 82.37 331 *e*P P 20 34 33.3 -0.1
CVJ Coleyville 82.39 71⇑*e*P P 20 34 33.9 +0.1
WATA Walderalm 82.39 354⇓*i*P P 20 34 33.9 +0.5
comp=Z,511nm,1.2s,mb6.3,SNR=138
WATA Walderalm 82.39 354⇓*i*pP P 20 34 33.9 +0.5
comp=Z,511nm,1.2s,mb6.3,SNR=138
WATA Walderalm 82.39 354⇓*i*P P 20 34 33.9 +0.5
WATA pmax pmax
comp=Z,511nm,1.2s,mb6.3
MLR Muntele Rosu 82.40 344⇓*i*P P 20 34 33.9 +0.5
MLR Muntele Rosu 82.40 344 P P 20 34 34.4 +0.9
MOTA Moosalm 82.41 354⇓*i*P P 20 34 33.8 +0.3
comp=Z,743nm,1.3s,mb6.5,SNR=298
MOTA Moosalm 82.41 354⇓*i*pP P 20 34 33.8 +0.3
comp=Z,743nm,1.3s,mb6.5,SNR=298
MOTA Moosalm 82.41 354⇓*i*P P 20 34 33.8 +0.3
MOTA pmax pmax
comp=Z,743nm,1.3s,mb6.5
MOTA Moosalm 82.41 354⇓*i*P P 20 34 33.8 +0.3
comp=Z,743nm,1.3s,mb6.5
WTTA Wattenberg 82.46 354 *i* P P 20 34 34.5 +0.7
comp=Z,8μm,6.2s,SNR=176
WTTA Wattenberg 82.46 354 *i* pP P 20 34 34.5 +0.7
comp=Z,8μm,6.2s,SNR=176
WTTA Wattenberg 82.46 354 *i* P P 20 34 34.5 +0.8
WTTA pmax pmax
comp=Z,8μm,6.2s
BBS Basel-Blauen 82.48 357⇑*e*P P 20 34 34.7 +0.8
KBA Koelnbreinsper 82.51 352 *i* P P 20 34 35.1 +1.1
comp=Z,8μm,4.2s,SNR=547
KBA Koelnbreinsper 82.51 352 *i* pP P 20 34 35.1 +1.1
comp=Z,8μm,4.2s,SNR=547
KBA Koelnbreinsper 82.51 352 *i* P P 20 34 35.1 +1.1
KBA pmax pmax
comp=Z,8μm,4.2s
GNI Garni 82.54 329 ⇑P P 20 34 35.1 +0.8
SNR=64
GNI Garni 82.54 329 LR LR 21 18 40.0
comp=Z,17μm,18.3s,MS6.5,baz=102,slow=41
GNI Garni 82.54 329⇑*e*P P 20 34 35.3 +1.0
GNI pmax pmax
comp=Z,840nm,1.6s
GNI MLR MLR
comp=Z,8μm,18.0s
GNI Garni 82.54 329⇑*e*P P 20 34 35.4 +1.1
GNI LR LR
comp=Z,17μm,20.0s,MS6.4
DAVA Damuels 82.55 355⇓*i*P P 20 34 34.4 +0.2
comp=Z,9μm,6.8s,SNR=107
DAVA Damuels 82.55 355⇓*i*pP P 20 34 34.4 +0.2
comp=Z,9μm,6.8s,SNR=107
ISR Istrita 82.65 343⇓*i*P P 20 34 36.1 +1.3
ISR Istrita 82.65 343 ⇓P P 20 34 36.1 +1.3
KARS Kars 82.66 330 *e*P P 20 34 35.7 +0.8
SOKA Soboth 82.75 351⇓*i*P P 20 34 35.9 +0.6
comp=Z,2μm,1.8s,mb6.7
SOKA Soboth 82.75 351⇓*i*pP P 20 34 35.9 +0.6
comp=Z,2μm,1.8s,mb6.7
FETA Feichten 82.76 354 *i* P P 20 34 35.9 +0.6
comp=Z,4μm,4.1s,SNR=228
FETA Feichten 82.76 354 *i* pP P 20 34 35.9 +0.6
comp=Z,4μm,4.1s,SNR=228
LOR Lormes 82.77 359⇓*i*P P 20 34 35.6 +0.2
comp=Z,591nm,1.2s,mb6.2
LOR *e*MLR MLR
comp=Z,18μm,21.8s,MS6.1
LOR Lormes 82.77 359⇓*i*P P 20 34 35.6 +0.2
comp=Z,296nm,1.2s,mb6.2
LOR LR LR
comp=Z,18μm,21.8s,MS6.4
HYF Humbligny 82.78 360 *e*P P 20 34 36.0 +0.6
PERS Pernice 82.79 351 *e*P P 20 34 36.0 +0.6
HARR Harsova 82.79 342⇓*i*P P 20 34 36.0 +0.5
HARR Harsova 82.79 342 P P 20 34 36.2 +0.6
PKSM Moragy 82.81 349⇓*i*P P 20 34 35.4 -0.2
PKSM Moragy 82.81 349 P P 20 34 35.7 +0.1
KOGS Kog 82.86 350 *e*P P 20 34 36.0 +0.2
KOGS *e*S S 20 44 56.7 +3.7
ABTA Abfaltersbach 82.91 353 *i* P P 20 34 36.4 +0.3
comp=Z,4μm,4.0s,SNR=330
ABTA Abfaltersbach 82.91 353 *i* pP P 20 34 36.4 +0.3
comp=Z,4μm,4.0s,SNR=330
TIRR Tirgusor 82.92 342⇓*i*P P 20 34 36.4 +0.2
TIRR Tirgusor 82.92 342 P P 20 34 36.7 +0.6
MYKA Terra Mystica 82.93 352⇓*i*P P 20 34 36.1 -0.1
comp=Z,77μm,4.2s
MYKA Terra Mystica 82.93 352⇓*i*pP P 20 34 36.1 -0.1
comp=Z,77μm,4.2s
STH Stony Hill 82.94 70⇑*e*P P 20 34 36.6 -0.1
OBKA Obir 82.97 352 *i* P P 20 34 36.8 +0.4
comp=Z,7μm,4.1s,SNR=144
OBKA Obir 82.97 352 *i* pP P 20 34 36.8 +0.4
comp=Z,7μm,4.1s,SNR=144
SSF Saint Saulge 82.98 359⇓*i*P P 20 34 36.9 +0.4
comp=Z,383nm,0.9s,mb6.1
SSF Saint Saulge 82.98 359⇓*i*P P 20 34 36.9 +0.4
SSF pmax pmax
comp=Z,191nm,0.9s,mb6.1
SSF Saint Saulge 82.98 359⇓*i*P P 20 34 36.9 +0.4
comp=Z,191nm,0.9s,mb6.1
BZS Buzias 82.99 347⇓*i*P P 20 34 36.8 +0.3
GWJ Greenwich 82.99 70⇑*e*P P 20 34 37.0 +0.1
GZR Gura Zlata 83.03 346⇓*i*P P 20 34 37.3 +0.6
GZR Gura Zlata 83.03 346 P P 20 34 37.2 +0.5
HOJ Hope 83.03 70⇑*e*P P 20 34 36.7 -0.5
DAVOX Davos/Dischmat 83.05 355 PKKPbc PKKPbc 20 53 00.4 +3.8
comp=Z,1.6nm,0.6s,baz=323,slow=13,SNR=6.4
DAVOX PKPPKP 21 01 04.9
comp=Z,4.7nm,0.9s,baz=177,slow=5.6,SNR=10
DAVOX LR LR 21 09 04.8
comp=Z,10μm,21.1s,MS6.2,baz=353,slow=34
AVF Avril sur Loir 83.25 359⇓*i*P P 20 34 38.1 +0.2
comp=Z,512nm,0.9s,mb6.2
AVF Avril sur Loir 83.25 359⇓*i*P P 20 34 38.1 +0.2
AVF pmax pmax
comp=Z,256nm,0.9s,mb6.2
AVF Avril sur Loir 83.25 359⇓*i*P P 20 34 38.1 +0.2
comp=Z,256nm,0.9s,mb6.2
ROBS Robic 83.32 352 *i* P P 20 34 37.4 -0.8
KTUT Trabzon 83.35 332 *e*P P 20 34 38.4 -0.1
CABF La Chapelle 83.38 357⇓*i*P P 20 34 39.2 +0.7
comp=Z,701nm,1.2s,mb6.3
CABF La Chapelle 83.38 357⇓*i*P P 20 34 39.2 +0.7
CABF pmax pmax
comp=Z,351nm,1.2s,mb6.3
CABF La Chapelle 83.38 357⇓*i*P P 20 34 39.2 +0.7
comp=Z,350nm,1.2s,mb6.3
MACK Trabzon 83.39 332⇓*i*P P 20 34 39.0 +0.3
TUE Stuetta 83.39 355 *e*P P 20 34 39.1 +0.5
comp=Z,520nm,1.3s,mb6.4
SMF Signal de Mont 83.39 359⇓*i*P P 20 34 38.8 +0.2
comp=Z,1μm,1.0s,mb6.6
SMF Signal de Mont 83.39 359⇓*i*P P 20 34 38.8 +0.2
SMF pmax pmax
comp=Z,596nm,1.0s,mb6.6
SMF Signal de Mont 83.39 359⇓*i*P P 20 34 38.8 +0.2
comp=Z,596nm,1.0s,mb6.6
MFF Saint Martin d 83.42 2⇓*i*P P 20 34 39.1 +0.4
comp=Z,2μm,1.1s,mb6.6
MFF Saint Martin d 83.42 2⇓*i*P P 20 34 39.1 +0.4
MFF pmax pmax
comp=Z,772nm,1.1s,mb6.7
MFF Saint Martin d 83.42 2⇓*i*P P 20 34 39.1 +0.4
comp=Z,772nm,1.1s,mb6.7
LJU Ljubljana 83.43 352 *e*P P 20 34 38.0 -0.8
LJU *e*S S 20 44 58.9 +0.1
LJU *e* 20 45 46.5
LJU *e* 21 01 04.9
LJU Ljubljana 83.43 352 *e*P P 20 34 38.0 -0.8
LJU *e*S S 20 44 58.9 0.0
LJU *e* 20 45 46.5
DYDN Diyadin 83.44 329⇓*i*P P 20 34 40.5 +1.5
BUC1 Bucharest 83.49 343⇓*i*P P 20 34 39.1 0.0
BUC1 Bucharest 83.49 343 P P 20 34 39.2 +0.1
BGF Bois d'Agland 83.49 360 *e*P P 20 34 39.4 +0.3
comp=Z,483nm,0.9s,mb6.2
BGF Bois d'Agland 83.49 360 *e*P P 20 34 39.4 +0.3
BGF pmax pmax
comp=Z,242nm,0.9s,mb6.2
BGF Bois d'Agland 83.49 360 *e*P P 20 34 39.4 +0.3
comp=Z,242nm,0.9s,mb6.2
VOY Vojsko 83.50 352 *e*P P 20 34 38.4 -0.8
HOMI Horasan 83.56 331⇓*i*P P 20 34 41.0 +1.4
AGRB Hanur-Agry 83.63 330 *e*P P 20 34 41.1 +1.1
OG01 Vacheresse 83.65 357 *e*P P 20 34 40.8 +0.9
AKL Akola 83.66 295 *i* P P 20 34 40.0 -0.4
AKL AMb AMB 20 34 43.5
comp=Z,591nm,1.5s,mb6.5
PSI Prapat 83.70 267 P P 20 34 39.9 -0.7
comp=Z,479nm,1.1s,mb6.5,baz=355,slow=2.8,SNR=94
PSI S S 20 45 06.5 +4.1
comp=Z,2.0nm,0.3s,baz=139,slow=19,SNR=2.8
PSI Prapat 83.70 267 P P 20 34 39.9 -0.7
PSI S S 20 45 06.5 +4.1
PSN Preselentsi 83.71 342 P P 20 34 41.2 +0.9
ESPY Espiye-Giresun 83.72 333 *e*P P 20 34 39.3 -1.0

CLDR Caldiran 83.72 329 *eP* **P 20 34 41.4 +1.0**
TCF Toulx Ste Croi 83.76 0 *eP* **P 20 34 40.7 +0.2**
comp=Z,415nm,1.0s,mb6.2
TCF Toulx Ste Croi 83.76 0 *eP* **P 20 34 40.7 +0.2**
comp=Z,207nm,1.0s,mb6.2
GRSN GIRESUNGRSN 83.84 333⇓ *iP* **P 20 34 41.4 +0.4**
ERZM Erzurum 83.85 331⇓ *iP* **P 20 34 42.6 +1.5**
EZM Erzurum 83.85 331 *eP* **P 20 34 42.0 +1.0**
BOJS Bojanci 83.90 351 *i P* **P 20 34 41.2 +0.1**
BOJS *ePP* PP 20 37 52.4 -1.3
BOJS *e* 21 01 03.1
CRAR CRAIOVA 83.90 345⇓ *iP* **P 20 34 41.9 +0.7**
GUMT Gumushane 83.92 332 *eP* **P 20 34 42.2 +0.9**
OG05 Jujurieux 83.97 358⇑ *eP* **P 20 34 42.6 +1.0**
DIKM Dikmen 83.99 336 *eP* **P 20 34 42.4 +0.7**
AGO Saint Agoulin 83.99 360 *eP* **P 20 34 42.3 +0.6**
KOPT Kop Dagi 84.02 332⇓ *iP* **P 20 34 43.7 +1.8**
BZK Bozkurt 84.02 337 *eP* **P 20 34 41.8 -0.1**
PLDF La Plantade 84.07 359 *eP* **P 20 34 43.3 +1.2**
MATF Mathat 84.19 2 *eP* **P 20 34 44.1 +1.4**
ZIMR 84.28 343 P **P 20 34 43.1 0.0**
BYBT Boyabat 84.29 336 *eP* **P 20 34 43.9 +0.6**
RSL Roselend 84.29 357⇑ *eP* **P 20 34 44.5 +1.3**
PYM Petit Puy Mans 84.30 360 *eP* **P 20 34 43.7 +0.5**
VERF Verneugheol 84.30 360⇑ *eP* **P 20 34 43.6 +0.4**
KVT Kavak 84.31 335 *eP* **P 20 34 44.5 +1.1**
PRD Provadia 84.33 342 P **P 20 34 44.7 +1.3**
VANB Van 84.39 329 *eP* **P 20 34 46.6 +2.7**
FITZ Fitzroy Crossi 84.44 233⇓ *iP* **P 20 34 43.8 -0.4**
comp=Z,596nm,1.2s,mb6.6
FITZ *epP* pP 20 34 50.0 -0.5
FITZ Fitzroy Crossi 84.44 233 P **P 20 34 43.9 -0.3**
comp=Z,663nm,1.3s,mb6.6,baz=29,slow=5.7,SNR=162
FITZ LR LR 21 16 13.0
comp=Z,6µm,18.2s,MS6.0,baz=188,slow=38
TVAN Van 84.45 329⇓ *iP* **P 20 34 45.0 +0.9**
LPL La Plagne 84.46 357⇓ *iP* **P 20 34 45.4 +1.3**
comp=Z,1µm,1.7s,mb6.4
LPL La Plagne 84.46 357⇓ *iP* **P 20 34 45.4 +1.3**
comp=Z,527nm,1.7s,mb6.4
EZC Erzincan 84.47 332 *eP* **P 20 34 45.5 +1.3**
LPG La Plagne 84.48 357⇓ *iP* **P 20 34 45.6 +1.5**
comp=Z,1µm,1.4s,mb6.5
LPG La Plagne 84.48 357⇓ *iP* **P 20 34 45.6 +1.5**
LPG pmax pmax
comp=Z,586nm,1.4s,mb6.5
LPG La Plagne 84.48 357⇓ *iP* **P 20 34 45.6 +1.5**
comp=Z,586nm,1.4s,mb6.5
LSD Lago del Serru 84.50 357 P **P 20 34 45.7 +1.4**
COLF Collangettes 84.52 359⇑ *eP* **P 20 34 45.4 +1.0**
SZH Strazhica 84.55 343 P **P 20 34 44.3 -0.2**
BALT Daday 84.58 337⇓ *iP* **P 20 34 45.8 +1.1**
RSDY Resadiye-TOKAT 84.60 334 *eP* **P 20 34 45.8 +0.9**
PVL Pavlikeni 84.71 343 P **P 20 34 47.1 +1.7**
DIVS Divibare 84.71 347 *eP* **P 20 34 45.6 +0.2**
RJF Les Rejaudoux 84.74 1⇓ *iP* **P 20 34 45.4 -0.1**
comp=Z,2µm,1.5s,mb6.7
RJF *eMLR* MLR
comp=Z,15µm,19.0s,MS6.1
RJF Les Rejaudoux 84.74 1⇓ *iP* **P 20 34 45.4 -0.1**
comp=Z,861nm,1.5s,mb6.7
RJF LR LR
comp=Z,15µm,19.0s,MS6.4
SSB Saint Sauveur 84.75 358⇑ *eP* **P 20 34 46.3 +0.8**
GRN Grenoble 84.76 358⇑ *eP* **P 20 34 47.1 +1.5**
BNGL BINGOL 84.79 331⇓ *iP* **P 20 34 47.2 +1.3**
GDM Grand'Maison 84.79 357⇑ *eP* **P 20 34 47.0 +1.3**
LBL Lubilhac 84.81 359 *eP* **P 20 34 47.0 +1.2**
NVLJ Novalja 84.86 351 P **P 20 34 45.7 -0.4**
TOKT Tokat 84.89 334 *eP* **P 20 34 47.2 +0.9**
TOS Tosya 84.89 337 *eP* **P 20 34 47.9 +1.6**
ARMA Armidale 84.91 206⇓ *iP* **P 20 34 46.7 +0.5**
ARMA *epP* pP 20 34 53.0 +0.5
BNI Bardonecchia 84.92 357 *eP* **P 20 34 47.7 +1.3**
comp=Z,484nm,0.9s,mb6.6
BNI LR LR
comp=Z,13µm,20.0s,MS6.3
ILGA Ilgaz 84.95 337⇓ *iP* **P 20 34 48.0 +1.4**
SAFT Safranbolu 85.03 338 *eP* **P 20 34 48.2 +1.2**
RRL Rocca Remolon 85.05 357 P **P 20 34 48.5 +1.5**
CTKT Corum 85.07 336⇓ *iP* **P 20 34 48.4 +1.1**
ORIF Oris-en-Rattie 85.08 358⇓ *iP* **P 20 34 48.2 +1.0**
comp=Z,377nm,0.9s,mb6.2
ORIF *eMLR* MLR
comp=Z,16µm,19.5s,MS6.1
ORIF Oris-en-Rattie 85.08 358⇓ *iP* **P 20 34 48.2 +1.0**
ORIF pmax pmax
comp=Z,189nm,0.9s,mb6.2
ORIF Oris-en-Rattie 85.08 358⇓ *iP* **P 20 34 48.2 +1.0**
comp=Z,189nm,0.9s,mb6.2
LFF La Frestale 85.10 1⇓ *iP* **P 20 34 47.5 +0.2**
comp=Z,1µm,1.1s,mb6.7
LFF La Frestale 85.10 1⇓ *iP* **P 20 34 47.5 +0.2**
LFF pmax pmax
comp=Z,704nm,1.1s,mb6.7
LFF La Frestale 85.10 1⇓ *iP* **P 20 34 47.5 +0.2**
comp=Z,704nm,1.1s,mb6.7
BHB Bricherasio 85.11 357 P **P 20 34 46.7 -0.6**
CAF Calviac 85.12 0⇓ *iP* **P 20 34 47.6 +0.2**
comp=Z,1µm,1.5s,mb6.6
CAF Calviac 85.12 0⇓ *iP* **P 20 34 47.6 +0.2**
CAF pmax pmax
comp=Z,730nm,1.5s,mb6.6
CAF Calviac 85.12 0⇓ *iP* **P 20 34 47.6 +0.2**
comp=Z,730nm,1.5s,mb6.6
SVSK Karacayir 85.14 334 *eP* **P 20 34 48.6 +1.1**
OG22 Abries 85.14 357⇑ *eP* **P 20 34 48.9 +1.4**
VIVF Saint-Julien-l 85.17 358⇓ *iP* **P 20 34 48.1 +0.4**
comp=Z,536nm,1.0s,mb6.3
VIVF Saint-Julien-l 85.17 358⇓ *iP* **P 20 34 48.1 +0.4**
VIVF pmax pmax
comp=Z,268nm,1.0s,mb6.3
VIVF Saint-Julien-l 85.17 358⇓ *iP* **P 20 34 48.1 +0.4**
comp=Z,268nm,1.0s,mb6.3
HKR Hakkari 85.19 328 *eP* **P 20 34 48.8 +0.8**
JMB Yambol 85.20 342 *eP* **P 20 34 48.1 +0.2**
JMB Yambol 85.20 342 P **P 20 34 49.8 +2.0**
HAKT HAKKARI 85.22 328⇓ *iP* **P 20 34 48.7 +0.7**
MBDF Montbardon 85.25 357⇓ *iP* **P 20 34 49.0 +1.0**
comp=Z,525nm,0.8s,mb6.4
MBDF Montbardon 85.25 357⇓ *iP* **P 20 34 49.0 +1.0**
MBDF pmax pmax
comp=Z,262nm,0.8s,mb6.4
MBDF Montbardon 85.25 357⇓ *iP* **P 20 34 49.0 +1.0**
comp=Z,262nm,0.8s,mb6.4
ASAR Alice Springs 85.25 224 P **P 20 34 47.2 -0.9**
comp=Z,59nm,1.0s,mb5.7,baz=29,slow=5.0,SNR=152
ASAR PKKPbc PKKPbc 20 52 53.5 +0.9
comp=Z,1.6nm,0.8s,baz=323,slow=0.4,SNR=4.8
ASAR PKPPKP 21 01 01.7
comp=Z,1.1nm,0.8s,baz=176,slow=2.3,SNR=6.1
KDZE Karadeniz Ereo 85.25 338 *eP* **P 20 34 47.2 -0.9**
HYB Hyderabad 85.31 292 *i P* **P 20 34 48.0 -0.8**
comp=Z,300nm,1.0s,mb6.4
HYB *e*S S 20 45 17.0 -1.5
HYB LR LR 21 17 52.0
comp=Z,15nm,16.0s
PCP Piancastagn 85.36 356 P **P 20 34 47.9 -0.7**
BTMT Batman 85.38 330 *eP* **P 20 34 49.6 +0.8**
PTK Pertek 85.39 332 *eP* **P 20 34 50.0 +1.1**
CANT Cankiri 85.39 337 *eP* **P 20 34 50.1 +1.2**
OCF Saint Nazaire 85.44 358 *eP* **P 20 34 50.2 +1.2**
OG26 St.-Nazaire-De 85.44 358 *eP* **P 20 34 50.2 +1.2**
SURF Saint Ours 85.49 357⇑ *eP* **P 20 34 51.2 +1.9**
CORM Corum 85.53 336 *eP* **P 20 34 50.6 +1.0**
PLE Pljevlja 85.55 348⇓ *iP* **P 20 34 50.8 +1.2**
ELDT Eldivan 85.55 337⇓ *iP* **P 20 34 50.5 +0.9**
PGB Panagyurishte 85.56 344 P **P 20 34 51.0 +1.3**
ROB Robourent 85.63 356 P **P 20 34 49.4 -0.6**
VLC Villacollemand 85.63 354 *eP* **P 20 34 49.7 -0.2**
comp=Z,2µm,2.0s,mb7.0
VTS Vitosha 85.69 345 P **P 20 34 51.0 +0.7**
VTS Vitosha 85.69 345⇑ *iP* **P 20 34 49.8 -0.5**
VTS Vitosha 85.69 345 P **P 20 34 50.2 -0.1**
SIRT Sirnak 85.70 329 *eP* **P 20 34 53.2 +2.8**
FIN Finale Ligure 85.70 356 P **P 20 34 49.1 -1.2**
LATR Latur 85.72 294 *eP* **P 20 34 50.0 -0.8**
LATR AMb AMB 20 34 53.8
comp=Z,653nm,2.2s,mb6.5
UPM Unac-Piva 85.74 348 *eP* **P 20 34 50.0 -0.5**
DIM Dimitrovgrad 85.80 343 P **P 20 34 51.8 +1.0**
BHJ Bhuj 85.80 302 *eP* **P 20 34 48.5 -2.6**
BHJ AMb AMB 20 34 54.4
comp=Z,462nm,0.9s,mb6.7

DARE Darende-Malaty 85.80 333 *eP* **P 20 34 53.1 +2.2**
SILT Sile 85.82 340 *eP* **P 20 34 52.5 +1.6**
KLYT Kilyos 85.86 340 *eP* **P 20 34 52.4 +1.3**
ELZG Elazig 85.87 332⇓ *iP* **P 20 34 52.4 +1.1**
SVRC Sivrice-ELAZID 85.89 332 *eP* **P 20 34 52.8 +1.4**
PLD Plovdiv 85.90 344 *eP* **P 20 34 51.0 -0.3**
PLD Plovdiv 85.90 344 P **P 20 34 52.5 +1.2**
IVA Berane 85.93 347⇓ *iP* **P 20 34 51.3 -0.2**
TOUF Mont Tournerai 85.94 357 *eP* **P 20 34 52.4 +0.9**
AUTN L'Aution 85.95 356 *eP* **P 20 34 52.5 +0.9**
SAOF Saorge 85.95 356⇑ *eP* **P 20 34 52.0 +0.4**
LASF Ste Croix 85.96 359 *eP* **P 20 34 52.0 +0.4**
comp=Z,255nm,1.2s,mb6.0
BGKT Bogazkoy 85.98 340 *eP* **P 20 34 51.3 -0.5**
ISK Istanbul-Kandi 86.03 340 *eP* **P 20 34 52.5 +0.5**
SMRF Simiane la Rot 86.03 358⇓ *iP* **P 20 34 52.8 +0.9**
comp=Z,1µm,1.3s,mb6.6
SMRF Simiane la Rot 86.03 358⇓ *iP* **P 20 34 52.8 +0.9**
comp=Z,1µm,1.3s,mb6.9
DIY Diyarbakir 86.05 331 *eP* **P 20 34 53.2 +1.0**
DIYA Diyarbakir 86.05 331⇓ *iP* **P 20 34 53.0 +0.8**
SLVT Silivri 86.06 341 *eP* **P 20 34 54.0 +1.9**
LUCF Luceram 86.06 356 *eP* **P 20 34 52.7 +0.6**
MVIF Mont Vial 86.06 357 *eP* **P 20 34 52.7 +0.6**
SBF Sospel 86.08 356⇓ *iP* **P 20 34 52.0 -0.2**
comp=Z,710nm,0.9s,mb6.6
SBF Sospel 86.08 356⇓ *iP* **P 20 34 52.0 -0.2**
SBF pmax pmax
comp=Z,355nm,0.9s,mb6.6
SBF Sospel 86.08 356⇓ *iP* **P 20 34 52.0 -0.2**
comp=Z,355nm,0.9s,mb6.6
BRY Bratogost 86.08 348⇑ *iP* **P 20 34 51.6 -0.6**
CTT Catalca 86.09 341 *eP* **P 20 34 52.3 +0.1**
NKY Niksic 86.11 348⇓ *iP* **P 20 34 51.9 -0.5**
MDU Mudurnu 86.11 338 *eP* **P 20 34 52.7 +0.3**
CDAG Cicekdag 86.12 336⇓ *iP* **P 20 34 52.7 +0.2**
HRT Hereke 86.13 340 *eP* **P 20 34 52.4 -0.1**
PVY Plav 86.19 347⇓ *iP* **P 20 34 51.7 -1.1**
MYA Malataya 86.20 332 *eP* **P 20 34 53.3 +0.4**
KDZ Kurdzhali 86.21 343 P **P 20 34 54.1 +1.2**
REVF Revere 86.21 356⇑ *eP* **P 20 34 53.2 +0.4**
MALT Malatya 86.21 332 *eP* **P 20 34 53.8 +0.9**
MALT Malatya 86.21 332⇓ *iP* **P 20 34 53.6 +0.7**
MALT Malatya 86.21 332 P **P 20 34 53.6 +0.6**
MALT LR LR
comp=Z,13µm,22.0s,MS6.3
CALN Calern 86.21 357 *eP* **P 20 34 53.5 +0.6**
STON Ston 86.22 349 P **P 20 34 52.0 -0.9**
CRLT Corlu 86.25 341 *eP* **P 20 34 54.3 +1.2**
ANTO Ankara 86.30 337⇑ *iP* **P 20 34 54.1 +0.8**
ANTO Ankara 86.30 337 P **P 20 34 53.8 +0.4**
ANTO LR LR
comp=Z,22µm,22.0s,MS6.5
RZN Rozhen 86.30 343 P **P 20 34 54.5 +1.2**
EPON Pontenova 86.35 7 P **P 20 34 53.6 +0.1**
comp=Z,51nm,0.8s,mb5.8
SARI SarD1z-Kayseri 86.37 334 *eP* **P 20 34 56.2 +2.5**
BCI Bajram Curri 86.40 347 *ePN* **P 20 34 55.8 +2.0**
MARD Mardin 86.41 330⇓ *iP* **P 20 34 54.8 +0.8**
FRF La Foret Royal 86.41 357⇓ *iP* **P 20 34 53.7 -0.1**
comp=Z,430nm,1.1s,mb6.3
FRF La Foret Royal 86.41 357⇓ *iP* **P 20 34 53.7 -0.1**
comp=Z,215nm,1.1s,mb6.3
KKB Krupnik 86.41 345 P **P 20 34 55.7 +1.8**
TKR Tekirdag 86.43 341 *eP* **P 20 34 53.8 -0.2**
YLV Yalova 86.44 340 *eP* **P 20 34 54.5 +0.5**
BNN Bunyan 86.45 334 *eP* **P 20 34 54.5 +0.4**
TTG Podgorica 86.45 348⇓ *iP* **P 20 34 53.2 -0.8**
PINB Pinarbasi 86.46 334⇓ *iP* **P 20 34 54.9 +0.7**
ADVT Abdulvahap 86.48 339 *eP* **P 20 34 54.8 +0.6**
EARI Arriondas 86.51 6 P **P 20 34 55.2 +0.9**
comp=Z,71nm,0.7s,mb6.0
KAMT Kaman 86.53 336 *eP* **P 20 34 54.4 -0.1**
HCY Herceg Novi 86.53 348⇓ *iP* **P 20 34 53.2 -1.3**
EMAZ Mazaricos 86.56 8 P **P 20 34 56.6 +2.0**
comp=Z,86nm,0.9s,mb6.0
MMB Musomiste 86.57 344 P **P 20 34 56.1 +1.4**
SKO Skopje 86.58 346 *eP* **P 20 34 55.2 +0.5**
SKO Skopje 86.58 346 *i P* **P 20 34 55.1 +0.4**
SKO *i* PcP PcP 20 34 57.8 +0.7
SKO *i* PP PP 20 38 20.7 +5.1
GEMT Gemlik 86.61 340 *eP* **P 20 34 54.7 -0.1**
BUM Brajici-Budva 86.63 348⇓ *iP* **P 20 34 54.1 -0.8**
LMR La Mourre 86.64 357⇓ *iP* **P 20 34 54.9 -0.1**
comp=Z,366nm,1.1s,mb6.2
LMR La Mourre 86.64 357⇓ *iP* **P 20 34 54.9 -0.1**
LMR pmax pmax
comp=Z,183nm,1.1s,mb6.2
LMR La Mourre 86.64 357⇓ *iP* **P 20 34 54.9 -0.1**
comp=Z,183nm,1.1s,mb6.2
STS Santiago 86.67 8 P **P 20 34 54.9 -0.2**
STS pmax pmax
comp=Z,97nm,0.8s,mb6.1
STS Santiago 86.67 8 P **P 20 34 54.9 -0.2**
comp=Z,97nm,0.8s,mb6.1
RDO Rodhopi 86.67 343 *eP* **P 20 34 55.5 +0.3**
MFT Murefte 86.67 341 *eP* **P 20 34 55.6 +0.4**
ELAN Lanestosa 86.67 4 P **P 20 34 54.6 -0.5**
comp=Z,263nm,0.8s,mb6.5
MTLF Montolieu 86.71 0⇓ *iP* **P 20 34 55.2 -0.1**
comp=Z,130nm,0.7s,mb6.0
MTLF Montolieu 86.71 0⇓ *iP* **P 20 34 55.2 -0.1**
MTLF pmax pmax
comp=Z,65nm,0.7s,mb6.0
MTLF Montolieu 86.71 0⇓ *iP* **P 20 34 55.2 -0.1**
comp=Z,65nm,0.7s,mb6.0
STIP Stip 86.73 345 *eP* **P 20 34 54.6 -0.8**
STIP Stip 86.73 345 *eP* **P 20 34 54.5 -1.0**
OSSF Osses 86.73 3 *eP* **P 20 34 54.8 -0.6**
PUK Puka 86.74 347 *ePN* **P 20 34 57.5 +2.0**
EALK Alkurruntz 86.76 3 P **P 20 34 56.2 +0.6**
comp=Z,62nm,0.8s,mb5.9
AVNT Avonos 86.79 335⇓ *iP* **P 20 34 54.9 -0.9**
ORDF Ordiarp 86.79 2 *eP* **P 20 34 55.1 -0.6**
SART Tekirdag 86.79 341⇓ *iP* **P 20 34 55.7 0.0**
RKY Sarkoy-Tekirda 86.79 341 *eP* **P 20 34 55.4 -0.3**
ALN Alexandroupoli 86.81 342 *eP* **P 20 34 55.1 -0.7**
ELIZ Elizondo 86.82 3 P **P 20 34 55.3 -0.5**
ELIZ pmax pmax
comp=Z,44nm,0.8s,mb5.7
ELIZ Elizondo 86.82 3 P **P 20 34 55.3 -0.6**
comp=Z,44nm,0.8s,mb5.7
SJPF Ste Jean 86.88 3 *eP* **P 20 34 55.9 -0.2**
comp=Z,115nm,0.7s,mb5.9
SJPF Ste Jean 86.88 3 *eP* **P 20 34 55.9 -0.2**
comp=Z,58nm,0.7s,mb5.9
URFA Urfa 86.90 332 *eP* **P 20 34 57.3 +1.0**
ULDT Uludag 86.90 340⇓ *iP* **P 20 34 56.3 0.0**
ULC Ulcinj 86.91 348⇓ *iP* **P 20 34 56.1 -0.2**
REYF Montagne du Re 86.94 2 *eP* **P 20 34 56.8 +0.3**
ENEZ Enez 86.95 342 *eP* **P 20 34 56.5 0.0**
LARF Larrau 86.96 3 *eP* **P 20 34 56.3 -0.2**
LABF Labassere 86.98 2 *eP* **P 20 34 55.8 -0.8**
LABF Labassere 86.98 2 *eP* **P 20 34 57.9 +1.3**
EPF Esparros 87.00 2 *eP* **P 20 34 56.6 -0.1**
comp=Z,141nm,0.8s,mb5.9
EPF Esparros 87.00 2 *eP* **P 20 34 56.6 -0.1**
comp=Z,70nm,0.8s,mb5.9
PHP Peshkopia 87.01 347 *ePN* **P 20 34 58.3 +1.5**
VAY Valandovo 87.03 345 *eP* **P 20 34 56.4 -0.5**
VAY Valandovo 87.03 345 *i P* **P 20 34 56.0 -0.9**
VAY *i* PcP PcP 20 34 58.7 -0.4
VAY *i* PP PP 20 38 22.1 +2.9
SRBC Serra Branca 87.06 23 *eP* **P 20 34 59.4 +2.3**
MLS Moulis 87.08 1 *eP* **P 20 34 57.4 +0.3**
ESKT Eskisehir 87.10 338⇓ *iP* **P 20 34 56.9 -0.3**
LRDF Laroque-de-Fa 87.11 360 *eP* **P 20 34 57.6 +0.3**
ETSF Etsaut 87.11 2 *eP* **P 20 34 57.1 -0.2**
comp=Z,197nm,0.8s,mb6.1
ETSF Etsaut 87.11 2 *eP* **P 20 34 57.1 -0.2**
comp=Z,98nm,0.8s,mb6.1
KNT Kendrikon 87.13 345 *eP* **P 20 34 57.1 -0.3**
VIEF Viey 87.14 2 *eP* **P 20 34 57.8 +0.4**
MELF Melles 87.16 1 *eP* **P 20 34 58.8 +1.3**
LPK Lapseki 87.18 342 *eP* **P 20 34 57.2 -0.5**
AQU L'Aquila 87.19 352 P **P 20 34 57.9 +0.2**
AQU pmax pmax
comp=Z,380nm,1.1s,mb6.5
AQU L'Aquila 87.19 352⇓ *iP* **P 20 34 58.2 +0.5**
AQU L'Aquila 87.19 352 P **P 20 34 58.0 +0.3**
AQU LR LR
comp=Z,13µm,22.0s,MS6.3
KRUS Krusevo 87.20 346 *i P* **P 20 34 57.4 -0.3**

KRUS *i* PcP PcP 20 34 59.5 -0.3
KRUS *i* PP PP 20 38 25.8 +5.2
POO Poona 87.20 296 *eP* **P 20 34 56.2 -1.9**
RESF Ens 87.22 2 *eP* **P 20 34 57.6 -0.2**
QSH Qafa e Shtames 87.25 347 *ePN* **P 20 35 03.0 +5.0**
ERUA La Rua 87.28 7 P **P 20 34 57.0 -1.1**
comp=Z,197nm,2.6s,mb5.9
SALF Salau 87.28 1 *eP* **P 20 34 57.8 -0.3**
ROSA Rosais 87.31 24 *eP* **P 20 35 00.3 +2.0**
CALA Caldeira 87.32 24 *eP* **P 20 35 00.2 +1.9**
PGF Pioggiola 87.32 355⇓ *iP* **P 20 34 58.0 -0.3**
comp=Z,567nm,1.2s,mb6.4
PGF Pioggiola 87.32 355⇓ *iP* **P 20 34 58.0 -0.3**
comp=Z,284nm,1.2s,mb6.4
CARF Carcanieres 87.33 0 *eP* **P 20 34 58.6 +0.3**
EBIE Bielsa 87.34 2 P **P 20 34 59.1 +0.8**
comp=Z,82nm,0.7s,mb6.1
GZT Gaziantep 87.35 333⇓ *iP* **P 20 34 59.0 +0.5**
SOH Sokhos 87.38 344 *eP* **P 20 34 57.9 -0.7**
KMRS Kahramanmaras 87.41 333 *eP* **P 20 34 59.2 +0.4**
GRG Griva 87.42 345 *eP* **P 20 34 58.4 -0.4**
TIR Tirane 87.43 347 *eP* **P 20 34 58.5 -0.3**
TIR Tirane 87.43 347 *ePN* **P 20 35 00.9 +2.1**
KIZT Kizilcal 87.46 337 *eP* **P 20 34 58.5 -0.5**
PICO Pico 87.46 24 *eP* **P 20 35 02.4 +3.3**
NIG Nigde 87.48 335 *eP* **P 20 34 59.7 +0.5**
FILF Fillols 87.49 360 *eP* **P 20 34 57.9 -1.2**
FILF Fillols 87.49 360 *eP* **P 20 34 58.1 -1.0**
ANDN Andirin 87.50 334⇓ *iP* **P 20 34 59.6 +0.4**
BOM Bombay 87.51 297 *ex* x 20 35 02.9
BOM *ex* x 20 45 40.1
OHR Ohrid 87.52 346 *i P* **P 20 34 57.1 -2.2**
OHR *i* PcP PcP 20 35 00.5 -0.8
OHR *i* PP PP 20 38 26.9 +3.7
GADA Gvkgeada 87.53 342 *eP* **P 20 34 58.8 -0.5**
BIA Bitola 87.53 346 *eP* **P 20 34 58.4 -0.9**
BIA Bitola 87.53 346 *eP* **P 20 34 57.9 -1.4**
DURS Dursunbey 87.56 340⇓ *iP* **P 20 34 58.8 -0.7**
CORF Corte 87.56 355 *eP* **P 20 34 59.3 -0.2**
SJAF Saint Jean de 87.56 360 *eP* **P 20 34 59.6 +0.1**
EJON La Jonquera 87.60 360 P **P 20 35 01.2 +1.5**
comp=Z,46nm,0.8s,mb5.8
BALY Balya 87.61 341⇓ *iP* **P 20 34 58.9 -0.9**
GAZ Gaziantep 87.62 333 *eP* **P 20 34 59.9 0.0**
HORT Hortiatis 87.65 344 *eP* **P 20 34 58.6 -1.2**
BALB Balikesir 87.65 341 *eP* **P 20 34 58.5 -1.4**
ALT Altintas 87.71 339 *eP* **P 20 35 00.0 -0.2**
ELOB Lobios 87.72 8 P **P 20 34 59.1 -1.2**
comp=Z,85nm,0.9s,mb6.0
KOZT Kozan 87.73 334 *eP* **P 20 35 02.5 +2.1**
KDHN Kadinhani 87.74 337⇓ *iP* **P 20 34 59.8 -0.6**
OUR Ouranopolis 87.75 344 *eP* **P 20 34 59.5 -0.9**
FNA Florina 87.75 346 *eP* **P 20 34 59.5 -0.9**
ECAL Calabor 87.75 7 P **P 20 34 59.6 -0.8**
comp=Z,58nm,0.9s,mb5.8
EZN Ezine 87.79 342 *eP* **P 20 34 59.5 -1.1**
PLG Polygyros 87.80 344 *eP* **P 20 34 59.5 -1.1**
PLG Polygyros 87.80 344 *eP* **P 20 35 00.0 -0.7**
GDZ Gediz 87.83 339⇓ *iP* **P 20 35 00.3 -0.5**
BOZC Bozcaada 87.83 342⇓ *iP* **P 20 34 59.6 -1.2**
BOLV Bolvadin 87.84 338⇓ *iP* **P 20 35 00.9 0.0**
PCAB Cabril 87.88 8 *eP* **P 20 35 00.9 -0.1**
comp=Z,226nm,1.9s,mb6.1
BCIP Isla Barro Col 87.92 78 *eP* **P 20 35 00.3 -1.3**
BCIP LR LR
comp=Z,5µm,20.0s,MS5.9
KAD Karad 87.97 295 *eP* **P 20 34 59.4 -2.4**
LADK Ladik-KONYA 87.98 337 *eP* **P 20 35 01.2 -0.3**
DEMI Demirci 88.04 340⇓ *iP* **P 20 35 01.2 -0.6**
SHUT Suhut-Afyon 88.09 338 *eP* **P 20 35 02.1 0.0**
KZN Kozani 88.15 345 *eP* **P 20 35 02.0 -0.3**
KARA Karaisali 88.16 335 *eP* **P 20 35 02.2 -0.1**
CEYT Ceyhan 88.20 334 *eP* **P 20 35 02.5 -0.1**
PAIG Paliouri 88.20 344 *eP* **P 20 35 01.1 -1.5**
KONT Konya--Tatoy 88.22 337 *eP* **P 20 35 02.0 -0.7**
LIT Litokhoron 88.23 345 *eP* **P 20 35 01.4 -1.3**
RIV Riverview 88.25 206 *eP* **P 20 35 03.0 +0.5**
ESAC San Caprasio 88.29 2 P **P 20 35 02.9 0.0**
comp=Z,160nm,0.8s,mb6.3
AGPR Aguadilla, PR 88.33 63 *eP* **P 20 35 03.1 -0.4**
URZ Urewera 88.34 184 LR LR 21 08 31.4
comp=Z,11µm,21.5s,MS6.2,baz=47,slow=32
PRK Paraskevi 88.36 342 *eP* **P 20 35 02.2 -1.1**
PRK Paraskevi 88.36 342 *eP* **P 20 35 10.5 +7.2**
AKHS Akhisar 88.40 340⇓ *iP* **P 20 35 02.2 -1.3**
YURE YUREGIR 88.40 334⇓ *iP* **P 20 35 04.2 +0.7**
MVO Moncorvo 88.50 7 *eP* **P 20 35 04.4 +0.4**
comp=Z,366nm,1.5s,mb6.5
MVO Moncorvo 88.50 7 *e*SKS 20 45 36.8
MVO Moncorvo 88.50 7 *e*LR LR 21 04 24.3
comp=Z,10µm,20.0s
COBT Iskenderun 88.51 333⇓ *iP* **P 20 35 04.4 +0.3**
KHAL Karahalli 88.51 339⇓ *iP* **P 20 35 03.3 -0.8**
KULA Kula-Manisa 88.56 340 *eP* **P 20 35 04.1 -0.2**
TKTP Tekketepe 88.63 338⇓ *iP* **P 20 35 04.1 -0.5**
AOPR Arecibo Observ 88.64 63 *eP* **P 20 35 03.9 -1.0**
comp=Z,44nm,0.9s,mb5.8
MERS Mersin 88.67 335 *eP* **P 20 35 04.5 -0.3**
EPOB Poblet 88.69 1 P **P 20 35 04.8 0.0**
comp=Z,83nm,0.9s,mb6.1
ISP Isparta 88.78 338 *eP* **P 20 35 04.3 -1.0**
ISP Isparta 88.78 338 *eP* **P 20 35 04.2 -1.1**
ISP Isparta 88.78 338⇓ *iP* **P 20 35 05.1 -0.2**
ISP Isparta 88.78 338 P **P 20 35 04.2 -1.1**
ISP LR LR
comp=Z,16µm,21.0s,MS6.4
XOR Xorichti 88.83 344 *eP* **P 20 35 04.5 -1.1**
THL Klokotos Trika 88.84 345 *eP* **P 20 35 03.4 -2.1**
SRN Sarande 88.84 347 *ePN* **P 20 35 06.9 +1.3**
PDA Ponta Delgada 88.87 22 *eP* **P 20 35 16.0 +10**
PDA *i P* 20 35 42.0
PDA Ponta Delgada 88.87 22 *i* PP PP 20 38 42.0 +7.9
PDA *i* S S 20 45 39.0 -13
PDA *e*SS SS 20 52 14.0 +31
PDA *e*LQ 20 59 40.0
PDA *e*LR LR 21 04 24.0
PVIS Viseu 88.88 8 *eP* **P 20 35 05.6 -0.1**
comp=Z,335nm,1.1s,mb6.6
NEO Neokhori 88.88 344 *eP* **P 20 35 05.0 -0.8**
CMLA Cha da Macela 88.88 22 *eP* **P 20 35 07.5 +1.7**
comp=Z,411nm,1.5s,mb6.5
CMLA Cha da Macela 88.88 22 *e*PP PP 20 38 25.1 -9.1
CMLA *e*S S 20 45 46.1 -6.3
CMLA *e*SS SS 20 51 48.7 +5.6
CMLA *e*LQ 20 59 28.8
CMLA *e*LR LR 21 03 33.5
CMLA Cha da Macela 88.88 22 PFAKE 20 35 20.0 +14
CMLA LR LR
comp=Z,10µm,20.0s,MS6.2
JAN Janina 88.93 346 *eP* **P 20 35 06.0 0.0**
IZM Izmir 88.98 341 *eP* **P 20 35 04.7 -1.5**
YAYL Yayladag 89.00 333⇓ *iP* **P 20 35 06.4 0.0**
BLCB Balcova 89.03 341 *eP* **P 20 35 07.1 +0.6**
MEST Erdemli 89.04 335⇓ *iP* **P 20 35 05.3 -1.3**
KEK Kerkira 89.04 347 *eP* **P 20 35 07.0 +0.5**
ERTA Horta de San J 89.07 2 P **P 20 35 07.2 +0.6**
comp=Z,47nm,1.0s,mb5.8
HDMB Hadim 89.12 336 *eP* **P 20 35 06.0 -0.9**
BCK Bucak 89.12 338 *eP* **P 20 35 05.1 -1.8**
IGT Igoumenitsa 89.14 346 *eP* **P 20 35 05.7 -1.3**
ETOR Torete 89.14 3 P **P 20 35 07.3 +0.4**
comp=Z,50nm,1.0s,mb5.8
SJG San Juan 89.17 62 *eP* **P 20 35 06.6 -0.8**
SJG pmax pmax
comp=Z,166nm,1.2s
SJG San Juan 89.17 62 *eP* **P 20 35 06.6 -0.8**
comp=Z,166nm,1.2s,mb6.2
GUD Guadarrama 89.22 5 P **P 20 35 06.9 -0.4**
GUD pmax pmax
comp=Z,94nm,0.8s,mb6.2
GUD Guadarrama 89.22 5 P **P 20 35 06.9 -0.5**
comp=Z,94nm,0.8s,mb6.2
MTE Manteigas 89.22 8 *e*SKS 20 45 41.4
MTE Manteigas 89.22 8 *e*LR LR 21 04 56.6
comp=Z,10µm,22.0s
MTE Manteigas 89.22 8 *eP* **P 20 35 06.6 -0.8**
comp=Z,135nm,0.8s,mb6.3
CUC Castrocucco 89.28 350 *eP* **P 20 35 05.8 -1.8**
comp=Z,188nm,0.9s,mb6.4
CUC LR LR
comp=Z,24µm,20.0s,MS6.6
HUMP Col San Antoni 89.31 62 *eP* **P 20 35 06.6 -1.5**

comp=Z,145nm,1.2s,mb6.2
AGG Agios Georgios 89.31 345 *e*P P **20 35 05.8 -2.0**
CPD Cerro la Pandu 89.36 62 *e*P P **20 35 07.9 -0.4**
CPD pmax pmax
comp=Z,396nm,1.1s,mb6.7
CPD Cerro la Pandu 89.36 62 *e*P P **20 35 07.9 -0.4**
comp=Z,396nm,1.1s,mb6.7
STKA Stephens Creek 89.48 214 ⇓*i*P P **20 35 08.1 -0.3**
comp=Z,574nm,2.0s,mb6.6
STKA *e*pP pP 20 35 14.5 -0.2
STKA *e* 20 35 22.3
STKA Stephens Creek 89.48 214 P P **20 35 08.2 -0.2**
comp=Z,240nm,0.8s,mb6.6,baz=7.0,slow=4.8,SNR=117
STKA LR LR 21 17 30.7
comp=Z,14μm,18.3s,MS6.4,baz=16,slow=37
IKL Isikli 89.49 335 *e*P P **20 35 05.9 -2.8**
EVR Evrytania 89.50 345 *e*P P **20 35 09.0 +0.3**
MTP Monte Pirata 89.52 62 *e*P P **20 35 08.5 -0.5**
AYDN Tasoluk 89.55 340 ⇓*i*P P **20 35 08.5 -0.4**
LKR Lokris 89.56 344 *e*P P **20 35 06.8 -2.2**
GOLH Golhisar 89.58 339 ⇓*i*P P **20 35 08.7 -0.4**
GOA Goa 89.62 294 ⇓*i*P P **20 35 09.1 -0.4**
GOA *i* x x 20 45 47.5
ANTB Antalya 89.64 338 *e*P P **20 35 07.9 -1.5**
EMOS Mosqueruela 89.64 2 P P **20 35 11.1 +1.7**
comp=Z,68nm,0.8s,mb6.0
GCAM G?zelcaml? 89.65 341 ⇓*i*P P **20 35 07.1 -2.3**
PCBR Castelo Branco 89.78 8 *e*P P **20 35 09.4 -0.6**
comp=Z,206nm,1.0s,mb6.4
LKD Levkas 89.89 346 *e*P P **20 35 09.6 -1.0**
PTOM Tomar 89.92 8 *e*P P **20 35 10.0 -0.6**
comp=Z,298nm,1.7s,mb6.3
MLSB Milas 89.92 340 *e*P P **20 35 10.2 -0.5**
ELL Elmali 89.96 338 *e*P P **20 35 09.2 -1.7**
TIP Timpagrande 89.98 349 *e*P P **20 35 10.3 -0.6**
comp=Z,201nm,1.0s,mb6.4
PTL Penteli 89.99 343 *e*P P **20 35 10.5 -0.5**
EREN Erenkoy 90.02 335 *e*P P **20 35 11.6 +0.4**
MBWA Marble Bar 90.06 236 P P **20 35 11.1 -0.2**
SNR=13
MBWA Marble Bar 90.06 236 PFAKE 20 35 20.0 +8.7
MBWA LR LR
comp=Z,4μm,20.0s,MS5.9
ATH Athens Observa 90.09 343 *e*P P **20 35 11.5 +0.1**
TURN Turunc 90.14 339 ⇓*i*P P **20 35 11.7 -0.1**
CNB Canberra Magne 90.15 206 ⇓*i*P P **20 35 11.6 +0.2**
CNB *e*pP pP 20 35 18.1 +0.4
LTK Loutraki 90.17 344 *e*P P **20 35 10.0 -1.9**
ESDC Sonseca Array 90.19 5 P P **20 35 11.2 -0.7**
comp=Z,80nm,0.8s,mb6.1,baz=356,slow=4.3,SNR=94
ESDC PKKPbc PKKPbc 20 52 38.2 -1.3
comp=Z,4.0nm,0.9s,baz=153,slow=1.7,SNR=10
ESDC PKPPKP 21 00 46.0
comp=Z,2.8nm,0.9s,baz=210,slow=2.0,SNR=10
ESDC LR LR 21 12 32.5
comp=Z,7μm,21.9s,MS6.1,baz=355,slow=34
ESDC Sonseca Array 90.19 5 P P **20 35 11.2 -0.7**
comp=Z,61nm,0.8s,mb6.0
PMRV Marv??o 90.20 8 *e*P P **20 35 11.6 -0.3**
comp=Z,268nm,1.2s,mb6.5
PMRV Marv??o 90.20 8 *e*SKS 20 45 43.2
PMRV Marv??o 90.20 8 *e*LR LR 21 05 25.3
comp=Z,10μm,26.0s
KVR Kavouri 90.22 343 *e*P P **20 35 12.5 +0.4**
BODT Bodrum 90.25 340 *e*P P **20 35 06.0 -6.2**
ETOS Mallorca 90.28 360 P P **20 35 13.3 +1.0**
comp=Z,57nm,0.8s,mb6.0
PAB San Pablo 90.30 5 *e*P P **20 35 11.3 -1.1**
PAB pmax pmax
comp=Z,83nm,1.0s,mb6.0
PAB San Pablo 90.30 5 *e*P P **20 35 11.3 -1.1**
comp=Z,83nm,1.0s,mb6.0
NAIG Nisos Aigina 90.34 343 *e*P P **20 35 13.0 +0.4**
VLS Valsamata 90.42 346 *e*P P **20 35 11.9 -1.0**
VLS Valsamata 90.42 346 *e*P P **20 35 13.0 0.0**
LFK Lefkose 90.43 335 *e*P P **20 35 11.6 -1.5**
KFL Anninata 90.46 346 *e*P P **20 35 12.6 -0.6**
PMAFR Mafra 90.49 9 *e*P P **20 35 12.3 -1.0**
comp=Z,448nm,1.3s,mb6.6
PMAFR Mafra 90.49 9 *e*SKS 20 45 45.8
PMAFR Mafra 90.49 9 *e*LR LR 21 05 35.7
comp=Z,14μm,24.0s
AKAS Kas 90.52 338 ⇓*i*P P **20 35 12.4 -1.1**
PHNC Paralimni 90.55 335 P P **20 35 14.5 +0.8**
comp=Z,4.2nm,0.9s
KSL Kastellorizon 90.61 338 *e*P P **20 35 15.0 +1.1**
MAMC Mammari 90.62 335 P P **20 35 12.5 -1.5**
DID Didima 90.63 344 *e*P P **20 35 11.7 -2.2**
HWQ Hawqa 90.69 333 *e*P P **20 35 05.4 -8.9**
PESTR Estremoz 90.74 8 *e*P P **20 35 13.8 -0.7**
comp=Z,262nm,0.9s,mb6.6
PESTR Estremoz 90.74 8 *e*PP PP 20 38 51.8 +2.9
PESTR *e*SKS 20 45 42.5
PESTR Estremoz 90.74 8 *e*LR LR 21 05 47.3
comp=Z,12μm,24.0s
LIS Lisbon 90.74 9 *e*P P **20 35 14.2 -0.3**
LIS *e*S SKSac 20 45 48.6 +3.6
LIS *e*S SKSac 20 45 48.9 +3.8
LIS AMS AMS 21 12 09.5
comp=Z,16μm,34.7s,MS6.2
LIS Lisbon 90.74 9 *e*S SKSac 20 45 48.6 +3.5
LIS A 21 12 09.5
comp=Z,16μm,34.7s
LEF Lefka 90.75 335 *e*P P **20 35 15.1 +0.5**
CSS Prodhromos 90.78 335 ⇓P P **20 35 13.4 -1.3**
comp=Z,3.4nm,1.2s
CSS Prodhromos 90.78 335 *e*P P **20 35 13.4 -1.3**
CSS Prodhromos 90.78 335 ⇓*e*P P **20 35 13.4 -1.3**
ALFC Alevga 90.80 336 ⇓P P **20 35 13.3 -1.5**
comp=Z,3.7nm,0.9s
ALFC Alevga 90.80 336 ⇓*e*P P **20 35 13.3 -1.5**
ARG Arkhangelos 90.88 339 *e*P P **20 35 14.5 -0.7**
EBAD Badajoz 90.90 7 P P **20 35 13.8 -1.4**
comp=Z,48nm,1.1s,mb5.7
VLX Vlachokerasia 90.91 344 *e*P P **20 35 13.8 -1.4**
CEL Celeste 90.99 349 *e*P P **20 35 12.8 -2.8**
comp=Z,242nm,0.9s,mb6.5
AKMC Akamas 90.99 336 P P **20 35 13.3 -2.4**
EIBI Ibiza 91.01 1 P P **20 35 15.0 -0.7**
comp=Z,102nm,0.9s,mb6.2
EVO Evora 91.03 8 *e*P P **20 35 13.9 -1.9**
comp=Z,465nm,1.8s,mb6.2
EVO *e*MLR MLR
comp=Z,14μm,23.0s,MS6.0
EVO Evora 91.03 8 *e*P P **20 35 15.9 +0.1**
comp=Z,149nm,2.0s,mb6.0
EVO Evora 91.03 8 *e*PP PP 20 38 53.0 +1.8
PPCY Paphos 91.12 336 P P **20 35 14.7 -1.6**
BHL Bhannes 91.12 333 *e*P P **20 35 15.3 -1.0**
ITM Ithomi 91.18 345 *e*P P **20 35 17.0 +0.5**
EVIA Vianos 91.30 4 P P **20 35 17.2 +0.1**
comp=Z,62nm,0.8s,mb6.0
EBEN Beniarda 91.31 2 P P **20 35 17.8 +0.7**
comp=Z,99nm,0.8s,mb6.2
ETOB Tobarra 91.33 3 P P **20 35 17.2 0.0**
comp=Z,139nm,0.8s,mb6.3
VLI Velia 91.45 344 *e*P P **20 35 16.0 -1.8**
RCY Rachaya 91.47 333 *e*P P **20 35 17.0 -0.9**
PBAR Barrancos 91.47 7 *e*P P **20 35 17.0 -0.9**
comp=Z,390nm,1.3s,mb6.6
PBAR Barrancos 91.47 7 *e*PP PP 20 38 56.5 +1.8
PBAR *e*SKS 20 45 55.8
PBAR Barrancos 91.47 7 *e*LR LR 21 05 59.9
comp=Z,11μm,24.0s
ASHO Ashiyiah 91.54 313 P P **20 35 17.8 -0.6**
SNR=13
PBEJ Beja 91.55 8 *e*P P **20 35 17.7 -0.5**
comp=Z,154nm,1.5s,mb6.1
KOD Kodaikanal 91.57 288 *e*P P **20 35 17.8 -0.8**
KOD AMb AMB 20 35 22.1
comp=Z,213nm,1.4s,mb6.3
EADA Adamuz 91.66 6 P P **20 35 18.9 +0.2**
comp=Z,88nm,1.0s,mb6.0
ECAB El Cabril 91.69 6 P P **20 35 16.9 -2.0**
comp=Z,62nm,1.0s,mb5.9
EBAN Banos Encina 91.71 5 P P **20 35 19.0 0.0**
comp=Z,59nm,0.9s,mb5.9
KARP Karpathos 91.74 340 *e*P P **20 35 18.5 -0.7**
KYTH Kithira 91.86 343 *e*P P **20 35 19.5 -0.2**
PALK Pallekele 91.87 284 P P **20 35 20.7 +0.6**
SNR=7.8
PALK Pallekele 91.87 284 *e*P P **20 35 19.8 -0.3**
comp=Z,188nm,1.4s,mb6.2
HOQ Hoqain 91.88 311 P P **20 35 19.6 -0.4**
SNR=10
WBK Wadi Bani Khal 91.89 310 P P **20 35 20.8 +0.8**
SNR=6.4
EMIN Mina Concepcio 91.91 7 P P **20 35 19.6 -0.3**
comp=Z,92nm,0.9s,mb6.1
PTEO Sao Teotonio 91.94 9 *e*P P **20 35 19.8 -0.3**
comp=Z,146nm,1.3s,mb6.2
SMDO Samad 91.97 310 P P **20 35 19.9 -0.5**
SNR=11
EGRO El Granado 92.07 8 P P **20 35 20.5 -0.2**
comp=Z,59nm,1.0s,mb5.9
EQES Quesada 92.11 4 P P **20 35 21.1 +0.3**
comp=Z,54nm,1.1s,mb5.8
EHUE Huescar 92.11 4 P P **20 35 19.7 -1.2**
comp=Z,292nm,2.3s,mb6.2
EMUR La Murta 92.14 3 P P **20 35 22.9 +1.9**
comp=Z,56nm,0.9s,mb5.9
PVAQ Vaqueiros 92.18 8 *e*P P **20 35 20.8 -0.4**
comp=Z,210nm,1.4s,mb6.3
PVAQ Vaqueiros 92.18 8 *e*PP PP 20 39 04.0 +3.7
PVAQ *e*SKS 20 45 56.1
PVAQ Vaqueiros 92.18 8 *e*LR LR 21 06 09.1
comp=Z,10μm,26.0s
MORF Marmelete 92.19 9 *e*P P **20 35 21.1 -0.1**
comp=Z,181nm,1.6s,mb6.2
MORF Marmelete 92.19 9 *e*SKS 20 45 57.7
MORF Marmelete 92.19 9 *e*LR LR 21 06 31.6
comp=Z,18μm,22.0s
ELUQ Luque 92.28 5 P P **20 35 21.6 0.0**
comp=Z,50nm,1.0s,mb5.8
PBDV Barranco-do-Ve 92.32 8 *e*P P **20 35 22.0 +0.2**
comp=Z,179nm,1.5s,mb6.2
PBDV Barranco-do-Ve 92.32 8 *e*PP PP 20 39 05.7 +4.3
PBDV *e*SKS 20 45 55.8
PBDV Barranco-do-Ve 92.32 8 *e*LR LR 21 06 25.5
comp=Z,13μm,24.0s
NPS Neapolis 92.34 341 *e*P P **20 35 20.5 -1.4**
PFVI Vila Bisbo 92.34 9 *e*P P **20 35 21.6 -0.3**
comp=Z,190nm,1.9s,mb6.1
PFVI Vila Bisbo 92.34 9 *e*SKS 20 45 55.7
PFVI Vila Bisbo 92.34 9 *e*LR LR 21 06 25.4
comp=Z,18μm,22.0s
ZKR Zakros 92.36 341 *e*P P **20 35 21.4 -0.7**
LAST Lasithi 92.47 341 *e*P P **20 35 20.2 -2.4**
VAM Vamos 92.48 342 *e*P P **20 35 22.5 -0.1**
JMDO Jabal Madar 92.52 310 P P **20 35 22.6 -0.3**
SNR=16
KARN Karanos 92.55 343 *e*P P **20 35 20.6 -2.3**
ECOG Cogollos-Vega 92.60 5 P P **20 35 21.8 -1.4**
comp=Z,57nm,0.9s,mb6.0
BSY Bisya 92.64 311 P P **20 35 22.8 -0.8**
SNR=18
ELOJ Sierra Loja 92.70 5 P P **20 35 23.9 +0.4**
comp=Z,146nm,1.0s,mb6.4
ERON Agron 92.85 5 P P **20 35 23.2 -1.0**
ESPR Espera 92.86 7 P P **20 35 24.6 +0.3**
comp=Z,125nm,0.9s,mb6.3
EBER Berja 93.02 4 P P **20 35 23.8 -1.3**
comp=Z,25nm,1.0s,mb5.6
EGUA Guajares 93.05 5 P P **20 35 24.4 -0.8**
comp=Z,642nm,2.6s,mb6.6
GVD Gavdhos 93.06 342 *e*P P **20 35 25.0 -0.3**
TRD Trivandrum 93.22 287 *e*P P **20 35 24.6 -1.7**
TRD AMb AMB 20 35 33.6
comp=Z,242nm,1.0s,mb6.6
ABA Alger-Bouzarea 93.24 360 P P **20 35 26.1 +0.1**
EMIJ Mijas 93.24 6 P P **20 35 26.6 +0.5**
comp=Z,94nm,0.7s,mb6.3
CMAH Djebel Manchou 93.30 356 P P **20 35 26.0 -0.3**
EJIF Jimena Fronter 93.31 6 P P **20 35 26.3 -0.1**
comp=Z,350nm,1.9s,mb6.5
TOO Toolangi 93.39 209 *e*P P **20 35 25.4 -0.9**
TOO *e*pP pP 20 35 32.2 -0.5
TOO *e* 20 35 40.4
DFRA Djebel Bou Aff 93.44 357 P P **20 35 27.0 0.0**
CKFL Kef-Lekhel 93.56 357 P P **20 35 27.0 -0.5**
CASM Ain Smara 93.70 357 P P **20 35 28.0 -0.2**
EBNR Beni Rached 93.74 1 P P **20 35 28.5 +0.1**
SET Setif 93.80 358 P P **20 35 26.0 -2.6**
SDV Santo Domingo 93.83 71 P P **20 35 28.2 -0.8**
comp=Z,47nm,0.9s,mb5.9,baz=4.6,slow=2.8,SNR=24
EMHD Djebel Mahouad 93.84 360 P P **20 35 28.4 -0.4**
ADJB Djebel Djouab 93.88 359 P P **20 35 29.5 +0.5**
ECHA Ech Chlef 93.88 1 P P **20 35 28.8 -0.2**
CTEI Djebel Teioual 93.90 357 P P **20 35 29.0 -0.1**
AKET Djebel Ketaf 93.98 359 P P **20 35 30.3 +0.8**
FORT Forrest 93.99 225 *e*P P **20 35 29.0 -0.3**
comp=Z,89nm,0.8s,mb6.2
FORT *e* pP 20 35 35.0 -0.6
EANR 'Ain N'Sour 94.08 1 P P **20 35 29.0 -0.9**
KEST Kesra 94.09 354 P P **20 35 29.4 -0.6**
comp=Z,33nm,0.9s,mb5.8,baz=248,slow=1.0,SNR=27
KEST PKKPbc PKKPbc 20 52 32.6 +3.0
comp=Z,2.3nm,0.9s,baz=291,slow=3.6,SNR=5.6
RPZ Rata Peaks 94.19 188 LR LR 21 08 03.0
comp=Z,13μm,20.6s,MS6.4,baz=22,slow=29
ETRT Tiaret 94.64 1 P P **20 35 32.0 -0.5**
ROSC El Rosal 94.69 77 P P **20 35 32.4 -0.6**
comp=Z,14nm,0.7s,mb5.5,baz=82,slow=23,SNR=8.8
PMAR Madeira 95.55 16 *e*P P **20 35 36.7 0.0**
comp=Z,55nm,0.8s,mb6.0
OTAV Otavalo 95.65 83 *e*P P **20 35 36.5 -1.0**
comp=Z,34nm,1.1s,mb5.7
COCO West Island 96.48 259 PFAKE 20 35 50.0 +8.9
COCO LR LR
comp=Z,2μm,20.0s,MS5.5
GRGR Grenville 96.53 62 PFAKE 20 35 50.0 +8.6
GRGR LR LR
comp=Z,9μm,20.0s,MS6.3
BBGH Gun Hill 96.88 60 PFAKE 20 35 50.0 +7.0
BBGH LR LR
comp=Z,14μm,21.0s,MS6.4
MDT Midelt 96.98 6 PKKPbc PKKPbc 20 52 23.9 +2.0
comp=Z,5.3nm,0.9s,baz=124,slow=3.7,SNR=9.5
RPN Rapa Nui 97.84 123 *e*P P **20 35 47.3 +0.4**
comp=Z,87nm,0.9s,mb6.3
KLBR Kellerberrin 99.57 231 *e*P P **20 35 54.1 -0.5**
comp=Z,51nm,1.4s,mb5.8
MUN Mundaring 100.66 232 *e*P Pdif 20 35 59.5 -0.3
ATAH Atahualpa 101.21 87 P Pdif 20 36 01.9 -0.4
comp=Z,1.6nm,0.4s,baz=132,slow=15,SNR=5.3
DGAR Diego Garcia 108.39 281 PFAKE 20 40 50.0 +10
DGAR LR LR
comp=Z,3μm,20.0s,MS5.9
MRKH Merkhyat 109.17 329 *e* PP 20 41 11.9 +2.5
MRKH *e* 20 43 31.4
JAWL J.Aulia 109.57 329 *e* PP 20 41 06.5 -5.8
JAWL *e* 20 43 28.5
FURI Furi 113.12 321 *e*P PKiKP 20 40 35.6 -14
FURI S SKKSac 20 48 43.3 +3.2
LPAZ La Paz 114.76 86 PKP PKiKP 20 40 52.4 +0.2
comp=Z,3.5nm,0.8s,baz=14,slow=6.3,SNR=8.5
LPAZ PKKPab PKKPab 20 51 36.6 +1.6
comp=Z,5.9nm,1.1s,baz=107,slow=6.6,SNR=7.9
LPAZ La Paz 114.76 86 PKP PKiKP 20 40 52.4 +0.2
LPAZ PKKPab PKKPab 20 51 36.6 +1.6
LPAZ LR LR
comp=Z,6μm,21.0s,MS6.2
MSEY Mahe Island 116.49 297 PFAKE 20 41 10.0 +14
MSEY LR LR
comp=Z,6μm,20.0s,MS6.2
TOA0 Torodi Ar. Sit 116.79 1 *e*PKPdf PKPdf 20 40 54.7 -1.6
TORD Torodi Ar. Bea 116.79 1 PKP PKPdf 20 40 54.5 -1.7
comp=Z,18nm,0.9s,baz=342,slow=2.1,SNR=27
TORD PP PP 20 41 53.3 -10
comp=Z,5.9nm,0.8s,baz=359,slow=5.5,SNR=3.7
TORD PKKPbc PKKPbc 20 51 20.8 +0.2
comp=Z,9.7nm,0.8s,baz=181,slow=1.0,SNR=22
TORD SKKP 20 55 19.4
comp=Z,12nm,1.1s,baz=173,slow=3.1,SNR=6.9
TORD Torodi Ar. Bea 116.79 1 PKP PKPdf 20 40 54.5 -1.7
TORD PP PP 20 41 53.3 -10
TORD PKKPbc PKKPbc 20 51 20.8 +0.2
TORD SKKP 20 55 19.4
LVC Limon Verde 118.88 91 PFAKE 20 41 10.0 +10
LVC LR LR
comp=Z,4μm,19.0s,MS6.1
DRV Dumont d'Urvil 121.04 198 Pdif Pdif 20 37 36.0 +5.6
DRV Dumont d'Urvil 121.04 198 PP PP 20 42 40.0 +6.6
DRV SP SP 20 52 27.0 +5.3
DRV SS SS 20 59 06.0 +1.4
DRV L 21 13 00.0
DRV R 21 21 00.0
LCO Las Campanas 122.23 98 *e*PKPdf PKPdf 20 41 05.4 -0.8
LCO LR LR
comp=Z,6μm,20.0s,MS6.3
KMBO Kilima Mbogo 122.75 317 PKP PKPdf 20 41 07.7 -0.1
comp=Z,48nm,0.9s,baz=29,slow=3.0,SNR=25
KMBO PP PP 20 42 45.3 +0.4
comp=Z,11nm,0.9s,baz=356,slow=5.0,SNR=4.9
KMBO Kilima Mbogo 122.75 317 PKP PKPdf 20 41 07.7 -0.1
KMBO PP PP 20 42 45.3 +0.4
KMBO LR LR
comp=Z,8μm,19.0s,MS6.4
DBIC Dimbokro 122.88 9 PKP PKPdf 20 41 06.5 -1.6
comp=Z,34nm,0.9s,baz=350,slow=1.7,SNR=27
DBIC PKKPbc PKKPbc 20 50 57.5 -0.8
comp=Z,6.3nm,0.9s,baz=103,slow=4.4,SNR=3.9
DBIC Dimbokro 122.88 9 PKP PKPdf 20 41 06.5 -1.6
DBIC PKKPbc PKKPbc 20 50 57.5 -0.8
DBIC LR LR
comp=Z,14μm,19.0s,MS6.6
LIC Lamto 123.30 9 *e*PKIKP PKPdf 20 41 07.0 -1.8
comp=Z,100nm,0.9s
LIC *e*MLR MLR
comp=Z,18μm,18.8s,MS6.5
LIC Lamto 123.30 9 *e*PKPdf PKPdf 20 41 07.0 -1.8
LIC LR LR
comp=Z,9μm,18.8s,MS6.5
BDFB Brasilia 126.79 68 PKP PKPdf 20 41 14.6 -0.7
comp=Z,26nm,1.0s,baz=208,slow=5.4,SNR=16
BDFB Brasilia 126.79 68 PKP PKPdf 20 41 14.6 -0.7
BDFB LR LR
comp=Z,6μm,19.0s,MS6.3
VNDA Vanda 128.23 186 PKP PKPdf 20 41 15.7 -0.5
comp=Z,50nm,1.3s,baz=340,slow=4.1,SNR=32
SBA Scott Base 128.28 184 PKIKP PKPdf 20 41 15.0 -1.4
SBA Scott Base 128.28 184 *e*PKPdf PKPdf 20 41 15.2 -1.1
CASY Casey 128.42 209 *e*P PKPdf 20 41 15.6 -1.3
CASY LR LR
comp=Z,4μm,20.0s,MS6.1
CPUP Villa Florida 128.93 85 PKP PKPdf 20 41 18.2 -0.9
comp=Z,30nm,0.9s,baz=313,slow=2.2,SNR=18
CPUP Villa Florida 128.93 85 PKP PKPdf 20 41 18.2 -0.9
CPUP LR LR
comp=Z,1μm,20.0s,MS5.5
PLCA Paso Flores 129.91 109 PKhKP 20 41 13.4
comp=Z,5.9nm,1.0s,baz=167,slow=1.1,SNR=5.8
PLCA PKP PKPdf 20 41 19.8 -0.7
comp=Z,94nm,1.0s,baz=269,slow=3.1,SNR=35
PLCA PP PP 20 43 33.4 +0.3
comp=Z,16nm,1.2s,baz=306,slow=8.5,SNR=2.1
PLCA Paso Flores 129.91 109 PKP 20 41 13.4
PLCA PKP PKPdf 20 41 19.8 -0.8
PLCA PP PP 20 43 33.4 +0.3
OPO Ambohidratompo 132.43 295 PKP PKPdf 20 41 25.8 -0.1
comp=Z,23nm,0.9s,baz=69,slow=2.9,SNR=18
ABPO Ambohimpanom 132.75 295 *e*PKPdf PKPdf 20 41 23.4 -3.2
ABPO LR LR
comp=Z,5μm,20.0s,MS6.2
TRQA Tornquist 133.61 100 *e*PKPdf PKPdf 20 41 25.2 -2.4
LPA La Plata 134.25 94 *de*PKP PKPdf 20 41 28.0 -0.9
LPA *e*PP PP 20 43 59.0 -2.1
LPA *e*PKS 20 45 00.0
LPA
comp=Z,12μm,18.0s
MIR Mirnyy 134.50 214 *e*PKIKP PKPdf 20 41 21.0 -7.4
MIR *i* 20 41 29.0
MIR *i* 20 41 35.0
MIR pmax pmax
comp=Z,100nm,1.0s
CAM3 Guarapari 135.17 65⇑ *e*P PKPdf 20 41 27.8 -3.3
CAM3 *i* 20 41 29.4
CAM3 *i* 20 41 30.8
CAM3 *i* 20 41 32.5
CAM3 *i* 20 41 34.1
CAM3 *i* 20 41 41.6
CAM3 *i* 20 41 49.1
ASCN Ascension 135.48 24 PFAKE 20 41 40.0 +8.1
ASCN LR LR
comp=Z,10μm,19.0s,MS6.5
USHA Ushuaia 138.39 125 PP PP 20 44 28.4 +1.6
comp=Z,10nm,1.0s,baz=343,slow=6.0,SNR=3.4
LSZ Lusaka 139.29 320 PKhKP 20 41 34.2
comp=Z,8.3nm,0.8s,baz=40,slow=3.8,SNR=14
LSZ PKP PKPdf 20 41 40.6 +1.8
comp=Z,38nm,0.9s,baz=40,slow=3.9,SNR=27
LSZ PP PP 20 44 29.8 -2.1
comp=Z,4.5nm,0.9s,baz=350,slow=22,SNR=3.2
LSZ Lusaka 139.29 320 PKP PKPdf 20 41 34.2 -4.6
LSZ PKP PKPdf 20 41 40.6 +1.8
LSZ PP PP 20 44 29.8 -2.1
LSZ LR LR
comp=Z,9μm,22.0s,MS6.5
QSPA South Pole Qui 140.09 180 PKhKP 20 41 30.1
comp=Z,42nm,0.8s,baz=331,slow=1.2,SNR=70
QSPA PP PP 20 44 31.7 -4.9
comp=Z,6.4nm,0.9s,baz=180,slow=5.1,SNR=1.8
EFI East Falkland 142.87 116 *e*PKHKP 20 41 38.3
EFI MLR MLR
comp=Z,11μm,19.0s,MS6.6
PMSA Palmer Station 143.44 139 PKhKP 20 41 40.5
baz=265,slow=0.9
PMSA Palmer Station 143.44 139 *e*PKPpre 20 41 40.3
PMSA PKP PKPdf 20 41 40.5 -4.2
MAW Mawson 146.12 217 *e*P PKPdf 20 41 49.3 0.0
comp=Z,401nm,1.4s
MAW Mawson 146.12 217 PKPbc PKPbc 20 41 49.4 -0.9
comp=Z,270nm,0.9s,baz=81,slow=3.9,SNR=77
MAW PP PP 20 45 11.1 -2.1
comp=Z,20nm,1.1s,baz=91,slow=12,SNR=1.5
MAW Mawson 146.12 217 PKP2 PKPab 20 41 49.4 -1.6
MAW 20 45 11.1
MAW pmax pmax
comp=Z,270nm,1.0s
MAW pmax pmax
comp=Z,20nm,1.1s
MAW Mawson 146.12 217 *e*P PKPdf 20 41 49.3 0.0
MAW LR LR
comp=Z,10μm,22.0s,MS6.5
TSUM Tsumeb 146.67 333 PKPbc PKPbc 20 41 50.5 -2.9
comp=Z,41nm,0.9s,baz=3.9,slow=3.4,SNR=38
TSUM PP PP 20 45 15.3 -0.9
comp=Z,7.7nm,0.8s,baz=27,slow=9.0,SNR=2.5
LBTB Lobatse 149.02 316 PKP PKPdf 20 41 54.1 -1.4
comp=Z,122nm,0.8s,baz=60,slow=2.0,SNR=56
LBTB PKPbc PKPbc 20 41 59.1 -0.4
comp=Z,418nm,0.8s,baz=50,slow=2.0,SNR=87
LBTB PP PP 20 45 35.8 +5.5
comp=Z,30nm,1.0s,baz=59,slow=5.9,SNR=2.8
LBTB Lobatse 149.02 316 PKP PKPdf 20 41 54.1 -1.4
LBTB PKPbc PKPbc 20 41 59.1 -0.4
LBTB PP PP 20 45 35.8 +5.5
LBTB LR LR
comp=Z,7μm,21.0s,MS6.4
BOSA Boshof 152.25 313 PKP PKPdf 20 42 00.5 +0.1
comp=Z,13nm,0.8s,baz=68,slow=0.9,SNR=12
BOSA PKPbc PKPbc 20 42 07.1 0.0
comp=Z,186nm,0.8s,baz=31,slow=2.3,SNR=62
BOSA PP PP 20 45 50.3 +1.3
comp=Z,64nm,1.3s,baz=60,slow=8.1,SNR=2.5
BOSA Boshof 152.25 313 PKP PKPdf 20 42 00.5 +0.1
BOSA PKPbc PKPbc 20 42 07.1 -0.1
BOSA PP PP 20 45 50.3 +1.3
BOSA LR LR
comp=Z,9μm,19.0s,MS6.6
SYO Syowa Base 154.17 210 ⇓*i*P PKPdf 20 42 00.0 -1.9
SYO Syowa Base 154.17 210 ⇓*i*P PKPbc 20 42 09.0 -1.0
SYO Syowa Base 154.17 210 ⇓*i*UP PKPab 20 42 22.6 -1.4
SUR Sutherland 157.47 316 PKP PKPdf 20 42 06.6 -0.8
comp=Z,44nm,1.1s,baz=323,slow=4.4,SNR=8.2
SUR PKPab PKPab 20 42 40.4 +1.3
comp=Z,17nm,0.7s,baz=75,slow=5.1,SNR=7.1
SNAA Sanae 158.46 175 *e*PKPdf PKPdf 20 42 04.9 -2.5
SNAA *e* 20 42 42.0
SNAA *e* 20 42 48.7
SNAA *e* 20 42 55.1
SNAA *e* 20 46 25.5
SNAA *e* 20 54 49.9
SNAA Sanae 158.46 175 PKP PKPdf 20 42 05.6 -1.8
comp=Z,33nm,1.4s,baz=234,slow=0.4,SNR=46
SNAA PKPab PKPab 20 42 41.2 -1.2
comp=Z,19nm,0.9s,baz=206,slow=3.7,SNR=15
SNAA PP PP 20 46 23.4 +0.4
comp=Z,10nm,1.2s,baz=166,slow=5.6,SNR=5.0
VNA2 Neumayer--Watz 158.84 171 *e*PKPdf PKPdf 20 42 06.0 -1.9
VNA2 *e* 20 42 44.9
VNA2 *e* 20 42 51.0
VNA2 *e* 20 42 56.8
VNA2 *e* 20 46 27.2
VNA2 *e* 20 54 48.1

VNA1	Neumayer--Stat	159.02 170	*e*PKPdf	PKPdf	20 42 06.4	-1.7
VNA1			*e*		20 42 45.8	
VNA1			*e*		20 42 51.6	
VNA1			*e*		20 42 58.3	
VNA1			*e*		20 46 29.0	
VNA1			*e*		20 54 49.5	
NVL	N'lazarevskaya	159.04 189	*d i*PKIKP	PKPdf	20 42 08.2	+0.1
NVL			*i*		20 46 27.8	
NVL			*e*SS	SS	21 07 17.1	+48
NVL			pmax	pmax		
	comp=Z,68nm,2.4s					
MAIT	Maitri	159.04 189	*e*PKPdif	PKPdf	20 42 07.0	-1.1

*IDC **15** 20:45:46.4±0.8, 2.18N×12690E, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/18, mbtmp3.9/11, Error ellipse: s-maj=41.3km s-min=14.2km az=77.0*
*NEIC **15** 20:45:47.7±0.5, 220N×12691E, h10km, mb4.2/2, Error ellipse: s-maj=27.1km s-min=8.5km az=71.0*
*DJA **15** 20:45:57, 203N×12680E, h65km, mb4.3/2*
*ISCJB **15** 20:45:58.4±4.4, 2.16N±009×1268E±02, h123km±46km, mb3.9/11, Error ellipse: s-maj=35.2km s-min=13.0km az=166.1*

ISC 15 20:45:59.6±4.5, 214N±009×1269E±02, h118km±46km, n17, σ0§99/17, mb3.9/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	15.75	160	*e*P	Pn	20 49 36.7	+1.8
	6.5nm,0.6s						
FITZ	Fitzroy Crossi	20.15	183	*e*P	P	20 50 23.3	-1.3
	2.8nm,0.4s						
FITZ	Fitzroy Crossi	20.15	183	P	P	20 50 23.3	-1.3
	1.7nm,0.4s,baz=18,slow=14,SNR=7.7						
WRAB	Tennant Creek	23.12	162	*e*P	P	20 50 54.4	-1.1
	13nm,1.0s,mb4.2						
WRA	Warramunga Arr	23.13	162	P	P	20 50 54.7	-0.8
	5.1nm,0.6s,mb4.0,baz=335,slow=11,SNR=21						
WB2	Warramunga Arr	23.13	162	*e*P	P	20 50 54.8	-0.7
ASAR	Alice Springs	26.54	165	P	P	20 51 25.6	-0.8
	0.4nm,0.3s,mb3.4,baz=343,slow=9.5,SNR=16						
CMAR	Chiang Mai Arr	31.83	303	P	P	20 52 13.6	+0.1
	1.1nm,0.9s,mb3.6,baz=106,slow=8.3,SNR=4.6						
KSRS	Korea Array	35.16	1	P	P	20 52 42.0	0.0
	1.1nm,0.6s,mb3.9,baz=174,slow=10,SNR=4.9						
MJAR	Matsushiro Arr	35.80	16	P	P	20 52 47.6	+0.1
	0.5nm,0.6s,mb3.6,baz=191,slow=8.4,SNR=4.2						
NWAO	Narrogin (SRO)	36.05	194	P	P	20 52 51.2	+1.5
	2.7nm,0.5s,mb4.4,baz=343,slow=5.2,SNR=3.2						
NWAO	Narrogin (SRO)	36.05	194	P	P	20 52 51.2	+1.5
STKA	Stephens Creek	36.59	159	P	P	20 52 54.9	+0.6
	3.8nm,0.7s,mb4.5,baz=145,slow=12,SNR=6.2						
SONM	Songino Array	48.85	342	P	P	20 54 33.5	+0.4
	0.5nm,0.7s,mb3.5,baz=165,slow=8.6,SNR=5.0						
MK31	Makanchi Array	58.95	326	P	P	20 55 45.6	-0.9
MKAR	Makanchi Array	58.95	326	P	P	20 55 46.4	-0.1
	0.5nm,0.4s,mb3.9,baz=115,slow=7.8,SNR=6.3						
VNDA	Vanda	81.83	173	P	P	20 58 07.0	+1.9
	1.3nm,0.8s,mb3.8,baz=256,slow=3.4,SNR=3.3						

*IDC **15** 21:01:27.7±10.0, 5035N×17722W, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.6/25, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=246.1km s-min=36.6km az=167.0*
*NEIC **15** 21:01:31.0, 5031N×17765W, h20km, ML3.0(AEIC), After AEIC.*
*ISCJB **15** 21:01:35.2±4.3, 511N±07×1776W±02, h33km, mb4.0/5, Error ellipse: s-maj=106.8km s-min=11.4km az=174.7*

ISC 15 21:01:36.2±3.5, 507N±07×1778W±02, h35km, n8, σ0§70/9, mb4.0/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.93	292	P	Pn	21 02 05.9	-0.6
AMKA				*e*Sn	Sn	21 02 29.8	+0.2
KDAK	Kodiak Island	16.32	54	Pn	Pn	21 05 16.4	-6.0
	0.4nm,0.3s,baz=180,slow=7.1,SNR=12						
ARCES	ARCESS Array B	58.88	351	P	P	21 11 29.8	-1.0
	1.4nm,0.9s,mb4.0,baz=28,slow=8.3,SNR=3.7						
MKAR	Makanchi Array	60.94	309	P	P	21 11 44.4	-0.9
	0.4nm,0.7s,mb3.7,baz=54,slow=6.1,SNR=3.4						
BVAR	Borovoye Array	61.81	320	P	P	21 11 51.8	+0.7
	0.9nm,0.7s,mb4.0,baz=59,slow=5.7,SNR=6.0						
AKTK	Aktyubinsk	68.60	325	P	P	21 12 35.9	+0.8
AKTO	Aktyubinsk	68.60	325	P	P	21 12 35.9	+0.8
	2.3nm,0.8s,mb4.2,baz=32,slow=6.5,SNR=11						
AKASG	Malin Array Be	76.40	343	P	P	21 13 21.6	+0.1
	2.6nm,0.8s,mb4.2,baz=19,slow=5.4,SNR=5.9						

*ISCJB **15** 21:10:04.6±0.6, 3805N±004×7560E±009, h140km±9km, mb3.6/5, Error ellipse: s-maj=11.6km s-min=5.5km az=168.8*
*IDC **15** 21:10:05.7±7.7, 3805N×7554E, h135km±66km, mb3.3/4, mb1 3.4/8, mb1mx3.2/26, mbtmp3.3/8, Error ellipse: s-maj=53.6km s-min=27.3km az=1.0*
*NEIC **15** 21:10:06.1±1.4, 3811N×7564E, h141km±12km, mb3.9/4, Error ellipse: s-maj=16.3km s-min=10.7km az=201.0*
*NNC **15** 21:10:13.2±6.0, 3905N×7517E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=55.6km s-min=39.4km az=17.0*

ISC 15 21:10:05.7±0.5, 3808N±004×7557E±009, h134km±8km, n32, σ1§29/43, mb3.6/5, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	Uchtor	4.22	349	*e*Pn	Pn	21 11 08.7	+0.3
AML	Almayashu	4.29	341	*e*Pn	Pn	21 11 09.7	+0.3
AML				*e*Sn	Sn	21 11 51.3	-7.5
EKS2	Erkin-Say	4.78	344	*e*Pn	Pn	21 11 17.4	+1.6
EKS2				*e*Sn	Sn	21 12 04.0	-6.4
TKM2	Tokmak 2	4.84	0	⇓Pn	Pn	21 11 16.8	+0.2
	1.7nm,0.3s						
TKM2				⇓Lg		21 12 11.0	
	15nm,0.6s						
TKM2	Tokmak 2	4.84	0	*e*Pn	Pn	21 11 17.0	+0.4
TKM2				*e*Sn	Sn	21 11 58.4	-13
DLH	Dalhousie	5.53	176	*e*P	Pn	21 11 28.0	+2.0
DLH				*e*S	Sn	21 12 26.0	-2.6
THN	Thein Dam	5.63	179	*e*P	Pn	21 11 30.7	+3.4
THN				*e*S	Sn	21 12 30.7	-0.3
KK31	Karatay Array	6.32	324	Pn	Pn	21 11 36.6	+0.1
	2.0nm,0.3s,baz=142,slow=12,SNR=104						
KK31				⇓Sn	Sn	21 12 44.6	-2.8
	6.4nm,0.4s,baz=133,slow=23,SNR=7.0						
KLP	Kalpa	6.89	161	*e*P	Pn	21 11 47.9	+3.6
KLP				*e*S	Sn	21 12 57.3	-4.0
KLP				AML	AML	21 13 10.6	
	comp=E,67nm,0.3s						
KLP				AML	AML	21 13 10.8	
	comp=N,62nm,0.8s						
SMLA	Simla	7.06	169	*i* P	Pn	21 11 47.8	+1.3
SMLA				*i* S	Sn	21 13 01.2	-4.1
SMLA				*i* S	Sn	21 13 02.0	-3.2
SMLA				*ex*	x	21 13 06.3	
	comp=N,654nm,0.3s						
SMLA				*ex*	x	21 13 06.7	
	comp=E,661nm,0.3s						
SONA	Sohna	9.88	172	*e*S	Sn	21 14 06.3	-7.3
SONA				AML	AML	21 14 12.8	
	comp=E,22nm,0.3s						
SONA				AML	AML	21 14 13.2	
	comp=N,12nm,0.2s						
KUDL	Kundal	9.94	175	*e*S	Sn	21 14 08.9	-6.0
MK31	Makanchi Array	10.02	28	Pn	Pn	21 12 24.4	-1.7
MKAR	Makanchi Array	10.02	28	P	Pn	21 12 26.2	+0.1
	comp=N,0.1nm,0.3s,baz=204,slow=16,SNR=3.7						
KURK	Kurchatov	12.82	9	*e*P	Pn	21 13 00.4	-2.4
	comp=N,5.3nm,1.0s						
BVA0	Borovoye Array	15.38	348	⇑Pn	Pn	21 13 37.5	+2.3
	comp=N,0.4nm,0.5s,baz=50,slow=17,SNR=17						
BVAR	Borovoye Array	15.38	348	P	Pn	21 13 36.8	+1.5
	comp=N,0.9nm,0.3s,baz=148,slow=10,SNR=23						
LSA	Lhasa	15.39	118	*e*Pn	Pn	21 13 35.9	+0.3
	comp=N,9.8nm,1.8s						
BRVK	Borovoye	15.42	348	*e*P	Pn	21 13 36.0	+0.1
	comp=N,4.5nm,0.9s						
AB31	Akbulak array	15.86	320	⇑Pn	Pn	21 13 42.8	+1.6
	comp=N,0.5nm,0.5s						
AB31				⇑Sn	Sn	21 16 27.7	-10
	comp=N,1.7nm,0.8s						
ZALV	Zalesovo Beam	17.10	19	P	Pn	21 13 54.4	-1.9
	comp=N,0.9nm,0.3s,baz=212,slow=9.8,SNR=10						
ZALV	Zalesovo Beam	17.10	19	P	Pn	21 13 54.4	-1.9
AKTK	Aktyubinsk	17.57	320	P	Pn	21 14 02.2	+0.2
AKTO	Aktyubinsk	17.57	320	⇑Pn	Pn	21 14 01.8	-0.2
	comp=N,0.2nm,0.7s						
AKTO				⇓Sn	Sn	21 17 12.6	-5.7
	comp=N,0.9nm,2.2s						
AKTO	Aktyubinsk	17.57	320	P	Pn	21 14 02.2	+0.2
	comp=N,0.5nm,0.3s,baz=118,slow=18,SNR=7.8						
GNI	Garni	23.95	285	P	P	21 15 07.6	+0.3
SONM	Songino Array	24.44	57	P	P	21 15 12.6	+0.9
	comp=N,0.6nm,0.6s,mb3.3,baz=248,slow=10,SNR=7.1						
SONM				pP		21 15 41.5	
	comp=N,0.7nm,0.9s,baz=269,slow=6.6,SNR=4.4						
TIRR	Tirgusor	35.61	296	P	P	21 16 50.0	-0.3
ARCES	ARCESS Array B	41.14	336	P	P	21 17 36.2	+0.1
	comp=N,1.5nm,0.7s,mb3.7,baz=108,slow=8.9,SNR=11						
NOA	NORSAR Array B	45.35	322	P	P	21 18 09.7	-0.3
	comp=N,1.9nm,1.1s,mb3.6,baz=115,slow=12,SNR=3.1						
WLF	Walferdange	49.67	307	*e*P	P	21 18 42.4	-1.2
	comp=N,6.0nm,0.7s,mb4.3						
TORD	Torodi Ar. Bea	69.37	271	P	P	21 20 58.8	-0.3
	comp=N,0.3nm,0.6s,mb3.2,baz=59,slow=4.5,SNR=6.9						

*NEIC **15** 21:10:16.2±1.4, 5003N×17757W, h10km, mb4.0/1, Error ellipse: s-maj=33.3km s-min=9.6km az=164.0*
*ISCJB **15** 21:10:19.5±1.0, 503N±01×17773W±009, h36km, mb3.8/8, Error ellipse: s-maj=19.3km s-min=7.5km az=171.1*
*IDC **15** 21:10:19.1±3.6, 4986N×17726W, h39km±7km, mb3.5/8, mb1 3.7/9, mb1mx3.5/24, mbtmp3.6/9, ML4.4/1, Error ellipse: s-maj=88.6km s-min=27.9km az=153.0*

ISC 15 21:10:22.1±1.0, 504N±01×17777W±009, h38km, h38km±1.5km: pP-P, n18, σ1§14/20, mb3.8/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	2.12	300	Pn	Pn	21 10 55.2	+0.3
AMKA				Sn	Sn	21 11 19.2	-0.9
KDAK	Kodiak Island	16.48	53	Pn	Pn	21 14 07.1	-3.0
	1.4nm,0.3s,baz=265,slow=6.7,SNR=8.6						
KDAK				Sn	Sn	21 17 12.4	+0.7
	0.2nm,0.3s,baz=195,slow=11,SNR=2.6						
KDAK	Kodiak Island	16.48	53	Pn	Pn	21 14 07.1	-3.0
KDAK				Sn	Sn	21 17 12.4	+0.7
PPLA	Purkeypile	18.70	38	Pn	Pn	21 14 37.8	+0.3
BPAW	Bear Paw Mtn.	19.78	36	*e*P	Pn	21 14 48.7	-1.7
	10nm,1.2s						
EYAK	Cordova Ski Ar	20.62	48	P	P	21 14 56.7	-1.0
YKA	Yellowknife Ar	35.48	46	pP	pP	21 17 26.9	+1.7
	0.9nm,0.7s,baz=269,slow=6.8,SNR=3.9						
KSRS	Korea Array	40.32	273	P	P	21 17 54.8	-0.8
	1.1nm,0.7s,mb3.7,baz=52,slow=8.5,SNR=4.9						
INCN	Inchon	41.13	274	P	P	21 18 01.1	-1.1
SONM	Songino Array	47.70	298	P	P	21 18 55.4	+0.8
	0.2nm,0.6s,mb3.3,baz=87,slow=9.1,SNR=2.7						
ARCES	ARCESS Array B	59.22	351	P	P	21 20 18.8	+0.1
	2.0nm,0.9s,mb4.2,baz=31,slow=7.3,SNR=7.0						
MKAR	Makanchi Array	61.19	309	P	P	21 20 31.4	-1.1
	0.3nm,0.7s,mb3.5,baz=49,slow=4.4,SNR=3.2						
BVAR	Borovoye Array	62.10	321	P	P	21 20 39.3	+0.8
	0.7nm,0.6s,mb4.0,baz=41,slow=9.9,SNR=4.6						
BVAR				pP	pP	21 20 50.5	+0.6
	0.9nm,0.6s,baz=44,slow=7.2,SNR=4.3						
AKTK	Aktyubinsk	68.90	325	P	P	21 21 24.1	+1.5
AKTK				pP	pP	21 21 35.4	+1.4
AKTO	Aktyubinsk	68.90	325	P	P	21 21 24.1	+1.5
	1.3nm,0.7s,mb4.0,baz=50,slow=6.7,SNR=6.6						
AKTO				pP	pP	21 21 35.4	+1.4
	2.9nm,0.8s,baz=51,slow=7.7,SNR=7.7						
CMAR	Chiang Mai Arr	71.78	277	P	P	21 21 40.4	-0.1
	0.7nm,0.9s,mb3.6,baz=40,slow=7.2,SNR=3.5						
AKASG	Malin Array Be	76.73	343	P	P	21 22 10.8	+1.9
	0.6nm,0.5s,mb3.8,baz=16,slow=5.3,SNR=3.7						
AKASG				pP	pP	21 22 21.0	+0.5
	2.3nm,0.7s,baz=18,slow=5.8,SNR=4.8						
AKASG	Malin Array Be	76.73	343	P	P	21 22 10.8	+1.9
AKASG				pP	pP	21 22 21.0	+0.5

*PRU **15** 21:11:54.4, 4459N×1005E, h0km, M3.3*
*GEN **15** 21:11:54.6, 4461N×1017E, h25km, ML3.0*
*NEIC **15** 21:11:54.8, 4460N×1018E, h23km, MD2.9(ROM), ML2.9(STR), ML3.2(GEN), ML3.3(LDG), After GEN.*
*ISCJB **15** 21:11:56.0±0.3, 4454N±002×1006E±003, h24km±3km, Error ellipse: s-maj=4.5km s-min=2.8km az=145.9*
*CSEM **15** 21:11:56.0±0.1, 4437N×1034E, h30km, ML3.3/17, Error ellipse: s-maj=1.7km s-min=1.3km az=137.0*
*LDG **15** 21:11:57.4±0.1, 4447N×1014E, h10km, Ml3.3/20, Error ellipse: s-maj=3.5km s-min=2.4km az=127.0*
*STR **15** 21:12:01.4±0.4, 4429N×964E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 15 21:11:56.9±0.3, 4451N±002×1008E±003, h22km±3km, n93, σ1§12/165, 6C-10D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAM	Graiana	0.02	212	P	Pb	21 11 59.7	-0.9
GRAM	Graiana	0.02	212	P	Pb	21 11 59.7	-0.9
GRAM				S	Sb	21 12 02.8	-0.3
GRAM				S	Sb	21 12 03.0	-0.1
VALM	Valbona	0.20	143	P	Pb	21 12 01.3	-0.8
VALM				S	Sb	21 12 05.6	-0.1
VALM	Valbona	0.20	143	P	Pb	21 12 01.1	-1.0
VALM				P		21 12 01.3	
VALM				S	Sb	21 12 05.3	-0.4
VALM				S	Sb	21 12 05.6	-0.1
CODM	Codolo	0.20	235	P	Pb	21 12 01.9	-0.3
CODM	Codolo	0.20	235	P	Pb	21 12 01.9	-0.3
CODM				S	Sb	21 12 06.7	+0.9
BACM	Baccana	0.23	181	P	Pb	21 12 01.9	-0.7
BACM	Baccana	0.23	181	P	Pb	21 12 01.8	-0.7
BACM				S	Sb	21 12 07.0	+0.6
BACM				S	Sb	21 12 07.1	+0.7
VINC	Vinca	0.37	172	P	Pb	21 12 04.0	-0.8
VINC	Vinca	0.37	172	P	Pb	21 12 04.1	-0.7
VINC				S	Sb	21 12 10.6	+0.5
VINC				S	Sb	21 12 10.8	+0.7
VINC	Vinca	0.37	172	P	Pb	21 12 04.0	-0.8
VINC				S	Sb	21 12 10.6	+0.5
VINC				S	Sb	21 12 10.8	+0.7
SARO	Sassorosso	0.40	144	P	Pb	21 12 04.0	-1.2
SARO	Sassorosso	0.40	144	P	Pb	21 12 04.0	-1.2
SARO				S	Sb	21 12 10.2	-0.7
SARO				S	Sb	21 12 10.4	-0.5
SARO	Sassorosso	0.40	144	P	Pb	21 12 04.0	-1.3
SARO				S	Sb	21 12 10.2	-0.6
SARO				S	Sb	21 12 10.4	-0.5
TEOL	Teolo	1.42	52	⇑*i*Pg	Pn	21 12 20.2	-1.1
TEOL				*i* Sg	Sn	21 12 40.5	+1.2
CGRP	Cima Grappa	1.83	41	⇓*i*Pg	Pn	21 12 26.2	-0.9
CGRP				*i* Sg	Sn	21 12 53.0	+3.4
SAOF	Saorge	1.89	255	Pn	Pn	21 12 28.2	+0.4
SAOF				Sg	Sn	21 12 51.7	+0.8
AUTN	L'Aution	1.97	256	Pn	Pn	21 12 29.1	+0.2
AUTN				Sg	Sn	21 12 53.8	+0.8
SBF	Sospel	2.01	252	*e*Pn	Pn	21 12 29.8	+0.4
	SNR=1.0						
SBF				*e*Sn	Sn	21 12 54.4	+0.5
	86nm,0.3s,SNR=1.0						
SBF	Sospel	2.01	252	*e*Pn	Pn	21 12 29.8	+0.4
	SNR=1.0						
SBF				*e*Sn	Sn	21 12 54.4	+0.5
	43nm,0.3s,SNR=1.0						
TUE	Stuetta	2.03	346	Pn	Pn	21 12 26.1	-3.7
TUE				*e*Sn	Sn	21 12 53.3	-1.1
TUE	Stuetta	2.03	346	Pn	Pn	21 12 26.1	-3.6
TUE				*e*Sn	Sn	21 12 53.3	-1.1
LUCF	Luceram	2.06	254	Pn	Pn	21 12 30.3	+0.2
TOUF	Mont Tournerai	2.09	257	Pn	Pn	21 12 31.7	+1.1
REVF	Revere	2.10	250	Pn	Pn	21 12 30.9	+0.2
PGF	Pioggiola	2.11	202	*e*Pg	Pn	21 12 36.4	+5.6
PGF				*e*Sn	Sn	21 12 55.7	-0.7
	24nm,0.4s,SNR=1.0						
PGF	Pioggiola	2.11	202	*e*Pg	Pn	21 12 36.4	+5.6
PGF				*e*Sn	Sn	21 12 55.7	-0.7
	12nm,0.4s,SNR=1.0						
PGF	Pioggiola	2.11	202	*e*Pn	Pn	21 12 30.8	0.0
PGF				*e*Pg	Pn	21 12 36.4	+5.6
PGF				*e*Sn	Sn	21 12 55.7	-0.7
MVIF	Mont Vial	2.19	255	Pn	Pn	21 12 32.8	+0.8
CORF	Corte	2.31	197	Pn	Pn	21 12 34.2	+0.6
MBDF	Montbardon	2.37	276	*e*Pn	Pn	21 12 34.8	+0.4
	SNR=1.0						
MBDF				*e*Sn	Sn	21 13 02.7	-0.1
	73nm,0.5s,SNR=1.0						
MBDF	Montbardon	2.37	276	*e*Pn	Pn	21 12 34.8	+0.4
	SNR=1.0						
MBDF				*e*Sn	Sn	21 13 02.7	-0.1
	36nm,0.5s,SNR=1.0						
CALN	Calern	2.42	253	Pn	Pn	21 12 35.8	+0.7
BNI	Bardonecchia	2.48	284	*e*Pn	Pn	21 12 34.6	-1.3
BNI				*e*Sn	Sn	21 13 04.9	-0.7
BNI	Bardonecchia	2.48	284	*e*Pn	Pn	21 12 34.6	-1.4
BNI				*e*Sn	Sn	21 13 05.0	-0.6
FETA	Feichten	2.56	10	⇓*e*Pn	Pn	21 12 38.1	+1.2
	SNR=19						
FETA				⇓*i*Sn	Sn	21 13 09.3	+1.9
LPG	La Plagne	2.56	294	*e*Pn	Pn	21 12 38.3	+1.3
	SNR=1.0						
LPG				*e*Sn	Sn	21 13 07.5	0.0
	SNR=1.0						
LPL	La Plagne	2.58	294	*e*Pn	Pn	21 12 37.8	+0.5
LPL				*e*P		21 12 40.9	
LPL				*e*Pg	Pn	21 12 43.8	+6.5
FRF	La Foret Royal	2.65	250	*e*Pn	Pn	21 12 38.8	+0.5
	SNR=1.0						
FRF				*e*Sn	Sn	21 13 09.2	-0.5
	88nm,0.4s,SNR=1.0						
FRF	La Foret Royal	2.65	250	*e*Pn	Pn	21 12 38.8	+0.5
	SNR=1.0						
FRF				*e*Sn	Sn	21 13 09.2	-0.5
	44nm,0.4s,SNR=1.0						
RSL	Roselend	2.72	297	Pn	Pn	21 12 41.3	+2.1
DAVA	Damuels	2.78	357	⇓*e*Pn	Pn	21 12 41.3	+1.3
	SNR=24						
DAVA				⇓*i*Sn	Sn	21 13 15.7	+2.7
ABTA	Abfaltersbach	2.82	36	⇑*e*Pn	Pn	21 12 41.0	+0.4
	SNR=38						
LMR	La Mourre	2.83	247	*e*Pn	Pn	21 12 40.3	-0.5
	SNR=1.0						
LMR				*e*Sn	Sn	21 13 12.5	-1.7
	42nm,0.3s,SNR=1.0						
LMR	La Mourre	2.83	247	*e*Pn	Pn	21 12 40.3	-0.5
	SNR=1.0						
LMR				*e*Sn	Sn	21 13 12.5	-1.7
	21nm,0.3s,SNR=1.0						
MOTA	Moosalm	2.93	14	⇓*e*Pn	Pn	21 12 43.6	+1.5
	SNR=37						
WTTA	Wattenberg	2.96	21	⇓*e*Pn	Pn	21 12 43.3	+0.7
	SNR=66						
WTTA				⇑*i*Sn	Sn	21 13 18.7	+1.3
WATA	Walderalm	3.02	20	⇑*e*Pn	Pn	21 12 44.0	+0.8
	SNR=28						
ORIF	Oris-en-Rattie	3.02	279	*e*Pn	Pn	21 12 44.9	+1.5
	SNR=1.0						
VOY	Vojsko	3.09	59	*e*Pn	Pn	21 12 42.9	-1.4
VOY				*e*Pg	Pn	21 12 51.6	+7.2
VOY				*e*Sn	Sn	21 13 17.2	-3.4
VOY				*e*		21 13 20.0	
VOY	Vojsko	3.09	59	*e*Pg	Pn	21 12 51.6	+7.2
VOY				*e*Sn	Sn	21 13 17.2	-3.4
SMRF	Simiane la Rot	3.28	262	*e*Pn	Pn	21 12 46.9	0.0
	SNR=1.0						
SMRF				*e*Sn	Sn	21 13 24.1	-1.1
	21nm,0.5s						
SMRF	Simiane la Rot	3.28	262	*e*Pn	Pn	21 12 46.9	0.0
	SNR=1.0						
SMRF				*e*Sn	Sn	21 13 24.1	-1.1
	11nm,0.5s						
KBA	Koelnbreinsper	3.44	40	⇓*i*Pn	Pn	21 12 49.1	0.0
	SNR=21						
KBA				⇑*i*Sn	Sn	21 13 29.5	+0.4
CABF	La Chapelle	3.51	308	*e*Pn	Pn	21 12 51.9	+1.9
	SNR=1.0						
CABF				*e*Sn	Sn	21 13 32.1	+1.3
	19nm,0.6s,SNR=1.0						
CABF	La Chapelle	3.51	308	*e*Pn	Pn	21 12 51.9	+1.9
	SNR=1.0						
CABF				*e*Sn	Sn	21 13 32.1	+1.3
	9.5nm,0.6s,SNR=1.0						
VIVF	Saint-Julien-l	3.87	277	*e*Pn	Pn	21 12 56.4	+1.4
	SNR=1.0						
VIVF				*e*Sn	Sn	21 13 40.0	+0.2
	6.9nm,0.4s						
VIVF	Saint-Julien-l	3.87	277	*e*Pn	Pn	21 12 56.4	+1.4
	SNR=1.0						
VIVF				*e*Sn	Sn	21 13 40.0	+0.2
	3.5nm,0.4s						
HINF	Hinteralfeld	4.00	327	*e*Pn	Pn	21 12 56.4	-0.4
	SNR=1.0						
HINF				*e*Sn	Sn	21 13 41.1	-1.8
	48nm,0.4s,SNR=1.0						
HINF	Hinteralfeld	4.00	327	*e*Pn	Pn	21 12 56.4	-0.4
	SNR=1.0						
HINF				*e*Sn	Sn	21 13 41.1	-1.8
	24nm,0.4s,SNR=1.0						
HAU	Haudompre	4.35	325	*e*Pn	Pn	21 13 01.9	+0.3
	SNR=1.0						
HAU				*e*Sn	Sn	21 13 49.4	-2.2
	53nm,0.4s,SNR=1.0						
HAU	Haudompre	4.35	325	*e*Pn	Pn	21 13 01.9	+0.3
	SNR=1.0						
HAU				*e*Sn	Sn	21 13 49.4	-2.2
	26nm,0.4s,SNR=1.0						
CDF	Champ du Feu	4.36	335	*e*Pn	Pn	21 13 01.4	-0.3
	SNR=1.0						
CDF				*e*Sn	Sn	21 13 47.8	-4.0
	22nm,0.5s						
MOA	Molln	4.43	40	⇑*i*Pn	Pn	21 13 02.9	+0.2
	SNR=19						
MOA				⇓*i*Sn	Sn	21 13 53.2	-0.4
LASF	Ste Croix	4.49	267	*e*Pn	Pn	21 13 04.4	+0.9
	SNR=1.0						
LASF				*e*Sn	Sn	21 13 53.0	-2.0
	4.0nm,0.4s						
LASF	Ste Croix	4.49	267	*e*Pn	Pn

SNR=1.0
MTLF eSn Sn 21 14 25.5 -1.8
3.1nm,0.5s
MTLF Montolieu 5.80 261 ePn Pn 21 13 22.5 +1.0
SNR=1.0
MTLF eSn Sn 21 14 25.5 -1.8
1.5nm,0.5s
TCF Toulx Ste Croi 5.82 291 eSn Sn 21 14 24.8 -3.0
2.0nm,0.3s
TCF Toulx Ste Croi 5.82 291 eSn Sn 21 14 24.8 -3.0
1.0nm,0.3s
NKC Novy Kostel 5.95 15 eSG Sx 21 15 01.6
PRU Pruhonice 6.27 27 ePn Pn 21 13 25.9 -2.0
PRU eSn Sn 21 14 35.4 -3.4
PRU Pruhonice 6.27 27 ePN Pn 21 13 25.9 -2.0
PRU eSN Sn 21 14 35.4 -3.4
PRU eSG Sn 21 15 11.3 +33
MODS Modra-Piesok 6.30 50 ePN Pn 21 13 27.8 -0.6
MODS eSN Sn 21 14 35.8 -3.8
BRG Berggiesshubel 6.88 21 SG Sx 21 15 33.4
9.0nm,1.3s
CLL Collm 7.08 15 eSg Sx 21 15 41.0
DPC Dobruska-Polom 7.21 34 ePN Pn 21 13 39.1 -1.8
DPC eSG Sn 21 15 41.6 +39
UPC Upice 7.22 32 eSG Sx 21 15 41.7

MEX 15 21:17:00.4±0.3,1686N×10036W,h6km±2km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**25**	*e*P	Pg	21 17 04.3	-0.2
CAIG				*i* S	Sg	21 17 07.1	-0.1
ACX	**Acapulco**	**0.42**	**90**	*i* P	Pg	21 17 08.3	-0.2
ACX				*i* S	Sg	21 17 14.1	+0.1
MEIG	**Mezcala**	**1.27**	**34**	*i* P	Pn	21 17 20.9	-3.7
MEIG				*i* S	Sg	21 17 37.1	-4.1
ZIIG	**Zihuatanejo**	**1.29**	**305**	*i* P	Pn	21 17 21.4	-3.5
ZIIG				*i* S	Sb	21 17 36.8	-5.2

*IDC **15** 21:22:01.2±6.9,731S×12944E,h170km±68km,mb3.4/2, mb1 3.4/5,mb1mx3.1/16,mbtmp3.3/5,Error ellipse: s-maj=64.1km s-min=20.0km az=46.0*
*ISCJB **15** 21:22:03.0±1.6,753S±010×12941E±008,h203km±16km, mb3.5/2,Error ellipse: s-maj=18.1km s-min=8.5km az=35.4*
*NEIC **15** 21:22:02.5±1.9,743S×12936E,h183km±22km,mb4.2/4, Error ellipse: s-maj=23.0km s-min=13.6km az=223.0*
ISC 15 21:22:01.6±1.5,740S±010×12947E±008,h169km±13km, n13,σ1§18/21,mb3.6/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.03**	**151**	*e*P	Pn	21 23 30.8	+1.9
KAKA				*e*S	Sn	21 24 36.2	-1.3
BATI	**Baumata**	**6.38**	**244**	P	Pn	21 23 35.5	+1.9
BATI				S	Sn	21 24 45.7	-0.1
FITZ	**Fitzroy Crossi**	**11.27**	**199**	*e*P	Pn	21 24 37.8	-0.2
FITZ				*e*S	Sn	21 26 35.1	-7.9
FITZ	**Fitzroy Crossi**	**11.27**	**199**	P	Pn	21 24 37.7	-0.2
FITZ				S	Sn	21 26 38.7	-4.3
WRAB	**Tennant Creek**	**13.32**	**160**	*e*Pn	Pn	21 25 04.7	+0.4
WRAB				*e*Sn	Sn	21 27 25.8	-6.5
WRA	**Warramunga Arr**	**13.33**	**160**	P	Pn	21 25 04.6	+0.2
WRA				S	Sn	21 27 30.6	-1.8
WB2	**Warramunga Arr**	**13.33**	**160**	*e*P	Pn	21 25 04.4	0.0
WB2				*e*S	Sn	21 27 27.2	-5.3
MBWA	**Marble Bar**	**16.60**	**214**	P	Pn	21 25 43.6	-1.2
ASAR	**Alice Springs**	**16.72**	**166**	P	Pn	21 25 49.4	+3.2
ASAR				S	S	21 28 52.6	+1.0
KSM	**Kuching**	**21.05**	**294**	P	P	21 26 31.7	-1.0
STKA	**Stephens Creek**	**26.85**	**157**	P	P	21 27 27.2	+0.7
STKA	**Stephens Creek**	**26.85**	**157**	*e*P	P	21 27 27.3	+0.8
MKAR	**Makanchi Array**	**68.28**	**327**	P	P	21 32 43.1	-1.1

0.4nm,0.3s,mb3.6,baz=113,slow=6.9,SNR=12
0.5nm,0.3s,baz=332,slow=22,SNR=7.1
0.1nm,0.3s,baz=324,slow=17,SNR=4.1
1.6nm,0.8s,mb3.7,baz=333,slow=11,SNR=3.4
0.4nm,0.3s,mb3.5
comp=Z,6.0nm,1.0s,mb4.4
comp=Z,2.2nm,0.7s,mb4.0,baz=56,slow=8.2,SNR=10.0
comp=Z,2.0nm,0.7s,mb4.0
comp=Z,2.0nm,0.8s,mb3.8
comp=Z,2.2nm,0.8s,mb3.8
comp=Z,1.4nm,0.9s,mb3.7,baz=293,slow=9.8,SNR=8.1
comp=Z,1.9nm,0.8s,mb4.2,baz=55,slow=9.3,SNR=12
comp=Z,1.0nm,0.7s,baz=71,slow=3.3,SNR=5.5
ZAK Zakamensk 48.15 302 *e*P **P** 21 51 54.4 -0.1
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KRAR Krasnoyarsk 50.36 313 *i* P **P** 21 52 11.6 +0.2
KRAR pmax pmax
comp=Z,23nm,1.0s,mb5.2
SPITS Spitsbergen Ar 51.54 356 P **P** 21 52 17.7 -2.3
comp=Z,2.7nm,0.6s,mb4.4,baz=235,slow=6.9,SNR=5.4
ANMO Albuquerque 52.62 78⇑*e*P **P** 21 52 27.9 -0.7
HVS Khovu-Aksy 52.75 308*d* *i*P **P** 21 52 30.2 +0.9
HVS pmax pmax
comp=Z,48nm,1.7s,mb5.2
ZALV Zalesovo Beam 55.32 315 P **P** 21 52 47.5 -0.6
comp=Z,4.4nm,0.3s,mb3.9,baz=48,slow=6.4,SNR=3.3
ZAL Zalesovo 55.34 315 P **P** 21 52 47.5 -0.6
LZH Lanzhou 56.39 288 *e*P **P** 21 52 56.8 +0.8
LZH AP pP 21 53 07.0 +6.7
LZH XP sP 21 53 12.1 +10
LZH AMB AMB
comp=Z,20nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,83nm,4.2s
GTA Gaotai 56.65 293 P **P** 21 52 58.8 +1.0
GTA AP pP 21 53 02.1 0.0
GTA AMB AMB
comp=Z,3.0nm,0.7s,mb4.4
KEV Kevo 58.94 350 *ep* **P** 21 53 13.5 +0.1
ARCES ARCESS Array B 59.31 351 P **P** 21 53 15.2 -0.8
comp=Z,1.9nm,0.6s,mb4.3,baz=31,slow=8.3,SNR=12
KURK Kurchatov 60.31 315⇑*e*P **P** 21 53 22.4 -0.7
KURK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
KURK Kurchatov 60.31 315 *e*P **P** 21 53 22.3 -0.8
comp=Z,2.6nm,0.7s,mb4.4
SCHQ Schefferville 60.44 38 P **P** 21 53 23.6 -0.3
comp=Z,1.9nm,0.8s,mb4.2,baz=302,slow=9.5,SNR=3.1
MK31 Makanchi Array 61.29 310 *e*P **P** 21 53 27.5 -2.3
MKAR Makanchi Array 61.29 310 P **P** 21 53 29.6 -0.3
comp=Z,1.3nm,0.7s,mb4.2,baz=52,slow=6.6,SNR=15
SADO Sadowa 61.94 53 P **P** 21 53 33.3 -0.9
baz=324,slow=8.3
BRVK Borovoye 62.22 321 *e*P **P** 21 53 34.6 -1.4
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
BRVK Borovoye 62.22 321 *e*P **P** 21 53 34.6 -1.4
comp=Z,8.7nm,0.9s,mb4.9
SVE Sverdlovsk 62.92 328 *e*P **P** 21 53 41.9 +1.3
SVE pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
ARU Arti 63.93 329*d* *i*P **P** 21 53 47.6 +0.3
ARU *e* 21 54 17.8
ARU *e*S **S** 22 02 24.0 +1.8
ARU *e*SS SS 22 06 34.5 +4.8
ARU pmax pmax
comp=Z,19nm,1.7s,mb4.8
ARU Arti 63.93 329 *e*P **P** 21 53 47.5 +0.2
comp=Z,6.9nm,0.7s,mb4.8
JOF Joensuu 64.86 346 *ep* **P** 21 53 52.8 -0.4
comp=Z,8.4nm,0.7s,mb4.9
KAF Kangasniemi 66.35 348 *ep* **P** 21 54 02.4 -0.5
comp=Z,7.9nm,0.8s,mb4.8,baz=11,slow=5.7

KAF Kangasniemi 66.35 348 *e*P **P** 21 54 02.4 -0.5
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
TKM2 Tokmak 2 67.38 310 *e*P **P** 21 54 09.6 -0.2
comp=Z,51nm,0.4s
EKS2 Erkin-Say 68.46 311 *e*P **P** 21 54 16.9 +0.4
comp=Z,6.2nm,0.6s,mb4.8
LSA Lhasa 68.50 291 *e*P **P** 21 54 17.9 +0.9
LSA pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
LSA Lhasa 68.50 291 *e*P **P** 21 54 17.9 +0.9
comp=Z,1.3nm,0.6s,mb4.1
NB2 NORSAR Subarra 68.82 355 P **P** 21 54 18.9 +0.4
comp=Z,1.7nm,0.7s,mb4.1,baz=3.8,slow=6.5
NOA NORSAR Array B 68.82 355 P **P** 21 54 18.9 +0.4
comp=Z,3.5nm,0.8s,mb4.3,baz=5.0,slow=6.3,SNR=7.4
OBN Obninsk 71.17 340*d* *i*P **P** 21 54 32.9 -0.1
OBN pmax pmax
comp=Z,30nm,1.2s,mb5.1
CMAR Chiang Mai Arr 71.85 277 P **P** 21 54 37.5 -0.2
comp=Z,1.4nm,0.8s,mb4.0,baz=26,slow=6.1,SNR=8.5
AKASG Malin Array Be 76.83 343 P **P** 21 55 06.1 -0.1
comp=Z,6.5nm,0.7s,mb4.7,baz=18,slow=5.7,SNR=24
AKASG Malin Array Be 76.83 343 P **P** 21 55 06.1 -0.1
KIEV Kiev 76.84 343 *e*P **P** 21 55 05.9 -0.4
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIEV Kiev 76.84 343 *e*P **P** 21 55 05.9 -0.4
comp=Z,8.5nm,0.8s,mb4.7
CLL Collm 78.40 353 *e*P **P** 21 55 15.0 0.0
BRG Berggiesshubel 78.76 353 *e*P **P** 21 55 17.3 +0.4
BRG pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
BRG Berggiesshubel 78.76 353 *e*P **P** 21 55 17.3 +0.3
comp=Z,5.3nm,1.3s,mb4.3
KWP Kalwaria 78.96 347 *e*P **P** 21 55 18.6 +0.5
KWP pmax pmax
comp=Z,21nm,0.9s,mb5.1
KWP Kalwaria 78.96 347 *e*P **P** 21 55 18.6 +0.5
comp=Z,21nm,0.9s,mb5.1
DPC Dobruska-Polom 79.05 351 *e*P **P** 21 55 19.0 +0.4
OKC Ostrava-Krasne 79.36 350 *e*P **P** 21 55 20.4 +0.1
NKC Novy Kostel 79.51 353 *e*P **P** 21 55 21.9 +0.8
PRU Pruhonice 79.58 352 *e*P **P** 21 55 21.5 0.0
KOLS Kolonicke sedl 79.71 347 *e*P **P** 21 55 22.4 +0.2
KOLS pmax pmax
comp=Z,14nm,1.5s,mb4.7
KOLS Kolonicke sedl 79.71 347 *e*P **P** 21 55 22.4 +0.2
comp=Z,14nm,1.5s,mb4.7
KIV Kislovodsk 79.79 332 *e*P **P** 21 55 20.6 -2.1
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CRVS Cervenica-Dubn 79.86 347 *e*P **P** 21 55 23.8 +0.8
CRVS Cervenica-Dubn 79.86 347 *e*P **P** 21 55 23.9 +0.9
BAIF Baives 80.04 359 *e*P **P** 21 55 23.8 -0.2
comp=Z,22nm,1.1s,mb4.7
BAIF Baives 80.04 359 *e*P **P** 21 55 23.8 -0.2
BAIF pmax pmax
comp=Z,11nm,1.1s,mb4.7
BAIF Baives 80.04 359 *e*P **P** 21 55 23.8 -0.2
comp=Z,11nm,1.1s,mb4.7
KECS Kecovo 80.40 348 *i* P **P** 21 55 26.8 +0.9
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 80.40 348 *i* P **P** 21 55 26.8 +0.9
comp=Z,2.4nm,0.9s,mb4.1
KHC Kasperske Hory 80.52 353⇑*i*P **P** 21 55 27.5 +1.0
KHC Kasperske Hory 80.52 353 *e*P **P** 21 55 27.0 +0.5
ANN Anapa 80.52 335 *e*P **P** 21 55 22.5 -4.1
ANN *e*S S 22 05 25.5 -7.1
ANN pmax pmax
comp=Z,42nm,1.4s,mb5.2
GERES GERESS Array B 80.79 352 P **P** 21 55 28.7 +0.7
comp=Z,0.7nm,0.7s,mb3.7,baz=45,slow=2.1,SNR=7.2
MODS Modra-Piesok 80.90 350 *e*P **P** 21 55 27.6 -1.0
WRAB Tennant Creek 81.70 225 *e*P **P** 21 55 32.1 -1.0
WRAB pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
WRAB Tennant Creek 81.70 225 *e*P **P** 21 55 32.1 -1.0
comp=Z,3.0nm,0.9s,mb4.2
WB2 Warramunga Arr 81.71 225 P **P** 21 55 32.6 -0.5
WRA Warramunga Arr 81.72 225 P **P** 21 55 32.4 -0.8
comp=Z,0.4nm,0.7s,mb3.5,baz=38,slow=6.4,SNR=5.4
SMF Signal de Mont 83.47 359 *e*P **P** 21 55 42.0 -0.1
FITZ Fitzroy Crossi 84.35 233 *e*P **P** 21 55 46.9 +0.1
comp=Z,39nm,1.4s,mb5.3
ASAR Alice Springs 85.16 223 P **P** 21 55 50.1 -0.6
comp=Z,0.7nm,0.7s,mb3.9,baz=31,slow=6.2,SNR=7.3
MBDF Montbardon 85.31 357 *e*P **P** 21 55 51.6 +0.1
comp=Z,6.1nm,0.8s,mb4.5
MBDF Montbardon 85.31 357 *e*P **P** 21 55 51.6 +0.1
MBDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
MBDF Montbardon 85.31 357 *e*P **P** 21 55 51.6 +0.1
comp=Z,3.0nm,0.8s,mb4.5
STKA Stephens Creek 89.38 214 P **P** 21 56 11.6 +0.6
comp=Z,4.3nm,0.7s,mb4.9,baz=327,slow=6.8,SNR=6.7
KEST Kesra 94.15 354 LR LR 22 41 39.7
comp=Z,838nm,19.0s,MS5.2,baz=21,slow=37
TORD Torodi Ar. Bea 116.86 1 PKP PKPdf 22 01 57.0 -2.6
comp=Z,0.3nm,0.8s,baz=334,slow=2.3,SNR=2.9
MAW Mawson 146.02 217 PKPbc PKPbc 22 02 52.2 -0.9
comp=Z,2.7nm,0.7s,baz=100,slow=6.1,SNR=5.9
BOSA Boshof 152.26 313 PKPbc PKPbc 22 03 09.9 -0.4
comp=Z,3.4nm,0.6s,baz=46,slow=7.8,SNR=13

*CSEM **15** 21:57:24.8,3344N×6010E,h2km,ML3.6,After TEH*
*TEH **15** 21:57:24.8,3344N×6010E,h2km,ML3.6*
*ISCJB **15** 21:58:10.8±0.9,3343N±005×5997E±007,h12km±9km, Error ellipse: s-maj=12.0km s-min=5.9km az=34.8*
ISC 15 21:58:11.4±1.1,3344N±005×6003E±008,h5km±10km,n30, σ0§81/43,1C,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDAH	**Dahanechah**	**0.71**	**191**	*e*Pg	Pg	21 58 24.6	-0.4
IDAH				*e*Sg	Sg	21 58 33.9	-0.4
IDAH	**Dahanechah**	**0.71**	**191**	*e*Pg	Pg	21 58 24.6	-0.4
IDAH				*e*Sg	Sg	21 58 33.9	-0.4
IDAH				*e*		21 58 37.1	
ITEG	**Tejag**	**1.20**	**244**⇑	*e*Pg	Pg	21 58 33.2	-1.2
ITEG				*e*		21 58 34.6	
ITEG				*e*Sg	Sg	21 58 50.0	+0.1
IKOO	**Kooshah**	**1.33**	**221**	*e*Pg	Pg	21 58 35.8	-1.0
IKOO				*e*		21 58 37.6	
IKOO				*e*Sg	Sg	21 58 54.7	+0.7
IMOG	**Moghan**	**2.72**	**348**	*e*Pn	Pn	21 58 55.8	+0.1
IMOG				*e*		21 59 48.3	
IMYA	**Miami**	**2.90**	**1**	*e*Pn	Pn	21 58 57.7	-0.4
IMYA				*e*Sn	Sn	21 59 32.9	-0.4
IMYA	**Miami**	**2.90**	**1**	*e*Pn	Pn	21 58 57.7	-0.4
IMYA				*e*Sn	Sn	21 59 32.9	-0.4
IMYA				*e*		21 59 54.8	
MHI	**Mashad**	**2.90**	**351**	*e*Pn	Pn	21 58 58.6	+0.5
MHI				*e*Sn	Sn	21 59 33.7	+0.3
IPAY	**Payeh**	**3.12**	**345**	*e*Pn	Pn	21 59 01.7	+0.5
IPAY				*e*Sn	Sn	21 59 38.3	-0.5
IPAY	**Payeh**	**3.12**	**345**	*e*Pn	Pn	21 59 01.7	+0.5
IPAY				*e*Sn	Sn	21 59 38.3	-0.5
IPAY				*e*		21 59 41.8	
IAKL	**Akhelmad**	**3.32**	**342**	*e*Pn	Pn	21 59 04.4	+0.4
IKRD	**Kardeh**	**3.55**	**340**	*e*Pn	Pn	21 59 04.1	-3.0
IKRD				*e*Sn	Sn	21 59 44.0	-5.5
IKRD				*e*		22 00 07.6	
ISFR	**Sfrayin**	**3.97**	**336**	*e*Pn	Pn	21 59 13.0	+0.1
ISFR				*e*		22 00 11.7	
IEMG	**Emamgholi**	**4.12**	**345**	*e*Pn	Pn	21 59 14.9	-0.1
IEMG				*e*		21 59 21.8	
IEMG				*e*Sn	Sn	22 00 01.8	-1.7
IBAF	**Bafgh**	**4.19**	**245**	*e*Pn	Pn	21 59 16.1	+0.2
IBAF				*e*		21 59 30.9	
IBAF				*e*Sn	Sn	22 00 04.6	-0.7
ICHK	**Chekchek**	**4.88**	**257**	*e*Pn	Pn	21 59 25.1	-0.2
ICHK				*e*		21 59 50.2	
IMEH	**Mehriz**	**5.01**	**247**	*e*Pn	Pn	21 59 27.7	+0.5
IMEH				*e*		22 01 07.1	
IANJ	**Anjilo**	**5.44**	**294**	*e*Pn	Pn	21 59 33.4	+0.3
IANJ				*e*		22 01 18.0	
IKIA	**Kiasar**	**5.90**	**300**	*e*Pn	Pn	21 59 39.8	+0.4
IGLO	**Ghaloghah**	**5.93**	**303**	*e*Pn	Pn	21 59 41.1	+1.3
IGLO				*e*		21 59 47.7	
ISHM	**Shahmirzad**	**6.03**	**295**	*e*Pn	Pn	21 59 41.7	+0.5
ISHM				*e*		21 59 48.5	

ILAS	**Lasjerd**	**6.15 290**	*e*Pn	**Pn**	**21 59 42.7**	**-0.2**
ILAS			*e*		22 01 54.2	
IFIR	**Firoozkooh**	**6.39 292**	*e*Pn	**Pn**	**21 59 46.2**	**+0.1**
IFIR			*e*		21 59 48.0	
IZEF	**Zefreh**	**6.48 267**	*e*Pn	**Pn**	**21 59 47.1**	**-0.2**
IZEF			*e*		22 00 22.6	
IPRN	**Peran**	**6.91 296**	*e*Pn	**Pn**	**21 59 54.1**	**+0.8**
IPRN			*e*		21 59 55.9	
IDMV	**Damavand**	**6.93 290**	*e*Pn	**Pn**	**21 59 54.1**	**+0.5**
IDMV			*e*		22 00 00.3	
IDMV			*e*Sn	**Sn**	**22 01 10.1**	**-2.7**
IKLH	**Kolahrood**	**7.07 271**	*e*Pn	**Pn**	**21 59 56.0**	**+0.6**
IKLH			*e*		22 00 14.6	
IAFJ	**Afjeh**	**7.26 292**	*e*Pn	**Pn**	**21 59 59.6**	**+1.5**
IPIR	**Pirpir**	**7.70 267**	*e*Pn	**Pn**	**22 00 10.6**	**+6.4**
IPIR			*e*		22 00 46.8	
IRAZ	**Razeghan**	**8.57 286**	*e*Pn	**Pn**	**22 00 17.0**	**+1.0**
IRAZ			*e*		22 00 57.8	

NEIC 15 22:04:16.3±1.4, 51.41N×175.02W, h10km, mb3.8/4, Error ellipse: s-maj=35.9km s-min=10.4km az=162.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**3.55**	**272**	P	Pn	22 05 11.4	0.0
AMKA				*e*Sn	Sn	22 05 48.9	-4.6
UNV	**Unalaska Valle**	**5.74**	**61**	Pn	Pn	22 05 40.8	-0.6
UNV				*e*Sn	Sn	22 06 48.8	+1.6
PPLA	**Purkeypile**	**16.79**	**38**	*e*Pn	Pn	22 08 11.6	+0.3
	5.1nm,0.9s						
RC01	**Rabbit Creek A**	**16.96**	**45**	Pn	Pn	22 08 13.4	+0.1
KTH	**Kantishna Hill**	**17.63**	**37**	*e*Pn	Pn	22 08 22.9	+1.2
	17nm,1.5s						
COLA	**College**	**19.47**	**36**	P	Pn	22 08 41.9	-2.1
COLD	**Coldfoot**	**20.06**	**28**	*e*P	P	22 08 49.0	-0.3
	4.2nm,1.0s						
SIT	**Sitka**	**23.62**	**61**	*e*P	P	22 09 27.9	+0.6
	11nm,1.3s						
INK	**Inuvik**	**26.10**	**34**	*e*P	P	22 09 44.3	-5.4
DLBC	**Dease Lake**	**26.37**	**57**	P	P	22 09 52.5	+0.3

MAN 15 22:30:23, 1483N×12020E, h34km, mb3.9, ML2.7, MS2.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.98**	**344**	*e*P	Pn	22 30 41.7	+1.3
SCZP				*e*S	Sn	22 30 55.2	+2.0
LUBP	**Lubang**	**1.09**	**178**	*e*P	Pn	22 30 46.4	+4.6
PCPH	**Palayan**	**1.14**	**50**	⇓*e*P	Pn	22 30 42.7	+0.2
PCPH				*e*S	Sn	22 30 58.0	+1.1
BOLP	**Bolinao**	**1.57**	**350**	*e*P	Pn	22 30 49.2	+0.7
BOLP				*e*S	Sn	22 31 09.3	+1.7
BALP	**Baler**	**1.61**	**55**	*e*P	Pn	22 30 51.0	+1.9
APYP	**Conner**	**3.18**	**18**	*e*P	Sn	22 31 48.2	+0.8
ENPP	**El Nido**	**3.67**	**192**	*e*P	Pn	22 31 19.8	+2.3

IDC ***15*** *22:41:09.4±1.7, 3538N×14082E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/24, mbtmp3.7/9, ML3.4/3, Error ellipse: s-maj=48.0km s-min=18.2km az=74.0*
NEIC ***15*** *22:41:10.7±0.5, 3593N×14183E, h35km, mb4.4/5, Error ellipse: s-maj=10.9km s-min=8.6km az=79.0*
NEIC Recorded [2 JMA] in Chiba Prefecture.
ISCJB ***15*** *22:41:13.2±0.5, 3535N±003×14060E±006, h38km±4km, mb3.8/9, Error ellipse: s-maj=8.3km s-min=5.1km az=167.5*
JMA ***15*** *22:41:13.7±0.1, 3539N×14055E, h28km±2km, M4.0 Broadband fault plane solution: P waves. NP1: ϕ_s=284.00000°, δ28.00000°, λ102.00000°. NP2: ϕ_s=90.00000°, δ62.00000°, λ83.00000°. Principal axes: T Plg72.0000°, Azm345.0000°; N Plg6.0000°, Azm93.0000°; P Plg17.0000°, Azm185.0000°;*
JMA Felt II J1.

ISC 15 22:41:13.7±0.5, 3537N±003×14060E±005, h28km±3km, n34, σ1°04/42, mb3.8/9, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.32**	**227**	⇑P	**Pb**	**22 41 20.8**	**-0.5**
KTR				S	**Sb**	**22 41 26.2**	**-0.2**
JCN	**Nagara**	**0.33**	**279**	⇓P	**Pb**	**22 41 21.2**	**-0.2**
JCN				S	**Sb**	**22 41 27.2**	**+0.5**
CHOJ	**Chosi**	**0.39**	**32**	⇓P	**Pb**	**22 41 22.4**	**0.0**
CHOJ				S	**Sb**	**22 41 29.0**	**+0.7**
BSO4	**Boso 4**	**0.43**	**210**	P	**Pb**	**22 41 23.4**	**+0.4**
BSO3	**Boso 3**	**0.57**	**188**	⇓P	**Pb**	**22 41 25.5**	**+0.3**
BSO1	**Boso 1**	**0.78**	**157**	⇓P	**Pb**	**22 41 28.0**	**-0.6**
BSO1				S	**Sb**	**22 41 40.0**	**+1.2**
JYT	**Yasato**	**0.92**	**339**	⇓P	**Pn**	**22 41 29.6**	**-1.3**
JYT				S	**Sb**	**22 41 41.5**	**-1.5**
JIM2	**Oshima 3**	**1.16**	**236**	⇓P	**Pn**	**22 41 32.4**	**-1.7**
MJAR	**Matsushiro Arr**	**2.27**	**302**	Pn	**Pn**	**22 41 50.2**	**+0.8**
	6.4nm,0.3s,baz=144,slow=13,SNR=70						
MAJO	**Matsushiro**	**2.27**	**302**	*e*Pn	**Pn**	**22 41 51.3**	**+1.9**
MAJO				*e*Sn	**Sn**	**22 42 25.2**	**+8.7**
MAT	**Matsushiro**	**2.27**	**302**	P	**Pn**	**22 41 49.8**	**+0.4**
MAT				S	**Sn**	**22 42 17.5**	**+1.0**
JHJ	**Hachijo jima 2**	**2.34**	**197**	Pn	**Pn**	**22 41 49.8**	**-0.7**
	31nm,0.3s,baz=100,slow=23,SNR=31						
JHJ				Sn	**Sn**	**22 42 15.6**	**-2.7**
	28nm,0.3s,baz=241,slow=22,SNR=4.8						
ASAJ	**Asahikawa**	**8.87**	**9**	Pn	**Pn**	**22 43 18.1**	**-1.9**
	0.4nm,0.3s,baz=222,slow=14,SNR=2.6						
INCN	**Inchon**	**11.45**	**285**	Pn	**Pn**	**22 44 03.2**	**+7.8**
TATO	**Taipei**	**19.47**	**243**	*e*P	**Pn**	**22 45 47.4**	**+7.7**
	9.3nm,0.4s						
HIA	**Hailar**	**20.66**	**319**	P	**P**	**22 45 49.3**	**-1.9**
ENH	**Enshi**	**26.58**	**268**	*e*P	**P**	**22 46 53.9**	**+4.3**
SONM	**Songino Array**	**28.21**	**307**	P	**P**	**22 47 03.8**	**-0.2**
	0.4nm,0.6s,mb3.2,baz=107,slow=5.0,SNR=3.0						
DAV	**Davao City (W)**	**31.36**	**210**	P	**P**	**22 47 37.4**	**+5.3**
ZALV	**Zalesovo Beam**	**42.57**	**314**	P	**P**	**22 49 07.3**	**+0.4**
	0.7nm,0.3s,mb3.8,baz=108,slow=8.0,SNR=4.3						
MKAR	**Makanchi Array**	**44.47**	**303**	P	**P**	**22 49 23.4**	**+1.1**
	0.7nm,0.7s,mb3.5,baz=80,slow=8.8,SNR=5.1						
KURK	**Kurchatov**	**46.46**	**309**	*e*P	**P**	**22 49 37.9**	**-0.1**
	2.3nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**51.22**	**313**	P	**P**	**22 50 16.4**	**+1.9**
	0.3nm,0.5s,mb3.5,baz=105,slow=9.1,SNR=2.5						
EKS2	**Erkin-Say**	**51.22**	**300**	P	**P**	**22 50 14.7**	**0.0**
BRVK	**Borovoye**	**51.28**	**313**	P	**P**	**22 50 12.8**	**-2.2**
AML	**Almayashu**	**51.42**	**299**	*e*P	**P**	**22 50 16.8**	**+0.6**
	1.8nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**55.31**	**187**	*e*P	**P**	**22 50 44.4**	**-0.5**
	1.9nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**55.32**	**187**	*e*P	**P**	**22 50 45.0**	**+0.1**
WRA	**Warramunga Arr**	**55.32**	**187**	P	**P**	**22 50 44.8**	**-0.2**
	1.5nm,0.6s,mb4.2,baz=3.9,slow=7.5,SNR=11						
CTAO	**Charters Tower**	**55.41**	**174**	P	**P**	**22 50 46.4**	**+0.8**
INK	**Inuvik**	**56.17**	**27**	P	**P**	**22 50 40.7**	**-10**
KBL	**Kabul**	**57.41**	**292**	P	**P**	**22 51 01.2**	**+1.4**
ASAR	**Alice Springs**	**59.05**	**187**	P	**P**	**22 51 11.8**	**+0.6**
	0.5nm,0.7s,mb3.6,baz=16,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**66.89**	**179**	*e*P	**P**	**22 52 03.6**	**+0.4**

ISCJB ***15*** *22:43:35.3±0.4, 2995S±002×7104W±008, h93km±3km, mb4.1/6, Error ellipse: s-maj=12.0km s-min=3.2km az=3.5*
NEIC ***15*** *22:43:35.9, 2995S×71.12W, h85km, mb4.2/3, After GUC.*
GUC ***15*** *22:43:35.9±0.9, 2995S×71.12W, h85km±3km, ML4.6*
IDC ***15*** *22:43:37.3±1.1, 3000S×7077W, h83km±7km, mb4.1/4, mb1 3.9/8, mb1mx3.7/20, mbtmp3.9/8, MS3.9/1, Ms1 3.9/1, ms1mx3.2/28, Error ellipse: s-maj=33.9km s-min=20.2km az=118.0*

ISC 15 22:43:36.2±0.4, 2993S±002×7114W±009, h86km±3km, h83km±2.0km: pP-P, n49, σ0°71/76, mb4.1/6, 12C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.09**	**284**	*e*P	**Pn**	**22 43 48.3**	**-0.1**
LSCH				*i* S	**Sn**	**22 43 57.0**	**-0.5**
TLL	**Tololo Astrono**	**0.38**	**129**	⇓*i*P	**Pn**	**22 43 50.3**	**+0.6**
TLL				*i* S	**Sn**	**22 44 00.3**	**+0.7**
TLL				AML	AML	22 44 02.5	
	comp=E,25μm,0.4s						
TLL	**Tololo Astrono**	**0.38**	**129**	⇓*i*P	**Pn**	**22 43 50.3**	**+0.6**
TLL				*i* S	**Sn**	**22 44 00.3**	**+0.7**
OVCH	**Ovalle**	**0.68**	**184**	⇑*i*P	**Pn**	**22 43 52.0**	**-0.2**
OVCH				*i* S	**Sn**	**22 44 04.0**	**0.0**
LCO	**Las Campanas**	**0.99**	**23**	*e*P	**Pn**	**22 43 55.8**	**+0.2**
LCO				*e*S	**Sn**	**22 44 10.7**	**+0.6**
VACH	**Vallenar**	**1.39**	**14**	⇑*i*P	**Pn**	**22 44 00.7**	**+0.2**
VACH				*i* S	**Sn**	**22 44 19.1**	**+0.4**
VACH				AML	AML	22 44 20.6	
	comp=E,15μm,0.4s						
VACH	**Vallenar**	**1.39**	**14**	⇑*i*P	**Pn**	**22 44 00.7**	**+0.2**
VACH				*i* S	**Sn**	**22 44 19.1**	**+0.4**
CHNG	**Los Chungos**	**1.97**	**189**	⇑*i*P	**Pn**	**22 44 07.5**	**-0.4**
CHNG				*i* S	**Sn**	**22 44 31.9**	**-0.1**
CHNG				AML	AML	22 44 36.7	
	comp=E,3μm,0.7s						
CPCH	**Copiapo**	**2.66**	**15**	⇑*i*P	**Pn**	**22 44 16.1**	**-1.0**
CPCH				*i* S	**Sn**	**22 44 47.5**	**-0.9**
CPCH				AML	AML	22 44 54.9	
	comp=E,5μm,0.0s						
CPCH	**Copiapo**	**2.66**	**15**	⇑*i*P	**Pn**	**22 44 16.1**	**-1.0**
CPCH				*i* S	**Sn**	**22 44 47.5**	**-0.9**
JACH	**Jahuel**	**2.78**	**170**	*e*P	**Pn**	**22 44 19.3**	**+0.6**
JACH				*i* S	**Sn**	**22 44 51.6**	**+0.2**
CFAA	**Coronel Fontan**	**3.00**	**124**	P	**Pn**	**22 44 22.4**	**+0.7**
	comp=E,1.5nm,0.3s,baz=313,slow=13,SNR=221						
CFAA				S	**Sn**	**22 44 48.1**	**-8.7**
	comp=E,11nm,0.3s,baz=304,slow=13,SNR=51						
ROCH	**El Roble**	**3.03**	**178**	⇑*i*P	**Pn**	**22 44 22.1**	**0.0**
ROCH				*i* S	**Sn**	**22 44 57.6**	**+0.2**
PEL	**Peldehue**	**3.23**	**173**	⇑*i*P	**Pn**	**22 44 25.1**	**+0.4**
PEL				*i* S	**Sn**	**22 45 01.4**	**-0.7**
PEL				AML	AML	22 45 20.4	
	comp=E,2μm,0.7s						
FCH	**Farellones**	**3.46**	**168**	⇑*i*P	**Pn**	**22 44 28.2**	**+0.3**
FCH				*i* S	**Sn**	**22 45 08.8**	**+1.0**
FCH				AML	AML	22 45 15.8	
	comp=N,642nm,0.5s						
DSCH	**Colegio Aleman**	**3.49**	**172**	*e*P	**Pn**	**22 44 28.6**	**+0.3**
DSCH				*i* S	**Sn**	**22 45 08.4**	**-0.1**
DSCH				AML	AML	22 45 10.0	
	comp=E,454nm,0.6s						
DSCH	**Colegio Aleman**	**3.49**	**172**	*e*P	**Pn**	**22 44 28.6**	**+0.3**
DSCH				*i* S	**Sn**	**22 45 08.4**	**-0.1**
SAN	**Santiago**	**3.54**	**173**	*e*P	**Pn**	**22 44 29.4**	**+0.5**
SAN				*i* S	**Sn**	**22 45 09.4**	**-0.2**
SAN				AML	AML	22 45 30.1	
	comp=E,1μm,0.3s						
SAN	**Santiago**	**3.54**	**173**	*e*P	**Pn**	**22 44 29.4**	**+0.5**
SAN				*i* S	**Sn**	**22 45 09.4**	**-0.2**
LCCH	**Las Cruces**	**3.55**	**186**	⇓*i*P	**Pn**	**22 44 28.4**	**-0.7**
RCDM	**Rinconada Maip**	**3.56**	**175**	⇑*i*P	**Pn**	**22 44 29.0**	**-0.2**
RCDM				*i* S	**Sn**	**22 45 10.1**	**-0.1**
RCDM				AML	AML	22 45 12.2	
	comp=E,2μm,0.1s						
RCDM	**Rinconada Maip**	**3.56**	**175**	⇑*i*P	**Pn**	**22 44 29.0**	**-0.2**
RCDM				*i* S	**Sn**	**22 45 10.1**	**-0.1**
ANTU	**Antumapu**	**3.65**	**173**	*e*P	**Pn**	**22 44 30.4**	**0.0**
ANTU				*i* S	**Sn**	**22 45 12.2**	**-0.2**
TACH	**Talagante**	**3.71**	**177**	⇓*i*P	**Pn**	**22 44 31.2**	**-0.1**
TACH				*i* S	**Sn**	**22 45 13.1**	**-0.8**
PCH	**Pirque**	**3.72**	**172**	*e*P	**Pn**	**22 44 31.7**	**+0.4**
PCH				*i* S	**Sn**	**22 45 13.9**	**-0.1**
LMEL	**Las Melosas**	**3.99**	**169**	*e*P	**Pn**	**22 44 36.0**	**+1.0**
LMEL				*i* S	**Sn**	**22 45 21.0**	**+0.4**
CHCH	**Chadas Angostu**	**4.01**	**174**	⇓*i*P	**Pn**	**22 44 35.2**	**-0.1**
CICH	**Cipreses**	**4.42**	**172**	⇓*i*P	**Pn**	**22 44 41.2**	**+0.3**
CICH				*i* S	**Sn**	**22 45 31.0**	**-0.1**
NICH	**Los Niches**	**5.06**	**181**	⇑*i*P	**Pn**	**22 44 49.4**	**-0.2**
LVC	**Limon Verde**	**7.56**	**16**	P	**Pn**	**22 45 21.1**	**-2.6**
	comp=E,0.6nm,0.3s,baz=190,slow=12,SNR=10						
LVC				S	**Sn**	**22 46 43.3**	**-4.6**
	comp=E,2.6nm,0.3s,baz=156,slow=22,SNR=2.1						
LVC				LR	LR	22 47 59.6	
	comp=E,751nm,18.5s,baz=138,slow=35						
PLCA	**Paso Flores**	**10.79**	**178**	P	**Pn**	**22 46 06.2**	**-1.4**
	comp=E,0.3nm,0.3s,baz=343,slow=14,SNR=8.6						
TRQA	**Tornquist**	**11.11**	**139**	*e*Pn	**Pn**	**22 46 10.6**	**-1.4**
	comp=E,14nm,0.6s						
TRQA				Sn	**Sn**	**22 48 10.5**	**-3.8**
CPUP	**Villa Florida**	**12.71**	**77**	P	**Pn**	**22 46 29.6**	**-4.1**
	comp=E,0.2nm,0.3s,baz=177,slow=17,SNR=1.9						
CPUP				S	**Sn**	**22 48 47.5**	**-5.8**
	comp=E,0.4nm,0.3s,baz=173,slow=14,SNR=2.8						
CPUP	**Villa Florida**	**12.71**	**77**	P	**Pn**	**22 46 29.6**	**-4.1**
CPUP				S	**Sn**	**22 48 47.5**	**-5.8**
LPAZ	**La Paz**	**13.86**	**12**	P	**Pn**	**22 46 50.6**	**+1.7**
	comp=E,0.2nm,0.3s,baz=181,slow=8.1,SNR=19						
SIV	**San Ignacio**	**16.67**	**36**	P	**Pn**	**22 47 25.7**	**+1.2**
	comp=E,0.4nm,0.3s,baz=223,slow=12,SNR=65						
BDFB	**Brasilia**	**25.56**	**61**	P	**P**	**22 48 56.8**	**-0.4**
	comp=E,5.6nm,0.6s,mb4.2,baz=233,slow=15,SNR=16						
OTAV	**Otavalo**	**30.80**	**346**	*e*P	**P**	**22 49 43.3**	**-0.5**
	comp=E,1.0nm,0.4s,mb3.9						
PMSA	**Palmer Station**	**35.15**	**175**	P	**P**	**22 50 22.8**	**+1.6**
	comp=E,2.4nm,0.8s,mb4.1,baz=345,slow=22,SNR=4.2						
PMSA	**Palmer Station**	**35.15**	**175**	*e*P	**P**	**22 50 22.5**	**+1.3**
	comp=E,3.0nm,0.9s,mb4.1						
SDV	**Santo Domingo**	**38.59**	**1**	*e*P	**P**	**22 50 50.5**	**-0.5**
	comp=E,4.2nm,1.1s,mb4.2						
VNA2	**Neumayer--Watz**	**53.48**	**158**	*e*	**P**	**22 52 47.8**	**+0.6**
VNA2				*e*		22 52 51.8	
VNA2				*e*	pP	22 53 07.9	-0.6
SNAA	**Sanae**	**55.08**	**159**	*e*	**P**	**22 52 59.4**	**+0.7**
SNAA				*e*		22 53 03.6	
SNAA				*e*	pP	22 53 19.4	-0.7
DBIC	**Dimbokro**	**73.17**	**72**	P	**P**	**22 54 57.9**	**-0.1**
	comp=E,3.6nm,0.7s,mb4.3,baz=208,slow=7.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	**82.11**	**70**	P	**P**	**22 55 47.5**	**-0.2**
	comp=E,3.0nm,0.8s,mb4.2,baz=274,slow=5.2,SNR=32						
TORD				pP	pP	22 56 10.2	-0.3
	comp=E,0.6nm,0.6s,baz=266,slow=4.9,SNR=2.0						
TORD	**Torodi Ar. Bea**	**82.11**	**70**	P	**P**	**22 55 47.5**	**-0.2**
TORD				pP	pP	22 56 10.2	-0.3
ZALV	**Zalesovo Beam**	**150.35**	**29**	PKPbc	PKPbc	23 03 17.9	+0.9
	comp=E,11nm,0.7s,baz=252,slow=2.2,SNR=38						
ZALV				pPKPbc	pPKPbc	23 03 41.1	+0.1
	comp=E,2.3nm,0.6s,baz=250,slow=2.1,SNR=2.9						
MKAR	**Makanchi Array**	**153.40**	**43**	PKPbc	PKPbc	23 03 24.2	+0.1
	comp=E,0.9nm,0.7s,baz=4.6,slow=2.0,SNR=8.2						
MKAR				PKPab	PKPab	23 03 37.7	+1.0
	comp=E,1.1nm,0.7s,baz=290,slow=3.6,SNR=6.4						
MKAR				pPKPbc	pPKPbc	23 03 48.5	+0.2
	comp=E,0.3nm,0.5s,baz=43,slow=5.1,SNR=2.0						
MKAR	**Makanchi Array**	**153.40**	**43**	PKPbc	PKPbc	23 03 24.2	+0.1
MKAR				PKPab	PKPab	23 03 37.7	+1.0
MKAR				pPKPbc	pPKPbc	23 03 48.5	+0.2

ISCJB ***15*** *22:47:37.8±0.2, 4267N±001×421W±002, h10km, Error ellipse: s-maj=2.2km s-min=1.4km az=147.3*
NEIC ***15*** *22:47:40.9, 4274N×422W, h3km, ML3.7(LDG), MN3.2(MDD), After MDD.*
NEIC Felt [II] at Aguilar de Campo.
CSEM ***15*** *22:47:41.3±0.0, 4275N×4.19W, h10km, ML3.6/63, Error ellipse: s-maj=1.2km s-min=0.7km az=147.0*
MDD ***15*** *22:47:41.4±0.2, 4277N×422W, h10km, mbLg3.3/28, Error ellipse: s-maj=3.3km s-min=2.0km az=165.0, PRIMO*
MDD EMS: III INTENSIDAD MIMA.
LDG ***15*** *22:47:41.3±0.1, 4279N×424W, h5km, Ml3.7/26, Error ellipse: s-maj=2.2km s-min=1.6km az=138.0*
INMG ***15*** *22:47:41.0±1.3, 4276N×423W, h5km±2km, ML3.3, Error ellipse: s-maj=1.6km s-min=1.3km az=154.0*
STR ***15*** *22:47:48.0±0.9, 4246N×346W, h5km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 15 22:47:39.4±0.3, 4272N±001×420W±002, h7km±2km, n213, σ1°14/403, 1C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELAN	**Lanestosa**	**0.76**	**47**	⇑Pg	**Pg**	**22 47 54.1**	**0.0**
	62nm,0.1s,SNR=18						
ELAN				Lg		22 48 04.6	
	757nm,0.3s,SNR=18						
ELAN	**Lanestosa**	**0.76**	**47**	Pg	**Pg**	**22 47 54.1**	**0.0**
	62nm,0.1s,SNR=18						
EARI	**Arriondas**	**0.94**	**309**	⇓Pg	**Pg**	**22 47 57.9**	**+0.4**
	51nm,0.2s,SNR=18						
EARI				Lg		22 48 11.5	
	38nm,0.1s						
EARI	**Arriondas**	**0.94**	**309**	Pg	**Pg**	**22 47 57.9**	**+0.4**
	51nm,0.2s,SNR=18						
EARA	**Aranguren**	**1.93**	**87**	Pn	**Pn**	**22 48 13.8**	**+1.2**
	0.7nm,0.1s,SNR=21						
EARA				Pg	**Pg**	**22 48 15.6**	**-0.8**
	48nm,0.3s,SNR=7.9						
EARA				Sn	**Sn**	**22 48 38.6**	**+1.4**
	8.1nm,0.1s,SNR=6.9						
IUSE	**Utxeti**	**1.97**	**82**	Pn	**Pn**	**22 48 14.7**	**+1.5**
	1.7nm,0.1s,SNR=15						
IUSE				Pg	**Pg**	**22 48 16.8**	**-0.3**
	30nm,0.3s,SNR=7.9						
IUSE				Sn	**Sn**	**22 48 38.3**	**+0.3**
	7.7nm,0.2s,SNR=9.1						
IUSE				Lg		22 48 44.8	
	48nm,0.4s,SNR=7.9						
IUSE	**Utxeti**	**1.97**	**82**	Pn	**Pn**	**22 48 14.7**	**+1.6**
	1.7nm,0.1s,SNR=15						
IUSE	**Utxeti**	**1.97**	**82**	Pg	**Pg**	**22 48 16.8**	**-0.3**
	30nm,0.3s,SNR=7.9						
IUSE				Sn	**Sn**	**22 48 38.3**	**+0.3**
	7.7nm,0.2s,SNR=9.1						
IUNC	**Unciti**	**1.99**	**88**	Pn	**Pn**	**22 48 14.4**	**+0.9**
	4.2nm,0.1s,SNR=30						
IUNC				Pg	**Pg**	**22 48 19.0**	**+1.4**
	35nm,0.3s,SNR=7.9						
IUNC				Sn	**Sn**	**22 48 39.4**	**+0.7**
	49nm,0.3s,SNR=7.4						
IUNC	**Unciti**	**1.99**	**88**	Pn	**Pn**	**22 48 14.4**	**+0.9**
	4.2nm,0.1s,SNR=30						
IUNC	**Unciti**	**1.99**	**88**	Pg	**Pg**	**22 48 19.0**	**+1.4**
	35nm,0.3s,SNR=7.9						
IUNC				Sn	**Sn**	**22 48 39.4**	**+0.7**
	49nm,0.3s,SNR=7.4						
ELIZ	**Elizondo**	**2.01**	**76**	Pn	**Pn**	**22 48 15.2**	**+1.4**
	3.9nm,0.2s,SNR=48						
ELIZ				Pg	**Pg**	**22 48 17.8**	**-0.2**
	11nm,0.2s,SNR=7.9						
ELIZ				Sn	**Sn**	**22 48 39.9**	**+0.7**
	18nm,0.2s,SNR=5.0						
ELIZ				Lg		22 48 43.6	
	86nm,0.6s,SNR=7.9						
ELIZ	**Elizondo**	**2.01**	**76**	Pg	**Pg**	**22 48 17.8**	**-0.2**
	11nm,0.2s,SNR=7.9						
ELIZ				Sn	**Sn**	**22 48 39.9**	**+0.7**
	18nm,0.2s,SNR=5.0						
ECAL	**Calabor**	**2.03**	**248**	Pn	**Pn**	**22 48 14.5**	**+0.5**
	15nm,0.2s,SNR=29						
ECAL				Pg	**Pg**	**22 48 19.1**	**+0.7**
	109nm,0.4s,SNR=7.9						
ECAL				Sn	**Sn**	**22 48 40.3**	**+0.6**
	45nm,0.2s,SNR=11						
ECAL				Lg		22 48 45.7	
	270nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**2.03**	**248**	Pn	**Pn**	**22 48 14.5**	**+0.5**
	15nm,0.2s,SNR=29						
ECAL	**Calabor**	**2.03**	**248**	Pg	**Pg**	**22 48 19.1**	**+0.7**
	109nm,0.4s,SNR=7.9						
ECAL				Sn	**Sn**	**22 48 40.3**	**+0.6**
	45nm,0.2s,SNR=11						
EALK	**Alkurruntz**	**2.04**	**75**	Pn	**Pn**	**22 48 15.2**	**+1.0**
	8.5nm,0.3s,SNR=42						
EALK				Sn	**Sn**	**22 48 40.9**	**+1.0**
	88nm,0.3s,SNR=5.0						
GUD	**Guadarrama**	**2.07**	**179**	Pn	**Pn**	**22 48 14.7**	**+0.1**
	3.6nm,0.2s,SNR=9.3						
GUD				Pg	**Pg**	**22 48 19.5**	**+0.4**
	31nm,0.3s,SNR=7.9						
GUD				Sn	**Sn**	**22 48 41.6**	**+1.0**
	35nm,0.3s,SNR=12						
GUD				Lg		22 48 47.8	
	214nm,0.6s,SNR=7.9						
GUD	**Guadarrama**	**2.07**	**179**	Pg	**Pg**	**22 48 19.5**	**+0.4**
	31nm,0.3s,SNR=7.9						
GUD				Sn	**Sn**	**22 48 41.6**	**+1.0**
	35nm,0.3s,SNR=12						
IPRE	**Itoiz**	**2.10**	**87**	Pn	**Pn**	**22 48 15.7**	**+0.7**
	4.9nm,0.3s,SNR=4.0						
IPRE				Pg	**Pg**	**22 48 20.0**	**+0.4**
	3.0nm,0.2s,SNR=7.9						
IPRE				Sn	**Sn**	**22 48 42.0**	**+0.7**
	15nm,0.3s,SNR=8.2						
IPRE				Lg		22 48 49.3	
	38nm,0.4s,SNR=7.9						
IPRE	**Itoiz**	**2.10**	**87**	Pn	**Pn**	**22 48 15.7**	**+0.8**
	4.9nm,0.3s,SNR=4.0						
IPRE	**Itoiz**	**2.10**	**87**	Pg	**Pg**	**22 48 20.0**	**+0.4**
	3.0nm,0.2s,SNR=7.9						
IPRE				Sn	**Sn**	**22 48 42.0**	**+0.7**
	15nm,0.3s,SNR=8.2						
EORO	**Oroz-Betelu**	**2.14**	**84**	Pn	**Pn**	**22 48 16.1**	**+0.6**
	0.8nm,0.1s,SNR=19						
EORO				Pg	**Pg**	**22 48 20.

ETSF *e*Sn **Sn** **22 48 54.4 -1.4**
44nm,0.4s,SNR=1.0
REYF Montagne du Re 2.82 82 Pn **Pn** **22 48 25.6 +0.7**
ESAC San Caprasio 2.95 108 Pn **Pn** **22 48 28.4 +1.8**
22nm,0.3s,SNR=10
ESAC Sn **Sn** **22 49 02.8 +0.7**
47nm,0.2s,SNR=4.0
ESAC Lg 22 49 15.3
143nm,0.2s,SNR=7.9
ESAC San Caprasio 2.95 108 Pn **Pn** **22 48 28.4 +1.8**
22nm,0.3s,SNR=10
ESAC Sn **Sn** **22 49 02.8 +0.6**
47nm,0.2s,SNR=4.0
ELOB Lobios 2.99 255 Pn **Pn** **22 48 27.4 +0.3**
6.0nm,0.2s,SNR=16
ELOB Pg **Pg** **22 48 35.5 -1.2**
3.0nm,0.2s,SNR=18
ELOB Sn **Sn** **22 49 02.6 -0.6**
9.7nm,0.2s,SNR=7.9
ELOB Lg 22 49 16.1
96nm,0.5s,SNR=11
ELOB Lobios 2.99 255 Pn **Pn** **22 48 27.4 +0.3**
6.0nm,0.2s,SNR=16
ELOB Lobios 2.99 255 Pg **Pg** **22 48 35.5 -1.1**
3.0nm,0.2s,SNR=18
ELOB Sn **Sn** **22 49 02.6 -0.6**
9.7nm,0.2s,SNR=7.9
PCAB Cabril 3.01 252 *e*Pn **Pn** **22 48 27.6 +0.1**
PCAB *e*Sn **Sn** **22 49 04.0 +0.1**
PCAB *e*Sg **Sg** **22 49 15.6 -0.6**
PCAB A 22 49 30.1
111nm,0.5s
PCAB Cabril 3.01 252 *e*Pn **Pn** **22 48 27.6 +0.1**
PCAB *e*Sn **Sn** **22 49 04.0 +0.1**
PCAB *e*Sg **Sg** **22 49 15.6 -0.6**
111nm,0.5s
ESBB Sonseca Array 3.04 176 Pn **Pn** **22 48 29.8 +1.9**
ESBB Sonseca Array 3.04 176 Pg **Pg** **22 48 37.2 -0.5**
ESBB Sonseca Array 3.04 176 Pn **Pn** **22 48 29.8 +1.8**
ESBB Pg **Pg** **22 48 37.2 -0.6**
ESBB Sn **Sn** **22 49 04.8 +0.2**
ESBB Lg 22 49 18.4
VIEF Viey 3.12 86 Pn **Pn** **22 48 29.4 +0.5**
VIEF Viey 3.12 86 Pn **Pn** **22 48 29.6 +0.7**
PAB San Pablo 3.17 182 *e*Pn **Pn** **22 48 31.6 +1.9**
PAB San Pablo 3.17 182 *e*Pg **Pg** **22 48 41.7 +1.6**
PAB San Pablo 3.17 182 *e*Pn **Pn** **22 48 31.6 +1.9**
PAB *e*Pg **Pg** **22 48 41.7 +1.5**
PAB *e*Sn **Sn** **22 49 11.4 +3.6**
PAB *e*Sg **Sg** **22 49 20.3 -0.9**
EBIE Bielsa 3.20 89 Pn **Pn** **22 48 31.0 +0.9**
5.1nm,0.3s,SNR=32
EBIE Pg **Pg** **22 48 39.3 -1.4**
4.3nm,0.2s,SNR=7.9
EBIE Sn **Sn** **22 49 08.7 +0.1**
5.9nm,0.2s,SNR=4.6
EBIE Bielsa 3.20 89 Pn **Pn** **22 48 31.0 +0.9**
5.1nm,0.3s,SNR=32
EBIE Bielsa 3.20 89 Pg **Pg** **22 48 39.3 -1.5**
4.3nm,0.2s,SNR=7.9
EBIE Sn **Sn** **22 49 08.7 +0.2**
5.9nm,0.2s,SNR=4.6
STS Santiago 3.21 274 Pn **Pn** **22 48 31.8 +1.7**
4.9nm,0.3s,SNR=6.7
STS Sn **Sn** **22 49 08.6 0.0**
5.9nm,0.2s,SNR=7.9
STS Lg 22 49 22.1
58nm,0.6s,SNR=7.9
STS Santiago 3.21 274 Pn **Pn** **22 48 31.8 +1.6**
4.9nm,0.3s,SNR=6.7
STS Sn **Sn** **22 49 08.6 0.0**
5.9nm,0.2s,SNR=7.9
RESF Ens 3.34 87 Pn **Pn** **22 48 32.9 +0.8**
EPF Esparros 3.35 83 *e*Pn **Pn** **22 48 33.8 +1.6**
SNR=1.0
EPF *e*Sn **Sn** **22 49 08.4 -3.8**
75nm,0.6s,SNR=1.0
EPF Esparros 3.35 83 *e*Pn **Pn** **22 48 33.8 +1.6**
SNR=1.0
EPF *e*Sn **Sn** **22 49 08.4 -3.8**
37nm,0.6s,SNR=1.0
PVIS Viseu 3.41 235 *e*Pn **Pn** **22 48 33.9 +0.9**
PVIS Viseu 3.41 235 *e*Pg **Pg** **22 48 44.4 -0.4**
PVIS *e*Sg **Sg** **22 49 28.9 0.0**
PVIS A 22 49 44.0
54nm,0.9s
PVIS Viseu 3.41 235 Pn **Pn** **22 48 33.9 +0.9**
PVIS Pg **Pg** **22 48 44.4 -0.4**
PVIS Lg 22 49 28.9
27nm,0.9s
PVIS Viseu 3.41 235 *e*Pg **Pg** **22 48 44.4 -0.4**
PVIS *e*Sg **Sg** **22 49 28.9 0.0**
54nm,0.9s
MTE Manteigas 3.41 228 *e*Pg **Pg** **22 48 44.4 -0.4**
MTE *e*Sn **Sn** **22 49 13.3 -0.4**
MTE *e*Sg **Sg** **22 49 28.7 -0.3**
MTE A 22 49 34.3
103nm,0.4s
MTE Manteigas 3.41 228 *e*Pg **Pg** **22 48 44.4 -0.4**
MTE *e*Sn **Sn** **22 49 13.3 -0.4**
MTE *e*Sg **Sg** **22 49 28.7 -0.3**
103nm,0.4s
EMAZ Mazaricos 3.52 275 Pn **Pn** **22 48 34.7 +0.2**
4.4nm,0.1s,SNR=21
EMAZ Sn **Sn** **22 49 14.9 -1.5**
25nm,0.3s,SNR=5.3
EMAZ Lg 22 49 32.2
21nm,0.2s,SNR=7.9
EMAZ Mazaricos 3.52 275 Pn **Pn** **22 48 34.7 +0.2**
4.4nm,0.1s,SNR=21
EMAZ Sn **Sn** **22 49 14.9 -1.4**
25nm,0.3s,SNR=5.3
MELF Melles 3.66 86 Pn **Pn** **22 48 37.3 +1.0**
EMOS Mosqueruela 3.66 129 Pn **Pn** **22 48 38.1 +1.7**
0.5nm,0.1s,SNR=16
EMOS Pg **Pg** **22 48 47.7 -1.7**
2.2nm,0.2s,SNR=11
EMOS Sn **Sn** **22 49 19.7 0.0**
6.4nm,0.3s,SNR=7.1
EMOS Lg 22 49 37.1
13nm,0.3s,SNR=7.9
EMOS Mosqueruela 3.66 129 Pn **Pn** **22 48 38.1 +1.7**
0.5nm,0.1s,SNR=16
EMOS Mosqueruela 3.66 129 Pg **Pg** **22 48 47.7 -1.7**
2.2nm,0.2s,SNR=11
EMOS Sn **Sn** **22 49 19.7 0.0**
6.4nm,0.3s,SNR=7.1
PCBR Castelo Branco 3.79 222 *e*Pn **Pn** **22 48 38.9 +0.7**
PCBR Castelo Branco 3.79 222 *e*Pg **Pg** **22 48 52.5 +0.5**
PCBR *e*Sg **Sg** **22 49 42.0 +1.0**
PCBR A 22 49 56.4
63nm,0.7s
PCBR Castelo Branco 3.79 222 Pn **Pn** **22 48 38.9 +0.7**
PCBR Pg **Pg** **22 48 52.5 +0.5**
PCBR Lg 22 49 42.0
32nm,0.7s
PCBR Castelo Branco 3.79 222 *e*Pg **Pg** **22 48 52.5 +0.5**
PCBR *e*Sg **Sg** **22 49 42.0 +1.0**
63nm,0.7s
ERTA Horta de San J 3.82 116 Pn **Pn** **22 48 39.4 +0.8**
2.3nm,0.2s,SNR=17
ERTA Sn **Sn** **22 49 23.9 +0.2**
4.0nm,0.2s,SNR=5.0
ERTA Lg 22 49 42.3
54nm,0.4s,SNR=7.9
ERTA Horta de San J 3.82 116 Pn **Pn** **22 48 39.4 +0.8**
2.3nm,0.2s,SNR=17
ERTA Sn **Sn** **22 49 23.9 +0.2**
4.0nm,0.2s,SNR=5.0
PMRV Marv??o 4.08 217 *e*Pn **Pn** **22 48 43.3 +1.2**
PMRV *e*Sg **Sg** **22 49 50.0 -0.2**
PMRV A 22 49 55.8
42nm,0.5s
PMRV Marv??o 4.08 217 *e*Pn **Pn** **22 48 43.3 +1.2**
PMRV *e*Sg **Sg** **22 49 50.0 -0.2**
42nm,0.5s
EPOB Poblet 4.16 107 Pn **Pn** **22 48 43.4 +0.1**
1.5nm,0.1s,SNR=17
EPOB Pg **Pg** **22 48 58.1 -1.1**
2.4nm,0.2s,SNR=9.1
EPOB Sn **Sn** **22 49 30.7 -1.5**
5.1nm,0.1s,SNR=5.0
EPOB Poblet 4.16 107 Pn **Pn** **22 48 43.4 +0.1**
1.5nm,0.1s,SNR=17
EPOB Poblet 4.16 107 Pg **Pg** **22 48 58.1 -1.0**
2.4nm,0.2s,SNR=9.1
EPOB Sn **Sn** **22 49 30.7 -1.5**
5.1nm,0.1s,SNR=5.0
LFF La Frestale 4.21 56 *e*Pn **Pn** **22 48 44.3 +0.3**
SNR=1.0
LFF *e*Sn **Sn** **22 49 29.5 -3.9**
32nm,0.4s,SNR=1.0
LFF La Frestale 4.21 56 *e*Pn **Pn** **22 48 44.3 +0.3**
SNR=1.0
LFF *e*Sn **Sn** **22 49 29.5 -3.9**
16nm,0.4s,SNR=1.0
EVIA Vianos 4.27 162 Pn **Pn** **22 48 46.0 +1.1**
1.6nm,0.2s,SNR=7.9
EVIA Pg **Pg** **22 49 01.1 -0.2**
0.5nm,0.1s,SNR=7.9
EVIA Sn **Sn** **22 49 35.0 0.0**
6.2nm,0.3s,SNR=7.9
EVIA Lg 22 49 57.0
18nm,0.5s,SNR=7.9
EVIA Vianos 4.27 162 Pn **Pn** **22 48 46.0 +1.1**
EVIA Pg **Pg** **22 49 01.1 -0.2**
EVIA Lg 22 49 57.0
EBAD Badajoz 4.50 209 Pn **Pn** **22 48 47.6 -0.3**
0.9nm,0.1s,SNR=8.2
EBAD Pg **Pg** **22 49 03.5 -2.0**
1.2nm,0.1s,SNR=9.5
EBAD Sn **Sn** **22 49 39.6 -0.8**
5.6nm,0.2s,SNR=7.9
EBAD Lg 22 50 03.7
12nm,0.2s,SNR=5.0
EBAD Badajoz 4.50 209 Pn **Pn** **22 48 47.6 -0.3**
0.9nm,0.1s,SNR=8.2
EBAD Badajoz 4.50 209 Pg **Pg** **22 49 03.5 -2.0**
1.2nm,0.1s,SNR=9.5
EBAD Sn **Sn** **22 49 39.6 -0.8**
5.6nm,0.2s,SNR=7.9
ETOB Tobarra 4.54 153 Pn **Pn** **22 48 50.1 +1.5**
0.7nm,0.1s,SNR=13
ETOB Pg **Pg** **22 49 04.8 -1.5**
2.3nm,0.3s,SNR=6.2
ETOB Lg 22 50 07.1
36nm,0.5s,SNR=7.9
ETOB Tobarra 4.54 153 Pn **Pn** **22 48 50.1 +1.6**
0.7nm,0.1s,SNR=13
ETOB Tobarra 4.54 153 Pg **Pg** **22 49 04.8 -1.6**
2.3nm,0.3s,SNR=6.2
EADA Adamuz 4.55 184 Pn **Pn** **22 48 48.9 +0.2**
SNR=7.9
EADA Pg **Pg** **22 49 06.5 -0.1**
1.1nm,0.2s,SNR=129
EADA Sn **Sn** **22 49 38.6 -3.3**
4.4nm,0.2s,SNR=7.9
EADA Lg 22 50 06.4
7.3nm,0.2s,SNR=7.9
EADA Adamuz 4.55 184 Pn **Pn** **22 48 48.9 +0.2**
SNR=7.9
EADA Adamuz 4.55 184 Pg **Pg** **22 49 06.5 -0.1**
1.1nm,0.2s,SNR=129
EBAN Banos Encina 4.56 176 Pn **Pn** **22 48 50.5 +1.7**
0.4nm,0.1s,SNR=4.0
EBAN Pg **Pg** **22 49 06.1 -0.6**
0.8nm,0.2s,SNR=5.6
EBAN Sn **Sn** **22 49 41.5 -0.5**
1.3nm,0.2s,SNR=7.9
EBAN Lg 22 50 07.6
28nm,0.4s,SNR=13
EBAN Banos Encina 4.56 176 Pn **Pn** **22 48 50.5 +1.7**
EBAN Pg **Pg** **22 49 06.1 -0.6**
EBAN Sn **Sn** **22 49 41.5 -0.5**
EBAN Lg 22 50 04.3
PESTR Estremoz 4.63 215 *e*Pn **Pn** **22 48 49.9 +0.2**
PESTR Estremoz 4.63 215 *e*Pg **Pg** **22 49 08.2 +0.2**
PESTR *e*Sg **Sg** **22 50 05.4 -2.5**
PESTR A 22 50 13.3
39nm,0.5s
PESTR Estremoz 4.63 215 Pn **Pn** **22 48 49.9 +0.2**
PESTR Pg **Pg** **22 49 08.2 +0.2**
PESTR Lg 22 50 05.4
20nm,0.5s
ECAB El Cabril 4.73 192 Pn **Pn** **22 48 51.2 +0.1**
SNR=7.9
ECAB Pg **Pg** **22 49 08.1 -1.9**
10.0nm,0.4s,SNR=11
ECAB Sn **Sn** **22 49 43.8 -2.4**
12nm,0.3s,SNR=7.9
ECAB Lg 22 50 11.2
58nm,0.4s,SNR=6.1
ECAB El Cabril 4.73 192 Pn **Pn** **22 48 51.2 +0.1**
SNR=7.9
ECAB El Cabril 4.73 192 Pg **Pg** **22 49 08.1 -1.9**
10.0nm,0.4s,SNR=11
ECAB Sn **Sn** **22 49 43.8 -2.4**
12nm,0.3s,SNR=7.9
MTLF Montolieu 4.75 80 *e*Pn **Pn** **22 48 51.9 +0.5**
SNR=1.0
MTLF *e*Sn **Sn** **22 49 43.6 -3.0**
9.4nm,0.4s,SNR=1.0
MTLF Montolieu 4.75 80 *e*Pn **Pn** **22 48 51.9 +0.5**
SNR=1.0
MTLF *e*Sn **Sn** **22 49 43.6 -3.0**
4.7nm,0.4s,SNR=1.0
MFF Saint Martin d 4.84 35 *e*Pn **Pn** **22 48 51.9 -0.8**
SNR=1.0
MFF *e*Sn **Sn** **22 49 43.6 -5.4**
29nm,0.4s,SNR=1.0
MFF Saint Martin d 4.84 35 *e*Pn **Pn** **22 48 51.9 -0.8**
SNR=1.0
MFF *e*Sn **Sn** **22 49 43.6 -5.4**
14nm,0.4s,SNR=1.0
RJF Les Rejaudoux 4.87 56 *e*Pn **Pn** **22 48 51.9 -1.1**
SNR=1.0
RJF *e*Sn **Sn** **22 49 45.6 -4.0**
28nm,0.3s,SNR=1.0
RJF Les Rejaudoux 4.87 56 *e*Pn **Pn** **22 48 51.9 -1.1**
SNR=1.0
RJF *e*Sn **Sn** **22 49 45.6 -4.0**
14nm,0.3s,SNR=1.0
EQES Quesada 4.98 170 Pn **Pn** **22 48 56.5 +1.9**
1.5nm,0.2s,SNR=7.9
EQES Pg **Pg** **22 49 12.1 -2.8**
0.6nm,0.2s,SNR=8.7
EQES Sn **Sn** **22 49 49.4 -3.1**
1.9nm,0.2s,SNR=7.9
EQES Lg 22 50 19.7
18nm,0.5s,SNR=5.7
EQES Quesada 4.98 170 Pn **Pn** **22 48 56.5 +1.9**
1.5nm,0.2s,SNR=7.9
EQES Quesada 4.98 170 Pg **Pg** **22 49 15.2 +0.3**
0.6nm,0.2s,SNR=8.7
EQES Sn **Sn** **22 49 49.4 -3.1**
1.9nm,0.2s,SNR=7.9
EQES Quesada 4.98 170 Pn **Pn** **22 48 56.5 +1.9**
EQES Pg **Pg** **22 49 15.2 +0.3**
EQES Sn **Sn** **22 49 49.4 -3.1**
EQES Lg 22 50 19.7
EBEN Beniarda 5.02 142 Pn **Pn** **22 48 56.8 +1.7**
0.4nm,0.2s,SNR=13
EBEN Pg **Pg** **22 49 14.0 -1.6**
0.4nm,0.2s,SNR=7.9
EBEN Sn **Sn** **22 49 51.2 -2.2**
1.6nm,0.4s,SNR=4.0
EBEN Lg 22 50 22.6
12nm,0.6s,SNR=4.0
EBEN Beniarda 5.02 142 Pn **Pn** **22 48 56.8 +1.7**
0.4nm,0.2s,SNR=13
EBEN Sn **Sn** **22 49 51.2 -2.1**
1.6nm,0.4s,SNR=4.0
EBEN Beniarda 5.02 142 Pn **Pn** **22 48 56.8 +1.7**
EBEN Pg **Pg** **22 49 16.0 +0.5**
EBEN Sn **Sn** **22 49 51.2 -2.2**
EBEN Lg 22 50 22.6
PBAR Barrancos 5.03 206 *e*Pn **Pn** **22 48 55.0 -0.2**
PBAR *e*Sg **Sg** **22 50 21.5 +0.7**
PBAR A 22 50 33.9
35nm,0.6s
PBAR Barrancos 5.03 206 *e*Pn **Pn** **22 48 55.0 -0.2**
PBAR *e*Sg **Sg** **22 50 21.5 +0.7**
35nm,0.6s
CAF Calviac 5.04 62 *e*Pn **Pn** **22 48 54.4 -1.0**
SNR=1.0
CAF *e*Sn **Sn** **22 49 49.8 -4.1**
29nm,0.4s
CAF Calviac 5.04 62 *e*Pn **Pn** **22 48 54.4 -1.0**
SNR=1.0
CAF *e*Sn **Sn** **22 49 49.8 -4.1**
15nm,0.4s
EHUE Huescar 5.05 165 Pn **Pn** **22 48 56.8 +1.3**
0.2nm,0.1s,SNR=7.9
EHUE Pg **Pg** **22 49 16.1 -0.1**
0.5nm,0.2s,SNR=7.9
EHUE Sn **Sn** **22 49 51.3 -2.7**
0.8nm,0.2s,SNR=7.9
EHUE Lg 22 50 22.2
4.9nm,0.3s,SNR=7.9
EVO Evora 5.09 216 *e*Pn **Pn** **22 48 56.4 +0.4**
EVO Evora 5.09 216 *e*Pg **Pg** **22 49 16.5 -0.3**
EVO *e*Sn **Sn** **22 49 53.5 -1.5**
EVO *e*Sg **Sg** **22 50 24.5 +1.8**
72nm,0.6s
EVO Evora 5.09 216 *e*Pn **Pn** **22 48 56.2 +0.2**
EVO *e*Sg **Sg** **22 50 24.3 +1.6**
EVO A 22 50 47.9
24nm,0.6s
EVO Evora 5.09 216 *e*Pn **Pn** **22 48 56.2 +0.2**
EVO *e*Sg **Sg** **22 50 24.3 +1.6**
24nm,0.6s
EVOP Sao Brissos 5.14 217 *e*Pn **Pn** **22 48 56.4 -0.3**
EVOP Sao Brissos 5.14 217 *e*Pg **Pg** **22 49 16.5 -1.3**
EVOP *e*Sn **Sn** **22 49 53.5 -2.8**
EVOP *e*Sg **Sg** **22 50 24.5 +0.1**
36nm,0.6s
EJON La Jonquera 5.24 91 Pn **Pn** **22 48 58.4 +0.3**
0.8nm,0.1s,SNR=7.9
EJON Pg **Pg** **22 49 17.1 -2.7**
0.9nm,0.2s,SNR=7.9
EJON Sn **Sn** **22 49 56.2 -2.6**
2.1nm,0.4s,SNR=7.9
EJON Lg 22 50 23.0
32nm,0.5s,SNR=7.9
EJON La Jonquera 5.24 91 Pn **Pn** **22 48 58.4 +0.2**
0.8nm,0.1s,SNR=7.9
EJON La Jonquera 5.24 91 Pg **Pg** **22 49 17.1 -2.7**
0.9nm,0.2s,SNR=7.9
EJON Sn **Sn** **22 49 56.2 -2.6**
2.1nm,0.4s,SNR=7.9
MOE Montemor 5.25 218 *e*Sg **Sg** **22 50 27.2 -0.6**
QUIF Quistinic 5.25 8 *e*Pn **Pn** **22 48 57.9 -0.4**
SNR=1.0
QUIF *e*Sn **Sn** **22 49 52.9 -6.1**
60nm,0.4s
QUIF Quistinic 5.25 8 *e*Pn **Pn** **22 48 57.9 -0.4**
SNR=1.0
QUIF *e*Sn **Sn** **22 49 52.9 -6.1**
30nm,0.4s
EMIN Mina Concepcio 5.29 202 Pn **Pn** **22 48 58.9 0.0**
1.1nm,0.2s,SNR=14
EMIN Pg **Pg** **22 49 20.0 -0.7**
0.6nm,0.1s,SNR=7.9
EMIN Sn **Sn** **22 49 58.0 -2.1**
1.7nm,0.2s,SNR=7.9
EMIN Lg 22 50 29.1
16nm,0.5s
EMIN Mina Concepcio 5.29 202 Pn **Pn** **22 48 58.9 0.0**
1.1nm,0.2s,SNR=14
EMIN Mina Concepcio 5.29 202 Pg **Pg** **22 49 20.0 -0.8**
0.6nm,0.1s,SNR=7.9
EMIN Sn **Sn** **22 49 58.0 -2.1**
1.7nm,0.2s,SNR=7.9
EMUR La Murta 5.37 154 Pn **Pn** **22 49 01.4 +1.5**
0.7nm,0.4s,SNR=7.9
EMUR Pg **Pg** **22 49 22.3 0.0**
0.7nm,0.3s,SNR=12
EMUR Sn **Sn** **22 50 00.9 -1.0**
4.8nm,0.4s,SNR=7.9
EMUR Lg 22 50 33.3
36nm,0.8s,SNR=4.6
EMUR La Murta 5.37 154 Pn **Pn** **22 49 01.4 +1.5**
0.7nm,0.4s,SNR=7.9
EMUR Sn **Sn** **22 50 00.9 -1.1**
4.8nm,0.4s,SNR=7.9
PMAFR Mafra 5.38 227 *e*Pn **Pn** **22 49 00.9 +0.8**
PMAFR *e*Sg **Sg** **22 50 32.6 +0.4**
PMAFR A 22 50 38.7
32nm,0.5s
PMAFR Mafra 5.38 227 *e*Pn **Pn** **22 49 00.9 +0.8**
PMAFR *e*Sg **Sg** **22 50 32.6 +0.4**
32nm,0.5s
ECOG Cogollos-Vega 5.46 175 Lg 22 50 37.7
5.0nm,0.3s,SNR=7.9
PBEJ Beja 5.46 212 *e*Sg **Sg** **22 50 34.2 -0.4**
PBEJ A 22 50 49.3
19nm,0.4s
PBEJ Beja 5.46 212 *e*Sg **Sg** **22 50 34.2 -0.4**
19nm,0.4s
EQUE Quentar 5.54 174 Pn **Pn** **22 49 04.1 +1.9**
0.3nm,0.2s,SNR=5.7
EQUE Pg **Pg** **22 49 25.9 +0.4**
0.2nm,0.2s,SNR=4.7
EQUE Lg 22 50 36.8
13nm,0.5s,SNR=4.5
EIBI Ibiza 5.59 129 Pn **Pn** **22 49 02.6 -0.3**
1.0nm,0.3s,SNR=7.9
EIBI Sn **Sn** **22 50 02.6 -4.8**
2.4nm,0.4s,SNR=7.9
EIBI Ibiza 5.59 129 Pn **Pn** **22 49 02.6 -0.3**
SGMF Saint Gilles 5.66 11 *e*Pn **Pn** **22 49 02.4 -1.4**
SNR=1.0
SGMF *e*Sn **Sn** **22 50 01.1 -7.9**
73nm,0.6s,SNR=1.0
SGMF Saint Gilles 5.66 11 *e*Pn **Pn** **22 49 02.4 -1.4**
SNR=1.0
SGMF *e*Sn **Sn** **22 50 01.1 -7.9**
37nm,0.6s,SNR=1.0
ROSF Rostrenen 5.66 6 *e*Pn **Pn** **22 49 03.9 +0.1**
SNR=1.0
ROSF *e*Sn **Sn** **22 50 01.8 -7.2**
38nm,0.4s,SNR=1.0
ROSF Rostrenen 5.66 6 *e*Pn **Pn** **22 49 03.9 +0.1**
SNR=1.0
ROSF *e*Sn **Sn** **22 50 01.8 -7.2**
19nm,0.4s,SNR=1.0
EGRO El Granado 5.75 207 Pn **Pn** **22 49 05.1 -0.1**
0.9nm,0.1s,SNR=7.9
EGRO Sn **Sn** **22 50 08.0 -3.4**
1.5nm,0.3s,SNR=7.9
EGRO Lg 22 50 45.7
24nm,0.6s,SNR=6.0
EGRO El Granado 5.75 207 Pn **Pn** **22 49 05.1 -0.1**
EGRO Sn **Sn** **22 50 08.0 -3.5**
TCF Toulx Ste Croi 5.81 50 *e*Pn **Pn** **22 49 05.4 -0.6**
SNR=1.0
TCF *e*Sn **Sn** **22 50 06.7 -6.1**
15nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 5.81 50 *e*Pn **Pn** **22 49 05.4 -0.6**
SNR=1.0
TCF *e*Sn **Sn** **22 50 06.7 -6.1**
7.6nm,0.3s,SNR=1.0
EBER Berja 5.90 170 Pn **Pn** **22 49 10.7 +3.5**
0.3nm,0.2s,SNR=7.9
EBER Sn **Sn** **22 50 14.2 -0.8**
0.8nm,0.3s,SNR=7.9
EBER Lg 22 50 50.5
62nm,0.9s,SNR=7.9
EBER Berja 5.90 170 Pn **Pn** **22 49 10.7 +3.5**
PVAQ Vaqueiros 5.95 208 *e*Pn **Pn** **22 49 07.5 -0.4**
PVAQ *e*Sn **Sn** **22 50 13.8 -2.5**
PVAQ *e*Sg **Sg** **22 50 47.6 -2.9**
PVAQ A 22 51 04.1
21nm,0.8s
PVAQ Vaqueiros 5.95 208 Pn **Pn** **22 49 07.5 -0.4**
PVAQ Sn **Sn** **22 50 13.8 -2.5**
PVAQ Lg 22 50 47.6
10nm,0.8s
PVAQ Vaqueiros 5.95 208 *e*Pn **Pn** **22 49 07.5 -0.4**
PVAQ *e*Sn **Sn** **22 50 13.8 -2.5**
ESPR Espera 5.98 193 Pn **Pn** **22 49 09.2 +1.0**
0.7nm,0.3s,SNR=7.9
ESPR Sn **Sn** **22 50 14.8 -2.1**
0.7nm,0.2s,SNR=7.9
ESPR Lg 22 50 52.8
14nm,0.6s,SNR=7.9
ESPR Espera 5.98 193 Pn **Pn** **22 49 09.2 +0.9**
ESPR Sn **Sn** **22 50 14.8 -2.2**
LASF Ste Croix 6.03 74 *e*Pn **Pn** **22 49 08.9 0.0**
SNR=1.0
LASF *e*Sn **Sn** **22 50 15.8 -2.3**
17nm,0.5s
LASF Ste Croix 6.03 74 Pn **Pn** **22 49 08.9 0.0**
LASF Sn **Sn** **22 50 15.8 -2.3**
8.3nm,0.5s
GRR Gorron 6.14 21 *e*Pn **Pn** **22 49 09.0 -1.4**
GRR *e*Sn **Sn** **22 50 10.8 -10**
12nm,0.3s,SNR=1.0
GRR Gorron 6.14 21 Pn **Pn** **22 49 09.0 -1.4**
GRR Sn **Sn** **22 50 10.8 -10**

5.9nm,0.3s
EMIJ Mijas 6.16 184 Pn **Pn 22 49 10.5 -0.3**
0.8nm,0.3s,SNR=7.9
EMIJ Sn **Sn 22 50 21.7 +0.3**
0.9nm,0.4s,SNR=4.0
EMIJ Lg 22 50 58.7
4.9nm,0.5s,SNR=4.0
EMIJ Mijas 6.16 184 Pn **Pn 22 49 10.5 -0.3**
EMIJ Sn **Sn 22 50 21.7 +0.2**
PBDV Barranco-do-Ve 6.17 209 *e*Sg **Sg 22 51 00.1 +2.6**
PBDV A 22 51 06.0
22nm,0.5s
PBDV Barranco-do-Ve 6.17 209 *e*Sg **Sg 22 51 00.1 +2.6**
22nm,0.5s
PTEO Sao Teotonio 6.22 215 *e*Sg **Sg 22 51 00.3 +1.3**
PTEO A 22 51 13.4
30nm,0.5s
PTEO Sao Teotonio 6.22 215 *e*Sg **Sg 22 51 00.3 +1.3**
30nm,0.5s
BGF Bois d'Agland 6.33 50 *e*Pn **Pn 22 49 12.4 -0.6**
SNR=1.0
BGF *e*Sn **Sn 22 50 20.5 -5.0**
49nm,0.5s
BGF Bois d'Agland 6.33 50 *e*Pn **Pn 22 49 12.4 -0.6**
SNR=1.0
BGF *e*Sn **Sn 22 50 20.5 -5.0**
24nm,0.5s
LDF La Druitiere 6.54 25 *e*Pn **Pn 22 49 13.0 -2.9**
SNR=1.0
LDF *e*Sn **Sn 22 50 25.2 -5.4**
7.8nm,0.2s,SNR=1.0
LDF La Druitiere 6.54 25 *e*Pn **Pn 22 49 13.0 -2.9**
SNR=1.0
LDF *e*Sn **Sn 22 50 25.2 -5.4**
3.9nm,0.2s,SNR=1.0
FLN La Foliniere 6.58 22 *e*Pn **Pn 22 49 15.5 -1.0**
baz=202,SNR=1.0
FLN *e*Sn **Sn 22 50 23.7 -8.1**
8.9nm,0.3s,SNR=1.0
FLN La Foliniere 6.58 22 *e*Pn **Pn 22 49 15.5 -1.0**
baz=202,SNR=1.0
FLN *e*Sn **Sn 22 50 23.7 -8.1**
4.4nm,0.3s,SNR=1.0
HYF Humbligny 6.65 44 *e*Pn **Pn 22 49 18.0 +0.5**
HYF *e*Sn **Sn 22 50 29.0 -4.5**
83nm,0.4s
HYF Humbligny 6.65 44 *e*Pn **Pn 22 49 18.0 +0.5**
HYF *e*Sn **Sn 22 50 29.0 -4.5**
42nm,0.4s
AVF Avril sur Loir 6.75 50 *e*Pn **Pn 22 49 18.5 -0.3**
SNR=1.0
AVF *e*Sn **Sn 22 50 29.3 -6.5**
7.8nm,0.4s,SNR=1.0
AVF Avril sur Loir 6.75 50 *e*Pn **Pn 22 49 18.5 -0.3**
SNR=1.0
AVF *e*Sn **Sn 22 50 29.3 -6.5**
3.9nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 6.77 69 *e*Pn **Pn 22 49 18.0 -1.1**
SNR=1.0
VIVF *e*Sn **Sn 22 50 32.1 -4.3**
7.9nm,0.3s
VIVF Saint-Julien-l 6.77 69 *e*Pn **Pn 22 49 18.0 -1.1**
SNR=1.0
VIVF *e*Sn **Sn 22 50 32.1 -4.3**
4.0nm,0.3s
SMF Signal de Mont 6.95 53 *e*Pn **Pn 22 49 19.0 -2.6**
SNR=1.0
SSF Saint Saulge 6.99 49 *e*Pn **Pn 22 49 22.0 -0.1**
SNR=1.0
SSF *e*Sn **Sn 22 50 35.3 -6.5**
11nm,0.5s,SNR=1.0
SSF Saint Saulge 6.99 49 *e*Pn **Pn 22 49 22.0 -0.1**
SNR=1.0
SSF *e*Sn **Sn 22 50 35.3 -6.5**
5.7nm,0.5s,SNR=1.0
SMRF Simiane la Rot 7.24 77 *e*Pn **Pn 22 49 25.8 +0.2**
LOR Lormes 7.30 49 *e*Pn **Pn 22 49 25.0 -1.4**
baz=231,SNR=1.0
LOR *e*Sn **Sn 22 50 43.8 -5.7**
9.7nm,0.4s,SNR=1.0
LOR Lormes 7.30 49 *e*Pn **Pn 22 49 25.0 -1.4**
baz=231,SNR=1.0
LOR *e*Sn **Sn 22 50 43.8 -5.7**
4.8nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie 7.62 70 *e*Pn **Pn 22 49 31.0 +0.3**
SNR=1.0
ORIF *e*Sn **Sn 22 50 54.3 -3.0**
2.1nm,0.4s
ORIF Oris-en-Rattie 7.62 70 *e*Pn **Pn 22 49 31.0 +0.3**
SNR=1.0
ORIF *e*Sn **Sn 22 50 54.3 -3.0**
1.0nm,0.4s
FRF La Foret Royal 7.98 80 *e*Pn **Pn 22 49 36.6 +0.9**
MBDF Montbardon 8.20 72 *e*Pn **Pn 22 49 38.8 +0.1**
CABF La Chapelle 8.30 59 *e*Pn **Pn 22 49 40.3 +0.2**
LPL La Plagne 8.35 67 *e*Pn **Pn 22 49 43.5 +2.7**
MEZF Maizieres J'vi 8.69 45 *e*Pn **Pn 22 49 45.6 +0.2**
baz=230,SNR=1.0
HAU Haudompre 9.11 51 *e*Pn **Pn 22 49 52.1 +0.8**
SNR=1.0
BAIF Baives 9.36 35 *e*Pn **Pn 22 49 53.1 -1.5**
SNR=1.0
BAIF *e*Sn **Sn 22 51 30.0 -10**
8.2nm,0.4s
BAIF Baives 9.36 35 *e*Pn **Pn 22 49 53.1 -1.5**
SNR=1.0
BAIF *e*Sn **Sn 22 51 30.0 -10**
4.1nm,0.4s
GIVF Givet 9.66 37 *e*Pn **Pn 22 49 58.1 -0.6**
SNR=1.0
GIVF *e*Sn **Sn 22 51 40.9 -6.5**
9.9nm,0.3s
GIVF Givet 9.66 37 *e*Pn **Pn 22 49 58.1 -0.6**
SNR=1.0
GIVF *e*Sn **Sn 22 51 40.9 -6.5**
4.9nm,0.3s
CDF Champ du Feu 9.86 51 *e*Pn **Pn 22 50 01.2 -0.2**
WLF Walferdange 9.98 42 *e*Pn **Pn 22 50 02.5 -0.7**
11nm,0.8s
WLF Walferdange 9.98 42 *e*Pn **Pn 22 50 02.5 -0.6**
11nm,0.8s
WLF *e*Sn **Sn 22 51 45.5 -10**
KHC Kasperske Hory 13.92 56 *e*P **Pn 22 50 58.5 +1.5**

NIED ***15*** *22:47:00,3540N×14060E,h35km,Mw4.4 Best double couple: M0=5.08000×10^15 NP1:φ=64.00000°,δ85.00000°, λ89.00000°. NP2:φ=260.00000°,δ5.00000°,λ106.00000°.*
MOS ***15*** *22:47:42.9±1.3,3530N×14042E,h33km,mb4.9/23,Error ellipse: s-maj=9.9km s-min=5.9km az=111.0*
ISCJB ***15*** *22:47:43.4±0.4,3529N±003×14047E±004,h36km±3km, mb4.5/61,Error ellipse: s-maj=5.8km s-min=4.7km az=171.5*
IDC ***15*** *22:47:43.8±4.5,3527N×14041E,h30km±32km,mb4.2/23, mb1 4.3/27,mb1mx4.3/32,mbtmp4.2/27,ML4.1/4,MS4.0/2, Ms1 4.0/2,ms1mx3.4/39,Error ellipse: s-maj=16.0km s-min=11.5km az=83.0*
JMA ***15*** *22:47:43.0±0.1,3540N×14056E,h27km±2km,M4.4 Broadband fault plane solution: P waves. NP1: φ=254.00000°,δ30.00000°,λ94.00000°. NP2:φ=69.00000°, δ60.00000°,λ87.00000°. Principal axes: T Plg75.0000°, Azm332.0000°; N Plg2.0000°, Azm70.0000°; P Plg15.0000°, Azm161.0000°;*
JMA Felt III J1.
BJI ***15*** *22:47:44.0,3534N×14033E,h40km,mB5.0,mb4.3,Ms4.1, Msz3.9*
NEIC ***15*** *22:47:46.0±1.2,3527N×14032E,h43km±9km,mb4.7/28, MW4.4(NIED),Error ellipse: s-maj=7.7km s-min=6.4km az=138.0*
NEIC Recorded [3 JMA] in Chiba and [1 JMA] in Ibaraki, Kanagawa, Saitama, Shizuoka and Tokyo Prefectures.
ISC 15 22:47:44.5±0.4,3525N±003×14045E±004,h32km±2km, h17km±5.2km:pP-P,n154,σ1§13/163,mb4.5/61,10C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.15**	**226**	⇑P	**Pb**	**22 47 50.1**	**-0.3**
KTR				S	**Sb**	**22 47 55.5**	**+1.1**
JCN	**Nagara**	**0.26**	**310**	⇓P	**Pb**	**22 47 50.6**	**-1.0**
JCN				S	**Sb**	**22 47 56.3**	**-0.1**
BSO4	**Boso 4**	**0.28**	**199**	⇑P	**Pb**	**22 47 52.7**	**+0.9**
BSO3	**Boso 3**	**0.45**	**173**	⇓P	**Pb**	**22 47 54.9**	**+0.7**
CHOJ	**Chosi**	**0.56**	**37**	⇓P	**Pb**	**22 47 51.5**	**-4.5**
CHOJ				S	**Sb**	**22 47 57.7**	**-6.1**
BSO1	**Boso 1**	**0.74**	**144**	⇓P	**Pn**	**22 47 57.2**	**-1.5**
JIM2	**Oshima 3**	**0.99**	**238**	P	**Pn**	**22 48 01.9**	**-0.3**
JIM2				S	**Sn**	**22 48 16.6**	**+1.5**
JYT	**Yasato**	**0.99**	**348**	⇓P	**Pn**	**22 47 58.8**	**-3.4**
JHJ	**Hachijo jima 2**	**2.20**	**195**	Pn	**Pn**	**22 48 18.3**	**-0.5**
	98nm,0.3s,baz=9.2,slow=3.3,SNR=38						
JHJ				Sn	**Sn**	**22 48 44.3**	**-0.6**
	333nm,0.3s,baz=78,slow=22,SNR=21						
MJAR	**Matsushiro Arr**	**2.23**	**306**	Pn	**Pn**	**22 48 18.9**	**-0.2**
	22nm,0.3s,baz=113,slow=12,SNR=199						
MAJO	**Matsushiro**	**2.23**	**306⇑**	*e*Pn	**Pn**	**22 48 19.2**	**+0.1**
MAJO				Sn	**Sn**	**22 48 46.8**	**+1.2**
MAT	**Matsushiro**	**2.23**	**306**	P	**Pn**	**22 48 19.3**	**+0.1**
MAT				S	**Sn**	**22 48 47.1**	**+1.5**
CBIJ	**Chichi jima**	**8.27**	**169**	Pn	**Pn**	**22 49 41.0**	**-1.2**
	31nm,0.3s,baz=286,slow=20,SNR=13						
CBIJ				Sn	**Sn**	**22 51 13.0**	**-1.5**
	7.5nm,0.3s,baz=94,slow=23,SNR=2.9						
ASAJ	**Asahikawa**	**9.01**	**10**	Pn	**Pn**	**22 49 50.0**	**-2.2**
	0.9nm,0.3s,baz=228,slow=16,SNR=6.4						
ASAJ				Sn	**Sn**	**22 51 32.3**	**-0.2**
	0.2nm,0.3s,baz=74,slow=22,SNR=2.0						
ASAJ	**Asahikawa**	**9.01**	**10**	P	**Pn**	**22 49 50.1**	**-2.1**
ASAJ						22 51 32.3	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**10.34**	**286**	Pn	**Pn**	**22 50 12.6**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=103,slow=14,SNR=17						
KSRS				LR	LR	22 54 05.6	
	comp=Z,339nm,19.7s,baz=159,slow=37						
YSS	**Yuzh-Sakhalins**	**11.82**	**8⇑**	*i*P	**Pn**	**22 50 29.2**	**-1.5**
MDJ	**Mudanjiang**	**12.51**	**322**	*e*Pn	**Pn**	**22 50 40.4**	**+0.2**
MDJ				*e*Sn	**Sn**	**22 52 54.8**	**-3.6**
YHNB	**Yeheng**	**19.57**	**243**	P	**Pn**	**22 52 08.6**	**-2.6**
BJI	**Beijing**	**19.78**	**291**	P	**Pn**	**22 52 12.6**	**-1.0**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.5s						
BJT	**Baijiatuau**	**19.79**	**291**	*e*P	**Pn**	**22 52 10.6**	**-3.1**
BJT				pmax	pmax		
	comp=Z,23nm,1.7s						
BJT	**Baijiatuau**	**19.79**	**291**	*e*P	**Pn**	**22 52 10.6**	**-3.1**
	comp=Z,23nm,1.7s						
HIA	**Hailar**	**20.67**	**319**	P	**P**	**22 52 17.6**	**-3.9**
PET	**Petropavlovsk**	**21.94**	**30**	*e*P	**P**	**22 52 36.6**	**+1.4**
YAK	**Yakutsk**	**27.65**	**349**	*e*P	**P**	**22 53 28.9**	**-0.1**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
SONM	**Songino Array**	**28.18**	**307**	P	**P**	**22 53 32.6**	**-1.3**
	comp=E,1.7nm,0.5s,mb3.9,baz=110,slow=9.5,SNR=13						
SONM				LR	LR	23 05 32.1	
	comp=E,626nm,18.3s,baz=314,slow=38						
SEY	**Seymchan**	**28.69**	**11⇑**	*e*P	**P**	**22 53 37.5**	**-0.7**
LZH	**Lanzhou**	**29.64**	**282**	*e*P	**P**	**22 53 49.0**	**+2.0**
LZH				AP	pP	22 53 55.3	-0.9
LZH				XP	sP	22 53 58.5	-1.5
LZH				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.6						
LZH				AMB	AMB		
	comp=Z,89nm,4.6s						
ZAK	**Zakamensk**	**30.80**	**311**	*e*P	**P**	**22 53 56.7**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
TLY	**Talaya**	**30.95**	**314**	P	**P**	**22 54 00.3**	**+1.9**
GTA	**Gaotai**	**32.38**	**290**	P	**P**	**22 54 14.1**	**+3.0**
GTA				AP	pP	22 54 17.8	-2.5
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
BILL	**Bilibino**	**35.95**	**16⇓**	*i*P	**P**	**22 54 40.3**	**-1.4**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BILL	**Bilibino**	**35.95**	**16**	*e*P	**P**	**22 54 43.1**	**+1.4**
HVS	**Khovu-Aksy**	**36.91**	**310⇑**	*i*P	**P**	**22 54 50.8**	**+0.7**
HVS				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.9						
TIXI	**Tiksi**	**36.97**	**354⇑**	*e*P	**P**	**22 54 48.4**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6						
CMAR	**Chiang Mai Arr**	**40.30**	**257**	P	**P**	**22 55 17.6**	**-1.4**
	comp=Z,0.9nm,0.3s,mb3.9,baz=108,slow=27,SNR=7.0						
WMQ	**Urumqi**	**40.97**	**299**	P	**P**	**22 55 24.4**	**+0.2**
WMQ				AP	pP	22 55 34.4	+0.9
WMQ				XP	sP	22 55 38.4	+1.0
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.1						
LSA	**Lhasa**	**41.62**	**277**	P	**P**	**22 55 30.0**	**+0.3**
LSA	**Lhasa**	**41.62**	**277**	*e*P	**P**	**22 55 30.2**	**+0.5**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
LSA	**Lhasa**	**41.62**	**277**	*e*P	**P**	**22 55 30.2**	**+0.5**
	comp=Z,3.9nm,0.8s,mb4.1						
ZALV	**Zalesovo Beam**	**42.56**	**314**	P	**P**	**22 55 36.4**	**-0.6**
	comp=Z,3.1nm,0.4s,mb4.4,baz=103,slow=6.4,SNR=14						
ZALV				PcP	PcP	22 57 28.4	-0.6
	comp=Z,2.5nm,0.8s,baz=86,slow=2.0,SNR=4.9						
ZALV	**Zalesovo Beam**	**42.56**	**314**	P	**P**	**22 55 36.4**	**-0.6**
ZALV				PcP	PcP	22 57 28.4	-0.6
ZAL	**Zalesovo**	**42.57**	**314**	P	**P**	**22 55 36.4**	**-0.7**
ZAL						22 57 28.4	
NVS	**Novosibirsk**	**43.52**	**315**	*e*P	**P**	**22 55 43.3**	**-1.5**
NVS				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.4						
NVS				pmax	pmax		
	comp=N,5.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,14nm,1.6s						
MK31	**Makanchi Array**	**44.42**	**304**	*e*P	**P**	**22 55 52.1**	**-0.1**
MK31				*e*		22 56 04.1	
MKAR	**Makanchi Array**	**44.42**	**304**	P	**P**	**22 55 52.4**	**+0.3**
	comp=E,2.9nm,0.6s,mb4.2,baz=87,slow=10.0,SNR=27						
MKAR	**Makanchi Array**	**44.42**	**304**	P	**P**	**22 55 52.4**	**+0.3**
KURK	**Kurchatov**	**46.43**	**309**	*c*P	**P**	**22 56 06.9**	**-1.1**
KURK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
KURK	**Kurchatov**	**46.43**	**309**	*e*P	**P**	**22 56 07.3**	**-0.7**
	comp=Z,15nm,0.7s,mb5.0						
KAKA	**Kakadu**	**48.30**	**190**	*e*P	**P**	**22 56 23.0**	**+0.2**
	comp=Z,7.1nm,0.6s,mb4.9						
KAKA	**Kakadu**	**48.30**	**190**	*e*P	**P**	**22 56 23.2**	**+0.4**
KDAK	**Kodiak Island**	**48.95**	**41**	P	**P**	**22 56 26.6**	**-0.9**
	comp=Z,6.0nm,0.8s,mb4.7,baz=184,slow=2.6,SNR=4.5						
TKM2	**Tokmak 2**	**49.81**	**299**	*e*P	**P**	**22 56 34.8**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.5						
TKM2	**Tokmak 2**	**49.81**	**299**	*e*P	**P**	**22 56 34.8**	**+0.6**
	comp=Z,40nm,0.9s,mb5.5						
PMR	**Palmer**	**50.52**	**36**	*e*P	**P**	**22 56 39.3**	**0.0**
MCK	**McKinley**	**50.55**	**33**	*e*P	**P**	**22 56 39.0**	**-0.5**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MCK	**McKinley**	**50.55**	**33**	*e*P	**P**	**22 56 39.0**	**-0.5**
	comp=Z,5.8nm,0.9s,mb4.5						
COLA	**College**	**51.00**	**31⇑**	*i*P	**P**	**22 56 44.1**	**+1.2**
EKS2	**Erkin-Say**	**51.17**	**300**	*e*P	**P**	**22 56 43.6**	**-0.9**
	comp=Z,2.5nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**51.20**	**313**	P	**P**	**22 56 44.2**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.2,baz=76,slow=7.9,SNR=10						
BVAR				PcP	PcP	22 57 59.1	-0.5
	comp=Z,1.2nm,0.5s,baz=92,slow=3.5,SNR=2.8						
BRVK	**Borovoye**	**51.26**	**313**	*e*P	**P**	**22 56 44.6**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BRVK	**Borovoye**	**51.26**	**313**	*e*P	**P**	**22 56 44.6**	**-0.5**
	comp=Z,5.9nm,1.0s,mb4.5						
AML	**Almayashu**	**51.37**	**299**	*e*P	**P**	**22 56 47.0**	**+1.0**
	comp=Z,13nm,0.7s,mb5.0						
DIV	**Divide**	**52.17**	**36**	*e*P	**P**	**22 56 52.5**	**+0.8**
	comp=Z,9.2nm,0.9s,mb4.7						
BMRM	**Bremner River**	**52.75**	**36**	*e*P	**P**	**22 56 56.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**54.89**	**197**	*e*P	**P**	**22 57 13.7**	**+1.7**
	comp=Z,4.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**55.19**	**187**	*e*P	**P**	**22 57 14.8**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**55.19**	**187**	*e*P	**P**	**22 57 14.8**	**+0.6**
	comp=Z,11nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**55.19**	**187**	*e*P	**P**	**22 57 13.9**	**-0.3**
WB2	**Warramunga Arr**	**55.19**	**187**	*e*P	**P**	**22 57 15.0**	**+0.8**
WRA	**Warramunga Arr**	**55.20**	**187**	P	**P**	**22 57 13.3**	**-0.9**
	comp=Z,5.3nm,0.7s,mb4.7,baz=2.9,slow=7.6,SNR=20						
SVE	**Sverdlovsk**	**55.97**	**319**	*e*P	**P**	**22 57 18.5**	**-1.0**
HYT	**Haines Junctio**	**56.20**	**36**	*e*P	**P**	**22 57 22.0**	**+1.0**
HYT				*e*PcP	PcP	22 58 17.9	-0.5
INK	**Inuvik**	**56.33**	**26**	P	**P**	**22 57 21.2**	**-0.6**
	comp=Z,3.9nm,0.8s,mb4.5,baz=284,slow=6.1,SNR=9.1						
INK	**Inuvik**	**56.33**	**26**	*e*P	**P**	**22 57 21.7**	**-0.1**
INK				*e*PcP	PcP	22 58 18.7	-0.1
ARU	**Arti**	**57.18**	**319**	*d i*P	**P**	**22 57 27.4**	**-0.7**
ARU				*e*		22 59 31.8	
ARU				*e*S	**S**	**23 05 24.4**	**+3.2**
ARU				*e*SS	SS	23 09 07.6	-2.3
ARU				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
ARU	**Arti**	**57.18**	**319**	*e*P	**P**	**22 57 27.4**	**-0.7**
	comp=Z,11nm,0.8s,mb5.0						
ARU				*e*PcP	PcP	22 58 20.4	-2.0
ASAR	**Alice Springs**	**58.92**	**187**	P	**P**	**22 57 41.0**	**+0.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=19,slow=11,SNR=12						
AKTK	**Aktyubinsk**	**59.29**	**312**	P	**P**	**22 57 42.5**	**-0.4**
AKTO	**Aktyubinsk**	**59.29**	**312**	P	**P**	**22 57 42.5**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.4,baz=61,slow=11,SNR=5.3						
MBWA	**Marble Bar**	**59.45**	**203**	*e*P	**P**	**22 57 44.3**	**+0.1**
RES	**Resolute Bay**	**64.52**	**14**	*e*P	**P**	**22 58 19.7**	**+2.0**
ARCES	**ARCESS Array B**	**65.39**	**339**	P	**P**	**22 58 22.4**	**-0.9**
	comp=Z,4.9nm,0.9s,mb4.5,baz=69,slow=6.3,SNR=9.2						
YKA	**Yellowknife Ar**	**65.74**	**29**	P	**P**	**22 58 25.3**	**-0.5**
	comp=Z,3.1nm,0.9s,mb4.3,baz=295,slow=6.3,SNR=7.6						
FORT	**Forrest**	**66.71**	**192**	*e*P	**P**	**22 58 40.3**	**+8.1**
	comp=Z,18nm,0.7s,mb5.2						
STKA	**Stephens Creek**	**66.78**	**179**	P	**P**	**22 58 32.6**	**-0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=337,slow=15,SNR=2.3						
OBN	**Obninsk**	**69.05**	**323⇓**	*i*P	**P**	**22 58 47.4**	**+0.6**
OBN				*e*		23 01 17.3	
OBN				pmax	pmax		
	comp=Z,37nm,2.5s,mb4.9						
OBN	**Obninsk**	**69.05**	**323**	P	**P**	**22 58 46.4**	**-0.4**
JCW	**Jim Creek**	**69.25**	**45**	*e*P	**P**	**22 58 48.7**	**+0.5**
KLBR	**Kellerberrin**	**69.83**	**201**	*e*P	**P**	**22 58 59.5**	**+7.7**
NWAO	**Narrogin (SRO)**	**71.23**	**200**	P	**P**	**22 58 59.8**	**-0.5**
KIV	**Kislovodsk**	**71.48**	**311**	*e*P	**P**	**22 59 02.1**	**+0.2**
KIV				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
KIV	**Kislovodsk**	**71.48**	**311**	*e*P	**P**	**22 59 02.1**	**+0.1**
	comp=Z,23nm,1.2s,mb5.0						
BMO	**Blue Mountains**	**73.72**	**46**	*e*P	**P**	**22 59 15.4**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.2						
CHMT	**Chamberlain Mo**	**74.88**	**43**	*e*P	**P**	**22 59 23.2**	**+1.2**
AKASG	**Malin Array Be**	**75.22**	**322**	P	**P**	**22 59 22.7**	**-1.2**
	comp=Z,4.6nm,0.6s,mb4.6,baz=47,slow=6.1,SNR=17						
AKASG	**Malin Array Be**	**75.22**	**322**	*i* P	**P**	**22 59 25.7**	**+1.9**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKASG	**Malin Array Be**	**75.22**	**322**	P	**P**	**22 59 22.7**	**-1.2**
KIEV	**Kiev**	**75.24**	**322**	*e*P	**P**	**22 59 22.1**	**-1.8**
KIEV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
KIEV	**Kiev**	**75.24**	**322**	*e*P	**P**	**22 59 22.1**	**-1.8**
	comp=Z,11nm,0.9s,mb4.8						
HFS	**Hagfors**	**75.39**	**336**	P	**P**	**22 59 23.8**	**-0.8**
	comp=Z,6.1nm,0.9s,mb4.5,baz=45,slow=2.3,SNR=7.7						
NB2	**NORSAR Subarra**	**75.52**	**337**	P	**P**	**22 59 24.5**	**-0.8**
	comp=Z,15nm,1.0s,mb4.9,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.52**	**337**	P	**P**	**22 59 24.8**	**-0.5**
	comp=Z,8.1nm,1.0s,mb4.6,baz=40,slow=5.7,SNR=8.4						
FCC	**Fort Churchill**	**75.94**	**26**	*e*P	**P**	**22 59 29.6**	**+1.8**
EGMT	**Eagleton**	**76.13**	**41**	*e*P	**P**	**22 59 29.4**	**+0.4**
	comp=Z,14nm,1.0s,mb4.8						
DLMT	**Dillon**	**76.16**	**44**	*e*P	**P**	**22 59 30.3**	**+1.0**
	comp=Z,6.1nm,1.0s,mb4.5						
BOZ	**Bozeman (W)**	**76.54**	**43**	*e*P	**P**	**22 59 31.9**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BOZ	**Bozeman (W)**	**76.54**	**43**	*e*P	**P**	**22 59 31.9**	**+0.5**
	comp=Z,4.2nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**76.69**	**52**	P	**P**	**22 59 32.9**	**+0.5**
	comp=Z,3.4nm,0.7s,mb4.4,baz=298,slow=6.0,SNR=17						
NVAR	**Mina Array Bea**	**76.69**	**52**	P	**P**	**22 59 32.9**	**+0.5**
MALT	**Malatya**	**77.25**	**308**	*e*P	**P**	**22 59 37.4**	**+1.8**
MALT				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
MALT	**Malatya**	**77.25**	**308**	*e*P	**P**	**22 59 37.4**	**+1.8**
	comp=Z,4.5nm,1.0s,mb4.3						
GCMT	**Greycliff**	**77.54**	**42**	*e*P	**P**	**22 59 37.0**	**0.0**
RLMT	**Red Lodge**	**78.18**	**43**	*e*P	**P**	**22 59 42.2**	**+1.6**
	comp=Z,5.0nm,1.1s,mb4.4						
RLMT				*e*PcP	PcP	22 59 50.8	+0.7
KWP	**Kalwaria**	**79.12**	**324**	*e*P	**P**	**22 59 45.0**	**-0.7**
KWP				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
KWP	**Kalwaria**	**79.12**	**324**	*e*P	**P**	**22 59 45.0**	**-0.7**
	comp=Z,25nm,1.1s,mb5.1						
PDAR	**Pinedale Array**	**79.48**	**45**	P	**P**	**22 59 48.2**	**+0.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=251,slow=2.0,SNR=13						
KOLS	**Kolonicke sedl**	**79.80**	**324**	*e*P	**P**	**22 59 45.8**	**-3.6**
OJC	**Ojcow**	**80.08**	**326**	*e*P	**P**	**22 59 50.7**	**-0.2**
ARUT	**Antelope Range**	**80.18**	**51**	*e*P	**P**	**22 59 53.2**	**+1.5**
CRVS	**Cervenica-Dubn**	**80.21**	**324**	*e*P	**P**	**22 59 54.3**	**+2.6**
NIE	**Niedzica**	**80.40**	**325**	*e*P	**P**	**22 59 55.8**	**+3.2**
MSU	**Marysvale**	**80.53**	**49**	*e*P	**P**	**22 59 54.9**	**+1.3**
KECS	**Kecovo**	**80.97**	**324**	*e*P	**P**	**22 59 55.4**	**-0.3**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
KECS	**Kecovo**	**80.97**	**324**	*e*P	**P**	**22 59 55.4**	**-0.3**
	comp=Z,1.5nm,0.9s,mb3.9						
MORC	**Moravsky Berou**	**81.42**	**327**	*e*P	**P**	**22 59 59.2**	**+1.1**
MORC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
MORC	**Moravsky Berou**	**81.42**	**327**	*e*P	**P**	**22 59 59.2**	**+1.1**
	comp=Z,5.0nm,1.0s,mb4.4						
CLL	**Collm**	**82.25**	**330**	*i* P	**P**	**23 00 01.3**	**-1.1**
	comp=Z,4.0nm,0.9s,mb4.3						
CLL				*i* Pmax		23 00 04.2	
	comp=Z,12nm,1.0s						
PV10	**Paradox Valley**	**

couple: $M_0$2.56000×10^{16} NP1:ϕ_s55.00000°,δ83.00000°, λ89.00000°. NP2:ϕ_s240.00000°,δ7.00000°,λ94.00000°.

BJI ***15*** *23:20:29.2, 3538N×14099E, h44km, mB5.0, mb4.8, Ms4.5, Msz4.3*

SZGRF ***15*** *23:20:30.8, 3572N×14130E, h11km, mb5.3, Near east coast of eastern Honshu, Japan*

MOS ***15*** *23:20:32.2±1.0, 3523N×14035E, h33km, mb5.3/70, MS4.1/4, Error ellipse: s-maj=7.4km s-min=4.4km az=112.2*

JMA ***15*** *23:20:32.6±0.1, 3541N×14055E, h29km±2km, M4.9 Broadband fault plane solution: P waves. NP1: ϕ_s254.00000°,δ31.00000°,λ106.00000°. NP2: ϕ_s55.00000°,δ60.00000°,λ80.00000°. Principal axes: T Plg73.0000°, Azm301.0000°; N Plg8.0000°, Azm60.0000°; P Plg15.0000°, Azm152.0000°;*

JMA Felt III J1.

IDC ***15*** *23:20:32.1±3.7, 3527N×14038E, h22km±23km, mb4.5/29, mb1 4.6/33, mb1mx4.6/35, mbtmp4.6/33, ML4.4/4, MS4.3/3, Ms1 4.4/3, ms1mx3.9/35 Error ellipse: s-maj=12.9km s-min=10.2km az=93.0*

ISCJB ***15*** *23:20:33.3±0.3, 3529N±003×14033E±002, h38km±3km, mb5.0/173, MS4.3/13, Error ellipse: s-maj=4.4km s-min=3.0km az=0.1*

NEIC ***15*** *23:20:35.3±0.7, 3529N×14029E, h44km±5km, mb5.1/108, MW4.9(NIED), Error ellipse: s-maj=4.3km s-min=3.0km az=159.0*

NEIC Recorded [3 JMA] in Chiba; [2 JMA] in Kanagawa and Tokyo; [1 JMA] in Saitama, Shizuoka and Tochigi Prefectures.

ISC 15 23:20:34.3±0.4, 3528N±003×14033E±002, h33km±2km, h34km±1.5km:pP-P,n767,σ0s78/774, mb5.0/173, MS4.3/13, 197C-163D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.14**	**184**	⇑P		**Pb**	**Pb**	**23 20 39.8**	**-0.4**
JCN	**Nagara**	**0.17**	**323**	⇓P		**Pb**	**Pb**	**23 20 40.1**	**-0.4**
JCN				S		**Sb**	**Sb**	**23 20 46.2**	**+1.4**
BSO4	**Boso 4**	**0.29**	**178**	⇑P		**Pb**	**Pb**	**23 20 42.5**	**+0.6**
BSO3	**Boso 3**	**0.50**	**163**	⇓P		**Pb**	**Pb**	**23 20 44.6**	**-0.3**
CHOJ	**Chosi**	**0.60**	**46**	⇓P		**Pb**	**Pb**	**23 20 41.2**	**-5.3**
CHOJ				S		**Sb**	**Sb**	**23 20 47.4**	**-7.5**
BSO1	**Boso 1**	**0.82**	**139**	⇓P		**Pn**	**Pn**	**23 20 47.0**	**-2.6**
JIM2	**Oshima 3**	**0.93**	**233**	P		**Pn**	**Pn**	**23 20 51.4**	**+0.4**
JIM2				*e*S		**Sn**	**Sn**	**23 21 05.5**	**+2.3**
JYT	**Yasato**	**0.95**	**354**	⇓P		**Pn**	**Pn**	**23 20 48.2**	**-3.1**
JYT				*e*S		**Sn**	**Sn**	**23 20 58.9**	**-4.8**
JOD2	**Odawara 2**	**1.01**	**269**	⇑P		**Pn**	**Pn**	**23 20 53.1**	**+0.9**
JOD2				S		**Sn**	**Sn**	**23 21 08.4**	**+3.1**
MJAR	**Matsushiro Arr**	**2.13**	**307**	Pn		**Pn**	**Pn**	**23 21 08.0**	**+0.5**
	50nm,0.3s,baz=111,slow=12,SNR=332								
MAJO	**Matsushiro**	**2.13**	**307**	*e*P		**Pn**	**Pn**	**23 21 09.1**	**+1.5**
MAT	**Matsushiro**	**2.13**	**307**	P		**Pn**	**Pn**	**23 21 08.9**	**+1.3**
MAT				S		**Sn**	**Sn**	**23 21 32.3**	**-0.6**
JHJ	**Hachijo jima 2**	**2.21**	**192**	Pn		**Pn**	**Pn**	**23 21 08.1**	**-0.6**
	191nm,0.3s,baz=170,slow=12,SNR=153								
JHJ				Sn		**Sn**	**Sn**	**23 21 33.2**	**-1.5**
	800nm,0.3s,baz=15,slow=19,SNR=22								
CBIJ	**Chichi jima**	**8.32**	**168**	Pn		**Pn**	**Pn**	**23 22 31.2**	**-1.4**
	46nm,0.3s,baz=102,slow=23,SNR=11								
CBIJ				Sn		**Sn**	**Sn**	**23 23 58.8**	**-6.6**
	8.4nm,0.3s,baz=116,slow=22,SNR=1.8								
ASAJ	**Asahikawa**	**8.99**	**11**	Pn		**Pn**	**Pn**	**23 22 39.6**	**-2.1**
	3.0nm,0.3s,baz=221,slow=14,SNR=16								
ASAJ				Sn		**Sn**	**Sn**	**23 24 17.7**	**-4.2**
	baz=169,slow=23,SNR=2.3								
ASAJ	**Asahikawa**	**8.99**	**11**	P		**Pn**	**Pn**	**23 22 39.7**	**-2.1**
ASAJ								23 24 17.7	
ASAJ				pmax		pmax			
	comp=Z,3.0nm,0.3s								
VLA	**Vladivostok**	**10.20**	**323**	*e*P		**Pn**	**Pn**	**23 23 00.2**	**+1.9**
VLA				pmax		pmax			
	comp=Z,36nm,0.7s								
VLA				MLR		MLR			
	comp=Z,900nm,13.7s								
KSRS	**Korea Array**	**10.23**	**286**	Pn		**Pn**	**Pn**	**23 23 03.0**	**+4.1**
	comp=Z,0.5nm,0.3s,baz=101,slow=14,SNR=43								
KSRS				LR		LR		23 27 04.4	
	comp=Z,2μm,19.9s,baz=91,slow=38								
KSRS	**Korea Array**	**10.23**	**286**	P		**Pn**	**Pn**	**23 23 03.0**	**+4.2**
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KSRS				MLR		MLR			
	comp=Z,2μm,19.9s								
KS15	**Wonju Array Si**	**10.26**	**286**	*e*Pn		**Pn**	**Pn**	**23 23 06.2**	**+7.0**
INCN	**Inchon**	**11.26**	**285**	Pn		**Pn**	**Pn**	**23 23 12.8**	**0.0**
YSS	**Yuzh-Sakhalins**	**11.80**	**8**	*e*P		**Pn**	**Pn**	**23 23 16.2**	**-4.0**
YSS	**Yuzh-Sakhalins**	**11.80**	**8**	*e*Pn		**Pn**	**Pn**	**23 23 19.3**	**-0.9**
MDJ	**Mudanjiang**	**12.43**	**322**	P		**Pn**	**Pn**	**23 23 30.8**	**+2.0**
MDJ				AP				23 23 36.3	
MDJ				S		**Sn**	**Sn**	**23 25 48.8**	**+2.8**
MDJ				AMB		AMB			
	comp=Z,7.0nm,1.7s								
MDJ				AMB		AMB			
	comp=Z,118nm,3.8s								
MDJ				LR		LR			
	comp=N,871nm,20.9s								
MDJ				LR		LR			
	comp=E,802nm,19.6s								
MDJ				LR		LR			
	comp=Z,2μm,20.9s								
MDJ	**Mudanjiang**	**12.43**	**322**	*e*Pn		**Pn**	**Pn**	**23 23 30.3**	**+1.6**
	comp=Z,73nm,1.3s								
CN2	**Changchun**	**14.27**	**311**	*e*P		**Pn**	**Pn**	**23 23 59.0**	**+5.0**
CN2				AMB		AMB			
	comp=Z,20nm,1.0s								
CN2				AMB		AMB			
	comp=Z,200nm,8.0s								
CN2				LR		LR			
	comp=N,900nm,16.0s								
CN2				LR		LR			
	comp=E,1μm,16.0s								
CN2				LR		LR			
	comp=Z,1μm,16.0s								
SNY	**Shenyang**	**14.63**	**302**	⇓P		**Pn**	**Pn**	**23 24 05.3**	**+6.4**
SNY				AMB		AMB			
	comp=Z,32nm,0.9s								
SNY				LR		LR			
	comp=N,744nm,14.4s								
SNY				LR		LR			
	comp=E,937nm,15.6s								
SNY				LR		LR			
	comp=Z,1μm,19.8s								
KLR	**Kul'dur**	**15.30**	**338**	*e*P		**Pn**	**Pn**	**23 24 01.8**	**-5.9**
DL2	**Dalian**	**15.35**	**289**	P		**Pn**	**Pn**	**23 24 13.3**	**+4.9**
DL2				*e*S		**Sn**	**Sn**	**23 27 04.4**	**+7.0**
DL2				AMB		AMB			
	comp=Z,20nm,1.0s								
DL2				AMB		AMB			
	comp=Z,170nm,5.5s								
DL2				LR		LR			
	comp=N,180nm,11.3s								
DL2				LR		LR			
	comp=E,970nm,15.5s								
DL2				LR		LR			
	comp=Z,1μm,16.4s								
NJ2	**Nanjing**	**18.16**	**266**	*e*P		**Pn**	**Pn**	**23 24 47.9**	**+4.0**
NJ2				AP		pP	pP	23 24 55.6	+3.0
NJ2				XP		sP	sP	23 24 57.8	+1.1
NJ2				PP				23 25 02.4	
NJ2				S		**Sn**	**Sn**	**23 28 06.0**	**+0.5**
NJ2				AMB		AMB			
	comp=Z,20nm,0.9s								
NJ2				AMB		AMB			
	comp=Z,290nm,10.2s								
NJ2				LR		LR			
	comp=N,370nm,21.0s								
NJ2				LR		LR			
	comp=E,500nm,12.6s								
NJ2				LR		LR			
	comp=Z,500nm,12.7s								
YHNB	**Yeheng**	**19.50**	**242**	P		**Pn**	**Pn**	**23 24 59.0**	**-1.1**
NACB	**Ninganchiao**	**19.64**	**241**	*e*P		**Pn**	**Pn**	**23 24 60.0**	**-1.8**
BJI	**Beijing**	**19.68**	**291**	P		**Pn**	**Pn**	**23 24 59.8**	**-2.3**
BJI				S		**Sn**	**Sn**	**23 28 42.3**	**+0.1**
BJI				AMB		AMB			
	comp=Z,15nm,1.5s								
BJI				AMB		AMB			
	comp=Z,390nm,11.7s								
BJI				LR		LR			
	comp=N,520nm,15.6s								
BJI				LR		LR			
	comp=E,764nm,17.2s								
BJI				LR		LR			
	comp=Z,1μm,21.9s								
BJT	**Baijiatuau**	**19.68**	**291**	*e*P		**Pn**	**Pn**	**23 25 00.1**	**-2.1**
BJT				pmax		pmax			
	comp=Z,102nm,1.4s								
BJT	**Baijiatuau**	**19.68**	**291**	*e*P		**Pn**	**Pn**	**23 25 00.1**	**-2.1**
	comp=Z,102nm,1.4s								
HIA	**Hailar**	**20.58**	**319**	*e*P		**P**	**P**	**23 25 08.0**	**-2.2**
HIA				pmax		pmax			
	comp=Z,23nm,0.9s								
HIA	**Hailar**	**20.58**	**319**	*e*P		**P**	**P**	**23 25 08.0**	**-2.3**
	comp=Z,23nm,0.9s								
PETK	**Petropavlovsk-**	**21.64**	**29**	P		**P**	**P**	**23 25 20.1**	**-1.5**
	comp=Z,29nm,1.0s,mb4.7,baz=208,slow=5.0,SNR=16								
PET	**Petropavlovsk**	**21.97**	**31**	⇑*e*P		**P**	**P**	**23 25 24.0**	**-1.1**
PET				pmax		pmax			
	comp=Z,175nm,1.6s,mb5.2								
PET	**Petropavlovsk**	**21.97**	**31**	*e*P		**P**	**P**	**23 25 25.9**	**+0.8**
	comp=Z,144nm,1.3s,mb5.2								
GUMO	**Guam**	**21.99**	**168**	P		**P**	**P**	**23 25 23.0**	**-2.6**
	comp=Z,17nm,0.4s,mb4.8,baz=255,slow=22,SNR=1.9								
WHN	**Wuhan**	**22.29**	**265**	*e*P		**P**	**P**	**23 25 29.0**	**+0.2**
HHC	**Hu-ho-hao-te**	**23.26**	**292**	*e*P		**P**	**P**	**23 25 37.6**	**-1.3**
HHC				AP				23 25 46.8	
HHC				XP		sP		23 25 51.0	-0.9
HHC				PP				23 26 08.8	
HHC				PCP		PcP		23 29 26.8	+1.1
HHC				S		**S**	**S**	**23 29 44.0**	**-4.7**
HHC				PCS		PcS		23 33 05.1	+0.3
HHC				AMB		AMB			
	comp=Z,15nm,1.0s,mb4.4								
HHC				AMB		AMB			
	comp=Z,253nm,5.0s								
HHC				LR		LR			
	comp=N,460nm,16.6s								
HHC				LR		LR			
	comp=E,458nm,22.6s								
HHC				LR		LR			
	comp=Z,728nm,19.8s,MS4.1								
CLNS	**Chul'man**	**23.96**	**339**	*e*P		**P**	**P**	**23 25 45.7**	**+0.3**
CLNS				pmax		pmax			
	comp=E,46nm,1.4s								
CLNS				pmax		pmax			
	comp=Z,99nm,1.4s,mb5.0								
CLNS				pmax		pmax			
	comp=N,28nm,0.7s								
XAN	**Xi'an**	**25.81**	**276**	P		**P**	**P**	**23 26 02.1**	**-0.4**
XAN				AP		pP		23 26 12.3	+0.5
XAN				PP				23 26 43.6	
XAN				S		**S**	**S**	**23 30 38.9**	**+9.1**
XAN				AMB		AMB			
	comp=Z,7.0nm,1.2s,mb4.1								
XAN				LR		LR			
	comp=N,408nm,17.3s,MS4.2								
XAN				LR		LR			
	comp=E,496nm,17.3s,MS4.2								
XAN				LR		LR			
	comp=Z,530nm,17.6s,MS4.1								
YAK	**Yakutsk**	**27.60**	**349**	*e*P		**P**	**P**	**23 26 16.0**	**-2.3**
YAK				pmax		pmax			
	comp=E,6.0nm,1.2s								
YAK				pmax		pmax			
	comp=Z,28nm,1.2s,mb4.8								
YAK				pmax		pmax			
	comp=N,19nm,1.5s								
YAK				MLR		MLR			
	comp=Z,752nm,21.0s,MS4.2								
YAK				MLR		MLR			
	comp=N,893nm,19.0s,MS4.5								
YAK				MLR		MLR			
	comp=E,419nm,14.0s,MS4.5								
YAK	**Yakutsk**	**27.60**	**349**	⇑*e*P		**P**	**P**	**23 26 16.5**	**-1.8**
SONM	**Songino Array**	**28.08**	**307**	P		**P**	**P**	**23 26 22.2**	**-0.5**
	comp=E,4.4nm,0.7s,mb4.2,baz=109,slow=9.1,SNR=17								
SONM				ScP		ScP		23 33 16.3	+1.4
	comp=E,0.3nm,0.5s,baz=114,slow=3.6,SNR=4.5								
SONM				LR		LR		23 38 15.6	
	comp=E,1μm,18.1s,MS4.5,baz=84,slow=38								
BOD	**Bodaibo**	**28.57**	**330**	*e*P		**P**	**P**	**23 26 25.5**	**-1.5**
BOD				pmax		pmax			
	comp=Z,19nm,1.0s,mb4.8								
SEY	**Seymchan**	**28.68**	**11**	⇑*e*P		**P**	**P**	**23 26 27.3**	**-0.5**
LZH	**Lanzhou**	**29.54**	**282**	*e*P		**P**	**P**	**23 26 36.3**	**+0.5**
LZH				PP		PP		23 27 32.3	-10
LZH				*e*S		**S**	**S**	**23 31 27.5**	**-0.9**
LZH				XS		sS		23 31 47.0	+3.0
LZH				AMB		AMB			
	comp=Z,28nm,1.5s,mb4.8								
LZH				AMB		AMB			
	comp=Z,130nm,5.2s								
LZH				LR		LR			
	comp=E,607nm,14.9s								
LZH				LR		LR			
	comp=Z,864nm,16.6s,MS4.5								
GYA	**Guiyang**	**30.09**	**262**	⇑*i*P		**P**	**P**	**23 26 44.6**	**+3.8**
GYA				AP		pP		23 26 54.3	+4.1
GYA				XP		sP		23 26 59.8	+5.6
GYA				PP		PP		23 27 44.0	-4.9
GYA				S		**S**	**S**	**23 31 39.8**	**+2.6**
GYA				XS		sS		23 31 57.9	+5.1
GYA				AMB		AMB			
	comp=Z,40nm,1.0s,mb5.1								
GYA				AMB		AMB			
	comp=Z,160nm,5.8s								
GYA				LR		LR			
	comp=N,670nm,17.6s,MS4.5								
GYA				LR		LR			
	comp=E,780nm,16.9s,MS4.5								
GYA				LR		LR			
	comp=Z,660nm,17.8s,MS4.3								
ZAK	**Zakamensk**	**30.71**	**311**	⇑*i*P		**P**	**P**	**23 26 44.7**	**-1.3**
ZAK				*e*				23 29 39.6	
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.1s,mb4.2								
CD2	**Chengdu**	**30.83**	**272**	⇓*i*P		**P**	**P**	**23 26 46.8**	**-0.5**
CD2				AP		pP		23 26 56.3	-0.4
CD2				XP		sP		23 27 01.3	+0.6
CD2				PP		PP		23 27 48.4	-8.7
CD2				PCP		PcP		23 29 43.8	0.0
CD2				S		**S**	**S**	**23 31 46.8**	**-2.0**
CD2				AMB		AMB			
	comp=Z,20nm,0.8s,mb5.0								
CD2				AMB		AMB			
	comp=Z,40nm,6.8s								
CD2				LR		LR			
	comp=N,570nm,15.6s,MS4.7								
CD2				LR		LR			
	comp=E,1μm,15.6s,MS4.7								
CD2				LR		LR			
	comp=Z,1μm,16.8s,MS4.6								
TLY	**Talaya**	**30.85**	**314**	*e*P		**P**	**P**	**23 26 51.3**	**+4.1**
TLY				pmax		pmax			
	comp=Z,9.0nm,1.0s,mb4.5								
TLY				MLR		MLR			
	comp=Z,708nm,17.0s,MS4.4								
TLY	**Talaya**	**30.85**	**314**	*e*P		**P**	**P**	**23 26 46.8**	**-0.4**
QIZ	**Qiongzhong**	**31.42**	**247**	P		**P**	**P**	**23 26 54.8**	**+2.2**
QIZ				S		**S**	**S**	**23 32 00.8**	**+2.6**
QIZ				LR		LR			
	comp=N,423nm,17.2s								
QIZ				LR		LR			
	comp=Z,310nm,16.5s,MS4.1								
QIZ	**Qiongzhong**	**31.42**	**247**	*e*P		**P**	**P**	**23 26 52.0**	**-0.6**
GTA	**Gaotai**	**32.28**	**290**	*e*P		**P**	**P**	**23 27 00.8**	**+0.9**
GTA				AP		pP		23 27 10.8	+1.4
GTA				XP		sP		23 27 14.6	+1.2
GTA				S		**S**	**S**	**23 32 11.1**	**-0.2**
GTA				AMB		AMB			
	comp=Z,3.0nm,0.8s,mb4.2								
GTA				AMB		AMB			
	comp=Z,255nm,7.1s								
GTA				LR		LR			
	comp=N,396nm,17.5s,MS4.3								
GTA				LR		LR			
	comp=E,515nm,19.3s,MS4.3								
GTA				LR		LR			
	comp=Z,701nm,19.3s,MS4.4								
KMI	**Kunming**	**33.85**	**263**	P		**P**	**P**	**23 27 16.1**	**+2.3**
KMI				AP		pP		23 27 26.0	+2.7
KMI				S		**S**	**S**	**23 32 38.1**	**+2.1**
KMI				AMB		AMB			
	comp=Z,8.0nm,0.9s,mb4.7								
KMI				LR		LR			
	comp=N,496nm,13.8s,MS4.6								
KMI				LR		LR			
	comp=E,616nm,16.1s,MS4.6								
KMI				LR		LR			
	comp=Z,715nm,16.1s,MS4.5								
BILL	**Bilibino**	**35.95**	**16**	*c i*P		**P**	**P**	**23 27 29.9**	**-1.5**
BILL				pmax		pmax			
	comp=Z,30nm,1.0s,mb5.2								
HVS	**Khovu-Aksy**	**36.82**	**310**	⇑*i*P		**P**	**P**	**23 27 40.3**	**+1.3**
HVS				pmax		pmax			
	comp=Z,58nm,1.3s,mb5.2								
TIXI	**Tiksi**	**36.93**	**354**	*e*P		**P**	**P**	**23 27 37.0**	**-2.7**
TIXI				pmax		pmax			
	comp=Z,10.0nm,1.2s,mb4.5								
TIXI	**Tiksi**	**36.93**	**354**	*e*P		**P**	**P**	**23 27 38.0**	**-1.7**
KRAR	**Krasnoyarsk**	**38.14**	**318**	⇑*i*P		**P**	**P**	**23 27 50.1**	**-0.1**
KRAR				pmax		pmax			
	comp=Z,26nm,0.6s,mb5.1								
CHTO	**Chiang Mai**	**40.02**	**257**	*e*P		**P**	**P**	**23 28 09.3**	**+3.0**
CMAR	**Chiang Mai Arr**	**40.22**	**256**	P		**P**	**P**	**23 28 07.8**	**-0.2**
	comp=Z,1.2nm,0.6s,mb3.8,baz=55,slow=5.9,SNR=7.6								
CMAR				PcP		PcP		23 30 09.7	-1.9
	comp=Z,1.2nm,0.5s,baz=16,slow=3.0,SNR=6.2								
CMAR				LR		LR		23 47 35.7	
	comp=Z,188nm,18.1s,MS4.0,baz=65,slow=40								
CMAR	**Chiang Mai Arr**	**40.22**	**256**	P		**P**	**P**	**23 28 07.8**	**-0.1**
CMAR								23 30 09.7	
WMQ	**Urumqi**	**40.87**	**298**	P		**P**	**P**	**23 28 15.8**	**+2.7**
WMQ				AP		pP		23 28 25.5	+2.8
WMQ				XP		sP		23 28 29.5	+2.9
WMQ				PP		PP		23 29 54.0	+6.5
WMQ				AMB		AMB			
	comp=Z,37nm,1.4s,mb4.8								
WMQ				LR		LR			
	comp=N,254nm,18.1s,MS4.4								
WMQ				LR		LR			
	comp=E,444nm,22.7s,MS4.4								
WMQ				LR		LR			
	comp=Z,448nm,20.6s,MS4.3								
LSA	**Lhasa**	**41.51**	**277**	P		**P**	**P**	**23 28 20.3**	**+1.8**
LSA	**Lhasa**	**41.51**	**277**	*e*P		**P**	**P**	**23 28 18.7**	**+0.2**
LSA				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.5								
LSA	**Lhasa**	**41.51**	**277**	*e*P		**P**	**P**	**23 28 18.7**	**+0.2**
	comp=Z,10nm,0.8s,mb4.5								
ZALV	**Zalesovo Beam**	**42.47**	**314**	P		**P**	**P**	**23 28 25.9**	**-0.1**
	comp=Z,11nm,0.8s,mb4.5,baz=111,slow=8.1,SNR=48								
ZALV				PcP		PcP		23 30 17.3	-1.0
	comp=Z,2.9nm,0.6s,baz=135,slow=5.2,SNR=4.1								
ZAL	**Zalesovo**	**42.48**	**314**	P		**P**	**P**	**23 28 25.9**	**-0.2**
ZAL								23 30 17.3	
NVS	**Novosibirsk**	**43.43**	**315**	⇑*i*P		**P**	**P**	**23 28 33.0**	**-0.8**
NVS				*e*				23 30 50.2	
NVS				pmax		pmax			
	comp=N,13nm,1.2s								
NVS				pmax		pmax			
	comp=E,34nm,1.2s								
NVS				pmax		pmax			
	comp=Z,36nm,1.2s,mb5.0								
MK31	**Makanchi Array**	**44.33**	**303**	*e*P		**P**	**P**	**23 28 41.3**	**+0.2**
MKAR	**Makanchi Array**	**44.33**	**303**	P		**P**	**P**	**23 28 41.2**	**+0.2**
	comp=Z,13nm,0.9s,mb4.7,baz=90,slow=9.4,SNR=69								
TAPN	**Taplejung**	**45.20**	**275**	*e*P		**P**	**P**	**23 28 49.0**	**+0.7**
ODAN	**Odare**	**45.66**	**275**	*e*P		**P**	**P**	**23 28 52.0**	**0.0**
CHGN	**Chignik**	**45.84**	**43**	*e*P		**P**	**P**	**23 28 50.5**	**-2.4**
RAMN	**Ramite**	**46.27**	**275**	*e*P		**P**	**P**	**23 28 57.1**	**+0.4**
	comp=Z,74nm,0.7s,mb5.7								
JIRN	**Jiri**	**46.32**	**276**	*e*P		**P**	**P**	**23 28 58.0**	**+0.9**
	comp=Z,63nm,0.8s,mb5.6								
KURK	**Kurchatov**	**46.34**	**309**	*e*P		**P**	**P**	**23 28 56.6**	**-0.4**
KURK				pmax		pmax			
	comp=Z,56nm,1.0s,mb5.5								
KURK	**Kurchatov**	**46.34**	**309**	*e*P		**P**	**P**	**23 28 56.6**	**-0.4**
	comp=Z,56nm,1.0s,mb5.5								
GUN	**Gumba**	**46.47**	**277**	*e*P		**P**	**P**	**23 28 59.1**	**+0.8**
	comp=Z,66nm,0.9s,mb5.6								
PKI	**Pulchoki**	**46.99**	**277**	*e*P		**P**	**P**	**23 29 02.7**	**+0.3**
KKN	**Kakani**	**47.00**	**277**	*e*P		**P**	**P**	**23 29 02.8**	**+0.3**
DMN	**Daman**	**47.22**	**277**	*e*P		**P**	**P**	**23 29 04.3**	**+0.1**
	comp=Z,37nm,1.0s,mb5.3								
TTA	**Tatalina**	**47.36**	**34**	*e*P		**P**	**P**	**23 29 04.8**	**0.0**
TTA				*e*				23 30 35.5	
GKN	**Gorkha**	**47.44**	**277**	*e*P		**P**	**P**	**23 29 06.6**	**+0.7**
SVW2	**Sparrevohn**	**47.45**	**36**	*e*P		**P**	**P**	**23 29 05.8**	**+0.3**
DANN	**Dangsing**	**48.02**	**278**	*e*P		**P**	**P**	**23 29 11.4**	**+1.0**
	comp=Z,108nm,0.9s,mb5.9								
KAKA	**Kakadu**	**48.31**	**190**	⇓*i*P		**P**	**P**	**23 29 12.1**	**-0.5**
	comp=Z,17nm,0.6s,mb5.3								
IMA2	**Indian Mountai**	**48.64**	**30**	*e*P		**P**	**P**	**23 29 14.4**	**-0.2**
KDAK	**Kodiak Island**	**48.99**	**41**	P		**P**	**P**	**23 29 16.6**	**-0.9**
	comp=Z,22nm,1.0s,mb5.1,baz=329,slow=3.2,SNR=7.7								
KDAK	**Kodiak Island**	**48.99**	**41**	*e*P		**P**	**P**	**23 29 16.8**	**-0.6**
KDAK				pmax		pmax			
	comp=Z,33nm,1.1s,mb5.3								
KDAK	**Kodiak Island**	**48.99**	**41**	*e*P		**P**	**P**	**23 29 16.8**	**-0.6**
	comp=Z,33nm,1.1s,mb5.3								
CHUM	**Lake Minchumin**	**49.08**	**33**	*e*P		**P**	**P**	**23 29 18.5**	**+0.5**
	comp=Z,21nm,1.1s,mb5.1								
CHUM				*e*pP		pP		23 29 31.3	+3.5
CHUM				*e*sP		sP		23 29 37.0	+5.3
CHUM				*e*PcP		PcP		23 30 42.0	+0.8
PPLA	**Purkeypile**	**49.11**	**34**	*e*P		**P**	**P**	**23 29 19.1**	**+0.9**
	comp=Z,47nm,1.4s,mb5.3								
PPLA				*e*pP		pP		23 29 33.3	+5.2
PPLA				*e*sP		sP		23 29 38.4	+6.4
PPLA				*e*PP		PP		23 31 13.0	+1.2
KTH	**Kantishna Hill**	**49.69**	**33**	*e*P		**P**	**P**	**23 29 22.8**	**+0.2**
	comp=Z,32nm,1.2s,mb5.2								
TKM2	**Tokmak 2**	**49.70**	**299**	*e*P		**P**	**P**	**23 29 22.8**	**-0.3**
TKM2				pmax		pmax			
	comp=Z,36nm,1.1s,mb5.3								
TKM2	**Tokmak 2**	**49.70**	**299**	*e*P		**P**	**P**	**23 29 22.8**	**-0.3**
	comp=Z,36nm,1.1s,mb5.3								
SLKM	**Skilak Lake**	**50.08**	**37**	*e*P		**P**	**P**	**23 29 22.4**	**-3.2**

SOKR Solikamsk 57.19 323c iP P 23 30 20.8 +3.0
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
KBL Kabul 57.23 292 eP P 23 30 18.3 -0.2
KBL pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
KBL Kabul 57.23 292 eP P 23 30 18.3 -0.2
comp=Z,6.5nm,0.8s,mb4.7
HYB Hyderabad 57.28 269 i P P 23 30 20.0 +1.0
SKAG Skagway 57.62 37 eP P 23 30 24.0 +3.2
ASAR Alice Springs 58.94 187 P P 23 30 30.2 -0.1
comp=Z,4.3nm,0.8s,mb4.5,baz=11,slow=5.6,SNR=29
MBWA Marble Bar 59.44 202 eP P 23 30 34.5 +0.7
WRAK Wrangell Islan 60.05 40 P P 23 30 38.7 +1.0
comp=Z,9.8nm,1.0s,mb4.8
DLBC Dease Lake 60.55 37 P P 23 30 41.5 +0.4
baz=292,slow=8.1
DLBC Dease Lake 60.55 37 P P 23 30 41.5 +0.4
PALK Pallekele 61.14 258 P P 23 30 44.2 -1.5
EIDS Eidsvold 61.17 169 eP P 23 30 41.1 -4.5
comp=Z,100nm,0.8s,mb6.0
SPITS Spitsbergen Ar 62.07 349 P P 23 30 51.8 +0.7
comp=Z,5.2nm,0.7s,mb4.8,baz=119,slow=12,SNR=3.8
APA Apatity 63.92 336 eP P 23 31 00.0 -3.5
APA i 23 31 13.8
APA pmax pmax
comp=Z,12nm,0.8s,mb5.0
RES Resolute Bay 64.51 14 eP P 23 31 04.5 -2.8
KEV Kevo 64.77 339 ep P 23 31 06.3 -2.7
comp=Z,14nm,0.8s,mb5.0
KEV Kevo 64.77 339 eP P 23 31 08.3 -0.7
KEV pmax pmax
comp=Z,36nm,1.2s,mb5.3
KEV Kevo 64.77 339 eP P 23 31 08.3 -0.7
comp=Z,36nm,1.2s,mb5.3
KLMR Klimovskoe 64.77 328 P P 23 31 07.7 -1.5
KLMR pmax pmax
comp=Z,32nm,1.3s,mb5.2
ARCES ARCESS Array B 65.32 339 P P 23 31 12.4 -0.3
comp=Z,6.4nm,0.9s,mb4.7,baz=47,slow=8.9,SNR=12
YKA Yellowknife Ar 65.76 29 P P 23 31 14.7 -0.9
comp=Z,8.0nm,0.9s,mb4.7,baz=297,slow=6.5,SNR=15
YKA Yellowknife Ar 65.76 29 P P 23 31 14.7 -0.9
FORT Forrest 66.72 191 eP P 23 31 21.5 -0.5
comp=Z,43nm,0.7s,mb5.6
STKA Stephens Creek 66.82 179 eP P 23 31 27.5 +4.9
comp=Z,7.2nm,0.9s,mb4.7
STKA Stephens Creek 66.82 179 P P 23 31 22.4 -0.2
comp=Z,2.3nm,0.7s,mb4.3,baz=342,slow=13,SNR=2.5
STKA Stephens Creek 66.82 179 eP P 23 31 22.6 0.0
JOF Joensuu 67.09 332 ep P 23 31 22.3 -1.8
comp=Z,9.1nm,0.6s,mb5.0
C03A Quillayute Air 67.87 46 ⇑P P 23 31 29.0 -0.2
baz=68,SNR=9.7
MOS Moscow 68.13 324 eP P 23 31 32.2 +1.4
MOS e 23 31 51.0
MOS e 23 31 56.0
MOS pmax pmax
comp=Z,52nm,1.1s,mb5.5
PGC Sidney 68.19 45 eP P 23 31 31.6 +0.3
B04A Port Angeles 68.44 46 ⇓P P 23 31 32.7 -0.1
baz=68
NLWA Neilton Lookou 68.55 47 ⇑P P 23 31 33.4 -0.1
baz=68
NLWA Neilton Lookou 68.55 47 eP P 23 31 34.4 +0.9
A04A Legoe Bay, Lum 68.58 45 ⇑P P 23 31 33.5 -0.3
baz=68
D03A Wishkah Elem. 68.74 47 ⇑P P 23 31 34.5 -0.3
baz=68
A05A Maple Falls 68.81 44 ⇓P P 23 31 34.6 -0.5
baz=68
C04A Brinnon 68.92 46 ⇑P P 23 31 35.2 -0.6
baz=69
OBN Obninsk 68.97 323c iP P 23 31 35.2 -0.8
OBN e 23 32 00.2
OBN pmax pmax
comp=Z,72nm,1.6s,mb5.3
OBN Obninsk 68.97 323 eP P 23 31 35.6 -0.4
comp=Z,25nm,0.8s,mb5.2
GNW Green Mountain 69.08 46 eP P 23 31 38.5 +1.7
A06A Chilliwack 69.10 44 ⇑P P 23 31 36.2 -0.8
baz=69
E03A Lebam 69.15 47 ⇓P P 23 31 37.1 -0.1
baz=69
B05A Bryant 69.16 45 ⇓P P 23 31 36.8 -0.5
baz=69
JCW Jim Creek 69.29 45 P P 23 31 38.6 +0.4
D04A Dobbs Creek Ra 69.32 46 ⇓P P 23 31 37.9 -0.4
baz=69
B06A Marblemount 69.39 45 ⇓P P 23 31 38.1 -0.6
baz=69
RPW Rockport 69.41 45 eP P 23 31 38.1 -0.7
F03A Seaside 69.45 48 ⇑P P 23 31 38.4 -0.8
baz=69
KAF Kangasniemi 69.46 333 ep P 23 31 35.4 -3.5
comp=Z,21nm,0.9s,mb5.1,baz=49,slow=5.8
KAF Kangasniemi 69.46 333 eP P 23 31 35.4 -3.5
KAF pmax pmax
comp=Z,21nm,0.9s,mb5.1
E04A Onalaska 69.63 47 ⇑P P 23 31 39.9 -0.4
baz=69
KMOR Kings Mountain 69.64 48 P P 23 31 41.1 +0.8
VRSR Storozhevoye 69.66 319 eP P 23 31 39.5 -0.8
VRSR pmax pmax
comp=E,4.0nm,0.9s
VRSR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=N,3.0nm,0.8s
C05A Tolt Reservoir 69.68 46 ⇑P P 23 31 39.9 -0.6
baz=69
A07A Ashnola River, 69.75 44 ⇑P P 23 31 40.5 -0.4
baz=69
D05A Enumclaw 69.76 46 ⇓P P 23 31 40.9 -0.1
baz=70
H02A Toledo 69.81 49 ⇑P P 23 31 40.6 -0.8
baz=70
KLBR Kellerberrin 69.82 200 eP P 23 31 48.2 +6.8
comp=N,42nm,0.9s,mb5.4
G03A Yamhill 69.93 48 ⇓P P 23 31 42.0 -0.1
baz=70
C06A Tall Timber Ra 70.03 45 ⇓P P 23 31 42.5 -0.1
baz=70
TDL Tradedollar La 70.05 47 P P 23 31 43.7 +0.8
FMW Mount Fremont 70.08 46 P P 23 31 45.5 +2.5
F04A Amboy 70.14 47 ⇑P P 23 31 42.5 -0.9
baz=70
B07A Winthrop 70.20 44 ⇓P P 23 31 43.3 -0.4
baz=70
E05A Randle 70.22 47 ⇑P P 23 31 43.5 -0.4
baz=70
H03A Soap Creek Ran 70.24 49 ⇑P P 23 31 43.4 -0.6
baz=70
I02A Mapleton 70.25 50 ⇓P P 23 31 44.2 +0.1
baz=70
A08A Turner Farm, O 70.42 43 ⇑P P 23 31 44.6 -0.5
baz=70
D06A Cle Elum 70.43 46 ⇓P P 23 31 45.1 0.0
baz=70
K01A Sixes 70.44 51 ⇑P P 23 31 44.9 -0.4
baz=70
G04A Mulino 70.47 48 ⇑P P 23 31 45.6 +0.1
baz=70
KEBM Edson Butte 70.50 51 eP P 23 31 47.2 +1.6
ETW Entiat 70.52 45 eP P 23 31 45.7 0.0
I03A Eugene 70.61 50 ⇓P P 23 31 46.0 -0.3
baz=70
C07A Waterville 70.63 45 ⇑P P 23 31 45.6 -0.8
baz=70
MUN Mundaring 70.64 202 eP P 23 31 52.5 +6.1
E06A Yakima 70.69 46 ⇓P P 23 31 46.0 -0.8
baz=70,SNR=8.9
MOR8 Moi Rana 70.70 340 eP P 23 31 45.0 -1.4
MOR8 AMb AMB 23 31 50.0
comp=Z,48nm,1.7s,mb5.2
B08A Colville Reser 70.70 44 ⇑P P 23 31 46.5 -0.3
baz=70
J02A Umpqua 70.73 50 ⇓P P 23 31 46.9 -0.1
baz=70
EBG Ellensburg 70.74 46 P P 23 31 47.7 +0.6
F05A White Salmon 70.74 47 ⇓P P 23 31 47.1 0.0
baz=70
A09A Danville 70.80 43 ⇓P P 23 31 47.3 0.0
baz=70
KBO Bosley Butte 70.90 52 eP P 23 31 49.9 +1.7
HOOD Mount Hood Mea 70.92 48 eP P 23 31 48.2 +0.1
comp=Z,18nm,0.9s,mb5.0
H04A Detroit Lake 70.92 48 ⇑P P 23 31 48.2 0.0
baz=71
D07A Quincy 70.94 45 ⇓P P 23 31 48.4 +0.1
baz=71
DGRG David-gareji 70.97 308 P P 23 31 52.1 +3.6
STOK Stokkvaagen 70.98 340 eP PcP 23 32 09.9 +1.5
K02A Glendale 71.09 51 ⇑P P 23 31 49.2 0.0
baz=71
M01C Crescent City 71.15 52 ⇓P P 23 31 49.8 +0.1
baz=71
G05A Wamic 71.16 48 ⇑P P 23 31 49.6 0.0
baz=71
C08A Higginbotham F 71.17 44 ⇓P P 23 31 49.0 -0.6
baz=71
NWAO Narrogin (SRO) 71.22 200 eP P 23 31 49.3 -0.6
NWAO e 23 34 24.5
NWAO pmax pmax
comp=Z,30nm,1.0s
NWAO Narrogin (SRO) 71.22 200 eP P 23 31 49.3 -0.7
comp=Z,30nm,1.0s,mb5.2
NWAO ePP PP 23 34 24.5 -4.1
TBLG Delisi 71.23 308 P P 23 31 53.6 +3.4
I04A Tendick Farm, 71.24 49 ⇑P P 23 31 50.1 0.0
baz=71,SNR=12
EDM Edmonton 71.27 38 eP P 23 31 49.2 -0.9
L02A Cave Junction 71.33 51 ⇑P P 23 31 50.6 -0.1
baz=71
B09A Rice 71.34 44 ⇓P P 23 31 50.2 -0.4
baz=71,SNR=10
E07A Sunnyside 71.34 46 ⇓P P 23 31 50.7 0.0
baz=71
A10A Northport 71.37 43 ⇑P P 23 31 50.4 -0.4
baz=71
KIV Kislovodsk 71.39 311d iP P 23 31 49.5 -1.5
KIV pmax pmax
comp=Z,24nm,1.3s,mb5.0
KIV Kislovodsk 71.39 311 ⇓iP P 23 31 52.6 +1.6
KIV Kislovodsk 71.39 311 i P P 23 31 49.6 -1.4
KIV ⇓P 23 31 52.6
HUMO Hull Mountain 71.51 51 ⇑P P 23 31 52.0 +0.2
baz=71
HUMO Hull Mountain 71.51 51 eP P 23 31 51.7 -0.1
comp=Z,4.2nm,1.0s,mb4.3
VSU Vasula 71.51 329⇑iP P 23 31 50.9 -0.6
OD2 Odessa Site #2 71.57 45 P P 23 31 52.0 -0.1
ONI Oni 71.62 309 P P 23 31 54.0 +1.5
D08A Wollman Farm, 71.62 45 ⇑P P 23 31 52.0 -0.4
baz=71
F07A Phinny Hill Vi 71.65 46 ⇓P P 23 31 52.5 0.0
baz=71
J04A Umpqua Nationa 71.71 50 ⇓P P 23 31 53.0 0.0
baz=71
JCC Jacoby Creek 71.74 53 ⇑P P 23 31 53.2 0.0
baz=72
E08A Dider Farm, El 71.84 46 ⇑P P 23 31 54.2 +0.5
baz=72
VIPM Ingram Point 71.97 48 P P 23 31 55.1 +0.6
D09A Jones Farm, Ri 71.97 45 ⇓P P 23 31 54.6 +0.1
baz=72
NEW Newport 72.00 43 eP P 23 31 53.9 -0.7
NEW pmax pmax
comp=Z,21nm,1.2s
NEW Newport 72.00 43 eP P 23 31 53.9 -0.7
comp=Z,21nm,1.2s,mb5.0
H06A Lindquist Farm 72.02 48 ⇑P P 23 31 54.5 -0.3
baz=72,SNR=6.8
A11A Hall Mountain, 72.04 42 ⇓P P 23 31 54.7 -0.2
baz=72,SNR=12
GNI Garni 72.05 307⇑iP P 23 31 55.9 +0.8
GNI pmax pmax
comp=Z,31nm,1.3s
GNI Garni 72.05 307⇑iP P 23 31 55.0 -0.1
YBH Yreka Blue Hor 72.12 51 P P 23 31 55.9 +0.4
comp=Z,5.6nm,0.9s,mb4.5,baz=347,slow=2.6,SNR=10
YBH Yreka Blue Hor 72.12 51 ⇑P P 23 31 55.6 +0.1
baz=72
M02C Callahan 72.20 52 ⇑P P 23 31 56.3 +0.4
baz=72,SNR=8.2
N02C Big Bar 72.21 52 ⇓P P 23 31 55.9 -0.1
baz=72
J05A Fort Rock 72.23 49 ⇑P P 23 31 56.3 +0.2
baz=72,SNR=5.1
B11A Sandpoint 72.33 43 ⇑P P 23 31 56.9 +0.3
baz=72
E09A Wood Farm, Sta 72.36 45 ⇓P P 23 31 57.4 +0.6
baz=72
L04A Klamath Falls 72.41 51 ⇑P P 23 31 57.5 +0.4
baz=72
I06A Prineville 72.51 48 ⇑P P 23 31 58.1 +0.4
baz=72
G08A Pilot Rock 72.55 47 ⇑P P 23 31 57.4 -0.5
baz=72
H07A Lands Inn, Kim 72.56 48 ⇑P P 23 31 57.9 -0.1
baz=72
D10A Wagner Farm, O 72.57 44 ⇑P P 23 31 58.5 +0.5
baz=72
KIPM Iron Peak 72.62 53 eP P 23 31 59.1 +0.6
LNOR Lincton Mounta 72.63 46 eP P 23 31 59.1 +0.7
LNOR e pP 23 32 09.3 +0.7
M04C Macdoel 72.64 51 ⇓P P 23 31 58.8 +0.2
baz=72
M03C McCloud 72.73 51 ⇑P P 23 31 60.0 +0.9
baz=72
K05A Summer Lake 72.74 50 ⇑P P 23 31 59.5 +0.4
baz=72,SNR=16
B12A Libby 72.74 43 ⇓P P 23 31 59.6 +0.6
baz=72
WDC Whiskeytown Da 72.83 52 eP P 23 31 59.6 -0.1
WDC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
WDC Whiskeytown Da 72.83 52 ⇓P P 23 32 00.2 +0.5
baz=72
WDC Whiskeytown Da 72.83 52 eP P 23 31 59.6 -0.1
comp=Z,9.9nm,1.0s,mb4.7
I07A Izee 72.87 48 ⇓P P 23 32 00.1 +0.2
baz=73
O02C Red Bluff 72.88 53 ⇓P P 23 32 00.2 +0.1
baz=73,SNR=8.4
P01C Double 8 Ranch 72.89 54 ⇑P P 23 32 00.5 +0.4
baz=73
J06A Christmas Vall 72.92 49 ⇑P P 23 32 00.2 0.0
baz=73,SNR=9.0
E10A Myers Farm, Un 72.98 45 ⇓P P 23 32 00.2 -0.3
baz=73
K06A Valley Falls 73.10 49 ⇑P P 23 32 01.1 -0.2
baz=73
D11A Klaveano Farm, 73.11 44 ⇑P P 23 32 00.7 -0.6
baz=73
L05A Lakeview 73.14 50 ⇑P P 23 32 01.9 +0.4
baz=73
F10A Beach Ranch, E 73.19 45 ⇑P P 23 32 02.0 +0.2
baz=73
GASB Alder Springs 73.20 53 ⇑P P 23 32 02.3 +0.4
baz=73
G09A Cove 73.25 46 ⇑P P 23 32 02.4 +0.2
baz=73
M05C Lookout 73.31 51 ⇓P P 23 32 02.8 +0.2
baz=73
WALA Waterton Lakes 73.33 41 eP P 23 32 02.3 -0.2
comp=Z,29nm,1.3s,mb5.0
J07A Hines 73.37 48 ⇑P P 23 32 03.0 +0.1
baz=73,SNR=6.0
HATC Hat Creek Radi 73.40 52 ⇓P P 23 32 03.3 +0.2
baz=73
B13A Whitefish 73.41 42 ⇑P P 23 32 03.2 +0.2
baz=73,SNR=12
I08A Drewsey 73.53 48 ⇓P P 23 32 03.8 0.0
baz=73
MOD Modoc 73.55 50 ⇑P P 23 32 03.7 -0.3
baz=73
MOD Modoc 73.55 50 eP P 23 32 03.5 -0.5
comp=Z,12nm,1.1s,mb4.7
E11A Bogner Ranch, 73.57 45 ⇑P P 23 32 04.1 +0.1
baz=73
G10A Bishop Farm, J 73.63 46 ⇑P P 23 32 04.2 -0.2
baz=73
C13A Hot Springs 73.75 43 ⇑P P 23 32 04.6 -0.4
baz=73,SNR=12
K07A Rock Creek Ran 73.78 49 ⇓P P 23 32 05.2 -0.1
baz=74,SNR=18
MNRC McLaughlin Nat 73.80 54 ⇑P P 23 32 04.8 -0.6
baz=74
M06C Likely Place G 73.82 51 ⇑P P 23 32 05.7 +0.1
baz=74
F11A Grangeville 73.86 45 ⇑P P 23 32 05.3 -0.4
baz=74,SNR=9.6
J08A Circle Bar Ran 73.89 48 ⇑P P 23 32 05.9 0.0
baz=74,SNR=16
I09A Lost Marbles R 74.00 47 ⇓P P 23 32 05.9 -0.6
baz=74
ORV Oroville 74.05 53 ⇑P P 23 32 06.6 -0.4
baz=74
G11A Walters Elk Ra 74.07 45 ⇑P P 23 32 07.0 0.0
baz=74
L07A Adell 74.09 50 ⇓P P 23 32 07.5 +0.4
baz=74,SNR=15
ANN Anapa 74.11 314 eP P 23 32 08.8 +1.6
ANN pmax pmax
comp=Z,33nm,1.3s,mb5.1
D13A Huson 74.15 43 ⇑P P 23 32 06.7 -0.6
baz=74
K08A Mann Creek Ran 74.23 49 ⇓P P 23 32 07.5 -0.4
baz=74
H10A Noah's Angus R 74.25 46 ⇓P P 23 32 07.5 -0.5
baz=74
WVOR Wild Horse Val 74.30 49 eP P 23 32 07.7 -0.6
WVOR pmax pmax
comp=Z,13nm,1.1s,mb4.8
WVOR Wild Horse Val 74.30 49 eP P 23 32 07.7 -0.6
comp=Z,13nm,1.1s,mb4.8
J09A Fry Pan Ranch, 74.33 48 ⇓P P 23 32 08.4 -0.1
baz=74,SNR=15
F12A Elk City 74.46 45 ⇑P P 23 32 08.8 -0.4
baz=74,SNR=28
N06A Buffalo Meadow 74.47 51 ⇑P P 23 32 09.4 0.0
baz=74
I10A Payette 74.49 47 ⇓P P 23 32 09.5 +0.1
baz=74
M07A Soldier Meadow 74.54 50 ⇑P P 23 32 09.7 0.0
baz=74,SNR=16
MSO Missoula 74.59 43 eP P 23 32 09.4 -0.5
comp=Z,7.9nm,1.1s,mb4.6
H11A Donnelly 74.61 46 ⇑P P 23 32 10.1 0.0
baz=74
L08A Fields 74.61 49 ⇑P P 23 32 10.8 +0.6
baz=74,SNR=6.2
BEKR Beckwourth 74.62 52 ⇓P P 23 32 10.7 +0.5
baz=74,SNR=9.2
E13A Victor 74.67 44 ⇑P P 23 32 10.3 -0.2
baz=74
D14A Greenough 74.69 43 ⇑P P 23 32 10.1 -0.4
baz=74
K09A Rome 74.71 48 ⇓P P 23 32 10.3 -0.4
baz=74,SNR=15
O06A Flanigan 74.80 51 ⇓P P 23 32 10.9 -0.3
baz=74
CHMT Chamberlain Mo 74.92 43 eP P 23 32 11.7 -0.1
F13A Darby 74.97 44 ⇑P P 23 32 12.0 -0.2
baz=75,SNR=11
LAVA Lava Cap Winer 74.98 53 ⇓P P 23 32 12.6 +0.3
baz=75
N07B Gerlach 75.00 51 ⇑P P 23 32 12.8 +0.4
baz=75
M08A Happy Creek Ra 75.00 50 ⇑P P 23 32 12.8 +0.4
baz=75,SNR=5.1
E14A Clinton 75.08 43 ⇓P P 23 32 12.9 +0.1
baz=75
L09A Wilkinson Ranc 75.13 49 ⇓P P 23 32 13.1 0.0
baz=75
AKASG Malin Array Be 75.14 322 P P 23 32 12.3 -0.7
comp=Z,8.4nm,0.5s,mb4.9,baz=48,slow=5.8,SNR=38
AKASG Malin Array Be 75.14 322 i P P 23 32 12.3 -0.7
AKASG pmax pmax
comp=Z,8.0nm,0.5s
AKBB Malin Array Si 75.14 322 eP P 23 32 12.3 -0.7
AKBB e 23 32 25.5
KIEV Kiev 75.15 322 eP P 23 32 12.1 -1.0
KIEV pmax pmax
comp=Z,33nm,1.1s,mb5.2
KIEV Kiev 75.15 322 eP P 23 32 12.1 -1.0
comp=Z,33nm,1.1s,mb5.2
K10A MacKenzie Ranc 75.19 48 ⇓P P 23 32 13.4 -0.1
baz=75
D15A Lincoln 75.26 43 ⇑P P 23 32 14.2 +0.5
baz=75
S04C Ingram Canyon, 75.28 54 ⇑P P 23 32 13.7 -0.4
baz=75
HFS Hagfors 75.32 335 P P 23 32 13.0 -0.8
comp=Z,4.3nm,0.7s,mb4.5,baz=66,slow=7.3,SNR=8.0
PAHR Pah Rah Range 75.34 52 eP P 23 32 14.3 -0.1
comp=Z,9.3nm,0.9s,mb4.7
H12A Diamond D Ranc 75.38 46 ⇑P P 23 32 14.6 0.0
baz=75
O07A Toulon 75.41 51 ⇓P P 23 32 14.9 +0.1
baz=75,SNR=8.1
G13A Cobalt 75.43 45 ⇓P P 23 32 14.6 -0.2
baz=75
R05C Kirkwood Meado 75.44 53 ⇓P P 23 32 15.1 +0.1
baz=75
MFID Camas Ranch 75.46 47 ⇑P P 23 32 15.0 0.0
baz=75,SNR=5.9
NB2 NORSAR Subarra 75.46 337 P P 23 32 13.8 -0.8
comp=Z,22nm,0.9s,mb5.1,baz=42,slow=6.2
NOA NORSAR Array B 75.46 337 P P 23 32 14.2 -0.5
comp=Z,9.0nm,0.7s,mb4.8,baz=39,slow=5.7,SNR=18
F14A Wisdom 75.50 44 ⇓P P 23 32 15.1 -0.2
baz=75
N08A GE Springer Mi 75.53 50 ⇑P P 23 32 15.2 -0.3
baz=75,SNR=7.2
E15A Deer Lodge 75.55 43 ⇓P P 23 32 15.5 0.0
baz=75,SNR=8.6
PACP Pacheco Peak 75.58 55 ⇑P P 23 32 15.9 +0.1
baz=75
CMB Columbia Colle 75.61 54 eP P 23 32 16.4 +0.4
CMB e 23 35 06.1
CMB pmax pmax
comp=Z,22nm,1.2s,mb5.0
CMB Columbia Colle 75.61 54 ⇓P P 23 32 16.0 0.0
baz=75,SNR=5.3
CMB Columbia Colle 75.61 54 eP P 23 32 16.4 +0.4
comp=Z,22nm,1.2s,mb5.0
CMB ePP PP 23 35 06.1 +0.9
MIB Mutribah 75.68 296 eP P 23 32 15.7 -0.9
baz=296
MIB AMb AMB 23 32 20.1
comp=Z,21nm,0.9s,mb5.1,baz=296
K11A Parker Ranch, 75.70 48 ⇓P P 23 32 16.5 +0.1
baz=75,SNR=5.7
HAST Hastings Reser 75.74 56 ⇑P P 23 32 16.6 -0.1
baz=76
O08A Rochester Mine 75.79 51 ⇓P P 23 32 17.0 0.0
baz=76,SNR=6.5
L10A Juniper Basin 75.83 48 ⇓P P 23 32 17.5 +0.4
baz=76,SNR=6.1
HRY Holter Researc 75.83 42 eP P 23 32 21.4 +4.4
HRY PcP PcP 23 32 30.1 +0.6
R06C Coleville 75.95 53 ⇓P P 23 32 18.0 +0.1
baz=76
SIM Simferopol' 75.95 315 eP P 23 32 20.3 +2.5
SIM pmax pmax
comp=Z,16nm,0.8s,mb5.0
FCC Fort Churchill 75.96 26 eP P 23 32 17.0 -0.6
F15A Butte 75.98 44 ⇓P P 23 32 17.8 -0.2
baz=76,SNR=46
J12A Stokes Ranch, 75.99 47 ⇑P P 23 32 18.1 +0.1
baz=76
RDF Al-Radifah 76.00 296 eP P 23 32 18.3 0.0
baz=296
RDF AMb AMB 23 32 22.8
comp=Z,45nm,1.0s,mb5.3,baz=296
S05C Merced 76.03 54 ⇓P P 23 32 18.1 -0.2
baz=76
NAY Al-Naaiem 76.05 296 eP P 23 32 17.7 -0.9
baz=296
NAY AMb AMB 23 32 22.2
comp=Z,18nm,0.8s,mb5.0,baz=296
M10A I.L. Ranch, Tu 76.11 49 ⇑P P 23 32 19.0 +0.2
baz=76,SNR=5.2
V03C Hunter Liggett 76.15 56 ⇓P P 23 32 19.3 +0.2
baz=76
EGMT Eagleton 76.17 41 eP P 23 32 19.1 +0.1
comp=Z,56nm,1.1s,mb5.4
I13A Wildhorse Cree 76.18 46 ⇓P P 23 32 19.3 +0.2
baz=76,SNR=7.7
DLMT Dillon 76.21 44 eP P 23 32 19.7 +0.5
comp=Z,29nm,1.1s,mb5.1
HLID Hailey 76.21 46 ⇓P P 23 32 19.3 0.0
baz=76
HLID Hailey 76.21 46 eP P 23 32 19.1 -0.2
comp=Z,5.8nm,1.0s,mb4.5
U04C Hernandez Rese 76.27 55 ⇑P P 23 32 20.0 +0.3
baz=76
BMN Battle Mountai 76.30 50 eP P 23 32 20.7 +0.8
BMN pmax pmax

comp=Z,10.0nm,0.9s,mb4.8
BMN Battle Mountai 76.30 50 *e*P **P 23 32 20.7 +0.8**
comp=Z,10nm,0.9s,mb4.8
MCMT McKenzie Canyo 76.38 44 *e*P **P 23 32 20.6 +0.4**
MCMT *e* 23 35 20.6
G15A Dillon 76.38 44 ⇓P **P 23 32 20.4 +0.1**
baz=76
J13A Cove Ranch, Pi 76.45 46 ⇑P **P 23 32 21.1 +0.5**
baz=76
K12A Draper Farm, C 76.46 47 ⇑P **P 23 32 21.4 +0.7**
baz=76
O09A Fish Creek Ran 76.47 50 ⇑P **P 23 32 20.7 -0.1**
baz=76,SNR=11
BOZ Bozeman (W) 76.58 43 *e*P **P 23 32 21.6 +0.2**
BOZ pmax pmax
comp=Z,17nm,1.1s,mb4.9
BOZ Bozeman (W) 76.58 43 *e*P **P 23 32 21.6 +0.3**
comp=Z,17nm,1.1s,mb4.9
V04C Ramage Ranch, 76.61 56 ⇑P **P 23 32 22.3 +0.5**
baz=76
M11A Holland Ranch, 76.62 49 ⇑P **P 23 32 21.9 +0.2**
baz=76,SNR=10
T06C Millerton Lake 76.63 54 ⇑P **P 23 32 21.9 +0.1**
baz=76
PKD Parkfield 76.66 55 ⇓P **P 23 32 22.2 +0.2**
baz=76
L12A House Creek Ra 76.68 48 ⇑P **P 23 32 21.9 0.0**
baz=76
KCC Kaiser Creek 76.71 54 ⇑P **P 23 32 22.4 +0.1**
baz=76
NVAR Mina Array Bea 76.75 52 P **P 23 32 22.7 +0.2**
comp=Z,5.7nm,0.8s,mb4.6,baz=308,slow=5.8,SNR=27
NVAR Mina Array Bea 76.75 52 P **P 23 32 22.7 +0.2**
O10A Cortez Mining, 76.83 50 ⇓P **P 23 32 23.5 +0.6**
baz=76
K13A Stover Farm, H 76.94 47 ⇑P **P 23 32 23.8 +0.3**
baz=77
MALT Malatya 77.16 308 ⇓*i*P **P 23 32 26.2 +1.5**
MALT Malatya 77.16 308 ⇓P **P 23 32 26.2 +1.5**
M12A Wells 77.16 48 ⇓P **P 23 32 24.8 +0.1**
baz=77,SNR=19
QLMT Earthquake Lak 77.19 44 *e*P **P 23 32 25.5 +0.7**
HELL Mitchell Peak 77.27 54 ⇑P **P 23 32 25.9 +0.5**
baz=77
ELK Elko 77.36 49 *e*P **P 23 32 25.9 +0.1**
ELK *e* pP 23 32 35.9 -0.2
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK Elko 77.36 49 *e*P **P 23 32 25.9 0.0**
comp=Z,6.5nm,0.9s,mb4.6
ELK *e*PcP PcP 23 32 35.9 -0.3
L13A Double Diamond 77.36 47 ⇓P **P 23 32 26.3 +0.5**
baz=77
S08C White Mtn Res 77.36 53 ⇓P **P 23 32 26.1 +0.2**
baz=77
N12A Clover Valley, 77.42 49 ⇓P **P 23 32 26.4 +0.2**
baz=77
O11A Cowboy Ranch, 77.45 50 ⇓P **P 23 32 26.5 +0.1**
baz=77
K14A Jones Ranch, D 77.54 47 ⇑P **P 23 32 26.8 0.0**
baz=77
GCMT Greycliff 77.59 42 *e*P **P 23 32 27.9 +0.9**
TPH Tonopah 77.65 52 *e*P **P 23 32 28.0 +0.5**
TPH pmax pmax
comp=Z,21nm,1.2s,mb4.9
TPH Tonopah 77.65 52 *e*P **P 23 32 28.0 +0.5**
comp=Z,21nm,1.2s,mb5.0
R09A Tonopah 77.65 52 ⇑P **P 23 32 27.9 +0.4**
baz=77
M13A Montello 77.65 48 ⇓P **P 23 32 27.8 +0.4**
baz=77
VES Vestal, Richgr 77.70 55 ⇑P **P 23 32 28.5 +0.6**
baz=77
PKM Peak Mountain 77.74 56 ⇓P **P 23 32 28.6 +0.6**
baz=78
Q10A Clear Creek Ra 77.74 51 ⇓P **P 23 32 28.5 +0.5**
baz=77
YFT Old Faithful 77.75 44 *e*P **P 23 32 29.0 +1.1**
L14A Malta 77.81 47 ⇓P **P 23 32 29.0 +0.7**
baz=78
K15A Arbon 77.84 46 ⇑P **P 23 32 29.1 +0.6**
baz=78
S09A Goldfield 77.85 52 ⇓P **P 23 32 29.0 +0.4**
baz=78
O12A Currie 77.94 49 ⇑P **P 23 32 29.4 +0.4**
baz=78,SNR=12
J16A Bone 78.02 45 ⇑P **P 23 32 29.8 +0.3**
baz=78
IMW Indian Meadow 78.03 44 *e*P **P 23 32 30.1 +0.5**
comp=Z,11nm,0.9s,mb4.8
FLWY Flagg Ranch 78.06 44 *e*P **P 23 32 30.9 +1.2**
comp=Z,34nm,1.4s,mb5.1
FLWY *e*PcP PcP 23 32 39.9 +0.6
M14A Sheep Mountain 78.06 47 ⇑P **P 23 32 29.7 0.0**
baz=78
DCID1 Drake Creek 78.08 45 *e*P **P 23 32 29.9 +0.1**
R10A Warm Springs 78.12 51 ⇓P **P 23 32 30.5 +0.4**
baz=78
S10A Tonopah Range, 78.14 52 ⇓P **P 23 32 30.3 0.0**
baz=78
RRI2 Red Ridge 78.15 45 *e*P **P 23 32 31.3 +1.1**
comp=Z,18nm,1.1s,mb4.9
RRI2 *e*PcP PcP 23 32 40.0 +0.3
Q11A Duckwater 78.20 51 ⇓P **P 23 32 31.2 +0.6**
baz=78
ISA Isabella 78.21 55 ⇑P **P 23 32 30.8 +0.1**
baz=78
RLMT Red Lodge 78.22 43 *e*P **P 23 32 31.3 +0.8**
comp=Z,25nm,1.3s,mb5.0
MOOW Moose Ponds 78.23 44 *e*P **P 23 32 30.0 -0.6**
comp=Z,13nm,1.3s,mb4.7
MOOW *e*PcP PcP 23 32 40.2 +0.2
HVU Hansel Valley 78.24 47 *e*P **P 23 32 30.8 +0.1**
HVU *e* pP 23 32 40.5 -0.5
HVU pmax pmax
comp=Z,15nm,1.1s,mb4.8
HVU Hansel Valley 78.24 47 *e*P **P 23 32 30.8 +0.1**
comp=Z,15nm,1.1s,mb4.8
HVU *e*PcP PcP 23 32 40.5 +0.4
TPAW Teton Pass 78.28 45 *e*P **P 23 32 31.3 +0.4**
comp=Z,9.3nm,0.8s,mb4.8
TPAW *e*PcP PcP 23 32 41.0 +0.7
ARVC Arvin 78.28 55 ⇓P **P 23 32 31.1 0.0**
baz=78
K16A Soda Springs 78.31 46 ⇑P **P 23 32 31.8 +0.7**
baz=78,SNR=15
L15A Malad City 78.34 47 ⇑P **P 23 32 31.3 +0.1**
baz=78
REDW Red Top Meadow 78.41 45 *e*P **P 23 32 32.3 +0.7**
comp=Z,21nm,1.2s,mb4.9
REDW *e*PcP PcP 23 32 40.7 -0.1
REDW *e*PP PP 23 35 28.9 +0.3
O13A Hicks Ranch, I 78.49 49 ⇓P **P 23 32 32.6 +0.5**
baz=78
R11A Troy Canyon, C 78.54 51 ⇑P **P 23 32 32.6 +0.1**
baz=78,SNR=6.7
N14A Grayback Hills 78.55 48 ⇑P **P 23 32 32.8 +0.3**
baz=78,SNR=11
Q12A Willow Creek R 78.61 50 ⇑P **P 23 32 32.9 +0.1**
baz=78
M15A Larsen Ranch, 78.63 47 ⇓P **P 23 32 32.7 -0.1**
baz=78
MPMC Manual Prospec 78.63 54 ⇑P **P 23 32 33.1 +0.1**
baz=78
DGMT Dagmar 78.76 38 *e*P **P 23 32 33.4 -0.1**
comp=Z,33nm,1.1s,mb5.2
FURC Furnace Creek, 78.81 53 ⇓P **P 23 32 34.3 +0.4**
baz=78
LRMC Laurel Mountai 78.84 54 ⇓P **P 23 32 34.3 +0.2**
baz=79
P13A Bates Ranch, G 78.87 49 ⇓P **P 23 32 34.9 +0.6**
baz=79
L16A Fish Haven 78.90 46 ⇑P **P 23 32 34.8 +0.5**
baz=79
N15A Stansbury Isla 78.93 48 ⇑P **P 23 32 35.0 +0.5**
baz=79,SNR=7.8
TPNV Topopah Spring 78.93 53 *e*P **P 23 32 34.8 +0.2**
TPNV *e* pP 23 32 43.3 -1.6
TPNV pmax pmax
comp=Z,13nm,1.0s,mb4.8
TPNV Topopah Spring 78.93 53 *e*P **P 23 32 34.8 +0.2**
comp=Z,13nm,1.0s,mb4.8
TPNV *e*PcP PcP 23 32 43.3 +0.2
EDW2 Edwards Air Fo 78.98 55 ⇑P **P 23 32 35.0 +0.1**
baz=79
KWP Kalwaria 79.03 324 *e*P **P 23 32 35.5 +0.5**
KWP Kalwaria 79.03 324 ⇑*i*P **P 23 32 35.5 +0.6**
KWP Kalwaria 79.03 324 *e*P **P 23 32 35.5 +0.6**
HWUT Hardware Ranch 79.07 47 *e*P **P 23 32 36.2 +1.0**
comp=Z,36nm,1.3s,mb5.1
HWUT *e*PcP PcP 23 32 44.2 +0.6
BURAR Bucovina Array 79.13 321 ⇑*i*P **P 23 32 35.7 +0.2**
BURAR Bucovina Array 79.13 321 ⇑P **P 23 32 35.6 +0.1**
Q13A Wheeler Ranch, 79.17 50 ⇓P **P 23 32 36.1 +0.2**
baz=79
DUG Dugway 79.17 48 *e*P **P 23 32 36.4 +0.5**
DUG *e* pP 23 32 45.1 -1.1
DUG pmax pmax
comp=Z,15nm,1.0s,mb4.9
DUG Dugway 79.17 48 *e*P **P 23 32 36.4 +0.5**
comp=Z,15nm,1.0s,mb4.9
DUG *e*PcP PcP 23 32 45.1 +1.0
R12A Pony Springs, 79.17 51 ⇑P **P 23 32 36.6 +0.7**
baz=79
U10A Ash Meadows, A 79.19 53 ⇑P **P 23 32 36.3 +0.3**
baz=79
M16A Huntsville 79.21 47 ⇑P **P 23 32 36.6 +0.6**
baz=79
MWC Mount Wilson 79.31 56 *e*P **P 23 32 34.8 -2.0**
MWC pmax pmax
comp=Z,48nm,1.4s,mb5.2
MWC Mount Wilson 79.31 56 *e*P **P 23 32 34.8 -2.0**
comp=Z,48nm,1.4s,mb5.2
NOQ North Oquirrh 79.31 48 *e*P **P 23 32 38.0 +1.3**
comp=Z,29nm,1.1s,mb5.1
NOQ *e*PcP PcP 23 32 45.1 +0.3
P14A Drum Mountains 79.38 49 ⇑P **P 23 32 37.2 +0.2**
baz=79,SNR=14
T11A Corn Creek, Al 79.42 52 ⇓P **P 23 32 37.2 -0.1**
baz=79
VRI Vrincioaia 79.48 319 ⇑*i*P **P 23 32 38.9 +1.4**
VRI Vrincioaia 79.48 319 P **P 23 32 41.3 +3.9**
PDAR Pinedale Array 79.52 45 P **P 23 32 37.4 -0.4**
comp=Z,4.6nm,0.9s,mb4.4,baz=298,slow=1.9,SNR=21
GSC Goldstone 79.53 54 *e*P **P 23 32 38.1 +0.2**
GSC *e* 23 32 45.7
GSC pmax pmax
comp=Z,14nm,1.1s,mb4.8
GSC Goldstone 79.53 54 ⇑P **P 23 32 37.8 -0.1**
baz=79
GSC Goldstone 79.53 54 *e*P **P 23 32 38.1 +0.2**
comp=Z,14nm,1.1s,mb4.8
GSC *e*PcP PcP 23 32 45.7 -0.1
PLOR Plostina 79.54 319 ⇑*i*P **P 23 32 38.7 +1.0**
BFSC Mount Baldy St 79.58 55 ⇑P **P 23 32 38.3 +0.2**
baz=79
Q14A Sevier Lake (B 79.61 49 ⇑P **P 23 32 38.9 +0.6**
baz=79
R13A O'Grain Ranch, 79.66 50 ⇑P **P 23 32 38.8 +0.2**
baz=79
SCI San Clemente I 79.70 57 ⇑P **P 23 32 39.5 +0.7**
baz=79
KOLS Kolonicke sedl 79.72 324 *e*P **P 23 32 38.7 0.0**
JLU Jordanelle 79.75 47 *e*P **P 23 32 39.5 +0.5**
NLU North Lily Min 79.77 48 *e*P **P 23 32 38.7 -0.4**
NLU *e*PcP PcP 23 32 46.2 -0.5
U11A Corn Creek 79.80 53 ⇓P **P 23 32 40.4 +1.0**
baz=80
P15A Leamington 79.88 49 ⇓P **P 23 32 39.9 +0.2**
baz=80
N17A Moffit Pass 79.91 47 ⇑P **P 23 32 40.2 +0.3**
baz=80
UZH Uzhgorod 79.91 324 *d i*P **P 23 32 42.3 +2.6**
UZH *i* 23 32 58.0
O16A Springville 79.96 48 ⇓P **P 23 32 40.6 +0.5**
baz=80,SNR=6.3
DAU Daniels Canyon 79.98 47 *e*P **P 23 32 41.0 +0.7**
OJC Ojcow 80.00 326 *e*P **P 23 32 40.1 0.0**
MPU Maple Canyon 80.00 48 *e*P **P 23 32 41.4 +1.0**
comp=Z,23nm,1.2s,mb5.0
TUQ Turquoise Mtn. 80.03 54 ⇓P **P 23 32 40.9 +0.3**
baz=80
S13A Holt Ranch, En 80.09 51 ⇓P **P 23 32 41.2 +0.2**
baz=80
V11A Goodsprings 80.12 53 ⇓P **P 23 32 41.3 +0.3**
baz=80
HEC Hector,Ludlow 80.12 54 ⇑P **P 23 32 41.1 0.0**
baz=80,SNR=13
CRVS Cervenica-Dubn 80.13 324 *e*P **P 23 32 40.9 0.0**
MLR Muntele Rosu 80.15 319 ⇓*i*P **P 23 32 41.3 +0.2**
MLR Muntele Rosu 80.15 319 ⇓P **P 23 32 41.3 +0.2**
ARUT Antelope Range 80.23 51 *e*P **P 23 32 42.6 +0.9**
MURC Murieta 80.26 56 ⇓P **P 23 32 41.6 -0.3**
baz=80
NIE Niedzica 80.31 325 *e*P **P 23 32 42.4 +0.5**
T13A Saint George 80.40 51 ⇑P **P 23 32 42.9 +0.3**
baz=80
V12A Nelson 80.56 53 ⇑P **P 23 32 43.5 0.0**
baz=80
N18A Larsen Ranch, 80.58 46 ⇑P **P 23 32 43.4 0.0**
baz=80
MSU Marysvale 80.58 49 *e*P **P 23 32 44.2 +0.7**
GMRC Granite Mounta 80.59 54 ⇑P **P 23 32 43.7 0.0**
baz=80
TMUT Trail Mountain 80.70 48 *e*P **P 23 32 44.6 +0.4**
TMUT *e*PcP PcP 23 32 51.4 +0.5
R15A Junction 80.71 50 ⇓P **P 23 32 44.7 +0.5**
baz=80
U13A Pakoon Wash 80.72 52 ⇑P **P 23 32 44.7 +0.4**
baz=80,SNR=11
109C Camp Elliot, M 80.74 56 ⇓P **P 23 32 45.1 +0.7**
baz=80
PFO Pinyon Flat Ob 80.75 55 P **P 23 32 44.0 -0.6**
comp=Z,22nm,0.9s,mb5.1,baz=297,slow=5.5,SNR=15
PFO Pinyon Flat Ob 80.75 55 ⇑P **P 23 32 44.4 -0.2**
baz=80
LDFC Landfair 80.78 54 *e*P **P 23 32 45.1 +0.4**
O18A Roosevelt 80.82 47 ⇑P **P 23 32 45.4 +0.6**
baz=80
BELC Belle Mtn. 80.83 55 ⇑P **P 23 32 44.6 -0.3**
baz=80
P17A Butcher Ranch, 80.87 48 ⇓P **P 23 32 45.3 +0.3**
baz=81
KECS Kecovo 80.89 324 *e*P **P 23 32 45.2 +0.2**
KECS *e* 23 35 49.2
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 80.89 324 *e*P **P 23 32 45.2 +0.2**
KECS *e*PP PP 23 35 49.2 +0.3
KECS Kecovo 80.89 324 *e*P **P 23 32 45.2 +0.2**
comp=Z,2.8nm,1.0s,mb4.2
KECS *e*PP PP 23 35 49.2 +0.3
T14A Hurricane 80.90 51 ⇑P **P 23 32 45.2 -0.1**
baz=81
Q16A Castle Valley 80.95 49 ⇑P **P 23 32 46.4 +0.8**
baz=81,SNR=9.0
DRGR 80.95 322 ⇑*i*P **P 23 32 49.3 +3.9**
DRGR 80.95 322 P **P 23 32 48.1 +2.8**
S15A Panguitch 80.98 50 ⇓P **P 23 32 46.6 +1.0**
baz=81
OKC Ostrava-Krasne 81.02 326 *e*P **P 23 32 46.1 +0.4**
OKC *e*PCP PcP 23 32 49.3 -2.7
V13A Grand Canyon W 81.05 52 ⇑P **P 23 32 46.8 +0.7**
baz=81
P18A Preston Nutter 81.08 47 ⇓P **P 23 32 46.9 +0.7**
baz=81,SNR=14
KSP Ksiaz 81.12 328 *e*P **P 23 32 49.5 +3.3**
KSP Ksiaz 81.12 328 *e*P **P 23 32 48.9 +2.7**
KSP *e*pP pP 23 32 56.2 -0.3
BAR Barrett 81.15 56 *e*P **P 23 32 46.6 -0.1**
comp=Z,29nm,0.9s,mb5.2
MONP Monument Peak 81.20 56 ⇑P **P 23 32 46.9 -0.1**
baz=81
BSEG Bad Segeberg 81.22 333 *e*P **P 23 32 46.0 -0.6**
comp=Z,42nm,1.4s,mb5.2
U14A Mt Trumbull 81.23 51 ⇓P **P 23 32 47.3 +0.2**
baz=81,SNR=12
SRU San Rafael 81.23 48 *e*P **P 23 32 47.1 +0.1**
SRU pmax pmax
comp=Z,18nm,1.1s,mb4.9
SRU San Rafael 81.23 48 ⇓P **P 23 32 47.1 +0.1**
baz=81
SRU San Rafael 81.23 48 *e*P **P 23 32 47.1 +0.1**
comp=Z,18nm,1.1s,mb4.9
IRM Iron Mountain 81.30 54 ⇑P **P 23 32 47.2 -0.2**
baz=81,SNR=17
MORC Moravsky Berou 81.34 327 ⇑*i*P **P 23 32 48.2 +0.9**
MORC Moravsky Berou 81.34 327 P **P 23 32 47.9 +0.5**
T15A Red Dirt Ranch 81.37 51 ⇓P **P 23 32 48.0 +0.2**
baz=81,SNR=12
BC3 Big Chuckw Mtn 81.40 55 ⇑P **P 23 32 47.8 -0.2**
baz=81,SNR=16
S16A Weppner Ranch, 81.43 50 ⇑P **P 23 32 48.4 +0.3**
baz=81,SNR=5.9
ULM Lac du Bonnet 81.45 33 P **P 23 32 46.7 -1.2**
comp=Z,9.7nm,0.9s,mb4.7,baz=296,slow=6.3,SNR=5.8
ULM Lac du Bonnet 81.45 33 P **P 23 32 46.7 -1.2**
DPC Dobruska-Polom 81.47 328 *e*P **P 23 32 48.8 +0.8**
DPC *e*PCP PcP 23 32 51.9 -2.1
Q18A Rafter H Ranch 81.47 48 ⇓P **P 23 32 48.2 0.0**
baz=81
UPC Upice 81.49 328 *e*P **P 23 32 48.2 +0.1**
UPC *e*PCP PcP 23 32 51.8 -2.3
R17A Hanksville Air 81.55 49 ⇓P **P 23 32 48.9 +0.3**
baz=81
DVTC Desert V Tower 81.56 56 ⇑P **P 23 32 48.7 -0.2**
baz=81
RWWY Rawlins 81.56 44 *e*P **P 23 32 49.0 +0.4**
comp=Z,44nm,1.4s,mb5.2
PSZ Piszkesteto 81.56 324 ⇓*e*P **P 23 32 49.4 +0.8**
PSZ Piszkesteto 81.56 324 ⇓*i*P **P 23 32 49.6 +1.0**
PSZ Piszkesteto 81.56 324 P **P 23 32 49.0 +0.5**
W13A Hualapai Mount 81.57 53 ⇑P **P 23 32 48.7 -0.1**
baz=81,SNR=9.4
SWSC Sam W. Stewart 81.59 56 ⇑P **P 23 32 49.2 +0.1**
baz=81
RSSD Black Hills 81.72 41 *e*P **P 23 32 46.7 -2.8**
RSSD pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
RSSD Black Hills 81.72 41 *e*P **P 23 32 46.7 -2.8**
comp=Z,6.6nm,1.0s,mb4.5
V14A Boquillas Ranc 81.75 52 ⇓P **P 23 32 50.0 +0.2**
baz=82
U15A North Rim 81.79 51 ⇓P **P 23 32 50.2 +0.2**
baz=82,SNR=10
PDMCI Parker Dam,Lak 81.89 54 ⇑P **P 23 32 50.7 +0.1**
baz=82
X13A Yucca 81.91 53 ⇓P **P 23 32 50.8 +0.2**
baz=82
Y12C Blythe 81.96 54 ⇓P **P 23 32 51.0 0.0**
baz=82
S17A Black Ridge (B 81.98 49 ⇑P **P 23 32 50.6 -0.4**
baz=82
W14A Seligman 82.02 52 ⇓P **P 23 32 51.2 0.0**
baz=82,SNR=11
R18A Canyonlands Na 82.07 48 ⇓P **P 23 32 51.6 +0.2**
baz=82
PVCC Panska Ves 82.09 328 *e*P **P 23 32 51.9 +0.6**
BRG Berggiesshubel 82.10 329 *e*P **P 23 32 51.1 -0.3**
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BRG Berggiesshubel 82.10 329 *e*P **P 23 32 50.8 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
BRG Berggiesshubel 82.10 329 *e*P **P 23 32 51.1 -0.2**
comp=Z,8.3nm,1.0s,mb4.6
VRAC Vranov 82.10 327 P **P 23 32 50.4 -1.0**
comp=Z,9.7nm,1.2s,mb4.6,baz=85,slow=5.4,SNR=8.0
VRAC Vranov 82.10 327 ⇓*i*P **P 23 32 51.8 +0.4**
VRAC Vranov 82.10 327 ⇓P **P 23 32 51.9 +0.5**
CLL Collm 82.17 330 ⇑*i*P **P 23 32 51.2 -0.5**
CLL pmax pmax
comp=Z,14nm,1.0s,mb4.8
CLL Collm 82.17 330 *e*P **P 23 32 50.9 -0.8**
comp=Z,30nm,1.2s,mb5.1
CLL Collm 82.17 330 ⇑*i*P **P 23 32 51.2 -0.5**
comp=Z,14nm,1.0s,mb4.8
CLL *i* Pmax 23 32 53.9
comp=Z,30nm,1.2s
CLL *e*(pP) pP 23 33 01.0 -1.0
CLL Collm 82.17 330 ⇑*i*P **P 23 32 51.2 -0.5**
comp=Z,14nm,1.0s,mb4.8
CLL *i* 23 32 53.9
GLA Glamis 82.18 55 *e*P **P 23 32 52.5 +0.4**
GLA pmax pmax
comp=Z,34nm,0.9s,mb5.3
GLA Glamis 82.18 55 ⇓P **P 23 32 52.1 0.0**
baz=82,SNR=18
GLA Glamis 82.18 55 *e*P **P 23 32 52.5 +0.4**
comp=Z,34nm,0.9s,mb5.3
V15A Kaibab Nationa 82.24 51 ⇑P **P 23 32 52.6 +0.2**
baz=82
BUD Budapest 82.29 324 *e*P **P 23 32 52.0 -0.4**
BZS Buzias 82.31 322 ⇑*i*P **P 23 32 52.0 -0.6**
BZS Buzias 82.31 322 ⇑P **P 23 32 52.0 -0.5**
T17A Navajo Res., N 82.37 50 ⇓P **P 23 32 53.2 +0.1**
baz=82
Y13A Salome 82.38 54 ⇓P **P 23 32 53.0 -0.1**
baz=82,SNR=13
S18A Hurst Farm, Bl 82.44 49 ⇑P **P 23 32 53.4 0.0**
baz=82,SNR=10
MODS Modra-Piesok 82.47 326 *e*P **P 23 32 53.0 -0.3**
PRU Pruhonice 82.51 328 *e*P **P 23 32 53.8 +0.3**
PRU *e*PCP PcP 23 32 56.7 -1.8
R19A Curley Farm, L 82.51 48 ⇓P **P 23 32 53.8 +0.1**
baz=82
W15A Williams 82.57 52 ⇓P **P 23 32 54.7 +0.6**
baz=82
PV10 Paradox Valley 82.59 48 *e*P **P 23 32 55.2 +1.0**
X14A Yava 82.60 53 ⇑P **P 23 32 54.3 0.0**
baz=82
ZST Bratislava 82.68 326 *e*P **P 23 32 56.0 +1.6**
ZST pmax pmax
comp=Z,12nm,1.3s,mb4.8
ZST Bratislava 82.68 326 *e*P **P 23 32 56.0 +1.6**
ZST Bratislava 82.68 326 *e*P **P 23 32 56.0 +1.6**
comp=Z,12nm,1.3s,mb4.8
U17A Shonto 82.71 50 ⇓P **P 23 32 55.2 +0.3**
baz=82
PHWY Pilot Hill 82.81 44 *e*P **P 23 32 55.0 -0.2**
CLZ Clausthal 82.82 331 *e*P **P 23 32 54.8 -0.3**
CLZ pmax pmax
comp=Z,25nm,1.2s,mb5.1
CLZ Clausthal 82.82 331 *e*P **P 23 32 54.8 -0.3**
comp=Z,25nm,1.2s,mb5.1
Y14A Wickenburg 82.85 53 ⇓P **P 23 32 55.6 0.0**
baz=83
T18A Mexican Hat 82.87 49 ⇑P **P 23 32 55.3 -0.3**
baz=83,SNR=18
AGMN Agassiz Refuge 82.88 34 *e*P **P 23 32 53.4 -2.0**
comp=Z,3.6nm,0.6s,mb4.6
S19A Harvey Farm, M 82.94 48 ⇑P **P 23 32 56.0 0.0**
baz=83
WUAZ Wupatki 82.94 51 ⇓P **P 23 32 56.1 +0.1**
baz=83
WUAZ Wupatki 82.94 51 *e*P **P 23 32 54.9 -1.1**
comp=Z,23nm,1.2s,mb5.1
X15A Humboldt 83.02 53 ⇓P **P 23 32 56.3 -0.1**
baz=83,SNR=18
PV01 Paradox Valley 83.03 48 *e*P **P 23 32 52.9 -3.5**
113A Mohawk Valley, 83.06 55 ⇑P **P 23 32 56.5 -0.2**
baz=83
W16A Flagstaff 83.09 52 ⇑P **P 23 32 57.2 +0.4**
baz=83
NKC Novy Kostel 83.21 329 *e*P **P 23 32 57.4 +0.3**
NKC *e*PCP PcP 23 33 00.5 -1.1
MOX Moxa 83.24 330 *e*(P) **P 23 32 57.0 -0.3**
MOX Moxa 83.24 330 *e*P **P 23 32 56.8 -0.5**
comp=Z,13nm,1.1s,mb4.9
Z14A Wintersburg 83.24 54 ⇑P **P 23 32 57.6 0.0**
baz=83
Y15A Casa Rosa Ranc 83.28 53 ⇓P **P 23 32 57.9 +0.1**
baz=83,SNR=14
SOP Sopron 83.30 326 ⇓*e*P **P 23 32 58.6 +0.9**
U18A Rough Rock, Ch 83.32 50 ⇑P **P 23 32 58.7 +0.7**
baz=83,SNR=14
PKSM Moragy 83.38 323 ⇓*i*P **P 23 32 57.4 -0.7**
PKSM Moragy 83.38 323 P **P 23 32 57.9 -0.2**
CONA Conrad Observa 83.44 326 ⇑*i*P **P 23 32 59.0 +0.6**
comp=Z,25nm,1.4s,mb5.0
CONA Conrad Observa 83.44 326 ⇑*i*PcP **P 23 32 59.0 +0.6**
comp=Z,25nm,1.4s,mb5.0
IBBN Ibbenburen 83.45 333 *e*P **P 23 32 57.5 -0.8**
comp=Z,29nm,0.8s,mb5.4
MANZ Manzenberg 83.54 329 *e*P **P 23 32 58.5 -0.3**
comp=Z,9.0nm,0.9s,mb4.9
VTS Vitosha 83.55 319 ⇓*i*P **P 23 32 59.8 +0.8**
VTS Vitosha 83.55 319 P **P 23 32 59.9 +0.9**
KHC Kasperske Hory 83.57 328 *e*P **P 23 32 59.0 0.0**
KHC *e*PCP PcP 23 33 01.8 -1.4
X16A Lo Mia Camp, P 83.58 52 ⇑P **P 23 32 59.4 +0.1**
baz=83,SNR=22
MVCO Mesa Verde 83.67 49 *e*P **P 23 33 00.3 +0.6**
comp=Z,29nm,1.1s,mb5.3
ROTZ Rotzenmuhle 83.67 329 *e*P **P 23 32 59.7 +0.2**
comp=Z,37nm,1.5s,mb5.3
ISCO Idaho Springs 83.70 45 *e*P **P 23 33 00.3 +0.4**
ISCO pmax pmax
comp=Z,15nm,1.3s,mb5.0
ISCO Idaho Springs 83.70 45 *e*P **P 23 33 00.3 +0.4**

comp=Z,16nm,1.3s,mb5.0
GEC2 GERESS Array S 83.73 328 *e*P **P 23 32 59.1 -0.7**
GERES GERESS Array B 83.73 328 P **P 23 32 59.4 -0.4**
comp=Z,1.7nm,0.6s,mb4.4,baz=40,slow=5.2,SNR=16
GERES PP PP 23 36 15.7 +3.5
comp=Z,0.9nm,0.7s,baz=36,slow=8.5,SNR=4.4
V18A Ganado 83.73 50 ⇑P **P 23 33 00.5 +0.5**
baz=83
WET Wettzell 83.86 328 *e*P **P 23 33 00.3 -0.2**
WET pmax pmax
comp=Z,14nm,1.3s,mb4.9
WET Wettzell 83.86 328 *e*P **P 23 33 00.3 -0.2**
comp=Z,14nm,1.3s,mb4.9
Y16A Circle Bar Ran 83.89 53 ⇓P **P 23 33 01.2 +0.2**
baz=84,SNR=12
X17A Forest Lakes 84.03 52 ⇑P **P 23 33 01.9 +0.2**
baz=84,SNR=9.5
115A Sonoran Desert 84.12 54 ⇓P **P 23 33 02.3 +0.1**
baz=84
GRA1 Grafenberg Arr 84.14 330 *e*P **P 23 33 01.9 0.0**
comp=Z,47nm,1.3s,mb5.5
GRA1 *e*pP pP 23 33 05.0 -7.3
GRF Grafenberg Arr 84.14 330 *e*P **P 23 33 01.9 0.0**
GRF pmax pmax
comp=Z,47nm,1.3s,mb5.5
GRF Grafenberg Arr 84.14 330 *e*P **P 23 33 01.9 0.0**
GRF pmax pmax
comp=Z,47nm,1.3s,mb5.5
GRF Grafenberg Arr 84.14 330 *e*P **P 23 33 01.9 0.0**
comp=Z,47nm,1.3s,mb5.5
GRF *e*pP pP 23 33 05.0 -7.3
214A Organ Pipe Nat 84.20 55 ⇑P **P 23 33 02.7 +0.2**
baz=84
W18A Petrified Fore 84.23 51 ⇓P **P 23 33 03.0 +0.3**
baz=84
Z16A Peralta Trail, 84.25 53 ⇑P **P 23 33 02.8 0.0**
baz=84
V19A Window Rock 84.28 50 ⇓P **P 23 33 02.9 0.0**
baz=84
BUG Bochum--Univer 84.33 333 *e*P **P 23 33 02.7 -0.1**
Y17A Roosevelt 84.41 52 ⇓P **P 23 33 04.1 +0.5**
baz=84
W19A Sanders 84.45 51 ⇓P **P 23 33 04.0 +0.2**
baz=84,SNR=21
X18A Snowflake 84.46 51 ⇓P **P 23 33 04.4 +0.6**
baz=84
EKA Eskdalemuir Ar 84.48 340 P **P 23 33 03.4 -0.2**
comp=Z,3.7nm,0.9s,mb4.5,baz=32,slow=5.6,SNR=8.0
116A Eloy 84.56 54 ⇑P **P 23 33 05.0 +0.6**
baz=84
PERS Pernice 84.74 326 *e*P **P 23 33 04.8 -0.3**
SOKA Soboth 84.75 326 ⇑*i*P **P 23 33 05.0 0.0**
comp=Z,35nm,1.2s,mb5.4
SOKA Soboth 84.75 326 ⇑*i*PcP **P 23 33 05.0 0.0**
comp=Z,35nm,1.2s,mb5.4
Y18A Canyon Day Jun 84.88 52 ⇓P **P 23 33 06.3 +0.4**
baz=85,SNR=15
Z17A San Carlos Hig 84.90 53 ⇓P **P 23 33 06.7 +0.6**
baz=85
X19A St. Johns 84.95 51 ⇑P **P 23 33 06.6 +0.3**
baz=85,SNR=16
216A Three Points, 85.07 54 ⇓P **P 23 33 07.6 +0.6**
baz=85
EYMN Ely 85.08 32 *e*P **P 23 33 05.4 -1.3**
comp=Z,16nm,1.3s,mb5.0
SDCO Great Sand Dun 85.13 47 *e*P **P 23 33 07.7 +0.6**
comp=Z,20nm,1.1s,mb5.2
SDCO *e*PcP PcP 23 33 10.6 +0.3
Y19A Nutrioso 85.27 51 ⇓P **P 23 33 08.5 +0.6**
baz=85,SNR=5.3
FUR Furstenfeldbru 85.29 329 *e*P **P 23 33 07.4 -0.3**
FUR pmax pmax
comp=Z,28nm,1.0s,mb5.3
FUR Furstenfeldbru 85.29 329 *e*P **P 23 33 07.4 -0.3**
comp=Z,28nm,1.0s,mb5.3
TUC Tucson 85.32 54 *e*P **P 23 33 08.2 0.0**
TUC pmax pmax
comp=Z,14nm,1.4s,mb4.9
TUC Tucson 85.32 54 *e*P **P 23 33 08.2 0.0**
comp=Z,14nm,1.4s,mb4.9
LJU Ljubljana 85.45 325 *e*P **P 23 33 07.9 -0.7**
BOJS Bojanci 85.52 325 *e*P **P 23 33 08.4 -0.5**
217A Green Valley 85.64 54 ⇓P **P 23 33 09.9 +0.1**
baz=85,SNR=10
118A Homack Ranch, 85.64 53 ⇑P **P 23 33 09.6 -0.3**
baz=85,SNR=9.5
STU Stuttgart 85.69 330 *e*P **P 23 33 08.9 -0.8**
STU pmax pmax
comp=Z,28nm,1.0s,mb5.5
STU Stuttgart 85.69 330 *e*P **P 23 33 09.0 -0.7**
comp=Z,32nm,1.1s,mb5.5
STU Stuttgart 85.69 330 *e*P **P 23 33 08.9 -0.8**
comp=Z,28nm,1.0s,mb5.4
CEY Cerknica 85.73 325 *e*P **P 23 33 09.1 -0.9**
ECSD EROS,Sioux Fal 85.84 38 *e*P **P 23 33 09.6 -0.9**
comp=Z,12nm,0.9s,mb5.1
119A Ashpeak Ranch, 86.00 52 ⇑P **P 23 33 11.5 0.0**
baz=86,SNR=7.5
218A Dragoon 86.02 53 ⇓P **P 23 33 11.2 -0.5**
baz=86
GIVF Givet 86.32 333 *e*P **P 23 33 12.3 -0.5**
LAZ Ladron 86.32 50 *e*P **P 23 33 11.2 -1.9**
ANMO Albuquerque 86.39 49 *e*P **P 23 33 14.2 +0.8**
ANMO pmax pmax
comp=Z,12nm,1.1s
ANMO Albuquerque 86.39 49 *e*P **P 23 33 14.2 +0.8**
comp=Z,12nm,1.1s,mb5.0
BFO Black Forest 86.39 330 *e*P **P 23 33 12.4 -0.8**
comp=Z,31nm,1.3s,mb5.4
BFO Black Forest 86.39 330 *e*P **P 23 33 12.7 -0.5**
318A Bisbee 86.39 54 ⇑P **P 23 33 13.6 0.0**
baz=86
219A White Tail Can 86.52 53 ⇓P **P 23 33 14.0 -0.1**
baz=86,SNR=7.8
BAIF Baives 86.58 333 *e*P **P 23 33 12.8 -1.3**
LPM Los Pinos Moun 86.70 50 *e*P **P 23 33 15.8 +0.8**
CDF Champ du Feu 86.75 331 *e*P **P 23 33 13.7 -1.2**
comp=Z,43nm,1.2s,mb5.3
CDF Champ du Feu 86.75 331 *e*P **P 23 33 13.7 -1.2**
CDF pmax pmax
comp=Z,21nm,1.2s,mb5.2
CDF Champ du Feu 86.75 331 *e*P **P 23 33 13.7 -1.2**
comp=Z,22nm,1.2s,mb5.2
BNM Barren Site 86.81 50 *e*P **P 23 33 16.3 +0.8**
319A Douglas 86.90 53 ⇓P **P 23 33 15.9 -0.1**
baz=87
ECH Echery 86.95 331 *e*P **P 23 33 15.4 -0.5**
ECH *e*PP PP 23 36 33.4 -5.0
DAVOS Davos 86.95 328 P **P 23 33 14.9 -1.1**
DAVOX Davos/Dischmat 86.97 328 P **P 23 33 14.9 -1.1**
comp=Z,1.4nm,0.4s,mb4.6,baz=350,slow=12,SNR=6.6
SCHQ Schefferville 87.26 15 P **P 23 33 16.4 -0.8**
comp=Z,10nm,1.0s,mb5.0,baz=327,slow=9.3,SNR=7.2
TUE Stuetta 87.43 329 *e*P **P 23 33 17.8 -0.5**
comp=Z,9.9nm,1.1s,mb5.0
HAU Haudompre 87.45 331 *e*P **P 23 33 17.5 -0.8**
MEZF Maizieres J'vi 87.55 332 *e*P **P 23 33 17.9 -0.9**
CBKS Cedar Bluff 87.71 43 *e*P **P 23 33 18.7 -1.1**
CBKS pmax pmax
comp=Z,58nm,1.4s,mb5.6
CBKS Cedar Bluff 87.71 43 *e*P **P 23 33 18.7 -1.1**
comp=Z,58nm,1.4s,mb5.6
AQU L'Aquila 88.76 324 ⇑*i*P **P 23 33 24.8 +0.1**
AQU L'Aquila 88.76 324 ⇑P **P 23 33 24.8 +0.1**
LOR Lormes 89.02 332 *e*P **P 23 33 24.6 -1.2**
comp=Z,65nm,1.7s,mb5.4
LOR Lormes 89.02 332 *e*P **P 23 33 24.6 -1.2**
LOR pmax pmax
comp=Z,32nm,1.7s,mb5.4
LOR Lormes 89.02 332 *e*P **P 23 33 24.6 -1.2**
comp=Z,32nm,1.7s,mb5.4
KSU1 Kansas State U 89.20 41 *e*P **P 23 33 25.2 -1.7**
LPL La Plagne 89.30 329 *e*P **P 23 33 26.2 -0.9**
comp=Z,22nm,1.2s,mb5.1
LPL La Plagne 89.30 329 *e*P **P 23 33 26.2 -0.9**
LPL pmax pmax
comp=Z,11nm,1.2s,mb5.1
LPL La Plagne 89.30 329 *e*P **P 23 33 26.2 -0.9**
comp=Z,11nm,1.2s,mb5.1
LPG La Plagne 89.31 329 *e*P **P 23 33 26.4 -0.8**
SSF Saint Saulge 89.33 332 *e*P **P 23 33 25.8 -1.4**
comp=Z,16nm,1.1s,mb4.9
SSF Saint Saulge 89.33 332 *e*P **P 23 33 25.8 -1.4**
SSF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
SSF Saint Saulge 89.33 332 *e*P **P 23 33 25.8 -1.4**
comp=Z,7.8nm,1.1s,mb5.0
AMTX Amarillo 89.33 47 *e*P **P 23 33 27.8 +0.2**
comp=Z,20nm,1.0s,mb5.4
SMF Signal de Mont 89.54 332 *e*P **P 23 33 27.3 -1.0**
comp=Z,114nm,1.7s,mb5.6
SMF Signal de Mont 89.54 332 *e*P **P 23 33 27.3 -1.0**
SMF pmax pmax
comp=Z,57nm,1.7s,mb5.6
SMF Signal de Mont 89.54 332 *e*P **P 23 33 27.3 -1.0**
comp=Z,57nm,1.7s,mb5.6
AVF Avril sur Loir 89.61 332 *e*P **P 23 33 27.2 -1.4**
comp=Z,30nm,1.0s,mb5.3
AVF Avril sur Loir 89.61 332 *e*P **P 23 33 27.2 -1.4**
AVF pmax pmax
comp=Z,15nm,1.0s,mb5.3
AVF Avril sur Loir 89.61 332 *e*P **P 23 33 27.2 -1.4**
comp=Z,15nm,1.0s,mb5.3
MBDF Montbardon 89.92 329 *e*P **P 23 33 28.3 -1.8**
BGF Bois d'Agland 90.00 332 *e*P **P 23 33 29.4 -1.0**
ORIF Oris-en-Rattie 90.14 330 *e*P **P 23 33 29.9 -1.2**
SBF Sospel 90.33 328 *e*P **P 23 33 30.1 -1.9**
comp=Z,26nm,1.0s,mb5.2
SBF Sospel 90.33 328 *e*P **P 23 33 30.1 -1.9**
SBF pmax pmax
comp=Z,13nm,1.0s,mb5.2
SBF Sospel 90.33 328 *e*P **P 23 33 30.1 -1.9**
comp=Z,13nm,1.0s,mb5.2
TCF Toulx Ste Croi 90.46 332 *e*P **P 23 33 30.7 -1.9**
comp=Z,69nm,1.6s,mb5.4
TCF Toulx Ste Croi 90.46 332 *e*P **P 23 33 30.7 -1.9**
TCF pmax pmax
comp=Z,35nm,1.6s,mb5.4
TCF Toulx Ste Croi 90.46 332 *e*P **P 23 33 30.7 -1.9**
comp=Z,35nm,1.6s,mb5.4
ROSF Rostrenen 90.64 337 *e*P **P 23 33 32.6 -0.7**
PGF Pioggiola 90.68 326 *e*P **P 23 33 32.0 -1.6**
comp=Z,30nm,1.4s,mb5.1
PGF Pioggiola 90.68 326 *e*P **P 23 33 32.0 -1.6**
PGF pmax pmax
comp=Z,15nm,1.4s,mb5.1
PGF Pioggiola 90.68 326 *e*P **P 23 33 32.0 -1.6**
comp=Z,15nm,1.4s,mb5.1
FRF La Foret Royal 90.91 328 *e*P **P 23 33 32.8 -1.9**
comp=Z,41nm,1.3s,mb5.3
FRF La Foret Royal 90.91 328 *e*P **P 23 33 32.8 -1.9**
FRF pmax pmax
comp=Z,20nm,1.3s,mb5.3
FRF La Foret Royal 90.91 328 *e*P **P 23 33 32.8 -1.9**
comp=Z,20nm,1.3s,mb5.3
MFF Saint Martin d 91.07 334 *e*P **P 23 33 34.6 -0.8**
WMOK Wichita Mounta 91.13 45 *e*P **P 23 33 35.5 -0.4**
WMOK pmax pmax
comp=Z,15nm,1.2s,mb5.2
WMOK Wichita Mounta 91.13 45 *e*P **P 23 33 35.5 -0.4**
comp=Z,16nm,1.2s,mb5.2
LMR La Mourre 91.15 328 *e*P **P 23 33 34.3 -1.5**
comp=Z,37nm,1.1s,mb5.3
LMR La Mourre 91.15 328 *e*P **P 23 33 34.3 -1.5**
LMR pmax pmax
comp=Z,18nm,1.1s,mb5.3
LMR La Mourre 91.15 328 *e*P **P 23 33 34.3 -1.5**
comp=Z,18nm,1.1s,mb5.3
RJF Les Rejaudoux 91.55 332 *e*P **P 23 33 36.9 -0.8**
comp=Z,79nm,1.4s,mb5.5
RJF Les Rejaudoux 91.55 332 *e*P **P 23 33 36.9 -0.8**
RJF pmax pmax
comp=Z,39nm,1.4s,mb5.5
RJF Les Rejaudoux 91.55 332 *e*P **P 23 33 36.9 -0.8**
comp=Z,39nm,1.4s,mb5.5
CAF Calviac 91.66 332 *e*P **P 23 33 36.6 -1.6**
LFF La Frestale 92.16 333 *e*P **P 23 33 38.5 -1.9**
MIAR Mount Ida 94.20 42 *e*P **P 23 33 49.4 -0.7**
MIAR pmax pmax
comp=Z,16nm,1.2s,mb5.3
MIAR Mount Ida 94.20 42 *e*P **P 23 33 49.4 -0.7**
comp=Z,16nm,1.2s,mb5.3
ESDC Sonseca Array 98.46 333 PP PP 23 38 08.7 -0.1
comp=Z,1.4nm,0.9s,baz=45,slow=7.8,SNR=4.4
VNDA Vanda 113.31 175 PKiKP PKiKP 23 39 06.8 -0.6
comp=Z,0.8nm,0.9s,baz=322,slow=3.6,SNR=5.3
TORD Torodi Ar. Bea 117.91 313 PKP PKPdf 23 39 17.1 -0.9
comp=Z,1.6nm,0.9s,baz=19,slow=1.4,SNR=12
TORD PP PP 23 40 25.0 -6.4
comp=Z,1.6nm,1.0s,baz=48,slow=3.7,SNR=4.3
TORD Torodi Ar. Bea 117.91 313 PKP PKPdf 23 39 17.1 -0.9
TORD PP PP 23 40 25.0 -6.4
DBIC Dimbokro 126.93 315 PKP PKPdf 23 39 34.9 -0.5
comp=Z,5.1nm,1.0s,baz=346,slow=4.2,SNR=2.9
DBIC Dimbokro 126.93 315 PKP PKPdf 23 39 34.9 -0.5
SDV Santo Domingo 127.23 40 PKP PKPdf 23 39 35.2 -0.8
comp=Z,4.0nm,0.7s,baz=34,slow=7.3,SNR=5.5
LPAZ La Paz 148.33 61 PKPbc PKPbc 23 40 15.8 -1.9
comp=Z,7.0nm,1.0s,baz=47,slow=6.2,SNR=22
LPAZ La Paz 148.33 61 PKPbc PKPbc 23 40 15.8 -1.9
LVC Limon Verde 151.58 72 PKPbc PKPbc 23 40 25.3 -0.2
comp=Z,13nm,0.9s,baz=278,slow=1.5,SNR=6.8
SIV San Ignacio 152.88 50 PKP PKPdf 23 40 21.6 +0.3
comp=Z,2.3nm,1.1s,baz=188,slow=9.5,SNR=5.1
SIV PKPbc PKPbc 23 40 28.1 -0.4
comp=Z,2.1nm,0.6s,baz=282,slow=1.4,SNR=12
SIV PKPab PKPab 23 40 37.6 -2.0
comp=Z,7.5nm,1.0s,baz=268,slow=2.3,SNR=13
LCO Las Campanas 153.06 85 *e*PKP PKPbc 23 40 29.0 +0.4
BDFB Brasilia 159.06 23 PKPab PKPab 23 41 05.2 -0.8
comp=Z,1.8nm,0.8s,baz=119,slow=20,SNR=4.1
BDFB Brasilia 159.06 23 PKP2 PKPab 23 41 05.2 -0.8
BDFB pmax pmax
comp=Z,2.0nm,0.9s

NEIC 15 23:24:01.9±1.3, 5017N×17768W, h10km, mb3.9/6, Error ellipse: s-maj=26.0km s-min=10.8km az=187.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**2.27**	**304**	*e*Pn	Pn	23 24 38.3	-1.1
AMKA				*e*Sn	Sn	23 25 01.9	-5.4
FX1	**Attu Island--F**	**6.33**	**299**	P	Pn	23 25 36.3	+1.2
UNV	**Unalaska Valle**	**7.82**	**58**	*e*Pn	Pn	23 25 56.3	+0.7
3μm,0.6s							
KTH	**Kantishna Hill**	**19.64**	**37**	*e*P	Pn	23 28 30.9	-0.7
5.0nm,0.8s							
TRF	**Thorofare Moun**	**19.83**	**38**	*e*P	Pn	23 28 32.7	-1.3
4.6nm,0.8s							
TRF				S	Sn	23 32 13.2	-3.4
BPAW	**Bear Paw Mtn.**	**19.90**	**35**	*e*P	Pn	23 28 32.0	-2.7
14nm,1.4s							
IMA2	**Indian Mountai**	**20.14**	**29**	*e*P	P	23 28 36.9	+1.1
BMRM	**Bremner River**	**21.35**	**47**	*e*P	P	23 28 48.4	-0.5
OD2	**Odessa Site #2**	**38.08**	**71**	P	P	23 31 17.7	-2.8
YBH	**Yreka Blue Hor**	**38.36**	**81**	*e*P	P	23 31 22.5	-0.4
1.8nm,1.0s							
WVOR	**Wild Horse Val**	**40.56**	**78**	*e*P	P	23 31 40.2	-1.0
2.5nm,1.0s							
MCMT	**McKenzie Canyo**	**42.89**	**71**	*e*P	P	23 32 01.9	+1.7
TPNV	**Topopah Spring**	**45.20**	**83**	*e*P	P	23 32 20.6	+1.7
2.2nm,0.9s							
LAO	**LASA Array**	**45.88**	**65**	*e*P	P	23 32 22.7	-1.4

*NEIC **15** 23:28:52.5±1.0, 5064N×17757W, h10km, mb4.4/3, Error ellipse: s-maj=24.2km s-min=6.6km az=174.0*
*ISCJB **15** 23:28:53.1±2.8, 508N±02×17753W±008, h23km±17km, mb4.0/16, Error ellipse: s-maj=30.0km s-min=8.1km az=174.5*
*IDC **15** 23:28:55.7±2.0, 5056N×17764W, h35km±5km, mb3.7/14, mb1 3.9/14, mb1mx3.7/27, mbtmp3.7/14, Error ellipse: s-maj=53.6km s-min=19.1km az=4.0*

ISC 15 23:28:54.9±2.5, 507N±01×17756W±008, h24km±17km, h36km±.3km: pP-P, n41, σ0§87/45, mb4.0/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**2.09**	**290**	*e*Pn	**Pn**	**23 29 26.1**	**-2.3**
AMKA				*e*Sn	**Sn**	**23 29 46.7**	**-6.9**
SMY	**Shemya**	**5.56**	**295**	Pn	**Pn**	**23 30 17.8**	**+1.7**
NIKO	**Nikolski**	**5.86**	**64**	Pn	**Pn**	**23 30 20.3**	**+0.3**
UNV	**Unalaska Valle**	**7.48**	**61**	*e*Pn	**Pn**	**23 30 43.0**	**+0.7**
SDPT	**Sand Point**	**11.28**	**59**	Pn	**Pn**	**23 31 34.1**	**-0.3**
PETK	**Petropavlovsk-**	**15.43**	**289**	Pn	**Pn**	**23 32 33.2**	**+2.4**
0.6nm,0.3s,baz=96,slow=15,SNR=4.6							
PETK	**Petropavlovsk-**	**15.43**	**289**	Pn	**Pn**	**23 32 33.2**	**+2.4**
KDAK	**Kodiak Island**	**16.16**	**54**	Pn	**Pn**	**23 32 37.7**	**-2.4**
0.7nm,0.3s,baz=157,slow=2.7,SNR=5.6							
KDAK				Sn	**Sn**	**23 35 32.4**	**-6.0**
0.2nm,0.3s,baz=326,slow=17,SNR=2.1							
KDAK	**Kodiak Island**	**16.16**	**54**	Pn	**Pn**	**23 32 38.6**	**-1.6**
KDAK				Sn	**Sn**	**23 35 32.4**	**-6.0**
PMR	**Palmer**	**19.05**	**44**	P	**Pn**	**23 33 16.4**	**+0.6**
KTH	**Kantishna Hill**	**19.16**	**38**	*e*P	**Pn**	**23 33 16.6**	**-0.5**
KTH				*e*S	**Sn**	**23 36 51.5**	**+0.6**
TRF	**Thorofare Moun**	**19.36**	**38**	*e*P	**Pn**	**23 33 19.1**	**-0.5**
7.7nm,1.1s							
IMA2	**Indian Mountai**	**19.63**	**29**	*e*P	**Pn**	**23 33 23.3**	**+0.5**
MCK	**McKinley**	**20.03**	**39**	P	**P**	**23 33 25.7**	**+0.1**
DIV	**Divide**	**20.43**	**47**	P	**P**	**23 33 30.7**	**+0.7**
COLD	**Coldfoot**	**21.45**	**29**	P	**P**	**23 33 38.4**	**-2.5**
SIT	**Sitka**	**25.36**	**59**	P	**P**	**23 34 19.2**	**-0.5**
INK	**Inuvik**	**27.57**	**34**	P	**P**	**23 34 39.9**	**+0.4**
0.6nm,0.3s,mb3.7,baz=185,slow=5.5,SNR=4.9							
INK	**Inuvik**	**27.57**	**34**	P	**P**	**23 34 40.3**	**+0.7**
YKA	**Yellowknife Ar**	**35.13**	**46**	P	**P**	**23 35 46.5**	**+0.5**
0.7nm,0.7s,mb3.7,baz=277,slow=8.3,SNR=5.2							
YKA	**Yellowknife Ar**	**35.13**	**46**	P	**P**	**23 35 46.5**	**+0.5**
RES	**Resolute Bay**	**40.04**	**24**	P	**P**	**23 36 26.8**	**-0.6**
NVAR	**Mina Array Bea**	**42.86**	**83**	P	**P**	**23 36 51.5**	**+0.5**
0.7nm,0.8s,mb3.4,baz=291,slow=7.5,SNR=3.9							
PDAR	**Pinedale Array**	**45.77**	**72**	P	**P**	**23 37 13.9**	**-0.2**
0.6nm,0.6s,mb3.7,baz=343,slow=4.7,SNR=5.3							
SONM	**Songino Array**	**47.65**	**298**	P	**P**	**23 37 28.0**	**-0.8**
0.7nm,0.8s,mb3.7,baz=60,slow=9.9,SNR=4.4							
SPITS	**Spitsbergen Ar**	**51.10**	**356**	P	**P**	**23 37 54.9**	**+0.1**
2.6nm,0.6s,mb4.3,baz=30,slow=12,SNR=3.5							
ARCES	**ARCESS Array B**	**58.89**	**351**	P	**P**	**23 38 51.2**	**+0.1**
1.6nm,0.8s,mb4.1,baz=17,slow=7.5,SNR=13							
ARCES	**ARCESS Array B**	**58.89**	**351**	P	**P**	**23 38 51.2**	**+0.1**
KURK	**Kurchatov**	**60.05**	**315**	*e*P	**P**	**23 38 59.0**	**-0.4**
1.6nm,0.4s,mb4.4							
MKAR	**Makanchi Array**	**61.06**	**309**	P	**P**	**23 39 05.5**	**-0.9**
0.9nm,0.8s,mb3.9,baz=54,slow=6.2,SNR=4.9							
MKAR				pP	pP	23 39 16.1	+2.1
0.7nm,0.8s,baz=57,slow=8.8,SNR=3.5							
MKAR	**Makanchi Array**	**61.06**	**309**	P	**P**	**23 39 05.5**	**-0.9**
MKAR				pP	pP	23 39 16.1	+2.1
GNAR	**Gosnell**	**61.75**	**67**	P	**P**	**23 39 11.9**	**+0.8**
BVAR	**Borovoye Array**	**61.91**	**321**	P	**P**	**23 39 12.1**	**+0.1**
1.0nm,0.4s,mb4.3,baz=56,slow=6.5,SNR=11							
BVAR				pP	pP	23 39 22.8	+3.2
0.8nm,0.5s,baz=51,slow=6.9,SNR=4.6							
NOA	**NORSAR Array B**	**68.39**	**355**	P	**P**	**23 39 54.2**	**+0.4**
0.7nm,0.8s,mb3.7,baz=248,slow=9.2,SNR=2.3							
LSA	**Lhasa**	**68.41**	**291**	P	**P**	**23 39 54.4**	**0.0**
AKTK	**Aktyubinsk**	**68.69**	**326**	P	**P**	**23 39 56.3**	**+0.4**
AKTK				pP	pP	23 40 07.1	+3.5
AKTO	**Aktyubinsk**	**68.69**	**326**	P	**P**	**23 39 56.3**	**+0.4**
3.1nm,0.7s,mb4.4,baz=50,slow=6.6,SNR=10							
AKTO				pP	pP	23 40 07.1	+3.5
2.7nm,0.7s,baz=57,slow=5.5,SNR=4.9							
EKA	**Eskdalemuir Ar**	**74.23**	**3**	P	**P**	**23 40 29.8**	**+0.5**
0.8nm,0.6s,mb3.8,baz=359,slow=5.0,SNR=4.5							
EKA				pP	pP	23 40 40.1	+3.1
2.0nm,0.9s,baz=358,slow=5.0,SNR=2.5							
AKASG	**Malin Array Be**	**76.43**	**343**	P	**P**	**23 40 42.1**	**+0.2**
1.2nm,0.4s,mb4.1,baz=19,slow=5.8,SNR=8.0							
AKASG				pP	pP	23 40 52.9	+3.1
2.1nm,0.6s,baz=20,slow=5.8,SNR=5.0							
KWP	**Kalwaria**	**78.55**	**347**	P	**P**	**23 40 53.3**	**-0.5**
5.6nm,0.8s,mb4.5							
GERES	**GERESS Array B**	**80.36**	**352**	P	**P**	**23 41 03.0**	**-0.7**
0.7nm,0.8s,mb3.6,baz=25,slow=3.5,SNR=4.1							

*NEIC **15** 23:32:27.5, 3938N×1985E, h39km, MD3.1(ATH), After ATH.*
*ATH **15** 23:32:27.5, 3938N×1985E, h39km±2km, MD3.1/4*
*ISCJB **15** 23:32:29.4±1.3, 3992N±004×1993E±009, h3km±8km, Error ellipse: s-maj=11.4km s-min=6.7km az=13.3*
*THE **15** 23:32:30.7, 3990N×1991E, h2km, ML2.6*
*CSEM **15** 23:32:31.2±0.6, 3992N×1997E, h2km, ML2.6, Error ellipse: s-maj=11.0km s-min=7.0km az=122.0*

ISC 15 23:32:30.7±1.1, 3989N±004×1994E±009, h19km±6km, n13, σ1§44/20, 1C-1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.21**	**212**	‖*e*PB	**Pg**	**23 32 36.5**	**+0.6**
IGT	**Igoumenitsa**	**0.47**	**140**	*e*Pg	**Pg**	**23 32 39.3**	**-0.9**
IGT				*e*Sg	**Sg**	**23 32 47.0**	**+0.4**
IGT	**Igoumenitsa**	**0.47**	**140**	*e*Pg	**Pg**	**23 32 39.3**	**-1.0**
IGT				*e*Sg	**Sg**	**23 32 47.0**	**+0.3**
JAN	**Janina**	**0.74**	**108**	⇑*i*PN	**Pn**	**23 32 43.8**	**-2.4**
JAN				*e*SN	**Sn**	**23 32 55.3**	**-1.6**
LKD	**Levkas**	**1.31**	**155**	*e*Pg	**Pg**	**23 32 55.5**	**-0.4**
LKD				*e*Sg	**Sg**	**23 33 13.7**	**+0.7**
FNA	**Florina**	**1.41**	**50**	*e*Pg	**Pg**	**23 32 55.9**	**-2.1**
FNA				*e*Sg	**Sg**	**23 33 16.6**	**+0.2**
BIA	**Bitola**	**1.54**	**43**	*e*Pn	**Pn**	**23 32 58.0**	**+0.8**
THL	**Klokotos Trika**	**1.63**	**101**	*e*Pb	**Pb**	**23 33 00.6**	**+0.5**
THL				*e*Sb	**Sb**	**23 33 22.6**	**+2.3**
THL	**Klokotos Trika**	**1.63**	**101**	*e*Pn	**Pn**	**23 32 56.2**	**-2.2**
THL	**Klokotos Trika**	**1.63**	**101**	*e*Pb	**Pb**	**23 33 00.6**	**+0.4**
THL				*e*Sb	**Sb**	**23 33 22.6**	**+2.2**
KRUS	**Krusevo**	**1.78**	**34**	*i* Pn	**Pn**	**23 33 04.1**	**+3.7**
VLS	**Valsamata**	**1.79**	**163**	*e*PN	**Pn**	**23 32 51.5**	**-9.1**
LIT	**Litokhoron**	**1.97**	**83**	*e*Pn	**Pn**	**23 33 05.5**	**+2.5**

*NIED **15** 23:32:00, 3540N×14060E, h26km, Mw4.4 Best double couple: M0 3.82000×10^15 NP1:φ0 72.00000°, δ80.00000°, λ84.00000°. NP2:φ0 282.00000°, δ12.00000°, λ120.00000°.*
*MOS **15** 23:32:31.1±1.3, 3522N×14057E, h33km, mb4.8/8, Error ellipse: s-maj=14.5km s-min=8.5km az=123.9*
*ISCJB **15** 23:32:31.0±0.4, 3527N±003×14063E±004, h33km±2km, mb4.3/29, Error ellipse: s-maj=5.5km s-min=4.3km az=1.2*
*JMA **15** 23:32:31.6±0.1, 3535N×14057E, h24km±2km, M4.4*
JMA Felt II J1.
*IDC **15** 23:32:32.4±5.8, 3521N×14054E, h28km±41km, mb4.0/16, mb1 4.2/20, mb1mx4.1/29, mbtmp4.0/20, ML3.9/4, MS3.4/1, Ms1 3.4/1, ms1mx3.2/37, Error ellipse: s-maj=19.1km s-min=13.4km az=79.0*
*NEIC **15** 23:32:34.0±1.6, 3518N×14044E, h38km±13km, mb4.6/12, MW4.3(NIED), Error ellipse: s-maj=10.7km s-min=8.2km az=89.0*
NEIC Recorded [2 JMA] in Chiba and [1 JMA] in Ibaraki, Kanagawa and Tokyo Prefectures.

ISC 15 23:32:31.5±0.5, 3530N±002×14063E±004, h21km±3km, n81, σ1§20/93, mb4.3/29, 4C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.30**	**240**	⇑P	**Pb**	**23 32 37.9**	**-0.3**
KTR				S	**Sb**	**23 32 42.7**	**-0.1**
JCN	**Nagara**	**0.37**	**289**	⇓P	**Pb**	**23 32 39.1**	**-0.3**
JCN				S	**Sb**	**23 32 44.9**	**+0.1**
BSO4	**Boso 4**	**0.39**	**218**	P	**Pb**	**23 32 40.4**	**+0.7**
BSO4				*e*S	**Sb**	**23 32 48.0**	**+2.7**
CHOJ	**Chosi**	**0.44**	**25**	⇓P	**Pb**	**23 32 40.5**	**-0.2**
CHOJ				S	**Sb**	**23 32 47.2**	**+0.3**
BSO3	**Boso 3**	**0.51**	**191**	⇓P	**Pb**	**23 32 42.6**	**+0.9**
BSO3				*e*S	**Sb**	**23 32 49.2**	**+0.6**
TATJ	**Tateyama 2**	**0.66**	**247**	⇑P	**Pb**	**23 32 45.1**	**+0.7**
TATJ				*e*S	**Sb**	**23 32 55.7**	**+2.6**
BSO1	**Boso 1**	**0.70**	**156**	⇓P	**Pb**	**23 32 45.1**	**0.0**
JYO	**Yokosk**	**0.79**	**265**	⇑P	**Pb**	**23 32 46.6**	**0.0**
JYO				*e*S	**Sb**	**23 32 58.8**	**+1.9**
TOK	**Tokyo**	**0.81**	**299**	P	**Pb**	**23 32 45.7**	**-1.2**
TOK				*e*S	**Sb**	**23 32 56.4**	**-1.0**
JYT	**Yasato**	**0.99**	**

MAT Matsushiro 2.33 303 P **Pn 23 33 08.0 -0.5**
MAT S **Sn 23 33 38.2 +1.7**
CBIJ Chichi jima 8.29 170 Pn **Pn 23 34 29.6 -0.9**
9.9nm,0.3s,baz=72,slow=20,SNR=3.3
ASAJ Asahikawa 8.94 9 Pn **Pn 23 34 38.9 -0.4**
1.0nm,0.3s,baz=216,slow=15,SNR=6.4
ASAJ Asahikawa 8.94 9 P **Pn 23 34 38.9 -0.4**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 10.47 286 Pn **Pn 23 35 03.2 +2.9**
comp=Z,0.1nm,0.3s,baz=102,slow=14,SNR=10
MDJ Mudanjiang 12.57 321 Pn **Pn 23 35 35.8 +6.8**
BJT Baijiatuan 19.91 291 *eP* **Pn 23 37 03.3 -0.1**
BJT pmax pmax
comp=Z,6.0nm,0.3s
BJT Baijiatuan 19.91 291 *eP* **Pn 23 37 03.3 -0.1**
comp=Z,6.1nm,0.3s
YAK Yakutsk 27.63 349 P **P 23 38 19.7 +2.4**
SONM Songino Array 28.27 307 P **P 23 38 24.5 +1.3**
comp=Z,1.1nm,0.6s,mb3.6,baz=104,slow=8.7,SNR=6.4
QIZ Qiongzhong 31.66 247 P **P 23 38 51.9 -1.5**
LSA Lhasa 41.76 277 *eP* **P 23 40 20.1 +0.8**
LSA pmax pmax
comp=Z,2.0nm,0.3s,mb4.2
LSA Lhasa 41.76 277 *eP* **P 23 40 20.1 +0.7**
comp=Z,2.1nm,0.3s,mb4.2
ZALV Zalesovo Beam 42.63 314 P **P 23 40 26.2 +0.1**
comp=Z,4.7nm,0.8s,mb4.3,baz=110,slow=8.1,SNR=15
ZAL Zalesovo 42.65 314 P **P 23 40 26.2 0.0**
NVS Novosibirsk 43.60 315 *eP* **P 23 40 32.9 -1.0**
NVS pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
NVS pmax pmax
comp=N,4.0nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.1s
MK31 Makanchi Array 44.52 303 *eP* **P 23 40 41.3 -0.2**
MKAR Makanchi Array 44.52 303 P **P 23 40 41.0 -0.5**
comp=E,1.6nm,0.5s,mb4.1,baz=84,slow=9.1,SNR=16
MKAR Makanchi Array 44.52 303 P **P 23 40 41.0 -0.5**
KURK Kurchatov 46.52 309 *eP* **P 23 40 56.1 -1.1**
KURK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KURK Kurchatov 46.52 309 *eP* **P 23 40 56.1 -1.1**
comp=Z,9.9nm,0.8s,mb4.8
KAKA Kakadu 48.37 191 *eP* **P 23 41 10.8 -1.1**
comp=Z,4.9nm,0.6s,mb4.7
TKM2 Tokmak 2 49.91 299 *eP* **P 23 41 24.4 +0.9**
TKM2 *e* 23 42 44.1
TKM2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
TKM2 Tokmak 2 49.91 299 *eP* **P 23 41 24.4 +0.8**
comp=Z,3.0nm,0.6s,mb4.5
TKM2 *e*PcP PcP 23 42 44.1 +0.4
COLA College 50.88 31 *eP* **P 23 41 33.5 +3.0**
EKS2 Erkin-Say 51.27 300 *eP* **P 23 41 34.3 +0.5**
comp=Z,1.7nm,0.7s,mb4.1
BVAR Borovoye Array 51.28 313 P **P 23 41 34.6 +0.9**
comp=Z,1.5nm,0.7s,mb4.0,baz=85,slow=6.1,SNR=7.7
BRVK Borovoye 51.34 313 P **P 23 41 34.1 0.0**
AML Almayashu 51.48 299 *eP* **P 23 41 36.2 +0.9**
comp=Z,6.0nm,0.6s,mb4.7
FITZ Fitzroy Crossi 54.98 197 *eP* **P 23 42 01.6 +0.4**
comp=Z,8.2nm,0.6s,mb4.9
FITZ Fitzroy Crossi 54.98 197 *eP* **P 23 42 01.2 0.0**
comp=Z,7.2nm,0.5s,mb5.0
WRAB Tennant Creek 55.25 187 *eP* **P 23 42 02.4 -0.7**
WRAB pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
WRAB Tennant Creek 55.25 187 *eP* **P 23 42 02.4 -0.8**
comp=Z,7.7nm,0.8s,mb4.8
WB2 Warramunga Arr 55.26 187 *eP* **P 23 42 02.1 -1.1**
WRA Warramunga Arr 55.26 187 P **P 23 42 02.2 -1.0**
comp=Z,4.8nm,0.7s,mb4.6,baz=4.8,slow=7.5,SNR=28
INK Inuvik 56.22 26 P **P 23 42 10.6 +1.0**
comp=Z,1.5nm,0.7s,mb4.1,baz=296,slow=7.3,SNR=4.5
INK Inuvik 56.22 26 *eP* **P 23 42 11.2 +1.7**
ARU Arti 57.25 319 *eP* **P 23 42 14.5 -2.6**
ARU pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ARU Arti 57.25 319 *eP* **P 23 42 14.5 -2.5**
comp=Z,4.9nm,0.7s,mb4.7
ASAR Alice Springs 58.99 187 P **P 23 42 29.4 -0.2**
comp=Z,2.1nm,0.8s,mb4.2,baz=8.8,slow=7.7,SNR=13
AKTK Aktyubinsk 59.37 313 P **P 23 42 33.4 +1.4**
AKTO Aktyubinsk 59.37 313 P **P 23 42 33.4 +1.4**
comp=Z,1.6nm,0.7s,mb4.2,baz=81,slow=7.8,SNR=5.4
MBWA Marble Bar 59.55 203 *eP* **P 23 42 33.1 -0.4**
comp=Z,16nm,0.9s,mb5.1
PALK Pallekele 61.38 258 *eP* **P 23 42 44.7 -1.6**
PALK pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
PALK Pallekele 61.38 258 *eP* **P 23 42 44.6 -1.6**
comp=Z,1.6nm,0.5s,mb4.4
YKA Yellowknife Ar 65.63 30 P **P 23 43 14.2 +0.7**
comp=Z,0.9nm,0.8s,mb3.9,baz=304,slow=6.6,SNR=4.9
YKA Yellowknife Ar 65.63 30 P **P 23 43 14.2 +0.6**
YKA pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 66.83 179 *eP* **P 23 43 21.4 -0.1**
OBN Obninsk 69.11 323 *eP* **P 23 43 36.2 +0.5**
NWAO Narrogin (SRO) 71.33 201 *eP* **P 23 43 47.8 -1.6**
KIV Kislovodsk 71.56 311 *eP* **P 23 43 51.1 +0.1**
KIV Kislovodsk 71.56 311 *eP* **P 23 43 51.1 +0.1**
AKASG Malin Array Be 75.28 322 P **P 23 44 11.9 -0.9**
comp=Z,1.8nm,0.5s,mb4.3,baz=48,slow=6.2,SNR=9.7
NB2 NORSAR Subarra 75.54 337 P **P 23 44 12.7 -1.3**
comp=Z,1.2nm,0.6s,mb4.0,baz=41,slow=5.9
NOA NORSAR Array B 75.54 337 P **P 23 44 13.2 -0.8**
comp=Z,4.1nm,0.9s,mb4.3,baz=40,slow=5.8,SNR=5.4
FCC Fort Churchill 75.83 26 P **P 23 44 16.7 +0.9**
NVAR Mina Array Bea 76.54 52 P **P 23 44 21.4 +1.2**
comp=Z,1.1nm,0.7s,mb3.9,baz=297,slow=4.4,SNR=9.6
KWP Kalwaria 79.17 324 *eP* **P 23 44 34.6 0.0**
KWP pmax pmax
comp=Z,14nm,1.0s,mb4.8
KWP Kalwaria 79.17 324 *eP* **P 23 44 34.6 0.0**
comp=Z,14nm,1.0s,mb4.8
PDAR Pinedale Array 79.34 45 P **P 23 44 36.5 +0.9**
comp=Z,1.0nm,0.8s,mb3.8,baz=304,slow=3.4,SNR=5.0
PFO Pinyon Flat Ob 80.54 56 P **P 23 44 44.1 +1.8**
comp=Z,2.0nm,0.8s,mb4.1,baz=293,slow=13,SNR=3.6
CLL Collm 82.28 330 *eP* **P 23 44 54.0 +2.8**
PV10 Paradox Valley 82.40 48 P **P 23 44 55.5 +3.4**
GERES GERESS Array B 83.85 328 P **P 23 44 59.1 -0.3**
comp=Z,0.4nm,0.6s,mb3.8,baz=38,slow=6.8,SNR=4.8
EIL Elat 84.78 303 P **P 23 45 02.8 -1.7**
comp=Z,5.2nm,1.1s,mb4.6,baz=49,slow=11,SNR=4.1
TORD Torodi Ar. Bea 118.08 314 PKP PKPdf 23 51 16.6 -0.8
comp=Z,0.2nm,0.5s,baz=55,slow=0.7,SNR=7.9

NEIC ***15*** *23:33:43.9±1.0,5030N×17758W,h10km,mb3.9/1,Error ellipse: s-maj=23.9km s-min=13.6km az=172.0*
IDC ***15*** *23:33:44.7±3.4,5075N×17753W,h0km,mb3.8/7, mb1 3.9/8,mb1mx3.7/25,mbtmp3.8/8,ML3.4/1,Error ellipse: s-maj=100.9km s-min=24.3km az=1.0*
ISCJB ***15*** *23:33:46.2±0.9,504N±02×1778W±01,h33km,mb3.9/7, Error ellipse: s-maj=22.1km s-min=10.3km az=8.8*
ISC 15 23:33:48.6±1.0,505N±02×1777W±01,h35km,n15, σ1§19/18,mb3.9/7,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AMKA	**Amchitka**	**2.06**	**296**	*e*Pn		**Pn**	**23 34 19.7**	**-1.0**
AMKA				*e*Sn		**Sn**	**23 34 43.4**	**-1.8**
KDAK	**Kodiak Island**	**16.37**	**54**	Pn		**Pn**	**23 37 31.1**	**-4.3**
	0.1nm,0.3s,baz=168,slow=14,SNR=3.2							
KDAK				Sn		**Sn**	**23 40 21.3**	**-14**
	0.3nm,0.3s,baz=226,slow=22,SNR=7.1							
KDAK	**Kodiak Island**	**16.37**	**54**	Pn		**Pn**	**23 37 31.1**	**-4.3**
KDAK				Sn		**Sn**	**23 40 21.3**	**-14**
KTH	**Kantishna Hill**	**19.39**	**37**	*e*P		**Pn**	**23 38 11.7**	**-0.7**
	7.9nm,1.1s							
IMA2	**Indian Mountai**	**19.86**	**29**	*e*P		**Pn**	**23 38 17.1**	**-0.9**
PDAR	**Pinedale Array**	**45.94**	**72**	P		**P**	**23 42 07.8**	**0.0**
	0.2nm,0.3s,mb3.5,baz=345,slow=5.6,SNR=2.9							
SONM	**Songino Array**	**47.64**	**298**	P		**P**	**23 42 22.0**	**+1.1**
	0.6nm,0.9s,mb3.6,baz=39,slow=9.8,SNR=2.8							
MKAR	**Makanchi Array**	**61.10**	**309**	P		**P**	**23 43 59.0**	**+0.2**
	1.2nm,0.9s,mb4.0,baz=56,slow=8.2,SNR=3.8							
MKAR	**Makanchi Array**	**61.10**	**309**	P		**P**	**23 43 59.0**	**+0.2**
BVAR	**Borovoye Array**	**61.99**	**321**	P		**P**	**23 44 05.8**	**+1.2**
	0.7nm,0.4s,mb4.1,baz=50,slow=6.3,SNR=4.7							
AKTK	**Aktyubinsk**	**68.78**	**325**	P		**P**	**23 44 50.2**	**+1.5**
AKTO	**Aktyubinsk**	**68.78**	**325**	P		**P**	**23 44 50.2**	**+1.5**
	2.0nm,0.7s,mb4.2,baz=48,slow=9.4,SNR=7.3							
AKASG	**Malin Array Be**	**76.58**	**343**	P		**P**	**23 45 35.3**	**+0.3**
	1.9nm,0.6s,mb4.2,baz=21,slow=5.3,SNR=5.6							
RAO	**Raoul Island**	**79.41**	**180**	P		**P**	**23 45 48.1**	**-2.6**
GERES	**GERESS Array B**	**80.54**	**352**	P		**P**	**23 45 57.7**	**+0.9**
	0.3nm,0.6s,mb3.4,baz=46,slow=4.2,SNR=3.1							

BGS ***15*** *23:40:47.1±1.4,1568S×7689W,h33km,mb6.5*
CASC ***15*** *23:40:52.0±2.5,1417S×7551W,h71km±999km,MS7.6, mb6.7(NEIC)*
MOS ***15*** *23:40:55.8±0.7,1333S×7677W,h33km,mb6.6/105, MS7.9/74,Error ellipse: s-maj=14.6km s-min=5.2km az=49.6 Broadband fault plane solution: P waves. NP1: φs296.00000°,δ21.00000°,λ63.00000°. NP2: φs145.00000°,δ71.00000°,λ100.00000°. Principal axes: T Plg63.0000°, Azm70.0000°; N Plg9.0000°, Azm321.0000°; P Plg25.0000°, Azm227.0000°;*
ISCJB ***15*** *23:40:56.3±0.1,1340S±002×7667W±002,h39km, mb6.7/277,MS7.9/233 Error ellipse: s-maj=2.9km s-min=1.7km az=141.2*
BJI ***15*** *23:40:57.8,1340S×7660W,h39km,mB7.5,Ms8.2,Msz8.1*
NEIC ***15*** *23:40:57.9±0.1,1339S×7660W,h39km,mb6.7/218, ME7.7,MS7.9/194,Error ellipse: s-maj=2.9km s-min=1.9km az=63.0 Broadband fault plane solution: P waves. NP1:φs355.00000°,δ20.00000°,λ90.00000°. NP2:φs175.00000°,δ70.00000°,λ90.00000°. Principal axes: T Plg65.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm265.0000°; Complex earthquake, with at least one event about 3 seconds after the initial onset and another larger event about one minute later observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*
NEIC 17 at Lyttelton, 22 at Sumner Head and 26 at Tinaru, New Zealand; 100 at Callao and La Punta, Peru; 13 at Apia, Samoa; 14 at Port-Vila, Vanuatu; 10 at Dutch Harbor, Alaska; 12 at Crescent City, California; 33 at Hilo, 28 at Kahului and 12 at Kawaihae, Hawaii, USA. At least 514 people killed, 1,090 injured and more than 39,700 buildings damaged or destroyed. The majority of the casualties and damage occurred in Chincha Alta, Ica and Pisco. Widespread communication and power outages occurred in the area. The Panamerican Highway, the Carretera Central and other main transport routes were heavily damaged due to landslides and cracks. Felt [IX] at Chincha Alta and Pisco; [VII] at Ica and San Vicente de Canete; [VI] at Lima; [V] at Cusco; [IV] at Arequipa; [III] at Trujillo. Felt at Abancay, Ayacucho, Cajamarca, Chaclacayo, Chillca, Chimbote, Chosica, Cocachacra, Huacho, Huanuco, Huaraz, Huarmey, Imperial, La Oroya, Lambayeque, Mala, Nazca, Nuevo Imperial, Pachacamac, Pucallpa, Quillabamba, San Luis, Urubamba and Viru. Felt [III] at Bogota, Colombia and [II] at La Serena, Chile. Also felt at Coquimbo and Iquique, Chile; at Guayaquil and Quito, Ecuador; at La Paz, Bolivia and at Manaus, Brazil. Possible earthquake lights observed at Lima. A tsunami with wave heights, peak-to-trough in centimeters, was recorded at the following selected tide stations: 16 at Antofagasta, 36 at Arica, 23 at Caldera, 28 at Coquimbo, 16 at Iquique, 21 in Archipielago Juan Fernandez, 18 at San Antonio, 28 at San Felix, 35 at Talcahuano and 17 at Valparaiso, Chile; 27 at Galapagos Islands, Ecuador; 30 at Nuku Hiva Island, French Polynesia; 12 at Hanasaki and 13 at Tosa-Shimizu, Japan; 20 at Acapulco, Mexico; 30 at Chatham Island, 13 at Green Island, 25 at Kaikoura.
GCMT ***15*** *23:40:57.9±0.1,1373S×7704W,h34km,MW8.0/108, Moment Tensor Solution. s11,c14; s108,c328; Duration: 23s5 Moment tensor: Scale 10^21Nm; Mrr0.85±.00; Mθθ-0.13±.00; Mφφ-0.71±.00; Mrθ-0.02±.02; Mrφ0.34±.00; Mθφ-0.72±.02; Best double couple: M0 1.11900×10^21 NP1:φs321.00000°,δ28.00000°, λ63.00000°. NP2:φs171.00000°,δ65.00000°,λ104.00000°. Principal axes: T 1.1420, Plg67.0000°, Azm107.0000°; N -0.0480, Plg13.0000°, Azm345.0000°; P -1.0950, Plg19.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s.*
GUC ***15*** *23:40:58.0±1.4,1332S×76.17W,h39km,MS7.6*
IDC ***15*** *23:40:58.0±0.7,1335S×7674W,h44km±5km,mb5.7/35, mb1 5.7/37,mb1mx5.7/37,mbtmp5.7/37,ML5.1/3,MS7.9/17, Ms1 7.9/17,ms1mx7.7/28,Error ellipse: s-maj=9.0km s-min=4.4km az=76.0*
IGIL ***15*** *23:40:59.1,1336S×7652W,h30km,MS7.8*
DJA ***15*** *23:41:02,1452S×7679W,h29km,Mwp8.2/12*
ISC 15 23:40:58.5±0.1,1338S±001×7656W±002,h41km, h41km±.4km:pP-P,n1993,σ0§83/1507,mb6.6/277, MS7.9/233,775C-246D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NNA	**Nana**	**1.42**	**349**	Pn		**Pn**	**23 41 20.0**	**-1.7**
	958μm,0.5s							
NNA	**Nana**	**1.42**	**349**	P		**Pn**	**23 41 20.1**	**-1.7**
	2μm,0.3s,baz=175,slow=13,SNR=706							
NNA				S		**Sn**	**23 41 36.1**	**-3.0**
	24μm,0.3s,baz=157,slow=19,SNR=17							
NNA	**Nana**	**1.42**	**349**	*i* Pn		**Pn**	**23 41 20.0**	**-1.7**
ARE	**Arequipa**	**5.77**	**123**	⇑*i*P		**Pn**	**23 42 20.3**	**-1.3**
ARE				S		**Sn**	**23 43 31.0**	**+4.4**
ATAH	**Atahualpa**	**6.60**	**344**	P		**Pn**	**23 42 31.3**	**-1.7**
	81nm,0.3s,baz=155,slow=4.5,SNR=143							
ATAH				S		**Sn**	**23 43 44.4**	**-2.5**
	403nm,0.3s,baz=246,slow=18,SNR=3.8							
LPAZ	**La Paz**	**8.64**	**111**	P		**Pn**	**23 43 02.6**	**+1.6**
	22nm,0.3s,baz=296,slow=14,SNR=329							
LPAZ				S		**Sn**	**23 44 42.1**	**+4.9**
	341nm,0.3s,baz=292,slow=18,SNR=2.5							
LPAZ	**La Paz**	**8.64**	**111**	⇑*i*P		**Pn**	**23 43 03.5**	**+2.5**
LPAZ							23 44 41.6	
LPAZ				pmax		pmax		
	comp=Z,44nm,0.3s							
LPAZ	**La Paz**	**8.64**	**111**	⇑*i*Pn		**Pn**	**23 43 03.5**	**+2.5**
	comp=Z,44nm,0.3s							
LPAZ				Sn		**Sn**	**23 44 41.6**	**+4.4**
CEN1	**Los Morros**	**11.63**	**150**	⇓*e*P		**Pn**	**23 43 40.7**	**-1.2**
CEN1				*e*S		**Sn**	**23 45 51.0**	**+0.4**
CEN1				AMS		AMS	23 49 16.2	
	comp=N,14800μm,17.9s							
LVC	**Limon Verde**	**11.71**	**143**	P		**Pn**	**23 43 42.2**	**-0.8**
	comp=N,53nm,0.3s,baz=313,slow=11,SNR=274							
LVC				S		**Sn**	**23 45 55.4**	**+3.0**
	comp=N,295nm,0.3s,baz=104,slow=12,SNR=8.3							
LVC				LR		LR	23 48 52.7	
	comp=N,3063μm,19.8s,baz=295,slow=40							
LVC	**Limon Verde**	**11.71**	**143**	⇑*i*P		**Pn**	**23 43 41.2**	**-1.7**
LVC	**Limon Verde**	**11.71**	**143**	⇑*i*Pn		**Pn**	**23 43 41.8**	**-1.1**
	comp=N,2μm,1.5s							
LVC				Sn		**Sn**	**23 45 55.0**	**+2.7**
ANCH	**Antofagasta**	**11.78**	**151**	*e*P		**Pn**	**23 43 41.5**	**-2.5**
ANCH				*e*S		**Sn**	**23 45 51.7**	**-2.5**
CPN1	**Cerro Paranal**	**12.60**	**153**	*e*P		**Pn**	**23 43 53.8**	**-1.4**
CPN1				*e*S		**Sn**	**23 46 12.8**	**-1.4**
OTAV	**Otavalo**	**13.66**	**352**	⇑*i*Pn		**Pn**	**23 44 07.8**	**-2.0**
OTAV				*e*Sn		**Sn**	**23 46 43.6**	**+3.3**
CDCH	**Caldera**	**14.64**	**159**	*e*P		**Pn**	**23 44 21.3**	**-1.6**
CPCH	**Copiapo**	**15.06**	**158**	*e*P		**Pn**	**23 44 27.1**	**-1.4**
SIV	**San Ignacio**	**15.20**	**102**	P		**Pn**	**23 44 25.8**	**-4.6**
	comp=N,3.9nm,0.3s,baz=276,slow=13,SNR=100							
VACH	**Vallenar**	**16.05**	**161**	*e*P		**Pn**	**23 44 40.1**	**-1.1**
LCO	**Las Campanas**	**16.47**	**162**	⇑*i*Pn		**Pn**	**23 44 46.2**	**-0.4**
	comp=N,4μm,1.0s							
LCO				*e*Sn		**Sn**	**23 47 50.4**	**+1.9**
LSCH	**La Serena**	**17.16**	**164**	*e*P		**Pn**	**23 44 54.4**	**-0.8**
TLL	**Tololo Astrono**	**17.53**	**163**	⇓*e*P		**Pn**	**23 44 59.4**	**-0.4**
TLL				*e*S		**S**	**23 48 14.5**	**-6.0**
OVCH	**Ovalle**	**17.84**	**165**	*e*P		**Pn**	**23 45 02.1**	**-1.5**
OVCH				*e*S		**S**	**23 48 20.6**	**-6.2**
ROSC	**El Rosal**	**18.25**	**7**	P		**Pn**	**23 45 07.6**	**-1.2**
	comp=N,1.2nm,0.3s,baz=96,slow=22,SNR=34							
ROSC				S		**S**	**23 48 34.0**	**-1.4**
	baz=232,slow=11,SNR=1.8							
ROSC	**El Rosal**	**18.25**	**7**	⇑*e*P		**Pn**	**23 45 08.7**	**-0.1**
ROSC				S		**S**	**23 48 34.1**	**-1.4**
CHNG	**Los Chungos**	**18.99**	**167**	⇑*e*P		**Pn**	**23 45 16.8**	**-0.7**
CFAA	**Coronel Fontan**	**19.68**	**158**	P		**Pn**	**23 45 23.6**	**-2.1**
	comp=N,0.9nm,0.3s,baz=335,slow=10.0,SNR=108							
CFAA				S		**S**	**23 49 06.0**	**+2.1**
	comp=N,0.7nm,0.3s,baz=329,slow=7.7,SNR=1.5							
JACH	**Jahuel**	**19.97**	**165**	⇓*e*P		**Pn**	**23 45 27.1**	**-2.1**
IHA	**Instituto Hidr**	**20.06**	**168**	*e*P		**P**	**23 45 28.0**	**-0.2**
ROCH	**El Roble**	**20.15**	**166**	⇓*e*P		**P**	**23 45 29.0**	**-0.2**
PEL	**Peldehue**	**20.39**	**166**	⇓*i*P		**P**	**23 45 31.8**	**+0.1**
PEL				*i* S		**S**	**23 49 18.3**	**+0.3**
PEL				AMS		AMS	23 52 10.9	
	comp=E,3683μm,17.5s							
LCCH	**Las Cruces**	**20.51**	**168**	⇓*e*P		**P**	**23 45 32.7**	**-0.4**
FCH	**Farellones**	**20.66**	**165**	⇑*i*P		**P**	**23 45 35.4**	**+0.7**
FCH				*e*S		**S**	**23 49 25.0**	**+1.6**
FCH				AMS		AMS	23 52 12.1	
	comp=E,1821μm,21.3s							
RCDM	**Rinconada Maip**	**20.69**	**166**	⇑*e*P		**P**	**23 45 34.6**	**-0.4**
RCDM				*i* S		**S**	**23 49 24.9**	**+1.0**
ANTU	**Antumapu**	**20.81**	**166**	⇑*e*P		**P**	**23 45 35.7**	**-0.6**
ANTU				*i* S		**S**	**23 49 27.3**	**+1.0**
TACH	**Talagante**	**20.82**	**167**	⇓*e*P		**P**	**23 45 36.2**	**-0.2**
PCH	**Pirque**	**20.88**	**166**	⇓*e*P		**P**	**23 45 36.6**	**-0.6**
LNV	**Longovilo**	**21.01**	**168**	*e*P		**P**	**23 45 38.2**	**-0.3**
CHCH	**Chadas Angostu**	**21.15**	**166**	⇓*e*P		**P**	**23 45 40.2**	**+0.2**
LMEL	**Las Melosas**	**21.18**	**165**	⇑*e*P		**P**	**23 45 40.8**	**+0.5**
LMEL				*e*S		**S**	**23 49 34.3**	**+0.7**
LMEL				AMS		AMS	23 52 25.3	
	comp=E,2019μm,21.0s							
CACH	**El Canelo**	**21.34**	**166**	*e*P		**P**	**23 45 42.4**	**+0.4**
CICH	**Cipreses**	**21.57**	**166**	*e*P		**P**	**23 45 44.7**	**+0.2**
SFDO	**San Fernando**	**21.73**	**168**	⇓*i*P		**P**	**23 45 46.0**	**-0.2**
SFDO				⇓*e*P			23 45 46.1	
NICH	**Los Niches**	**22.06**	**168**	⇑*i*P		**P**	**23 45 49.4**	**-0.3**
NICH				*e*S		**S**	**23 49 51.5**	**+0.8**
CPUP	**Villa Florida**	**22.16**	**128**	P		**P**	**23 45 50.8**	**-0.1**
	comp=E,201nm,0.9s,mb5.6,baz=294,slow=10,SNR=74							
CPUP				S		**S**	**23 49 57.1**	**+4.2**
	comp=E,287nm,1.0s,baz=205,slow=4.8,SNR=1.9							
CPUP				LR		LR	23 56 38.7	
	comp=E,6210μm,18.5s,MS8.1,baz=294,slow=42							
CPUP	**Villa Florida**	**22.16**	**128**	P		**P**	**23 45 50.8**	**-0.1**
CPUP				S		**S**	**23 49 57.1**	**+4.2**
CPUP				pmax		pmax		
	comp=Z,201nm,0.9s							
CPUP				smax				
	comp=N,287nm,1.0s							
CPUP				MLR		MLR		
	comp=Z,210μm,18.5s							
CPUP	**Villa Florida**	**22.16**	**128**	⇑*i*P		**P**	**23 45 49.9**	**-1.1**
	comp=Z,2μm,1.9s,mb6.2							
CPUP				PcP		PcP	23 49 46.0	-1.0
CPUP				*e*S		**S**	**23 50 08.0**	**+15**
CPUP				LR		LR		
	comp=Z,1422μm,19.0s,MS7.4							
UPIG		**22.42**	**352**	*e*P		**P**	**23 45 54.6**	**+0.8**
BCIP	**Isla Barro Col**	**22.64**	**352**	⇑*e*P		**P**	**23 45 56.6**	**+0.6**
BCIP	**Isla Barro Col**	**22.64**	**352**	⇑*i*P		**P**	**23 45 56.5**	**+0.4**
BCIP				S		**S**	**23 50 00.1**	**-1.6**
BCIP				LR		LR		
	comp=Z,971μm,20.0s,MS7.2							
ACR	**Cerro Adams**	**22.86**	**343**	*e*P		**P**	**23 45 58.6**	**+0.2**
SDV	**Santo Domingo**	**22.89**	**15**	P		**P**	**23 45 58.7**	**0.0**
	comp=Z,311nm,0.5s,mb6.0,baz=211,slow=9.5,SNR=157							
SDV				S		**S**	**23 50 11.0**	**+5.2**
	comp=Z,653nm,0.9s,baz=147,slow=8.0,SNR=1.5							
SDV	**Santo Domingo**	**22.89**	**15**	⇑*i*P		**P**	**23 45 58.4**	**-0.4**
SDV				*e*S		**S**	**23 50 15.1**	**+9.3**
SDV				LR		LR		
	comp=Z,818μm,20.0s,MS7.2							
BAR1		**23.46**	**343**	*e*P		**P**	**23 46 03.9**	**-0.6**
CCHI	**Chillan**	**23.47**	**171**	⇑*i*P		**P**	**23 46 03.8**	**-0.7**
CCHI				AMS		AMS	23 53 26.4	
	comp=E,1082μm,19.2s							
BUS	**Buena Vista**	**23.89**	**342**	*e*P		**P**	**23 46 10.1**	**+1.6**
QCR	**Quepos**	**23.89**	**341**	*e*P		**P**	**23 46 08.9**	**+0.5**
LIO	**Limon**	**24.11**	**344**	*e*P		**P**	**23 46 11.5**	**+1.0**
LCR2	**La Lucha 2**	**24.14**	**342**	*e*P		**P**	**23 46 11.9**	**+1.2**
SJS	**Escuela Geolog**	**24.34**	**342**	*e*P		**P**	**23 46 13.4**	**+0.9**
PRS1	**Puriscal**	**24.46**	**341**	*e*P		**P**	**23 46 12.7**	**-1.0**
CGA2	**Cerro Gallo 2**	**24.54**	**341**	*e*P		**P**	**23 46 16.8**	**+2.4**
JCR	**Jicaral**	**24.59**	**339**	*e*P		**P**	**23 46 16.0**	**+1.1**
VCR	**Vista de Mar**	**25.03**	**338**	*e*P		**P**	**23 46 21.6**	**+2.7**
MADN	**Villa Maderas**	**26.19**	**340**	*e*P		**P**	**23 46 31.2**	**+1.8**
PCRV	**Puerto La Cruz**	**26.23**	**27**	P		**P**	**23 46 28.5**	**-1.2**
	comp=E,133nm,0.6s,mb5.6,baz=205,slow=3.4,SNR=39							
PCRV				S		**S**	**23 51 05.9**	**+6.6**
	comp=E,280nm,1.0s,baz=10.0,slow=19,SNR=1.5							
CONN	**Concepcion**	**26.37**	**340**	*e*P		**P**	**23 46 30.9**	**-0.1**
CRUN	**El Crucero**	**26.99**	**339**	*e*P		**P**	**23 46 38.3**	**+1.7**
MGAN	**Managua**	**27.12**	**339**	*e*P		**P**	**23 46 37.7**	**-0.1**
TISN	**Laguna Tiscapa**	**27.13**	**339**	*e*P		**P**	**23 46 38.5**	**+0.7**
BOAB	**BOACO BROADBAND**	**27.21**	**340**	*e*P		**P**	**23 46 39.0**	**+0.5**
LPA	**La Plata**	**27.25**	**145**	⇑*e*P		**P**	**23 46 38.1**	**-0.7**
	comp=E,1μm,1.0s,mb6.4							
HUEN		**27.27**	**339**	⇓*e*P		**P**	**23 46 40.2**	**+1.1**
LEON	**Leon**	**27.61**	**338**	⇓*e*P		**P**	**23 46 43.0**	**+0.9**
CNGN	**Cerro Negro**	**27.61**	**338**	⇓*e*P		**P**	**23 46 43.6**	**+1.4**
BDFB	**Brasilia**	**27.71**	**98**	P		**P**	**23 46 42.4**	**-0.7**
	comp=E,34nm,0.7s,baz=256,slow=18,SNR=51							
BDFB				S		**S**	**23 51 29.1**	**+6.2**
	comp=E,167nm,1.0s,baz=237,slow=24,SNR=3.0							
BDFB	**Brasilia**	**27.71**	**98**	P		**P**	**23 46 42.4**	**-0.7**
BDFB				S		**S**	**23 51 29.1**	**+6.2**
BDFB				pmax		pmax		
	comp=Z,34nm,0.7s							
BDFB				smax				
	comp=N,167nm,1.0s							
BDFB	**Brasilia**	**27.71**	**98**	⇑*i*P		**P**	**23 46 42.2**	**-1.0**
	comp=N,1μm,1.1s,mb6.4							
BDFB				PcP		PcP	23 50 01.8	+2.4
BDFB				LR		LR		
	comp=Z,1535μm,20.0s,MS7.6							

MTO2	Montecristo 2	30.38	335	eP	x	23 47 08.5	
FCV	Fort Charlotte	30.42	31	e	P	23 47 06.4	-0.8
SVV	Soufriere Volc	30.57	30	e	P	23 47 10.1	+1.6
SSV	Crater Summit	30.59	30	e	P	23 47 02.2	-6.5
BHS	Barnard House	30.60	31	e	P	23 47 08.2	-0.5
MCLT	Moule a Chique	31.05	30	e	P	23 47 10.7	-1.9
SLB	Belfond	31.10	30	e	P	23 47 15.0	+1.9
HOJ	Hope	31.19	360⇑	eP	P	23 47 15.9	+2.1
GWJ	Greenwich	31.26	360⇑	eP	P	23 47 15.7	+1.3
STH	Stony Hill	31.26	360⇑	eP	P	23 47 16.0	+1.5
BBGH	Gun Hill	31.28	33⇑	eP	P	23 47 16.4	+1.7
BBGH				eS	PP	23 48 31.4	+5.4
BBGH	Gun Hill	31.28	33	i P	P	23 47 16.3	+1.6
	comp=Z,6μm,1.2s,mb7.3						
BBGH				eP	pP	23 47 24.8	-1.2
BBGH				eS	sP	23 47 29.9	-1.0
BBGH				eP	PP	23 48 20.4	-5.5
BBGH				P	PP	23 50 06.4	-2.1
BBGH				eS	S	23 52 16.2	-2.6
BBGH				LR	LR		
	comp=Z,5446μm,21.0s,MS8.2						
BBSP	Saint Philip	31.30	33	e	P	23 47 20.1	+5.2
SLW	Petit Monier	31.31	30	e	P	23 47 13.1	-1.9
CVJ	Coleyville	31.42	358⇑	eP	P	23 47 17.7	+1.8
FDF	Fort de France	31.83	29	eP	P	23 47 17.4	-2.1
FDF	Fort de France	31.83	29	P	P	23 47 17.5	-2.0
DBCT	Belle View Cho	32.20	28	e	P	23 47 16.2	-6.7
MDN	Morne-Daniel	32.22	28	e	P	23 47 20.7	-2.3
DWS	Wesley	32.48	28	e	P	23 47 23.8	-1.4
MPR	Mayaguez	32.74	17	eP	P	23 47 27.1	-0.3
SJG	San Juan	32.94	18	P	P	23 47 28.3	-0.9
	comp=Z,345nm,0.9s,mb6.3,baz=187,slow=3.9,SNR=32						
SJG	San Juan	32.94	18⇑	i P	P	23 47 28.2	-1.0
SJG				e		23 48 37.6	
SJG				e		23 50 16.1	
SJG				MLR	MLR		
	comp=Z,3436μm,20.0s						
SJG	San Juan	32.94	18⇑	i P	P	23 47 28.2	-1.0
SJG				eP	PP	23 48 37.6	-6.7
SJG				eP	PP	23 50 16.1	+3.1
SJG				eS	S	23 53 00.8	+16
SJG				LR	LR		
	comp=Z,3436μm,20.0s,MS8.1						
CPD	Cerro la Pandu	32.94	19	eP	P	23 47 28.3	-0.9
CPD				pmax	pmax		
	comp=Z,1μm,1.0s,mb6.7						
CPD	Cerro la Pandu	32.94	19⇑	i P	P	23 47 28.3	-0.9
	comp=Z,1μm,0.9s,mb6.8						
CPD				eP	PP	23 48 36.8	-7.5
CPD				eP	PP	23 50 09.9	-3.1
CPD				eS	S	23 52 56.7	+12
AOPR	Arecibo Observ	32.98	17⇑	i P	P	23 47 28.7	-0.9
	comp=Z,13nm,0.6s						
AOPR				eP	PP	23 48 37.5	-7.2
AOPR				eP	PP	23 50 09.5	-3.6
AOPR				S	S	23 52 41.5	-3.7
AGPR	Aguadilla, PR	32.99	17⇑	i P	P	23 47 29.1	-0.6
AGPR				eP	PP	23 48 34.2	-11
AGPR				eS	S	23 53 02.3	+17
HUMP	Col San Antoni	33.06	19⇑	i P	P	23 47 29.1	-1.1
	comp=Z,3μm,1.5s,mb7.0						
HUMP				eP	PP	23 48 34.7	-11
HUMP				P	PP	23 50 12.9	-0.4
MTP	Monte Pirata	33.11	19⇑	i P	P	23 47 29.5	-1.3
MTP				eP	PP	23 48 39.4	-6.8
MTP				eP	PP	23 50 10.7	-2.8
MTP				eS	S	23 52 44.6	-2.7
CBYP	Canovanas	33.18	19	eP	P	23 47 30.0	-1.3
	comp=Z,2μm,1.0s,mb6.9						
RCC	Rio Carpintero	33.18	1	eP	P	23 47 30.6	-0.7
LMGC	Las Mercedes	33.24	359	eP	P	23 47 33.5	+1.7
MASC	Masc	33.42	4	eP	P	23 47 35.0	+1.6
RPN	Rapa Nui	33.53	241	eP	P	23 47 33.2	-1.2
	comp=Z,2μm,1.5s,mb6.8						
RPN				eP	PP	23 48 48.3	-2.6
RPN				eP	PP	23 50 09.9	-4.7
RPN				eS	S	23 53 04.1	+10
RPN				eS	S	23 54 02.1	+6.1
RPN				LR	LR		
	comp=Z,2133μm,20.0s,MS7.9						
BPA	Boggy Peak	33.54	26	e	P	23 47 32.6	-1.9
MOAC	Moa	33.87	3	eP	P	23 47 38.4	+1.1
STMA	St. Maarten, A	33.93	23	e	P	23 47 36.7	-1.2
CAM3	Guarapari	35.16	107⇑	i P	P	23 47 48.2	-0.3
CAM3				i		23 47 51.6	
CAM3				i		23 47 54.9	
CAM3				i	pP	23 47 57.7	-2.2
CAM3				i	pP	23 48 00.0	+0.1
CAM3				i		23 48 08.0	
CAM3				i		23 48 19.1	
CAM3				i		23 48 31.3	
CAM3				i		23 48 52.4	
CAM3				i		23 49 07.9	
CAM3				i		23 49 12.6	
CAM3				i		23 49 20.0	
CAM3				i		23 49 29.4	
CAM3				i		23 49 38.5	
CAM3				i		23 49 51.5	
CMIG	Matias Romero	35.28	329	P	P	23 47 49.5	0.0
	comp=Z,25nm,0.7s,mb5.3,baz=152,slow=5.5,SNR=16						
CMIG				S	S	23 53 18.4	-2.4
	comp=Z,66nm,1.0s,baz=68,slow=22,SNR=1.6						
CMIG	Matias Romero	35.28	329	P	P	23 47 49.5	0.0
CMIG				S	S	23 53 18.4	-2.4
TEIG	Tepich	35.33	341	P	P	23 47 50.0	0.0
	comp=Z,231nm,0.9s,mb6.1,baz=163,slow=4.5,SNR=34						
TEIG				S	S	23 53 21.0	-0.6
	comp=Z,54nm,0.8s,baz=334,slow=13,SNR=1.8						
TEIG				LR	LR	00 02 30.9	
	comp=Z,1201μm,20.7s,MS7.6,baz=147,slow=37						
SOR	Soroa	36.50	350	eP	P	23 47 59.4	-0.6
EFI	East Falkland	41.00	162⇑	i P	P	23 48 36.5	-0.9
EFI				e*PP	pP	23 48 48.1	-0.8
EFI				e*SP	sP	23 48 53.1	-0.7
EFI				e		23 50 15.9	
EFI				e		23 50 35.5	
EFI				eS	S	23 54 51.1	+4.4
EFI				pmax	pmax		
	comp=Z,3μm,1.4s,mb6.8						
EFI				MLR	MLR		
	comp=Z,1687μm,20.0s,MS7.9						
EFI	East Falkland	41.00	162⇑	i P	P	23 48 36.5	-0.9
	comp=Z,3μm,1.4s,mb6.8						
EFI				eP	pP	23 48 48.1	-0.8
EFI				eS	sP	23 48 53.1	-0.7
EFI				eP	PP	23 50 15.8	+3.4
EFI				eP	PP	23 50 35.5	-1.3
EFI				eS	S	23 54 51.1	+4.4
EFI				LR	LR		
	comp=Z,1687μm,20.0s,MS7.9						
DWPF	Disney	41.52	353⇑	i P	P	23 48 40.6	-1.2
	comp=Z,605nm,0.7s,mb6.3						
DWPF				PP	PP	23 50 13.6	-4.8
DWPF				eP	PP	23 50 39.7	+0.9
DWPF				eS	S	23 54 31.9	+6.1
DWPF				eS	S	23 54 56.3	+1.5
DWPF				LR	LR		
	comp=Z,1131μm,22.0s,MS7.7						
USHA	Ushuaia	41.84	173	P	P	23 48 43.5	-0.6
	comp=Z,342nm,0.9s,mb6.0,baz=326,slow=5.1,SNR=35						
USHA				S	S	23 54 54.8	-4.2
	comp=Z,38nm,1.1s,baz=246,slow=5.2,SNR=1.4						
BRAL	Brewton	45.28	347⇑	i P	P	23 49 12.6	+0.5
	comp=Z,3μm,1.4s,mb6.9						
BRAL				pP	pP	23 49 23.2	-0.5
BRAL				PcP	PcP	23 50 56.0	+4.5
BRAL				ScP	ScP	23 54 49.4	+8.3
BRAL				eS	S	23 55 52.0	+2.3
BRAL				LR	LR		
	comp=Z,787μm,21.0s,MS7.6						
KVTX	Kingsville	45.65	333⇑	i P	P	23 49 15.8	+0.6
	comp=Z,7μm,1.4s,mb7.4						
KVTX				epP	pP	23 49 25.8	-1.0
KVTX				esP	sP	23 49 31.3	-0.3
NHSC	New Hope	46.36	356⇑	i P	P	23 49 20.0	-0.6
NHSC				S	S	23 56 01.6	-3.6
NHSC				LR	LR		
	comp=Z,1381μm,22.0s,MS7.9						
COW	Cow Castle Cre	46.67	355	eP	P	23 49 23.2	+0.2
COW				epP	pP	23 49 33.6	-1.2
COW				esP	sP	23 49 37.9	-1.7
BBSR	BB Station	46.89	14⇑	i P	P	23 49 24.2	-0.6
BBSR				PcP	PcP	23 50 52.5	-4.7
BBSR				eScP	ScP	23 54 46.7	-1.0
BBSR				eS	S	23 56 12.9	+0.1
BBSR				LR	LR		
	comp=Z,990μm,21.0s,MS7.8						
HKT	Hockley	46.92	337	P	P	23 49 25.5	+0.4
GOGA	Godfrey	47.00	352⇑	i P	P	23 49 23.7	-1.9
GOGA						23 50 57.1	
GOGA				eS	S	23 56 12.4	-1.9
GOGA				MLR	MLR		
	comp=Z,965μm,22.0s,MS7.7						
VBMS	Vicksburg	47.27	344⇑	i P	P	23 49 27.2	-0.6
VBMS				epP	pP	23 49 38.1	-1.4
VBMS				ePcP	PcP	23 51 02.0	+3.5
VBMS				eS	S	23 56 27.1	+8.8
VBMS				LR	LR		
	comp=Z,411μm,20.0s,MS7.4						
JSC	Jenkinsville	47.61	355	P	P	23 49 30.5	+0.1
JSC	Jenkinsville	47.61	355	eP	P	23 49 29.8	-0.6
NATX	Nacogdoches	48.13	339⇑	i P	P	23 49 34.7	+0.3
NATX				epP	pP	23 49 45.7	-0.5
NATX				esP	sP	23 49 50.5	-0.5
NATX				ePcP	PcP	23 51 01.0	-0.6
NATX				eScP	ScP	23 54 49.6	-3.4
NATX				eS	S	23 56 40.2	+10
NATX				LR	LR		
	comp=Z,833μm,21.0s,MS7.7						
CNNC	Cliffs of the	48.37	359⇑	i P	P	23 49 35.7	-0.6
CNNC				ePcP	PcP	23 50 51.0	-11
CNNC				eS	S	23 56 22.7	-11
CNNC				LR	LR		
	comp=Z,999μm,22.0s,MS7.8						
JCT	Junction City	49.01	333⇑	i P	P	23 49 40.6	-0.7
JCT				e*PP	pP	23 49 52.3	-0.7
JCT				e		23 51 08.8	
JCT				eS	S	23 56 47.0	+4.0
JCT				MLR	MLR		
	comp=Z,352μm,22.0s,MS7.3						
SWET	Sewanee	49.14	350⇑	i P	P	23 49 40.3	-1.9
SWET				ePcP	PcP	23 50 49.9	-15
SWET				eP	PP	23 51 31.7	-4.6
SWET				eScP	ScP	23 54 58.1	+0.9
CPCT	Cooper Cave	49.15	351⇑	i P	P	23 49 41.0	-1.2
CPCT				epP	pP	23 49 53.2	-0.8
CPCT				esP	sP	23 49 57.6	-1.2
CPCT				eP	PP	23 51 28.0	-8.4
OXF	Oxford	49.17	346⇑	i P	P	23 49 40.1	-2.3
OXF				eS	S	23 56 42.2	-2.9
OXF				pmax	pmax		
	comp=Z,2μm,1.4s,mb6.9						
OXF				MLR	MLR		
	comp=Z,1008μm,22.0s,MS7.8						
OXF	Oxford	49.17	346⇑	i P	P	23 49 40.1	-2.3
	comp=Z,2μm,1.4s,mb6.9						
OXF				ePcP	PcP	23 50 54.9	-10
OXF				eS	S	23 56 42.2	-2.9
OXF				LR	LR		
	comp=Z,1008μm,22.0s,MS7.8						
TKL	Tuckaleechee C	49.25	352	P	P	23 49 41.4	-1.6
	comp=Z,211nm,1.1s,mb6.1,baz=164,slow=7.4,SNR=69						
TKL				S	S	23 56 47.1	+1.0
	comp=Z,72nm,1.2s,baz=130,slow=17,SNR=1.9						
TKL	Tuckaleechee C	49.25	352	P	P	23 49 41.4	-1.6
TKL				S	S	23 56 47.2	+1.1
TKL				pmax	pmax		
	comp=Z,211nm,1.1s,mb6.1						
TKL				smax			
	comp=N,72nm,1.2s						
TKL	Tuckaleechee C	49.25	352⇑	i P	P	23 49 40.6	-2.3
TKL				eS	S	23 56 47.1	+1.0
PLAL	Pickwick Lake	49.33	348	eP	P	23 49 41.6	-2.0
PLAL				ePcP	PcP	23 50 56.0	-10
PLAL				ePP	PP	23 51 42.1	+4.1
PLAL				LR	LR		
	comp=Z,635μm,21.0s,MS7.6						
LPIG	La Paz	49.76	318	P	P	23 49 46.4	-0.7
	comp=Z,24nm,0.3s,mb5.7,baz=282,slow=3.4,SNR=4.3						
LPIG				S	S	23 56 48.4	-5.2
	comp=Z,14nm,0.4s,baz=38,slow=7.3,SNR=2.4						
MET	Memphis--Engin	49.88	346⇑	i P	P	23 49 46.1	-1.7
MET				ePcP	PcP	23 51 06.1	-1.7
MET				eS	S	23 56 50.6	-4.4
TZTN	Tazewell	50.09	353⇑	i P	P	23 49 47.7	-1.7
	comp=Z,3μm,1.6s,mb7.1						
TZTN				ePcP	PcP	23 50 59.8	-8.8
TZTN				eS	S	23 56 52.4	-5.5
TZTN				LR	LR		
	comp=Z,1131μm,21.0s,MS7.8						
UALR	University of	50.18	343⇑	i P	P	23 49 49.4	-0.8
	comp=Z,3μm,1.7s,mb7.1						
UALR				ePP	PP	23 51 46.3	+0.5
UALR				eS	S	23 57 01.2	+2.0
MIAR	Mount Ida	50.33	342⇑	i P	P	23 49 50.5	-0.7
MIAR				e		23 51 09.4	
MIAR				eS	S	23 57 03.0	+1.7
MIAR				MLR	MLR		
	comp=Z,551μm,22.0s,MS7.5						
MIAR	Mount Ida	50.33	342⇑	i P	P	23 49 50.5	-0.7
MIAR				ePcP	PcP	23 51 09.4	-0.2
MIAR				eScP	ScP	23 54 59.5	-2.8
MIAR				eS	S	23 57 03.0	+1.6
MIAR				LR	LR		
	comp=Z,551μm,22.0s,MS7.5						
BLA	Blacksburg	50.45	356⇑	i P	P	23 49 51.1	-1.0
BLA				e		23 51 09.8	
BLA				e		23 51 47.0	
BLA				eS	S	23 57 05.2	+2.3
BLA				pmax	pmax		
	comp=Z,920nm,1.0s,mb6.8						
BLA				MLR	MLR		
	comp=Z,889μm,22.0s,MS7.7						
BLA	Blacksburg	50.45	356⇑	i P	P	23 49 51.1	-1.0
	comp=Z,920nm,1.0s,mb6.8						
BLA				ePcP	PcP	23 51 09.8	-0.1
BLA				ePP	PP	23 51 47.0	-1.3
BLA				eS	S	23 57 05.2	+2.3
BLA				LR	LR		
	comp=Z,889μm,22.0s,MS7.7						
HBAR	Harrisburg	50.47	345⇑	i P	P	23 49 51.1	-1.1
HBAR				ePcP	PcP	23 51 09.9	-0.1
HBAR				ePP	PP	23 51 48.4	-0.1
HBAR				eScP	ScP	23 55 04.4	+1.6
ELN	Prospectdale	50.49	356	eP	P	23 49 51.8	-0.6
ELN				ePcP	PcP	23 51 09.3	-0.7
HALT	Halls	50.49	347⇑	i P	P	23 49 50.4	-2.0
HALT				ePcP	PcP	23 51 09.1	-0.9
HALT				ePP	PP	23 51 48.7	0.0
HALT				eScP	ScP	23 55 08.1	+5.2
URVA	University of	50.69	359⇑	i P	P	23 49 53.1	-0.8
URVA				ePcP	PcP	23 51 04.8	-5.9
GNAR	Gosnell	50.70	346⇑	i P	P	23 49 52.6	-1.4
GNAR				epP	pP	23 50 06.1	+0.3
GNAR				ePcP	PcP	23 51 10.8	0.0
GNAR				ePP	PP	23 51 51.4	+0.8
UTMT	University of	50.80	347⇑	eP	P	23 49 52.8	-1.9
UTMT				ePcP	PcP	23 51 11.3	+0.1
UTMT				eS	S	23 57 07.6	-0.2
GLAT	Glass	50.83	347⇑	i P	P	23 49 53.3	-1.7
GLAT				epP	pP	23 50 06.8	0.0
GLAT				ePcP	PcP	23 51 11.2	-0.1
GLAT				ePP	PP	23 51 51.5	-0.1
PVMO	Portageville	51.06	346⇑	eP	P	23 49 55.7	-1.0
	comp=Z,5μm,1.1s,mb7.3						
PVMO				epP	pP	23 50 07.8	-0.6
PVMO				ePcP	PcP	23 51 12.7	+0.5
PVMO				eScP	ScP	23 55 01.7	-3.7
PVMO				eS	S	23 57 08.0	-3.4
PARMO	Parma	51.31	346⇑	i P	P	23 49 57.2	-1.4
PARMO				PcP	PcP	23 51 12.4	-0.6
PARMO				ePP	PP	23 51 56.7	+0.7
PTCN	Pitcairn Islan	51.58	249⇓	eP	P	23 49 59.8	-1.1
	comp=Z,508nm,1.0s,mb6.4						
PTCN				ePcP	PcP	23 51 14.4	-0.1
PTCN				eS	S	23 57 19.8	+0.6
PTCN				LR	LR		
	comp=Z,152μm,21.0s,MS7.0						
PMSA	Palmer Station	52.05	173	P	P	23 50 03.7	-0.1
	comp=Z,93nm,0.8s,mb5.7,baz=358,slow=6.0,SNR=82						
PMSA				S	S	23 57 20.5	-3.9
	comp=Z,17nm,1.1s,baz=352,slow=3.8,SNR=1.5						
USIN	University of	52.13	349⇑	i P	P	23 50 02.8	-1.9
USIN				epP	pP	23 50 15.9	-0.6
USIN				ePcP	PcP	23 51 13.8	-2.3
USIN				eS	S	23 57 27.1	+1.1
WCI	Wyandotte Cave	52.14	350⇑	i P	P	23 50 02.5	-2.2
WCI				e	pP	23 50 15.9	-0.7
WCI				e		23 51 14.5	
WCI				e		23 52 04.1	
WCI				eS	S	23 57 25.4	-0.8
WCI				pmax	pmax		
	comp=Z,2μm,1.0s,mb7.0						
WCI				MLR	MLR		
	comp=Z,744μm,22.0s,MS7.7						
WCI	Wyandotte Cave	52.14	350⇑	i P	P	23 50 02.5	-2.2
	comp=Z,2μm,1.0s,mb7.0						
WCI				e	pP	23 50 15.9	-0.6
WCI				ePcP	PcP	23 51 14.5	-1.7
WCI				ePP	PP	23 52 04.1	+0.6
WCI				eScP	ScP	23 55 20.6	+11
WCI				eS	S	23 57 25.4	-0.8
WCI				LR	LR		
	comp=Z,744μm,22.0s,MS7.7						
SIUC	Southern Illin	52.20	347⇑	i P	P	23 50 03.4	-1.7
	comp=Z,2μm,1.1s,mb7.0						
SIUC				epP	pP	23 50 16.4	-0.6
SIUC				ePcP	PcP	23 51 15.0	-1.4
SIUC				eS	S	23 57 15.9	-11
WMOK	Wichita Mounta	52.30	337⇑	i P	P	23 50 04.7	-1.3
	comp=Z,1μm,1.3s,mb6.6						
WMOK				ePcP	PcP	23 51 17.3	+0.4
WMOK				ePP	PP	23 51 55.1	-10
WMOK				eScP	ScP	23 55 12.3	+1.5
WMOK				eS	S	23 57 28.7	+0.1
WMOK				LR	LR		
	comp=Z,464μm,21.0s,MS7.5						
SDMD	Soldier's Deli	52.52	360⇑	i P	P	23 50 06.8	-0.7
SDMD				ePcP	PcP	23 51 15.2	-2.4
SDMD				eScP	ScP	23 55 10.9	-0.7
GDL2	Guadalupe Moun	52.57	330	eP	P	23 50 08.4	+0.4
MNTX	Cornudas Mount	52.66	329	P	P	23 50 07.7	-1.0
FVM	French Village	52.73	346⇑	i P	P	23 50 07.3	-1.8
FVM				pmax	pmax		
	comp=Z,2μm,1.4s,mb6.9						
FVM	French Village	52.73	346⇑	i P	P	23 50 07.3	-1.8
	comp=Z,2μm,1.4s,mb6.9						
FVM				ePcP	PcP	23 51 18.0	-0.3
FVM				eP	PP	23 52 09.6	+0.8
FVM				eS	S	23 57 27.9	-6.3
MCWV	Mont Chateau	52.85	357⇑	i P	P	23 50 08.9	-1.1
MCWV				ePcP	PcP	23 51 17.8	-1.0
MCWV				eP	PP	23 52 08.5	-1.5
MCWV				eS	S	23 57 46.7	+11
MCWV				LR	LR		
	comp=Z,835μm,21.0s,MS7.8						
OLIL	Olney	52.96	349⇑	i P	P	23 50 09.0	-1.8
	comp=Z,413nm,1.1s,mb6.3						
OLIL				epP	pP	23 50 22.3	-0.3
OLIL				ePcP	PcP	23 51 19.5	+0.3
OLIL				eP	PP	23 52 10.1	-0.8
OLIL				eS	S	23 57 43.6	+6.4
BLO	Bloomington	53.10	350⇑	i P	P	23 50 09.8	-2.0
BLO				e*PP	pP	23 50 23.0	-0.7
BLO				e		23 52 10.5	
BLO				eS	S	23 57 43.6	+4.3
MVL	Millersville	53.11	0⇑	i P	P	23 50 06.9	-4.9
	comp=Z,3μm,1.4s,mb7.0						
MVL				ePcP	PcP	23 51 19.6	-0.2
MVL				eP	PP	23 52 14.4	+2.2
MVL				eS	S	23 57 36.0	-3.2
SLM	Saint Louis	53.31	347⇑	i P	P	23 50 11.8	-1.5
SLM				e		23 51 20.8	
SLM				e		23 52 10.8	
SLM				eS	S	23 57 37.9	-4.1
SLM				pmax	pmax		
	comp=Z,2μm,1.3s,mb6.9						
SLM	Saint Louis	53.31	347⇑	i P	P	23 50 11.8	-1.5
	comp=Z,2μm,1.3s,mb6.9						
SLM				ePcP	PcP	23 51 20.8	+0.3
SLM				eP	PP	23 52 10.8	-3.3
SLM				eS	S	23 57 37.9	-4.1
AMTX	Amarillo	53.60	334⇑	i P	P	23 50 14.3	-1.2
	comp=Z,1μm,1.4s,mb6.7						
AMTX				epP	pP	23 50 25.6	-1.8
AMTX				ePcP	PcP	23 51 21.5	-0.3
AMTX				eP	PP	23 52 14.0	-2.7
AMTX				eScP	ScP	23 55 13.7	-2.7
AMTX				eS	S	23 57 42.1	-4.1
AMTX				LR	LR		
	comp=Z,411μm,21.0s,MS7.5						
ACSO	Alum Creek Sta	53.67	354⇑	i P	P	23 50 14.4	-1.5
	comp=Z,1μm,0.9s,mb6.8						
ACSO				epP	pP	23 50 27.6	-0.2
ACSO				ePcP	PcP	23 51 28.1	+6.2
ACSO				eS	S	23 57 44.7	-2.3
ACSO				LR	LR		
	comp=Z,1064μm,22.0s,MS7.9						
BRNJ	Basking Ridge	53.82	2⇑	i P	P	23 50 17.0	-0.1
	comp=Z,394nm,0.8s,mb6.4						
BRNJ				ePcP	PcP	23 51 22.8	+0.3
BRNJ				eS	S	23 57 46.1	-2.8
CPNY	Central Park	53.95	2⇑	i P	P	23 50 17.8	-0.2
	comp=Z,1μm,1.5s,mb6.7						
CPNY				ePcP	PcP	23 51 23.4	+0.5
CPNY				eP	PP	23 52 15.4	-4.4
CPNY				eS	S	23 57 53.6	+2.9
PAL	Palisades	54.17	2⇑	i P	P	23 50 19.0	-0.6
PAL				e		23 51 27.7	
PAL				eS	S	23 57 57.6	+4.0
319A	Douglas	54.47	325	⇑P	P	23 50 22.3	+0.3
	baz=55,SNR=95						
ALLY	Alegheny Colle	54.85	357⇑	i P	P	23 50 23.0	-1.6
	comp=Z,2μm,1.1s,mb7.0						
ALLY				epP	pP	23 50 35.9	-0.6
ALLY				ePcP	PcP	23 51 26.3	-0.1
ALLY				PP	PP	23 52 26.2	-1.7
ALLY				eScP	ScP	23 55 34.2	+12
318A	Bisbee	54.91	325	⇓P	P	23 50 25.3	+0.1
	baz=55,SNR=121						
219A	White Tail Can	54.93	326	⇓P	P	23 50 25.4	0.0
	baz=55,SNR=41						
BRYW	Bryant College	55.22	5	eP	P	23 50 27.2	0.0
BRYW				ePcP	PcP	23 51 27.8	0.0
BRYW				eScP	ScP	23 55 26.5	+3.1
BRYW				eS	S	23 58 11.4	+3.8
BNM	Barren Site	55.25	330	eP	P	23 50 27.8	+0.1
BNM				epP	pP	23 50 38.1	-1.4
BNM				ePcP	PcP	23 51 28.4	+0.3
BINY	Binghamton	55.31	1⇑	i P	P	23 50 27.5	-0.3
	comp=Z,1μm,0.8s,mb6.9						
BINY				ePcP	PcP	23 51 28.1	0.0
BINY				eScP	ScP	23 55 21.7	-2.0
BINY				eS	S	23 58 30.3	+21
BINY				LR	LR		
	comp=Z,639μm,22.0s,MS7.7						
Y22C	IRIS PASSCAL I	55.34	329	⇑P	P	23 50 28.6	+0.3
	baz=56						
218A	Dragoon	55.35	325	⇑P	P	23 50 28.6	+0.2
	baz=56,SNR=54						
LPM	Los Pinos Moun	55.39	330	eP	P	23 50 28.5	-0.1
LENM	Lemitar	55.44	329	eP	P	23 50 29.0	+0.1
LENM				ePcP	PcP	23 51 29.9	+1.0
KSU1	Kansas State U	55.47	341⇑	i P	P	23 50 27.6	-1.4
KSU1				epP	pP	23 50 41.2	+0.2
KSU1				ePcP	PcP	23 51 25.0	-3.8
KSU1				ePP	PP	23 52 29.5	-4.0
KSU1				eScP	ScP	23 55 30.1	+5.6
KSU1				eS

AAM e 23 51 32.6
AAM eS **S** **23 58 22.7 +7.4**
AAM MLR MLR
comp=Z,1174µm,22.0s,MS7.9
HRV Adam Dziewonsk 55.80 4⇑iP P 23 50 31.4 0.0
HRV e 23 51 31.2
HRV eS **S** **23 58 15.4 -0.1**
HRV pmax pmax
comp=Z,2µm,1.5s,mb6.9
HRV MLR MLR
comp=Z,1093µm,22.0s,MS7.9
HRV Adam Dziewonsk 55.80 4⇑iP P 23 50 31.4 0.0
comp=Z,2µm,1.5s,mb6.9
HRV ePcP PcP 23 51 31.2 +1.2
HRV eS **S** **23 58 15.4 0.0**
HRV LR LR
comp=Z,1093µm,22.0s,MS7.9
118A Homack Ranch, 55.81 326 ⇓P P 23 50 31.6 0.0
baz=56,SNR=70
ANMO Albuquerque 55.82 330 P P 23 50 31.5 -0.1
comp=Z,46nm,0.9s,baz=144,slow=10,SNR=74
ANMO S **S** **23 58 11.8 -4.2**
comp=Z,28nm,1.2s,baz=54,slow=7.4,SNR=1.8
ANMO Albuquerque 55.82 330 P P 23 50 31.5 -0.1
ANMO S **S** **23 58 11.8 -4.2**
ANMO pmax pmax
comp=Z,46nm,0.9s
ANMO smax
comp=N,28nm,1.2s
ANMO Albuquerque 55.82 330 eP P 23 50 31.3 -0.3
comp=N,1µm,1.3s,mb6.8
ANMO ePcP PcP 23 51 26.8 -3.5
ANMO eS **S** **23 57 57.5 -18**
ANMO LR LR
comp=Z,803µm,22.0s,MS7.8
Z19A T-Link Ranch, 55.93 327 ⇑P P 23 50 32.8 +0.3
baz=56,SNR=16
RKT Rikitea 56.01 251 eP P 23 50 33.7 +0.3
comp=Z,486nm,1.2s,mb6.4
RKT eS **S** **23 58 20.3 +1.1**
comp=Z,3330µm,27.0s
RKT eLR LR 00 06 57.4
comp=Z,4064µm,31.5s,baz=88
RKT Rikitea 56.01 251 eP P 23 50 33.7 +0.3
comp=Z,486nm,1.2s,mb6.4
RKT eS **S** **23 58 20.3 +1.1**
TUC Tucson 56.01 325 eP P 23 50 32.8 -0.3
TUC Tucson 56.01 325⇑iP P 23 50 32.8 -0.3
TUC ePcP PcP 23 51 30.7 -0.4
TUC ePP PP 23 52 40.6 +2.1
TUC eScP ScP 23 55 23.0 -4.2
TUC eS **S** **23 58 22.5 +3.8**
TUC LR LR
comp=Z,994µm,21.0s,MS7.9
216A Three Points, 56.16 324 ⇓P P 23 50 34.2 0.0
baz=56,SNR=46
117A Oracle 56.18 325 ⇑P P 23 50 34.2 -0.2
baz=56,SNR=118
Z18A Geronimo 56.19 326 ⇓P P 23 50 34.6 +0.3
baz=56
CBKS Cedar Bluff 56.27 338⇑iP P 23 50 33.7 -1.1
CBKS e 23 51 29.6
CBKS e 23 52 38.7
CBKS eS **S** **23 58 18.8 -3.0**
CBKS MLR MLR
comp=Z,563µm,22.0s,MS7.6
Y19A Nutrioso 56.44 327 ⇓P P 23 50 36.7 +0.6
baz=57,SNR=63
ACCN Adirondack Com 56.55 3⇑iP P 23 50 36.8 +0.1
ACCN ePcP PcP 23 51 32.3 -0.6
ACCN eS **S** **23 58 29.8 +4.4**
Z17A San Carlos Hig 56.58 326 ⇑P P 23 50 37.2 0.0
baz=57,SNR=18
Y18A Canyon Day Jun 56.71 327 ⇑P P 23 50 38.2 +0.2
baz=57,SNR=14
116A Eloy 56.72 324 ⇓P P 23 50 37.8 -0.3
baz=57,SNR=36
FFD Franklin Falls 56.75 4⇑iP P 23 50 38.4 +0.3
comp=Z,669nm,0.9s,mb6.7
FFD ePcP PcP 23 51 34.0 +0.3
FFD ePP PP 23 52 43.1 -1.8
FFD eS **S** **23 58 28.7 +0.6**
X19A St. Johns 56.82 328 ⇓P P 23 50 38.9 +0.1
baz=57,SNR=19
214A Organ Pipe Nat 56.91 323 ⇓P P 23 50 39.7 +0.2
baz=57,SNR=69
HNH Hanover 56.94 4⇑iP P 23 50 39.7 +0.3
HNH ePcP PcP 23 51 34.4 0.0
HNH ePP PP 23 52 43.9 -2.6
HNH eS **S** **23 58 40.6 +10**
Y17A Roosevelt 57.09 326 ⇑P P 23 50 40.9 +0.1
baz=57,SNR=30
NCB Newcomb 57.11 2⇑iP P 23 50 40.2 -0.4
comp=Z,2µm,1.1s,mb7.0
NCB ePcP PcP 23 51 35.7 +0.6
NCB ePP PP 23 52 48.5 +0.5
NCB eS **S** **23 58 43.3 +11**
NCB LR LR
comp=Z,485µm,19.0s,MS7.6
115A Sonoran Desert 57.12 324 ⇑P P 23 50 40.9 -0.1
baz=57,SNR=33
SCIA State Center 57.12 345⇑iP P 23 50 39.2 -1.5
comp=Z,1µm,1.0s,mb6.8
SCIA ePcP PcP 23 51 35.9 +0.7
SCIA ePP PP 23 52 46.8 -1.3
SCIA eS **S** **23 58 30.6 -2.4**
SCIA LR LR
comp=Z,602µm,22.0s,MS7.7
Z16A Peralta Trail, 57.14 325 ⇑P P 23 50 41.0 -0.1
baz=57,SNR=27
MDV Middlebury 57.19 3 eP P 23 50 41.0 -0.2
X18A Snowflake 57.24 327 ⇓P P 23 50 42.2 +0.3
baz=57,SNR=34
W19A Sanders 57.40 328 ⇓P P 23 50 43.1 +0.2
baz=58,SNR=18
JFWS Jewell Farm 57.41 348⇑iP P 23 50 40.8 -2.0
JFWS e 23 51 36.7
JFWS eS **S** **23 58 36.1 -0.7**
JFWS pmax pmax
comp=Z,1µm,1.4s,mb6.8
JFWS MLR MLR
comp=Z,671µm,22.0s,MS7.7
JFWS Jewell Farm 57.41 348⇑iP P 23 50 40.8 -2.0
comp=Z,1µm,1.4s,mb6.8
JFWS ePcP PcP 23 51 36.7 +0.4
JFWS eS **S** **23 58 36.1 -0.6**
JFWS LR LR
comp=Z,671µm,22.0s,MS7.7
LBNH Lisbon 57.50 4 eP P 23 50 43.7 +0.3
LBNH pmax pmax
comp=Z,1µm,1.1s,mb6.9
LBNH Lisbon 57.50 4⇑iP P 23 50 43.7 +0.3
comp=Z,1µm,1.1s,mb6.9
LBNH ePcP PcP 23 51 38.5 +2.0
LBNH eScP ScP 23 55 34.5 +1.1
LBNH eS **S** **23 58 41.5 +3.7**
LBNH LR LR
comp=Z,1108µm,22.0s,MS7.9
Z15A Gila River Ind 57.51 325 ⇓P P 23 50 43.7 -0.1
baz=58
X17A Forest Lakes 57.55 327 ⇓P P 23 50 44.7 +0.7
baz=58,SNR=46
Y16A Circle Bar Ran 57.57 326 ⇓P P 23 50 44.3 +0.1
baz=58,SNR=84
W18A Petrified Fore 57.59 328 ⇓P P 23 50 44.5 +0.3
baz=58,SNR=28
SDCO Great Sand Dun 57.66 333⇑iP P 23 50 44.6 -0.1
comp=Z,3µm,1.8s,mb7.0
SDCO ePcP PcP 23 51 38.7 +1.3
SDCO eS **S** **23 58 37.1 -3.2**
SDCO eS **S** **23 58 40.8 +0.5**
SDCO LR LR
comp=Z,469µm,22.0s,MS7.5
V19A Window Rock 57.70 329 ⇑P P 23 50 45.2 +0.2
baz=58,SNR=21
LONY Lake Ozonia 57.75 2⇑iP P 23 50 44.5 -0.7
LONY ePcP PcP 23 51 40.7 +3.1
LONY eScP ScP 23 55 47.7 +13
LONY eS **S** **23 58 43.7 +2.6**
LONY LR LR
comp=Z,924µm,22.0s,MS7.8
SADO Sadowa 57.92 358 P P 23 50 44.5 -1.8
baz=200,slow=7.3
SADO S **S** **23 58 36.1 -7.3**
X16A Lo Mia Camp, P 57.96 326 ⇓P P 23 50 47.1 +0.3
baz=58,SNR=97
FRNY Flat Rock 58.00 2⇑iP P 23 50 46.6 -0.3
FRNY ePcP PcP 23 51 43.3 +4.7
FRNY eS **S** **23 58 45.3 +0.9**
Z14A Wintersburg 58.01 324 ⇑P P 23 50 47.1 -0.1
baz=58
113A Mohawk Valley, 58.05 323 ⇓P P 23 50 47.3 -0.3
baz=58,SNR=15
W17A Winslow 58.07 327 ⇑P P 23 50 47.7 +0.1
baz=58
Y15A Casa Rosa Ranc 58.10 325 ⇓P P 23 50 47.9 +0.1
baz=58,SNR=56
V18A Ganado 58.15 328 ⇓P P 23 50 48.0 -0.1
baz=58,SNR=15
112A Yuma 58.37 322 ⇑P P 23 50 49.9 +0.2
baz=58
GLMI Grayling 58.39 353⇑iP P 23 50 47.7 -1.9
GLMI ePcP PcP 23 51 39.7 -0.4
GLMI eScP ScP 23 55 39.5 +2.2
GLMI S **S** **23 58 41.0 -8.5**
GLMI LR LR
comp=Z,1150µm,20.0s,MS8.0
EMMW East Machias 58.40 8 eP P 23 50 50.0 +0.3
X15A Humboldt 58.44 326 ⇑P P 23 50 50.8 +0.6
baz=59,SNR=75
Y14A Wickenburg 58.47 325 ⇓P P 23 50 50.3 -0.1
baz=59,SNR=53
W16A Flagstaff 58.52 327 ⇓P P 23 50 51.5 +0.8
baz=59,SNR=27
T19A Beclabito 58.57 330 ⇓P P 23 50 50.5 -0.5
baz=59,SNR=50
MVCO Mesa Verde 58.61 330 ⇑P P 23 50 51.0 -0.4
baz=59
MVCO Mesa Verde 58.61 330⇑iP P 23 50 51.3 -0.1
MVCO epP pP 23 51 02.5 -0.8
MVCO ePcP PcP 23 51 44.9 +3.7
MVCO eS **S** **23 58 44.2 -8.5**
MVCO LR LR
comp=Z,678µm,22.0s,MS7.7
U18A Rough Rock, Ch 58.67 329 ⇑P P 23 50 51.7 -0.1
baz=59,SNR=30
PKME Peaks-Kenny Pk 58.74 6⇑iP P 23 50 51.9 -0.1
comp=Z,750nm,0.9s,mb6.7
PKME ePcP PcP 23 51 39.8 -1.7
WUAZ Wupatki 58.75 327 ⇓P P 23 50 52.8 +0.5
baz=59
WUAZ Wupatki 58.75 327⇑iP P 23 50 52.5 +0.1
comp=Z,1µm,1.3s,mb6.8
WUAZ epP pP 23 51 04.6 +0.2
WUAZ eS **S** **23 58 52.0 -2.5**
WUAZ LR LR
comp=Z,915µm,19.0s,MS7.9
X14A Yava 58.79 325 ⇓P P 23 50 53.2 +0.6
baz=59,SNR=56
Y13A Salome 58.84 324 ⇑P P 23 50 53.2 +0.1
baz=59,SNR=42
GLA Glamis 58.88 323⇑iP P 23 50 53.3 0.0
GLA e*PP pP 23 51 05.1 -0.2
GLA e 23 51 42.5
GLA eS **S** **23 59 02.1 +5.8**
GLA MLR MLR
comp=Z,657µm,19.0s,MS7.8
GLA Glamis 58.88 323 ⇑P P 23 50 53.5 +0.2
baz=59,SNR=18
GLA Glamis 58.88 323⇑iP P 23 50 53.3 0.0
GLA epP pP 23 51 05.1 -0.2
GLA ePcP PcP 23 51 42.5 +0.2
GLA eScP ScP 23 55 32.9 -6.9
GLA eS **S** **23 59 02.1 +5.8**
GLA LR LR
comp=Z,657µm,19.0s,MS7.8
W15A Williams 58.98 326 ⇓P P 23 50 54.4 +0.5
baz=59,SNR=32
RW3 Ridgway 59.06 332 eP P 23 50 47.1 -7.3
Y12C Blythe 59.20 323 ⇓P P 23 50 55.7 +0.2
baz=59,SNR=35
U17A Shonto 59.21 328 ⇓P P 23 50 55.7 +0.2
baz=59,SNR=38
T18A Mexican Hat 59.23 329 ⇓P P 23 50 55.1 -0.5
baz=59,SNR=201
S19A Harvey Farm, M 59.34 330 ⇓P P 23 50 56.1 -0.3
baz=60,SNR=96
DVTC Desert V Tower 59.37 321 ⇓P P 23 50 57.0 +0.4
baz=60
PDMCI Parker Dam,Lak 59.37 324 ⇑P P 23 50 56.5 -0.2
baz=60,SNR=16
SWSC Sam W. Stewart 59.38 322 ⇑P P 23 50 56.8 0.0
baz=60
PV01 Paradox Valley 59.38 331 eP P 23 50 56.5 -0.1
V15A Kaibab Nationa 59.40 327 ⇓P P 23 50 57.4 +0.6
baz=60,SNR=16
X13A Yucca 59.41 325 ⇓P P 23 50 57.0 +0.1
baz=60,SNR=57
ISCO Idaho Springs 59.42 334 eP P 23 50 56.6 -0.3
ISCO Idaho Springs 59.42 334⇑iP P 23 50 56.5 -0.4
comp=Z,838nm,1.3s,mb6.6
ISCO ePcP PcP 23 51 43.4 -1.0
ISCO eS **S** **23 59 01.1 -1.9**
ISCO LR LR
comp=Z,727µm,22.0s,MS7.8
W14A Seligman 59.45 326 ⇑P P 23 50 57.7 +0.5
baz=60,SNR=64
T17A Navajo Res., N 59.59 329 ⇑P P 23 50 58.9 +0.8
baz=60,SNR=130
BC3 Big Chuckw Mtn 59.68 323 ⇓P P 23 50 59.1 +0.3
baz=60,SNR=68
ECSD EROS,Sioux Fal 59.72 343⇑iP P 23 50 57.3 -1.6
comp=Z,2µm,1.2s,mb6.9
ECSD ePcP PcP 23 51 43.7 -1.7
ECSD LR LR
comp=Z,522µm,21.0s,MS7.6
S18A Hurst Farm, Bl 59.72 330 ⇓P P 23 50 58.9 -0.1
baz=60,SNR=91
MONP Monument Peak 59.72 321 ⇑P P 23 50 59.3 +0.1
baz=60,SNR=9.3
BAR Barrett 59.73 321⇑iP P 23 50 59.6 +0.4
BAR epP pP 23 51 10.9 -0.3
BAR ePcP PcP 23 51 46.5 +0.8
BAR eScP ScP 23 55 34.1 -9.4
BAR LR LR
comp=Z,259µm,20.0s,MS7.4
V14A Boquillas Ranc 59.77 326 ⇓P P 23 51 00.0 +0.6
baz=60,SNR=97
PV10 Paradox Valley 59.80 331 eP P 23 50 59.2 -0.3
PV10 ePcP PcP 23 51 45.4 -0.5
W13A Hualapai Mount 59.81 325 ⇓P P 23 51 00.3 +0.6
baz=60
R19A Curley Farm, L 59.84 331 ⇑P P 23 50 59.5 -0.3
baz=60,SNR=40
IRM Iron Mountain 59.85 323 ⇓P P 23 51 00.2 +0.2
baz=60,SNR=180
U15A North Rim 59.92 327 ⇓P P 23 51 01.0 +0.6
baz=60,SNR=62
T16A Glen Canyon Da 59.94 328 ⇑P P 23 51 00.9 +0.4
baz=60
NEE2 Needles Airpor 59.98 324 ⇑P P 23 51 01.0 +0.2
baz=60
S17A Black Ridge (B 60.08 329 ⇓P P 23 51 01.4 0.0
baz=60,SNR=12
109C Camp Elliot, M 60.14 321 ⇑P P 23 51 01.8 -0.2
baz=60
R18A Canyonlands Na 60.22 330 ⇑P P 23 51 02.0 -0.3
baz=60,SNR=8.1
PFO Pinyon Flat Ob 60.24 322⇑iP P 23 51 02.9 +0.2
PFO e*PP pP 23 51 14.4 -0.3
PFO e 23 51 44.2
PFO eS **S** **23 59 15.8 +1.9**
PFO pmax pmax
comp=Z,992nm,1.3s,mb6.7
PFO MLR MLR
comp=Z,736µm,21.0s,MS7.8
PFO Pinyon Flat Ob 60.24 322 ⇓P P 23 51 03.1 +0.4
baz=60,SNR=30
PFO Pinyon Flat Ob 60.24 322⇑iP P 23 51 02.9 +0.3
comp=Z,992nm,1.3s,mb6.7
PFO epP pP 23 51 14.4 -0.2
PFO ePcP PcP 23 51 44.2 -3.5
PFO eS **S** **23 59 15.8 +1.9**
PFO LR LR
comp=Z,736µm,21.0s,MS7.8
BELC Belle Mtn. 60.24 323 ⇑P P 23 51 02.7 +0.1
baz=60,SNR=49
COWI Conover 60.28 350⇑iP P 23 51 00.8 -1.9
COWI epP pP 23 51 14.2 -0.5
COWI ePcP PcP 23 51 46.9 -0.7
COWI eS **S** **23 59 14.8 +0.9**
COWI LR LR
comp=Z,781µm,21.0s,MS7.8
Q19A Hogan Spring (60.37 331 ⇑P P 23 51 03.3 -0.1
baz=61,SNR=22
U14A Mt Trumbull 60.39 326 ⇑P P 23 51 04.4 +0.8
baz=61,SNR=85
V13A Grand Canyon W 60.41 325 ⇓P P 23 51 04.3 +0.5
baz=61,SNR=43
T15A Red Dirt Ranch 60.42 327 ⇓P P 23 51 04.3 +0.5
baz=61,SNR=36
LDFC Landfair 60.49 324⇑iP P 23 51 04.8 +0.5
LDFC epP pP 23 51 15.5 -0.9
LDFC eScP ScP 23 55 44.1 -2.8
LDFC eS **S** **23 59 16.9 0.0**
W12A Cal Nev Ari 60.51 324 ⇓P P 23 51 04.5 +0.1
baz=61
S16A Weppner Ranch, 60.55 328 ⇓P P 23 51 04.7 +0.1
baz=61,SNR=87
GMRC Granite Mounta 60.59 323 ⇓P P 23 51 05.6 +0.5
baz=61,SNR=48
PHWY Pilot Hill 60.61 335⇑iP P 23 51 04.8 -0.3
PHWY epP pP 23 51 16.3 -0.8
PHWY ePcP PcP 23 51 49.9 +0.9
PHWY eS **S** **23 59 16.0 -2.4**
R17A Hanksville Air 60.64 330 ⇑P P 23 51 05.0 -0.3
baz=61,SNR=76
MURC Murrieta 60.68 321 ⇑P P 23 51 06.3 +0.6
baz=61,SNR=14
V12A Nelson 60.81 325 ⇑P P 23 51 06.6 +0.1
baz=61,SNR=27
U13A Pakoon Wash 60.82 326 ⇑P P 23 51 07.0 +0.5
baz=61,SNR=28
T14A Hurricane 60.82 327 ⇑P P 23 51 07.0 +0.5
baz=61,SNR=22
Q18A Rafter H Ranch 60.90 330 ⇑P P 23 51 07.1 0.0
baz=61,SNR=51
S15A Panguitch 60.91 328 ⇑P P 23 51 07.5 +0.4
baz=61
BBRC Big Bear Sol-O 60.97 322 ⇑P P 23 51 08.2 +0.5
baz=61
HEC Hector,Ludlow 61.02 323 ⇓P P 23 51 08.4 +0.5
baz=61,SNR=60
SRU San Rafael 61.09 330 ⇑P P 23 51 08.0 -0.3
baz=61
SRU San Rafael 61.09 330⇑iP P 23 51 08.0 -0.4
SRU epP pP 23 51 19.4 -1.0
SRU ePcP PcP 23 51 51.5 +0.5
SCI San Clemente I 61.09 320 ⇓P P 23 51 08.3 -0.2
baz=61
U12A Valley of Fire 61.14 325 ⇓P P 23 51 09.1 +0.4
baz=61,SNR=26
TUQ Turquoise Mtn. 61.21 324 ⇓P P 23 51 09.2 0.0
baz=61,SNR=9.9
V11A Goodsprings 61.21 324 ⇓P P 23 51 09.3 +0.1
baz=61
T13A Saint George 61.23 326 ⇓P P 23 51 09.9 +0.5
baz=61,SNR=36
ASCN Ascension 61.24 92⇑iP P 23 51 08.7 -1.2
comp=Z,2µm,1.2s,mb7.2
ASCN epP pP 23 51 20.7 -1.2
ASCN ePP PP 23 53 25.5 +0.4
ASCN LR LR
comp=Z,2623µm,20.0s,MS8.4
Q16A Castle Valley 61.26 330 ⇑P P 23 51 09.6 +0.1
baz=61,SNR=30
R15A Junction 61.27 328 ⇓P P 23 51 09.7 +0.2
baz=62,SNR=24
CIS Catalina Islan 61.29 320 ⇑P P 23 51 09.8 0.0
baz=62
CCUT Cedar City 61.33 327⇑iP P 23 51 19.6 +10
P18A Preston Nutter 61.36 331 ⇓P P 23 51 10.3 +0.2
baz=62,SNR=46
S14A Cedar City 61.39 327 ⇓P P 23 51 10.9 +0.5
baz=62
BFSC Mount Baldy St 61.40 322 ⇑P P 23 51 10.4 -0.1
baz=62,SNR=54
FMP Fort Macarthur 61.43 321 ⇑P P 23 51 10.7 0.0
baz=62
MSU Marysvale 61.45 329 eP P 23 51 10.8 +0.1
RRX Edison Barstow 61.45 323 ⇑P P 23 51 11.0 +0.2
baz=62
T12A Moapa 61.45 326 ⇓P P 23 51 10.7 -0.1
baz=62
MVU Marysvale 61.46 329 PFAKE 23 51 20.0 +9.2
MVU LR LR
comp=Z,965µm,19.0s,MS8.0
P17A Butcher Ranch, 61.48 330 ⇓P P 23 51 10.6 -0.3
baz=62,SNR=73
SHPR Sheep Range 61.54 325 eP P 23 51 11.7 +0.2
ARUT Antelope Range 61.55 327 eP P 23 51 12.2 +0.7
ARUT e*PP pP 23 51 22.6 -0.9
TRIS Tristan da Cun 61.55 125⇑eP P 23 51 12.4 +0.7
comp=Z,1µm,0.9s,mb7.0
TRIS epP pP 23 51 22.9 -0.8
TRIS ePcP PcP 23 51 51.4 -1.8
TRIS eS **S** **23 59 14.5 -16**
TRIS LR LR
comp=Z,1082µm,19.0s,MS8.0
TMUT Trail Mountain 61.57 330⇑iP P 23 51 11.7 +0.2
TMUT pP pP 23 51 23.4 -0.2
TMUT ePcP PcP 23 51 51.6 -1.4
U11A Corn Creek 61.61 325 ⇓P P 23 51 12.3 +0.5
baz=62,SNR=11
S13A Holt Ranch, En 61.62 327 ⇑P P 23 51 12.5 +0.6
baz=62,SNR=130
GSC Goldstone 61.62 323⇓iP P 23 51 12.5 +0.5
GSC e*PP pP 23 51 23.0 -1.1
GSC eS **S** **23 59 38.3 +6.8**
GSC pmax pmax
comp=Z,1µm,1.6s,mb6.8
GSC MLR MLR
comp=Z,932µm,22.0s,MS7.9
GSC Goldstone 61.62 323 ⇓P P 23 51 12.6 +0.6
baz=62,SNR=29
GSC Goldstone 61.62 323⇓iP P 23 51 12.5 +0.5
comp=Z,1µm,1.6s,mb6.8
GSC epP pP 23 51 23.0 -1.1
GSC eS **S** **23 59 38.3 +6.8**
GSC LR LR
comp=Z,932µm,22.0s,MS7.9
MWC Mount Wilson 61.63 321⇑eP P 23 51 12.2 +0.1
MWC e*PP pP 23 51 23.7 -0.4
MWC e 23 53 27.0
MWC eS **S** **23 59 40.2 +8.6**
MWC MLR MLR
comp=Z,320µm,22.0s,MS7.4
RWWY Rawlins 61.66 334⇑iP P 23 51 12.2 +0.1
RWWY epP pP 23 51 23.2 -1.0
RWWY eS **S** **23 59 27.6 -4.0**
R14A James Farms, M 61.72 328 ⇓P P 23 51 12.8 +0.3
baz=62,SNR=16
SHOC Shoshone 61.74 324 ⇑P P 23 51 12.6 -0.2
baz=62
O18A Roosevelt 61.75 331 ⇑P P 23 51 12.8 0.0
baz=62,SNR=61
DECC Green Verdugo 61.81 321 ⇓P P 23 51 13.3 0.0
baz=62
SNCC San Nicolas Is 61.88 320 PFAKE 23 51 30.0 +16
SNCC LR LR
comp=Z,585µm,22.0s,MS7.7
Q15A Fillmore 61.92 329 ⇓P P 23 51 14.4 +0.5
baz=62,SNR=34
P16A Fountain Green 62.03 330 ⇓P P 23 51 15.0 +0.4
baz=62,SNR=5.6
EDW2 Edwards Air Fo 62.03 322 ⇓P P 23 51 14.9 +0.1
baz=62,SNR=16
T11A Corn Creek, Al 62.11 326 ⇓P P 23 51 15.5 +0.3
baz=62,SNR=101
R13A O'Grain Ranch, 62.12 327 ⇓P P 23 51 16.2 +0.8
baz=62,SNR=82
U10A Ash Meadows, A 62.14 324 ⇑P P 23 51 15.8 +0.3
baz=62,SNR=26
N18A Larsen Ranch, 62.16 332 ⇓P P 23 51 15.3 -0.2
baz=62,SNR=27
BLG Laguna Peak 62.17 321 ⇓P P 23 51 15.8 +0.1
baz=62
S12A Delamar Landin 62.17 326 ⇑P P 23 51 15.9 +0.3
baz=62,SNR=25
LRMC Laurel Mountai 62.27 323 ⇑P P 23 51 16.3 -0.1
baz=62,SNR=27
OSI Osito Adit 62.30 321 ⇓P P 23 51 16.1 -0.5
baz=62
OSI Osito Adit 62.30 321⇑eP P 23 51 17.1 +0.6
comp=Z,876nm,1.3s,mb6.7
OSI epP pP 23 51 28.1 -0.5
OSI eS **S** **23 59 39.7 -0.3**

P15A Leamington 62.30 329 ⇑P P 23 51 16.9 +0.4
baz=62,SNR=20
MPU Maple Canyon 62.33 330⇑iP P 23 51 16.4 -0.3
MPU epP pP 23 51 28.2 -0.6
MPU ePcP PcP 23 51 54.6 -1.4
MPU eS S 23 59 39.1 -1.1
MPU LR LR
comp=Z,768µm,19.0s,MS7.9
Q14A Sevier Lake (B 62.37 328 ⇓P P 23 51 17.7 +0.8
baz=63,SNR=127
O16A Springville 62.42 330 ⇓P P 23 51 17.3 0.0
baz=63,SNR=40
TAOE Nuku Hiva Isla 62.42 267 eP **P 23 51 18.0 +0.1**
comp=Z,3µm,1.4s,mb7.3
TAOE eS **S 23 59 43.0 +0.6**
comp=Z,4836µm,27.7s
TAOE eLQ 00 07 15.9
comp=Z,7487µm,31.0s
TAOE eLR LR 00 09 54.4
comp=Z,18648µm,26.3s,baz=106
TAOE Nuku Hiva Isla 62.42 267 P **P 23 51 17.8 -0.1**
TAOE eS **S 23 59 43.0 +0.6**
TAOE eLQ 00 07 15.9
BSC Santa Cruz Isl 62.45 320 ⇑P P 23 51 17.1 -0.4
baz=63
DAU Daniels Canyon 62.46 331 eP **P 23 51 17.8 +0.3**
DAU epP pP 23 51 28.6 -1.0
RSSD Black Hills 62.47 338 eP **P 23 51 17.2 -0.3**
RSSD pmax pmax
comp=Z,2µm,1.6s,mb6.9
RSSD Black Hills 62.47 338⇑iP P 23 51 17.2 -0.3
comp=Z,2µm,1.6s,mb6.9
RSSD epP pP 23 51 28.6 -1.0
RSSD eS **S 23 59 52.4 +11**
RSSD LR LR
comp=Z,390µm,22.0s,MS7.5
TPNV Topopah Spring 62.47 325⇑iP P 23 51 17.9 +0.2
TPNV e*PP pP 23 51 28.8 -0.9
TPNV e 23 51 54.6
TPNV eS **S 23 59 35.3 -6.7**
TPNV pmax pmax
comp=Z,1µm,1.3s,mb6.8
TPNV MLR MLR
comp=Z,770µm,21.0s,MS7.8
TPNV Topopah Spring 62.47 325 ⇓P P 23 51 18.5 +0.9
baz=63
TPNV Topopah Spring 62.47 325⇑iP P 23 51 17.9 +0.3
comp=Z,1µm,1.3s,mb6.8
TPNV epP pP 23 51 28.8 -0.9
TPNV ePcP PcP 23 51 54.5 -2.1
TPNV eScP ScP 23 55 57.2 +1.6
TPNV eS **S 23 59 35.3 -6.7**
TPNV LR LR
comp=Z,770µm,21.0s,MS7.8
FURC Furnace Creek, 62.48 324 ⇓P P 23 51 17.6 -0.1
baz=63,SNR=58
EYMN Ely 62.49 349⇑iP P 23 51 15.9 -1.7
comp=Z,1µm,1.4s,mb6.9
EYMN epP pP 23 51 29.1 -0.5
EYMN eS **S 23 59 48.4 +6.5**
EYMN LR LR
comp=Z,705µm,22.0s,MS7.8
NLU North Lily Min 62.50 330⇑iP P 23 51 18.0 +0.2
NLU epP pP 23 51 29.8 -0.1
NLU ePcP PcP 23 51 55.7 -1.1
NLU ePP PP 23 53 31.7 -4.2
MPMC Manual Prospec 62.55 323 ⇑P P 23 51 18.0 -0.3
baz=63,SNR=70
R12A Pony Springs, 62.57 327 ⇑P P 23 51 18.6 +0.3
baz=63,SNR=16
N17A Moffit Pass 62.67 331 ⇑P P 23 51 19.2 +0.2
baz=63,SNR=28
S11A Rachel 62.69 326 ⇓P P 23 51 19.6 +0.5
baz=63,SNR=45
JLU Jordanelle 62.70 331⇑iP P 23 51 19.3 +0.2
JLU ePcP PcP 23 51 56.2 -1.4
ARVC Arvin 62.71 322 ⇑P P 23 51 19.4 +0.1
baz=63,SNR=7.6
P14A Drum Mountains 62.72 329 ⇑P P 23 51 20.1 +0.8
baz=63,SNR=150
Q13A Wheeler Ranch, 62.72 328 ⇓P P 23 51 19.7 +0.4
baz=63,SNR=28
DAC Darwin (Calif) 62.76 323 PFAKE 23 51 30.0 +10
DAC LR LR
comp=Z,700µm,22.0s,MS7.8
SBC Santa Barbara 62.79 321 ⇑P P 23 51 19.7 -0.2
baz=63
ISA Isabella 62.86 322⇑iP P 23 51 20.6 +0.3
ISA e*PP pP 23 51 32.1 -0.3
ISA e 23 53 36.7
ISA eS **S 23 59 42.6 -4.4**
ISA pmax pmax
comp=Z,2µm,1.7s,mb6.9
ISA MLR MLR
comp=Z,417µm,22.0s,MS7.6
ISA Isabella 62.86 322 ⇓P P 23 51 20.6 +0.3
baz=63,SNR=29
ISA Isabella 62.86 322⇑iP P 23 51 20.6 +0.3
comp=Z,2µm,1.7s,mb6.9
ISA epP pP 23 51 32.1 -0.3
ISA ePP PP 23 53 36.7 -2.4
ISA eS **S 23 59 42.5 -4.4**
ISA LR LR
comp=Z,417µm,22.0s,MS7.6
CTU Camp Tracy 62.91 331⇑iP P 23 51 20.5 0.0
CTU epP pP 23 51 32.0 -0.6
N16A Rees Ranch, Co 62.91 331 ⇑P P 23 51 20.7 +0.2
baz=63,SNR=36
O15A The Old Anders 62.94 330 ⇑P P 23 51 21.4 +0.6
baz=63,SNR=47
DUG Dugway 63.05 329 ⇓P P 23 51 21.8 +0.4
baz=63
DUG Dugway 63.05 329⇑iP P 23 51 21.6 +0.2
DUG epP pP 23 51 32.9 -0.6
DUG ePcP PcP 23 52 00.8 +1.9
DUG eS **S 23 59 37.9 -11**
DUG LR LR
comp=Z,979µm,19.0s,MS8.0
NOQ North Oquirrh 63.06 330⇑iP P 23 51 21.2 -0.3
NOQ epP pP 23 51 33.1 -0.5
NOQ ePcP PcP 23 51 58.5 -0.5
P13A Bates Ranch, G 63.09 328 ⇓P P 23 51 22.3 +0.5
baz=63,SNR=104
R11A Troy Canyon, C 63.11 326 ⇑P P 23 51 22.4 +0.5
baz=63,SNR=99
GRAC Grapevine Rang 63.14 324 ⇑P P 23 51 22.6 +0.5
baz=63,SNR=18
PKM Peak Mountain 63.16 321 ⇓P P 23 51 22.3 0.0
baz=63,SNR=24
CWC Cottonwood Cre 63.16 323 ⇓P P 23 51 22.6 +0.4
baz=63,SNR=27
Q12A Willow Creek R 63.21 327 ⇑P P 23 51 22.8 +0.2
baz=63,SNR=49
M16A Huntsville 63.34 331 ⇓P P 23 51 23.4 +0.1
baz=64,SNR=40
VES Vestal, Richgr 63.34 322 ⇑P P 23 51 23.3 -0.2
baz=64,SNR=28
S10A Tonopah Range, 63.35 325 ⇓P P 23 51 23.9 +0.4
baz=64,SNR=84
N15A Stansbury Isla 63.44 330 ⇓P P 23 51 23.5 -0.5
baz=64,SNR=25
R10A Warm Springs 63.45 326 ⇑P P 23 51 24.9 +0.8
baz=64,SNR=33
Q11A Duckwater 63.51 327 ⇓P P 23 51 25.1 +0.6
baz=64,SNR=78
HWUT Hardware Ranch 63.54 331⇑iP P 23 51 23.9 -0.7
comp=Z,908nm,1.0s,mb6.8
HWUT epP pP 23 51 35.6 -1.1
HWUT LR LR
comp=Z,933µm,20.0s,MS8.0
SMMC Simmler 63.54 321 ⇑P P 23 51 25.3 +0.5
baz=64
PDAR Pinedale Array 63.55 333 P **P 23 51 23.8 -1.0**
comp=Z,26nm,0.9s,baz=134,slow=4.3,SNR=66
PDAR S **S 23 59 50.9 -4.4**
comp=Z,8.5nm,1.1s,baz=176,slow=14,SNR=2.4
PDAR PKP2bc 00 20 23.4
comp=Z,5.9nm,1.1s,baz=119,slow=5.2,SNR=4.2
PDAR LR LR 00 21 49.1
comp=Z,507µm,19.6s,MS7.7,baz=154,slow=39
PDAR Pinedale Array 63.55 333 P **P 23 51 23.8 -1.0**
PDAR S **S 23 59 50.9 -4.4**
PDAR ⇑e 00 20 23.4
PDAR LR LR 00 21 49.1
BW06 Boulder Array 63.55 333⇑iP P 23 51 23.9 -0.8
BW06 eS S 23 59 19.6 -36
BW06 LR LR
comp=Z,592µm,19.0s,MS7.8
S09A Goldfield 63.56 325 ⇓P P 23 51 25.1 +0.2
baz=64,SNR=26
O13A Hicks Ranch, I 63.58 329 ⇑P P 23 51 25.1 +0.1
baz=64,SNR=25
TIN Tinemaha 63.67 324 ⇑P P 23 51 26.3 +0.6
baz=64
BGU Big Grassy Mou 63.71 330⇑iP P 23 51 25.4 -0.4
BGU epP pP 23 51 37.0 -0.9
BGU ePP PP 23 53 43.1 -3.4
SPUT South Promonto 63.72 330⇑iP P 23 51 25.6 -0.3
SPUT epP pP 23 51 37.3 -0.7
SPUT ePP PP 23 53 45.7 -0.9
N14A Grayback Hills 63.73 330 ⇓P P 23 51 25.9 0.0
baz=64,SNR=114
RCTC Rector, Farmer 63.75 322 ⇑P P 23 51 26.3 +0.1
baz=64
AGMN Agassiz Refuge 63.76 346⇑iP P 23 51 24.9 -1.0
comp=Z,846nm,0.9s,mb6.8
AGMN eS **S 23 59 47.1 -11**
AGMN LR LR
comp=Z,540µm,22.0s,MS7.7
L16A Fish Haven 63.79 332 ⇓P P 23 51 25.8 -0.5
baz=64,SNR=19
TPH Tonopah 63.81 325⇑iP P 23 51 26.7 +0.2
TPH e*PP pP 23 51 38.6 0.0
TPH pmax pmax
comp=Z,970nm,1.3s,mb6.7
TPH MLR MLR
comp=Z,558µm,20.0s,MS7.7
TPH Tonopah 63.81 325⇑iP P 23 51 26.7 +0.2
comp=Z,970nm,1.3s,mb6.7
TPH epP pP 23 51 38.6 -0.1
TPH LR LR
comp=Z,558µm,20.0s,MS7.7
M15A Larsen Ranch, 63.84 331 ⇑P P 23 51 25.8 -0.8
baz=64,SNR=143
R09A Tonopah 63.84 325 ⇑P P 23 51 27.1 +0.4
baz=64,SNR=67
V05C Boulder Hill, 63.85 322 ⇓P P 23 51 27.3 +0.4
baz=64
HELL Mitchell Peak 63.88 323 ⇓P P 23 51 26.6 -0.4
baz=64,SNR=57
Q10A Clear Creek Ra 63.89 326 ⇓P P 23 51 27.7 +0.7
baz=64,SNR=30
PTRM Twissleman Ran 63.90 321 eP **P 23 51 27.8 +0.6**
S08C White Mtn Res 63.94 324 ⇑P P 23 51 27.6 +0.2
baz=64,SNR=88
MTUM Tungsten Hills 64.07 324 eP **P 23 51 28.7 +0.4**
MTUM epP pP 23 51 40.0 -0.4
P11A Circle Ranch, 64.07 327 ⇑P P 23 51 28.3 +0.1
baz=64,SNR=7.8
O12A Currie 64.07 328 ⇓P P 23 51 28.3 0.0
baz=64,SNR=72
L15A Malad City 64.23 331 ⇑P P 23 51 28.4 -0.8
baz=64,SNR=51
AHID Auburn Hatcher 64.23 332⇑iP P 23 51 28.5 -0.7
AHID eS **S 23 59 48.4 -15**
AHID LR LR
comp=Z,890µm,20.0s,MS8.0
N13A Wendover, West 64.24 329 ⇑P P 23 51 29.3 0.0
baz=64,SNR=26
HVU Hansel Valley 64.24 331⇑iP P 23 51 28.4 -0.9
HVU e*PP pP 23 51 40.5 -0.9
HVU e 23 53 49.9
V04C Ramage Ranch, 64.29 321 ⇓P P 23 51 29.8 +0.1
baz=64,SNR=16
PKD Parkfield 64.29 321 ⇑P P 23 51 29.5 -0.3
baz=64,SNR=16
U05C Westside ANR, 64.30 322 ⇑P P 23 51 29.9 +0.2
baz=64
M14A Sheep Mountain 64.31 330 ⇓P P 23 51 29.4 -0.4
baz=64,SNR=159
Q09A Carvers 64.33 326 ⇓P P 23 51 30.7 +0.8
baz=64,SNR=28
MLAC Mammoth Lakes 64.42 324 ⇓P P 23 51 30.7 +0.1
baz=65,SNR=11
O11A Cowboy Ranch, 64.44 328 ⇓P P 23 51 30.9 +0.2
baz=65,SNR=48
KCC Kaiser Creek 64.49 323 ⇑P P 23 51 31.0 0.0
baz=65,SNR=40
R08A Mina 64.50 325 ⇑P P 23 51 31.5 +0.4
baz=65
P10A Eureka 64.50 327 ⇑P P 23 51 31.6 +0.6
baz=65,SNR=19
T06C Millerton Lake 64.50 323 ⇑P P 23 51 29.6 -1.5
baz=65,SNR=16
K16A Soda Springs 64.51 332 ⇑P P 23 51 30.9 -0.1
baz=65,SNR=69
REDW Red Top Meadow 64.59 333⇑iP P 23 51 31.2 -0.4
REDW epP pP 23 51 42.9 -0.8
REDW ePP PP 23 53 54.4 +0.1
M13A Montello 64.60 329 ⇑P P 23 51 31.1 -0.5
baz=65,SNR=34
SNOW Snow King Moun 64.63 333⇑iP P 23 51 31.6 -0.2
SNOW epP pP 23 51 43.5 -0.5
SNOW ePP PP 23 53 56.6 +2.1
SNOW eS **S 23 59 50.5 -18**
N12A Clover Valley, 64.66 329 ⇑P P 23 51 31.7 -0.3
baz=65,SNR=25
L14A Malta 64.66 330 ⇓P P 23 51 31.6 -0.5
baz=65,SNR=113
NVAR Mina Array Bea 64.67 325 S **S 00 00 11.3 +2.0**
comp=Z,9.9nm,1.0s,baz=169,slow=3.0,SNR=3.1
ELK Elko 64.68 328⇑iP P 23 51 32.3 +0.1
ELK e*PP pP 23 51 43.8 -0.5
ELK e 23 53 49.9
ELK eS **S 00 00 12.4 +3.0**
ELK pmax pmax
comp=Z,845nm,1.4s
ELK MLR MLR
comp=Z,797µm,19.0s
ELK Elko 64.68 328⇑iP P 23 51 32.3 +0.1
comp=Z,845nm,1.4s,mb6.6
ELK epP pP 23 51 43.8 -0.6
ELK ePP PP 23 53 49.9 -5.1
ELK eS **S 00 00 12.4 +2.9**
ELK LR LR
comp=Z,797µm,19.0s,MS7.9
LOHW Long Hollow 64.68 333⇑iP P 23 51 31.9 -0.2
comp=Z,1µm,1.6s,mb6.8
LOHW epP pP 23 51 43.5 -0.8
LOHW ePP PP 23 53 52.9 -2.1
LOHW eS **S 23 59 54.1 -15**
U04C Hernandez Rese 64.71 321 ⇓P P 23 51 32.3 -0.2
baz=65,SNR=32
TPAW Teton Pass 64.74 333⇑iP P 23 51 32.2 -0.3
comp=Z,721nm,1.1s,mb6.6
TPAW epP pP 23 51 43.9 -0.7
TPAW ePP PP 23 53 53.3 -2.2
Q08A Gabbs 64.76 325 ⇑P P 23 51 33.3 +0.6
baz=65,SNR=23
V03C Hunter Liggett 64.77 321 ⇓P P 23 51 32.7 -0.2
baz=65,SNR=11
RRI2 Red Ridge 64.79 333⇑iP P 23 51 32.7 -0.1
RRI2 epP pP 23 51 44.1 -0.8
RRI2 ePP PP 23 53 55.5 -0.5
RRI2 eS S 23 59 47.2 -23
P09A Austin 64.81 326 ⇓P P 23 51 33.5 +0.4
baz=65,SNR=9.2
K15A Arbon 64.83 331 ⇓P P 23 51 32.5 -0.5
baz=65
R07C Lee Vining 64.85 324 ⇑P P 23 51 33.6 +0.3
baz=65,SNR=11
MOOW Moose Ponds 64.86 333⇑iP P 23 51 33.0 -0.3
comp=Z,1µm,1.4s,mb6.7
J16A Bone 64.86 332 ⇑P P 23 51 33.2 -0.1
baz=65
N11A Elko Archery C 64.99 328 ⇑P P 23 51 33.8 -0.4
baz=65
O10A Cortez Mining, 65.00 327 ⇓P P 23 51 34.8 +0.5
baz=65,SNR=59
M12A Wells 65.01 329 ⇑P P 23 51 33.7 -0.7
baz=65,SNR=58
K14A Jones Ranch, D 65.02 331 ⇑P P 23 51 33.7 -0.7
baz=65,SNR=54
L13A Double Diamond 65.04 330 ⇑P P 23 51 34.4 -0.1
baz=65,SNR=39
IMW Indian Meadow 65.06 333⇑iP P 23 51 34.3 -0.3
comp=Z,2µm,1.4s,mb6.8
IMW epP pP 23 51 45.7 -1.0
IMW ePP PP 23 53 59.2 +0.9
S05C Merced 65.10 323 ⇑P P 23 51 35.0 +0.1
baz=65,SNR=31
FLWY Flagg Ranch 65.10 334⇑iP P 23 51 34.8 0.0
FLWY ePP PP 23 53 57.7 -0.9
FLWY eS S 23 59 57.1 -17
HAST Hastings Reser 65.20 321 ⇑P P 23 51 36.0 +0.3
baz=65,SNR=20
O09A Fish Creek Ran 65.28 327 ⇓P P 23 51 36.3 +0.2
baz=66,SNR=19
Q07A Schurz 65.30 325 ⇑P P 23 51 37.0 +0.7
baz=66
N10A Dunphy 65.32 328 ⇑P P 23 51 36.6 +0.2
baz=66,SNR=26
RLMT Red Lodge 65.34 335⇑iP P 23 51 35.8 -0.5
RLMT epP pP 23 51 47.5 -1.0
RLMT LR LR
comp=Z,585µm,22.0s,MS7.7
LKWY Lake 65.36 334⇑iP P 23 51 37.2 +0.7
LKWY e*PP pP 23 51 48.0 -0.6
LKWY e 23 54 05.0
LKWY MLR MLR
comp=Z,439µm,19.0s,MS7.7
R06C Coleville 65.38 324 ⇑P P 23 51 37.8 +1.0
baz=66,SNR=32
SAO San Andreas Ge 65.38 321⇑eP P 23 51 36.7 -0.1
SAO e*PP pP 23 51 48.1 -0.9
SAO e 23 54 03.7
SAO MLR MLR
comp=Z,479µm,21.0s,MS7.7
P08A Dixie Valley 65.43 326 ⇑P P 23 51 37.4 +0.4
baz=66,SNR=27
PACP Pacheco Peak 65.44 322 ⇓P P 23 51 37.6 +0.4
baz=66,SNR=16
YFT Old Faithful 65.45 334⇑iP P 23 51 38.1 +1.0
YFT epP pP 23 51 49.4 +0.1
YFT ePP PP 23 54 03.2 +1.4
LAO LASA Array 65.46 338⇑iP P 23 51 36.2 -0.9
LAO epP pP 23 51 47.7 -1.6
LAO ePP PP 23 54 05.2 +3.4
LAO LR LR
comp=Z,668µm,21.0s,MS7.8
M11A Holland Ranch, 65.47 328 ⇑P P 23 51 37.4 +0.2
baz=66,SNR=42
BMN Battle Mountai 65.49 327 eP **P 23 51 37.9 +0.5**
BMN pmax pmax
comp=Z,1µm,1.8s,mb6.7
BMN Battle Mountai 65.49 327⇑iP P 23 51 37.1 -0.4
comp=Z,1µm,1.8s,mb6.7
BMN epP pP 23 51 48.9 -0.7
BMN LR LR
comp=Z,948µm,21.0s,MS8.0
K13A Stover Farm, H 65.53 330 ⇑P P 23 51 37.5 -0.2
baz=66,SNR=15
CMB Columbia Colle 65.59 323 P **P 23 51 38.0 -0.2**
CMB pmax pmax
comp=Z,540nm,1.1s,mb6.5
CMB Columbia Colle 65.59 323 ⇓P P 23 51 38.0 -0.2
baz=66,SNR=122
CMB Columbia Colle 65.59 323⇑iP P 23 51 37.9 -0.3
comp=Z,538nm,1.1s,mb6.5
CMB epP pP 23 51 49.9 -0.4
CMB LR LR
comp=Z,300µm,19.0s,MS7.5
ULM Lac du Bonnet 65.59 347 P **P 23 51 36.5 -1.3**
comp=Z,553nm,0.9s,mb6.6,baz=159,slow=6.4,SNR=92
ULM S S 00 00 11.7 -8.5
comp=Z,47nm,0.9s,baz=274,slow=8.6,SNR=2.6
ULM PKP2ab 00 20 24.6
comp=Z,15nm,1.0s,baz=318,slow=5.1,SNR=4.1
YNR Norris Junctio 65.60 334⇑eP P 23 51 38.2 +0.1
L12A House Creek Ra 65.61 329 ⇑P P 23 51 38.2 0.0
baz=66,SNR=51
BBTS Babate 65.62 67 P **P 23 51 39.6 +0.8**
comp=Z,630nm,1.0s,mb6.6,baz=260,slow=3.3,SNR=35
BBTS S S 00 00 19.8 -2.1
comp=Z,34nm,1.0s,baz=359,slow=23,SNR=2.1
BBTS Babate 65.62 67 P **P 23 51 39.6 +0.8**
BBTS S S 00 00 19.8 -2.1
YMR Madison River 65.68 334⇑iP P 23 51 38.7 +0.1
comp=Z,1µm,0.8s,mb7.0
YMR epP pP 23 51 50.6 -0.2
YMR ePP PP 23 54 04.2 +0.5
YMR LR LR
comp=Z,519µm,22.0s,MS7.7
P07A Fallon 65.77 325 ⇑P P 23 51 39.6 +0.3
baz=66
S04C Ingram Canyon, 65.80 322 ⇑P P 23 51 39.9 +0.4
baz=66,SNR=13
R05C Kirkwood Meado 65.86 324 ⇓P P 23 51 40.5 +0.6
baz=66,SNR=36
O08A Rochester Mine 65.89 326 ⇓P P 23 51 39.5 -0.5
baz=66,SNR=81
M10A I.L. Ranch, Tu 65.92 328 ⇑P P 23 51 40.3 +0.1
baz=66,SNR=20
K12A Draper Farm, C 65.92 330 ⇓P P 23 51 40.7 +0.5
baz=66,SNR=155
L11A Cat Creek Ranc 65.99 329 ⇓P P 23 51 40.7 +0.1
baz=66,SNR=35
QLMT Earthquake Lak 66.01 334⇑iP P 23 51 41.4 +0.6
QLMT epP pP 23 51 52.3 -0.6
QLMT PcP PcP 23 52 08.6 -2.5
QLMT ePP PP 23 53 58.3 -8.3
GCMT Greycliff 66.04 335⇑iP P 23 51 40.6 -0.3
GCMT ePcP PcP 23 52 12.9 +1.7
BNLO Ben Lomond (Sa 66.06 321 ⇑P P 23 51 41.1 -0.1
baz=66,SNR=12
R04C Big Horse Ranc 66.06 323 ⇑P P 23 51 41.6 +0.5
baz=66,SNR=19
WCN Washoe City 66.09 324 ⇑P P 23 51 41.7 +0.4
baz=66
WENL Wente Brothers 66.13 322 ⇓P P 23 51 42.0 +0.4
baz=66
J13A Cove Ranch, Pi 66.14 331 ⇑P P 23 51 41.5 -0.1
baz=66,SNR=75
PAHR Pah Rah Range 66.16 325⇑iP P 23 51 42.3 +0.6
PAHR epP pP 23 51 53.5 -0.4
O07A Toulon 66.19 326 ⇑P P 23 51 41.7 -0.2
baz=66,SNR=115
N08A GE Springer Mi 66.22 327 ⇑P P 23 51 41.6 -0.6
baz=66,SNR=15
JRSC Jasper Ridge 66.28 322 ⇓P P 23 51 42.3 -0.2
baz=66
LAVA Lava Cap Winer 66.28 323 ⇑P P 23 51 42.4 -0.1
baz=66,SNR=14
L10A Juniper Basin 66.29 329 ⇓P P 23 51 42.5 -0.1
baz=66,SNR=116
DGMT Dagmar 66.29 340⇑iP P 23 51 42.4 0.0
DGMT epP pP 23 51 53.6 -1.0
DGMT LR LR
comp=Z,312µm,20.0s,MS7.5
M09A Marrel Ranch, 66.32 327 ⇓P P 23 51 42.2 -0.5
baz=66,SNR=48
HLID Hailey 66.38 331 ⇑P P 23 51 43.3 +0.2
baz=67
HLID Hailey 66.38 331 eP **P 23 51 43.3 +0.2**
comp=Z,1µm,1.7s,mb6.7
HLID ePcP PcP 23 52 13.0 +0.3
HLID LR LR
comp=Z,553µm,20.0s,MS7.8
BDM Black Diamond 66.41 322 ⇓P P 23 51 44.0 +0.5
baz=67,SNR=9.7
P06A Stead Airport, 66.42 325 ⇓P P 23 51 44.2 +0.7
baz=67,SNR=7.0
J12A Stokes Ranch, 66.47 330 ⇓P P 23 51 44.0 +0.3
baz=67,SNR=92
SAC San Andreas 66.50 322 eP **P 23 51 47.2 +3.2**
I13A Wildhorse Cree 66.51 331 ⇑P P 23 51 44.2 +0.3
baz=67,SNR=192
P05C Yuba Gap, Truc 66.57 324 ⇑P P 23 51 45.1 +0.6
baz=67,SNR=36
K11A Parker Ranch, 66.58 329 ⇓P P 23 51 44.3 0.0
baz=67,SNR=48
MCMT McKenzie Canyo 66.64 333 eP **P 23 51 45.0 +0.3**
MCMT epP pP 23 51 55.6 -1.2
MCMT esP sP 23 52 00.9 -0.7
N07B Gerlach 66.67 326 ⇑P P 23 51 45.1 0.0
baz=67,SNR=64
Q04C Lincoln 66.71 323 ⇓P P 23 51 46.1 +0.8
baz=67,SNR=16
O06A Flanigan 66.72 325 ⇓P P 23 51 45.6 +0.2
baz=67,SNR=16
G15A Dillon 66.74 333 ⇑P P 23 51 45.2 -0.2
baz=67,SNR=132
BOZ Bozeman (W) 66.75 334 ⇑P P 23 51 45.1 -0.3
baz=67
BOZ Bozeman (W) 66.75 334 eP **P 23 51 44.5 -0.9**
comp=Z,2µm,1.8s,mb6.8
BOZ LR LR

comp=Z,348µm,20.0s,MS7.6
BEKR Beckwourth 66.81 325 ⇑P P 23 51 46.5 +0.6
baz=67,SNR=20
M08A Happy Creek Ra 66.83 327 ⇑P P 23 51 45.8 -0.2
baz=67,SNR=22
L09A Wilkinson Ranc 66.86 328 ⇑P P 23 51 46.3 +0.1
baz=67,SNR=36
FARB Farallon Islan 66.93 321 ⇓P P 23 51 46.2 -0.5
baz=67
DLMT Dillon 66.94 333 ⇑iP P 23 51 46.4 -0.3
comp=Z,1µm,1.2s,mb6.8
DLMT epP pP 23 51 58.0 -0.8
DLMT ePP PP 23 54 14.6 -0.1
Q03C Winters 66.94 323 ⇑P P 23 51 47.8 +0.9
baz=67
MFID Camas Ranch 66.95 330 ⇓P P 23 51 47.1 +0.4
baz=67,SNR=136
K10A MacKenzie Ranc 67.00 329 ⇑P P 23 51 47.1 +0.1
baz=67,SNR=145
CVS Carmenet Viney 67.02 322 ⇑P P 23 51 47.2 -0.1
baz=67,SNR=12
OHCM Honcut 67.10 324 eP P 23 51 47.7 0.0
OHCM epP pP 23 51 59.2 -0.8
N06A Buffalo Meadow 67.12 326 ⇑P P 23 51 48.1 +0.2
baz=67,SNR=135
MCCM Marconi Confer 67.14 322 ⇑P P 23 51 47.9 -0.2
baz=67
MCCM Marconi Confer 67.14 322 ⇑iP P 23 51 47.8 -0.3
comp=Z,548nm,1.0s,mb6.5
MCCM epP pP 23 51 59.6 -0.6
MCCM ePP PP 23 54 14.1 -2.5
MCCM LR LR
comp=Z,390µm,20.0s,MS7.6
O05C Quincy 67.19 324 ⇓P P 23 51 49.0 +0.7
baz=67,SNR=20
SUTB Sutter Butte 67.20 323 ⇑P P 23 51 48.2 -0.3
baz=67
M07A Soldier Meadow 67.21 326 ⇑P P 23 51 48.3 -0.1
baz=67,SNR=31
NSHM Saint Helena R 67.22 322 eP P 23 51 49.6 +1.0
NSHM epP pP 23 52 00.2 -0.5
G14A Jackson 67.23 333 ⇓P P 23 51 48.6 +0.1
baz=67,SNR=26
LRM Limekiln Ridge 67.24 334 eP P 23 51 48.2 -0.3
ORV Oroville 67.25 324 ⇓P P 23 51 49.1 +0.4
baz=67,SNR=88
F15A Butte 67.27 334 ⇑P P 23 51 48.5 -0.2
baz=68,SNR=46
L08A Fields 67.33 328 ⇓P P 23 51 49.2 0.0
baz=68
H12A Diamond D Ranc 67.34 331 ⇑P P 23 51 49.2 +0.1
baz=68
MNRC McLaughlin Nat 67.36 323 ⇑P P 23 51 49.5 +0.1
baz=68,SNR=30
K09A Rome 67.38 328 ⇑P P 23 51 49.5 0.0
baz=68,SNR=192
I11A Placerville 67.39 330 ⇓P P 23 51 49.5 0.0
baz=68,SNR=62
J10A Berg Farm, Mel 67.42 329 ⇑P P 23 51 49.8 +0.1
baz=68,SNR=15
G13A Cobalt 67.47 332 ⇓P P 23 51 49.7 -0.3
baz=68,SNR=86
O04C Chester 67.53 325 ⇑P P 23 51 50.7 +0.2
baz=68
ELFS Eagle Lake Fie 67.53 325 ⇓P P 23 51 51.1 +0.6
baz=68
F14A Wisdom 67.63 333 ⇓P P 23 51 51.4 +0.4
baz=68,SNR=26
WVOR Wild Horse Val 67.66 328 eP P 23 51 51.0 -0.3
WVOR e*PP pP 23 52 02.6 -0.8
WVOR e 23 54 15.2
WVOR pmax pmax
comp=Z,599nm,1.2s,mb6.5
WVOR MLR MLR
comp=Z,641µm,21.0s,MS7.8
WVOR Wild Horse Val 67.66 328 eP P 23 51 51.0 -0.3
comp=Z,600nm,1.2s,mb6.5
WVOR epP pP 23 52 02.6 -0.8
WVOR ePP PP 23 54 15.2 -5.8
WVOR LR LR
comp=Z,641µm,21.0s,MS7.8
L07A Adell 67.74 327 ⇑P P 23 51 52.2 +0.4
baz=68
M06C Likely Place G 67.79 326 ⇑P P 23 51 52.5 +0.4
baz=68,SNR=23
K08A Mann Creek Ran 67.79 328 ⇑P P 23 51 51.6 -0.5
baz=68
E15A Deer Lodge 67.79 334 ⇑P P 23 51 52.0 -0.1
baz=68,SNR=59
HOPS Hopland 67.81 322 ⇓P P 23 51 52.7 +0.4
baz=68,SNR=11
HOPS Hopland 67.81 322 ⇑iP P 23 51 52.6 +0.3
HOPS epP pP 23 52 03.6 -0.8
HOPS ePP PP 23 54 18.6 -3.8
HOPS LR LR
comp=Z,723µm,22.0s,MS7.9
O03C Acorn Hollow, 67.85 324 ⇓P P 23 51 51.9 -0.6
baz=68
J09A Fry Pan Ranch, 67.86 329 ⇓P P 23 51 52.3 -0.2
baz=68,SNR=46
EGMT Eagleton 67.90 337 ⇓P P 23 51 52.2 -0.4
baz=68
EGMT Eagleton 67.90 337 ⇑iP P 23 51 52.1 -0.6
comp=Z,1µm,1.3s,mb6.7
EGMT epP pP 23 52 04.5 -0.4
EGMT ePP PP 23 54 20.1 -2.9
EGMT LR LR
comp=Z,600µm,20.0s,MS7.8
I10A Payette 67.92 330 ⇑P P 23 51 52.6 -0.3
baz=68
H11A Donnelly 68.00 331 ⇓P P 23 51 53.1 -0.2
baz=68,SNR=35
GASB Alder Springs 68.03 323 ⇑P P 23 51 54.2 +0.6
baz=68,SNR=50
LBCM Butte Creek Ri 68.03 325 P P 23 51 53.9 +0.3
F13A Darby 68.04 332 ⇑P P 23 51 53.5 -0.1
baz=68
HATC Hat Creek Radi 68.07 325 ⇓P P 23 51 53.6 -0.3
baz=68,SNR=22
E14A Clinton 68.16 333 ⇓P P 23 51 54.4 +0.2
baz=68
K07A Rock Creek Ran 68.16 327 ⇑P P 23 51 54.5 +0.1
baz=68,SNR=44
MOD Modoc 68.17 326 ⇑P P 23 51 55.1 +0.6
baz=68
MOD Modoc 68.17 326 ⇓iP P 23 51 54.7 +0.2
comp=Z,1µm,1.2s,mb6.8
MOD epP pP 23 52 05.9 -0.8
MOD LR LR
comp=Z,579µm,22.0s,MS7.8
D15A Lincoln 68.23 334 ⇑P P 23 51 54.8 +0.1
baz=68,SNR=66
J08A Circle Bar Ran 68.23 328 ⇑P P 23 51 54.7 -0.1
baz=68
SHEL Horse Pasture 68.25 102 ⇑iP P 23 51 56.2 +0.6
comp=Z,3µm,1.6s,mb7.1
SHEL LR LR
comp=Z,2722µm,21.0s,MS8.5
M05C Lookout 68.26 325 ⇓P P 23 51 55.2 +0.1
baz=68,SNR=64
H10A Noah's Angus R 68.27 330 ⇑P P 23 51 54.3 -0.8
baz=68
P01C Double 8 Ranch 68.27 323 ⇓P P 23 51 55.8 +0.7
baz=68,SNR=31
I09A Lost Marbles R 68.31 329 ⇓P P 23 51 54.6 -0.7
baz=68
LTIM Timbered Crate 68.33 325 P P 23 51 56.3 +0.8
CALA Caldeira 68.35 39 eP P 23 51 57.4 +1.7
CALA eP 23 53 11.7
O02C Red Bluff 68.41 323 ⇓P P 23 51 55.5 -0.5
baz=69,SNR=29
F12A Elk City 68.44 332 ⇑P P 23 51 55.8 -0.3
baz=69,SNR=101
CHMT Chamberlain Mo 68.44 334 eP P 23 51 56.0 -0.1
CHMT epP pP 23 52 06.8 -1.5
CHMT esP sP 23 52 13.8 +0.8
SCHQ Schefferville 68.45 6 P P 23 51 55.0 -0.9
comp=Z,326nm,0.9s,mb6.3,baz=189,slow=4.1,SNR=53
SCHQ S S 00 00 53.8 -0.7
comp=Z,18nm,0.9s,baz=266,slow=14,SNR=1.8
SCHQ LR LR 00 23 05.8
comp=Z,396µm,21.4s,MS7.6,baz=196,slow=37
SCHQ Schefferville 68.45 6 ⇑iP P 23 51 54.9 -1.0
comp=Z,263nm,1.5s,mb6.0
SCHQ ⇓epP pP 23 52 07.5 -0.6
SCHQ e 23 53 02.5
SCHQ LR LR

comp=Z,527µm,21.0s,MS7.8
E13A Victor 68.48 333 ⇑P P 23 51 56.2 -0.1
baz=69,SNR=111
WDC Whiskeytown Da 68.53 324 ⇑P P 23 51 55.2 -1.6
baz=69
WDC Whiskeytown Da 68.53 324 ⇑iP P 23 51 55.2 -1.6
WDC pP pP 23 52 08.2 -0.7
WDC ePP PP 23 54 28.3 -0.4
WDC LR LR
comp=Z,481µm,22.0s,MS7.7
KCPM Cahto Peak 68.55 323 ⇑eP P 23 51 57.7 +0.8
KCPM ePcP PcP 23 52 23.2 +1.4
KCPM ePP PP 23 54 28.4 -0.4
L05A Lakeview 68.56 326 ⇑P P 23 51 57.5 +0.6
baz=69,SNR=29
KIPM Iron Peak 68.57 323 eP P 23 51 57.2 +0.1
G11A Walters Elk Ra 68.64 331 ⇓P P 23 51 56.9 -0.5
baz=69,SNR=100
MEH Mehetia 68.65 256 eP P 23 51 57.8 -0.2
comp=Z,16µm,1.3s,mb7.8
MSO Missoula 68.67 333 ⇑iP P 23 51 57.6 +0.1
comp=Z,2µm,1.5s,mb6.7
MSO epP pP 23 52 08.6 -1.1
MSO ePP PP 23 54 27.9 -1.8
MSO LR LR
comp=Z,337µm,20.0s,MS7.6
J07A Hines 68.67 328 ⇑P P 23 51 57.6 0.0
baz=69,SNR=20
I08A Drewsey 68.67 329 ⇓P P 23 51 57.5 -0.1
baz=69,SNR=35
D14A Greenough 68.68 334 ⇓P P 23 51 57.5 -0.1
baz=69
ROSA Rosais 68.71 39 eP P 23 51 59.7 +1.7
ROSA eP 23 53 16.0
BMO Blue Mountains 68.73 330 ⇑iP P 23 51 57.3 -0.6
comp=Z,1µm,1.7s,mb6.5
BMO epP pP 23 52 10.1 -0.1
BMO ePP PP 23 54 26.1 -4.2
BMO LR LR
comp=Z,529µm,21.0s,MS7.8
M03C McCloud 68.75 325 ⇑P P 23 51 57.2 -0.9
baz=69
PMAN Manadas 68.75 39 eP P 23 51 59.3 +1.1
comp=Z,1µm,1.6s,mb6.6
K06A Valley Falls 68.77 327 ⇓P P 23 51 58.2 +0.1
baz=69
H09A Durkee 68.77 330 ⇑P P 23 51 58.0 -0.2
baz=69,SNR=36
PMOR Pomariorio Ree 68.89 259 eP P 23 51 59.4 -0.2
comp=Z,1µm,1.3s,mb6.7
M04C Macdoel 68.93 325 ⇑P P 23 51 59.3 +0.1
baz=69,SNR=36
F11A Grangeville 68.95 332 ⇑P P 23 51 58.6 -0.7
baz=69
G10A Bishop Farm, J 68.96 331 ⇓P P 23 51 59.5 +0.1
baz=69,SNR=112
O01C Eel River Cons 68.98 323 ⇓P P 23 52 00.2 +0.6
baz=69,SNR=18
J06A Christmas Vall 69.03 327 ⇑P P 23 51 60.0 +0.2
baz=69
SRBC Serra Branca 69.03 39 eP P 23 52 01.6 +1.7
SRBC eP 23 53 16.8
K05A Summer Lake 69.06 327 ⇓P P 23 52 00.6 +0.7
baz=69,SNR=42
D13A Huson 69.10 333 ⇓P P 23 52 00.3 +0.1
baz=69
N02C Big Bar 69.13 324 ⇓P P 23 52 01.0 +0.5
baz=69
L04A Klamath Falls 69.23 326 ⇓P P 23 52 00.7 -0.4
baz=69
M02C Callahan 69.24 324 ⇑P P 23 52 00.6 -0.6
baz=69,SNR=48
G09A Cove 69.27 330 ⇑P P 23 52 01.9 +0.6
baz=70
I07A Izee 69.27 328 ⇑P P 23 52 01.9 +0.6
baz=70
ADH Angra Heroismo 69.29 39 eP P 23 51 59.3 -2.2
TBI Tubuai 69.30 250 eP P 23 52 01.9 -0.1
comp=Z,2µm,1.4s,mb6.8
TBI eS S 00 01 06.9 +1.0
comp=Z,788nm,28.5s
TBI Tubuai 69.30 250 eLR LR 00 13 07.7
comp=Z,3µm,29.8s
C14A Swan Lake 69.31 334 ⇓P P 23 52 01.7 +0.3
baz=70
E11A Bogner Ranch, 69.33 332 ⇑P P 23 52 00.9 -0.7
baz=70
VSP Spence Mountai 69.37 326 P P 23 52 02.9 +1.0
YBH Yreka Blue Hor 69.39 325 ⇑iP P 23 52 00.8 -1.3
YBH e*PP pP 23 52 13.5 -0.8
YBH e 23 54 32.5
YBH pmax pmax
comp=Z,373nm,1.0s
YBH MLR MLR
comp=Z,434µm,20.0s
YBH Yreka Blue Hor 69.39 325 ⇓P P 23 52 01.1 -0.9
baz=70
YBH Yreka Blue Hor 69.39 325 ⇑iP P 23 52 00.8 -1.3
comp=Z,373nm,1.0s,mb6.3
YBH epP pP 23 52 13.5 -0.8
YBH ePP PP 23 54 32.5 -3.5
YBH LR LR
comp=Z,434µm,20.0s,MS7.7
KHMM Horse Mountain 69.41 324 eP P 23 52 02.8 +0.6
K04A Chilquin 69.43 326 ⇑P P 23 52 02.4 +0.1
baz=70
D12A Red Ives Fores 69.46 333 ⇓P P 23 52 02.4 0.0
baz=70
BUOR Burton Butte 69.49 325 P P 23 52 04.4 +1.7
F10A Beach Ranch, E 69.52 331 ⇓P P 23 52 02.8 0.0
baz=70,SNR=144
I06A Prineville 69.54 328 ⇑P P 23 52 03.5 +0.6
baz=70
JCC Jacoby Creek 69.54 323 ⇑P P 23 52 03.3 +0.2
baz=70
C13A Hot Springs 69.60 334 ⇓P P 23 52 03.4 +0.2
baz=70
J05A Fort Rock 69.62 327 ⇓P P 23 52 03.4 -0.1
baz=70
F09A S2 Ranch, Elgi 69.65 330 ⇑P P 23 52 03.7 +0.1
baz=70
H07A Lands Inn, Kim 69.66 329 ⇑P P 23 52 03.7 0.0
baz=70,SNR=41
PSMN Pico do Norte, 69.68 42 eP P 23 52 06.1 +2.1
PDA Ponta Delgada 69.73 41 eP P 23 52 05.1 +0.8
TVO Taravao 69.78 256 eP P 23 52 05.2 +0.1
comp=Z,7µm,1.3s,mb7.5
TVO Taravao 69.78 256 eP P 23 52 05.2 +0.1
TVO pmax pmax
comp=Z,7µm,1.3s,mb7.5
CMLA Cha da Macela 69.83 41 eP P 23 52 04.3 -0.6
comp=Z,1µm,1.6s,mb6.6
CMLA eS S 00 01 25.1 +14
CMLA i LQ 00 10 17.5
CMLA i LR LR 00 13 44.2
CMLA Cha da Macela 69.83 41 ⇑eP P 23 52 04.8 -0.1
comp=Z,2µm,1.6s,mb6.8
CMLA ePcP PcP 23 52 29.9 +2.7
CMLA LR LR
comp=Z,1036µm,19.0s,MS8.1
E10A Myers Farm, Un 69.84 331 ⇑P P 23 52 04.3 -0.5
baz=70
G08A Pilot Rock 69.86 330 ⇓P P 23 52 04.7 -0.2
baz=70,SNR=96
KTRM Thompson Ridge 69.88 325 P P 23 52 06.2 +1.1
D11A Klaveano Farm, 69.90 332 ⇑P P 23 52 04.6 -0.5
baz=70
TIAR Tiarei 69.90 256 eP P 23 52 05.9 +0.1
comp=Z,2µm,1.0s,mb7.0
KRMB Red Mountain 69.93 324 ⇑iP P 23 52 05.8 +0.4
KRMB epP pP 23 52 17.3 -0.4
KRMB ePP PP 23 54 34.7 -6.0
CHIE El Hierro 69.93 54 P P 23 52 07.7 +2.0
comp=Z,318nm,1.2s,mb6.1
LNOR Lincton Mounta 69.95 330 eP P 23 52 05.4 0.0
LNOR e*PP pP 23 52 17.0 -0.6
LNOR e*SP sP 23 52 21.8 -0.6
J04A Umpqua Nationa 70.06 326 ⇓P P 23 52 06.1 -0.1
baz=70
B13A Whitefish 70.09 334 ⇑P P 23 52 06.5 +0.3
baz=70
HUMO Hull Mountain 70.10 325 ⇑P P 23 52 06.0 -0.4
baz=70
HUMO Hull Mountain 70.10 325 ⇑iP P 23 52 05.3 -1.2
comp=Z,234nm,1.0s,mb6.1
HUMO ePcP PcP 23 52 27.2 -1.0

HUMO ePP PP 23 54 42.5 +0.4
HUMO LR LR
comp=Z,367µm,21.0s,MS7.6
PAE Paea 70.11 256 eP P 23 52 07.1 0.0
comp=Z,5µm,1.4s,mb7.2
PAE Paea 70.11 256 eP P 23 52 07.1 0.0
PAE pmax pmax
comp=Z,5µm,1.4s,mb7.2
PPT Papeete 70.12 256 eP P 23 52 07.2 +0.1
comp=Z,527nm,1.4s,mb6.3
PPT eS S 00 01 13.6 -2.1
comp=Z,743µm,29.8s
PPT eLQ 00 10 23.9
comp=Z,461µm,37.0s
PPT eLR LR 00 13 22.0
comp=Z,1446µm,32.2s
PPT Papeete 70.12 256 P P 23 52 04.2 -3.0
comp=Z,16nm,0.7s,baz=59,slow=22,SNR=1.9
PPT LR LR 00 17 17.4
comp=Z,490µm,18.5s,MS7.8,baz=106,slow=31
PPT Papeete 70.12 256 eP P 23 52 07.9 +0.8
PPT e pP 23 52 20.6 +1.2
PPT eS S 00 01 13.6 -2.1
PPT Papeete 70.12 256 eP P 23 52 07.9 +0.8
PPT e pP 23 52 20.6 +1.3
PPT eS S 00 01 13.6 -2.1
PPT eLQ 00 10 23.9
PPT LR LR 00 17 17.4
BBOR Butler Butte 70.14 326 P P 23 52 06.4 -0.2
H06A Lindquist Farm 70.15 328 ⇓P P 23 52 07.3 +0.6
baz=70
L02A Cave Junction 70.17 325 ⇑P P 23 52 06.9 0.0
baz=70
I05A Bend 70.24 327 ⇓P P 23 52 07.9 +0.7
baz=70
M01C Crescent City 70.26 324 ⇑P P 23 52 07.9 +0.5
baz=70
D10A Wagner Farm, O 70.34 332 ⇑P P 23 52 07.7 -0.1
baz=70
E09A Wood Farm, Sta 70.35 331 ⇓P P 23 52 08.0 +0.1
baz=70
WALA Waterton Lakes 70.39 335 ⇑iP P 23 52 07.7 -0.3
comp=Z,1µm,1.3s,mb6.6
EHIG Higuera 70.44 53 P P 23 52 10.0 +1.1
comp=Z,9µm,2.9s,mb7.2
A13A Flathead Natio 70.50 335 ⇑P P 23 52 09.2 +0.5
baz=71
K02A Glendale 70.50 325 ⇑P P 23 52 08.8 -0.1
baz=71
KBO Bosley Butte 70.56 324 ⇑iP P 23 52 09.8 +0.6
KBO epP pP 23 52 21.1 -0.4
KBO ePP PP 23 54 41.3 -4.8
HBO Huckleberry Mo 70.58 327 P P 23 52 09.6 +0.3
I04A Tendick Farm, 70.60 327 ⇑P P 23 52 09.1 -0.4
baz=71
B12A Libby 70.64 334 ⇑P P 23 52 10.4 +0.8
baz=71
EGOM La Gomera 70.72 54 P P 23 52 11.0 +0.4
comp=Z,5µm,2.8s,mb7.0
F07A Phinny Hill Vi 70.77 329 ⇓P P 23 52 11.2 +0.8
baz=71
E08A Dider Farm, El 70.77 330 ⇑P P 23 52 10.3 -0.2
baz=71
D09A Jones Farm, Ri 70.82 331 ⇓P P 23 52 10.9 +0.1
baz=71
C10A Spilker Farm, 70.92 332 ⇓P P 23 52 11.5 +0.2
baz=71
HAWA Hanford 70.92 330 ⇑iP P 23 52 11.3 -0.1
comp=Z,2µm,1.5s,mb6.8
HAWA epP pP 23 52 22.6 -1.1
HAWA ePP PP 23 54 46.2 -3.0
HAWA eS S 00 01 42.3 +18
HAWA LR LR
comp=Z,809µm,20.0s,MS8.0
J02A Umpqua 70.94 326 ⇓P P 23 52 11.9 +0.3
baz=71
RSW Rattlesnake Hi 70.95 330 eP P 23 52 11.6 +0.1
RSW epP pP 23 52 23.6 -0.2
B11A Sandpoint 70.96 333 ⇓P P 23 52 11.9 +0.4
baz=71
G05A Wamic 71.01 328 ⇓P P 23 52 12.4 +0.5
baz=71
A12A Yaak River Ran 71.03 334 ⇓P P 23 52 12.6 +0.6
baz=71
KEBM Edson Butte 71.04 325 ⇑eP P 23 52 12.5 +0.3
KEBM ePcP PcP 23 52 31.6 -0.7
KEBM ePP PP 23 54 50.8 +0.5
H04A Detroit Lake 71.08 327 ⇑P P 23 52 12.0 -0.3
baz=71
K01A Sixes 71.08 325 ⇑P P 23 52 12.7 +0.3
baz=71
F06A Goldendale 71.10 329 ⇓P P 23 52 13.1 +0.6
baz=71
D08A Wollman Farm, 71.11 331 ⇑P P 23 52 12.8 +0.4
baz=71
NEW Newport 71.16 333 ⇑iP P 23 52 12.3 -0.4
comp=Z,840nm,1.1s,mb6.6
NEW PcP PcP 23 52 34.6 +2.0
NEW ePP PP 23 54 53.6 +2.4
NEW eS S 00 01 29.4 +2.8
NEW LR LR
comp=Z,616µm,21.0s,MS7.8
I03A Eugene 71.18 326 ⇑P P 23 52 13.0 0.0
baz=71
E07A Sunnyside 71.20 330 ⇓P P 23 52 13.5 +0.4
baz=71
CCAN Las Canadas 71.22 54 P P 23 52 16.9 +3.3
comp=Z,413nm,1.2s,mb6.2
HOOD Mount Hood Mea 71.23 328 ⇑eP P 23 52 13.7 +0.4
comp=Z,774nm,0.9s,mb6.6
HOOD ePcP PcP 23 52 32.6 -0.4
HOOD ePP PP 23 54 50.8 -1.0
B10A Chitwood Farm, 71.24 333 ⇓P P 23 52 13.2 0.0
baz=71
OD2 Odessa Site #2 71.25 331 eP P 23 52 13.4 +0.1
SSOR Sweet Springs 71.34 327 P P 23 52 14.2 +0.3
A11A Hall Mountain, 71.35 334 ⇓P P 23 52 14.3 +0.4
baz=72
MXC Moxie City 71.43 330 P P 23 52 15.8 +1.4
I02A Mapleton 71.50 326 ⇓P P 23 52 14.9 0.0
baz=72
F05A White Salmon 71.52 329 ⇓P P 23 52 15.2 +0.2
baz=72
EBAJ Bajamar 71.58 54 P P 23 52 16.9 +1.2
comp=Z,11µm,3.8s
G04A Mulino 71.58 328 ⇓P P 23 52 15.3 -0.1
baz=72
COR Corvallis 71.60 327 P P 23 52 16.6 +1.1
COR pmax pmax
comp=Z,2µm,1.4s,mb6.9
COR Corvallis 71.60 327 ⇑eP P 23 52 15.7 +0.2
comp=Z,2µm,1.4s,mb6.9
COR epP pP 23 52 27.6 -0.2
COR eS S 00 01 36.9 +5.0
COR LR LR
comp=Z,571µm,20.0s,MS7.8
H03A Soap Creek Ran 71.66 327 ⇓P P 23 52 16.4 +0.5
baz=72
MPOR Mary's Peak 71.68 327 P P 23 52 17.4 +1.5
C08A Higginbotham F 71.69 331 ⇓P P 23 52 16.4 +0.4
baz=72
D07A Quincy 71.71 330 ⇑P P 23 52 16.9 +0.8
baz=72
E06A Yakima 71.74 329 ⇑P P 23 52 16.7 +0.4
baz=72
B09A Rice 71.74 332 ⇑P P 23 52 16.7 +0.4
baz=72
A10A Northport 71.89 333 ⇓P P 23 52 17.2 +0.1
baz=72
EOSO Osorio 71.99 54 P P 23 52 20.5 +2.3
comp=Z,13µm,3.8s
H02A Toledo 72.04 326 ⇓P P 23 52 18.9 +0.7
baz=72
F04A Amboy 72.05 328 ⇑P P 23 52 18.1 0.0
baz=72
G03A Yamhill 72.08 327 ⇓P P 23 52 18.6 +0.3
baz=72
C07A Waterville 72.10 331 ⇑P P 23 52 18.7 +0.2
baz=72
D06A Cle Elum 72.13 330 ⇓P P 23 52 19.3 +0.7
baz=72
E05A Randle 72.14 329 ⇑P P 23 52 18.6 -0.1
baz=72
ETW Entiat 72.17 331 eP P 23 52 19.4 +0.5
B08A Colville Reser 72.24 332 ⇑P P 23 52 19.3 0.0
baz=72

HEBO **Mount Hebo 72.26 327⇑*i*P P 23 52 19.9 +0.4**
comp=Z,1μm,0.8s,mb6.8
HEBO *e*pP pP 23 52 31.1 -0.6
HEBO *e*PP PP 23 54 59.8 -0.8
SNAA Sanae 72.27 161 P **P 23 52 18.7 -0.5**
comp=Z,58nm,0.9s,baz=282,slow=5.8,SNR=323
SNAA S S 00 01 41.0 +2.1
comp=Z,5.1nm,1.0s,baz=126,slow=5.4,SNR=2.3
SNAA Sanae 72.27 161 P **P 23 52 18.7 -0.5**
SNAA S S 00 01 41.0 +2.1
SNAA pmax pmax
comp=Z,59nm,0.9s
SNAA smax
comp=N,5.0nm,1.0s
SNAA Sanae 72.27 161⇑*i*P P 23 52 18.5 -0.7
comp=N,2μm,3.3s
SNAA *e*PcP PcP 23 52 37.7 +0.6
SNAA *e*PP PP 23 55 02.6 +2.7
LON Longmire 72.30 329⇑*i*P P 23 52 19.0 -0.6
LON pmax pmax
comp=Z,160nm,0.9s,mb6.0
LON Longmire 72.30 329⇑*i*P P 23 52 19.0 -0.6
comp=Z,156nm,0.9s,mb5.9
A09A Danville 72.34 332 ⇑P **P 23 52 20.0 +0.2**
baz=72
F03A Seaside 72.63 328 ⇑P **P 23 52 22.2 +0.5**
baz=73
A08A Turner Farm, O 72.64 332 ⇑P **P 23 52 22.3 +0.7**
baz=73
E04A Onalaska 72.65 329 ⇓P **P 23 52 22.1 +0.3**
baz=73
C06A Tall Timber Ra 72.66 330 ⇓P **P 23 52 21.7 -0.1**
baz=73
B07A Winthrop 72.68 331 ⇓P **P 23 52 22.1 +0.2**
baz=73
D05A Enumclaw 72.69 329 ⇑P **P 23 52 22.3 +0.4**
baz=73
BMW Boistfort Moun 72.83 328 P **P 23 52 23.2 +0.4**
BMW Boistfort Moun 72.83 328 *e*P **P 23 52 23.0 +0.2**
C05A Tolt Reservoir 72.89 330 ⇓P **P 23 52 22.9 -0.2**
baz=73
D04A Dobbs Creek Ra 73.04 329 ⇓P **P 23 52 24.6 +0.6**
baz=73
E03A Lebam 73.05 328 ⇓P **P 23 52 24.6 +0.6**
baz=73
PMAR Madeira 73.09 49 *e*P **P 23 52 25.6 +0.9**
comp=Z,1μm,1.8s,mb6.5
PMAR *e*P 23 53 33.7
PMAR Madeira 73.09 49 *e*P **P 23 52 25.1 +0.4**
A07A Ashnola River, 73.22 332 ⇓P **P 23 52 25.9 +0.9**
baz=73
CFTV Fuerteventura 73.30 55 P **P 23 52 26.4 +0.4**
comp=Z,338nm,1.5s,mb6.0
FCC Fort Churchill 73.30 351 P **P 23 52 24.5 -0.8**
FCC pmax pmax
comp=Z,2μm,1.3s,mb6.8
FCC Fort Churchill 73.30 351*i*P P 23 52 24.4 -0.9
comp=Z,2μm,1.4s,mb6.8
RPW Rockport 73.33 331 *e*P **P 23 52 24.9 -0.8**
RPW *e*PcP PcP 23 52 42.2 +0.3
RPW PP PP 23 55 10.7 +1.0
JCW Jim Creek 73.35 330 *e*P **P 23 52 25.2 -0.7**
JCW *e*pP pP 23 52 36.7 -1.4
GNW Green Mountain 73.36 329⇑*i*P P 23 52 25.4 -0.5
comp=Z,919nm,1.2s,mb6.6
GNW *e*pP pP 23 52 37.2 -1.0
GNW *e*PcP PcP 23 52 43.0 +0.9
GNW *e*PP PP 23 55 08.3 -1.7
B06A Marblemount 73.36 331 ⇑P **P 23 52 25.7 -0.2**
baz=74
EDM Edmonton 73.45 338⇑*i*P P 23 52 25.3 -1.0
EDM *e**PP pP 23 52 37.4 -1.2
EDM *e* 23 52 42.5
B05A Bryant 73.48 330 ⇑P **P 23 52 26.3 -0.3**
baz=74
D03A Wishkah Elem. 73.53 328 ⇓P **P 23 52 28.0 +1.1**
baz=74
C04A Brinnon 73.53 329 ⇑P **P 23 52 27.3 +0.4**
baz=74
LIC Lamto 73.63 79⇑*i*P P 23 52 28.0 -0.3
comp=Z,4μm,1.1s,mb6.9,baz=260
LIC *e*MLR MLR
comp=Z,4441μm,22.2s,MS8.4
LIC Lamto 73.63 79 *e*P **P 23 52 28.1 -0.2**
comp=Z,4μm,1.1s,mb7.3
LIC Lamto 73.63 79⇑*i*P P 23 52 28.0 -0.3
comp=Z,2μm,1.1s,mb6.9
LIC LR LR
comp=Z,2220μm,22.3s,MS8.4
TIC Toumodi 73.75 79 *e*P **P 23 52 29.0 0.0**
comp=Z,3μm,1.0s,mb7.1
TIC Toumodi 73.75 79 *e*P **P 23 52 29.0 0.0**
TIC pmax pmax
comp=Z,3μm,1.0s,mb7.1
A06A Chilliwack 73.77 331 ⇓P **P 23 52 28.3 +0.1**
baz=74
NLWA Neilton Lookou 73.77 329 ⇑P **P 23 52 29.0 +0.7**
baz=74
NLWA Neilton Lookou 73.77 329⇑*i*P P 23 52 28.8 +0.5
comp=Z,83nm,0.7s,mb5.8
NLWA *e*S S 00 02 07.4 +11
NLWA LR LR
comp=Z,656μm,21.0s,MS7.9
DBIC Dimbokro 73.92 79 P **P 23 52 29.8 -0.2**
comp=Z,536nm,1.0s,mb6.4,baz=227,slow=6.2,SNR=174
DBIC S S 00 01 55.9 -3.6
comp=Z,43nm,1.1s,baz=131,slow=7.2,SNR=1.9
DBIC LR LR 00 25 43.1
comp=Z,2234μm,18.3s,MS8.5,baz=221,slow=36
DBIC Dimbokro 73.92 79 P **P 23 52 29.8 -0.2**
DBIC S S 00 01 55.9 -3.6
DBIC pmax pmax
comp=Z,536nm,1.0s
DBIC smax
comp=N,43nm,1.1s
DBIC MLR MLR
comp=Z,234μm,18.3s
DBIC Dimbokro 73.92 79⇑*i*P P 23 52 29.9 -0.1
comp=Z,11μm,2.1s,mb7.4
DBIC ⇓*e*pP pP 23 52 41.5 -0.7
DBIC LR LR
comp=Z,2087μm,22.0s,MS8.4
KIC Kosan Boka 73.94 79 *e*P **P 23 52 30.0 -0.1**
comp=Z,2μm,0.9s,mb7.1
A05A Maple Falls 73.98 331 ⇑P **P 23 52 29.7 +0.2**
baz=74
B04A Port Angeles 74.03 329 ⇑P **P 23 52 30.6 +0.7**
baz=74
EFAM Famara 74.05 54 P **P 23 52 31.9 +1.5**
comp=Z,13μm,3.6s
A04A Legoe Bay, Lum 74.09 330 ⇑P **P 23 52 30.6 +0.4**
baz=74
PGC Sidney 74.40 330⇑*i*P P 23 52 32.3 +0.3
comp=Z,2μm,1.2s,mb6.8
PGC *e*pP pP 23 52 43.5 -0.8
PGC *e*PP PP 23 55 17.1 -1.8
C03A Quillayute Air 74.49 329 ⇓P **P 23 52 33.7 +1.2**
baz=75
QSPA South Pole Qui 76.76 180 LR LR 00 20 42.4
comp=Z,510μm,21.4s,MS7.8,baz=158,slow=31
MAIT Maitri 76.90 160 *e*P **P 23 52 43.9 -2.1**
NVL N'lazarevskaya 76.93 160*c i*P **P 23 52 47.3 +1.1**
NVL *e* 23 52 53.6
NVL *e*S S 00 02 31.3 +0.3
NVL *e*SS SS 00 07 28.1 +0.4
NVL pmax pmax
comp=Z,874nm,3.2s
RAR Rarotonga 79.05 251 LR LR 00 19 35.9
comp=Z,1452μm,21.9s,MS8.3,baz=139,slow=29
PFVI Vila Bisbo 81.00 48 *e*P **P 23 53 11.0 +2.0**
comp=Z,2μm,1.7s,mb6.7
PFVI *e*P 23 54 19.2
PFVI *e*S S 00 03 22.4 +7.1
PFVI Vila Bisbo 81.00 48 *e*LR LR 00 21 30.6
comp=Z,1229μm,18.0s
PFVI Vila Bisbo 81.00 48 *e*P **P 23 53 10.8 +1.8**
MORF Marmelete 81.19 48 *e*P **P 23 53 12.2 +2.1**
comp=Z,2μm,1.8s,mb6.8
MORF *e*P 23 54 21.1
MORF *e*S S 00 03 28.2 +11
MORF Marmelete 81.19 48 *e*LR LR 00 21 34.8
comp=Z,1249μm,18.0s
MORF Marmelete 81.19 48 *e*P **P 23 53 12.4 +2.3**
RTC Rabat Centre 81.22 52⇑*i*P P 23 53 11.4 +1.1
comp=Z,650nm,0.9s,mb6.6
RTC *e*PcP PcP 23 53 16.2 -0.3
RTC *e*pP pP 23 53 22.2 -0.6
RTC *e*PP PP 23 56 14.0 -2.4
RTC *e*S S 00 03 14.7 -3.1
RTC LR LR
comp=Z,1317μm,19.0s,MS8.3
PTEO Sao Teotonio 81.24 48 *e*P **P 23 53 12.3 +2.0**
comp=Z,3μm,1.5s,mb7.0
PTEO *e*P 23 54 22.6
PTEO Sao Teotonio 81.24 48 *e*P **P 23 53 12.0 +1.7**
YKA Yellowknife Ar 81.25 343 P **P 23 53 08.6 -1.1**
comp=Z,138nm,1.0s,mb5.8,baz=141,slow=5.9,SNR=100
YKA S S 00 03 14.7 -2.2
comp=Z,3.5nm,0.9s,baz=36,slow=46,SNR=2.4
YKA PKKP PKKPbc 00 11 41.8 -6.7
comp=Z,1.6nm,0.7s,baz=143,slow=5.7,SNR=5.0
YKA PKKPbc PKKPbc 00 11 49.4 +1.0
comp=Z,2.3nm,0.7s,baz=141,slow=6.2,SNR=5.3
YKA PKPPKP 00 19 55.5
comp=Z,3.8nm,1.0s,baz=327,slow=2.2,SNR=4.6
YKA LR LR 00 32 29.2
comp=Z,312μm,21.2s,MS7.6,baz=150,slow=38
YKA Yellowknife Ar 81.25 343 P **P 23 53 08.7 -1.1**
YKA S S 00 03 14.7 -2.1
YKA 00 11 49.4
YKA Yellowknife Ar 81.25 343 P **P 23 53 08.7 -1.1**
YKA S S 00 03 14.7 -2.2
YKA PKKP PKKPbc 00 11 41.8 -6.7
YKA PKKPbc PKKPbc 00 11 49.4 +1.0
YKA P'P' 00 19 55.5
YKA LR LR 00 32 29.2
LIS Lisbon 81.42 47 *e*P **P 23 53 12.5 +1.3**
LIS *e*S S 00 03 21.5 +1.9
LIS *e*S S 00 03 22.1 +2.5
LIS AMS AMS 00 26 35.7
comp=E,169μm,20.8s
PMAFR Mafra 81.42 47 *e*P **P 23 53 12.9 +1.6**
comp=E,2μm,1.7s,mb6.8
PMAFR *e*P 23 54 20.9
PMAFR *e*S S 00 03 25.0 +5.4
PMAFR Mafra 81.42 47 *e*LR LR 00 21 28.4
comp=E,1568μm,18.0s
XMAS Kiritimati 81.61 274 *e*P **P 23 53 14.6 +1.7**
comp=E,879nm,1.4s,mb6.5
XMAS *e*PcP PcP 23 53 18.3 -0.4
XMAS *e*S S 00 03 18.5 -4.2
XMAS LR LR
comp=Z,1825μm,21.0s,MS8.4
PBDV Barranco-do-Ve 81.69 49 *e*P **P 23 53 14.5 +1.8**
comp=Z,2μm,1.9s,mb6.6
PBDV *e*P 23 54 23.8
PBDV *e*S S 00 03 30.8 +8.3
PBDV Barranco-do-Ve 81.69 49 *e*LR LR 00 23 20.7
comp=Z,1110μm,18.0s
DIB Dawson Inlet, 81.70 330 P **P 23 53 12.5 +0.1**
VIB Van Inlet 81.76 330 P **P 23 53 12.9 +0.2**
TOA0 Torodi Ar. Sit 81.89 74⇑*i*P P 23 53 14.4 +0.2
TOA0 *e*PcP PcP 23 53 18.9 -0.9
TOA0 *e*pP pP 23 53 26.5 -0.1
TOA0 *e*PP PP 23 56 17.1 -5.1
TORD Torodi Ar. Bea 81.89 74 P **P 23 53 14.2 0.0**
comp=Z,769nm,1.0s,mb6.6,baz=272,slow=3.8,SNR=561
TORD S S 00 03 25.3 -0.1
comp=Z,17nm,1.1s,baz=270,slow=5.0,SNR=2.8
TORD LR LR 00 31 04.3
comp=Z,1088μm,20.9s,MS8.2,baz=235,slow=37
MOE Montemor 81.91 47 *e*P **P 23 53 16.1 +2.3**
PVAQ Vaqueiros 81.91 49 *e*P **P 23 53 15.8 +1.9**
comp=Z,2μm,1.8s,mb6.6
PVAQ *e*P 23 54 24.3
PVAQ *e*S S 00 03 30.5 +5.7
PVAQ Vaqueiros 81.91 49 *e*LR LR 00 21 42.7
comp=Z,879μm,18.0s
ALMR Almeirim 82.00 47 *e*P **P 23 53 14.7 +0.4**
PBEJ Beja 82.06 48 *e*P **P 23 53 16.1 +1.5**
comp=Z,2μm,2.0s,mb6.6
PBEJ Beja 82.06 48 *e*P **P 23 53 16.2 +1.6**
EGRO El Granado 82.14 49 P **P 23 53 16.6 +1.5**
comp=Z,10μm,3.1s
EVO Evora 82.15 47⇑*i*P P 23 53 16.0 +0.9
comp=Z,3μm,1.3s,mb6.7
EVO *e*MLR MLR
comp=Z,1526μm,22.2s,MS8.0
EVO Evora 82.15 47 *e*P **P 23 53 16.5 +1.4**
comp=Z,2μm,1.1s,mb6.9
EVO *e*P 23 54 24.8
PTOM Tomar 82.31 46 *e*P **P 23 53 17.0 +1.1**
comp=Z,3μm,1.5s,mb7.0
PTOM *e*P 23 54 27.8
SFJD Kangerlussuaq 82.39 10 P **P 23 53 14.6 -1.1**
comp=Z,196nm,0.9s,mb6.0,baz=192,slow=6.1,SNR=13
SFJD S S 00 03 24.1 -4.3
comp=Z,8.4nm,0.7s,baz=163,slow=10,SNR=1.9
SFJD Kangerlussuaq 82.39 10 P **P 23 53 14.6 -1.1**
SFJD S S 00 03 24.1 -4.3
SFJD pmax pmax
comp=Z,197nm,0.9s,mb6.0
SFJD smax
comp=N,8.0nm,0.7s
SFJD Kangerlussuaq 82.39 10⇑*i*P P 23 53 14.3 -1.4
comp=N,574nm,1.1s,mb6.4
SFJD *i* 23 54 20.8
SFJD *i* S S 00 03 24.6 -3.8
SFJD *i* 00 04 35.5
SFJD
comp=Z,294μm,19.0s
SBA Scott Base 82.40 191⇑*e*P P 23 53 16.5 +0.7
comp=Z,137nm,0.8s,mb5.9
SBA *e*S S 00 03 37.3 +8.7
SBA LR LR
comp=Z,1166μm,22.0s,MS8.2
MDT Midelt 82.53 54 P **P 23 53 18.9 +1.7**
comp=Z,251nm,1.1s,mb6.1,baz=256,slow=5.2,SNR=96
MDT S S 00 03 27.3 -4.1
comp=Z,7.3nm,1.1s,baz=119,slow=12,SNR=1.8
PESTR Estremoz 82.59 47 *e*P **P 23 53 18.7 +1.3**
comp=Z,2μm,1.5s,mb6.9
PESTR *e*P 23 54 27.8
PESTR *e*S S 00 03 36.2 +4.5
PESTR Estremoz 82.59 47 *e*LR LR 00 22 16.2
comp=Z,1284μm,18.0s
SFS San Fernando 82.66 50⇑*e*P P 23 53 19.8 +2.0
comp=Z,3μm,1.2s,mb7.2
SFS PcP PcP 23 53 23.3 +0.6
SFS *e*PP PP 23 56 29.2 +1.1
SFS *e*S S 00 04 03.6 +31
SFS LR LR
comp=Z,849μm,22.0s,MS8.1
PBAR Barrancos 82.71 48 *e*P **P 23 53 19.4 +1.4**
comp=Z,1μm,1.6s,mb6.7
PBAR *e*P 23 54 28.4
PBAR *e*S S 00 03 40.4 +7.5
PBAR Barrancos 82.71 48 *e*LR LR 00 22 14.9
comp=Z,1416μm,20.0s
EMIN Mina Concepcio 82.82 49 P **P 23 53 19.9 +1.3**
comp=Z,10μm,3.3s
PMRV Marv??o 82.96 47 *e*P **P 23 53 20.1 +0.8**
comp=Z,831nm,1.3s,mb6.6
PMRV *e*P 23 54 28.4
PMRV *e*S S 00 03 39.2 +3.8
PMRV Marv??o 82.96 47 *e*LR LR 00 22 23.3
comp=Z,1084μm,18.0s
PMRV Marv??o 82.96 47 *e*P **P 23 53 19.5 +0.2**
EBAD Badajoz 82.96 48 P **P 23 53 20.5 +1.2**
comp=Z,18μm,4.4s
PCBR Castelo Branco 83.06 46 *e*P **P 23 53 20.5 +0.7**
comp=Z,1μm,2.3s,mb6.6
PCBR Castelo Branco 83.06 46 *e*P **P 23 53 20.1 +0.3**
ESPR Espera 83.08 50 P **P 23 53 21.6 +1.7**
comp=Z,14μm,3.5s
PVIS Viseu 83.12 45 *e*P **P 23 53 20.9 +0.8**
comp=Z,2μm,1.4s,mb7.0
PVIS Viseu 83.12 45 *e*P **P 23 53 20.8 +0.7**
EJIF Jimena Fronter 83.21 50 P **P 23 53 21.7 +1.1**
EJIF pmax pmax
comp=Z,1μm,1.3s,mb6.7
EJIF Jimena Fronter 83.21 50 P **P 23 53 21.7 +1.1**
comp=Z,1μm,1.3s,mb6.7
MTE Manteigas 83.24 46 *e*P **P 23 53 21.2 +0.5**
comp=Z,1μm,1.2s,mb6.8
MTE *e*P 23 54 30.0
MTE *e*S S 00 03 38.0 -0.2
MTE Manteigas 83.24 46 *e*LR LR 00 22 05.4
comp=Z,861μm,20.0s
MTE Manteigas 83.24 46⇑*i*P P 23 53 21.4 +0.7
comp=Z,1μm,1.1s,mb6.8
MTE ⇓*e*pP pP 23 53 33.4 +0.2
MTE *e* 23 54 22.3
MTE *e*PP PP 23 56 47.0 +14
MTE *e*S S 00 03 43.3 +5.1
MTE LR LR
comp=Z,913μm,20.0s,MS8.2
EMAZ Mazaricos 83.31 43 P **P 23 53 21.8 +0.7**
comp=Z,10μm,3.4s
CRAG Craig 83.32 331⇑*i*P P 23 53 20.6 -0.1
comp=Z,3μm,2.1s,mb7.0
CRAG *e*PcP PcP 23 53 25.1 0.0
CRAG *e*PP PP 23 56 28.3 -4.8
PCAB Cabril 83.44 45 *e*P **P 23 53 22.0 +0.3**
comp=Z,2μm,0.8s,mb7.2
PCAB Cabril 83.44 45 *e*P **P 23 53 21.9 +0.2**
VNDA Vanda 83.48 191 P **P 23 53 21.8 +0.4**
comp=Z,31nm,0.9s,baz=126,slow=4.7,SNR=157
VNDA S S 00 03 30.6 -8.9
comp=Z,6.0nm,1.2s,baz=280,slow=19,SNR=2.1
VNDA PKPPKP 00 19 49.5
comp=Z,1.9nm,0.9s,baz=316,slow=4.1,SNR=3.2
VNDA LR LR 00 23 19.8
comp=Z,1299μm,21.5s,MS8.3,baz=121,slow=30
VNDA Vanda 83.48 191⇑*i*P P 23 53 21.8 +0.4
comp=Z,11μm,2.1s,mb7.5
VNDA PcP PcP 23 53 38.2 +13
VNDA *e*PP PP 23 56 46.9 +13
VNDA LR LR
comp=Z,1572μm,22.0s,MS8.3
ELOB Lobios 83.48 44 P **P 23 53 22.5 +0.6**
comp=Z,11μm,4.1s
WRAK Wrangell Islan 83.52 332⇑*i*P P 23 53 21.4 -0.4
comp=Z,1μm,1.5s,mb6.8
WRAK *e*PP PP 23 56 27.1 -7.6
WRAK *e*S S 00 03 45.9 +5.6
WRAK LR LR
comp=Z,407μm,21.0s,MS7.8
STS Santiago 83.57 43 P **P 23 53 23.6 +1.2**
STS pmax pmax
comp=Z,475nm,1.0s,mb6.6
STS Santiago 83.57 43 P **P 23 53 23.6 +1.2**
comp=Z,475nm,1.0s,mb6.6
DLBC Dease Lake 83.74 335⇑*i*P P 23 53 22.9 +0.1
DLBC *e*PcP PcP 23 53 27.1 +0.2
EMIJ Mijas 83.77 50 P **P 23 53 24.6 +1.1**
comp=Z,8μm,3.3s
ECAB El Cabril 83.85 49 P **P 23 53 24.4 +0.5**
comp=Z,15μm,3.6s
MVO Moncorvo 83.90 45 *e*P **P 23 53 25.2 +1.1**
comp=Z,1μm,1.7s,mb6.8
MVO *e*P 23 54 33.5
MVO *e*S S 00 03 50.6 +5.7
MVO Moncorvo 83.90 45 *e*LR LR 00 22 56.8
comp=Z,1088μm,20.0s
STCH Steam Cracks 83.91 291 P **P 23 53 26.9 +2.3**
KHU Kahuku 84.31 291 P **P 23 53 33.6 +6.9**
ERUA La Rua 84.32 44 P **P 23 53 26.7 +0.5**
ERUA pmax pmax
comp=Z,551nm,1.7s,mb6.4
ERUA La Rua 84.32 44 P **P 23 53 26.7 +0.5**
comp=Z,551nm,1.7s,mb6.4
POHA Pohakuloa 84.38 292 P **P 23 53 28.5 +1.5**
comp=Z,678nm,1.0s,mb6.7
POHA *e*pP pP 23 53 38.2 -1.3
POHA *e*S S 00 03 47.0 -3.5
POHA LR LR
comp=Z,948μm,21.0s,MS8.2
ECAL Calabor 84.41 45 P **P 23 53 25.5 -1.2**
comp=Z,8μm,3.6s
ELOJ Sierra Loja 84.44 50 P **P 23 53 28.5 +1.5**
ELOJ pmax pmax
comp=Z,820nm,1.1s,mb6.8
ELOJ Sierra Loja 84.44 50 P **P 23 53 28.5 +1.5**
comp=Z,820nm,1.1s,mb6.8
EADA Adamuz 84.50 49 P **P 23 53 27.8 +0.6**
comp=Z,6μm,4.4s
ELUQ Luque 84.51 50 P **P 23 53 28.8 +1.5**
ELUQ pmax pmax
comp=Z,309nm,1.2s,mb6.3
ELUQ Luque 84.51 50 P **P 23 53 28.8 +1.5**
comp=Z,309nm,1.2s,mb6.3
ERON Agron 84.66 50 P **P 23 53 28.9 +0.8**
comp=Z,81nm,0.6s,mb6.0
EPON Pontenova 84.69 43 P **P 23 53 28.2 +0.2**
comp=Z,10μm,3.5s
EGUA Guajares 84.77 50 P **P 23 53 28.5 -0.1**
EGUA pmax pmax
comp=Z,789nm,1.2s,mb6.7
EGUA Guajares 84.77 50 P **P 23 53 28.5 -0.1**
comp=Z,789nm,1.2s,mb6.7
KKH Kailua Kona 84.79 292 P **P 23 53 27.7 -1.4**
EALB Alboran 84.86 51 P **P 23 53 29.7 +0.6**
comp=Z,5μm,2.4s,mb7.2
ECOG Cogollos-Vega 84.93 50 P **P 23 53 30.2 +0.8**
ECOG pmax pmax
comp=Z,102nm,0.6s,mb6.1
ECOG Cogollos-Vega 84.93 50 P **P 23 53 30.2 +0.9**
comp=Z,102nm,0.6s,mb6.1
EBAN Banos Encina 85.08 49 P **P 23 53 31.7 +1.6**
EBAN pmax pmax
comp=Z,325nm,1.5s,mb6.2
EBAN Banos Encina 85.08 49 P **P 23 53 31.7 +1.5**
comp=Z,325nm,1.5s,mb6.2
PAB San Pablo 85.18 48 P **P 23 53 31.3 +0.7**
PAB San Pablo 85.18 48⇑*i*P P 23 53 31.1 +0.5
comp=Z,1μm,1.6s,mb6.8
PAB *e*S S 00 04 32.1 +34
PAB LR LR
comp=Z,1555μm,19.0s,MS8.4
SIT Sitka 85.23 332 P **P 23 53 30.6 +0.2**
SIT pmax pmax
comp=Z,380nm,1.4s,mb6.3
SIT Sitka 85.23 332⇑*i*P P 23 53 30.0 -0.5
comp=Z,384nm,1.4s,mb6.3
SIT *e*S S 00 03 47.9 -9.5
SIT LR LR
comp=Z,494μm,21.0s,MS7.9
EBER Berja 85.30 51 P **P 23 53 31.9 +0.7**
comp=Z,7μm,4.0s
EQES Quesada 85.48 50 P **P 23 53 32.6 +0.5**
comp=Z,13μm,4.4s
ESDC Sonseca Array 85.50 48 P **P 23 53 32.8 +0.6**
comp=Z,57nm,0.7s,mb5.8,baz=255,slow=5.0,SNR=139
ESDC S S 00 04 00.2 -0.6
comp=Z,2.9nm,1.1s,baz=191,slow=6.1,SNR=3.3
ESDC PKPPKP 00 19 49.2
comp=Z,1.2nm,0.9s,baz=45,slow=3.1,SNR=3.2
ESDC LR LR 00 31 43.4
comp=Z,1189μm,18.3s,MS8.3,baz=255,slow=36
ESDC Sonseca Array 85.50 48 P **P 23 53 32.7 +0.6**
comp=Z,46nm,0.7s,mb5.7
GUD Guadarrama 85.72 47 P **P 23 53 33.6 +0.4**
GUD pmax pmax
comp=Z,172nm,1.0s,mb6.2
GUD Guadarrama 85.72 47 P **P 23 53 33.6 +0.4**
comp=Z,172nm,1.0s,mb6.2
ENIJ Nijar 85.84 51 P **P 23 53 34.8 +0.9**
ENIJ pmax pmax
comp=Z,88nm,0.4s,mb6.3
ENIJ Nijar 85.84 51 P **P 23 53 34.8 +0.9**
comp=Z,88nm,0.4s,mb6.3
EHUE Huescar 85.84 50 P **P 23 53 33.0 -0.9**
EHUE pmax pmax
comp=Z,205nm,0.9s,mb6.4
EHUE Huescar 85.84 50 P **P 23 53 33.0 -1.0**
comp=Z,205nm,0.9s,mb6.4
EARI Arriondas 85.98 44 P **P 23 53 36.6 +2.2**
comp=Z,11μm,5.0s
ODZI Dziouia 86.02 52 P **P 23 53 39.0 +4.1**
EVIA Vianos 86.19 49 P **P 23 53 37.2 +1.5**
EVIA pmax pmax
comp=Z,797nm,1.2s,mb6.8
EVIA Vianos 86.19 49 P **P 23 53 37.2 +1.5**
comp=Z,796nm,1.2s,mb6.8
SYO Syowa Base 86.56 161⇓*i*P P 23 53 34.4 -2.5
SKAG Skagway 86.56 334⇑*i*P P 23 53 36.7 -0.3
comp=Z,818nm,1.3s,mb6.8
USTO Oran 86.69 52 P **P 23 53 42.0 +3.8**
EMUR La Murta 86.86 50 P **P 23 53 38.3 -0.6**
comp=Z,3μm,4.6s
ETOB Tobarra 86.90 49 P **P 23 53 39.5 +0.4**
comp=Z,6μm,4.2s
CART Cartagena 86.95 50 *e*P **P 23 53 39.0 -0.4**
HON Honolulu 87.03 293 *e*P **P 23 53 39.1 -1.0**
KIP Kipapa 87.07 293⇑*i*P P 23 53 38.7 -1.6
KIP Kipapa 87.07 293 P **P 23 53 45.9 +5.6**

comp=Z,878nm,1.8s,mb6.7
KIP eS S 00 04 16.3 -0.5
KIP LR LR
comp=Z,880µm,22.0s,MS8.1
ELAN Lanestosa 87.16 44 P P 23 53 40.6 +0.4
comp=Z,5µm,4.2s
ETOR Torete 87.27 47 P P 23 53 41.7 +0.8
ETOR pmax pmax
comp=Z,279nm,1.2s,mb6.4
ETOR Torete 87.27 47 P P 23 53 41.7 +0.8
comp=Z,279nm,1.2s,mb6.4
OJBR Djebel Berber 87.33 53 P P 23 53 43.0 +1.7
OJGS Djebel Guires 87.62 53 P P 23 53 44.0 +1.3
OKGL Djebel Kef Gue 87.70 52 P P 23 53 46.0 +2.9
EBEN Beniarda 87.89 50 P P 23 53 44.1 +0.2
comp=Z,5µm,4.1s
TAM Tamanrasset 87.98 66⇑iP P 23 53 45.9 +1.2
ETRT Tiaret 88.01 53 P P 23 53 45.1 +0.6
EANR 'Ain N'Sour 88.03 52 P P 23 53 44.7 +0.1
HYT Haines Junctio 88.22 335 eP P 23 53 45.1 +0.2
EMOS Mosqueruela 88.25 48 P P 23 53 46.5 +0.9
comp=Z,4µm,4.1s
BORG Borgarnes 88.26 21 P P 23 53 45.2 +0.2
comp=Z,136nm,0.9s,mb6.2,baz=211,slow=4.6,SNR=16
BORG S S 00 04 16.7 -10
comp=Z,23nm,1.1s,baz=2.7,slow=6.7,SNR=2.2
BORG Borgarnes 88.26 21 eP P 23 53 45.8 +0.8
comp=Z,3µm,1.5s,mb7.3
BORG eS S 00 04 41.2 +15
BORG LR LR
comp=Z,419µm,19.0s,MS7.9
ECHA Ech Chlef 88.30 52 P P 23 53 47.6 +1.7
ELIZ Elizondo 88.44 45 P P 23 53 48.1 +1.7
ELIZ pmax pmax
comp=Z,108nm,1.4s,mb5.9
ELIZ Elizondo 88.44 45 P P 23 53 48.1 +1.7
comp=Z,108nm,1.4s,mb5.9
EALK Alkurruntz 88.47 45 P P 23 53 45.0 -1.5
comp=Z,4µm,4.5s
CCA1 Carnmenellis 88.62 38 eP P 23 53 46.4 -0.6
SJPF Ste Jean 88.63 45⇑iP P 23 53 47.4 +0.1
comp=Z,1µm,1.4s,mb6.8
SJPF Ste Jean 88.63 45⇑iP P 23 53 47.4 +0.1
SJPF pmax pmax
comp=Z,624nm,1.4s,mb6.8
SJPF Ste Jean 88.63 45⇑iP P 23 53 47.4 +0.1
comp=Z,624nm,1.4s,mb6.8
CMA1 Manaccan 88.64 38⇑eP P 23 53 46.5 -0.6
RES Resolute Bay 88.64 355 P P 23 53 46.7 +0.1
RES Resolute Bay 88.64 355⇑iP P 23 53 46.0 -0.6
RES ⇓epP pP 23 53 58.1 -1.1
OSSF Osses 88.66 45⇑eP P 23 53 46.7 -0.7
ESAC San Caprasio 88.70 47 P P 23 53 47.6 0.0
comp=Z,3µm,3.5s
DCN Croghan 88.72 34 eP P 23 53 47.5 +0.1
LARF Larrau 88.77 45 eP P 23 53 48.5 +0.6
ORDF Ordiarp 88.87 45 eP P 23 53 47.6 -0.8
CSA1 St Austell 88.88 37 eP P 23 53 47.3 -0.9
ETSF Etsaut 89.02 45⇑iP P 23 53 49.4 +0.3
comp=Z,513nm,1.3s,mb6.4
ETSF Etsaut 89.02 45⇑iP P 23 53 49.4 +0.3
ETSF pmax pmax
comp=Z,256nm,1.3s,mb6.4
ETSF Etsaut 89.02 45⇑iP P 23 53 49.4 +0.3
comp=Z,256nm,1.3s,mb6.4
ERTA Horta de San J 89.03 48 P P 23 53 49.6 +0.4
comp=Z,4µm,3.9s
SUR Sutherland 89.03 123 P P 23 53 50.6 +1.1
comp=Z,139nm,1.1s,mb6.2,baz=288,slow=1.2,SNR=12
SUR Sutherland 89.03 123⇑iP P 23 53 49.5 -0.1
comp=Z,2µm,2.8s,mb6.9
SUR ePP PP 23 57 33.0 +13
SUR eS S 00 04 42.5 +7.2
SUR LR LR
comp=Z,1673µm,20.0s,MS8.5
QUIF Quistinic 89.03 40 eP P 23 53 48.7 -0.3
comp=Z,1µm,1.6s,mb6.6
QUIF Quistinic 89.03 40 eP P 23 53 48.7 -0.3
QUIF pmax pmax
comp=Z,543nm,1.6s,mb6.6
QUIF Quistinic 89.03 40 eP P 23 53 48.7 -0.3
comp=Z,543nm,1.6s,mb6.6
DLF Lyons Farm 89.11 34 eP P 23 53 52.4 +3.2
ROSF Rostrenen 89.11 40 eP P 23 53 48.9 -0.5
comp=Z,755nm,1.3s,mb6.6
ROSF Rostrenen 89.11 40 eP P 23 53 48.9 -0.5
ROSF pmax pmax
comp=Z,378nm,1.3s,mb6.6
ROSF Rostrenen 89.11 40 eP P 23 53 48.9 -0.5
comp=Z,378nm,1.3s,mb6.6
DMUB Kingscourt 89.15 34 eP P 23 53 49.5 +0.1
EIBI Ibiza 89.16 50 P P 23 53 48.9 -0.9
comp=Z,4µm,4.7s
DSB Dublin 89.17 34⇑eP P 23 53 49.3 -0.3
comp=Z,306nm,1.2s,mb6.5
REYF Montagne du Re 89.19 45⇑eP P 23 53 50.5 +0.6
SUMG Summit 89.35 11⇑iP P 23 53 50.4 +0.4
comp=Z,458nm,1.2s,mb6.7
HTL Hartland 89.36 37⇑eP P 23 53 50.1 -0.4
HTL AMb AMB 23 54 03.1
comp=Z,270nm,1.2s,mb6.5
VIEF Viey 89.42 46⇑eP P 23 53 51.4 +0.4
EBIE Bielsa 89.44 46 P P 23 53 51.6 +0.5
comp=Z,3µm,4.4s
DYA Yadsworthy 89.48 38⇑eP P 23 53 49.2 -1.9
DYA AMb AMB 23 54 04.9
comp=Z,392nm,1.5s,mb6.5
TSUM Tsumeb 89.50 110 P P 23 53 51.8 -0.1
comp=Z,138nm,1.0s,mb6.2,baz=246,slow=5.7,SNR=54
TSUM Tsumeb 89.50 110⇑iP P 23 53 51.8 -0.2
comp=Z,2µm,1.5s,mb7.2
TSUM ePP PP 23 57 39.4 +16
TSUM eS S 00 04 50.7 +11
TSUM LR LR
comp=Z,1412µm,21.0s,MS8.4
LABF Labassere 89.51 45⇑eP P 23 53 51.6 +0.2
SGMF Saint Gilles 89.53 40⇑iP P 23 53 50.6 -0.8
comp=Z,1µm,1.7s,mb6.6
SGMF Saint Gilles 89.53 40⇑iP P 23 53 50.6 -0.8
SGMF pmax pmax
comp=Z,512nm,1.7s,mb6.6
SGMF Saint Gilles 89.53 40⇑iP P 23 53 50.6 -0.8
comp=Z,512nm,1.7s,mb6.6
EMHD Djebel Mahouad 89.54 53 P P 23 53 51.8 +0.1
RESF Ens 89.62 46⇑eP P 23 53 52.4 +0.5
EPOB Poblet 89.68 47 P P 23 53 52.1 -0.1
comp=Z,3µm,4.5s
EPF Esparros 89.69 46⇑iP P 23 53 52.3 +0.1
comp=Z,877nm,1.3s,mb6.6
EPF Esparros 89.69 46⇑iP P 23 53 52.3 +0.1
EPF pmax pmax
comp=Z,438nm,1.3s,mb6.6
EPF Esparros 89.69 46⇑iP P 23 53 52.3 +0.1
comp=Z,438nm,1.3s,mb6.6
ABA Alger-Bouzarea 89.77 52 P P 23 53 55.8 +3.0
GMM Mts of Mourne 89.80 34⇑eP P 23 53 52.1 -0.3
ADJB Djebel Djouab 89.90 53 P P 23 53 54.4 +1.0
MELF Melles 89.93 46 eP P 23 53 53.9 +0.5
YRC Rhoscolyn 90.17 35⇑eP P 23 53 53.8 -0.5
MLS Moulis 90.19 46⇑eP P 23 53 54.9 +0.3
MLS Moulis 90.19 46⇑eP P 23 53 54.8 +0.2
SALF Salau 90.20 46⇑eP P 23 53 55.6 +1.0
AKET Djebel Ketaf 90.21 53 P P 23 53 56.0 +1.1
WLF1 Llynfaes 90.28 35⇑eP P 23 53 53.1 -1.6
WLF1 AMb AMB 23 54 08.7
comp=Z,430nm,1.4s,mb6.6
WME Myndd Eilian 90.37 35⇑eP P 23 53 54.5 -0.7
ETOS Mallorca 90.47 49 P P 23 53 56.2 +0.2
comp=Z,4µm,2.9s,mb7.3
HTR Trewern Hill 90.47 36⇑eP P 23 53 54.8 -0.9
MFF Saint Martin d 90.51 42⇑iP P 23 53 55.5 -0.5
comp=Z,1µm,1.5s,mb6.6
MFF Saint Martin d 90.51 42⇑iP P 23 53 55.5 -0.5
MFF pmax pmax
comp=Z,514nm,1.5s,mb6.6
MFF Saint Martin d 90.51 42⇑iP P 23 53 55.5 -0.5
comp=Z,514nm,1.5s,mb6.6
WPM1 Penmaenmawr 90.55 35⇑eP P 23 53 55.3 -0.7
LFF La Frestale 90.57 44⇑iP P 23 53 55.8 -0.5
comp=Z,1µm,1.3s,mb6.8
LFF La Frestale 90.57 44⇑iP P 23 53 55.8 -0.5
LFF pmax pmax
comp=Z,628nm,1.3s,mb6.8
LFF La Frestale 90.57 44⇑iP P 23 53 55.8 -0.5
comp=Z,628nm,1.3s,mb6.8

HGH Gray Hill 90.58 37 eP P 23 53 55.1 -1.1
MCH1 Michaelchurch 90.60 36⇑eP P 23 53 55.4 -0.8
MCH1 AMb AMB 23 54 06.5
comp=Z,222nm,1.8s,mb6.2
GIM North Isle of 90.62 34⇑eP P 23 53 55.9 -0.4
DAWY Dawson 90.64 337⇑iP P 23 53 55.5 -0.7
GRR Gorron 90.64 40⇑iP P 23 53 55.8 -0.8
comp=Z,911nm,1.4s,mb6.6
GRR Gorron 90.64 40⇑iP P 23 53 55.8 -0.8
GRR pmax pmax
comp=Z,456nm,1.4s,mb6.6
GRR Gorron 90.64 40⇑iP P 23 53 55.8 -0.8
comp=Z,456nm,1.4s,mb6.6
GAL1 Galloway 90.71 33⇑eP P 23 53 55.8 -1.0
GAL1 AMb AMB 23 54 09.2
comp=Z,321nm,1.5s,mb6.4
KSK Scoval 90.71 30⇑eP P 23 53 57.2 +0.6
SBD1 Bryn Du 90.78 35⇑eP P 23 53 56.9 -0.2
CARF Carcanieres 90.83 46⇑eP P 23 53 57.6 0.0
HLM1 Long Mynd 90.85 36⇑eP P 23 53 56.7 -0.7
RRH Rhenigidale 90.90 30⇑eP P 23 53 57.2 -0.3
AKF Akfadou 90.91 53 P P 23 53 59.4 +1.3
KAR1 Arisaig 90.93 31⇑eP P 23 53 56.8 -0.9
INK Inuvik 90.93 342 P P 23 53 56.6 -0.9
comp=Z,148nm,0.9s,mb6.3,baz=117,slow=4.8,SNR=101
INK S S 00 04 23.8 -27
comp=Z,21nm,1.1s,baz=43,slow=12,SNR=4.9
INK LR LR 00 38 16.6
comp=Z,752µm,21.9s,MS8.1,baz=113,slow=38
INK Inuvik 90.93 342⇑iP P 23 53 56.5 -1.0
INK ⇓epP pP 23 54 09.2 -0.8
FLN La Foliniere 91.00 40⇑iP P 23 53 57.7 -0.5
comp=Z,1µm,1.3s,mb6.7,baz=242
FLN eMLR MLR
comp=Z,653µm,20.8s,MS7.8
FLN La Foliniere 91.00 40⇑iP P 23 53 57.7 -0.5
comp=Z,504nm,1.3s,mb6.7
FLN LR LR
comp=Z,653µm,20.8s,MS8.1
MTLF Montolieu 91.09 46⇑iP P 23 53 58.1 -0.7
comp=Z,484nm,1.2s,mb6.4
MTLF Montolieu 91.09 46⇑iP P 23 53 58.1 -0.7
MTLF pmax pmax
comp=Z,242nm,1.2s,mb6.4
MTLF Montolieu 91.09 46⇑iP P 23 53 58.1 -0.7
comp=Z,242nm,1.2s,mb6.4
FILF Fillols 91.10 47 eP P 23 53 58.6 -0.2
RAGM Ragged Mountai 91.12 333 eP P 23 53 59.0 +0.5
GCD Castle Douglas 91.12 33⇑eP P 23 53 58.6 0.0
SWN1 Swindon 91.13 37⇑eP P 23 53 57.2 -1.6
SWN1 AMb AMB 23 54 09.3
comp=Z,526nm,1.4s,mb6.7
LDF La Druitiere 91.17 40⇑iP P 23 53 58.4 -0.6
comp=Z,1µm,1.4s,mb6.7
LDF La Druitiere 91.17 40⇑iP P 23 53 58.4 -0.6
LDF pmax pmax
comp=Z,541nm,1.4s,mb6.7
LDF La Druitiere 91.17 40⇑iP P 23 53 58.4 -0.6
comp=Z,541nm,1.4s,mb6.7
KPL Plockton 91.18 31 AMb AMB 23 54 12.3
comp=Z,1µm,1.4s,mb7.0
KPL Plockton 91.18 31 AMb AMB 23 54 12.3
comp=Z,1µm,1.4s,mb7.0
PGBU Glenifferbraes 91.19 32⇑eP P 23 53 58.0 -0.9
PGBU AMb AMB 23 54 05.9
comp=Z,240nm,0.8s,mb6.6
RJF Les Rejaudoux 91.20 44⇑iP P 23 53 58.6 -0.6
comp=Z,1µm,1.5s,mb6.7
RJF eMLR MLR
comp=Z,1042µm,20.5s,MS8.0
RJF Les Rejaudoux 91.20 44⇑iP P 23 53 58.6 -0.6
comp=Z,601nm,1.5s,mb6.7
RJF LR LR
comp=Z,1042µm,20.5s,MS8.3
KSB Sheil Bridge 91.24 31⇑eP P 23 53 58.3 -0.9
SSW Stow on the Wo 91.25 37⇑eP P 23 53 59.2 -0.1
EJON La Jonquera 91.30 47 P P 23 53 58.2 -1.6
comp=Z,2µm,4.0s
RRR Rubha Reidh 91.31 30⇑eP P 23 53 58.9 -0.5
RTO Tolsta 91.32 30⇑eP P 23 53 59.2 -0.2
BMRM Bremner River 91.33 333⇑iP P 23 53 58.7 -0.7
WOL Wolverton 91.40 37⇑eP P 23 53 58.3 -1.7
WOL AMb AMB 23 54 15.1
comp=Z,455nm,1.7s,mb6.5
EAB Aberfoyle 91.41 32⇑eP P 23 53 59.1 -0.8
KAC Achnashellach 91.42 31⇑eP P 23 53 58.8 -1.1
SET Setif 91.44 53 P P 23 54 02.0 +1.4
STNC Stoke 91.44 36 AMb AMB 23 54 13.7
comp=Z,1µm,1.5s,mb6.9
STNC Stoke 91.44 36 AMb AMB 23 54 13.7
comp=Z,1µm,1.5s,mb6.9
CAF Calviac 91.46 44⇑iP P 23 53 59.9 -0.5
comp=Z,383nm,1.0s,mb6.4
CAF Calviac 91.46 44⇑iP P 23 53 59.9 -0.5
CAF pmax pmax
comp=Z,192nm,1.0s,mb6.4
CAF Calviac 91.46 44⇑iP P 23 53 59.9 -0.5
comp=Z,192nm,1.0s,mb6.4
CKHR Kef el Ahmar 91.48 53 P P 23 54 03.0 +2.3
KWE Weaver Farm 91.62 36⇑iP P 23 54 00.7 -0.3
EGAK Eagle 91.66 337⇑iP P 23 54 00.1 -0.8
comp=Z,1µm,1.4s,mb7.0
EGAK ePP PP 23 57 38.7 -1.2
EGAK eS S 00 04 56.1 -1.8
EGAK LR LR
comp=Z,690µm,21.0s,MS8.1
EYAK Cordova Ski Ar 91.67 332⇑eP P 23 53 59.5 -1.5
comp=Z,357nm,0.8s,mb6.8
REB Eisghbrachaidh 91.67 30⇑eP P 23 54 00.7 -0.4
ECK Cauldkaine Hil 91.67 33⇑eP P 23 54 00.5 -0.7
ESK Eskdalemuir 91.68 33⇑eP P 23 53 60.0 -1.2
ESK AMb AMB 23 54 14.4
comp=Z,392nm,1.9s,mb6.4
ESK Eskdalemuir 91.68 33 P P 23 54 01.5 +0.3
ESK pmax pmax
comp=Z,1µm,2.7s,mb6.7
ESK Eskdalemuir 91.68 33⇑eP P 23 54 00.9 -0.3
comp=Z,1µm,2.8s,mb6.7
ESK ePP PP 23 57 53.3 +13
ESK eS S 00 05 23.1 +25
ESK LR LR
comp=Z,582µm,20.0s,MS8.0
EAU Auchinoon 91.74 33⇑eP P 23 54 00.8 -0.6
SKP1 Kophill 91.78 37⇑eP P 23 54 01.2 -0.6
AFI Afiamalu 91.78 255 S S 00 04 33.3 -28
comp=Z,56nm,1.0s,baz=59,slow=22,SNR=1.7
AFI Afiamalu 91.78 255 P P 23 54 01.1 -1.5
comp=Z,1µm,1.7s,mb7.0
AFI eS S 00 04 59.9 -1.2
AFI LR LR
comp=Z,708µm,21.0s,MS8.1
LHO Holmfirth 91.79 35⇑eP P 23 54 01.0 -0.8
MENT Mentasta 91.82 335 P P 23 54 01.2 -0.5
CWF Charnwood Fore 91.83 36⇑eP P 23 54 00.9 -1.1
CWF AMb AMB 23 54 15.0
comp=Z,420nm,1.6s,mb6.5
EBH Black Hill 91.86 32⇑eP P 23 54 01.8 -0.2
MDO Dochfour 91.86 31⇑eP P 23 54 02.0 0.0
KBI1 Birley Grange 91.88 36⇑eP P 23 54 01.5 -0.7
DFRA Djebel Bou Aff 91.90 53 P P 23 54 03.5 +0.8
EDI Edinburgh 91.91 33⇑eP P 23 54 01.9 -0.3
EDI AMb AMB 23 54 15.6
comp=Z,336nm,1.6s,mb6.4
DIV Divide 91.92 333 eP P 23 54 01.9 -0.3
comp=Z,405nm,1.1s,mb6.7
DIV epP pP 23 54 14.0 -0.8
EBL Broad Law 91.93 33⇑eP P 23 54 01.9 -0.5
TCF Toulx Ste Croi 91.96 43⇑iP P 23 54 02.0 -0.7
comp=Z,701nm,1.5s,mb6.5
TCF Toulx Ste Croi 91.96 43⇑iP P 23 54 02.0 -0.7
TCF pmax pmax
comp=Z,350nm,1.5s,mb6.5
TCF Toulx Ste Croi 91.96 43⇑iP P 23 54 02.0 -0.7
comp=Z,350nm,1.5s,mb6.5
XAL Allendale 92.05 34⇑eP P 23 54 02.5 -0.4
HPK Haverah Park 92.06 35⇑eP P 23 54 02.2 -0.8
HPK AMb AMB 23 54 17.3
comp=Z,754nm,1.7s,mb6.8
MVH1 Achvaich 92.14 31⇑eP P 23 54 03.3 0.0
CTEI Djebel Teioual 92.19 54 P P 23 54 04.0 0.0
ESY Stoneypath 92.21 33⇑eP P 23 54 03.4 -0.3
CASM Ain Smara 92.30 53 P P 23 54 04.5 -0.1
PYM Petit Puy Mans 92.34 44 eP P 23 54 04.6 +0.1
LBL Lubilhac 92.35 44⇑eP P 23 54 05.0 +0.4
LASF Ste Croix 92.44 45⇑iP P 23 54 05.0 0.0

comp=Z,896nm,1.6s,mb6.5
BGF Bois d'Agland 92.46 43⇑iP P 23 54 04.4 -0.6
comp=Z,2µm,1.7s,mb6.9
BGF Bois d'Agland 92.46 43⇑iP P 23 54 04.4 -0.6
BGF pmax pmax
comp=Z,984nm,1.7s,mb6.9
BGF Bois d'Agland 92.46 43⇑iP P 23 54 04.4 -0.6
comp=Z,984nm,1.7s,mb6.9
MCD Coleburn Disti 92.47 31⇑eP P 23 54 04.7 -0.1
AGO Saint Agoulin 92.50 43 eP P 23 54 04.8 -0.5
CKFL Kef-Lekhel 92.52 53 P P 23 54 06.0 +0.4
MME1 Meikle Cairn 92.52 31⇑eP P 23 54 04.3 -0.8
HYF Humbligny 92.53 42⇑iP P 23 54 04.9 -0.4
MLA1 Latheron 92.68 30⇑eP P 23 54 05.6 -0.1
CAEH 'Ain El Ouahch 92.72 53 P P 23 54 07.0 +0.5
COLF Collangettes 92.73 44 eP P 23 54 05.9 -0.4
TFO1 Folkestone 92.74 38⇑eP P 23 54 05.7 -0.5
TFO1 AMb AMB 23 54 19.3
comp=Z,856nm,1.3s,mb7.0
PLDF La Plantade 92.81 43⇑eP P 23 54 06.4 -0.3
AVF Avril sur Loir 92.86 43⇑iP P 23 54 06.0 -0.9
comp=Z,805nm,1.6s,mb6.6
AVF Avril sur Loir 92.86 43⇑iP P 23 54 06.0 -0.9
AVF pmax pmax
comp=Z,403nm,1.6s,mb6.6
AVF Avril sur Loir 92.86 43⇑iP P 23 54 06.0 -0.9
comp=Z,403nm,1.6s,mb6.6
SSF Saint Saulge 93.04 42⇑iP P 23 54 06.7 -1.0
comp=Z,849nm,1.7s,mb6.6
SSF Saint Saulge 93.04 42⇑iP P 23 54 06.7 -1.0
SSF pmax pmax
comp=Z,424nm,1.7s,mb6.6
SSF Saint Saulge 93.04 42⇑iP P 23 54 06.7 -1.0
comp=Z,424nm,1.7s,mb6.6
ABSA Djebel Ababsia 93.08 54 P P 23 54 08.0 -0.2
CMAH Djebel Manchou 93.12 53 P P 23 54 08.0 -0.3
SMF Signal de Mont 93.14 43⇑iP P 23 54 07.5 -0.7
comp=Z,1µm,1.5s,mb6.9
SMF Signal de Mont 93.14 43⇑iP P 23 54 07.5 -0.7
SMF pmax pmax
comp=Z,679nm,1.5s,mb6.9
SMF Signal de Mont 93.14 43⇑iP P 23 54 07.5 -0.7
comp=Z,679nm,1.5s,mb6.9
MENF Mencas 93.19 39⇑eP P 23 54 07.8 -0.5
RAO Raoul Island 93.20 239 eP pP 23 54 21.0 -0.6
RAO eS SKKSac 00 04 58.4 -0.9
RAO LR LR
comp=Z,840µm,22.0s,MS8.2
VIVF Saint-Julien-l 93.22 45⇑iP P 23 54 08.7 +0.1
comp=Z,949nm,1.5s,mb6.7
VIVF Saint-Julien-l 93.22 45⇑iP P 23 54 08.7 +0.1
VIVF pmax pmax
comp=Z,475nm,1.5s,mb6.7
VIVF Saint-Julien-l 93.22 45⇑iP P 23 54 08.7 +0.1
comp=Z,475nm,1.5s,mb6.7
SSB Saint Sauveur 93.24 44 eP P 23 54 07.7 -1.0
SSB Saint Sauveur 93.24 44 eP P 23 54 09.8 +1.1
SSB epP pP 23 54 20.2 -1.1
LOR Lormes 93.33 42⇑iP P 23 54 08.1 -0.9
comp=Z,1µm,1.7s,mb6.7,baz=251
LOR eMLR MLR
comp=Z,526µm,19.0s,MS7.7
LOR Lormes 93.33 42⇑iP P 23 54 08.1 -0.9
comp=Z,516nm,1.7s,mb6.7
LOR LR LR
comp=Z,526µm,19.0s,MS8.0
OCF Saint Nazaire 93.58 45 eP P 23 54 09.5 -0.7
OG26 St.-Nazaire-De 93.58 45 eP P 23 54 09.5 -0.7
PMR Palmer 93.59 333⇑iP P 23 54 08.8 -1.1
comp=Z,153nm,1.4s,mb6.2
PMR ePP PP 23 58 11.3 +16
PMR eS S 00 05 41.0 +26
PMR LR LR
comp=Z,682µm,22.0s,MS8.1
SMRF Simiane la Rot 93.61 46⇑iP P 23 54 10.6 +0.2
comp=Z,855nm,1.6s,mb6.6
SMRF Simiane la Rot 93.61 46⇑iP P 23 54 10.6 +0.2
comp=Z,855nm,1.6s,mb6.9
RC01 Rabbit Creek A 93.68 332 eP P 23 54 09.9 -0.4
comp=Z,20nm,0.5s,mb5.8
RC01 epP pP 23 54 21.5 -1.5
SLKM Skilak Lake 93.69 332 P P 23 54 10.1 -0.3
SLKM Skilak Lake 93.69 332 eP P 23 54 09.5 -0.9
BOSA Boshof 93.76 120 P P 23 54 10.7 -0.9
comp=Z,71nm,1.0s,mb6.0,baz=253,slow=5.7,SNR=23
BOSA S SKSac 00 04 38.0 -5.4
comp=Z,10nm,1.1s,baz=274,slow=17,SNR=1.5
BOSA PKKPbc PKKPbc 00 11 10.9 -4.9
comp=Z,8.9nm,1.1s,baz=124,slow=7.8,SNR=3.1
BOSA Boshof 93.76 120 P P 23 54 11.6 0.0
BOSA Boshof 93.76 120⇑iP P 23 54 10.7 -0.9
comp=Z,11µm,2.1s,mb7.9
FIB Fire Island 93.91 332 P P 23 54 09.1 -2.2
FIB pmax pmax
comp=Z,681nm,1.1s,mb7.0
FIB Fire Island 93.91 332 P P 23 54 09.1 -2.3
comp=Z,681nm,1.1s,mb7.0
KDAK Kodiak Island 93.92 329 P P 23 54 10.1 -1.4
comp=Z,20nm,0.8s,baz=103,slow=7.2,SNR=15
KDAK S SKSac 00 04 34.5 -8.3
comp=Z,7.9nm,1.0s,baz=84,slow=7.5,SNR=1.8
KDAK PKKPbc PKKPbc 00 11 16.0 -1.0
comp=Z,15nm,1.0s,baz=232,slow=1.9,SNR=5.5
GRN Grenoble 94.05 45⇑eP P 23 54 13.1 +0.7
ORIF Oris-en-Rattie 94.06 45⇑iP P 23 54 12.8 +0.3
comp=Z,1µm,1.4s,mb6.9
ORIF eMLR MLR
comp=Z,1052µm,18.2s,MS8.0
ORIF Oris-en-Rattie 94.06 45⇑iP P 23 54 12.8 +0.3
ORIF pmax pmax
comp=Z,720nm,1.4s,mb6.9
ORIF Oris-en-Rattie 94.06 45⇑iP P 23 54 12.8 +0.3
comp=Z,720nm,1.4s,mb6.9
MAW Mawson 94.06 166 ePDIF P 23 54 11.7 -0.4
comp=Z,88nm,0.5s,mb6.5
MAW Mawson 94.06 166 P P 23 54 11.7 -0.4
comp=Z,25nm,0.8s,mb5.7,baz=216,slow=4.7,SNR=32
MAW S SKSac 00 04 50.2 +6.6
comp=Z,5.8nm,1.1s,baz=300,slow=6.0,SNR=1.4
MAW LR LR 00 33 21.7
comp=Z,1158µm,21.6s,MS8.3,baz=228,slow=33
MAW Mawson 94.06 166 P P 23 54 11.9 -0.2
MAW pmax pmax
comp=Z,420nm,1.2s
MAW Mawson 94.06 166 eP P 23 54 11.4 -0.7
OHAK Old Harbor 94.10 328 eP P 23 54 12.4 +0.1
comp=Z,249nm,0.8s,mb6.7
LMR La Mourre 94.10 47⇑iP P 23 54 12.4 -0.3
comp=Z,1µm,1.6s,mb6.8
LMR La Mourre 94.10 47⇑iP P 23 54 12.4 -0.3
LMR pmax pmax
comp=Z,579nm,1.6s,mb6.8
LMR La Mourre 94.10 47⇑iP P 23 54 12.4 -0.3
comp=Z,579nm,1.6s,mb6.8
URZ Urewera 94.22 229 S SKSac 00 04 42.6 -3.0
comp=Z,18nm,1.0s,baz=353,slow=11,SNR=2.9
FRF La Foret Royal 94.25 46⇑iP P 23 54 13.0 -0.4
comp=Z,995nm,1.6s,mb6.7
FRF La Foret Royal 94.25 46⇑iP P 23 54 13.0 -0.4
FRF pmax pmax
comp=Z,497nm,1.6s,mb6.7
FRF La Foret Royal 94.25 46⇑iP P 23 54 13.0 -0.4
comp=Z,497nm,1.6s,mb6.7
COLA College 94.29 336c iP P 23 54 11.8 -1.2
COLA College 94.29 336⇑iP P 23 54 11.9 -1.1
MCK McKinley 94.30 335⇑iP P 23 54 12.0 -1.1
MCK pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 94.30 335⇑iP P 23 54 11.9 -1.1
comp=Z,9.7nm,1.0s
GDM Grand'Maison 94.30 45⇑eP P 23 54 13.9 +0.4
BAIF Baives 94.31 40⇑iP P 23 54 12.8 -0.7
comp=Z,909nm,1.9s,mb6.6
BAIF Baives 94.31 40⇑iP P 23 54 12.8 -0.7
BAIF pmax pmax
comp=Z,454nm,1.9s,mb6.6
BAIF Baives 94.31 40⇑iP P 23 54 12.8 -0.7
comp=Z,454nm,1.9s,mb6.6
LRW Lerwick 94.37 29 AMb AMB 23 54 27.0
comp=Z,400nm,1.7s,mb6.6
LRW Lerwick 94.37 29 AMb AMB 23 54 27.0
comp=Z,400nm,1.7s,mb6.6
KEST Kesra 94.42 54 P P 23 54 14.3 0.0
comp=Z,38nm,0.9s,mb5.8,baz=223,slow=1.6,SNR=48
KEST S SKSac 00 04 50.9 +4.4
comp=Z,4.3nm,1.0s,baz=291,slow=18,SNR=1.8

MEZF Maizieres J'vi 94.43 41⇑*iP* P 23 54 13.4 -0.7
comp=Z,804nm,1.6s,mb6.6,baz=253
MEZF Maizieres J'vi 94.43 41⇑*iP* P 23 54 13.4 -0.7
comp=Z,804nm,1.6s,mb6.9
CALN Calern 94.47 46⇑*eP* P 23 54 14.9 +0.5
DOU Dourbes 94.56 40 P P 23 54 14.4 -0.2
SURF Saint Ours 94.60 46⇑*eP* P 23 54 15.7 +0.8
UCC Uccle 94.60 39 P P 23 54 14.3 -0.5
MBDF Montbardon 94.63 45⇑*iP* P 23 54 15.2 +0.1
comp=Z,912nm,1.5s,mb6.7
MBDF Montbardon 94.63 45⇑*iP* P 23 54 15.2 +0.1
MBDF pmax pmax
comp=Z,456nm,1.5s,mb6.7
MBDF Montbardon 94.63 45⇑*iP* P 23 54 15.2 +0.1
comp=Z,456nm,1.5s,mb6.7
CABF La Chapelle 94.63 43⇑*iP* P 23 54 14.8 -0.2
comp=Z,1μm,1.8s,mb6.8
CABF La Chapelle 94.63 43⇑*iP* P 23 54 14.8 -0.2
CABF pmax pmax
comp=Z,737nm,1.8s,mb6.8
CABF La Chapelle 94.63 43⇑*iP* P 23 54 14.8 -0.2
comp=Z,738nm,1.8s,mb6.8
BNI Bardonecchia 94.64 45 P P 23 54 16.1 +1.0
BNI pmax pmax
comp=Z,480nm,1.5s,mb6.7
BNI Bardonecchia 94.64 45⇑*iP* P 23 54 15.8 +0.7
comp=Z,475nm,1.5s,mb6.7
BNI *e*PP PP 23 58 24.7 +21
BNI LR LR
comp=Z,862μm,20.0s,MS8.2
RRL Rocca Remolon 94.68 45 P P 23 54 15.8 +0.5
MVIF Mont Vial 94.69 46⇑*eP* P 23 54 15.4 0.0
GIVF Givet 94.70 40⇑*iP* P 23 54 14.8 -0.5
comp=Z,1μm,1.5s,mb6.8
GIVF Givet 94.70 40⇑*iP* P 23 54 14.8 -0.5
GIVF pmax pmax
comp=Z,531nm,1.5s,mb6.8
GIVF Givet 94.70 40⇑*iP* P 23 54 14.8 -0.5
comp=Z,531nm,1.5s,mb6.8
GIMEL St. Georges / 94.73 43⇑*e*Pdiff P 23 54 15.5 0.0
comp=Z,610nm,4.7s
RSL Roselend 94.76 44 *eP* P 23 54 14.7 -1.0
TOUF Mont Tournerai 94.79 46⇑*eP* P 23 54 16.1 +0.3
LPL La Plagne 94.79 44⇑*iP* P 23 54 16.3 +0.5
comp=Z,770nm,1.3s,mb6.7
LPL La Plagne 94.79 44⇑*iP* P 23 54 16.3 +0.5
LPL pmax pmax
comp=Z,385nm,1.3s,mb6.7
LPL La Plagne 94.79 44⇑*iP* P 23 54 16.3 +0.5
comp=Z,385nm,1.3s,mb6.7
LPG La Plagne 94.80 45⇑*iP* P 23 54 16.5 +0.7
comp=Z,2μm,1.6s,mb6.9
LPG La Plagne 94.80 45⇑*iP* P 23 54 16.5 +0.7
LPG pmax pmax
comp=Z,833nm,1.6s,mb6.9
LPG La Plagne 94.80 45⇑*iP* P 23 54 16.5 +0.7
comp=Z,833nm,1.6s,mb6.9
REVF Revere 94.81 46⇑*eP* P 23 54 15.9 0.0
LUCF Luceram 94.83 46⇑*eP* P 23 54 16.4 +0.4
SNZO South Karori 94.83 226 *eP* P 23 54 18.8 +2.6
SNZO *e*S S 00 05 00.5 -27
SNZO LR LR
comp=Z,2329μm,20.0s,MS8.7
MON Monaco 94.84 46 P P 23 54 17.0 +0.9
SBF Sospel 94.88 46⇑*iP* P 23 54 16.0 -0.3
comp=Z,1μm,1.6s,mb6.8
SBF Sospel 94.88 46⇑*iP* P 23 54 16.0 -0.3
SBF pmax pmax
comp=Z,696nm,1.6s,mb6.8
SBF Sospel 94.88 46⇑*iP* P 23 54 16.0 -0.3
comp=Z,696nm,1.6s,mb6.8
STV Sant Anna di V 94.90 46 P P 23 54 16.1 -0.2
AUTN L'Aution 94.91 46⇑*eP* P 23 54 16.7 +0.3
OG01 Vacheresse 94.96 44 *eP* P 23 54 16.4 -0.1
THEF They Montfort 94.97 42⇑*eP* P 23 54 16.3 -0.2
BRANT Les Verrieres 94.97 43⇑*e*Pdiff P 23 54 16.6 0.0
comp=Z,722nm,2.3s,mb6.7
SAOF Saorge 95.00 46⇑*eP* P 23 54 16.9 +0.1
EMV Vieux Emosson 95.04 44⇑*e*Pdiff P 23 54 17.3 +0.4
comp=Z,509nm,3.3s
EMV Vieux Emosson 95.04 44⇑*eP* P 23 54 17.4 +0.5
KTH Kantishna Hill 95.06 334⇑*iP* P 23 54 15.2 -1.4
comp=Z,245nm,0.9s,mb6.6
RSP Reno Superiore 95.06 45 P P 23 54 17.5 +0.4
LSD Lago del Serru 95.07 45 P P 23 54 17.7 +0.6
BCLA Clavier 95.08 39 P P 23 54 17.4 +0.4
comp=Z,242nm,2.9s,mb6.1
LBTB Lobatse 95.11 117 P P 23 54 18.1 +0.3
LBTB Lobatse 95.11 117 *eP* P 23 54 17.5 -0.3
comp=Z,870nm,1.7s,mb6.9
LBTB *e*PP PP 23 58 06.5 -1.2
LBTB *e*S S 00 05 30.7 +0.4
LBTB LR LR
comp=Z,1370μm,20.0s,MS8.4
AIGLE Aigle 95.14 44⇑*e*Pdiff P 23 54 17.4 0.0
comp=Z,626nm,3.5s
AIGLE Aigle 95.14 44⇑*eP* P 23 54 17.3 -0.1
HAU Haudompre 95.14 42⇑*iP* P 23 54 16.7 -0.6
comp=Z,1μm,1.9s,mb6.7
HAU *e*MLR MLR
comp=Z,438μm,21.8s,MS7.6
HAU Haudompre 95.14 42⇑*iP* P 23 54 16.7 -0.6
HAU pmax pmax
comp=Z,637nm,1.9s,mb6.7
HAU MLR MLR
comp=Z,438μm,21.8s,MS7.9
HAU Haudompre 95.14 42⇑*iP* P 23 54 16.7 -0.6
comp=Z,638nm,1.9s,mb6.7
HAU LR LR
comp=Z,438μm,21.8s,MS7.9
GRYON Gryon 95.23 44⇑*e*Pdiff P 23 54 17.7 -0.1
comp=Z,320nm,2.5s,mb6.3
TORNY Torny/Romont 95.25 43⇑*e*Pdiff P 23 54 18.0 +0.1
comp=Z,556nm,2.3s,mb6.6
BPAW Bear Paw Mtn. 95.27 335 *eP* P 23 54 16.0 -1.5
comp=Z,578nm,1.1s,mb6.9
SENIN Lac Senin/Sane 95.38 44⇑*e*Pdiff P 23 54 18.9 +0.4
comp=Z,473nm,3.3s
PPLA Purkeypile 95.38 334 *eP* P 23 54 16.7 -1.4
comp=Z,555nm,1.2s,mb6.9
PPLA *e*pP pP 23 54 29.4 -1.3
DIX Grande Dixence 95.39 44⇑*e*Pdiff P 23 54 19.1 +0.6
comp=Z,572nm,4.4s
BEBN Eben Emael 95.41 39 P P 23 54 18.3 -0.2
WLF Walferdange 95.43 40 P P 23 54 19.1 +0.5
comp=Z,281nm,2.1s,mb6.3
WLF Walferdange 95.43 40 P P 23 54 18.6 0.0
WLF pmax pmax
comp=Z,400nm,1.4s,mb6.7
WLF Walferdange 95.43 40 *eP* P 23 54 18.5 -0.1
comp=Z,399nm,1.4s,mb6.7
WLF *e*PP PP 23 58 22.0 +12
WLF *e*S S 00 06 00.9 +29
HINF Hinteralfeld 95.43 42⇑*iP* P 23 54 17.9 -0.7
comp=Z,635nm,1.5s,mb6.5
HINF Hinteralfeld 95.43 42⇑*iP* P 23 54 17.9 -0.7
HINF pmax pmax
comp=Z,318nm,1.5s,mb6.5
HINF Hinteralfeld 95.43 42⇑*iP* P 23 54 17.9 -0.7
comp=Z,318nm,1.5s,mb6.5
HGN Heimansgroeve 95.56 39⇑*eP* P 23 54 17.2 -1.9
HGN Heimansgroeve 95.56 39⇑*iP* P 23 54 18.7 -0.4
comp=Z,174nm,3.9s
MEM Membach 95.57 39 P P 23 54 18.7 -0.5
LKBD Leukerbad 95.61 44⇑*e*Pdiff P 23 54 19.3 -0.2
comp=Z,480nm,3.4s
MOF Molkenrain 95.62 42⇑*eP* P 23 54 18.9 -0.6
JMIC Jan Mayen 95.62 18 *eP* P 23 54 20.1 +1.1
JMIC *e* 23 59 15.7
JMIC AMS AMS 00 40 10.5
comp=Z,302μm,19.3s,MS7.8
WIMIS Wimmis 95.67 44⇑*e*Pdiff P 23 54 19.9 +0.1
comp=Z,646nm,4.4s
PGF Pioggiola 95.69 48⇑*iP* P 23 54 19.8 -0.2
comp=Z,647nm,1.4s,mb6.6
PGF Pioggiola 95.69 48⇑*iP* P 23 54 19.8 -0.2
PGF pmax pmax
comp=Z,324nm,1.4s,mb6.6
PGF Pioggiola 95.69 48⇑*iP* P 23 54 19.8 -0.2
comp=Z,324nm,1.4s,mb6.6
ECH Echery 95.72 42⇑*eP* P 23 54 19.5 -0.5
ECH Echery 95.72 42 *eP* P 23 54 20.1 +0.1
ECH *e*pP pP 23 54 31.4 -1.2
CORF Corte 95.75 48⇑*eP* P 23 54 20.2 -0.1
CHUM Lake Minchumin 95.75 334⇑*iP* P 23 54 18.0 -1.7
comp=Z,180nm,1.0s,mb6.5

MMK Mattmark 95.76 44⇑*e*Pdiff P 23 54 20.3 +0.1
comp=Z,520nm,2.3s,mb6.6
MMK Mattmark 95.76 44⇑*eP* P 23 54 20.6 +0.4
DRV Dumont d'Urvil 95.76 194 P P 23 54 21.0 +1.1
DRV S S 00 05 22.0 -12
DRV SS SS 00 12 27.0 +24
DRV L 00 21 00.0
DRV R 00 27 00.0
BBS Basel-Blauen 95.78 43⇑*eP* P 23 54 20.2 0.0
PCP Piancastagn 95.82 46 P P 23 54 19.9 -0.6
CDF Champ du Feu 95.84 42⇑*iP* P 23 54 20.0 -0.5
comp=Z,833nm,1.6s,mb6.6
CDF Champ du Feu 95.84 42⇑*iP* P 23 54 20.0 -0.5
CDF pmax pmax
comp=Z,416nm,1.6s,mb6.6
CDF Champ du Feu 95.84 42⇑*iP* P 23 54 20.0 -0.5
comp=Z,416nm,1.6s,mb6.6
BALST Balsthal 95.87 43⇑*e*Pdiff P 23 54 20.6 -0.1
comp=Z,260nm,1.2s,mb6.5
BALST Balsthal 95.87 43⇑*eP* P 23 54 20.3 -0.4
LIBD Limburg 96.00 42 *eP* P 23 54 21.1 -0.1
RUP Ruppelstein 96.01 40⇑*eP* P 23 54 21.1 -0.1
DAG Danmarks Havn 96.01 11⇓*iP* P 23 54 19.7 -1.0
DAG pmax pmax
comp=Z,33nm,1.1s,mb5.7
DAG Danmarks Havn 96.01 11*j iP* P 23 54 19.7 -1.0
comp=Z,33nm,1.1s,mb5.7
DAG Danmarks Havn 96.01 11 *i* P P 23 54 19.7 -1.0
comp=Z,33nm,1.1s,mb5.7
HASLI Hasliberg/Brie 96.04 44⇑*e*Pdiff P 23 54 21.7 +0.2
comp=Z,532nm,2.3s,mb6.6
KIZ Kirchzarten 96.16 42 P P 23 54 22.7 +0.7
SULZ Cheisacher 96.19 43⇑*e*Pdiff P 23 54 21.8 -0.3
comp=Z,210nm,1.1s,mb6.5
FELD Feldberg im Sc 96.20 42⇑*eP* P 23 54 21.7 -0.4
STR Strasbourg 96.20 42⇑*eP* P 23 54 21.9 -0.2
BNALP Bannalp 96.25 43⇑*e*Pdiff P 23 54 22.2 -0.2
comp=Z,773nm,3.3s
BNALP Bannalp 96.25 43⇑*eP* P 23 54 22.9 +0.5
LANF Langenberg 96.32 41⇑*eP* P 23 54 22.1 -0.6
FUSIO Fusio 96.32 44⇑*e*Pdiff P 23 54 22.9 +0.2
comp=Z,835nm,3.5s
FUSIO Fusio 96.32 44⇑*eP* P 23 54 23.0 +0.3
RPZ Rata Peaks 96.34 222 S SKSac 00 04 59.5 +2.9
comp=Z,6.1nm,0.9s,baz=70,slow=16,SNR=1.9
RPZ PKKPbc PKKPbc 00 11 09.2 -0.3
comp=Z,17nm,0.9s,baz=314,slow=14,SNR=3.2
RPZ LR LR 00 28 43.8
comp=Z,1636μm,21.2s,MS8.5,baz=90,slow=30
WTSB Winterswijk 96.37 38⇑*iP* P 23 54 22.6 -0.2
comp=Z,217nm,4.7s
SVW2 Sparrevohn 96.37 331 P P 23 54 19.4 -3.3
MUO Muotathal 96.42 43⇑*e*Pdiff P 23 54 22.9 -0.3
comp=Z,658nm,2.2s,mb6.7
MUO Muotathal 96.42 43⇑*eP* P 23 54 23.7 +0.5
MUGIO Muggio 96.46 44⇑*e*Pdiff P 23 54 23.7 +0.3
comp=Z,623nm,2.9s,mb6.5
MUGIO Muggio 96.46 44⇑*eP* P 23 54 22.2 -1.2
ZUR Degenried 96.47 43⇑*iP*diff P 23 54 23.0 -0.4
comp=Z,893nm,3.4s
ZUR Degenried 96.47 43⇑*iP* P 23 54 23.5 +0.1
SLE Schleitheim 96.49 43⇑*e*Pdiff P 23 54 23.5 0.0
comp=Z,235nm,1.2s,mb6.5
SLE Schleitheim 96.49 43⇑*eP* P 23 54 22.9 -0.6
WIT Witteveen 96.49 37⇑*eP* P 23 54 22.0 -1.4
BFO Black Forest 96.51 42 *e*Pdiff P 23 54 23.0 -0.6
BFO Black Forest 96.51 42 *eP* P 23 54 23.4 -0.1
BUG Bochum--Univer 96.54 39 *e*Pdiff P 23 54 23.3 -0.3
KTD Kalmit 96.57 41⇑*eP* P 23 54 26.9 +3.1
LLS Linth-Limmern 96.64 44⇑*e*Pdiff P 23 54 24.2 0.0
comp=Z,540nm,4.3s
WILA Wila 96.69 43⇑*e*Pdiff P 23 54 24.4 0.0
comp=Z,815nm,3.4s
STEIN Stein am Rhein 96.72 43⇑*e*Pdiff P 23 54 24.6 +0.1
comp=Z,624nm,3.0s
SPAK Spaichingen-Ko 96.76 42⇑*eP* P 23 54 24.3 -0.4
TUE Stuetta 96.79 44 *eP* P 23 54 24.8 -0.1
comp=Z,261nm,1.1s,mb6.6
TUE PP PP 23 58 18.8 -1.6
TUE *e*S S 00 05 41.1 -2.5
TUE LR LR
comp=Z,1163μm,20.0s,MS8.4
SISB Singen-Schiene 96.79 43 P P 23 54 25.8 +1.0
VDL Val di Lei 96.86 44⇑*e*Pdiff P 23 54 25.4 +0.2
comp=Z,604nm,3.3s
LBG Lerchenberg 96.89 42 P P 23 54 25.5 +0.3
PLONS Plons/SG 96.93 43⇑*e*Pdiff P 23 54 25.6 +0.1
comp=Z,435nm,2.3s,mb6.5
GUT Gutenstein 96.97 42 P P 23 54 26.0 +0.4
IMA2 Indian Mountai 96.98 336 *eP* P 23 54 23.8 -1.5
VLC Villacollemand 97.03 46⇑*iP* P 23 54 25.0 -1.0
comp=Z,299nm,1.1s,mb6.6
VLC *e*PP PP 23 58 23.7 +1.4
VLC *e*S S 00 05 53.4 +7.7
VLC LR LR
comp=Z,425μm,22.0s,MS7.9
IBBN Ibbenburen 97.03 38 *e*Pdiff P 23 54 25.6 -0.2
LIENZ Kamor/St.Gall 97.06 43⇑*e*Pdiff P 23 54 26.4 +0.3
comp=Z,322nm,1.2s,mb6.6
TTA Tatalina 97.07 333 P P 23 54 24.6 -1.1
TTA pmax pmax
comp=Z,220nm,1.5s,mb6.4
TTA Tatalina 97.07 333 P P 23 54 24.6 -1.2
comp=Z,219nm,1.5s,mb6.4
TOD Tromm 97.09 41⇑*eP* P 23 54 25.0 -1.2
STU Stuttgart 97.17 42 *eP* P 23 54 26.0 -0.5
STU *e**PP pP 23 54 37.5 -1.6
STU pmax pmax
comp=Z,293nm,1.4s,mb6.5
STU Stuttgart 97.17 42 *eP* P 23 54 26.0 -0.5
comp=Z,293nm,1.4s,mb6.5
STU *e*pP pP 23 54 37.5 -1.7
BUCH Bad Urach 97.20 42 P P 23 54 27.7 +1.0
DAVOX Davos/Dischmat 97.21 44 P P 23 54 27.2 +0.4
comp=Z,98nm,0.8s,mb6.3,baz=239,slow=3.6,SNR=105
DAVOX Davos/Dischmat 97.21 44⇑*e*Pdiff P 23 54 27.1 +0.3
comp=Z,224nm,1.0s,mb6.6
BERNI Berninapass 97.23 44⇑*iP*diff P 23 54 27.2 +0.3
comp=Z,701nm,3.2s
DAVA Damuels 97.31 43⇑*iP* P 23 54 27.6 +0.4
comp=Z,8μm,4.4s,SNR=73
DAVA Damuels 97.31 43⇑*iP*cP PcP 23 54 27.6 +0.3
comp=Z,8μm,4.4s,SNR=73
STAV Stavanger 97.39 31 *eP* P 23 54 31.4 +4.1
FUORN Ofenpass-Fuorn 97.44 44⇑*e*Pdiff P 23 54 28.0 +0.2
comp=Z,691nm,3.3s
SDPT Sand Point 97.47 325⇑*eP* P 23 54 26.7 -1.0
comp=Z,553nm,1.1s,mb6.9
HLG Helgoland 97.51 36 *e*Pdiff P 23 54 27.9 0.0
UBR Ueberruh 97.54 43 P P 23 54 29.1 +0.9
BER Bergen 97.55 30 *eP* P 23 54 29.4 +1.5
BER *e* 00 05 54.0
BER AMS AMS 00 37 10.2
comp=Z,590μm,21.6s,MS8.0
HDH Heidenheim-Cha 97.79 42 P P 23 54 30.0 +0.7
FETA Feichten 97.83 44 *i* P P 23 54 30.0 +0.4
comp=Z,13μm,7.3s,SNR=95
FETA Feichten 97.83 44 *i* PcP PcP 23 54 30.0 +0.4
comp=Z,13μm,7.3s,SNR=95
RETA Reutte 97.94 43⇑*iP* P 23 54 30.2 +0.2
comp=Z,19μm,9.3s,SNR=79
RETA Reutte 97.94 43⇑*iP*cP PcP 23 54 30.2 +0.2
comp=Z,19μm,9.3s,SNR=79
MOTA Moosalm 98.14 43⇑*iP* P 23 54 31.0 +0.1
comp=Z,220nm,1.0s,mb6.6,SNR=120
MOTA Moosalm 98.14 43⇑*iP*cP PcP 23 54 31.0 +0.1
comp=Z,220nm,1.0s,SNR=120
MOTA Moosalm 98.14 43⇑*iP* P 23 54 31.0 +0.1
MOTA pmax pmax
comp=Z,220nm,1.0s,mb6.6
SQTA Sankt Quirin 98.19 43 P P 23 54 32.0 +0.8
FUR Furstenfeldbru 98.41 43 *e*Pdiff P 23 54 31.9 -0.2
FUR Furstenfeldbru 98.41 43 *e*S S 00 05 38.2 -19
WATA Walderalm 98.45 43⇑*iP* P 23 54 32.5 +0.1
comp=Z,1μm,1.9s,mb7.1,SNR=42
WATA Walderalm 98.45 43⇑*iP* P 23 54 32.5 +0.2
WATA pmax pmax
comp=Z,1μm,1.9s,mb7.1
WTTA Wattenberg 98.48 43 *iP* P 23 54 33.0 +0.5
comp=Z,4μm,2.7s,mb7.4,SNR=124
WTTA Wattenberg 98.48 43 *iP* P 23 54 33.0 +0.5
WTTA pmax pmax
comp=Z,4μm,2.7s,mb7.4
CLZ Clausthal 98.51 39 *e*Pdiff P 23 54 32.8 +0.3
GRA1 Grafenberg Arr 98.65 41 *e*Pdif P 23 54 33.4 +0.2

GRF Grafenberg Arr 98.65 41 *e*S S 00 05 38.1 -21
GRF *e*L 00 40 30.9
comp=Z,471μm,20.9s
GRF Grafenberg Arr 98.65 41 *e*Pdif P 23 54 33.4 +0.2
GRF *e*S S 00 05 38.1 -21
GRF LR LR
comp=Z,471μm,20.9s,MS8.0
MUD Monsted U'grnd 98.69 34 *i* P P 23 54 33.5 +0.3
MUD *i* 23 55 40.7
MUD *e*S S 00 05 43.6 -16
MUD
comp=Z,431μm,19.0s
MUD Monsted U'grnd 98.69 34 *e*P P 23 54 33.5 +0.3
MUD *i* 23 55 40.7
MUD *e*S S 00 05 43.6 -16
AQU L'Aquila 98.85 49⇓*iP* P 23 54 35.6 +1.4
AQU L'Aquila 98.85 49 P P 23 54 34.9 +0.6
BSEG Bad Segeberg 98.86 37 *e*Pdiff P 23 54 34.3 +0.3
ABTA Abfaltersbach 98.98 44 *i* P P 23 54 34.8 +0.1
comp=Z,5μm,4.7s,SNR=209
MOL Molde 99.06 28 *eP* P 23 54 36.3 +1.6
MOL AMb AMB 23 54 59.5
comp=Z,178nm,1.7s,mb6.3
MOL *e*PP PP 23 58 36.9 -0.5
MOL *e* 00 06 02.5
MOL *i* 00 07 59.6
MOL AMS AMS 00 39 35.8
comp=Z,392μm,16.6s,MS8.0
MOL Molde 99.06 28 *eP* P 23 54 36.3 +1.6
comp=Z,178nm,1.7s,mb6.3
MOL LR LR
comp=Z,392μm,16.6s,MS8.0
MOX Moxa 99.07 40*ce*P P 23 54 35.7 +0.7
MOX *e* 23 54 43.9
comp=Z,948nm,2.8s
MOX Moxa 99.07 40*ce*P P 23 54 35.7 +0.7
MOX *e* 23 54 43.9
MOX pmax pmax
comp=Z,948nm,2.8s,mb6.8
MOX Moxa 99.07 40 *e*Pdiff P 23 54 35.3 +0.3
MOX Moxa 99.07 40 *e*Pu 23 54 35.7
comp=Z,948nm,2.8s
MOX *e* 23 54 43.9
MPRI Monte Prat 99.22 45⇓*eP* P 23 54 37.0 +1.2
MANZ Manzenberg 99.27 41 *e*Pdiff P 23 54 36.3 +0.4
ROTZ Rotzenmuhle 99.29 41 *e*Pdiff P 23 54 36.5 +0.5
BUA Buia 99.31 45⇓*eP* P 23 54 38.0 +1.8
RJOB Jochberg 99.34 43 *e*Pdiff P 23 54 36.3 0.0
PLRO Paularo 99.38 44⇓*eP* P 23 54 37.0 +0.5
BAD Bernadia 99.39 45⇓*eP* P 23 54 37.0 +0.4
COLI Coloredo 99.47 45⇑*eP* P 23 54 39.0 +2.1
KONO Kongsberg 99.50 31⇑*eP* P 23 54 35.9 -0.8
KONO Kongsberg 99.50 31 *eP* P 23 54 37.0 +0.3
KONO *e*PP PP 23 58 41.9 +1.1
KONO AMS AMS 00 38 35.2
comp=Z,547μm,20.0s,MS8.1
NKC Novy Kostel 99.52 41 *eP* P 23 54 37.6 +0.6
NKC *e* 23 58 48.0
NKC MLR MLR
comp=Z,461μm,18.1s,MS8.0
NKC Novy Kostel 99.52 41⇑*e*PDIF P 23 54 37.6 +0.6
NKC *ex* x 23 55 41.4
NKC *e*PP PP 23 58 48.0 +6.8
NKC *ex* x 00 14 28.5
NKC *ex* x 00 24 01.0
NKC AMS AMS 00 42 40.0
comp=Z,461μm,18.1s
NKC Novy Kostel 99.52 41 *e*Pdif P 23 54 37.6 +0.6
NKC *e* 23 55 41.4
NKC *e*PP PP 23 58 48.0 +6.8
NKC *e*SS 00 14 28.5
NKC *e* 00 24 01.0
KBA Koelnbreinsper 99.60 44 *i* P Pdif 23 54 37.6 +0.2
comp=Z,14μm,9.0s,SNR=34
WET Wettzell 99.62 42 *e*Pdiff Pdif 23 54 37.7 +0.2
LSR Lussari 99.63 45⇑*e*Pdif Pdif 23 54 38.0 +0.5
DRE Drenchia 99.66 45⇑*e*Pdif Pdif 23 54 38.0 +0.3
MYKA Terra Mystica 99.73 44⇑*iP* Pdif 23 54 38.2 +0.3
comp=Z,926μm,8.3s
VOY Vojsko 99.81 45 *e*Pdiff Pdif 23 54 38.7 +0.4
SKDS Skadanscina 99.81 45 *e*Pdiff Pdif 23 54 38.3 0.0
SKDS *e* 23 55 41.5
MIR Mirnyy 99.92 176⇑*iP* Pdif 23 54 38.0 -0.8
MIR *i* 23 54 44.0
MIR pmax pmax
comp=Z,200nm,2.0s,mb6.2
MIR pmax pmax
comp=Z,4μm,4.0s
CLL Collm 100.04 40 *i* P Pdif 23 54 39.3 -0.1
CLL *e* 23 58 55.0
CLL MLR MLR
comp=Z,469μm,22.0s,MS8.0
CLL Collm 100.04 40 *e*Pdiff Pdif 23 54 39.7 +0.3
CLL Collm 100.04 40⇑*iP*diff Pdif 23 54 39.3 -0.1
CLL *ep*Pdif 23 54 49.0
CLL *es*Pdif 23 54 54.0
CLL *e*Pdiffmax 23 55 47.0
CLL *e*PP PP 23 58 55.0 +10
CLL *i* pPP 23 59 06.7
CLL *e*PPmax 23 59 55.0
CLL *i* (sPPm) 00 00 11.4
CLL *e*PPPmax 00 02 06.0
CLL *e*SKKSac SKKSac 00 05 47.0 -1.1
CLL *e*Sdif Sdif 00 06 28.0 +17
CLL *e*Sdiffmax 00 07 31.0
CLL *e*PS PS 00 07 46.0 +1.2
CLL *e*(PSm) 00 09 12.0
CLL *e*SS SS 00 13 30.0 +25
CLL *e*SSmax 00 14 48.0
CLL *e*SSSmax 00 18 00.0
CLL *ex* x 00 19 54.0
CLL LV 00 38 00.0
comp=Z,469μm,22.0s
CLL Collm 100.04 40 *i* Pdif Pdif 23 54 39.3 -0.1
CLL *e* 23 54 49.0
CLL *e* 23 54 54.0
CLL *e* 23 55 47.0
CLL *e*PP PP 23 58 55.0 +10
CLL *e*SKKS SKKSac 00 05 47.0 -1.1
CLL *e*Sdif Sdif 00 06 28.0 +17
CLL LR LR
comp=Z,469μm,22.0s,MS8.0
CEL Celeste 100.05 53 *e*Pdif Pdif 23 54 40.0 +0.5
comp=Z,60nm,1.0s
CEL *e*PP PP 23 58 41.4 -4.3
CEL LR LR
comp=Z,597μm,19.0s,MS8.1
KHC Kasperske Hory 100.07 42⇑*iP* Pdif 23 54 39.4 -0.1
KHC *e* 23 58 49.6
KHC MLR MLR
comp=Z,626μm,17.7s,MS8.2
KHC Kasperske Hory 100.07 42⇑*iP*DIF Pdif 23 54 39.4 -0.1
KHC *ex* x 23 55 43.3
KHC *e*PP PP 23 58 49.6 +4.2
KHC *ex* x 00 13 45.6
KHC *ex* x 00 25 01.3
KHC AMS AMS 00 42 20.0
comp=Z,626μm,17.7s
OSL Oslo 100.11 31 *eP* Pdif 23 54 44.1 +4.4
OSL AMb AMB 23 54 54.9
comp=Z,236nm,1.4s
OSL Oslo 100.11 31 *eP* Pdif 23 54 44.1 +4.4
comp=Z,236nm,1.4s
GEC2 GERESS Array S 100.11 42 *eP* Pdif 23 54 39.6 -0.1
GEC2 *e* 23 58 49.2
GERES GERESS Array B 100.11 42 P Pdif 23 54 39.4 -0.3
comp=Z,18nm,1.0s,baz=245,slow=2.8,SNR=46
GERES S SKSac 00 05 14.4 -0.8
comp=Z,4.7nm,1.1s,baz=208,slow=2.6,SNR=2.4
GERES PKKPbc PKKPbc 00 11 00.3 +0.8
comp=Z,1.0nm,0.8s,baz=63,slow=0.3,SNR=4.0
GERES PKPPKP 00 19 22.4
comp=Z,1.6nm,1.0s,baz=343,slow=1.3,SNR=3.0
GERES GERESS Array B 100.11 42 P Pdif 23 54 39.4 -0.3
GERES S SKSac 00 05 14.4 -0.8
GERES pmax pmax
comp=Z,18nm,1.0s
LJU Ljubljana 100.24 45 *e*Pdiff Pdif 23 54 40.7 +0.4
LJU *e* 23 55 44.3
LJU *e*PP PP 23 58 49.6 +2.8
LJU *e*Sdiff Sdif 00 06 19.4 +6.7
LJU *e* 00 07 23.9
LJU *e*SS SS 00 13 10.0 +1.7

LJU	Ljubljana	100.24	45	eP	Pdif	23 54 40.7	+0.4
LJU				e		23 58 49.6	
LJU				eS	Sdif	00 06 19.4	+6.7
LJU				eSS	SS	00 13 10.0	+1.7
AKUT	Akutan	100.26	323	eP	Pdif	23 54 38.5	-1.8
NVLJ	Novalja	100.26	47	P	Pdif	23 54 40.6	+0.2
CUC	Castrocucco	100.26	51	ePdif	Pdif	23 54 39.8	-0.6
	comp=Z,106nm,1.1s						
CUC				ePP	PP	23 58 48.2	+1.0
CUC				LR	LR		
	comp=Z,597μm,20.0s,MS8.1						
LSZ	Lusaka	100.30	108	P	Pdif	23 54 42.2	+1.7
	comp=Z,11nm,0.9s,baz=236,slow=3.7,SNR=10						
LSZ	Lusaka	100.30	108	P	Pdif	23 54 43.1	+2.6
LSZ	Lusaka	100.30	108⇑	eP	Pdif	23 54 41.9	+1.4
	comp=Z,82nm,1.4s						
LSZ				ePP	PP	23 58 46.9	-0.8
LSZ				LR	LR		
	comp=Z,1989μm,20.0s,MS8.6						
NAO01	NORSAR Array S	100.33	30	ePdif	Pdif	23 54 39.9	-0.7
	comp=Z,244nm,1.5s						
NAO01				ePP	PP	23 58 54.5	+7.5
NAO01				LR	LR		
	comp=Z,420μm,19.0s,MS8.0						
OBKA	Obir	100.33	45	i P	Pdif	23 54 41.1	+0.4
	comp=Z,6μm,4.1s,SNR=23						
MOA	Molln	100.33	43⇑	iP	Pdif	23 54 41.0	+0.3
	comp=Z,5μm,4.1s,SNR=79						
COP	Copenhagen	100.36	35⇑	iP	Pdif	23 54 41.0	+0.2
COP				i		00 06 16.1	
COP				pmax	pmax		
	comp=Z,130nm,1.4s						
COP				MLR	MLR		
	comp=Z,284μm,19.0s,MS7.8						
COP	Copenhagen	100.36	35⇑	iP	Pdif	23 54 41.0	+0.2
	comp=Z,130nm,1.4s						
COP				i		23 55 48.6	
COP				e		23 58 22.7	
COP				eS	SKSac	00 05 32.2	+16
COP				i		00 06 16.1	
COP							
	comp=Z,284μm,19.0s						
CASY	Casey	100.39	183	ePDIF	Pdif	23 54 40.5	-0.4
NB2	NORSAR Subarra	100.52	30	P	Pdif	23 54 41.8	+0.3
	comp=Z,1μm,2.0s,baz=263,slow=4.6						
NOA	NORSAR Array B	100.52	30	P	Pdif	23 54 41.4	-0.1
	comp=Z,21nm,1.0s,baz=260,slow=4.5,SNR=12						
NOA				S	SKSac	00 05 15.6	-1.0
	comp=Z,2.9nm,0.9s,baz=264,slow=5.6,SNR=3.0						
NOA				PKKP	PKKPbc	00 11 04.2	+5.4
	comp=Z,2.6nm,0.8s,baz=134,slow=1.2,SNR=3.5						
BRG	Berggiesshubel	100.56	40	i P	Pdif	23 54 42.1	+0.4
BRG						23 58 56.0	
BRG				SS	SS	00 13 12.0	-0.5
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRG				MLR	MLR		
	comp=N,50μm,19.6s,MS7.5						
BRG				MLR	MLR		
	comp=E,114μm,17.3s,MS7.5						
BRG				MLR	MLR		
	comp=Z,213μm,17.4s,MS7.7						
BRG	Berggiesshubel	100.56	40	ePdiff	Pdif	23 54 42.1	+0.4
BRG	Berggiesshubel	100.56	40	eS	Sdif	00 05 48.3	-27
BRG	Berggiesshubel	100.56	40	i P	Pdif	23 54 42.1	+0.5
	comp=Z,71nm,1.2s						
BRG				i		23 54 53.0	
	comp=Z,172nm,1.5s						
BRG				i		23 55 49.0	
BRG				PP	PP	23 58 56.0	+6.9
BRG				SKS		00 05 43.0	
BRG				S	Sdif	00 06 31.0	+16
BRG				SP	SP	00 07 33.0	-12
BRG				i		00 11 19.9	
	comp=Z,34nm,1.4s						
BRG				SS	SS	00 13 12.0	-0.5
BRG				ePKPPKP		00 19 26.2	
	comp=Z,84nm,2.0s						
BRG							
	comp=N,190μm,19.6s						
BRG							
	comp=E,356μm,17.3s						
BRG							
	comp=Z,551μm,17.4s						
BRG	Berggiesshubel	100.56	40	eP	PKKPdf	00 11 20.4	+17
	comp=Z,34nm,1.4s						
BRG				e		00 12 12.4	
	comp=Z,74nm,2.0s						
BRG	Berggiesshubel	100.56	40	eP		00 19 21.2	
	comp=Z,58nm,1.8s						
BRG	Berggiesshubel	100.56	40	i P	Pdif	23 54 42.1	+0.5
	comp=Z,43nm,1.2s						
BRG				i		23 54 53.0	
BRG				i		23 55 49.0	
BRG				PP	PP	23 58 56.0	+6.9
BRG				SKS		00 05 43.0	
BRG				S	Sdif	00 06 31.0	+16
BRG				SP	SP	00 07 33.0	-12
BRG				i		00 11 19.9	
BRG				SS	SS	00 13 12.0	-0.5
BRG				eP'P'		00 19 26.2	
BRG				LR	LR		
	comp=Z,330μm,17.4s,MS7.9						
UNV	Unalaska Valle	100.64	323	ePdif	Pdif	23 54 42.9	+0.9
	comp=Z,139nm,1.4s						
BOJS	Bojanci	100.67	46	ePdiff	Pdif	23 54 42.4	+0.2
BOJS				ePP	PP	23 58 52.9	+2.8
SOKA	Soboth	100.68	44⇑	iP	Pdif	23 54 42.2	0.0
	comp=Z,11μm,8.0s						
RUE	Ruedersdorf	100.69	38	ePdiff	Pdif	23 54 42.5	+0.3
RUE	Ruedersdorf	100.69	38	ePdif	Pdif	23 54 42.5	+0.3
	comp=Z,98nm,1.1s						
RUE				ePP	PP	23 58 42.3	-7.7
RGN	Rugen	100.70	36	ePdiff	Pdif	23 54 42.9	+0.6
PERS	Pernice	100.73	45	ePdif	Pdif	23 54 42.5	0.0
PERS	Pernice	100.73	45	i		00 19 28.3	
PRA	Prague	100.76	41	⇑PDIF	Pdif	23 54 43.0	+0.4
PRA				PP	PP	23 58 50.0	-0.6
PRA				AMS	AMS	00 40 30.0	
PRU	Pruhonice	100.82	41⇑	iP	Pdif	23 54 43.3	+0.5
PRU				e		23 58 55.5	
PRU				MLR	MLR		
	comp=Z,426μm,19.5s,MS8.0						
PRU	Pruhonice	100.82	41⇑	iPDIF	Pdif	23 54 43.3	+0.5
PRU				ex	x	23 55 46.6	
PRU				ePP	PP	23 58 55.5	+4.4
PRU				ex	x	00 14 02.7	
PRU				ex	x	00 24 28.8	
PRU				AMS	AMS	00 41 20.0	
	comp=Z,426μm,19.5s						
PRU	Pruhonice	100.82	41	ePP		00 19 16.3	
TIP	Timpagrande	100.86	52	ePdif	Pdif	23 54 42.6	-0.5
	comp=Z,75nm,1.3s						
TIP				ePP	PP	23 58 55.8	+4.0
TIP				LR	LR		
	comp=Z,738μm,20.0s,MS8.2						
PVCC	Panska Ves	100.91	41	eP	Pdif	23 54 43.8	+0.6
PVCC				e		23 58 56.8	
PVCC				MLR	MLR		
	comp=Z,520μm,17.7s,MS8.1						
PVCC	Panska Ves	100.91	41⇑	ePDIF	Pdif	23 54 43.8	+0.6
PVCC				ex	x	23 55 49.5	
PVCC				ePP	PP	23 58 56.8	+5.1
PVCC				ex	x	00 14 02.7	
PVCC				ex	x	00 24 25.8	
PVCC				AMS	AMS	00 43 50.0	
	comp=Z,520μm,17.7s						
ARSA	Arzberg	101.09	44	i P	Pdif	23 54 44.2	+0.1
	comp=Z,13μm,9.1s,SNR=48						
NSS	Namsos	101.33	26⇑	iP	Pdif	23 54 44.5	-0.7
NSS				i		23 59 04.4	
NSS				AMS	AMS	00 38 01.6	
	comp=Z,319μm,20.0s,MS7.8						
NSS	Namsos	101.33	26	eP	Pdif	23 54 44.7	-0.4
NSS				LR	LR		
	comp=Z,319μm,20.0s,MS7.8						
TREC	Trest	101.34	42	eP	Pdif	23 54 45.7	+0.6
TREC				e		23 58 59.3	
TREC				MLR	MLR		
	comp=Z,749μm,17.7s,MS8.3						
TREC	Trest	101.34	42⇑	ePDIF	Pdif	23 54 45.7	+0.6
TREC				ex	x	23 55 48.0	
TREC				ePP	PP	23 58 59.3	+4.3
TREC				ex	x	00 14 10.4	
TREC				ex	x	00 24 24.7	
TREC				AMS	AMS	00 43 40.0	
	comp=Z,749μm,17.7s						
TREC	Trest	101.34	42	ePP		00 19 29.9	
CSNA	Conrad Observa	101.41	43⇑	iP	Pdif	23 54 45.8	+0.4
	comp=Z,5μm,4.3s						
CONA	Conrad Observa	101.41	43	i P	Pdif	23 54 46.1	+0.7
	comp=Z,5μm,4.3s,SNR=43						
KOGS	Kog	101.48	45	ePdiff	Pdif	23 54 46.2	+0.4
BSD	Bornholm Skovb	101.69	36⇑	iP	Pdif	23 54 46.7	0.0
	comp=Z,106nm,1.5s						
BSD				i		23 55 47.8	
BSD				e		23 58 49.6	
BSD				i S	Sdif	00 06 27.1	+2.3
BSD				i		00 08 02.0	
BSD							
	comp=Z,482μm,19.0s						
BSD	Bornholm Skovb	101.69	36⇑	iP	Pdif	23 54 46.7	0.0
	comp=Z,106nm,1.5s						
BSD				i		23 55 47.8	
BSD				e		23 58 49.6	
BSD				i S	Sdif	00 06 27.1	+2.3
BSD				i		00 08 02.0	
FUNA	Funafuti	101.71	258	Pdif	Pdif	23 54 52.6	+5.8
FUNA				LR	LR		
	comp=Z,352μm,22.0s,MS7.8						
UPC	Upice	101.82	41	ePP		00 19 01.7	
SOP	Sopron	101.84	44⇑	eP	Pdif	23 54 48.3	+0.9
NIKO	Nikolski	101.93	322	ePdif	Pdif	23 54 46.8	-1.0
DPC	Dobruska-Polom	102.00	41⇑	iPDIF	Pdif	23 54 48.3	+0.2
DPC				ex	x	23 55 52.8	
DPC				ePP	PP	23 59 04.6	+4.6
DPC				eSKKP		00 14 24.7	
DPC				ex	x	00 24 43.1	
DPC				AMS	AMS	00 44 00.0	
	comp=Z,620μm,17.6s						
DPC	Dobruska-Polom	102.00	41	ePP		00 19 24.0	
DPC	Dobruska-Polom	102.00	41⇑	iPdif	Pdif	23 54 48.3	+0.2
DPC				e		23 55 52.8	
DPC				ePP	PP	23 59 04.6	+4.6
DPC				LR	LR		
	comp=Z,620μm,17.6s,MS8.2						
KSP	Ksiaz	102.04	40⇑	eP	Pdif	23 54 49.0	+0.8
KSP				e		23 59 03.0	
KSP				eS	Sdif	00 06 31.0	+3.3
KSP				eSS	SS	00 13 49.0	+16
KSP	Ksiaz	102.04	40⇑	eP	Pdif	23 54 49.0	+0.8
KSP				e		23 55 50.2	
KSP				ePP	PP	23 59 03.0	+2.8
VRAC	Vranov	102.06	42⇑	iP	Pdif	23 54 50.0	+1.7
VRAC	Vranov	102.06	42	P	Pdif	23 54 49.4	+1.0
STON	Ston	102.06	49	P	Pdif	23 54 48.8	+0.4
ZST	Bratislava	102.27	43	eP	Pdif	23 54 49.9	+0.6
ZST				e		23 59 02.2	
ZST				MLR	MLR		
	comp=Z,780μm,18.2s,MS8.3						
ZST	Bratislava	102.27	43	ePdif	Pdif	23 54 49.9	+0.6
ZST				e		23 55 06.2	
ZST				e		23 56 00.6	
ZST				ePP	PP	23 59 02.2	+0.2
ZST				e		00 19 25.8	
ZST				LR	LR		
	comp=Z,780μm,18.2s,MS8.3						
ZST	Bratislava	102.27	43	e		00 19 25.8	
MODS	Modra-Piesok	102.40	43	eP	Pdif	23 54 50.7	+0.8
MODS				e		23 59 02.4	
MODS				eS	Sdif	00 06 30.3	-0.4
MODS	Modra-Piesok	102.40	43	ePdif	Pdif	23 54 50.7	+0.8
MODS				e		23 55 07.3	
MODS				e		23 56 02.2	
MODS				ePP	PP	23 59 02.4	-0.6
MODS				eS	Sdif	00 06 30.3	-0.4
MODS				e		00 19 25.5	
MODS	Modra-Piesok	102.40	43	e		00 19 25.5	
HCY	Herceg Novi	102.60	49⇑	iP	Pdif	23 54 51.9	+1.2
TNA	Tin City	102.64	335	ePdif	Pdif	23 54 49.7	-1.2
	comp=Z,59nm,1.1s						
BRY	Bratogost	102.68	49⇑	iP	Pdif	23 54 51.5	+0.4
MORC	Moravsky Berou	102.72	42⇑	iP	Pdif	23 54 53.1	+1.8
MORC	Moravsky Berou	102.72	42	P	Pdif	23 54 52.4	+1.1
KBS	Kingsbay	102.75	11⇑	eP	Pdif	23 54 51.0	-0.4
KBS	Kingsbay	102.75	11	eP	Pdif	23 54 51.2	-0.2
KBS				ePP	PP	23 59 04.7	-0.2
KBS				i		00 09 56.1	
KBS				eSS	SS	00 13 46.5	+5.0
KBS				AMS	AMS	00 42 08.4	
	comp=Z,299μm,22.4s,MS7.8						
KBS	Kingsbay	102.75	11	ePdif	Pdif	23 54 52.7	+1.2
KBS				ePP	PP	23 59 03.2	-1.7
GKP	Gorka Klasztor	102.86	38	eP	Pdif	23 54 52.7	+0.8
GKP				e		23 55 59.1	
GKP				eSKS		00 05 59.6	
GKP				LR	LR		
	comp=Z,843μm,24.3s,MS8.2						
BUM	Brajici-Budva	102.88	49⇑	iP	Pdif	23 54 52.9	+0.9
UPM	Unac-Piva	102.98	48⇑	iP	Pdif	23 54 52.7	+0.3
NKY	Niksic	103.00	49⇑	iP	Pdif	23 54 53.6	+1.1
ULC	Ulcinj	103.10	50⇑	iP	Pdif	23 54 54.0	+1.0
PKSM	Moragy	103.10	45	⇑P	Pdif	23 54 54.1	+1.1
PKSM	Moragy	103.10	45⇑	iP	Pdif	23 54 54.0	+1.0
PKSM	Moragy	103.10	45	P	Pdif	23 54 53.7	+0.7
OKC	Ostrava-Krasne	103.12	41	eP	Pdif	23 54 54.2	+1.2
OKC				e		23 59 04.2	
OKC				MLR	MLR		
	comp=Z,377μm,18.4s,MS8.0						
OKC	Ostrava-Krasne	103.12	41⇑	ePDIF	Pdif	23 54 54.2	+1.2
OKC				ex	x	23 55 56.9	
OKC				ePP	PP	23 59 04.2	-4.1
OKC				eSKKP		00 14 30.4	
OKC				ex	x	00 25 13.0	
OKC				AMS	AMS	00 42 50.0	
	comp=Z,377μm,18.4s						
OKC	Ostrava-Krasne	103.12	41	ePP		00 19 30.1	
OKC	Ostrava-Krasne	103.12	41	ePdif	Pdif	23 54 54.2	+1.2
OKC				e		23 55 56.9	
OKC				ePP	PP	23 59 04.2	-4.1
OKC				eSS		00 14 30.4	
OKC				e		00 25 13.0	
TTG	Podgorica	103.16	49⇑	iP	Pdif	23 54 53.8	+0.6
KOLL	Kolacno	103.17	43	eP	Pdif	23 54 54.1	+0.8
KOLL				e		23 59 05.0	
KOLL	Kolacno	103.17	43	PDIF	Pdif	23 54 54.1	+0.8
KOLL				e		23 55 10.6	
KOLL				e		23 56 05.8	
KOLL				e		23 57 04.6	
KOLL				ePP	PP	23 59 05.0	-3.8
KOLL	Kolacno	103.17	43	ePdif	Pdif	23 54 54.1	+0.8
KOLL				e		23 55 10.6	
KOLL				e		23 56 05.8	
KOLL				e		23 57 04.6	
KOLL				ePP	PP	23 59 05.0	-3.8
KOLL				e		00 19 26.2	
KOLL	Kolacno	103.17	43	e		00 19 26.2	
KEK	Kerkira	103.27	52	eP	Pdif	23 54 55.0	+1.3
PLE	Pljevlja	103.35	48⇑	iP	Pdif	23 54 55.8	+1.7
SRN	Sarande	103.44	52	ePN		23 55 06.9	
BUD	Budapest	103.48	44⇑	eP	Pdif	23 54 55.3	+0.6
TIR	Tirane	103.49	50	eP	Pdif	23 54 56.2	+1.5
TIR	Tirane	103.49	50	eP	Pdif	23 54 55.3	+0.6
TIR				e		23 59 11.0	
TIR				pmax	pmax		
	comp=Z,182nm,1.4s						
TIR				MLR	MLR		
	comp=Z,697μm,20.0s,MS8.2						
TIR	Tirane	103.49	50	ePN	Pdif	23 54 57.8	+3.1
TIR	Tirane	103.49	50	ePdif	Pdif	23 54 55.3	+0.6
	comp=Z,182nm,1.4s						
TIR				ePP	PP	23 59 11.0	-0.4
TIR				LR	LR		
	comp=Z,697μm,20.0s,MS8.2						
QSH	Qafa e Shtames	103.54	50	ePN	Pdif	23 55 02.0	+7.1
PUK	Puka	103.58	50	ePN	Pdif	23 54 58.2	+3.1
SPB4	Spitsbergen Ar	103.60	12	ePdif	Pdif	23 54 53.3	-1.9
SPITS	Spitsbergen Ar	103.61	12	Pdiff	Pdif	23 54 56.1	+0.9
	comp=Z,6.9nm,0.9s,baz=332,slow=10,SNR=1.2						
SPITS	Spitsbergen Ar	103.61	12	P	Pdif	23 54 56.1	+0.9
SPITS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
IVA	Berane	103.67	49⇑	iP	Pdif	23 54 56.7	+1.2
PVY	Plav	103.70	49⇑	iP	Pdif	23 54 57.1	+1.5
VLS	Valsamata	103.71	54	eP	Pdif	23 54 56.0	+0.3
VLS	Valsamata	103.71	54	eP	Pdif	23 55 00.5	+4.8
BCI	Bajram Curri	103.75	49	ePN	Pdif	23 54 58.7	+2.9
LKD	Levkas	103.81	53	eP	Pdif	23 54 57.0	+0.9
DIVS	Divibare	103.85	47	eP	Pdif	23 54 57.3	+1.0
PHP	Peshkopia	103.96	50	ePN	Pdif	23 55 00.2	+3.4
JAN	Janina	104.07	52	eP	Pdif	23 55 04.0	+6.7
PSZ	Piszkesteto	104.11	44⇑	eP	Pdif	23 54 56.6	-0.8
PSZ	Piszkesteto	104.11	44⇑	iP	Pdif	23 55 01.3	+3.9
PSZ	Piszkesteto	104.11	44	P	Pdif	23 54 58.5	+1.0
OHR	Ohrid	104.17	51	eP	Pdif	23 54 58.4	+0.6
OHR	Ohrid	104.17	51⇑	iP	Pdif	23 54 58.2	+0.5
OHR				i PP	PP	23 59 22.4	+5.9
OJC	Ojcow	104.21	41	ePdiff	Pdif	23 54 58.9	+1.0
OJC				ePP	PP	23 59 14.9	-1.6
OJC				eS	Sdif	00 06 48.8	+3.0
OJC				eSP	SP	00 08 30.1	+6.7
OJC				eSS	SS	00 14 10.0	+7.1
OJC				L		00 42 31.0	
	comp=Z,54nm,19.9s						
OJC	Ojcow	104.21	41	ePdif	Pdif	23 54 58.9	+1.0
OJC				ePP	PP	23 59 14.9	-1.6
OJC				eS	Sdif	00 06 48.8	+3.0
OJC				eSP	SP	00 08 30.1	+6.7
OJC				eSS	SS	00 14 10.0	+7.1
OJC				LR	LR		
	comp=Z,532μm,19.9s,MS8.1						
BJO1	Bjornoya	104.29	16	eP	Pdif	23 55 00.1	+1.8
BJO1				LR	LR		
	comp=Z,281μm,19.9s,MS7.8						
BJO	Bjornoya	104.34	16	eP	Pdif	23 55 00.1	+1.6
BJO				ePP	PP	23 59 20.7	+3.9
BJO				i		00 10 22.2	
BJO				AMS	AMS	00 44 43.7	
	comp=Z,281μm,19.9s,MS7.8						
TRO	Tromso	104.36	21	eP	Pdif	23 54 57.0	-1.5
TRO				ePP	PP	23 59 18.4	+1.3
TRO				i		00 08 27.0	
TRO				AMS	AMS	00 43 12.4	
	comp=Z,224μm,18.5s,MS7.7						
NIE	Niedzica	104.49	42	ePdiff	Pdif	23 55 00.8	+1.7
NIE				ePP	PP	23 59 18.4	-0.2
KRUS	Krusevo	104.53	50⇑	iP	Pdif	23 55 00.4	+1.0
KRUS				i PP	PP	23 59 25.1	+6.0
KECS	Kecovo	104.54	43	eP	Pdif	23 55 00.6	+1.2
KECS				e		23 59 22.3	
KECS	Kecovo	104.54	43	PDIF	Pdif	23 55 00.6	+1.2
KECS				e		23 56 10.8	
KECS				e		23 57 13.7	
KECS				ePP	PP	23 59 22.3	+3.3
KECS	Kecovo	104.54	43	ePdif	Pdif	23 55 00.6	+1.2
KECS				e		23 56 10.8	
KECS				e		23 57 13.7	
KECS				ePP	PP	23 59 22.3	+3.3
KECS				e		00 19 16.7	
KECS	Kecovo	104.54	43	e		00 19 16.7	
BIA	Bitola	104.56	51⇑	iP	Pdif	23 54 59.1	-0.3
FNA	Florina	104.57	51	eP	Pdif	23 55 00.2	+0.7
ITM	Ithomi	104.66	55	eP	Pdif	23 55 01.0	+1.1
SKO	Skopje	104.72	50	eP	Pdif	23 55 01.5	+1.3
SKO	Skopje	104.72	50⇑	iP	Pdif	23 55 01.3	+1.1
SKO				i PP	PP	23 59 25.5	+4.9
EVR	Evrytania	104.73	53	eP	Pdif	23 55 03.0	+2.8
KZN	Kozani	104.83	52	eP	Pdif	23 55 05.5	+4.8
TIM	Timisoara	104.86	46⇓	iP	Pdif	23 55 02.1	+1.3
TIM	Timisoara	104.86	46	⇓P	Pdif	23 55 02.1	+1.3
THL	Klokotos Trika	104.95	52	eP	Pdif	23 55 04.4	+3.2
VLX	Vlachokerasia	105.04	55	eP	Pdif	23 55 03.1	+1.5
WAR	Warsaw	105.09	39	eP	Pdif	23 55 03.0	+1.2
WAR				e		23 56 10.2	
WAR				ePP	PP	23 59 26.6	+3.7
WAR				LR	LR		
	comp=Z,633μm,19.5s,MS8.2						
BZS	Buzias	105.12	46⇑	iP	Pdif	23 55 02.6	+0.6
BZS	Buzias	105.12	46	P	Pdif	23 55 03.0	+1.1
AGG	Agios Georgios	105.15	53	eP	Pdif	23 55 02.8	+0.8
CRVS	Cervenica-Dubn	105.21	43	eP	Pdif	23 55 07.0	+4.6
CRVS				e		23 59 26.5	
CRVS				eS	Sdif	00 06 49.7	-4.5
CRVS	Cervenica-Dubn	105.21	43	ePdif	Pdif	23 55 07.0	+4.6
CRVS				ePP	PP	23 59 26.5	+2.6
CRVS				eS	Sdif	00 06 49.7	-4.5
CRVS				e		00 19 16.0	
CRVS	Cervenica-Dubn	105.21	43	e		00 19 16.0	
STIP	Stip	105.26	50	eP	Pdif	23 55 01.8	-0.8
STIP	Stip	105.26	50⇑	iP	Pdif	23 55 02.3	-0.3
LIT	Litokhoron	105.36	52	eP	Pdif	23 55 03.1	+0.1
GRG	Griva	105.36	51	eP	Pdif	23 55 10.4	+7.3
VLI	Veliai	105.42	55	eP	Pdif	23 55 06.0	+2.7
KYTH	Kithira	105.46	56	eP	Pdif	23 55 05.5	+2.0
VAY	Valandovo	105.52	51	eP	Pdif	23 55 04.2	+0.4
VAY	Valandovo	105.52	51⇑	iP	Pdif	23 55 04.1	+0.4
LTK	Loutraki	105.56	54	eP	Pdif	23 55 03.4	-0.5
MIDW	Midway	105.62	296	ePdif		23 55 17.6	
MIDW				ePP	PP	23 59 39.9	+12
MIDW				LR	LR		
	comp=Z,712μm,20.0s,MS8.2						
LKR	Lokris	105.64	53	eP	Pdif	23 55 03.6	-0.6
DID	Didima	105.73	55	eP	Pdif	23 55 04.7	0.0
KOLS	Kolonicke sedl	105.75	43	eP	Pdif	23 55 10.6	+5.9
KOLS				e		23 59 27.2	
KOLS				eS	Sdif	00 06 55.3	-3.3
KOLS	Kolonicke sedl	105.75	43	ePdif	Pdif	23 55 10.6	+5.9
KOLS				e		23 56 30.1	
KOLS				ePP	PP	23 59 27.2	-0.7
KOLS				eS	Sdif	00 06 55.3	-3.3
KOLS				e		00 19 09.4	
KOLS	Kolonicke sedl	105.75	43	e		00 19 09.4	
UZH	Uzhgorod	105.75	43	eP	Pdif	23 55 05.0	+0.3
UZH				i S	Sdif	00 06 55.0	-3.6
UZH				eSS	SS	00 14 16.0	-8.0
UZH				MLR	MLR		
	comp=N,120μm,18.0s,MS7.6						
UZH				MLR	MLR		
	comp=E,114μm,18.0s,MS7.6						
UZH				MLR	MLR		
	comp=Z,80μm,18.0s,MS7.3						
UZH	Uzhgorod	105.75	43	eP	Pdif	23 55 06.0	+1.3
KNT	Kendrikon	105.75	51	eP	Pdif	23 55 05.2	+0.5
THE	Thessaloniki	105.77	51	eP	Pdif	23 55 05.0	+0.1
HORT	Hortiatis	105.86	51	eP	Pdif	23 55 05.5	+0.2
GZR	Gura Zlata	105.93	46⇑	iP	Pdif	23 55 10.5	+5.0
GZR	Gura Zlata	105.93	46	P	Pdif	23 55 07.2	+1.7
KKB	Krupnik	105.94	50	P	Pdif	23 55 07.1	+1.5
NAIG	Nisos Aigina	105.95	54	eP	Pdif	23 55 10.5	+4.9
DRGR		105.95	45⇓	iP	Pdif	23 55 10.1	+4.5
DRGR		105.95	45	P	Pdif	23 55 06.6	+1.0
KWP	Kalwaria	106.06	42	eP	Pdif	23 55 07.3	+1.2
KWP				e		23 59 34.2	
KWP				MLR	MLR		
	comp=Z,460μm,24.5s,MS7.9						
SOH	Sokhos	106.07	51	eP	Pdif	23 55 07.1	+0.9
VTS	Vitosha	106.08	49	P	Pdif	23 55 07.1	+0.9
VTS	Vitosha	106.08	49⇑	iP	Pdif	23 55 12.7	+6.5
VTS	Vitosha	106.08	49	⇑P	Pdif	23 55 12.7	+6.5
PLG	Polyg

LVV	L'vov	106.92	42	eP		Pdif	23 55 10.8	+0.8
LVV				e			23 59 38.2	
LVV				e			00 05 46.0	
LVV	L'vov	106.92	42	eP		Pdif	23 55 11.0	+1.0
RZN	Rozhen	107.15	50	P		Pdif	23 55 12.2	+1.2
PLD	Plovdiv	107.16	50	eP		Pdif	23 55 11.5	+0.5
PLD	Plovdiv	107.16	50	P		Pdif	23 55 11.8	+0.8
KEV	Kevo	107.16	21	ep		Pdif	23 55 15.6	+4.6
KEV	Kevo	107.16	21	ePdif		Pdif	23 55 15.2	+4.1
KEV				ePP		PP	23 59 41.5	+3.8
KEV				LR		LR		
	comp=Z,365μm,22.0s,MS7.9							
LAST	Lasithi	107.34	57	eP		Pdif	23 55 12.1	+0.2
NPS	Neapolis	107.46	57	eP		Pdif	23 55 14.5	+2.1
APE	Apeiranthos	107.52	55	eP		Pdif	23 55 12.3	-0.3
PVL	Pavlikeni	107.67	49	P		Pdif	23 55 14.9	+1.6
KDZ	Kurdzhali	107.67	50	P		Pdif	23 55 13.7	+0.4
BURAR	Bucovina Array	107.68	44⇑	iP		Pdif	23 55 14.2	+0.9
BURAR	Bucovina Array	107.68	44	P		Pdif	23 55 15.0	+1.6
KAF	Kangasniemi	107.75	29	ep		Pdif	23 55 17.6	+4.0
ZKR	Zakros	107.94	57	eP		Pdif	23 55 15.0	+0.5
GADA	Gvkgeada	107.98	52	eP		Pdif	23 55 10.3	-4.4
CHOS	Chios island	108.01	54	eP		Pdif	23 55 15.8	+1.0
SZH	Strazhica	108.11	49	P		Pdif	23 55 16.9	+1.7
ALN	Alexandroupoli	108.12	51	eP		Pdif	23 55 15.5	+0.2
IZAR	Zarasai	108.16	35	eP		Pdif	23 55 19.0	+3.5
MLR	Muntele Rosu	108.16	46⇓	iP		Pdif	23 55 17.1	+1.6
MLR	Muntele Rosu	108.16	46	P		Pdif	23 55 16.7	+1.3
IIGN	Ignalina	108.16	36	eP		Pdif	23 55 17.4	+1.9
ENEZ	Enez	108.19	51	eP		Pdif	23 55 15.2	-0.4
PRK	Paraskevi	108.22	53	eP		Pdif	23 55 14.7	-1.0
EZN	Ezine	108.29	52	eP		Pdif	23 55 17.1	+1.1
IDID	Didziasalis	108.46	36	eP		Pdif	23 55 16.5	-0.3
JMB	Yambol	108.57	49	eP		Pdif	23 55 17.3	+0.1
JMB	Yambol	108.57	49	P		Pdif	23 55 18.0	+0.7
PLOR	Plostina	108.66	46⇑	iP		Pdif	23 55 26.3	+8.6
VRI	Vrincioaia	108.71	46⇓	iP		Pdif	23 55 19.1	+1.2
VRI	Vrincioaia	108.71	46	⇓P		Pdif	23 55 19.1	+1.2
BLCB	Balcova	108.79	54	eP		Pdif	23 55 19.6	+1.4
BLCB	Balcova	108.79	54	eP		Pdif	23 55 18.9	+0.7
BODT	Bodrum	108.94	55	eP		Pdif	23 55 19.5	+0.5
RKY	Sarkoy-Tekirda	108.97	51	eP		Pdif	23 55 26.4	+7.4
MFT	Murefte	109.05	51	eP		Pdif	23 55 18.9	-0.6
MNK	Minsk	109.14	37c	iP		Pdif	23 55 20.0	+0.2
MNK				ePPP			00 02 16.0	
MNK				e			00 05 50.0	
MNK				pmax	pmax			
	comp=Z,18μm,10.0s							
PRD	Provadia	109.18	49	P		Pdif	23 55 20.8	+0.8
TKR	Tekirdag	109.25	51	eP		Pdif	23 55 21.8	+1.5
MLSB	Milas	109.32	55	eP		Pdif	23 55 21.2	+0.6
CRLT	Corlu	109.40	51	eP		Pdif	23 55 18.3	-2.7
BALB	Balikesir	109.48	52	eP		Pdif	23 55 19.5	-1.9
ARG	Arkhangelos	109.56	56	eP		Pdif	23 55 25.0	+3.3
YER	Yerkesik	109.72	55	eP		Pdif	23 55 20.6	-1.8
PSN	Preselentsi	109.75	48	P		Pdif	23 55 23.1	+0.6
SLVT	Silivri	109.76	51	eP		Pdif	23 55 21.8	-0.8
APA	Apatity	109.87	23⇑	iP		Pdif	23 55 31.0	+7.9
APA				i			00 00 00.0	
APA				i PPP			00 02 24.0	
APA				pmax	pmax			
	comp=Z,364nm,2.5s							
TIRR	Tirgusor	109.91	47	P		Pdif	23 55 27.5	+4.3
TIRR	Tirgusor	109.91	47⇑	iP		Pdif	23 55 24.8	+1.6
TIRR	Tirgusor	109.91	47⇑	ePdif		Pdif	23 55 23.1	-0.1
JOF	Joensuu	109.95	28	ep		Pdif	23 55 17.9	-5.5
DALT	Dalyan (Mudla)	109.99	56	eP		Pdif	23 55 20.2	-3.4
KULA	Kula-Manisa	110.06	54	eP		Pdif	23 55 25.1	+1.2
KIS	Kishinev	110.14	45	eP		Pdif	23 55 23.0	-1.3
KIS				i			00 00 00.0	
KIS				e			00 02 23.0	
KIS				e			00 06 06.0	
KIS				i PS	PS		00 09 14.0	-16
KIS				i PPS			00 10 25.0	
KIS				pmax	pmax			
	comp=Z,8μm,16.0s							
KIS				MLR	MLR			
	comp=Z,208μm,20.0s,MS7.7							
BGKT	Bogazkoy	110.19	51	eP		Pdif	23 55 24.1	-0.4
KIEV	Kiev	110.22	41	ePKIKP	PKiKP		23 59 25.2	-0.6
KIEV				MLR	MLR			
	comp=Z,453μm,20.0s,MS8.1							
AKASG	Malin Array Be	110.23	41	Pdiff		Pdif	23 55 26.4	+1.7
	comp=Z,0.3nm,0.4s,baz=263,slow=6.2,SNR=4.2							
AKASG				PKiKP	PKiKP		23 59 24.8	-1.1
	comp=Z,5.5nm,1.0s,baz=268,slow=10,SNR=4.1							
AKASG				PKKPab	PKKPab		00 10 32.5	-4.9
	comp=Z,1.5nm,0.6s,baz=76,slow=3.6,SNR=5.2							
AKASG	Malin Array Be	110.23	41	P		Pdif	23 55 26.4	+1.7
AKASG				i			23 59 24.8	
AKASG							00 10 32.5	
AKBB	Malin Array Si	110.23	41	eP		Pdif	23 55 23.9	-0.8
KLYT	Kilyos	110.39	51	eP		Pdif	23 55 22.9	-2.4
ISK	Istanbul-Kandi	110.40	51	eP		Pdif	23 55 23.5	-2.0
GEMT	Gemlik	110.50	52	eP		Pdif	23 55 25.1	-0.7
YLV	Yalova	110.64	52	eP		Pdif	23 55 27.1	+0.6
SILT	Sile	110.84	51	eP		Pdif	23 55 28.4	+1.0
ADVT	Abdulvahap	110.92	52	eP		Pdif	23 55 26.8	-1.0
ELL	Elmali	111.01	56	eP		Pdif	23 55 32.2	+4.1
TAU	Tasmania Unive	111.06	213	ePKIKP	PKiKP		23 59 30.1	+2.4
TAU				MLR	MLR			
	comp=Z,646μm,21.0s,MS8.2							
ALT	Altintas	111.20	53	eP		Pdif	23 55 28.4	-0.6
ISP	Isparta	111.51	54	eP		Pdif	23 55 31.9	+1.6
ISP	Isparta	111.51	54	eP		Pdif	23 55 31.3	+1.0
ISP	Isparta	111.51	54⇑	iP		Pdif	23 55 27.0	-3.3
ISP	Isparta	111.51	54	ePdif		Pdif	23 55 33.8	+3.5
ISP				ePP	PP		00 00 15.0	+4.8
ISP				LR	LR			
	comp=Z,527μm,20.0s,MS8.1							
SHUT	Suhut-Afyon	111.54	54	eP		Pdif	23 55 33.4	+2.9
BCK	Bucak	111.57	55	eP		Pdif	23 55 32.2	+1.6
ANTB	Antalya	111.61	55	eP		Pdif	23 55 26.4	-4.4
KDZE	Karadeniz Ereo	112.20	51	eP		Pdif	23 55 31.1	-2.3
SMY	Shemya	112.25	322	eP		Pdif	23 55 29.9	-3.7
SMY				e			00 00 19.9	
SMY				MLR	MLR			
	comp=Z,201μm,22.0s,MS7.7							
BILL	Bilibino	112.35	339	eP		Pdif	23 55 39.3	+5.2
BILL				i			23 59 28.9	
BILL				e			00 00 16.9	
BILL				pmax	pmax			
	comp=Z,26nm,1.8s							
BILL				pmax	pmax			
	comp=Z,47nm,1.4s							
BILL	Bilibino	112.35	339	ePdif		Pdif	23 55 32.8	-1.3
BILL				i PKP	PKiKP		23 59 28.0	-1.3
BILL				ePP	PP		00 00 15.5	+0.4
BILL				LR	LR			
	comp=Z,265μm,20.0s,MS7.8							
KMBO	Kilima Mbogo	112.85	97	Pdiff		Pdif	23 55 34.0	-2.3
	comp=Z,0.3nm,0.3s,baz=198,slow=20,SNR=2.1							
KMBO				PKiKP	PKiKP		23 59 31.0	-0.9
	comp=Z,1.3nm,0.8s,baz=232,slow=19,SNR=1.6							
KMBO	Kilima Mbogo	112.85	97	ePdif		Pdif	23 55 38.3	+2.0
KMBO				PKPdf	PKiKP		23 59 31.0	-0.9
KMBO				LR	LR			
	comp=Z,1073μm,20.0s,MS8.4							
KONT	Konya--Tatoy	112.97	54	eP		Pdif	23 55 40.4	+3.5
LADK	Ladik-KONYA	112.97	54	eP		Pdif	23 55 35.0	-1.8
HDMB	Hadim	113.08	55	eP		Pdif	23 55 35.0	-2.3
ANTO	Ankara	113.27	52	eP		Pdif	23 55 38.7	+0.5
ANTO	Ankara	113.27	52⇑	iP		Pdif	23 55 36.3	-1.9
ANTO	Ankara	113.27	52	⇑P		Pdif	23 55 36.3	-1.9
ANTO				ePKiKP	PKiKP		23 59 30.5	-1.4
ANTO				ePP	PP		00 00 22.7	0.0
ANTO				LR	LR			
	comp=Z,333μm,20.0s,MS7.9							
LEF	Lefka	113.41	57	eP		Pdif	23 55 40.4	+1.6
CSS	Prodhromos	113.77	58	eP		Pdif	23 55 41.3	+0.9
CSS	Prodhromos	113.77	58	ePdif		Pdif	23 55 41.0	+0.6
CSS				ePKiKP	PKiKP		23 59 33.8	+0.8
CSS				ePP	PP		00 00 22.0	-4.4
CSS				LR	LR			
	comp=Z,634μm,22.0s,MS8.2							
CANT	Cankiri	113.87	51	eP		Pdif	23 55 38.3	-2.5
LFK	Lefkose	113.94	57	eP		Pdif	23 55 42.7	+1.6
SIM	Simferopol'	113.95	47	deP		Pdif	23 55 41.7	+0.5
SIM				pmax	pmax			
	comp=Z,26nm,1.1s							
IKL	Isikli	114.05	56	eP		Pdif	23 55 40.0	-1.7
OBN	Obninsk	114.07	35	eP		Pdif	23 55 44.5	+2.8
OBN				i			23 59 31.1	
OBN				i			00 00 34.1	
OBN				i PS	PS		00 10 06.3	+0.6
OBN				i SS	SS		00 16 13.5	-1.6
OBN				pmax	pmax			
	comp=Z,30nm,1.7s							
OBN				pmax	pmax			
	comp=Z,57nm,1.4s							
OBN				MLR	MLR			
	comp=Z,813μm,19.0s,MS8.3							
OBN	Obninsk	114.07	35	ePKiKP	PKiKP		23 59 31.5	-1.4
OBN				LR	LR			
	comp=Z,883μm,20.0s,MS8.4							
BZK	Bozkurt	114.09	50	eP		Pdif	23 55 38.3	-3.5
EREN	Erenkoy	114.45	57	eP		Pdif	23 55 41.6	-1.8
MOS	Moscow	114.53	35	ePKIKP	PKiKP		23 59 37.4	+3.6
MOS				e			00 00 34.0	
MOS				i PPP			00 03 01.2	
MOS				e			00 06 45.8	
MOS				i PS	PS		00 10 04.3	-5.5
MOS				i SS	SS		00 16 18.5	-2.5
MOS				pmax	pmax			
	comp=Z,155nm,2.0s							
MOS				MLR	MLR			
	comp=N,498μm,20.0s							
CORM	Corum	114.66	52	eP		Pdif	23 55 44.9	+0.5
BYBT	Boyabat	114.69	50	eP		Pdif	23 55 40.4	-4.1
MERS	Mersin	114.71	55	eP		Pdif	23 55 52.0	+7.4
CNB	Canberra Magne	114.92	220	ePKP	PKiKP		23 59 39.5	+4.2
CNB				ePP	PP		00 00 50.1	+16
CNB				e			00 01 44.5	
DIKM	Dikmen	115.04	50	eP		Pdif	23 55 47.4	+1.3
EIL	Elat	115.07	63	PKP	PKiKP		23 59 36.1	+0.4
	comp=N,23nm,1.0s,baz=201,slow=0.9,SNR=6.3							
KARA	Karaisali	115.13	55	eP		Pdif	23 55 46.5	+0.1
MMAI	Mount Meron Ar	115.50	60	PKP	PKPdf		23 59 37.5	+1.1
	comp=N,53nm,1.1s,baz=69,slow=4.6,SNR=9.9							
BNN	Bunyan	115.68	53	eP		Pdif	23 55 55.5	+6.6
KVT	Kavak	115.68	51	eP		Pdif	23 55 50.8	+2.0
CEYT	Ceyhan	115.69	55	eP		Pdif	23 55 49.9	+0.9
BHL	Bhannes	115.70	59	eP		Pdif	23 55 48.8	-0.2
KOZT	Kozan	115.73	55	eP		Pdif	23 55 56.6	+7.5
TOO	Toolangi	115.76	216	ePKP	PKPdf		23 59 33.7	-3.2
TOO				ePKKP	PKKPbc		00 10 14.7	+4.9
ABPO	Ambohimpanom	115.94	119	ePKPdf	PKPdf		23 59 37.6	-0.1
ABPO				LR	LR			
	comp=Z,1179μm,20.0s,MS8.5							
OPO	Ambohidratompo	116.10	119	PKP	PKPdf		23 59 36.3	-1.7
	comp=Z,2.6nm,1.0s,baz=219,slow=6.5,SNR=2.7							
VOR	Voronezh	116.30	39	PKIKP	PKPdf		23 59 40.0	+2.6
VOR				pmax	pmax			
	comp=Z,300nm,2.4s							
ANN	Anapa	116.31	47c	iP		Pdif	23 55 51.4	-0.3
ANN				i			23 59 36.0	
ANN				i			00 00 40.6	
ANN				i PPP			00 03 20.1	
ANN				i			00 06 22.7	
ANN				e			00 11 32.7	
ANN				pmax	pmax			
	comp=Z,8μm,13.5s							
ARMA	Armidale	116.40	226	PKPdf	PKPdf		23 59 37.5	-0.8
VRSR	Storozhevoye	116.40	39	eP		Pdif	23 55 51.2	-0.9
VRSR				e			00 00 44.7	
VRSR				pmax	pmax			
	comp=N,20nm,7.2s							
SVSK	Karacayir	116.49	52	eP		Pdif	23 55 54.5	+2.0
KMRS	Kahramanmaras	116.58	55	eP		Pdif	23 55 57.8	+4.9
RSDY	Resadiye-TOKAT	116.70	51	eP		Pdif	23 55 54.3	+0.9
ASF	Jabal al Asfar	116.77	61	PKP	PKPdf		23 59 38.7	-0.2
	comp=N,26nm,0.9s,baz=194,slow=1.9,SNR=13							
ASF	Jabal al Asfar	116.77	61	PKIKP	PKPdf		23 59 38.7	-0.2
ASF				pmax	pmax			
	comp=Z,27nm,0.9s							
GAZ	Gaziantep	116.85	55	eP		Pdif	23 55 57.8	+3.7
DARE	Darende-Malaty	117.19	53	eP		Pdif	23 55 52.0	-3.6
ESPY	Espiye-Giresun	117.71	51	eP		Pdif	23 55 56.6	-1.3
MALT	Malatya	117.73	54	eP		Pdif	23 56 00.1	+2.1
MALT	Malatya	117.73	54	⇓iP		Pdif	23 55 57.3	-0.7
MALT	Malatya	117.73	54	⇓P		Pdif	23 55 57.3	-0.7
MALT				ePKPdf	PKPdf		23 59 41.1	+0.5
MALT				LR	LR			
	comp=Z,516μm,20.0s,MS8.2							
VRHR	Novokhopersk	117.92	39	eP		Pdif	23 55 55.4	-3.5
VRHR				e			00 00 53.0	
VRHR				pmax	pmax			
	comp=Z,3μm,12.3s							
VRHR				pmax	pmax			
	comp=N,170nm,11.3s							
VRHR				pmax	pmax			
	comp=E,840nm,11.5s							
SOC	Sochi	118.10	48c	iPKIKP	PKPdf		23 59 42.3	+1.2
SOC				e			00 00 58.0	
SOC				ePPP			00 03 28.1	
SOC				e			00 06 27.1	
SOC				eSS	SS		00 17 05.0	-3.5
URFA	Urfa	118.11	55	eP		Pdif	23 56 03.6	+3.9
SVRC	Sivrice-ELAZID	118.42	54	eP		Pdif	23 56 03.0	+2.0
PTK	Pertek	118.43	53	eP		Pdif	23 56 03.0	+1.9
KTUT	Trabzon	118.49	51	eP		Pdif	23 56 01.4	0.0
DIY	Diyarbakir	119.18	54	eP		Pdif	23 56 00.1	-4.3
HNR	Honiara	119.50	251	PFAKE			00 00 00.0	+15
HNR				LR	LR			
	comp=Z,477μm,22.0s,MS8.1							
TIXI	Tiksi	119.77	351	iPKIKP	PKPdf		23 59 48.3	+4.8
TIXI				e			00 01 10.9	
TIXI				eSP	SP		00 10 58.8	+8.4
TIXI				pmax	pmax			
	comp=Z,53nm,1.8s							
TIXI				pmax	pmax			
	comp=N,20nm,2.0s							
TIXI				pmax	pmax			
	comp=E,5.0nm,0.7s							
TIXI	Tiksi	119.77	351	ePKPdf	PKPdf		23 59 43.0	-0.5
TIXI				i PKP	PKPdf		23 59 45.3	+1.8
TIXI				LR	LR			
	comp=Z,279μm,21.0s,MS7.9							
SEY	Seymchan	119.80	337	iPKIKP	PKPdf		23 59 43.7	-0.1
BCA	Borcka	119.81	50	eP		Pdif	23 56 08.0	+0.7
KIV	Kislovodsk	120.16	47	eP		Pdif	23 56 07.9	-0.9
KIV				i			23 59 44.6	
KIV				e			00 01 09.4	
KIV				e			00 06 30.8	
KIV				ePS	PS		00 10 56.1	-5.3
KIV				eSS	SS		00 17 37.0	+2.0
KIV				eSSS			00 21 58.2	
KIV				pmax	pmax			
	comp=Z,38nm,0.9s							
KIV				MLR	MLR			
	comp=Z,250μm,22.0s,MS7.8							
KIV	Kislovodsk	120.16	47	⇓iP		Pdif	23 56 10.2	+1.4
KIV	Kislovodsk	120.16	47	⇓P		Pdif	23 56 10.2	+1.4
KIV				⇓iPKP	PKPdf		23 59 44.7	-0.3
KIV				ePKPdf	PKPdf		23 59 45.5	+0.4
KIV				ePKKP	PS		00 11 07.1	+5.7
KIV				LR	LR			
	comp=Z,251μm,20.0s,MS7.8							
ONI	Oni	120.97	48	P		Pdif	23 56 14.8	+2.4
ONI				S	PP		00 01 25.2	+9.1
KARS	Kars	121.04	51	eP		Pdif	23 56 19.9	+7.2
AGRB	Hanur-Agry	121.12	52	eP		Pdif	23 56 15.2	+2.2
PET	Petropavlovsk	121.25	325	PKIKP	PKPdf		23 59 44.0	-2.8
PET				i			00 01 24.5	
PET				e			00 12 31.2	
PET				eSS	SS		00 17 59.8	+12
PET				eSSS			00 22 06.7	
PET				MLR	MLR			
	comp=Z,226μm,24.0s,MS7.7							
PET	Petropavlovsk	121.25	325	i PKP	PKPdf		23 59 45.5	-1.3
PET				LR	LR			
	comp=Z,145μm,19.0s,MS7.6							
VANB	Van	121.57	53	eP		Pdif	23 56 16.4	+1.3
PETK	Petropavlovsk-	121.75	325	PKP	PKPdf		23 59 47.9	+0.1
	comp=Z,7.9nm,0.9s,baz=129,slow=12,SNR=4.9							
PETK				sPKP			00 00 08.1	
	comp=Z,41nm,0.8s,baz=81,slow=7.4,SNR=11							
PETK				PKKPab	PKKPab		00 09 54.5	+7.8
	comp=Z,9.7nm,0.9s,baz=224,slow=6.2,SNR=4.6							
PETK	Petropavlovsk-	121.75	325	PKP	PKPdf		23 59 47.9	+0.1
PETK				sPKP			00 00 08.1	
PETK				PKKPab	PKKPab		00 09 54.5	+7.8
CLDR	Caldiran	121.90	52	eP		Pdif	23 56 18.7	+2.2
RER	Riviere de l'E	121.93	126	ePKPdf	PKPdf		23 59 49.0	-0.2
STKA	Stephens Creek	122.02	218	ePKP	PKPdf		23 59 48.3	-0.8
	comp=Z,15nm,0.7s							
STKA				ePKKP	PKKPbc		00 09 47.3	+0.4
STKA				eSKKP			00 13 32.9	
STKA	Stephens Creek	122.02	218	PKP	PKPdf		23 59 48.5	-0.6
	comp=Z,13nm,0.7s,baz=87,slow=1.9,SNR=25							
STKA				PKKPab	PKKPab		00 09 50.7	+2.5
	comp=Z,19nm,1.0s,baz=312,slow=8.6,SNR=4.6							
STKA	Stephens Creek	122.02	218	ePKPdf	PKPdf		23 59 48.8	-0.3
MTA	Mtatsminda	122.11	49	P	Pdif		23 56 19.1	+1.6
MTA				S	PP		00 01 21.5	-2.5
GNI	Garni	122.36	51	PKP	PKPdf		23 59 50.4	+1.0
	comp=Z,59nm,0.8s,baz=1.0,slow=5.8,SNR=13							
GNI	Garni	122.36	51	PKIKP	PKPdf		23 59 50.4	+1.0
GNI				pmax	pmax			
	comp=Z,59nm,0.8s							
GNI	Garni	122.36	51	ePKPdf	PKPdf		23 59 50.0	+0.6
GNI				PKP	PKPdf		23 59 50.4	+1.0
GNI				LR	LR			
	comp=Z,258μm,21.0s,MS7.8							
SOKR	Solikamsk	122.55	26⇓	iPKIKP	PKPdf		23 59 51.9	+2.8
SOKR				pmax	pmax			
	comp=Z,350nm,1.5s							
DGRG	David-gareji	122.59	49	P	Pdif		23 56 29.6	+10
DGRG				S	PP		00 01 39.4	+12
SKR	Severo-Kuril's	123.56	323	i PKIKP	pPKPdf		00 00 04.0	-0.4
SKR				e			00 00 46.0	
SKR				i			00 01 50.0	
SKR				e			00 05 46.0	
SKR				ePS	PKKPdf		00 10 10.0	-10
SKR				pmax	pmax			
	comp=Z,400nm,1.5s							
MAK	Makhachkala	123.80	47	i P	Pdif		23 56 26.9	+1.9
MAK				e			00 00 46.0	
MAK				i PPP			00 04 08.7	
MAK				e			00 06 56.3	
MAK				i PS	PS		00 11 31.1	-2.6
MAK				eSS	SS		00 18 49.2	+28
MAK				pmax	pmax			
	comp=Z,789nm,1.5s							
ARU	Arti	125.05	29	P	Pdif		23 56 35.2	+4.6
ARU				i			23 59 53.5	
ARU							00 01 39.8	
ARU							00 06 53.1	
ARU				SP	SP		00 11 46.1	+8.1
ARU				MLR	MLR			
	comp=Z,373μm,19.0s,MS8.1							
ARU	Arti	125.05	29	i PKP	PKPdf		23 59 53.8	-0.2
ARU				ePKPdf	PKPdf		23 59 55.1	+1.1
ARU				LR	LR			
	comp=Z,394μm,20.0s,MS8.1							
RST	Umm Al-Ruwaisa	125.56	63	eP		PKPdf	23 59 56.3	+0.4
	baz=63							
RST				AMb	AMB		00 00 31.6	
	comp=Z,15nm,1.7s,baz=63							
SVE	Sverdlovsk	125.78	27	i P			23 56 43.9	
SVE				i			23 59 58.1	
SVE				e			00 01 48.4	
SVE				pmax	pmax			
	comp=Z,114nm,1.2s							
SVE				pmax	pmax			
	comp=Z,3μm,11.4s							
SVE				MLR	MLR			
	comp=Z,359μm,20.0s,MS8.0							
NAY	Al-Naaiem	125.80	64	eP		PKPdf	23 59 56.7	+0.4
	baz=63							
NAY				AMb	AMB		00 00 34.6	
	comp=Z,265nm,1.6s,baz=63							
MIB	Mutribah	125.83	63	eP		PKPdf	23 59 57.1	+0.8
	baz=63							
MIB				AMb	AMB		00 00 35.6	
	comp=Z,494nm,1.4s,baz=63							
RDF	Al-Radifah	126.09	64	eP		PKPdf	23 59 56.7	-0.2
	baz=64							
RDF				AMb	AMB		00 00 35.8	
	comp=Z,376nm,1.6s,baz=64							
UMR	Umm Al-Rimmam	126.18	63	eP		PKPdf	23 59 57.7	+0.6
	baz=63							
UMR				AMb	AMB		00 00 35.8	
	comp=Z,755nm,1.6s,baz=63							
CTA	Charters Tower	126.34	232	ePKP	PKPdf		23 59 57.4	-0.2
	comp=Z,20nm,0.7s							
CTA				epPKP	pPKPdf		00 00 08.4	-2.2
CTA				eSKKP			00 13 13.1	
CTA	Charters Tower	126.34	232	PKP	PKPdf		23 59 57.1	-0.5
	comp=Z,26nm,0.7s,baz=164,slow=1.1,SNR=25							
CTA	Charters Tower	126.34	232	ePKIKP	PKPdf		23 59 57.4	-0.2
CTA				e			00 00 08.4	
CTAO	Charters Tower	126.34	232	ePKPdf	PKPdf		23 59 57.8	+0.1
CTAO				LR	LR			
	comp=Z,757μm,20.0s,MS8.4							
AKTK	Aktyubinsk	127.85	35	PKP			23 59 48.2	
AKTK				PKP	PKPdf		00 00 00.0	+0.4
AKTO	Aktyubinsk	127.85	35	PKhKP			23 59 48.2	
	comp=Z,3.8nm,0.9s,baz=59,slow=1.4,SNR=3.5							
AKTO				PKP	PKPdf		00 00 00.0	+0.4
	comp=Z,60nm,0.9s,baz=325,slow=2.2,SNR=11							
AKTO	Aktyubinsk	127.85	35	i PKIKP			23 59 48.2	
AKTO				pmax	pmax			
	comp=Z,400nm,0.9s							
YAK	Yakutsk	127.91	345	i PKIKP	PKPdf		23 59 58.4	-0.9
YAK				e			00 02 02.5	
YAK				pmax	pmax			
	comp=Z,187nm,0.9s							
YAK				pmax	pmax			
	comp=N,54nm,1.4s							
YAK				pmax	pmax			
	comp=E,67nm,1.3s							
Y

comp=N,13nm,1.1s
CLNS pmax pmax
ASAJ Asahikawa 134.68 320 PKP PKPdf 00 00 09.2 -3.5
comp=E,17nm,1.0s,baz=330,slow=8.1,SNR=3.0
WB2 Warramunga Arr 135.04 223 *e*PKP PKPdf 00 00 13.4 -0.7
WB2 *e*PKPdf PKPdf 00 00 14.1 0.0
WB2 *e*pPKP pPKPdf 00 00 25.1 -2.0
WB2 *e* 00 02 35.5
WB2 *e*SKP 00 03 53.8
WRA Warramunga Arr 135.04 223 PKhKP 00 00 03.3
comp=E,1.7nm,0.8s,baz=139,slow=3.4,SNR=6.2
WRA PKP PKPdf 00 00 13.3 -0.8
comp=E,41nm,0.7s,baz=138,slow=1.6,SNR=67
WRA SKKPbc 00 12 43.2
comp=E,29nm,1.1s,baz=339,slow=5.4,SNR=4.8
WRA Warramunga Arr 135.04 223 *i* PKHKP 00 00 03.3
WRA 00 00 13.3
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA pmax pmax
comp=Z,41nm,0.7s
WRAB Tennant Creek 135.04 223 *i* PKIKP PKIKPdf 00 00 13.8 -0.4
WRAB Tennant Creek 135.04 223 *e*PKPdf PKPdf 00 00 13.3 -0.8
WRAB LR LR
comp=Z,579µm,22.0s,MS8.3
NVS Novosibirsk 135.72 17 *e*PKIKP PKPdf 00 00 14.6 +0.3
NVS pmax pmax
comp=N,189nm,2.0s
NVS pmax pmax
comp=Z,998nm,2.0s
NVS pmax pmax
comp=E,276nm,2.2s
KRAR Krasnoyarsk 136.69 9 *i* PKIKP PKPdf 00 00 19.2 +3.1
KRAR MLR MLR
comp=Z,176µm,21.0s,MS7.8
ZALV Zalesovo Beam 136.94 16 PKhKP 00 00 08.1
comp=Z,9.9nm,0.6s,baz=318,slow=2.0,SNR=17
ZALV PKP PKPdf 00 00 15.2 -1.4
comp=Z,84nm,0.9s,baz=248,slow=0.8,SNR=21
ZAL Zalesovo 136.94 16 *i* PKHKP 00 00 08.1
ZAL 00 00 15.2
ZAL pmax pmax
comp=Z,10.0nm,0.6s
ZAL pmax pmax
comp=Z,84nm,0.9s
KLR Kul'dur 137.34 333 *e*PKHKP 00 00 09.5
KLR *e*S PP 00 03 04.5 +2.2
KURK Kurchatov 137.65 23 *e*PKIKP PKPdf 00 00 14.7 -3.3
KURK MLR MLR
comp=Z,500µm,21.0s,MS8.2
GUMO Guam 139.75 275 PKP PKPdf 00 00 21.8 -1.1
comp=Z,37nm,0.4s,baz=159,slow=22,SNR=3.8
GUMO Guam 139.75 275 PKIKP PKPdf 00 00 21.8 -1.1
GUMO pmax pmax
comp=Z,37nm,0.4s
CIT Chita 140.61 350 *e*PKIKP PKPdf 00 00 21.9 -1.5
CIT pmax pmax
comp=Z,868nm,3.1s
EKS2 Erkin-Say 141.17 36 P PKPdf 00 00 23.7 -1.1
SNR=11
EKS2 Erkin-Say 141.17 36 *e*PKPpre 00 00 15.0
EKS2 LR LR
comp=Z,456µm,20.0s,MS8.2
USP Ospenovka 141.18 34 P PKPdf 00 00 14.8 -10
SNR=5.5
IRK Irkutsk 141.24 359 *e*PKIKP PKPdf 00 00 20.4 -4.1
IRK *e* 00 21 44.8
IRK pmax pmax
comp=Z,1µm,4.0s
MJAR Matsushiro Arr 141.28 313 PKhKP 00 00 17.5
comp=Z,28nm,0.8s,baz=85,slow=1.7,SNR=40
MJAR Matsushiro Arr 141.28 313 *i* PKHKP 00 00 17.5
MJAR pmax pmax
comp=Z,28nm,0.8s
MAJO Matsushiro 141.28 313 *e*PKHKP 00 00 17.5
MAJO MLR MLR
comp=Z,623µm,21.0s,MS8.3
MAT Matsushiro 141.28 313 *e*PKP PKPdf 00 00 13.0 -12
KAKA Kakadu 141.29 229 *e*PKP PKPdf 00 00 21.8 -3.9
KAKA *e*pPKP pPKPdf 00 00 32.5 -6.2
KAKA *e*sPKP 00 00 41.0
KAKA Kakadu 141.29 229 *e*PKP PKPdf 00 00 21.2 -4.5
KAKA *e*PKP PKPdf 00 00 21.8 -3.9
KAKA *e*pPKP pPKPdf 00 00 32.5 -6.2
KAKA *e*sPKP 00 00 41.0
CBIJ Chichi jima 141.34 297 PKP PKPdf 00 00 23.4 -2.1
comp=Z,60nm,0.6s,baz=280,slow=18,SNR=5.2
AML Almayashu 141.46 36 P PKPdf 00 00 22.5 -2.8
SNR=14
AML Almayashu 141.46 36 *e*PKP PKPdf 00 00 18.8 -6.5
AML LR LR
comp=Z,423µm,20.0s,MS8.2
CHMS Chumysh 141.50 34 P PKPdf 00 00 27.7 +2.4
SNR=6.9
HVS Khovu-Aksy 141.53 10 *i* PKIKP PKPdf 00 00 21.1 -4.0
JHJ Hachijo jima 2 141.53 307 PKP PKPdf 00 00 23.8 -1.9
comp=Z,75nm,0.6s,baz=238,slow=16,SNR=4.5
FRU Bishkek 141.53 35 *e*PKHKP 00 00 17.0
FRU *i* 00 00 28.0
VLA Vladivostok 141.55 326*c i*PKIKP PKPdf 00 00 25.2 -0.2
VLA *e**SP 00 00 41.5
VLA *e* 00 03 33.9
VLA *e* 00 07 29.0
VLA *e*SS SS 00 21 57.4 +1.4
VLA pmax pmax
comp=Z,341nm,3.1s
AAK Ala-Archa 141.60 35 P PKPdf 00 00 22.6 -2.9
SNR=6.6
MDJ Mudanjiang 141.71 329 PKP PKPdf 00 00 25.0 -0.6
MDJ XPKP 00 00 39.9
MDJ PP PP 00 03 29.6 +0.2
MDJ PKS 00 04 01.6
MDJ SKS SKSdf 00 07 33.4 +1.0
MDJ SS SS 00 22 00.5 +2.9
MDJ PP PP
comp=Z,28µm,11.4s
MDJ LR LR
comp=N,62µm,26.9s,MS8.1
MDJ LR LR
comp=E,477µm,31.4s,MS8.1
MDJ LR LR
comp=Z,282µm,20.1s
MDJ Mudanjiang 141.71 329 *e*PKPdf PKPdf 00 00 22.7 -2.9
MDJ LR LR
comp=Z,362µm,22.0s,MS8.1
MOY Mondy 141.77 2 *e*PKIKP PKPdf 00 00 20.4 -5.1
MOY pmax pmax
comp=Z,888nm,5.6s
HIA Hailar 141.78 343 PFAKE 00 00 40.0 +14
HIA LR LR
comp=Z,304µm,20.0s,MS8.1
TLY Talaya 141.80 360 *e*P Pdif 23 57 51.6 +6.6
TLY *e* 00 00 15.9
TLY *i* 00 00 23.3
TLY *e* 00 03 33.5
TLY *e*SS SS 00 21 56.3 -1.2
TLY pmax pmax
comp=Z,174nm,1.1s
TLY Talaya 141.80 360 *e*PKPdf PKPdf 00 00 22.1 -3.5
TLY LR LR
comp=Z,277µm,20.0s,MS8.0
FITZ Fitzroy Crossi 141.81 216 *e*PKP PKPdf 00 00 20.8 -5.8
FITZ *e*sPKP 00 00 37.4
FITZ *e* 00 02 16.4
FITZ *e*SKP 00 03 56.6
FITZ Fitzroy Crossi 141.81 216 PKhKP 00 00 21.1
comp=Z,11nm,0.6s,baz=198,slow=8.3,SNR=24
KBK Karagaybulak 141.83 35 P PKPdf 00 00 21.7 -4.2
SNR=18
TKM2 Tokmak 2 142.01 34 P PKPdf 00 00 21.8 -4.4
SNR=17
TKM2 Tokmak 2 142.01 34 *e*PKPdf PKPdf 00 00 22.8 -3.4
TKM2 LR LR
comp=Z,384µm,21.0s,MS8.1
MBWA Marble Bar 142.13 205 *e*PKPdf PKPdf 00 00 21.4 -5.7
MBWA LR LR
comp=Z,487µm,19.0s,MS8.3
MK31 Makanchi Array 142.25 24 *e*PKIKP PKPdf 00 00 21.8 -4.7
MKAR Makanchi Array 142.25 24 PKhKP 00 00 21.6
comp=Z,24nm,0.6s,baz=336,slow=4.4,SNR=31
MKAR Makanchi Array 142.25 24 *i* PKIKP PKPdf 00 00 21.6 -4.9
KZA Kyzart 142.38 35 P PKPdf 00 00 24.0 -2.9
SNR=18
KBL Kabul 142.44 50 *e*PKP PKPdf 00 00 22.2 -5.1

ULHL Ulahol 142.82 34 P PKPdf 00 00 30.4 +2.7
SNR=5.5
ZAK Zakamensk 143.10 0 *e*PKIKP PKPdf 00 00 24.3 -3.6
ZAK pmax pmax
comp=Z,207nm,1.5s
CN2 Changchun 144.29 332 *e*PKP PKPdf 00 00 26.1 -4.1
CN2 PP PP 00 03 45.1 +0.3
CN2 PP PP
comp=Z,14µm,8.0s
KSH Kashi 144.46 38 *i* PKP PKPdf 00 00 30.6 0.0
KSH APKP 00 00 41.5
KSH XPKP 00 00 44.9
KSH PP PP 00 03 48.5 +2.3
KSH PKS 00 04 04.6
KSH SKS SKSdf 00 07 34.5 -2.4
KSH SKKS SKKSac 00 10 38.3 +2.3
KSH PP PP
comp=Z,111µm,8.7s
SONM Songino Array 145.57 356 PKPbc PKPbc 00 00 32.2 -0.2
comp=Z,202nm,0.9s,baz=333,slow=1.6,SNR=239
SONM SKKPab 00 11 52.4
comp=Z,21nm,1.0s,baz=184,slow=4.2,SNR=4.5
BHJ Bhuj 146.53 68 *e*P PKPdf 00 00 34.0 -0.6
SNY Shenyang 146.69 332 ⇑PKP PKPdf 00 00 33.8 -0.6
SNY APKP 00 00 44.3
SNY XPKP 00 00 49.3
SNY PP PP 00 04 05.1 +6.0
SNY SKKS SKKSac 00 10 48.5 +0.1
SNY PP PP
comp=Z,51µm,10.2s
SNY LR LR
comp=N,153µm,21.0s,MS8.0
SNY LR LR
comp=E,170µm,19.0s,MS8.0
SNY LR LR
comp=Z,354µm,22.5s,MS8.1
WMQ Urumqi 146.79 21 PKP PKPdf 00 00 32.9 -1.6
WMQ APKP 00 00 43.5
WMQ XPKP 00 00 47.3
WMQ PP PP 00 04 02.8 +3.4
WMQ SKS SKSdf 00 07 36.3 -3.8
WMQ SKKS SKKSac 00 10 47.8 -1.1
WMQ LR LR
comp=N,327µm,20.0s,MS8.2
WMQ LR LR
comp=E,333µm,24.0s,MS8.2
WMQ LR LR
comp=Z,302µm,23.2s,MS8.0
KSRS Korea Array 147.58 322 PKPbc PKPdf 00 00 36.5 +0.5
comp=Z,70nm,1.0s,baz=49,slow=2.0,SNR=58
KSRS Korea Array 147.58 322 PKP2 PKPdf 00 00 36.6 +0.6
KSRS pmax pmax
comp=Z,70nm,1.0s
INCN Inchon 148.32 323 *e*PKPdf PKPdf 00 00 38.3 +1.1
INCN LR LR
comp=Z,375µm,21.0s,MS8.2
THN Thein Dam 148.35 49 *e*P PKPdf 00 00 36.9 -0.5
DLH Dalhousie 148.47 48 *e*P PKPdf 00 00 36.0 -1.6
PONG Pong 148.76 49 *e*x PKPbc 00 00 40.0 -2.0
BATI Baumata 149.15 222 PKPbc PKPdf 00 00 39.6 +0.4
comp=Z,87nm,0.7s,baz=273,slow=4.7,SNR=4.8
BHK Bhakra 149.37 50 *e*x PKPab 00 00 48.2 -0.1
BHK *e*x x 00 03 38.0
MNCY Minicoy 149.72 97 *i* x PKPbc 00 00 45.0 +0.1
MNCY *i* x x 00 10 29.0
SDNR Sundarnagar 149.74 49 *e*P PKPdf 00 00 39.4 -0.3
DL2 Dalian 149.91 331 PKP PKPdf 00 00 38.3 -1.4
DL2 PKP2 PKPab 00 00 49.6 -0.6
DL2 PP PP
comp=Z,20µm,8.4s
DL2 LR LR
comp=N,69µm,19.9s,MS7.7
DL2 LR LR
comp=E,89µm,19.7s,MS7.7
DL2 LR LR
comp=Z,130µm,19.1s,MS7.7
AJM Ajmer 150.04 60 *e*P PKPdf 00 00 40.2 -0.1
SMLA Simla 150.07 50 *i* P PKPdf 00 00 41.0 +0.7
BOM Bombay 150.09 75 *e*x PKPbc 00 00 42.4 -3.2
BOM *e*x x 00 18 23.6
POO Poona 151.11 76 ⇓*i* PKP PKPdf 00 00 42.0 -0.2
comp=Z,1µm,1.2s
POO *e*P 00 00 42.4
DDI Dehra Dun 151.13 50 *e*P PKPdf 00 00 41.0 -0.9
BJI Beijing 151.18 339 PKP PKPdf 00 00 42.1 +0.4
BJI LR LR
comp=N,252µm,24.6s,MS8.1
BJI LR LR
comp=E,209µm,21.9s,MS8.1
BJI LR LR
comp=Z,373µm,27.1s
BJT Baijiatuau 151.20 339 *e*PKIKP PKPdf 00 00 42.2 +0.5
BJT *e* 00 00 47.2
BJT MLR MLR
comp=Z,514µm,20.0s
GOA Goa 151.25 82 ⇓*i* P PKPdf 00 00 41.7 -0.8
GOA *e*x x 00 14 42.0
NDI New Delhi 151.27 54 *e*P PKPdf 00 00 40.0 -2.2
KAD Karad 151.53 78 *e*P PKPdf 00 00 42.7 -0.2
HHC Hu-ho-hao-te 151.73 347 *e*PKP PKPdf 00 00 42.8 +0.3
HHC PKS 00 04 15.8
HHC PP PP 00 04 28.8 +0.9
HHC PP PP
comp=Z,14µm,6.6s
HHC LR LR
comp=N,138µm,28.5s
HHC LR LR
comp=E,164µm,22.0s
HHC LR LR
comp=Z,358µm,26.5s,MS8.1
MNGI Mangalore 152.13 88 *i* x x 00 01 41.6
BTO Baotou 152.28 349 *e*PKP PKPdf 00 00 43.8 +0.5
PTH Pithoragarh 153.14 50 *e*P PKPdf 00 00 46.2 +1.3
TRD Trivandrum 153.56 98 *e*P PKPdf 00 00 45.5 -0.5
JHNI Jhansi 153.67 59 *e*x PKPab 00 01 04.0 -2.4
LATR Latur 153.68 76 *e*x x 00 00 40.0
LATR *e*x x 00 04 31.3
AKL Akola 153.73 70 *i* P PKPdf 00 00 45.5 -0.5
AKL *i* x x 00 04 47.8
COCO West Island 153.76 165 PFAKE 00 01 00.0 +14
COCO LR LR
comp=Z,212µm,20.0s,MS8.0
GTA Gaotai 153.88 6 PKP PKPdf 00 00 45.9 +0.2
GTA APKP 00 00 56.8
GTA XPKP 00 01 00.6
GTA PKP2 PKPab 00 01 12.9 +6.2
GTA PKS 00 04 18.8
GTA PP PP 00 04 49.8 +10
GTA SKS SKSdf 00 07 47.5 -1.9
GTA PP PP
comp=Z,40µm,9.2s
GTA LR LR
comp=N,238µm,24.4s,MS8.0
GTA LR LR
comp=E,152µm,26.8s,MS8.0
GTA LR LR
comp=Z,376µm,25.6s,MS8.1
TIA Tai'an 154.16 334 PKP PKPdf 00 00 45.3 -0.9
TIA APKP 00 00 54.5
TIA XPKP 00 01 01.5
TIA PP PP 00 04 47.0 +5.0
TIA SS SS 00 24 19.0 +1.6
TIA LR LR
comp=N,104µm,18.0s,MS7.9
TIA LR LR
comp=E,133µm,18.0s,MS7.9
KOD Kodaikanal 154.39 94 *e*P PKPdf 00 00 48.2 +1.1
TIY Taiyuan 154.48 343 ⇑PKP PKPdf 00 00 45.9 -0.7
TIY SKS SKSdf 00 07 50.4 +0.2
TIY PPP 00 08 03.6
TIY PP PP
comp=Z,22µm,11.2s
TIY LR LR
comp=N,222µm,21.3s,MS8.0
TIY LR LR
comp=E,95µm,20.3s,MS8.0
TIY LR LR
comp=Z,386µm,26.0s
KAPI Kappang 155.58 223 *e*PKPdf PKPdf 00 00 48.5 -0.3
KAPI LR LR
comp=Z,455µm,22.0s,MS8.2
HYB Hyderabad 155.68 77 *e*PKP PKPdf 00 00 47.5 -1.3
HYB *e*SKS SKSdf 00 07 48.0 -4.3
HYB LR LR 00 15 20.0

comp=Z,229nm,20.0s
SSE Sheshan 155.97 320 PKP PKPdf 00 00 48.3 -0.5
SSE PP PP 00 04 56.6 +3.9
SSE SS SS 00 24 38.8 +0.8
SSE LR LR
comp=N,119µm,18.2s,MS8.2
SSE LR LR
comp=E,296µm,18.1s,MS8.2
SSE LR LR
comp=Z,341µm,18.1s,MS8.2
DANN Dangsing 156.39 48 *e*P PKPdf 00 00 49.8 +0.4
comp=Z,545nm,0.9s
KOLN Koldanda 156.60 49 *e*P PKPdf 00 00 49.6 -0.1
NJ2 Nanjing 156.66 325 *e*PKP PKPdf 00 00 49.3 -0.4
NJ2 APKP 00 01 00.3
NJ2 XPKP 00 01 04.9
NJ2 PKP2 PKPab 00 01 22.3 +3.5
NJ2 PKS 00 04 21.5
NJ2 PP PP 00 05 00.0 +3.7
NJ2 PP PP
comp=Z,57µm,10.6s
NJ2 LR LR
comp=N,119µm,34.6s,MS8.0
NJ2 LR LR
comp=E,393µm,34.4s,MS8.0
NJ2 LR LR
comp=Z,391µm,34.4s,MS8.0
MATI Mati 156.66 256 *e*P pPKPdf 00 01 00.8 -2.5
PALK Pallekele 156.83 103 *e*PKPdf PKPdf 00 00 50.5 +0.1
PALK LR LR
comp=Z,955µm,20.0s,MS8.6
BIPH Bislig 156.91 259⇑*e*P PKPdf 00 00 48.7 -1.8
GKN Gorkha 157.22 47 *e*P PKPdf 00 00 50.9 +0.4
DAV Davao City (W) 157.34 256⇓*e*P PKPdf 00 00 59.0 +7.9
DAV Davao City (W) 157.34 256 PFAKE 00 01 00.0 +8.9
DAV LR LR
comp=Z,369µm,22.0s,MS8.2
LZH Lanzhou 157.39 359 ⇑PKP PKPdf 00 00 51.0 +0.5
LZH APKP 00 01 01.3
LZH XPKP 00 01 05.9
LZH PKP2 PKPab 00 01 21.1 -0.7
LZH PP PP 00 05 05.0 +5.5
LZH SKS SKSdf 00 07 50.0 -3.4
LZH PP PP
comp=Z,41µm,6.8s
LZH LR LR
comp=N,331µm,19.0s
LZH LR LR
comp=Z,421µm,22.0s,MS8.2
VJD Vijayawada 157.76 79 *i* x x 00 01 33.0
DMN Daman 157.79 48 *e*P PKPdf 00 00 51.1 -0.1
KKN Kakani 157.81 47 *e*P PKPdf 00 00 51.2 -0.1
BLSP Bilaspur 157.94 64 *e*P PKPdf 00 00 51.4 -0.2
PKI Pulchoki 158.03 47 *e*P PKPdf 00 00 51.3 -0.2
comp=Z,462nm,1.4s
BUKP Musuan 158.07 258 *e*P PKPdf 00 00 59.0 +7.0
GUN Gumba 158.16 46 *e*P PKPdf 00 00 51.9 +0.2
comp=Z,816nm,1.4s
JIRN Jiri 158.53 46 *e*P PKPdf 00 00 51.9 -0.2
MSLP Maasin 158.79 264 *e*P PKPdf 00 00 51.0 -1.9
PLP Palo 158.84 266⇑*e*P PKPdf 00 00 50.5 -2.4
XAN Xi'an 158.84 347 PKP PKPdf 00 00 51.6 -0.7
XAN APKP 00 01 02.9
XAN XPKP 00 01 07.8
XAN PKS 00 04 22.5
XAN SKS SKSdf 00 07 47.9 -7.0
XAN LR LR
comp=E,207µm,39.7s
XAN LR LR
comp=Z,392µm,33.9s
OCLP Ormoc 159.19 266 *e*P PKPab 00 01 32.5 +2.1
RAMN Ramite 159.25 47 *e*P PKPdf 00 00 52.9 -0.1
comp=Z,412nm,0.9s
CNP Catarman 159.30 270 *e*P PKPdf 00 00 59.6 +6.2
TATO Taipei 159.45 307 PFAKE 00 01 00.0 +6.7
TATO LR LR
comp=Z,405µm,21.0s,MS8.2
PAGZ Pagadian 159.65 256 *e*P PKPdf 00 01 03.8 +10
TBP Tagbilaran 159.66 262 *e*P PKPab 00 01 31.0 -1.5
LLP Lapu-Lapu 159.69 264 *e*P PKPab 00 01 36.3 +3.7
YHNB Yeheng 159.69 306 PFAKE 00 01 00.0 +6.4
YHNB LR LR
comp=Z,438µm,20.0s,MS8.3
TAPN Taplejung 159.77 44 *e*P PKPdf 00 00 52.6 -1.0
ODAN Odare 159.86 46 *e*P PKPdf 00 00 52.7 -1.0
comp=Z,166nm,0.9s
PVCP Virac 159.86 273 *e*P PKPdf 00 00 56.9 +2.9
VIS Vishakhapatnam 160.15 75 *e*P PKPdf 00 00 53.4 -0.9
LSA Lhasa 160.17 33 PKP PKPdf 00 00 54.0 0.0
LSA XPKP 00 01 13.6
LSA PP PP 00 05 14.3 -1.1
LSA LR LR
comp=N,100µm,21.0s
LSA LR LR
comp=E,300µm,24.0s
LSA LR LR
comp=Z,300µm,27.0s
LSA Lhasa 160.17 33 *e*PKPdf PKPdf 00 00 54.8 +0.8
LSA LR LR
comp=Z,483µm,21.0s
WHN Wuhan 160.18 331 ⇑PKP PKPdf 00 00 52.3 -1.7
WHN PP PP 00 05 19.9 +4.6
WHN LR LR
comp=N,279µm,19.6s
WHN LR LR
comp=E,461µm,21.9s
WHN LR LR
comp=Z,800µm,26.0s
GTK Gangtok 160.39 43 *e*P PKPdf 00 00 51.0 -3.3
GTK *e*P 00 00 51.0
BOK Bokaro 160.42 56 *e*P PKPdf 00 00 53.9 -0.5
RCP Roxas 161.07 267 *e*P PKPdf 00 00 58.5 +3.1
GUIM Jordan 161.07 264 *e*P PKPdf 00 01 01.7 +6.3
GQP Guinayangan 161.53 274 *e*P PKPdf 00 00 57.9 +2.0
QZH Quanzhou 161.66 311 *i* PKP PKPdf 00 00 55.6 -0.1
QZH PKP2 PKPab 00 01 43.8 +3.0
QZH PP PP 00 05 29.4 +5.3
QZH SKS SKSdf 00 07 56.0 -1.7
QZH PPP 00 09 14.3
QZH SKKS SKKSac 00 12 05.0 -4.9
QZH PP PP
comp=Z,50µm,7.6s
QZH LR LR
comp=N,303µm,19.8s
QZH LR LR
comp=E,575µm,19.0s
QZH LR LR
comp=Z,918µm,19.9s
BWNR Bhubaneshwar 161.78 65 *e*P PKPdf 00 00 55.0 -1.0
BWNR *e*x x 00 05 26.0
OTRP Odiongan 161.86 269 *e*P PKPdf 00 00 56.1 -0.1
CAUP Cauayan 161.91 284 *e*P PKPab 00 01 38.7 -3.5
BALP Baler 162.29 280 *e*P PKPdf 00 00 57.4 +0.8
CD2 Chengdu 162.55 359 PKP PKPdf 00 00 56.5 0.0
CD2 APKP 00 01 06.3
CD2 XPKP 00 01 11.5
CD2 PKP2 PKPab 00 01 45.5 +1.1
CD2 PP PP 00 05 28.9 +1.5
CD2 SKS SKSdf 00 07 55.3 -2.9
CD2 SKKS SKKSac 00 12 13.8 0.0
CD2 PP PP
comp=Z,63µm,12.0s
CD2 LR LR
comp=N,385µm,24.0s
CD2 LR LR
comp=E,290µm,20.4s
CD2 LR LR
comp=Z,466µm,24.0s
CUYO Cuyo Island 162.63 264 *e*P PKPdf 00 00 58.0 +1.0
SJMP San Jose 162.75 269 *e*P PKPdf 00 00 55.1 -2.0
ABRA Dolores 162.83 286 *e*P PKPdf 00 00 57.5 +0.4
CAL Calcutta 162.99 56 *e*P PKPdf 00 00 58.5 +1.4
CAL *e*x x 00 05 37.0
MYLDM Lahad Datu 163.06 243 ⇑P PKPdf 00 00 58.6 +1.2
TSM Tawau 163.13 239 ⇓P PKPdf 00 00 58.1 +0.6
BCPH Baguio City Da 163.17 282⇑*i* P PKPdf 00 00 57.2 -0.2
BUSP Coron 163.60 267 *e*P PKPdf 00 01 00.9 +3.1
LUBP Lubang 163.66 273 *e*P PKPab 00 01 54.0 +4.0
SHL Shillong 163.72 40 *e*P PKPdf 00 00 55.0 -2.7
BOLP Bolinao 163.81 283 *e*P pPKPdf 00 01 09.0 -2.1
SCZP Santa Cruz 163.88 280 *e*P PKPdf 00 01 02.9 +4.8
ENPP El Nido 164.24 264 *e*P PKPdf 00 01 05.5 +7.0
SDKM Sandakan 164.42 242 ⇑P PKPdf 00 00 57.4 -1.3

PPR	Puerto Princes	164.60	258	‖eP		pPKPdf	00 01 15.0	+3.1
BATP	Bataraza	165.19	254	eP		PKPdf	00 00 59.4	+0.1
KDM	Kudat	165.34	245	‖P		PKPdf	00 01 01.4	+1.9
KKM	Kota Kinabalu	165.46	241	‖P		PKPdf	00 01 00.2	+0.6
KKM	Kota Kinabalu	165.46	241	ePKPdf		PKPdf	00 00 59.2	-0.3
KKM				LR		LR		
	comp=Z,576μm,20.0s							
IMP	Imphal	165.54	37	eP		PKPdf	00 00 59.0	-0.3
IMP				i x		x	00 04 47.8	
SBUM	Sibu	166.10	219	‖P		PKPdf	00 01 00.7	+0.6
BTM	Bintulu	166.10	224	‖P		PKPdf	00 01 01.5	+1.4
KSM	Kuching	166.35	210	‖P		PKPdf	00 01 00.4	0.0
KSM	Kuching	166.35	210	ePKPdf		PKPdf	00 00 59.8	-0.6
HKC	Hong Kong Obse	166.48	312	‖PKPdf		PKPdf	00 00 58.0	-2.1
GZH	Guangzhou	166.53	317	PKP		PKPdf	00 01 00.8	+0.6
GYA	Guiyang	166.65	347	i PKP		PKPdf	00 00 58.9	-1.3
GYA				APKP			00 01 09.8	
GYA				XPKP			00 01 13.4	
GYA				PKP2		PKPab	00 02 03.8	+1.3
GYA				PKS			00 04 30.3	
GYA				PP		PP	00 05 51.6	+2.7
GYA				PPP			00 09 49.9	
GYA				SKKS		SKKSac	00 12 34.3	-0.3
GYA				PP		PP		
	comp=Z,32μm,11.8s							
GYA				LR		LR		
	comp=N,141μm,25.4s							
GYA				LR		LR		
	comp=E,262μm,21.8s							
GYA				LR		LR		
	comp=Z,168μm,22.4s							
KMI	Kunming	168.30	3	PKP		PKPdf	00 01 01.6	+0.2
KMI				APKP			00 01 13.6	
KMI				XPKP			00 01 17.6	
KMI				PKP2		PKPab	00 02 08.8	-1.0
KMI				PKS			00 04 31.0	
KMI				PP		PP	00 06 02.3	+5.0
KMI				SKS		SKSdf	00 07 57.5	-4.7
KMI				PPP			00 10 01.1	
KMI				SKKS		SKKSac	00 12 41.0	-1.8
KMI				PP		PP		
	comp=Z,43μm,9.5s							
KMI				LR		LR		
	comp=N,406μm,20.7s							
KMI				LR		LR		
	comp=E,319μm,17.7s							
KMI				LR		LR		
	comp=Z,480μm,21.2s							
MYKOM	Kota Tinggi	168.47	182	‖P		PKPdf	00 01 01.2	-0.6
KGM	Kluang	168.71	179	‖P		PKPdf	00 01 02.8	+0.8
FRIM	Kepong	169.76	170	‖P		PKPdf	00 01 03.1	+0.5
IPM	Ipoh	170.84	165	‖P		PKPdf	00 01 02.3	-0.9
KULM	Kulim	171.50	161	‖P		PKPdf	00 01 02.5	-1.1
QIZ	Qiongzhong	171.68	313	PKP		PKPdf	00 01 04.0	+0.5
QIZ				SS		SS	00 27 18.8	-1.5
QIZ				PP		PP		
	comp=Z,59μm,11.9s							
QIZ				LR		LR		
	comp=E,248μm,24.7s							
QIZ				LR		LR		
	comp=Z,525μm,23.3s							
QIZ	Qiongzhong	171.68	313	PFAKE			00 01 10.0	+6.5
QIZ				LR		LR		
	comp=Z,327μm,20.0s							
KTGM	Kuala Trenggan	171.99	178	‖P		PKPdf	00 01 03.7	-0.1
CHTO	Chiang Mai	173.08	38	ePKIKP		PKPdf	00 01 03.4	-0.7
CHTO				MLR		MLR		
	comp=Z,565μm,21.0s							
CM31	Chiang Mai Arr	173.35	40	ePKPdf		PKPdf	00 01 06.0	+1.8
CM31				LR		LR		
	comp=Z,463μm,20.0s							
CMAR	Chiang Mai Arr	173.35	40	PKP		PKPdf	00 01 03.8	-0.4
	comp=Z,37nm,1.0s,baz=281,slow=1.7,SNR=60							
CMAR	Chiang Mai Arr	173.35	40	PKIKP		PKPdf	00 01 03.8	-0.4
CMAR				pmax		pmax		
	comp=Z,37nm,1.0s							

*IDC **15** 23:57:27.8±1.4, 1340S×7689W, h0km, mb4.7/4, mb1 4.7/5, mb1mx4.4/17, mbtmp4.7/5, ML3.9/1, Error ellipse: s-maj=46.7km s-min=22.3km az=68.0*
*ISCJB **15** 23:57:30.1±0.9, 1346S±008×769W±0.2, h33km, mb4.8/8, Error ellipse: s-maj=23.4km s-min=8.9km az=159.9*
*NEIC **15** 23:57:33.0±0.6, 1337S×7675W, h35km, mb5.1/5, Error ellipse: s-maj=18.4km s-min=8.1km az=58.0*
*MOS **15** 23:57:35.6±0.4, 12.16S×7576W, h33km, mb5.0/2, Error ellipse: s-maj=99.9km s-min=33.5km az=44.9*

ISC 15 23:57:29.5±4.1, 1336S±008×769W±02, h10km±27km, n20, σ0°76/20, mb4.8/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.37	1	Pn		Pn	23 57 55.5	+1.0
	204nm,0.3s,baz=199,slow=13,SNR=2.3							
NNA				Sn		Sn	23 58 13.7	+1.0
	2μm,0.3s,baz=207,slow=7.5,SNR=12							
ATAH	Atahualpa	6.50	346	Pn		Pn	23 59 04.9	-0.3
	2.7nm,0.3s,baz=97,slow=16,SNR=2.1							
ATAH				Sn		Sn	00 00 16.7	-2.7
	6.8nm,0.3s,baz=219,slow=16,SNR=2.4							
LPAZ	La Paz	8.93	110	Pn		Pn	23 59 44.7	+6.1
	2.2nm,0.3s,baz=231,slow=6.5,SNR=3.7							
LPAZ	La Paz	8.93	110	Pn		Pn	23 59 38.6	0.0
LVC	Limon Verde	11.90	142	Pn		Pn	00 00 18.8	-0.5
ROSC	El Rosal	18.27	8	Pn		Pn	00 01 42.8	-0.5
BBGH	Gun Hill	31.42	34	eP		P	00 03 50.5	-0.6
	1μm,1.5s							
DWPF	Disney	41.46	354	eP		P	00 05 16.3	-0.3
	70nm,1.6s,mb5.0							
BBSR	BB Station	46.94	14	eP		P	00 06 00.7	+0.3
	11nm,0.5s,mb5.1							
WMOK	Wichita Mounta	52.17	337	eP		P	00 06 40.7	+0.4
WMOK				pmax		pmax		
	comp=Z,31nm,1.4s,mb5.0							
WMOK	Wichita Mounta	52.17	337	eP		P	00 06 40.7	+0.4
	comp=Z,31nm,1.4s,mb5.0							
ANMO	Albuquerque	55.65	331	P		P	00 07 06.9	+1.1
ANMO				pmax		pmax		
	comp=Z,16nm,1.2s							
ANMO	Albuquerque	55.65	331	P		P	00 07 06.9	+1.1
	comp=Z,16nm,1.2s,mb4.9							
ULM	Lac du Bonnet	65.50	347	P		P	00 08 12.5	-0.2
	comp=Z,3.0nm,0.5s,mb4.6,baz=168,slow=8.5,SNR=3.2							
DBIC	Dimbokro	74.21	79	P		P	00 09 07.2	+0.1
	comp=Z,4.7nm,0.6s,mb4.6,baz=234,slow=3.8,SNR=8.0							
DBIC	Dimbokro	74.21	79	P		P	00 09 07.2	+0.1
YKA	Yellowknife Ar	81.14	343	P		P	00 09 44.6	-0.1
	comp=Z,1.8nm,0.7s,mb4.1,baz=144,slow=5.5,SNR=5.2							
TORD	Torodi Ar. Bea	82.17	75	P		P	00 09 51.5	+0.3
	comp=Z,15nm,0.8s,mb4.9,baz=273,slow=4.5,SNR=16							
WRA	Warramunga Arr	134.86	223	PKP		PKPdf	00 16 48.3	-1.3
	comp=Z,2.8nm,0.9s,baz=126,slow=1.8,SNR=4.8							
SONM	Songino Array	145.53	356	PKPbc		PKPbc	00 17 08.9	+0.8
	comp=Z,6.5nm,0.8s,baz=341,slow=2.3,SNR=8.2							

*MOS **15** 23:59:26.4±0.9, 14.19S×7620W, h33km, mb5.0/6, Error ellipse: s-maj=20.7km s-min=10.8km az=116.2*
*ISCJB **15** 23:59:27.3±1.1, 1423S±005×7623W±0.10, h43km±10km, mb4.9/25, Error ellipse: s-maj=16.9km s-min=6.2km az=156.5*
*NEIC **15** 23:59:27.8±1.6, 1422S×7622W, h32km±11km, mb4.9/19, Error ellipse: s-maj=9.4km s-min=3.9km az=68.0*
*IDC **15** 23:59:28.4±5.0, 1423S×7620W, h34km±37km, mb4.5/7, mb1 4.6/9, mb1mx4.4/20, mbtmp4.6/9, ML5.0/2, Error ellipse: s-maj=36.3km s-min=17.6km az=58.0*

ISC 15 23:59:29.1±1.0, 1422S±005×7619W±010, h41km±8km, n78, σ0°77/71, mb4.9/25, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.31	344	Pn		Pn	00 00 04.5	-0.2
	133nm,0.3s,baz=231,slow=13,SNR=1.8							
NNA				Sn		Sn	00 00 31.1	-0.8
	416nm,0.3s,baz=193,slow=18,SNR=4.4							
NNA	Nana	2.31	344	ePn		Pn	00 00 02.9	-1.8
NNA				eSn		Sn	00 00 33.3	+1.4
ATAH	Atahualpa	7.50	343	Pn		Pn	00 01 18.5	+2.5
	6.1nm,0.3s,baz=253,slow=20,SNR=2.7							
LPAZ	La Paz	8.04	106	Pn		Pn	00 01 27.1	+3.6
	2.0nm,0.3s,baz=250,slow=16,SNR=4.3							
LPAZ	La Paz	8.04	106	Pn		Pn	00 01 23.9	+0.5

LVC	Limon Verde	10.83	141	Pn		Pn	00 02 01.0	-0.6
	2.7nm,0.3s,baz=235,slow=0.0,SNR=3.0							
LVC	Limon Verde	10.83	141	ePn		Pn	00 02 01.1	-0.5
OTAV	Otavalo	14.54	351	ePn		Pn	00 02 53.1	+0.7
LCO	Las Campanas	15.57	162	ePn		Pn	00 03 04.9	-0.9
CPUP	Villa Florida	21.37	127	eP		P	00 04 12.5	-0.6
CPUP				pmax		pmax		
	comp=Z,449nm,1.2s							
CPUP	Villa Florida	21.37	127	eP		P	00 04 12.5	-0.6
	comp=Z,449nm,1.2s,mb5.7							
SDV	Santo Domingo	23.61	14	eP		P	00 04 36.8	+0.3
	comp=Z,460nm,1.3s,mb5.8							
PLCA	Paso Flores	26.87	170	P		P	00 05 05.4	-0.5
PLCA				pmax		pmax		
	comp=Z,189nm,2.0s							
PLCA	Paso Flores	26.87	170	P		P	00 05 05.4	-0.6
	comp=Z,189nm,2.0s,mb5.3							
TGUH	Tegucigalpa,Un	30.16	338	eP		P	00 05 36.1	+0.6
	comp=Z,13nm,0.7s,mb4.8							
SJG	San Juan	33.62	17	P		P	00 06 05.8	0.0
AOPR	Arecibo Observ	33.67	16	eP		P	00 06 05.9	-0.4
	comp=Z,22nm,1.1s,mb5.0							
CMIG	Matias Romero	36.18	329	P		P	00 06 28.1	+0.2
	comp=Z,2.2nm,0.6s,mb4.2,baz=146,slow=11,SNR=3.5							
TEIG	Tepich	36.24	341	P		P	00 06 28.3	-0.1
	comp=Z,13nm,0.6s,mb5.0,baz=146,slow=5.4,SNR=12							
EFI	East Falkland	40.10	162	P		P	00 07 00.0	-0.6
BBSR	BB Station	47.62	13	eP		P	00 08 00.8	-0.3
	comp=Z,13nm,0.6s,mb5.1							
SWET	Sewanee	50.03	350	eP		P	00 08 18.1	-1.5
OXF	Oxford	50.07	346	P		P	00 08 19.2	-0.7
PMSA	Palmer Station	51.18	173	eP		P	00 08 28.6	+0.6
	comp=Z,11nm,0.6s,mb5.0							
MIAR	Mount Ida	51.24	342	eP		P	00 08 28.3	-0.4
MIAR				pmax		pmax		
	comp=Z,18nm,1.0s,mb5.0							
MIAR	Mount Ida	51.24	342	eP		P	00 08 28.3	-0.4
	comp=Z,18nm,1.0s,mb5.0							
SIUC	Southern Illin	53.09	347	eP		P	00 08 40.9	-1.5
	comp=Z,72nm,1.4s,mb5.4							
WMOK	Wichita Mounta	53.21	337	P		P	00 08 43.3	-0.1
ACSO	Alum Creek Sta	54.54	354	P		P	00 08 51.5	-1.4
BRNJ	Basking Ridge	54.64	2	eP		P	00 08 52.6	-1.1
	comp=Z,59nm,1.3s,mb5.5							
ANMO	Albuquerque	56.72	330	eP		P	00 09 08.1	-0.6
ANMO				pmax		pmax		
	comp=Z,4.0nm,0.8s							
ANMO	Albuquerque	56.72	330	eP		P	00 09 08.1	-0.6
	comp=Z,3.9nm,0.8s,mb4.5							
SDCO	Great Sand Dun	58.57	333	eP		P	00 09 21.8	+0.1
	comp=Z,4.8nm,0.7s,mb4.6							
PKME	Peaks-Kenny Pk	59.53	6	P		P	00 09 28.2	0.0
BAR	Barrett	60.60	321	P		P	00 09 36.0	+0.2
	comp=Z,512nm,2.1s							
JLU	Jordanelle	63.60	331	eP		P	00 09 56.0	+0.2
ISA	Isabella	63.74	322	eP		P	00 09 56.4	-0.4
ISA				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.6							
ISA	Isabella	63.74	322	eP		P	00 09 56.4	-0.3
	comp=Z,5.7nm,0.9s,mb4.6							
DUG	Dugway	63.95	329	eP		P	00 09 58.7	+0.6
DUG				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.9							
DUG	Dugway	63.95	329	eP		P	00 09 58.6	+0.6
	comp=Z,13nm,1.1s,mb4.9							
HWUT	Hardware Ranch	64.44	331	eP		P	00 10 01.0	-0.3
	comp=Z,8.1nm,0.8s,mb4.8							
TPH	Tonopah	64.70	325	P		P	00 10 03.0	0.0
NVAR	Mina Array Bea	65.55	325	P		P	00 10 08.8	+0.2
	comp=Z,2.4nm,0.7s,mb4.3,baz=144,slow=7.2,SNR=8.4							
RRI2	Red Ridge	65.69	333	eP		P	00 10 09.5	+0.1
	comp=Z,664nm,1.1s							
ULM	Lac du Bonnet	66.48	346	P		P	00 10 13.7	-0.6
	comp=Z,4.7nm,0.6s,mb4.7,baz=307,slow=20,SNR=5.0							
HLID	Hailey	67.28	331	eP		P	00 10 20.2	+0.7
	comp=Z,2.3nm,0.5s,mb4.5							
VNA1	Neumayer--Stat	69.41	161	e		P	00 10 33.2	+0.7
VNA1				e			00 10 35.3	
WALA	Waterton Lakes	71.30	335	eP		P	00 10 44.3	+0.1
SNAA	Sanae	71.37	161	e		P	00 10 43.9	-0.5
SNAA				e			00 10 46.6	
SNAA				e			00 10 52.1	
SNAA	Sanae	71.37	161	eP		P	00 10 44.6	+0.2
SNAA				pmax		pmax		
	comp=Z,11nm,0.7s							
SNAA	Sanae	71.37	161	eP		P	00 10 44.6	+0.2
	comp=Z,11nm,0.7s,mb4.9							
NEW	Newport	72.07	333	eP		P	00 10 49.3	+0.4
NEW				pmax		pmax		
	comp=Z,10.0nm,1.0s							
NEW	Newport	72.07	333	eP		P	00 10 49.3	+0.4
	comp=Z,10nm,1.0s,mb4.7							
DBIC	Dimbokro	73.73	79	P		P	00 10 59.4	-0.2
	comp=Z,6.0nm,0.7s,mb4.7,baz=228,slow=7.3,SNR=6.1							
DBIC	Dimbokro	73.73	79	eP		P	00 11 00.0	+0.5
DBIC				pmax		pmax		
	comp=Z,6.0nm,0.7s							
DBIC	Dimbokro	73.73	79	eP		P	00 11 00.0	+0.5
	comp=Z,5.8nm,0.7s,mb4.6							
FCC	Fort Churchill	74.18	350	P		P	00 11 01.3	+0.2
QSPA	South Pole Qui	75.92	180	P		P	00 11 11.5	+0.5
	comp=Z,2.2nm,0.7s,mb4.2,baz=91,slow=0.4,SNR=6.6							
QSPA	South Pole Qui	75.92	180	P		P	00 11 11.5	+0.5
SBA	Scott Base	81.66	191	P		P	00 11 44.0	+1.4
TOA0	Torodi Ar. Sit	81.77	74	eP		P	00 11 44.8	+0.5
TORD	Torodi Ar. Bea	81.77	74	P		P	00 11 44.8	+0.6
	comp=Z,25nm,0.6s,mb5.3,baz=275,slow=4.3,SNR=45							
VNDA	Vanda	82.73	191	P		P	00 11 47.9	-0.3
DLBC	Dease Lake	84.64	335	eP		P	00 11 58.3	+0.2
TSUM	Tsumeb	88.88	109	P		P	00 12 20.9	+1.2
BORG	Borgarnes	88.92	21	P		P	00 12 19.9	+1.1
SUMG	Summit	90.10	11	eP		P	00 12 24.6	+0.4
INK	Inuvik	91.83	342	eP		P	00 12 30.4	-1.9
COLA	College	95.19	336	P		P	00 12 48.6	+0.8
PAF	Port-aux-Franc	110.09	157	eP		Pdif	00 13 55.1	+0.4
PAF				i			00 17 55.7	
PAF	Port-aux-Franc	110.09	157	ePdif		Pdif	00 13 55.1	+0.3
PAF				ePKIKP		PKiKP	00 17 55.7	-0.6
WRA	Warramunga Arr	134.68	222	PKP		PKPdf	00 18 43.9	-0.3
	comp=Z,3.0nm,0.9s,baz=146,slow=1.7,SNR=6.4							
ZALV	Zalesovo Beam	137.64	17	PKP		PKPdf	00 18 48.5	0.0
	comp=Z,2.9nm,0.7s,baz=262,slow=2.9,SNR=4.2							
ZAL	Zalesovo	137.64	17	PKIKP		PKPdf	00 18 48.6	0.0
MKAR	Makanchi Array	142.86	25	PKP		PKPdf	00 18 56.9	-1.4
	comp=Z,1.2nm,0.9s,baz=354,slow=2.9,SNR=3.6							
SONM	Songino Array	146.42	357	PKPbc		PKPbc	00 19 05.9	+0.2
	comp=Z,10nm,0.7s,baz=334,slow=2.6,SNR=17							
KSRS	Korea Array	148.46	322	PKPbc		PKPbc	00 19 11.1	-0.6
	comp=Z,4.0nm,0.9s,baz=20,slow=1.7,SNR=7.0							
KSRS	Korea Array	148.46	322	PKP2		PKPbc	00 19 11.1	-0.6
KSRS				pmax		pmax		
	comp=Z,4.0nm,0.9s							

*ISCJB **16** 00:01:40.2±1.4, 1341S±006×769W±0.1, h40km±11km, mb4.8/13, Error ellipse: s-maj=21.0km s-min=8.4km az=162.7*
*MOS **16** 00:01:40.5±0.9, 1325S×7677W, h33km, mb5.0/2, Error ellipse: s-maj=37.5km s-min=15.3km az=104.0*
*IDC **16** 00:01:41.5±0.9, 1333S×7677W, h29km±4km, mb4.6/10, mb1 4.6/10, mb1mx4.5/19, mbtmp4.6/10, Error ellipse: s-maj=29.0km s-min=16.5km az=76.0*
*NEIC **16** 00:01:41.3±2.6, 1338S×7680W, h31km±19km, mb5.0/6, Error ellipse: s-maj=14.0km s-min=6.2km az=73.0*

ISC 16 00:01:41.6±3.5, 1337S±006×768W±01, h32km±25km, n52, σ0°84/44, mb4.8/13, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.37	358	Pn		Pn	00 02 04.3	-0.2
	604nm,0.3s,baz=208,slow=15,SNR=5.7							
NNA				Sn		Sn	00 02 21.7	+0.1
	4μm,0.3s,baz=253,slow=16,SNR=20							
LVC	Limon Verde	11.86	142	Pn		Pn	00 04 28.9	+0.4
LCO	Las Campanas	16.56	161	Pn		Pn	00 05 30.8	-0.7
SDV	Santo Domingo	22.94	16	P		P	00 06 43.1	-0.1
	33nm,0.9s,mb4.8,baz=270,slow=13,SNR=2.8							
SDV	Santo Domingo	22.94	16	eP		P	00 06 44.6	+1.4
	319nm,1.6s,mb5.5							
PCRV	Puerto La Cruz	26.32	28	P		P	00 07 15.8	+1.2
	140nm,1.2s,mb5.4,baz=211,slow=5.9,SNR=3.1							
PLCA	Paso Flores	27.80	170	P		P	00 07 28.6	+0.8
	4.4nm,0.9s,mb4.1,baz=348,slow=8.3,SNR=3.5							
TGUH	Tegucigalpa,Un	29.16	339	P		P	00 07 38.4	-1.6

SJG	San Juan	32.99	19	P		P	00 08 13.4	-0.4
AOPR	Arecibo Observ	33.03	18	eP		P	00 08 12.6	-1.5
	6.8nm,0.7s,mb4.7							
CMIG	Matias Romero	35.15	329	P		P	00 08 33.8	+1.3
	1.6nm,0.6s,mb4.2,baz=122,slow=9.5,SNR=3.7							
TEIG	Tepich	35.24	341	P		P	00 08 34.1	+0.8
	6.3nm,0.6s,mb4.7,baz=108,slow=1.4,SNR=5.5							
TEIG	Tepich	35.24	341	P		P	00 08 34.1	+0.8
NATX	Nacogdoches	48.03	339	P		P	00 10 11.4	-6.4
	16μm,1.2s							
SWET	Sewanee	49.09	350	eP		P	00 10 24.5	-1.4
OXF	Oxford	49.10	346	eP		P	00 10 27.4	+1.4
MIAR	Mount Ida	50.25	342	eP		P	00 10 30.8	-4.0
MIAR				pmax		pmax		
	comp=Z,27nm,1.4s,mb5.1							
MIAR	Mount Ida	50.25	342	eP		P	00 10 30.8	-4.0
	comp=Z,27nm,1.4s,mb5.1							
PMSA	Palmer Station	52.09	173	eP		P	00 10 47.3	-0.9
SIUC	Southern Illin	52.13	348	P		P	00 10 49.3	+0.4
WMOK	Wichita Mounta	52.20	337	eP		P	00 10 49.4	0.0
ACSO	Alum Creek Sta	53.63	354	P		P	00 10 58.7	-1.2
ANMO	Albuquerque	55.69	331	P		P	00 11 15.5	+0.6
SDCO	Great Sand Dun	57.55	333	eP		P	00 11 27.2	-0.9
BAR	Barrett	59.58	321	P		P	00 11 42.1	-0.2
	comp=Z,14nm,0.8s,mb5.0							
RSSD	Black Hills	62.37	338	P		P	00 12 02.0	+1.0
ISA	Isabella	62.71	322	eP		P	00 12 03.7	+0.2
HWUT	Hardware Ranch	63.42	331	eP		P	00 12 08.4	+0.4
TPH	Tonopah	63.67	325	eP		P	00 12 10.1	+0.3
DCID1	Drake Creek	64.81	333	eP		P	00 12 17.2	0.0
ULM	Lac du Bonnet	65.52	347	P		P	00 12 21.2	-0.4
	comp=Z,12nm,0.8s,mb5.0,baz=179,slow=5.0,SNR=4.9							
ULM				pP		pP	00 12 29.8	-1.9
	comp=Z,11nm,0.7s,baz=149,slow=8.7,SNR=4.1							
SCHQ	Schefferville	68.45	6	P		P	00 12 39.5	-0.7
	comp=Z,4.4nm,0.8s,mb4.6,baz=225,slow=8.6,SNR=3.4							
SCHQ				pP		pP	00 12 48.2	-2.0
	comp=Z,4.0nm,0.8s,baz=231,slow=8.6,SNR=2.4							
SCHQ	Schefferville	68.45	6	eP		P	00 12 40.2	0.0
	comp=Z,5.7nm,0.7s,mb4.7							
WALA	Waterton Lakes	70.28	335	P		P	00 12 53.2	+1.5
FCC	Fort Churchill	73.25	351	P		P	00 13 08.7	-0.5
DBIC	Dimbokro	74.13	79	P		P	00 13 15.6	+0.1
	comp=Z,7.7nm,0.6s,mb4.8,baz=227,slow=6.1,SNR=16							
DBIC	Dimbokro	74.13	79	eP		P	00 13 15.7	+0.2
DBIC				pmax		pmax		
	comp=Z,8.0nm,0.5s							
DBIC	Dimbokro	74.13	79	eP		P	00 13 15.7	+0.2
	comp=Z,7.9nm,0.5s,mb4.9							
YKA	Yellowknife Ar	81.17	343	P		P	00 13 52.4	-1.2
	comp=Z,4.1nm,0.9s,mb4.3,baz=149,slow=5.4,SNR=4.2							
YKA	Yellowknife Ar	81.17	343	P		P	00 13 52.4	-1.2
TOA0	Torodi Ar. Sit	82.10	75	eP		P	00 13 59.8	+0.2
TORD	Torodi Ar. Bea	82.10	75	P		P	00 14 00.1	+0.5
	comp=Z,10.0nm,0.8s,mb4.8,baz=244,slow=4.4,SNR=10							
BORG	Borgarnes	88.33	21	P		P	00 14 29.5	-0.1
NKC	Novy Kostel	99.66	41	ePP		PP	00 19 29.6	+3.2
CLL	Collm	100.17	40	ePP		PP	00 19 34.0	+3.7
KHC	Kasperske Hory	100.21	42	ePP		PP	00 19 34.4	+3.7
PVCC	Panska Ves	101.04	41	ePP		PP	00 19 34.1	-2.8
ASAR	Alice Springs	132.51	219	PKP		PKPdf	00 20 53.2	-0.4
	comp=Z,1.0nm,0.9s,baz=130,slow=2.1,SNR=4.0							
WRA	Warramunga Arr	134.90	223	PKP		PKPdf	00 20 58.6	+0.4
	comp=Z,2.5nm,0.8s,baz=124,slow=1.8,SNR=8.7							
ZAK	Zakamensk	143.09	360	ePKHKP			00 21 05.5	
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.6s							
SONM	Songino Array	145.54	356	PKPbc		PKPbc	00 21 17.5	+0.8
	comp=Z,5.5nm,0.8s,baz=324,slow=2.4,SNR=6.2							
SONM				pPKPbc		pPKPbc	00 21 27.1	-0.2
	comp=Z,16nm,0.8s,baz=332,slow=2.7,SNR=20							
KSRS	Korea Array	147.43	322	PKPbc		PKPbc	00 21 21.6	-1.0
	comp=Z,1.3nm,0.6s,baz=65,slow=1.2,SNR=3.7							

*MOS **16** 00:02:39.5±0.9, 1310S×7653W, h33km, mb5.7/50, Error ellipse: s-maj=9.3km s-min=5.7km az=102.5*
*ISCJB **16** 00:02:40.0±0.2, 1321S±003×7648W±003, h40km, mb5.5/149, Error ellipse: s-maj=5.7km s-min=3.3km az=39.0*
*IDC **16** 00:02:41.1±0.5, 1328S×7654W, h38km±4km, mb5.2/21, mb1 5.2/25, mb1mx5.2/27, mbtmp5.1/25, ML4.4/2, Error ellipse: s-maj=18.2km s-min=9.1km az=77.0*
*BJI **16** 00:02:41.2, 1330S×7650W, h39km, mB5.1, Ms5.7, Msz5.6*
*NEIC **16** 00:02:41.2±0.1, 1326S×7649W, mb5.6/117, Error ellipse: s-maj=4.6km s-min=2.8km az=55.0*
NEIC Felt [V] at Lima and [IV] at Arequipa. Felt at Ayacucho, Cajamarca, Huaraz, Tacna and Trujillo. Also felt at La Paz, Bolivia.

**ISC 16 00:02:42.1±0

comp=Z,35nm,0.6s
SJG San Juan 32.73 18 eP P 00 09 10.8 -0.1
comp=Z,35nm,0.6s,mb5.5
CPD Cerro la Pandu 32.73 19 eP P 00 09 10.9 -0.1
CPD Cerro la Pandu 32.73 19 eP P 00 09 10.2 -0.7
comp=Z,40nm,0.8s,mb5.4
AOPR Arecibo Observ 32.77 17 eP P 00 09 09.3 -2.1
comp=Z,73nm,1.0s,mb5.6
HUMP Col San Antoni 32.85 19 eP P 00 09 11.7 -0.3
comp=Z,39nm,0.8s,mb5.4
MTP Monte Pirata 32.90 19 eP P 00 09 11.8 -0.7
CMIG Matias Romero 35.23 328 P P 00 09 32.2 -0.5
comp=Z,14nm,0.8s,mb5.0,baz=133,slow=4.7,SNR=11
TEIG Tepich 35.24 340 P P 00 09 32.4 -0.3
comp=Z,75nm,1.0s,mb5.6,baz=156,slow=8.4,SNR=11
TEIG Tepich 35.24 340 eP P 00 09 32.3 -0.4
comp=Z,121nm,1.1s,mb5.7
DWPF Disney 41.38 353 P P 00 10 23.3 -0.9
USHA Ushuaia 41.98 173 P P 00 10 27.9 -1.0
comp=Z,96nm,1.0s,mb5.4,baz=326,slow=5.4,SNR=18
BBSR BB Station 46.69 14 eP P 00 11 06.4 -0.4
comp=Z,28nm,0.8s,mb5.2
BBSR epP pP 00 11 19.2 +0.5
BBSR esP sP 00 11 22.8 -0.8
GOGA Godfrey 46.86 352 eP P 00 11 07.9 -0.2
GOGA e*PP pP 00 11 19.7 -0.3
GOGA pmax pmax
comp=Z,46nm,1.6s,mb5.2
GOGA Godfrey 46.86 352 eP P 00 11 07.8 -0.2
comp=Z,46nm,1.6s,mb5.2
GOGA epP pP 00 11 19.7 -0.3
JSC Jenkinsville 47.47 355 P P 00 11 11.3 -1.5
CNNC Cliffs of the 48.22 358 eP P 00 11 17.6 -0.9
comp=Z,113nm,1.4s,mb5.7
CNNC e 00 11 32.7
JCT Junction City 48.95 333 eP P 00 11 23.2 -1.1
JCT e*PP pP 00 11 34.8 -1.5
JCT pmax pmax
comp=Z,35nm,1.1s,mb5.3
JCT Junction City 48.95 333 eP P 00 11 23.2 -1.1
comp=Z,35nm,1.1s,mb5.3
JCT epP pP 00 11 34.8 -1.5
SWET Sewanee 49.02 350 eP P 00 11 23.1 -1.7
OXF Oxford 49.06 346 eP P 00 11 24.1 -1.0
TKL Tuckaleechee C 49.11 352 eP P 00 11 23.5 -2.0
TKL e*PP pP 00 11 36.0 -1.4
TZTN Tazewell 49.95 352 eP P 00 11 30.7 -1.2
comp=Z,36nm,1.1s,mb5.3
UALR University of 50.08 343 eP P 00 11 31.9 -1.0
UALR e pP 00 11 43.1 -1.8
MIAR Mount Ida 50.23 341 eP P 00 11 32.9 -1.1
MIAR pmax pmax
comp=Z,71nm,1.1s,mb5.6
MIAR Mount Ida 50.23 341 eP P 00 11 32.9 -1.2
comp=Z,72nm,1.1s,mb5.6
BLA Blacksburg 50.30 356 eP P 00 11 33.5 -1.0
BLA pmax pmax
comp=Z,34nm,0.8s,mb5.4
BLA Blacksburg 50.30 356 eP P 00 11 33.5 -1.0
comp=Z,34nm,0.8s,mb5.4
ELN Prospectdale 50.35 355 eP P 00 11 34.0 -0.9
URVA University of 50.53 359 eP P 00 11 35.3 -0.9
PARMO Parma 51.19 346 eP P 00 11 40.0 -1.2
USIN University of 52.00 349 eP P 00 11 44.7 -2.5
comp=Z,80nm,1.1s,mb5.6
SIUC Southern Illin 52.08 347 eP P 00 11 46.2 -1.6
comp=Z,115nm,1.1s,mb5.7
SIUC ePcP PcP 00 12 59.5 0.0
PMSA Palmer Station 52.19 173 P P 00 11 47.9 -0.5
comp=Z,30nm,0.8s,mb5.3,baz=320,slow=7.9,SNR=4.8
PMSA Palmer Station 52.19 173 eP P 00 11 45.9 -2.5
comp=Z,31nm,0.8s,mb5.3
WMOK Wichita Mounta 52.22 337 eP P 00 11 48.1 -0.8
WMOK e*PP pP 00 11 59.1 -1.9
WMOK pmax pmax
comp=Z,18nm,0.8s,mb5.0
WMOK Wichita Mounta 52.22 337 eP P 00 11 48.0 -0.9
comp=Z,18nm,0.8s,mb5.1
WMOK epP pP 00 11 59.1 -1.9
SDMD Soldier's Deli 52.36 360 eP P 00 11 49.2 -0.6
comp=Z,69nm,0.9s,mb5.6
SDMD e 00 12 04.7
MCWV Mont Chateau 52.70 357 eP P 00 11 51.3 -1.1
comp=Z,18nm,0.8s,mb5.0
MCWV epP pP 00 12 03.1 -1.4
OLIL Olney 52.83 349 eP P 00 11 51.5 -1.9
comp=Z,99nm,1.1s,mb5.7
MVL Millersville 52.95 0 eP P 00 11 49.1 -5.1
comp=Z,49nm,1.0s,mb5.4
MVL epP pP 00 12 04.5 -1.8
BLO Bloomington 52.97 350 eP P 00 11 52.7 -1.7
BLO pmax pmax
comp=Z,310nm,1.9s,mb5.9
ACSO Alum Creek Sta 53.53 354 eP P 00 11 56.9 -1.5
comp=Z,76nm,0.8s,mb5.7
BRNJ Basking Ridge 53.66 2 eP P 00 11 59.0 -0.4
comp=Z,22nm,0.4s,mb5.4
CPNY Central Park 53.78 2 eP P 00 12 00.4 0.0
comp=Z,13nm,0.6s,mb5.0
PAL Palisades 54.00 2 eP P 00 12 01.6 -0.3
319A Douglas 54.43 325 ⇑P P 00 12 05.3 0.0
baz=55
ALLY Alegheny Colle 54.70 357 eP P 00 12 05.6 -1.4
comp=Z,81nm,1.1s,mb5.7
318A Bisbee 54.88 325 ⇓P P 00 12 08.8 +0.3
baz=55,SNR=5.9
219A White Tail Can 54.90 326 ⇑P P 00 12 09.0 +0.4
baz=55
BINY Binghamton 55.15 0 eP P 00 12 09.6 -0.6
comp=Z,89nm,0.9s,mb5.8
218A Dragoon 55.31 325 ⇓P P 00 12 11.9 +0.2
baz=56,SNR=6.1
LPM Los Pinos Moun 55.33 330 eP P 00 12 12.4 +0.7
KSU1 Kansas State U 55.37 341 eP P 00 12 09.7 -2.2
comp=Z,39nm,1.0s,mb5.4
119A Ashpeak Ranch, 55.50 326 ⇓P P 00 12 12.9 -0.1
baz=56
217A Green Valley 55.60 324 ⇑P P 00 12 13.4 -0.3
baz=56
HRV Adam Dziewonsk 55.63 4 eP P 00 12 14.0 +0.3
AAM Ann Arbor 55.65 353 eP P 00 12 12.4 -1.4
AAM pmax pmax
comp=Z,78nm,1.0s,mb5.7
AAM Ann Arbor 55.65 353 eP P 00 12 11.6 -2.2
comp=Z,78nm,1.0s,mb5.7
LAZ Ladron 55.66 329 eP P 00 12 13.7 -0.4
LAZ epP pP 00 12 24.6 -1.6
ANMO Albuquerque 55.76 330 eP P 00 12 14.4 -0.4
ANMO pmax pmax
comp=Z,33nm,1.1s
ANMO Albuquerque 55.76 330 eP P 00 12 14.3 -0.4
comp=Z,33nm,1.1s,mb5.3
118A Homack Ranch, 55.77 326 ⇓P P 00 12 14.9 -0.1
baz=56
Z19A T-Link Ranch, 55.89 327 ⇓P P 00 12 15.7 0.0
baz=56
216A Three Points, 56.13 324 ⇑P P 00 12 17.8 +0.3
baz=56
117A Oracle 56.15 325 ⇑P P 00 12 17.7 +0.1
baz=56,SNR=7.7
CBKS Cedar Bluff 56.18 338 eP P 00 12 16.3 -1.4
CBKS pmax pmax
comp=Z,44nm,0.8s,mb5.5
CBKS Cedar Bluff 56.18 338 eP P 00 12 16.3 -1.4
comp=Z,44nm,0.8s,mb5.5
ACCN Adirondack Com 56.38 2 eP P 00 12 19.3 +0.3
comp=Z,79nm,0.9s,mb5.7
Y19A Nutrioso 56.39 327 ⇑P P 00 12 19.8 +0.4
baz=57
FFD Franklin Falls 56.58 4 eP P 00 12 19.6 -0.9
comp=Z,37nm,0.8s,mb5.5
Y18A Canyon Day Jun 56.67 326 ⇑P P 00 12 21.9 +0.6
baz=57
116A Eloy 56.68 324 ⇑P P 00 12 21.4 -0.1
baz=57
HNH Hanover 56.77 4 eP P 00 12 22.3 +0.5
comp=Z,66nm,0.9s,mb5.7
HNH epP pP 00 12 33.1 -0.9
HNH esP sP 00 12 37.1 -1.7
X19A St. Johns 56.77 328 ⇓P P 00 12 22.3 +0.3
baz=57
214A Organ Pipe Nat 56.88 323 ⇓P P 00 12 22.8 -0.1
baz=57,SNR=5.2
NCB Newcomb 56.95 2 eP P 00 12 22.3 -0.8
comp=Z,46nm,1.0s,mb5.5
SCIA State Center 57.01 345 eP P 00 12 22.6 -0.9

MDV Middlebury 57.02 3 eP P 00 12 23.6 +0.1
Y17A Roosevelt 57.05 326 ⇓P P 00 12 24.0 +0.1
baz=57
115A Sonoran Desert 57.09 324 ⇑P P 00 12 24.6 +0.3
baz=57
Z16A Peralta Trail, 57.10 325 ⇑P P 00 12 24.4 0.0
X18A Snowflake 57.20 327 ⇓P P 00 12 25.6 +0.6
baz=57
JFWS Jewell Farm 57.29 348 eP P 00 12 25.0 -0.5
JFWS Jewell Farm 57.29 348 eP P 00 12 23.9 -1.6
comp=Z,41nm,1.1s,mb5.4
LBNH Lisbon 57.33 4 eP P 00 12 25.8 +0.1
LBNH e*SP sP 00 12 40.9 -1.9
LBNH pmax pmax
comp=Z,64nm,1.0s,mb5.6
LBNH Lisbon 57.33 4 eP P 00 12 25.8 +0.1
comp=Z,64nm,1.0s,mb5.6
LBNH esP sP 00 12 40.9 -1.9
W19A Sanders 57.35 328 ⇑P P 00 12 26.2 +0.1
baz=58
Z15A Gila River Ind 57.48 324 ⇓P P 00 12 27.3 +0.3
baz=58
X17A Forest Lakes 57.51 326 ⇑P P 00 12 27.3 0.0
baz=58
Y16A Circle Bar Ran 57.53 325 ⇑P P 00 12 27.6 +0.2
baz=58
W18A Petrified Fore 57.54 328 ⇓P P 00 12 27.3 -0.1
baz=58
LONY Lake Ozonia 57.59 2 eP P 00 12 26.9 -0.7
comp=Z,129nm,1.4s,mb5.8
LONY esP sP 00 12 42.2 -2.4
SDCO Great Sand Dun 57.60 333 eP P 00 12 27.5 -0.3
comp=Z,19nm,0.9s,mb5.1
V19A Window Rock 57.65 329 ⇑P P 00 12 28.0 -0.2
baz=58
FRNY Flat Rock 57.83 2 eP P 00 12 29.1 -0.1
comp=Z,116nm,0.8s,mb6.0
X16A Lo Mia Camp, P 57.92 326 ⇑P P 00 12 30.1 +0.1
baz=58,SNR=6.2
113A Mohawk Valley, 58.03 323 ⇓P P 00 12 31.0 +0.1
baz=58
Y15A Casa Rosa Ranc 58.06 325 ⇑P P 00 12 31.2 0.0
baz=58
GLMI Grayling 58.25 353 eP P 00 12 29.3 -2.9
comp=Z,104nm,0.9s,mb5.9
GLMI esP sP 00 12 44.4 -4.9
X15A Humboldt 58.41 325 ⇓P P 00 12 34.2 +0.7
baz=59
Y14A Wickenburg 58.43 324 ⇑P P 00 12 33.8 +0.1
baz=59,SNR=5.0
W16A Flagstaff 58.47 326 ⇓P P 00 12 34.0 0.0
baz=59
T19A Beclabito 58.51 330 ⇓P P 00 12 34.2 0.0
baz=59
MVCO Mesa Verde 58.56 330 ⇑P P 00 12 34.3 -0.2
baz=59
MVCO Mesa Verde 58.56 330 P P 00 12 34.2 -0.3
comp=Z,24nm,0.8s,mb5.3
PKME Peaks-Kenny Pk 58.56 6 eP P 00 12 34.3 -0.1
U18A Rough Rock, Ch 58.62 329 ⇓P P 00 12 35.0 +0.1
baz=59
WUAZ Wupatki 58.71 327 ⇓P P 00 12 36.3 +0.7
baz=59
WUAZ Wupatki 58.71 327 eP P 00 12 35.9 +0.4
comp=Z,74nm,1.3s,mb5.6
WUAZ epP pP 00 12 46.4 -1.4
X14A Yava 58.76 325 ⇑P P 00 12 36.4 +0.4
baz=59,SNR=9.3
Y13A Salome 58.81 324 ⇑P P 00 12 37.0 +0.6
baz=59
GLA Glamis 58.85 322 P P 00 12 35.6 -1.1
GLA e pP 00 12 49.0 +0.1
GLA pmax pmax
comp=Z,15nm,0.9s,mb5.0
GLA Glamis 58.85 322 ⇑P P 00 12 37.6 +1.0
baz=59
GLA Glamis 58.85 322 P P 00 12 35.5 -1.1
comp=Z,15nm,0.9s,mb5.0
GLA e pP 00 12 49.0 +0.1
W15A Williams 58.94 326 ⇓P P 00 12 37.9 +0.7
baz=59
RW3 Ridgway 59.00 331 eP P 00 12 42.5 +4.9
U17A Shonto 59.16 328 ⇓P P 00 12 39.3 +0.6
baz=59
Y12C Blythe 59.17 323 ⇑P P 00 12 39.4 +0.6
baz=59
T18A Mexican Hat 59.17 329 ⇑P P 00 12 38.5 -0.3
baz=59,SNR=8.1
S19A Harvey Farm, M 59.29 330 ⇓P P 00 12 38.8 -0.8
baz=60,SNR=8.5
PV01 Paradox Valley 59.32 331 eP P 00 12 39.6 -0.2
PV01 epP pP 00 12 50.4 -1.6
ISCO Idaho Springs 59.35 334 P P 00 12 39.9 0.0
ISCO pmax pmax
comp=Z,39nm,1.4s,mb5.2
ISCO Idaho Springs 59.35 334 P P 00 12 39.9 0.0
comp=Z,39nm,1.4s,mb5.2
V15A Kaibab Nationa 59.36 326 ⇓P P 00 12 40.0 -0.1
baz=60
X13A Yucca 59.38 324 ⇓P P 00 12 40.0 -0.3
baz=60
W14A Seligman 59.41 325 ⇓P P 00 12 40.7 +0.2
baz=60
T17A Navajo Res., N 59.54 328 ⇓P P 00 12 41.4 +0.1
baz=60,SNR=9.6
ECSD EROS,Sioux Fal 59.62 343 eP P 00 12 39.9 -1.8
comp=Z,46nm,0.8s,mb5.6
BC3 Big Chuckw Mtn 59.65 322 ⇓P P 00 12 41.9 -0.3
baz=60
S18A Hurst Farm, Bl 59.67 329 ⇑P P 00 12 41.5 -0.7
baz=60,SNR=5.5
BAR Barrett 59.71 321 P P 00 12 42.2 -0.4
V14A Boquillas Ranc 59.73 326 ⇑P P 00 12 42.9 +0.2
baz=60
PV10 Paradox Valley 59.74 331 eP P 00 12 42.2 -0.5
W13A Hualapai Mount 59.77 325 ⇓P P 00 12 43.3 +0.3
baz=60
R19A Curley Farm, L 59.78 330 ⇑P P 00 12 42.0 -0.9
baz=60
IRM Iron Mountain 59.83 323 ⇓P P 00 12 43.4 0.0
baz=60,SNR=9.6
U15A North Rim 59.88 327 ⇑P P 00 12 43.6 -0.1
baz=60
R18A Canyonlands Na 60.16 330 ⇑P P 00 12 44.9 -0.6
baz=60
PFO Pinyon Flat Ob 60.22 322 eP P 00 12 47.5 +1.4
PFO Pinyon Flat Ob 60.22 322 ⇓P P 00 12 46.4 +0.3
baz=60
PFO Pinyon Flat Ob 60.22 322 eP P 00 12 46.6 +0.5
comp=Z,28nm,1.2s,mb5.2
PFO e pP 00 12 57.2 -1.1
Q19A Hogan Spring (60.31 331 ⇑P P 00 12 46.3 -0.2
baz=60
U14A Mt Trumbull 60.35 326 ⇑P P 00 12 47.0 +0.1
baz=61,SNR=5.9
T15A Red Dirt Ranch 60.37 327 ⇑P P 00 12 46.9 -0.2
baz=61
V13A Grand Canyon W 60.38 325 ⇓P P 00 12 47.4 +0.3
baz=61
LDFC Landfair 60.45 324 eP P 00 12 47.8 +0.1
comp=Z,40nm,1.1s,mb5.4
S16A Weppner Ranch, 60.50 328 ⇓P P 00 12 47.5 -0.4
baz=61
PHWY Pilot Hill 60.54 335 P P 00 12 47.7 -0.4
PHWY e pP 00 12 59.6 -0.7
GMRC Granite Mounta 60.56 323 ⇓P P 00 12 48.7 +0.3
baz=61
R17A Hanksville Air 60.59 329 ⇓P P 00 12 48.4 -0.1
baz=61,SNR=8.6
MURC Murrieta 60.66 321 ⇓P P 00 12 49.7 +0.6
baz=61
V12A Nelson 60.77 325 ⇑P P 00 12 49.9 +0.1
baz=61
T14A Hurricane 60.78 327 ⇑P P 00 12 49.9 +0.1
baz=61
U13A Pakoon Wash 60.78 326 ⇓P P 00 12 50.2 +0.4
baz=61
Q18A Rafter H Ranch 60.84 330 ⇑P P 00 12 49.9 -0.3
baz=61
HEC Hector,Ludlow 60.99 323 ⇑P P 00 12 52.0 +0.7
baz=61
SRU San Rafael 61.03 330 eP P 00 12 51.0 -0.5
SRU pmax pmax
comp=Z,119nm,1.8s,mb5.7
SRU San Rafael 61.03 330 ⇑P P 00 12 51.2 -0.3
baz=61,SNR=5.5

SRU San Rafael 61.03 330 eP P 00 12 51.0 -0.5
comp=Z,119nm,1.8s,mb5.7
U12A Valley of Fire 61.11 325 ⇓P P 00 12 52.1 0.0
baz=61
TUQ Turquoise Mtn. 61.18 324 ⇓P P 00 12 52.8 +0.3
baz=61
T13A Saint George 61.19 326 ⇓P P 00 12 52.8 +0.2
baz=61
Q16A Castle Valley 61.20 329 ⇑P P 00 12 52.7 0.0
baz=61
R15A Junction 61.22 328 ⇑P P 00 12 52.9 +0.1
baz=61
P18A Preston Nutter 61.30 331 ⇓P P 00 12 53.1 -0.2
baz=62
BFSC Mount Baldy St 61.38 321 ⇓P P 00 12 54.4 +0.4
baz=62,SNR=6.5
P17A Butcher Ranch, 61.42 330 ⇓P P 00 12 53.7 -0.4
baz=62,SNR=9.1
ARUT Antelope Range 61.51 327 eP P 00 12 54.8 +0.1
ARUT e*PP pP 00 13 05.4 -1.6
TRIS Tristan da Cun 61.51 125 eP P 00 12 54.5 -0.3
comp=Z,84nm,0.6s,mb6.0
S13A Holt Ranch, En 61.58 327 ⇑P P 00 12 55.4 +0.2
baz=62,SNR=12
RWWY Rawlins 61.59 334 P P 00 12 54.6 -0.6
comp=Z,235nm,1.7s,mb6.0
RWWY e pP 00 13 07.1 -0.4
RWWY e 00 13 15.1
GSC Goldstone 61.60 323 ⇑P P 00 12 56.0 +0.6
baz=62
GSC Goldstone 61.60 323 eP P 00 12 54.3 -1.1
MWC Mount Wilson 61.61 321 eP P 00 12 56.1 +0.6
MWC e*PP pP 00 13 08.4 +0.6
MWC pmax pmax
comp=Z,180nm,1.6s,mb6.0
MWC Mount Wilson 61.61 321 eP P 00 12 55.3 -0.2
comp=Z,184nm,1.6s,mb6.0
MWC e pP 00 13 07.9 +0.1
O18A Roosevelt 61.69 331 ⇓P P 00 12 55.9 0.0
baz=62
SHOC Shoshone 61.71 324 ⇑P P 00 12 57.0 +0.9
baz=62
Q15A Fillmore 61.87 329 ⇑P P 00 12 57.5 +0.4
baz=62
EDW2 Edwards Air Fo 62.01 322 ⇑P P 00 12 58.1 -0.1
baz=62
T11A Corn Creek, Al 62.07 325 ⇓P P 00 12 58.6 +0.1
baz=62,SNR=6.0
R13A O'Grain Ranch, 62.08 327 ⇓P P 00 12 59.4 +0.9
baz=62
N18A Larsen Ranch, 62.10 332 ⇓P P 00 12 59.1 +0.5
baz=62
U10A Ash Meadows, A 62.10 324 ⇓P P 00 12 59.3 +0.5
baz=62
P15A Leamington 62.25 329 ⇓P P 00 13 00.1 +0.4
baz=62
Q14A Sevier Lake (B 62.32 328 ⇑P P 00 13 00.8 +0.7
baz=62,SNR=8.1
EYMN Ely 62.36 349 eP P 00 12 58.6 -1.7
comp=Z,56nm,1.0s,mb5.7
RSSD Black Hills 62.38 338 eP P 00 12 59.3 -1.1
RSSD pmax pmax
comp=Z,194nm,2.2s,mb5.8
RSSD Black Hills 62.38 338 eP P 00 12 59.3 -1.2
comp=Z,194nm,2.2s,mb5.8
DAU Daniels Canyon 62.40 330 eP P 00 13 00.7 0.0
DAU e*PP pP 00 13 12.9 -0.1
TPNV Topopah Spring 62.43 325 eP P 00 13 01.3 +0.3
TPNV Topopah Spring 62.43 325 ⇓P P 00 13 01.9 +0.9
baz=63,SNR=5.8
TPNV Topopah Spring 62.43 325 eP P 00 13 00.5 -0.5
TPNV e pP 00 13 13.3 +0.1
FURC Furnace Creek, 62.44 324 ⇑P P 00 13 01.7 +0.6
baz=63,SNR=5.9
NLU North Lily Min 62.45 330 eP P 00 13 00.7 -0.3
NLU epP pP 00 13 12.2 -1.1
MPMC Manual Prospec 62.52 323 ⇑P P 00 13 01.7 +0.1
baz=63
R12A Pony Springs, 62.53 327 ⇑P P 00 13 02.2 +0.7
baz=63
N17A Moffit Pass 62.61 331 ⇑P P 00 13 02.7 +0.7
baz=63
JLU Jordanelle 62.64 330 eP P 00 13 02.2 -0.1
JLU epP pP 00 13 13.3 -1.3
S11A Rachel 62.65 325 ⇓P P 00 13 02.5 +0.1
baz=63
P14A Drum Mountains 62.66 329 ⇑P P 00 13 03.1 +0.6
baz=63,SNR=8.2
Q13A Wheeler Ranch, 62.68 328 ⇓P P 00 13 02.9 +0.3
baz=63,SNR=8.2
ARVC Arvin 62.69 321 ⇓P P 00 13 03.4 +0.7
baz=63
ISA Isabella 62.83 322 P P 00 13 02.4 -1.3
ISA e*PP pP 00 13 14.8 -1.2
ISA pmax pmax
comp=Z,124nm,1.9s,mb5.7
ISA Isabella 62.83 322 P P 00 13 02.4 -1.3
comp=Z,124nm,1.9s,mb5.7
ISA epP pP 00 13 14.8 -1.2
N16A Rees Ranch, Co 62.86 331 ⇑P P 00 13 03.6 0.0
baz=63,SNR=5.8
O15A The Old Anders 62.89 330 ⇑P P 00 13 04.2 +0.3
baz=63
DUG Dugway 62.99 329 eP P 00 13 04.8 +0.2
DUG pmax pmax
comp=Z,51nm,1.0s,mb5.6
DUG Dugway 62.99 329 ⇓P P 00 13 05.1 +0.4
baz=63,SNR=16
DUG Dugway 62.99 329 eP P 00 13 04.4 -0.3
comp=Z,51nm,0.9s,mb5.7
P13A Bates Ranch, G 63.05 328 ⇑P P 00 13 05.6 +0.6
baz=63
R11A Troy Canyon, C 63.07 326 ⇓P P 00 13 05.5 +0.3
baz=63
GRAC Grapevine Rang 63.11 324 ⇑P P 00 13 06.4 +1.0
baz=63
CWC Cottonwood Cre 63.13 323 ⇑P P 00 13 06.2 +0.6
baz=63
PKM Peak Mountain 63.14 321 ⇓P P 00 13 06.5 +0.8
baz=63
Q12A Willow Creek R 63.17 327 ⇓P P 00 13 06.3 +0.5
baz=63
M16A Huntsville 63.28 331 ⇓P P 00 13 05.8 -0.7
baz=64
VES Vestal, Richgr 63.32 322 ⇑P P 00 13 07.1 +0.2
baz=64
S10A Tonopah Range, 63.32 325 ⇑P P 00 13 07.5 +0.7
baz=64,SNR=6.4
N15A Stansbury Isla 63.38 330 ⇑P P 00 13 06.9 -0.2
baz=64
R10A Warm Springs 63.42 326 ⇑P P 00 13 07.6 +0.1
baz=64
Q11A Duckwater 63.46 326 ⇑P P 00 13 08.0 +0.2
baz=64,SNR=7.9
HWUT Hardware Ranch 63.48 331 eP P 00 13 06.8 -1.0
comp=Z,236nm,1.9s,mb6.0
HWUT e pP 00 13 19.6 -0.5
PDAR Pinedale Array 63.48 333 P P 00 13 07.0 -0.8
comp=Z,6.9nm,0.9s,mb4.8,baz=137,slow=7.1,SNR=8.1
SMMC Simmler 63.52 321 ⇑P P 00 13 08.5 +0.2
baz=64
S09A Goldfield 63.53 325 ⇓P P 00 13 08.9 +0.7
baz=64
O13A Hicks Ranch, I 63.53 328 ⇑P P 00 13 08.5 +0.3
baz=64
AGMN Agassiz Refuge 63.65 346 eP P 00 13 07.4 -1.3
BGU Big Grassy Mou 63.66 330 eP P 00 13 08.1 -0.9
BGU epP pP 00 13 18.0 -3.3
SPUT South Promonto 63.67 330 eP P 00 13 04.2 -4.8
N14A Grayback Hills 63.68 330 ⇓P P 00 13 09.3 +0.2
baz=64,SNR=5.5
RCTC Rector, Farmer 63.73 322 ⇓P P 00 13 09.6 0.0
baz=64
L16A Fish Haven 63.73 331 ⇓P P 00 13 09.6 +0.1
baz=64
TPH Tonopah 63.77 325 eP P 00 13 10.5 +0.7
TPH pmax pmax
comp=Z,120nm,1.5s,mb5.7
TPH Tonopah 63.77 325 eP P 00 13 09.7 -0.1
comp=Z,123nm,1.5s,mb5.7
M15A Larsen Ranch, 63.78 330 ⇓P P 00 13 09.7 -0.1
baz=64
R09A Tonopah 63.81 325 ⇑P P 00 13 10.3 +0.3
baz=64
HELL Mitchell Peak 63.85 323 ⇑P P 00 13 10.5 +0.1
baz=64
Q10A Clear Creek Ra 63.85 326 ⇓P P 00 13 11.2 +0.8

baz=64,SNR=5.6
S08C White Mtn Res 63.91 324 ⇑P P 00 13 11.0 +0.3
baz=64,SNR=5.4
O12A Currie 64.03 328 ⇓P P 00 13 12.0 +0.5
baz=64,SNR=7.4
MTUM Tungsten Hills 64.04 323 eP P 00 13 11.5 -0.1
MTUM e pP 00 13 22.5 -1.4
L15A Malad City 64.17 331 ⇑P P 00 13 11.8 -0.5
baz=64
HVU Hansel Valley 64.19 330 eP P 00 13 12.2 -0.3
N13A Wendover, West 64.19 329 ⇑P P 00 13 12.7 +0.2
baz=64
M14A Sheep Mountain 64.25 330 ⇑P P 00 13 12.3 -0.6
baz=64,SNR=6.4
V04C Ramage Ranch, 64.27 321 ⇑P P 00 13 14.4 +1.3
baz=64
Q09A Carvers 64.29 326 ⇑P P 00 13 13.7 +0.5
baz=64
O11A Cowboy Ranch, 64.40 327 ⇑P P 00 13 14.5 +0.6
baz=65,SNR=5.3
K16A Soda Springs 64.44 332 ⇓P P 00 13 15.2 +1.1
baz=65,SNR=7.0
P10A Eureka 64.46 327 ⇑P P 00 13 15.3 +1.0
baz=65
KCC Kaiser Creek 64.46 323 ⇓P P 00 13 13.9 -0.4
baz=65,SNR=5.7
T06C Millerton Lake 64.47 323 ⇑P P 00 13 15.1 +0.6
baz=65
REDW Red Top Meadow 64.53 333 eP P 00 13 13.7 -0.9
comp=Z,134nm,1.7s,mb5.7
REDW e pP 00 13 23.9 -3.1
M13A Montello 64.55 329 ⇓P P 00 13 15.5 +0.7
baz=65
L14A Malta 64.60 330 ⇓P P 00 13 14.8 -0.4
baz=65,SNR=6.6
N12A Clover Valley, 64.61 328 ⇓P P 00 13 15.3 0.0
baz=65
LOHW Long Hollow 64.62 333 eP P 00 13 14.7 -0.5
comp=Z,156nm,1.9s,mb5.7
NVAR Mina Array Bea 64.63 324 P P 00 13 15.5 0.0
comp=Z,12nm,0.8s,mb4.9,baz=131,slow=6.4,SNR=14
NVAR PKP2bc 00 42 05.8
comp=Z,0.6nm,0.8s,baz=264,slow=4.3,SNR=4.1
NVAR Mina Array Bea 64.63 324 P P 00 13 15.5 0.0
NVAR ⇑e 00 42 05.8
ELK Elko 64.63 328 eP P 00 13 14.7 -0.7
ELK pmax pmax
comp=Z,26nm,1.1s
ELK Elko 64.63 328 eP P 00 13 14.7 -0.8
comp=Z,26nm,1.1s,mb5.2
U04C Hernandez Rese 64.69 321 ⇑P P 00 13 16.5 +0.6
baz=65
Q08A Gabbs 64.72 325 ⇑P P 00 13 16.5 +0.4
baz=65
RRI2 Red Ridge 64.73 332 eP P 00 13 15.7 -0.2
comp=Z,89nm,1.1s,mb5.7
V03C Hunter Liggett 64.75 321 ⇓P P 00 13 16.4 +0.1
baz=65
K15A Arbon 64.77 331 ⇓P P 00 13 16.0 -0.2
baz=65
P09A Austin 64.77 326 ⇓P P 00 13 16.8 +0.5
baz=65
MOOW Moose Ponds 64.79 333 eP P 00 13 16.3 -0.1
comp=Z,61nm,1.6s,mb5.4
J16A Bone 64.80 332 ⇓P P 00 13 16.3 -0.2
baz=65
R07C Lee Vining 64.82 324 ⇑P P 00 13 17.0 +0.3
baz=65
O10A Cortez Mining, 64.96 327 ⇓P P 00 13 18.3 +0.8
baz=65,SNR=8.6
K14A Jones Ranch, D 64.96 331 ⇓P P 00 13 16.5 -1.0
baz=65
M12A Wells 64.96 329 ⇓P P 00 13 17.2 -0.4
baz=65
L13A Double Diamond 64.98 330 ⇑P P 00 13 18.5 +0.8
baz=65,SNR=5.6
IMW Indian Meadow 64.99 333 eP P 00 13 17.1 -0.6
comp=Z,14nm,0.9s,mb5.0
IMW epP pP 00 13 28.7 -1.3
FLWY Flagg Ranch 65.03 333 eP P 00 13 18.3 +0.4
S05C Merced 65.07 322 ⇓P P 00 13 19.1 +0.7
baz=65
HAST Hastings Reser 65.18 321 ⇑P P 00 13 19.7 +0.6
baz=65
O09A Fish Creek Ran 65.24 327 ⇑P P 00 13 19.7 +0.3
baz=66
N10A Dunphy 65.27 327 ⇑P P 00 13 19.8 +0.2
baz=66
R06C Coleville 65.35 324 ⇑P P 00 13 20.6 +0.5
baz=66
LAO LASA Array 65.38 338 eP P 00 13 18.6 -1.5
comp=Z,169nm,1.5s,mb5.8
LAO e pP 00 13 31.2 -1.3
YFT Old Faithful 65.39 334 eP P 00 13 23.7 +3.5
M11A Holland Ranch, 65.42 328 ⇑P P 00 13 20.8 +0.3
baz=66,SNR=6.2
PACP Pacheco Peak 65.42 322 ⇑P P 00 13 21.6 +0.9
baz=66
BMN Battle Mountai 65.44 327 eP P 00 13 19.9 -0.8
BMN e*PP pP 00 13 31.3 -1.8
BMN pmax pmax
comp=Z,19nm,1.3s,mb5.0
BMN Battle Mountai 65.44 327 eP P 00 13 19.9 -0.8
comp=Z,19nm,1.3s,mb5.0
BMN epP pP 00 13 31.3 -1.8
ULM Lac du Bonnet 65.47 346 P P 00 13 19.2 -1.5
comp=Z,129nm,0.9s,mb6.0,baz=157,slow=6.4,SNR=38
ULM Lac du Bonnet 65.47 346 P P 00 13 19.2 -1.5
K13A Stover Farm, H 65.48 330 ⇑P P 00 13 20.5 -0.4
baz=66
L12A House Creek Ra 65.56 329 ⇑P P 00 13 21.6 +0.2
baz=66
CMB Columbia Colle 65.56 323 ⇑P P 00 13 21.7 +0.2
baz=66,SNR=5.5
CMB Columbia Colle 65.56 323 eP P 00 13 21.4 -0.1
YMR Madison River 65.61 334 eP P 00 13 22.4 +0.7
comp=Z,38nm,1.0s,mb5.4
R05C Kirkwood Meado 65.83 324 ⇑P P 00 13 23.9 +0.6
baz=66
O08A Rochester Mine 65.85 326 ⇓P P 00 13 23.6 +0.3
baz=66,SNR=7.4
K12A Draper Farm, C 65.86 330 ⇓P P 00 13 23.5 +0.2
baz=66,SNR=11
L11A Cat Creek Ranc 65.94 329 ⇑P P 00 13 23.7 -0.1
baz=66,SNR=8.3
QLMT Earthquake Lak 65.94 333 P P 00 13 24.0 +0.2
GCMT Greycliff 65.97 335 eP P 00 13 23.2 -0.8
WCN Washoe City 66.05 324 ⇑P P 00 13 25.4 +0.7
baz=66
J13A Cove Ranch, Pi 66.09 331 ⇓P P 00 13 25.0 +0.2
baz=66
PAHR Pah Rah Range 66.12 325 eP P 00 13 25.5 +0.4
O07A Toulon 66.15 326 ⇑P P 00 13 25.3 0.0
baz=66,SNR=7.0
N08A GE Springer Mi 66.18 326 ⇓P P 00 13 25.1 -0.3
baz=66
DGMT Dagmar 66.20 340 eP P 00 13 25.3 -0.1
comp=Z,108nm,1.0s,mb5.8
L10A Juniper Basin 66.24 328 ⇓P P 00 13 25.6 -0.2
baz=66,SNR=7.4
M09A Marrel Ranch, 66.27 327 ⇑P P 00 13 25.8 -0.3
baz=66,SNR=7.1
HLID Hailey 66.33 331 ⇓P P 00 13 26.1 -0.1
baz=66
HLID Hailey 66.33 331 eP P 00 13 26.8 +0.5
BDM Black Diamond 66.39 322 ⇑P P 00 13 27.5 +0.6
baz=67
P06A Stead Airport, 66.39 325 ⇓P P 00 13 27.4 +0.6
baz=67
J12A Stokes Ranch, 66.42 330 ⇑P P 00 13 26.6 -0.3
baz=67
I13A Wildhorse Cree 66.45 331 ⇑P P 00 13 27.3 +0.2
baz=67,SNR=6.5
K11A Parker Ranch, 66.52 329 ⇑P P 00 13 27.7 +0.1
baz=67
P05C Yuba Gap, Truc 66.54 324 ⇑P P 00 13 28.5 +0.8
baz=67
MCMT McKenzie Canyo 66.57 333 eP P 00 13 27.9 +0.1
G15A Dillon 66.67 333 ⇑P P 00 13 28.9 +0.4
baz=67,SNR=5.9
BOZ Bozeman (W) 66.68 334 eP P 00 13 27.7 -0.8
BOZ e*PP pP 00 13 40.1 -0.8
BOZ pmax pmax
comp=Z,18nm,0.9s,mb5.1
BOZ Bozeman (W) 66.68 334 ⇑P P 00 13 28.2 -0.3
baz=67,SNR=6.5
BOZ Bozeman (W) 66.68 334 eP P 00 13 27.7 -0.8
comp=Z,18nm,0.9s,mb5.1
BOZ epP pP 00 13 40.1 -0.8
Q04C Lincoln 66.68 323 ⇑P P 00 13 29.3 +0.7
baz=67
BEKR Beckwourth 66.78 324 ⇓P P 00 13 29.6 +0.3
baz=67
M08A Happy Creek Ra 66.78 327 ⇑P P 00 13 29.7 +0.4
baz=67
L09A Wilkinson Ranc 66.81 328 ⇓P P 00 13 29.5 +0.1
baz=67,SNR=6.4
DLMT Dillon 66.87 333 eP P 00 13 30.2 +0.5
comp=Z,92nm,1.4s,mb5.6
DLMT epP pP 00 13 41.5 -0.6
MFID Camas Ranch 66.90 330 ⇓P P 00 13 30.3 +0.3
baz=67,SNR=9.6
FARB Farallon Islan 66.91 321 ⇓P P 00 13 30.9 +0.7
baz=67
K10A MacKenzie Ranc 66.95 329 ⇓P P 00 13 30.3 0.0
baz=67,SNR=5.3
CVS Carmenet Viney 67.00 322 ⇓P P 00 13 31.6 +0.9
baz=67
OHCM Honcut 67.07 323 eP P 00 13 31.0 -0.2
OHCM epP pP 00 13 43.2 -0.3
N06A Buffalo Meadow 67.09 325 ⇓P P 00 13 31.1 -0.1
baz=67,SNR=7.5
O05C Quincy 67.16 324 ⇓P P 00 13 32.2 +0.5
baz=67
M07A Soldier Meadow 67.17 326 ⇑P P 00 13 32.1 +0.4
baz=67
SUTB Sutter Butte 67.17 323 ⇓P P 00 13 32.6 +0.8
baz=67
NSHM Saint Helena R 67.20 322 eP P 00 13 31.4 -0.6
NSHM epP pP 00 13 42.8 -1.6
ORV Oroville 67.22 324 ⇑P P 00 13 32.5 +0.4
baz=67,SNR=14
H12A Diamond D Ranc 67.28 331 ⇑P P 00 13 32.5 +0.2
baz=68
L08A Fields 67.29 327 ⇓P P 00 13 32.3 -0.1
baz=68
I11A Placerville 67.33 330 ⇓P P 00 13 32.5 -0.2
baz=68,SNR=6.2
K09A Rome 67.33 328 ⇓P P 00 13 32.6 -0.1
baz=68,SNR=12
J10A Berg Farm, Mel 67.37 329 ⇑P P 00 13 33.0 +0.1
baz=68
G13A Cobalt 67.40 332 ⇓P P 00 13 32.9 -0.2
baz=68
F14A Wisdom 67.56 333 ⇓P P 00 13 34.5 +0.4
baz=68
HRY Holter Researc 67.60 334 eP P 00 13 34.0 -0.3
L07A Adell 67.69 327 ⇑P P 00 13 35.1 0.0
baz=68
E15A Deer Lodge 67.72 334 ⇑P P 00 13 35.1 0.0
baz=68
K08A Mann Creek Ran 67.75 328 ⇑P P 00 13 35.2 -0.2
baz=68
M06C Likely Place G 67.75 325 ⇓P P 00 13 35.8 +0.4
baz=68
EGMT Eagleton 67.82 336 ⇓P P 00 13 34.8 -0.9
baz=68
EGMT Eagleton 67.82 336 eP P 00 13 34.8 -0.9
comp=Z,69nm,1.1s,mb5.6
H11A Donnelly 67.94 331 ⇑P P 00 13 36.4 -0.1
baz=68
F13A Darby 67.98 332 ⇓P P 00 13 36.7 0.0
baz=68
GASB Alder Springs 68.00 323 ⇑P P 00 13 38.3 +1.3
baz=68,SNR=5.4
E14A Clinton 68.09 333 ⇑P P 00 13 37.7 +0.3
baz=68,SNR=6.7
K07A Rock Creek Ran 68.11 327 ⇓P P 00 13 38.2 +0.5
baz=68
MOD Modoc 68.13 326 ⇓P P 00 13 38.1 +0.3
baz=68,SNR=6.1
MOD Modoc 68.13 326 eP P 00 13 38.2 +0.4
D15A Lincoln 68.16 334 ⇑P P 00 13 38.4 +0.6
baz=68
J08A Circle Bar Ran 68.18 328 ⇑P P 00 13 38.6 +0.5
baz=68
H10A Noah's Angus R 68.21 330 ⇓P P 00 13 38.6 +0.4
baz=68
M05C Lookout 68.23 325 ⇑P P 00 13 38.7 +0.3
baz=68,SNR=9.6
P01C Double 8 Ranch 68.24 322 ⇓P P 00 13 39.1 +0.6
baz=68,SNR=6.8
I09A Lost Marbles R 68.25 329 ⇓P P 00 13 39.2 +0.7
baz=68
SCHQ Schefferville 68.27 6 P P 00 13 37.7 -0.6
comp=Z,33nm,0.9s,mb5.4,baz=192,slow=5.0,SNR=15
F12A Elk City 68.37 332 ⇑P P 00 13 39.4 +0.1
baz=69
O02C Red Bluff 68.38 323 ⇑P P 00 13 39.2 -0.2
baz=69
E13A Victor 68.41 333 ⇓P P 00 13 39.3 -0.2
baz=69,SNR=6.5
L05A Lakeview 68.52 326 ⇑P P 00 13 41.4 +1.2
baz=69
KCPM Cahto Peak 68.53 323 eP P 00 13 40.5 +0.2
KCPM epP pP 00 13 50.4 -2.4
G11A Walters Elk Ra 68.58 331 ⇑P P 00 13 40.8 +0.3
baz=69
MSO Missoula 68.60 333 eP P 00 13 41.0 +0.3
comp=Z,84nm,1.5s,mb5.5
MSO epP pP 00 13 52.1 -0.9
MSO ePP PP 00 16 09.9 -2.7
D14A Greenough 68.61 334 ⇑P P 00 13 40.4 -0.2
baz=69
I08A Drewsey 68.62 329 ⇓P P 00 13 41.2 +0.4
baz=69
J07A Hines 68.63 328 ⇑P P 00 13 41.1 +0.2
baz=69
H09A Durkee 68.72 330 ⇓P P 00 13 41.2 -0.2
baz=69
M03C McCloud 68.72 325 ⇓P P 00 13 41.4 -0.1
baz=69
K06A Valley Falls 68.72 327 ⇓P P 00 13 42.0 +0.5
baz=69,SNR=12
F11A Grangeville 68.89 331 ⇑P P 00 13 41.9 -0.6
baz=69,SNR=10.0
M04C Macdoel 68.90 325 ⇑P P 00 13 43.0 +0.4
baz=69
G10A Bishop Farm, J 68.91 330 ⇓P P 00 13 42.2 -0.4
baz=69
O01C Eel River Cons 68.96 323 ⇑P P 00 13 43.4 +0.5
baz=69
J06A Christmas Vall 68.98 327 ⇑P P 00 13 43.3 +0.2
baz=69,SNR=11
K05A Summer Lake 69.02 326 ⇑P P 00 13 44.1 +0.8
baz=69
D13A Huson 69.03 333 ⇓P P 00 13 43.1 -0.2
baz=69
N02C Big Bar 69.10 324 ⇓P P 00 13 44.0 +0.1
baz=69,SNR=13
L04A Klamath Falls 69.19 325 ⇑P P 00 13 43.8 -0.6
baz=69
M02C Callahan 69.21 324 ⇑P P 00 13 43.6 -0.9
baz=69
G09A Cove 69.22 330 ⇓P P 00 13 44.6 +0.2
baz=69,SNR=13
I07A Izee 69.22 328 ⇓P P 00 13 44.7 +0.2
baz=69,SNR=13
C14A Swan Lake 69.24 334 ⇓P P 00 13 44.3 -0.3
baz=70
E11A Bogner Ranch, 69.26 332 ⇑P P 00 13 44.5 -0.2
baz=70
YBH Yreka Blue Hor 69.35 325 eP P 00 13 44.3 -1.1
YBH pmax pmax
comp=Z,22nm,1.0s
YBH Yreka Blue Hor 69.35 325 ⇓P P 00 13 44.1 -1.3
baz=70,SNR=6.6
YBH Yreka Blue Hor 69.35 325 eP P 00 13 44.3 -1.1
comp=Z,22nm,1.0s,mb5.0
KHMM Horse Mountain 69.38 323 eP P 00 13 46.6 +1.1
K04A Chilquin 69.39 326 ⇓P P 00 13 45.7 +0.1
baz=70
D12A Red Ives Fores 69.40 333 ⇑P P 00 13 45.5 0.0
baz=70
F10A Beach Ranch, E 69.46 331 ⇓P P 00 13 46.0 +0.1
baz=70
I06A Prineville 69.49 328 ⇑P P 00 13 46.7 +0.5
baz=70,SNR=5.7
JCC Jacoby Creek 69.51 323 ⇑P P 00 13 47.0 +0.5
baz=70
C13A Hot Springs 69.53 334 ⇑P P 00 13 46.1 -0.2
baz=70,SNR=5.4
J05A Fort Rock 69.58 327 ⇓P P 00 13 47.2 +0.4
baz=70
F09A S2 Ranch, Elgi 69.59 330 ⇑P P 00 13 46.9 +0.1
baz=70,SNR=16
H07A Lands Inn, Kim 69.61 329 ⇑P P 00 13 47.8 +0.9
baz=70
E10A Myers Farm, Un 69.78 331 ⇑P P 00 13 48.3 +0.4
baz=70
G08A Pilot Rock 69.80 329 ⇑P P 00 13 48.7 +0.6
baz=70,SNR=7.1
D11A Klaveano Farm, 69.84 332 ⇓P P 00 13 48.0 -0.2
baz=70
LNOR Lincton Mounta 69.89 330 eP P 00 13 47.7 -0.9
LNOR e*PP pP 00 14 00.0 -1.1
KRMB Red Mountain 69.90 324 eP P 00 13 49.0 +0.2
KRMB epP pP 00 14 00.9 -0.4
J04A Umpqua Nationa 70.02 326 ⇓P P 00 13 49.9 +0.4
baz=70,SNR=6.6
H06A Lindquist Farm 70.11 328 ⇓P P 00 13 50.5 +0.5
baz=70,SNR=6.1
L02A Cave Junction 70.13 325 ⇑P P 00 13 50.4 +0.2
baz=70
I05A Bend 70.19 327 ⇑P P 00 13 51.1 +0.6
baz=70
M01C Crescent City 70.23 324 ⇑P P 00 13 51.0 +0.2
baz=70
D10A Wagner Farm, O 70.27 332 ⇑P P 00 13 50.7 -0.2
baz=70
E09A Wood Farm, Sta 70.29 331 ⇓P P 00 13 50.8 -0.3
baz=70,SNR=5.7
WALA Waterton Lakes 70.31 335 eP P 00 13 50.2 -0.9
comp=Z,132nm,1.7s,mb5.6
VNA1 Neumayer--Stat 70.41 161 eP P 00 13 51.1 -0.4
VNA1 e 00 14 00.0
VNA1 e pP 00 14 03.9 -0.1
K02A Glendale 70.47 325 ⇓P P 00 13 52.0 -0.2
baz=71,SNR=10
KBO Bosley Butte 70.52 324 eP P 00 13 52.3 -0.3
KBO epP pP 00 14 06.1 +1.0
I04A Tendick Farm, 70.56 326 ⇓P P 00 13 52.2 -0.6
baz=71
B12A Libby 70.57 334 ⇓P P 00 13 52.8 0.0
baz=71,SNR=7.5
E08A Dider Farm, El 70.71 330 ⇑P P 00 13 53.1 -0.5
baz=71
F07A Phinny Hill Vi 70.71 329 ⇑P P 00 13 54.1 +0.5
baz=71
D09A Jones Farm, Ri 70.76 331 ⇓P P 00 13 54.0 +0.1
baz=71
C10A Spilker Farm, 70.85 332 ⇑P P 00 13 54.3 -0.1
baz=71
HAWA Hanford 70.87 330 eP P 00 13 54.3 -0.3
comp=Z,28nm,1.0s,mb5.1
HAWA e pP 00 14 06.5 -0.6
B11A Sandpoint 70.89 333 ⇑P P 00 13 54.6 -0.1
baz=71
BROR Big Rock Looko 70.89 327 P P 00 13 54.2 -0.5
RSW Rattlesnake Hi 70.90 330 P P 00 13 55.2 +0.5
J02A Umpqua 70.91 326 ⇓P P 00 13 55.1 +0.2
baz=71,SNR=11
A12A Yaak River Ran 70.95 334 ⇑P P 00 13 55.4 +0.4
baz=71,SNR=6.6
G05A Wamic 70.96 328 ⇓P P 00 13 55.6 +0.4
baz=71
SNIWA Snively Ranch 70.98 330 P P 00 13 55.7 +0.5
KEBM Edson Butte 71.01 325 eP P 00 13 56.2 +0.7
H04A Detroit Lake 71.03 327 ⇑P P 00 13 55.5 -0.1
baz=71
K01A Sixes 71.04 325 ⇑P P 00 13 55.5 -0.2
baz=71
D08A Wollman Farm, 71.05 331 ⇑P P 00 13 55.9 +0.2
baz=71
GBB Gable Butte 71.07 330 P P 00 13 55.7 -0.1
NEW Newport 71.10 333 eP P 00 13 55.3 -0.6
NEW e*PP pP 00 14 07.7 -0.7
I03A Eugene 71.14 326 ⇑P P 00 13 56.5 +0.2
baz=71,SNR=8.7
E07A Sunnyside 71.14 330 ⇓P P 00 13 56.9 +0.7
baz=71,SNR=5.9
B10A Chitwood Farm, 71.17 333 ⇓P P 00 13 55.3 -1.0
baz=71
HOOD Mount Hood Mea 71.19 328 eP P 00 13 57.6 +1.1
OD2 Odessa Site #2 71.19 331 P P 00 13 56.5 0.0
A11A Hall Mountain, 71.28 333 ⇑P P 00 13 57.3 +0.3
baz=72,SNR=7.1
RNO Roman Nose 71.35 326 P P 00 13 58.0 +0.5
I02A Mapleton 71.46 326 ⇑P P 00 13 58.2 0.0
baz=72
F05A White Salmon 71.47 329 ⇓P P 00 13 58.5 +0.3
baz=72
G04A Mulino 71.54 328 ⇓P P 00 13 58.9 +0.2
baz=72
COR Corvallis 71.56 327 eP P 00 13 58.9 +0.1
COR pmax pmax
comp=Z,173nm,1.6s,mb5.7
COR Corvallis 71.56 327 eP P 00 13 58.9 +0.1
comp=Z,173nm,1.6s,mb5.7
EPH Ephrata 71.58 331 P P 00 13 59.2 +0.4
H03A Soap Creek Ran 71.61 327 ⇓P P 00 13 59.4 +0.3
baz=72,SNR=6.0
C08A Higginbotham F 71.63 331 ⇓P P 00 13 59.6 +0.4
baz=72
D07A Quincy 71.65 330 ⇑P P 00 14 00.2 +0.9
baz=72,SNR=6.4
B09A Rice 71.68 332 ⇑P P 00 13 59.7 +0.3
baz=72,SNR=8.6
A10A Northport 71.82 333 ⇑P P 00 13 59.2 -1.0
baz=72
H02A Toledo 71.99 326 ⇓P P 00 14 01.6 +0.2
baz=72
F04A Amboy 72.00 328 ⇓P P 00 14 01.2 -0.2
baz=72,SNR=8.4
G03A Yamhill 72.03 327 ⇓P P 00 14 01.7 +0.1
baz=72
C07A Waterville 72.04 331 ⇓P P 00 14 01.7 +0.1
baz=72,SNR=9.5
D06A Cle Elum 72.07 330 ⇑P P 00 14 02.1 +0.3
baz=72,SNR=5.8
E05A Randle 72.09 329 ⇓P P 00 14 01.8 -0.1
baz=72
ETW Entiat 72.11 330 P P 00 14 02.6 +0.6
FL2 Flat Top 2 72.14 328 P P 00 14 02.9 +0.7
B08A Colville Reser 72.18 331 ⇑P P 00 14 02.6 +0.2
baz=72
HEBO Mount Hebo 72.22 327 eP P 00 14 03.0 +0.3
comp=Z,43nm,1.0s,mb5.3
HEBO ePP PP 00 16 42.6 -1.2
A09A Danville 72.28 332 ⇑P P 00 14 02.8 -0.3
baz=72,SNR=7.2
SLFW Sugar Loaf 72.31 330 P P 00 14 03.6 +0.3
SNAA Sanae 72.37 161 eP P 00 14 02.1 -1.2
SNAA e pP 00 14 14.0 -1.8
SNAA e 00 14 19.6
SNAA Sanae 72.37 161 eP P 00 14 02.5 -0.8
SNAA e*PP pP 00 14 14.2 -1.6
SNAA pmax pmax
comp=Z,85nm,0.9s
SNAA Sanae 72.37 161 eP P 00 14 02.5 -0.8
comp=Z,85nm,0.9s,mb5.7
SNAA epP pP 00 14 14.2 -1.6
GSM Grass Mountain 72.55 329 P P 00 14 04.6 -0.1
A08A Turner Farm, O 72.58 332 ⇓P P 00 14 04.8 0.0
baz=73,SNR=7.8
F03A Seaside 72.59 328 ⇑P P 00 14 05.6 +0.7
baz=73
B07A Winthrop 72.62 331 ⇓P P 00 14 05.0 -0.1
baz=73
D05A Enumclaw 72.63 329 ⇓P P 00 14 05.0 -0.2
baz=73
BMW Boistfort Moun 72.78 328 P P 00 14 06.0 0.0
C05A Tolt Reservoir 72.83 330 ⇓P P 00 14 06.0 -0.3
baz=73
A07A Ashnola River, 73.16 331 ⇓P P 00 14 08.5 +0.3
baz=73,SNR=8.0
FCC Fort Churchill 73.17 350 eP P 00 14 06.4 -1.7
FCC pmax pmax
comp=Z,145nm,1.7s,mb5.6
FCC Fort Churchill 73.17 350 eP P 00 14 06.4 -1.6
comp=Z,145nm,1.7s,mb5.6
RPW Rockport 73.27 330 eP P 00 14 07.7 -1.2
RPW epP pP 00 14 20.8 -0.6
JCW Jim Creek 73.30 330 eP P 00 14 07.9 -1.1
JCW epP pP 00 14 20.7 -0.9
B06A Marblemount 73.31 331 ⇓P P 00 14 08.5 -0.6
baz=74,SNR=7.1
GNW Green Mountain 73.31 329 eP P 00 14 10.6 +1.5
EDM Edmonton 73.36 338 eP P 00 14 08.2 -1.1
B05A Bryant 73.42 330 ⇑P P 00 14 09.5 -0.3
baz=74,SNR=7.1

LIC Lamto 73.44 79⇑iP P 00 14 10.2 -0.5
comp=Z,167nm,0.9s,mb5.7,baz=264
LIC Lamto 73.44 79⇑iP P 00 14 10.2 -0.5
comp=Z,83nm,0.9s,mb5.7
C04A Brinnon 73.48 329 ⇑P P 00 14 10.0 -0.2
baz=74
D03A Wishkah Elem. 73.48 328 ⇓P P 00 14 10.2 0.0
baz=74
A06A Chilliwack 73.71 331 ⇓P P 00 14 11.3 -0.2
baz=74,SNR=5.5
NLWA Neilton Lookou 73.72 329 ⇓P P 00 14 12.5 +1.0
baz=74,SNR=7.1
NLWA Neilton Lookou 73.72 329 *e*P **P 00 14 12.4 +0.9**
NLWA *e*pP pP 00 14 19.3 -4.8
DBIC Dimbokro 73.72 79 P **P 00 14 12.2 -0.1**
comp=Z,95nm,0.9s,mb5.7,baz=231,slow=6.3,SNR=46
OSD Olympics--Snow 73.92 329 P **P 00 14 13.9 +1.1**
A05A Maple Falls 73.92 331 ⇓P P 00 14 12.8 +0.1
baz=74,SNR=5.9
B04A Port Angeles 73.98 329 ⇑P P 00 14 13.5 +0.5
baz=74
PGC Sidney 74.35 330 *e*P **P 00 14 15.3 +0.1**
comp=Z,83nm,1.0s,mb5.6
QSPA South Pole Qui 76.92 180 P **P 00 14 29.2 -0.3**
comp=Z,18nm,0.8s,mb5.1,baz=164,slow=1.3,SNR=8.9
NVL N'lazarevskaya 77.03 160 P **P 00 14 30.5 +0.2**
NVL *e* pP 00 14 45.2 +2.3
NVL pmax pmax
comp=Z,95nm,1.6s,mb5.5
PFVI Vila Bisbo 80.76 48 *e*P **P 00 14 52.6 +1.3**
comp=Z,175nm,1.0s,mb5.9
MORF Marmelete 80.96 48 *e*P **P 00 14 55.1 +2.7**
comp=Z,131nm,2.1s,mb5.5
PTEO Sao Teotonio 81.01 48 *e*P **P 00 14 54.4 +1.8**
comp=Z,211nm,1.9s,mb5.8
YKA Yellowknife Ar 81.14 343 P **P 00 14 51.5 -1.3**
comp=Z,22nm,0.8s,mb5.2,baz=139,slow=5.7,SNR=39
YKA pP 00 15 04.3 -1.1
comp=Z,26nm,0.9s,baz=139,slow=5.6,SNR=10
YKA Yellowknife Ar 81.14 343 P **P 00 14 51.5 -1.3**
YKA pP pP 00 15 04.3 -1.1
PBDV Barranco-do-Ve 81.46 49 *e*P **P 00 14 57.6 +2.6**
comp=Z,92nm,1.6s,mb5.5
PVAQ Vaqueiros 81.68 49 *e*P **P 00 14 57.9 +1.7**
comp=Z,105nm,1.9s,mb5.4
TOA0 Torodi Ar. Sit 81.69 74 *e*P **P 00 14 56.8 +0.1**
TORD Torodi Ar. Bea 81.69 74 P **P 00 14 56.6 0.0**
comp=Z,151nm,1.0s,mb5.9,baz=262,slow=4.5,SNR=45
PBEJ Beja 81.82 48 *e*P **P 00 14 58.9 +2.0**
comp=Z,112nm,1.8s,mb5.5
EGRO El Granado 81.91 49 P **P 00 14 58.0 +0.7**
EVO Evora 81.92 47⇑iP P 00 14 58.1 +0.7
comp=Z,188nm,1.2s,mb5.6
PESTR Estremoz 82.36 47 *e*P **P 00 15 02.1 +2.4**
comp=Z,111nm,1.9s,mb5.5
PBAR Barrancos 82.48 48 *e*P **P 00 15 01.2 +0.8**
comp=Z,84nm,2.2s,mb5.3
EMIN Mina Concepcio 82.59 49 P **P 00 15 00.7 -0.2**
comp=Z,8μm,7.4s
SBA Scott Base 82.59 191 *e*P **P 00 15 00.0 -0.3**
SBA pmax pmax
comp=Z,64nm,1.3s,mb5.5
SBA Scott Base 82.59 191 *e*P **P 00 14 60.0 -0.4**
comp=Z,64nm,1.3s,mb5.5
PMRV Marv??o 82.72 47 *e*P **P 00 15 02.3 +0.7**
comp=Z,49nm,2.2s,mb5.1
EBAD Badajoz 82.73 48 P **P 00 15 01.9 +0.3**
PCBR Castelo Branco 82.83 46 *e*P **P 00 15 02.8 +0.7**
comp=Z,86nm,1.6s,mb5.5
ESPR Espera 82.84 50 P **P 00 15 03.1 +0.8**
comp=Z,12μm,8.7s
PVIS Viseu 82.89 45 *e*P **P 00 15 03.3 +0.9**
comp=Z,131nm,2.6s,mb5.5
EJIF Jimena Fronter 82.98 50 P **P 00 15 04.0 +1.0**
EJIF pmax pmax
comp=Z,225nm,1.4s,mb6.0
EJIF Jimena Fronter 82.98 50 P **P 00 15 04.0 +1.0**
comp=Z,225nm,1.4s,mb6.0
MTE Manteigas 83.01 46 *e*P **P 00 15 02.9 -0.1**
comp=Z,82nm,1.4s,mb5.6
MTE Manteigas 83.01 46 *e*P **P 00 15 03.2 +0.1**
EMAZ Mazaricos 83.08 43 P **P 00 15 02.1 -1.2**
comp=Z,2μm,4.1s
PCAB Cabril 83.21 44 *e*P **P 00 15 04.6 +0.6**
comp=Z,126nm,1.7s,mb5.7
ELOB Lobios 83.25 44 P **P 00 15 05.4 +1.1**
comp=Z,4μm,6.8s
CRAG Craig 83.26 331 *e*P **P 00 15 02.3 -1.7**
comp=Z,20nm,1.1s,mb5.1
STS Santiago 83.34 43 P **P 00 15 04.6 -0.1**
STS pmax pmax
comp=Z,442nm,2.1s,mb6.1
STS Santiago 83.34 43 P **P 00 15 04.6 -0.1**
comp=Z,442nm,2.1s,mb6.1
EMIJ Mijas 83.54 50 P **P 00 15 04.9 -0.9**
comp=Z,946nm,5.8s
DLBC Dease Lake 83.66 335 *e*P **P 00 15 06.0 0.0**
DLBC *e*pP pP 00 15 14.1 -4.6
DLBC *e*sP sP 00 15 19.0 -4.5
VNDA Vanda 83.67 191 P **P 00 15 06.3 +0.5**
comp=Z,7.6nm,0.9s,mb4.8,baz=119,slow=4.5,SNR=3.7
VNDA Vanda 83.67 191 *e*P **P 00 15 06.3 +0.4**
VNDA *e* pP 00 15 19.8 +1.2
VNDA pmax pmax
comp=Z,112nm,1.8s
VNDA Vanda 83.67 191 *e*P **P 00 15 06.2 +0.4**
comp=Z,112nm,1.8s,mb5.7
VNDA *e* pP 00 15 19.8 +1.2
MVO Moncorvo 83.67 45 *e*P **P 00 15 06.3 -0.2**
comp=Z,85nm,0.9s,mb5.9
ERUA La Rua 84.09 44 P **P 00 15 10.0 +1.5**
ERUA pmax pmax
comp=Z,53nm,1.7s,mb5.4
ERUA La Rua 84.09 44 P **P 00 15 10.0 +1.4**
comp=Z,53nm,1.7s,mb5.4
ECAL Calabor 84.18 45 P **P 00 15 09.1 0.0**
ELOJ Sierra Loja 84.21 50 P **P 00 15 10.4 +1.1**
ELOJ pmax pmax
comp=Z,81nm,1.2s,mb5.7
ELOJ Sierra Loja 84.21 50 P **P 00 15 10.4 +1.0**
comp=Z,81nm,1.2s,mb5.7
EADA Adamuz 84.27 49 P **P 00 15 09.8 +0.2**
ELUQ Luque 84.28 49 P **P 00 15 10.5 +0.9**
ELUQ pmax pmax
comp=Z,25nm,0.8s,mb5.4
ELUQ Luque 84.28 49 P **P 00 15 10.5 +0.9**
comp=Z,25nm,0.8s,mb5.4
ERON Agron 84.43 50 P **P 00 15 11.3 +0.9**
EPON Pontenova 84.46 43 P **P 00 15 10.8 +0.4**
EGUA Guajares 84.54 50 P **P 00 15 11.1 +0.1**
EGUA pmax pmax
comp=Z,49nm,1.6s,mb5.4
EGUA Guajares 84.54 50 P **P 00 15 11.1 +0.2**
comp=Z,49nm,1.6s,mb5.4
ECOG Cogollos-Vega 84.70 50 P **P 00 15 13.1 +1.3**
ECOG pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
ECOG Cogollos-Vega 84.70 50 P **P 00 15 13.1 +1.3**
comp=Z,8.3nm,0.7s,mb5.0
EBAN Banos Encina 84.85 49 P **P 00 15 13.2 +0.7**
EBAN pmax pmax
comp=Z,123nm,2.1s,mb5.7
EBAN Banos Encina 84.85 49 P **P 00 15 13.2 +0.7**
comp=Z,123nm,2.1s,mb5.7
EBER Berja 85.07 50 P **P 00 15 14.5 +0.8**
EQES Quesada 85.25 50 P **P 00 15 14.9 +0.4**
ESDC Sonseca Array 85.27 48 P **P 00 15 15.2 +0.6**
comp=Z,6.9nm,0.7s,mb4.9,baz=255,slow=5.3,SNR=18
ESDC Sonseca Array 85.27 48 P **P 00 15 15.3 +0.7**
comp=Z,562nm,6.3s
GUD Guadarrama 85.49 47 P **P 00 15 16.8 +1.2**
GUD pmax pmax
comp=Z,949nm,4.7s
GUD Guadarrama 85.49 47 P **P 00 15 16.8 +1.2**
comp=Z,949nm,4.7s
EHUE Huescar 85.61 50 P **P 00 15 16.4 +0.1**
EHUE pmax pmax
comp=Z,899nm,5.4s
EHUE Huescar 85.61 50 P **P 00 15 16.4 0.0**
comp=Z,899nm,5.4s
EARI Arriondas 85.75 44 P **P 00 15 17.3 +0.4**
EVIA Vianos 85.96 49 P **P 00 15 20.2 +2.2**
EVIA pmax pmax
comp=Z,26nm,1.4s,mb5.3
EVIA Vianos 85.96 49 P **P 00 15 20.2 +2.2**
comp=Z,26nm,1.4s,mb5.3

SKAG Skagway 86.49 334 P **P 00 15 20.8 +0.6**
EMUR La Murta 86.63 50 P **P 00 15 20.9 -0.5**
SYO Syowa Base 86.66 161⇓iP P 00 15 18.0 -2.9
SYO Syowa Base 86.66 161⇓ep**P** pP 00 15 30.6 -3.1
ETOB Tobarra 86.67 49 P **P 00 15 22.4 +0.9**
ETOR Torete 87.04 47 P **P 00 15 24.0 +0.7**
ETOR pmax pmax
comp=Z,28nm,5.2s
ETOR Torete 87.04 47 P **P 00 15 24.0 +0.7**
comp=Z,28nm,5.2s
EBEN Beniarda 87.66 49 P **P 00 15 26.7 +0.4**
EMOS Mosqueruela 88.02 48 P **P 00 15 28.9 +0.9**
comp=Z,4μm,6.0s
HYT Haines Junctio 88.15 335 *e*P **P 00 15 28.2 +0.1**
HYT *e*pP pP 00 15 39.2 -1.7
SJPF Ste Jean 88.40 45 *e*P **P 00 15 29.9 +0.2**
RES Resolute Bay 88.49 355 *e*P **P 00 15 28.9 -0.6**
ETSF Etsaut 88.79 45 *e*P **P 00 15 31.6 0.0**
SUR Sutherland 88.97 123 P **P 00 15 33.3 +0.5**
SUMG Summit 89.16 11 *e*P **P 00 15 33.2 +0.6**
comp=Z,30nm,1.0s,mb5.6
EBIE Bielsa 89.21 46 P **P 00 15 33.6 0.0**
TSUM Tsumeb 89.39 109 *e*P **P 00 15 35.1 +0.1**
comp=Z,10.0nm,0.6s,mb5.3
EPF Esparros 89.46 46 *e*P **P 00 15 34.7 0.0**
comp=Z,93nm,1.4s,mb5.6
EPF Esparros 89.46 46 *e*P **P 00 15 34.7 0.0**
EPF pmax pmax
comp=Z,47nm,1.4s,mb5.6
EPF Esparros 89.46 46 *e*P **P 00 15 34.7 0.0**
comp=Z,47nm,1.4s,mb5.6
ETOS Mallorca 90.24 49 P **P 00 15 39.3 +0.9**
comp=Z,12μm,8.4s
MFF Saint Martin d 90.28 42 *e*P **P 00 15 37.1 -1.3**
comp=Z,20nm,0.8s,mb5.2
MFF Saint Martin d 90.28 42 *e*P **P 00 15 37.1 -1.3**
MFF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
MFF Saint Martin d 90.28 42 *e*P **P 00 15 37.1 -1.3**
comp=Z,10nm,0.8s,mb5.2
LFF La Frestale 90.34 44 *e*P **P 00 15 37.7 -1.1**
comp=Z,24nm,0.9s,mb5.2
LFF La Frestale 90.34 44 *e*P **P 00 15 37.7 -1.1**
LFF pmax pmax
comp=Z,12nm,0.9s,mb5.2
LFF La Frestale 90.34 44 *e*P **P 00 15 37.7 -1.1**
comp=Z,12nm,0.9s,mb5.2
GRR Gorron 90.41 40 *e*P **P 00 15 38.2 -0.8**
DAWY Dawson 90.56 337 *e*P **P 00 15 38.3 -1.0**
DAWY *e*pP pP 00 15 50.5 -1.7
FLN La Foliniere 90.77 40 *e*P **P 00 15 40.1 -0.6**
comp=Z,63nm,1.2s,mb5.5
FLN La Foliniere 90.77 40 *e*P **P 00 15 40.1 -0.6**
FLN pmax pmax
comp=Z,32nm,1.2s,mb5.5
FLN La Foliniere 90.77 40 *e*P **P 00 15 40.1 -0.6**
comp=Z,32nm,1.2s,mb5.5
INK Inuvik 90.83 342 *e*P **P 00 15 39.6 -0.9**
INK *e* pP 00 15 52.3 -1.1
MTLF Montolieu 90.86 46 *e*P **P 00 15 40.7 -0.5**
comp=Z,19nm,0.8s,mb5.2
MTLF Montolieu 90.86 46 *e*P **P 00 15 40.7 -0.5**
MTLF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
MTLF Montolieu 90.86 46 *e*P **P 00 15 40.7 -0.5**
comp=Z,9.4nm,0.8s,mb5.2
LDF La Druitiere 90.94 40 *e*P **P 00 15 41.0 -0.5**
comp=Z,38nm,1.0s,mb5.4
LDF La Druitiere 90.94 40 *e*P **P 00 15 41.0 -0.5**
LDF pmax pmax
comp=Z,19nm,1.0s,mb5.4
LDF La Druitiere 90.94 40 *e*P **P 00 15 41.0 -0.5**
comp=Z,19nm,1.0s,mb5.4
RJF Les Rejaudoux 90.97 44 *e*P **P 00 15 41.1 -0.6**
comp=Z,93nm,1.3s,mb5.7
RJF Les Rejaudoux 90.97 44 *e*P **P 00 15 41.1 -0.6**
RJF pmax pmax
comp=Z,47nm,1.3s,mb5.7
RJF Les Rejaudoux 90.97 44 *e*P **P 00 15 41.1 -0.6**
comp=Z,47nm,1.3s,mb5.7
CAF Calviac 91.23 44 *e*P **P 00 15 41.9 -1.0**
ESK Eskdalemuir 91.45 33 *e*P **P 00 15 42.2 -1.5**
EGAK Eagle 91.58 337 *e*P **P 00 15 42.4 -1.6**
comp=Z,169nm,1.7s,mb6.1
EGAK *e* pP 00 15 54.9 -2.0
TCF Toulx Ste Croi 91.73 43 *e*P **P 00 15 44.5 -0.7**
comp=Z,33nm,1.0s,mb5.3
TCF Toulx Ste Croi 91.73 43 *e*P **P 00 15 44.5 -0.7**
TCF pmax pmax
comp=Z,16nm,1.0s,mb5.3
TCF Toulx Ste Croi 91.73 43 *e*P **P 00 15 44.5 -0.7**
comp=Z,16nm,1.0s,mb5.3
LASF Ste Croix 92.21 45 *e*P **P 00 15 47.4 -0.1**
comp=Z,242nm,1.7s,mb6.0
BGF Bois d'Agland 92.23 43 *e*P **P 00 15 47.0 -0.5**
comp=Z,48nm,0.9s,mb5.5
BGF Bois d'Agland 92.23 43 *e*P **P 00 15 47.0 -0.5**
BGF pmax pmax
comp=Z,24nm,0.9s,mb5.5
BGF Bois d'Agland 92.23 43 *e*P **P 00 15 47.0 -0.5**
comp=Z,24nm,0.9s,mb5.5
SMF Signal de Mont 92.91 43 *e*P **P 00 15 50.0 -0.7**
comp=Z,80nm,1.3s,mb5.7
SMF Signal de Mont 92.91 43 *e*P **P 00 15 50.0 -0.7**
SMF pmax pmax
comp=Z,40nm,1.3s,mb5.7
SMF Signal de Mont 92.91 43 *e*P **P 00 15 50.0 -0.7**
comp=Z,40nm,1.3s,mb5.7
VIVF Saint-Julien-l 92.99 45 *e*P **P 00 15 51.1 +0.1**
comp=Z,38nm,1.1s,mb5.4
VIVF Saint-Julien-l 92.99 45 *e*P **P 00 15 51.1 +0.1**
VIVF pmax pmax
comp=Z,19nm,1.1s,mb5.4
VIVF Saint-Julien-l 92.99 45 *e*P **P 00 15 51.1 +0.1**
comp=Z,19nm,1.1s,mb5.4
ORIF Oris-en-Rattie 93.83 45 *e*P **P 00 15 55.4 +0.5**
comp=Z,105nm,1.3s,mb5.8
ORIF Oris-en-Rattie 93.83 45 *e*P **P 00 15 55.4 +0.5**
ORIF pmax pmax
comp=Z,52nm,1.3s,mb5.8
ORIF Oris-en-Rattie 93.83 45 *e*P **P 00 15 55.4 +0.5**
comp=Z,52nm,1.3s,mb5.8
LMR La Mourre 93.87 47 *e*P **P 00 15 54.9 -0.3**
comp=Z,50nm,1.2s,mb5.5
LMR La Mourre 93.87 47 *e*P **P 00 15 54.9 -0.3**
LMR pmax pmax
comp=Z,25nm,1.3s,mb5.5
LMR La Mourre 93.87 47 *e*P **P 00 15 54.9 -0.3**
comp=Z,25nm,1.3s,mb5.5
FRF La Foret Royal 94.02 46 *e*P **P 00 15 55.7 -0.2**
comp=Z,23nm,0.9s,mb5.3
FRF La Foret Royal 94.02 46 *e*P **P 00 15 55.7 -0.2**
comp=Z,11nm,0.9s,mb5.3
MAW Mawson 94.17 165 P **P 00 15 54.8 -1.3**
comp=Z,72nm,1.4s,mb5.9,baz=212,slow=5.4,SNR=9.8
MAW pP pP 00 16 07.2 -1.8
comp=Z,32nm,1.1s,baz=204,slow=6.3,SNR=6.4
MAW Mawson 94.17 165 P **P 00 15 55.3 -0.9**
MAW pP pP 00 16 07.2 -1.8
KEST Kesra 94.19 54 P **P 00 15 57.4 +0.6**
comp=Z,3.1nm,0.9s,mb4.7,baz=253,slow=3.8,SNR=3.5
COLA College 94.21 336⇑iP P 00 15 55.5 -0.7
COLA *e**PP pP 00 16 07.7 -1.4
MCK McKinley 94.22 335 *e*P **P 00 15 55.7 -0.6**
MBDF Montbardon 94.40 45 *e*P **P 00 15 57.8 +0.3**
LPL La Plagne 94.56 44 *e*P **P 00 15 58.1 -0.2**
comp=Z,46nm,1.2s,mb5.5
LPL La Plagne 94.56 44 *e*P **P 00 15 58.1 -0.2**
LPL pmax pmax
comp=Z,23nm,1.2s,mb5.5
LPL La Plagne 94.56 44 *e*P **P 00 15 58.1 -0.2**
comp=Z,23nm,1.2s,mb5.5
LPG La Plagne 94.57 44 *e*P **P 00 15 59.2 +0.9**
TRF Thorofare Moun 94.69 334 *e*P **P 00 15 56.6 -1.8**
LBTB Lobatse 95.04 117 *e*P **P 00 16 01.3 +0.3**
LBTB *e**PP pP 00 16 12.9 -1.0
PPLA Purkeypile 95.31 334 *e*P **P 00 15 60.0 -1.3**
JAVS Javornik 99.67 45 *e*Pdiff Pdif 00 16 22.0 +0.8
JAVS *e* 00 19 15.2
JAVS *e*PP PP 00 20 09.3 -17
CLL Collm 99.81 40 *e*(PP) PP 00 20 35.0 +8.1
GERES GERESS Array B 99.88 42 P Pdif 00 16 23.7 +1.5
comp=Z,1.5nm,0.9s,baz=280,slow=5.9,SNR=3.6
LJU Ljubljana 100.01 45 *i* Pdiff Pdif 00 16 22.3 -0.5
LSZ Lusaka 100.19 108 *e*P Pdif 00 16 23.7 +0.1

NOA NORSAR Array B 100.29 30 P Pdif 00 16 25.3 +1.3
comp=Z,4.2nm,1.1s,baz=264,slow=4.1,SNR=2.8
BOJS Bojanci 100.44 46 *e*Pdiff Pdif 00 16 26.0 +1.4
BOJS *e* 00 19 28.3
BOJS *e*PP PP 00 20 30.4 -1.5
ARCES ARCESS Array B 106.46 21 PKKPbc PKKPbc 00 32 21.1 -3.7
comp=Z,1.5nm,0.6s,baz=104,slow=5.1,SNR=13
ASF Jabal al Asfar 116.54 61 PKP PKPdf 00 21 22.5 +0.6
comp=Z,3.9nm,0.8s,baz=114,slow=3.3,SNR=6.1
SEY Seymchan 119.72 337⇑iPKIKP PKPdf 00 21 26.7 -0.4
SEY Seymchan 119.72 337⇑iPKP PKPdf 00 21 26.8 -0.3
KIV Kislovodsk 119.93 47 *e*PKIKP PKPdf 00 21 27.9 -0.2
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 119.93 47 *i* PKP PKPdf 00 21 27.9 -0.2
PETK Petropavlovsk- 121.72 325 PKP PKPdf 00 21 30.0 -1.3
comp=Z,1.8nm,0.7s,baz=33,slow=3.4,SNR=3.0
PETK Petropavlovsk- 121.72 325 PKP PKPdf 00 21 29.9 -1.3
GNI Garni 122.13 51 PKP PKPdf 00 21 32.2 -0.2
comp=Z,7.6nm,0.7s,baz=6.6,slow=12,SNR=5.7
STKA Stephens Creek 122.25 218 *e*PKP PKPdf 00 21 31.8 -1.3
comp=Z,3.0nm,0.6s
STKA Stephens Creek 122.25 218 PKP PKPdf 00 21 32.0 -1.1
comp=Z,3.5nm,0.6s,baz=273,slow=1.4,SNR=7.2
ARU Arti 124.83 29 *i* PKIKP PKPdf 00 21 36.4 -0.7
CTA Charters Tower 126.57 232 *e*PKP PKPdf 00 21 40.8 -0.8
comp=Z,16nm,1.5s
BRVK Borovoye 132.25 27 *i* PKIKP PKPdf 00 21 51.0 -0.4
NWAO Narrogin (SRO) 132.30 196 PKP PKPdf 00 21 51.4 -0.8
comp=Z,7.0nm,0.8s,baz=102,slow=3.6,SNR=3.3
BVAR Borovoye Array 132.31 27 PKP PKPdf 00 21 51.3 -0.2
comp=Z,2.6nm,0.8s,baz=294,slow=1.5,SNR=7.2
ASAR Alice Springs 132.87 219 PKP PKPdf 00 21 52.0 -1.6
comp=Z,3.3nm,0.6s,baz=114,slow=2.2,SNR=28
YSS Yuzh-Sakhalins 133.08 324 *i* PKIKP PKPdf 00 21 48.5 -4.6
KLBR Kellerberrin 133.42 197 *e*PKP PKPdf 00 21 52.4 -2.0
comp=Z,13nm,0.7s
WB2 Warramunga Arr 135.27 223 *e*PKP PKPdf 00 21 56.6 -1.5
WRA Warramunga Arr 135.28 223 PKP PKPdf 00 21 56.8 -1.4
comp=Z,15nm,0.8s,baz=136,slow=1.5,SNR=27
NVS Novosibirsk 135.51 17 *e*PKIKP PKPdf 00 21 52.6 -4.9
ZALV Zalesovo Beam 136.74 16 PKHKP 00 21 52.9
comp=Z,6.6nm,0.8s,baz=221,slow=1.0,SNR=7.0
ZALV PKP PKPdf 00 21 59.2 -0.6
comp=Z,16nm,0.8s,baz=241,slow=1.4,SNR=7.1
ZALV pPKP pPKPdf 00 22 10.8 -2.2
comp=Z,20nm,0.9s,baz=191,slow=4.5,SNR=6.1
ZALV Zalesovo Beam 136.74 16 PKP PKPdf 00 21 52.9 -6.9
ZALV PKP PKPdf 00 21 59.2 -0.6
ZALV pPKP pPKPdf 00 22 10.8 -2.2
ZAL Zalesovo 136.75 16 PKIKP PKPdf 00 21 52.9 -6.9
ZAL 00 21 59.2
KURK Kurchatov 137.44 23 *i* PKIKP PKPdf 00 22 02.0 +0.8
KURK Kurchatov 137.44 23 *i* PKP PKPdf 00 22 02.1 +0.9
EKS2 Erkin-Say 140.95 36 *e*PKP PKPdf 00 22 04.2 -3.7
AML Almayashu 141.24 36 *e*PKP PKPdf 00 22 05.5 -2.9
MJAR Matsushiro Arr 141.29 313 PKhKP 00 22 00.8
comp=Z,6.6nm,0.8s,baz=84,slow=1.4,SNR=21
MAT Matsushiro 141.29 313 PKP PKPdf 00 22 00.2 -8.5
HVS Khovu-Aksy 141.34 10 *i* PKIKP PKPdf 00 22 08.8 +0.5
KAKA Kakadu 141.52 229 *e*PKP PKPdf 00 22 01.5 -8.2
comp=Z,11nm,1.0s
MK31 Makanchi Array 142.04 24 *e*PKHKP 00 22 04.6
MKAR Makanchi Array 142.04 24 PKhKP 00 22 04.2
comp=Z,5.4nm,0.7s,baz=339,slow=4.4,SNR=14
FITZ Fitzroy Crossi 142.04 215 *e*PKP PKPdf 00 22 03.9 -6.6
comp=Z,25nm,1.5s
FITZ Fitzroy Crossi 142.04 215 *e*PKP PKPdf 00 22 03.9 -6.6
FITZ PKPdf PKPdf 00 22 04.1 -6.4
CN2 Changchun 144.22 333 *e*PKP PKPdf 00 22 12.4 -1.2
KSH Kashi 144.23 38 PKP PKPdf 00 22 13.4 -0.4
KSH PKS 00 25 47.8
KSH PPP 00 28 40.3
KSH SKS SKSdf 00 29 17.4 -2.6
KSH SKKS SKKSac 00 32 13.6 -4.5
KSH PP PP
comp=Z,101μm,14.0s
SONM Songino Array 145.42 357 PKPbc PKPbc 00 22 15.4 -0.1
comp=Z,85nm,1.0s,baz=334,slow=2.5,SNR=40
SONM pPKPbc pPKPbc 00 22 27.0 -1.6
comp=Z,108nm,0.8s,baz=318,slow=2.5,SNR=13
WMQ Urumqi 146.58 21 PKP PKPdf 00 22 16.0 -1.7
SNY Shenyang 146.63 332⇓PKP PKPdf 00 22 18.8 +1.0
KSRS Korea Array 147.56 322 PKPbc PKPbc 00 22 18.8 -3.3
comp=Z,16nm,1.0s,baz=29,slow=2.7,SNR=16
KSRS pPKPbc pPKPbc 00 22 32.0 -3.3
comp=Z,14nm,0.8s,baz=36,slow=1.8,SNR=6.4
BATI Baumata 149.38 221 PKPbc PKPbc 00 22 26.6 -1.0
comp=Z,27nm,0.6s,baz=260,slow=0.7,SNR=5.4
BJT Baijiatuau 151.11 340 *e*PKIKP PKPdf 00 22 24.1 -1.0
BJT *e* 00 22 30.0
HHC Hu-ho-hao-te 151.61 347 *e*PKP PKPdf 00 22 24.0 -1.8
HHC SKS SKSdf 00 29 25.8 -4.3
HHC PP PP
comp=Z,51μm,14.3s
JOW Kunigami 153.23 304 PKPbc PKPbc 00 22 33.7 -2.5
comp=Z,20nm,0.9s,baz=139,slow=20,SNR=2.9
JOW PKPab PKPab 00 22 48.0 -0.1
comp=Z,28nm,0.8s,baz=133,slow=12,SNR=3.3
GTA Gaotai 153.70 7 *e*PKP PKPdf 00 22 29.4 +0.5
DANN Dangsing 156.16 48 *e*P PKPdf 00 22 33.7 +1.0
KOLN Koldanda 156.37 49 *e*P PKPdf 00 22 31.8 -1.2
NJ2 Nanjing 156.62 326 *e*PKP PKPdf 00 22 31.8 -1.4
NJ2 PKS 00 26 03.5
LZH Lanzhou 157.23 360 *e*PKP PKPdf 00 22 34.8 +1.0
DMN Daman 157.56 48 *e*P PKPdf 00 22 34.7 +0.2
KKN Kakani 157.57 47 *e*P PKPdf 00 22 34.5 0.0
comp=Z,38nm,1.0s
PKI Pulchoki 157.79 47 *e*P PKPdf 00 22 33.5 -1.3
GUN Gumba 157.92 46 *e*P PKPdf 00 22 34.5 -0.4
JIRN Jiri 158.29 46 *e*P PKPdf 00 22 34.6 -0.8
RAMN Ramite 159.01 47 *e*P PKPdf 00 22 35.8 -0.5
comp=Z,105nm,1.1s
TAPN Taplejung 159.54 44 *e*P PKPdf 00 22 35.6 -1.3
ODAN Odare 159.63 46 *e*P PKPdf 00 22 36.1 -0.9
CD2 Chengdu 162.40 360 *e*PKP PKPdf 00 22 37.4 -2.4
CD2 PKP2 PKPab 00 23 23.8 -3.4
CD2 SKS SKSdf 00 29 38.4 -3.1
GYA Guiyang 166.53 348 PKP PKPdf 00 22 44.3 +0.7
KMI Kunming 168.13 4 PKP PKPdf 00 22 45.9 +1.1
CMAR Chiang Mai Arr 173.12 40 PKP PKPdf 00 22 47.3 -0.3
comp=Z,3.9nm,0.9s,baz=276,slow=1.9,SNR=8.2
CMAR PKPab PKPab 00 24 15.8 +0.8

KRSC 16 00:03:30.3±0.2,5452N×16003E,h155km±25km,ML3.5,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.59**	**215**	*e*P	Pn	00 03 53.9	+1.3
KII				*e*S	Sn	00 04 11.0	+1.4
TUMR	**Tumrok**	**0.77**	**5**	*e*P	Pn	00 03 55.0	+1.3
TUMR				*i* S	Sn	00 04 12.4	+0.7
MKZ	**Mys Kozlova**	**0.99**	**87**	*e*P	Pn	00 03 56.7	+1.3
MKZ				*i* S	Sn	00 04 15.2	+0.6
KMNR	**Kamenistaya**	**1.25**	**5**	*e*P	Pn	00 03 58.8	+1.2
KMNR				*i* S	Sn	00 04 20.3	+1.7
NLC	**Nalytchevo**	**1.41**	**197**	*e*P	Pn	00 04 00.6	+1.3
NLC				*i* S	Sn	00 04 22.8	+1.4
SPN	**Mys Shipunski**	**1.43**	**180**	*e*P	Pn	00 04 00.4	+1.0
SPN				*i* S	Sn	00 04 21.7	0.0
BZMR	**Bezymyannaya**	**1.44**	**10**	*e*P	Pn	00 04 00.9	+1.4
KIRR	**Kirishev**	**1.45**	**7**	P	Pn	00 04 01.3	+1.7
KPT	**Kopyto**	**1.45**	**4**	*e*P	Pn	00 04 00.2	+0.5
AVH	**Avacha**	**1.47**	**212**	*e*P	Pn	00 04 02.2	+2.3
GNL	**Ganaly**	**1.48**	**237**	*e*P	Pn	00 04 01.0	+1.0
KOZ	**Kozyrevsk**	**1.54**	**357**	*e*P	Pn	00 04 01.1	+0.5
ZLN	**Zelenaya**	**1.56**	**16**	*e*P	Pn	00 04 03.4	+2.6
ZLN				*i* S	Sn	00 04 26.8	+2.5
KRSR	**Krestovskiy**	**1.73**	**10**	*e*P	Pn	00 04 03.4	+0.8
SRDR	**Sredinnyy**	**1.81**	**354**	*e*P	Pn	00 04 03.7	+0.2
BDR	**Baidarnaya**	**2.16**	**18**	*e*P	Pn	00 04 09.5	+2.1
SMKR	**Semkarok**	**2.22**	**21**	*e*P	Pn	00 04 09.9	+1.7
SRKR	**Sorokina**	**2.23**	**16**	*e*P	Pn	00 04 09.9	+1.6
SRKR				*i* S	Sn	00 04 38.6	+0.8
RUS	**Russkaya**	**2.28**	**204**	*e*P	Pn	00 04 09.7	+0.8
RUS				*i* S	Sn	00 04 38.7	0.0
KBTR	**Krutoberegovo**	**2.32**	**42**	*e*P	Pn	00 04 10.9	+1.5
KBTR				*i* S	Sn	00 04 39.7	+0.1

*ISCJB **16** 00:07:58.6±0.3, 1381S∧006×763W∧01, h29km, mb4.7/22, Error ellipse: s-maj=17.9km s-min=5.7km az=158.2*
*MOS **16** 00:07:59.7±1.4, 1375S×7644W, h33km, mb5.1/3, Error ellipse: s-maj=22.5km s-min=10.3km az=118.6*
*IDC **16** 00:08:00.7±0.7, 1384S×7633W, h29km±4km, mb4.4/12, mb1 4.6/13, mb1mx4.5/19, mbtmp4.4/13, Error ellipse: s-maj=27.0km s-min=14.1km az=65.0*
*NEIC **16** 00:08:01.5±0.3, 1386S×7645W, h35km, mb4.9/11, Error ellipse: s-maj=14.7km s-min=5.8km az=63.0*
ISC 16 00:08:01.1±0.3, 1384S∧006×763W∧01, h31km, h31km±.7km:pP-P,n77,σ0§98/63, mb4.7/22, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.92**	**343**	Pn	**Pn**	**00 08 34.5**	**+2.8**
	36nm,0.3s,baz=176,slow=15,SNR=1.5						
NNA				Sn	**Sn**	**00 08 58.8**	**+4.0**
	389nm,0.3s,baz=228,slow=20,SNR=4.6						
ATAH	**Atahualpa**	**7.11**	**343**	Pn	**Pn**	**00 09 44.0**	**+1.0**
	3.8nm,0.3s,baz=180,slow=16,SNR=2.4						
ATAH				Sn	**Sn**	**00 11 06.1**	**+3.2**
	6.6nm,0.3s,baz=284,slow=20,SNR=1.9						
LPAZ	**La Paz**	**8.22**	**108**	Pn	**Pn**	**00 10 04.5**	**+6.1**
	5.8nm,0.3s,baz=185,slow=1.7,SNR=7.9						
LVC	**Limon Verde**	**11.18**	**142**	Pn	**Pn**	**00 10 40.4**	**+1.7**
	6.0nm,0.3s,baz=138,slow=0.0,SNR=7.8						
OTAV	**Otavalo**	**14.15**	**351**	Pn	**Pn**	**00 11 19.4**	**-0.2**
CFAA	**Coronel Fontan**	**19.16**	**159**	P	**Pn**	**00 12 21.9**	**-1.1**
	0.1nm,0.3s,baz=0.0,slow=7.1,SNR=2.6						
CPUP	**Villa Florida**	**21.66**	**128**	P	**P**	**00 12 48.9**	**-0.3**
	21nm,1.0s,mb4.5,baz=270,slow=16,SNR=3.5						
CPUP	**Villa Florida**	**21.66**	**128**	P	**P**	**00 12 49.8**	**+0.6**
SDV	**Santo Domingo**	**23.26**	**14**	*eP*	**P**	**00 13 03.0**	**-3.2**
	37nm,0.7s,mb4.9						
PLCA	**Paso Flores**	**27.26**	**170**	P	**P**	**00 13 41.4**	**-1.1**
	5.5nm,0.8s,mb4.1,baz=332,slow=2.7,SNR=3.4						
PLCA	**Paso Flores**	**27.26**	**170**	P	**P**	**00 13 43.0**	**+0.5**
TGUH	**Tegucigalpa,Un**	**29.78**	**338**	P	**P**	**00 14 06.3**	**+1.1**
CMIG	**Matias Romero**	**35.81**	**329**	P	**P**	**00 14 58.8**	**+0.9**
	3.4nm,0.9s,mb4.3,baz=133,slow=9.1,SNR=2.7						
EFI	**East Falkland**	**40.49**	**163**	P	**P**	**00 15 36.5**	**-0.4**
GOGA	**Godfrey**	**47.48**	**352**	*eP*	**P**	**00 16 31.8**	**-1.4**
GOGA				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
GOGA	**Godfrey**	**47.48**	**352**	*eP*	**P**	**00 16 31.8**	**-1.4**
	comp=Z,19nm,1.2s,mb4.9						
SWET	**Sewanee**	**49.64**	**350**	*eP*	**P**	**00 16 48.7**	**-1.1**
OXF	**Oxford**	**49.68**	**346**	P	**P**	**00 16 49.0**	**-1.1**
TKL	**Tuckaleechee C**	**49.73**	**352**	*eP*	**P**	**00 16 48.6**	**-1.9**
MIAR	**Mount Ida**	**50.85**	**342**	*eP*	**P**	**00 16 58.6**	**-0.4**
MIAR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MIAR	**Mount Ida**	**50.85**	**342**	*eP*	**P**	**00 16 58.6**	**-0.4**
	comp=Z,7.7nm,0.8s,mb4.7						
ELN	**Prospectdale**	**50.97**	**355**	*eP*	**P**	**00 16 60.0**	**+0.2**
PMSA	**Palmer Station**	**51.57**	**173**	P	**P**	**00 17 04.5**	**+0.5**
	comp=Z,4.5nm,0.8s,mb4.4,baz=0.0,slow=3.0,SNR=3.0						
PMSA	**Palmer Station**	**51.57**	**173**	*eP*	**P**	**00 17 05.5**	**+1.5**
SIUC	**Southern Illin**	**52.70**	**347**	*eP*	**P**	**00 17 11.7**	**-1.0**
	comp=Z,16nm,0.6s,mb5.2						
ACSO	**Alum Creek Sta**	**54.15**	**354**	*eP*	**P**	**00 17 22.1**	**-1.2**
	comp=Z,20nm,1.0s,mb5.0						
LAZ	**Ladron**	**56.24**	**329**	*eP*	**P**	**00 17 38.4**	**-0.1**
ANMO	**Albuquerque**	**56.35**	**330**	*eP*	**P**	**00 17 39.7**	**+0.4**
ANMO				*e*	pP	00 17 48.0	-0.7
CBKS	**Cedar Bluff**	**56.79**	**338**	*eP*	**P**	**00 17 39.7**	**-2.6**
	comp=Z,2μm,2.5s						
ACCN	**Adirondack Com**	**56.99**	**2**	*eP*	**P**	**00 17 43.6**	**0.0**
	comp=Z,29μm,3.9s						
MDV	**Middlebury**	**57.62**	**3**	*eP*	**P**	**00 17 49.0**	**+0.9**
LBNH	**Lisbon**	**57.93**	**4**	*eP*	**P**	**00 17 50.7**	**+0.4**
	comp=Z,5μm,1.1s						
SDCO	**Great Sand Dun**	**58.19**	**333**	*eP*	**P**	**00 17 52.9**	**+0.7**
	comp=Z,6μm,1.2s						
LONY	**Lake Ozonia**	**58.20**	**1**	*eP*	**P**	**00 17 52.3**	**+0.2**
PV01	**Paradox Valley**	**59.92**	**331**	P	**P**	**00 18 03.2**	**-0.9**
ECSD	**EROS,Sioux Fal**	**60.23**	**343**	*eP*	**P**	**00 18 05.4**	**-0.9**
	comp=Z,9.9nm,0.9s,mb4.8						
PV10	**Paradox Valley**	**60.33**	**331**	P	**P**	**00 18 06.8**	**-0.3**
ISA	**Isabella**	**63.39**	**322**	*eP*	**P**	**00 18 27.0**	**-0.7**
DUG	**Dugway**	**63.58**	**329**	*eP*	**P**	**00 18 29.9**	**+1.1**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
DUG	**Dugway**	**63.58**	**329**	*eP*	**P**	**00 18 29.9**	**+1.1**
	comp=Z,2.5nm,0.6s,mb4.4						
PDAR	**Pinedale Array**	**64.08**	**333**	P	**P**	**00 18 31.8**	**-0.3**
	comp=Z,2.7nm,1.0s,mb4.2,baz=134,slow=2.6,SNR=3.6						
AGMN	**Agassiz Refuge**	**64.27**	**346**	*eP*	**P**	**00 18 32.6**	**-0.6**
	comp=Z,7.1nm,0.7s,mb4.8						
AGMN				*ep*P	pP	00 18 41.9	-0.8
TPH	**Tonopah**	**64.34**	**325**	P	**P**	**00 18 34.4**	**+0.5**
NVAR	**Mina Array Bea**	**65.20**	**325**	P	**P**	**00 18 39.7**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=132,slow=7.6,SNR=3.7						
ULM	**Lac du Bonnet**	**66.10**	**346**	P	**P**	**00 18 44.1**	**-0.8**
	comp=Z,8.3nm,0.6s,mb4.9,baz=160,slow=5.2,SNR=5.7						
ULM				pP	pP	00 18 53.2	-1.4
	comp=Z,14nm,0.8s,baz=158,slow=5.3,SNR=3.5						
ULM	**Lac du Bonnet**	**66.10**	**346**	P	**P**	**00 18 44.1**	**-0.8**
ULM				pP	pP	00 18 53.2	-1.4
CMB	**Columbia Colle**	**66.12**	**323**	P	**P**	**00 18 45.7**	**+0.2**
HLID	**Hailey**	**66.92**	**331**	P	**P**	**00 18 50.0**	**-0.4**
VNA1	**Neumayer--Stat**	**69.80**	**161**	*e*	**P**	**00 19 09.1**	**+1.0**
VNA1				*e*	pP	00 19 17.6	-0.1
VNA1				*e*		00 19 20.5	
KRMB	**Red Mountain**	**70.46**	**324**	P	**P**	**00 19 13.4**	**+0.8**
NEW	**Newport**	**71.69**	**333**	*eP*	**P**	**00 19 20.3**	**+0.4**
NEW				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NEW	**Newport**	**71.69**	**333**	*eP*	**P**	**00 19 20.3**	**+0.4**
	comp=Z,10nm,1.1s,mb4.7						
SNAA	**Sanae**	**71.75**	**161**	*e*	**P**	**00 19 19.4**	**-0.6**
SNAA				*e*	pP	00 19 29.5	-0.2
SNAA				*e*		00 19 31.9	
DBIC	**Dimbokro**	**73.73**	**79**	P	**P**	**00 19 33.1**	**+0.4**
	comp=Z,13nm,0.7s,mb5.0,baz=227,slow=6.8,SNR=12						
DBIC	**Dimbokro**	**73.73**	**79**	*eP*	**P**	**00 19 33.2**	**+0.5**
DBIC				pmax	pmax		
	comp=Z,14nm,0.6s						
DBIC	**Dimbokro**	**73.73**	**79**	*eP*	**P**	**00 19 33.2**	**+0.4**
	comp=Z,14nm,0.6s,mb5.1						
NLWA	**Neilton Lookou**	**74.30**	**329**	*eP*	**P**	**00 19 35.8**	**+0.5**
	comp=Z,21nm,1.2s,mb5.0						
NLWA				*ep*P	pP	00 19 45.8	+0.8
QSPA	**South Pole Qui**	**76.31**	**180**	P	**P**	**00 19 47.2**	**+0.7**
	comp=Z,12nm,1.1s,mb4.7,baz=136,slow=2.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**81.74**	**74**	P	**P**	**00 20 17.7**	**+0.4**
	comp=Z,19nm,0.8s,mb5.1,baz=264,slow=3.2,SNR=13						
YKA	**Yellowknife Ar**	**81.76**	**343**	P	**P**	**00 20 15.4**	**-1.0**
	comp=Z,4.4nm,1.0s,mb4.3,baz=148,slow=5.8,SNR=5.7						
YKA				pP	pP	00 20 24.3	-1.9
	comp=Z,6.6nm,1.0s,baz=139,slow=5.7,SNR=7.5						
ESDC	**Sonseca Array**	**85.60**	**48**	P	**P**	**00 20 37.4**	**+0.8**
	comp=Z,2.1nm,0.9s,mb4.4,baz=253,slow=4.6,SNR=4.3						
ESDC				pP	pP	00 20 46.4	-0.1
	comp=Z,5.0nm,1.0s,baz=74,slow=2.6,SNR=3.3						
DZM	**Mont Dzumac**	**108.93**	**241**	Pdif	Pdif	00 22 23.1	+0.3
AKTK	**Aktyubinsk**	**128.05**	**36**	PKP	PKPdf	00 27 03.5	-0.5
AKTO	**Aktyubinsk**	**128.05**	**36**	PKP	PKPdf	00 27 03.5	-0.5
	comp=Z,1.0nm,0.5s,baz=152,slow=5.2,SNR=4.6						
ASAR	**Alice Springs**	**132.46**	**219**	PKP	PKPdf	00 27 12.0	-1.2
	comp=Z,0.9nm,0.9s,baz=114,slow=2.3,SNR=3.2						
BVAR	**Borovoye Array**	**132.81**	**27**	PKP	PKPdf	00 27 13.1	+0.2
	comp=Z,0.6nm,0.7s,baz=300,slow=2.8,SNR=2.9						
BVAR	**Borovoye Array**	**132.81**	**27**	PKP	PKPdf	00 27 13.1	+0.2
WB2	**Warramunga Arr**	**134.90**	**223**	*e*PKPdf	PKPdf	00 27 17.5	-0.4
WRA	**Warramunga Arr**	**134.91**	**223**	PKP	PKPdf	00 27 17.8	-0.1
	comp=Z,1.0nm,0.8s,baz=129,slow=2.0,SNR=2.7						
ZALV	**Zalesovo Beam**	**137.29**	**16**	PKP	PKPdf	00 27 19.1	-2.2
	comp=Z,1.3nm,0.5s,baz=354,slow=2.0,SNR=3.6						
ZAL	**Zalesovo**	**137.30**	**16**	PKIKP	PKPdf	00 27 19.1	-2.2
AML	**Almayashu**	**141.66**	**37**	*e*PKPdf	PKPdf	00 27 30.0	+0.4
MKAR	**Makanchi Array**	**142.55**	**24**	PKhKP		00 27 26.3	
	comp=Z,0.4nm,0.5s,baz=331,slow=2.0,SNR=3.3						
SONM	**Songino Array**	**146.03**	**357**	PKPbc	PKPbc	00 27 37.9	+0.1
	comp=Z,5.7nm,0.8s,baz=333,slow=2.2,SNR=6.0						
KSRS	**Korea Array**	**148.11**	**322**	PKPbc	PKPbc	00 27 42.9	-1.2
	comp=Z,3.6nm,0.9s,baz=36,slow=2.1,SNR=5.6						
KSRS				pPKPbc	pPKPbc	00 27 54.0	-0.2
	comp=Z,8.9nm,1.1s,baz=26,slow=1.8,SNR=7.0						
THN	**Thein Dam**	**148.43**	**49**	*eP*	PKPbc	00 27 44.1	-1.0
CMAR	**Chiang Mai Arr**	**173.50**	**44**	PKP	PKPdf	00 28 07.4	-0.9
	comp=Z,1.2nm,0.4s,baz=312,slow=3.3,SNR=3.0						

CASC 16 00:09:43.2±2.3, 1324N∧8889W, h92km±14km, mb4.6, MD3.6, mb4.9(NEIC), 1C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.38**	**7**	*eP*	x	00 09 57.0	
SNVI				*eS*	x	00 10 09.6	
LFRS	**El Faro**	**0.42**	**336**	⇓*iP*	x	00 09 57.2	
LFRS				*eS*	x	00 10 11.9	
LCBS	**La Ceiba**	**0.42**	**348**	⇓*iP*	x	00 09 57.1	
LCBS				*eS*	x	00 10 08.2	
LBRS	**Las Brisas**	**0.52**	**343**	⇓*iP*	x	00 09 58.2	
LBRS				*eS*	x	00 10 10.5	
LFU	**La Fuente**	**0.55**	**336**	*eP*	x	00 09 58.6	
LFU				*eS*	x	00 10 11.4	
BOQS	**Boqueron**	**0.62**	**322**	⇑*eP*	x	00 09 60.0	
BOQS				*eS*	x	00 10 11.4	
VSM	**San Miguel**	**0.62**	**72**	⇓*eP*	x	00 09 59.0	
BLLM	**Bellamira**	**0.66**	**72**	⇓*eP*	x	00 09 59.0	
CAHU	**Cacacuatique**	**0.84**	**51**	⇓*eP*	x	00 10 01.5	
CAHU				*eS*	x	00 10 17.0	
SNJE	**San Jose**	**0.94**	**312**	*eP*	x	00 10 03.0	
SNJE				*eS*	x	00 10 18.1	
RTR	**El Retiro**	**0.99**	**312**	*eS*	x	00 10 19.7	
CNCH	**Conchagua**	**1.02**	**88**	⇓*eP*	x	00 10 03.1	
CNCH				*eS*	x	00 10 18.8	
TGUH	**Tegucigalpa,Un**	**1.77**	**62**	*eP*	Pn	00 10 13.4	+0.9
TEL3	**Telica 3**	**2.10**	**108**	*eP*	Pn	00 10 17.2	+0.4
	comp=Z,4μm,1.0s						
COPN	**Copaltepe**	**2.47**	**115**	*eP*	Pn	00 10 22.3	+0.6
CHI2		**17.22**	**118**	*eP*		00 10 15.3	

*ISCJB **16** 00:15:22.0±0.3, 1373S∧004×7649W∧009, h32km, mb4.7/19, Error ellipse: s-maj=12.8km s-min=4.3km az=157.4*
*IDC **16** 00:15:23.9±0.5, 1371S×7642W, h32km±4km, mb4.4/12, mb1 4.6/16, mb1mx4.4/23, mbtmp4.5/16, ML4.3/2, Error ellipse: s-maj=24.8km s-min=11.4km az=74.0*
*MOS **16** 00:15:23.4±1.3, 1382S×7638W, h33km, mb5.0/1, Error ellipse: s-maj=25.0km s-min=15.5km az=126.7*
*NEIC **16** 00:15:24.5±0.3, 1371S×7639W, h35km, mb4.9/7, Error ellipse: s-maj=11.5km s-min=4.8km az=70.0*
ISC 16 00:15:24.3±0.3, 1372S∧004×7647W∧009, h34km, h34km±.8km:pP-P,n63,σ1§13/59, mb4.7/19, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.76**	**348**	Pn	**Pn**	**00 15 50.5**	**-2.0**
	126nm,0.3s,baz=172,slow=15,SNR=1.5						
NNA				Sn	**Sn**	**00 16 14.7**	**+0.9**
	600nm,0.3s,baz=162,slow=16,SNR=4.2						
ATAH	**Atahualpa**	**6.94**	**344**	Pn	**Pn**	**00 17 02.6**	**-1.1**
	4.2nm,0.3s,baz=215,slow=19,SNR=2.3						
ATAH				Sn	**Sn**	**00 18 24.6**	**+2.9**
	10nm,0.3s,baz=83,slow=20,SNR=2.2						
LPAZ	**La Paz**	**8.45**	**109**	Pn	**Pn**	**00 17 27.3**	**+2.8**
	7.2nm,0.3s,baz=301,slow=11,SNR=22						
LPAZ				Sn	**Sn**	**00 19 06.3**	**+7.6**
	1.3nm,0.3s,baz=253,slow=20,SNR=2.1						
LPAZ	**La Paz**	**8.45**	**109**	Pn	**Pn**	**00 17 27.3**	**+2.8**
LPAZ				Sn	**Sn**	**00 19 06.3**	**+7.6**
LVC	**Limon Verde**	**11.39**	**142**	Pn	**Pn**	**00 18 04.0**	**-0.6**
	8.5nm,0.3s,SNR=22						
LVC				Sn	**Sn**	**00 20 14.1**	**+3.3**
	7.4nm,0.3s,SNR=4.8						
LVC	**Limon Verde**	**11.39**	**142**	Pn	**Pn**	**00 18 04.0**	**-0.6**
LVC				Sn	**Sn**	**00 20 14.1**	**+3.3**
OTAV	**Otavalo**	**14.01**	**352**	*e*Pn	**Pn**	**00 18 38.3**	**-2.2**
SIV	**San Ignacio**	**15.06**	**101**	Pn	**Pn**	**00 18 54.4**	**-0.2**
	0.9nm,0.3s,baz=284,slow=19,SNR=2.7						
LCO	**Las Campanas**	**16.13**	**162**	*e*Pn	**Pn**	**00 19 09.1**	**+0.6**
ROSC	**El Rosal**	**18.58**	**7**	*eP*	**Pn**	**00 19 38.3**	**-0.8**
CFAA	**Coronel Fontan**	**19.34**	**158**	P	**Pn**	**00 19 47.1**	**-1.0**
	0.1nm,0.3s,baz=330,slow=12,SNR=7.7						
CPUP	**Villa Florida**	**21.89**	**128**	P	**P**	**00 20 13.1**	**-1.5**
	17nm,0.8s,mb4.5,baz=289,slow=11,SNR=8.2						
CPUP	**Villa Florida**	**21.89**	**128**	*eP*	**P**	**00 20 13.4**	**-1.1**
CPUP				*ep*P		00 20 22.7	
SDV	**Santo Domingo**	**23.20**	**15**	P	**P**	**00 20 31.1**	**+2.6**
	23nm,0.9s,mb4.6,baz=270,slow=5.1,SNR=3.5						
SDV	**Santo Domingo**	**23.20**	**15**	P	**P**	**00 20 28.6**	**+0.2**
PLCA	**Paso Flores**	**27.40**	**170**	P	**P**	**00 21 06.2**	**-0.5**
	7.5nm,0.8s,mb4.3,baz=7.0,slow=9.0,SNR=6.3						
PLCA	**Paso Flores**	**27.40**	**170**	*eP*	**P**	**00 21 06.3**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,14nm,0.8s						
PLCA	**Paso Flores**	**27.40**	**170**	*eP*	**P**	**00 21 06.3**	**-0.4**
	comp=Z,14nm,0.8s,mb4.5						
TRQA	**Tornquist**	**27.44**	**155**	P	**P**	**00 21 02.6**	**-4.5**
TGUH	**Tegucigalpa,Un**	**29.60**	**338**	P	**P**	**00 21 25.9**	**-0.6**
SJG	**San Juan**	**33.23**	**18**	P	**P**	**00 21 58.1**	**-0.3**
AOPR	**Arecibo Observ**	**33.28**	**17**	*eP*	**P**	**00 21 58.7**	**-0.1**
	comp=Z,12nm,0.9s,mb4.8						
EFI	**East Falkland**	**40.66**	**162**	P	**P**	**00 23 00.1**	**-1.1**
USHA	**Ushuaia**	**41.49**	**173**	P	**P**	**00 23 08.2**	**+0.2**
	comp=Z,16nm,0.9s,mb4.7,baz=11,slow=6.1,SNR=4.0						
DWPF	**Disney**	**41.86**	**353**	P	**P**	**00 23 10.7**	**-0.6**
SWET	**Sewanee**	**49.49**	**350**	*eP*	**P**	**00 24 11.1**	**-0.4**
PMSA	**Palmer Station**	**51.70**	**173**	P	**P**	**00 24 27.8**	**-0.1**
	comp=Z,5.7nm,0.6s,mb4.7,baz=16,slow=7.0,SNR=9.2						
SIUC	**Southern Illin**	**52.55**	**347**	*eP*	**P**	**00 24 34.2**	**-0.2**
	comp=Z,18nm,0.7s,mb5.1						
ACSO	**Alum Creek Sta**	**54.02**	**354**	*eP*	**P**	**00 24 44.5**	**-0.6**
BRNJ	**Basking Ridge**	**54.16**	**2**	*eP*	**P**	**00 24 47.8**	**+1.6**
ANMO	**Albuquerque**	**56.15**	**330**	P	**P**	**00 25 05.4**	**+4.7**
MDV	**Middlebury**	**57.52**	**3**	*eP*	**P**	**00 25 10.7**	**+0.5**
SDCO	**Great Sand Dun**	**58.00**	**333**	*eP*	**P**	**00 25 12.9**	**-0.9**
	comp=Z,11nm,1.0s,mb4.8						
PV01	**Paradox Valley**	**59.72**	**331**	P	**P**	**00 25 26.0**	**+0.3**
HWUT	**Hardware Ranch**	**63.87**	**331**	*eP*	**P**	**00 25 54.9**	**+1.3**
	comp=Z,98nm,1.4s,mb5.7						
SPUT	**South Promonto**	**64.06**	**331**	*eP*	**P**	**00 25 55.0**	**+0.2**
HVU	**Hansel Valley**	**64.58**	**331**	*eP*	**P**	**00 25 55.1**	**-3.1**
	comp=Z,6μm,1.2s						
NVAR	**Mina Array Bea**	**64.99**	**325**	P	**P**	**00 26 02.3**	**+1.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=109,slow=4.9						
IMW	**Indian Meadow**	**65.40**	**333**	*eP*	**P**	**00 26 06.3**	**+2.8**
	comp=Z,5μm,1.2s						
ULM	**Lac du Bonnet**	**65.94**	**346**	P	**P**	**00 26 04.8**	**-2.1**
	comp=Z,6.6nm,0.7s,mb4.8,baz=193,slow=5.3,SNR=5.8						
HLID	**Hailey**	**66.72**	**331**	*eP*	**P**	**00 26 13.7**	**+1.7**
	comp=Z,5.4nm,1.1s,mb4.5						
DLMT	**Dillon**	**67.28**	**333**	P	**P**	**00 26 16.6**	**+1.1**
	comp=Z,48nm,2.0s,mb5.2						
SCHQ	**Schefferville**	**68.77**	**6**	P	**P**	**00 26 25.3**	**+0.6**
VNA1	**Neumayer--Stat**	**69.97**	**161**	*e*	**P**	**00 26 32.7**	**+0.7**
VNA1				*e*		00 26 34.7	
VNA1				*e*		00 26 37.9	
VNA1				*e*	pP	00 26 43.1	+0.6
VNA1				*e*		00 26 46.4	
SNAA	**Sanae**	**71.92**	**161**	*e*	**P**	**00 26 43.6**	**-0.2**
SNAA				*e*		00 26 46.0	
SNAA				*e*		00 26 49.3	
SNAA				*e*	pP	00 26 53.8	-0.6
SNAA				*e*		00 26 57.6	
SNAA	**Sanae**	**71.92**	**161**	P	**P**	**00 26 43.8**	**0.0**
	comp=Z,3.8nm,0.5s,mb4.6,baz=284,slow=7.2,SNR=47						
DBIC	**Dimbokro**	**73.90**	**79**	P	**P**	**00 26 56.1**	**-0.5**
	comp=Z,21nm,0.7s,mb5.2,baz=238,slow=6.2,SNR=22						
QSPA	**South Pole Qui**	**76.42**	**180**	P	**P**	**00 27 10.6**	**+0.6**
	comp=Z,6.9nm,1.0s,mb4.5,baz=185,slow=8.9,SNR=7.4						
QSPA				pP	pP	00 27 19.9	-0.6
	comp=Z,7.0nm,0.7s,baz=352,slow=7.7,SNR=4.1						
YKA	**Yellowknife Ar**	**81.60**	**343**	P	**P**	**00 27 38.5**	**+0.1**
	comp=Z,2.4nm,1.0s,mb4.1,baz=133,slow=5.0,SNR=6.2						
YKA				pP	pP	00 27 48.7	-0.3
	comp=Z,3.1nm,0.9s,baz=137,slow=5.2,SNR=6.1						
YKA	**Yellowknife Ar**	**81.60**	**343**	P	**P**	**00 27 38.5**	**+0.1**
YKA				pP	pP	00 27 48.7	-0.3
TORD	**Torodi Ar. Bea**	**81.90**	**74**	P	**P**	**00 27 41.1**	**0.0**
	comp=Z,22nm,0.8s,mb5.2,baz=267,slow=3.7,SNR=11						
ESDC	**Sonseca Array**	**85.67**	**48**	P	**P**	**00 27 59.3**	**-0.5**
	comp=Z,1.4nm,0.8s,mb4.3,baz=259,slow=5.4,SNR=5.4						
BPAW	**Bear Paw Mtn.**	**95.61**	**335**	P	**P**	**00 28 45.5**	**-0.4**
ASAR	**Alice Springs**	**132.43**	**219**	PKP	PKPdf	00 34 36.0	0.0
	comp=Z,0.7nm,0.9s,baz=104,slow=3.9,SNR=4.1						
BRVK	**Borovoye**	**132.73**	**27**	*eP*	Pdif	00 31 31.3	-0.2
WRA	**Warramunga Arr**	**134.85**	**223**	PKP	PKPdf	00 34 40.2	-0.4
	comp=Z,0.5nm,0.6s,baz=137,slow=1.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**137.24**	**16**	PKP	PKPdf	00 34 44.0	0.0
	comp=Z,2.9nm,0.8s,baz=248,slow=1.6,SNR=5.9						
ZALV				pPKP	pPKPdf	00 34 54.0	-1.0
	comp=Z,5.8nm,0.9s,baz=207,slow=3.0,SNR=5.6						
ZAL	**Zalesovo**	**137.25**	**16**	PKIKP	PKPdf	00 34 44.0	0.0
ZAL						00 34 54.0	
MJAR	**Matsushiro Arr**	**141.57**	**313**	PKhKP		00 34 44.2	
	comp=Z,0.4nm,0.4s,baz=97,slow=2.6,SNR=3.2						
MJAR				PKP	PKPdf	00 34 53.9	+1.5
	comp=Z,1.6nm,0.8s,baz=74,slow=1.3,SNR=6.1						
MJAR	**Matsushiro Arr**	**141.57**	**313**	PKP	PKPdf	00 34 53.9	+1.5
SONM	**Songino Array**	**145.91**	**357**	PKPbc	PKPbc	00 35 00.4	+0.1
	comp=Z,3.9nm,0.8s,baz=332,slow=2.4,SNR=10						
SONM				pPKPbc	pPKPbc	00 35 10.8	-0.5
	comp=Z,10nm,0.8s,baz=340,slow=2.4,SNR=15						
KSRS	**Korea Array**	**147.90**	**322**	PKPbc	PKPbc	00 35 04.1	-2.2
	comp=Z,2.3nm,0.8s,baz=26,slow=2.1,SNR=9.4						
KSRS				pPKPbc	pPKPbc	00 35 15.8	-1.6
	comp=Z,4.2nm,0.9s,baz=26,slow=1.4,SNR=6.9						
CMAR	**Chiang Mai Arr**	**173.55**	**43**	PKPab	PKPab	00 37 00.0	-0.2
	comp=Z,0.6nm,0.4s,baz=303,slow=6.0,SNR=5.3						

*ISCJB **16** 00:19:11.9±1.2, 1419S∧004×7600W∧004, h33km±10km, mb5.7/130, MS6.1/2, Error ellipse: s-maj=7.2km s-min=4.2km az=44.0*
*IDC **16** 00:19:12.1±0.6, 1427S×7629W, h24km±3km, mb4.9/22, mb1 4.9/27, mb1mx4.9/31, mbtmp4.8/27, ML4.3/3, Error ellipse: s-maj=17.3km s-min=8.5km az=79.0*
*MOS **16** 00:19:12.5±1.2, 1410S×7597W, h33km, mb6.0/49, Error ellipse: s-maj=10.1km s-min=5.9km az=102.9*
*NEIC **16** 00:19:13.9±0.2, 1423S×7594W, h35km, mb5.8/112, Error ellipse: s-maj=6.7km s-min=4.1km az=59.0*
NEIC Felt [VII] at Lima. Felt at Arequipa and Pacasmayo. Also felt at Iquique, Chile.
*BJI **16** 00:19:13.8, 1420S×7590W, h35km, mB5.9, Ms6.2, Msz5.6*
ISC 16 00:19:16.4±0.9, 1422S∧003×7592W∧004, h55km±7km, h37km±9.3km:pP-P,n791,σ0§76/717, mb5.7/130, MS6.1/2, 201C-154D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.40**	**338**	Sn	**Sn**	**00 20 22.2**	**+0.8**
	2μm,0.3s,baz=210,slow=11,SNR=16						
ATAH	**Atahualpa**	**7.58**	**341**	Pn	**Pn**	**00 21 01.5**	**-2.8**
	16nm,0.3s,baz=272,slow=18,SNR=3.6						
ATAH				Sn	**Sn**	**00 22 28.1**	**-0.8**
	30nm,0.3s,baz=344,slow=19,SNR=2.2						
LPAZ	**La Paz**	**7.79**	**106**	Pn	**Pn**	**00 21 11.0**	**+3.8**
	3.9nm,0.3s,baz=271,slow=13,SNR=8.2						
LPAZ	**La Paz**	**7.79**	**106**	*e*Pn	**Pn**	**00 21 13.4**	**+6.2**
LPAZ				*e

comp=Z,313nm,1.5s,mb6.1
TKL Tuckaleechee C 50.16 352 eP P 00 28 05.1 -1.3
PLAL Pickwick Lake 50.28 347 eP P 00 28 05.0 -2.3
comp=Z,82nm,1.2s,mb5.6
TZTN Tazewell 51.00 352 eP P 00 28 11.8 -0.9
comp=Z,420nm,1.9s,mb6.0
PMSA Palmer Station 51.15 174 P P 00 28 13.4 -0.1
comp=Z,34nm,1.0s,mb5.2,baz=0.7,slow=5.5,SNR=9.8
MIAR Mount Ida 51.32 341 eP P 00 28 15.2 0.0
MIAR pmax pmax
comp=Z,170nm,1.3s,mb5.8
MIAR Mount Ida 51.32 341 eP P 00 28 13.6 -1.6
comp=Z,167nm,1.4s,mb5.8
BLA Blacksburg 51.33 355 eP P 00 28 15.0 -0.2
BLA pmax pmax
comp=Z,169nm,1.4s,mb5.8
BLA Blacksburg 51.33 355 eP P 00 28 15.0 -0.2
comp=Z,169nm,1.4s,mb5.8
ELN Prospectdale 51.38 355 eP P 00 28 14.7 -0.8
HBAR Harrisburg 51.44 345 P P 00 28 14.9 -1.1
HALT Halls 51.45 346 eP P 00 28 14.7 -1.5
URVA University of 51.54 358 eP P 00 28 15.8 -0.9
GNAR Gosnell 51.67 345 eP P 00 28 15.8 -1.9
comp=Z,3µm,1.5s,mb7.1
GNAR e 00 28 22.2
UTMT University of 51.76 347 eP P 00 28 17.2 -1.2
GLAT Glass 51.78 346 eP P 00 28 17.1 -1.5
PARMO Parma 52.27 346 P P 00 28 21.0 -1.2
USIN University of 53.07 348 eP P 00 28 26.2 -1.9
comp=Z,348nm,1.6s,mb6.0
WCI Wyandotte Cave 53.07 350 eP P 00 28 26.1 -2.0
WCI pmax pmax
comp=Z,343nm,1.8s,mb6.0
WCI Wyandotte Cave 53.07 350 eP P 00 28 26.1 -2.0
comp=Z,343nm,1.8s,mb6.0
SIUC Southern Illin 53.15 347 eP P 00 28 26.3 -2.4
comp=Z,165nm,1.3s,mb5.8
SIUC e 00 28 32.3
WMOK Wichita Mounta 53.32 336 eP P 00 28 29.7 -0.3
WMOK pmax pmax
comp=Z,49nm,0.9s,mb5.4
WMOK Wichita Mounta 53.32 336 eP P 00 28 29.6 -0.3
comp=Z,49nm,0.9s,mb5.4
SDMD Soldier's Deli 53.36 359 eP P 00 28 30.8 +0.6
comp=Z,60nm,1.0s,mb5.5
GDL2 Guadalupe Moun 53.60 330 eP P 00 28 32.6 +0.5
MCWV Mont Chateau 53.73 356 eP P 00 28 32.5 -0.4
comp=Z,27nm,0.9s,mb5.2
MCWV e 00 28 38.3
OLIL Olney 53.90 348 eP P 00 28 31.6 -2.5
comp=Z,330nm,1.5s,mb6.0
MVL Millersville 53.94 360 eP P 00 28 30.7 -3.8
comp=Z,168nm,1.4s,mb5.8
BLO Bloomington 54.03 350 eP P 00 28 39.2 +4.1
BLO Bloomington 54.03 350 eP P 00 28 33.4 -1.7
SLM Saint Louis 54.26 346 eP P 00 28 40.7 +3.9
SLM pmax pmax
comp=Z,295nm,1.6s,mb6.0
SLM Saint Louis 54.26 346 eP P 00 28 40.7 +3.9
comp=Z,295nm,1.6s,mb6.0
ACSO Alum Creek Sta 54.57 353 eP P 00 28 37.6 -1.4
comp=Z,172nm,1.4s,mb5.9
AMTX Amarillo 54.62 334 eP P 00 28 38.9 -0.6
comp=Z,213nm,1.5s,mb6.0
BRNJ Basking Ridge 54.64 1 P P 00 28 38.1 -1.4
CPNY Central Park 54.76 2 eP P 00 28 42.4 +2.0
comp=Z,144nm,1.7s,mb5.7
PAL Palisades 54.98 2 eP P 00 28 39.1 -2.8
PAL pmax pmax
comp=Z,60nm,1.0s,mb5.6
PAL Palisades 54.98 2 eP P 00 28 39.1 -2.8
comp=Z,60nm,1.0s,mb5.6
319A Douglas 55.51 325 ⇑P P 00 28 45.5 -0.5
baz=56,SNR=8.2
ALLY Alegheny Colle 55.73 356 eP P 00 28 46.2 -1.1
comp=Z,168nm,1.4s,mb5.9
ALLY PcP PcP 00 29 44.3 -1.7
318A Bisbee 55.95 325 ⇑P P 00 28 48.7 -0.5
baz=56
219A White Tail Can 55.97 326 ⇑P P 00 28 48.9 -0.4
baz=56
BRYW Bryant College 56.01 4 eP P 00 28 49.8 +0.5
BINY Binghamton 56.14 360 eP P 00 28 50.7 +0.5
comp=Z,356nm,2.0s,mb6.0
QUA2 Belchertown 56.31 3 eP P 00 28 51.5 0.0
comp=Z,189nm,1.3s,mb6.0
218A Dragoon 56.39 325 ⇓P P 00 28 51.8 -0.4
baz=56
LPM Los Pinos Moun 56.42 330 eP P 00 28 53.6 +1.2
KSU1 Kansas State U 56.46 341 eP P 00 28 50.7 -1.9
comp=Z,61nm,1.0s,mb5.6
KSU1 PcP PcP 00 29 48.7 -0.2
LENM Lemitar 56.47 329 eP P 00 28 58.2 +5.4
119A Ashpeak Ranch, 56.58 326 ⇓P P 00 28 53.6 0.0
baz=57
217A Green Valley 56.67 324 ⇑P P 00 28 53.9 -0.4
baz=57
LAZ Ladron 56.74 329 eP P 00 28 55.0 +0.3
118A Homack Ranch, 56.85 326 ⇑P P 00 28 55.1 -0.4
baz=57
ANMO Albuquerque 56.85 330 eP P 00 28 55.2 -0.2
ANMO pmax pmax
comp=Z,166nm,1.4s
ANMO Albuquerque 56.85 330 eP P 00 28 55.2 -0.2
comp=Z,166nm,1.4s,mb5.9
Z19A T-Link Ranch, 56.97 327 ⇓P P 00 28 55.6 -0.7
baz=57
TUC Tucson 57.05 325 eP P 00 28 56.0 -0.9
TUC pmax pmax
comp=Z,136nm,1.5s,mb5.8
TUC Tucson 57.05 325 eP P 00 28 56.0 -0.9
comp=Z,136nm,1.5s,mb5.8
216A Three Points, 57.20 324 ⇑P P 00 28 56.8 -1.2
baz=57
117A Oracle 57.22 325 ⇑P P 00 28 57.4 -0.7
baz=57
CBKS Cedar Bluff 57.27 338 eP P 00 28 58.3 0.0
CBKS pmax pmax
comp=Z,173nm,1.1s,mb6.0
CBKS Cedar Bluff 57.27 338 eP P 00 28 58.3 0.0
comp=Z,173nm,1.1s,mb6.0
ACCN Adirondack Com 57.36 2 eP P 00 28 59.5 +0.6
Y19A Nutrioso 57.47 327 ⇓P P 00 28 59.8 -0.1
baz=58
FFD Franklin Falls 57.54 4 eP P 00 29 01.3 +1.1
comp=Z,52nm,0.9s,mb5.6
Z17A San Carlos Hig 57.62 326 ⇓P P 00 29 00.2 -0.8
baz=58
HNH Hanover 57.74 3 eP P 00 29 02.8 +1.2
Y18A Canyon Day Jun 57.75 326 ⇓P P 00 29 01.5 -0.4
baz=58
116A Eloy 57.76 324 ⇑P P 00 29 01.2 -0.7
baz=58
X19A St. Johns 57.86 328 ⇑P P 00 29 02.1 -0.4
baz=58
NCB Newcomb 57.93 1 eP P 00 29 04.3 +1.4
214A Organ Pipe Nat 57.95 323 ⇑P P 00 29 02.8 -0.4
baz=58
MDV Middlebury 57.99 2 eP P 00 29 03.5 +0.2
SCIA State Center 58.09 345 eP P 00 29 03.1 -0.9
comp=Z,408nm,1.8s,mb6.2
Y17A Roosevelt 58.13 326 ⇑P P 00 29 04.1 -0.4
baz=58
115A Sonoran Desert 58.16 324 ⇑P P 00 29 04.2 -0.5
baz=58
Z16A Peralta Trail, 58.18 325 ⇑P P 00 29 04.5 -0.3
baz=58
X18A Snowflake 58.28 327 ⇑P P 00 29 05.3 -0.2
baz=58
LBNH Lisbon 58.29 3 eP P 00 29 07.4 +2.0
LBNH pmax pmax
comp=Z,150nm,1.6s,mb5.8
LBNH Lisbon 58.29 3 eP P 00 29 06.5 +1.1
comp=Z,148nm,1.6s,mb5.8
W19A Sanders 58.44 328 ⇓P P 00 29 06.3 -0.3
baz=59
Z15A Gila River Ind 58.55 325 ⇑P P 00 29 07.2 -0.2
baz=59
LONY Lake Ozonia 58.57 1 eP P 00 29 07.7 +0.4
X17A Forest Lakes 58.59 326 ⇑P P 00 29 07.7 0.0
baz=59
Y16A Circle Bar Ran 58.61 325 ⇑P P 00 29 07.4 -0.4
baz=59
W18A Petrified Fore 58.62 328 ⇑P P 00 29 07.9 0.0
baz=59
SDCO Great Sand Dun 58.69 333 eP P 00 29 08.3 0.0
comp=Z,210nm,1.4s,mb6.0
V19A Window Rock 58.73 329 ⇓P P 00 29 09.0 +0.4
baz=59
FRNY Flat Rock 58.81 2 eP P 00 29 08.9 -0.1
comp=Z,96nm,0.9s,mb5.8
X16A Lo Mia Camp, P 58.99 326 ⇑P P 00 29 10.5 0.0
baz=59
113A Mohawk Valley, 59.09 323 ⇑P P 00 29 10.4 -0.8
baz=59
W17A Winslow 59.10 327 ⇑P P 00 29 11.3 +0.1
baz=59
Y15A Casa Rosa Ranc 59.14 325 ⇑P P 00 29 11.5 -0.1
baz=59
X15A Humboldt 59.48 325 ⇓P P 00 29 13.6 -0.3
baz=60
Y14A Wickenburg 59.51 324 ⇓P P 00 29 13.3 -0.7
baz=60
PKME Peaks-Kenny Pk 59.51 5 eP P 00 29 14.7 +0.9
comp=Z,36nm,1.1s,mb5.3
W16A Flagstaff 59.55 326 ⇑P P 00 29 14.5 +0.1
baz=60
T19A Beclabito 59.60 329 ⇓P P 00 29 14.7 +0.1
baz=60
MVCO Mesa Verde 59.64 330 ⇑P P 00 29 15.1 +0.2
baz=60
MVCO Mesa Verde 59.64 330 eP P 00 29 14.6 -0.3
comp=Z,119nm,1.4s,mb5.7
U18A Rough Rock, Ch 59.70 329 ⇑P P 00 29 15.6 +0.3
baz=60
WUAZ Wupatki 59.79 327 ⇓P P 00 29 16.1 +0.2
baz=60
WUAZ Wupatki 59.79 327 eP P 00 29 16.2 +0.2
X14A Yava 59.83 325 ⇓P P 00 29 15.7 -0.6
baz=60
Y13A Salome 59.88 324 ⇑P P 00 29 16.8 +0.1
baz=60
GLA Glamis 59.92 322 ⇓P P 00 29 16.7 -0.2
baz=60
GLA Glamis 59.92 322 eP P 00 29 19.2 +2.3
W15A Williams 60.01 326 ⇓P P 00 29 17.8 +0.2
baz=60
Y12C Blythe 60.24 323 ⇓P P 00 29 19.1 0.0
baz=60
U17A Shonto 60.24 328 ⇑P P 00 29 18.8 -0.3
baz=60
T18A Mexican Hat 60.26 329 ⇑P P 00 29 19.0 -0.2
baz=60
S19A Harvey Farm, M 60.38 330 ⇓P P 00 29 20.4 +0.5
baz=60
PDMCI Parker Dam,Lak 60.41 324 ⇓P P 00 29 20.3 0.0
baz=60
PV01 Paradox Valley 60.41 331 eP P 00 29 20.2 0.0
ISCO Idaho Springs 60.44 334 eP P 00 29 19.3 -1.0
ISCO pmax pmax
comp=Z,143nm,1.7s,mb5.7
ISCO Idaho Springs 60.44 334 eP P 00 29 19.3 -1.0
comp=Z,143nm,1.7s,mb5.7
V15A Kaibab Nationa 60.44 326 ⇓P P 00 29 21.0 +0.5
baz=61
X13A Yucca 60.45 324 ⇑P P 00 29 20.7 +0.2
baz=61
W14A Seligman 60.49 325 ⇑P P 00 29 21.0 +0.2
baz=61
SMCO Snowmass 60.52 333 eP P 00 29 16.1 -4.8
TRIS Tristan da Cun 60.57 125 P P 00 29 21.8 +0.4
T17A Navajo Res., N 60.62 328 ⇑P P 00 29 21.9 +0.3
baz=61
ECSD EROS,Sioux Fal 60.70 343 eP P 00 29 21.6 -0.4
comp=Z,131nm,1.1s,mb6.0
BC3 Big Chuckw Mtn 60.72 323 ⇑P P 00 29 22.5 +0.2
baz=61
S18A Hurst Farm, Bl 60.75 329 ⇓P P 00 29 22.9 +0.4
baz=61
BAR Barrett 60.77 321 eP P 00 29 21.8 -0.9
comp=Z,1µm,0.8s,mb7.1
V14A Boquillas Ranc 60.81 326 ⇑P P 00 29 23.7 +0.7
baz=61
PV10 Paradox Valley 60.83 331 eP P 00 29 24.7 +1.7
W13A Hualapai Mount 60.85 325 ⇑P P 00 29 23.8 +0.6
baz=61
IRM Iron Mountain 60.89 323 ⇓P P 00 29 23.6 +0.1
baz=61
U15A North Rim 60.96 327 ⇑P P 00 29 24.4 +0.4
baz=61
T16A Glen Canyon Da 60.97 328 ⇑P P 00 29 24.6 +0.6
baz=61
R18A Canyonlands Na 61.25 330 ⇑P P 00 29 25.8 0.0
baz=61
PFO Pinyon Flat Ob 61.28 322 P P 00 29 26.6 +0.4
PFO pmax pmax
comp=Z,96nm,1.4s,mb5.7
PFO Pinyon Flat Ob 61.28 322 ⇑P P 00 29 26.0 -0.2
baz=61
PFO Pinyon Flat Ob 61.28 322 P P 00 29 26.6 +0.4
comp=Z,96nm,1.4s,mb5.7
BELC Belle Mtn. 61.28 322 ⇑P P 00 29 26.1 -0.1
baz=61
Q19A Hogan Spring (61.40 331 ⇓P P 00 29 26.8 0.0
baz=62
U14A Mt Trumbull 61.43 326 ⇑P P 00 29 27.1 0.0
baz=62
V13A Grand Canyon W 61.45 325 ⇑P P 00 29 27.6 +0.3
baz=62
T15A Red Dirt Ranch 61.45 327 ⇑P P 00 29 27.5 +0.2
baz=62
LDFC Landfair 61.53 324 eP P 00 29 33.4 +5.6
W12A Cal Nev Ari 61.55 324 ⇓P P 00 29 28.1 +0.2
baz=62
S16A Weppner Ranch, 61.58 328 ⇓P P 00 29 27.5 -0.6
baz=62
GMRC Granite Mounta 61.63 323 ⇓P P 00 29 27.9 -0.6
baz=62
PHWY Pilot Hill 61.63 335 eP P 00 29 26.7 -1.6
R17A Hanksville Air 61.67 329 ⇑P P 00 29 28.8 +0.1
baz=62
MURC Murrieta 61.72 321 ⇑P P 00 29 28.9 -0.3
baz=62
V12A Nelson 61.84 325 ⇓P P 00 29 29.9 -0.1
baz=62
U13A Pakoon Wash 61.85 326 ⇑P P 00 29 30.5 +0.5
baz=62
T14A Hurricane 61.86 327 ⇑P P 00 29 30.3 +0.3
baz=62
Q18A Rafter H Ranch 61.93 330 ⇑P P 00 29 30.8 +0.4
baz=62
S15A Panguitch 61.94 328 ⇑P P 00 29 30.8 +0.2
baz=62
HEC Hector,Ludlow 62.06 323 ⇑P P 00 29 31.2 -0.1
baz=62
SRU San Rafael 62.12 330 ⇑P P 00 29 31.9 +0.2
baz=62
SRU San Rafael 62.12 330 eP P 00 29 32.0 +0.3
U12A Valley of Fire 62.18 325 ⇑P P 00 29 32.4 +0.2
baz=62
TUQ Turquoise Mtn. 62.25 324 ⇑P P 00 29 32.5 -0.1
baz=62
V11A Goodsprings 62.25 324 ⇓P P 00 29 32.5 -0.2
baz=62
T13A Saint George 62.27 326 ⇓P P 00 29 33.0 +0.3
baz=62
Q16A Castle Valley 62.29 329 ⇑P P 00 29 32.3 -0.6
baz=62
R15A Junction 62.30 328 ⇓P P 00 29 33.1 +0.1
baz=62
P18A Preston Nutter 62.39 331 ⇑P P 00 29 33.4 -0.1
baz=62
BFSC Mount Baldy St 62.44 322 ⇑P P 00 29 33.7 -0.2
baz=62
MSU Marysvale 62.48 328 eP P 00 29 34.2 +0.1
T12A Moapa 62.49 325 ⇓P P 00 29 34.1 -0.1
baz=63
P17A Butcher Ranch, 62.51 330 ⇓P P 00 29 34.4 +0.1
baz=63
ARUT Antelope Range 62.59 327 eP P 00 29 35.0 +0.2
TMUT Trail Mountain 62.60 330 eP P 00 29 36.1 +1.2
S13A Holt Ranch, En 62.66 327 ⇓P P 00 29 35.4 +0.1
baz=63
GSC Goldstone 62.66 323 ⇑P P 00 29 35.2 -0.3
baz=63
GSC Goldstone 62.66 323 eP P 00 29 36.0 +0.6
comp=Z,242nm,1.9s,mb6.0
MWC Mount Wilson 62.67 321 eP P 00 29 34.8 -0.7
RWWY Rawlins 62.68 334 eP P 00 29 32.3 -3.1
SHOC Shoshone 62.78 324 ⇓P P 00 29 36.3 +0.1
baz=63
O18A Roosevelt 62.78 331 ⇓P P 00 29 36.6 +0.5
baz=63
DECC Green Verdugo 62.85 321 ⇑P P 00 29 36.7 0.0
baz=63
SNCC San Nicolas Is 62.92 320 ⇓P P 00 29 37.6 +0.4
baz=63
Q15A Fillmore 62.95 329 ⇑P P 00 29 37.5 +0.3
baz=63
EDW2 Edwards Air Fo 63.07 322 ⇑P P 00 29 37.8 -0.3
baz=63
T11A Corn Creek, Al 63.14 325 ⇑P P 00 29 38.8 +0.2
baz=63
R13A O'Grain Ranch, 63.16 327 ⇑P P 00 29 39.1 +0.4
baz=63
U10A Ash Meadows, A 63.18 324 ⇓P P 00 29 38.7 -0.1
baz=63
N18A Larsen Ranch, 63.19 332 ⇓P P 00 29 39.6 +0.8
baz=63
LRMC Laurel Mountai 63.30 323 ⇑P P 00 29 39.9 +0.2
baz=63
P15A Leamington 63.34 329 ⇑P P 00 29 40.4 +0.6
baz=64
MPU Maple Canyon 63.36 330 eP P 00 29 40.2 +0.2
Q14A Sevier Lake (B 63.40 328 ⇓P P 00 29 40.5 +0.3
baz=64
EYMN Ely 63.43 348 eP P 00 29 37.8 -2.4
comp=Z,17nm,0.9s,mb5.2
O16A Springville 63.45 330 ⇑P P 00 29 40.7 +0.2
baz=64
RSSD Black Hills 63.47 338 P P 00 29 40.5 -0.1
DAU Daniels Canyon 63.49 330 eP P 00 29 41.8 +1.0
TPNV Topopah Spring 63.51 325 eP P 00 29 41.5 +0.5
TPNV pmax pmax
comp=Z,65nm,1.1s,mb5.6
TPNV Topopah Spring 63.51 325 ⇓P P 00 29 41.2 +0.2
baz=64
TPNV Topopah Spring 63.51 325 eP P 00 29 41.5 +0.5
comp=Z,65nm,1.1s,mb5.6
FURC Furnace Creek, 63.51 324 ⇑P P 00 29 41.1 0.0
baz=64
NLU North Lily Min 63.53 330 eP P 00 29 34.8 -6.2
MPMC Manual Prospec 63.59 323 ⇓P P 00 29 41.9 +0.3
baz=64
R12A Pony Springs, 63.61 327 ⇑P P 00 29 42.2 +0.6
baz=64
N17A Moffit Pass 63.70 331 ⇓P P 00 29 43.0 +0.8
baz=64
S11A Rachel 63.73 325 ⇑P P 00 29 43.0 +0.6
baz=64
JLU Jordanelle 63.73 330 eP P 00 29 42.9 +0.5
ARVC Arvin 63.75 322 ⇑P P 00 29 43.1 +0.5
baz=64
P14A Drum Mountains 63.75 329 ⇓P P 00 29 43.0 +0.5
baz=64
Q13A Wheeler Ranch, 63.76 328 ⇓P P 00 29 43.1 +0.5
baz=64
SBC Santa Barbara 63.83 320 ⇓P P 00 29 43.2 +0.1
baz=64
ISA Isabella 63.90 322 eP P 00 29 43.6 0.0
ISA pmax pmax
comp=Z,108nm,1.6s,mb5.6
ISA Isabella 63.90 322 ⇓P P 00 29 43.6 +0.1
baz=64
ISA Isabella 63.90 322 eP P 00 29 43.6 0.0
comp=Z,108nm,1.6s,mb5.6
CTU Camp Tracy 63.94 330 eP P 00 29 49.2 +5.5
N16A Rees Ranch, Co 63.95 331 ⇓P P 00 29 44.2 +0.4
baz=64
O15A The Old Anders 63.98 330 ⇑P P 00 29 45.1 +1.1
baz=64
DUG Dugway 64.08 329 eP P 00 29 44.4 -0.3
DUG pmax pmax
comp=Z,178nm,1.4s,mb5.9
DUG Dugway 64.08 329 ⇓P P 00 29 45.4 +0.7
baz=64
DUG Dugway 64.08 329 eP P 00 29 44.4 -0.3
comp=Z,178nm,1.4s,mb5.9
NOQ North Oquirrh 64.09 330 eP P 00 29 45.3 +0.6
P13A Bates Ranch, G 64.13 328 ⇓P P 00 29 45.1 +0.1
baz=64
R11A Troy Canyon, C 64.15 326 ⇑P P 00 29 45.3 +0.2
baz=64
GRAC Grapevine Rang 64.18 324 ⇓P P 00 29 45.3 -0.1
baz=64
PKM Peak Mountain 64.19 321 ⇓P P 00 29 44.7 -0.8
baz=64
CWC Cottonwood Cre 64.20 323 ⇓P P 00 29 45.3 -0.3
baz=64
Q12A Willow Creek R 64.25 327 ⇑P P 00 29 45.4 -0.4
baz=64
M16A Huntsville 64.37 331 ⇑P P 00 29 46.3 -0.2
baz=64
VES Vestal, Richgr 64.38 322 ⇑P P 00 29 46.3 -0.4
baz=64
S10A Tonopah Range, 64.39 325 ⇑P P 00 29 46.6 -0.1
baz=64
N15A Stansbury Isla 64.47 330 ⇑P P 00 29 47.3 +0.1
baz=65
R10A Warm Springs 64.49 326 ⇑P P 00 29 47.2 -0.2
baz=65
Q11A Duckwater 64.54 326 ⇑P P 00 29 48.0 +0.3
baz=65
HWUT Hardware Ranch 64.57 331 eP P 00 29 47.2 -0.6
BW06 Boulder Array 64.57 333 eP P 00 29 47.8 -0.1
comp=Z,78nm,1.4s,mb5.5
PDAR Pinedale Array 64.57 333 P P 00 29 46.4 -1.4
comp=Z,6.3nm,0.7s,mb4.7,baz=133,slow=8.3,SNR=8.5
SMMC Simmler 64.58 321 ⇑P P 00 29 47.8 -0.3
baz=65
S09A Goldfield 64.60 325 ⇓P P 00 29 47.6 -0.5
baz=65
O13A Hicks Ranch, I 64.62 328 ⇑P P 00 29 48.2 0.0
baz=65
TIN Tinemaha 64.71 323 ⇑P P 00 29 48.6 -0.2
baz=65
AGMN Agassiz Refuge 64.72 345 eP P 00 29 48.8 +0.1
comp=Z,80nm,1.1s,mb5.7
BGU Big Grassy Mou 64.74 330 eP P 00 29 48.0 -1.0
SPUT South Promonto 64.75 330 eP P 00 29 49.8 +0.7
N14A Grayback Hills 64.77 329 ⇑P P 00 29 49.1 -0.1
baz=65
RCTC Rector, Farmer 64.79 322 ⇓P P 00 29 48.9 -0.6
baz=65
L16A Fish Haven 64.82 331 ⇓P P 00 29 49.8 +0.3
baz=65
TPH Tonopah 64.85 325 eP P 00 29 49.7 -0.1
TPH pmax pmax
comp=Z,137nm,1.5s,mb5.8
TPH Tonopah 64.85 325 eP P 00 29 49.7 -0.1
comp=Z,137nm,1.5s,mb5.8
M15A Larsen Ranch, 64.87 330 ⇑P P 00 29 50.1 +0.2
baz=65
R09A Tonopah 64.88 325 ⇓P P 00 29 50.1 +0.1
baz=65
V05C Boulder Hill, 64.89 321 ⇑P P 00 29 50.0 -0.1
baz=65
HELL Mitchell Peak 64.91 323 ⇓P P 00 29 49.8 -0.4
baz=65
Q10A Clear Creek Ra 64.93 326 ⇓P P 00 29 50.0 -0.2
baz=65
S08C White Mtn Res 64.98 324 ⇑P P 00 29 50.5 -0.1
baz=65
MTUM Tungsten Hills 65.11 323 eP P 00 29 51.2 -0.2
O12A Currie 65.11 328 ⇓P P 00 29 50.8 -0.6
baz=65
AHID Auburn Hatcher 65.26 332 eP P 00 29 53.0 +0.7
comp=Z,184nm,1.6s,mb5.9
L15A Malad City 65.26 331 ⇑P P 00 29 52.6 +0.3
baz=65
HVU Hansel Valley 65.27 330 eP P 00 29 52.1 -0.3
N13A Wendover, West 65.27 329 ⇓P P 00 29 52.6 +0.2
baz=65
PKD Parkfield 65.33 321 ⇑P P 00 29 52.7 -0.2
baz=65
M14A Sheep Mountain 65.34 330 ⇓P P 00 29 52.7 -0.2
baz=66
Q09A Carvers 65.36 325 ⇑P P 00 29 53.3 +0.2
baz=66
MLAC Mammoth Lakes 65.45 324 ⇑P P 00 29 53.5 -0.2
baz=66
O11A Cowboy Ranch, 65.48 327 ⇑P P 00 29 53.6 -0.2
baz=66
KCC Kaiser Creek 65.53 323 ⇑P P 00 29 53.9 -0.3
baz=66
K16A Soda Springs 65.53 332 ⇑P P 00 29 54.8 +0.7
baz=66
P10A Eureka 65.54 327 ⇑P P 00 29 54.5 +0.3
baz=66
T06C Millerton Lake 65.54 323 ⇑P P 00 29 53.8 -0.4
baz=66
REDW Red Top Meadow 65.62 333 eP P 00 29 54.5 -0.1

M13A	Montello	65.63	329	⇑P	P	00 29 54.7 -0.1
	baz=66					
SNOW	Snow King Moun	65.66	333	eP	P	00 29 55.6 +0.8
L14A	Malta	65.69	330	⇑P	P	00 29 55.2 +0.1
	baz=66					
NVAR	Mina Array Bea	65.70	324	P	P	00 29 55.0 -0.3
	comp=Z,9.7nm,1.1s,mb4.8,baz=148,slow=6.0,SNR=9.9					
LOHW	Long Hollow	65.71	333	eP	P	00 29 54.8 -0.4
	comp=Z,103nm,1.5s,mb5.6					
ELK	Elko	65.72	328	eP	P	00 29 54.6 -0.7
ELK				pmax	pmax	
	comp=Z,16nm,1.0s					
ELK	Elko	65.72	328	eP	P	00 29 54.6 -0.7
	comp=Z,16nm,1.0s,mb5.0					
U04C	Hernandez Rese	65.75	321	⇓P	P	00 29 55.2 -0.5
	baz=66					
TPAW	Teton Pass	65.77	333	eP	P	00 29 55.5 -0.1
	comp=Z,109nm,1.4s,mb5.7					
Q08A	Gabbs	65.80	325	⇑P	P	00 29 56.0 +0.1
	baz=66					
RRI2	Red Ridge	65.82	332	eP	P	00 29 55.5 -0.4
P09A	Austin	65.85	326	⇑P	P	00 29 55.7 -0.5
	baz=66					
K15A	Arbon	65.86	331	⇓P	P	00 29 56.3 +0.2
	baz=66					
MOOW	Moose Ponds	65.88	333	eP	P	00 29 56.3 0.0
	comp=Z,159nm,1.7s,mb5.8					
R07C	Lee Vining	65.89	324	⇓P	P	00 29 56.5 0.0
	baz=66					
J16A	Bone	65.89	332	⇑P	P	00 29 56.4 +0.1
	baz=66					
DCID1	Drake Creek	65.95	333	eP	P	00 29 56.5 -0.2
N11A	Elko Archery C	66.02	328	⇓P	P	00 29 57.1 -0.1
	baz=66					
O10A	Cortez Mining,	66.04	327	⇓P	P	00 29 57.0 -0.4
	baz=66					
M12A	Wells	66.05	329	⇓P	P	00 29 57.1 -0.3
	baz=66					
K14A	Jones Ranch, D	66.05	331	⇓P	P	00 29 56.4 -1.0
	baz=66					
L13A	Double Diamond	66.07	330	⇑P	P	00 29 57.5 0.0
	baz=66					
IMW	Indian Meadow	66.08	333	eP	P	00 29 58.2 +0.7
FLWY	Flagg Ranch	66.12	333	eP	P	00 29 58.0 +0.2
S05C	Merced	66.14	322	⇓P	P	00 29 58.3 +0.2
	baz=66					
HAST	Hastings Reser	66.24	321	⇓P	P	00 29 58.5 -0.3
	baz=66					
O09A	Fish Creek Ran	66.32	327	⇑P	P	00 29 59.5 +0.3
	baz=66					
N10A	Dunphy	66.35	327	⇑P	P	00 29 59.5 +0.1
	baz=66					
RLMT	Red Lodge	66.35	335	eP	P	00 29 59.4 +0.1
	comp=Z,123nm,1.3s,mb5.8					
LKWY	Lake	66.38	334	eP	P	00 30 01.8 +2.3
LKWY				pmax	pmax	
	comp=Z,83nm,1.1s,mb5.7					
LKWY	Lake	66.38	334	eP	P	00 30 01.8 +2.3
	comp=Z,83nm,1.1s,mb5.7					
R06C	Coleville	66.42	324	⇑P	P	00 29 59.8 -0.1
	baz=66					
SAO	San Andreas Ge	66.42	321	eP	P	00 30 06.0 +6.1
P08A	Dixie Valley	66.47	326	⇑P	P	00 30 00.1 0.0
	baz=67					
LAO	LASA Array	66.47	338	eP	P	00 30 00.2 +0.2
	comp=Z,116nm,1.3s,mb5.8					
YFT	Old Faithful	66.48	333	eP	P	00 30 02.2 +2.1
PACP	Pacheco Peak	66.48	322	⇑P	P	00 30 00.3 0.0
	baz=67					
M11A	Holland Ranch,	66.50	328	⇓P	P	00 30 00.7 +0.4
	baz=67					
BMN	Battle Mountai	66.52	327	eP	P	00 30 01.6 +1.1
ULM	Lac du Bonnet	66.55	346	P	P	00 29 58.8 -1.6
	comp=Z,50nm,1.2s,mb5.4,baz=164,slow=6.3,SNR=10					
K13A	Stover Farm, H	66.56	330	⇑P	P	00 30 01.2 +0.5
	baz=67					
CMB	Columbia Colle	66.63	323	⇑P	P	00 30 01.1 -0.1
	baz=67					
CMB	Columbia Colle	66.63	323	eP	P	00 30 01.3 +0.1
L12A	House Creek Ra	66.64	329	⇓P	P	00 30 01.5 +0.3
	baz=67					
YMR	Madison River	66.71	334	eP	P	00 30 01.9 +0.3
	comp=Z,305nm,1.7s,mb6.0					
S04C	Ingram Canyon,	66.83	322	⇓P	P	00 30 02.8 +0.3
	baz=67					
R05C	Kirkwood Meado	66.90	324	⇑P	P	00 30 03.4 +0.5
	baz=67					
O08A	Rochester Mine	66.92	326	⇑P	P	00 30 03.7 +0.6
	baz=67					
K12A	Draper Farm, C	66.95	330	⇑P	P	00 30 03.2 +0.1
	baz=67					
M10A	I.L. Ranch, Tu	66.95	328	⇑P	P	00 30 03.8 +0.6
	baz=67					
L11A	Cat Creek Ranc	67.03	329	⇑P	P	00 30 03.1 -0.6
	baz=67					
QLMT	Earthquake Lak	67.04	333	eP	P	00 30 04.5 +0.9
GCMT	Greycliff	67.06	335	eP	P	00 30 03.3 -0.5
BNLO	Ben Lomond (Sa	67.10	321	⇓P	P	00 30 04.2 0.0
	baz=67					
R04C	Big Horse Ranc	67.10	323	⇑P	P	00 30 04.6 +0.3
	baz=67					
WCN	Washoe City	67.13	324	⇑P	P	00 30 04.6 +0.3
	baz=67					
PAHR	Pah Rah Range	67.19	325	eP	P	00 30 05.3 +0.5
O07A	Toulon	67.23	326	⇓P	P	00 30 05.1 +0.1
	baz=67					
N08A	GE Springer Mi	67.26	326	⇑P	P	00 30 05.3 +0.2
	baz=67					
DGMT	Dagmar	67.29	340	eP	P	00 30 06.0 +0.9
JRSC	Jasper Ridge	67.31	321	⇑P	P	00 30 05.5 -0.1
	baz=67					
LAVA	Lava Cap Winer	67.32	323	⇑P	P	00 30 05.3 -0.3
	baz=67					
L10A	Juniper Basin	67.32	328	⇑P	P	00 30 05.5 0.0
	baz=67					
M09A	Marrel Ranch,	67.36	327	⇑P	P	00 30 05.6 -0.2
	baz=68					
HLID	Hailey	67.41	331	⇓P	P	00 30 06.1 0.0
	baz=68					
HLID	Hailey	67.41	331	eP	P	00 30 06.2 +0.1
BDM	Black Diamond	67.45	322	⇑P	P	00 30 06.2 -0.2
	baz=68					
P06A	Stead Airport,	67.46	325	⇑P	P	00 30 05.8 -0.7
	baz=68					
J12A	Stokes Ranch,	67.51	330	⇑P	P	00 30 06.6 0.0
	baz=68					
I13A	Wildhorse Cree	67.54	331	⇓P	P	00 30 06.3 -0.6
	baz=68					
K11A	Parker Ranch,	67.61	329	⇓P	P	00 30 07.1 -0.2
	baz=68					
P05C	Yuba Gap, Truc	67.61	324	⇓P	P	00 30 07.1 -0.3
	baz=68					
N07B	Gerlach	67.71	326	⇑P	P	00 30 07.9 -0.1
	baz=68					
Q04C	Lincoln	67.75	323	⇑P	P	00 30 08.1 -0.1
	baz=68					
O06A	Flanigan	67.76	325	⇑P	P	00 30 07.8 -0.5
	baz=68					
G15A	Dillon	67.77	333	⇑P	P	00 30 08.1 -0.2
	baz=68					
BOZ	Bozeman (W)	67.77	334	eP	P	00 30 07.4 -0.9
BOZ				pmax	pmax	
	comp=Z,95nm,1.4s,mb5.6					
BOZ	Bozeman (W)	67.77	334	⇓P	P	00 30 08.4 +0.1
	baz=68					
BOZ	Bozeman (W)	67.77	334	eP	P	00 30 07.4 -0.9
	comp=Z,94nm,1.4s,mb5.6					
BEKR	Beckwourth	67.85	324	⇓P	P	00 30 08.7 -0.2
	baz=68					
M08A	Happy Creek Ra	67.86	327	⇓P	P	00 30 09.0 +0.1
	baz=68					
L09A	Wilkinson Ranc	67.89	328	⇓P	P	00 30 09.4 +0.2
	baz=68					
DLMT	Dillon	67.97	333	eP	P	00 30 09.8 +0.3
	comp=Z,125nm,1.3s,mb5.8					
FARB	Farallon Islan	67.97	321	⇑P	P	00 30 10.1 +0.4
	baz=68					
MFID	Camas Ranch	67.99	330	⇑P	P	00 30 10.0 +0.3
	baz=68					
K10A	MacKenzie Ranc	68.04	329	⇑P	P	00 30 10.8 +0.8
	baz=68					
CVS	Carmenet Viney	68.06	322	⇑P	P	00 30 10.4 +0.2
	baz=68					
OHCM	Honcut	68.14	323	eP	P	00 30 11.3 +0.6
N06A	Buffalo Meadow	68.16	325	⇑P	P	00 30 11.3 +0.5
	baz=68					
O05C	Quincy	68.23	324	⇑P	P	00 30 11.3 0.0
	baz=68					
SUTB	Sutter Butte	68.24	323	⇑P	P	00 30 11.5 +0.1
	baz=68					
M07A	Soldier Meadow	68.25	326	⇓P	P	00 30 11.4 0.0
	baz=68					
G14A	Jackson	68.26	332	⇑P	P	00 30 11.4 +0.1
	baz=68					
NSHM	Saint Helena R	68.26	322	eP	P	00 30 11.4 -0.2
LRM	Limekiln Ridge	68.26	333	eP	P	00 30 12.2 +0.8
ORV	Oroville	68.29	324	⇑P	P	00 30 11.6 -0.1
	baz=68					
F15A	Butte	68.30	333	⇑P	P	00 30 11.8 +0.2
	baz=68					
H12A	Diamond D Ranc	68.37	331	⇑P	P	00 30 12.6 +0.5
	baz=68					
L08A	Fields	68.37	327	⇓P	P	00 30 12.8 +0.7
	baz=68					
MNRC	McLaughlin Nat	68.40	322	⇓P	P	00 30 12.4 +0.1
	baz=68					
K09A	Rome	68.41	328	⇓P	P	00 30 12.4 0.0
	baz=68					
I11A	Placerville	68.42	330	⇑P	P	00 30 12.1 -0.3
	baz=68					
J10A	Berg Farm, Mel	68.46	329	⇓P	P	00 30 12.7 0.0
	baz=69					
G13A	Cobalt	68.49	332	⇑P	P	00 30 13.2 +0.4
	baz=69					
O04C	Chester	68.57	324	⇑P	P	00 30 13.6 +0.2
	baz=69					
F14A	Wisdom	68.66	333	⇑P	P	00 30 14.4 +0.6
	baz=69					
WVOR	Wild Horse Val	68.70	327	eP	P	00 30 13.7 -0.4
WVOR				pmax	pmax	
	comp=Z,94nm,1.4s,mb5.5					
WVOR	Wild Horse Val	68.70	327	eP	P	00 30 13.7 -0.5
	comp=Z,94nm,1.4s,mb5.5					
L07A	Adell	68.78	327	⇑P	P	00 30 14.9 +0.3
	baz=69					
E15A	Deer Lodge	68.82	334	⇓P	P	00 30 15.2 +0.4
	baz=69					
K08A	Mann Creek Ran	68.83	328	⇓P	P	00 30 15.2 +0.2
	baz=69					
M06C	Likely Place G	68.83	325	⇓P	P	00 30 15.3 +0.3
	baz=69					
HOPS	Hopland	68.84	322	⇓P	P	00 30 15.0 -0.2
	baz=69					
HOPS	Hopland	68.84	322	eP	P	00 30 19.5 +4.3
	comp=Z,96nm,1.5s,mb5.5					
J09A	Fry Pan Ranch,	68.89	329	⇓P	P	00 30 15.6 +0.3
	baz=69					
EGMT	Eagleton	68.91	336	⇑P	P	00 30 15.3 0.0
	baz=69					
EGMT	Eagleton	68.91	336	eP	P	00 30 15.7 +0.4
	comp=Z,82nm,1.2s,mb5.5					
I10A	Payette	68.96	330	⇑P	P	00 30 16.0 +0.3
	baz=69					
H11A	Donnelly	69.03	331	⇑P	P	00 30 16.3 +0.1
	baz=69					
GASB	Alder Springs	69.06	323	⇓P	P	00 30 16.2 -0.3
	baz=69					
F13A	Darby	69.07	332	⇑P	P	00 30 16.8 +0.4
	baz=69					
HATC	Hat Creek Radi	69.11	325	⇓P	P	00 30 17.0 +0.2
	baz=69					
E14A	Clinton	69.18	333	⇓P	P	00 30 17.4 +0.3
	baz=69					
MOD	Modoc	69.21	326	⇓P	P	00 30 17.4 0.0
	baz=69					
MOD	Modoc	69.21	326	eP	P	00 30 17.6 +0.2
SCHQ	Schefferville	69.22	6	P	P	00 30 16.8 -0.3
	comp=Z,5.4nm,0.9s,mb4.5,baz=225,slow=10,SNR=3.8					
D15A	Lincoln	69.25	334	⇓P	P	00 30 18.1 +0.6
	baz=69					
J08A	Circle Bar Ran	69.27	328	⇓P	P	00 30 18.2 +0.5
	baz=69					
H10A	Noah's Angus R	69.30	330	⇑P	P	00 30 18.2 +0.3
	baz=69					
M05C	Lookout	69.30	325	⇓P	P	00 30 17.9 0.0
	baz=69					
P01C	Double 8 Ranch	69.31	322	⇑P	P	00 30 18.3 +0.3
	baz=69					
VNA1	Neumayer--Stat	69.32	161	eP	P	00 30 18.5 +0.8
VNA1				e		00 30 19.7
VNA1				e		00 30 26.3
VNA1				e	pP	00 30 29.7 -3.2
VNA1				e	pP	00 30 32.8 -0.1
VNA1				e		00 30 40.3
I09A	Lost Marbles R	69.34	329	⇓P	P	00 30 18.3 +0.2
	baz=70					
O02C	Red Bluff	69.45	323	⇓P	P	00 30 19.0 +0.1
	baz=70					
CHMT	Chamberlain Mo	69.46	334	eP	P	00 30 19.1 +0.4
F12A	Elk City	69.47	332	⇑P	P	00 30 19.2 +0.4
	baz=70					
E13A	Victor	69.50	333	⇑P	P	00 30 19.5 +0.4
	baz=70					
WDC	Whiskeytown Da	69.57	324	⇓P	P	00 30 19.2 -0.4
	baz=70					
WDC	Whiskeytown Da	69.57	324	eP	P	00 30 17.8 -1.8
KCPM	Cahto Peak	69.59	323	eP	P	00 30 19.5 -0.2
L05A	Lakeview	69.60	326	⇑P	P	00 30 19.9 +0.1
	baz=70					
KIPM	Iron Peak	69.61	323	eP	P	00 30 19.1 -0.8
G11A	Walters Elk Ra	69.67	331	⇑P	P	00 30 20.3 +0.2
	baz=70					
MSO	Missoula	69.69	333	eP	P	00 30 21.2 +1.0
D14A	Greenough	69.70	334	⇓P	P	00 30 20.6 +0.4
	baz=70					
I08A	Drewsey	69.71	329	⇑P	P	00 30 20.5 +0.1
	baz=70					
J07A	Hines	69.71	328	⇓P	P	00 30 20.7 +0.3
	baz=70					
BMO	Blue Mountains	69.76	330	eP	P	00 30 20.0 -0.7
	comp=Z,107nm,1.6s,mb5.5					
M03C	McCloud	69.79	325	⇑P	P	00 30 20.9 -0.1
	baz=70					
K06A	Valley Falls	69.80	327	⇓P	P	00 30 21.6 +0.7
	baz=70					
M04C	Macdoel	69.97	325	⇓P	P	00 30 22.1 +0.1
	baz=70					
F11A	Grangeville	69.98	331	⇓P	P	00 30 22.0 0.0
	baz=70					
G10A	Bishop Farm, J	70.00	330	⇓P	P	00 30 22.1 0.0
	baz=70					
J06A	Christmas Vall	70.06	327	⇑P	P	00 30 22.4 -0.2
	baz=70					
K05A	Summer Lake	70.09	326	⇑P	P	00 30 23.7 +0.9
	baz=70					
D13A	Huson	70.12	333	⇑P	P	00 30 23.4 +0.6
	baz=70					
N02C	Big Bar	70.17	324	⇑P	P	00 30 23.0 -0.3
	baz=70					
L04A	Klamath Falls	70.26	325	⇑P	P	00 30 23.9 +0.1
	baz=70					
M02C	Callahan	70.28	324	⇓P	P	00 30 23.1 -0.8
	baz=70					
G09A	Cove	70.30	330	⇓P	P	00 30 24.1 +0.1
	baz=70					
I07A	Izee	70.31	328	⇑P	P	00 30 24.3 +0.2
	baz=70					
C14A	Swan Lake	70.34	334	⇓P	P	00 30 24.3 +0.1
	baz=70					
E11A	Bogner Ranch,	70.35	332	⇓P	P	00 30 24.5 +0.3
	baz=70					
YBH	Yreka Blue Hor	70.42	325	⇓P	P	00 30 24.4 -0.5
	baz=70					
YBH	Yreka Blue Hor	70.42	325	eP	P	00 30 23.5 -1.3
KHMM	Horse Mountain	70.45	323	eP	P	00 30 25.3 +0.4
K04A	Chilquin	70.47	326	⇑P	P	00 30 24.8 -0.3
	baz=71					
D12A	Red Ives Fores	70.49	333	⇓P	P	00 30 25.4 +0.3
	baz=71					
F10A	Beach Ranch, E	70.55	331	⇑P	P	00 30 25.6 +0.1
	baz=71					
I06A	Prineville	70.58	328	⇑P	P	00 30 25.8 +0.1
	baz=71					
JCC	Jacoby Creek	70.58	323	⇑P	P	00 30 25.5 -0.3
	baz=71					
C13A	Hot Springs	70.62	333	⇑P	P	00 30 25.6 -0.3
	baz=71					
J05A	Fort Rock	70.66	327	⇑P	P	00 30 26.5 +0.3
	baz=71					
F09A	S2 Ranch, Elgi	70.68	330	⇑P	P	00 30 27.1 +0.8
	baz=71					
H07A	Lands Inn, Kim	70.70	328	⇓P	P	00 30 26.9 +0.5
	baz=71					
E10A	Myers Farm, Un	70.87	331	⇑P	P	00 30 27.9 +0.5
	baz=71					
G08A	Pilot Rock	70.89	329	⇓P	P	00 30 27.6 0.0
	baz=71					
D11A	Klaveano Farm,	70.93	332	⇓P	P	00 30 27.7 -0.1
	baz=71					
KRMB	Red Mountain	70.97	324	eP	P	00 30 28.0 -0.2
LNOR	Lincton Mounta	70.98	330	eP	P	00 30 27.5 -0.6
J04A	Umpqua Nationa	71.10	326	⇑P	P	00 30 28.8 -0.1
	baz=71					
B13A	Whitefish	71.11	334	⇑P	P	00 30 29.6 +0.7
	baz=71					
HUMO	Hull Mountain	71.14	325	⇑P	P	00 30 29.6 +0.4
	baz=71					
HUMO	Hull Mountain	71.14	325	eP	P	00 30 29.0 -0.1
	comp=Z,39nm,1.5s,mb5.1					
H06A	Lindquist Farm	71.19	328	⇓P	P	00 30 30.2 +0.8
	baz=71					
L02A	Cave Junction	71.20	324	⇓P	P	00 30 30.3 +0.8
	baz=71					
G07A	Ruggs Ranch, H	71.23	329	⇓P	P	00 30 30.7 +1.1
	baz=71					
I05A	Bend	71.28	327	⇑P	P	00 30 30.5 +0.5
	baz=71					
SNAA	Sanae	71.28	161	eP	P	00 30 29.2 -0.4
SNAA				e		00 30 30.8
SNAA				e		00 30 37.2
SNAA				e	pP	00 30 40.9 -4.1
SNAA				e	pP	00 30 44.6 -0.4
SNAA	Sanae	71.28	161	P	P	00 30 28.7 -0.9
	comp=Z,24nm,1.0s,mb5.1,baz=289,slow=4.8,SNR=22					
M01C	Crescent City	71.30	324	⇑P	P	00 30 30.6 +0.5
	baz=71					
D10A	Wagner Farm, O	71.36	332	⇓P	P	00 30 30.6 +0.2
	baz=72					
E09A	Wood Farm, Sta	71.38	331	⇑P	P	00 30 30.4 0.0
	baz=72					
WALA	Waterton Lakes	71.41	335	eP	P	00 30 30.6 0.0
A13A	Flathead Natio	71.52	334	⇓P	P	00 30 31.9 +0.6
	baz=72					
K02A	Glendale	71.54	325	⇓P	P	00 30 31.5 -0.1
	baz=72					
KBO	Bosley Butte	71.59	324	eP	P	00 30 33.0 +1.1
I04A	Tendick Farm,	71.63	326	⇓P	P	00 30 32.4 +0.2
	baz=72					
B12A	Libby	71.67	333	⇓P	P	00 30 32.8 +0.6
	baz=72					
E08A	Dider Farm, El	71.80	330	⇓P	P	00 30 33.3 +0.3
	baz=72					
F07A	Phinny Hill Vi	71.80	329	⇓P	P	00 30 33.8 +0.8
	baz=72					
D09A	Jones Farm, Ri	71.85	331	⇓P	P	00 30 33.7 +0.3
	baz=72					
C10A	Spilker Farm,	71.94	332	⇓P	P	00 30 34.4 +0.5
	baz=72					
HAWA	Hanford	71.96	330	eP	P	00 30 34.4 +0.4
	comp=Z,110nm,1.4s,mb5.6					
J02A	Umpqua	71.98	325	⇑P	P	00 30 34.5 +0.3
	baz=72					
B11A	Sandpoint	71.98	333	⇓P	P	00 30 34.9 +0.8
	baz=72					
RSW	Rattlesnake Hi	71.99	330	P	P	00 30 35.0 +0.8
G05A	Wamic	72.04	328	⇓P	P	00 30 35.1 +0.6
	baz=72					
A12A	Yaak River Ran	72.05	334	⇓P	P	00 30 35.3 +0.8
	baz=72					
SNIWA	Snively Ranch	72.07	330	P	P	00 30 35.3 +0.6
KEBM	Edson Butte	72.08	325	eP	P	00 30 34.9 +0.1
H04A	Detroit Lake	72.11	327	⇑P	P	00 30 34.7 -0.2
	baz=72					
K01A	Sixes	72.12	325	⇑P	P	00 30 35.0 0.0
	baz=72					
D08A	Wollman Farm,	72.14	331	⇑P	P	00 30 35.7 +0.7
	baz=72					
GBB	Gable Butte	72.16	330	P	P	00 30 35.6 +0.4
NEW	Newport	72.19	332	eP	P	00 30 34.7 -0.6
I03A	Eugene	72.22	326	⇓P	P	00 30 36.1 +0.5
	baz=72					
E07A	Sunnyside	72.23	330	⇓P	P	00 30 36.4 +0.8
	baz=72					
B10A	Chitwood Farm,	72.26	332	⇑P	P	00 30 36.6 +0.9
	baz=72					
HOOD	Mount Hood Mea	72.27	328	eP	P	00 30 37.0 +1.1
	comp=Z,171nm,1.3s,mb5.8					
OD2	Odessa Site #2	72.28	331	P	P	00 30 35.1 -0.8
A11A	Hall Mountain,	72.37	333	⇓P	P	00 30 37.7 +1.3
	baz=72					
I02A	Mapleton	72.54	326	⇓P	P	00 30 38.1 +0.6
	baz=73					
F05A	White Salmon	72.56	328	⇑P	P	00 30 37.8 +0.2
	baz=73					
G04A	Mulino	72.62	327	⇓P	P	00 30 38.6 +0.7
	baz=73					
COR	Corvallis	72.64	327	eP	P	00 30 38.8 +0.7
EPH	Ephrata	72.67	331	P	P	00 30 39.1 +0.9
H03A	Soap Creek Ran	72.69	327	⇓P	P	00 30 38.8 +0.4
	baz=73					
C08A	Higginbotham F	72.72	331	⇑P	P	00 30 39.3 +0.8
	baz=73					
D07A	Quincy	72.74	330	⇓P	P	00 30 39.2 +0.5
	baz=73					
B09A	Rice	72.77	332	⇑P	P	00 30 38.9 +0.1
	baz=73					
E06A	Yakima	72.77	329	⇓P	P	00 30 39.8 +1.0
	baz=73					
EBG	Ellensburg	72.83	330	P	P	00 30 39.6 +0.5
A10A	Northport	72.92	333	⇑P	P	00 30 40.0 +0.4
	baz=73					
H02A	Toledo	73.07	326	⇑P	P	00 30 40.6 0.0
	baz=73					
F04A	Amboy	73.08	328	⇑P	P	00 30 40.7 +0.1
	baz=73					
G03A	Yamhill	73.11	327	⇓P	P	00 30 40.8 -0.1
	baz=73					
C07A	Waterville	73.13	331	⇑P	P	00 30 41.4 +0.4
	baz=73					
TWW	Teanaway	73.13	330	P	P	00 30 42.3 +1.3
D06A	Cle Elum	73.16	330	⇓P	P	00 30 41.4 +0.3
	baz=73					
E05A	Randle	73.18	329	⇑P	P	00 30 41.7 +0.5
	baz=73					
LIC	Lamto	73.18	79	⇑i/P	P	00 30 43.9 +1.9
	comp=Z,222nm,1.2s,mb5.7,baz=269					
LIC	Lamto	73.18	79	⇑i/P	P	00 30 43.9 +1.9
	comp=Z,111nm,1.2s,mb5.7					
ETW	Entiat	73.20	330	eP	P	00 30 40.5 -0.8
B08A	Colville Reser	73.27	331	⇓P	P	00 30 41.6 -0.2
	baz=73					
HEBO	Mount Hebo	73.30	327	eP	P	00 30 42.7 +0.8
	comp=Z,157nm,1.3s,mb5.8					
A09A	Danville	73.37	332	⇑P	P	00 30 42.8 +0.5
	baz=74					
DBIC	Dimbokro	73.48	79	P	P	00 30 45.0 +1.2
	comp=Z,47nm,0.9s,mb5.4,baz=226,slow=5.8,SNR=16					
DBIC	Dimbokro	73.48	79	eP	P	00 30 45.3 +1.6
DBIC				pmax	pmax	
	comp=Z,504nm,1.8s					
DBIC	Dimbokro	73.48	79	eP	P	00 30 45.3 +1.5
	comp=Z,504nm,1.8s,mb6.2					
A08A	Turner Farm, O	73.67	332	⇓P	P	00 30 44.3 +0.2
	baz=74					
F03A	Seaside	73.67	327	⇓P	P	00 30 45.0 +0.9
	baz=74					
B07A	Winthrop	73.71	331	⇑P	P	00 30 44.9 +0.6
	baz=74					
D05A	Enumclaw	73.72	329	⇓P	P	00 30 44.4 0.0
	baz=74					
C05A	Tolt Reservoir	73.92	330	⇑P	P	00 30 45.6 0.0
	baz=74					
E03A	Lebam	74.08	328	⇑P	P	00 30 46.3 -0.2
	baz=74					
FCC	Fort Churchill	74.23	350	eP	P	00 30 47.0 -0.1
FCC				pmax	pmax	
	comp=Z,43nm,1.1s,mb5.3					
FCC	Fort Churchill	74.23	350	eP	P	00 30 47.0 -0.1
	comp=Z,43nm,1.1s,mb5.3					
A07A	Ashnola River,	74.25	331	⇑P	P	00 30 47.6 +0.2
	baz=74					
GNW	Green Mountain	74.39	329	eP	P	00 30 47.7 -0.7
B06A	Marblemount	74.39	330	⇓P	P	00 30 48.0 -0.3
	baz=74					
EDM	Edmonton

baz=75
NLWA Neilton Lookou 74.80 328 ⇓P **P 00 30 51.4 +0.7**
baz=75
NLWA Neilton Lookou 74.80 328 *e*P **P 00 30 50.5 -0.1**
comp=Z,125nm,1.3s,mb5.7
NLWA *e* 00 30 57.0
A05A Maple Falls 75.01 331 ⇓P **P 00 30 53.1 +1.3**
baz=75
B04A Port Angeles 75.06 329 ⇑P **P 00 30 53.1 +1.0**
baz=75
A04A Legoe Bay, Lum 75.12 330 ⇓P **P 00 30 53.2 +0.7**
baz=75
PGC Sidney 75.44 330 *e*P **P 00 30 53.6 -0.7**
comp=Z,203nm,1.2s,mb5.9
PGC *e* 00 31 00.3
C03A Quillayute Air 75.52 329 ⇓P **P 00 30 56.0 +1.2**
baz=76
QSPA South Pole Qui 75.92 180 P **P 00 30 56.7 0.0**
comp=Z,15nm,0.8s,mb5.0,baz=146,slow=3.3,SNR=16
MORF Marmelete 81.29 48 *e*P **P 00 31 31.2 +4.3**
SBA Scott Base 81.70 191 *e*P **P 00 31 28.5 0.0**
SBA pmax pmax
comp=Z,146nm,1.9s,mb5.6
SBA Scott Base 81.70 191 *e*P **P 00 31 28.5 0.0**
comp=Z,146nm,1.9s,mb5.6
PBDV Barranco-do-Ve 81.78 48 *e*P **P 00 31 32.4 +2.9**
PVAQ Vaqueiros 82.01 48 *e*P **P 00 31 32.6 +1.9**
PBEJ Beja 82.16 48 *e*P **P 00 31 35.5 +4.0**
YKA Yellowknife Ar 82.23 343 P **P 00 31 29.3 -1.9**
comp=Z,8.8nm,0.9s,mb4.7,baz=138,slow=5.1,SNR=20
YKA Yellowknife Ar 82.23 343 P **P 00 31 29.3 -1.9**
EVO Evora 82.27 47 *e*P **P 00 31 33.7 +1.7**
comp=Z,509nm,1.7s,mb5.9
EVO Evora 82.27 47 *e*P **P 00 31 33.9 +1.9**
PESTR Estremoz 82.71 47 *e*P **P 00 31 37.7 +3.4**
VNDA Vanda 82.77 191 P **P 00 31 34.0 -0.1**
comp=Z,4.3nm,1.1s,mb4.4,baz=138,slow=5.4,SNR=5.5
VNDA Vanda 82.77 191 *e*P **P 00 31 34.0 -0.1**
VNDA pmax pmax
comp=Z,855nm,3.4s
VNDA Vanda 82.77 191 *e*P **P 00 31 34.0 0.0**
comp=Z,856nm,3.4s
PBAR Barrancos 82.81 48 *e*P **P 00 31 37.7 +2.8**
PMRV Marv??o 83.08 47 *e*P **P 00 31 38.5 +2.3**
PCBR Castelo Branco 83.19 46 *e*P **P 00 31 39.8 +3.0**
PVIS Viseu 83.27 45 *e*P **P 00 31 38.5 +1.3**
PCAB Cabril 83.60 44 *e*P **P 00 31 39.8 +0.9**
MVO Moncorvo 84.06 45 *e*P **P 00 31 44.3 +3.1**
CRAG Craig 84.35 331 *e*P **P 00 31 42.6 +0.2**
WRAK Wrangell Islan 84.55 332 *e*P **P 00 31 43.7 +0.4**
comp=Z,118nm,1.5s,mb5.8
DLBC Dease Lake 84.76 335 P **P 00 31 44.1 -0.2**
baz=164,slow=6.0
DLBC Dease Lake 84.76 335 *e*P **P 00 31 43.6 -0.8**
SYO Syowa Base 85.57 161 *e*P **P 00 31 46.7 -1.7**
SYO Syowa Base 85.57 161 ⇑*i*PcP PcP 00 31 48.0 -3.2
ESDC Sonseca Array 85.61 47 P **P 00 31 50.7 +1.7**
comp=Z,4.0nm,0.9s,mb4.6,baz=255,slow=4.9,SNR=11
SKAG Skagway 87.59 334 *e*P **P 00 31 58.0 -0.3**
comp=Z,116nm,1.7s,mb5.8
TAM Tamanrasset 87.76 66 *e*P **P 00 32 02.6 +2.7**
SUR Sutherland 88.06 123 P **P 00 31 59.7 -1.6**
SJPF Ste Jean 88.79 45 *e*P **P 00 32 03.7 -0.6**
comp=Z,171nm,1.5s,mb5.8
SJPF Ste Jean 88.79 45 *e*P **P 00 32 03.7 -0.6**
SJPF pmax pmax
comp=Z,85nm,1.5s,mb5.8
SJPF Ste Jean 88.79 45 *e*P **P 00 32 03.7 -0.6**
comp=Z,85nm,1.5s,mb5.9
BORG Borgarnes 88.83 20 *e*P **P 00 32 04.0 0.0**
ETSF Etsaut 89.17 45 *e*P **P 00 32 05.5 -0.6**
comp=Z,78nm,1.5s,mb5.5
ETSF Etsaut 89.17 45 *e*P **P 00 32 05.5 -0.6**
ETSF pmax pmax
comp=Z,39nm,1.5s,mb5.5
HYT Haines Junctio 89.24 334 *e*P **P 00 32 05.8 -0.2**
ROSF Rostrenen 89.36 40 *e*P **P 00 32 05.6 -1.3**
comp=Z,165nm,1.5s,mb5.8
ROSF Rostrenen 89.36 40 *e*P **P 00 32 05.6 -1.3**
ROSF pmax pmax
comp=Z,83nm,1.5s,mb5.8
ROSF Rostrenen 89.36 40 *e*P **P 00 32 05.6 -1.3**
comp=Z,83nm,1.5s,mb5.8
RES Resolute Bay 89.52 355 *e*P **P 00 32 07.7 +0.6**
EPF Esparros 89.83 45 *e*P **P 00 32 08.5 -0.7**
comp=Z,164nm,1.8s,mb5.8
EPF Esparros 89.83 45 *e*P **P 00 32 08.5 -0.7**
EPF pmax pmax
comp=Z,82nm,1.8s,mb5.8
EPF Esparros 89.83 45 *e*P **P 00 32 08.5 -0.7**
comp=Z,82nm,1.8s,mb5.8
SUMG Summit 90.05 11 P **P 00 32 10.0 +0.4**
MFF Saint Martin d 90.72 42 *e*P **P 00 32 12.1 -1.2**
comp=Z,46nm,1.2s,mb5.4
MFF Saint Martin d 90.72 42 *e*P **P 00 32 12.1 -1.2**
MFF pmax pmax
comp=Z,23nm,1.2s,mb5.4
MFF Saint Martin d 90.72 42 *e*P **P 00 32 12.1 -1.2**
comp=Z,23nm,1.2s,mb5.4
LFF La Frestale 90.74 44 *e*P **P 00 32 12.2 -1.2**
comp=Z,307nm,1.7s,mb6.0
LFF La Frestale 90.74 44 *e*P **P 00 32 12.2 -1.2**
LFF pmax pmax
comp=Z,153nm,1.7s,mb6.0
LFF La Frestale 90.74 44 *e*P **P 00 32 12.2 -1.2**
comp=Z,153nm,1.7s,mb6.1
GRR Gorron 90.88 40 *e*P **P 00 32 12.3 -1.7**
comp=Z,111nm,1.4s,mb5.7
GRR Gorron 90.88 40 *e*P **P 00 32 12.3 -1.7**
GRR pmax pmax
comp=Z,56nm,1.4s,mb5.7
GRR Gorron 90.88 40 *e*P **P 00 32 12.3 -1.7**
comp=Z,56nm,1.4s,mb5.7
MTLF Montolieu 91.23 46 *e*P **P 00 32 14.3 -1.4**
comp=Z,171nm,1.8s,mb5.8
MTLF Montolieu 91.23 46 *e*P **P 00 32 14.3 -1.4**
MTLF pmax pmax
comp=Z,85nm,1.8s,mb5.8
MTLF Montolieu 91.23 46 *e*P **P 00 32 14.3 -1.4**
comp=Z,85nm,1.8s,mb5.8
RJF Les Rejaudoux 91.38 44 *e*P **P 00 32 14.9 -1.5**
comp=Z,143nm,1.7s,mb5.7
RJF Les Rejaudoux 91.38 44 *e*P **P 00 32 14.9 -1.5**
RJF pmax pmax
comp=Z,72nm,1.7s,mb5.7
RJF Les Rejaudoux 91.38 44 *e*P **P 00 32 14.9 -1.5**
comp=Z,72nm,1.7s,mb5.7
CAF Calviac 91.63 44 *e*P **P 00 32 16.2 -1.3**
comp=Z,163nm,1.7s,mb5.8
CAF Calviac 91.63 44 *e*P **P 00 32 16.2 -1.3**
CAF pmax pmax
comp=Z,81nm,1.7s,mb5.8
CAF Calviac 91.63 44 *e*P **P 00 32 16.2 -1.3**
comp=Z,81nm,1.7s,mb5.8
DAWY Dawson 91.65 337 *e*P **P 00 32 17.6 +0.4**
INK Inuvik 91.92 342 P **P 00 32 17.4 -1.0**
comp=Z,23nm,1.2s,mb5.4,baz=135,slow=3.1,SNR=12
INK Inuvik 91.92 342 *e*P **P 00 32 18.7 +0.4**
INK *e* 00 32 23.9
TCF Toulx Ste Croi 92.16 43 *e*P **P 00 32 19.4 -0.5**
comp=Z,168nm,1.9s,mb5.7
TCF Toulx Ste Croi 92.16 43 *e*P **P 00 32 19.4 -0.5**
TCF pmax pmax
comp=Z,84nm,1.9s,mb5.8
TCF Toulx Ste Croi 92.16 43 *e*P **P 00 32 19.4 -0.5**
comp=Z,84nm,1.9s,mb5.7
LASF Ste Croix 92.59 45 *e*P **P 00 32 21.3 -0.7**
comp=Z,226nm,1.8s,mb6.0
BGF Bois d'Agland 92.66 43 *e*P **P 00 32 20.9 -1.3**
comp=Z,193nm,1.7s,mb6.0
BGF Bois d'Agland 92.66 43 *e*P **P 00 32 20.9 -1.3**
BGF pmax pmax
comp=Z,97nm,1.7s,mb6.0
BGF Bois d'Agland 92.66 43 *e*P **P 00 32 20.9 -1.3**
comp=Z,97nm,1.7s,mb6.0
EGAK Eagle 92.67 337 *e*P **P 00 32 21.9 +0.1**
comp=Z,46nm,1.3s,mb5.8
HYF Humbligny 92.74 42 *e*P **P 00 32 21.3 -1.3**
AVF Avril sur Loir 93.06 43 *e*P **P 00 32 22.4 -1.7**
MAW Mawson 93.10 165 P **P 00 32 24.0 +0.1**
comp=Z,16nm,1.1s,mb5.3,baz=197,slow=7.0,SNR=11
SSF Saint Saulge 93.24 42 *e*P **P 00 32 23.1 -1.8**
comp=Z,43nm,1.5s,mb5.4
SSF Saint Saulge 93.24 42 *e*P **P 00 32 23.1 -1.8**
SSF pmax pmax
comp=Z,22nm,1.5s,mb5.4
SSF Saint Saulge 93.24 42 *e*P **P 00 32 23.1 -1.8**
comp=Z,22nm,1.5s,mb5.4
SMF Signal de Mont 93.34 43 *e*P **P 00 32 23.9 -1.5**
comp=Z,231nm,1.8s,mb6.0
SMF Signal de Mont 93.34 43 *e*P **P 00 32 23.9 -1.5**
SMF pmax pmax
comp=Z,116nm,1.8s,mb6.0
SMF Signal de Mont 93.34 43 *e*P **P 00 32 23.9 -1.5**
comp=Z,116nm,1.8s,mb6.0
VIVF Saint-Julien-l 93.38 45 *e*P **P 00 32 24.8 -0.8**
comp=Z,179nm,1.9s,mb5.9
VIVF Saint-Julien-l 93.38 45 *e*P **P 00 32 24.8 -0.8**
VIVF pmax pmax
comp=Z,90nm,1.9s,mb5.9
VIVF Saint-Julien-l 93.38 45 *e*P **P 00 32 24.8 -0.8**
comp=Z,90nm,1.9s,mb5.9
LOR Lormes 93.53 42 *e*P **P 00 32 24.6 -1.7**
comp=Z,91nm,1.6s,mb5.7
LOR Lormes 93.53 42 *e*P **P 00 32 24.6 -1.7**
LOR pmax pmax
comp=Z,46nm,1.6s,mb5.7
LOR Lormes 93.53 42 *e*P **P 00 32 24.6 -1.7**
comp=Z,46nm,1.6s,mb5.7
SMRF Simiane la Rot 93.75 46 *e*P **P 00 32 26.9 -0.4**
ORIF Oris-en-Rattie 94.22 45 *e*P **P 00 32 29.1 -0.4**
LMR La Mourre 94.23 46 *e*P **P 00 32 28.4 -1.2**
comp=Z,231nm,1.9s,mb6.0
LMR La Mourre 94.23 46 *e*P **P 00 32 28.4 -1.2**
LMR pmax pmax
comp=Z,115nm,1.9s,mb6.0
LMR La Mourre 94.23 46 *e*P **P 00 32 28.4 -1.2**
comp=Z,115nm,1.9s,mb6.0
FRF La Foret Royal 94.39 46 *e*P **P 00 32 29.1 -1.2**
comp=Z,202nm,1.8s,mb6.0
FRF La Foret Royal 94.39 46 *e*P **P 00 32 29.1 -1.2**
FRF pmax pmax
comp=Z,101nm,1.8s,mb6.0
FRF La Foret Royal 94.39 46 *e*P **P 00 32 29.1 -1.2**
comp=Z,101nm,1.8s,mb6.0
BAIF Baives 94.56 40 *e*P **P 00 32 29.4 -1.5**
comp=Z,95nm,1.7s,mb5.7
BAIF Baives 94.56 40 *e*P **P 00 32 29.4 -1.5**
BAIF pmax pmax
comp=Z,47nm,1.7s,mb5.6
BAIF Baives 94.56 40 *e*P **P 00 32 29.4 -1.5**
comp=Z,47nm,1.7s,mb5.6
FIB Fire Island 94.93 332 P **P 00 32 31.9 -0.5**
GIVF Givet 94.95 40 *e*P **P 00 32 31.3 -1.4**
comp=Z,192nm,1.6s,mb6.0
GIVF Givet 94.95 40 *e*P **P 00 32 31.3 -1.4**
GIVF pmax pmax
comp=Z,96nm,1.6s,mb6.0
GIVF Givet 94.95 40 *e*P **P 00 32 31.3 -1.4**
comp=Z,96nm,1.6s,mb6.0
LPL La Plagne 94.96 44 *e*P **P 00 32 32.8 -0.1**
LPG La Plagne 94.97 44 *e*P **P 00 32 32.7 -0.2**
SBF Sospel 95.02 46 *e*P **P 00 32 32.4 -0.8**
COLA College 95.30 336 ⇑*i*P **P 00 32 33.5 -0.5**
MCK McKinley 95.31 335 P **P 00 32 33.5 -0.5**
MCK pmax pmax
comp=Z,64nm,1.7s,mb5.8
MCK McKinley 95.31 335 P **P 00 32 33.5 -0.5**
comp=Z,64nm,1.7s,mb5.8
TRF Thorofare Moun 95.78 334 P **P 00 32 35.6 -0.5**
comp=Z,33nm,1.4s,mb5.6
PGF Pioggiola 95.80 48 *e*P **P 00 32 35.8 -1.0**
BPAW Bear Paw Mtn. 96.29 335 *e*P **P 00 32 34.6 -3.8**
comp=Z,2μm,0.8s
PPLA Purkeypile 96.41 333 *e*P **P 00 32 38.1 -0.9**
comp=Z,56nm,1.5s,mb5.8
COLD Coldfoot 97.04 338 *e*P **P 00 32 40.4 -1.4**
comp=Z,12nm,1.2s,mb5.2
COLD *e* 00 32 47.2
LSZ Lusaka 99.45 108 P **P 00 32 54.3 +0.4**
NKC Novy Kostel 99.75 41 *e*PP PP 00 37 01.6 +2.1
KHC Kasperske Hory 100.28 42 *e*PDIF Pdif 00 33 06.0 +9.2
KHC *e*PP PP 00 37 04.9 +1.3
BRG Berggiesshubel 100.80 40 P Pdif 00 33 01.5 +2.4
BRG 00 37 05.0
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 100.80 40 PDIF Pdif 00 33 01.5 +2.5
comp=Z,6.0nm,1.0s
BRG PP PP 00 37 05.0 -2.4
BRG Berggiesshubel 100.80 40 Pdif Pdif 00 33 01.5 +2.5
comp=Z,3.6nm,1.0s
BRG PP PP 00 37 05.0 -2.4
NOA NORSAR Array B 100.94 30 P Pdif 00 33 00.8 +1.1
comp=Z,1.9nm,1.0s,baz=259,slow=4.9,SNR=2.5
PRU Pruhonice 101.04 41 *e*PDIF Pdif 00 33 03.4 +3.3
PRU *e*PP PP 00 37 05.9 -3.4
PVCC Panska Ves 101.14 41 *e*PDIF Pdif 00 32 53.2 -7.4
TREC Trest 101.55 42 *e*PDIF Pdif 00 33 04.7 +2.3
TREC *e*PP PP 00 37 14.1 +1.0
UPC Upice 102.05 41 *e*PDIF Pdif 00 33 07.9 +3.3
UPC *e*PP PP 00 37 18.2 +1.4
DPC Dobruska-Polom 102.23 41 *e*PDIF Pdif 00 33 08.2 +2.8
DPC *ex* x 00 37 18.6
ZST Bratislava 102.45 43 PDIF Pdif 00 33 09.7 +3.3
ZST Bratislava 102.45 43 *e*Pdif Pdif 00 33 09.7 +3.3
MODS Modra-Piesok 102.59 43 PDIF Pdif 00 33 07.8 +0.8
MODS Modra-Piesok 102.59 43 *e*Pdif Pdif 00 33 07.8 +0.8
OKC Ostrava-Krasne 103.33 42 *e*PDIF Pdif 00 33 13.5 +3.2
OKC *e*PP PP 00 37 27.5 +1.0
KOLL Kolacno 103.36 43 PDIF Pdif 00 33 13.9 +3.5
KOLL Kolacno 103.36 43 *e*Pdif Pdif 00 33 13.9 +3.5
KECS Kecovo 104.73 43 PDIF Pdif 00 33 16.3 -0.2
KECS *e*PP PP 00 37 32.0 -4.9
KECS Kecovo 104.73 43 *e*Pdif Pdif 00 33 16.3 -0.2
KECS *e* 00 37 32.0
KOLS Kolonicke sedl 105.94 43 PDIF Pdif 00 33 22.2 +0.3
KOLS *e* 01 19 48.5
KOLS Kolonicke sedl 105.94 43 *e*Pdif Pdif 00 33 22.2 +0.3
AKASG Malin Array Be 110.46 41 PKiKP PKiKP 00 37 41.4 -1.1
comp=Z,0.4nm,0.3s,baz=261,slow=3.0,SNR=4.2
BILL Bilibino 113.35 339 *i*PKIKP PKiKP 00 37 48.0 +0.5
BILL *e* 00 38 40.0
CSS Prodhromos 113.70 58 *e*PKiKP PKiKP 00 37 50.3 +1.1
OBN Obninsk 114.39 36 *i*PKIKP PKiKP 00 37 52.0 +2.2
OBN *e* 00 38 46.4
OBN Obninsk 114.39 36 *i*PKP PKiKP 00 37 49.9 +0.1
ANN Anapa 116.43 47 *i*PKIKP PKPdf 00 37 57.5 +3.4
ANN pmax pmax
comp=Z,36nm,1.5s
ASF Jabal al Asfar 116.64 61 PKP PKPdf 00 37 55.3 +0.5
comp=Z,2.0nm,0.8s,baz=291,slow=3.8,SNR=6.5
ASF Jabal al Asfar 116.64 61 PKP PKPdf 00 37 55.3 +0.5
KIV Kislovodsk 120.28 47 *i*PKIKP PKPdf 00 38 02.7 +1.2
SEY Seymchan 120.81 337 *i*PKIKP PKPdf 00 38 02.7 +0.8
SEY Seymchan 120.81 337 *i*PKP PKPdf 00 38 02.8 +0.9
ARU Arti 125.49 29 *i*PKIKP PKPdf 00 38 11.8 +0.7
AKTK Aktyubinsk 128.17 36 PKP PKPdf 00 38 17.6 +1.1
AKTO Aktyubinsk 128.17 36 PKP PKPdf 00 38 17.6 +1.1
comp=Z,6.9nm,0.8s,baz=324,slow=4.0,SNR=11
YAK Yakutsk 128.88 345 *i*PKIKP PKPdf 00 38 17.0 -0.4
ASAR Alice Springs 132.37 218 PKP PKPdf 00 38 24.8 -0.5
comp=Z,6.5nm,1.1s,baz=139,slow=4.0,SNR=13
BRVK Borovoye 132.93 27 *i*PKIKP PKPdf 00 38 26.7 +1.4
BVAR Borovoye Array 133.00 27 PKP PKPdf 00 38 26.2 +0.7
comp=Z,4.8nm,1.1s,baz=294,slow=1.5,SNR=10.0
YSS Yuzh-Sakhalins 134.15 323 *i*PKIKP PKPdf 00 38 28.7 +0.9
WB2 Warramunga Arr 134.84 222 *e*PKP PKPdf 00 38 29.1 -0.9
WRAB Tennant Creek 134.85 222 *i*PKIKP PKPdf 00 38 29.6 -0.4
WRAB Tennant Creek 134.85 222 *e*PKPdf PKPdf 00 38 29.5 -0.5
WRA Warramunga Arr 134.85 222 PKP PKPdf 00 38 28.9 -1.1
comp=Z,3.5nm,0.6s,baz=137,slow=1.8,SNR=12
WRA pPKP pPKPdf 00 38 36.1 -10
comp=Z,7.9nm,0.9s,baz=139,slow=1.3,SNR=12
NVS Novosibirsk 136.34 17 *e*P Pdif 00 35 39.2 +2.2
KRAR Krasnoyarsk 137.41 9 *i*PKIKP PKPdf 00 38 37.7 +4.1
ZALV Zalesovo Beam 137.57 17 PKhKP 00 38 27.9
comp=Z,1.5nm,0.5s,baz=268,slow=1.5,SNR=4.5
ZALV PKP PKPdf 00 38 34.2 +0.2
comp=Z,12nm,0.9s,baz=202,slow=3.2,SNR=9.0
ZAL Zalesovo 137.57 17 PKIKP PKPdf 00 38 27.9 -6.1
ZAL 00 38 34.2
KURK Kurchatov 138.17 24 *i*PKIKP PKPdf 00 38 37.3 +2.1
KURK Kurchatov 138.17 24 *i*PKP PKPdf 00 38 37.4 +2.2
FITZ Fitzroy Crossi 141.48 214 *e*PKPdf PKPdf 00 38 41.6 -0.6
EKS2 Erkin-Say 141.49 37 *e*PKPdf PKPdf 00 38 41.9 +0.5
HVS Khovu-Aksy 142.24 11 *i*PKIKP PKPdf 00 38 46.1 +3.5
MJAR Matsushiro Arr 142.30 312 PKhKP 00 38 37.8
comp=Z,4.1nm,1.0s,baz=68,slow=1.8,SNR=3.5
MJAR PKP PKPdf 00 38 42.2 -0.9
comp=Z,5.1nm,1.0s,baz=61,slow=1.6,SNR=4.0
MKAR Makanchi Array 142.76 25 PKhKP 00 38 39.8
comp=Z,2.5nm,0.9s,baz=326,slow=2.7,SNR=5.7
ZAK Zakamensk 143.94 1 ⇑*i*PKIKP PKPdf 00 38 43.8 -1.8
ZAK pmax pmax
comp=Z,30nm,1.6s
KSH Kashi 144.73 39 *e*PKP PKPdf 00 38 48.8 +1.5
KSH PP PP 00 42 11.4 +7.2
KSH PKS 00 42 22.5
KSH PP PP
comp=Z,71μm,16.3s
CN2 Changchun 145.32 332 *e*PKP PKPdf 00 38 45.6 -2.6
SONM Songino Array 146.44 357 PKPbc PKPbc 00 38 51.3 0.0
comp=Z,15nm,0.8s,baz=343,slow=2.8,SNR=14
SONM pPKPbc pPKPbc 00 38 58.4 -9.2
comp=Z,24nm,0.8s,baz=340,slow=2.4,SNR=14
WMQ Urumqi 147.34 22 PKP PKPdf 00 38 51.0 -0.6
SNY Shenyang 147.72 332 ⇓PKP PKPdf 00 38 54.8 +2.5
KSRS Korea Array 148.62 322 PKPbc PKPbc 00 38 54.6 -3.0
comp=Z,25nm,1.2s,baz=45,slow=1.9,SNR=16
DDI Dehra Dun 151.18 52 *e*P PKPbc 00 39 04.5 +0.4
BJI Beijing 152.18 340 PKP PKPdf 00 39 00.4 +1.0
HHC Hu-ho-hao-te 152.68 348 *e*PKP PKPdf 00 38 55.3 -4.8
HHC PKS 00 42 28.3
HHC PP PP 00 42 48.5 -1.2
HHC PP PP
comp=Z,43μm,14.3s
GTA Gaotai 154.63 8 *e*PKP PKPdf 00 39 04.8 +1.9
NJ2 Nanjing 157.70 325 *e*PKP PKPdf 00 39 05.8 -1.4
NJ2 APKP 00 39 15.3
NJ2 PKP2 PKPab 00 39 36.3 -3.3
NJ2 PKS 00 42 37.5
NJ2 PP PP
comp=Z,2μm,10.5s
NJ2 LR LR
comp=N,2μm,34.6s,MS6.1
NJ2 LR LR
comp=E,4μm,32.3s,MS6.1
NJ2 LR LR
comp=Z,1μm,35.2s,MS5.6
LZH Lanzhou 158.23 1 *e*PKP PKPdf 00 39 08.8 +1.1
LZH PP PP 00 43 21.5 +1.0
LZH LR LR
comp=N,5μm,19.0s
LZH LR LR
comp=Z,6μm,20.5s,MS6.4
XAN Xi'an 159.79 348 PKP PKPdf 00 39 09.9 +0.3
XAN PKS 00 42 39.8
XAN SKS SKSdf 00 46 08.3 -2.3
XAN PPP 00 48 59.0
LSA Lhasa 160.51 36 *e*PKIKP PKPdf 00 39 12.8 +2.2
WHN Wuhan 161.21 331 PKP PKPdf 00 39 11.9 +0.6
CD2 Chengdu 163.39 1 *e*PKP PKPdf 00 39 11.1 -2.4
CD2 APKP 00 39 20.3
CD2 PKP2 PKPab 00 40 05.1 +0.8
CD2 PP PP 00 43 51.6 +3.4
PSI Prapat 167.56 155 PKP PKPdf 00 39 16.5 -1.0
comp=Z,2.4nm,0.3s,baz=166,slow=8.5,SNR=6.9
PSI PKPab PKPab 00 40 22.4 -0.8
comp=Z,3.1nm,0.6s,baz=208,slow=21,SNR=3.9
KMI Kunming 169.09 6 PKP PKPdf 00 39 18.8 +0.7
CMAR Chiang Mai Arr 173.52 49 PKP PKPdf 00 39 20.2 -0.3
comp=Z,1.0nm,0.5s,baz=298,slow=1.3,SNR=11
CMAR PKPab PKPab 00 40 49.2 -0.4
comp=Z,1.2nm,0.3s,baz=309,slow=5.4,SNR=7.6

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*BJI **16** 00:22:02.2, 3538N×14148E, h11km, mb4.6*
*NEIC **16** 00:22:09.9±4.0, 3530N×14051E, h12km±24km, mb5.0/14, Error ellipse: s-maj=9.6km s-min=7.0km az=97.0*
*MOS **16** 00:22:10.8±1.2, 3535N×14057E, h33km, mb4.8/8, Error ellipse: s-maj=13.2km s-min=7.4km az=113.0*
*IDC **16** 00:22:11.6±4.1, 3525N×14043E, h21km±26km, mb4.2/20, mb1 4.3/25, mb1mx4.3/33, mbtmp4.3/25, ML4.2/5, MS5.0/1, Ms1 5.0/1, ms1mx3.2/28, Error ellipse: s-maj=17.9km s-min=10.9km az=85.0*
*ISCJB **16** 00:22:11.3±0.5, 3530N±003×14056E±005, h36km±4km, mb4.6/36, Error ellipse: s-maj=6.6km s-min=4.6km az=170.7*
*JMA **16** 00:22:11.9±0.1, 3539N×14055E, h28km±2km, M4.7 Broadband fault plane solution: P waves. NP1: ϕ_s=257.00000°, δ28.00000°, λ110.00000°. NP2: ϕ_s=54.00000°, δ63.00000°, λ80.00000°. Principal axes: T Plg70.0000°, Azm302.0000°; N Plg9.0000°, Azm59.0000°; P Plg18.0000°, Azm152.0000°;*
JMA Felt III J1.

ISC 16 00:22:12.3±0.5, 3529N±003×14054E±004, h30km±3km, h22km±5.9km; pP-P, n85, σ1°07/92, mb4.6/36, 3C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.23**	**232**	⇑P	**Pb**	**00 22 18.9**	**+0.1**
KTR				S	**Sb**	**00 22 24.1**	**+0.9**
JCN	**Nagara**	**0.30**	**295**	⇓P	**Pb**	**00 22 19.3**	**-0.5**
JCN				S	**Sb**	**00 22 25.2**	**+0.4**
BSO4	**Boso 4**	**0.34**	**208**	P	**Pb**	**00 22 21.6**	**+1.3**
BSO3	**Boso 3**	**0.49**	**182**	⇓P	**Pb**	**00 22 23.7**	**+1.2**
CHOJ	**Chosi**	**0.49**	**33**	⇓P	**Pb**	**00 22 20.6**	**-2.0**
BSO1	**Boso 1**	**0.73**	**150**	⇓P	**Pb**	**00 22 26.2**	**-0.4**
JYT	**Yasato**	**0.98**	**344**	⇓P	**Pn**	**00 22 27.7**	**-2.3**
JYT				S	**Sn**	**00 22 39.9**	**-3.0**
JIM2	**Oshima 3**	**1.07**	**238**	P	**Pn**	**00 22 30.7**	**-0.6**
JIM2				S	**Sn**	**00 22 44.5**	**-0.7**
JOD2	**Odawara 2**	**1.18**	**269**	⇑P	**Pn**	**00 22 32.5**	**-0.4**
JOD2				S	**Sn**	**00 22 47.2**	**-0.8**
JHJ	**Hachijo jima 2**	**2.25**	**196**	Pn	**Pn**	**00 22 47.4**	**-0.2**
	280nm,0.3s,baz=11,slow=2.7,SNR=110						
JHJ				Sn	**Sn**	**00 23 12.8**	**-1.5**
	351nm,0.3s,baz=246,slow=19,SNR=6.5						
JHJ				LR	LR	00 23 20.5	
	comp=Z,30μm,20.0s,baz=220,slow=32						
MJAR	**Matsushiro Arr**	**2.26**	**304**	Pn	**Pn**	**00 22 47.4**	**-0.3**
	16nm,0.3s,baz=113,slow=13,SNR=136						
MJAR				Lg		00 23 20.6	
	39nm,0.3s,baz=133,slow=19,SNR=4.6						
MAJO	**Matsushiro**	**2.27**	**304**	*e*Pn	**Pn**	**00 22 48.2**	**+0.5**
MAJO				*e*Sn	**Sn**	**00 23 15.2**	**+0.6**
MAT	**Matsushiro**	**2.27**	**304**	P	**Pn**	**00 22 48.0**	**+0.3**
MAT				S	**Sn**	**00 23 15.4**	**+0.7**
CBIJ	**Chichi jima**	**8.29**	**170**	Pn	**Pn**	**00 24 09.2**	**-1.3**
	50nm,0.3s,baz=115,slow=22,SNR=12						
CBIJ				Sn	**Sn**	**00 25 41.2**	**-2.0**
	10nm,0.3s,baz=270,slow=20,SNR=2.5						
ASAJ	**Asahikawa**	**8.96**	**10**	Pn	**Pn**	**00 24 18.9**	**-0.7**
	2.0nm,0.3s,baz=208,slow=25,SNR=10						
ASAJ				Sn	**Sn**	**00 25 58.2**	**-1.2**
	baz=167,slow=19,SNR=2.3						
KSRS	**Korea Array**	**10.40**	**286**	Pn	**Pn**	**00 24 40.3**	**+0.9**
	0.3nm,0.3s,baz=102,slow=14,SNR=4.0						
YSS	**Yuzh-Sakhalins**	**11.77**	**7**	*e*P	**Pn**	**00 24 55.9**	**-2.2**
CN2	**Changchun**	**14.40**	**311**	*e*P	**Pn**	**00 25 34.8**	**+0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
YHNB	**Yeheng**	**19.65**	**243**	P	**Pn**	**00 26 38.7**	**-1.5**
BJT	**Baijiatuau**	**19.84**	**291**	*e*P	**Pn**	**00 26 40.6**	**-1.8**
HIA	**Hailar**	**20.69**	**319**	*e*P	**P**	**00 26 47.8**	**-2.0**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
HIA	**Hailar**	**20.69**	**319**	*e*P	**P**	**00 26 47.8**	**-2.0**
	comp=Z,6.2nm,0.3s						
PETK	**Petropavlovsk-**	**21.55**	**29**	P	**P**	**00 26 59.7**	**+0.6**
	comp=Z,10nm,1.0s,mb4.2,baz=243,slow=6.5,SNR=7.9						
YAK	**Yakutsk**	**27.63**	**349**	*e*P	**P**	**00 27 54.4**	**-2.5**
YAK				pmax	pmax		
	comp=Z,22nm,0.4s,mb5.1						
YAK	**Yakutsk**	**27.63**	**349**	*e*P	**P**	**00 27 54.4**	**-2.5**
	comp=Z,22nm,0.4s,mb5.1						
BOD	**Bodaibo**	**28.66**	**330**	*e*P	**P**	**00 28 05.3**	**-0.8**
BOD				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
TLY	**Talaya**	**30.97**	**313**	*e*P	**P**	**00 28 26.4**	**-0.3**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
TLY	**Talaya**	**30.97**	**313**	*e*P	**P**	**00 28 26.4**	**-0.3**
	comp=Z,3.2nm,0.6s,mb4.3						
GTA	**Gaotai**	**32.44**	**290**	*e*P	**P**	**00 28 43.6**	**+3.9**
GTA				AP	pP	00 28 48.8	+0.4
GTA				XP	sP	00 28 51.8	-0.3
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
BILL	**Bilibino**	**35.90**	**16**	⇑*e*P	**P**	**00 29 10.4**	**+1.0**

BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
ZALV Zalesovo Beam 42.59 314 P P 00 30 05.5 +0.1
comp=Z,9.1nm,0.9s,mb4.5,baz=103,slow=6.7,SNR=15
ZALV PcP PcP 00 31 56.9 -0.4
comp=Z,2.0nm,0.7s,baz=81,slow=3.7,SNR=4.0
ZAL Zalesovo 42.60 314 P P 00 30 05.5 0.0
ZAL 00 31 56.9
MK31 Makanchi Array 44.46 303 *eP* **P 00 30 21.5 +0.9**
MKAR Makanchi Array 44.47 303 P **P 00 30 21.3 +0.7**
comp=Z,6.6nm,0.8s,mb4.4,baz=90,slow=9.9,SNR=23
KAKA Kakadu 48.35 191 *eP* **P 00 30 51.0 -0.3**
comp=Z,6.0nm,0.6s,mb4.8
KDAK Kodiak Island 48.88 41 P **P 00 30 56.5 +1.5**
comp=Z,8.5nm,1.0s,mb4.7,baz=312,slow=3.1,SNR=3.8
CHUM Lake Minchumin 48.98 33 P **P 00 30 58.5 +2.8**
TKM2 Tokmak 2 49.85 299 *eP* **P 00 31 02.5 -0.2**
TKM2 pmax pmax
comp=Z,11nm,0.8s,mb4.9
TKM2 Tokmak 2 49.85 299 *eP* **P 00 31 02.5 -0.1**
comp=Z,11nm,0.8s,mb5.0
EKS2 Erkin-Say 51.21 300 *eP* **P 00 31 13.1 +0.2**
comp=Z,2.3nm,0.7s,mb4.2
BVAR Borovoye Array 51.23 313 P **P 00 31 12.8 -0.2**
comp=Z,1.4nm,0.7s,mb4.0,baz=80,slow=6.9,SNR=6.8
BVAR PcP PcP 00 32 28.4 +0.5
comp=Z,1.4nm,0.7s,baz=102,slow=4.9,SNR=2.2
AML Almayashu 51.41 299 *eP* **P 00 31 16.7 +2.2**
comp=Z,22nm,0.9s,mb5.1
FITZ Fitzroy Crossi 54.95 197 *eP* **P 00 31 39.2 -1.4**
comp=Z,6.0nm,0.3s,mb5.1
FITZ Fitzroy Crossi 54.95 197 P **P 00 31 40.1 -0.5**
comp=Z,2.8nm,0.3s,mb4.8,baz=17,slow=8.7,SNR=6.4
FITZ Fitzroy Crossi 54.95 197 *eP* **P 00 31 39.9 -0.7**
comp=Z,9.0nm,0.4s,mb5.2
WRAB Tennant Creek 55.23 187 *eP* **P 00 31 42.8 +0.2**
comp=Z,12nm,1.0s,mb4.9
WB2 Warramunga Arr 55.24 187 ||*iP* **P 00 31 42.9 +0.2**
WB2 Warramunga Arr 55.24 187 *eP* **P 00 31 42.8 +0.2**
WRA Warramunga Arr 55.24 187 P **P 00 31 42.7 0.0**
comp=Z,6.8nm,0.7s,mb4.8,baz=3.7,slow=7.5,SNR=61
INK Inuvik 56.26 26 P **P 00 31 50.7 +1.2**
comp=Z,3.9nm,0.8s,mb4.5,baz=305,slow=9.0,SNR=5.5
INK Inuvik 56.26 26 P **P 00 31 49.1 -0.4**
ARU Arti 57.20 319 P **P 00 31 56.2 -0.1**
comp=Z,82nm,0.7s,SNR=6.0
ARU Arti 57.20 319 *eP* **P 00 31 56.4 +0.1**
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ARU Arti 57.20 319 *eP* **P 00 31 56.4 +0.1**
comp=Z,10nm,0.8s,mb4.9
MDRS Chennai 58.38 264 *ex* x 00 32 06.0
ASAR Alice Springs 58.97 187 P **P 00 32 09.1 +0.1**
comp=Z,1.9nm,0.8s,mb4.2,baz=13,slow=6.2,SNR=11
AKTK Aktyubinsk 59.32 313 P **P 00 32 12.4 +1.2**
AKTO Aktyubinsk 59.32 313 P **P 00 32 12.4 +1.2**
comp=Z,2.6nm,0.7s,mb4.4,baz=75,slow=11,SNR=6.7
MBWA Marble Bar 59.51 203 *eP* **P 00 32 13.2 +0.4**
comp=Z,28nm,1.1s,mb5.2
KEV Kevo 64.82 339 *e*pkp **P 00 32 47.3 -0.5**
ARCES ARCESS Array B 65.38 339 P **P 00 32 52.0 +0.5**
comp=Z,2.9nm,0.8s,mb4.4,baz=80,slow=8.8,SNR=4.8
FORT Forrest 66.76 192 *eP* **P 00 33 01.3 +0.6**
comp=Z,16nm,0.7s,mb5.2
STKA Stephens Creek 66.82 179 P **P 00 33 01.3 +0.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=0.0,slow=8.1,SNR=2.1
STKA Stephens Creek 66.82 179 P **P 00 33 01.5 +0.4**
JOF Joensuu 67.17 332 *e*pkp **P 00 33 02.6 -0.4**
KLBR Kellerberrin 69.89 201 *eP* **P 00 33 25.4 +5.1**
comp=Z,17nm,1.0s,mb4.9
NWAO Narrogin (SRO) 71.29 201 P **P 00 33 29.3 +0.5**
comp=Z,6.2nm,0.9s,mb4.6,baz=101,slow=5.4,SNR=2.7
KIV Kislovodsk 71.51 311 *eP* **P 00 33 32.0 +1.8**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.8
KIV Kislovodsk 71.51 311 *eP* **P 00 33 30.0 -0.2**
AKASG Malin Array Be 75.24 322 P **P 00 33 51.5 -0.5**
comp=Z,3.1nm,0.6s,mb4.5,baz=48,slow=5.9,SNR=14
HFS Hagfors 75.38 336 P **P 00 33 53.2 +0.5**
comp=Z,2.4nm,0.8s,mb4.2,baz=72,slow=9.3,SNR=4.0
NB2 NORSAR Subarra 75.52 337 P **P 00 33 53.3 -0.2**
comp=Z,8.7nm,1.0s,mb4.6,baz=42,slow=5.9
NOA NORSAR Array B 75.52 337 P **P 00 33 53.5 0.0**
comp=Z,4.0nm,0.8s,mb4.4,baz=40,slow=5.7,SNR=10
NVAR Mina Array Bea 76.61 52 P **P 00 34 01.6 +1.5**
comp=Z,1.7nm,0.7s,mb4.1,baz=293,slow=6.2,SNR=5.9
PDAR Pinedale Array 79.40 45 P **P 00 34 17.5 +2.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=216,slow=4.5,SNR=2.8
UZH Uzhgorod 80.01 324 *eP* **P 00 34 13.5 -5.2**
UZH *i* pP 00 34 21.0 -7.2
MVU Marysvale 80.43 49 *i* P **P 00 34 20.6 -0.6**
comp=Z,58nm,1.6s,mb5.3
CLL Collm 82.25 330 *eP* **P 00 34 31.0 +0.4**
CLL *ep*P pP 00 34 34.0 -6.1
CLL *es*PcP pP 00 34 41.0 +0.9
GERES GERESS Array B 83.81 328 P **P 00 34 39.8 +1.0**
comp=Z,0.7nm,0.6s,mb4.0,baz=52,slow=6.4,SNR=2.8
EIL Elat 84.72 303 P **P 00 34 42.2 -1.5**
comp=Z,4.5nm,0.8s,mb4.7,baz=48,slow=12,SNR=4.3
PERS Pernice 84.83 326 *i* Pdiff **P 00 34 44.5 +0.5**
VISS Visnje 85.58 325 *i* Pdiff **P 00 34 50.0 +2.3**
JAVS Javornik 85.87 326 *i* Pdiff **P 00 34 48.6 -0.5**
QSPA South Pole Qui 125.03 180 PKP PKPdf 00 41 08.7 +0.5
comp=Z,6.3nm,1.0s,baz=80,slow=4.8,SNR=5.2
QSPA South Pole Qui 125.03 180 PKP PKPdf 00 41 08.7 +0.5

ISCJB ***16*** *00:22:44.5±2.7, 1337S×004×7681W×009, h25km±18km, mb4.7/25, Error ellipse: s-maj=15.9km s-min=5.9km az=161.4*
MOS ***16*** *00:22:46.1±0.9, 1325S×7662W, h33km, mb5.1/6, Error ellipse: s-maj=21.6km s-min=12.5km az=117.4*
IDC ***16*** *00:22:47.1±0.6, 1335S×7676W, h30km±4km, mb4.5/20, mb1 4.6/24, mb1mx4.6/27, mbtmp4.5/24, ML4.6/3, Error ellipse: s-maj=21.7km s-min=10.3km az=78.0*
NEIC ***16*** *00:22:48.0±0.9, 1332S×7672W, h37km±8km, mb4.9/11, Error ellipse: s-maj=9.9km s-min=4.2km az=71.0*
ISC 16 00:22:47.0±2.7, 1335S±004×**7674W**±009, **h28**km±19km, **h31**km±.4km**:pP-P, n78,** σ0°**69**/72, **mb4.7**/25, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.36**	**356**	Pn	**Pn**	**00 23 09.9**	**-0.3**
	1μm,0.3s,baz=174,slow=14,SNR=9.0						
NNA				Sn	**Sn**	**00 23 27.9**	**+0.6**
	5μm,0.3s,baz=204,slow=19,SNR=16						
ATAH	**Atahualpa**	**6.52**	**345**	Pn	**Pn**	**00 24 20.4**	**-0.7**
	26nm,0.3s,baz=113,slow=17,SNR=6.3						
ATAH				Sn	**Sn**	**00 25 36.2**	**+1.6**
	17nm,0.3s,baz=11,slow=19,SNR=2.1						
LPAZ	**La Paz**	**8.82**	**110**	Pn	**Pn**	**00 24 56.9**	**+4.1**
	6.9nm,0.3s,baz=266,slow=6.8,SNR=8.3						
LPAZ	**La Paz**	**8.82**	**110**	Pn	**Pn**	**00 24 53.4**	**+0.7**
LVC	**Limon Verde**	**11.84**	**142**	Pn	**Pn**	**00 25 34.1**	**0.0**
	2.1nm,0.3s,baz=157,slow=0.0,SNR=6.6						
SIV	**San Ignacio**	**15.38**	**102**	Pn	**Pn**	**00 26 24.2**	**+2.0**
	2.7nm,0.3s,baz=38,slow=19,SNR=3.7						
ROSC	**El Rosal**	**18.25**	**8**	Pn	**Pn**	**00 26 58.1**	**-0.2**
CFAA	**Coronel Fontan**	**19.77**	**158**	P	**Pn**	**00 27 15.4**	**-1.1**
	0.2nm,0.3s,baz=339,slow=8.8,SNR=9.3						
CPUP	**Villa Florida**	**22.32**	**128**	P	**P**	**00 27 43.0**	**+0.5**
	9.1nm,0.8s,mb4.2,baz=300,slow=12,SNR=3.7						
CPUP	**Villa Florida**	**22.32**	**128**	*eP*	**P**	**00 27 42.2**	**-0.3**
CPUP				pmax	pmax		
	comp=Z,76nm,1.2s						
CPUP	**Villa Florida**	**22.32**	**128**	*eP*	**P**	**00 27 42.2**	**-0.3**
	comp=Z,76nm,1.2s,mb5.0						
SDV	**Santo Domingo**	**22.91**	**16**	P	**P**	**00 27 49.3**	**+0.6**
	comp=Z,17nm,0.5s,mb4.8,baz=270,slow=5.2,SNR=5.5						
SDV	**Santo Domingo**	**22.91**	**16**	*eP*	**P**	**00 27 47.9**	**-0.9**
	comp=Z,44nm,0.8s,mb4.9						
PCRV	**Puerto La Cruz**	**26.28**	**28**	P	**P**	**00 28 20.4**	**+0.1**
	comp=Z,13nm,0.6s,mb4.6,baz=276,slow=5.4,SNR=4.3						
PLCA	**Paso Flores**	**27.81**	**170**	P	**P**	**00 28 33.0**	**-0.8**
	comp=Z,10nm,0.8s,mb4.5,baz=332,slow=12,SNR=6.6						
PLCA	**Paso Flores**	**27.81**	**170**	*eP*	**P**	**00 28 33.5**	**-0.2**
PLCA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PLCA	**Paso Flores**	**27.81**	**170**	*eP*	**P**	**00 28 33.5**	**-0.2**
	comp=Z,7.7nm,0.7s,mb4.4						
TGUH	**Tegucigalpa,Un**	**29.16**	**339**	P	**P**	**00 28 45.9**	**-0.1**
SJG	**San Juan**	**32.97**	**19**	P	**P**	**00 29 18.5**	**-1.0**
	comp=Z,8.8nm,0.5s,mb4.9,baz=158,slow=13,SNR=3.6						
AOPR	**Arecibo Observ**	**33.00**	**18**	*eP*	**P**	**00 29 19.8**	**0.0**
	comp=Z,7.8nm,0.6s,mb4.8						
TEIG	**Tepich**	**35.24**	**341**	P	**P**	**00 29 39.9**	**+0.6**
	comp=Z,7.0nm,0.5s,mb4.9,baz=295,slow=2.6,SNR=6.0						
TEIG	**Tepich**	**35.24**	**341**	*eP*	**P**	**00 29 40.1**	**+0.8**
DWPF	**Disney**	**41.47**	**354**	P	**P**	**00 30 30.7**	**-0.8**
BBSR	**BB Station**	**46.90**	**14**	P	**P**	**00 31 14.6**	**-0.4**
MIAR	**Mount Ida**	**50.25**	**342**	*eP*	**P**	**00 31 40.4**	**-0.3**
MIAR				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
MIAR	**Mount Ida**	**50.25**	**342**	*eP*	**P**	**00 31 40.4**	**-0.3**
	comp=Z,12nm,0.8s,mb5.0						
PMSA	**Palmer Station**	**52.10**	**173**	P	**P**	**00 31 54.6**	**+0.4**
	comp=Z,6.4nm,0.9s,mb4.5,baz=5.7,slow=3.2,SNR=3.4						
SIUC	**Southern Illin**	**52.13**	**347**	P	**P**	**00 31 54.0**	**-0.7**
ACSO	**Alum Creek Sta**	**53.62**	**354**	*eP*	**P**	**00 32 04.6**	**-1.2**
	comp=Z,23nm,1.1s,mb5.0						
ANMO	**Albuquerque**	**55.70**	**330**	P	**P**	**00 32 21.4**	**+0.4**
SDCO	**Great Sand Dun**	**57.55**	**333**	P	**P**	**00 32 34.6**	**+0.6**
FRNY	**Flat Rock**	**57.98**	**3**	*eP*	**P**	**00 32 37.3**	**+0.4**
	comp=Z,20nm,0.8s,mb5.2						
PKME	**Peaks-Kenny Pk**	**58.73**	**6**	*eP*	**P**	**00 32 42.2**	**0.0**
PV01	**Paradox Valley**	**59.27**	**331**	P	**P**	**00 32 46.2**	**+0.1**
HWUT	**Hardware Ranch**	**63.42**	**331**	*eP*	**P**	**00 33 13.9**	**-0.2**
PDAR	**Pinedale Array**	**63.44**	**334**	P	**P**	**00 33 13.7**	**-0.4**
	comp=Z,1.7nm,1.0s,mb4.1,baz=131,slow=9.7,SNR=3.0						
TPH	**Tonopah**	**63.68**	**325**	P	**P**	**00 33 16.8**	**+0.9**
NVAR	**Mina Array Bea**	**64.54**	**325**	P	**P**	**00 33 22.2**	**+0.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=118,slow=7.2,SNR=2.6						
ULM	**Lac du Bonnet**	**65.52**	**347**	P	**P**	**00 33 26.6**	**-0.9**
	comp=Z,18nm,0.8s,mb5.2,baz=166,slow=5.6,SNR=6.0						
HLID	**Hailey**	**66.27**	**331**	P	**P**	**00 33 32.7**	**+0.1**
SCHQ	**Schefferville**	**68.44**	**6**	P	**P**	**00 33 45.3**	**-0.7**
	comp=Z,10nm,0.9s,mb4.9,baz=173,slow=6.2,SNR=6.2						
SCHQ	**Schefferville**	**68.44**	**6**	*eP*	**P**	**00 33 45.6**	**-0.4**
	comp=Z,8.0nm,0.7s,mb4.9						
VNA1	**Neumayer--Stat**	**70.40**	**161**	*eP*	**P**	**00 33 58.2**	**+0.1**
VNA1				*e*	pP	00 34 07.6	+0.5
VNA1				*e*		00 34 16.7	
NEW	**Newport**	**71.05**	**333**	*eP*	**P**	**00 34 02.0**	**-0.3**
NEW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NEW	**Newport**	**71.05**	**333**	*eP*	**P**	**00 34 02.0**	**-0.3**
	comp=Z,6.7nm,0.9s,mb4.6						
SNAA	**Sanae**	**72.36**	**161**	*eP*	**P**	**00 34 09.4**	**-0.5**
SNAA				*e*		00 34 19.8	
SNAA				*e*		00 34 27.5	
SNAA	**Sanae**	**72.36**	**161**	P	**P**	**00 34 09.6**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.3,baz=294,slow=6.8,SNR=17						
SNAA	**Sanae**	**72.36**	**161**	*eP*	**P**	**00 34 10.0**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
SNAA	**Sanae**	**72.36**	**161**	*eP*	**P**	**00 34 10.0**	**+0.1**
	comp=Z,5.0nm,0.5s,mb4.7						
FCC	**Fort Churchill**	**73.24**	**351**	*eP*	**P**	**00 34 14.7**	**-0.5**
DBIC	**Dimbokro**	**74.09**	**79**	P	**P**	**00 34 20.5**	**-0.6**
	comp=Z,18nm,0.6s,mb5.2,baz=229,slow=6.1,SNR=23						
DBIC	**Dimbokro**	**74.09**	**79**	*eP*	**P**	**00 34 20.9**	**-0.3**
DBIC				pmax	pmax		
	comp=Z,18nm,0.6s						
DBIC	**Dimbokro**	**74.09**	**79**	*eP*	**P**	**00 34 20.9**	**-0.3**
	comp=Z,18nm,0.6s,mb5.2						
QSPA	**South Pole Qui**	**76.79**	**180**	P	**P**	**00 34 36.1**	**+0.6**
	comp=Z,4.4nm,1.0s,mb4.3,baz=160,slow=5.8,SNR=8.7						
QSPA	**South Pole Qui**	**76.79**	**180**	P	**P**	**00 34 36.1**	**+0.6**
YKA	**Yellowknife Ar**	**81.17**	**343**	P	**P**	**00 34 58.8**	**-0.8**
	comp=Z,1.9nm,0.5s,mb4.3,baz=143,slow=5.2,SNR=9.0						
YKA				pP	pP	00 35 07.9	-0.7
	comp=Z,9.1nm,0.9s,baz=140,slow=5.8,SNR=11						
YKA	**Yellowknife Ar**	**81.17**	**343**	P	**P**	**00 34 58.8**	**-0.8**
YKA				pP	pP	00 35 08.0	-0.7
TOA0	**Torodi Ar. Sit**	**82.06**	**74**	*eP*	**P**	**00 35 05.3**	**0.0**
TORD	**Torodi Ar. Bea**	**82.06**	**74**	P	**P**	**00 35 05.4**	**+0.1**
	comp=Z,39nm,0.9s,mb5.3,baz=263,slow=5.2,SNR=15						
SBA	**Scott Base**	**82.40**	**191**	P	**P**	**00 35 07.3**	**+1.3**
VNDA	**Vanda**	**83.47**	**191**	P	**P**	**00 35 12.4**	**+0.8**
	comp=Z,1.7nm,0.8s,mb4.1,baz=223,slow=3.1,SNR=3.5						
VNDA	**Vanda**	**83.47**	**191**	*eP*	**P**	**00 35 12.6**	**+1.0**
DLBC	**Dease Lake**	**83.63**	**335**	P	**P**	**00 35 13.1**	**+0.6**
	baz=142,slow=3.6						
DLBC				pP	pP	00 35 22.3	+0.7
	baz=146,slow=5.4						
DLBC	**Dease Lake**	**83.63**	**335**	*eP*	**P**	**00 35 13.2**	**+0.7**
DLBC				pP	pP	00 35 22.3	+0.7
ESDC	**Sonseca Array**	**85.61**	**48**	P	**P**	**00 35 23.2**	**+0.2**
	comp=Z,2.0nm,0.8s,mb4.4,baz=270,slow=5.3,SNR=6.0						
INK	**Inuvik**	**90.85**	**342**	P	**P**	**00 35 47.5**	**+0.1**
	comp=Z,9.1nm,1.0s,mb5.0,baz=115,slow=5.4,SNR=4.1						
INK				pP	pP	00 35 56.6	+0.1
	comp=Z,7.3nm,0.9s,baz=120,slow=6.8,SNR=4.2						
INK	**Inuvik**	**90.85**	**342**	*eP*	**P**	**00 35 47.5**	**+0.1**
INK				pP	pP	00 35 56.6	+0.1
ESK	**Eskdalemuir**	**91.75**	**33**	P	**P**	**00 35 50.3**	**-1.5**
MAW	**Mawson**	**94.14**	**166**	P	**P**	**00 36 02.3**	**-0.4**
KEST	**Kesra**	**94.55**	**55**	P	**P**	**00 36 05.6**	**+0.4**
	comp=Z,1.1nm,0.8s,mb4.3,baz=287,slow=19,SNR=4.1						
ASAR	**Alice Springs**	**132.55**	**219**	PKP	PKPdf	00 41 57.1	-2.6
	comp=Z,0.6nm,0.5s,baz=126,slow=2.3,SNR=5.3						
WRA	**Warramunga Arr**	**134.94**	**223**	PKP	PKPdf	00 42 03.8	-0.5
	comp=Z,3.9nm,0.8s,baz=121,slow=2.0,SNR=14						
ZALV	**Zalesovo Beam**	**136.96**	**16**	PKP	PKPdf	00 42 06.5	-0.5
	comp=Z,2.9nm,0.8s,baz=274,slow=1.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**136.96**	**16**	PKP	PKPdf	00 42 06.5	-0.5
ZAL	**Zalesovo**	**136.97**	**16**	PKIKP	PKPdf	00 42 06.5	-0.5
SONM	**Songino Array**	**145.53**	**356**	PKPbc	PKPbc	00 42 22.9	+0.3
	comp=Z,14nm,0.9s,baz=321,slow=1.6,SNR=9.4						
SONM				pPKPbc	pPKPbc	00 42 32.7	+0.7
	comp=Z,15nm,0.7s,baz=341,slow=3.1,SNR=14						
KSRS	**Korea Array**	**147.44**	**322**	PKPbc	PKPbc	00 42 26.4	-2.3
	comp=Z,2.6nm,0.8s,baz=59,slow=2.6,SNR=3.9						
CMAR	**Chiang Mai Arr**	**173.44**	**39**	PKPab	PKPab	00 44 22.6	-0.6
	comp=Z,0.6nm,0.3s,baz=319,slow=5.6,SNR=4.9						

IDC ***16*** *00:24:34.0±0.7, 1417S×7638W, h24km±3km, mb4.5/18, mb1 4.5/20, mb1mx4.4/24, mbtmp4.4/20, Error ellipse: s-maj=24.5km s-min=13.0km az=68.0*
MOS ***16*** *00:24:33.9±1.0, 1402S×7614W, h33km, mb5.3/16, Error ellipse: s-maj=19.5km s-min=7.7km az=116.3*
ISCJB ***16*** *00:24:35.1±1.2, 1413S×005×7615W×008, h49km±10km, mb5.0/56, Error ellipse: s-maj=13.9km s-min=5.3km az=154.4*
BJI ***16*** *00:24:35.0, 1410S×7620W, h41km*
NEIC ***16*** *00:24:36.7±1.0, 1413S×7620W, h42km±8km, mb5.3/42, Error ellipse: s-maj=10.5km s-min=4.8km az=67.0*
ISC 16 00:24:37.3±0.9, 1413S±004×**7617W**±008, **h46**km±8km, **h31**km±2.0km**:pP-P, n175,** σ1°**04**/153, **mb5.0**/56, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.22**	**343**	Pn	**Pn**	**00 25 12.2**	**+0.5**
	279nm,0.3s,baz=176,slow=16,SNR=1.6						
NNA				Sn	**Sn**	**00 25 39.9**	**+1.9**
	863nm,0.3s,baz=194,slow=17,SNR=7.3						
NNA	**Nana**	**2.22**	**343**	*e*Pn	**Pn**	**00 25 11.8**	**+0.1**
NNA				*e*Sn	**Sn**	**00 25 39.5**	**+1.5**
LPAZ	**La Paz**	**8.05**	**107**	Pn	**Pn**	**00 26 36.5**	**+4.8**
	4.2nm,0.3s,baz=352,slow=14,SNR=4.6						
LPAZ	**La Paz**	**8.05**	**107**	*e*Pn	**Pn**	**00 26 32.3**	**+0.6**
LVC	**Limon Verde**	**10.89**	**142**	Pn	**Pn**	**00 27 09.9**	**-0.7**
	4.0nm,0.3s,baz=126,slow=0.0,SNR=3.7						
LVC	**Limon Verde**	**10.89**	**142**	Pn	**Pn**	**00 27 09.9**	**-0.7**
LVC				Sn	**Sn**	**00 29 12.2**	**+1.0**
OTAV	**Otavalo**	**14.45**	**351**	Pn	**Pn**	**00 27 59.6**	**+0.4**
CFAA	**Coronel Fontan**	**18.86**	**159**	P	**Pn**	**00 28 53.1**	**-1.4**
	0.0nm,0.3s,baz=348,slow=14,SNR=2.7						
ROSC	**El Rosal**	**18.95**	**6**	P	**Pn**	**00 28 54.0**	**-1.7**
CPUP	**Villa Florida**	**21.41**	**127**	P	**P**	**00 29 19.6**	**-1.8**
	4.1nm,0.7s,mb3.9,baz=326,slow=7.3,SNR=2.6						
CPUP	**Villa Florida**	**21.41**	**127**	*eP*	**P**	**00 29 19.7**	**-1.7**
CPUP				pmax	pmax		
	comp=Z,72nm,1.0s						
CPUP	**Villa Florida**	**21.41**	**127**	*eP*	**P**	**00 29 19.7**	**-1.7**
	comp=Z,72nm,1.0s,mb5.0						
BCIP	**Isla Barro Col**	**23.42**	**351**	*eP*	**P**	**00 29 43.0**	**+0.4**
	comp=Z,140nm,1.6s,mb5.1						
SDV	**Santo Domingo**	**23.51**	**14**	*eP*	**P**	**00 29 45.2**	**+1.8**
PCRV	**Puerto La Cruz**	**26.72**	**26**	P	**P**	**00 30 13.0**	**+0.5**
	comp=Z,17nm,0.8s,mb4.6,baz=293,slow=7.7,SNR=3.1						
TRQA	**Tornquist**	**26.96**	**155**	*eP*	**P**	**00 30 14.4**	**-0.2**
	comp=Z,44nm,1.4s,mb4.8						
PLCA	**Paso Flores**	**26.96**	**171**	P	**P**	**00 30 12.5**	**-2.0**
	comp=Z,3.0nm,0.7s,mb3.9,baz=349,slow=10.0,SNR=2.8						
PLCA	**Paso Flores**	**26.96**	**171**	*eP*	**P**	**00 30 15.3**	**+0.8**
PLCA				pmax	pmax		
	comp=Z,75nm,1.4s						
PLCA	**Paso Flores**	**26.96**	**171**	*eP*	**P**	**00 30 15.3**	**+0.8**
	comp=Z,76nm,1.4s,mb5.0						
TGUH	**Tegucigalpa,Un**	**30.08**	**338**	P	**P**	**00 30 41.7**	**-0.8**
BBGH	**Gun Hill**	**31.70**	**32**	P	**P**	**00 30 57.7**	**+1.0**
SJG	**San Juan**	**33.52**	**17**	P	**P**	**00 31 11.7**	**-0.9**
	comp=Z,17nm,0.2s,mb5.5,baz=217,slow=20,SNR=6.6						
AOPR	**Arecibo Observ**	**33.57**	**16**	*eP*	**P**	**00 31 10.8**	**-2.3**
	comp=Z,14nm,0.7s,mb5.0						
CBYP	**Canovanas**	**33.76**	**18**	*eP*	**P**	**00 31 14.4**	**-0.3**
CMIG	**Matias Romero**	**36.10**	**329**	P	**P**	**00 31 32.9**	**-2.1**
	comp=Z,4.6nm,0.9s,mb4.4,baz=118,slow=11,SNR=3.1						
TEIG	**Tepich**	**36.15**	**340**	P	**P**	**00 31 34.5**	**-0.9**
	comp=Z,22nm,0.6s,mb5.3,baz=140,slow=5.4,SNR=8.5						
TEIG	**Tepich**	**36.15**	**340**	*eP*	**P**	**00 31 34.6**	**-0.7**
	comp=Z,35nm,0.7s,mb5.4						
EFI	**East Falkland**	**40.19**	**163**	*eP*	**P**	**00 32 08.3**	**-0.7**
EFI				pmax	pmax		
	comp=Z,605nm,2.1s,mb6.0						
EFI	**East Falkland**	**40.19**	**163**	*eP*	**P**	**00 32 08.3**	**-0.7**
	comp=Z,605nm,2.1s,mb6.0						
DWPF	**Disney**	**42.29**	**353**	P	**P**	**00 32 25.5**	**-1.0**
NHSC	**New Hope**	**47.12**	**355**	*eP*	**P**	**00 33 05.7**	**+0.8**
	comp=Z,105nm,1.2s,mb5.6						
BBSR	**BB Station**	**47.52**	**13**	P	**P**	**00 33 08.2**	**+0.2**
GOGA	**Godfrey**	**47.78**	**352**	*eP*	**P**	**00 33 09.7**	**-0.3**
GOGA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
GOGA	**Godfrey**	**47.78**	**352**	*eP*	**P**	**00 33 09.7**	**-0.3**
	comp=Z,6.2nm,0.8s,mb4.7						
LHS	**Liberty Hill**	**48.53**	**355**	*eP*	**P**	**00 33 19.4**	**+3.6**
CNNC	**Cliffs of the**	**49.12**	**358**	*eP*	**P**	**00 33 20.2**	**-0.1**
	comp=Z,51nm,1.0s,mb5.5						
JCT	**Junction City**	**49.84**	**333**	*eP*	**P**	**00 33 24.1**	**-1.8**
JCT				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
JCT	**Junction City**	**49.84**	**333**	*eP*	**P**	**00 33 24.1**	**-1.9**
	comp=Z,16nm,0.9s,mb5.0						
CPCT	**Cooper Cave**	**49.93**	**351**	*eP*	**P**	**00 33 25.9**	**-0.6**
CPCT				*ep*P	pP	00 33 35.3	-4.0
SWET	**Sewanee**	**49.94**	**350**	*eP*	**P**	**00 33 24.6**	**-2.0**
OXF	**Oxford**	**49.98**	**346**	P	**P**	**00 33 26.1**	**-0.8**
TKL	**Tuckaleechee C**	**50.03**	**352**	P	**P**	**00 33 25.6**	**-1.7**
TZTN	**Tazewell**	**50.87**	**352**	*eP*	**P**	**00 33 32.7**	**-0.9**
	comp=Z,36nm,1.1s,mb5.2						
TZTN				*ep*P	pP	00 33 42.2	-4.2
MIAR	**Mount Ida**	**51.15**	**342**	*eP*	**P**	**00 33 38.0**	**+2.3**
BLA	**Blacksburg**	**51.22**	**356**	*eP*	**P**	**00 33 36.4**	**+0.2**
ELN	**Prospectdale**	**51.26**	**355**	*eP*	**P**	**00 33 36.0**	**-0.5**
ELN				*ep*P	pP	00 33 46.1	-3.2
PMSA	**Palmer Station**	**51.27**	**173**	pP	pP	00 33 43.3	-5.8
	comp=Z,41nm,1.0s,baz=348,slow=9.4,SNR=13						
PMSA	**Palmer Station**	**51.27**	**173**	P	**P**	**00 33 38.5**	**+2.2**
	comp=Z,75nm,1.2s,mb5.5						
URVA	**University of**	**51.43**	**359**	*eP*	**P**	**00 33 34.3**	**-3.5**
URVA				*ep*P	pP	00 33 45.8	-4.8
WCI	**Wyandotte Cave**	**52.93**	**350**	*eP*	**P**	**00 33 47.7**	**-1.2**
WCI				*e**PP	pP	00 33 55.7	-6.1
WCI				pmax	pmax		
	comp=Z,57nm,0.9s,mb5.5						
WCI	**Wyandotte Cave**	**52.93**	**350**	*eP*	**P**	**00 33 47.7**	**-1.2**
	comp=Z,56nm,0.9s,mb5.5						
WCI				*ep*P	pP	00 33 55.7	-6.1
SIUC	**Southern Illin**	**53.00**	**347**	*eP*	**P**	**00 33 47.7**	**-1.8**
WMOK	**Wichita Mounta**	**53.13**	**337**	*eP*	**P**	**00

QLMT	Earthquake Lak	66.84	333	eP		P		00 35 24.9 +0.6
PAHR	Pah Rah Range	66.97	325	eP		P		00 35 25.9 +0.6
HLID	Hailey	67.21	331	eP		P		00 35 27.9 +1.2
	comp=Z,59nm,1.9s,mb5.3							
BOZ	Bozeman (W)	67.57	334	eP		P		00 35 29.4 +0.5
DLMT	Dillon	67.77	333	eP		P		00 35 38.1 +7.9
	comp=Z,126nm,2.3s,mb5.5							
OHCM	Honcut	67.91	323	eP		P		00 35 30.5 -0.7
NSHM	Saint Helena R	68.03	322	eP		P		00 35 32.1 +0.1
MOD	Modoc	69.00	326	eP		P		00 35 37.7 -0.3
SCHQ	Schefferville	69.14	6	P		P		00 35 38.2 -0.3
	comp=Z,2.4nm,0.8s,mb4.2,baz=222,slow=12,SNR=2.6							
SCHQ	Schefferville	69.14	6	P		P		00 35 38.4 -0.1
WDC	Whiskeytown Da	69.35	324	eP		P		00 35 47.6 +7.5
WDC					pmax	pmax		
	comp=Z,78nm,2.8s,mb5.1							
WDC	Whiskeytown Da	69.35	324	eP		P		00 35 47.6 +7.5
	comp=Z,78nm,2.8s,mb5.1							
KCPM	Cahto Peak	69.37	323	eP		P		00 35 40.3 0.0
VNA1	Neumayer--Stat	69.50	161	eP		P		00 35 41.1 +0.4
VNA1				e				00 35 44.0
VNA1				e		pP		00 35 49.0 -4.9
VNA1				e		pP		00 35 51.5 -2.4
BMO	Blue Mountains	69.56	330	eP		P		00 35 40.7 -0.6
YBH	Yreka Blue Hor	70.20	325	eP		P		00 35 45.4 0.0
KHMM	Horse Mountain	70.22	324	eP		P		00 35 53.5 +8.0
KRMB	Red Mountain	70.75	324	eP		P		00 35 49.0 +0.3
WALA	Waterton Lakes	71.22	335	eP		P		00 35 52.0 +0.6
KBO	Bosley Butte	71.37	324	eP		P		00 35 53.6 +1.1
SNAA	Sanae	71.45	161	eP		P		00 35 52.2 -0.4
SNAA				e				00 35 55.0
SNAA				e		pP		00 36 00.4 -5.5
SNAA				e		pP		00 36 02.6 -3.3
SNAA	Sanae	71.45	161	P		P		00 35 52.4 -0.2
	comp=Z,3.9nm,0.8s,mb4.4,baz=279,slow=4.9,SNR=8.1							
SNAA	Sanae	71.45	161	eP		P		00 35 52.7 +0.1
SNAA				e*PP		pP		00 36 02.9 -3.0
SNAA					pmax	pmax		
	comp=Z,42nm,0.9s							
SNAA	Sanae	71.45	161	eP		P		00 35 52.7 +0.1
	comp=Z,42nm,0.9s,mb5.4							
SNAA				epP		pP		00 36 02.9 -3.0
HAWA	Hanford	71.75	330	eP		P		00 35 55.7 +1.0
KEBM	Edson Butte	71.86	325	eP		P		00 35 55.7 +0.2
NEW	Newport	71.99	333	P		P		00 35 54.1 -2.0
HOOD	Mount Hood Mea	72.06	328	P		P		00 35 57.8 +1.2
	comp=Z,33nm,1.2s,mb5.1							
DBIC	Dimbokro	73.69	79	P		P		00 36 07.5 +0.6
	comp=Z,9.6nm,0.5s,mb5.0,baz=238,slow=4.1,SNR=11							
EDM	Edmonton	74.27	338	eP		P		00 36 09.8 +0.4
NLWA	Neilton Lookou	74.59	329	eP		P		00 36 13.0 +1.6
PGC	Sidney	75.23	330	eP		P		00 36 16.4 +1.4
	comp=Z,71nm,1.3s,mb5.4							
QSPA	South Pole Qui	76.02	180	P		P		00 36 19.2 0.0
	comp=Z,3.3nm,0.8s,mb4.3,baz=88,slow=3.1,SNR=3.8							
QSPA	South Pole Qui	76.02	180	P		P		00 36 19.2 0.0
TOA0	Torodi Ar. Sit	81.73	74	eP		P		00 36 52.8 +1.2
TORD	Torodi Ar. Bea	81.73	74	P		P		00 36 52.8 +1.1
	comp=Z,26nm,0.8s,mb5.2,baz=254,slow=4.7,SNR=13							
YKA	Yellowknife Ar	82.06	343	P		P		00 36 51.1 -1.3
	comp=Z,3.0nm,0.8s,mb4.2,baz=145,slow=5.7,SNR=4.7							
YKA				pP		pP		00 36 59.1 -6.8
	comp=Z,4.4nm,0.7s,baz=145,slow=6.0,SNR=7.2							
DLBC	Dease Lake	84.56	335	P		P		00 37 04.6 -0.7
	baz=146,slow=6.5							
DLBC				pP		pP		00 37 13.1 -5.8
	baz=120,slow=5.3							
DLBC	Dease Lake	84.56	335	P		P		00 37 04.6 -0.7
DLBC				pP		pP		00 37 13.1 -5.8
ESDC	Sonseca Array	85.72	47	P		P		00 37 12.8 +1.2
	comp=Z,0.4nm,0.3s,mb4.1,baz=264,slow=6.0,SNR=7.2							
HYT	Haines Junctio	89.05	335	eP		P		00 37 28.4 +1.3
INK	Inuvik	91.75	342	P		P		00 37 39.8 +0.3
	comp=Z,3.5nm,1.0s,mb4.7,baz=168,slow=6.4,SNR=2.6							
MAW	Mawson	93.25	165	P		P		00 37 46.2 -0.5
	comp=Z,1.4nm,0.6s,mb4.6,baz=180,slow=8.1,SNR=2.8							
COLD	Coldfoot	96.86	338	eP		P		00 38 01.2 -1.8
	comp=Z,2.3nm,0.8s,mb4.7							
KIV	Kislovodsk	120.39	47	ePKIKP		PKPdf		00 43 27.5 +3.8
KIV					pmax	pmax		
	comp=Z,7.0nm,1.0s							
AKTK	Aktyubinsk	128.23	36	PKP		PKPdf		00 43 38.1 -0.4
AKTO	Aktyubinsk	128.23	36	PKP		PKPdf		00 43 38.1 -0.4
	comp=Z,3.0nm,0.8s,baz=351,slow=2.6,SNR=7.2							
ASAR	Alice Springs	132.30	218	PKP		PKPdf		00 43 46.4 -0.8
	comp=Z,0.9nm,0.9s,baz=140,slow=2.4,SNR=3.5							
WRA	Warramunga Arr	134.76	222	PKP		PKPdf		00 43 52.0 +0.1
	comp=Z,1.8nm,0.7s,baz=134,slow=2.0,SNR=5.1							
WRAB	Tennant Creek	134.76	222	ePKIKP		PKPdf		00 43 51.8 -0.1
BOD	Bodaibo	135.72	352	eP		Pdif		00 40 55.9 -0.4
ZALV	Zalesovo Beam	137.54	17	PKP		PKPdf		00 43 55.1 -0.8
	comp=Z,2.8nm,0.7s,baz=306,slow=4.8,SNR=4.9							
ZAL	Zalesovo	137.55	17	PKIKP		PKPdf		00 43 55.1 -0.9
GUMO	Guam	140.19	274	PKP		PKPdf		00 43 60.0 -2.0
	comp=Z,17nm,0.3s,baz=198,slow=20,SNR=2.1							
GUMO	Guam	140.19	274	PKP		PKPdf		00 43 60.0 -2.0
FITZ	Fitzroy Crossi	141.43	215	PKP		PKPdf		00 44 02.3 -1.8
	comp=Z,4.2nm,0.9s,baz=86,slow=16,SNR=3.1							
FITZ	Fitzroy Crossi	141.43	215	PKP		PKPdf		00 44 02.3 -1.9
FITZ				PKPdf		PKPdf		00 44 02.4 -1.7
EKS2	Erkin-Say	141.55	36	PKPdf		PKPdf		00 44 03.7 +0.1
IRK	Irkutsk	141.98	360	eP		Pdif		00 41 26.8 +2.7
IRK					pmax	pmax		
	comp=Z,161nm,4.2s							
MJAR	Matsushiro Arr	142.05	312	PKhKP				00 43 58.7
	comp=Z,0.9nm,0.6s,baz=92,slow=0.8,SNR=4.1							
MJAR				PKP		PKPdf		00 44 04.4 -0.3
	comp=Z,1.5nm,0.8s,baz=90,slow=1.8,SNR=4.3							
MKAR	Makanchi Array	142.77	25	PKhKP				00 44 01.0
	comp=Z,0.5nm,0.4s,baz=319,slow=4.2,SNR=3.4							
MKAR	Makanchi Array	142.77	25	PKP		PKPdf		00 44 01.0 -4.7
SONM	Songino Array	146.32	357	PKPbc		PKPbc		00 44 13.0 -0.1
	comp=Z,5.4nm,0.6s,baz=319,slow=2.1,SNR=5.7							
SONM				pPKPbc		pPKPbc		00 44 20.4 -6.6
	comp=Z,14nm,1.0s,baz=332,slow=1.8,SNR=9.3							
WMQ	Urumqi	147.34	22	PKP		PKPdf		00 44 09.3 -4.3
KSRS	Korea Array	148.39	322	PKPbc		PKPbc		00 44 17.7 -1.4
	comp=Z,1.8nm,0.6s,baz=54,slow=0.5,SNR=4.4							
THN	Thein Dam	148.54	50	eP		PKPdf		00 44 19.1 +3.1
CD2	Chengdu	163.29	0	ePKP		PKPdf		00 44 29.9 -5.5
CD2				PKP2		PKPab		00 45 22.1 -3.8
CD2				PP		PP		00 49 10.5 +0.9
CD2				SS		SS		01 09 32.5 +1.2
CMAR	Chiang Mai Arr	173.63	47	PKP		PKPdf		00 44 44.3 +1.7
	comp=Z,0.9nm,0.3s,baz=309,slow=4.5,SNR=2.7							
CMAR				PKPab		PKPab		00 46 13.1 +1.0
	comp=Z,1.4nm,0.4s,baz=330,slow=5.4,SNR=6.2							

*CSEM **16** 00:29:41.9±0.1, 4284N×1317E, h12km, ML3.6, Error ellipse: s-maj=1.4km s-min=1.0km az=52.0*
*PRU **16** 00:29:41.6, 4288N×1290E, h0km*
*ISCJB **16** 00:29:42.6±0.3, 4284N±002×13.12E±002, h12km±2km, Error ellipse: s-maj=2.9km s-min=2.4km az=137.7*
*ROM **16** 00:29:42.7±0.2, 4281N×1312E, h8km±1km, Ml3.5/6, Error ellipse: s-maj=2.6km s-min=1.5km az=63.0*
*NEIC **16** 00:29:42.0, 4282N×1312E, h10km, ML3.5(ROM), ML3.6(LDG), After ROM.*
NEIC Felt [IV] at Ascoli Piceno, Foligno and Norcia. Also felt at Leonessa, Montemonaco and Visso.
*LDG **16** 00:29:45.8±0.2, 4281N×1317E, h10km, Ml3.6/10, Error ellipse: s-maj=5.5km s-min=4.5km az=13.0*

ISC 16 00:29:43.4±0.3, 4284N±002×1312E±002, h7km±2km, n138, σ1§16/195, 24C-13D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.00	209	⇑iPg	Pg	00 29 44.5	-0.2
LNSS	Leonessa	0.24	194	Pg	Pg	00 29 48.1	-0.1
LNSS				Sg	Sg	00 29 52.1	+0.7
ASS	Assisi	0.41	304	Pg	Pg	00 29 51.4	0.0
ASS				Sg	Sg	00 29 57.9	+1.1
SNTG	Esanatoglia	0.44	343	⇑iPg	Pg	00 29 51.7	-0.2
AQU	L'Aquila	0.53	156	Pg	Pg	00 29 52.5	-1.1
FAGN	Fagnano	0.67	149	Pg	Pg	00 29 55.0	-1.3
ARVD	Arcevia	0.67	349	⇑iPg	Pg	00 29 55.8	-0.6
ARVD				Sg	Sg	00 30 06.6	+1.4
	1μm,0.3s						
VCEL	Villa Celiera	0.69	129	⇑iPg	Pg	00 29 55.6	-1.2
VCEL				Sg	Sg	00 30 06.6	+0.8
	3μm,0.5s						
AOI	Ancona	0.80	26	Pg	Pg	00 29 57.9	-0.8
AOI				Sg	Sg	00 30 11.6	+2.5
PTQR	Pietraquaria	0.84	165	Pg	Pg	00 29 57.6	-2.0
SENI	Senigallia	0.87	6	Pg	Pg	00 30 00.1	-0.1
	1μm,0.4s						
SACS	San Casciano d	0.89	271	Pg	Pg	00 30 00.5	0.0
	3μm,1.1s						
FSSB	Fossombrone	0.89	344	⇑iPg	Pg	00 29 59.8	-0.7
	332nm,0.4s						
CDCA	Citt' di Caste	0.90	314	Pg	Pg	00 30 01.0	+0.3
	297nm,0.7s						
BADI	Badiali	0.93	317	Pg	Pg	00 30 00.6	-0.6
	643μm,24.0s						
MA9	Marino	1.12	198	Pg	Pg	00 30 03.2	-1.7
	460nm,0.4s						
PESA	Pesaro	1.12	350	Pg	Pg	00 30 04.8	-0.2
	2μm,0.7s						
RSM	Repubblica di	1.20	336	Pg	Pn	00 30 06.0	-0.5
	2μm,1.3s						
LAV9	Lanuvio	1.20	195	Pg	Pn	00 30 04.6	-2.0
	900nm,0.4s						
SDI	San Donato	1.24	155	Pg	Pn	00 30 04.7	-2.4
	184nm,0.3s						
SFI	Santa Sofia	1.41	319	Pg	Pn	00 30 09.1	-0.4
	263nm,0.6s						
VMG	Vicchio	1.60	315	Pg	Pn	00 30 12.9	+0.7
	538nm,0.9s						
RFI	Roccamonfina	1.67	157	Pg	Pn	00 30 14.1	+1.1
	38nm,0.7s						
SEI	Scarperia	1.77	314	Pg	Pn	00 30 14.5	+0.1
	1μm,0.8s						
FG2	Serracapriola	1.83	124	Pg	Pn	00 30 15.7	+0.4
	1μm,1.0s						
PII	Pisa	2.09	296	Pg	Pn	00 30 19.0	+0.2
RGNG	Rignano Grg	2.17	122	Pg	Pn	00 30 19.8	-0.1
FG5	Orsara di Pugl	2.23	133	Pg	Pn	00 30 21.8	+1.0
	140nm,0.7s						
GSCL	Gusciola	2.38	310	Pg	Pn	00 30 23.2	+0.4
	46nm,0.4s						
MS1	Monte Sant'Ang	2.38	117	ePn	Pn	00 30 23.1	+0.3
VLC	Villacollemand	2.39	305	ePn	Pn	00 30 22.0	-0.9
VLC	Villacollemand	2.39	305	ePn	Pn	00 30 22.0	-0.9
FGMS	Monte Sant'Ang	2.39	117	Pg	Pn	00 30 23.4	+0.5
	160nm,0.4s						
SARO	Sassorosso	2.39	305	P	Pn	00 30 22.1	-0.9
SARO	Sassorosso	2.39	305	P	Pn	00 30 22.1	-0.9
RAVA	Ravarino	2.40	324	Pg	Pg	00 30 26.6	-2.9
VINC	Vinca	2.52	302	P	Pn	00 30 24.0	-0.7
VINC	Vinca	2.52	302	P	Pn	00 30 24.0	-0.7
VINC				S	Sn	00 30 55.7	0.0
VINC				S	Sn	00 30 55.7	0.0
VINC	Vinca	2.52	302	P	Pn	00 30 24.0	-0.7
VINC				S	Sn	00 30 55.7	0.0
VALM	Valbona	2.58	307	P	Pn	00 30 27.2	+1.7
VALM	Valbona	2.58	307	P	Pn	00 30 27.2	+1.7
BACM	Baccana	2.64	304	P	Pn	00 30 25.9	-0.5
BACM				S	Sn	00 30 58.0	-0.6
BACM	Baccana	2.64	304	P	Pn	00 30 25.9	-0.5
BACM				S	Sn	00 30 58.0	-0.6
GRAM	Graiana	2.76	308	P	Pn	00 30 27.9	-0.2
GRAM	Graiana	2.76	308	P	Pn	00 30 27.9	-0.2
SKDS	Skadanscina	2.78	13	iPn	Pn	00 30 27.4	-0.9
SKDS				iSn	Sn	00 31 01.8	-0.4
CODM	Codolo	2.84	304	P	Pn	00 30 28.9	-0.2
CODM				S	Sn	00 31 02.5	-0.9
CODM	Codolo	2.84	304	P	Pn	00 30 28.9	-0.1
CODM				S	Sn	00 31 02.5	-0.9
KNDS	Knezji Dol	2.84	18	iPn	Pn	00 30 28.6	-0.5
PGF	Pioggiola	3.05	266	ePn	Pn	00 30 32.4	+0.4
PGF				eSn	Sn	00 31 08.3	-0.4
PGF				eSg	Sg	00 31 19.9	-1.4
PGF	Pioggiola	3.05	266	ePn	Pn	00 30 32.4	+0.4
PGF				eSn	Sn	00 31 08.3	-0.4
BOJS	Bojanci	3.08	29	iPn	Pn	00 30 32.1	-0.3
JAVS	Javornik	3.13	12	iPn	Pn	00 30 32.2	-0.9
JAVS				iSn	Sn	00 31 12.3	+1.6
VOY	Vojsko	3.24	10	ePn	Pn	00 30 33.7	-0.9
BAI	Bari	3.29	120	ePn	Pn	00 30 35.4	0.0
SG1	Sgolgore (BA)	3.33	126	ePn	Pn	00 30 36.1	+0.3
CTI	Castel Tesino	3.38	342	Pg	Pn	00 30 36.9	+0.4
	126μm,31.0s						
GMNA	Gemona	3.44	1	Pg	Pn	00 30 36.9	-0.4
	299nm,0.8s						
VNDS	Vrh nad Dolski	3.46	19	iPn	Pn	00 30 37.2	-0.3
VNDS	Vrh nad Dolski	3.46	19	iPn	Pn	00 30 37.2	-0.4
CRAC	Cracco	3.51	134	Pg	Pn	00 30 39.1	+0.8
PTCC	Patocco-Chiusa	3.57	3	Pg	Pn	00 30 38.5	-0.7
	37nm,0.4s						
PE1	Pezze di Greco	3.81	121	ePn	Pn	00 30 42.7	+0.3
OBKA	Obir	3.81	15	iPn	Pn	00 30 42.1	-0.3
	SNR=11						
OBKA				⇓iSn	Sn	00 31 26.4	-1.0
FIN	Finale Ligure	3.82	293	Pg	Pn	00 30 43.0	+0.3
APPI	Appiano	3.88	340	Pg	Pn	00 30 44.4	+1.0
ABTA	Abfaltersbach	3.93	354	⇑iPn	Pn	00 30 44.8	+0.6
	SNR=52						
ABTA				⇑iSn	Sn	00 31 30.7	+0.2
IMI	Imperia	3.96	287	Pg	Pn	00 30 43.0	-1.5
	1.0nm,0.1s						
SEST	Monte Rota	3.96	351	Pg	Pn	00 30 46.1	+1.5
PERS	Pernice	4.06	20	iPn	Pn	00 30 46.5	+0.7
PERS				iSn	Sn	00 31 33.6	+0.1
KBA	Koelnbreinsper	4.24	2	⇓iPn	Pn	00 30 48.3	-0.2
KBA				⇓iSn	Sn	00 31 38.1	0.0
KBA	Koelnbreinsper	4.24	2	⇓iPn	Pn	00 30 48.2	-0.2
KBA				iSn	Sn	00 31 38.1	-0.1
KBA	Koelnbreinsper	4.24	2	⇓iPn	Pn	00 30 48.2	-0.2
KBA				iSn	Sn	00 31 38.1	0.0
SBF	Sospel	4.27	286	ePn	Pn	00 30 49.5	+0.7
	SNR=1.0						
SBF				eSn	Sn	00 31 38.6	-0.2
	25nm,0.5s,SNR=1.0						
SBF	Sospel	4.27	286	ePn	Pn	00 30 49.5	+0.7
	SNR=1.0						
SBF				eSn	Sn	00 31 38.6	-0.2
	13nm,0.5s,SNR=1.0						
FETA	Feichten	4.51	339	⇑iPn	Pn	00 30 53.9	+1.8
	SNR=15						
FETA				⇑iSn	Sn	00 31 47.2	+2.4
WTTA	Wattenberg	4.55	347	⇑iPn	Pn	00 30 53.8	+1.2
	SNR=29						
WATA	Walderalm	4.63	347	⇑iPn	Pn	00 30 55.6	+1.9
	SNR=43						
WATA				⇑iSn	Sn	00 31 49.6	+2.0
WATA	Walderalm	4.63	347	⇑iPn	Pn	00 30 55.6	+1.9
WATA				Sn	Sn	00 31 49.6	+2.0
MOTA	Moosalm	4.73	343	iPn	Pn	00 30 57.1	+2.1
	SNR=34						
MOTA				⇑iSn	Sn	00 31 52.2	+2.1
ARSA	Arzberg	4.73	20	⇑iPn	Pn	00 30 54.4	-0.7
	SNR=10						
ARSA				⇓iSn	Sn	00 31 47.3	-2.8
FRF	La Foret Royal	4.79	281	ePn	Pn	00 30 55.6	-0.3
LMR	La Mourre	4.87	278	ePn	Pn	00 30 56.5	-0.5
LMR				eSn	Sn	00 31 51.7	-1.8
	3.6nm,0.3s						
LMR	La Mourre	4.87	278	ePn	Pn	00 30 56.5	-0.5
LMR				eSn	Sn	00 31 51.7	-1.8
	1.8nm,0.3s						
RETA	Reutte	4.94	341	⇑iPn	Pn	00 30 59.7	+1.8
	SNR=23						
RETA				⇓iSn	Sn	00 31 56.7	+1.4
MBDF	Montbardon	4.97	295	ePn	Pn	00 30 59.0	+0.6
	SNR=1.0						
MBDF				eSn	Sn	00 31 50.0	-6.0
	18nm,0.7s,SNR=1.0						
DAVA	Damuels	5.00	334	⇑iPn	Pn	00 31 00.9	+2.0
	SNR=18						
DAVA				⇑iSn	Sn	00 31 59.7	+2.8
MOA	Molln	5.08	9	⇑iPn	Pn	00 30 59.9	+0.1
	SNR=20						
MOA				⇑iSn	Sn	00 31 58.9	+0.2
MOA	Molln	5.08	9	⇑iPn	Pn	00 30 59.9	0.0
MOA				iSn	Sn	00 31 58.8	+0.1
DIVS	Divibare	5.16	74	ePn	Pn	00 31 03.8	+2.8
PKSM	Moragy	5.19	48	⇑iPn	Pn	00 31 00.2	-1.3
LPL	La Plagne	5.32	302	ePn	Pn	00 31 03.5	+0.4
LPL				eP		00 31 08.1	
FGSL	Fruska Gora	5.36	62	ePn	Pn	00 30 58.8	-4.9
CSNA	Conrad Observa	5.44	20	⇓iPn	Pn	00 31 04.3	-0.6
CSNA				⇓iSn	Sn	00 32 07.1	-0.7
CONA	Conrad Observa	5.45	20	iPn	Pn	00 31 04.4	-0.5
	SNR=18						
CONA				⇓iSn	Sn	00 32 06.9	-0.9
SMRF	Simiane la Rot	5.61	284	ePn	Pn	00 31 08.5	+1.3
ORIF	Oris-en-Rattie	5.63	294	ePn	Pn	00 31 09.7	+2.3
GEC2	GERESS Array S	6.02	4	ePn	Pn	00 31 12.0	-0.8
GEC2	GERESS Array S	6.02	4	ePn	Pn	00 31 12.0	-0.8
GEC2				eSn	Sn	00 32 20.2	-1.7
ZST	Bratislava	6.04	26	ePN	Pn	00 31 11.1	-2.0
ZST				eSN	Sn	00 32 20.3	-2.2
KRUS	Krusevo	6.22	101	⇑iPn	Pn	00 31 17.2	+1.5
KRUS				iSn	Sn	00 32 24.5	-2.4
KRUS	Krusevo	6.22	101	⇑iPn	Pn	00 31 17.1	+1.5
KRUS				iSn	Sn	00 32 24.5	-2.5
CABF	La Chapelle	6.27	309	ePn	Pn	00 31 16.8	+0.6
KHC	Kasperske Hory	6.30	3	ePN	Pn	00 31 15.6	-1.1
KHC				ex	x	00 31 20.5	
KHC				ex	x	00 31 25.5	
KHC				ex	x	00 31 32.5	
KHC				ex	x	00 32 13.5	
KHC				eSN	Sn	00 32 25.6	-3.3
BIA	Bitola	6.38	104	iPn	Pn	00 31 19.0	+1.1
BIA				iSn	Sn	00 32 26.8	-4.1
BIA	Bitola	6.38	104	iPn	Pn	00 31 18.9	+1.1
BIA				iSn	Sn	00 32 26.8	-4.1
VIVF	Saint-Julien-l	6.43	291	ePn	Pn	00 31 20.4	+1.9
BOLS	Boljevac	6.52	78	ePn	Pn	00 31 19.1	-0.6
JAN	Janina	6.64	116	ePG	Pn	00 31 22.0	+0.7
HINF	Hinteralfeld	6.65	321	ePn	Pn	00 31 21.9	+0.4
	SNR=1.0						
HINF				eSn	Sn	00 32 36.1	-1.4
	23nm,0.5s,SNR=1.0						
BZS	Buzias	6.71	63	⇓iP	Pn	00 31 22.2	-0.1
STIP	Stip	6.83	97	iPn	Pn	00 31 23.8	-0.1
STIP	Stip	6.83	97	iPn	Pn	00 31 23.7	-0.2
KOLL	Kolacno	6.83	31	ePN	Pn	00 31 28.4	+4.5
KOLL				eSN	Sn	00 32 51.2	+9.4
KOLL	Kolacno	6.83	31	ePn	Pn	00 31 28.5	+4.6
KOLL				eSn	Sn	00 32 51.2	+9.4
LASF	Ste Croix	6.85	284	ePn	Pn	00 31 24.8	+0.6
CDF	Champ du Feu	6.92	326	ePn	Pn	00 31 25.3	+0.2
	SNR=1.0						
CDF				eSn	Sn	00 32 41.0	-2.9
	8.5nm,0.4s						
HAU	Haudompre	7.03	320	ePn	Pn	00 31 25.9	-0.7
	SNR=1.0						
HAU				eSn	Sn	00 32 45.1	-1.6
	32nm,0.5s,SNR=1.0						
PRU	Pruhonice	7.22	7	ePn	Pn	00 31 26.9	-2.4
PRU				eSn	Sn	00 32 46.6	-4.8
VLS	Valsamata	7.35	127	ePB	Pn	00 31 33.0	+1.9
GZR	Gura Zlata	7.41	67	⇓iP	Pn	00 31 32.7	+0.9
NKC	Novy Kostel	7.41	357	ePN	Pn	00 31 31.0	-0.9
NKC				eSN	Sn	00 32 52.7	-3.5
SMF	Signal de Mont	7.62	303	ePn	Pn	00 31 34.7	-0.1
SMF				eSn	Sn	00 32 58.6	-2.7
	7.5nm,0.5s						
EVR	Evrytania	7.66	118	ePB	Pn	00 31 37.5	+2.1
LOR	Lormes	7.91	307	ePn	Pn	00 31 39.5	+0.8
	SNR=1.0						
LOR				eSn	Sn	00 33 03.8	-4.6
	8.9nm,0.6s,SNR=1.0						
LOR	Lormes	7.91	307	ePn	Pn	00 31 39.5	+0.8
	SNR=1.0						
LOR				eSn	Sn	00 33 03.8	-4.6
	4.4nm,0.6s,SNR=1.0						
AVF	Avril sur Loir	7.99	303	ePn	Pn	00 31 39.4	-0.4
AVF				eP		00 31 45.6	
MTLF	Montolieu	8.00	277	ePn	Pn	00 31 40.3	+0.4
MTLF				eP		00 31 45.1	
MEZF	Maizieres J'vi	8.00	318	ePn	Pn	00 31 41.2	+1.3
MEZF				eSn	Sn	00 33 06.9	-3.6
	325nm,2.2s						
SSF	Saint Saulge	8.02	305	ePn	Pn	00 31 39.9	-0.3
SSF				eSn	Sn	00 33 07.4	-3.7
	2.4nm,0.3s						
BRG	Berggiesshubel	8.06	4	SG	Sn	00 33 07.0	-5.0
	5.3nm,0.7s						
BRG	Berggiesshubel	8.06	4	SG	Sg	00 34 08.6	+6.7
	6.5nm,1.0s						
BGF	Bois d'Agland	8.21	300	ePn	Pn	00 31 43.4	+0.6
CAF	Calviac	8.25	288	ePn	Pn	00 31 44.8	+1.3
CLL	Collm	8.47	360	eSg	Sx	00 34 26.0	
RJF	Les Rejaudoux	8.71	290	ePn	Pn	00 31 51.2	+1.5
BAIF	Baives	9.48	323	ePn	Pn	00 32 00.9	+0.6
MLR	Muntele Rosu	9.59	70	⇓iP	Pn	00 32 05.2	+3.4

*ISCJB **

DBIC Dimbokro 74.46 79 *eP* **P 00 43 49.4 -1.3**
comp=Z,9.8nm,0.9s,mb4.7
DBIC pP pP 00 43 59.0 +2.9
YKA Yellowknife Ar 81.21 343 P **P 00 44 26.6 -0.5**
comp=Z,0.7nm,0.7s,mb3.7,baz=134,slow=4.9,SNR=3.9
TOA0 Torodi Ar. Sit 82.43 75 *eP* **P 00 44 34.9 +0.2**
TORD Torodi Ar. Bea 82.43 75 P **P 00 44 34.7 0.0**
comp=Z,9.5nm,0.9s,mb4.7,baz=252,slow=4.5,SNR=10.0
TORD pP pP 00 44 42.6 +2.5
comp=Z,14nm,0.9s,baz=266,slow=0.6,SNR=21
DLBC Dease Lake 83.62 335 P **P 00 44 40.7 +0.9**
baz=61,slow=11
DLBC pP pP 00 44 48.6 +3.3
baz=177,slow=9.0
DLBC Dease Lake 83.62 335 P **P 00 44 40.7 +0.9**
DLBC pP pP 00 44 48.6 +3.3
SUMG Summit 89.56 11 P **P 00 45 09.6 +0.9**
INK Inuvik 90.88 342 *eP* **P 00 45 14.6 -0.3**
comp=Z,134nm,1.0s
WRA Warramunga Ar 134.60 224 PKP PKPdf 00 51 31.1 0.0
comp=Z,0.8nm,0.9s,baz=135,slow=1.8,SNR=2.9
ZALV Zalesovo Beam 137.20 16 PKP PKPdf 00 51 34.4 -0.5
comp=Z,0.8nm,0.6s,baz=270,slow=0.7,SNR=3.5
ZALV Zalesovo Beam 137.20 16 PKP PKPdf 00 51 34.4 -0.5
ZAL Zalesovo 137.20 16 PKIKP PKPdf 00 51 34.4 -0.5
SONM Songino Array 145.65 356 PKPbc PKPbc 00 51 50.7 +0.3
comp=Z,4.6nm,0.9s,baz=340,slow=2.2,SNR=16
SONM pPKPbc pPKPbc 00 51 58.6 +2.5

ISCJB ***16*** *00:40:09.4±0.3, 14.12S×006×7670W±0.10, h23km, mb4.3/23, Error ellipse: s-maj=14.6km s-min=5.9km az=154.2*
IDC ***16*** *00:40:11.3±0.6, 14.18S×7671W, h22km±3km, mb3.9/9, mb1 4.1/11, mb1mx3.9/20, mbtmp3.9/11, ML3.7/2, MS5.2/2, Ms1 5.2/2, ms1mx5.2/39, Error ellipse: s-maj=29.9km s-min=15.7km az=69.0*
MOS ***16*** *00:40:11.0±1.4, 14.18S×7669W, h33km, mb4.7/9, Error ellipse: s-maj=22.0km s-min=11.2km az=120.1*
NEIC ***16*** *00:40:13.0±1.4, 1421S×7670W, h37km±14km, mb4.6/17, Error ellipse: s-maj=14.5km s-min=6.8km az=72.0*
ISC 16 00:40:11.7±0.4,**1415S**±006×**7670W**±010,**h24**km,
h24km±.4km:**pP-P,n68,**σ0**95**/60,**mb4.3**/23,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.15**	**356**	Sn	**Sn**	**00 41 17.3**	**+5.4**
	287nm,0.3s,baz=194,slow=18,SNR=11						
NNA				LR	LR	00 41 51.5	
	comp=Z,100μm,19.9s,baz=270,slow=46						
ATAH	**Atahualpa**	**7.29**	**347**	Pn	**Pn**	**00 41 55.4**	**-1.3**
	3.1nm,0.3s,baz=166,slow=17,SNR=4.3						
ATAH				Sn	**Sn**	**00 43 18.2**	**-0.6**
	3.3nm,0.3s,baz=10.0,slow=20,SNR=2.3						
ATAH				LR	LR	00 43 58.2	
	comp=Z,10μm,22.0s,baz=3.2,slow=32						
LPAZ	**La Paz**	**8.54**	**106**	Pn	**Pn**	**00 42 15.6**	**+1.7**
	0.2nm,0.3s,baz=307,slow=11,SNR=3.1						
LVC	**Limon Verde**	**11.20**	**140**	Pn	**Pn**	**00 42 49.7**	**-0.6**
LCO	**Las Campanas**	**15.80**	**160**	*e*Pn	**Pn**	**00 43 52.8**	**+0.1**
CPUP	**Villa Florida**	**21.81**	**127**	*eP*	**P**	**00 45 00.9**	**-1.3**
CPUP				pmax	pmax		
	comp=Z,20nm,1.1s						
CPUP	**Villa Florida**	**21.81**	**127**	*eP*	**P**	**00 45 00.9**	**-1.3**
	comp=Z,20nm,1.1s,mb4.5						
SDV	**Santo Domingo**	**23.66**	**15**	P	**P**	**00 45 22.4**	**+0.9**
	comp=Z,4.1nm,0.6s,mb4.0,baz=270,slow=12,SNR=4.0						
PLCA	**Paso Flores**	**27.03**	**170**	P	**P**	**00 45 52.5**	**+0.6**
	comp=Z,0.9nm,0.7s,mb3.4,baz=317,slow=5.6,SNR=2.9						
PLCA	**Paso Flores**	**27.03**	**170**	*eP*	**P**	**00 45 51.6**	**-0.3**
PLCA				pmax	pmax		
	comp=Z,148nm,2.9s						
PLCA	**Paso Flores**	**27.03**	**170**	*eP*	**P**	**00 45 51.6**	**-0.3**
	comp=Z,148nm,2.9s,mb5.0						
SJG	**San Juan**	**33.70**	**18**	*eP*	**P**	**00 46 50.9**	**-0.2**
SJG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SJG	**San Juan**	**33.70**	**18**	*eP*	**P**	**00 46 50.9**	**-0.2**
	comp=Z,5.8nm,0.6s,mb4.7						
TEIG	**Tepich**	**36.00**	**341**	P	**P**	**00 47 11.9**	**+0.9**
	comp=Z,7.5nm,0.7s,mb4.8,baz=143,slow=9.1,SNR=3.5						
TEIG	**Tepich**	**36.00**	**341**	*eP*	**P**	**00 47 11.1**	**+0.1**
	comp=Z,37nm,1.2s,mb5.2						
EFI	**East Falkland**	**40.33**	**162**	P	**P**	**00 47 43.6**	**-3.4**
BBSR	**BB Station**	**47.66**	**14**	P	**P**	**00 48 46.5**	**+0.5**
SWET	**Sewanee**	**49.86**	**350**	*eP*	**P**	**00 49 01.8**	**-1.1**
MIAR	**Mount Ida**	**51.01**	**342**	*eP*	**P**	**00 49 12.1**	**+0.4**
MIAR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MIAR	**Mount Ida**	**51.01**	**342**	*eP*	**P**	**00 49 12.1**	**+0.4**
	comp=Z,4.8nm,0.7s,mb4.5						
SIUC	**Southern Illin**	**52.91**	**348**	*eP*	**P**	**00 49 25.1**	**-0.7**
	comp=Z,8.9nm,0.4s,mb5.0						
WMOK	**Wichita Mounta**	**52.95**	**337**	*eP*	**P**	**00 49 26.5**	**+0.4**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
WMOK	**Wichita Mounta**	**52.95**	**337**	*eP*	**P**	**00 49 26.5**	**+0.4**
	comp=Z,2.1nm,0.7s,mb4.2						
ANMO	**Albuquerque**	**56.41**	**331**	P	**P**	**00 49 51.3**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ANMO	**Albuquerque**	**56.41**	**331**	P	**P**	**00 49 51.3**	**+0.1**
	comp=Z,3.2nm,0.9s,mb4.3						
SDCO	**Great Sand Dun**	**58.27**	**333**	*eP*	**P**	**00 50 05.4**	**+1.1**
	comp=Z,6.1nm,1.0s,mb4.6						
PV01	**Paradox Valley**	**59.98**	**331**	*eP*	**P**	**00 50 14.7**	**-1.4**
ECSD	**EROS,Sioux Fal**	**60.41**	**344**	*eP*	**P**	**00 50 18.2**	**-0.7**
	comp=Z,6.2nm,0.8s,mb4.7						
SRU	**San Rafael**	**61.68**	**331**	*eP*	**P**	**00 50 26.1**	**-1.6**
SRU				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.6						
SRU	**San Rafael**	**61.68**	**331**	*eP*	**P**	**00 50 26.1**	**-1.6**
	comp=Z,6.8nm,1.3s,mb4.6						
CCUT	**Cedar City**	**61.89**	**327**	*eP*	**P**	**00 50 29.8**	**+0.7**
RSSD	**Black Hills**	**63.12**	**338**	P	**P**	**00 50 38.3**	**+1.1**
ISA	**Isabella**	**63.37**	**323**	P	**P**	**00 50 38.6**	**-0.5**
DUG	**Dugway**	**63.63**	**330**	*eP*	**P**	**00 50 42.2**	**+1.5**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
DUG	**Dugway**	**63.63**	**330**	*eP*	**P**	**00 50 42.2**	**+1.5**
	comp=Z,8.2nm,1.3s,mb4.6						
HWUT	**Hardware Ranch**	**64.13**	**332**	*eP*	**P**	**00 50 44.8**	**+0.8**
	comp=Z,5.4nm,0.9s,mb4.6						
PDAR	**Pinedale Array**	**64.17**	**334**	P	**P**	**00 50 44.6**	**+0.5**
	comp=Z,0.2nm,0.5s,mb3.4,baz=128,slow=9.6,SNR=3.9						
PDAR				pP	pP	00 50 51.6	-0.2
	comp=Z,1.7nm,1.0s,baz=142,slow=7.5,SNR=4.8						
NVAR	**Mina Array Bea**	**65.20**	**325**	P	**P**	**00 50 52.2**	**+1.1**
	comp=Z,0.3nm,0.6s,mb3.5,baz=133,slow=6.3,SNR=3.2						
NVAR				pP	pP	00 50 59.5	+0.7
	comp=Z,1.1nm,0.7s,baz=150,slow=5.1,SNR=6.5						
NVAR	**Mina Array Bea**	**65.20**	**325**	P	**P**	**00 50 52.2**	**+1.1**
NVAR				pP	pP	00 50 59.5	+0.7
RRI2	**Red Ridge**	**65.40**	**333**	*eP*	**P**	**00 50 53.3**	**+1.1**
	comp=Z,234nm,2.8s						
RLMT	**Red Lodge**	**65.96**	**335**	P	**P**	**00 50 53.6**	**-2.2**
	comp=Z,3.5nm,1.0s,mb4.3						
BOZ	**Bozeman (W)**	**67.37**	**334**	*eP*	**P**	**00 51 05.6**	**+0.8**
	comp=Z,377nm,3.5s						
NEW	**Newport**	**71.77**	**333**	P	**P**	**00 51 32.5**	**+0.6**
NEW				pmax	pmax		
	comp=Z,5.0nm,1.3s						
NEW	**Newport**	**71.77**	**333**	P	**P**	**00 51 32.5**	**+0.6**
	comp=Z,4.9nm,1.3s,mb4.3						
OD2	**Odessa Site #2**	**71.85**	**331**	*eP*	**P**	**00 51 31.9**	**-0.5**
DBIC	**Dimbokro**	**74.20**	**79**	P	**P**	**00 51 46.4**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.2,baz=273,slow=19,SNR=5.5						
DBIC	**Dimbokro**	**74.20**	**79**	*eP*	**P**	**00 51 46.7**	**-0.4**
DBIC				pmax	pmax		
	comp=Z,11nm,1.3s						
DBIC	**Dimbokro**	**74.20**	**79**	*eP*	**P**	**00 51 46.7**	**-0.4**
	comp=Z,11nm,1.3s,mb4.6						
NLWA	**Neilton Lookou**	**74.34**	**329**	*eP*	**P**	**00 51 48.8**	**+1.7**
	comp=Z,4.1nm,0.9s,mb4.4						
QSPA	**South Pole Qui**	**76.00**	**180**	P	**P**	**00 51 56.5**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.7,baz=227,slow=15,SNR=4.5						
QSPA				pP	pP	00 52 04.0	-0.1
	comp=Z,2.2nm,0.8s,baz=211,slow=19,SNR=4.6						
QSPA	**South Pole Qui**	**76.00**	**180**	P	**P**	**00 51 56.5**	**+0.3**
QSPA				pP	pP	00 52 04.0	-0.1
SBA	**Scott Base**	**81.63**	**191**	P	**P**	**00 52 27.3**	**0.0**
YKA	**Yellowknife Ar**	**81.93**	**343**	P	**P**	**00 52 28.4**	**-0.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=137,slow=5.6,SNR=6.8						
YKA				pP	pP	00 52 35.6	-1.2
	comp=Z,2.5nm,0.9s,baz=136,slow=5.4,SNR=8.5						
YKA	**Yellowknife Ar**	**81.93**	**343**	P	**P**	**00 52 28.4**	**-0.4**
YKA				pP	pP	00 52 35.6	-1.2
TOA0	**Torodi Ar. Sit**	**82.23**	**74**	*eP*	**P**	**00 52 31.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**82.23**	**74**	P	**P**	**00 52 31.7**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.3,baz=263,slow=2.7,SNR=11						
TORD	**Torodi Ar. Bea**	**82.23**	**74**	P	**P**	**00 52 31.7**	**+0.2**
MCK	**McKinley**	**94.92**	**335**	P	**P**	**00 53 30.5**	**-1.0**
COLD	**Coldfoot**	**96.69**	**338**	*eP*	**P**	**00 53 38.3**	**-1.1**
CASY	**Casey**	**99.63**	**183**	*e*Pdif	Pdif	00 53 52.3	-0.8
CTAO	**Charters Tower**	**125.76**	**232**	*e*PKIKP	PKPdf	00 59 11.6	-0.6
WRA	**Warramunga Arr**	**134.40**	**223**	PKP	PKPdf	00 59 28.3	-0.2
	comp=Z,0.4nm,0.7s,baz=139,slow=1.6,SNR=2.5						
BOD	**Bodaibo**	**135.66**	**352**	*e*PKIKP	PKPdf	00 59 39.4	+10
ZALV	**Zalesovo Beam**	**137.71**	**16**	PKP	PKPdf	00 59 34.3	+0.7
	comp=Z,0.7nm,0.2s,baz=177,slow=10,SNR=3.5						
ZAL	**Zalesovo**	**137.71**	**16**	PKIKP	PKPdf	00 59 34.3	+0.7
FITZ	**Fitzroy Crossi**	**141.12**	**215**	*e*PKPdf	PKPdf	00 59 40.4	-0.6
SONM	**Songino Array**	**146.31**	**356**	PKPbc	PKPbc	00 59 50.4	+0.1
	comp=Z,2.5nm,0.9s,baz=349,slow=2.1,SNR=9.6						
SONM				pPKPbc	pPKPbc	00 59 57.6	-0.9
	comp=Z,3.1nm,0.8s,baz=337,slow=2.2,SNR=8.6						
KSRS	**Korea Array**	**148.09**	**321**	PKPbc	PKPbc	00 59 53.3	-2.3
	comp=Z,0.4nm,0.3s,baz=48,slow=1.9,SNR=4.3						
KSRS				pPKPbc	pPKPbc	01 00 01.2	-2.6
	comp=Z,4.7nm,1.0s,baz=41,slow=1.7,SNR=5.8						

IDC ***16*** *00:48:37.9±2.3, 13.11S×7620W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.8/18, mbtmp3.9/5, ML4.1/2, Error ellipse: s-maj=106.9km s-min=17.9km az=53.0*
ISCJB ***16*** *00:48:40.8±0.5, 1326S±007×7631W±009, h33km, mb4.1/7, Error ellipse: s-maj=15.0km s-min=6.0km az=146.1*
NEIC ***16*** *00:48:41.9±0.6, 1324S×7647W, h35km, mb4.3/5, Error ellipse: s-maj=23.8km s-min=8.5km az=64.0*
ISC 16 00:48:42.6±0.5,**1323S**±007×**7639W**±009,**h35**km,**n24,**
σ1**37**/25,**mb4.1/7,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.31**	**340**	Pn	**Pn**	**00 49 02.7**	**-1.6**
	200nm,0.3s,baz=187,slow=13,SNR=7.0						
NNA				Sn	**Sn**	**00 49 21.8**	**+1.2**
	765nm,0.3s,baz=181,slow=7.1,SNR=27						
ATAH	**Atahualpa**	**6.49**	**342**	Pn	**Pn**	**00 50 12.1**	**-3.6**
	1.8nm,0.3s,baz=61,slow=18,SNR=3.6						
LPAZ	**La Paz**	**8.55**	**112**	Pn	**Pn**	**00 50 46.1**	**+2.2**
	0.1nm,0.3s,baz=26,slow=25,SNR=2.0						
LPAZ				Sn	**Sn**	**00 52 18.8**	**-0.4**
	0.2nm,0.3s,baz=335,slow=19,SNR=3.3						
LPAZ	**La Paz**	**8.55**	**112**	Pn	**Pn**	**00 50 46.1**	**+2.2**
LPAZ				Sn	**Sn**	**00 52 18.8**	**-0.4**
LVC	**Limon Verde**	**11.73**	**144**	Pn	**Pn**	**00 51 27.5**	**0.0**
	0.3nm,0.3s,baz=267,slow=0.0,SNR=2.2						
LVC	**Limon Verde**	**11.73**	**144**	*e*Pn	**Pn**	**00 51 27.6**	**+0.1**
LCO	**Las Campanas**	**16.57**	**162**	*e*P	**Pn**	**00 52 30.7**	**-1.6**
CPUP	**Villa Florida**	**22.13**	**129**	P	**P**	**00 53 33.7**	**-1.5**
	2.0nm,0.9s,mb3.5,baz=287,slow=11,SNR=3.0						
CPUP	**Villa Florida**	**22.13**	**129**	*eP*	**P**	**00 53 33.3**	**-1.9**
	6.5nm,0.8s,mb4.1						
SDV	**Santo Domingo**	**22.70**	**15**	*eP*	**P**	**00 53 41.6**	**+0.3**
	3.8nm,0.8s,mb3.9						
TRQA	**Tornquist**	**27.86**	**155**	*eP*	**P**	**00 54 29.4**	**+0.5**
TGUH	**Tegucigalpa,Un**	**29.17**	**338**	*eP*	**P**	**00 54 38.6**	**-2.2**
	9.8nm,0.4s,mb4.9						
TEIG	**Tepich**	**35.24**	**340**	P	**P**	**00 55 34.1**	**+0.2**
EFI	**East Falkland**	**41.10**	**163**	*eP*	**P**	**00 56 22.5**	**-0.4**
PMSA	**Palmer Station**	**52.19**	**173**	*eP*	**P**	**00 57 50.5**	**+1.0**
	3.7nm,0.7s,mb4.4						
ANMO	**Albuquerque**	**55.76**	**330**	P	**P**	**00 58 17.3**	**+1.3**
	5.1nm,1.3s,mb4.4						
SDCO	**Great Sand Dun**	**57.60**	**333**	*eP*	**P**	**00 58 28.3**	**-0.7**
ECSD	**EROS,Sioux Fal**	**59.62**	**343**	P	**P**	**00 58 39.9**	**-3.0**
YKA	**Yellowknife Ar**	**81.15**	**343**	P	**P**	**01 00 56.4**	**+2.4**
	0.3nm,0.5s,mb3.5,baz=134,slow=5.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**81.69**	**74**	P	**P**	**01 00 58.1**	**+0.1**
	2.2nm,0.8s,mb4.1,baz=273,slow=5.5,SNR=6.7						
TORD	**Torodi Ar. Bea**	**81.69**	**74**	P	**P**	**01 00 58.1**	**+0.1**
SBA	**Scott Base**	**82.59**	**191**	P	**P**	**01 01 03.3**	**+1.7**
SONM	**Songino Array**	**145.42**	**357**	PKPbc	PKPbc	01 08 15.2	-1.7
	0.6nm,0.6s,baz=4.8,slow=1.8,SNR=4.4						
SONM	**Songino Array**	**145.42**	**357**	PKPbc	PKPbc	01 08 15.2	-1.7

ISCJB ***16*** *00:48:50.3±5.2, 1354S±007×772W±0.1, h5km±34km, mb4.0/10, Error ellipse: s-maj=21.3km s-min=11.3km az=167.6*
IDC ***16*** *00:48:55.8±0.9, 1354S×77.12W, h29km±5km, mb3.8/7, mb1 4.1/8, mb1mx3.9/17, mbtmp3.9/8, ML5.1/1, Error ellipse: s-maj=37.0km s-min=17.2km az=53.0*
NEIC ***16*** *00:48:57.1±1.6, 1347S×7708W, h38km±14km, mb4.2/5, Error ellipse: s-maj=27.2km s-min=8.5km az=70.0*
ISC 16 00:48:57.7±1.6,**1349S**±007×**770W**±02,**h43**km±15km,**n24,**
σ0**72**/21,**mb4.0**/10,**Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.50**	**6**	Sn	**Sn**	**00 49 40.5**	**-0.1**
	1μm,0.3s,baz=110,slow=24,SNR=14						
NNA	**Nana**	**1.50**	**6**	*e*Sn	**Sn**	**00 49 40.3**	**-0.3**
ATAH	**Atahualpa**	**6.59**	**348**	Sn	**Sn**	**00 51 47.2**	**+1.1**
	4.0nm,0.3s,baz=78,slow=20,SNR=2.8						
LVC	**Limon Verde**	**11.89**	**141**	Pn	**Pn**	**00 51 44.3**	**-0.5**
	1.3nm,0.3s,baz=136,slow=0.0,SNR=6.3						
OTAV	**Otavalo**	**13.71**	**354**	Pn	**Pn**	**00 52 08.8**	**-0.8**
CFAA	**Coronel Fontan**	**19.75**	**157**	P	**Pn**	**00 53 27.1**	**+1.4**
	baz=339,slow=13,SNR=2.1						
CPUP	**Villa Florida**	**22.44**	**128**	P	**P**	**00 53 52.6**	**-0.5**
	4.9nm,0.9s,mb3.9,baz=303,slow=9.9,SNR=6.4						
SDV	**Santo Domingo**	**23.11**	**16**	P	**P**	**00 53 59.8**	**-0.4**
	3.1nm,0.5s,mb4.0,baz=272,slow=9.7,SNR=3.8						
SDV	**Santo Domingo**	**23.11**	**16**	*eP*	**P**	**00 54 00.0**	**-0.2**
	8.4nm,0.9s,mb4.2						
PLCA	**Paso Flores**	**27.72**	**169**	P	**P**	**00 54 41.6**	**-0.4**
	1.2nm,0.7s,mb3.6,baz=349,slow=7.8,SNR=3.4						
PLCA	**Paso Flores**	**27.72**	**169**	*eP*	**P**	**00 54 42.0**	**0.0**
	7.1nm,1.3s,mb4.1						
SJG	**San Juan**	**33.18**	**19**	P	**P**	**00 55 30.8**	**+0.4**
WMOK	**Wichita Mounta**	**52.23**	**337**	*eP*	**P**	**00 58 04.6**	**0.0**
	1.4nm,0.9s,mb3.9						
ANMO	**Albuquerque**	**55.69**	**331**	P	**P**	**00 58 30.6**	**+0.7**
	1.1nm,0.9s,mb3.9,baz=180,slow=3.0,SNR=3.2						
SDCO	**Great Sand Dun**	**57.56**	**333**	*eP*	**P**	**00 58 42.8**	**-0.3**
	3.1nm,1.1s,mb4.2						
ECSD	**EROS,Sioux Fal**	**59.70**	**344**	*eP*	**P**	**00 58 57.7**	**-0.1**
	4.0nm,1.1s,mb4.4						
PDAR	**Pinedale Array**	**63.45**	**334**	P	**P**	**00 59 21.7**	**-1.4**
	0.3nm,0.4s,mb3.8,baz=163,slow=9.4,SNR=2.6						
NVAR	**Mina Array Bea**	**64.50**	**325**	P	**P**	**00 59 30.6**	**+0.4**
	0.4nm,0.7s,mb3.6,baz=147,slow=7.2,SNR=3.0						
NVAR				pP	pP	00 59 38.9	-3.7
	0.6nm,0.7s,baz=137,slow=7.3,SNR=3.4						
YMR	**Madison River**	**65.59**	**334**	*eP*	**P**	**00 59 37.1**	**0.0**
	22nm,0.4s						
YKA	**Yellowknife Ar**	**81.22**	**343**	pP	pP	01 01 16.0	-5.5
	2.2nm,1.0s,baz=139,slow=5.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**82.34**	**75**	P	**P**	**01 01 16.7**	**+1.1**
	5.8nm,0.9s,mb4.5,baz=265,slow=5.0,SNR=6.9						
TORD				pP	pP	01 01 25.4	-3.1
	9.4nm,0.8s,baz=264,slow=4.9,SNR=13						
INK	**Inuvik**	**90.90**	**342**	*eP*	**P**	**01 01 55.5**	**-0.9**
	199nm,1.1s						
WRA	**Warramunga Arr**	**134.67**	**223**	PKP	PKPdf	01 08 10.2	-2.3
	0.4nm,0.7s,baz=142,slow=1.6,SNR=3.1						
SONM	**Songino Array**	**145.64**	**356**	PKPbc	PKPbc	01 08 32.8	+1.1
	2.3nm,0.9s,baz=355,slow=4.3,SNR=6.5						
SONM				pPKPbc	pPKPbc	01 08 41.0	-4.0
	5.5nm,0.9s,baz=1.4,slow=5.8,SNR=11						

IDC ***16*** *00:52:10.9±0.6, 1421S×7625W, h19km±3km, mb4.2/15, mb1 4.2/20, mb1mx4.1/26, mbtmp4.2/20, ML4.1/2, Error ellipse: s-maj=24.4km s-min=11.9km az=63.0*
MOS ***16*** *00:52:13.4±0.8, 1445S×7594W, h33km, mb4.7/14, Error ellipse: s-maj=20.7km s-min=10.5km az=117.8*
ISCJB ***16*** *00:52:15.2±1.3, 1442S±005×7584W±009, h44km±11km, mb4.6/50, Error ellipse: s-maj=15.1km s-min=6.3km az=153.8*
NEIC ***16*** *00:52:16.4±0.7, 1442S×7585W, h37km±7km, mb4.7/41, Error ellipse: s-maj=9.3km s-min=4.3km az=64.0*
ISC 16 00:52:17.2±1.0,**1443S**±005×**7583W**±009,**h43**km±9km,
h26km±5.1km:**pP-P,n120,**σ0**83**/117,**mb4.6**/50,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.62**	**338**	Pn	**Pn**	**00 52 49.8**	**-7.3**
	183nm,0.3s,baz=204,slow=12,SNR=4.1						
NNA				Sn	**Sn**	**00 53 13.5**	**-14**
	196nm,0.3s,baz=188,slow=14,SNR=3.9						
NNA	**Nana**	**2.62**	**338**	Pn	**Pn**	**00 52 55.9**	**-1.2**
NNA				*e*Sn	**Sn**	**00 53 28.2**	**+0.6**
LPAZ	**La Paz**	**7.66**	**105**	Pn	**Pn**	**00 54 08.8**	**+2.5**
	0.5nm,0.3s,baz=311,slow=11,SNR=3.2						
LPAZ	**La Paz**	**7.66**	**105**	Pn	**Pn**	**00 54 06.7**	**+0.5**
LVC	**Limon Verde**	**10.46**	**142**	Pn	**Pn**	**00 54 45.5**	**+0.9**
	1.0nm,0.3s,baz=106,slow=-0.0,SNR=3.5						
LVC	**Limon Verde**	**10.46**	**142**	Pn	**Pn**	**00 54 43.6**	**-1.0**
SIV	**San Ignacio**	**14.33**	**98**	Pn	**Pn**	**00 55 37.7**	**+0.1**
	0.2nm,0.3s,baz=270,slow=19,SNR=3.2						
OTAV	**Otavalo**	**14.80**	**350**	Pn	**Pn**	**00 55 44.7**	**+0.9**
LCO	**Las Campanas**	**15.27**	**163**	*e*Pn	**Pn**	**00 55 48.4**	**-1.5**
	10nm,0.8s						
CFAA	**Coronel Fontan**	**18.46**	**159**	P	**Pn**	**00 56 30.2**	**+0.5**
	0.0nm,0.3s,baz=339,slow=9.7,SNR=5.0						
ROSC	**El Rosal**	**19.22**	**5**	P	**Pn**	**00 56 32.1**	**-6.9**
	0.5nm,0.3s,baz=270,slow=20,SNR=2.2						
ROSC	**El Rosal**	**19.22**	**5**	*eP*	**Pn**	**00 56 36.9**	**-2.2**
CPUP	**Villa Florida**	**20.97**	**127**	P	**P**	**00 56 56.7**	**-0.1**
	5.8nm,1.1s,baz=278,slow=7.1,SNR=3.4						
CPUP	**Villa Florida**	**20.97**	**127**	*eP*	**P**	**00 56 57.2**	**+0.4**
CPUP				pmax	pmax		
	comp=Z,11nm,0.7s						
CPUP	**Villa Florida**	**20.97**	**127**	*eP*	**P**	**00 56 57.2**	**+0.4**
	comp=Z,11nm,0.7s						
SDV	**Santo Domingo**	**23.73**	**13**	P	**P**	**00 57 21.5**	**-4.1**
	comp=Z,2.7nm,0.4s,mb4.0,baz=270,slow=16,SNR=3.7						
SDV	**Santo Domingo**	**23.73**	**13**	*eP*	**P**	**00 57 26.5**	**+0.9**
	comp=Z,5.4nm,0.5s,mb4.2						
TRQA	**Tornquist**	**26.55**	**155**	*eP*	**P**	**00 57 53.2**	**+2.2**
PLCA	**Paso Flores**	**26.61**	**171**	P	**P**	**00 57 50.7**	**-0.8**
	comp=Z,5.2nm,0.9s,mb4.1,baz=331,slow=12,SNR=7.8						
PLCA	**Paso Flores**	**26.61**	**171**	*eP*	**P**	**00 57 50.5**	**-1.0**
PLCA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PLCA	**Paso Flores**	**26.61**	**171**	*eP*	**P**	**00 57 50.5**	**-1.1**
	comp=Z,7.5nm,1.1s,mb4.1						
SJG	**San Juan**	**33.71**	**17**	P	**P**	**00 58 54.1**	**-0.4**
TEIG	**Tepich**	**36.55**	**340**	P	**P**	**00 59 12.5**	**-6.4**
	comp=Z,8.3nm,0.9s,mb4.6,baz=196,slow=15,SNR=2.7						
BBSR	**BB Station**	**47.74**	**13**	P	**P**	**01 00 50.1**	**+0.1**
	comp=Z,16nm,1.0s,mb5.0						
GOGA	**Godfrey**	**48.12**	**351**	*eP*	**P**	**01 00 51.9**	**-1.0**
GOGA				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.8						
GOGA	**Godfrey**	**48.12**	**351**	*eP*	**P**	**01 00 51.9**	**-1.0**
	comp=Z,14nm,1.4s,mb4.8						
CPCT	**Cooper Cave**	**50.28**	**351**	*eP*	**P**	**01 01 08.9**	**-0.5**
SWET	**Sewanee**	**50.29**	**349**	*eP*	**P**	**01 01 07.8**	**-1.6**
TKL	**Tuckaleechee C**	**50.38**	**352**	P	**P**	**01 01 04.8**	**-5.3**
	comp=Z,8.2nm,1.1s,mb4.7,baz=111,slow=8.6,SNR=2.6						
PMSA	**Palmer Station**	**50.94**	**174**	P	**P**	**01 01 13.2**	**-0.8**
	comp=Z,5.8nm,1.0s,mb4.5,baz=16,slow=7.4,SNR=3.9						
PMSA	**Palmer Station**	**50.94**	**174**	*eP**	**P**	**01 01 13.6**	**

HLID Hailey 67.63 331 *eP* **P 01 03 10.8 +1.2**
comp=Z,3.0nm,0.8s,mb4.4
BOZ Bozeman (W) 67.99 334 *eP* **P 01 03 11.8 0.0**
BOZ pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BOZ Bozeman (W) 67.99 334 *eP* **P 01 03 11.8 0.0**
comp=Z,3.6nm,1.0s,mb4.4
DLMT Dillon 68.19 333 *eP* **P 01 03 13.2 +0.2**
comp=Z,5.5nm,0.9s,mb4.6
VNA1 Neumayer--Stat 69.11 161 *e* **P 01 03 18.5 +0.1**
VNA1 *e* 01 03 25.1
VNA1 *e* pP 01 03 28.7 -2.5
SCHQ Schefferville 69.41 6 *eP* **P 01 03 20.8 +0.4**
MSO Missoula 69.91 333 *eP* **P 01 03 24.9 +1.2**
comp=Z,6.3nm,1.3s,mb4.4
YBH Yreka Blue Hor 70.64 325 *eP* **P 01 03 27.3 -1.0**
YBH pmax pmax
comp=Z,9.0nm,1.4s
YBH Yreka Blue Hor 70.64 325 *eP* **P 01 03 27.3 -1.0**
comp=Z,9.2nm,1.4s,mb4.5
SNAA Sanae 71.06 161 *e* **P 01 03 30.0 -0.4**
SNAA *e* 01 03 36.3
SNAA *e* pP 01 03 41.1 -2.1
KRMB Red Mountain 71.18 324 *eP* **P 01 03 32.4 +0.9**
WALA Waterton Lakes 71.63 335 *eP* **P 01 03 34.6 +0.5**
HAWA Hanford 72.17 330 *eP* **P 01 03 37.1 -0.3**
comp=Z,5.1nm,1.0s,mb4.4
NEW Newport 72.41 332 *eP* **P 01 03 39.0 +0.2**
NEW pmax pmax
comp=Z,3.0nm,1.0s
NEW Newport 72.41 332 *eP* **P 01 03 39.0 +0.2**
comp=Z,2.9nm,1.0s,mb4.2
OD2 Odessa Site #2 72.50 331 *eP* **P 01 03 39.7 +0.4**
DBIC Dimbokro 73.44 78 P **P 01 03 45.0 -0.7**
comp=Z,4.7nm,0.9s,mb4.4,baz=232,slow=8.0,SNR=5.7
FCC Fort Churchill 74.44 350 P **P 01 03 48.9 -1.6**
RPW Rockport 74.58 330 *eP* **P 01 03 50.1 -1.4**
EDM Edmonton 74.68 338 *eP* **P 01 03 51.9 -0.1**
NLWA Neilton Lookou 75.02 328 *eP* **P 01 03 55.3 +1.2**
comp=Z,11nm,1.0s,mb4.8
TOA0 Torodi Ar. Sit 81.50 74 *eP* **P 01 04 30.4 -0.3**
TORD Torodi Ar. Bea 81.50 74 P **P 01 04 30.2 -0.5**
comp=Z,8.1nm,1.1s,mb4.6,baz=257,slow=4.5,SNR=6.9
YKA Yellowknife Ar 82.45 343 P **P 01 04 28.9 -5.7**
comp=Z,0.3nm,0.4s,mb3.6,baz=142,slow=6.2,SNR=4.5
YKA pP pP 01 04 35.1 -12
comp=Z,1.4nm,0.8s,baz=137,slow=5.3,SNR=6.1
VNDA Vanda 82.59 191 P **P 01 04 33.4 -1.9**
comp=Z,0.7nm,0.8s,mb3.7,baz=101,slow=1.9,SNR=3.8
VNDA Vanda 82.59 191 P **P 01 04 34.0 -1.2**
DLBC Dease Lake 84.98 335 *eP* **P 01 04 48.5 +0.9**
SUR Sutherland 87.88 123 P **P 01 05 04.1 +1.6**
comp=Z,1μm,1.1s
SUMG Summit 90.24 11 P **P 01 05 13.2 +0.5**
INK Inuvik 92.14 342 P **P 01 05 16.1 -5.5**
comp=Z,1.1nm,1.0s,mb4.2,baz=42,slow=12,SNR=2.9
INK Inuvik 92.14 342 *eP* **P 01 05 21.6 +0.1**
comp=Z,180nm,1.4s
AQU L'Aquila 99.01 49 P **P 01 05 54.4 +0.9**
AQU pmax pmax
comp=Z,3.0nm,0.4s,mb5.2
AQU L'Aquila 99.01 49 P **P 01 05 54.4 +0.9**
comp=Z,3.4nm,0.4s,mb5.2
WRA Warramunga Arr 134.75 222 PKP PKPdf 01 11 28.2 -3.9
comp=Z,0.6nm,0.7s,baz=133,slow=2.2,SNR=5.0
WRA pPKP pPKPdf 01 11 36.0 -10
comp=Z,0.7nm,0.7s,baz=167,slow=1.0,SNR=3.5
ZALV Zalesovo Beam 137.74 17 PKP PKPdf 01 11 31.4 -5.2
comp=Z,1.7nm,0.8s,baz=264,slow=2.8,SNR=4.4
ZAL Zalesovo 137.74 17 PKIKP PKPdf 01 11 31.4 -5.2
SONM Songino Array 146.64 357 PKPbc PKPbc 01 11 49.9 -4.3
comp=Z,1.2nm,0.8s,baz=329,slow=1.8,SNR=4.6
SONM pPKPbc pPKPbc 01 11 56.9 -11
comp=Z,3.1nm,0.7s,baz=319,slow=2.0,SNR=9.2
KSRS Korea Array 148.83 322 PKPbc PKPbc 01 11 55.8 -4.6
comp=Z,0.5nm,0.3s,baz=54,slow=1.8,SNR=3.4

IDC 16 00:52:47.3±1.4,1356S×7547W,h0km,mb4.4/4, mb1 4.3/5,mb1mx4.1/17,mbtmp4.2/5,ML2.9/1,MS5.6/1, Ms1 5.7/1,ms1mx5.2/34,Error ellipse: s-maj=52.3km s-min=30.8km az=85.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.59**	**112**	LR	LR	00 57 39.1	
	comp=Z,42μm,19.9s,baz=2.4,slow=38						
CFAA	**Coronel Fontan**	**19.15**	**161**	P	Pn	00 57 13.0	-0.1
	0.0nm,0.3s,baz=326,slow=11,SNR=3.0						
PLCA	**Paso Flores**	**27.41**	**172**	P	P	00 58 34.2	-0.4
	3.8nm,0.9s,baz=12,slow=13,SNR=3.2						
DBIC	**Dimbokro**	**72.92**	**79**	P	P	01 04 19.2	+0.2
	6.5nm,1.0s,baz=242,slow=5.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**80.92**	**74**	P	P	01 05 04.1	-0.1
	5.0nm,0.8s,baz=258,slow=5.4,SNR=3.9						
YKA	**Yellowknife Ar**	**81.73**	**343**	P	P	01 05 07.3	0.0
	1.0nm,0.8s,baz=145,slow=5.5,SNR=4.6						
WRA	**Warramunga Arr**	**135.63**	**222**	PKP	PKPdf	01 12 10.8	+0.2
	0.7nm,0.7s,baz=154,slow=1.6,SNR=3.3						
SONM	**Songino Array**	**145.79**	**358**	PKPbc	PKPbc	01 12 32.5	+4.1
	1.8nm,0.7s,baz=341,slow=2.4,SNR=3.8						

*ISCJB **16** 00:59:30.0±0.6,3926N±002×2017E±006,h10km,Error ellipse: s-maj=6.5km s-min=3.5km az=0.7*
*NEIC **16** 00:59:30.9,3928N×2027E,h4km,MD3.3(ATH), ML2.9(THE),After ATH.*
*ATH **16** 00:59:30.7,3929N×2027E,h17km±3km,MD3.3/5*
*CSEM **16** 00:59:30.4±0.1,3930N×2019E,h5km,ML2.9,Error ellipse: s-maj=3.6km s-min=1.7km az=93.0*
*THE **16** 00:59:30.5,3927N×2021E,h0km,ML2.9*
ISC 16 00:59:30.3±0.6,3928N±003×2019E±005,h3km±7km,n19, σ0:99/26,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**24**	*eP*g	**Pg**	00 59 35.2	-0.5
IGT				*eS*g	**Sg**	00 59 39.7	+0.4
KEK	**Kerkira**	**0.53**	**325**	*eP*N	**Pg**	00 59 41.7	+1.2
JAN	**Janina**	**0.64**	**54**	*eP*N	**Pg**	00 59 41.5	-1.0
LKD	**Levkas**	**0.68**	**148**	*eP*g	**Pg**	00 59 42.0	-1.3
LKD				*eS*g	**Sg**	00 59 52.5	+0.4
VLS	**Valsamata**	**1.15**	**164**	*eP*g	**Pg**	00 59 51.9	-0.4
VLS				*eS*g	**Sg**	01 00 08.4	+1.3
VLS	**Valsamata**	**1.15**	**164**	*eP*b	**Pb**	00 59 52.5	-0.2
VLS				*eS*g	**Sg**	01 00 08.4	+1.3
KFL	**Anninata**	**1.26**	**158**	*eP*g	**Pg**	00 59 54.2	-0.2
KFL				*eS*g	**Sg**	01 00 11.7	+0.9
EVR	**Evrytania**	**1.31**	**106**	*eP*N	**Pn**	00 59 54.5	-1.0
THL	**Klokotos Trika**	**1.44**	**78**	*eP*g	**Pn**	00 59 55.4	-1.8
THL				*eS*g	**Sg**	01 00 18.0	+1.3
KZN	**Kozani**	**1.59**	**49**	*eP*N	**Pn**	00 59 59.5	+0.1
KZN	**Kozani**	**1.59**	**49**	*eP*b	**Pb**	01 00 00.5	+0.1
FNA	**Florina**	**1.76**	**31**	*eP*b	**Pb**	01 00 02.7	-0.4
FNA				*eS*b	**Sb**	01 00 26.4	+0.8
BIA	**Bitola**	**1.94**	**26**	*i* Pn	**Pn**	01 00 05.4	+1.2
BIA	**Bitola**	**1.94**	**26**	*i* Pn	**Pn**	01 00 05.3	+1.1
KRUS	**Krusevo**	**2.24**	**21**	*i* Pn	**Pn**	01 00 09.1	+0.8
KRUS	**Krusevo**	**2.24**	**21**	*i* Pn	**Pn**	01 00 09.0	+0.8
TIP	**Timpagrande**	**2.67**	**269**	P	**Pg**	01 00 19.8	-1.6
PLG	**Polygyros**	**2.74**	**65**	P	**Pb**	01 00 18.2	-1.6
CEL	**Celeste**	**3.51**	**254**	P	**Pn**	01 00 26.9	+1.2

*ISCJB **16** 01:02:21.2±0.1, 1334S±003×7671W±003,h30km, mb5.7/224,MS6.3/2,Error ellipse: s-maj=5.2km s-min=2.8km az=143.0*
*IDC **16** 01:02:22.7±0.5, 1337S×7666W,h29km±3km,mb5.2/34, mb1 5.2/38,mb1mx5.2/39,mbtmp5.2/38,ML4.7/3,Error ellipse: s-maj=14.3km s-min=8.1km az=70.0*
*MOS **16** 01:02:22.2±0.9, 1325S×7664W,h33km,mb5.9/92,Error ellipse: s-maj=6.7km s-min=4.6km az=93.1*
*BJI **16** 01:02:23.3, 1340S×7660W,h34km,mB5.7,Ms5.8,Msz5.7*
*NEIC **16** 01:02:23.4±1.1, 1336S×7660W,h34km±8km,mb5.8/182, ML5.3(LIM),Error ellipse: s-maj=4.1km s-min=2.4km az=56.0*
NEIC Felt [IV] at San Vicente de Canete. Also felt at Huanchanco and Lima.
ISC 16 01:02:22.6±1.4,1334S±003×7661W±003,h26km±10km, h31km±1.0km:pP-P,n719,σ0:87/581,mb5.7/223,MS6.3/2, 110C-4D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.36**	**351**	Pn	**Pn**	01 02 46.4	+0.5
	192μm,0.5s,SNR=95						
NNA	**Nana**	**1.36**	**351**	Pn	**Pn**	01 02 46.3	+0.4
	1μm,0.3s,baz=171,slow=13,SNR=53						
NNA				Sn	**Sn**	01 03 03.5	+0.4
	10μm,0.3s,baz=243,slow=18,SNR=25						
NNA	**Nana**	**1.36**	**351**	*e*Pn	**Pn**	01 02 45.8	-0.1
NNA				*e*Sn	**Sn**	01 03 04.1	+0.9
ARE	**Arequipa**	**5.84**	**123**	*e*P	**Pn**	01 03 49.0	+1.5
ARE				*e*S	**Sn**	01 04 54.0	+0.3
ATAH	**Atahualpa**	**6.54**	**344**	Pn	**Pn**	01 03 57.7	+0.6
	21nm,0.3s,baz=195,slow=6.0,SNR=25						
ATAH				Sn	**Sn**	01 05 10.6	-0.4
	51nm,0.3s,baz=135,slow=10.0,SNR=2.4						
LPAZ	**La Paz**	**8.71**	**111**	Pn	**Pn**	01 04 30.7	+3.8
	20nm,0.3s,baz=295,slow=12,SNR=70						
LPAZ				Sn	**Sn**	01 06 11.8	+7.5
	5.6nm,0.3s,baz=270,slow=20,SNR=1.7						
LPAZ	**La Paz**	**8.71**	**111**	*e*P	**Pn**	01 04 30.2	+3.3
LPAZ				pmax	pmax		
	comp=Z,24nm,0.6s						
LPAZ	**La Paz**	**8.71**	**111**	*e*Pn	**Pn**	01 04 30.1	+3.2
	comp=Z,24nm,0.6s						
CEN1	**Los Morros**	**11.70**	**150**	↓*i*P	**Pn**	01 05 07.2	-0.7
LVC	**Limon Verde**	**11.77**	**143**	Pn	**Pn**	01 05 09.2	+0.4
	comp=Z,24nm,0.3s,baz=339,slow=0.0,SNR=126						
LVC				Sn	**Sn**	01 07 18.0	-1.5
	comp=Z,17nm,0.3s,baz=256,slow=0.0,SNR=3.5						
LVC	**Limon Verde**	**11.77**	**143**	*e*Pn	**Pn**	01 05 08.6	-0.3
	comp=Z,5μm,2.0s						
ANCH	**Antofagasta**	**11.85**	**151**	*e*P	**Pn**	01 05 08.6	-1.3
ANCH				*i* S	**Sn**	01 07 09.7	-11
OTAV	**Otavalo**	**13.61**	**352**	*e*Pn	**Pn**	01 05 37.7	+3.6
SIV	**San Ignacio**	**15.27**	**102**	Pn	**Pn**	01 05 57.2	+0.8
	comp=Z,7.3nm,0.3s,baz=278,slow=14,SNR=28						
LCO	**Las Campanas**	**16.53**	**162**	*e*P	**Pn**	01 06 12.6	-0.1
	comp=Z,433nm,1.0s						
TLL	**Tololo Astrono**	**17.59**	**163**	↓*e*P	**Pn**	01 06 26.7	+0.8
ROSC	**El Rosal**	**18.22**	**7**	P	**Pn**	01 06 33.1	-0.7
	comp=Z,0.7nm,0.3s,baz=90,slow=20,SNR=3.4						
ROSC	**El Rosal**	**18.22**	**7**	*e*Pn	**Pn**	01 06 32.9	-0.9
CFAA	**Coronel Fontan**	**19.74**	**158**	P	**Pn**	01 06 50.8	-1.2
	comp=Z,0.4nm,0.3s,baz=337,slow=10,SNR=85						
PEL	**Peldehue**	**20.44**	**166**	↑*i*P	**P**	01 06 58.9	+0.9
LMEL	**Las Melosas**	**21.23**	**165**	*e*P	**P**	01 07 07.5	+1.0
NICH	**Los Niches**	**22.11**	**168**	*e*P	**P**	01 07 16.7	+0.7
CPUP	**Villa Florida**	**22.23**	**128**	P	**P**	01 07 16.6	-0.8
	comp=Z,216nm,1.1s,mb5.5,baz=293,slow=9.6,SNR=65						
CPUP	**Villa Florida**	**22.23**	**128**	*e*P	**P**	01 07 16.3	-1.1
	comp=Z,15nm,1.6s,mb4.2						
BCIP	**Isla Barro Col**	**22.59**	**352**	*e*P	**P**	01 07 21.8	+0.6
	comp=Z,984nm,1.5s,mb6.0						
SDV	**Santo Domingo**	**22.87**	**15**	P	**P**	01 07 24.6	+0.5
	comp=Z,122nm,0.9s,mb5.3,baz=270,slow=7.0,SNR=54						
SDV	**Santo Domingo**	**22.87**	**15**	*e*P	**P**	01 07 24.2	0.0
	comp=Z,197nm,1.0s,mb5.5						
CCHI	**Chillan**	**23.52**	**171**	↓*e*P	**P**	01 07 30.9	+0.1
PCRV	**Puerto La Cruz**	**26.21**	**28**	P	**P**	01 07 56.7	+1.2
	comp=Z,107nm,1.1s,mb5.3,baz=209,slow=4.2,SNR=10.0						
BDFB	**Brasilia**	**27.77**	**98**	P	**P**	01 08 08.8	-0.7
	comp=Z,38nm,1.0s,mb5.0,baz=252,slow=18,SNR=32						
BDFB	**Brasilia**	**27.77**	**98**	*e*P	**P**	01 08 08.6	-1.0
BDFB				pmax	pmax		
	comp=Z,96nm,1.1s						
BDFB	**Brasilia**	**27.77**	**98**	*e*P	**P**	01 08 08.6	-0.9
	comp=Z,96nm,1.1s,mb5.3						
PLCA	**Paso Flores**	**27.80**	**170**	P	**P**	01 08 08.9	-0.6
	comp=Z,316nm,1.0s,mb5.9,baz=344,slow=10,SNR=172						
PLCA	**Paso Flores**	**27.80**	**170**	P	**P**	01 08 08.9	-0.6
PLCA				pmax	pmax		
	comp=Z,350nm,1.0s						
PLCA	**Paso Flores**	**27.80**	**170**	*e*P	**P**	01 08 08.6	-0.9
	comp=Z,354nm,1.0s,mb6.0						
TRQA	**Tornquist**	**27.85**	**155**	*e*P	**P**	01 08 08.1	-1.9
	comp=Z,54nm,0.9s,mb5.2						
TGUH	**Tegucigalpa,Un**	**29.20**	**338**	*e*P	**P**	01 08 23.6	+1.5
	comp=Z,164nm,1.1s,mb5.7						
GRGR	**Grenville**	**29.34**	**31**	*e*P	**P**	01 08 22.3	-1.1
	comp=Z,1μm,1.3s,mb6.4						
MPR	**Mayaguez**	**32.72**	**17**	*e*P	**P**	01 08 52.9	-0.3
SJG	**San Juan**	**32.91**	**19**	P	**P**	01 08 54.3	-0.6
	comp=Z,26nm,0.8s,mb5.2,baz=204,slow=5.6,SNR=14						
SJG	**San Juan**	**32.91**	**19**	*e*P	**P**	01 08 53.8	-1.1
SJG				pmax	pmax		
	comp=Z,87nm,0.9s						
SJG	**San Juan**	**32.91**	**19**	*e*P	**P**	01 08 53.8	-1.0
	comp=Z,87nm,0.9s,mb5.7						
CPD	**Cerro la Pandu**	**32.92**	**19**	*e*P	**P**	01 08 54.6	-0.3
CPD				pmax	pmax		
	comp=Z,135nm,1.2s,mb5.8						
CPD	**Cerro la Pandu**	**32.92**	**19**	*e*P	**P**	01 08 54.6	-0.3
	comp=Z,135nm,1.2s,mb5.8						
AOPR	**Arecibo Observ**	**32.95**	**17**	*e*P	**P**	01 08 55.1	-0.1
	comp=Z,143nm,1.1s,mb5.8						
HUMP	**Col San Antoni**	**33.04**	**19**	*e*P	**P**	01 08 54.8	-1.1
	comp=Z,86nm,1.0s,mb5.6						
MTP	**Monte Pirata**	**33.09**	**20**	*e*P	**P**	01 08 55.9	-0.6
CBYP	**Canovanas**	**33.16**	**19**	*e*P	**P**	01 08 56.4	-0.6
	comp=Z,149nm,1.1s,mb5.8						
CMIG	**Matias Romero**	**35.21**	**329**	P	**P**	01 09 15.4	+0.6
	comp=Z,15nm,0.9s,mb4.9,baz=145,slow=5.3,SNR=12						
CAM3	**Guarapari**	**35.22**	**107**	↑*i*P	**P**	01 09 14.6	-0.4
CAM3				*i*	pP	01 09 21.8	-1.0
CAM3				*i*		01 09 39.0	
TEIG	**Tepich**	**35.27**	**341**	P	**P**	01 09 15.4	+0.1
	comp=Z,26nm,0.8s,mb5.2,baz=159,slow=8.1,SNR=14						
TEIG				PcP	PcP	01 11 46.0	+0.2
	comp=Z,18nm,0.8s,baz=158,slow=4.2,SNR=3.5						
TEIG	**Tepich**	**35.27**	**341**	*e*P	**P**	01 09 16.1	+0.8
	comp=Z,376nm,1.3s,mb6.2						
EFI	**East Falkland**	**41.06**	**162**	P	**P**	01 10 03.1	-0.7
	comp=Z,978nm,1.1s,mb6.3,SNR=5.6						
EFI	**East Falkland**	**41.06**	**162**	P	**P**	01 10 03.6	-0.2
EFI				pmax	pmax		
	comp=Z,200nm,1.1s,mb5.7						
EFI	**East Falkland**	**41.06**	**162**	*e*P	**P**	01 10 03.0	-0.7
	comp=Z,204nm,1.1s,mb5.7						
USHA	**Ushuaia**	**41.89**	**173**	P	**P**	01 10 10.1	-0.4
	comp=Z,110nm,1.0s,mb5.4,baz=324,slow=5.7,SNR=21						
BRAL	**Brewton**	**45.22**	**347**	*e*P	**P**	01 10 38.4	+0.8
	comp=Z,466nm,1.8s,mb6.0						
NHSC	**New Hope**	**46.31**	**356**	*e*P	**P**	01 10 46.4	+0.2
	comp=Z,412nm,1.7s,mb6.1						
HKT	**Hockley**	**46.86**	**337**	*e*P	**P**	01 10 51.2	+0.7
HKT				pmax	pmax		
	comp=Z,350nm,1.8s,mb6.0						
HKT	**Hockley**	**46.86**	**337**	*e*P	**P**	01 10 51.2	+0.6
	comp=Z,350nm,1.8s,mb6.0						
BBSR	**BB Station**	**46.86**	**14**	*e*P	**P**	01 10 50.4	-0.2
	comp=Z,84nm,1.3s,mb5.5						
GOGA	**Godfrey**	**46.95**	**352**	*e*P	**P**	01 10 50.3	-0.9
GOGA				pmax	pmax		
	comp=Z,52nm,1.3s,mb5.3						
GOGA	**Godfrey**	**46.95**	**352**	*e*P	**P**	01 10 50.3	-0.9
	comp=Z,52nm,1.3s,mb5.3						
JSC	**Jenkinsville**	**47.56**	**355**	*e*P	**P**	01 10 56.7	+0.7
LHS	**Liberty Hill**	**47.72**	**355**	*e*P	**P**	01 10 56.4	-0.8
NATX	**Nacogdoches**	**48.07**	**339**	*e*P	**P**	01 11 01.1	+1.1
	comp=Z,684nm,1.6s,mb6.4						
CNNC	**Cliffs of the**	**48.33**	**359**	*e*P	**P**	01 11 02.1	+0.2
	comp=Z,135nm,1.3s,mb5.8						
JCT	**Junction City**	**48.95**	**333**	*e*P	**P**	01 11 07.1	+0.3
JCT				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.5						
JCT	**Junction City**	**48.95**	**333**	*e*P	**P**	01 11 07.1	+0.3
	comp=Z,46nm,0.9s,mb5.5						
SWET	**Sewanee**	**49.09**	**350**	*e*P	**P**	01 11 06.6	-1.2
CPCT	**Cooper Cave**	**49.10**	**351**	*e*P	**P**	01 11 06.2	-1.6
OXF	**Oxford**	**49.12**	**346**	P	**P**	01 11 07.2	-0.8
OXF				pmax	pmax		
	comp=Z,180nm,1.3s,mb5.9						
OXF	**Oxford**	**49.12**	**346**	*e*P	**P**	01 11 06.7	-1.3
	comp=Z,175nm,1.4s,mb5.9						
TKL	**Tuckaleechee C**	**49.20**	**352**	P	**P**	01 11 07.6	-1.0
TKL	**Tuckaleechee C**	**49.20**	**352**	*e*P	**P**	01 11 07.3	-1.3
TKL				*e*		01 11 17.7	
PLAL	**Pickwick Lake**	**49.27**	**348**	*e*P	**P**	01 11 07.6	-1.5
LPIG	**La Paz**	**49.69**	**318**	P	**P**	01 11 11.9	-0.6
	comp=Z,20nm,0.5s,mb5.4,baz=110,slow=3.7,SNR=2.5						
TZTN	**Tazewell**	**50.04**	**353**	*e*P	**P**	01 11 14.0	-1.0
	comp=Z,161nm,1.5s,mb5.8						
UALR	**University of**	**50.13**	**343**	*e*P	**P**	01 11 14.8	-0.8
	comp=Z,235nm,1.5s,mb6.0						
MIAR	**Mount Ida**	**50.27**	**342**	*e*P	**P**	01 11 16.3	-0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIAR				pmax	pmax		
	comp=Z,86nm,1.0s,mb5.7						
MIAR	**Mount Ida**	**50.27**	**342**	*e*P	**P**	01 11 16.3	-0.5
	comp=Z,86nm,1.0s,mb5.7						
BLA	**Blacksburg**	**50.41**	**356**	P	**P**	01 11 17.2	-0.5
BLA				pmax	pmax		
	comp=Z,220nm,1.5s,mb6.0						
BLA	**Blacksburg**	**50.41**	**356**	*e*P	**P**	01 11 16.9	-0.8
	comp=Z,215nm,1.5s,mb6.0						
HALT	**Halls**	**50.44**	**347**	P	**P**	01 11 16.4	-1.6
ELN	**Prospectdale**	**50.45**	**356**	*e*P	**P**	01 11 17.4	-0.6
URVA	**University of**	**50.65**	**359**	*e*P	**P**	01 11 18.9	-0.6
GNAR	**Gosnell**	**50.65**	**346**	*e*P	**P**	01 11 19.7	+0.1
PARMO	**Parma**	**51.26**	**346**	*e*P	**P**	01 11 22.6	-1.5
HOPE	**Hope Point**	**51.53**	**151**	P	**P**	01 11 27.8	+1.8
	comp=Z,632nm,1.0s,mb6.5,SNR=8.4						
USIN	**University of**	**52.08**	**349**	*e*P	**P**	01 11 28.9	-1.3
	comp=Z,182nm,1.3s,mb5.8						
USIN				*e*	pP	01 11 38.2	-0.1
WCI	**Wyandotte Cave**	**52.09**	**350**	*e*P	**P**	01 11 28.7	-1.7
WCI				pmax	pmax		
	comp=Z,248nm,1.5s,mb5.9						
WCI	**Wyandotte Cave**	**52.09**	**350**	*e*P	**P**	01 11 28.7	-1.6
	comp=Z,248nm,1.5s,mb5.9						
PMSA	**Palmer Station**	**52.10**	**173**	P	**P**	01 11 30.1	0.0
	comp=Z,98nm,1.1s,mb5.7,baz=0.2,slow=6.6,SNR=29						
PMSA	**Palmer Station**	**52.10**	**173**	*e*P	**P**	01 11 30.1	0.0
	comp=Z,109nm,1.0s,mb5.7						
SIUC	**Southern Illin**	**52.15**	**347**	*e*P	**P**	01 11 29.7	-1.0
	comp=Z,140nm,1.0s,mb5.8						
WMOK	**Wichita Mounta**	**52.24**	**337**	*e*P	**P**	01 11 30.9	-0.6
WMOK	**Wichita Mounta**	**52.24**	**337**	*e*P	**P**	01 11 30.1	-1.5
	comp=Z,131nm,1.4s,mb5.7						
WMOK				*e*		01 11 40.3	
SDMD	**Soldier's Deli**	**52.48**	**360**	*e*P	**P**	01 11 31.8	-1.4
	comp=Z,71nm,1.0s,mb5.5						
GDL2	**Guadalupe Moun**	**52.50**	**330**	*e*P	**P**	01 11 34.0	+0.5
FVM	**French Village**	**52.67**	**346**	*e*P	**P**	01 11 33.3	-1.4
FVM				pmax	pmax		
	comp=Z,183nm,1.5s,mb5.8						
FVM	**French Village**	**52.67**	**346**	*e*P	**P**	01 11 33.3	-1.4
	comp=Z,183nm,1.5s,mb5.8						
MCWV	**Mont Chateau**	**52.81**	**357**	*e*P	**P**	01 11 35.4	-0.2
	comp=Z,150nm,1.3s,mb5.8						
OLIL	**Olney**	**52.90**	**349**	*e*P	**P**	01 11 34.8	-1.6
	comp=Z,50nm,1.5s,mb5.2						
BLO	**Bloomington**	**53.05**	**350**	*e*P	**P**	01 11 35.8	-1.6
BLO				pmax	pmax		
	comp=Z,147nm,1.0s,mb5.9						
BLO	**Bloomington**	**53.05**	**350**	*e*P	**P**	01 11 35.8	-1.7
	comp=Z,147nm,1.0s,mb5.9						
MVL	**Millersville**	**53.06**	**0**	*e*P	**P**	01 11 32.8	-4.8
	comp=Z,195nm,1.3s,mb5.9						
SLM	**Saint Louis**	**53.25**	**347**	*e*P	**P**	01 11 38.2	-0.7
SLM				*e*	pP	01 11 47.3	+0.3
AMTX	**Amarillo**	**53.54**	**334**	*e*P	**P**	01 11 40.0	-1.1
	comp=Z,191nm,1.6s,mb5.8						
ACSO	**Alum Creek Sta**	**53.62**	**354**	*e*P	**P**	01 11 40.3	-1.3
	comp=Z,375nm,1.4s,mb6.1						
PAL	**Palisades**	**54.13**	**3**	*e*P	**P**	01 11 45.3	0.0
ALLY	**Alegheny Colle**	**54.81**	**357**	*e*P	**P**	01 11 49.4	-0.8
	comp=Z,286nm,1.4s,mb6.1						
BRYW	**Bryant College**	**55.18**	**5**	*e*P	**P**	01 11 53.5	+0.6
BNM	**Barren Site**	**55.19**	**330**	*e*P	**P**	01 11 53.2	+0.1
BINY	**Binghamton**	**55.27**	**1**	*e*P	**P**	01 11 53.5	0.0
	comp=Z,198nm,1.3s,mb6.0						
LPM	**Los Pinos Moun**	**55.32**	**330**	*e*P	**P**	01 11 54.5	+0.4
LENM	**Lemitar**	**55.37**	**329**	*e*P	**P**	01 11 55.5	+1.0
KSU1	**Kansas State U**	**55.41**	**341**	*e*P	**P**	01 11 53.1	-1.6
	comp=Z,67nm,0.9s,mb5.7						
LAZ	**Ladron**	**55.64**	**329**	*e*P	**P**	01 11 57.4	+1.0
AAM	**Ann Arbor**	**55.74**	**354**	*e*P	**P**	01 11 55.7	-1.2
AAM				pmax	pmax		
	comp=Z,45nm,0.8s,mb5.5						
AAM	**Ann Arbor**	**55.74**	**354**	*e*P	**P**	01 11 55.7	-1.2
	comp=Z,45nm,0.8s,mb5.5						
ANMO	**Albuquerque**	**55.75**	**330**	P	**P**	01 11 57.4	+0.2
	comp=Z,16nm,1.1s,mb5.0,baz=146,slow=9.3,SNR=26						
ANMO	**Albuquerque**	**55.75**	**330**	*e*P	**P**	01 11 57.2	0.0
ANMO

comp=Z,10nm,0.6s,mb5.1
RSSD Black Hills 62.41 338 P P 01 12 43.6 +0.5
RSSD pmax pmax
comp=Z,120nm,1.5s,mb5.8
RSSD Black Hills 62.41 338 *eP* **P 01 12 43.0 -0.1**
comp=Z,116nm,1.5s,mb5.8
NLU North Lily Min 62.44 330 *eP* **P 01 12 43.8 +0.4**
EYMN Ely 62.44 349 *eP* **P 01 12 41.9 -1.4**
comp=Z,151nm,1.4s,mb5.9
EYMN *e*pP pP 01 12 52.2 +0.8
JLU Jordanelle 62.63 331 *eP* **P 01 12 45.7 +1.0**
ISA Isabella 62.79 322 *eP* **P 01 12 47.0 +1.1**
CTU Camp Tracy 62.85 331 *eP* **P 01 12 52.6 +6.5**
DUG Dugway 62.98 329 P **P 01 12 47.4 +0.3**
DUG pmax pmax
comp=Z,140nm,0.9s,mb6.1
DUG Dugway 62.98 329 *eP* **P 01 12 47.3 +0.2**
comp=Z,136nm,0.9s,mb6.1
NOQ North Oquirrh 62.99 330 *eP* **P 01 12 47.8 +0.6**
HWUT Hardware Ranch 63.47 331 *eP* **P 01 12 49.6 -0.7**
comp=Z,110nm,1.0s,mb5.9
BW06 Boulder Array 63.49 333 *eP* **P 01 12 49.0 -1.3**
comp=Z,107nm,1.6s,mb5.7
PDAR Pinedale Array 63.49 333 P **P 01 12 49.7 -0.6**
comp=Z,7.5nm,1.0s,mb4.8,baz=145,slow=6.5,SNR=15
PDAR pP pP 01 12 59.0 +0.4
comp=Z,13nm,0.9s,baz=133,slow=8.7,SNR=12
PDAR PKP2bc 01 41 45.4
comp=Z,2.5nm,1.1s,baz=346,slow=1.8,SNR=6.6
PDAR Pinedale Array 63.49 333 P **P 01 12 49.7 -0.6**
PDAR pP pP 01 12 59.0 +0.4
PDAR ⇑*e* 01 41 45.4
BGU Big Grassy Mou 63.65 330 *eP* **P 01 12 50.9 -0.6**
SPUT South Promonto 63.66 331 *eP* **P 01 12 51.9 +0.4**
AGMN Agassiz Refuge 63.71 346 *eP* **P 01 12 50.4 -1.2**
comp=Z,136nm,0.9s,mb6.0
TPH Tonopah 63.74 325 P **P 01 12 52.4 +0.3**
TPH pmax pmax
comp=Z,120nm,1.4s,mb5.7
TPH Tonopah 63.74 325 *eP* **P 01 12 52.3 +0.2**
comp=Z,119nm,1.4s,mb5.7
MTUM Tungsten Hills 64.00 324 *eP* **P 01 12 54.5 +0.6**
AHID Auburn Hatcher 64.17 332 *eP* **P 01 12 54.0 -0.8**
comp=Z,39nm,1.5s,mb5.2
AHID *e* pP 01 13 03.6 +0.5
HVU Hansel Valley 64.18 331 *eP* **P 01 12 55.7 +0.8**
HVU pmax pmax
comp=Z,78nm,1.0s,mb5.7
HVU Hansel Valley 64.18 331 *eP* **P 01 12 55.7 +0.7**
comp=Z,78nm,1.0s,mb5.7
REDW Red Top Meadow 64.53 333 *eP* **P 01 12 57.0 -0.2**
comp=Z,319nm,1.7s,mb6.1
SNOW Snow King Moun 64.57 333 *eP* **P 01 12 57.9 +0.5**
comp=Z,35nm,0.8s,mb5.4
NVAR Mina Array Bea 64.60 325 PKPPKP 01 41 43.9
comp=Z,0.9nm,1.0s,baz=262,slow=1.8,SNR=3.2
NVAR PKP2bc 01 41 50.1
comp=Z,2.7nm,1.1s,baz=290,slow=2.7,SNR=7.9
ELK Elko 64.61 328 *eP* **P 01 12 57.6 -0.2**
ELK pmax pmax
comp=Z,388nm,2.1s
ELK Elko 64.61 328 *eP* **P 01 12 57.6 -0.2**
comp=Z,388nm,2.1s,mb6.1
LOHW Long Hollow 64.62 333 *eP* **P 01 12 57.1 -0.6**
comp=Z,58nm,1.3s,mb5.5
TPAW Teton Pass 64.68 333 *eP* **P 01 12 58.2 +0.1**
comp=Z,59nm,1.1s,mb5.5
RRI2 Red Ridge 64.73 333 *eP* **P 01 12 58.4 -0.1**
comp=Z,19nm,0.4s,mb5.5
MOOW Moose Ponds 64.79 333 *eP* **P 01 12 58.4 -0.4**
comp=Z,77nm,1.5s,mb5.5
DCID1 Drake Creek 64.86 333 *eP* **P 01 13 00.2 +0.9**
IMW Indian Meadow 65.00 333 *eP* **P 01 13 00.2 0.0**
comp=Z,33µm,1.7s
FLWY Flagg Ranch 65.04 334 *eP* **P 01 13 00.4 -0.1**
comp=Z,18nm,0.4s,mb5.5
RLMT Red Lodge 65.27 335 *eP* **P 01 13 01.5 -0.5**
comp=Z,11nm,1.1s,mb4.8
LKWY Lake 65.30 334 P **P 01 13 03.9 +1.8**
LKWY pmax pmax
comp=Z,150nm,1.6s,mb5.8
LKWY Lake 65.30 334 *eP* **P 01 13 03.7 +1.6**
comp=Z,152nm,1.6s,mb5.8
YFT Old Faithful 65.39 334 *eP* **P 01 13 04.0 +1.2**
BMN Battle Mountai 65.42 327 P **P 01 13 04.4 +1.3**
BMN pmax pmax
comp=Z,93nm,1.6s,mb5.6
BMN Battle Mountai 65.42 327 *eP* **P 01 13 03.6 +0.5**
comp=Z,93nm,1.6s,mb5.6
YNR Norris Junctio 65.54 334 *eP* **P 01 13 04.3 +0.6**
ULM Lac du Bonnet 65.54 347 P **P 01 13 02.3 -1.2**
comp=Z,110nm,0.9s,mb5.9,baz=160,slow=6.3,SNR=68
ULM pP pP 01 13 11.8 0.0
comp=Z,140nm,0.8s,baz=164,slow=8.4,SNR=20
ULM Lac du Bonnet 65.54 347 *eP* **P 01 13 02.3 -1.3**
comp=Z,2µm,1.2s,mb7.0
YMR Madison River 65.62 334 *eP* **P 01 13 05.3 +1.1**
comp=Z,315nm,1.7s,mb6.1
BBTS Babate 65.66 67 P **P 01 13 05.6 +0.5**
comp=Z,149nm,1.0s,mb6.0,baz=234,slow=1.9,SNR=14
BBTS Babate 65.66 67 P **P 01 13 05.6 +0.5**
QLMT Earthquake Lak 65.95 334 *eP* **P 01 13 07.1 +0.7**
GCMT Greycliff 65.98 335 *eP* **P 01 13 06.3 -0.3**
PAHR Pah Rah Range 66.09 325 *eP* **P 01 13 08.4 +1.0**
comp=Z,56nm,0.8s,mb5.6
DGMT Dagmar 66.23 340 *eP* **P 01 13 08.1 0.0**
comp=Z,147nm,1.1s,mb5.9
HLID Hailey 66.32 331 *eP* **P 01 13 09.0 +0.2**
comp=Z,535nm,1.2s,mb6.5
MCMT McKenzie Canyo 66.57 333 *eP* **P 01 13 10.7 +0.3**
BOZ Bozeman (W) 66.68 334 P **P 01 13 13.1 +2.0**
BOZ pmax pmax
comp=Z,95nm,1.2s,mb5.7
BOZ Bozeman (W) 66.68 334 *eP* **P 01 13 10.8 -0.3**
comp=Z,95nm,1.3s,mb5.7
DLMT Dillon 66.88 333 *eP* **P 01 13 12.1 -0.2**
comp=Z,6.4nm,0.6s,mb4.8
OHCM Honcut 67.03 324 *eP* **P 01 13 14.2 +0.8**
NSHM Saint Helena R 67.15 322 *eP* **P 01 13 14.5 +0.3**
LRM Limekiln Ridge 67.18 334 *eP* **P 01 13 14.2 +0.1**
WVOR Wild Horse Val 67.59 328 P **P 01 13 17.3 +0.4**
WVOR pmax pmax
comp=Z,59nm,1.4s,mb5.4
WVOR Wild Horse Val 67.59 328 *eP* **P 01 13 17.0 +0.1**
comp=Z,59nm,1.4s,mb5.4
HRY Holter Researc 67.61 335 *eP* **P 01 13 16.9 -0.1**
HOPS Hopland 67.74 322 *eP* **P 01 13 18.7 +0.8**
comp=Z,340nm,2.1s,mb6.0
EGMT Eagleton 67.84 337 *eP* **P 01 13 17.6 -0.7**
comp=Z,68nm,1.1s,mb5.6
CALA Caldeira 68.35 39 *eP* **P 01 13 23.8 +2.1**
CHMT Chamberlain Mo 68.38 334 *eP* **P 01 13 21.5 -0.3**
SCHQ Schefferville 68.41 6 P **P 01 13 20.9 -0.8**
comp=Z,34nm,0.9s,mb5.4,baz=180,slow=5.2,SNR=30
SCHQ Schefferville 68.41 6 P **P 01 13 20.9 -0.8**
PICO Pico 68.47 39 *eP* **P 01 13 30.4 +7.9**
KCPM Cahto Peak 68.49 323 *eP* **P 01 13 23.0 +0.4**
KIPM Iron Peak 68.51 323 *eP* **P 01 13 24.0 +1.3**
MSO Missoula 68.61 333 *eP* **P 01 13 23.1 -0.1**
comp=Z,88nm,1.4s,mb5.5
BMO Blue Mountains 68.67 330 *eP* **P 01 13 22.8 -0.8**
comp=Z,98nm,1.6s,mb5.5
ROSA Rosais 68.72 39 *eP* **P 01 13 25.5 +1.5**
SRBC Serra Branca 69.04 39 *eP* **P 01 13 24.6 -1.4**
YBH Yreka Blue Hor 69.32 325 P **P 01 13 27.1 -0.6**
YBH pmax pmax
comp=Z,18nm,1.0s
YBH Yreka Blue Hor 69.32 325 *eP* **P 01 13 26.8 -0.9**
comp=Z,18nm,0.9s,mb5.0
KTRM Thompson Ridge 69.81 325 P **P 01 13 31.6 +0.9**
KRMB Red Mountain 69.86 324 *eP* **P 01 13 31.7 +0.6**
LNOR Lincton Mounta 69.88 330 P **P 01 13 31.1 0.0**
WALA Waterton Lakes 70.33 335 *eP* **P 01 13 33.6 -0.2**
comp=Z,78nm,1.4s,mb5.5
VNA1 Neumayer--Stat 70.38 161 *eP* **P 01 13 34.0 +0.2**
VNA1 *e* 01 13 35.8
VNA1 *e* pP 01 13 40.8 -1.3
VNA1 *e* pP 01 13 43.6 +1.5
VNA1 *e* 01 13 55.5
KBO Bosley Butte 70.49 324 *eP* **P 01 13 35.6 +0.8**
HBO Huckleberry Mo 70.52 327 P **P 01 13 35.5 +0.4**
PRW Prosser 70.81 330 P **P 01 13 37.9 +1.2**
HAWA Hanford 70.86 330 *eP* **P 01 13 37.0 0.0**
comp=Z,48nm,1.1s,mb5.3
RSW Rattlesnake Hi 70.89 330 P **P 01 13 38.2 +1.0**

KEBM Edson Butte 70.98 325 *eP* **P 01 13 38.7 +0.8**
GBB Gable Butte 71.06 330 P **P 01 13 39.1 +0.9**
NEW Newport 71.10 333 P **P 01 13 38.2 -0.3**
NEW pmax pmax
comp=Z,150nm,1.5s
NEW Newport 71.10 333 *eP* **P 01 13 37.8 -0.7**
comp=Z,149nm,1.6s,mb5.7
HOOD Mount Hood Mea 71.17 328 *eP* **P 01 13 39.4 +0.4**
comp=Z,112nm,1.2s,mb5.7
OD2 Odessa Site #2 71.19 331 *eP* **P 01 13 39.0 0.0**
COR Corvallis 71.54 327 *eP* **P 01 13 41.9 +0.7**
COR pmax pmax
comp=Z,192nm,1.4s,mb5.8
COR Corvallis 71.54 327 *eP* **P 01 13 41.9 +0.7**
comp=Z,192nm,1.4s,mb5.8
MPOR Mary's Peak 71.61 327 P **P 01 13 43.0 +1.3**
EBG Ellensburg 71.73 330 P **P 01 13 43.6 +1.3**
TBM Table Mountain 71.93 330 P **P 01 13 44.7 +1.2**
WTV Waterville 71.99 331 P **P 01 13 44.8 +0.9**
TWW Teanaway 72.04 330 P **P 01 13 45.4 +1.2**
ETW Entiat 72.11 331 *eP* **P 01 13 44.8 +0.3**
SNAA Sanae 72.33 161 *eP* **P 01 13 45.0 -0.6**
SNAA *e* 01 13 47.3
SNAA *e* pP 01 13 52.3 -1.6
SNAA *e* 01 13 55.0
SNAA Sanae 72.33 161 P **P 01 13 45.1 -0.5**
comp=Z,32nm,1.0s,mb5.2,baz=286,slow=5.3,SNR=163
SNAA Sanae 72.33 161 *eP* **P 01 13 45.0 -0.6**
SNAA pmax pmax
comp=Z,126nm,1.1s
SNAA Sanae 72.33 161 *eP* **P 01 13 45.0 -0.6**
comp=Z,126nm,1.1s,mb5.8
NLW Nelson Butte 72.44 331 P **P 01 13 47.4 +0.8**
BMW Boistfort Moun 72.76 328 P **P 01 13 49.3 +0.8**
BMW Boistfort Moun 72.76 328 *eP* **P 01 13 48.9 +0.4**
FCC Fort Churchill 73.25 351 P **P 01 13 50.8 -0.3**
FCC pmax pmax
comp=Z,180nm,1.4s,mb5.8
FCC Fort Churchill 73.25 351 *eP* **P 01 13 50.6 -0.5**
comp=Z,183nm,1.4s,mb5.8
RPW Rockport 73.26 331 *eP* **P 01 13 51.1 -0.3**
JCW Jim Creek 73.29 330 *eP* **P 01 13 51.1 -0.5**
GNW Green Mountain 73.29 329 *eP* **P 01 13 51.8 +0.2**
comp=Z,108nm,1.6s,mb5.5
EDM Edmonton 73.39 338 P **P 01 13 51.2 -0.8**
EDM Edmonton 73.39 338 *eP* **P 01 13 50.9 -1.1**
LIC Lamto 73.68 79 ⇑P **P 01 13 54.1 -0.6**
comp=Z,353nm,1.1s,mb5.9,baz=263
LIC Lamto 73.68 79 *eP* **P 01 13 53.6 -1.1**
comp=Z,432nm,1.1s,mb6.3
LIC Lamto 73.68 79 ⇑*i*P **P 01 13 54.1 -0.6**
comp=Z,177nm,1.1s,mb5.9
NLWA Neilton Lookou 73.70 329 *eP* **P 01 13 54.4 +0.4**
comp=Z,4µm,1.5s
TIC Toumodi 73.80 79 *eP* **P 01 13 54.4 -1.0**
comp=Z,786nm,1.2s,mb6.5
TIC Toumodi 73.80 79 *eP* **P 01 13 54.4 -1.0**
TIC pmax pmax
comp=Z,786nm,1.2s,mb6.5
VDB Vedder Mountai 73.95 331 P **P 01 13 55.8 +0.4**
DBIC Dimbokro 73.97 79 P **P 01 13 56.0 -0.3**
comp=Z,139nm,1.0s,mb5.9,baz=232,slow=6.3,SNR=77
DBIC Dimbokro 73.97 79 P **P 01 13 56.2 -0.1**
DBIC pmax pmax
comp=Z,19nm,1.6s
DBIC Dimbokro 73.97 79 *eP* **P 01 13 55.9 -0.5**
comp=Z,19nm,1.6s,mb4.8
KIC Kosan Boka 73.99 79 *eP* **P 01 13 55.5 -1.0**
comp=Z,1µm,1.1s,mb6.8
STW Striped Peak 74.11 329 P **P 01 13 57.9 +1.5**
PGC Sidney 74.34 330 *eP* **P 01 13 57.4 -0.3**
comp=Z,569nm,1.7s,mb6.2
MAIT Maitri 76.96 160 ⇑*i*P **P 01 14 11.5 -1.0**
NVL N'lazarevskaya 76.99 160 *eP* **P 01 14 13.2 +0.6**
NVL *e* 01 14 25.8
NVL pmax pmax
comp=Z,98nm,1.3s,mb5.6
RAR Rarotonga 79.01 251 P **P 01 14 25.2 +0.4**
comp=Z,41nm,1.0s,mb5.3,baz=90,slow=4.0,SNR=2.7
PFVI Vila Bisbo 81.01 49 *eP* **P 01 14 36.8 +1.6**
comp=Z,262nm,1.3s,mb6.0
YKA Yellowknife Ar 81.19 343 P **P 01 14 34.5 -1.0**
comp=Z,20nm,0.9s,mb5.0,baz=137,slow=5.4,SNR=100
YKA pP pP 01 14 43.9 -0.1
comp=Z,21nm,0.8s,baz=142,slow=6.2,SNR=18
YKA PKKPbc PKKPbc 01 33 11.3 -3.5
comp=Z,0.6nm,0.9s,baz=332,slow=2.5,SNR=3.9
YKA Yellowknife Ar 81.19 343 P **P 01 14 34.5 -1.1**
YKA *PP pP 01 14 43.9 -0.1
YKA Yellowknife Ar 81.19 343 P **P 01 14 34.5 -1.0**
YKA pP pP 01 14 43.9 -0.1
YKA PKKPbc PKKPbc 01 33 11.3 -3.5
MORF Marmelete 81.21 48 *eP* **P 01 14 38.0 +1.7**
comp=Z,314nm,1.4s,mb6.0
PTEO Sao Teotonio 81.25 48 *eP* **P 01 14 38.3 +1.8**
comp=Z,376nm,2.0s,mb6.0
PMAFR Mafra 81.44 47 *eP* **P 01 14 38.4 +1.0**
comp=Z,384nm,1.8s,mb6.0
PBDV Barranco-do-Ve 81.71 49 *eP* **P 01 14 40.8 +1.9**
comp=Z,265nm,1.7s,mb5.9
PVAQ Vaqueiros 81.93 49 *eP* **P 01 14 41.5 +1.4**
comp=Z,113nm,2.1s,mb5.4
TOA0 Torodi Ar. Sit 81.93 74 *eP* **P 01 14 40.5 0.0**
TORD Torodi Ar. Bea 81.93 74 P **P 01 14 40.6 0.0**
comp=Z,424nm,1.1s,mb6.3,baz=260,slow=3.3,SNR=384
ALMR Almeirim 82.02 47 *eP* **P 01 14 41.9 +1.4**
PBEJ Beja 82.07 48 *eP* **P 01 14 42.1 +1.3**
comp=Z,205nm,1.5s,mb5.8
EGRO El Granado 82.15 49 P **P 01 14 43.0 +1.7**
EVO Evora 82.17 47 ⇑*i*P **P 01 14 42.0 +0.7**
comp=Z,440nm,1.2s,mb6.0
EVO Evora 82.17 47 *eP* **P 01 14 42.3 +1.0**
comp=Z,195nm,1.5s,mb5.8
PTOM Tomar 82.33 46 *eP* **P 01 14 43.3 +1.2**
comp=Z,305nm,1.3s,mb6.1
SFJD Kangerlussuaq 82.36 10 P **P 01 14 40.8 -0.8**
comp=Z,21nm,0.7s,mb5.2,baz=191,slow=5.2
SFJD Kangerlussuaq 82.36 10 *i* P **P 01 14 41.1 -0.5**
SFJD pmax pmax
comp=Z,114nm,1.6s,mb5.5
SFJD Kangerlussuaq 82.36 10 *i* P **P 01 14 41.1 -0.5**
comp=Z,114nm,1.6s,mb5.5
SBA Scott Base 82.43 191 P **P 01 14 42.8 +0.7**
SBA pmax pmax
comp=Z,1.0nm,0.9s
SBA Scott Base 82.43 191 *eP* **P 01 14 42.5 +0.5**
comp=Z,1.1nm,0.9s
MDT Midelt 82.55 54 P **P 01 14 44.5 +1.0**
comp=Z,61nm,1.2s,mb5.5,baz=260,slow=4.6,SNR=55
PESTR Estremoz 82.60 47 *eP* **P 01 14 45.7 +2.1**
comp=Z,206nm,1.8s,mb5.9
PBAR Barrancos 82.73 48 *eP* **P 01 14 45.4 +1.2**
comp=Z,157nm,1.3s,mb5.9
EMIN Mina Concepcio 82.83 49 P **P 01 14 46.1 +1.3**
PMRV Marv??o 82.97 47 *eP* **P 01 14 45.8 +0.3**
comp=Z,95nm,1.6s,mb5.6
EBAD Badajoz 82.97 48 P **P 01 14 46.6 +1.1**
PCBR Castelo Branco 83.07 46 *eP* **P 01 14 46.5 +0.5**
comp=Z,151nm,1.4s,mb5.8
ESPR Espera 83.09 50 P **P 01 14 47.9 +1.7**
comp=Z,11µm,8.5s
PVIS Viseu 83.13 46 *eP* **P 01 14 46.9 +0.6**
comp=Z,246nm,1.6s,mb6.0
EJIF Jimena Fronter 83.22 50 P **P 01 14 48.1 +1.2**
EJIF pmax pmax
comp=Z,384nm,1.3s,mb6.3
EJIF Jimena Fronter 83.22 50 P **P 01 14 48.1 +1.3**
comp=Z,384nm,1.3s,mb6.3
CRAG Craig 83.26 331 *eP* **P 01 14 46.7 +0.1**
comp=Z,87nm,1.0s,mb5.7
EMAZ Mazaricos 83.32 43 P **P 01 14 49.7 +2.5**
PCAB Cabril 83.45 45 *eP* **P 01 14 48.8 +0.9**
comp=Z,200nm,1.8s,mb5.8
WRAK Wrangell Islan 83.46 332 *eP* **P 01 14 47.3 -0.3**
comp=Z,287nm,2.0s,mb6.0
ELOB Lobios 83.49 44 P **P 01 14 49.2 +1.2**
VNDA Vanda 83.51 191 P **P 01 14 47.7 0.0**
comp=Z,28nm,1.1s,mb5.3,baz=142,slow=5.1,SNR=3.6
VNDA Vanda 83.51 191 P **P 01 14 48.0 +0.3**
VNDA pmax pmax
comp=Z,360nm,1.4s
VNDA Vanda 83.51 191 *eP* **P 01 14 47.5 -0.1**
comp=Z,356nm,1.5s,mb6.3
STS Santiago 83.58 43 P **P 01 14 49.1 +0.6**
STS pmax pmax
comp=Z,74nm,1.0s,mb5.8

STS Santiago 83.58 43 P **P 01 14 49.1 +0.6**
comp=Z,74nm,1.0s,mb5.8
DLBC Dease Lake 83.68 335 P **P 01 14 48.9 +0.3**
baz=143,slow=5.3
DLBC pP pP 01 14 58.8 +1.7
baz=146,slow=5.1
DLBC Dease Lake 83.68 335 *eP* **P 01 14 48.5 -0.1**
EMIJ Mijas 83.79 50 P **P 01 14 50.8 +1.0**
comp=Z,760nm,3.1s
ECAB El Cabril 83.87 49 P **P 01 14 51.4 +1.3**
MVO Moncorvo 83.92 45 *eP* **P 01 14 50.9 +0.6**
comp=Z,147nm,1.3s,mb6.0
ERUA La Rua 84.33 44 P **P 01 14 52.8 +0.4**
ERUA pmax pmax
comp=Z,274nm,1.9s,mb6.1
ERUA La Rua 84.33 44 P **P 01 14 52.8 +0.5**
comp=Z,274nm,1.9s,mb6.1
ECAL Calabor 84.42 45 P **P 01 14 54.1 +1.3**
ELOJ Sierra Loja 84.46 50 P **P 01 14 55.1 +1.9**
ELOJ pmax pmax
comp=Z,215nm,1.2s,mb6.2
ELOJ Sierra Loja 84.46 50 P **P 01 14 55.1 +2.0**
comp=Z,215nm,1.2s,mb6.2
EADA Adamuz 84.52 49 P **P 01 14 54.6 +1.2**
ELUQ Luque 84.53 50 P **P 01 14 54.3 +0.8**
ELUQ pmax pmax
comp=Z,96nm,1.2s,mb5.8
ELUQ Luque 84.53 50 P **P 01 14 54.3 +0.9**
comp=Z,96nm,1.2s,mb5.8
ERON Agron 84.67 50 P **P 01 14 54.7 +0.4**
comp=Z,16nm,0.8s,mb5.2
EPON Pontenova 84.70 43 P **P 01 14 55.0 +0.8**
comp=Z,2.0nm,0.9s,mb4.2
ECOG Cogollos-Vega 84.94 50 P **P 01 14 56.0 +0.4**
ECOG pmax pmax
comp=Z,40nm,1.5s,mb5.3
ECOG Cogollos-Vega 84.94 50 P **P 01 14 56.0 +0.4**
comp=Z,40nm,1.5s,mb5.3
EBAN Banos Encina 85.10 49 P **P 01 14 56.5 +0.1**
EBAN pmax pmax
comp=Z,125nm,1.9s,mb5.7
EBAN Banos Encina 85.10 49 P **P 01 14 56.5 +0.1**
comp=Z,126nm,1.9s,mb5.7
PAB San Pablo 85.19 48 P **P 01 14 57.4 +0.6**
PAB pmax pmax
comp=Z,1µm,3.0s
PAB San Pablo 85.19 48 *eP* **P 01 14 57.1 +0.4**
comp=Z,1µm,3.0s
EBER Berja 85.32 51 P **P 01 14 58.4 +0.9**
comp=Z,3.3nm,1.0s,mb4.4
EQES Quesada 85.50 50 P **P 01 14 58.6 +0.2**
comp=Z,104nm,1.6s,mb5.7
ESDC Sonseca Array 85.51 48 P **P 01 14 58.7 +0.3**
comp=Z,27nm,1.1s,mb5.4,baz=252,slow=5.2,SNR=38
ESDC Sonseca Array 85.51 48 P **P 01 14 58.7 +0.4**
comp=Z,11nm,0.9s,mb5.1
GUD Guadarrama 85.73 47 P **P 01 15 00.3 +0.9**
GUD pmax pmax
comp=Z,31nm,1.2s,mb5.4
GUD Guadarrama 85.73 47 P **P 01 15 00.3 +0.9**
comp=Z,30nm,1.2s,mb5.4
EHUE Huescar 85.86 50 P **P 01 14 59.6 -0.5**
EHUE pmax pmax
comp=Z,29nm,1.0s,mb5.5
EHUE Huescar 85.86 50 P **P 01 14 59.6 -0.5**
comp=Z,29nm,1.0s,mb5.5
EVIA Vianos 86.21 49 P **P 01 15 02.4 +0.5**
EVIA pmax pmax
comp=Z,47nm,0.9s,mb5.7
EVIA Vianos 86.21 49 P **P 01 15 02.4 +0.5**
comp=Z,47nm,0.9s,mb5.7
SYO Syowa Base 86.62 161 ⇓*i*P **P 01 15 01.0 -2.4**
SYO Syowa Base 86.62 161 ⇑*e*pP pP 01 15 09.4 -2.4
EMUR La Murta 86.87 50 P **P 01 15 04.7 -0.5**
comp=Z,0.8nm,0.7s
ETOB Tobarra 86.91 49 P **P 01 15 05.6 +0.3**
comp=Z,291nm,1.9s,mb6.2
HON Honolulu 86.96 293 P **P 01 15 15.0 +9.1**
ETOR Torete 87.28 47 P **P 01 15 08.0 +0.9**
ETOR pmax pmax
comp=Z,47nm,1.1s,mb5.6
ETOR Torete 87.28 47 P **P 01 15 08.0 +0.9**
comp=Z,47nm,1.1s,mb5.6
EBEN Beniarda 87.91 50 P **P 01 15 10.6 +0.5**
comp=Z,2.1nm,0.8s,mb4.4
TAM Tamanrasset 88.02 66 *eP* **P 01 15 12.1 +1.1**
ETRT Tiaret 88.03 53 P **P 01 15 12.0 +1.2**
EANR 'Ain N'Sour 88.05 52 P **P 01 15 11.0 +0.2**
HYT Haines Junctio 88.16 335 *eP* **P 01 15 11.2 +0.4**
BORG Borgarnes 88.24 21 P **P 01 15 12.0 +0.9**
comp=Z,54nm,1.1s,mb5.7,baz=217,slow=2.7,SNR=4.6
BORG Borgarnes 88.24 21 *eP* **P 01 15 11.7 +0.6**
BORG pmax pmax
comp=Z,162nm,1.5s
BORG Borgarnes 88.24 21 *eP* **P 01 15 11.7 +0.6**
comp=Z,162nm,1.5s,mb6.0
ECHA Ech Chlef 88.31 52 P **P 01 15 12.8 +0.7**
EBNR Beni Rached 88.48 52 P **P 01 15 14.0 +1.1**
RES Resolute Bay 88.59 355 *eP* **P 01 15 11.9 -0.7**
SJPF Ste Jean 88.64 45 ⇑*i*P **P 01 15 13.1 -0.4**
comp=Z,176nm,1.5s,mb5.9
SJPF Ste Jean 88.64 45 ⇑*i*P **P 01 15 13.1 -0.4**
SJPF pmax pmax
comp=Z,88nm,1.5s,mb5.9
SJPF Ste Jean 88.64 45 ⇑*i*P **P 01 15 13.1 -0.4**
comp=Z,88nm,1.5s,mb5.9
QUIF Quistinic 89.03 40 *eP* **P 01 15 14.4 -0.8**
comp=Z,219nm,1.5s,mb6.0
QUIF Quistinic 89.03 40 *eP* **P 01 15 14.4 -0.8**
QUIF pmax pmax
comp=Z,109nm,1.5s,mb6.0
QUIF Quistinic 89.03 40 *eP* **P 01 15 14.4 -0.8**
comp=Z,109nm,1.5s,mb6.0
ETSF Etsaut 89.03 46 ⇑*i*P **P 01 15 15.3 0.0**
comp=Z,67nm,1.5s,mb5.5
ETSF Etsaut 89.03 46 ⇑*i*P **P 01 15 15.3 0.0**
ETSF pmax pmax
comp=Z,34nm,1.5s,mb5.5
ETSF Etsaut 89.03 46 ⇑*i*P **P 01 15 15.3 0.0**
comp=Z,34nm,1.5s,mb5.5
ERTA Horta de San J 89.04 48 P **P 01 15 16.2 +0.8**
comp=Z,3.1nm,1.1s,mb4.5
SUR Sutherland 89.10 123 P **P 01 15 15.3 -0.7**
comp=Z,18nm,1.1s,mb5.3,baz=223,slow=4.2,SNR=4.1
ROSF Rostrenen 89.12 40 *eP* **P 01 15 14.8 -0.8**
comp=Z,178nm,1.4s,mb5.9
ROSF Rostrenen 89.12 40 *eP* **P 01 15 14.8 -0.8**
ROSF pmax pmax
comp=Z,89nm,1.4s,mb5.9
ROSF Rostrenen 89.12 40 *eP* **P 01 15 14.8 -0.8**
comp=Z,89nm,1.4s,mb5.9
SUMG Summit 89.31 11 *eP* **P 01 15 16.1 +0.1**
comp=Z,54nm,1.3s,mb5.7
EBIE Bielsa 89.45 46 P **P 01 15 18.2 +0.9**
comp=Z,1.1nm,0.4s,mb4.5
SGMF Saint Gilles 89.53 40 *eP* **P 01 15 16.7 -0.8**
EMHD Djebel Mahouad 89.56 53 P **P 01 15 17.3 -0.6**
TSUM Tsumeb 89.56 110 P **P 01 15 17.9 -0.5**
comp=Z,34nm,1.1s,mb5.6,baz=239,slow=5.1,SNR=13
TSUM Tsumeb 89.56 110 *eP* **P 01 15 17.9 -0.5**
comp=Z,56nm,1.3s,mb5.7
EPF Esparros 89.70 46 ⇑*i*P **P 01 15 18.2 -0.2**
comp=Z,123nm,1.5s,mb5.7
EPF Esparros 89.70 46 ⇑*i*P **P 01 15 18.2 -0.2**
EPF pmax pmax
comp=Z,61nm,1.5s,mb5.7
EPF Esparros 89.70 46 ⇑*i*P **P 01 15 18.2 -0.2**
comp=Z,61nm,1.5s,mb5.7
ABA Alger-Bouzarea 89.79 52 P **P 01 15 21.0 +2.0**
ADJB Djebel Djouab 89.92 53 P **P 01 15 20.5 +0.9**
AKET Djebel Ketaf 90.23 53 P **P 01 15 22.4 +1.3**
MFF Saint Martin d 90.52 42 *eP* **P 01 15 21.2 -1.0**
comp=Z,73nm,1.3s,mb5.5
MFF Saint Martin d 90.52 42 *eP* **P 01 15 21.2 -1.0**
MFF pmax pmax
comp=Z,36nm,1.3s,mb5.5
MFF Saint Martin d 90.52 42 *eP* **P 01 15 21.2 -1.0**
comp=Z,36nm,1.3s,mb5.5
LFF La Frestale 90.58 44 ⇑*i*P **P 01 15 21.7 -0.8**
comp=Z,287nm,1.4s,mb6.1
LFF La Frestale 90.58 44 ⇑*i*P **P 01 15 21.7 -0.8**
LFF pmax pmax
comp=Z,144nm,1.4s,mb6.1
LFF La Frestale 90.58 44 ⇑*i*P **P 01 15 21.7 -0.8**
comp=Z,144nm,1.4s,mb6.1
DAWY Dawson 90.58 337 *eP* **P 01 15 21.2 -0.8**

GRR **Gorron** 90.64 40 *eP* P 01 15 21.5 -1.2
comp=Z,102nm,1.5s,mb5.6
GRR **Gorron** 90.64 40 *eP* P 01 15 21.5 -1.2
GRR pmax pmax
comp=Z,51nm,1.5s,mb5.6
GRR **Gorron** 90.64 40 *eP* P 01 15 21.5 -1.2
comp=Z,51nm,1.5s,mb5.6
INK **Inuvik** 90.87 342 P P 01 15 22.6 -0.7
comp=Z,78nm,1.1s,mb5.9,baz=124,slow=4.9,SNR=71
INK **Inuvik** 90.87 342 *eP* P 01 15 22.2 -1.1
comp=Z,4μm,1.2s
AKF **Akfadou** 90.93 53 P P 01 15 25.2 +0.9
FLN **La Foliniere** 91.00 40⇑*iP* P 01 15 23.6 -0.8
comp=Z,121nm,1.5s,mb5.7
FLN **La Foliniere** 91.00 40⇑*iP* P 01 15 23.6 -0.8
FLN pmax pmax
comp=Z,61nm,1.5s,mb5.7
FLN **La Foliniere** 91.00 40⇑*iP* P 01 15 23.6 -0.8
comp=Z,61nm,1.5s,mb5.7
MTLF **Montolieu** 91.10 46 *eP* P 01 15 23.9 -1.1
comp=Z,88nm,1.4s,mb5.6
MTLF **Montolieu** 91.10 46 *eP* P 01 15 23.9 -1.1
MTLF pmax pmax
comp=Z,44nm,1.4s,mb5.6
MTLF **Montolieu** 91.10 46 *eP* P 01 15 23.9 -1.1
comp=Z,44nm,1.4s,mb5.6
LDF **La Druitiere** 91.17 40 *eP* P 01 15 24.0 -1.2
comp=Z,44nm,1.2s,mb5.3
LDF **La Druitiere** 91.17 40 *eP* P 01 15 24.0 -1.2
LDF pmax pmax
comp=Z,22nm,1.2s,mb5.4
LDF **La Druitiere** 91.17 40 *eP* P 01 15 24.0 -1.2
comp=Z,22nm,1.2s,mb5.4
RJF **Les Rejaudoux** 91.21 44⇑*iP* P 01 15 24.5 -0.9
comp=Z,126nm,1.3s,mb5.8
RJF **Les Rejaudoux** 91.21 44⇑*iP* P 01 15 24.5 -0.9
RJF pmax pmax
comp=Z,63nm,1.3s,mb5.8
RJF **Les Rejaudoux** 91.21 44⇑*iP* P 01 15 24.5 -0.9
comp=Z,63nm,1.3s,mb5.8
SET **Setif** 91.46 53 P P 01 15 27.0 +0.2
CAF **Calviac** 91.47 44⇑*iP* P 01 15 25.8 -0.8
comp=Z,90nm,1.3s,mb5.7
CAF **Calviac** 91.47 44⇑*iP* P 01 15 25.8 -0.8
CAF pmax pmax
comp=Z,45nm,1.3s,mb5.6
CAF **Calviac** 91.47 44⇑*iP* P 01 15 25.8 -0.8
comp=Z,45nm,1.3s,mb5.6
EGAK **Eagle** 91.60 337 *eP* P 01 15 25.7 -1.1
comp=Z,266nm,1.8s,mb6.3
EYAK **Cordova Ski Ar** 91.60 332 *eP* P 01 15 25.4 -1.5
comp=Z,55nm,1.4s,mb5.7
EKA **Eskdalemuir Ar** 91.71 33 P P 01 15 26.6 -0.9
comp=Z,11nm,1.1s,mb5.1,baz=234,slow=4.0,SNR=8.0
DFRA **Djebel Bou Aff** 91.92 53 P P 01 15 30.5 +1.6
TCF **Toulx Ste Croi** 91.97 43⇑*iP* P 01 15 27.8 -1.1
comp=Z,78nm,1.5s,mb5.5
TCF **Toulx Ste Croi** 91.97 43⇑*iP* P 01 15 27.8 -1.1
TCF pmax pmax
comp=Z,39nm,1.5s,mb5.5
TCF **Toulx Ste Croi** 91.97 43⇑*iP* P 01 15 27.8 -1.1
comp=Z,39nm,1.5s,mb5.5
CTEI **Djebel Teioual** 92.21 54 P P 01 15 30.5 +0.2
CASM **Ain Smara** 92.32 53 P P 01 15 31.0 +0.2
LASF **Ste Croix** 92.45 45⇑*iP* P 01 15 30.7 -0.5
comp=Z,237nm,1.7s,mb5.9
BGF **Bois d'Agland** 92.47 43⇑*iP* P 01 15 30.2 -1.0
comp=Z,198nm,1.6s,mb5.9
BGF **Bois d'Agland** 92.47 43⇑*iP* P 01 15 30.2 -1.0
BGF pmax pmax
comp=Z,99nm,1.6s,mb5.9
BGF **Bois d'Agland** 92.47 43⇑*iP* P 01 15 30.2 -1.0
comp=Z,99nm,1.6s,mb5.9
HYF **Humbligny** 92.54 42 *eP* P 01 15 30.7 -0.8
CKFL **Kef-Lekhel** 92.54 53 P P 01 15 32.0 +0.2
CAEH **'Ain El Ouahch** 92.74 53 P P 01 15 33.0 +0.3
AVF **Avril sur Loir** 92.87 43⇑*iP* P 01 15 31.8 -1.3
comp=Z,93nm,1.6s,mb5.7
AVF **Avril sur Loir** 92.87 43⇑*iP* P 01 15 31.8 -1.3
AVF pmax pmax
comp=Z,47nm,1.6s,mb5.7
AVF **Avril sur Loir** 92.87 43⇑*iP* P 01 15 31.8 -1.3
comp=Z,46nm,1.6s,mb5.7
SSF **Saint Saulge** 93.05 42⇑*iP* P 01 15 32.5 -1.4
comp=Z,82nm,1.7s,mb5.6
SSF **Saint Saulge** 93.05 42⇑*iP* P 01 15 32.5 -1.4
SSF pmax pmax
comp=Z,41nm,1.7s,mb5.6
SSF **Saint Saulge** 93.05 42⇑*iP* P 01 15 32.5 -1.4
comp=Z,41nm,1.7s,mb5.6
ABSA **Djebel Ababsia** 93.10 54 P P 01 15 34.0 -0.4
CMAH **Djebel Manchou** 93.14 53 P P 01 15 34.0 -0.6
SMF **Signal de Mont** 93.15 43⇑*iP* P 01 15 33.4 -1.0
comp=Z,154nm,1.5s,mb5.9
SMF **Signal de Mont** 93.15 43⇑*iP* P 01 15 33.4 -1.0
SMF pmax pmax
comp=Z,77nm,1.5s,mb5.9
SMF **Signal de Mont** 93.15 43⇑*iP* P 01 15 33.4 -1.0
comp=Z,77nm,1.5s,mb5.9
VIVF **Saint-Julien-l** 93.23 45⇑*iP* P 01 15 34.5 -0.3
comp=Z,114nm,1.5s,mb5.8
VIVF **Saint-Julien-l** 93.23 45⇑*iP* P 01 15 34.5 -0.3
VIVF pmax pmax
comp=Z,57nm,1.5s,mb5.8
VIVF **Saint-Julien-l** 93.23 45⇑*iP* P 01 15 34.5 -0.3
comp=Z,57nm,1.5s,mb5.8
SSB **Saint Sauveur** 93.25 44 P P 01 15 34.7 -0.2
SSB **Saint Sauveur** 93.25 44 *eP* P 01 15 34.5 -0.3
LOR **Lormes** 93.33 42⇑*iP* P 01 15 33.9 -1.3
comp=Z,64nm,1.4s,mb5.6
LOR **Lormes** 93.33 42⇑*iP* P 01 15 33.9 -1.3
LOR pmax pmax
comp=Z,32nm,1.4s,mb5.6
LOR **Lormes** 93.33 42⇑*iP* P 01 15 33.9 -1.3
comp=Z,32nm,1.4s,mb5.6
PMR **Palmer** 93.53 333 P P 01 15 34.5 -1.2
PMR pmax pmax
comp=Z,84nm,1.1s,mb6.1
PMR **Palmer** 93.53 333 *eP* P 01 15 34.1 -1.7
comp=Z,84nm,1.1s,mb6.1
SMRF **Simiane la Rot** 93.62 46⇑*iP* P 01 15 36.6 0.0
comp=Z,123nm,1.5s,mb5.8
SMRF **Simiane la Rot** 93.62 46⇑*iP* P 01 15 36.6 0.0
comp=Z,123nm,1.5s,mb6.1
SLKM **Skilak Lake** 93.63 332 P P 01 15 35.5 -0.7
SLKM **Skilak Lake** 93.63 332 *eP* P 01 15 34.6 -1.6
KDAK **Kodiak Island** 93.85 329 P P 01 15 36.6 -0.7
comp=Z,7.3nm,1.2s,mb5.0,baz=96,slow=9.1,SNR=3.7
ORIF **Oris-en-Rattie** 94.07 45⇑*iP* P 01 15 38.7 0.0
comp=Z,73nm,1.2s,mb5.7
ORIF **Oris-en-Rattie** 94.07 45⇑*iP* P 01 15 38.7 0.0
ORIF pmax pmax
comp=Z,36nm,1.2s,mb5.7
ORIF **Oris-en-Rattie** 94.07 45⇑*iP* P 01 15 38.7 0.0
comp=Z,36nm,1.2s,mb5.7
LMR **La Mourre** 94.11 47⇑*iP* P 01 15 38.2 -0.7
comp=Z,120nm,1.5s,mb5.8
LMR **La Mourre** 94.11 47⇑*iP* P 01 15 38.2 -0.7
LMR pmax pmax
comp=Z,60nm,1.5s,mb5.8
LMR **La Mourre** 94.11 47⇑*iP* P 01 15 38.2 -0.7
comp=Z,60nm,1.5s,mb5.8
MAW **Mawson** 94.12 166 P P 01 15 37.7 -0.8
comp=Z,18nm,1.0s,mb5.5,baz=228,slow=6.9,SNR=20
COLA **College** 94.22 336 P P 01 15 39.4 +0.5
COLA pmax pmax
comp=Z,66nm,1.3s,mb5.9
COLA **College** 94.22 336 *eP* P 01 15 38.1 -0.8
comp=Z,66nm,1.3s,mb5.9
MCK **McKinley** 94.23 335 *eP* P 01 15 38.0 -0.9
MCK pmax pmax
comp=Z,46nm,1.2s,mb5.8
MCK **McKinley** 94.23 335 *eP* P 01 15 38.0 -0.9
comp=Z,46nm,1.2s,mb5.8
FRF **La Foret Royal** 94.27 46⇑*iP* P 01 15 39.0 -0.6
comp=Z,107nm,1.4s,mb5.8
FRF **La Foret Royal** 94.27 46⇑*iP* P 01 15 39.0 -0.6
FRF pmax pmax
comp=Z,54nm,1.4s,mb5.8
FRF **La Foret Royal** 94.27 46⇑*iP* P 01 15 39.0 -0.6
comp=Z,54nm,1.4s,mb5.8
BAIF **Baives** 94.31 40 *eP* P 01 15 38.3 -1.3
comp=Z,115nm,1.9s,mb5.7
BAIF **Baives** 94.31 40 *eP* P 01 15 38.3 -1.3
BAIF pmax pmax
comp=Z,57nm,1.9s,mb5.7
BAIF **Baives** 94.31 40 *eP* P 01 15 38.3 -1.3
comp=Z,57nm,1.9s,mb5.7
MEZF **Maizieres J'vi** 94.44 41 *eP* P 01 15 39.4 -0.8
KEST **Kesra** 94.44 54 P P 01 15 40.4 -0.3
comp=Z,9.1nm,1.1s,mb5.1,baz=171,slow=1.8,SNR=11
CABF **La Chapelle** 94.64 43⇑*iP* P 01 15 40.5 -0.7
comp=Z,104nm,1.6s,mb5.7
CABF **La Chapelle** 94.64 43⇑*iP* P 01 15 40.5 -0.7
CABF pmax pmax
comp=Z,52nm,1.6s,mb5.7
CABF **La Chapelle** 94.64 43⇑*iP* P 01 15 40.5 -0.7
comp=Z,52nm,1.6s,mb5.7
MBDF **Montbardon** 94.64 45⇑*iP* P 01 15 41.1 -0.2
comp=Z,51nm,1.4s,mb5.5
MBDF **Montbardon** 94.64 45⇑*iP* P 01 15 41.1 -0.2
MBDF pmax pmax
comp=Z,25nm,1.4s,mb5.5
MBDF **Montbardon** 94.64 45⇑*iP* P 01 15 41.1 -0.2
comp=Z,25nm,1.4s,mb5.5
BNI **Bardonecchia** 94.65 45 *eP* P 01 15 40.8 -0.5
BNI pmax pmax
comp=Z,17nm,1.2s,mb5.3
BNI **Bardonecchia** 94.65 45 *eP* P 01 15 40.8 -0.5
comp=Z,17nm,1.2s,mb5.4
GIVF **Givet** 94.71 40⇑*iP* P 01 15 40.6 -0.8
LPL **La Plagne** 94.80 44⇑*iP* P 01 15 42.2 +0.2
comp=Z,94nm,1.4s,mb5.7
LPL **La Plagne** 94.80 44⇑*iP* P 01 15 42.2 +0.2
LPL pmax pmax
comp=Z,47nm,1.4s,mb5.7
LPL **La Plagne** 94.80 44⇑*iP* P 01 15 42.2 +0.2
comp=Z,47nm,1.4s,mb5.7
LPG **La Plagne** 94.81 45⇑*iP* P 01 15 42.4 +0.4
comp=Z,116nm,1.3s,mb5.8
LPG **La Plagne** 94.81 45⇑*iP* P 01 15 42.4 +0.4
LPG pmax pmax
comp=Z,58nm,1.3s,mb5.8
LPG **La Plagne** 94.81 45⇑*iP* P 01 15 42.4 +0.4
comp=Z,58nm,1.3s,mb5.8
SBF **Sospel** 94.89 46⇑*iP* P 01 15 41.8 -0.7
comp=Z,68nm,1.4s,mb5.6
SBF **Sospel** 94.89 46⇑*iP* P 01 15 41.8 -0.7
SBF pmax pmax
comp=Z,34nm,1.4s,mb5.6
SBF **Sospel** 94.89 46⇑*iP* P 01 15 41.8 -0.7
comp=Z,34nm,1.4s,mb5.6
RSP **Reno Superiore** 95.08 45 P P 01 15 42.6 -0.7
LSD **Lago del Serru** 95.08 45 P P 01 15 43.4 +0.1
HAU **Haudompre** 95.15 42⇑*iP* P 01 15 42.5 -1.0
comp=Z,176nm,1.9s,mb5.9
HAU **Haudompre** 95.15 42⇑*iP* P 01 15 42.5 -1.0
HAU pmax pmax
comp=Z,88nm,1.9s,mb5.9
HAU **Haudompre** 95.15 42⇑*iP* P 01 15 42.5 -1.0
comp=Z,88nm,1.9s,mb5.9
LBTB **Lobatse** 95.19 117 P P 01 15 43.7 -0.6
comp=Z,12nm,1.0s,mb5.3,baz=279,slow=5.2,SNR=6.8
LBTB **Lobatse** 95.19 117 *eP* P 01 15 43.5 -0.8
LBTB pmax pmax
comp=Z,50nm,1.7s,mb5.7
LBTB **Lobatse** 95.19 117 *eP* P 01 15 43.5 -0.8
comp=Z,50nm,1.7s,mb5.7
WLF **Walferdange** 95.43 40 P P 01 15 45.0 +0.2
HINF **Hinteralfeld** 95.44 42⇑*iP* P 01 15 43.7 -1.1
comp=Z,144nm,1.8s,mb5.8
HINF **Hinteralfeld** 95.44 42⇑*iP* P 01 15 43.7 -1.1
HINF pmax pmax
comp=Z,72nm,1.8s,mb5.8
HINF **Hinteralfeld** 95.44 42⇑*iP* P 01 15 43.7 -1.1
comp=Z,72nm,1.8s,mb5.8
FIN **Finale Ligure** 95.52 46 P P 01 15 43.9 -1.4
CHUM **Lake Minchumin** 95.69 334 *eP* P 01 15 44.4 -1.2
comp=Z,32nm,1.3s,mb5.6
PGF **Pioggiola** 95.71 48 *eP* P 01 15 45.7 -0.5
comp=Z,117nm,1.8s,mb5.7
PGF **Pioggiola** 95.71 48 *eP* P 01 15 45.7 -0.5
PGF pmax pmax
comp=Z,59nm,1.8s,mb5.7
PGF **Pioggiola** 95.71 48 *eP* P 01 15 45.7 -0.5
comp=Z,59nm,1.8s,mb5.7
CDF **Champ du Feu** 95.85 42 *eP* P 01 15 45.6 -1.1
SVW2 **Sparrevohn** 96.31 331 *eP* P 01 15 47.2 -1.3
BACM **Baccana** 96.84 46 P P 01 15 50.3 -1.0
GRAM **Graiana** 96.88 46 P P 01 15 50.7 -0.8
IMA2 **Indian Mountai** 96.92 336 *eP* P 01 15 49.7 -1.4
PII **Pisa** 97.05 47 P P 01 15 51.5 -0.8
DAVOS **Davos** 97.17 44 P P 01 15 53.0 +0.3
STU **Stuttgart** 97.17 42 *eP* P 01 15 52.2 -0.5
GSCL **Gusciola** 97.22 46 P P 01 15 52.9 -0.1
DAVOX **Davos/Dischmat** 97.22 44 P P 01 15 53.0 0.0
comp=Z,18nm,1.0s,mb5.4,baz=265,slow=4.0,SNR=32
DAVA **Damuels** 97.32 43⇑*iP* P 01 15 53.7 +0.3
comp=Z,43nm,1.4s,mb5.7,SNR=8.5
DAVA **Damuels** 97.32 43⇑*iPcP* PcP 01 15 53.7 +0.2
comp=Z,43nm,1.4s,SNR=8.5
ERC **Erice** 97.47 53 P P 01 15 54.7 +0.4
FETA **Feichten** 97.84 44⇑*iP* P 01 15 55.6 -0.1
comp=Z,37nm,1.3s,mb5.8,SNR=20
FETA **Feichten** 97.84 44⇑*iPcP* PcP 01 15 55.6 -0.1
comp=Z,37nm,1.3s,SNR=20
RETA **Reutte** 97.95 43⇑*iP* P 01 15 56.2 0.0
comp=Z,35nm,1.4s,mb5.7,SNR=11
RETA **Reutte** 97.95 43⇑*iPcP* PcP 01 15 56.2 -0.1
comp=Z,35nm,1.4s,SNR=11
SFI **Santa Sofia** 98.02 47 P P 01 15 55.9 -0.8
MOTA **Moosalm** 98.15 43⇑*iP* P 01 15 56.9 -0.2
comp=Z,34nm,1.2s,mb5.8,SNR=14
MOTA **Moosalm** 98.15 43⇑*iPcP* PcP 01 15 56.9 -0.2
comp=Z,34nm,1.2s,SNR=14
MOTA **Moosalm** 98.15 43⇑*iP* P 01 15 56.9 -0.2
MOTA pmax pmax
comp=Z,34nm,1.2s,mb5.8
CTI **Castel Tesino** 98.28 45 P P 01 15 57.7 0.0
WATA **Walderalm** 98.46 43⇑*iP* P 01 15 58.5 -0.1
comp=Z,59nm,1.5s,mb5.9
WATA **Walderalm** 98.46 43⇑*iP* P 01 15 58.5 0.0
WATA pmax pmax
comp=Z,59nm,1.5s,mb5.9
WTTA **Wattenberg** 98.49 43⇑*iP* P 01 15 59.0 +0.3
comp=Z,69nm,1.4s,mb6.0,SNR=16
WTTA **Wattenberg** 98.49 43⇑*iP* P 01 15 59.0 +0.3
WTTA pmax pmax
comp=Z,69nm,1.4s,mb6.0
CSLB **Castelbuono** 98.59 53 P P 01 15 59.3 -0.1
GRA1 **Grafenberg Arr** 98.65 41 *ePdif* P 01 15 59.4 +0.1
GRF **Grafenberg Arr** 98.65 41 *eP* P 01 15 59.4 +0.1
SNTG **Esanatoglia** 98.69 48 P P 01 15 59.3 -0.3
PTQR **Pietraquaria** 98.81 49 P P 01 16 00.5 +0.3
AQU **L'Aquila** 98.86 49 *eP* P 01 16 02.6 +2.1
AQU pmax pmax
comp=Z,22nm,1.1s,mb5.6
AQU **L'Aquila** 98.86 49 *eP* P 01 16 00.2 -0.3
comp=Z,24nm,1.4s,mb5.5
ABTA **Abfaltersbach** 98.99 44⇑*iP* P 01 16 00.9 0.0
comp=Z,58nm,1.2s,mb6.0
NKC **Novy Kostel** 99.53 41 *ePDIF* P 01 16 04.2 +1.0
KBA **Koelnbreinsper** 99.61 44⇑*iP* Pdif 01 16 03.7 +0.1
comp=Z,25nm,1.2s,SNR=8.2
KBA **Koelnbreinsper** 99.61 44⇑*iP* Pdif 01 16 03.7 +0.1
KBA pmax pmax
comp=Z,25nm,1.2s,mb5.5
MYKA **Terra Mystica** 99.74 44⇑*iP* Pdif 01 16 04.2 0.0
comp=Z,70nm,1.5s
JAVS **Javornik** 99.91 45 *eP* Pdif 01 16 05.0 +0.1
CLL **Collm** 100.04 40 *ePdif* Pdif 01 16 06.0 +0.5
CLL *e(sPdif)* 01 16 18.0
CLL *ePP* PP 01 20 06.0 -5.1
KHC **Kasperske Hory** 100.08 42 *ePDIF* Pdif 01 16 06.3 +0.6
KHC *epP* 01 16 19.4
KHC *ePP* PP 01 20 18.2 +6.7
GEC2 **GERESS Array S** 100.12 42 P Pdif 01 16 06.9 +1.0
GEC2 **GERESS Array S** 100.12 42 *ePdif* Pdif 01 16 04.5 -1.4
GERES **GERESS Array B** 100.12 42 P Pdif 01 16 05.3 -0.5
comp=Z,3.2nm,1.0s,baz=232,slow=3.2,SNR=12
NAO01 **NORSAR Array S** 100.32 30 *ePdif* Pdif 01 16 06.6 -0.2
OBKA **Obir** 100.34 45⇑*iP* Pdif 01 16 07.0 +0.2
comp=Z,16nm,2.0s
MOA **Molln** 100.34 43⇑*iP* Pdif 01 16 06.9 +0.1
comp=Z,43nm,1.5s,SNR=17
LSZ **Lusaka** 100.37 108 P Pdif 01 16 09.1 +2.2
comp=Z,2.0nm,0.9s,baz=300,slow=8.1,SNR=2.6
LSZ **Lusaka** 100.37 108 *ePdif* Pdif 01 16 09.5 +2.5
LSZ *ePP* PP 01 20 12.7 -1.6
CASY **Casey** 100.43 183 *ePdif* Pdif 01 16 06.5 -0.7
comp=Z,16nm,1.6s
CASY *e* 01 16 19.5
NOA **NORSAR Array B** 100.51 30 P Pdif 01 16 07.3 -0.3
comp=Z,9.0nm,1.2s,baz=260,slow=4.4,SNR=3.8
NOA **NORSAR Array B** 100.51 30 P Pdif 01 16 07.3 -0.3
BRG **Berggiesshubel** 100.57 40 *eP* Pdif 01 16 08.2 +0.3
BRG *e* 01 20 22.3
BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG **Berggiesshubel** 100.57 40 *eP* Pdif 01 16 08.2 +0.4
comp=Z,11nm,1.2s
BRG *e* 01 20 22.3
comp=Z,25nm,1.9s
PRU **Pruhonice** 100.82 41 *ePDIF* Pdif 01 16 09.6 +0.6
PRU *ex* x 01 16 25.7
PRU *ePP* PP 01 20 15.2 -1.9
TIP **Timpagrande** 100.88 52 *ePdif* Pdif 01 16 08.3 -0.9
PVCC **Panska Ves** 100.91 41 *ePDIF* Pdif 01 16 10.4 +1.0
TREC **Trest** 101.34 42 *ePDIF* Pdif 01 16 12.3 +1.0
CONA **Conrad Observa** 101.42 43⇑*iP* Pdif 01 16 11.8 +0.2
comp=Z,26nm,1.4s
HFS **Hagfors** 101.60 31 P Pdif 01 16 11.7 -0.8
comp=Z,14nm,1.2s,baz=179,slow=6.8,SNR=3.6
UPC **Upice** 101.83 41 *ePDIF* Pdif 01 16 14.9 +1.4
UPC *ex* x 01 20 09.9
DPC **Dobruska-Polom** 102.00 41 *ePDIF* Pdif 01 16 15.3 +1.0
DPC *epP* 01 16 26.2
DPC *ex* x 01 20 04.3
VRAC **Vranov** 102.06 42 P Pdif 01 16 15.3 +0.8
comp=Z,2.0nm,0.5s,baz=274,slow=5.4,SNR=7.2
MODS **Modra-Piesok** 102.41 43 PDIF Pdif 01 16 17.0 +0.9
MODS *e* 01 19 53.6
MODS **Modra-Piesok** 102.41 43 *ePdif* Pdif 01 16 17.0 +0.9
MODS *e* 01 19 53.6
MORC **Moravsky Berou** 102.73 42 *eP* Pdif 01 16 17.6 +0.1
OKC **Ostrava-Krasne** 103.12 41 *ePDIF* Pdif 01 16 20.7 +1.5
OKC *ex* x 01 20 18.7
KOLL **Kolacno** 103.18 43 PDIF Pdif 01 16 20.8 +1.3
KOLL **Kolacno** 103.18 43 *ePdif* Pdif 01 16 20.8 +1.3
PSZ **Piszkesteto** 104.11 44 *eP* Pdif 01 16 22.8 -0.8
KECS **Kecovo** 104.55 43 PDIF Pdif 01 16 25.4 -0.2
KECS **Kecovo** 104.55 43 *ePdif* Pdif 01 16 25.4 -0.2
ARCES **ARCESS Array B** 106.65 21 PKKPbc PKKPbc 01 32 03.0 -3.7
comp=Z,1.1nm,0.6s,baz=103,slow=3.9,SNR=6.4
APA **Apatity** 109.85 23 *eP* Pdif 01 16 47.0 -2.1
AKASG **Malin Array Be** 110.23 41 PP PP 01 21 22.6 -4.0
comp=Z,0.3nm,0.3s,baz=266,slow=7.6,SNR=7.1
BILL **Bilibino** 112.29 339 *i PKIKP* PKiKP 01 20 53.0 -2.4
BILL *e* 01 21 39.6
CSS **Prodhromos** 113.80 58 *ePKP* PKiKP 01 20 59.2 -0.2
OBN **Obninsk** 114.07 35 *i PKIKP* PKiKP 01 20 57.0 -2.2
OBN *e* 01 21 53.0
OBN pmax pmax
comp=Z,17nm,1.9s
OBN MLR MLR
comp=Z,23μm,17.0s,MS6.8
OBN **Obninsk** 114.07 35 *i PKP* PKiKP 01 20 58.5 -0.7
MALT **Malatya** 117.75 54 *ePKPdf* PKPdf 01 21 06.6 -0.2
SEY **Seymchan** 119.74 337⇑*ePKIKP* PKPdf 01 21 09.5 -0.4
KIV **Kislovodsk** 120.17 47⇑*iPKIKP* PKPdf 01 21 11.2 -0.1
KIV **Kislovodsk** 120.17 47⇑*ePKP* PKPdf 01 21 11.2 -0.1
PETK **Petropavlovsk-** 121.69 325 PKKP PKKPbc 01 31 52.6 +38
comp=Z,1.7nm,0.9s,baz=279,slow=4.7,SNR=6.1
STKA **Stephens Creek** 122.02 218 *ePKP* PKPdf 01 21 14.9 -0.4
comp=Z,7.5nm,1.0s
STKA **Stephens Creek** 122.02 218 PKP PKPdf 01 21 14.5 -0.8
comp=Z,8.0nm,1.0s,baz=90,slow=2.0,SNR=4.8
GNI **Garni** 122.38 51 *ePKIKP* PKPdf 01 21 15.6 -0.1
ARU **Arti** 125.04 29 *i PKIKP* PKPdf 01 21 19.4 -0.9
ARU **Arti** 125.04 29 *ePKPdf* PKPdf 01 21 20.0 -0.2
SVE **Sverdlovsk** 125.77 27 *ePKIKP* PKPdf 01 21 21.2 -0.4
CTA **Charters Tower** 126.32 233 *ePKP* PKPdf 01 21 22.9 -0.9
comp=Z,14nm,1.1s
CTAO **Charters Tower** 126.32 233 PKIKP PKPdf 01 21 24.2 +0.4
CTAO **Charters Tower** 126.32 233 *ePKPdf* PKPdf 01 21 23.0 -0.8
YAK **Yakutsk** 127.85 345 *ePKIKP* PKPdf 01 21 23.0 -2.5
YAK pmax pmax
comp=Z,29nm,1.4s
YAK **Yakutsk** 127.85 345⇑*ePKP* PKPdf 01 21 24.7 -0.8
FORT **Forrest** 130.13 208 *ePKPdf* PKPdf 01 21 29.5 -1.4
NWAO **Narrogin (SRO)** 132.13 196 *ePKIKP* PKPdf 01 21 34.4 -0.2
BRVK **Borovoye** 132.45 27 *ePKIKP* PKPdf 01 21 34.0 -0.5
ASAR **Alice Springs** 132.63 219 PKP PKPdf 01 21 34.4 -1.4
comp=Z,27nm,1.2s,baz=151,slow=4.3,SNR=45
YSS **Yuzh-Sakhalins** 133.04 324 *i PKIKP* PKPdf 01 21 35.8 0.0
YSS **Yuzh-Sakhalins** 133.04 324 *i PKP* PKPdf 01 21 35.9 +0.1
KLBR **Kellerberrin** 133.25 197 *ePKP* PKPdf 01 21 35.9 -0.8
comp=Z,69nm,1.5s
BOD **Bodaibo** 134.88 352 *ePKHKP* 01 21 24.4
WB2 **Warramunga Arr** 135.03 223 *i PKP* PKPdf 01 21 39.3 -1.1
WB2 *eSKP* 01 25 33.2
WRAB **Tennant Creek** 135.04 223 *ePKIKP* PKPdf 01 21 39.5 -0.9
WRA **Warramunga Arr** 135.04 223 PKP PKPdf 01 21 39.4 -1.0
comp=Z,18nm,0.9s,baz=140,slow=1.4,SNR=61
ZALV **Zalesovo Beam** 136.92 16 PKhKP 01 21 33.7
comp=Z,1.0nm,0.4s,baz=333,slow=2.0,SNR=8.8
ZALV PKP PKPdf 01 21 42.3 -0.5
comp=Z,24nm,0.9s,baz=234,slow=2.8,SNR=27
ZALV **Zalesovo Beam** 136.92 16 PKP 01 21 33.7
ZALV PKP PKPdf 01 21 42.3 -0.5
ZAL **Zalesovo** 136.92 16 PKHKP 01 21 33.7
ZAL 01 21 42.3
KURK **Kurchatov** 137.63 23 *ePKHKP* 01 21 31.3
KURK *e* 01 21 43.7
KURK **Kurchatov** 137.63 23 *ePKPpre* 01 21 31.3
KURK *ePKPdf* PKPdf 01 21 43.7 -0.6
KURK *i PKP* PKPdf 01 21 43.8 -0.4
EKS2 **Erkin-Say** 141.17 36 *ePKPdf* PKPdf 01 21 50.3 -0.6
MJAR **Matsushiro Arr** 141.21 313 PKhKP 01 21 43.4
comp=Z,7.4nm,0.9s,baz=68,slow=0.8,SNR=34
MAJO **Matsushiro** 141.21 313 *ePKHKP* 01 21 43.9
MAJO *e* 01 21 50.8
MAT **Matsushiro** 141.21 313 PKP PKPdf 01 21 43.7 -7.5
KAKA **Kakadu** 141.28 229 *ePKP* PKPdf 01 21 45.2 -6.8
comp=Z,34nm,1.4s
KAKA **Kakadu** 141.28 229 *ePKP* PKPdf 01 21 45.2 -6.8
KAKA *ePKPdf* PKPdf 01 21 51.2 -0.7
AML **Almayashu** 141.46 36 *ePKPpre* 01 21 45.8
HVS **Khovu-Aksy** 141.50 10 *i PKIKP* PKPdf 01 21 52.4 +1.2
FRU **Bishkek** 141.53 35 *ePKIKP* PKPdf 01 21 50.0 -1.6
MOY **Mondy** 141.73 2 *ePKIKP* PKPdf 01 21 52.1 +0.5
MOY pmax pmax
comp=Z,53nm,3.8s
TKM2 **Tokmak 2** 142.01 34 *ePKHKP* 01 21 47.4
MBWA **Marble Bar** 142.14 205 *ePKPdf* PKPdf 01 21 52.1 -1.2
MK31 **Makanchi Array** 142.24 24 *ePKHKP* 01 21 47.5
MKAR **Makanchi Array** 142.24 24 PKhKP 01 21 47.5
comp=Z,11nm,1.0s,baz=325,slow=1.9,SNR=16
KBL **Kabul** 142.45 50 *ePKHKP* 01 21 48.1
KBL *e* 01 21 51.7
ZAK **Zakamensk** 143.06 0⇑*iPKIKP* PKPdf 01 21 49.9 -4.2
ZAK pmax pmax
comp=Z,11nm,1.6s
CN2 **Changchun** 144.22 332 *ePKP* PKPdf 01 21 52.1 -4.2
CN2 PP PP
comp=Z,200nm,6.0s
KSH **Kashi** 144.46 38 *ePKP* PKPdf 01 21 56.5 -0.4
KSH *ePP* PP 01 25 17.4 +5.1
KSH PKS 01 25 30.3
SONM **Songino Array** 145.52 356 PKPbc PKPbc 01 21 58.2 -0.3
comp=Z,100nm,1.1s,baz=343,slow=1.9,SNR=260
SONM pPKPbc pPKPbc 01 22 08.4 +1.3
comp=Z,84nm,1.1s,baz=331,slow=2.3,SNR=11
BHJ **Bhuj** 146.56 68 *eP* PKPdf 01 22 01.8 +0.9
BHJ AMb AMB 01 22 07.0
comp=Z,544nm,0.9s
SNY **Shenyang** 146.63 332 ⇑PKP PKPdf 01 22 00.9 +0.4
WMQ **Urumqi** 146.77 21 PKP PKPdf 01 22 00.4 -0.3
KSRS **Korea Array** 147.51 322 PKPbc PKPbc 01 22 01.6 -3.1
comp=Z,37nm,1.1s,baz=42,slow=2.0,SNR=47
THN **Thein Dam** 148.36 48 *ex* x 01 22 02.8
SDNR **Sundarnagar** 149.75 49 *ex* x 01 21 11.0
AJM **Ajmer** 150.06 60 *eP* PKPdf 01 22 06.3 -0.3
SMLA **Simla** 150.08 49 *eP* PKPdf 01 22 06.1 -0.4
BJT **Baijiatuau** 151.15 339 *ePKIKP* PKPdf 01 22 07.0 -0.9
BJT *e* 01 22 12.5
DDI **Dehra Dun** 151.15 50 *ex* x 01 22 13.3
POO **Poona** 151.15 76 *eP* PKPdf 01 22 06.6 -1.9
NDI **New Delhi** 151.29 54 *ex* x 01 22 14.0
KAD **Karad** 151.58 78 *eP* PKPdf 01 22 07.7 -1.5
HHC **Hu-ho-hao-te** 151.68 347 *ePKP* PKPdf 01 22 07.1 -1.5
HHC PKS 01 25 40.9
HHC SKS SKSdf 01 29 09.0 -5.5
HHC SKKS SKKSac 01 32 39.5 -4.2

JOW	Kunigami	153.12	304	PKPbc	PKPbc	01 22 16.6	-1.9
	comp=Z,30nm,1.0s,baz=146,slow=3.5,SNR=2.9						
PTH	Pithoragarh	153.16	49	ex	x	01 22 18.2	
GTA	Gaotai	153.84	6	ePKP	PKPdf	01 22 11.9	0.0
TIA	Tai'an	154.10	334	ePKP	PKPdf	01 22 11.3	-1.0
KAPI	Kappang	155.57	223	ePKPdf	PKPdf	01 22 14.4	-0.6
DANN	Dangsing	156.40	48	eP	PKPdf	01 22 15.7	0.0
NJ2	Nanjing	156.59	325	ePKP	PKPdf	01 22 14.8	-1.0
NJ2				PKS		01 25 46.5	
NJ2				LR	LR		
	comp=Z,2μm,32.2s,MS5.8						
KOLN	Koldanda	156.61	49	eP	PKPdf	01 22 15.5	-0.5
GKN	Gorkha	157.23	47	eP	PKPdf	01 22 17.2	+0.4
LZH	Lanzhou	157.35	359	ePKP	PKPdf	01 22 13.5	-3.2
MDRS	Chennai	157.47	88	ex	x	01 21 32.0	
DMN	Daman	157.80	47	eP	PKPdf	01 22 16.8	-0.7
KKN	Kakani	157.82	47	eP	PKPdf	01 22 16.6	-0.9
BLSP	Bilaspur	157.97	64	eP	PKPdf	01 22 16.0	-1.9
PKI	Pulchoki	158.04	47	eP	PKPdf	01 22 16.8	-1.0
GUN	Gumba	158.17	46	eP	PKPdf	01 22 17.4	-0.5
JIRN	Jiri	158.54	46	eP	PKPdf	01 22 17.6	-0.8
RAMN	Ramite	159.26	47	eP	PKPdf	01 22 18.5	-0.8
TAPN	Taplejung	159.78	44	eP	PKPdf	01 22 18.9	-0.9
ODAN	Odare	159.87	46	eP	PKPdf	01 22 19.5	-0.5
WHN	Wuhan	160.11	331	PKP	PKPdf	01 22 19.5	-0.6
LSA	Lhasa	160.16	33	PKP	PKPdf	01 22 18.3	-1.9
LSA	Lhasa	160.16	33	ePKPdf	PKPdf	01 22 19.6	-0.6
BOK	Bokaro	160.44	55	eP	PKPdf	01 22 20.7	0.0
CD2	Chengdu	162.51	359	PKP	PKPdf	01 22 21.3	-1.4
KSM	Kuching	166.36	211	ePKPdf	PKPdf	01 22 26.3	-0.3
GYA	Guiyang	166.59	347	PKP	PKPdf	01 22 25.8	-0.6
GYA				PKS		01 25 56.4	
KMI	Kunming	168.26	3	PKP	PKPdf	01 22 28.6	+1.0
CHTO	Chiang Mai	173.08	38	ePKIKP	PKPdf	01 22 30.1	-0.2
CHTO				e		01 23 57.2	
CMAR	Chiang Mai Arr	173.36	39	PKP	PKPdf	01 22 29.7	-0.8
	comp=Z,6.5nm,0.9s,baz=291,slow=1.7,SNR=26						
CMAR				PKPab	PKPab	01 23 58.8	+0.1
	comp=Z,25nm,1.2s,baz=313,slow=4.6,SNR=12						
CMAR				PP	PP	01 27 49.3	-0.4
	comp=Z,2.0nm,0.3s,baz=327,slow=4.1,SNR=4.6						

*IDC **16** 01:06:12.0±0.5, 1360S×7699W, h0km, mb5.0/24, mb1 5.1/26, mb1mx5.0/30, mbtmp4.9/26, ML4.3/2, Error ellipse: s-maj=19.2km s-min=10.9km az=83.0*
*ISCJB **16** 01:06:14.6±2.4, 1357S±004×7688W±006, h25km±17km, mb5.0/49, Error ellipse: s-maj=10.1km s-min=5.6km az=148.7*
*MOS **16** 01:06:15.8±1.0, 1354S×7692W, h33km, mb5.4/9, Error ellipse: s-maj=19.8km s-min=11.2km az=106.5*
*BJI **16** 01:06:17.5, 1360S×7680W, h35km, mB5.1, Ms5.6, Msz5.4*
*NEIC **16** 01:06:17.5±1.1, 1357S×7684W, h36km±9km, mb5.2/28, Error ellipse: s-maj=8.8km s-min=4.7km az=65.0*
ISC 16 01:06:17.1±2.5, 1355S±004×7676W±006, h28km±17km, n436, σ0=52/417, mb5.0/49, 153C-165D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.56	357	Pn	Pn	01 06 42.5	-0.4
	213nm,0.3s,baz=181,slow=17,SNR=1.7						
NNA				Sn	Sn	01 07 01.6	-0.6
	514nm,0.3s,baz=158,slow=19,SNR=5.1						
ATAH	Atahualpa	6.70	346	Pn	Pn	01 07 53.0	-0.7
	7.4nm,0.3s,baz=192,slow=14,SNR=1.5						
SIV	San Ignacio	15.36	101	Pn	Pn	01 09 54.3	+2.3
	2.9nm,0.3s,baz=270,slow=17,SNR=2.7						
LCO	Las Campanas	16.38	161	eP	Pn	01 10 05.6	+0.5
	52nm,0.7s						
CFAA	Coronel Fontan	19.60	158	P	Pn	01 10 44.0	-0.6
	0.2nm,0.3s,baz=317,slow=11,SNR=5.7						
CPUP	Villa Florida	22.22	128	P	P	01 11 11.7	+0.3
	25nm,1.0s,mb4.6,baz=294,slow=11,SNR=2.8						
CPUP	Villa Florida	22.22	128	eP	P	01 11 11.4	0.0
BCIP	Isla Barro Col	22.77	352	eP	P	01 11 17.0	-0.5
	84nm,1.1s,mb5.1						
SDV	Santo Domingo	23.10	16	P	P	01 11 21.2	+0.3
	41nm,0.9s,mb4.9,baz=270,slow=11,SNR=2.7						
PCRV	Puerto La Cruz	26.46	28	P	P	01 11 53.3	+1.3
	12nm,0.7s,mb4.6,baz=281,slow=5.2,SNR=2.4						
PCRV				S	S	01 16 30.8	+6.5
	295nm,1.3s,baz=260,slow=18,SNR=4.6						
PLCA	Paso Flores	27.62	170	P	P	01 12 00.9	-1.2
	16nm,0.9s,mb4.6,baz=4.7,slow=13,SNR=4.4						
PLCA				PcP	PcP	01 15 19.9	+0.7
	7.6nm,1.2s,baz=0.0,slow=3.0,SNR=3.2						
SJG	San Juan	33.16	19	P	P	01 12 51.0	-0.3
	18nm,0.6s,mb5.2,baz=190,slow=5.5,SNR=4.1						
CMIG	Matias Romero	35.32	329	P	P	01 13 10.1	+0.1
	8.9nm,0.9s,mb4.7,baz=136,slow=5.6,SNR=4.1						
CMIG				PcP	PcP	01 15 39.6	-0.6
	4.4nm,1.0s,baz=153,slow=2.3,SNR=3.2						
TEIG	Tepich	35.42	341	P	P	01 13 10.2	-0.6
	23nm,0.8s,mb5.2,baz=158,slow=5.4,SNR=4.0						
TEIG	Tepich	35.42	341	eP	P	01 13 10.2	-0.7
	39nm,1.0s,mb5.3						
USHA	Ushuaia	41.70	173	P	P	01 14 02.3	-0.9
	21nm,0.8s,mb4.8,baz=310,slow=7.9,SNR=3.9						
UALR	University of	50.28	343	eP	P	01 15 10.2	-0.9
	25nm,1.0s,mb5.2						
ELN	Prospectdale	50.64	356	eP	P	01 15 12.3	-1.4
PMSA	Palmer Station	51.91	173	P	P	01 15 22.4	-0.5
	19nm,1.0s,mb5.0,baz=342,slow=4.1,SNR=4.6						
PMSA	Palmer Station	51.91	173	eP	P	01 15 22.3	-0.6
	23nm,1.0s,mb5.1						
SDMD	Soldier's Deli	52.68	360	eP	P	01 15 28.4	-0.5
ACSO	Alum Creek Sta	53.81	354	eP	P	01 15 35.6	-1.6
	54nm,1.2s,mb5.4						
319A	Douglas	54.49	326	⇓P	P	01 15 42.5	+0.1
	baz=55						
318A	Bisbee	54.94	325	⇑P	P	01 15 45.4	-0.2
	baz=55,SNR=6.2						
219A	White Tail Can	54.96	326	⇑P	P	01 15 45.5	-0.3
	baz=55,SNR=5.3						
218A	Dragoon	55.37	325	⇓P	P	01 15 48.6	-0.1
	baz=56,SNR=5.7						
217A	Green Valley	55.65	325	⇓P	P	01 15 50.6	-0.1
	baz=56,SNR=5.7						
118A	Homack Ranch,	55.84	326	⇑P	P	01 15 51.6	-0.4
	baz=56,SNR=7.5						
Z19A	T-Link Ranch,	55.96	327	⇑P	P	01 15 53.0	0.0
	baz=56						
HRV	Adam Dziewonsk	55.98	5	eP	P	01 15 52.7	-0.2
HRV				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.4						
HRV	Adam Dziewonsk	55.98	5	eP	P	01 15 52.7	-0.1
	comp=Z,36nm,0.9s,mb5.4						
216A	Three Points,	56.18	324	⇑P	P	01 15 54.7	+0.2
	baz=56						
117A	Oracle	56.21	325	⇓P	P	01 15 54.3	-0.4
	baz=56,SNR=7.2						
Y19A	Nutrioso	56.47	328	⇑P	P	01 15 56.6	0.0
	baz=57						
Z17A	San Carlos Hig	56.61	326	⇑P	P	01 15 57.1	-0.4
	baz=57						
ACCN	Adirondack Com	56.72	3	eP	P	01 15 58.2	+0.1
116A	Eloy	56.74	325	⇑P	P	01 15 58.1	-0.4
	baz=57,SNR=6.0						
Y18A	Canyon Day Jun	56.74	327	⇓P	P	01 15 58.0	-0.5
	baz=57						
214A	Organ Pipe Nat	56.92	323	⇑P	P	01 15 59.7	-0.2
	baz=57						
Y17A	Roosevelt	57.11	326	⇓P	P	01 16 00.8	-0.3
	baz=57						
115A	Sonoran Desert	57.13	324	⇓P	P	01 16 01.2	-0.1
	baz=57						
Z16A	Peralta Trail,	57.16	325	⇑P	P	01 16 01.3	-0.2
	baz=57						
X18A	Snowflake	57.28	328	⇓P	P	01 16 02.5	+0.3
	baz=58						
MDV	Middlebury	57.36	3	eP	P	01 16 02.5	-0.2
W19A	Sanders	57.44	328	⇓P	P	01 16 03.1	-0.3
	baz=58						
Z15A	Gila River Ind	57.53	325	⇓P	P	01 16 03.7	-0.4
	baz=58,SNR=5.3						
X17A	Forest Lakes	57.58	327	⇓P	P	01 16 04.6	+0.2
	baz=58						
Y16A	Circle Bar Ran	57.60	326	⇑P	P	01 16 04.4	-0.2
	baz=58						
W18A	Petrified Fore	57.62	328	⇓P	P	01 16 04.8	+0.1
	baz=58						
V19A	Window Rock	57.74	329	⇓P	P	01 16 05.6	+0.1
	baz=58						
X16A	Lo Mia Camp, P	57.98	326	⇓P	P	01 16 07.2	-0.1
	baz=58						
113A	Mohawk Valley,	58.07	323	⇑P	P	01 16 07.6	-0.3
	baz=58						
Y15A	Casa Rosa Ranc	58.12	325	⇑P	P	01 16 07.8	-0.4
	baz=58						
X15A	Humboldt	58.47	326	⇓P	P	01 16 10.7	+0.1
	baz=59						
Y14A	Wickenburg	58.49	325	⇑P	P	01 16 10.6	-0.1
	baz=59						
W16A	Flagstaff	58.55	327	⇑P	P	01 16 11.2	0.0
	baz=59						
T19A	Beclabito	58.61	330	⇓P	P	01 16 11.2	-0.4
	baz=59						
MVCO	Mesa Verde	58.66	331	⇑P	P	01 16 11.6	-0.3
	baz=59						
U18A	Rough Rock, Ch	58.70	329	⇑P	P	01 16 12.1	-0.2
	baz=59						
WUAZ	Wupatki	58.78	327	⇑P	P	01 16 13.2	+0.4
	baz=59						
WUAZ	Wupatki	58.78	327	eP	P	01 16 12.7	-0.1
	comp=Z,15nm,0.9s,mb5.0						
X14A	Yava	58.81	325	⇓P	P	01 16 13.0	0.0
	baz=59,SNR=9.7						
Y13A	Salome	58.86	324	⇑P	P	01 16 13.4	0.0
	baz=59						
GLA	Glamis	58.89	323	⇓P	P	01 16 13.5	-0.1
	baz=59						
W15A	Williams	59.00	326	⇓P	P	01 16 14.8	+0.4
	baz=59						
Y12C	Blythe	59.21	324	⇓P	P	01 16 15.5	-0.3
	baz=59						
U17A	Shonto	59.24	329	⇑P	P	01 16 15.8	-0.1
	baz=59,SNR=5.0						
T18A	Mexican Hat	59.27	329	⇓P	P	01 16 15.5	-0.7
	baz=60,SNR=5.7						
S19A	Harvey Farm, M	59.39	330	⇑P	P	01 16 16.8	-0.2
	baz=60						
PDMCI	Parker Dam,Lak	59.39	324	⇓P	P	01 16 17.0	-0.1
	baz=60						
X13A	Yucca	59.43	325	⇓P	P	01 16 17.2	-0.1
	baz=60						
V15A	Kaibab Nationa	59.43	327	⇑P	P	01 16 17.6	+0.3
	baz=60						
W14A	Seligman	59.47	326	⇑P	P	01 16 17.8	+0.2
	baz=60						
T17A	Navajo Res., N	59.62	329	⇓P	P	01 16 18.5	-0.2
	baz=60						
BC3	Big Chuckw Mtn	59.69	323	⇑P	P	01 16 19.2	+0.1
	baz=60						
S18A	Hurst Farm, Bl	59.76	330	⇑P	P	01 16 19.7	+0.2
	baz=60						
V14A	Boquillas Ranc	59.80	326	⇑P	P	01 16 20.2	+0.4
	baz=60,SNR=5.4						
W13A	Hualapai Mount	59.83	325	⇑P	P	01 16 20.0	0.0
	baz=60,SNR=6.9						
IRM	Iron Mountain	59.87	323	⇑P	P	01 16 20.1	-0.2
	baz=60,SNR=12						
R19A	Curley Farm, L	59.88	331	⇑P	P	01 16 19.9	-0.4
	baz=60						
U15A	North Rim	59.96	327	⇓P	P	01 16 21.2	+0.3
	baz=60						
PFO	Pinyon Flat Ob	60.25	322	⇓P	P	01 16 24.0	+1.1
	baz=60						
BELC	Belle Mtn.	60.25	323	⇓P	P	01 16 23.6	+0.6
	baz=60						
R18A	Canyonlands Na	60.26	330	⇑P	P	01 16 22.5	-0.4
	baz=60						
Q19A	Hogan Spring (	60.41	331	⇓P	P	01 16 23.7	-0.3
	baz=61						
U14A	Mt Trumbull	60.42	327	⇑P	P	01 16 24.5	+0.4
	baz=61						
V13A	Grand Canyon W	60.44	326	⇓P	P	01 16 24.3	+0.1
	baz=61						
T15A	Red Dirt Ranch	60.45	328	⇑P	P	01 16 24.2	-0.1
	baz=61						
W12A	Cal Nev Ari	60.53	325	⇓P	P	01 16 24.9	0.0
	baz=61						
S16A	Weppner Ranch,	60.58	329	⇓P	P	01 16 25.0	-0.1
	baz=61						
GMRC	Granite Mounta	60.61	324	⇑P	P	01 16 25.5	+0.1
	baz=61						
R17A	Hanksville Air	60.68	330	⇓P	P	01 16 25.8	0.0
	baz=61						
MURC	Murrieta	60.69	322	⇑P	P	01 16 26.2	+0.2
	baz=61						
V12A	Nelson	60.83	325	⇓P	P	01 16 27.1	+0.2
	baz=61						
U13A	Pakoon Wash	60.84	326	⇑P	P	01 16 27.3	+0.3
	baz=61						
T14A	Hurricane	60.85	327	⇓P	P	01 16 27.6	+0.6
	baz=61						
Q18A	Rafter H Ranch	60.94	331	⇑P	P	01 16 27.8	+0.2
	baz=61						
HEC	Hector,Ludlow	61.03	323	⇑P	P	01 16 28.8	+0.5
	baz=61						
SRU	San Rafael	61.13	330	⇑P	P	01 16 28.9	0.0
	baz=61						
U12A	Valley of Fire	61.17	326	⇓P	P	01 16 29.1	0.0
	baz=61						
TUQ	Turquoise Mtn.	61.23	324	⇓P	P	01 16 29.5	-0.1
	baz=61						
V11A	Goodsprings	61.23	325	⇓P	P	01 16 29.8	+0.1
	baz=61						
T13A	Saint George	61.26	327	⇓P	P	01 16 30.1	+0.3
	baz=61						
Q16A	Castle Valley	61.30	330	⇓P	P	01 16 30.3	+0.3
	baz=62						
BFSC	Mount Baldy St	61.41	322	⇓P	P	01 16 30.6	-0.2
	baz=62,SNR=10						
P18A	Preston Nutter	61.41	331	⇓P	P	01 16 31.0	+0.2
	baz=62						
S14A	Cedar City	61.42	328	⇓P	P	01 16 31.1	+0.3
	baz=62						
P17A	Butcher Ranch,	61.52	331	⇓P	P	01 16 31.2	-0.3
	baz=62,SNR=5.2						
MWC	Mount Wilson	61.63	322	eP	P	01 16 32.8	+0.4
MWC				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.3						
MWC	Mount Wilson	61.63	322	eP	P	01 16 32.8	+0.4
	comp=Z,32nm,1.2s,mb5.3						
GSC	Goldstone	61.64	323	⇑P	P	01 16 32.8	+0.5
	baz=62						
S13A	Holt Ranch, En	61.65	327	⇑P	P	01 16 32.8	+0.4
	baz=62,SNR=7.6						
R14A	James Farms, M	61.75	328	⇓P	P	01 16 33.3	+0.3
	baz=62						
SHOC	Shoshone	61.76	324	⇓P	P	01 16 33.6	+0.4
	baz=62						
O18A	Roosevelt	61.80	332	⇑P	P	01 16 33.4	0.0
	baz=62						
Q15A	Fillmore	61.96	329	⇑P	P	01 16 34.8	+0.4
	baz=62						
EDW2	Edwards Air Fo	62.04	322	⇓P	P	01 16 35.2	+0.1
	baz=62						
O17A	Robinson Place	62.09	331	⇓P	P	01 16 35.8	+0.5
	baz=62						
T11A	Corn Creek, Al	62.13	326	⇓P	P	01 16 35.9	+0.2
	baz=62,SNR=7.1						
R13A	O'Grain Ranch,	62.15	327	⇓P	P	01 16 36.4	+0.7
	baz=62						
N18A	Larsen Ranch,	62.22	332	⇓P	P	01 16 36.6	+0.5
	baz=62						
P15A	Leamington	62.35	330	⇑P	P	01 16 37.3	+0.2
	baz=62						
Q14A	Sevier Lake (B	62.40	328	⇓P	P	01 16 38.6	+1.1
	baz=63						
O16A	Springville	62.46	331	⇑P	P	01 16 37.9	+0.1
	baz=63						
TPNV	Topopah Spring	62.49	325	⇓P	P	01 16 38.6	+0.5
	baz=63						
FURC	Furnace Creek,	62.49	324	⇑P	P	01 16 38.1	0.0
	baz=63,SNR=5.4						
MPMC	Manual Prospec	62.57	323	⇑P	P	01 16 38.3	-0.3
	baz=63,SNR=5.2						
R12A	Pony Springs,	62.60	327	⇑P	P	01 16 39.1	+0.3
	baz=63,SNR=5.3						
EYMN	Ely	62.61	349	eP	P	01 16 36.3	-2.3
	comp=Z,12nm,1.0s,mb5.0						
S11A	Rachel	62.71	326	⇑P	P	01 16 40.1	+0.6
	baz=63						
N17A	Moffit Pass	62.72	331	⇑P	P	01 16 40.1	+0.6
	baz=63						
P14A	Drum Mountains	62.75	329	⇓P	P	01 16 40.3	+0.5
	baz=63						
Q13A	Wheeler Ranch,	62.76	328	⇑P	P	01 16 40.6	+0.8
	baz=63						
ISA	Isabella	62.87	322	eP	P	01 16 40.7	+0.1
ISA				pmax	pmax		
	comp=Z,18nm,1.4s,mb5.0						
ISA	Isabella	62.87	322	⇓P	P	01 16 41.0	+0.4
	baz=63						
ISA	Isabella	62.87	322	eP	P	01 16 40.6	0.0
	comp=Z,18nm,1.4s,mb5.0						
N16A	Rees Ranch, Co	62.96	331	⇓P	P	01 16 41.5	+0.4
	baz=63						
DUG	Dugway	63.09	330	eP	P	01 16 42.2	+0.2
DUG				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.4						
DUG	Dugway	63.09	330	⇓P	P	01 16 42.2	+0.3
	baz=63,SNR=6.0						
DUG	Dugway	63.09	330	eP	P	01 16 42.2	+0.2
	comp=Z,43nm,1.3s,mb5.4						
P13A	Bates Ranch, G	63.13	328	⇓P	P	01 16 43.2	+0.9
	baz=63						
R11A	Troy Canyon, C	63.13	326	⇓P	P	01 16 42.7	+0.3
	baz=63						
GRAC	Grapevine Rang	63.16	324	⇑P	P	01 16 42.3	-0.2
	baz=63						
PKM	Peak Mountain	63.16	321	⇑P	P	01 16 43.2	+0.6
	baz=63						
CWC	Cottonwood Cre	63.17	323	⇑P	P	01 16 42.7	+0.1
	baz=63						
Q12A	Willow Creek R	63.24	327	⇑P	P	01 16 43.2	+0.2
	baz=63,SNR=5.5						
VES	Vestal, Richgr	63.35	322	⇓P	P	01 16 44.1	+0.3
	baz=64						
S10A	Tonopah Range,	63.38	325	⇓P	P	01 16 44.1	+0.1
	baz=64,SNR=5.9						
R10A	Warm Springs	63.48	326	⇓P	P	01 16 45.6	+1.0
	baz=64						
N15A	Stansbury Isla	63.48	330	⇓P	P	01 16 44.9	+0.4
	baz=64						
Q11A	Duckwater	63.53	327	⇓P	P	01 16 45.0	+0.1
	baz=64,SNR=5.8						
SMMC	Simmler	63.55	321	⇑P	P	01 16 45.5	+0.4
	baz=64,SNR=5.7						
S09A	Goldfield	63.59	325	⇓P	P	01 16 45.5	+0.2
	baz=64						
HWUT	Hardware Ranch	63.59	331	eP	P	01 16 44.6	-0.6
	comp=Z,25nm,1.1s,mb5.2						
PDAR	Pinedale Array	63.61	334	P	P	01 16 44.4	-1.0
	comp=Z,8.4nm,1.0s,mb4.7,baz=131,slow=6.8,SNR=4.7						
TIN	Tinemaha	63.69	324	⇓P	P	01 16 46.0	0.0
	baz=64						
RCTC	Rector, Farmer	63.76	323	⇓P	P	01 16 46.6	0.0
	baz=64						
N14A	Grayback Hills	63.77	330	⇓P	P	01 16 46.4	-0.1
	baz=64						
TPH	Tonopah	63.83	325	eP	P	01 16 47.1	+0.1
R09A	Tonopah	63.87	325	⇓P	P	01 16 47.4	+0.3
	baz=64						
HELL	Mitchell Peak	63.89	323	⇓P	P	01 16 47.4	0.0
	baz=64						
M15A	Larsen Ranch,	63.89	331	⇑P	P	01 16 47.1	-0.1
	baz=64						
Q10A	Clear Creek Ra	63.92	326	⇑P	P	01 16 48.3	+0.8
	baz=64						
S08C	White Mtn Res	63.96	324	⇑P	P	01 16 48.0	+0.2
	baz=64,SNR=5.4						
MTUM	Tungsten Hills	64.08	324	eP	P	01 16 48.5	-0.1
P11A	Circle Ranch,	64.10	327	⇑P	P	01 16 48.8	+0.1
	baz=64						
O12A	Currie	64.11	328	⇑P	P	01 16 48.6	-0.1
	baz=64						
L15A	Malad City	64.28	331	⇓P	P	01 16 49.7	-0.1
	baz=64						
N13A	Wendover, West	64.28	329	⇓P	P	01 16 49.5	-0.3
	baz=64						
PKD	Parkfield	64.30	321	⇑P	P	01 16 49.7	-0.3
	baz=64						
M14A	Sheep Mountain	64.35	330	⇓P	P	01 16 49.8	-0.5
	baz=64,SNR=6.1						
Q09A	Carvers	64.35	326	⇑P	P	01 16 50.5	+0.2
	baz=64						
O11A	Cowboy Ranch,	64.48	328	⇓P	P	01 16 51.7	+0.6
	baz=65						
KCC	Kaiser Creek	64.50	323	⇑P	P	01 16 50.9	-0.5
	baz=65,SNR=5.5						
T06C	Millerton Lake	64.51	323	⇑P	P	01 16 51.4	-0.1
	baz=65						
P10A	Eureka	64.53	327	⇑P	P	01 16 51.8	+0.3
	baz=65						
K16A	Soda Springs	64.56	332	⇓P	P	01 16 51.7	0.0
	baz=65						
NVAR	Mina Array Bea	64.69	325	P	P	01 16 52.1	-0.4
	comp=Z,9.1nm,0.8s,mb4.8,baz=139,slow=7.0,SNR=14						
L14A	Malta	64.71	331	⇓P	P	01 16 52.1	-0.5
	baz=65						
U04C	Hernandez Rese	64.72	322	⇓P	P	01 16 52.7	-0.1
	baz=65						
V03C	Hunter Liggett	64.77	321	⇓P	P	01 16 53.6	+0.4
	baz=65						
Q08A	Gabbs	64.78	325	⇓P	P	01 16 53.1	-0.1
	baz=65						
P09A	Austin	64.84	326	⇑P	P	01 16 53.9	+0.4
	baz=65						
R07C	Lee Vining	64.87	324	⇓P	P	01 16 54.3	+0.5
	baz=65						
K15A	Arbon	64.88	332	⇓P	P	01 16 53.4	-0.3
	baz=65						
J16A	Bone	64.92	333	⇓P	P	01 16 54.0	+0.1
	baz=65						
O10A	Cortez Mining,	65.03	327	⇑P	P	01 16 55.0	+0.2
	baz=65						
M12A	Wells	65.05	329	⇑P	P	01 16 54.3	-0.6
	baz=65						
K14A	Jones Ranch, D	65.07	331	⇓P	P	01 16 54.4	-0.6
	baz=65						
L13A	Double Diamond	65.09	330	⇑P	P	01 16 54.7	-0.3
	baz=65						
S05C	Merced	65.11	323	⇓P	P	01 16 55.9	+0.6
	baz=65,SNR=5.7						
FLWY	Flagg Ranch	65.16	334	eP	P	01 16 55.4	-0.1
	comp=Z,56nm,1.3s,mb5.4						
S06C	San Francisco	65.19	323	⇑P	P	01 16 55.8	0.0
	baz=65						
HAST	Hastings Reser	65.20	321	⇓P	P	01 16 56.1	+0.2
	baz=65						
O09A	Fish Creek Ran	65.31	327	⇑P	P	01 16 56.8	+0.2
	baz=66						
I16A	Newdale	65.34	333	⇓P	P	01 16 56.8	+0.1
	baz=66						
N10A	Dunphy	65.35	328	⇓P	P	01 16 56.8	0.0
	baz=66						
J15A	Blackfoot	65.39	332	⇑P	P	01 16 56.9	-0.1
	baz=66						
R06C	Coleville	65.40	324	⇑P	P	01 16 57.4	+0.

PAHR **Pah Rah Range** 66.18 325 *e*P P 01 17 02.5 +0.3
comp=Z,34nm,0.9s,mb5.4
J13A **Cove Ranch, Pi** 66.19 331 ⇓P P 01 17 02.5 +0.3
baz=66
O07A **Toulon** 66.22 326 ⇓P P 01 17 02.2 -0.2
baz=66,SNR=8.8
N08A **GE Springer Mi** 66.25 327 ⇓P P 01 17 02.0 -0.6
baz=66
I14A **Mackay** 66.27 332 ⇓P P 01 17 03.1 +0.4
baz=66
LAVA **Lava Cap Winer** 66.29 324 ⇑P P 01 17 02.8 -0.1
baz=66
L10A **Juniper Basin** 66.33 329 ⇑P P 01 17 02.8 -0.3
baz=66,SNR=5.6
M09A **Marrel Ranch,** 66.35 328 ⇑P P 01 17 02.9 -0.4
baz=66
DGMT **Dagmar** 66.38 340 *e*P P 01 17 02.8 -0.5
comp=Z,54nm,1.1s,mb5.5
BDM **Black Diamond** 66.42 322 ⇓P P 01 17 05.0 +1.2
baz=67
HLID **Hailey** 66.43 331 ⇓P P 01 17 03.9 +0.1
baz=67
J12A **Stokes Ranch,** 66.52 330 ⇓P P 01 17 04.9 +0.6
baz=67
I13A **Wildhorse Cree** 66.56 331 ⇓P P 01 17 04.9 +0.3
baz=67,SNR=7.1
P05C **Yuba Gap, Truc** 66.59 324 ⇑P P 01 17 04.8 0.0
baz=67,SNR=6.5
K11A **Parker Ranch,** 66.62 329 ⇑P P 01 17 04.5 -0.4
baz=67
N07B **Gerlach** 66.70 326 ⇓P P 01 17 05.4 -0.1
baz=67
Q04C **Lincoln** 66.72 323 ⇑P P 01 17 06.8 +1.2
baz=67
O06A **Flanigan** 66.74 325 ⇑P P 01 17 05.2 -0.5
baz=67
G15A **Dillon** 66.80 333 ⇓P P 01 17 06.0 0.0
baz=67
BOZ **Bozeman (W)** 66.81 334 *e*P P 01 17 05.5 -0.6
BOZ pmax pmax
comp=Z,12nm,1.2s,mb4.8
BOZ **Bozeman (W)** 66.81 334 ⇑P P 01 17 05.7 -0.4
baz=67
BOZ **Bozeman (W)** 66.81 334 *e*P P 01 17 05.5 -0.5
comp=Z,12nm,1.2s,mb4.8
BEKR **Beckwourth** 66.83 325 ⇓P P 01 17 06.3 0.0
baz=67,SNR=6.4
L09A **Wilkinson Ranc** 66.89 328 ⇓P P 01 17 07.1 +0.4
baz=67
FARB **Farallon Islan** 66.93 321 ⇓P P 01 17 07.5 +0.4
baz=67
Q03C **Winters** 66.96 323 ⇑P P 01 17 08.0 +0.8
baz=67
MFID **Camas Ranch** 67.00 330 ⇑P P 01 17 07.4 +0.1
baz=67,SNR=6.2
DLMT **Dillon** 67.00 333 *e*P P 01 17 06.7 -0.6
comp=Z,19nm,1.1s,mb5.0
CVS **Carmenet Viney** 67.03 322 ⇓P P 01 17 07.5 -0.1
baz=67,SNR=5.6
K10A **MacKenzie Ranc** 67.04 329 ⇑P P 01 17 07.6 0.0
baz=67
N06A **Buffalo Meadow** 67.15 326 ⇓P P 01 17 08.3 0.0
baz=67,SNR=7.9
MCCM **Marconi Confer** 67.15 322 ⇓P P 01 17 08.2 -0.2
baz=67
O05C **Quincy** 67.21 324 ⇑P P 01 17 09.0 +0.3
baz=67
NSHM **Saint Helena R** 67.23 322 *e*P P 01 17 08.8 -0.1
M07A **Soldier Meadow** 67.23 327 ⇓P P 01 17 08.9 0.0
baz=67
ORV **Oroville** 67.27 324 ⇓P P 01 17 09.3 +0.2
baz=67,SNR=12
F15A **Butte** 67.33 334 ⇑P P 01 17 09.3 -0.1
baz=68
L08A **Fields** 67.37 328 ⇓P P 01 17 09.5 -0.2
baz=68
MNRC **McLaughlin Nat** 67.37 323 ⇓P P 01 17 10.0 +0.2
baz=68
H12A **Diamond D Ranc** 67.39 331 ⇑P P 01 17 09.9 +0.1
baz=68
K09A **Rome** 67.41 328 ⇑P P 01 17 09.9 -0.1
baz=68,SNR=5.6
I11A **Placerville** 67.43 330 ⇓P P 01 17 09.9 -0.1
baz=68
J10A **Berg Farm, Mel** 67.47 330 ⇑P P 01 17 10.2 -0.1
baz=68
G13A **Cobalt** 67.52 332 ⇑P P 01 17 11.0 +0.4
baz=68
O04C **Chester** 67.55 325 ⇓P P 01 17 11.5 +0.6
baz=68
HOPS **Hopland** 67.81 323 ⇑P P 01 17 12.4 -0.2
baz=68
E15A **Deer Lodge** 67.86 334 ⇓P P 01 17 12.6 -0.1
baz=68
I10A **Payette** 67.97 330 ⇓P P 01 17 13.1 -0.4
baz=68
EGMT **Eagleton** 67.97 337 ⇑P P 01 17 13.3 -0.1
baz=68
EGMT **Eagleton** 67.97 337 *e*P P 01 17 13.0 -0.4
comp=Z,16nm,0.8s,mb5.1
GASB **Alder Springs** 68.04 323 ⇑P P 01 17 14.3 +0.3
baz=68,SNR=7.7
H11A **Donnelly** 68.05 331 ⇓P P 01 17 13.8 -0.1
baz=68
HATC **Hat Creek Radi** 68.09 325 ⇑P P 01 17 14.5 +0.1
baz=68
F13A **Darby** 68.10 333 ⇓P P 01 17 14.1 -0.1
baz=68
K07A **Rock Creek Ran** 68.19 328 ⇑P P 01 17 14.9 +0.1
baz=68
MOD **Modoc** 68.20 326 ⇓P P 01 17 15.2 +0.2
baz=68
E14A **Clinton** 68.21 334 ⇓P P 01 17 15.4 +0.4
baz=68
J08A **Circle Bar Ran** 68.27 329 ⇑P P 01 17 15.0 -0.3
baz=68
P01C **Double 8 Ranch** 68.28 323 ⇑P P 01 17 15.8 +0.3
baz=68,SNR=6.7
M05C **Lookout** 68.29 325 ⇑P P 01 17 15.6 +0.1
baz=68,SNR=8.8
D15A **Lincoln** 68.29 335 ⇓P P 01 17 15.4 0.0
baz=68
O02C **Red Bluff** 68.42 324 ⇑P P 01 17 15.7 -0.7
baz=69
F12A **Elk City** 68.49 332 ⇓P P 01 17 16.5 -0.2
baz=69
E13A **Victor** 68.54 333 ⇓P P 01 17 16.9 -0.1
baz=69,SNR=7.0
WDC **Whiskeytown Da** 68.55 324 ⇓P P 01 17 15.3 -1.9
baz=69
KCPM **Cahto Peak** 68.56 323 *e*P P 01 17 17.3 0.0
KIPM **Iron Peak** 68.58 323 *e*P P 01 17 17.6 +0.2
L05A **Lakeview** 68.59 326 ⇓P P 01 17 17.5 +0.1
baz=69
SCHQ **Schefferville** 68.63 6 P P 01 17 16.4 -0.9
comp=Z,20nm,0.9s,mb5.0,baz=175,slow=4.4,SNR=5.7
SCHQ **Schefferville** 68.63 6 P P 01 17 16.4 -0.9
J07A **Hines** 68.71 328 ⇑P P 01 17 18.4 +0.3
baz=69
MSO **Missoula** 68.73 334 *e*P P 01 17 18.2 0.0
comp=Z,20nm,1.4s,mb4.9
D14A **Greenough** 68.74 334 ⇑P P 01 17 18.4 +0.2
baz=69
M03C **McCloud** 68.77 325 ⇑P P 01 17 18.3 -0.2
baz=69
K06A **Valley Falls** 68.80 327 ⇓P P 01 17 19.0 +0.3
baz=69,SNR=8.3
M04C **Macdoel** 68.96 325 ⇑P P 01 17 19.5 -0.2
baz=69,SNR=5.0
F11A **Grangeville** 69.00 332 ⇑P P 01 17 19.3 -0.6
baz=69,SNR=6.8
G10A **Bishop Farm, J** 69.01 331 ⇑P P 01 17 20.1 +0.2
baz=69
J06A **Christmas Vall** 69.06 327 ⇓P P 01 17 20.6 +0.3
baz=69,SNR=9.2
K05A **Summer Lake** 69.09 327 ⇓P P 01 17 21.2 +0.7
baz=69
N02C **Big Bar** 69.14 324 ⇑P P 01 17 21.2 +0.3
baz=69,SNR=13
D13A **Huson** 69.16 333 ⇓P P 01 17 21.3 +0.5
baz=69
H08A **Prairie City** 69.20 329 ⇓P P 01 17 21.8 +0.7
baz=69
L04A **Klamath Falls** 69.25 326 ⇓P P 01 17 21.8 +0.3
baz=69
M02C **Callahan** 69.26 325 ⇑P P 01 17 20.8 -0.8
baz=69
I07A **Izee** 69.31 328 ⇑P P 01 17 22.0 +0.2
baz=70,SNR=5.8
G09A **Cove** 69.32 330 ⇑P P 01 17 22.3 +0.4
baz=70,SNR=7.1
C14A **Swan Lake** 69.38 334 ⇑P P 01 17 22.3 +0.1
baz=70
E11A **Bogner Ranch,** 69.38 332 ⇓P P 01 17 21.4 -0.8
baz=70
YBH **Yreka Blue Hor** 69.41 325 *e*P P 01 17 20.9 -1.6
YBH pmax pmax
comp=Z,10.0nm,0.9s
YBH **Yreka Blue Hor** 69.41 325 ⇓P P 01 17 21.8 -0.7
baz=70,SNR=7.0
YBH **Yreka Blue Hor** 69.41 325 *e*P P 01 17 20.9 -1.5
comp=Z,9.7nm,0.9s,mb4.7
K04A **Chilquin** 69.46 326 ⇑P P 01 17 22.5 -0.2
baz=70
D12A **Red Ives Fores** 69.52 333 ⇓P P 01 17 22.6 -0.4
baz=70
JCC **Jacoby Creek** 69.56 323 ⇑P P 01 17 23.9 +0.5
baz=70
F10A **Beach Ranch, E** 69.56 331 ⇑P P 01 17 23.3 -0.1
baz=70
I06A **Prineville** 69.57 328 ⇓P P 01 17 23.7 +0.2
baz=70,SNR=5.5
J05A **Fort Rock** 69.65 327 ⇓P P 01 17 23.8 -0.1
baz=70
C13A **Hot Springs** 69.66 334 ⇑P P 01 17 23.9 0.0
baz=70,SNR=5.9
F09A **S2 Ranch, Elgi** 69.69 331 ⇓P P 01 17 24.1 -0.1
baz=70,SNR=6.6
H07A **Lands Inn, Kim** 69.70 329 ⇑P P 01 17 25.5 +1.3
baz=70
E10A **Myers Farm, Un** 69.89 332 ⇑P P 01 17 25.5 +0.2
baz=70
G08A **Pilot Rock** 69.90 330 ⇓P P 01 17 25.1 -0.3
baz=70,SNR=5.5
KRMB **Red Mountain** 69.94 324 *e*P P 01 17 25.7 -0.1
J04A **Umpqua Nationa** 70.09 326 ⇓P P 01 17 26.8 +0.2
baz=70
L02A **Cave Junction** 70.19 325 ⇑P P 01 17 27.2 0.0
baz=70
H06A **Lindquist Farm** 70.19 329 ⇓P P 01 17 27.5 +0.2
baz=70
VNA1 **Neumayer--Stat** 70.23 161 *e*P P 01 17 27.7 +0.6
VNA1 *e* 01 17 29.7
VNA1 *e* 01 17 33.3
VNA1 *e* 01 17 39.7
VNA1 *e* 01 17 42.7
VNA1 *e* 01 17 47.7
G07A **Ruggs Ranch, H** 70.23 329 ⇑P P 01 17 27.8 +0.3
baz=70
M01C **Crescent City** 70.28 324 ⇑P P 01 17 28.0 +0.1
baz=70
D10A **Wagner Farm, O** 70.39 332 ⇑P P 01 17 28.1 -0.3
baz=71
E09A **Wood Farm, Sta** 70.39 331 ⇑P P 01 17 27.9 -0.5
baz=71
K02A **Glendale** 70.53 325 ⇑P P 01 17 28.8 -0.5
baz=71,SNR=8.0
A13A **Flathead Natio** 70.56 335 ⇓P P 01 17 29.3 -0.1
baz=71
I04A **Tendick Farm,** 70.62 327 ⇑P P 01 17 29.2 -0.7
baz=71
B12A **Libby** 70.70 334 ⇓P P 01 17 30.9 +0.7
baz=71
F07A **Phinny Hill Vi** 70.81 330 ⇓P P 01 17 31.2 +0.2
baz=71
D09A **Jones Farm, Ri** 70.87 331 ⇑P P 01 17 31.4 +0.1
baz=71
J02A **Umpqua** 70.97 326 ⇓P P 01 17 32.0 0.0
baz=71,SNR=7.7
B11A **Sandpoint** 71.02 333 ⇑P P 01 17 32.0 -0.2
baz=71
G05A **Wamic** 71.05 328 ⇑P P 01 17 32.8 +0.4
baz=71
A12A **Yaak River Ran** 71.09 334 ⇓P P 01 17 33.0 +0.4
baz=71,SNR=7.3
K01A **Sixes** 71.10 325 ⇑P P 01 17 32.6 -0.2
baz=71
H04A **Detroit Lake** 71.11 328 ⇑P P 01 17 32.4 -0.5
baz=71
I03A **Eugene** 71.21 326 ⇓P P 01 17 33.5 +0.1
baz=71,SNR=6.3
NEW **Newport** 71.22 333 *e*P P 01 17 32.8 -0.6
NEW pmax pmax
comp=Z,26nm,1.0s
NEW **Newport** 71.22 333 *e*P P 01 17 32.8 -0.6
comp=Z,26nm,1.0s,mb5.1
E07A **Sunnyside** 71.24 330 ⇑P P 01 17 34.1 +0.5
baz=71
OD2 **Odessa Site #2** 71.30 331 *e*P P 01 17 34.0 +0.1
A11A **Hall Mountain,** 71.41 334 ⇓P P 01 17 35.0 +0.4
baz=72
I02A **Mapleton** 71.53 326 ⇑P P 01 17 35.6 +0.2
baz=72
F05A **White Salmon** 71.56 329 ⇑P P 01 17 35.7 +0.2
baz=72
G04A **Mulino** 71.62 328 ⇓P P 01 17 36.2 +0.3
baz=72
H03A **Soap Creek Ran** 71.69 327 ⇓P P 01 17 36.4 +0.1
baz=72,SNR=5.3
C08A **Higginbotham F** 71.74 331 ⇑P P 01 17 37.2 +0.7
baz=72
D07A **Quincy** 71.75 331 ⇓P P 01 17 36.6 -0.1
baz=72
E06A **Yakima** 71.78 330 ⇑P P 01 17 36.9 0.0
baz=72
B09A **Rice** 71.80 332 ⇓P P 01 17 36.8 -0.1
baz=72
F04A **Amboy** 72.08 328 ⇓P P 01 17 38.6 -0.1
baz=72,SNR=5.5
G03A **Yamhill** 72.11 327 ⇑P P 01 17 39.3 +0.5
baz=72
D06A **Cle Elum** 72.17 330 ⇓P P 01 17 39.5 +0.3
baz=72
SNAA **Sanae** 72.18 161 *e*P P 01 17 38.2 -0.7
SNAA *e* 01 17 40.4
SNAA *e* 01 17 43.8
SNAA *e* 01 17 50.3
SNAA *e* 01 17 53.8
SNAA **Sanae** 72.18 161 P P 01 17 38.4 -0.5
comp=Z,8.0nm,0.8s,mb4.7,baz=288,slow=5.4,SNR=9.4
E05A **Randle** 72.18 329 ⇑P P 01 17 39.3 +0.1
baz=72
B08A **Colville Reser** 72.29 332 ⇓P P 01 17 39.7 -0.2
baz=72
A09A **Danville** 72.40 333 ⇑P P 01 17 40.3 -0.2
baz=73,SNR=5.9
F03A **Seaside** 72.67 328 ⇓P P 01 17 42.6 +0.5
baz=73
A08A **Turner Farm, O** 72.69 332 ⇓P P 01 17 42.3 +0.1
baz=73
B07A **Winthrop** 72.73 331 ⇑P P 01 17 42.7 +0.2
baz=73
D05A **Enumclaw** 72.73 330 ⇓P P 01 17 42.7 +0.2
baz=73
BMW **Boistfort Moun** 72.86 328 *e*P P 01 17 43.0 -0.3
C05A **Tolt Reservoir** 72.93 330 ⇓P P 01 17 42.9 -0.8
baz=73
E03A **Lebam** 73.08 328 ⇑P P 01 17 44.7 +0.1
baz=73
A07A **Ashnola River,** 73.27 332 ⇓P P 01 17 45.9 +0.2
baz=74
RPW **Rockport** 73.38 331 *e*P P 01 17 45.3 -1.0
JCW **Jim Creek** 73.40 330 *e*P P 01 17 45.5 -0.9
B06A **Marblemount** 73.41 331 ⇑P P 01 17 46.0 -0.5
baz=74
B05A **Bryant** 73.53 330 ⇑P P 01 17 46.9 -0.3
baz=74,SNR=5.4
EDM **Edmonton** 73.53 338 *e*P P 01 17 45.5 -1.6
C04A **Brinnon** 73.58 329 ⇓P P 01 17 47.1 -0.4
baz=74
NLWA **Neilton Lookou** 73.80 329 ⇑P P 01 17 49.0 +0.1
baz=74,SNR=7.0
NLWA **Neilton Lookou** 73.80 329 *e*P P 01 17 49.2 +0.3
comp=Z,22nm,1.1s,mb5.0
A06A **Chilliwack** 73.81 331 ⇓P P 01 17 48.4 -0.5
baz=74
LIC **Lamto** 73.86 79 *e*P P 01 17 48.4 -1.5
comp=Z,112nm,1.4s,mb5.3,baz=260
LIC **Lamto** 73.86 79 *e*P P 01 17 48.4 -1.5
comp=Z,56nm,1.4s,mb5.3
A05A **Maple Falls** 74.03 331 ⇑P P 01 17 49.9 -0.2
baz=74
B04A **Port Angeles** 74.07 329 ⇓P P 01 17 50.5 +0.2
baz=74
A04A **Legoe Bay, Lum** 74.13 330 ⇑P P 01 17 51.4 +0.6
baz=74
DBIC **Dimbokro** 74.14 79 P P 01 17 52.2 +0.6
comp=Z,24nm,1.0s,mb5.1,baz=237,slow=6.2,SNR=4.7
PGC **Sidney** 74.45 330 *e*P P 01 17 52.8 +0.2
comp=Z,74nm,1.2s,mb5.5
C03A **Quillayute Air** 74.53 329 ⇓P P 01 17 54.1 +1.1
baz=75
YKA **Yellowknife Ar** 81.35 343 P P 01 18 29.3 -1.3
comp=Z,12nm,0.9s,mb4.8,baz=139,slow=5.8,SNR=7.2
TOA0 **Torodi Ar. Sit** 82.13 74 *e*P P 01 18 36.1 +0.3
TORD **Torodi Ar. Bea** 82.13 74 P P 01 18 36.4 +0.6
comp=Z,65nm,1.1s,mb5.5,baz=259,slow=4.9,SNR=8.5
EVO **Evora** 82.41 48 *e*P P 01 18 37.3 +0.5
comp=Z,106nm,1.4s,mb5.3
MDT **Midelt** 82.79 54 P P 01 18 40.1 +1.2
comp=Z,12nm,1.1s,mb4.9,baz=249,slow=5.8,SNR=3.8
VNDA **Vanda** 83.28 191 P P 01 18 41.0 +0.3
comp=Z,6.4nm,0.8s,mb4.7,baz=121,slow=4.5,SNR=6.9
VNDA **Vanda** 83.28 191 P P 01 18 41.0 +0.3
DLBC **Dease Lake** 83.80 335 P P 01 18 43.5 0.0
baz=130,slow=3.3
ESDC **Sonseca Array** 85.76 48 P P 01 18 54.5 +0.7
comp=Z,3.0nm,1.0s,mb4.5,baz=247,slow=5.6,SNR=3.6
SYO **Syowa Base** 86.47 161 ⇑*i*P P 01 18 55.0 -1.8
SYO **Syowa Base** 86.47 161 ⇓*e*PcP PcP 01 18 56.2 -3.1
TAM **Tamanrasset** 88.23 66 *e*P P 01 19 07.3 +1.1
SJPF **Ste Jean** 88.89 45 *e*P P 01 19 07.1 -1.8
QUIF **Quistinic** 89.28 40 *e*P P 01 19 11.9 +1.3
TSUM **Tsumeb** 89.63 110 P P 01 19 12.1 -0.8
comp=Z,4.9nm,1.0s,mb4.8,baz=234,slow=8.7,SNR=2.5
SGMF **Saint Gilles** 89.78 40 *e*P P 01 19 14.1 +1.2
DAWY **Dawson** 90.72 337 *e*P P 01 19 15.5 -1.4
INK **Inuvik** 91.03 342 P P 01 19 17.7 -0.5
comp=Z,41nm,1.1s,mb5.7,baz=123,slow=6.1,SNR=9.0
EKA **Eskdalemuir Ar** 91.96 33 P P 01 19 21.8 -1.0
comp=Z,1.1nm,0.7s,mb4.3,baz=224,slow=5.7,SNR=3.1
SLKM **Skilak Lake** 93.75 332 *e*P P 01 19 28.4 -2.6
COLA **College** 94.36 336 *e*P P 01 19 33.0 -0.7
COLA pmax pmax
comp=Z,21nm,0.9s,mb5.6
COLA **College** 94.36 336 *e*P P 01 19 33.0 -0.7
comp=Z,20nm,0.9s,mb5.6
PGF **Pioggiola** 95.95 48 *e*P P 01 19 36.1 -5.4
comp=Z,35nm,1.3s,mb5.3
PGF **Pioggiola** 95.95 48 *e*P P 01 19 36.1 -5.4
PGF pmax pmax
comp=Z,17nm,1.3s,mb5.3
PGF **Pioggiola** 95.95 48 *e*P P 01 19 36.1 -5.4
comp=Z,18nm,1.3s,mb5.3
DAVOS **Davos** 97.42 44 P P 01 19 48.7 +0.6
DAVOX **Davos/Dischmat** 97.47 44 P P 01 19 48.7 +0.4
comp=Z,4.3nm,0.9s,mb4.9,baz=276,slow=10,SNR=4.1
GERES **GERESS Array B** 100.37 42 P Pdif 01 20 02.0 +0.8
comp=Z,1.3nm,1.0s,baz=236,slow=5.3,SNR=3.0
GERES PP PP 01 24 01.7 -6.2
comp=Z,0.5nm,0.4s,baz=300,slow=10,SNR=6.3
BILL **Bilibino** 112.43 339 *i* P Pdif 01 20 51.0 -3.8
PETK **Petropavlovsk-** 121.77 325 PKP PKPdf 01 25 06.7 -1.6
comp=Z,3.1nm,0.8s,baz=151,slow=6.3,SNR=3.1
ASAR **Alice Springs** 132.38 219 PKP PKPdf 01 25 28.6 -0.9
comp=Z,1.9nm,0.9s,baz=116,slow=2.2,SNR=3.6
WRA **Warramunga Arr** 134.79 223 PKP PKPdf 01 25 32.8 -1.3
comp=Z,4.4nm,0.8s,baz=132,slow=1.8,SNR=6.1
ZALV **Zalesovo Beam** 137.15 16 PKP PKPdf 01 25 35.7 -1.8
comp=Z,4.8nm,0.8s,baz=257,slow=2.5,SNR=3.2
ZAL **Zalesovo** 137.16 16 PKIKP PKPdf 01 25 35.7 -1.7
MJAR **Matsushiro Arr** 141.24 312 PKhKP 01 25 37.0
comp=Z,3.0nm,1.0s,baz=118,slow=1.6,SNR=4.2
MJAR PKP PKPdf 01 25 43.4 -2.1
comp=Z,1.7nm,0.8s,baz=71,slow=1.4,SNR=3.2
MKAR **Makanchi Array** 142.48 24 PKP PKPdf 01 25 45.9 -1.4
comp=Z,2.6nm,0.8s,baz=318,slow=1.9,SNR=3.3
ZAK **Zakamensk** 143.27 360 *e*PKIKP PKPdf 01 25 45.5 -3.1
KSH **Kashi** 144.71 38 *e*PKP PKPdf 01 25 51.0 -0.5
KSH *e*APKP 01 26 02.3
KSH *e*XPKP 01 26 05.9
KSH *e*PP PP 01 29 13.9 +5.9
KSH PKS 01 29 25.5
KSH *e*PPP 01 32 27.3
KSH SKS SKSdf 01 32 55.5 -3.6
KSH SKKS SKKSac 01 35 57.4 -1.7
KSH SS SS 01 47 56.1 +2.0
KSH PP PP
comp=Z,87μm,14.0s
SONM **Songino Array** 145.72 356 PKPbc PKPbc 01 25 53.2 -0.1
comp=Z,42nm,1.0s,baz=347,slow=2.6,SNR=9.5
KSRS **Korea Array** 147.59 322 PKPbc PKPbc 01 25 56.1 -3.0
comp=Z,18nm,1.1s,baz=32,slow=2.0,SNR=7.4
BJI **Beijing** 151.27 339 PKP PKPdf 01 26 06.8 +4.6
NJ2 **Nanjing** 156.68 325 *e*PKP PKPdf 01 26 09.0 -1.1
LZH **Lanzhou** 157.55 359 *e*PKP PKPdf 01 26 11.3 +0.2
LZH APKP 01 26 21.5
LZH XPKP 01 26 25.8
MDRS **Chennai** 157.62 89 *ex* x 01 25 11.0
CD2 **Chengdu** 162.72 359 *e*PKP PKPdf 01 26 15.5 -1.5
KMI **Kunming** 168.48 2 PKP PKPdf 01 26 21.0 -0.9
CMAR **Chiang Mai Arr** 173.61 40 PKP PKPdf 01 26 23.1 -1.6
comp=Z,3.2nm,0.4s,baz=282,slow=1.1,SNR=7.3
CMAR PKPab PKPab 01 27 53.9 -0.1
comp=Z,2.1nm,0.3s,baz=318,slow=5.3,SNR=5.8
CMAR PP PP 01 31 42.5 -2.6
comp=Z,2.2nm,0.3s,baz=297,slow=0.6,SNR=6.9

ISCJB ***16*** *01:16:02.3±1.4, 1458S±0.07×763W±0.1, h40km±12km, mb4.2/15, Error ellipse: s-maj=22.6km s-min=6.6km az=151.2*
NEIC ***16*** *01:16:04.5±1.2, 1448S×76.18W, h42km±11km, mb4.2/6, Error ellipse: s-maj=17.9km s-min=7.5km az=63.0*
IDC ***16*** *01:16:04.7±1.9, 1450S×76.19W, h41km±17km, mb4.1/10, mb1 4.2/14, mb1mx4.0/23, mbtmp4.2/14, ML4.0/2, Error ellipse: s-maj=32.0km s-min=10.7km az=68.0*
ISC 16 01:16:04.7±1.1, 1452S±0.07×762W±0.1, h43km±10km, n29, σ0.9 94/29, mb4.2/15, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NNA	**Nana**	2.58	347	P	Pn	01 16 44.7	+0.7
	63nm,0.3s,baz=165,slow=16,SNR=2.4						
NNA				S	Sn	01 17 14.5	+0.3
	321nm,0.3s,baz=213,slow=17,SNR=5.4						
ATAH	**Atahualpa**	7.77	344	P	Pn	01 17 54.5	-0.7
	0.9nm,0.3s,baz=198,slow=3.2,SNR=3.0						
LPAZ	**La Paz**	8.01	104	P	Pn	01 18 01.1	+2.6
	4.5nm,0.3s,baz=300,slow=9.0,SNR=34						
LVC	**Limon Verde**	10.63	140	P	Pn	01 18 34.1	-0.3
	1.7nm,0.3s,baz=333,slow=0.0,SNR=6.7						
LVC				S	Sn	01 20 31.6	-0.4
	2.3nm,0.3s,baz=22,slow=0.0,SNR=3.1						
LVC	**Limon Verde**	10.63	140	*e*Pn	Pn	01 18 33.9	-0.5
LVC				S	Sn	01 20 31.6	-0.5
SIV	**San Ignacio**	14.70	98	P	Pn	01 19 28.6	-1.3
	0.6nm,0.3s,baz=278,slow=16,SNR=4.7						
CFAA	**Coronel Fontan**	18.52	158	P	Pn	01 20 17.7	-0.2
	0.0nm,0.3s,baz=333,slow=14,SNR=3.1						
CFAA	**Coronel Fontan**	18.52	158	P	Pn	01 20 17.7	-0.2
CPUP	**Villa Florida**	21.22	127	P	P	01 20 46.8	-0.1
	6.1nm,1.0s,mb3.9,baz=301,slow=13,SNR=6.1						
CPUP	**Villa Florida**	21.22	127	*e*P	P	01 20 46.7	-0.3
	14nm,0.7s,mb4.4						
BCIP	**Isla Barro Col**	23.80	351	*e*P	P	01 21 13.1	-0.6
	19nm,1.2s,mb4.4						
SDV	**Santo Domingo**	23.91	14	P	P	01 21 14.6	0.0
	9.2nm,0.7s,mb4.3,baz=270,slow=7.1,SNR=4.1						
PLCA	**Paso Flores**	26.58	170	P	P	01 21 39.4	+0.7
	1.3nm,0.8s,mb3.5,baz=347,slow=14,SNR=2.2						
TEIG	**Tepich**	36.50	341	P	P	01 23 05.7	-0.3
	5.2nm,0.8s,mb4.4,baz=139,slow=9.3,SNR=2.8						
TEIG	**Tepich**	36.50	341	P	P	01 23 05.7	-0.3
WMOK	**Wichita Mounta**	53.47	337	*e*P	P	01 25 17.9	-2.7
	1.2nm,0.8s,mb3.9						
ANMO	**Albuquerque**	56.95	330	*e*P	P	01 25 45.9	+0.1
	1.6nm,0.8s,mb4.1						
SDCO	**Great Sand Dun**	58.81	333	*e*P	P	01 25 59.6	+0.9
	1.9nm,0.9s,mb4.1						
ECSD	**EROS,Sioux Fal**	60.89	343	*e*P	P	01 26 13.8	+1.0
	1.3nm,0.7s,mb4.2						
BBTS	**Babate**	65.78	66	P	P	01 26 47.2	+1.5
	41nm,1.1s,mb5.4,baz=265,slow=5.6,SNR=4.1						
SNAA	**Sanae**	71.10	161	*e*	P	01 27 19.1	+1.0
SNAA				*e*		01 27 26.1	
SNAA				*e*		01 28 26.0	
SNAA	**Sanae**	71.10	161	P	P	01 27 18.9	+0.8
	1.1nm,0.8s,mb3.8,baz=303,slow=7.1,SNR=10						
TORD	**Torodi Ar. Bea**	81.89	74	P	P	01 28 20.1	-0.1

7.9nm,0.8s,mb4.7,baz=252,slow=5.8,SNR=20
YKA Yellowknife Ar 82.42 343 P **P 01 28 20.7 -1.1**
0.6nm,0.7s,mb3.6,baz=136,slow=6.1,SNR=5.6
ESDC Sonseca Array 86.03 47 P **P 01 28 39.9 -0.9**
0.6nm,0.7s,mb3.9,baz=258,slow=4.4,SNR=4.1
DAVOX Davos/Dischmat 97.80 44 P **P 01 29 35.8 +0.4**
0.3nm,0.3s,mb4.3,baz=337,slow=14,SNR=5.0
GERES GERESS Array B 100.73 42 P Pdif 01 29 49.0 +0.6
0.2nm,0.3s,baz=203,slow=7.0,SNR=3.4
WRA Warramunga Arr 134.43 222 PKP PKPdf 01 35 19.6 +0.7
0.2nm,0.5s,baz=136,slow=1.6,SNR=3.0
SONM Songino Array 146.71 357 PKPbc PKPbc 01 35 42.2 +0.3
1.3nm,0.5s,baz=318,slow=1.8,SNR=8.1

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*IDC **16** 01:16:48.4±0.7, 1363S×7620W, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.4/18, mbtmp4.4/12, ML3.3/1, MS5.1/1, Ms1 5.1/1, ms1mx5.0/33, Error ellipse: s-maj=38.1km s-min=16.3km az=70.0*
*ISCJB **16** 01:16:51.8±0.5, 1356S±009×762W±02, h33km, mb4.4/45, Error ellipse: s-maj=22.9km s-min=10.3km az=155.0*
*NEIC **16** 01:16:53.4±2.6, 1358S×76.15W, h32km±17km, mb4.5/37, Error ellipse: s-maj=12.1km s-min=5.9km az=66.0*
ISC 16 01:16:49.7±6.2, 1359S±009×761W±02, h7km±37km, n73, σ0§61/67, mb4.4/45, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.75**	**335**	LR	LR	01 17 57.2	
	comp=Z,35μm,19.2s,baz=168,slow=39						
NNA	**Nana**	**1.75**	**335**	*e*Pn	**Pn**	**01 17 20.8**	**+0.3**
CFAA	**Coronel Fontan**	**19.32**	**159**	P	**Pn**	**01 21 13.6**	**-3.0**
	0.1nm,0.3s,baz=345,slow=12,SNR=3.2						
CFAA				LR	LR	01 27 35.5	
	comp=Z,5μm,18.3s,baz=240,slow=34						
CFAA	**Coronel Fontan**	**19.32**	**159**	P	**Pn**	**01 21 13.6**	**-3.0**
CFAA				LR	LR	01 27 35.5	
BCIP	**Isla Barro Col**	**22.91**	**350**	*e*P	**P**	**01 21 55.2**	**+0.9**
	15nm,1.0s,mb4.4						
PLCA	**Paso Flores**	**27.47**	**171**	P	**P**	**01 22 37.0**	**+0.6**
	2.3nm,0.9s,mb3.7,baz=357,slow=9.1,SNR=3.3						
PLCA	**Paso Flores**	**27.47**	**171**	*e*P	**P**	**01 22 37.0**	**+0.6**
	2.2nm,0.7s,mb3.8						
TEIG	**Tepich**	**35.68**	**340**	P	**P**	**01 23 49.6**	**+0.8**
	15nm,0.7s,mb5.1,baz=155,slow=10,SNR=8.2						
TEIG	**Tepich**	**35.68**	**340**	*e*P	**P**	**01 23 49.2**	**+0.4**
	14nm,0.6s,mb5.1						
CPCT	**Cooper Cave**	**49.42**	**351**	*e*P	**P**	**01 25 39.9**	**-0.4**
SWET	**Sewanee**	**49.43**	**349**	*e*P	**P**	**01 25 39.5**	**-0.8**
MIAR	**Mount Ida**	**50.67**	**341**	*e*P	**P**	**01 25 49.8**	**0.0**
	3.4nm,0.7s,mb4.4						
BLA	**Blacksburg**	**50.70**	**356**	*e*P	**P**	**01 25 49.7**	**-0.2**
	4.5nm,0.8s,mb4.5						
ELN	**Prospectdale**	**50.74**	**355**	*e*P	**P**	**01 25 50.8**	**+0.6**
WCI	**Wyandotte Cave**	**52.43**	**350**	*e*P	**P**	**01 26 02.5**	**-0.3**
	9.6nm,0.8s,mb4.8						
OLIL	**Olney**	**53.25**	**348**	*e*P	**P**	**01 26 07.6**	**-1.3**
	6.5nm,0.4s,mb4.9						
ACSO	**Alum Creek Sta**	**53.93**	**353**	*e*P	**P**	**01 26 13.1**	**-0.8**
	9.5nm,0.9s,mb4.7						
LAZ	**Ladron**	**56.12**	**329**	*e*P	**P**	**01 26 29.3**	**-0.5**
ANMO	**Albuquerque**	**56.22**	**330**	*e*P	**P**	**01 26 30.9**	**+0.3**
	3.4nm,0.9s,mb4.4						
TUC	**Tucson**	**56.44**	**325**	*e*P	**P**	**01 26 32.5**	**+0.3**
	2.4nm,1.0s,mb4.2						
SDCO	**Great Sand Dun**	**58.05**	**333**	*e*P	**P**	**01 26 43.5**	**0.0**
	0.8nm,0.6s,mb3.9						
WUAZ	**Wupatki**	**59.17**	**327**	*e*P	**P**	**01 26 51.1**	**-0.2**
	12nm,1.3s,mb4.8						
ISCO	**Idaho Springs**	**59.80**	**334**	*e*P	**P**	**01 26 56.2**	**+0.5**
	0.7nm,0.6s,mb3.9						
ECSD	**EROS,Sioux Fal**	**60.05**	**343**	*e*P	**P**	**01 26 56.1**	**-1.1**
	14nm,1.4s,mb4.8						
RSSD	**Black Hills**	**62.83**	**338**	*e*P	**P**	**01 27 16.2**	**+0.2**
	3.1nm,1.0s,mb4.4						
TPNV	**Topopah Spring**	**62.90**	**325**	*e*P	**P**	**01 27 17.4**	**+0.7**
	2.6nm,1.0s,mb4.3						
JLU	**Jordanelle**	**63.10**	**330**	*e*P	**P**	**01 27 17.5**	**-0.4**
DUG	**Dugway**	**63.45**	**329**	*e*P	**P**	**01 27 21.2**	**+0.9**
	7.6nm,1.1s,mb4.7						
PDAR	**Pinedale Array**	**63.94**	**333**	P	**P**	**01 27 22.9**	**-0.4**
	1.4nm,1.0s,mb4.0,baz=137,slow=7.3,SNR=5.0						
AGMN	**Agassiz Refuge**	**64.08**	**345**	*e*P	**P**	**01 27 23.8**	**-0.3**
	5.8nm,0.7s,mb4.7						
BGU	**Big Grassy Mou**	**64.12**	**330**	*e*P	**P**	**01 27 24.4**	**-0.2**
MTUM	**Tungsten Hills**	**64.50**	**323**	*e*P	**P**	**01 27 27.6**	**+0.4**
REDW	**Red Top Meadow**	**64.98**	**333**	*e*P	**P**	**01 27 30.0**	**-0.2**
	5.2nm,1.2s,mb4.4						
LOHW	**Long Hollow**	**65.07**	**333**	*e*P	**P**	**01 27 30.6**	**-0.2**
	4.5nm,1.4s,mb4.3						
ELK	**Elko**	**65.09**	**328**	*e*P	**P**	**01 27 31.3**	**+0.3**
	2.9nm,0.9s,mb4.3						
NVAR	**Mina Array Bea**	**65.09**	**324**	P	**P**	**01 27 31.6**	**+0.6**
	1.0nm,0.8s,mb3.9,baz=134,slow=6.4,SNR=3.8						
RRI2	**Red Ridge**	**65.18**	**332**	*e*P	**P**	**01 27 31.6**	**+0.1**
	6.4nm,1.1s,mb4.6						
MOOW	**Moose Ponds**	**65.24**	**333**	*e*P	**P**	**01 27 31.5**	**-0.4**
	2.6nm,1.2s,mb4.1						
IMW	**Indian Meadow**	**65.45**	**333**	*e*P	**P**	**01 27 33.1**	**-0.1**
	13nm,1.5s,mb4.7						
FLWY	**Flagg Ranch**	**65.49**	**333**	*e*P	**P**	**01 27 33.4**	**-0.1**
	15nm,1.4s,mb4.8						
RLMT	**Red Lodge**	**65.72**	**335**	*e*P	**P**	**01 27 34.6**	**-0.3**
	4.7nm,0.9s,mb4.5						
ULM	**Lac du Bonnet**	**65.90**	**346**	P	**P**	**01 27 35.2**	**-0.7**
	6.4nm,0.7s,mb4.8,baz=155,slow=6.5,SNR=7.8						
ULM	**Lac du Bonnet**	**65.90**	**346**	*e*P	**P**	**01 27 34.8**	**-1.2**
	6.2nm,0.7s,mb4.8						
GCMT	**Greycliff**	**66.42**	**335**	*e*P	**P**	**01 27 39.8**	**+0.3**
DGMT	**Dagmar**	**66.64**	**340**	*e*P	**P**	**01 27 41.8**	**+1.0**
	27nm,1.3s,mb5.1						
HLID	**Hailey**	**66.78**	**331**	*e*P	**P**	**01 27 42.4**	**+0.5**
	2.0nm,0.9s,mb4.2						
MCMT	**McKenzie Canyo**	**67.03**	**332**	*e*P	**P**	**01 27 44.1**	**+0.8**
BOZ	**Bozeman (W)**	**67.13**	**334**	*e*P	**P**	**01 27 43.6**	**-0.4**
	3.1nm,1.2s,mb4.2						
DLMT	**Dillon**	**67.33**	**333**	*e*P	**P**	**01 27 45.2**	**-0.1**
	8.4nm,1.4s,mb4.6						
WVOR	**Wild Horse Val**	**68.08**	**327**	*e*P	**P**	**01 27 50.2**	**+0.1**
	2.4nm,0.9s,mb4.2						
EGMT	**Eagleton**	**68.27**	**336**	*e*P	**P**	**01 27 50.9**	**-0.2**
	6.1nm,1.0s,mb4.6						
SCHQ	**Schefferville**	**68.61**	**6**	P	**P**	**01 27 53.0**	**-0.1**
	2.4nm,0.8s,mb4.2,baz=230,slow=7.9,SNR=2.9						
MSO	**Missoula**	**69.06**	**333**	*e*P	**P**	**01 27 56.8**	**+0.8**
	4.6nm,1.3s,mb4.2						
NEW	**Newport**	**71.56**	**332**	*e*P	**P**	**01 28 10.4**	**-1.0**
	2.9nm,0.9s,mb4.2						
OD2	**Odessa Site #2**	**71.65**	**331**	*e*P	**P**	**01 28 12.6**	**+0.7**
SNAA	**Sanae**	**71.93**	**161**	P	**P**	**01 28 13.7**	**+0.4**
	1.5nm,0.9s,mb3.9,baz=281,slow=9.0,SNR=5.7						
SNAA	**Sanae**	**71.93**	**161**	*e*P	**P**	**01 28 13.4**	**+0.1**
	23nm,1.8s,mb4.8						
SNAA	**Sanae**	**71.93**	**161**	*e*	**P**	**01 28 13.8**	**+0.5**
DBIC	**Dimbokro**	**73.52**	**79**	P	**P**	**01 28 24.7**	**+0.9**
	5.0nm,0.7s,mb4.6,baz=250,slow=4.6,SNR=5.3						
EDM	**Edmonton**	**73.81**	**338**	*e*P	**P**	**01 28 24.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**81.52**	**74**	P	**P**	**01 29 09.2**	**+0.7**
	3.3nm,0.7s,mb4.4,baz=259,slow=4.9,SNR=5.5						
YKA	**Yellowknife Ar**	**81.58**	**343**	P	**P**	**01 29 06.9**	**-0.8**
	1.9nm,0.8s,mb4.1,baz=142,slow=5.1,SNR=9.1						
SFJD	**Kangerlussuaq**	**82.52**	**10**	P	**P**	**01 29 13.0**	**+0.4**
	7.6nm,0.5s,mb5.0,baz=236,slow=11,SNR=3.0						
SFJD	**Kangerlussuaq**	**82.52**	**10**	P	**P**	**01 29 13.0**	**+0.4**
DLBC	**Dease Lake**	**84.12**	**335**	*e*P	**P**	**01 29 20.8**	**-0.2**
SUMG	**Summit**	**89.47**	**11**	*e*P	**P**	**01 29 47.0**	**+0.1**
	2.3nm,0.9s,mb4.5						
DAWY	**Dawson**	**91.01**	**337**	*e*P	**P**	**01 29 53.9**	**-0.4**
MAW	**Mawson**	**93.75**	**165**	P	**P**	**01 30 06.9**	**-0.1**
	2.2nm,0.9s,mb4.6,baz=204,slow=6.4,SNR=2.9						
WRA	**Warramunga Arr**	**135.20**	**223**	PKP	PKPdf	01 36 09.8	-1.2
	0.5nm,0.7s,baz=145,slow=2.0,SNR=3.0						
WRAB	**Tennant Creek**	**135.20**	**223**	*e*PKPdf	PKPdf	01 36 10.4	-0.5
MJAR	**Matsushiro Arr**	**141.75**	**313**	PKP	PKPdf	01 36 22.0	-0.4
	0.5nm,0.6s,baz=113,slow=2.8,SNR=3.6						
SONM	**Songino Array**	**145.80**	**357**	PKPbc	PKPbc	01 36 29.9	+0.3
	2.7nm,0.7s,baz=347,slow=1.9,SNR=8.0						
KSRS	**Korea Array**	**148.02**	**322**	PKPbc	PKPbc	01 36 35.8	-0.5
	0.4nm,0.3s,baz=48,slow=1.8,SNR=4.4						

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*ISCJB **16** 01:20:29.4±0.2, 1233S±005×1483W±005, h10km, mb4.8/105, Error ellipse: s-maj=8.3km s-min=5.8km az=35.5*
*IDC **16** 01:20:29.6±0.4, 1239S×1479W, h0km, mb4.5/36, mb1 4.5/36, mb1mx4.5/37, mbtmp4.5/36, Error ellipse: s-maj=13.1km s-min=10.6km az=116.0*
*MOS **16** 01:20:29.7±0.9, 1225S×1489W, h10km, mb5.2/48, Error ellipse: s-maj=13.6km s-min=5.3km az=67.6*
*NEIC **16** 01:20:31.2±0.2, 1236S×1486W, h10km, mb5.1/74, Error ellipse: s-maj=6.0km s-min=4.2km az=127.0*
*SZGRF **16** 01:20:44.6, 11.11S×1340W, h33km, mb5.0, Ascension Island region*
ISC 16 01:20:31.3±0.2, 1237S±005×1486W±005, h10km, (h22km±6km:pP-P), n250, σ0§80/242, mb4.8/105, 21C-6D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**4.43**	**6**	*e*Pn	**Pn**	**01 21 35.1**	**-3.6**
LIC	**Lamto**	**20.90**	**28**	*e*P	**P**	**01 25 13.5**	**-0.5**
	17nm,1.1s						
LIC	**Lamto**	**20.90**	**28**	*e*P	**P**	**01 25 13.5**	**-0.5**
	86nm,1.1s						
DBIC	**Dimbokro**	**21.37**	**28**	P	**P**	**01 25 18.4**	**-0.6**
	37nm,1.1s,mb4.6,baz=190,slow=12,SNR=12						
DBIC	**Dimbokro**	**21.37**	**28**	*e*P	**P**	**01 25 18.4**	**-0.7**
DBIC				pmax	pmax		
	comp=Z,121nm,1.2s						
DBIC	**Dimbokro**	**21.37**	**28**	*e*P	**P**	**01 25 18.4**	**-0.7**
	comp=Z,121nm,1.2s,mb5.1						
BBTS	**Babate**	**26.90**	**356**	P	**P**	**01 26 12.9**	**+0.1**
	comp=Z,28nm,0.8s,mb4.8,baz=224,slow=4.1,SNR=5.7						
TOA0	**Torodi Ar. Sit**	**30.20**	**33**	*e*P	**P**	**01 26 43.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**30.20**	**33**	P	**P**	**01 26 41.3**	**-0.8**
	comp=Z,2.0nm,0.8s,mb3.9,baz=218,slow=10,SNR=22						
TSUM	**Tsumeb**	**31.92**	**106**	P	**P**	**01 26 56.8**	**-0.5**
	comp=Z,8.3nm,0.9s,mb4.6,baz=245,slow=7.4,SNR=4.9						
TSUM	**Tsumeb**	**31.92**	**106**	*e*P	**P**	**01 26 58.1**	**+0.7**
	comp=Z,12nm,1.0s,mb4.7						
BDFB	**Brasilia**	**32.31**	**260**	P	**P**	**01 27 01.1**	**+0.3**
	comp=Z,4.4nm,1.0s,mb4.2,baz=63,slow=18,SNR=2.3						
SUR	**Sutherland**	**38.28**	**127**	P	**P**	**01 27 51.9**	**-0.1**
	comp=Z,8.2nm,0.8s,mb4.5,baz=275,slow=11,SNR=8.9						
SUR	**Sutherland**	**38.28**	**127**	*e*P	**P**	**01 27 51.8**	**-0.3**
	comp=Z,45nm,1.3s,mb5.0						
LBTB	**Lobatse**	**40.18**	**114**	P	**P**	**01 28 07.2**	**-0.9**
	comp=Z,2.7nm,0.8s,mb4.0,baz=284,slow=12,SNR=3.4						
LBTB	**Lobatse**	**40.18**	**114**	*e*P	**P**	**01 28 08.8**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
LBTB	**Lobatse**	**40.18**	**114**	*e*P	**P**	**01 28 08.8**	**+0.7**
	comp=Z,9.5nm,1.0s,mb4.5						
LSZ	**Lusaka**	**41.86**	**99**	P	**P**	**01 28 22.0**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.2,baz=282,slow=10,SNR=8.1						
LSZ	**Lusaka**	**41.86**	**99**	*e*P	**P**	**01 28 23.9**	**+1.9**
LSZ				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
LSZ	**Lusaka**	**41.86**	**99**	*e*P	**P**	**01 28 23.9**	**+1.9**
	comp=Z,7.7nm,0.9s,mb4.3						
CPUP	**Villa Florida**	**42.21**	**244**	P	**P**	**01 28 25.5**	**+0.7**
	comp=Z,1.9nm,0.5s,mb4.0,baz=62,slow=8.7,SNR=7.2						
CPUP	**Villa Florida**	**42.21**	**244**	*e*P	**P**	**01 28 25.1**	**+0.4**
CPUP				pmax	pmax		
	comp=Z,39nm,1.0s						
CPUP	**Villa Florida**	**42.21**	**244**	*e*P	**P**	**01 28 25.1**	**+0.3**
	comp=Z,39nm,1.0s,mb5.0						
MDT	**Midelt**	**45.98**	**12**	P	**P**	**01 28 56.1**	**+1.3**
	comp=Z,7.7nm,0.9s,mb4.2,baz=197,slow=11,SNR=2.8						
TRQA	**Tornquist**	**49.04**	**230**	*e*P	**P**	**01 29 18.7**	**+0.1**
	comp=Z,26nm,1.3s,mb5.1						
LPAZ	**La Paz**	**51.65**	**259**	P	**P**	**01 29 41.4**	**+2.7**
	comp=Z,3.4nm,0.8s,mb4.3,baz=96,slow=0.8,SNR=3.9						
LPAZ	**La Paz**	**51.65**	**259**	P	**P**	**01 29 41.4**	**+2.7**
CFAA	**Coronel Fontan**	**52.53**	**240**	P	**P**	**01 29 44.5**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=39,slow=5.6,SNR=7.6						
ESDC	**Sonseca Array**	**52.76**	**11**	P	**P**	**01 29 46.3**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=186,slow=6.4,SNR=4.5						
KMBO	**Kilima Mbogo**	**52.84**	**82**	P	**P**	**01 29 48.8**	**+1.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=247,slow=9.7,SNR=7.4						
KEST	**Kesra**	**53.03**	**25**	P	**P**	**01 29 49.6**	**+1.1**
	comp=Z,8.3nm,1.1s,mb4.6,baz=175,slow=3.3,SNR=17						
FDF	**Fort de France**	**53.16**	**299**	*e*P	**P**	**01 29 53.2**	**+3.3**
PCRV	**Puerto La Cruz**	**54.28**	**292**	P	**P**	**01 29 59.4**	**+1.2**
	comp=Z,5.2nm,0.5s,mb4.7,baz=112,slow=5.4,SNR=3.8						
PLCA	**Paso Flores**	**56.16**	**229**	P	**P**	**01 30 12.1**	**+0.8**
	comp=Z,1.4nm,0.7s,mb4.1,baz=137,slow=7.6,SNR=3.5						
VAE	**Valguarnera**	**56.69**	**28**	P	**P**	**01 30 16.4**	**+1.4**
	comp=Z,3.4nm,0.6s,mb4.5,baz=146,slow=13,SNR=3.4						
CEL	**Celeste**	**58.01**	**28**	*e*P	**P**	**01 30 25.5**	**+1.1**
	comp=Z,22nm,1.1s,mb5.1						
VNA1	**Neumayer--Stat**	**58.39**	**177**	*e*	**P**	**01 30 26.4**	**-0.2**
VNA1				*e*		01 30 34.1	
VNA1				*e*		01 30 38.4	
VNA1				*e*		01 30 42.4	
LMR	**La Mourre**	**58.77**	**18**	*e*P	**P**	**01 30 29.4**	**-0.2**
	comp=Z,52nm,1.3s,mb5.1						
LMR	**La Mourre**	**58.77**	**18**	*e*P	**P**	**01 30 29.4**	**-0.2**
LMR				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.1						
LMR	**La Mourre**	**58.77**	**18**	*e*P	**P**	**01 30 29.4**	**-0.2**
	comp=Z,26nm,1.3s,mb5.1						
TIP	**Tipaggrande**	**59.15**	**28**	*e*P	**P**	**01 30 31.5**	**-0.8**
	comp=Z,11nm,1.1s,mb4.8						
SDV	**Santo Domingo**	**59.31**	**288**	P	**P**	**01 30 33.9**	**0.0**
	comp=Z,7.8nm,0.6s,mb4.9,baz=270,slow=19,SNR=7.3						
SDV	**Santo Domingo**	**59.31**	**288**	*e*P	**P**	**01 30 34.8**	**+0.9**
	comp=Z,9.4nm,0.6s,mb5.0						
CUC	**Castrocucco**	**59.38**	**27**	*e*P	**P**	**01 30 33.5**	**-0.3**
	comp=Z,2μm,3.9s						
SNAA	**Sanae**	**59.72**	**176**	*e*	**P**	**01 30 35.2**	**-0.6**
SNAA				*e*		01 30 42.7	
SNAA				*e*		01 30 46.8	
SNAA				*e*		01 30 50.5	
SNAA	**Sanae**	**59.72**	**176**	P	**P**	**01 30 35.3**	**-0.5**
	comp=Z,2.4nm,0.9s,mb4.2,baz=334,slow=7.0,SNR=14						
SNAA	**Sanae**	**59.72**	**176**	*e*P	**P**	**01 30 35.2**	**-0.6**
SNAA				pmax	pmax		
	comp=Z,13nm,0.9s						
SNAA	**Sanae**	**59.72**	**176**	*e*P	**P**	**01 30 35.2**	**-0.6**
	comp=Z,13nm,0.9s,mb5.0						
OPO	**Ambohidratompo**	**59.88**	**104**	P	**P**	**01 30 37.3**	**-0.6**
	comp=Z,3.6nm,1.1s,mb4.3,baz=270,slow=11,SNR=2.9						
ORIF	**Oris-en-Rattie**	**60.03**	**17**	*e*P	**P**	**01 30 39.0**	**+0.7**
	comp=Z,68nm,1.5s,mb5.2						
ORIF	**Oris-en-Rattie**	**60.03**	**17**	*e*P	**P**	**01 30 39.0**	**+0.7**
ORIF				pmax	pmax		
	comp=Z,34nm,1.5s,mb5.2						
ORIF	**Oris-en-Rattie**	**60.03**	**17**	*e*P	**P**	**01 30 39.0**	**+0.7**
	comp=Z,34nm,1.5s,mb5.2						
MBDF	**Montbardon**	**60.12**	**18**	*e*P	**P**	**01 30 39.6**	**+0.7**
	comp=Z,33nm,1.1s,mb5.0						
MBDF	**Montbardon**	**60.12**	**18**	*e*P	**P**	**01 30 39.6**	**+0.7**
MBDF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
MBDF	**Montbardon**	**60.12**	**18**	*e*P	**P**	**01 30 39.6**	**+0.7**
	comp=Z,17nm,1.1s,mb5.0						
AQU	**L'Aquila**	**60.32**	**24**	*e*P	**P**	**01 30 40.3**	**0.0**
AQU				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.4						
AQU	**L'Aquila**	**60.32**	**24**	*e*P	**P**	**01 30 40.3**	**0.0**
	comp=Z,38nm,1.0s,mb5.4						
TCF	**Toulx Ste Croi**	**60.37**	**14**	*e*P	**P**	**01 30 40.6**	**+0.1**
	comp=Z,23nm,1.0s,mb4.9						
TCF	**Toulx Ste Croi**	**60.37**	**14**	*e*P	**P**	**01 30 40.6**	**+0.1**
TCF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
TCF	**Toulx Ste Croi**	**60.37**	**14**	*e*P	**P**	**01 30 40.6**	**+0.1**
	comp=Z,12nm,1.0s,mb4.9						
BNI	**Bardonecchia**	**60.39**	**17**	*e*P	**P**	**01 30 41.9**	**+1.2**
BNI				pmax	pmax		
	comp=Z,37nm,1.5s,mb5.2						
BNI	**Bardonecchia**	**60.39**	**17**	*e*P	**P**	**01 30 41.9**	**+1.2**
	comp=Z,37nm,1.5s,mb5.2						
IDI	**Anoyia**	**60.52**	**37**	P	**P**	**01 30 41.9**	**+0.1**
	comp=Z,11nm,0.6s,mb5.2,baz=206,slow=8.7,SNR=15						
LPG	**La Plagne**	**60.81**	**17**	*e*P	**P**	**01 30 44.3**	**+0.7**
	comp=Z,43nm,1.0s,mb5.2						
LPG	**La Plagne**	**60.81**	**17**	*e*P	**P**	**01 30 44.3**	**+0.7**
LPG				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.2						
LPG	**La Plagne**	**60.81**	**17**	*e*P	**P**	**01 30 44.3**	**+0.7**
	comp=Z,22nm,1.0s,mb5.2						
LPL	**La Plagne**	**60.83**	**17**	*e*P	**P**	**01 30 44.4**	**+0.7**
	comp=Z,50nm,1.3s,mb5.2						
LPL	**La Plagne**	**60.83**	**17**	*e*P	**P**	**01 30 44.4**	**+0.7**
LPL				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.2						
LPL	**La Plagne**	**60.83**	**17**	*e*P	**P**	**01 30 44.4**	**+0.7**
	comp=Z,25nm,1.3s,mb5.2						
SMF	**Signal de Mont**	**61.09**	**15**	*e*P	**P**	**01 30 45.4**	**-0.1**
	comp=Z,30nm,1.2s,mb5.0						
SMF	**Signal de Mont**	**61.09**	**15**	*e*P	**P**	**01 30 45.4**	**-0.1**
SMF				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
SMF	**Signal de Mont**	**61.09**	**15**	*e*P	**P**	**01 30 45.4**	**-0.1**
	comp=Z,15nm,1.2s,mb5.0						
SSF	**Saint Saulge**	**61.40**	**14**	*e*P	**P**	**01 30 47.4**	**-0.1**
	comp=Z,30nm,1.1s,mb5.0						
SSF	**Saint Saulge**	**61.40**	**14**	*e*P	**P**	**01 30 47.4**	**-0.1**
SSF				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.0						
SSF	**Saint Saulge**	**61.40**	**14**	*e*P	**P**	**01 30 47.4**	**-0.1**
	comp=Z,15nm,1.1s,mb5.0						
CABF	**La Chapelle**	**61.65**	**16**	*e*P	**P**	**01 30 48.9**	**-0.3**
	comp=Z,62nm,1.1s,mb5.3						
CABF	**La Chapelle**	**61.65**	**16**	*e*P	**P**	**01 30 48.9**	**-0.3**
CABF				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.3						
CABF	**La Chapelle**	**61.65**	**16**	*e*P	**P**	**01 30 48.9**	**-0.3**
	comp=Z,31nm,1.1s,mb5.3						
LOR	**Lormes**	**61.68**	**14**	*e*P	**P**	**01 30 49.1**	**-0.3**
	comp=Z,31nm,1.3s,mb5.0						
LOR	**Lormes**	**61.68**	**14**	*e*P	**P**	**01 30 49.1**	**-0.3**
LOR				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.0						
LOR	**Lormes**	**61.68**	**14**	*e*P	**P**	**01 30 49.1**	**-0.3**
	comp=Z,16nm,1.3s,mb5.0						
PMSA	**Palmer Station**	**62.23**	**202**	P	**P**	**01 30 52.6**	**-0.4**
	comp=Z,8.9nm,0.8s,mb4.9,baz=76,slow=5.3,SNR=7.9						
PMSA	**Palmer Station**	**62.23**	**202**	*e*P	**P**	**01 30 52.5**	**-0.4**
	comp=Z,14nm,0.9s,mb5.1						
TIR	**Tirane**	**62.32**	**29**	*e*P	**P**	**01 30 55.6**	**+1.8**
TIR				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.4						
TIR	**Tirane**	**62.32**	**29**	*e*P	**P**	**01 30 55.6**	**+1.7**
	comp=Z,47nm,1.4s,mb5.4						
TUE	**Stuetta**	**62.47**	**19**	*e*P	**P**	**01 30 54.2**	**-0.6**
	comp=Z,20nm,1.4s,mb5.0						
DAVOX	**Davos/Dischmat**	**62.92**	**19**	P	**P**	**01 30 57.1**	**-0.7**
	comp=Z,4.0nm,0.8s,mb4.6,baz=208,slow=2.9,SNR=12						
DAVOS	**Davos**	**62.94**	**19**	P	**P**	**01 30 57.1**	**-0.8**
HAU	**Haudompre**	**63.00**	**16**	*e*P	**P**	**01 30 57.8**	**-0.4**
	comp=Z,33nm,1.0s,mb5.1						
HAU	**Haudompre**	**63.00**	**16**	*e*P	**P**	**01 30 57.8**	**-0.4**
HAU				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.1						
HAU	**Haudompre**	**63.00**	**16**	*e*P	**P**	**01 30 57.8**	**-0.4**
	comp=Z,17nm,1.0s,mb5.1						
MEZF	**Maizieres J'vi**	**63.12**	**15**	*e*P	**P**	**01 30 58.9**	**-0.1**
	comp=Z,44nm,1.1s,mb5.2						
MEZF	**Maizieres J'vi**	**63.12**	**15**	*e*P	**P**	**01 30 58.9**	**-0.1**
	comp=Z,44nm,1.1s,mb5.5						
SKDS	**Skadanscina**	**63.26**	**22**	*i* Pdiff	**P**	**01 30 59.6**	**-0.4**
DAVA	**Damuels**	**63.37**	**19⇑**	*i*P	**P**	**01 30 59.9**	**-0.8**
	comp=Z,17nm,0.9s,mb5.2						
FETA	**Feichten**	**63.40**	**19⇑

MODS *e*pP pP 01 31 30.8 +4.2
ESKT Eskisehir 66.87 37 *i* P **P 01 31 24.4 +0.7**
MOX Moxa 66.87 18 *e*P **P 01 31 24.0 +0.6**
comp=Z,15nm,1.6s,mb4.8
MOX Moxa 66.87 18 *e*P **P 01 31 24.0 +0.6**
MOX pmax pmax
comp=Z,15nm,1.6s,mb4.8
MOX Moxa 66.87 18 *e*P **P 01 31 23.0 -0.4**
comp=Z,18nm,1.3s,mb4.9
TREC Trest 66.97 21 *e*P **P 01 31 24.3 +0.2**
TREC *e*pP pP 01 31 30.5 +3.2
PRU Pruhonice 67.24 20 *e*P **P 01 31 26.3 +0.6**
PRU *e*pP pP 01 31 32.5 +3.5
VRAC Vranov 67.38 22 P **P 01 31 25.5 -1.1**
comp=Z,4.0nm,1.1s,mb4.4,baz=201,slow=9.7,SNR=4.4
VRAC Vranov 67.38 22⇑*i*P **P 01 31 32.9 +6.2**
KOLL Kolacno 67.45 23 *e*P **P 01 31 26.7 -0.4**
KOLL *e*pP pP 01 31 33.4 +3.0
PSZ Piszkesteto 67.51 25⇑*i*P **P 01 31 28.5 +1.0**
PSZ Piszkesteto 67.51 25 *e*P **P 01 31 27.9 +0.4**
comp=Z,12nm,0.9s,mb4.9
CLZ Clausthal 67.58 17 *e*P **P 01 31 28.1 +0.2**
CLZ pmax pmax
comp=Z,21nm,1.4s,mb5.0
CLZ Clausthal 67.58 17 *e*P **P 01 31 28.1 +0.2**
comp=Z,21nm,1.4s,mb5.0
PVCC Panska Ves 67.71 20 *e*P **P 01 31 29.1 +0.4**
PVCC *e*pP pP 01 31 35.1 +3.1
BRG Berggiesshubel 67.80 19 *e*P **P 01 31 29.2 -0.1**
BRG pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
BRG Berggiesshubel 67.80 19 *e*P **P 01 31 29.2 -0.1**
comp=Z,5.0nm,1.0s,mb4.5
DRGR 67.82 27⇑*i*P **P 01 31 30.0 +0.5**
DRGR 67.82 27⇑P **P 01 31 30.0 +0.5**
BCIP Isla Barro Col 68.01 285 *e*P **P 01 31 31.2 -0.3**
comp=Z,12nm,0.8s,mb5.0
MORC Moravsky Berou 68.11 22 *e*P **P 01 31 30.9 -0.4**
MORC pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MORC Moravsky Berou 68.11 22 *e*P **P 01 31 30.9 -0.4**
comp=Z,5.8nm,1.0s,mb4.6
DPC Dobruska-Polom 68.15 21 *e*P **P 01 31 31.1 -0.4**
DPC *e*pP pP 01 31 38.6 +3.8
EKA Eskdalemuir Ar 68.16 7 P **P 01 31 32.1 +0.7**
comp=Z,3.7nm,0.8s,mb4.4,baz=182,slow=5.0,SNR=6.0
UPC Upice 68.18 21 *e*P **P 01 31 31.4 -0.3**
UPC *e*pP pP 01 31 38.3 +3.4
KECS Kecovo 68.20 24 *e*P **P 01 31 31.9 +0.1**
KECS *e* 01 31 38.8
KECS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KECS Kecovo 68.20 24 *e*P **P 01 31 31.9 +0.1**
comp=Z,9.5nm,0.9s,mb4.8
KECS *e* 01 31 38.8
KECS *e* 01 31 45.0
ANTO Ankara 68.24 38 *e*P **P 01 31 34.3 +2.0**
ANTO pmax pmax
comp=Z,17nm,0.9s,mb5.1
ANTO Ankara 68.24 38 *e*P **P 01 31 34.3 +2.0**
comp=Z,17nm,0.9s,mb5.1
SGKT Sivrigoynuk 68.25 37 *i* P **P 01 31 32.6 +0.2**
MLR Muntele Rosu 68.35 30⇑*i*P **P 01 31 32.2 -0.7**
MLR Muntele Rosu 68.35 30 ⇑P **P 01 31 32.2 -0.6**
OKC Ostrava-Krasne 68.38 22 *e*P **P 01 31 33.9 +0.9**
OKC *e*pP pP 01 31 41.2 +5.0
CRVS Cervenica-Dubn 68.92 25 *e*P **P 01 31 36.5 +0.1**
VRI Vrincioaia 69.00 30⇑*i*P **P 01 31 37.5 +0.6**
VRI Vrincioaia 69.00 30 ⇑P **P 01 31 37.5 +0.6**
UZH Uzhgorod 69.06 25 *e*P **P 01 31 37.5 +0.3**
UZH *i* 01 31 45.5
KOLS Kolonicke sedl 69.28 25 *e*P **P 01 31 39.3 +0.7**
KOLS *e* 01 31 57.3
KOLS Kolonicke sedl 69.28 25 *e*P **P 01 31 39.4 +0.8**
KOLS *e* 01 31 57.3
BSEG Bad Segeberg 69.44 16 *e*P **P 01 31 39.3 -0.1**
comp=Z,15nm,1.0s,mb4.9
BALT Daday 69.64 37 *i* P **P 01 31 37.1 -3.9**
GZT Gaziantep 69.74 42 *i* P **P 01 31 44.0 +2.2**
KWP Kalwaria 70.01 25 *e*P **P 01 31 43.7 +0.6**
KWP pmax pmax
comp=Z,110nm,1.9s,mb5.5
KWP Kalwaria 70.01 25⇓*i*P **P 01 31 50.4 +7.3**
KWP Kalwaria 70.01 25 *e*P **P 01 31 43.7 +0.6**
comp=Z,110nm,1.9s,mb5.5
LVV L'vov 70.70 26 *e*P **P 01 31 47.0 -0.3**
LVV *e* 01 31 53.4
KIS Kishinev 70.82 30 *e*P **P 01 31 47.0 -1.1**
KIS *e* 01 31 53.0
MALT Malatya 70.85 42⇑*i*P **P 01 31 50.7 +2.2**
MALT Malatya 70.85 42 *e*P **P 01 31 49.7 +1.3**
comp=Z,8.5nm,1.4s,mb4.5
SUW Suwalki 73.60 22 *e*P **P 01 32 03.5 -1.1**
SUW pmax pmax
comp=Z,28nm,1.1s,mb5.1
SUW Suwalki 73.60 22 *e*P **P 01 32 03.5 -1.0**
comp=Z,28nm,1.1s,mb5.1
KIEV Kiev 73.60 27 *e*P **P 01 32 03.3 -1.4**
KIEV pmax pmax
comp=Z,20nm,0.9s,mb5.0
KIEV Kiev 73.60 27 *e*P **P 01 32 03.3 -1.4**
comp=Z,20nm,0.9s,mb5.0
AKASG Malin Array Be 73.61 27 P **P 01 32 03.7 -1.0**
comp=Z,5.5nm,0.8s,mb4.5,baz=226,slow=6.6,SNR=31
AKASG Malin Array Be 73.61 27 P **P 01 32 03.7 -1.0**
AKBB Malin Array Si 73.61 27 *e*P **P 01 32 03.8 -0.9**
MAW Mawson 73.97 157 P **P 01 32 06.1 -0.6**
comp=Z,6.4nm,0.7s,mb4.7,baz=287,slow=5.7,SNR=18
NAO01 NORSAR Array S 75.79 13 *e*P **P 01 32 16.5 -0.7**
comp=Z,10nm,0.9s,mb4.8
HFS Hagfors 75.80 14 P **P 01 32 16.5 -0.7**
comp=Z,3.5nm,0.7s,mb4.4,baz=151,slow=6.4,SNR=5.0
GNI Garni 75.98 43 *e*P **P 01 32 19.7 +1.0**
GNI pmax pmax
comp=Z,62nm,1.5s
GNI Garni 75.98 43 *e*P **P 01 32 19.7 +1.0**
comp=Z,62nm,1.5s,mb5.3
NB2 NORSAR Subarra 76.04 13 P **P 01 32 18.7 +0.2**
comp=Z,9.3nm,0.9s,mb4.7,baz=207,slow=6.2
NOA NORSAR Array B 76.04 13 P **P 01 32 18.9 +0.3**
comp=Z,2.9nm,0.8s,mb4.3,baz=206,slow=6.0,SNR=11
KIV Kislovodsk 76.62 39 *e*P **P 01 32 23.7 +1.5**
KIV pmax pmax
comp=Z,19nm,1.1s,mb4.9
KIV Kislovodsk 76.62 39 *e*P **P 01 32 23.4 +1.2**
comp=Z,66nm,1.6s,mb5.3
SCHQ Schefferville 79.94 332 P **P 01 32 40.9 +0.5**
comp=Z,10.0nm,0.8s,mb4.8,baz=99,slow=4.6,SNR=12
TKL Tuckaleechee C 80.63 310 *e*P **P 01 32 44.9 +0.3**
MOS Moscow 80.73 27 *e*P **P 01 32 43.0 -1.6**
KAF Kangasniemi 80.91 18 *e*p **P 01 32 44.4 -1.0**
comp=Z,6.0nm,0.7s,mb4.6
KAF Kangasniemi 80.91 18 *e*P **P 01 32 44.4 -1.0**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ACSO Alum Creek Sta 81.84 314 *e*P **P 01 32 51.2 +0.3**
comp=Z,19nm,1.2s,mb4.9
JOF Joensuu 83.08 19 *e*p **P 01 32 56.0 -0.8**
comp=Z,5.2nm,0.8s,mb4.6
WCI Wyandotte Cave 83.46 311 *e*P **P 01 32 59.0 -0.4**
WCI pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
WCI Wyandotte Cave 83.46 311 *e*P **P 01 32 59.0 -0.4**
comp=Z,7.7nm,0.7s,mb4.8
OLIL Olney 84.96 311 *e*P **P 01 33 06.2 -0.8**
comp=Z,19nm,0.9s,mb5.2
ARCES ARCESS Array B 86.41 13 P **P 01 33 14.6 +1.1**
comp=Z,2.4nm,0.7s,mb4.5,baz=235,slow=4.3,SNR=6.0
ARCES ARCESS Array B 86.41 13 P **P 01 33 14.6 +1.1**
JFWS Jewell Farm 87.89 315 *e*P **P 01 33 20.8 -0.5**
JFWS pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
JFWS Jewell Farm 87.89 315 *e*P **P 01 33 20.8 -0.5**
comp=Z,7.7nm,0.6s,mb5.1
COWI Conover 88.20 318 *e*P **P 01 33 22.1 -0.6**
comp=Z,24nm,1.3s,mb5.3
AKTK Aktyubinsk 88.83 38 P **P 01 33 25.3 -0.2**
AKTO Aktyubinsk 88.83 38 P **P 01 33 25.3 -0.2**
comp=Z,3.0nm,0.8s,mb4.7,baz=244,slow=7.8,SNR=3.6
SBA Scott Base 89.94 180 *e*P **P 01 33 31.0 +0.6**
SBA pmax pmax
comp=Z,21nm,1.1s,mb5.4
SBA Scott Base 89.94 180 *e*P **P 01 33 30.9 +0.6**
comp=Z,21nm,1.1s,mb5.4
VNDA Vanda 90.26 179 P **P 01 33 31.5 -0.4**
comp=Z,2.4nm,0.9s,mb4.5,baz=227,slow=4.2,SNR=11
VNDA Vanda 90.26 179 *e*P **P 01 33 31.6 -0.3**
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA Vanda 90.26 179 *e*P **P 01 33 31.6 -0.2**
comp=Z,6.0nm,1.0s,mb4.9
ARU Arti 91.27 32 *e*P **P 01 33 36.9 +0.1**
ARU pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
ARU Arti 91.27 32 *e*P **P 01 33 36.9 +0.1**
comp=Z,9.6nm,0.9s,mb5.1
JCT Junction City 91.89 301 *e*P **P 01 33 39.6 -0.7**
JCT pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
JCT Junction City 91.89 301 *e*P **P 01 33 39.6 -0.7**
comp=Z,10nm,0.8s,mb5.2
WMOK Wichita Mounta 92.03 305 *e*P **P 01 33 40.2 -0.7**
comp=Z,1.0nm,0.6s,mb4.3
ECSD EROS,Sioux Fal 92.58 314 *e*P **P 01 33 43.1 -0.1**
comp=Z,10nm,1.2s,mb5.1
AGMN Agassiz Refuge 93.23 319 *e*P **P 01 33 45.8 -0.3**
comp=Z,6.6nm,0.7s,mb5.2
ULM Lac du Bonnet 93.74 321 P **P 01 33 47.9 -0.5**
comp=Z,4.6nm,0.8s,mb4.9,baz=140,slow=7.9,SNR=3.0
ULM Lac du Bonnet 93.74 321 *e*P **P 01 33 48.0 -0.3**
comp=Z,4.3nm,0.8s,mb4.9
SONM Songino Array 119.92 42 PKP PKPdf 01 39 21.6 -0.5
comp=Z,0.6nm,0.8s,baz=308,slow=2.4,SNR=2.7
ASAR Alice Springs 132.93 140 PKP PKPdf 01 39 46.5 -1.3
comp=Z,0.6nm,0.6s,baz=208,slow=1.4,SNR=8.0
WRA Warramunga Arr 135.84 136 PKP PKPdf 01 39 51.6 -1.7
comp=Z,0.5nm,0.5s,baz=236,slow=1.9,SNR=6.7
KSRS Korea Array 138.43 46 PKP PKPdf 01 39 55.7 -1.9
comp=Z,0.4nm,0.4s,baz=264,slow=1.2,SNR=3.4
MAJO Matsushiro 145.86 41 *e*PKP2 PKPab 01 40 11.7 -0.1
MAT Matsushiro 145.86 41 PKP PKPdf 01 40 11.3 +0.5
MJAR Matsushiro Arr 145.86 41 PKPbc PKPbc 01 40 10.4 -0.9
comp=Z,3.4nm,0.9s,baz=324,slow=3.4,SNR=17
COEN Coen 145.97 140 *e*PKPbc PKPbc 01 40 11.2 -1.1

*ISCJB **16** 01:28:26.4±1.3, 1450S×007×763W±0.1, h40km±11km, mb4.0/19, Error ellipse: s-maj=21.1km s-min=5.9km az=150.1*
*NEIC **16** 01:28:27.4±2.8, 1442S×7625W, h30km±20km, mb4.1/10, Error ellipse: s-maj=16.7km s-min=7.3km az=63.0*
*IDC **16** 01:28:27.5±4.8, 1439S×7630W, h31km±35km, mb3.9/12, mb1 4.1/16, mb1mx4.0/21, mbtmp4.0/16, ML4.5/4, MS5.2/1, Ms1 5.2/1, ms1mx4.1/30, Error ellipse: s-maj=27.4km s-min=13.2km az=67.0*

ISC 16 01:28:29.2±1.1, 1446S±007×763W±01, h46km±9km, n44, σ0.89/40, mb4.0/19, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.52**	**347**	Pn	**Pn**	**01 29 06.0**	**-1.7**
	136nm,0.3s,baz=149,slow=8.4,SNR=6.7						
NNA				Sn	**Sn**	**01 29 38.0**	**+0.8**
	312nm,0.3s,baz=186,slow=17,SNR=7.1						
NNA				LR	LR	01 30 09.0	
	comp=Z,45μm,20.5s,baz=131,slow=42						
NNA	**Nana**	**2.52**	**347**	*e*Pn	**Pn**	**01 29 06.0**	**-1.8**
NNA				*e*Sn	**Sn**	**01 29 35.5**	**-1.7**
ATAH	**Atahualpa**	**7.70**	**344**	Pn	**Pn**	**01 30 20.6**	**+1.7**
	4.8nm,0.3s,baz=155,slow=11,SNR=9.0						
ATAH				Sn	**Sn**	**01 31 45.6**	**+0.8**
	2.7nm,0.3s,baz=122,slow=19,SNR=1.9						
LPAZ	**La Paz**	**8.04**	**104**	Pn	**Pn**	**01 30 25.6**	**+2.0**
	3.1nm,0.3s,baz=306,slow=8.8,SNR=41						
LPAZ	**La Paz**	**8.04**	**104**	*e*Pn	**Pn**	**01 30 26.2**	**+2.7**
	17nm,0.5s						
LVC	**Limon Verde**	**10.69**	**140**	Pn	**Pn**	**01 30 59.2**	**-0.6**
	0.7nm,0.3s,baz=135,slow=0.0,SNR=5.4						
LVC				Sn	**Sn**	**01 32 58.0**	**-0.1**
	0.5nm,0.3s,baz=146,slow=0.0,SNR=3.3						
LVC	**Limon Verde**	**10.69**	**140**	*e*Pn	**Pn**	**01 30 59.2**	**-0.5**
	139nm,1.8s						
SIV	**San Ignacio**	**14.73**	**98**	Pn	**Pn**	**01 31 54.1**	**-0.7**
	0.5nm,0.3s,baz=262,slow=22,SNR=7.3						
CFAA	**Coronel Fontan**	**18.58**	**158**	P	**Pn**	**01 32 42.3**	**-0.8**
	0.1nm,0.3s,baz=331,slow=11,SNR=4.3						
CPUP	**Villa Florida**	**21.28**	**127**	P	**P**	**01 33 12.1**	**+0.1**
	5.4nm,0.8s,mb3.9,baz=297,slow=10,SNR=8.6						
CPUP	**Villa Florida**	**21.28**	**127**	*e*P	**P**	**01 33 11.9**	**0.0**
	32nm,1.1s,mb4.6						
SDV	**Santo Domingo**	**23.85**	**14**	P	**P**	**01 33 37.8**	**-0.7**
	5.9nm,0.7s,mb4.1,baz=61,slow=0.3,SNR=5.0						
PLCA	**Paso Flores**	**26.65**	**170**	P	**P**	**01 34 03.8**	**+0.2**
	0.9nm,0.8s,mb3.3,baz=344,slow=12,SNR=3.0						
WMOK	**Wichita Mounta**	**53.40**	**337**	*e*P	**P**	**01 37 44.3**	**-0.1**
	1.4nm,0.8s,mb3.9						
ANMO	**Albuquerque**	**56.89**	**330**	*e*P	**P**	**01 38 09.4**	**-0.1**
	1.1nm,0.8s,mb3.9						
SDCO	**Great Sand Dun**	**58.75**	**333**	*e*P	**P**	**01 38 22.5**	**-0.1**
	1.2nm,0.8s,mb4.0						
DUG	**Dugway**	**64.11**	**330**	*e*P	**P**	**01 38 59.5**	**+0.8**
	1.8nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**64.63**	**333**	P	**P**	**01 39 02.5**	**+0.5**
	0.2nm,0.3s,mb3.6,baz=152,slow=5.8,SNR=2.4						
NVAR	**Mina Array Bea**	**65.70**	**325**	P	**P**	**01 39 08.1**	**-1.0**
	0.5nm,0.7s,mb3.7,baz=135,slow=7.2,SNR=4.4						
ULM	**Lac du Bonnet**	**66.70**	**346**	P	**P**	**01 39 13.3**	**-1.9**
	2.8nm,0.6s,mb4.5,baz=160,slow=7.9,SNR=2.6						
ULM	**Lac du Bonnet**	**66.70**	**346**	*e*P	**P**	**01 39 14.4**	**-0.8**
	7.2nm,1.1s,mb4.6						
HLID	**Hailey**	**67.46**	**331**	*e*P	**P**	**01 39 20.6**	**+0.4**
	1.0nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**67.83**	**334**	*e*P	**P**	**01 39 22.0**	**-0.5**
	0.6nm,0.4s,mb4.0						
SNAA	**Sanae**	**71.17**	**161**	*e*	**P**	**01 39 43.5**	**+0.7**
SNAA				*e*		01 39 50.5	
SNAA	**Sanae**	**71.17**	**161**	P	**P**	**01 39 43.2**	**+0.5**
	1.0nm,0.6s,mb3.9,baz=278,slow=6.1,SNR=23						
SNAA	**Sanae**	**71.17**	**161**	*e*P	**P**	**01 39 43.5**	**+0.8**
	2.4nm,0.6s,mb4.3						
NEW	**Newport**	**72.25**	**333**	*e*P	**P**	**01 39 49.8**	**+0.3**
	1.3nm,0.3s,mb4.0						
DBIC	**Dimbokro**	**73.84**	**79**	P	**P**	**01 39 59.5**	**-0.2**
	4.2nm,1.0s,mb4.3,baz=294,slow=10.0,SNR=2.4						
TOA0	**Torodi Ar. Sit**	**81.90**	**74**	*e*P	**P**	**01 40 44.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**81.90**	**74**	P	**P**	**01 40 44.4**	**0.0**
	6.8nm,0.8s,mb4.7,baz=273,slow=4.6,SNR=38						
TORD	**Torodi Ar. Bea**	**81.90**	**74**	P	**P**	**01 40 44.4**	**-0.1**
YKA	**Yellowknife Ar**	**82.36**	**343**	P	**P**	**01 40 44.4**	**-1.4**
	0.7nm,0.7s,mb3.7,baz=138,slow=5.9,SNR=5.9						
YKA	**Yellowknife Ar**	**82.36**	**343**	P	**P**	**01 40 44.4**	**-1.4**
ESDC	**Sonseca Array**	**86.00**	**47**	P	**P**	**01 41 05.5**	**+0.6**
	0.1nm,0.4s,mb3.4,baz=250,slow=5.6,SNR=4.1						
INK	**Inuvik**	**92.04**	**342**	*e*P	**P**	**01 41 34.1**	**+1.3**
MAW	**Mawson**	**92.96**	**165**	P	**P**	**01 41 38.3**	**+1.1**
	1.6nm,0.8s,mb4.5,baz=284,slow=4.2,SNR=3.2						
ASAR	**Alice Springs**	**131.99**	**218**	PKP	PKPdf	01 47 39.1	+0.6
	0.7nm,1.0s,baz=133,slow=2.6,SNR=3.1						
BVAR	**Borovoye Array**	**133.35**	**27**	PKP	PKPdf	01 47 43.2	+3.1
	0.2nm,0.4s,baz=323,slow=6.0,SNR=2.8						
WRA	**Warramunga Arr**	**134.46**	**222**	PKP	PKPdf	01 47 43.5	+0.3
	0.6nm,0.7s,baz=127,slow=1.8,SNR=4.4						
WRA	**Warramunga Arr**	**134.46**	**222**	PKP	PKPdf	01 47 43.5	+0.3
ZALV	**Zalesovo Beam**	**137.88**	**17**	PKP	PKPdf	01 47 49.2	+0.7
	0.7nm,0.3s,baz=203,slow=3.1,SNR=4.4						
MJAR	**Matsushiro Arr**	**142.21**	**312**	PKP	PKPdf	01 47 54.3	-2.7
	0.6nm,0.5s,baz=74,slow=2.1,SNR=3.6						
SONM	**Songino Array**	**146.65**	**357**	PKPbc	PKPbc	01 48 06.2	+0.4
	2.8nm,0.5s,baz=326,slow=1.9,SNR=16						
KSRS	**Korea Array**	**148.60**	**321**	PKPbc	PKPbc	01 48 12.2	+0.7
	0.8nm,0.5s,baz=59,slow=2.9,SNR=5.4						

IDC 16 01:30:19.7±3.3, 1233S×1482W, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.9/6, Error ellipse: s-maj=198.4km s-min=24.4km az=137.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**21.32**	**28**	P	P	01 35 09.6	+1.3
	5.4nm,0.9s,baz=194,slow=12,SNR=2.2						
TORD	**Torodi Ar. Bea**	**30.15**	**33**	P	P	01 36 31.4	-0.2
	0.3nm,0.6s,baz=222,slow=9.0,SNR=4.3						
CPUP	**Villa Florida**	**42.26**	**244**	P	P	01 38 15.2	+0.2
	0.3nm,0.4s,baz=77,slow=11,SNR=2.7						
IDI	**Anoyia**	**60.46**	**37**	P	P	01 40 32.0	+0.6
	6.0nm,0.7s,baz=230,slow=7.9,SNR=4.0						
GERES	**GERESS Array B**	**65.92**	**20**	P	P	01 41 07.1	-0.2
	0.4nm,0.7s,baz=210,slow=5.7,SNR=3.4						
AKASG	**Malin Array Be**	**73.56**	**27**	P	P	01 41 53.7	-0.7
	0.7nm,0.6s,baz=224,slow=6.6,SNR=5.5						

NEIC 16 01:30:27.5, 3838S×17577E, h171km, MG4.0(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.97**	**145**	P	Pn	01 30 54.6	+0.6
BKZ				S	Sn	01 31 14.8	+0.3
MOVZ	**Moawhango**	**1.03**	**181**	P	Pn	01 30 54.7	+0.2
URZ	**Urewera**	**1.06**	**84**	P	Pn	01 30 54.9	+0.2
MWZ	**Matawai**	**1.38**	**89**	P	Pn	01 30 57.8	+0.3
WAZ	**Wanganui**	**1.50**	**204**	P	Pn	01 30 58.7	0.0
KNZ	**Kokohu**	**1.62**	**114**	P	Pn	01 31 00.3	+0.4
TSZ	**Takapari Road**	**1.69**	**175**	P	Pn	01 31 00.2	-0.3
MRZ	**Mangatainoka R**	**2.28**	**184**	P	Pn	01 31 05.7	-1.4
MRZ				S	Sn	01 31 34.8	-3.1
KIW	**Kapiti Island**	**2.57**	**195**	P	Pn	01 31 08.4	-2.0
CAW	**Cannon Point**	**2.78**	**191**	P	Pn	01 31 11.0	-1.9
MRW	**Makara Radio**	**2.96**	**196**	P	Pn	01 31 13.0	-2.2
SNZO	**South Karori**	**3.04**	**195**	P	Pn	01 31 13.5	-2.6
TCW	**Tory Channel**	**3.06**	**202**	P	Pn	01 31 13.8	-2.5
MSWZ	**Moikau Station**	**3.06**	**187**	P	Pn	01 31 13.6	-2.8
BHW	**Baring Head**	**3.10**	**193**	P	Pn	01 31 14.2	-2.7
NNZ	**Nelson**	**3.38**	**212**	P	Pn	01 31 17.8	-2.6
THZ	**Tophouse**	**4.03**	**212**	P	Pn	01 31 25.5	-3.1
KHZ	**Kahutara**	**4.38**	**202**	P	Pn	01 31 29.7	-3.4
LTZ	**Lake Taylor**	**5.14**	**210**	P	Pn	01 31 38.6	-4.4
MQZ	**McQueen's Vall**	**5.82**	**203**	P	Pn	01 31 46.2	-5.7

*ISCJB **16** 01:35:36.0±0.2, 1414S×004×7670W±005, h22km, mb5.2/112, Error ellipse: s-maj=7.9km s-min=3.8km az=148.4*
*IDC **16** 01:35:37.1±0.7, 1424S×7688W, h21km±3km, mb4.6/19, mb1 4.6/26, mb1mx4.6/27, mbtmp4.6/26, ML4.6/4, MS5.9/1, Ms1 5.9/1, ms1mx4.4/28, Error ellipse: s-maj=17.7km s-min=10.3km az=67.0*
*NEIC **16** 01:35:38.0±2.0, 1418S×7676W, h25km±13km, mb5.4/99, Error ellipse: s-maj=8.4km s-min=3.9km az=64.0*
NEIC Felt [VII] at Lima. Felt at Arequipa.
*BJI **16** 01:35:37.2, 1378S×7739W, h24km, mB5.5, Ms5.8, Msz5.4*
*MOS **16** 01:35:38.0±1.0, 1401S×7667W, h33km, mb5.5/38, Error ellipse: s-maj=15.6km s-min=6.2km az=115.2*

ISC 16 01:35:38.2±0.2, 1416S±003×7662W±005, h24km, h24km±1.1km: pP-P, n622, σ0.64/580, mb5.2/112, 164C-166D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.17**	**354**	Pn	**Pn**	**01 36 10.0**	**-2.8**
	27μm,0.5s,SNR=16						
NNA	**Nana**	**2.17**	**354**	Pn	**Pn**	**01 36 15.3**	**+2.5**
	353nm,0.3s,baz=186,slow=14,SNR=17						
NNA				Sn	**Sn**	**01 36 40.9**	**+1.9**
	1μm,0.3s,baz=102,slow=19,SNR=22						
NNA	**Nana**	**2.17**	**354**	*e*Pn	**Pn**	**01 36 10.3**	**-2.5**
NNA				*e*Sn	**Sn**	**01 36 40.9**	**+1.9**
ATAH	**Atahualpa**	**7.32**	**346**	Pn	**Pn**	**01 37 21.9**	**-1.8**
	17nm,0.3s,baz=93,slow=18,SNR=27						
ATAH				Sn	**Sn**	**01 38 42.3**	**-3.9**
	baz=114,slow=20,SNR=2.2						
LPAZ	**La Paz**	**8.46**	**106**	Pn	**Pn**	**01 37 43.5**	**+4.2**
	2.0nm,0.3s,baz=276,slow=12,SNR=22						
LPAZ	**La Paz**	**8.46**	**106**	*e*P	**Pn**	**01 37 43.6**	**+4.3**
LPAZ				pmax	pmax		
	comp=Z,14nm,0.6s						
LPAZ	**La Paz**	**8.46**	**106**	*e*Pn	**Pn**	**01 37 43.6**	**+4.3**
	comp=Z,14nm,0.6s						
LVC	**Limon Verde**	**11.14**	**140**	Pn	**Pn**	**01 38 16.2**	**+0.2**
	comp=Z,5.2nm,0.3s,baz=27,slow=0.0,SNR=24						
LVC				Sn	**Sn**	**01 40 16.6**	**-3.3**
	comp=Z,3.1nm,0.3s,baz=320,slow=0.0,SNR=2.8						
LVC	**Limon Verde**	**11.14**	**140**	*e*Pn	**Pn**	**01 38 15.8**	**-0.2**
OTAV	**Otavalo**	**14.42**	**353**	*e*Pn	**Pn**	**01 39 05.2**	**+4.3**
SIV	**San Ignacio**	**15.12**	**99**	Pn	**Pn**	**01 39 14.0**	**+3.6**
	comp=Z,0.5nm,0.3s,baz=286,slow=12,SNR=8.0						
LCO	**Las Campanas**	**15.76**	**161**	*e*Pn	**Pn**	**01 39 19.4**	**+0.7**
	comp=Z,549nm,1.8s						
TLL	**Tololo Astrono**	**16.81**	**162⇓***i*P		**Pn**	**01 39 33.1**	**+1.0**
CFAA	**Coronel Fontan**	**18.99**	**158**	P	**Pn**	**01 39 58.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=340,slow=11,SNR=22						
ROSC	**El Rosal**	**19.03**	**7**	P	**Pn**	**01 40 01.2**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=164,slow=7.4,SNR=4.9						
ROSC				LR	LR	01 48 01.1	
	comp=Z,34μm,20.0s,baz=16,slow=39						
ROSC	**El Rosal**	**19.03**	**7**	*e*P	**Pn**	**01 39 58.9**	**-0.5**
LMEL	**Las Melosas**	**20.45**	**165⇓***e*P		**P**	**01 40 15.9**	**+2.0**
CPUP	**Villa Florida**	**21.74**	**127**	P	**P**	**01 40 28.0**	**0.0**
	comp=Z,34nm,1.1s,mb4.7,baz=286,slow=10,SNR=28						
CPUP	**Villa Florida**	**21.74**	**127**	*e*P	**P**	**01 40 27.9**	**-0.1**
CPUP				pmax	pmax		
	comp=Z,272nm,1.1s						
CPUP	**Villa Florida**	**21.74**	**127**	*e*P	**P**	**01 40 27.9**	**0.0**
	comp=Z,272nm,1.1s,mb5.6						
BCIP	**Isla Barro Col**	**23.39**	**352**	*e*P	**P**	**01 40 47.3**	**+1.7**
	comp=Z,305nm,1.6s,mb5.5						
SDV	**Santo Domingo**	**23.65**	**15**	P	**P**	**01 40 47.6**	**-0.5**
	comp=Z,19nm,0.7s,mb4.6,baz=268,slow=4.6,SNR=16						
SDV	**Santo Domingo**	**23.65**	**15**	*e*P	**P**	**01 40 47.5**	**-0.6**
	comp=Z,35nm,0.7s,mb4.9						
PCRV	**Puerto La Cruz**	**26.94**	**27**	P	**P**	**01 41 20.7**	**+2.7**
	comp=Z,15nm,0.8s,mb4.6,baz=239,slow=6.3,SNR=4.8						
PLCA	**Paso Flores**	**27.00**	**170**	P	**P**	**01 41 17.6**	**-0.7**
	comp=Z,9.2nm,1.1s,mb4.2,baz=340,slow=10.0,SNR=11						
PLCA	**Paso Flores**	**27.00**	**170**	*e*P	**P**	**01 41 17.2**	**-1.0**
PLCA				pmax	pmax		
	comp=Z,56nm,1.2s						
PLCA	**Paso Flores**	**27.00**	**170**	*e*P	**P**	**01 41 17.2**	**-1.0**
	comp=Z,56nm,1.2s,mb5.0						
TRQA	**Tornquist**	**27.11**	**154**	*e*P	**P**	**01 41 18.8**	**-0.6**
	comp=Z,57nm,1.4s,mb4.9	

ELN Prospectdale 51.26 356 eP P 01 44 39.7 -0.3
PMSA Palmer Station 51.29 173 eP P 01 44 40.1 +0.1
comp=Z,208nm,1.9s,mb5.7
GNAR Gosnell 51.44 346 eP P 01 44 48.0 +6.6
USIN University of 52.87 349 eP P 01 44 50.9 -1.2
comp=Z,121nm,1.1s,mb5.7
WCI Wyandotte Cave 52.89 350 eP P 01 44 50.8 -1.4
WCI pmax pmax
comp=Z,122nm,1.0s,mb5.8
WCI Wyandotte Cave 52.89 350 eP P 01 44 50.8 -1.4
comp=Z,122nm,1.0s,mb5.8
SIUC Southern Illin 52.94 347 eP P 01 44 51.4 -1.2
WMOK Wichita Mounta 52.99 337 eP P 01 44 51.5 -1.5
WMOK pmax pmax
comp=Z,22nm,1.3s,mb4.9
WMOK Wichita Mounta 52.99 337 eP P 01 44 51.5 -1.6
comp=Z,22nm,1.3s,mb4.9
GDL2 Guadalupe Moun 53.21 330 eP P 01 44 54.6 0.0
SDMD Soldier's Deli 53.29 360 eP P 01 44 55.8 +0.6
comp=Z,77nm,1.2s,mb5.5
FVM French Village 53.46 346 eP P 01 44 54.7 -1.7
FVM pmax pmax
comp=Z,56nm,1.1s,mb5.4
FVM French Village 53.46 346 eP P 01 44 54.7 -1.7
comp=Z,56nm,1.1s,mb5.4
OLIL Olney 53.70 349 eP P 01 44 56.5 -1.7
comp=Z,102nm,0.9s,mb5.8
BLO Bloomington 53.85 350 eP P 01 44 57.8 -1.4
BLO pmax pmax
comp=Z,81nm,1.1s,mb5.6
BLO Bloomington 53.85 350 eP P 01 44 57.8 -1.5
comp=Z,81nm,1.1s,mb5.6
MVL Millersville 53.88 0 eP P 01 45 01.2 +1.8
comp=Z,89nm,1.2s,mb5.6
SLM Saint Louis 54.04 347 eP P 01 44 59.9 -0.7
SLM pmax pmax
comp=Z,115nm,1.3s,mb5.7
SLM Saint Louis 54.04 347 eP P 01 44 59.9 -0.7
comp=Z,116nm,1.3s,mb5.7
AMTX Amarillo 54.27 335 eP P 01 45 01.1 -1.3
ACSO Alum Creek Sta 54.43 354 eP P 01 45 03.4 0.0
comp=Z,137nm,1.3s,mb5.7
319A Douglas 55.07 326 ⇓P P 01 45 08.3 0.0
baz=55
318A Bisbee 55.51 325 ⇓P P 01 45 11.5 0.0
baz=56
219A White Tail Can 55.54 326 ⇑P P 01 45 11.6 -0.1
baz=56
218A Dragoon 55.95 326 ⇑P P 01 45 14.6 0.0
baz=56
Y22C IRIS PASSCAL I 55.97 330 ⇑P P 01 45 15.2 +0.5
baz=56
BRYW Bryant College 55.99 5 eP P 01 45 16.4 +1.7
LPM Los Pinos Moun 56.02 330 eP P 01 45 15.1 0.0
LENM Lemitar 56.07 330 eP P 01 45 15.7 +0.3
BINY Binghamton 56.08 1 eP P 01 45 16.3 +1.0
comp=Z,93nm,1.4s,mb5.6
119A Ashpeak Ranch, 56.16 327 ⇓P P 01 45 16.0 0.0
baz=56
KSU1 Kansas State U 56.18 341 eP P 01 45 14.8 -1.3
comp=Z,71nm,1.3s,mb5.5
217A Green Valley 56.22 325 ⇓P P 01 45 16.5 -0.1
baz=56
LAZ Ladron 56.34 330 eP P 01 45 17.3 -0.1
118A Homack Ranch, 56.42 326 ⇑P P 01 45 17.7 -0.2
baz=57
ANMO Albuquerque 56.46 331 eP P 01 45 18.0 -0.2
ANMO pmax pmax
comp=Z,54nm,1.0s
ANMO Albuquerque 56.46 331 eP P 01 45 17.9 -0.2
comp=Z,54nm,1.0s,mb5.5
WES Weston 56.47 5 eP P 01 45 24.0 +5.9
Z19A T-Link Ranch, 56.54 327 ⇓P P 01 45 18.9 +0.1
baz=57
HRV Adam Dziewonsk 56.57 4 eP P 01 45 20.2 +1.4
TUC Tucson 56.61 325 eP P 01 45 18.5 -0.8
TUC pmax pmax
comp=Z,21nm,1.1s,mb5.1
TUC Tucson 56.61 325 eP P 01 45 18.5 -0.8
comp=Z,20nm,1.1s,mb5.1
216A Three Points, 56.76 325 ⇑P P 01 45 20.4 0.0
baz=57
117A Oracle 56.78 326 ⇑P P 01 45 20.7 +0.2
baz=57
Z18A Geronimo 56.79 326 ⇓P P 01 45 20.8 +0.2
baz=57
CBKS Cedar Bluff 56.96 339 eP P 01 45 20.4 -1.2
Y19A Nutrioso 57.06 328 ⇑P P 01 45 23.0 +0.6
baz=57
Z17A San Carlos Hig 57.19 326 ⇑P P 01 45 24.0 +0.6
baz=57
116A Eloy 57.31 325 ⇓P P 01 45 24.3 0.0
baz=58
ACCN Adirondack Com 57.32 3 eP P 01 45 25.9 +1.8
Y18A Canyon Day Jun 57.33 327 ⇑P P 01 45 24.6 +0.2
baz=58
X19A St. Johns 57.44 328 ⇓P P 01 45 25.3 +0.1
baz=58
214A Organ Pipe Nat 57.49 323 ⇑P P 01 45 25.4 -0.1
baz=58
Y17A Roosevelt 57.69 326 ⇓P P 01 45 26.9 0.0
baz=58
115A Sonoran Desert 57.71 324 ⇓P P 01 45 27.2 +0.2
baz=58
HNH Hanover 57.72 4 eP P 01 45 32.8 +5.9
Z16A Peralta Trail, 57.74 326 ⇓P P 01 45 27.0 -0.3
baz=58
SCIA State Center 57.85 345 eP P 01 45 25.9 -1.9
comp=Z,88nm,1.2s,mb5.7
X18A Snowflake 57.86 328 ⇓P P 01 45 28.0 -0.1
baz=58
NCB Newcomb 57.89 2 eP P 01 45 34.5 +6.4
MDV Middlebury 57.96 3 eP P 01 45 28.7 +0.1
W19A Sanders 58.03 328 ⇑P P 01 45 29.3 0.0
baz=58
Z15A Gila River Ind 58.11 325 ⇓P P 01 45 29.4 -0.5
baz=58
JFWS Jewell Farm 58.15 348 eP P 01 45 28.8 -1.2
JFWS pmax pmax
comp=Z,31nm,1.0s,mb5.3
JFWS Jewell Farm 58.15 348 eP P 01 45 28.8 -1.2
comp=Z,31nm,1.0s,mb5.3
X17A Forest Lakes 58.16 327 ⇑P P 01 45 30.7 +0.5
baz=58
Y16A Circle Bar Ran 58.18 326 ⇑P P 01 45 30.6 +0.3
baz=58
W18A Petrified Fore 58.21 328 ⇑P P 01 45 30.4 -0.1
baz=58
LBNH Lisbon 58.27 4 eP P 01 45 35.6 +4.8
SDCO Great Sand Dun 58.32 333 eP P 01 45 31.0 -0.2
comp=Z,52nm,1.1s,mb5.5
V19A Window Rock 58.33 329 ⇑P P 01 45 32.0 +0.7
baz=58
LONY Lake Ozonia 58.52 2 eP P 01 45 33.2 +0.7
comp=Z,54nm,1.2s,mb5.5
X16A Lo Mia Camp, P 58.56 326 ⇑P P 01 45 33.4 +0.3
baz=59
Z14A Wintersburg 58.60 324 ⇓P P 01 45 33.1 -0.2
baz=59
113A Mohawk Valley, 58.64 323 ⇑P P 01 45 33.4 -0.1
baz=59
W17A Winslow 58.68 327 ⇓P P 01 45 34.3 +0.5
baz=59
Y15A Casa Rosa Ranc 58.70 325 ⇑P P 01 45 34.3 +0.3
baz=59
V18A Ganado 58.77 328 ⇑P P 01 45 34.7 +0.3
baz=59
FRNY Flat Rock 58.77 3 eP P 01 45 33.9 -0.3
112A Yuma 58.94 323 ⇓P P 01 45 35.9 +0.2
baz=59
X15A Humboldt 59.05 326 ⇑P P 01 45 36.7 +0.3
baz=59
Y14A Wickenburg 59.06 325 ⇑P P 01 45 36.8 +0.3
baz=59
W16A Flagstaff 59.13 327 ⇓P P 01 45 37.3 +0.3
baz=59
T19A Beclabito 59.20 330 ⇑P P 01 45 37.3 -0.1
baz=59
MVCO Mesa Verde 59.25 331 ⇑P P 01 45 37.8 +0.1
baz=59
MVCO Mesa Verde 59.25 331 eP P 01 45 37.5 -0.2
comp=Z,48nm,1.1s,mb5.4
U18A Rough Rock, Ch 59.30 329 ⇑P P 01 45 38.2 +0.2
baz=60
WUAZ Wupatki 59.37 327 ⇑P P 01 45 38.9 +0.4
baz=60
WUAZ Wupatki 59.37 327 eP P 01 45 39.0 +0.4
comp=Z,41nm,1.0s,mb5.4
X14A Yava 59.39 325 ⇓P P 01 45 39.1 +0.3
baz=60
Y13A Salome 59.43 324 ⇑P P 01 45 39.5 +0.4
baz=60
GLA Glamis 59.46 323 eP P 01 45 39.3 0.0
GLA pmax pmax
comp=Z,48nm,1.6s,mb5.3
GLA Glamis 59.46 323 ⇑P P 01 45 40.1 +0.9
baz=60
GLA Glamis 59.46 323 eP P 01 45 39.3 0.0
comp=Z,48nm,1.6s,mb5.3
W15A Williams 59.58 326 ⇑P P 01 45 40.7 +0.6
baz=60
Y12C Blythe 59.78 324 ⇑P P 01 45 41.7 +0.3
baz=60
U17A Shonto 59.83 329 ⇑P P 01 45 42.2 +0.4
baz=60
T18A Mexican Hat 59.86 330 ⇑P P 01 45 42.0 0.0
baz=60
PDMCI Parker Dam,Lak 59.96 324 ⇑P P 01 45 42.9 +0.2
baz=60
S19A Harvey Farm, M 59.99 331 ⇓P P 01 45 43.2 +0.4
baz=60
X13A Yucca 60.00 325 ⇓P P 01 45 43.2 +0.2
baz=60
V15A Kaibab Nationa 60.02 327 ⇑P P 01 45 43.5 +0.5
baz=60
PV01 Paradox Valley 60.03 331 eP P 01 45 42.9 -0.2
W14A Seligman 60.05 326 ⇑P P 01 45 43.9 +0.6
baz=60
ISCO Idaho Springs 60.09 334 eP P 01 45 43.1 -0.4
ISCO pmax pmax
comp=Z,16nm,1.0s,mb5.0
ISCO Idaho Springs 60.09 334 eP P 01 45 43.1 -0.3
comp=Z,16nm,1.0s,mb5.0
SMCO Snowmass 60.16 333 eP P 01 45 41.1 -2.9
T17A Navajo Res., N 60.21 329 ⇓P P 01 45 45.1 +0.8
baz=60
BC3 Big Chuckw Mtn 60.25 323 ⇑P P 01 45 45.1 +0.4
baz=60
MONP Monument Peak 60.29 322 ⇑P P 01 45 45.6 +0.6
baz=60
BAR Barrett 60.29 321 eP P 01 45 45.4 +0.4
comp=Z,17nm,1.1s,mb5.0
S18A Hurst Farm, Bl 60.35 330 ⇑P P 01 45 45.9 +0.6
baz=60
V14A Boquillas Ranc 60.38 326 ⇓P P 01 45 46.0 +0.5
baz=60
W13A Hualapai Mount 60.41 325 ⇓P P 01 45 46.3 +0.6
baz=61
IRM Iron Mountain 60.44 324 ⇓P P 01 45 46.5 +0.5
baz=61
ECSD EROS,Sioux Fal 60.44 343 eP P 01 45 44.3 -1.5
comp=Z,76nm,1.2s,mb5.6
PV10 Paradox Valley 60.44 331 eP P 01 45 45.0 -0.9
R19A Curley Farm, L 60.48 331 ⇓P P 01 45 46.0 -0.2
baz=61
U15A North Rim 60.54 327 ⇑P P 01 45 46.7 +0.1
baz=61
S17A Black Ridge (B 60.71 329 ⇓P P 01 45 48.3 +0.5
baz=61
PFO Pinyon Flat Ob 60.81 322 eP P 01 45 48.9 +0.4
PFO pmax pmax
comp=Z,38nm,1.3s,mb5.4
PFO Pinyon Flat Ob 60.81 322 ⇑P P 01 45 48.5 0.0
baz=61
PFO Pinyon Flat Ob 60.81 322 eP P 01 45 48.9 +0.3
comp=Z,38nm,1.3s,mb5.4
BELC Belle Mtn. 60.82 323 ⇑P P 01 45 48.6 0.0
baz=61
R18A Canyonlands Na 60.86 330 ⇑P P 01 45 48.4 -0.3
baz=61
U14A Mt Trumbull 61.00 327 ⇓P P 01 45 50.1 +0.4
baz=61
Q19A Hogan Spring (61.01 331 ⇑P P 01 45 50.0 +0.2
baz=61
V13A Grand Canyon W 61.02 326 ⇓P P 01 45 50.1 +0.2
baz=61
COWI Conover 61.03 350 eP P 01 45 47.7 -2.0
comp=Z,42nm,1.5s,mb5.3
T15A Red Dirt Ranch 61.04 328 ⇑P P 01 45 50.4 +0.4
baz=61
LDFC Landfair 61.08 324 eP P 01 45 50.4 +0.1
comp=Z,28nm,1.0s,mb5.3
S16A Weppner Ranch, 61.17 329 ⇑P P 01 45 50.8 -0.1
baz=61
GMRC Granite Mounta 61.18 324 ⇑P P 01 45 51.0 0.0
baz=61
MURC Murrieta 61.25 322 ⇑P P 01 45 51.7 +0.2
baz=61
R17A Hanksville Air 61.28 330 ⇑P P 01 45 51.6 +0.1
baz=62
PHWY Pilot Hill 61.29 336 eP P 01 45 51.7 +0.1
V12A Nelson 61.40 325 ⇓P P 01 45 52.4 -0.1
baz=62
U13A Pakoon Wash 61.42 326 ⇓P P 01 45 52.8 +0.2
baz=62
T14A Hurricane 61.44 327 ⇓P P 01 45 53.3 +0.6
baz=62
S15A Panguitch 61.53 328 ⇑P P 01 45 53.8 +0.5
baz=62
Q18A Rafter H Ranch 61.54 331 ⇓P P 01 45 53.8 +0.5
baz=62
BBRC Big Bear Sol-O 61.55 322 ⇓P P 01 45 54.2 +0.7
baz=62
HEC Hector,Ludlow 61.60 323 ⇓P P 01 45 54.4 +0.5
baz=62
SRU San Rafael 61.73 330 eP P 01 45 54.5 -0.1
SRU pmax pmax
comp=Z,31nm,1.2s,mb5.3
SRU San Rafael 61.73 330 ⇑P P 01 45 54.7 +0.1
baz=62
SRU San Rafael 61.73 330 eP P 01 45 54.5 -0.1
comp=Z,32nm,1.2s,mb5.3
U12A Valley of Fire 61.75 326 ⇑P P 01 45 54.9 +0.1
baz=62
TUQ Turquoise Mtn. 61.80 324 ⇓P P 01 45 55.7 +0.5
baz=62
V11A Goodsprings 61.81 325 ⇑P P 01 45 55.4 +0.2
baz=62
T13A Saint George 61.84 327 ⇑P P 01 45 55.9 +0.5
baz=62
Q16A Castle Valley 61.89 330 ⇓P P 01 45 56.3 +0.6
baz=62
R15A Junction 61.89 329 ⇓P P 01 45 56.1 +0.4
baz=62
BFSC Mount Baldy St 61.97 322 ⇓P P 01 45 56.6 +0.2
baz=62
S14A Cedar City 62.01 328 ⇓P P 01 45 57.0 +0.5
baz=62
P18A Preston Nutter 62.01 331 ⇓P P 01 45 56.3 -0.2
baz=62
MSU Marysvale 62.07 329 eP P 01 45 57.4 +0.4
P17A Butcher Ranch, 62.12 331 ⇓P P 01 45 56.8 -0.4
baz=62
SHPR Sheep Range 62.14 325 eP P 01 45 57.6 +0.2
ARUT Antelope Range 62.17 328 eP P 01 45 57.0 -0.6
MWC Mount Wilson 62.20 322 eP P 01 45 58.2 +0.3
MWC pmax pmax
comp=Z,96nm,1.5s,mb5.7
MWC Mount Wilson 62.20 322 eP P 01 45 58.1 +0.3
comp=Z,96nm,1.5s,mb5.7
TMUT Trail Mountain 62.20 330 eP P 01 45 58.0 +0.2
GSC Goldstone 62.21 323 eP P 01 45 58.7 +0.8
GSC pmax pmax
comp=Z,57nm,1.5s,mb5.5
GSC Goldstone 62.21 323 ⇑P P 01 45 58.1 +0.1
baz=62
GSC Goldstone 62.21 323 eP P 01 45 58.7 +0.8
comp=Z,57nm,1.5s,mb5.5
S13A Holt Ranch, En 62.23 327 ⇓P P 01 45 58.9 +0.9
baz=62
SHOC Shoshone 62.33 324 ⇑P P 01 45 59.2 +0.5
baz=62
RWWY Rawlins 62.33 335 eP P 01 45 58.9 +0.3
comp=Z,55nm,1.2s,mb5.6
DECC Green Verdugo 62.38 322 ⇓P P 01 45 59.1 0.0
baz=62
O18A Roosevelt 62.40 332 ⇓P P 01 45 59.6 +0.5
baz=63
Q15A Fillmore 62.55 329 ⇑P P 01 46 00.4 +0.3
baz=63
EDW2 Edwards Air Fo 62.61 322 ⇑P P 01 46 00.9 +0.3
baz=63
T11A Corn Creek, Al 62.71 326 ⇓P P 01 46 01.6 +0.3
baz=63
U10A Ash Meadows, A 62.73 325 ⇑P P 01 46 01.8 +0.4
baz=63
R13A O'Grain Ranch, 62.74 327 ⇓P P 01 46 02.0 +0.6
baz=63
S12A Delamar Landin 62.78 326 ⇑P P 01 46 02.3 +0.6
baz=63
N18A Larsen Ranch, 62.82 332 ⇑P P 01 46 02.0 +0.1
baz=63
P15A Leamington 62.94 330 ⇓P P 01 46 03.5 +0.8
baz=63
MPU Maple Canyon 62.97 330 eP P 01 46 02.5 -0.4
comp=Z,30nm,1.1s,mb5.3
Q14A Sevier Lake (B 62.99 329 ⇑P P 01 46 04.0 +0.9
baz=63
BSC Santa Cruz Isl 63.00 320 ⇑P P 01 46 03.9 +0.7
baz=63
O16A Springville 63.06 331 ⇓P P 01 46 04.2 +0.7
baz=63
FURC Furnace Creek, 63.06 324 ⇓P P 01 46 04.2 +0.5
baz=63
TPNV Topopah Spring 63.06 325 eP P 01 46 03.7 +0.1
TPNV pmax pmax
comp=Z,24nm,1.2s,mb5.2
TPNV Topopah Spring 63.06 325 ⇑P P 01 46 04.0 +0.4
baz=63
TPNV Topopah Spring 63.06 325 eP P 01 46 03.7 +0.1
comp=Z,24nm,1.2s,mb5.2
DAU Daniels Canyon 63.10 331 eP P 01 46 04.1 +0.3
MPMC Manual Prospec 63.13 324 ⇑P P 01 46 04.1 0.0
baz=63
NLU North Lily Min 63.14 330 eP P 01 46 04.9 +0.9
RSSD Black Hills 63.16 338 eP P 01 46 04.4 +0.3
RSSD pmax pmax
comp=Z,34nm,1.1s,mb5.4
RSSD Black Hills 63.16 338 eP P 01 46 04.4 +0.3
comp=Z,34nm,1.1s,mb5.4
R12A Pony Springs, 63.18 327 ⇑P P 01 46 05.0 +0.6
baz=63
EYMN Ely 63.23 349 eP P 01 46 04.1 -0.4
comp=Z,62nm,1.3s,mb5.6
S11A Rachel 63.29 326 ⇓P P 01 46 05.8 +0.7
baz=64
N17A Moffit Pass 63.32 332 ⇓P P 01 46 06.1 +0.9
baz=64
JLU Jordanelle 63.34 331 eP P 01 46 06.1 +0.7
P14A Drum Mountains 63.34 329 ⇓P P 01 46 06.0 +0.5
baz=64
Q13A Wheeler Ranch, 63.34 328 ⇑P P 01 46 06.1 +0.6
baz=64
ISA Isabella 63.43 323 eP P 01 46 05.9 -0.2
ISA pmax pmax
comp=Z,21nm,1.3s,mb5.1
ISA Isabella 63.43 323 ⇑P P 01 46 06.2 +0.1
baz=64
ISA Isabella 63.43 323 eP P 01 46 05.9 -0.2
comp=Z,20nm,1.3s,mb5.1
N16A Rees Ranch, Co 63.56 331 ⇓P P 01 46 07.3 +0.5
baz=64
O15A The Old Anders 63.58 330 ⇓P P 01 46 06.9 -0.1
baz=64
DUG Dugway 63.68 330 eP P 01 46 08.0 +0.4
DUG pmax pmax
comp=Z,52nm,1.1s,mb5.5
DUG Dugway 63.68 330 ⇑P P 01 46 07.9 +0.3
baz=64
DUG Dugway 63.68 330 eP P 01 46 08.0 +0.3
comp=Z,52nm,1.1s,mb5.5
NOQ North Oquirrh 63.70 330 eP P 01 46 08.4 +0.6
comp=Z,42nm,1.1s,mb5.4
R11A Troy Canyon, C 63.72 327 ⇑P P 01 46 08.1 +0.2
baz=64
PKM Peak Mountain 63.72 321 ⇓P P 01 46 08.3 +0.3
baz=64
P13A Bates Ranch, G 63.72 328 ⇓P P 01 46 08.4 +0.5
baz=64
GRAC Grapevine Rang 63.73 324 ⇑P P 01 46 08.3 +0.3
baz=64
CWC Cottonwood Cre 63.74 323 ⇓P P 01 46 08.5 +0.4
baz=64
Q12A Willow Creek R 63.83 328 ⇑P P 01 46 08.7 +0.1
baz=64
VES Vestal, Richgr 63.91 322 ⇓P P 01 46 09.1 -0.1
baz=64
S10A Tonopah Range, 63.95 326 ⇓P P 01 46 09.6 +0.1
baz=64
M16A Huntsville 63.98 331 ⇑P P 01 46 09.5 -0.1
baz=64
R10A Warm Springs 64.06 326 ⇓P P 01 46 10.7 +0.6
baz=64
N15A Stansbury Isla 64.08 330 ⇑P P 01 46 10.4 +0.2
baz=64
SMMC Simmler 64.11 321 ⇑P P 01 46 10.7 +0.2
baz=64
Q11A Duckwater 64.12 327 ⇓P P 01 46 11.0 +0.5
baz=64
S09A Goldfield 64.16 325 ⇓P P 01 46 10.9 +0.1
baz=64
HWUT Hardware Ranch 64.18 331 eP P 01 46 10.1 -0.8
comp=Z,55nm,1.0s,mb5.5
BW06 Boulder Array 64.21 334 eP P 01 46 09.7 -1.4
comp=Z,22nm,1.0s,mb5.1
PDAR Pinedale Array 64.21 334 P P 01 46 10.2 -0.9
comp=Z,4.7nm,1.0s,mb4.5,baz=142,slow=7.5,SNR=21
PDAR pP pP 01 46 16.9 -1.7
comp=Z,16nm,1.0s,baz=140,slow=7.4,SNR=25
TIN Tinemaha 64.25 324 ⇑P P 01 46 11.8 +0.3
baz=64
BGU Big Grassy Mou 64.35 330 eP P 01 46 11.5 -0.5
SPUT South Promonto 64.37 331 eP P 01 46 12.2 +0.1
N14A Grayback Hills 64.37 330 ⇓P P 01 46 12.3 +0.2
baz=65
TPH Tonopah 64.41 325 eP P 01 46 12.7 +0.2
TPH pmax pmax
comp=Z,32nm,1.2s,mb5.2
TPH Tonopah 64.41 325 eP P 01 46 12.7 +0.3
comp=Z,32nm,1.2s,mb5.2
R09A Tonopah 64.44 326 ⇑P P 01 46 12.9 +0.2
baz=65
HELL Mitchell Peak 64.45 323 ⇑P P 01 46 13.0 +0.3
baz=65
M15A Larsen Ranch, 64.48 331 ⇑P P 01 46 12.8 0.0
baz=65
AGMN Agassiz Refuge 64.49 346 eP P 01 46 12.1 -0.7
comp=Z,83nm,1.1s,mb5.7
S08C White Mtn Res 64.53 324 ⇓P P 01 46 13.4 +0.2
baz=65
MTUM Tungsten Hills 64.66 324 eP P 01 46 14.3 +0.2
O12A Currie 64.70 328 ⇓P P 01 46 14.3 0.0
baz=65
V04C Ramage Ranch, 64.85 321 ⇑P P 01 46 15.3 -0.1
baz=65
N13A Wendover, West 64.87 329 ⇓P P 01 46 15.7 +0.3
baz=65
HVU Hansel Valley 64.89 331 eP P 01 46 15.4 -0.1
HVU pmax pmax
comp=Z,44nm,1.1s,mb5.4
HVU Hansel Valley 64.89 331 eP P 01 46 15.4 -0.1
comp=Z,44nm,1.1s,mb5.4
AHID Auburn Hatcher 64.89 333 eP P 01 46 15.9 +0.4
comp=Z,5.1nm,0.3s,mb5.0
Q09A Carvers 64.93 326 ⇓P P 01 46 16.3 +0.5
baz=65
M14A Sheep Mountain 64.94 330 ⇑P P 01 46 16.0 +0.1
baz=65
MLAC Mammoth Lakes 65.00 324 ⇑P P 01 46 16.4 0.0
baz=65
O11A Cowboy Ranch, 65.06 328 ⇑P P 01 46 16.8 +0.1
baz=65
T06C Millerton Lake 65.08 323 ⇑P P 01 46 16.7 -0.1
baz=65
R08A Mina 65.09 325 ⇓P P 01 46 17.4 +0.4
baz=65
P10A Eureka 65.11 327 ⇑P P 01 46 17.5 +0.5
baz=65
K16A Soda Springs 65.16 332 ⇓P P 01 46 17.7 +0.5
baz=65
M13A Montello 65.23 330 ⇓P P 01 46 17.6 -0.2
baz=65
REDW Red Top Meadow 65.25 333 eP P 01 46 17.4 -0.5
comp=Z,35nm,1.1s,mb5.3
NVAR Mina Array Bea 65.26 325 P P 01 46 16.1 -1.9
comp=Z,4.4nm,0.9s,mb4.5,baz=142,slow=7.1,SNR=23
U04C Hernandez Rese 65.28 322 ⇓P P 01 46 17.9 -0.3
baz=65
N12A Clover Valley, 65.28 329 ⇓P P 01 46 18.3 +0.2
baz=66
SNOW Snow King Moun 65.29 333 eP P 01 46 17.7 -0.4
comp=Z,24nm,1.1s,mb5.1
L14A Malta 65.30 331 ⇑P P 01 46 17.5 -0.7

baz=66
ELK Elko 65.31 329 eP P 01 46 17.5 -0.7
ELK pmax pmax
comp=Z,27nm,1.2s
ELK Elko 65.31 329 eP P 01 46 17.5 -0.7
comp=Z,27nm,1.2s,mb5.2
V03C Hunter Liggett 65.33 321 ⇑P P 01 46 18.3 -0.2
baz=66
LOHW Long Hollow 65.35 333 eP P 01 46 18.4 0.0
comp=Z,15nm,1.0s,mb5.0
Q08A Gabbs 65.36 325 ⇓P P 01 46 18.6 0.0
baz=66
TPAW Teton Pass 65.40 333 eP P 01 46 18.8 0.0
comp=Z,28nm,1.1s,mb5.2
RRI2 Red Ridge 65.45 333 eP P 01 46 18.4 -0.7
comp=Z,70nm,1.0s,mb5.7
K15A Arbon 65.47 332 ⇑P P 01 46 18.9 -0.4
baz=66
MOOW Moose Ponds 65.52 333 eP P 01 46 18.6 -1.0
comp=Z,38nm,1.5s,mb5.2
J16A Bone 65.52 333 ⇓P P 01 46 19.6 0.0
baz=66
DCID1 Drake Creek 65.59 333 eP P 01 46 20.4 +0.5
O10A Cortez Mining, 65.62 327 ⇑P P 01 46 20.7 +0.4
baz=66
M12A Wells 65.64 329 ⇑P P 01 46 20.3 -0.1
baz=66
K14A Jones Ranch, D 65.67 331 ⇑P P 01 46 20.5 0.0
baz=66
S05C Merced 65.67 323 ⇓P P 01 46 21.1 +0.4
baz=66
L13A Double Diamond 65.68 330 ⇑P P 01 46 21.0 +0.3
baz=66
IMW Indian Meadow 65.72 333 eP P 01 46 20.3 -0.5
comp=Z,48nm,1.4s,mb5.3
S06C San Francisco 65.76 324 ⇑P P 01 46 21.4 +0.1
baz=66
FLWY Flagg Ranch 65.77 334 eP P 01 46 21.3 +0.1
O09A Fish Creek Ran 65.89 327 ⇑P P 01 46 22.5 +0.5
baz=66
N10A Dunphy 65.94 328 ⇓P P 01 46 22.7 +0.4
baz=66
R06C Coleville 65.97 324 ⇓P P 01 46 22.9 +0.3
baz=66
RLMT Red Lodge 66.01 335 eP P 01 46 21.9 -0.8
comp=Z,48nm,1.1s,mb5.4
PACP Pacheco Peak 66.01 322 ⇑P P 01 46 23.5 +0.6
baz=66
LKWY Lake 66.03 334 eP P 01 46 23.6 +0.8
LKWY pmax pmax
comp=Z,29nm,1.1s,mb5.2
LKWY Lake 66.03 334 eP P 01 46 23.6 +0.8
comp=Z,29nm,1.1s,mb5.2
P08A Dixie Valley 66.03 326 ⇑P P 01 46 23.3 +0.3
baz=66
M11A Holland Ranch, 66.09 329 ⇑P P 01 46 23.8 +0.5
baz=66
YFT Old Faithful 66.12 334 eP P 01 46 24.3 +0.9
CMB Columbia Colle 66.17 323 ⇑P P 01 46 24.4 +0.5
baz=66
K13A Stover Farm, H 66.17 331 ⇓P P 01 46 23.9 +0.1
baz=66
L12A House Creek Ra 66.24 330 ⇑P P 01 46 24.4 +0.2
baz=66
YNR Norris Junctio 66.27 334 eP P 01 46 24.5 +0.1
ULM Lac du Bonnet 66.33 347 P P 01 46 23.5 -1.1
comp=Z,22nm,0.7s,mb5.3,baz=155,slow=6.1,SNR=24
ULM Lac du Bonnet 66.33 347 eP P 01 46 23.7 -0.9
comp=Z,125nm,1.3s,mb5.8
S04C Ingram Canyon, 66.37 322 ⇓P P 01 46 25.1 0.0
baz=66
R05C Kirkwood Meado 66.45 324 ⇓P P 01 46 25.7 0.0
baz=67
O08A Rochester Mine 66.50 326 ⇓P P 01 46 26.1 +0.2
baz=67
M10A I.L. Ranch, Tu 66.54 328 ⇓P P 01 46 26.6 +0.4
baz=67
K12A Draper Farm, C 66.56 330 ⇓P P 01 46 26.7 +0.4
baz=67
N09A Rock Creek Ran 66.56 327 ⇓P P 01 46 26.2 -0.1
baz=67
L11A Cat Creek Ranc 66.62 329 ⇑P P 01 46 26.4 -0.3
baz=67
QLMT Earthquake Lak 66.68 334 eP P 01 46 28.1 +1.1
GCMT Greycliff 66.72 335 eP P 01 46 26.6 -0.7
J13A Cove Ranch, Pi 66.79 331 ⇓P P 01 46 27.7 0.0
baz=67
O07A Toulon 66.79 326 ⇑P P 01 46 27.4 -0.4
baz=67
N08A GE Springer Mi 66.83 327 ⇓P P 01 46 27.3 -0.8
baz=67
LAVA Lava Cap Winer 66.86 324 ⇑P P 01 46 27.7 -0.6
baz=67
L10A Juniper Basin 66.91 329 ⇓P P 01 46 28.3 -0.2
baz=67
M09A Marrel Ranch, 66.94 328 ⇓P P 01 46 28.3 -0.4
baz=67
DGMT Dagmar 67.00 340 eP P 01 46 29.2 +0.3
comp=Z,114nm,1.1s,mb5.8
HLID Hailey 67.03 331 ⇑P P 01 46 29.1 -0.2
baz=67
HLID Hailey 67.03 331 eP P 01 46 29.3 0.0
comp=Z,30nm,1.4s,mb5.1
J12A Stokes Ranch, 67.11 330 ⇑P P 01 46 29.7 0.0
baz=67
I13A Wildhorse Cree 67.16 331 ⇓P P 01 46 30.4 +0.4
baz=67
P05C Yuba Gap, Truc 67.16 324 ⇓P P 01 46 30.8 +0.7
baz=67
K11A Parker Ranch, 67.21 330 ⇑P P 01 46 30.5 +0.1
baz=67
N07B Gerlach 67.28 326 ⇑P P 01 46 31.1 +0.2
baz=67
Q04C Lincoln 67.29 323 ⇓P P 01 46 31.4 +0.4
baz=67
MCMT McKenzie Canyo 67.29 333 eP P 01 46 30.8 0.0
G15A Dillon 67.40 333 ⇑P P 01 46 32.2 +0.6
baz=68
BEKR Beckwourth 67.41 325 ⇑P P 01 46 32.1 +0.4
baz=68
BOZ Bozeman (W) 67.41 334 eP P 01 46 30.7 -0.9
BOZ pmax pmax
comp=Z,23nm,1.1s,mb5.1
BOZ Bozeman (W) 67.41 334 ⇑P P 01 46 31.7 0.0
baz=68
BOZ Bozeman (W) 67.41 334 eP P 01 46 30.7 -0.9
comp=Z,23nm,1.1s,mb5.1
M08A Happy Creek Ra 67.44 327 ⇑P P 01 46 32.0 +0.1
baz=68
L09A Wilkinson Ranc 67.48 328 ⇓P P 01 46 32.4 +0.3
baz=68
MFID Camas Ranch 67.59 330 ⇓P P 01 46 32.9 +0.1
baz=68
CVS Carmenet Viney 67.59 322 ⇓P P 01 46 33.0 +0.1
baz=68
DLMT Dillon 67.60 333 eP P 01 46 32.8 0.0
comp=Z,51nm,1.2s,mb5.4
K10A MacKenzie Ranc 67.63 329 ⇓P P 01 46 33.4 +0.3
baz=68
OHCM Honcut 67.68 324 eP P 01 46 34.0 +0.5
N06A Buffalo Meadow 67.73 326 ⇑P P 01 46 34.0 +0.3
baz=68
O05C Quincy 67.78 325 ⇑P P 01 46 34.5 +0.4
baz=68
SUTB Sutter Butte 67.79 323 ⇓P P 01 46 34.0 -0.1
baz=68
NSHM Saint Helena R 67.80 322 eP P 01 46 34.2 0.0
M07A Soldier Meadow 67.82 327 ⇑P P 01 46 34.4 +0.1
baz=68
ORV Oroville 67.84 324 ⇓P P 01 46 34.6 +0.1
baz=68
LRM Limekiln Ridge 67.90 334 eP P 01 46 35.1 +0.4
F15A Butte 67.94 334 ⇑P P 01 46 34.8 -0.1
baz=68
MNRC McLaughlin Nat 67.94 323 ⇑P P 01 46 34.7 -0.4
baz=68
L08A Fields 67.95 328 ⇓P P 01 46 34.7 -0.4
baz=68
H12A Diamond D Ranc 67.99 331 ⇓P P 01 46 35.2 0.0
baz=68
K09A Rome 68.00 328 ⇓P P 01 46 35.2 -0.2
baz=68
I11A Placerville 68.03 330 ⇓P P 01 46 35.3 -0.2
baz=68
J10A Berg Farm, Mel 68.06 330 ⇓P P 01 46 35.7 -0.1
baz=68
G13A Cobalt 68.12 332 ⇓P P 01 46 36.1 0.0
baz=68
O04C Chester 68.12 325 ⇓P P 01 46 36.0 -0.2
baz=68
WVOR Wild Horse Val 68.28 328 eP P 01 46 37.0 -0.2
WVOR pmax pmax
comp=Z,15nm,1.2s,mb4.9
WVOR Wild Horse Val 68.28 328 eP P 01 46 37.0 -0.1
comp=Z,15nm,1.2s,mb4.9
F14A Wisdom 68.29 333 ⇑P P 01 46 36.8 -0.4
baz=68
HRY Holter Researc 68.35 335 eP P 01 46 36.8 -0.7
L07A Adell 68.35 327 ⇑P P 01 46 37.2 -0.4
baz=68
M06C Likely Place G 68.39 326 ⇑P P 01 46 37.5 -0.4
baz=69
K08A Mann Creek Ran 68.41 328 ⇓P P 01 46 37.6 -0.4
baz=69
E15A Deer Lodge 68.46 334 ⇑P P 01 46 38.3 +0.2
baz=69
J09A Fry Pan Ranch, 68.49 329 ⇓P P 01 46 38.7 +0.3
baz=69
I10A Payette 68.56 330 ⇑P P 01 46 38.9 +0.1
baz=69
EGMT Eagleton 68.58 337 ⇓P P 01 46 38.8 -0.2
baz=69
EGMT Eagleton 68.58 337 eP P 01 46 38.0 -1.0
comp=Z,43nm,1.1s,mb5.3
GASB Alder Springs 68.61 323 ⇓P P 01 46 39.6 +0.4
baz=69
H11A Donnelly 68.64 331 ⇓P P 01 46 39.2 -0.2
baz=69
HATC Hat Creek Radi 68.67 325 ⇑P P 01 46 39.6 -0.1
baz=69
F13A Darby 68.70 333 ⇑P P 01 46 40.1 +0.4
baz=69
K07A Rock Creek Ran 68.78 328 ⇑P P 01 46 40.4 +0.1
baz=69
MOD Modoc 68.78 326 ⇑P P 01 46 40.4 +0.1
baz=69
E14A Clinton 68.82 334 ⇓P P 01 46 40.7 +0.3
baz=69
P01C Double 8 Ranch 68.85 323 ⇓P P 01 46 40.9 +0.1
baz=69
J08A Circle Bar Ran 68.86 329 ⇓P P 01 46 40.5 -0.2
baz=69
M05C Lookout 68.86 326 ⇓P P 01 46 40.8 -0.1
baz=69
D15A Lincoln 68.90 335 ⇑P P 01 46 41.1 +0.2
baz=69
H10A Noah's Angus R 68.91 330 ⇑P P 01 46 40.6 -0.4
baz=69
I09A Lost Marbles R 68.94 329 ⇓P P 01 46 41.0 -0.2
baz=69
O02C Red Bluff 68.99 324 ⇑P P 01 46 40.9 -0.7
baz=69
F12A Elk City 69.09 332 ⇓P P 01 46 41.6 -0.5
baz=69
CHMT Chamberlain Mo 69.11 334 eP P 01 46 41.9 -0.3
WDC Whiskeytown Da 69.12 324 ⇓P P 01 46 40.9 -1.6
baz=69
E13A Victor 69.14 333 ⇓P P 01 46 42.6 +0.1
baz=69
KIPM Iron Peak 69.15 323 eP P 01 46 42.8 +0.1
L05A Lakeview 69.17 326 ⇓P P 01 46 42.3 -0.4
baz=69
SCHQ Schefferville 69.22 6 P P 01 46 42.5 -0.3
comp=Z,6.1nm,0.9s,mb4.5,baz=184,slow=5.8,SNR=6.4
G11A Walters Elk Ra 69.29 331 ⇑P P 01 46 43.3 0.0
baz=70
J07A Hines 69.30 328 ⇓P P 01 46 44.0 +0.5
baz=70
I08A Drewsey 69.30 329 ⇑P P 01 46 43.3 -0.2
baz=70
MSO Missoula 69.33 334 eP P 01 46 43.5 -0.1
comp=Z,42nm,1.4s,mb5.2
D14A Greenough 69.34 334 ⇑P P 01 46 43.3 -0.4
baz=70
M03C McCloud 69.35 325 ⇓P P 01 46 43.3 -0.6
baz=70
BMO Blue Mountains 69.37 330 eP P 01 46 42.8 -1.1
comp=Z,11nm,1.2s,mb4.7
K06A Valley Falls 69.38 327 ⇓P P 01 46 44.2 +0.2
baz=70
H09A Durkee 69.41 330 ⇑P P 01 46 43.6 -0.6
baz=70
M04C Macdoel 69.53 325 ⇑P P 01 46 44.3 -0.7
baz=70
O01C Eel River Cons 69.56 323 ⇓P P 01 46 45.2 0.0
baz=70
F11A Grangeville 69.60 332 ⇓P P 01 46 45.3 0.0
baz=70
G10A Bishop Farm, J 69.61 331 ⇑P P 01 46 45.2 -0.2
baz=70
VNA1 Neumayer--Stat 69.61 161 eP P 01 46 46.2 +1.1
VNA1 e pP 01 46 52.4 -0.2
VNA1 e pP 01 46 54.4 +1.8
VNA1 e 01 46 56.6
VNA1 e 01 47 00.8
VNA1 e 01 47 08.9
J06A Christmas Vall 69.64 328 ⇑P P 01 46 45.5 -0.1
baz=70
K05A Summer Lake 69.67 327 ⇓P P 01 46 45.6 -0.2
baz=70
N02C Big Bar 69.72 324 ⇑P P 01 46 45.9 -0.2
baz=70
D13A Huson 69.76 333 ⇓P P 01 46 46.0 -0.2
baz=70
H08A Prairie City 69.79 329 ⇓P P 01 46 46.2 -0.3
baz=70
L04A Klamath Falls 69.83 326 ⇓P P 01 46 46.0 -0.8
baz=70
M02C Callahan 69.84 325 ⇑P P 01 46 46.1 -0.7
baz=70
I07A Izee 69.90 329 ⇓P P 01 46 47.3 +0.1
baz=70
G09A Cove 69.91 330 ⇑P P 01 46 47.0 -0.2
baz=70
E11A Bogner Ranch, 69.98 332 ⇑P P 01 46 47.1 -0.5
baz=70
YBH Yreka Blue Hor 69.98 325 eP P 01 46 46.2 -1.5
YBH pmax pmax
comp=Z,7.0nm,1.0s
YBH Yreka Blue Hor 69.98 325 ⇓P P 01 46 46.4 -1.3
baz=70
YBH Yreka Blue Hor 69.98 325 eP P 01 46 46.2 -1.5
comp=Z,6.6nm,1.0s,mb4.5
JCC Jacoby Creek 70.13 324 ⇓P P 01 46 48.2 -0.5
baz=70
I06A Prineville 70.16 328 ⇑P P 01 46 48.8 0.0
baz=70
F10A Beach Ranch, E 70.16 331 ⇑P P 01 46 48.8 +0.1
baz=70
J05A Fort Rock 70.23 327 ⇑P P 01 46 49.0 -0.3
baz=70
C13A Hot Springs 70.27 334 ⇑P P 01 46 49.3 0.0
baz=70
F09A S2 Ranch, Elgi 70.29 331 ⇑P P 01 46 49.6 +0.1
baz=70
H07A Lands Inn, Kim 70.29 329 ⇑P P 01 46 49.5 -0.1
baz=70
E10A Myers Farm, Un 70.49 332 ⇑P P 01 46 50.4 -0.3
baz=71
G08A Pilot Rock 70.49 330 ⇓P P 01 46 50.1 -0.7
baz=71
KRMB Red Mountain 70.52 324 eP P 01 46 51.0 -0.1
D11A Klaveano Farm, 70.56 332 ⇓P P 01 46 50.9 -0.3
baz=71
LNOR Lincton Mounta 70.59 330 eP P 01 46 50.9 -0.4
J04A Umpqua Nationa 70.67 326 ⇓P P 01 46 52.0 +0.1
baz=71
HUMO Hull Mountain 70.70 326 ⇑P P 01 46 51.7 -0.4
baz=71
B13A Whitefish 70.76 334 ⇑P P 01 46 52.4 0.0
baz=71
L02A Cave Junction 70.76 325 ⇓P P 01 46 52.5 0.0
baz=71
H06A Lindquist Farm 70.78 329 ⇓P P 01 46 52.6 0.0
baz=71
G07A Ruggs Ranch, H 70.82 329 ⇑P P 01 46 52.7 -0.1
baz=71
M01C Crescent City 70.85 324 ⇑P P 01 46 52.7 -0.4
baz=71
I05A Bend 70.86 328 ⇑P P 01 46 52.9 -0.1
baz=71
D10A Wagner Farm, O 70.99 332 ⇓P P 01 46 53.3 -0.4
baz=71
E09A Wood Farm, Sta 70.99 331 ⇓P P 01 46 53.5 -0.3
baz=71
WALA Waterton Lakes 71.06 335 eP P 01 46 53.8 -0.3
comp=Z,31nm,1.1s,mb5.2
K02A Glendale 71.10 325 ⇑P P 01 46 54.0 -0.6
baz=71
KBO Bosley Butte 71.15 325 eP P 01 46 54.5 -0.3
I04A Tendick Farm, 71.21 327 ⇑P P 01 46 55.1 0.0
baz=71
B12A Libby 71.31 334 ⇓P P 01 46 55.9 +0.2
baz=72
E08A Dider Farm, El 71.41 331 ⇑P P 01 46 56.1 -0.2
baz=72
D09A Jones Farm, Ri 71.47 331 ⇑P P 01 46 56.5 -0.2
baz=72
J02A Umpqua 71.55 326 ⇑P P 01 46 57.7 +0.4
baz=72
SNAA Sanae 71.56 161 eP P 01 46 56.2 -0.7
SNAA e pP 01 47 03.9 -0.6
SNAA e 01 47 06.4
SNAA e 01 47 09.2
SNAA e 01 47 11.7
SNAA e 01 47 16.4
SNAA Sanae 71.56 161 eP P 01 46 56.5 -0.4
SNAA pmax pmax
comp=Z,238nm,1.9s
SNAA Sanae 71.56 161 eP P 01 46 56.5 -0.4
comp=Z,238nm,1.9s,mb5.8
HAWA Hanford 71.56 330 eP P 01 46 57.1 -0.2
comp=Z,46nm,1.6s,mb5.2
RSW Rattlesnake Hi 71.59 330 eP P 01 46 57.9 +0.4
B11A Sandpoint 71.62 333 ⇓P P 01 46 57.8 +0.2
baz=72
G05A Wamic 71.63 328 ⇓P P 01 46 57.7 0.0
baz=72
K01A Sixes 71.67 325 ⇑P P 01 46 58.2 +0.1
baz=72
A12A Yaak River Ran 71.69 334 ⇓P P 01 46 58.2 +0.2
baz=72
H04A Detroit Lake 71.69 328 ⇓P P 01 46 57.9 -0.2
baz=72
I03A Eugene 71.79 326 ⇑P P 01 46 58.9 +0.2
baz=72
NEW Newport 71.82 333 eP P 01 46 58.8 0.0
NEW pmax pmax
comp=Z,30nm,1.2s
NEW Newport 71.82 333 eP P 01 46 58.8 +0.1
comp=Z,30nm,1.2s,mb5.1
OD2 Odessa Site #2 71.90 331 eP P 01 46 59.2 -0.1
A11A Hall Mountain, 72.01 334 ⇓P P 01 47 00.0 +0.1
baz=72
I02A Mapleton 72.11 326 ⇑P P 01 46 59.9 -0.7
baz=72
H03A Soap Creek Ran 72.27 327 ⇑P P 01 47 02.0 +0.4
baz=72
C08A Higginbotham F 72.34 331 ⇑P P 01 47 02.4 +0.6
baz=72
D07A Quincy 72.35 331 ⇓P P 01 47 02.5 +0.5
baz=72
E06A Yakima 72.37 330 ⇑P P 01 47 02.1 0.0
baz=72
B09A Rice 72.40 332 ⇓P P 01 47 02.3 +0.1
baz=73
F04A Amboy 72.67 328 ⇓P P 01 47 04.0 +0.1
baz=73
G03A Yamhill 72.69 327 ⇓P P 01 47 04.4 +0.3
baz=73
C07A Waterville 72.75 331 ⇓P P 01 47 04.5 +0.2
baz=73
D06A Cle Elum 72.77 330 ⇓P P 01 47 05.0 +0.5
baz=73
ETW Entiat 72.81 331 eP P 01 47 04.5 -0.2
B08A Colville Reser 72.89 332 ⇓P P 01 47 05.1 -0.1
baz=73
A09A Danville 73.00 333 ⇓P P 01 47 06.0 +0.2
baz=73
A08A Turner Farm, O 73.29 332 ⇑P P 01 47 07.7 +0.2
baz=74
D05A Enumclaw 73.32 330 ⇓P P 01 47 08.0 +0.2
baz=74
B07A Winthrop 73.33 331 ⇑P P 01 47 07.8 0.0
baz=74
C05A Tolt Reservoir 73.53 330 ⇓P P 01 47 09.1 +0.1
baz=74
E03A Lebam 73.67 328 ⇓P P 01 47 09.8 0.0
baz=74
LIC Lamto 73.83 79 eP P 01 47 10.2 -1.3
comp=Z,401nm,1.7s,mb5.8,baz=256
LIC Lamto 73.83 79 eP P 01 47 10.2 -1.3
comp=Z,200nm,1.7s,mb5.8
A07A Ashnola River, 73.87 332 ⇓P P 01 47 11.2 +0.3
baz=74
RPW Rockport 73.97 331 eP P 01 47 10.8 -0.7
JCW Jim Creek 73.99 330 eP P 01 47 10.4 -1.2
GNW Green Mountain 73.99 329 eP P 01 47 10.8 -0.9
comp=Z,20nm,1.4s,mb4.9
B06A Marblemount 74.01 331 ⇑P P 01 47 11.5 -0.2
baz=74
FCC Fort Churchill 74.05 351 eP P 01 47 11.1 -0.6
FCC pmax pmax
comp=Z,30nm,1.1s,mb5.1
FCC Fort Churchill 74.05 351 eP P 01 47 11.1 -0.7
comp=Z,30nm,1.1s,mb5.1
B05A Bryant 74.12 330 ⇓P P 01 47 12.5 +0.1
baz=74
DBIC Dimbokro 74.12 79 P P 01 47 13.6 +0.4
comp=Z,21nm,1.0s,mb5.0,baz=227,slow=5.9,SNR=15
DBIC Dimbokro 74.12 79 eP P 01 47 14.2 +1.0
DBIC pmax pmax
comp=Z,174nm,1.5s
DBIC Dimbokro 74.12 79 eP P 01 47 14.2 +1.0
comp=Z,174nm,1.5s,mb5.8
EDM Edmonton 74.14 338 eP P 01 47 10.8 -1.6
D03A Wishkah Elem. 74.16 329 ⇓P P 01 47 12.6 0.0
baz=74
C04A Brinnon 74.17 329 ⇓P P 01 47 13.2 +0.5
baz=74
NLWA Neilton Lookou 74.39 329 ⇓P P 01 47 14.5 +0.5
baz=75
NLWA Neilton Lookou 74.39 329 eP P 01 47 14.0 0.0
comp=Z,38nm,1.1s,mb5.2
A06A Chilliwack 74.41 331 ⇑P P 01 47 13.9 -0.2
baz=75
C03A Quillayute Air 75.12 329 ⇑P P 01 47 18.5 +0.3
baz=75
MAIT Maitri 76.20 160 eP P 01 47 23.4 -0.7
NVL N'lazarevskaya 76.23 160 eP P 01 47 25.0 +0.7
NVL e pP 01 47 31.9 0.0
NVL pmax pmax
comp=Z,57nm,2.0s,mb5.2
SBA Scott Base 81.64 191 eP P 01 47 54.8 +0.9
SBA pmax pmax
comp=Z,90nm,2.0s,mb5.3
SBA Scott Base 81.64 191 eP P 01 47 54.8 +1.0
comp=Z,90nm,2.0s,mb5.3
YKA Yellowknife Ar 81.97 343 P P 01 47 54.5 -1.1
comp=Z,8.1nm,0.8s,mb4.7,baz=145,slow=5.5,SNR=51
YKA PP PP 01 50 51.1 -13
comp=Z,3.2nm,1.1s,baz=134,slow=8.2,SNR=4.5
YKA Yellowknife Ar 81.97 343 P P 01 47 54.5 -1.2
YKA PP PP 01 50 51.1 -13
TOA0 Torodi Ar. Sit 82.16 74 eP P 01 47 57.7 0.0
TORD Torodi Ar. Bea 82.16 74 P P 01 47 57.9 +0.2
comp=Z,28nm,0.9s,mb5.2,baz=265,slow=2.7,SNR=60
TORD pP pP 01 48 05.2 -0.2
comp=Z,113nm,1.1s,baz=262,slow=4.0,SNR=32
TORD PKKP PKKPbc 02 06 10.6 -16
comp=Z,0.7nm,1.0s,baz=265,slow=5.2,SNR=4.9
TORD Torodi Ar. Bea 82.16 74 P P 01 47 57.9 +0.2
TORD pP pP 01 48 05.2 -0.2
TORD PKKP PKKPbc 02 06 10.6 -16
VNDA Vanda 82.71 191 P P 01 47 59.2 -0.3
comp=Z,1.2nm,0.8s,baz=101,slow=3.0,SNR=9.2
VNDA Vanda 82.71 191 eP P 01 48 00.1 +0.6
VNDA pmax pmax
comp=Z,11nm,1.3s
VNDA Vanda 82.71 191 eP P 01 48 00.1 +0.6
comp=Z,11nm,1.3s,mb4.7
EVO Evora 82.72 47 ⇑iP P 01 48 00.8 +0.7
comp=Z,119nm,1.4s,mb5.4
CRAG Craig 83.97 331 eP P 01 48 07.3 +1.1
comp=Z,19nm,1.1s,mb5.1
WRAK Wrangell Islan 84.18 333 eP P 01 48 06.8 -0.4
comp=Z,13nm,0.1s,mb6.0
DLBC Dease Lake 84.41 335 eP P 01 48 08.7 +0.3
SYO Syowa Base 85.85 161 ⇓eP P 01 48 13.0 -2.5
SYO Syowa Base 85.85 161 ⇓epP pP 01 48 22.2 -1.1
SYO Syowa Base 85.85 161 ⇓esP sP 01 48 27.0 +0.9
ESDC Sonseca Array 86.06 48 P P 01 48 18.5 +1.4
comp=Z,2.1nm,0.9s,mb4.4,baz=254,slow=5.9,SNR=8.2

ESDC				pP	pP	01 48 24.9	+0.1
	comp=Z,3.3nm,0.9s,baz=261,slow=5.0,SNR=8.6						
TAM	**Tamanrasset**	**88.35**	**66**	*eP*	**P**	**01 48 31.5**	**+3.0**
HYT	**Haines Junctio**	**88.89**	**335**	*eP*	**P**	**01 48 30.4**	**+0.3**
TSUM	**Tsumeb**	**89.29**	**110**	*eP*	**P**	**01 48 34.4**	**+1.3**
	comp=Z,25nm,1.1s,mb5.5						
SUMG	**Summit**	**90.11**	**11**	*eP*	**P**	**01 48 36.0**	**+0.3**
	comp=Z,23nm,1.4s,mb5.3						
DAWY	**Dawson**	**91.33**	**337**	*eP*	**P**	**01 48 40.4**	**-1.0**
INK	**Inuvik**	**91.64**	**342**	*eP*	**P**	**01 48 41.8**	**-1.0**
	comp=Z,1μm,1.2s						
EGAK	**Eagle**	**92.35**	**337**	*eP*	**P**	**01 48 44.9**	**-1.2**
	comp=Z,13nm,1.1s,mb5.2						
MAW	**Mawson**	**93.33**	**166**	P	**P**	**01 48 50.1**	**-0.7**
	comp=Z,1.8nm,0.9s,mb4.5,baz=270,slow=3.0,SNR=2.4						
KEST	**Kesra**	**94.92**	**55**	P	**P**	**01 49 00.4**	**+1.7**
	comp=Z,1.1nm,0.9s,mb4.3,baz=314,slow=8.1,SNR=3.6						
COLA	**College**	**94.97**	**336**	*i P*	**P**	**01 48 57.2**	**-1.0**
MCK	**McKinley**	**94.97**	**335**	*eP*	**P**	**01 48 57.3**	**-1.0**
LPL	**La Plagne**	**95.39**	**45**	*eP*	**P**	**01 48 53.7**	**-6.9**
	comp=Z,95nm,1.9s,mb5.6						
LPL	**La Plagne**	**95.39**	**45**	*eP*	**P**	**01 48 53.7**	**-6.9**
LPL				pmax	pmax		
	comp=Z,47nm,1.9s,mb5.6						
LPL	**La Plagne**	**95.39**	**45**	*eP*	**P**	**01 48 53.7**	**-6.9**
	comp=Z,47nm,1.9s,mb5.6						
LPG	**La Plagne**	**95.39**	**45**	*eP*	**P**	**01 48 53.9**	**-6.8**
	comp=Z,84nm,1.6s,mb5.6						
LPG	**La Plagne**	**95.39**	**45**	*eP*	**P**	**01 48 53.9**	**-6.8**
LPG				pmax	pmax		
	comp=Z,42nm,1.6s,mb5.6						
LPG	**La Plagne**	**95.39**	**45**	*eP*	**P**	**01 48 53.9**	**-6.8**
	comp=Z,42nm,1.6s,mb5.6						
GERES	**GERESS Array B**	**100.72**	**42**	P	Pdif	01 49 26.0	+1.4
	comp=Z,0.5nm,0.8s,baz=266,slow=3.9,SNR=3.7						
AKASG	**Malin Array Be**	**110.85**	**41**	PP	PP	01 54 51.3	+4.3
	comp=Z,0.1nm,0.2s,baz=264,slow=8.3,SNR=6.3						
BILL	**Bilibino**	**113.05**	**339**	*i* PKIKP	PKiKP	01 54 13.0	+0.2
BILL				*e*		01 55 08.9	
BILL				MLR	MLR		
	comp=Z,11μm,19.0s						
OBN	**Obninsk**	**114.73**	**36**	*i* PKIKP	PKiKP	01 54 17.0	+0.6
OBN						01 55 21.0	
OBN				PS	PS	02 04 54.5	+1.0
OBN				MLR	MLR		
	comp=Z,16μm,17.0s						
PETK	**Petropavlovsk-**	**122.35**	**325**	PKP	PKPdf	01 54 31.9	+0.7
	comp=Z,1.8nm,0.8s,baz=57,slow=5.3,SNR=2.7						
ARU	**Arti**	**125.76**	**29**	*i* PKIKP	PKPdf	01 54 36.6	-1.0
YAK	**Yakutsk**	**128.63**	**344**	*i* PKIKP	PKPdf	01 54 43.7	+0.8
ASAR	**Alice Springs**	**132.00**	**219**	PKP	PKPdf	01 54 49.6	-0.9
	comp=Z,2.9nm,1.0s,baz=138,slow=3.2,SNR=11						
BVAR	**Borovoye Array**	**133.25**	**27**	PKP	PKPdf	01 54 51.1	-0.8
	comp=Z,1.7nm,0.9s,baz=349,slow=2.9,SNR=7.5						
WB2	**Warramunga Arr**	**134.43**	**223**	*eP*	PKPdf	01 54 54.0	-1.2
WRA	**Warramunga Arr**	**134.44**	**223**	PKP	PKPdf	01 54 54.3	-0.9
	comp=Z,2.5nm,0.9s,baz=138,slow=1.8,SNR=13						
WRAB	**Tennant Creek**	**134.44**	**223**	*i* PKIKP	PKPdf	01 54 54.4	-0.8
WRAB	**Tennant Creek**	**134.44**	**223**	*e*PKPdf	PKPdf	01 54 54.6	-0.6
BOD	**Bodaibo**	**135.69**	**352**	*e*PKIKP	PKPdf	01 54 54.8	-1.6
ZALV	**Zalesovo Beam**	**137.70**	**16**	PKP	PKPdf	01 55 01.5	+1.3
	comp=Z,13nm,0.9s,baz=208,slow=2.8,SNR=19						
ZALV				pPKP	pPKPdf	01 55 07.9	-0.3
	comp=Z,22nm,1.0s,baz=232,slow=1.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**137.70**	**16**	PKP	PKPdf	01 55 01.5	+1.3
ZALV				pPKP	pPKPdf	01 55 07.9	-0.3
ZAL	**Zalesovo**	**137.70**	**16**	PKIKP	PKPdf	01 55 01.5	+1.3
ZAL						01 55 07.9	
KURK	**Kurchatov**	**138.38**	**24**	*i* PKIKP	PKPdf	01 55 03.0	+1.4
MJAR	**Matsushiro Arr**	**141.75**	**312**	PKhKP		01 54 58.7	
	comp=Z,0.9nm,0.6s,baz=83,slow=1.5,SNR=6.7						
MJAR				PKP	PKPdf	01 55 05.7	-2.4
	comp=Z,1.8nm,0.8s,baz=75,slow=1.4,SNR=4.2						
MAT	**Matsushiro**	**141.75**	**312**	PKP	pPKPdf	01 55 20.4	+4.3
EKS2	**Erkin-Say**	**141.83**	**36**	*e*PKPdf	PKPdf	01 55 07.8	-0.3
HVS	**Khovu-Aksy**	**142.30**	**10**	*i* PKIKP	PKPdf	01 55 10.3	+1.7
TKM2	**Tokmak 2**	**142.69**	**34**	*e*PKIKP	PKPdf	01 55 11.2	+1.6
MK31	**Makanchi Array**	**142.98**	**24**	*e*PKIKP	PKPdf	01 55 08.9	-1.1
MKAR	**Makanchi Array**	**142.98**	**24**	PKP	PKPdf	01 55 07.3	-2.7
	comp=Z,3.4nm,0.9s,baz=321,slow=3.1,SNR=8.5						
ZAK	**Zakamensk**	**143.88**	**0**	*e*PKIKP	PKPdf	01 55 07.8	-3.7
CN2	**Changchun**	**144.94**	**332**	*e*PKP	PKPdf	01 55 12.4	-1.1
KSH	**Kashi**	**145.10**	**38**	*e*PKP	PKPdf	01 55 15.3	+1.4
KSH				*e*APKP		01 55 25.3	
KSH				*e*PP	PP	01 58 40.8	+8.7
KSH				PKS		01 58 49.8	
KSH				*e*PPP		02 01 56.8	
KSH				SKS	SKSdf	02 02 18.3	-3.6
KSH				SKKS	SKKSac	02 05 25.6	+2.0
SONM	**Songino Array**	**146.33**	**356**	PKPbc	PKPbc	01 55 16.8	-0.1
	comp=Z,15nm,0.8s,baz=333,slow=1.9,SNR=72						
SNY	**Shenyang**	**147.34**	**331**	⇓PKP	PKPbc	01 55 19.3	-0.7
WMQ	**Urumqi**	**147.53**	**21**	PKP	PKPdf	01 55 16.8	-1.1
KSRS	**Korea Array**	**148.15**	**321**	PKPbc	PKPbc	01 55 21.4	-1.0
	comp=Z,5.5nm,0.9s,baz=35,slow=2.1,SNR=22						
THN	**Thein Dam**	**148.90**	**49**	*eP*	PKPbc	01 55 24.6	+0.1
DDI	**Dehra Dun**	**151.67**	**51**	*ex*	PKPbc	01 55 32.0	+0.8
BJT	**Baijiatuan**	**151.90**	**339**	*e*PKIKP	PKPbc	01 55 30.8	-0.6
HHC	**Hu-ho-hao-te**	**152.47**	**346**	*e*PKP	PKPdf	01 55 24.8	-1.0
HHC				APKP		01 55 34.8	
HHC				XPKP		01 55 38.3	
HHC				PKS		01 58 58.1	
HHC				PP	PP	01 59 17.3	+3.1
HHC				SKS	SKSdf	02 02 27.5	-4.2
HHC				SKKS	SKKSac	02 06 01.5	-2.7
HHC				PP	PP		
	comp=Z,24μm,15.5s						
GTA	**Gaotai**	**154.65**	**6**	*e*PKP	PKPdf	01 55 30.6	+1.6
NJ2	**Nanjing**	**157.25**	**324**	*e*PKP	PKPdf	01 55 32.0	-0.6
LZH	**Lanzhou**	**158.16**	**359**	*e*PKP	PKPdf	01 55 32.5	-1.1
LZH				APKP		01 55 42.8	
LZH				XPKP		01 55 46.5	
WHN	**Wuhan**	**160.82**	**330**	PKP	PKPdf	01 55 35.4	-1.5
CD2	**Chengdu**	**163.32**	**359**	*e*PKP	PKPdf	01 55 37.3	-2.1
CD2				APKP		01 55 46.9	
CD2				XPKP		01 55 52.6	
CD2				PKP2	PKPab	01 56 29.4	-0.4
CD2				SKKS	SKKSac	02 06 57.8	-3.8
GYA	**Guiyang**	**167.38**	**346**	PKP	PKPdf	01 55 42.0	-0.9
GYA				APKP		01 55 53.6	
GYA				PKP2	PKPab	01 56 48.9	+1.1
GYA				PKS		01 59 14.3	
GYA				PP	PP	02 00 37.8	+3.0
GYA				SKKS	SKKSac	02 07 20.4	-1.8
KMI	**Kunming**	**169.08**	**3**	PKP	PKPdf	01 55 42.9	-1.2
CMAR	**Chiang Mai Arr**	**173.96**	**44**	PKP	PKPdf	01 55 45.8	-0.8
	comp=Z,1.2nm,0.3s,baz=349,slow=0.9,SNR=3.2						
CMAR				PKPab	PKPab	01 57 18.9	+1.6
	comp=Z,1.1nm,0.3s,baz=316,slow=5.3,SNR=4.1						

IDC **16** *01:49:20.7±3.7,* **1280S**×**7632W,** $h0^{km}$**, mb3.9**/3, **mb1 4.1**/5**, mb1mx3.8**/19**, mbtmp3.8**/5**, ML3.2**/2**, Error ellipse: s-maj=144.6km s-min=29.9km az=39.0, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**6.12**	**340**	Pn	Pn	01 50 49.1	-3.3
	0.5nm,0.3s,baz=180,slow=20,SNR=1.9						
LPAZ	**La Paz**	**8.65**	**115**	Pn	Pn	01 51 28.8	+1.5
	0.1nm,0.3s,baz=266,slow=17,SNR=2.5						
PDAR	**Pinedale Array**	**63.14**	**333**	P	P	01 59 52.1	+1.8
	0.2nm,0.3s,baz=166,slow=12,SNR=3.3						
YKA	**Yellowknife Ar**	**80.77**	**343**	P	P	02 01 36.1	+0.4
	0.4nm,0.8s,baz=137,slow=5.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**81.51**	**74**	P	P	02 01 40.6	-0.1
	2.7nm,1.1s,baz=236,slow=3.6,SNR=3.6						
SONM	**Songino Array**	**145.00**	**357**	PKPbc	PKPbc	02 08 56.8	-2.5
	0.2nm,0.5s,baz=0.0,slow=1.4,SNR=2.8						

IDC **16** *01:54:00.6±3.1,* **1240S**×**1487W,** $h0^{km}$**, mb3.7**/4, **mb1 3.8**/4**, mb1mx3.6**/18**, mbtmp3.7**/4**, Error ellipse: s-maj=225.5km s-min=56.7km az=112.0, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**21.40**	**28**	P	P	01 58 50.6	+0.4
	7.6nm,1.1s,baz=189,slow=9.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**30.23**	**33**	P	P	02 00 13.2	-0.1
	0.5nm,0.6s,baz=220,slow=10.0,SNR=7.0						
GERES	**GERESS Array B**	**66.01**	**20**	P	P	02 04 49.2	+0.4
	0.3nm,0.6s,baz=216,slow=4.8,SNR=4.0						
AKASG	**Malin Array Be**	**73.65**	**27**	P	P	02 05 35.6	-0.3
	0.4nm,0.4s,baz=225,slow=6.5,SNR=5.4						
WRA	**Warramunga Arr**	**135.82**	**136**	PKP	PKPdf	02 13 24.2	-0.1
	0.3nm,0.8s,baz=244,slow=2.6,SNR=2.5						

IDC **16** *02:00:14.6±1.3, 1397S×7693W,* $h0^{km}$*, mb3.7/3, mb1 3.8/7, mb1mx3.6/19, mbtmp3.6/7, ML3.2/3, Error ellipse: s-maj=53.4km s-min=23.8km az=45.0*
ISCJB **16** *02:00:17.8±3.8, 141S±0.1×769W±02, h37km±36km, mb4.1/14, Error ellipse: s-maj=33.3km s-min=16.3km az=160.3*
NEIC **16** *02:00:19.7±3.1, 1408S×7684W, h36km±29km, mb4.3/11, Error ellipse: s-maj=24.2km s-min=10.4km az=67.0*
ISC 16 02:00:22.2±2.6, 141S±01×**768W**±02**, h61**km±26km**, n24,** σ0**78/22, mb4.1/14, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.66**	**105**	Pn	Pn	**02 02 25.9**	**+1.0**
	0.2nm,0.3s,baz=277,slow=11,SNR=2.5						
LVC	**Limon Verde**	**11.29**	**139**	Pn	Pn	**02 03 01.0**	**+0.2**
	0.4nm,0.3s,baz=223,slow=0.0,SNR=2.0						
SIV	**San Ignacio**	**15.33**	**99**	Pn	Pn	**02 03 53.7**	**-1.3**
	0.1nm,0.3s,baz=241,slow=19,SNR=2.5						
CFAA	**Coronel Fontan**	**19.09**	**157**	P	Pn	**02 04 40.5**	**-0.7**
	0.0nm,0.3s,baz=337,slow=13,SNR=3.7						
ANMO	**Albuquerque**	**56.34**	**331**	*eP*	**P**	**02 09 56.0**	**-1.0**
	2.1nm,0.9s,mb4.2						
SDCO	**Great Sand Dun**	**58.21**	**333**	*eP*	**P**	**02 10 11.2**	**+1.1**
	2.0nm,1.0s,mb4.1						
PV01	**Paradox Valley**	**59.91**	**331**	*eP*	**P**	**02 10 21.9**	**0.0**
ECSD	**EROS,Sioux Fal**	**60.37**	**344**	*eP*	**P**	**02 10 24.1**	**-0.8**
	1.8nm,0.9s,mb4.1						
PFO	**Pinyon Flat Ob**	**60.67**	**322**	*eP*	**P**	**02 10 25.7**	**-1.5**
	2.1nm,0.7s,mb4.4						
ISA	**Isabella**	**63.29**	**323**	*eP*	**P**	**02 10 44.8**	**+0.1**
	2.8nm,0.8s,mb4.4						
DUG	**Dugway**	**63.56**	**330**	*eP*	**P**	**02 10 46.0**	**-0.4**
	2.0nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**65.13**	**325**	P	**P**	**02 10 56.2**	**-0.5**
	0.2nm,0.5s,mb3.4,baz=134,slow=7.7,SNR=3.7						
TPAW	**Teton Pass**	**65.29**	**333**	*eP*	**P**	**02 10 57.9**	**+0.2**
RRI2	**Red Ridge**	**65.34**	**333**	*eP*	**P**	**02 10 59.1**	**+1.1**
	5.8nm,1.3s,mb4.5						
ULM	**Lac du Bonnet**	**66.26**	**347**	*eP*	**P**	**02 11 04.6**	**+0.9**
	2.8nm,0.8s,mb4.3						
DLMT	**Dillon**	**67.49**	**334**	*eP*	**P**	**02 11 12.9**	**+1.2**
	2.0nm,0.8s,mb4.2						
SNAA	**Sanae**	**71.64**	**161**	*eP*	**P**	**02 11 37.6**	**+0.6**
	3.2nm,1.0s,mb4.2						
YKA	**Yellowknife Ar**	**81.89**	**343**	P	**P**	**02 12 34.7**	**+0.1**
	0.3nm,0.8s,mb3.3,baz=144,slow=5.4,SNR=4.7						
YKA	**Yellowknife Ar**	**81.89**	**343**	P	**P**	**02 12 34.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**82.35**	**74**	P	**P**	**02 12 38.1**	**0.0**
	7.3nm,1.3s,mb4.5,baz=264,slow=4.5,SNR=5.1						
VNDA	**Vanda**	**82.69**	**191**	*eP*	**P**	**02 12 39.0**	**+0.2**
	1.7nm,1.1s,mb4.0						
DLBC	**Dease Lake**	**84.31**	**335**	*eP*	**P**	**02 12 46.6**	**-0.6**
WRA	**Warramunga Arr**	**134.31**	**223**	PKP	PKPdf	02 19 35.0	+0.9
	0.3nm,0.7s,baz=116,slow=2.6,SNR=3.4						
SONM	**Songino Array**	**146.30**	**356**	PKPbc	PKPbc	02 19 57.5	+1.5
	0.9nm,0.9s,baz=28,slow=6.7,SNR=4.1						

ISK **16** *02:03:41.8, 3697N×3592E, h15km, MD3.5, ML3.4*
CSEM **16** *02:03:41.8±0.1, 3696N×3595E, h18km, MD3.5, Error ellipse: s-maj=1.4km s-min=1.1km az=86.0*
DDA **16** *02:03:41.5, 3692N×3593E, h23km±2km, Md3.5*
ISCJB **16** *02:03:42.9±0.3, 3697N±002×3593E±003, h22km±4km, Error ellipse: s-maj=3.7km s-min=3.3km az=135.3*
NSSC **16** *02:03:43.6, 3691N×3597E, h12km±2km*
ISC 16 02:03:42.9±0.4, 3696N±002×**3595E**±002**, h15**km±3km**, n56,** σ0**99/82, 30D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.17**	**287**	PG	**Pg**	**02 03 46.7**	**-0.3**
YURE	**YUREGIR**	**0.29**	**242**	*i* P	**Pg**	**02 03 48.7**	**-0.3**
YURE				*i* S	**Sg**	**02 03 54.8**	**+1.8**
COBT	**Iskenderun**	**0.51**	**150**	*i* P	**Pg**	**02 03 51.5**	**-1.5**
COBT				*i* S	**Sg**	**02 04 01.6**	**+1.9**
COBT	**Iskenderun**	**0.51**	**150**	*i* P	**Pg**	**02 03 51.5**	**-1.4**
COBT				*i* S	**Sg**	**02 04 01.6**	**+1.9**
KOZT	**Kozan**	**0.53**	**350**	*e*PG	**Pg**	**02 03 54.1**	**+0.8**
DRWC	**Darouich**	**0.67**	**120**	⇑P	**Pg**	**02 03 55.7**	**-0.3**
DRWC				⇑S	**Sg**	**02 04 04.6**	**-0.3**
DRWC	**Darouich**	**0.67**	**120**	⇑P	**Pg**	**02 03 55.7**	**-0.3**
DRWC				⇓S	**Sg**	**02 04 04.6**	**-0.3**
DRWC	**Darouich**	**0.67**	**120**	⇑*i*P	**Pg**	**02 03 55.7**	**-0.3**
DRWC				⇓*i*S	**Sg**	**02 04 04.6**	**-0.3**
KARA	**Karaisali**	**0.77**	**293**	*e*PG	**Pg**	**02 03 56.2**	**-1.7**
KARA				*e*SG	**Sg**	**02 04 07.1**	**-1.0**
HTY	**Hatay**	**0.85**	**170**	*e*PG	**Pg**	**02 03 58.4**	**-1.1**
HTY				*e*SG	**Sg**	**02 04 11.7**	**+1.0**
KMRS	**Kahramanmaras**	**0.94**	**54**	*e*PG	**Pg**	**02 04 00.1**	**-0.9**
BTCH	**Batrach**	**1.01**	**156**	⇓P	**Pb**	**02 04 01.5**	**-0.6**
BTCH				⇓S	**Sb**	**02 04 15.2**	**+0.1**
BTCH	**Batrach**	**1.01**	**156**	⇓P	**Pb**	**02 04 01.5**	**-0.6**
BTCH				⇓S	**Sb**	**02 04 15.2**	**+0.1**
BTCH	**Batrach**	**1.01**	**156**	⇓*i*P	**Pb**	**02 04 01.5**	**-0.6**
BTCH				⇓*i*S	**Sb**	**02 04 15.2**	**+0.1**
GAZ	**Gaziantep**	**1.03**	**78**	*e*PG	**Pg**	**02 04 02.4**	**-0.4**
GAZ				*e*SG	**Sg**	**02 04 17.5**	**+1.1**
ARNB	**Al Arnab**	**1.10**	**179**	⇓P	**Pb**	**02 04 02.7**	**-0.8**
ARNB				⇓S	**Sb**	**02 04 17.4**	**-0.3**
ARNB	**Al Arnab**	**1.10**	**179**	⇓P	**Pb**	**02 04 02.7**	**-0.8**
ARNB				⇓S	**Sb**	**02 04 17.4**	**-0.3**
MERS	**Mersin**	**1.15**	**266**	*e*PN	**Pn**	**02 04 02.6**	**-1.8**
GZT	**Gaziantep**	**1.35**	**73**	*i* P	**Pn**	**02 04 07.1**	**-0.1**
GZT				*i* S	**Sn**	**02 04 25.4**	**+0.6**
SLNF	**Slenfeh**	**1.38**	**171**	⇓P	**Pn**	**02 04 07.2**	**-0.3**
SLNF				⇓S	**Sn**	**02 04 24.7**	**-0.9**
SLNF	**Slenfeh**	**1.38**	**171**	⇓P	**Pn**	**02 04 07.2**	**-0.3**
SLNF				⇓S	**Sn**	**02 04 24.7**	**-0.9**
SLNF	**Slenfeh**	**1.38**	**171**	⇓*i*P	**Pn**	**02 04 07.2**	**-0.4**
SLNF				⇓*i*S	**Sn**	**02 04 24.7**	**-0.8**
MEST	**Erdemli**	**1.49**	**256**	*i* P	**Pn**	**02 04 07.7**	**-1.5**
MEST				*i* S	**Sn**	**02 04 29.2**	**+0.9**
WRDH	**Warideh**	**1.50**	**165**	⇓P	**Pn**	**02 04 09.3**	**+0.1**
WRDH				⇓S	**Sn**	**02 04 26.7**	**-1.7**
WRDH	**Warideh**	**1.50**	**165**	⇓P	**Pn**	**02 04 09.3**	**+0.1**
WRDH				⇓S	**Sn**	**02 04 26.7**	**-1.7**
WRDH	**Warideh**	**1.50**	**165**	⇓*i*P	**Pn**	**02 04 09.3**	**+0.1**
WRDH				⇓*i*S	**Sn**	**02 04 26.7**	**-1.7**
NIG	**Nigde**	**1.56**	**318**	*e*PN	**Pn**	**02 04 08.9**	**-1.2**
SARI	**SarD1z-Kayseri**	**1.81**	**19**	*e*PN	**Pn**	**02 04 09.1**	**-4.4**
BNN	**Bunyan**	**1.89**	**358**	*e*PN	**Pn**	**02 04 14.4**	**-0.1**
IKL	**Isikli**	**1.96**	**249**	*e*PN	**Pn**	**02 04 15.7**	**+0.2**
BIDA	**Albida**	**1.97**	**171**	⇓P	**Pn**	**02 04 16.0**	**+0.4**
BIDA				⇓S	**Sn**	**02 04 39.3**	**-0.7**
BIDA	**Albida**	**1.97**	**171**	⇓P	**Pn**	**02 04 16.0**	**+0.4**
BIDA				⇓S	**Sn**	**02 04 39.3**	**-0.7**
BIDA	**Albida**	**1.97**	**171**	⇓*i*P	**Pn**	**02 04 16.0**	**+0.4**
BIDA				⇓*i*S	**Sn**	**02 04 39.3**	**-0.7**
AVNT	**Avonos**	**2.01**	**335**	*i* P	**Pn**	**02 04 15.0**	**-1.2**
EREN	**Erenkoy**	**2.02**	**226**	*e*PN	**Pn**	**02 04 17.1**	**+0.7**
URFA	**Urfa**	**2.34**	**77**	*e*PN	**Pn**	**02 04 20.6**	**-0.2**
MALT	**Malatya**	**2.39**	**55**	*e*PN	**Pn**	**02 04 21.5**	**+0.1**
MYA	**Malataya**	**2.39**	**55**	*e*PN	**Pn**	**02 04 21.6**	**+0.1**
ERMK	**Ermenek**	**2.46**	**263**	*i* P	**Pn**	**02 04 24.1**	**+1.8**
ERMK				*i* S	**Sn**	**02 04 57.6**	**+5.5**
DARE	**Darende-Malaty**	**2.47**	**36**	*e*PN	**Pn**	**02 04 16.5**	**-6.1**
LFK	**Lefkose**	**2.58**	**230**	*e*PN	**Pn**	**02 04 24.2**	**+0.2**
HWQ	**Hawqa**	**2.68**	**180**	*e*Pn	**Pn**	**02 04 27.2**	**+1.8**
YOZ	**Yozgat**	**2.72**	**350**	*e*PN	**Pn**	**02 04 26.3**	**+0.3**
HDMB	**Hadim**	**2.77**	**271**	*e*PN	**Pn**	**02 04 26.8**	**+0.1**
KAMT	**Kaman**	**2.98**	**324**	*e*PN	**Pn**	**02 04 29.6**	**+0.1**
KONT	**Konya--Tatoy**	**3.02**	**290**	*e*PN	**Pn**	**02 04 30.8**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.02**	**61**	*e*PN	**Pn**	**02 04 30.3**	**+0.2**
BHL	**Bhannes**	**3.06**	**185**	*e*Pn	**Pn**	**02 04 31.4**	**+0.8**
SVSK	**Karacayir**	**3.06**	**15**	*e*PN	**Pn**	**02 04 30.5**	**-0.2**
LEF	**Lefka**	**3.08**	**234**	*e*PN	**Pn**	**02 04 31.2**	**+0.2**
LADK	**Ladik-KONYA**	**3.10**	**295**	*e*PN	**Pn**	**02 04 31.5**	**+0.3**
PTK	**Pertek**	**3.34**	**54**	*e*PN	**Pn**	**02 04 34.6**	**+0.1**
DIY	**Diyarbakir**	**3.53**	**73**	*e*PN	**Pn**	**02 04 39.0**	**+1.8**
CTKT	**Corum**	**3.77**	**346**	*i* P	**Pn**	**02 04 42.8**	**+2.4**
EZC	**Erzincan**	**4.12**	**46**	*e*PN	**Pn**	**02 04 42.4**	**-2.9**
ELL	**Elmali**	**4.85**	**269**	*e*PN	**Pn**	**02 04 56.6**	**+1.4**

NEIC **16** *02:05:31.2, 1772N×10190W, h5km, MD3.9(MEX), After MEX.*
MEX 16 02:05:31.3±0.8, 1770N×10188W, h8km±6km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.41**	**103**	*i* P	Pg	02 05 38.8	-0.5
ZIIG				*i* S	Sg	02 05 44.8	+0.1
ZIIG	**Zihuatanejo**	**0.41**	**103**	*i* P	Pg	02 05 38.8	-0.5
ZIIG				*i* S	Sg	02 05 45.3	+0.6
MMIG	**Aquila**	**1.51**	**293**	*i* P	Pn	02 05 54.8	-3.9
MMIG				*i* S	Sn	02 06 13.4	-5.0
CAIG	**El Cayaco**	**1.68**	**113**	*e*P	Pn	02 05 58.4	-2.5
CAIG				*i* S	Sn	02 06 16.7	-5.9
CAIG	**El Cayaco**	**1.68**	**113**	*e*P	Pn	02 05 58.4	-2.5
CAIG				*i* S	Sn	02 06 19.2	-3.4
ACX	**Acapulco**	**2.05**	**113**	*i* P	Pn	02 06 07.2	+1.1
ACX				*i* S	Sn	02 06 33.0	+1.1
MOIG	**Morelia**	**2.08**	**18**	*i* P	Pn	02 06 03.7	-2.8
MOIG				*i* S	Sn	02 06 28.5	-4.0
MEIG	**Mezcala**	**2.17**	**84**	*e*P	Pn	02 06 05.7	-2.0
MEIG				*i* S	Sn	02 06 31.1	-3.7
PLIG	**Platanillo**	**2.37**	**73**	*i* P	Pn	02 06 06.6	-3.9
PLIG				*i* S	Sn	02 06 34.0	-5.7
PLIG	**Platanillo**	**2.37**	**73**	*i* P	Pn	02 06 08.8	-1.7
PLIG				*i* S	Sn	02 06 36.5	-3.2
PPM	**Popocatepetl**	**3.38**	**66**	*e*P	Pn	02 06 22.2	-2.1
PPM				*i* S	Sn	02 07 02.5	-2.1
PNIG	**Pinotepa**	**3.82**	**109**	*e*P	Pn	02 06 28.6	-1.8
PNIG				*i* S	Sn	02 07 12.2	-3.4
PNIG	**Pinotepa**	**3.82**	**109**	*e*P	Pn	02 06 28.6	-1.8
PNIG				*i* S	Sn	02 07 13.2	-2.4

ISCJB **16** *02:11:32.7±1.6, 1431S±009×765W±0.1, h47km±14km, mb4.0/10, Error ellipse: s-maj=25.9km s-min=8.4km az=148.2*
NEIC **16** *02:11:33.8±1.9, 1416S×7635W, h35km±20km, mb4.0/7, Error ellipse: s-maj=18.0km s-min=12.4km az=55.0*
IDC **16** *02:11:35.4±2.3, 1422S×7633W, h49km±17km, mb3.8/4, mb1 3.9/9, mb1mx3.6/21, mbtmp3.8/9, ML3.8/4, Error ellipse: s-maj=40.8km s-min=12.8km az=60.0*
ISC 16 02:11:34.9±1.3, 1426S±009×**764W**±01**, h46**km±11km**, n23,** σ0**65/24, mb4.0/10, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.30**	**349**	P	**Pn**	**02 12 10.4**	**0.0**
	30nm,0.3s,baz=172,slow=14,SNR=3.4						
NNA				S	**Sn**	**02 12 38.2**	**+0.8**
	234nm,0.3s,baz=212,slow=15,SNR=12						
ATAH	**Atahualpa**	**7.47**	**345**	P	**Pn**	**02 13 20.4**	**-1.0**
	1.2nm,0.3s,baz=208,sl

LPAZ **La Paz** 8.06 109 *e*Pn Pn 02 19 09.9 +6.0
comp=Z,0.6nm,0.6s
LVC **Limon Verde** 11.12 143 P Pn 02 19 47.1 +1.3
comp=Z,6.1nm,0.3s,baz=324,slow=0.0,SNR=21
LVC S Sn 02 21 48.6 -0.3
comp=Z,8.1nm,0.3s,baz=177,slow=0.0,SNR=6.3
LVC **Limon Verde** 11.12 143 *e*Pn Pn 02 19 47.1 +1.3
OTAV **Otavalo** 14.10 350 *e*Pn Pn 02 20 29.1 +2.5
SIV **San Ignacio** 14.65 101 P Pn 02 20 34.9 +0.8
comp=Z,1.6nm,0.3s,baz=275,slow=11,SNR=15
ROSC **El Rosal** 18.56 5 P Pn 02 21 25.5 +1.8
comp=Z,1.7nm,0.3s,baz=105,slow=7.9,SNR=7.6
CFAA **Coronel Fontan** 19.16 159 P Pn 02 21 30.2 -0.6
comp=Z,0.3nm,0.3s,baz=336,slow=11,SNR=34
CFAA **Coronel Fontan** 19.16 159 P Pn 02 21 30.2 -0.6
LMEL **Las Melosas** 20.70 166 ⇓/P P 02 21 47.5 +1.1
CPUP **Villa Florida** 21.55 128 P P 02 21 56.6 +1.0
comp=Z,11nm,0.9s,mb4.3,baz=291,slow=11,SNR=21
CPUP **Villa Florida** 21.55 128 *e*P P 02 21 55.1 -0.5
CPUP pmax pmax
comp=Z,62nm,1.0s
CPUP **Villa Florida** 21.55 128 *e*P P 02 21 55.1 -0.5
comp=Z,62nm,1.0s,mb5.0
BCIP **Isla Barro Col** 23.07 350 *e*P P 02 22 11.3 -0.6
comp=Z,59nm,1.2s,mb4.9
SDV **Santo Domingo** 23.12 14 P P 02 22 13.1 +0.7
comp=Z,27nm,0.9s,mb4.7,baz=270,slow=6.4,SNR=20
SDV **Santo Domingo** 23.12 14 *e*P P 02 22 12.2 -0.2
comp=Z,85nm,1.1s,mb5.1
PCRV **Puerto La Cruz** 26.33 26 P P 02 22 42.2 +0.3
comp=Z,8.4nm,0.6s,mb4.4,baz=288,slow=3.2,SNR=3.6
BDFB **Brasilia** 27.18 97 P P 02 22 49.7 +0.1
comp=Z,0.9nm,0.7s,baz=191,slow=19,SNR=3.6
TRQA **Tornquist** 27.25 155 *e*P P 02 22 48.8 -1.1
comp=Z,3.3nm,0.6s,mb4.0
PLCA **Paso Flores** 27.31 171 P P 02 22 49.2 -1.3
comp=Z,16nm,1.0s,mb4.5,baz=338,slow=11,SNR=25
PLCA **Paso Flores** 27.31 171 *e*P P 02 22 49.2 -1.3
PLCA pmax pmax
comp=Z,32nm,1.1s
PLCA **Paso Flores** 27.31 171 *e*P P 02 22 49.2 -1.3
comp=Z,32nm,1.1s,mb4.8
GRGR **Grenville** 29.41 30 *e*P P 02 23 08.0 -1.4
comp=Z,171nm,1.0s,mb5.7
MPR **Mayaguez** 32.95 16 *e*P P 02 23 41.0 +0.4
SJG **San Juan** 33.13 17 P P 02 23 41.0 -1.2
comp=Z,22nm,0.7s,mb5.2,baz=239,slow=3.2,SNR=7.9
SJG **San Juan** 33.13 17 *e*P P 02 23 40.6 -1.6
SJG pmax pmax
comp=Z,33nm,1.0s
SJG **San Juan** 33.13 17 *e*P P 02 23 40.6 -1.6
comp=Z,33nm,1.0s,mb5.2
TEIG **Tepich** 35.84 340 P P 02 24 05.6 0.0
comp=Z,36nm,0.8s,mb5.3,baz=157,slow=12,SNR=12
EFI **East Falkland** 40.51 163 ⇑/P P 02 24 43.2 -1.4
USHA **Ushuaia** 41.42 173 P P 02 24 51.8 -0.2
comp=Z,29nm,0.8s,mb4.9,baz=318,slow=3.0,SNR=9.9
GOGA **Godfrey** 47.43 352 *e*P P 02 25 39.0 -1.2
GOGA pmax pmax
comp=Z,15nm,0.9s,mb4.9
GOGA **Godfrey** 47.43 352 *e*P P 02 25 39.0 -1.3
comp=Z,15nm,0.9s,mb4.9
CNNC **Cliffs of the** 48.75 358 *e*P P 02 25 49.5 -0.9
comp=Z,18nm,0.7s,mb5.2
CPCT **Cooper Cave** 49.58 351 *e*P P 02 25 55.8 -1.0
SWET **Sewanee** 49.59 349 *e*P P 02 25 55.5 -1.4
PLAL **Pickwick Lake** 49.79 347 *e*P P 02 25 56.1 -2.3
comp=Z,19nm,0.9s,mb5.1
TZTN **Tazewell** 50.52 352 *e*P P 02 26 02.6 -1.3
comp=Z,13nm,0.8s,mb4.9
UALR **University of** 50.68 343 *e*P P 02 26 04.3 -0.8
comp=Z,19nm,0.9s,mb5.0
MIAR **Mount Ida** 50.83 341 *e*P P 02 26 05.3 -1.0
MIAR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MIAR **Mount Ida** 50.83 341 *e*P P 02 26 05.3 -1.0
comp=Z,10nm,0.8s,mb4.8
BLA **Blacksburg** 50.85 356 *e*P P 02 26 05.6 -0.8
BLA pmax pmax
comp=Z,15nm,0.9s,mb4.9
BLA **Blacksburg** 50.85 356 *e*P P 02 26 05.5 -0.9
comp=Z,15nm,0.9s,mb4.9
ELN **Prospectdale** 50.90 355 *e*P P 02 26 06.2 -0.6
PMSA **Palmer Station** 51.63 173 P P 02 26 10.9 -1.1
comp=Z,13nm,0.8s,mb4.9,baz=4.2,slow=6.2,SNR=8.5
PMSA **Palmer Station** 51.63 173 *e*P P 02 26 11.6 -0.3
comp=Z,39nm,1.3s,mb5.2
USIN **University of** 52.58 348 *e*P P 02 26 17.7 -1.6
WCI **Wyandotte Cave** 52.59 350 *e*P P 02 26 17.1 -2.2
WCI pmax pmax
comp=Z,49nm,0.9s,mb5.4
WCI **Wyandotte Cave** 52.59 350 *e*P P 02 26 17.1 -2.2
comp=Z,49nm,0.9s,mb5.4
SIUC **Southern Illin** 52.66 347 *e*P P 02 26 18.4 -1.5
WMOK **Wichita Mounta** 52.83 336 *e*P P 02 26 19.8 -1.4
WMOK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
WMOK **Wichita Mounta** 52.83 336 *e*P P 02 26 19.8 -1.4
comp=Z,6.4nm,1.0s,mb4.5
GDL2 **Guadalupe Moun** 53.13 330 *e*P P 02 26 23.6 +0.1
FVM **French Village** 53.20 346 *e*P P 02 26 22.2 -1.6
FVM pmax pmax
comp=Z,15nm,0.7s,mb5.0
FVM **French Village** 53.20 346 *e*P P 02 26 22.2 -1.7
comp=Z,15nm,0.7s,mb5.0
MCWV **Mont Chateau** 53.25 356 *e*P P 02 26 23.5 -0.6
comp=Z,18nm,1.1s,mb4.9
BLO **Bloomington** 53.55 350 *e*P P 02 26 24.3 -2.1
ACSO **Alum Creek Sta** 54.09 353 *e*P P 02 26 28.4 -2.0
comp=Z,19nm,0.7s,mb5.1
319A **Douglas** 55.05 325 ⇓P P 02 26 37.5 0.0
baz=55,SNR=7.2
318A **Bisbee** 55.49 325 ⇓P P 02 26 40.4 -0.3
baz=56,SNR=12
219A **White Tail Can** 55.51 326 ⇑P P 02 26 40.9 +0.1
baz=56,SNR=7.5
BNM **Barren Site** 55.82 329 *e*P P 02 26 42.4 -0.6
218A **Dragoon** 55.93 325 ⇑P P 02 26 43.5 -0.3
baz=56,SNR=6.2
119A **Ashpeak Ranch,** 56.12 326 ⇑P P 02 26 44.9 -0.3
baz=56
217A **Green Valley** 56.21 324 ⇑P P 02 26 45.7 -0.2
baz=56,SNR=7.0
LAZ **Ladron** 56.27 329 *e*P P 02 26 45.4 -0.8
ANMO **Albuquerque** 56.38 330 ⇑/P P 02 26 45.1 -1.9
ANMO **Albuquerque** 56.38 330 *e*P P 02 26 46.3 -0.7
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO **Albuquerque** 56.38 330 *e*P P 02 26 46.3 -0.7
comp=Z,7.0nm,1.0s,mb4.7
118A **Homack Ranch,** 56.39 326 ⇑P P 02 26 46.8 -0.3
baz=57,SNR=6.4
TUC **Tucson** 56.59 325 *e*P P 02 26 48.7 +0.2
TUC pmax pmax
comp=Z,47nm,2.1s,mb5.2
TUC **Tucson** 56.59 325 *e*P P 02 26 48.7 +0.2
comp=Z,47nm,2.1s,mb5.2
216A **Three Points,** 56.75 324 ⇑P P 02 26 49.1 -0.5
baz=57
117A **Oracle** 56.76 325 ⇑P P 02 26 49.1 -0.7
baz=57,SNR=12
CBKS **Cedar Bluff** 56.79 338 *e*P P 02 26 48.4 -1.4
CBKS pmax pmax
comp=Z,18nm,0.8s,mb5.2
CBKS **Cedar Bluff** 56.79 338 *e*P P 02 26 48.4 -1.4
comp=Z,18nm,0.8s,mb5.2
Y19A **Nutrioso** 57.01 327 ⇑P P 02 26 51.4 -0.1
baz=57,SNR=7.9
Y18A **Canyon Day Jun** 57.29 326 ⇑P P 02 26 53.1 -0.4
baz=58
116A **Eloy** 57.30 324 ⇑P P 02 26 53.3 -0.3
baz=58
NCB **Newcomb** 57.46 2 *e*P P 02 26 54.4 -0.1
comp=Z,15nm,0.7s,mb5.1
214A **Organ Pipe Nat** 57.50 323 ⇑P P 02 26 54.6 -0.3
baz=58,SNR=6.6
MDV **Middlebury** 57.53 2 *e*P P 02 26 54.8 -0.1
SCIA **State Center** 57.60 345 *e*P P 02 26 53.5 -1.9
comp=Z,16nm,1.0s,mb5.0
Y17A **Roosevelt** 57.66 326 ⇑P P 02 26 55.7 -0.4
baz=58
115A **Sonoran Desert** 57.70 324 ⇓P P 02 26 56.3 0.0
baz=58
LONY **Lake Ozonia** 58.10 1 *e*P P 02 26 58.7 -0.2
comp=Z,19nm,1.0s,mb5.1
X17A **Forest Lakes** 58.13 326 ⇑P P 02 26 59.2 -0.1
baz=58,SNR=7.1

SDCO **Great Sand Dun** 58.21 333 *e*P P 02 26 59.3 -0.6
comp=Z,6.8nm,0.9s,mb4.7
FRNY **Flat Rock** 58.35 2 *e*P P 02 27 00.5 -0.1
X16A **Lo Mia Camp, P** 58.53 326 ⇓P P 02 27 02.0 -0.1
baz=59,SNR=9.1
X15A **Humboldt** 59.02 325 ⇑P P 02 27 05.1 -0.5
baz=59,SNR=6.4
Y14A **Wickenburg** 59.05 324 ⇑P P 02 27 05.1 -0.6
baz=59
T19A **Beclabito** 59.13 329 ⇓P P 02 27 06.9 +0.7
baz=59
MVCO **Mesa Verde** 59.17 330 ⇓P P 02 27 06.7 +0.2
baz=59
MVCO **Mesa Verde** 59.17 330 *e*P P 02 27 06.3 -0.2
comp=Z,6.9nm,0.8s,mb4.7
U18A **Rough Rock, Ch** 59.23 329 ⇓P P 02 27 07.8 +0.8
baz=59
WUAZ **Wupatki** 59.32 327 ⇓P P 02 27 08.4 +0.8
baz=60
WUAZ **Wupatki** 59.32 327 *e*P P 02 27 08.2 +0.6
comp=Z,16nm,1.1s,mb5.0
X14A **Yava** 59.37 325 ⇓P P 02 27 08.2 +0.2
baz=60
Y13A **Salome** 59.43 324 ⇓P P 02 27 09.1 +0.7
baz=60
Y12C **Blythe** 59.78 323 ⇑P P 02 27 10.4 -0.4
baz=60,SNR=5.7
T18A **Mexican Hat** 59.79 329 ⇑P P 02 27 10.0 -0.8
baz=60,SNR=14
S19A **Harvey Farm, M** 59.91 330 ⇑P P 02 27 10.9 -0.7
baz=60,SNR=8.9
PV01 **Paradox Valley** 59.94 331 *e*P P 02 27 11.6 -0.3
ISCO **Idaho Springs** 59.96 334 *e*P P 02 27 11.5 -0.4
ISCO pmax pmax
comp=Z,45nm,2.6s,mb5.0
ISCO **Idaho Springs** 59.96 334 *e*P P 02 27 11.4 -0.5
comp=Z,45nm,2.6s,mb5.0
V15A **Kaibab Nationa** 59.98 326 ⇓P P 02 27 12.7 +0.5
baz=60
X13A **Yucca** 59.99 324 ⇓P P 02 27 12.9 +0.6
baz=60
W14A **Seligman** 60.03 325 ⇑P P 02 27 13.6 +1.1
baz=60
T17A **Navajo Res., N** 60.15 328 ⇑P P 02 27 13.9 +0.6
baz=60
ECSD **EROS,Sioux Fal** 60.21 343 *e*P P 02 27 12.2 -1.4
comp=Z,11nm,0.8s,mb4.9
BC3 **Big Chucky Mtn** 60.26 322 ⇓P P 02 27 14.6 +0.5
baz=60
S18A **Hurst Farm, Bl** 60.28 329 ⇑P P 02 27 14.3 +0.1
baz=60
V14A **Boquillas Ranc** 60.35 326 ⇑P P 02 27 14.7 0.0
baz=60,SNR=6.9
W13A **Hualapai Mount** 60.39 325 ⇑P P 02 27 15.1 +0.1
baz=61
IRM **Iron Mountain** 60.44 323 ⇓P P 02 27 14.9 -0.4
baz=61,SNR=9.2
R18A **Canyonlands Na** 60.78 330 ⇑P P 02 27 17.8 +0.2
baz=61
PFO **Pinyon Flat Ob** 60.83 322 ⇑P P 02 27 18.5 +0.5
baz=61
PFO **Pinyon Flat Ob** 60.83 322 *e*P P 02 27 19.1 +1.1
comp=Z,701nm,3.5s
Q19A **Hogan Spring (** 60.92 331 ⇑P P 02 27 19.0 +0.5
baz=61
U14A **Mt Trumbull** 60.97 326 ⇓P P 02 27 19.7 +0.8
baz=61
V13A **Grand Canyon W** 60.99 325 ⇓P P 02 27 19.1 0.0
baz=61
GMRC **Granite Mounta** 61.18 323 ⇓P P 02 27 20.7 +0.4
baz=61
R17A **Hanksville Air** 61.20 329 ⇑P P 02 27 20.3 -0.2
baz=61,SNR=8.2
Q18A **Rafter H Ranch** 61.45 330 ⇓P P 02 27 22.0 -0.1
baz=62,SNR=6.3
SRU **San Rafael** 61.65 330 ⇑P P 02 27 23.0 -0.4
baz=62,SNR=5.9
SRU **San Rafael** 61.65 330 *e*P P 02 27 22.6 -0.9
comp=Z,3.9nm,0.9s,mb4.5
BFSC **Mount Baldy St** 61.99 321 ⇓P P 02 27 26.3 +0.4
baz=62
MSU **Marysvale** 62.01 328 *e*P P 02 27 26.3 +0.4
SHPR **Sheep Range** 62.12 325 *e*P P 02 27 27.6 +1.0
S13A **Holt Ranch, En** 62.19 327 ⇑P P 02 27 27.3 +0.2
baz=62,SNR=6.3
EDW2 **Edwards Air Fo** 62.62 322 ⇑P P 02 27 30.4 +0.4
baz=63
T11A **Corn Creek, Al** 62.68 325 ⇓P P 02 27 30.6 +0.2
baz=63,SNR=8.7
N18A **Larsen Ranch,** 62.72 332 ⇓P P 02 27 31.1 +0.5
baz=63
Q14A **Sevier Lake (B** 62.94 328 ⇓P P 02 27 32.5 +0.5
baz=63
RSSD **Black Hills** 62.99 338 *e*P P 02 27 32.2 -0.1
RSSD pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
RSSD **Black Hills** 62.99 338 *e*P P 02 27 32.1 -0.1
comp=Z,4.5nm,0.9s,mb4.6
DAU **Daniels Canyon** 63.02 330 *e*P P 02 27 32.9 +0.3
TPNV **Topopah Spring** 63.05 325 *e*P P 02 27 34.1 +1.3
TPNV pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
TPNV **Topopah Spring** 63.05 325 ⇓P P 02 27 33.6 +0.8
baz=63
TPNV **Topopah Spring** 63.05 325 *e*P P 02 27 34.1 +1.3
comp=Z,6.2nm,0.9s,mb4.7
FURC **Furnace Creek,** 63.06 324 ⇓P P 02 27 33.7 +0.7
baz=63
MPMC **Manual Prospec** 63.14 323 ⇓P P 02 27 33.7 +0.2
baz=63,SNR=8.2
N17A **Moffit Pass** 63.23 331 ⇑P P 02 27 34.2 +0.3
baz=63,SNR=8.9
JLU **Jordanelle** 63.26 330 *e*P P 02 27 34.1 0.0
S11A **Rachel** 63.27 325 ⇓P P 02 27 34.8 +0.5
baz=64
ISA **Isabella** 63.45 322 *e*P P 02 27 35.7 +0.2
ISA pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
ISA **Isabella** 63.45 322 ⇓P P 02 27 36.0 +0.5
baz=64
ISA **Isabella** 63.45 322 *e*P P 02 27 35.7 +0.2
comp=Z,4.5nm,1.0s,mb4.5
DUG **Dugway** 63.61 329 *e*P P 02 27 36.7 +0.2
DUG pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
DUG **Dugway** 63.61 329 ⇑P P 02 27 37.2 +0.7
baz=64
DUG **Dugway** 63.61 329 *e*P P 02 27 36.7 +0.2
comp=Z,8.7nm,0.9s,mb4.8
P13A **Bates Ranch, G** 63.66 328 ⇓P P 02 27 37.3 +0.5
baz=64
R11A **Troy Canyon, C** 63.68 326 ⇑P P 02 27 37.6 +0.5
baz=64
CWC **Cottonwood Cre** 63.74 323 ⇑P P 02 27 38.1 +0.6
baz=64
PKM **Peak Mountain** 63.75 321 ⇑P P 02 27 38.2 +0.6
baz=64
M16A **Huntsville** 63.90 331 ⇓P P 02 27 38.1 -0.2
baz=64
S10A **Tonopah Range,** 63.93 325 ⇓P P 02 27 39.3 +0.7
baz=64,SNR=8.1
N15A **Stansbury Isla** 64.00 330 ⇓P P 02 27 39.5 +0.5
baz=64
Q11A **Duckwater** 64.08 326 ⇓P P 02 27 40.0 +0.4
baz=64
HWUT **Hardware Ranch** 64.09 331 *e*P P 02 27 39.3 -0.3
comp=Z,14nm,0.9s,mb5.0
BW06 **Boulder Array** 64.10 333 *e*P P 02 27 40.6 +0.9
PDAR **Pinedale Array** 64.10 333 P P 02 27 38.1 -1.5
comp=Z,1.5nm,0.8s,mb4.1,baz=122,slow=7.2,SNR=9.4
S09A **Goldfield** 64.15 325 ⇓P P 02 27 40.3 +0.3
baz=64
AGMN **Agassiz Refuge** 64.24 345 *e*P P 02 27 39.4 -1.0
comp=Z,12nm,0.7s,mb5.0
BGU **Big Grassy Mou** 64.27 330 *e*P P 02 27 40.2 -0.6
SPUT **South Promonto** 64.28 330 *e*P P 02 27 39.9 -1.0
N14A **Grayback Hills** 64.29 329 ⇑P P 02 27 40.5 -0.5
baz=64,SNR=6.3
M15A **Larsen Ranch,** 64.40 330 ⇑P P 02 27 41.0 -0.6
baz=65,SNR=6.2
HELL **Mitchell Peak** 64.46 323 ⇓P P 02 27 41.9 -0.3
baz=65
S08C **White Mtn Res** 64.53 324 ⇑P P 02 27 43.0 +0.4
baz=65,SNR=6.0
O12A **Currie** 64.64 328 ⇓P P 02 27 43.4 +0.1
baz=65
MTUM **Tungsten Hills** 64.65 323 *e*P P 02 27 43.8 +0.4
L15A **Malad City** 64.79 331 ⇑P P 02 27 43.9 -0.2

baz=65
M14A **Sheep Mountain** 64.87 330 ⇑P P 02 27 44.7 0.0
baz=65
K16A **Soda Springs** 65.06 332 ⇓P P 02 27 46.1 +0.1
baz=65
REDW **Red Top Meadow** 65.14 333 *e*P P 02 27 47.2 +0.7
comp=Z,9.5nm,1.0s,mb4.8
L14A **Malta** 65.22 330 ⇓P P 02 27 46.9 -0.1
baz=65,SNR=9.2
LOHW **Long Hollow** 65.23 333 *e*P P 02 27 46.4 -0.6
comp=Z,3.9nm,0.8s,mb4.5
ELK **Elko** 65.25 328 *e*P P 02 27 47.8 +0.6
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK **Elko** 65.25 328 *e*P P 02 27 47.8 +0.6
comp=Z,3.4nm,0.8s,mb4.4
TPAW **Teton Pass** 65.29 333 *e*P P 02 27 47.1 -0.3
comp=Z,4.8nm,0.9s,mb4.5
U04C **Hernandez Rese** 65.31 321 ⇓P P 02 27 48.1 +0.5
baz=66
BBTS **Babate** 65.31 67 P P 02 27 48.0 -0.1
comp=Z,18nm,1.0s,mb5.1,baz=140,slow=3.2,SNR=3.9
RRI2 **Red Ridge** 65.34 332 *e*P P 02 27 47.6 -0.1
comp=Z,16nm,0.8s,mb5.1
K15A **Arbon** 65.38 331 ⇓P P 02 27 48.8 +0.8
baz=66
MOOW **Moose Ponds** 65.40 333 *e*P P 02 27 47.1 -1.0
comp=Z,5.3nm,1.1s,mb4.5
K14A **Jones Ranch, D** 65.58 331 ⇓P P 02 27 49.3 0.0
baz=66
L13A **Double Diamond** 65.60 330 ⇑P P 02 27 50.2 +0.7
baz=66
IMW **Indian Meadow** 65.61 333 *e*P P 02 27 48.5 -0.9
comp=Z,18nm,1.4s,mb4.9
FLWY **Flagg Ranch** 65.65 333 *e*P P 02 27 49.9 +0.2
S05C **Merced** 65.68 322 ⇓P P 02 27 50.7 +0.6
baz=66
S06C **San Francisco** 65.76 323 ⇑P P 02 27 50.9 +0.4
baz=66,SNR=5.5
RLMT **Red Lodge** 65.87 335 *e*P P 02 27 50.9 -0.2
comp=Z,16nm,1.3s,mb4.9
ULM **Lac du Bonnet** 66.06 346 P P 02 27 50.6 -1.6
comp=Z,63nm,1.3s,mb5.5,baz=162,slow=6.7,SNR=14
ULM **Lac du Bonnet** 66.06 346 *e*P P 02 27 50.7 -1.6
comp=Z,14nm,0.8s,mb5.0
CMB **Columbia Colle** 66.18 323 ⇓P P 02 27 53.5 +0.2
baz=66
K12A **Draper Farm, C** 66.48 330 ⇑P P 02 27 55.5 +0.4
baz=67,SNR=8.7
L11A **Cat Creek Ranc** 66.56 329 ⇑P P 02 27 56.1 +0.5
baz=67,SNR=8.2
QLMT **Earthquake Lak** 66.56 333 *e*P P 02 27 57.1 +1.5
GCMT **Greycliff** 66.58 335 *e*P P 02 27 54.9 -0.8
PAHR **Pah Rah Range** 66.74 325 *e*P P 02 27 58.4 +1.6
comp=Z,14nm,1.0s,mb4.9
O07A **Toulon** 66.77 325 ⇑P P 02 27 57.3 +0.3
baz=67,SNR=5.4
DGMT **Dagmar** 66.80 340 *e*P P 02 27 56.6 -0.4
comp=Z,18nm,0.9s,mb5.1
L10A **Juniper Basin** 66.86 328 ⇓P P 02 27 57.6 +0.1
baz=67
HLID **Hailey** 66.94 331 ⇑P P 02 27 58.3 +0.3
baz=67
HLID **Hailey** 66.94 331 *e*P P 02 27 57.3 -0.7
comp=Z,30nm,2.2s,mb4.9
J12A **Stokes Ranch,** 67.04 330 ⇓P P 02 27 59.5 +0.9
baz=67
I13A **Wildhorse Cree** 67.07 331 ⇓P P 02 27 58.8 0.0
baz=67,SNR=9.7
K11A **Parker Ranch,** 67.14 329 ⇓P P 02 27 59.9 +0.6
baz=67
P05C **Yuba Gap, Truc** 67.16 324 ⇓P P 02 28 00.6 +1.1
baz=67
MCMT **McKenzie Canyo** 67.19 332 *e*P P 02 27 59.2 -0.3
N07B **Gerlach** 67.25 326 ⇑P P 02 28 00.9 +0.9
baz=67
G15A **Dillon** 67.29 333 ⇓P P 02 28 00.6 +0.4
baz=68
BOZ **Bozeman (W)** 67.29 334 ⇑P P 02 28 00.6 +0.4
baz=68
BOZ **Bozeman (W)** 67.29 334 *e*P P 02 27 59.6 -0.6
BEKR **Beckwourth** 67.39 324 ⇑P P 02 28 01.4 +0.4
baz=68
DLMT **Dillon** 67.49 333 *e*P P 02 28 00.9 -0.5
comp=Z,12nm,1.1s,mb4.8
MFID **Camas Ranch** 67.52 330 ⇑P P 02 28 01.8 +0.1
baz=68,SNR=11
K10A **MacKenzie Ranc** 67.57 329 ⇑P P 02 28 02.6 +0.6
baz=68
H13A **Challis** 67.62 331 ⇓P P 02 28 02.6 +0.3
baz=68
N06A **Buffalo Meadow** 67.70 325 ⇓P P 02 28 03.1 +0.2
baz=68
ORV **Oroville** 67.84 323 ⇑P P 02 28 04.2 +0.4
baz=68,SNR=10.0
H12A **Diamond D Ranc** 67.89 331 ⇓P P 02 28 04.3 +0.3
baz=68,SNR=5.5
I11A **Placerville** 67.95 330 ⇓P P 02 28 04.7 +0.4
baz=68
K09A **Rome** 67.95 328 ⇓P P 02 28 04.3 0.0
baz=68,SNR=10
G13A **Cobalt** 68.02 332 ⇓P P 02 28 04.8 0.0
baz=68
J09A **Fry Pan Ranch,** 68.43 329 ⇑P P 02 28 07.8 +0.5
baz=69
EGMT **Eagleton** 68.43 336 ⇓P P 02 28 07.6 +0.3
baz=69
EGMT **Eagleton** 68.43 336 *e*P P 02 28 06.9 -0.4
H11A **Donnelly** 68.56 331 ⇑P P 02 28 08.4 +0.3
baz=69
F13A **Darby** 68.59 332 ⇓P P 02 28 08.5 +0.2
baz=69
E14A **Clinton** 68.70 333 ⇑P P 02 28 09.4 +0.4
baz=69
MOD **Modoc** 68.75 326 ⇑P P 02 28 10.0 +0.5
baz=69
MOD **Modoc** 68.75 326 *e*P P 02 28 12.9 +3.5
SCHQ **Schefferville** 68.76 6 P P 02 28 07.6 -1.5
comp=Z,4.4nm,0.8s,mb4.5,baz=153,slow=4.5,SNR=4.8
M05C **Lookout** 68.84 325 ⇓P P 02 28 10.6 +0.6
baz=69,SNR=6.0
P01C **Double 8 Ranch** 68.86 322 ⇓P P 02 28 10.9 +0.7
baz=69
CHMT **Chamberlain Mo** 68.98 334 *e*P P 02 28 11.1 +0.4
F12A **Elk City** 68.99 332 ⇓P P 02 28 11.3 +0.5
baz=69
E13A **Victor** 69.03 333 ⇑P P 02 28 11.7 +0.7
baz=69
G11A **Walters Elk Ra** 69.20 331 ⇑P P 02 28 12.4 +0.3
baz=69
MSO **Missoula** 69.22 333 *e*P P 02 28 12.2 0.0
comp=Z,12nm,1.2s,mb4.7
D14A **Greenough** 69.22 334 ⇑P P 02 28 12.7 +0.4
baz=69
I08A **Drewsey** 69.24 329 ⇑P P 02 28 12.8 +0.3
baz=69
BMO **Blue Mountains** 69.29 330 *e*P P 02 28 12.8 +0.1
comp=Z,4.8nm,1.2s,mb4.3
K06A **Valley Falls** 69.34 327 ⇑P P 02 28 13.3 +0.2
baz=70,SNR=8.3
F11A **Grangeville** 69.51 331 ⇑P P 02 28 13.9 -0.1
baz=70,SNR=7.9
G10A **Bishop Farm, J** 69.52 330 ⇑P P 02 28 14.8 +0.6
baz=70
J06A **Christmas Vall** 69.60 327 ⇓P P 02 28 15.0 +0.3
baz=70
K05A **Summer Lake** 69.63 326 ⇑P P 02 28 15.6 +0.7
baz=70
N02C **Big Bar** 69.71 324 ⇑P P 02 28 15.2 -0.2
baz=70,SNR=11
H08A **Prairie City** 69.73 329 ⇑P P 02 28 15.4 0.0
baz=70,SNR=12
VNA1 **Neumayer--Stat** 69.81 161 *e*P P 02 28 16.0 +0.4
VNA1 *e* 02 28 20.8
VNA1 *e* pP 02 28 28.8 +2.0
VNA1 *e* 02 28 32.9
VNA1 *e* 02 28 39.9
M02C **Callahan** 69.83 324 ⇓P P 02 28 15.9 -0.2
baz=70
G09A **Cove** 69.83 330 ⇑P P 02 28 16.3 +0.2
baz=70,SNR=14
I07A **Izee** 69.84 328 ⇓P P 02 28 16.2 +0.1
baz=70
C14A **Swan Lake** 69.86 334 ⇑P P 02 28 16.2 0.0
baz=70
E11A **Bogner Ranch,** 69.88 332 ⇓P P 02 28 16.2 -0.1
baz=70
YBH **Yreka Blue Hor** 69.97 325 *e*P P 02 28 16.4 -0.6

YBH pmax pmax
comp=Z,2.0nm,0.9s
YBH Yreka Blue Hor 69.97 325 *eP* **P 02 28 16.4 -0.5**
comp=Z,2.2nm,0.9s,mb4.1
KHMM Horse Mountain 69.99 323 *eP* **P 02 28 19.1 +2.0**
D12A Red Ives Fores 70.01 333 ⇓P **P 02 28 16.9 -0.2**
baz=70
F10A Beach Ranch, E 70.07 331 ⇑P **P 02 28 17.5 0.0**
baz=70
C13A Hot Springs 70.15 333 ⇓P **P 02 28 18.0 0.0**
baz=70
J05A Fort Rock 70.20 327 ⇓P **P 02 28 18.5 +0.2**
baz=70
G08A Pilot Rock 70.42 329 ⇓P **P 02 28 20.0 +0.4**
baz=71
D11A Klaveano Farm, 70.45 332 ⇓P **P 02 28 20.2 +0.4**
baz=71
H06A Lindquist Farm 70.72 328 ⇓P **P 02 28 22.1 +0.6**
baz=71
G07A Ruggs Ranch, H 70.76 329 ⇓P **P 02 28 22.3 +0.6**
baz=71
WALA Waterton Lakes 70.93 335 *e*pP pP 02 28 34.8 +0.9
A13A Flathead Natio 71.04 334 ⇑P **P 02 28 23.8 +0.4**
baz=71
K02A Glendale 71.08 325 ⇑P **P 02 28 24.3 +0.5**
baz=71
J02A Umpqua 71.52 325 ⇓P **P 02 28 26.8 +0.4**
baz=72
A12A Yaak River Ran 71.57 334 ⇓P **P 02 28 26.9 +0.4**
baz=72
NEW Newport 71.71 332 *eP* **P 02 28 26.1 -1.3**
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 71.71 332 *eP* **P 02 28 26.1 -1.4**
comp=Z,6.9nm,1.0s,mb4.5
SNAA Sanae 71.77 161 *eP* **P 02 28 26.7 -0.8**
SNAA *e* 02 28 30.8
SNAA *e* 02 28 40.8
SNAA *e* 02 28 44.7
SNAA *e* 02 28 47.4
SNAA Sanae 71.77 161 *eP* **P 02 28 26.7 -0.8**
SNAA pmax pmax
comp=Z,12nm,0.5s
SNAA Sanae 71.77 161 *eP* **P 02 28 26.7 -0.8**
comp=Z,12nm,0.5s,mb5.1
OD2 Odessa Site #2 71.81 331 *eP* **P 02 28 27.4 -0.6**
A11A Hall Mountain, 71.89 333 ⇑P **P 02 28 29.4 +0.9**
baz=72
H03A Soap Creek Ran 72.23 327 ⇑P **P 02 28 31.0 +0.4**
baz=72
F04A Amboy 72.61 328 ⇑P **P 02 28 33.3 +0.4**
baz=73
ETW Entiat 72.73 330 *eP* **P 02 28 34.4 +0.9**
B08A Colville Reser 72.79 331 ⇑P **P 02 28 34.2 +0.4**
baz=73
A08A Turner Farm, O 73.19 332 ⇑P **P 02 28 36.7 +0.5**
baz=73
LIC Lamto 73.22 79⇑*iP* **P 02 28 37.3 +0.1**
comp=Z,76nm,1.0s,mb5.3,baz=270
LIC Lamto 73.22 79⇑*iP* **P 02 28 37.3 +0.1**
comp=Z,38nm,1.0s,mb5.3
D05A Enumclaw 73.25 329 ⇑P **P 02 28 37.3 +0.7**
baz=73
DBIC Dimbokro 73.51 79 P **P 02 28 38.9 0.0**
comp=Z,17nm,0.6s,mb5.2,baz=237,slow=6.9,SNR=32
DBIC Dimbokro 73.51 79 *eP* **P 02 28 38.8 -0.1**
DBIC pmax pmax
comp=Z,35nm,0.9s
DBIC Dimbokro 73.51 79 *eP* **P 02 28 38.8 -0.1**
comp=Z,35nm,0.9s,mb5.3
FCC Fort Churchill 73.74 350 *eP* **P 02 28 38.2 -1.0**
FCC pmax pmax
comp=Z,18nm,0.9s,mb5.0
FCC Fort Churchill 73.74 350 *eP* **P 02 28 38.2 -1.0**
comp=Z,18nm,0.9s,mb5.0
A07A Ashnola River, 73.77 331 ⇑P **P 02 28 40.4 +0.7**
baz=74
RPW Rockport 73.89 330 *eP* **P 02 28 40.3 0.0**
JCW Jim Creek 73.91 330 *eP* **P 02 28 40.2 -0.3**
JCW *e* pP 02 28 51.5 -0.3
EDM Edmonton 73.97 338 *eP* **P 02 28 39.5 -1.2**
B05A Bryant 74.04 330 ⇑P **P 02 28 41.6 +0.3**
baz=74
NLWA Neilton Lookou 74.33 328 ⇑P **P 02 28 43.5 +0.6**
baz=74
NLWA Neilton Lookou 74.33 328 *eP* **P 02 28 43.3 +0.4**
comp=Z,14nm,1.0s,mb4.8
PTEO Sao Teotonio 81.12 48 *eP* **P 02 29 23.8 +2.8**
comp=Z,24nm,0.9s,mb5.1
TOA0 Torodi Ar. Sit 81.52 74 *eP* **P 02 29 24.1 +0.5**
TORD Torodi Ar. Bea 81.52 74 P **P 02 29 23.5 -0.1**
comp=Z,34nm,0.9s,mb5.3,baz=264,slow=4.3,SNR=74
YKA Yellowknife Ar 81.74 343 P **P 02 29 22.3 -1.4**
comp=Z,4.6nm,0.9s,mb4.4,baz=137,slow=5.5,SNR=23
YKA pP pP 02 29 35.2 0.0
comp=Z,8.4nm,0.9s,baz=136,slow=5.5,SNR=13
YKA Yellowknife Ar 81.74 343 P **P 02 29 22.3 -1.4**
YKA pP pP 02 29 35.2 0.0
PVAQ Vaqueiros 81.79 48 *eP* **P 02 29 25.4 +0.8**
comp=Z,6.5nm,0.9s,mb4.6
YKW3 Yellowknife Ar 81.80 343 *eP* **P 02 29 22.9 -1.1**
PBEJ Beja 81.94 48 *eP* **P 02 29 27.8 +2.5**
comp=Z,5.3nm,1.1s,mb4.4
EVO Evora 82.04 47 *eP* **P 02 29 26.4 +0.6**
comp=Z,27nm,1.0s,mb4.8
PBAR Barrancos 82.59 48 *eP* **P 02 29 30.4 +1.6**
comp=Z,6.9nm,0.8s,mb4.7
PMRV Marv??o 82.85 47 *eP* **P 02 29 31.5 +1.4**
comp=Z,3.6nm,1.0s,mb4.4
PCBR Castelo Branco 82.96 46 *eP* **P 02 29 32.4 +1.8**
comp=Z,5.5nm,0.9s,mb4.6
PVIS Viseu 83.03 45 *eP* **P 02 29 32.9 +1.9**
comp=Z,7.4nm,0.9s,mb4.7
VNDA Vanda 83.21 191 P **P 02 29 31.1 -0.2**
comp=Z,1.3nm,0.6s,mb4.1,baz=127,slow=6.5,SNR=12
VNDA Vanda 83.21 191 *eP* **P 02 29 30.9 -0.4**
VNDA pmax pmax
comp=Z,4.0nm,1.2s
VNDA Vanda 83.21 191 *eP* **P 02 29 30.9 -0.4**
comp=Z,4.4nm,1.2s,mb4.4
MVO Moncorvo 83.81 45 *eP* **P 02 29 36.3 +1.3**
comp=Z,7.8nm,0.9s,mb4.8
DLBC Dease Lake 84.28 335 *eP* **P 02 29 36.0 -0.9**
ESDC Sonseca Array 85.38 47 P **P 02 29 43.5 +0.6**
comp=Z,1.1nm,0.6s,mb4.2,baz=255,slow=5.5,SNR=8.3
SYO Syowa Base 86.06 161⇑*eP* **P 02 29 43.4 -2.4**
TAM Tamanrasset 87.68 66 *eP* **P 02 29 55.4 +0.8**
SJPF Ste Jean 88.54 45 *eP* **P 02 29 53.9 -4.3**
comp=Z,58nm,1.3s,mb5.5
SJPF Ste Jean 88.54 45 *eP* **P 02 29 53.9 -4.3**
SJPF pmax pmax
comp=Z,29nm,1.3s,mb5.5
SJPF Ste Jean 88.54 45 *eP* **P 02 29 53.9 -4.3**
comp=Z,29nm,1.3s,mb5.5
HYT Haines Junctio 88.76 334 *eP* **P 02 29 59.7 +0.9**
EPF Esparros 89.59 45 *eP* **P 02 29 59.4 -3.8**
comp=Z,58nm,1.5s,mb5.4
EPF Esparros 89.59 45 *eP* **P 02 29 59.4 -3.8**
EPF pmax pmax
comp=Z,29nm,1.5s,mb5.4
EPF Esparros 89.59 45 *eP* **P 02 29 59.4 -3.8**
comp=Z,29nm,1.5s,mb5.4
SUMG Summit 89.61 11 *eP* **P 02 30 03.0 +0.4**
comp=Z,6.1nm,1.0s,mb4.9
DAWY Dawson 91.17 337 *eP* **P 02 30 09.3 -0.7**
EGAK Eagle 92.19 337 *eP* **P 02 30 14.0 -0.7**
comp=Z,9.0nm,1.0s,mb5.0
SSF Saint Saulge 92.98 42 *eP* **P 02 30 13.8 -5.0**
comp=Z,14nm,1.2s,mb5.0
SSF Saint Saulge 92.98 42 *eP* **P 02 30 13.8 -5.0**
SSF pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
SSF Saint Saulge 92.98 42 *eP* **P 02 30 13.8 -5.0**
comp=Z,7.2nm,1.2s,mb5.0
MAW Mawson 93.59 165 P **P 02 30 19.7 -1.6**
comp=Z,2.7nm,1.0s,mb4.7,baz=180,slow=2.0,SNR=4.3
KEST Kesra 94.24 54 P **P 02 30 24.5 -0.3**
comp=Z,1.3nm,0.9s,mb4.3,baz=304,slow=3.6,SNR=4.4
COLA College 94.82 336 *eP* **P 02 30 26.2 -0.6**
COLA pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
COLA College 94.82 336 *eP* **P 02 30 26.2 -0.6**
comp=Z,2.7nm,0.8s,mb4.7
GERES GERESS Array B 100.05 42 P Pdif 02 30 50.6 -0.1
comp=Z,0.6nm,0.8s,baz=240,slow=2.6,SNR=5.4
ASAR Alice Springs 132.66 219 PKP PKPdf 02 36 18.6 -2.4
comp=Z,0.8nm,0.6s,baz=121,slow=2.4,SNR=12

WB2 Warramunga Arr 135.10 222 *eP* PKPdf 02 36 23.4 -2.2
WRA Warramunga Arr 135.11 222 PKP PKPdf 02 36 24.3 -1.4
comp=Z,2.3nm,0.7s,baz=131,slow=1.8,SNR=8.4
WRA pPKP pPKPdf 02 36 38.1 +0.6
comp=Z,3.6nm,0.9s,baz=144,slow=1.5,SNR=8.6
WRAB Tennant Creek 135.11 222 *e*PKIKP PKPdf 02 36 24.1 -1.6
ZALV Zalesovo Beam 137.15 17 PKP PKPdf 02 36 27.3 -1.1
comp=Z,8.6nm,0.9s,baz=241,slow=1.5,SNR=12
ZALV pPKP pPKPdf 02 36 41.0 +0.7
comp=Z,9.8nm,0.9s,baz=225,slow=1.7,SNR=4.6
ZALV Zalesovo Beam 137.15 17 PKP PKPdf 02 36 27.3 -1.1
ZALV pPKP pPKPdf 02 36 41.0 +0.7
ZAL Zalesovo 137.16 17 PKIKP PKPdf 02 36 27.3 -1.1
ZAL 02 36 41.0
KURK Kurchatov 137.79 24 *e*PKIKP PKPdf 02 36 30.0 +0.3
EKS2 Erkin-Say 141.18 36 *e*PKPdf PKPdf 02 36 37.5 +1.4
AML Almayashu 141.46 37 *e*PKPdf PKPdf 02 36 38.0 +1.4
HVS Khovu-Aksy 141.80 10 *i* PKIKP PKPdf 02 36 39.3 +2.4
MJAR Matsushiro Arr 141.89 313 PKhKP 02 36 31.6
comp=Z,0.9nm,0.8s,baz=91,slow=2.1,SNR=4.8
MKAR Makanchi Array 142.38 25 PKP PKPdf 02 36 35.1 -3.0
comp=Z,1.8nm,0.9s,baz=336,slow=2.7,SNR=6.3
ZAK Zakamensk 143.47 1 *e*PKIKP PKPdf 02 36 35.6 -4.3
ZAK *e* 02 39 56.0
ZAK pmax pmax
comp=Z,2.0nm,1.8s
KSH Kashi 144.44 39 *e*PKP PKPdf 02 36 41.0 -1.0
KSH *e*APKP 02 36 51.3
KSH *e*XPKP 02 36 55.0
KSH *e*PP PP 02 39 56.3 -1.1
KSH PKS 02 40 15.6
KSH *e*PPP 02 43 08.3
KSH SKS SKSdf 02 43 45.3 -3.4
KSH SKKS SKKSac 02 46 41.3 -6.4
KSH PP PP
comp=Z,13μm,14.2s
CN2 Changchun 144.84 333 *e*PKP PKPdf 02 36 42.4 -0.1
SONM Songino Array 145.96 357 PKPbc PKPbc 02 36 44.1 -0.9
comp=Z,2.1nm,0.5s,baz=330,slow=2.0,SNR=17
SONM pPKPbc pPKPbc 02 36 56.9 +0.1
comp=Z,25nm,1.0s,baz=336,slow=2.7,SNR=23
WMQ Urumqi 146.95 22 PKP PKPdf 02 36 45.9 -0.2
KSRS Korea Array 148.17 322 PKPbc PKPbc 02 36 48.0 -3.6
comp=Z,4.1nm,0.9s,baz=38,slow=1.5,SNR=10
THN Thein Dam 148.21 49 *eP* PKPdf 02 36 50.7 +2.1
DDI Dehra Dun 150.99 51 *ex* x 02 36 59.0
HHC Hu-ho-hao-te 152.19 348 *e*PKP PKPdf 02 36 54.3 -0.3
HHC APKP 02 37 04.3
HHC XPKP 02 37 09.1
HHC PKS 02 40 27.8
HHC PP PP 02 40 45.6 +3.7
HHC SKS SKSdf 02 43 57.0 -2.2
HHC SKKS SKKSac 02 47 28.8 -1.8
NJ2 Nanjing 157.24 326 *e*PKP PKPdf 02 37 00.0 -1.8
LZH Lanzhou 157.76 0 *e*PKP PKPdf 02 37 02.3 0.0
LZH APKP 02 37 12.5
LZH XPKP 02 37 16.0
LZH PP PP 02 41 17.0 +4.1
LZH PP PP
comp=Z,136nm,5.6s
CD2 Chengdu 162.92 1 *e*PKP PKPdf 02 37 06.9 -1.3
CD2 APKP 02 37 16.8
CD2 XPKP 02 37 20.9
GYA Guiyang 167.10 349 PKP PKPdf 02 37 11.8 -0.1
GYA APKP 02 37 23.8
GYA XPKP 02 37 27.0
GYA PKP2 PKPab 02 38 17.4 +1.6
GYA PKS 02 40 42.5
GYA PP PP 02 42 05.8 +3.2
GYA SKKS SKKSac 02 48 47.3 -1.3
GYA SS SS 03 02 44.4 +0.2
GYA PP PP
comp=Z,120nm,9.6s
GYA LR LR
comp=N,280nm,24.2s
GYA LR LR
comp=E,140nm,22.4s
GYA LR LR
comp=Z,170nm,23.7s
KMI Kunming 168.63 6 PKP PKPdf 02 37 14.0 +1.0
CMAR Chiang Mai Arr 173.29 45 PKP PKPdf 02 37 14.3 -1.3
comp=Z,0.8nm,0.3s,baz=45,slow=0.3,SNR=3.7

*SOF **16** 02:31:13.8, 4081N×2404E, h0km, MD3.1*
*NEIC **16** 02:31:15.9, 4091N×2399E, h34km, MD3.4(ATH), ML3.6(THE), After ATH.*
*ATH **16** 02:31:15.9, 4091N×2399E, h34km±3km, MD3.4/6*
*ISCJB **16** 02:31:17.0±0.4, 4084N±002×2403E±003, h20km±5km, Error ellipse: s-maj=3.6km s-min=3.4km az=21.0*
*CSEM **16** 02:31:17.1±0.1, 4088N×2405E, h20km, MD3.4, Error ellipse: s-maj=1.3km s-min=1.2km az=105.0*
*THE **16** 02:31:17.7, 4083N×2399E, h16km, ML3.7*
ISC 16 02:31:16.2±0.4,**4084N**±002×**2405E**±002,**h7**km±3km,**n63,**
σ1º**11**/94,**6C-6D, Aegean Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OUR Ouranopolis 0.51 185 *e*Pg **Pg 02 31 27.7 +1.7**
NVR Nevrokopi 0.53 345⇓*i*PB **Pg 02 31 26.1 -0.2**
SOH Sokhos 0.53 268 *e*Pg **Pg 02 31 26.9 +0.6**
SOH *e*Sg **Sg 02 31 34.6 +1.4**
PLG Polygyros 0.65 224 *e*Pg **Pg 02 31 29.9 +1.2**
PLG *e*Sg **Sg 02 31 39.0 +1.7**
PLG Polygyros 0.65 224⇑*i*Pn **Pg 02 31 29.9 +1.2**
PLG *e*Sn **Sg 02 31 39.0 +1.8**
PLG Polygyros 0.65 224 P **Pg 02 31 29.9 +1.2**
PLG S **Sg 02 31 38.9 +1.6**
PLG S **Sg 02 31 39.0 +1.7**
HORT Hortiatis 0.76 251 *e*Pg **Pg 02 31 31.3 +0.5**
HORT *e*Sg **Sg 02 31 41.8 +1.2**
MMB Musomiste 0.78 342 Pg **Pg 02 31 30.0 -1.2**
THE Thessaloniki 0.85 256 *e*Pg **Pg 02 31 32.7 +0.2**
THE *e*Sg **Sg 02 31 44.7 +1.3**
THE Thessaloniki 0.85 256 P **Pg 02 31 32.7 +0.2**
THE S **Sg 02 31 44.5 +1.1**
THE S **Sg 02 31 44.7 +1.3**
KNT Kendrikon 0.93 291 *e*Pg **Pg 02 31 33.9 0.0**
KNT *e*Sg **Sg 02 31 46.5 +0.6**
KNT Kendrikon 0.93 291 P **Pg 02 31 33.8 -0.1**
KNT S **Sg 02 31 46.5 +0.6**
PAIG Paliouri 0.96 197 *e*Pg **Pg 02 31 35.2 +0.7**
PAIG *e*Sg **Sg 02 31 48.6 +1.7**
PAIG Paliouri 0.96 197 *e*Pg **Pg 02 31 35.2 +0.7**
PAIG *e*Sg **Sg 02 31 48.6 +1.7**
PAIG Paliouri 0.96 197 P **Pg 02 31 35.2 +0.7**
PAIG S **Sg 02 31 48.6 +1.6**
RZN Rozhen 0.98 31 Pg **Pg 02 31 34.6 -0.5**
RDO Rodhopi 1.17 75⇓*i*PN **Pn 02 31 38.1 -0.8**
LOS Limnos 1.21 139 *e*Pg **Pg 02 31 38.0 -1.3**
LOS *e*Sg **Sg 02 31 55.1 +0.2**
VAY Valandovo 1.21 294 *e*Pg **Pg 02 31 39.0 -0.5**
VAY *e*Sg **Sg 02 31 54.7 -0.4**
VAY Valandovo 1.21 294 *i* Pn **Pn 02 31 38.9 -0.6**
VAY Valandovo 1.21 294 P **Pb 02 31 38.6 -0.8**
VAY S **Sg 02 31 54.7 -0.4**
GRG Griva 1.25 276 *e*Pg **Pg 02 31 39.7 -0.4**
GRG *e*Sg **Sb 02 31 56.0 -0.4**
GRG Griva 1.25 276 P **Pn 02 31 39.7 -0.4**
GRG S **Sb 02 31 56.0 -0.4**
GRG S **Sb 02 31 56.3 -0.1**
KKB Krupnik 1.25 325 P **Pn 02 31 38.7 -1.4**
KDZ Kurdzhali 1.31 52 Pg **Pg 02 31 39.0 -2.3**
PLD Plovdiv 1.35 21 *e*Pg **Pg 02 31 41.7 -0.4**
PLD *e*Sg **Sg 02 32 00.2 +0.5**
PLD Plovdiv 1.35 21 P **Pn 02 31 41.8 +0.3**
PLD Plovdiv 1.35 21 *e*Pg **Pg 02 31 41.7 -0.5**
PLD *e*Sg **Sg 02 32 00.2 +0.5**
LIT Litokhoron 1.40 238 *e*Pg **Pg 02 31 41.0 -2.0**
LIT *e*Sg **Sg 02 31 59.5 -1.6**
LIT Litokhoron 1.40 238 *e*Pg **Pg 02 31 41.0 -2.0**
LIT *e*Sg **Sg 02 31 59.5 -1.6**
ALN Alexandroupoli 1.52 87 P **Pn 02 31 42.7 -1.0**
ALN S **Sn 02 32 04.5 +0.8**
ALN Alexandroupoli 1.52 87 P **Pn 02 31 42.7 -1.0**
ALN S **Sn 02 32 04.5 +0.8**
XOR Xorichti 1.61 204 *e*Pg **Pg 02 31 44.5 -2.6**
STIP Stip 1.64 302 *i* Pn **Pn 02 31 47.4 +2.0**
STIP Stip 1.64 302 *i* Pn **Pn 02 31 47.3 +1.9**
DIM Dimitrovgrad 1.65 42 P **Pn 02 31 46.7 +1.2**
NEO Neokhori 1.66 203⇓*i*PN **Pn 02 31 44.9 -0.8**

AOS Alonnisos 1.68 184 *e*Pb **Pb 02 31 45.2 -2.1**
PGB Panagyurishte 1.71 3 P **Pn 02 31 47.1 +0.8**
KZN Kozani 1.81 254 *e*PB **Pb 02 31 46.8 -2.9**
VTS Vitosha 1.86 341 P **Pn 02 31 48.5 +0.1**
VTS Pg **Pg 02 31 50.7 -1.1**
THL Klokotos Trika 2.01 231 *e*Pb **Pb 02 31 50.2 -2.9**
THL *e*Sb **Sb 02 32 15.1 -3.2**
FNA Florina 2.03 269 *e*Pn **Pn 02 31 50.7 -0.1**
BIA Bitola 2.07 276 *e*Pn **Pn 02 31 52.8 +1.5**
KRUS Krusevo 2.18 285 *i* Pn **Pn 02 31 53.5 +0.7**
KRUS Krusevo 2.18 285 *i* Pn **Pn 02 31 53.4 +0.6**
AGG Agios Georgios 2.25 216 *e*Pn **Pn 02 31 53.3 -0.5**
AGG *e*Sn **Sn 02 32 20.9 -0.8**
AGG Agios Georgios 2.25 216 P **Pn 02 31 53.3 -0.5**
AGG S **Sn 02 32 21.0 -0.7**
PRK Paraskevi 2.34 132 *e*PN **Pn 02 31 55.0 0.0**
SART Tekirdag 2.39 93 *i* P **Pn 02 31 56.5 +0.8**
BARS Barje 2.58 321 *e*Pn **Pn 02 31 58.8 +0.5**
CHOS Chios island 2.90 147 *e*Pn **Pn 02 32 02.9 +0.1**
CHOS *e*Sn **Sn 02 32 38.8 +0.9**
BOLS Boljevac 3.36 333 *e*Pn **Pn 02 32 08.5 -0.6**
DID Didima 3.39 191 *e*Pn **Pn 02 32 09.1 -0.3**
DIVS Divibare 4.42 319 *e*Pn **Pn 02 32 22.9 -0.8**
HARR Harsova 4.79 35⇓*i*P **Pg 02 32 48.3 +0.4**
MLR Muntele Rosu 4.85 16⇑*i*P **Pn 02 32 30.4 +0.9**
BZS Buzias 5.09 340⇑*i*P **Pn 02 32 32.7 -0.1**
BZS Buzias 5.09 340 ⇑P **Pn 02 32 32.7 -0.1**
PLOR Plostina 5.35 20⇓*i*P **Pn 02 32 38.4 +2.0**
VRI Vrincioaia 5.39 20⇓*i*P **Pn 02 32 38.9 +2.0**
PKSM Moragy 6.65 326⇑*i*P **Pn 02 32 54.6 +0.4**
PKSM Moragy 6.65 326 ⇑P **Pn 02 32 54.6 +0.4**

*ISCJB **16** 02:39:19.9±0.8, 3695N±005×2759E±005, h9km±7km, Error ellipse: s-maj=9.0km s-min=5.2km az=27.8*
*CSEM **16** 02:39:19.1±0.2, 3695N×2757E, h8km, MD2.9, Error ellipse: s-maj=4.8km s-min=2.3km az=16.0*
*ISK **16** 02:39:19.4, 3696N×2760E, h7km, MD2.9*
*DDA **16** 02:39:20.6, 3700N×2758E, h7km±3km, Md2.9*
ISC 16 02:39:20.3±0.9,**3695N**±005×**2758E**±005,**h8**km±10km,**n10,**
σ0º**62**/17,**Dodecanese Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BDRM Kayabasi 0.16 315 *i* P **Pg 02 39 23.1 -0.5**
BDRM *i* S **Sg 02 39 26.4 +0.5**
BODT Bodrum 0.24 296 *e*PG **Pg 02 39 24.6 -0.5**
BODT *e*SG **Sg 02 39 28.9 +0.4**
MLSB Milas 0.38 24 *e*PG **Pg 02 39 27.4 -0.2**
MLSB *e*SG **Sg 02 39 33.0 +0.4**
YER Yerkesik 0.59 72 *e*PG **Pg 02 39 31.3 -0.4**
YER *e*SG **Sg 02 39 39.0 -0.3**
AYDN Tasoluk 0.74 18 *i* P **Pg 02 39 33.9 -0.7**
AYDN *i* S **Sg 02 39 44.7 +0.4**
TURN Turunc 0.82 95 *i* P **Pg 02 39 30.1 -6.0**
TURN *i* S **Sg 02 39 39.3 -7.5**
DALT Dalyan (Mudla) 0.87 102 *e*PG **Pg 02 39 36.8 -0.2**
KULA Kula-Manisa 1.78 28 *e*PN **Pn 02 39 51.7 +0.4**
AKAS Kas 1.78 113 *i* P **Pg 02 39 54.8 +0.4**
AKAS *i* S **Sg 02 40 20.7 +3.2**
ELL Elmali 1.88 96 *e*PN **Pn 02 39 52.4 -0.2**

*IDC **16** 02:43:53.3±1.5, 1332S×7731W, h0km, mb3.9/2, mb1 3.9/4, mb1mx3.7/17, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=38.9km s-min=24.2km az=83.0*
*ISCJB **16** 02:43:56.6±0.9, 1319S±007×777W±0.1, h33km, mb4.0/5, Error ellipse: s-maj=16.9km s-min=9.7km az=4.0*
*NEIC **16** 02:43:57.1±7.1, 1324S×7731W, h26km±47km, mb4.2/3, Error ellipse: s-maj=39.2km s-min=13.1km az=63.0*
ISC 16 02:43:57.7±1.1,**1329S**±008×**774W**±01,**h35**km,**n13,**
σ0º**81**/13,**mb4.0/5, Off coast of Peru**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NNA Nana 1.42 24 Pn **Pn 02 44 20.3 -0.8**
107nm,0.3s,baz=192,slow=17,SNR=3.8
NNA Sn **Sn 02 44 40.0 +1.4**
558nm,0.3s,baz=131,slow=20,SNR=17
ATAH Atahualpa 6.32 351 Pn **Pn 02 45 28.8 +0.3**
4.2nm,0.3s,baz=151,slow=3.1,SNR=8.2
ATAH Sn **Sn 02 46 38.4 -1.2**
3.4nm,0.3s,baz=162,slow=20,SNR=3.2
LPAZ La Paz 9.48 109 Pn **Pn 02 46 11.1 -0.7**
0.1nm,0.3s,baz=297,slow=11,SNR=2.3
CFAA Coronel Fontan 20.09 157 P **P 02 48 33.0 +4.7**
0.1nm,0.4s,baz=310,slow=9.7,SNR=2.8
SDV Santo Domingo 23.05 17 P **P 02 49 06.1 +6.0**
6.6nm,0.7s,mb4.2,baz=270,slow=11,SNR=9.3
SDV Santo Domingo 23.05 17 *eP* **P 02 48 59.8 -0.4**
6.4nm,0.8s,mb4.1
BLA Blacksburg 50.31 357 *eP* **P 02 52 50.5 -0.4**
2.5nm,0.8s,mb4.3
WUAZ Wupatki 58.21 328 *eP* **P 02 53 49.4 +0.9**
1.9nm,0.8s,mb4.2
YKA Yellowknife Ar 80.92 343 P **P 02 56 08.7 +0.7**
0.4nm,0.7s,mb3.4,baz=143,slow=5.1,SNR=3.8
TORD Torodi Ar. Bea 82.69 75 P **P 02 56 18.5 +0.1**
1.3nm,0.8s,mb4.0,baz=259,slow=5.3,SNR=11
TORD Torodi Ar. Bea 82.69 75 P **P 02 56 18.5 +0.1**
WRA Warramunga Arr 134.52 224 PKP PKPdf 03 03 14.1 +0.9
0.4nm,0.8s,baz=137,slow=1.9,SNR=3.1
SONM Songino Array 145.42 355 PKPbc PKPbc 03 03 33.6 +1.6
1.6nm,0.8s,baz=346,slow=2.9,SNR=7.8

*ISCJB **16** 02:50:05.9±0.9, 1355S±0.1×76.1W±0.1, h33km, mb4.1/10, Error ellipse: s-maj=26.0km s-min=8.3km az=135.7*
*NEIC **16** 02:50:06.5±3.5, 1353S×76.15W, h25km±23km, mb4.2/8, Error ellipse: s-maj=27.0km s-min=7.3km az=224.0*
*IDC **16** 02:50:09.7±4.7, 1324S×7592W, h40km±25km, mb3.8/2, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=112.7km s-min=20.1km az=39.0*
ISC 16 02:50:09.0±0.9,**134S**±01×**760W**±01,**h35**km,**n20,**σ0º**81**/20,
mb4.1/10,**Near coast of Peru**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NNA Nana 1.59 330 Pn **Pn 02 50 34.4 -0.2**
153nm,0.3s,baz=180,slow=15,SNR=6.3
NNA Sn **Sn 02 50 54.5 +0.6**
735nm,0.3s,baz=250,slow=9.6,SNR=19
ATAH Atahualpa 6.74 340 Pn **Pn 02 51 44.0 -1.5**
3.0nm,0.3s,baz=105,slow=22,SNR=7.5
ATAH Sn **Sn 02 52 57.1 -4.0**
0.6nm,0.3s,baz=14,slow=19,SNR=1.9
LPAZ La Paz 8.17 112 Pn **Pn 02 52 05.5 +0.4**
0.4nm,0.3s,baz=300,slow=9.8,SNR=5.8
OTAV Otavalo 13.73 350 *e*Pn **Pn 02 53 21.0 -0.3**
5.6nm,0.8s
SIV San Ignacio 14.70 102 Pn **Pn 02 53 33.9 -0.6**
0.2nm,0.3s,baz=257,slow=19,SNR=2.4
SDV Santo Domingo 22.75 14 *eP* **P 02 55 09.9 +1.7**
3.3nm,0.4s,mb4.1
MIAR Mount Ida 50.48 341 *eP* **P 02 59 04.1 +0.5**
1.6nm,0.6s,mb4.2
SDCO Great Sand Dun 57.88 333 *eP* **P 02 59 58.3 +0.9**
1.7nm,1.0s,mb4.0
WUAZ Wupatki 59.02 327 *eP* **P 03 00 05.4 0.0**
2.5nm,0.8s,mb4.3
CTU Camp Tracy 63.15 330 *eP* **P 03 00 36.5 +3.1**
93nm,1.1s
DUG Dugway 63.30 329 *eP* **P 03 00 34.1 -0.2**
1.7nm,0.7s,mb4.3
BGU Big Grassy Mou 63.96 329 *eP* **P 03 00 38.4 -0.3**
LOHW Long Hollow 64.90 333 *eP* **P 03 00 44.2 -0.6**
ELK Elko 64.94 328 *eP* **P 03 00 45.3 +0.3**
0.8nm,0.6s,mb3.9
RRI2 Red Ridge 65.02 332 *eP* **P 03 00 45.2 -0.3**
3.1nm,0.8s,mb4.4
HLID Hailey 66.62 331 *eP* **P 03 00 55.8 -0.1**
0.9nm,0.7s,mb3.9
YKA Yellowknife Ar 81.39 343 P **P 03 02 21.1 -0.6**
0.4nm,0.7s,mb3.5,baz=143,slow=6.2,SNR=3.4
TORD Torodi Ar. Bea 81.39 74 P **P 03 02 22.4 -0.4**
3.7nm,0.9s,mb4.3,baz=247,slow=3.9,SNR=9.5
WRAB Tennant Creek 135.41 223 *e*PKPdf PKPdf 03 09 24.4 -1.7
SONM Songino Array 145.58 357 PKPbc PKPbc 03 09 43.1 -0.6
0.8nm,0.7s,baz=320,slow=1.1,SNR=3.2

*BEO **16** 02:51:41.8±0.9, 4474N×1788E*

ISCJB **16** *02:51:43.0±0.6, 4465N±001×1806E±003, h0km±3km, Error ellipse: s-maj=3.6km s-min=2.1km az=157.5*
PDG **16** *02:51:43.8±0.3, 4459N×1803E, h11km±1km, ML3.2/10, Error ellipse: s-maj=0.7km s-min=1.9km az=0.0*
VIE **16** *02:51:43.1±0.6, 4452N×18.16E, h10km, mb3.1/4, ML2.9/4, Error ellipse: s-maj=6.3km s-min=3.6km az=14.0 72 km S of Slavonski Brod*
NEIC **16** *02:51:44.7±0.3, 4461N×18.16E, h10km, ML2.6(BRA), ML2.8(BUC), Error ellipse: s-maj=5.7km s-min=3.1km az=66.0*
CSEM **16** *02:51:44.7±0.1, 4474N×1793E, h2km, ML3.2/10, Error ellipse: s-maj=1.9km s-min=1.1km az=61.0*
PRU **16** *02:51:45.7, 4465N×1814E, h0km*

ISC 16 02:51:44.6±0.6, 4464N±001×1808E±003, h4km±4km, n66, σ1§12/109, 22C-18D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHK3	**Tenkes**	**1.26**	**6**	⇑*e*Pn	**Pn**	**02 52 08.2**	**-0.8**
RHK3				*e*Sn	**Sn**	**02 52 28.0**	**+1.7**
FGSL	**Fruska Gora**	**1.34**	**67**	*e*Pn	**Pn**	**02 52 08.8**	**-1.2**
FGSL				*e*Sn	**Sn**	**02 52 29.0**	**+0.7**
DIVS	**Divibare**	**1.48**	**111**	*e*Pn	**Pn**	**02 52 11.8**	**-0.1**
DIVS				*e*Sg	**Sg**	**02 52 33.6**	**+1.6**
UPM	**Unac-Piva**	**1.56**	**157**	⇑*i*Pg	**Pg**	**02 52 11.9**	**-2.5**
UPM				*e*Sg	**Sg**	**02 52 34.6**	**0.0**
PLE	**Pljevlja**	**1.62**	**143**	⇑*i*Pn	**Pn**	**02 52 13.0**	**-0.9**
PLE				*e*Sn	**Sn**	**02 52 36.2**	**+1.1**
PKSM	**Moragy**	**1.62**	**14**	⇑*i*P	**Pn**	**02 52 13.2**	**-0.8**
PKSM	**Moragy**	**1.62**	**14**	S	**Sn**	**02 52 36.2**	**+0.9**
PKSM	**Moragy**	**1.62**	**14**	⇑*e*Pn	**Pn**	**02 52 13.2**	**-0.8**
PKSM				*e*Sn	**Sn**	**02 52 38.3**	**+3.0**
PKSM	**Moragy**	**1.62**	**14**	⇑P	**Pn**	**02 52 13.2**	**-0.8**
PKSM				S	**Sn**	**02 52 36.2**	**+0.9**
BRY	**Bratogost**	**1.77**	**169**	⇓*i*Pn	**Pn**	**02 52 14.5**	**-1.4**
BRY				*e*Sn	**Sn**	**02 52 39.2**	**+0.4**
STON	**Ston**	**1.79**	**189**	*e*Pn	**Pn**	**02 52 15.8**	**-0.4**
STON				Sn	**Sn**	**02 52 40.1**	**+0.8**
STON	**Ston**	**1.79**	**189**	*e*Pn	**Pn**	**02 52 15.7**	**-0.5**
STON				Sn	**Sn**	**02 52 40.1**	**+0.8**
SJES	**Sjenica**	**1.94**	**134**	*e*Pn	**Pn**	**02 52 17.8**	**-0.5**
SJES				*e*Sn	**Sn**	**02 52 45.2**	**+2.1**
NKY	**Niksic**	**1.94**	**160**	⇓*i*Pn	**Pn**	**02 52 17.5**	**-0.8**
NKY				*e*Sn	**Sn**	**02 52 44.2**	**+1.1**
GRUS	**Gruza**	**2.04**	**111**	*e*Pn	**Pn**	**02 52 19.9**	**+0.2**
GRUS				*e*Sn	**Sn**	**02 52 47.9**	**+2.4**
BOJS	**Bojanci**	**2.18**	**294**	*i* Pn	**Pn**	**02 52 20.7**	**-0.9**
BEY	**Berane**	**2.20**	**143**	⇑*i*Pn	**Pn**	**02 52 21.6**	**-0.3**
BEY				*e*Sn	**Sn**	**02 52 50.7**	**+1.1**
IVA	**Berane**	**2.20**	**143**	⇑*i*Pn	**Pn**	**02 52 21.6**	**-0.3**
IVA				*e*Sn	**Sn**	**02 52 50.7**	**+1.1**
HCY	**Herceg Novi**	**2.21**	**172**	⇑*i*Pn	**Pn**	**02 52 20.8**	**-1.2**
HCY				*e*Sn	**Sn**	**02 52 49.7**	**0.0**
PKS6	**Bocsa**	**2.22**	**27**	⇓*e*Pn	**Pn**	**02 52 21.6**	**-0.6**
SVIS	**Svilajnac**	**2.28**	**98**	*e*Pn	**Pn**	**02 52 22.3**	**-0.7**
NVLJ	**Novalja**	**2.29**	**269**	*e*Pn	**Pn**	**02 52 23.0**	**-0.1**
NVLJ				Sn	**Sn**	**02 52 52.1**	**+0.4**
PDG	**Podgorica**	**2.37**	**158**	⇑*i*Pn	**Pn**	**02 52 23.8**	**-0.4**
PDG				*e*Sn	**Sn**	**02 52 54.1**	**+0.4**
TTG	**Podgorica**	**2.37**	**158**	⇑*i*Pn	**Pn**	**02 52 23.8**	**-0.4**
TTG				*e*Sn	**Sn**	**02 52 54.1**	**+0.4**
BUM	**Brajici-Budva**	**2.41**	**165**	⇑*i*Pn	**Pn**	**02 52 23.9**	**-0.9**
BUM				*e*Sn	**Sn**	**02 52 54.7**	**0.0**
PVY	**Plav**	**2.46**	**145**	⇓*i*Pn	**Pn**	**02 52 24.6**	**-0.9**
PVY				*e*Sn	**Sn**	**02 52 56.5**	**+0.5**
BZS	**Buzias**	**2.69**	**67**	⇑*i*P	**Pn**	**02 52 27.4**	**-1.2**
BZS	**Buzias**	**2.69**	**67**	⇑P	**Pn**	**02 52 27.4**	**-1.3**
PKSG		**2.77**	**4**	⇓*e*Pn	**Pn**	**02 52 29.7**	**+0.1**
CEY	**Cerknica**	**2.81**	**294**	*i* Pn	**Pn**	**02 52 30.6**	**+0.4**
ULC	**Ulcinj**	**2.81**	**162**	⇓*i*Pn	**Pn**	**02 52 29.7**	**-0.5**
ULC				*e*Sn	**Sn**	**02 53 04.6**	**+0.1**
BOLS	**Boljevac**	**2.90**	**105**	*e*Pn	**Pn**	**02 52 31.3**	**-0.2**
BOLS				*e*Sn	**Sn**	**02 53 07.9**	**+1.1**
BUD	**Budapest**	**2.92**	**13**	*e*Sg	**Sg**	**02 53 22.3**	**+3.8**
SOKA	**Soboth**	**2.95**	**315**	⇑*i*Pn	**Pn**	**02 52 31.5**	**-0.8**
SOKA				⇓*i*Sn	**Sn**	**02 53 08.7**	**+0.7**
JAVS	**Javornik**	**3.10**	**295**	*i* Pn	**Pn**	**02 52 34.3**	**0.0**
OBKA	**Obir** SNR=11	**3.10**	**308**	⇓*i*Pn	**Pn**	**02 52 34.1**	**-0.2**
OBKA				⇑*i*Sn	**Sn**	**02 53 13.7**	**+1.9**
ARSA	**Arzberg** SNR=31	**3.16**	**327**	⇑*i*Pn	**Pn**	**02 52 35.1**	**-0.1**
SOP	**Sopron**	**3.23**	**341**	⇓*e*Pn	**Pn**	**02 52 36.1**	**+0.1**
SOP				*e*Sg	**Sg**	**02 53 29.0**	**+0.8**
VOY	**Vojsko**	**3.26**	**297**	*e*Pn	**Pn**	**02 52 36.7**	**+0.2**
VOY				*e*		02 52 45.0	
VOY				*e*Sn	**Sg**	**02 53 26.2**	**-3.2**
PENC	**Penc**	**3.26**	**14**	*e*Sn	**Sn**	**02 53 13.3**	**-2.5**
BARS	**Barje**	**3.27**	**123**	*e*Pn	**Pn**	**02 52 36.1**	**-0.4**
GZR	**Gura Zlata**	**3.42**	**76**	⇓*i*P	**Pn**	**02 52 37.5**	**-1.1**
PSZ	**Piszkesteto**	**3.52**	**20**	⇓*e*PB	**Pb**	**02 52 52.2**	**+4.8**
PSZ				*e*SB	**Sg**	**02 53 39.7**	**+2.2**
PSZ	**Piszkesteto**	**3.52**	**20**	⇑*i*P	**Pn**	**02 52 38.9**	**-1.1**
PSZ	**Piszkesteto**	**3.52**	**20**	⇑P	**Pn**	**02 52 38.9**	**-1.1**
PSZ				S	**Sn**	**02 53 20.3**	**-1.7**
PSZ	**Piszkesteto**	**3.52**	**20**	⇑P	**Pn**	**02 52 38.9**	**-1.1**
PSZ				S	**Sn**	**02 53 20.3**	**-1.7**
ZST	**Bratislava**	**3.62**	**350**	*e*PN	**Pn**	**02 52 41.3**	**-0.1**
ZST				*e*SN	**Sn**	**02 53 23.6**	**-1.0**
CONA	**Conrad Observa** SNR=38	**3.63**	**336**	⇓*i*Pn	**Pn**	**02 52 41.5**	**0.0**
CONA				⇑*i*Sn	**Sn**	**02 53 27.0**	**+2.1**
CSNA	**Conrad Observa**	**3.63**	**336**	⇓*i*Pn	**Pn**	**02 52 41.5**	**0.0**
MODS	**Modra-Piesok**	**3.78**	**352**	*e*PN	**Pn**	**02 52 43.0**	**-0.6**
MODS				*e*SN	**Sn**	**02 53 25.9**	**-2.5**
DRGR		**3.90**	**55**	⇓*i*P	**Pn**	**02 52 42.5**	**-2.7**
DRGR		**3.90**	**55**	⇓P	**Pn**	**02 52 42.5**	**-2.7**
KOLL	**Kolacno**	**3.95**	**3**	*e*PN	**Pn**	**02 52 45.7**	**-0.2**
KOLL				*e*SN	**Sn**	**02 53 30.3**	**-2.4**
NRCA	**Norcia**	**4.02**	**245**	Pn	**Pn**	**02 52 46.7**	**-0.2**
MOA	**Molln** SNR=24	**4.16**	**322**	⇓*i*Pn	**Pn**	**02 52 48.9**	**0.0**
MOA				⇑*i*Sn	**Sn**	**02 53 40.0**	**+2.2**
KECS	**Kecovo**	**4.19**	**23**	*e*PN	**Pn**	**02 52 48.4**	**-0.8**
KECS				*e*SN	**Sn**	**02 53 37.6**	**-1.0**
KECS				*e*SG	**Sg**	**02 54 01.6**	**+2.4**
SDI	**San Donato**	**4.28**	**228**	Pn	**Pn**	**02 52 50.0**	**-0.4**
PTQR	**Pietraquaria**	**4.30**	**234**	Pn	**Pn**	**02 52 52.4**	**+1.7**
CRVS	**Cervenica-Dubn**	**4.86**	**27**	*e*PG	**Pg**	**02 53 23.3**	**+5.6**
CRVS				*e*SG	**Sg**	**02 54 31.6**	**+11**
MORC	**Moravsky Berou**	**5.16**	**356**	⇓*i*P	**Pn**	**02 53 03.9**	**+1.4**
MORC	**Moravsky Berou**	**5.16**	**356**	⇓P	**Pn**	**02 53 03.9**	**+1.4**
KOLS	**Kolonicke sedl**	**5.17**	**32**	*e*PG	**Pg**	**02 53 28.5**	**+4.8**
KOLS				*e*SG	**Sg**	**02 54 41.4**	**+11**
KHC	**Kasperske Hory**	**5.45**	**327**	*e*PN	**Pn**	**02 53 07.2**	**+0.7**
KHC				*e*PG	**Pg**	**02 53 30.5**	**+1.5**
KHC				*e*SN	**Sn**	**02 54 10.1**	**+0.5**
KHC				*ex*	x	02 54 24.5	
DPC	**Dobruska-Polom**	**5.84**	**349**	*e*Pn	**Pn**	**02 53 12.9**	**+1.0**
DPC				*e*Sn	**Sn**	**02 54 17.8**	**-1.4**
PRU	**Pruhonice**	**5.87**	**337**	*e*PN	**Pn**	**02 53 13.8**	**+1.5**
PRU				*e*SN	**Sn**	**02 54 19.5**	**-0.4**
CLL	**Collm**	**7.49**	**335**	*e*(Sg)	**Sg**	**02 55 39.0**	**-6.0**

IDC **16** *02:52:13.4±1.0, 2196N×143.18E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.8/20, mbtmp3.7/8, Error ellipse: s-maj=33.9km s-min=21.1km az=82.0*
NEIC **16** *02:52:14.9±0.7, 2196N×143.15E, h10km, mb4.2/2, Error ellipse: s-maj=25.6km s-min=15.5km az=78.0*
ISCJB **16** *02:52:16.8±0.8, 2199N±0.1×1430E±0.2, h33km, mb3.8/9, Error ellipse: s-maj=28.9km s-min=16.6km az=163.2*

ISC 16 02:52:18.8±0.8, 2199N±01×1431E±02, h35km, n11, σ0§81/11, mb3.8/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array** 0.4nm,0.3s,baz=146,slow=9.2,SNR=3.0	**20.30**	**323**	P	**P**	**02 56 52.2**	**+0.5**
SONM	**Songino Array** 1.1nm,0.6s,mb3.8,baz=120,slow=6.9,SNR=6.7	**39.13**	**320**	P	**P**	**02 59 42.5**	**-0.4**
WRA	**Warramunga Arr** 0.6nm,0.7s,mb3.4,baz=20,slow=9.1,SNR=7.2	**42.50**	**192**	P	**P**	**03 00 11.9**	**+1.1**
ASAR	**Alice Springs** 0.4nm,0.6s,mb3.5,baz=19,slow=13,SNR=5.6	**46.21**	**192**	P	**P**	**03 00 39.2**	**-1.2**
ZALV	**Zalesovo Beam** 1.4nm,0.8s,mb4.0,baz=117,slow=8.5,SNR=4.1	**54.00**	**322**	P	**P**	**03 01 37.9**	**-1.3**
ZALV	**Zalesovo Beam**	**54.00**	**322**	P	**P**	**03 01 37.9**	**-1.3**
MKAR	**Makanchi Array** 0.5nm,0.6s,mb3.7,baz=88,slow=8.7,SNR=5.0	**54.51**	**313**	P	**P**	**03 01 43.6**	**+0.5**
KURK	**Kurchatov** 2.0nm,0.9s,mb4.2	**57.28**	**317**	*e*P	**P**	**03 02 02.3**	**-0.5**
TKM2	**Tokmak 2** 1.2nm,0.6s,mb4.1	**59.17**	**308**	*e*P	**P**	**03 02 17.2**	**+1.0**
YKA	**Yellowknife Ar** 0.9nm,0.7s,mb3.8,baz=294,slow=5.9,SNR=8.5	**76.27**	**28**	P	**P**	**03 04 03.3**	**-0.2**
NVAR	**Mina Array Bea** 1.0nm,1.0s,mb3.8,baz=284,slow=5.4,SNR=6.3	**83.03**	**51**	P	**P**	**03 04 41.3**	**+0.5**

ISCJB **16** *02:53:39.4±0.5, 4107S×007×174.23E±009, h75km±8km, mb3.4/2, Error ellipse: s-maj=13.9km s-min=7.1km az=43.3*
IDC **16** *02:53:39.5±2.3, 4093S×174.16E, h58km±26km, mb3.1/2, mb1 3.4/4, mb1mx3.3/15, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=41.6km s-min=16.4km az=136.0*
NEIC **16** *02:53:41.0, 4105S×174.19E, h57km, ML4.2(WEL), After WEL.*
NEIC Felt in the Marlborough-Nelson-Wellington area.

ISC 16 02:53:40.2±0.5, 4107S±006×17422E±008, h66km±8km, n25, σ0§92/27, mb3.4/2, 4C-2D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.15**	**163**	⇑P	**Pn**	**02 53 49.8**	**-0.3**
TCW				S	**Sn**	**02 53 55.6**	**-1.7**
MRW	**Makara Radio**	**0.40**	**114**	⇑P	**Pn**	**02 53 51.9**	**+0.2**
SNZO	**South Karori**	**0.44**	**123**	⇑P	**Pn**	**02 53 52.2**	**+0.1**
WEL	**Wellington**	**0.47**	**118**	P	**Pn**	**02 53 52.5**	**+0.2**
KIW	**Kapiti Island**	**0.56**	**69**	P	**Pn**	**02 53 53.7**	**+0.4**
BHW	**Baring Head**	**0.60**	**125**	⇑P	**Pn**	**02 53 53.7**	**0.0**
CAW	**Cannon Point**	**0.64**	**94**	P	**Pn**	**02 53 54.5**	**+0.3**
NNZ	**Nelson**	**0.65**	**257**	⇓P	**Pn**	**02 53 53.9**	**-0.3**
CMWZ	**Cape Campbell**	**0.68**	**180**	P	**Pn**	**02 53 55.6**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.69**	**202**	P	**Pn**	**02 53 55.2**	**+0.5**
MSWZ	**Moikau Station**	**0.85**	**114**	P	**Pn**	**02 53 56.6**	**0.0**
PAWZ	**Paruwai Farm**	**0.96**	**109**	P	**Pn**	**02 53 57.9**	**-0.1**
MRZ	**Mangatainoka R**	**1.11**	**69**	⇓P	**Pn**	**02 54 00.0**	**+0.1**
WAZ	**Wanganui**	**1.44**	**24**	P	**Pn**	**02 54 05.4**	**+1.2**
KHZ	**Kahutara**	**1.44**	**200**	P	**Pn**	**02 54 04.6**	**+0.4**
TSZ	**Takapari Road**	**1.67**	**53**	P	**Pn**	**02 54 06.9**	**-0.4**
DSZ	**Denniston Nort**	**1.94**	**249**	P	**Pn**	**02 54 11.5**	**+0.6**
VRZ	**Vera Road**	**1.98**	**12**	P	**Pn**	**02 54 12.8**	**+1.3**
WNVZ	**Wahianoa**	**2.04**	**32**	P	**Pn**	**02 54 13.4**	**+1.2**
RPZ	**Rata Peaks** 1.3nm,0.3s,baz=23,slow=18,SNR=6.0	**3.53**	**220**	P	**Pn**	**02 54 33.1**	**+0.5**
RPZ				S	**Sn**	**02 55 09.9**	**-3.2**
URZ	**Urewera** 1.9nm,0.3s,baz=225,slow=7.1,SNR=27	**3.59**	**39**	P	**Pn**	**02 54 31.2**	**-2.2**
URZ				S	**Sn**	**02 55 12.4**	**-2.0**
MKAZ	**Moumakai** 12nm,0.3s,baz=103,slow=18,SNR=12	**4.02**	**11**	P	**Pn**	**02 54 40.0**	**+0.7**
ASAR	**Alice Springs** 0.2nm,0.4s,mb3.3,baz=128,slow=7.8,SNR=4.0	**37.83**	**285**	P	**P**	**03 00 49.6**	**-0.8**
WRA	**Warramunga Arr** 0.3nm,0.4s,mb3.5,baz=127,slow=8.4,SNR=7.5	**39.85**	**290**	P	**P**	**03 01 06.7**	**-0.6**
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=184,slow=3.5,SNR=5.9	**151.42**	**195**	PKPbc	PKPbc	03 13 27.2	+0.4

ISCJB **16** *02:54:17.6±0.9, 1356S±004×7666W±005, h35km±8km, mb4.9/90, Error ellipse: s-maj=9.0km s-min=4.6km az=142.8*
MOS **16** *02:54:17.8±1.1, 1335S×7656W, h33km, mb5.1/26, Error ellipse: s-maj=12.8km s-min=6.9km az=117.9*
IDC **16** *02:54:18.7±3.7, 1358S×7674W, h31km±27km, mb4.5/22, mb1 4.6/27, mb1mx4.6/28, mbtmp4.5/27, ML4.9/4, MS4.8/1, Ms1 4.8/1, ms1mx4.6/32, Error ellipse: s-maj=18.7km s-min=9.7km az=70.0*
BJI **16** *02:54:19.9, 1350S×7660W, h41km, mB5.3, Ms5.4, Msz5.3*
NEIC **16** *02:54:19.9±0.8, 1354S×7658W, h41km±7km, mb5.0/66, Error ellipse: s-maj=7.2km s-min=3.7km az=62.0*
NEIC Felt [VI] at Lima.

ISC 16 02:54:19.8±0.8, 1355S±004×7659W±005, h36km±7km, n449, σ0§71/419, mb4.9/90, 112C-100D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana** 42μm,0.5s,SNR=39	**1.57**	**351**	Pn	**Pn**	**02 54 43.0**	**-2.3**
NNA	**Nana** 744nm,0.3s,baz=172,slow=13,SNR=37	**1.57**	**351**	Pn	**Pn**	**02 54 43.9**	**-1.4**
NNA				Sn	**Sn**	**02 55 04.2**	**-0.2**
NNA	**Nana** 428nm,0.3s,baz=197,slow=14,SNR=3.8	**1.57**	**351**	*e*Pn	**Pn**	**02 54 43.8**	**-1.5**
ARE	**Arequipa**	**5.71**	**121**	*e*P	**Pn**	**02 55 43.0**	**+0.9**
ARE				*e*S	**Sn**	**02 57 00.0**	**+14**
ATAH	**Atahualpa** 9.9nm,0.3s,baz=172,slow=6.9,SNR=20	**6.75**	**345**	Pn	**Pn**	**02 55 55.8**	**-0.6**
ATAH				Sn	**Sn**	**02 57 18.1**	**+5.9**
LPAZ	**La Paz** 6.0nm,0.3s,baz=297,slow=9.5,SNR=62	**8.61**	**109**	Pn	**Pn**	**02 56 25.1**	**+3.1**
LPAZ				Sn	**Sn**	**02 58 14.5**	**+17**
LPAZ	**La Paz** baz=204,slow=19,SNR=3.1	**8.61**	**109**	*e*P	**Pn**	**02 56 26.6**	**+4.6**
LPAZ				pmax	pmax		
LPAZ	**La Paz** comp=Z,105nm,1.2s	**8.61**	**109**	*e*Pn	**Pn**	**02 56 26.6**	**+4.5**
LVC	**Limon Verde** comp=Z,3.8nm,0.3s,baz=14,slow=0.0,SNR=30	**11.59**	**142**	Pn	**Pn**	**02 57 02.7**	**-0.2**
LVC				Sn	**Sn**	**02 59 05.6**	**-5.4**
LVC	**Limon Verde** comp=Z,3.6nm,0.3s,baz=323,slow=0.0,SNR=5.9	**11.59**	**142**	*e*Pn	**Pn**	**02 57 02.6**	**-0.3**
OTAV	**Otavalo**	**13.82**	**352**	*e*Pn	**Pn**	**02 57 35.9**	**+2.5**
SIV	**San Ignacio** comp=Z,1.8nm,0.3s,baz=277,slow=14,SNR=20	**15.20**	**101**	Pn	**Pn**	**02 57 53.5**	**+1.6**
ROSC	**El Rosal** comp=Z,0.9nm,0.3s,baz=91,slow=22,SNR=5.0	**18.42**	**7**	P	**Pn**	**02 58 35.9**	**+3.4**
CFAA	**Coronel Fontan** comp=Z,0.1nm,0.3s,baz=336,slow=12,SNR=9.9	**19.54**	**158**	P	**Pn**	**02 58 44.5**	**-1.3**
CFAA				LR	LR	03 05 37.9	
LMEL	**Las Melosas** comp=Z,3μm,21.4s,baz=356,slow=35	**21.02**	**165**	⇑*e*P	**P**	**02 59 00.0**	**-0.4**
CPUP	**Villa Florida** comp=Z,12nm,0.9s,mb4.3,baz=294,slow=11,SNR=15	**22.08**	**128**	P	**P**	**02 59 11.4**	**-0.4**
CPUP	**Villa Florida** comp=Z,105nm,1.2s	**22.08**	**128**	*e*P	**P**	**02 59 11.1**	**-0.8**
CPUP				pmax	pmax		
CPUP	**Villa Florida** comp=Z,105nm,1.2s,mb5.1	**22.08**	**128**	*e*P	**P**	**02 59 11.1**	**-0.8**
BCIP	**Isla Barro Col** comp=Z,75nm,1.2s,mb5.0	**22.80**	**352**	*e*P	**P**	**02 59 19.6**	**+0.1**
SDV	**Santo Domingo** comp=Z,12nm,0.4s,mb4.7,baz=273,slow=0.4,SNR=19	**23.06**	**15**	P	**P**	**02 59 22.6**	**+0.3**
SDV	**Santo Domingo** comp=Z,30nm,0.8s,mb4.8	**23.06**	**15**	*e*P	**P**	**02 59 22.7**	**+0.4**
PCRV	**Puerto La Cruz** comp=Z,16nm,0.8s,mb4.6,baz=148,slow=11,SNR=6.1	**26.39**	**27**	P	**P**	**02 59 54.3**	**+1.3**
PLCA	**Paso Flores** comp=Z,4.2nm,0.8s,mb4.1,baz=10,slow=10,SNR=7.6	**27.59**	**170**	P	**P**	**03 00 02.6**	**-1.0**
PLCA	**Paso Flores** comp=Z,16nm,1.0s	**27.59**	**170**	*e*P	**P**	**03 00 02.3**	**-1.3**
PLCA				pmax	pmax		
PLCA	**Paso Flores** comp=Z,16nm,1.0s,mb4.6	**27.59**	**170**	*e*P	**P**	**03 00 02.3**	**-1.3**
TRQA	**Tornquist** comp=Z,27nm,1.4s,mb4.7	**27.65**	**155**	*e*P	**P**	**03 00 03.4**	**-0.8**
BDFB	**Brasilia** comp=Z,3.5nm,0.9s,mb4.0,baz=264,slow=16,SNR=7.6	**27.72**	**98**	P	**P**	**03 00 05.3**	**+0.2**
GRGR	**Grenville** comp=Z,236nm,1.2s,mb5.8	**29.50**	**31**	*e*P	**P**	**03 00 20.6**	**-0.3**
MPR	**Mayaguez**	**32.91**	**17**	*e*P	**P**	**03 00 50.9**	**0.0**
SJG	**San Juan** comp=Z,10nm,0.5s,mb5.0,baz=270,slow=3.2	**33.10**	**18**	P	**P**	**03 00 51.7**	**-0.9**
AOPR	**Arecibo Observ** comp=Z,27nm,1.1s,mb5.1	**33.15**	**17**	*e*P	**P**	**03 00 53.0**	**+0.1**
CMIG	**Matias Romero** comp=Z,3.5nm,0.7s,mb4.4,baz=133,slow=9.0,SNR=6.8	**35.41**	**329**	P	**P**	**03 01 12.4**	**-0.1**
TEIG	**Tepich** comp=Z,5.1nm,0.5s,mb4.7,baz=235,slow=2.1,SNR=8.5	**35.48**	**341**	P	**P**	**03 01 12.3**	**-0.9**
TEIG	**Tepich**	**35.48**	**341**	P	**P**	**03 01 12.3**	**-0.9**
HKT	**Hockley**	**47.06**	**337**	*e*P	**P**	**03 02 46.0**	**-2.1**
HKT				pmax	pmax		
HKT	**Hockley** comp=Z,18nm,1.4s,mb4.8	**47.06**	**337**	*e*P	**P**	**03 02 46.0**	**-2.1**
GOGA	**Godfrey** comp=Z,20nm,1.5s,mb4.8	**47.16**	**352**	*e*P	**P**	**03 02 46.8**	**-2.0**
GOGA				pmax	pmax		
GOGA	**Godfrey** comp=Z,20nm,1.5s,mb4.8	**47.16**	**352**	*e*P	**P**	**03 02 46.8**	**-2.0**
CNNC	**Cliffs of the** comp=Z,75nm,1.6s,mb5.5	**48.54**	**359**	*e*P	**P**	**03 02 58.3**	**-1.2**
SWET	**Sewanee**	**49.30**	**350**	*e*P	**P**	**03 03 04.1**	**-1.2**
CPCT	**Cooper Cave**	**49.31**	**351**	*e*P	**P**	**03 03 04.5**	**-0.9**
PLAL	**Pickwick Lake**	**49.48**	**348**	*e*P	**P**	**03 03 04.4**	**-2.3**
TZTN	**Tazewell** comp=Z,38nm,1.5s,mb5.2	**50.26**	**353**	*e*P	**P**	**03 03 11.6**	**-1.0**
MIAR	**Mount Ida**	**50.48**	**342**	*e*P	**P**	**03 03 13.2**	**-1.1**
MIAR				pmax	pmax		
MIAR	**Mount Ida** comp=Z,11nm,1.2s,mb4.8	**50.48**	**342**	*e*P	**P**	**03 03 13.2**	**-1.1**
BLA	**Blacksburg** comp=Z,35nm,1.4s,mb5.1	**50.62**	**356**	*e*P	**P**	**03 03 14.5**	**-0.8**
BLA				pmax	pmax		
BLA	**Blacksburg** comp=Z,35nm,1.4s,mb5.1	**50.62**	**356**	*e*P	**P**	**03 03 14.5**	**-0.7**
ELN	**Prospectdale**	**50.66**	**356**	*e*P	**P**	**03 03 14.8**	**-0.8**
PMSA	**Palmer Station** comp=Z,14nm,1.1s,mb4.8	**51.89**	**173**	*e*P	**P**	**03 03 25.5**	**+1.1**
WCI	**Wyandotte Cave**	**52.30**	**350**	*e*P	**P**	**03 03 25.5**	**-2.4**
WCI				pmax	pmax		
WCI	**Wyandotte Cave** comp=Z,35nm,1.3s,mb5.1	**52.30**	**350**	*e*P	**P**	**03 03 25.5**	**-2.4**
SIUC	**Southern Illin** comp=Z,26nm,1.0s,mb5.1	**52.35**	**347**	*e*P	**P**	**03 03 26.8**	**-1.4**
WMOK	**Wichita Mounta**	**52.45**	**337**	*e*P	**P**	**03 03 28.0**	**-1.0**
WMOK				pmax	pmax		
WMOK	**Wichita Mounta** comp=Z,10nm,1.4s,mb4.5	**52.45**	**337**	*e*P	**P**	**03 03 28.0**	**-1.0**
GDL2	**Guadalupe Moun**	**52.70**	**330**	*e*P	**P**	**03 03 31.3**	**+0.4**
MCWV	**Mont Chateau**	**53.02**	**357**	*e*P	**P**	**03 03 32.8**	**-0.4**
BLO	**Bloomington**	**53.26**	**350**	*e*P	**P**	**03 03 33.3**	**-1.6**
AMTX	**Amarillo** comp=Z,3.6nm,0.6s,mb4.5	**53.74**	**334**	*e*P	**P**	**03 03 37.2**	**-1.3**
ACSO	**Alum Creek Sta** comp=Z,27nm,0.8s,mb5.2	**53.84**	**354**	*e*P	**P**	**03 03 37.8**	**-1.3**
319A	**Douglas** baz=55	**54.59**	**325**	⇓P	**P**	**03 03 44.9**	**0.0**
ALLY	**Alegheny Colle**	**55.02**	**357**	*e*P	**P**	**03 03 46.8**	**-0.9**
318A	**Bisbee** baz=55,SNR=7.8	**55.03**	**325**	⇓P	**P**	**03 03 48.0**	**0.0**
219A	**White Tail Can** baz=55,SNR=6.7	**55.06**	**326**	⇑P	**P**	**03 03 48.3**	**+0.2**
BNM	**Barren Site**	**55.38**	**330**	*e*P	**P**	**03 03 49.7**	**-0.8**
218A	**Dragoon** baz=56	**55.47**	**325**	⇓P	**P**	**03 03 51.1**	**-0.1**
BINY	**Binghamton**	**55.47**	**1**	*e*P	**P**	**03 03 51.1**	**+0.2**
119A	**Ashpeak Ranch,** baz=56	**55.67**	**327**	⇓P	**P**	**03 03 52.8**	**+0.2**
217A	**Green Valley** baz=56	**55.75**	**325**	⇑P	**P**	**03 03 53.4**	**+0.3**
LAZ	**Ladron**	**55.84**	**329**	*e*P	**P**	**03 03 52.9**	**-0.8**
118A	**Homack Ranch,** baz=56,SNR=6.2	**55.93**	**326**	⇓P	**P**	**03 03 54.8**	**+0.3**
ANMO	**Albuquerque**	**55.95**	**330**	*e*P	**P**	**03 03 53.9**	**-0.6**
ANMO				pmax	pmax		
ANMO	**Albuquerque** comp=Z,9.0nm,1.1s	**55.95**	**330**	*e*P	**P**	**03 03 53.9**	**-0.7**
TUC	**Tucson**	**56.13**	**325**	*e*P	**P**	**03 03 55.8**	**-0.1**
TUC				pmax	pmax		
TUC	**Tucson** comp=Z,3.0nm,0.9s,mb4.3	**56.13**	**325**	*e*P	**P**	**03 03 55.8**	**-0.1**
216A	**Three Points,** baz=56	**56.28**	**324**	⇓P	**P**	**03 03 57.0**	**0.0**
117A	**Oracle** baz=56,SNR=12	**56.30**	**325**	⇑P	**P**	**03 03 56.5**	**-0.6**
CBKS	**Cedar Bluff**	**56.41**	**338**	*e*P	**P**	**03 03 57.3**	**-0.4**
CBKS				pmax	pmax		
CBKS	**Cedar Bluff** comp=Z,33nm,1.3s,mb5.2	**56.41**	**338**	*e*P	**P**	**03 03 57.3**	**-0

comp=Z,18nm,1.1s,mb5.0
V14A **Boquillas Ranc** 59.89 326 ⇓P P 03 04 22.6 +0.5
baz=60,SNR=12
W13A **Hualapai Mount** 59.93 325 ⇑P P 03 04 22.8 +0.3
baz=60,SNR=9.6
IRM **Iron Mountain** 59.97 323 ⇑P P 03 04 22.5 -0.3
baz=60,SNR=7.2
U15A **North Rim** 60.05 327 ⇓P P 03 04 23.4 +0.1
baz=60,SNR=6.6
S17A **Black Ridge (B** 60.21 329 ⇑P P 03 04 24.8 +0.5
baz=60
R18A **Canyonlands Na** 60.35 330 ⇓P P 03 04 24.8 -0.4
baz=61
BELC **Belle Mtn.** 60.36 323 ⇑P P 03 04 25.6 +0.2
baz=60
Q19A **Hogan Spring (** 60.50 331 ⇑P P 03 04 26.2 0.0
baz=61
U14A **Mt Trumbull** 60.52 326 ⇑P P 03 04 27.0 +0.6
baz=61
V13A **Grand Canyon W** 60.53 325 ⇑P P 03 04 26.4 -0.2
baz=61,SNR=5.1
S16A **Weppner Ranch,** 60.67 329 ⇓P P 03 04 27.4 -0.1
baz=61,SNR=7.2
GMRC **Granite Mounta** 60.71 323 ⇑P P 03 04 28.0 +0.2
baz=61
R17A **Hanksville Air** 60.77 330 ⇑P P 03 04 28.8 +0.7
baz=61
V12A **Nelson** 60.92 325 ⇑P P 03 04 29.7 +0.4
baz=61
U13A **Pakoon Wash** 60.94 326 ⇑P P 03 04 30.0 +0.7
baz=61
T14A **Hurricane** 60.94 327 ⇑P P 03 04 30.2 +0.9
baz=61
Q18A **Rafter H Ranch** 61.03 331 ⇑P P 03 04 29.6 -0.3
baz=61,SNR=7.6
SRU **San Rafael** 61.22 330 ⇓P P 03 04 31.0 -0.2
baz=61,SNR=5.4
SRU **San Rafael** 61.22 330 *eP* P 03 04 31.4 +0.3
V11A **Goodsprings** 61.33 324 ⇓P P 03 04 32.4 +0.4
baz=62
T13A **Saint George** 61.35 326 ⇑P P 03 04 32.5 +0.4
baz=62
P18A **Preston Nutter** 61.49 331 ⇑P P 03 04 33.5 +0.5
baz=62,SNR=5.9
MSU **Marysvale** 61.57 329 *eP* P 03 04 33.8 +0.2
P17A **Butcher Ranch,** 61.61 330 ⇑P P 03 04 33.9 +0.1
baz=62
SHPR **Sheep Range** 61.66 325 *eP* P 03 04 34.9 +0.6
ARUT **Antelope Range** 61.67 327 *eP* P 03 04 33.7 -0.6
GSC **Goldstone** 61.74 323 *eP* P 03 04 36.2 +1.4
GSC pmax pmax
comp=Z,17nm,1.7s,mb4.9
GSC **Goldstone** 61.74 323 ⇓P P 03 04 35.2 +0.4
baz=62
GSC **Goldstone** 61.74 323 *eP* P 03 04 36.2 +1.4
comp=Z,17nm,1.7s,mb4.9
S13A **Holt Ranch, En** 61.74 327 ⇑P P 03 04 35.5 +0.7
baz=62,SNR=9.2
RWWY **Rawlins** 61.80 334 *eP* P 03 04 35.4 +0.4
O18A **Roosevelt** 61.89 331 ⇑P P 03 04 36.1 +0.5
baz=62
EDW2 **Edwards Air Fo** 62.15 322 ⇓P P 03 04 37.7 +0.1
baz=62
T11A **Corn Creek, Al** 62.23 326 ⇓P P 03 04 38.3 +0.3
baz=62,SNR=8.3
R13A **O'Grain Ranch,** 62.25 327 ⇑P P 03 04 38.6 +0.5
baz=62
N18A **Larsen Ranch,** 62.30 332 ⇓P P 03 04 38.7 +0.3
baz=62
LRMC **Laurel Mountai** 62.38 323 ⇑P P 03 04 39.4 +0.4
baz=63
Q14A **Sevier Lake (B** 62.49 328 ⇓P P 03 04 40.3 +0.5
baz=63,SNR=14
O16A **Springville** 62.55 330 ⇑P P 03 04 40.9 +0.8
baz=63
TPNV **Topopah Spring** 62.59 325 ⇓P P 03 04 40.7 +0.3
baz=63,SNR=5.6
TPNV **Topopah Spring** 62.59 325 *eP* P 03 04 41.3 +0.9
DAU **Daniels Canyon** 62.59 331 *eP* P 03 04 40.8 +0.4
FURC **Furnace Creek,** 62.59 324 ⇓P P 03 04 40.9 +0.4
baz=63
RSSD **Black Hills** 62.61 338 *eP* P 03 04 39.7 -0.7
RSSD pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
RSSD **Black Hills** 62.61 338 *eP* P 03 04 39.7 -0.7
comp=Z,4.6nm,1.0s,mb4.6
MPMC **Manual Prospec** 62.67 323 ⇑P P 03 04 41.0 0.0
baz=63
R12A **Pony Springs,** 62.69 327 ⇓P P 03 04 42.0 +0.9
baz=63
N17A **Moffit Pass** 62.81 331 ⇑P P 03 04 42.2 +0.4
baz=63,SNR=8.5
JLU **Jordanelle** 62.83 331 *eP* P 03 04 42.7 +0.7
P14A **Drum Mountains** 62.84 329 ⇑P P 03 04 42.4 +0.3
baz=63,SNR=9.6
Q13A **Wheeler Ranch,** 62.85 328 ⇓P P 03 04 42.4 +0.3
baz=63,SNR=6.5
N16A **Rees Ranch, Co** 63.05 331 ⇑P P 03 04 44.1 +0.7
baz=63
DUG **Dugway** 63.18 330 *eP* P 03 04 44.7 +0.4
DUG pmax pmax
comp=Z,23nm,1.3s,mb5.2
DUG **Dugway** 63.18 330 ⇓P P 03 04 44.7 +0.4
baz=63,SNR=17
DUG **Dugway** 63.18 330 *eP* P 03 04 44.7 +0.4
comp=Z,23nm,1.3s,mb5.1
P13A **Bates Ranch, G** 63.22 328 ⇓P P 03 04 45.0 +0.4
baz=63,SNR=12
R11A **Troy Canyon, C** 63.23 326 ⇑P P 03 04 44.9 +0.2
baz=63,SNR=8.2
GRAC **Grapevine Rang** 63.26 324 ⇓P P 03 04 45.1 +0.3
baz=63
PKM **Peak Mountain** 63.27 321 ⇑P P 03 04 45.4 +0.4
baz=63
CWC **Cottonwood Cre** 63.27 323 ⇓P P 03 04 45.3 +0.3
baz=64
Q12A **Willow Creek R** 63.34 327 ⇑P P 03 04 46.0 +0.6
baz=64
S10A **Tonopah Range,** 63.48 325 ⇓P P 03 04 46.5 +0.2
baz=64,SNR=12
R10A **Warm Springs** 63.58 326 ⇑P P 03 04 47.7 +0.7
baz=64
Q11A **Duckwater** 63.63 327 ⇑P P 03 04 47.5 +0.2
baz=64,SNR=16
HWUT **Hardware Ranch** 63.67 331 *eP* P 03 04 47.5 0.0
comp=Z,18nm,1.1s,mb5.0
S09A **Goldfield** 63.68 325 ⇑P P 03 04 47.6 -0.1
baz=64,SNR=6.3
BW06 **Boulder Array** 63.69 333 *eP* P 03 04 47.0 -0.5
PDAR **Pinedale Array** 63.69 333 P P 03 04 47.0 -0.6
comp=Z,2.9nm,1.0s,mb4.3,baz=142,slow=7.5,SNR=16
SPUT **South Promonto** 63.85 331 *eP* P 03 04 49.0 +0.3
N14A **Grayback Hills** 63.86 330 ⇑P P 03 04 48.5 -0.3
baz=64,SNR=9.5
AGMN **Agassiz Refuge** 63.92 346 *eP* P 03 04 48.2 -0.8
comp=Z,20nm,0.7s,mb5.2
TPH **Tonopah** 63.93 325 *eP* P 03 04 48.4 -0.9
TPH pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
TPH **Tonopah** 63.93 325 *eP* P 03 04 48.4 -0.9
comp=Z,8.3nm,1.0s,mb4.7
R09A **Tonopah** 63.96 325 ⇑P P 03 04 49.7 +0.2
baz=64,SNR=8.0
M15A **Larsen Ranch,** 63.97 331 ⇑P P 03 04 49.2 -0.3
baz=64,SNR=6.3
HELL **Mitchell Peak** 63.99 323 ⇓P P 03 04 49.6 -0.1
baz=64
S08C **White Mtn Res** 64.06 324 ⇓P P 03 04 50.5 +0.3
baz=64,SNR=6.2
MTUM **Tungsten Hills** 64.19 324 *eP* P 03 04 51.7 +0.7
O12A **Currie** 64.20 328 ⇓P P 03 04 51.7 +0.7
baz=64,SNR=12
L15A **Malad City** 64.36 331 ⇓P P 03 04 51.5 -0.5
baz=65,SNR=5.8
HVU **Hansel Valley** 64.37 331 *eP* P 03 04 52.0 -0.1
M14A **Sheep Mountain** 64.44 330 ⇑P P 03 04 52.3 -0.3
baz=65,SNR=8.3
Q09A **Carvers** 64.45 326 ⇓P P 03 04 53.0 +0.3
baz=65
O11A **Cowboy Ranch,** 64.57 328 ⇑P P 03 04 53.7 +0.3
baz=65
KCC **Kaiser Creek** 64.60 323 ⇑P P 03 04 54.0 +0.3
baz=65
K16A **Soda Springs** 64.64 332 ⇑P P 03 04 54.0 +0.1
baz=65,SNR=6.0
REDW **Red Top Meadow** 64.73 333 *eP* P 03 04 53.9 -0.5
comp=Z,20nm,1.5s,mb4.9
NVAR **Mina Array Bea** 64.78 325 P P 03 04 54.4 -0.5
comp=Z,2.0nm,1.0s,mb4.1,baz=142,slow=7.0,SNR=14
NVAR **Mina Array Bea** 64.78 325 P P 03 04 54.4 -0.5
L14A **Malta** 64.79 331 ⇓P P 03 04 54.5 -0.4
baz=65
ELK **Elko** 64.81 328 *eP* P 03 04 55.0 0.0
ELK pmax pmax
comp=Z,9.0nm,1.3s
ELK **Elko** 64.81 328 *eP* P 03 04 55.0 0.0
comp=Z,9.2nm,1.3s,mb4.7
LOHW **Long Hollow** 64.82 333 *eP* P 03 04 54.4 -0.6
comp=Z,2.6nm,0.7s,mb4.4
TPAW **Teton Pass** 64.88 333 *eP* P 03 04 55.6 +0.2
RRI2 **Red Ridge** 64.93 333 *eP* P 03 04 55.8 +0.1
comp=Z,16nm,0.9s,mb5.1
K15A **Arbon** 64.96 331 ⇓P P 03 04 55.8 -0.1
baz=65
MOOW **Moose Ponds** 64.99 333 *eP* P 03 04 55.9 -0.2
comp=Z,14nm,1.5s,mb4.8
O10A **Cortez Mining,** 65.13 327 ⇓P P 03 04 57.8 +0.8
baz=65
K14A **Jones Ranch, D** 65.15 331 ⇑P P 03 04 56.6 -0.6
baz=65,SNR=5.5
L13A **Double Diamond** 65.17 330 ⇑P P 03 04 57.2 -0.2
baz=65,SNR=6.5
IMW **Indian Meadow** 65.19 333 *eP* P 03 04 56.9 -0.5
comp=Z,29nm,1.6s,mb5.1
S05C **Merced** 65.21 323 ⇑P P 03 04 58.1 +0.4
baz=65
FLWY **Flagg Ranch** 65.24 334 *eP* P 03 04 57.9 +0.2
S06C **San Francisco** 65.29 323 ⇑P P 03 04 58.1 -0.1
baz=66,SNR=9.3
O09A **Fish Creek Ran** 65.41 327 ⇑P P 03 04 58.9 0.0
baz=66
RLMT **Red Lodge** 65.47 335 *eP* P 03 04 58.5 -0.7
comp=Z,25nm,1.5s,mb5.0
M11A **Holland Ranch,** 65.59 329 ⇑P P 03 05 00.5 +0.4
baz=66,SNR=6.9
CMB **Columbia Colle** 65.71 323 *eP* P 03 05 01.0 +0.1
L12A **House Creek Ra** 65.74 330 ⇑P P 03 05 01.2 +0.2
baz=66
ULM **Lac du Bonnet** 65.75 347 P P 03 04 59.8 -1.1
comp=Z,32nm,0.9s,mb5.3,baz=158,slow=6.3,SNR=29
ULM **Lac du Bonnet** 65.75 347 *eP* P 03 04 59.5 -1.4
comp=Z,75nm,1.5s,mb5.5
R05C **Kirkwood Meado** 65.98 324 ⇓P P 03 05 03.2 +0.5
baz=66,SNR=6.1
K12A **Draper Farm, C** 66.05 330 ⇓P P 03 05 03.3 +0.3
baz=66,SNR=13
L11A **Cat Creek Ranc** 66.12 329 ⇑P P 03 05 03.5 +0.1
baz=66,SNR=9.1
QLMT **Earthquake Lak** 66.15 334 *eP* P 03 05 04.6 +1.0
GCMT **Greycliff** 66.18 335 *eP* P 03 05 03.4 -0.3
O07A **Toulon** 66.31 326 ⇑P P 03 05 04.7 0.0
baz=66,SNR=7.5
N08A **GE Springer Mi** 66.35 327 ⇑P P 03 05 04.4 -0.5
baz=66
L10A **Juniper Basin** 66.42 329 ⇑P P 03 05 05.1 -0.2
baz=67,SNR=8.3
M09A **Marrel Ranch,** 66.44 328 ⇓P P 03 05 05.9 +0.4
baz=67
HLID **Hailey** 66.52 331 ⇓P P 03 05 05.9 0.0
baz=67,SNR=7.9
HLID **Hailey** 66.52 331 *eP* P 03 05 05.7 -0.3
comp=Z,2.6nm,0.8s,mb4.3
J12A **Stokes Ranch,** 66.61 330 ⇓P P 03 05 06.6 +0.1
baz=67
I13A **Wildhorse Cree** 66.64 331 ⇑P P 03 05 07.2 +0.5
baz=67,SNR=12
P05C **Yuba Gap, Truc** 66.69 324 ⇑P P 03 05 07.7 +0.5
baz=67
K11A **Parker Ranch,** 66.70 329 ⇑P P 03 05 07.2 +0.1
baz=67,SNR=5.8
MCMT **McKenzie Canyo** 66.77 333 *eP* P 03 05 07.6 0.0
N07B **Gerlach** 66.80 326 ⇓P P 03 05 08.0 +0.2
baz=67
G15A **Dillon** 66.88 333 ⇓P P 03 05 08.5 +0.3
baz=67,SNR=6.9
BOZ **Bozeman (W)** 66.88 334 ⇓P P 03 05 07.8 -0.4
baz=67,SNR=12
BOZ **Bozeman (W)** 66.88 334 *eP* P 03 05 07.8 -0.4
BEKR **Beckwourth** 66.93 325 ⇓P P 03 05 08.9 +0.2
baz=67,SNR=7.1
MFID **Camas Ranch** 67.08 330 ⇓P P 03 05 09.8 +0.2
baz=67,SNR=11
K10A **MacKenzie Ranc** 67.13 329 ⇓P P 03 05 09.8 -0.1
baz=67,SNR=9.1
H13A **Challis** 67.20 332 ⇑P P 03 05 10.6 +0.3
baz=67
OHCM **Honcut** 67.22 324 *eP* P 03 05 09.9 -0.6
N06A **Buffalo Meadow** 67.25 326 ⇑P P 03 05 11.1 +0.5
baz=67,SNR=14
M07A **Soldier Meadow** 67.33 327 ⇓P P 03 05 11.3 +0.1
baz=68
ORV **Oroville** 67.37 324 ⇓P P 03 05 11.8 +0.3
baz=68,SNR=17
LRM **Limekiln Ridge** 67.38 334 *eP* P 03 05 11.6 +0.3
F15A **Butte** 67.41 334 ⇑P P 03 05 11.6 +0.1
baz=68
L08A **Fields** 67.46 328 ⇑P P 03 05 11.9 -0.1
baz=68,SNR=5.6
H12A **Diamond D Ranc** 67.47 331 ⇑P P 03 05 12.2 +0.2
baz=68,SNR=6.0
K09A **Rome** 67.50 328 ⇓P P 03 05 12.4 +0.2
baz=68,SNR=17
G13A **Cobalt** 67.60 332 ⇓P P 03 05 13.0 +0.3
baz=68,SNR=6.5
WVOR **Wild Horse Val** 67.78 328 *eP* P 03 05 14.1 +0.1
WVOR pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
WVOR **Wild Horse Val** 67.78 328 *eP* P 03 05 14.1 0.0
comp=Z,9.8nm,1.4s,mb4.7
L07A **Adell** 67.86 327 ⇓P P 03 05 14.8 +0.3
baz=68
K08A **Mann Creek Ran** 67.92 328 ⇑P P 03 05 15.0 +0.2
baz=68
J09A **Fry Pan Ranch,** 67.99 329 ⇓P P 03 05 15.2 -0.1
baz=68
EGMT **Eagleton** 68.04 337 *eP* P 03 05 15.1 -0.4
comp=Z,7.1nm,0.8s,mb4.8
H11A **Donnelly** 68.13 331 ⇓P P 03 05 15.4 -0.8
baz=68
GASB **Alder Springs** 68.14 323 ⇑P P 03 05 17.0 +0.6
baz=68,SNR=5.3
F13A **Darby** 68.18 333 ⇑P P 03 05 16.8 +0.4
baz=68,SNR=9.9
E14A **Clinton** 68.29 333 ⇑P P 03 05 17.2 0.0
baz=68,SNR=5.9
MOD **Modoc** 68.30 326 ⇓P P 03 05 17.6 +0.4
baz=68,SNR=8.2
MOD **Modoc** 68.30 326 *eP* P 03 05 17.7 +0.5
J08A **Circle Bar Ran** 68.36 328 ⇑P P 03 05 17.7 0.0
baz=69
M05C **Lookout** 68.39 325 ⇓P P 03 05 17.9 +0.1
baz=69,SNR=11
F12A **Elk City** 68.57 332 ⇑P P 03 05 18.6 -0.2
baz=69,SNR=5.8
CHMT **Chamberlain Mo** 68.58 334 *eP* P 03 05 19.2 +0.3
SCHQ **Schefferville** 68.61 6 P P 03 05 18.5 -0.4
comp=Z,14nm,0.9s,mb4.9,baz=200,slow=4.8,SNR=14
E13A **Victor** 68.62 333 ⇓P P 03 05 19.3 +0.2
baz=69,SNR=9.3
L05A **Lakeview** 68.68 326 ⇓P P 03 05 19.8 +0.1
baz=69
G11A **Walters Elk Ra** 68.77 331 ⇑P P 03 05 19.9 -0.3
baz=69,SNR=8.3
MSO **Missoula** 68.81 333 *eP* P 03 05 20.7 +0.4
comp=Z,16nm,1.4s,mb4.8
D14A **Greenough** 68.81 334 ⇑P P 03 05 20.5 +0.2
baz=69
BMO **Blue Mountains** 68.86 330 *eP* P 03 05 19.8 -0.9
BMO pmax pmax
comp=Z,24nm,2.0s,mb4.8
BMO **Blue Mountains** 68.86 330 *eP* P 03 05 19.8 -0.9
comp=Z,24nm,2.0s,mb4.8
K06A **Valley Falls** 68.89 327 ⇓P P 03 05 21.4 +0.5
baz=69,SNR=21
M04C **Macdoel** 69.06 325 ⇑P P 03 05 21.8 -0.2
baz=69,SNR=5.1
F11A **Grangeville** 69.08 332 ⇑P P 03 05 21.8 -0.3
baz=69,SNR=13
G10A **Bishop Farm, J** 69.09 331 ⇑P P 03 05 22.1 0.0
baz=69,SNR=6.3
J06A **Christmas Vall** 69.15 327 ⇑P P 03 05 22.6 0.0
baz=69,SNR=24
K05A **Summer Lake** 69.18 327 ⇓P P 03 05 23.4 +0.6
baz=69,SNR=8.0
D13A **Huson** 69.24 333 ⇓P P 03 05 23.3 +0.3
baz=69
N02C **Big Bar** 69.25 324 ⇓P P 03 05 23.3 +0.2
baz=69,SNR=18
H08A **Prairie City** 69.29 329 ⇓P P 03 05 23.9 +0.6
baz=70,SNR=19
M02C **Callahan** 69.36 324 ⇑P P 03 05 23.3 -0.6
baz=70
I07A **Izee** 69.40 328 ⇑P P 03 05 24.2 +0.2
baz=70
G09A **Cove** 69.40 330 ⇓P P 03 05 24.3 +0.2
baz=70,SNR=16
C14A **Swan Lake** 69.45 334 ⇑P P 03 05 24.2 -0.1
baz=70
E11A **Bogner Ranch,** 69.46 332 ⇑P P 03 05 23.9 -0.5
baz=70,SNR=6.7
YBH **Yreka Blue Hor** 69.51 325 ⇑P P 03 05 24.0 -0.8
baz=70,SNR=6.5
YBH **Yreka Blue Hor** 69.51 325 *eP* P 03 05 23.8 -1.0
KHMM **Horse Mountain** 69.52 324 *eP* P 03 05 26.1 +1.2
D12A **Red Ives Fores** 69.60 333 ⇑P P 03 05 25.4 +0.1
baz=70
JCC **Jacoby Creek** 69.66 323 ⇑P P 03 05 26.0 +0.3
baz=70
I06A **Prineville** 69.67 328 ⇓P P 03 05 26.0 +0.3
baz=70
C13A **Hot Springs** 69.74 334 ⇓P P 03 05 26.4 +0.3
baz=70,SNR=9.4
J05A **Fort Rock** 69.75 327 ⇑P P 03 05 25.8 -0.4
baz=70,SNR=7.3
F09A **S2 Ranch, Elgi** 69.78 330 ⇑P P 03 05 26.8 +0.5
baz=70
E10A **Myers Farm, Un** 69.97 331 ⇑P P 03 05 27.5 0.0
baz=70
G08A **Pilot Rock** 69.99 330 ⇓P P 03 05 27.7 +0.1
baz=70,SNR=6.7
D11A **Klaveano Farm,** 70.03 332 ⇑P P 03 05 27.7 -0.2
baz=70
VNA1 **Neumayer--Stat** 70.17 161 *eP* P 03 05 28.9 +0.5
VNA1 *e* 03 05 35.8
VNA1 *e* pP 03 05 39.2 -0.2
J04A **Umpqua Nationa** 70.18 326 ⇓P P 03 05 28.5 -0.4
baz=70
H06A **Lindquist Farm** 70.28 328 ⇓P P 03 05 29.9 +0.4
baz=70,SNR=14
L02A **Cave Junction** 70.28 325 ⇓P P 03 05 29.7 +0.2
baz=70,SNR=5.8
G07A **Ruggs Ranch, H** 70.32 329 ⇑P P 03 05 30.4 +0.7
baz=70,SNR=5.6
M01C **Crescent City** 70.38 324 ⇑P P 03 05 30.2 0.0
baz=71
D10A **Wagner Farm, O** 70.47 332 ⇓P P 03 05 30.4 -0.1
baz=71
E09A **Wood Farm, Sta** 70.48 331 ⇓P P 03 05 30.7 +0.1
baz=71
WALA **Waterton Lakes** 70.53 335 *eP* P 03 05 30.9 0.0
comp=Z,22nm,1.6s,mb4.8
K02A **Glendale** 70.62 325 ⇑P P 03 05 31.7 +0.1
baz=71,SNR=6.5
A13A **Flathead Natio** 70.64 335 ⇑P P 03 05 31.9 +0.3
baz=71
I04A **Tendick Farm,** 70.72 327 ⇑P P 03 05 32.0 -0.1
baz=71
D09A **Jones Farm, Ri** 70.95 331 ⇓P P 03 05 33.5 0.0
baz=71
HAWA **Hanford** 71.05 330 *eP* P 03 05 33.8 -0.3
comp=Z,18nm,1.6s,mb4.8
J02A **Umpqua** 71.06 326 ⇑P P 03 05 34.7 +0.5
baz=71,SNR=8.5
RSW **Rattlesnake Hi** 71.08 330 *eP* P 03 05 34.3 0.0
B11A **Sandpoint** 71.09 333 ⇓P P 03 05 34.6 +0.3
baz=71,SNR=5.5
G05A **Wamic** 71.14 328 ⇓P P 03 05 34.9 +0.3
baz=71
A12A **Yaak River Ran** 71.16 334 ⇑P P 03 05 35.5 +0.8
baz=71,SNR=8.6
KEBM **Edson Butte** 71.16 325 *eP* P 03 05 36.2 +1.3
K01A **Sixes** 71.20 325 ⇓P P 03 05 35.5 +0.4
baz=71
H04A **Detroit Lake** 71.20 327 ⇓P P 03 05 34.5 -0.6
baz=71,SNR=5.2
NEW **Newport** 71.30 333 *eP* P 03 05 34.4 -1.2
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW **Newport** 71.30 333 *eP* P 03 05 34.4 -1.1
comp=Z,7.0nm,0.9s,mb4.6
I03A **Eugene** 71.31 326 ⇑P P 03 05 35.6 -0.2
baz=72,SNR=5.9
OD2 **Odessa Site #2** 71.38 331 *eP* P 03 05 35.7 -0.4
A11A **Hall Mountain,** 71.48 334 ⇑P P 03 05 37.2 +0.5
baz=72,SNR=7.1
H03A **Soap Creek Ran** 71.78 327 ⇓P P 03 05 38.9 +0.4
baz=72,SNR=5.7
C08A **Higginbotham F** 71.82 331 ⇓P P 03 05 39.1 +0.3
baz=72
D07A **Quincy** 71.84 330 ⇑P P 03 05 38.9 +0.1
baz=72
B09A **Rice** 71.88 332 ⇓P P 03 05 39.2 +0.1
baz=72,SNR=6.7
SNAA **Sanae** 72.12 161 *eP* P 03 05 39.6 -0.7
SNAA *e* 03 05 46.8
SNAA *e* pP 03 05 51.1 -0.2
SNAA **Sanae** 72.12 161 P P 03 05 39.8 -0.5
comp=Z,5.3nm,0.8s,mb4.5,baz=282,slow=5.3,SNR=44
SNAA **Sanae** 72.12 161 ⇑*i*P P 03 05 39.7 -0.6
SNAA **Sanae** 72.12 161 *eP* P 03 05 39.4 -0.8
comp=Z,13nm,1.0s,mb4.8
LIC **Lamto** 73.69 79 ⇑*i*P P 03 05 50.3 -0.3
comp=Z,72nm,1.1s,mb5.2,baz=260
LIC **Lamto** 73.69 79 ⇑*i*P P 03 05 50.3 -0.3
comp=Z,36nm,1.1s,mb5.2
NLWA **Neilton Lookou** 73.89 329 *eP* P 03 05 51.4 +0.4
comp=Z,27nm,1.4s,mb5.0
DBIC **Dimbokro** 73.98 79 P P 03 05 52.6 +0.3
comp=Z,17nm,1.0s,mb4.9,baz=194,slow=3.5,SNR=9.8
DBIC PP PP 03 08 40.1 +2.3
comp=Z,4.9nm,1.0s,baz=170,slow=7.4,SNR=3.7
DBIC **Dimbokro** 73.98 79 *eP* P 03 05 52.3 0.0
DBIC pmax pmax
comp=Z,98nm,1.8s
DBIC **Dimbokro** 73.98 79 *eP* P 03 05 52.3 0.0
comp=Z,98nm,1.8s,mb5.4
QSPA **South Pole Qui** 76.59 180 P P 03 06 06.1 0.0
comp=Z,4.8nm,0.8s,mb4.5,baz=146,slow=2.4,SNR=22
MORF **Marmelete** 81.33 48 *eP* P 03 06 35.5 +2.7
comp=Z,80nm,1.5s,mb5.4
YKA **Yellowknife Ar** 81.40 343 P P 03 06 31.5 -1.0
comp=Z,5.5nm,0.9s,mb4.5,baz=138,slow=5.4,SNR=33
TOA0 **Torodi Ar. Sit** 81.96 74 *eP* P 03 06 37.2 +0.6
TORD **Torodi Ar. Bea** 81.96 74 P P 03 06 37.2 +0.6
comp=Z,32nm,1.0s,mb5.2,baz=261,slow=4.5,SNR=79
TORD **Torodi Ar. Bea** 81.96 74 P P 03 06 37.2 +0.6
PBEJ **Beja** 82.19 48 *eP* P 03 06 39.3 +2.0
comp=Z,51nm,1.7s,mb5.2
SBA **Scott Base** 82.23 191 *eP* P 03 06 37.1 +0.2
SBA pmax pmax
comp=Z,14nm,1.5s,mb4.7
SBA **Scott Base** 82.23 191 *eP* P 03 06 37.1 +0.1
comp=Z,14nm,1.5s,mb4.7
EVO **Evora** 82.29 47 ⇑*i*P P 03 06 39.1 +1.3
comp=Z,58nm,1.1s,mb5.1
EVO **Evora** 82.29 47 *eP* P 03 06 38.5 +0.7
comp=Z,33nm,1.8s,mb5.0
MDT **Midelt** 82.65 54 P P 03 06 41.1 +1.3
comp=Z,12nm,1.1s,mb4.8,baz=255,slow=5.6,SNR=10
PESTR **Estremoz** 82.72 47 *eP* P 03 06 40.2 +0.1
comp=Z,44nm,1.6s,mb5.2
PBAR **Barrancos** 82.85 48 *eP* P 03 06 42.3 +1.6
comp=Z,31nm,1.8s,mb5.0
PCBR **Castelo Branco** 83.20 46 *eP* P 03 06 43.9 +1.4
comp=Z,38nm,1.8s,mb5.1
PVIS **Viseu** 83.26 45 *eP* P 03 06 44.5 +1.7
comp=Z,40nm,1.0s,mb5.4
VNDA **Vanda** 83.31 191 P P 03 06 42.7 +0.2
comp=Z,2.0nm,1.0s,mb4.1,baz=130,slow=3.2,SNR=8.7
VNDA **Vanda** 83.31 191 *eP* P 03 06 42.5 0.0
VNDA pmax pmax
comp=Z,4.0nm,1.1s
VNDA **Vanda** 83.31 191 *eP* P 03 06 42.5 0.0
comp=Z,3.6nm,1.1s,mb4.3
MTE **Manteigas** 83.38 46 *eP* P 03 06 45.6 +2.2
comp=Z,41nm,1.4s,mb5.3
MVO **Moncorvo** 84.04 45 *eP* P 03 06 48.4 +1.6
comp=Z,47nm,1.4s,mb5.4
PAB **San Pablo** 85.31 48 *eP* P 03 06 54.0 +0.7
PAB pmax pmax
comp=Z,25nm,2.5s,mb4.9
PAB **San Pablo** 85.31 48 *eP* P 03 06 54.0 +0.7
comp=Z,25nm,2.5s,mb4.9

ESDC	Sonseca Array	85.63	48	P		P	03 06 55.4	+0.5
	comp=Z,3.5nm,0.9s,mb4.6,baz=250,slow=5.0,SNR=14							
SYO	Syowa Base	86.41	161	‖ eP		P	03 06 55.8	-2.4
SYO	Syowa Base	86.41	161	‖ epP		pP	03 07 03.2	-6.2
SYO	Syowa Base	86.41	161	‖ esP		sP	03 07 08.6	-4.9
HYT	Haines Junctio	88.36	335	eP		P	03 07 08.2	+0.7
QUIF	Quistinic	89.17	40	eP		P	03 07 08.5	-3.2
ROSF	Rostrenen	89.26	40	eP		P	03 07 10.4	-1.7
TSUM	Tsumeb	89.47	110	eP		P	03 07 13.1	-0.7
	comp=Z,5.7nm,1.1s,mb4.8							
SUMG	Summit	89.52	11	eP		P	03 07 13.5	+0.7
	comp=Z,7.4nm,1.2s,mb4.9							
SGMF	Saint Gilles	89.68	40	eP		P	03 07 11.3	-2.8
DAWY	Dawson	90.78	337	eP		P	03 07 18.0	-0.8
INK	Inuvik	91.08	342	eP		P	03 07 18.8	-1.3
	comp=Z,919nm,1.2s							
EGAK	Eagle	91.80	337	eP		P	03 07 22.6	-1.0
	comp=Z,19nm,1.3s,mb5.3							
BGF	Bois d'Agland	92.60	43	eP		P	03 07 24.6	-3.1
	comp=Z,17nm,0.9s,mb5.2							
BGF	Bois d'Agland	92.60	43	eP		P	03 07 24.6	-3.1
BGF				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb5.2							
BGF	Bois d'Agland	92.60	43	eP		P	03 07 24.6	-3.1
	comp=Z,8.4nm,0.9s,mb5.2							
AVF	Avril sur Loir	93.00	43	eP		P	03 07 27.9	-1.7
	comp=Z,34nm,1.3s,mb5.3							
AVF	Avril sur Loir	93.00	43	eP		P	03 07 27.9	-1.7
AVF				pmax		pmax		
	comp=Z,17nm,1.3s,mb5.3							
AVF	Avril sur Loir	93.00	43	eP		P	03 07 27.9	-1.7
	comp=Z,17nm,1.3s,mb5.3							
SSF	Saint Saulge	93.18	42	eP		P	03 07 27.3	-3.1
	comp=Z,31nm,1.3s,mb5.3							
SSF	Saint Saulge	93.18	42	eP		P	03 07 27.3	-3.1
SSF				pmax		pmax		
	comp=Z,16nm,1.3s,mb5.3							
SSF	Saint Saulge	93.18	42	eP		P	03 07 27.3	-3.1
	comp=Z,16nm,1.3s,mb5.3							
LOR	Lormes	93.47	42	eP		P	03 07 29.4	-2.3
MAW	Mawson	93.91	166	P		P	03 07 32.5	-0.9
	comp=Z,2.6nm,0.8s,mb4.7,baz=252,slow=9.4,SNR=5.0							
COLA	College	94.43	336	‖ iP		P	03 07 35.0	-0.7
COLA	College	94.43	336	eP		P	03 07 34.7	-0.9
	comp=Z,13nm,1.0s,mb5.3							
KEST	Kesra	94.54	55	P		P	03 07 37.1	+0.2
	comp=Z,1.7nm,1.0s,mb4.4,baz=270,slow=2.3,SNR=4.2							
LPL	La Plagne	94.93	45	eP		P	03 07 38.5	0.0
	comp=Z,25nm,1.2s,mb5.2							
LPL	La Plagne	94.93	45	eP		P	03 07 38.5	0.0
LPL				pmax		pmax		
	comp=Z,12nm,1.2s,mb5.2							
LPL	La Plagne	94.93	45	eP		P	03 07 38.5	0.0
	comp=Z,12nm,1.2s,mb5.2							
LPG	La Plagne	94.94	45	eP		P	03 07 38.7	+0.2
IMA2	Indian Mountai	97.12	336	eP		P	03 07 46.8	-1.1
GERES	GERESS Array B	100.25	42	P		Pdif	03 08 01.9	-0.4
	comp=Z,0.6nm,0.9s,baz=279,slow=3.4,SNR=5.6							
MALT	Malatya	117.85	54	ePKIKP		PKPdf	03 13 03.1	+0.3
ARU	Arti	125.21	29	i PKIKP		PKPdf	03 13 14.7	-1.7
ASAR	Alice Springs	132.49	219	PKP		PKPdf	03 13 30.2	-1.1
	comp=Z,2.5nm,1.1s,baz=148,slow=4.2,SNR=9.0							
WB2	Warramunga Arr	134.90	223	eP		PKPdf	03 13 35.0	-0.9
WRA	Warramunga Arr	134.90	223	PKP		PKPdf	03 13 35.1	-0.8
	comp=Z,3.5nm,0.9s,baz=133,slow=1.6,SNR=14							
WRAB	Tennant Creek	134.90	223	ePKIKP		PKPdf	03 13 35.2	-0.7
ZALV	Zalesovo Beam	137.11	16	PKP		PKPdf	03 13 39.0	+0.1
	comp=Z,5.6nm,0.7s,baz=333,slow=1.4,SNR=13							
ZAL	Zalesovo	137.11	16	PKIKP		PKPdf	03 13 39.1	+0.1
KURK	Kurchatov	137.82	23	ePKIKP		PKPdf	03 13 40.1	-0.3
EKS2	Erkin-Say	141.33	36	ePKPdf		PKPdf	03 13 46.3	-0.8
MJAR	Matsushiro Arr	141.37	313	PKhKP			03 13 39.9	
	comp=Z,2.3nm,0.9s,baz=43,slow=1.5,SNR=9.6							
HVS	Khovu-Aksy	141.70	10	i PKIKP		PKPdf	03 13 47.8	+0.4
TKM2	Tokmak 2	142.17	34	ePKHKP			03 13 43.0	
TKM2				e			03 13 49.2	
MKAR	Makanchi Array	142.42	24	PKhKP			03 13 44.9	
	comp=Z,1.4nm,0.8s,baz=318,slow=3.4,SNR=6.7							
ZAK	Zakamensk	143.27	0	ePKHKP			03 13 44.3	
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.6s							
CN2	Changchun	144.42	332	ePKP		PKPdf	03 13 52.4	-0.1
SONM	Songino Array	145.73	356	PKPbc		PKPbc	03 13 55.1	+0.1
	comp=Z,18nm,1.1s,baz=345,slow=2.4,SNR=71							
SNY	Shenyang	146.82	332	‖ PKP		PKPdf	03 13 57.8	+1.2
WMQ	Urumqi	146.96	21	PKP		PKPdf	03 13 55.9	-0.9
KSRS	Korea Array	147.69	322	PKPbc		PKPbc	03 13 58.1	-2.9
	comp=Z,14nm,1.1s,baz=66,slow=1.4,SNR=19							
THN	Thein Dam	148.48	49	eP		PKPbc	03 14 02.0	-1.3
DDI	Dehra Dun	151.26	50	ex		PKPbc	03 14 09.8	-0.3
BJT	Baijiatuau	151.35	339	ePKIKP		PKPbc	03 14 09.3	-0.7
NDI	New Delhi	151.39	54	eP		PKPbc	03 14 09.5	-1.0
HHC	Hu-ho-hao-te	151.89	347	ePKP		PKPdf	03 14 03.5	-1.3
HHC				APKP			03 14 14.0	
HHC				XPKP			03 14 17.6	
HHC				PKS			03 17 36.3	
HHC				PP		PP	03 17 52.9	+2.1
HHC				SKS		SKSdf	03 21 05.5	-4.1
HHC				SKKS		SKKSac	03 24 37.3	-2.4
GTA	Gaotai	154.05	6	ePKP		PKPdf	03 14 09.0	+1.0
GTA				APKP			03 14 19.4	
GTA				XPKP			03 14 23.4	
NJ2	Nanjing	156.78	325	ePKP		PKPdf	03 14 09.0	-2.9
LZH	Lanzhou	157.56	359	ePKP		PKPdf	03 14 11.0	-1.7
LZH				APKP			03 14 21.3	
LZH				XPKP			03 14 25.9	
LZH				PP		PP	03 18 23.8	+1.4
LZH				SS		SS	03 38 16.3	+0.7
LZH				PP		PP		
	comp=Z,960nm,8.9s							
LZH				LR		LR		
	comp=N,365nm,19.3s							
LZH				LR		LR		
	comp=Z,715nm,20.4s							
CD2	Chengdu	162.72	359	ePKP		PKPdf	03 14 17.8	-0.9
CD2				APKP			03 14 28.3	
CD2				XPKP			03 14 32.5	
GYA	Guiyang	166.80	347	PKP		PKPdf	03 14 21.5	-0.8
GYA				APKP			03 14 33.3	
GYA				XPKP			03 14 37.6	
GYA				PKP2		PKPab	03 15 26.8	+1.6
GYA				PKS			03 17 52.3	
GYA				PP		PP	03 19 14.9	+3.2
GYA				SKKS		SKKSac	03 25 57.0	-0.9
GYA				SS		SS	03 39 52.3	+0.3
GYA				PP		PP		
	comp=Z,120nm,9.0s							
GYA				LR		LR		
	comp=N,230nm,26.2s							
GYA				LR		LR		
	comp=E,160nm,25.4s							
GYA				LR		LR		
	comp=Z,180nm,25.7s							
KMI	Kunming	168.47	3	PKP		PKPdf	03 14 23.9	+0.3
CMAR	Chiang Mai Arr	173.50	41	PKP		PKPdf	03 14 25.7	-0.6
	comp=Z,2.3nm,0.8s,baz=277,slow=2.4,SNR=10							
CMAR				PKPab		PKPab	03 15 55.1	0.0
	comp=Z,0.7nm,0.3s,baz=316,slow=6.4,SNR=4.3							

*IDC **16** 02:58:20.3±1.3, 1348S×7681W, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/17, mbtmp4.1/6, ML4.1/1, Error ellipse: s-maj=51.4km s-min=16.0km az=82.0*
*ISCJB **16** 02:58:21.1±4.5, 1353S±007×772W±02, h22km±34km, mb4.0/9, Error ellipse: s-maj=30.4km s-min=11.5km az=174.8*
*NEIC **16** 02:58:24.7±4.9, 1344S×7687W, h30km±34km, mb4.2/4, Error ellipse: s-maj=28.2km s-min=11.2km az=71.0*

ISC 16 02:58:23.0±4.7, 1347S±007×770W±02, h20km±30km, n14, σ0°89/15, mb4.0/9, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.49	7	Pn		Pn	02 58 48.8	+0.2
	287nm,0.3s,baz=185,slow=12,SNR=6.5							
NNA				Sn		Sn	02 59 08.6	+1.1
	1μm,0.3s,baz=265,slow=9.3,SNR=19							
ATAH	Atahualpa	6.57	348	Pn		Pn	02 59 58.1	-0.4
	4.1nm,0.3s,baz=180,slow=20,SNR=5.7							
ATAH				Sn		Sn	03 01 11.6	-1.4
	4.5nm,0.3s,baz=99,slow=19,SNR=2.1							
CPUP	Villa Florida	22.47	128	eP		P	03 03 20.4	-0.6
	25nm,1.3s,mb4.5							
SDV	Santo Domingo	23.10	16	P		P	03 03 28.0	+0.2
	6.7nm,0.8s,mb4.2,baz=270,slow=12,SNR=3.7							
SDV	Santo Domingo	23.10	16	eP		P	03 03 27.7	-0.1
	7.9nm,0.8s,mb4.2							
PLCA	Paso Flores	27.74	169	P		P	03 04 11.1	+0.8
	2.3nm,0.8s,mb3.9,baz=324,slow=6.3,SNR=4.9							
PLCA	Paso Flores	27.74	169	P		P	03 04 11.1	+0.8
MIAR	Mount Ida	50.27	342	eP		P	03 07 17.4	-0.7
	1.3nm,0.6s,mb4.1							
WMOK	Wichita Mounta	52.21	337	eP		P	03 07 34.3	+1.7
	2.0nm,0.9s,mb4.0							
SNAA	Sanae	72.33	161	P		P	03 09 46.6	-0.4
	0.3nm,0.8s,mb3.3,baz=287,slow=4.7,SNR=2.7							
DBIC	Dimbokro	74.38	79	P		P	03 09 58.9	-1.2
	2.1nm,0.6s,mb4.2,baz=221,slow=9.3,SNR=3.2							
YKA	Yellowknife Ar	81.20	343	P		P	03 10 42.1	+5.2
	0.3nm,0.5s,mb3.5,baz=139,slow=4.5,SNR=4.6							
TORD	Torodi Ar. Bea	82.35	75	P		P	03 10 44.7	+0.6
	2.4nm,1.1s,mb4.1,baz=270,slow=5.6,SNR=3.8							
SONM	Songino Array	145.62	356	PKPbc		PKPbc	03 18 00.5	+0.3
	1.5nm,0.8s,baz=340,slow=3.4,SNR=3.6							

*NEIC **16** 02:58:50.2, 3937N×2064E, h2km, MD3.1(ATH), ML2.5(THE), After THE.*
*CSEM **16** 02:58:50.8±0.3, 3933N×2040E, h12km, ML2.5, Error ellipse: s-maj=15.1km s-min=6.1km az=80.0*
*THE **16** 02:58:50.2, 3937N×2064E, h1km, ML2.5*
*ATH **16** 02:58:50.6, 3941N×2033E, h51km±1km, MD3.1/3*
*ISCJB **16** 02:58:51.1±0.8, 3930N±003×2031E±009, h10km, Error ellipse: s-maj=9.8km s-min=4.0km az=179.0*

ISC 16 02:58:51.5±0.8, 3929N±004×2029E±009, h5km±12km, n7, σ0°88/14, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.24	8	ePg		Pg	02 58 55.6	-0.7
IGT				eSg		Sg	02 58 60.0	+0.5
JAN	Janina	0.57	50	eP		Pg	02 59 02.0	-0.4
JAN				eS		Sg	02 59 10.3	+0.5
KEK	Kerkira	0.57	318	eP		Pg	02 59 02.6	+0.2
LKD	Levkas	0.65	154	ePg		Pg	02 59 02.4	-1.6
LKD				eSg		Sg	02 59 11.9	-0.5
VLS	Valsamata	1.14	168	ePg		Pg	02 59 12.9	-0.4
VLS				eSg		Sg	02 59 30.1	+2.1
VLS	Valsamata	1.14	168	eP		Pb	02 59 13.0	-0.6
VLS				eS		Sb	02 59 29.4	+0.8
VLS	Valsamata	1.14	168	ePg		Pg	02 59 12.9	-0.4
VLS				eS		Sb	02 59 29.4	+0.8
VLS				eSg		Sg	02 59 30.1	+2.1

*ISCJB **16** 03:04:34.9±0.5, 1420S±006×7657W±0.10, h21km, mb4.1/17, Error ellipse: s-maj=14.8km s-min=6.2km az=151.5*
*IDC **16** 03:04:36.9±0.6, 1419S×7654W, h22km±3km, mb4.0/11, mb1 4.1/16, mb1mx4.0/23, mbtmp4.0/16, ML3.7/6, MS4.8/1, Ms1 4.9/1, ms1mx3.8/34, Error ellipse: s-maj=27.5km s-min=11.9km az=66.0*
*NEIC **16** 03:04:37.0±0.3, 1420S×7657W, mb4.4/7, Error ellipse: s-maj=12.6km s-min=5.8km az=55.0*

ISC 16 03:04:37.3±0.5, 1417S±006×7653W±010, h23km, h23km±1.1km: pP-P, n37, σ0°90/35, mb4.1/17, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.19	352	Pn		Pn	03 05 14.4	+2.0
	80nm,0.3s,baz=170,slow=12,SNR=4.7							
NNA				Sn		Sn	03 05 37.9	-0.8
	382nm,0.3s,baz=190,slow=12,SNR=16							
NNA	Nana	2.19	352	ePn		Pn	03 05 12.5	+0.2
NNA				eSn		Sn	03 05 36.9	-1.7
ATAH	Atahualpa	7.35	345	Pn		Pn	03 06 23.1	-0.2
	1.5nm,0.3s,baz=216,slow=17,SNR=4.7							
ATAH				Sn		Sn	03 07 57.4	+11
	2.1nm,0.3s,baz=0.0,slow=5.1,SNR=3.0							
LPAZ	La Paz	8.38	106	Pn		Pn	03 06 39.3	+1.8
	0.1nm,0.3s,baz=301,slow=10.0,SNR=3.6							
LPAZ				LR		LR	03 09 30.5	
	comp=Z,6μm,19.2s,baz=154,slow=35							
LVC	Limon Verde	11.08	140	Pn		Pn	03 07 14.9	+0.4
	0.3nm,0.3s,baz=176,slow=0.0,SNR=2.3							
SIV	San Ignacio	15.04	99	Pn		Pn	03 08 09.3	+0.7
	0.2nm,0.3s,baz=245,slow=19,SNR=2.3							
CFAA	Coronel Fontan	18.95	158	P		Pn	03 08 56.7	-1.0
	0.1nm,0.3s,baz=317,slow=6.5,SNR=4.6							
CPUP	Villa Florida	21.67	127	P		P	03 09 25.4	-1.1
	2.0nm,0.8s,mb3.6,baz=287,slow=11,SNR=3.5							
SDV	Santo Domingo	23.64	15	P		P	03 09 46.3	-0.9
	4.0nm,0.7s,mb4.0,baz=270,slow=14,SNR=1.8							
PLCA	Paso Flores	26.98	170	P		P	03 10 16.5	-0.8
	2.0nm,0.9s,mb3.6,baz=354,slow=9.2,SNR=4.6							
PLCA	Paso Flores	26.98	170	P		P	03 10 16.5	-0.8
TEIG	Tepich	36.07	341	P		P	03 11 36.7	-0.8
	7.6nm,0.9s,mb4.6,baz=117,slow=9.0,SNR=4.2							
MIAR	Mount Ida	51.08	342	eP		P	03 13 37.6	-0.5
	2.5nm,0.8s,mb4.2							
LAZ	Ladron	56.39	330	eP		P	03 14 17.7	+0.7
ANMO	Albuquerque	56.51	331	eP		P	03 14 18.0	+0.2
	3.8nm,1.1s,mb4.3							
WUAZ	Wupatki	59.42	327	eP		P	03 14 38.9	+0.6
	6.7nm,1.1s,mb4.6							
DUG	Dugway	63.73	330	eP		P	03 15 08.2	+1.0
	3.1nm,1.1s,mb4.2							
PDAR	Pinedale Array	64.25	334	P		P	03 15 10.1	-0.6
	0.6nm,0.7s,mb3.8,baz=134,slow=8.5,SNR=4.6							
MTUM	Tungsten Hills	64.71	324	eP		P	03 15 15.3	+1.5
NVAR	Mina Array Bea	65.31	325	P		P	03 15 18.8	+1.1
	0.9nm,0.8s,mb3.9,baz=142,slow=5.8,SNR=8.1							
NVAR	Mina Array Bea	65.31	325	P		P	03 15 18.8	+1.1
ULM	Lac du Bonnet	66.35	347	P		P	03 15 23.1	-1.0
	1.5nm,0.5s,mb4.3,baz=190,slow=6.1,SNR=2.8							
HLID	Hailey	67.07	331	eP		P	03 15 29.4	+0.6
	1.1nm,0.8s,mb3.9							
SNAA	Sanae	71.53	161	e		P	03 15 55.6	-0.5
SNAA				e		pP	03 16 02.6	-0.8
SNAA	Sanae	71.53	161	P		P	03 15 55.8	-0.2
	1.6nm,0.8s,mb4.0,baz=278,slow=6.3,SNR=18							
SNAA				pP		pP	03 16 02.8	-0.6
	2.8nm,0.8s,baz=295,slow=5.2,SNR=18							
SNAA	Sanae	71.53	161	eP		P	03 15 55.4	-0.7
	7.9nm,0.8s,mb4.7							
SNAA				epP		pP	03 16 02.6	-0.8
DBIC	Dimbokro	74.05	79	P		P	03 16 11.8	-0.2
	4.4nm,0.8s,mb4.4,baz=180,slow=3.0,SNR=3.8							
NLWA	Neilton Lookou	74.44	329	eP		P	03 16 14.4	+0.8
	2.9nm,0.9s,mb4.2							
NLWA				epP		pP	03 16 20.5	-0.5
YKA	Yellowknife Ar	82.00	343	P		P	03 16 54.2	-0.9
	0.9nm,0.9s,mb3.7,baz=148,slow=5.8,SNR=5.1							
YKA				pP		pP	03 17 01.3	-1.2
	0.4nm,0.5s,baz=140,slow=5.5,SNR=3.4							
YKA	Yellowknife Ar	82.00	343	P		P	03 16 54.2	-0.9
YKA				pP		pP	03 17 01.4	-1.2
TORD	Torodi Ar. Bea	82.08	74	P		P	03 16 55.9	-0.7
	3.9nm,1.0s,mb4.3,baz=264,slow=3.3,SNR=9.2							
TORD	Torodi Ar. Bea	82.08	74	P		P	03 16 55.9	-0.7
ASAR	Alice Springs	132.05	219	PKP		PKPdf	03 23 49.6	-0.4
	0.3nm,0.8s,baz=151,slow=2.4,SNR=3.2							
WRA	Warramunga Arr	134.49	223	PKP		PKPdf	03 23 53.9	-0.8
	0.3nm,0.7s,baz=135,slow=2.0,SNR=3.4							
WRA				pPKP		pPKPdf	03 24 01.2	-1.1
	0.8nm,0.8s,baz=108,slow=2.1,SNR=3.7							
ZALV	Zalesovo Beam	137.68	16	PKP		PKPdf	03 23 58.9	-0.6
	0.6nm,0.3s,baz=352,slow=9.1,SNR=3.9							
SONM	Songino Array	146.34	356	PKPbc		PKPbc	03 24 16.3	0.0
	1.6nm,0.8s,baz=323,slow=2.2,SNR=8.0							
SONM				pPKPbc		pPKPbc	03 24 23.2	-0.8
	2.0nm,0.9s,baz=306,slow=0.3,SNR=6.2							
KSRS	Korea Array	148.20	321	PKPbc		PKPbc	03 24 21.1	-0.8
	0.8nm,0.7s,baz=45,slow=2.5,SNR=6.5							
KSRS				pPKPbc		pPKPbc	03 24 28.3	-1.2
	2.2nm,0.9s,baz=62,slow=1.9,SNR=4.6							

*ISCJB **16** 03:07:50.8±5.1, 1363S±009×77.1W±03, h9km±33km, mb3.5/3, Error ellipse: s-maj=51.9km s-min=15.0km az=179.8*
*IDC **16** 03:07:51.5±1.2, 1358S×7683W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, ML3.6/1, MS4.7/1, Ms1 4.7/1, ms1mx4.4/24, Error ellipse: s-maj=50.4km s-min=20.2km az=77.0*

ISC 16 03:07:51.9±6.0, 1357S±010×768W±04, h2km±39km, n6, σ0°29/6, mb3.5/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.57	359	Pn		Pn	03 08 21.0	+0.2
	113nm,0.3s,baz=184,slow=16,SNR=4.2							
NNA				Sn		Sn	03 08 41.6	-0.1
	551nm,0.3s,baz=264,slow=5.7,SNR=9.2							
ATAH	Atahualpa	6.70	347	Pn		Pn	03 09 31.2	-0.3
	1.1nm,0.3s,baz=120,slow=20,SNR=1.9							
ATAH				LR		LR	03 12 03.5	
	comp=Z,6μm,19.5s,baz=196,slow=38							
NVAR	Mina Array Bea	64.66	325	P		P	03 18 31.5	+0.2
	0.3nm,0.6s,mb3.5,baz=134,slow=6.5,SNR=3.8							
SNAA	Sanae	72.18	161	P		P	03 19 17.8	-0.1
	0.4nm,0.8s,mb3.4,baz=288,slow=6.4,SNR=3.7							
TORD	Torodi Ar. Bea	82.19	74	P		P	03 20 15.2	0.0
	0.5nm,0.7s,mb3.5,baz=244,slow=5.8,SNR=4.7							
SONM	Songino Array	145.73	356	PKPbc		PKPbc	03 27 32.1	-0.3
	0.5nm,0.7s,baz=44,slow=4.4,SNR=5.1							

*CSEM **16** 03:24:40.0, 41.16N×4420E, h28km, mb3.7, Error ellipse: s-maj=71.8km s-min=14.2km az=3.0, After OBN*
*MOS **16** 03:24:40.1±0.8, 41.16N×4420E, h28km, mb3.7/1, Error ellipse: s-maj=71.8km s-min=14.2km az=90.3*
*TIF **16** 03:24:40.5, 4145N×4395E, h12km±1km*

ISC 16 03:24:42.1±1.9, 415N±01×4393E±008, h10km, n9, σ0°84/13, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TBLG	Delisi	0.66	66	Pg		Pg	03 24 54.1	-0.7
TBLG				Sg		Sg	03 25 03.6	+0.1
MTA	Mtatsminda	0.69	70	P		Pg	03 24 54.3	-1.0
MTA				S		Sg	03 25 04.1	-0.1
DGRG	David-gareji	1.08	90	P		Pb	03 25 02.2	-0.7
DGRG				S		Sg	03 25 18.2	+1.3
ONI	Oni	1.17	342	P		Pb	03 25 03.4	-1.0
ONI				S		Sb	03 25 20.0	+0.3
ZEI	Tsey	1.31	359	ePn		Pn	03 25 06.9	+0.6
LACR	Lac	1.39	11	i Pn		Pn	03 25 07.6	+0.1
DIGR	Digorskoe uzhe	1.46	350	ePn		Pn	03 25 09.5	+1.1
ARNR	Ardon	1.74	8	ePn		Pn	03 25 13.6	+1.2
LSNR	Lesken	1.81	357	ePn		Pg	03 25 15.6	-1.2

*ISCJB **16** 03:26:28.4±0.3, 1330S±004×7689W±007, h23km, mb4.5/40, Error ellipse: s-maj=10.7km s-min=5.3km az=156.3*
*IDC **16** 03:26:30.0±0.7, 1324S×7685W, h22km±4km, mb4.3/15, mb1 4.4/19, mb1mx4.3/23, mbtmp4.3/19, ML3.0/2, Error ellipse: s-maj=20.2km s-min=10.7km az=75.0*
*MOS **16** 03:26:30.4±1.1, 1327S×7696W, h33km, mb4.7/14, Error ellipse: s-maj=22.7km s-min=9.8km az=122.6*
*NEIC **16** 03:26:32.3±1.0, 1327S×7680W, h38km±8km, mb4.6/30, Error ellipse: s-maj=10.1km s-min=4.6km az=61.0*

ISC 16 03:26:30.8±0.3, 1326S±005×7680W±007, h25km, h25km±.9km: pP-P, n103, σ0°77/96, mb4.5/40, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.27	358	Pn		Pn	03 26 52.6	-0.3
	528nm,0.3s,baz=176,slow=13,SNR=44							
NNA				Sn		Sn	03 27 08.2	-0.9
	2μm,0.3s,baz=240,slow=16,SNR=32							
NNA	Nana	1.27	358	ePn		Pn	03 26 52.5	-0.4
NNA				eSn		Sn	03 27 07.8	-1.4
ARE	Arequipa	6.04	122	eP		Pn	03 28 08.0	+9.5
ARE				eS		Sn	03 29 23.0	+16
ATAH	Atahualpa	6.42	346	Pn		Pn	03 28 04.6	+0.8
	6.5nm,0.3s,baz=176,slow=5.3,SNR=16							
ATAH				Sn		Sn	03 29 22.9	+6.6
	12nm,0.3s,baz=55,slow=19,SNR=2.0							
LPAZ	La Paz	8.90	111	Pn		Pn	03 28 43.2	+5.3
	2.9nm,0.3s,baz=291,slow=9.3,SNR=26							
LPAZ	La Paz	8.90	111	eP		Pn	03 28 44.0	+6.1
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.7s							
LPAZ	La Paz	8.90	111	ePn		Pn	03 28 44.0	+6.1
	comp=Z,0.5nm,0.7s							
LVC	Limon Verde	11.95	142	Pn		Pn	03 29 20.0	+0.5
	baz=335,slow=0.0							
LVC	Limon Verde	11.95	142	ePn		Pn	03 29 19.3	-0.3
	comp=Z,17nm,0.4s							
OTAV	Otavalo	13.51	353	ePn		Pn	03 29 46.5	+5.5
	comp=Z,24nm,0.8s							
SIV	San Ignacio	15.46	102	Pn		Pn	03 30 08.9	+1.6
	comp=Z,0.9nm,0.3s,baz=285,slow=14,SNR=20							
ROSC	El Rosal	18.16	8	P		Pn	03 30 41.4	0.0
	comp=Z,0.5nm,0.3s,baz=112,slow=18,SNR=2.2							
ROSC	El Rosal	18.16	8	eP		Pn	03 30 43.8	+2.4
CFAA	Coronel Fontan	19.88	158	P		Pn	03 31 01.1	-1.0
	comp=Z,0.1nm,0.3s,baz=326,slow=13,SNR=18			

comp=Z,9.5nm,0.9s,mb4.9
PDAR Pinedale Array 63.34 334 P **P 03 36 57.4 -0.3**
comp=Z,0.7nm,0.8s,mb3.9,baz=123,slow=7.5,SNR=5.8
PDAR pP pP 03 37 04.8 -0.7
comp=Z,2.0nm,0.8s,baz=134,slow=8.6,SNR=9.0
BW06 Boulder Array 63.34 334 *e*P **P 03 36 58.1 +0.4**
comp=Z,3.8nm,1.0s,mb4.5
AGMN Agassiz Refuge 63.59 346 *e*P **P 03 36 58.1 -1.1**
comp=Z,7.2nm,0.7s,mb4.8
NVAR Mina Array Bea 64.43 325 P **P 03 37 05.8 +0.7**
comp=Z,1.2nm,0.9s,mb3.9,baz=131,slow=4.5,SNR=5.4
ELK Elko 64.45 328 *e*P **P 03 37 05.0 -0.1**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 64.45 328 *e*P **P 03 37 05.0 -0.2**
comp=Z,3.2nm,0.9s,mb4.3
LOHW Long Hollow 64.47 333 *e*P **P 03 37 09.3 +4.2**
comp=Z,2.8nm,0.6s,mb4.5
TPAW Teton Pass 64.53 333 *e*P **P 03 37 06.1 +0.5**
comp=Z,3.4nm,0.8s,mb4.4
MOOW Moose Ponds 64.64 333 *e*P **P 03 37 06.0 -0.3**
comp=Z,1.1nm,0.8s,mb3.9
ULM Lac du Bonnet 65.42 347 P **P 03 37 10.0 -1.2**
comp=Z,7.9nm,0.8s,mb4.8,baz=164,slow=6.1,SNR=6.2
ULM pP pP 03 37 17.2 -1.8
comp=Z,9.4nm,0.9s,baz=171,slow=6.3,SNR=5.0
ULM Lac du Bonnet 65.42 347 *e*P **P 03 37 09.6 -1.6**
comp=Z,3.9nm,0.8s,mb4.5
GCMT Greycliff 65.83 335 *e*P **P 03 37 14.0 0.0**
HLID Hailey 66.16 331 *e*P **P 03 37 16.2 0.0**
comp=Z,2.0nm,0.8s,mb4.2
BOZ Bozeman (W) 66.53 334 *e*P **P 03 37 18.1 -0.4**
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BOZ Bozeman (W) 66.53 334 *e*P **P 03 37 18.1 -0.4**
comp=Z,1.9nm,0.8s,mb4.2
WVOR Wild Horse Val 67.43 328 *e*P **P 03 37 24.2 -0.1**
WVOR pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
WVOR Wild Horse Val 67.43 328 *e*P **P 03 37 24.2 -0.1**
comp=Z,1.3nm,0.6s,mb4.1
SCHQ Schefferville 68.35 6 P **P 03 37 28.1 -1.7**
comp=Z,3.2nm,0.8s,mb4.4,baz=184,slow=5.9,SNR=4.0
VNA1 Neumayer--Stat 70.51 161 *e* **P 03 37 43.4 +0.4**
VNA1 *e* 03 37 48.1
VNA1 *e* pP 03 37 51.5 +0.6
NEW Newport 70.95 333 *e*P **P 03 37 45.1 -0.8**
NEW pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 70.95 333 *e*P **P 03 37 45.1 -0.9**
comp=Z,2.3nm,0.8s,mb4.2
SNAA Sanae 72.46 161 *e* **P 03 37 54.2 -0.6**
SNAA *e* 03 37 58.2
SNAA *e* pP 03 38 00.5 -2.2
SNAA Sanae 72.46 161 *e*P **P 03 37 54.3 -0.5**
SNAA pmax pmax
comp=Z,9.0nm,1.1s
SNAA Sanae 72.46 161 *e*P **P 03 37 54.3 -0.5**
comp=Z,8.9nm,1.1s,mb4.6
EDM Edmonton 73.25 338 *e*P **P 03 38 00.7 +1.1**
LIC Lamto 73.84 79 *e*P **P 03 38 03.9 -0.1**
comp=Z,40nm,0.9s,mb5.4
TIC Toumodi 73.96 79 *e*P **P 03 38 04.0 -0.7**
comp=Z,154nm,1.5s
TIC Toumodi 73.96 79 *e*P **P 03 38 04.0 -0.7**
TIC pmax pmax
comp=Z,154nm,1.5s
DBIC Dimbokro 74.12 79 P **P 03 38 05.9 +0.2**
comp=Z,11nm,0.8s,mb4.9,baz=224,slow=7.7,SNR=15
DBIC Dimbokro 74.12 79 *e*P **P 03 38 05.6 -0.1**
DBIC pmax pmax
comp=Z,11nm,0.7s
DBIC Dimbokro 74.12 79 *e*P **P 03 38 05.6 0.0**
comp=Z,11nm,0.7s,mb4.9
KIC Kosan Boka 74.15 79 *e*P **P 03 38 05.9 +0.1**
comp=Z,85nm,0.8s
QSPA South Pole Qui 76.88 180 P **P 03 38 21.1 +0.9**
comp=Z,1.2nm,0.7s,mb4.0,baz=120,slow=3.8,SNR=9.1
YKA Yellowknife Ar 81.06 343 P **P 03 38 42.1 -1.2**
comp=Z,3.2nm,0.9s,mb4.2,baz=138,slow=5.5,SNR=17
YKA pP pP 03 38 49.7 -1.6
comp=Z,2.3nm,0.9s,baz=139,slow=5.3,SNR=8.2
YKA Yellowknife Ar 81.06 343 P **P 03 38 42.1 -1.2**
YKA pP pP 03 38 49.7 -1.7
TOA0 Torodi Ar. Sit 82.08 75 *e*P **P 03 38 50.1 +0.4**
TORD Torodi Ar. Bea 82.08 75 P **P 03 38 50.2 +0.4**
comp=Z,32nm,0.8s,mb5.3,baz=263,slow=5.0,SNR=104
TORD Torodi Ar. Bea 82.08 75 P **P 03 38 50.2 +0.4**
VNDA Vanda 83.56 191 P **P 03 38 56.9 +0.6**
comp=Z,1.7nm,0.9s,mb4.2,baz=143,slow=2.3,SNR=11
VNDA Vanda 83.56 191 *e*P **P 03 38 56.5 +0.2**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 83.56 191 *e*P **P 03 38 56.5 +0.2**
comp=Z,2.5nm,0.9s,mb4.3
TSUM Tsumeb 89.76 110 *e*P **P 03 39 27.3 -0.4**
comp=Z,4.0nm,0.8s,mb4.8
DAWY Dawson 90.44 337 *e*P **P 03 39 29.0 -0.7**
INK Inuvik 90.74 342 *e*P **P 03 39 30.5 -0.6**
comp=Z,335nm,1.1s
ASAR Alice Springs 132.59 219 PKP PKPdf 03 45 43.3 -0.8
comp=Z,0.7nm,0.8s,baz=108,slow=4.1,SNR=4.6
WRAB Tennant Creek 134.97 223 *e*PKIKP PKPdf 03 45 48.1 -0.6
WRA Warramunga Arr 134.97 223 PKP PKPdf 03 45 47.9 -0.8
comp=Z,1.7nm,0.8s,baz=139,slow=1.5,SNR=7.5
WRA pPKP pPKPdf 03 45 55.6 -1.4
comp=Z,1.6nm,0.8s,baz=138,slow=1.5,SNR=6.3
ZALV Zalesovo Beam 136.89 16 PKP PKPdf 03 45 51.7 +0.5
comp=Z,1.7nm,0.4s,baz=264,slow=1.4,SNR=2.0
ZAL Zalesovo 136.89 16 PKIKP PKPdf 03 45 51.7 +0.5
KURK Kurchatov 137.63 23 *e*PKIKP PKPdf 03 45 52.2 -0.4
MKAR Makanchi Array 142.23 24 PKhKP 03 45 58.1
comp=Z,0.4nm,0.6s,baz=298,slow=2.6,SNR=3.6
MKAR PKP PKPdf 03 46 02.2 +1.1
comp=Z,0.4nm,0.6s,baz=326,slow=1.2,SNR=3.3
ZAK Zakamensk 142.98 360 *e*PKHKP 03 45 38.4
ZAK pmax pmax
comp=Z,2.0nm,1.5s
SONM Songino Array 145.43 356 PKPbc PKPbc 03 46 06.9 +0.3
comp=Z,12nm,0.8s,baz=330,slow=2.5,SNR=56
KSRS Korea Array 147.34 322 PKPbc PKPbc 03 46 09.3 -3.3
comp=Z,2.4nm,0.8s,baz=39,slow=2.3,SNR=11
CMAR Chiang Mai Arr 173.40 38 PKPab PKPab 03 48 07.8 +0.6
comp=Z,0.8nm,0.3s,baz=324,slow=7.1,SNR=4.1

MOS ***16*** *03:28:20.4±0.9, 1348S×7687W, h33km, mb4.5/9, Error ellipse: s-maj=22.3km s-min=12.3km az=127.4*
NEIC ***16*** *03:28:20.9±0.2, 1350S×7675W, mb4.5/25, Error ellipse: s-maj=11.5km s-min=5.1km az=66.0*
ISCJB ***16*** *03:28:21.8±1.3, 1353S±006×769W±01, h52km±10km, mb4.4/35, Error ellipse: s-maj=17.9km s-min=7.2km az=154.2*
IDC ***16*** *03:28:22.2±3.2, 1349S×7668W, h36km±26km, mb4.2/14, mb1 4.3/16, mb1mx4.2/21, mbtmp4.2/16, Error ellipse: s-maj=27.9km s-min=13.1km az=74.0*
ISC 16 03:28:22.8±1.1, 1352S±006×767W±01, h44km±9km, h30km±2.7km: pP-P, n76, σ0°81/71, mb4.4/35, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.53**	**356**	Pn	**Pn**	**03 28 46.4**	**-1.3**
	297nm,0.3s,baz=187,slow=15,SNR=2.4						
NNA				Sn	**Sn**	**03 29 06.7**	**+0.3**
	3μm,0.3s,baz=130,slow=16,SNR=15						
ATAH	**Atahualpa**	**6.69**	**346**	Pn	**Pn**	**03 30 00.5**	**+2.0**
	18nm,0.3s,baz=307,slow=20,SNR=3.5						
LPAZ	**La Paz**	**8.75**	**109**	Pn	**Pn**	**03 30 31.0**	**+4.2**
	1.1nm,0.3s,baz=225,slow=19,SNR=3.1						
LPAZ	**La Paz**	**8.75**	**109**	Pn	**Pn**	**03 30 31.0**	**+4.2**
LVC	**Limon Verde**	**11.70**	**142**	Pn	**Pn**	**03 31 06.0**	**-1.1**
	2.5nm,0.3s,baz=33,slow=0.0,SNR=3.1						
LVC	**Limon Verde**	**11.70**	**142**	Pn	**Pn**	**03 31 06.0**	**-1.1**
CFAA	**Coronel Fontan**	**19.61**	**158**	P	**Pn**	**03 32 48.8**	**-0.3**
	0.1nm,0.3s,baz=330,slow=15,SNR=3.8						
CPUP	**Villa Florida**	**22.20**	**128**	P	**P**	**03 33 16.1**	**+0.5**
	5.5nm,0.8s,mb4.0,baz=281,slow=8.9,SNR=3.0						
CPUP	**Villa Florida**	**22.20**	**128**	*e*P	**P**	**03 33 16.1**	**+0.6**
CPUP				pmax	pmax		
	comp=Z,33nm,1.0s						
CPUP	**Villa Florida**	**22.20**	**128**	*e*P	**P**	**03 33 16.1**	**+0.6**
	comp=Z,33nm,1.0s,mb4.7						
BCIP	**Isla Barro Col**	**22.75**	**352**	*e*P	**P**	**03 33 23.1**	**+1.7**
	comp=Z,23nm,1.0s,mb4.5						
SDV	**Santo Domingo**	**23.07**	**16**	P	**P**	**03 33 24.6**	**-0.1**
	comp=Z,9.6nm,0.7s,mb4.3,baz=92,slow=1.9,SNR=2.1						
SDV	**Santo Domingo**	**23.07**	**16**	*e*P	**P**	**03 33 24.4**	**-0.3**
	comp=Z,15nm,0.8s,mb4.5						
PLCA	**Paso Flores**	**27.64**	**170**	P	**P**	**03 34 06.3**	**+0.1**
	comp=Z,9.6nm,1.0s,mb4.4,baz=351,slow=9.6,SNR=5.1						
PLCA	**Paso Flores**	**27.64**	**170**	P	**P**	**03 34 06.3**	**+0.1**
TRQA	**Tornquist**	**27.73**	**154**	*e*P	**P**	**03 34 06.7**	**-0.4**
	comp=Z,3.8nm,0.6s,mb4.2						
CMIG	**Matias Romero**	**35.31**	**329**	P	**P**	**03 35 15.0**	**+1.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=152,slow=17,SNR=2.8						
MIAR	**Mount Ida**	**50.41**	**342**	*e*P	**P**	**03 37 15.9**	**0.0**
MIAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
MIAR	**Mount Ida**	**50.41**	**342**	*e*P	**P**	**03 37 15.9**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.2						
ACSO	**Alum Creek Sta**	**53.79**	**354**	*e*P	**P**	**03 37 39.7**	**-1.2**
	comp=Z,8.1nm,0.7s,mb4.8						
ANMO	**Albuquerque**	**55.86**	**331**	*e*P	**P**	**03 37 56.6**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ANMO	**Albuquerque**	**55.86**	**331**	*e*P	**P**	**03 37 56.6**	**+0.7**
	comp=Z,2.8nm,1.0s,mb4.2						
TUC	**Tucson**	**56.03**	**325**	*e*P	**P**	**03 37 56.9**	**-0.4**
TUC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
TUC	**Tucson**	**56.03**	**325**	*e*P	**P**	**03 37 56.9**	**-0.4**
	comp=Z,2.0nm,0.9s,mb4.2						
SDCO	**Great Sand Dun**	**57.71**	**333**	*e*P	**P**	**03 38 09.7**	**+0.6**
	comp=Z,2.3nm,0.9s,mb4.2						
SDCO				*e*pP	pP	03 38 16.8	-4.9
LONY	**Lake Ozonia**	**57.90**	**2**	*e*P	**P**	**03 38 09.8**	**-0.4**
	comp=Z,4.2nm,0.8s,mb4.5						
ECSD	**EROS,Sioux Fal**	**59.81**	**343**	*e*P	**P**	**03 38 22.4**	**-1.1**
	comp=Z,4.4nm,0.8s,mb4.5						
TPNV	**Topopah Spring**	**62.49**	**325**	*e*P	**P**	**03 38 43.6**	**+1.8**
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
TPNV	**Topopah Spring**	**62.49**	**325**	*e*P	**P**	**03 38 43.6**	**+1.8**
	comp=Z,1.8nm,0.9s,mb4.2						
DUG	**Dugway**	**63.08**	**330**	*e*P	**P**	**03 38 46.2**	**+0.5**
DUG				*e*PP	pP	03 38 57.4	-1.1
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
DUG	**Dugway**	**63.08**	**330**	*e*P	**P**	**03 38 46.2**	**+0.5**
	comp=Z,3.6nm,0.9s,mb4.5						
DUG				*e*pP	pP	03 38 57.4	-1.1
HWUT	**Hardware Ranch**	**63.58**	**331**	*e*P	**P**	**03 38 49.2**	**+0.3**
	comp=Z,3.6nm,0.6s,mb4.6						
HWUT				*e*pP	pP	03 38 58.3	-3.4
BGU	**Big Grassy Mou**	**63.75**	**330**	*e*P	**P**	**03 38 50.7**	**+0.6**
BGU				*e*pP	pP	03 39 00.1	-2.8
AGMN	**Agassiz Refuge**	**63.86**	**346**	*e*P	**P**	**03 38 50.0**	**-0.7**
	comp=Z,5.7nm,0.8s,mb4.7						
NVAR	**Mina Array Bea**	**64.69**	**325**	P	**P**	**03 38 57.1**	**+0.8**
	comp=Z,1.1nm,0.9s,mb3.9,baz=141,slow=5.8,SNR=3.5						
ELK	**Elko**	**64.71**	**328**	*e*P	**P**	**03 38 56.1**	**-0.3**
ELK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ELK	**Elko**	**64.71**	**328**	*e*P	**P**	**03 38 56.1**	**-0.3**
	comp=Z,2.9nm,1.0s,mb4.3						
MOOW	**Moose Ponds**	**64.91**	**333**	*e*P	**P**	**03 38 55.8**	**-1.8**
	comp=Z,1.1nm,0.9s,mb3.9						
IMW	**Indian Meadow**	**65.11**	**333**	*e*P	**P**	**03 38 58.9**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.2						
RLMT	**Red Lodge**	**65.39**	**335**	*e*P	**P**	**03 38 58.6**	**-2.1**
	comp=Z,1.9nm,0.8s,mb4.2						
ULM	**Lac du Bonnet**	**65.69**	**347**	P	**P**	**03 39 01.9**	**-0.7**
	comp=Z,4.9nm,0.6s,mb4.8,baz=206,slow=5.3,SNR=4.6						
ULM	**Lac du Bonnet**	**65.69**	**347**	*e*P	**P**	**03 39 01.5**	**-1.1**
	comp=Z,6.2nm,0.7s,mb4.8						
ULM				*e*pP	pP	03 39 09.1	-6.2
DGMT	**Dagmar**	**66.37**	**340**	*e*P	**P**	**03 39 06.3**	**-0.6**
	comp=Z,7.6nm,0.7s,mb4.8						
DLMT	**Dillon**	**66.99**	**333**	*e*P	**P**	**03 39 10.3**	**-0.7**
	comp=Z,5.8nm,1.2s,mb4.5						
SCHQ	**Schefferville**	**68.60**	**6**	P	**P**	**03 39 20.2**	**-0.7**
	comp=Z,5.2nm,0.8s,mb4.5,baz=250,slow=4.4,SNR=5.8						
VNA1	**Neumayer--Stat**	**70.24**	**161**	*e*	**P**	**03 39 31.7**	**+0.8**
VNA1	*e*					03 39 34.1	
OD2	**Odessa Site #2**	**71.29**	**331**	*e*P	**P**	**03 39 36.1**	**-1.5**
SNAA	**Sanae**	**72.19**	**161**	*e*	**P**	**03 39 42.7**	**0.0**
SNAA	*e*					03 39 45.5	
SNAA	*e*			pP	pP	03 39 52.5	-3.2
RPW	**Rockport**	**73.37**	**331**	*e*P	**P**	**03 39 50.2**	**+0.3**
EDM	**Edmonton**	**73.52**	**338**	*e*P	**P**	**03 39 50.6**	**-0.1**
DBIC	**Dimbokro**	**74.11**	**79**	P	**P**	**03 39 55.0**	**0.0**
	comp=Z,6.6nm,0.8s,mb4.6,baz=283,slow=4.6,SNR=5.7						
QSPA	**South Pole Qui**	**76.62**	**180**	P	**P**	**03 40 09.1**	**+0.8**
	comp=Z,2.3nm,0.8s,mb4.2,baz=116,slow=3.9,SNR=4.7						
YKA	**Yellowknife Ar**	**81.34**	**343**	P	**P**	**03 40 34.0**	**-0.2**
	comp=Z,1.2nm,0.8s,mb3.9,baz=130,slow=5.5,SNR=3.5						
YKA	**Yellowknife Ar**	**81.34**	**343**	P	**P**	**03 40 34.0**	**-0.2**
TOA0	**Torodi Ar. Sit**	**82.08**	**74**	*e*P	**P**	**03 40 39.3**	**0.0**
TORD	**Torodi Ar. Bea**	**82.08**	**74**	P	**P**	**03 40 39.4**	**+0.1**
	comp=Z,8.4nm,0.9s,mb4.7,baz=260,slow=5.1,SNR=6.3						
VNDA	**Vanda**	**83.31**	**191**	P	**P**	**03 40 45.0**	**+0.5**
	comp=Z,2.1nm,1.0s,mb4.1,baz=131,slow=2.7,SNR=5.4						
VNDA	**Vanda**	**83.31**	**191**	*e*P	**P**	**03 40 44.5**	**0.0**
VNDA				*e*PP	pP	03 40 55.3	-2.4
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
VNDA	**Vanda**	**83.31**	**191**	*e*P	**P**	**03 40 44.5**	**0.0**
	comp=Z,2.5nm,1.0s,mb4.2						
VNDA				*e*pP	pP	03 40 55.3	-2.5
ESDC	**Sonseca Array**	**85.72**	**48**	P	**P**	**03 40 57.7**	**+0.4**
	comp=Z,0.7nm,0.6s,mb4.1,baz=254,slow=5.2,SNR=4.5						
TAM	**Tamanrasset**	**88.19**	**66**	*e*P	**P**	**03 41 10.6**	**+0.9**
HYT	**Haines Junctio**	**88.28**	**335**	*e*P	**P**	**03 41 08.4**	**-0.8**
DAWY	**Dawson**	**90.70**	**337**	*e*P	**P**	**03 41 20.4**	**-0.1**
INK	**Inuvik**	**91.01**	**342**	*e*P	**P**	**03 41 22.0**	**+0.2**
	comp=Z,190nm,1.1s						
INK				*e*pP	pP	03 41 30.4	-4.7
EGAK	**Eagle**	**91.72**	**337**	*e*P	**P**	**03 41 25.3**	**+0.1**
	comp=Z,4.9nm,1.1s,mb4.8						
RAO	**Raoul Island**	**92.98**	**239**	*e*P	**P**	**03 41 32.3**	**+0.3**
COLA	**College**	**94.35**	**336**	*e*P	**P**	**03 41 37.4**	**+0.1**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.7						
COLA	**College**	**94.35**	**336**	*e*P	**P**	**03 41 37.4**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.8						
DAVOS	**Davos**	**97.38**	**44**	P	**P**	**03 41 52.3**	**+0.8**
DAVOX	**Davos/Dischmat**	**97.42**	**44**	P	**P**	**03 41 52.3**	**+0.6**
	comp=Z,1.9nm,0.9s,mb4.5,baz=342,slow=3.2,SNR=4.4						
ASAR	**Alice Springs**	**132.43**	**219**	PKP	PKPdf	03 47 33.0	-0.1
	comp=Z,1.4nm,1.1s,baz=130,slow=2.9,SNR=4.2						
WRAB	**Tennant Creek**	**134.83**	**223**	*e*PKIKP	PKPdf	03 47 37.4	-0.3
WRA	**Warramunga Arr**	**134.83**	**223**	PKP	PKPdf	03 47 38.4	+0.7
	comp=Z,1.1nm,0.8s,baz=137,slow=1.6,SNR=5.6						
NVS	**Novosibirsk**	**135.90**	**17**	*e*P	Pdif	03 44 42.4	-0.4
MJAR	**Matsushiro Arr**	**141.25**	**313**	PKhKP		03 47 42.3	
	comp=Z,0.3nm,0.4s,baz=43,slow=1.5,SNR=4.1						
SONM	**Songino Array**	**145.69**	**356**	PKPbc	PKPbc	03 47 57.5	+0.7
	comp=Z,5.9nm,1.0s,baz=339,slow=2.5,SNR=4.9						

MOS ***16*** *03:31:41.2±1.0, 198N×9797E, h33km, mb5.1/17, Error ellipse: s-maj=16.7km s-min=6.9km az=106.7*
BJI ***16*** *03:31:45.1, 198N×9771E, h72km, mb4.9*
IDC ***16*** *03:31:46.6±3.0, 202N×9794E, h63km±24km, mb4.2/18, mb1 4.3/19, mb1mx4.1/25, mbtmp4.2/19, ML4.6/1, Error ellipse: s-maj=31.4km s-min=12.6km az=53.0*
ISCJB ***16*** *03:31:46.1±1.0, 206N±006×9788E±007, h72km±8km, mb4.6/46, Error ellipse: s-maj=13.7km s-min=6.9km az=138.1*
NEIC ***16*** *03:31:47.2±1.5, 204N×9801E, h70km±12km, mb4.8/20, Error ellipse: s-maj=18.0km s-min=5.1km az=52.0*
DJA ***16*** *03:31:51, 224N×9820E, h16km, ML4.6/6*
ISC 16 03:31:47.2±1.0, 201N±006×9786E±007, h67km±8km, n101, σ0°95/100, mb4.6/46, 12C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRSI	**Tarutung**	**1.10**	**89**	P	**Pn**	**03 32 05.6**	**-1.3**
	0.0nm,0.0s						
PSI	**Prapat**	**1.32**	**54**	P	**Pn**	**03 32 07.8**	**-1.9**
	54nm,0.3s,baz=204,slow=5.2,SNR=313						
PSI	**Prapat**	**1.32**	**54**	P	**Pn**	**03 32 07.8**	**-1.9**
PPI	**Padang Panjang**	**3.53**	**134**	P	**Pn**	**03 32 40.2**	**+0.6**
	0.0nm,0.0s						
FRIM	**Kepong**	**3.96**	**72**	⇓P	**Pn**	**03 32 46.4**	**+0.9**
IPM	**Ipoh**	**4.00**	**52**	⇓P	**Pn**	**03 32 46.3**	**+0.2**
KULM	**Kulim**	**4.29**	**40**	⇓P	**Pn**	**03 32 49.6**	**-0.4**
BSI	**Banda Aceh**	**4.30**	**324**	P	**Pn**	**03 32 48.4**	**-1.8**
	0.0nm,0.0s						
KGM	**Kluang**	**5.46**	**90**	⇑P	**Pn**	**03 33 07.8**	**+1.8**
MYKOM	**Kota Tinggi**	**5.99**	**92**	⇓P	**Pn**	**03 33 15.0**	**+1.7**
KTGM	**Kuala Trenggan**	**6.21**	**58**	⇑P	**Pn**	**03 33 16.7**	**+0.3**
KSM	**Kuching**	**12.46**	**92**	⇑P	**Pn**	**03 34 43.0**	**+1.3**
BTM	**Bintulu**	**15.26**	**85**	⇑P	**Pn**	**03 35 23.4**	**+4.6**
CMAR	**Chiang Mai Arr**	**16.38**	**4**	P	**Pn**	**03 35 32.4**	**-0.5**
	0.8nm,0.3s,baz=196,slow=12,SNR=19						
CHTO	**Chiang Mai**	**16.73**	**4**	*e*P	**Pn**	**03 35 36.3**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CHTO	**Chiang Mai**	**16.73**	**4**	*e*P	**Pn**	**03 35 36.3**	**-1.1**
	comp=Z,7.9nm,0.7s						
KDM	**Kudat**	**19.53**	**75**	⇑P	**Pn**	**03 36 12.7**	**+1.4**
TSM	**Tawau**	**20.11**	**83**	⇑P	**P**	**03 36 16.9**	**+1.1**
ODAN	**Odare**	**26.67**	**339**	*e*P	**P**	**03 37 20.3**	**+0.4**
	comp=Z,14nm,0.6s,mb4.7						
TAPN	**Taplejung**	**27.01**	**340**	*e*P	**P**	**03 37 22.4**	**-0.5**
	comp=Z,36nm,0.8s,mb4.9						
RAMN	**Ramite**	**27.05**	**337**	*e*P	**P**	**03 37 24.6**	**+1.3**
	comp=Z,21nm,0.6s,mb4.8						
JIRN	**Jiri**	**27.84**	**337**	*e*P	**P**	**03 37 30.6**	**+0.2**
PKI	**Pulchoki**	**28.07**	**336**	*e*P	**P**	**03 37 34.9**	**+2.4**
	comp=Z,22nm,0.6s,mb4.8						
PKI	**Pulchoki**	**28.07**	**336**	*e*P	**P**	**03 37 34.9**	**+2.4**
PKI				pmax	pmax		
	comp=Z,22nm,0.6s,mb4.9						
GUN	**Gumba**	**28.19**	**337**	*e*P	**P**	**03 37 32.7**	**-0.8**
	comp=Z,32nm,0.5s,mb5.1						
DMN	**Daman**	**28.23**	**336**	*e*P	**P**	**03 37 35.5**	**+1.6**
	comp=Z,13nm,0.6s,mb4.6						
KKN	**Kakani**	**28.32**	**336**	*e*P	**P**	**03 37 35.0**	**+0.3**
	comp=Z,23nm,0.7s,mb4.8						
KKN	**Kakani**	**28.32**	**336**	*e*P	**P**	**03 37 35.0**	**+0.3**
KKN				pmax	pmax		
	comp=Z,23nm,0.7s,mb4.8						
KOLN	**Koldanda**	**29.02**	**333**	*e*P	**P**	**03 37 41.2**	**+0.3**
	comp=Z,41nm,0.7s,mb5.2						
DANN	**Dangsing**	**29.45**	**334**	*e*P	**P**	**03 37 43.7**	**-1.0**
WHN	**Wuhan**	**32.40**	**27**	P	**P**	**03 38 15.1**	**+4.5**
FITZ	**Fitzroy Crossi**	**33.88**	**127**	*e*P	**P**	**03 38 21.1**	**-2.6**
GTA	**Gaotai**	**37.27**	**3**	*e*P	**P**	**03 38 52.8**	**+0.3**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**41.91**	**123**	P	**P**	**03 39 30.1**	**-1.3**
	comp=Z,8.2nm,0.7s,mb4.6,baz=301,slow=9.1,SNR=25						
WRA				PcP	PcP	03 41 26.6	+0.6
	comp=Z,1.9nm,0.5s,baz=314,slow=2.7,SNR=7.3						
WRAB	**Tennant Creek**	**41.92**	**123**	*e*P	**P**	**03 39 30.1**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**41.92**	**123**	*e*P	**P**	**03 39 30.1**	**-1.3**
	comp=Z,7.2nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**41.92**	**123**	*e*P	**P**	**03 39 30.3**	**-1.2**
WB2	*e*					03 41 26.0	
KBL	**Kabul**	**42.05**	**324**	*e*P	**P**	**03 39 33.0**	**+0.6**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
KBL	**Kabul**	**42.05**	**324**	*e*P	**P**	**03 39 33.0**	**+0.7**
	comp=Z,6.2nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**43.37**	**128**	P	**P**	**03 39 42.1**	**-1.0**
	comp=Z,2.0nm,0.8s,mb3.9,baz=298,slow=7.2,SNR=15						
ASAR				PcP	PcP	03 41 31.6	+0.7
	comp=Z,1.8nm,0.7s,baz=300,slow=2.9,SNR=8.9						
FORT	**Forrest**	**43.48**	**141**	*e*P	**P**	**03 39 44.4**	**+0.5**
	comp=Z,1.2nm,0.4s,mb4.0						
KSRS	**Korea Array**	**44.81**	**34**	P	**P**	**03 39 53.5**	**-1.1**
	comp=Z,4.2nm,0.7s,mb4.3,baz=219,slow=9.2,SNR=26						
TKM2	**Tokmak 2**	**45.33**	**337**	*e*P	**P**	**03 39 59.4**	**+0.9**
TKM2				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
TKM2	**Tokmak 2**	**45.33**	**337**	*e*P	**P**	**03 39 59.4**	**+0.9**
	comp=Z,12nm,1.0s,mb4.6						
EKS2	**Erkin-Say**	**45.85**	**335**	*e*P	**P**	**03 40 03.2**	**+0.6**
	comp=Z,3.8nm,0.8s,mb4.2						
SONM	**Songino Array**	**46.24**	**8**	P	**P**	**03 40 05.9**	**+0.3**
	comp=Z,8.0nm,0.8s,mb4.5,baz=187,slow=9.0,SNR=42						
SONM				PcP	PcP	03 41 40.8	+0.6
	comp=Z,1.2nm,0.4s,baz=191,slow=3.5,SNR=4.8						
MKAR	**Makanchi Array**	**46.62**	**345**	P	**P**	**03 40 08.8**	**+0.1**
	comp=Z,19nm,0.7s,mb4.9,baz=156,slow=8.0,SNR=149						
MKAR	**Makanchi Array**	**46.62**	**345**	P	**P**	**03 40 08.8**	**+0.1**
ZAK	**Zakamensk**	**48.42**	**5**	*i*P	**P**	**03 40 22.1**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
HVS	**Khovu-Aksy**	**49.08**	**357**	*i*P	**P**

comp=Z,2.2nm,0.7s,mb4.3
CABF La Chapelle 89.77 316 *e*P **P 03 44 38.9 +0.5**
LOR Lormes 91.26 317 *e*P **P 03 44 45.7 +0.4**
comp=Z,5.8nm,0.7s,mb4.5
LOR Lormes 91.26 317 *e*P **P 03 44 45.7 +0.4**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
LOR Lormes 91.26 317 *e*P **P 03 44 45.7 +0.4**
comp=Z,2.9nm,0.7s,mb4.5
SMF Signal de Mont 91.32 317 *e*P **P 03 44 45.9 +0.4**
comp=Z,30nm,1.1s,mb5.0
SMF Signal de Mont 91.32 317 *e*P **P 03 44 45.9 +0.4**
SMF pmax pmax
comp=Z,15nm,1.1s,mb5.0
SMF Signal de Mont 91.32 317 *e*P **P 03 44 45.9 +0.4**
comp=Z,15nm,1.1s,mb5.0
AVF Avril sur Loir 91.64 317 *e*P **P 03 44 48.1 +1.1**
EKA Eskdalemuir Ar 94.62 326 P **P 03 45 00.6 +0.1**
comp=Z,1.2nm,0.9s,mb4.3,baz=93,slow=5.3,SNR=4.2
TOA0 Torodi Ar. Sit 95.55 283 *e*P **P 03 45 05.8 +0.1**
IMA2 Indian Mountai 95.58 23 *e*P **P 03 45 04.9 +0.2**
PDAR Pinedale Array 129.03 26 PKP PKPdf 03 50 48.1 +0.4
comp=Z,0.4nm,0.7s,baz=308,slow=4.4,SNR=3.6

IDC 16 03:32:09.0±1.8,1317S×7746W,h0km,mb4.1/2, mb1 4.2/3,mb1mx3.8/15,mbtmp4.2/3,Error ellipse: s-maj=45.1km s-min=30.6km az=109.0,Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.32**	**27**	Pn	Pn	03 32 35.8	+1.0
	156nm,0.3s,baz=211,slow=13,SNR=6.8						
NNA				Sn	Sn	03 32 53.4	+0.3
	1μm,0.3s,baz=237,slow=7.6,SNR=23						
ATAH	**Atahualpa**	**6.20**	**351**	Pn	Pn	03 33 39.6	-2.3
	baz=0.0,slow=20,SNR=2.2						
ULM	**Lac du Bonnet**	**65.19**	**347**	P	P	03 42 51.7	-0.2
	1.2nm,0.4s,baz=164,slow=7.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**82.69**	**75**	P	P	03 44 34.8	-0.4
	1.1nm,0.9s,baz=260,slow=6.6,SNR=4.9						
SONM	**Songino Array**	**145.30**	**355**	PKPbc	PKPbc	03 51 48.8	+0.2
	1.3nm,0.7s,baz=342,slow=2.3,SNR=5.1						

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*ISCJB **16** 03:34:49.0±2.1,136S±0.1×769W±02,h36km±21km, mb3.9/3,Error ellipse: s-maj=36.4km s-min=11.0km az=155.0*
*NEIC **16** 03:34:51.1±2.1,1342S×7681W,h36km±19km,mb3.7/2, Error ellipse: s-maj=40.5km s-min=12.4km az=64.0*
*IDC **16** 03:34:51.4±6.7,1334S×7640W,h26km±52km,mb4.0/2, mb1 4.0/5,mb1mx3.7/18,mbtmp3.9/5,ML3.7/2,Error ellipse: s-maj=72.8km s-min=16.4km az=64.0*
ISC 16 03:34:51.4±1.7,1350S±010×769W±02,h41km±17km,n12, σ0s97/13,mb3.9/3,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.50**	**0**	**Pn**	**Pn**	**03 35 14.4**	**-1.5**
	53nm,0.3s,baz=169,slow=15,SNR=4.1						
NNA				Sn	**Sn**	**03 35 34.3**	**0.0**
	250nm,0.3s,baz=228,slow=13,SNR=12						
ARE	**Arequipa**	**5.96**	**120**	*e*P	**Pn**	**03 36 24.0**	**+6.9**
ARE				*e*S	**Sn**	**03 37 40.0**	**+16**
ATAH	**Atahualpa**	**6.63**	**347**	Pn	**Pn**	**03 36 27.3**	**+0.9**
	baz=305,slow=18,SNR=1.5						
LPAZ	**La Paz**	**8.88**	**109**	Pn	**Pn**	**03 36 58.9**	**+1.7**
	0.3nm,0.3s,baz=22,slow=19,SNR=3.8						
LVC	**Limon Verde**	**11.79**	**141**	Pn	**Pn**	**03 37 36.1**	**-0.9**
	0.5nm,0.3s,baz=330,slow=0.0,SNR=3.1						
CFAA	**Coronel Fontan**	**19.68**	**158**	P	**Pn**	**03 39 19.4**	**+0.7**
	0.0nm,0.3s,baz=333,slow=8.8,SNR=11						
CPUP	**Villa Florida**	**22.32**	**128**	P	**P**	**03 39 43.6**	**-1.9**
	3.4nm,0.9s,mb3.8,baz=304,slow=13,SNR=4.8						
CPUP	**Villa Florida**	**22.32**	**128**	*e*P	**P**	**03 39 44.7**	**-0.8**
	2.2nm,0.7s,mb3.7						
DUG	**Dugway**	**63.00**	**330**	*e*P	**P**	**03 45 14.5**	**+0.5**
	0.3nm,0.5s,mb3.7						
SNAA	**Sanae**	**72.25**	**161**	*e*P	**P**	**03 46 11.9**	**0.0**
SNAA				*e*	pP	03 46 23.5	-0.8
TORD	**Torodi Ar. Bea**	**82.20**	**75**	P	**P**	**03 47 08.7**	**-0.1**
	3.4nm,0.8s,mb4.3,baz=264,slow=4.6,SNR=9.9						
SONM	**Songino Array**	**145.66**	**356**	PKPbc	PKPbc	03 54 26.0	+0.4
	1.2nm,1.0s,baz=1.4,slow=6.2,SNR=4.0						

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*ISCJB **16** 03:46:15.8±0.3,1351S±004×7728W±007,h33km, mb4.4/41,Error ellipse: s-maj=9.8km s-min=5.9km az=163.8*
*MOS **16** 03:46:16.1±0.9,1349S×7726W,h33km,mb4.6/13,Error ellipse: s-maj=28.4km s-min=10.5km az=122.9*
*NEIC **16** 03:46:16.9±2.4,1357S×7725W,h29km±17km,mb4.5/34, Error ellipse: s-maj=12.6km s-min=4.8km az=64.0*
*IDC **16** 03:46:17.4±4.3,1354S×7724W,h33km±32km,mb4.1/11, mb1 4.3/15,mb1mx4.1/22,mbtmp4.2/15,ML4.2/4,Error ellipse: s-maj=29.0km s-min=12.9km az=71.0*
ISC 16 03:46:18.0±0.3,1351S±004×7716W±007,h35km,n87, σ0s76/86,mb4.4/41,Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.55**	**11**	**Pn**	**Pn**	**03 46 43.4**	**+0.4**
	356nm,0.3s,baz=197,slow=14,SNR=57						
NNA				Sn	**Sn**	**03 47 01.9**	**0.0**
	3μm,0.3s,baz=201,slow=15,SNR=17						
ATAH	**Atahualpa**	**6.59**	**349**	Pn	**Pn**	**03 47 52.2**	**-0.2**
	23nm,0.3s,baz=172,slow=5.5,SNR=51						
ATAH				Sn	**Sn**	**03 49 04.9**	**-1.4**
	2.7nm,0.3s,baz=52,slow=17,SNR=2.2						
LPAZ	**La Paz**	**9.15**	**109**	Pn	**Pn**	**03 48 30.5**	**+3.0**
	0.2nm,0.3s,baz=277,slow=11,SNR=4.8						
LPAZ				Sn	**Sn**	**03 50 26.4**	**+17**
	baz=17,slow=19,SNR=4.5						
LPAZ	**La Paz**	**9.15**	**109**	Pn	**Pn**	**03 48 30.5**	**+3.0**
LPAZ				Sn	**Sn**	**03 50 26.4**	**+17**
LVC	**Limon Verde**	**11.97**	**140**	Pn	**Pn**	**03 49 04.6**	**-1.5**
	0.6nm,0.3s,baz=82,slow=0.0,SNR=5.9						
LVC				Sn	**Sn**	**03 51 15.5**	**-2.9**
	2.5nm,0.3s,SNR=9.0						
LVC	**Limon Verde**	**11.97**	**140**	Pn	**Pn**	**03 49 04.6**	**-1.5**
LVC				Sn	**Sn**	**03 51 15.5**	**-2.9**
OTAV	**Otavalo**	**13.72**	**355**	*e*Pn	**Pn**	**03 49 30.3**	**+0.2**
	33nm,1.1s						
OTAV				*e*Sn	**Sn**	**03 52 00.1**	**-1.3**
SIV	**San Ignacio**	**15.75**	**101**	Pn	**Pn**	**03 49 58.2**	**+0.9**
	0.2nm,0.3s,baz=270,slow=13,SNR=8.6						
ROSC	**El Rosal**	**18.46**	**9**	P	**Pn**	**03 50 33.6**	**+2.4**
	0.3nm,0.3s,baz=264,slow=15,SNR=3.7						
CPUP	**Villa Florida**	**22.54**	**127**	P	**P**	**03 51 14.8**	**-0.2**
	1.9nm,0.7s,mb3.6,baz=296,slow=11,SNR=5.6						
CPUP	**Villa Florida**	**22.54**	**127**	*e*P	**P**	**03 51 14.8**	**-0.1**
	17nm,0.9s,mb4.5						
BCIP	**Isla Barro Col**	**22.69**	**353**	*e*P	**P**	**03 51 14.9**	**-1.7**
	15nm,0.9s,mb4.4						
SDV	**Santo Domingo**	**23.18**	**17**	P	**P**	**03 51 21.6**	**-0.1**
	5.5nm,0.7s,mb4.1,baz=270,slow=10,SNR=6.0						
SDV	**Santo Domingo**	**23.18**	**17**	*e*P	**P**	**03 51 21.1**	**-0.7**
	12nm,0.8s,mb4.4						
PCRV	**Puerto La Cruz**	**26.61**	**28**	P	**P**	**03 51 54.1**	**+0.8**
	9.4nm,0.9s,mb4.3,baz=232,slow=12,SNR=2.6						
PLCA	**Paso Flores**	**27.73**	**169**	P	**P**	**03 52 02.0**	**-1.0**
	11nm,1.2s,mb4.4,baz=344,slow=12,SNR=6.6						
CMIG	**Matias Romero**	**35.09**	**330**	P	**P**	**03 53 07.9**	**-0.1**
	4.7nm,0.9s,mb4.4,baz=93,slow=14,SNR=4.3						
CNNC	**Cliffs of the**	**48.49**	**359**	*e*P	**P**	**03 54 57.2**	**-0.1**
	7.2nm,0.6s,mb4.9						
MIAR	**Mount Ida**	**50.28**	**342**	*e*P	**P**	**03 55 10.8**	**-0.2**
MIAR				*e**PP	pP	03 55 18.6	-2.8
MIAR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
MIAR	**Mount Ida**	**50.28**	**342**	*e*P	**P**	**03 55 10.8**	**-0.2**
	comp=Z,5.2nm,0.8s,mb4.6						
MIAR				*e*pP	pP	03 55 18.6	-2.8
WMOK	**Wichita Mounta**	**52.20**	**337**	*e*P	**P**	**03 55 25.2**	**-0.2**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
WMOK	**Wichita Mounta**	**52.20**	**337**	*e*P	**P**	**03 55 25.2**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.0						
LAZ	**Ladron**	**55.53**	**330**	*e*P	**P**	**03 55 50.7**	**+1.0**
ANMO	**Albuquerque**	**55.64**	**331**	*e*P	**P**	**03 55 51.0**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ANMO	**Albuquerque**	**55.64**	**331**	*e*P	**P**	**03 55 51.0**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.3						
TUC	**Tucson**	**55.79**	**325**	*e*P	**P**	**03 55 51.9**	**+0.3**
TUC				pmax	pmax		
	comp=Z,11nm,1.8s,mb4.6						
TUC	**Tucson**	**55.79**	**325**	*e*P	**P**	**03 55 51.9**	**+0.3**
	comp=Z,11nm,1.8s,mb4.6						
CBKS	**Cedar Bluff**	**56.17**	**339**	*e*P	**P**	**03 55 54.1**	**-0.2**
CBKS				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
CBKS	**Cedar Bluff**	**56.17**	**339**	*e*P	**P**	**03 55 54.1**	**-0.2**
	comp=Z,12nm,0.8s,mb5.0						
SCIA	**State Center**	**57.10**	**346**	*e*P	**P**	**03 55 59.8**	**-1.0**
	comp=Z,6.6nm,0.7s,mb4.8						
SDCO	**Great Sand Dun**	**57.52**	**344**	*e*P	**P**	**03 56 04.2**	**+0.4**
	comp=Z,2.9nm,0.8s,mb4.4						
WUAZ	**Wupatki**	**58.54**	**327**	*e*P	**P**	**03 56 12.2**	**+1.1**
	comp=Z,2.2nm,0.8s,mb4.2						
PV01	**Paradox Valley**	**59.22**	**331**	*e*P	**P**	**03 56 15.5**	**-0.2**
ISCO	**Idaho Springs**	**59.29**	**335**	*e*P	**P**	**03 56 15.7**	**-0.4**
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ISCO	**Idaho Springs**	**59.29**	**335**	*e*P	**P**	**03 56 15.7**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.2						
ECSD	**EROS,Sioux Fal**	**59.68**	**344**	*e*P	**P**	**03 56 17.6**	**-1.1**
	comp=Z,5.9nm,1.0s,mb4.6						
PFO	**Pinyon Flat Ob**	**59.98**	**322**	*e*P	**P**	**03 56 20.9**	**-0.2**
PFO				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
PFO	**Pinyon Flat Ob**	**59.98**	**322**	*e*P	**P**	**03 56 20.9**	**-0.2**
	comp=Z,7.0nm,1.2s,mb4.6						
MSU	**Marysvale**	**61.26**	**329**	*e*P	**P**	**03 56 30.1**	**+0.5**
TPNV	**Topopah Spring**	**62.24**	**325**	*e*P	**P**	**03 56 37.0**	**+0.7**
TPNV				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
TPNV	**Topopah Spring**	**62.24**	**325**	*e*P	**P**	**03 56 37.0**	**+0.7**
	comp=Z,2.7nm,1.0s,mb4.3						
DAU	**Daniels Canyon**	**62.29**	**331**	*e*P	**P**	**03 56 37.2**	**+0.7**
JLU	**Jordanelle**	**62.53**	**331**	*e*P	**P**	**03 56 39.0**	**+0.9**
DUG	**Dugway**	**62.87**	**330**	*e*P	**P**	**03 56 41.2**	**+0.8**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.7						
DUG	**Dugway**	**62.87**	**330**	*e*P	**P**	**03 56 41.2**	**+0.8**
	comp=Z,8.1nm,1.2s,mb4.7						
HWUT	**Hardware Ranch**	**63.37**	**332**	*e*P	**P**	**03 56 43.9**	**+0.2**
	comp=Z,5.6nm,0.9s,mb4.7						
PDAR	**Pinedale Array**	**63.41**	**334**	P	**P**	**03 56 43.8**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.2,baz=121,slow=9.2,SNR=12						
BGU	**Big Grassy Mou**	**63.53**	**330**	*e*P	**P**	**03 56 44.9**	**+0.1**
AGMN	**Agassiz Refuge**	**63.75**	**346**	*e*P	**P**	**03 56 45.5**	**-0.5**
	comp=Z,6.4nm,0.8s,mb4.7						
NVAR	**Mina Array Bea**	**64.44**	**325**	P	**P**	**03 56 50.1**	**-0.7**
	comp=Z,1.1nm,0.8s,mb3.9,baz=136,slow=7.0,SNR=5.9						
REDW	**Red Top Meadow**	**64.45**	**333**	*e*P	**P**	**03 56 50.6**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.1						
ELK	**Elko**	**64.49**	**329**	*e*P	**P**	**03 56 50.9**	**-0.2**
ELK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ELK	**Elko**	**64.49**	**329**	*e*P	**P**	**03 56 50.9**	**-0.2**
	comp=Z,4.0nm,1.0s,mb4.4						
LOHW	**Long Hollow**	**64.54**	**334**	*e*P	**P**	**03 56 51.4**	**0.0**
	comp=Z,2.2nm,0.7s,mb4.3						
TPAW	**Teton Pass**	**64.59**	**333**	*e*P	**P**	**03 56 51.8**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.2						
RRI2	**Red Ridge**	**64.64**	**333**	*e*P	**P**	**03 56 52.8**	**+0.7**
	comp=Z,7.7nm,0.8s,mb4.8						
MOOW	**Moose Ponds**	**64.71**	**334**	*e*P	**P**	**03 56 52.3**	**-0.2**
	comp=Z,1.8nm,1.1s,mb4.0						
IMW	**Indian Meadow**	**64.91**	**334**	*e*P	**P**	**03 56 54.1**	**+0.3**
	comp=Z,2.2nm,0.8s,mb4.2						
RLMT	**Red Lodge**	**65.21**	**336**	*e*P	**P**	**03 56 55.9**	**+0.2**
	comp=Z,4.6nm,1.1s,mb4.4						
ULM	**Lac du Bonnet**	**65.58**	**347**	P	**P**	**03 56 57.3**	**-0.7**
	comp=Z,5.3nm,0.6s,mb4.8,baz=137,slow=7.9,SNR=7.6						
ULM	**Lac du Bonnet**	**65.58**	**347**	*e*P	**P**	**03 56 57.2**	**-0.8**
	comp=Z,5.4nm,0.7s,mb4.7						
GCMT	**Greycliff**	**65.92**	**336**	*e*P	**P**	**03 57 00.5**	**+0.2**
HLID	**Hailey**	**66.22**	**331**	*e*P	**P**	**03 57 02.9**	**+0.7**
	comp=Z,1.8nm,0.9s,mb4.1						
DGMT	**Dagmar**	**66.22**	**341**	*e*P	**P**	**03 57 02.4**	**+0.3**
	comp=Z,12nm,1.1s,mb4.8						
MCMT	**McKenzie Canyo**	**66.48**	**333**	*e*P	**P**	**03 57 04.5**	**+0.5**
DLMT	**Dillon**	**66.80**	**334**	*e*P	**P**	**03 57 06.5**	**+0.6**
	comp=Z,7.8nm,1.4s,mb4.5						
OD2	**Odessa Site #2**	**71.08**	**332**	*e*P	**P**	**03 57 33.0**	**+0.4**
SNAA	**Sanae**	**72.33**	**161**	*e*	**P**	**03 57 39.0**	**-0.7**
EDM	**Edmonton**	**73.35**	**338**	*e*P	**P**	**03 57 45.5**	**-0.4**
YKA	**Yellowknife Ar**	**81.21**	**343**	P	**P**	**03 58 29.2**	**-0.6**
	comp=Z,3.2nm,0.8s,mb4.3,baz=145,slow=6.1,SNR=23						
YKA	**Yellowknife Ar**	**81.21**	**343**	P	**P**	**03 58 29.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**82.49**	**75**	P	**P**	**03 58 37.7**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.3,baz=269,slow=4.2,SNR=12						
VNDA	**Vanda**	**83.24**	**191**	P	**P**	**03 58 41.1**	**+0.8**
	comp=Z,1.5nm,0.9s,mb4.0,baz=119,slow=5.5,SNR=7.3						
VNDA	**Vanda**	**83.24**	**191**	*e*P	**P**	**03 58 40.8**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**83.24**	**191**	*e*P	**P**	**03 58 40.8**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.2						
DAWY	**Dawson**	**90.53**	**337**	*e*P	**P**	**03 59 15.8**	**-0.1**
EGAK	**Eagle**	**91.55**	**337**	*e*P	**P**	**03 59 20.2**	**-0.5**
	comp=Z,4.5nm,1.1s,mb4.7						
COLA	**College**	**94.17**	**336**	*e*P	**P**	**03 59 32.2**	**-0.5**
COLA				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9						
COLA	**College**	**94.17**	**336**	*e*P	**P**	**03 59 32.2**	**-0.5**
	comp=Z,4.8nm,1.0s,mb4.9						
ASAR	**Alice Springs**	**132.17**	**220**	PKP	PKPdf	04 05 28.6	-0.4
	comp=Z,0.6nm,0.9s,baz=151,slow=2.1,SNR=3.2						
WRA	**Warramunga Arr**	**134.55**	**224**	PKP	PKPdf	04 05 32.8	-0.7
	comp=Z,0.9nm,0.7s,baz=136,slow=1.8,SNR=5.5						
ZALV	**Zalesovo Beam**	**137.22**	**16**	PKP	PKPdf	04 05 37.4	0.0
	comp=Z,0.7nm,0.4s,baz=339,slow=1.7,SNR=3.8						
ZAL	**Zalesovo**	**137.23**	**16**	PKIKP	PKPdf	04 05 37.4	0.0
MJAR	**Matsushiro Arr**	**140.94**	**312**	PKhKP		04 05 36.6	
	comp=Z,0.4nm,0.5s,baz=56,slow=3.1,SNR=3.7						
MKAR	**Makanchi Array**	**142.60**	**23**	PKhKP		04 05 39.9	
	comp=Z,0.4nm,0.8s,baz=5.7,slow=1.4,SNR=2.6						
SONM	**Songino Array**	**145.66**	**356**	PKPbc	PKPbc	04 05 53.6	+0.7
	comp=Z,7.1nm,1.0s,baz=344,slow=1.7,SNR=28						
KSRS	**Korea Array**	**147.32**	**321**	PKPbc	PKPbc	04 05 55.9	-2.3
	comp=Z,1.1nm,0.6s,baz=18,slow=2.6,SNR=7.8						

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*ISCJB **16** 03:54:02.5±1.0,3692N±006×2761E±005,h10km,Error ellipse: s-maj=8.4km s-min=5.3km az=22.8*
*ISK **16** 03:54:02.4,3694N×2760E,h6km,MD2.8*
*DDA **16** 03:54:03.9,3699N×2758E,h7km±2km,Md3.0*
*CSEM **16** 03:54:04.2±0.3,37.16N×27.47E,h2km,MD3.0,Error ellipse: s-maj=12.1km s-min=5.2km az=141.0*
ISC 16 03:54:03.1±0.9,3693N±005×2759E±005,h10km,n11, σ0s51/20,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.18**	**318**	*i* P	**Pg**	**03 54 06.7**	**-0.3**
BDRM				*i* S	**Sg**	**03 54 09.4**	**-0.2**
BDRM	**Kayabasi**	**0.18**	**318**	*i* P	**Pg**	**03 54 06.7**	**-0.3**
BDRM				*i* S	**Sg**	**03 54 09.6**	**0.0**
BODT	**Bodrum**	**0.26**	**300**	*e*PG	**Pg**	**03 54 08.1**	**-0.3**
BODT				*e*SG	**Sg**	**03 54 12.4**	**+0.4**
MLSB	**Milas**	**0.39**	**22**	*e*PG	**Pg**	**03 54 11.4**	**+0.6**
MLSB				*e*SG	**Sg**	**03 54 15.9**	**-0.1**
YER	**Yerkesik**	**0.59**	**70**	*e*PG	**Pg**	**03 54 14.0**	**-0.5**
AYDN	**Tasoluk**	**0.76**	**17**	*i* P	**Pg**	**03 54 17.4**	**-0.4**
AYDN				*i* S	**Sg**	**03 54 28.2**	**+0.4**
AYDN	**Tasoluk**	**0.76**	**17**	*i* P	**Pg**	**03 54 17.4**	**-0.4**
AYDN				*i* S	**Sg**	**03 54 28.2**	**+0.4**
AYDN	**Tasoluk**	**0.76**	**17**	*i* P	**Pg**	**03 54 17.4**	**-0.4**
AYDN				*i* S	**Sg**	**03 54 28.2**	**+0.4**
TURN	**Turunc**	**0.81**	**94**	*i* P	**Pg**	**03 54 13.6**	**-5.1**
TURN				*i* S	**Sg**	**03 54 22.8**	**-6.5**
DALT	**Dalyan (Mudla)**	**0.85**	**101**	*e*PG	**Pg**	**03 54 18.8**	**-0.7**
AKAS	**Kas**	**1.76**	**113**	*i* P	**Pg**	**03 54 38.0**	**+1.1**
AKAS				*i* S	**Sg**	**03 55 05.3**	**+5.5**

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*IDC **16** 04:03:00.8±0.4,5024N×17749W,h0km,mb5.3/27, mb1 5.4/28,mb1mx5.4/30,mbtmp5.3/28,ML4.7/1,MS5.3/9, Ms1 5.3/9,ms1mx4.8/32,Error ellipse: s-maj=16.1km s-min=10.2km az=156.0*
*BJI **16** 04:03:01.5,5037N×17779W,h14km,mB6.0,mb5.5,Ms5.5, Msz5.2*
*DJA **16** 04:03:03,5025N×177.13W,h10km,mb5.6/22*
*NEIC **16** 04:03:03.5±1.1,5024N×17757W,h15km±7km,mb5.8/258, Error ellipse: s-maj=3.2km s-min=1.8km az=187.0*
*ISCJB **16** 04:03:05.0±0.1,5025N±002×17756W±002,h34km, mb5.7/358,MS5.4/36,Error ellipse: s-maj=3.6km s-min=1.4km az=8.2*
*MOS **16** 04:03:04.5±0.9,5034N×17759W,h33km,mb6.0/127, MS5.1/14,Error ellipse: s-maj=6.3km s-min=5.5km az=96.1*
*SZGRF **16** 04:03:07.5,5032N×178.95W,h42km,mb6.0,Andreanof Islands, Aleutian Islands, United States*
*BGS **16** 04:03:11.6,5150N×179.55E,h20km,mb6.0*
ISC 16 04:03:06.9±0.1,5028N±002×17759W±002,h36km, h36km±1.9km:pP-P,n1421,σ0s74/1413,mb5.7/358, MS5.4/36,226C-545D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**2.26**	**300**	P	**Pn**	**04 03 39.8**	**-1.9**
AMKA				S	**Sn**	**04 04 07.0**	**-1.3**
SMY	**Shemya**	**5.74**	**298**	*e*P	**Pn**	**04 04 29.6**	**+0.1**
NIKO	**Nikolski**	**6.07**	**60**	P	**Pn**	**04 04 31.8**	**-2.2**
FX1	**Attu Island--F**	**6.33**	**298**	P	**Pn**	**04 04 36.5**	**-1.0**
OKCD	**Okmok Cone D**	**6.66**	**58**	P	**Pn**	**04 04 40.5**	**-1.6**
UNV	**Unalaska Valle**	**7.71**	**58**	P	**Pn**	**04 04 54.9**	**-1.6**
AKGG	**Akutan Green G**	**8.12**	**57**	P	**Pn**	**04 05 00.9**	**-1.3**
AKLV	**Akutan Long Va**	**8.13**	**57**	P	**Pn**	**04 05 00.8**	**-1.5**
SPIA	**Saint Paul Isl**	**8.16**	**29**	P	**Pn**	**04 05 02.5**	**-0.2**
AKUT	**Akutan**	**8.22**	**57**	*e*P	**Pn**	**04 05 03.2**	**-0.3**
FALS	**False Pass**	**9.76**	**57**	*e*Pn	**Pn**	**04 05 23.4**	**-1.3**
SDPT	**Sand Point**	**11.52**	**57**	*e*P	**Pn**	**04 05 45.5**	**-3.1**
	274nm,0.5s						
CHGN	**Chignik**	**12.93**	**55**	*e*Pn	**Pn**	**04 06 03.8**	**-4.2**
PET	**Petropavlovsk**	**14.98**	**290**	*e*P	**Pn**	**04 06 35.0**	**-0.8**
PET				*e*S	**Sn**	**04 09 20.2**	**-0.2**
PET				pmax	pmax		
	comp=Z,207nm,1.3s						
PET				pmax	pmax		
	comp=Z,5μm,4.3s						
PET				MLR	MLR		
	comp=Z,5μm,17.0s						
PET	**Petropavlovsk**	**14.98**	**290**	*e*Pn	**Pn**	**04 06 35.5**	**-0.3**
PETK	**Petropavlovsk-**	**15.56**	**290**	Pn	**Pn**	**04 06 42.4**	**-0.9**
	comp=Z,3.3nm,0.3s,baz=83,slow=13,SNR=64						
PETK				Sn	**Sn**	**04 09 28.6**	**-5.8**
	comp=Z,0.8nm,0.3s,baz=94,slow=22,SNR=3.8						
PETK				PcP	PcP	04 11 44.0	+0.4
	comp=Z,0.6nm,0.3s,baz=108,slow=2.6,SNR=5.5						
PETK	**Petropavlovsk-**	**15.56**	**290**	P	**Pn**	**04 06 42.4**	**-0.9**
PETK						04 09 28.6	
OHAK	**Old Harbor**	**15.90**	**55**	*e*Pn	**Pn**	**04 06 40.4**	**-7.3**
	comp=Z,148nm,0.6s						
OHAK				*e*P		04 06 50.9	
OHAK				*e*Sn	**Sn**	**04 09 43.2**	**+0.6**
SVW2	**Sparrevohn**	**16.37**	**40**	*e*P	**Pn**	**04 06 53.0**	**-0.7**
KDAK	**Kodiak Island**	**16.42**	**53**	Pn	**Pn**	**04 06 47.0**	**-7.3**
	comp=Z,2μm,0.7s,SNR=74						
KDAK	**Kodiak Island**	**16.42**	**53**	Pn	**Pn**	**04 06 47.5**	**-6.8**
	comp=Z,10nm,0.3s,baz=257,slow=6.3,SNR=68						
KDAK				Sn	**Sn**	**04 09 57.2**	**+1.9**
	comp=Z,17nm,0.3s,baz=145,slow=24,SNR=22						
KDAK	**Kodiak Island**	**16.42**	**53**	*e*Pn	**Pn**	**04 06 47.0**	**-7.3**
SKR	**Severo-Kuril's**	**16.72**	**282**	*e*P	**Pn**	**04 06 58.2**	**+0.1**
SKR				pmax	pmax		
	comp=Z,5μm,8.0s						
SKR				pmax	pmax		
	comp=N,4μm,6.0s						
SKR				pmax	pmax		
	comp=E,5μm,6.0s						
SKR				pmax	pmax		
	comp=Z,450nm,1.0s						
SKR				MLR	MLR		
	comp=N,5μm,12.0s						
SKR				MLR	MLR		
	comp=E,3μm,12.0s						
SKR				MLR	MLR		
	comp=Z,4μm,12.0s						
TTA	**Tatalina**	**17.25**	**35**	*e*P	**Pn**	**04 07 04.5**	**-0.1**
SLKM	**Skilak Lake**	**18.47**	**46**	P	**Pn**	**04 07 16.9**	**-2.7**
SLKM	**Skilak Lake**	**18.47**	**46**	*e*P	**Pn**	**04 07 16.7**	**-2.9**
PPLA	**Purkeypile**	**18.68**	**38**	*e*P	**Pn**	**04 07 22.3**	**+0.2**
	comp=Z,103nm,0.4s						
PMR	**Palmer**	**19.37**	**43**	*e*P	**Pn**	**04 07 28.7**	**-1.7**

INK LR LR 04 20 32.5
comp=Z,5µm,19.2s,MS5.1,baz=117,slow=38
INK Inuvik 27.94 34 *e*P **P** **04 08 52.2 -1.1**
INK *e*PcP PcP 04 12 07.4 -0.3
DLBC Dease Lake 28.34 55 P **P** **04 08 59.0 +2.0**
DLBC Dease Lake 28.34 55 *e*P **P** **04 08 58.9 +1.9**
YAK Yakutsk 30.73 313 *e*P **P** **04 09 16.2 -1.9**
YAK *e**PP pP 04 09 24.5 -3.8
YAK *e* 04 12 14.2
YAK *e*S **S** **04 14 15.2 -3.0**
YAK pmax pmax
comp=Z,56nm,0.9s,mb5.4
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,36nm,1.2s
YAK smax
comp=N,863nm,2.0s
YAK smax
comp=E,1µm,3.2s
YAK Yakutsk 30.73 313 *e*P **P** **04 09 17.2 -0.8**
comp=E,81nm,0.8s,mb5.6
TIXI Tiksi 31.97 331 *d i*P **P** **04 09 27.6 -1.3**
TIXI *e* 04 10 34.4
TIXI *e*S **S** **04 14 35.6 -1.9**
TIXI pmax pmax
comp=Z,125nm,2.1s,mb5.4
TIXI MLR MLR
comp=Z,6µm,15.0s,MS5.4
TIXI Tiksi 31.97 331 *e*P **P** **04 09 28.2 -0.7**
comp=Z,186nm,1.8s,mb5.6
TIXI *e*PcP PcP 04 12 17.5 -0.5
KLR Kul'dur 32.24 288 ⇑ *i*P **P** **04 09 26.9 -4.6**
KLR *e*S **S** **04 14 46.8 +4.7**
KLR pmax pmax
comp=N,56nm,1.8s
KLR pmax pmax
comp=E,460nm,1.8s
KLR pmax pmax
comp=Z,500nm,1.8s,mb6.0
CLNS Chul'man 33.88 304 *e*P **P** **04 09 45.2 -0.6**
CLNS *e* 04 11 00.2
CLNS *e*PPP 04 11 12.8
CLNS *e* 04 12 23.5
CLNS *e*S **S** **04 15 11.1 +3.7**
CLNS pmax pmax
comp=Z,16nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=E,18nm,1.2s
CLNS MLR MLR
comp=Z,2µm,22.0s,MS4.9
CLNS MLR MLR
comp=N,3µm,19.0s,MS5.1
CLNS MLR MLR
comp=E,1µm,19.0s,MS5.1
C03A Quillayute Air 34.18 73 ⇑P **P** **04 09 48.8 +0.4**
baz=34,SNR=10
MJAR Matsushiro Arr 34.40 264 P **P** **04 09 50.6 +0.1**
comp=E,7.7nm,0.7s,mb4.8,baz=50,slow=7.6,SNR=52
MJAR PcP PcP 04 12 25.6 +0.1
comp=E,14nm,0.8s,baz=87,slow=2.0,SNR=16
MAJO Matsushiro 34.40 264 *e*P **P** **04 09 50.8 +0.3**
MAJO *e* 04 12 25.6
MAJO pmax pmax
comp=Z,50nm,0.9s,mb5.4
MAJO Matsushiro 34.40 264 *e*P **P** **04 09 50.8 +0.3**
comp=Z,50nm,0.9s,mb5.4
MAJO *e*PcP PcP 04 12 25.6 +0.2
MAT Matsushiro 34.40 264 P **P** **04 09 50.5 0.0**
MAT S **S** **04 15 12.0 -3.8**
PGC Sidney 34.57 71 *e*P **P** **04 09 52.4 +0.5**
comp=Z,525nm,2.1s,mb6.1
PGC *e*PcP PcP 04 12 26.2 +0.4
B04A Port Angeles 34.78 72 ⇓P **P** **04 09 54.6 +1.0**
baz=35
VLA Vladivostok 34.80 278 *e*P **P** **04 09 52.4 -1.5**
VLA *e**SP sP 04 09 57.5 -11
VLA S **S** **04 15 25.0 +3.1**
VLA pmax pmax
comp=Z,47nm,0.7s,mb5.5
NLWA Neilton Lookou 34.84 73 ⇑P **P** **04 09 55.0 +0.9**
baz=35,SNR=20
NLWA Neilton Lookou 34.84 73 *e*P **P** **04 09 54.9 +0.8**
comp=Z,132nm,1.6s,mb5.6
NLWA *e*PcP PcP 04 12 26.5 0.0
A04A Legoe Bay, Lum 35.00 71 ⇓P **P** **04 09 56.3 +0.8**
baz=35
D03A Wishkah Elem. 35.02 74 ⇓P **P** **04 09 56.5 +0.9**
baz=35,SNR=7.7
C04A Brinnon 35.25 73 ⇓P **P** **04 09 58.4 +0.7**
baz=35,SNR=7.8
A05A Maple Falls 35.26 70 ⇑P **P** **04 09 57.5 -0.2**
baz=35,SNR=16
E03A Lebam 35.39 75 ⇓P **P** **04 09 59.5 +0.6**
baz=35,SNR=11
GNW Green Mountain 35.41 73 P **P** **04 09 59.8 +0.8**
YKW3 Yellowknife Ar 35.43 45 *e*P **P** **04 09 59.1 +0.1**
YKA Yellowknife Ar 35.44 46 P **P** **04 09 59.5 +0.4**
comp=Z,80nm,0.8s,mb5.7,baz=276,slow=7.4,SNR=244
YKA PcP PcP 04 12 28.2 +0.2
comp=Z,7.0nm,0.8s,baz=289,slow=3.6,SNR=5.0
YKA LR LR 04 26 18.6
comp=Z,3µm,18.4s,MS5.2,baz=270,slow=40
YKA Yellowknife Ar 35.44 46 P **P** **04 09 59.5 +0.3**
YKA 04 12 28.2
YKA Yellowknife Ar 35.44 46 P **P** **04 09 59.5 +0.4**
YKA PcP PcP 04 12 28.2 +0.2
YKA LR LR 04 26 18.6
MBW Mount Baker 35.46 70 P **P** **04 09 60.0 +0.5**
MDJ Mudanjiang 35.53 282 P **P** **04 09 59.1 -1.0**
MDJ AMB AMB
comp=Z,48nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,929nm,6.0s
MDJ Mudanjiang 35.53 282 *e*P **P** **04 09 58.9 -1.2**
comp=Z,39nm,0.8s,mb5.4
MDJ *e*PcP PcP 04 12 28.7 +0.1
B05A Bryant 35.55 71 ⇓P **P** **04 10 00.7 +0.4**
baz=35,SNR=21
A06A Chilliwack 35.59 70 ⇑P **P** **04 10 00.7 +0.1**
baz=35,SNR=9.5
JHJ Hachijo jima 2 35.59 258 P **P** **04 10 01.0 +0.3**
comp=Z,122nm,0.8s,mb5.9,baz=264,slow=7.0,SNR=5.6
D04A Dobbs Creek Ra 35.61 73 ⇑P **P** **04 10 02.0 +1.2**
baz=36
BMW Boistfort Moun 35.63 75 *e*P **P** **04 10 01.4 +0.4**
F03A Seaside 35.67 76 ⇑P **P** **04 10 01.7 +0.4**
baz=36,SNR=12
JCW Jim Creek 35.69 71 *e*P **P** **04 10 01.6 +0.1**
JCW *e*PcP PcP 04 12 28.9 0.0
B06A Marblemount 35.82 71 ⇓P **P** **04 10 02.6 0.0**
baz=36
RPW Rockport 35.83 71 *e*P **P** **04 10 02.5 -0.2**
HEBO Mount Hebo 35.88 77 *e*P **P** **04 10 04.2 +1.0**
comp=Z,242nm,1.7s,mb5.8
E04A Onalaska 35.89 74 ⇓P **P** **04 10 04.0 +0.8**
baz=36
H02A Toledo 35.98 78 ⇓P **P** **04 10 04.4 +0.4**
baz=36,SNR=6.4
C05A Tolt Reservoir 36.04 72 ⇓P **P** **04 10 04.8 +0.3**
baz=36,SNR=9.8
D05A Enumclaw 36.08 73 ⇓P **P** **04 10 05.6 +0.8**
baz=36,SNR=14
G03A Yamhill 36.13 76 ⇓P **P** **04 10 06.1 +0.9**
baz=36,SNR=8.4
A07A Ashnola River, 36.26 69 ⇓P **P** **04 10 06.6 +0.2**
baz=36,SNR=48
F04A Amboy 36.38 75 ⇑P **P** **04 10 07.5 +0.1**
baz=36,SNR=8.4
I02A Mapleton 36.41 79 ⇓P **P** **04 10 08.2 +0.5**
baz=36,SNR=8.0
H03A Soap Creek Ran 36.42 77 ⇓P **P** **04 10 08.6 +0.8**
baz=36,SNR=18
C06A Tall Timber Ra 36.43 71 ⇓P **P** **04 10 08.0 +0.3**
baz=36
COR Corvallis 36.46 77 *e*P **P** **04 10 09.1 +1.0**
COR pmax pmax
comp=Z,119nm,1.3s,mb5.7
COR Corvallis 36.46 77 *e*P **P** **04 10 09.1 +1.0**
comp=Z,120nm,1.3s,mb5.7
E05A Randle 36.50 74 ⇑P **P** **04 10 08.5 +0.1**
baz=36,SNR=13
K01A Sixes 36.61 81 ⇓P **P** **04 10 10.4 +1.1**
baz=36,SNR=14

KEBM Edson Butte 36.66 81 *e*P **P** **04 10 10.7 +0.9**
B07A Winthrop 36.67 70 ⇓P **P** **04 10 10.2 +0.4**
baz=36,SNR=42
G04A Mulino 36.68 76 ⇑P **P** **04 10 10.6 +0.6**
baz=36,SNR=12
I03A Eugene 36.78 78 ⇓P **P** **04 10 11.6 +0.8**
baz=37,SNR=16
D06A Cle Elum 36.78 72 ⇓P **P** **04 10 10.9 +0.2**
baz=37,SNR=8.1
J02A Umpqua 36.89 79 ⇓P **P** **04 10 12.6 +0.8**
baz=37,SNR=35
ETW Entiat 36.91 71 *e*P **P** **04 10 11.6 -0.3**
ETW *e*PcP PcP 04 12 33.0 +0.3
A08A Turner Farm, O 36.97 69 ⇑P **P** **04 10 12.5 +0.1**
baz=37,SNR=51
E06A Yakima 36.99 73 ⇓P **P** **04 10 13.0 +0.4**
baz=37,SNR=32
F05A White Salmon 37.00 75 ⇑P **P** **04 10 12.7 +0.1**
baz=37,SNR=11
C07A Waterville 37.04 71 ⇑P **P** **04 10 12.6 -0.4**
baz=37,SNR=21
KBO Bosley Butte 37.07 81 *e*P **P** **04 10 14.7 +1.4**
KBO *e*PcP PcP 04 12 34.5 +1.2
H04A Detroit Lake 37.11 77 ⇓P **P** **04 10 14.0 +0.4**
baz=37,SNR=55
HOOD Mount Hood Mea 37.14 75 *e*P **P** **04 10 14.2 +0.4**
comp=Z,173nm,1.5s,mb5.7
B08A Colville Reser 37.19 70 ⇓P **P** **04 10 14.2 0.0**
baz=37,SNR=86
K02A Glendale 37.25 80 ⇑P **P** **04 10 15.5 +0.7**
baz=37,SNR=24
D07A Quincy 37.31 72 ⇑P **P** **04 10 15.2 -0.1**
baz=37,SNR=9.4
M01C Crescent City 37.33 82 ⇓P **P** **04 10 16.2 +0.7**
baz=37,SNR=38
A09A Danville 37.37 69 ⇓P **P** **04 10 16.1 +0.3**
baz=37,SNR=42
G05A Wamic 37.39 75 ⇓P **P** **04 10 16.5 +0.6**
baz=37,SNR=14
I04A Tendick Farm, 37.41 78 ⇓P **P** **04 10 17.0 +0.9**
baz=37,SNR=91
F06A Goldendale 37.47 74 ⇑P **P** **04 10 17.2 +0.6**
baz=37,SNR=5.9
L02A Cave Junction 37.49 81 ⇑P **P** **04 10 17.9 +1.0**
baz=37,SNR=46
C08A Higginbotham F 37.61 70 ⇓P **P** **04 10 17.4 -0.4**
baz=38,SNR=20
KRMB Red Mountain 37.63 82 *e*P **P** **04 10 18.9 +0.8**
KRMB *e*PcP PcP 04 12 36.4 +1.4
HUMO Hull Mountain 37.67 80 ⇓P **P** **04 10 19.3 +0.9**
baz=38,SNR=61
HUMO Hull Mountain 37.67 80 *e*P **P** **04 10 18.8 +0.5**
comp=Z,139nm,1.6s,mb5.4
HUMO *e*PcP PcP 04 12 35.7 +0.6
E07A Sunnyside 37.67 73 ⇓P **P** **04 10 18.6 +0.3**
baz=38
KTRM Thompson Ridge 37.77 81 P **P** **04 10 20.4 +1.2**
B09A Rice 37.87 69 ⇓P **P** **04 10 19.9 0.0**
baz=38,SNR=39
J04A Umpqua Nationa 37.88 79 ⇑P **P** **04 10 20.8 +0.6**
baz=38,SNR=18
RSW Rattlesnake Hi 37.91 73 *e*P **P** **04 10 20.2 -0.2**
F07A Phinny Hill Vi 37.94 74 ⇑P **P** **04 10 20.9 +0.3**
baz=38,SNR=7.4
JCC Jacoby Creek 37.94 83 ⇓P **P** **04 10 21.6 +1.0**
baz=38,SNR=42
I05A Bend 37.94 77 ⇑P **P** **04 10 21.4 +0.7**
baz=38,SNR=15
HAWA Hanford 37.95 73 *e*P **P** **04 10 20.8 +0.2**
comp=Z,25nm,0.7s,mb5.0
A10A Northport 37.98 68 ⇓P **P** **04 10 21.1 +0.2**
baz=38,SNR=20
OD2 Odessa Site #2 37.99 71 *e*P **P** **04 10 20.6 -0.4**
D08A Wollman Farm, 38.01 71 ⇓P **P** **04 10 20.6 -0.6**
baz=38,SNR=16
C09A Chrisman Ranch 38.07 70 ⇑P **P** **04 10 21.0 -0.7**
baz=38,SNR=11
KHMM Horse Mountain 38.09 83 *e*P **P** **04 10 23.4 +1.4**
E08A Dider Farm, El 38.19 72 ⇑P **P** **04 10 22.6 -0.1**
baz=38
H06A Lindquist Farm 38.24 76 ⇓P **P** **04 10 23.2 +0.1**
baz=38,SNR=43
YBH Yreka Blue Hor 38.28 81 *e*P **P** **04 10 24.6 +1.1**
YBH pmax pmax
comp=Z,48nm,1.1s
YBH Yreka Blue Hor 38.28 81 ⇓P **P** **04 10 24.9 +1.3**
baz=38,SNR=68
YBH Yreka Blue Hor 38.28 81 *e*P **P** **04 10 24.6 +1.0**
comp=Z,48nm,1.1s,mb5.1
CBIJ Chichi jima 38.35 248 P **P** **04 10 24.4 0.0**
comp=Z,53nm,0.7s,mb5.4,baz=260,slow=20,SNR=3.4
CBIJ LR LR 04 22 28.4
comp=Z,1µm,21.8s,MS4.8,baz=351,slow=30
M02C Callahan 38.37 82 ⇓P **P** **04 10 25.6 +1.3**
baz=38,SNR=78
D09A Jones Farm, Ri 38.38 71 ⇓P **P** **04 10 23.8 -0.5**
baz=38,SNR=11
N02C Big Bar 38.39 83 ⇓P **P** **04 10 25.5 +1.0**
baz=38,SNR=99
G07A Ruggs Ranch, H 38.40 74 ⇓P **P** **04 10 24.4 -0.1**
baz=38,SNR=26
J05A Fort Rock 38.41 78 ⇓P **P** **04 10 25.6 +1.0**
baz=38,SNR=49
K04A Chilquin 38.44 79 ⇓P **P** **04 10 25.9 +1.0**
baz=38
O01C Eel River Cons 38.44 84 ⇓P **P** **04 10 26.3 +1.4**
baz=38,SNR=20
B10A Chitwood Farm, 38.48 69 ⇓P **P** **04 10 24.5 -0.6**
baz=38,SNR=7.2
CN2 Changchun 38.53 283 ⇓P **P** **04 10 24.6 -1.0**
CN2 *e*XP sP 04 10 33.3 -7.0
CN2 *e*S **S** **04 16 17.8 -0.9**
CN2 AMB AMB
comp=Z,80nm,1.5s,mb5.2
CN2 AMB AMB
comp=Z,1µm,6.0s
CN2 LR LR
comp=N,2µm,16.0s,MS5.1
CN2 LR LR
comp=E,2µm,16.0s,MS5.1
CN2 LR LR
comp=Z,2µm,18.0s,MS5.0
NEW Newport 38.55 69 *e*P **P** **04 10 25.4 -0.3**
NEW pmax pmax
comp=Z,46nm,0.7s
NEW Newport 38.55 69 *e*P **P** **04 10 25.4 -0.3**
comp=Z,46nm,0.7s,mb5.3
L04A Klamath Falls 38.57 80 ⇑P **P** **04 10 27.0 +1.0**
baz=38,SNR=30
C10A Spilker Farm, 38.64 70 ⇑P **P** **04 10 26.1 -0.4**
baz=38
EDM Edmonton 38.69 60 *e*P **P** **04 10 26.9 +0.1**
F08A Pendleton 38.69 73 ⇓P **P** **04 10 26.9 0.0**
baz=38,SNR=7.4
A11A Hall Mountain, 38.70 68 ⇑P **P** **04 10 27.4 +0.4**
baz=38,SNR=66
I06A Prineville 38.71 77 ⇑P **P** **04 10 27.5 +0.3**
baz=39,SNR=22
E09A Wood Farm, Sta 38.74 72 ⇓P **P** **04 10 26.9 -0.4**
baz=39
H07A Lands Inn, Kim 38.79 75 ⇓P **P** **04 10 27.7 -0.1**
baz=39,SNR=17
M04C Macdoel 38.81 81 ⇓P **P** **04 10 28.9 +0.9**
baz=39,SNR=73
G08A Pilot Rock 38.82 74 ⇑P **P** **04 10 27.7 -0.3**
baz=39,SNR=24
KIPM Iron Peak 38.84 84 *e*P **P** **04 10 29.0 +0.8**
KIPM *e*PcP PcP 04 12 39.2 +0.5
KCPM Cahto Peak 38.84 84 *e*P **P** **04 10 29.1 +0.8**
KCPM *e*PcP PcP 04 12 40.3 +1.6
M03C McCloud 38.90 81 ⇑P **P** **04 10 29.6 +0.8**
baz=39,SNR=14
K05A Summer Lake 38.91 79 ⇑P **P** **04 10 29.9 +1.1**
baz=39,SNR=86
B11A Sandpoint 38.93 68 ⇑P **P** **04 10 28.7 -0.2**
baz=39,SNR=49
LNOR Lincton Mounta 38.96 73 *e*P **P** **04 10 28.7 -0.4**
D10A Wagner Farm, O 39.01 71 ⇓P **P** **04 10 29.1 -0.5**
baz=39,SNR=30
WDC Whiskeytown Da 39.01 83 P **P** **04 10 30.3 +0.6**
WDC pmax pmax
comp=Z,50nm,1.0s,mb5.2
WDC Whiskeytown Da 39.01 83 ⇓P **P** **04 10 30.3 +0.6**
baz=39,SNR=59
WDC Whiskeytown Da 39.01 83 *e*P **P** **04 10 30.2 +0.5**
comp=Z,50nm,1.0s,mb5.2
WDC *e*PcP PcP 04 12 39.3 +0.1

O02C Red Bluff 39.08 83 ⇓P **P** **04 10 31.7 +1.5**
baz=39,SNR=119
I07A Izee 39.08 76 ⇑P **P** **04 10 30.3 +0.1**
baz=39,SNR=64
J06A Christmas Vall 39.10 78 ⇓P **P** **04 10 30.9 +0.5**
baz=39,SNR=68
P01C Double 8 Ranch 39.12 85 ⇓P **P** **04 10 31.3 +0.7**
baz=39,SNR=46
A12A Yaak River Ran 39.13 67 ⇓P **P** **04 10 30.8 +0.3**
baz=39,SNR=21
BOD Bodaibo 39.26 308 ⇓ *i*P **P** **04 10 31.0 -0.5**
BOD *e* pP 04 10 41.7 -0.2
BOD pmax pmax
comp=Z,183nm,1.3s,mb5.7
F09A S2 Ranch, Elgi 39.27 73 ⇓P **P** **04 10 31.6 -0.1**
baz=39,SNR=7.7
K06A Valley Falls 39.27 78 ⇓P **P** **04 10 32.7 +0.9**
baz=39,SNR=56
L05A Lakeview 39.30 80 ⇓P **P** **04 10 33.2 +1.1**
baz=39,SNR=50
B12A Libby 39.38 68 ⇓P **P** **04 10 32.8 +0.2**
baz=39,SNR=7.1
E10A Myers Farm, Un 39.38 71 ⇓P **P** **04 10 32.4 -0.3**
baz=39,SNR=5.1
H08A Prairie City 39.38 75 ⇓P **P** **04 10 32.8 0.0**
baz=39,SNR=40
GASB Alder Springs 39.41 84 ⇓P **P** **04 10 34.2 +1.1**
baz=39,SNR=32
HIA Hailar 39.42 294 *i* P **P** **04 10 31.8 -1.2**
HIA Hailar 39.42 294 *e*P **P** **04 10 31.6 -1.4**
comp=Z,112nm,1.0s,mb5.5
HIA *e*PcP PcP 04 12 40.5 +0.1
M05C Lookout 39.47 81 ⇑P **P** **04 10 34.3 +0.8**
baz=39,SNR=51
F10A Beach Ranch, E 39.55 72 ⇓P **P** **04 10 33.4 -0.8**
baz=39,SNR=18
G09A Cove 39.55 73 ⇑P **P** **04 10 33.9 -0.2**
baz=39,SNR=26
HOPS Hopland 39.56 85 ⇑P **P** **04 10 34.7 +0.4**
baz=39,SNR=17
HOPS Hopland 39.56 85 *e*P **P** **04 10 34.1 -0.2**
comp=Z,261nm,1.5s,mb5.7
HOPS *e*PcP PcP 04 12 42.4 +1.3
J07A Hines 39.56 77 ⇓P **P** **04 10 35.0 +0.7**
baz=39,SNR=28
HATC Hat Creek Radi 39.57 82 ⇓P **P** **04 10 34.8 +0.4**
baz=39,SNR=44
D11A Klaveano Farm, 39.58 70 ⇓P **P** **04 10 33.2 -1.2**
baz=39,SNR=37
O03C Acorn Hollow, 39.66 83 ⇑P **P** **04 10 35.2 +0.1**
baz=40
MOD Modoc 39.71 79 ⇓P **P** **04 10 36.0 +0.5**
baz=40,SNR=52
MOD Modoc 39.71 79 *e*P **P** **04 10 35.9 +0.4**
comp=Z,281nm,1.6s,mb5.7
MOD *e*PcP PcP 04 12 43.2 +1.7
I08A Drewsey 39.75 76 ⇓P **P** **04 10 35.9 +0.1**
baz=40,SNR=27
A13A Flathead Natio 39.86 67 ⇓P **P** **04 10 36.3 -0.4**
baz=40
H09A Durkee 39.93 74 ⇑P **P** **04 10 37.4 +0.1**
baz=40,SNR=5.3
G10A Bishop Farm, J 39.95 73 ⇓P **P** **04 10 37.3 -0.1**
baz=40,SNR=25
K07A Rock Creek Ran 39.96 78 ⇑P **P** **04 10 38.0 +0.5**
baz=40,SNR=111
M06C Likely Place G 39.98 80 ⇑P **P** **04 10 38.6 +0.9**
baz=40,SNR=20
E11A Bogner Ranch, 39.99 71 ⇑P **P** **04 10 36.8 -0.9**
baz=40,SNR=18
MNRC McLaughlin Nat 40.03 85 ⇑P **P** **04 10 39.0 +0.8**
baz=40,SNR=17
BMO Blue Mountains 40.06 74 *e*P **P** **04 10 37.8 -0.5**
comp=Z,87nm,1.6s,mb5.2
BMO *e*PcP PcP 04 12 43.1 +0.5
O04C Chester 40.08 82 ⇓P **P** **04 10 39.4 +0.8**
baz=40,SNR=34
B13A Whitefish 40.09 67 ⇓P **P** **04 10 38.3 -0.2**
baz=40,SNR=45
J08A Circle Bar Ran 40.09 76 ⇓P **P** **04 10 39.1 +0.4**
baz=40,SNR=38
WALA Waterton Lakes 40.10 66 *e*P **P** **04 10 38.5 -0.1**
comp=Z,166nm,1.3s,mb5.6
WALA *e*PcP PcP 04 12 43.4 +0.8
NSHM Saint Helena R 40.13 85 *e*P **P** **04 10 39.2 +0.1**
NSHM *e*PcP PcP 04 12 43.1 +0.2
ELFS Eagle Lake Fie 40.14 81 ⇑P **P** **04 10 40.4 +1.3**
baz=40
D12A Red Ives Fores 40.17 70 ⇓P **P** **04 10 38.6 -0.7**
baz=40,SNR=27
MCCM Marconi Confer 40.17 86 ⇓P **P** **04 10 39.2 -0.2**
baz=40
MCCM Marconi Confer 40.17 86 *e*P **P** **04 10 39.5 +0.2**
comp=Z,51nm,0.8s,mb5.3
I09A Lost Marbles R 40.23 75 ⇓P **P** **04 10 39.5 -0.3**
baz=40,SNR=12
ORV Oroville 40.25 83 ⇑P **P** **04 10 39.6 -0.4**
baz=40,SNR=23
SUTB Sutter Butte 40.25 84 ⇑P **P** **04 10 39.5 -0.5**
baz=40,SNR=14
F11A Grangeville 40.25 72 ⇑P **P** **04 10 39.1 -0.8**
baz=40,SNR=17
L07A Adell 40.26 79 ⇑P **P** **04 10 40.8 +0.7**
baz=40,SNR=76
CVS Carmenet Viney 40.33 85 ⇓P **P** **04 10 40.6 -0.1**
baz=40,SNR=16
C13A Hot Springs 40.34 68 ⇓P **P** **04 10 40.2 -0.5**
baz=40,SNR=35
FARB Farallon Islan 40.36 87 ⇓P **P** **04 10 40.6 -0.3**
baz=40
OHCM Honcut 40.38 84 *e*P **P** **04 10 41.2 +0.1**
O05C Quincy 40.39 82 ⇑P **P** **04 10 41.6 +0.5**
baz=40,SNR=16
K08A Mann Creek Ran 40.41 77 ⇓P **P** **04 10 41.9 +0.6**
baz=40,SNR=72
G11A Walters Elk Ra 40.42 72 ⇓P **P** **04 10 40.2 -1.1**
baz=40,SNR=20
KSRS Korea Array 40.44 273 P **P** **04 10 42.1 +0.5**
comp=Z,32nm,0.7s,mb5.2,baz=56,slow=8.2,SNR=87
KSRS PcP PcP 04 12 44.8 +0.9
comp=Z,12nm,0.8s,baz=59,slow=3.3,SNR=10
KSRS Korea Array 40.44 273 P **P** **04 10 42.1 +0.5**
KSRS 04 12 44.8
KSRS pmax pmax
comp=Z,32nm,0.7s,mb5.2
Q03C Winters 40.45 85 ⇓P **P** **04 10 42.8 +1.1**
baz=40,SNR=11
WVOR Wild Horse Val 40.48 78 P **P** **04 10 42.2 +0.4**
WVOR pmax pmax
comp=Z,95nm,1.1s,mb5.4
WVOR Wild Horse Val 40.48 78 *e*P **P** **04 10 42.0 +0.1**
comp=Z,95nm,1.1s,mb5.4
H10A Noah's Angus R 40.53 74 ⇓P **P** **04 10 41.9 -0.4**
baz=40,SNR=25
J09A Fry Pan Ranch, 40.55 76 ⇓P **P** **04 10 42.6 +0.2**
baz=40,SNR=61
N06A Buffalo Meadow 40.64 81 ⇓P **P** **04 10 43.7 +0.5**
baz=40,SNR=102
D13A Huson 40.69 69 ⇓P **P** **04 10 42.7 -0.8**
baz=40,SNR=23
M07A Soldier Meadow 40.70 79 ⇑P **P** **04 10 44.5 +0.8**
baz=41,SNR=137
SNY Shenyang 40.73 281 ⇓P **P** **04 10 44.1 +0.2**
SNY AMB AMB
comp=Z,132nm,2.2s,mb5.2
Q04C Lincoln 40.73 84 ⇓P **P** **04 10 44.1 +0.1**
baz=41,SNR=5.9
I10A Payette 40.76 74 ⇓P **P** **04 10 44.5 +0.4**
baz=41,SNR=17
L08A Fields 40.79 78 ⇑P **P** **04 10 44.8 +0.3**
baz=41,SNR=53
C14A Swan Lake 40.80 68 ⇓P **P** **04 10 44.0 -0.4**
baz=41
BEKR Beckwourth 40.80 82 ⇑P **P** **04 10 44.7 +0.2**
baz=41,SNR=48
F12A Elk City 40.86 71 ⇑P **P** **04 10 44.3 -0.7**
baz=41,SNR=38
K09A Rome 40.91 77 ⇑P **P** **04 10 45.1 -0.3**
baz=41,SNR=43
H11A Donnelly 40.93 73 ⇑P **P** **04 10 45.0 -0.5**
baz=41,SNR=25
BDM Black Diamond 40.94 86 ⇑P **P** **04 10 45.8 +0.2**
baz=41
P05C Yuba Gap, Truc 40.96 83 ⇑P **P** **04 10 46.1 +0.2**
baz=41,SNR=18
O06A Flanigan 40.97 81 ⇑P **P** **04 10 46.2 +0.3**
baz=41,SNR=23
JRSC Jasper Ridge 41.02 86 ⇓P **P** **04 10 46.1 -0.3**

baz=41,SNR=5.2
J10A Berg Farm, Mel 41.12 75 ⇓P P 04 10 46.9 -0.2
baz=41
MSO Missoula 41.13 69 eP P 04 10 46.6 -0.6
comp=Z,26nm,0.9s,mb4.9
N07B Gerlach 41.17 80 ⇓P P 04 10 47.9 +0.4
baz=41,SNR=27
E13A Victor 41.17 70 ⇑P P 04 10 46.8 -0.7
baz=41,SNR=34
M08A Happy Creek Ra 41.17 79 ⇓P P 04 10 48.3 +0.7
baz=41,SNR=66
LAVA Lava Cap Winer 41.19 84 ⇓P P 04 10 48.0 +0.2
baz=41,SNR=30
P06A Stead Airport, 41.20 82 ⇓P P 04 10 48.4 +0.6
baz=41
WENL Wente Brothers 41.20 86 ⇑P P 04 10 48.3 +0.4
baz=41
BNLO Ben Lomond (Sa 41.23 87 ⇑P P 04 10 47.7 -0.4
baz=41
INCN Inchon 41.25 274 eP P 04 10 48.2 -0.1
comp=Z,55nm,0.6s,mb5.4
D14A Greenough 41.27 69 ⇓P P 04 10 47.6 -0.7
baz=41,SNR=78
L09A Wilkinson Ranc 41.31 78 ⇑P P 04 10 49.0 +0.3
baz=41,SNR=8.8
R04C Big Horse Ranc 41.35 84 ⇑P P 04 10 49.1 0.0
baz=41,SNR=7.5
I11A Placerville 41.37 74 ⇓P P 04 10 48.9 -0.2
baz=41,SNR=5.7
K10A MacKenzie Ranc 41.40 76 ⇑P P 04 10 49.6 +0.2
baz=41,SNR=51
F13A Darby 41.41 71 ⇑P P 04 10 49.1 -0.3
baz=41,SNR=41
CHMT Chamberlain Mo 41.50 69 eP P 04 10 49.4 -0.8
CHMT eP cP cP 04 12 46.6 -0.5
WCN Washoe City 41.50 82 ⇑P P 04 10 50.9 +0.6
baz=41,SNR=21
PAHR Pah Rah Range 41.51 82 eP P 04 10 50.4 +0.1
comp=Z,166nm,1.2s,mb5.5
S04C Ingram Canyon, 41.55 86 ⇑P P 04 10 50.7 +0.1
baz=41,SNR=12
O07A Toulon 41.57 81 ⇑P P 04 10 51.5 +0.7
baz=41,SNR=55
E14A Clinton 41.60 70 ⇓P P 04 10 50.6 -0.5
baz=41,SNR=32
R05C Kirkwood Meado 41.64 83 ⇑P P 04 10 51.9 +0.5
baz=42,SNR=40
N08A GE Springer Mi 41.69 79 ⇓P P 04 10 52.0 +0.1
baz=42,SNR=26
MFID Camas Ranch 41.71 75 ⇑P P 04 10 51.6 -0.4
baz=42,SNR=27
H12A Diamond D Ranc 41.72 73 ⇑P P 04 10 51.1 -0.9
baz=42,SNR=26
CIT Chita 41.75 300 eP P 04 10 52.5 +0.3
CIT e pP 04 11 03.2 +0.6
CIT e 04 11 07.9
CIT e 04 12 36.5
CIT eS S 04 16 59.9 -6.7
CIT pmax pmax
comp=Z,379nm,2.3s,mb5.6
M09A Marrel Ranch, 41.77 78 ⇓P P 04 10 52.9 +0.5
baz=42,SNR=13
G13A Cobalt 41.82 72 ⇑P P 04 10 52.1 -0.7
baz=42,SNR=37
CMB Columbia Colle 41.83 84 eP P 04 10 53.3 +0.3
CMB e 04 12 48.9
CMB pmax pmax
comp=Z,194nm,1.7s,mb5.5
CMB Columbia Colle 41.83 84 ⇑P P 04 10 53.4 +0.4
baz=42,SNR=34
CMB Columbia Colle 41.83 84 eP P 04 10 53.3 +0.3
comp=Z,194nm,1.7s,mb5.5
CMB ePcP PcP 04 12 48.9 +0.4
PACP Pacheco Peak 41.87 86 ⇑P P 04 10 53.8 +0.4
baz=42,SNR=14
D15A Lincoln 41.88 68 ⇓P P 04 10 52.4 -0.9
baz=42,SNR=48
SAO San Andreas Ge 41.91 87 eP P 04 10 54.1 +0.4
SAO pmax pmax
comp=Z,29nm,0.9s,mb4.9
SAO San Andreas Ge 41.91 87 eP P 04 10 54.0 +0.4
comp=Z,29nm,0.9s,mb4.9
P07A Fallon 41.91 82 ⇓P P 04 10 54.4 +0.7
baz=42,SNR=7.2
K11A Parker Ranch, 41.92 76 ⇓P P 04 10 53.9 +0.2
baz=42,SNR=52
O08A Rochester Mine 41.95 80 ⇑P P 04 10 54.5 +0.5
baz=42,SNR=15
F14A Wisdom 41.98 70 ⇑P P 04 10 54.0 -0.1
baz=42,SNR=28
L10A Juniper Basin 42.02 77 ⇓P P 04 10 54.5 -0.1
baz=42,SNR=30
N09A Rock Creek Ran 42.04 79 ⇑P P 04 10 55.0 +0.4
baz=42
HAST Hastings Reser 42.07 87 ⇑P P 04 10 55.2 +0.2
baz=42,SNR=13
H13A Challis 42.08 72 ⇓P P 04 10 54.6 -0.3
baz=42
E15A Deer Lodge 42.11 69 ⇓P P 04 10 54.3 -0.9
baz=42,SNR=32
R06C Coleville 42.15 83 ⇑P P 04 10 56.7 +1.1
baz=42,SNR=37
G14A Jackson 42.21 71 ⇓P P 04 10 55.5 -0.6
baz=42,SNR=8.0
J12A Stokes Ranch, 42.25 75 ⇓P P 04 10 56.5 +0.1
baz=42,SNR=61
S06C San Francisco 42.27 84 ⇓P P 04 10 56.8 +0.3
baz=42,SNR=92
S05C Merced 42.28 85 ⇓P P 04 10 56.4 -0.2
baz=42,SNR=11
M10A I.L. Ranch, Tu 42.29 78 ⇓P P 04 10 56.8 +0.1
baz=42,SNR=34
Q07A Schurz 42.31 82 ⇑P P 04 10 57.5 +0.6
baz=42,SNR=5.3
P08A Dixie Valley 42.34 81 ⇑P P 04 10 58.0 +0.9
baz=42
L11A Cat Creek Ranc 42.42 76 ⇓P P 04 10 57.8 0.0
baz=42,SNR=60
BMN Battle Mountai 42.47 79 P P 04 10 58.6 +0.5
BMN pmax pmax
comp=Z,170nm,1.6s,mb5.4
BMN Battle Mountai 42.47 79 eP P 04 10 58.5 +0.4
comp=Z,166nm,1.7s,mb5.4
BMN ePcP PcP 04 12 50.6 +0.2
F15A Butte 42.49 70 ⇑P P 04 10 57.6 -0.7
baz=42,SNR=12
V03C Hunter Liggett 42.50 87 ⇓P P 04 10 58.9 +0.5
baz=42,SNR=9.4
I13A Wildhorse Cree 42.50 73 ⇑P P 04 10 58.0 -0.4
baz=42,SNR=46
HLID Hailey 42.50 74 ⇓P P 04 10 58.4 0.0
baz=42,SNR=59
HLID Hailey 42.50 74 eP P 04 10 58.3 -0.2
comp=Z,102nm,1.5s,mb5.3
LRM Limekiln Ridge 42.53 70 eP P 04 10 57.7 -0.9
U04C Hernandez Rese 42.58 87 ⇓P P 04 10 59.8 +0.7
baz=42,SNR=19
O09A Fish Creek Ran 42.63 80 ⇓P P 04 10 59.8 +0.2
baz=42,SNR=43
R07C Lee Vining 42.66 83 ⇑P P 04 11 00.5 +0.7
baz=42,SNR=7.2
DLMT Dillon 42.67 70 eP P 04 10 59.3 -0.5
comp=Z,46nm,1.3s,mb5.0
DLMT ePcP PcP 04 12 51.6 +0.5
K12A Draper Farm, C 42.70 75 ⇑P P 04 11 00.0 0.0
baz=42,SNR=30
J13A Cove Ranch, Pi 42.74 74 ⇑P P 04 11 00.4 +0.1
baz=43,SNR=57
N10A Dunphy 42.75 79 ⇓P P 04 11 00.6 +0.1
baz=43,SNR=8.6
MCMT McKenzie Canyo 42.80 71 eP P 04 11 00.2 -0.6
M11A Holland Ranch, 42.80 77 ⇑P P 04 11 01.5 +0.6
baz=43,SNR=37
G15A Dillon 42.84 71 ⇑P P 04 11 00.4 -0.7
baz=43,SNR=48
T06C Millerton Lake 42.88 85 ⇓P P 04 11 01.7 +0.2
baz=43,SNR=50
L12A House Creek Ra 42.90 76 ⇓P P 04 11 02.0 +0.4
baz=43,SNR=59
Q08A Gabbs 42.91 82 ⇓P P 04 11 02.4 +0.6
baz=43,SNR=62
NVAR Mina Array Bea 42.93 82 P P 04 11 00.7 -1.2
comp=Z,9.3nm,0.9s,mb4.5,baz=286,slow=6.5,SNR=49
NVAR pcP PcP 04 12 52.6 +0.5
comp=Z,13nm,0.9s,baz=291,slow=3.8,SNR=6.1
KCC Kaiser Creek 42.94 84 ⇓P P 04 11 02.3 +0.3
baz=43,SNR=53
V04C Ramage Ranch, 42.97 88 ⇑P P 04 11 03.1 +0.8
baz=43
PKD Parkfield 42.99 87 ⇑P P 04 11 02.3 -0.2
baz=43,SNR=11
O10A Cortez Mining, 43.00 79 ⇑P P 04 11 02.8 +0.4
baz=43,SNR=19
P09A Austin 43.02 80 ⇓P P 04 11 03.3 +0.6
baz=43,SNR=12
U05C Westside ANR, 43.02 86 ⇓P P 04 11 03.3 +0.6
baz=43,SNR=5.0
EGMT Eagleton 43.03 66 ⇓P P 04 11 01.7 -0.9
baz=43,SNR=90
EGMT Eagleton 43.03 66 eP P 04 11 01.8 -0.8
comp=Z,726nm,1.6s,mb6.2
MLAC Mammoth Lakes 43.06 84 ⇑P P 04 11 04.4 +1.4
baz=43
R08A Mina 43.10 82 ⇓P P 04 11 03.8 +0.4
baz=43
BOZ Bozeman (W) 43.11 70 eP P 04 11 02.8 -0.5
BOZ pmax pmax
comp=Z,27nm,0.8s,mb5.0
BOZ Bozeman (W) 43.11 70 ⇓P P 04 11 02.8 -0.5
baz=43,SNR=62
BOZ Bozeman (W) 43.11 70 eP P 04 11 02.8 -0.6
comp=Z,27nm,0.8s,mb5.0
N11A Elko Archery C 43.18 78 ⇑P P 04 11 04.4 +0.5
baz=43
K13A Stover Farm, H 43.20 75 ⇑P P 04 11 04.1 0.0
baz=43,SNR=8.6
M12A Wells 43.36 77 ⇓P P 04 11 05.8 +0.4
baz=43,SNR=43
PTRM Twissleman Ran 43.38 87 eP P 04 11 06.0 +0.4
MTUM Tungsten Hills 43.40 84 eP P 04 11 06.5 +0.8
P10A Eureka 43.41 80 ⇓P P 04 11 06.3 +0.5
baz=43,SNR=20
Q09A Carvers 43.41 81 ⇓P P 04 11 06.4 +0.7
baz=43,SNR=6.6
V05C Boulder Hill, 43.45 87 ⇑P P 04 11 06.8 +0.7
baz=43
HELL Mitchell Peak 43.51 85 ⇓P P 04 11 06.5 -0.2
baz=43,SNR=72
ELK Elko 43.53 78 eP P 04 11 06.9 +0.1
ELK pmax pmax
comp=Z,157nm,0.6s
ELK Elko 43.53 78 eP P 04 11 06.9 +0.1
comp=Z,157nm,0.6s,mb5.9
S08C White Mtn Res 43.56 83 ⇑P P 04 11 07.7 +0.6
baz=43,SNR=43
L13A Double Diamond 43.59 75 ⇑P P 04 11 07.8 +0.5
baz=43,SNR=28
RCTC Rector, Farmer 43.60 86 ⇓P P 04 11 07.4 0.0
baz=44,SNR=8.5
N12A Clover Valley, 43.60 77 ⇓P P 04 11 07.5 +0.2
baz=44,SNR=40
DL2 Dalian 43.61 279 P P 04 11 07.0 -0.4
DL2 AMB AMB
comp=Z,40nm,0.7s,mb5.3
O11A Cowboy Ranch, 43.62 79 ⇓P P 04 11 08.0 +0.5
baz=44,SNR=36
QLMT Earthquake Lak 43.66 71 eP P 04 11 07.2 -0.5
SMMC Simmler 43.73 87 ⇑P P 04 11 09.1 +0.7
baz=44
TIN Tinemaha 43.79 84 ⇓P P 04 11 09.7 +0.7
baz=44,SNR=17
K14A Jones Ranch, D 43.82 74 ⇓P P 04 11 08.9 -0.1
baz=44,SNR=6.3
R09A Tonopah 43.82 82 ⇑P P 04 11 09.3 +0.2
baz=44,SNR=130
TPH Tonopah 43.83 82 eP P 04 11 09.2 0.0
TPH e 04 12 56.3
TPH pmax pmax
comp=Z,227nm,1.5s,mb5.7
TPH Tonopah 43.83 82 eP P 04 11 09.2 0.0
comp=Z,227nm,1.5s,mb5.7
TPH ePcP PcP 04 12 56.2 +1.2
M13A Montello 43.86 76 ⇓P P 04 11 09.1 -0.3
baz=44,SNR=23
P11A Circle Ranch, 43.89 79 ⇑P P 04 11 10.2 +0.5
baz=44,SNR=20
Q10A Clear Creek Ra 43.91 81 ⇓P P 04 11 10.1 +0.3
baz=44,SNR=43
VES Vestal, Richgr 43.99 86 ⇓P P 04 11 10.0 -0.5
baz=44,SNR=22
YMR Madison River 44.02 70 eP P 04 11 10.8 +0.1
comp=Z,27nm,0.4s,mb5.3
YMR ePcP PcP 04 12 57.4 +1.8
S09A Goldfield 44.03 83 ⇓P P 04 11 10.8 0.0
baz=44,SNR=35
L14A Malta 44.06 75 ⇓P P 04 11 11.1 +0.1
baz=44,SNR=29
PKM Peak Mountain 44.10 88 ⇓P P 04 11 11.8 +0.4
baz=44,SNR=9.1
O12A Currie 44.12 78 ⇑P P 04 11 11.4 0.0
baz=44,SNR=68
N13A Wendover, West 44.12 77 ⇑P P 04 11 11.7 +0.2
baz=44,SNR=26
K15A Arbon 44.14 74 ⇑P P 04 11 12.0 +0.3
baz=44
YNR Norris Junctio 44.17 70 eP P 04 11 12.2 +0.3
GCMT Greycliff 44.21 68 eP P 04 11 11.8 -0.4
YFT Old Faithful 44.22 71 ⇓P P 04 11 12.5 +0.3
CWC Cottonwood Cre 44.26 85 ⇑P P 04 11 13.1 +0.4
baz=44,SNR=20
R10A Warm Springs 44.28 81 ⇓P P 04 11 12.9 0.0
baz=44,SNR=40
M14A Sheep Mountain 44.29 76 ⇑P P 04 11 13.1 +0.3
baz=44,SNR=32
S10A Tonopah Range, 44.31 82 ⇑P P 04 11 13.3 +0.2
baz=44,SNR=88
Q11A Duckwater 44.37 80 ⇓P P 04 11 13.3 -0.2
baz=44,SNR=61
GRAC Grapevine Rang 44.38 83 ⇓P P 04 11 14.1 +0.5
baz=44,SNR=41
J16A Bone 44.38 73 ⇑P P 04 11 14.2 +0.7
baz=44
LKWY Lake 44.42 70 ⇓P P 04 11 14.7 +0.9
LKWY pmax pmax
comp=Z,92nm,1.4s,mb5.3
LKWY Lake 44.42 70 ⇓P P 04 11 14.7 +0.9
comp=Z,92nm,1.4s,mb5.3
IMW Indian Meadow 44.45 71 ⇓P P 04 11 14.3 +0.2
comp=Z,91nm,1.6s,mb5.3
SBC Santa Barbara 44.45 88 ⇑P P 04 11 14.6 +0.4
baz=44
ISA Isabella 44.49 86 ⇓P P 04 11 13.9 -0.6
ISA pmax pmax
comp=Z,78nm,1.2s,mb5.3
ISA Isabella 44.49 86 ⇑P P 04 11 13.7 -0.8
baz=44,SNR=35
ISA Isabella 44.49 86 ⇓P P 04 11 13.9 -0.6
comp=Z,78nm,1.2s,mb5.3
HVU Hansel Valley 44.49 75 P P 04 11 14.6 +0.2
HVU pmax pmax
comp=Z,34nm,1.0s,mb5.0
HVU Hansel Valley 44.49 75 ⇓P P 04 11 14.5 +0.1
comp=Z,34nm,1.0s,mb5.0
FLWY Flagg Ranch 44.50 71 ⇓P P 04 11 14.7 +0.2
comp=Z,72nm,1.0s,mb5.4
RRI2 Red Ridge 44.52 72 ⇓P P 04 11 15.0 +0.3
comp=Z,187nm,1.6s,mb5.7
ARVC Arvin 44.59 87 ⇑P P 04 11 14.7 -0.7
baz=44,SNR=8.4
L15A Malad City 44.60 74 ⇑P P 04 11 15.3 0.0
baz=44,SNR=20
K16A Soda Springs 44.64 73 ⇑P P 04 11 16.4 +0.8
baz=44,SNR=51
MOOW Moose Ponds 44.65 71 ⇓P P 04 11 15.4 -0.3
comp=Z,48nm,1.6s,mb5.1
TPAW Teton Pass 44.67 72 ⇓P P 04 11 16.2 +0.4
comp=Z,115nm,1.6s,mb5.5
O13A Hicks Ranch, I 44.67 78 ⇑P P 04 11 16.0 +0.1
baz=44,SNR=7.3
R11A Troy Canyon, C 44.70 81 ⇓P P 04 11 16.0 -0.2
baz=45,SNR=91
N14A Grayback Hills 44.76 76 ⇓P P 04 11 16.7 +0.2
baz=45,SNR=49
Q12A Willow Creek R 44.77 79 ⇑P P 04 11 16.7 0.0
baz=45,SNR=46
BSC Santa Cruz Isl 44.79 88 ⇑P P 04 11 16.5 -0.4
baz=45
REDW Red Top Meadow 44.80 72 ⇓P P 04 11 17.0 +0.1
comp=Z,110nm,1.5s,mb5.5
SNOW Snow King Moun 44.80 72 ⇓P P 04 11 17.1 +0.2
comp=Z,322nm,2.1s,mb5.8
RLMT Red Lodge 44.80 69 ⇓P P 04 11 16.7 -0.2
comp=Z,240nm,1.3s,mb5.9
LOHW Long Hollow 44.81 72 ⇓P P 04 11 16.9 -0.1
comp=Z,72nm,1.6s,mb5.3
BGU Big Grassy Mou 44.81 76 ⇓P P 04 11 17.0 0.0
M15A Larsen Ranch, 44.87 75 ⇑P P 04 11 17.5 0.0
baz=45,SNR=16
MPMC Manual Prospec 44.87 85 ⇓P P 04 11 17.6 0.0
baz=45,SNR=51
SPUT South Promonto 44.96 75 ⇓iP P 04 11 18.2 0.0
AHID Auburn Hatcher 44.97 73 ⇓iP P 04 11 18.0 -0.3
comp=Z,90nm,1.6s,mb5.3
OSI Osito Adit 44.98 87 ⇓P P 04 11 18.3 -0.2
baz=45
OSI Osito Adit 44.98 87 ⇓iP P 04 11 18.6 +0.2
comp=Z,81nm,1.1s,mb5.5
S11A Rachel 45.02 82 ⇑P P 04 11 18.5 -0.2
baz=45,SNR=40
FURC Furnace Creek, 45.02 84 ⇓P P 04 11 18.9 +0.1
baz=45,SNR=50
P13A Bates Ranch, G 45.04 78 ⇓P P 04 11 18.7 -0.2
baz=45,SNR=72
BLG Laguna Peak 45.08 88 ⇓P P 04 11 18.5 -0.8
baz=45,SNR=11
LRMC Laurel Mountai 45.10 85 ⇓P P 04 11 19.0 -0.4
baz=45,SNR=14
TPNV Topopah Spring 45.12 83 ⇓iP P 04 11 19.4 -0.1
TPNV pmax pmax
comp=Z,91nm,0.8s,mb5.7
TPNV Topopah Spring 45.12 83 ⇓P P 04 11 19.5 0.0
baz=45,SNR=132
TPNV Topopah Spring 45.12 83 ⇓iP P 04 11 19.4 -0.1
comp=Z,90nm,0.8s,mb5.7
N15A Stansbury Isla 45.15 76 ⇓P P 04 11 19.7 0.0
baz=45,SNR=6.9
L16A Fish Haven 45.19 74 ⇓P P 04 11 20.1 +0.1
baz=45,SNR=7.6
EDW2 Edwards Air Fo 45.28 86 ⇓P P 04 11 20.8 -0.1
baz=45,SNR=17
Q13A Wheeler Ranch, 45.33 79 ⇓P P 04 11 21.3 +0.1
baz=45,SNR=57
R12A Pony Springs, 45.33 80 ⇑P P 04 11 21.1 -0.1
baz=45,SNR=32
HWUT Hardware Ranch 45.34 74 ⇓iP P 04 11 21.0 -0.2
comp=Z,51nm,1.2s,mb5.2
HWUT ePcP PcP 04 13 00.6 +0.4
DUG Dugway 45.37 77 ⇓iP P 04 11 21.4 0.0
DUG e 04 13 01.8
DUG pmax pmax
comp=Z,139nm,1.3s,mb5.6
DUG Dugway 45.37 77 ⇓P P 04 11 21.5 0.0
baz=45,SNR=82
DUG Dugway 45.37 77 ⇓iP P 04 11 21.4 -0.1
comp=Z,139nm,1.3s,mb5.6
DUG ePcP PcP 04 13 01.8 +1.4
U10A Ash Meadows, A 45.39 83 ⇑P P 04 11 22.0 +0.4
baz=45,SNR=30
DECC Green Verdugo 45.46 87 ⇑P P 04 11 21.8 -0.4
baz=45
M16A Huntsville 45.46 75 ⇓P P 04 11 22.0 -0.1
baz=45,SNR=46
O15A The Old Anders 45.53 77 ⇓P P 04 11 22.8 0.0
baz=45,SNR=13
NOQ North Oquirrh 45.53 76 ⇓iP P 04 11 22.7 -0.1
comp=Z,266nm,1.6s,mb5.9
NOQ ePcP PcP 04 13 01.3 +0.4
P14A Drum Mountains 45.56 78 ⇑P P 04 11 23.0 +0.1
baz=45,SNR=72
T11A Corn Creek, Al 45.60 82 ⇓P P 04 11 23.2 -0.1
baz=46,SNR=176
S12A Delamar Landin 45.61 81 ⇓P P 04 11 23.7 +0.3
baz=46,SNR=74
MWC Mount Wilson 45.65 87 ⇓iP P 04 11 23.6 -0.2
MWC pmax pmax
comp=Z,222nm,1.5s,mb5.9
MWC Mount Wilson 45.65 87 ⇓iP P 04 11 23.6 -0.2
comp=Z,222nm,1.5s,mb5.9
CTU Camp Tracy 45.74 76 eP P 04 11 24.3 -0.1
comp=Z,72nm,1.2s,mb5.5
SHOC Shoshone 45.74 84 ⇓P P 04 11 23.9 -0.6
baz=46,SNR=29
LAO LASA Array 45.77 66 ⇓iP P 04 11 24.3 -0.2
comp=Z,592nm,1.9s,mb6.2
LAO ePcP PcP 04 13 02.6 +1.0
GSC Goldstone 45.78 85 ⇑iP P 04 11 24.7 0.0
GSC e 04 13 03.3
GSC pmax pmax
comp=Z,101nm,1.0s,mb5.7
GSC Goldstone 45.78 85 ⇑P P 04 11 24.6 -0.1
baz=46,SNR=66
GSC Goldstone 45.78 85 ⇑iP P 04 11 24.7 -0.1
comp=Z,101nm,1.0s,mb5.7
GSC ePcP PcP 04 13 03.3 +1.5
Q14A Sevier Lake (B 45.78 79 ⇑P P 04 11 24.8 +0.1
baz=46,SNR=122
FMP Fort Macarthur 45.83 88 ⇓P P 04 11 24.3 -0.9
baz=46
N16A Rees Ranch, Co 45.83 75 ⇑P P 04 11 25.3 +0.3
baz=46,SNR=7.9
R13A O'Grain Ranch, 45.83 80 ⇓P P 04 11 25.0 -0.1
baz=46,SNR=42
BFSC Mount Baldy St 45.90 87 ⇓P P 04 11 25.3 -0.4
baz=46,SNR=23
BW06 Boulder Array 45.91 72 ⇓iP P 04 11 25.2 -0.5
comp=Z,128nm,1.4s,mb5.7
PDAR Pinedale Array 45.91 72 P P 04 11 25.4 -0.4
comp=Z,28nm,1.0s,mb5.1,baz=306,slow=3.7,SNR=104
RRX Edison Barstow 45.92 86 ⇑P P 04 11 25.8 0.0
baz=46
CIS Catalina Islan 45.95 88 ⇑P P 04 11 25.4 -0.8
baz=46
NLU North Lily Min 45.97 77 ⇓iP P 04 11 26.1 -0.1
NLU ePcP PcP 04 13 03.9 +1.5
JLU Jordanelle 45.98 76 ⇓iP P 04 11 26.3 0.0
JLU ePcP PcP 04 13 02.3 -0.2
U11A Corn Creek 45.99 83 ⇑P P 04 11 26.5 +0.1
baz=46,SNR=10.0
DGMT Dagmar 46.01 62 ⇓iP P 04 11 25.6 -0.8
comp=Z,384nm,1.4s,mb6.1
DGMT ePcP PcP 04 13 02.4 0.0
P15A Leamington 46.06 77 ⇓P P 04 11 26.9 -0.1
baz=46,SNR=27
SCI San Clemente I 46.13 89 ⇓P P 04 11 26.6 -1.0
baz=46
N17A Moffit Pass 46.17 75 ⇑P P 04 11 27.5 -0.3
baz=46,SNR=31
FCC Fort Churchill 46.17 46 ⇓iP P 04 11 27.7 +0.2
FCC pmax pmax
comp=Z,389nm,1.2s,mb6.2
FCC Fort Churchill 46.17 46 ⇓iP P 04 11 27.7 +0.1
comp=Z,389nm,1.2s,mb6.2
O16A Springville 46.18 76 ⇓P P 04 11 27.9 0.0
baz=46
MPU Maple Canyon 46.21 76 eP P 04 11 28.0 -0.1
comp=Z,37nm,1.0s,mb5.3
MPU ePcP PcP 04 13 04.9 +1.6
DAU Daniels Canyon 46.21 76 eP P 04 11 28.4 +0.3
DAU e 04 13 04.4
T12A Moapa 46.23 82 ⇑P P 04 11 27.6 -0.7
baz=46
S13A Holt Ranch, En 46.25 80 ⇓P P 04 11 28.4 -0.1
baz=46,SNR=87
TUQ Turquoise Mtn. 46.26 84 ⇑P P 04 11 28.2 -0.4
baz=46,SNR=8.8
V11A Goodsprings 46.32 83 ⇓P P 04 11 28.9 -0.1
baz=46,SNR=22
Q15A Fillmore 46.34 78 ⇑P P 04 11 28.8 -0.3
baz=46,SNR=19
R14A James Farms, M 46.35 79 ⇑P P 04 11 29.0 -0.3
baz=46
BBRC Big Bear Sol-O 46.36 86 ⇑P P 04 11 29.3 -0.1
baz=46,SNR=9.9
BJI Beijing 46.37 284 P P 04 11 29.3 -0.1
BJI S S 04 18 14.5 +0.3
BJI AMB AMB
comp=Z,65nm,1.4s,mb5.4
BJI AMB AMB
comp=Z,2μm,5.6s
BJI LR LR
comp=N,2μm,15.6s,MS5.5
BJI LR LR
comp=E,3μm,15.1s,MS5.5
BJI LR LR
comp=Z,3μm,23.4s
HEC Hector,Ludlow 46.38 85 ⇓P P 04 11 29.1 -0.4
baz=46,SNR=28
BJT Baijiatuau 46.39 284 ⇓iP P 04 11 29.1 -0.4
BJT e 04 13 03.8
BJT pmax pmax
comp=Z,77nm,0.7s
BJT Baijiatuau 46.39 284 ⇓iP P 04 11 29.1 -0.4
comp=Z,77nm,0.7s,mb5.7

BJT ePcP PcP 04 13 03.8 -0.1
ARUT Antelope Range 46.39 80 eP **P 04 11 29.4 -0.2**
P16A Fountain Green 46.43 77 ⇓P **P 04 11 30.1 +0.3**
baz=46,SNR=7.6
U12A Valley of Fire 46.52 82 ⇓P **P 04 11 30.5 -0.1**
baz=46,SNR=24
T13A Saint George 46.56 81 ⇓P **P 04 11 31.1 +0.2**
baz=46,SNR=61
S14A Cedar City 46.58 80 ⇓P **P 04 11 30.9 -0.1**
baz=46,SNR=7.4
CCUT Cedar City 46.59 80 ⇓iP **P 04 11 40.2 +9.1**
MURC Murrieta 46.60 87 ⇑P **P 04 11 31.0 -0.2**
baz=46,SNR=13
IRK Irkutsk 46.69 304 ⇓iP **P 04 11 30.8 -0.9**
IRK e 04 13 26.6
IRK pmax pmax
comp=Z,380nm,2.3s,mb5.9
MSU Marysvale 46.76 78 eP **P 04 11 32.4 0.0**
MSU e 04 13 06.0
V12A Nelson 46.76 83 ⇑P **P 04 11 32.1 -0.4**
baz=47,SNR=28
GMRC Granite Mounta 46.84 85 ⇑P **P 04 11 32.8 -0.2**
baz=47,SNR=26
N18A Larsen Ranch, 46.87 74 ⇓P **P 04 11 32.2 -1.0**
baz=47,SNR=26
R15A Junction 46.87 79 ⇑P **P 04 11 33.5 +0.2**
baz=47,SNR=33
TMUT Trail Mountain 46.90 77 ⇓iP **P 04 11 33.6 +0.1**
U13A Pakoon Wash 46.90 82 ⇓P **P 04 11 33.6 +0.1**
baz=47,SNR=102
LDFC Landfair 47.00 84 ⇓iP **P 04 11 33.8 -0.5**
comp=Z,131nm,1.1s,mb5.8
LDFC ePcP PcP 04 13 06.5 +0.3
W12A Cal Nev Ari 47.01 84 ⇓P **P 04 11 34.3 -0.1**
baz=47
T14A Hurricane 47.06 80 ⇓P **P 04 11 34.8 0.0**
baz=47,SNR=71
PFO Pinyon Flat Ob 47.07 87 P **P 04 11 34.1 -0.8**
comp=Z,199nm,0.9s,mb6.0,SNR=16
PFO Pinyon Flat Ob 47.07 87 ⇓iP **P 04 11 34.3 -0.6**
PFO e 04 13 08.0
PFO pmax pmax
comp=Z,980nm,2.7s,mb6.3
PFO Pinyon Flat Ob 47.07 87 ⇓P **P 04 11 34.5 -0.4**
baz=47,SNR=14
PFO Pinyon Flat Ob 47.07 87 ⇓iP **P 04 11 34.3 -0.6**
comp=Z,980nm,2.7s,mb6.3
PFO ePcP PcP 04 13 08.0 +1.6
O18A Roosevelt 47.07 75 ⇓P **P 04 11 35.2 +0.4**
baz=47,SNR=17
P17A Butcher Ranch, 47.08 76 ⇓P **P 04 11 34.8 -0.1**
baz=47,SNR=22
BELC Belle Mtn. 47.11 86 ⇑P **P 04 11 34.7 -0.6**
baz=47,SNR=22
109C Camp Elliot, M 47.12 88 ⇓P **P 04 11 35.2 -0.1**
baz=47,SNR=6.5
JOW Kunigami 47.14 261 P **P 04 11 36.1 +0.6**
comp=Z,41nm,0.6s,mb5.5,baz=53,slow=7.9,SNR=9.4
S15A Panguitch 47.14 79 ⇓P **P 04 11 35.7 +0.2**
baz=47,SNR=20
Q16A Castle Valley 47.14 77 ⇓P **P 04 11 35.3 -0.1**
baz=47,SNR=24
V13A Grand Canyon W 47.23 82 ⇓P **P 04 11 36.0 -0.2**
baz=47,SNR=53
P18A Preston Nutter 47.30 76 ⇓P **P 04 11 36.8 +0.1**
baz=47,SNR=58
TLY Talaya 47.31 304 P **P 04 11 37.5 +1.0**
comp=Z,504nm,0.7s,mb6.6,SNR=27
TLY Talaya 47.31 304 eP **P 04 11 36.7 +0.2**
TLY pmax pmax
comp=Z,82nm,0.8s,mb5.7
TLY MLR MLR
comp=Z,4μm,21.0s,MS5.4
TLY Talaya 47.31 304 ⇓iP **P 04 11 36.8 +0.3**
comp=Z,61nm,0.7s,mb5.6
U14A Mt Trumbull 47.39 81 ⇓P **P 04 11 37.4 0.0**
baz=47,SNR=42
SRU San Rafael 47.43 77 ⇓iP **P 04 11 37.4 -0.3**
SRU pmax pmax
comp=Z,45nm,1.0s,mb5.3
SRU San Rafael 47.43 77 ⇑P **P 04 11 37.5 -0.2**
baz=47,SNR=48
SRU San Rafael 47.43 77 ⇓iP **P 04 11 37.4 -0.2**
comp=Z,45nm,1.0s,mb5.3
NEE2 Needles Airpor 47.51 84 ⇑P **P 04 11 37.8 -0.5**
baz=47
BAR Barrett 47.53 88 ⇓iP **P 04 11 38.1 -0.4**
comp=Z,51nm,1.1s,mb5.5
BAR ePcP PcP 04 13 08.7 +0.6
T15A Red Dirt Ranch 47.53 80 ⇑P **P 04 11 38.5 0.0**
baz=47,SNR=25
IRM Iron Mountain 47.55 85 ⇓P **P 04 11 38.5 -0.2**
baz=47,SNR=38
MONP Monument Peak 47.55 87 ⇓P **P 04 11 38.4 -0.3**
baz=47,SNR=9.5
S16A Weppner Ranch, 47.60 79 ⇑P **P 04 11 39.3 +0.4**
baz=47,SNR=104
BC3 Big Chuckw Mtn 47.68 86 ⇓P **P 04 11 39.0 -0.7**
baz=48,SNR=13
Q18A Rafter H Ranch 47.68 76 ⇓P **P 04 11 39.0 -0.6**
baz=48,SNR=50
R17A Hanksville Air 47.73 77 ⇑P **P 04 11 39.6 -0.4**
baz=48,SNR=76
W13A Hualapai Mount 47.77 83 ⇓P **P 04 11 40.2 -0.1**
baz=48,SNR=52
SONM Songino Array 47.84 298 P **P 04 11 41.3 +0.6**
comp=Z,19nm,0.6s,mb5.3,baz=55,slow=9.5,SNR=113
SONM PcP PcP 04 13 09.4 +0.5
comp=Z,23nm,0.7s,baz=75,slow=3.0,SNR=8.5
DVTC Desert V Tower 47.91 87 ⇑P **P 04 11 41.1 -0.4**
baz=48,SNR=11
SWSC Sam W. Stewart 47.92 87 ⇑P **P 04 11 40.9 -0.6**
baz=48,SNR=6.7
V14A Boquillas Ranc 47.93 82 ⇓P **P 04 11 41.5 0.0**
baz=48,SNR=47
U15A North Rim 47.95 81 ⇑P **P 04 11 41.9 +0.2**
baz=48,SNR=117
RWWY Rawlins 47.96 72 ⇓iP **P 04 11 40.8 -1.0**
comp=Z,139nm,1.5s,mb5.8
T16A Glen Canyon Da 48.10 80 ⇓P **P 04 11 42.2 -0.7**
baz=48,SNR=9.2
PDMCI Parker Dam,Lak 48.11 84 ⇓P **P 04 11 42.3 -0.6**
baz=48,SNR=21
X13A Yucca 48.12 84 ⇑P **P 04 11 42.3 -0.7**
baz=48,SNR=35
S17A Black Ridge (B 48.15 78 ⇑P **P 04 11 43.1 -0.2**
baz=48,SNR=70
ZAK Zakamensk 48.19 302 ⇑iP **P 04 11 43.4 +0.1**
ZAK e 04 13 11.9
ZAK e 04 18 46.1
ZAK pmax pmax
comp=Z,79nm,1.0s,mb5.7
W14A Seligman 48.21 82 ⇓P **P 04 11 43.5 -0.2**
baz=48,SNR=36
Y12C Blythe 48.22 85 ⇓P **P 04 11 43.2 -0.6**
baz=48,SNR=35
R18A Canyonlands Na 48.26 77 ⇑P **P 04 11 42.9 -1.2**
baz=48,SNR=50
Q19A Hogan Spring (48.31 76 ⇑P **P 04 11 43.5 -1.0**
baz=48,SNR=28
V15A Kaibab Nationa 48.40 81 ⇓P **P 04 11 45.4 +0.2**
baz=48,SNR=76
GLA Glamis 48.47 86 ⇓iP **P 04 11 45.3 -0.5**
GLA e 04 13 12.4
GLA pmax pmax
comp=Z,93nm,1.1s,mb5.7
GLA Glamis 48.47 86 ⇓P **P 04 11 45.2 -0.5**
baz=48,SNR=28
GLA Glamis 48.47 86 ⇓iP **P 04 11 45.3 -0.4**
comp=Z,93nm,1.1s,mb5.7
GLA ePcP PcP 04 13 12.4 +1.0
RSSD Black Hills 48.47 67 ⇓iP **P 04 11 44.6 -1.0**
RSSD e 04 13 12.0
RSSD pmax pmax
comp=Z,41nm,1.1s,mb5.4
RSSD Black Hills 48.47 67 ⇓iP **P 04 11 44.6 -1.0**
comp=Z,41nm,1.1s,mb5.4
RSSD ePcP PcP 04 13 12.0 +0.7
T17A Navajo Res., N 48.54 79 ⇓P **P 04 11 45.1 -1.1**
baz=48,SNR=42
Y13A Salome 48.62 84 ⇑P **P 04 11 46.3 -0.6**
baz=48,SNR=19
S18A Hurst Farm, Bl 48.62 78 ⇓P **P 04 11 46.2 -0.7**
baz=48,SNR=85
R19A Curley Farm, L 48.72 77 ⇑P **P 04 11 46.8 -0.8**
baz=49,SNR=24
HHC Hu-ho-hao-te 48.74 288 eP **P 04 11 48.3 +0.5**

HHC AP pP 04 11 53.6 -4.8
HHC XP sP 04 11 57.3 -5.3
HHC PP PP 04 13 41.8 +1.0
HHC PCS PcS 04 17 09.9 +1.5
HHC S **S 04 18 48.8 +1.0**
HHC SCS ScS 04 21 36.3 -0.7
HHC AMB AMB
comp=Z,124nm,1.0s,mb5.9
HHC LR LR
comp=N,3μm,25.0s,MS5.2
HHC LR LR
comp=E,2μm,23.8s,MS5.2
HHC LR LR
comp=Z,6μm,23.8s,MS5.5
W15A Williams 48.75 82 ⇓P **P 04 11 47.8 0.0**
baz=49,SNR=20
SSE Sheshan 48.77 271 P **P 04 11 48.4 +0.3**
SSE AMB AMB
comp=Z,54nm,1.6s,mb5.3
SSE AMB AMB
comp=Z,770nm,4.8s
X14A Yava 48.80 83 ⇑P **P 04 11 48.4 +0.1**
baz=49,SNR=70
PV10 Paradox Valley 48.80 76 eP **P 04 11 47.9 -0.4**
U17A Shonto 48.87 79 ⇑P **P 04 11 47.8 -1.0**
baz=49,SNR=14
112A Yuma 48.96 86 ⇑P **P 04 11 49.0 -0.5**
baz=49,SNR=13
T18A Mexican Hat 49.04 78 ⇓P **P 04 11 48.8 -1.3**
baz=49,SNR=72
Y14A Wickenburg 49.06 84 ⇑P **P 04 11 50.0 -0.4**
baz=49,SNR=44
WUAZ Wupatki 49.10 81 ⇓P **P 04 11 50.5 -0.1**
baz=49,SNR=57
WUAZ Wupatki 49.10 81 ⇓iP **P 04 11 50.5 0.0**
comp=Z,82nm,1.0s,mb5.7
WUAZ ePcP PcP 04 13 15.4 +1.7
S19A Harvey Farm, M 49.13 77 ⇑P **P 04 11 50.2 -0.6**
baz=49,SNR=62
X15A Humboldt 49.20 83 ⇓P **P 04 11 51.2 -0.1**
baz=49,SNR=41
PV01 Paradox Valley 49.24 76 eP **P 04 11 50.9 -0.7**
PHWY Pilot Hill 49.26 71 ⇓iP **P 04 11 50.5 -1.1**
PHWY ePcP PcP 04 13 14.3 +0.1
W16A Flagstaff 49.27 82 ⇓P **P 04 11 51.7 -0.2**
baz=49,SNR=17
113A Mohawk Valley, 49.33 85 ⇓P **P 04 11 51.6 -0.8**
baz=49,SNR=12
Z14A Wintersburg 49.47 84 ⇑P **P 04 11 52.8 -0.6**
baz=49
Y15A Casa Rosa Ranc 49.48 83 ⇓P **P 04 11 53.3 -0.2**
baz=49,SNR=41
U18A Rough Rock, Ch 49.48 79 ⇑P **P 04 11 52.9 -0.6**
baz=49,SNR=20
NJ2 Nanjing 49.63 274 eP **P 04 11 54.6 -0.1**
NJ2 AP pP 04 12 00.3 -5.0
NJ2 XP sP 04 12 02.0 -7.6
NJ2 PP PP 04 13 48.3 -0.8
NJ2 S **S 04 19 00.5 0.0**
NJ2 XS sS 04 19 07.0 -11
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
NJ2 AMB AMB
comp=Z,1μm,5.0s
NJ2 LR LR
comp=N,1μm,25.9s,MS5.0
NJ2 LR LR
comp=E,2μm,25.1s,MS5.0
NJ2 LR LR
comp=Z,2μm,30.5s
ULM Lac du Bonnet 49.65 56 P **P 04 11 53.6 -0.9**
comp=Z,24nm,0.5s,mb5.5,baz=305,slow=7.7,SNR=45
ULM du Bonnet 49.65 56 ⇓iP **P 04 11 53.4 -1.1**
comp=Z,138nm,1.3s,mb5.8
X16A Lo Mia Camp, P 49.75 82 ⇓P **P 04 11 55.7 +0.1**
baz=50,SNR=72
T19A Beclabito 49.76 78 ⇓P **P 04 11 54.9 -0.6**
baz=50,SNR=93
W17A Winslow 49.80 81 ⇓P **P 04 11 55.7 -0.2**
baz=50
BTO Baotou 49.83 288 eP **P 04 11 56.8 +0.7**
MVCO Mesa Verde 49.85 77 ⇑P **P 04 11 55.6 -0.7**
baz=50,SNR=34
MVCO Mesa Verde 49.85 77 ⇓iP **P 04 11 55.8 -0.5**
comp=Z,220nm,1.6s,mb5.9
V18A Ganado 49.89 80 ⇓P **P 04 11 56.4 -0.2**
baz=50,SNR=52
Z15A Gila River Ind 50.02 84 ⇓P **P 04 11 56.9 -0.7**
baz=50,SNR=6.5
ISCO Idaho Springs 50.06 73 ⇓iP **P 04 11 57.5 -0.3**
ISCO pmax pmax
comp=Z,111nm,1.7s,mb5.6
ISCO Idaho Springs 50.06 73 ⇓iP **P 04 11 57.5 -0.3**
comp=Z,111nm,1.7s,mb5.6
Y16A Circle Bar Ran 50.07 83 ⇑P **P 04 11 58.1 +0.1**
baz=50,SNR=31
TIY Taiyuan 50.10 284 P **P 04 11 58.8 +0.6**
TIY PP PP 04 13 54.8 +1.6
TIY PPP 04 14 50.1
TIY S **S 04 19 04.4 -2.5**
TIY XS sS 04 19 20.9 -3.6
TIY AMB AMB
comp=Z,2μm,2.8s,mb6.6
TIY LR LR
comp=N,1μm,13.3s
TIY LR LR
comp=E,2μm,21.0s
TIY LR LR
comp=Z,726nm,12.6s,MS4.9
X17A Forest Lakes 50.21 82 ⇓P **P 04 11 59.2 +0.2**
baz=50,SNR=28
115A Sonoran Desert 50.36 84 ⇓P **P 04 12 00.1 -0.1**
baz=50,SNR=45
W18A Petrified Fore 50.39 80 ⇑P **P 04 12 00.3 -0.1**
baz=50,SNR=9.6
KRAR Krasnoyarsk 50.39 313 *d iP* **P 04 11 59.9 -0.2**
KRAR pmax pmax
comp=Z,371nm,1.7s,mb6.1
V19A Window Rock 50.45 79 ⇓P **P 04 12 00.6 -0.2**
baz=50,SNR=6.8
Z16A Peralta Trail, 50.45 83 ⇓P **P 04 12 00.4 -0.5**
baz=50,SNR=11
214A Organ Pipe Nat 50.47 86 ⇑P **P 04 12 00.8 -0.3**
baz=50,SNR=44
Y17A Roosevelt 50.60 82 ⇑P **P 04 12 01.9 0.0**
baz=50,SNR=47
W19A Sanders 50.61 80 ⇑P **P 04 12 02.0 -0.1**
baz=50,SNR=6.5
X18A Snowflake 50.63 81 ⇑P **P 04 12 02.3 +0.1**
baz=50,SNR=45
AGMN Agassiz Refuge 50.75 59 ⇓iP **P 04 12 01.5 -1.4**
comp=Z,191nm,1.3s,mb5.9
AGMN ePcP PcP 04 13 19.6 0.0
116A Eloy 50.78 84 ⇓P **P 04 12 02.9 -0.4**
baz=51,SNR=17
KBS Kingsbay 50.93 358 eP **P 04 12 03.8 -0.1**
KBS pmax pmax
comp=Z,72nm,0.9s,mb5.6
KBS Kingsbay 50.93 358 eP **P 04 12 03.8 -0.1**
comp=Z,72nm,0.9s,mb5.6
Y18A Canyon Day Jun 51.06 82 ⇑P **P 04 12 05.8 +0.3**
baz=51,SNR=49
Z17A San Carlos Hig 51.09 83 ⇑P **P 04 12 05.7 0.0**
baz=51,SNR=20
X19A St. Johns 51.11 81 ⇑P **P 04 12 05.6 -0.2**
baz=51,SNR=38
216A Three Points, 51.31 85 ⇑P **P 04 12 06.9 -0.4**
baz=51,SNR=16
SDCO Great Sand Dun 51.39 75 ⇓iP **P 04 12 07.8 -0.1**
comp=Z,261nm,1.0s,mb6.1
117A Oracle 51.39 83 ⇑P **P 04 12 07.9 -0.1**
baz=51,SNR=45
Y19A Nutrioso 51.44 81 ⇓P **P 04 12 08.7 +0.5**
baz=51,SNR=24
Z18A Geronimo 51.51 82 ⇓P **P 04 12 09.2 +0.4**
baz=51,SNR=7.1
SPB4 Spitsbergen Ar 51.52 356 eP **P 04 12 07.4 -0.9**
TUC Tucson 51.54 84 P **P 04 12 08.2 -0.8**
TUC pmax pmax
comp=Z,140nm,1.6s,mb5.6
TUC Tucson 51.54 84 ⇓iP **P 04 12 08.7 -0.3**
comp=Z,144nm,1.6s,mb5.7
TUC ePcP PcP 04 13 24.2 +1.5
118A Homack Ranch, 51.84 83 ⇓P **P 04 12 11.2 -0.1**
baz=52,SNR=68
Z19A T-Link Ranch, 51.86 82 ⇓P **P 04 12 11.5 +0.1**
baz=52,SNR=6.3

217A Green Valley 51.87 84 ⇓P **P 04 12 11.1 -0.4**
baz=52,SNR=22
119A Ashpeak Ranch, 52.18 82 ⇑P **P 04 12 13.3 -0.5**
baz=52,SNR=27
218A Dragoon 52.23 84 ⇑P **P 04 12 14.2 0.0**
baz=52,SNR=14
LAZ Ladron 52.49 79 eP **P 04 12 16.0 0.0**
DAG Danmarks Havn 52.51 6 ⇑iP **P 04 12 14.9 -0.8**
DAG pmax pmax
comp=Z,56nm,1.4s,mb5.3
DAG Danmarks Havn 52.51 6 ⇑iP **P 04 12 14.9 -0.8**
comp=Z,56nm,1.4s,mb5.3
ANMO Albuquerque 52.56 78 ⇓iP **P 04 12 16.0 -0.6**
ANMO e 04 13 27.5
ANMO pmax pmax
comp=Z,106nm,1.7s
ANMO Albuquerque 52.56 78 ⇓iP **P 04 12 16.0 -0.6**
comp=Z,106nm,1.7s,mb5.5
ANMO ePcP PcP 04 13 27.4 +0.9
318A Bisbee 52.62 84 ⇓P **P 04 12 16.5 -0.6**
baz=52,SNR=34
219A White Tail Can 52.71 83 ⇑P **P 04 12 17.3 -0.5**
baz=53,SNR=38
LENM Lemitar 52.74 79 eP **P 04 12 17.9 -0.1**
HVS Khovu-Aksy 52.79 308 *c iP* **P 04 12 19.7 +1.6**
Y22C IRIS PASSCAL I 52.84 79 ⇓P **P 04 12 19.1 +0.4**
baz=53
LPM Los Pinos Moun 52.87 79 eP **P 04 12 18.6 -0.3**
BNM Barren Site 52.97 79 eP **P 04 12 19.4 -0.3**
ECSD EROS,Sioux Fal 53.03 64 ⇓iP **P 04 12 18.2 -1.8**
comp=Z,87nm,1.4s,mb5.5
ECSD ePcP PcP 04 13 28.3 +0.2
YHNB Yeheng 53.06 265 eP **P 04 12 20.1 -0.2**
comp=Z,17nm,0.7s,mb5.1
319A Douglas 53.11 84 ⇑P **P 04 12 20.3 -0.4**
baz=53,SNR=31
EYMN Ely 53.33 57 ⇓iP **P 04 12 21.0 -1.1**
comp=Z,127nm,1.1s,mb5.8
WHN Wuhan 53.51 276 ⇓iP **P 04 12 22.8 -0.9**
SUMG Summit 54.18 14 eP **P 04 12 28.3 +0.3**
comp=Z,28nm,1.0s,mb5.1
CBKS Cedar Bluff 54.24 70 ⇓iP **P 04 12 28.1 -0.8**
CBKS pmax pmax
comp=Z,291nm,1.5s,mb6.0
CBKS Cedar Bluff 54.24 70 ⇓iP **P 04 12 28.1 -0.8**
comp=Z,291nm,1.5s,mb6.0
XAN Xi'an 54.64 282 P **P 04 12 31.1 -0.7**
XAN AP pP 04 12 42.3 -0.3
XAN SCS ScS 04 22 18.1 0.0
XAN SS SS 04 23 44.9 -6.8
XAN AMB AMB
comp=Z,64nm,1.5s,mb5.4
XAN LR LR
comp=E,1μm,34.3s
XAN LR LR
comp=Z,2μm,30.3s,MS5.0
QZH Quanzhou 54.65 267 ⇑iP **P 04 12 32.5 +0.5**
QZH S **S 04 20 11.6 +2.2**
QZH LR LR
comp=E,3μm,15.2s
QZH LR LR
comp=Z,3μm,25.3s
ZALV Zalesovo Beam 55.35 315 P **P 04 12 35.7 -1.0**
comp=Z,9.8nm,0.6s,mb5.0,baz=48,slow=6.8,SNR=22
ZALV PcP PcP 04 13 38.2 +1.4
comp=Z,6.2nm,0.6s,baz=94,slow=4.5,SNR=3.7
ZALV Zalesovo Beam 55.35 315 P **P 04 12 35.7 -1.0**
ZALV PcP PcP 04 13 38.2 +1.4
ZAL Zalesovo 55.37 315 P **P 04 12 35.7 -1.1**
ZAL 04 13 38.2
NVS Novosibirsk 55.49 316 *i* P **P 04 12 36.4 -1.3**
NVS *i* 04 13 37.5
NVS pmax pmax
comp=N,106nm,2.1s
NVS pmax pmax
comp=E,145nm,2.1s
NVS pmax pmax
comp=Z,223nm,2.1s,mb5.8
AMTX Amarillo 55.59 75 ⇓iP **P 04 12 37.8 -0.9**
comp=Z,46nm,1.0s,mb5.5
AMTX ePcP PcP 04 13 39.0 +0.9
COWI Conover 55.74 57 ⇓iP **P 04 12 38.3 -1.2**
comp=Z,163nm,1.5s,mb5.8
KSU1 Kansas State U 55.94 68 eP **P 04 12 39.5 -1.6**
comp=Z,86nm,0.8s,mb5.8
SCIA State Center 56.12 63 ⇓iP **P 04 12 41.3 -1.2**
comp=Z,142nm,0.9s,mb6.0
SFJD Kangerlussuaq 56.38 22 ⇓iP **P 04 12 43.7 -0.2**
SFJD pmax pmax
comp=Z,119nm,1.4s,mb5.7
SFJD Kangerlussuaq 56.38 22 ⇓iP **P 04 12 43.7 -0.2**
comp=Z,119nm,1.4s,mb5.7
LZH Lanzhou 56.44 288 ⇓P **P 04 12 45.6 +0.8**
LZH AP pP 04 12 52.9 -2.7
LZH XP sP 04 12 56.0 -3.8
LZH eS **S 04 20 35.3 +2.2**
LZH XS sS 04 20 42.0 -8.9
LZH LR LR
comp=N,3μm,15.6s
LZH LR LR
comp=Z,4μm,18.0s,MS5.5
GTA Gaotai 56.70 293 ⇓iP **P 04 12 46.8 +0.2**
GTA AP pP 04 12 53.6 -3.7
GTA XP sP 04 12 55.8 -5.8
GTA PP PP 04 14 54.6 +2.1
GTA S **S 04 20 37.6 +1.2**
GTA XS sS 04 20 47.3 -6.9
GTA AMB AMB
comp=Z,71nm,1.4s,mb5.5
GTA LR LR
comp=N,2μm,18.9s,MS5.4
GTA LR LR
comp=E,2μm,21.0s,MS5.4
GTA LR LR
comp=Z,4μm,19.5s,MS5.5
JFWS Jewell Farm 57.16 61 P **P 04 12 48.2 -1.6**
JFWS pmax pmax
comp=Z,91nm,0.9s,mb5.8
JFWS Jewell Farm 57.16 61 ⇓iP **P 04 12 48.1 -1.7**
comp=Z,91nm,0.9s,mb5.8
WMOK Wichita Mounta 57.47 73 P **P 04 12 51.2 -0.9**
WMOK pmax pmax
comp=Z,44nm,0.9s,mb5.5
WMOK Wichita Mounta 57.47 73 ⇓iP **P 04 12 51.1 -1.0**
comp=Z,44nm,0.9s,mb5.5
KEV Kevo 58.93 350 *ep* **P 04 13 00.9 -0.9**
comp=Z,12nm,0.5s,mb5.2
KEV Kevo 58.93 350 P **P 04 13 01.6 -0.2**
KEV pmax pmax
comp=Z,50nm,1.1s,mb5.5
GLMI Grayling 58.99 56 eP **P 04 13 02.1 -0.4**
comp=Z,296nm,1.1s,mb6.2
ARCES ARCESS Array B 59.30 351 P **P 04 13 03.5 -0.8**
comp=Z,29nm,0.6s,mb5.5,baz=23,slow=7.0,SNR=151
ARCES LR LR 04 39 40.2
comp=Z,4μm,21.5s,MS5.5,baz=355,slow=37
ARCES PKP2bc 04 42 41.4
comp=Z,1.5nm,0.6s,baz=183,slow=2.4,SNR=6.9
ARCES ARCESS Array B 59.30 351 P **P 04 13 03.5 -0.8**
ARCES LR LR 04 39 40.2
ARCES ⇑*e* 04 42 41.4
ARE0 ARCESS Array S 59.30 351 eP **P 04 13 03.5 -0.8**
LVZ Lovozero 59.69 346 P **P 04 13 06.0 -1.0**
comp=Z,823nm,0.9s,mb6.8,SNR=12
JCT Junction City 59.71 78 eP **P 04 13 07.0 -0.7**
JCT pmax pmax
comp=Z,90nm,1.3s,mb5.6
JCT Junction City 59.71 78 eP **P 04 13 07.0 -0.7**
comp=Z,90nm,1.3s,mb5.6
TRO Tromso 59.79 353 eP **P 04 13 07.3 -0.4**
TRO AMb AMB 04 13 11.3
comp=Z,51nm,1.4s,mb5.4
TRO Tromso 59.79 353 eP **P 04 13 07.3 -0.4**
comp=Z,51nm,1.4s,mb5.4
CD2 Chengdu 59.96 283 ⇓iP **P 04 13 08.6 -0.9**
CD2 AP pP 04 13 16.9 -3.4
CD2 XP sP 04 13 20.5 -4.0
CD2 PCP PcP 04 13 56.9 +1.5
CD2 PP PP 04 15 22.4 +0.7
CD2 PCS PcS 04 17 57.6 -0.2
CD2 S **S 04 21 18.8 -0.4**
CD2 XS sS 04 21 29.4 -7.7
CD2 SCS ScS 04 22 56.3 -0.7
CD2 AMB AMB
comp=Z,70nm,1.2s,mb5.6

SLM Saint Louis 59.99 65 P **P** **04 13 08.4 -1.1**
SLM pmax pmax
comp=Z,23nm,0.8s,mb5.3
SLM Saint Louis 59.99 65 *e*P **P** **04 13 07.7 -1.8**
comp=Z,23nm,0.8s,mb5.2
KTK1 Kautokeino 60.03 351⇑*i*P **P** **04 13 09.5 +0.1**
KTK1 AMb AMB 04 13 12.4
comp=Z,108nm,2.2s,mb5.5
KTK1 Kautokeino 60.03 351⇑*i*P **P** **04 13 09.5 +0.1**
comp=Z,108nm,2.2s,mb5.5
APA Apatity 60.18 347⇑*i*P **P** **04 13 10.6 +0.2**
APA *i* 04 13 56.0
APA *i* PPP 04 16 58.0
APA *i* S **S** **04 21 20.0 -0.9**
APA *i* 04 22 58.0
APA *i* SS SS 04 25 18.0 +0.7
APA pmax pmax
comp=Z,131nm,1.6s,mb5.7
APA MLR MLR
comp=Z,3μm,21.0s,MS5.4
KURK Kurchatov 60.34 315 P **P** **04 13 11.1 -0.6**
comp=Z,649nm,0.7s,mb6.8,SNR=73
KURK Kurchatov 60.34 315⇑*e*P **P** **04 13 11.0 -0.7**
KURK pmax pmax
comp=Z,69nm,0.6s,mb5.9
KURK Kurchatov 60.34 315⇓*i*P **P** **04 13 11.4 -0.3**
comp=Z,79nm,0.7s,mb5.8
SCHQ Schefferville 60.39 38 P **P** **04 13 11.5 -0.5**
comp=Z,57nm,1.0s,mb5.5,baz=322,slow=6.7,SNR=35
SCHQ Schefferville 60.39 38⇓*i*P **P** **04 13 11.7 -0.3**
comp=Z,325nm,1.6s,mb6.1
WMQ Urumqi 60.59 304 P **P** **04 13 16.8 +3.2**
WMQ AP pP 04 13 22.8 -1.6
WMQ XP sP 04 13 25.6 -3.0
WMQ PCP PcP 04 14 00.8 +3.1
WMQ PP PP 04 15 32.3 +5.4
WMQ AMB AMB
comp=Z,92nm,0.7s,mb6.0
WMQ LR LR
comp=N,6μm,24.5s
WMQ LR LR
comp=Z,5μm,26.0s,MS5.5
OLIL Olney 61.15 63 *e*P **P** **04 13 15.9 -1.6**
comp=Z,58nm,0.7s,mb5.8
AAM Ann Arbor 61.20 58 *e*P **P** **04 13 17.1 -0.6**
AAM pmax pmax
comp=Z,29nm,0.5s,mb5.7
AAM Ann Arbor 61.20 58 *e*P **P** **04 13 17.1 -0.6**
comp=Z,29nm,0.5s,mb5.7
SIUC Southern Illin 61.20 65 *e*P **P** **04 13 15.9 -1.8**
comp=Z,53nm,0.6s,mb5.8
GYA Guiyang 61.22 278⇑*i*P **P** **04 13 19.3 +1.2**
GYA AP pP 04 13 26.8 -2.1
GYA XP sP 04 13 30.4 -2.7
GYA PCP PcP 04 14 02.8 +2.3
GYA PP PP 04 15 36.0 +3.1
GYA SCP ScP 04 18 01.3 +2.3
GYA S **S** **04 21 36.3 +1.0**
GYA PS 04 21 54.6
GYA AMB AMB
comp=Z,80nm,1.0s,mb5.8
GYA AMB AMB
comp=Z,180nm,5.2s
GYA LR LR
comp=N,9μm,18.2s,MS6.1
GYA LR LR
comp=E,7μm,17.4s,MS6.1
GYA LR LR
comp=Z,8μm,18.7s,MS5.9
MKAR Makanchi Array 61.32 310 P **P** **04 13 17.7 -0.8**
comp=Z,15nm,0.6s,mb5.3,baz=49,slow=7.7,SNR=78
LOF Lofoten 61.62 355 *e*P **P** **04 13 24.3 +4.2**
USIN University of 61.93 64 *e*P **P** **04 13 22.1 -0.6**
comp=Z,80nm,1.0s,mb5.8
SOKR Solikamsk 61.96 332 *d*P **P** **04 13 22.5 -0.1**
SOKR pmax pmax
comp=Z,180nm,1.8s,mb5.9
SOKR MLR MLR
comp=Z,3μm,16.0s,MS5.5
BRVK Borovoye 62.24 321 P **P** **04 13 24.9 +0.3**
comp=Z,805nm,1.2s,mb6.7,SNR=53
BRVK Borovoye 62.24 321⇓*i*P **P** **04 13 24.7 +0.1**
BRVK pmax pmax
comp=Z,121nm,0.9s,mb6.0
BRVK Borovoye 62.24 321⇓*i*P **P** **04 13 24.6 +0.1**
comp=Z,121nm,0.9s,mb6.0
HALT Halls 62.36 66 *e*P **P** **04 13 24.6 -1.0**
HKT Hockley 62.55 75 *e*P **P** **04 13 26.6 -0.4**
HKT pmax pmax
comp=Z,166nm,1.6s,mb5.9
HKT Hockley 62.55 75 *e*P **P** **04 13 26.6 -0.4**
comp=Z,166nm,1.6s,mb5.9
HNR Honiara 62.61 205 LR LR 04 33 54.6
comp=Z,2μm,20.6s,MS5.3,baz=358,slow=30
SVE Sverdlovsk 62.94 328⇑*e*P **P** **04 13 30.1 +1.0**
SVE *e* 04 15 46.7
SVE *e*PPP 04 17 19.1
SVE *e*S **S** **04 22 01.2 +5.1**
SVE *e*SSS 04 28 43.0
SVE pmax pmax
comp=Z,306nm,1.8s,mb6.1
SVE MLR MLR
comp=Z,4μm,20.0s,MS5.6
ACSO Alum Creek Sta 62.99 59 *e*P **P** **04 13 27.2 -2.5**
comp=Z,86nm,1.0s,mb5.8
OXF Oxford 63.29 68 *e*P **P** **04 13 30.6 -1.2**
OXF pmax pmax
comp=Z,155nm,1.0s,mb6.1
OXF Oxford 63.29 68 *e*P **P** **04 13 30.6 -1.2**
comp=Z,155nm,1.0s,mb6.1
MOR8 Moi Rana 63.52 355⇑*i*P **P** **04 13 32.1 -0.8**
MOR8 AMb AMB 04 13 34.8
comp=Z,68nm,2.3s,mb5.3
MOR8 Moi Rana 63.52 355⇑*i*P **P** **04 13 32.1 -0.8**
comp=Z,68nm,2.3s,mb5.3
ARU Arti 63.94 329 P **P** **04 13 36.3 +0.5**
comp=Z,991nm,0.7s,mb7.0,SNR=19
ARU Arti 63.94 329⇑*e*P **P** **04 13 35.8 0.0**
ARU pmax pmax
comp=Z,357nm,1.7s,mb6.1
ARU Arti 63.94 329⇓*i*P **P** **04 13 36.0 +0.2**
comp=Z,149nm,0.8s,mb6.1
LONY Lake Ozonia 64.29 51⇓*i*P **P** **04 13 36.9 -1.3**
comp=Z,74nm,1.2s,mb5.6
QIZ Qiongzhong 64.51 269 P **P** **04 13 40.0 0.0**
QIZ S **S** **04 22 17.8 +1.2**
QIZ AMB AMB
comp=Z,47nm,2.1s,mb5.2
QIZ AMB AMB
comp=Z,1μm,4.8s
FRNY Flat Rock 64.62 50 *e*P **P** **04 13 38.7 -1.8**
comp=Z,197nm,1.3s,mb6.0
KMI Kunming 64.65 279⇓P **P** **04 13 40.6 -0.3**
KMI AP pP 04 13 47.8 -4.1
KMI XP sP 04 13 51.3 -4.7
KMI PP PP 04 16 06.3 +3.2
KMI PPP 04 17 39.1
KMI S **S** **04 22 16.9 -1.4**
KMI XS sS 04 22 29.8 -6.6
KMI SKS 04 23 31.4
KMI AMB AMB
comp=Z,61nm,1.7s,mb5.3
KMI AMB AMB
comp=Z,1μm,3.3s
KMI LR LR
comp=N,1μm,22.4s,MS5.3
KMI LR LR
comp=E,2μm,19.9s,MS5.3
KMI LR LR
comp=Z,5μm,39.9s
JOF Joensuu 64.85 346 *e*p **P** **04 13 40.4 -1.2**
comp=Z,66nm,0.7s,mb5.8
NCB Newcomb 64.94 51⇓*i*P **P** **04 13 41.7 -0.7**
comp=Z,276nm,1.8s,mb6.0
KLMR Klimovskoe 65.27 341 *d*P **P** **04 13 44.3 0.0**
KLMR *e* 04 14 18.7
NSS Namsos 65.29 355 *e*P **P** **04 13 43.9 -0.5**
NSS AMb AMB 04 13 46.9
comp=Z,109nm,1.5s,mb5.7
BINY Binghamton 65.32 53 *e*P **P** **04 13 40.2 -4.8**
comp=Z,146nm,1.0s,mb6.0
MDV Middlebury 65.43 50 *e*P **P** **04 13 44.2 -1.5**
CPCT Cooper Cave 65.49 64 *e*P **P** **04 13 45.2 -1.0**
ACCN Adirondack Com 65.64 51⇓*i*P **P** **04 13 46.4 -0.6**
comp=Z,187nm,1.4s,mb5.9

HNH Hanover 66.09 50 *e*P **P** **04 13 49.4 -0.5**
comp=Z,766nm,1.7s,mb6.5
KAF Kangasniemi 66.35 348 *e*p **P** **04 13 50.5 -0.8**
comp=Z,54nm,0.6s,mb5.8,baz=12,slow=5.8
KAF Kangasniemi 66.35 348 *e*P **P** **04 13 50.5 -0.8**
KAF pmax pmax
comp=Z,54nm,0.6s,mb5.8
PMG Port Moresby 66.90 218 *e*P **P** **04 13 55.1 -0.2**
PMG pmax pmax
comp=Z,17nm,0.7s
PMG Port Moresby 66.90 218 *e*P **P** **04 13 55.1 -0.2**
comp=Z,17nm,0.7s,mb5.2
SDMD Soldier's Deli 66.90 56 *e*P **P** **04 13 54.3 -0.9**
comp=Z,92nm,0.9s,mb5.8
QUA2 Belchertown 67.11 51 *e*P **P** **04 13 57.0 +0.5**
comp=Z,197nm,1.3s,mb6.0
BRAL Brewton 67.16 69 *e*P **P** **04 13 56.5 -0.5**
comp=Z,155nm,1.5s,mb5.8
BRNJ Basking Ridge 67.16 54⇓*i*P **P** **04 13 56.8 -0.1**
comp=Z,282nm,1.4s,mb6.1
PAL Palisades 67.26 53⇓*i*P **P** **04 13 56.8 -0.7**
PAL pmax pmax
comp=Z,213nm,1.2s,mb6.0
PAL Palisades 67.26 53⇓*i*P **P** **04 13 56.8 -0.6**
comp=Z,213nm,1.2s,mb6.0
CPNY Central Park 67.39 53 *e*P **P** **04 13 57.6 -0.7**
comp=Z,305nm,1.4s,mb6.1
TKM2 Tokmak 2 67.41 310 P **P** **04 13 58.8 +0.4**
TKM2 pmax pmax
comp=Z,260nm,1.7s,mb6.0
TKM2 Tokmak 2 67.41 310⇓*i*P **P** **04 13 59.0 +0.6**
comp=Z,258nm,1.8s,mb6.0
MOL Molde 67.42 357 *e*P **P** **04 13 56.2 -1.9**
MOL Molde 67.42 357 *e*P **P** **04 13 58.4 +0.3**
MOL AMb AMB 04 14 01.9
comp=Z,214nm,1.5s,mb6.0
MOL Molde 67.42 357 *e*P **P** **04 13 58.4 +0.3**
comp=Z,214nm,1.5s,mb6.0
ULHL Ulahol 67.60 310 P **P** **04 14 00.4 +0.9**
SNR=38
USP Ospenovka 67.68 311 P **P** **04 14 00.7 +0.6**
SNR=86
CHMS Chumysh 67.76 311 P **P** **04 14 01.0 +0.4**
SNR=14
URVA University of 67.87 58 *e*P **P** **04 14 00.9 -0.4**
DOMB Dombas 67.90 357⇑*i*P **P** **04 14 01.7 +0.6**
DOMB AMb AMB 04 14 04.8
comp=Z,204nm,1.8s,mb5.9
DOMB Dombas 67.90 357⇑*i*P **P** **04 14 01.7 +0.6**
comp=Z,204nm,1.8s,mb5.8
KBK Karagaybulak 67.93 311 P **P** **04 14 02.6 +1.0**
SNR=30
FRU Bishkek 67.95 311 *e*P **P** **04 14 03.0 +1.2**
FRU pmax pmax
comp=Z,1μm,2.5s,mb6.5
JSC Jenkinsville 68.19 62 *e*P **P** **04 14 02.7 -0.7**
KZA Kyzart 68.21 310 P **P** **04 14 04.9 +1.4**
SNR=25
LHS Liberty Hill 68.31 62 *e*P pP 04 14 14.4 -0.8
EKS2 Erkin-Say 68.49 311 P **P** **04 14 06.2 +1.0**
SNR=122
EKS2 Erkin-Say 68.49 311⇓*i*P **P** **04 14 06.0 +0.9**
comp=Z,74nm,0.6s,mb5.9
LSA Lhasa 68.54 291 P **P** **04 14 07.3 +1.6**
LSA Lhasa 68.54 291⇓*i*P **P** **04 14 07.2 +1.5**
LSA pmax pmax
comp=Z,57nm,0.6s,mb5.7
LSA Lhasa 68.54 291⇓*i*P **P** **04 14 07.2 +1.5**
comp=Z,57nm,0.6s,mb5.7
NB2 NORSAR Subarra 68.81 355 P **P** **04 14 07.2 +0.4**
comp=Z,1μm,2.5s,mb6.4,baz=4.1,slow=6.5
NOA NORSAR Array B 68.81 355 P **P** **04 14 06.8 0.0**
comp=Z,51nm,1.0s,mb5.4,baz=5.4,slow=6.4,SNR=67
NOA PKP2bc 04 42 13.4
comp=Z,2.7nm,0.9s,baz=156,slow=3.1,SNR=4.1
NOA NORSAR Array B 68.81 355 P **P** **04 14 06.8 0.0**
NOA ⇑*e* 04 42 13.4
HYA Hoyanger 68.86 358⇓*i*P **P** **04 14 10.3 +3.2**
HYA AMb AMB 04 14 12.3
comp=Z,210nm,1.8s,mb5.8
HYA Hoyanger 68.86 358⇓*i*P **P** **04 14 10.3 +3.2**
comp=Z,210nm,1.8s,mb5.8
AML Almayashu 68.93 311 P **P** **04 14 09.4 +1.4**
SNR=54
AML Almayashu 68.93 311⇓*i*P **P** **04 14 09.2 +1.3**
comp=Z,116nm,0.6s,mb6.0
NAO01 NORSAR Array S 69.02 356 *e*P **P** **04 14 08.2 +0.1**
comp=Z,31nm,1.0s,mb5.2
COW Cow Castle Cre 69.16 63 *e*P **P** **04 14 09.7 +0.2**
KDM Kudat 69.20 255⇑P **P** **04 14 10.6 +0.7**
CNNC Cliffs of the 69.38 60⇓*i*P **P** **04 14 10.3 -0.5**
comp=Z,391nm,1.6s,mb6.1
ASK Askoy 69.57 359 *e*P **P** **04 14 11.0 -0.5**
ASK AMb AMB 04 14 14.9
comp=Z,316nm,1.6s,mb6.0
ASK Askoy 69.57 359 *e*P **P** **04 14 11.0 -0.5**
comp=Z,316nm,1.6s,mb6.0
NHSC New Hope 69.66 63⇓*i*P **P** **04 14 12.4 -0.1**
comp=Z,440nm,1.5s,mb6.2
KSH Kashi 69.78 308 *i*P **P** **04 14 14.5 +1.3**
KSH AP pP 04 14 22.6 -1.6
KSH XP sP 04 14 25.9 -2.5
KSH *e*PCP PcP 04 14 38.1 +2.4
KSH *e*PP PP 04 16 50.0 +2.8
KSH S S 04 23 20.4 +0.8
KSH XS sS 04 23 34.1 -3.7
KSH LR LR
comp=Z,6μm,23.5s,MS5.8
EGD Espegrend 69.78 359 *e*P **P** **04 14 12.8 0.0**
EGD AMb AMB 04 14 16.0
comp=Z,209nm,1.9s,mb5.7
EGD Espegrend 69.78 359 *e*P **P** **04 14 13.0 +0.1**
comp=Z,209nm,1.9s,mb5.7
VSU Vasula 69.80 347 *i*P **P** **04 14 12.7 -0.3**
LRW Lerwick 69.90 2 *e*P **P** **04 14 12.2 -1.3**
LRW AMb AMB 04 14 16.7
comp=Z,394nm,1.6s,mb6.1
OSL Oslo 69.93 356 *e*P **P** **04 14 14.3 +0.5**
OSL AMb AMB 04 14 17.3
comp=Z,236nm,1.6s,mb5.9
OSL Oslo 69.93 356 *e*P **P** **04 14 14.3 +0.5**
comp=Z,236nm,1.6s,mb5.9
SDKM Sandakan 69.97 254⇑P **P** **04 14 15.1 +0.4**
ODD1 Odda 70.11 358 *e*P **P** **04 14 15.2 +0.3**
ODD1 AMb AMB 04 14 21.9
comp=Z,161nm,1.7s,mb5.7
ODD1 Odda 70.11 358 *e*P **P** **04 14 15.2 +0.3**
comp=Z,161nm,1.7s,mb5.7
KKM Kota Kinabalu 70.26 255⇓P **P** **04 14 17.2 +0.7**
KKM Kota Kinabalu 70.26 255⇓*i*P **P** **04 14 16.5 0.0**
KONO Kongsberg 70.27 356 *e*P **P** **04 14 16.7 +0.8**
KONO Kongsberg 70.27 356⇑*e*P **P** **04 14 15.9 0.0**
MOS Moscow 70.36 340 *e*P **P** **04 14 13.7 -2.8**
MOS *e* 04 14 27.7
MOS *e* 04 14 34.5
MOS *e*S S 04 23 25.9 0.0
MOS *e* 04 24 19.3
MOS pmax pmax
comp=Z,375nm,0.7s,mb6.4
MOS MLR MLR
comp=Z,4μm,18.0s,MS5.7
IMP Imphal 70.41 285 *e*P **P** **04 14 16.0 -1.3**
IMP *e*P 04 14 16.0
TSM Tawau 70.61 253⇑P **P** **04 14 19.1 +0.5**
SHL Shillong 71.10 287 *i*P **P** **04 14 20.5 -1.0**
SHL *e*x x 04 23 34.5
OBN Obninsk 71.17 340 P **P** **04 14 21.8 +0.4**
comp=Z,2μm,0.7s,mb7.2,SNR=18
OBN Obninsk 71.17 340 *k*P **P** **04 14 21.5 +0.1**
OBN *e* pP 04 14 33.3 +0.8
OBN *i* 04 14 41.4
OBN *i* S S 04 23 37.1 +1.8
OBN *e* 04 24 17.6
OBN pmax pmax
comp=Z,710nm,1.7s,mb6.3
OBN MLR MLR
comp=Z,2μm,16.0s,MS5.3
OBN Obninsk 71.17 340⇓*i*P **P** **04 14 21.6 +0.2**
comp=Z,716nm,1.3s,mb6.4
CHTO Chiang Mai 71.64 277 P **P** **04 14 23.5 -1.3**
CHTO pmax pmax
comp=Z,170nm,1.8s,mb5.7
CHTO Chiang Mai 71.64 277⇓*i*P **P** **04 14 23.9 -0.9**
comp=Z,171nm,1.8s,mb5.7
CM31 Chiang Mai Arr 71.90 277 *e*P **P** **04 14 25.9 -0.5**

CMAR Chiang Mai Arr 71.90 277 P **P** **04 14 26.0 -0.4**
comp=Z,20nm,0.7s,mb5.2,baz=30,slow=6.9,SNR=55
MVH1 Achvaich 72.02 4 *e*P **P** **04 14 26.6 +0.2**
TAPN Taplejung 72.32 291 *e*P **P** **04 14 29.6 +0.8**
comp=Z,430nm,1.0s,mb6.3
KAC Achnashellach 72.40 4 *e*P **P** **04 14 29.0 +0.3**
MCD Coleburn Disti 72.40 3 *e*P **P** **04 14 28.8 0.0**
MDO Dochfour 72.50 4 *e*P **P** **04 14 29.8 +0.5**
KPL Plockton 72.54 5 *e*P **P** **04 14 29.7 +0.1**
KPL AMb AMB 04 14 33.0
comp=Z,217nm,1.5s,mb5.8
DWPF Disney 72.62 67⇓*i*P **P** **04 14 29.9 -0.7**
comp=Z,111nm,1.5s,mb5.6
COEN Coen 72.63 220 *e*P **P** **04 14 29.9 -0.6**
comp=Z,38nm,1.5s,mb5.1
MME1 Meikle Cairn 72.68 3 *e*P **P** **04 14 30.2 -0.2**
KSB Sheil Bridge 72.68 4 *e*P **P** **04 14 31.1 +0.6**
ODAN Odare 72.87 291 *e*P **P** **04 14 32.3 +0.2**
comp=Z,188nm,0.9s,mb6.0
RAR Rarotonga 72.90 163 LR LR 04 43 51.2
comp=Z,4μm,18.5s,MS5.8,baz=96,slow=34
KAR1 Arisaig 72.95 5 *e*P **P** **04 14 32.2 +0.2**
GUN Gumba 72.99 293 *e*P **P** **04 14 33.6 +0.8**
comp=Z,325nm,0.6s,mb6.4
JIRN Jiri 72.99 293 *e*P **P** **04 14 33.9 +1.1**
comp=Z,278nm,0.8s,mb6.2
RAMN Ramite 73.28 292 *e*P **P** **04 14 35.1 +0.6**
comp=Z,650nm,1.0s,mb6.5
DZM Mont Dzumac 73.41 195 *e*P **P** **04 14 34.6 -0.4**
KKN Kakani 73.43 293 *e*P **P** **04 14 36.0 +0.6**
comp=Z,117nm,0.6s,mb6.0
KKN Kakani 73.43 293 *e*P **P** **04 14 36.0 +0.6**
KKN pmax pmax
comp=Z,117nm,0.6s,mb6.0
MNK Minsk 73.44 345⇓*i*P **P** **04 14 32.0 -2.9**
MNK pmax pmax
comp=Z,480nm,1.5s,mb6.2
MUD Monsted U'grnd 73.48 356 *i*P **P** **04 14 37.8 +2.6**
MUD Monsted U'grnd 73.48 356 *e*P **P** **04 14 37.8 +2.6**
PKI Pulchoki 73.52 293 *e*P **P** **04 14 36.3 +0.4**
VRHR Novokhopersk 73.63 335 *e*P **P** **04 14 35.8 -0.3**
VRHR *e**SP sP 04 14 46.9 -4.5
VRHR *e*S S 04 24 07.0 +3.4
VRHR pmax pmax
comp=Z,200nm,1.4s,mb5.8
VRHR pmax pmax
comp=N,150nm,1.2s
VRHR pmax pmax
comp=E,70nm,1.1s
VRHR MLR MLR
comp=N,3μm,19.0s,MS5.6
VRHR MLR MLR
comp=E,2μm,19.0s,MS5.6
VRHR MLR MLR
comp=Z,3μm,19.0s,MS5.6
GKN Gorkha 73.65 294 *e*P **P** **04 14 37.0 +0.3**
comp=Z,26nm,0.7s,mb5.3
DMN Daman 73.67 293 *e*P **P** **04 14 37.6 +0.8**
EBH Black Hill 73.73 3 *e*P **P** **04 14 36.1 -0.5**
EAB Aberfoyle 73.75 4 *e*P **P** **04 14 36.0 -0.8**
DANN Dangsing 73.90 295 *e*P **P** **04 14 38.8 +0.7**
comp=Z,310nm,1.0s,mb6.2
COP Copenhagen 74.07 354 *i*P **P** **04 14 39.1 +0.5**
COP pmax pmax
comp=Z,83nm,0.9s,mb5.7
COP Copenhagen 74.07 354 *i*P **P** **04 14 39.1 +0.5**
comp=Z,83nm,0.9s,mb5.7
ESY Stoneypath 74.09 3 *e*P **P** **04 14 38.5 -0.2**
PGBU Glenifferbraes 74.12 4 *e*P **P** **04 14 39.3 +0.3**
PGBU AMb AMB 04 14 43.0
comp=Z,419nm,1.6s,mb6.1
EAU Auchinoon 74.13 3 *e*P **P** **04 14 38.6 -0.4**
VRSR Storozhevoye 74.15 337 *e*P **P** **04 14 39.3 +0.1**
VRSR *e**SP sP 04 14 50.7 -3.7
VRSR *e*S S 04 24 13.5 +4.1
VRSR *e*SPP 04 24 39.1
VRSR pmax pmax
comp=Z,40nm,1.3s,mb5.2
VRSR pmax pmax
comp=N,30nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.4s
VRSR MLR MLR
comp=Z,390nm,19.0s,MS4.7
VRSR MLR MLR
comp=N,290nm,18.0s,MS4.9
VRSR MLR MLR
comp=E,420nm,18.0s,MS4.9
EBL Broad Law 74.22 3 *e*P **P** **04 14 39.4 -0.1**
BTM Bintulu 74.42 256⇑P **P** **04 14 41.2 -0.1**
KOLN Koldanda 74.43 295 *e*P **P** **04 14 41.7 +0.5**
comp=E,60nm,0.7s,mb5.6
XSO Sourhope Farm 74.53 3 *e*P **P** **04 14 41.8 +0.6**
SUW Suwalki 74.62 347 *i*P **P** **04 14 41.2 -0.6**
SUW Suwalki 74.62 347⇓*i*P **P** **04 14 41.2 -0.7**
ESK Eskdalemuir 74.67 3 P **P** **04 14 43.1 +1.0**
comp=E,577nm,1.3s,mb6.3,SNR=10.0
ESK Eskdalemuir 74.67 3 *e*P **P** **04 14 42.6 +0.5**
ESK AMb AMB 04 14 45.5
comp=Z,303nm,1.6s,mb6.0
ESK Eskdalemuir 74.67 3 *e*P **P** **04 14 43.0 +0.9**
ESK pmax pmax
comp=Z,504nm,1.7s,mb6.2
ESK Eskdalemuir 74.67 3 *e*P **P** **04 14 43.0 +0.9**
comp=Z,504nm,1.7s,mb6.2
ECK Cauldkaine Hil 74.81 3 *e*P **P** **04 14 42.2 -0.7**
PTH Pithoragarh 75.03 298 *e*P **P** **04 14 44.8 +0.1**
GAL1 Galloway 75.06 4 *e*P **P** **04 14 44.4 0.0**
GAL1 AMb AMB 04 14 47.6
comp=Z,346nm,1.6s,mb6.0
GCD Castle Douglas 75.09 4 *e*P **P** **04 14 44.8 +0.3**
RGN Rugen 75.14 353 *e*P **P** **04 14 45.8 +0.9**
comp=Z,269nm,1.0s,mb6.1
XAL Allendale 75.16 3 *e*P **P** **04 14 45.3 +0.4**
SMLA Simla 75.53 301 *i*P **P** **04 14 47.7 +0.2**
SMLA *e*x x 04 14 49.4
comp=Z,306nm,0.7s
SMLA *i*x x 04 23 56.9
SBUM Sibu 75.54 256⇑P **P** **04 14 48.7 +1.0**
GMM Mts of Mourne 75.62 5 *e*P **P** **04 14 47.8 +0.2**
GIM North Isle of 75.64 4 *e*P **P** **04 14 47.9 +0.1**
DDI Dehra Dun 75.66 300 *e*P **P** **04 14 45.4 -2.8**
WIM Isle of Man 75.78 4 *e*P **P** **04 14 48.9 +0.4**
DMUB Kingscourt 75.90 6 *e*P **P** **04 14 49.9 +0.7**
BSEG Bad Segeberg 75.94 355 *e*P **P** **04 14 49.8 +0.3**
comp=Z,295nm,1.2s,mb6.1
BSEG *e*pP pP 04 15 01.8 +1.2
BOK Bokaro 76.06 290 *e*P **P** **04 14 51.1 +0.5**
BOK AMb AMB 04 14 53.5
comp=Z,176nm,2.1s,mb5.6
GKP Gorka Klasztor 76.07 351 *e*P **P** **04 14 48.1 -2.1**
GKP Gorka Klasztor 76.07 351⇓*e*P **P** **04 14 48.1 -2.1**
HPK Haverah Park 76.08 2 *e*P **P** **04 14 49.9 -0.4**
HPK AMb AMB 04 14 53.7
comp=Z,366nm,1.5s,mb6.1
KAKA Kakadu 76.41 230 *e*P **P** **04 14 51.4 -1.2**
comp=Z,70nm,0.8s,mb5.6
KAKA Kakadu 76.41 230 *e*P **P** **04 14 51.5 -1.1**
comp=Z,130nm,0.8s,mb5.9
DCN Croghan 76.43 6 *e*P **P** **04 14 53.0 +0.8**
LHO Holmfirth 76.49 3 *e*P **P** **04 14 52.8 +0.2**
DLF Lyons Farm 76.52 6 *e*P **P** **04 14 53.7 +0.9**
WME Myndd Eilian 76.54 4 *e*P **P** **04 14 53.4 +0.5**
DSB Dublin 76.58 5 *e*P **P** **04 14 53.7 +0.6**
comp=Z,178nm,1.2s,mb5.9
WAR Warsaw 76.64 348 *e*P **P** **04 14 54.3 +0.9**
WAR Warsaw 76.64 348⇓*e*P **P** **04 14 54.3 +0.8**
YRC Rhoscolyn 76.67 4 *e*P **P** **04 14 54.8 +1.1**
WPM1 Penmaenmawr 76.70 4 *e*P **P** **04 14 54.2 +0.5**
KBI1 Birley Grange 76.79 2 *e*P **P** **04 14 54.5 +0.3**
AKASG Malin Array Be 76.83 343 P **P** **04 14 54.4 -0.2**
comp=Z,110nm,0.9s,mb5.8,baz=18,slow=5.6,SNR=142
AKASG LR LR 04 55 04.2
comp=Z,2μm,19.1s,MS5.5,baz=0.0,slow=41
AKBB Malin Array Si 76.83 343⇓*i*P **P** **04 14 54.4 -0.1**
KIEV Kiev 76.84 343 P **P** **04 14 54.1 -0.5**
KIEV pmax pmax
comp=Z,300nm,1.2s,mb6.1
KIEV Kiev 76.84 343⇓*i*P **P** **04 14 54.4 -0.2**
comp=Z,303nm,1.3s,mb6.1
KAPI Kappang 76.88 245 P **P** **04 14 54.5 -0.8**
comp=Z,260nm,1.3s,mb6.0,SNR=11
KAPI Kappang 76.88 245⇓*i*P **P** **04 14 54.4 -1.0**
comp=Z,301nm,1.9s,mb5.9
STNC Stoke 76.93 3 *e*P **P** **04 14 54.5 -0.5**

CTA Charters Tower 77.00 215 *e*P **P 04 14 55.4 -0.3**
comp=Z,21nm,1.1s,mb5.0
CTA Charters Tower 77.00 215 *e*P **P 04 14 55.4 -0.3**
CTA pmax pmax
comp=Z,21nm,1.1s
CTAO Charters Tower 77.00 215 P **P 04 14 55.6 -0.1**
CTAO pmax pmax
comp=Z,53nm,1.1s,mb5.4
CTAO Charters Tower 77.00 215 *e*P **P 04 14 55.4 -0.4**
comp=Z,53nm,1.1s,mb5.4
KWE Weaver Farm 77.02 3 *e*P **P 04 14 55.5 -0.1**
SBD1 Bryn Du 77.08 4 *e*P **P 04 14 55.8 -0.1**
KBL Kabul 77.12 309⇓*i*P **P 04 14 55.6 -0.9**
KBL pmax pmax
comp=Z,23nm,0.6s,mb5.3
KBL Kabul 77.12 309⇓*i*P **P 04 14 55.6 -0.9**
comp=Z,23nm,0.6s,mb5.3
RUE Ruedersdorf 77.16 353 *e*P **P 04 14 56.5 +0.2**
comp=Z,186nm,1.3s,mb5.8
CWF Charnwood Fore 77.31 2 *e*P **P 04 14 57.6 +0.4**
CWF AMb AMB 04 15 00.5
comp=Z,264nm,1.7s,mb5.9
NDI New Delhi 77.38 300 *e*P **P 04 14 56.0 -2.0**
HLM1 Long Mynd 77.48 3 *e*P **P 04 14 58.2 +0.1**
KSM Kuching 77.49 257⇓P **P 04 14 59.7 +0.9**
KSM Kuching 77.49 257⇓*i*P **P 04 14 58.6 -0.2**
IBBN Ibbenburen 77.69 357 *e*P **P 04 14 59.6 +0.3**
comp=Z,712nm,1.5s,mb6.4
HTR Trewern Hill 77.90 4 *e*P **P 04 15 00.2 -0.4**
MCH1 Michaelchurch 78.00 3 *e*P **P 04 15 01.5 +0.5**
MCH1 AMb AMB 04 15 07.3
comp=Z,217nm,1.8s,mb5.8
CLZ Clausthal 78.03 355 *e*P **P 04 15 01.6 +0.4**
CLZ pmax pmax
comp=Z,295nm,1.3s,mb6.1
CLZ Clausthal 78.03 355 *e*P **P 04 15 01.6 +0.4**
comp=Z,295nm,1.3s,mb6.1
WTSB Winterswijk 78.06 357⇓*e*P **P 04 15 02.0 +0.6**
comp=Z,200nm,2.5s,mb5.6
HGH Gray Hill 78.36 3 *e*P **P 04 15 03.2 +0.2**
CLL Collm 78.39 353⇓*i*P **P 04 15 03.1 -0.1**
CLL *e* 04 15 10.0
CLL *e* pP 04 15 15.0 +0.6
CLL pmax pmax
comp=Z,228nm,1.5s,mb5.9
CLL Collm 78.39 353 *e*P **P 04 15 02.6 -0.6**
comp=Z,231nm,1.5s,mb5.9
CLL Collm 78.39 353⇓*i*P **P 04 15 03.1 -0.1**
comp=Z,228nm,1.5s,mb5.9
CLL *es*P sP 04 15 10.0 -8.5
CLL *e*(PcP) PcP 04 15 15.0 +2.6
SWN1 Swindon 78.52 3 *e*P **P 04 15 03.7 -0.2**
SWN1 AMb AMB 04 15 08.4
comp=Z,841nm,1.8s,mb6.4
KSP Ksiaz 78.56 351 *e*P **P 04 15 04.4 +0.2**
KSP Ksiaz 78.56 351⇓*e*P **P 04 15 04.2 0.0**
BUG Bochum--Univer 78.57 357 *e*P **P 04 15 04.0 -0.2**
comp=Z,316nm,1.6s,mb6.0
BUG *e*pP pP 04 15 16.1 +0.7
LVV L'vov 78.58 346 *e*P **P 04 15 03.6 -0.7**
BBSR BB Station 78.61 53 *e*P **P 04 15 04.6 -0.1**
comp=Z,64nm,0.8s,mb5.6
WOL Wolverton 78.74 2 *e*P **P 04 15 05.5 +0.4**
WOL AMb AMB 04 15 08.3
comp=Z,361nm,1.3s,mb6.1
BRG Berggiesshubel 78.75 353 *e*P **P 04 15 04.7 -0.5**
comp=Z,174nm,1.5s,mb5.8
BRG *e*pP pP 04 15 17.1 +0.7
BRG Berggiesshubel 78.75 353 *i*P **P 04 15 05.4 +0.2**
comp=Z,175nm,1.5s,mb5.8
BRG *i* pP 04 15 17.0 +0.6
comp=Z,53nm,1.0s
BRG PKPPKP 04 41 57.5
comp=Z,22nm,1.8s
OJC Ojcow 78.78 349 *e*P **P 04 15 05.4 0.0**
OJC Ojcow 78.78 349 *e*P **P 04 15 05.0 -0.4**
UPC Upice 78.92 351⇓*i*P **P 04 15 06.6 +0.4**
KWP Kalwaria 78.96 347 *i*P **P 04 15 07.4 +1.0**
KWP Kalwaria 78.96 347 P **P 04 15 07.2 +0.8**
KWP pmax pmax
comp=Z,550nm,1.2s,mb6.4
KWP Kalwaria 78.96 347⇓*i*P **P 04 15 07.2 +0.8**
KWP Kalwaria 78.96 347⇓*i*P **P 04 15 07.4 +1.0**
PVCC Panska Ves 79.03 352⇓*i*P **P 04 15 07.3 +0.5**
DPC Dobruska-Polom 79.05 351⇓*i*P **P 04 15 07.5 +0.6**
KTGM Kuala Trenggan 79.07 265⇑P **P 04 15 06.8 -0.7**
UBBA Unterbreizbach 79.07 355 *e*P **P 04 15 06.8 -0.2**
comp=Z,418nm,2.0s,mb6.0
UBBA *e*pP pP 04 15 18.3 +0.1
MAK Makhachkala 79.14 328*d*P **P 04 15 05.5 -2.0**
MAK *i* 04 18 05.6
MAK *e*PPP 04 19 52.5
MAK *i* S S 04 25 05.0 +0.7
MAK *e* 04 25 22.5
MAK pmax pmax
comp=Z,687nm,1.9s,mb6.3
MAK pmax pmax
comp=N,465nm,1.8s
MAK pmax pmax
comp=E,1μm,2.2s
MAK smax
comp=N,1170μm,2.1s
MOX Moxa 79.15 354⇑*i*P **P 04 15 08.0 +0.6**
comp=N,188nm,1.9s,mb5.7
MOX *e* pP 04 15 19.2 +0.6
MOX Moxa 79.15 354⇑*i*P **P 04 15 08.0 +0.6**
MOX *e* pP 04 15 19.2 +0.6
MOX pmax pmax
comp=Z,188nm,1.9s,mb5.7
MOX Moxa 79.15 354 *e*P **P 04 15 07.3 -0.1**
comp=Z,239nm,1.6s,mb5.9
RAO Raoul Island 79.18 180 LR LR 04 43 38.3
comp=Z,3μm,19.9s,MS5.6,baz=40,slow=31
BEBN Eben Emael 79.26 358 P **P 04 15 08.6 +0.6**
UCC Uccle 79.29 359 P **P 04 15 08.3 +0.1**
comp=Z,194nm,2.4s,mb5.6
HGN Heimansgroeve 79.29 358 *e*P **P 04 15 08.0 -0.1**
HGN Heimansgroeve 79.29 358⇓*e*P **P 04 15 08.4 +0.2**
comp=Z,242nm,2.5s,mb5.7
OKC Ostrava-Krasne 79.36 350⇓*i*P **P 04 15 08.9 +0.3**
MEM Membach 79.44 358 P **P 04 15 09.5 +0.5**
comp=Z,80nm,1.2s,mb5.5
MORC Moravsky Berou 79.48 350⇓*i*P **P 04 15 09.9 +0.6**
MORC Moravsky Berou 79.48 350⇓*i*P **P 04 15 09.5 +0.2**
comp=Z,216nm,1.8s,mb5.8
NKC Novy Kostel 79.50 353⇓*i*P **P 04 15 09.8 +0.5**
PRA Prague 79.50 352⇓P **P 04 15 10.0 +0.7**
NIE Niedzica 79.50 348 *e*P **P 04 15 10.1 +0.7**
TGUH Tegucigalpa,Un 79.53 81⇓*i*P **P 04 15 10.3 +0.3**
comp=Z,308nm,1.5s,mb6.0
MENF Mencas 79.54 0 *e*P **P 04 15 09.7 +0.2**
BLSP Bilaspur 79.57 292 *e*P **P 04 15 09.7 -0.4**
BLSP AMb AMB 04 15 12.1
comp=Z,147nm,1.8s,mb5.6
PRU Pruhonice 79.57 352⇓*i*P **P 04 15 10.2 +0.5**
BCLA Clavier 79.65 358 P **P 04 15 09.9 -0.3**
comp=Z,115nm,2.0s,mb5.5
CCA1 Carnmenellis 79.70 5 *e*P **P 04 15 11.1 +0.6**
KOLS Kolonicke sedl 79.70 347 *e*P **P 04 15 11.1 +0.6**
KOLS *e*pP pP 04 15 22.2 +0.5
KOLS Kolonicke sedl 79.70 347 *e*P **P 04 15 11.1 +0.6**
KOLS *e* pP 04 15 22.2 +0.5
MANZ Manzenberg 79.77 354 *e*P **P 04 15 10.6 -0.2**
comp=Z,166nm,1.6s,mb5.7
MANZ *e*pP pP 04 15 22.6 +0.6
KIV Kislovodsk 79.80 332 P **P 04 15 12.3 +1.2**
comp=Z,395nm,0.8s,mb6.4,SNR=15
KIV Kislovodsk 79.80 332*d*P **P 04 15 11.5 +0.4**
KIV pmax pmax
comp=Z,154nm,1.7s,mb5.7
KIV Kislovodsk 79.80 332⇓*i*P **P 04 15 11.7 +0.6**
comp=Z,113nm,1.1s,mb5.7
CRVS Cervenica-Dubn 79.85 347 *e*P **P 04 15 11.2 -0.1**
CRVS *e*PP PP 04 18 09.0 -3.0
GIVF Givet 79.98 358⇓*i*P **P 04 15 12.2 +0.3**
comp=Z,1μm,1.8s,mb6.2
GIVF Givet 79.98 358⇓*i*P **P 04 15 12.2 +0.3**
GIVF pmax pmax
comp=Z,543nm,1.8s,mb6.2
GIVF Givet 79.98 358⇓*i*P **P 04 15 12.2 +0.3**
comp=Z,542nm,1.8s,mb6.2
DOU Dourbes 79.99 359 P **P 04 15 12.2 +0.2**
comp=Z,124nm,2.0s,mb5.5
UZH Uzhgorod 80.00 347*c*i P **P 04 15 12.3 +0.2**
UZH *i* pP 04 15 25.7 +2.4
UZH *e*S S 04 25 15.0 +1.9
UZH MLR MLR
comp=Z,5μm,20.0s,MS5.9
BAIF Baives 80.03 359⇓*i*P **P 04 15 12.8 +0.6**
comp=Z,505nm,1.3s,mb6.0
BAIF Baives 80.03 359⇓*i*P **P 04 15 12.8 +0.6**
BAIF pmax pmax
comp=Z,253nm,1.3s,mb6.0
BAIF Baives 80.03 359⇓*i*P **P 04 15 12.8 +0.6**
comp=Z,253nm,1.3s,mb6.0
VRAC Vranov 80.05 351⇓*i*P **P 04 15 13.1 +0.8**
VRAC Vranov 80.05 351 P **P 04 15 13.2 +0.8**
GRA1 Grafenberg Arr 80.12 354 *e*P **P 04 15 13.0 +0.3**
comp=Z,454nm,1.6s,mb6.2
GRA1 *e*pP pP 04 15 24.6 +0.7
GRF Grafenberg Arr 80.12 354 *e*P **P 04 15 13.0 +0.3**
GRF *e**PP pP 04 15 24.6 +0.7
GRF pmax pmax
comp=Z,454nm,1.6s,mb6.2
GRF Grafenberg Arr 80.12 354 *e*P **P 04 15 13.0 +0.3**
GRF *e**PP pP 04 15 24.6 +0.7
GRF pmax pmax
comp=Z,454nm,1.6s,mb6.2
GRF Grafenberg Arr 80.12 354 *e*P **P 04 15 13.0 +0.3**
comp=Z,454nm,1.6s,mb6.2
GRF *e*pP pP 04 15 24.6 +0.7
TREC Trest 80.17 351⇓*i*P **P 04 15 13.3 +0.3**
WLF Walferdange 80.38 358 P **P 04 15 15.2 +1.1**
comp=Z,134nm,2.0s,mb5.5
WLF Walferdange 80.38 358⇓*i*P **P 04 15 14.6 +0.5**
WLF pmax pmax
comp=Z,521nm,1.9s,mb6.1
WLF Walferdange 80.38 358 *e*P **P 04 15 14.5 +0.4**
comp=Z,285nm,1.6s,mb6.0
WLF Walferdange 80.38 358⇓*i*P **P 04 15 14.6 +0.4**
comp=Z,521nm,1.9s,mb6.1
KECS Kecovo 80.40 348 *i*P **P 04 15 14.7 +0.5**
KECS *e* pP 04 15 26.2 +0.8
KECS pmax pmax
comp=Z,37nm,1.0s,mb5.3
KECS Kecovo 80.40 348 *i*P **P 04 15 14.7 +0.5**
comp=Z,37nm,1.0s,mb5.3
KECS *e* pP 04 15 26.2 +0.8
KHC Kasperske Hory 80.51 353⇓*i*P **P 04 15 15.5 +0.7**
KHC *ex* x 04 15 25.5
BURAR Bucovina Array 80.52 345⇑*i*P **P 04 15 15.6 +0.7**
BURAR Bucovina Array 80.52 345⇑P **P 04 15 15.6 +0.7**
AJM Ajmer 80.52 300 *e*P **P 04 15 15.0 -0.3**
AJM AMb AMB 04 15 17.5
comp=Z,140nm,1.5s,mb5.7
ANN Anapa 80.53 336 *e*P **P 04 15 14.2 -0.8**
ANN *e*S S 04 25 21.3 +2.5
ANN pmax pmax
comp=Z,143nm,2.2s,mb5.5
ANN MLR MLR
comp=N,3μm,22.0s,MS5.6
ANN MLR MLR
comp=E,2μm,22.0s,MS5.6
ANN MLR MLR
comp=Z,2μm,22.0s,MS5.4
WET Wettzell 80.55 353 *e*P **P 04 15 15.1 +0.1**
WET pmax pmax
comp=Z,188nm,1.7s,mb5.7
WET Wettzell 80.55 353 *e*P **P 04 15 15.1 +0.1**
comp=Z,188nm,1.7s,mb5.7
KOLL Kolacno 80.57 349 *e*P **P 04 15 15.9 +0.8**
KTD Kalmit 80.66 356 *e*P **P 04 15 16.5 +0.9**
KULM Kulim 80.69 267⇓P **P 04 15 17.2 +0.9**
GEC2 GERESS Array S 80.78 352 *e*P **P 04 15 16.1 -0.2**
GEC2 pmax pmax
comp=Z,178nm,1.6s,mb5.8
GEC2 GERESS Array S 80.78 352 *e*P **P 04 15 16.1 -0.2**
comp=Z,178nm,1.6s,mb5.8
GERES GERESS Array B 80.78 352 P **P 04 15 16.6 +0.4**
comp=Z,17nm,0.9s,mb5.0,baz=24,slow=4.0,SNR=59
GERES PKKPbc PKKPbc 04 33 53.7 +0.7
comp=Z,1.2nm,0.7s,baz=217,slow=0.7,SNR=7.8
GERES PKPPKP 04 42 00.4
comp=Z,0.4nm,0.5s,baz=107,slow=1.8,SNR=4.0
GERES GERESS Array B 80.78 352 P **P 04 15 16.6 +0.3**
GERES 04 33 53.7
ONI Oni 80.81 331 P **P 04 15 17.0 +0.4**
ONI S S 04 25 28.4 +6.6
MODS Modra-Piesok 80.90 350 *e*P **P 04 15 18.1 +1.2**
MODS *e*PP PP 04 18 02.9 -18
MODS *e*S S 04 25 27.4 +4.9
LANF Langenberg 81.01 356 *e*P **P 04 15 18.7 +1.2**
SOC Sochi 81.02 334*d*i P **P 04 15 17.9 +0.3**
SOC *e* 04 18 22.8
SOC *e*PPP 04 20 10.4
SOC *e*S S 04 25 27.4 +3.4
SOC *e**SS sS 04 25 33.6 -8.9
SOC pmax pmax
comp=Z,147nm,2.0s,mb5.6
PSZ Piszkesteto 81.03 348⇓*e*P **P 04 15 18.9 +1.3**
PSZ Piszkesteto 81.03 348⇓*i*P **P 04 15 18.8 +1.2**
PSZ Piszkesteto 81.03 348⇓*i*P **P 04 15 18.6 +1.0**
comp=Z,192nm,1.4s,mb5.8
IPM Ipoh 81.07 266⇓P **P 04 15 17.8 -0.5**
ZST Bratislava 81.09 350 *i*P **P 04 15 19.1 +1.2**
ZST *e* pP 04 15 30.0 +0.8
ZST pmax pmax
comp=Z,53nm,1.0s,mb5.4
ZST MLR MLR
comp=Z,2μm,18.9s,MS5.6
ZST Bratislava 81.09 350 *i*P **P 04 15 19.1 +1.2**
ZST *e*pP pP 04 15 30.0 +0.8
ZST *e*S S 04 25 37.2 +13
ZST Bratislava 81.09 350 *i*P **P 04 15 19.1 +1.2**
comp=Z,53nm,1.0s,mb5.4
ZST *e* pP 04 15 30.0 +0.8
ZST *e*S S 04 25 37.2 +13
ZST LR LR
comp=Z,2μm,18.9s,MS5.6
STU Stuttgart 81.16 355 *e*P **P 04 15 18.6 +0.3**
STU pmax pmax
comp=Z,113nm,1.3s,mb5.6
STU Stuttgart 81.16 355 *e*P **P 04 15 18.0 -0.3**
comp=Z,212nm,1.6s,mb5.8
STU Stuttgart 81.16 355 *e*P **P 04 15 18.6 +0.3**
comp=Z,113nm,1.3s,mb5.6
TBLG Delisi 81.16 329 P **P 04 15 19.2 +0.8**
TBLG S S 04 25 30.7 +5.1
FLN La Foliniere 81.31 2⇓*i*P **P 04 15 19.2 +0.1**
comp=Z,423nm,1.2s,mb5.9
FLN La Foliniere 81.31 2⇓*i*P **P 04 15 19.2 +0.1**
FLN pmax pmax
comp=Z,211nm,1.2s,mb6.0
FLN La Foliniere 81.31 2⇓*i*P **P 04 15 19.2 +0.1**
comp=Z,211nm,1.2s,mb6.0
MYKOM Kota Tinggi 81.32 262⇑P **P 04 15 20.1 +0.5**
STR Strasbourg 81.41 356 *e*P **P 04 15 21.3 +1.7**
KGM Kluang 81.48 263⇓P **P 04 15 20.6 +0.1**
LDF La Druitiere 81.48 2⇓*i*P **P 04 15 20.0 0.0**
comp=Z,297nm,1.1s,mb5.8
LDF La Druitiere 81.48 2⇓*i*P **P 04 15 20.0 0.0**
LDF pmax pmax
comp=Z,148nm,1.1s,mb5.8
LDF La Druitiere 81.48 2⇓*i*P **P 04 15 20.0 0.0**
comp=Z,148nm,1.1s,mb5.8
CONA Conrad Observa 81.49 351 *i*P **P 04 15 20.9 +0.8**
comp=Z,149nm,1.4s,mb5.7,SNR=44
BUD Budapest 81.57 349⇓*e*P **P 04 15 21.7 +1.2**
MEZF Maizieres J'vi 81.57 358⇓*i*P **P 04 15 20.8 +0.3**
comp=Z,391nm,1.4s,mb5.8
MEZF Maizieres J'vi 81.57 358⇓*i*P **P 04 15 20.8 +0.3**
comp=Z,391nm,1.4s,mb6.2
CDF Champ du Feu 81.60 357⇓*i*P **P 04 15 20.9 +0.3**
comp=Z,214nm,1.5s,mb5.6
CDF Champ du Feu 81.60 357⇓*i*P **P 04 15 20.9 +0.3**
CDF pmax pmax
comp=Z,107nm,1.5s,mb5.5
CDF Champ du Feu 81.60 357⇓*i*P **P 04 15 20.9 +0.3**
comp=Z,107nm,1.5s,mb5.5
FRIM Kepong 81.63 265⇓P **P 04 15 21.3 0.0**
BFO Black Forest 81.64 356 P **P 04 15 21.5 +0.7**
comp=Z,236nm,1.5s,mb5.9,SNR=9.1
BFO Black Forest 81.64 356 *e*P **P 04 15 20.6 -0.2**
BFO *e**PP pP 04 15 33.2 +1.1
BFO pmax pmax
comp=Z,273nm,1.9s,mb5.9
BFO Black Forest 81.64 356 *e*P **P 04 15 20.6 -0.2**
comp=Z,273nm,1.9s,mb5.9
BFO *e*pP pP 04 15 33.2 +1.1
FUR Furstenfeldbru 81.64 354 *e*P **P 04 15 20.7 -0.1**
FUR *e**PP pP 04 15 33.2 +1.1
FUR pmax pmax
comp=Z,293nm,1.6s,mb6.0
FUR Furstenfeldbru 81.64 354 *e*P **P 04 15 20.7 -0.1**
comp=Z,293nm,1.6s,mb6.0
FUR *e*pP pP 04 15 33.2 +1.1
ROSF Rostrenen 81.64 4⇓*i*P **P 04 15 21.4 +0.5**
comp=Z,383nm,1.4s,mb5.8
ROSF Rostrenen 81.64 4⇓*i*P **P 04 15 21.4 +0.5**
ROSF pmax pmax
comp=Z,192nm,1.4s,mb5.8
ROSF Rostrenen 81.64 4⇓*i*P **P 04 15 21.4 +0.5**
comp=Z,192nm,1.4s,mb5.8
SOP Sopron 81.66 350⇓*e*P **P 04 15 21.7 +0.8**
GRR Gorron 81.67 2⇓*i*P **P 04 15 21.3 +0.3**
comp=Z,227nm,1.0s,mb5.8
GRR Gorron 81.67 2⇓*i*P **P 04 15 21.3 +0.3**
GRR pmax pmax
comp=Z,114nm,1.0s,mb5.8
GRR Gorron 81.67 2⇓*i*P **P 04 15 21.3 +0.3**
comp=Z,114nm,1.0s,mb5.8
MOA Molln 81.72 352 *i*P **P 04 15 21.6 +0.3**
comp=Z,56nm,1.5s,mb5.3,SNR=21
DRGR 81.73 346⇑*i*P **P 04 15 22.1 +0.8**
DRGR 81.73 346 P **P 04 15 22.1 +0.8**
SGMF Saint Gilles 81.75 3⇓*i*P **P 04 15 21.9 +0.5**
comp=Z,527nm,1.3s,mb6.0
SGMF Saint Gilles 81.75 3⇓*i*P **P 04 15 21.9 +0.5**
SGMF pmax pmax
comp=Z,264nm,1.3s,mb6.0
SGMF Saint Gilles 81.75 3⇓*i*P **P 04 15 21.9 +0.5**
comp=Z,264nm,1.3s,mb6.0
WRAB Tennant Creek 81.75 225 P **P 04 15 20.0 -1.7**
comp=Z,196nm,1.1s,mb6.0,SNR=11
WRAB Tennant Creek 81.75 225*d*i P **P 04 15 20.1 -1.6**
WRAB Tennant Creek 81.75 225⇓*i*P **P 04 15 20.2 -1.5**
comp=Z,151nm,1.6s,mb5.7
WB2 Warramunga Arr 81.76 225 *e*P **P 04 15 19.8 -1.9**
WB2 Warramunga Arr 81.76 225⇓*i*P **P 04 15 20.3 -1.4**
WRA Warramunga Arr 81.77 225 P **P 04 15 20.5 -1.2**
comp=Z,18nm,0.8s,mb5.1,baz=32,slow=5.9,SNR=86
ECH Echery 81.80 357 *e*P **P 04 15 22.6 +0.9**
ECH Echery 81.80 357⇓*i*P **P 04 15 21.8 +0.1**
THEF They Montfort 81.83 358 *e*P **P 04 15 22.8 +1.0**
SPAK Spaichingen-Ko 81.84 356 *e*P **P 04 15 23.2 +1.3**
LIBD Limburg 81.85 356 *e*P **P 04 15 21.1 -0.8**
VRI Vrincioaia 81.94 343⇓*i*P **P 04 15 23.3 +0.8**
VRI Vrincioaia 81.94 343 P **P 04 15 23.4 +0.9**
RJOB Jochberg 81.95 353 *e*P **P 04 15 22.5 0.0**
comp=Z,64nm,1.3s,mb5.4
PLOR Plostina 81.97 343⇓P **P 04 15 23.6 +1.0**
PLOR Plostina 81.97 343⇓*i*P **P 04 15 23.5 +0.9**
HAU Haudompre 82.04 357⇓*i*P **P 04 15 23.0 +0.1**
comp=Z,138nm,1.3s,mb5.4
HAU Haudompre 82.04 357⇓*i*P **P 04 15 23.0 +0.1**
HAU pmax pmax
comp=Z,69nm,1.3s,mb5.4
HAU Haudompre 82.04 357⇓*i*P **P 04 15 23.0 +0.1**
comp=Z,69nm,1.3s,mb5.4
QUIF Quistinic 82.07 4⇓*i*P **P 04 15 23.3 +0.2**
comp=Z,505nm,1.6s,mb5.9
QUIF Quistinic 82.07 4⇓*i*P **P 04 15 23.3 +0.2**
QUIF pmax pmax
comp=Z,252nm,1.6s,mb5.9
QUIF Quistinic 82.07 4⇓*i*P **P 04 15 23.3 +0.2**
comp=Z,252nm,1.6s,mb5.9
FELD Feldberg im Sc 82.11 356 *e*P **P 04 15 24.3 +1.0**
MOF Molkenrain 82.17 357 *e*P **P 04 15 24.3 +0.7**
TLCR 82.19 341⇓*i*P **P 04 15 24.9 +1.1**
TLCR 82.19 341 P **P 04 15 24.7 +0.9**
ARSA Arzberg 82.19 351 *i*P **P 04 15 24.7 +0.9**
comp=Z,99nm,1.4s,mb5.5,SNR=16
ARSA Arzberg 82.19 351 *i*pP **P 04 15 24.7 +0.9**
comp=Z,99nm,1.4s,mb5.5,SNR=16
HINF Hinteralfeld 82.21 357⇓*i*P **P 04 15 23.8 0.0**
VIS Vishakhapatnam 82.21 288 *e*P **P 04 15 24.2 -0.1**
VIS AMb AMB 04 15 26.6
comp=Z,122nm,2.0s,mb5.5
RETA Reutte 82.35 354 *i*P **P 04 15 25.1 +0.6**
comp=Z,46nm,1.3s,mb5.2,SNR=16
MLR Muntele Rosu 82.45 344⇑*i*P **P 04 15 25.2 +0.1**
MLR Muntele Rosu 82.45 344 P **P 04 15 26.0 +0.9**
MOTA Moosalm 82.47 354⇑*i*P **P 04 15 25.6 +0.4**
comp=Z,494nm,2.3s,mb6.0,SNR=30
MOTA Moosalm 82.47 354⇑*i*P **P 04 15 25.6 +0.4**
MOTA pmax pmax
comp=Z,494nm,2.3s,mb6.0
WTTA Wattenberg 82.51 354 *i*P **P 04 15 26.3 +0.9**
comp=Z,153nm,1.4s,mb5.8,SNR=30
WTTA Wattenberg 82.51 354 *i*pP **P 04 15 26.3 +0.9**
comp=Z,153nm,1.4s,mb5.8,SNR=30
WTTA Wattenberg 82.51 354 *i*P **P 04 15 26.3 +0.9**
WTTA pmax pmax
comp=Z,153nm,1.4s,mb5.8
KBA Koelnbreinsper 82.56 352 *i*P **P 04 15 26.8 +1.1**
comp=Z,267nm,1.4s,mb6.1,SNR=87
KBA Koelnbreinsper 82.56 352 *i*pP **P 04 15 26.8 +1.1**
comp=Z,267nm,1.4s,mb6.1,SNR=87
KBA Koelnbreinsper 82.56 352 *i*P **P 04 15 26.8 +1.1**
KBA pmax pmax
comp=Z,267nm,1.4s,mb6.1
GNI Garni 82.58 329 P **P 04 15 27.6 +1.7**
GNI pmax pmax
comp=Z,440nm,1.8s
GNI Garni 82.58 329⇓*i*P **P 04 15 27.4 +1.4**
comp=Z,438nm,1.8s,mb6.2
DAVA Damuels 82.60 355⇑*i*P **P 04 15 26.8 +0.9**
comp=Z,60nm,1.3s,mb5.5,SNR=15
DAVA Damuels 82.60 355⇑*i*pP **P 04 15 26.8 +0.9**
comp=Z,60nm,1.3s,mb5.5,SNR=15
ISR Istrita 82.70 343⇓*i*P **P 04 15 27.2 +0.8**
ISR Istrita 82.70 343⇓P **P 04 15 27.2 +0.8**
SOKA Soboth 82.81 351⇓*i*P **P 04 15 27.9 +0.9**
SOKA Soboth 82.81 351⇓*i*pP **P 04 15 27.9 +0.9**
FETA Feichten 82.81 354 *i*P **P 04 15 27.6 +0.6**
comp=Z,64nm,1.1s,mb5.6,SNR=22
LOR Lormes 82.83 359⇓*i*P **P 04 15 27.4 +0.3**
comp=Z,548nm,1.7s,mb6.0
LOR Lormes 82.83 359⇓*i*P **P 04 15 27.4 +0.3**
LOR pmax pmax
comp=Z,274nm,1.7s,mb6.0
LOR Lormes 82.83 359⇓*i*P **P 04 15 27.4 +0.3**
comp=Z,274nm,1.7s,mb6.0
HYF Humbligny 82.83 360⇓*i*P **P 04 15 27.7 +0.6**
HARR Harsova 82.84 342⇓*i*P **P 04 15 27.8 +0.6**
HARR Harsova 82.84 342 P **P 04 15 28.1 +0.9**
PERS Pernice 82.84 351 *i*P **P 04 15 27.8 +0.7**
PERS *e*S S 04 25 46.5 +3.9
PKSM Moragy 82.87 349⇓*i*P **P 04 15 27.1 -0.2**
PKSM Moragy 82.87 349 P **P 04 15 27.5 +0.2**
ABTA Abfaltersbach 82.96 353 *i*P **P 04 15 28.2 +0.4**
comp=Z,72nm,1.3s,mb5.5,SNR=22
TIRR Tirgusor 82.97 342 P **P 04 15 28.6 +0.8**
TIRR Tirgusor 82.97 342⇓*i*P **P 04 15 28.5 +0.7**
TIRR Tirgusor 82.97 342⇓*i*P **P 04 15 28.0 +0.2**
comp=Z,451nm,1.9s,mb6.2
MYKA Terra Mystica 82.98 352⇓*i*P **P 04 15 28.2 +0.3**
comp=Z,398nm,2.0s,mb6.1
OBKA Obir 83.02 352 *i*P **P 04 15 28.6 +0.5**
comp=Z,94nm,1.7s,mb5.5,SNR=17
SSF Saint Saulge 83.04 359⇓*i*P **P 04 15 28.5 +0.3**
comp=Z,359nm,1.4s,mb5.9
SSF Saint Saulge 83.04 359⇓*i*P **P 04 15 28.5 +0.3**
SSF pmax pmax
comp=Z,179nm,1.4s,mb5.9
SSF Saint Saulge 83.04 359⇓*i*P **P 04 15 28.5 +0.3**
comp=Z,179nm,1.4s,mb5.9
BZS Buzias 83.04 347⇑*i*P **P 04 15 28.5 +0.3**
BZS Buzias 83.04 347 P **P 04 15 28.6 +0.4**
GZR Gura Zlata 83.08 346⇓*i*P **P 04 15 29.2 +0.8**
GZR Gura Zlata 83.08 346 P **P 04 15 29.2 +0.8**
PTCC Patocco-Chiusa 83.23 352 P **P 04 15 29.1 -0.1**
AVF Avril sur Loir 83.31 359⇓*i*P **P 04 15 29.9 +0.3**
comp=Z,392nm,1.3s,mb6.0
AVF Avril sur Loir 83.31 359⇓*i*P **P 04 15 29.9 +0.3**
AVF pmax pmax
comp=Z,196nm,1.3s,mb6.0
AVF Avril sur Loir 83.31 359⇓*i*P **P 04 15 29.9 +0.3**
comp=Z,196nm,1.3s,mb6.0
APPI Appiano 83.32 354 P **P 04 15 29.6 0.0**
GMNA Gemona 83.37 352 P **P 04 15 29.8 -0.1**
CABF La Chapelle 83.44 357⇓*i*P **P 04 15 31.0 +0.8**
comp=Z,850nm,1.9s,mb6.2
CABF La Chapelle 83.44 357⇓*i*P **P 04 15 31.0 +0.8**
CABF pmax pmax

comp=Z,425nm,1.9s,mb6.2
CABF La Chapelle 83.44 357⇓iP P 04 15 31.0 +0.8
comp=Z,425nm,1.9s,mb6.2
TUE Stuetta 83.44 355⇓iP P 04 15 31.2 +0.9
comp=Z,170nm,1.5s,mb5.8
SMF Signal de Mont 83.45 359⇓iP P 04 15 30.5 +0.2
comp=Z,955nm,1.5s,mb6.3
SMF Signal de Mont 83.45 359⇓iP P 04 15 30.5 +0.2
SMF pmax pmax
comp=Z,478nm,1.5s,mb6.3
SMF Signal de Mont 83.45 359⇓iP P 04 15 30.5 +0.2
comp=Z,478nm,1.5s,mb6.3
MFF Saint Martin d 83.47 2⇓iP P 04 15 30.7 +0.3
comp=Z,954nm,1.5s,mb6.3
MFF Saint Martin d 83.47 2⇓iP P 04 15 30.7 +0.3
MFF pmax pmax
comp=Z,477nm,1.5s,mb6.3
MFF Saint Martin d 83.47 2⇓iP P 04 15 30.7 +0.3
comp=Z,477nm,1.5s,mb6.3
LJU Ljubljana 83.48 352 iP P 04 15 30.4 -0.1
LJU eS S 04 25 53.4 +4.2
BUC1 Bucharest 83.54 343 P P 04 15 31.5 +0.7
BGF Bois d'Agland 83.54 360⇓iP P 04 15 30.9 +0.1
comp=Z,307nm,1.3s,mb6.0
BGF Bois d'Agland 83.54 360⇓iP P 04 15 30.9 +0.1
BGF pmax pmax
comp=Z,154nm,1.3s,mb6.0
BGF Bois d'Agland 83.54 360⇓iP P 04 15 30.9 +0.1
comp=Z,154nm,1.3s,mb6.0
HOMI Horasan 83.60 331⇓iP P 04 15 32.2 +1.0
JAVS Javornik 83.68 352 iP P 04 15 30.9 -0.5
JAVS eS S 04 25 51.9 +0.8
PSI Prapat 83.69 267 P P 04 15 31.5 -0.5
comp=Z,50nm,0.7s,mb5.8,baz=47,slow=3.8,SNR=33
CTI Castel Tesino 83.72 354 P P 04 15 31.5 -0.2
PSN Preselentsi 83.76 342 iP P 04 15 32.8 +0.9
TCF Toulx Ste Croi 83.81 0⇓iP P 04 15 32.4 +0.2
comp=Z,556nm,1.7s,mb6.1
TCF Toulx Ste Croi 83.81 0⇓iP P 04 15 32.4 +0.2
comp=Z,278nm,1.7s,mb6.1
BOJS Bojanci 83.95 351 eP P 04 15 33.1 +0.2
BOJS eS S 04 25 52.2 -1.7
OG05 Jujurieux 84.03 358 eP P 04 15 33.9 +0.6
KOPT Kop Dagi 84.06 332⇓iP P 04 15 35.1 +1.6
VAI Varese 84.08 356 P P 04 15 33.8 +0.3
ZIMR 84.33 343⇓iP P 04 15 35.5 +0.7
ZIMR 84.33 343 P P 04 15 35.5 +0.6
RSL Roselend 84.34 357 eP P 04 15 35.8 +0.9
PRD Provadia 84.38 342 iP P 04 15 35.5 +0.4
FITZ Fitzroy Crossi 84.41 233 eP P 04 15 35.2 -0.2
comp=Z,69nm,0.6s,mb6.0
FITZ Fitzroy Crossi 84.41 233 P P 04 15 35.3 -0.1
comp=Z,54nm,0.8s,mb5.7,baz=26,slow=5.5,SNR=100
FITZ Fitzroy Crossi 84.41 233⇓iP P 04 15 35.2 -0.2
comp=Z,139nm,1.0s,mb6.0
LPL La Plagne 84.51 357⇓iP P 04 15 37.2 +1.5
comp=Z,257nm,1.4s,mb5.9
LPL La Plagne 84.51 357⇓iP P 04 15 37.2 +1.5
LPL pmax pmax
comp=Z,129nm,1.4s,mb5.9
LPL La Plagne 84.51 357⇓iP P 04 15 37.2 +1.5
comp=Z,129nm,1.4s,mb5.9
LPG La Plagne 84.53 357⇓iP P 04 15 37.3 +1.5
comp=Z,706nm,1.8s,mb6.2
LPG La Plagne 84.53 357⇓iP P 04 15 37.3 +1.5
LPG pmax pmax
comp=Z,353nm,1.8s,mb6.2
LPG La Plagne 84.53 357⇓iP P 04 15 37.3 +1.5
comp=Z,353nm,1.8s,mb6.2
LSD Lago del Serru 84.56 357 P P 04 15 37.2 +1.2
COLF Collangettes 84.58 359 eP P 04 15 36.8 +0.7
SZH Strazhica 84.60 343 iP P 04 15 35.8 -0.4
BALT Daday 84.62 337⇓iP P 04 15 37.4 +1.0
DIVS Divibare 84.76 347 eP P 04 15 37.9 +0.9
RJF Les Rejaudoux 84.80 1⇓iP P 04 15 37.2 0.0
comp=Z,356nm,1.4s,mb6.0
RJF Les Rejaudoux 84.80 1⇓iP P 04 15 37.2 0.0
RJF pmax pmax
comp=Z,178nm,1.4s,mb6.0
RJF Les Rejaudoux 84.80 1⇓iP P 04 15 37.2 0.0
comp=Z,178nm,1.4s,mb6.0
SSB Saint Sauveur 84.81 358 eP P 04 15 38.0 +0.8
SSB Saint Sauveur 84.81 358⇓iP P 04 15 37.6 +0.4
GRN Grenoble 84.82 358 eP P 04 15 38.4 +1.1
GDM Grand'Maison 84.84 357 eP P 04 15 38.1 +0.7
ARMA Armidale 84.85 206 eP P 04 15 38.4 +1.0
RSP Reno Superiore 84.86 357 P P 04 15 37.8 +0.3
NVLJ Novalja 84.92 351 P P 04 15 37.6 -0.2
BNI Bardonecchia 84.98 357 P P 04 15 37.9 -0.2
BNI pmax pmax
comp=Z,990nm,2.0s,mb6.6
BNI Bardonecchia 84.98 357 eP P 04 15 38.5 +0.5
comp=Z,987nm,2.0s,mb6.6
ILGA Ilgaz 85.00 337⇓iP P 04 15 39.6 +1.3
RRL Rocca Remolon 85.11 357 P P 04 15 40.1 +1.4
CTKT Corum 85.12 336⇓iP P 04 15 39.9 +1.0
ORIF Oris-en-Rattie 85.14 358⇓iP P 04 15 39.8 +0.9
comp=Z,677nm,1.8s,mb6.2
ORIF Oris-en-Rattie 85.14 358⇓iP P 04 15 39.8 +0.9
ORIF pmax pmax
comp=Z,339nm,1.8s,mb6.2
ORIF Oris-en-Rattie 85.14 358⇓iP P 04 15 39.8 +0.9
comp=Z,339nm,1.8s,mb6.2
LFF La Frestale 85.15 1⇓iP P 04 15 39.1 +0.1
comp=Z,618nm,1.4s,mb6.2
LFF La Frestale 85.15 1⇓iP P 04 15 39.1 +0.1
LFF pmax pmax
comp=Z,309nm,1.4s,mb6.2
LFF La Frestale 85.15 1⇓iP P 04 15 39.1 +0.1
comp=Z,309nm,1.4s,mb6.2
BHB Bricherasio 85.17 357 P P 04 15 38.5 -0.5
CAF Calviac 85.18 0⇓iP P 04 15 39.4 +0.3
comp=Z,870nm,1.9s,mb6.3
CAF Calviac 85.18 0⇓iP P 04 15 39.4 +0.3
CAF pmax pmax
comp=Z,435nm,1.9s,mb6.3
CAF Calviac 85.18 0⇓iP P 04 15 39.4 +0.3
comp=Z,435nm,1.9s,mb6.3
OG22 Abries 85.20 357 eP P 04 15 40.5 +1.3
ASAR Alice Springs 85.21 224 P P 04 15 38.7 -0.6
comp=Z,13nm,0.7s,mb5.1,baz=28,slow=5.7,SNR=90
VIVF Saint-Julien-I 85.23 358⇓iP P 04 15 39.9 +0.6
comp=Z,744nm,1.9s,mb6.2
VIVF Saint-Julien-I 85.23 358⇓iP P 04 15 39.9 +0.6
VIVF pmax pmax
comp=Z,372nm,1.9s,mb6.2
VIVF Saint-Julien-I 85.23 358⇓iP P 04 15 39.9 +0.6
comp=Z,372nm,1.9s,mb6.2
JMB Yambol 85.25 342 eP P 04 15 39.9 +0.4
JMB Yambol 85.25 342 iP P 04 15 39.8 +0.3
HAKT HAKKARI 85.27 328⇓iP P 04 15 40.4 +0.7
MBDF Montbardon 85.30 357⇓iP P 04 15 40.8 +1.1
comp=Z,132nm,1.1s,mb5.7
MBDF Montbardon 85.30 357⇓iP P 04 15 40.8 +1.1
MBDF pmax pmax
comp=Z,66nm,1.1s,mb5.7
MBDF Montbardon 85.30 357⇓iP P 04 15 40.8 +1.1
comp=Z,66nm,1.1s,mb5.7
HYB Hyderabad 85.33 292 eP P 04 15 40.0 -0.3
HYB pmax pmax
comp=Z,150nm,1.0s,mb6.1
HYB Hyderabad 85.33 292 iP P 04 15 40.0 -0.3
comp=Z,150nm,1.0s,mb6.1
HYB Hyderabad 85.33 292 eP P 04 15 40.0 -0.3
comp=Z,150nm,1.0s,mb6.1
GRAM Graiana 85.38 355 P P 04 15 40.6 +0.5
PCP Piancastagn 85.41 356 P P 04 15 39.7 -0.6
OCF Saint Nazaire 85.49 358 eP P 04 15 41.4 +0.7
OG26 St.-Nazaire-De 85.49 358 eP P 04 15 41.4 +0.7
DOI San Damiano 85.50 357 P P 04 15 39.9 -0.8
VALM Valbona 85.51 354 P P 04 15 41.0 +0.3
SURF Saint Ours 85.54 357 eP P 04 15 42.5 +1.6
BACM Baccana 85.59 354 P P 04 15 41.1 0.0
ELDT Eldivan 85.60 337⇓iP P 04 15 42.2 +0.9
PLE Pljevlja 85.60 348⇑iP P 04 15 42.9 +1.7
PGB Panagyurishte 85.61 344 iP P 04 15 41.3 0.0
SARO Sassorosso 85.66 354 P P 04 15 41.8 +0.3
VLC Villacollemand 85.69 354⇓iP P 04 15 41.9 +0.3
comp=Z,44nm,0.7s,mb5.8
ROB Robourent 85.69 356 P P 04 15 40.9 -0.7
VTS Vitosha 85.74 345 iP P 04 15 41.3 -0.6
VTS Vitosha 85.74 345⇓iP P 04 15 41.7 -0.2
VTS Vitosha 85.74 345 P P 04 15 42.4 +0.5
FIN Finale Ligure 85.76 356 P P 04 15 40.8 -1.2
STV Sant Anna di V 85.76 356 P P 04 15 40.4 -1.6

UPM Unac-Piva 85.79 348⇑iP P 04 15 42.2 0.0
SGKT Sivrigoynuk 85.86 338 iP P 04 15 42.4 -0.2
ELZG Elazig 85.92 332⇓iP P 04 15 44.1 +1.3
PLD Plovdiv 85.95 344 eP P 04 15 39.2 -3.8
IVA Berane 85.98 347⇑iP P 04 15 43.5 +0.4
TOUF Mont Tournerai 85.99 357 eP P 04 15 43.8 +0.6
AUTN L'Aution 86.00 356 eP P 04 15 43.9 +0.7
SAOF Saorge 86.01 356 eP P 04 15 43.5 +0.3
LASF Ste Croix 86.02 359⇓iP P 04 15 43.6 +0.3
SMRF Simiane la Rot 86.09 358⇓iP P 04 15 44.5 +0.9
comp=Z,514nm,1.8s,mb6.2
SMRF Simiane la Rot 86.09 358⇓iP P 04 15 44.5 +0.9
comp=Z,514nm,1.8s,mb6.5
DIYA Diyarbakir 86.10 331⇓iP P 04 15 44.3 +0.5
LUCF Luceram 86.11 356 eP P 04 15 44.1 +0.4
MVIF Mont Vial 86.11 357 eP P 04 15 43.9 +0.1
BRY Bratogost 86.14 348⇑iP P 04 15 43.2 -0.7
SBF Sospel 86.14 356⇓iP P 04 15 43.7 -0.2
comp=Z,307nm,1.2s,mb6.1
SBF Sospel 86.14 356⇓iP P 04 15 43.7 -0.2
SBF pmax pmax
comp=Z,153nm,1.2s,mb6.1
SBF Sospel 86.14 356⇓iP P 04 15 43.7 -0.2
comp=Z,153nm,1.2s,mb6.1
NEGI Seborga 86.14 356 P P 04 15 43.4 -0.5
NKY Niksic 86.16 348⇑iP P 04 15 43.5 -0.5
PVY Plav 86.24 347⇑iP P 04 15 43.1 -1.3
CING Cingoli 86.25 352 P P 04 15 44.8 +0.3
MALT Malatya 86.25 332 P P 04 15 45.6 +1.0
MALT Malatya 86.25 332⇑iP P 04 15 45.5 +0.9
MALT Malatya 86.25 332⇓iP P 04 15 45.3 +0.7
comp=Z,202nm,1.9s,mb6.0
KDZ Kurdzhali 86.26 343 iP P 04 15 44.8 +0.3
REVF Revere 86.26 356 eP P 04 15 44.8 +0.3
CALN Calern 86.27 357 eP P 04 15 44.8 +0.3
STON Ston 86.27 349 P P 04 15 43.5 -1.0
CSNT Castellina Chi 86.31 354 P P 04 15 44.3 -0.4
ANTO Ankara 86.34 337⇓iP P 04 15 46.6 +1.6
ANTO Ankara 86.34 337⇓iP P 04 15 45.1 +0.2
comp=Z,208nm,1.8s,mb6.1
RZN Rozhen 86.35 343 iP P 04 15 45.1 +0.1
BCI Bajram Curri 86.45 347 ePN P 04 15 46.5 +1.1
MARD Mardin 86.45 330⇓iP P 04 15 46.0 +0.5
KKB Krupnik 86.47 345 iP P 04 15 45.3 -0.2
FRF La Foret Royal 86.47 357⇓iP P 04 15 45.4 -0.1
comp=Z,193nm,1.4s,mb5.8
FRF La Foret Royal 86.47 357⇓iP P 04 15 45.4 -0.1
FRF pmax pmax
comp=Z,96nm,1.4s,mb5.8
FRF La Foret Royal 86.47 357⇓iP P 04 15 45.4 -0.1
comp=Z,96nm,1.4s,mb5.8
PINB Pinarbasi 86.50 334 iP P 04 15 46.6 +0.8
TTG Podgorica 86.50 348⇑iP P 04 15 45.0 -0.7
HCY Herceg Novi 86.59 348⇑iP P 04 15 45.0 -1.1
MMB Musomiste 86.62 344 iP P 04 15 46.5 +0.2
SKO Skopje 86.63 346 eP P 04 15 46.9 +0.5
SKO Skopje 86.63 346⇓iP P 04 15 46.8 +0.5
BUM Brajici-Budva 86.68 348⇑iP P 04 15 45.4 -1.2
LMR La Mourre 86.70 357⇓iP P 04 15 46.6 -0.1
comp=Z,225nm,1.4s,mb5.9
LMR La Mourre 86.70 357⇓iP P 04 15 46.6 -0.1
LMR pmax pmax
comp=Z,112nm,1.4s,mb5.9
LMR La Mourre 86.70 357⇓iP P 04 15 46.6 -0.1
comp=Z,112nm,1.4s,mb5.9
RDO Rodhopi 86.72 343 eP P 04 15 45.0 -1.8
MTLF Montolieu 86.76 0⇓iP P 04 15 47.1 +0.2
PUK Puka 86.79 347 ePN P 04 15 48.5 +1.4
NVR Nevrokopi 86.83 344 eP P 04 15 47.0 -0.3
AVNT Avonos 86.83 335⇓iP P 04 15 45.7 -1.7
SART Tekirdag 86.84 341 iP P 04 15 47.0 -0.4
ALN Alexandroupoli 86.86 342 eP P 04 15 47.0 -0.5
SJPF Ste Jean 86.93 3⇓iP P 04 15 48.0 +0.2
comp=Z,38nm,0.8s,mb5.3
SJPF Ste Jean 86.93 3⇓iP P 04 15 48.0 +0.2
SJPF pmax pmax
comp=Z,19nm,0.8s,mb5.4
SJPF Ste Jean 86.93 3⇓iP P 04 15 48.0 +0.2
comp=Z,19nm,0.8s,mb5.4
ULDT Uludag 86.95 340⇓iP P 04 15 47.9 0.0
ULC Ulcinj 86.96 348⇑iP P 04 15 48.1 +0.1
EPF Esparros 87.05 2⇓iP P 04 15 47.7 -0.7
comp=Z,62nm,1.3s,mb5.4
EPF Esparros 87.05 2⇓iP P 04 15 47.7 -0.7
EPF pmax pmax
comp=Z,31nm,1.3s,mb5.4
EPF Esparros 87.05 2⇓iP P 04 15 47.7 -0.7
comp=Z,31nm,1.3s,mb5.4
PHP Peshkopia 87.06 347 ePN P 04 15 49.3 +0.8
VAY Valandovo 87.08 345 eP P 04 15 47.9 -0.7
VAY Valandovo 87.08 345 iP P 04 15 47.5 -1.1
ESKT Eskisehir 87.15 338⇓iP P 04 15 48.5 -0.4
ETSF Etsaut 87.17 2⇓iP P 04 15 49.1 +0.2
comp=Z,62nm,1.0s,mb5.5
ETSF Etsaut 87.17 2⇓iP P 04 15 49.1 +0.2
ETSF pmax pmax
comp=Z,31nm,1.0s,mb5.5
ETSF Etsaut 87.17 2⇓iP P 04 15 49.1 +0.2
comp=Z,31nm,1.0s,mb5.5
KNT Kendrikon 87.18 345 eP P 04 15 49.1 +0.1
POO Poona 87.22 296 eP P 04 15 48.6 -1.0
POO AMb AMB 04 15 51.6
comp=Z,164nm,1.3s,mb6.1
AQU L'Aquila 87.25 352⇑iP P 04 15 50.2 +0.9
AQU L'Aquila 87.25 352⇓iP P 04 15 49.4 +0.1
comp=Z,243nm,1.7s,mb6.2
KRUS Krusevo 87.25 346⇓iP P 04 15 49.2 -0.2
PGF Pioggiola 87.37 355⇓iP P 04 15 49.7 -0.2
comp=Z,206nm,1.3s,mb5.9
PGF Pioggiola 87.37 355⇓iP P 04 15 49.7 -0.2
PGF pmax pmax
comp=Z,103nm,1.3s,mb5.9
PGF Pioggiola 87.37 355⇓iP P 04 15 49.7 -0.2
comp=Z,103nm,1.3s,mb5.9
SOH Sokhos 87.44 344 eP P 04 15 49.4 -0.8
GRG Griva 87.47 345 eP P 04 15 50.1 -0.3
TIR Tirane 87.48 347 eP P 04 15 49.6 -0.9
TIR Tirane 87.48 347 ePN P 04 15 51.4 +0.9
OHR Ohrid 87.57 346 eP P 04 15 49.7 -1.2
OHR Ohrid 87.57 346⇓iP P 04 15 49.7 -1.2
CORF Corte 87.61 355 eP P 04 15 51.0 -0.1
THE Thessaloniki 87.69 344 eP P 04 15 51.1 -0.4
HORT Hortiatis 87.70 344 eP P 04 15 51.1 -0.4
RGNG Rignano Grg 87.70 350 P P 04 15 51.4 -0.1
FNA Florina 87.80 346 eP P 04 15 50.4 -1.6
PLG Polygyros 87.85 344 eP P 04 15 50.9 -1.4
PLG Polygyros 87.85 344 eP P 04 15 52.0 -0.3
MIDA Miranda 87.87 351 P P 04 15 52.7 +0.4
RDP Rocca di Papa 87.90 352 P P 04 15 52.1 -0.4
BCIP Isla Barro Col 87.94 78⇓iP P 04 15 52.3 -0.8
KAD Karad 87.99 295 eP P 04 15 52.1 -1.2
KAD iP 04 15 52.3
KAD AMb AMB 04 15 55.0
comp=Z,135nm,1.2s,mb6.1
KZN Kozani 88.20 345 eP P 04 15 53.5 -0.4
RFI Roccamonfina 88.24 351 P P 04 15 55.1 +1.0
PAIG Paliouri 88.25 344 eP P 04 15 52.2 -1.9
LIT Litokhoron 88.28 345 eP P 04 15 53.2 -1.1
PRK Paraskevi 88.41 342 eP P 04 15 53.8 -1.1
MVO Moncorvo 88.56 7 eP P 04 15 55.8 +0.2
comp=Z,84nm,1.4s,mb5.9
AOPR Arecibo Observ 88.67 63 eP P 04 15 55.1 -1.4
comp=Z,21nm,0.9s,mb5.5
ISP Isparta 88.82 338 eP P 04 15 56.4 -0.5
THL Klokotos Trika 88.89 345 eP P 04 15 55.3 -1.9
NEO Neokhori 88.93 344 eP P 04 15 56.0 -1.4
PVIS Viseu 88.93 8 eP P 04 15 57.1 -0.3
comp=Z,111nm,1.5s,mb6.0
JAN Janina 88.98 346 eP P 04 15 58.5 +0.9
KEK Kerkira 89.09 347 eP P 04 15 57.5 -0.6
ORI Oriolo Calabro 89.19 349 P P 04 15 59.3 +0.7
SJG San Juan 89.20 62 eP P 04 15 59.4 +0.4
MTE Manteigas 89.28 8 eP P 04 15 58.7 -0.3
comp=Z,61nm,1.2s,mb5.8
MTE Manteigas 89.28 8 eP P 04 15 58.6 -0.4
comp=Z,48nm,1.0s,mb5.8
CUC Castrocucco 89.34 350 eP P 04 15 57.9 -1.4
comp=Z,363nm,0.6s,mb6.9
AGG Agios Georgios 89.36 345 eP P 04 15 58.1 -1.3
CPD Cerro la Pandu 89.39 62⇓iP P 04 15 59.5 -0.4
CPD pmax pmax
comp=Z,170nm,1.3s,mb6.2
CPD Cerro la Pandu 89.39 62⇓iP P 04 15 59.5 -0.3
comp=Z,170nm,1.3s,mb6.2
STKA Stephens Creek 89.43 214 eP P 04 15 59.6 +0.1
comp=Z,49nm,0.8s,mb5.9
STKA Stephens Creek 89.43 214 P P 04 15 59.9 +0.4
comp=Z,51nm,0.7s,mb6.0,baz=360,slow=5.0,SNR=75
EVR Evrytania 89.55 345 eP P 04 15 58.5 -1.8
LKR Lokris 89.61 344 eP P 04 15 58.0 -2.5
PCBR Castelo Branco 89.84 8 eP P 04 16 02.1 +0.5
comp=Z,62nm,1.7s,mb5.7
LKD Levkas 89.94 346 eP P 04 16 01.4 -0.8
MBWA Marble Bar 90.03 236 eP P 04 16 02.1 -0.4
comp=Z,66nm,1.3s,mb5.8
TIP Timpagrande 90.03 349⇓iP P 04 16 02.1 -0.4
comp=Z,80nm,1.3s,mb5.9
CNB Canberra Magne 90.09 206 eP P 04 16 03.3 +0.8
CAN Canberra 90.20 207 P P 04 16 03.1 +0.1
CAN Canberra 90.20 207 eP P 04 16 03.4 +0.4
LTK Loutraki 90.22 344 eP P 04 16 01.0 -2.5
ESDC Sonseca Array 90.25 5 P P 04 16 03.2 -0.4
comp=Z,19nm,0.8s,mb5.5,baz=353,slow=4.3,SNR=56
PMRV Marv??o 90.25 8 eP P 04 16 03.7 +0.1
comp=Z,95nm,2.0s,mb5.8
RLS Riolos of Patr 90.45 345 eP P 04 16 04.0 -0.5
VLS Valsamata 90.47 346 eP P 04 15 58.5 -6.1
PESTR Estremoz 90.79 8 eP P 04 16 04.5 -1.6
comp=Z,86nm,1.3s,mb5.9
CSS Prodhromos 90.83 335 eP P 04 16 05.2 -1.2
MIB Mutribah 90.89 322 eP P 04 16 05.8 -0.9
baz=322
MIB AMb AMB 04 16 08.5
comp=Z,60nm,1.0s,mb5.9,baz=322
UMR Umm Al-Rimmam 90.96 322 eP P 04 16 05.9 -1.1
baz=322
UMR AMb AMB 04 16 08.6
comp=Z,57nm,1.5s,mb5.7,baz=322
CEL Celeste 91.04 349 eP P 04 16 05.9 -1.4
comp=Z,50nm,0.9s,mb5.8
EVO Evora 91.09 8 eP P 04 16 07.5 0.0
comp=Z,140nm,1.6s,mb5.7
EVO Evora 91.09 8 eP P 04 16 07.3 -0.2
comp=Z,54nm,1.9s,mb5.5
BHL Bhannes 91.17 333 eP P 04 16 07.0 -0.9
ITM Ithomi 91.23 345 eP P 04 16 07.0 -1.1
RST Umm Al-Ruwaisa 91.29 322 eP P 04 16 07.2 -1.4
baz=322
RST AMb AMB 04 16 10.0
comp=Z,1.0nm,1.5s,baz=322
NAY Al-Naaiem 91.42 322 eP P 04 16 08.2 -1.0
baz=322
NAY AMb AMB 04 16 10.3
comp=Z,14nm,0.7s,mb5.4,baz=322
VLI Veliai 91.50 344 eP P 04 16 07.0 -2.4
PBAR Barrancos 91.53 7 eP P 04 16 09.0 -0.5
comp=Z,128nm,1.6s,mb6.0
RDF Al-Radifah 91.58 322 eP P 04 16 09.2 -0.7
baz=322
RDF AMb AMB 04 16 27.0
comp=Z,68nm,1.6s,mb5.7,baz=322
PALK Pallekele 91.88 284 eP P 04 16 11.7 +0.2
PALK pmax pmax
comp=Z,11nm,0.8s,mb5.2
PALK Pallekele 91.88 284 eP P 04 16 11.7 +0.2
comp=Z,11nm,0.8s,mb5.2
PTEO Sao Teotonio 92.00 9 eP P 04 16 11.5 -0.2
comp=Z,94nm,1.7s,mb5.8
PVAQ Vaqueiros 92.23 8 eP P 04 16 12.6 -0.2
comp=Z,102nm,1.6s,mb5.9
MORF Marmelete 92.24 9 eP P 04 16 13.1 +0.3
comp=Z,98nm,1.7s,mb5.9
VAM Vamos 92.53 342 eP P 04 16 12.5 -1.7
TRD Trivandrum 93.23 287 ex x 04 15 14.6
TOO Toolangi 93.34 209 eP P 04 16 17.6 +0.1
FORT Forrest 93.94 225 eP P 04 16 20.9 +0.4
comp=Z,23nm,0.7s,mb5.7
KEST Kesra 94.14 354 P P 04 16 21.3 -0.3
comp=Z,5.9nm,0.9s,mb5.0,baz=302,slow=3.2,SNR=19
KEST LR LR 05 01 46.0
comp=Z,2μm,21.1s,MS5.5,baz=283,slow=37
OTAV Otavalo 95.66 83 eP P 04 16 29.5 +0.6
comp=Z,15nm,0.9s,mb5.4
TOA0 Torodi Ar. Sit 116.84 1 ePKPdf PKPdf 04 21 46.6 -1.1
TORD Torodi Ar. Bea 116.84 1 PKP PKPdf 04 21 45.9 -1.8
comp=Z,3.9nm,0.6s,baz=344,slow=2.1,SNR=25
TORD PKKPbc PKKPbc 04 32 12.8 +1.1
comp=Z,3.5nm,0.6s,baz=180,slow=2.3,SNR=7.0
LVC Limon Verde 118.89 91 PKP PKPdf 04 21 49.7 -1.6
comp=Z,26nm,0.7s,baz=312,slow=0.0,SNR=4.0
LVC Limon Verde 118.89 91 ePKPdf PKPdf 04 21 51.0 -0.3
KMBO Kilima Mbogo 122.78 317 PKP PKPdf 04 21 59.5 +0.4
comp=Z,9.4nm,0.9s,baz=7,9,slow=3.2,SNR=20
KMBO Kilima Mbogo 122.78 317 PKIKP PKPdf 04 21 59.5 +0.4
KMBO pmax pmax
comp=Z,9.0nm,0.9s
KMBO Kilima Mbogo 122.78 317 ePKPdf PKPdf 04 21 59.6 +0.5
DBIC Dimbokro 122.93 9 PKP PKPdf 04 21 58.4 -1.0
comp=Z,6.4nm,0.5s,baz=302,slow=8.3,SNR=19
DBIC Dimbokro 122.93 9 ePKPdf PKPdf 04 21 58.5 -0.9
LIC Lamto 123.36 9 ePKIKP PKPdf 04 21 59.4 -0.9
comp=Z,34nm,0.9s
CFAA Coronel Fontan 125.55 98 PKP PKPdf 04 22 02.4 -1.5
comp=Z,1.0nm,0.5s,baz=358,slow=10,SNR=8.0
BDFB Brasilia 126.82 68 PKP PKPdf 04 22 06.2 -0.5
comp=Z,6.6nm,0.9s,baz=36,slow=25,SNR=3.4
VNDA Vanda 128.17 186 PKP PKPdf 04 22 07.7 +0.2
comp=Z,3.3nm,0.8s,baz=325,slow=5.8,SNR=10
VNDA Vanda 128.17 186 ePKPdf PKPdf 04 22 08.2 +0.8
SBA Scott Base 128.23 184 ePKIKP PKPdf 04 22 07.7 +0.1
CASY Casey 128.37 209 ePKPdf PKPdf 04 22 07.1 -1.0
CPUP Villa Florida 128.94 85 PKP PKPdf 04 22 08.5 -2.0
comp=Z,9.9nm,0.8s,baz=318,slow=5.0,SNR=8.2
CPUP Villa Florida 128.94 85 ePKPdf PKPdf 04 22 10.3 -0.1
PLCA Paso Flores 129.90 109 PKP PKPdf 04 22 11.9 +0.1
comp=Z,30nm,1.1s,baz=275,slow=3.6,SNR=25
PLCA Paso Flores 129.90 109 PKIKP PKPdf 04 22 11.9 +0.1
PLCA pmax pmax
comp=Z,30nm,1.1s
PLCA Paso Flores 129.90 109 ePKPdf PKPdf 04 22 12.1 +0.3
TRQA Tornquist 133.61 101 ePKIKP PKPdf 04 22 18.4 -0.5
MIR Mirnyy 134.45 214 ePKIKP PKPdf 04 22 19.5 -0.1
MIR i 04 22 24.0
MIR pmax pmax
comp=Z,100nm,1.5s
LSZ Lusaka 139.33 320 ePKIKP PKPdf 04 22 30.9 +0.7
PMSA Palmer Station 143.40 139 ePKPpre 04 22 32.3
MAW Mawson 146.07 217 ePKPbc PKPbc 04 22 41.1 -0.4
comp=Z,59nm,0.8s,baz=88,slow=3.8,SNR=76
MAW PKKPab 04 30 17.3
comp=Z,5.7nm,1.2s,baz=247,slow=12,SNR=4.3
MAW Mawson 146.07 217 ePKPbc PKPbc 04 22 40.9 -0.6
TSUM Tsumeb 146.72 333 ePKPbc PKPbc 04 22 44.9 0.0
LBTB Lobatse 149.05 316 ePKIKP PKPdf 04 22 46.8 0.0
LBTB e 04 22 51.2
SYO Syowa Base 154.12 210⇓eX 04 22 50.4
SNAA Sanae 158.40 175 ePKPdf PKPdf 04 22 56.9 -1.7
SNAA e 04 23 32.3
SNAA Sanae 158.40 175 PKP PKPdf 04 22 56.7 -1.9
comp=Z,7.4nm,1.4s,baz=216,slow=0.9,SNR=13
SNAA PKPab PKPab 04 23 31.4 -2.1
comp=Z,3.9nm,0.9s,baz=211,slow=7.1,SNR=12
SNAA Sanae 158.40 175 ePKIKP PKPdf 04 22 57.2 -1.4
SNAA Sanae 158.40 175 ePKPdf PKPdf 04 22 56.7 -1.9
SNAA ePKPab PKPab 04 23 32.8 -0.7
VNA1 Neumayer--Stat 158.96 170 ePKPdf PKPdf 04 22 57.9 -1.4
VNA1 e 04 23 36.5

*IDC **16** 04:04:03.2±0.5, 1359S×7678W, h0km, mb5.0/19, mb1 5.1/22, mb1mx5.1/23, mbtmp5.0/22, ML4.7/1, MS5.6/18, Ms1 5.6/18, ms1mx5.4/32, Error ellipse: s-maj=19.8km s-min=11.2km az=75.0*
*ISCJB **16** 04:04:06.3±1.8, 1363S±003×7689W±004, h32km±12km, mb5.5/114, MS5.7/18, Error ellipse: s-maj=7.3km s-min=3.8km az=155.6*
*MOS **16** 04:04:09.3±0.8, 1326S×7663W, h33km, mb5.8/33, Error ellipse: s-maj=20.5km s-min=8.5km az=111.4*
*BJI **16** 04:04:09.2, 1360S×7660W, h36km, mB6.1, Ms6.0, Msz5.9*
*NEIC **16** 04:04:09.3±0.7, 1358S×7659W, h36km±6km, mb5.6/100, Error ellipse: s-maj=6.3km s-min=3.0km az=70.0*
NEIC Felt at Lima.
ISC 16 04:04:09.1±0.7, 1362S±003×7680W±004, h37km±6km, h38km±3.1km: pP-P, n697, σ1§17/622, mb5.5/114, MS5.7/18, 168C-187D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.63**	**358**	Pn	**Pn**	**04 04 33.1**	**-2.2**
	958nm,0.3s,baz=179,slow=13,SNR=35						
NNA				Sn	**Sn**	**04 04 56.0**	**+1.0**
	2μm,0.3s,baz=208,slow=14,SNR=9.6						
NNA				LR	LR	04 05 03.4	
	comp=Z,43μm,20.8s,baz=151,slow=38						
NNA	**Nana**	**1.63**	**358**	*e*Pn	**Pn**	**04 04 33.1**	**-2.1**
ATAH	**Atahualpa**	**6.77**	**346**	Pn	**Pn**	**04 05 45.9**	**-0.1**
	8.9nm,0.3s,baz=186,slow=7.3,SNR=15						
ATAH				Sn	**Sn**	**04 06 59.4**	**-2.4**
	6.7nm,0.3s,baz=127,slow=21,SNR=1.7						
ATAH				Lg		04 07 24.8	
	20nm,0.3s,baz=79,slow=17,SNR=3.6						
ATAH				LR	LR	04 08 28.8	
	comp=Z,39μm,18.0s,baz=72,slow=40						
LPAZ	**La Paz**	**8.78**	**109**	Pn	**Pn**	**04 06 14.9**	**+1.4**
	8.1nm,0.3s,baz=296,slow=13,SNR=42						
LPAZ				LR	LR	04 10 23.7	
	comp=Z,34μm,18.4s,baz=96,slow=43						
LPAZ	**La Paz**	**8.78**	**109**	*e*P	**Pn**	**04 06 16.6**	**+3.0**
LPAZ				pmax	pmax		
	comp=Z,395nm,1.2s						
LPAZ	**La Paz**	**8.78**	**109**	*e*Pn	**Pn**	**04 06 16.6**	**+3.0**
	comp=Z,395nm,1.2s						
CEN1	**Los Morros**	**11.55**	**148**	⇓*i*P	**Pn**	**04 06 49.8**	**-1.6**
LVC	**Limon Verde**	**11.66**	**141**	Pn	**Pn**	**04 06 52.1**	**-0.9**
	comp=Z,14nm,0.3s,baz=165,slow=0.0,SNR=77						
LVC				Sn	**Sn**	**04 08 58.1**	**-3.9**
	comp=Z,16nm,0.3s,SNR=5.6						
LVC				LR	LR	04 11 52.7	
	comp=Z,37μm,18.7s,baz=224,slow=40						
LVC	**Limon Verde**	**11.66**	**141**	*e*Pn	**Pn**	**04 06 51.4**	**-1.6**
OTAV	**Otavalo**	**13.87**	**353**	*e*Pn	**Pn**	**04 07 26.3**	**+3.0**
SIV	**San Ignacio**	**15.38**	**101**	Pn	**Pn**	**04 07 43.6**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=279,slow=14,SNR=50						
LCO	**Las Campanas**	**16.32**	**161**	*e*P	**Pn**	**04 07 56.8**	**+1.2**
	comp=Z,252nm,1.4s						
TLL	**Tololo Astrono**	**17.37**	**162**	⇑*i*P	**Pn**	**04 08 07.8**	**-0.9**
ROSC	**El Rosal**	**18.52**	**8**	P	**Pn**	**04 08 24.7**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=102,slow=21,SNR=11						
ROSC				LR	LR	04 16 25.4	
	comp=Z,27μm,20.5s,baz=194,slow=40						
ROSC	**El Rosal**	**18.52**	**8**	*e*P	**Pn**	**04 08 25.6**	**+2.8**
CFAA	**Coronel Fontan**	**19.55**	**158**	P	**Pn**	**04 08 34.0**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=333,slow=12,SNR=44						
CFAA				LR	LR	04 14 40.9	
	comp=Z,2μm,21.6s,baz=337,slow=33						
PEL	**Peldehue**	**20.21**	**165**	⇓*i*P	**P**	**04 08 40.8**	**0.0**
TACH	**Talagante**	**20.64**	**166**	⇓*i*P	**P**	**04 08 45.9**	**+0.5**
PCH	**Pirque**	**20.71**	**165**	⇑*i*P	**P**	**04 08 47.2**	**+1.1**
LNV	**Longovilo**	**20.82**	**167**	⇑*i*P	**P**	**04 08 47.6**	**+0.2**
CHCH	**Chadas Angostu**	**20.98**	**166**	⇑*i*P	**P**	**04 08 50.1**	**+1.0**
LMEL	**Las Melosas**	**21.01**	**165**	⇑*i*P	**P**	**04 08 50.5**	**+1.1**
CACH	**El Canelo**	**21.16**	**166**	⇓*i*P	**P**	**04 08 53.0**	**+2.0**
CICH	**Cipreses**	**21.40**	**165**	⇓*i*P	**P**	**04 08 55.4**	**+1.8**
SFDO	**San Fernando**	**21.54**	**167**	⇓*i*P	**P**	**04 08 55.0**	**-0.1**
NICH	**Los Niches**	**21.87**	**168**	⇑*i*P	**P**	**04 08 57.6**	**-1.0**
CPUP	**Villa Florida**	**22.20**	**128**	P	**P**	**04 09 01.0**	**-1.2**
	comp=Z,15nm,0.7s,mb4.5,baz=293,slow=11,SNR=22						
CPUP				LR	LR	04 19 29.1	
	comp=Z,24μm,19.9s,MS5.6,baz=298,slow=42						
CPUP	**Villa Florida**	**22.20**	**128**	*e*P	**P**	**04 09 00.7**	**-1.5**
CPUP				pmax	pmax		
	comp=Z,395nm,1.2s						
CPUP	**Villa Florida**	**22.20**	**128**	*e*P	**P**	**04 09 00.7**	**-1.5**
	comp=Z,395nm,1.2s,mb5.7						
BCIP	**Isla Barro Col**	**22.84**	**352**	*e*P	**P**	**04 09 10.3**	**+1.1**
	comp=Z,213nm,1.1s,mb5.5						
SDV	**Santo Domingo**	**23.18**	**16**	P	**P**	**04 09 11.5**	**-1.3**
	comp=Z,26nm,0.6s,mb4.9,baz=271,slow=6.0,SNR=26						
SDV	**Santo Domingo**	**23.18**	**16**	*e*P	**P**	**04 09 11.7**	**-1.1**
CCHI	**Chillan**	**23.27**	**170**	⇑*i*P	**P**	**04 09 12.7**	**-0.8**
PCRV	**Puerto La Cruz**	**26.55**	**28**	P	**P**	**04 09 42.8**	**-0.8**
	comp=Z,11nm,0.6s,mb4.6,baz=234,slow=3.7,SNR=6.0						
PCRV				LR	LR	04 20 12.6	
	comp=Z,13μm,18.7s,MS5.5,baz=204,slow=37						
PLCA	**Paso Flores**	**27.55**	**170**	P	**P**	**04 09 52.2**	**-0.2**
	comp=Z,25nm,1.0s,mb4.8,baz=342,slow=11,SNR=24						
PLCA				LR	LR	04 18 31.0	
	comp=Z,7μm,21.8s,MS5.2,baz=348,slow=32						
PLCA	**Paso Flores**	**27.55**	**170**	P	**P**	**04 09 52.4**	**0.0**
PLCA				pmax	pmax		
	comp=Z,120nm,1.4s						
PLCA	**Paso Flores**	**27.55**	**170**	*e*P	**P**	**04 09 51.7**	**-0.7**
	comp=Z,120nm,1.4s,mb5.3						
TRQA	**Tornquist**	**27.67**	**154**	*e*P	**P**	**04 09 52.5**	**-1.0**
	comp=Z,73nm,1.4s,mb5.1						
BDFB	**Brasilia**	**27.91**	**98**	P	**P**	**04 09 54.6**	**-1.3**
	comp=Z,6.8nm,0.9s,mb4.3,baz=246,slow=16,SNR=12						
BDFB				LR	LR	04 22 36.5	
	comp=Z,7μm,18.7s,MS5.3,baz=272,slow=40						
TGUH	**Tegucigalpa,Un**	**29.39**	**339**	*e*P	**P**	**04 10 10.4**	**+1.4**
	comp=Z,92nm,1.1s,mb5.4						
SPB	**Sao Paulo**	**29.49**	**114**	*e*P	**P**	**04 10 13.8**	**+4.0**
MPR	**Mayaguez**	**33.03**	**17**	*e*P	**P**	**04 10 40.3**	**-0.7**
SJG	**San Juan**	**33.24**	**19**	*e*P	**P**	**04 10 43.5**	**+0.7**
SJG	**San Juan**	**33.24**	**19**	*e*P	**P**	**04 10 41.6**	**-1.2**
	comp=Z,44nm,0.9s,mb5.4						
CPD	**Cerro la Pandu**	**33.24**	**19**	*e*P	**P**	**04 10 41.7**	**-1.1**
CPD				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2						
CPD	**Cerro la Pandu**	**33.24**	**19**	*e*P	**P**	**04 10 41.7**	**-1.1**
	comp=Z,28nm,0.8s,mb5.2						
AOPR	**Arecibo Observ**	**33.27**	**18**	*e*P	**P**	**04 10 43.0**	**-0.1**
	comp=Z,64nm,1.0s,mb5.5						
HUMP	**Col San Antoni**	**33.36**	**19**	*e*P	**P**	**04 10 42.9**	**-1.0**
	comp=Z,21nm,0.7s,mb5.2						
MTP	**Monte Pirata**	**33.41**	**20**	*e*P	**P**	**04 10 44.6**	**+0.2**
RCC	**Rio Carpintero**	**33.42**	**2**	*e*P	**P**	**04 10 41.0**	**-3.4**
CBYP	**Canovanas**	**33.48**	**19**	*e*P	**P**	**04 10 45.3**	**+0.4**
	comp=Z,64nm,0.9s,mb5.5						
MASC	**Masc**	**33.68**	**4**	*e*P	**P**	**04 10 49.3**	**+2.6**
CAM3	**Guarapari**	**35.31**	**107**	⇑*i*P	**P**	**04 10 53.6**	**-7.2**
CAM3				*i*	pP	04 11 02.4	-9.1
CAM3				*i*		04 11 07.2	
CAM3				*i*		04 11 11.8	
CMIG	**Matias Romero**	**35.36**	**329**	LR	LR	04 24 15.4	
	comp=Z,6μm,18.8s,MS5.4,baz=112,slow=34						
TEIG	**Tepich**	**35.48**	**341**	LR	LR	04 27 09.3	
	comp=Z,7μm,18.1s,MS5.5,baz=147,slow=39						
TEIG	**Tepich**	**35.48**	**341**	*e*P	**P**	**04 11 03.3**	**+1.1**
	comp=Z,284nm,1.5s,mb6.0						
MGV	**Manicaragua**	**35.65**	**355**	*e*P	**P**	**04 11 02.5**	**-1.1**
EFI	**East Falkland**	**40.85**	**162**	⇑*i*P	**P**	**04 11 47.6**	**+0.5**
USHA	**Ushuaia**	**41.63**	**173**	P	**P**	**04 11 52.3**	**-1.2**
	comp=Z,43nm,1.0s,mb5.0,baz=310,slow=3.1,SNR=8.4						
BRAL	**Brewton**	**45.46**	**348**	*e*P	**P**	**04 12 26.4**	**+1.9**
KVTX	**Kingsville**	**45.76**	**334**	*e*P	**P**	**04 12 28.7**	**+1.7**
	comp=Z,138nm,0.8s,mb5.9						
NHSC	**New Hope**	**46.58**	**356**	*e*P	**P**	**04 12 34.7**	**+1.3**
	comp=Z,79nm,1.0s,mb5.6						
HKT	**Hockley**	**47.05**	**337**	P	**P**	**04 12 38.0**	**+0.9**
HKT				pmax	pmax		
	comp=Z,140nm,1.8s,mb5.6						
HKT	**Hockley**	**47.05**	**337**	*e*P	**P**	**04 12 37.6**	**+0.6**
	comp=Z,138nm,1.8s,mb5.6						
BBSR	**BB Station**	**47.18**	**14**	*e*P	**P**	**04 12 39.0**	**+0.9**
GOGA	**Godfrey**	**47.20**	**352**	*e*P	**P**	**04 12 37.5**	**-0.7**
GOGA				pmax	pmax		
	comp=Z,51nm,1.4s,mb5.3						
GOGA	**Godfrey**	**47.20**	**352**	*e*P	**P**	**04 12 37.5**	**-0.7**
	comp=Z,51nm,1.4s,mb5.3						
JSC	**Jenkinsville**	**47.83**	**355**	*e*P	**P**	**04 12 45.2**	**+2.1**
JSC	**Jenkinsville**	**47.83**	**355**	*e*P	**P**	**04 12 44.0**	**+0.9**
NATX	**Nacogdoches**	**48.27**	**340**	*e*P	**P**	**04 12 48.3**	**+1.8**
	comp=Z,478nm,1.8s,mb6.2						
CNNC	**Cliffs of the**	**48.60**	**359**	*e*P	**P**	**04 12 49.2**	**+0.2**
	comp=Z,83nm,1.1s,mb5.7						
JCT	**Junction City**	**49.12**	**333**	*e*P	**P**	**04 12 54.5**	**+1.4**
JCT				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.5						
SWET	**Sewanee**	**49.34**	**350**	*e*P	**P**	**04 12 53.3**	**-1.4**
OXF	**Oxford**	**49.35**	**346**	P	**P**	**04 12 54.3**	**-0.5**
OXF				pmax	pmax		
	comp=Z,110nm,0.6s,mb6.1						
OXF	**Oxford**	**49.35**	**346**	*e*P	**P**	**04 12 53.8**	**-0.9**
	comp=Z,113nm,0.6s,mb6.1						
CPCT	**Cooper Cave**	**49.35**	**352**	*e*P	**P**	**04 12 54.5**	**-0.3**
PLAL	**Pickwick Lake**	**49.51**	**348**	*e*P	**P**	**04 12 53.9**	**-2.1**
	comp=Z,49nm,1.0s,mb5.5						
TZTN	**Tazewell**	**50.30**	**353**	*e*P	**P**	**04 13 02.0**	**0.0**
	comp=Z,101nm,1.4s,mb5.7						
UALR	**University of**	**50.34**	**343**	*e*P	**P**	**04 13 01.9**	**-0.5**
	comp=Z,60nm,1.2s,mb5.5						
BLA	**Blacksburg**	**50.68**	**356**	*e*P	**P**	**04 13 04.4**	**-0.4**
BLA				pmax	pmax		
	comp=Z,194nm,1.0s,mb6.0						
BLA	**Blacksburg**	**50.68**	**356**	*e*P	**P**	**04 13 04.4**	**-0.4**
	comp=Z,194nm,1.0s,mb6.0						
ELN	**Prospectdale**	**50.72**	**356**	*e*P	**P**	**04 13 04.4**	**-0.6**
URVA	**University of**	**50.92**	**359**	*e*P	**P**	**04 13 06.2**	**-0.5**
PMSA	**Palmer Station**	**51.84**	**173**	LR	LR	04 33 36.3	
	comp=Z,3μm,18.8s,MS5.3,baz=252,slow=34						
PMSA	**Palmer Station**	**51.84**	**173**	*e*P	**P**	**04 13 13.9**	**+0.7**
	comp=Z,57nm,1.1s,mb5.4						
WCI	**Wyandotte Cave**	**52.34**	**351**	P	**P**	**04 13 16.4**	**-0.8**
WCI	**Wyandotte Cave**	**52.34**	**351**	*e*P	**P**	**04 13 16.1**	**-1.1**
	comp=Z,49nm,0.8s,mb5.5						
SDMD	**Soldier's Deli**	**52.76**	**360**	*e*P	**P**	**04 13 20.4**	**+0.2**
	comp=Z,93nm,1.0s,mb5.7						
MCWV	**Mont Chateau**	**53.08**	**357**	*e*P	**P**	**04 13 22.4**	**-0.3**
	comp=Z,30nm,1.0s,mb5.2						
MVL	**Millersville**	**53.35**	**0**	*e*P	**P**	**04 13 21.2**	**-3.4**
	comp=Z,49nm,0.8s,mb5.5						
PAL	**Palisades**	**54.42**	**3**	*e*P	**P**	**04 13 32.4**	**0.0**
318A	**Bisbee**	**54.98**	**325**	⇓P	**P**	**04 13 38.0**	**+1.3**
	baz=55						
219A	**White Tail Can**	**55.00**	**326**	⇓P	**P**	**04 13 38.7**	**+1.8**
	baz=55						
218A	**Dragoon**	**55.41**	**326**	⇑P	**P**	**04 13 42.2**	**+2.3**
	baz=56						
BRYW	**Bryant College**	**55.47**	**5**	*e*P	**P**	**04 13 40.8**	**+0.7**
217A	**Green Valley**	**55.69**	**325**	⇑P	**P**	**04 13 43.1**	**+1.3**
	baz=56						
RKT	**Rikitea**	**55.71**	**251**	*e*S	**S**	**04 21 31.2**	**+4.7**
	comp=Z,8μm,23.2s						
RKT				*e*LR	LR	04 30 07.5	
	comp=Z,6μm,26.5s						
LAZ	**Ladron**	**55.80**	**330**	*e*P	**P**	**04 13 43.8**	**+1.2**
ANMO	**Albuquerque**	**55.91**	**331**	⇑*i*P	**P**	**04 13 45.2**	**+1.9**
WES	**Weston**	**55.95**	**5**	*e*P	**P**	**04 13 44.8**	**+1.3**
Z19A	**T-Link Ranch,**	**56.00**	**327**	⇑P	**P**	**04 13 46.4**	**+2.4**
	baz=56						
HRV	**Adam Dziewonsk**	**56.06**	**5**	*e*P	**P**	**04 13 45.6**	**+1.4**
TUC	**Tucson**	**56.07**	**325**	*e*P	**P**	**04 13 47.2**	**+2.6**
TUC				pmax	pmax		
	comp=Z,94nm,1.6s,mb5.6						
TUC	**Tucson**	**56.07**	**325**	*e*P	**P**	**04 13 47.2**	**+2.6**
	comp=Z,94nm,1.6s,mb5.6						
216A	**Three Points,**	**56.22**	**324**	⇓P	**P**	**04 13 46.3**	**+0.7**
	baz=56						
117A	**Oracle**	**56.25**	**325**	⇑P	**P**	**04 13 47.6**	**+1.8**
	baz=57						
Y19A	**Nutrioso**	**56.51**	**328**	⇓P	**P**	**04 13 49.0**	**+1.3**
	baz=57						
116A	**Eloy**	**56.78**	**325**	⇓P	**P**	**04 13 49.2**	**-0.3**
	baz=57						
214A	**Organ Pipe Nat**	**56.96**	**323**	⇓P	**P**	**04 13 50.5**	**-0.3**
	baz=57						
Y17A	**Roosevelt**	**57.16**	**326**	⇓P	**P**	**04 13 52.4**	**+0.2**
	baz=58						
Z16A	**Peralta Trail,**	**57.21**	**326**	⇓P	**P**	**04 13 53.3**	**+0.7**
	baz=58						
X18A	**Snowflake**	**57.32**	**328**	⇑P	**P**	**04 13 54.1**	**+0.8**
	baz=58						
Z15A	**Gila River Ind**	**57.57**	**325**	⇓P	**P**	**04 13 54.8**	**-0.3**
	baz=58,SNR=5.4						
X17A	**Forest Lakes**	**57.62**	**327**	⇑P	**P**	**04 13 55.2**	**-0.3**
	baz=58						
Y16A	**Circle Bar Ran**	**57.64**	**326**	⇑P	**P**	**04 13 55.3**	**-0.3**
	baz=58						
W18A	**Petrified Fore**	**57.67**	**328**	⇓P	**P**	**04 13 55.5**	**-0.3**
	baz=58						
V19A	**Window Rock**	**57.78**	**329**	⇓P	**P**	**04 13 55.8**	**-0.8**
	baz=58						
X16A	**Lo Mia Camp, P**	**58.02**	**326**	⇓P	**P**	**04 13 58.5**	**+0.2**
	baz=58						
113A	**Mohawk Valley,**	**58.11**	**323**	⇓P	**P**	**04 13 58.6**	**-0.3**
	baz=58						
Y15A	**Casa Rosa Ranc**	**58.16**	**325**	⇓P	**P**	**04 13 56.9**	**-2.5**
	baz=58						
X15A	**Humboldt**	**58.51**	**326**	⇑P	**P**	**04 14 01.4**	**-0.3**
	baz=59						
Y14A	**Wickenburg**	**58.53**	**325**	⇑P	**P**	**04 14 01.5**	**-0.3**
	baz=59						
W16A	**Flagstaff**	**58.59**	**327**	⇑P	**P**	**04 14 03.0**	**+0.8**
	baz=59						
U18A	**Rough Rock, Ch**	**58.75**	**329**	⇑P	**P**	**04 14 03.1**	**-0.3**
	baz=59						
WUAZ	**Wupatki**	**58.83**	**327**	⇓P	**P**	**04 14 03.6**	**-0.3**
	baz=59						
X14A	**Yava**	**58.85**	**325**	⇓P	**P**	**04 14 04.3**	**+0.2**
	baz=59						
W15A	**Williams**	**59.04**	**326**	⇓P	**P**	**04 14 05.6**	**+0.2**
	baz=59						
Y12C	**Blythe**	**59.25**	**324**	⇑P	**P**	**04 14 06.5**	**-0.3**
	baz=60						
U17A	**Shonto**	**59.29**	**329**	⇑P	**P**	**04 14 07.9**	**+0.8**
	baz=60						
T18A	**Mexican Hat**	**59.31**	**330**	⇓P	**P**	**04 14 07.5**	**+0.2**
	baz=60						
PDMCI	**Parker Dam,Lak**	**59.43**	**324**	⇓P	**P**	**04 14 07.8**	**-0.3**
	baz=60						
S19A	**Harvey Farm, M**	**59.44**	**330**	⇓P	**P**	**04 14 08.3**	**+0.3**
	baz=60						
X13A	**Yucca**	**59.47**	**325**	⇑P	**P**	**04 14 09.1**	**+0.7**
	baz=60						
V15A	**Kaibab Nationa**	**59.48**	**327**	⇓P	**P**	**04 14 09.7**	**+1.3**
	baz=60						
PV01	**Paradox Valley**	**59.48**	**331**	*e*P	**P**	**04 14 09.8**	**+1.5**
W14A	**Seligman**	**59.51**	**326**	⇑P	**P**	**04 14 09.4**	**+0.7**
	baz=60,SNR=5.4						
SMCO	**Snowmass**	**59.60**	**333**	*e*P	**P**	**04 14 06.1**	**-3.1**
T17A	**Navajo Res., N**	**59.67**	**329**	⇑P	**P**	**04 14 10.5**	**+0.8**
	baz=60						
BC3	**Big Chuckw Mtn**	**59.73**	**323**	⇑P	**P**	**04 14 10.3**	**+0.2**
	baz=60						
MONP	**Monument Peak**	**59.76**	**322**	⇓P	**P**	**04 14 11.1**	**+0.7**
	baz=60						
BAR	**Barrett**	**59.77**	**321**	*e*P	**P**	**04 14 14.6**	**+4.1**
S18A	**Hurst Farm, Bl**	**59.81**	**330**	⇓P	**P**	**04 14 12.0**	**+1.3**
	baz=60						
V14A	**Boquillas Ranc**	**59.84**	**326**	⇓P	**P**	**04 14 11.6**	**+0.7**
	baz=60						
W13A	**Hualapai Mount**	**59.87**	**325**	⇓P	**P**	**04 14 11.9**	**+0.7**
	baz=60,SNR=5.4						
IRM	**Iron Mountain**	**59.91**	**324**	⇑P	**P**	**04 14 12.1**	**+0.7**
	baz=60,SNR=8.3						
U15A	**North Rim**	**60.00**	**327**	⇑P	**P**	**04 14 12.2**	**+0.2**
	baz=60						
PFO	**Pinyon Flat Ob**	**60.28**	**322**	*e*P	**P**	**04 14 16.4**	**+2.4**
PFO				pmax	pmax		
	comp=Z,170nm,1.8s,mb5.8						
PFO	**Pinyon Flat Ob**	**60.28**	**322**	⇓P	**P**	**04 14 14.2**	**+0.2**
	baz=61						
PFO	**Pinyon Flat Ob**	**60.28**	**322**	*e*P	**P**	**04 14 16.1**	**+2.1**
	comp=Z,166nm,1.8s,mb5.8						
BELC	**Belle Mtn.**	**60.29**	**323**	⇓P	**P**	**04 14 13.1**	**-0.9**
	baz=61						
Q19A	**Hogan Spring (**	**60.46**	**331**	⇓P	**P**	**04 14 14.3**	**-0.8**
	baz=61						
U14A	**Mt Trumbull**	**60.46**	**327**	⇓P	**P**	**04 14 15.9**	**+0.7**
	baz=61						
V13A	**Grand Canyon W**	**60.48**	**326**	⇓P	**P**	**04 14 17.1**	**+1.8**
	baz=61						
T15A	**Red Dirt Ranch**	**60.49**	**328**	⇓P	**P**	**04 14 16.1**	**+0.8**
	baz=61						
W12A	**Cal Nev Ari**	**60.57**	**325**	⇓P	**P**	**04 14 16.6**	**+0.7**
	baz=61						
S16A	**Weppner Ranch,**	**60.63**	**329**	⇓P	**P**	**04 14 14.9**	**-1.4**
	baz=61						
GMRC	**Granite Mounta**	**60.65**	**324**	⇑P	**P**	**04 14 17.7**	**+1.3**
	baz=61						
MURC	**Murrieta**	**60.73**	**322**	⇓P	**P**	**04 14 16.1**	**-0.9**
	baz=61						
R17A	**Hanksville Air**	**60.73**	**330**	⇓P	**P**	**04 14 16.6**	**-0.3**
	baz=61						
PHWY	**Pilot Hill**	**60.73**	**336**	*e*P	**P**	**04 14 17.6**	**+0.7**
V12A	**Nelson**	**60.87**	**325**	⇓P	**P**	**04 14 19.2**	**+1.3**
	baz=61						
U13A	**Pakoon Wash**	**60.88**	**326**	⇑P	**P**	**04 14 18.8**	**+0.7**
	baz=61						
T14A	**Hurricane**	**60.89**	**327**	⇑P	**P**	**04 14 17.8**	**-0.3**
	baz=61						
Q18A	**Rafter H Ranch**	**60.99**	**331**	⇓P	**P**	**04 14 18.4**	**-0.3**
	baz=61						
BBRC	**Big Bear Sol-O**	**61.02**	**322**	⇓P	**P**	**04 14 19.7**	**+0.7**
	baz=61						
HEC	**Hector,Ludlow**	**61.07**	**323**	⇑P	**P**	**04 14 19.5**	**+0.2**
	baz=61						
SRU	**San Rafael**	**61.18**	**330**	⇓P	**P**	**04 14 20.8**	**+0.8**
	baz=62						
U12A	**Valley of Fire**	**61.21**	**326**	⇓P	**P**	**04 14 21.5**	**+1.3**
	baz=62						
TUQ	**Turquoise Mtn.**	**61.26**	**324**	⇓P	**P**	**04 14 22.4**	**+1.8**
	baz=62						
V11A	**Goodsprings**	**61.27**	**325**	⇓P	**P**	**04 14 22.5**	**+1.8**
	baz=62						
T13A	**Saint George**	**61.30**	**327**	⇑P	**P**	**04 14 21.0**	**+0.2**
	baz=62						
Q16A	**Castle Valley**	**61.34**	**330**	⇑P	**P**	**04 14 22.4**	**+1.3**
	baz=62						
R15A	**Junction**	**61.35**	**329**	⇓P	**P**	**04 14 22.4**	**+1.3**
	baz=62						
BFSC	**Mount Baldy St**	**61.44**	**322**	⇑P	**P**	**04 14 23.1**	**+1.2**
	baz=62,SNR=11						
P17A	**Butcher Ranch,**	**61.57**	**331**	⇓P	**P**	**04 14 24.5**	**+1.8**
	baz=62,SNR=6.4						
MWC	**Mount Wilson**	**61.67**	**322**	*e*P	**P**	**04 14 25.8**	**+2.4**
MWC				pmax	pmax		
	comp=Z,114nm,1.4s,mb5.8						
MWC	**Mount Wilson**	**61.67**	**322**	*e*P	**P**	**04 14 25.8**	**+2.3**
	comp=Z,114nm,1.4s,mb5.8						
GSC	**Goldstone**	**61.68**	**323**	*e*P	**P**	**04 14 25.6**	**+2.2**
GSC				pmax	pmax		
	comp=Z,148nm,1.7s,mb5.8						
GSC	**Goldstone**	**61.68**	**323**	⇓P	**P**	**04 14 23.6**	**+0.2**
	baz=62						
GSC	**Goldstone**	**61.68**	**323**	*e*P	**P**	**04 14 25.6**	**+2.2**
	comp=Z,148nm,1.7s,mb5.8						
S13A	**Holt Ranch, En**	**61.69**	**327**	⇑P	**P**	**04 14 25.3**	**+1.8**
	baz=62,SNR=11						
RWWY	**Rawlins**	**61.78**	**335**	*e*P	**P**	**04 14 25.3**	**+1.3**
	comp=Z,308nm,1.8s,mb6.1						
SHOC	**Shoshone**	**61.80**	**324**	⇑P	**P**	**04 14 23.8**	**-0.4**
	baz=62						
O18A	**Roosevelt**	**61.85**	**332**	⇑P	**P**	**04 14 25.3**	**+0.8**
	baz=62						
DECC	**Green Verdugo**	**61.85**	**321**	⇓P	**P**	**04 14 24.3**	**-0.4**
	baz=62						
Q15A	**Fillmore**	**62.00**	**329**	⇑P	**P**	**04 14 25.8**	**+0.2**
	baz=62						
EDW2	**Edwards Air Fo**	**62.08**	**322**	⇓P	**P**	**04 14 25.8**	**-0.4**
	baz=62						
T11A	**Corn Creek, Al**	**62.17**	**326**	⇓P	**P**	**04 14 26.4**	**-0.3**
	baz=62,SNR=7.1						
TAOE	**Nuku Hiva Isla**	**62.18**	**267**	*e*S	**S**	**04 22 54.1**	**+3.4**
	comp=Z,34μm,27.4s						
TAOE	**Nuku Hiva Isla**	**62.18**	**267**	*e*LR	LR	04 33 03.5	
	comp=Z,34μm,24.6s						
R13A	**O'Grain Ranch,**	**62.20**	**327**	⇓P	**P**	**04 14 27.1**	**+0.2**
	baz=62						
N18A	**Larsen Ranch,**	**62.27**	**332**	⇓P	**P**	**04 14 25.9**	**-1.3**
	baz=63						
LRMC	**Laurel Mountai**	**62.31**	**323**	⇓P	**P**	**04 14 26.8**	**-0.9**
	baz=63						
OSI	**Osito Adit**	**62.34**	**322**	⇑P	**P**	**04 14 28.6**	**+0.7**
	baz=63						
OSI	**Osito Adit**	**62.34**	**322**	*e*P	**P**	**04 14 28.9**	**+1.1**
	comp=Z,165nm,1.5s,mb5.9						
P15A	**Leamington**	**62.39**	**330**	⇓P	**P**	**04 14 27.8**	**-0.3**
	baz=63						
MPU	**Maple Canyon**	**62.42**	**330**	*e*P	**P**	**04 14 37.6**	**+9.3**
Q14A	**Sevier Lake (B**	**62.45**	**328**	⇓P	**P**	**04 14 29.3**	**+0.8**
	baz=63,SNR=5.6						
O16A	**Springville**	**62.51**	**331**	⇓P	**P**	**04 14 28.1**	**-0.8**
	baz=63						
TPNV	**Topopah Spring**	**62.53**	**325**	⇓P	**P**	**04 14 29.3**	**+0.2**
	baz=63						
FURC	**Furnace Creek,**	**62.53**	**324**	⇓P	**P**	**04 14 28.8**	**-0.3**
	baz=63						
NLU	**North Lily Min**	**62.59**	**330**	*e*P	**P**	**04 14 30.6**	**+1.2

P11A	Circle Ranch,	64.15	327	⇓P	P	04 14 40.5 +0.7
	baz=64					
O12A	Currie	64.16	328	⇓P	P	04 14 39.0 -0.8
	baz=64,SNR=10					
N13A	Wendover, West	64.33	329	⇓P	P	04 14 40.1 -0.8
	baz=65					
L15A	Malad City	64.33	331	⇓P	P	04 14 39.5 -1.3
	baz=65,SNR=7.6					
V04C	Ramage Ranch,	64.33	321	⇑P	P	04 14 41.2 +0.1
	baz=65					
PKD	Parkfield	64.33	322	⇑P	P	04 14 39.6 -1.5
	baz=65					
HVU	Hansel Valley	64.34	331	eP	P	04 14 42.4 +1.5
HVU	Hansel Valley	64.34	331	eP	P	04 14 41.7 +0.7
	comp=Z,31nm,0.9s,mb5.3					
Q09A	Carvers	64.39	326	⇑P	P	04 14 41.0 -0.3
	baz=65					
M14A	Sheep Mountain	64.40	330	⇓P	P	04 14 40.5 -0.8
	baz=65,SNR=8.5					
MLAC	Mammoth Lakes	64.47	324	⇑P	P	04 14 42.1 +0.2
	baz=65					
O11A	Cowboy Ranch,	64.52	328	⇓P	P	04 14 41.9 -0.3
	baz=65					
KCC	Kaiser Creek	64.54	323	⇓P	P	04 14 41.5 -0.9
	baz=65,SNR=6.8					
T06C	Millerton Lake	64.55	323	⇓P	P	04 14 42.1 -0.4
	baz=65					
R08A	Mina	64.56	325	⇑P	P	04 14 42.7 +0.2
	baz=65,SNR=6.8					
P10A	Eureka	64.57	327	⇓P	P	04 14 41.1 -1.4
	baz=65					
K16A	Soda Springs	64.61	332	⇑P	P	04 14 41.9 -0.8
	baz=65					
M13A	Montello	64.69	330	⇓P	P	04 14 42.9 -0.3
	baz=65					
NVAR	Mina Array Bea	64.73	325	P	P	04 14 44.1 +0.5
	comp=Z,7.5nm,0.9s,mb4.7,baz=135,slow=6.1,SNR=8.0					
SNOW	Snow King Moun	64.74	333	eP	P	04 14 44.5 +1.0
	comp=Z,15nm,0.8s,mb5.1					
N12A	Clover Valley,	64.74	329	⇓P	P	04 14 42.8 -0.8
	baz=65					
L14A	Malta	64.75	331	⇑P	P	04 14 43.4 -0.3
	baz=65					
U04C	Hernandez Rese	64.76	322	⇑P	P	04 14 42.4 -1.5
	baz=65					
ELK	Elko	64.76	329	eP	P	04 14 45.0 +1.3
ELK				pmax	pmax	
	comp=Z,85nm,1.6s					
ELK	Elko	64.76	329	eP	P	04 14 45.0 +1.3
	comp=Z,85nm,1.6s,mb5.5					
LOHW	Long Hollow	64.79	333	eP	P	04 14 44.0 +0.1
	comp=Z,16nm,0.9s,mb5.0					
V03C	Hunter Liggett	64.81	321	⇓P	P	04 14 43.2 -0.9
	baz=65					
Q08A	Gabbs	64.82	325	⇑P	P	04 14 43.8 -0.3
	baz=65					
TPAW	Teton Pass	64.85	333	eP	P	04 14 43.8 -0.4
	comp=Z,34nm,1.1s,mb5.3					
RRI2	Red Ridge	64.90	333	eP	P	04 14 44.8 +0.3
	comp=Z,149nm,1.4s,mb5.8					
R07C	Lee Vining	64.91	324	⇓P	P	04 14 45.5 +0.7
	baz=65,SNR=6.6					
K15A	Arbon	64.92	332	⇓P	P	04 14 45.0 +0.2
	baz=65					
MOOW	Moose Ponds	64.96	333	eP	P	04 14 45.9 +0.9
	comp=Z,46nm,1.5s,mb5.3					
J16A	Bone	64.97	333	⇓P	P	04 14 44.2 -0.8
	baz=65					
DCID1	Drake Creek	65.03	333	eP	P	04 14 46.7 +1.2
O10A	Cortez Mining,	65.08	327	⇑P	P	04 14 46.6 +0.7
	baz=65,SNR=10					
M12A	Wells	65.10	329	⇑P	P	04 14 45.6 -0.3
	baz=65					
K14A	Jones Ranch, D	65.12	331	⇑P	P	04 14 45.2 -0.8
	baz=65,SNR=6.8					
L13A	Double Diamond	65.13	330	⇑P	P	04 14 45.8 -0.3
	baz=65,SNR=6.6					
FLWY	Flagg Ranch	65.21	334	eP	P	04 14 47.6 +1.0
	comp=Z,290nm,1.6s,mb6.1					
S06C	San Francisco	65.23	323	⇑P	P	04 14 46.5 -0.4
	baz=66,SNR=12					
HAST	Hastings Reser	65.24	321	⇓P	P	04 14 47.1 +0.1
	baz=66					
O09A	Fish Creek Ran	65.35	327	⇓P	P	04 14 46.2 -1.4
	baz=66					
N10A	Dunphy	65.39	328	⇓P	P	04 14 47.5 -0.3
	baz=66					
SAO	San Andreas Ge	65.42	322	eP	P	04 14 57.6 +9.5
SAO	San Andreas Ge	65.42	322	eP	P	04 14 49.0 +0.8
	comp=Z,64nm,1.5s,mb5.4					
R06C	Coleville	65.44	324	⇓P	P	04 14 46.8 -1.4
	baz=66,SNR=9.8					
LKWY	Lake	65.47	334	eP	P	04 14 50.8 +2.5
LKWY				pmax	pmax	
	comp=Z,88nm,1.5s,mb5.6					
LKWY	Lake	65.47	334	eP	P	04 14 50.8 +2.5
	comp=Z,88nm,1.5s,mb5.6					
PACP	Pacheco Peak	65.49	322	⇓P	P	04 14 47.6 -0.9
	baz=66					
P08A	Dixie Valley	65.49	326	⇑P	P	04 14 47.6 -0.9
	baz=66					
M11A	Holland Ranch,	65.55	329	⇓P	P	04 14 48.5 -0.3
	baz=66,SNR=7.1					
BMN	Battle Mountai	65.56	327	eP	P	04 14 57.2 +8.3
BMN				pmax	pmax	
	comp=Z,31nm,1.1s,mb5.2					
BMN	Battle Mountai	65.56	327	eP	P	04 14 50.1 +1.2
	comp=Z,31nm,1.2s,mb5.2					
YFT	Old Faithful	65.57	334	eP	P	04 14 51.5 +2.6
LAO	LASA Array	65.60	338	eP	P	04 14 49.6 +0.6
	comp=Z,98nm,1.5s,mb5.6					
K13A	Stover Farm, H	65.63	331	⇓P	P	04 14 48.5 -0.8
	baz=66					
CMB	Columbia Colle	65.64	323	eP	P	04 14 51.3 +1.8
CMB	Columbia Colle	65.64	323	⇑P	P	04 14 49.1 -0.4
	baz=66,SNR=6.8					
CMB	Columbia Colle	65.64	323	eP	P	04 14 51.0 +1.5
	comp=Z,48nm,1.1s,mb5.4					
L12A	House Creek Ra	65.70	330	⇑P	P	04 14 48.9 -0.8
	baz=66					
YNR	Norris Junctio	65.71	334	eP	P	04 14 49.6 -0.2
ULM	Lac du Bonnet	65.77	347	P	P	04 14 48.7 -1.3
	comp=Z,46nm,0.7s,mb5.7,baz=155,slow=5.5,SNR=16					
ULM	Lac du Bonnet	65.77	347	eP	P	04 14 48.7 -1.3
	comp=Z,107nm,1.1s,mb5.8					
YMR	Madison River	65.80	334	eP	P	04 14 52.4 +2.0
	comp=Z,89nm,1.2s,mb5.7					
P07A	Fallon	65.83	325	⇑P	P	04 14 50.3 -0.4
	baz=66					
S04C	Ingram Canyon,	65.84	322	⇑P	P	04 14 49.9 -0.9
	baz=66					
R05C	Kirkwood Meado	65.92	324	⇓P	P	04 14 51.4 +0.2
	baz=66,SNR=9.9					
O08A	Rochester Mine	65.96	326	⇓P	P	04 14 51.2 -0.3
	baz=66,SNR=6.5					
K12A	Draper Farm, C	66.01	330	⇓P	P	04 14 52.0 +0.2
	baz=66,SNR=14					
N09A	Rock Creek Ran	66.02	327	⇑P	P	04 14 51.0 -0.9
	baz=66,SNR=7.5					
L11A	Cat Creek Ranc	66.08	329	⇓P	P	04 14 51.4 -0.8
	baz=66,SNR=8.2					
R04C	Big Horse Ranc	66.11	323	⇑P	P	04 14 52.7 +0.1
	baz=66,SNR=9.7					
QLMT	Earthquake Lak	66.12	334	eP	P	04 14 54.6 +2.1
WCN	Washoe City	66.15	325	⇑P	P	04 14 51.8 -0.9
	baz=66					
GCMT	Greycliff	66.16	335	eP	P	04 14 53.9 +1.2
PAHR	Pah Rah Range	66.22	325	eP	P	04 14 55.1 +1.9
	comp=Z,97nm,1.1s,mb5.8					
O07A	Toulon	66.26	326	⇑P	P	04 14 53.1 -0.4
	baz=67,SNR=15					
N08A	GE Springer Mi	66.29	327	⇓P	P	04 14 52.2 -1.4
	baz=67					
JRSC	Jasper Ridge	66.32	322	⇓P	P	04 14 54.0 +0.1
	baz=67					
LAVA	Lava Cap Winer	66.33	324	⇑P	P	04 14 52.5 -1.4
	baz=67					
L10A	Juniper Basin	66.37	329	⇓P	P	04 14 53.3 -0.9
	baz=67,SNR=9.8					
M09A	Marrel Ranch,	66.39	328	⇓P	P	04 14 53.9 -0.3
	baz=67,SNR=9.4					
DGMT	Dagmar	66.44	340	eP	P	04 14 55.4 +1.0
	comp=Z,97nm,1.1s,mb5.7					
BDM	Black Diamond	66.46	322	⇑P	P	04 14 54.9 +0.1
	baz=67					
HLID	Hailey	66.48	331	⇑P	P	04 14 55.0 +0.2
	baz=67					
HLID	Hailey	66.48	331	eP	P	04 14 55.8 +1.1
	comp=Z,88nm,1.6s,mb5.5					
P06A	Stead Airport,	66.48	325	⇑P	P	04 14 55.1 +0.2
	baz=67					
J12A	Stokes Ranch,	66.57	330	⇑P	P	04 14 55.0 -0.3
	baz=67					
I13A	Wildhorse Cree	66.61	331	⇓P	P	04 14 54.8 -0.8
	baz=67,SNR=9.5					
P05C	Yuba Gap, Truc	66.63	324	⇑P	P	04 14 56.0 +0.2
	baz=67,SNR=8.7					
K11A	Parker Ranch,	66.66	330	⇑P	P	04 14 55.1 -0.8
	baz=67					
N07B	Gerlach	66.74	326	⇑P	P	04 14 56.2 -0.4
	baz=67,SNR=7.6					
Q04C	Lincoln	66.76	323	⇑P	P	04 14 56.8 +0.1
	baz=67,SNR=7.5					
O06A	Flanigan	66.78	325	⇓P	P	04 14 55.9 -0.9
	baz=67					
G15A	Dillon	66.85	333	⇑P	P	04 14 56.8 -0.3
	baz=67,SNR=7.0					
BOZ	Bozeman (W)	66.86	334	eP	P	04 14 57.5 +0.3
BOZ				pmax	pmax	
	comp=Z,95nm,1.6s,mb5.6					
BOZ	Bozeman (W)	66.86	334	⇓P	P	04 14 56.9 -0.3
	baz=67,SNR=7.3					
BOZ	Bozeman (W)	66.86	334	eP	P	04 14 57.5 +0.3
	comp=Z,95nm,1.6s,mb5.6					
BEKR	Beckwourth	66.87	325	⇓P	P	04 14 58.1 +0.7
	baz=67,SNR=9.7					
M08A	Happy Creek Ra	66.90	327	⇑P	P	04 14 57.2 -0.3
	baz=67					
L09A	Wilkinson Ranc	66.94	328	⇑P	P	04 14 57.9 +0.2
	baz=67,SNR=16					
FARB	Farallon Islan	66.97	322	⇑P	P	04 14 58.7 +0.6
	baz=67					
Q03C	Winters	66.99	323	⇓P	P	04 14 57.8 -0.4
	baz=67					
MFID	Camas Ranch	67.04	330	⇑P	P	04 14 57.5 -0.8
	baz=67,SNR=17					
CVS	Carmenet Viney	67.07	322	⇓P	P	04 14 58.2 -0.4
	baz=67					
K10A	MacKenzie Ranc	67.08	329	⇑P	P	04 14 57.3 -1.4
	baz=67,SNR=10					
OHCM	Honcut	67.15	324	eP	P	04 15 00.4 +1.2
H13A	Challis	67.17	332	⇓P	P	04 14 59.4 +0.2
	baz=68					
MCCM	Marooni Confer	67.19	322	⇓P	P	04 14 57.9 -1.5
	baz=68					
N06A	Buffalo Meadow	67.19	326	⇑P	P	04 14 57.9 -1.4
	baz=68,SNR=16					
O05C	Quincy	67.25	325	⇓P	P	04 14 58.3 -1.4
	baz=68					
SUTB	Sutter Butte	67.25	323	⇑P	P	04 14 58.9 -0.9
	baz=68					
NSHM	Saint Helena R	67.27	322	eP	P	04 15 01.8 +1.9
M07A	Soldier Meadow	67.28	327	⇑P	P	04 14 59.0 -0.9
	baz=68					
ORV	Oroville	67.31	324	⇑P	P	04 14 59.2 -0.9
	baz=68,SNR=25					
G14A	Jackson	67.34	333	⇑P	P	04 14 59.4 -0.8
	baz=68					
F15A	Butte	67.38	334	⇑P	P	04 14 59.1 -1.4
	baz=68					
MNRC	McLaughlin Nat	67.41	323	⇓P	P	04 14 59.3 -1.5
	baz=68					
L08A	Fields	67.41	328	⇓P	P	04 14 59.9 -0.9
	baz=68,SNR=7.6					
H12A	Diamond D Ranc	67.44	331	⇓P	P	04 14 58.4 -2.4
	baz=68					
K09A	Rome	67.46	328	⇑P	P	04 15 00.2 -0.9
	baz=68,SNR=20					
I11A	Placerville	67.48	330	⇓P	P	04 14 59.2 -1.9
	baz=68,SNR=6.8					
J10A	Berg Farm, Mel	67.51	330	⇓P	P	04 14 59.4 -1.9
	baz=68					
G13A	Cobalt	67.57	332	⇑P	P	04 15 00.3 -1.4
	baz=68					
O04C	Chester	67.59	325	⇓P	P	04 15 00.5 -1.4
	baz=68,SNR=7.3					
WVOR	Wild Horse Val	67.74	328	eP	P	04 15 04.4 +1.6
WVOR	Wild Horse Val	67.74	328	eP	P	04 15 03.8 +1.0
	comp=Z,83nm,1.7s,mb5.5					
F14A	Wisdom	67.74	333	⇑P	P	04 15 01.9 -0.8
	baz=68					
L07A	Adell	67.81	327	⇑P	P	04 15 02.4 -0.9
	baz=68					
HOPS	Hopland	67.85	323	⇑P	P	04 15 02.6 -0.9
	baz=68,SNR=6.5					
HOPS	Hopland	67.85	323	eP	P	04 15 05.8 +2.2
	comp=Z,131nm,1.6s,mb5.7					
M06C	Likely Place G	67.86	326	⇑P	P	04 15 02.7 -0.9
	baz=68					
K08A	Mann Creek Ran	67.87	328	⇓P	P	04 15 03.3 -0.3
	baz=68					
E15A	Deer Lodge	67.91	334	⇓P	P	04 15 04.0 +0.2
	baz=68					
J09A	Fry Pan Ranch,	67.94	329	⇓P	P	04 15 03.2 -0.9
	baz=68,SNR=5.5					
I10A	Payette	68.01	330	⇓P	P	04 15 04.7 +0.2
	baz=68					
EGMT	Eagleton	68.03	337	⇓P	P	04 15 04.7 +0.2
	baz=68					
GASB	Alder Springs	68.08	323	⇓P	P	04 15 05.1 +0.1
	baz=68,SNR=15					
H11A	Donnelly	68.09	331	⇑P	P	04 15 05.7 +0.7
	baz=68					
HATC	Hat Creek Radi	68.14	325	⇓P	P	04 15 04.9 -0.4
	baz=68					
F13A	Darby	68.15	333	⇑P	P	04 15 04.4 -0.8
	baz=68,SNR=8.5					
K07A	Rock Creek Ran	68.24	328	⇑P	P	04 15 08.2 +2.3
	baz=69					
MOD	Modoc	68.24	326	⇑P	P	04 15 07.2 +1.2
	baz=69,SNR=12					
MOD	Modoc	68.24	326	eP	P	04 15 06.7 +0.7
	comp=Z,161nm,1.6s,mb5.8					
E14A	Clinton	68.26	334	⇑P	P	04 15 06.2 +0.2
	baz=69,SNR=8.2					
J08A	Circle Bar Ran	68.31	329	⇓P	P	04 15 06.6 +0.2
	baz=69					
P01C	Double 8 Ranch	68.32	323	⇑P	P	04 15 06.6 +0.1
	baz=69,SNR=13					
M05C	Lookout	68.33	326	⇓P	P	04 15 06.7 +0.2
	baz=69,SNR=17					
D15A	Lincoln	68.34	335	⇑P	P	04 15 05.7 -0.8
	baz=69					
I09A	Lost Marbles R	68.39	329	⇓P	P	04 15 06.5 -0.3
	baz=69					
LTIM	Timbered Crate	68.39	325	P	P	04 15 08.4 +1.4
O02C	Red Bluff	68.46	324	⇑P	P	04 15 08.6 +1.2
	baz=69					
F12A	Elk City	68.54	332	⇑P	P	04 15 06.9 -0.8
	baz=69					
CHMT	Chamberlain Mo	68.55	334	eP	P	04 15 09.0 +1.2
WDC	Whiskeytown Da	68.59	324	eP	P	04 15 08.3 +0.1
WDC	Whiskeytown Da	68.59	324	⇑P	P	04 15 07.2 -0.9
	baz=69					
WDC	Whiskeytown Da	68.59	324	eP	P	04 15 07.9 -0.3
	comp=Z,12nm,0.9s,mb4.8					
E13A	Victor	68.59	333	⇓P	P	04 15 08.2 +0.2
	baz=69,SNR=11					
KCPM	Cahto Peak	68.60	323	eP	P	04 15 10.9 +2.6
KIPM	Iron Peak	68.62	323	eP	P	04 15 09.9 +1.5
L05A	Lakeview	68.63	326	⇑P	P	04 15 08.6 +0.2
	baz=69					
SCHQ	Schefferville	68.71	6	P	P	04 15 07.6 -1.0
	comp=Z,31nm,0.8s,mb5.3,baz=209,slow=3.2,SNR=5.1					
SCHQ	Schefferville	68.71	6	P	P	04 15 07.6 -1.0
G11A	Walters Elk Ra	68.74	331	⇓P	P	04 15 08.1 -0.9
	baz=69,SNR=6.3					
J07A	Hines	68.75	328	⇑P	P	04 15 08.2 -0.9
	baz=69					
I08A	Drewsey	68.76	329	⇑P	P	04 15 08.8 -0.3
	baz=69,SNR=5.8					
MSO	Missoula	68.78	334	eP	P	04 15 11.1 +1.9
	comp=Z,82nm,1.4s,mb5.5					
D14A	Greenough	68.79	334	⇑P	P	04 15 09.0 -0.3
	baz=69,SNR=5.8					
M03C	McCloud	68.81	325	⇑P	P	04 15 08.6 -0.9
	baz=69,SNR=5.9					
BMO	Blue Mountains	68.82	330	eP	P	04 15 09.5 -0.1
	comp=Z,114nm,1.9s,mb5.5					
K06A	Valley Falls	68.84	327	⇑P	P	04 15 08.8 -0.9
	baz=69,SNR=22					
H09A	Durkee	68.86	330	⇓P	P	04 15 08.9 -0.9
	baz=69					
TBI	Tubuai	68.99	250	eS	S	04 24 20.5 +6.7
	comp=Z,7μm,26.6s					
TBI	Tubuai	68.99	250	eLR	LR	04 36 15.9
	comp=Z,6μm,25.5s					
M04C	Macdoel	69.00	325	⇓P	P	04 15 09.2 -1.5
	baz=69,SNR=6.8					
O01C	Eel River Cons	69.04	323	⇑P	P	04 15 09.5 -1.5
	baz=69					
F11A	Grangeville	69.05	332	⇓P	P	04 15 09.0 -1.9
	baz=69,SNR=26					
G10A	Bishop Farm, J	69.06	331	⇑P	P	04 15 10.1 -0.9
	baz=69,SNR=11					
J06A	Christmas Vall	69.10	328	⇑P	P	04 15 11.5 +0.2
	baz=69,SNR=27					
K05A	Summer Lake	69.13	327	⇓P	P	04 15 09.5 -2.0
	baz=69					
N02C	Big Bar	69.18	324	⇓P	P	04 15 10.4 -1.5
	baz=70,SNR=40					
D13A	Huson	69.21	333	⇓P	P	04 15 10.5 -1.4
	baz=70					
H08A	Prairie City	69.25	329	⇑P	P	04 15 10.8 -1.4
	baz=70,SNR=19					
L04A	Klamath Falls	69.29	326	⇑P	P	04 15 10.0 -2.5
	baz=70,SNR=7.5					
M02C	Callahan	69.30	325	⇑P	P	04 15 11.1 -1.5
	baz=70,SNR=11					
I07A	Izee	69.35	329	⇓P	P	04 15 12.5 -0.4
	baz=70,SNR=17					
G09A	Cove	69.36	330	⇑P	P	04 15 12.5 -0.3
	baz=70,SNR=22					
E11A	Bogner Ranch,	69.43	332	⇑P	P	04 15 11.8 -1.4
	baz=70,SNR=10					
C14A	Swan Lake	69.43	334	⇓P	P	04 15 12.4 -0.8
	baz=70					
YBH	Yreka Blue Hor	69.45	325	⇑P	P	04 15 12.5 -0.9
	baz=70,SNR=15					
K04A	Chilquin	69.50	326	⇓P	P	04 15 12.3 -1.4
	baz=70					
D12A	Red Ives Fores	69.57	333	⇓P	P	04 15 12.2 -1.9
	baz=70,SNR=11					
JCC	Jacoby Creek	69.60	324	⇑P	P	04 15 15.1 +0.6
	baz=70,SNR=12					
F10A	Beach Ranch, E	69.61	331	⇑P	P	04 15 14.1 -0.3
	baz=70,SNR=8.2					
I06A	Prineville	69.62	328	⇓P	P	04 15 13.0 -1.4
	baz=70,SNR=7.9					
J05A	Fort Rock	69.69	327	⇑P	P	04 15 12.5 -2.5
	baz=70,SNR=9.7					
C13A	Hot Springs	69.71	334	⇑P	P	04 15 12.0 -3.0
	baz=70,SNR=13					
F09A	S2 Ranch, Elgi	69.74	331	⇑P	P	04 15 13.3 -1.9
	baz=70,SNR=10					
H07A	Lands Inn, Kim	69.75	329	⇑P	P	04 15 13.8 -1.4
	baz=70					
PPT	Papeete	69.83	256	eS	S	04 24 26.4 +2.6
	comp=Z,13μm,29.5s					
PPT	Papeete	69.83	256	eLR	LR	04 36 17.5
	comp=Z,13μm,31.8s					
KTRM	Thompson Ridge	69.94	325	P	P	04 15 18.2 +1.8
G08A	Pilot Rock	69.94	330	⇓P	P	04 15 14.0 -2.5
	baz=70,SNR=12					
D11A	Klaveano Farm,	70.00	332	⇑P	P	04 15 14.3 -2.5
	baz=70					
LNOR	Lincton Mounta	70.04	330	eP	P	04 15 16.9 -0.1
J04A	Umpqua Nationa	70.13	326	⇑P	P	04 15 15.7 -2.0
	baz=70,SNR=7.1					
HUMO	Hull Mountain	70.17	326	⇓P	P	04 15 15.4 -2.5
	baz=70					
HUMO	Hull Mountain	70.17	326	eP	P	04 15 19.1 +1.2
	comp=Z,22nm,1.4s,mb4.9					
VNA1	Neumayer--Stat	70.17	161	eP	P	04 15 18.2 +0.7
VNA1				e		04 15 20.4
VNA1				e	pP	04 15 30.3 +1.5
VNA1				e		04 15 33.7
B13A	Whitefish	70.20	334	⇑P	P	04 15 14.5 -3.5
	baz=70					
F08A	Pendleton	70.22	330	⇓P	P	04 15 15.1 -3.0
	baz=70					
VIPM	Ingram Point	70.22	328	P	P	04 15 20.0 +1.8
L02A	Cave Junction	70.23	325	⇓P	P	04 15 15.7 -2.5
	baz=70,SNR=12					
H06A	Lindquist Farm	70.24	329	⇑P	P	04 15 15.2 -3.0
	baz=70,SNR=12					
G07A	Ruggs Ranch, H	70.28	329	⇑P	P	04 15 17.6 -0.9
	baz=71,SNR=7.4					
I05A	Bend	70.32	328	⇓P	P	04 15 17.3 -1.4
	baz=71					
M01C	Crescent City	70.32	324	⇑P	P	04 15 15.7 -3.1
	baz=71					
D10A	Wagner Farm, O	70.44	332	⇑P	P	04 15 17.0 -2.5
	baz=71,SNR=7.4					
E09A	Wood Farm, Sta	70.44	331	⇓P	P	04 15 16.5 -3.0
	baz=71					
WALA	Waterton Lakes	70.51	335	eP	P	04 15 20.9 +1.1
	comp=Z,86nm,1.4s,mb5.5					
K02A	Glendale	70.57	325	⇑P	P	04 15 19.4 -0.9
	baz=71,SNR=16					
KBO	Bosley Butte	70.61	325	eP	P	04 15 22.8 +2.2
A13A	Flathead Natio	70.62	335	⇑P	P	04 15 18.6 -1.9
	baz=71					
I04A	Tendick Farm,	70.67	327	⇓P	P	04 15 19.5 -1.5
	baz=71,SNR=5.7					
B12A	Libby	70.75	334	⇓P	P	04 15 18.3 -3.0
	baz=71					
F07A	Phinny Hill Vi	70.85	330	⇑P	P	04 15 17.9 -4.1
	baz=71					
D09A	Jones Farm, Ri	70.92	331	⇓P	P	04 15 19.9 -2.5
	baz=71,SNR=7.1					
J02A	Umpqua	71.01	326	⇓P	P	04 15 21.5 -1.5
	baz=71,SNR=21					
HAWA	Hanford	71.02	330	eP	P	04 15 24.1 +1.1
	comp=Z,137nm,1.7s,mb5.6					
C10A	Spilker Farm,	71.02	332	⇑P	P	04 15 20.0 -3.0
	baz=71					
RSW	Rattlesnake Hi	71.05	330	eP	P	04 15 24.2 +1.1
B11A	Sandpoint	71.07	333	⇑P	P	04 15 20.2 -3.0
	baz=71,SNR=12					
G05A	Wamic	71.09	328	⇑P	P	04 15 19.9 -3.6
	baz=71					
A12A	Yaak River Ran	71.14	334	⇓P	P	04 15 19.1 -4.6
	baz=71,SNR=29					
K01A	Sixes	71.14	325	⇑P	P	04 15 21.2 -2.6
	baz=72,SNR=5.3					
H04A	Detroit Lake	71.15	328	⇑P	P	04 15 20.3 -3.6
	baz=72,SNR=11					
F06A	Goldendale	71.19	329	⇑P	P	04 15 19.9 -4.1
	baz=72					
D08A	Wollman Farm,	71.20	331	⇓P	P	04 15 21.6 -2.5
	baz=72					
I03A	Eugene	71.25	326	⇑P	P	04 15 21.4 -3.1
	baz=72,SNR=17					
NEW	Newport	71.27	333	eP	P	04 15 25.6 +1.1
NEW	Newport	71.27	333	eP	P	04 15 25.3 +0.8
	comp=Z,77nm,1.4s,mb5.4					
E07A	Sunnyside	71.29	330	⇓P	P	04 15 22.1 -2.5
	baz=72					
HOOD	Mount Hood Mea	71.31	328	eP	P	04 15 26.6 +1.8
	comp=Z,100nm,1.3s,mb5.6					
B10A	Chitwood Farm,	71.34	333	⇑P	P	04 15 24.0 -0.9
	baz=72					
OD2	Odessa Site #2	71.35	331	P	P	04 15 26.2 +1.2
C09A	Chrisman Ranch	71.44	332	⇓P	P	04 15 23.6 -2.0
	baz=72					
A11A	Hall Mountain,	71.46	334	⇓P	P	04 15 26.6 +1.0
	baz=72,SNR=7.6	

SNAA e 04 15 45.7
SNAA Sanae 72.12 161 c iP **P 04 15 29.1 -0.2**
SNAA Sanae 72.12 161 eP **P 04 15 29.2 -0.1**
comp=Z,34nm,0.8s,mb5.3
F04A Amboy 72.13 328 ⇑P **P 04 15 29.8 +0.1**
baz=72,SNR=14
WTV Waterville 72.15 331 P **P 04 15 31.5 +1.7**
G03A Yamhill 72.15 327 ⇑P **P 04 15 29.9 +0.1**
baz=72,SNR=6.6
C07A Waterville 72.20 331 ⇓P **P 04 15 30.4 +0.4**
baz=72,SNR=8.9
D06A Cle Elum 72.22 330 ⇓P **P 04 15 30.2 0.0**
baz=72,SNR=5.8
E05A Randle 72.23 329 ⇓P **P 04 15 27.2 -3.1**
baz=72
ETW Entiat 72.26 331 eP **P 04 15 31.4 +1.0**
HEBO Mount Hebo 72.33 327 eP **P 04 15 33.1 +2.2**
comp=Z,76nm,1.1s,mb5.5
B08A Colville Reser 72.34 332 ⇑P **P 04 15 28.4 -2.5**
baz=73
A09A Danville 72.45 333 ⇑P **P 04 15 31.5 0.0**
baz=73,SNR=12
F03A Seaside 72.71 328 ⇑P **P 04 15 31.7 -1.5**
baz=73
A08A Turner Farm, O 72.74 332 ⇑P **P 04 15 33.6 +0.4**
baz=73,SNR=14
C06A Tall Timber Ra 72.76 331 ⇓P **P 04 15 32.5 -0.9**
baz=73
D05A Enumclaw 72.77 330 ⇑P **P 04 15 33.1 -0.4**
baz=73
B07A Winthrop 72.78 331 ⇑P **P 04 15 34.0 +0.5**
baz=73,SNR=6.6
BMW Boistfort Moun 72.91 328 eP **P 04 15 35.2 +0.9**
E03A Lebam 73.13 328 ⇑P **P 04 15 36.4 +0.8**
baz=73,SNR=6.6
A07A Ashnola River, 73.32 332 ⇓P **P 04 15 37.1 +0.5**
baz=74,SNR=17
RPW Rockport 73.42 331 eP **P 04 15 36.9 -0.4**
JCW Jim Creek 73.44 330 eP **P 04 15 37.1 -0.3**
GNW Green Mountain 73.45 329 eP **P 04 15 38.0 +0.5**
comp=Z,57nm,1.4s,mb5.3
B06A Marblemount 73.46 331 ⇑P **P 04 15 36.0 -1.5**
baz=74
FCC Fort Churchill 73.50 351 eP **P 04 15 37.8 +0.3**
FCC pmax pmax
comp=Z,50nm,1.1s,mb5.4
FCC Fort Churchill 73.50 351 eP **P 04 15 37.8 +0.3**
comp=Z,50nm,1.1s,mb5.4
B05A Bryant 73.57 330 ⇓P **P 04 15 37.7 -0.5**
baz=74,SNR=15
EDM Edmonton 73.58 338 eP **P 04 15 37.7 -0.5**
EDM Edmonton 73.58 338 eP **P 04 15 37.5 -0.7**
D03A Wishkah Elem. 73.61 329 ⇑P **P 04 15 37.0 -1.5**
baz=74
C04A Brinnon 73.62 329 ⇑P **P 04 15 36.0 -2.5**
baz=74
NLWA Neilton Lookou 73.85 329 ⇓P **P 04 15 39.7 -0.2**
baz=74,SNR=18
NLWA Neilton Lookou 73.85 329 eP **P 04 15 40.8 +0.9**
comp=Z,69nm,1.1s,mb5.5
A06A Chilliwack 73.86 331 ⇑P **P 04 15 37.3 -2.5**
baz=74
LIC Lamto 73.91 79 eP **P 04 15 40.1 -0.8**
comp=Z,160nm,1.0s,mb5.6,baz=264
LIC Lamto 73.91 79 eP **P 04 15 40.2 -0.7**
comp=Z,438nm,1.6s,mb6.1
LIC Lamto 73.91 79 eP **P 04 15 40.1 -0.8**
comp=Z,80nm,1.0s,mb5.6
TIC Toumodi 74.03 79 eP **P 04 15 41.9 +0.2**
comp=Z,838nm,1.6s,mb6.4
TIC Toumodi 74.03 79 eP **P 04 15 41.9 +0.2**
TIC pmax pmax
comp=Z,838nm,1.6s,mb6.4
OSD Olympics--Snow 74.06 329 P **P 04 15 43.6 +2.6**
A05A Maple Falls 74.08 331 ⇑P **P 04 15 40.7 -0.4**
baz=74,SNR=8.4
B04A Port Angeles 74.12 329 ⇓P **P 04 15 39.4 -2.0**
baz=74
A04A Legoe Bay, Lum 74.18 330 ⇓P **P 04 15 40.8 -1.0**
baz=74
DBIC Dimbokro 74.19 79 P **P 04 15 41.9 -0.7**
comp=Z,14nm,0.6s,mb5.1,baz=238,slow=6.6,SNR=34
DBIC LR LR 04 46 60.0
comp=Z,9μm,18.0s,MS6.1,baz=315,slow=35
DBIC Dimbokro 74.19 79 P **P 04 15 42.2 -0.4**
DBIC pmax pmax
comp=Z,170nm,1.3s
DBIC Dimbokro 74.19 79 eP **P 04 15 42.1 -0.5**
comp=Z,171nm,1.3s,mb5.8
KIC Kosan Boka 74.22 79 eP **P 04 15 42.2 -0.6**
comp=Z,330nm,0.8s,mb6.3
PGC Sidney 74.49 330 eP **P 04 15 43.7 +0.1**
comp=Z,190nm,1.4s,mb5.8
C03A Quillayute Air 74.57 329 ⇓P **P 04 15 45.2 +1.2**
baz=75,SNR=8.7
MAIT Maitri 76.76 160 eP **P 04 15 55.1 -1.2**
NVL N'lazarevskaya 76.79 160 c iP **P 04 15 58.1 +1.6**
NVL eS S 04 25 44.6 +3.8
NVL pmax pmax
comp=Z,109nm,3.0s
YKA Yellowknife Ar 81.41 343 P **P 04 16 20.8 -0.9**
comp=Z,12nm,0.8s,mb4.9,baz=138,slow=5.5,SNR=36
MORF Marmelete 81.53 48 eP **P 04 16 24.5 +1.6**
PTEO Sao Teotonio 81.57 48 eP **P 04 16 25.7 +2.6**
PMAFR Mafra 81.76 47 eP **P 04 16 26.3 +2.2**
PBDV Barranco-do-Ve 82.03 49 eP **P 04 16 27.9 +2.4**
SBA Scott Base 82.12 191 P **P 04 16 28.5 +3.1**
SBA pmax pmax
comp=Z,67nm,1.5s,mb5.3
SBA Scott Base 82.12 191 eP **P 04 16 26.6 +1.2**
comp=Z,67nm,1.6s,mb5.3
TOA0 Torodi Ar. Sit 82.18 74 eP **P 04 16 26.6 -0.2**
TORD Torodi Ar. Bea 82.18 74 P **P 04 16 26.4 -0.4**
comp=Z,34nm,0.9s,mb5.3,baz=264,slow=3.5,SNR=48
TORD LR LR 04 52 18.3
comp=Z,7μm,18.4s,MS6.1,baz=225,slow=35
TORD Torodi Ar. Bea 82.18 74 P **P 04 16 26.4 -0.4**
TORD LR LR 04 52 18.3
PVAQ Vaqueiros 82.25 49 eP **P 04 16 28.4 +1.7**
PBEJ Beja 82.39 48 eP **P 04 16 28.8 +1.4**
EVO Evora 82.49 48 eP **P 04 16 28.4 +0.5**
comp=Z,297nm,1.3s,mb5.7
EVO Evora 82.49 48 eP **P 04 16 28.6 +0.7**
SFJD Kangerlussuaq 82.66 10 eP **P 04 16 28.2 0.0**
SFJD pmax pmax
comp=Z,45nm,1.2s,mb5.4
SFJD Kangerlussuaq 82.66 10 eP **P 04 16 28.2 0.0**
comp=Z,44nm,1.2s,mb5.4
PBAR Barrancos 83.05 48 eP **P 04 16 32.3 +1.5**
VNDA Vanda 83.20 191 P **P 04 16 32.2 +1.2**
comp=Z,4.4nm,0.9s,mb4.5,baz=119,slow=3.6,SNR=23
VNDA Vanda 83.20 191 P **P 04 16 32.7 +1.7**
VNDA pmax pmax
comp=Z,14nm,1.0s
VNDA Vanda 83.20 191 eP **P 04 16 32.1 +1.1**
comp=Z,14nm,1.1s,mb4.9
PCBR Castelo Branco 83.39 46 eP **P 04 16 34.5 +1.9**
PVIS Viseu 83.46 46 eP **P 04 16 35.3 +2.4**
WRAK Wrangell Islan 83.63 333 eP **P 04 16 33.5 +0.1**
comp=Z,97nm,1.6s,mb5.7
DLBC Dease Lake 83.86 335 eP **P 04 16 35.5 +1.0**
PAB San Pablo 85.51 48 P **P 04 16 44.5 +1.2**
PAB pmax pmax
comp=Z,11nm,0.7s,mb5.2
PAB San Pablo 85.51 48 eP **P 04 16 42.8 -0.5**
comp=Z,11nm,0.7s,mb5.2
ESDC Sonseca Array 85.83 48 P **P 04 16 45.8 +0.9**
comp=Z,7.5nm,0.8s,mb5.0,baz=251,slow=5.2,SNR=13
ESDC LR LR 04 54 31.9
comp=Z,3μm,18.3s,MS5.7,baz=250,slow=35
SYO Syowa Base 86.41 161‖ eP **P 04 16 45.4 -1.9**
SYO Syowa Base 86.41 161‖ ePcP PcP 04 16 47.6 -2.1
TAM Tamanrasset 88.29 66 eP **P 04 16 57.2 0.0**
HYT Haines Junctio 88.34 335 eP **P 04 16 57.7 +1.2**
RES Resolute Bay 88.86 355 eP **P 04 16 59.0 +0.3**
comp=Z,691nm,0.9s
SUMG Summit 89.62 11 eP **P 04 17 03.1 +0.7**
comp=Z,24nm,1.0s,mb5.5
TSUM Tsumeb 89.64 110 eP **P 04 17 04.2 +0.5**
comp=Z,25nm,1.2s,mb5.4
DAWY Dawson 90.77 337 eP **P 04 17 07.6 -0.2**
INK Inuvik 91.09 342 P **P 04 17 09.9 +0.6**
comp=Z,33nm,0.9s,mb5.7,baz=130,slow=5.3,SNR=22
INK LR LR 05 03 10.2
comp=Z,4μm,18.8s,MS5.9,baz=96,slow=39
INK Inuvik 91.09 342 P **P 04 17 09.2 0.0**
INK Inuvik 91.09 342 eP **P 04 17 08.8 -0.4**
comp=Z,2μm,1.1s
EGAK Eagle 91.79 337 eP **P 04 17 11.7 -0.9**
comp=Z,78nm,1.4s,mb5.8
TCF Toulx Ste Croi 92.30 43 eP **P 04 17 13.8 -1.5**
BGF Bois d'Agland 92.80 43 eP **P 04 17 15.6 -2.0**
comp=Z,41nm,1.1s,mb5.5
BGF Bois d'Agland 92.80 43 eP **P 04 17 15.6 -2.0**
BGF pmax pmax
comp=Z,21nm,1.1s,mb5.5
BGF Bois d'Agland 92.80 43 eP **P 04 17 15.6 -2.0**
comp=Z,20nm,1.1s,mb5.5
SMF Signal de Mont 93.48 43 eP **P 04 17 19.7 -1.1**
comp=Z,46nm,1.1s,mb5.5
SMF Signal de Mont 93.48 43 eP **P 04 17 19.7 -1.1**
SMF pmax pmax
comp=Z,23nm,1.1s,mb5.5
SMF Signal de Mont 93.48 43 eP **P 04 17 19.7 -1.1**
comp=Z,23nm,1.1s,mb5.5
LOR Lormes 93.66 42 eP **P 04 17 19.4 -2.2**
SLKM Skilak Lake 93.79 332 P **P 04 17 22.8 +0.9**
SLKM Skilak Lake 93.79 332 eP **P 04 17 21.8 -0.1**
MAW Mawson 93.89 166 eP **P 04 17 22.5 +0.1**
comp=Z,3.5nm,0.8s,mb4.8
MAW Mawson 93.89 166 P **P 04 17 22.2 -0.2**
comp=Z,4.5nm,0.8s,mb5.0,baz=250,slow=7.0,SNR=9.9
MAW LR LR 04 55 09.5
comp=Z,4μm,21.4s,MS5.8,baz=174,slow=33
MAW Mawson 93.89 166 eP **P 04 17 22.5 +0.1**
MAW pmax pmax
comp=Z,4.0nm,0.8s
KDAK Kodiak Island 94.00 329 P **P 04 17 23.0 +0.1**
comp=Z,5.2nm,0.9s,mb4.9,baz=148,slow=7.9,SNR=3.9
KDAK Kodiak Island 94.00 329 P **P 04 17 23.0 +0.1**
COLA College 94.41 336‖ iP **P 04 17 24.7 +0.1**
COLA College 94.41 336 eP **P 04 17 24.6 -0.1**
comp=Z,39nm,1.1s,mb5.8
MCK McKinley 94.41 335 eP **P 04 17 24.4 -0.3**
MCK pmax pmax
comp=Z,29nm,1.3s,mb5.5
MCK McKinley 94.41 335 eP **P 04 17 24.4 -0.3**
comp=Z,29nm,1.3s,mb5.5
KEST Kesra 94.75 55 P **P 04 17 27.6 +0.7**
comp=Z,4.8nm,0.9s,mb4.9,baz=249,slow=3.9,SNR=3.0
TRF Thorofare Moun 94.87 334 eP **P 04 17 25.7 -1.1**
comp=Z,15nm,1.0s,mb5.4
LPL La Plagne 95.13 45 eP **P 04 17 28.6 +0.2**
comp=Z,82nm,1.4s,mb5.7
LPL La Plagne 95.13 45 eP **P 04 17 28.6 +0.2**
LPL pmax pmax
comp=Z,41nm,1.4s,mb5.7
LPL La Plagne 95.13 45 eP **P 04 17 28.6 +0.2**
comp=Z,41nm,1.4s,mb5.7
PPLA Purkeypile 95.49 334 eP **P 04 17 29.6 0.0**
comp=Z,63nm,1.3s,mb5.9
RPZ Rata Peaks 96.00 222 LR LR 04 53 22.6
comp=Z,5μm,18.1s,MS6.1,baz=31,slow=31
SVW2 Sparrevohn 96.47 331 eP **P 04 17 34.7 +0.6**
IMA2 Indian Mountai 97.11 336 eP **P 04 17 36.3 -0.6**
PAF Port-aux-Franc 110.87 158 P Pdif 04 18 38.4 -0.2
MALT Malatya 118.06 54 ePKIKP PKPdf 04 22 53.6 +1.3
PET Petropavlovsk 121.31 324 ePKIKP PKPdf 04 22 58.7 +0.7
STKA Stephens Creek 121.69 218 ePKP PKPdf 04 22 59.7 +0.1
comp=Z,2.5nm,0.8s
STKA Stephens Creek 121.69 218 PKP PKPdf 04 22 59.9 +0.3
comp=Z,2.5nm,0.6s,baz=182,slow=3.1,SNR=4.8
ARU Arti 125.37 29 i PKIKP PKPdf 04 23 06.3 +0.6
ARU Arti 125.37 29 i PKP PKPdf 04 23 06.4 +0.7
YAK Yakutsk 128.08 345 i PKIKP PKPdf 04 23 11.5 +0.7
ASAR Alice Springs 132.31 219 PKP PKPdf 04 23 19.8 -0.2
comp=Z,2.4nm,0.8s,baz=144,slow=3.5,SNR=9.6
BRVK Borovoye 132.78 27 ePKIKP PKPdf 04 23 19.0 -0.9
KLBR Kellerberrin 132.93 197 ePKP PKPdf 04 23 22.2 +1.2
comp=Z,10nm,0.7s
WB2 Warramunga Arr 134.70 223 ePKP PKPdf 04 23 24.3 -0.3
WB2 ePKPdf PKPdf 04 23 24.6 0.0
WRA Warramunga Arr 134.71 223 PKP PKPdf 04 23 24.4 -0.2
comp=Z,9.5nm,0.7s,baz=134,slow=1.6,SNR=29
WRAB Tennant Creek 134.71 223 i PKIKP PKPdf 04 23 25.5 +0.9
WRAB Tennant Creek 134.71 223 ePKPdf PKPdf 04 23 24.6 0.0
NVS Novosibirsk 136.01 17 ePKIKP PKPdf 04 23 25.0 -0.9
NVS pmax pmax
comp=Z,28nm,1.8s
NVS pmax pmax
comp=N,22nm,2.4s
NVS pmax pmax
comp=E,31nm,2.6s
ZALV Zalesovo Beam 137.24 16 PKP PKPdf 04 23 28.5 +0.3
comp=E,18nm,0.8s,baz=209,slow=2.7,SNR=14
ZALV Zalesovo Beam 137.24 16 PKP PKPdf 04 23 28.5 +0.3
ZAL Zalesovo 137.24 16 PKIKP PKPdf 04 23 28.5 +0.2
KLR Kul'dur 137.44 332 ePKHKP 04 23 23.0
KURK Kurchatov 137.96 23 PKIKP PKPdf 04 23 30.5 +0.8
KURK Kurchatov 137.96 23 ePKPdf PKPdf 04 23 30.3 +0.6
KAKA Kakadu 140.96 229 ePKP PKPdf 04 23 36.6 +0.4
comp=E,13nm,0.9s
MJAR Matsshiro Arr 141.27 312 PKhKP 04 23 29.2
comp=E,6.0nm,0.9s,baz=83,slow=2.1,SNR=15
MJAR PKP PKPdf 04 23 36.6 +0.5
comp=E,8.9nm,1.0s,baz=86,slow=2.2,SNR=9.1
MAJO Matsushiro 141.27 312 PKHKP 04 23 31.4
MAT Matsushiro 141.27 312 PKP PKPdf 04 23 29.4 -6.8
FITZ Fitzroy Crossi 141.48 216 ePKP PKPdf 04 23 31.2 -5.9
comp=E,11nm,0.9s
FITZ Fitzroy Crossi 141.48 216 PKhKP 04 23 31.9
comp=E,3.9nm,0.8s,baz=205,slow=6.0,SNR=5.1
FITZ PKP PKPdf 04 23 34.8 -2.3
comp=E,4.2nm,0.8s,baz=333,slow=2.3,SNR=5.0
FITZ Fitzroy Crossi 141.48 216 ePKP PKPdf 04 23 31.2 -5.9
FITZ PKP PKPdf 04 23 34.8 -2.3
EKS2 Erkin-Say 141.50 36 ePKPdf PKPdf 04 23 38.3 +1.9
AML Almayashu 141.79 36 ePKPdf PKPdf 04 23 37.4 +0.5
HVS Khovu-Aksy 141.80 10 i PKIKP PKPdf 04 23 38.9 +2.2
TLY Talaya 142.04 360 ePKIKP PKPdf 04 23 42.9 +5.8
TLY pmax pmax
comp=Z,18nm,1.5s
TKM2 Tokmak 2 142.34 34 ePKIKP PKPdf 04 23 38.4 +0.5
MKAR Makanchi Array 142.56 24 PKhKP 04 23 32.7
comp=Z,5.4nm,0.8s,baz=318,slow=3.2,SNR=14
MKAR PKP PKPdf 04 23 35.9 -2.3
comp=Z,5.4nm,0.8s,baz=343,slow=2.5,SNR=18
MKAR Makanchi Array 142.56 24 PKP PKPdf 04 23 32.7 -5.4
MKAR PKP PKPdf 04 23 35.9 -2.3
KBL Kabul 142.77 50 ePKIKP PKPdf 04 23 40.1 +1.2
ZAK Zakamensk 143.34 360 ePKHKP 04 23 35.4
ZAK pmax pmax
comp=Z,8.0nm,1.6s
CN2 Changchun 144.39 332 ePKP PKPdf 04 23 39.5 -2.0
CN2 PP PP
comp=Z,1μm,8.0s
CN2 LR LR
comp=N,10μm,20.0s,MS6.8
CN2 LR LR
comp=E,12μm,20.0s,MS6.8
CN2 LR LR
comp=Z,16μm,22.0s,MS6.8
KSH Kashi 144.79 38 ePKP PKPdf 04 23 43.9 +1.6
KSH PKS 04 27 18.5
KSH PPP 04 30 22.3
KSH SKS SKSdf 04 30 47.8 -1.1
KSH LR LR
comp=N,1μm,11.7s,MS6.3
KSH LR LR
comp=E,4μm,16.2s,MS6.3
KSH LR LR
comp=Z,4μm,19.7s,MS6.2
SONM Songino Array 145.79 356 PKPbc PKPbc 04 23 44.3 +0.1
comp=Z,33nm,1.0s,baz=343,slow=1.8,SNR=72
SNY Shenyang 146.79 332‖ PKP PKPbc 04 23 47.8 +0.4
WMQ Urumqi 147.10 21 PKP PKPdf 04 23 46.3 +0.2
KSRS Korea Array 147.62 322 PKPbc PKPbc 04 23 48.0 -1.9
comp=Z,10nm,0.8s,baz=40,slow=2.0,SNR=27
BJI Beijing 151.32 339 PKP PKPbc 04 23 55.3 -3.7
BJT Baijiatuau 151.34 339 ePKIKP PKPbc 04 23 58.5 -0.6
BJT e 04 24 08.1
HHC Hu-ho-hao-te 151.91 346 ePKP PKPdf 04 23 56.0 +2.2
HHC PKS 04 27 28.9
HHC SKS SKSdf 04 30 57.0 -1.5
HHC PP PP
comp=Z,3μm,13.1s
HHC LR LR
comp=N,698nm,21.4s,MS5.6
HHC LR LR
comp=E,783nm,23.8s,MS5.6
HHC LR LR
comp=Z,2μm,25.0s,MS5.9
GTA Gaotai 154.14 6 PKP PKPdf 04 23 58.8 +1.7
GTA PP PP
comp=Z,957nm,10.5s
GTA LR LR
comp=N,913nm,19.8s,MS5.7
GTA LR LR
comp=E,854nm,20.1s,MS5.7
GTA LR LR
comp=Z,3μm,20.7s,MS6.1
DANN Dangsing 156.72 48 eP PKPdf 04 24 01.5 +0.5
KOLN Koldanda 156.93 49 eP PKPdf 04 24 02.4 +1.2
GKN Gorkha 157.55 48 eP PKPdf 04 24 03.2 +1.2
LZH Lanzhou 157.62 359 ePKP PKPdf 04 24 02.5 +0.6
DMN Daman 158.12 48 eP PKPdf 04 24 03.8 +1.1
KKN Kakani 158.14 47 eP PKPdf 04 24 03.3 +0.5
PKI Pulchoki 158.36 47 eP PKPdf 04 24 03.5 +0.5
GUN Gumba 158.49 46 eP PKPdf 04 24 04.5 +1.3
JIRN Jiri 158.86 46 eP PKPdf 04 24 03.8 +0.2
XAN Xi'an 159.02 347 PKP PKPdf 04 24 04.8 +1.2
XAN PKS 04 27 39.1
XAN LR LR
comp=E,845nm,37.5s
XAN LR LR
comp=Z,726nm,42.0s,MS5.2
RAMN Ramite 159.58 47 eP PKPdf 04 24 03.8 -0.7
comp=Z,68nm,0.9s
TAPN Taplejung 160.10 44 eP PKPdf 04 24 06.3 +1.2
comp=Z,47nm,1.1s
ODAN Odare 160.19 46 eP PKPdf 04 24 05.3 +0.1
WHN Wuhan 160.27 330 PKP PKPdf 04 24 08.0 +2.8
LSA Lhasa 160.50 33 ePKIKP PKPdf 04 24 07.2 +1.8
CD2 Chengdu 162.79 358 ePKP PKPdf 04 24 06.8 -1.0
CD2 PP PP
comp=Z,16μm,10.8s
GYA Guiyang 166.83 346 PKP PKPdf 04 24 11.8 +0.4
GYA PKS 04 27 42.8
GYA PPP 04 33 03.0
GYA PP PP
comp=Z,2μm,9.2s
GYA LR LR
comp=N,3μm,24.8s
GYA LR LR
comp=E,3μm,22.6s
GYA LR LR
comp=Z,3μm,23.5s
KMI Kunming 168.55 2 PKP PKPdf 04 24 13.1 +0.4
KMI PP PP
comp=Z,2μm,10.7s
KMI LR LR
comp=N,1μm,22.9s
KMI LR LR
comp=E,1μm,22.9s
KMI LR LR
comp=Z,2μm,29.1s
CHTO Chiang Mai 173.41 38 ePKIKP PKPdf 04 24 15.2 -0.1
CHTO e 04 25 44.4
CMAR Chiang Mai Arr 173.69 40 PKP PKPdf 04 24 15.5 +0.1
comp=Z,6.0nm,0.9s,baz=282,slow=1.8,SNR=22
CMAR PKPab PKPab 04 25 45.8 +0.8
comp=Z,3.8nm,0.8s,baz=317,slow=5.4,SNR=6.4

IDC 16 04:12:34.0±8.5, 2171N×14281E, h203km±82km, mb3.2/8, mb1 3.5/8, mb1mx3.3/20, mbtmp3.2/8, Error ellipse: s-maj=41.9km s-min=17.7km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.30**	**324**	P	P	04 16 54.4	+0.1
	1.6nm,0.6s,baz=142,slow=9.8,SNR=8.0						
SONM	**Songino Array**	**39.11**	**321**	P	P	04 19 41.4	-0.1
	1.2nm,0.9s,baz=143,slow=4.4,SNR=3.9						
WRA	**Warramunga Arr**	**42.21**	**192**	P	P	04 20 07.1	0.0
	1.2nm,0.9s,baz=11,slow=8.4,SNR=3.4						
ASAR	**Alice Springs**	**45.92**	**191**	P	P	04 20 36.3	-0.2
	0.9nm,1.1s,baz=17,slow=12,SNR=4.3						
ZALV	**Zalesovo Beam**	**53.99**	**322**	P	P	04 21 37.5	+0.6
	1.5nm,0.4s,baz=126,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**54.44**	**313**	P	P	04 21 40.1	-0.1
	0.4nm,0.5s,baz=80,slow=10,SNR=2.7						
YKA	**Yellowknife Ar**	**76.61**	**28**	P	P	04 24 01.0	-0.8
	1.0nm,0.7s,baz=293,slow=5.7,SNR=5.1						
NVAR	**Mina Array Bea**	**83.41**	**51**	P	P	04 24 40.0	+1.3
	0.6nm,0.5s,baz=273,slow=5.1						

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*IDC **16** 04:16:45.8±0.5, 1344S×77.13W, h0km, mb4.7/19, mb1 4.9/21, mb1mx4.8/24, mbtmp4.7/21, ML3.9/2, MS4.7/2, Ms1 4.7/2, ms1mx4.3/27, Error ellipse: s-maj=19.7km s-min=10.9km az=74.0*
*ISCJB **16** 04:16:48.0±2.5, 1342S±004×7705W±006, h27km±17km, mb4.9/76, MS5.7/2, Error ellipse: s-maj=10.6km s-min=5.7km az=150.7*
*BJI **16** 04:16:48.3, 1348S×77.43W, h24km, mB6.2, Ms5.8, Msz5.6*
*MOS **16** 04:16:49.1±1.1, 1335S×7706W, h33km, mb5.1/23, Error ellipse: s-maj=17.2km s-min=6.9km az=115.9*
*NEIC **16** 04:16:49.7±2.0, 1341S×7702W, h25km±14km, mb5.0/64, Error ellipse: s-maj=7.7km s-min=3.9km az=66.0*
NEIC Felt at Lima.

ISC 16 04:16:50.2±2.5, 1342S±004×7696W±006, h27km±18km, n462, σ0§56/441, mb4.9/76, MS5.7/2, 110C-148D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.43**	**5**	Pn	**Pn**	**04 17 13.8**	**-0.6**
	1μm,0.3s,baz=195,slow=14,SNR=34						
NNA				Sn	**Sn**	**04 17 33.9**	**+1.7**
	3μm,0.3s,baz=212,slow=4.7,SNR=17						
NNA	**Nana**	**1.43**	**5**	ePn	**Pn**	**04 17 13.2**	**-1.2**
NNA				eSn	**Sn**	**04 17 33.0**	**+0.7**
ATAH	**Atahualpa**	**6.53**	**347**	Pn	**Pn**	**04 18 24.1**	**-0.5**
	24nm,0.3s,baz=171,slow=5.7,SNR=46						
ATAH				Sn	**Sn**	**04 19 33.8**	**-4.4**
	3.9nm,0.3s,baz=86,slow=14,SNR=2.0						
LPAZ	**La Paz**	**9.00**	**110**	Pn	**Pn**	**04 19 02.5**	**+4.1**
	0.6nm,0.3s,baz=294,slow=11,SNR=8.9						
LPAZ				Sn	**Sn**	**04 20 50.4**	**+11**
	baz=197,slow=19,SNR=1.3						
LPAZ	**La Paz**	**9.00**	**110**	eP	**Pn**	**04 19 03.4**	**+5.0**
LPAZ				pmax	pmax		
	comp=Z,74nm,1.1s						
LPAZ	**La Paz**	**9.00**	**110**	ePn	**Pn**	**04 19 03.4**	**+4.9**
	comp=Z,74nm,1.1s						
LVC	**Limon Verde**	**11.92**	**141**	Pn	**Pn**	**04 19 37.9**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=181,slow=0.0,SNR=16						
LVC				LR	LR	04 24 32.9	
	comp=Z,2μm,20.2s,baz=224,slow=39						
LVC	**Limon Verde**	**11.92**	**141**	ePn	**Pn**	**04 19 38.1**	**-0.3**
OTAV	**Otavalo**	**13.65**	**354**	ePn	**Pn**	**04 20 08.5**	**+6.4**
SIV	**San Ignacio**	**15.58**	**101**	Pn	**Pn**	**04 20 30.7**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=281,slow=14,SNR=5.7						
ROSC	**El Rosal**	**18.34**	**8**	P	**Pn**	**04 21 06.6**	**+3.8**
	comp=Z,1.3nm,0.3s,baz=116,slow=13,SNR=5.1						
ROSC				LR	LR	04 29 04.2	
	comp=Z,4μm,20.1s,baz=91,slow=40						
ROSC	**El Rosal**	**18.34**	**8**	ePn	**Pn**	**04 21 07.2**	**+4.4**
CFAA	**Coronel Fontan**	**19.80**	**158**	P	**Pn**	**04 21 18.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=329,slow=12,SNR=25						
LMEL	**Las Melosas**	**21.25**	**164**‖	eP	**P**	**04 21 34.9**	**+0.7**
CPUP	**Villa Florida**	**22.45**	**128**	P	**P**	**04 21 47.6**	**+0.4**
	comp=Z,32nm,1.1s,mb4.7,baz=289,slow=11,SNR=13						
CPUP	**Villa Florida**	**22.45**	**128**	P	**P**	**04 21 47.5**	**+0.3**
CPUP	**Villa Florida**	**22.45**	**128**	eP	**P**	**04 21 46.7**	**-0.5**
	comp=Z,154nm,1.2s,mb5.3						
BCIP	**Isla Barro Col**	**22.62**	**353**	eP	**P**	**04 21 48.7**	**-0.4**
	comp=Z,106nm,1.2s,mb5.2						
SDV	**Santo Domingo**	**23.03**	**16**	P	**P**	**04 21 54.0**	**+0.6**
	comp=Z,17nm,0.7s,mb4.6,baz=270,slow=11,SNR=11						
SDV	**Santo Domingo**	**23.03**	**16**	eP	**P**	**04 21 54.2**	**+0.8**
	comp=Z,32nm,0.8s,mb4.8						
PCRV	**Puerto La Cruz**	**26.44**	**28**	P	**P**	**04 22 27.0**	**+2.0**
	comp=Z,9.9nm,0.5s,mb4.6,baz=188,slow=6.6,SNR=9.5						
PLCA	**Paso Flores**	**27.78**	**170**	P	**P**	**04 22 37.0**	**+0.2**
	comp=Z,18nm,1.0s,mb4.7,baz=350,slow=9.9,SNR=5.8						
PLCA	**Paso Flores**	**27.78**	**170**	eP	**P**	**04 22 36.4**	**-0.5**
PLCA				pmax	pmax		
	comp=Z,25nm,1.0s						
PLCA	**Paso Flores**	**27.78**	**170**	eP	**P**	**04 22 36.4**	**-0.5**
	comp=Z,25nm,1.0s,mb4.8						
BDFB	**Brasilia**	**28.10**	**98**	P	**P**	**04 22 40.1**	**+0.2**
	comp=Z,11nm,0.9s,mb4.5,baz=249,slow=9.2,SNR=4.5						

GRGR Grenville 29.57 32 eP P 04 22 50.9 -2.1
comp=Z,246nm,1.2s,mb5.8
SJG San Juan 33.09 19 P P 04 23 24.3 +0.3
comp=Z,6.0nm,0.6s,mb4.7,baz=175,slow=12,SNR=3.2
AOPR Arecibo Observ 33.13 18 eP P 04 23 25.0 +0.7
comp=Z,14nm,0.9s,mb4.9
TEIG Tepich 35.24 341 P P 04 23 42.1 -0.4
comp=Z,14nm,0.6s,mb5.1,baz=150,slow=11,SNR=16
TEIG Tepich 35.24 341 P P 04 23 42.1 -0.4
CAM3 Guarapari 35.52 107 i P 04 23 45.6 +0.5
USHA Ushuaia 41.85 173 P P 04 24 36.6 -1.1
comp=Z,12nm,0.9s,mb4.5,baz=304,slow=7.3,SNR=3.0
KVTX Kingsville 45.50 334 eP P 04 25 08.9 +1.5
comp=Z,45nm,0.9s,mb5.4
HKT Hockley 46.80 337 eP P 04 25 17.2 -0.4
HKT pmax pmax
comp=Z,19nm,1.4s,mb4.8
HKT Hockley 46.80 337 eP P 04 25 17.2 -0.4
comp=Z,19nm,1.4s,mb4.8
NATX Nacogdoches 48.02 340 eP P 04 25 27.1 +0.1
comp=Z,16nm,0.7s,mb5.2
JCT Junction City 48.87 334 eP P 04 25 33.7 +0.1
SWET Sewanee 49.11 350 eP P 04 25 33.6 -1.7
OXF Oxford 49.11 346 eP P 04 25 33.7 -1.7
OXF pmax pmax
comp=Z,32nm,1.3s,mb5.2
OXF Oxford 49.11 346 eP P 04 25 33.7 -1.7
comp=Z,32nm,1.3s,mb5.2
CPCT Cooper Cave 49.12 352 eP P 04 25 34.8 -0.7
PLAL Pickwick Lake 49.28 348 eP P 04 25 35.0 -1.7
TZTN Tazewell 50.08 353 eP P 04 25 42.0 -0.8
MIAR Mount Ida 50.24 342 eP P 04 25 43.9 -0.1
MIAR pmax pmax
comp=Z,13nm,0.6s,mb5.1
MIAR Mount Ida 50.24 342 eP P 04 25 43.9 -0.1
comp=Z,13nm,0.6s,mb5.1
ELN Prospectdale 50.50 356 eP P 04 25 45.5 -0.4
WCI Wyandotte Cave 52.11 351 eP P 04 25 56.5 -1.5
WCI pmax pmax
comp=Z,38nm,1.5s,mb5.1
WCI Wyandotte Cave 52.11 351 eP P 04 25 56.5 -1.5
comp=Z,38nm,1.5s,mb5.1
SIUC Southern Illin 52.15 348 eP P 04 25 57.0 -1.2
comp=Z,22nm,0.6s,mb5.2
WMOK Wichita Mounta 52.18 337 eP P 04 25 57.6 -1.0
GDL2 Guadalupe Moun 52.40 330 eP P 04 26 00.8 +0.5
FVM French Village 52.67 347 eP P 04 26 00.9 -1.2
FVM pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
FVM French Village 52.67 347 eP P 04 26 00.9 -1.2
comp=Z,6.2nm,0.6s,mb4.7
OLIL Olney 52.91 349 eP P 04 26 02.3 -1.6
comp=Z,15nm,0.7s,mb5.0
BLO Bloomington 53.07 351 eP P 04 26 03.7 -1.4
BLO pmax pmax
comp=Z,22nm,0.6s,mb5.3
BLO Bloomington 53.07 351 eP P 04 26 03.7 -1.4
comp=Z,22nm,0.6s,mb5.3
ACSO Alum Creek Sta 53.67 354 eP P 04 26 08.2 -1.3
comp=Z,29nm,1.0s,mb5.2
319A Douglas 54.28 326 ⇓P P 04 26 14.8 +0.7
baz=54,SNR=8.8
318A Bisbee 54.72 325 ⇓P P 04 26 17.8 +0.5
baz=55,SNR=6.8
219A White Tail Can 54.74 326 ⇑P P 04 26 17.6 +0.1
baz=55,SNR=8.2
218A Dragoon 55.16 326 ⇑P P 04 26 20.4 0.0
baz=55,SNR=8.2
BRYW Bryant College 55.28 5 eP P 04 26 21.9 +0.8
BINY Binghamton 55.35 1 eP P 04 26 21.1 -0.5
comp=Z,16nm,0.9s,mb5.1
119A Ashpeak Ranch, 55.36 327 ⇑P P 04 26 22.2 +0.3
baz=56
217A Green Valley 55.43 325 ⇓P P 04 26 22.4 0.0
baz=56,SNR=5.8
LAZ Ladron 55.54 330 eP P 04 26 23.5 +0.3
QUA2 Belchertown 55.58 4 eP P 04 26 23.2 -0.1
comp=Z,54nm,1.2s,mb5.5
118A Homack Ranch, 55.62 326 ⇓P P 04 26 23.9 +0.1
baz=56,SNR=8.1
ANMO Albuquerque 55.65 331 eP P 04 26 23.9 -0.1
ANMO pmax pmax
comp=Z,8.0nm,1.0s
ANMO Albuquerque 55.65 331 eP P 04 26 23.9 -0.1
comp=Z,7.9nm,1.0s,mb4.7
TUC Tucson 55.82 325 eP P 04 26 25.3 +0.1
TUC pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
TUC Tucson 55.82 325 eP P 04 26 25.3 +0.1
comp=Z,6.2nm,1.0s,mb4.6
HRV Adam Dziewonsk 55.87 5 eP P 04 26 26.2 +0.9
HRV pmax pmax
comp=Z,24nm,0.9s,mb5.2
HRV Adam Dziewonsk 55.87 5 eP P 04 26 26.2 +0.9
comp=Z,24nm,0.9s,mb5.2
216A Three Points, 55.96 324 ⇑P P 04 26 26.1 -0.2
baz=56,SNR=7.1
117A Oracle 55.99 326 ⇑P P 04 26 26.1 -0.4
baz=56,SNR=20
CBKS Cedar Bluff 56.15 339 eP P 04 26 26.8 -0.7
CBKS pmax pmax
comp=Z,13nm,0.8s,mb5.0
CBKS Cedar Bluff 56.15 339 eP P 04 26 26.8 -0.7
comp=Z,13nm,0.8s,mb5.0
Y19A Nutrioso 56.26 328 ⇑P P 04 26 29.0 +0.7
baz=56,SNR=8.4
Z17A San Carlos Hig 56.39 326 ⇑P P 04 26 29.3 0.0
baz=57
116A Eloy 56.52 325 ⇑P P 04 26 30.4 +0.2
baz=57
Y18A Canyon Day Jun 56.53 327 ⇑P P 04 26 30.3 +0.1
baz=57
ACCN Adirondack Com 56.60 3 eP P 04 26 30.4 -0.2
comp=Z,40nm,1.3s,mb5.3
X19A St. Johns 56.64 328 ⇓P P 04 26 31.0 0.0
baz=57
214A Organ Pipe Nat 56.70 323 ⇓P P 04 26 32.0 +0.4
baz=57,SNR=6.3
Y17A Roosevelt 56.90 326 ⇓P P 04 26 33.1 +0.2
baz=57
115A Sonoran Desert 56.92 324 ⇓P P 04 26 33.0 0.0
baz=57
Z16A Peralta Trail, 56.95 326 ⇓P P 04 26 33.1 -0.1
baz=57
HNH Hanover 57.00 4 eP P 04 26 34.5 +1.1
X18A Snowflake 57.06 328 ⇓P P 04 26 34.3 +0.2
baz=57
NCB Newcomb 57.16 2 eP P 04 26 34.4 -0.1
comp=Z,4.0nm,0.5s,mb4.7
MDV Middlebury 57.24 3 eP P 04 26 34.5 -0.6
Z15A Gila River Ind 57.31 325 ⇑P P 04 26 35.7 -0.1
baz=58
X17A Forest Lakes 57.37 327 ⇓P P 04 26 36.8 +0.6
baz=58,SNR=6.8
Y16A Circle Bar Ran 57.38 326 ⇓P P 04 26 36.3 0.0
baz=58
W18A Petrified Fore 57.41 328 ⇑P P 04 26 36.7 +0.2
baz=58
SDCO Great Sand Dun 57.52 333 eP P 04 26 37.3 +0.1
comp=Z,27nm,1.7s,mb5.0
LBNH Lisbon 57.56 4 eP P 04 26 38.1 +0.8
LBNH pmax pmax
comp=Z,19nm,1.0s,mb5.1
LBNH Lisbon 57.56 4 eP P 04 26 38.1 +0.7
comp=Z,20nm,1.0s,mb5.1
X16A Lo Mia Camp, P 57.77 326 ⇓P P 04 26 39.2 +0.2
baz=58,SNR=9.0
LONY Lake Ozonia 57.80 2 eP P 04 26 39.0 -0.1
comp=Z,22nm,1.4s,mb5.0
113A Mohawk Valley, 57.85 323 ⇓P P 04 26 39.3 -0.3
baz=58
Y15A Casa Rosa Ranc 57.91 325 ⇓P P 04 26 39.8 -0.2
baz=58
FRNY Flat Rock 58.05 3 eP P 04 26 40.7 -0.1
comp=Z,30nm,1.1s,mb5.2
X15A Humboldt 58.25 326 ⇑P P 04 26 42.4 0.0
baz=58
Y14A Wickenburg 58.27 325 ⇑P P 04 26 42.7 +0.1
baz=58
W16A Flagstaff 58.33 327 ⇑P P 04 26 43.1 +0.2
baz=58
T19A Beclabito 58.40 330 ⇓P P 04 26 43.7 +0.3
baz=59,SNR=5.7
MVCO Mesa Verde 58.45 331 ⇓P P 04 26 44.3 +0.6
baz=59
MVCO Mesa Verde 58.45 331 eP P 04 26 43.9 +0.2
comp=Z,13nm,1.2s,mb4.8

U18A Rough Rock, Ch 58.49 329 ⇑P P 04 26 44.3 +0.3
baz=59
WUAZ Wupatki 58.57 327 ⇑P P 04 26 45.1 +0.5
baz=59,SNR=7.4
WUAZ Wupatki 58.57 327 eP P 04 26 45.1 +0.5
comp=Z,8.8nm,0.8s,mb4.8
X14A Yava 58.60 325 ⇓P P 04 26 45.1 +0.3
baz=59,SNR=8.9
Y13A Salome 58.64 324 ⇓P P 04 26 45.5 +0.4
baz=59
W15A Williams 58.79 326 ⇓P P 04 26 46.4 +0.3
baz=59
Y12C Blythe 58.99 324 ⇑P P 04 26 47.7 +0.1
baz=59
U17A Shonto 59.03 329 ⇓P P 04 26 48.1 +0.3
baz=59
T18A Mexican Hat 59.06 330 ⇑P P 04 26 47.8 -0.2
baz=59,SNR=10
S19A Harvey Farm, M 59.18 331 ⇓P P 04 26 48.8 0.0
baz=59,SNR=7.3
X13A Yucca 59.21 325 ⇓P P 04 26 49.0 -0.1
baz=59,SNR=5.6
V15A Kaibab Nationa 59.22 327 ⇓P P 04 26 49.5 +0.3
baz=59,SNR=5.7
PV01 Paradox Valley 59.22 331 eP P 04 26 49.2 +0.1
W14A Seligman 59.26 326 ⇓P P 04 26 49.7 +0.3
baz=59,SNR=7.7
ISCO Idaho Springs 59.28 335 eP P 04 26 49.5 0.0
T17A Navajo Res., N 59.41 329 ⇓P P 04 26 50.7 +0.3
baz=60,SNR=8.7
S18A Hurst Farm, Bl 59.55 330 ⇓P P 04 26 51.6 +0.2
baz=60,SNR=8.2
V14A Boquillas Ranc 59.58 326 ⇑P P 04 26 52.1 +0.4
baz=60,SNR=12
W13A Hualapai Mount 59.61 325 ⇓P P 04 26 52.4 +0.5
baz=60,SNR=7.4
PV10 Paradox Valley 59.64 331 eP P 04 26 51.5 -0.4
ECSD EROS,Sioux Fal 59.64 344 eP P 04 26 50.2 -1.6
comp=Z,18nm,1.3s,mb5.0
IRM Iron Mountain 59.65 324 ⇑P P 04 26 52.4 +0.3
baz=60,SNR=8.0
R19A Curley Farm, L 59.68 331 ⇑P P 04 26 52.0 -0.3
baz=60
U15A North Rim 59.74 327 ⇓P P 04 26 53.1 +0.4
baz=60,SNR=5.6
R18A Canyonlands Na 60.05 330 ⇑P P 04 26 54.5 -0.3
baz=60
Q19A Hogan Spring (60.21 331 ⇑P P 04 26 56.0 +0.1
baz=60,SNR=7.0
U14A Mt Trumbull 60.21 327 ⇓P P 04 26 56.4 +0.5
baz=60,SNR=10
V13A Grand Canyon W 60.22 326 ⇓P P 04 26 56.3 +0.3
baz=60,SNR=6.0
T15A Red Dirt Ranch 60.24 328 ⇑P P 04 26 56.1 0.0
baz=60
W12A Cal Nev Ari 60.31 325 ⇓P P 04 26 56.4 -0.2
baz=60
S16A Weppner Ranch, 60.37 329 ⇓P P 04 26 56.9 -0.1
baz=61
GMRC Granite Mounta 60.39 324 ⇓P P 04 26 57.0 -0.1
baz=61
R17A Hanksville Air 60.47 330 ⇓P P 04 26 57.9 +0.2
baz=61,SNR=9.5
PHWY Pilot Hill 60.48 336 eP P 04 26 58.3 +0.7
V12A Nelson 60.61 325 ⇑P P 04 26 58.5 -0.2
baz=61
U13A Pakoon Wash 60.63 326 ⇑P P 04 26 58.2 -0.5
baz=61
T14A Hurricane 60.64 327 ⇑P P 04 26 59.2 +0.4
baz=61,SNR=6.2
Q18A Rafter H Ranch 60.73 331 ⇑P P 04 26 59.1 -0.4
baz=61,SNR=5.9
SRU San Rafael 60.93 331 eP P 04 27 00.0 -0.8
SRU pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
SRU San Rafael 60.93 331 ⇓P P 04 27 00.7 0.0
baz=61
SRU San Rafael 60.93 331 eP P 04 26 60.0 -0.8
comp=Z,4.1nm,0.8s,mb4.6
U12A Valley of Fire 60.95 326 ⇓P P 04 27 01.2 +0.2
baz=61
V11A Goodsprings 61.01 325 ⇓P P 04 27 02.4 +1.0
baz=61
T13A Saint George 61.04 327 ⇑P P 04 27 02.2 +0.6
baz=61
Q16A Castle Valley 61.09 330 ⇑P P 04 27 02.6 +0.7
baz=61
R15A Junction 61.09 329 ⇑P P 04 27 02.2 +0.3
baz=61
P18A Preston Nutter 61.20 331 ⇓P P 04 27 02.8 +0.1
baz=61
MSU Marysvale 61.27 329 eP P 04 27 03.3 +0.2
P17A Butcher Ranch, 61.31 331 ⇓P P 04 27 03.4 0.0
baz=62,SNR=5.6
SHPR Sheep Range 61.35 325 eP P 04 27 04.4 +0.7
ARUT Antelope Range 61.37 328 eP P 04 27 04.5 +0.7
GSC Goldstone 61.42 323 ⇑P P 04 27 04.3 +0.1
baz=62
S13A Holt Ranch, En 61.44 327 ⇓P P 04 27 04.5 +0.2
baz=62,SNR=15
SHOC Shoshone 61.54 324 ⇓P P 04 27 05.2 +0.2
baz=62
O18A Roosevelt 61.60 332 ⇓P P 04 27 05.9 +0.7
baz=62
Q15A Fillmore 61.75 329 ⇓P P 04 27 06.6 +0.3
baz=62
EDW2 Edwards Air Fo 61.82 322 ⇑P P 04 27 07.1 +0.2
baz=62
P16A Fountain Green 61.86 330 ⇓P P 04 27 07.6 +0.5
baz=62
T11A Corn Creek, Al 61.91 326 ⇓P P 04 27 07.6 +0.1
baz=62,SNR=8.7
R13A O'Grain Ranch, 61.94 327 ⇓P P 04 27 08.4 +0.8
baz=62
S12A Delamar Landin 61.98 326 ⇑P P 04 27 08.3 +0.3
baz=62
N18A Larsen Ranch, 62.01 332 ⇓P P 04 27 08.4 +0.3
baz=62,SNR=5.3
Q14A Sevier Lake (B 62.19 329 ⇓P P 04 27 10.0 +0.7
baz=62,SNR=8.2
O16A Springville 62.25 331 ⇓P P 04 27 10.1 +0.4
baz=62
TPNV Topopah Spring 62.27 325 ⇓P P 04 27 10.4 +0.5
baz=62
TPNV Topopah Spring 62.27 325 eP P 04 27 10.7 +0.8
FURC Furnace Creek, 62.27 324 ⇓P P 04 27 10.2 +0.3
baz=62
DAU Daniels Canyon 62.30 331 eP P 04 27 09.8 -0.2
MPMC Manual Prospec 62.35 324 ⇑P P 04 27 10.5 +0.1
baz=62
RSSD Black Hills 62.35 338 eP P 04 27 10.4 +0.1
R12A Pony Springs, 62.38 327 ⇓P P 04 27 10.7 +0.1
baz=63
S11A Rachel 62.49 326 ⇑P P 04 27 12.2 +0.8
baz=63
N17A Moffit Pass 62.52 332 ⇓P P 04 27 11.6 +0.2
baz=63,SNR=5.9
JLU Jordanelle 62.54 331 eP P 04 27 12.2 +0.7
P14A Drum Mountains 62.54 329 ⇑P P 04 27 12.1 +0.5
baz=63,SNR=7.7
Q13A Wheeler Ranch, 62.55 328 ⇑P P 04 27 11.8 +0.2
baz=63,SNR=7.9
ISA Isabella 62.65 323 ⇓P P 04 27 12.5 +0.1
baz=63
N16A Rees Ranch, Co 62.76 331 ⇓P P 04 27 13.5 +0.5
baz=63
DUG Dugway 62.88 330 eP P 04 27 14.3 +0.4
DUG pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
DUG Dugway 62.88 330 ⇑P P 04 27 14.3 +0.5
baz=63,SNR=12
DUG Dugway 62.88 330 eP P 04 27 14.3 +0.4
comp=Z,10nm,0.8s,mb5.0
P13A Bates Ranch, G 62.92 328 ⇓P P 04 27 14.6 +0.4
baz=63,SNR=7.5
R11A Troy Canyon, C 62.92 327 ⇑P P 04 27 14.5 +0.4
baz=63,SNR=8.6
Q12A Willow Creek R 63.03 328 ⇑P P 04 27 15.2 +0.3
baz=63
S10A Tonopah Range, 63.16 326 ⇑P P 04 27 16.0 +0.2
baz=63,SNR=8.0
M16A Huntsville 63.18 331 ⇑P P 04 27 15.8 -0.1
baz=63
R10A Warm Springs 63.26 326 ⇓P P 04 27 16.7 +0.2
baz=64
Q11A Duckwater 63.32 327 ⇓P P 04 27 17.2 +0.4
baz=64,SNR=13
SMMC Simmler 63.32 321 ⇑P P 04 27 17.0 0.0
baz=64

S09A Goldfield 63.37 325 ⇑P P 04 27 17.1 -0.1
baz=64,SNR=5.7
HWUT Hardware Ranch 63.38 332 eP P 04 27 16.9 -0.2
comp=Z,13nm,0.8s,mb5.1
BW06 Boulder Array 63.41 334 eP P 04 27 16.7 -0.6
PDAR Pinedale Array 63.41 334 P P 04 27 16.6 -0.7
comp=Z,2.1nm,0.7s,mb4.4,baz=126,slow=8.7,SNR=17
N14A Grayback Hills 63.56 330 ⇓P P 04 27 18.4 0.0
baz=64,SNR=6.9
R09A Tonopah 63.65 326 ⇓P P 04 27 18.9 -0.2
baz=64,SNR=5.6
HELL Mitchell Peak 63.67 323 ⇓P P 04 27 19.0 -0.1
baz=64,SNR=7.0
AGMN Agassiz Refuge 63.70 346 eP P 04 27 18.1 -1.0
comp=Z,16nm,0.7s,mb5.2
Q10A Clear Creek Ra 63.70 326 ⇓P P 04 27 19.5 +0.1
baz=64
S08C White Mtn Res 63.74 324 ⇑P P 04 27 20.1 +0.4
baz=64
MTUM Tungsten Hills 63.87 324 eP P 04 27 20.9 +0.4
O12A Currie 63.90 329 ⇑P P 04 27 20.9 +0.3
baz=64
N13A Wendover, West 64.07 329 ⇑P P 04 27 21.7 0.0
baz=64
L15A Malad City 64.07 331 ⇓P P 04 27 21.1 -0.6
baz=64,SNR=6.6
HVU Hansel Valley 64.08 331 eP P 04 27 22.1 +0.3
M14A Sheep Mountain 64.14 330 ⇑P P 04 27 21.7 -0.5
baz=64,SNR=10
O11A Cowboy Ranch, 64.27 328 ⇑P P 04 27 23.1 0.0
baz=64
KCC Kaiser Creek 64.28 323 ⇓P P 04 27 22.9 -0.2
baz=64
T06C Millerton Lake 64.29 323 ⇓P P 04 27 23.0 -0.3
baz=64
K16A Soda Springs 64.36 332 ⇑P P 04 27 23.4 -0.2
baz=65,SNR=6.6
REDW Red Top Meadow 64.45 333 eP P 04 27 24.0 -0.1
comp=Z,9.1nm,0.9s,mb4.8
NVAR Mina Array Bea 64.47 325 P P 04 27 24.7 +0.3
comp=Z,1.9nm,0.8s,mb4.2,baz=129,slow=7.1,SNR=9.6
SNOW Snow King Moun 64.49 333 eP P 04 27 24.3 -0.1
L14A Malta 64.50 331 ⇓P P 04 27 24.0 -0.5
baz=65,SNR=5.5
ELK Elko 64.50 329 eP P 04 27 25.0 +0.4
LOHW Long Hollow 64.54 334 eP P 04 27 24.4 -0.4
comp=Z,3.7nm,0.6s,mb4.6
Q08A Gabbs 64.56 325 ⇓P P 04 27 24.9 -0.2
baz=65
TPAW Teton Pass 64.59 333 eP P 04 27 25.4 +0.3
RRI2 Red Ridge 64.64 333 eP P 04 27 25.4 -0.1
comp=Z,18nm,0.8s,mb5.1
K15A Arbon 64.67 332 ⇓P P 04 27 25.5 -0.1
baz=65
MOOW Moose Ponds 64.71 334 eP P 04 27 24.5 -1.3
comp=Z,26nm,2.0s,mb4.9
O10A Cortez Mining, 64.82 327 ⇑P P 04 27 26.4 -0.2
baz=65,SNR=5.4
M12A Wells 64.84 329 ⇓P P 04 27 26.5 -0.3
baz=65
K14A Jones Ranch, D 64.86 331 ⇓P P 04 27 26.8 -0.1
baz=65
L13A Double Diamond 64.88 330 ⇑P P 04 27 27.6 +0.6
baz=65
S05C Merced 64.89 323 ⇑P P 04 27 27.6 +0.5
baz=65,SNR=7.0
IMW Indian Meadow 64.91 334 eP P 04 27 27.3 +0.1
S06C San Francisco 64.97 324 ⇑P P 04 27 28.2 +0.5
baz=65,SNR=7.5
O09A Fish Creek Ran 65.10 327 ⇓P P 04 27 28.6 +0.1
baz=65
RLMT Red Lodge 65.20 335 eP P 04 27 28.8 -0.2
comp=Z,4.0nm,0.5s,mb4.7
M11A Holland Ranch, 65.29 329 ⇓P P 04 27 30.3 +0.6
baz=66
LAO LASA Array 65.35 338 eP P 04 27 29.1 -0.8
comp=Z,24nm,1.4s,mb5.0
K13A Stover Farm, H 65.37 331 ⇓P P 04 27 30.3 +0.1
baz=66
CMB Columbia Colle 65.38 323 eP P 04 27 29.2 -1.2
CMB pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CMB Columbia Colle 65.38 323 ⇓P P 04 27 30.4 0.0
baz=66
CMB Columbia Colle 65.38 323 eP P 04 27 29.2 -1.1
comp=Z,7.3nm,1.0s,mb4.7
L12A House Creek Ra 65.44 330 ⇑P P 04 27 31.0 +0.4
baz=66
ULM Lac du Bonnet 65.53 347 P P 04 27 29.6 -1.4
comp=Z,23nm,0.8s,mb5.3,baz=161,slow=5.9,SNR=28
ULM Lac du Bonnet 65.53 347 eP P 04 27 29.6 -1.5
comp=Z,11nm,0.6s,mb5.0
R05C Kirkwood Meado 65.66 324 ⇑P P 04 27 32.7 +0.5
baz=66,SNR=7.5
K12A Draper Farm, C 65.75 330 ⇓P P 04 27 33.2 +0.5
baz=66,SNR=11
L11A Cat Creek Ranc 65.82 329 ⇑P P 04 27 33.3 +0.2
baz=66,SNR=8.7
R04C Big Horse Ranc 65.85 323 ⇓P P 04 27 33.8 +0.4
baz=66
QLMT Earthquake Lak 65.87 334 eP P 04 27 34.1 +0.7
GCMT Greycliff 65.91 336 eP P 04 27 33.5 -0.1
PAHR Pah Rah Range 65.96 325 eP P 04 27 35.1 +1.1
J13A Cove Ranch, Pi 65.98 331 ⇓P P 04 27 34.3 +0.2
baz=66,SNR=7.5
O07A Toulon 66.00 326 ⇑P P 04 27 34.5 +0.2
baz=66
L10A Juniper Basin 66.11 329 ⇓P P 04 27 34.9 0.0
baz=66,SNR=13
M09A Marrel Ranch, 66.14 328 ⇓P P 04 27 35.2 0.0
baz=66
DGMT Dagmar 66.19 341 eP P 04 27 35.6 +0.3
HLID Hailey 66.22 331 ⇑P P 04 27 35.9 +0.3
baz=66,SNR=11
HLID Hailey 66.22 331 eP P 04 27 36.2 +0.5
comp=Z,32nm,2.0s,mb5.0
J12A Stokes Ranch, 66.31 330 ⇑P P 04 27 36.4 +0.1
baz=66
I13A Wildhorse Cree 66.35 332 ⇓P P 04 27 36.7 +0.2
baz=67,SNR=8.3
P05C Yuba Gap, Truc 66.37 324 ⇓P P 04 27 36.5 -0.2
baz=66
K11A Parker Ranch, 66.41 330 ⇓P P 04 27 36.8 0.0
baz=67
N07B Gerlach 66.48 326 ⇓P P 04 27 37.3 -0.1
baz=67
MCMT McKenzie Canyo 66.49 333 eP P 04 27 37.4 +0.1
G15A Dillon 66.59 333 ⇑P P 04 27 38.1 +0.1
baz=67,SNR=6.4
BOZ Bozeman (W) 66.61 334 eP P 04 27 37.8 -0.3
BOZ pmax pmax
comp=Z,19nm,1.5s,mb4.9
BOZ Bozeman (W) 66.61 334 ⇑P P 04 27 38.0 -0.1
baz=67,SNR=11
BOZ Bozeman (W) 66.61 334 eP P 04 27 37.8 -0.2
comp=Z,19nm,1.5s,mb4.9
BEKR Beckwourth 66.61 325 ⇓P P 04 27 38.2 -0.1
baz=67,SNR=5.6
M08A Happy Creek Ra 66.64 327 ⇓P P 04 27 38.0 -0.3
baz=67
L09A Wilkinson Ranc 66.68 328 ⇓P P 04 27 38.4 -0.2
baz=67,SNR=6.6
MFID Camas Ranch 66.79 330 ⇑P P 04 27 39.4 +0.1
baz=67,SNR=13
DLMT Dillon 66.80 333 eP P 04 27 39.6 +0.3
comp=Z,18nm,1.3s,mb4.9
K10A MacKenzie Ranc 66.83 329 ⇓P P 04 27 39.5 0.0
baz=67,SNR=12
OHCM Honcut 66.89 324 eP P 04 27 38.6 -1.4
H13A Challis 66.92 332 ⇓P P 04 27 40.0 -0.1
baz=67,SNR=6.1
N06A Buffalo Meadow 66.93 326 ⇑P P 04 27 40.2 0.0
baz=67,SNR=18
O05C Quincy 66.99 325 ⇓P P 04 27 40.7 +0.1
baz=67
M07A Soldier Meadow 67.02 327 ⇑P P 04 27 40.7 -0.1
baz=67
ORV Oroville 67.05 324 ⇑P P 04 27 41.2 +0.2
baz=67,SNR=8.9
F15A Butte 67.13 334 ⇑P P 04 27 41.5 +0.1
baz=67
L08A Fields 67.15 328 ⇓P P 04 27 41.8 +0.2
baz=67,SNR=5.3
H12A Diamond D Ranc 67.18 332 ⇓P P 04 27 41.7 -0.1
baz=67,SNR=6.4
K09A Rome 67.20 329 ⇓P P 04 27 41.7 -0.2
baz=67,SNR=13

I11A	Placerville	67.22 330	⇓P	P	04 27 42.0	0.0
	baz=67					
G13A	Cobalt	67.31 332	⇓P	P	04 27 42.4	-0.2
	baz=68,SNR=7.1					
WVOR	Wild Horse Val	67.48 328	eP	P	04 27 43.5	-0.2
WVOR			pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6					
WVOR	Wild Horse Val	67.48 328	eP	P	04 27 43.5	-0.2
	comp=Z,7.8nm,1.2s,mb4.6					
F14A	Wisdom	67.49 333	⇓P	P	04 27 43.9	+0.2
	baz=68					
L07A	Adell	67.55 327	⇓P	P	04 27 44.4	+0.3
	baz=68					
K08A	Mann Creek Ran	67.61 328	⇓P	P	04 27 44.8	+0.3
	baz=68					
E15A	Deer Lodge	67.65 334	⇓P	P	04 27 44.7	0.0
	baz=68					
J09A	Fry Pan Ranch,	67.69 329	⇓P	P	04 27 44.9	0.0
	baz=68					
GASB	Alder Springs	67.82 323	⇑P	P	04 27 46.9	+1.0
	baz=68					
HATC	Hat Creek Radi	67.88 325	⇑P	P	04 27 46.4	+0.2
	baz=68					
F13A	Darby	67.89 333	⇓P	P	04 27 46.6	+0.3
	baz=68,SNR=9.1					
K07A	Rock Creek Ran	67.98 328	⇑P	P	04 27 46.9	0.0
	baz=68					
MOD	Modoc	67.99 326	⇓P	P	04 27 46.8	-0.1
	baz=68,SNR=6.9					
MOD	Modoc	67.99 326	eP	P	04 27 47.3	+0.5
E14A	Clinton	68.01 334	⇓P	P	04 27 47.1	+0.1
	baz=68,SNR=7.8					
P01C	Double 8 Ranch	68.06 323	⇑P	P	04 27 47.3	-0.1
	baz=68					
M05C	Lookout	68.07 326	⇑P	P	04 27 47.3	-0.2
	baz=68,SNR=11					
H10A	Noah's Angus R	68.10 330	⇓P	P	04 27 46.8	-0.7
	baz=68					
O02C	Red Bluff	68.20 324	⇑P	P	04 27 47.8	-0.5
	baz=68					
F12A	Elk City	68.28 332	⇓P	P	04 27 48.2	-0.4
	baz=68,SNR=6.8					
CHMT	Chamberlain Mo	68.30 334	eP	P	04 27 48.5	-0.2
WDC	Whiskeytown Da	68.33 324	⇑P	P	04 27 48.1	-1.0
	baz=68					
WDC	Whiskeytown Da	68.33 324	eP	P	04 27 49.1	0.0
E13A	Victor	68.33 333	⇓P	P	04 27 48.8	-0.1
	baz=68,SNR=12					
KIPM	Iron Peak	68.36 323	eP	P	04 27 49.5	+0.1
L05A	Lakeview	68.37 326	⇑P	P	04 27 49.1	-0.3
	baz=69					
G11A	Walters Elk Ra	68.48 331	⇑P	P	04 27 49.5	-0.5
	baz=69,SNR=9.1					
J07A	Hines	68.50 328	⇓P	P	04 27 50.4	+0.3
	baz=69					
I08A	Drewsey	68.50 329	⇓P	P	04 27 50.4	+0.3
	baz=69					
SCHQ	Schefferville	68.52 6	P	P	04 27 49.0	-0.9
	comp=Z,9.7nm,1.0s,mb4.7,baz=191,slow=5.3,SNR=6.0					
MSO	Missoula	68.53 334	eP	P	04 27 50.6	+0.5
	comp=Z,14nm,1.2s,mb4.8					
D14A	Greenough	68.54 334	⇓P	P	04 27 50.4	+0.1
	baz=69					
M03C	McCloud	68.56 325	⇑P	P	04 27 50.2	-0.3
	baz=69					
BMO	Blue Mountains	68.57 330	eP	P	04 27 49.4	-1.1
	comp=Z,41nm,2.6s,mb4.9					
K06A	Valley Falls	68.58 327	⇑P	P	04 27 50.7	+0.1
	baz=69,SNR=16					
H09A	Durkee	68.60 330	⇑P	P	04 27 50.1	-0.6
	baz=69					
F11A	Grangeville	68.80 332	⇓P	P	04 27 51.4	-0.4
	baz=69,SNR=9.7					
G10A	Bishop Farm, J	68.80 331	⇑P	P	04 27 51.7	-0.2
	baz=69					
J06A	Christmas Vall	68.85 328	⇑P	P	04 27 52.4	+0.2
	baz=69,SNR=23					
K05A	Summer Lake	68.87 327	⇑P	P	04 27 52.5	+0.1
	baz=69					
N02C	Big Bar	68.92 324	⇓P	P	04 27 53.3	+0.5
	baz=69,SNR=18					
D13A	Huson	68.96 334	⇑P	P	04 27 52.8	0.0
	baz=69					
H08A	Prairie City	68.99 329	⇓P	P	04 27 53.6	+0.5
	baz=69,SNR=21					
M02C	Callahan	69.04 325	⇓P	P	04 27 52.9	-0.6
	baz=69					
I07A	Izee	69.10 329	⇓P	P	04 27 54.2	+0.4
	baz=69,SNR=14					
G09A	Cove	69.11 330	⇑P	P	04 27 54.0	+0.1
	baz=69,SNR=12					
E11A	Bogner Ranch,	69.17 332	⇓P	P	04 27 53.8	-0.4
	baz=69,SNR=7.5					
C14A	Swan Lake	69.18 334	⇑P	P	04 27 54.3	+0.1
	baz=69,SNR=10					
YBH	Yreka Blue Hor	69.19 325	eP	P	04 27 53.5	-0.9
YBH			pmax	pmax		
	comp=Z,33nm,2.1s					
YBH	Yreka Blue Hor	69.19 325	⇑P	P	04 27 53.6	-0.8
	baz=69,SNR=6.0					
YBH	Yreka Blue Hor	69.19 325	eP	P	04 27 53.5	-0.9
	comp=Z,33nm,2.1s,mb4.9					
KHMM	Horse Mountain	69.20 324	eP	P	04 27 55.4	+0.9
D12A	Red Ives Fores	69.32 333	⇓P	P	04 27 54.8	-0.3
	baz=70,SNR=9.2					
JCC	Jacoby Creek	69.34 324	⇑P	P	04 27 54.7	-0.6
	baz=70					
F10A	Beach Ranch, E	69.36 331	⇓P	P	04 27 55.4	0.0
	baz=70,SNR=12					
I06A	Prineville	69.36 328	⇓P	P	04 27 55.5	+0.1
	baz=70					
J05A	Fort Rock	69.44 327	⇓P	P	04 27 55.9	0.0
	baz=70,SNR=5.6					
C13A	Hot Springs	69.46 334	⇓P	P	04 27 56.2	+0.2
	baz=70,SNR=11					
G08A	Pilot Rock	69.69 330	⇓P	P	04 27 57.2	-0.3
	baz=70					
D11A	Klaveano Farm,	69.75 332	⇓P	P	04 27 57.6	-0.2
	baz=70					
J04A	Umpqua Nationa	69.87 327	⇑P	P	04 27 58.8	+0.2
	baz=70					
B13A	Whitefish	69.95 334	⇓P	P	04 27 59.1	+0.1
	baz=70					
L02A	Cave Junction	69.97 325	⇑P	P	04 27 58.6	-0.6
	baz=70					
H06A	Lindquist Farm	69.98 329	⇑P	P	04 27 59.4	+0.2
	baz=70,SNR=12					
G07A	Ruggs Ranch, H	70.02 329	⇓P	P	04 27 59.6	+0.1
	baz=70					
M01C	Crescent City	70.06 324	⇑P	P	04 27 59.7	-0.1
	baz=70					
D10A	Wagner Farm, O	70.18 332	⇑P	P	04 27 60.0	-0.4
	baz=70,SNR=6.2					
E09A	Wood Farm, Sta	70.19 331	⇓P	P	04 28 00.2	-0.2
	baz=70					
WALA	Waterton Lakes	70.26 335	eP	P	04 28 01.1	+0.3
	comp=Z,14nm,1.3s,mb4.7					
K02A	Glendale	70.31 325	⇓P	P	04 28 01.1	-0.2
	baz=70					
KBO	Bosley Butte	70.36 325	eP	P	04 28 02.2	+0.7
A13A	Flathead Natio	70.36 335	⇑P	P	04 28 01.1	-0.4
	baz=71					
I04A	Tendick Farm,	70.41 327	⇑P	P	04 28 01.3	-0.6
	baz=71					
VNA1	Neumayer--Stat	70.41 161	eP	P	04 28 02.2	+0.7
VNA1			e		04 28 06.0	
B12A	Libby	70.50 334	⇓P	P	04 28 02.4	+0.1
	baz=71					
E08A	Dider Farm, El	70.60 331	⇓P	P	04 28 02.5	-0.5
	baz=71					
D09A	Jones Farm, Ri	70.66 331	⇓P	P	04 28 02.8	-0.6
	baz=71					
J02A	Umpqua	70.75 326	⇑P	P	04 28 03.9	0.0
	baz=71,SNR=5.8					
HAWA	Hanford	70.76 330	eP	P	04 28 05.0	+1.0
	comp=Z,14nm,1.3s,mb4.7					
RSW	Rattlesnake Hi	70.79 330	eP	P	04 28 04.5	+0.3
B11A	Sandpoint	70.81 333	⇑P	P	04 28 03.8	-0.4
	baz=71,SNR=8.4					
K01A	Sixes	70.88 325	⇑P	P	04 28 05.0	+0.2
	baz=71					
A12A	Yaak River Ran	70.88 334	⇑P	P	04 28 05.1	+0.5
	baz=71,SNR=10					
H04A	Detroit Lake	70.90 328	⇓P	P	04 28 04.5	-0.3
	baz=71					
I03A	Eugene	70.99 326	⇓P	P	04 28 05.7	+0.2
	baz=71					
NEW	Newport	71.02 333	eP	P	04 28 04.6	-0.9
NEW			pmax	pmax		
	comp=Z,9.0nm,1.0s					
NEW	Newport	71.02 333	eP	P	04 28 04.6	-0.9
	comp=Z,8.7nm,1.0s,mb4.6					
E07A	Sunnyside	71.03 330	⇑P	P	04 28 06.0	+0.4
	baz=71					
OD2	Odessa Site #2	71.09 331	eP	P	04 28 06.2	+0.3
A11A	Hall Mountain,	71.21 334	⇑P	P	04 28 06.7	+0.1
	baz=71,SNR=6.6					
H03A	Soap Creek Ran	71.47 327	⇓P	P	04 28 08.4	+0.1
	baz=72,SNR=6.9					
C08A	Higginbotham F	71.53 332	⇓P	P	04 28 08.9	+0.3
	baz=72					
D07A	Quincy	71.54 331	⇑P	P	04 28 08.9	+0.3
	baz=72					
E06A	Yakima	71.57 330	⇓P	P	04 28 09.0	+0.1
	baz=72					
B09A	Rice	71.59 332	⇓P	P	04 28 08.9	-0.1
	baz=72,SNR=9.7					
A10A	Northport	71.74 333	⇑P	P	04 28 09.6	-0.3
	baz=72					
F04A	Amboy	71.87 328	⇑P	P	04 28 10.7	+0.1
	baz=72					
C07A	Waterville	71.94 331	⇓P	P	04 28 10.9	-0.1
	baz=72,SNR=6.1					
E05A	Randle	71.97 329	⇓P	P	04 28 11.2	0.0
	baz=72					
ETW	Entiat	72.01 331	eP	P	04 28 11.8	+0.3
B08A	Colville Reser	72.08 332	⇓P	P	04 28 11.7	-0.2
	baz=72,SNR=5.4					
LON	Longmire	72.13 329	eP	P	04 28 12.3	+0.1
LON			pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3					
LON	Longmire	72.13 329	eP	P	04 28 12.3	+0.1
	comp=Z,2.1nm,0.5s,mb4.3					
A09A	Danville	72.19 333	⇓P	P	04 28 12.2	-0.3
	baz=72,SNR=5.7					
SNAA	Sanae	72.36 161	eP	P	04 28 13.0	-0.3
SNAA			e		04 28 16.6	
SNAA	Sanae	72.36 161	P	P	04 28 13.4	+0.1
	comp=Z,3.4nm,0.9s,mb4.3,baz=263,slow=6.0,SNR=12					
SNAA	Sanae	72.36 161	eP	P	04 28 13.0	-0.3
SNAA			pmax	pmax		
	comp=Z,24nm,1.3s					
SNAA	Sanae	72.36 161	eP	P	04 28 13.0	-0.3
	comp=Z,24nm,1.3s,mb5.0					
A08A	Turner Farm, O	72.49 332	⇓P	P	04 28 14.3	+0.1
	baz=73,SNR=8.3					
D05A	Enumclaw	72.52 330	⇑P	P	04 28 14.1	-0.4
	baz=73					
B07A	Winthrop	72.52 331	⇑P	P	04 28 14.3	-0.2
	baz=73					
C05A	Tolt Reservoir	72.72 330	⇓P	P	04 28 15.8	+0.1
	baz=73					
A07A	Ashnola River,	73.06 332	⇓P	P	04 28 18.1	+0.4
	baz=73,SNR=11					
RPW	Rockport	73.17 331	eP	P	04 28 17.8	-0.5
B06A	Marblemount	73.20 331	⇓P	P	04 28 18.4	-0.1
	baz=73					
FCC	Fort Churchill	73.27 351	eP	P	04 28 17.4	-1.3
FCC			pmax	pmax		
	comp=Z,80nm,1.6s,mb5.4					
FCC	Fort Churchill	73.27 351	eP	P	04 28 17.4	-1.4
	comp=Z,80nm,1.6s,mb5.4					
B05A	Bryant	73.32 330	⇓P	P	04 28 19.1	-0.1
	baz=74					
EDM	Edmonton	73.34 338	eP	P	04 28 18.1	-1.1
C04A	Brinnon	73.37 330	⇓P	P	04 28 19.9	+0.3
	baz=74					
NLWA	Neilton Lookou	73.59 329	⇑P	P	04 28 21.3	+0.4
	baz=74,SNR=8.1					
NLWA	Neilton Lookou	73.59 329	eP	P	04 28 20.8	-0.1
	comp=Z,16nm,1.2s,mb4.8					
A05A	Maple Falls	73.82 331	⇑P	P	04 28 22.4	+0.2
	baz=74					
DBIC	Dimbokro	74.31 79	P	P	04 28 26.2	+0.4
	comp=Z,16nm,0.8s,mb5.0,baz=222,slow=6.0,SNR=17					
DBIC	Dimbokro	74.31 79	eP	P	04 28 25.6	-0.2
DBIC			pmax	pmax		
	comp=Z,44nm,1.1s					
DBIC	Dimbokro	74.31 79	eP	P	04 28 25.6	-0.2
	comp=Z,44nm,1.1s,mb5.3					
C03A	Quillayute Air	74.31 329	⇑P	P	04 28 25.3	+0.2
	baz=74					
YKA	Yellowknife Ar	81.17 343	P	P	04 29 01.8	-1.2
	comp=Z,5.2nm,0.6s,mb4.6,baz=144,slow=6.2,SNR=51					
YKA	Yellowknife Ar	81.17 343	P	P	04 29 01.8	-1.2
YKW3	Yellowknife Ar	81.23 343	eP	P	04 29 02.3	-1.0
TOA0	Torodi Ar. Sit	82.28 75	eP	P	04 29 10.5	+0.6
TORD	Torodi Ar. Bea	82.28 75	P	P	04 29 10.6	+0.7
	comp=Z,41nm,1.0s,mb5.3,baz=266,slow=4.2,SNR=80					
VNDA	Vanda	83.37 191	P	P	04 29 15.3	+0.9
	comp=Z,1.4nm,1.0s,mb3.9,baz=117,slow=4.5,SNR=3.8					
VNDA	Vanda	83.37 191	eP	P	04 29 15.6	+1.2
VNDA			pmax	pmax		
	comp=Z,13nm,1.6s					
VNDA	Vanda	83.37 191	eP	P	04 29 15.6	+1.1
	comp=Z,14nm,1.6s,mb4.7					
DLBC	Dease Lake	83.60 335	P	P	04 29 16.3	+0.5
	baz=145,slow=3.7					
ESDC	Sonseca Array	85.81 48	P	P	04 29 28.5	+1.1
	comp=Z,0.2nm,0.3s,mb3.8,baz=260,slow=5.1,SNR=3.7					
SYO	Syowa Base	86.65 161	eP	P	04 29 29.4	-1.6
SUMG	Summit	89.45 11	eP	P	04 29 45.1	+0.9
	comp=Z,5.6nm,0.9s,mb4.9					
TSUM	Tsumeb	89.85 110	eP	P	04 29 47.7	+0.4
	comp=Z,3.7nm,0.7s,mb4.8					
DAWY	Dawson	90.52 337	eP	P	04 29 48.8	-0.5
INK	Inuvik	90.84 342	P	P	04 29 50.5	-0.2
	comp=Z,24nm,1.2s,mb5.4,baz=140,slow=4.6,SNR=17					
INK	Inuvik	90.84 342	eP	P	04 29 50.1	-0.6
	comp=Z,975nm,1.2s					
EGAK	Eagle	91.54 337	eP	P	04 29 53.5	-0.5
	comp=Z,8.9nm,1.0s,mb5.0					
DIV	Divide	91.77 333	eP	P	04 29 53.4	-1.7
	comp=Z,25μm,1.2s					
COLA	College	94.16 336	eP	P	04 30 04.8	-1.3
COLA	College	94.16 336	eP	P	04 30 05.2	-0.8
	comp=Z,10nm,1.0s,mb5.2					
KTH	Kantishna Hill	94.92 334	eP	P	04 30 08.3	-1.3
	comp=Z,4μm,1.2s					
ASAR	Alice Springs	132.36 220	PKP	PKPdf	04 36 02.0	-0.7
	comp=Z,0.5nm,0.5s,baz=128,slow=2.3,SNR=5.8					
WRA	Warramunga Arr	134.75 223	PKhKP		04 36 03.8	
	comp=Z,1.2nm,0.7s,baz=136,slow=1.7,SNR=2.6					
WRA			PKP	PKPdf	04 36 06.9	-0.4
	comp=Z,1.3nm,0.7s,baz=131,slow=1.8,SNR=5.0					
ZALV	Zalesovo Beam	137.08 16	PKhKP		04 36 05.2	
	comp=Z,0.8nm,0.3s,baz=307,slow=0.1,SNR=3.1					
ZALV			PKP	PKPdf	04 36 10.8	+0.2
	comp=Z,2.4nm,0.6s,baz=294,slow=4.6,SNR=7.3					
ZALV	Zalesovo Beam	137.08 16	PKP	PKPdf	04 36 05.2	-5.4
ZALV			PKP	PKPdf	04 36 10.8	+0.2
ZAL	Zalesovo	137.09 16	PKIKP	PKPdf	04 36 05.2	-5.4
ZAL					04 36 10.8	
KURK	Kurchatov	137.84 23	ePKIKP	PKPdf	04 36 12.3	+0.2
MJAR	Matsushiro Arr	141.01 312	PKhKP		04 36 10.2	
	comp=Z,0.6nm,0.7s,baz=79,slow=3.2,SNR=3.4					
MJAR			PKP	PKPdf	04 36 18.5	+0.2
	comp=Z,0.7nm,0.5s,baz=67,slow=2.5,SNR=4.7					
MKAR	Makanchi Array	142.44 24	PKhKP		04 36 16.6	
	comp=Z,1.0nm,0.7s,baz=317,slow=3.7,SNR=7.7					
MKAR			PKP	PKPdf	04 36 21.1	+0.5
	comp=Z,1.0nm,0.7s,baz=7.1,slow=3.8,SNR=4.7					
ZAK	Zakamensk	143.14 360	ePKIKP	PKPdf	04 36 17.2	-4.5
ZAK			e		04 39 39.4	
CN2	Changchun	144.14 332	ePKP	PKPdf	04 36 21.8	-1.9
KSH	Kashi	144.72 38	ePKP	PKPdf	04 36 25.5	+0.7
KSH			eAPKP		04 36 36.5	
KSH			eXPKP		04 36 39.4	
KSH			PP	PP		
	comp=Z,791nm,6.6s					
KSH			LR	LR		
	comp=N,919nm,10.6s					
KSH			LR	LR		
	comp=E,1μm,9.3s					
KSH			LR	LR		
	comp=Z,2μm,19.9s					
SONM	Songino Array	145.57 356	PKPbc	PKPbc	04 36 26.7	+0.5
	comp=Z,42nm,1.1s,baz=348,slow=2.4,SNR=93					
SNY	Shenyang	146.54 332	PKP	PKPdf	04 36 28.5	+0.7
BHJ	Bhuj	146.90 68	eP	PKPbc	04 36 31.6	+0.7
BHJ			eS	pPKPdf	04 36 38.3	+0.2
BHJ			AML	AML	04 36 38.7	
	comp=N,615nm,0.1s					
BHJ			AML	AML	04 36 38.7	
	comp=E,385nm,0.1s					
WMQ	Urumqi	146.96 21	PKP	PKPdf	04 36 28.1	-0.4
KSRS	Korea Array	147.37 322	PKPbc	PKPbc	04 36 30.1	-1.7
	comp=E,3.0nm,0.8s,baz=32,slow=1.6,SNR=12					
AJM	Ajmer	150.39 60	ex	x	04 37 34.7	
AJM			AML	AML	04 37 50.1	
	comp=N,18nm,0.1s					
AJM			AML	AML	04 37 50.3	
	comp=E,19nm,0.1s					
HHC	Hu-ho-hao-te	151.67 346	ePKP	PKPdf	04 36 34.3	-1.8
HHC			XPKP		04 36 43.3	
HHC			PKS		04 40 07.9	
HHC			PP	PP	04 40 23.4	+2.2
HHC			LR	LR		
	comp=N,1μm,20.2s,MS5.7					
HHC			LR	LR		
	comp=E,832nm,25.0s,MS5.7					
HHC			LR	LR		
	comp=Z,2μm,25.0s,MS5.7					
NJ2	Nanjing	156.46 325	ePKP	PKPdf	04 36 42.0	-1.2
XAN	Xi'an	158.79 346	PKP	PKPdf	04 36 45.8	-0.2
XAN			APKP		04 36 57.0	
XAN			LR	LR		
	comp=E,945nm,48.5s					
XAN			LR	LR		
	comp=Z,2μm,44.4s,MS5.6					
WHN	Wuhan	160.02 330	PKP	PKPdf	04 36 46.0	-1.5
CD2	Chengdu	162.58 358	ePKP	PKPdf	04 36 50.1	-0.1
GYA	Guiyang	166.59 346	PKP	PKPdf	04 36 53.0	-0.9
GYA			PKP2	PKPab	04 37 56.6	+0.7
GYA			PKS		04 40 23.8	
GYA			PP	PP	04 41 44.4	+2.1
GYA			LR	LR		
	comp=N,210nm,24.2s					
GYA			LR	LR		
	comp=E,170nm,23.4s					
GYA			LR	LR		
	comp=Z,150nm,24.7s					
KMI	Kunming	168.35 1	PKP	PKPdf	04 36 55.8	+0.6
CMAR	Chiang Mai Arr	173.62 38	PKP	PKPdf	04 36 58.3	+0.2
	comp=Z,1.7nm,0.6s,baz=298,slow=1.9,SNR=7.9					
CMAR			PKPab	PKPab	04 38 28.4	+1.1
	comp=Z,1.5nm,0.3s,baz=327,slow=5.5,SNR=5.3					

IDC 16 04:18:40.7±12.0, 2168N×14299E, h142km±118km, mb3.4/8, mb1 3.6/8, mb1mx3.5/21, mbtmp3.4/8, Error ellipse: s-maj=47.6km s-min=17.3km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.42	324	P	P	P	04 23 07.2	+0.6
	1.8nm,0.6s,baz=146,slow=9.4,SNR=10							
SONM	Songino Array	39.24	321	P	P	P	04 25 54.8	-0.3
	2.2nm,0.8s,baz=135,slow=6.1,SNR=3.0							
WRA	Warramunga Arr	42.22	192	P	P	P	04 26 19.5	-0.3
	1.1nm,0.8s,baz=12,slow=8.0,SNR=2.8							
ASAR	Alice Springs	45.93	192	P	P	P	04 26 49.4	+0.1
	0.7nm,0.8s,baz=12,slow=13,SNR=4.6							
MKAR	Makanchi Array	54.58	313	P	P	P	04 27 54.7	+0.5
	0.5nm,0.6s,baz=82,slow=9.2,SNR=3.3							
INK	Inuvik	67.66	24	P	P	P	04 29 21.5	-0.5
	0.9nm,0.7s,baz=291,slow=7.8,SNR=3.9							
YKA	Yellowknife Ar	76.56	28	P	P	P	04 30 14.7	-0.3
	1.0nm,0.6s,baz=292,slow=6.0,SNR=6.2							
NVAR	Mina Array Bea	83.30	51	P	P	P	04 30 53.0	+1.3
	0.9nm,0.8s,baz=276,slow=5.6,SNR=4.6							

*ISCJB **16** 04:20:44.4±1.3, 1380S±009×764W±02, h60km±12km, mb4.1/11, Error ellipse: s-maj=30.1km s-min=8.0km az=152.9*

*NEIC **16** 04:20:44.1±0.5, 1370S×7620W, h35km, mb3.9/1, Error ellipse: s-maj=28.0km s-min=8.5km az=66.0*

*IDC **16** 04:20:46.1±1.8, 1370S×7618W, h54km±16km, mb4.0/10, mb1 4.2/12, mb1mx4.0/19, mbtmp4.1/12, ML4.1/1, Error ellipse: s-maj=36.5km s-min=11.5km az=68.0*

ISC 16 04:20:45.8±1.1, 1380S±009×764W±02, h53km±10km, n22, σ1§10/22, mb4.1/11, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.86	346	P	Pn	Pn	04 21 14.7	-0.6
	100nm,0.3s,baz=153,slow=11,SNR=3.4							
NNA				S	Sn	Sn	04 21 37.6	+0.1
	580nm,0.3s,baz=297,slow=16,SNR=8.5							
ATAH	Atahualpa	7.04	343	P	Pn	Pn	04 22 24.6	-1.8
	3.2nm,0.3s,baz=142,slow=2.3,SNR=5.6							
ATAH				S	Sn	Sn	04 23 46.4	+1.3
	baz=156,slow=20,SNR=1.6							
LPAZ	La Paz	8.33	108	P	Pn	Pn	04 22 46.6	+2.6
	0.9nm,0.3s,baz=282,slow=14,SNR=5.9							
LVC	Limon Verde	11.27	142	P	Pn	Pn	04 23 24.2	+0.1
	1.0nm,0.3s,baz=205,slow=0.0,SNR=4.3							
CFAA	Coronel Fontan	19.23	159	P	Pn	Pn	04 25 05.3	-1.7
	0.0nm,0.3s,baz=325,slow=9.8,SNR=4.0							
PLCA	Paso Flores	27.31	170	P	P	P	04 26 26.3	+0.9
	4.4nm,1.1s,mb3.9,baz=327,slow=7.0,SNR=2.6							
TEIG	Tepich	35.78	341	P	P	P	04 27 40.3	+0.4
	6.1nm,0.9s,mb4.5,baz=135,slow=2.9,SNR=5.5							
TEIG	Tepich	35.78	341	P	P	P	04 27 40.3	+0.4
SDCO	Great Sand Dun	58.11	333	eP	P	P	04 30 34.5	+0.6
	0.8nm,0.7s,mb3.9							
PDAR	Pinedale Array	64.00	333	P	P	P	04 31 14.0	+0.3
	0.2nm,0.4s,mb3.5,baz=123,slow=7.6,SNR=2.9							
NVAR	Mina Array Bea	65.11	325	P	P	P	04 31 22.7	+1.7
	0.5nm,0.7s,mb3.7,baz=139,slow=7.0,SNR=3.3							
ULM	Lac du Bonnet	66.03	346	P	P	P	04 31 25.8	-0.9
	2.7nm,0.4s,mb4.7,baz=156,slow=6.2,SNR=9.5							
SCHQ	Schefferville	68.83	6	P	P	P	04 31 42.5	-1.8
	2.6nm,0.7s,mb4.2,baz=196,slow=7.4,SNR=3.6							
SCHQ	Schefferville	68.83	6	P	P	P	04 31 42.5	-1.8
SNAA	Sanae	71.82	161	e	P	P	04 32 03.3	+0.9
SNAA				e	pP		04 32 14.3	-3.2
SNAA				e			04 32 26.9	
SNAA	Sanae	71.82	161	P	P	P	04 32 03.4	+0.9
	2.6nm,1.2s,mb4.0,baz=294,slow=6.3,SNR=9.7							
DBIC	Dimbokro	73.82	79	P	P	P	04 32 14.9	-0.5
	25nm,1.3s,mb5.0,baz=41,slow=0.9,SNR=5.2							
YKA	Yellowknife Ar	81.70	343	P	P	P	04 32 57.6	-0.4
	0.7nm,0.6s,mb3.8,baz=146,slow=5.7,SNR=5.2							
TORD	Torodi Ar. Bea	81.83	74	P	P	P	04 32 59.4	-0.4
	3.1nm,0.7s,mb4.3,baz=248,slow=4.6,SNR=12							
TORD	Torodi Ar. Bea	81.83	74	P	P	P	04 32 59.4	-0.4
WRA	Warramunga Arr	134.87	223	PKP	PKPdf		04 39 60.0	+0.3
	0.6nm,0.9s,baz=130,slow=1.8,SNR=2.5							
SONM	Songino Array	145.99	357	PKPbc	PKPbc		04 40 19.8	+0.3
	1.0nm,0.5s,baz=329,slow=1.9,SNR=5.3							

*ISCJB **16** 04:22:45.3±6.0, 145S±02×766W±04, h19km±41km, mb3.7/4, Error ellipse: s-maj=79.5km s-

NEIC Felt [IV] at Ica and Pisco.
MOS ***16*** *04:23:17.1±0.9, 1360S×7587W, h33km, mb5.3/38, Error ellipse: s-maj=11.3km s-min=6.8km az=104.6*
IDC ***16*** *04:23:19.0±2.4, 1366S×7594W, h39km±20km, mb4.6/22, mb1 4.7/25, mb1mx4.7/26, mbtmp4.6/25, ML4.8/1, Error ellipse: s-maj=18.6km s-min=9.7km az=74.0*
ISC 16 04:23:21.0±0.8,**1365S**±004×**7573W**±004,**h52**km±6km, **h51**km±1.7km:**pP-P**,**n590**,σ0=**62**/544,**mb5.0**/119,**MS5.7**/4, **142C-142D**,**Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.98**	**327**	Pn	**Pn**	**04 23 46.0**	**-6.1**
	15μm,0.4s,SNR=7.3						
NNA	**Nana**	**1.98**	**327**	Pn	**Pn**	**04 23 46.4**	**-5.7**
	435nm,0.3s,baz=181,slow=14,SNR=9.2						
NNA				Sn	**Sn**	**04 24 15.8**	**+0.1**
	476nm,0.3s,baz=160,slow=15,SNR=7.0						
NNA	**Nana**	**1.98**	**327**	*e*Pn	**Pn**	**04 23 45.4**	**-6.7**
NNA				*e*Sn	**Sn**	**04 24 14.7**	**-1.0**
ATAH	**Atahualpa**	**7.11**	**338**	Pn	**Pn**	**04 25 05.3**	**+2.9**
	17nm,0.3s,baz=245,slow=1.1,SNR=5.5						
ATAH				Sn	**Sn**	**04 26 21.4**	**-0.6**
	8.3nm,0.3s,baz=46,slow=18,SNR=1.8						
LPAZ	**La Paz**	**7.80**	**111**	Pn	**Pn**	**04 25 17.4**	**+5.4**
	11nm,0.3s,baz=294,slow=13,SNR=39						
LPAZ	**La Paz**	**7.80**	**111**	*e*P	**Pn**	**04 25 17.8**	**+5.9**
LPAZ				pmax	pmax		
	comp=Z,75nm,0.6s						
LPAZ	**La Paz**	**7.80**	**111**	*e*Pn	**Pn**	**04 25 17.8**	**+5.9**
	comp=Z,75nm,0.6s						
LVC	**Limon Verde**	**11.02**	**145**	Pn	**Pn**	**04 25 56.4**	**+0.4**
	comp=Z,5.9nm,0.3s,baz=158,slow=0.0,SNR=17						
LVC				Sn	**Sn**	**04 27 57.2**	**-0.6**
	comp=Z,8.6nm,0.3s,baz=168,slow=0.0,SNR=5.8						
LVC	**Limon Verde**	**11.02**	**145**	*e*Pn	**Pn**	**04 25 56.8**	**+0.8**
	comp=Z,50nm,0.7s						
OTAV	**Otavalo**	**14.06**	**349**	*e*Pn	**Pn**	**04 26 37.0**	**-0.6**
SIV	**San Ignacio**	**14.36**	**101**	Pn	**Pn**	**04 26 43.3**	**+1.8**
	comp=Z,1.9nm,0.3s,baz=276,slow=13,SNR=9.6						
ROSC	**El Rosal**	**18.43**	**4**	P	**Pn**	**04 27 34.2**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=319,slow=9.3,SNR=2.3						
ROSC	**El Rosal**	**18.43**	**4**	*e*P	**Pn**	**04 27 30.3**	**-2.6**
CFAA	**Coronel Fontan**	**19.15**	**160**	P	**Pn**	**04 27 40.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=336,slow=13,SNR=26						
LMEL	**Las Melosas**	**20.73**	**167**	*e*P	**P**	**04 27 57.9**	**+0.7**
CPUP	**Villa Florida**	**21.37**	**129**	P	**P**	**04 28 04.5**	**+0.3**
	comp=Z,23nm,0.8s,mb4.5,baz=293,slow=11,SNR=27						
CPUP	**Villa Florida**	**21.37**	**129**	*e*P	**P**	**04 28 04.2**	**0.0**
CPUP				pmax	pmax		
	comp=Z,104nm,0.9s						
CPUP	**Villa Florida**	**21.37**	**129**	*e*P	**P**	**04 28 04.2**	**0.0**
	comp=Z,104nm,0.9s,mb5.2						
SDV	**Santo Domingo**	**22.95**	**13**	P	**P**	**04 28 21.8**	**+0.7**
	comp=Z,30nm,0.8s,mb4.8,baz=270,slow=7.2,SNR=5.8						
SDV	**Santo Domingo**	**22.95**	**13**	*e*P	**P**	**04 28 22.1**	**+1.0**
	comp=Z,66nm,1.1s,mb5.0						
BCIP	**Isla Barro Col**	**23.03**	**350**	*e*P	**P**	**04 28 22.0**	**+0.1**
	comp=Z,102nm,1.2s,mb5.1						
PCRV	**Puerto La Cruz**	**26.10**	**25**	P	**P**	**04 28 51.7**	**+1.5**
	comp=Z,14nm,0.7s,mb4.6,baz=304,slow=3.2,SNR=6.2						
BDFB	**Brasilia**	**26.88**	**98**	P	**P**	**04 28 57.5**	**+0.3**
	comp=Z,1.3nm,0.4s,mb3.8,baz=255,slow=21,SNR=3.9						
TRQA	**Tornquist**	**27.21**	**156**	*e*P	**P**	**04 28 59.0**	**-0.9**
	comp=Z,6.6nm,0.7s,mb4.3						
PLCA	**Paso Flores**	**27.36**	**171**	P	**P**	**04 29 00.4**	**-0.9**
	comp=Z,20nm,0.9s,mb4.7,baz=341,slow=9.7,SNR=34						
PLCA				PcP	PcP	04 32 18.4	-1.1
	comp=Z,3.9nm,0.9s,baz=10,slow=1.9,SNR=3.4						
TGUH	**Tegucigalpa,Un**	**29.80**	**337**	*e*pP	**P**	**04 29 24.4**	**+1.2**
MPR	**Mayaguez**	**32.77**	**15**	*e*pP	**P**	**04 29 49.7**	**+0.4**
SJG	**San Juan**	**32.94**	**17**	P	**P**	**04 29 50.5**	**-0.3**
	comp=Z,13nm,0.6s,mb5.0,baz=243,slow=9.0,SNR=4.0						
TEIG	**Tepich**	**35.85**	**340**	P	**P**	**04 30 16.0**	**0.0**
	comp=Z,29nm,0.9s,mb5.2,baz=143,slow=14,SNR=8.2						
CMIG	**Matias Romero**	**35.92**	**328**	P	**P**	**04 30 17.0**	**+0.4**
	comp=Z,4.3nm,0.9s,mb4.4,baz=154,slow=6.3,SNR=4.0						
CMIG	**Matias Romero**	**35.92**	**328**	P	**P**	**04 30 17.0**	**+0.4**
USHA	**Ushuaia**	**41.49**	**174**	P	**P**	**04 31 02.3**	**-0.5**
	comp=Z,24nm,0.8s,mb4.8,baz=295,slow=3.6,SNR=7.7						
NHSC	**New Hope**	**46.68**	**355**	*e*P	**P**	**04 31 44.2**	**-0.5**
	comp=Z,44nm,0.9s,mb5.4						
GOGA	**Godfrey**	**47.37**	**351**	*e*P	**P**	**04 31 48.4**	**-1.6**
GOGA				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
GOGA	**Godfrey**	**47.37**	**351**	*e*P	**P**	**04 31 48.4**	**-1.6**
	comp=Z,22nm,1.0s,mb5.0						
HKT	**Hockley**	**47.48**	**336**	*e*P	**P**	**04 31 50.7**	**-0.2**
HKT				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.2						
HKT	**Hockley**	**47.48**	**336**	*e*P	**P**	**04 31 50.7**	**-0.2**
	comp=Z,45nm,1.5s,mb5.2						
NATX	**Nacogdoches**	**48.66**	**338**	*e*P	**P**	**04 32 00.5**	**+0.5**
	comp=Z,39nm,0.9s,mb5.4						
CPCT	**Cooper Cave**	**49.53**	**351**	*e*P	**P**	**04 32 05.2**	**-1.4**
SWET	**Sewanee**	**49.55**	**349**	*e*P	**P**	**04 32 05.4**	**-1.4**
JCT	**Junction City**	**49.62**	**332**	*e*P	**P**	**04 32 07.4**	**0.0**
OXF	**Oxford**	**49.63**	**345**	*e*P	**P**	**04 32 05.0**	**-2.4**
OXF				pmax	pmax		
	comp=Z,55nm,1.1s,mb5.5						
OXF	**Oxford**	**49.63**	**345**	*e*P	**P**	**04 32 05.0**	**-2.4**
	comp=Z,35nm,1.1s,mb5.5						
PLAL	**Pickwick Lake**	**49.76**	**347**	*e*P	**P**	**04 32 06.3**	**-2.0**
	comp=Z,35nm,1.1s,mb5.3						
TZTN	**Tazewell**	**50.46**	**352**	*e*P	**P**	**04 32 12.1**	**-1.5**
	comp=Z,78nm,1.8s,mb5.4						
UALR	**University of**	**50.67**	**342**	*e*P	**P**	**04 32 14.1**	**-1.2**
	comp=Z,52nm,0.9s,mb5.5						
ELN	**Prospectdale**	**50.82**	**355**	*e*P	**P**	**04 32 16.1**	**-0.2**
MIAR	**Mount Ida**	**50.84**	**341**	*e*P	**P**	**04 32 16.0**	**-0.5**
MIAR				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.3						
MIAR	**Mount Ida**	**50.84**	**341**	*e*P	**P**	**04 32 16.0**	**-0.5**
	comp=Z,34nm,0.9s,mb5.3						
URVA	**University of**	**50.97**	**358**	*e*P	**P**	**04 32 16.9**	**-0.6**
PMSA	**Palmer Station**	**51.70**	**174**	P	**P**	**04 32 22.6**	**0.0**
	comp=Z,13nm,0.7s,mb5.0,baz=356,slow=6.2,SNR=15						
PMSA	**Palmer Station**	**51.70**	**174**	*e*P	**P**	**04 32 22.1**	**-0.5**
	comp=Z,24nm,1.1s,mb5.0						
PARMO	**Parma**	**51.76**	**346**	*e*P	**P**	**04 32 22.4**	**-1.0**
WCI	**Wyandotte Cave**	**52.54**	**350**	*e*P	**P**	**04 32 27.2**	**-2.0**
WCI				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.3						
WCI	**Wyandotte Cave**	**52.54**	**350**	*e*P	**P**	**04 32 27.2**	**-1.9**
	comp=Z,38nm,0.9s,mb5.3						
USIN	**University of**	**52.55**	**348**	*e*P	**P**	**04 32 27.5**	**-1.7**
	comp=Z,43nm,0.9s,mb5.4						
SIUC	**Southern Illin**	**52.64**	**347**	*e*P	**P**	**04 32 28.6**	**-1.3**
	comp=Z,48nm,0.9s,mb5.4						
SDMD	**Soldier's Deli**	**52.79**	**359**	*e*P	**P**	**04 32 31.2**	**+0.2**
WMOK	**Wichita Mounta**	**52.87**	**336**	*e*P	**P**	**04 32 29.9**	**-1.7**
WMOK				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.0						
WMOK	**Wichita Mounta**	**52.87**	**336**	*e*P	**P**	**04 32 29.9**	**-1.7**
	comp=Z,29nm,1.4s,mb5.0						
MCWV	**Mont Chateau**	**53.17**	**356**	*e*P	**P**	**04 32 33.5**	**-0.3**
	comp=Z,28nm,1.4s,mb5.0						
FVM	**French Village**	**53.18**	**345**	*e*P	**P**	**04 32 32.2**	**-1.7**
FVM				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
FVM	**French Village**	**53.18**	**345**	*e*P	**P**	**04 32 32.2**	**-1.6**
	comp=Z,31nm,1.1s,mb5.2						
GDL2	**Guadalupe Moun**	**53.20**	**330**	*e*P	**P**	**04 32 34.4**	**+0.2**
OLIL	**Olney**	**53.38**	**348**	*e*P	**P**	**04 32 33.1**	**-2.2**
	comp=Z,25nm,0.8s,mb5.2						
BLO	**Bloomington**	**53.50**	**350**	*e*P	**P**	**04 32 34.1**	**-2.1**
ACSO	**Alum Creek Sta**	**54.02**	**353**	*e*P	**P**	**04 32 38.5**	**-1.5**
	comp=Z,49nm,1.1s,mb5.3						
AMTX	**Amarillo**	**54.19**	**334**	*e*P	**P**	**04 32 39.6**	**-1.7**
	comp=Z,22nm,1.3s,mb4.9						
319A	**Douglas**	**55.15**	**325**	⇑P	**P**	**04 32 48.9**	**+0.5**
	baz=55,SNR=12						
BINY	**Binghamton**	**55.57**	**360**	*e*P	**P**	**04 32 50.9**	**-0.3**
	comp=Z,32nm,1.1s,mb5.3						
318A	**Bisbee**	**55.59**	**324**	⇑P	**P**	**04 32 52.1**	**+0.5**
	baz=56,SNR=15						
219A	**White Tail Can**	**55.60**	**325**	⇑P	**P**	**04 32 51.7**	**0.0**
	baz=56,SNR=11						
BNM	**Barren Site**	**55.89**	**329**	*e*P	**P**	**04 32 53.1**	**-0.5**
LPM	**Los Pinos Moun**	**56.02**	**329**	*e*P	**P**	**04 32 55.1**	**+0.6**
218A	**Dragoon**	**56.02**	**325**	⇓P	**P**	**04 32 55.2**	**+0.5**
	baz=56						
119A	**Ashpeak Ranch,**	**56.21**	**326**	⇑P	**P**	**04 32 56.3**	**+0.3**
	baz=56						
217A	**Green Valley**	**56.31**	**324**	⇑P	**P**	**04 32 56.8**	**+0.1**
	baz=56,SNR=15						
LAZ	**Ladron**	**56.35**	**329**	*e*P	**P**	**04 32 57.0**	**+0.1**
ANMO	**Albuquerque**	**56.45**	**330**	*e*P	**P**	**04 32 57.4**	**-0.2**
ANMO				pmax	pmax		
	comp=Z,25nm,1.3s						
ANMO	**Albuquerque**	**56.45**	**330**	*e*P	**P**	**04 32 57.4**	**-0.2**
	comp=Z,25nm,1.3s,mb5.1						
118A	**Homack Ranch,**	**56.48**	**325**	⇑P	**P**	**04 32 58.3**	**+0.4**
	baz=57,SNR=10.0						
Z19A	**T-Link Ranch,**	**56.59**	**326**	⇓P	**P**	**04 32 59.2**	**+0.6**
	baz=57						
TUC	**Tucson**	**56.69**	**324**	*e*P	**P**	**04 32 59.1**	**-0.3**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
TUC	**Tucson**	**56.69**	**324**	*e*P	**P**	**04 32 59.1**	**-0.3**
	comp=Z,8.3nm,1.1s,mb4.7						
ACCN	**Adirondack Com**	**56.78**	**2**	*e*P	**P**	**04 33 00.3**	**+0.6**
	comp=Z,47nm,1.1s,mb5.4						
CBKS	**Cedar Bluff**	**56.81**	**338**	*e*P	**P**	**04 32 59.9**	**-0.2**
CBKS				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.5						
CBKS	**Cedar Bluff**	**56.81**	**338**	*e*P	**P**	**04 32 59.9**	**-0.2**
	comp=Z,49nm,1.0s,mb5.5						
216A	**Three Points,**	**56.85**	**324**	⇑P	**P**	**04 33 00.8**	**+0.3**
	baz=57,SNR=5.8						
117A	**Oracle**	**56.86**	**325**	⇑P	**P**	**04 33 00.6**	**0.0**
	baz=57,SNR=14						
Y19A	**Nutrioso**	**57.09**	**327**	⇑P	**P**	**04 33 02.7**	**+0.5**
	baz=57,SNR=18						
NCB	**Newcomb**	**57.35**	**1**	*e*P	**P**	**04 33 03.9**	**0.0**
	comp=Z,54nm,1.5s,mb5.4						
Y18A	**Canyon Day Jun**	**57.38**	**326**	⇓P	**P**	**04 33 04.2**	**0.0**
	baz=58,SNR=8.2						
116A	**Eloy**	**57.40**	**324**	⇑P	**P**	**04 33 04.4**	**0.0**
	baz=58,SNR=9.7						
MDV	**Middlebury**	**57.41**	**2**	*e*P	**P**	**04 33 04.4**	**+0.1**
X19A	**St. Johns**	**57.47**	**327**	⇓P	**P**	**04 33 04.8**	**-0.1**
	baz=58,SNR=6.9						
214A	**Organ Pipe Nat**	**57.60**	**323**	⇑P	**P**	**04 33 06.0**	**+0.1**
	baz=58,SNR=12						
Y17A	**Roosevelt**	**57.76**	**325**	⇓P	**P**	**04 33 06.9**	**0.0**
	baz=58,SNR=6.7						
115A	**Sonoran Desert**	**57.80**	**324**	⇓P	**P**	**04 33 07.3**	**0.0**
	baz=58,SNR=5.2						
Z16A	**Peralta Trail,**	**57.82**	**325**	⇑P	**P**	**04 33 07.5**	**+0.2**
	baz=58						
X18A	**Snowflake**	**57.90**	**327**	⇓P	**P**	**04 33 07.9**	**0.0**
	baz=58,SNR=7.1						
LONY	**Lake Ozonia**	**57.99**	**1**	*e*P	**P**	**04 33 08.3**	**0.0**
	comp=Z,33nm,1.1s,mb5.3						
W19A	**Sanders**	**58.05**	**328**	⇑P	**P**	**04 33 09.1**	**+0.2**
	baz=58,SNR=7.2						
Z15A	**Gila River Ind**	**58.19**	**324**	⇓P	**P**	**04 33 09.9**	**-0.1**
	baz=58						
X17A	**Forest Lakes**	**58.22**	**326**	⇑P	**P**	**04 33 10.3**	**+0.2**
	baz=58,SNR=16						
FRNY	**Flat Rock**	**58.23**	**2**	*e*P	**P**	**04 33 10.2**	**+0.3**
	comp=Z,52nm,1.0s,mb5.5						
W18A	**Petrified Fore**	**58.24**	**327**	⇑P	**P**	**04 33 10.8**	**+0.5**
	baz=58,SNR=6.9						
Y16A	**Circle Bar Ran**	**58.24**	**325**	⇑P	**P**	**04 33 10.6**	**+0.3**
	baz=58,SNR=14						
SDCO	**Great Sand Dun**	**58.26**	**332**	*e*P	**P**	**04 33 10.2**	**-0.1**
	comp=Z,26nm,1.0s,mb5.2						
V19A	**Window Rock**	**58.34**	**328**	⇓P	**P**	**04 33 11.1**	**+0.2**
	baz=58						
X16A	**Lo Mia Camp, P**	**58.62**	**326**	⇑P	**P**	**04 33 13.1**	**+0.1**
	baz=59,SNR=19						
Y15A	**Casa Rosa Ranc**	**58.78**	**325**	⇑P	**P**	**04 33 14.2**	**+0.2**
	baz=59,SNR=8.3						
V18A	**Ganado**	**58.80**	**328**	⇑P	**P**	**04 33 14.2**	**+0.1**
	baz=59						
X15A	**Humboldt**	**59.12**	**325**	⇑P	**P**	**04 33 16.6**	**+0.2**
	baz=59,SNR=14						
Y14A	**Wickenburg**	**59.15**	**324**	⇑P	**P**	**04 33 16.3**	**-0.3**
	baz=59,SNR=9.9						
W16A	**Flagstaff**	**59.18**	**326**	⇓P	**P**	**04 33 17.4**	**+0.6**
	baz=59,SNR=7.9						
T19A	**Beclabito**	**59.20**	**329**	⇓P	**P**	**04 33 16.7**	**-0.1**
	baz=59,SNR=12						
MVCO	**Mesa Verde**	**59.24**	**330**	⇑P	**P**	**04 33 16.8**	**-0.4**
	baz=59,SNR=8.3						
MVCO	**Mesa Verde**	**59.24**	**330**	*e*P	**P**	**04 33 16.9**	**-0.2**
	comp=Z,12nm,0.9s,mb4.9						
U18A	**Rough Rock, Ch**	**59.31**	**328**	⇑P	**P**	**04 33 17.6**	**0.0**
	baz=59,SNR=8.4						
WUAZ	**Wupatki**	**59.41**	**326**	⇑P	**P**	**04 33 18.6**	**+0.3**
	baz=60,SNR=17						
WUAZ	**Wupatki**	**59.41**	**326**	*e*P	**P**	**04 33 19.1**	**+0.8**
	comp=Z,33nm,1.2s,mb5.2						
X14A	**Yava**	**59.47**	**325**	⇑P	**P**	**04 33 19.0**	**+0.2**
	baz=60,SNR=14						
Y13A	**Salome**	**59.53**	**323**	⇓P	**P**	**04 33 19.4**	**+0.2**
	baz=60,SNR=5.3						
GLA	**Glamis**	**59.58**	**322**	⇓P	**P**	**04 33 19.6**	**0.0**
	baz=60						
W15A	**Williams**	**59.64**	**326**	⇓P	**P**	**04 33 20.5**	**+0.5**
	baz=60,SNR=5.6						
U17A	**Shonto**	**59.86**	**328**	⇑P	**P**	**04 33 21.9**	**+0.5**
	baz=60,SNR=8.7						
T18A	**Mexican Hat**	**59.87**	**329**	⇓P	**P**	**04 33 21.2**	**-0.3**
	baz=60,SNR=18						
Y12C	**Blythe**	**59.89**	**323**	⇓P	**P**	**04 33 21.5**	**-0.2**
	baz=60,SNR=5.8						
S19A	**Harvey Farm, M**	**59.97**	**330**	⇓P	**P**	**04 33 22.1**	**-0.1**
	baz=60,SNR=17						
PV01	**Paradox Valley**	**60.01**	**330**	*e*P	**P**	**04 33 22.2**	**-0.1**
ISCO	**Idaho Springs**	**60.01**	**334**	*e*P	**P**	**04 33 22.3**	**-0.1**
ISCO				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
ISCO	**Idaho Springs**	**60.01**	**334**	*e*P	**P**	**04 33 22.3**	**-0.1**
	comp=Z,13nm,1.1s,mb4.9						
V15A	**Kaibab Nationa**	**60.07**	**326**	⇑P	**P**	**04 33 23.3**	**+0.4**
	baz=60,SNR=12						
X13A	**Yucca**	**60.09**	**324**	⇑P	**P**	**04 33 23.2**	**+0.1**
	baz=60,SNR=7.9						
SMCO	**Snowmass**	**60.10**	**332**	*e*P	**P**	**04 33 21.1**	**-1.9**
W14A	**Seligman**	**60.12**	**325**	⇓P	**P**	**04 33 23.6**	**+0.4**
	baz=60,SNR=7.4						
ECSD	**EROS,Sioux Fal**	**60.21**	**343**	*e*P	**P**	**04 33 22.2**	**-1.5**
	comp=Z,32nm,1.3s,mb5.2						
T17A	**Navajo Res., N**	**60.23**	**328**	⇓P	**P**	**04 33 24.2**	**+0.2**
	baz=60,SNR=20						
S18A	**Hurst Farm, Bl**	**60.36**	**329**	⇓P	**P**	**04 33 24.7**	**-0.1**
	baz=60,SNR=11						
BC3	**Big Chuckw Mtn**	**60.37**	**322**	⇓P	**P**	**04 33 24.8**	**-0.2**
	baz=60,SNR=6.0						
PV10	**Paradox Valley**	**60.42**	**330**	*e*P	**P**	**04 33 24.2**	**-1.1**
V14A	**Boquillas Ranc**	**60.44**	**325**	⇑P	**P**	**04 33 25.8**	**+0.4**
	baz=60,SNR=11						
W13A	**Hualapai Mount**	**60.49**	**324**	⇓P	**P**	**04 33 26.0**	**+0.2**
	baz=61,SNR=6.2						
IRM	**Iron Mountain**	**60.55**	**323**	⇑P	**P**	**04 33 26.2**	**0.0**
	baz=61,SNR=12						
U15A	**North Rim**	**60.59**	**327**	⇑P	**P**	**04 33 26.6**	**+0.2**
	baz=61,SNR=14						
R18A	**Canyonlands Na**	**60.85**	**330**	⇓P	**P**	**04 33 27.4**	**-0.7**
	baz=61,SNR=7.7						
BELC	**Belle Mtn.**	**60.94**	**322**	⇑P	**P**	**04 33 28.2**	**-0.7**
	baz=61						
PFO	**Pinyon Flat Ob**	**60.95**	**321**	*e*P	**P**	**04 33 29.6**	**+0.7**
PFO				pmax	pmax		
	comp=Z,15nm,1.3s,mb5.0						
PFO	**Pinyon Flat Ob**	**60.95**	**321**	⇑P	**P**	**04 33 28.5**	**-0.4**
	baz=61						
PFO	**Pinyon Flat Ob**	**60.95**	**321**	*e*P	**P**	**04 33 29.6**	**+0.7**
	comp=Z,15nm,1.3s,mb5.0						
Q19A	**Hogan Spring (**	**60.99**	**330**	⇑P	**P**	**04 33 28.8**	**-0.3**
	baz=61,SNR=11						
U14A	**Mt Trumbull**	**61.06**	**326**	⇓P	**P**	**04 33 29.8**	**+0.2**
	baz=61,SNR=14						
T15A	**Red Dirt Ranch**	**61.07**	**327**	⇑P	**P**	**04 33 30.2**	**+0.5**
	baz=61,SNR=5.7						
V13A	**Grand Canyon W**	**61.09**	**325**	⇓P	**P**	**04 33 29.2**	**-0.6**
	baz=61,SNR=7.2						
LDFC	**Landfair**	**61.17**	**324**	*e*P	**P**	**04 33 30.9**	**+0.5**
	comp=Z,13nm,1.1s,mb5.0						
S16A	**Weppner Ranch,**	**61.19**	**328**	⇓P	**P**	**04 33 30.5**	**0.0**
	baz=61,SNR=12						
R17A	**Hanksville Air**	**61.28**	**329**	⇓P	**P**	**04 33 30.8**	**-0.2**
	baz=61,SNR=23						
GMRC	**Granite Mounta**	**61.28**	**323**	⇓P	**P**	**04 33 31.0**	**-0.1**
	baz=61						
MURC	**Murrieta**	**61.39**	**321**	⇓P	**P**	**04 33 32.1**	**+0.1**
	baz=62						
T14A	**Hurricane**	**61.48**	**326**	⇓P	**P**	**04 33 32.8**	**+0.3**
	baz=62,SNR=5.8						
U13A	**Pakoon Wash**	**61.49**	**325**	⇑P	**P**	**04 33 32.6**	**0.0**
	baz=62,SNR=5.4						
V12A	**Nelson**	**61.49**	**324**	⇑P	**P**	**04 33 32.8**	**+0.3**
	baz=62						
Q18A	**Rafter H Ranch**	**61.52**	**330**	⇓P	**P**	**04 33 32.4**	**-0.3**
	baz=62,SNR=15						
S15A	**Panguitch**	**61.56**	**327**	⇓P	**P**	**04 33 33.2**	**+0.2**
	baz=62						
HEC	**Hector,Ludlow**	**61.71**	**323**	⇑P	**P**	**04 33 34.0**	**0.0**
	baz=62						
SRU	**San Rafael**	**61.72**	**330**	⇑P	**P**	**04 33 33.9**	**-0.1**
	baz=62,SNR=12						
SRU	**San Rafael**	**61.72**	**330**	*e*P	**P**	**04 33 34.1**	**+0.1**
U12A	**Valley of Fire**	**61.82**	**325**	⇑P	**P**	**04 33 34.9**	**+0.2**
	baz=62						
Q16A	**Castle Valley**	**61.89**	**329**	⇓P	**P**	**04 33 35.3**	**+0.2**
	baz=62						
T13A	**Saint George**	**61.90**	**326**	⇓P	**P**	**04 33 35.3**	**+0.1**
	baz=62,SNR=6.8						
V11A	**Goodsprings**	**61.90**	**324**	⇑P	**P**	**04 33 35.7**	**+0.4**
	baz=62						
R15A	**Junction**	**61.91**	**328**	⇑P	**P**	**04 33 35.5**	**+0.1**
	baz=62,SNR=6.1						
P18A	**Preston Nutter**	**61.99**	**330**	⇓P	**P**	**04 33 35.8**	**0.0**
	baz=62,SNR=6.8						
MSU	**Marysvale**	**62.09**	**328**	*e*P	**P**	**04 33 37.0**	**+0.5**
P17A	**Butcher Ranch,**	**62.11**	**330**	⇓P	**P**	**04 33 36.5**	**-0.1**
	baz=62,SNR=8.4						
ARUT	**Antelope Range**	**62.21**	**327**	*e*P	**P**	**04 33 37.6**	**+0.3**
SHPR	**Sheep Range**	**62.22**	**325**	*e*P	**P**	**04 33 38.1**	**+0.7**
SHPR				*e*pP	pP	04 33 51.4	-0.4
RWWY	**Rawlins**	**62.25**	**334**	*e*P	**P**	**04 33 37.5**	**0.0**
	comp=Z,55nm,1.4s,mb5.5						
S13A	**Holt Ranch, En**	**62.28**	**326**	⇓P	**P**	**04 33 38.3**	**+0.5**
	baz=62,SNR=14						
GSC	**Goldstone**	**62.32**	**323**	⇑P	**P**	**04 33 38.1**	**0.0**
	baz=62						
R14A	**James Farms, M**	**62.37**	**327**	⇑P	**P**	**04 33 39.1**	**+0.7**
	baz=62						
O18A	**Roosevelt**	**62.37**	**331**	⇓P	**P**	**04 33 38.6**	**+0.2**
	baz=62,SNR=13						
Q15A	**Fillmore**	**62.56**	**328**	⇑P	**P**	**04 33 39.7**	**0.0**
	baz=63,SNR=5.6						
N18A	**Larsen Ranch,**	**62.78**	**332**	⇑P	**P**	**04 33 41.4**	**+0.4**
	baz=63,SNR=13						
T11A	**Corn Creek, Al**	**62.78**	**325**	⇑P	**P**	**04 33 41.3**	**+0.2**
	baz=63,SNR=13						
R13A	**O'Grain Ranch,**	**62.78**	**327**	⇓P	**P**	**04 33 42.0**	**+0.9**
	baz=63,SNR=7.6						
U10A	**Ash Meadows, A**	**62.82**	**324**	⇑P	**P**	**04 33 41.5**	**0.0**
	baz=63						
MPU	**Maple Canyon**	**62.96**	**330**	*e*P	**P**	**04 33 42.8**	**+0.5**
LRMC	**Laurel Mountai**	**62.96**	**322**	⇑P	**P**	**04 33 42.8**	**+0.3**
	baz=63						
Q14A	**Sevier Lake (B**	**63.01**	**328**	⇓P	**P**	**04 33 43.5**	**+0.8**
	baz=63,SNR=22						
RSSD	**Black Hills**	**63.01**	**337**	*e*P	**P**	**04 33 42.5**	**-0.1**
RSSD				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.1						
RSSD	**Black Hills**	**63.01**	**337**	*e*P	**P**	**04 33 42.5**	**0.0**
	comp=Z,22nm,1.3s,mb5.1						
O16A	**Springville**	**63.04**	**330**	⇓P	**P**	**04 33 43.3**	**+0.5**
	baz=63,SNR=8.4						
DAU	**Daniels Canyon**	**63.08**	**330**	*e*P	**P**	**04 33 43.5**	**+0.4**
NLU	**North Lily Min**

ELK	Elko	65.33	328	eP	P	04 33 57.9 +0.1
ELK				pmax	pmax	
comp=Z,6.0nm,1.0s						
ELK	Elko	65.33	328	eP	P	04 33 57.9 +0.1
comp=Z,6.4nm,1.0s,mb4.6						
TPAW	Teton Pass	65.34	332	eP	P	04 33 57.7 -0.2
comp=Z,21nm,1.4s,mb5.0						
NVAR	Mina Array Bea	65.35	324	P	P	04 33 57.3 -0.7
comp=Z,2.7nm,0.8s,mb4.3,baz=138,slow=6.6,SNR=14						
RRI2	Red Ridge	65.40	332	eP	P	04 33 58.2 0.0
comp=Z,28nm,0.9s,mb5.3						
U04C	Hernandez Rese	65.42	321	⇓P	P	04 33 58.9 +0.4
baz=66						
K15A	Arbon	65.44	331	⇑P	P	04 33 58.4 -0.1
baz=66						
MOOW	Moose Ponds	65.45	333	eP	P	04 33 57.8 -0.7
J16A	Bone	65.47	332	⇑P	P	04 33 58.7 +0.1
baz=66						
R07C	Lee Vining	65.54	324	⇓P	P	04 33 59.9 +0.7
baz=66						
K14A	Jones Ranch, D	65.64	330	⇓P	P	04 33 59.6 -0.2
baz=66,SNR=7.7						
M12A	Wells	65.66	329	⇓P	P	04 33 59.5 -0.4
baz=66						
IMW	Indian Meadow	65.66	333	eP	P	04 34 00.1 +0.3
comp=Z,31nm,1.4s,mb5.2						
O10A	Cortez Mining,	65.66	327	⇓P	P	04 34 00.5 +0.5
baz=66,SNR=5.9						
L13A	Double Diamond	65.67	330	⇓P	P	04 34 00.6 +0.6
baz=66,SNR=8.8						
S06C	San Francisco	65.87	323	⇑P	P	04 34 01.6 +0.3
baz=66,SNR=7.5						
RLMT	Red Lodge	65.92	335	eP	P	04 34 01.3 -0.2
comp=Z,24nm,1.4s,mb5.0						
O09A	Fish Creek Ran	65.94	326	⇓P	P	04 34 02.1 +0.3
baz=66,SNR=5.5						
LKWY	Lake	65.95	334	eP	P	04 34 03.2 +1.5
LKWY				pmax	pmax	
comp=Z,13nm,1.0s,mb4.9						
LKWY	Lake	65.95	334	eP	P	04 34 03.2 +1.5
comp=Z,13nm,1.0s,mb4.9						
LAO	LASA Array	66.01	338	eP	P	04 34 01.8 -0.3
comp=Z,27nm,1.2s,mb5.2						
ULM	Lac du Bonnet	66.04	346	P	P	04 34 00.5 -1.6
comp=Z,18nm,0.7s,mb5.2,baz=162,slow=7.0,SNR=21						
ULM	Lac du Bonnet	66.04	346	eP	P	04 34 00.6 -1.6
comp=Z,30nm,1.0s,mb5.3						
R06C	Coleville	66.07	324	⇓P	P	04 34 02.9 +0.3
baz=66,SNR=5.6						
M11A	Holland Ranch,	66.11	328	⇑P	P	04 34 03.2 +0.3
baz=66,SNR=8.5						
K13A	Stover Farm, H	66.16	330	⇑P	P	04 34 03.5 +0.4
baz=66						
L12A	House Creek Ra	66.25	329	⇓P	P	04 34 04.2 +0.5
baz=66,SNR=6.5						
CMB	Columbia Colle	66.28	323	⇓P	P	04 34 04.1 0.0
baz=66						
R05C	Kirkwood Meado	66.55	323	⇓P	P	04 34 06.4 +0.7
baz=67,SNR=7.9						
K12A	Draper Farm, C	66.55	329	⇓P	P	04 34 06.3 +0.6
baz=67,SNR=14						
QLMT	Earthquake Lak	66.61	333	eP	P	04 34 06.7 +0.7
GCMT	Greycliff	66.62	335	eP	P	04 34 05.5 -0.5
L11A	Cat Creek Ranc	66.63	329	⇓P	P	04 34 06.5 +0.4
baz=67,SNR=12						
J13A	Cove Ranch, Pi	66.77	330	⇓P	P	04 34 07.4 +0.4
baz=67,SNR=8.3						
DGMT	Dagmar	66.81	340	eP	P	04 34 07.0 -0.1
comp=Z,54nm,1.1s,mb5.5						
PAHR	Pah Rah Range	66.83	325	eP	P	04 34 08.5 +1.0
comp=Z,31nm,1.1s,mb5.2						
O07A	Toulon	66.86	325	⇑P	P	04 34 08.2 +0.5
baz=67,SNR=9.6						
L10A	Juniper Basin	66.93	328	⇓P	P	04 34 08.3 +0.2
baz=67,SNR=13						
M09A	Marrel Ranch,	66.97	327	⇓P	P	04 34 08.4 +0.1
baz=67,SNR=5.2						
HLID	Hailey	67.01	330	⇑P	P	04 34 08.7 +0.2
baz=67,SNR=9.8						
HLID	Hailey	67.01	330	eP	P	04 34 08.8 +0.2
comp=Z,43nm,2.0s,mb5.1						
J12A	Stokes Ranch,	67.10	330	⇓P	P	04 34 09.3 +0.1
baz=67,SNR=9.5						
I13A	Wildhorse Cree	67.13	331	⇓P	P	04 34 09.7 +0.4
baz=67,SNR=15						
K11A	Parker Ranch,	67.22	329	⇑P	P	04 34 10.0 +0.1
baz=67,SNR=8.0						
MCMT	McKenzie Canyo	67.24	332	eP	P	04 34 10.2 +0.2
P05C	Yuba Gap, Truc	67.26	324	⇑P	P	04 34 10.5 +0.3
baz=67						
BOZ	Bozeman (W)	67.34	334	eP	P	04 34 10.0 -0.6
BOZ				pmax	pmax	
comp=Z,11nm,1.2s,mb4.8						
BOZ	Bozeman (W)	67.34	334	⇑P	P	04 34 10.2 -0.4
baz=67,SNR=12						
BOZ	Bozeman (W)	67.34	334	eP	P	04 34 10.0 -0.5
comp=Z,11nm,1.2s,mb4.8						
G15A	Dillon	67.34	333	⇓P	P	04 34 10.9 +0.3
baz=67,SNR=10						
N07B	Gerlach	67.34	326	⇓P	P	04 34 11.0 +0.3
baz=67,SNR=5.8						
BEKR	Beckwourth	67.49	324	⇓P	P	04 34 11.8 +0.1
baz=68,SNR=8.3						
L09A	Wilkinson Ranc	67.51	327	⇓P	P	04 34 12.1 +0.3
baz=68,SNR=13						
DLMT	Dillon	67.54	333	eP	P	04 34 12.1 +0.3
comp=Z,21nm,1.2s,mb5.0						
MFID	Camas Ranch	67.58	329	⇑P	P	04 34 12.7 +0.5
baz=68,SNR=18						
K10A	MacKenzie Ranc	67.64	328	⇓P	P	04 34 12.5 0.0
baz=68,SNR=9.4						
H13A	Challis	67.69	331	⇑P	P	04 34 12.7 -0.1
baz=68,SNR=10						
N06A	Buffalo Meadow	67.80	325	⇑P	P	04 34 13.6 0.0
baz=68,SNR=15						
LRM	Limekiln Ridge	67.83	333	eP	P	04 34 13.9 +0.2
M07A	Soldier Meadow	67.87	326	⇑P	P	04 34 13.8 -0.2
baz=68,SNR=5.2						
ORV	Oroville	67.94	323	⇓P	P	04 34 14.7 +0.2
baz=68,SNR=10						
H12A	Diamond D Ranc	67.96	331	⇑P	P	04 34 14.4 -0.1
baz=68,SNR=9.3						
L08A	Fields	67.99	327	⇑P	P	04 34 14.6 -0.2
baz=68,SNR=9.6						
I11A	Placerville	68.01	330	⇑P	P	04 34 15.0 +0.2
baz=68,SNR=9.7						
K09A	Rome	68.03	328	⇑P	P	04 34 15.2 +0.2
baz=68,SNR=20						
G13A	Cobalt	68.08	332	⇑P	P	04 34 15.5 +0.3
baz=68,SNR=8.7						
F14A	Wisdom	68.23	333	⇑P	P	04 34 16.2 0.0
baz=68						
E15A	Deer Lodge	68.39	333	⇑P	P	04 34 16.9 -0.2
baz=68,SNR=5.7						
L07A	Adell	68.40	326	⇑P	P	04 34 17.4 +0.1
baz=68,SNR=5.7						
K08A	Mann Creek Ran	68.44	327	⇓P	P	04 34 17.3 -0.3
baz=68						
EGMT	Eagleton	68.46	336	⇓P	P	04 34 17.7 +0.1
baz=68,SNR=8.4						
EGMT	Eagleton	68.46	336	eP	P	04 34 16.8 -0.7
comp=Z,30nm,1.2s,mb5.2						
J09A	Fry Pan Ranch,	68.50	328	⇑P	P	04 34 18.3 +0.4
baz=69,SNR=7.3						
H11A	Donnelly	68.62	330	⇓P	P	04 34 18.1 -0.6
baz=69,SNR=5.2						
SCHQ	Schefferville	68.62	6	P	P	04 34 17.4 -1.1
comp=Z,4.9nm,0.9s,mb4.4,baz=177,slow=8.6,SNR=4.3						
F13A	Darby	68.65	332	⇑P	P	04 34 18.9 +0.1
baz=69,SNR=11						
GASB	Alder Springs	68.72	323	⇓P	P	04 34 20.1 +0.7
baz=69,SNR=5.3						
E14A	Clinton	68.75	333	⇓P	P	04 34 19.9 +0.5
baz=69,SNR=8.3						
HATC	Hat Creek Radi	68.75	324	⇓P	P	04 34 19.6 0.0
baz=69						
K07A	Rock Creek Ran	68.82	327	⇑P	P	04 34 19.6 -0.3
baz=69						
MOD	Modoc	68.84	326	⇑P	P	04 34 20.1 0.0
baz=69,SNR=6.8						
MOD	Modoc	68.84	326	eP	P	04 34 20.6 +0.6
J08A	Circle Bar Ran	68.88	328	⇑P	P	04 34 20.1 -0.1
baz=69						
H10A	Noah's Angus R	68.90	330	⇑P	P	04 34 19.9 -0.5
baz=69						
M05C	Lookout	68.94	325	⇑P	P	04 34 20.6 -0.1
baz=69,SNR=11						
I09A	Lost Marbles R	68.94	329	⇑P	P	04 34 20.4 -0.2
baz=69						
P01C	Double 8 Ranch	68.97	322	⇓P	P	04 34 20.9 -0.1
baz=69,SNR=6.3						
CHMT	Chamberlain Mo	69.03	333	eP	P	04 34 21.4 +0.3
F12A	Elk City	69.05	332	⇓P	P	04 34 20.9 -0.4
baz=69,SNR=8.3						
E13A	Victor	69.08	333	⇑P	P	04 34 21.7 +0.2
baz=69,SNR=12						
O02C	Red Bluff	69.10	323	⇑P	P	04 34 21.1 -0.7
baz=69						
WDC	Whiskeytown Da	69.22	324	eP	P	04 34 20.9 -1.5
G11A	Walters Elk Ra	69.26	331	⇓P	P	04 34 22.3 -0.3
baz=69,SNR=14						
MSO	Missoula	69.27	333	eP	P	04 34 22.9 +0.3
comp=Z,20nm,1.3s,mb4.9						
D14A	Greenough	69.27	333	⇑P	P	04 34 22.6 0.0
baz=69,SNR=7.8						
KIPM	Iron Peak	69.27	322	eP	P	04 34 23.0 +0.2
I08A	Drewsey	69.32	328	⇑P	P	04 34 23.4 +0.4
baz=69,SNR=9.1						
J07A	Hines	69.33	327	⇓P	P	04 34 23.1 +0.1
baz=69						
BMO	Blue Mountains	69.36	330	eP	P	04 34 23.0 -0.3
comp=Z,4.9nm,0.9s,mb4.4						
H09A	Durkee	69.40	329	⇓P	P	04 34 23.3 -0.2
baz=70						
K06A	Valley Falls	69.42	327	⇑P	P	04 34 23.9 +0.2
baz=70,SNR=18						
M03C	McCloud	69.43	324	⇑P	P	04 34 22.9 -0.9
baz=70						
F11A	Grangeville	69.57	331	⇑P	P	04 34 23.8 -0.7
baz=70,SNR=12						
G10A	Bishop Farm, J	69.59	330	⇓P	P	04 34 24.6 -0.1
baz=70,SNR=11						
M04C	Macdoel	69.61	325	⇓P	P	04 34 24.5 -0.3
baz=70						
O01C	Eel River Cons	69.68	323	⇓P	P	04 34 25.4 +0.1
baz=70						
J06A	Christmas Vall	69.68	327	⇓P	P	04 34 25.6 +0.3
baz=70,SNR=22						
D13A	Huson	69.70	333	⇑P	P	04 34 25.3 0.0
baz=70,SNR=5.4						
K05A	Summer Lake	69.72	326	⇓P	P	04 34 25.8 +0.3
baz=70						
H08A	Prairie City	69.80	329	⇑P	P	04 34 26.2 +0.3
baz=70,SNR=20						
VNA1	Neumayer--Stat	69.81	161	eP	P	04 34 25.8 +0.2
VNA1				e		04 34 30.4
VNA1				e		04 34 58.1
N02C	Big Bar	69.82	323	⇑P	P	04 34 26.2 +0.1
baz=70,SNR=16						
L04A	Klamath Falls	69.90	325	⇓P	P	04 34 26.6 0.0
baz=70						
G09A	Cove	69.90	330	⇑P	P	04 34 26.5 -0.1
baz=70,SNR=19						
C14A	Swan Lake	69.90	334	⇑P	P	04 34 26.7 +0.1
baz=70,SNR=12						
I07A	Izee	69.92	328	⇑P	P	04 34 26.8 +0.1
baz=70,SNR=23						
M02C	Callahan	69.92	324	⇑P	P	04 34 26.2 -0.6
baz=70,SNR=5.4						
E11A	Bogner Ranch,	69.94	331	⇑P	P	04 34 26.2 -0.5
baz=70,SNR=7.2						
D12A	Red Ives Fores	70.07	332	⇓P	P	04 34 27.3 -0.3
baz=70,SNR=8.0						
YBH	Yreka Blue Hor	70.07	324	⇓P	P	04 34 26.5 -1.1
baz=70,SNR=9.8						
YBH	Yreka Blue Hor	70.07	324	eP	P	04 34 26.7 -1.0
KHMM	Horse Mountain	70.10	323	eP	P	04 34 29.1 +1.3
F10A	Beach Ranch, E	70.14	331	⇓P	P	04 34 28.1 +0.1
baz=70,SNR=6.5						
I06A	Prineville	70.19	327	⇓P	P	04 34 28.7 +0.4
baz=70,SNR=7.9						
C13A	Hot Springs	70.19	333	⇓P	P	04 34 28.3 0.0
baz=70,SNR=12						
JCC	Jacoby Creek	70.23	323	⇑P	P	04 34 28.9 +0.2
baz=70						
F09A	S2 Ranch, Elgi	70.27	330	⇓P	P	04 34 28.9 +0.1
baz=70,SNR=7.4						
J05A	Fort Rock	70.28	326	⇓P	P	04 34 28.9 -0.1
baz=70,SNR=7.5						
H07A	Lands Inn, Kim	70.31	328	⇓P	P	04 34 29.3 +0.3
baz=70						
G08A	Pilot Rock	70.49	329	⇑P	P	04 34 30.4 +0.3
baz=71,SNR=9.0						
D11A	Klaveano Farm,	70.51	332	⇑P	P	04 34 30.1 -0.1
baz=71,SNR=5.8						
LNOR	Lincton Mounta	70.57	330	eP	P	04 34 30.0 -0.7
B13A	Whitefish	70.68	334	⇓P	P	04 34 31.1 -0.1
baz=71						
J04A	Umpqua Nationa	70.73	326	⇓P	P	04 34 31.6 -0.1
baz=71						
H06A	Lindquist Farm	70.80	328	⇑P	P	04 34 32.2 +0.1
baz=71,SNR=12						
G07A	Ruggs Ranch, H	70.83	329	⇓P	P	04 34 32.4 +0.1
baz=71,SNR=7.0						
L02A	Cave Junction	70.85	324	⇓P	P	04 34 32.4 0.0
baz=71						
I05A	Bend	70.90	327	⇓P	P	04 34 32.5 -0.1
baz=71						
M01C	Crescent City	70.94	324	⇓P	P	04 34 32.6 -0.4
baz=71						
D10A	Wagner Farm, O	70.95	331	⇓P	P	04 34 32.6 -0.3
baz=71,SNR=7.4						
E09A	Wood Farm, Sta	70.97	330	⇓P	P	04 34 32.7 -0.3
baz=71						
WALA	Waterton Lakes	70.97	335	eP	P	04 34 33.0 0.0
comp=Z,16nm,1.1s,mb4.9						
A13A	Flathead Natio	71.08	334	⇓P	P	04 34 33.6 -0.1
baz=71						
K02A	Glendale	71.18	325	⇑P	P	04 34 34.2 -0.2
baz=71,SNR=10						
B12A	Libby	71.24	333	⇑P	P	04 34 35.0 +0.4
baz=71,SNR=5.5						
KBO	Bosley Butte	71.24	324	epP	pP	04 34 42.1 -7.3
I04A	Tendick Farm,	71.26	326	⇓P	P	04 34 34.3 -0.5
baz=71,SNR=7.1						
D09A	Jones Farm, Ri	71.44	331	⇓P	P	04 34 35.6 -0.3
baz=72,SNR=6.0						
B11A	Sandpoint	71.56	333	⇑P	P	04 34 36.6 0.0
baz=72,SNR=7.1						
RSW	Rattlesnake Hi	71.58	330	eP	P	04 34 37.2 +0.4
J02A	Umpqua	71.61	325	⇑P	P	04 34 37.3 +0.3
baz=72,SNR=9.7						
A12A	Yaak River Ran	71.62	334	⇑P	P	04 34 37.7 +0.8
baz=72,SNR=8.5						
G05A	Wamic	71.66	328	⇑P	P	04 34 38.1 +0.9
baz=72						
D08A	Wollman Farm,	71.73	330	⇓P	P	04 34 37.4 -0.2
baz=72						
H04A	Detroit Lake	71.73	327	⇓P	P	04 34 37.6 -0.1
baz=72,SNR=6.1						
K01A	Sixes	71.76	324	⇓P	P	04 34 38.3 +0.4
baz=72						
SNAA	Sanae	71.77	161	eP	P	04 34 37.0 -0.5
SNAA				e		04 34 41.3
SNAA				e		04 35 09.4
SNAA	Sanae	71.77	161	P	P	04 34 37.1 -0.4
comp=Z,6.0nm,0.6s,mb4.7,baz=279,slow=6.0,SNR=59						
SNAA	Sanae	71.77	161	eP	P	04 34 37.0 -0.5
SNAA				pmax	pmax	
comp=Z,33nm,0.9s						
SNAA	Sanae	71.77	161	eP	P	04 34 37.0 -0.6
comp=Z,34nm,0.9s,mb5.3						
NEW	Newport	71.77	332	eP	P	04 34 37.4 -0.4
NEW				pmax	pmax	
comp=Z,15nm,1.2s						
NEW	Newport	71.77	332	eP	P	04 34 37.4 -0.5
comp=Z,15nm,1.2s,mb4.8						
E07A	Sunnyside	71.83	330	⇓P	P	04 34 38.9 +0.7
baz=72						
I03A	Eugene	71.85	326	⇑P	P	04 34 38.7 +0.3
baz=72,SNR=7.9						
OD2	Odessa Site #2	71.87	331	eP	P	04 34 38.4 -0.1
A11A	Hall Mountain,	71.94	333	⇓P	P	04 34 39.3 +0.4
baz=72,SNR=5.1						
F05A	White Salmon	72.17	328	⇓P	P	04 34 40.9 +0.6
baz=72						
G04A	Mulino	72.24	327	⇓P	P	04 34 40.8 +0.1
baz=72						
COR	Corvallis	72.27	326	eP	P	04 34 41.2 +0.3
COR				pmax	pmax	
comp=Z,36nm,1.4s,mb5.1						
COR	Corvallis	72.27	326	eP	P	04 34 41.2 +0.3
comp=Z,36nm,1.4s,mb5.1						
C08A	Higginbotham F	72.31	331	⇑P	P	04 34 41.8 +0.7
baz=72,SNR=5.5						
H03A	Soap Creek Ran	72.32	326	⇑P	P	04 34 41.7 +0.5
baz=72,SNR=7.5						
D07A	Quincy	72.33	330	⇓P	P	04 34 41.5 +0.3
baz=72						
B09A	Rice	72.35	332	⇓P	P	04 34 41.7 +0.4
baz=72,SNR=11						
E06A	Yakima	72.38	329	⇑P	P	04 34 41.8 +0.3
baz=72						
A10A	Northport	72.49	333	⇓P	P	04 34 41.9 -0.2
baz=73						
F04A	Amboy	72.69	328	⇓P	P	04 34 43.4 0.0
baz=73,SNR=6.1						
C07A	Waterville	72.72	330	⇓P	P	04 34 44.0 +0.4
baz=73,SNR=7.6						
G03A	Yamhill	72.73	327	⇑P	P	04 34 44.0 +0.4
baz=73						
D06A	Cle Elum	72.76	330	⇑P	P	04 34 44.1 +0.3
baz=73						
E05A	Randle	72.78	329	⇑P	P	04 34 43.3 -0.6
baz=73						
ETW	Entiat	72.80	330	eP	P	04 34 44.0 +0.1
B08A	Colville Reser	72.85	331	⇑P	P	04 34 43.8 -0.5
baz=73,SNR=8.2						
LIC	Lamto	72.89	79	eP	P	04 34 43.6 -1.7
comp=Z,48nm,1.0s,mb5.1,baz=248						
LIC	Lamto	72.89	79	eP	P	04 34 43.6 -1.7
comp=Z,24nm,1.0s,mb5.1						
A09A	Danville	72.95	332	⇑P	P	04 34 44.9 0.0
baz=73,SNR=6.4						
DBIC	Dimbokro	73.18	79	P	P	04 34 47.0 0.0
comp=Z,18nm,0.7s,mb5.1,baz=242,slow=4.9,SNR=27						
DBIC	Dimbokro	73.18	79	eP	P	04 34 46.8 -0.2
DBIC				pmax	pmax	
comp=Z,38nm,1.2s						
DBIC	Dimbokro	73.18	79	eP	P	04 34 46.8 -0.2
comp=Z,38nm,1.2s,mb5.2						
A08A	Turner Farm, O	73.25	332	⇓P	P	04 34 46.7 +0.1
baz=73,SNR=12						
F03A	Seaside	73.29	327	⇑P	P	04 34 47.2 +0.2
baz=73						
B07A	Winthrop	73.30	331	⇓P	P	04 34 47.0 +0.1
baz=73,SNR=5.9						
D05A	Enumclaw	73.32	329	⇑P	P	04 34 47.0 -0.1
baz=73						
C05A	Tolt Reservoir	73.52	330	⇓P	P	04 34 48.1 -0.2
baz=74						
E03A	Lebam	73.69	328	⇓P	P	04 34 49.9 +0.6
baz=74						
A07A	Ashnola River,	73.83	331	⇓P	P	04 34 50.8 +0.7
baz=74,SNR=9.6						
RPW	Rockport	73.95	330	eP	P	04 34 50.0 -0.8
JCW	Jim Creek	73.98	330	eP	P	04 34 50.2 -0.8
B06A	Marblemount	73.99	330	⇑P	P	04 34 50.3 -0.7
baz=74						
GNW	Green Mountain	74.00	329	eP	P	04 34 51.1 +0.1
GNW				epP	pP	04 35 06.6 +0.9
EDM	Edmonton	74.00	338	eP	P	04 34 49.9 -1.0
B05A	Bryant	74.11	330	⇓P	P	04 34 51.1 -0.6
baz=74,SNR=9.5						
C04A	Brinnon	74.17	329	⇑P	P	04 34 52.6 +0.5
baz=74						
D03A	Wishkah Elem.	74.18	328	⇓P	P	04 34 52.6 +0.5
baz=74						
NLWA	Neilton Lookou	74.41	328	⇑P	P	04 34 54.2 +0.8
baz=74,SNR=14						
NLWA	Neilton Lookou	74.41	328	eP	P	04 34 54.1 +0.6
A05A	Maple Falls	74.61	330	⇓P	P	04 34 54.3 -0.3
baz=75						
C03A	Quillayute Air	75.13	328	⇓P	P	04 34 58.1 +0.5
baz=75						
TOA0	Torodi Ar. Sit	81.19	74	eP	P	04 35 32.2 +0.4
TORD	Torodi Ar. Bea	81.19	74	P	P	04 35 32.1 +0.3
comp=Z,33nm,0.7s,mb5.3,baz=258,slow=4.9,SNR=57						
YKA	Yellowknife Ar	81.73	343	P	P	04 35 32.5 -1.2
comp=Z,8.2nm,0.7s,mb4.8,baz=146,slow=5.7,SNR=72						
YKA	Yellowknife Ar	81.73	343	P	P	04 35 32.5 -1.2
EVO	Evora	81.74	47	⇑P	P	04 35 35.3 +1.0
comp=Z,60nm,1.2s,mb5.1						
YKW3	Yellowknife Ar	81.79	343	eP	P	04 35 32.9 -1.1
PESTR	Estremoz	82.18	47	eP	P	04 35 37.4 +0.8
comp=Z,44nm,1.8s,mb5.1						
PBAR	Barrancos	82.29	48	eP	P	04 35 38.8 +1.6
comp=Z,22nm,1.5s,mb4.9						
EMIN	Mina Concepcio	82.39	48	P	P	04 35 37.4 -0.3
comp=Z,29nm,1.1s,mb5.1						
EBAD	Badajoz	82.54	47	P	P	04 35 39.4 +0.9
comp=Z,52nm,1.6s,mb5.3						
ESPR	Espera	82.63	49	P	P	04 35 37.2 -1.8
comp=Z,94nm,1.4s,mb5.6						
PCBR	Castelo Branco	82.66	46	eP	P	04 35 40.0 +0.9
comp=Z,34nm,1.2s,mb5.2						
PVIS	Viseu	82.73	45	eP	P	04 35 40.4 +0.9
comp=Z,55nm,1.7s,mb5.3						
EJIF	Jimena Fronter	82.76	50	P	P	04 35 41.8 +2.1
EJIF				pmax	pmax	
comp=Z,31nm,1.1s,mb5.2						
EJIF	Jimena Fronter	82.76	50	P	P	04 35 41.8 +2.1
comp=Z,31nm,1.1s,mb5.2						
MTE	Manteigas	82.84	46	eP	P	04 35 41.0 +1.0
comp=Z,22nm,1.6s,mb4.9						
VNDA	Vanda	83.37	191	P	P	04 35 42.0 -0.1
comp=Z,2.8nm,0.8s,mb4.3,baz=120,slow=1.5,SNR=9.8						
VNDA	Vanda	83.37	191	eP	P	04 35 41.8 -0.4
VNDA				pmax	pmax	
comp=Z,3.0nm,0.9s						
VNDA	Vanda	83.37	191	eP	P	04 35 41.8 -0.4
comp=Z,3.2nm,0.9s,mb4.3						
MVO	Moncorvo	83.52	45	eP	P	04 35 44.5 +1.0
comp=Z,40nm,2.0s,mb5.2						
ERUA	La Rua	83.95	44	P	P	04 35 45.8 +0.2
ERUA				pmax	pmax	
comp=Z,23nm,1.3s,mb5.2						
ERUA	La Rua	83.95	44	P	P	04 35 45.8 +0.2
comp=Z,23nm,1.3s,mb5.2						
ELOJ	Sierra Loja	84.00	50	P	P	04 35 47.6 +1.6
ELOJ				pmax	pmax	
comp=Z,25nm,1.0s,mb5.3						
ELOJ	Sierra Loja	84.00	50	P	P	04 35 47.6 +1.6
comp=Z,25nm,1.0s,mb5.3						
ELUQ	Luque	84.07	49	P	P	04 35 47.2 +0.8
ELUQ				pmax	pmax	
comp=Z,30nm,1.4s,mb5.2						
ELUQ	Luque	84.07	49	P	P	04 35 47.2 +0.8
comp=Z,30nm,1.4s,mb5.2						
EADA	Adamuz	84.07	49	P	P	04 35 46.9 +0.5
comp=Z,57nm,1.6s,mb5.5						
WRAK	Wrangell Islan	84.13	332	eP	P	04 35 45.1 -1.1
comp=Z,12nm,1.3s,mb4.9						
ERON	Agron	84.21	50	P	P	04 35 48.3 +1.2
comp=Z,14nm,0.7s,mb5.2						
DLBC	Dease Lake	84.32	335	eP	P	04 35 47.3 +0.2
DLBC				epP	pP	04 36 01.6 -0.5

comp=Z,4.3nm,0.8s,mb4.8
MFF Saint Martin d 90.17 42 *e*P **P 04 36 15.6 -0.1**
LFF La Frestale 90.20 44 *e*P **P 04 36 16.0 +0.1**
comp=Z,55nm,1.3s,mb5.4
LFF La Frestale 90.20 44 *e*P **P 04 36 16.0 +0.1**
LFF pmax pmax
comp=Z,28nm,1.3s,mb5.4
LFF La Frestale 90.20 44 *e*P **P 04 36 16.0 +0.1**
comp=Z,28nm,1.3s,mb5.4
GRR Gorron 90.32 40 *e*P **P 04 36 16.1 -0.3**
MTLF Montolieu 90.70 46 *e*P **P 04 36 18.0 -0.3**
RJF Les Rejaudoux 90.84 44 *e*P **P 04 36 18.7 -0.2**
LDF La Druitiere 90.85 40 *e*P **P 04 36 18.5 -0.4**
comp=Z,22nm,0.9s,mb5.2
LDF La Druitiere 90.85 40 *e*P **P 04 36 18.5 -0.4**
LDF pmax pmax
comp=Z,11nm,0.9s,mb5.2
LDF La Druitiere 90.85 40 *e*P **P 04 36 18.5 -0.4**
comp=Z,11nm,0.9s,mb5.2
CAF Calviac 91.09 44 *e*P **P 04 36 19.8 -0.3**
comp=Z,24nm,1.1s,mb5.1
CAF Calviac 91.09 44 *e*P **P 04 36 19.8 -0.3**
CAF pmax pmax
comp=Z,12nm,1.1s,mb5.1
CAF Calviac 91.09 44 *e*P **P 04 36 19.8 -0.3**
comp=Z,12nm,1.1s,mb5.1
DAWY Dawson 91.20 337 *e*P **P 04 36 19.7 -0.4**
DAWY *e*pP pP 04 36 33.8 -1.4
INK Inuvik 91.43 342 *e*P **P 04 36 20.5 -0.6**
TCF Toulx Ste Croi 91.61 43 *e*P **P 04 36 21.9 -0.5**
BGF Bois d'Agland 92.11 43 *e*P **P 04 36 24.5 -0.2**
comp=Z,11nm,0.7s,mb5.0
BGF Bois d'Agland 92.11 43 *e*P **P 04 36 24.5 -0.2**
BGF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
BGF Bois d'Agland 92.11 43 *e*P **P 04 36 24.5 -0.2**
comp=Z,5.6nm,0.7s,mb5.0
EGAK Eagle 92.21 337 *e*P **P 04 36 24.1 -0.7**
comp=Z,10nm,1.0s,mb5.1
AVF Avril sur Loir 92.51 42 *e*P **P 04 36 26.0 -0.6**
SSF Saint Saulge 92.69 42 *e*P **P 04 36 26.7 -0.7**
SMF Signal de Mont 92.79 43 *e*P **P 04 36 27.6 -0.3**
comp=Z,9.8nm,0.7s,mb5.0
SMF Signal de Mont 92.79 43 *e*P **P 04 36 27.6 -0.3**
SMF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
SMF Signal de Mont 92.79 43 *e*P **P 04 36 27.6 -0.3**
comp=Z,4.9nm,0.7s,mb5.0
LOR Lormes 92.98 42 *e*P **P 04 36 28.1 -0.7**
MAW Mawson 93.61 165 P **P 04 36 30.4 -1.0**
comp=Z,4.1nm,0.8s,mb4.9,baz=171,slow=3.9,SNR=8.4
ORIF Oris-en-Rattie 93.68 45 *e*P **P 04 36 32.8 +0.8**
comp=Z,8.1nm,0.6s,mb5.0
ORIF Oris-en-Rattie 93.68 45 *e*P **P 04 36 32.8 +0.8**
ORIF pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
ORIF Oris-en-Rattie 93.68 45 *e*P **P 04 36 32.8 +0.8**
comp=Z,4.1nm,0.6s,mb5.0
KEST Kesra 93.92 54 P **P 04 36 32.1 -1.3**
comp=Z,0.7nm,0.8s,mb4.1,baz=293,slow=7.7,SNR=2.9
CABF La Chapelle 94.27 43 *e*P **P 04 36 34.6 -0.1**
LPL La Plagne 94.42 44 *e*P **P 04 36 36.4 +1.0**
LPG La Plagne 94.43 44 *e*P **P 04 36 36.6 +1.1**
COLA College 94.85 336 *e*P **P 04 36 35.9 -1.0**
COLA pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
COLA College 94.85 336 *e*P **P 04 36 35.9 -1.0**
comp=Z,7.7nm,0.9s,mb5.1
CDF Champ du Feu 95.51 42 *e*P **P 04 36 39.9 -0.4**
GERES GERESS Array B 99.77 42 P Pdif 04 36 59.7 +0.2
comp=Z,1.8nm,0.9s,baz=247,slow=5.2,SNR=8.9
MALT Malatya 117.24 54 *e*PKIKP PKPdf 04 42 01.1 +0.2
PETK Petropavlovsk- 122.43 325 PKP PKPdf 04 42 08.9 -1.5
comp=Z,3.2nm,1.0s,baz=52,slow=4.2,SNR=7.1
ARU Arti 124.89 29 *i* PKIKP PKPdf 04 42 13.6 -1.4
YAK Yakutsk 128.37 345 *i* PKIKP PKPdf 04 42 20.5 -1.0
BRVK Borovoye 132.33 27 *e*PKIKP PKPdf 04 42 29.6 +0.3
ASAR Alice Springs 132.94 218 PKP PKPdf 04 42 30.1 -1.2
comp=Z,0.6nm,0.6s,baz=116,slow=2.3,SNR=8.6
WB2 Warramunga Arr 135.39 222 *e*P PKPdf 04 42 34.9 -1.2
WRAB Tennant Creek 135.40 222 *e*PKIKP PKPdf 04 42 35.1 -1.0
WRA Warramunga Arr 135.40 222 PKhKP 04 42 27.7
comp=Z,0.3nm,0.4s,baz=106,slow=2.5,SNR=8.4
WRA PKP PKPdf 04 42 34.8 -1.3
comp=Z,2.9nm,0.8s,baz=141,slow=1.5,SNR=12
NVS Novosibirsk 135.73 17 *e*PKHKP 04 42 26.7
NVS pmax pmax
comp=Z,63nm,2.7s
NVS pmax pmax
comp=N,31nm,2.6s
ZALV Zalesovo Beam 136.97 17 PKP PKPdf 04 42 37.8 -0.1
comp=N,6.6nm,0.4s,baz=232,slow=1.7,SNR=11
ZAL Zalesovo 136.97 17 PKIKP PKPdf 04 42 37.8 -0.1
KURK Kurchatov 137.57 24 *i* PKIKP PKPdf 04 42 38.8 -0.3
KURK Kurchatov 137.57 24 *e*PKPdf PKPdf 04 42 38.4 -0.7
EKS2 Erkin-Say 140.91 36 *e*PKPdf PKPdf 04 42 46.7 +1.2
MJAR Matsushiro Arr 142.05 313 PKhKP 04 42 41.0
comp=N,1.1nm,0.8s,baz=91,slow=1.6,SNR=5.9
MJAR Matsushiro Arr 142.05 313 PKP PKPdf 04 42 41.0 -6.8
MKAR Makanchi Array 142.16 25 PKhKP 04 42 41.0
comp=N,2.0nm,0.8s,baz=326,slow=2.2,SNR=7.9
MKAR PKP PKPdf 04 42 48.5 +0.9
comp=N,2.0nm,0.7s,baz=332,slow=1.1,SNR=7.0
ZAK Zakamensk 143.36 1 *e*PKHKP 04 42 41.3
ZAK pmax pmax
comp=Z,6.0nm,1.5s
KSH Kashi 144.16 39 *e*PKP PKPdf 04 42 51.3 -0.1
KSH *e*PP PP 04 46 10.1 +4.2
KSH PKS 04 46 25.8
KSH PPP 04 49 23.5
KSH SKS SKSdf 04 49 55.3 -1.4
KSH SKKS SKKSac 04 52 55.3 +0.7
KSH SS SS 05 04 50.8 +3.8
KSH PP PP
comp=Z,1μm,6.8s
KSH LR LR
comp=N,517nm,6.0s
KSH LR LR
comp=E,854nm,6.4s
KSH LR LR
comp=Z,4μm,26.8s,MS6.0
CN2 Changchun 144.89 333 *e*PKP PKPdf 04 42 52.8 +0.3
SONM Songino Array 145.87 357 PKPbc PKPbc 04 42 54.6 0.0
comp=Z,20nm,0.8s,baz=330,slow=2.2,SNR=49
WMQ Urumqi 146.74 22 PKP PKPdf 04 42 54.5 -1.2
SNY Shenyang 147.29 333 ⇑PKP PKPdf 04 42 57.4 +0.7
KSRS Korea Array 148.28 323 PKPbc PKPbc 04 42 58.2 -3.6
comp=Z,6.3nm,0.7s,baz=61,slow=1.9,SNR=15
DDI Dehra Dun 150.68 51 *ex* PKPbc 04 43 07.0 -1.0
BJT Baijiatuau 151.73 340 *e*PKIKP PKPbc 04 43 09.2 -0.9
HHC Hu-ho-hao-te 152.16 348 *e*PKP PKPdf 04 43 04.3 -0.1
HHC PKS 04 46 37.5
HHC PP PP 04 46 51.8 +0.1
HHC SKS SKSdf 04 50 06.8 -0.7
HHC SKKS SKKSac 04 53 39.8 +0.9
HHC LR LR
comp=N,698nm,21.4s,MS5.6
HHC LR LR
comp=E,783nm,21.4s,MS5.6
HHC LR LR
comp=Z,2μm,22.6s,MS5.9
GTA Gaotai 154.04 8 *e*PKP PKPdf 04 43 08.1 +0.9
DANN Dangsing 155.96 49 *e*P PKPab 04 43 37.5 +0.2
comp=Z,62nm,0.8s
KOLN Koldanda 156.15 51 *e*P PKPab 04 43 37.7 -0.5
comp=Z,21nm,0.7s
GKN Gorkha 156.79 49 *e*P PKPab 04 43 40.9 0.0
comp=Z,22nm,1.0s
NJ2 Nanjing 157.33 326 *e*PKP PKPdf 04 43 06.0 -5.8
DMN Daman 157.36 49 *e*P PKPab 04 43 43.0 -0.4
comp=Z,52nm,0.8s
KKN Kakani 157.38 49 *e*P PKPab 04 43 43.9 +0.4
comp=Z,60nm,0.8s
PKI Pulchoki 157.60 49 *e*P PKPab 04 43 44.6 +0.2
comp=Z,52nm,1.0s
LZH Lanzhou 157.65 1 *e*PKP PKPdf 04 43 10.1 -2.0
LZH APKP 04 43 17.5
LZH PP PP 04 47 26.0 +3.7
LZH PP PP
comp=Z,150nm,5.4s
LZH LR LR
comp=N,365nm,19.6s
LZH LR LR
comp=Z,658nm,20.4s,MS5.5
GUN Gumba 157.75 48 *e*P PKPab 04 43 44.9 -0.2
comp=Z,97nm,0.9s
JIRN Jiri 158.12 48 *e*P PKPab 04 43 47.3 +0.6
XAN Xi'an 159.26 349 PKP PKPdf 04 43 13.8 -0.3
XAN PKS 04 46 44.0
XAN LR LR
comp=E,854nm,56.5s
XAN LR LR
comp=Z,2μm,54.5s,MS5.5
TAPN Taplejung 159.38 46 *e*P PKPab 04 43 52.6 +0.5
ODAN Odare 159.45 48 *e*P PKPab 04 43 52.6 +0.1
LSA Lhasa 159.93 35 *e*PKIKP PKPdf 04 43 16.1 +1.1
WHN Wuhan 160.79 333 PKP PKPdf 04 43 12.5 -3.4
CD2 Chengdu 162.81 1 *e*PKP PKPdf 04 43 15.8 -2.2
GYA Guiyang 167.06 350 PKP PKPdf 04 43 21.8 +0.1
GYA PKP2 PKPab 04 44 27.3 +1.7
GYA PKS 04 46 52.8
GYA PP PP 04 48 15.9 +3.5
GYA SKKS SKKSac 04 54 58.3 +1.4
GYA SS SS 05 08 54.8 +2.4
GYA PP PP
comp=Z,160nm,8.2s
GYA LR LR
comp=N,340nm,24.0s
GYA LR LR
comp=E,270nm,23.8s
GYA LR LR
comp=Z,250nm,24.2s
KMI Kunming 168.49 7 PKP PKPdf 04 43 22.1 -0.7
CMAR Chiang Mai Arr 172.99 46 PKP PKPdf 04 43 24.2 -1.1
comp=Z,1.1nm,0.3s,baz=259,slow=2.4,SNR=5.7
CMAR PKPab PKPab 04 44 52.4 +0.1
comp=Z,1.5nm,0.5s,baz=311,slow=5.5,SNR=8.3

IDC 16 04:35:29.6±3.2, 1442S×7611W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.6/15, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx3.0/25, Error ellipse: s-maj=120.7km s-min=42.6km az=46.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.52**	**344**	Pn	Pn	04 36 12.0	+0.2
NNA	baz=168,slow=14,SNR=1.0			LR	LR	04 37 21.4	
	comp=Z,1μm,20.3s,baz=286,slow=44						
LPAZ	**La Paz**	**7.92**	**105**	Pn	Pn	04 37 32.7	+6.7
	0.4nm,0.3s,baz=306,slow=7.4,SNR=14						
TORD	**Torodi Ar. Bea**	**81.75**	**74**	P	P	04 47 50.8	0.0
	1.3nm,0.9s,baz=251,slow=4.9,SNR=7.4						
YKA	**Yellowknife Ar**	**82.36**	**343**	P	P	04 47 52.5	-0.5
	0.2nm,0.6s,baz=150,slow=5.3,SNR=3.1						
SONM	**Songino Array**	**146.62**	**357**	PKPbc	PKPbc	04 55 13.1	0.0
	0.5nm,0.5s,baz=7.8,slow=3.2,SNR=3.4						

IDC 16 04:35:54.0±2.1, 1429S×7680W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/15, mbtmp3.8/3, ML4.3/1, Error ellipse: s-maj=82.8km s-min=36.1km az=76.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.29**	**359**	Pn	Pn	04 36 32.6	-0.5
NNA	71nm,0.3s,baz=139,slow=11,SNR=6.5			Sn	Sn	04 37 04.6	+2.6
	184nm,0.3s,baz=262,slow=21,SNR=7.2						
LPAZ	**La Paz**	**8.60**	**104**	Pn	Pn	04 38 04.5	+4.7
	0.3nm,0.3s,baz=287,slow=10,SNR=2.2						
YKA	**Yellowknife Ar**	**82.05**	**343**	P	P	04 48 15.2	-0.5
	0.2nm,0.6s,baz=146,slow=6.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**82.36**	**74**	P	P	04 48 18.2	-0.3
	0.6nm,0.8s,baz=251,slow=4.4,SNR=2.9						
SONM	**Songino Array**	**146.45**	**356**	PKPbc	PKPbc	04 55 37.5	+0.4
	0.8nm,0.8s,baz=5.7,slow=1.4,SNR=2.8						

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*ISCJB **16** 04:41:15.5±1.4, 147S±01×757W±02, h40km±15km, mb3.7/3, Error ellipse: s-maj=28.9km s-min=8.7km az=148.1*
*NEIC **16** 04:41:16.6±0.8, 1460S×7575W, h35km, Error ellipse: s-maj=23.2km s-min=9.4km az=55.0*
*IDC **16** 04:41:18.1±2.1, 1459S×7569W, h48km±19km, mb3.5/3, mb1 3.8/8, mb1mx3.6/20, mbtmp3.7/8, ML3.9/3, Error ellipse: s-maj=51.9km s-min=14.9km az=60.0*
ISC 16 04:41:17.8±1.2, 146S±01×757W±02, h45km±13km, n13, σ0°74/15, mb3.7/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.83**	**337**	P	**Pn**	**04 42 00.3**	**-0.2**
NNA	61nm,0.3s,baz=147,slow=13,SNR=6.2			S	**Sn**	**04 42 34.4**	**+1.1**
	61nm,0.3s,baz=260,slow=15,SNR=4.8						
ARE	**Arequipa**	**4.46**	**115**	*e*P	**Pn**	**04 42 22.0**	**-0.8**
ARE				*e*S	**Sn**	**04 43 28.0**	**+15**
LPAZ	**La Paz**	**7.49**	**104**	P	**Pn**	**04 43 11.0**	**+6.5**
	4.5nm,0.3s,baz=286,slow=8.6,SNR=74						
ATAH	**Atahualpa**	**8.00**	**340**	P	**Pn**	**04 43 10.7**	**-0.9**
	0.6nm,0.3s,baz=148,slow=9.5,SNR=4.0						
ATAH				S	**Sn**	**04 44 49.5**	**+8.6**
	1.2nm,0.3s,baz=61,slow=13,SNR=3.0						
LVC	**Limon Verde**	**10.24**	**142**	P	**Pn**	**04 43 42.9**	**+0.8**
	2.3nm,0.3s,baz=137,slow=0.0,SNR=16						
SIV	**San Ignacio**	**14.18**	**97**	P	**Pn**	**04 44 36.6**	**+0.6**
	0.2nm,0.3s,baz=273,slow=14,SNR=6.2						
CFAA	**Coronel Fontan**	**18.25**	**159**	P	**Pn**	**04 45 27.0**	**-0.7**
	baz=332,slow=15,SNR=4.6						
CFAA	**Coronel Fontan**	**18.25**	**159**	P	**Pn**	**04 45 27.0**	**-0.7**
SDV	**Santo Domingo**	**23.87**	**12**	P	**P**	**04 46 26.3**	**-0.9**
	1.6nm,0.5s,mb3.7,baz=270,slow=8.1,SNR=2.3						
SNAA	**Sanae**	**70.86**	**161**	*e*	**P**	**04 52 30.2**	**+0.7**
SNAA				*e*		04 52 32.3	
TORD	**Torodi Ar. Bea**	**81.42**	**74**	P	**P**	**04 53 31.2**	**+0.7**
	1.4nm,0.7s,mb4.0,baz=270,slow=5.3,SNR=8.3						
YKA	**Yellowknife Ar**	**82.65**	**343**	P	**P**	**04 53 35.6**	**-0.3**
	0.2nm,0.7s,mb3.3,baz=143,slow=6.2,SNR=2.6						
SONM	**Songino Array**	**146.82**	**357**	PKPbc	PKPbc	05 00 54.8	-0.2
	0.5nm,0.6s,baz=352,slow=2.3,SNR=3.0						

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*ISCJB **16** 04:43:04.9±1.8, 502N±02×1776W±0.1, h10km, mb3.7/4, Error ellipse: s-maj=33.7km s-min=10.2km az=173.8*
*IDC **16** 04:43:06.7±4.6, 5042N×17741W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/23, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=91.2km s-min=44.0km az=16.0*
*NEIC **16** 04:43:07.3, 5028N×17754W, h7km, ML3.5(AEIC), After AEIC.*
ISC 16 04:43:07.0±1.7, 502N±02×1776W±01, h10km, n9, σ1°05/10, mb3.7/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**2.29**	**302**	P	**Pn**	**04 43 43.8**	**-0.9**
FX1	**Attu Island--F**	**6.35**	**298**	P	**Pn**	**04 44 42.4**	**+1.9**
SVW2	**Sparrevohn**	**16.42**	**40**	*e*Pn	**Pn**	**04 46 56.9**	**-0.3**
KDAK	**Kodiak Island**	**16.46**	**53**	Pn	**Pn**	**04 46 54.6**	**-3.2**
	0.4nm,0.3s,baz=330,slow=15,SNR=8.2						
KDAK				Sn	**Sn**	**04 50 01.1**	**+0.8**
	0.3nm,0.3s,baz=138,slow=23,SNR=12						
INK	**Inuvik**	**27.99**	**33**	P	**P**	**04 48 56.4**	**-1.0**
	0.3nm,0.3s,mb3.4,baz=252,slow=9.6,SNR=6.8						
YKA	**Yellowknife Ar**	**35.48**	**45**	P	**P**	**04 50 03.8**	**+0.6**
	0.4nm,0.4s,mb3.7,baz=275,slow=8.7,SNR=13						
EDM	**Edmonton**	**38.72**	**60**	*e*P	**P**	**04 50 31.4**	**+0.6**
PDAR	**Pinedale Array**	**45.94**	**72**	P	**P**	**04 51 29.9**	**+0.2**
	0.3nm,0.5s,mb3.5,baz=323,slow=5.7,SNR=2.9						
ARCES	**ARCESS Array B**	**59.36**	**351**	P	**P**	**04 53 08.1**	**-0.6**
	3.0nm,1.1s,mb4.3,baz=15,slow=8.4,SNR=4.7						

IDC 16 04:49:52.4±1.2, 1357S×7728W, h22km±5km, mb3.7/3, mb1 4.0/4, mb1mx3.6/16, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=56.1km s-min=27.3km az=69.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**6.62**	**350**	Pn	Pn	04 51 27.9	-0.6
	5.5nm,0.3s,baz=210,slow=9.0,SNR=15						
LPAZ	**La Paz**	**9.25**	**108**	Pn	Pn	04 52 13.1	+8.5
	0.5nm,0.3s,baz=276,slow=9.3,SNR=7.7						
PLCA	**Paso Flores**	**27.69**	**169**	P	P	04 55 39.1	+0.2
	1.8nm,1.0s,baz=319,slow=9.3,SNR=3.6						
YKA	**Yellowknife Ar**	**81.22**	**343**	P	P	05 02 05.4	-0.8
	0.5nm,0.7s,baz=153,slow=6.1,SNR=4.3						
YKA				pP	pP	05 02 12.2	-1.2
	0.3nm,0.8s,baz=148,slow=4.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**82.62**	**75**	P	P	05 02 14.6	-0.1
	1.1nm,0.9s,baz=266,slow=6.0,SNR=4.8						
TORD				pP	pP	05 02 21.5	-0.3
	1.7nm,0.8s,baz=272,slow=5.2,SNR=5.6						
SONM	**Songino Array**	**145.70**	**356**	PKPbc	PKPbc	05 09 29.8	+0.2
	0.4nm,0.3s,baz=350,slow=3.4,SNR=6.4						
SONM				pPKPbc	pPKPbc	05 09 37.3	+0.3
	1.9nm,0.8s,baz=330,slow=2.7,SNR=6.2						

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*ISCJB **16** 05:07:36.3±3.8, 1365S±007×77.1W±02, h27km±31km, mb3.6/2, Error ellipse: s-maj=25.5km s-min=9.4km az=165.1*
*NEIC **16** 05:07:39.4±1.6, 1361S×77.16W, h46km±16km, Error ellipse: s-maj=27.8km s-min=9.6km az=66.0*
*IDC **16** 05:07:40.5±3.4, 1359S×7695W, h38km±30km, mb3.5/2, mb1 3.7/6, mb1mx3.4/19, mbtmp3.6/6, ML3.3/3, Error ellipse: s-maj=46.5km s-min=19.5km az=71.0*
ISC 16 05:07:39.7±1.6, 1359S±009×771W±02, h40km±19km, n11, σ0°82/11, mb3.6/2, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.61**	**9**	Pn	**Pn**	**05 08 06.0**	**+0.3**
NNA	58nm,0.3s,baz=197,slow=14,SNR=5.2			Sn	**Sn**	**05 08 24.7**	**-0.6**
	202nm,0.3s,baz=227,slow=10,SNR=15						
ATAH	**Atahualpa**	**6.67**	**349**	Pn	**Pn**	**05 09 15.3**	**+0.1**
	0.8nm,0.3s,baz=135,slow=5.7,SNR=4.1						
LPAZ	**La Paz**	**9.07**	**108**	Pn	**Pn**	**05 09 48.2**	**0.0**
	0.1nm,0.3s,baz=214,slow=3.6,SNR=2.8						
LPAZ	**La Paz**	**9.07**	**108**	Pn	**Pn**	**05 09 48.2**	**0.0**
LVC	**Limon Verde**	**11.87**	**140**	Pn	**Pn**	**05 10 26.9**	**+0.4**
	0.4nm,0.3s,baz=76,slow=0.0,SNR=3.9						
OTAV	**Otavalo**	**13.80**	**354**	*e*Pn	**Pn**	**05 10 53.1**	**+0.1**
SIV	**San Ignacio**	**15.68**	**101**	Pn	**Pn**	**05 11 18.6**	**+0.7**
	0.1nm,0.3s,baz=273,slow=17,SNR=3.0						
CFAA	**Coronel Fontan**	**19.69**	**157**	P	**Pn**	**05 12 04.8**	**-2.4**
	baz=330,slow=18,SNR=2.2						
TORD	**Torodi Ar. Bea**	**82.45**	**75**	P	**P**	**05 19 58.1**	**-0.5**
	1.5nm,1.1s,mb3.8,baz=248,slow=4.4,SNR=4.0						
VNDA	**Vanda**	**83.18**	**191**	P	**P**	**05 20 02.2**	**+1.0**
	0.2nm,0.5s,mb3.4,baz=128,slow=7.7,SNR=4.4						
SONM	**Songino Array**	**145.74**	**356**	PKPbc	PKPbc	05 27 16.2	+1.8
	0.5nm,0.7s,baz=2.9,slow=5.8,SNR=3.0						

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*ISCJB **16** 05:08:42.7±1.8, 1337S±007×77.4W±0.1, h49km±17km, mb4.1/5, Error ellipse: s-maj=25.0km s-min=8.5km az=163.3*
*NEIC **16** 05:08:43.8±0.7, 1341S×7735W, h35km, mb4.4/3, Error ellipse: s-maj=22.3km s-min=10.2km az=78.0*
*IDC **16** 05:08:44.4±2.8, 1336S×77.12W, h43km±25km, mb3.8/3, mb1 4.1/4, mb1mx3.6/16, mbtmp3.9/4, ML3.3/2, Error ellipse: s-maj=40.0km s-min=16.7km az=89.0*
ISC 16 05:08:44.3±1.5, 1338S±007×773W±02, h46km±16km, n20, σ0°96/21, mb4.1/5, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.45**	**17**	P	**Pn**	**05 09 07.0**	**-1.1**
	248nm,0.3s,baz=194,slow=14,SNR=4.9						
NNA				S	**Sn**	**05 09 24.6**	**-1.3**
	2μm,0.3s,baz=203,slow=3.6,SNR=15						
NNA	**Nana**	**1.45**	**17**	P	**Pn**	**05 09 07.0**	**-1.1**
NNA				*e*Sn	**Sn**	**05 09 24.4**	**-1.6**
NNA				S	**Sn**	**05 09 24.6**	**-1.3**
ATAH	**Atahualpa**	**6.43**	**350**	P	**Pn**	**05 10 17.2**	**+0.7**
	2.2nm,0.3s,baz=153,slow=16,SNR=4.4						
LPAZ	**La Paz**	**9.31**	**109**	P	**Pn**	**05 11 01.2**	**+5.2**
	0.4nm,0.3s,baz=304,slow=17,SNR=3.7						
LVC	**Limon Verde**	**12.15**	**140**	Pn	**Pn**	**05 11 30.5**	**-4.4**
OTAV	**Otavalo**	**13.58**	**355**	Pn	**Pn**	**05 11 55.8**	**+1.4**
	9.1nm,0.9s						
OTAV				*e*Sn	**Sn**	**05 14 23.4**	**-0.5**
SIV	**San Ignacio**	**15.90**	**101**	P	**Pn**	**05 12 26.9**	**+1.8**
	0.2nm,0.3s,baz=266,slow=17,SNR=3.8						
LCO	**Las Campanas**	**16.72**	**160**	Pn	**Pn**	**05 12 35.4**	**+0.1**
	37nm,1.5s						
ROSC	**El Rosal**	**18.35**	**9**	*e*P	**Pn**	**05 12 57.1**	**+1.6**
CFAA	**Coronel Fontan**	**19.95**	**157**	P	**Pn**	**05 13 13.7**	**-0.9**
	0.0nm,0.3s,baz=325,slow=13,SNR=3.6						
PLCA	**Paso Flores**	**27.88**	**169**	P	**P**	**05 14 29.1**	**-0.7**
	1.1nm,0.6s,mb3.7,baz=327,slow=12,SNR=5.0						
LDFC	**Landfair**	**60.07**	**325**	*e*P	**P**	**05 18 46.8**	**0.0**
	6.1nm,0.5s,mb4.9						
SNAA	**Sanae**	**72.50**	**161**	*e*	**P**	**05 20 05.7**	**-0.2**
SNAA				*e*		05 20 13.3	
SNAA	**Sanae**	**72.50**	**161**	*e*P	**P**	**05 20 05.5**	**-0.5**
	1.3nm,0.8s,mb3.9						
YKA	**Yellowknife Ar**	**81.04**	**343**	P	**P**	**05 20 53.9**	**-0.1**
	1.0nm,0.8s,mb3.8,baz=143,slow=5.9,SNR=7.2						
YKA	**Yellowknife Ar**	**81.04**	**343**	P	**P**	**05 20 53.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**82.57**	**75**	P	**P**	**05 21 02.8**	**-0.3**
	2.1nm,0.7s,mb4.3,baz=242,slow=3.5,SNR=9.2						
SONM	**Songino Array**	**145.51**	**356**	PKPbc	PKPbc	05 28 18.5	+0.9
	2.1nm,0.8s,baz=7.1,slow=5.8,SNR=11						
YHNB	**Yeheng**	**159.12**	**305**	*e*PKPdf	PKPdf	05 28 41.2	+3.0
NACB	**Ninganchiao**	**159.17**	**304**	*e*PKPdf	PKPdf	05 28 40.9	+2.6

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*IDC **16** 05:12:00.4±7.3, 1450S×76.15W, h34km±47km, mb3.8/2, mb1 4.0/5, mb1mx3.6/18, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=98.7km s-min=24.7km az=52.0*
*ISCJB **16** 05:12:03.5±1.2, 140S±01×759W±0.1, h59km±14km, mb4.0/5, Error ellipse: s-maj=27.3km s-min=8.8km az=146.6*
*NEIC **16** 05:12:03.9±0.9, 1397S×7584W, h35km, mb4.0/4, Error ellipse: s-maj=23.3km s-min=9.1km az=60.0*
ISC 16 05:12:05.4±1.0, 1402S±010×759W±01, h60km±13km, n15, σ1°19/18, mb4.0/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.23**	**335**	Pn	**Pn**	**05 12 40.2**	**+0.3**
	27nm,0.3s,baz=167,slow=10,SNR=3.8						
NNA				Sn	**Sn**	**05 13 09.1**	**+2.8**
	76nm,0.3s,baz=201,slow=16,SNR=5.5						
NNA	**Nana**	**2.23**	**335**	*e*Pn	**Pn**	**05 12 39.2**	**-0.7**
NNA				*e*Sn	**Sn**	**05 13 04.9**	**-1.4**
NNA				Sn	**Sn**	**05 13 09.1**	**+2.8**
ARE	**Arequipa**	**4.89**	**120**	*e*P	**Pn**	**05 13 17.0**	**+0.7**
ARE				*e*S	**Sn**	**05 14 22.0**	**+10**
ATAH	**Atahualpa**	**7.40**	**340**	Pn	**Pn**	**05 13 50.3**	**-0.5**
	1.2nm,0.3s,baz=155,slow=2.9,SNR=5.1						
LPAZ	**La Paz**	**7.82**	**108**	Pn	**Pn**	**05 13 58.8**	**+2.2**
	1.4nm,0.3s,baz=286,slow=7.6,SNR=15						
LVC	**Limon Verde**	**10.81**	**143**	Pn	**Pn**	**05 14 36.5**	**-0.9**
	1.5nm,0.3s,baz=176,slow=0.0,SNR=6.3						
SIV	**San Ignacio**	**14.45**	**100**	Pn	**Pn**	**05 15 24.8**	**-1.9**
	0.3nm,0.3s,baz=265,slow=14,SNR=4.7						
LCO	**Las Campanas**	**15.67**	**163**	*e*P	**Pn**	**05 15 42.4**	**-0.1**
	20nm,1.2s						
ROSC	**El Rosal**	**18.82**	**5**	*e*P	**Pn**	**05 16 19.8**	**-1.6**
CPUP	**Villa Florida**	**21.26**	**128**	P	**P**	**05 16 42.7**	**-4.0**
	1.5nm,0.7s,mb3.4,baz=281,slow=11,SNR=4.1						
SDV	**Santo Domingo**	**23.35**	**13**	*e*P	**P**	**05 17 09.4**	**+0.7**
	1.9nm,0.4s,mb3.9						
JCT	**Junction City**	**49.87**	**333**	*e*P	**P**	**05 20 53.5**	**+0.7**
	2.3nm,0.4

σ1$03/52, mb4.3/14, 5C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.72**	**359**	*i* P	**Pn**	**05 16 52.0**	**-0.1**
IMP				*i* S	**Sn**	05 17 14.0	+1.2
SHL	**Shillong**	**3.14**	**323**	*e*PN	**Pn**	05 17 13.0	+1.3
SHL				*e*SN	**Sn**	05 17 46.5	-1.5
CHTO	**Chiang Mai**	**6.28**	**131**	*e*Pn	**Pn**	**05 17 54.1**	**-0.7**
	19nm,0.8s						
CM31	**Chiang Mai Arr**	**6.52**	**134**	*e*Pn	**Pn**	**05 17 57.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**6.52**	**134**	P	**Pn**	**05 17 57.2**	**-1.0**
	0.9nm,0.3s,baz=313,slow=13,SNR=7.0						
ODAN	**Odare**	**7.07**	**304**	*e*Pn	**Pn**	**05 18 07.1**	**+1.4**
ODAN				*e*Sn	**Sn**	**05 19 24.9**	**0.0**
	173nm,0.4s						
LSA	**Lhasa**	**7.08**	**340**	*e*P	**Pn**	**05 18 07.2**	**+1.4**
	24nm,0.3s						
LSA				*e*S	**Sn**	**05 19 23.9**	**-1.2**
TAPN	**Taplejung**	**7.10**	**308**	*e*Pn	**Pn**	**05 18 07.5**	**+1.4**
TAPN				*e*Sn	**Sn**	**05 19 26.3**	**+0.7**
	146nm,0.4s						
RAMN	**Ramite**	**7.73**	**302**	*e*Pn	**Pn**	**05 18 15.9**	**+1.1**
JIRN	**Jiri**	**8.40**	**305**	*e*Pn	**Pn**	**05 18 24.7**	**+0.8**
JIRN				*e*Sn	**Sn**	**05 19 56.3**	**-1.2**
	67nm,0.3s						
GUN	**Gumba**	**8.77**	**305**	*e*Pn	**Pn**	**05 18 30.1**	**+1.1**
GUN				*e*Sn	**Sn**	**05 20 04.9**	**-1.6**
	220nm,0.8s						
PKI	**Pulchoki**	**8.96**	**302**	*e*Pn	**Pn**	**05 18 32.0**	**+0.4**
PKI				*e*Sn	**Sn**	**05 20 08.0**	**-3.3**
KKN	**Kakani**	**9.16**	**303**	*e*Pn	**Pn**	**05 18 34.5**	**+0.1**
KKN				*e*Sn	**Sn**	**05 20 13.4**	**-2.9**
	33nm,0.2s						
DMN	**Daman**	**9.21**	**301**	*e*Pn	**Pn**	**05 18 35.4**	**+0.3**
DMN				*e*Sn	**Sn**	**05 20 14.5**	**-3.0**
	33nm,0.4s						
GKN	**Gorkha**	**9.76**	**302**	*e*Pn	**Pn**	**05 18 43.1**	**+0.5**
GKN				*e*Sn	**Sn**	**05 20 27.8**	**-3.2**
DANN	**Dangsing**	**10.61**	**302**	*e*Pn	**Pn**	**05 18 54.1**	**-0.1**
XAN	**Xi'an**	**17.07**	**47**	P	**Pn**	**05 20 20.1**	**-0.4**
XAN				AP	pP	05 20 27.0	-4.4
XAN				AMB	AMB		
	comp=Z,12nm,1.0s						
WMQ	**Urumqi**	**21.35**	**347**	*e*P	**P**	**05 21 09.0**	**+0.4**
KBL	**Kabul**	**24.60**	**303**	*e*P	**P**	**05 21 42.9**	**+1.5**
	comp=Z,12nm,0.5s,mb4.7						
MK31	**Makanchi Array**	**25.49**	**341**	*e*P	**P**	**05 21 49.5**	**+0.1**
MKAR	**Makanchi Array**	**25.49**	**341**	P	**P**	**05 21 49.6**	**+0.2**
	comp=Z,11nm,0.7s,mb4.5,baz=150,slow=16,SNR=12						
MKAR				ScP	ScP	05 28 55.1	-1.8
	comp=Z,0.5nm,0.6s,baz=127,slow=2.2,SNR=3.6						
SONM	**Songino Array**	**26.64**	**19**	P	**P**	**05 21 58.1**	**-1.7**
	comp=Z,0.4nm,0.4s,mb3.3,baz=205,slow=9.5,SNR=4.0						
KURK	**Kurchatov**	**30.09**	**340**	*e*P	**P**	**05 22 30.1**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.3						
ZALV	**Zalesovo Beam**	**31.61**	**350**	P	**P**	**05 22 43.4**	**-0.4**
	comp=Z,1.0nm,0.3s,mb4.1,baz=167,slow=13,SNR=4.1						
ZALV	**Zalesovo Beam**	**31.61**	**350**	P	**P**	**05 22 43.4**	**-0.4**
BVAR	**Borovoye Array**	**34.89**	**335**	P	**P**	**05 23 12.5**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=134,slow=11,SNR=8.8						
BVAR				PcP	PcP	05 25 43.9	-0.7
	comp=Z,0.7nm,0.5s,baz=176,slow=4.3,SNR=3.2						
AKASG	**Malin Array Be**	**56.61**	**316**	P	**P**	**05 26 03.1**	**-0.7**
	comp=Z,5.1nm,0.5s,mb4.8,baz=81,slow=6.1,SNR=28						
WRA	**Warramunga Arr**	**58.12**	**134**	P	**P**	**05 26 14.4**	**-0.4**
	comp=Z,0.8nm,0.4s,mb4.1,baz=321,slow=7.6,SNR=7.4						
WB2	**Warramunga Arr**	**58.12**	**134**	*e*P	**P**	**05 26 14.3**	**-0.5**
PLOR	**Plostina**	**58.22**	**311**	⇑*i*P	**P**	**05 26 16.5**	**+1.3**
MLR	**Muntele Rosu**	**58.72**	**310**	⇑*i*P	**P**	**05 26 19.9**	**+1.1**
BURAR	**Bucovina Array**	**59.17**	**313**	⇑*i*P	**P**	**05 26 22.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**59.94**	**157**	P	**P**	**05 26 26.4**	**-0.7**
	comp=Z,1.2nm,0.4s,mb4.3,baz=323,slow=5.1,SNR=4.2						
ASAR	**Alice Springs**	**60.52**	**137**	P	**P**	**05 26 31.4**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.2,baz=322,slow=6.6,SNR=17						
KWP	**Kalwaria**	**60.78**	**315**	⇑*i*P	**P**	**05 26 33.4**	**+0.6**
DRGR		**60.91**	**312**	⇑*i*P	**P**	**05 26 34.3**	**+0.6**
ARCES	**ARCESS Array B**	**61.09**	**338**	P	**P**	**05 26 33.9**	**-0.7**
	comp=Z,1.5nm,0.7s,mb4.3,baz=103,slow=7.2,SNR=13						
NB2	**NORSAR Subarra**	**66.63**	**328**	P	**P**	**05 27 10.2**	**-1.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=84,slow=6.2						
NOA	**NORSAR Array B**	**66.63**	**328**	P	**P**	**05 27 09.1**	**-2.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=86,slow=6.3,SNR=5.4						
GERES	**GERESS Array B**	**66.72**	**315**	P	**P**	**05 27 12.5**	**+0.5**
	comp=Z,4.0nm,0.6s,mb4.7,baz=76,slow=6.3,SNR=30						
TORD	**Torodi Ar. Bea**	**87.00**	**283**	P	**P**	**05 29 08.0**	**+1.2**
	comp=Z,2.7nm,1.2s,mb4.4,baz=66,slow=4.9,SNR=11						
LHS	**Liberty Hill**	**122.57**	**355**	*e*PKPdf	PKPdf	05 35 20.0	+3.3
SDV	**Santo Domingo**	**144.86**	**333**	PKP	PKPdf	05 35 56.9	-1.8
	comp=Z,15nm,0.9s,baz=81,slow=0.9,SNR=5.6						
CPUP	**Villa Florida**	**153.75**	**257**	PKPbc	PKPbc	05 36 19.6	-0.8
	comp=Z,1.9nm,0.6s,baz=56,slow=3.6,SNR=5.3						

ISCJB ***16*** *05:16:54.7±0.1, 1426S±002×7621W±002, h23km, mb5.7/269, MS6.1/231, Error ellipse: s-maj=4.2km s-min=2.4km az=40.9*
MOS ***16*** *05:16:56.8±0.7, 14.11S×76.22W, h33km, mb5.9/103, MS5.9/34, Error ellipse: s-maj=7.8km s-min=5.2km az=76.7*
GCMT ***16*** *05:16:56.2±0.3, 1429S×7634W, h25km, MW6.4/85, Moment Tensor Solution. s38,c52; s85,c131; Duration: 3s6 Moment tensor: Scale 1018Nm; Mrr2.42±.11; Mθθ0.00±.08; Mφφ-2.42±.08; Mrθ0.14±.19; Mφθ0.87±.05; Mφr-3.95±.19; Best double couple: M0=4.71500×1018 NP1:φs327.00000°, δ18.00000°, λ63.00000°. NP2: φs176.00000°, δ74.00000°, λ98.00000°. Principal axes: T 4.6530, Plg60.0000°, Azm98.0000°; N 0.1250, Plg8.0000°, Azm353.0000°; P -4.7770, Plg28.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***16*** *05:16:56.1, 1430S×76.10W, h23km, mB6.1, Ms6.4, Msz6.3*
NEIC ***16*** *05:16:56.1±0.1, 1428S×76.13W, mb5.8/235, MS6.1/199, ML6.2(LIM), Error ellipse: s-maj=3.9km s-min=2.3km az=53.0*
NEIC Felt [V] at Ica, Lima and Pisco. Also felt at Huaraz.
IGIL ***16*** *05:16:57.0, 1425S×7606W, h35km, MS6.3*
IDC ***16*** *05:16:58.3±2.0, 1427S×76.17W, h40km±17km, mb5.2/23, mb1 5.3/28, mb1mx5.2/29, mbtmp5.2/28, ML4.9/4, MS6.1/29, Ms1 6.1/29, ms1mx6.0/34, Error ellipse: s-maj=16.3km s-min=9.0km az=69.0*
DJA ***16*** *05:17:09, 15.11S×7552W, h78km, mb5.7/6*
ORF ***16*** *05:17:29.3, 930S×7121W, h30km, mb5.6*

ISC 16 05:16:56.7±0.1, 1428S±002×7609W±002, h25km, h25km±.2km:pP-P, n1352, σ0$69/1059, mb5.7/269, MS6.1/231, 332C-205D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.39**	**342**	Pn	**Pn**	**05 17 33.1**	**-1.3**
	60μm,0.4s,SNR=35						
NNA	**Nana**	**2.39**	**342**	Pn	**Pn**	**05 17 33.3**	**-1.0**
	346nm,0.3s,baz=176,slow=10,SNR=28						
NNA				Sn	**Sn**	**05 18 04.0**	**+1.1**
	2μm,0.3s,baz=233,slow=14,SNR=8.8						
NNA				LR	LR	05 18 43.0	
	comp=Z,346μm,18.7s,baz=181,slow=44						
NNA	**Nana**	**2.39**	**342**	*e*Pn	**Pn**	**05 17 33.3**	**-1.0**
ARE	**Arequipa**	**4.94**	**117**	⇑*i*P	**Pn**	**05 18 09.5**	**+0.1**
ARE				*e*S	**Sn**	**05 19 18.0**	**+12**
ATAH	**Atahualpa**	**7.58**	**342**	Pn	**Pn**	**05 18 45.8**	**+0.1**
	8.3nm,0.3s,baz=170,slow=3.9,SNR=17						
ATAH				Sn	**Sn**	**05 20 11.0**	**+0.2**
	19nm,0.3s,baz=108,slow=13,SNR=3.6						
ATAH				LR	LR	05 21 46.0	
	comp=Z,110μm,19.1s,baz=36,slow=39						
LPAZ	**La Paz**	**7.94**	**106**	Pn	**Pn**	**05 18 53.9**	**+3.3**
	39nm,0.3s,baz=292,slow=9.2,SNR=289						
LPAZ				Sn	**Sn**	**05 20 32.9**	**+13**
	baz=6.0,slow=19,SNR=1.8						
LPAZ				LR	LR	05 21 30.6	
	comp=Z,39μm,19.3s,baz=288,slow=34						
LPAZ	**La Paz**	**7.94**	**106**	*e*P	**Pn**	**05 18 52.2**	**+1.6**
LPAZ				pmax	pmax		
	comp=Z,56nm,0.7s						
LPAZ	**La Paz**	**7.94**	**106**	*e*Pn	**Pn**	**05 18 52.2**	**+1.6**
	comp=Z,56nm,0.7s						
CEN1	**Los Morros**	**10.64**	**149**	*e*P	**Pn**	**05 19 26.9**	**-0.8**
LVC	**Limon Verde**	**10.73**	**142**	Pn	**Pn**	**05 19 29.3**	**+0.4**
	comp=Z,39nm,0.3s,baz=295,slow=0.0,SNR=158						
LVC				Sn	**Sn**	**05 21 26.1**	**-2.1**
	comp=Z,28nm,0.3s,baz=247,slow=0.0,SNR=5.1						
LVC				LR	LR	05 24 07.1	
	comp=Z,145μm,19.5s,baz=224,slow=40						
LVC	**Limon Verde**	**10.73**	**142**	*e*Pn	**Pn**	**05 19 29.0**	**+0.1**
LVC				*e*Sn	**Sn**	**05 21 25.2**	**-3.0**
ANCH	**Antofagasta**	**10.79**	**151**	*e*P	**Pn**	**05 19 27.1**	**-2.6**
CPN1	**Cerro Paranal**	**11.60**	**153**	*e*P	**Pn**	**05 19 38.9**	**-2.0**
SIV	**San Ignacio**	**14.60**	**99**	Pn	**Pn**	**05 20 19.8**	**-2.1**
	comp=Z,4.8nm,0.3s,baz=281,slow=10,SNR=48						
OTAV	**Otavalo**	**14.61**	**351**	*e*Pn	**Pn**	**05 20 25.4**	**+3.4**
OTAV				*e*Sn	**Sn**	**05 23 01.6**	**-1.6**
LCO	**Las Campanas**	**15.49**	**162**	*e*Pn	**Pn**	**05 20 33.7**	**+0.1**
	comp=Z,816nm,1.5s						
LCO				*e*Sn	**Sn**	**05 23 29.4**	**+4.9**
TLL	**Tololo Astrono**	**16.55**	**164**	⇑*i*P	**Pn**	**05 20 47.5**	**+0.3**
CFAA	**Coronel Fontan**	**18.69**	**159**	P	**Pn**	**05 21 13.7**	**0.0**
	comp=Z,0.9nm,0.3s,baz=335,slow=11,SNR=80						
CFAA				LR	LR	05 27 34.5	
	comp=Z,6μm,18.3s,baz=344,slow=34						
ROSC	**El Rosal**	**19.09**	**5**	P	**Pn**	**05 21 20.9**	**+2.3**
	comp=Z,1.2nm,0.3s,baz=183,slow=3.0,SNR=26						
ROSC				LR	LR	05 29 43.8	
	comp=Z,74μm,18.4s,baz=194,slow=40						
ROSC	**El Rosal**	**19.09**	**5**	*e*Pn	**Pn**	**05 21 19.5**	**+0.8**
ROSC				*e*Sn	**Sn**	**05 25 03.1**	**+11**
PEL	**Peldehue**	**19.41**	**166**	⇑*i*P	**Pn**	**05 21 20.6**	**-1.9**
LMEL	**Las Melosas**	**20.20**	**166**	⇑*i*P	**P**	**05 21 30.2**	**+0.4**
NICH	**Los Niches**	**21.10**	**169**	⇑*i*P	**P**	**05 21 39.6**	**+0.2**
CPUP	**Villa Florida**	**21.26**	**127**	P	**P**	**05 21 41.6**	**+0.3**
	comp=Z,166nm,0.8s,mb5.4,baz=290,slow=11,SNR=298						
CPUP				LR	LR	05 31 43.9	
	comp=Z,78μm,18.8s,MS6.1,baz=286,slow=42						
CPUP	**Villa Florida**	**21.26**	**127**	*e*P	**P**	**05 21 41.5**	**+0.2**
CPUP				*e*S	**S**	**05 25 48.1**	**+12**
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CPUP				MLR	MLR		
	comp=Z,13μm,19.0s						
CPUP	**Villa Florida**	**21.26**	**127**	*e*P	**P**	**05 21 41.5**	**+0.2**
	comp=Z,1.7nm,0.4s						
CPUP				*e*S	**S**	**05 25 48.1**	**+12**
CPUP				LR	LR		
	comp=Z,13μm,19.0s,MS5.3						
CCHI	**Chillan**	**22.52**	**172**	⇑*i*P	**P**	**05 21 54.9**	**+0.3**
BCIP	**Isla Barro Col**	**23.59**	**351**	*e*P	**P**	**05 22 06.4**	**+0.5**
	comp=Z,179nm,1.0s,mb5.5						
BCIP				LR	LR		
	comp=Z,23μm,20.0s,MS5.7						
SDV	**Santo Domingo**	**23.64**	**14**	P	**P**	**05 22 06.3**	**-0.1**
	comp=Z,115nm,0.7s,mb5.4,baz=270,slow=6.5,SNR=66						
SDV	**Santo Domingo**	**23.64**	**14**	*e*P	**P**	**05 22 06.2**	**-0.2**
SDV				*e*S	**S**	**05 26 21.0**	**+1.5**
SDV				LR	LR		
	comp=Z,20μm,19.0s,MS5.6						
LPA	**La Plata**	**26.27**	**145**	*ce*P	**P**	**05 22 30.0**	**-0.2**
LPA				*e*pP	pP	05 22 36.0	-1.5
LPA				*e*sP	sP	05 22 43.0	+2.5
LPA				*e*S	**S**	**05 27 00.0**	**-1.3**
LPA				*e*pS		05 27 10.0	
TRQA	**Tornquist**	**26.79**	**155**	*e*P	**P**	**05 22 33.5**	**-1.3**
	comp=Z,419nm,1.5s,mb5.8						
TRQA				LR	LR		
	comp=Z,34μm,19.0s,MS5.9						
PLCA	**Paso Flores**	**26.80**	**171**	P	**P**	**05 22 34.1**	**-0.7**
	comp=Z,65nm,1.2s,mb5.0,baz=345,slow=9.9,SNR=33						
PLCA				LR	LR	05 30 46.7	
	comp=Z,26μm,20.8s,MS5.8,baz=338,slow=31						
PLCA	**Paso Flores**	**26.80**	**171**	*e*P	**P**	**05 22 34.2**	**-0.6**
PLCA				pmax	pmax		
	comp=Z,172nm,1.3s						
PLCA				MLR	MLR		
	comp=Z,25μm,21.0s						
PLCA	**Paso Flores**	**26.80**	**171**	*e*P	**P**	**05 22 34.2**	**-0.7**
	comp=Z,172nm,1.3s,mb5.4						
PLCA				LR	LR		
	comp=Z,25μm,21.0s,MS5.8						
PCRV	**Puerto La Cruz**	**26.82**	**26**	P	**P**	**05 22 36.1**	**+0.8**
	comp=Z,118nm,0.9s,mb5.4,baz=194,slow=4.6,SNR=25						
PCRV				LR	LR	05 34 36.5	
	comp=Z,58μm,21.0s,MS6.1,baz=199,slow=39						
BDFB	**Brasilia**	**27.15**	**96**	P	**P**	**05 22 38.1**	**-0.2**
	comp=Z,57nm,0.9s,mb5.1,baz=256,slow=17,SNR=78						
BDFB				LR	LR	05 34 22.8	
	comp=Z,104μm,18.7s,MS6.4,baz=73,slow=38						
SPB	**Sao Paulo**	**28.60**	**113**	*e*P	**P**	**05 22 51.9**	**+0.7**
VAO	**Valinhos**	**28.89**	**112**	⇑*e*P	**P**	**05 22 56.8**	**+3.1**
VAO				*i*		05 22 57.9	
GRGR	**Grenville**	**29.89**	**29**	*e*P	**P**	**05 23 02.1**	**-0.5**
	comp=Z,1μm,1.0s,mb6.5						
GRGR				LR	LR		
	comp=Z,59μm,21.0s,MS6.2						
TGUH	**Tegucigalpa,Un**	**30.25**	**338**	*e*P	**P**	**05 23 07.2**	**+1.3**
TGUH				LR	LR		
	comp=Z,25μm,22.0s,MS5.8						
FCV	**Fort Charlotte**	**30.97**	**29**	*e*	**P**	**05 23 09.4**	**-2.8**
SSV	**Crater Summit**	**31.14**	**29**	*e*	**P**	**05 23 07.8**	**-5.9**
COYC	**Coyhaique**	**31.38**	**175**	*e*P	**P**	**05 23 15.4**	**-0.1**
MCLT	**Moule a Chique**	**31.59**	**29**	*e*	**P**	**05 23 03.2**	**-15**
SLB	**Belfond**	**31.65**	**29**	*e*	**P**	**05 23 11.5**	**-6.7**
BBGH	**Gun Hill**	**31.79**	**32**	PFAKE		05 23 30.0	+11
BBGH				LR	LR		
	comp=Z,24μm,21.0s,MS5.8						
HOJ	**Hope**	**32.08**	**359**	⇑*e*P	**P**	**05 23 23.6**	**+1.7**
GWJ	**Greenwich**	**32.15**	**359**	⇑*e*P	**P**	**05 23 23.6**	**+1.1**
STH	**Stony Hill**	**32.16**	**359**	*e*P	**P**	**05 23 23.8**	**+1.2**
CVJ	**Coleyville**	**32.33**	**357**	⇑*e*P	**P**	**05 23 25.8**	**+1.7**
FDF	**Fort de France**	**32.39**	**28**	*e*P	**P**	**05 23 22.4**	**-2.3**
FDF	**Fort de France**	**32.39**	**28**	*e*P	**P**	**05 23 22.3**	**-2.4**
DSHT	**Scott's Head**	**32.72**	**27**	*e*	**P**	**05 23 28.2**	**+0.6**
MDN	**Morne-Daniel**	**32.80**	**27**	*e*	**P**	**05 23 27.6**	**-0.7**
MPR	**Mayaguez**	**33.47**	**16**	*e*P	**P**	**05 23 34.0**	**-0.1**
RPN	**Rapa Nui**	**33.51**	**242**	PFAKE		05 23 50.0	+16
RPN				LR	LR		
	comp=Z,31μm,20.0s,MS6.0						
CPD	**Cerro la Pandu**	**33.64**	**18**	*e*P	**P**	**05 23 34.9**	**-0.7**
SJG	**San Juan**	**33.64**	**17**	P	**P**	**05 23 34.6**	**-1.1**
	comp=Z,188nm,1.0s,mb6.0,baz=206,slow=2.6,SNR=31						
SJG				LR	LR	05 39 32.4	
	comp=Z,35μm,19.1s,MS6.1,baz=205,slow=40						
SJG	**San Juan**	**33.64**	**17**	*e*P	**P**	**05 23 34.8**	**-0.8**
SJG				pmax	pmax		
	comp=Z,155nm,0.9s						
SJG				MLR	MLR		
	comp=Z,36μm,20.0s						
SJG	**San Juan**	**33.64**	**17**	*e*P	**P**	**05 23 34.8**	**-0.9**
	comp=Z,155nm,0.9s,mb5.9						
SJG				LR	LR		
	comp=Z,36μm,20.0s,MS6.1						
AOPR	**Arecibo Observ**	**33.70**	**16**	*e*P	**P**	**05 23 35.2**	**-0.9**
	comp=Z,226nm,1.0s,mb6.0						
AGPR	**Aguadilla, PR**	**33.72**	**15**	*e*P	**P**	**05 23 35.3**	**-1.0**
AGPR				*e*pP	pP	05 23 43.4	-0.3
HUMP	**Col San Antoni**	**33.76**	**18**	*e*P	**P**	**05 23 36.0**	**-0.7**
HUMP				*e*pP	pP	05 23 44.7	+0.7
MTP	**Monte Pirata**	**33.81**	**18**	*e*P	**P**	**05 23 36.2**	**-0.8**
MTP				*e*pP	pP	05 23 45.5	+1.1
CBYP	**Canovanas**	**33.88**	**18**	*e*P	**P**	**05 23 36.5**	**-1.1**
RCC	**Rio Carpintero**	**34.06**	**1**	*e*P	**P**	**05 23 38.2**	**-1.0**
BPA	**Boggy Peak**	**34.15**	**25**	*e*	**P**	**05 23 39.3**	**-0.7**
MASC	**Masc**	**34.28**	**3**	*e*P	**P**	**05 23 42.7**	**+1.5**
CAM3	**Guarapari**	**34.47**	**106**	⇑*i*P	**P**	**05 23 42.7**	**-0.2**
CAM3				*i*		05 23 45.1	
CAM3				*i*		05 23 46.7	
CAM3				*i*		05 23 57.2	
CAM3				*i*		05 23 59.6	
CAM3				*i*		05 24 10.6	
CMIG	**Matias Romero**	**36.27**	**329**	P	**P**	**05 23 58.9**	**+0.5**
	comp=Z,18nm,0.8s,mb5.1,baz=132,slow=4.7,SNR=14						
CMIG				LR	LR	05 36 55.3	
	comp=Z,25μm,19.1s,MS6.0,baz=135,slow=33						
TEIG	**Tepich**	**36.32**	**340**	P	**P**	**05 23 58.9**	**+0.2**
	comp=Z,81nm,0.6s,mb5.8,baz=151,slow=4.5,SNR=78						
TEIG				LR	LR	05 39 09.9	
	comp=Z,26μm,18.1s,MS6.0,baz=322,slow=37						
TEIG	**Tepich**	**36.32**	**340**	*e*P	**P**	**05 23 58.8**	**+0.1**
	comp=Z,217nm,0.9s,mb6.1						
TEIG				*e*pP	pP	05 24 05.2	-0.9
TEIG				LR	LR		
	comp=Z,26μm,19.0s,MS6.0						
MGV	**Manicaragua**	**36.36**	**354**	*e*P	**P**	**05 24 00.0**	**+1.0**
SOR	**Soroa**	**37.46**	**349**	*e*P	**P**	**05 24 08.2**	**-0.1**
EFI	**East Falkland**	**40.02**	**163**	P	**P**	**05 24 29.0**	**-0.5**
	comp=Z,593nm,1.1s,mb6.2,SNR=6.2						
EFI	**East Falkland**	**40.02**	**163**	*e*P	**P**	**05 24 28.4**	**-1.1**
EFI	**East Falkland**	**40.02**	**163**	PFAKE		05 24 40.0	+10
EFI				LR	LR		
	comp=Z,26μm,20.0s,MS6.1						
USHA	**Ushuaia**	**40.90**	**173**	P	**P**	**05 24 36.7**	**-0.1**
	comp=Z,46nm,1.0s,mb5.1,baz=328,slow=5.9,SNR=11						
DWPF	**Disney**	**42.45**	**353**	*e*P	**P**	**05 24 49.5**	**-0.3**
	comp=Z,60nm,1.0s,mb5.2						
DWPF				*e*pP	pP	05 24 56.7	-0.6
DWPF				LR	LR		
	comp=Z,14μm,22.0s,MS5.8						
BRAL	**Brewton**	**46.24**	**347**	*e*P	**P**	**05 25 20.7**	**+0.6**
	comp=Z,220nm,1.1s,mb6.0						
BRAL				*e*pP	pP	05 25 28.4	+0.8
BRAL				LR	LR		
	comp=Z,9μm,19.0s,MS5.8						
KVTX	**Kingsville**	**46.64**	**333**	PFAKE		05 25 30.0	+6.7
KVTX				LR	LR		
	comp=Z,13μm,21.0s,MS5.9						
NHSC	**New Hope**	**47.28**	**355**	*e*P	**P**	**05 25 27.7**	**-0.4**
NHSC				*e*pP	pP	05 25 34.3	-1.4
NHSC				LR	LR		
	comp=Z,21μm,20.0s,MS6.1						
COW	**Cow Castle Cre**	**47.59**	**355**	*e*P	**P**	**05 25 30.3**	**-0.3**
COW				*e*pP	pP	05 25 36.6	-1.6
BBSR	**BB Station**	**47.65**	**13**	*e*P	**P**	**05 25 30.6**	**-0.4**
	comp=Z,71nm,1.1s,mb5.6						
BBSR				*e*pP	pP	05 25 38.9	+0.2
BBSR				LR	LR		
	comp=Z,16μm,22.0s,MS6.0						
HKT	**Hockley**	**47.91**	**337**	*e*P	**P**	**05 25 33.1**	**0.0**
HKT				*e**PP	pP	05 25 40.2	-0.5
HKT				pmax	pmax		
	comp=Z,282nm,1.7s,mb6.0						
HKT				MLR	MLR		
	comp=Z,9μm,19.0s,MS5.8						
HKT	**Hockley**	**47.91**	**337**	*e*P	**P**	**05 25 33.0**	**-0.1**
	comp=Z,282nm,1.7s,mb6.0						
HKT				*e*pP	pP	05 25 40.2	-0.6
HKT				LR	LR		
	comp=Z,9μm,19.0s,MS5.8						
GOGA	**Godfrey**	**47.94**	**352**	*e*P	**P**	**05 25 32.0**	**-1.3**
GOGA				*e**PP	pP	05 25 38.7	-2.2
GOGA				pmax	pmax		
	comp=Z,81nm,1.0s,mb5.7						
GOGA				MLR	MLR		
	comp=Z,15μm,22.0s,MS5.9						
GOGA	**Godfrey**	**47.94**	**352**	*e*P	**P**	**05 25 32.0**	**-1.2**
	comp=Z,81nm,1.0s,mb5.7						
GOGA				*e*pP	pP	05 25 38.7	-2.2
GOGA				LR	LR		
	comp=Z,15μm,22.0s,MS5.9						
VBMS	**Vicksburg**	**48.25**	**344**	*e*P	**P**	**05 25 35.4**	**-0.3**
	comp=Z,68nm,0.8s,mb5.7						
VBMS				*e*pP	pP	05 25 42.3	-1.0
VBMS				LR	LR		
	comp=Z,8μm,21.0s,MS5.7						
JSC	**Jenkinsville**	**48.54**	**354**	*e*P	**P**	**05 25 37.3**	**-0.6**
NATX	**Nacogdoches**	**49.12**	**339**	*e*P	**P**	**05 25 42.9**	**+0.5**
	comp=Z,60nm,0.7s,mb5.7						
NATX				*e*pP	pP	05 25 50.1	+0.1
NATX				LR	LR		
	comp=Z,8μm,22.0s,MS5.7						
CNNC	**Cliffs of the**	**49.27**	**358**	*e*P	**P**	**05 25 43.5**	**0.0**
	comp=Z,82nm,0.4s,mb6.1						
CNNC				LR	LR		
	comp=Z,14μm,20.0s,MS6.0						
JCT	**Junction City**	**50.01**	**333**	*e*P	**P**	**05 25 49.2**	**0.0**
JCT				*e**PP	pP	05 25 55.4	-1.4
JCT				pmax	pmax		
	comp=Z,53nm,0.8s,mb5.6						
JCT				MLR	MLR		
	comp=Z,7μm,21.0s,MS5.6						
JCT	**Junction City**	**50.01**	**333**	*e*P	**P**	**05 25 49.2**	**0.0**
	comp=Z,53nm,0.8s,mb5.6						
JCT				*e*pP	pP	05 25 55.4	-1.4
JCT				LR	LR		
	comp=Z,7μm,21.0s,MS5.6						
OXF	**Oxford**	**50.14**	**346**	*e*P	**P**	**05 25 48.7**	**-1.4**
OXF				*e*		05 27 09.1	
OXF				pmax	pmax		
	comp=Z,211nm,1.1s,mb6.1						
OXF				MLR	MLR		
	comp=Z,9μm,21.0s,MS5.

comp=Z,30nm,0.7s,mb5.3
FVM French Village 53.70 346 *e*P **P 05 26 15.1 -1.4**
comp=Z,30nm,0.7s,mb5.3
MCWV Mont Chateau 53.77 356 *e*P **P 05 26 16.3 -0.8**
comp=Z,43nm,0.9s,mb5.4
MCWV LR LR
comp=Z,18µm,21.0s,MS6.1
OLIL Olney 53.92 348 *e*P **P 05 26 16.3 -1.8**
comp=Z,134nm,0.8s,mb5.9
MVL Millersville 54.00 360 *e*P **P 05 26 14.3 -4.4**
comp=Z,188nm,1.2s,mb5.9
BLO Bloomington 54.05 350 *e*P **P 05 26 17.2 -2.0**
BLO *e**PP pP 05 26 25.0 -1.8
BLO *e* 05 27 22.7
BLO pmax pmax
comp=Z,70nm,0.6s,mb5.8
BLO Bloomington 54.05 350 *e*P **P 05 26 17.2 -1.9**
comp=Z,70nm,0.6s,mb5.8
BLO *e*pP pP 05 26 25.0 -1.9
BLO *e*PcP PcP 05 27 22.7 -1.2
SLM Saint Louis 54.28 346 *e*P **P 05 26 19.5 -1.3**
SLM pmax pmax
comp=Z,43nm,0.8s,mb5.4
SLM Saint Louis 54.28 346 *e*P **P 05 26 19.5 -1.2**
comp=Z,43nm,0.8s,mb5.4
AMTX Amarillo 54.60 334 *e*P **P 05 26 22.1 -1.1**
comp=Z,109nm,1.4s,mb5.7
AMTX *e*pP pP 05 26 29.2 -1.6
AMTX LR LR
comp=Z,7µm,19.0s,MS5.8
ACSO Alum Creek Sta 54.60 354 *e*P **P 05 26 21.6 -1.5**
comp=Z,112nm,0.9s,mb5.9
ACSO LR LR
comp=Z,22µm,19.0s,MS6.2
BRNJ Basking Ridge 54.70 1 *e*P **P 05 26 24.0 +0.2**
comp=Z,137nm,1.2s,mb5.9
CPNY Central Park 54.82 2 *e*P **P 05 26 24.5 -0.2**
comp=Z,109nm,1.0s,mb5.8
PAL Palisades 55.04 2 *e*P **P 05 26 25.9 -0.4**
PAL pmax pmax
comp=Z,121nm,0.9s,mb5.9
PAL Palisades 55.04 2 *e*P **P 05 26 25.9 -0.4**
comp=Z,121nm,0.9s,mb5.9
319A Douglas 55.46 325 ⇓P **P 05 26 29.9 +0.4**
baz=56,SNR=36
ALLY Alegheny Colle 55.77 356 *e*P **P 05 26 30.4 -1.1**
comp=Z,67nm,0.8s,mb5.7
ALLY *e*pP pP 05 26 37.1 -2.1
318A Bisbee 55.90 325 ⇑P **P 05 26 32.6 -0.1**
baz=56,SNR=73
219A White Tail Can 55.92 326 ⇓P **P 05 26 32.9 +0.1**
baz=56,SNR=33
RKT Rikitea 56.15 252 *e*S **S 05 34 23.6 +0.7**
comp=Z,33µm,25.8s
RKT *e*SS SS 05 38 14.0 +4.5
comp=Z,6µm,27.8s
RKT *e*LR LR 05 43 05.7
comp=Z,31µm,26.8s,baz=87
BINY Binghamton 56.19 0 *e*P **P 05 26 34.4 -0.1**
comp=Z,130nm,1.0s,mb5.9
BINY LR LR
comp=Z,12µm,22.0s,MS6.0
BNM Barren Site 56.25 330 *e*P **P 05 26 35.2 +0.1**
BNM *e*pP pP 05 26 42.6 -0.2
Y22C IRIS PASSCAL I 56.33 329 ⇓P **P 05 26 36.0 +0.3**
baz=56
218A Dragoon 56.34 325 ⇓P **P 05 26 35.6 -0.2**
baz=56,SNR=16
QUA2 Belchertown 56.38 3 *e*P **P 05 26 35.7 -0.2**
comp=Z,183nm,1.2s,mb6.0
QUA2 *e*PcP PcP 05 27 34.1 +1.3
LPM Los Pinos Moun 56.38 330 *e*P **P 05 26 36.2 +0.2**
LPM *e*pP pP 05 26 43.0 -0.8
LENM Lemitar 56.43 329 *e*P **P 05 26 37.5 +1.1**
LENM *e*pP pP 05 26 43.9 -0.3
KSU1 Kansas State U 56.45 341 *e*P **P 05 26 35.5 -0.9**
comp=Z,56nm,0.7s,mb5.7
KSU1 *e*pP pP 05 26 43.2 -1.0
KSU1 LR LR
comp=Z,8µm,22.0s,MS5.8
119A Ashpeak Ranch, 56.54 326 ⇑P **P 05 26 37.4 +0.2**
baz=57,SNR=10
WES Weston 56.55 4 *e*P **P 05 26 37.2 +0.1**
WES Weston 56.55 4 *e*P **P 05 26 36.3 -0.7**
comp=Z,123nm,1.0s,mb5.9
WES *e*pP pP 05 26 44.3 -0.5
WES *e*sP sP 05 26 46.9 -0.9
WES LR LR
comp=Z,12µm,22.0s,MS6.0
217A Green Valley 56.62 324 ⇑P **P 05 26 38.1 +0.3**
baz=57,SNR=39
HRV Adam Dziewonsk 56.65 4 P **P 05 26 38.0 +0.2**
HRV pmax pmax
comp=Z,120nm,1.0s,mb5.9
HRV Adam Dziewonsk 56.65 4 *e*P **P 05 26 37.7 -0.1**
comp=Z,120nm,1.0s,mb5.9
HRV *e*pP pP 05 26 45.1 -0.5
HRV LR LR
comp=Z,12µm,19.0s,MS6.0
LAZ Ladron 56.70 329 *e*P **P 05 26 38.7 +0.3**
LAZ *e*pP pP 05 26 45.9 -0.2
AAM Ann Arbor 56.73 353 P **P 05 26 37.1 -1.2**
AAM pmax pmax
comp=Z,100nm,1.0s,mb5.8
AAM Ann Arbor 56.73 353 *e*P **P 05 26 36.6 -1.7**
comp=Z,104nm,1.1s,mb5.8
AAM *e*pP pP 05 26 43.7 -2.4
AAM LR LR
comp=Z,26µm,20.0s,MS6.3
118A Homack Ranch, 56.80 326 ⇑P **P 05 26 38.9 -0.2**
baz=57,SNR=34
ANMO Albuquerque 56.81 330 *e*P **P 05 26 38.9 -0.2**
ANMO *e**PP pP 05 26 45.7 -1.1
ANMO pmax pmax
comp=Z,126nm,1.3s
ANMO MLR MLR
comp=Z,5µm,20.0s
ANMO Albuquerque 56.81 330 *e*P **P 05 26 38.9 -0.2**
comp=Z,126nm,1.3s,mb5.8
ANMO *e*pP pP 05 26 45.7 -1.1
ANMO LR LR
comp=Z,5µm,20.0s,MS5.6
Z19A T-Link Ranch, 56.92 327 ⇑P **P 05 26 40.0 +0.1**
baz=57
TUC Tucson 57.00 325 *e*P **P 05 26 40.4 -0.1**
TUC *e**PP pP 05 26 48.4 +0.2
TUC pmax pmax
comp=Z,88nm,1.2s,mb5.7
TUC MLR MLR
comp=Z,16µm,19.0s,MS6.1
TUC Tucson 57.00 325 *e*P **P 05 26 40.4 -0.1**
comp=Z,88nm,1.2s,mb5.7
TUC *e*pP pP 05 26 48.4 +0.1
TUC LR LR
comp=Z,16µm,19.0s,MS6.1
216A Three Points, 57.15 324 ⇑P **P 05 26 41.3 -0.2**
baz=57,SNR=22
117A Oracle 57.17 325 ⇓P **P 05 26 41.5 -0.2**
baz=57,SNR=76
Z18A Geronimo 57.17 326 ⇓P **P 05 26 41.7 -0.1**
baz=57
CBKS Cedar Bluff 57.26 338 *e*P **P 05 26 41.5 -0.7**
CBKS *e**SP sP 05 26 52.0 -0.9
CBKS pmax pmax
comp=Z,144nm,1.1s,mb5.9
CBKS MLR MLR
comp=Z,6µm,22.0s,MS5.6
CBKS Cedar Bluff 57.26 338 *e*P **P 05 26 41.5 -0.7**
comp=Z,144nm,1.1s,mb5.9
CBKS *e*pP pP 05 26 48.8 -1.1
CBKS *e*sP sP 05 26 52.0 -0.9
CBKS LR LR
comp=Z,6µm,22.0s,MS5.6
ACCN Adirondack Com 57.42 2 *e*P **P 05 26 43.4 +0.2**
comp=Z,245nm,1.1s,mb6.2
Y19A Nutrioso 57.43 327 ⇑P **P 05 26 43.6 +0.1**
baz=58,SNR=25
Z17A San Carlos Hig 57.57 326 ⇑P **P 05 26 44.0 -0.6**
baz=58,SNR=10
FFD Franklin Falls 57.61 4 *e*P **P 05 26 44.5 0.0**
comp=Z,81nm,1.0s,mb5.7
FFD *e*pP pP 05 26 52.6 +0.3
116A Eloy 57.70 324 ⇓P **P 05 26 45.7 +0.3**
baz=58,SNR=22
Y18A Canyon Day Jun 57.70 327 ⇓P **P 05 26 45.1 -0.3**
baz=58,SNR=15

HNH Hanover 57.80 3 *e*P **P 05 26 46.4 +0.5**
comp=Z,184nm,1.2s,mb6.0
X19A St. Johns 57.81 328 ⇑P **P 05 26 46.2 0.0**
baz=58,SNR=8.8
214A Organ Pipe Nat 57.89 323 ⇑P **P 05 26 47.0 +0.2**
baz=58,SNR=18
NCB Newcomb 57.99 2 *e*P **P 05 26 47.0 -0.2**
comp=Z,118nm,1.2s,mb5.8
NCB LR LR
comp=Z,10µm,22.0s,MS5.9
MDV Middlebury 58.05 2 *e*P **P 05 26 47.6 0.0**
Y17A Roosevelt 58.08 326 ⇑P **P 05 26 48.0 -0.1**
baz=58,SNR=13
SCIA State Center 58.09 345 *e*P **P 05 26 46.7 -1.3**
comp=Z,44nm,0.8s,mb5.5
SCIA LR LR
comp=Z,7µm,19.0s,MS5.8
115A Sonoran Desert 58.10 324 ⇑P **P 05 26 48.3 0.0**
baz=58,SNR=18
Z16A Peralta Trail, 58.13 325 ⇑P **P 05 26 48.4 -0.1**
baz=58
X18A Snowflake 58.24 327 ⇑P **P 05 26 49.6 +0.5**
baz=58,SNR=8.7
LBNH Lisbon 58.36 4 P **P 05 26 50.0 +0.2**
LBNH pmax pmax
comp=Z,120nm,1.2s,mb5.8
LBNH Lisbon 58.36 4 *e*P **P 05 26 49.9 +0.1**
comp=Z,116nm,1.2s,mb5.8
LBNH LR LR
comp=Z,13µm,21.0s,MS6.0
JFWS Jewell Farm 58.38 348 P **P 05 26 48.8 -1.1**
JFWS pmax pmax
comp=Z,26nm,0.6s,mb5.4
JFWS Jewell Farm 58.38 348 *e*P **P 05 26 48.2 -1.7**
comp=Z,26nm,0.6s,mb5.4
JFWS LR LR
comp=Z,10µm,21.0s,MS5.9
W19A Sanders 58.40 328 ⇓P **P 05 26 50.4 +0.1**
baz=59,SNR=16
Z15A Gila River Ind 58.50 325 ⇑P **P 05 26 50.9 -0.1**
baz=59,SNR=7.3
X17A Forest Lakes 58.54 326 ⇑P **P 05 26 51.9 +0.6**
baz=59,SNR=13
Y16A Circle Bar Ran 58.56 326 ⇓P **P 05 26 51.7 +0.3**
baz=59,SNR=40
W18A Petrified Fore 58.58 328 ⇑P **P 05 26 51.8 +0.2**
baz=59,SNR=12
LONY Lake Ozonia 58.63 1 *e*P **P 05 26 51.2 -0.4**
comp=Z,143nm,1.1s,mb5.9
LONY LR LR
comp=Z,11µm,22.0s,MS5.9
SDCO Great Sand Dun 58.66 333 *e*P **P 05 26 52.0 -0.1**
comp=Z,136nm,1.3s,mb5.8
SDCO *e*pP pP 05 26 59.7 -0.1
SDCO LR LR
comp=Z,9µm,21.0s,MS5.9
V19A Window Rock 58.69 329 ⇓P **P 05 26 52.3 0.0**
baz=59,SNR=14
FRNY Flat Rock 58.87 2 *e*P **P 05 26 53.3 0.0**
comp=Z,194nm,0.9s,mb6.1
X16A Lo Mia Camp, P 58.95 326 ⇑P **P 05 26 54.7 +0.6**
baz=59,SNR=44
Z14A Wintersburg 59.00 324 ⇑P **P 05 26 54.2 -0.2**
baz=59
113A Mohawk Valley, 59.04 323 ⇓P **P 05 26 54.9 +0.1**
baz=59,SNR=25
W17A Winslow 59.06 327 ⇑P **P 05 26 55.0 +0.1**
baz=59
Y15A Casa Rosa Ranc 59.09 325 ⇓P **P 05 26 55.3 +0.2**
baz=59,SNR=22
V18A Ganado 59.14 328 ⇓P **P 05 26 55.4 0.0**
baz=59,SNR=13
GLMI Grayling 59.33 353 *e*P **P 05 26 54.0 -2.5**
comp=Z,119nm,0.9s,mb5.9
GLMI LR LR
comp=Z,30µm,19.0s,MS6.4
112A Yuma 59.35 322 ⇑P **P 05 26 56.9 0.0**
baz=60
X15A Humboldt 59.43 326 ⇓P **P 05 26 57.5 0.0**
baz=60,SNR=34
Y14A Wickenburg 59.45 325 ⇑P **P 05 26 57.8 +0.1**
baz=60,SNR=15
W16A Flagstaff 59.51 327 ⇓P **P 05 26 58.5 +0.6**
baz=60,SNR=24
T19A Beclabito 59.56 330 ⇓P **P 05 26 57.7 -0.6**
baz=60,SNR=25
PKME Peaks-Kenny Pk 59.58 6 PFAKE 05 27 10.0 +12
PKME LR LR
comp=Z,13µm,21.0s,MS6.0
MVCO Mesa Verde 59.61 330 ⇑P **P 05 26 58.5 -0.1**
baz=60,SNR=19
MVCO Mesa Verde 59.61 330 PFAKE 05 27 10.0 +11
MVCO LR LR
comp=Z,9µm,20.0s,MS5.9
U18A Rough Rock, Ch 59.66 329 ⇑P **P 05 26 59.1 +0.1**
baz=60,SNR=17
WUAZ Wupatki 59.74 327 ⇑P **P 05 26 59.8 +0.2**
baz=60,SNR=23
WUAZ Wupatki 59.74 327 *e*P **P 05 27 00.1 +0.6**
comp=Z,156nm,1.2s,mb5.9
WUAZ *e*pP pP 05 27 07.9 +0.5
WUAZ LR LR
comp=Z,23µm,20.0s,MS6.3
X14A Yava 59.78 325 ⇓P **P 05 27 00.0 +0.2**
baz=60,SNR=61
Y13A Salome 59.83 324 ⇑P **P 05 27 00.7 +0.5**
baz=60,SNR=12
GLA Glamis 59.86 323 P **P 05 27 01.0 +0.5**
GLA pmax pmax
comp=Z,42nm,1.1s,mb5.4
GLA Glamis 59.86 323 ⇑P **P 05 27 00.5 +0.1**
baz=60
GLA Glamis 59.86 323 *e*P **P 05 27 00.8 +0.3**
comp=Z,42nm,1.1s,mb5.4
GLA *e*pP pP 05 27 07.5 -0.7
GLA LR LR
comp=Z,8µm,19.0s,MS5.9
W15A Williams 59.96 326 ⇑P **P 05 27 01.8 +0.7**
baz=60,SNR=10.0
Y12C Blythe 60.18 323 ⇑P **P 05 27 03.0 +0.4**
baz=60,SNR=14
U17A Shonto 60.20 328 ⇓P **P 05 27 03.1 +0.3**
baz=60,SNR=15
T18A Mexican Hat 60.22 329 ⇓P **P 05 27 02.6 -0.3**
baz=60,SNR=40
S19A Harvey Farm, M 60.34 330 ⇓P **P 05 27 03.4 -0.2**
baz=61,SNR=29
DVTC Desert V Tower 60.34 321 ⇑P **P 05 27 03.8 +0.1**
baz=60
SWSC Sam W. Stewart 60.36 322 ⇓P **P 05 27 03.9 +0.1**
baz=60
PDMCI Parker Dam,Lak 60.36 324 ⇑P **P 05 27 03.5 -0.3**
baz=61
PV01 Paradox Valley 60.38 331 *e*P **P 05 27 03.9 0.0**
PV01 *e*pP pP 05 27 11.8 +0.2
V15A Kaibab Nationa 60.40 327 ⇑P **P 05 27 04.6 +0.6**
baz=61,SNR=22
X13A Yucca 60.40 324 ⇓P **P 05 27 04.0 -0.1**
baz=61,SNR=18
ISCO Idaho Springs 60.42 334 *e*P **P 05 27 04.0 -0.1**
ISCO *e**PP pP 05 27 11.2 -0.7
ISCO pmax pmax
comp=Z,59nm,1.2s,mb5.5
ISCO MLR MLR
comp=Z,6µm,20.0s,MS5.8
ISCO Idaho Springs 60.42 334 *e*P **P 05 27 04.0 -0.2**
comp=Z,60nm,1.2s,mb5.5
ISCO *e*pP pP 05 27 11.2 -0.7
ISCO LR LR
comp=Z,6µm,20.0s,MS5.8
W14A Seligman 60.44 325 ⇓P **P 05 27 04.9 +0.5**
baz=61,SNR=23
T17A Navajo Res., N 60.58 328 ⇓P **P 05 27 05.5 +0.2**
baz=61,SNR=41
BC3 Big Chuckw Mtn 60.66 323 ⇓P **P 05 27 06.0 +0.1**
baz=61,SNR=18
TRIS Tristan da Cun 60.68 125 *e*P **P 05 27 06.8 +0.7**
comp=Z,138nm,0.8s,mb6.1
TRIS LR LR
comp=Z,11µm,19.0s,MS6.0
MONP Monument Peak 60.70 321 ⇑P **P 05 27 06.5 +0.3**
baz=61
ECSD EROS,Sioux Fal 60.70 343 *e*P **P 05 27 04.5 -1.5**
comp=Z,67nm,1.0s,mb5.7
ECSD *e*pP pP 05 27 11.8 -2.0
ECSD LR LR
comp=Z,9µm,19.0s,MS6.0
BAR Barrett 60.71 321 *e*P **P 05 27 06.1 -0.2**

comp=Z,167nm,1.7s,mb5.9
BAR *e*pP pP 05 27 13.4 -0.7
BAR LR LR
comp=Z,7µm,21.0s,MS5.8
S18A Hurst Farm, Bl 60.72 330 ⇓P **P 05 27 06.0 -0.3**
baz=61,SNR=34
V14A Boquillas Ranc 60.76 326 ⇓P **P 05 27 07.3 +0.8**
baz=61,SNR=30
ASCN Ascension 60.76 91 PFAKE 05 27 20.0 +13
ASCN LR LR
comp=Z,47µm,20.0s,MS6.6
W13A Hualapai Mount 60.80 325 ⇓P **P 05 27 07.5 +0.6**
baz=61,SNR=11
R19A Curley Farm, L 60.83 330 ⇓P **P 05 27 06.6 -0.4**
baz=61
IRM Iron Mountain 60.84 323 ⇓P **P 05 27 07.2 +0.1**
baz=61,SNR=39
U15A North Rim 60.92 327 ⇓P **P 05 27 07.8 +0.2**
baz=61,SNR=19
T16A Glen Canyon Da 60.93 328 ⇓P **P 05 27 07.9 +0.2**
baz=61
NEE2 Needles Airpor 60.97 324 ⇓P **P 05 27 08.4 +0.4**
baz=61
S17A Black Ridge (B 61.07 329 ⇑P **P 05 27 08.4 -0.3**
baz=61,SNR=8.5
109C Camp Elliot, M 61.11 321 ⇓P **P 05 27 09.2 +0.2**
baz=61
R18A Canyonlands Na 61.21 330 ⇑P **P 05 27 09.0 -0.6**
baz=61,SNR=18
PFO Pinyon Flat Ob 61.22 322 P **P 05 27 11.9 +2.2**
comp=Z,434nm,1.0s,mb6.5,SNR=9.1
PFO Pinyon Flat Ob 61.22 322 P **P 05 27 09.6 -0.1**
comp=Z,19nm,0.8s,mb5.3,baz=126,slow=5.1,SNR=18
PFO Pinyon Flat Ob 61.22 322 *e*P **P 05 27 10.5 +0.8**
PFO *e**PP pP 05 27 17.1 -0.4
PFO pmax pmax
comp=Z,83nm,1.0s,mb5.8
PFO MLR MLR
comp=Z,10µm,22.0s,MS5.9
PFO Pinyon Flat Ob 61.22 322 ⇑P **P 05 27 09.6 -0.2**
baz=61,SNR=11
PFO Pinyon Flat Ob 61.22 322 *e*P **P 05 27 10.5 +0.8**
comp=Z,83nm,1.0s,mb5.8
PFO *e*pP pP 05 27 17.1 -0.4
PFO LR LR
comp=Z,10µm,22.0s,MS5.9
BELC Belle Mtn. 61.22 323 ⇑P **P 05 27 09.9 +0.2**
baz=61,SNR=24
COWI Conover 61.24 350 *e*P **P 05 27 08.5 -1.1**
comp=Z,24nm,0.9s,mb5.3
COWI LR LR
comp=Z,15µm,19.0s,MS6.2
Q19A Hogan Spring (61.36 331 ⇓P **P 05 27 09.8 -0.7**
baz=62,SNR=20
U14A Mt Trumbull 61.38 326 ⇓P **P 05 27 11.1 +0.3**
baz=62,SNR=35
V13A Grand Canyon W 61.40 325 ⇑P **P 05 27 10.7 -0.2**
baz=62,SNR=21
T15A Red Dirt Ranch 61.41 327 ⇓P **P 05 27 11.1 +0.2**
baz=62,SNR=25
LDFC Landfair 61.47 324 *e*P **P 05 27 12.1 +0.7**
comp=Z,54nm,1.0s,mb5.6
LDFC *e*pP pP 05 27 19.0 -0.2
W12A Cal Nev Ari 61.49 324 ⇑P **P 05 27 11.7 +0.1**
baz=62
S16A Weppner Ranch, 61.54 328 ⇓P **P 05 27 11.6 -0.2**
baz=62,SNR=22
GMRC Granite Mounta 61.57 323 ⇑P **P 05 27 12.2 +0.1**
baz=62,SNR=32
PHWY Pilot Hill 61.61 335 *e*P **P 05 27 12.3 +0.1**
PHWY *e*pP pP 05 27 18.9 -1.1
R17A Hanksville Air 61.64 330 ⇑P **P 05 27 12.1 -0.4**
baz=62,SNR=55
MURC Murrieta 61.66 321 ⇑P **P 05 27 12.5 -0.2**
baz=62,SNR=9.9
V12A Nelson 61.79 325 ⇓P **P 05 27 13.2 -0.4**
baz=62,SNR=12
U13A Pakoon Wash 61.80 326 ⇓P **P 05 27 13.9 +0.3**
baz=62,SNR=13
T14A Hurricane 61.81 327 ⇓P **P 05 27 14.3 +0.7**
baz=62
Q18A Rafter H Ranch 61.89 330 ⇓P **P 05 27 14.4 +0.3**
baz=62,SNR=30
S15A Panguitch 61.90 328 ⇑P **P 05 27 14.8 +0.6**
baz=62,SNR=18
BBRC Big Bear Sol-O 61.95 322 ⇑P **P 05 27 15.8 +1.2**
baz=62,SNR=9.1
HEC Hector,Ludlow 62.00 323 ⇓P **P 05 27 15.3 +0.4**
baz=62,SNR=11
SCI San Clemente I 62.06 320 ⇑P **P 05 27 15.1 -0.4**
baz=62
SRU San Rafael 62.09 330 *e*P **P 05 27 15.4 0.0**
SRU *e**PP pP 05 27 22.2 -1.0
SRU pmax pmax
comp=Z,120nm,0.5s,mb6.3
SRU San Rafael 62.09 330 ⇑P **P 05 27 15.3 -0.1**
baz=62,SNR=94
SRU San Rafael 62.09 330 *e*P **P 05 27 15.4 -0.1**
comp=Z,120nm,0.5s,mb6.3
SRU *e*pP pP 05 27 22.1 -1.1
U12A Valley of Fire 62.13 325 ⇑P **P 05 27 16.2 +0.4**
baz=62,SNR=6.9
TUQ Turquoise Mtn. 62.19 324 ⇓P **P 05 27 16.5 +0.2**
baz=62
V11A Goodsprings 62.20 324 ⇓P **P 05 27 16.5 +0.2**
baz=62,SNR=11
T13A Saint George 62.22 326 ⇑P **P 05 27 16.7 +0.3**
baz=62,SNR=10
Q16A Castle Valley 62.25 330 ⇑P **P 05 27 16.5 0.0**
baz=62,SNR=12
R15A Junction 62.26 328 ⇓P **P 05 27 17.0 +0.3**
baz=62,SNR=15
CIS Catalina Islan 62.26 320 ⇓P **P 05 27 16.9 +0.2**
baz=62
P18A Preston Nutter 62.36 331 ⇑P **P 05 27 17.5 +0.3**
baz=63,SNR=26
BFSC Mount Baldy St 62.38 322 ⇓P **P 05 27 18.0 +0.5**
baz=63,SNR=14
S14A Cedar City 62.38 327 ⇓P **P 05 27 17.9 +0.4**
baz=63
FMP Fort Macarthur 62.40 321 ⇓P **P 05 27 18.0 +0.3**
baz=63
RRX Edison Barstow 62.43 323 ⇑P **P 05 27 18.1 +0.3**
baz=63
MSU Marysvale 62.44 329 *e*P **P 05 27 18.2 +0.4**
MSU *e**PP pP 05 27 25.5 -0.1
T12A Moapa 62.44 326 ⇓P **P 05 27 17.5 -0.4**
baz=63
MVU Marysvale 62.45 329 PFAKE 05 27 30.0 +12
MVU LR LR
comp=Z,24µm,19.0s,MS6.4
P17A Butcher Ranch, 62.47 330 ⇑P **P 05 27 18.0 0.0**
baz=63,SNR=9.9
TMUT Trail Mountain 62.56 330 *e*P **P 05 27 18.7 +0.1**
TMUT *e*pP pP 05 27 26.2 -0.2
U11A Corn Creek 62.59 325 ⇑P **P 05 27 18.8 -0.1**
baz=63
MWC Mount Wilson 62.61 321 P **P 05 27 19.6 +0.6**
MWC pmax pmax
comp=Z,160nm,1.4s,mb6.0
MWC Mount Wilson 62.61 321 *e*P **P 05 27 19.1 0.0**
comp=Z,159nm,1.4s,mb6.0
MWC *e*pP pP 05 27 26.0 -0.9
MWC LR LR
comp=Z,6µm,19.0s,MS5.8
GSC Goldstone 62.61 323 P **P 05 27 19.6 +0.6**
GSC pmax pmax
comp=Z,30nm,0.8s,mb5.5
GSC Goldstone 62.61 323 ⇓P **P 05 27 19.1 +0.1**
baz=63,SNR=22
GSC Goldstone 62.61 323 *e*P **P 05 27 19.4 +0.4**
comp=Z,30nm,0.8s,mb5.5
GSC *e*pP pP 05 27 26.4 -0.5
GSC LR LR
comp=Z,12µm,19.0s,MS6.1
S13A Holt Ranch, En 62.61 327 ⇓P **P 05 27 20.2 +1.2**
baz=63,SNR=77
RWWY Rawlins 62.66 334 *e*P **P 05 27 19.1 -0.1**
comp=Z,216nm,1.3s,mb6.1
RWWY *e*pP pP 05 27 26.4 -0.6
R14A James Farms, M 62.71 328 ⇑P **P 05 27 19.8 +0.2**
baz=63
SHOC Shoshone 62.73 324 ⇓P **P 05 27 20.1 +0.3**
baz=63
O18A Roosevelt 62.75 331 ⇑P **P 05 27 20.0 +0.1**
baz=63,SNR=24
DECC Green Verdugo 62.79 321 ⇓P **P 05 27 20.8 +0.6**

baz=63
TAOE Nuku Hiva Isla 62.83 267 eS **S 05 35 50.9 +1.5**
comp=Z,42µm,26.4s
TAOE eLQ 05 43 23.7
comp=Z,56µm,29.4s
TAOE eLR LR 05 46 08.0
comp=Z,175µm,25.0s,baz=104
SNCC San Nicolas Is 62.85 320 ⇑P **P 05 27 21.2 +0.5**
baz=63
SNCC San Nicolas Is 62.85 320 PFAKE 05 27 30.0 +9.3
SNCC LR LR
comp=Z,7µm,19.0s,MS5.8
Q15A Fillmore 62.91 329 ⇓P **P 05 27 21.3 +0.3**
baz=63,SNR=16
EDW2 Edwards Air Fo 63.01 322 ⇓P **P 05 27 21.9 +0.2**
baz=63,SNR=22
P16A Fountain Green 63.02 330 ⇑P **P 05 27 22.4 +0.7**
baz=63,SNR=8.5
T11A Corn Creek, Al 63.09 326 ⇓P **P 05 27 23.0 +0.8**
baz=63,SNR=37
R13A O'Grain Ranch, 63.11 327 ⇓P **P 05 27 22.4 +0.1**
baz=63,SNR=7.5
U10A Ash Meadows, A 63.12 324 ⇑P **P 05 27 22.5 +0.1**
baz=63,SNR=7.8
BLG Laguna Peak 63.14 321 ⇑P **P 05 27 22.4 -0.2**
baz=63
S12A Delamar Landin 63.16 326 ⇓P **P 05 27 22.4 -0.2**
baz=63,SNR=7.2
N18A Larsen Ranch, 63.16 332 ⇓P **P 05 27 22.2 -0.4**
baz=63,SNR=33
LRMC Laurel Mountai 63.25 323 ⇓P **P 05 27 23.5 +0.2**
baz=63
OSI Osito Adit 63.27 321 ⇓P **P 05 27 23.3 -0.2**
baz=64
OSI Osito Adit 63.27 321 eP **P 05 27 23.6 +0.2**
comp=Z,161nm,1.4s,mb6.0
OSI epP pP 05 27 30.4 -0.9
P15A Leamington 63.30 329 ⇓P **P 05 27 23.0 -0.5**
baz=64,SNR=5.8
MPU Maple Canyon 63.33 330 eP **P 05 27 23.8 0.0**
comp=Z,81nm,1.2s,mb5.7
MPU epP pP 05 27 30.7 -0.8
MPU LR LR
comp=Z,11µm,19.0s,MS6.1
Q14A Sevier Lake (B 63.36 328 ⇓P **P 05 27 24.0 +0.1**
baz=64,SNR=36
O16A Springville 63.41 330 ⇓P **P 05 27 24.3 0.0**
baz=64,SNR=11
EYMN Ely 63.45 348 eP **P 05 27 22.6 -1.7**
comp=Z,62nm,1.1s,mb5.7
EYMN LR LR
comp=Z,14µm,20.0s,MS6.1
DAU Daniels Canyon 63.45 331 eP **P 05 27 25.1 +0.6**
DAU e*PP pP 05 27 32.1 -0.2
TPNV Topopah Spring 63.45 325 eP **P 05 27 25.3 +0.7**
TPNV e*PP pP 05 27 32.1 -0.3
TPNV pmax pmax
comp=Z,48nm,0.9s,mb5.6
TPNV MLR MLR
comp=Z,11µm,19.0s,MS6.0
TPNV Topopah Spring 63.45 325 ⇓P **P 05 27 25.1 +0.5**
baz=64,SNR=40
TPNV Topopah Spring 63.45 325 eP **P 05 27 25.2 +0.6**
comp=Z,48nm,0.9s,mb5.6
TPNV epP pP 05 27 32.1 -0.4
TPNV LR LR
comp=Z,11µm,19.0s,MS6.0
FURC Furnace Creek, 63.46 324 ⇑P **P 05 27 24.8 +0.1**
baz=64,SNR=20
RSSD Black Hills 63.46 338 eP **P 05 27 24.2 -0.3**
RSSD e*PP pP 05 27 31.5 -0.8
RSSD pmax pmax
comp=Z,105nm,1.5s,mb5.8
RSSD MLR MLR
comp=Z,7µm,19.0s,MS5.8
RSSD Black Hills 63.46 338 eP **P 05 27 24.2 -0.3**
comp=Z,105nm,1.5s,mb5.7
RSSD epP pP 05 27 31.5 -0.8
RSSD LR LR
comp=Z,7µm,19.0s,MS5.8
NLU North Lily Min 63.49 330 eP **P 05 27 25.1 +0.3**
NLU epP pP 05 27 32.1 -0.6
MPMC Manual Prospec 63.53 323 ⇑P **P 05 27 25.1 -0.1**
baz=64,SNR=26
R12A Pony Springs, 63.56 327 ⇓P **P 05 27 25.6 +0.3**
baz=64,SNR=36
N17A Moffit Pass 63.67 331 ⇑P **P 05 27 26.6 +0.6**
baz=64,SNR=66
S11A Rachel 63.67 326 ⇓P **P 05 27 26.7 +0.6**
baz=64,SNR=12
ARVC Arvin 63.69 322 ⇓P **P 05 27 26.4 +0.2**
baz=64
JLU Jordanelle 63.69 331 eP **P 05 27 26.6 +0.4**
JLU epP pP 05 27 33.7 -0.2
P14A Drum Mountains 63.71 329 ⇑P **P 05 27 26.7 +0.5**
baz=64,SNR=45
Q13A Wheeler Ranch, 63.72 328 ⇑P **P 05 27 26.4 +0.1**
baz=64,SNR=30
DAC Darwin (Calif) 63.75 323 PFAKE 05 27 40.0 +13
DAC LR LR
comp=Z,13µm,19.0s,MS6.1
SBC Santa Barbara 63.76 321 ⇑P **P 05 27 25.9 -0.9**
baz=64
ISA Isabella 63.84 322 P **P 05 27 28.1 +0.9**
ISA pmax pmax
comp=Z,38nm,1.0s,mb5.4
ISA Isabella 63.84 322 ⇑P **P 05 27 26.7 -0.4**
baz=64,SNR=27
ISA Isabella 63.84 322 eP **P 05 27 27.7 +0.5**
comp=Z,38nm,1.0s,mb5.4
ISA epP pP 05 27 34.2 -0.8
ISA LR LR
comp=Z,7µm,20.0s,MS5.8
CTU Camp Tracy 63.91 330 eP **P 05 27 27.7 +0.2**
comp=Z,39nm,0.9s,mb5.4
CTU epP pP 05 27 34.8 -0.6
N16A Rees Ranch, Co 63.91 331 ⇑P **P 05 27 27.7 +0.1**
baz=64,SNR=18
O15A The Old Anders 63.94 330 ⇑P **P 05 27 28.0 +0.2**
baz=64,SNR=17
DUG Dugway 64.04 329 P **P 05 27 28.8 +0.4**
DUG pmax pmax
comp=Z,190nm,1.2s,mb6.0
DUG Dugway 64.04 329 ⇑P **P 05 27 28.8 +0.3**
baz=64,SNR=90
DUG Dugway 64.04 329 eP **P 05 27 28.7 +0.3**
comp=Z,186nm,1.2s,mb6.0
DUG epP pP 05 27 35.6 -0.6
DUG LR LR
comp=Z,13µm,19.0s,MS6.1
NOQ North Oquirrh 64.06 330 eP **P 05 27 28.5 0.0**
comp=Z,72nm,1.0s,mb5.7
NOQ epP pP 05 27 35.6 -0.7
P13A Bates Ranch, G 64.09 328 ⇓P **P 05 27 29.5 +0.8**
baz=64,SNR=34
R11A Troy Canyon, C 64.10 326 ⇓P **P 05 27 29.2 +0.4**
baz=64,SNR=33
GRAC Grapevine Rang 64.12 324 ⇓P **P 05 27 29.2 +0.2**
baz=64,SNR=14
PKM Peak Mountain 64.13 321 ⇓P **P 05 27 29.2 +0.1**
baz=64,SNR=8.8
CWC Cottonwood Cre 64.14 323 ⇑P **P 05 27 29.6 +0.4**
baz=64,SNR=7.6
Q12A Willow Creek R 64.20 327 ⇑P **P 05 27 29.9 +0.4**
baz=64,SNR=20
VES Vestal, Richgr 64.32 322 ⇓P **P 05 27 30.5 +0.2**
baz=64,SNR=12
M16A Huntsville 64.33 331 ⇑P **P 05 27 30.3 0.0**
baz=65,SNR=23
S10A Tonopah Range, 64.34 325 ⇓P **P 05 27 30.7 +0.2**
baz=64,SNR=46
N15A Stansbury Isla 64.43 330 ⇑P **P 05 27 30.7 -0.3**
baz=65
R10A Warm Springs 64.44 326 ⇓P **P 05 27 31.7 +0.6**
baz=65,SNR=25
Q11A Duckwater 64.50 327 ⇓P **P 05 27 31.7 +0.3**
baz=65,SNR=46
SMMC Simmler 64.52 321 ⇑P **P 05 27 32.0 +0.4**
baz=65,SNR=9.1
HWUT Hardware Ranch 64.53 331 eP **P 05 27 31.2 -0.4**
comp=Z,106nm,1.0s,mb5.8
HWUT epP pP 05 27 38.0 -1.5
HWUT LR LR
comp=Z,21µm,20.0s,MS6.3
PDAR Pinedale Array 64.55 333 P **P 05 27 30.7 -1.0**
comp=Z,12nm,1.0s,mb4.9,baz=124,slow=8.0,SNR=34
PDAR LR LR 05 55 29.1
comp=Z,10µm,21.7s,MS6.0,baz=151,slow=36
PDAR PKP2bc 05 56 20.4
comp=Z,0.8nm,0.9s,baz=348,slow=3.6,SNR=4.1
PDAR Pinedale Array 64.55 333 P **P 05 27 30.7 -1.0**
PDAR LR LR 05 55 29.1
PDAR ⇑e 05 56 20.4
BW06 Boulder Array 64.55 333 PFAKE 05 27 40.0 +8.3
BW06 LR LR
comp=Z,11µm,21.0s,MS6.0
S09A Goldfield 64.55 325 ⇑P **P 05 27 32.0 +0.2**
baz=65,SNR=32
O13A Hicks Ranch, I 64.58 329 ⇑P **P 05 27 32.4 +0.4**
baz=65
TIN Tinemaha 64.65 324 ⇓P **P 05 27 32.7 +0.2**
baz=65
BGU Big Grassy Mou 64.71 330 eP **P 05 27 32.5 -0.2**
BGU epP pP 05 27 40.4 -0.2
SPUT South Promonto 64.72 330 eP **P 05 27 33.3 +0.5**
SPUT epP pP 05 27 40.1 -0.6
N14A Grayback Hills 64.73 330 ⇑P **P 05 27 32.6 -0.3**
baz=65,SNR=28
RCTC Rector, Farmer 64.73 322 ⇑P **P 05 27 32.5 -0.6**
baz=65,SNR=8.5
AGMN Agassiz Refuge 64.73 346 eP **P 05 27 31.8 -0.9**
comp=Z,101nm,0.9s,mb5.8
AGMN epP pP 05 27 39.3 -1.3
AGMN LR LR
comp=Z,8µm,21.0s,MS5.9
L16A Fish Haven 64.79 332 ⇑P **P 05 27 32.8 -0.5**
baz=65,SNR=13
TPH Tonopah 64.80 325 P **P 05 27 34.1 +0.7**
TPH pmax pmax
comp=Z,44nm,0.9s,mb5.5
TPH Tonopah 64.80 325 eP **P 05 27 34.0 +0.5**
comp=Z,44nm,0.9s,mb5.5
TPH epP pP 05 27 40.6 -0.7
TPH LR LR
comp=Z,7µm,20.0s,MS5.8
R09A Tonopah 64.83 325 ⇑P **P 05 27 33.6 0.0**
baz=65,SNR=28
M15A Larsen Ranch, 64.84 331 ⇓P **P 05 27 33.6 0.0**
baz=65,SNR=10
HELL Mitchell Peak 64.86 323 ⇑P **P 05 27 33.4 -0.4**
baz=65,SNR=26
PTRM Twissleman Ran 64.87 321 eP **P 05 27 34.6 +0.7**
PTRM epP pP 05 27 41.0 -0.8
Q10A Clear Creek Ra 64.88 326 ⇑P **P 05 27 34.2 +0.3**
baz=65,SNR=15
S08C White Mtn Res 64.93 324 ⇓P **P 05 27 34.6 +0.3**
baz=65,SNR=27
MTUM Tungsten Hills 65.05 324 eP **P 05 27 35.6 +0.5**
MTUM epP pP 05 27 43.0 +0.1
P11A Circle Ranch, 65.06 327 ⇓P **P 05 27 35.5 +0.4**
baz=65
O12A Currie 65.07 328 ⇑P **P 05 27 35.6 +0.4**
baz=65,SNR=58
L15A Malad City 65.23 331 ⇓P **P 05 27 35.4 -0.8**
baz=65,SNR=41
AHID Auburn Hatcher 65.23 332 eP **P 05 27 36.0 -0.2**
comp=Z,85nm,1.2s,mb5.7
AHID epP pP 05 27 42.6 -1.4
AHID LR LR
comp=Z,14µm,21.0s,MS6.1
N13A Wendover, West 65.23 329 ⇑P **P 05 27 35.9 -0.3**
baz=65,SNR=12
HVU Hansel Valley 65.24 331 P **P 05 27 36.0 -0.2**
HVU pmax pmax
comp=Z,69nm,1.0s,mb5.6
HVU Hansel Valley 65.24 331 eP **P 05 27 35.7 -0.5**
comp=Z,69nm,1.0s,mb5.6
HVU epP pP 05 27 43.5 -0.5
V04C Ramage Ranch, 65.26 321 ⇓P **P 05 27 37.3 +0.7**
baz=66
PKD Parkfield 65.27 321 ⇓P **P 05 27 36.4 -0.1**
baz=66
U05C Westside ANR, 65.27 322 ⇑P **P 05 27 36.3 -0.2**
baz=66
M14A Sheep Mountain 65.30 330 ⇑P **P 05 27 36.2 -0.4**
baz=66,SNR=44
Q09A Carvers 65.31 326 ⇓P **P 05 27 37.4 +0.6**
baz=66
MLAC Mammoth Lakes 65.40 324 ⇑P **P 05 27 38.0 +0.7**
baz=66,SNR=18
O11A Cowboy Ranch, 65.44 328 ⇓P **P 05 27 37.9 +0.4**
baz=66,SNR=32
KCC Kaiser Creek 65.47 323 ⇓P **P 05 27 37.4 -0.4**
baz=66,SNR=16
T06C Millerton Lake 65.48 323 ⇓P **P 05 27 36.7 -1.2**
baz=66,SNR=11
R08A Mina 65.48 325 ⇑P **P 05 27 38.6 +0.7**
baz=66,SNR=13
P10A Eureka 65.49 327 ⇑P **P 05 27 38.5 +0.6**
baz=66
K16A Soda Springs 65.50 332 ⇓P **P 05 27 37.8 -0.1**
baz=66,SNR=32
REDW Red Top Meadow 65.59 333 eP **P 05 27 38.2 -0.2**
comp=Z,115nm,1.3s,mb5.8
REDW epP pP 05 27 45.6 -0.7
M13A Montello 65.59 329 ⇓P **P 05 27 38.5 -0.1**
baz=66
SNOW Snow King Moun 65.63 333 eP **P 05 27 38.6 -0.1**
comp=Z,163nm,1.6s,mb5.8
SNOW epP pP 05 27 45.7 -0.8
N12A Clover Valley, 65.65 328 ⇑P **P 05 27 38.7 -0.2**
baz=66,SNR=8.4
NVAR Mina Array Bea 65.65 325 P **P 05 27 38.4 -0.6**
comp=Z,9.4nm,0.7s,mb4.9,baz=150,slow=6.7,SNR=55
NVAR PKP2bc 05 56 18.8
comp=Z,0.9nm,0.9s,baz=278,slow=1.4,SNR=5.1
NVAR Mina Array Bea 65.65 325 P **P 05 27 38.4 -0.6**
NVAR ⇑e 05 56 18.8
L14A Malta 65.66 330 ⇑P **P 05 27 38.5 -0.4**
baz=66,SNR=39
ELK Elko 65.67 328 eP **P 05 27 39.0 0.0**
ELK e*PP pP 05 27 46.5 -0.4
ELK pmax pmax
comp=Z,251nm,1.8s
ELK MLR MLR
comp=Z,28µm,19.0s
ELK Elko 65.67 328 eP **P 05 27 39.0 0.0**
comp=Z,251nm,1.8s,mb5.9
ELK epP pP 05 27 46.5 -0.4
ELK LR LR
comp=Z,28µm,19.0s,MS6.5
LOHW Long Hollow 65.68 333 eP **P 05 27 38.8 -0.3**
comp=Z,62nm,1.2s,mb5.5
LOHW epP pP 05 27 45.5 -1.4
U04C Hernandez Rese 65.69 321 ⇓P **P 05 27 39.5 +0.3**
baz=66,SNR=13
TPAW Teton Pass 65.74 333 eP **P 05 27 39.0 -0.4**
comp=Z,79nm,1.2s,mb5.6
TPAW epP pP 05 27 46.3 -0.9
V03C Hunter Liggett 65.74 321 ⇓P **P 05 27 40.5 +0.9**
baz=66
Q08A Gabbs 65.75 325 ⇑P **P 05 27 39.7 +0.1**
baz=66,SNR=14
RRI2 Red Ridge 65.79 333 eP **P 05 27 39.6 -0.1**
comp=Z,248nm,1.2s,mb6.1
RRI2 epP pP 05 27 47.4 -0.2
P09A Austin 65.80 326 ⇓P **P 05 27 40.2 +0.2**
baz=66
K15A Arbon 65.82 331 ⇑P **P 05 27 40.1 +0.1**
baz=66
R07C Lee Vining 65.84 324 ⇑P **P 05 27 40.7 +0.6**
baz=66,SNR=7.2
MOOW Moose Ponds 65.85 333 eP **P 05 27 39.6 -0.5**
comp=Z,46nm,1.2s,mb5.4
MOOW epP pP 05 27 46.7 -1.2
J16A Bone 65.86 332 ⇑P **P 05 27 39.9 -0.3**
baz=66
DCID1 Drake Creek 65.92 333 eP **P 05 27 40.7 +0.1**
DCID1 epP pP 05 27 48.3 -0.1
N11A Elko Archery C 65.98 328 ⇓P **P 05 27 40.6 -0.5**
baz=66,SNR=7.9
O10A Cortez Mining, 66.00 327 ⇓P **P 05 27 41.9 +0.8**
baz=66,SNR=20
M12A Wells 66.01 329 ⇓P **P 05 27 40.9 -0.3**
baz=66,SNR=22
K14A Jones Ranch, D 66.02 331 ⇓P **P 05 27 40.6 -0.7**
baz=66,SNR=29
L13A Double Diamond 66.04 330 ⇓P **P 05 27 40.8 -0.5**
baz=66,SNR=27
IMW Indian Meadow 66.06 333 eP **P 05 27 41.3 -0.1**
comp=Z,115nm,1.3s,mb5.8
IMW epP pP 05 27 48.5 -0.7
S05C Merced 66.08 323 ⇓P **P 05 27 41.6 -0.1**
baz=66,SNR=9.8
FLWY Flagg Ranch 66.10 333 eP **P 05 27 42.2 +0.5**
comp=Z,206nm,1.1s,mb6.1
FLWY epP pP 05 27 49.6 0.0
S06C San Francisco 66.16 323 ⇑P **P 05 27 42.5 +0.3**
baz=66,SNR=33
HAST Hastings Reser 66.17 321 ⇑P **P 05 27 42.6 +0.2**
baz=66
O09A Fish Creek Ran 66.27 327 ⇑P **P 05 27 42.9 0.0**
baz=66,SNR=15
Q07A Schurz 66.29 325 ⇓P **P 05 27 43.4 +0.3**
baz=66
N10A Dunphy 66.31 327 ⇓P **P 05 27 43.0 -0.1**
baz=66,SNR=6.4
RLMT Red Lodge 66.33 335 eP **P 05 27 42.9 -0.3**
comp=Z,77nm,1.1s,mb5.7
RLMT epP pP 05 27 49.5 -1.6
RLMT LR LR
comp=Z,10µm,20.0s,MS6.0
LKWY Lake 66.36 334 eP **P 05 27 44.7 +1.4**
LKWY pmax pmax
comp=Z,73nm,1.0s,mb5.7
LKWY MLR MLR
comp=Z,9µm,19.0s,MS6.0
LKWY Lake 66.36 334 eP **P 05 27 44.7 +1.3**
comp=Z,73nm,1.0s,mb5.7
LKWY LR LR
comp=Z,9µm,19.0s,MS6.0
SAO San Andreas Ge 66.36 321 eP **P 05 27 44.1 +0.6**
SAO pmax pmax
comp=Z,43nm,1.0s,mb5.4
SAO MLR MLR
comp=Z,5µm,20.0s,MS5.7
SAO San Andreas Ge 66.36 321 eP **P 05 27 44.1 +0.5**
comp=Z,43nm,1.0s,mb5.4
SAO LR LR
comp=Z,5µm,20.0s,MS5.7
R06C Coleville 66.36 324 ⇓P **P 05 27 44.0 +0.4**
baz=67,SNR=16
P08A Dixie Valley 66.42 326 ⇑P **P 05 27 44.2 +0.4**
baz=67
PACP Pacheco Peak 66.42 322 ⇑P **P 05 27 44.2 +0.3**
baz=67
YFT Old Faithful 66.45 334 eP **P 05 27 43.7 -0.2**
YFT epP pP 05 27 52.3 +0.5
LAO LASA Array 66.45 338 eP **P 05 27 43.3 -0.7**
comp=Z,108nm,1.4s,mb5.7
LAO epP pP 05 27 50.5 -1.3
LAO LR LR
comp=Z,9µm,22.0s,MS5.9
M11A Holland Ranch, 66.46 328 ⇓P **P 05 27 44.0 -0.1**
baz=67,SNR=25
BMN Battle Mountai 66.48 327 eP **P 05 27 44.7 +0.5**
BMN e*PP pP 05 27 50.9 -1.2
BMN pmax pmax
comp=Z,55nm,1.4s,mb5.4
BMN MLR MLR
comp=Z,9µm,20.0s,MS6.0
BMN Battle Mountai 66.48 327 eP **P 05 27 44.7 +0.5**
comp=Z,55nm,1.4s,mb5.4
BMN epP pP 05 27 50.9 -1.2
BMN LR LR
comp=Z,9µm,20.0s,MS6.0
K13A Stover Farm, H 66.53 330 ⇑P **P 05 27 44.3 -0.2**
baz=67
ULM Lac du Bonnet 66.56 346 P **P 05 27 43.2 -1.3**
comp=Z,83nm,0.9s,mb5.8,baz=159,slow=6.2,SNR=45
ULM Lac du Bonnet 66.56 346 eP **P 05 27 43.0 -1.5**
comp=Z,103nm,1.0s,mb5.8
ULM epP pP 05 27 51.0 -1.4
ULM LR LR
comp=Z,11µm,20.0s,MS6.1
CMB Columbia Colle 66.57 323 P **P 05 27 44.9 0.0**
CMB pmax pmax
comp=Z,38nm,1.1s,mb5.3
CMB Columbia Colle 66.57 323 ⇓P **P 05 27 45.2 +0.3**
baz=67,SNR=12
CMB Columbia Colle 66.57 323 eP **P 05 27 44.8 -0.1**
comp=Z,38nm,1.1s,mb5.3
CMB epP pP 05 27 51.8 -1.0
CMB LR LR
comp=Z,8µm,20.0s,MS5.9
YNR Norris Junctio 66.59 334 eP **P 05 27 44.6 -0.2**
YNR epP pP 05 27 52.0 -0.7
L12A House Creek Ra 66.60 329 ⇓P **P 05 27 44.8 -0.2**
baz=67,SNR=22
YMR Madison River 66.68 334 eP **P 05 27 46.1 +0.7**
comp=Z,113nm,1.1s,mb5.8
YMR epP pP 05 27 54.0 +0.7
YMR LR LR
comp=Z,9µm,20.0s,MS6.0
P07A Fallon 66.75 325 ⇑P **P 05 27 46.2 +0.2**
baz=67
S04C Ingram Canyon, 66.77 322 ⇑P **P 05 27 46.3 +0.1**
baz=67
R05C Kirkwood Meado 66.84 324 ⇓P **P 05 27 47.5 +0.9**
baz=67,SNR=24
O08A Rochester Mine 66.88 326 ⇑P **P 05 27 46.8 0.0**
baz=67,SNR=10
M10A I.L. Ranch, Tu 66.91 328 ⇑P **P 05 27 47.2 +0.3**
baz=67
K12A Draper Farm, C 66.92 330 ⇓P **P 05 27 47.4 +0.4**
baz=67,SNR=55
N09A Rock Creek Ran 66.94 327 ⇓P **P 05 27 46.8 -0.4**
baz=67
L11A Cat Creek Ranc 66.99 329 ⇑P **P 05 27 47.7 +0.3**
baz=67,SNR=58
QLMT Earthquake Lak 67.01 333 eP **P 05 27 47.7 +0.2**
QLMT epP pP 05 27 56.1 +0.8
BNLO Ben Lomond (Sa 67.04 321 ⇑P **P 05 27 47.8 0.0**
baz=67
GCMT Greycliff 67.04 335 eP **P 05 27 47.4 -0.3**
GCMT epP pP 05 27 55.4 -0.1
GCMT esP sP 05 27 59.1 +0.6
R04C Big Horse Ranc 67.04 323 ⇓P **P 05 27 48.5 +0.6**
baz=67,SNR=17
WCN Washoe City 67.07 324 ⇑P **P 05 27 48.5 +0.4**
baz=67,SNR=33
WENL Wente Brothers 67.11 322 ⇓P **P 05 27 48.7 +0.4**
baz=67
J13A Cove Ranch, Pi 67.14 331 ⇓P **P 05 27 48.2 -0.2**
baz=67,SNR=36
PAHR Pah Rah Range 67.14 325 eP **P 05 27 49.2 +0.7**
comp=Z,211nm,1.2s,mb6.0
PAHR epP pP 05 27 56.0 -0.3
O07A Toulon 67.18 326 ⇓P **P 05 27 48.7 0.0**
baz=67,SNR=38
N08A GE Springer Mi 67.21 327 ⇓P **P 05 27 48.8 -0.1**
baz=67,SNR=6.3
JRSC Jasper Ridge 67.25 321 ⇑P **P 05 27 49.6 +0.4**
baz=67
LAVA Lava Cap Winer 67.26 323 ⇓P **P 05 27 49.0 -0.2**
baz=68,SNR=9.6
DGMT Dagmar 67.28 340 eP **P 05 27 48.9 -0.2**
comp=Z,276nm,1.5s,mb6.1
DGMT epP pP 05 27 56.4 -0.6
DGMT LR LR
comp=Z,7µm,19.0s,MS5.9
L10A Juniper Basin 67.28 328 ⇑P **P 05 27 49.4 +0.1**
baz=68,SNR=53
M09A Marrel Ranch, 67.31 327 ⇑P **P 05 27 49.3 -0.2**
baz=68,SNR=22
HLID Hailey 67.38 331 ⇑P **P 05 27 50.2 +0.3**
baz=68,SNR=72
HLID Hailey 67.38 331 eP **P 05 27 50.2 +0.3**
comp=Z,24nm,0.8s,mb5.3
HLID epP pP 05 27 57.7 -0.1
HLID LR LR
comp=Z,8µm,21.0s,MS5.9
BDM Black Diamond 67.39 322 ⇑P **P 05 27 50.3 +0.2**
baz=68
P06A Stead Airport, 67.41 325 ⇓P **P 05 27 50.6 +0.4**
baz=68
J12A Stokes Ranch, 67.47 330 ⇓P **P 05 27 50.8 +0.3**
baz=68,SNR=34
I13A Wildhorse Cree 67.51 331 ⇑P **P 05 27 51.0 +0.3**
baz=68,SNR=82
P05C Yuba Gap, Truc 67.56 324 ⇑P **P 05 27 51.9 +0.8**
baz=68,SNR=21
K11A Parker Ranch, 67.57 329 ⇓P **P 05 27 51.3 +0.2**
baz=68,SNR=22
SHEL Horse Pasture 67.63 102 PFAKE 05 28 00.0 +7.9
SHEL LR LR
comp=Z,32µm,22.0s,MS6.5
MCMT McKenzie Canyo 67.63 333 eP **P 05 27 52.0 +0.6**
MCMT epP pP 05 27 59.9 +0.5
N07B Gerlach 67.66 326 ⇑P **P 05 27 51.8 +0.1**
baz=68

Q04C Lincoln 67.69 323 ⇊P **P 05 27 52.7 +0.8**
baz=68,SNR=7.5
O06A Flanigan 67.70 325 ⇊P **P 05 27 52.1 +0.1**
baz=68,SNR=6.1
G15A Dillon 67.74 333 ⇊P **P 05 27 51.8 -0.3**
baz=68,SNR=48
BOZ Bozeman (W) 67.74 334 P **P 05 27 51.4 -0.7**
BOZ pmax pmax
comp=Z,66nm,1.2s,mb5.5
BOZ Bozeman (W) 67.74 334 ⇊P **P 05 27 52.0 -0.1**
baz=68,SNR=82
BOZ Bozeman (W) 67.74 334 *e*P **P 05 27 51.3 -0.8**
comp=Z,66nm,1.3s,mb5.5
BOZ *e*pP pP 05 27 59.2 -0.8
BOZ LR LR
comp=Z,9µm,20.0s,MS6.0
BEKR Beckwourth 67.80 325 ⇑P **P 05 27 53.0 +0.4**
baz=68,SNR=39
M08A Happy Creek Ra 67.82 327 ⇊P **P 05 27 52.6 -0.1**
baz=68,SNR=12
L09A Wilkinson Ranc 67.85 328 ⇊P **P 05 27 52.8 -0.1**
baz=68,SNR=43
FARB Farallon Islan 67.91 321 ⇑P **P 05 27 53.1 -0.3**
baz=68
Q03C Winters 67.92 323 ⇑P **P 05 27 53.9 +0.5**
baz=68
DLMT Dillon 67.94 333 *e*P **P 05 27 53.3 -0.1**
comp=Z,102nm,1.2s,mb5.7
DLMT *e*pP pP 05 28 00.2 -1.1
MFID Camas Ranch 67.95 330 ⇊P **P 05 27 54.1 +0.7**
baz=68,SNR=109
K10A MacKenzie Ranc 68.00 329 ⇑P **P 05 27 53.6 -0.2**
baz=68,SNR=59
CVS Carmenet Viney 68.00 322 ⇊P **P 05 27 53.9 0.0**
baz=68,SNR=7.0
H13A Challis 68.07 332 ⇑P **P 05 27 54.5 +0.3**
baz=68,SNR=55
OHCM Honcut 68.08 323 *e*P **P 05 27 54.5 +0.1**
OHCM *e*pP pP 05 28 01.3 -0.9
N06A Buffalo Meadow 68.11 326 ⇊P **P 05 27 54.9 +0.3**
baz=68,SNR=72
MCCM Marconi Confer 68.12 322 ⇊P **P 05 27 54.9 +0.2**
baz=68
MCCM Marconi Confer 68.12 322 *e*P **P 05 27 54.7 0.0**
comp=Z,252nm,1.5s,mb6.0
MCCM *e*pP pP 05 28 01.3 -1.2
MCCM LR LR
comp=Z,7µm,20.0s,MS5.9
O05C Quincy 68.18 324 ⇊P **P 05 27 55.5 +0.5**
baz=68,SNR=9.4
SUTB Sutter Butte 68.19 323 ⇑P **P 05 27 55.0 -0.1**
baz=68,SNR=23
M07A Soldier Meadow 68.20 326 ⇑P **P 05 27 54.9 -0.2**
baz=68,SNR=16
NSHM Saint Helena R 68.20 322 *e*P **P 05 27 55.2 0.0**
NSHM *e*pP pP 05 28 02.1 -0.9
G14A Jackson 68.23 333 ⇊P **P 05 27 55.3 +0.1**
baz=68,SNR=8.9
ORV Oroville 68.24 324 ⇊P **P 05 27 55.7 +0.3**
baz=68,SNR=50
F15A Butte 68.27 333 ⇑P **P 05 27 55.4 0.0**
baz=68,SNR=19
L08A Fields 68.33 327 ⇑P **P 05 27 56.0 +0.1**
baz=68,SNR=24
H12A Diamond D Ranc 68.33 331 ⇊P **P 05 27 56.7 +0.8**
baz=69,SNR=44
MNRC McLaughlin Nat 68.34 323 ⇊P **P 05 27 56.7 +0.6**
baz=68
K09A Rome 68.37 328 ⇑P **P 05 27 56.4 +0.3**
baz=69,SNR=77
I11A Placerville 68.38 330 ⇊P **P 05 27 56.6 +0.4**
baz=69,SNR=67
J10A Berg Farm, Mel 68.42 329 ⇊P **P 05 27 55.8 -0.6**
baz=69,SNR=7.4
G13A Cobalt 68.46 332 ⇊P **P 05 27 57.0 +0.3**
baz=69,SNR=41
O04C Chester 68.52 324 ⇊P **P 05 27 57.4 +0.3**
baz=69
ELFS Eagle Lake Fie 68.52 325 ⇑P **P 05 27 57.8 +0.7**
baz=69
F14A Wisdom 68.63 333 ⇊P **P 05 27 57.9 +0.2**
baz=69,SNR=18
WVOR Wild Horse Val 68.65 327 *e*P **P 05 27 57.4 -0.5**
WVOR *e**PP pP 05 28 04.8 -1.0
WVOR pmax pmax
comp=Z,53nm,1.3s,mb5.3
WVOR MLR MLR
comp=Z,10µm,20.0s,MS6.0
WVOR Wild Horse Val 68.65 327 *e*P **P 05 27 57.4 -0.6**
comp=Z,53nm,1.3s,mb5.3
WVOR *e*pP pP 05 28 04.8 -1.0
WVOR LR LR
comp=Z,10µm,20.0s,MS6.0
L07A Adell 68.73 327 ⇊P **P 05 27 58.9 +0.5**
baz=69,SNR=16
CALA Caldeira 68.76 38 *e*P **P 05 28 00.1 +1.4**
M06C Likely Place G 68.78 326 ⇑P **P 05 27 59.2 +0.4**
baz=69,SNR=10
HOPS Hopland 68.78 322 ⇊P **P 05 27 59.4 +0.6**
baz=69
HOPS Hopland 68.78 322 *e*P **P 05 27 59.0 +0.2**
comp=Z,81nm,1.2s,mb5.5
HOPS *e*pP pP 05 28 06.3 -0.4
HOPS LR LR
comp=Z,7µm,20.0s,MS5.9
K08A Mann Creek Ran 68.78 328 ⇑P **P 05 27 58.6 -0.1**
baz=69,SNR=9.4
E15A Deer Lodge 68.79 334 ⇊P **P 05 27 58.3 -0.4**
baz=69,SNR=27
O03C Acorn Hollow, 68.84 324 ⇊P **P 05 27 58.3 -0.9**
baz=69
J09A Fry Pan Ranch, 68.85 329 ⇑P **P 05 27 58.8 -0.4**
baz=69,SNR=37
PICO Pico 68.88 38 *e*P **P 05 28 02.9 +3.5**
EGMT Eagleton 68.90 336 ⇊P **P 05 27 58.6 -0.7**
baz=69,SNR=22
EGMT Eagleton 68.90 336 *e*P **P 05 27 58.7 -0.6**
comp=Z,56nm,1.0s,mb5.5
EGMT *e*pP pP 05 28 05.9 -1.3
EGMT LR LR
comp=Z,9µm,20.0s,MS6.0
I10A Payette 68.92 330 ⇑P **P 05 27 59.8 +0.3**
baz=69,SNR=9.1
H11A Donnelly 69.00 331 ⇊P **P 05 28 00.0 0.0**
baz=69,SNR=30
GASB Alder Springs 69.01 323 ⇊P **P 05 28 00.6 +0.4**
baz=69,SNR=62
F13A Darby 69.04 332 ⇊P **P 05 28 00.4 +0.2**
baz=69,SNR=63
HATC Hat Creek Radi 69.06 325 ⇑P **P 05 28 00.0 -0.5**
baz=69,SNR=15
ROSA Rosais 69.13 38 *e*P **P 05 28 01.1 +0.1**
E14A Clinton 69.15 333 ⇊P **P 05 28 01.4 +0.5**
baz=69,SNR=58
K07A Rock Creek Ran 69.15 327 ⇊P **P 05 28 00.9 -0.2**
baz=69
MOD Modoc 69.16 326 ⇑P **P 05 28 01.3 +0.2**
baz=69,SNR=70
MOD Modoc 69.16 326 *e*P **P 05 28 01.4 +0.2**
comp=Z,138nm,1.3s,mb5.7
MOD *e*pP pP 05 28 08.3 -0.6
MOD LR LR
comp=Z,9µm,19.0s,MS6.0
D15A Lincoln 69.22 334 ⇑P **P 05 28 00.8 -0.5**
baz=69,SNR=25
J08A Circle Bar Ran 69.23 328 ⇑P **P 05 28 01.1 -0.4**
baz=69,SNR=18
P01C Double 8 Ranch 69.25 323 ⇊P **P 05 28 01.9 +0.2**
baz=69,SNR=30
M05C Lookout 69.25 325 ⇑P **P 05 28 01.7 0.0**
baz=70,SNR=70
H10A Noah's Angus R 69.26 330 ⇑P **P 05 28 01.1 -0.6**
baz=70,SNR=18
SCHQ Schefferville 69.28 6 P **P 05 28 00.7 -0.9**
comp=Z,65nm,0.9s,mb5.5,baz=178,slow=4.7,SNR=38
SCHQ LR LR 06 00 12.3
comp=Z,10µm,20.6s,MS6.0,baz=192,slow=37
SCHQ Schefferville 69.28 6 *e*P **P 05 27 59.5 -2.0**
comp=Z,74nm,0.9s,mb5.6
SCHQ LR LR
comp=Z,13µm,21.0s,MS6.1
I09A Lost Marbles R 69.30 329 ⇊P **P 05 28 01.2 -0.7**
baz=70,SNR=9.2
VNA1 Neumayer--Stat 69.33 161 *e*P **P 05 28 02.3 +0.6**
VNA1 *e* 05 28 13.7
VNA1 *e* 05 28 17.5
O02C Red Bluff 69.39 323 ⇊P **P 05 28 01.7 -0.9**
baz=70,SNR=19
TBI Tubuai 69.42 250 *e*S S 05 37 10.6 +1.3
comp=Z,6µm,29.8s
TBI Tubuai 69.42 250 *e*LR LR 05 49 12.3
comp=Z,29µm,26.2s,baz=90
F12A Elk City 69.43 332 ⇑P **P 05 28 02.5 -0.2**
baz=70,SNR=37
CHMT Chamberlain Mo 69.44 334 *e*P **P 05 28 02.6 -0.1**
CHMT *e*pP pP 05 28 09.7 -0.8
SRBC Serra Branca 69.45 38 *e*P **P 05 28 03.1 +0.1**
E13A Victor 69.48 333 ⇑P **P 05 28 02.8 -0.2**
baz=70,SNR=96
WDC Whiskeytown Da 69.51 324 P **P 05 28 02.1 -1.2**
WDC pmax pmax
comp=Z,78nm,1.5s,mb5.4
WDC Whiskeytown Da 69.51 324 ⇊P **P 05 28 01.8 -1.5**
baz=70,SNR=20
WDC Whiskeytown Da 69.51 324 *e*P **P 05 28 01.7 -1.6**
comp=Z,78nm,1.5s,mb5.4
WDC *e*pP pP 05 28 08.5 -2.7
WDC LR LR
comp=Z,4µm,21.0s,MS5.7
KCPM Cahto Peak 69.53 323 *e*P **P 05 28 03.1 -0.4**
KCPM *e*pP pP 05 28 11.2 -0.2
L05A Lakeview 69.55 326 ⇊P **P 05 28 03.7 +0.2**
baz=70,SNR=16
KIPM Iron Peak 69.55 323 *e*P **P 05 28 04.3 +0.8**
KIPM *e*pP pP 05 28 10.6 -0.8
G11A Walters Elk Ra 69.64 331 ⇊P **P 05 28 04.0 0.0**
baz=70,SNR=62
J07A Hines 69.67 328 ⇊P **P 05 28 04.4 +0.2**
baz=70,SNR=6.9
MSO Missoula 69.67 333 *e*P **P 05 28 04.3 +0.2**
comp=Z,89nm,1.3s,mb5.5
MSO *e*pP pP 05 28 11.2 -0.8
MSO LR LR
comp=Z,6µm,20.0s,MS5.8
I08A Drewsey 69.67 329 ⇑P **P 05 28 04.1 -0.1**
baz=70,SNR=25
D14A Greenough 69.67 334 ⇊P **P 05 28 04.0 -0.2**
baz=70,SNR=35
BMO Blue Mountains 69.73 330 *e*P **P 05 28 04.1 -0.4**
comp=Z,29nm,0.9s,mb5.2
BMO *e*pP pP 05 28 11.1 -1.3
BMO LR LR
comp=Z,13µm,19.0s,MS6.2
M03C McCloud 69.74 325 ⇊P **P 05 28 03.6 -1.1**
baz=70,SNR=18
K06A Valley Falls 69.76 327 ⇑P **P 05 28 04.7 -0.1**
baz=70,SNR=127
H09A Durkee 69.76 330 ⇑P **P 05 28 04.5 -0.2**
baz=70
M04C Macdoel 69.92 325 ⇑P **P 05 28 05.5 -0.3**
baz=70,SNR=18
F11A Grangeville 69.95 331 ⇑P **P 05 28 05.6 -0.2**
baz=70,SNR=119
G10A Bishop Farm, J 69.96 330 ⇑P **P 05 28 05.8 -0.1**
baz=70,SNR=28
O01C Eel River Cons 69.97 323 ⇑P **P 05 28 06.8 +0.7**
baz=70,SNR=9.0
J06A Christmas Vall 70.02 327 ⇊P **P 05 28 06.6 +0.2**
baz=70,SNR=88
K05A Summer Lake 70.05 326 ⇊P **P 05 28 07.0 +0.4**
baz=70,SNR=19
D13A Huson 70.10 333 ⇊P **P 05 28 06.9 +0.2**
baz=70,SNR=16
N02C Big Bar 70.11 324 ⇊P **P 05 28 07.2 +0.2**
baz=70,SNR=118
PDA Ponta Delgada 70.11 41 *i*P **P 05 28 10.0 +2.9**
PDA *i*S S 05 37 21.0 +4.2
PDA *e*LQ 05 47 10.0
PDA *i*LR LR 05 50 34.0
H08A Prairie City 70.16 329 ⇑P **P 05 28 07.3 +0.1**
baz=70,SNR=130
CMLA Cha da Macela 70.21 41 *e*P **P 05 28 10.9 +3.2**
comp=Z,312nm,1.7s,mb6.0
CMLA *i*S S 05 37 20.7 +2.8
CMLA *e*SS SS 05 41 59.0 +10
CMLA *e*LQ 05 45 15.5
CMLA *e*LR LR 05 50 27.3
CMLA Cha da Macela 70.21 41 PFAKE 05 28 20.0 +12
CMLA LR LR
comp=Z,17µm,20.0s,MS6.3
L04A Klamath Falls 70.21 326 ⇑P **P 05 28 07.0 -0.6**
baz=70,SNR=8.7
M02C Callahan 70.23 324 ⇊P **P 05 28 07.6 -0.1**
baz=70,SNR=22
I07A Izee 70.27 328 ⇑P **P 05 28 07.9 +0.1**
baz=70,SNR=53
G09A Cove 70.27 330 ⇑P **P 05 28 08.5 +0.6**
baz=70,SNR=100
C14A Swan Lake 70.31 334 ⇊P **P 05 28 08.7 +0.7**
baz=70
E11A Bogner Ranch, 70.32 332 ⇊P **P 05 28 07.3 -0.8**
baz=70,SNR=28
PPT Papeete 70.34 256 *e*S S 05 37 19.0 -1.3
comp=Z,10µm,24.0s
PPT Papeete 70.34 256 *e*LR LR 05 49 32.7
comp=Z,18µm,27.2s,baz=101
PPT Papeete 70.34 256 LR LR 05 51 01.7
comp=Z,3µm,19.9s,MS5.6,baz=280,slow=29
YBH Yreka Blue Hor 70.37 325 P **P 05 28 07.6 -0.9**
comp=Z,15nm,0.8s,mb5.0,baz=109,slow=4.4,SNR=50
YBH Yreka Blue Hor 70.37 325 P **P 05 28 07.4 -1.2**
YBH pmax pmax
comp=Z,25nm,0.9s
YBH Yreka Blue Hor 70.37 325 ⇑P **P 05 28 07.5 -1.1**
baz=71,SNR=46
YBH Yreka Blue Hor 70.37 325 *e*P **P 05 28 07.2 -1.3**
comp=Z,25nm,0.9s,mb5.1
YBH *e*pP pP 05 28 14.2 -2.2
YBH LR LR
comp=Z,7µm,20.0s,MS5.9
K04A Chilquin 70.42 326 ⇊P **P 05 28 09.3 +0.4**
baz=71
D12A Red Ives Fores 70.46 333 ⇑P **P 05 28 08.4 -0.6**
baz=71
F10A Beach Ranch, E 70.51 331 ⇊P **P 05 28 09.8 +0.5**
baz=71,SNR=38
JCC Jacoby Creek 70.53 323 ⇑P **P 05 28 10.1 +0.6**
baz=71,SNR=32
I06A Prineville 70.53 328 ⇊P **P 05 28 10.2 +0.7**
baz=71,SNR=63
C13A Hot Springs 70.60 334 ⇑P **P 05 28 10.1 +0.3**
baz=71,SNR=89
J05A Fort Rock 70.61 327 ⇊P **P 05 28 10.5 +0.6**
baz=71,SNR=23
F09A S2 Ranch, Elgi 70.64 330 ⇊P **P 05 28 09.9 -0.2**
baz=71,SNR=41
H07A Lands Inn, Kim 70.66 329 ⇊P **P 05 28 10.1 -0.2**
baz=71,SNR=17
E10A Myers Farm, Un 70.83 331 ⇑P **P 05 28 11.0 -0.2**
baz=71,SNR=12
G08A Pilot Rock 70.85 329 ⇑P **P 05 28 11.4 0.0**
baz=71,SNR=48
KTRM Thompson Ridge 70.86 325 P **P 05 28 11.9 +0.3**
D11A Klaveano Farm, 70.90 332 ⇊P **P 05 28 11.3 -0.3**
baz=71,SNR=30
KRMB Red Mountain 70.91 324 *e*P **P 05 28 12.2 +0.4**
KRMB *e*pP pP 05 28 18.6 -1.1
LNOR Lincton Mounta 70.94 330 P **P 05 28 11.8 -0.1**
LNOR Lincton Mounta 70.94 330 *e*P **P 05 28 11.1 -0.8**
LNOR *e*pP pP 05 28 18.5 -1.3
J04A Umpqua Nationa 71.05 326 ⇊P **P 05 28 12.4 -0.2**
baz=71,SNR=16
B13A Whitefish 71.09 334 ⇑P **P 05 28 12.4 -0.3**
baz=71,SNR=12
HUMO Hull Mountain 71.09 325 ⇑P **P 05 28 12.6 -0.4**
baz=71,SNR=11
HUMO Hull Mountain 71.09 325 *e*P **P 05 28 12.1 -0.8**
comp=Z,16nm,0.9s,mb5.0
HUMO *e*pP pP 05 28 18.5 -2.3
HUMO LR LR
comp=Z,7µm,19.0s,MS6.0
F08A Pendleton 71.13 330 ⇑P **P 05 28 12.8 -0.3**
baz=71
H06A Lindquist Farm 71.15 328 ⇊P **P 05 28 13.4 +0.2**
baz=71,SNR=44
L02A Cave Junction 71.15 325 ⇊P **P 05 28 12.9 -0.4**
baz=71,SNR=24
G07A Ruggs Ranch, H 71.19 329 ⇑P **P 05 28 14.3 +0.8**
baz=71,SNR=18
I05A Bend 71.23 327 ⇊P **P 05 28 14.4 +0.7**
baz=71,SNR=12
M01C Crescent City 71.25 324 ⇊P **P 05 28 13.8 0.0**
baz=71,SNR=8.0
SNAA Sanae 71.28 161 *e*P **P 05 28 13.5 -0.2**
SNAA *e* 05 28 25.9
SNAA Sanae 71.28 161 *e*P **P 05 28 13.5 -0.2**
SNAA pmax pmax
comp=Z,94nm,0.9s
SNAA Sanae 71.28 161 *e*P **P 05 28 13.5 -0.2**
comp=Z,94nm,0.9s,mb5.7
D10A Wagner Farm, O 71.33 332 ⇊P **P 05 28 14.4 +0.1**
baz=72,SNR=38
E09A Wood Farm, Sta 71.34 331 ⇑P **P 05 28 14.0 -0.4**
baz=72,SNR=13
WALA Waterton Lakes 71.39 335 *e*P **P 05 28 14.5 -0.1**
comp=Z,46nm,0.9s,mb5.4
WALA *e*pP pP 05 28 21.2 -1.3
K02A Glendale 71.49 325 ⇑P **P 05 28 15.5 +0.1**
baz=72,SNR=42
A13A Flathead Natio 71.50 334 ⇑P **P 05 28 15.6 +0.4**
baz=72
KBO Bosley Butte 71.54 324 *e*P **P 05 28 14.4 -1.2**
KBO *e*pP pP 05 28 23.2 -0.3
I04A Tendick Farm, 71.59 326 ⇊P **P 05 28 14.9 -1.0**
baz=72,SNR=28
B12A Libby 71.64 334 ⇑P **P 05 28 16.3 +0.2**
baz=72,SNR=37
F07A Phinny Hill Vi 71.76 329 ⇑P **P 05 28 17.5 +0.6**
baz=72,SNR=6.3
E08A Dider Farm, El 71.76 330 ⇑P **P 05 28 16.7 -0.1**
baz=72
D09A Jones Farm, Ri 71.82 331 ⇑P **P 05 28 17.2 0.0**
baz=72,SNR=8.8
C10A Spilker Farm, 71.91 332 ⇑P **P 05 28 17.8 0.0**
baz=72,SNR=14
HAWA Hanford 71.92 330 *e*P **P 05 28 18.0 +0.2**
comp=Z,98nm,1.2s,mb5.6
HAWA *e*pP pP 05 28 25.1 -0.6
HAWA LR LR
comp=Z,15µm,19.0s,MS6.3
J02A Umpqua 71.93 326 ⇑P **P 05 28 18.2 +0.2**
baz=72,SNR=41
RSW Rattlesnake Hi 71.95 330 *e*P **P 05 28 18.4 +0.4**
RSW *e*pP pP 05 28 25.2 -0.7
B11A Sandpoint 71.95 333 ⇑P **P 05 28 18.1 +0.1**
baz=72,SNR=11
G05A Wamic 72.00 328 ⇊P **P 05 28 18.9 +0.6**
baz=72,SNR=17
A12A Yaak River Ran 72.02 334 ⇊P **P 05 28 18.8 +0.4**
baz=72,SNR=48
KEBM Edson Butte 72.03 325 *e*P **P 05 28 18.5 0.0**
KEBM *e*pP pP 05 28 26.1 -0.3
K01A Sixes 72.06 325 ⇊P **P 05 28 18.3 -0.5**
baz=72,SNR=7.4
H04A Detroit Lake 72.07 327 ⇊P **P 05 28 18.3 -0.5**
baz=72,SNR=21
F06A Goldendale 72.09 329 ⇑P **P 05 28 19.6 +0.7**
baz=72
D08A Wollman Farm, 72.10 331 ⇑P **P 05 28 19.1 +0.2**
baz=72,SNR=6.9
NEW Newport 72.16 333 *e*P **P 05 28 18.9 -0.3**
NEW *e**PP pP 05 28 26.3 -0.8
NEW pmax pmax
comp=Z,51nm,1.1s
NEW MLR MLR
comp=Z,10µm,20.0s
NEW Newport 72.16 333 *e*P **P 05 28 18.9 -0.3**
comp=Z,51nm,1.1s,mb5.4
NEW *e*pP pP 05 28 26.2 -0.9
NEW LR LR
comp=Z,10µm,20.0s,MS6.1
I03A Eugene 72.17 326 ⇊P **P 05 28 19.8 +0.4**
baz=72,SNR=25
E07A Sunnyside 72.19 330 ⇑P **P 05 28 19.9 +0.5**
baz=72,SNR=8.3
HOOD Mount Hood Mea 72.23 328 *e*P **P 05 28 20.6 +0.9**
comp=Z,118nm,1.2s,mb5.7
HOOD *e*pP pP 05 28 27.1 -0.5
B10A Chitwood Farm, 72.23 333 ⇑P **P 05 28 19.3 -0.4**
baz=72
OD2 Odessa Site #2 72.25 331 P **P 05 28 20.0 +0.2**
C09A Chrisman Ranch 72.34 332 ⇑P **P 05 28 20.6 +0.2**
baz=73,SNR=9.5
A11A Hall Mountain, 72.35 333 ⇑P **P 05 28 20.2 -0.1**
baz=73,SNR=23
I02A Mapleton 72.49 326 ⇑P **P 05 28 21.3 0.0**
baz=73
F05A White Salmon 72.52 329 ⇑P **P 05 28 21.6 +0.2**
baz=73,SNR=8.9
G04A Mulino 72.58 328 ⇊P **P 05 28 21.8 0.0**
baz=73,SNR=9.7
COR Corvallis 72.59 327 P **P 05 28 22.4 +0.5**
COR pmax pmax
comp=Z,160nm,1.3s,mb5.8
COR Corvallis 72.59 327 *e*P **P 05 28 21.6 -0.3**
comp=Z,160nm,1.3s,mb5.8
COR *e*pP pP 05 28 29.3 -0.5
COR LR LR
comp=Z,8µm,19.0s,MS6.0
H03A Soap Creek Ran 72.65 327 ⇊P **P 05 28 22.6 +0.4**
baz=73,SNR=20
C08A Higginbotham F 72.69 331 ⇊P **P 05 28 22.4 0.0**
baz=73,SNR=12
D07A Quincy 72.70 330 ⇑P **P 05 28 22.6 +0.1**
baz=73,SNR=12
E06A Yakima 72.73 329 ⇊P **P 05 28 23.0 +0.3**
baz=73,SNR=12
B09A Rice 72.74 332 ⇊P **P 05 28 22.4 -0.3**
baz=73,SNR=27
A10A Northport 72.89 333 ⇑P **P 05 28 23.4 -0.1**
baz=73,SNR=7.8
H02A Toledo 73.03 326 ⇊P **P 05 28 24.1 -0.4**
baz=73
F04A Amboy 73.04 328 ⇊P **P 05 28 24.0 -0.5**
baz=73,SNR=21
G03A Yamhill 73.07 327 ⇑P **P 05 28 25.0 +0.3**
baz=73,SNR=11
C07A Waterville 73.10 331 ⇑P **P 05 28 25.0 +0.2**
baz=73,SNR=28
D06A Cle Elum 73.12 330 ⇑P **P 05 28 25.3 +0.3**
baz=73,SNR=12
E05A Randle 73.14 329 ⇑P **P 05 28 24.5 -0.6**
baz=73,SNR=11
ETW Entiat 73.17 330 *e*P **P 05 28 25.7 +0.5**
ETW *e*pP pP 05 28 32.2 -0.9
B08A Colville Reser 73.23 331 ⇑P **P 05 28 25.0 -0.7**
baz=73,SNR=15
HEBO Mount Hebo 73.25 327 *e*P **P 05 28 26.2 +0.4**
comp=Z,191nm,1.3s,mb5.9
HEBO *e*pP pP 05 28 33.4 -0.3
A09A Danville 73.34 332 ⇊P **P 05 28 26.1 -0.1**
baz=74,SNR=28
LIC Lamto 73.36 79 ⇑*i*P **P 05 28 26.9 -0.2**
comp=Z,410nm,1.1s,mb6.0,baz=261
LIC *e*MLR MLR
comp=Z,73µm,21.0s,MS6.6
LIC Lamto 73.36 79 *e*P **P 05 28 26.8 -0.3**
comp=Z,492nm,1.1s,mb6.3
LIC Lamto 73.36 79 ⇑*i*P **P 05 28 26.9 -0.2**
comp=Z,205nm,1.1s,mb6.0
LIC LR LR
comp=Z,36µm,21.0s,MS6.6
TIC Toumodi 73.49 79 *e*P **P 05 28 27.6 -0.3**
comp=Z,830nm,1.3s,mb6.5
TIC Toumodi 73.49 79 *e*P **P 05 28 27.6 -0.3**
TIC pmax pmax
comp=Z,830nm,1.3s,mb6.5
F03A Seaside 73.62 328 ⇊P **P 05 28 28.0 0.0**
baz=74
A08A Turner Farm, O 73.64 332 ⇑P **P 05 28 28.2 +0.2**
baz=74,SNR=34
E04A Onalaska 73.64 329 ⇑P **P 05 28 28.2 +0.2**
baz=74
DBIC Dimbokro 73.65 79 P **P 05 28 28.7 -0.2**
comp=Z,123nm,0.9s,mb5.8,baz=230,slow=5.9,SNR=63
DBIC LR LR 05 58 46.0
comp=Z,39µm,21.7s,MS6.7,baz=220,slow=34
DBIC Dimbokro 73.65 79 P **P 05 28 28.9 +0.1**
DBIC pmax pmax
comp=Z,240nm,1.2s
DBIC Dimbokro 73.65 79 *e*P **P 05 28 28.7 -0.2**
comp=Z,235nm,1.2s,mb6.0
DBIC *e*pP pP 05 28 38.1 +1.3
DBIC LR LR
comp=Z,41µm,22.0s,MS6.7
C06A Tall Timber Ra 73.66 330 ⇑P **P 05 28 28.3 +0.2**
baz=74
KIC Kosan Boka 73.67 79 *e*P **P 05 28 28.8 -0.2**
comp=Z,1µm,1.0s,mb6.8
B07A Winthrop 73.67 331 ⇑P **P 05 28 27.8 -0.4**
baz=74,SNR=18

D05A Enumclaw 73.68 329 ⇊P P 05 28 28.2 -0.1
baz=74,SNR=20
BMW Boistfort Moun 73.82 328 P P 05 28 30.0 +0.9
BMW Boistfort Moun 73.82 328 eP P 05 28 29.2 +0.1
BMW epP pP 05 28 36.4 -0.6
C05A Tolt Reservoir 73.88 330 ⇊P P 05 28 29.0 -0.4
baz=74,SNR=9.8
D04A Dobbs Creek Ra 74.03 329 ⇑P P 05 28 30.7 +0.4
baz=74
E03A Lebam 74.04 328 ⇑P P 05 28 30.5 +0.1
baz=74,SNR=11
A07A Ashnola River, 74.22 331 ⇑P P 05 28 31.7 +0.3
baz=74,SNR=34
FCC Fort Churchill 74.25 350 P P 05 28 31.0 -0.3
FCC pmax pmax
comp=Z,66nm,1.0s,mb5.5
FCC Fort Churchill 74.25 350 eP P 05 28 29.5 -1.9
comp=Z,66nm,1.0s,mb5.5
FCC epP pP 05 28 37.4 -1.8
RPW Rockport 74.32 330 eP P 05 28 31.6 -0.4
RPW epP pP 05 28 39.2 -0.8
JCW Jim Creek 74.35 330 eP P 05 28 31.3 -0.9
JCW epP pP 05 28 39.1 -1.0
GNW Green Mountain 74.35 329 eP P 05 28 31.7 -0.5
comp=Z,63nm,1.2s,mb5.4
GNW epP pP 05 28 39.0 -1.1
B06A Marblemount 74.36 331 ⇊P P 05 28 31.8 -0.4
baz=75,SNR=14
EDM Edmonton 74.44 338 eP P 05 28 31.4 -1.2
EDM e*PP pP 05 28 38.7 -1.8
B05A Bryant 74.48 330 ⇑P P 05 28 32.2 -0.7
baz=75,SNR=24
D03A Wishkah Elem. 74.53 328 ⇊P P 05 28 34.2 +1.0
baz=75,SNR=12
C04A Brinnon 74.53 329 ⇑P P 05 28 33.2 0.0
baz=75,SNR=9.0
NLWA Neilton Lookou 74.76 329 ⇑P P 05 28 35.1 +0.5
baz=75,SNR=46
NLWA Neilton Lookou 74.76 329 eP P 05 28 35.4 +0.8
comp=Z,117nm,1.1s,mb5.7
NLWA epP pP 05 28 42.3 -0.2
NLWA LR LR
comp=Z,15µm,20.0s,MS6.3
A06A Chilliwack 74.76 331 ⇊P P 05 28 33.8 -0.7
baz=75
A05A Maple Falls 74.98 331 ⇊P P 05 28 35.3 -0.5
baz=75,SNR=11
B04A Port Angeles 75.02 329 ⇑P P 05 28 36.2 +0.1
baz=75
A04A Legoe Bay, Lum 75.08 330 ⇊P P 05 28 36.5 +0.1
baz=75
C03A Quillayute Air 75.48 329 ⇊P P 05 28 39.6 +0.9
baz=76,SNR=13
QSPA South Pole Qui 75.87 180 P P 05 28 41.0 +0.4
comp=Z,23nm,0.8s,mb5.2,baz=141,slow=2.9,SNR=65
MAIT Maitri 75.91 160 eP P 05 28 40.2 -0.7
NVL N'lazarevskaya 75.94 160 i P P 05 28 42.1 +1.0
NVL eS S 05 38 25.1 +3.0
NVL eSS SS 05 43 15.0 +0.7
NVL pmax pmax
comp=Z,238nm,2.2s,mb5.7
RAR Rarotonga 79.18 251 LR LR 05 55 29.2
comp=Z,12µm,19.8s,MS6.2,baz=101,slow=29
RAR Rarotonga 79.18 251 PFAKE 05 29 10.0 +10
RAR LR LR
comp=Z,1.0nm,19.0s
PFVI Vila Bisbo 81.25 48 eP P 05 29 12.0 +1.1
comp=Z,321nm,1.8s,mb6.0
PFVI Vila Bisbo 81.25 48 eS S 05 39 27.8 +7.9
PFVI Vila Bisbo 81.25 48 eLR LR 05 57 35.0
comp=Z,11µm,16.0s
RTC Rabat Centre 81.42 52 PFAKE 05 29 20.0 +8.2
RTC LR LR
comp=Z,20µm,21.0s,MS6.5
MORF Marmelete 81.45 48 eP P 05 29 13.8 +1.9
comp=Z,301nm,2.3s,mb5.8
MORF Marmelete 81.45 48 eS S 05 39 32.7 +11
MORF Marmelete 81.45 48 eLR LR 05 57 09.2
comp=Z,11µm,18.0s
PTEO Sao Teotonio 81.50 48 eP P 05 29 14.2 +2.0
comp=Z,388nm,1.9s,mb6.0
SBA Scott Base 81.62 191 P P 05 29 12.8 +0.6
SBA pmax pmax
comp=Z,53nm,1.3s,mb5.3
SBA Scott Base 81.62 191 eP P 05 29 12.6 +0.4
comp=Z,53nm,1.3s,mb5.3
SBA LR LR
comp=Z,6µm,21.0s,MS6.0
TOA0 Torodi Ar. Sit 81.70 74 eP P 05 29 13.9 +0.2
TORD Torodi Ar. Bea 81.70 74 P P 05 29 13.9 +0.2
comp=Z,369nm,0.9s,mb6.3,baz=263,slow=4.3,SNR=262
TORD LR LR 06 04 40.6
comp=Z,21µm,21.1s,MS6.5,baz=225,slow=35
TORD Torodi Ar. Bea 81.70 74 P P 05 29 13.9 +0.2
TORD LR LR 06 04 40.6
LIS Lisbon 81.70 47 eP P 05 29 12.9 -0.3
LIS eS S 05 39 18.8 -5.7
LIS eS S 05 39 18.8 -5.7
LIS AMS AMS 06 01 50.6
comp=Z,31µm,26.9s,MS6.5
LIS Lisbon 81.70 47 eS S 05 39 18.8 -5.7
LIS A 06 01 50.6
comp=Z,31µm,26.9s
PMAFR Mafra 81.71 46 eP P 05 29 14.4 +1.2
comp=Z,275nm,1.2s,mb6.1
PMAFR Mafra 81.71 46 eS S 05 39 32.5 +7.9
PMAFR Mafra 81.71 46 eLR LR 05 57 33.4
comp=Z,33µm,20.0s
PBDV Barranco-do-Ve 81.94 48 eP P 05 29 16.3 +1.8
comp=Z,196nm,1.0s,mb6.0
PBDV Barranco-do-Ve 81.94 48 eS S 05 39 34.4 +7.3
PBDV Barranco-do-Ve 81.94 48 eLR LR 05 56 25.0
comp=Z,12µm,22.0s
XMAS Kiritimati 82.13 274 PFAKE 05 29 30.0 +14
XMAS LR LR
comp=Z,18µm,20.0s,MS6.4
PVAQ Vaqueiros 82.17 48 eP P 05 29 17.3 +1.6
comp=Z,189nm,1.8s,mb5.7
PVAQ Vaqueiros 82.17 48 eS S 05 39 34.3 +4.9
PVAQ Vaqueiros 82.17 48 eLR LR 05 56 29.9
comp=Z,12µm,22.0s
YKA Yellowknife Ar 82.23 343 P P 05 29 14.3 -1.1
comp=Z,27nm,0.9s,mb5.2,baz=137,slow=5.1,SNR=100
YKA LR LR 06 07 25.5
comp=Z,5µm,20.1s,MS5.9,baz=155,slow=37
PBEJ Beja 82.32 48 eP P 05 29 18.2 +1.7
comp=Z,220nm,1.7s,mb5.8
EGRO El Granado 82.39 48 P P 05 29 18.7 +1.9
comp=Z,198nm,1.0s,mb6.0
EVO Evora 82.42 47⇑ i P P 05 29 18.0 +1.0
comp=Z,415nm,1.1s,mb6.0
EVO eMLR MLR
comp=Z,32µm,22.2s,MS6.3
EVO Evora 82.42 47 eP P 05 29 18.1 +1.1
comp=Z,164nm,1.8s,mb5.7
EVO Evora 82.42 47 ePP PP 05 32 25.8 -0.6
VNDA Vanda 82.69 191 P P 05 29 17.8 0.0
comp=Z,9.9nm,0.9s,mb4.8,baz=134,slow=5.5,SNR=32
VNDA LR LR 05 58 53.8
comp=Z,8µm,20.6s,MS6.1,baz=122,slow=30
VNDA Vanda 82.69 191 eP P 05 29 18.2 +0.4
VNDA pmax pmax
comp=Z,75nm,1.6s
VNDA MLR MLR
comp=Z,9µm,21.0s
VNDA Vanda 82.69 191 eP P 05 29 18.1 +0.4
comp=Z,75nm,1.6s,mb5.5
VNDA LR LR
comp=Z,9µm,21.0s,MS6.1
PESTR Estremoz 82.86 47 eP P 05 29 20.3 +1.0
comp=Z,216nm,1.7s,mb5.9
PESTR Estremoz 82.86 47 eS S 05 39 42.2 +5.7
PESTR Estremoz 82.86 47 eLR LR 05 58 05.8
comp=Z,22µm,20.0s
SFS San Fernando 82.89 50 P P 05 29 22.3 +2.8
SFS San Fernando 82.89 50 PFAKE 05 29 30.0 +10
SFS LR LR
comp=Z,10µm,20.0s,MS6.2
PBAR Barrancos 82.97 48 eP P 05 29 21.2 +1.3
comp=Z,164nm,1.6s,mb5.8
PBAR Barrancos 82.97 48 eS S 05 39 42.7 +5.1
PBAR Barrancos 82.97 48 eLR LR 05 56 42.1
comp=Z,13µm,18.0s
EMIN Mina Concepcio 83.07 48 P P 05 29 21.9 +1.4
comp=Z,136nm,1.0s,mb5.9
SFJD Kangerlussuaq 83.19 10⇑ i P P 05 29 19.1 -1.2
SFJD i S S 05 39 32.9 -5.7
SFJD
comp=Z,1µm,23.0s
EBAD Badajoz 83.23 47 P P 05 29 22.5 +1.3
comp=Z,97nm,1.0s,mb5.8
PMRV Marv??o 83.24 47 eP P 05 29 21.5 +0.3
comp=Z,90nm,1.6s,mb5.5
PMRV Marv??o 83.24 47 eS S 05 39 42.2 +1.9
PMRV Marv??o 83.24 47 eLR LR 05 58 22.4
comp=Z,27µm,20.0s
ESPR Espera 83.31 49 P P 05 29 23.4 +1.8
comp=Z,126nm,1.0s,mb5.9
PCBR Castelo Branco 83.35 46 eP P 05 29 22.2 +0.4
comp=Z,139nm,1.6s,mb5.7
PVIS Viseu 83.43 45 eP P 05 29 22.9 +0.7
comp=Z,192nm,1.5s,mb5.9
MTE Manteigas 83.54 46 eP P 05 29 23.5 +0.8
comp=Z,163nm,1.2s,mb6.0
MTE Manteigas 83.54 46 eS S 05 39 47.1 +3.9
MTE Manteigas 83.54 46 eLR LR 05 58 21.8
comp=Z,29µm,20.0s
MTE Manteigas 83.54 46 eP P 05 29 23.1 +0.4
comp=Z,146nm,1.1s,mb6.0
MTE LR LR
comp=Z,27µm,20.0s,MS6.6
EMAZ Mazaricos 83.66 43 P P 05 29 23.8 +0.5
comp=Z,47nm,0.9s,mb5.6
PCAB Cabril 83.76 44 eP P 05 29 24.4 +0.6
comp=Z,172nm,1.3s,mb6.0
ELOB Lobios 83.80 44 P P 05 29 24.7 +0.6
comp=Z,48nm,1.0s,mb5.6
EMIJ Mijas 83.99 50 P P 05 29 26.4 +1.2
comp=Z,107nm,0.9s,mb6.0
ECAB El Cabril 84.10 48 P P 05 29 26.6 +0.9
comp=Z,45nm,0.9s,mb5.6
MVO Moncorvo 84.21 45 eP P 05 29 27.0 +0.8
comp=Z,140nm,1.9s,mb5.8
MVO Moncorvo 84.21 45 eS S 05 39 51.4 +1.4
MVO Moncorvo 84.21 45 eLR LR 05 57 31.3
comp=Z,18µm,20.0s
CRAG Craig 84.32 331 eP P 05 29 26.0 -0.4
comp=Z,86nm,1.7s,mb5.6
WRAK Wrangell Islan 84.52 332 eP P 05 29 27.2 -0.2
comp=Z,60nm,1.3s,mb5.6
WRAK epP pP 05 29 34.4 -1.0
WRAK LR LR
comp=Z,10µm,19.0s,MS6.2
ELOJ Sierra Loja 84.67 50 P P 05 29 30.3 +1.7
ELOJ pmax pmax
comp=Z,214nm,1.1s,mb6.2
ELOJ Sierra Loja 84.67 50 P P 05 29 30.3 +1.7
comp=Z,214nm,1.1s,mb6.2
ECAL Calabor 84.73 45 P P 05 29 29.4 +0.7
comp=Z,22nm,0.8s,mb5.3
DLBC Dease Lake 84.73 335 eP P 05 29 28.5 +0.2
DLBC epP pP 05 29 36.0 -0.4
ELUQ Luque 84.75 49 P P 05 29 30.6 +1.6
ELUQ pmax pmax
comp=Z,128nm,1.0s,mb6.0
ELUQ Luque 84.75 49 P P 05 29 30.6 +1.6
comp=Z,128nm,1.0s,mb6.0
EADA Adamuz 84.75 49 P P 05 29 30.2 +1.2
comp=Z,53nm,1.1s,mb5.6
EPON Pontenova 85.03 43 P P 05 29 31.7 +1.5
comp=Z,8.6nm,0.6s,mb5.1
POHA Pohakuloa 85.12 292 PFAKE 05 29 40.0 +8.7
POHA LR LR
comp=Z,10µm,20.0s,MS6.2
ECOG Cogollos-Vega 85.16 50 P P 05 29 32.3 +1.3
ECOG pmax pmax
comp=Z,21nm,0.6s,mb5.4
ECOG Cogollos-Vega 85.16 50 P P 05 29 32.3 +1.3
comp=Z,21nm,0.6s,mb5.4
EBAN Banos Encina 85.33 49 P P 05 29 33.2 +1.3
EBAN pmax pmax
comp=Z,21nm,0.7s,mb5.4
EBAN Banos Encina 85.33 49 P P 05 29 33.2 +1.3
comp=Z,21nm,0.7s,mb5.4
PAB San Pablo 85.44 47 eP P 05 29 33.0 +0.6
PAB pmax pmax
comp=Z,27nm,0.9s,mb5.4
PAB MLR MLR
comp=Z,18µm,20.0s,MS6.5
PAB San Pablo 85.44 47 eP P 05 29 33.0 +0.6
comp=Z,27nm,0.9s,mb5.4
PAB LR LR
comp=Z,18µm,20.0s,MS6.5
EBER Berja 85.52 50 P P 05 29 33.5 +0.6
comp=Z,132nm,0.9s,mb6.2
SYO Syowa Base 85.57 161⇊ i P P 05 29 30.7 -1.9
SYO Syowa Base 85.57 161⇊ i P P 05 29 33.6 +1.0
EQES Quesada 85.72 49 P P 05 29 34.2 +0.4
comp=Z,75nm,0.8s,mb6.0
ESDC Sonseca Array 85.77 47 P P 05 29 34.7 +0.7
comp=Z,21nm,0.9s,mb5.4,baz=254,slow=5.3,SNR=52
ESDC LR LR 06 04 32.1
comp=Z,14µm,20.2s,MS6.4,baz=250,slow=33
ESDC Sonseca Array 85.77 47 P P 05 29 34.7 +0.7
comp=Z,25nm,1.0s,mb5.4
GUD Guadarrama 86.00 46 P P 05 29 36.0 +0.8
GUD pmax pmax
comp=Z,17nm,0.8s,mb5.3
GUD Guadarrama 86.00 46 P P 05 29 36.0 +0.8
comp=Z,17nm,0.8s,mb5.3
SIT Sitka 86.23 332 PFAKE 05 29 50.0 +14
SIT LR LR
comp=Z,13µm,21.0s,MS6.3
EVIA Vianos 86.44 49 P P 05 29 38.3 +0.9
EVIA pmax pmax
comp=Z,157nm,1.0s,mb6.2
EVIA Vianos 86.44 49 P P 05 29 38.3 +0.9
comp=Z,157nm,1.0s,mb6.2
EMUR La Murta 87.08 50 P P 05 29 39.9 -0.7
comp=Z,73nm,1.1s,mb5.8
ETOB Tobarra 87.14 49 P P 05 29 41.4 +0.6
comp=Z,107nm,0.9s,mb6.1
CART Cartagena 87.17 50 eP P 05 29 39.0 -1.9
comp=Z,64nm,0.9s,mb5.8
ELAN Lanstosa 87.48 44 P P 05 29 43.9 +1.5
comp=Z,45nm,1.0s,mb5.7
ETOR Torete 87.55 47 P P 05 29 43.5 +0.8
ETOR pmax pmax
comp=Z,33nm,0.8s,mb5.6
ETOR Torete 87.55 47 P P 05 29 43.5 +0.8
comp=Z,33nm,0.8s,mb5.6
SKAG Skagway 87.56 334 eP P 05 29 42.3 0.0
comp=Z,48nm,1.5s,mb5.5
KIP Kipapa 87.83 293 PFAKE 05 30 00.0 +16
KIP LR LR
comp=Z,8µm,20.0s,MS6.1
EBEN Beniarda 88.13 49 P P 05 29 45.6 +0.1
comp=Z,96nm,1.0s,mb6.0
SUR Sutherland 88.17 123 PFAKE 05 30 00.0 +14
SUR LR LR
comp=Z,14µm,19.0s,MS6.4
ETRT Tiaret 88.19 53 P P 05 29 47.5 +1.6
EANR 'Ain N'Sour 88.22 52 P P 05 29 47.0 +1.0
ECHA Ech Chlef 88.48 52 P P 05 29 48.0 +0.7
EMOS Mosqueruela 88.52 48 P P 05 29 48.3 +0.9
comp=Z,64nm,1.0s,mb5.9
EBNR Beni Rached 88.65 52 P P 05 29 51.0 +2.9
TSUM Tsumeb 88.78 109 eP P 05 29 49.1 0.0
comp=Z,85nm,1.0s,mb6.0
TSUM LR LR
comp=Z,12µm,19.0s,MS6.3
BORG Borgarnes 88.94 21 eP P 05 29 45.7 -3.0
BORG pmax pmax
comp=Z,100nm,1.1s
BORG MLR MLR
comp=Z,9µm,21.0s
BORG Borgarnes 88.94 21 eP P 05 29 45.7 -3.0
comp=Z,100nm,1.1s,mb6.1
BORG LR LR
comp=Z,9µm,21.0s,MS6.2
SJPF Ste Jean 88.94 45⇑ i P P 05 29 49.5 +0.2
comp=Z,176nm,1.4s,mb5.9
SJPF Ste Jean 88.94 45⇑ i P P 05 29 49.5 +0.2
SJPF pmax pmax
comp=Z,88nm,1.4s,mb5.9
SJPF Ste Jean 88.94 45⇑ i P P 05 29 49.5 +0.2
comp=Z,88nm,1.4s,mb5.9
ESAC San Caprasio 88.98 46 P P 05 29 50.7 +1.2
comp=Z,29nm,0.8s,mb5.7
HYT Haines Junctio 89.22 335 eP P 05 29 50.8 +0.6
ERTA Horta de San J 89.29 47 P P 05 29 52.0 +1.1
comp=Z,73nm,1.0s,mb6.0
ETSF Etsaut 89.33 45⇑ i P P 05 29 51.3 +0.2
comp=Z,165nm,1.4s,mb5.9
ETSF Etsaut 89.33 45⇑ i P P 05 29 51.3 +0.2
ETSF pmax pmax
comp=Z,83nm,1.4s,mb5.9
ETSF Etsaut 89.33 45⇑ i P P 05 29 51.3 +0.2
comp=Z,83nm,1.4s,mb5.9
QUIF Quistinic 89.42 40⇑ i P P 05 29 50.9 -0.5
comp=Z,86nm,1.1s,mb5.7
QUIF Quistinic 89.42 40⇑ i P P 05 29 50.9 -0.5
QUIF pmax pmax
comp=Z,43nm,1.1s,mb5.7
QUIF Quistinic 89.42 40⇑ i P P 05 29 50.9 -0.5
comp=Z,43nm,1.1s,mb5.7
REYF Montagne du Re 89.50 45 eP P 05 29 52.4 +0.5
ROSF Rostrenen 89.51 40⇑ i P P 05 29 51.3 -0.5
RES Resolute Bay 89.56 355 eP P 05 29 51.0 -0.5
comp=Z,2µm,1.1s
EMHD Djebel Mahouad 89.72 53 P P 05 29 53.5 +0.4
EBIE Bielsa 89.74 46 P P 05 29 53.8 +0.8
comp=Z,60nm,0.9s,mb5.9
LABF Labassere 89.81 45 eP P 05 29 53.7 +0.4
RESF Ens 89.92 46 eP P 05 29 54.3 +0.5
SGMF Saint Gilles 89.92 40 eP P 05 29 53.1 -0.6
ABA Alger-Bouzarea 89.97 52 P P 05 29 56.0 +1.8
EPF Esparros 89.99 45⇑ i P P 05 29 54.3 +0.1
comp=Z,160nm,1.5s,mb5.8
EPF Esparros 89.99 45⇑ i P P 05 29 54.3 +0.1
EPF pmax pmax
comp=Z,80nm,1.5s,mb5.8
EPF Esparros 89.99 45⇑ i P P 05 29 54.3 +0.1
comp=Z,80nm,1.5s,mb5.8
ADJB Djebel Djouab 90.08 53 P P 05 29 55.4 +0.6
SUMG Summit 90.14 11 eP P 05 29 54.6 +0.4
comp=Z,18nm,0.8s,mb5.4
MELF Melles 90.23 46 eP P 05 29 55.7 +0.4
AKET Djebel Ketaf 90.39 53 P P 05 29 57.0 +0.8
MLS Moulis 90.49 46 eP P 05 29 56.5 0.0
ETOS Mallorca 90.71 49 P P 05 29 57.8 +0.2
comp=Z,56nm,0.9s,mb5.9
MFF Saint Martin d 90.87 42⇑ i P P 05 29 57.9 -0.3
comp=Z,66nm,1.1s,mb5.6
MFF Saint Martin d 90.87 42⇑ i P P 05 29 57.9 -0.3
MFF pmax pmax
comp=Z,33nm,1.1s,mb5.6
MFF Saint Martin d 90.87 42⇑ i P P 05 29 57.9 -0.3
comp=Z,33nm,1.1s,mb5.6
LFF La Frestale 90.90 44⇑ i P P 05 29 58.0 -0.4
comp=Z,112nm,0.9s,mb5.9
LFF La Frestale 90.90 44⇑ i P P 05 29 58.0 -0.4
LFF pmax pmax
comp=Z,56nm,0.9s,mb5.9
LFF La Frestale 90.90 44⇑ i P P 05 29 58.0 -0.4
comp=Z,56nm,0.9s,mb5.9
GRR Gorron 91.03 40⇑ i P P 05 29 58.3 -0.6
comp=Z,132nm,1.2s,mb5.8
GRR Gorron 91.03 40⇑ i P P 05 29 58.3 -0.6
GRR pmax pmax
comp=Z,66nm,1.3s,mb5.8
GRR Gorron 91.03 40⇑ i P P 05 29 58.3 -0.6
comp=Z,66nm,1.3s,mb5.8
AKF Akfadou 91.09 53 P P 05 30 00.6 +1.1
SBD1 Bryn Du 91.24 35 eP P 05 29 58.7 -1.0
HLM1 Long Mynd 91.31 36 eP P 05 29 59.6 -0.5
MTLF Montolieu 91.39 46⇑ i P P 05 30 00.2 -0.5
comp=Z,97nm,1.1s,mb5.7
MTLF Montolieu 91.39 46⇑ i P P 05 30 00.2 -0.5
MTLF pmax pmax
comp=Z,48nm,1.1s,mb5.7
MTLF Montolieu 91.39 46⇑ i P P 05 30 00.2 -0.5
comp=Z,48nm,1.1s,mb5.7
FLN La Foliniere 91.39 40⇑ i P P 05 30 00.1 -0.5
comp=Z,190nm,1.2s,mb6.0
FLN eMLR MLR
comp=Z,13µm,22.0s,MS6.0
FLN La Foliniere 91.39 40⇑ i P P 05 30 00.1 -0.5
FLN pmax pmax
comp=Z,95nm,1.2s,mb6.0
FLN MLR MLR
comp=Z,13µm,22.0s,MS6.3
FLN La Foliniere 91.39 40⇑ i P P 05 30 00.1 -0.5
comp=Z,95nm,1.2s,mb6.0
FLN LR LR
comp=Z,13µm,22.0s,MS6.3
RJF Les Rejaudoux 91.54 44⇑ i P P 05 30 00.9 -0.4
comp=Z,97nm,1.1s,mb5.8
RJF eMLR MLR
comp=Z,18µm,20.2s,MS6.2
RJF Les Rejaudoux 91.54 44⇑ i P P 05 30 00.9 -0.4
RJF pmax pmax
comp=Z,48nm,1.1s,mb5.7
RJF MLR MLR
comp=Z,18µm,20.3s,MS6.5
RJF Les Rejaudoux 91.54 44⇑ i P P 05 30 00.9 -0.4
comp=Z,48nm,1.1s,mb5.7
RJF LR LR
comp=Z,18µm,20.3s,MS6.5
LDF La Druitiere 91.56 40⇑ i P P 05 30 00.8 -0.5
comp=Z,118nm,1.1s,mb5.8
LDF La Druitiere 91.56 40⇑ i P P 05 30 00.8 -0.5
LDF pmax pmax
comp=Z,59nm,1.1s,mb5.8
LDF La Druitiere 91.56 40⇑ i P P 05 30 00.8 -0.5
comp=Z,59nm,1.1s,mb5.8
SWN1 Swindon 91.56 37 eP P 05 30 00.4 -0.9
SWN1 AMb AMB 05 30 14.8
comp=Z,346nm,1.7s,mb6.4
SET Setif 91.61 53 P P 05 30 03.0 +1.1
DAWY Dawson 91.64 337 eP P 05 30 00.5 -0.9
DAWY epP pP 05 30 08.1 -1.3
PGBU Glenifferbraes 91.70 32 eP P 05 30 01.0 -0.8
PGBU AMb AMB 05 30 10.4
comp=Z,112nm,1.8s,mb5.9
CAF Calviac 91.78 44⇑ i P P 05 30 02.1 -0.4
comp=Z,90nm,1.0s,mb5.7
CAF Calviac 91.78 44⇑ i P P 05 30 02.1 -0.4
CAF pmax pmax
comp=Z,45nm,1.0s,mb5.8
CAF Calviac 91.78 44⇑ i P P 05 30 02.1 -0.4
comp=Z,45nm,1.0s,mb5.8
STNC Stoke 91.90 35 eP P 05 30 02.4 -0.4
STNC AMb AMB 05 30 07.5
comp=Z,132nm,1.8s,mb6.0
INK Inuvik 91.92 342 P P 05 30 01.7 -0.8
INK Inuvik 91.92 342 eP P 05 30 01.6 -0.9
comp=Z,2µm,1.2s
INK epP pP 05 30 08.6 -2.0
AFI Afiamalu 91.99 255 LR LR 06 03 31.5
comp=Z,8µm,18.6s,MS6.2,baz=276,slow=30
AFI Afiamalu 91.99 255 PFAKE 05 30 10.0 +5.9
AFI LR LR
comp=Z,7µm,20.0s,MS6.1
DFRA Djebel Bou Aff 92.08 53 P P 05 30 05.0 +1.0
ESK Eskdalemuir 92.18 33 PFAKE 05 30 10.0 +6.0
ESK LR LR
comp=Z,7µm,20.0s,MS6.1
LHO Holmfirth 92.26 35 eP P 05 30 03.3 -1.1
TCF Toulx Ste Croi 92.31 43⇑ i P P 05 30 04.2 -0.7
comp=Z,89nm,1.1s,mb5.7
TCF Toulx Ste Croi 92.31 43⇑ i P P 05 30 04.2 -0.7
TCF pmax pmax
comp=Z,44nm,1.1s,mb5.7
TCF Toulx Ste Croi 92.31 43⇑ i P P 05 30 04.2 -0.7
comp=Z,44nm,1.1s,mb5.7
BMRM Bremner River 92.33 333 eP P 05 30 03.5 -1.1
MDO Dochfour 92.39 31 eP P 05 30 04.9 -0.1
CASM Ain Smara 92.47 53 P P 05 30 06.0 +0.1
EGAK Eagle 92.65 337 eP P 05 30 04.9 -1.2
comp=Z,49nm,1.2s,mb5.8
EGAK epP pP 05 30 12.3 -1.8
EGAK LR LR
comp=Z,9µm,20.0s,MS6.2
PYM Petit Puy Mans 92.67 43 eP P 05 30 06.2 -0.3
LBL Lubilhac 92.67 44 eP P 05 30 06.9 +0.3
CKFL Kef-Lekhel 92.69 53 P P 05 30 06.0 -0.9
LASF Ste Croix 92.75 45⇑ i P P 05 30 07.0 +0.1
comp=Z,71nm,1.1s,mb5.7
BGF Bois d'Agland 92.81 43⇑ i P P 05 30 06.7 -0.5
comp=Z,142nm,1.2s,mb6.0
BGF Bois d'Agland 92.81 43⇑ i P P 05 30 06.7 -0.5
BGF pmax pmax
comp=Z,71nm,1.2s,mb6.0
BGF Bois d'Agland 92.81 43⇑ i P P 05 30 06.7 -0.5
comp=Z,71nm,1.2s,mb6.0
AGO Saint Agoulin 92.84 43 eP P 05 30 07.1 -0.2
HYF Humbligny 92.89 42⇑ i P P 05 30 07.2 -0.3
CAEH 'Ain El Ouahch 92.89 53 P P 05 30 07.0 -0.8

DIV	**Divide**	92.92	333	*e*P	P	05 30 05.3	-2.0
	comp=Z,13μm,0.6s						
BOSA	**Boshof**	92.92	120	LR	LR	06 08 45.0	
	comp=Z,21μm,20.5s,MS6.6,baz=316,slow=33						
MCD	**Coleburn Disti**	93.00	31	*e*P	P	05 30 07.9	+0.2
COLF	**Collangettes**	93.06	44	*e*P	P	05 30 08.4	0.0
MAW	**Mawson**	93.09	165	*e*S	S	05 41 12.3	-0.7
MAW	**Mawson**	93.09	165	P	P	05 30 07.9	-0.3
	comp=Z,20nm,0.8s,mb5.6,baz=222,slow=6.5,SNR=42						
MAW				LR	LR	06 08 55.9	
	comp=Z,15μm,22.0s,MS6.4,baz=229,slow=34						
MAW	**Mawson**	93.09	165	*e*P	P	05 30 07.7	-0.5
MAW				*e*S	S	05 41 12.3	-0.7
MAW				pmax	pmax		
	comp=Z,21nm,0.8s						
MAW				MLR	MLR		
	comp=Z,27μm,22.0s						
MAW	**Mawson**	93.09	165	*e*P	P	05 30 07.7	-0.5
	comp=Z,21nm,0.8s,mb5.6						
MAW				*e*S	S	05 41 12.3	-0.7
MAW				LR	LR		
	comp=Z,27μm,22.0s,MS6.7						
RAO	**Raoul Island**	93.12	239	LR	LR	06 02 04.7	
	comp=Z,8μm,21.5s,MS6.1,baz=127,slow=29						
RAO	**Raoul Island**	93.12	239	PFAKE		05 30 20.0	+11
RAO				LR	LR		
	comp=Z,10μm,22.0s,MS6.2						
PLDF	**La Plantade**	93.15	43	*e*P	P	05 30 08.5	-0.2
AVF	**Avril sur Loir**	93.21	43⇑	*i*P	P	05 30 08.3	-0.7
	comp=Z,110nm,1.4s,mb5.8						
AVF	**Avril sur Loir**	93.21	43⇑	*i*P	P	05 30 08.3	-0.7
AVF				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.8						
AVF	**Avril sur Loir**	93.21	43⇑	*i*P	P	05 30 08.3	-0.7
	comp=Z,55nm,1.4s,mb5.8						
CMAH	**Djebel Manchou**	93.29	53	P	P	05 30 10.0	+0.3
SSF	**Saint Saulge**	93.39	42⇑	*i*P	P	05 30 09.0	-0.8
	comp=Z,69nm,1.1s,mb5.7						
SSF	**Saint Saulge**	93.39	42⇑	*i*P	P	05 30 09.0	-0.8
SSF				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.7						
SSF	**Saint Saulge**	93.39	42⇑	*i*P	P	05 30 09.0	-0.8
	comp=Z,34nm,1.1s,mb5.7						
SMF	**Signal de Mont**	93.49	43⇑	*i*P	P	05 30 09.8	-0.5
	comp=Z,128nm,1.2s,mb5.9						
SMF	**Signal de Mont**	93.49	43⇑	*i*P	P	05 30 09.8	-0.5
SMF				pmax	pmax		
	comp=Z,64nm,1.2s,mb5.9						
SMF	**Signal de Mont**	93.49	43⇑	*i*P	P	05 30 09.8	-0.5
	comp=Z,64nm,1.2s,mb5.9						
VIVF	**Saint-Julien-l**	93.53	45⇑	*i*P	P	05 30 10.8	+0.3
	comp=Z,79nm,1.1s,mb5.8						
VIVF	**Saint-Julien-l**	93.53	45⇑	*i*P	P	05 30 10.8	+0.3
VIVF				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.8						
VIVF	**Saint-Julien-l**	93.53	45⇑	*i*P	P	05 30 10.8	+0.3
	comp=Z,40nm,1.1s,mb5.8						
SSB	**Saint Sauveur**	93.56	44	*e*P	P	05 30 11.0	+0.3
LOR	**Lormes**	93.68	42⇑	*i*P	P	05 30 10.4	-0.8
	comp=Z,72nm,1.3s,mb5.7						
LOR				*e*MLR	MLR		
	comp=Z,8μm,21.5s,MS5.9						
LOR	**Lormes**	93.68	42⇑	*i*P	P	05 30 10.4	-0.8
LOR				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.6						
LOR				MLR	MLR		
	comp=Z,8μm,21.5s,MS6.2						
LOR	**Lormes**	93.68	42⇑	*i*P	P	05 30 10.4	-0.8
	comp=Z,36nm,1.3s,mb5.6						
LOR				LR	LR		
	comp=Z,8μm,21.5s,MS6.2						
SMRF	**Simiane la Rot**	93.91	46⇑	*i*P	P	05 30 12.8	+0.5
	comp=Z,79nm,1.3s,mb5.7						
SMRF	**Simiane la Rot**	93.91	46⇑	*i*P	P	05 30 12.8	+0.5
	comp=Z,79nm,1.3s,mb6.0						
URZ	**Urewera**	93.98	229	LR	LR	06 03 19.0	
	comp=Z,9μm,20.6s,MS6.2,baz=123,slow=30						
LBTB	**Lobatse**	94.31	117	*e*P	P	05 30 14.5	-0.2
LBTB				*e**PP	pP	05 30 21.7	-1.1
LBTB				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.7						
LBTB				MLR	MLR		
	comp=Z,16μm,22.0s,MS6.4						
LBTB	**Lobatse**	94.31	117	*e*P	P	05 30 14.5	-0.2
	comp=Z,47nm,1.4s,mb5.7						
LBTB				*e*pP	pP	05 30 21.7	-1.1
LBTB				LR	LR		
	comp=Z,16μm,22.0s,MS6.4						
ORIF	**Oris-en-Rattie**	94.37	45⇑	*i*P	P	05 30 14.9	+0.5
	comp=Z,58nm,1.0s,mb5.7						
ORIF				*e*MLR	MLR		
	comp=Z,20μm,20.0s,MS6.3						
ORIF	**Oris-en-Rattie**	94.37	45⇑	*i*P	P	05 30 14.9	+0.5
ORIF				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.7						
ORIF	**Oris-en-Rattie**	94.37	45⇑	*i*P	P	05 30 14.9	+0.5
	comp=Z,29nm,1.0s,mb5.7						
LMR	**La Mourre**	94.39	47⇑	*i*P	P	05 30 14.5	0.0
	comp=Z,124nm,1.3s,mb5.9						
LMR	**La Mourre**	94.39	47⇑	*i*P	P	05 30 14.5	0.0
LMR				pmax	pmax		
	comp=Z,62nm,1.3s,mb5.9						
LMR	**La Mourre**	94.39	47⇑	*i*P	P	05 30 14.5	0.0
	comp=Z,62nm,1.3s,mb5.9						
SNZO	**South Karori**	94.53	226	PFAKE		05 30 30.0	+15
SNZO				LR	LR		
	comp=Z,21μm,20.0s,MS6.6						
FRF	**La Foret Royal**	94.54	46⇑	*i*P	P	05 30 15.1	-0.1
	comp=Z,98nm,1.1s,mb5.8						
FRF	**La Foret Royal**	94.54	46⇑	*i*P	P	05 30 15.1	-0.1
FRF				pmax	pmax		
	comp=Z,49nm,1.1s,mb5.8						
FRF	**La Foret Royal**	94.54	46⇑	*i*P	P	05 30 15.1	-0.1
	comp=Z,49nm,1.1s,mb5.8						
KEST	**Kesra**	94.57	54	P	P	05 30 15.4	-0.1
	comp=Z,7.3nm,0.9s,mb5.1,baz=253,slow=3.5,SNR=13						
KEST				PP	PP	05 34 04.5	+0.6
	comp=Z,4.0nm,1.0s,baz=269,slow=13,SNR=3.8						
KEST				LR	LR	06 12 30.1	
	comp=Z,5μm,21.2s,MS6.0,baz=219,slow=35						
PMR	**Palmer**	94.59	333	PFAKE		05 30 30.0	+15
PMR				LR	LR		
	comp=Z,9μm,21.0s,MS6.2						
SLKM	**Skilak Lake**	94.69	331	P	P	05 30 14.6	-0.9
SLKM	**Skilak Lake**	94.69	331	*e*P	P	05 30 13.5	-2.0
BAIF	**Baives**	94.71	40	*e*P	P	05 30 16.2	+0.4
CALN	**Calern**	94.76	46	*e*P	P	05 30 16.5	+0.3
MEZF	**Maizieres J'vi**	94.80	41	*e*P	P	05 30 16.0	-0.3
KDAK	**Kodiak Island**	94.91	328	P	P	05 30 15.7	-0.9
	comp=Z,5.2nm,0.6s,mb5.1,baz=93,slow=4.3,SNR=11						
KDAK	**Kodiak Island**	94.91	328	*e*P	P	05 30 16.2	-0.4
KDAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.1						
KDAK				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.3						
KDAK	**Kodiak Island**	94.91	328	*e*P	P	05 30 16.2	-0.3
	comp=Z,6.2nm,0.8s,mb5.1						
KDAK				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
MBDF	**Montbardon**	94.94	45⇑	*i*P	P	05 30 17.4	+0.4
	comp=Z,99nm,1.4s,mb5.8						
MBDF	**Montbardon**	94.94	45⇑	*i*P	P	05 30 17.4	+0.4
MBDF				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.7						
MBDF	**Montbardon**	94.94	45⇑	*i*P	P	05 30 17.4	+0.4
	comp=Z,49nm,1.4s,mb5.8						
BNI	**Bardonecchia**	94.96	45	*e*P	P	05 30 18.0	+0.9
BNI				pmax	pmax		
	comp=Z,130nm,2.0s,mb6.0						
BNI	**Bardonecchia**	94.96	45	*e*P	P	05 30 13.6	-3.5
	comp=Z,126nm,2.0s,mb6.0						
BNI				LR	LR		
	comp=Z,15μm,20.0s,MS6.5						
DOU	**Dourbes**	94.96	40	P	P	05 30 16.6	-0.4
	comp=Z,22nm,2.5s,mb5.2						
CABF	**La Chapelle**	94.97	43⇑	*i*P	P	05 30 17.0	-0.1
	comp=Z,90nm,1.3s,mb5.8						
CABF	**La Chapelle**	94.97	43⇑	*i*P	P	05 30 17.0	-0.1
CABF				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.7						
CABF	**La Chapelle**	94.97	43⇑	*i*P	P	05 30 17.0	-0.1
	comp=Z,45nm,1.3s,mb5.7						
UCC	**Uccle**	95.01	39	P	P	05 30 16.3	-0.9
	comp=Z,28nm,2.1s,mb5.3						
TOUF	**Mont Tournerai**	95.08	46	*e*P	P	05 30 18.0	+0.3
RSL	**Roselend**	95.08	44	*e*P	P	05 30 17.8	+0.1
REVF	**Revere**	95.09	46	*e*P	P	05 30 17.7	-0.1
GIVF	**Givet**	95.10	40⇑	*i*P	P	05 30 17.4	-0.2
LPL	**La Plagne**	95.11	44⇑	*i*P	P	05 30 18.5	+0.7
	comp=Z,85nm,1.1s,mb5.8						
LPL	**La Plagne**	95.11	44⇑	*i*P	P	05 30 18.5	+0.7
LPL				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.8						
LPL	**La Plagne**	95.11	44⇑	*i*P	P	05 30 18.5	+0.7
	comp=Z,42nm,1.1s,mb5.8						
LUCF	**Lucperam**	95.12	46	*e*P	P	05 30 17.8	-0.1
LPG	**La Plagne**	95.12	44⇑	*i*P	P	05 30 18.7	+0.9
	comp=Z,108nm,1.2s,mb5.9						
LPG	**La Plagne**	95.12	44⇑	*i*P	P	05 30 18.7	+0.9
LPG				pmax	pmax		
	comp=Z,54nm,1.2s,mb5.8						
LPG	**La Plagne**	95.12	44⇑	*i*P	P	05 30 18.7	+0.9
	comp=Z,54nm,1.2s,mb5.8						
SBF	**Sospel**	95.17	46⇑	*i*P	P	05 30 17.9	-0.2
	comp=Z,51nm,0.9s,mb5.6						
SBF	**Sospel**	95.17	46⇑	*i*P	P	05 30 17.9	-0.2
SBF				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.6						
SBF	**Sospel**	95.17	46⇑	*i*P	P	05 30 17.9	-0.2
	comp=Z,25nm,0.9s,mb5.7						
AUTN	**L'Aution**	95.20	46	*e*P	P	05 30 18.5	+0.3
COLA	**College**	95.28	336	*c i*P	P	05 30 16.9	-1.2
COLA	**College**	95.28	336	*e*P	P	05 30 16.7	-1.4
	comp=Z,29nm,1.0s,mb5.7						
COLA				*e*pP	pP	05 30 23.3	-2.9
COLA				LR	LR		
	comp=Z,7μm,19.0s,MS6.1						
SAOF	**Saorge**	95.29	46	*e*P	P	05 30 18.5	-0.1
BHB	**Bricherasio**	95.30	45	P	P	05 30 17.4	-1.3
THEF	**They Montfort**	95.33	42	*e*P	P	05 30 18.2	-0.5
RSP	**Reno Superiore**	95.38	45	P	P	05 30 19.2	+0.2
LSD	**Lago del Serru**	95.39	45	P	P	05 30 19.5	+0.5
HAU	**Haudompre**	95.50	42⇑	*i*P	P	05 30 19.1	-0.4
	comp=Z,120nm,1.6s,mb5.8						
HAU				*e*MLR	MLR		
	comp=Z,7μm,20.5s,MS5.8						
HAU	**Haudompre**	95.50	42⇑	*i*P	P	05 30 19.1	-0.4
HAU				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.8						
HAU				MLR	MLR		
	comp=Z,7μm,20.5s,MS6.1						
HAU	**Haudompre**	95.50	42⇑	*i*P	P	05 30 19.1	-0.4
	comp=Z,60nm,1.6s,mb5.8						
HAU				LR	LR		
	comp=Z,7μm,20.5s,MS6.1						
ROB	**Robourent**	95.58	46	P	P	05 30 18.9	-1.1
TRF	**Thorofare Moun**	95.75	334	*e*P	P	05 30 19.1	-1.1
	comp=Z,16nm,0.9s,mb5.4						
TRF				*e*pP	pP	05 30 26.4	-2.0
HINF	**Hinteralfeld**	95.78	42⇑	*i*P	P	05 30 20.3	-0.5
	comp=Z,82nm,1.4s,mb5.7						
HINF	**Hinteralfeld**	95.78	42⇑	*i*P	P	05 30 20.3	-0.5
HINF				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.7						
HINF	**Hinteralfeld**	95.78	42⇑	*i*P	P	05 30 20.3	-0.5
	comp=Z,41nm,1.4s,mb5.7						
FIN	**Finale Ligure**	95.80	46	P	P	05 30 19.6	-1.4
WLF	**Walferdange**	95.81	40	P	P	05 30 21.1	+0.2
	comp=Z,25nm,1.5s,mb5.4						
WLF	**Walferdange**	95.81	40	*e*P	P	05 30 21.3	+0.4
WLF				pmax	pmax		
	comp=Z,44nm,1.3s,mb5.7						
WLF				MLR	MLR		
	comp=Z,9μm,20.0s,MS6.2						
WLF	**Walferdange**	95.81	40	*e*Pdiff	P	05 30 20.9	0.0
WLF	**Walferdange**	95.81	40	*e*P	P	05 30 21.3	+0.5
	comp=Z,44nm,1.3s,mb5.7						
WLF				LR	LR		
	comp=Z,9μm,20.0s,MS6.2						
BEBN	**Eben Emael**	95.81	39	P	P	05 30 20.7	-0.2
PGF	**Pioggiola**	95.96	48⇑	*i*P	P	05 30 21.7	0.0
	comp=Z,52nm,1.1s,mb5.6						
PGF	**Pioggiola**	95.96	48⇑	*i*P	P	05 30 21.7	0.0
PGF				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.6						
PGF	**Pioggiola**	95.96	48⇑	*i*P	P	05 30 21.7	0.0
	comp=Z,26nm,1.1s,mb5.6						
HGN	**Heimansgroeve**	95.96	39⇑	*e*P	P	05 30 20.5	-1.0
	comp=Z,58nm,2.9s,mb5.5						
MOF	**Molkenrain**	95.98	42	*e*P	P	05 30 21.1	-0.6
RPZ	**Rata Peaks**	95.98	222	LR	LR	06 04 20.9	
	comp=Z,11μm,20.0s,MS6.3,baz=131,slow=30						
CORF	**Corte**	96.01	48	*e*P	P	05 30 21.8	-0.2
KTH	**Kantishna Hill**	96.06	334	*e*P	P	05 30 20.1	-1.5
	comp=Z,19nm,1.1s,mb5.4						
ECH	**Echery**	96.08	42	*e*P	P	05 30 21.5	-0.6
BBS	**Basel-Blauen**	96.13	43	*e*P	P	05 30 22.1	-0.3
CDF	**Champ du Feu**	96.21	42⇑	*i*P	P	05 30 22.3	-0.4
	comp=Z,72nm,1.1s,mb5.7						
CDF	**Champ du Feu**	96.21	42⇑	*i*P	P	05 30 22.3	-0.4
CDF				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.7						
CDF	**Champ du Feu**	96.21	42⇑	*i*P	P	05 30 22.3	-0.4
	comp=Z,36nm,1.1s,mb5.7						
PPLA	**Purkeypile**	96.38	333	*e*P	P	05 30 21.8	-1.4
	comp=Z,61nm,1.3s,mb5.9						
RUP	**Ruppelstein**	96.39	40	*e*P	P	05 30 23.4	-0.1
FELD	**Feldberg im Sc**	96.55	42	*e*P	P	05 30 23.9	-0.4
LANF	**Langenberg**	96.69	41	*e*P	P	05 30 24.7	-0.2
CHUM	**Lake Minchumin**	96.75	334	*e*P	P	05 30 23.0	-1.8
	comp=Z,16nm,1.1s,mb5.4						
BOB	**Bobbio (Coli)**	96.79	46	P	P	05 30 25.6	+0.1
WTSB	**Winterswijk**	96.79	38⇑	*e*P	P	05 30 24.8	-0.5
	comp=Z,95nm,3.0s						
BFO	**Black Forest**	96.87	42	P	P	05 30 25.6	-0.1
BFO				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.5						
BFO	**Black Forest**	96.87	42	*e*Pdif	P	05 30 24.9	-0.8
BFO				LR	LR		
	comp=Z,5μm,20.0s,MS6.0						
BUG	**Bochum--Univer**	96.95	39	*e*Pdiff	P	05 30 25.6	-0.4
COLD	**Coldfoot**	97.03	338	*e*P	P	05 30 25.5	-0.5
	comp=Z,8.5nm,0.7s,mb5.3						
SPAK	**Spaichingen-Ko**	97.11	42	*e*P	P	05 30 26.5	-0.3
TUE	**Stuetta**	97.11	44	*e*P	P	05 30 27.2	+0.3
	comp=Z,35nm,1.1s,mb5.7						
TUE				*e*pP	pP	05 30 36.2	+1.2
TUE				LR	LR		
	comp=Z,17μm,20.0s,MS6.5						
BACM	**Baccana**	97.12	46	P	P	05 30 26.0	-0.9
GRAM	**Graiana**	97.16	46	P	P	05 30 26.5	-0.6
VLC	**Villacollemand**	97.31	46	*e*P	P	05 30 26.9	-1.0
	comp=Z,41nm,1.1s,mb5.8						
VLC				*e*pP	pP	05 30 34.5	-1.5
VLC				LR	LR		
	comp=Z,13μm,22.0s,MS6.4						
PII	**Pisa**	97.31	47	P	P	05 30 27.5	-0.3
SARO	**Sassorosso**	97.33	46	P	P	05 30 26.7	-1.2
SVW2	**Sparrevohn**	97.37	331	*e*P	P	05 30 26.1	-1.6
BDI	**Bagni Di Lucca**	97.44	47	P	P	05 30 27.5	-0.9
IBBN	**Ibbenburen**	97.45	38	*e*Pdiff	P	05 30 27.7	-0.5
MAON	**Monte Argentar**	97.47	48	P	P	05 30 28.4	-0.2
GSCL	**Gusciola**	97.50	46	P	P	05 30 28.8	+0.2
STU	**Stuttgart**	97.53	42	*e*P	P	05 30 28.4	-0.3
STU				pmax	pmax		
	comp=Z,21nm,0.5s,mb5.9						
STU	**Stuttgart**	97.53	42	*e*Pdiff	P	05 30 28.1	-0.6
STU	**Stuttgart**	97.53	42	*e*P	P	05 30 28.4	-0.3
	comp=Z,21nm,0.5s,mb5.9						
ERC	**Erice**	97.63	53	P	P	05 30 29.6	+0.2
DAVA	**Damuels**	97.65	43⇑	*i*P	P	05 30 29.7	+0.4
	comp=Z,127nm,1.4s,mb6.2,SNR=12						
DAVA	**Damuels**	97.65	43⇑	*i*PcP	PcP	05 30 29.7	+0.4
	comp=Z,127nm,1.4s,SNR=12						
IMA2	**Indian Mountai**	97.98	336	*e*P	P	05 30 29.0	-1.3
FETA	**Feichten**	98.16	44⇑	*i*P	P	05 30 31.8	+0.2
	comp=Z,186nm,2.4s,mb6.2,SNR=14						
FETA	**Feichten**	98.16	44⇑	*i*PcP	PcP	05 30 31.8	+0.2
	comp=Z,186nm,2.4s,SNR=14						
RETA	**Reutte**	98.28	43	*i* P	P	05 30 32.4	+0.3
	comp=Z,445nm,3.5s,SNR=8.7						
SFI	**Santa Sofia**	98.29	47	P	P	05 30 32.3	+0.1
MOTA	**Moosalm**	98.48	43⇑	*i*P	P	05 30 33.2	+0.3
	comp=Z,58nm,1.0s,mb6.0,SNR=28						
MOTA	**Moosalm**	98.48	43⇑	*i*P	P	05 30 33.2	+0.2
MOTA				pmax	pmax		
	comp=Z,58nm,1.0s,mb6.1						
CTI	**Castel Tesino**	98.58	45	P	P	05 30 33.6	+0.1
MURB	**Monte Urbino**	98.64	48	P	P	05 30 33.1	-0.7
FUR	**Furstenfeldbru**	98.76	43	*e*Pdiff	P	05 30 34.0	-0.2
WTTA	**Wattenberg**	98.82	44	*i* P	P	05 30 34.9	+0.4
	comp=Z,248nm,2.0s,mb6.4,SNR=27						
WTTA	**Wattenberg**	98.82	44	*i* P	P	05 30 34.9	+0.4
WTTA				pmax	pmax		
	comp=Z,248nm,2.0s,mb6.4						
FSSB	**Fossombrone**	98.91	47	P	P	05 30 34.3	-0.7
CLZ	**Clausthal**	98.92	39	*e*Pdiff	P	05 30 35.0	+0.1
GRA1	**Grafenberg Arr**	99.02	41	*e*Pdif	P	05 30 35.6	+0.2
GRF	**Grafenberg Arr**	99.02	41	*e*Pdiff	P	05 30 35.6	+0.2
PTQR	**Pietraquaria**	99.04	49	P	P	05 30 36.3	+0.7
AQU	**L'Aquila**	99.10	49	*e*P	P	05 30 36.2	+0.3
AQU				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.8						
AQU				MLR	MLR		
	comp=Z,9μm,20.0s,MS6.3						
AQU	**L'Aquila**	99.10	49	*e*P	P	05 30 36.2	+0.3
	comp=Z,30nm,1.0s,mb5.8						
AQU				LR	LR		
	comp=Z,9μm,20.0s,MS6.3						
SEST	**Monte Rota**	99.11	44	P	P	05 30 36.4	+0.6
SDI	**San Donato**	99.28	49	P	P	05 30 36.8	+0.1
ABTA	**Abfaltersbach**	99.31	44⇑	*i*P	P	05 30 36.9	+0.2
	comp=Z,92nm,1.3s,mb6.2,SNR=38						
BSEG	**Bad Segeberg**	99.31	37	*e*Pdiff	P	05 30 36.2	-0.3
MOX	**Moxa**	99.46	40	*e*(P)	P	05 30 37.7	+0.4
MOX				*e*		05 30 48.0	
MOX							
	comp=Z,3μm,20.0s						
MOX	**Moxa**	99.46	40	*e*Pdiff	P	05 30 37.5	+0.2
CASY	**Casey**	99.53	183	PFAKE		05 30 50.0	+13
CASY				LR	LR		
	comp=Z,10μm,19.0s,MS6.3						
LSZ	**Lusaka**	99.59	108	PFAKE		05 30 50.0	+12
LSZ				LR	LR		
	comp=Z,38μm,21.0s,MS6.9						
MANZ	**Manzenberg**	99.64	41	*e*Pdiff	Pdif	05 30 38.6	+0.5
ROTZ	**Rotzenmuhle**	99.67	41	*e*Pdiff	Pdif	05 30 38.7	+0.5
RJOB	**Jochberg**	99.68	43	*e*Pdiff	Pdif	05 30 38.2	-0.1
GMNA	**Gemona**	99.71	45	P	Pdif	05 30 39.1	+0.7
NKC	**Novy Kostel**	99.90	41	*e*P	Pdif	05 30 39.8	+0.5
NKC				*e*		05 34 42.9	
NKC	**Novy Kostel**	99.90	41	*e*PDIF	Pdif	05 30 39.8	+0.5
NKC				*e*PP	PP	05 34 42.9	-1.6
NKC				*e*SKS		05 41 34.2	
NKC				*e*PS	PS	05 43 57.0	+14
NKC				AMS	AMS	06 15 40.0	
	comp=Z,8μm,18.5s						
NKC	**Novy Kostel**	99.90	41	*e*Pdif	Pdif	05 30 39.8	+0.5
NKC				*e*PP	PP	05 34 42.9	-1.6
NKC				*e*SKS		05 41 34.2	
NKC				*e*PS	PS	05 43 57.0	+14
KBA	**Koelnbreinsper**	99.93	44⇑	*i*P	Pdif	05 30 39.5	+0.1
	comp=Z,130nm,3.0s,SNR=9.7						
KBA	**Koelnbreinsper**	99.93	44⇑	*i*P	Pdif	05 30 39.5	+0.1
KBA				pmax	pmax		
	comp=Z,131nm,3.0s						
WET	**Wettzell**	99.98	42	*e*Pdiff	Pdif	05 30 39.8	+0.1
CSSN	**Cassano Irpino**	100.02	50	P	Pdif	05 30 40.1	+0.3
MYKA	**Terra Mystica**	100.05	44⇑	*i*P	Pdif	05 30 40.1	+0.2
	comp=Z,15μm,5.2s						
VOY	**Vojsko**	100.12	45	*e*Pdiff	Pdif	05 30 40.7	+0.5
VOY				*e*		05 30 57.5	
JAVS	**Javornik**	100.21	45	*e*Pdiff	Pdif	05 30 40.9	+0.2
JAVS				*e*PP	PP	05 34 44.5	-2.5
JAVS				*e*S	SKSac	05 41 20.2	+2.2
JAVS				*e*		05 43 51.1	
KNDS	**Knezji Dol**	100.36	46	*e*Pdiff	Pdif	05 30 41.6	+0.2
KHC	**Kasperske Hory**	100.44	42	*e*P	Pdif	05 30 42.2	+0.5
KHC				*e*		05 34 46.3	
KHC				MLR	MLR		
	comp=Z,11μm,20.0s,MS6.3						
KHC	**Kasperske Hory**	100.44	42	*e*PDIF	Pdif	05 30 42.2	+0.5
KHC				*ex*	x	05 31 15.5	
KHC				*e*PP	PP	05 34 46.3	-2.2
KHC				*e*SKS		05 41 38.1	
KHC				*e*PS	PS	05 44 00.2	+11
KHC				AMS	AMS	06 14 30.0	
	comp=Z,11μm,20.0s						
KHC	**Kasperske Hory**	100.44	42	*e*Pdif	Pdif	05 30 42.2	+0.5
KHC				*e*		05 31 15.5	
KHC				*e*PP	PP	05 34 46.3	-2.2
KHC				*e*SKS		05 41 38.1	
KHC				*e*PS	PS	05 44 00.2	+11
KHC				LR	LR		
	comp=Z,11μm,20.0s,MS6.3						
CLL	**Collm**	100.44	40	*e*P	Pdif	05 30 42.0	+0.3
CLL				*e*		05 34 45.0	
CLL				*e*		05 41 24.0	
CLL				pmax	pmax		
	comp=Z,48nm,2.2s						
CLL				MLR	MLR		
	comp=Z,10μm,23.0s,MS6.3						
CLL	**Collm**	100.44	40	*e*Pdif	Pdif	05 30 41.9	+0.2
CLL

PRU				*e*			05 34 52.4	
PRU				MLR	MLR			
comp=Z,8μm,19.5s,MS6.2								
PRU	**Pruhonice**	**101.19**	**41**	*e*PDIF	Pdif		05 30 45.8	+0.8
PRU				*e*PP	PP		05 34 52.4	-1.8
PRU				*e*SKS			05 41 41.6	
PRU				*e*PS	PS		05 44 10.6	+13
PRU				AMS	AMS		06 15 20.0	
comp=Z,8μm,19.5s								
PRU	**Pruhonice**	**101.19**	**41**	*e*Pdif	Pdif		05 30 45.8	+0.8
PRU				*e*PP	PP		05 34 52.4	-1.8
PRU				*e*SKS			05 41 41.6	
PRU				*e*PS	PS		05 44 10.6	+13
PRU				LR	LR			
comp=Z,8μm,19.5s,MS6.2								
PVCC	**Panska Ves**	**101.29**	**41**	*e*P	Pdif		05 30 46.1	+0.6
PVCC				*e*			05 35 02.5	
PVCC				MLR	MLR			
comp=Z,8μm,24.4s,MS6.1								
PVCC	**Panska Ves**	**101.29**	**41**	*e*PDIF	Pdif		05 30 46.1	+0.6
PVCC				*e*PP	PP		05 35 02.5	+7.5
PVCC				*e*SKS			05 41 40.2	
PVCC				AMS	AMS		06 12 20.0	
comp=Z,8μm,24.4s								
TREC	**Trest**	**101.70**	**42**	*e*P	Pdif		05 30 48.2	+0.9
TREC				*e*			05 35 05.8	
TREC				*e*PS	PS		05 44 08.0	+5.4
TREC				MLR	MLR			
comp=Z,13μm,18.9s,MS6.5								
TREC	**Trest**	**101.70**	**42**	*e*PDIF	Pdif		05 30 48.2	+0.9
TREC				*e*PP	PP		05 35 05.8	+7.7
TREC				*e*SKS			05 41 41.9	
TREC				*e*PS	PS		05 44 08.0	+5.4
TREC				AMS	AMS		06 15 50.0	
comp=Z,13μm,18.9s								
CSNA	**Conrad Observa**	**101.75**	**43**⇑	*i*P	Pdif		05 30 48.0	+0.5
comp=Z,210nm,2.8s								
CONA	**Conrad Observa**	**101.75**	**43**	*i* P	Pdif		05 30 47.9	+0.4
comp=Z,210nm,2.8s,SNR=11								
FUNA	**Funafuti**	**101.97**	**258**	PFAKE			05 31 00.0	+12
FUNA				LR	LR			
comp=Z,7μm,19.0s,MS6.2								
SOP	**Sopron**	**102.18**	**44**⇓	*e*P	Pdif		05 30 50.6	+1.2
UPC	**Upice**	**102.20**	**41**	*e*PDIF	Pdif		05 30 50.8	+1.3
DPC	**Dobruska-Polom**	**102.38**	**41**	*e*P	Pdif		05 30 51.7	+1.4
DPC				*e*			05 35 00.5	
DPC				*e*			05 41 32.9	
DPC				MLR	MLR			
comp=Z,10μm,20.1s,MS6.3								
DPC	**Dobruska-Polom**	**102.38**	**41**	*e*PDIF	Pdif		05 30 51.7	+1.4
DPC				*e*PP	PP		05 35 00.5	-2.6
DPC				*e*SKS			05 41 32.9	
DPC				*e*PS	PS		05 44 20.3	+11
DPC				AMS	AMS		06 16 00.0	
comp=Z,10μm,20.1s								
KSP	**Ksiaz**	**102.42**	**40**	*e*P	Pdif		05 30 50.9	+0.4
KSP				*e*			05 35 01.0	
KSP				*e*			05 41 29.0	
KSP				*e*PS	PS		05 44 12.5	+2.3
KSP				*e*PPS			05 44 58.5	
KSP				MLR	MLR			
comp=Z,20μm,23.6s,MS6.6								
ZST				*e*SP	SP		05 44 11.1	+2.3
ZST	**Bratislava**	**102.61**	**43**	*e*PP	PP		05 35 00.6	-4.4
MODS	**Modra-Piesok**	**102.75**	**43**	PDIF	Pdif		05 30 52.6	+0.7
MODS				*e*PP	PP		05 35 02.8	-3.2
MODS				*e*SP	SP		05 44 12.9	+2.7
MODS	**Modra-Piesok**	**102.75**	**43**	*e*Pdif	Pdif		05 30 52.6	+0.7
MODS				*e*PP	PP		05 35 02.8	-3.2
MODS				*e*SP	SP		05 44 12.9	+2.7
MORC	**Moravsky Berou**	**103.09**	**42**	*e*P	Pdif		05 30 52.9	-0.6
MORC				pmax	pmax			
comp=Z,24nm,1.4s								
MORC	**Moravsky Berou**	**103.09**	**42**	*e*Pdif	Pdif		05 30 52.9	-0.6
comp=Z,24nm,1.4s								
OKC	**Ostrava-Krasne**	**103.48**	**42**	*e*P	Pdif		05 30 56.7	+1.5
OKC				*e*			05 35 07.4	
OKC	**Ostrava-Krasne**	**103.48**	**42**	*e*PDIF	Pdif		05 30 56.7	+1.5
OKC				*e*PP	PP		05 35 07.4	-4.0
OKC				*e*SKS			05 41 39.8	
OKC				*e*PS	PS		05 44 32.0	+10
OKC				AMS	AMS		06 17 20.0	
comp=Z,8μm,19.8s								
OKC	**Ostrava-Krasne**	**103.48**	**42**	*e*Pdif	Pdif		05 30 56.7	+1.5
OKC				*e*PP	PP		05 35 07.4	-4.0
OKC				*e*SKS			05 41 39.8	
OKC				*e*PS	PS		05 44 32.0	+10
KBS	**Kingsbay**	**103.53**	**11**	PFAKE			05 31 10.0	+15
KBS				LR	LR			
comp=Z,6μm,20.0s,MS6.1								
TIR	**Tirane**	**103.71**	**50**	PFAKE			05 31 10.0	+14
TIR				LR	LR			
comp=Z,6μm,22.0s,MS6.1								
VLS	**Valsamata**	**103.87**	**54**	*e*P	PKiKP		05 35 10.0	-5.0
PSZ	**Piszkesteto**	**104.44**	**44**	PFAKE			05 31 10.0	+11
PSZ				LR	LR			
comp=Z,9μm,22.0s,MS6.3								
RLS	**Riolos of Patr**	**104.54**	**54**	*e*P	PKiKP		05 35 14.0	-2.2
ITM	**Ithomi**	**104.80**	**55**	*e*P	PKiKP		05 35 19.5	+2.8
KECS	**Kecovo**	**104.88**	**43**	PDIF	Pdif		05 31 01.6	+0.2
KECS	**Kecovo**	**104.88**	**43**	*e*Pdif	Pdif		05 31 01.7	+0.3
EVR	**Evrytania**	**104.91**	**53**	*e*P	PKiKP		05 35 19.5	+2.6
KZN	**Kozani**	**105.03**	**52**	*e*P	PKiKP		05 35 17.0	-0.1
VLI	**Veliai**	**105.55**	**55**	*e*P	PKiKP		05 35 27.0	+8.9
CRVS	**Cervenica-Dubn**	**105.56**	**43**	PDIF	Pdif		05 31 04.7	+0.3
CRVS	**Cervenica-Dubn**	**105.56**	**43**	*e*PKP	PKiKP		05 35 17.9	+0.2
CRVS				SDIF	Sdif		05 43 03.7	+4.5
CRVS				*e*SP	SP		05 44 45.2	+5.6
CRVS	**Cervenica-Dubn**	**105.56**	**43**	*e*Pdif	Pdif		05 31 04.7	+0.3
CRVS				*e*PP	PP		05 35 17.9	-9.0
CRVS				*e*S	Sdif		05 43 03.7	+4.5
CRVS				*e*SP	SP		05 44 45.2	+5.6
UZH	**Uzhgorod**	**106.09**	**43**	*e*P	Pdif		05 30 59.3	-7.5
KOLS				*e*SP	SP		05 44 51.3	+6.1
KOLS	**Kolonicke sedl**	**106.10**	**43**	SDIF	Sdif		05 43 02.4	-1.3
ATH	**Athens Observa**	**106.30**	**54**	*e*P	PP		05 35 31.5	-1.2
PLG	**Polygyros**	**106.31**	**52**	*e*P	PP		05 35 31.5	-1.2
MIDW	**Midway**	**106.42**	**296**	PFAKE			05 35 30.0	+10
MIDW				LR	LR			
comp=Z,7μm,19.0s,MS6.2								
KWP	**Kalwaria**	**106.42**	**42**	PFAKE			05 35 30.0	+11
KWP				LR	LR			
comp=Z,12μm,22.0s,MS6.4								
VAM	**Vamos**	**106.43**	**57**	*e*P	PP		05 35 32.0	-1.8
ARCES	**ARCESS Array B**	**107.34**	**21**	PKKPbc	PKKPbc		05 46 36.5	-2.5
comp=Z,1.3nm,0.7s,baz=93,slow=2.4,SNR=6.4								
NPS	**Neapolis**	**107.57**	**57**	*e*P	PP		05 35 40.5	-1.6
KEV	**Kevo**	**107.83**	**21**	PFAKE			05 35 30.0	+8.6
KEV				LR	LR			
comp=Z,4μm,21.0s,MS5.9								
RDO	**Rodhopi**	**107.95**	**51**	*e*P	PKiKP		05 35 21.0	-1.4
SMG	**Samos**	**108.74**	**55**	*e*P	PP		05 35 49.0	-1.6
ARG	**Arkhangelos**	**109.68**	**56**	*e*P	PKiKP		05 35 20.0	-5.8
TAU	**Tasmania Unive**	**110.56**	**213**	PFAKE			05 35 40.0	+13
TAU				LR	LR			
comp=Z,8μm,22.0s,MS6.2								
KIEV	**Kiev**	**110.60**	**41**	PFAKE			05 35 40.0	+13
KIEV				LR	LR			
comp=Z,10μm,21.0s,MS6.4								
AKASG	**Malin Array Be**	**110.61**	**41**	PKiKP	PKiKP		05 35 24.8	-2.3
comp=Z,0.8nm,0.5s,baz=266,slow=2.6,SNR=5.5								
LVZ	**Lovozero**	**110.90**	**22**	PFAKE			05 35 40.0	+13
LVZ				LR	LR			
comp=Z,7μm,21.0s,MS6.2								
ISP	**Isparta**	**111.66**	**55**	PFAKE			05 35 40.0	+10
ISP				LR	LR			
comp=Z,5μm,22.0s,MS6.1								
KMBO	**Kilima Mbogo**	**112.29**	**97**	PFAKE			05 35 40.0	+8.5
KMBO				LR	LR			
comp=Z,13μm,20.0s,MS6.5								
SMY	**Shemya**	**113.23**	**321**	PFAKE			05 35 40.0	+8.0
SMY				LR	LR			
comp=Z,3μm,21.0s,MS5.9								
BILL	**Bilibino**	**113.34**	**339**	*i* PKIKP	PKiKP		05 35 30.0	-1.8
BILL							05 36 31.0	
BILL				*e*PS	PS		05 45 52.7	-6.0
BILL				*i* SS	SS		05 52 09.9	+3.3
BILL				*i* SSS			05 56 16.4	
BILL	**Bilibino**	**113.34**	**339**	*e*PKP	PKiKP		05 35 30.6	-1.2
BILL				LR	LR			
comp=Z,3μm,22.0s,MS5.9								
ANTO	**Ankara**	**113.45**	**53**	PFAKE			05 35 40.0	+7.1
ANTO				LR	LR			
comp=Z,4μm,21.0s,MS6.0								
OBN	**Obninsk**	**114.53**	**36**	*i* PKIKP	PKiKP		05 35 34.0	-0.5
OBN				*i*			05 36 35.2	
OBN				*i* PS	PS		05 46 12.1	+2.0
OBN				*e*SS	SS		05 52 27.5	+4.5
OBN				pmax	pmax			
comp=Z,8.0nm,1.0s								
OBN	**Obninsk**	**114.53**	**36**	*e*PKP	PKiKP		05 35 33.7	-0.8
OBN				LR	LR			
comp=Z,8μm,22.0s,MS6.3								
KLMR	**Klimovskoe**	**114.76**	**29**	*e*PKIKP	PKiKP		05 35 33.8	-0.9
KLMR				*e*SP	SP		05 46 10.2	+2.3
KLMR				*e*PS	PS		05 46 12.4	+0.4
KLMR				*e*SS	SS		05 52 33.0	+7.3
ABPO	**Ambohimpanom**	**115.12**	**119**	PFAKE			05 35 50.0	+13
ABPO				LR	LR			
comp=Z,15μm,21.0s,MS6.6								
ANN	**Anapa**	**116.59**	**47**	*i* PKIKP	PKPdf		05 35 38.8	0.0
ANN				*e*			05 42 28.2	
ANN				*e*SS	SS		05 52 52.7	+2.0
ANN				pmax	pmax			
comp=Z,44nm,1.2s								
ANN				MLR	MLR			
comp=N,1μm,20.0s,MS6.0								
ANN				MLR	MLR			
comp=E,3μm,20.0s,MS6.0								
ANN				MLR	MLR			
comp=Z,5μm,20.0s,MS6.1								
MALT	**Malatya**	**117.89**	**54**	*e*PKIKP	PKPdf		05 35 41.7	+0.2
MALT				*e*			05 35 49.7	
MALT				*e*			05 36 54.8	
MALT				MLR	MLR			
comp=Z,5μm,22.0s,MS6.1								
SOC	**Sochi**	**118.36**	**48**	*i* PKIKP	PKPdf		05 35 37.8	-4.4
SOC				*e*			05 36 56.8	
SOC				*e*PPP			05 39 25.6	
SOC				*e*			05 42 36.9	
SOC				*e*PS	PS		05 46 46.4	+0.9
SOC				*e*SS	SS		05 53 08.2	-5.6
HNR	**Honiara**	**119.64**	**250**	PFAKE			05 36 00.0	+14
HNR				LR	LR			
comp=Z,5μm,22.0s,MS6.1								
KIV	**Kislovodsk**	**120.44**	**47**	PFAKE			05 36 00.0	+14
KIV				LR	LR			
comp=Z,3μm,21.0s,MS6.0								
TIXI	**Tiksi**	**120.72**	**351**	PFAKE			05 36 00.0	+14
TIXI				LR	LR			
comp=Z,5μm,19.0s,MS6.1								
SEY	**Seymchan**	**120.80**	**337**⇑	*e*PKIKP	PKPdf		05 35 46.3	0.0
STKA	**Stephens Creek**	**121.60**	**218**	*e*PKP	PKPdf		05 35 49.1	+0.2
comp=Z,2.8nm,0.6s								
STKA	**Stephens Creek**	**121.60**	**218**	PKP	PKPdf		05 35 49.2	+0.3
comp=Z,3.7nm,0.8s,baz=15,slow=2.6,SNR=4.9								
MSL	**Mosul**	**121.76**	**56**	*ex*	x		05 35 57.0	
MSL				*ex*	x		05 37 28.0	
MSL				*ex*	x		05 40 11.0	
MSL				*ex*	x		05 42 35.0	
MSL				*ex*	x		05 42 47.0	
PET	**Petropavlovsk**	**122.23**	**324**	PFAKE			05 36 00.0	+11
PET				LR	LR			
comp=Z,3μm,22.0s,MS5.9								
GNI	**Garni**	**122.57**	**51**	*c i* PKIKP	PKPdf		05 35 49.0	-1.4
GNI	**Garni**	**122.57**	**51**	*e*PKPdf	PKPdf		05 35 49.7	-0.7
GNI				LR	LR			
comp=Z,4μm,20.0s,MS6.1								
PETK	**Petropavlovsk-**	**122.74**	**325**	PKP	PKPdf		05 35 48.5	-1.8
comp=Z,3.8nm,0.9s,baz=45,slow=2.3,SNR=3.7								
BHD	**Baghdad**	**123.07**	**60**	*ex*	x		05 35 48.0	
BHD				*ex*	x		05 37 23.0	
BHD				*ex*	x		05 42 29.0	
BHD				*ex*	x		05 42 49.3	
MAK	**Makhachkala**	**124.07**	**48**	*i* PKIKP	PKPdf		05 35 53.9	+0.7
MAK				*i*			05 37 37.4	
MAK				*e*PPP			05 40 20.0	
MAK				*e*			05 42 52.0	
MAK				*i*			05 43 05.6	
MAK				*i* PS	PS		05 47 37.6	+1.2
MAK				*e*SS	SS		05 54 32.3	+5.5
MAK				pmax	pmax			
comp=Z,415nm,2.0s								
MAK				MLR	MLR			
comp=E,5μm,25.0s								
CTA	**Charters Tower**	**126.14**	**232**	PKP	PKPdf		05 35 56.3	-1.6
comp=E,3.8nm,0.7s,baz=24,slow=4.3,SNR=3.4								
CTAO	**Charters Tower**	**126.14**	**232**	PFAKE			05 36 10.0	+12
CTAO				LR	LR			
comp=Z,7μm,20.0s,MS6.4								
AKTO	**Aktyubinsk**	**128.31**	**36**	PKIKP	PKPdf		05 36 00.8	-0.3
AKTO				pmax	pmax			
comp=Z,4.0nm,1.0s								
MSEY	**Mahe Island**	**128.42**	**108**	PFAKE			05 36 10.0	+7.6
MSEY				LR	LR			
comp=Z,10μm,21.0s,MS6.5								
YAK	**Yakutsk**	**128.88**	**345**	*e*PKIKP	PKPdf		05 35 59.9	-1.9
YAK				pmax	pmax			
comp=Z,25nm,0.9s								
YAK				MLR	MLR			
comp=Z,4μm,18.0s,MS6.1								
YAK				MLR	MLR			
comp=N,3μm,19.0s,MS6.0								
YAK				MLR	MLR			
comp=E,2μm,24.0s,MS6.0								
YAK	**Yakutsk**	**128.88**	**345**	*e*PKP	PKPdf		05 36 00.0	-1.8
YAK				LR	LR			
comp=Z,5μm,22.0s,MS6.1								
AB31	**Akbulak array**	**129.97**	**36**	*i* PKIKP	PKPdf		05 36 04.3	0.0
AB31				pmax	pmax			
comp=Z,37nm,0.9s								
PMG	**Port Moresby**	**131.07**	**244**	PFAKE			05 36 20.0	+13
PMG				LR	LR			
comp=Z,3μm,21.0s,MS6.0								
NWAO	**Narrogin (SRO)**	**131.36**	**195**	PKP	PKPdf		05 36 06.1	-1.4
comp=Z,9.7nm,0.8s,baz=301,slow=5.3,SNR=4.5								
NWAO	**Narrogin (SRO)**	**131.36**	**195**	PKP	PKPdf		05 36 06.1	-1.4
NWAO				LR	LR			
comp=Z,3μm,19.0s,MS6.0								
ASAR	**Alice Springs**	**132.22**	**218**	PKP	PKPdf		05 36 08.4	-1.0
comp=Z,5.0nm,0.8s,baz=150,slow=4.2,SNR=23								
BRVK	**Borovoye**	**133.05**	**27**	*e*PKIKP	PKPdf		05 36 10.0	0.0
BRVK				MLR	MLR			
comp=Z,10μm,22.0s,MS6.5								
BVA0	**Borovoye Array**	**133.12**	**27**	*i* PKIKP	PKPdf		05 36 10.2	+0.1
BVA0				pmax	pmax			
comp=Z,33nm,2.2s								
VOSK	**Vostochnaya**	**133.59**	**27**	PKIKP	PKPdf		05 36 09.6	-1.4
VOSK				pmax	pmax			
comp=Z,55nm,1.7s								
YSS	**Yuzh-Sakhalins**	**134.09**	**323**	PFAKE			05 36 20.0	+7.9
YSS				LR	LR			
comp=Z,2μm,20.0s,MS5.7								
WB2	**Warramunga Arr**	**134.69**	**222**	*e*PKP	PKPdf		05 36 13.4	-0.7
WB2				*e*PKS			05 39 43.8	
WRAB	**Tennant Creek**	**134.69**	**222**	*i* PKIKP	PKPdf		05 36 13.5	-0.6
WRAB	**Tennant Creek**	**134.69**	**222**	*e*PKPdf	PKPdf		05 36 13.6	-0.5
WRAB				LR	LR			
comp=Z,7μm,19.0s,MS6.4								
WRA	**Warramunga Arr**	**134.70**	**222**	PKP	PKPdf		05 36 13.2	-1.0
comp=Z,14nm,0.8s,baz=138,slow=1.6,SNR=38								
BOD	**Bodaibo**	**135.88**	**352**	*e*PKHKP			05 35 59.6	
BOD				pmax	pmax			
comp=Z,10.0nm,2.1s								
NVS	**Novosibirsk**	**136.44**	**17**	*i* PKIKP	PKPdf		05 36 15.0	-1.3
NVS				*i*			05 38 52.4	
NVS				pmax	pmax			
comp=Z,78nm,2.3s								
NVS				pmax	pmax			
comp=E,24nm,2.0s								
ZALV	**Zalesovo Beam**	**137.67**	**17**	PKhKP			05 36 11.2	
comp=E,1.1nm,0.3s,baz=222,slow=2.0,SNR=5.9								
ZALV				PKP	PKPdf		05 36 17.9	-0.6
comp=E,38nm,0.9s,baz=219,slow=1.8,SNR=43								
ZALV	**Zalesovo Beam**	**137.67**	**17**	PKP	PKPdf		05 36 17.9	-0.6
ZAL	**Zalesovo**	**137.67**	**17**	PKIKP	PKPdf		05 36 17.9	-0.7
KURK	**Kurchatov**	**138.28**	**24**	PKIKP	PKPdf		05 36 18.5	-1.3
KURK				pmax	pmax			
comp=Z,37nm,1.1s								
KURK	**Kurchatov**	**138.28**	**24**⇑	*i*PKP	PKPdf		05 36 19.0	-0.8
KURK				LR	LR			
comp=Z,6μm,20.0s,MS6.3								
KLR	**Kul'dur**	**138.34**	**333**	*e*PKHKP			05 36 09.0	
KK31	**Karatay Array**	**139.44**	**38**	*i* PKIKP	PKPdf		05 36 22.1	-0.1
KK31				pmax	pmax			
comp=Z,4.0nm,0.8s								
GUMO	**Guam**	**140.28**	**274**	PFAKE			05 36 40.0	+16
GUMO				LR	LR			
comp=Z,5μm,20.0s,MS6.3								
KAKA	**Kakadu**	**141.04**	**228**	*e*PKP	PKPdf		05 36 22.7	-3.2
comp=Z,8.4nm,0.6s								
FITZ	**Fitzroy Crossi**	**141.34**	**214**	*e*PKP			05 36 22.2	
comp=Z,14nm,0.9s								
FITZ				*e*PKS			05 40 07.3	
FITZ	**Fitzroy Crossi**	**141.34**	**214**	PKhKP			05 36 21.9	
comp=Z,2.5nm,0.6s,baz=128,slow=7.4,SNR=5.9								
MBWA	**Marble Bar**	**141.51**	**204**	PFAKE			05 36 40.0	+13
MBWA				LR	LR			
comp=Z,6μm,19.0s,MS6.4								
EKS2	**Erkin-Say**	**141.63**	**37**	PFAKE			05 36 40.0	+14
EKS2				LR	LR			
comp=Z,6μm,21.0s,MS6.3								
AML	**Almayashu**	**141.91**	**37**	PFAKE			05 36 40.0	+13
AML				LR	LR			
comp=Z,6μm,19.0s,MS6.4								
DGAR	**Diego Garcia**	**142.07**	**123**	PFAKE			05 36 40.0	+12
DGAR				LR	LR			
comp=Z,12μm,20.0s,MS6.7								
MJAR	**Matsushiro Arr**	**142.21**	**312**	PKhKP			05 36 21.3	
comp=Z,5.2nm,0.8s,baz=119,slow=2.2,SNR=21								
MJAR				PKP	PKPdf		05 36 27.8	+0.4
comp=Z,6.8nm,0.7s,baz=78,slow=1.9,SNR=14								
MJAR	**Matsushiro Arr**	**142.21**	**312**	PKP	PKPdf		05 36 27.8	+0.4
MAJO	**Matsushiro**	**142.21**	**312**	PFAKE			05 36 40.0	+13
MAJO				LR	LR			
comp=Z,10μm,21.0s,MS6.5								
UCH	**Uchtor**	**142.32**	**37**	PFAKE			05 36 40.0	+13
UCH				LR	LR			
comp=Z,42nm,19.0s								
TKM2	**Tokmak 2**	**142.49**	**35**	PFAKE			05 36 40.0	+12
TKM2				LR	LR			
comp=Z,8μm,21.0s,MS6.5								
VLA	**Vladivostok**	**142.54**	**326**	*i* PKHKP			05 36 18.0	
MOY	**Mondy**	**142.63**	**3**	*e*PKIKP	PKPdf		05 36 24.1	-3.5
MOY				pmax	pmax			
comp=Z,105nm,4.0s								
KBL	**Kabul**	**142.65**	**51**	*e*PKIKP	PKPdf		05 36 27.4	-0.8
TLY	**Talaya**	**142.69**	**0**	*i* PKHKP			05 36 22.0	
TLY				*e*			05 39 33.5	
TLY				*e*SS	SS		05 58 07.7	-2.1
TLY				pmax	pmax			
comp=Z,17nm,1.3s								
TLY	**Talaya**	**142.69**	**0**	PFAKE			05 36 40.0	+12
TLY				LR	LR			
comp=Z,4μm,22.0s,MS6.1								
MDJ	**Mudanjiang**	**142.71**	**329**	PKP	PKPdf		05 36 27.5	-0.5
MDJ				PP	PP			
comp=Z,1μm,8.5s								
MDJ				LR	LR			
comp=N,1μm,33.2s								
MDJ				LR	LR			
comp=E,5μm,25.4s								
MDJ				LR	LR			
comp=Z,5μm,21.5s								
MDJ	**Mudanjiang**	**142.71**	**329**	PFAKE			05 36 40.0	+12
MDJ				LR	LR			
comp=Z,5μm,20.0s,MS6.3								
HIA	**Hailar**	**142.76**	**343**	*i* PKIKP	PKPdf		05 36 29.3	+1.4
HIA	**Hailar**	**142.76**	**343**	PFAKE			05 36 40.0	+12
HIA				LR	LR			
comp=Z,6μm,19.0s,MS6.4								
MK31	**Makanchi Array**	**142.88**	**25**	*i* PKHKP			05 36 23.2	
MK31				pmax	pmax			
comp=Z,14nm,0.9s								
MKAR	**Makanchi Array**	**142.88**	**25**	PKhKP			05 36 24.2	
comp=Z,4.7nm,0.9s,baz=328,slow=3.4,SNR=12								
MKAR				PKP	PKPdf		05 36 28.2	0.0
comp=Z,3.6nm,0.8s,baz=326,slow=2.5,SNR=17								
ZAK	**Zakamensk**	**143.99**	**1**⇓	*i*PKIKP	PKPdf		05 36 26.7	-3.4
ZAK				*e*			05 39 41.3	
ZAK				pmax	pmax			
comp=Z,29nm,1.3s								
KSH	**Kashi**	**144.87**	**39**	*i* PKP	PKPdf		05 36 32.3	+0.3
KSH				APKP			05 36 43.3	
KSH				XPKP			05 36 46.5	
KSH				*e*PP	PP		05 39 57.3	+8.1
KSH				PKS			05 40 06.5	
KSH				PPP			05 43 10.9	
KSH				SKKS	SKKSac		05 46 41.3	+0.7
KSH				PP	PP			
comp=Z,4μm,6.3s								
KSH				LR	LR			
comp=N,14μm,21.2s,MS6.8								
KSH				LR	LR			
comp=E,9μm,17.5s,MS6.8								
KSH				LR	LR			
comp=Z,21μm,24.1s								
CN2	**Changchun**	**145.28**	**332**	*e*PKP	PKPdf		05 36 29.8	-2.7
CN2				*e*XPKP			05 36 43.1	
CN2				*e*PP	PP		05 39 52.0	+0.8
CN2				PP	PP			
comp=Z,1μm,7.0s								
SONM	**Songino Array**	**146.48**	**357**	PKPbc	PKPbc		05 36 34.5	-1.3
comp=Z,113nm,1.1s,baz=346,slow=3.0,SNR=120								
WMQ	**Urumqi**	**147.45**	**22**	PKP	PKPdf		05 36 35.8	-0.4
WMQ				APKP			05 36 46.5	
WMQ				XPKP			05 36 50.3	
WMQ				PP	PP		05 40 08.4	+4.6
WMQ				PPP			05 43 27.3	
WMQ				SKS	SKSdf		05 43 39.0	-4.3
WMQ				SKKS	SKKSac		05 46 52.9	-1.9
WMQ				SS	SS		05 59 05.4	+0.6
WMQ				PP	PP			
comp=Z,2μm,11.6s								
WMQ				LR	LR			
comp=N,6μm,24.0s,MS6.4								
WMQ				LR	LR			
comp=E,4μm,24.0s,MS6.4								
WMQ				LR	LR			
comp=Z,5μm,22.0s,MS6.3								
SNY	**Shenyang**	**147.69**	**332**	⇑PKP	PKP

HHC	**Hu-ho-hao-te**	**152.70**	**347**	*e*PKP	PKPdf	05 36 43.6	-0.9
HHC				APKP		05 36 54.0	
HHC				XPKP		05 36 57.5	
HHC				PKS		05 40 18.5	
HHC				PP	PP	05 40 32.8	-1.1
HHC				SKS	SKSdf	05 43 45.5	-4.8
HHC				PP	PP		
	comp=Z,2μm,13.1s						
HHC				LR	LR		
	comp=N,3μm,20.2s,MS6.2						
HHC				LR	LR		
	comp=E,3μm,22.6s,MS6.2						
HHC				LR	LR		
	comp=Z,3μm,25.0s,MS6.0						
COCO	**West Island**	**152.78**	**165**	PFAKE		05 37 00.0	+15
COCO				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
TRD	**Trivandrum**	**152.98**	**99**	AMb	AMB	05 37 06.3	
	comp=Z,91nm,1.7s						
TRD				*ex*	x	05 40 35.1	
BTO	**Baotou**	**153.23**	**350**	*e*PKP	PKPdf	05 36 46.4	+1.1
PTH	**Pithoragarh**	**153.36**	**51**	*ex*	x	05 36 51.2	
GTA	**Gaotai**	**154.71**	**7**	PKP	PKPdf	05 36 48.0	+0.5
GTA				APKP		05 36 58.8	
GTA				PKP2	PKPab	05 37 15.0	+4.3
GTA				PP	PP	05 40 51.8	+6.7
GTA				SS	SS	06 00 30.5	+5.9
GTA				PP	PP		
	comp=Z,1μm,7.2s						
GTA				LR	LR		
	comp=N,7μm,20.1s,MS6.5						
GTA				LR	LR		
	comp=E,3μm,19.5s,MS6.5						
GTA				LR	LR		
	comp=Z,9μm,21.0s,MS6.6						
TIA	**Tai'an**	**155.16**	**334**	*e*PKP	PKPdf	05 36 47.8	-0.4
KAPI	**Kappang**	**155.21**	**220**	PFAKE		05 37 00.0	+11
KAPI				LR	LR		
	comp=Z,5μm,20.0s,MS6.3						
HYB	**Hyderabad**	**155.42**	**79**	*i* PKP	PKPdf	05 36 48.0	-1.0
HYB				*e*pPKP	pPKPdf	05 36 58.0	+0.6
HYB				*e*PKPAB	PKPab	05 37 14.5	-0.1
HYB	**Hyderabad**	**155.42**	**79**	*e*PKP	PKPdf	05 36 48.0	-1.0
HYB				*e*		05 36 58.0	
HYB				*e*PKPab	PKPab	05 37 14.5	-0.1
TIY	**Taiyuan**	**155.46**	**344**	*i* PKP	PKPdf	05 36 47.1	-1.4
TIY				APKP		05 36 58.1	
TIY				PP	PP		
	comp=Z,814nm,6.9s						
TIY				LR	LR		
	comp=N,3μm,18.1s,MS6.2						
TIY				LR	LR		
	comp=E,2μm,17.4s,MS6.2						
TIY				LR	LR		
	comp=Z,3μm,19.7s,MS6.2						
PALK	**Pallekele**	**156.18**	**105**	PFAKE		05 37 00.0	+10
PALK				LR	LR		
	comp=Z,9μm,22.0s,MS6.5						
DANN	**Dangsing**	**156.63**	**50**	*e*P	PKPdf	05 36 50.9	+0.5
KOLN	**Koldanda**	**156.82**	**51**	*e*P	PKPdf	05 36 50.3	-0.3
SSE	**Sheshan**	**156.94**	**319**	PKP	PKPdf	05 36 49.6	-1.1
SSE				PP	PP	05 41 01.5	+2.9
SSE				SS	SS	06 00 49.3	-1.2
SSE				PP	PP		
	comp=Z,878nm,8.8s						
SSE				LR	LR		
	comp=N,2μm,14.8s,MS6.3						
SSE				LR	LR		
	comp=E,3μm,14.8s,MS6.3						
SSE				LR	LR		
	comp=Z,4μm,13.5s,MS6.5						
MDRS	**Chennai**	**156.98**	**90**	*ex*	PKPab	05 37 20.0	-1.4
GKN	**Gorkha**	**157.47**	**50**	*e*P	PKPdf	05 36 51.1	-0.3
DAV	**Davao City (W)**	**157.55**	**254**	PFAKE		05 37 00.0	+8.1
DAV				LR	LR		
	comp=Z,4μm,21.0s,MS6.2						
NJ2	**Nanjing**	**157.65**	**325**	*e*PKP	PKPdf	05 36 50.3	-1.2
NJ2				APKP		05 36 59.3	
NJ2				XPKP		05 37 04.1	
NJ2				PKP2	PKPab	05 37 22.3	-1.3
NJ2				PKS		05 40 22.3	
NJ2				PP	PP	05 41 01.4	-0.8
NJ2				PP	PP		
	comp=Z,1μm,10.4s						
NJ2				LR	LR		
	comp=N,6μm,32.4s,MS6.2						
NJ2				LR	LR		
	comp=E,2μm,36.3s,MS6.2						
NJ2				LR	LR		
	comp=Z,6μm,33.2s,MS6.2						
BLSP	**Bilaspur**	**157.91**	**66**	*ex*	x	05 37 25.2	
DMN	**Daman**	**158.03**	**50**	*e*P	PKPdf	05 36 51.6	-0.6
KKN	**Kakani**	**158.06**	**49**	*e*P	PKPdf	05 36 51.8	-0.4
PKI	**Pulchoki**	**158.28**	**50**	*e*P	PKPdf	05 36 51.2	-1.3
LZH	**Lanzhou**	**158.28**	**0**	*e*PKP	PKPdf	05 36 53.0	+0.8
LZH				APKP		05 37 04.5	
LZH				PP	PP	05 41 06.0	+1.1
LZH				SKS	SKSdf	05 43 55.0	-1.6
LZH				SKKS	SKKSac	05 47 52.0	-1.7
LZH				SS	SS	06 01 01.0	-1.9
LZH				PP	PP		
	comp=Z,1μm,8.1s						
LZH				LR	LR		
	comp=E,4μm,20.3s						
LZH				LR	LR		
	comp=Z,6μm,22.0s,MS6.4						
GUN	**Gumba**	**158.43**	**48**	*e*P	PKPdf	05 36 52.5	-0.1
JIRN	**Jiri**	**158.80**	**48**	*e*P	PKPdf	05 36 52.1	-1.0
RAMN	**Ramite**	**159.50**	**49**	*e*P	PKPdf	05 36 52.4	-1.5
XAN	**Xi'an**	**159.81**	**348**	PKP	PKPdf	05 36 53.8	-0.3
XAN				APKP		05 37 04.6	
XAN				LR	LR		
	comp=N,814nm,21.4s						
XAN				LR	LR		
	comp=E,1μm,30.3s						
XAN				LR	LR		
	comp=Z,2μm,56.5s						
VIS	**Vishakhapatnam**	**159.93**	**77**	*e*P	PKPdf	05 36 52.9	-1.7
VIS				*i* x	x	05 37 35.0	
VIS				*e*PP	PP	05 41 16.9	+0.7
TAPN	**Taplejung**	**160.07**	**47**	*e*P	PKPdf	05 36 52.6	-2.0
ODAN	**Odare**	**160.13**	**48**	*e*P	PKPdf	05 36 53.4	-1.2
TATO	**Taipei**	**160.34**	**305**	PFAKE		05 37 10.0	+15
TATO				LR	LR		
	comp=Z,5μm,21.0s						
BOK	**Bokaro**	**160.53**	**58**	*e*P	PKPdf	05 36 55.4	+0.3
YHNB	**Yeheng**	**160.58**	**305**	PFAKE		05 37 10.0	+15
YHNB				LR	LR		
	comp=Z,6μm,21.0s						
LSA	**Lhasa**	**160.65**	**35**	PKP	PKPdf	05 36 56.4	+1.3
LSA	**Lhasa**	**160.65**	**35**	PFAKE		05 37 10.0	+15
LSA				LR	LR		
	comp=Z,6μm,19.0s						
WHN	**Wuhan**	**161.17**	**331**	PKP	PKPdf	05 36 55.3	-0.4
WHN				PP	PP	05 41 23.5	+2.4
WHN				SS	SS	06 01 34.3	-0.2
WHN				LR	LR		
	comp=Z,14μm,23.3s						
QZH	**Quanzhou**	**162.59**	**310**	PKP	PKPdf	05 36 56.3	-1.0
QZH				PKP2	PKPab	05 37 49.4	+4.0
QZH				PP	PP	05 41 29.5	-0.1
QZH				SS	SS	06 01 54.3	+3.5
QZH				LR	LR		
	comp=N,9μm,23.7s						
QZH				LR	LR		
	comp=E,7μm,22.9s						
QZH				LR	LR		
	comp=Z,3μm,23.3s						
CD2	**Chengdu**	**163.45**	**0**	PKP	PKPdf	05 36 57.5	-0.4
CD2				APKP		05 37 06.8	
CD2				XPKP		05 37 10.9	
CD2				PKP2	PKPab	05 37 49.9	+1.1
CD2				PP	PP	05 41 36.1	+3.5
CD2				SKS	SKSdf	05 43 55.9	-5.3
CD2				SKKS	SKKSac	05 48 18.6	-2.0
CD2				SS	SS	06 01 56.8	-0.2
CD2				PP	PP		
	comp=Z,2μm,9.6s						
CD2				LR	LR		
	comp=N,6μm,22.8s						
CD2				LR	LR		
	comp=E,4μm,21.6s						
CD2				LR	LR		
	comp=Z,7μm,24.0s						
SHL	**Shillong**	**164.08**	**43**	*e*P	PKPdf	05 36 58.0	-0.7
KKM	**Kota Kinabalu**	**165.39**	**237**	PFAKE		05 37 10.0	+10
KKM				LR	LR		
	comp=Z,6μm,21.0s						
IMP	**Imphal**	**165.95**	**40**	*ex*	x	05 36 52.0	
IMP				*ex*	x	05 38 01.0	
PSI	**Prapat**	**167.58**	**156**	PKP	PKPdf	05 37 01.1	-0.8
	comp=Z,15nm,0.9s,baz=206,slow=5.6,SNR=4.7						
PSI				PKPab	PKPab	05 38 05.9	-1.5
	comp=Z,5.3nm,0.3s,baz=144,slow=6.3,SNR=6.6						
GYA	**Guiyang**	**167.61**	**348**	PKP	PKPdf	05 37 01.0	-0.5
GYA				APKP		05 37 12.4	
GYA				PKP2	PKPab	05 38 08.6	+1.4
GYA				PKS		05 40 31.6	
GYA				PP	PP	05 41 57.3	+2.9
GYA				PPP		05 45 57.8	
GYA				SKKS	SKKSac	05 48 39.4	-2.2
GYA				SS	SS	06 02 38.9	-0.8
GYA				SSS		06 09 13.5	
GYA				PP	PP		
	comp=Z,11μm,10.2s						
GYA				LR	LR		
	comp=N,22μm,24.6s						
GYA				LR	LR		
	comp=E,23μm,21.9s						
GYA				LR	LR		
	comp=Z,24μm,23.5s						
KMI	**Kunming**	**169.16**	**6**	PKP	PKPdf	05 37 02.6	0.0
KMI				APKP		05 37 10.5	
KMI				XPKP		05 37 14.4	
KMI				PKP2	PKPab	05 38 13.1	-1.0
KMI				PP	PP	05 42 00.8	-1.3
KMI				SS	SS	06 02 51.5	-3.5
KMI				LR	LR		
	comp=N,4μm,21.1s						
KMI				LR	LR		
	comp=E,3μm,22.7s						
KMI				LR	LR		
	comp=Z,8μm,26.5s						
QIZ	**Qiongzhong**	**172.61**	**311**	PKP	PKPdf	05 37 04.9	+0.4
QIZ				PP	PP	05 42 19.3	-1.5
QIZ				PP	PP		
	comp=Z,2μm,6.8s						
QIZ				LR	LR		
	comp=E,3μm,23.4s						
QIZ				LR	LR		
	comp=Z,6μm,24.2s						
QIZ	**Qiongzhong**	**172.61**	**311**	PFAKE		05 37 10.0	+5.5
QIZ				LR	LR		
	comp=Z,6μm,22.0s						
CHTO	**Chiang Mai**	**173.44**	**46**	PKIKP	PKPdf	05 37 04.4	-0.5
CHTO	**Chiang Mai**	**173.44**	**46**	*e*PKPdf	PKPdf	05 37 04.3	-0.5
CHTO				LR	LR		
	comp=Z,6μm,21.0s						
CM31	**Chiang Mai Arr**	**173.68**	**48**	PFAKE		05 37 20.0	+15
CM31				LR	LR		
	comp=Z,6μm,21.0s						
CMAR	**Chiang Mai Arr**	**173.68**	**48**	PKP	PKPdf	05 37 04.6	-0.4
	comp=Z,10nm,0.9s,baz=283,slow=1.8,SNR=40						
CMAR				PKPab	PKPab	05 38 34.2	-0.3
	comp=Z,16nm,1.0s,baz=301,slow=5.1,SNR=12						
CMAR				PP	PP	05 42 22.1	-3.9
	comp=Z,1.4nm,0.4s,baz=294,slow=5.6,SNR=4.4						

*ISCJB **16** 05:20:51.6±0.8, 4273N±005×7660E±007, h10km, Error ellipse: s-maj=8.7km s-min=4.3km az=42.6*
*NNC **16** 05:20:52.2±1.4, 4277N×7648E, h0km, mb3.3, mpv3.3, Error ellipse: s-maj=13.5km s-min=2.1km az=160.0*
*KNET **16** 05:20:52.9±0.5, 4269N×7643E, h11km±2km, ml2.7, Error ellipse: s-maj=3.5km s-min=1.6km az=76.0*

ISC 16 05:20:52.2±0.8, 4274N±005×7654E±006, h9km±6km, n13, σ0°75/17, 8C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.54**	**205**	⇓P		**Pg**	**05 21 03.0**	**+0.4**
ULHL	66nm,0.1s,SNR=85			⇓S		**Sg**	**05 21 09.2**	**-0.4**
	514nm,0.2s						
KNDC	**Almaty**	**0.57**	**33**	⇓P		**Pg**	**05 21 03.5**	**+0.2**
KNDC	141nm,0.1s			⇑S		**Sg**	**05 21 11.3**	**+0.6**
	2μm,0.5s						
TKM2	**Tokmak 2**	**0.72**	**285**	⇑P		**Pg**	**05 21 05.0**	**-1.1**
TKM2	5.6nm,0.2s			⇓S		**Sg**	**05 21 14.9**	**-0.6**
	132nm,0.3s						
TKM2	**Tokmak 2**	**0.72**	**285**	⇓P		**Pg**	**05 21 05.7**	**-0.3**
TKM2	19nm,0.1s,SNR=75			⇑S		**Sg**	**05 21 15.6**	**+0.1**
	336nm,0.2s						
KZA	**Kyzart**	**1.16**	**236**	P		**Pb**	**05 21 14.2**	**-0.2**
KZA	32nm,0.1s,SNR=78			⇓S		**Sb**	**05 21 29.8**	**+0.2**
	98nm,0.2s						
KBK	**Karagaybulak**	**1.18**	**267**	⇓P		**Pb**	**05 21 14.1**	**-0.6**
KBK	21nm,0.1s,SNR=9.9			⇑S		**Sb**	**05 21 30.3**	**+0.2**
	105nm,0.1s						
CHMS	**Chumysh**	**1.34**	**282**	⇑P		**Pn**	**05 21 16.5**	**-0.6**
	11nm,0.1s,SNR=16						
USP	**Ospenovka**	**1.59**	**290**	⇑P		**Pn**	**05 21 20.9**	**+0.4**
	22nm,0.1s,SNR=70						
EKS2	**Erkin-Say**	**2.04**	**269**	⇓P		**Pn**	**05 21 29.1**	**+2.4**
	17nm,0.2s,SNR=15						
KK31	**Karatay Array**	**4.45**	**277**	⇓Pg		**Pg**	**05 22 11.5**	**-5.8**
	1.0nm,0.4s,baz=88,slow=15,SNR=15						
KK31				⇑Lg			05 23 09.6
	3.4nm,0.3s,baz=89,slow=29,SNR=12						
MK31	**Makanchi Array**	**5.76**	**43**	⇓Sn		**Sn**	**05 23 23.0**	**-1.0**
	1.8nm,0.5s,baz=224,slow=25,SNR=6.5						
MK31				⇑Lg			05 23 55.4
	3.5nm,0.7s,baz=228,slow=32,SNR=4.3						
KURBB	**Kurchatov Arra**	**8.01**	**9**	⇓Lg			05 25 06.3
	2.1nm,0.6s,baz=194,slow=28						
KURK	**Kurchatov**	**8.11**	**9**	⇓Lg			05 25 09.2
	5.1nm,0.6s						

*ISCJB **16** 05:22:43.0±0.7, 68N±02×730W±0.1, h171km±13km, mb3.8/3, Error ellipse: s-maj=32.0km s-min=8.3km az=143.1*
*IDC **16** 05:22:43.5±0.7, 677N×7295W, h163km±10km, mb3.5/3, mb1 3.9/6, mb1mx3.7/22, mbtmp3.8/6, Error ellipse: s-maj=29.7km s-min=7.3km az=134.0*
*NEIC **16** 05:22:44.0±0.7, 673N×7292W, h172km±10km, Error ellipse: s-maj=25.1km s-min=11.4km az=139.0*

ISC 16 05:22:44.2±0.7, 68N±02×730W±01, h167km±13km, n9, σ0°41/10, mb3.8/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.35**	**216**	P		**Pn**	**05 23 24.7**	**+0.3**
ROSC	81nm,0.3s,baz=12,slow=12,SNR=130			S		**Sn**	**05 23 55.3**	**-0.2**
	89nm,0.3s,baz=79,slow=20,SNR=11						
SDV	**Santo Domingo**	**3.11**	**48**	P		**Pn**	**05 23 34.0**	**+0.5**
	38nm,0.3s,baz=270,slow=15,SNR=90						
SDV				S		**Sn**	**05 24 11.6**	**-0.3**
	53nm,0.3s,baz=270,slow=23,SNR=23						
PCRV	**Puerto La Cruz**	**8.89**	**67**	P		**Pn**	**05 24 49.0**	**-0.4**
	1.3nm,0.3s,baz=275,slow=8.3,SNR=9.0						
PCRV				S		**Sn**	**05 26 28.6**	**+0.2**
	0.6nm,0.3s,baz=210,slow=20,SNR=2.2						
PDAR	**Pinedale Array**	**48.20**	**324**	P		**P**	**05 31 08.3**	**+0.5**
	1.2nm,0.9s,mb3.5,baz=128,slow=12,SNR=2.5						
YBH	**Yreka Blue Hor**	**56.08**	**316**	P		**P**	**05 32 05.2**	**-0.8**
	1.2nm,0.8s,mb3.8,baz=116,slow=5.2,SNR=3.0						
YKA	**Yellowknife Ar**	**63.36**	**340**	P		**P**	**05 32 55.5**	**+0.2**
	1.3nm,0.6s,mb3.9,baz=131,slow=6.6,SNR=4.0						
YKA	**Yellowknife Ar**	**63.36**	**340**	P		**P**	**05 32 55.5**	**+0.2**
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	PKPbc	05 42 12.7	-1.2
	0.8nm,0.7s,baz=116,slow=3.8,SNR=4.8						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPbc	05 42 16.9	0.0
	0.8nm,0.5s,baz=109,slow=2.5,SNR=9.8						

*ISCJB **16** 05:26:54.4±4.8, 16N±01×1269E±03, h80km±45km, mb4.2/9, Error ellipse: s-maj=59.4km s-min=19.3km az=163.9*
*NEIC **16** 05:26:57.4±2.4, 164N×127.18E, h96km±22km, mb4.4/2, Error ellipse: s-maj=30.3km s-min=10.8km az=73.0*
*IDC **16** 05:26:57.4±6.7, 163N×127.11E, h94km±61km, mb3.9/8, mb1 4.0/9, mb1mx3.8/18, mbtmp3.9/9, ML4.3/1, Error ellipse: s-maj=55.2km s-min=16.6km az=72.0*
*DJA **16** 05:27:03, 146N×12691E, h50km, ML4.4/2*

ISC 16 05:26:55.2±3.9, 16N±01×1269E±03, h70km±38km, n15, σ0°43/14, mb4.2/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**15.21**	**159**	*e*P	**Pn**	**05 30 26.5**	**+0.5**
KAKA	8.8nm,0.6s			*e*		05 30 31.8	
FITZ	**Fitzroy Crossi**	**19.59**	**184**	*e*P	**Pn**	**05 31 18.9**	**-0.8**
	9.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.59**	**184**	P	**Pn**	**05 31 18.8**	**-0.9**
	0.7nm,0.3s,baz=28,slow=11,SNR=15						
WRAB	**Tennant Creek**	**22.57**	**162**	*e*P	**P**	**05 31 49.5**	**-0.3**
	27nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**22.58**	**162**	P	**P**	**05 31 49.9**	**0.0**
	7.2nm,0.3s,mb4.4,baz=341,slow=11,SNR=39						
WB2	**Warramunga Arr**	**22.58**	**162**	*e*P	**P**	**05 31 49.8**	**-0.1**
WB2				*e*		05 31 56.7	
ASAR	**Alice Springs**	**25.98**	**165**	P	**P**	**05 32 21.7**	**+0.2**
	0.6nm,0.3s,mb3.5,baz=346,slow=7.8,SNR=13						
NWAO	**Narrogin (SRO)**	**35.51**	**194**	P	**P**	**05 33 46.2**	**+0.9**
	12nm,0.6s,mb5.0,baz=11,slow=7.2,SNR=17						
NWAO	**Narrogin (SRO)**	**35.51**	**194**	P	**P**	**05 33 46.2**	**+0.9**
STKA	**Stephens Creek**	**36.05**	**159**	P	**P**	**05 33 50.1**	**+0.1**
	3.0nm,0.5s,mb4.5,baz=326,slow=9.5,SNR=5.5						
SONM	**Songino Array**	**49.40**	**342**	P	**P**	**05 35 37.8**	**0.0**
	0.6nm,0.6s,mb3.7,baz=156,slow=9.2,SNR=5.0						
MKAR	**Makanchi Array**	**59.44**	**326**	P	**P**	**05 36 50.6**	**-0.1**
	2.2nm,0.4s,mb4.6,baz=118,slow=8.1,SNR=16						
VNDA	**Vanda**	**81.27**	**173**	P	**P**	**05 39 02.7**	**-0.5**
	1.5nm,0.7s,mb4.0,baz=324,slow=6.8,SNR=9.4						
MAW	**Mawson**	**81.81**	**200**	P	**P**	**05 39 06.3**	**+0.1**
	0.6nm,0.4s,mb3.8,baz=72,slow=8.0,SNR=4.7						
CFAA	**Coronel Fontan**	**146.87**	**156**	PKPbc	PKPbc	05 46 28.8	-1.4
	0.2nm,0.5s,baz=216,slow=3.1,SNR=4.6						

*IDC **16** 05:28:33.4±1.7, 1347S×7732W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/16, mbtmp4.2/4, ML3.7/1, Error ellipse: s-maj=40.1km s-min=30.2km az=74.0*
*ISCJB **16** 05:28:35.0±4.4, 1359S±0.10×773W±02, h26km±32km, mb3.9/3, Error ellipse: s-maj=29.3km s-min=15.2km az=166.3*

ISC 16 05:28:39.0±2.8, 135S±01×772W±02, h38km±22km, n7, σ0°79/8, mb3.9/3, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.55**	**14**	Pn	**Pn**	**05 29 03.1**	**-1.1**
NNA	92nm,0.3s,baz=178,slow=13,SNR=5.2			Sn	**Sn**	**05 29 23.4**	**+0.3**
	209nm,0.3s,baz=220,slow=10,SNR=5.5						
ATAH	**Atahualpa**	**6.56**	**350**	Pn	**Pn**	**05 30 13.7**	**+0.7**
ATAH	2.9nm,0.3s,baz=147,slow=17,SNR=7.8			Sn	**Sn**	**05 31 21.9**	**-4.7**
	5.0nm,0.3s,baz=79,slow=16,SNR=3.4						
LPAZ	**La Paz**	**9.23**	**109**	Pn	**Pn**	**05 30 49.8**	**+0.1**
	0.4nm,0.3s,baz=302,slow=8.1,SNR=3.1						
ULM	**Lac du Bonnet**	**65.55**	**347**	P	**P**	**05 39 18.0**	**-0.5**
	1.7nm,0.9s,mb4.1,baz=163,slow=14,SNR=4.6						
YKA	**Yellowknife Ar**	**81.17**	**343**	P	**P**	**05 40 50.4**	**+0.2**
	0.4nm,0.6s,mb3.5,baz=142,slow=6.3,SNR=6.9						
TORD	**Torodi Ar. Bea**	**82.56**	**75**	P	**P**	**05 40 58.8**	**+0.2**
	1.3nm,0.7s,mb4.0,baz=254,slow=5.7,SNR=4.2						
SONM	**Songino Array**	**145.64**	**356**	PKPbc	PKPbc	05 48 14.0	+0.5
	0.8nm,0.5s,baz=340,slow=2.0,SNR=3.1						

*ISCJB **16** 05:33:01.5±3.1, 1343S±005×773W±0.1, h18km±22km, mb4.4/19, Error ellipse: s-maj=17.5km s-min=7.4km az=166.3*
*NEIC **16** 05:33:04.3±0.3, 1338S×7719W, mb4.5/5, Error ellipse: s-maj=11.4km s-min=5.6km az=65.0*
*MOS **16** 05:33:04.2±1.4, 1331S×7713W, h33km, mb4.4/2, Error ellipse: s-maj=30.1km s-min=16.4km az=130.7*
*IDC **16** 05:33:04.3±0.6, 1335S×7715W, h22km±3km, mb4.3/14, mb1 4.4/17, mb1mx4.3/22, mbtmp4.3/17, ML3.1/3, Error ellipse: s-maj=20.3km s-min=11.2km az=75.0*

ISC 16 05:33:04.2±3.1, 1340S±005×772W±01, h21km±22km, h24km±.8km: pP-P, n47, σ0°82/41, mb4.4/19, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.44**	**14**	Pn	**Pn**	**05 33 28.0**	**-1.0**
	827nm,0.3s,baz=176,slow=14,SNR=34						
NNA				Sn	**Sn**	**05 33 47.4**	**+0.1**
	3μm,0.3s,baz=260,slow=12,SNR=11						
ATAH	**Atahualpa**	**6.47**	**349**	Pn	**Pn**	**05 34 38.8**	**+0.6**
	13nm,0.3s,baz=224,slow=22,SNR=14						
ATAH				Sn	**Sn**	**05 35 47.6**	**-3.8**
	1.4nm,0.3s,baz=4.8,slow=17,SNR=1.5						
LPAZ	**La Paz**	**9.22**	**109**	Pn	**Pn**	**05 35 17.9**	**+2.0**
	0.4nm,0.3s,baz=277,slow=11,SNR=6.3						
LPAZ	**La Paz**	**9.22**	**109**	Pn	**Pn**	**05 35 17.9**	**+2.0**
LVC	**Limon Verde**	**12.08**	**141**	Pn	**Pn**	**05 35 53.7**	**-1.4**
	3.2nm,0.3s,baz=11,slow=0.0,SNR=13						
LVC	**Limon Verde**	**12.08**	**141**	*e*Pn	**Pn**	**05 35 54.0**	**-1.1**
ROSC	**El Rosal**	**18.36**	**9**	P	**Pn**	**05 37 18.0**	**+0.5**
	0.2nm,0.3s,baz=266,slow=13,SNR=2.3						
CFAA	**Coronel Fontan**	**19.90**	**157**	P	**Pn**	**05 37 35.0**	**-1.0**
	0.1nm,0.3s,baz=331,slow=9.5,SNR=6.5						
BCIP	**Isla Barro Col**	**22.57**	**353**	*e*P	**P**	**05 38 04.1**	**+0.9**
	23nm,1.0s,mb4.6						
CPUP	**Villa Florida**	**22.64**	**128**	P	**P**	**05 38 03.6**	**-0.2**
	7.0nm,0.8s,mb4.1,baz=286,slow=8.9,SNR=5.4						
SDV	**Santo Domingo**	**23.07**	**17**	P	**P**	**05 38 08.3**	**-0.2**
	11nm,0.6s,mb4.5,baz=269,slow=4.4,SNR=5.5						
PCRV	**Puerto La Cruz**	**26.53**	**29**	P	**P**	**05 38 41.3**	**+0.8**
	4.7nm,0.6s,mb4.2,baz=212,slow=9.5,SNR=4.3						
PLCA	**Paso Flores**	**27.84**	**169**	P	**P**	**05 38 51.8**	**-0.3**
	3.5nm,0.8s,mb4.0,baz=347,slow=13,SNR=7.7						
CMIG	**Matias Romero**	**34.97**	**330**	P	**P**	**05 39 55.1**	**+0.1**
	2.7nm,0.8s,mb4.2,baz=126,slow=9.4,SNR=3.3						
TEIG	**Tepich**	**35.15**	**342**	P	**P**	**05 39 56.4**	**-0.1**
	7.3nm,0.6s,mb4.8,baz=294,slow=20,SNR=7.4						
TEIG	**Tepich**	**35.15**	**342**	P	**P**	**05 39 56.4**	**-0.1**
MIAR	**Mount Ida**	**50.16**	**342**	*e*P	**P**	**05 41 58.0**	**-0.1**
MIAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
MIAR	**Mount Ida**	**50.16**	**342**	*e*P	**P**	**05 41 58.0**	**-0.1**
	comp=Z,2.8nm,0.6s,mb4.5						
LAZ	**Ladron**	**55.41**	**330**	*e*P	**P**	**05 42 37.8**	**+0.8**
PV01	**Paradox Valley**	**59.10**	**331**	*e*P	**P**	**05 43 00.4**	**-2.6**
ISCO	**Idaho Springs**	**59.17**	**335**	*e*P	**P**	**05 43 03.3**	**-0.1**
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ISCO	**Idaho Springs**	**59.17**	**335**	*e*P	**P**	**05 43 03.3**	**-0.1**
	comp=Z,1.5n

comp=Z,8.7nm,0.9s,mb4.7,baz=240,slow=6.5,SNR=5.9
QSPA South Pole Qui 76.74 180 P **P 05 44 54.5 +1.1**
comp=Z,0.0nm,0.3s,baz=146,slow=1.9,SNR=2.4
QSPA South Pole Qui 76.74 180 P **P 05 44 54.5 +1.1**
YKA Yellowknife Ar 81.09 343 P **P 05 45 16.8 -0.5**
comp=Z,2.6nm,0.7s,mb4.3,baz=141,slow=4.6,SNR=41
TORD Torodi Ar. Bea 82.49 75 P **P 05 45 25.6 -0.2**
comp=Z,13nm,0.8s,mb4.9,baz=271,slow=5.8,SNR=44
TORD pP pP 05 45 32.6 -0.2
comp=Z,13nm,0.8s,baz=261,slow=4.7,SNR=20
VNDA Vanda 83.35 191 P **P 05 45 30.2 +1.0**
comp=Z,0.7nm,1.0s,mb3.6,baz=126,slow=0.8,SNR=4.0
VNDA pP pP 05 45 37.1 +0.9
comp=Z,0.8nm,0.9s,baz=116,slow=1.0,SNR=3.5
VNDA Vanda 83.35 191 P **P 05 45 30.2 +1.0**
VNDA pP pP 05 45 37.1 +0.9
AMKA Amchitka 108.78 320 *e*PKPdf PKiKP 05 51 30.7 -1.0
WB2 Warramunga Arr 134.60 224 *e*P PP 05 54 54.0 0.0
WRA Warramunga Arr 134.61 224 PKP PKPdf 05 52 21.9 -0.1
comp=Z,2.1nm,0.4s,baz=126,slow=1.9,SNR=7.5
ZALV Zalesovo Beam 137.12 16 PKP PKPdf 05 52 25.3 -0.2
comp=Z,1.4nm,0.6s,baz=222,slow=4.0,SNR=4.5
ZAL Zalesovo 137.13 16 PKIKP PKPdf 05 52 25.3 -0.2
MKAR Makanchi Array 142.51 23 PKhKP 05 52 30.8
comp=Z,0.6nm,0.7s,baz=14,slow=2.5,SNR=4.9
SONM Songino Array 145.54 356 PKPbc PKPbc 05 52 41.5 +0.6
comp=Z,15nm,0.8s,baz=327,slow=2.4,SNR=60
SONM pPKPbc pPKPbc 05 52 49.0 +0.9
comp=Z,8.9nm,0.8s,baz=359,slow=3.3,SNR=13
KSRS Korea Array 147.21 321 PKPbc PKPbc 05 52 43.8 -2.4
comp=Z,0.7nm,0.4s,baz=76,slow=1.4,SNR=5.4

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*IDC **16** 05:35:06.3±1.2, 1379S×76.18W, h0km, mb4.0/5, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, ML3.7/1, Error ellipse: s-maj=57.2km s-min=18.7km az=58.0*
*ISCJB **16** 05:35:07.9±3.2, 1395S×009×763W±02, h25km±26km, mb4.0/5, Error ellipse: s-maj=28.7km s-min=8.7km az=153.7*
*NEIC **16** 05:35:09.5±3.5, 1385S×7624W, h24km±27km, mb4.1/1, Error ellipse: s-maj=22.3km s-min=10.1km az=62.0*
ISC 16 05:35:10.4±3.4, 1392S±009×763W±02, h29km±27km, n15, σ0§89/15, mb4.0/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.01**	**343**	Pn	**Pn**	**05 35 40.9**	**-1.5**
	baz=217,slow=5.1,SNR=2.3						
NNA				Sn	**Sn**	**05 36 07.8**	**+1.3**
	151nm,0.3s,baz=212,slow=18,SNR=4.9						
ATAH	**Atahualpa**	**7.19**	**343**	Pn	**Pn**	**05 36 54.1**	**+0.4**
	1.3nm,0.3s,baz=300,slow=19,SNR=1.9						
LPAZ	**La Paz**	**8.19**	**108**	Pn	**Pn**	**05 37 13.7**	**+6.3**
	0.5nm,0.3s,baz=303,slow=10,SNR=4.2						
LPAZ	**La Paz**	**8.19**	**108**	Pn	**Pn**	**05 37 07.7**	**+0.4**
LVC	**Limon Verde**	**11.10**	**142**	Pn	**Pn**	**05 37 47.0**	**-0.3**
	1.2nm,0.3s,baz=318,slow=0.0,SNR=3.5						
SIV	**San Ignacio**	**14.81**	**100**	Pn	**Pn**	**05 38 38.1**	**0.0**
	0.2nm,0.3s,baz=274,slow=19,SNR=1.9						
LCO	**Las Campanas**	**15.87**	**162**	*e*Pn	**Pn**	**05 38 51.5**	**-0.4**
	16nm,1.0s						
CFAA	**Coronel Fontan**	**19.07**	**159**	P	**Pn**	**05 39 33.1**	**+1.6**
	0.0nm,0.3s,baz=331,slow=12,SNR=5.1						
TEIG	**Tepich**	**35.94**	**341**	P	**Pn**	**05 42 08.9**	**+0.3**
	6.3nm,0.7s,mb4.7,baz=130,slow=7.9,SNR=3.9						
NVAR	**Mina Array Bea**	**65.27**	**325**	P	**P**	**05 45 50.2**	**+0.6**
	0.2nm,0.7s,mb3.3,baz=138,slow=5.6,SNR=2.7						
NVAR	**Mina Array Bea**	**65.27**	**325**	P	**P**	**05 45 50.2**	**+0.6**
ULM	**Lac du Bonnet**	**66.18**	**346**	P	**P**	**05 45 53.6**	**-1.6**
	2.7nm,0.9s,mb4.3,baz=149,slow=5.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**81.75**	**74**	P	**P**	**05 47 27.0**	**-0.1**
	1.0nm,0.7s,mb3.9,baz=254,slow=5.5,SNR=4.1						
YKA	**Yellowknife Ar**	**81.85**	**343**	P	**P**	**05 47 25.8**	**-0.7**
	0.5nm,0.5s,mb3.7,baz=147,slow=5.7,SNR=7.7						
SONM	**Songino Array**	**146.12**	**357**	PKPbc	PKPbc	05 54 46.7	-1.1
	0.7nm,0.6s,baz=291,slow=2.5,SNR=4.3						

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*ATH **16** 05:46:44.5, 3935N×2031E, h57km±6km, MD3.4/5*
*ISCJB **16** 05:46:45.2±0.5, 3929N±002×2035E±004, h10km, Error ellipse: s-maj=5.0km s-min=3.3km az=167.1*
*NEIC **16** 05:46:45.9, 3928N×2029E, h0km, MD3.4(ATH), ML3.0(THE), After THE.*
*CSEM **16** 05:46:45.3±0.1, 3932N×2025E, h12km, ML3.0, Error ellipse: s-maj=1.9km s-min=1.4km az=77.0*
*THE **16** 05:46:45.9, 3928N×2029E, h0km, ML3.0*
ISC 16 05:46:45.5±0.6, 3929N±002×2030E±005, h10km, n15, σ1§19/25, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.25**	**7**	*e*Pg	**Pg**	**05 46 50.0**	**-0.5**
IGT				*e*Sg	**Sg**	**05 46 54.6**	**+0.7**
IGT	**Igoumenitsa**	**0.25**	**7**	*e*Pg	**Pg**	**05 46 50.0**	**-0.5**
IGT				*e*Sg	**Sg**	**05 46 54.6**	**+0.7**
JAN	**Janina**	**0.57**	**49**	*e*P	**Pg**	**05 46 56.3**	**-0.2**
JAN				*e*S	**Sg**	**05 47 05.9**	**+2.0**
KEK	**Kerkira**	**0.57**	**318**	*e*P	**Pg**	**05 46 56.7**	**+0.1**
KEK				*e*S	**Sg**	**05 47 06.8**	**+2.7**
LKD	**Levkas**	**0.64**	**154**	*e*Pg	**Pg**	**05 46 56.8**	**-1.1**
LKD				*e*Sg	**Sg**	**05 47 07.6**	**+1.3**
VLS	**Valsamata**	**1.13**	**168**	*e*Pg	**Pg**	**05 47 07.0**	**-0.2**
VLS				*e*Sg	**Sg**	**05 47 23.7**	**+1.8**
VLS	**Valsamata**	**1.13**	**168**	*e*P	**Pb**	**05 47 06.8**	**-0.3**
VLS				*e*S	**Sb**	**05 47 21.9**	**0.0**
EVR	**Evrytania**	**1.23**	**107**	*e*P	**Pn**	**05 47 06.5**	**-2.3**
KFL	**Anninata**	**1.24**	**162**	*e*Pg	**Pg**	**05 47 09.4**	**+0.2**
THL	**Klokotos Trika**	**1.36**	**78**	*e*Pg	**Pg**	**05 47 11.1**	**-0.5**
THL				*e*Sg	**Sg**	**05 47 30.4**	**+1.1**
THL	**Klokotos Trika**	**1.36**	**78**	*e*P	**Pn**	**05 47 08.2**	**-2.3**
THL	**Klokotos Trika**	**1.36**	**78**	*e*Pg	**Pg**	**05 47 11.1**	**-0.5**
THL				*e*Sg	**Sg**	**05 47 30.4**	**+1.2**
AGG	**Agios Georgios**	**1.60**	**99**	*e*Pg	**Pg**	**05 47 15.8**	**-0.4**
AGG				*e*Sg	**Sg**	**05 47 37.5**	**+0.5**
FNA	**Florina**	**1.71**	**29**	*e*Pb	**Pg**	**05 47 18.0**	**-0.3**
KRUS	**Krusevo**	**2.20**	**19**	*i* Pn	**Pn**	**05 47 20.0**	**-2.1**

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*ISCJB **16** 05:47:02.4±3.6, 1424S±007×762W±0.1, h31km±27km, mb4.0/7, Error ellipse: s-maj=25.5km s-min=8.1km az=157.3*
*NEIC **16** 05:47:02.1±0.9, 1428S×7648W, Error ellipse: s-maj=24.0km s-min=11.0km az=58.0*
*IDC **16** 05:47:02.6±0.8, 1416S×76.18W, h17km±4km, mb3.9/6, mb1 3.9/11, mb1mx3.8/21, mbtmp3.8/11, ML3.4/4, Error ellipse: s-maj=27.6km s-min=15.3km az=61.0*
ISC 16 05:47:01.9±4.0, 1420S±007×763W±01, h14km±26km, n20, σ1§00/21, mb4.0/7, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.27**	**345**	Pn	**Pn**	**05 47 40.1**	**+1.1**
	32nm,0.3s,baz=169,slow=15,SNR=3.3						
NNA				Sn	**Sn**	**05 48 08.0**	**+1.2**
	326nm,0.3s,baz=199,slow=11,SNR=17						
ARE	**Arequipa**	**5.12**	**117**	*e*P	**Pn**	**05 48 26.0**	**+7.8**
ARE				*e*S	**Sn**	**05 49 38.0**	**+21**
ATAH	**Atahualpa**	**7.45**	**343**	Pn	**Pn**	**05 48 48.3**	**-2.0**
	0.9nm,0.3s,baz=133,slow=8.0,SNR=3.3						
ATAH				Sn	**Sn**	**05 50 14.0**	**-0.8**
	1.8nm,0.3s,baz=156,slow=20,SNR=2.1						
LPAZ	**La Paz**	**8.11**	**106**	Pn	**Pn**	**05 49 05.3**	**+6.0**
	0.9nm,0.3s,baz=290,slow=12,SNR=8.5						
LVC	**Limon Verde**	**10.89**	**141**	Pn	**Pn**	**05 49 38.0**	**+0.6**
	0.5nm,0.3s,baz=167,slow=0.0,SNR=4.9						
SIV	**San Ignacio**	**14.77**	**99**	Pn	**Pn**	**05 50 31.2**	**+0.7**
	0.1nm,0.3s,baz=325,slow=19,SNR=2.6						
CFAA	**Coronel Fontan**	**18.82**	**158**	P	**Pn**	**05 51 21.2**	**-0.6**
	0.0nm,0.3s,baz=339,slow=14,SNR=2.7						
CFAA	**Coronel Fontan**	**18.82**	**158**	P	**Pn**	**05 51 21.2**	**-0.6**
ROSC	**El Rosal**	**19.02**	**6**	P	**Pn**	**05 51 25.1**	**+0.8**
	0.1nm,0.3s,baz=220,slow=8.3,SNR=2.1						
CPUP	**Villa Florida**	**21.43**	**127**	P	**P**	**05 51 49.3**	**-0.5**
	1.6nm,0.7s,mb3.5,baz=293,slow=13,SNR=3.9						
SDV	**Santo Domingo**	**23.60**	**14**	P	**P**	**05 52 11.7**	**-1.0**
	2.5nm,0.5s,mb3.9,baz=270,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**65.49**	**325**	P	**P**	**05 57 45.5**	**+0.7**
	0.6nm,0.8s,mb3.7,baz=133,slow=6.3,SNR=2.7						
NVAR				pP	pP	05 57 51.8	+2.6
	0.7nm,0.7s,baz=145,slow=6.8,SNR=3.3						
SNAA	**Sanae**	**71.41**	**161**	*e*	**P**	**05 58 20.8**	**-0.5**
SNAA				*e*		05 58 27.7	
DBIC	**Dimbokro**	**73.79**	**79**	P	**P**	**05 58 36.6**	**+0.1**

2.6nm,0.8s,mb4.2,baz=243,slow=10,SNR=4.3
RAR Rarotonga 79.06 251 P **P 05 59 07.9 +1.6**
11nm,0.4s,mb5.1,baz=106,slow=5.7,SNR=4.9
TORD Torodi Ar. Bea 81.83 74 P **P 05 59 21.5 +0.2**
3.6nm,0.7s,mb4.4,baz=257,slow=3.8,SNR=17
YKA Yellowknife Ar 82.11 343 P **P 05 59 19.9 -1.7**
0.2nm,0.6s,mb3.3,baz=144,slow=5.9,SNR=4.9
YKA pP 05 59 26.4 +0.3
0.5nm,0.5s,baz=147,slow=5.9,SNR=6.5
YKA Yellowknife Ar 82.11 343 P **P 05 59 19.9 -1.7**
YKA pP pP 05 59 26.4 +0.3
WRA Warramunga Arr 134.65 222 PKP PKPdf 06 06 19.9 -1.1
0.6nm,0.7s,baz=135,slow=1.6,SNR=4.6
WRA pPKP pPKPdf 06 06 26.6 +1.0
0.6nm,0.8s,baz=127,slow=1.8,SNR=2.8
SONM Songino Array 146.39 357 PKPbc PKPbc 06 06 41.6 -0.9
0.8nm,0.6s,baz=294,slow=2.2,SNR=5.7
SONM pPKPbc pPKPbc 06 06 48.0 +0.9
0.8nm,0.8s,baz=309,slow=3.7,SNR=3.9

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*ISCJB **16** 06:05:39.7±1.5, 1403S±008×766W±0.1, h49km±15km, mb3.7/6, Error ellipse: s-maj=25.9km s-min=7.5km az=154.0*
*NEIC **16** 06:05:41.4±1.3, 1398S×7651W, h44km±12km, mb4.2/1, Error ellipse: s-maj=20.1km s-min=8.8km az=65.0*
*IDC **16** 06:05:42.1±1.9, 1395S×7647W, h48km±17km, mb3.6/6, mb1 3.8/10, mb1mx3.7/20, mbtmp3.7/10, ML3.7/3, Error ellipse: s-maj=38.7km s-min=11.0km az=64.0*
ISC 16 06:05:41.5±1.2, 1402S±008×766W±01, h48km±13km, n16, σ0§86/16, mb3.7/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.04**	**352**	P	**Pn**	**06 06 12.9**	**-0.6**
	40nm,0.3s,baz=151,slow=12,SNR=3.6						
NNA				S	**Sn**	**06 06 37.6**	**-0.1**
	160nm,0.3s,baz=47,slow=22,SNR=5.6						
ATAH	**Atahualpa**	**7.21**	**345**	P	**Pn**	**06 07 23.6**	**-0.8**
	1.2nm,0.3s,baz=246,slow=10,SNR=4.5						
ATAH				S	**Sn**	**06 08 46.1**	**+1.1**
	1.3nm,0.3s,baz=134,slow=20,SNR=2.4						
LPAZ	**La Paz**	**8.43**	**107**	P	**Pn**	**06 07 42.7**	**+1.5**
	0.6nm,0.3s,baz=286,slow=8.6,SNR=11						
LPAZ	**La Paz**	**8.43**	**107**	P	**Pn**	**06 07 42.7**	**+1.5**
LVC	**Limon Verde**	**11.21**	**141**	P	**Pn**	**06 08 19.2**	**+0.1**
	0.7nm,0.3s,baz=83,slow=0.0,SNR=5.6						
SIV	**San Ignacio**	**15.08**	**99**	P	**Pn**	**06 09 10.9**	**-0.7**
	0.1nm,0.3s,baz=298,slow=12,SNR=4.9						
LCO	**Las Campanas**	**15.87**	**161**	*e*Pn	**Pn**	**06 09 21.4**	**-0.4**
	29nm,1.4s						
CFAA	**Coronel Fontan**	**19.09**	**158**	P	**Pn**	**06 10 01.3**	**-0.2**
	0.0nm,0.3s,baz=321,slow=14,SNR=5.8						
CPUP	**Villa Florida**	**21.77**	**127**	P	**P**	**06 10 27.9**	**-1.4**
	1.2nm,0.7s,mb3.4,baz=292,slow=9.9,SNR=3.6						
PLCA	**Paso Flores**	**27.12**	**170**	P	**P**	**06 11 21.9**	**+1.8**
	2.1nm,1.0s,mb3.6,baz=332,slow=9.4,SNR=3.7						
NVAR	**Mina Array Bea**	**65.19**	**325**	P	**P**	**06 16 17.1**	**-0.8**
	0.2nm,0.5s,mb3.4,baz=44,slow=39,SNR=3.3						
ULM	**Lac du Bonnet**	**66.21**	**347**	P	**P**	**06 16 24.1**	**-0.1**
	2.1nm,0.6s,mb4.3,baz=162,slow=3.2,SNR=3.6						
YKA	**Yellowknife Ar**	**81.86**	**343**	P	**P**	**06 17 55.8**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=144,slow=5.6,SNR=10						
TORD	**Torodi Ar. Bea**	**82.05**	**74**	P	**P**	**06 17 57.6**	**+0.2**
	0.9nm,0.6s,mb3.9,baz=261,slow=3.6,SNR=9.9						
WRA	**Warramunga Arr**	**134.59**	**223**	PKP	PKPdf	06 24 56.7	+1.1
	0.3nm,0.7s,baz=148,slow=1.8,SNR=3.3						
SONM	**Songino Array**	**146.20**	**356**	PKPbc	PKPbc	06 25 17.8	+1.1
	0.6nm,0.7s,baz=342,slow=4.2,SNR=3.9						

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*ISCJB **16** 06:09:12.5±1.4, 1364S±007×767W±0.1, h41km±13km, mb3.9/10, Error ellipse: s-maj=22.7km s-min=6.8km az=151.7*
*NEIC **16** 06:09:13.8±0.5, 1360S×7683W, h35km, mb4.3/1, Error ellipse: s-maj=15.6km s-min=7.8km az=60.0*
*IDC **16** 06:09:13.9±0.7, 1354S×7675W, h36km±5km, mb3.8/10, mb1 3.9/15, mb1mx3.8/22, mbtmp3.8/15, ML3.7/4, Error ellipse: s-maj=25.4km s-min=12.6km az=67.0*
ISC 16 06:09:14.3±1.2, 1356S±007×7663W±010, h39km±11km, h38km±3.5km: pP-P, n26, σ0§86/28, mb3.9/10, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.58**	**353**	Pn	**Pn**	**06 09 39.2**	**-0.6**
	82nm,0.3s,baz=190,slow=13,SNR=12						
NNA				Sn	**Sn**	**06 09 59.7**	**+0.7**
	395nm,0.3s,baz=221,slow=9.6,SNR=8.6						
ARE	**Arequipa**	**5.75**	**121**	*e*P	**Pn**	**06 10 38.0**	**+0.9**
ARE				*e*S	**Sn**	**06 11 41.0**	**-0.8**
ATAH	**Atahualpa**	**6.74**	**345**	Pn	**Pn**	**06 10 50.1**	**-0.7**
	0.7nm,0.3s,baz=138,slow=5.1,SNR=2.1						
ATAH				Sn	**Sn**	**06 12 11.5**	**+5.1**
	1.4nm,0.3s,baz=234,slow=19,SNR=2.0						
LPAZ	**La Paz**	**8.65**	**109**	Pn	**Pn**	**06 11 20.7**	**+3.6**
	1.1nm,0.3s,baz=297,slow=10,SNR=16						
LPAZ	**La Paz**	**8.65**	**109**	*e*Pn	**Pn**	**06 11 21.4**	**+4.3**
	1.2nm,0.5s						
LPAZ				*e*Sn	**Sn**	**06 12 51.7**	**-1.8**
LVC	**Limon Verde**	**11.61**	**142**	Pn	**Pn**	**06 11 57.5**	**-0.1**
	2.9nm,0.3s,baz=140,slow=0.0,SNR=16						
LVC	**Limon Verde**	**11.61**	**142**	*e*Pn	**Pn**	**06 11 57.5**	**-0.1**
	9.1nm,0.4s						
SIV	**San Ignacio**	**15.24**	**101**	Pn	**Pn**	**06 12 49.0**	**+2.1**
	0.3nm,0.3s,baz=294,slow=8.9,SNR=4.7						
CFAA	**Coronel Fontan**	**19.55**	**158**	P	**Pn**	**06 13 39.7**	**-0.5**
	0.1nm,0.3s,baz=334,slow=11,SNR=8.9						
CPUP	**Villa Florida**	**22.11**	**128**	P	**P**	**06 14 07.2**	**+0.7**
	2.3nm,0.9s,mb3.6,baz=308,slow=8.6,SNR=2.7						
SDV	**Santo Domingo**	**23.08**	**15**	P	**P**	**06 14 17.3**	**+0.6**
	2.2nm,0.4s,mb3.9,baz=89,slow=13,SNR=4.2						
SDV	**Santo Domingo**	**23.08**	**15**	*e*P	**P**	**06 14 20.2**	**+3.4**
	10nm,0.9s,mb4.3						
PLCA	**Paso Flores**	**27.59**	**170**	P	**P**	**06 14 57.6**	**-0.2**
	3.4nm,1.0s,mb3.9,baz=332,slow=13,SNR=6.1						
LHS	**Liberty Hill**	**47.93**	**355**	*e*P	**P**	**06 17 48.4**	**-0.6**
NVAR	**Mina Array Bea**	**64.76**	**325**	P	**P**	**06 19 48.7**	**-0.2**
	0.2nm,0.6s,mb3.3,baz=54,slow=45,SNR=2.6						
NVAR				pP	pP	06 19 58.4	-2.1
	0.5nm,0.7s,baz=140,slow=6.1,SNR=4.5						
NVAR	**Mina Array Bea**	**64.76**	**325**	P	**P**	**06 19 48.7**	**-0.2**
NVAR				pP	pP	06 19 58.4	-2.1
ULM	**Lac du Bonnet**	**65.74**	**347**	P	**P**	**06 19 54.5**	**-0.5**
	2.5nm,0.8s,mb4.3,baz=120,slow=8.1,SNR=2.9						
SCHQ	**Schefferville**	**68.63**	**6**	P	**P**	**06 20 12.3**	**-0.9**
	2.1nm,0.8s,mb4.1,baz=211,slow=12,SNR=2.9						
SNAA	**Sanae**	**72.13**	**161**	*e*P	**P**	**06 20 34.7**	**+0.2**
SNAA				*e*		06 20 35.8	
SNAA				*e*	pP	06 20 48.1	+1.9
DBIC	**Dimbokro**	**74.03**	**79**	P	**P**	**06 20 46.8**	**+0.1**
	1.9nm,0.5s,mb4.2,baz=197,slow=5.1,SNR=5.1						
YKA	**Yellowknife Ar**	**81.40**	**343**	P	**P**	**06 21 26.2**	**-0.4**
	0.6nm,1.0s,mb3.5,baz=140,slow=5.6,SNR=4.0						
YKA				pP	pP	06 21 36.8	-1.8
	0.9nm,1.0s,baz=139,slow=4.6,SNR=3.7						
YKA	**Yellowknife Ar**	**81.40**	**343**	P	**P**	**06 21 26.2**	**-0.4**
YKA				pP	pP	06 21 36.8	-1.8
TORD	**Torodi Ar. Bea**	**82.01**	**74**	P	**P**	**06 21 31.5**	**+0.5**
	4.4nm,0.9s,mb4.4,baz=261,slow=4.9,SNR=13						
TORD				pP	pP	06 21 42.1	-0.8
	2.8nm,0.8s,baz=254,slow=4.7,SNR=8.6						
VNDA	**Vanda**	**83.29**	**191**	P	**P**	**06 21 37.3**	**+0.8**
	0.7nm,0.9s,mb3.7,baz=26,slow=5.8,SNR=4.1						
WRA	**Warramunga Arr**	**134.87**	**223**	PKP	PKPdf	06 28 30.5	+0.5
	0.4nm,0.8s,baz=123,slow=1.9,SNR=4.0						
SONM	**Songino Array**	**145.74**	**356**	PKPbc	PKPbc	06 28 48.9	-0.3
	1.5nm,1.1s,baz=322,slow=2.4,SNR=4.5						
SONM				pPKPbc	pPKPbc	06 29 01.8	+0.4
	1.6nm,0.9s,baz=310,slow=2.0,SNR=5.8						

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*IDC **16** 06:10:41.3±0.7, 1376S×7679W, h0km, mb4.2/13, mb1 4.4/17, mb1mx4.3/23, mbtmp4.3/17, ML3.7/1, Error ellipse: s-maj=24.5km s-min=12.6km az=69.0*
*ISCJB **16** 06:10:43.2±0.3, 1385S±005×7675W±008, h26km, mb4.5/31, MS5.8/3, Error ellipse: s-maj=11.9km s-min=5.5km az=155.6*
*MOS **16** 06:10:44.8±1.3, 1375S×7679W, h33km, mb4.9/6, Error ellipse: s-maj=23.3km s-min=11.9km az=124.5*
*BJI **16** 06:10:45.0, 1390S×7670W, h26km, mB5.6, Ms5.7, Msz5.6*
*NEIC **16** 06:10:45.1±0.3, 1387S×7668W, mb4.9/20, ML5.0(LIM), Error ellipse: s-maj=12.0km s-min=5.5km az=62.0*

NEIC Felt [IV] at Pisco and [II] at Lima.
ISC 16 06:10:45.6±0.3, 1380S±005×7666W±008, h27km, n26, σ1§05/87, mb4.5/31, MS5.8/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.81**	**354**	Pn	**Pn**	**06 11 14.5**	**-0.7**
	baz=204,slow=17,SNR=1.2						
NNA				Sn	**Sn**	**06 11 37.0**	**-0.3**
	322nm,0.3s,baz=185,slow=18,SNR=3.8						
NNA	**Nana**	**1.81**	**354**	Pn	**Pn**	**06 11 14.5**	**-0.7**
NNA				Sn	**Sn**	**06 11 37.0**	**-0.3**
NNA				*e*Sn	**Sn**	**06 11 38.2**	**+1.0**
ATAH	**Atahualpa**	**6.97**	**346**	Pn	**Pn**	**06 12 23.5**	**-2.6**
	14nm,0.3s,baz=293,slow=4.0,SNR=8.3						
ATAH				Sn	**Sn**	**06 13 37.9**	**-6.6**
	2.8nm,0.3s,baz=66,slow=20,SNR=2.0						
LPAZ	**La Paz**	**8.60**	**108**	Pn	**Pn**	**06 12 53.4**	**+5.1**
	baz=326,slow=22,SNR=1.3						
LPAZ	**La Paz**	**8.60**	**108**	Pn	**Pn**	**06 12 53.4**	**+5.0**
LVC	**Limon Verde**	**11.44**	**141**	Pn	**Pn**	**06 13 29.5**	**+2.3**
	0.7nm,0.3s,baz=353,slow=0.0,SNR=2.6						
LVC	**Limon Verde**	**11.44**	**141**	Pn	**Pn**	**06 13 25.9**	**-1.4**
OTAV	**Otavalo**	**14.06**	**353**	*e*Pn	**Pn**	**06 14 03.8**	**+0.6**
SIV	**San Ignacio**	**15.22**	**100**	Pn	**Pn**	**06 14 19.0**	**+0.2**
	0.1nm,0.3s,baz=201,slow=20,SNR=2.4						
LCO	**Las Campanas**	**16.11**	**161**	*e*Pn	**Pn**	**06 14 27.0**	**-3.3**
ROSC	**El Rosal**	**18.68**	**7**	P	**Pn**	**06 15 02.0**	**-0.3**
	0.3nm,0.3s,baz=102,slow=22,SNR=2.4						
ROSC	**El Rosal**	**18.68**	**7**	P	**Pn**	**06 15 02.0**	**-0.3**
ROSC				*e*Pn	**Pn**	**06 15 07.0**	**+4.7**
CFAA	**Coronel Fontan**	**19.33**	**158**	P	**Pn**	**06 15 09.4**	**-0.6**
	0.0nm,0.3s,baz=317,slow=15,SNR=2.4						
CPUP	**Villa Florida**	**21.98**	**127**	P	**P**	**06 15 37.9**	**+0.2**
	5.7nm,1.0s,mb4.0,baz=274,slow=8.7,SNR=4.9						
CPUP	**Villa Florida**	**21.98**	**127**	*e*P	**P**	**06 15 36.4**	**-1.2**
CPUP				pmax	pmax		
	comp=Z,44nm,1.3s						
CPUP	**Villa Florida**	**21.98**	**127**	*e*P	**P**	**06 15 36.4**	**-1.2**
	comp=Z,44nm,1.3s,mb4.7						
BCIP	**Isla Barro Col**	**23.04**	**352**	*e*P	**P**	**06 15 49.5**	**+0.6**
	comp=Z,60nm,1.3s,mb4.9						
SDV	**Santo Domingo**	**23.32**	**15**	P	**P**	**06 15 51.2**	**-0.7**
	comp=Z,6.1nm,0.9s,mb4.0,baz=271,slow=6.3,SNR=8.1						
SDV	**Santo Domingo**	**23.32**	**15**	*e*P	**P**	**06 15 53.2**	**+1.3**
	comp=Z,100nm,1.8s,mb5.0						
SDV				*e*pP		06 16 01.3	
PCRV	**Puerto La Cruz**	**26.64**	**27**	P	**P**	**06 16 20.4**	**-1.8**
	comp=Z,3.5nm,0.7s,mb4.0,baz=252,slow=6.4,SNR=1.8						
PLCA	**Paso Flores**	**27.36**	**170**	P	**P**	**06 16 28.9**	**+0.4**
	comp=Z,2.5nm,0.7s,mb3.8,baz=350,slow=12,SNR=4.8						
BDFB	**Brasilia**	**27.75**	**97**	P	**P**	**06 16 33.2**	**+0.9**
	comp=Z,2.1nm,1.1s,mb3.7,baz=211,slow=24,SNR=3.4						
CMIG	**Matias Romero**	**35.59**	**329**	P	**P**	**06 17 40.3**	**-0.7**
	comp=Z,3.9nm,1.0s,mb4.3,baz=88,slow=20,SNR=3.3						
TEIG	**Tepich**	**35.70**	**341**	P	**P**	**06 17 41.9**	**0.0**
	comp=Z,4.9nm,0.6s,mb4.7,baz=29,slow=2.1,SNR=5.9						
VBMS	**Vicksburg**	**47.65**	**344**	*e*P	**P**	**06 19 20.4**	**+0.8**
MIAR	**Mount Ida**	**50.70**	**342**	*e*P	**P**	**06 19 42.5**	**-0.4**
MIAR				*e**PP	pP	06 19 50.6	-0.6
MIAR				pmax	pmax		
	comp=Z,24nm,1.6s,mb4.9						
MIAR	**Mount Ida**	**50.70**	**342**	*e*P	**P**	**06 19 42.5**	**-0.4**
	comp=Z,24nm,1.6s,mb4.9						
MIAR				*e*pP	pP	06 19 50.6	-0.7
ELN	**Prospectdale**	**50.90**	**356**	*e*P	**P**	**06 19 44.8**	**+0.4**
ELN				*e*pP	pP	06 19 51.5	-1.2
WCI	**Wyandotte Cave**	**52.54**	**350**	*e*P	**P**	**06 19 56.2**	**-0.4**
WCI				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.9						
WCI	**Wyandotte Cave**	**52.54**	**350**	*e*P	**P**	**06 19 56.1**	**-0.5**
	comp=Z,28nm,1.6s,mb4.9						
BLO	**Bloomington**	**53.50**	**350**	*e*P	**P**	**06 20 02.8**	**-0.9**

ZALV Zalesovo Beam 137.37 16 PKP PKPdf 06 30 07.5 +0.9
comp=Z,1.6nm,0.5s,baz=291,slow=4.1,SNR=5.9
ZAL Zalesovo 137.37 16 PKIKP PKPdf 06 30 07.5 +0.9
MJAR Matsushiro Arr 141.49 312 PKP PKPdf 06 30 13.2 -1.5
comp=Z,0.9nm,0.8s,baz=106,slow=2.3,SNR=4.7
CN2 Changchun 144.61 332 *e*PKP PKPdf 06 30 19.8 -0.1
KSH Kashi 144.84 38 *e*PKP PKPdf 06 30 22.6 +2.1
KSH APKP 06 30 32.6
KSH XPKP 06 30 36.3
KSH PKS 06 33 55.6
KSH SKS SKSdf 06 37 25.3 -2.8
KSH PP PP
comp=Z,1μm,16.0s
KSH LR LR
comp=N,4μm,16.9s,MS6.4
KSH LR LR
comp=E,5μm,17.2s,MS6.4
KSH LR LR
comp=Z,3μm,19.5s,MS6.0
SONM Songino Array 145.98 356 PKPbc PKPbc 06 30 23.1 +0.2
comp=Z,5.4nm,0.9s,baz=336,slow=1.8,SNR=19
WMQ Urumqi 147.21 21 PKP PKPdf 06 30 23.0 -1.4
KSRS Korea Array 147.85 322 PKPbc PKPbc 06 30 27.6 -1.0
comp=Z,0.5nm,0.3s,baz=22,slow=3.9,SNR=3.3
HHC Hu-ho-hao-te 152.11 347 *e*PKP PKPdf 06 30 30.8 -1.4
HHC APKP 06 30 40.8
HHC XPKP 06 30 44.3
HHC PKS 06 34 05.3
HHC PP PP 06 34 19.6 +0.5
HHC SKS SKSdf 06 37 34.6 -3.3
HHC SKKS SKKSac 06 41 05.3 -3.6
HHC SS SS 06 53 44.9 +0.2
HHC PP PP
comp=Z,1μm,10.7s
HHC LR LR
comp=N,1μm,19.0s,MS5.6
HHC LR LR
comp=E,390nm,22.6s,MS5.6
HHC LR LR
comp=Z,2μm,23.8s,MS5.8
NJ2 Nanjing 156.94 325 *e*PKP PKPdf 06 30 37.0 -2.2
LZH Lanzhou 157.81 359 *e*PKP PKPdf 06 30 37.8 -2.4
LZH APKP 06 30 47.5
LZH XPKP 06 30 50.5
LZH PP PP 06 34 50.3 -0.5
LZH *e*SKKS SKKSac 06 41 36.8 -2.7
LZH SS SS 06 54 43.8 -2.4
LZH PP PP
comp=Z,390nm,8.0s
LZH LR LR
comp=N,653nm,19.6s
LZH LR LR
comp=Z,856nm,20.4s,MS5.6
CD2 Chengdu 162.97 359 *e*PKP PKPdf 06 30 43.3 -2.7
GYA Guiyang 167.03 347 PKP PKPdf 06 30 48.0 -1.6
GYA APKP 06 30 59.8
GYA XPKP 06 31 03.6
GYA PKP2 PKPab 06 31 54.3 +1.0
GYA PKS 06 34 19.8
GYA PP PP 06 35 43.0 +3.0
GYA SKKS SKKSac 06 42 26.0 -1.1
GYA SS SS 06 56 24.3 +2.1
GYA PP PP
comp=Z,120nm,8.0s
GYA LR LR
comp=N,280nm,26.2s
GYA LR LR
comp=E,140nm,25.4s
GYA LR LR
comp=Z,170nm,25.7s
KMI Kunming 168.72 3 PKP PKPdf 06 30 48.3 -2.5

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*ISCJB **16** 06:18:28.6±1.0, 140S×0.1×767W±0.2, h33km, mb3.9/5, Error ellipse: s-maj=27.9km s-min=8.4km az=151.2*
*NEIC **16** 06:18:29.6±0.8, 137.3S×7655W, mb4.4/2, Error ellipse: s-maj=29.7km s-min=10.9km az=54.0*
*IDC **16** 06:18:29.7±1.3, 136.4S×7639W, h21km±5km, mb3.6/3, mb1 3.6/5, mb1mx3.5/18, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=54.4km s-min=20.6km az=54.0*
ISC 16 06:18:31.1±0.9, 138S±01×766W±02, h35km, n14, σ0°77/12, mb3.9/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.84**	**352**	Pn	**Pn**	**06 19 00.2**	**-0.1**
	11nm,0.3s,baz=180,slow=15,SNR=2.2						
ATAH	**Atahualpa**	**7.01**	**345**	Pn	**Pn**	**06 20 12.9**	**+1.5**
	0.7nm,0.3s,baz=32,slow=22,SNR=3.3						
ATAH				Sn	**Sn**	**06 21 35.2**	**+5.3**
	0.6nm,0.3s,baz=150,slow=18,SNR=2.0						
LPAZ	**La Paz**	**8.53**	**108**	Pn	**Pn**	**06 20 32.6**	**+0.4**
	0.1nm,0.3s,baz=310,slow=9.5,SNR=2.6						
CFAA	**Coronel Fontan**	**19.29**	**158**	P	**Pn**	**06 22 55.0**	**+0.8**
	0.0nm,0.3s,baz=342,slow=7.1,SNR=2.9						
CPUP	**Villa Florida**	**21.92**	**128**	P	**P**	**06 23 21.3**	**-0.2**
	1.7nm,0.9s,mb3.5,baz=330,slow=14,SNR=2.9						
CPUP	**Villa Florida**	**21.92**	**128**	P	**P**	**06 23 21.3**	**-0.2**
ANMO	**Albuquerque**	**56.18**	**330**	*e*P	**P**	**06 28 07.0**	**-0.6**
	2.4nm,1.0s,mb4.2						
DUG	**Dugway**	**63.41**	**330**	P	**P**	**06 28 57.1**	**-0.1**
	6.0nm,1.4s,mb4.5						
NVAR	**Mina Array Bea**	**65.00**	**325**	pP	pP	06 29 15.2	-3.3
	0.6nm,0.8s,baz=116,slow=6.8,SNR=4.9						
YKA	**Yellowknife Ar**	**81.66**	**343**	P	**P**	**06 30 44.7**	**-0.6**
	0.4nm,0.6s,mb3.5,baz=135,slow=5.9,SNR=5.6						
YKA				pP	pP	06 30 52.0	-4.4
	1.1nm,0.9s,baz=134,slow=5.7,SNR=6.3						
YKA	**Yellowknife Ar**	**81.66**	**343**	P	**P**	**06 30 44.7**	**-0.6**
YKA				pP	pP	06 30 52.0	-4.4
TORD	**Torodi Ar. Bea**	**82.04**	**74**	P	**P**	**06 30 47.2**	**-1.2**
	1.4nm,0.8s,mb4.0,baz=271,slow=3.9,SNR=8.1						
TORD				pP	pP	06 30 54.5	-4.9
	1.9nm,0.8s,baz=270,slow=4.2,SNR=6.3						
SONM	**Songino Array**	**146.00**	**356**	PKPbc	PKPbc	06 38 06.7	-0.5
	0.5nm,0.5s,baz=0.0,slow=3.0,SNR=4.2						
SONM				pPKPbc	pPKPbc	06 38 14.4	-4.2
	1.2nm,0.8s,baz=353,slow=1.5,SNR=6.6						
KSRS	**Korea Array**	**147.90**	**322**	pPKPbc	pPKPbc	06 38 19.5	-4.9
	0.5nm,0.3s,baz=41,slow=1.9,SNR=3.0						

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*ISCJB **16** 06:43:11.6±2.7, 1350S±005×7688W±0.10, h20km±19km, mb4.2/20, Error ellipse: s-maj=17.0km s-min=6.1km az=161.8*
*MOS **16** 06:43:13.6±1.2, 1339S×7676W, h33km, mb4.4/5, Error ellipse: s-maj=26.9km s-min=12.4km az=129.5*
*BJI **16** 06:43:14.0, 1340S×7680W, h23km, Ms5.5, Msz5.3*
*NEIC **16** 06:43:14.1±0.3, 1344S×7683W, mb4.5/11, Error ellipse: s-maj=9.9km s-min=4.5km az=61.0*
NEIC Felt at Lima.
*IDC **16** 06:43:14.5±5.6, 1344S×7676W, h28km±38km, mb4.1/12, mb1 4.2/16, mb1mx4.1/22, mbtmp4.0/16, ML3.8/3, Error ellipse: s-maj=27.9km s-min=11.7km az=71.0*
ISC 16 06:43:15.7±2.6, 1344S±005×7674W±010, h34km±18km, h24km±1.2km: pP-P, n69, σ0°93/65, mb4.2/20, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.45**	**356**	Pn	**Pn**	**06 43 38.3**	**-1.2**
	146nm,0.3s,baz=182,slow=13,SNR=53						
NNA				Sn	**Sn**	**06 43 56.7**	**-0.7**
	373nm,0.3s,baz=228,slow=8.3,SNR=27						
NNA	**Nana**	**1.45**	**356**	*e*Pn	**Pn**	**06 43 38.5**	**-1.1**
NNA				*e*Sn	**Sn**	**06 43 56.4**	**-1.0**
ARE	**Arequipa**	**5.89**	**121**	*e*P	**Pn**	**06 44 49.0**	**+8.3**
ARE				*e*S	**Sn**	**06 46 06.0**	**+19**
ATAH	**Atahualpa**	**6.61**	**346**	Pn	**Pn**	**06 44 50.1**	**-0.3**
	2.1nm,0.3s,baz=171,slow=6.9,SNR=12						
ATAH				Sn	**Sn**	**06 46 00.6**	**-4.0**
	5.3nm,0.3s,baz=242,slow=15,SNR=3.8						
LPAZ	**La Paz**	**8.79**	**110**	Pn	**Pn**	**06 45 25.1**	**+4.7**
	0.5nm,0.3s,baz=317,slow=9.6,SNR=17						
LPAZ	**La Paz**	**8.79**	**110**	*e*P	**Pn**	**06 45 23.3**	**+2.9**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	**La Paz**	**8.79**	**110**	*e*Pn	**Pn**	**06 45 23.3**	**+2.8**
	comp=Z,0.7nm,0.3s						
LVC	**Limon Verde**	**11.77**	**142**	Pn	**Pn**	**06 46 01.3**	**0.0**
	comp=Z,0.6nm,0.3s,baz=190,slow=0.0,SNR=4.9						
LVC	**Limon Verde**	**11.77**	**142**	*e*Pn	**Pn**	**06 46 01.8**	**+0.5**
LVC				*e*Sn	**Sn**	**06 48 10.0**	**-1.4**
OTAV	**Otavalo**	**13.70**	**353**	*e*Pn	**Pn**	**06 46 27.3**	**-0.4**
OTAV				*e*Sn	**Sn**	**06 49 01.9**	**+3.2**
SIV	**San Ignacio**	**15.37**	**101**	Pn	**Pn**	**06 46 50.4**	**+0.3**
	baz=260,slow=12,SNR=4.2						
LCO	**Las Campanas**	**16.48**	**161**	*e*P	**Pn**	**06 47 06.6**	**+2.3**
	comp=Z,33nm,1.3s						
ROSC	**El Rosal**	**18.34**	**8**	P	**Pn**	**06 47 30.5**	**+3.0**
	comp=Z,0.5nm,0.3s,baz=102,slow=22,SNR=3.3						
ROSC	**El Rosal**	**18.34**	**8**	*e*P	**Pn**	**06 47 28.4**	**+0.9**
CFAA	**Coronel Fontan**	**19.69**	**158**	P	**Pn**	**06 47 41.5**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=340,slow=9.7,SNR=7.3						
CPUP	**Villa Florida**	**22.27**	**128**	P	**P**	**06 48 09.4**	**-0.5**
	comp=Z,4.4nm,0.9s,mb3.9,baz=285,slow=11,SNR=6.2						
BCIP	**Isla Barro Col**	**22.67**	**352**	*e*P	**P**	**06 48 14.4**	**+0.1**
	comp=Z,21nm,1.0s,mb4.5						
SDV	**Santo Domingo**	**23.00**	**16**	P	**P**	**06 48 17.8**	**+0.1**
	comp=Z,7.1nm,0.9s,mb4.1,baz=270,slow=7.3,SNR=8.8						
SDV	**Santo Domingo**	**23.00**	**16**	*e*P	**P**	**06 48 17.7**	**0.0**
	comp=Z,14nm,0.9s,mb4.4						
PLCA	**Paso Flores**	**27.72**	**170**	P	**P**	**06 48 59.6**	**-1.3**
	comp=Z,6.3nm,1.2s,mb4.1,baz=338,slow=8.7,SNR=4.6						
PLCA	**Paso Flores**	**27.72**	**170**	*e*P	**P**	**06 49 00.1**	**-0.8**
PLCA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PLCA	**Paso Flores**	**27.72**	**170**	*e*P	**P**	**06 49 00.1**	**-0.8**
	comp=Z,5.3nm,1.2s,mb4.0						
BDFB	**Brasilia**	**27.88**	**98**	P	**P**	**06 49 01.6**	**-1.1**
	comp=Z,1.7nm,0.9s,mb3.7,baz=250,slow=27,SNR=3.9						
ANMO	**Albuquerque**	**55.78**	**330**	*e*P	**P**	**06 52 49.5**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ANMO	**Albuquerque**	**55.78**	**330**	*e*P	**P**	**06 52 49.5**	**0.0**
	comp=Z,2.9nm,1.1s,mb4.2						
MDV	**Middlebury**	**57.25**	**3**	*e*P	**P**	**06 53 00.2**	**+0.5**
SDCO	**Great Sand Dun**	**57.63**	**333**	*e*P	**P**	**06 53 02.7**	**+0.2**
	comp=Z,0.1nm,1.0s						
PV01	**Paradox Valley**	**59.35**	**331**	*e*P	**P**	**06 53 14.5**	**0.0**
ISCO	**Idaho Springs**	**59.40**	**334**	P	**P**	**06 53 14.8**	**0.0**
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
ISCO	**Idaho Springs**	**59.40**	**334**	P	**P**	**06 53 14.8**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.8						
SRU	**San Rafael**	**61.05**	**330**	*e*P	**P**	**06 53 25.9**	**-0.2**
MSU	**Marysvale**	**61.40**	**329**	*e*P	**P**	**06 53 28.7**	**+0.2**
MSU				*e*pP	pP	06 53 35.5	-3.6
MSU				*e*sP	sP	06 53 38.1	-4.9
MSU				*e*PcP	PcP	06 54 10.4	0.0
DUG	**Dugway**	**63.01**	**330**	*e*P	**P**	**06 53 40.1**	**+0.9**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
DUG	**Dugway**	**63.01**	**330**	*e*P	**P**	**06 53 40.1**	**+0.8**
	comp=Z,5.6nm,1.0s,mb4.7						
PDAR	**Pinedale Array**	**63.52**	**334**	P	**P**	**06 53 42.1**	**-0.4**
	comp=Z,1.1nm,1.0s,mb3.9,baz=151,slow=6.8,SNR=6.9						
NVAR	**Mina Array Bea**	**64.61**	**325**	P	**P**	**06 53 50.5**	**+0.6**
	comp=Z,1.4nm,0.9s,mb4.0,baz=142,slow=5.9,SNR=10						
NVAR	**Mina Array Bea**	**64.61**	**325**	P	**P**	**06 53 50.5**	**+0.6**
RRI2	**Red Ridge**	**64.76**	**333**	*e*P	**P**	**06 53 50.7**	**0.0**
	comp=Z,5.9nm,0.8s,mb4.7						
FLWY	**Flagg Ranch**	**65.07**	**334**	*e*P	**P**	**06 53 53.3**	**+0.6**
	comp=Z,5.7nm,0.8s,mb4.7						
ULM	**Lac du Bonnet**	**65.61**	**347**	P	**P**	**06 53 54.6**	**-1.4**
	comp=Z,6.9nm,0.9s,mb4.7,baz=192,slow=7.9,SNR=5.1						
DLMT	**Dillon**	**66.91**	**333**	*e*P	**P**	**06 54 04.9**	**+0.4**
	comp=Z,4.5nm,1.1s,mb4.4						
CHMT	**Chamberlain Mo**	**68.41**	**334**	*e*P	**P**	**06 54 14.7**	**+0.7**
SCHQ	**Schefferville**	**68.52**	**6**	P	**P**	**06 54 13.7**	**-0.7**
	comp=Z,4.7nm,0.9s,mb4.4,baz=194,slow=4.9,SNR=4.3						
MSO	**Missoula**	**68.64**	**334**	*e*P	**P**	**06 54 16.1**	**+0.7**
YBH	**Yreka Blue Hor**	**69.33**	**325**	*e*P	**P**	**06 54 18.5**	**-1.3**
VNA1	**Neumayer--Stat**	**70.32**	**161**	*e*P	**P**	**06 54 26.9**	**+1.4**
SNAA	**Sanae**	**72.27**	**161**	*e*P	**P**	**06 54 37.1**	**-0.2**
SNAA	**Sanae**	**72.27**	**161**	*e*P	**P**	**06 54 37.0**	**-0.3**
SNAA				*e*PP	pP	06 54 43.8	-4.2
SNAA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SNAA	**Sanae**	**72.27**	**161**	*e*P	**P**	**06 54 37.0**	**-0.2**
	comp=Z,5.6nm,1.0s,mb4.5						
SNAA				*e*pP	pP	06 54 43.8	-4.2
EDM	**Edmonton**	**73.44**	**338**	*e*P	**P**	**06 54 43.3**	**-1.0**
EDM				*e*SP	sP	06 54 53.6	-5.4
QSPA	**South Pole Qui**	**76.70**	**180**	P	**P**	**06 55 02.4**	**-0.5**
	comp=Z,1.7nm,0.9s,mb4.0,baz=200,slow=2.8,SNR=4.2						
YKA	**Yellowknife Ar**	**81.25**	**343**	P	**P**	**06 55 27.2**	**-0.6**
	comp=Z,1.9nm,1.0s,mb4.0,baz=136,slow=5.7,SNR=12						
YKW3	**Yellowknife Ar**	**81.31**	**343**	*e*P	**P**	**06 55 27.7**	**-0.5**
TOA0	**Torodi Ar. Sit**	**82.08**	**74**	*e*P	**P**	**06 55 34.5**	**+1.2**
TORD	**Torodi Ar. Bea**	**82.08**	**74**	P	**P**	**06 55 34.1**	**+0.8**
	comp=Z,12nm,1.0s,mb4.8,baz=256,slow=4.3,SNR=32						
VNDA	**Vanda**	**83.39**	**191**	P	**P**	**06 55 40.2**	**+1.2**
	comp=Z,1.5nm,1.0s,mb4.0,baz=93,slow=3.6,SNR=5.6						
VNDA	**Vanda**	**83.39**	**191**	P	**P**	**06 55 40.2**	**+1.2**
DAWY	**Dawson**	**90.62**	**337**	*e*P	**P**	**06 56 14.0**	**-0.3**
DAWY				*e*pP	pP	06 56 22.1	-3.1
INK	**Inuvik**	**90.93**	**342**	*e*P	**P**	**06 56 15.9**	**+0.3**
WRA	**Warramunga Arr**	**134.88**	**223**	PKP	PKPdf	07 02 31.4	-0.6
	comp=Z,0.9nm,0.7s,baz=140,slow=1.5,SNR=7.4						
MKAR	**Makanchi Array**	**142.38**	**24**	PKP	PKPdf	07 02 41.7	-3.2
	comp=Z,1.0nm,1.1s,baz=45,slow=2.1,SNR=3.8						
MKAR	**Makanchi Array**	**142.38**	**24**	PKP	PKPdf	07 02 41.7	-3.2
SONM	**Songino Array**	**145.61**	**356**	PKPbc	PKPbc	07 02 51.2	+0.5
	comp=Z,8.3nm,1.0s,baz=349,slow=2.6,SNR=36						
WMQ	**Urumqi**	**146.91**	**21**	PKP	PKPdf	07 02 52.8	0.0
KSRS	**Korea Array**	**147.52**	**322**	PKPbc	PKPbc	07 02 54.5	-2.2
	comp=Z,2.4nm,1.0s,baz=37,slow=1.4,SNR=8.9						
HHC	**Hu-ho-hao-te**	**151.75**	**347**	*e*PKP	PKPdf	07 03 00.1	-0.6
HHC				XPKP		07 03 14.5	
HHC				PKS		07 06 33.1	
HHC				PP	PP	07 06 50.9	+4.8
HHC				SKS	SKSdf	07 10 03.6	-2.1
HHC				PP	PP		
	comp=Z,5μm,14.3s						
HHC				LR	LR		
	comp=N,229nm,19.0s						
HHC				LR	LR		
	comp=E,342nm,20.2s						
HHC				LR	LR		
	comp=Z,520nm,21.4s						
GTA	**Gaotai**	**153.96**	**6**	*e*PKP	PKPdf	07 03 05.1	+1.2
CD2	**Chengdu**	**162.61**	**359**	*e*PKP	PKPdf	07 03 13.5	-1.2
KMI	**Kunming**	**168.37**	**2**	PKP	PKPdf	07 03 20.1	+0.5

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*IDC **16** 06:48:13.7±0.6, 1384S×7683W, h0km, mb4.3/10, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, Error ellipse: s-maj=29.2km s-min=13.3km az=72.0*
*ISCJB **16** 06:48:17.2±0.4, 1387S±005×7683W±009, h33km, mb4.2/12, Error ellipse: s-maj=12.7km s-min=5.2km az=157.5*
*NEIC **16** 06:48:19.3±0.3, 1388S×7675W, h35km, mb4.4/5, Error ellipse: s-maj=12.6km s-min=5.6km az=62.0*
ISC 16 06:48:19.4±0.4, 1384S±005×767W±01, h35km, n43, σ0°95/41, mb4.2/12, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.84**	**355**	Pn	**Pn**	**06 48 47.3**	**-1.3**
	98nm,0.3s,baz=180,slow=13,SNR=11						
NNA				Sn	**Sn**	**06 49 09.9**	**-0.8**
	291nm,0.3s,baz=206,slow=12,SNR=9.2						
NNA	**Nana**	**1.84**	**355**	*e*Pn	**Pn**	**06 48 46.8**	**-1.8**
NNA				*e*Sn	**Sn**	**06 49 11.1**	**+0.5**
ARE	**Arequipa**	**5.66**	**118**	*e*P	**Pn**	**06 49 40.0**	**-1.0**
ARE				S	**Sn**	**06 50 51.0**	**+6.2**
ATAH	**Atahualpa**	**7.00**	**346**	Pn	**Pn**	**06 49 58.6**	**-0.8**
	2.0nm,0.3s,baz=167,slow=8.1,SNR=10						
ATAH				Sn	**Sn**	**06 51 16.5**	**-1.3**
	baz=123,slow=14,SNR=1.7						
LPAZ	**La Paz**	**8.62**	**108**	Pn	**Pn**	**06 50 26.0**	**+4.3**
	0.7nm,0.3s,baz=298,slow=19,SNR=8.1						
LPAZ	**La Paz**	**8.62**	**108**	Pn	**Pn**	**06 50 24.2**	**+2.5**
	53nm,1.1s						
LVC	**Limon Verde**	**11.43**	**141**	Pn	**Pn**	**06 50 59.7**	**-0.6**
	2.3nm,0.3s,baz=332,slow=0.0,SNR=13						
LVC	**Limon Verde**	**11.43**	**141**	*e*Pn	**Pn**	**06 50 59.1**	**-1.2**
	28nm,0.9s						
LVC				*e*Sn	**Sn**	**06 53 01.6**	**-5.2**
OTAV	**Otavalo**	**14.09**	**353**	*e*Pn	**Pn**	**06 51 38.0**	**+1.4**
	7.1nm,0.9s						
LCO	**Las Campanas**	**16.09**	**161**	*e*Pn	**Pn**	**06 52 02.7**	**-0.3**
	29nm,1.0s						
ROSC	**El Rosal**	**18.72**	**7**	*e*P	**Pn**	**06 52 32.4**	**-3.4**
CFAA	**Coronel Fontan**	**19.31**	**158**	P	**Pn**	**06 52 41.4**	**-1.3**
	0.1nm,0.3s,baz=332,slow=11,SNR=18						
CFAA	**Coronel Fontan**	**19.31**	**158**	P	**Pn**	**06 52 41.4**	**-1.3**
CPUP	**Villa Florida**	**21.99**	**127**	P	**P**	**06 53 10.4**	**-0.1**
	3.4nm,0.8s,mb3.8,baz=299,slow=9.9,SNR=7.0						
CPUP	**Villa Florida**	**21.99**	**127**	*e*P	**P**	**06 53 11.9**	**+1.3**
	19nm,1.0s,mb4.5						
SDV	**Santo Domingo**	**23.36**	**15**	*e*P	**P**	**06 53 26.6**	**+1.5**
	12nm,0.8s,mb4.4						
PLCA	**Paso Flores**	**27.33**	**170**	P	**P**	**06 53 59.9**	**-1.1**
	4.2nm,0.8s,mb4.0,baz=342,slow=12,SNR=7.0						
PLCA	**Paso Flores**	**27.33**	**170**	*e*P	**P**	**06 54 00.2**	**-0.8**
	4.4nm,0.9s,mb4.0						
LAZ	**Ladron**	**56.03**	**330**	*e*P	**P**	**06 57 55.6**	**+0.8**
MSU	**Marysvale**	**61.76**	**329**	*e*P	**P**	**06 58 35.3**	**+0.8**
PDAR	**Pinedale Array**	**63.89**	**334**	P	**P**	**06 58 48.5**	**-0.1**
	1.3nm,0.9s,mb3.9,baz=143,slow=8.7,SNR=8.2						
MTUM	**Tungsten Hills**	**64.35**	**324**	*e*P	**P**	**06 58 52.6**	**+0.9**
NVAR	**Mina Array Bea**	**64.96**	**325**	P	**P**	**06 58 55.1**	**-0.6**
	1.0nm,0.7s,mb4.0,baz=148,slow=5.3,SNR=9.8						
ULM	**Lac du Bonnet**	**66.00**	**347**	P	**P**	**06 59 01.6**	**-0.6**
	5.5nm,0.7s,mb4.7,baz=150,slow=4.6,SNR=6.5						
MCMT	**McKenzie Canyo**	**66.97**	**333**	*e*P	**P**	**06 59 09.6**	**+1.1**
VNA1	**Neumayer--Stat**	**69.94**	**161**	*e*	**P**	**06 59 27.5**	**+0.8**
VNA1				*e*		06 59 29.6	
OD2	**Odessa Site #2**	**71.58**	**331**	*e*P	**P**	**06 59 37.6**	**+0.6**
SNAA	**Sanae**	**71.89**	**161**	*e*	**P**	**06 59 38.6**	**+0.1**
SNAA				*e*		06 59 41.0	
SNAA	**Sanae**	**71.89**	**161**	*e*P	**P**	**06 59 38.2**	**-0.3**
	6.2nm,0.9s,mb4.5						
DBIC	**Dimbokro**	**74.13**	**79**	P	**P**	**06 59 53.6**	**+0.7**
	12nm,1.1s,mb4.7,baz=202,slow=8.1,SNR=3.9						
QSPA	**South Pole Qui**	**76.31**	**180**	P	**P**	**07 00 04.5**	**+0.3**
	3.8nm,0.8s,mb4.4,baz=142,slow=2.5,SNR=17						
YKA	**Yellowknife Ar**	**81.64**	**343**	P	**P**	**07 00 32.9**	**-0.6**
	1.0nm,0.6s,mb3.9,baz=144,slow=6.4,SNR=13						
YKA	**Yellowknife Ar**	**81.64**	**343**	P	**P**	**07 00 32.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**82.14**	**74**	P	**P**	**07 00 37.5**	**+0.4**
	5.0nm,1.0s,mb4.4,baz=272,slow=5.4,SNR=16						
VNDA	**Vanda**	**83.01**	**191**	P	**P**	**07 00 40.9**	**+0.2**
	0.5nm,0.7s,mb3.6,baz=138,slow=3.0,SNR=6.3						
DAWY	**Dawson**	**91.00**	**337**	*e*P	**P**	**07 01 19.3**	**-0.2**
ASAR	**Alice Springs**	**132.21**	**219**	PKP	PKPdf	07 07 29.6	-0.8
	1.2nm,1.0s,baz=157,slow=3.0,SNR=5.2						
WRA	**Warramunga Arr**	**134.63**	**223**	PKP	PKPdf	07 07 34.6	-0.5
	1.6nm,0.8s,baz=140,slow=1.6,SNR=10.0						
ZALV	**Zalesovo Beam**	**137.41**	**16**	PKP	PKPdf	07 07 39.2	0.0
	2.2nm,0.7s,baz=222,slow=2.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**137.41**	**16**	PKP	PKPdf	07 07 39.2	0.0
MKAR	**Makanchi Array**	**142.72**	**24**	PKP	PKPdf	07 07 50.6	+1.6
	0.4nm,0.6s,baz=11,slow=2.9,SNR=3.6						
SONM	**Songino Array**	**146.01**	**356**	PKPbc	PKPbc	07 07 55.5	0.0
	3.8nm,0.9s,baz=331,slow=1.1,SNR=18						
KSRS	**Korea Array**	**147.85**	**321**	PKPbc	PKPbc	07 07 59.0	-2.2
	2.6nm,1.0s,baz=48,slow=2.7,SNR=12						

IDC 16 06:52:05.1±1.5, 1361S×7707W, h0km, mb4.2/2, mb1 4.2/5, mb1mx3.8/19, mbtmp4.1/5, ML4.1/2, MS4.0/1, Ms1 4.0/1, ms1mx3.3/22, Error ellipse: s-maj=44.1km s-min=18.2km az=79.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.63**	**8**	Pn	Pn	06 52 34.2	-0.9
	13nm,0.3s,baz=182,slow=14,SNR=2.2						
NNA				Sn	Sn	06 52 58.8	+2.0
	172nm,0.3s,baz=111,slow=6.8,SNR=6.3						
NNA				LR	LR	06 53 08.5	
	comp=Z,606nm,21.3s,baz=283,slow=39						
ATAH	**Atahualpa**	**6.70**	**349**	Pn	Pn	06 53 44.3	-0.5
	1.2nm,0.3s,baz=40,slow=24,SNR=4.3						
ATAH				Sn	Sn	06 54 56.3	-5.6
	baz=152,slow=13,SNR=1.9						
LPAZ	**La Paz**	**9.04**	**108**	Pn	Pn	06 54 19.0	+2.1
	0.2nm,0.3s,baz=172,slow=16,SNR=2.2						
LVC	**Limon Verde**	**11.84**	**140**	Pn	Pn	06 54 54.4	-0.8
	0.4nm,0.3s,baz=327,slow=0.0,SNR=3.0						
LVC				LR	LR	06 58 25.8	
	comp=Z,684nm,20.3s,baz=44,slow=32						
CFAA	**Coronel Fontan**	**19.66**	**157**	P	Pn	06 56 37.6	+0.8
	0.0nm,0.3s,baz=331,slow=12,SNR=3.2						
PLCA	**Paso Flores**	**27.61**	**169**	P	P	06 57 53.4	-0.8
	2.7nm,1.0s,baz=345,slow=9.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**82.43**	**75**	P	P	07 04 29.7	-0.2
	2.8nm,1.1s,baz=266,slow=4.8,SNR=5.6						
SONM	**Songino Array**	**145.76**	**356**	PKPbc	PKPbc	07 11 45.6	-0.5
	0.6nm,0.5s,baz=354,slow=1.4,SNR=5.9						

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*LDG **16** 07:20:19.3±0.1, 1760N×6048W, h10km, Mb5.0/27, Error ellipse: s-maj=9.2km s-min=2.8km az=117.0*
*TRN **16** 07:20:23.3, 1749N×6035W, h34km, MD4.6, M4.1(FDF), M4.4(FDF)*
*MOS **16** 07:20:23.6±0.9, 1747N×6027W, h33km, mb5.1/47, Error ellipse: s-maj=6.0km s-min=5.4km az=56.8*
*ISCJB **16** 07:20:24.8±0.1, 1738N±001×6026W±002, h47km, mb4.8/103, MS4.7/2, Error ellipse: s-maj=3.0km s-min=1.9

CPD eSn Sn 07 22 39.6 -6.9
SJG San Juan 5.66 279 P Pn 07 21 45.1 -3.5
36nm,0.3s,baz=110,slow=13,SNR=76
SJG S Sn 07 22 46.7 -5.6
29nm,0.3s,baz=253,slow=12,SNR=11
SJG San Juan 5.66 279 ePn Pn 07 21 44.4 -4.2
SJG eSn Sn 07 22 46.3 -5.9
TOSP Speyside 6.02 182 eP Pn 07 21 53.7 +0.1
TOSP eS Sn 07 23 01.2 0.0
TPR Prospect 6.14 185 eP Pn 07 21 55.2 -0.1
AOPR Arecibo Observ 6.25 280 ePn Pn 07 21 52.0 -4.8
AOPR eSn Sn 07 23 01.0 -6.0
MPR Mayaguez 6.60 279 ePn Pn 07 21 57.2 -4.4
AGPR Aguadilla, PR 6.61 281 ePn Pn 07 21 55.9 -5.8
AGPR eSn Sn 07 23 10.1 -5.5
TRN Trinidad (W) 6.75 190 eP Pn 07 22 04.8 +1.2
TCE Chacachacare 6.76 192 eP Pn 07 22 04.8 +0.9
TBH Brigand Hill 6.87 187 eP Pn 07 22 05.5 +0.2
TBH Brigand Hill 6.87 187 eP Pn 07 22 07.0 +1.8
PCRV Puerto La Cruz 8.29 211 P Pn 07 22 24.2 -0.6
2.4nm,0.3s,baz=39,slow=5.4,SNR=14
SDV Santo Domingo 13.13 231 P Pn 07 23 28.9 -2.1
0.4nm,0.3s,baz=90,slow=7.0,SNR=17
SDV Santo Domingo 13.13 231 ePn Pn 07 23 28.4 -2.6
ROSC El Rosal 18.54 230 P Pn 07 24 40.7 +0.3
1.4nm,0.3s,baz=79,slow=5.5,SNR=41
ROSC El Rosal 18.54 230 ePn Pn 07 24 40.8 +0.4
BCIP Isla Barro Col 20.69 249 eP P 07 25 01.5 -1.8
58nm,0.9s
DWPF Disney 22.23 303 P P 07 25 20.9 +1.3
57nm,1.1s,mb4.9
OTAV Otavalo 24.68 228 P P 07 25 38.5 -5.1
2.9nm,0.7s,mb3.9
OTAV eS S 07 29 53.0 -9.3
JSC Jenkinsville 25.24 316 P P 07 25 47.7 -0.8
GOGA Godfrey 26.27 312 eP P 07 25 57.3 -0.6
GOGA e*PP pP 07 26 09.2 -1.3
GOGA pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
GOGA Godfrey 26.27 312 eP P 07 25 57.3 -0.6
comp=Z,8.1nm,0.9s,mb4.2
GOGA epP pP 07 26 09.2 -1.3
BLA Blacksburg 26.58 322 eP P 07 26 02.7 +2.0
BLA e*PP pP 07 26 15.5 +2.2
BLA pmax pmax
comp=Z,14nm,0.7s,mb4.6
BLA Blacksburg 26.58 322 eP P 07 26 02.7 +2.1
comp=Z,14nm,0.7s,mb4.6
BLA epP pP 07 26 15.5 +2.2
TEIG Tepich 26.66 281 P P 07 26 01.2 -0.3
comp=Z,23nm,0.6s,mb4.9,baz=82,slow=9.5,SNR=13
TEIG Tepich 26.66 281 eP P 07 26 01.0 -0.5
comp=Z,39nm,0.7s,mb5.0
TEIG epP pP 07 26 13.8 -0.3
TKL Tuckaleechee C 27.72 316 P P 07 26 10.5 -0.3
comp=Z,2.7nm,0.9s,mb3.9,baz=132,slow=11,SNR=3.6
TKL pP pP 07 26 22.4 -1.1
comp=Z,5.8nm,0.8s,baz=151,slow=11,SNR=6.8
TKL Tuckaleechee C 27.72 316 eP P 07 26 11.3 +0.4
TKL epP pP 07 26 22.9 -0.6
TZTN Tazewell 28.09 317 eP P 07 26 12.5 -1.7
TZTN epP pP 07 26 26.9 +0.1
CPCT Cooper Cave 28.11 315 eP P 07 26 13.3 -1.0
CPCT epP pP 07 26 26.5 -0.5
PLAL Pickwick Lake 30.36 311 eP P 07 26 34.1 -0.3
comp=Z,6.8nm,0.7s,mb4.5
PLAL epP pP 07 26 46.7 -0.4
OXF Oxford 31.13 309 eP P 07 26 40.1 -1.0
OXF e*PP pP 07 26 53.0 -0.9
OXF pmax pmax
comp=Z,40nm,1.0s,mb5.2
OXF Oxford 31.13 309 eP P 07 26 40.1 -1.0
comp=Z,40nm,1.0s,mb5.2
OXF epP pP 07 26 53.0 -0.9
SADO Sadowa 31.60 334 P P 07 26 44.2 -0.9
baz=195,slow=12
SADO pP pP 07 26 57.0 -0.8
baz=168,slow=12
SIUC Southern Illin 32.51 314 eP P 07 26 53.3 +0.1
comp=Z,16nm,0.8s,mb5.0
SIUC epP pP 07 27 05.8 -0.2
SIV San Ignacio 33.14 181 P P 07 27 00.6 +1.8
comp=Z,12nm,0.7s,mb4.9,baz=11,slow=9.0,SNR=45
NATX Nacogdoches 34.25 301 eP P 07 27 09.4 +0.9
NATX epP pP 07 27 22.1 +0.8
MIAR Mount Ida 34.29 306 eP P 07 27 09.0 +0.2
MIAR pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MIAR Mount Ida 34.29 306 eP P 07 27 09.0 +0.3
comp=Z,5.2nm,1.0s,mb4.4
LPAZ La Paz 34.31 193 P P 07 27 10.9 +1.9
comp=Z,3.7nm,0.8s,mb4.4,baz=12,slow=8.6,SNR=5.3
BDFB Brasilia 34.94 159 P P 07 27 16.3 +1.9
comp=Z,1.6nm,0.7s,mb4.1,baz=311,slow=25,SNR=5.3
BDFB Brasilia 34.94 159 P P 07 27 16.3 +1.9
BDFB epP pP 07 27 28.8 +1.5
SCIA State Center 37.30 318 eP P 07 27 33.6 -0.9
comp=Z,12nm,0.9s,mb4.7
SCIA epP pP 07 27 46.6 -0.7
SCHQ Schefferville 37.75 354 P P 07 27 37.8 -0.2
comp=Z,5.9nm,0.6s,mb4.5,baz=171,slow=8.7,SNR=14
SCHQ pP pP 07 27 50.6 -0.4
comp=Z,9.8nm,0.5s,baz=170,slow=7.7,SNR=8.4
JCT Junction City 38.23 297 eP P 07 27 41.8 -0.7
JCT e*PP pP 07 27 53.9 -1.6
JCT pmax pmax
comp=Z,15nm,0.8s,mb4.8
JCT Junction City 38.23 297 eP P 07 27 41.8 -0.7
comp=Z,15nm,0.8s,mb4.8
JCT epP pP 07 27 53.9 -1.6
WMOK Wichita Mounta 38.41 304 eP P 07 27 42.9 -1.0
WMOK e*PP pP 07 27 55.4 -1.5
WMOK pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
WMOK Wichita Mounta 38.41 304 eP P 07 27 42.9 -1.1
comp=Z,10nm,1.3s,mb4.4
WMOK epP pP 07 27 55.4 -1.5
ECSD EROS,Sioux Fal 40.38 318 eP P 07 27 58.8 -1.4
comp=Z,9.5nm,0.8s,mb4.6
ECSD epP pP 07 28 11.8 -1.4
CBKS Cedar Bluff 40.45 310 eP P 07 28 00.0 -0.8
CBKS e*PP pP 07 28 13.0 -0.9
CBKS pmax pmax
comp=Z,19nm,0.8s,mb4.9
CBKS Cedar Bluff 40.45 310 eP P 07 27 60.0 -0.8
comp=Z,19nm,0.8s,mb4.9
CBKS epP pP 07 28 13.0 -0.8
LVC Limon Verde 40.60 192 P P 07 28 02.3 +0.1
comp=Z,4.6nm,0.5s,mb4.4,baz=172,slow=0.0,SNR=8.4
AGMN Agassiz Refuge 42.34 325 eP P 07 28 14.5 -1.7
comp=Z,4.4nm,0.6s,mb4.3
AGMN epP pP 07 28 28.0 -1.2
GDL2 Guadalupe Moun 42.38 299 eP P 07 28 15.5 -1.3
GDL2 epP pP 07 28 29.4 -0.5
ULM Lac du Bonnet 43.47 327 P P 07 28 23.6 -1.7
comp=Z,2.3nm,0.7s,mb4.0,baz=282,slow=4.0,SNR=3.0
CPUP Villa Florida 43.51 176 P P 07 28 25.7 -0.1
comp=Z,3.5nm,0.8s,mb4.1,baz=333,slow=8.5,SNR=7.0
CPUP Villa Florida 43.51 176 eP P 07 28 25.6 -0.2
CPUP pmax pmax
comp=Z,14nm,1.0s
CPUP Villa Florida 43.51 176 eP P 07 28 25.6 -0.3
comp=Z,14nm,1.0s,mb4.7
SDCO Great Sand Dun 44.45 307 eP P 07 28 33.6 +0.2
BNM Barren Site 44.58 301 eP P 07 28 34.9 +0.4
BNM epP pP 07 28 47.9 +0.2
ANMO Albuquerque 44.59 302 eP P 07 28 34.4 -0.2
ANMO Albuquerque 44.59 302 eP P 07 28 34.0 -0.5
ANMO epP pP 07 28 47.3 -0.4
LAZ Ladron 45.04 301 eP P 07 28 39.3 +1.1
LAZ epP pP 07 28 51.4 +0.1
ISCO Idaho Springs 45.08 309 eP P 07 28 38.6 +0.2
ISCO e*PP pP 07 28 51.2 -0.4
ISCO pmax pmax
comp=Z,20nm,1.8s,mb4.7
ISCO Idaho Springs 45.08 309 eP P 07 28 38.6 +0.2
comp=Z,20nm,1.8s,mb4.6
ISCO epP pP 07 28 51.2 -0.4
RSSD Black Hills 45.38 316 eP P 07 28 40.2 -0.5
RSSD e*PP pP 07 28 52.9 -1.0
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
RSSD Black Hills 45.38 316 eP P 07 28 40.2 -0.5
comp=Z,3.5nm,0.8s,mb4.2
RSSD epP pP 07 28 52.9 -1.0
PHWY Pilot Hill 45.41 311 eP P 07 28 41.3 +0.3
PHWY epP pP 07 28 54.0 -0.2
319A Douglas 46.42 297 ⇓P P 07 28 50.2 +1.1
baz=46,SNR=9.8
219A White Tail Can 46.47 298 ⇓P P 07 28 50.8 +1.4
baz=46,SNR=24
119A Ashpeak Ranch, 46.59 299 ⇑P P 07 28 51.8 +1.4
baz=46
Z19A T-Link Ranch, 46.63 300 ⇑P P 07 28 51.9 +1.2
baz=46
MVCO Mesa Verde 46.65 305 ⇓P P 07 28 52.0 +1.2
baz=46
Y19A Nutrioso 46.71 300 ⇓P P 07 28 52.4 +1.1
baz=46
PV01 Paradox Valley 46.90 306 eP P 07 28 53.3 +0.6
PV01 epP pP 07 29 06.3 +0.3
T19A Beclabito 46.99 304 ⇑P P 07 28 53.4 -0.1
baz=47,SNR=5.2
318A Bisbee 47.03 297 ⇑P P 07 28 54.5 +0.6
baz=47,SNR=12
218A Dragoon 47.13 298 ⇓P P 07 28 55.3 +0.6
baz=47,SNR=7.3
118A Homack Ranch, 47.13 299 ⇑P P 07 28 55.6 +0.9
baz=47,SNR=18
DGMT Dagmar 47.24 321 eP P 07 28 55.0 -0.2
comp=Z,13nm,0.8s,mb4.9
DGMT epP pP 07 29 07.7 -0.7
Z18A Geronimo 47.24 299 ⇑P P 07 28 56.4 +0.9
baz=47
S19A Harvey Farm, M 47.26 306 ⇑P P 07 28 56.1 +0.6
baz=47
W18A Petrified Fore 47.27 302 ⇓P P 07 28 56.3 +0.7
baz=47
PV10 Paradox Valley 47.31 306 eP P 07 28 55.1 -0.9
PV10 epP pP 07 29 08.6 -0.6
Y18A Canyon Day Jun 47.33 300 ⇑P P 07 28 56.2 +0.1
baz=47
X18A Snowflake 47.36 301 ⇑P P 07 28 56.7 +0.4
baz=47,SNR=6.8
Q19A Hogan Spring (47.61 307 ⇑P P 07 28 58.6 +0.4
baz=48
Z17A San Carlos Hig 47.63 299 ⇑P P 07 28 59.4 +0.9
baz=48
T18A Mexican Hat 47.72 305 ⇑P P 07 28 59.9 +0.8
baz=48
217A Green Valley 47.76 297 ⇓P P 07 28 59.9 +0.4
baz=48,SNR=8.6
117A Oracle 47.77 298 ⇓P P 07 29 00.2 +0.5
baz=48,SNR=12
LAO LASA Array 47.77 318 eP P 07 28 59.2 -0.2
comp=Z,14nm,0.9s,mb5.0
LAO epP pP 07 29 12.3 -0.4
TUC Tucson 47.78 298 eP P 07 29 00.4 +0.7
TUC e*PP pP 07 29 13.3 +0.3
TUC pmax pmax
comp=Z,15nm,1.0s,mb5.0
TUC Tucson 47.78 298 eP P 07 29 00.4 +0.7
comp=Z,15nm,1.0s,mb5.0
TUC epP pP 07 29 13.3 +0.3
S18A Hurst Farm, Bl 47.91 305 ⇓P P 07 29 01.3 +0.7
baz=48
R18A Canyonlands Na 47.97 306 ⇓P P 07 29 01.7 +0.6
baz=48
Y17A Roosevelt 47.98 300 ⇓P P 07 29 01.6 +0.3
baz=48,SNR=8.0
X17A Forest Lakes 48.03 301 ⇓P P 07 29 02.0 +0.4
baz=48
Q18A Rafter H Ranch 48.30 307 ⇓P P 07 29 04.5 +0.9
baz=48
216A Three Points, 48.33 298 ⇓P P 07 29 04.5 +0.6
baz=48
N18A Larsen Ranch, 48.38 310 ⇓P P 07 29 05.2 +1.0
baz=48
T17A Navajo Res., N 48.43 304 ⇑P P 07 29 05.3 +0.8
baz=48
Z16A Peralta Trail, 48.43 299 ⇑P P 07 29 05.4 +0.7
baz=48
P18A Preston Nutter 48.50 308 ⇓P P 07 29 05.3 +0.2
baz=48,SNR=7.2
Y16A Circle Bar Ran 48.53 300 ⇓P P 07 29 06.2 +0.7
baz=48,SNR=8.0
S17A Black Ridge (B 48.53 305 ⇓P P 07 29 05.7 +0.3
baz=48
X16A Lo Mia Camp, P 48.56 301 ⇑P P 07 29 05.6 -0.1
baz=48,SNR=7.1
116A Eloy 48.58 298 ⇓P P 07 29 06.2 +0.3
baz=48
SRU San Rafael 48.60 307 eP P 07 29 06.9 +1.0
SRU e*PP pP 07 29 18.7 -0.5
SRU pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
SRU San Rafael 48.60 307 ⇓P P 07 29 06.2 +0.3
baz=48
SRU San Rafael 48.60 307 eP P 07 29 06.9 +0.9
comp=Z,2.1nm,0.7s,mb4.3
SRU epP pP 07 29 18.7 -0.5
R17A Hanksville Air 48.61 306 ⇓P P 07 29 06.2 +0.2
baz=48,SNR=5.1
WUAZ Wupatki 48.65 302 ⇓P P 07 29 06.8 +0.4
baz=48,SNR=6.9
WUAZ Wupatki 48.65 302 eP P 07 29 07.4 +1.1
WUAZ epP pP 07 29 20.1 +0.4
W16A Flagstaff 48.72 302 ⇓P P 07 29 07.2 +0.3
baz=49
PDAR Pinedale Array 48.76 312 P P 07 29 07.0 -0.1
comp=Z,2.0nm,0.7s,mb4.2,baz=99,slow=9.2,SNR=18
PDAR pP pP 07 29 19.2 -1.2
comp=Z,6.3nm,0.8s,baz=107,slow=9.5,SNR=16
PDAR PcP PcP 07 30 29.9 -1.6
comp=Z,1.7nm,0.9s,baz=87,slow=5.5,SNR=2.9
BW06 Boulder Array 48.76 312 eP P 07 29 06.7 -0.3
comp=Z,13nm,1.1s,mb4.9
P17A Butcher Ranch, 48.84 308 ⇑P P 07 29 08.1 +0.4
baz=49
Z15A Gila River Ind 49.03 299 ⇓P P 07 29 09.7 +0.4
baz=49
115A Sonoran Desert 49.04 298 ⇑P P 07 29 09.8 +0.4
baz=49,SNR=7.2
Q16A Castle Valley 49.06 307 ⇑P P 07 29 10.0 +0.6
baz=49
TMUT Trail Mountain 49.16 307 eP P 07 29 10.9 +0.7
TMUT epP pP 07 29 23.7 +0.2
S16A Weppner Ranch, 49.17 305 ⇓P P 07 29 11.0 +0.7
baz=49
X15A Humboldt 49.22 301 ⇓P P 07 29 11.1 +0.4
baz=49,SNR=6.1
N17A Moffit Pass 49.23 309 ⇑P P 07 29 11.0 +0.3
baz=49
RLMT Red Lodge 49.24 315 eP P 07 29 10.6 -0.1
comp=Z,9.1nm,0.9s,mb4.8
RLMT epP pP 07 29 23.4 -0.6
Y15A Casa Rosa Ranc 49.24 300 ⇑P P 07 29 11.3 +0.3
baz=49,SNR=6.6
W15A Williams 49.33 302 ⇑P P 07 29 11.8 +0.3
baz=49
V15A Kaibab Nationa 49.34 303 ⇑P P 07 29 11.7 +0.1
baz=49
DAU Daniels Canyon 49.43 309 eP P 07 29 12.7 +0.5
DAU e*PP pP 07 29 26.1 +0.6
214A Organ Pipe Nat 49.47 297 ⇑P P 07 29 12.7 0.0
baz=49
U15A North Rim 49.52 303 ⇑P P 07 29 13.4 +0.5
baz=49,SNR=6.0
P16A Fountain Green 49.56 308 ⇓P P 07 29 13.7 +0.4
baz=49
O16A Springville 49.57 308 ⇓P P 07 29 13.7 +0.4
baz=49
JLU Jordanelle 49.61 309 eP P 07 29 13.7 +0.1
JLU epP pP 07 29 27.2 +0.3
MPU Maple Canyon 49.63 308 eP P 07 29 14.1 +0.4
comp=Z,8.6nm,0.9s,mb4.8
MPU epP pP 07 29 26.7 -0.4
N16A Rees Ranch, Co 49.66 309 ⇑P P 07 29 14.3 +0.3
baz=50
T15A Red Dirt Ranch 49.68 304 ⇓P P 07 29 14.4 +0.2
baz=50,SNR=5.1
Z14A Wintersburg 49.70 299 ⇑P P 07 29 14.3 -0.1
baz=50
LOHW Long Hollow 49.72 313 eP P 07 29 14.3 -0.1
LOHW epP pP 07 29 27.1 -0.6
MSU Marysvale 49.76 306 eP P 07 29 15.8 +1.0
MSU e*PP pP 07 29 28.2 +0.1
X14A Yava 49.76 301 ⇓P P 07 29 14.6 -0.2
baz=50
S15A Panguitch 49.76 305 ⇑P P 07 29 15.0 +0.2
baz=50
R15A Junction 49.78 306 ⇑P P 07 29 15.1 +0.2
baz=50
SNOW Snow King Moun 49.79 313 eP P 07 29 15.2 +0.3
comp=Z,8.3nm,0.9s,mb4.8
Y14A Wickenburg 49.80 300 ⇓P P 07 29 15.0 -0.2
baz=50,SNR=6.1
REDW Red Top Meadow 49.83 312 eP P 07 29 15.2 0.0
comp=Z,9.8nm,1.1s,mb4.8
REDW epP pP 07 29 28.7 +0.2
MOOW Moose Ponds 49.86 313 P P 07 29 15.3 -0.1
M16A Huntsville Pi 49.90 310 ⇑P P 07 29 15.9 +0.1
baz=50,SNR=7.3
L16A Fish Haven 49.91 311 ⇓P P 07 29 15.9 0.0
baz=50
HWUT Hardware Ranch 49.92 310 eP P 07 29 15.9 0.0
comp=Z,12nm,1.0s,mb4.9
HWUT epP pP 07 29 28.6 -0.7
TPAW Teton Pass 49.93 313 eP P 07 29 15.4 -0.6
comp=Z,8.1nm,0.8s,mb4.8
TPAW epP pP 07 29 28.3 -1.1
Q15A Fillmore 50.00 307 ⇑P P 07 29 16.8 +0.2
baz=50
W14A Seligman 50.00 302 ⇑P P 07 29 16.7 0.0
baz=50
P15A Leamington 50.03 307 ⇓P P 07 29 17.0 +0.3
baz=50
IMW Indian Meadow 50.03 313 eP P 07 29 17.4 +0.6
comp=Z,6.0nm,0.9s,mb4.6
IMW epP pP 07 29 29.5 -0.6
V14A Boquillas Ranc 50.07 302 ⇓P P 07 29 17.5 +0.3
baz=50
RRI2 Red Ridge 50.16 312 eP P 07 29 18.1 +0.4
comp=Z,11nm,0.8s,mb4.9
RRI2 epP pP 07 29 30.5 -0.5
K16A Soda Springs 50.22 312 ⇓P P 07 29 18.4 +0.2
baz=50
U14A Mt Trumbull 50.23 303 ⇑P P 07 29 18.7 +0.3
baz=50
113A Mohawk Valley, 50.33 298 ⇓P P 07 29 19.0 -0.2
baz=50
J16A Bone 50.34 312 ⇑P P 07 29 19.3 +0.2
baz=50
S14A Cedar City 50.41 305 ⇓P P 07 29 19.7 0.0
baz=50
Y13A Salome 50.47 300 ⇑P P 07 29 20.1 -0.2
baz=50
EGMT Eagleton 50.49 319 ⇑P P 07 29 20.7 +0.5
baz=50
M15A Larsen Ranch, 50.53 310 ⇑P P 07 29 20.2 -0.4
baz=50
X13A Yucca 50.54 301 ⇑P P 07 29 20.6 -0.1
baz=50
DUG Dugway 50.55 308 eP P 07 29 21.4 +0.7
DUG e*PP pP 07 29 34.2 +0.1
DUG pmax pmax
comp=Z,13nm,1.0s,mb4.8
DUG Dugway 50.55 308 ⇑P P 07 29 20.6 -0.1
baz=50,SNR=10
DUG Dugway 50.55 308 eP P 07 29 21.4 +0.7
comp=Z,13nm,1.0s,mb4.8
DUG epP pP 07 29 34.1 +0.1
L15A Malad City 50.60 310 ⇓P P 07 29 20.9 -0.2
baz=50,SNR=11
QLMT Earthquake Lak 50.62 314 eP P 07 29 22.6 +1.5
QLMT epP pP 07 29 35.3 +0.7
P14A Drum Mountains 50.63 307 ⇑P P 07 29 21.6 +0.3
baz=50,SNR=9.6
W13A Hualapai Mount 50.64 301 ⇓P P 07 29 20.9 -0.6
baz=50
Q14A Sevier Lake (B 50.69 306 ⇓P P 07 29 22.0 +0.2
baz=50,SNR=5.9
PDMCI Parker Dam,Lak 50.77 300 ⇓P P 07 29 22.2 -0.3
baz=51
V13A Grand Canyon W 50.80 302 ⇓P P 07 29 22.6 -0.1
baz=51
HVU Hansel Valley 50.84 310 eP P 07 29 23.0 +0.1
HVU e*PP pP 07 29 35.2 -1.0
BGU Big Grassy Mou 50.85 309 eP P 07 29 23.0 0.0
BGU epP pP 07 29 35.7 -0.7
U13A Pakoon Wash 50.85 303 ⇓P P 07 29 23.2 +0.1
baz=51
K15A Arbon 50.86 311 ⇓P P 07 29 23.1 0.0
baz=51
T13A Saint George 50.88 304 ⇑P P 07 29 23.3 0.0
baz=51
S13A Holt Ranch, En 50.92 305 ⇑P P 07 29 23.5 -0.1
baz=51
N14A Grayback Hills 50.95 309 ⇑P P 07 29 23.7 -0.1
baz=51,SNR=11
BOZ Bozeman (W) 50.98 315 eP P 07 29 24.0 +0.1
BOZ e*PP pP 07 29 36.6 -0.7
BOZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BOZ Bozeman (W) 50.98 315 ⇑P P 07 29 24.2 +0.3
baz=51
BOZ Bozeman (W) 50.98 315 eP P 07 29 23.9 +0.1
comp=Z,4.9nm,0.9s,mb4.4
BOZ epP pP 07 29 36.6 -0.7
112A Yuma 51.00 298 ⇑P P 07 29 23.8 -0.5
baz=51
R13A O'Grain Ranch, 51.09 305 ⇓P P 07 29 24.7 -0.2
baz=51
M14A Sheep Mountain 51.20 310 ⇓P P 07 29 25.6 0.0
baz=51,SNR=9.8
L14A Malta 51.23 310 ⇑P P 07 29 25.8 0.0
baz=51,SNR=6.8
GLA Glamis 51.24 299 eP P 07 29 26.7 +0.6
GLA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GLA Glamis 51.24 299 eP P 07 29 26.7 +0.6
comp=Z,9.0nm,1.0s,mb4.7
Q13A Wheeler Ranch, 51.25 306 ⇓P P 07 29 25.9 -0.2
baz=51,SNR=8.1
K14A Jones Ranch, D 51.29 311 ⇑P P 07 29 26.1 -0.2
baz=51,SNR=11
P13A Bates Ranch, G 51.33 307 ⇑P P 07 29 26.7 +0.1
baz=51,SNR=9.2
O13A Hicks Ranch, I 51.42 308 ⇓P P 07 29 27.3 0.0
baz=51
HRY Holter Researc 51.42 316 eP P 07 29 27.2 +0.1
HRY eScP ScP 07 34 42.2 +8.4
G15A Dillon 51.44 314 ⇑P P 07 29 27.7 +0.4
baz=51,SNR=6.3
W12A Cal Nev Ari 51.46 302 ⇓P P 07 29 27.6 -0.1
baz=51
V12A Nelson 51.49 302 ⇓P P 07 29 27.8 -0.1
baz=51
DLMT Dillon 51.56 315 eP P 07 29 28.9 +0.6
comp=Z,14nm,1.0s,mb4.8
DLMT epP pP 07 29 41.2 -0.4
LRM Limekiln Ridge 51.58 315 eP P 07 29 28.1 -0.2
LRM epP pP 07 29 41.8 0.0
IRM Iron Mountain 51.59 300 ⇓P P 07 29 28.3 -0.3
baz=51
MCMT McKenzie Canyo 51.60 314 eP P 07 29 29.6 +1.1
MCMT epP pP 07 29 42.5 +0.6
R12A Pony Springs, 51.61 305 ⇓P P 07 29 28.9 +0.2
baz=52
F15A Butte 51.62 315 ⇓P P 07 29 28.6 0.0
baz=52
LDFC Landfair 51.64 301 eP P 07 29 29.8 +0.8
S12A Delamar Landin 51.71 304 ⇑P P 07 29 29.5 0.0
baz=52
N13A Wendover, West 51.71 309 ⇓P P 07 29 29.7 +0.3
baz=52
L13A Double Diamond 51.76 310 ⇑P P 07 29 29.6 -0.1
baz=52,SNR=12
M13A Montello 51.78 309 ⇓P P 07 29 30.2 +0.3
baz=52
BC3 Big Chuckw Mtn 51.81 299 ⇓P P 07 29 31.0 +0.7
baz=52
Q12A Willow Creek R 51.89 306 ⇑P P 07 29 31.6 +0.8
baz=52
D15A Lincoln 51.97 317 ⇓P P 07 29 31.3 0.0
baz=52,SNR=5.6
K13A Stover Farm, H 51.97 311 ⇑P P 07 29 31.6 +0.3
baz=52,SNR=5.7
J13A Cove Ranch, Pi 52.19 312 ⇑P P 07 29 33.3 +0.3
baz=52,SNR=5.1
I13A Wildhorse Cree 52.26 312 ⇑P P 07 29 33.7 +0.2
baz=52,SNR=5.5
TUQ Turquoise Mtn. 52.33 302 ⇑P P 07 29 34.7 +0.5
baz=52
N12A Clover Valley, 52.34 308 ⇑P P 07 29 34.2 +0.2
baz=52,SNR=7.3
M12A Wells 52.34 309 ⇓P P 07 29 34.2 +0.1
baz=52,SNR=11

R11A Troy Canyon, C 52.38 305 ⇓P P 07 29 35.0 +0.5
baz=52
HLID Hailey 52.40 312 ⇓P P 07 29 34.5 +0.1
baz=52
HLID Hailey 52.40 312 eP P 07 29 34.5 0.0
HLID epP pP 07 29 47.7 -0.2
S11A Rachel 52.42 304 ⇓P P 07 29 35.4 +0.6
baz=52
E14A Clinton 52.44 316 ⇑P P 07 29 35.1 +0.4
baz=52
ELK Elko 52.47 308 eP P 07 29 35.6 +0.6
Q11A Duckwater 52.50 306 ⇓P P 07 29 35.4 +0.1
baz=52
H13A Challis 52.51 313 ⇓P P 07 29 34.6 -0.6
baz=52
L12A House Creek Ra 52.55 310 ⇑P P 07 29 35.7 +0.1
baz=52
K12A Draper Farm, C 52.56 311 ⇑P P 07 29 35.8 +0.1
baz=52,SNR=6.5
MONP Monument Peak 52.57 298 ⇑P P 07 29 37.1 +1.2
baz=52
G13A Cobalt 52.61 314 ⇑P P 07 29 36.1 0.0
baz=52
HEC Hector,Ludlow 52.62 301 ⇓P P 07 29 37.0 +0.8
baz=52
D14A Greenough 52.63 316 ⇓P P 07 29 36.4 +0.3
baz=52
O11A Cowboy Ranch, 52.69 307 ⇑P P 07 29 37.2 +0.5
baz=52,SNR=11
TPNV Topopah Spring 52.74 303 eP P 07 29 38.8 +1.7
TPNV e*PP pP 07 29 51.3 +0.7
TPNV pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
TPNV Topopah Spring 52.74 303 ⇓P P 07 29 37.5 +0.3
baz=53
TPNV Topopah Spring 52.74 303 eP P 07 29 38.8 +1.7
comp=Z,5.9nm,0.8s,mb4.6
TPNV epP pP 07 29 51.3 +0.8
BAR Barrett 52.77 298 eP P 07 29 36.5 -1.0
BAR epP pP 07 29 51.6 +0.7
J12A Stokes Ranch, 52.82 311 ⇓P P 07 29 37.8 +0.2
baz=53,SNR=8.4
F13A Darby 52.85 315 ⇑P P 07 29 38.3 +0.6
baz=53
E13A Victor 52.91 316 ⇑P P 07 29 38.3 +0.1
baz=53,SNR=8.8
H12A Diamond D Ranc 52.92 313 ⇑P P 07 29 39.1 +0.7
baz=53
R10A Warm Springs 52.93 305 ⇑P P 07 29 39.3 +0.8
baz=53
C14A Swan Lake 52.97 317 ⇑P P 07 29 38.7 +0.1
baz=53
M11A Holland Ranch, 52.99 309 ⇑P P 07 29 39.4 +0.4
baz=53,SNR=12
Q10A Clear Creek Ra 53.07 306 ⇓P P 07 29 39.9 +0.3
baz=53
L11A Cat Creek Ranc 53.09 310 ⇓P P 07 29 40.2 +0.6
baz=53,SNR=11
S10A Tonopah Range, 53.12 305 ⇓P P 07 29 40.3 +0.4
baz=53,SNR=5.9
D13A Huson 53.26 316 ⇓P P 07 29 40.8 0.0
baz=53
MURC Murrieta 53.26 299 ⇑P P 07 29 40.8 -0.2
baz=53
ESDC Sonseca Array 53.32 53 P P 07 29 42.3 +1.0
comp=Z,0.6nm,0.3s,mb4.0,baz=265,slow=7.4,SNR=9.5
ESDC pP pP 07 29 55.0 +0.1
comp=Z,2.7nm,0.8s,baz=255,slow=8.3,SNR=2.8
K11A Parker Ranch, 53.40 311 ⇑P P 07 29 41.7 -0.2
baz=53
F12A Elk City 53.47 314 ⇓P P 07 29 42.3 -0.1
baz=53
C13A Hot Springs 53.48 317 ⇑P P 07 29 42.1 -0.3
baz=53
R09A Tonopah 53.53 305 ⇓P P 07 29 42.9 0.0
baz=53,SNR=6.5
M10A I.L. Ranch, Tu 53.56 309 ⇓P P 07 29 43.7 +0.6
baz=53
I11A Placerville 53.56 312 ⇓P P 07 29 42.9 -0.2
baz=53
S09A Goldfield 53.59 304 ⇑P P 07 29 43.5 +0.1
baz=53
B13A Whitefish 53.60 318 ⇓P P 07 29 42.7 -0.5
baz=54
L10A Juniper Basin 53.60 310 ⇑P P 07 29 43.6 +0.2
baz=54,SNR=8.9
GRAC Grapevine Rang 53.64 303 ⇑P P 07 29 44.3 +0.6
baz=54
MPMC Manual Prospec 53.65 302 ⇓P P 07 29 43.5 -0.3
baz=54
A13A Flathead Natio 53.72 318 ⇓P P 07 29 43.6 -0.5
baz=54
H11A Donnelly 53.76 313 ⇑P P 07 29 44.1 -0.4
baz=54
D12A Red Ives Fores 53.84 316 ⇑P P 07 29 45.6 +0.6
baz=54
O09A Fish Creek Ran 53.85 307 ⇓P P 07 29 45.4 +0.1
baz=54,SNR=11
BMN Battle Mountai 53.91 308 eP P 07 29 46.4 +0.7
BMN e*PP pP 07 29 58.8 -0.4
BMN pmax pmax
comp=Z,13nm,0.9s,mb4.9
BMN Battle Mountai 53.91 308 eP P 07 29 46.4 +0.7
comp=Z,13nm,0.9s,mb4.9
BMN epP pP 07 29 58.8 -0.4
EDW2 Edwards Air Fo 53.98 301 ⇑P P 07 29 46.4 +0.1
baz=54
K10A MacKenzie Ranc 54.01 311 ⇑P P 07 29 46.7 +0.4
baz=54,SNR=6.8
J10A Berg Farm, Mel 54.05 311 ⇓P P 07 29 46.5 -0.1
baz=54
G11A Walters Elk Ra 54.08 314 ⇑P P 07 29 46.7 -0.1
baz=54
F11A Grangeville 54.11 314 ⇓P P 07 29 46.7 -0.3
baz=54,SNR=12
I10A Payette 54.20 312 ⇓P P 07 29 47.8 +0.1
baz=54
N09A Rock Creek Ran 54.20 308 ⇑P P 07 29 47.4 -0.3
baz=54
M09A Marrel Ranch, 54.22 309 ⇓P P 07 29 47.7 -0.2
baz=54
E11A Bogner Ranch, 54.25 315 ⇑P P 07 29 47.6 -0.4
baz=54,SNR=12
H10A Noah's Angus R 54.25 313 ⇑P P 07 29 47.2 -0.9
baz=54,SNR=5.1
Q08A Gabbs 54.26 306 ⇑P P 07 29 47.7 -0.6
baz=54
S08C White Mtn Res 54.32 304 ⇑P P 07 29 49.5 +0.9
baz=54
B12A Libby 54.35 318 ⇑P P 07 29 48.3 -0.4
baz=54
EDM Edmonton 54.43 324 eP P 07 29 48.1 -1.1
EDM e*PP pP 07 30 00.5 -2.2
L09A Wilkinson Ranc 54.47 310 ⇓P P 07 29 49.9 +0.2
baz=54
D11A Klaveano Farm, 54.49 316 ⇑P P 07 29 50.0 +0.2
baz=54,SNR=5.9
A12A Yaak River Ran 54.51 318 ⇓P P 07 29 50.1 +0.2
baz=54,SNR=5.1
NVAR Mina Array Bea 54.51 305 P P 07 29 50.6 +0.5
comp=Z,1.0nm,0.6s,mb4.0,baz=89,slow=6.9,SNR=11
NVAR pP pP 07 30 03.4 -0.2
comp=Z,1.8nm,0.7s,baz=91,slow=7.1,SNR=9.9
NVAR PcP PcP 07 30 52.6 -0.4
comp=Z,1.5nm,0.8s,baz=126,slow=5.6,SNR=4.3
K09A Rome 54.62 310 ⇑P P 07 29 50.5 -0.3
baz=54,SNR=11
N08A GE Springer Mi 54.65 308 ⇓P P 07 29 50.8 -0.2
baz=54,SNR=11
BMO Blue Mountains 54.69 313 eP P 07 29 50.6 -0.7
BMO e*PP pP 07 30 03.1 -1.7
F10A Beach Ranch, E 54.86 314 ⇑P P 07 29 51.9 -0.6
baz=55
E10A Myers Farm, Un 54.89 315 ⇑P P 07 29 52.7 +0.1
baz=55
H09A Durkee 54.91 313 ⇑P P 07 29 52.6 -0.3
baz=55
M08A Happy Creek Ra 54.92 309 ⇑P P 07 29 52.8 -0.2
baz=55,SNR=10
VES Vestal, Richgr 54.93 302 ⇓P P 07 29 52.6 -0.6
baz=55
HELL Mitchell Peak 54.93 303 ⇑P P 07 29 53.2 +0.1
baz=55
A11A Hall Mountain, 54.97 318 ⇑P P 07 29 53.5 +0.3
baz=55
L08A Fields 55.00 310 ⇓P P 07 29 53.4 -0.2
baz=55
DBIC Dimbokro 55.06 94 P P 07 29 53.9 -0.5
comp=Z,3.3nm,0.8s,mb4.4,baz=286,slow=10,SNR=5.1
DBIC Dimbokro 55.06 94 P P 07 29 53.9 -0.5
G09A Cove 55.10 313 ⇑P P 07 29 54.2 0.0
baz=55
D10A Wagner Farm, O 55.12 316 ⇓P P 07 29 53.5 -0.8
baz=55
O07A Toulon 55.13 307 ⇑P P 07 29 53.7 -0.9
baz=55,SNR=9.2
J08A Circle Bar Ran 55.27 311 ⇑P P 07 29 55.0 -0.5
baz=55,SNR=8.0
N07B Gerlach 55.28 308 ⇓P P 07 29 55.2 -0.4
baz=55
NEW Newport 55.29 317 eP P 07 29 54.6 -0.9
NEW e*PP pP 07 30 07.7 -1.3
NEW pmax pmax
comp=Z,12nm,0.8s
NEW Newport 55.29 317 eP P 07 29 54.6 -0.9
comp=Z,12nm,0.8s,mb5.0
NEW epP pP 07 30 07.7 -1.3
R06C Coleville 55.41 305 ⇓P P 07 29 56.1 -0.5
baz=55
I08A Drewsey 55.42 312 ⇓P P 07 29 56.3 -0.2
baz=55
M07A Soldier Meadow 55.50 309 ⇓P P 07 29 57.0 -0.2
baz=55,SNR=11
LNOR Lincton Mounta 55.56 314 eP P 07 29 55.7 -1.8
LNOR e*PP pP 07 30 09.5 -1.6
H08A Prairie City 55.59 312 ⇓P P 07 29 57.8 +0.1
baz=55,SNR=12
SMMC Simmler 55.65 301 ⇑P P 07 29 59.1 +0.7
baz=56
S06C San Francisco 55.68 304 ⇑P P 07 29 58.6 +0.1
baz=56
L07A Adell 55.71 309 ⇓P P 07 29 58.6 -0.1
baz=56
K07A Rock Creek Ran 55.73 310 ⇑P P 07 29 59.6 +0.8
baz=56
SJPF Ste Jean 55.84 49 eP P 07 29 59.6 0.0
comp=Z,54nm,1.0s,mb5.2
SJPF Ste Jean 55.84 49 eP P 07 29 59.6 0.0
SJPF pmax pmax
comp=Z,27nm,1.0s,mb5.2
SJPF Ste Jean 55.84 49 eP P 07 29 59.6 0.0
comp=Z,27nm,1.0s,mb5.2
O06A Flanigan 55.86 307 ⇑P P 07 29 59.4 -0.4
baz=56
F08A Pendleton 55.89 314 ⇑P P 07 29 59.8 -0.1
baz=56
R05C Kirkwood Meado 55.92 305 ⇓P P 07 30 00.6 +0.4
baz=56,SNR=10.0
G08A Pilot Rock 55.93 313 ⇑P P 07 29 59.4 -0.8
baz=56
N06A Buffalo Meadow 55.93 308 ⇓P P 07 29 59.7 -0.5
baz=56,SNR=15
B09A Rice 55.99 317 ⇓P P 07 29 59.6 -1.0
baz=56
I07A Izee 56.11 312 ⇑P P 07 30 01.4 -0.1
baz=56,SNR=7.7
OD2 Odessa Site #2 56.15 316 P P 07 30 01.4 -0.3
D08A Wollman Farm, 56.22 315 ⇓P P 07 30 01.9 -0.3
baz=56
H07A Lands Inn, Kim 56.23 312 ⇓P P 07 30 02.8 +0.4
baz=56
BEKR Beckwourth 56.24 307 ⇑P P 07 30 02.1 -0.4
baz=56
P05C Yuba Gap, Truc 56.38 306 ⇓P P 07 30 03.3 -0.2
baz=56
A09A Danville 56.40 318 ⇑P P 07 30 03.2 -0.2
baz=56
MOD Modoc 56.41 309 ⇑P P 07 30 03.1 -0.6
baz=56
G07A Ruggs Ranch, H 56.42 313 ⇓P P 07 30 03.5 -0.2
baz=56
LAVA Lava Cap Winer 56.44 305 ⇑P P 07 30 03.7 -0.2
baz=56
C08A Higginbotham F 56.45 316 ⇓P P 07 30 03.0 -0.8
baz=56
M06C Likely Place G 56.46 308 ⇓P P 07 30 03.7 -0.4
baz=56
J06A Christmas Vall 56.46 311 ⇑P P 07 30 04.0 0.0
baz=56,SNR=8.9
K06A Valley Falls 56.48 310 ⇑P P 07 30 03.8 -0.3
baz=56
RSW Rattlesnake Hi 56.55 314 eP P 07 30 04.2 -0.3
RSW epP pP 07 30 16.9 -1.2
I06A Prineville 56.60 312 ⇑P P 07 30 05.5 +0.5
baz=56
SUMG Summit 56.65 8 eP P 07 30 05.6 +0.7
H06A Lindquist Farm 56.80 312 ⇑P P 07 30 06.6 +0.2
baz=57
L05A Lakeview 56.81 309 ⇑P P 07 30 07.0 +0.4
baz=57
S04C Ingram Canyon, 56.82 304 ⇑P P 07 30 07.0 +0.3
baz=57
K05A Summer Lake 56.94 310 ⇓P P 07 30 07.7 +0.3
baz=57,SNR=9.1
Q04C Lincoln 56.94 305 ⇓P P 07 30 07.9 +0.4
baz=57
EPF Esparros 56.96 50 eP P 07 30 07.9 +0.3
comp=Z,126nm,1.7s,mb5.4
EPF Esparros 56.96 50 eP P 07 30 07.9 +0.3
EPF pmax pmax
comp=Z,63nm,1.7s,mb5.4
EPF Esparros 56.96 50 eP P 07 30 07.9 +0.3
comp=Z,63nm,1.7s,mb5.4
M05C Lookout 56.98 308 ⇓P P 07 30 07.5 -0.2
baz=57
GRR Gorron 56.98 43 eP P 07 30 07.1 -0.5
comp=Z,62nm,1.1s,mb5.3
GRR Gorron 56.98 43 eP P 07 30 07.1 -0.5
GRR pmax pmax
comp=Z,31nm,1.1s,mb5.2
GRR Gorron 56.98 43 eP P 07 30 07.1 -0.5
comp=Z,31nm,1.1s,mb5.2
OHCM Honcut 57.06 306 eP P 07 30 08.4 +0.1
OHCM epP pP 07 30 21.4 -0.5
ORV Oroville 57.09 306 ⇑P P 07 30 08.5 -0.1
baz=57
MFF Saint Martin d 57.14 45 eP P 07 30 08.4 -0.3
comp=Z,45nm,1.2s,mb5.1
MFF Saint Martin d 57.14 45 eP P 07 30 08.4 -0.3
MFF pmax pmax
comp=Z,22nm,1.2s,mb5.1
MFF Saint Martin d 57.14 45 eP P 07 30 08.4 -0.3
comp=Z,22nm,1.2s,mb5.1
HATC Hat Creek Radi 57.16 308 ⇓P P 07 30 09.1 +0.1
baz=57
J05A Fort Rock 57.25 311 ⇑P P 07 30 10.1 +0.5
baz=57
B07A Winthrop 57.28 317 ⇑P P 07 30 09.0 -0.7
baz=57
FLN La Foliniere 57.30 43 eP P 07 30 09.6 -0.3
comp=Z,145nm,1.4s,mb5.5
FLN La Foliniere 57.30 43 eP P 07 30 09.6 -0.3
FLN pmax pmax
comp=Z,72nm,1.4s,mb5.5
FLN La Foliniere 57.30 43 eP P 07 30 09.6 -0.3
comp=Z,72nm,1.4s,mb5.5
LFF La Frestale 57.50 47 eP P 07 30 11.1 -0.2
E06A Yakima 57.52 314 ⇑P P 07 30 11.1 -0.3
baz=57
M04C Macdoel 57.53 309 ⇑P P 07 30 11.5 -0.1
baz=57,SNR=9.2
JRSC Jasper Ridge 57.54 304 ⇓P P 07 30 11.1 -0.7
baz=57
G05A Wamic 57.56 313 ⇓P P 07 30 11.8 +0.1
baz=57
A07A Ashnola River, 57.57 317 ⇑P P 07 30 11.3 -0.5
baz=57
L04A Klamath Falls 57.61 309 ⇑P P 07 30 11.7 -0.4
baz=57
M03C McCloud 57.70 308 ⇑P P 07 30 12.3 -0.5
baz=58
F05A White Salmon 57.75 314 ⇓P P 07 30 13.8 +0.7
baz=58
LHEM Herd Peak 57.80 309 P P 07 30 13.9 +0.4
HOOD Mount Hood Mea 57.81 313 eP P 07 30 13.3 -0.1
J04A Umpqua Nationa 57.88 310 ⇑P P 07 30 14.1 +0.1
baz=58
E05A Randle 58.06 314 ⇑P P 07 30 15.6 +0.4
baz=58
IRO Indian Ridge 58.07 311 P P 07 30 15.6 +0.2
RJF Les Rejaudoux 58.09 47 eP P 07 30 15.0 -0.5
comp=Z,26nm,1.0s,mb4.9
RJF Les Rejaudoux 58.09 47 eP P 07 30 15.0 -0.5
RJF pmax pmax
comp=Z,13nm,1.0s,mb4.9
RJF Les Rejaudoux 58.09 47 eP P 07 30 15.0 -0.5
comp=Z,13nm,1.0s,mb4.9
H04A Detroit Lake 58.10 312 ⇑P P 07 30 16.0 +0.4
baz=58
YBH Yreka Blue Hor 58.18 309 eP P 07 30 14.5 -1.6
YBH e*PP pP 07 30 27.5 -2.3
YBH pmax pmax
comp=Z,5.0nm,1.2s
YBH Yreka Blue Hor 58.18 309 ⇓P P 07 30 15.2 -1.0
baz=58
YBH Yreka Blue Hor 58.18 309 eP P 07 30 14.5 -1.6
comp=Z,5.1nm,1.2s,mb4.4
YBH epP pP 07 30 27.5 -2.3
M02C Callahan 58.26 308 ⇑P P 07 30 15.7 -1.0
baz=58,SNR=6.2
MTLF Montolieu 58.36 49 eP P 07 30 17.0 -0.4
comp=Z,56nm,1.3s,mb5.1
MTLF Montolieu 58.36 49 eP P 07 30 17.0 -0.4
MTLF pmax pmax
comp=Z,28nm,1.3s,mb5.1
MTLF Montolieu 58.36 49 eP P 07 30 17.0 -0.4
comp=Z,28nm,1.3s,mb5.1
F04A Amboy 58.42 314 ⇑P P 07 30 17.5 -0.3
baz=58
CAF Calviac 58.43 48 eP P 07 30 17.6 -0.2
comp=Z,30nm,1.0s,mb5.0
CAF Calviac 58.43 48 eP P 07 30 17.6 -0.2
CAF pmax pmax
comp=Z,15nm,1.0s,mb5.0
CAF Calviac 58.43 48 eP P 07 30 17.6 -0.2
comp=Z,15nm,1.0s,mb5.0
N02C Big Bar 58.56 308 ⇓P P 07 30 18.3 -0.5
baz=58
PLCA Paso Flores 58.56 189 P P 07 30 19.9 +1.2
comp=Z,3.8nm,0.9s,mb4.4,baz=33,slow=20,SNR=6.3
YKA Yellowknife Ar 58.60 334 P P 07 30 17.5 -1.2
comp=Z,5.4nm,0.7s,mb4.7,baz=107,slow=7.4,SNR=44
YKA pP pP 07 30 29.9 -2.4
comp=Z,10nm,0.6s,baz=107,slow=7.2,SNR=29
YKA PcP PcP 07 31 07.8 -0.6
comp=Z,1.9nm,0.8s,baz=110,slow=5.4,SNR=4.8
YKA pPcP 07 31 20.9
comp=Z,2.3nm,0.8s,baz=105,slow=4.9,SNR=7.2
YKA Yellowknife Ar 58.60 334 P P 07 30 17.6 -1.1
YKA *PP pP 07 30 29.9 -2.4
YKA 07 31 07.8
YKA Yellowknife Ar 58.60 334 P P 07 30 17.6 -1.1
YKA pP pP 07 30 29.9 -2.4
YKA PcP PcP 07 31 07.8 -0.6
YKA pPcP 07 31 20.9
YKW3 Yellowknife Ar 58.63 334 eP P 07 30 16.6 -2.3
A05A Maple Falls 58.66 317 ⇑P P 07 30 19.0 -0.4
baz=58
TCF Toulx Ste Croi 58.70 46 eP P 07 30 19.3 -0.4
comp=Z,16nm,0.9s,mb4.8
TCF Toulx Ste Croi 58.70 46 eP P 07 30 19.3 -0.4
TCF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 58.70 46 eP P 07 30 19.3 -0.4
comp=Z,8.0nm,0.9s,mb4.8
K02A Glendale 58.84 310 ⇓P P 07 30 20.1 -0.7
baz=59
L02A Cave Junction 58.88 309 ⇓P P 07 30 20.2 -0.8
baz=59
COR Corvallis 58.88 312 eP P 07 30 20.4 -0.6
H03A Soap Creek Ran 58.88 312 ⇓P P 07 30 20.5 -0.5
baz=59
O01C Eel River Cons 58.91 307 ⇑P P 07 30 21.6 +0.3
baz=59,SNR=5.9
G03A Yamhill 58.95 313 ⇓P P 07 30 21.5 +0.1
baz=59
J02A Umpqua 58.96 310 ⇑P P 07 30 20.9 -0.6
baz=59
JCC Jacoby Creek 59.11 308 ⇑P P 07 30 22.9 +0.2
baz=59,SNR=6.9
F03A Seaside 59.21 313 ⇑P P 07 30 23.6 +0.3
baz=59
HEBO Mount Hebo 59.27 313 P P 07 30 23.7 0.0
comp=Z,20nm,0.8s,mb5.2
HEBO epP pP 07 30 37.2 -0.1
E03A Lebam 59.29 314 ⇓P P 07 30 23.5 -0.2
baz=59
KBO Bosley Butte 59.34 309 eP P 07 30 25.4 +1.1
KBO epP pP 07 30 37.9 0.0
AVF Avril sur Loir 59.55 46 eP P 07 30 25.0 -0.5
comp=Z,29nm,1.1s,mb4.9
AVF Avril sur Loir 59.55 46 eP P 07 30 25.0 -0.5
AVF pmax pmax
comp=Z,15nm,1.1s,mb4.9
AVF Avril sur Loir 59.55 46 eP P 07 30 25.0 -0.5
comp=Z,15nm,1.1s,mb4.9
NLWA Neilton Lookou 59.60 315 ⇑P P 07 30 26.2 +0.3
baz=60
NLWA Neilton Lookou 59.60 315 eP P 07 30 26.6 +0.6
comp=Z,6.4nm,0.9s,mb4.7
NLWA epP pP 07 30 38.8 -0.8
LASF Ste Croix 59.62 49 eP P 07 30 26.6 +0.5
comp=Z,66nm,1.5s,mb5.2
SSF Saint Saulge 59.68 45 eP P 07 30 25.8 -0.7
comp=Z,12nm,0.8s,mb4.7
SSF Saint Saulge 59.68 45 eP P 07 30 25.8 -0.7
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SSF Saint Saulge 59.68 45 eP P 07 30 25.8 -0.7
comp=Z,6.3nm,0.8s,mb4.7
TOA0 Torodi Ar. Sit 59.72 85 eP P 07 30 26.1 -1.2
TOA0 epP pP 07 30 39.6 -1.3
TORD Torodi Ar. Bea 59.72 85 P P 07 30 26.2 -1.0
comp=Z,6.2nm,0.8s,mb4.7,baz=291,slow=6.4,SNR=28
TORD pP pP 07 30 39.6 -1.3
comp=Z,4.1nm,0.8s,baz=297,slow=5.5,SNR=9.0
SMF Signal de Mont 59.86 46 eP P 07 30 27.3 -0.4
comp=Z,42nm,1.1s,mb5.1
SMF Signal de Mont 59.86 46 eP P 07 30 27.3 -0.4
SMF pmax pmax
comp=Z,21nm,1.1s,mb5.1
SMF Signal de Mont 59.86 46 eP P 07 30 27.3 -0.4
comp=Z,21nm,1.1s,mb5.1
LOR Lormes 59.95 45 eP P 07 30 27.7 -0.6
comp=Z,31nm,1.0s,mb5.0
LOR Lormes 59.95 45 eP P 07 30 27.7 -0.6
LOR pmax pmax
comp=Z,16nm,1.0s,mb5.0
LOR Lormes 59.95 45 eP P 07 30 27.7 -0.6
comp=Z,16nm,1.0s,mb5.0
VIVF Saint-Julien-l 60.27 48 eP P 07 30 31.0 +0.5
comp=Z,44nm,1.2s,mb5.1
VIVF Saint-Julien-l 60.27 48 eP P 07 30 31.0 +0.5
VIVF pmax pmax
comp=Z,22nm,1.2s,mb5.1
VIVF Saint-Julien-l 60.27 48 eP P 07 30 31.0 +0.5
comp=Z,22nm,1.2s,mb5.1
BAIF Baives 60.54 42 eP P 07 30 31.5 -0.8
SMRF Simiane la Rot 60.84 49 eP P 07 30 35.1 +0.6
comp=Z,57nm,1.3s,mb5.2
SMRF Simiane la Rot 60.84 49 eP P 07 30 35.1 +0.6
comp=Z,57nm,1.3s,mb5.5
MEZF Maizieres J'vi 60.89 44 eP P 07 30 34.4 -0.3
GIVF Givet 60.94 42 eP P 07 30 34.3 -0.7
ORIF Oris-en-Rattie 61.12 48 eP P 07 30 35.9 -0.5
comp=Z,12nm,1.0s,mb4.7
ORIF Oris-en-Rattie 61.12 48 eP P 07 30 35.9 -0.5
ORIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
ORIF Oris-en-Rattie 61.12 48 eP P 07 30 35.9 -0.5
comp=Z,5.9nm,1.0s,mb4.7
CABF La Chapelle 61.40 46 eP P 07 30 38.1 -0.1
comp=Z,56nm,1.5s,mb5.2
CABF La Chapelle 61.40 46 eP P 07 30 38.1 -0.1
CABF pmax pmax
comp=Z,28nm,1.5s,mb5.2
CABF La Chapelle 61.40 46 eP P 07 30 38.1 -0.1
comp=Z,28nm,1.5s,mb5.2
LMR La Mourre 61.48 50 eP P 07 30 38.5 -0.3
FRF La Foret Royal 61.60 49 eP P 07 30 39.2 -0.4
comp=Z,18nm,0.9s,mb4.9
FRF La Foret Royal 61.60 49 eP P 07 30 39.2 -0.4
FRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
FRF La Foret Royal 61.60 49 eP P 07 30 39.2 -0.4
comp=Z,9.1nm,0.9s,mb4.9
TAM Tamanrasset 61.61 73 eP P 07 30 41.6 +1.6
TAM e*PP pP 07 30 54.2 +0.5
MBDF Montbardon 61.75 48 eP P 07 30 41.1 +0.5
comp=Z,23nm,1.0s,mb5.0
MBDF Montbardon 61.75 48 eP P 07 30 41.1 +0.5

MBDF pmax pmax
comp=Z,12nm,1.0s,mb5.0
MBDF Montbardon 61.75 48 *eP* **P 07 30 41.1 +0.5**
comp=Z,12nm,1.0s,mb5.0
LPL La Plagne 61.77 47 *eP* **P 07 30 41.4 +0.7**
LPG La Plagne 61.78 47 *eP* **P 07 30 41.7 +0.9**
HINF Hinteralfeld 62.02 45 *eP* **P 07 30 41.4 -0.9**
SBF Sospel 62.18 49 *eP* **P 07 30 43.2 -0.3**
comp=Z,69nm,1.2s,mb5.3
SBF Sospel 62.18 49 *eP* **P 07 30 43.2 -0.3**
SBF pmax pmax
comp=Z,35nm,1.2s,mb5.4
SBF Sospel 62.18 49 *eP* **P 07 30 43.2 -0.3**
comp=Z,35nm,1.2s,mb5.4
ECH Echery 62.26 44 *eP* **P 07 30 43.3 -0.6**
CDF Champ du Feu 62.35 44 *eP* **P 07 30 44.1 -0.5**
comp=Z,30nm,1.1s,mb5.0
CDF Champ du Feu 62.35 44 *eP* **P 07 30 44.1 -0.5**
CDF pmax pmax
comp=Z,15nm,1.1s,mb5.0
CDF Champ du Feu 62.35 44 *eP* **P 07 30 44.1 -0.5**
comp=Z,15nm,1.1s,mb5.0
PGF Pioggiola 63.29 51 *eP* **P 07 30 50.4 -0.5**
comp=Z,17nm,0.9s,mb4.9
PGF Pioggiola 63.29 51 *eP* **P 07 30 50.4 -0.5**
PGF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
PGF Pioggiola 63.29 51 *eP* **P 07 30 50.4 -0.5**
comp=Z,8.6nm,0.9s,mb4.9
KEST Kesra 63.71 58 P **P 07 30 54.9 +1.1**
comp=Z,6.0nm,0.8s,mb4.7,baz=237,slow=1.7,SNR=18
BSEG Bad Segeberg 64.74 38 *eP* **P 07 30 59.4 -0.8**
comp=Z,11nm,1.0s,mb4.8
GRA1 Grafenberg Arr 65.03 43 *eP* **P 07 31 02.3 +0.2**
comp=Z,12nm,0.6s,mb5.1
GRF Grafenberg Arr 65.03 43 *eP* **P 07 31 02.3 +0.2**
GRF pmax pmax
comp=Z,12nm,0.6s,mb5.1
GRF Grafenberg Arr 65.03 43 *eP* **P 07 31 02.3 +0.2**
GRF pmax pmax
comp=Z,12nm,0.6s,mb5.1
GRF Grafenberg Arr 65.03 43 *eP* **P 07 31 02.3 +0.2**
comp=Z,12nm,0.6s,mb5.1
MANZ Manzenberg 65.61 42 *eP* **P 07 31 05.9 0.0**
comp=Z,9.0nm,1.0s,mb4.8
ROTZ Rotzenmuhle 65.67 43 *eP* **P 07 31 06.2 -0.1**
comp=Z,22nm,1.8s,mb4.9
NKC Novy Kostel 65.84 42 *eP* **P 07 31 07.6 +0.2**
NB2 NORSAR Subarra 66.02 30 P **P 07 31 08.8 +0.5**
comp=Z,5.5nm,0.9s,mb4.6,baz=262,slow=6.5
NOA NORSAR Array B 66.02 30 P **P 07 31 08.8 +0.5**
comp=Z,4.4nm,0.8s,mb4.5,baz=262,slow=6.3,SNR=9.1
NOA NORSAR Array B 66.02 30 P **P 07 31 08.8 +0.5**
WET Wettzell 66.09 43 *eP* **P 07 31 08.1 -0.9**
WET pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
WET Wettzell 66.09 43 *eP* **P 07 31 08.1 -0.9**
comp=Z,9.0nm,1.1s,mb4.7
CRAG Craig 66.17 324 *eP* **P 07 31 09.2 -0.2**
comp=Z,11nm,1.3s,mb4.7
CRAG *epP* pP 07 31 21.9 -1.4
CLL Collm 66.22 41⇑*iP* **P 07 31 09.8 0.0**
CLL *e**PP pP 07 31 24.0 +0.3
CLL pmax pmax
comp=Z,13nm,1.1s,mb4.9
CLL Collm 66.22 41 *eP* **P 07 31 09.7 -0.1**
comp=Z,13nm,1.1s,mb4.9
CLL Collm 66.22 41⇑*iP* **P 07 31 09.8 0.0**
comp=Z,13nm,1.1s,mb4.9
CLL *epP* pP 07 31 24.0 +0.3
KHC Kasperske Hory 66.55 43 *eP* **P 07 31 11.9 -0.1**
GEC2 GERESS Array S 66.63 44 *eP* **P 07 31 12.0 -0.5**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
GEC2 GERESS Array S 66.63 44 *eP* **P 07 31 12.0 -0.5**
comp=Z,6.0nm,1.0s,mb4.6
GERES GERESS Array B 66.63 44 P **P 07 31 11.8 -0.7**
comp=Z,1.5nm,0.6s,mb4.2,baz=258,slow=6.3,SNR=5.7
BRG Berggiesshubel 66.80 42 *eP* **P 07 31 13.5 -0.1**
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BRG Berggiesshubel 66.80 42 *eP* **P 07 31 13.2 -0.3**
comp=Z,9.0nm,0.9s,mb4.8
BRG Berggiesshubel 66.80 42 *eP* **P 07 31 13.5 -0.1**
comp=Z,9.0nm,1.0s,mb4.8
PRU Pruhonice 67.18 43 *eP* **P 07 31 16.7 +0.7**
INK Inuvik 67.83 337 *eP* **P 07 31 18.4 -1.3**
comp=Z,448nm,0.8s
INK *epP* pP 07 31 31.8 -1.8
UPC Upice 68.12 42 *eP* **P 07 31 21.8 -0.1**
DPC Dobruska-Polom 68.32 42 *eP* **P 07 31 23.3 +0.2**
HYT Haines Junctio 68.79 329 *eP* **P 07 31 25.8 0.0**
HYT *epP* pP 07 31 40.0 +0.2
MODS Modra-Piesok 69.01 44 *eP* **P 07 31 25.0 -2.5**
DAWY Dawson 69.79 333 *eP* **P 07 31 31.4 -0.6**
DAWY *epP* pP 07 31 45.1 -0.9
PKSM Moragy 70.08 46⇑*iP* **P 07 31 34.3 +0.2**
EGAK Eagle 70.58 333 *eP* **P 07 31 36.0 -0.8**
comp=Z,7.5nm,0.8s,mb4.7
EGAK *epP* pP 07 31 49.4 -1.4
ARCES ARCESS Array B 72.41 22 P **P 07 31 46.7 -1.1**
comp=Z,9.7nm,0.9s,mb4.8,baz=280,slow=6.9,SNR=14
ARCES ARCESS Array B 72.41 22 P **P 07 31 46.7 -1.1**
COLA College 73.43 334 *eP* **P 07 31 53.4 -0.5**
COLA pmax pmax
comp=Z,14nm,1.1s,mb4.8
COLA College 73.43 334 *eP* **P 07 31 53.4 -0.5**
comp=Z,14nm,1.1s,mb4.8
MCK McKinley 74.02 332 *eP* **P 07 31 56.9 -0.5**
MCK *e**PP pP 07 32 09.6 -1.8
MCK pmax pmax
comp=Z,14nm,1.2s,mb4.8
MCK McKinley 74.02 332 *eP* **P 07 31 56.9 -0.5**
comp=Z,14nm,1.2s,mb4.8
MCK *epP* pP 07 32 09.6 -1.8
BURAR Bucovina Array 74.39 44⇓*iP* **P 07 32 00.6 +0.8**
TRF Thorofare Moun 74.66 332 *eP* **P 07 32 01.1 +0.1**
comp=Z,25nm,0.7s,mb5.2
TRF *epP* pP 07 32 14.0 -1.1
KTH Kantishna Hill 74.92 332 *eP* **P 07 32 02.4 -0.2**
comp=Z,3μm,0.9s
KTH *epP* pP 07 32 15.5 -1.1
MLR Muntele Rosu 75.23 47⇑*iP* **P 07 32 05.8 +1.1**
CHUM Lake Minchumin 75.48 333 *eP* **P 07 32 04.7 -1.1**
comp=Z,16nm,0.8s,mb5.0
CHUM *e* pP 07 32 17.9 -1.9
PPLA Purkeypile 75.59 332 *eP* **P 07 32 05.3 -1.2**
comp=Z,7.7nm,0.8s,mb4.7
PPLA *e* pP 07 32 19.0 -1.5
IMA2 Indian Mountai 75.68 335 *eP* **P 07 32 06.1 -0.8**
IMA2 *e* pP 07 32 19.7 -1.3
AKASG Malin Array Be 76.47 41 P **P 07 32 10.0 -1.7**
comp=Z,0.3nm,0.3s,mb3.7,baz=263,slow=4.1,SNR=4.8
SVW2 Sparrevohn 77.52 330 *eP* **P 07 32 16.5 -0.9**
SVW2 *epP* pP 07 32 29.8 -1.8
OBN Obninsk 79.79 35κ*eP* **P 07 32 30.0 0.0**
OBN *e* pP 07 32 44.9 +0.7
OBN pmax pmax
comp=Z,34nm,1.1s,mb5.2
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.5
OBN Obninsk 79.79 35 *eP* **P 07 32 30.1 +0.1**
TNA Tin City 81.43 336 *eP* **P 07 32 38.7 +0.1**
comp=Z,13nm,1.0s,mb4.8
TNA *epP* pP 07 32 53.1 +0.3
MALT Malatya 86.03 51 *eP* **P 07 33 03.7 +1.1**
MALT *e**PP pP 07 33 17.1 +0.1
MALT pmax pmax
comp=Z,12nm,1.1s,mb5.0
MALT Malatya 86.03 51⇓*iP* **P 07 33 03.6 +1.0**
MALT Malatya 86.03 51 *eP* **P 07 33 03.7 +1.1**
comp=Z,12nm,1.1s,mb5.0
MALT *epP* pP 07 33 17.1 +0.1
KIV Kislovodsk 87.12 45 *eP* **P 07 33 09.2 +1.3**
KIV pmax pmax
comp=Z,16nm,1.0s,mb5.2
KIV Kislovodsk 87.12 45 *eP* **P 07 33 09.3 +1.4**
BILL Bilibino 88.43 344κ*iP* **P 07 33 14.0 +0.4**
BILL pmax pmax
comp=Z,23nm,1.2s,mb5.3
BILL Bilibino 88.43 344⇑*iP* **P 07 33 14.1 +0.5**
GNI Garni 89.96 48 *eP* **P 07 33 22.7 +1.3**
TIXI Tiksi 91.01 357 *eP* **P 07 33 24.9 -0.7**
TIXI pmax pmax
comp=Z,18nm,1.4s,mb5.2

SEY Seymchan 95.99 346 *eP* **P 07 33 49.5 +0.8**
WMQ Urumqi 112.43 25 PKP PKiKP 07 38 59.9 +2.0
HHC Hu-ho-hao-te 121.61 7 *e*PKP PKPdf 07 39 17.1 +1.4
HHC XPKP 07 39 31.8
HHC PP PP 07 40 52.5 +5.6
HHC PKS 07 42 52.8
HHC SKS SKSdf 07 46 24.4 +0.6
HHC SKKS SKKSac 07 47 41.8 -1.8
HHC SS SS 07 57 21.8 +3.6
HHC LR LR
comp=N,132nm,19.0s,MS4.8
HHC LR LR
comp=E,195nm,19.0s,MS4.8
HHC LR LR
comp=Z,339nm,22.6s,MS4.9
MJAR Matsushiro Arr 123.63 342 PKP PKPdf 07 39 19.2 -0.5
comp=Z,0.7nm,0.6s,baz=91,slow=2.4,SNR=4.9
LZH Lanzhou 124.77 16 *e*PKP PKPdf 07 39 22.9 +1.0
LZH XPKP 07 39 42.9
KSRS Korea Array 124.95 352 PKP PKPdf 07 39 21.1 -1.1
comp=Z,1.4nm,0.9s,baz=64,slow=3.1,SNR=5.5
WHN Wuhan 132.11 6 *e*PKP PKPdf 07 39 40.5 +4.5
KMI Kunming 134.66 22 PKP PKPdf 07 39 38.8 -2.1
CMAR Chiang Mai Arr 138.97 31 PKP PKPdf 07 39 49.1 +0.1
comp=Z,1.7nm,0.8s,baz=308,slow=2.2,SNR=6.8
ASAR Alice Springs 165.31 242 PKP PKPdf 07 40 25.7 -1.1
comp=Z,1.9nm,1.1s,baz=153,slow=5.6,SNR=6.3
ASAR PKPab PKPab 07 41 24.6 0.0
comp=Z,0.7nm,0.9s,baz=92,slow=3.1,SNR=4.1
WRA Warramunga Arr 165.91 257 PKP PKPdf 07 40 26.5 -0.9
comp=Z,2.4nm,1.0s,baz=57,slow=1.2,SNR=7.9
WRA pPKP pPKPdf 07 40 40.3 -2.0
comp=Z,1.4nm,0.9s,baz=44,slow=0.9,SNR=4.8

ISCJB ***16*** *07:29:09.8±0.9, 3929N±003×2024E±009, h10km, Error ellipse: s-maj=10.2km s-min=4.4km az=179.1*
NEIC ***16*** *07:29:09.9, 3937N×2060E, h2km, ML2.7(THE), After THE.*
ATH ***16*** *07:29:09.1, 3944N×2027E, h65km±2km*
THE ***16*** *07:29:09.9, 3937N×2060E, h1km, ML2.7*
CSEM ***16*** *07:29:10.1±0.3, 3933N×2038E, h12km, ML2.7, Error ellipse: s-maj=12.9km s-min=6.3km az=80.0*
ISC 16 07:29:10.5±0.9,**3930N**±003×**2024E**±009,**h10**km,**n7,**
σ1º**14/12,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.24**	**17**	*eP*g	**Pg**	**07 29 15.2**	**-0.3**
IGT				*eS*g	**Sg**	**07 29 18.9**	**0.0**
KEK	**Kerkira**	**0.54**	**321**	*eP*	**Pg**	**07 29 21.6**	**+0.7**
JAN	**Janina**	**0.59**	**53**	*eP*	**Pg**	**07 29 21.6**	**-0.4**
JAN				*eS*	**Sg**	**07 29 31.3**	**+1.5**
LKD	**Levkas**	**0.67**	**151**	*eP*g	**Pg**	**07 29 22.0**	**-1.4**
LKD				*eS*g	**Sg**	**07 29 32.2**	**+0.1**
LKD	**Levkas**	**0.67**	**151**	*eP*g	**Pg**	**07 29 22.0**	**-1.4**
LKD				*eS*g	**Sg**	**07 29 32.2**	**0.0**
VLS	**Valsamata**	**1.15**	**166**	*eP*g	**Pg**	**07 29 32.3**	**-0.3**
VLS				*eS*g	**Sg**	**07 29 49.4**	**+1.8**
THL	**Klokotos Trika**	**1.40**	**78**	*eP*	**Pn**	**07 29 33.2**	**-2.8**

ISCJB ***16*** *07:34:18.9±0.9, 2983N±003×3624E±005, h0km, Error ellipse: s-maj=6.6km s-min=4.2km az=11.9*
GII ***16*** *07:34:19.0±0.9, 2983N×3619E, h0km, ML2.6/4, EXPLOSION*
SGS ***16*** *07:34:20.1, 3000N×3616E, h6km*
ISC 16 07:34:19.0±1.0,**2982N**±003×**3628E**±006,**h0**km,**n18,**
σ0º**95/26,Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.10**	**282**	Pg	**Pg**	**07 34 39.1**	**-1.0**
HRFI				Sg	**Sg**	**07 34 54.8**	**+0.4**
EIL	**Elat**	**1.17**	**263**	Pg	**Pg**	**07 34 41.1**	**-0.2**
EIL				Sg	**Sg**	**07 34 56.9**	**+0.5**
HQLS		**1.18**	**245**	S	**Sg**	**07 34 57.1**	**+0.2**
HQLS		**1.18**	**245**	P	**Pg**	**07 34 41.3**	**-0.2**
MBRI	**Mt Berech**	**1.19**	**269**	Pg	**Pg**	**07 34 41.1**	**-0.6**
MBRI				Sg	**Sg**	**07 34 58.1**	**+1.0**
ZFRI	**Zfri**	**1.21**	**308**	Pg	**Pg**	**07 34 41.1**	**-0.9**
ZFRI				Sg	**Sg**	**07 34 58.8**	**+1.1**
PRNI	**Paran**	**1.23**	**296**	Pg	**Pg**	**07 34 41.6**	**-1.0**
PRNI				Sg	**Sg**	**07 34 58.8**	**+0.3**
JLOS		**1.28**	**213**	S	**Sg**	**07 35 02.2**	**+2.1**
JLOS		**1.28**	**213**	P	**Pg**	**07 34 44.0**	**+0.6**
KRMI	**Paran Flat**	**1.38**	**283**	Pn	**Pn**	**07 34 44.2**	**-1.3**
KRMI				Sn	**Sn**	**07 35 02.8**	**-1.7**
RMNI	**Mount Ramon**	**1.53**	**301**	Sn	**Sn**	**07 35 07.1**	**-0.9**
MZDA	**Masada**	**1.69**	**332**	Pn	**Pn**	**07 34 49.0**	**-0.7**
MZDA				Sn	**Sn**	**07 35 11.7**	**-0.3**
RTMI	**Retamim**	**1.85**	**312**	Sn	**Sn**	**07 35 15.5**	**-0.5**
DSI	**Dead Sea**	**1.91**	**336**	Pn	**Pn**	**07 34 53.1**	**+0.3**
DSI				Sn	**Sn**	**07 35 18.5**	**+0.9**
KZIT	**Kziot**	**1.96**	**304**	Sn	**Sn**	**07 35 18.5**	**-0.2**
RSHS		**1.99**	**221**	P	**Pn**	**07 34 53.1**	**-0.8**
HMDT	**Nahal Hemdat**	**2.52**	**345**	Sn	**Sn**	**07 35 33.8**	**+1.4**
MMLI	**Mount Malkishu**	**2.72**	**344**	Sn	**Sn**	**07 35 39.6**	**+2.2**

ISCJB ***16*** *07:36:54.4±3.0, 1347S±006×77.1W±0.1, h21km±23km, mb4.0/9, Error ellipse: s-maj=20.5km s-min=7.7km az=164.4*
NEIC ***16*** *07:36:57.2±0.8, 1339S×77.12W, Error ellipse: s-maj=20.3km s-min=9.4km az=63.0*
IDC ***16*** *07:36:57.3±0.9, 1342S×7704W, h26km±4km, mb4.0/9, mb1 4.0/13, mb1mx3.9/22, mbtmp4.0/13, ML3.5/3, Error ellipse: s-maj=25.8km s-min=13.3km az=71.0*
ISC 16 07:36:57.7±3.0,**1340S**±005×**771W**±01,**h31**km±23km,**n23,**
σ0º**91/27,mb4.0/9,Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.42**	**8**	Pn	**Pn**	**07 37 20.6**	**-0.9**
	177nm,0.3s,baz=196,slow=13,SNR=66						
NNA				Sn	**Sn**	**07 37 39.6**	**+0.5**
	185nm,0.3s,baz=217,slow=11,SNR=7.9						
ARE	**Arequipa**	**6.18**	**120**	*eP*	**Pn**	**07 38 36.0**	**+9.1**
ARE				*eS*	**Sn**	**07 39 53.0**	**+16**
ATAH	**Atahualpa**	**6.50**	**348**	Pn	**Pn**	**07 38 31.7**	**+0.4**
	2.4nm,0.3s,baz=159,slow=5.1,SNR=7.7						
ATAH				Sn	**Sn**	**07 39 49.8**	**+5.3**
	3.3nm,0.3s,baz=327,slow=17,SNR=2.2						
LPAZ	**La Paz**	**9.09**	**109**	Pn	**Pn**	**07 39 10.5**	**+3.6**
	0.5nm,0.3s,baz=277,slow=8.5,SNR=14						
LPAZ				Sn	**Sn**	**07 41 00.0**	**+12**
	0.1nm,0.3s,baz=232,slow=17,SNR=1.7						
LVC	**Limon Verde**	**11.99**	**141**	Pn	**Pn**	**07 39 45.6**	**-1.0**
	0.8nm,0.3s,baz=220,slow=0.0,SNR=6.8						
LVC	**Limon Verde**	**11.99**	**141**	*e*Pn	**Pn**	**07 39 47.0**	**+0.3**
LVC				*e*Sn	**Sn**	**07 41 52.9**	**-6.5**
OTAV	**Otavalo**	**13.62**	**354**	Pn	**Pn**	**07 40 08.6**	**-0.4**
	9.0nm,0.8s						
OTAV				*e*Sn	**Sn**	**07 42 37.8**	**-1.6**
SIV	**San Ignacio**	**15.68**	**101**	Pn	**Pn**	**07 40 35.0**	**-1.5**
	0.2nm,0.3s,baz=291,slow=13,SNR=6.6						
ROSC	**El Rosal**	**18.34**	**9**	P	**Pn**	**07 41 11.2**	**+1.3**
	0.1nm,0.3s,baz=254,slow=23,SNR=2.3						
CFAA	**Coronel Fontan**	**19.84**	**157**	P	**Pn**	**07 41 27.9**	**0.0**
	0.0nm,0.3s,baz=278,slow=5.3,SNR=2.7						
CPUP	**Villa Florida**	**22.53**	**128**	P	**P**	**07 41 54.2**	**-0.9**
	2.8nm,0.8s,mb3.7,baz=311,slow=10,SNR=6.2						
CPUP	**Villa Florida**	**22.53**	**128**	P	**P**	**07 41 54.2**	**-1.0**
SDV	**Santo Domingo**	**23.04**	**16**	P	**P**	**07 42 01.0**	**+0.3**
	7.7nm,0.7s,mb4.2,baz=271,slow=5.5,SNR=12						
PCRV	**Puerto La Cruz**	**26.47**	**28**	P	**P**	**07 42 33.9**	**+1.6**
	3.9nm,0.6s,mb4.1,baz=322,slow=17,SNR=3.1						
PLCA	**Paso Flores**	**27.82**	**169**	P	**P**	**07 42 44.4**	**+0.2**
	1.8nm,0.8s,mb3.7,baz=337,slow=11,SNR=5.6						
BDFB	**Brasilia**	**28.19**	**98**	P	**P**	**07 42 46.9**	**-1.0**
	2.1nm,0.8s,mb3.8,baz=231,slow=22,SNR=5.4						
NVAR	**Mina Array Bea**	**64.40**	**325**	P	**P**	**07 47 31.4**	**+0.4**
	0.4nm,0.7s,mb3.6,baz=152,slow=7.5,SNR=4.1						
DBIC	**Dimbiro**	**74.40**	**79**	P	**P**	**07 48 33.4**	**0.0**
	5.4nm,0.9s,mb4.5,baz=288,slow=5.3,SNR=4.4						
YKA	**Yellowknife Ar**	**81.13**	**343**	P	**P**	**07 49 09.2**	**-0.5**
	0.3nm,0.6s,mb3.4,baz=144,slow=6.1,SNR=4.8						
YKA				pP	pP	07 49 17.8	-1.6
	0.7nm,0.8s,baz=145,slow=6.2,SNR=4.8						
YKA	**Yellowknife Ar**	**81.13**	**343**	P	**P**	**07 49 09.2**	**-0.5**
YKA				pP	pP	07 49 17.8	-1.6
TORD	**Torodi Ar. Bea**	**82.36**	**75**	P	**P**	**07 49 18.1**	**+0.7**
	5.7nm,0.7s,mb4.6,baz=271,slow=5.7,SNR=26						
TORD				pP	pP	07 49 26.8	-0.3
	10nm,0.9s,baz=276,slow=5.4,SNR=22						
WRA	**Warramunga Arr 134.70 224** PKP PKPdf 07 56 12.9 -1.3						
	0.5nm,0.7s,baz=148,slow=1.9,SNR=4.7						
SONM	**Songino Array 145.55 356** PKPbc PKPbc 07 56 33.8 +0.7						
	3.2nm,0.9s,baz=328,slow=1.8,SNR=12						
SONM				pPKPbc	pPKPbc	07 56 41.4	-1.7
	2.6nm,0.8s,baz=357,slow=4.3,SNR=7.0						

ISCJB ***16*** *07:46:43.9±0.2, 1346S±004×7703W±006, h25km, mb4.5/41, Error ellipse: s-maj=8.3km s-min=4.8km az=152.9*
MOS ***16*** *07:46:44.2±1.0, 1356S×7720W, h33km, mb4.8/6, Error ellipse: s-maj=23.9km s-min=9.9km az=125.7*
IDC ***16*** *07:46:44.9±0.5, 1343S±004×7703W, h24km±3km, mb4.2/16, mb1 4.3/20, mb1mx4.2/26, mbtmp4.2/20, ML3.8/3, Error ellipse: s-maj=19.6km s-min=10.7km az=76.0*
NEIC ***16*** *07:46:45.8±0.3, 1345S×7703W, mb4.6/27, Error ellipse: s-maj=11.2km s-min=5.3km az=58.0*
BJI ***16*** *07:46:45.7, 1350S×7700W, h25km, mB5.0, Ms5.0, Msz5.0*
ISC 16 07:46:46.1±0.2,**1344S**±004×**7690W**±006,**h27**km,
h27km±.8km:**pP-P,n317,**σ0º**60/308,mb4.5/41,114C-94D,**
Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.45**	**2**	Pn	**Pn**	**07 47 08.8**	**-1.8**
	726nm,0.3s,baz=192,slow=13,SNR=83						
NNA				Sn	**Sn**	**07 47 27.9**	**-0.8**
	749nm,0.3s,baz=188,slow=8.9,SNR=10.0						
NNA	**Nana**	**1.45**	**2**	*e*Pn	**Pn**	**07 47 08.8**	**-1.8**
ATAH	**Atahualpa**	**6.57**	**347**	Pn	**Pn**	**07 48 19.6**	**-1.4**
	10nm,0.3s,baz=167,slow=5.2,SNR=26						
ATAH				Sn	**Sn**	**07 49 33.9**	**-1.2**
	baz=244,slow=23,SNR=1.4						
LPAZ	**La Paz**	**8.94**	**110**	Pn	**Pn**	**07 48 58.2**	**+4.7**
	1.2nm,0.3s,baz=301,slow=12,SNR=26						
LPAZ				Sn	**Sn**	**07 50 47.3**	**+14**
	baz=180,slow=20,SNR=3.7						
LPAZ	**La Paz**	**8.94**	**110**	P	**Pn**	**07 48 58.5**	**+5.0**
LPAZ				pmax	pmax		
	comp=Z,21nm,1.0s						
LPAZ	**La Paz**	**8.94**	**110**	Pn	**Pn**	**07 48 58.5**	**+5.0**
	comp=Z,21nm,1.0s						
LVC	**Limon Verde**	**11.87**	**141**	Pn	**Pn**	**07 49 32.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=189,slow=0.0,SNR=4.2						
LVC	**Limon Verde**	**11.87**	**141**	*e*Pn	**Pn**	**07 49 32.5**	**-1.1**
OTAV	**Otavalo**	**13.68**	**353**	*e*Pn	**Pn**	**07 50 03.2**	**+4.8**
OTAV				*e*Sn	**Sn**	**07 52 23.0**	**-6.7**
SIV	**San Ignacio**	**15.52**	**101**	Pn	**Pn**	**07 50 25.5**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=270,slow=20,SNR=4.4						
LCO	**Las Campanas**	**16.53**	**161**	*e*Pn	**Pn**	**07 50 39.5**	**+3.4**
	comp=Z,9.0nm,0.7s						
ROSC	**El Rosal**	**18.36**	**8**	P	**Pn**	**07 51 01.5**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=77,slow=12,SNR=4.5						
ROSC	**El Rosal**	**18.36**	**8**	*e*P	**Pn**	**07 50 59.9**	**+0.9**
CFAA	**Coronel Fontan**	**19.75**	**158**	P	**Pn**	**07 51 14.1**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=324,slow=10,SNR=16						
CFAA	**Coronel Fontan**	**19.75**	**158**	P	**Pn**	**07 51 14.1**	**-1.5**
CPUP	**Villa Florida**	**22.39**	**128**	P	**P**	**07 51 42.2**	**-0.3**
	comp=Z,2.1nm,0.7s,mb3.7,baz=313,slow=9.0,SNR=6.6						
CPUP	**Villa Florida**	**22.39**	**128**	*e*P	**P**	**07 51 43.5**	**+1.0**
BCIP	**Isla Barro Col**	**22.65**	**352**	*e*P	**P**	**07 51 45.8**	**+0.4**
SDV	**Santo Domingo**	**23.04**	**16**	P	**P**	**07 51 48.0**	**-1.4**
	comp=Z,16nm,0.7s,mb4.6,baz=270,slow=13,SNR=15						
SDV	**Santo Domingo**	**23.04**	**16**	*e*P	**P**	**07 51 48.5**	**-0.9**
	comp=Z,18nm,0.9s,mb4.5						
PCRV	**Puerto La Cruz**	**26.43**	**28**	P	**P**	**07 52 21.9**	**+1.0**
	comp=Z,5.3nm,0.6s,mb4.3,baz=257,slow=5.5,SNR=7.2						
PLCA	**Paso Flores**	**27.75**	**170**	P	**P**	**07 52 30.9**	**-1.5**
	comp=Z,5.6nm,1.0s,mb4.2,baz=342,slow=11,SNR=7.4						
BDFB	**Brasilia**	**28.04**	**98**	P	**P**	**07 52 35.5**	**+0.1**
	comp=Z,1.8nm,0.9s,mb3.7,baz=232,slow=26,SNR=3.9						
USHA	**Ushuaia**	**41.82**	**173**	P	**P**	**07 54 32.1**	**-1.4**
	comp=Z,8.9nm,0.9s,mb4.4,baz=134,slow=9.8,SNR=2.9						
SWET	**Sewanee**	**49.14**	**350**	*e*P	**P**	**07 55 32.4**	**+0.8**
CPCT	**Cooper Cave**	**49.16**	**352**	*e*P	**P**	**07 55 31.9**	**+0.2**
TZTN	**Tazewell**	**50.11**	**353**	*e*P	**P**	**07 55 39.1**	**+0.1**
	comp=Z,7.0nm,0.6s,mb4.9						
TZTN				*ep*P	pP	07 55 46.0	-1.2
MIAR	**Mount Ida**	**50.28**	**342**	*e*P	**P**	**07 55 39.9**	**-0.4**
MIAR				*e**PP	pP	07 55 47.3	-1.3
MIAR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MIAR	**Mount Ida**	**50.28**	**342**	*e*P	**P**	**07 55 39.9**	**-0.4**
	comp=Z,7.9nm,0.9s,mb4.7						
MIAR				*ep*P	pP	07 55 47.3	-1.3
WMOK	**Wichita Mounta**	**52.23**	**337**	*e*P	**P**	**07 55 52.7**	**-2.2**
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WMOK	**Wichita Mounta**	**52.23**	**337**	*e*P	**P**	**07 55 52.7**	**-2.2**
	comp=Z,3.6nm,0.8s,mb4.3						
GDL2	**Guadalupe Moun**	**52.45**	**330**	*e*P	**P**	**07 55 56.6**	**0.0**
319A	**Douglas**	**54.33**	**326**	⇓*iP*	**P**	**07 56 10.4**	**-0.1**
	baz=54,SNR=6.4						
318A	**Bisbee**	**54.77**	**325**	⇑*iP*	**P**	**07 56 13.8**	**+0.2**
	baz=55,SNR=8.0						
219A	**White Tail Can**	**54.80**	**326**	⇓*iP*	**P**	**07 56 13.8**	**0.0**
	baz=55						
218A	**Dragoon**	**55.21**	**326**	⇓*iP*	**P**	**07 56 17.1**	**+0.3**
	baz=55						
217A	**Green Valley**	**55.48**	**325**	⇑*iP*	**P**	**07 56 18.7**	**-0.1**
	baz=56						
LAZ	**Ladron**	**55.59**	**330**	*e*P	**P**	**07 56 19.5**	**+0.1**
LAZ				*ep*P	pP	07 56 28.0	+0.2
118A	**Homack Ranch,**	**55.67**	**326**	⇑*iP*	**P**	**07 56 20.0**	**-0.1**
	baz=56,SNR=6.3						
ANMO	**Albuquerque**	**55.70**	**331**	*e*P	**P**	**07 56 20.1**	**-0.2**
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ANMO	**Albuquerque**	**55.70**	**331**	*e*P	**P**	**07 56 20.1**	**-0.2**
	comp=Z,8.6nm,1.1s,mb4.7						
TUC	**Tucson**	**55.87**	**325**	*e*P	**P**	**07 56 21.2**	**-0.3**
TUC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
TUC	**Tucson**	**55.87**	**325**	*e*P	**P**	**07 56 21.2**	**-0.3**
	comp=Z,2.1nm,0.8s,mb4.2						
216A	**Three Points,**	**56.02**	**324**	⇓*iP*	**P**	**07 56 22.4**	**-0.2**
	baz=56						
117A	**Oracle**	**56.04**	**325**	⇓*iP*	**P**	**07 56 22.8**	**+0.1**
	baz=56,SNR=9.3						
CBKS	**Cedar Bluff**	**56.20**	**339**	*e*P	**P**	**07 56 25.5**	**+1.8**
Y19A	**Nutrioso**	**56.31**	**328**	⇑*

U17A	Shonto	59.08 329	⇓P	P	07 56 44.4	+0.3
	baz=59					
T18A	Mexican Hat	59.11 330	⇓P	P	07 56 44.0	-0.3
	baz=59,SNR=6.2					
S19A	Harvey Farm, M	59.23 331	⇓P	P	07 56 45.0	-0.1
	baz=59					
X13A	Yucca	59.27 325	⇑P	P	07 56 45.2	-0.2
	baz=59					
V15A	Kaibab Nationa	59.27 327	⇑P	P	07 56 45.6	+0.2
	baz=59					
PV01	Paradox Valley	59.27 331	eP	P	07 56 45.3	-0.1
W14A	Seligman	59.31 326	⇓P	P	07 56 46.0	+0.3
	baz=59					
ISCO	Idaho Springs	59.33 335	eP	P	07 56 45.4	-0.3
T17A	Navajo Res., N	59.46 329	⇓P	P	07 56 47.0	+0.3
	baz=60					
S18A	Hurst Farm, Bl	59.60 330	⇑P	P	07 56 48.0	+0.4
	baz=60					
V14A	Boquillas Ranc	59.63 326	⇓P	P	07 56 48.4	+0.4
	baz=60,SNR=5.6					
ECSD	EROS,Sioux Fal	59.68 344	eP	P	07 56 46.6	-1.4
	comp=Z,3.0nm,0.7s,mb4.4					
IRM	Iron Mountain	59.70 324	⇑P	P	07 56 48.5	0.0
	baz=60,SNR=5.2					
R19A	Curley Farm, L	59.73 331	⇑P	P	07 56 48.7	+0.2
	baz=60					
U15A	North Rim	59.79 327	⇑P	P	07 56 49.5	+0.5
	baz=60					
Q19A	Hogan Spring (	60.26 331	⇓P	P	07 56 52.2	+0.1
	baz=60					
U14A	Mt Trumbull	60.26 327	⇑P	P	07 56 52.7	+0.5
	baz=60,SNR=7.2					
V13A	Grand Canyon W	60.27 326	⇓P	P	07 56 52.3	-0.1
	baz=60					
T15A	Red Dirt Ranch	60.29 328	⇑P	P	07 56 52.4	0.0
	baz=60					
S16A	Weppner Ranch,	60.42 329	⇑P	P	07 56 53.6	+0.3
	baz=61					
GMRC	Granite Mounta	60.44 324	⇑P	P	07 56 53.4	-0.1
	baz=61					
R17A	Hanksville Air	60.52 330	⇑P	P	07 56 54.0	0.0
	baz=61					
U13A	Pakoon Wash	60.68 326	⇓P	P	07 56 55.4	+0.3
	baz=61					
T14A	Hurricane	60.69 327	⇑P	P	07 56 55.6	+0.5
	baz=61					
Q18A	Rafter H Ranch	60.78 331	⇓P	P	07 56 56.0	+0.3
	baz=61					
HEC	Hector,Ludlow	60.86 323	⇓P	P	07 56 57.0	+0.6
	baz=61					
SRU	San Rafael	60.98 330	⇓P	P	07 56 57.0	-0.1
	baz=61					
SRU	San Rafael	60.98 330	eP	P	07 56 57.1	+0.1
T13A	Saint George	61.09 327	⇓P	P	07 56 58.1	+0.3
	baz=61					
Q16A	Castle Valley	61.14 330	⇑P	P	07 56 58.7	+0.5
	baz=61					
R15A	Junction	61.14 329	⇑P	P	07 56 58.7	+0.5
	baz=61					
MSU	Marysvale	61.32 329	eP	P	07 56 58.8	-0.6
P17A	Butcher Ranch,	61.36 331	⇑P	P	07 56 60.0	+0.3
	baz=62					
S13A	Holt Ranch, En	61.49 327	⇑P	P	07 57 01.3	+0.8
	baz=62					
O18A	Roosevelt	61.65 332	⇓P	P	07 57 01.9	+0.4
	baz=62					
Q15A	Fillmore	61.80 329	⇑P	P	07 57 03.0	+0.4
	baz=62					
EDW2	Edwards Air Fo	61.88 322	⇑P	P	07 57 02.9	-0.3
	baz=62					
T11A	Corn Creek, Al	61.97 326	⇑P	P	07 57 03.9	+0.1
	baz=62,SNR=6.6					
R13A	O'Grain Ranch,	61.99 327	⇑P	P	07 57 04.6	+0.7
	baz=62					
S12A	Delamar Landin	62.03 326	⇑P	P	07 57 04.5	+0.3
	baz=62					
N18A	Larsen Ranch,	62.06 332	⇓P	P	07 57 04.5	+0.2
	baz=62					
Q14A	Sevier Lake (B	62.24 329	⇓P	P	07 57 06.2	+0.6
	baz=62,SNR=5.1					
TPNV	Topopah Spring	62.32 325	eP	P	07 57 06.7	+0.5
TPNV			pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3					
TPNV	Topopah Spring	62.32 325	⇑P	P	07 57 06.5	+0.3
	baz=62					
TPNV	Topopah Spring	62.32 325	eP	P	07 57 06.7	+0.5
	comp=Z,2.4nm,0.8s,mb4.4					
FURC	Furnace Creek,	62.33 324	⇑P	P	07 57 06.6	+0.4
	baz=62					
DAU	Daniels Canyon	62.35 331	eP	P	07 57 06.5	+0.2
MPMC	Manual Prospec	62.40 323	⇑P	P	07 57 06.7	0.0
	baz=62					
R12A	Pony Springs,	62.44 327	⇑P	P	07 57 07.2	+0.3
	baz=63					
S11A	Rachel	62.55 326	⇓P	P	07 57 08.2	+0.5
	baz=63					
N17A	Moffit Pass	62.57 332	⇓P	P	07 57 08.6	+0.9
	baz=63					
JLU	Jordanelle	62.59 331	eP	P	07 57 08.4	+0.5
P14A	Drum Mountains	62.59 329	⇑P	P	07 57 08.7	+0.8
	baz=63					
Q13A	Wheeler Ranch,	62.60 328	⇓P	P	07 57 08.7	+0.7
	baz=63					
N16A	Rees Ranch, Co	62.80 331	⇓P	P	07 57 09.7	+0.4
	baz=63					
O15A	The Old Anders	62.83 330	⇓P	P	07 57 09.7	+0.2
	baz=63					
DUG	Dugway	62.93 330	eP	P	07 57 10.5	+0.4
DUG			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8					
DUG	Dugway	62.93 330	⇑P	P	07 57 10.7	+0.6
	baz=63,SNR=7.6					
DUG	Dugway	62.93 330	eP	P	07 57 10.5	+0.3
	comp=Z,6.6nm,0.9s,mb4.8					
P13A	Bates Ranch, G	62.97 328	⇓P	P	07 57 10.7	+0.2
	baz=63					
R11A	Troy Canyon, C	62.97 327	⇑P	P	07 57 11.0	+0.5
	baz=63					
GRAC	Grapevine Rang	62.99 324	⇑P	P	07 57 10.8	+0.2
	baz=63					
Q12A	Willow Creek R	63.08 328	⇑P	P	07 57 11.3	+0.1
	baz=63					
VES	Vestal, Richgr	63.18 322	⇑P	P	07 57 11.9	0.0
	baz=63					
S10A	Tonopah Range,	63.21 326	⇑P	P	07 57 12.5	+0.4
	baz=63,SNR=7.2					
M16A	Huntsville	63.23 331	⇑P	P	07 57 12.2	+0.1
	baz=63					
Q11A	Duckwater	63.37 327	⇓P	P	07 57 13.3	+0.2
	baz=64					
SMMC	Simmler	63.38 321	⇑P	P	07 57 13.4	+0.2
	baz=64					
S09A	Goldfield	63.42 325	⇑P	P	07 57 13.4	0.0
	baz=64,SNR=5.2					
HWUT	Hardware Ranch	63.43 332	eP	P	07 57 12.9	-0.5
	comp=Z,9.3nm,1.0s,mb4.9					
BW06	Boulder Array	63.45 334	eP	P	07 57 16.3	+2.7
PDAR	Pinedale Array	63.45 334	P	P	07 57 12.9	-0.7
	comp=Z,0.9nm,0.7s,mb4.0,baz=128,slow=9.8,SNR=6.4					
N14A	Grayback Hills	63.61 330	⇑P	P	07 57 14.3	-0.4
	baz=64					
L16A	Fish Haven	63.69 332	⇓P	P	07 57 14.9	-0.2
	baz=64					
R09A	Tonopah	63.70 325	⇑P	P	07 57 14.8	-0.5
	baz=64					
HELL	Mitchell Peak	63.72 323	⇓P	P	07 57 15.5	0.0
	baz=64					
S08C	White Mtn Res	63.80 324	⇑P	P	07 57 16.5	+0.6
	baz=64					
MTUM	Tungsten Hills	63.92 324	eP	P	07 57 17.1	+0.3
O12A	Currie	63.95 328	⇓P	P	07 57 17.4	+0.5
	baz=64					
L15A	Malad City	64.12 331	⇓P	P	07 57 18.1	+0.1
	baz=64					
M14A	Sheep Mountain	64.19 330	⇑P	P	07 57 18.1	-0.4
	baz=64,SNR=5.3					
O11A	Cowboy Ranch,	64.32 328	⇓P	P	07 57 19.3	0.0
	baz=64					
KCC	Kaiser Creek	64.33 323	⇑P	P	07 57 18.8	-0.7
	baz=64					
REDW	Red Top Meadow	64.50 333	eP	P	07 57 20.1	-0.3
	comp=Z,13nm,1.5s,mb4.7					
NVAR	Mina Array Bea	64.52 325	P	P	07 57 20.5	-0.2
	comp=Z,2.5nm,0.7s,mb4.4,baz=139,slow=6.8,SNR=26					
L14A	Malta	64.55 331	⇑P	P	07 57 20.7	-0.1
	baz=65					
U04C	Hernandez Rese	64.55 322	⇓P	P	07 57 21.2	+0.2
	baz=65					
LOHW	Long Hollow	64.59 333	eP	P	07 57 20.4	-0.6
	comp=Z,2.5nm,0.8s,mb4.3					
Q08A	Gabbs	64.62 325	⇑P	P	07 57 21.1	-0.2
	baz=65					
TPAW	Teton Pass	64.64 333	eP	P	07 57 20.9	-0.5
	comp=Z,3.5nm,0.9s,mb4.4					
RRI2	Red Ridge	64.69 333	eP	P	07 57 21.6	0.0
	comp=Z,8.9nm,0.8s,mb4.8					
K15A	Arbon	64.72 332	⇓P	P	07 57 21.6	-0.3
	baz=65					
J16A	Bone	64.76 333	⇑P	P	07 57 22.4	+0.2
	baz=65					
O10A	Cortez Mining,	64.87 327	⇓P	P	07 57 23.4	+0.5
	baz=65					
K14A	Jones Ranch, D	64.91 331	⇑P	P	07 57 22.5	-0.6
	baz=65					
S05C	Merced	64.94 323	⇓P	P	07 57 23.9	+0.4
	baz=65					
IMW	Indian Meadow	64.96 333	eP	P	07 57 23.1	-0.3
	comp=Z,3.0nm,0.8s,mb4.4					
FLWY	Flagg Ranch	65.01 334	eP	P	07 57 23.7	0.0
	comp=Z,11nm,0.8s,mb4.9					
S06C	San Francisco	65.02 324	⇑P	P	07 57 23.5	-0.4
	baz=65,SNR=5.0					
HAST	Hastings Reser	65.03 321	⇓P	P	07 57 24.2	+0.1
	baz=65					
O09A	Fish Creek Ran	65.15 327	⇓P	P	07 57 25.2	+0.5
	baz=65					
R06C	Coleville	65.23 324	⇑P	P	07 57 25.8	+0.5
	baz=65					
P08A	Dixie Valley	65.29 326	⇓P	P	07 57 26.2	+0.6
	baz=65					
M11A	Holland Ranch,	65.34 329	⇑P	P	07 57 26.0	+0.1
	baz=66					
CMB	Columbia Colle	65.44 323	⇑P	P	07 57 26.7	+0.1
	baz=66					
ULM	Lac du Bonnet	65.57 347	P	P	07 57 24.5	-2.7
	comp=Z,2.2nm,0.5s,mb4.4,baz=154,slow=8.7,SNR=3.9					
ULM	Lac du Bonnet	65.57 347	P	P	07 57 24.5	-2.7
R05C	Kirkwood Meado	65.71 324	⇓P	P	07 57 29.0	+0.6
	baz=66					
O08A	Rochester Mine	65.75 326	⇓P	P	07 57 28.6	0.0
	baz=66					
K12A	Draper Farm, C	65.80 330	⇑P	P	07 57 29.2	+0.2
	baz=66					
L11A	Cat Creek Ranc	65.87 329	⇑P	P	07 57 29.3	0.0
	baz=66					
R04C	Big Horse Ranc	65.91 323	⇑P	P	07 57 29.9	+0.2
	baz=66					
WCN	Washoe City	65.94 325	⇑P	P	07 57 30.3	+0.4
	baz=66					
PAHR	Pah Rah Range	66.01 325	eP	P	07 57 30.9	+0.6
O07A	Toulon	66.05 326	⇓P	P	07 57 30.3	-0.3
	baz=66,SNR=7.7					
L10A	Juniper Basin	66.16 329	⇑P	P	07 57 31.2	-0.1
	baz=66,SNR=6.2					
M09A	Marrel Ranch,	66.19 328	⇓P	P	07 57 31.5	0.0
	baz=66					
HLID	Hailey	66.27 331	⇓P	P	07 57 31.7	-0.2
	baz=66,SNR=5.8					
HLID	Hailey	66.27 331	eP	P	07 57 31.7	-0.2
J12A	Stokes Ranch,	66.36 330	⇓P	P	07 57 33.6	+1.1
	baz=66					
I13A	Wildhorse Cree	66.40 332	⇓P	P	07 57 33.2	+0.4
	baz=66					
P05C	Yuba Gap, Truc	66.42 324	⇑P	P	07 57 33.2	+0.2
	baz=66					
K11A	Parker Ranch,	66.46 330	⇑P	P	07 57 33.2	+0.1
	baz=67					
MCMT	McKenzie Canyo	66.53 333	eP	P	07 57 33.7	+0.2
G15A	Dillon	66.64 333	⇑P	P	07 57 34.4	+0.2
	baz=67					
BOZ	Bozeman (W)	66.65 334	⇓P	P	07 57 33.5	-0.8
	baz=67					
BOZ	Bozeman (W)	66.65 334	eP	P	07 57 33.6	-0.7
BEKR	Beckwourth	66.67 325	⇑P	P	07 57 34.4	-0.1
	baz=67,SNR=5.1					
MFID	Camas Ranch	66.84 330	⇑P	P	07 57 35.7	+0.1
	baz=67,SNR=5.2					
DLMT	Dillon	66.84 333	eP	P	07 57 36.3	+0.8
	comp=Z,6.0nm,1.1s,mb4.5					
K10A	MacKenzie Ranc	66.88 329	⇑P	P	07 57 35.5	-0.3
	baz=67,SNR=5.6					
H13A	Challis	66.97 332	⇑P	P	07 57 36.5	+0.2
	baz=67					
N06A	Buffalo Meadow	66.98 326	⇑P	P	07 57 36.4	-0.2
	baz=67,SNR=9.9					
O05C	Quincy	67.05 325	⇓P	P	07 57 37.0	0.0
	baz=67					
SUTB	Sutter Butte	67.05 323	⇑P	P	07 57 37.0	0.0
	baz=67					
M07A	Soldier Meadow	67.07 327	⇓P	P	07 57 37.3	+0.2
	baz=67					
ORV	Oroville	67.10 324	⇓P	P	07 57 37.3	0.0
	baz=67,SNR=18					
L08A	Fields	67.20 328	⇓P	P	07 57 37.4	-0.5
	baz=67					
H12A	Diamond D Ranc	67.23 332	⇓P	P	07 57 37.8	-0.2
	baz=67					
K09A	Rome	67.25 328	⇑P	P	07 57 38.0	-0.2
	baz=67,SNR=9.7					
I11A	Placerville	67.27 330	⇑P	P	07 57 37.9	-0.3
	baz=67					
G13A	Cobalt	67.36 332	⇑P	P	07 57 38.9	+0.1
	baz=68					
O04C	Chester	67.38 325	⇓P	P	07 57 38.9	-0.2
	baz=68					
J09A	Fry Pan Ranch,	67.74 329	⇓P	P	07 57 41.2	0.0
	baz=68					
GASB	Alder Springs	67.87 323	⇑P	P	07 57 41.8	-0.4
	baz=68					
H11A	Donnelly	67.89 331	⇑P	P	07 57 42.0	-0.2
	baz=68					
F13A	Darby	67.94 333	⇓P	P	07 57 42.5	0.0
	baz=68					
K07A	Rock Creek Ran	68.03 328	⇑P	P	07 57 43.1	0.0
	baz=68					
MOD	Modoc	68.04 326	⇓P	P	07 57 43.3	+0.1
	baz=68					
MOD	Modoc	68.04 326	eP	P	07 57 43.2	+0.1
E14A	Clinton	68.06 334	⇓P	P	07 57 43.4	+0.2
	baz=68					
P01C	Double 8 Ranch	68.11 323	⇓P	P	07 57 43.8	+0.1
	baz=68					
M05C	Lookout	68.12 326	⇓P	P	07 57 43.6	-0.1
	baz=68,SNR=15					
H10A	Noah's Angus R	68.15 330	⇓P	P	07 57 43.6	-0.2
	baz=68					
O02C	Red Bluff	68.26 324	⇑P	P	07 57 44.0	-0.6
	baz=68					
F12A	Elk City	68.33 332	⇑P	P	07 57 44.7	-0.3
	baz=68					
E13A	Victor	68.38 333	⇓P	P	07 57 45.8	+0.5
	baz=68					
WDC	Whiskeytown Da	68.38 324	⇓P	P	07 57 43.8	-1.6
	baz=68					
L05A	Lakeview	68.42 326	⇓P	P	07 57 45.7	+0.1
	baz=68					
G11A	Walters Elk Ra	68.53 331	⇓P	P	07 57 46.0	-0.2
	baz=69					
J07A	Hines	68.55 328	⇑P	P	07 57 46.4	+0.1
	baz=69					
MSO	Missoula	68.57 334	eP	P	07 57 47.7	+1.3
	comp=Z,5.3nm,1.1s,mb4.4					
M03C	McCloud	68.61 325	⇓P	P	07 57 46.1	-0.7
	baz=69					
K06A	Valley Falls	68.63 327	⇑P	P	07 57 46.9	0.0
	baz=69,SNR=8.6					
M04C	Macdoel	68.79 325	⇑P	P	07 57 47.7	-0.2
	baz=69					
F11A	Grangeville	68.84 332	⇑P	P	07 57 47.5	-0.6
	baz=69,SNR=6.1					
G10A	Bishop Farm, J	68.85 331	⇑P	P	07 57 47.9	-0.3
	baz=69					
J06A	Christmas Vall	68.90 328	⇑P	P	07 57 48.3	-0.2
	baz=69,SNR=17					
N02C	Big Bar	68.98 324	⇑P	P	07 57 48.7	-0.3
	baz=69,SNR=19					
D13A	Huson	69.00 334	⇑P	P	07 57 48.9	-0.2
	baz=69					
H08A	Prairie City	69.04 329	⇑P	P	07 57 49.3	-0.1
	baz=69,SNR=12					
L04A	Klamath Falls	69.09 326	⇑P	P	07 57 48.9	-0.8
	baz=69					
M02C	Callahan	69.10 325	⇓P	P	07 57 48.9	-0.9
	baz=69					
I07A	Izee	69.15 329	⇑P	P	07 57 50.0	0.0
	baz=69,SNR=7.1					
G09A	Cove	69.16 330	⇓P	P	07 57 49.6	-0.4
	baz=69,SNR=7.1					
E11A	Bogner Ranch,	69.22 332	⇑P	P	07 57 49.8	-0.6
	baz=69					
C14A	Swan Lake	69.22 334	⇑P	P	07 57 50.4	0.0
	baz=69					
YBH	Yreka Blue Hor	69.24 325	P	P	07 57 48.8	-1.9
	comp=Z,3.3nm,0.8s,mb4.3,baz=88,slow=4.4,SNR=15					
YBH	Yreka Blue Hor	69.24 325	⇑P	P	07 57 49.3	-1.4
	baz=69,SNR=5.7					
KHMM	Horse Mountain	69.26 324	eP	P	07 57 51.5	+0.7
D12A	Red Ives Fores	69.36 333	⇓P	P	07 57 51.5	+0.2
	baz=70					
JCC	Jacoby Creek	69.39 324	⇑P	P	07 57 51.4	-0.2
	baz=70					
F10A	Beach Ranch, E	69.41 331	⇑P	P	07 57 51.3	-0.3
	baz=70,SNR=7.9					
I06A	Prineville	69.41 328	⇑P	P	07 57 52.0	+0.3
	baz=70					
J05A	Fort Rock	69.49 327	⇓P	P	07 57 52.1	-0.1
	baz=70					
C13A	Hot Springs	69.51 334	⇑P	P	07 57 52.2	+0.1
	baz=70					
F09A	S2 Ranch, Elgi	69.53 331	⇓P	P	07 57 52.6	+0.2
	baz=70					
H07A	Lands Inn, Kim	69.54 329	⇓P	P	07 57 53.3	+0.9
	baz=70					
G08A	Pilot Rock	69.74 330	⇓P	P	07 57 53.6	-0.1
	baz=70					
J04A	Umpqua Nationa	69.93 326	⇑P	P	07 57 54.9	0.0
	baz=70					
L02A	Cave Junction	70.02 325	⇑P	P	07 57 55.3	-0.2
	baz=70					
H06A	Lindquist Farm	70.03 329	⇑P	P	07 57 55.3	-0.1
	baz=70,SNR=5.2					
D10A	Wagner Farm, O	70.23 332	⇓P	P	07 57 56.4	-0.2
	baz=70					
WALA	Waterton Lakes	70.30 335	eP	P	07 57 56.9	-0.2
	comp=Z,3.7nm,0.8s,mb4.4					
K02A	Glendale	70.36 325	⇓P	P	07 57 57.3	-0.3
	baz=70,SNR=6.7					
VNA1	Neumayer--Stat	70.37 161	eP	P	07 57 57.3	+0.1
VNA1			e	pP	07 58 05.6	-0.2
I04A	Tendick Farm,	70.46 327	⇑P	P	07 57 57.6	-0.6
	baz=71					
D09A	Jones Farm, Ri	70.71 331	⇓P	P	07 57 59.3	-0.3
	baz=71					
J02A	Umpqua	70.80 326	⇓P	P	07 58 00.2	0.0
	baz=71					
A12A	Yaak River Ran	70.93 334	⇑P	P	07 58 01.0	+0.1
	baz=71,SNR=5.5					
H04A	Detroit Lake	70.95 328	⇑P	P	07 58 00.5	-0.5
	baz=71					
I03A	Eugene	71.05 326	⇓P	P	07 58 01.5	-0.2
	baz=71					
A11A	Hall Mountain,	71.25 334	⇓P	P	07 58 03.0	+0.2
	baz=71					
H03A	Soap Creek Ran	71.52 327	⇓P	P	07 58 04.6	+0.1
	baz=72					
B09A	Rice	71.64 332	⇑P	P	07 58 05.3	+0.2
	baz=72					
F04A	Amboy	71.92 328	⇑P	P	07 58 06.7	-0.3
	baz=72					
G03A	Yamhill	71.95 328	⇑P	P	07 58 06.8	-0.3
	baz=72					
C07A	Waterville	71.99 331	⇓P	P	07 58 07.5	+0.2
	baz=72					
E05A	Randle	72.02 329	⇓P	P	07 58 07.0	-0.5
	baz=72					
B08A	Colville Reser	72.13 332	⇓P	P	07 58 08.0	-0.1
	baz=72					
A09A	Danville	72.24 333	⇓P	P	07 58 08.6	-0.2
	baz=72					
SNAA	Sanae	72.32 161	eP	P	07 58 08.2	-0.8
SNAA			e	pP	07 58 16.4	-1.2
SNAA	Sanae	72.32 161	eP	P	07 58 08.0	-1.0
SNAA			pmax	pmax		
	comp=Z,8.0nm,0.9s					
SNAA	Sanae	72.32 161	eP	P	07 58 08.0	-1.0
	comp=Z,8.2nm,0.9s,mb4.7					
A08A	Turner Farm, O	72.54 332	⇓P	P	07 58 10.2	-0.3
	baz=73					
D05A	Enumclaw	72.57 330	⇓P	P	07 58 10.6	-0.2
	baz=73					
B07A	Winthrop	72.57 331	⇑P	P	07 58 10.7	0.0
	baz=73					
C05A	Tolt Reservoir	72.77 330	⇑P	P	07 58 11.8	-0.2
	baz=73					
E03A	Lebam	72.92 328	⇑P	P	07 58 13.0	+0.1
	baz=73					
A07A	Ashnola River,	73.11 332	⇑P	P	07 58 14.5	+0.5
	baz=73					
EDM	Edmonton	73.38 338	eP	P	07 58 13.9	-1.5
NLWA	Neilton Lookou	73.64 329	⇑P	P	07 58 17.9	+0.8
	baz=74					
A05A	Maple Falls	73.87 331	⇑P	P	07 58 18.2	-0.3
	baz=74					
DBIC	Dimbokro	74.26 79	P	P	07 58 22.0	+0.5
	comp=Z,4.7nm,0.8s,mb4.5,baz=151,slow=9.3,SNR=3.6					
QSPA	South Pole Qui	76.70 180	P	P	07 58 34.4	+0.1
	comp=Z,1.7nm,0.6s,mb4.2,baz=168,slow=2.3,SNR=16					
YKA	Yellowknife Ar	81.21 343	P	P	07 58 57.1	-2.0
	comp=Z,1.1nm,0.7s,mb3.9,baz=143,slow=6.3,SNR=10					
YKA			pP	pP	07 59 05.2	-2.6
	comp=Z,4.4nm,0.9s,baz=140,slow=5.9,SNR=18					
YKA	Yellowknife Ar	81.21 343	P	P	07 58 57.1	-2.0
YKA			pP	pP	07 59 05.2	-2.6
YKW3	Yellowknife Ar	81.27 343	eP	P	07 59 01.6	+2.2
TOA0	Torodi Ar. Sit	82.23 75	eP	P	07 59 05.6	0.0
TORD	Torodi Ar. Bea	82.23 75	P	P	07 59 05.3	-0.2
	comp=Z,4.1nm,0.7s,mb4.5,baz=271,slow=5.4,SNR=19					
VNDA	Vanda	83.36 191	P	P	07 59 10.3	0.0
	comp=Z,2.3nm,0.9s,mb4.2,baz=148,slow=3.1,SNR=15					
DLBC	Dease Lake	83.65 335	P	P	07 59 11.6	-0.4
	baz=123,slow=1.6					
SUMG	Summit	89.47 11	eP	P	07 59 41.4	+1.3
	comp=Z,5.6nm,1.1s,mb4.8					
INK	Inuvik	90.88 342	P	P	07 59 45.5	-1.3
	comp=Z,2.1nm,0.9s,mb4.5,baz=122,slow=4.4,SNR=5.5					
INK	Inuvik	90.88 342	eP	P	07 59 46.5	-0.3
	comp=Z,379nm,1.1s,mb6.6					
EGAK	Eagle	91.58 337	eP	P	07 59 50.3	+0.2
	comp=Z,4.5nm,1.0s,mb4.8					
COLA	College	94.20 336	eP	P	07 59 59.0	-3.2
ASAR	Alice Springs	132.38 219	PKP	PKPdf	08 05 57.2	-1.5
	comp=Z,0.3nm,0.7s,baz=145,slow=4.1,SNR=5.8					
ASAR			pPKP	pPKPdf	08 06 05.9	-1.9
	comp=Z,1.0nm,0.9s,baz=150,slow=5.3,SNR=4.2					
WB2	Warramunga Arr	134.76 223	eP	PKPdf	08 06 01.7	-1.6
WB2			e		08 06 10.6	
WRA	Warramunga Arr	134.77 223	PKP	PKPdf	08 06 02.3	-1.0
	comp=Z,2.3nm,0.7s,baz=134,slow=1.9,SNR=25					
WRA			pPKP	pPKPdf	08 06 10.6	-1.7
	comp=Z,2.9nm,0.8s,baz=130,slow=1.8,SNR=10					
ZALV	Zalesovo Beam	137.09 16	PKP	PKPdf	08 06 04.7	-1.9
	comp=Z,0.6nm,0.4s,baz=3.4,slow=7.2,SNR=2.3					
MJAR	Matsushiro Arr	141.07 313	PKhKP		08 06 06.0	
	comp=Z,0.6nm,0.5s,baz=70,slow=4.1,SNR=3.9					
MJAR			PKP	PKPdf	08 06 13.0	-1.4
	comp=Z,1.3nm,0.8s,baz=71,slow=1.9,SNR=5.7					
MKAR	Makanchi Array	142.44 24	PKP	PKPdf	08 06 13.1	-3.4
	comp=Z,0.3nm,0.5s,baz=44,slow=3.7,SNR=4.1					
SONM	Songino Array	145.60 356	PKPbc	PKPbc	08 06 22.0	-0.2
	comp=Z,2.7nm,0.7s,baz=343,slow=2.4,SNR=15					
SONM			pPKPbc	pPKPbc	08 06 29.6	-1.5
	comp=Z,20nm,0.9s,baz=346,slow=2.5,SNR=31					
WMQ	Urumqi	146.97 21	PKP	PKPdf	08 06 24.5	+0.1
KSRS	Korea Array	147.42 322	P

GYA				APKP		08 07 02.4	
GYA				PKP2	PKPab	08 07 53.5	+1.5
GYA				PKS		08 10 21.0	
GYA				PP	PP	08 11 42.6	+4.2
GYA				SKKS	SKKSac	08 18 25.3	-0.3
GYA				SS	SS	08 32 17.6	-1.1
GYA				PP	PP		
	comp=Z,110nm,8.2s						
GYA				LR	LR		
	comp=N,120nm,23.2s						
GYA				LR	LR		
	comp=E,110nm,22.4s						
GYA				LR	LR		
	comp=Z,130nm,22.7s						
KMI	**Kunming**	**168.38**	**2**	PKP	PKPdf	08 06 51.1	0.0

*ISCJB **16** 07:47:25.2±2.5, 50.36N±009×17765W±006, h3km±15km, mb4.0/17, Error ellipse: s-maj=15.4km s-min=6.8km az=175.1*
*IDC **16** 07:47:25.6±0.8, 50.15N×17764W, h0km, mb3.9/13, mb1 4.1/13, mb1mx4.0/24, mbtmp3.9/13, Error ellipse: s-maj=25.7km s-min=16.7km az=166.0*
*NEIC **16** 07:47:28.9±0.9, 50.41N×17754W, h10km, mb4.1/7, ML4.0(AEIC), Error ellipse: s-maj=19.8km s-min=7.1km az=177.0*

ISC 16 07:47:28.5±3.0,5037N±009×17768W±007,h14km±19km, n42,σ1§14/42,mb4.0/17,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**2.16**	**299**	*e*Pn	**Pn**	**07 48 04.3**	**+0.3**
AMKA				*e*Sn	**Sn**	**07 48 29.0**	**-1.6**
NIKO	**Nikolski**	**6.08**	**61**	P	**Pn**	**07 48 58.0**	**+0.2**
FX1	**Attu Island--F**	**6.23**	**297**	P	**Pn**	**07 49 01.8**	**+1.8**
OKCD	**Okmok Cone D**	**6.67**	**59**	P	**Pn**	**07 49 06.5**	**+0.6**
UNV	**Unalaska Valle**	**7.71**	**59**	P	**Pn**	**07 49 20.8**	**+0.6**
AKGG	**Akutan Green G**	**8.13**	**57**	P	**Pn**	**07 49 26.8**	**+0.9**
SDPT	**Sand Point** 32nm,0.5s	**11.52**	**58**	*e*P	**Pn**	**07 50 10.9**	**-1.5**
PETK	**Petropavlovsk-** 0.2nm,0.3s,baz=99,slow=18,SNR=4.2	**15.47**	**290**	Pn	**Pn**	**07 51 10.2**	**+4.2**
SVW2	**Sparrevohn**	**16.35**	**40**	*e*P	**Pn**	**07 51 18.4**	**+1.1**
KDAK	**Kodiak Island** 1.4nm,0.3s,baz=263,slow=7.5,SNR=17	**16.42**	**53**	Pn	**Pn**	**07 51 14.3**	**-4.0**
KDAK				Sn	**Sn**	**07 54 21.7**	**+1.7**
KDAK	**Kodiak Island** 3.5nm,0.4s	**16.42**	**53**	Pn	**Pn**	**07 51 14.3**	**-4.0**
KDAK				Sn	**Sn**	**07 54 21.7**	**+1.6**
SLKM	**Skilak Lake**	**18.45**	**46**	*e*P	**Pn**	**07 51 42.1**	**-1.4**
RC01	**Rabbit Creek A**	**18.88**	**45**	*e*P	**Pn**	**07 51 46.9**	**-1.8**
KTH	**Kantishna Hill** 12nm,1.1s	**19.47**	**37**	*e*P	**Pn**	**07 51 54.8**	**-1.0**
TRF	**Thorofare Moun** 15nm,1.3s	**19.67**	**38**	*e*P	**Pn**	**07 51 56.5**	**-1.6**
IMA2	**Indian Mountai**	**19.96**	**29**	*e*P	**Pn**	**07 52 00.4**	**-1.2**
DIV	**Divide**	**20.71**	**46**	*e*P	**P**	**07 52 07.4**	**-0.6**
BMRM	**Bremner River**	**21.21**	**47**	*e*P	**P**	**07 52 14.8**	**+1.3**
EGAK	**Eagle** 2.2nm,0.6s,mb3.8	**23.87**	**39**	*e*P	**P**	**07 52 40.0**	**-1.1**
DAWY	**Dawson**	**24.38**	**41**	*e*P	**P**	**07 52 44.7**	**-1.1**
HYT	**Haines Junctio**	**24.59**	**49**	P	**P**	**07 52 47.7**	**-0.1**
INK	**Inuvik** 1.2nm,0.3s,mb4.0,baz=238,slow=8.6,SNR=29	**27.90**	**34**	P	**P**	**07 53 17.6**	**+0.1**
INK	**Inuvik** 34nm,0.3s,mb5.5	**27.90**	**34**	*e*P	**P**	**07 53 17.3**	**-0.2**
YKA	**Yellowknife Ar** 1.9nm,0.6s,mb4.2,baz=274,slow=8.9,SNR=34	**35.42**	**46**	P	**P**	**07 54 24.6**	**+1.0**
YBH	**Yreka Blue Hor** 0.7nm,0.7s,mb3.5,baz=280,slow=11,SNR=4.6	**38.33**	**81**	P	**P**	**07 54 50.0**	**+1.4**
EDM	**Edmonton**	**38.69**	**60**	P	**P**	**07 54 51.6**	**+0.1**
KSRS	**Korea Array** 0.4nm,0.3s,mb3.6,baz=69,slow=10,SNR=3.7	**40.38**	**273**	P	**P**	**07 55 06.8**	**+1.1**
WVOR	**Wild Horse Val** 1.8nm,0.9s,mb3.7	**40.52**	**78**	*e*P	**P**	**07 55 07.7**	**+0.8**
NVAR	**Mina Array Bea** 1.0nm,0.9s,mb3.5,baz=285,slow=7.3,SNR=7.1	**42.98**	**82**	P	**P**	**07 55 25.9**	**-1.1**
TPNV	**Topopah Spring** 2.0nm,0.8s,mb4.0	**45.17**	**83**	*e*P	**P**	**07 55 45.1**	**+0.6**
PDAR	**Pinedale Array** 1.0nm,0.8s,mb3.8,baz=332,slow=3.1,SNR=8.5	**45.95**	**72**	P	**P**	**07 55 50.7**	**0.0**
SONM	**Songino Array** 0.4nm,0.5s,mb3.7,baz=42,slow=8.9,SNR=4.7	**47.74**	**298**	P	**P**	**07 56 06.2**	**+1.6**
WMOK	**Wichita Mounta** 5.8nm,1.1s,mb4.5	**57.51**	**73**	*e*P	**P**	**07 57 13.6**	**-3.5**
ARCES	**ARCESS Array B** 1.8nm,0.6s,mb4.3,baz=25,slow=6.9,SNR=8.7	**59.21**	**351**	P	**P**	**07 57 28.7**	**+0.2**
MKAR	**Makanchi Array** 0.6nm,0.7s,mb3.8,baz=39,slow=4.7,SNR=5.5	**61.22**	**309**	P	**P**	**07 57 43.0**	**+0.4**
NOA	**NORSAR Array B** 1.3nm,0.7s,mb3.9,baz=6.7,slow=6.4,SNR=3.6	**68.72**	**355**	P	**P**	**07 58 32.1**	**+1.1**
AKASG	**Malin Array Be** 2.2nm,0.7s,mb4.2,baz=19,slow=5.6,SNR=9.6	**76.73**	**343**	P	**P**	**07 59 19.6**	**+0.7**
WRA	**Warramunga Arr** 0.4nm,0.8s,mb3.4,baz=30,slow=5.5,SNR=5.0	**81.79**	**225**	P	**P**	**07 59 45.2**	**-1.6**
STKA	**Stephens Creek** 1.2nm,0.7s,mb4.3,baz=64,slow=1.9,SNR=2.9	**89.47**	**214**	P	**P**	**08 00 22.9**	**-1.7**
TORD	**Torodi Ar. Bea** 0.1nm,0.3s,baz=344,slow=2.8,SNR=3.3	**116.76**	**1**	PKP	PKPdf	08 06 10.9	-1.6
MAW	**Mawson** 1.8nm,0.8s,baz=56,slow=5.0,SNR=5.0	**146.11**	**217**	PKPbc	PKPbc	08 07 04.9	-1.7
BOSA	**Boshof** 1.7nm,0.6s,baz=0.0,slow=2.0,SNR=4.4	**152.18**	**313**	PKPbc	PKPbc	08 07 22.4	-0.9

*NEIC **16** 08:16:10.4±4.2, 3094S×17971W, h371km±37km, Error ellipse: s-maj=47.1km s-min=25.0km az=215.0*
*IDC **16** 08:16:11.8±2.9, 3093S×17990W, h381km±27km, mb3.1/4, mb1 3.4/6, mb1mx3.2/17, mbtmp3.3/6, Error ellipse: s-maj=28.6km s-min=21.4km az=18.0*

ISC 16 08:16:13.3±2.1,311S±01×1799E±03,h378km±17km,n12, σ0§86/12,mb3.3/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 6.4nm,0.3s,baz=250,slow=6.8,SNR=37	**7.56**	**197**	P	**Pn**	**08 18 02.1**	**-0.5**
URZ				S	**S**	**08 19 32.4**	**+0.4**
RPZ	**Rata Peaks** 0.3nm,0.3s,baz=45,slow=16,SNR=2.6	**14.47**	**207**	P	**P**	**08 19 19.4**	**-1.3**
RPZ				S	**S**	**08 21 56.3**	**+0.4**
CTA	**Charters Tower** 1.7nm,0.5s,mb3.5,baz=103,slow=12,SNR=4.8	**32.17**	**282**	P	**P**	**08 22 09.7**	**+2.0**
STKA	**Stephens Creek** 1.7nm,0.6s,mb3.5,baz=111,slow=8.6,SNR=4.2	**32.61**	**258**	P	**P**	**08 22 12.0**	**+0.7**
ASAR	**Alice Springs** 0.2nm,0.4s,mb2.7,baz=108,slow=7.7,SNR=6.6	**41.31**	**269**	P	**P**	**08 23 23.4**	**-0.4**
WB2	**Warramunga Arr**	**42.35**	**274**	*e*P	**P**	**08 23 31.6**	**-0.5**
WRA	**Warramunga Arr** 1.3nm,0.4s,mb3.4,baz=111,slow=8.0,SNR=20	**42.36**	**274**	P	**P**	**08 23 31.8**	**-0.4**
WRA				S	**S**	**08 29 23.7**	**-1.0**
QSPA	**South Pole Qui** 0.8nm,0.6s,mb3.3,baz=344,slow=1.2,SNR=6.3	**59.06**	**180**	P	**P**	**08 25 34.9**	**+0.5**
QSPA	**South Pole Qui**	**59.06**	**180**	P	**P**	**08 25 34.9**	**+0.5**
ARCES	**ARCESS Array B** 4.7nm,1.2s,baz=66,slow=2.3,SNR=4.1	**138.83**	**347**	PKP	PKPdf	08 34 53.3	-0.8
NOA	**NORSAR Array B** 1.3nm,0.6s,baz=13,slow=4.1,SNR=5.3	**149.09**	**349**	PKPbc	PKPbc	08 35 13.3	-3.4
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=56,slow=2.4,SNR=5.2	**150.71**	**321**	PKPbc	PKPbc	08 35 17.6	-3.2

*ISCJB **16** 08:17:24.1±0.5, 1419S±005×767W±0.1, h33km, mb3.9/12, Error ellipse: s-maj=15.0km s-min=5.8km az=157.0*
*NEIC **16** 08:17:26.5±0.5, 1420S×7670W, h35km, mb4.3/2, Error ellipse: s-maj=15.4km s-min=8.0km az=55.0*
*IDC **16** 08:17:26.1±6.0, 1420S×7652W, h28km±41km, mb3.8/10, mb1 3.9/14, mb1mx3.8/23, mbtmp3.8/14, ML3.5/3, Error ellipse: s-maj=28.2km s-min=13.7km az=69.0*

ISC 16 08:17:26.5±0.5,1416S±005×766W±01,h35km,n26, σ0§93/27,mb3.9/12,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana** 18nm,0.3s,baz=180,slow=12,SNR=6.0	**2.17**	**354**	Pn	**Pn**	**08 18 01.1**	**+1.0**
NNA				Sn	**Sn**	**08 18 24.3**	**-1.4**
ARE	**Arequipa** 68nm,0.3s,baz=202,slow=17,SNR=7.2	**5.44**	**116**	*e*P	**Pn**	**08 18 49.0**	**+3.8**
ARE				*e*S	**Sn**	**08 19 57.0**	**+10**
ATAH	**Atahualpa** 1.7nm,0.3s,baz=235,slow=5.1,SNR=6.5	**7.32**	**346**	Pn	**Pn**	**08 19 11.6**	**+0.6**
ATAH				Sn	**Sn**	**08 20 32.0**	**-1.0**
LPAZ	**La Paz** 1.0nm,0.3s,baz=290,slow=13,SNR=11	**8.45**	**106**	Pn	**Pn**	**08 19 29.5**	**+3.0**
LVC	**Limon Verde** 1.0nm,0.3s,baz=307,slow=0.0,SNR=7.9	**11.14**	**140**	Pn	**Pn**	**08 20 03.1**	**-0.2**
LVC				Sn	**Sn**	**08 22 05.8**	**-0.8**
LVC	**Limon Verde** 0.7nm,0.3s,baz=64,slow=0.0,SNR=3.1	**11.14**	**140**	Pn	**Pn**	**08 20 03.1**	**-0.2**
LVC				Sn	**Sn**	**08 22 05.8**	**-0.8**
OTAV	**Otavalo**	**14.42**	**353**	*e*Pn		08 20 60.0	
SIV	**San Ignacio** 3.1nm,0.3s,baz=289,slow=12,SNR=4.7	**15.11**	**99**	Pn	**Pn**	**08 20 56.8**	**-0.8**
CFAA	**Coronel Fontan** 0.0nm,0.3s,baz=330,slow=17,SNR=2.4	**18.99**	**158**	P	**Pn**	**08 21 45.3**	**-0.7**
CPUP	**Villa Florida** 0.3nm,0.3s,mb3.2,baz=338,slow=4.4,SNR=3.8	**21.73**	**127**	P	**P**	**08 22 13.6**	**-1.3**
SDV	**Santo Domingo** 3.1nm,0.6s,mb3.9,baz=268,slow=17,SNR=4.4	**23.65**	**15**	P	**P**	**08 22 35.6**	**+0.7**
PCRV	**Puerto La Cruz** 6.9nm,0.8s,mb4.2,baz=207,slow=2.3,SNR=3.2	**26.93**	**27**	P	**P**	**08 23 05.2**	**+0.5**
PLCA	**Paso Flores** 1.0nm,0.7s,mb3.5,baz=42,slow=19,SNR=3.4	**27.00**	**170**	P	**P**	**08 23 04.5**	**-0.6**
SDCO	**Great Sand Dun** 2.4nm,0.9s,mb4.2	**58.32**	**333**	*e*P	**P**	**08 27 17.7**	**-0.4**
DUG	**Dugway** 3.1nm,1.2s,mb4.2	**63.68**	**330**	*e*P	**P**	**08 27 53.3**	**-1.1**
PDAR	**Pinedale Array** 0.3nm,0.6s,mb3.5,baz=123,slow=6.5,SNR=3.2	**64.21**	**334**	P	**P**	**08 27 58.6**	**+0.8**
NVAR	**Mina Array Bea** 0.4nm,0.7s,mb3.6,baz=152,slow=6.0,SNR=4.3	**65.26**	**325**	P	**P**	**08 28 05.9**	**+1.2**
SNAA	**Sanae**	**71.56**	**161**	*e*	**P**	**08 28 44.0**	**+0.4**
SNAA				*e*	pP	08 28 53.1	-1.4
DBIC	**Dimbokro** 2.6nm,0.5s,mb4.4,baz=179,slow=24,SNR=6.6	**74.12**	**79**	P	**P**	**08 28 59.4**	**-0.4**
DBIC	**Dimbokro** 0.9nm,0.6s,mb3.9,baz=215,slow=2.4,SNR=6.4	**74.12**	**79**	P	**P**	**08 28 59.4**	**-0.4**
QSPA	**South Pole Qui** 0.9nm,0.6s,mb3.9,baz=215,slow=2.4,SNR=6.4	**75.99**	**180**	P	**P**	**08 29 10.3**	**+0.8**
YKA	**Yellowknife Ar** 0.6nm,1.0s,mb3.5,baz=140,slow=5.4,SNR=4.9	**81.97**	**343**	P	**P**	**08 29 42.1**	**-0.2**
TORD	**Torodi Ar. Bea** 3.6nm,0.8s,mb4.3,baz=258,slow=5.0,SNR=16	**82.15**	**74**	P	**P**	**08 29 45.1**	**+0.8**
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=133,slow=1.6,SNR=5.0	**134.45**	**223**	PKP	PKPdf	08 36 42.5	+0.6
SONM	**Songino Array** 1.6nm,0.7s,baz=321,slow=1.8,SNR=10	**146.33**	**356**	PKPbc	PKPbc	08 37 04.5	+0.9
KSRS	**Korea Array** 0.4nm,0.3s,baz=48,slow=1.9,SNR=5.1	**148.15**	**321**	PKPbc	PKPbc	08 37 10.6	+1.6

*NEIC **16** 08:19:14.8, 4020N×2065E, h18km, MD3.5(ATH), ML3.5(THE), After ATH.*
*ATH **16** 08:19:14.8, 4020N×2065E, h18km±3km, MD3.5/6*
*THE **16** 08:19:14.8, 4033N×2032E, h7km, ML3.5*
*ISCJB **16** 08:19:15.6±0.5, 40.18N±003×2068E±006, h10km±6km, Error ellipse: s-maj=7.3km s-min=4.0km az=17.2*
*CSEM **16** 08:19:16.5±0.2, 40.18N×2070E, h15km, MD3.5, Error ellipse: s-maj=5.1km s-min=2.1km az=110.0*

ISC 16 08:19:16.5±0.5,4017N±003×2070E±006,h16km±6km,n16, σ1§29/23,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.53**	**167**	*e*PN	**Pg**	**08 19 25.3**	**-1.7**
JAN				*e*SN	**Sg**	**08 19 34.0**	**-0.1**
SRN	**Sarande**	**0.61**	**242**	*e*PN	**Pb**	**08 19 37.3**	**-1.6**
IGT	**Igoumenitsa**	**0.70**	**204**	*e*Pg	**Pg**	**08 19 29.5**	**-0.7**
IGT				*e*Sg	**Sg**	**08 19 41.7**	**+2.2**
FNA	**Florina**	**0.80**	**40**	*e*Pg	**Pn**	**08 19 31.8**	**-1.3**
FNA				*e*Sg	**Sn**	**08 19 45.8**	**+1.1**
KZN	**Kozani**	**0.83**	**80**	*e*PN	**Pg**	**08 19 32.1**	**-0.6**
KZN				*e*SN	**Sg**	**08 19 43.1**	**-0.5**
KEK	**Kerkira**	**0.83**	**237**	*e*PN	**Pn**	**08 19 30.5**	**-3.1**
BIA	**Bitola**	**0.97**	**29**	*e*Pg	**Pg**	**08 19 33.9**	**-1.4**
BIA				*e*Sg	**Sg**	**08 19 49.8**	**+1.7**
BIA	**Bitola**	**0.97**	**29**	*i* Pg	**Pg**	**08 19 34.0**	**-1.3**
BIA				*i* Sg	**Sg**	**08 19 49.4**	**+1.4**
THL	**Klokotos Trika**	**1.18**	**121**	*e*PN	**Pn**	**08 19 38.6**	**+0.2**
KRUS	**Krusevo**	**1.26**	**19**	*i* Pg	**Pg**	**08 19 40.5**	**-0.4**
LKD	**Levkas**	**1.47**	**182**	*e*Pb	**Pg**	**08 19 43.9**	**-0.8**
LKD				*e*Sb	**Sg**	**08 20 05.9**	**+2.1**
EVR	**Evrytania**	**1.52**	**145**	*e*PN	**Pn**	**08 19 43.9**	**+0.9**
PHP	**Peshkopia**	**1.52**	**353**	*e*PN	**Pg**	**08 19 48.2**	**+2.4**
PUK	**Puka**	**1.96**	**342**	*e*PN	**Pg**	**08 19 55.2**	**+0.9**
VLS	**Valsamata**	**2.00**	**183**	*e*PN	**Pn**	**08 19 50.5**	**+0.9**
BCI	**Bajram Curri**	**2.24**	**348**	*e*PN	**Pg**	**08 19 58.8**	**-0.8**

*IDC **16** 08:28:21.4±1.1, 1534N×6067W, h0km, mb3.6/5, mb1 4.1/8, mb1mx3.8/24, mbtmp3.9/8, ML4.4/2, Error ellipse: s-maj=26.8km s-min=23.8km az=57.0*
*TRN **16** 08:28:23.9, 1527N×6070W, h33km, MD4.0, M3.8(FDF), M3.7(FDF)*
TRN Felt II, III, Martinique.
*ISCJB **16** 08:28:24.2±0.4, 1527N±002×6063W±004, h33km, mb3.8/6, Error ellipse: s-maj=5.6km s-min=2.2km az=164.8*
*NEIC **16** 08:28:24.4, 1527N×6072W, h39km, mb4.3/1, MD4.0(TRN), MD4.6(RSPR), After TRN.*
NEIC Felt on Martinique and Saint Lucia.
*RSPR **16** 08:28:29.6, 1519N×6109W, h107km±25km, MD4.6/7, MD4.6/7*

ISC 16 08:28:26.1±0.4,1525N±002×6071W±004,h35km,n54, σ0§98/87,mb3.8/6,14C-10D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSTT	**Stowe**	**0.57**	**270**	⇑*i*P	**Pn**	**08 28 37.5**	**-0.1**
DSTT				*e*S	**Sn**	**08 28 46.8**	**+1.0**
DBCT	**Belle View Cho**	**0.61**	**272**	⇑*i*P	**Pn**	**08 28 38.0**	**-0.3**
DBCT				*e*S	**Sn**	**08 28 47.7**	**+0.8**
DPMT	**Pointe Michel**	**0.64**	**271**	*e*P	**Pn**	**08 28 38.5**	**-0.2**
DPMT				*e*S	**Sn**	**08 28 48.4**	**+0.9**
DWS	**Wesley**	**0.66**	**299**	⇑*i*P	**Pn**	**08 28 38.5**	**-0.4**
DWS				*e*S	**Sn**	**08 28 48.5**	**+0.5**
MDN	**Morne-Daniel**	**0.66**	**276**	⇓*i*P	**Pn**	**08 28 38.9**	**0.0**
MDN				*e*S	**Sn**	**08 28 49.3**	**+1.3**
FDF	**Fort de France**	**0.67**	**219**	⇑*i*P	**Pn**	**08 28 37.5**	**-1.5**
FDF	**Fort de France**	**0.67**	**219**	*e*Pn	**Pn**	**08 28 37.5**	**-1.5**
FDF				*e*Sn	**Sn**	**08 28 46.1**	**-2.1**
MVM	**Montagne Vaucl**	**0.71**	**194**	*e*P	**Pn**	**08 28 38.1**	**-1.6**
BIM	**Bigot**	**0.81**	**205**	*e*P	**Pn**	**08 28 39.6**	**-1.4**
BIM				*e*S	**Sn**	**08 28 50.7**	**-1.0**
MGG	**Marie-Galante**	**0.88**	**319**	⇑*e*P	**Pn**	**08 28 40.5**	**-1.5**
TBG	**Guadaloupe-3**	**1.08**	**304**	⇓*i*P	**Pn**	**08 28 43.5**	**-1.2**
SFG	**Saint Francois**	**1.10**	**335**	*e*P	**Pn**	**08 28 43.3**	**-1.7**
DEG	**La Desirade**	**1.11**	**343**	⇑*e*P	**Pn**	**08 28 43.2**	**-1.9**
DEG				⇑*e*S	**Sn**	**08 28 59.9**	**+0.8**
HMG	**Houelmont**	**1.20**	**308**	*e*P	**Pn**	**08 28 45.4**	**-0.9**
BCG	**Bois Riant Cap**	**1.20**	**314**	*e*P	**Pn**	**08 28 45.8**	**-0.6**
SCG	**Saint Claude**	**1.21**	**310**	⇑*e*P	**Pn**	**08 28 45.8**	**-0.7**
SLW	**Petit Monier**	**1.24**	**190**	⇑*i*P	**Pn**	**08 28 45.6**	**-1.3**
SLW	**Petit Monier**	**1.24**	**190**	⇑*i*P	**Pn**	**08 28 46.5**	**-0.5**
SLW				*e*S	**Sn**	**08 29 03.5**	**+1.0**
SLW	**Petit Monier**	**1.24**	**190**	⇑*i*P	**Pn**	**08 28 46.5**	**-0.5**
SLW				*e*S	**Sn**	**08 29 03.5**	**+1.0**
LZG	**Guadaloupe-1**	**1.35**	**311**	*e*P	**Pn**	**08 28 47.8**	**-0.7**
SLB	**Belfond**	**1.45**	**193**	*e*P	**Pn**	**08 28 50.0**	**+0.2**
SLB				*e*S	**Sn**	**08 29 08.8**	**+1.2**
MCLT	**Moule a Chique**	**1.55**	**188**	*e*P	**Pn**	**08 28 50.8**	**-0.4**
MCLT				*e*S	**Sn**	**08 29 11.2**	**+1.1**
SSV	**Crater Summit**	**1.97**	**194**	*e*P	**Pn**	**08 28 57.6**	**+0.6**
SSV				*e*S	**Sn**	**08 29 21.2**	**+0.8**
SVV	**Soufriere Volc**	**1.98**	**194**	*e*P	**Pn**	**08 28 57.6**	**+0.5**
SVV				*e*S	**Sn**	**08 29 20.1**	**-0.6**
BHS	**Barnard House**	**1.98**	**192**	*e*P	**Pn**	**08 28 57.6**	**+0.4**
SVB	**Belmont**	**2.04**	**195**	*e*P	**Pn**	**08 28 57.3**	**-0.6**
SVB				*e*S	**Sn**	**08 29 23.7**	**+1.6**
BPA	**Boggy Peak**	**2.10**	**329**	*e*P	**Pn**	**08 28 58.5**	**-0.2**
BPA				*e*S	**Sn**	**08 29 23.8**	**+0.2**
FCV	**Fort Charlotte**	**2.15**	**194**	*e*P	**Pn**	**08 28 59.6**	**+0.2**
FCV				*e*S	**Sn**	**08 29 25.6**	**+0.8**
SKI	**Saint Kitts**	**2.84**	**317**	*e*P	**Pn**	**08 29 09.5**	**+0.5**
SKI				*e*S	**Sn**	**08 29 41.2**	**-0.7**
SEUS	**St. Eustatius**	**3.12**	**316**	⇑*e*P	**Pn**	**08 29 13.8**	**+1.1**
SEUS				*e*S	**Sn**	**08 29 49.7**	**+1.0**
GRW	**Mount Saint Ca**	**3.21**	**197**	⇑*e*P	**Pn**	**08 29 15.1**	**+1.1**
GRW				*e*S	**Sn**	**08 29 50.6**	**-0.4**
GRGR	**Grenville**	**3.23**	**197**	*e*Pn	**Pn**	**08 29 14.5**	**+0.1**
GRGR				Sn	**Sn**	**08 29 55.1**	**+3.5**
TOSP	**Speyside**	**3.93**	**177**	*e*P	**Pn**	**08 29 23.6**	**-0.4**
TOSP				*e*S	**Sn**	**08 30 08.1**	**-0.8**
TPR	**Prospect**	**4.04**	**181**	⇓*i*P	**Pn**	**08 29 25.3**	**-0.2**
TPR				*e*S	**Sn**	**08 30 10.8**	**-0.9**
TRN	**Trinidad (W)**	**4.62**	**188**	*e*P	**Pn**	**08 29 34.2**	**+0.7**
TRN				*e*S	**Sn**	**08 30 24.8**	**-1.2**
TCE	**Chacachacare**	**4.64**	**193**	*e*P	**Pn**	**08 29 35.0**	**+1.4**
TCE				*e*S	**Sn**	**08 30 25.7**	**-0.7**
TBH	**Brigand Hill**	**4.75**	**184**	*e*P	**Pn**	**08 29 36.2**	**+1.0**
TBH				*e*S	**Sn**	**08 30 28.8**	**-0.3**
TBVI	**Tortola**	**4.88**	**311**	⇓*e*P	**Pn**	**08 29 39.3**	**+2.2**
TBVI				*e*S	**Sn**	**08 30 32.3**	**-0.1**
ABV	**Anegada**	**4.89**	**315**	⇑*e*P	**Pn**	**08 29 38.2**	**+1.0**
ABV				*e*S	**Sn**	**08 30 32.9**	**+0.3**
MTP	**Monte Pirata**	**5.43**	**302**	⇓*e*P	**Pn**	**08 29 45.1**	**+0.5**
CPD	**Cerro la Pandu**	**5.70**	**300**	⇓*e*P	**Pn**	**08 29 48.5**	**+0.2**
CPD				*e*S	**Sn**	**08 30 50.0**	**-2.6**
CBYP	**Canovanas**	**5.77**	**302**	⇓*e*P	**Pn**	**08 29 51.0**	**+1.8**
CBYP	**Canovanas**	**5.77**	**302**	⇓*e*P	**Pn**	**08 29 51.2**	**+2.0**
SJG	**San Juan** 9.3nm,0.3s,baz=323,slow=22,SNR=4.4	**5.94**	**299**	Pn	**Pn**	**08 29 51.8**	**+0.3**
PCRV	**Puerto La Cruz** 3.7nm,0.3s,baz=24,slow=6.2,SNR=31	**6.33**	**218**	Pn	**Pn**	**08 29 57.8**	**+0.8**
PCRV				Sn	**Sn**	**08 31 05.8**	**-2.3**
CRPR	**Cabo Rojo, PR** 1.7nm,0.3s,baz=281,slow=12,SNR=2.9	**6.71**	**295**	⇓*e*P	**Pn**	**08 30 02.8**	**+0.6**
CRPR				*e*S	**Sn**	**08 31 16.0**	**-1.5**
CRPR				*e*S	**Sn**	**08 31 16.1**	**-1.4**
CRPR	**Cabo Rojo, PR**	**6.71**	**295**	⇓*e*P	**Pn**	**08 30 02.8**	**+0.6**
CRPR				*e*S	**Sn**	**08 31 16.0**	**-1.5**
SDV	**Santo Domingo** 4.7nm,0.3s,baz=90,slow=6.7,SNR=21	**11.58**	**238**	Pn	**Pn**	**08 31 08.7**	**-0.2**
SIV	**San Ignacio** 0.7nm,0.7s,mb3.6,baz=301,slow=16,SNR=3.7	**31.05**	**181**	P	**P**	**08 34 41.8**	**+1.0**
PLAL	**Pickwick Lake** 3.8nm,0.8s,mb4.3	**31.45**	**314**	P	**P**	**08 34 43.0**	**-1.2**
PDAR	**Pinedale Array** 0.5nm,0.5s,mb3.8,baz=113,slow=9.4,SNR=3.7	**49.86**	**314**	P	**P**	**08 37 16.6**	**+0.7**
NVAR	**Mina Array Bea** 0.3nm,0.6s,mb3.5,baz=95,slow=9.1,SNR=3.1	**55.38**	**306**	P	**P**	**08 37 57.2**	**+0.4**
YKA	**Yellowknife Ar** 0.5nm,0.6s,mb3.7,baz=107,slow=7.5,SNR=6.5	**60.29**	**334**	P	**P**	**08 38 30.9**	**0.0**
TORD	**Torodi Ar. Bea** 0.9nm,0.8s,mb3.8,baz=277,slow=6.2,SNR=6.0	**60.36**	**83**	P	**P**	**08 38 32.7**	**+0.5**

*IDC **16** 08:32:36.1±0.9, 1430S×76.10W, h0km, mb4.0/8, mb1 4.1/12, mb1mx4.0/21, mbtmp4.0/12, ML3.5/2, Error ellipse: s-maj=35.2km s-min=15.7km az=63.0*
*ISCJB **16** 08:32:39.2±0.5, 1439S±007×760W±0.1, h33km, mb4.0/12, Error ellipse: s-maj=17.7km s-min=5.6km az=150.0*
*NEIC **16** 08:32:41.5±0.6, 1422S×7601W, h35km, mb4.3/4, Error ellipse: s-maj=20.1km s-min=8.4km az=51.0*

ISC 16 08:32:41.7±0.5,1436S±007×760W±01,h35km,n27, σ1§00/33,mb4.0/12,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana** 28nm,0.3s,baz=198,slow=13,SNR=7.1	**2.48**	**341**	Pn	**Pn**	**08 33 14.9**	**-4.8**
NNA				Sn	**Sn**	**08 33 50.0**	**+1.3**
ATAH	**Atahualpa** 0.5nm,0.3s,baz=104,slow=2.9,SNR=3.4	**7.67**	**342**	Pn	**Pn**	**08 34 30.4**	**-0.6**
ATAH				Sn	**Sn**	**08 36 06.2**	**+9.5**
LPAZ	**La Paz** 2.0nm,0.3s,baz=325,slow=19,SNR=2.7	**7.86**	**105**	Pn	**Pn**	**08 34 39.8**	**+6.3**
LPAZ				Sn	**Sn**	**08 36 17.4**	**+16**
LPAZ	**La Paz** baz=23,slow=18,SNR=1.5	**7.86**	**105**	*e*Pn	**Pn**	**08 34 35.2**	**+1.6**
LPAZ				Sn	**Sn**	**08 36 17.4**	**+16**
LVC	**Limon Verde** 1.3nm,0.3s,baz=341,slow=0.0,SNR=11	**10.63**	**142**	Pn	**Pn**	**08 35 11.4**	**-0.1**
LVC				Sn	**Sn**	**08 37 09.5**	**+0.2**
LVC	**Limon Verde** 0.8nm,0.3s,baz=263,slow=0.0,SNR=3.0	**10.63**	**142**	Pn	**Pn**	**08 35 11.4**	**-0.1**
LVC				Sn	**Sn**	**08 37 09.5**	**+0.2**
SIV	**San Ignacio**

Ms1 4.0/1, ms1mx3.2/34, Error ellipse: s-maj=21.6km s-min=12.1km az=61.0
MOS ***16*** *08:36:06.2±0.9, 1368S×7706W, h33km, mb4.7/6, Error ellipse: s-maj=26.0km s-min=12.0km az=39.2*
NEIC ***16*** *08:36:07.1±0.3, 1375S×77.11W, mb4.6/13, Error ellipse: s-maj=11.1km s-min=5.4km az=56.0*
ISC 16 08:36:07.3±0.4, 1378S±004×7713W±007, h26km, h26km±.6km:pP-P, n53, σ0º97/58, mb4.3/21, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.80**	**9**	Pn	**Pn**	**08 36 36.9**	**+0.2**
	144nm,0.3s,baz=191,slow=16,SNR=11						
NNA				Sn	**Sn**	**08 36 59.1**	**+0.4**
	1μm,0.3s,baz=247,slow=20,SNR=13						
NNA	**Nana**	**1.80**	**9**	*e*Pn	**Pn**	**08 36 34.1**	**-2.5**
NNA				*e*Sn	**Sn**	**08 36 59.4**	**+0.8**
ARE	**Arequipa**	**6.07**	**117**	*e*P	**Pn**	**08 37 36.0**	**+0.6**
ARE				*e*S	Sn	08 39 11.0	+27
ATAH	**Atahualpa**	**6.84**	**349**	Pn	**Pn**	**08 37 45.1**	**-0.9**
	9.6nm,0.3s,baz=177,slow=5.5,SNR=14						
ATAH				Sn	**Sn**	**08 38 57.8**	**-5.4**
	4.1nm,0.3s,baz=345,slow=20,SNR=2.2						
ATAH				LR	LR	08 40 04.8	
	comp=Z,1μm,18.1s,baz=0.6,slow=35						
LPAZ	**La Paz**	**9.05**	**107**	Pn	**Pn**	**08 38 18.1**	**+1.7**
	1.1nm,0.3s,baz=278,slow=10.0,SNR=9.7						
LPAZ	**La Paz**	**9.05**	**107**	*e*Pn	**Pn**	**08 38 18.3**	**+2.0**
LVC	**Limon Verde**	**11.76**	**140**	Pn	**Pn**	**08 38 52.7**	**-0.7**
	2.8nm,0.3s,baz=329,slow=0.0,SNR=11						
LVC				Sn	**Sn**	**08 40 59.9**	**-3.9**
	1.2nm,0.3s,baz=154,slow=0.0,SNR=4.2						
LVC	**Limon Verde**	**11.76**	**140**	*e*Pn	**Pn**	**08 38 52.9**	**-0.5**
LVC				*e*Sn	**Sn**	**08 40 57.3**	**-6.5**
OTAV	**Otavalo**	**13.98**	**355**	*e*Pn	**Pn**	**08 39 25.6**	**+1.8**
	13nm,1.1s						
OTAV				*e*Sn	**Sn**	**08 41 55.9**	**-2.4**
SIV	**San Ignacio**	**15.68**	**100**	Pn	**Pn**	**08 39 47.1**	**+0.5**
	0.2nm,0.3s,baz=252,slow=20,SNR=3.2						
LCO	**Las Campanas**	**16.29**	**160**	*e*Pn	**Pn**	**08 39 54.8**	**+0.3**
	13nm,0.9s						
ROSC	**El Rosal**	**18.72**	**9**	P	**Pn**	**08 40 25.6**	**+1.0**
	2.6nm,0.3s,baz=231,slow=18,SNR=3.7						
ROSC	**El Rosal**	**18.72**	**9**	*e*P	**Pn**	**08 40 25.6**	**+1.0**
CFAA	**Coronel Fontan**	**19.53**	**157**	P	**Pn**	**08 40 33.7**	**-0.6**
	0.0nm,0.3s,baz=339,slow=10,SNR=6.2						
CFAA	**Coronel Fontan**	**19.53**	**157**	P	**Pn**	**08 40 33.7**	**-0.6**
CPUP	**Villa Florida**	**22.37**	**127**	P	**P**	**08 41 02.6**	**-0.9**
	11nm,1.1s,mb4.2,baz=293,slow=9.0,SNR=8.0						
CPUP	**Villa Florida**	**22.37**	**127**	*e*P	**P**	**08 41 02.0**	**-1.6**
CPUP				pmax	pmax		
	comp=Z,40nm,1.1s						
CPUP	**Villa Florida**	**22.37**	**127**	*e*P	**P**	**08 41 02.0**	**-1.5**
	comp=Z,40nm,1.1s,mb4.8						
SDV	**Santo Domingo**	**23.42**	**16**	P	**P**	**08 41 16.0**	**+1.3**
	comp=Z,3.4nm,0.8s,mb3.8,baz=269,slow=7.9,SNR=3.4						
SDV	**Santo Domingo**	**23.42**	**16**	*e*P	**P**	**08 41 14.3**	**-0.4**
	comp=Z,13nm,0.9s,mb4.4						
PLCA	**Paso Flores**	**27.47**	**169**	P	**P**	**08 41 51.1**	**-0.1**
	comp=Z,4.8nm,1.0s,mb4.0,baz=339,slow=12,SNR=5.2						
PLCA	**Paso Flores**	**27.47**	**169**	*e*P	**P**	**08 41 52.0**	**+0.8**
PLCA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PLCA	**Paso Flores**	**27.47**	**169**	*e*P	**P**	**08 41 52.0**	**+0.8**
	comp=Z,6.5nm,1.1s,mb4.1						
BDFB	**Brasilia**	**28.22**	**97**	P	**P**	**08 41 57.5**	**-0.7**
	comp=Z,1.3nm,0.5s,mb3.8,baz=343,slow=19,SNR=3.7						
LAZ	**Ladron**	**55.76**	**330**	*e*P	**P**	**08 45 42.8**	**+0.8**
ANMO	**Albuquerque**	**55.88**	**331**	*e*P	**P**	**08 45 43.5**	**+0.7**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ANMO	**Albuquerque**	**55.88**	**331**	*e*P	**P**	**08 45 43.5**	**+0.6**
	comp=Z,5.1nm,1.3s,mb4.4						
TUC	**Tucson**	**56.01**	**326**	P	**P**	**08 45 44.5**	**+0.7**
TUC				*e*PP	pP	08 45 52.4	+0.4
TUC				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
TUC	**Tucson**	**56.01**	**326**	P	**P**	**08 45 44.5**	**+0.6**
	comp=Z,3.1nm,1.1s,mb4.2						
TUC				*e*pP	pP	08 45 52.4	+0.4
SDCO	**Great Sand Dun**	**57.76**	**334**	*e*P	**P**	**08 45 56.4**	**+0.3**
	comp=Z,7.6nm,1.3s,mb4.6						
SDCO				*e*pP	pP	08 46 04.5	+0.2
PV01	**Paradox Valley**	**59.45**	**331**	*e*P	**P**	**08 46 08.5**	**+0.6**
PV01				*e*pP	pP	08 46 16.5	+0.3
DUG	**Dugway**	**63.10**	**330**	*e*P	**P**	**08 46 32.2**	**-0.4**
DUG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
DUG	**Dugway**	**63.10**	**330**	*e*P	**P**	**08 46 32.2**	**-0.3**
	comp=Z,4.2nm,1.0s,mb4.5						
HWUT	**Hardware Ranch**	**63.61**	**332**	*e*P	**P**	**08 46 35.8**	**-0.1**
	comp=Z,4.6nm,0.9s,mb4.5						
PDAR	**Pinedale Array**	**63.65**	**334**	P	**P**	**08 46 35.8**	**-0.4**
	comp=Z,0.8nm,0.9s,mb3.8,baz=142,slow=7.5,SNR=5.0						
NVAR	**Mina Array Bea**	**64.66**	**325**	P	**P**	**08 46 43.8**	**+0.9**
	comp=Z,1.2nm,1.0s,mb3.9,baz=138,slow=6.4,SNR=7.5						
NVAR				pP	pP	08 46 52.2	+1.0
	comp=Z,0.7nm,0.8s,baz=144,slow=6.5,SNR=4.9						
NVAR	**Mina Array Bea**	**64.66**	**325**	P	**P**	**08 46 43.8**	**+0.9**
NVAR				pP	pP	08 46 52.2	+1.0
REDW	**Red Top Meadow**	**64.69**	**333**	P	**P**	**08 46 43.6**	**+0.7**
	comp=Z,10nm,1.5s,mb4.7						
FLWY	**Flagg Ranch**	**65.20**	**334**	*e*P	**P**	**08 46 46.5**	**+0.3**
	comp=Z,7.2nm,0.8s,mb4.8						
ULM	**Lac du Bonnet**	**65.84**	**347**	P	**P**	**08 46 49.2**	**-1.1**
	comp=Z,6.1nm,0.8s,mb4.7,baz=153,slow=6.5,SNR=5.9						
ULM	**Lac du Bonnet**	**65.84**	**347**	P	**P**	**08 46 49.2**	**-1.1**
EGMT	**Eagleton**	**68.04**	**337**	*e*P	**P**	**08 46 59.3**	**-5.0**
	comp=Z,5.8nm,0.9s,mb4.6						
YBH	**Yreka Blue Hor**	**69.38**	**325**	P	**P**	**08 47 11.8**	**-1.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=100,slow=4.3,SNR=4.6						
SNAA	**Sanae**	**72.08**	**161**	*e*P	**P**	**08 47 29.2**	**+0.3**
SNAA				*e*PP	pP	08 47 37.1	-0.2
SNAA				pmax	pmax		
	comp=Z,19nm,1.7s						
SNAA	**Sanae**	**72.08**	**161**	*e*P	**P**	**08 47 29.2**	**+0.3**
	comp=Z,20nm,1.7s,mb4.8						
SNAA				*e*pP	pP	08 47 37.1	-0.2
EDM	**Edmonton**	**73.60**	**338**	*e*P	**P**	**08 47 37.2**	**-0.8**
EDM				*e*PP	pP	08 47 45.2	-1.3
DBIC	**Dimbokro**	**74.54**	**79**	P	**P**	**08 47 42.3**	**-2.2**
	comp=Z,3.9nm,0.9s,mb4.3,baz=234,slow=8.7,SNR=2.7						
YKA	**Yellowknife Ar**	**81.46**	**343**	P	**P**	**08 48 21.0**	**-0.7**
	comp=Z,1.1nm,0.8s,mb3.9,baz=145,slow=4.2,SNR=12						
YKA				pP	pP	08 48 28.8	-1.5
	comp=Z,1.8nm,0.7s,baz=142,slow=6.1,SNR=12						
TOA0	**Torodi Ar. Sit**	**82.54**	**75**	*e*P	**P**	**08 48 28.4**	**-0.1**
TOA0				*e*pP	pP	08 48 36.4	-0.6
TORD	**Torodi Ar. Bea**	**82.54**	**75**	P	**P**	**08 48 28.8**	**+0.4**
	comp=Z,7.3nm,1.0s,mb4.7,baz=259,slow=4.0,SNR=16						
TORD				pP	pP	08 48 36.1	-0.8
	comp=Z,3.1nm,0.6s,baz=281,slow=5.1,SNR=7.9						
VNDA	**Vanda**	**82.99**	**191**	P	**P**	**08 48 28.6**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=163,slow=1.8,SNR=6.2						
KKH	**Kailua Kona**	**84.41**	**292**	P	**P**	**08 48 39.4**	**+1.4**
KKH				*e*pP	pP	08 48 46.4	-0.1
SONM	**Songino Array**	**145.92**	**356**	PKPbc	PKPbc	08 55 44.8	+0.4
	comp=Z,4.3nm,0.9s,baz=328,slow=2.9,SNR=4.3						
SONM				pPKPbc	pPKPbc	08 55 53.1	-0.2
	comp=Z,4.3nm,1.0s,baz=326,slow=2.4,SNR=2.1						

ISCJB ***16*** *08:39:25.3±0.7, 9845S×003×15941E±002, h1km±4km, mb6.0/170, MS6.6/271, Error ellipse: s-maj=4.4km s-min=2.9km az=171.2*
IDC ***16*** *08:39:25.7±0.3, 9815S×15959E, h0km, mb5.8/35, mb1 5.8/36, mb1mx5.8/36, mbtmp5.8/36, ML4.8/1, MS6.4/24, Ms1 6.4/24, ms1mx6.3/29, Error ellipse: s-maj=10.1km s-min=9.3km az=126.0*
BJI ***16*** *08:39:27.9, 9165S×15967E, h10km, mB6.5, mb5.9, Ms6.5, Msz6.3*
GCMT ***16*** *08:39:27.6±0.1, 9885S×15955E, h16km, MW6.5/109, Moment Tensor Solution. s106,c246; s109,c274; Duration: 4s1 Moment tensor: Scale 1018Nm; Mrr=2.33±.04; Mθθ3.03±.03; Mφφ-0.70±.04; Mrθ3.84±.14; Mθφ2.98±.03; Mφr-2.62±.12; Best double couple: M0 6.07600×1018 NP1:φs29.00000°, δ41.00000°, λ-157.00000°. NP2:φs281.00000°, δ75.00000°, λ-51.00000°. Principal axes: T 5.4620, Pl20.0000°, Azm342.0000°; N 1.2240, Pl37.0000°, Azm89.0000°; P -6.6900, Pl46.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BGS ***16*** *08:39:27.6±2.1, 9835S×15947E, h10km, mb6.1(NEIC)*
NEIC ***16*** *08:39:28.4±0.1, 9835S×15947E, h15km, mb6.1/106, ME6.6, MS6.7/209, Error ellipse: s-maj=6.0km s-min=4.9km az=156.0 Broadband fault plane solution: P waves. NP1:φs24.00000°, δ30.00000°, λ-170.00000°. NP2: φs285.00000°, δ85.00000°, λ-60.00000°. Principal axes: T Plg33.0000°, Azm350.0000°; N Plg0.0000°, Azm0.0000°; P Plg42.0000°, Azm224.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Honiara.
MOS ***16*** *08:39:30.9±1.6, 9705S×15943E, h33km, mb6.4/53, MS6.6/84 Error ellipse: s-maj=7.3km s-min=6.7km az=83.7*
DJA ***16*** *08:39:33, 1046S×15982E, h50km, Mwp6.5/29*
SZGRF ***16*** *08:39:34.1, 9055S×15966E, h33km, mb6.6, Bougainville - Solomon Islands region*
ISC 16 08:39:28.2±0.7, 9835S±003×15946E±002, h9km±4km, h13km±1.7km:pP-P, n1379, σ0º85/851, mb6.0/170, MS6.6/271, 273C-233D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.62**	**51**	Pn	**Pg**	**08 39 38.5**	**-1.7**
	26μm,0.3s,baz=241,slow=3.1,SNR=3249						
HNR	**Honiara**	**0.62**	**51**	*e*Pg	**Pg**	**08 39 38.5**	**-1.7**
HNR				*e*Sg	**Sg**	**08 39 48.1**	**-0.3**
PMG	**Port Moresby**	**12.14**	**271**	*e*P	**Pn**	**08 42 26.7**	**+5.3**
PMG				*e*		08 44 47.0	
PMG				pmax	pmax		
	comp=Z,981nm,1.3s						
PMG	**Port Moresby**	**12.14**	**271**	*e*Pn	**Pn**	**08 42 26.6**	**+5.2**
	comp=Z,981nm,1.3s						
PMG				*e*Sn	**Sn**	**08 44 47.0**	**+10**
DZM	**Mont Dzumac**	**13.89**	**152**	*e*P	**Pn**	**08 42 44.1**	**-1.3**
DZM	**Mont Dzumac**	**13.89**	**152**	*e*Pn	**Pn**	**08 42 44.9**	**-0.5**
	comp=Z,2μm,1.5s						
CTA	**Charters Tower**	**16.32**	**230**	*e*P	**Pn**	**08 43 18.4**	**+0.7**
	comp=Z,616nm,0.9s						
CTA				*e*S	**Sn**	**08 46 27.2**	**+8.2**
CTA	**Charters Tower**	**16.32**	**230**	Pn	**Pn**	**08 43 17.9**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=49,slow=14,SNR=24						
CTA	**Charters Tower**	**16.32**	**230**	*e*P	**Pn**	**08 43 18.4**	**+0.7**
CTA				*e*S	**Sn**	**08 46 27.2**	**+8.2**
CTA				pmax	pmax		
	comp=Z,616nm,0.9s						
CTAO	**Charters Tower**	**16.32**	**230**	*e*P	**Pn**	**08 43 17.3**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,743nm,0.9s						
CTAO	**Charters Tower**	**16.32**	**230**	*e*Pn	**Pn**	**08 43 17.3**	**-0.4**
	comp=Z,743nm,0.9s						
COEN	**Coen**	**16.45**	**254**	*e*Pn	**Pn**	**08 43 20.0**	**+0.5**
	comp=Z,2μm,1.5s						
COEN				*e*Sn	**Sn**	**08 46 32.2**	**+10**
TARA	**Tarawa**	**17.41**	**51**	P	**Pn**	**08 43 35.0**	**+3.5**
FUNA	**Funafuti**	**19.53**	**88**	*e*P	**Pn**	**08 43 55.8**	**-1.5**
	comp=Z,3μm,1.8s						
FUNA				*e*S	**Sn**	**08 47 36.6**	**-0.2**
JAY	**Jayapura**	**20.00**	**290**	P	**P**	**08 44 03.8**	**+2.5**
ARMA	**Armidale**	**21.75**	**199**	*e*P	**P**	**08 44 18.8**	**-1.2**
ARMA				*i* S	**S**	**08 48 26.6**	**+5.9**
RIV	**Riverview**	**25.08**	**196**	*e*P	**P**	**08 44 53.5**	**+0.5**
WRAB	**Tennant Creek**	**26.23**	**245**	*e*P	**P**	**08 45 02.4**	**-1.3**
WRAB	**Tennant Creek**	**26.23**	**245**	*e*P	**P**	**08 45 03.1**	**-0.6**
	comp=Z,742nm,0.8s,mb6.3						
WRAB				LR	LR		
	comp=Z,154μm,20.0s,MS6.5						
WB2	**Warramunga Arr**	**26.23**	**245**	⇓*i*P	**P**	**08 45 03.1**	**-0.6**
WB2				*e*PCP	PcP	08 48 32.1	+1.6
WB2				*i* S	**S**	**08 49 34.9**	**-1.3**
WB2				*e*PCS	PcS	08 52 09.0	-2.7
WB2				*e*SCS	ScS	08 56 01.6	+0.8
WB2	**Warramunga Arr**	**26.23**	**245**	*e*P	**P**	**08 45 03.3**	**-0.4**
WB2				*e*PcP	PcP	08 48 32.1	+1.6
WB2				*i* S	**S**	**08 49 34.9**	**-1.3**
WB2				*e*S	S	08 49 57.3	+21
WB2				*e*PcS	PcS	08 52 09.0	-2.7
WB2				*e*ScS	ScS	08 56 01.6	+0.8
WRA	**Warramunga Arr**	**26.24**	**245**	P	**P**	**08 45 03.2**	**-0.6**
	comp=Z,355nm,0.8s,mb6.0,baz=73,slow=9.9,SNR=252						
WRA				PcP	PcP	08 48 30.2	-0.4
	comp=Z,69nm,1.0s,baz=71,slow=2.6,SNR=7.5						
WRA				S	**S**	**08 49 37.1**	**+0.7**
	comp=Z,23nm,1.1s,baz=68,slow=15,SNR=2.4						
WRA				LR	LR	08 55 00.0	
	comp=Z,117μm,19.5s,MS6.4,baz=80,slow=35						
WRA	**Warramunga Arr**	**26.24**	**245**	*i* P	**P**	**08 45 02.2**	**-1.6**
WRA				pmax	pmax		
	comp=Z,355nm,0.8s						
KAKA	**Kakadu**	**26.65**	**261**	*e*P	**P**	**08 45 06.9**	**-0.6**
	comp=Z,909nm,1.5s,mb6.1						
CNB	**Canberra Magne**	**26.99**	**198**	*e*P	**P**	**08 45 09.8**	**-0.6**
CNB				*e*S	**S**	**08 49 55.4**	**+7.5**
CAN	**Canberra**	**27.11**	**199**	*e*P	**P**	**08 45 11.0**	**-0.5**
	comp=Z,395nm,1.2s,mb5.8						
GUMO	**Guam**	**27.41**	**328**	P	**P**	**08 45 13.4**	**-0.9**
	comp=Z,127nm,0.7s,mb5.6,baz=176,slow=8.5,SNR=12						
GUMO				LR	LR	08 55 13.6	
	comp=Z,57μm,19.0s,MS6.2,baz=323,slow=34						
STKA	**Stephens Creek**	**27.48**	**214**	*e*P	**P**	**08 45 13.7**	**-1.2**
	comp=Z,240nm,0.8s,mb5.8						
STKA				*e*S	**S**	**08 49 50.7**	**-5.0**
STKA	**Stephens Creek**	**27.48**	**214**	P	**P**	**08 45 13.4**	**-1.5**
	comp=Z,138nm,0.7s,mb5.6,baz=25,slow=9.1,SNR=43						
STKA				LR	LR	08 56 32.7	
	comp=Z,165μm,18.3s,MS6.6,baz=35,slow=37						
STKA	**Stephens Creek**	**27.48**	**214**	*e*P	**P**	**08 45 13.8**	**-1.1**
	comp=Z,40nm,0.8s,mb5.0						
STKA				*e*S	**S**	**08 49 47.6**	**-8.1**
STKA				*e*S	**S**	**08 49 50.7**	**-5.0**
ASAR	**Alice Springs**	**28.01**	**237**	P	**P**	**08 45 18.2**	**-1.4**
	comp=Z,89nm,0.6s,mb5.6,baz=64,slow=9.4,SNR=221						
ASAR				PcP	PcP	08 48 36.0	+1.3
	comp=Z,35nm,0.8s,baz=82,slow=2.9,SNR=6.7						
ASAR				ScP	ScP	08 52 17.6	+1.6
	comp=Z,12nm,1.0s,baz=86,slow=2.9,SNR=4.8						
ASAR				P3KPbc		09 17 45.0	
	comp=Z,3.0nm,1.1s,baz=218,slow=4.5,SNR=7.8						
ASAR	**Alice Springs**	**28.01**	**237**	P	**P**	**08 45 18.3**	**-1.4**
ASAR						08 48 36.0	
ASAR	**Alice Springs**	**28.01**	**237**	P	**P**	**08 45 18.2**	**-1.4**
ASAR				PcP	PcP	08 48 36.0	+1.3
ASAR				ScP	ScP	08 52 17.6	+1.6
ASAR				*e*		09 17 45.0	
AFI	**Afiamalu**	**28.43**	**101**	P	**P**	**08 45 22.0**	**-1.5**
	comp=Z,153nm,0.9s,mb5.6,baz=174,slow=10,SNR=6.1						
AFI				LR	LR	08 54 00.5	
	comp=Z,57μm,20.6s,MS6.2,baz=112,slow=31						
AFI	**Afiamalu**	**28.43**	**101**	*e*P	**P**	**08 45 22.7**	**-0.8**
AFI				*e*S	**S**	**08 50 18.9**	**+8.0**
AFI				pmax	pmax		
	comp=Z,569nm,1.4s,mb6.0						
AFI	**Afiamalu**	**28.43**	**101**	*e*P	**P**	**08 45 22.7**	**-0.8**
	comp=Z,569nm,1.4s,mb6.0						
AFI				*e*S	**S**	**08 50 18.9**	**+8.0**
AFI				LR	LR	08 54 00.5	
RAO	**Raoul Island**	**28.67**	**136**	P	**P**	**08 45 24.2**	**-1.2**
	comp=Z,318nm,0.3s,mb6.5,baz=75,slow=20,SNR=2.8						
RAO	**Raoul Island**	**28.67**	**136**	P	**P**	**08 45 24.9**	**-0.6**
RAO				LR	LR		
	comp=Z,57μm,20.0s,MS6.2						
TOO	**Toolangi**	**30.36**	**202**	*e*P	**P**	**08 45 39.7**	**-0.7**
TOO				*e*PCP	PcP	08 48 42.5	+2.1
HIZ	**Hauiti**	**31.73**	**157**	P	**P**	**08 45 55.3**	**+2.9**
URZ	**Urewera**	**32.45**	**154**	P	**P**	**08 45 57.7**	**-1.0**
	comp=Z,27nm,0.8s,mb5.1,baz=286,slow=2.1,SNR=11						
URZ				LR	LR	08 56 31.1	
	comp=Z,129μm,21.4s,MS6.6,baz=144,slow=32						
BKZ	**Black Stump Fm**	**32.94**	**155**	P	**P**	**08 46 03.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**33.79**	**252**	*e*P	**P**	**08 46 08.8**	**-1.9**
	comp=Z,324nm,0.8s,mb6.3						
FITZ				*i* S	**S**	**08 51 31.4**	**-3.4**
FITZ	**Fitzroy Crossi**	**33.79**	**252**	P	**P**	**08 46 10.1**	**-0.6**
	comp=Z,162nm,0.8s,mb6.0,baz=89,slow=8.2,SNR=120						
FITZ				S	**S**	**08 51 31.3**	**-3.5**
	comp=Z,9.0nm,0.8s,baz=345,slow=20,SNR=2.7						
FITZ				LR	LR	08 59 33.0	
	comp=Z,59μm,19.9s,MS6.3,baz=273,slow=36						
SNZO	**South Karori**	**34.12**	**159**	*e*P	**P**	**08 46 13.1**	**-0.2**
	comp=Z,1μm,2.2s,mb6.5						
SNZO				LR	LR		
	comp=Z,64μm,19.0s,MS6.4						
TAU	**Tasmania Unive**	**34.62**	**196**	*e*P	**P**	**08 46 18.1**	**+0.5**
TAU				*e*		08 48 52.7	
TAU				pmax	pmax		
	comp=Z,1μm,1.4s,mb6.6						
TAU				MLR	MLR		
	comp=Z,51μm,19.0s,MS6.3						
TAU	**Tasmania Unive**	**34.62**	**196**	*e*P	**P**	**08 46 18.1**	**+0.4**
	comp=Z,1μm,1.4s,mb6.6						
TAU				*e*PcP	PcP	08 48 52.7	+0.7
TAU				LR	LR		
	comp=Z,51μm,19.0s,MS6.3						
RPZ	**Rata Peaks**	**35.23**	**165**	P	**P**	**08 46 21.0**	**-1.9**
	comp=Z,54nm,0.8s,mb5.6,baz=358,slow=4.7,SNR=18						
RPZ				PcP	PcP	08 48 53.5	-0.3
	comp=Z,26nm,0.7s,baz=345,slow=0.2,SNR=4.1						
RPZ				LR	LR	08 59 07.1	
	comp=Z,52μm,21.1s,MS6.3,baz=335,slow=34						
RPZ	**Rata Peaks**	**35.23**	**165**	P	**P**	**08 46 24.3**	**+1.4**
RPZ				PcP	PcP	08 48 53.5	-0.3
RPZ				LR	LR	08 59 07.1	
BATI	**Baumata**	**35.24**	**266**	P	**P**	**08 46 23.5**	**+0.1**
	comp=Z,212nm,0.7s,mb6.2,baz=204,slow=5.1,SNR=9.9						
BATI				LR	LR	09 02 07.1	
	comp=Z,101μm,18.4s,MS6.6,baz=113,slow=38						
FORT	**Forrest**	**35.87**	**230**	*e*P	**P**	**08 46 27.3**	**-1.3**
	comp=Z,360nm,0.7s,mb6.4						
ODZ	**Otahua Downs**	**36.39**	**167**	P	**P**	**08 46 33.3**	**+0.5**
BIPH	**Bislig**	**37.51**	**297**⇑*e*P	**P**	**08 46 40.5**	**-2.2**
DAV	**Davao City (W)**	**37.70**	**295**	P	**P**	**08 46 43.8**	**-0.5**
	comp=Z,74nm,0.4s,mb5.8,baz=105,slow=19,SNR=2.1						
DAV	**Davao City (W)**	**37.70**	**295**⇑*e*P	**P**	**08 46 43.4**	**-1.0**
DAV	**Davao City (W)**	**37.70**	**295**	P	**P**	**08 46 43.8**	**-0.5**
DAV				LR	LR		
	comp=Z,26μm,20.0s,MS6.0						
BUKP	**Musuan**	**38.51**	**296**	*e*P	**P**	**08 46 51.5**	**+0.2**
SCPH	**Surigao**	**39.02**	**299**⇑*e*P	**P**	**08 46 55.5**	**+0.1**
KAPI	**Kappang**	**39.65**	**274**	⇓P	**P**	**08 46 59.5**	**-1.2**
	SNR=25						
KAPI	**Kappang**	**39.65**	**274**	PFAKE		08 47 10.0	+9.2
KAPI				LR	LR		
	comp=Z,42μm,22.0s,MS6.2						
MSLP	**Maasin**	**39.73**	**299**	*e*P	**P**	**08 47 02.9**	**+1.5**
MBWA	**Marble Bar**	**39.80**	**249**	P	**P**	**08 47 01.7**	**-0.2**
	SNR=20						
MBWA	**Marble Bar**	**39.80**	**249**	*e*P	**P**	**08 47 01.3**	**-0.6**
	comp=Z,363nm,0.8s,mb6.2						
MBWA				*e*PP	PP	08 48 28.0	-5.4
MBWA				LR	LR		
	comp=Z,64μm,19.0s,MS6.5						
PAGZ	**Pagadian**	**39.99**	**295**	*e*P	**P**	**08 47 06.2**	**+2.6**
CBIJ	**Chichi jima**	**40.35**	**336**	P	**P**	**08 47 04.5**	**-1.8**
	comp=Z,261nm,0.7s,mb6.1,baz=176,slow=5.0,SNR=16						
CBIJ	**Chichi jima**	**40.35**	**336**	P	**P**	**08 47 05.0**	**-1.3**
TBP	**Tagbilaran**	**40.39**	**298**	*e*P	**P**	**08 47 02.3**	**-4.6**
RAR	**Rarotonga**	**40.76**	**111**	P	**P**	**08 47 07.0**	**-2.9**
	comp=Z,39nm,0.8s,mb5.1,baz=168,slow=6.6,SNR=2.2						
RAR				LR	LR	09 00 56.4	
	comp=Z,17μm,20.7s,MS5.9,baz=276,slow=32						
CNP	**Catarman**	**41.08**	**302**	*e*P	**P**	**08 47 15.3**	**+2.7**
GUIM	**Jordan**	**41.93**	**298**	*e*P	**P**	**08 47 18.6**	**-1.0**
PVCP	**Virac**	**42.07**	**303**	*e*P	**P**	**08 47 21.5**	**+0.9**
OTRP	**Odiongan**	**43.24**	**300**	*e*P	**P**	**08 47 30.5**	**+0.3**
CUYO	**Cuyo Island**	**43.40**	**297**	*e*P	**P**	**08 47 34.3**	**+2.8**
MYLDM	**Lahad Datu**	**43.45**	**288**	⇓P	**P**	**08 47 35.2**	**+3.2**
GQP	**Guinayangan**	**43.64**	**302**⇓*e*P	**P**	**08 47 34.7**	**+1.2**
TSM	**Tawau**	**43.74**	**287**	⇓P	**P**	**08 47 35.3**	**+0.9**
MIDW	**Midway**	**43.96**	**30**	*e*P	**P**	**08 47 34.6**	**-1.2**
	comp=Z,245nm,0.9s,mb5.9						
MIDW				*e*S	S	08 53 45.3	-22
MIDW				LR	LR		
	comp=Z,62μm,22.0s,MS6.5						
SJMP	**San Jose**	**44.06**	**299**	*e*P	**P**	**08 47 38.8**	**+1.9**
KLBR	**Kellerberrin**	**44.25**	**234**	*e*P	**P**	**08 47 36.8**	**-1.4**
	comp=Z,137nm,0.8s,mb5.7						
XMAS	**Kiritimati**	**44.50**	**77**	*e*P	**P**	**08 47 41.5**	**+1.0**
	comp=Z,86nm,1.0s,mb5.5						
XMAS				LR	LR		
	comp=

comp=Z,24μm,27.2s
TBI eLQ 09 00 50.4
comp=Z,166μm,31.5s
TBI eLR LR 09 02 53.6
comp=Z,27μm,35.5s,baz=286
TBI Tubuai 50.51 112 eP **P** **08 48 27.1 0.0**
comp=Z,790nm,1.1s,mb6.6
TBI eS **S** **08 55 41.8 +0.3**
TBI eLQ 09 00 50.4
YHNB Yeheng 50.56 313 eP **P** **08 48 27.5 +0.2**
comp=Z,512nm,1.3s,mb6.3
YHNB LR LR
comp=Z,30μm,22.0s,MS6.3
TATO Taipei 50.66 314 PFAKE 08 48 40.0 +12
TATO LR LR
comp=Z,39μm,20.0s,MS6.4
MEH Mehetia 51.43 105 eP **P** **08 48 33.8 -0.3**
comp=Z,6μm,1.1s
PMOR Pomariorio Ree 51.58 101 eP **P** **08 48 35.2 0.0**
comp=Z,338nm,1.3s,mb6.1
KIP Kipapa 52.04 53 eP **P** **08 48 35.8 -2.7**
KIP Kipapa 52.04 53 PFAKE 08 48 50.0 +12
KIP LR LR
comp=Z,60μm,19.0s,MS6.7
QZH Quanzhou 52.74 312⇑ iP **P** **08 48 44.3 +0.6**
QZH S **S** **08 56 11.6 -0.4**
QZH AMB AMB
comp=Z,210nm,0.9s,mb6.1
QZH AMB AMB
comp=Z,9μm,8.5s
QZH LR LR
comp=N,19μm,14.0s,MS6.4
QZH LR LR
comp=E,12μm,12.0s,MS6.4
QZH LR LR
comp=Z,19μm,14.8s,MS6.3
KHU Kahuku 52.86 57 eP **P** **08 48 44.4 -0.3**
POHA Pohakuloa 53.18 56 PFAKE 08 49 00.0 +13
POHA LR LR
comp=Z,82μm,20.0s,MS6.8
STCH Steam Cracks 53.34 57 eP **P** **08 48 47.6 -0.5**
HKC Hong Kong Obse 54.68 306⇑ iP **P** **08 48 58.0 +0.1**
HKC i S **S** **08 56 36.0 -2.4**
SSE Sheshan 54.79 319 P **P** **08 48 58.4 -0.2**
SSE AP pP 08 49 01.5 -0.1
SSE XP sP 08 49 02.9 +0.1
SSE PP PP 08 50 59.9 -1.6
SSE S **S** **08 56 38.8 -0.9**
SSE XS sS 08 56 43.4 -1.2
SSE AMB AMB
comp=Z,349nm,0.8s,mb6.4
SSE AMB AMB
comp=Z,3μm,9.1s
SSE LR LR
comp=N,3μm,13.7s,MS6.3
SSE LR LR
comp=E,16μm,13.7s,MS6.3
SSE LR LR
comp=Z,15μm,12.9s,MS6.2
YUK Yuzh-Kuril'sk 55.01 348 P **P** **08 49 00.5 +0.6**
YUK e 08 50 07.0
YUK e 08 51 03.0
YUK eS **S** **08 56 42.0 -0.1**
YUK eSS SS 09 00 16.0 -10
YUK pmax pmax
comp=N,6μm,3.0s
YUK pmax pmax
comp=Z,6μm,3.0s
YUK pmax pmax
comp=Z,150nm,0.5s,mb6.3
YUK pmax pmax
comp=E,5μm,2.5s
YUK smax
comp=E,16μm,13.0s
YUK MLR MLR
comp=Z,94μm,20.0s,MS6.9
YUK MLR MLR
comp=N,88μm,18.0s,MS6.9
YUK MLR MLR
comp=E,28μm,15.0s,MS6.9
KSRS Korea Array 55.55 330 P **P** **08 49 03.3 -0.6**
comp=E,131nm,1.0s,mb5.9,baz=144,slow=7.3,SNR=97
KSRS LR LR 09 10 12.4
comp=E,33μm,21.1s,MS6.4,baz=136,slow=33
KSRS PKP2bc 09 19 18.8
comp=E,0.9nm,0.5s,baz=149,slow=6.6,SNR=5.6
GZH Guangzhou 55.74 307 P **P** **08 49 06.3 +0.7**
GZH S **S** **08 56 56.8 +4.2**
GZH LR LR
comp=N,20μm,19.4s,MS6.2
GZH LR LR
comp=E,9μm,21.4s,MS6.2
ASAJ Asahikawa 55.83 345 P **P** **08 49 05.6 -0.2**
comp=E,138nm,0.7s,mb6.1,baz=199,slow=8.7,SNR=6.2
INCN Inchon 56.22 329 P **P** **08 49 08.6 -0.1**
SNR=43
INCN Inchon 56.22 329 PFAKE 08 49 20.0 +11
INCN LR LR
comp=Z,26μm,21.0s,MS6.3
MYKOM Kota Tinggi 56.56 279⇓ P **P** **08 49 13.5 +1.9**
QIZ Qiongzhong 56.70 300 P **P** **08 49 13.3 +0.8**
QIZ S **S** **08 57 03.9 -1.6**
QIZ AMB AMB
comp=Z,2μm,7.2s
QIZ LR LR
comp=E,11μm,18.6s
QIZ LR LR
comp=Z,18μm,19.9s,MS6.2
QIZ Qiongzhong 56.70 300 eP **P** **08 49 11.8 -0.7**
comp=Z,258nm,1.2s,mb6.1
QIZ eS **S** **08 57 03.1 -2.3**
QIZ LR LR
comp=Z,19μm,20.0s,MS6.2
NJ2 Nanjing 56.92 319 eP **P** **08 49 14.3 +0.5**
NJ2 AP pP 08 49 17.5 +0.6
NJ2 XP sP 08 49 19.8 +1.8
NJ2 PP PP 08 51 21.9 +1.3
NJ2 S **S** **08 57 03.5 -4.5**
NJ2 AMB AMB
comp=Z,160nm,0.9s,mb6.0
NJ2 AMB AMB
comp=Z,3μm,5.0s
NJ2 LR LR
comp=N,4μm,24.8s,MS5.9
NJ2 LR LR
comp=E,12μm,24.0s,MS5.9
NJ2 LR LR
comp=Z,12μm,23.0s,MS5.9
KGM Kluang 57.13 279⇑ P **P** **08 49 16.5 +0.9**
KTGM Kuala Trenggan 58.10 283⇓ P **P** **08 49 22.9 +0.4**
DRV Dumont d'Urvil 58.28 189 P **P** **08 49 23.0 +0.1**
DRV S **S** **08 57 32.0 +7.1**
DRV SS SS 09 01 28.0 +11
DRV L 09 03 00.0
DRV R 09 07 00.0
VLA Vladivostok 58.39 337 eP **P** **08 49 23.4 -0.5**
VLA e 08 51 34.3
VLA i S **S** **08 57 26.4 -0.4**
VLA pmax pmax
comp=Z,398nm,2.6s,mb6.0
VLA MLR MLR
comp=Z,25μm,17.8s,MS6.4
YSS Yuzh-Sakhalins 58.46 347αe P **P** **08 49 23.4 -1.0**
YSS e 08 49 35.0
YSS e 08 51 30.0
YSS i S **S** **08 57 24.0 -3.6**
YSS i 08 59 15.0
YSS pmax pmax
comp=N,140nm,1.2s
YSS pmax pmax
comp=E,180nm,1.2s
YSS pmax pmax
comp=Z,250nm,1.2s,mb6.1
YSS pmax pmax
comp=N,3μm,10.0s
YSS pmax pmax
comp=Z,5μm,10.0s
YSS MLR MLR
comp=Z,32μm,18.0s,MS6.5
YSS MLR MLR
comp=N,22μm,17.0s
YSS Yuzh-Sakhalins 58.46 347 PFAKE 08 49 30.0 +5.6
YSS LR LR
comp=Z,22μm,19.0s,MS6.3
FRIM Kepong 59.05 280⇓ P **P** **08 49 28.6 -0.6**
WHN Wuhan 59.05 315⇑ iP **P** **08 49 27.0 -1.8**
WHN AP pP 08 49 34.3 +2.4
WHN S **S** **08 57 31.1 -4.8**
WHN LR LR
comp=N,22μm,14.6s,MS6.6
WHN LR LR
comp=E,31μm,19.2s,MS6.6
WHN LR LR
comp=Z,47μm,20.2s,MS6.6
TAOE Nuku Hiva Isla 59.53 95 eP **P** **08 49 32.1 -0.4**
comp=Z,1μm,1.2s,mb6.7
TAOE eS **S** **08 57 42.0 -0.7**
comp=Z,44μm,27.5s
TAOE eSS SS 09 01 34.1 -4.1
comp=Z,25μm,27.5s
TAOE eLQ 09 04 25.7
comp=Z,103μm,35.7s
TAOE eLR LR 09 07 10.2
comp=Z,65μm,23.3s,baz=269
TAOE Nuku Hiva Isla 59.53 95 eP **P** **08 49 32.1 -0.4**
comp=Z,1μm,1.2s,mb6.8
TAOE eS **S** **08 57 42.0 -0.7**
TAOE eSS SS 09 01 34.1 -4.1
TAOE eLQ 09 04 25.7
DL2 Dalian 59.92 326⇑ iP **P** **08 49 34.4 -0.2**
DL2 PP PP 08 51 49.8 +2.8
DL2 S **S** **08 57 47.8 +0.9**
DL2 AMB AMB
comp=Z,120nm,0.9s,mb5.9
DL2 AMB AMB
comp=Z,2μm,6.6s
DL2 LR LR
comp=N,10μm,16.3s,MS6.2
DL2 LR LR
comp=E,10μm,16.8s,MS6.2
DL2 LR LR
comp=Z,12μm,16.5s,MS6.1
IPM Ipoh 59.92 281⇓ P **P** **08 49 37.8 +2.6**
SKR Severo-Kuril's 60.33 358 eP **P** **08 49 36.0 -1.2**
SKR e 08 50 20.0
SKR e 08 51 56.0
SKR eS **S** **08 57 52.0 +0.4**
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=Z,400nm,1.0s,mb6.4
SKR smax
comp=N,19μm,12.0s
SKR smax
comp=E,16μm,12.0s
SKR MLR MLR
comp=N,50μm,18.0s,MS6.8
SKR MLR MLR
comp=E,38μm,18.0s,MS6.8
SKR MLR MLR
comp=Z,62μm,18.0s,MS6.8
KULM Kulim 60.48 282⇓ P **P** **08 49 37.8 -1.2**
MDJ Mudanjiang 60.55 336 P **P** **08 49 38.8 -0.1**
MDJ PP PP 08 51 52.9 +0.4
MDJ S **S** **08 57 57.6 +2.8**
MDJ AMB AMB
comp=Z,152nm,1.3s,mb6.0
MDJ AMB AMB
comp=Z,4μm,6.9s
MDJ LR LR
comp=N,35μm,20.4s,MS6.5
MDJ LR LR
comp=E,22μm,23.4s,MS6.5
MDJ LR LR
comp=Z,54μm,22.2s,MS6.6
MDJ Mudanjiang 60.55 336 eP **P** **08 49 38.0 -0.8**
comp=Z,444nm,1.5s,mb6.4
MDJ eS **S** **08 57 55.0 +0.2**
MDJ LR LR
comp=Z,37μm,22.0s,MS6.5
TIA Tai'an 60.70 321 eP **P** **08 49 40.0 0.0**
TIA S **S** **08 57 50.5 -6.5**
TIA AMB AMB
comp=Z,106nm,1.4s,mb5.8
TIA LR LR
comp=N,10μm,14.0s,MS6.2
TIA LR LR
comp=E,5μm,14.0s,MS6.2
SNY Shenyang 61.05 330⇑ P **P** **08 49 42.4 +0.1**
SNY AP pP 08 49 45.6 +0.3
SNY XP sP 08 49 49.1 +2.6
SNY PP PP 08 51 52.0 -5.0
SNY S **S** **08 58 02.5 +1.3**
SNY XS sS 08 58 07.8 +1.6
SNY SS SS 09 01 58.3 -2.9
SNY AMB AMB
comp=Z,104nm,2.8s,mb5.5
SNY LR LR
comp=N,24μm,19.2s,MS6.4
SNY LR LR
comp=E,12μm,20.4s,MS6.4
SNY LR LR
comp=Z,36μm,29.2s
COCO West Island 61.41 261 PFAKE 08 49 50.0 +4.7
COCO LR LR
comp=Z,14μm,19.0s,MS6.1
PSI Prapat 61.58 279 P **P** **08 49 45.5 -1.0**
comp=Z,48nm,1.0s,mb5.6,baz=100,slow=4.9,SNR=12
CN2 Changchun 61.67 333⇑ P **P** **08 49 45.9 -0.6**
CN2 ePP PP 08 52 05.5 +3.1
CN2 eS **S** **08 58 07.9 -1.2**
CN2 AMB AMB
comp=Z,80nm,1.0s,mb5.8
CN2 LR LR
comp=N,18μm,17.0s,MS6.4
CN2 LR LR
comp=E,12μm,17.0s,MS6.4
CN2 LR LR
comp=Z,26μm,18.0s,MS6.4
PET Petropavlovsk 62.61 359 eP **P** **08 49 50.3 -2.2**
PET eS **S** **08 58 18.9 -1.6**
PET ePS 08 58 38.1
PET eSSS 09 05 08.6
PET pmax pmax
comp=Z,5μm,8.8s
PET pmax pmax
comp=Z,297nm,1.1s,mb6.3
PET MLR MLR
comp=Z,10μm,20.0s,MS6.0
PET MLR MLR
comp=Z,19μm,18.0s
PET Petropavlovsk 62.61 359 PFAKE 08 50 00.0 +7.5
PET LR LR
comp=Z,47μm,20.0s,MS6.7
GYA Guiyang 62.68 307⇑ iP **P** **08 49 55.0 +1.4**
GYA PCP PcP 08 50 33.4 +1.0
GYA PP PP 08 52 14.6 +3.0
GYA PPP 08 53 44.8
GYA SCP ScP 08 54 35.0 +0.1
GYA S **S** **08 58 22.3 -0.1**
GYA PS 08 58 39.8
GYA SKS 08 59 44.5
GYA SS SS 09 02 28.4 +1.1
GYA SSS 09 05 11.3
GYA AMB AMB
comp=Z,140nm,1.0s,mb6.0
GYA AMB AMB
comp=Z,9μm,5.6s
GYA LR LR
comp=N,9μm,18.0s,MS6.1
GYA LR LR
comp=E,8μm,17.8s,MS6.1
GYA LR LR
comp=Z,9μm,18.2s,MS6.0
PETK Petropavlovsk- 62.70 359 P **P** **08 49 52.0 -1.2**
comp=Z,145nm,0.9s,mb6.1,baz=166,slow=5.2,SNR=56
PETK LR LR 09 13 26.1
comp=Z,44μm,20.7s,MS6.6,baz=169,slow=33
PETK PKP2bc 09 19 02.6
comp=Z,18nm,1.1s,baz=114,slow=6.6,SNR=10
PETK Petropavlovsk- 62.70 359 P **P** **08 49 52.0 -1.2**
PETK LR LR 09 13 26.1
PETK ⇑e 09 19 02.6
SMY Shemya 63.56 10 eP **P** **08 49 57.5 -1.4**
SMY Shemya 63.56 10 eP **P** **08 49 59.3 +0.4**
comp=Z,263nm,0.6s,mb6.4
SMY LR LR
comp=Z,50μm,20.0s,MS6.7
KLR Kul'dur 63.65 340⇓ iP **P** **08 49 55.0 -4.6**
KLR eS **S** **08 58 28.0 -5.7**
KLR pmax pmax
comp=E,620nm,2.6s
KLR pmax pmax
comp=Z,1μm,2.6s,mb6.5
KLR pmax pmax
comp=E,2μm,8.0s
KLR pmax pmax
comp=Z,4μm,8.0s
BJT Baijiatuau 63.75 324 eP **P** **08 49 59.7 -0.8**
BJT eS **S** **08 58 31.6 -3.8**
BJT pmax pmax
comp=Z,402nm,1.4s
BJT MLR MLR
comp=Z,25μm,20.0s
BJT Baijiatuau 63.75 324 eP **P** **08 49 59.7 -0.7**
comp=Z,402nm,1.4s,mb6.3
BJT eS **S** **08 58 31.6 -3.7**
BJT LR LR
comp=Z,25μm,20.0s,MS6.4
BJI Beijing 63.76 324 P **P** **08 49 59.8 -0.7**
BJI PP PP 08 52 21.8 +0.8
BJI S **S** **08 58 33.8 -1.7**
BJI SS SS 09 02 39.6 -4.2
BJI AMB AMB
comp=Z,142nm,1.4s,mb5.8
BJI AMB AMB
comp=Z,5μm,6.6s
BJI LR LR
comp=N,20μm,18.4s
BJI LR LR
comp=E,14μm,24.1s
BJI LR LR
comp=Z,33μm,28.4s
RKT Rikitea 63.80 111 eS **S** **08 58 34.2 -2.5**
comp=Z,21μm,26.5s
RKT eSS SS 09 02 44.0 -0.8
comp=Z,11μm,28.8s
RKT eLQ 09 06 11.3
comp=Z,61μm,32.8s
RKT eLR LR 09 09 10.5
comp=Z,35μm,26.0s,baz=283
TIY Taiyuan 64.57 320⇑ iP **P** **08 50 06.3 +0.4**
TIY AP pP 08 50 11.1 +2.2
TIY PPP 08 54 10.5
TIY S **S** **08 58 45.8 +0.2**
TIY SCS ScS 08 59 54.8 -5.9
TIY AMB AMB
comp=Z,4μm,8.0s
TIY LR LR
comp=N,14μm,15.4s,MS6.3
TIY LR LR
comp=E,6μm,17.7s,MS6.3
TIY LR LR
comp=Z,9μm,21.2s,MS6.0
XAN Xi'an 64.81 315 P **P** **08 50 06.6 -0.9**
XAN PCP PcP 08 50 40.8 -0.2
XAN PP PP 08 52 34.9 +4.6
XAN PPP 08 53 57.8
XAN S **S** **08 58 42.4 -6.3**
XAN SCS ScS 09 00 01.4 -1.3
XAN AMB AMB
comp=Z,37nm,1.3s,mb5.2
XAN AMB AMB
comp=Z,3μm,13.8s
XAN LR LR
comp=E,11μm,21.9s
XAN LR LR
comp=Z,22μm,22.8s,MS6.3
ADK Adak 64.81 16 eP **P** **08 50 06.5 -0.6**
ADK Adak 64.81 16 PFAKE 08 50 20.0 +13
ADK LR LR
comp=Z,37μm,21.0s,MS6.5
KMI Kunming 65.25 303 P **P** **08 50 11.9 +1.3**
KMI AP pP 08 50 12.8 -0.9
KMI PP PP 08 52 37.3 +3.0
KMI S S 08 58 54.4 -0.1
KMI SKS 09 00 04.3
KMI SS SS 09 03 08.4 +0.8
KMI AMB AMB
comp=Z,156nm,1.4s,mb5.8
KMI AMB AMB
comp=Z,2μm,3.1s
KMI LR LR
comp=N,12μm,17.6s,MS6.3
KMI LR LR
comp=E,12μm,16.3s,MS6.3
KMI LR LR
comp=Z,14μm,28.9s
CASY Casey 65.35 200 eP **P** **08 50 09.5 -1.0**
CASY e 08 58 59.5
CASY Casey 65.35 200 eP **P** **08 50 09.5 -1.0**
comp=Z,50nm,1.6s,mb5.3
CASY e 08 58 59.5
CASY LR LR
comp=Z,31μm,20.0s,MS6.5
CM31 Chiang Mai Arr 65.98 295 eP **P** **08 50 16.1 +0.7**
comp=Z,31nm,0.4s,mb5.7
CM31 LR LR
comp=Z,9μm,20.0s,MS6.0
CMAR Chiang Mai Arr 65.98 295 P **P** **08 50 15.9 +0.5**
comp=Z,86nm,0.9s,mb5.8,baz=122,slow=5.1,SNR=34
CMAR LR LR 09 17 58.9
comp=Z,9μm,20.8s,MS5.9,baz=100,slow=35
CMAR PKP2bc 09 18 50.8
comp=Z,1.6nm,0.3s,baz=275,slow=2.6,SNR=5.0
CMAR Chiang Mai Arr 65.98 295 i P **P** **08 50 15.8 +0.4**
CMAR pmax pmax
comp=Z,86nm,0.9s
CMAR Chiang Mai Arr 65.98 295 P **P** **08 50 15.9 +0.5**
CMAR LR LR 09 17 58.9
CMAR ⇑e 09 18 50.8
CHTO Chiang Mai 66.11 296 P **P** **08 50 16.6 +0.5**
SNR=81
CHTO Chiang Mai 66.11 296 eP **P** **08 50 16.1 -0.1**
CHTO Chiang Mai 66.11 296 PFAKE 08 50 30.0 +14
CHTO LR LR
comp=Z,9μm,21.0s,MS5.9
HHC Hu-ho-hao-te 67.00 322 eP **P** **08 50 21.5 0.0**
HHC PCP PcP 08 50 50.0 +0.1
HHC PP PP 08 52 51.3 +2.0
HHC S S 08 59 15.4 +0.3
HHC PS 08 59 35.8
HHC SCS ScS 09 00 17.3 -2.0
HHC AMB AMB
comp=Z,158nm,1.4s,mb5.8
HHC LR LR
comp=N,13μm,15.5s,MS6.4
HHC LR LR
comp=E,13μm,19.0s,MS6.4
HHC LR LR
comp=Z,17μm,17.8s,MS6.3
CD2 Chengdu 67.01 310⇓ iP **P** **08 50 22.4 +0.6**
CD2 AP pP 08 50 28.3 +3.5
CD2 XP sP 08 50 31.4 +5.4
CD2 PCP PcP 08 50 51.8 +1.7
CD2 PP PP 08 52 52.8 +3.2
CD2 PCS 08 54 55.3
CD2 S S 08 59 16.3 +0.7
CD2 XS sS 08 59 22.9 +2.2
CD2 SS SS 09 03 35.4 +0.7
CD2 AMB AMB
comp=Z,510nm,0.7s,mb6.7
CD2 AMB AMB
comp=Z,4μm,6.1s
CD2 LR LR
comp=N,19μm,19.2s,MS6.5
CD2 LR LR
comp=E,13μm,14.4s,MS6.5
CD2 LR LR
comp=Z,6μm,13.9s,MS6.0
VNDA Vanda 67.68 179 P **P** **08 50 24.6 -0.6**
comp=Z,126nm,0.8s,mb6.0,baz=343,slow=6.9,SNR=226
VNDA LR LR 09 16 05.1
comp=Z,87μm,18.1s,MS7.0,baz=1.4,slow=32
VNDA PKP2bc 09 18 49.4
comp=Z,2.7nm,1.0s,baz=226,slow=5.0,SNR=6.4
VNDA Vanda 67.68 179 P **P** **08 50 24.6 -0.6**
VNDA LR LR 09 16 05.2
VNDA ⇑e 09 18 49.4
BTO Baotou 67.79 321 eP **P** **08 50 26.3 -0.2**
SBA Scott Base 68.11 178 eP **P** **08 50 28.3 +0.3**
SBA Scott Base 68.11 178 PFAKE 08 50 40.0 +12
SBA LR LR
comp=Z,62μm,19.0s,MS6.9
NIKO Nikolski 68.15 20 eP **P** **08 50 28.8 +0.3**

comp=Z,645nm,1.0s,mb6.6
PTCN Pitcairn Islan 68.25 113 PFAKE 08 50 40.0 +10
PTCN LR LR
comp=Z,9μm,19.0s,MS6.0
HIA Hailar 68.38 333 *e*P **P** **08 50 29.7 -0.3**
HIA pmax pmax
comp=Z,390nm,1.3s
HIA MLR MLR
comp=Z,24μm,19.0s
HIA Hailar 68.38 333 *e*P **P** **08 50 29.7 -0.3**
comp=Z,390nm,1.3s,mb6.3
HIA LR LR
comp=Z,24μm,19.0s,MS6.5
LZH Lanzhou 69.43 314 *e*P **P** **08 50 37.3 +0.4**
LZH AP pP 08 50 42.0 +2.1
LZH XP sP 08 50 44.5 +3.4
LZH PP PP 08 53 12.8 +2.3
LZH S S 08 59 44.0 -0.4
LZH XS sS 08 59 50.5 +1.0
LZH SS SS 09 04 11.5 -0.5
LZH AMB AMB
comp=Z,415nm,1.1s,mb6.3
LZH AMB AMB
comp=Z,4μm,7.6s
LZH LR LR
comp=E,9μm,14.4s
LZH LR LR
comp=Z,19μm,16.4s,MS6.4
AKUT Akutan 70.17 21 *e*P **P** **08 50 39.0 -2.0**
comp=Z,225nm,0.7s,mb6.2
AKUT *e*S S 08 59 53.4 +1.2
MIR Mirnyy 71.76 203κ *i*P **P** **08 50 50.0 -0.5**
MIR *i* 08 51 16.0
MIR *i* 08 53 32.0
MIR *i* 09 01 00.0
MIR pmax pmax
comp=Z,1μm,2.0s,mb6.4
MIR pmax pmax
comp=Z,15μm,9.0s
CLNS Chul'man 72.28 341 *e*P **P** **08 50 54.9 +1.2**
CLNS *e* 08 51 11.6
CLNS *e* 08 53 37.1
CLNS *e*PPP 08 55 21.8
CLNS *e*S S 09 00 20.0 +3.3
CLNS pmax pmax
comp=Z,208nm,1.2s,mb5.9
CLNS pmax pmax
comp=N,106nm,1.4s
CLNS pmax pmax
comp=E,54nm,1.4s
CLNS pmax pmax
comp=Z,38nm,1.7s,mb5.0
CLNS smax
comp=N,8μm,12.4s
CLNS smax
comp=E,9μm,12.6s
CLNS MLR MLR
comp=N,9μm,17.0s,MS6.2
CLNS MLR MLR
comp=Z,20μm,17.0s,MS6.5
CLNS MLR MLR
comp=E,5μm,16.0s,MS6.2
IMP Imphal 72.52 300 *e*P **P** **08 50 54.0 -1.9**
SEY Seymchan 72.75 357⇑ *i*P **P** **08 50 54.7 -1.7**
SDPT Sand Point 73.05 23 *e*P **P** **08 50 56.3 -2.0**
comp=E,314nm,0.9s,mb6.2
CIT Chita 73.12 332 *e*P **P** **08 50 59.0 +0.2**
CIT *e* 08 51 12.5
CIT *e*S S 09 00 27.0 +0.6
CIT pmax pmax
comp=Z,839nm,2.7s,mb6.2
GTA Gaotai 73.83 316 P **P** **08 51 03.6 +0.3**
GTA AP pP 08 51 07.3 +0.9
GTA XP sP 08 51 08.8 +1.3
GTA PP PP 08 53 51.6 +3.4
GTA S S 09 00 35.4 +0.4
GTA XS sS 09 00 42.8 +2.7
GTA SKS 09 01 06.3
GTA AMB AMB
comp=Z,51nm,1.6s,mb5.2
GTA AMB AMB
comp=Z,4μm,6.6s
GTA LR LR
comp=N,9μm,21.1s,MS6.1
GTA LR LR
comp=E,6μm,19.0s,MS6.1
GTA LR LR
comp=Z,11μm,21.0s,MS6.1
SONM Songino Array 74.12 326 P **P** **08 51 04.7 -0.1**
comp=Z,90nm,0.9s,mb5.7,baz=141,slow=5.6,SNR=79
SONM LR LR 09 22 06.1
comp=Z,24μm,21.2s,MS6.5,baz=121,slow=34
SHL Shillong 74.53 300 *e*P **P** **08 51 08.0 +0.3**
SHL *e*S S 09 00 43.0 -0.4
YAK Yakutsk 75.30 346 *e*P **P** **08 51 10.0 -1.3**
YAK *e* 08 51 29.1
YAK *e* 08 53 56.7
YAK *e*S S 09 00 41.9 -8.7
YAK pmax pmax
comp=N,87nm,1.0s
YAK pmax pmax
comp=Z,357nm,1.0s,mb6.2
YAK pmax pmax
comp=E,38nm,1.1s
YAK smax
comp=N,17μm,10.6s
YAK smax
comp=E,17μm,11.5s
YAK MLR MLR
comp=Z,32μm,20.0s,MS6.6
YAK MLR MLR
comp=N,26μm,18.0s,MS6.6
YAK MLR MLR
comp=E,8μm,18.0s,MS6.6
YAK Yakutsk 75.30 346 *e*P **P** **08 51 10.1 -1.3**
YAK LR LR
comp=Z,31μm,20.0s,MS6.6
LSA Lhasa 76.51 304 P **P** **08 51 20.0 +1.0**
LSA Lhasa 76.51 304 *e*P **P** **08 51 20.1 +1.1**
LSA *e*S S 09 01 09.3 +4.1
LSA pmax pmax
comp=Z,301nm,1.5s,mb6.0
LSA MLR MLR
comp=Z,8μm,21.0s,MS6.0
LSA Lhasa 76.51 304 *e*P **P** **08 51 20.1 +1.1**
comp=Z,301nm,1.5s,mb6.0
LSA *e*S S 09 01 09.3 +4.0
LSA LR LR
comp=Z,8μm,21.0s,MS6.0
CAL Calcutta 76.70 296 *e*P **P** **08 51 23.6 +3.5**
CAL *e*S S 09 01 09.7 +2.1
BOD Bodaibo 76.90 337 *e*P **P** **08 51 18.2 -2.3**
BOD *e* 09 01 08.5
BOD pmax pmax
comp=Z,137nm,1.4s,mb5.7
OHAK Old Harbor 77.20 24 *e*P **P** **08 51 20.7 -1.5**
comp=Z,878nm,1.4s,mb6.5
ZAK Zakamensk 77.24 327 *e*P **P** **08 51 21.9 -0.7**
ZAK *e* 09 01 14.2
ZAK pmax pmax
comp=Z,100nm,1.4s,mb5.5
IRK Irkutsk 77.75 329⇓ *i*P **P** **08 51 24.6 -0.8**
IRK *e* 08 54 19.1
IRK *e* 08 56 06.1
IRK *e*S S 09 01 18.4 +0.6
IRK *e* 09 02 04.8
IRK pmax pmax
comp=Z,405nm,3.4s
TLY Talaya 77.76 328 ⇑P **P** **08 51 24.5 -1.0**
SNR=26
TLY Talaya 77.76 328*c* *i*P **P** **08 51 24.5 -1.0**
TLY *e*S S 09 01 13.6 -4.3
TLY *e* 09 01 56.5
TLY *e*SS SS 09 06 10.8 -7.6
TLY pmax pmax
comp=Z,114nm,1.1s,mb5.7
TLY MLR MLR
comp=Z,12μm,21.0s,MS6.2
TLY Talaya 77.76 328 PFAKE 08 51 30.0 +4.5
TLY LR LR
comp=Z,13μm,21.0s,MS6.2
BILL Bilibino 77.82 3α *i*P **P** **08 51 25.7 +0.2**
BILL *e* 08 51 33.2
BILL *i* 08 51 35.5
BILL *e* 08 54 21.5
BILL *i*S S 09 01 16.4 -1.6
BILL *e*SS SS 09 06 21.0 +2.3
BILL pmax pmax
comp=Z,509nm,2.2s,mb6.1
BILL MLR MLR
comp=Z,39μm,19.0s,MS6.8
BILL Bilibino 77.82 3 *e*P **P** **08 51 25.2 -0.3**
BILL LR LR
comp=Z,61μm,22.0s,MS6.9
KDAK Kodiak Island 77.86 24 P **P** **08 51 24.2 -1.7**
comp=Z,160nm,0.9s,mb6.0,baz=237,slow=4.2,SNR=40
KDAK LR LR 09 23 28.5
comp=Z,35μm,18.7s,MS6.7,baz=232,slow=34
KDAK Kodiak Island 77.86 24 PFAKE 08 51 40.0 +14
KDAK LR LR
comp=Z,9μm,19.0s,MS6.1
BWNR Bhubaneshwar 78.36 293 *e*P **P** **08 51 28.0 -1.5**
TAPN Taplejung 78.64 300 *e*P **P** **08 51 32.0 +1.1**
comp=Z,296nm,0.8s,mb6.3
ODAN Odare 78.77 300 *e*P **P** **08 51 33.2 +1.6**
comp=Z,426nm,0.7s,mb6.5
MOY Mondy 79.15 327 *e*P **P** **08 51 32.8 -0.3**
MOY pmax pmax
comp=Z,619nm,3.3s
BOK Bokaro 79.21 297 *e*P **P** **08 51 34.5 +0.4**
RAMN Ramite 79.47 300 *e*P **P** **08 51 37.0 +1.5**
comp=Z,190nm,0.8s,mb6.1
VIS Vishakhapatnam 79.99 290 *e*P **P** **08 51 37.6 -0.9**
VIS *e*x x 08 51 44.9
comp=Z,188nm,1.5s
VIS *i*S S 09 01 42.7 -0.4
JIRN Jiri 80.02 300 *e*P **P** **08 51 40.4 +1.9**
QSPA South Pole Qui 80.17 180 P **P** **08 51 37.5 -0.8**
comp=Z,50nm,0.7s,mb5.6,baz=355,slow=1.9,SNR=158
TTA Tatalina 80.17 19 *e*P **P** **08 51 37.3 -1.2**
TTA pmax pmax
comp=Z,572nm,1.3s,mb6.3
TTA Tatalina 80.17 19 *e*P **P** **08 51 37.3 -1.2**
comp=Z,572nm,1.3s,mb6.3
PALK Pallekele 80.26 279 P **P** **08 51 42.3 +2.2**
SNR=19
PALK Pallekele 80.26 279 PFAKE 08 51 50.0 +10
PALK LR LR
comp=Z,11μm,19.0s,MS6.2
GUN Gumba 80.36 301 *e*P **P** **08 51 41.5 +1.2**
SLKM Skilak Lake 80.56 23 *e*P **P** **08 51 38.8 -1.8**
PKI Pulchoki 80.66 300 *e*P **P** **08 51 42.3 +0.4**
comp=Z,402nm,0.9s,mb6.3
PKI Pulchoki 80.66 300 *e*P **P** **08 51 42.3 +0.4**
PKI pmax pmax
comp=Z,402nm,0.9s,mb6.3
KKN Kakani 80.83 300 *e*P **P** **08 51 43.6 +0.8**
comp=Z,259nm,0.9s,mb6.2
KKN Kakani 80.83 300 *e*P **P** **08 51 43.6 +0.8**
KKN pmax pmax
comp=Z,259nm,0.9s,mb6.2
DMN Daman 80.93 300 *e*P **P** **08 51 43.3 -0.1**
comp=Z,1μm,1.4s,mb6.7
RC01 Rabbit Creek A 81.11 22 *e*P **P** **08 51 41.6 -1.9**
comp=Z,262nm,0.9s,mb6.2
PPLA Purkeypile 81.42 20 *e*P **P** **08 51 43.0 -2.2**
comp=Z,215nm,1.1s,mb6.0
GKN Gorkha 81.44 300 *e*P **P** **08 51 46.0 -0.1**
PMR Palmer 81.66 22 *e*P **P** **08 51 44.5 -1.9**
PMR pmax pmax
comp=Z,254nm,0.9s,mb6.2
PMR MLR MLR
comp=Z,42μm,20.0s,MS6.8
PMR Palmer 81.66 22 *e*P **P** **08 51 44.5 -1.9**
comp=Z,260nm,0.9s,mb6.2
PMR LR LR
comp=Z,42μm,20.0s,MS6.8
BLSP Bilaspur 82.13 294 *e*P **P** **08 51 50.0 +0.2**
KOLN Koldanda 82.26 300 *e*P **P** **08 51 49.8 -0.6**
comp=Z,267nm,0.7s,mb6.3
DANN Dangsing 82.28 300 *e*P **P** **08 51 51.2 +0.7**
EYAK Cordova Ski Ar 82.34 24 *e*P **P** **08 51 50.2 +0.2**
comp=Z,96nm,0.9s,mb5.7
TRF Thorofare Moun 82.43 20 *e*P **P** **08 51 48.0 -2.4**
comp=Z,231nm,0.8s,mb6.2
BPAW Bear Paw Mtn. 82.62 20 P **P** **08 51 55.5 +4.1**
comp=Z,188nm,1.3s,mb6.0
HVS Khovu-Aksy 82.92 325 *e*P **P** **08 51 54.3 +1.0**
MCK McKinley 83.08 21 *e*P **P** **08 51 52.0 -1.8**
MCK pmax pmax
comp=Z,848nm,0.9s,mb6.8
MCK McKinley 83.08 21 *e*P **P** **08 51 52.0 -1.9**
comp=Z,848nm,0.9s,mb6.8
MAW Mawson 83.49 203 *i*S S 09 02 21.1 +3.5
MAW Mawson 83.49 203 P **P** **08 51 55.3 -0.8**
comp=Z,50nm,0.7s,mb5.7,baz=97,slow=7.1,SNR=103
MAW PKPPKP 09 18 14.6
comp=Z,4.6nm,1.0s,baz=278,slow=5.9,SNR=4.3
MAW LR LR 09 24 28.4
comp=Z,28μm,21.7s,MS6.6,baz=87,slow=32
MAW Mawson 83.49 203⇓ *i*P **P** **08 51 55.0 -1.0**
MAW *e* 08 55 08.0
MAW *i*S S 09 02 21.1 +3.5
MAW pmax pmax
comp=Z,124nm,1.4s
MAW MLR MLR
comp=Z,48μm,22.0s
MAW Mawson 83.49 203⇓ *i*P **P** **08 51 55.0 -1.0**
comp=Z,124nm,1.4s,mb5.8
MAW *e*PP PP 08 55 08.0 +0.1
MAW *i*S S 09 02 21.1 +3.5
MAW LR LR
comp=Z,48μm,22.0s,MS6.8
SALM Salem 83.53 283 *ex* **P** **08 52 00.0 +2.7**
TIXI Tiksi 83.81 351*c* *i*P **P** **08 51 56.4 -1.0**
TIXI pmax pmax
comp=Z,310nm,2.6s,mb6.0
TIXI MLR MLR
comp=Z,21μm,20.0s,MS6.5
TIXI Tiksi 83.81 351 PFAKE 08 52 10.0 +13
TIXI LR LR
comp=Z,17μm,21.0s,MS6.4
WMQ Urumqi 83.91 316 P **P** **08 51 59.0 +0.5**
WMQ PP PP 08 55 13.6 +1.4
WMQ SKS 09 02 19.0
WMQ S S 09 02 21.4 -1.0
WMQ PS 09 03 14.3
WMQ SS SS 09 07 50.8 +0.2
WMQ AMB AMB
comp=Z,171nm,1.1s,mb6.1
WMQ AMB AMB
comp=Z,1μm,9.0s
WMQ LR LR
comp=N,8μm,18.1s,MS6.3
WMQ LR LR
comp=E,9μm,22.2s,MS6.3
WMQ LR LR
comp=Z,11μm,18.6s,MS6.3
KOD Kodaikanal 83.96 281 *e*P **P** **08 52 00.8 +1.3**
TRD Trivandrum 84.13 280 *ex* x 08 52 05.2
COLA College 84.16 20⇑ *i*P **P** **08 51 56.0 -3.4**
COLA MLR MLR
comp=Z,20μm,20.0s,MS6.5
HYB Hyderabad 84.36 289 *e*P **P** **08 52 01.5 +0.1**
HYB *e*S S 09 02 24.0 -4.1
HYB pmax pmax
comp=Z,773nm,1.8s,mb6.5
HYB Hyderabad 84.36 289 *i*P **P** **08 52 01.5 +0.1**
comp=Z,773nm,1.8s,mb6.5
HYB *e*S S 09 02 26.0 -2.1
HYB Hyderabad 84.36 289 *e*P **P** **08 52 01.5 +0.1**
comp=Z,773nm,1.8s,mb6.5
HYB *e*S S 09 02 24.0 -4.1
DIB Dawson Inlet, 85.06 34 T 10 24 28.7
SNR=147
SIT Sitka 85.20 30 *e*P **P** **08 52 04.0 -0.8**
SIT pmax pmax
comp=Z,140nm,1.1s,mb6.0
SIT Sitka 85.20 30 PFAKE 08 52 10.0 +5.2
SIT LR LR
comp=Z,34μm,19.0s,MS6.8
KRAR Krasnoyarsk 85.43 329 *e*P **P** **08 52 05.4 -0.6**
KRAR pmax pmax
comp=Z,288nm,2.3s,mb6.0
PTH Pithoragarh 85.58 301 *e*P **P** **08 52 09.4 +2.1**
PTH *ex* x 08 55 25.4
CRAG Craig 85.64 32 *e*P **P** **08 52 06.4 -0.6**
comp=Z,403nm,1.4s,mb6.5
DGAR Diego Garcia 85.83 263 PFAKE 08 52 20.0 +11
DGAR LR LR
comp=Z,15μm,20.0s,MS6.4
HYT Haines Junctio 85.92 26 *e*P **P** **08 52 08.1 -0.1**
FARB Farallon Islan 86.25 51⇓ P **P** **08 52 10.4 -0.1**
baz=86
O01C Eel River Cons 86.29 48⇑ P **P** **08 52 11.1 +0.5**
baz=86
JCC Jacoby Creek 86.33 48⇓ P **P** **08 52 11.4 +0.6**
baz=86
KCPM Cahto Peak 86.34 49 *e*P **P** **08 52 12.1 +1.2**
comp=Z,67nm,1.1s,mb5.8
WRAK Wrangell Islan 86.42 31 *e*P **P** **08 52 10.0 -0.8**
comp=Z,131nm,1.1s,mb6.1
WRAK LR LR
comp=Z,33μm,19.0s,MS6.8
LATR Latur 86.42 289 *e*P **P** **08 52 12.2 +0.5**
LATR *e*P 08 52 12.5
KIPM Iron Peak 86.45 49 *e*P **P** **08 52 12.5 +1.1**
comp=Z,103nm,1.0s,mb6.0
EGAK Eagle 86.45 22 PFAKE 08 52 20.0 +9.2
EGAK LR LR
comp=Z,29μm,21.0s,MS6.7
MCCM Marconi Confer 86.46 51⇑ P **P** **08 52 11.2 -0.3**
baz=87
MCCM Marconi Confer 86.46 51 *e*P **P** **08 52 10.8 -0.6**
comp=Z,111nm,1.2s,mb6.0
MCCM LR LR
comp=Z,31μm,19.0s,MS6.7
AKL Akola 86.46 292 *i*P **P** **08 52 12.5 +0.6**
AKL *i*x x 09 02 44.0
P01C Double 8 Ranch 86.47 49⇓ P **P** **08 52 11.7 +0.2**
baz=87
HOPS Hopland 86.54 50⇑ P **P** **08 52 11.9 +0.1**
baz=87
HOPS Hopland 86.54 50 PFAKE 08 52 20.0 +8.2
HOPS LR LR
comp=Z,21μm,20.0s,MS6.5
M01C Crescent City 86.55 47⇑ P **P** **08 52 12.5 +0.7**
baz=87
KHMM Horse Mountain 86.56 48 *e*P **P** **08 52 12.4 +0.5**
K01A Sixes 86.57 46⇑ P **P** **08 52 12.2 +0.3**
baz=87
KRMB Red Mountain 86.61 47 *e*P **P** **08 52 11.9 -0.2**
comp=Z,428nm,1.8s,mb6.4
RPN Rapa Nui 86.65 117 P **P** **08 52 14.8 +2.1**
comp=Z,2μm,1.1s,mb7.2,SNR=7.0
RPN Rapa Nui 86.65 117 *e*P **P** **08 52 14.3 +1.6**
RPN pmax pmax
comp=Z,417nm,1.1s,mb6.6
RPN MLR MLR
comp=Z,8μm,21.0s,MS6.1
RPN Rapa Nui 86.65 117 *e*P **P** **08 52 14.3 +1.6**
comp=Z,417nm,1.1s,mb6.6
RPN LR LR
comp=Z,8μm,21.0s,MS6.1
BNLO Ben Lomond (Sa 86.74 52⇓ P **P** **08 52 13.1 +0.3**
baz=87
JRSC Jasper Ridge 86.76 51⇓ P **P** **08 52 13.2 +0.3**
baz=87
NSHM Saint Helena R 86.76 50 *e*P **P** **08 52 13.3 +0.3**
CVS Carmenet Viney 86.83 50⇑ P **P** **08 52 12.8 -0.5**
baz=87
N02C Big Bar 86.86 48⇓ P **P** **08 52 13.3 0.0**
baz=87
GASB Alder Springs 86.98 49⇓ P **P** **08 52 14.7 +0.7**
baz=87
MNRC McLaughlin Nat 86.98 50⇑ P **P** **08 52 14.1 0.0**
baz=87
L02A Cave Junction 87.01 46⇑ P **P** **08 52 14.3 +0.2**
baz=87
HAST Hastings Reser 87.03 52⇑ P **P** **08 52 14.6 +0.2**
baz=87
O02C Red Bluff 87.06 49⇑ P **P** **08 52 15.0 +0.6**
baz=87
BDM Black Diamond 87.18 51⇓ P **P** **08 52 15.3 +0.3**
baz=87
WENL Wente Brothers 87.18 51⇑ P **P** **08 52 15.5 +0.5**
baz=87
V03C Hunter Liggett 87.19 53⇑ P **P** **08 52 15.5 +0.3**
baz=87
SAO San Andreas Ge 87.21 52 *e*P **P** **08 52 16.5 +1.3**
SAO San Andreas Ge 87.21 52 PFAKE 08 52 20.0 +4.8
SAO LR LR
comp=Z,57μm,20.0s,MS7.0
Q03C Winters 87.24 50⇑ P **P** **08 52 16.3 +1.0**
baz=87
K02A Glendale 87.25 46⇑ P **P** **08 52 15.7 +0.5**
baz=87
M02C Callahan 87.34 47⇓ P **P** **08 52 16.4 +0.7**
baz=87
WDC Whiskeytown Da 87.35 48⇑ P **P** **08 52 15.8 +0.1**
baz=88
WDC Whiskeytown Da 87.35 48 *e*P **P** **08 52 16.8 +1.0**
WDC LR LR
comp=Z,29μm,20.0s,MS6.7
I02A Mapleton 87.36 45⇓ P **P** **08 52 15.7 0.0**
baz=88
J02A Umpqua 87.36 45⇑ P **P** **08 52 15.6 -0.1**
baz=88
V04C Ramage Ranch, 87.39 53⇓ P **P** **08 52 16.4 +0.3**
baz=88
PACP Pacheco Peak 87.39 52⇑ P **P** **08 52 16.6 +0.5**
baz=88
H02A Toledo 87.43 44⇓ P **P** **08 52 16.3 +0.3**
baz=88
S04C Ingram Canyon, 87.48 51⇑ P **P** **08 52 16.6 +0.1**
baz=88
YBH Yreka Blue Hor 87.53 47 P **P** **08 52 16.0 -0.7**
comp=Z,12nm,0.9s,mb5.1,baz=243,slow=1.5,SNR=47
YBH LR LR 09 26 57.6
comp=Z,15μm,18.4s,MS6.4,baz=236,slow=33
YBH Yreka Blue Hor 87.53 47⇓ P **P** **08 52 16.9 +0.3**
baz=88
SUTB Sutter Butte 87.56 50⇑ P **P** **08 52 16.2 -0.6**
baz=88
O03C Acorn Hollow, 87.58 49⇓ P **P** **08 52 16.8 -0.1**
baz=88
HUMO Hull Mountain 87.59 46⇓ P **P** **08 52 17.5 +0.6**
baz=88
HUMO Hull Mountain 87.59 46 PFAKE 08 52 30.0 +13
HUMO LR LR
comp=Z,39μm,20.0s,MS6.8
U04C Hernandez Rese 87.63 53⇑ P **P** **08 52 17.7 +0.5**
baz=88
PKD Parkfield 87.72 53⇓ P **P** **08 52 18.1 +0.4**
baz=88
I03A Eugene 87.73 45⇓ P **P** **08 52 17.3 -0.3**
baz=88
HEBO Mount Hebo 87.75 44 *e*P **P** **08 52 20.5 +2.9**
comp=Z,88nm,1.1s,mb5.9
Q04C Lincoln 87.78 50⇓ P **P** **08 52 17.1 -0.7**
baz=88
M03C McCloud 87.84 48⇑ P **P** **08 52 18.2 +0.1**
baz=88
ORV Oroville 87.86 49⇓ P **P** **08 52 17.9 -0.4**
baz=88
COR Corvallis 87.88 44 *e*P **P** **08 52 19.3 +1.1**
COR Corvallis 87.88 44 PFAKE 08 52 30.0 +12
COR LR LR
comp=Z,38μm,22.0s,MS6.8
PTRM Twissleman Ran 87.91 53 *e*P **P** **08 52 18.9 +0.3**
SNCC San Nicolas Is 87.91 56 PFAKE 08 52 30.0 +11
SNCC LR LR
comp=Z,74μm,19.0s,MS7.1
H03A Soap Creek Ran 87.92 44⇓ P **P** **08 52 18.4 0.0**
baz=88
NDI New Delhi 87.94 299 *e*P **P** **08 52 17.0 -1.9**
NDI *ex* x 09 02 42.0
R04C Big Horse Ranc 87.97 51⇑ P **P** **08 52 18.8 0.0**
baz=88
C03A Quillayute Air 87.99 41⇓ P **P** **08 52 18.6 -0.1**
baz=88
BSC Santa Cruz Isl 87.99 55⇓ P **P** **08 52 19.2 +0.1**
baz=88
SMMC Simmler 88.00 54⇑ P **P** **08 52 19.1 +0.1**
baz=88
SBC Santa Barbara 88.03 55⇑ P **P** **08 52 19.6 +0.4**
baz=88
KMOR Kings Mountain 88.04 43 P **P** **08 52 19.8 +0.9**
PKM Peak Mountain 88.05 54⇑ P **P** **08 52 19.6 +0.3**
baz=88
F03A Seaside 88.08 43⇑ P **P** **08 52 19.0 -0.1**
baz=88
G03A Yamhill 88.10 44⇓ P **P** **08 52 19.0 -0.2**
baz=88
U05C Westside ANR, 88.14 53⇑ P **P** **08 52 20.7 +1.1**
baz=88
M04C Macdoel 88.17 47⇓ P **P** **08 52 20.0 +0.3**
baz=88

V05C	Boulder Hill,	88.20	53	⇓P	P	08 52 20.8	+0.8
	baz=88						
HATC	Hat Creek Radi	88.21	48	⇓P	P	08 52 20.0	+0.2
	baz=88						
S05C	Merced	88.22	52	⇓P	P	08 52 20.1	+0.1
	baz=88						
L04A	Klamath Falls	88.24	47	⇑P	P	08 52 19.8	-0.2
	baz=88						
LAVA	Lava Cap Winer	88.24	50	⇓P	P	08 52 19.8	-0.3
	baz=88						
E03A	Lebam	88.25	42	⇑P	P	08 52 19.7	-0.2
	baz=88						
D03A	Wishkah Elem.	88.27	42	⇑P	P	08 52 20.4	+0.4
	baz=88						
NLWA	Neilton Lookou	88.28	41	⇓P	P	08 52 20.1	0.0
	baz=88						
NLWA	Neilton Lookou	88.28	41	PFAKE		08 52 30.0	+10
NLWA				LR	LR		
	comp=Z,39μm,19.0s,MS6.8						
I04A	Tendick Farm,	88.29	45	⇑P	P	08 52 19.8	-0.4
	baz=88						
LBCM	Butte Creek Ri	88.29	48	P	P	08 52 19.8	-0.5
OBC	Olympics--Boni	88.33	41	P	P	08 52 23.1	+2.8
CMB	Columbia Colle	88.34	51	eP	P	08 52 21.0	+0.5
CMB				pmax	pmax		
	comp=Z,600nm,2.6s,mb6.4						
CMB	Columbia Colle	88.34	51	⇑P	P	08 52 20.5	0.0
	baz=88						
CMB	Columbia Colle	88.34	51	PFAKE		08 52 30.0	+9.5
CMB				LR	LR		
	comp=Z,39μm,19.0s,MS6.8						
J04A	Umpqua Nationa	88.36	46	⇓P	P	08 52 21.1	+0.6
	baz=88						
O04C	Chester	88.36	49	⇓P	P	08 52 20.5	-0.1
	baz=88						
O05C	Quincy	88.40	49	⇑P	P	08 52 20.7	-0.1
	baz=88						
KAD	Karad	88.43	288	eP	P	08 52 21.9	+0.5
MK31	Makanchi Array	88.45	318	i P	P	08 52 19.5	-1.3
MK31				pmax	pmax		
	comp=Z,197nm,1.1s,mb6.2						
MK31	Makanchi Array	88.45	318	i P	P	08 52 19.6	-1.2
MKAR	Makanchi Array	88.45	318	P	P	08 52 19.9	-1.0
	comp=Z,65nm,0.8s,mb5.9,baz=97,slow=6.4,SNR=76						
MKAR				PKKPbc	PKKPbc	09 10 03.2	-1.8
	comp=Z,0.9nm,0.8s,baz=262,slow=2.9,SNR=4.1						
MKAR				LR	LR	09 32 53.9	
	comp=Z,13μm,21.9s,MS6.3,baz=89,slow=36						
MKAR	Makanchi Array	88.45	318	i P	P	08 52 19.8	-1.0
MKAR				pmax	pmax		
	comp=Z,65nm,0.8s						
BMW	Boistfort Moun	88.45	42	eP	P	08 52 21.4	+0.5
IRO	Indian Ridge	88.45	45	P	P	08 52 20.6	-0.4
K04A	Chilquin	88.46	46	⇓P	P	08 52 20.8	-0.2
	baz=89						
P05C	Yuba Gap, Truc	88.47	50	⇓P	P	08 52 21.3	+0.1
	baz=89						
BLG	Laguna Peak	88.48	55	⇑P	P	08 52 20.9	-0.4
	baz=89						
SMLA	Simla	88.51	302	i P	P	08 52 20.7	-0.8
SMLA				ex	x	08 52 25.5	
	comp=Z,150nm,0.6s						
SMLA				i S	SKSac	09 02 48.7	-2.4
M05C	Lookout	88.57	48	⇓P	P	08 52 21.6	0.0
	baz=89						
G04A	Mulino	88.61	44	⇓P	P	08 52 21.3	-0.4
	baz=89						
T06C	Millerton Lake	88.62	52	⇓P	P	08 52 21.4	-0.6
	baz=89						
SCI	San Clemente I	88.65	56	⇑P	P	08 52 21.7	-0.5
	baz=89						
H04A	Detroit Lake	88.68	44	⇓P	P	08 52 21.2	-0.8
	baz=89						
ELFS	Eagle Lake Fie	88.70	49	⇑P	P	08 52 22.2	0.0
	baz=89						
B04A	Port Angeles	88.71	41	⇑P	P	08 52 22.3	+0.3
	baz=89						
S06C	San Francisco	88.71	51	⇓P	P	08 52 22.3	0.0
	baz=89						
R05C	Kirkwood Meado	88.73	51	⇓P	P	08 52 22.6	+0.2
	baz=89						
BEKR	Beckwourth	88.79	49	⇑P	P	08 52 23.1	+0.5
	baz=89						
E04A	Onalaska	88.82	42	⇑P	P	08 52 22.6	0.0
	baz=89						
RCTC	Rector, Farmer	88.83	53	⇓P	P	08 52 22.1	-0.8
	baz=89						
F04A	Amboy	88.85	43	⇑P	P	08 52 22.2	-0.5
	baz=89						
VES	Vestal, Richgr	88.85	53	⇑P	P	08 52 22.2	-0.8
	baz=89						
CIS	Catalina Islan	88.86	56	⇑P	P	08 52 22.3	-0.8
	baz=89						
OSI	Osito Adit	88.86	55	⇓P	P	08 52 22.6	-0.5
	baz=89						
OSI	Osito Adit	88.86	55	eP	P	08 52 24.5	+1.4
	comp=Z,532nm,1.8s,mb6.6						
ARVC	Arvin	88.89	54	⇓P	P	08 52 22.9	-0.4
	baz=89						
D04A	Dobbs Creek Ra	88.90	42	⇑P	P	08 52 22.8	-0.2
	baz=89						
C04A	Brinnon	88.96	41	⇑P	P	08 52 23.0	-0.2
	baz=89						
L05A	Lakeview	88.97	47	⇑P	P	08 52 23.3	-0.1
	baz=89						
POO	Poona	88.97	289	eP	P	08 52 24.3	+0.4
J05A	Fort Rock	88.98	46	⇓P	P	08 52 23.8	+0.3
	baz=89						
KCC	Kaiser Creek	89.00	52	⇓P	P	08 52 23.4	-0.3
	baz=89						
ZALV	Zalesovo Beam	89.00	325	P	P	08 52 21.2	-2.1
	comp=Z,54nm,1.1s,mb5.8,baz=121,slow=5.7,SNR=31						
ZALV	Zalesovo Beam	89.00	325	P	P	08 52 21.2	-2.1
ZAL	Zalesovo	89.01	325	P	P	08 52 21.2	-2.1
FMP	Fort Macarthur	89.02	56	⇑P	P	08 52 23.1	-0.8
	baz=89						
M06C	Likely Place G	89.02	48	⇑P	P	08 52 23.8	+0.1
	baz=89						
HELL	Mitchell Peak	89.08	53	⇓P	P	08 52 23.5	-0.6
	baz=89						
K05A	Summer Lake	89.09	46	⇑P	P	08 52 23.7	-0.3
	baz=89						
P06A	Stead Airport,	89.09	50	⇓P	P	08 52 24.4	+0.4
	baz=89						
TDL	Tradedollar La	89.09	43	P	P	08 52 24.2	+0.3
DECC	Green Verdugo	89.10	55	⇑P	P	08 52 23.7	-0.5
	baz=89						
WCN	Washoe City	89.11	50	⇓P	P	08 52 24.3	+0.1
	baz=89						
R06C	Coleville	89.17	51	⇓P	P	08 52 24.5	+0.1
	baz=89						
I05A	Bend	89.18	45	⇓P	P	08 52 24.3	-0.1
	baz=89						
O06A	Flanigan	89.26	49	⇑P	P	08 52 24.8	0.0
	baz=89						
ISA	Isabella	89.29	54	eP	P	08 52 24.6	-0.5
ISA				pmax	pmax		
	comp=Z,290nm,1.7s,mb6.3						
ISA	Isabella	89.29	54	⇑P	P	08 52 24.9	-0.2
	baz=89						
ISA	Isabella	89.29	54	PFAKE		08 52 30.0	+4.9
ISA				LR	LR		
	comp=Z,47μm,22.0s,MS6.9						
MOD	Modoc	89.32	47	⇑P	P	08 52 25.0	-0.1
	baz=89						
MOD	Modoc	89.32	47	eP	P	08 52 24.5	-0.6
MOD				LR	LR		
	comp=Z,17μm,19.0s,MS6.5						
MWC	Mount Wilson	89.32	55	eP	P	08 52 25.7	+0.4
MWC	Mount Wilson	89.32	55	PFAKE		08 52 30.0	+4.7
MWC				LR	LR		
	comp=Z,77μm,20.0s,MS7.1						
R07C	Lee Vining	89.38	51	⇑P	P	08 52 26.0	+0.6
	baz=90						
N06A	Buffalo Meadow	89.39	49	⇑P	P	08 52 25.4	0.0
	baz=90						
A04A	Legoe Bay, Lum	89.40	40	⇑P	P	08 52 25.2	-0.1
	baz=90						
G05A	Wamic	89.42	44	⇓P	P	08 52 25.0	-0.4
	baz=90						
MLAC	Mammoth Lakes	89.44	52	⇓P	P	08 52 25.7	-0.1
	baz=90						
E05A	Randle	89.45	43	⇑P	P	08 52 25.1	-0.5
	baz=90						
D05A	Enumclaw	89.46	42	⇑P	P	08 52 25.1	-0.5
	baz=90						
F05A	White Salmon	89.48	43	⇓P	P	08 52 25.6	-0.2
	baz=90						
EDW2	Edwards Air Fo	89.51	55	⇑P	P	08 52 26.3	+0.1
	baz=90						
K06A	Valley Falls	89.57	47	⇓P	P	08 52 26.4	+0.2
	baz=90						
BFSC	Mount Baldy St	89.64	55	⇑P	P	08 52 26.3	-0.5
	baz=90						
B05A	Bryant	89.67	41	⇑P	P	08 52 26.2	-0.4
	baz=90						
AJM	Ajmer	89.74	297	eP	P	08 52 27.7	+0.3
J06A	Christmas Vall	89.74	46	⇑P	P	08 52 26.9	-0.1
	baz=90						
Q07A	Schurz	89.75	51	⇑P	P	08 52 26.9	-0.3
	baz=90						
JCW	Jim Creek	89.76	41	eP	P	08 52 26.9	-0.1
CWC	Cottonwood Cre	89.77	53	⇑P	P	08 52 27.2	-0.1
	baz=90						
TIN	Tinemaha	89.79	52	⇓P	P	08 52 27.5	+0.2
	baz=90						
C05A	Tolt Reservoir	89.79	42	⇓P	P	08 52 26.5	-0.6
	baz=90						
109C	Camp Elliot, M	89.82	57	⇓P	P	08 52 27.4	-0.3
	baz=90						
P07A	Fallon	89.82	50	⇑P	P	08 52 27.6	+0.1
	baz=90						
I06A	Prineville	89.87	45	⇑P	P	08 52 28.0	+0.4
	baz=90						
A05A	Maple Falls	89.87	40	⇑P	P	08 52 26.6	-0.8
	baz=90						
LRMC	Laurel Mountai	89.88	54	⇑P	P	08 52 27.9	0.0
	baz=90						
MURC	Murrieta	89.89	56	⇑P	P	08 52 27.6	-0.4
	baz=90						
F06A	Goldendale	89.91	44	⇓P	P	08 52 27.7	0.0
	baz=90						
S08C	White Mtn Res	89.92	52	⇑P	P	08 52 28.6	+0.5
	baz=90						
O07A	Toulon	89.97	49	⇑P	P	08 52 28.5	+0.3
	baz=90						
E06A	Yakima	89.97	43	⇑P	P	08 52 27.6	-0.4
	baz=90						
H06A	Lindquist Farm	89.97	45	⇓P	P	08 52 27.9	-0.2
	baz=90						
BOM	Bombay	90.00	289	ex	x	08 51 21.1	
BOM				ex	x	09 03 07.0	
BOM				ex	x	09 03 19.2	
	comp=N,109nm,1.3s						
M07A	Soldier Meadow	90.02	48	⇓P	P	08 52 28.6	+0.2
	baz=90						
NVAR	Mina Array Bea	90.02	51	P	P	08 52 28.1	-0.4
	comp=N,13nm,0.8s,mb5.3,baz=249,slow=4.6,SNR=64						
NVAR				PKKPbc	PKKPbc	09 09 59.2	-1.6
	comp=N,2.3nm,0.7s,baz=73,slow=4.2,SNR=16						
NVAR				PKPPKP		09 18 03.2	
	comp=N,0.6nm,0.8s,baz=72,slow=2.9,SNR=6.0						
NVAR	Mina Array Bea	90.02	51	P	P	08 52 28.1	-0.4
NVAR				PKKPbc	PKKPbc	09 09 59.2	-1.6
NVAR				P'P'		09 18 03.2	
N07B	Gerlach	90.03	49	⇑P	P	08 52 28.7	+0.2
	baz=90						
L07A	Adell	90.04	47	⇓P	P	08 52 28.8	+0.4
	baz=90						
RPW	Rockport	90.09	41	eP	P	08 52 27.3	-1.3
	comp=N,10nm,0.6s,mb5.3						
DAC	Darwin (Calif)	90.12	53	PFAKE		08 52 40.0	+11
DAC				LR	LR		
	comp=Z,27μm,22.0s,MS6.6						
B06A	Marblemount	90.13	41	⇓P	P	08 52 27.7	-1.0
	baz=90						
BAR	Barrett	90.13	57	PFAKE		08 52 40.0	+11
BAR				LR	LR		
	comp=Z,51μm,19.0s,MS7.0						
NVS	Novosibirsk	90.15	326	i P	P	08 52 27.3	-1.3
NVS				i S	SKSac	09 02 55.3	-4.4
NVS				e		09 03 24.7	
NVS				pmax	pmax		
	comp=E,180nm,2.8s						
NVS				pmax	pmax		
	comp=Z,411nm,2.8s,mb6.3						
NVS				pmax	pmax		
	comp=N,154nm,3.0s						
MPMC	Manual Prospec	90.16	54	⇓P	P	08 52 29.4	+0.3
	baz=90						
R08A	Mina	90.16	51	⇓P	P	08 52 29.5	+0.4
	baz=90						
D06A	Cle Elum	90.22	42	⇓P	P	08 52 28.6	-0.5
	baz=90						
BBRC	Big Bear Sol-O	90.25	55	⇓P	P	08 52 29.5	-0.1
	baz=90						
K07A	Rock Creek Ran	90.26	47	⇑P	P	08 52 29.9	+0.4
	baz=90						
A06A	Chilliwack	90.28	40	⇑P	P	08 52 28.8	-0.6
	baz=90						
RRX	Edison Barstow	90.31	55	⇑P	P	08 52 30.0	+0.1
	baz=90						
EBG	Ellensburg	90.33	42	P	P	08 52 30.1	+0.5
C06A	Tall Timber Ra	90.36	41	⇓P	P	08 52 29.2	-0.6
	baz=90						
J07A	Hines	90.37	46	⇓P	P	08 52 30.1	+0.2
	baz=90						
MONP	Monument Peak	90.38	57	⇑P	P	08 52 30.2	-0.1
	baz=90						
I07A	Izee	90.39	45	⇑P	P	08 52 30.6	+0.5
	baz=90						
Q08A	Gabbs	90.40	51	⇓P	P	08 52 30.1	-0.1
	baz=90						
GRAC	Grapevine Rang	90.45	53	⇑P	P	08 52 30.6	+0.2
	baz=91						
P08A	Dixie Valley	90.46	50	⇓P	P	08 52 30.9	+0.5
	baz=91						
H07A	Lands Inn, Kim	90.47	45	⇓P	P	08 52 29.9	-0.5
	baz=91						
PFO	Pinyon Flat Ob	90.50	56	P	P	08 52 30.5	-0.3
	comp=N,24nm,1.0s,mb5.5,baz=265,slow=3.0,SNR=23						
PFO	Pinyon Flat Ob	90.50	56	eP	P	08 52 30.2	-0.6
PFO	Pinyon Flat Ob	90.50	56	⇑P	P	08 52 30.6	-0.2
	baz=91						
PFO	Pinyon Flat Ob	90.50	56	PFAKE		08 52 40.0	+9.2
PFO				LR	LR		
	comp=Z,87μm,20.0s,MS7.2						
F07A	Phinny Hill Vi	90.52	44	⇓P	P	08 52 30.4	-0.2
	baz=91						
O08A	Rochester Mine	90.53	49	⇓P	P	08 52 31.3	+0.5
	baz=91						
GSC	Goldstone	90.55	54	eP	P	08 52 30.5	-0.5
GSC	Goldstone	90.55	54	⇓P	P	08 52 31.0	0.0
	baz=91						
GSC	Goldstone	90.55	54	PFAKE		08 52 40.0	+9.0
GSC				LR	LR		
	comp=Z,73μm,20.0s,MS7.1						
G07A	Ruggs Ranch, H	90.55	44	⇑P	P	08 52 30.4	-0.3
	baz=91						
DVTC	Desert V Tower	90.60	57	⇓P	P	08 52 31.7	+0.4
	baz=91						
M08A	Happy Creek Ra	90.62	48	⇑P	P	08 52 31.9	+0.7
	baz=91						
WVOR	Wild Horse Val	90.64	47	eP	P	08 52 31.2	-0.1
WVOR				pmax	pmax		
	comp=Z,387nm,1.7s,mb6.5						
WVOR				MLR	MLR		
	comp=Z,19μm,19.0s,MS6.5						
WVOR	Wild Horse Val	90.64	47	eP	P	08 52 31.2	-0.1
	comp=Z,387nm,1.7s,mb6.5						
WVOR				LR	LR		
	comp=Z,19μm,19.0s,MS6.5						
ETW	Entiat	90.66	42	eP	P	08 52 31.4	+0.2
	comp=Z,80nm,1.1s,mb6.0						
N08A	GE Springer Mi	90.66	49	⇑P	P	08 52 31.2	-0.2
	baz=91						
S09A	Goldfield	90.71	52	⇓P	P	08 52 31.5	-0.2
	baz=91						
E07A	Sunnyside	90.72	43	⇑P	P	08 52 31.4	-0.2
	baz=91						
FURC	Furnace Creek,	90.74	53	⇓P	P	08 52 32.0	+0.1
	baz=91						
TPH	Tonopah	90.78	52	eP	P	08 52 31.8	-0.2
TPH				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.8						
TPH				MLR	MLR		
	comp=Z,38μm,19.0s,MS6.8						
TPH	Tonopah	90.78	52	eP	P	08 52 31.8	-0.3
	comp=Z,54nm,1.0s,mb5.8						
TPH				LR	LR		
	comp=Z,38μm,19.0s,MS6.8						
D07A	Quincy	90.79	42	⇓P	P	08 52 31.2	-0.7
	baz=91						
L08A	Fields	90.80	47	⇓P	P	08 52 32.4	+0.4
	baz=91						
K08A	Mann Creek Ran	90.82	47	⇑P	P	08 52 31.9	-0.1
	baz=91						
INK	Inuvik	90.82	20	PKPPKP		09 18 03.0	
	baz=328,slow=1.9						
INK				LR	LR	09 32 57.9	
	comp=Z,22μm,18.4s,MS6.6,baz=248,slow=35						
INK	Inuvik	90.82	20	eP	P	08 52 30.9	-0.6
HEC	Hector,Ludlow	90.84	55	⇑P	P	08 52 31.8	-0.5
	baz=91						
C07A	Waterville	90.85	42	⇓P	P	08 52 31.2	-0.9
	baz=91						
RSW	Rattlesnake Hi	90.86	43	eP	P	08 52 31.7	-0.5
	comp=Z,183nm,1.6s,mb6.2						
HAWA	Hanford	90.90	43	PFAKE		08 52 40.0	+7.6
HAWA				LR	LR		
	comp=Z,44μm,21.0s,MS6.9						
SWSC	Sam W. Stewart	90.91	57	⇑P	P	08 52 32.8	+0.1
	baz=91						
R09A	Tonopah	90.93	51	⇑P	P	08 52 32.6	-0.1
	baz=91						
BELC	Belle Mtn.	90.94	56	⇓P	P	08 52 32.5	-0.4
	baz=91						
J08A	Circle Bar Ran	90.96	46	⇑P	P	08 52 32.8	+0.1
	baz=91						
A07A	Ashnola River,	90.97	40	⇑P	P	08 52 32.1	-0.5
	baz=91						
Q09A	Carvers	90.97	51	⇑P	P	08 52 32.9	0.0
	baz=91						
B07A	Winthrop	91.00	41	⇑P	P	08 52 32.3	-0.4
	baz=91						
I08A	Drewsey	91.01	46	⇑P	P	08 52 32.8	-0.1
	baz=91						
G08A	Pilot Rock	91.05	44	⇑P	P	08 52 32.7	-0.3
	baz=91						
SYO	Syowa Base	91.07	198	⇓eP	P	08 52 28.8	-4.0
SYO	Syowa Base	91.07	198	⇓i P	P	08 52 33.6	+0.8
H08A	Prairie City	91.08	45	⇑P	P	08 52 33.2	0.0
	baz=91						
SHOC	Shoshone	91.09	54	⇓P	P	08 52 33.2	-0.2
	baz=91						
N09A	Rock Creek Ran	91.12	49	⇑P	P	08 52 34.2	+0.7
	baz=91						
P09A	Austin	91.14	50	⇑P	P	08 52 33.7	+0.1
	baz=91						
U10A	Ash Meadows, A	91.15	53	⇑P	P	08 52 34.0	+0.2
	baz=91						
KSH	Kashi	91.20	310	eP	P	08 52 37.0	+3.1
KSH				PPP		08 58 18.5	
KSH				SKS		09 03 09.0	
KSH				S	S	09 03 35.8	+3.1
KSH				AMB	AMB		
	comp=Z,560nm,0.8s,mb7.0						
KSH				AMB	AMB		
	comp=Z,6μm,3.3s						
KSH				LR	LR		
	comp=N,10μm,10.6s,MS6.7						
KSH				LR	LR		
	comp=E,9μm,10.3s,MS6.7						
KSH				LR	LR		
	comp=Z,14μm,17.2s						
O09A	Fish Creek Ran	91.23	50	⇑P	P	08 52 34.2	+0.2
	baz=91						
S10A	Tonopah Range,	91.24	52	⇑P	P	08 52 34.0	-0.1
	baz=91						
E08A	Dider Farm, El	91.24	43	⇑P	P	08 52 33.3	-0.7
	baz=91						
L09A	Wilkinson Ranc	91.26	48	⇑P	P	08 52 33.6	-0.5
	baz=91						
BMN	Battle Mountai	91.26	49	eP	P	08 52 35.5	+1.3
BMN	Battle Mountai	91.26	49	PFAKE		08 52 40.0	+5.8
BMN				LR	LR		
	comp=Z,20μm,19.0s,MS6.6						
TUQ	Turquoise Mtn.	91.28	54	⇑P	P	08 52 34.0	-0.4
	baz=91						
F08A	Pendleton	91.28	44	⇓P	P	08 52 33.9	-0.2
	baz=91						
M09A	Marrel Ranch,	91.30	48	⇓P	P	08 52 34.4	+0.1
	baz=91						
TPNV	Topopah Spring	91.31	53	eP	P	08 52 34.1	-0.4
TPNV				e		08 56 10.3	
TPNV				pmax	pmax		
	comp=Z,54nm,0.8s,mb5.9						
TPNV				MLR	MLR		
	comp=Z,33μm,19.0s,MS6.8						
TPNV	Topopah Spring	91.31	53	⇑P	P	08 52 34.4	-0.1
	baz=91						
TPNV	Topopah Spring	91.31	53	eP	P	08 52 34.1	-0.4
	comp=Z,54nm,0.8s,mb5.9						
TPNV				ePP	PP	08 56 10.3	-1.8
TPNV				LR	LR		
	comp=Z,33μm,19.0s,MS6.8						
BC3	Big Chuckw Mtn	91.33	56	⇑P	P	08 52 34.8	+0.2
	baz=91						
K09A	Rome	91.36	47	⇓P	P	08 52 34.6	0.0
	baz=92						
GMRC	Granite Mounta	91.37	55	⇓P	P	08 52 34.3	-0.5
	baz=92						
D08A	Wollman Farm,	91.46	43	⇑P	P	08 52 34.4	-0.6
	baz=92						
J09A	Fry Pan Ranch,	91.47	46	⇑P	P	08 52 34.8	-0.3
	baz=92						
B08A	Colville Reser	91.48	41	⇑P	P	08 52 34.2	-0.8
	baz=92						
R10A	Warm Springs	91.53	52	⇓P	P	08 52 35.8	+0.3
	baz=92						
C08A	Higginbotham F	91.54	42	⇑P	P	08 52 34.5	-0.8
	baz=92						
ULHL	Ulahol	91.56	312	P	P	08 52 35.2	-0.3
	SNR=26						
Q10A	Clear Creek Ra	91.56	51	⇑P	P	08 52 35.5	-0.1
	baz=92						
I09A	Lost Marbles R	91.61	46	⇓P	P	08 52 35.5	-0.2
	baz=92						
LNOR	Lincton Mounta	91.63	44	eP	P	08 52 35.8	0.0
	comp=Z,15nm,1.0s,mb5.3						
A08A	Turner Farm, O	91.66	41	⇓P	P	08 52 34.8	-1.0
	baz=92						
IRM	Iron Mountain	91.67	56	⇑P	P	08 52 36.2	0.0
	baz=92						
P10A	Eureka	91.67	50	⇑P	P	08 52 35.6	-0.5
	baz=92						
OD2	Odessa Site #2	91.68	42	eP	P	08 52 34.9	-1.0
	comp=Z,117nm,1.2s,mb6.1						
GLA	Glamis	91.73	57	eP	P	08 52 37.9	+1.4
GLA				pmax	pmax		
	comp=Z,81nm,1.0s,mb6.0						
GLA	Glamis	91.73	57	⇓P	P	08 52 36.8	+0.3
	baz=92						
GLA	Glamis	91.73	57	PFAKE		08 52 50.0	+13
GLA				LR	LR		
	comp=Z,49μm,19.0s,MS7.0						
V11A	Goodsprings	91.75	54	⇑P	P	08 52 36.3	-0.3
	baz=92						
O10A	Cortez Mining,	91.77	50	⇑P	P	08 52 36.9	+0.3
	baz=92						
KURK	Kurchatov	91.79	321	⇑P	P	08 52 35.4	-1.0
	SNR=56						
KURK	Kurchatov	91.79	321	P	P	08 52 36.0	-0.4
KURK				pmax	pmax		
	comp=Z,221nm,1.6s,mb6.2						
KURK	Kurchatov	91.79	321	c i P	P	08 52 35.2	-1.2
KURK				pmax	pmax		
	comp=Z,150nm,1.5s,mb6.1						
KURK	Kurchatov	91.79	321	⇑i P	P	08 52 35.3	-1.1
KURK				LR	LR		
	comp=Z,14μm,21.0s,MS6.4						
H09A	Durkee	91.81	45	⇑P	P	08 52 36.4	-0.2
	baz=92						
112A	Yuma	91.84	57	⇑P	P	08 52 36.8	-0.2
	baz=92						
S11A	Rachel	91.84	52	⇑P	P	08 52 36.4	-0.5
	baz=92						
N10A	Dunphy	91.85	49	⇓P	P	08 52 36.7	-0.2
	baz=92						
G09A	Cove	91.86	44	⇑P	P	08 52 36.2	-0.6
	baz=92						
F09A	S2 Ranch, Elgi	91.86	44	⇑P	P	08 52 36.7	-0.1
	baz=92						
E09A	Wood Farm, Sta	91.87	43	⇓P	P	08 52 36.1	-0.7
	baz=92						
D09A	Jones Farm, Ri	91.87	43	⇑P

K10A	MacKenzie Ranc	91.99	47	⇑P	P	08 52 37.7	+0.2
	baz=92						
C09A	Chrisman Ranch	92.05	42	⇑P	P	08 52 37.2	-0.4
	baz=92						
BMO	Blue Mountains	92.10	45	eP	P	08 52 37.0	-0.9
BMO	Blue Mountains	92.10	45	PFAKE		08 52 50.0	+12
BMO				LR	LR		
	comp=Z,39µm,19.0s,MS6.9						
R11A	Troy Canyon, C	92.10	52	⇑P	P	08 52 38.2	+0.1
	baz=92						
A09A	Danville	92.10	41	⇓P	P	08 52 37.2	-0.7
	baz=92						
W12A	Cal Nev Ari	92.10	55	⇑P	P	08 52 38.4	+0.2
	baz=92						
Y12C	Blythe	92.10	56	⇓P	P	08 52 38.1	-0.2
	baz=92						
Q11A	Duckwater	92.14	51	⇓P	P	08 52 38.4	+0.1
	baz=92						
L10A	Juniper Basin	92.14	48	⇓P	P	08 52 38.4	+0.2
	baz=92						
TKM2	Tokmak 2	92.16	313	P	P	08 52 37.6	-0.7
	SNR=22						
TKM2	Tokmak 2	92.16	313	eP	P	08 52 37.5	-0.8
	comp=Z,698nm,0.7s,mb7.1						
TKM2				LR	LR		
	comp=Z,10µm,20.0s,MS6.3						
T11A	Corn Creek, Al	92.18	53	⇑P	P	08 52 38.2	-0.3
	baz=92						
J10A	Berg Farm, Mel	92.19	46	⇓P	P	08 52 38.1	-0.3
	baz=92						
V12A	Nelson	92.19	54	⇓P	P	08 52 38.3	-0.3
	baz=92						
P11A	Circle Ranch,	92.19	50	⇑P	P	08 52 38.4	-0.1
	baz=92						
NEE2	Needles Airpor	92.21	55	⇓P	P	08 52 38.8	+0.1
	baz=92						
KZA	Kyzart	92.25	312	P	P	08 52 41.2	+2.5
	SNR=18						
B09A	Rice	92.27	41	⇑P	P	08 52 38.2	-0.4
	baz=92						
I10A	Payette	92.30	46	⇑P	P	08 52 39.0	+0.1
	baz=92						
G10A	Bishop Farm, J	92.31	45	⇑P	P	08 52 38.4	-0.5
	baz=92						
F10A	Beach Ranch, E	92.38	44	⇓P	P	08 52 38.9	-0.4
	baz=92						
O11A	Cowboy Ranch,	92.38	50	⇓P	P	08 52 39.4	0.0
	baz=92						
H10A	Noah's Angus R	92.44	45	⇑P	P	08 52 39.1	-0.4
	baz=92						
N11A	Elko Archery C	92.44	49	⇑P	P	08 52 39.8	+0.2
	baz=92						
T12A	Moapa	92.48	53	⇓P	P	08 52 39.6	-0.3
	baz=93						
PDMCI	Parker Dam,Lak	92.52	56	⇑P	P	08 52 39.9	-0.2
	baz=93						
M11A	Holland Ranch,	92.52	49	⇑P	P	08 52 40.2	+0.2
	baz=93						
S12A	Delamar Landin	92.53	52	⇑P	P	08 52 40.3	+0.1
	baz=93						
113A	Mohawk Valley,	92.56	57	⇓P	P	08 52 40.0	-0.3
	baz=93						
E10A	Myers Farm, Un	92.56	43	⇑P	P	08 52 39.3	-0.7
	baz=93						
D10A	Wagner Farm, O	92.56	43	⇑P	P	08 52 39.3	-0.7
	baz=93						
U12A	Valley of Fire	92.57	54	⇓P	P	08 52 40.4	+0.1
	baz=93						
KBK	Karagaybulak	92.58	313	P	P	08 52 41.6	+1.4
	SNR=7.4						
K11A	Parker Ranch,	92.59	47	⇑P	P	08 52 40.2	0.0
	baz=93						
L11A	Cat Creek Ranc	92.68	48	⇑P	P	08 52 40.2	-0.6
	baz=93						
Y13A	Salome	92.69	56	⇑P	P	08 52 40.6	-0.3
	baz=93						
C10A	Spilker Farm,	92.69	42	⇑P	P	08 52 39.9	-0.7
	baz=93						
A10A	Northport	92.77	41	⇓P	P	08 52 40.2	-0.7
	baz=93						
CHMS	Chumysh	92.78	313	P	P	08 52 42.2	+1.1
	SNR=13						
ELK	Elko	92.80	49	eP	P	08 52 40.8	-0.5
ELK				e		08 56 24.6	
ELK				pmax	pmax		
	comp=Z,106nm,1.3s						
ELK				MLR	MLR		
	comp=Z,16µm,19.0s						
ELK	Elko	92.80	49	eP	P	08 52 40.8	-0.5
	comp=Z,106nm,1.3s,mb6.1						
ELK				ePP	PP	08 56 24.6	+1.0
ELK				LR	LR		
	comp=Z,16µm,19.0s,MS6.5						
Q12A	Willow Creek R	92.81	51	⇑P	P	08 52 41.5	+0.1
	baz=93						
UCH	Uchtor	92.81	312	P	P	08 52 39.0	-2.3
	SNR=6.5						
X13A	Yucca	92.82	56	⇑P	P	08 52 41.6	0.0
	baz=93						
B10A	Chitwood Farm,	92.84	42	⇑P	P	08 52 40.2	-1.1
	baz=93						
FRU	Bishkek	92.85	313	eP	P	08 52 43.0	+1.5
FRU				e		08 56 25.0	
FRU				e		09 03 14.0	
FRU				pmax	pmax		
	comp=Z,470nm,2.5s,mb6.5						
R12A	Pony Springs,	92.85	52	⇑P	P	08 52 42.1	+0.5
	baz=93						
W13A	Hualapai Mount	92.86	55	⇓P	P	08 52 42.0	+0.3
	baz=93						
I11A	Placerville	92.86	46	⇑P	P	08 52 41.3	-0.2
	baz=93						
MFID	Camas Ranch	92.86	47	⇓P	P	08 52 41.7	+0.2
	baz=93						
NEW	Newport	92.90	42	eP	P	08 52 41.4	-0.2
NEW				eS	SKSac	09 03 15.7	0.0
NEW				pmax	pmax		
	comp=Z,66nm,1.2s						
NEW				MLR	MLR		
	comp=Z,34µm,20.0s						
NEW	Newport	92.90	42	eP	P	08 52 41.4	-0.1
	comp=Z,66nm,1.2s,mb5.9						
NEW				eS	SKSac	09 03 15.7	0.0
NEW				LR	LR		
	comp=Z,34µm,20.0s,MS6.8						
V13A	Grand Canyon W	92.91	54	⇓P	P	08 52 42.0	+0.1
	baz=93						
G11A	Walters Elk Ra	92.92	45	⇑P	P	08 52 40.9	-0.9
	baz=93						
H11A	Donnelly	92.97	45	⇓P	P	08 52 42.0	0.0
	baz=93						
N12A	Clover Valley,	92.97	49	⇓P	P	08 52 41.9	-0.2
	baz=93						
USP	Ospenovka	93.02	313	P	P	08 52 43.3	+1.0
	SNR=19						
U13A	Pakoon Wash	93.02	54	⇑P	P	08 52 42.3	-0.2
	baz=93						
O12A	Currie	93.09	50	⇑P	P	08 52 42.4	-0.2
	baz=93						
F11A	Grangeville	93.09	44	⇓P	P	08 52 41.2	-1.4
	baz=93						
E11A	Bogner Ranch,	93.15	44	⇓P	P	08 52 42.0	-0.7
	baz=93						
M12A	Wells	93.16	49	⇓P	P	08 52 43.1	+0.2
	baz=93						
T13A	Saint George	93.17	53	⇑P	P	08 52 42.8	-0.3
	baz=93						
D11A	Klaveano Farm,	93.19	43	⇓P	P	08 52 42.5	-0.5
	baz=93						
214A	Organ Pipe Nat	93.22	58	⇓P	P	08 52 43.7	+0.2
	baz=93						
L12A	Hose Creek Ra	93.22	48	⇓P	P	08 52 43.4	+0.2
	baz=93						
S13A	Holt Ranch, En	93.30	53	⇓P	P	08 52 44.0	+0.3
	baz=93						
R13A	O'Grain Ranch,	93.32	52	⇓P	P	08 52 43.9	+0.1
	baz=93						
Z14A	Wintersburg	93.34	57	⇑P	P	08 52 44.0	0.0
	baz=93						
J12A	Stokes Ranch,	93.36	47	⇑P	P	08 52 43.9	+0.1
	baz=93						
Y14A	Wickenburg	93.38	56	⇑P	P	08 52 44.3	+0.1
	baz=94						
K12A	Draper Farm, C	93.39	47	⇑P	P	08 52 44.0	0.0
	baz=94						
AML	Almayashu	93.40	312	PFAKE		08 52 50.0	+6.0
AML				LR	LR		
	comp=Z,10µm,22.0s,MS6.2						
Q13A	Wheeler Ranch,	93.41	51	⇓P	P	08 52 44.6	+0.5
	baz=94						
EKS2	Erkin-Say	93.43	313	P	P	08 52 43.9	-0.3
	SNR=15						
EKS2	Erkin-Say	93.43	313	eP	P	08 52 43.6	-0.5
	comp=Z,37nm,1.1s,mb5.7						
EKS2				LR	LR		
	comp=Z,9µm,21.0s,MS6.2						
B11A	Sandpoint	93.43	42	⇑P	P	08 52 43.3	-0.7
	baz=94						
P13A	Bates Ranch, G	93.50	51	⇓P	P	08 52 44.8	+0.2
	baz=94						
W14A	Seligman	93.53	55	⇑P	P	08 52 45.2	+0.4
	baz=94						
A11A	Hall Mountain,	93.53	41	⇓P	P	08 52 44.0	-0.5
	baz=94						
X14A	Yava	93.56	56	⇓P	P	08 52 44.9	-0.1
	baz=94						
V14A	Boquillas Ranc	93.58	55	⇓P	P	08 52 45.2	+0.2
	baz=94						
N13A	Wendover, West	93.60	49	⇓P	P	08 52 45.3	+0.4
	baz=94						
O13A	Hicks Ranch, I	93.64	50	⇑P	P	08 52 45.7	+0.5
	baz=94						
BHJ	Bhuj	93.64	293	eP	P	08 52 44.6	-1.0
U14A	Mt Trumbull	93.65	54	⇓P	P	08 52 45.5	+0.2
	baz=94						
F12A	Elk City	93.69	44	⇓P	P	08 52 44.4	-0.9
	baz=94						
M13A	Montello	93.71	49	⇓P	P	08 52 45.6	+0.1
	baz=94						
H12A	Diamond D Ranc	93.76	46	⇑P	P	08 52 45.6	-0.1
	baz=94						
115A	Sonoran Desert	93.82	58	⇓P	P	08 52 46.4	+0.2
	baz=94						
T14A	Hurricane	93.83	53	⇑P	P	08 52 46.4	+0.3
	baz=94						
D12A	Red Ives Fores	93.85	43	⇑P	P	08 52 45.6	-0.4
	baz=94						
S14A	Cedar City	93.88	53	⇓P	P	08 52 46.1	-0.2
	baz=94						
HLID	Hailey	93.90	47	⇑P	P	08 52 46.6	+0.3
	baz=94						
HLID	Hailey	93.90	47	eP	P	08 52 46.3	0.0
HLID				LR	LR		
	comp=Z,31µm,21.0s,MS6.8						
Y15A	Casa Rosa Ranc	93.94	56	⇓P	P	08 52 46.7	0.0
	baz=94						
B12A	Libby	93.95	42	⇓P	P	08 52 45.9	-0.5
	baz=94						
Z15A	Gila River Ind	93.97	57	⇑P	P	08 52 47.4	+0.5
	baz=94						
K13A	Stover Farm, H	93.99	48	⇓P	P	08 52 47.1	+0.4
	baz=94						
A12A	Yaak River Ran	93.99	41	⇓P	P	08 52 46.1	-0.5
	baz=94						
Q14A	Sevier Lake (B	93.99	51	⇑P	P	08 52 47.0	+0.2
	baz=94						
L13A	Double Diamond	94.00	48	⇑P	P	08 52 46.9	+0.1
	baz=94						
J13A	Cove Ranch, Pi	94.05	47	⇑P	P	08 52 47.4	+0.4
	baz=94						
R14A	James Farms, M	94.08	52	⇑P	P	08 52 47.4	+0.2
	baz=94						
X15A	Humboldt	94.10	56	⇑P	P	08 52 47.9	+0.5
	baz=94						
LPIG	La Paz	94.16	66	P	P	08 52 46.4	-1.5
	comp=Z,14nm,0.8s,mb5.5,baz=101,slow=3.7,SNR=5.1						
I13A	Wildhorse Cree	94.17	46	⇓P	P	08 52 48.1	+0.5
	baz=94						
W15A	Williams	94.18	55	⇓P	P	08 52 48.9	+1.1
	baz=94						
H13A	Challis	94.18	46	⇑P	P	08 52 47.6	+0.1
	baz=94						
116A	Eloy	94.24	58	⇓P	P	08 52 48.0	-0.2
	baz=94						
P14A	Drum Mountains	94.25	51	⇑P	P	08 52 48.6	+0.6
	baz=94						
G13A	Cobalt	94.29	45	⇑P	P	08 52 48.0	-0.1
	baz=94						
F13A	Darby	94.33	44	⇓P	P	08 52 48.2	-0.1
	baz=94						
M14A	Sheep Mountain	94.34	49	⇑P	P	08 52 48.2	-0.1
	baz=94						
N14A	Grayback Hills	94.36	49	⇑P	P	08 52 48.3	-0.1
	baz=94						
U15A	North Rim	94.36	54	⇑P	P	08 52 48.8	+0.3
	baz=94						
V15A	Kaibab Nationa	94.36	55	⇑P	P	08 52 48.9	+0.3
	baz=94						
216A	Three Points,	94.36	58	⇑P	P	08 52 49.0	+0.3
	baz=94						
T15A	Red Dirt Ranch	94.38	53	⇑P	P	08 52 48.6	-0.1
	baz=94						
D13A	Huson	94.46	43	⇑P	P	08 52 47.6	-1.2
	baz=94						
C13A	Hot Springs	94.48	43	⇓P	P	08 52 48.0	-0.9
	baz=95						
BGU	Big Grassy Mou	94.48	49	eP	P	08 52 48.7	-0.4
	comp=Z,83nm,1.5s,mb6.0						
S15A	Panguitch	94.49	53	⇓P	P	08 52 50.3	+1.2
	baz=95						
L14A	Malta	94.50	48	⇑P	P	08 52 50.0	+0.9
	baz=95						
DUG	Dugway	94.53	50	eP	P	08 52 50.1	+0.8
DUG				pmax	pmax		
	comp=Z,85nm,1.6s,mb5.9						
DUG				MLR	MLR		
	comp=Z,18µm,19.0s,MS6.6						
DUG	Dugway	94.53	50	⇑P	P	08 52 49.4	+0.1
	baz=95						
DUG	Dugway	94.53	50	eP	P	08 52 50.1	+0.8
	comp=Z,85nm,1.6s,mb5.9						
DUG				LR	LR		
	comp=Z,18µm,19.0s,MS6.6						
E13A	Victor	94.54	44	⇓P	P	08 52 48.2	-0.9
	baz=95						
Z16A	Peralta Trail,	94.59	57	⇓P	P	08 52 50.3	+0.6
	baz=95						
Y16A	Circle Bar Ran	94.63	57	⇑P	P	08 52 49.7	-0.1
	baz=95						
K14A	Jones Ranch, D	94.63	48	⇓P	P	08 52 50.2	+0.5
	baz=95						
R15A	Junction	94.64	52	⇑P	P	08 52 50.3	+0.4
	baz=95						
B13A	Whitefish	94.67	42	⇓P	P	08 52 49.3	-0.4
	baz=95						
Q15A	Fillmore	94.68	51	⇓P	P	08 52 50.4	+0.4
	baz=95						
MVU	Marysvale	94.74	52	PFAKE		08 53 00.0	+10
MVU				LR	LR		
	comp=Z,48µm,20.0s,MS7.0						
X16A	Lo Mia Camp, P	94.74	56	⇓P	P	08 52 51.5	+1.1
	baz=95						
MSU	Marysvale	94.76	52	eP	P	08 52 51.9	+1.5
W16A	Flagstaff	94.76	55	⇑P	P	08 52 51.3	+0.9
	baz=95						
MSO	Missoula	94.77	43	eP	P	08 52 50.8	+0.6
	comp=Z,11nm,1.0s,mb5.2						
MSO				LR	LR		
	comp=Z,27µm,21.0s,MS6.7						
A13A	Flathead Natio	94.79	41	⇓P	P	08 52 49.9	-0.4
	baz=95						
HVU	Hansel Valley	94.81	49	eP	P	08 52 51.8	+1.3
O15A	The Old Anders	94.81	50	⇑P	P	08 52 51.1	+0.6
	baz=95						
P15A	Leamington	94.85	51	⇑P	P	08 52 50.7	-0.1
	baz=95						
G14A	Jackson	94.85	45	⇑P	P	08 52 50.8	+0.2
	baz=95						
N15A	Stansbury Isla	94.86	50	⇑P	P	08 52 50.7	0.0
	baz=95						
217A	Green Valley	94.86	59	⇑P	P	08 52 51.1	+0.1
	baz=95						
WUAZ	Wupatki	94.95	55	⇓P	P	08 52 51.9	+0.6
	baz=95						
WUAZ	Wupatki	94.95	55	eP	P	08 52 52.1	+0.8
	comp=Z,21nm,1.0s,mb5.5						
WUAZ				LR	LR		
	comp=Z,77µm,20.0s,MS7.2						
TUC	Tucson	94.97	58	eP	P	08 52 52.0	+0.5
TUC				e		08 56 37.4	
TUC				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.2						
TUC				MLR	MLR		
	comp=Z,29µm,20.0s,MS6.8						
TUC	Tucson	94.97	58	eP	P	08 52 52.0	+0.5
	comp=Z,8.5nm,0.8s,mb5.2						
TUC				ePP	PP	08 56 37.4	-3.5
TUC				LR	LR		
	comp=Z,29µm,20.0s,MS6.8						
SPUT	South Promonto	94.98	49	P	P	08 52 52.5	+1.2
	comp=Z,49nm,1.3s,mb5.8						
SPUT				ePP	PP	08 56 38.5	-2.2
F14A	Wisdom	95.00	45	⇓P	P	08 52 51.2	-0.1
	baz=95						
M15A	Larsen Ranch,	95.00	49	⇓P	P	08 52 51.4	0.0
	baz=95						
E14A	Clinton	95.01	44	⇓P	P	08 52 51.0	-0.3
	baz=95						
117A	Oracle	95.05	58	⇑P	P	08 52 51.9	+0.1
	baz=95						
C14A	Swan Lake	95.05	43	⇑P	P	08 52 50.9	-0.6
	baz=95						
T16A	Glen Canyon Da	95.06	53	⇑P	P	08 52 52.8	+1.0
	baz=95						
S16A	Weppner Ranch,	95.10	53	⇓P	P	08 52 52.3	+0.4
	baz=95						
D14A	Greenough	95.10	43	⇓P	P	08 52 51.3	-0.4
	baz=95						
Y17A	Roosevelt	95.12	57	⇓P	P	08 52 52.6	+0.5
	baz=95						
K15A	Arbon	95.12	48	⇓P	P	08 52 52.3	+0.4
	baz=95						
L15A	Malad City	95.13	48	⇑P	P	08 52 51.8	-0.2
	baz=95						
MCMT	McKenzie Canyo	95.21	46	eP	P	08 52 53.2	+0.9
	comp=Z,57nm,1.2s,mb5.9						
X17A	Forest Lakes	95.25	56	⇑P	P	08 52 53.3	+0.6
	baz=95						
P16A	Fountain Green	95.33	51	⇓P	P	08 52 53.3	+0.4
	baz=95						
Z17A	San Carlos Hig	95.37	57	⇓P	P	08 52 54.4	+1.1
	baz=96						
MPU	Maple Canyon	95.40	50	PFAKE		08 53 00.0	+6.7
MPU				LR	LR		
	comp=Z,40µm,19.0s,MS6.9						
W17A	Winslow	95.43	55	⇓P	P	08 52 54.1	+0.6
	baz=96						
DLMT	Dillon	95.47	45	eP	P	08 52 54.0	+0.6
318A	Bisbee	95.51	59	⇓P	P	08 52 53.8	-0.2
	baz=96						
G15A	Dillon	95.52	45	⇑P	P	08 52 54.2	+0.5
	baz=96						
O16A	Springville	95.53	50	⇓P	P	08 52 53.9	0.0
	baz=96						
218A	Dragoon	95.54	59	⇑P	P	08 52 55.3	+1.1
	baz=96						
M16A	Huntsville	95.59	49	⇓P	P	08 52 54.4	+0.3
	baz=96						
E15A	Deer Lodge	95.59	44	⇑P	P	08 52 53.8	-0.2
	baz=96						
Q16A	Castle Valley	95.60	52	⇓P	P	08 52 55.0	+0.8
	baz=96						
F15A	Butte	95.61	45	⇑P	P	08 52 54.3	+0.3
	baz=96						
T17A	Navajo Res., N	95.62	54	⇓P	P	08 52 54.6	+0.2
	baz=96						
N16A	Rees Ranch, Co	95.67	50	⇑P	P	08 52 55.7	+1.2
	baz=96						
HWUT	Hardware Ranch	95.68	49	eP	P	08 52 55.2	+0.7
	comp=Z,15nm,0.9s,mb5.4						
HWUT				ePP	PP	08 56 45.3	-0.7
HWUT				LR	LR		
	comp=Z,16µm,19.0s,MS6.5						
U17A	Shonto	95.68	54	⇓P	P	08 52 56.0	+1.3
	baz=96						
118A	Homack Ranch,	95.70	58	⇑P	P	08 52 55.7	+0.9
	baz=96						
Z18A	Geronimo	95.70	58	⇑P	P	08 52 56.2	+1.4
	baz=96						
S17A	Black Ridge (B	95.71	53	⇑P	P	08 52 55.0	+0.2
	baz=96						
DAU	Daniels Canyon	95.74	50	eP	P	08 52 56.7	+1.9
D15A	Lincoln	95.76	43	⇑P	P	08 52 54.5	-0.2
	baz=96						
Y18A	Canyon Day Jun	95.80	57	⇑P	P	08 52 57.0	+1.8
	baz=96						
K16A	Soda Springs	95.83	48	⇑P	P	08 52 56.2	+1.1
	baz=96						
L16A	Fish Haven	95.83	49	⇑P	P	08 52 55.9	+0.7
	baz=96						
KBL	Kabul	95.83	304	eP	P	08 52 55.5	+0.1
	comp=Z,40nm,1.0s,mb5.8						
KK31	Karatay Array	95.87	313	*i* P	P	08 52 55.0	-0.3
J16A	Bone	95.88	47	⇑P	P	08 52 56.3	+1.0
	baz=96						
R17A	Hanksville Air	95.89	52	⇑P	P	08 52 56.9	+1.4
	baz=96						
X18A	Snowflake	95.97	56	⇑P	P	08 52 57.4	+1.4
	baz=96						
P17A	Butcher Ranch,	96.01	51	⇓P	P	08 52 56.4	+0.4
	baz=96						
319A	Douglas	96.11	59	⇑P	P	08 52 58.2	+1.5
	baz=96						
EDM	Edmonton	96.11	37	eP	P	08 52 55.5	-0.7
SRU	San Rafael	96.13	51	eP	P	08 52 59.3	+2.7
SRU	San Rafael	96.13	51	⇓P	P	08 52 57.6	+1.0
	baz=96						
N17A	Moffit Pass	96.14	50	⇑P	P	08 52 57.7	+1.1
	baz=96						
V18A	Ganado	96.14	55	⇑P	P	08 52 57.8	+1.1
	baz=96						
AHID	Auburn Hatcher	96.18	48	eP	P	08 52 56.9	+0.2
	comp=Z,50nm,1.4s,mb5.8						
AHID				LR	LR		
	comp=Z,28µm,19.0s,MS6.8						
BOZ	Bozeman (W)	96.18	45	eP	P	08 52 54.6	-2.1
BOZ				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.4						
BOZ				MLR	MLR		
	comp=Z,32µm,22.0s,MS6.8						
BOZ	Bozeman (W)	96.18	45	⇓P	P	08 52 57.4	+0.7
	baz=96						
BOZ	Bozeman (W)	96.18	45	eP	P	08 52 54.6	-2.1
	comp=Z,13nm,0.8s,mb5.4						
BOZ				LR	LR		
	comp=Z,32µm,22.0s,MS6.8						
219A	White Tail Can	96.21	59	⇑P	P	08 52 57.6	+0.5
	baz=96						
QLMT	Earthquake Lak	96.21	46	eP	P	08 52 58.3	+1.4
W18A	Petrified Fore	96.22	56	⇓P	P	08 52 58.4	+1.3
	baz=96						
119A	Ashpeak Ranch,	96.27	58	⇑P	P	08 52 57.4	0.0
	baz=96						
U18A	Rough Rock, Ch	96.29	54	⇓P	P	08 52 58.1	+0.7
	baz=96						
S18A	Hurst Farm, Bl	96.35	53	⇑P	P	08 52 58.7	+1.1
	baz=96						
Z19A	T-Link Ranch,	96.37	57	⇓P	P	08 52 59.0	+1.1
	baz=96						
T18A	Mexican Hat	96.38	54	⇓P	P	08 52 59.5	+1.7
	baz=96						
TPAW	Teton Pass	96.38	47	eP	P	08 52 58.6	+0.9
	comp=Z,61nm,1.4s,mb5.8						
TPAW				ePP	PP	08 56 52.5	+1.1
P18A	Preston Nutter	96.41	51	⇑P	P	08 52 58.6	+0.7
	baz=96						
Q18A	Rafter H Ranch	96.43	52	⇑P	P	08 52 58.6	+0.6
	baz=96						
IMW	Indian Meadow	96.44	47	eP	P	08 52 58.9	+1.0
	comp=Z,23nm,0.9s,mb5.6						
IMW				ePP	PP	08 56 49.3	-2.6
Y19A	Nutrioso	96.47	57	⇑P	P	08 53 00.2	+1.9
	baz=97						
X19A	St. Johns	96.50	56	⇑P	P	08 53 00.0	+1.6
	baz=97						
W19A	Sanders	96.51	56	⇓P	P	08 52 59.2	+0.8
	baz=97						
R18A	Canyonlands Na	96.52	52	⇑P	P	08 52 59.1	+0.7
	baz=97						
YMR	Madison River	96.52	46	PFAKE		08 53 10.0	+12
YMR				LR	LR		
	comp=Z,50µm,20.0s,MS7.0						
MOOW	Moose Ponds	96.56	47	eP	P	08 52 59.2	+0.8
	comp=Z,25nm,1.2s,mb5.5						
MOOW				ePP	PP	08 56 44.8	-8.0
FLWY	Flagg Ranch	96.64	47	eP	P	08 52 59.7	+0.9
	comp=Z,26nm,1.0s,mb5.6						
FLWY				ePP	PP	08 56 52.8	-0.6
LOHW	Long Hollow	96.65	47	eP	P	08 52 59.2	+0.3
	comp=Z,36nm,1.4s,mb5.6						
NVL	N'lazarevskaya	96.65	190	*d iP*	P	08 52 58.0	-0.4
NVL				*e*		08 56 58.8	
NVL				*i* S	SKSac	09 03 35.2	0.0

NVL pmax pmax
comp=Z,66nm,3.1s
NVL MLR MLR
comp=N,50μm,20.0s,MS7.0
NVL MLR MLR
comp=E,13μm,20.0s,MS7.0
NVL MLR MLR
comp=Z,70μm,20.0s,MS7.1
MAIT Maitri 96.66 190 *e*P **P 08 52 56.9 -1.5**
O18A Roosevelt 96.67 50 ⇑P **P 08 53 00.3 +1.2**
baz=97
YKA Yellowknife Ar 96.76 28 P **P 08 52 56.7 -2.2**
comp=Z,43nm,0.9s,mb5.9,baz=259,slow=4.5,SNR=69
YKA PP PP 08 56 54.2 +0.4
comp=Z,6.2nm,1.0s,baz=259,slow=7.5,SNR=5.0
YKA PKiKP PKiKP 08 57 33.6 -1.9
comp=Z,1.1nm,0.7s,baz=253,slow=1.2,SNR=6.6
YKA PKKPbc PKKPbc 09 09 39.9 -4.1
comp=Z,2.5nm,0.7s,baz=76,slow=2.6,SNR=18
YKA PKPPKP 09 17 53.3
comp=Z,1.3nm,1.0s,baz=62,slow=3.3,SNR=4.2
YKA LR LR 09 29 35.2
comp=Z,22μm,20.9s,MS6.6,baz=215,slow=31
YKA Yellowknife Ar 96.76 28 P **P 08 52 56.7 -2.2**
YKA PP PP 08 56 54.2 +0.3
VOSK Vostochnaya 96.82 322 P **P 08 52 58.3 -1.1**
VOSK pmax pmax
comp=Z,80nm,1.6s,mb5.9
V19A Window Rock 96.86 55 ⇑P **P 08 53 00.8 +0.8**
baz=97
LKWY Lake 96.91 46 PFAKE 08 53 10.0 +10
LKWY LR LR
comp=Z,69μm,19.0s,MS7.2
R19A Curley Farm, L 97.00 52 ⇑P **P 08 53 01.3 +0.7**
baz=97
N18A Larsen Ranch, 97.01 50 ⇑P **P 08 53 00.8 +0.2**
baz=97
T19A Beclabito 97.01 54 ⇓P **P 08 53 02.2 +1.5**
baz=97
S19A Harvey Farm, M 97.04 53 ⇓P **P 08 53 00.9 +0.2**
baz=97
Q19A Hogan Spring (97.08 52 ⇓P **P 08 53 01.5 +0.6**
baz=97
PV10 Paradox Valley 97.19 52 P **P 08 53 01.3 -0.2**
comp=Z,5μm,1.0s
BVA0 Borovoye Array 97.21 322 *i* P **P 08 52 58.7 -2.5**
BVA0 pmax pmax
comp=Z,122nm,2.3s,mb5.9
BRVK Borovoye 97.28 323 P **P 08 53 01.2 -0.3**
SNR=29
BRVK Borovoye 97.28 323 ⇑*i*P **P 08 53 00.5 -1.0**
BRVK LR LR
comp=Z,7μm,20.0s,MS6.1
BW06 Boulder Array 97.31 48 PFAKE 08 53 10.0 +8.2
BW06 LR LR
comp=Z,29μm,20.0s,MS6.8
PDAR Pinedale Array 97.31 48 P **P 08 53 01.1 -0.7**
comp=Z,16nm,1.0s,mb5.4,baz=253,slow=1.5,SNR=40
PDAR PP PP 08 56 59.6 +1.0
comp=Z,2.9nm,1.0s,baz=256,slow=5.5,SNR=3.1
PDAR PKKPbc PKKPbc 09 09 40.6 -1.2
comp=Z,4.1nm,1.1s,baz=85,slow=6.3,SNR=8.1
PDAR PKPPKP 09 17 55.4
comp=Z,4.7nm,1.1s,baz=96,slow=4.5,SNR=12
PDAR LR LR 09 32 52.6
comp=Z,25μm,19.1s,MS6.7,baz=320,slow=33
MVCO Mesa Verde 97.48 54 ⇓P **P 08 53 03.2 +0.4**
baz=98
MVCO Mesa Verde 97.48 54 *e*P **P 08 53 01.6 -1.1**
comp=Z,34nm,1.4s,mb5.6
MVCO LR LR
comp=Z,44μm,20.0s,MS6.9
PV01 Paradox Valley 97.53 53 *e*P **P 08 53 04.2 +1.3**
comp=Z,2μm,1.4s
EGMT Eagleton 97.74 43 ⇑P **P 08 53 04.0 +0.3**
baz=98
EGMT Eagleton 97.74 43 PFAKE 08 53 10.0 +6.3
EGMT LR LR
comp=Z,28μm,21.0s,MS6.7
RLMT Red Lodge 97.77 46 PFAKE 08 53 10.0 +6.1
RLMT LR LR
comp=Z,32μm,20.0s,MS6.8
SNAA Sanae 97.83 186 *e*Pdiff **P 08 53 03.2 -0.5**
SNAA *e* pP 08 53 06.3 -0.5
SNAA *e* 08 53 08.6
SNAA *e* 08 53 13.4
SNAA *e* 09 09 38.1
SNAA *e* 09 09 40.1
SNAA Sanae 97.83 186 PKKPbc PKKPbc 09 09 37.7 -3.3
comp=Z,1.9nm,1.0s,baz=17,slow=2.1,SNR=9.3
SNAA Sanae 97.83 186 *e*P **P 08 53 01.4 -2.3**
SNAA Sanae 97.83 186 *e*P **P 08 53 02.5 -1.1**
comp=Z,276nm,2.0s,mb6.4
SNAA *e* 08 56 49.0
LAZ Ladron 98.26 57 *e*P **P 08 53 07.6 +1.2**
comp=Z,4.0nm,1.0s
Y22C IRIS PASSCAL I 98.41 57 ⇓P **P 08 53 08.6 +1.5**
baz=98
BNM Barren Site 98.66 57 *e*P **P 08 53 09.2 +1.1**
comp=Z,9.6nm,0.9s,mb5.3
PMSA Palmer Station 98.81 163 P **P 08 53 07.0 -1.2**
comp=Z,16nm,0.8s,mb5.6,baz=193,slow=4.5,SNR=11
PMSA Palmer Station 98.81 163 P **P 08 53 07.0 -1.2**
PMSA LR LR
comp=Z,23μm,19.0s,MS6.7
ANMO Albuquerque 98.88 56 *e*P **P 08 53 08.8 -0.3**
ANMO Albuquerque 98.88 56 *e*P **P 08 53 09.4 +0.3**
comp=Z,9.3nm,1.0s,mb5.3
ANMO LR LR
comp=Z,31μm,21.0s,MS6.8
RWWY Rawlins 98.93 49 *e*P **P 08 53 10.4 +1.3**
comp=Z,130nm,1.9s,mb6.1
VNA1 Neumayer--Stat 99.27 184 *e*Pdiff **P 08 53 10.9 +0.8**
VNA1 *e* pP 08 53 14.2 +0.9
VNA1 *e* 08 53 17.3
VNA1 *e* 08 53 22.7
SDCO Great Sand Dun 99.90 53 *e*Pdif Pdif 08 53 17.5 +4.2
comp=Z,4.1nm,1.0s
SDCO LR LR
comp=Z,46μm,20.0s,MS7.0
ISCO Idaho Springs 99.98 51 *e*P Pdif 08 53 14.2 +0.6
ISCO pmax pmax
comp=Z,16nm,1.4s,mb5.3
ISCO MLR MLR
comp=Z,39μm,19.0s,MS6.9
ISCO Idaho Springs 99.98 51 *e*Pdif Pdif 08 53 14.2 +0.6
comp=Z,16nm,1.4s
ISCO LR LR
comp=Z,39μm,19.0s,MS6.9
LAO LASA Array 100.02 44 *e*Pdif Pdif 08 53 14.8 +1.0
comp=Z,109nm,1.3s
LAO LR LR
comp=Z,40μm,21.0s,MS6.9
PHWY Pilot Hill 100.21 50 *e*Pdif Pdif 08 53 17.3 +2.7
comp=Z,4.7nm,0.8s
RSSD Black Hills 101.42 47 *e*P Pdif 08 53 19.6 -0.4
RSSD pmax pmax
comp=Z,14nm,0.9s
RSSD MLR MLR
comp=Z,18μm,20.0s,MS6.6
RSSD Black Hills 101.42 47 *e*Pdif Pdif 08 53 19.6 -0.4
comp=Z,14nm,0.9s
RSSD LR LR
comp=Z,18μm,20.0s,MS6.6
DGMT Dagmar 101.48 42 *e*Pdif Pdif 08 53 20.2 0.0
comp=Z,51nm,1.1s
DGMT LR LR
comp=Z,16μm,19.0s,MS6.5
AMTX Amarillo 102.79 56 *e*Pdif Pdif 08 53 27.3 +1.2
comp=Z,15nm,1.0s
AMTX LR LR
comp=Z,33μm,20.0s,MS6.9
MSEY Mahe Island 102.92 263 PFAKE 08 53 40.0 +13
MSEY LR LR
comp=Z,36μm,19.0s,MS6.9
AB31 Akbulak array 103.59 318 *i* P Pdif 08 53 29.1 -0.5
AB31 pmax pmax
comp=Z,11nm,0.9s
JCT Junction City 104.13 61 *e*P Pdif 08 53 30.9 -1.1
JCT pmax pmax
comp=Z,10.0nm,0.8s
JCT MLR MLR
comp=Z,42μm,20.0s,MS7.0
JCT Junction City 104.13 61 *e*Pdif Pdif 08 53 30.9 -1.1
comp=Z,9.7nm,0.8s
JCT LR LR
comp=Z,42μm,20.0s,MS7.0

CBKS Cedar Bluff 104.49 52 PFAKE 08 53 40.0 +6.4
CBKS LR LR
comp=Z,42μm,20.0s,MS7.0
AKTO Aktyubinsk 104.80 320 P Pdif 08 53 34.9 -0.1
AKTO pmax pmax
comp=Z,4.0nm,1.4s
WMOK Wichita Mounta 105.16 57 *e*PKPdf PKiKP 08 57 50.6 -0.9
WMOK LR LR
comp=Z,40μm,19.0s,MS7.0
KVTX Kingsville 105.64 64 PFAKE 08 58 00.0 +7.3
KVTX LR LR
comp=Z,18μm,19.0s,MS6.6
ECSD EROS,Sioux Fal 106.78 47 *e*PKPdf PKiKP 08 57 53.6 -0.7
ECSD LR LR
comp=Z,23μm,21.0s,MS6.7
ULM Lac du Bonnet 106.87 40 PKiKP PKiKP 08 57 53.2 -1.0
comp=Z,9.3nm,0.8s,baz=305,slow=3.0,SNR=6.6
ULM Lac du Bonnet 106.87 40 PKPdf PKiKP 08 57 53.2 -1.0
ULM LR LR
comp=Z,55μm,21.0s,MS7.1
KSU1 Kansas State U 106.92 52 PFAKE 08 58 00.0 +5.3
KSU1 LR LR
comp=Z,49μm,19.0s,MS7.1
AGMN Agassiz Refuge 107.04 43 *e*PKPdf PKiKP 08 57 55.5 +0.9
AGMN LR LR
comp=Z,13μm,20.0s,MS6.5
ABPO Ambohimpanom 107.33 247 PFAKE 08 58 10.0 +14
ABPO LR LR
comp=Z,15μm,19.0s,MS6.5
HKT Hockley 107.54 62 PFAKE 08 58 10.0 +14
HKT LR LR
comp=Z,40μm,20.0s,MS7.0
NATX Nacogdoches 108.57 60 PFAKE 08 58 10.0 +12
NATX LR LR
comp=Z,29μm,19.0s,MS6.9
KBS Kingsbay 109.09 354 *e*PP PP 08 58 22.6 -3.1
KBS AMS AMS 09 39 42.0
comp=Z,18μm,18.5s,MS6.7
KBS Kingsbay 109.09 354 PFAKE 08 58 10.0 +12
KBS LR LR
comp=Z,19μm,22.0s,MS6.6
SCIA State Center 109.38 49 *e*PKPdf PKiKP 08 57 58.9 -0.3
SCIA LR LR
comp=Z,25μm,20.0s,MS6.8
MIAR Mount Ida 109.46 57 *e*PKPdf PKiKP 08 58 02.1 +2.5
MIAR LR LR
comp=Z,43μm,20.0s,MS7.0
EYMN Ely 109.98 43 PFAKE 08 58 10.0 +10
EYMN LR LR
comp=Z,20μm,21.0s,MS6.7
UALR University of 110.46 57 *e*PKPdf PKiKP 08 58 01.2 -0.3
EFI East Falkland 110.73 156 PFAKE 08 58 10.0 +8.5
EFI LR LR
comp=Z,8μm,19.0s,MS6.3
JFWS Jewell Farm 111.48 48 *e*PKIKP PKiKP 08 58 02.0 -1.1
JFWS MLR MLR
comp=Z,11μm,19.0s,MS6.5
BJO Bjornoya 111.54 349 *e*PP PP 08 58 47.9 +4.6
BJO *e*SKS SKSac 09 04 45.3 +1.9
BJO AMS AMS 09 46 23.1
comp=Z,18μm,22.0s,MS6.6
LVZ Lovozero 111.71 340 PFAKE 08 58 10.0 +7.2
LVZ LR LR
comp=Z,25μm,21.0s,MS6.8
PLCA Paso Flores 111.78 141 PKiKP PKiKP 08 58 02.9 -1.0
comp=Z,1.3nm,0.7s,baz=256,slow=4.1,SNR=5.7
PLCA Paso Flores 111.78 141 PKPdf PKiKP 08 58 02.9 -1.0
PLCA LR LR
comp=Z,10μm,19.0s,MS6.4
COWI Conover 111.84 44 PFAKE 08 58 10.0 +6.3
COWI LR LR
comp=Z,13μm,19.0s,MS6.5
VBMS Vicksburg 112.08 59 PFAKE 08 58 10.0 +5.4
VBMS LR LR
comp=Z,38μm,19.0s,MS7.0
PARMO Parma 112.46 54 *e*PKPdf PKiKP 08 58 04.9 -0.3
MAK Makhachkala 112.69 312 *e*P Pdif 08 54 17.0 +6.9
MAK *e* 08 58 55.0
MAK *i* PPP 09 01 14.4
MAK *i* 09 04 46.4
MAK *i* PS PS 09 08 27.7 +0.3
MAK pmax pmax
comp=Z,117nm,1.1s
KLMR Klimovskoe 112.87 333 *e*P Pdif 08 54 10.5 -0.4
KLMR *i* 08 58 04.9
KLMR *e* 08 58 59.0
KLMR *e* 09 04 46.7
KLMR *e*SP SP 09 08 19.3 -6.9
KLMR pmax pmax
comp=Z,19nm,1.4s
OXF Oxford 112.89 57 PFAKE 08 58 20.0 +14
OXF LR LR
comp=Z,26μm,19.0s,MS6.8
KEV Kevo 112.99 344 *e*PKIKP PKiKP 08 58 01.6 -3.6
KEV MLR MLR
comp=Z,31μm,22.0s,MS6.9
DAG Danmarks Havn 113.07 360κ *i*P PKiKP 08 58 02.0 -3.2
comp=Z,4.0nm,0.6s
DAG
comp=Z,19μm,17.0s
DAG Danmarks Havn 113.07 360 *e*P PKiKP 08 58 02.0 -3.2
DAG LR LR
comp=Z,19μm,17.0s,MS6.8
ARCES ARCESS Array B 113.54 344 PKiKP PKiKP 08 58 04.4 -1.9
comp=Z,3.3nm,0.6s,baz=82,slow=2.4,SNR=23
ARCES PKKPbc PKKPbc 09 08 48.7 -4.2
comp=Z,18nm,1.0s,baz=252,slow=1.8,SNR=16
ARCES ARCESS Array B 113.54 344 PKPdf PKiKP 08 58 04.4 -1.9
ARCES PKKPbc PKKPbc 09 08 48.7 -4.2
ARE0 ARCESS Array S 113.54 344 *e*PKPdf PKiKP 08 58 05.8 -0.5
OLIL Olney 113.57 52 *e*PKPdf PKiKP 08 58 06.7 -0.6
PLAL Pickwick Lake 113.95 56 *e*PKPdf PKiKP 08 58 07.7 -0.4
PLAL LR LR
comp=Z,24μm,20.0s,MS6.8
TEIG Tepich 114.14 72 PFAKE 08 58 20.0 +11
TEIG LR LR
comp=Z,9μm,22.0s,MS6.3
DGRG David-gareji 114.47 311 P PP 08 58 56.5 -8.9
BLO Bloomington 114.74 51 *e*PKIKP PKiKP 08 58 08.6 -0.9
TGUH Tegucigalpa,Un 114.75 79 PFAKE 08 58 20.0 +10
TGUH LR LR
comp=Z,10μm,20.0s,MS6.4
MTA Mtatsminda 114.86 311 P PP 08 59 08.5 +0.5
VRHR Novokhopersk 114.95 322 *e*PKIKP PKiKP 08 58 10.4 +0.9
VRHR *e* 08 59 04.6
VRHR *e* 09 04 56.1
VRHR *e*PPS 09 09 58.5
VRHR *e*SS SS 09 14 55.5 -8.5
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=E,9.0nm,0.4s
WCI Wyandotte Cave 115.04 52 *e*PKIKP PKiKP 08 58 06.8 -3.3
WCI MLR MLR
comp=Z,48μm,20.0s,MS7.1
BRAL Brewton 115.09 60 PFAKE 08 58 20.0 +10
BRAL LR LR
comp=Z,26μm,19.0s,MS6.9
GNI Garni 115.14 310 PKP PKiKP 08 58 09.5 -0.7
comp=Z,6.9nm,0.6s,baz=339,slow=8.6,SNR=2.6
GNI Garni 115.14 310 *i* PKIKP PKiKP 08 58 08.6 -1.6
GNI Garni 115.14 310 *e*PKPdf PKiKP 08 58 10.1 -0.1
GNI LR LR
comp=Z,9μm,21.0s,MS6.3
TRO Tromso 115.17 346 *e*PP PP 08 59 09.8 +0.6
TRO *e*SKS SKSac 09 04 55.9 -1.9
TRO AMS AMS 09 48 27.2
comp=Z,12μm,18.0s,MS6.5
GLMI Grayling 115.20 45 PFAKE 08 58 20.0 +10
GLMI LR LR
comp=Z,18μm,21.0s,MS6.7
JOF Joensuu 115.43 337 *e*pkp PKPdf 08 58 07.8 -2.3
SWET Sewanee 115.68 56 *e*PKPdf PKPdf 08 58 10.7 -0.7
SWET *e*PP PP 08 59 12.3 -1.8
ONI Oni 115.69 313 P PP 08 59 16.3 +2.4
MOS Moscow 115.71 328 *e*PKIKP PKPdf 08 58 08.4 -2.4
MOS *e* 08 59 11.9
MOS *e*PPP 09 01 38.3
MOS *e* 09 04 57.1
MOS *e*PS PS 09 08 50.3 -4.3
MOS MLR MLR
comp=Z,11μm,19.0s,MS6.5

KIV Kislovodsk 115.97 314 *e*P Pdif 08 54 24.4 -0.3
KIV *i* 08 58 10.1
KIV *e* 08 59 15.8
KIV *e* 09 04 57.1
KIV *e*PS PS 09 08 54.0 -3.5
KIV *e*SS SS 09 15 17.3 -0.6
KIV *e*SSS 09 19 28.6
KIV pmax pmax
comp=Z,22nm,1.0s
KIV Kislovodsk 115.97 314 *e*PKP PKPdf 08 58 10.1 -1.6
KIV *e*PKPdf PKPdf 08 58 12.8 +1.2
KIV LR LR
comp=Z,12μm,19.0s,MS6.5
BHD Baghdad 116.27 302 *ex* x 08 58 06.0
BHD *ex* x 08 59 05.0
BHD *ex* x 09 05 07.5
BHD *ex* x 09 07 03.0
BHD *ex* x 09 08 35.0
BHD *ex* x 09 08 56.0
SUMG Summit 116.37 6 *e*PKPdf PKPdf 08 58 12.7 +1.1
AAM Ann Arbor 116.38 48 PFAKE 08 58 20.0 +7.5
AAM LR LR
comp=Z,25μm,21.0s,MS6.8
VRSR Storozhevoye 116.38 323 *e*PKIKP PKPdf 08 58 10.7 -1.5
VRSR *e* 09 05 03.3
VRSR *e*SPP 09 10 13.5
VRSR *e*SS SS 09 15 12.3 -10
VRSR pmax pmax
comp=E,6.0nm,1.2s
VRSR pmax pmax
comp=Z,8.0nm,1.2s
VRSR pmax pmax
comp=N,5.0nm,1.0s
OBN Obninsk 116.51 327 *i* PKIKP PKPdf 08 58 13.0 +0.6
OBN *e* 08 59 19.6
OBN *e* 09 01 45.2
OBN *i* 09 05 03.4
OBN *e*PS PS 09 08 57.0 -4.8
OBN *e*SS SS 09 15 29.0 +5.0
OBN MLR MLR
comp=Z,15μm,22.0s,MS6.6
OBN Obninsk 116.51 327 *e*PKP PKPdf 08 58 12.4 0.0
OBN *e*PKPdf PKPdf 08 58 12.9 +0.5
OBN LR LR
comp=Z,12μm,20.0s,MS6.5
CPCT Cooper Cave 116.80 55 *e*PKPdf PKPdf 08 58 11.6 -2.0
MSL Mosul 116.98 306 *ex* x 08 58 03.0
ACSO Alum Creek Sta 117.27 50 *e*PKPdf PKPdf 08 58 13.5 -0.8
ACSO LR LR
comp=Z,39μm,21.0s,MS7.0
TKL Tuckaleechee C 117.38 55 PKP PKPdf 08 58 12.4 -2.2
baz=22,slow=5.4
TZTN Tazewell 117.43 54 *e*PKPdf PKPdf 08 58 13.8 -1.0
TZTN *e*PP PP 08 59 24.4 -1.9
TZTN LR LR
comp=Z,49μm,22.0s,MS7.1
KAF Kangasniemi 117.82 337 *e*pkp PKPdf 08 58 10.2 -4.5
GOGA Godfrey 117.91 57 *e*PKIKP PKPdf 08 58 14.9 -0.9
GOGA MLR MLR
comp=Z,20μm,20.0s,MS6.7
LCO Las Campanas 118.11 130 PFAKE 08 58 30.0 +14
LCO LR LR
comp=Z,8μm,21.0s,MS6.3
SOC Sochi 118.15 314 *i* PKIKP PKPdf 08 58 17.2 +1.3
SOC *e* 08 59 32.9
SOC *e*PPP 09 01 59.4
SOC *e* 09 05 07.8
SOC *e*PS PS 09 09 12.0 -5.3
SOC *e*SS SS 09 15 51.4 +5.1
SOC *e*SSS 09 20 12.3
JMIC Jan Mayen 118.43 356 *e*PP PP 08 59 30.1 -1.7
JMIC *e*SKS SKSac 09 05 12.3 +2.5
JMIC AMS AMS 09 45 06.0
comp=Z,9μm,21.3s,MS6.4
CFAA Coronel Fontan 118.52 134 PKP PKPdf 08 58 13.8 -3.2
comp=Z,0.1nm,0.4s,baz=228,slow=6.3,SNR=5.0
CFAA Coronel Fontan 118.52 134 PKP PKPdf 08 58 13.8 -3.2
TRQA Tornquist 118.63 143 PFAKE 08 58 30.0 +13
TRQA LR LR
comp=Z,16μm,19.0s,MS6.7
SFJD Kangerlussuaq 119.41 13 *i* PKIKP PKPdf 08 58 17.5 -0.1
SFJD *i* 08 59 38.6
SFJD *i* S SKSac 09 05 11.6 -1.8
SFJD *i* 09 09 19.6
SFJD MLR MLR
comp=Z,13μm,19.0s,MS6.6
SFJD Kangerlussuaq 119.41 13 *i* P PKPdf 08 58 17.5 -0.1
SFJD *i* 08 59 38.6
SFJD *i* 09 01 44.3
SFJD *i* S SKSac 09 05 11.6 -1.8
SFJD *i* 09 06 42.9
SFJD *i* 09 09 19.6
SFJD
comp=Z,13μm,19.0s
ANN Anapa 119.42 316 *i* PKIKP PKPdf 08 58 18.8 +0.5
ANN *e* 08 59 39.0
ANN *e* 09 05 08.7
ELN Prospectdale 119.53 53 *e*PKPdf PKPdf 08 58 17.8 -0.9
VSU Vasula 119.72 334 *i* PKIKP PKPdf 08 58 15.9 -2.5
MCWV Mont Chateau 119.75 50 *e*PKPdf PKPdf 08 58 18.5 -0.6
MCWV LR LR
comp=Z,33μm,20.0s,MS7.0
BLA Blacksburg 119.80 53 *e*PKIKP PKPdf 08 58 17.2 -2.1
BLA *e* 08 59 41.9
BLA MLR MLR
comp=Z,52μm,19.0s,MS7.2
ATAH Atahualpa 120.00 104 PKP PKPdf 08 58 22.1 +1.7
comp=Z,5.7nm,0.6s,baz=13,slow=4.4,SNR=4.1
ATAH PKKPbc PKKPbc 09 08 26.2 -2.3
comp=Z,28nm,0.5s,baz=136,slow=19,SNR=7.4
NNA Nana 120.00 110 PFAKE 08 58 30.0 +10
NNA LR LR
comp=Z,14μm,19.0s,MS6.6
DWPF Disney 120.19 63 PFAKE 08 58 30.0 +10
DWPF LR LR
comp=Z,16μm,19.0s,MS6.7
MALT Malatya 120.29 309‖ *i*P PKPdf 08 58 21.3 +1.1
MALT Malatya 120.29 309 P PKPdf 08 58 19.7 -0.5
MALT LR LR
comp=Z,12μm,21.0s,MS6.5
NHSC New Hope 120.68 57 *e*PKPdf PKPdf 08 58 20.4 -0.7
NHSC LR LR
comp=Z,34μm,19.0s,MS7.0
NSS Namsos 120.82 344 *e*P PKPdf 08 58 20.1 -0.3
NSS *e*PP PP 08 59 48.4 +0.1
NSS *e*SKS SKSac 09 05 16.7 -1.7
NSS AMS AMS 09 49 09.9
comp=Z,19μm,20.3s,MS6.7
MNK Minsk 121.31 329 *e*PKIKP PKPdf 08 58 20.0 -1.6
MNK *e* 09 05 16.0
MNK *e*SS SS 09 16 16.0 -10
KMBO Kilima Mbogo 121.46 263 P PKPdf 08 58 25.2 +2.0
SNR=8.8
KMBO Kilima Mbogo 121.46 263 PKP PKPdf 08 58 22.8 -0.4
comp=Z,11nm,1.0s,baz=8.6,slow=2.7,SNR=12
KMBO PKKPbc PKKPbc 09 08 19.9 -3.2
comp=Z,0.6nm,0.3s,baz=243,slow=9.0,SNR=2.4
KMBO Kilima Mbogo 121.46 263 PKP PKPdf 08 58 22.8 -0.4
KMBO PKKPbc PKKPbc 09 08 19.9 -3.2
KMBO LR LR
comp=Z,20μm,20.0s,MS6.8
BOSA Boshof 121.56 228 PKP PKPdf 08 58 22.2 -0.8
comp=Z,25nm,0.8s,baz=137,slow=2.2,SNR=37
BOSA PKKPbc PKKPbc 09 08 23.2 +0.1
comp=Z,11nm,1.1s,baz=225,slow=0.3,SNR=4.3
BOSA Boshof 121.56 228 PKP PKPdf 08 58 22.2 -0.8
BOSA PKKPbc PKKPbc 09 08 23.2 +0.1
BOSA LR LR
comp=Z,27μm,22.0s,MS6.8
BCIP Isla Barro Col 121.58 85 PFAKE 08 58 30.0 +6.7
BCIP LR LR
comp=Z,8μm,20.0s,MS6.4
OTAV Otavalo 121.61 96 *e*PKPdf PKPdf 08 58 23.8 +0.3
OTAV LR LR
comp=Z,5μm,19.0s,MS6.2
SIM Simferopol' 121.62 317 P Pdif 08 55 04.3 +15
SIM SKSac 09 05 23.6 +1.6
SIM pmax pmax
comp=Z,99nm,13.0s
BINY Binghamton 121.93 46 *e*PKPdf PKPdf 08 58 22.7 -0.5
BINY LR LR
comp=Z,44μm,20.0s,MS7.1
URVA University of 121.97 52 *e*PKPdf PKPdf 08 58 21.1 -2.3

SDMD	Soldier's Deli	122.06	50	ePKPdf	PKPdf	08 58 23.1	-0.5
LONY	Lake Ozonia	122.14	43	ePKPdf	PKPdf	08 58 22.7	-0.9
LONY				LR	LR		
comp=Z,18µm,21.0s,MS6.7							
SCHQ	Schefferville	122.16	30	PKP	PKPdf	08 58 21.2	-2.0
comp=Z,12nm,1.1s,baz=0.9,slow=2.1,SNR=6.8							
SCHQ				PKKPbc	PKKPbc	09 08 19.8	-1.6
comp=Z,4.5nm,0.8s,baz=68,slow=5.4,SNR=3.4							
SCHQ	Schefferville	122.16	30	PKP	PKPdf	08 58 21.2	-2.0
SCHQ				PKKPbc	PKKPbc	09 08 19.8	-1.6
SCHQ				LR	LR		
comp=Z,7µm,19.0s,MS6.3							
CNNC	Cliffs of the	122.18	55	ePKPdf	PKPdf	08 58 23.6	-0.3
CNNC				LR	LR		
comp=Z,40µm,19.0s,MS7.1							
MVL	Millersville	122.27	49	ePKPdf	PKPdf	08 58 17.3	-6.7
SUR	Sutherland	122.39	221	ePKPdf	PKPdf	08 58 24.6	+0.1
SUR				LR	LR		
comp=Z,27µm,21.0s,MS6.9							
AKASG	Malin Array Be	122.39	325	PKP	PKPdf	08 58 21.7	-2.1
comp=Z,24nm,0.9s,baz=66,slow=2.0,SNR=32							
AKASG				PP	PP	09 00 01.4	+1.8
comp=Z,7.4nm,0.9s,baz=52,slow=5.8,SNR=5.0							
AKASG				PKKPbc	PKKPbc	09 08 18.8	-1.6
comp=Z,0.3nm,0.3s,baz=239,slow=3.5,SNR=6.4							
AKASG	Malin Array Be	122.39	325	PKIKP	PKPdf	08 58 21.7	-2.1
AKASG						09 00 01.4	
AKASG	Malin Array Be	122.39	325	PKP	PKPdf	08 58 21.7	-2.2
AKASG				PP	PP	09 00 01.4	+1.8
AKASG				PKKPbc	PKKPbc	09 08 18.8	-1.6
AKBB	Malin Array Si	122.39	325	ePKIKP	PKKPdf	08 58 23.6	-0.2
KIEV	Kiev	122.40	325	ePKIKP	PKPdf	08 58 23.4	-0.4
KIEV				e		08 59 59.3	
KIEV				MLR	MLR		
comp=Z,25µm,20.0s,MS6.9							
CTKT	Corum	122.46	312	⇑iP	PKPdf	08 58 25.3	+1.0
YAYL	Yayladag	122.58	307	⇓iP	PKPdf	08 58 24.6	0.0
NCB	Newcomb	122.60	44	ePKPdf	PKPdf	08 58 22.4	-2.1
NCB				LR	LR		
comp=Z,24µm,20.0s,MS6.8							
ASF	Jabal al Asfar	122.67	302	PKP	PKPdf	08 58 24.1	-0.8
comp=Z,11nm,0.9s,baz=12,slow=1.1,SNR=14							
LVC	Limon Verde	122.69	125	PKP	PKPdf	08 58 24.6	-0.7
comp=Z,6.7nm,0.6s,baz=313,slow=0.1,SNR=7.0							
LVC	Limon Verde	122.69	125	PKP	PKPdf	08 58 24.6	-0.6
LVC				LR	LR		
comp=Z,13µm,22.0s,MS6.5							
FRNY	Flat Rock	122.73	43	ePKPdf	PKPdf	08 58 21.9	-2.8
FRNY				ePP	PP	09 00 00.8	-1.4
AVNT	Avonos	122.91	310	⇓iP	PKPdf	08 58 22.7	-2.5
CDAG	Cicekdag	123.04	311	⇓iP	PKPdf	08 58 25.2	-0.2
HWQ	Hawqa	123.07	305	eP	PKPdf	08 58 20.2	-5.4
ILGA	Ilgaz	123.12	313	⇓iP	PKPdf	08 58 26.1	+0.6
ACCN	Adirondack Com	123.17	44	ePKPdf	PKPdf	08 58 24.8	-0.8
ACCN				ePP	PP	09 00 01.3	-4.0
LBTB	Lobatse	123.25	231	ePKIKP	PKPdf	08 58 25.8	-0.5
LBTB				MLR	MLR		
comp=Z,26µm,19.0s,MS6.9							
MDV	Middlebury	123.30	43	ePKPdf	PKPdf	08 58 23.6	-2.2
BHL	Bhannes	123.38	304	eP	PKPdf	08 58 26.2	0.0
BRNJ	Basking Ridge	123.39	47	ePKPdf	PKPdf	08 58 25.1	-1.0
MOL	Molde	123.57	345	ePP	PP	09 00 09.6	+2.6
MOL				eSKS	SKSdf	09 05 27.2	-10
MOL				AMS	AMS	09 52 44.0	
comp=Z,12µm,23.2s,MS6.5							
HFS	Hagfors	123.69	340	PKP	PKPdf	08 58 25.0	-1.0
baz=100,slow=4.4							
MMAI	Mount Meron Ar	123.76	303	PKP	PKPdf	08 58 26.8	-0.2
comp=Z,22nm,0.8s,baz=64,slow=3.4,SNR=3.9							
PAL	Palisades	123.77	47	ePKIKP	PKPdf	08 58 24.9	-1.9
NB2	NORSAR Subarra	123.78	342	PKPdf	PKPdf	08 58 24.0	-2.2
comp=Z,77nm,1.7s,baz=37,slow=1.8							
NB2	NORSAR Subarra	123.78	342	PKPdf	PKPdf	08 58 24.0	-2.2
baz=37,slow=1.8							
NB2	NORSAR Subarra	123.78	342	PKPdf	PKPdf	08 58 23.9	-2.3
NOA	NORSAR Array B	123.78	342	PKP	PKPdf	08 58 24.3	-1.9
comp=Z,9.6nm,0.8s,baz=41,slow=2.0,SNR=20							
NOA				PKKPbc	PKKPbc	09 08 12.5	-2.7
comp=Z,2.0nm,0.9s,baz=234,slow=6.0,SNR=5.6							
CPNY	Central Park	123.80	47	ePKPdf	PKPdf	08 58 26.3	-0.5
SUW	Suwalki	123.87	331	ePKPdf	PKPdf	08 58 26.0	-0.6
SUW				ePP	PP	09 00 00.7	-8.7
SUW				LMZ		09 48 21.1	
comp=Z,22µm,26.9s							
SUW	Suwalki	123.87	331	ePKPdf	PKPdf	08 58 26.0	-0.6
SUW				ePKPdf	PKPdf	08 58 27.7	+1.2
SUW				ePP	PP	09 00 00.7	-8.7
MEST	Erdemli	124.00	308	⇓iP	PKPdf	08 58 26.7	-0.7
HNH	Hanover	124.01	43	ePKPdf	PKPdf	08 58 26.2	-0.9
NAO01	NORSAR Array S	124.03	342	ePKPdf	PKPdf	08 58 25.4	-1.3
NAO01				LR	LR		
comp=Z,23µm,20.0s,MS6.8							
LBNH	Lisbon	124.05	43	ePKIKP	PKPdf	08 58 25.8	-1.4
LBNH				MLR	MLR		
comp=Z,24µm,19.0s,MS6.9							
ANTO	Ankara	124.14	312	⇓iP	PKPdf	08 58 28.3	+0.8
ANTO	Ankara	124.14	312	P	PKPdf	08 58 28.6	+1.0
ANTO				LR	LR		
comp=Z,7µm,20.0s,MS6.3							
QUA2	Belchertown	124.46	45	ePKPdf	PKPdf	08 58 26.9	-1.1
FFD	Franklin Falls	124.52	43	ePKPdf	PKPdf	08 58 27.3	-0.8
EIL	Elat	124.71	299	PKP	PKPdf	08 58 26.6	-2.3
comp=Z,11nm,0.8s,baz=30,slow=2.3,SNR=2.3							
HRV	Adam Dziewonsk	124.93	45	ePKIKP	PKPdf	08 58 28.5	-0.5
HRV				MLR	MLR		
comp=Z,14µm,20.0s,MS6.6							
TLCR		125.02	319	⇓iP	PKPdf	08 58 29.6	+0.6
TLCR		125.02	319	P	PKPdf	08 58 30.2	+1.2
CSS	Prodhromos	125.03	306	ePKPdf	PKPdf	08 58 28.2	-1.2
CSS				LR	LR		
comp=Z,11µm,20.0s,MS6.5							
KDHN	Kadinhani	125.04	310	⇑iP	PKPdf	08 58 29.6	+0.4
WES	Weston	125.14	45	ePKIKP	PKPdf	08 58 29.0	-0.4
WES				MLR	MLR		
comp=Z,12µm,19.0s,MS6.6							
BRYW	Bryant College	125.15	45	ePKPdf	PKPdf	08 58 28.9	-0.5
BORG	Borgarnes	125.16	0	PFAKE		08 58 40.0	+11
BORG				LR	LR		
comp=Z,10µm,19.0s,MS6.5							
KONO	Kongsberg	125.38	342	ePP	PP	09 00 16.8	-2.4
KONO				eSKS	SKSdf	09 05 30.9	-10
KONO				AMS	AMS	09 53 35.1	
comp=Z,25µm,20.5s,MS6.9							
PKME	Peaks-Kenny Pk	125.38	41	ePKPdf	PKPdf	08 58 27.8	-2.0
PKME				LR	LR		
comp=Z,40µm,20.0s,MS7.1							
TIRR	Tirgusor	125.58	318	⇓iP	PKPdf	08 58 30.8	+0.7
TIRR	Tirgusor	125.58	318	P	PKPdf	08 58 30.9	+0.8
LSZ	Lusaka	125.66	243	P	PKPdf	08 58 32.7	+1.6
SNR=16							
LSZ	Lusaka	125.66	243	ePKPdf	PKPdf	08 58 30.7	-0.5
LSZ				LR	LR		
comp=Z,15µm,19.0s,MS6.7							
LVV	L'vov	125.73	326	ePKIKP	PKPdf	08 58 30.4	+0.1
LVV				e		09 00 26.4	
LVV				e		09 05 38.0	
LVV				MLR	MLR		
comp=Z,17µm,23.0s,MS6.7							
LVV				MLR	MLR		
comp=N,13µm,22.0s,MS6.7							
LVV				MLR	MLR		
comp=E,12µm,24.0s,MS6.7							
HARR	Harsova	125.80	319	⇓iP	PKPdf	08 58 31.9	+1.3
HARR	Harsova	125.80	319	P	PKPdf	08 58 32.1	+1.6
BOLV	Bolvadin	125.85	311	⇓iP	PKPdf	08 58 31.1	+0.3
WAR	Warsaw	125.96	330	ePKPdf	PKPdf	08 58 34.2	+3.6
WAR				LMZ		09 49 37.6	
comp=E,21µm,26.9s							
WAR	Warsaw	125.96	330	ePKPdf	PKPdf	08 58 34.2	+3.6
WAR				LR	LR		
comp=Z,21µm,26.9s,MS6.7							
BER	Bergen	125.99	344	ePP	PP	09 00 23.9	+0.7
BER				eSKS	SKSdf	09 05 39.1	-3.1
BER				AMS	AMS	09 54 45.9	
comp=Z,9µm,19.5s,MS6.4							
PSN	Preselentsi	126.04	318	*i* P	PKPdf	08 58 31.8	+0.7
VRI	Vrincioaia	126.06	321	⇑iP	PKPdf	08 58 32.0	+1.0
VRI	Vrincioaia	126.06	321	⇑P	PKPdf	08 58 32.0	+1.0
PLOR	Plostina	126.11	321	PKIKP	PKPdf	08 58 31.7	+0.6
BURAR	Bucovina Array	126.17	323	⇓iP	PKPdf	08 58 33.3	+2.1
BURAR	Bucovina Array	126.17	323	P	PKPdf	08 58 33.0	+1.8
LPAZ	La Paz	126.23	118	PKP	PKPdf	08 58 30.9	-1.3
comp=Z,15nm,1.0s,baz=260,slow=2.0,SNR=12							
LPAZ	La Paz	126.23	118	PKP	PKPdf	08 58 30.9	-1.3
LPAZ				LR	LR		
comp=Z,5µm,20.0s,MS6.2							
ISP	Isparta	126.45	310	PFAKE		08 58 40.0	+8.0
ISP				LR	LR		
comp=Z,9µm,20.0s,MS6.5							
ROSC	El Rosal	126.47	91	PKP	PKPdf	08 58 31.6	-1.2
comp=Z,12nm,0.5s,baz=102,slow=13,SNR=12							
TKTP	Tekketepe	126.53	310	⇓iP	PKPdf	08 58 34.0	+1.9
KWP	Kalwaria	126.56	326	ePKPdf	PKPdf	08 58 30.1	-1.8
KWP				ePP	PP	09 00 21.8	-5.8
KWP				LMZ		09 53 60.0	
comp=Z,20µm,22.6s							
KWP	Kalwaria	126.56	326	ePKPdf	PKPdf	08 58 30.1	-1.7
KWP				ePP	PP	09 00 21.8	-5.7
KWP				LR	LR		
comp=Z,19µm,22.0s,MS6.7							
MLR	Muntele Rosu	126.72	320	⇑iP	PKPdf	08 58 32.8	+0.5
MLR	Muntele Rosu	126.72	320	P	PKPdf	08 58 33.0	+0.7
PRD	Provadia	126.76	317	*i* P	PKPdf	08 58 32.3	-0.1
KHAL	Karahalli	127.05	311	⇓iP	PKPdf	08 58 35.4	+2.3
GKP	Gorka Klasztor	127.12	333	ePKPdf	PKPdf	08 58 34.8	+2.0
GKP				ePP	PP	09 00 26.5	-4.5
GKP				LMZ		09 54 41.4	
comp=Z,30µm,21.7s							
GKP	Gorka Klasztor	127.12	333	ePKPdf	PKPdf	08 58 34.8	+2.0
GKP				ePP	PP	09 00 26.5	-4.5
GKP				LR	LR		
comp=Z,30µm,21.7s,MS6.9							
BUC1	Bucharest	127.17	319	PKIKP	PKPdf	08 58 36.2	+3.0
KOLS	Kolonicke sedl	127.17	326	ePKP	PKPdf	08 58 34.4	+1.4
KOLS				ePP	PP	09 00 28.1	-3.5
UZH	Uzhgorod	127.33	325	ePKIKP	PKPdf	08 58 34.0	+0.7
UZH				MLR	MLR		
comp=Z,7µm,22.0s,MS6.3							
DEMI	Demirci	127.40	312	⇓iP	PKPdf	08 58 33.6	-0.1
DNZL	Cakiroluk	127.60	310	⇑iP	PKPdf	08 58 35.5	+1.2
JMB	Yambol	127.61	317	*i* P	PKPdf	08 58 33.5	-0.6
AKAS	Kas	127.62	308	⇓iP	PKPdf	08 58 35.4	+1.1
CRVS	Cervenica-Dubn	127.64	326	ePKP	PKPdf	08 58 33.8	-0.1
CRVS				ePP	PP	09 00 31.9	-2.8
SZH	Strazhica	127.71	318	eP	PKPdf	08 58 34.2	0.0
LRW	Lerwick	127.75	348	eP	PKPdf	08 58 34.7	+0.9
LRW				AMb	AMB	08 58 37.7	
comp=Z,346nm,1.5s							
OJC	Ojcow	127.77	328	ePKPdf	PKPdf	08 58 33.3	-0.8
OJC				epPKPdf	pPKPdf	08 58 35.6	-1.8
OJC				ePP	PP	09 00 37.4	+1.9
OJC				eSKSdf	SKSdf	09 05 42.7	-3.4
OJC				eSP	SP	09 10 40.3	+0.5
OJC				eSS	SS	09 17 51.6	+4.2
OJC				L		09 59 36.9	
comp=Z,23nm,18.5s							
OJC	Ojcow	127.77	328	ePKIKP	PKPdf	08 58 33.3	-0.8
OJC				e		09 00 37.4	
OJC				eSP	SP	09 10 40.3	+0.5
OJC				eSS	SS	09 17 51.6	+4.2
OJC				MLR	MLR		
comp=Z,23µm,18.5s,MS6.9							
ZIMR		127.91	319	PKIKP	PKPdf	08 58 36.1	+1.5
BALY	Balya	127.94	313	⇓iP	PKPdf	08 58 34.7	-0.1
NIE	Niedzica	127.97	327	ePKP	PKPdf	08 58 36.4	+1.9
DRGR		128.06	323	⇑iP	PKPdf	08 58 36.0	+1.2
DRGR		128.06	323	P	PKPdf	08 58 35.8	+1.0
AKHS	Akhisar	128.11	312	⇓iP	PKPdf	08 58 35.0	-0.1
KECS	Kecovo	128.41	326	ePKP	PKPdf	08 58 33.5	-1.9
AYDN	Tasoluk	128.48	311	⇑iP	PKPdf	08 58 37.3	+1.4
CRAR	CRAIOVA	128.61	320	PKIKP	PKPdf	08 58 38.3	+2.4
GZR	Gura Zlata	128.73	322	⇓iP	PKPdf	08 58 37.3	+1.2
GZR	Gura Zlata	128.73	322	P	PKPdf	08 58 36.9	+0.7
KDZ	Kurdzhali	128.74	316	*i* P	PKPdf	08 58 37.4	+1.1
ARG	Arkhangelos	128.77	309	eP	PKPdf	08 58 37.5	+1.0
OKC	Ostrava-Krasne	128.85	329	ePKIKP	PKPdf	08 58 37.7	+1.5
OKC				e		09 00 41.7	
OKC				eSP	SP	09 10 45.5	-3.7
OKC				eSS	SS	09 18 01.9	+1.1
OKC	Ostrava-Krasne	128.85	329	ePKPDF	PKPdf	08 58 37.7	+1.5
OKC				ePP	PP	09 00 41.7	-0.9
OKC				ex	x	09 01 55.3	
OKC				eSP	SP	09 10 45.5	-3.7
OKC				eSS	SS	09 18 01.9	+1.1
OKC				AMS	AMS	09 58 20.0	
comp=Z,14µm,20.2s							
RDO	Rodhopi	128.86	316	eP	PKPdf	08 58 32.5	-4.0
BOZC	Bozcaada	129.03	314	⇓iP	PKPdf	08 58 38.1	+1.3
PSZ	Piszkesteto	129.06	326	⇓ePKP	PKPdf	08 58 38.5	+1.8
PSZ	Piszkesteto	129.06	326	⇑iP	PKPdf	08 58 37.7	+1.0
PRK	Paraskevi	129.10	313	eP	PKPdf	08 58 34.5	-2.5
KSP	Ksiaz	129.14	331	ePKPdf	PKPdf	08 58 36.7	-0.1
KSP				ePP	PP	09 00 42.4	-2.0
KSP				LMZ		09 53 05.3	
comp=Z,39µm,25.4s							
KSP	Ksiaz	129.14	331	ePKP	PKPdf	08 58 36.5	-0.2
KSP				ePP	PP	09 00 40.0	-4.4
KSP				eSP	SP	09 10 46.0	-5.6
KSP				eSS	SS	09 18 01.0	-3.2
KSP				LR	LR		
comp=Z,48µm,24.9s,MS7.1							
MORC	Moravsky Berou	129.20	329	⇓iP	PKPdf	08 58 37.7	+0.8
MORC	Moravsky Berou	129.20	329	P	PKPdf	08 58 38.0	+1.1
SMG	Samos	129.24	311	eP	PKPdf	08 58 37.0	-0.4
CPUP	Villa Florida	129.31	136	PKP	PKPdf	08 58 36.3	-1.5
comp=Z,23nm,1.0s,baz=246,slow=1.8,SNR=17							
CPUP	Villa Florida	129.31	136	ePKPdf	PKPdf	08 58 37.7	-0.2
CPUP				LR	LR		
comp=Z,2µm,22.0s,MS5.7							
BZS	Buzias	129.31	322	PKIKP	PKPdf	08 58 38.2	+1.0
DPC	Dobruska-Polom	129.45	330	ePKIKP	PKPdf	08 58 39.1	+1.8
DPC				e		09 00 44.4	
DPC				eSP	SP	09 10 48.8	-5.4
DPC				eSS	SS	09 18 01.4	-6.6
DPC				MLR	MLR		
comp=Z,21µm,20.5s,MS6.8							
DPC	Dobruska-Polom	129.45	330	ePKPDF	PKPdf	08 58 39.1	+1.8
DPC				ePP	PP	09 00 44.4	-2.0
DPC				ex	x	09 01 59.1	
DPC				eSP	SP	09 10 48.8	-5.4
DPC				eSS	SS	09 18 01.4	-6.6
DPC				AMS	AMS	09 58 00.0	
comp=Z,21µm,20.5s							
UPC	Upice	129.50	330	ePKPDF	PKPdf	08 58 38.7	+1.3
UPC				ePP	PP	09 00 49.7	+3.0
BSEG	Bad Segeberg	129.57	337	ePKIKP	PKPdf	08 58 38.8	+1.3
BSEG				e		09 00 46.9	
BSEG	Bad Segeberg	129.57	337	ePKPdf	PKPdf	08 58 38.8	+1.3
BSEG				ePP	PP	09 00 46.9	-0.1
BSEG				eSKP		09 02 01.3	
BUD	Budapest	129.79	326	⇓ePKP	PKPdf	08 58 39.9	+1.8
VTS	Vitosha	129.80	318	⇑PKIKP	PKPdf	08 58 38.9	+0.6
VTS	Vitosha	129.80	318	*i* P	PKPdf	08 58 38.0	-0.3
VTS	Vitosha	129.80	318	⇑iP	PKPdf	08 58 38.8	+0.5
VTS	Vitosha	129.80	318	P	PKPdf	08 58 39.3	+1.1
MMB	Musomiste	129.91	317	*i* P	PKPdf	08 58 35.3	-3.2
NVR	Nevrokopi	129.92	317	eP	PKPdf	08 58 35.0	-3.5
VRAC	Vranov	129.98	329	PKP	PKPdf	08 58 38.3	-0.1
comp=Z,23nm,1.1s,baz=44,slow=2.6,SNR=12							
VRAC	Vranov	129.98	329	⇑iP	PKPdf	08 58 37.0	-1.4
VRAC	Vranov	129.98	329	P	PKPdf	08 58 39.7	+1.3
PVCC	Panska Ves	130.18	331	ePKIKP	PKPdf	08 58 40.6	+1.9
PVCC				e		09 00 49.6	
PVCC				eSP	SP	09 10 52.8	-7.7
PVCC				eSS	SS	09 18 14.2	-2.7
PVCC				MLR	MLR		
comp=Z,31µm,22.6s,MS7.0							
PVCC	Panska Ves	130.18	331	ePKPDF	PKPdf	08 58 40.6	+1.9
PVCC				ePP	PP	09 00 49.6	-1.5
PVCC				eSKP		09 02 04.1	
PVCC				eSP	SP	09 10 52.8	-7.7
PVCC				eSS	SS	09 18 14.2	-2.7
PVCC				AMS	AMS	09 55 40.0	
comp=Z,31µm,22.6s							
MODS	Modra-Piesok	130.20	328	ePKP	PKPdf	08 58 39.9	+1.1
MODS				ePP	PP	09 00 47.9	-3.5
KKB	Krupnik	130.21	318	*i* P	PKPdf	08 58 38.6	-0.5
BRG	Berggiesshubel	130.24	332	ePKPdf	PKPdf	08 58 40.0	+1.2
BRG				ePP	PP	09 00 50.7	-0.7
BRG				eSKP		09 02 02.6	
BRG	Berggiesshubel	130.24	332	ePKP	PKPdf	08 58 37.5	-1.3
comp=Z,3.8nm,0.5s							
BRG				*i*		08 58 40.1	
comp=Z,65nm,1.4s							
BRG				PP	SKPbc	09 02 01.0	-1.0
BRG				*i*		09 07 52.0	
BRG				*i*		09 10 57.0	
BRG				SS	SS	09 18 13.0	-4.6
BRG							
comp=N,15µm,19.1s							
BRG							
comp=E,8µm,19.3s							
BRG							
comp=Z,21µm,19.7s							
BRG	Berggiesshubel	130.24	332	ePKP	PKPdf	08 58 37.5	-1.3
BRG				*i*		08 58 40.1	
BRG				PP	SKPbc	09 02 01.0	-1.0
BRG				*i*		09 07 52.0	
BRG				*i*		09 10 57.0	
BRG				SS	SS	09 18 13.0	-4.6
BRG				LR	LR		
comp=Z,12µm,19.7s,MS6.6							
CLL	Collm	130.36	333	ePKIKP	PKPdf	08 58 39.0	0.0
CLL				e		08 58 49.0	
CLL				e		09 00 54.0	
CLL				MLR	MLR		
comp=Z,18µm,21.7s,MS6.7							
CLL	Collm	130.36	333	ePKPdf	PKPdf	08 58 40.4	+1.4
CLL				ePP	PP	09 00 51.5	-0.7
CLL				eSKP		09 02 03.4	
CLL	Collm	130.36	333	ePKPdf	PKPdf	08 58 39.0	0.0
comp=Z,26nm,1.3s							
CLL				ex	x	08 58 49.0	
CLL				ex	x	08 59 39.0	
CLL				ePP	PP	09 00 54.0	+1.8
CLL				*i* x	x	09 00 58.3	
CLL				*i* SKPdf	SKPdf	09 02 03.0	-12
comp=Z,269nm,2.3s							
CLL				ePKSdf		09 02 10.0	
CLL				eSKSac	SKSac	09 05 54.0	+5.3
CLL				eSKKSac	SKKSac	09 07 43.0	-6.7
CLL				eSdif	Sdif	09 09 12.0	+10
CLL				eSP	SP	09 10 53.0	-9.0
CLL				ePPS		09 12 42.0	
CLL				ePPPrev		09 15 04.0	
CLL				eSS	SS	09 18 22.0	+2.9
CLL				ex	x	09 19 56.0	
CLL				eSKSSKSac		09 20 52.0	
CLL				eSSS		09 23 22.0	
CLL	Collm	130.36	333	ePKP	PKPdf	08 58 39.0	0.0
CLL				e		08 58 49.0	
CLL				e		08 59 39.0	
CLL				ePP	PP	09 00 54.0	+1.8
CLL				*i* SKP		09 02 03.0	
CLL				eSKS	SKSdf	09 05 54.0	+3.2
CLL				eSKKS	SKKSac	09 07 43.0	-6.7
CLL				LR	LR		
comp=Z,18µm,21.7s,MS6.7							
MVH1	Achvaich	130.39	349	eP	PKPdf	08 58 39.1	+0.2
ZST	Bratislava	130.41	328	ePKP	PKPdf	08 58 40.5	+1.3
ZST				ePP	PP	09 00 51.1	-1.6
ZST	Bratislava	130.41	328	ePKP	PKPdf	08 58 40.5	+1.3
ZST				ePP	PP	09 00 51.1	-1.6
ZST				LR	LR		
comp=Z,16µm,19.1s,MS6.7							
TREC	Trest	130.54	330	ePKIKP	PKPdf	08 58 41.1	+1.7
TREC				e		09 00 52.5	
TREC				eSP	SP	09 11 04.4	+0.6
TREC				eSS	SS	09 18 15.4	-6.1
TREC				MLR	MLR		
comp=Z,26µm,23.4s,MS6.9							
TREC	Trest	130.54	330	ePKPDF	PKPdf	08 58 41.1	+1.7
TREC				ePP	PP	09 00 52.5	-1.0
TREC				eSKP		09 02 05.5	
TREC				eSP	SP	09 11 04.4	+0.6
TREC				eSS	SS	09 18 15.4	-6.1
TREC				AMS	AMS	09 53 30.0	
comp=Z,26µm,23.4s							
PRA	Prague	130.55	331	PKPDF	PKPdf	08 58 40.0	+0.6
PRU	Pruhonice	130.55	331	ePKIKP	PKPdf	08 58 41.0	+1.6
PRU				e		09 00 50.0	
PRU				eSP	SP	09 10 55.7	-8.1
PRU				MLR	MLR		
comp=Z,30µm,21.2s,MS7.0							
PRU	Pruhonice	130.55	331	ePKPDF	PKPdf	08 58 41.0	+1.6
PRU				ePP	PP	09 00 50.0	-3.5
PRU				eSKP		09 02 04.7	
PRU				eSP	SP	09 10 55.7	-8.1
PRU				ex	x	09 17 52.4	
PRU				AMS	AMS	09 56 50.0	
comp=Z,30µm,21.2s							
SDV	Santo Domingo	130.60	87	PKP	PKPdf	08 58 40.4	-0.2
comp=Z,68nm,1.0s,baz=90,slow=1.2,SNR=28							
SDV				SKPbc	SKPbc	09 02 02.1	-2.5
comp=Z,34nm,1.0s,baz=90,slow=17,SNR=10							
SDV	Santo Domingo	130.60	87	PKP	PKPdf	08 58 40.4	-0.2
SDV				SKPbc	SKPbc	09 02 02.1	-2.5
SDV				LR	LR		
comp=Z,2µm,19.0s,MS5.9							
PLG	Polygyros	130.63	316	eP	PKPdf	08 58 40.0	+0.1
PKSM	Moragy	130.73	325	PKIKP	PKPdf	08 58 39.9	0.0
PKSM	Moragy	130.73	325	⇓iP	PKPdf	08 58 40.2	+0.3
PKSM	Moragy	130.73	325	⇓eP	PKPdf	08 58 40.0	+0.1
MDO	Dochfour	130.88	349	eP	PKPdf	08 58 39.9	0.0
KAC	Achnashellach	131.00	349	eP	PKPdf

MANZ Manzenberg 131.70 332 *e*PKPdf PKPdf 08 58 42.1 +0.5
MANZ *e*PP PP 09 00 59.3 -1.6
MANZ *e*SKP 09 02 08.8
GEC2 GERESS Array S 131.72 330 *e*PKPdf PKPdf 08 58 42.1 +0.4
GEC2 *e*SKP 09 02 08.6
GERES GERESS Array B 131.72 330 PKP PKPdf 08 58 41.6 -0.1
comp=Z,7.5nm,0.9s,baz=45,slow=2.1,SNR=8.3
GERES SKPbc SKPbc 09 02 08.2 +0.6
comp=Z,3.5nm,0.9s,baz=84,slow=4.2,SNR=3.6
ROTZ Rotzenmuhle 131.81 332 *e*PKPdf PKPdf 08 58 43.0 +1.2
ROTZ *e*PP PP 09 01 00.9 -0.7
ROTZ *e*SKP 09 02 09.4
KZN Kozani 131.81 316 *e*P PKPdf 08 58 41.0 -1.1
IBBN Ibbenburen 131.81 337 *e*SKP 09 02 09.0
ESY Stoneypath 131.92 347 *e*P PKPdf 08 58 42.7 +0.9
WET Wettzell 131.92 331 *e*PKIKP PKPdf 08 58 44.0 +1.9
WET *e* 09 01 01.8
WET Wettzell 131.92 331 *e*PKPdf PKPdf 08 58 44.0 +1.9
WET *e*PP PP 09 01 01.8 -0.6
WET *e*SKP 09 02 09.8
THL Klokotos Trika 131.97 315 *e*P PKPdf 08 58 41.0 -1.5
UBBA Unterbreizbach 132.03 334 *e*PKPdf PKPdf 08 58 43.7 +1.5
UBBA *e*PP PP 09 01 01.8 -1.2
UBBA *e*SKP 09 02 09.7
VAM Vamos 132.04 309 *e*P PKPdf 08 58 41.5 -1.2
EAB Aberfoyle 132.04 348 *e*P PKPdf 08 58 42.1 +0.1
MOA Molln 132.10 329 ⇓*i*P PKPdf 08 58 42.3 -0.1
comp=Z,17nm,1.0s
GRA1 Grafenberg Arr 132.31 332 *e*PKPdf PKPdf 08 58 43.4 +0.6
GRA1 *e*PP PP 09 01 04.4 -0.4
GRA1 *e*SKP 09 02 11.5
GRA1 *e*SKKPbc 09 11 15.2
GRA1 *e*SS SS 09 18 43.0 +0.1
GRA1 LR LR
comp=Z,12μm,21.2s,MS6.6
GRF Grafenberg Arr 132.31 332 *e*PKIKP PKPdf 08 58 43.4 +0.6
GRF *e* 09 01 04.4
GRF *e*SS SS 09 18 43.0 +0.1
GRF MLR MLR
comp=Z,12μm,21.2s,MS6.6
GRF Grafenberg Arr 132.31 332 *e*PKIKP PKPdf 08 58 43.4 +0.6
GRF *e* 09 01 04.4
GRF *e*SS SS 09 18 43.0 +0.1
GRF MLR MLR
comp=Z,12μm,21.2s,MS6.6
GRF Grafenberg Arr 132.31 332 *e*PKPdf PKPdf 08 58 43.4 +0.6
GRF *e*PP PP 09 01 04.4 -0.4
GRF *e*SKP 09 02 11.5
GRF *e*SKKPbc 09 11 15.2
GRF *e*SS SS 09 18 43.0 +0.1
GRF *e*L 09 58 50.2
comp=Z,12μm,21.2s
SIV San Ignacio 132.37 122 PKP PKPdf 08 58 43.4 -0.5
comp=Z,11nm,1.0s,baz=225,slow=2.8,SNR=12
SIV SKPbc SKPbc 09 02 11.7 +0.7
comp=Z,12nm,1.2s,baz=55,slow=22,SNR=6.9
EVR Evrytania 132.40 315 *e*P PKPdf 08 58 44.5 +1.2
PGBU Glenifferbraes 132.43 348 *e*P PKPdf 08 58 43.9 +1.1
PGBU AMb AMB 08 58 48.1
comp=Z,69nm,1.4s
PERS Pernice 132.43 327 *i* PKPdf PKPdf 08 58 43.6 +0.5
WTSB Winterswijk 132.44 337 *e*P PKPdf 08 58 45.9 +2.9
comp=Z,97nm,2.9s
SOKA Soboth 132.45 327 ⇑*i*PKPdf PKPdf 08 58 42.3 -0.8
SOKA ⇑*i*PP PP 09 00 56.5 -9.4
SOKA ⇑*i*SKPab 09 02 12.4
VLI Veliai 132.50 311 *e*P PKPdf 08 58 51.0 +7.4
EKA Eskdalemuir Ar 132.58 347 PKP PKPdf 08 58 43.6 +0.4
comp=Z,9.8nm,0.9s,baz=20,slow=2.3,SNR=3.2
EKA SKPbc SKPbc 09 02 12.2 +1.7
comp=Z,5.5nm,0.9s,baz=4.2,slow=3.4,SNR=5.2
TIR Tirane 132.58 318 PFAKE 08 58 50.0 +6.4
TIR LR LR
comp=Z,17μm,21.0s,MS6.7
ESK Eskdalemuir 132.60 347 PFAKE 08 58 50.0 +6.8
ESK LR LR
comp=Z,11μm,21.0s,MS6.5
TSUM Tsumeb 132.63 232 PFAKE 08 58 50.0 +5.7
TSUM LR LR
comp=Z,24μm,22.0s,MS6.9
BUG Bochum--Univer 132.68 337 *e*PP PP 09 01 07.0 0.0
BUG *e*SKP 09 02 12.0
TRIS Tristan da Cun 132.72 189 PFAKE 08 58 50.0 +6.0
TRIS LR LR
comp=Z,16μm,21.0s,MS6.7
JAN Janina 132.73 316 *e*P PKPdf 08 58 43.5 -0.4
LEGS Legarje 132.75 326 *e*PKPdf PKPdf 08 58 44.9 +1.2
LEGS *e*PP PP 09 01 08.5 +0.6
LEGS *e*SKP 09 02 11.7
RJOB Jochberg 132.92 330 *e*PKPdf PKPdf 08 58 45.1 +1.1
RJOB *e*PP PP 09 01 09.3 +0.5
RJOB *e*SKP 09 02 12.9
RLS Riolos of Patr 133.02 314 *e*P PKPdf 08 58 45.0 +0.5
ITM Ithomi 133.06 312 *e*P PKPdf 08 58 43.5 -1.1
BOJS Bojanci 133.06 326 *i* PKPdf PKPdf 08 58 44.9 +0.5
BOJS *i* 08 58 50.1
BOJS *e*PP PP 09 01 11.8 +1.9
BOJS *e*SKPbc SKPbc 09 02 13.8 +1.4
BOJS *e*SKKSac SKKSac 09 08 05.0 -1.6
KBA Koelnbreinsper 133.08 329 ⇑*i*P PKPdf 08 58 42.5 -1.8
comp=Z,37nm,1.1s
LJU Ljubljana 133.12 327 *e*Pdiff Pdif 08 55 45.0 +4.1
LJU *i* PKPdf PKPdf 08 58 45.6 +1.2
LJU *i* 08 58 50.2
LJU *e*PP PP 09 01 11.1 +0.8
LJU *e*SKPbc SKPbc 09 02 13.9 +1.3
LJU *e*SKKSac SKKSac 09 08 02.0 -4.8
LJU Ljubljana 133.12 327 *e*P Pdif 08 55 44.0 +3.1
LJU *i* 08 58 45.6
LJU *i* 08 58 50.2
LJU *e* 09 01 11.1
LJU Ljubljana 133.12 327 *e*Pdif Pdif 08 55 44.0 +3.1
LJU *i* PKPdf PKPdf 08 58 45.6 +1.2
LJU *i* 08 58 50.2
LJU *e*PP PP 09 01 11.1 +0.8
LJU *e*SKPbc SKPbc 09 02 13.9 +1.3
LJU *e*SKKSac SKKSac 09 08 02.0 -4.8
KEK Kerkira 133.42 317 *e*P PKPdf 08 58 44.5 -0.7
JAVS Javornik 133.47 327 *i* PKPdf PKPdf 08 58 46.7 +1.6
VOY Vojsko 133.47 327 *e*PKPdf PKPdf 08 58 46.0 +0.9
BBSR BB Station 133.53 54 PFAKE 08 58 50.0 +4.4
BBSR LR LR
comp=Z,14μm,20.0s,MS6.7
VLS Valsamata 133.59 314 *e*P PKPdf 08 58 47.0 +1.4
ABTA Abfaltersbach 133.72 329 ⇑*i*P PKPdf 08 58 45.5 0.0
comp=Z,33nm,1.0s
HGN Heimansgroeve 133.73 337 *e*P PKPdf 08 58 47.7 +2.3
comp=Z,61nm,3.0s
BEBN Eben Emael 133.80 337 PKP PKPdf 08 58 47.7 +2.1
BEBN PKS 09 02 15.9
MEM Membach 133.82 337 PKP PKPdf 08 58 48.2 +2.6
MEM PKS 09 02 16.6
LHO Holmfirth 133.89 345 *e*P PKPdf 08 58 46.6 +1.0
STU Stuttgart 133.89 333 *e*PKPdf PKPdf 08 58 47.8 +2.0
STU *e*PP PP 09 01 13.9 -1.0
STU *e*SKP 09 02 16.6
STU Stuttgart 133.89 333 *e*PKPdf PKPdf 08 58 44.9 -0.9
RUP Ruppelstein 134.11 335 PKIKP PKPdf 08 58 45.1 -1.1
BCLA Clavier 134.25 337 PKP PKPdf 08 58 49.0 +2.6
BCLA PKS 09 02 18.0
UCC Uccle 134.30 338 PKP PKPdf 08 58 50.9 +4.4
UCC PP PP 09 01 17.2 -0.1
UCC PKS 09 02 17.3
LANF Langenberg 134.35 334 PKP PKPdf 08 58 48.6 +2.0
KWE Weaver Farm 134.36 344 *e*P PKPdf 08 58 47.7 +1.2
FETA Feichten 134.43 330 ⇑*i*P PKPdf 08 58 41.5 -5.4
comp=Z,39nm,1.0s
FETA Feichten 134.43 330 ⇓*i*PKiKP PKiKP 08 58 47.0 -1.2
comp=Z,39nm,1.0s
CWF Charnwood Fore 134.46 344 *e*P PKPdf 08 58 46.4 -0.4
CWF AMb AMB 08 58 47.3
comp=Z,89nm,1.8s
WLF Walferdange 134.51 336 *e*PKPdf PKPdf 08 58 49.8 +2.9
WLF *e*SKP 09 02 19.2
WLF Walferdange 134.51 336 *e*PKPdf PKPdf 08 58 50.1 +3.2
WLF LR LR
comp=Z,19μm,21.0s,MS6.8
WLF APKP 08 58 49.6
WLF PKS 09 02 19.1
WLF Walferdange 134.51 336 PKP PKPdf 08 58 46.6 -0.3
SPAK Spaichingen-Ko 134.57 333 PKP PKPdf 08 58 47.1 0.0
BFO Black Forest 134.61 333 *e*PKIKP PKPdf 08 58 49.2 +2.1
BFO *e* 09 01 19.5
BFO MLR MLR
comp=Z,12μm,20.0s,MS6.6
BFO Black Forest 134.61 333 *e*PKPdf PKPdf 08 58 49.2 +2.1
BFO *e*PP PP 09 01 19.5 0.0
BFO *e*SKP 09 02 18.6
BFO Black Forest 134.61 333 *e*PKPdf PKPdf 08 58 49.2 +2.1
BFO *e*PP PP 09 01 19.5 0.0
BFO *e*SKP 09 02 18.6
BFO LR LR
comp=Z,12μm,20.0s,MS6.6
CTI Castel Tesino 134.63 329 PKIKP PKPdf 08 58 48.3 +1.0
WPM1 Penmaenmawr 134.66 346 *e*P PKPdf 08 58 48.0 +1.0
GIVF Givet 134.69 337 *e*PKIKP PKPdf 08 58 44.5 -2.7
comp=Z,126nm,1.2s
DOU Dourbes 134.78 337 PKP PKPdf 08 58 50.2 +2.8
DOU PKS 09 02 16.8
SBD1 Bryn Du 134.82 345 *e*P PKPdf 08 58 47.5 +0.1
BAIF Baives 134.95 338 *e*PKIKP PKPdf 08 58 44.9 -2.8
comp=Z,98nm,1.3s
BRMO Bormio 134.99 330 PKP PKPdf 08 58 49.1 +1.2
CDF Champ du Feu 135.01 334 *e*PKIKP PKPdf 08 58 44.8 -3.1
comp=Z,68nm,1.2s
DAVOS Davos 135.01 331 PKIKP PKPdf 08 58 47.2 -0.8
DAVOX Davos/Dischmat 135.01 331 PKP PKPdf 08 58 47.2 -0.7
comp=Z,36nm,1.1s,baz=196,slow=19,SNR=12
DAVOX SKPbc SKPbc 09 02 20.3 +1.5
comp=Z,12nm,1.1s,baz=349,slow=6.7,SNR=4.8
SJG San Juan 135.08 74 PKP PKPdf 08 58 47.6 -1.3
comp=Z,40nm,0.8s,baz=283,slow=3.5,SNR=3.8
SJG SKPbc SKPbc 09 02 18.4 -1.5
comp=Z,9.8nm,0.3s,baz=279,slow=19,SNR=4.5
SJG San Juan 135.08 74 PKP PKPdf 08 58 47.6 -1.3
SJG SKPbc SKPbc 09 02 18.4 -1.5
SJG LR LR
comp=Z,5μm,20.0s,MS6.3
FELD Feldberg im Sc 135.09 333 PKP PKPdf 08 58 49.3 +1.2
ECH Echery 135.21 334 PKP PKPdf 08 58 48.2 -0.1
CPD Cerro la Pandu 135.31 74 *e*PKIKP PKPdf 08 58 48.9 -0.4
TUE Stuetta 135.49 331 *e*PKPdf PKPdf 08 58 40.1 -8.8
TUE PKP PKPdf 08 58 50.7 +1.8
MOF Molkenrain 135.50 333 PKP PKPdf 08 58 48.8 0.0
HTR Trewern Hill 135.58 345 *e*P PKPdf 08 58 49.5 +0.7
MCH1 Michaelchurch 135.59 345 *e*P PKPdf 08 58 49.3 +0.5
MCH1 AMb AMB 08 58 58.3
comp=Z,106nm,1.8s
BBS Basel-Blauen 135.62 333 PKIKP PKPdf 08 58 46.7 -2.4
MTP Monte Pirata 135.65 74 *e*PKPdf PKPdf 08 58 49.0 -1.0
HINF Hinteralfeld 135.65 334 *e*PKIKP PKPdf 08 58 46.0 -3.1
comp=Z,51nm,1.0s
HAU Haudompre 135.72 334 *e*PKIKP PKPdf 08 58 46.3 -2.9
comp=Z,110nm,1.3s
HAU *e*MLR MLR
comp=Z,18μm,21.0s,MS6.5
HAU Haudompre 135.72 334 *e*PKPdf PKPdf 08 58 46.3 -2.9
HAU LR LR
comp=Z,18μm,21.0s,MS6.8
TIP Timpagrande 135.73 318 *e*PKPdf PKPdf 08 58 42.8 -6.8
TIP *e*PP PP 09 01 25.7 -1.4
TIP LR LR
comp=Z,7μm,20.0s,MS6.4
HGH Gray Hill 135.86 344 *e*P PKPdf 08 58 49.9 +0.5
MEZF Maizieres J'vi 135.87 336 *e*PKIKP PKPdf 08 58 47.1 -2.4
comp=Z,158nm,1.2s
CUC Castrocucco 135.92 319 *e*PKPdf PKPdf 08 58 46.4 -3.5
CUC LR LR
comp=Z,17μm,21.0s,MS6.8
MIDA Miranda 135.96 322 PKP PKPdf 08 58 53.1 +3.2
MURB Monte Urbino 135.99 325 PKP PKPdf 08 58 46.1 -3.8
LOMF Lomont 136.01 333 PKP PKPdf 08 58 51.9 +2.1
AQU L'Aquila 136.04 323 ⇓*i*P PKPdf 08 58 47.8 -2.2
AQU L'Aquila 136.04 323 ⇓P PKPdf 08 58 47.8 -2.2
AQU LR LR
comp=Z,28μm,21.0s,MS7.0
BDI Bagni Di Lucca 136.52 327 PKIKP PKPdf 08 58 53.5 +2.6
CSNT Castellina Chi 136.54 326 PKP PKPdf 08 58 52.3 +1.4
VLC Villacollemand 136.57 327 PKPdf PKPdf 08 58 44.4 -6.6
VLC LR LR
comp=Z,23μm,21.0s,MS6.9
MTCE Montecelio 136.63 323 PKP PKPdf 08 58 51.2 +0.1
BOB Bobbio (Coli) 136.64 329 PKIKP PKPdf 08 58 48.7 -2.4
CEL Celeste 136.78 317 PKPdf PKPdf 08 58 46.7 -4.8
OG01 Vacheresse 136.85 332 PKP PKPdf 08 58 52.5 +1.1
CABF La Chapelle 136.90 333 *e*PKIKP PKPdf 08 58 48.2 -3.3
comp=Z,194nm,1.2s
LOR Lormes 137.34 335 *e*PKIKP PKPdf 08 58 49.5 -2.8
comp=Z,117nm,1.3s
LOR *e*MLR MLR
comp=Z,20μm,22.8s,MS6.5
LOR Lormes 137.34 335 *e*PKPdf PKPdf 08 58 49.5 -2.8
LOR LR LR
comp=Z,20μm,22.8s,MS6.8
RSL Roselend 137.36 332 PKP PKPdf 08 58 53.5 +1.2
LPL La Plagne 137.43 332 *e*PKIKP PKPdf 08 58 50.3 -2.2
comp=Z,119nm,1.3s
LPG La Plagne 137.44 332 *e*PKIKP PKPdf 08 58 50.4 -2.1
SSF Saint Saulge 137.65 336 *e*PKIKP PKPdf 08 58 50.0 -2.9
comp=Z,126nm,1.3s
FLN La Foliniere 137.71 340 *e*PKIKP PKPdf 08 58 49.2 -3.7
comp=Z,56nm,1.0s
FLN *e*MLR MLR
comp=Z,23μm,22.8s,MS6.6
FLN La Foliniere 137.71 340 *e*PKPdf PKPdf 08 58 49.2 -3.7
FLN LR LR
comp=Z,23μm,22.8s,MS6.9
LDF La Druitiere 137.73 340 *e*PKIKP PKPdf 08 58 49.8 -3.1
comp=Z,96nm,1.3s
BNI Bardonecchia 137.80 331 *e*PKIKP PKPdf 08 58 49.0 -4.2
BNI MLR MLR
comp=Z,18μm,20.0s,MS6.8
SMF Signal de Mont 137.85 335 *e*PKIKP PKPdf 08 58 50.5 -2.7
comp=Z,51nm,1.1s
AVF Avril sur Loir 137.93 335 *e*PKIKP PKPdf 08 58 50.6 -2.8
comp=Z,71nm,1.4s
MBDF Montbardon 138.00 331 *e*PKIKP PKPdf 08 58 51.0 -2.6
GRN Grenoble 138.10 332 PKP PKPdf 08 58 57.4 +3.7
HVZN Vizzini 138.15 316 PKP PKPdf 08 58 52.2 -1.9
SAOF Saorge 138.15 329 PKP PKPdf 08 58 50.7 -3.2
GRR Gorron 138.16 340 *e*PKIKP PKPdf 08 58 50.8 -2.9
comp=Z,299nm,1.6s
SURF Saint Ours 138.16 330 PKP PKPdf 08 58 53.3 -0.6
AUTN L'Aution 138.21 329 PKP PKPdf 08 58 47.3 -6.7
ORIF Oris-en-Rattie 138.28 332 *e*PKIKP PKPdf 08 58 51.4 -2.7
comp=Z,66nm,1.1s
ORIF *e*MLR MLR
comp=Z,26μm,22.8s,MS6.6
TOUF Mont Tournerai 138.29 330 PKP PKPdf 08 58 47.3 -6.8
SBF Sospel 138.30 329 *e*PKIKP PKPdf 08 58 51.6 -2.6
comp=Z,254nm,1.5s
LUCF Luceram 138.33 329 PKP PKPdf 08 58 47.6 -6.6
BGF Bois d'Agland 138.33 336 *e*PKIKP PKPdf 08 58 50.8 -3.3
comp=Z,124nm,1.3s
PGF Pioggiola 138.41 327 *e*PKIKP PKPdf 08 58 50.8 -3.6
comp=Z,173nm,1.3s
CORF Corte 138.49 326 PKP PKPdf 08 58 47.9 -6.7
AGO Saint Agoulin 138.62 335 PKP PKPdf 08 58 53.5 -1.2
SSB Saint Sauveur 138.62 333 PKP PKPdf 08 58 51.6 -3.1
TCF Toulx Ste Croi 138.80 336 *e*PKIKP PKPdf 08 58 52.6 -2.4
SGMF Saint Gilles 138.82 342 *e*PKIKP PKPdf 08 58 51.7 -3.3
comp=Z,114nm,1.2s
VIVF Saint-Julien-l 138.88 333 *e*PKIKP PKPdf 08 58 52.2 -3.0
comp=Z,142nm,1.5s
FRF La Foret Royal 138.92 330 *e*PKIKP PKPdf 08 58 52.2 -3.1
comp=Z,166nm,1.4s
ROSF Rostrenen 138.96 342 *e*PKIKP PKPdf 08 58 52.0 -3.2
comp=Z,198nm,1.5s
SMRF Simiane la Rot 139.13 331 *e*PKIKP PKPdf 08 58 52.4 -3.3
comp=Z,259nm,1.7s
LMR La Mourre 139.15 330 *e*PKIKP PKPdf 08 58 53.0 -2.7
comp=Z,98nm,1.1s
LBL Lubilhac 139.22 334 PKP PKPdf 08 58 49.3 -6.5
QUIF Quistinic 139.31 342 *e*PKIKP PKPdf 08 58 52.8 -3.1
comp=Z,227nm,1.6s
MFF Saint Martin d 139.44 338 *e*PKIKP PKPdf 08 58 53.7 -2.5
comp=Z,113nm,1.2s
GRGR Grenville 139.60 83 PFAKE 08 59 10.0 +13
GRGR LR LR
comp=Z,7μm,19.0s,MS6.4
LASF Ste Croix 139.86 332 *e*PKIKP PKPdf 08 58 54.0 -3.0
comp=Z,116nm,1.2s
RJF Les Rejaudoux 139.89 336 *e*PKIKP PKPdf 08 58 53.8 -3.2
RJF *e*MLR MLR
comp=Z,14μm,20.2s,MS6.4
RJF Les Rejaudoux 139.89 336 *e*PKPdf PKPdf 08 58 53.8 -3.2
RJF LR LR
comp=Z,14μm,20.3s,MS6.7
CAF Calviac 139.97 335 *e*PKIKP PKPdf 08 58 53.4 -3.8
comp=Z,91nm,1.5s
FDF Fort de France 140.06 79 *e*PKHKP 08 58 52.1
LFF La Frestale 140.50 336 *e*PKIKP PKPdf 08 58 54.5 -3.6
comp=Z,169nm,1.4s
MTLF Montolieu 141.17 333 *e*PKIKP PKPdf 08 58 56.4 -3.0
comp=Z,63nm,1.0s
BBGH Gun Hill 141.65 81 PFAKE 08 59 10.0 +9.0
BBGH LR LR
comp=Z,14μm,20.0s,MS6.7
EPF Esparros 142.23 335 *e*PKIKP PKPdf 08 58 58.9 -2.4
RESF Ens 142.42 335 PKP PKPdf 08 59 03.4 +1.8
VIEF Viey 142.49 335 PKP PKPdf 08 59 00.1 -1.7
KEST Kesra 142.54 318 PKP PKPdf 08 58 59.0 -3.1
comp=Z,9.0nm,1.0s,baz=272,slow=5.6,SNR=10
ETSF Etsaut 142.72 336 *e*PKIKP PKPdf 08 59 00.0 -2.2
comp=Z,178nm,1.1s
LARF Larrau 142.77 336 PKP PKPdf 08 58 59.8 -2.5
LARF Larrau 142.77 336 PKP PKPdf 08 59 02.7 +0.4
SJPF Ste Jean 142.80 336 *e*PKIKP PKPdf 08 58 58.7 -3.6
comp=Z,65nm,1.1s
BDFB Brasilia 142.84 133 PKP PKPdf 08 58 59.9 -3.2
comp=Z,6.1nm,0.7s,baz=196,slow=8.1,SNR=14
BDFB Brasilia 142.84 133 PKP PKPdf 08 58 59.9 -3.2
BDFB LR LR
comp=Z,13μm,21.0s,MS6.7
CAM3 Guarapari 143.83 147 ⇑*i*P PKPdf 08 59 02.9 -1.9
CAM3 *i* 08 59 07.0
CAM3 *i* 08 59 09.6
CAM3 *i* 08 59 15.9
CAM3 *i* 08 59 33.0
CAM3 *i* 08 59 43.3
PCAB Cabril 146.39 343 *e*PKP PKPbc 08 59 10.8 +1.0
MVO Moncorvo 146.58 341 *e*PKP PKPdf 08 59 09.4 +0.5
MVO Moncorvo 146.58 341 *e*LQ 09 51 57.9
MVO *e*LR LR 09 58 54.7
comp=Z,16μm,20.0s
ESDC Sonseca Array 146.81 336 PKPbc PKPbc 08 59 09.8 -1.3
comp=Z,23nm,0.9s,baz=23,slow=3.9,SNR=26
ESDC PP PP 09 02 35.9 +1.9
comp=Z,4.6nm,0.8s,baz=21,slow=5.8,SNR=5.1
PAB San Pablo 147.07 337 *e*PKIKP PKPdf 08 59 08.6 -1.2
PAB MLR MLR
comp=Z,14μm,21.0s,MS6.7
CART Cartagena 147.23 331 *e*PKPbc PKPbc 08 59 12.3 0.0
PVIS Viseu 147.26 342 *e*PKP PKPab 08 59 13.6 -0.4
MTE Manteigas 147.44 341 *e*PKP PKPdf 08 59 09.4 -1.0
MTE Manteigas 147.44 341 *e*LQ 09 51 42.7
MTE *e*LR LR 09 59 21.0
comp=Z,15μm,22.0s
MTE Manteigas 147.44 341 *e*PKPdf PKPdf 08 59 09.6 -0.8
MTE LR LR
comp=Z,16μm,22.0s,MS6.8
PCBR Castelo Branco 147.93 341 *e*PKP PKPdf 08 59 12.0 +0.8
PMRV Marv??o 148.27 340 *e*PKP PKPbc 08 59 14.1 -1.0
PMRV Marv??o 148.27 340 *e*LQ 09 53 58.4
PMRV *e*LR LR 10 01 16.0
comp=Z,14μm,22.0s
PESTR Estremoz 148.85 340 *e*PKP PKPbc 08 59 15.5 -1.1
PESTR Estremoz 148.85 340 *e*LQ 09 54 15.2
PESTR *e*LR LR 10 02 48.2
comp=Z,17μm,18.0s
PBAR Barrancos 149.28 339 *e*PKP PKPdf 08 59 13.1 -0.4
PBAR Barrancos 149.28 339 *e*LQ 09 54 25.8
PBAR *e*LR LR 10 00 42.8
comp=Z,21μm,20.0s
EVO Evora 149.29 341 *e*PKIKP PKPbc 08 59 16.5 -1.3
comp=Z,398nm,1.4s
EVO *e*MLR MLR
comp=Z,25μm,21.8s,MS6.7
EVO Evora 149.29 341 *e*PKP PKPbc 08 59 16.4 -1.4
PMAFR Mafra 149.30 343 *e*PKP PKPbc 08 59 15.8 -2.0
PMAFR Mafra 149.30 343 *e*LQ 09 52 07.4
PMAFR *e*LR LR 09 59 11.6
comp=Z,14μm,20.0s
LIS Lisbon 149.48 342 *e*P PKPbc 08 59 17.6 -0.6
PBEJ Beja 149.70 340 *e*PKP PKPbc 08 59 17.7 -1.1
SRBC Serra Branca 150.15 12 *e*PKP PKPbc 08 59 21.7 +1.8
PVAQ Vaqueiros 150.21 339 *e*PKP PKPdf 08 59 16.5 +1.5
PVAQ Vaqueiros 150.21 339 *e*LQ 09 51 13.9
PVAQ *e*LR LR 09 57 34.7
comp=Z,19μm,20.0s
ROSA Rosais 150.42 12 *e*PKP PKPbc 08 59 21.9 +1.4
PTEO Sao Teotonio 150.42 341 *e*PKP PKPbc 08 59 18.3 -2.2
PBDV Barranco-do-Ve 150.43 339 *e*PKP PKPdf 08 59 16.6 +1.3
PBDV Barranco-do-Ve 150.43 339 *e*LQ 09 52 18.7
PBDV *e*LR LR 10 00 56.1
comp=Z,23μm,20.0s
CALA Caldeira 150.45 13 *e*PKP PKPab 08 59 25.1 -1.8
SFS San Fernando 150.47 336 *e*PKIKP PKPbc 08 59 22.6 +1.9
SFS MLR MLR
comp=Z,42μm,19.0s,MS7.3
SHEL Horse Pasture 150.49 210 *e*PKIKP PKPbc 08 59 23.6 +2.3
SHEL MLR MLR
comp=Z,16μm,22.0s,MS6.8
PMAN Manadas 150.53 12 *e*PKP PKPbc 08 59 22.8 +2.0
PICO Pico 150.59 13 *e*PKP PKPab 08 59 28.2 +0.7
MORF Marmelete 150.61 340 *e*PKP PKPbc 08 59 20.0 -1.0
MORF Marmelete 150.61 340 *e*LQ 09 55 33.0
MORF *e*LR LR 10 00 50.6
comp=Z,13μm,22.0s
PFVI Vila Bisbo 150.83 341 *e*PKP PKPbc 08 59 18.5 -3.0
PFVI Vila Bisbo 150.83 341 *e*LQ 09 53 58.1
PFVI *e*LR LR 09 58 59.0
comp=Z,17μm,20.0s
PDA Ponta Delgada 151.82 9 *e*PP SKPdf 09 02 45.0 -6.2
PDA Ponta Delgada 151.82 9 *e*LR LR 09 50 48.0
CMLA Cha da Macela 151.83 8 *e*PKP PKPab 08 59 31.4 -1.3
CMLA Cha da Macela 151.83 8 *e*PP PP 09 03 13.4 +11
CMLA Cha da Macela 151.83 8 *e*LQ 09 43 05.7
CMLA *e*LR LR 09 51 07.9
CMLA Cha da Macela 151.83 8 PFAKE 08 59 30.0 +13
CMLA LR LR
comp=Z,12μm,19.0s,MS6.7
TAM Tamanrasset 151.92 301 *e*PKIKP PKPdf 08 59 18.8 +0.8
MDT Midelt 152.81 330 PKP PKPdf 08 59 19.9 +0.8
comp=Z,8.7nm,1.2s,baz=126,slow=4.9,SNR=8.1
MDT PKPbc PKPbc 08 59 27.3 +1.1
comp=Z,68nm,1.0s,baz=48,slow=2.8,SNR=30
RTC Rabat Centre 152.87 334 PFAKE 08 59 30.0 +11
RTC LR LR
comp=Z,17μm,20.0s,MS6.9
TOA0 Torodi Ar. Sit 157.97 281 *e*PKPdf PKPdf 08 59 24.8 -1.7
TOA0 *e*PKPab PKPab 09 00 02.1 +2.5
TORD Torodi Ar. Bea 157.97 281 PKP PKPdf 08 59 24.4 -2.1
comp=Z,5.3nm,0.6s,baz=22,slow=0.8,SNR=21
TORD PKPab PKPab 09 00 01.8 +2.1
comp=Z,15nm,0.8s,baz=93,slow=2.4,SNR=6.8
TORD PP PP 09 03 43.3 +3.8
comp=Z,3.2nm,0.9s,baz=55,slow=4.2,SNR=4.0
TORD Torodi Ar. Bea 157.97 281 PKP PKPdf 08 59 24.4 -2.1
TORD PKPab PKPab 09 00 01.8 +2.1
TORD PP PP 09 03 43.3 +3.8
ASCN Ascension 161.31 199 PFAKE 08 59 40.0 +10
ASCN LR LR
comp=Z,13μm,20.0s
KIC Kosan Boka 163.99 259 *e*PKIKP PKPdf 08 59 31.7 -1.3
comp=Z,458nm,1.2s
DBIC Dimbokro 164.17 260 PKP PKPdf 08 59 33.1 -0.1
comp=Z,23nm,1.0s,baz=78,slow=4.6,SNR=9.3
DBIC PKPab PKPab 09 00 27.0 +0.2
comp=Z,29nm,0.9s,baz=119,slow=5.2,SNR=14
DBIC Dimbokro 164.17 260 *e*PKPdf PKPdf 08 59 32.7 -0.5
DBIC LR LR
comp=Z,24μm,19.0s
LIC Lamto 164.23 258 *e*PKIKP PKPdf 08 59 28.1 -5.1
comp=Z,180nm,1.4s
LIC *e*MLR MLR
comp=Z,30μm,20.0s
LIC Lamto 164.23 258 *e*PKIKP PKPdf 08 59 31.8 -1.4
comp=Z,370nm,1.6s
LIC Lamto 164.23 258 *e*PKPdf PKPdf 08 59 28.1 -5.1
LIC *e*PKPdf PKPdf 08 59 31.8 -1.4
LIC LR LR
comp=Z,15μm,20.0s
TIC Toumodi 164.32 260 *e*PKIKP PKPdf 08 59 31.4 -1.9
comp=Z,700nm,1.6s
BBTS Babate 173.81 321 PKP PKPdf 08 59 39.8 +0.6
comp=Z,78nm,1.1s,baz=104,slow=3.1
BBTS PKPab PKPab 09 01 10.2 +1.1
comp=Z,110nm,0.9s,baz=7.5,slow=1.5,SNR=10.0

IDC 16 08:46:30.7±1.0, 985S×15960E, h0km, mb4.4/8, mb1 4.6/8, mb1mx4.4/16, mbtmp4.4/8, Error ellipse: s-maj=31.0km s-min=8.1km az=134.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.54**	**40**	Pg	Pg	08 46 40.9	-0.1
	2μm,0.3s,baz=245,slow=4.3,SNR=7.8						
HNR				Lg		08 46 48.6	
	8μm,0.3s,baz=101,slow=19,SNR=16						
WRA	**Warramunga Arr**	**26.36**	**245**	P	P	08 52 09.3	+0.6
	13nm,0.8s,baz=72,slow=10.0,SNR=6.1						
ASAR	**Alice Springs**	**28.11**	**238**	P	P	08 52 23.1	-1.4
	4.0nm,0.8s,baz=65,slow=10,SNR=4.9						
KSRS	**Korea Array**	**55.63**	**330**	P	P	08 56 08.5	+0.1
	1.4nm,0.6s,baz=155,slow=7.2,SNR=3.9						
PETK	**Petropavlovsk-**	**62.73**	**359**	P	P	08 56 56.2	-1.1
	6.6nm,0.8s,baz=155,slow=7.4,SNR=5.0						
CMAR	**Chiang Mai Arr**	**66.11**	**295**	P	P	08 57 21.8	+1.6
	2.6nm,0.5s,baz=126,slow=4.6,SNR=4.9						
VNDA	**Vanda**	**67.66**	**179**	P	P	08 57 29.6	+0.4
	3.5nm,0.8s,baz=353,slow=5.3,SNR=4.7						
SONM	**Songino Array**	**74.21**	**326**	P	P	08 58 09.8	+0.5
	2.3nm,0.8s,baz=129,slow=4.6,SNR=4.0						
MKAR	**Makanchi Array**	**88.55**	**318**	P	P	08 59 24.9	-0.5
	1.5nm,0.8s,baz=96,slow=5.8,SNR=2.5						

*BJI **16** 08:58:09.9, 970S×15960E, h20km, mB4.3, mb5.0*
*IDC **16** 08:58:11.0±2.0, 982S×15955E, h13km±14km, mb4.4/16, mb1 4.6/17, mb1mx4.5/19, mbtmp4.4/17, ML4.4/1, Error ellipse: s-maj=23.0km s-min=12.4km az=123.0*
*ISCJB **16** 08:58:11.0±1.3, 976S±005×15958E±006, h27km±9km, mb4.7/31, Error ellipse: s-maj=11.9km s-min=6.5km az=38.9*
*NEIC **16** 08:58:12.0±1.2, 973S×15957E, h21km±9km, mb4.8/9, Error ellipse: s-maj=9.6km s-min=5.5km az=126.0*
*MOS **16** 08:58:11.9±1.1, 979S×15960E, h33km, mb4.8/4, Error ellipse: s-maj=15.9km s-min=9.9km az=51.3*

ISC 16 08:58:12.2±1.2, 975S±005×15957E±007, h22km±10km, h20km±2.5km: pP-P, n58, σ1º01/59, mb4.7/31, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.48**	**49**	Pg	**Pb**	**08 58 21.7**	**-0.4**
	8μm,0.3s,baz=231,slow=2.2,SNR=11						
HNR				Lg		08 58 29.6	
	34μm,0.3s,baz=244,slow=6.3,SNR=36						
HNR	**Honiara**	**0.48**	**49**	*e*P	**Pb**	**08 58 21.4**	**-0.7**
HNR				*e*		08 58 29.2	
HNR	**Honiara**	**0.48**	**49**	*e*Pn	**Pb**	**08 58 21.4**	**-0.7**
HNR				Pg	**Pb**	**08 58 21.7**	**-0.4**
HNR				*e*Sn	**Sb**	**08 58 29.2**	**+0.4**
HNR				Lg		08 58 29.6	
PMG	**Port Moresby**	**12.25**	**271**	*e*P	**Pn**	**09 01 12.2**	**+6.7**
DZM	**Mont Dzumac**	**13.91**	**153**	*e*Pn	**Pn**	**09 01 28.5**	**+0.3**
CTA	**Charters Tower**	**16.46**	**230**	*e*P	**Pn**	**09 02 02.0**	**0.0**
	41nm,0.9s						
CTA	**Charters Tower**	**16.46**	**230**	Pn	**Pn**	**09 02 02.0**	**+0.1**
	0.8nm,0.3s,baz=56,slow=16,SNR=4.7						
CTA	**Charters Tower**	**16.46**	**230**	*e*P	**Pn**	**09 02 02.0**	**0.0**
CTA				pmax	pmax		
	comp=Z,41nm,0.9s						
CTAO	**Charters Tower**	**16.46**	**230**	*e*P	**Pn**	**09 02 02.7**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,102nm,1.4s						
CTAO	**Charters Tower**	**16.46**	**230**	*e*Pn	**Pn**	**09 02 02.7**	**+0.8**
	comp=Z,102nm,1.4s						
CTAO				*e*pP	pP	09 02 16.9	+6.4
COEN	**Coen**	**16.58**	**254**	*e*Pn	**Pn**	**09 02 03.9**	**+0.3**
	comp=Z,123nm,1.8s						
COEN				*e*pP	pP	09 02 17.6	+5.7
ARMA	**Armidale**	**21.86**	**199**	*e*P	**P**	**09 03 04.2**	**+0.7**
ARMA				*e*		09 03 13.6	
WRAB	**Tennant Creek**	**26.36**	**245**	*e*P	**P**	**09 03 46.5**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,37nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**26.36**	**245**	*e*P	**P**	**09 03 46.5**	**-0.6**
	comp=Z,37nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**26.36**	**245**	*e*P	**P**	**09 03 46.5**	**-0.6**
WB2				*e*	pP	09 03 50.7	-2.9
WB2	**Warramunga Arr**	**26.36**	**245**	*e*P	**P**	**09 03 50.7**	**+3.6**
WRA	**Warramunga Arr**	**26.38**	**245**	P	**P**	**09 03 46.9**	**-0.3**
	comp=Z,47nm,0.7s,mb5.2,baz=71,slow=10,SNR=82						
WRA				PcP	PcP	09 07 13.8	+1.0
	comp=Z,2.0nm,0.7s,baz=71,slow=2.8,SNR=4.5						
KAKA	**Kakadu**	**26.77**	**261**	*e*P	**P**	**09 03 50.7**	**-0.1**
	comp=Z,9.1nm,0.4s,mb4.7						
KAKA				*e*		09 04 01.5	
CNB	**Canberra Magne**	**27.10**	**199**	*e*P	**P**	**09 03 54.7**	**+1.2**
CNB				*e*	pP	09 04 01.0	+0.9
CAN	**Canberra**	**27.22**	**199**	P	**P**	**09 03 54.8**	**+0.2**
GUMO	**Guam**	**27.40**	**328**	P	**P**	**09 03 59.6**	**+3.2**
	comp=Z,14nm,0.3s,mb4.9,baz=140,slow=7.9,SNR=2.3						
STKA	**Stephens Creek**	**27.61**	**215**	*e*P	**P**	**09 03 58.1**	**-0.1**
	comp=Z,12nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**27.61**	**215**	P	**P**	**09 03 57.6**	**-0.6**
	comp=Z,5.4nm,0.6s,mb4.4,baz=30,slow=12,SNR=9.8						
ASAR	**Alice Springs**	**28.14**	**237**	P	**P**	**09 04 01.5**	**-1.6**
	comp=Z,10nm,0.9s,mb4.5,baz=63,slow=10,SNR=36						
TOO	**Toolangi**	**30.47**	**202**	*e*P	**P**	**09 04 24.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**33.92**	**252**	P	**P**	**09 04 53.0**	**-1.0**
	comp=Z,3.3nm,0.6s,mb4.5,baz=93,slow=5.4,SNR=5.6						
KLBR	**Kellerberrin**	**44.39**	**234**	*e*P	**P**	**09 06 20.0**	**-1.4**
	comp=Z,35nm,1.3s,mb4.9						
NWAO	**Narrogin (SRO)**	**45.27**	**233**	P	**P**	**09 06 26.6**	**-1.8**
	comp=Z,6.2nm,0.7s,mb4.5,baz=33,slow=7.4,SNR=7.1						
KKM	**Kota Kinabalu**	**45.96**	**288**	*e*P	**P**	**09 06 33.2**	**-0.9**
MJAR	**Matsushiro Arr**	**50.24**	**338**	P	**P**	**09 07 05.6**	**-1.2**
	comp=Z,1.8nm,0.8s,mb4.2,baz=172,slow=9.0,SNR=8.7						
MAT	**Matsushiro**	**50.24**	**338**	P	**P**	**09 07 06.1**	**-0.7**
KSM	**Kuching**	**50.30**	**280**	*e*P	**P**	**09 07 07.8**	**0.0**
KSRS	**Korea Array**	**55.53**	**330**	P	**P**	**09 07 46.8**	**+0.9**
	comp=Z,4.5nm,0.7s,mb4.6,baz=148,slow=7.6,SNR=21						
PETK	**Petropavlovsk-**	**62.63**	**359**	P	**P**	**09 08 35.4**	**+0.6**
	comp=Z,3.6nm,0.7s,mb4.6,baz=146,slow=5.2,SNR=7.3						
KLR	**Kul'dur**	**63.61**	**340**	*e*P	**P**	**09 08 39.0**	**-2.4**
BJI	**Beijing**	**63.77**	**324**	P	**P**	**09 08 40.4**	**-2.2**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
XAN	**Xi'an**	**64.83**	**315**	P	**P**	**09 08 50.3**	**+0.6**
XAN				AP	pP	09 08 56.8	+0.1
XAN				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.1						
XAN				AMB	AMB		
	comp=Z,27nm,8.9s						
CMAR	**Chiang Mai Arr**	**66.05**	**295**	P	**P**	**09 08 59.1**	**+1.1**
	comp=Z,4.5nm,0.4s,mb4.8,baz=119,slow=4.8,SNR=18						
CHTO	**Chiang Mai**	**66.17**	**296**	*e*P	**P**	**09 08 59.7**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
CHTO	**Chiang Mai**	**66.17**	**296**	*e*P	**P**	**09 08 59.7**	**+1.1**
	comp=Z,6.6nm,0.9s,mb4.7						
CD2	**Chengdu**	**67.04**	**309**	P	**P**	**09 09 05.3**	**+1.3**
CD2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.7						
VNDA	**Vanda**	**67.76**	**179**	P	**P**	**09 09 08.4**	**+0.6**
	comp=Z,7.0nm,0.8s,mb4.8,baz=338,slow=6.3,SNR=39						
LZH	**Lanzhou**	**69.45**	**314**	*e*P	**P**	**09 09 21.4**	**+2.3**
LZH				AP	pP	09 09 29.3	+3.2
LZH				XP	sP	09 09 33.0	+4.4
LZH				AMB	AMB		
	comp=Z,34nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,145nm,5.1s						
GTA	**Gaotai**	**73.85**	**316**	*e*P	**P**	**09 09 47.3**	**+1.9**
GTA				AP	pP	09 09 51.0	-1.5
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
SONM	**Songino Array**	**74.11**	**326**	P	**P**	**09 09 48.0**	**+1.2**
	comp=Z,9.2nm,0.9s,mb4.7,baz=137,slow=5.8,SNR=16						
BOD	**Bodaibo**	**76.87**	**337**	*e*P	**P**	**09 10 02.2**	**-0.2**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.9s,mb4.2						
ZAK	**Zakamensk**	**77.23**	**327**	*e*P	**P**	**09 10 04.9**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
KDAK	**Kodiak Island**	**77.74**	**24**	P	**P**	**09 10 07.4**	**+0.1**
	comp=Z,6.0nm,0.9s,mb4.5,baz=163,slow=1.9,SNR=6.6						
SVW2	**Sparrevohn**	**78.90**	**20**	*e*P	**P**	**09 10 13.9**	**+0.3**
RC01	**Rabbit Creek A**	**81.00**	**22**	*e*P	**P**	**09 10 23.7**	**-1.3**
	comp=Z,49nm,1.5s,mb5.2						
KTH	**Kantishna Hill**	**82.17**	**20**	*e*P	**P**	**09 10 30.4**	**-0.7**
	comp=Z,5.2nm,0.8s,mb4.5						
MAW	**Mawson**	**83.61**	**203**	P	**P**	**09 10 38.3**	**-0.3**
	comp=Z,1.7nm,0.7s,mb4.3,baz=35,slow=12,SNR=3.1						
DAWY	**Dawson**	**86.63**	**23**	*e*P	**P**	**09 10 53.1**	**-0.6**
MKAR	**Makanchi Array**	**88.46**	**318**	P	**P**	**09 11 03.7**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.5,baz=89,slow=5.5,SNR=6.3						
NVAR	**Mina Array Bea**	**89.89**	**51**	P	**P**	**09 11 09.6**	**-0.3**
	comp=Z,1.1nm,0.9s,mb4.2,baz=216,slow=4.1,SNR=4.2						
YKA	**Yellowknife Ar**	**96.64**	**28**	P	**P**	**09 11 40.4**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.9,baz=254,slow=5.0,SNR=4.1						
PDAR	**Pinedale Array**	**97.17**	**48**	P	**P**	**09 11 42.5**	**-0.7**
	comp=Z,0.4nm,0.4s,mb4.2,baz=220,slow=8.3,SNR=2.8						
KWP	**Kalwaria**	**126.55**	**326**	*e*PKPdf	PKPdf	09 17 13.8	+0.1

*ISCJB **16** 08:58:52.9±0.7, 2208S±006×6785W±009, h102km±8km, mb4.2/4, Error ellipse: s-maj=14.6km s-min=8.5km az=21.5*
*NEIC **16** 08:58:54.6±0.8, 2202S×6798W, h96km±8km, mb4.4/2, Error ellipse: s-maj=16.3km s-min=9.7km az=103.0*
*IDC **16** 08:58:54.1±0.9, 2204S×6791W, h94km±14km, mb4.0/2, mb1 3.7/6, mb1mx3.5/18, mbtmp3.6/6, Error ellipse: s-maj=31.7km s-min=13.1km az=120.0*
*BJI **16** 08:58:54.6, 2200S×6800W, h95km*

ISC 16 08:58:54.2±0.6, 2208S±005×6786W±008, h95km±7km, n20, σ1º09/19, mb4.2/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.11**	**241**	P	**Pn**	**08 59 16.0**	**+0.5**
LVC				S	**Sn**	**08 59 31.5**	**-0.1**
	217nm,0.3s,baz=35						
LPAZ	**La Paz**	**5.76**	**357**	P	**Pn**	**09 00 17.6**	**+0.3**
	1.6nm,0.3s,baz=191,slow=7.2,SNR=33						
SIV	**San Ignacio**	**8.82**	**48**	P	**Pn**	**09 01 00.3**	**+1.4**
	1.2nm,0.3s,baz=246,slow=14,SNR=21						
SIV				S	**Sn**	**09 02 35.0**	**-1.6**
	0.1nm,0.3s,baz=168,slow=20,SNR=2.5						
CFAA	**Coronel Fontan**	**9.49**	**182**	P	**Pn**	**09 01 08.0**	**+0.1**
	0.1nm,0.3s,baz=359,slow=14,SNR=20						
CFAA				S	**Sn**	**09 02 51.6**	**-1.2**
	0.0nm,0.3s,baz=324,slow=17,SNR=2.2						
CFAA	**Coronel Fontan**	**9.49**	**182**	P	**Pn**	**09 01 08.0**	**+0.1**
CFAA				S	**Sn**	**09 02 51.6**	**-1.2**
PLCA	**Paso Flores**	**18.74**	**186**	P	**Pn**	**09 03 07.0**	**+0.1**
	0.1nm,0.3s,baz=360,slow=10,SNR=5.1						
PLCA	**Paso Flores**	**18.74**	**186**	P	**Pn**	**09 03 07.0**	**+0.1**
SWET	**Sewanee**	**59.50**	**343**	*e*P	**P**	**09 08 44.0**	**-3.4**
BNM	**Barren Site**	**66.99**	**326**	*e*P	**P**	**09 09 38.0**	**+1.2**
LPM	**Los Pinos Moun**	**67.11**	**326**	*e*P	**P**	**09 09 37.6**	**0.0**
ANMO	**Albuquerque**	**67.52**	**326**	*e*P	**P**	**09 09 38.4**	**-1.8**
	4.5nm,1.1s,mb4.2						
DBIC	**Dimbokro**	**67.97**	**73**	P	**P**	**09 09 44.6**	**+1.2**
	3.7nm,0.8s,mb4.3,baz=243,slow=6.8,SNR=4.9						
QSPA	**South Pole Qui**	**68.12**	**180**	P	**P**	**09 09 44.5**	**+1.2**
	baz=198,slow=0.5						
ELK	**Elko**	**76.45**	**325**	*e*P	**P**	**09 10 32.1**	**-1.3**
	9.6nm,1.5s,mb4.3						
TORD	**Torodi Ar. Bea**	**76.63**	**70**	P	**P**	**09 10 35.5**	**+0.5**
	1.0nm,0.4s,mb3.9,baz=255,slow=5.5,SNR=16						
HNR	**Honiara**	**123.63**	**241**	*e*PKPdf	PKPdf	09 17 43.2	+1.7
MKAR	**Makanchi Array**	**145.51**	**37**	PKPbc	PKPbc	09 18 18.2	-3.1
	1.1nm,0.9s,baz=298,slow=2.6,SNR=4.0						
GTA	**Gaotai**	**159.77**	**29**	*e*PKP	PKPdf	09 18 45.3	+3.3
CHTO	**Chiang Mai**	**167.21**	**102**	*e*PKPdf	PKPdf	09 18 51.1	+1.5
CD2	**Chengdu**	**168.44**	**39**	PKP	PKPdf	09 18 55.0	+4.9

IDC 16 09:02:04.5±1.4, 976S×15938E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/16, mbtmp4.0/3, Error ellipse: s-maj=61.7km s-min=9.0km az=147.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.65**	**60**	Pg	Pg	09 02 17.3	+0.4
	3μm,0.3s,baz=234,slow=2.2,SNR=15						
HNR				Lg		09 02 25.5	
	20μm,0.3s,baz=252,slow=16,SNR=50						
WRA	**Warramunga Arr**	**26.20**	**244**	P	P	09 07 41.9	+0.8
	3.3nm,0.7s,baz=71,slow=10.0,SNR=4.7						
ASAR	**Alice Springs**	**27.98**	**237**	P	P	09 07 56.3	-0.8
	0.4nm,0.4s,baz=65,slow=10,SNR=4.0						
VNDA	**Vanda**	**67.75**	**179**	P	P	09 13 03.4	-0.1
	1.6nm,0.7s,baz=333,slow=5.0,SNR=5.9						

*ISCJB **16** 09:02:07.8±1.1, 1423S±004×76.14W±005, h35km±9km, mb4.8/54, MS5.5/2, Error ellipse: s-maj=9.8km s-min=4.4km az=143.2*
*MOS **16** 09:02:07.5±0.7, 1415S×76.14W, h33km, mb4.9/9, Error ellipse: s-maj=18.7km s-min=9.1km az=117.5*
*BJI **16** 09:02:09.1, 1430S×7604W, h34km, mB5.0, Ms5.0, Msz5.1*
*NEIC **16** 09:02:09.4±0.3, 1426S×76.19W, h35km, mb5.0/34, ML4.9(LIM), Error ellipse: s-maj=13.0km s-min=6.1km az=59.0*
NEIC Felt [III] at Ica and Pisco.
*IDC **16** 09:02:09.6±2.5, 1422S×7620W, h38km±21km, mb4.4/23, mb1 4.5/28, mb1mx4.4/31, mbtmp4.4/28, ML4.1/3, MS4.2/2, Ms1 4.2/2, ms1mx3.7/30, Error ellipse: s-maj=19.1km s-min=9.9km az=71.0*

ISC 16 09:02:10.6±0.8, 1420S±004×7604W±006, h41km±7km, h42km±4.6km: pP-P, n374, σ0º53/363, mb4.8/54, MS5.5/2, 119C-125D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.33**	**340**	Pn	**Pn**	**09 02 47.0**	**+0.5**
	11μm,0.4s,SNR=7.4						
NNA	**Nana**	**2.33**	**340**	Pn	**Pn**	**09 02 46.1**	**-0.5**
	184nm,0.3s,baz=163,slow=10,SNR=9.5						
NNA				Sn	**Sn**	**09 03 15.7**	**+1.7**
	919nm,0.3s,baz=218,slow=11,SNR=14						
NNA				LR	LR	09 03 58.9	
	comp=Z,4μm,20.2s,baz=197,slow=48						
NNA	**Nana**	**2.33**	**340**	*e*Pn	**Pn**	**09 02 46.8**	**+0.3**
ARE	**Arequipa**	**4.93**	**118**	↑*e*P	**Pn**	**09 03 22.6**	**+0.4**
ARE				*e*S	**Sn**	**09 04 34.0**	**+16**
ATAH	**Atahualpa**	**7.52**	**342**	Pn	**Pn**	**09 03 54.8**	**-3.0**
	0.8nm,0.3s,baz=102,slow=9.3,SNR=2.4						
ATAH				Sn	**Sn**	**09 05 20.5**	**-1.3**
	2.0nm,0.3s,baz=68,slow=22,SNR=1.6						
ATAH				LR	LR	09 06 53.1	
	comp=Z,2μm,20.9s,baz=321,slow=38						
LPAZ	**La Paz**	**7.91**	**106**	Pn	**Pn**	**09 04 08.9**	**+5.7**
	2.9nm,0.3s,baz=298,slow=8.5,SNR=24						
LPAZ				Sn	**Sn**	**09 05 36.5**	**+5.0**
	baz=222,slow=12,SNR=1.8						
LPAZ	**La Paz**	**7.91**	**106**	*e*P	**Pn**	**09 04 08.9**	**+5.7**
LPAZ				pmax	pmax		
	comp=Z,291nm,0.4s						
LPAZ	**La Paz**	**7.91**	**106**	*e*Pn	**Pn**	**09 04 08.9**	**+5.8**
	comp=Z,291nm,0.4s						
LVC	**Limon Verde**	**10.76**	**142**	Pn	**Pn**	**09 04 42.4**	**+0.2**
	comp=Z,3.8nm,0.3s,SNR=23						
LVC				Sn	**Sn**	**09 06 42.2**	**+1.0**
	comp=Z,3.3nm,0.3s,baz=176,slow=0.0,SNR=2.7						
LVC	**Limon Verde**	**10.76**	**142**	*e*Pn	**Pn**	**09 04 42.8**	**+0.6**
LVC				*e*Sn	**Sn**	**09 06 42.2**	**+0.9**
OTAV	**Otavalo**	**14.54**	**350**	*e*P	**Pn**	**09 05 38.9**	**+5.0**
	comp=Z,18nm,0.8s						
SIV	**San Ignacio**	**14.56**	**99**	Pn	**Pn**	**09 05 34.5**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=262,slow=11,SNR=5.0						
SIV				Sn	**Sn**	**09 08 18.4**	**+4.1**
	comp=Z,0.3nm,0.3s,baz=350,slow=16,SNR=3.3						
LCO	**Las Campanas**	**15.55**	**162**	*e*Pn	**Pn**	**09 05 46.8**	**-0.2**
	comp=Z,40nm,1.0s						
CFAA	**Coronel Fontan**	**18.74**	**159**	P	**Pn**	**09 06 25.3**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=333,slow=12,SNR=21						
CPUP	**Villa Florida**	**21.27**	**127**	P	**P**	**09 06 54.1**	**+0.5**
	comp=Z,24nm,0.9s,mb4.5,baz=292,slow=11,SNR=29						
CPUP	**Villa Florida**	**21.27**	**127**	*e*P	**P**	**09 06 54.4**	**+0.8**
CPUP				pmax	pmax		
	comp=Z,128nm,1.1s						
CPUP	**Villa Florida**	**21.27**	**127**	*e*P	**P**	**09 06 54.4**	**+0.9**
	comp=Z,128nm,1.1s,mb5.2						
BCIP	**Isla Barro Col**	**23.52**	**351**	*e*P	**P**	**09 07 16.5**	**-0.7**
	comp=Z,47nm,1.1s,mb4.8						
SDV	**Santo Domingo**	**23.55**	**13**	P	**P**	**09 07 17.7**	**+0.1**
	comp=Z,17nm,0.7s,mb4.6,baz=270,slow=7.5,SNR=17						
SDV	**Santo Domingo**	**23.55**	**13**	*e*P	**P**	**09 07 18.1**	**+0.5**
	comp=Z,34nm,0.9s,mb4.8						
PCRV	**Puerto La Cruz**	**26.73**	**26**	P	**P**	**09 07 45.1**	**-1.4**
	comp=Z,6.2nm,0.7s,mb4.2,baz=23,slow=14,SNR=2.3						
TRQA	**Tornquist**	**26.84**	**155**	*e*P	**P**	**09 07 46.7**	**-0.5**
	comp=Z,155nm,2.4s,mb5.1						
PLCA	**Paso Flores**	**26.86**	**171**	P	**P**	**09 07 46.2**	**-1.3**
	comp=Z,8.9nm,1.1s,mb4.2,baz=346,slow=12,SNR=7.5						
PLCA	**Paso Flores**	**26.86**	**171**	P	**P**	**09 07 46.2**	**-1.3**
BDFB	**Brasilia**	**27.11**	**97**	P	**P**	**09 07 50.8**	**+0.9**
	comp=Z,6.2nm,0.7s,mb4.2,baz=271,slow=18,SNR=8.8						
SJG	**San Juan**	**33.55**	**17**	P	**P**	**09 08 46.6**	**-0.2**
	comp=Z,8.5nm,0.3s,mb5.2,baz=328,slow=21,SNR=4.6						
CMIG	**Matias Romero**	**36.23**	**328**	P	**P**	**09 09 09.5**	**-0.4**
	comp=Z,2.4nm,0.7s,mb4.2,baz=128,slow=11,SNR=3.8						
CMIG	**Matias Romero**	**36.23**	**328**	P	**P**	**09 09 09.5**	**-0.4**
TEIG	**Tepich**	**36.27**	**340**	*e*P	**P**	**09 09 10.6**	**+0.4**
USHA	**Ushuaia**	**40.97**	**173**	P	**P**	**09 09 47.7**	**-1.6**
	comp=Z,15nm,0.9s,mb4.6,baz=276,slow=5.5,SNR=4.0						
GOGA	**Godfrey**	**47.87**	**352**	*e*P	**P**	**09 10 43.4**	**-1.2**
GOGA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
GOGA	**Godfrey**	**47.87**	**352**	*e*P	**P**	**09 10 43.4**	**-1.2**
	comp=Z,5.1nm,0.9s,mb4.5						
SWET	**Sewanee**	**50.03**	**349**	*e*P	**P**	**09 10 59.7**	**-1.4**
	comp=Z,33nm,1.2s,mb5.2						
TKL	**Tuckaleechee C**	**50.12**	**352**	P	**P**	**09 11 00.1**	**-1.8**
	comp=Z,5.8nm,0.9s,mb4.6,baz=160,slow=9.5,SNR=5.7						
PLAL	**Pickwick Lake**	**50.23**	**347**	*e*P	**P**	**09 11 00.8**	**-1.8**
	comp=Z,15nm,1.2s,mb4.9						
TZTN	**Tazewell**	**50.96**	**352**	*e*P	**P**	**09 11 07.0**	**-1.2**
	comp=Z,30nm,1.8s,mb4.9						
PMSA	**Palmer Station**	**51.19**	**173**	P	**P**	**09 11 08.8**	**-0.7**
	comp=Z,10nm,0.8s,mb4.8,baz=356,slow=5.2,SNR=6.8						
MIAR	**Mount Ida**	**51.26**	**341**	*e*P	**P**	**09 11 09.9**	**-0.5**
BLA	**Blacksburg**	**51.30**	**356**	*e*P	**P**	**09 11 10.2**	**-0.5**
BLA				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
BLA	**Blacksburg**	**51.30**	**356**	*e*P	**P**	**09 11 10.2**	**-0.5**
	comp=Z,15nm,1.0s,mb4.9						
ELN	**Prospectdale**	**51.34**	**355**	*e*P	**P**	**09 11 10.5**	**-0.5**
URVA	**University of**	**51.51**	**358**	*e*P	**P**	**09 11 11.8**	**-0.4**
WCI	**Wyandotte Cave**	**53.03**	**350**	*e*P	**P**	**09 11 21.9**	**-1.6**
SIUC	**Southern Illin**	**53.10**	**347**	*e*P	**P**	**09 11 22.6**	**-1.4**
	comp=Z,25nm,1.0s,mb5.1						
OLIL	**Olney**	**53.85**	**348**	*e*P	**P**	**09 11 28.0**	**-1.5**
	comp=Z,11nm,0.5s,mb5.0						
ACSO	**Alum Creek Sta**	**54.53**	**353**	*e*P	**P**	**09 11 32.9**	**-1.6**
	comp=Z,19nm,1.2s,mb5.0						
319A	**Douglas**	**55.42**	**325**	⇑P	**P**	**09 11 40.9**	**-0.1**
	baz=56,SNR=8.0						
318A	**Bisbee**	**55.87**	**325**	⇑P	**P**	**09 11 44.0**	**-0.3**
	baz=56,SNR=12						
219A	**White Tail Can**	**55.89**	**326**	⇓P	**P**	**09 11 44.2**	**-0.2**
	baz=56						
BINY	**Binghamton**	**56.12**	**0**	*e*P	**P**	**09 11 46.0**	**+0.2**
	comp=Z,46nm,1.6s,mb5.3						
218A	**Dragoon**	**56.30**	**325**	⇑P	**P**	**09 11 47.1**	**-0.3**
	baz=56						
LAZ	**Ladron**	**56.66**	**329**	*e*P	**P**	**09 11 50.2**	**+0.4**
118A	**Homack Ranch,**	**56.76**	**326**	⇑P	**P**	**09 11 50.6**	**-0.1**
	baz=57,SNR=5.8						
ANMO	**Albuquerque**	**56.77**	**330**	*e*P	**P**	**09 11 50.5**	**-0.2**
	comp=Z,8.1nm,1.2s,mb4.6						
Z19A	**T-Link Ranch,**	**56.88**	**327**	⇓P	**P**	**09 11 51.4**	**0.0**
	baz=57						
TUC	**Tucson**	**56.96**	**325**	*e*P	**P**	**09 11 51.5**	**-0.6**
TUC				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
TUC	**Tucson**	**56.96**	**325**	*e*P	**P**	**09 11 51.5**	**-0.6**
	comp=Z,7.1nm,1.4s,mb4.5						
216A	**Three Points,**	**57.11**	**324**	⇑P	**P**	**09 11 52.8**	**-0.3**
	baz=57,SNR=5.7						
117A	**Oracle**	**57.14**	**325**	⇓P	**P**	**09 11 53.0**	**-0.2**
	baz=57,SNR=10						
ACCN	**Adirondack Com**	**57.34**	**2**	*

baz=61
U14A Mt Trumbull 61.35 326 ⇓P P 09 12 22.6 +0.3
baz=61
V13A Grand Canyon W 61.37 325 ⇓P P 09 12 22.6 +0.1
baz=61
S16A Weppner Ranch, 61.50 328 ⇓P P 09 12 23.4 0.0
baz=62
GMRC Granite Mounta 61.54 323 ⇓P P 09 12 24.0 +0.3
baz=62
R17A Hanksville Air 61.59 329 ⇓P P 09 12 23.4 -0.5
baz=62
MURC Murrieta 61.63 321 ⇑P P 09 12 24.2 -0.1
baz=62
V12A Nelson 61.76 325 ⇑P P 09 12 25.0 -0.2
baz=62
T14A Hurricane 61.77 327 ⇓P P 09 12 25.5 +0.3
baz=62
Q18A Rafter H Ranch 61.85 330 ⇑P P 09 12 25.9 +0.3
baz=62
BBRC Big Bear Sol-O 61.92 322 ⇓P P 09 12 26.7 +0.4
baz=62
SRU San Rafael 62.04 330 ⇓P P 09 12 27.0 0.0
baz=62
SRU San Rafael 62.04 330 eP P 09 12 27.3 +0.4
V11A Goodsprings 62.16 324 ⇓P P 09 12 27.7 -0.2
baz=62
Q16A Castle Valley 62.21 330 ⇑P P 09 12 28.5 +0.5
baz=62
R15A Junction 62.22 328 ⇓P P 09 12 28.2 0.0
baz=62
BFSC Mount Baldy St 62.34 322 ⇑P P 09 12 29.2 +0.1
baz=62
P17A Butcher Ranch, 62.43 330 ⇓P P 09 12 29.6 0.0
baz=62
S13A Holt Ranch, En 62.57 327 ⇑P P 09 12 30.7 +0.2
baz=63,SNR=5.4
GSC Goldstone 62.58 323 ⇑P P 09 12 30.6 0.0
baz=63
RWWY Rawlins 62.61 334 epP pP 09 12 44.8 +2.1
O18A Roosevelt 62.71 331 ⇓P P 09 12 31.7 +0.3
baz=63
Q15A Fillmore 62.87 329 ⇑P P 09 12 32.6 +0.1
baz=63
EDW2 Edwards Air Fo 62.98 322 ⇓P P 09 12 32.9 -0.4
baz=63
T11A Corn Creek, Al 63.06 326 ⇓P P 09 12 33.9 +0.2
baz=63
R13A O'Grain Ranch, 63.08 327 ⇓P P 09 12 34.6 +0.7
baz=63
U10A Ash Meadows, A 63.09 324 ⇓P P 09 12 34.2 +0.2
baz=63
N18A Larsen Ranch, 63.12 332 ⇑P P 09 12 34.4 +0.4
baz=63
Q14A Sevier Lake (B 63.32 328 ⇑P P 09 12 35.9 +0.4
baz=63
O16A Springville 63.37 330 ⇓P P 09 12 36.4 +0.6
baz=63
TPNV Topopah Spring 63.42 325 ⇓P P 09 12 36.5 +0.4
baz=64
FURC Furnace Creek, 63.43 324 ⇓P P 09 12 36.4 +0.2
baz=64
MPMC Manual Prospec 63.50 323 ⇓P P 09 12 36.7 -0.1
baz=64
R12A Pony Springs, 63.52 327 ⇑P P 09 12 37.4 +0.6
baz=64
N17A Moffit Pass 63.63 331 ⇓P P 09 12 37.7 +0.2
baz=64,SNR=6.7
S11A Rachel 63.64 326 ⇓P P 09 12 38.2 +0.5
baz=64
JLU Jordanelle 63.65 331 eP P 09 12 38.1 +0.4
P14A Drum Mountains 63.67 329 ⇑P P 09 12 38.5 +0.7
baz=64
Q13A Wheeler Ranch, 63.68 328 ⇑P P 09 12 38.6 +0.8
baz=64
ISA Isabella 63.81 322 ⇓P P 09 12 39.1 +0.4
baz=64
N16A Rees Ranch, Co 63.87 331 ⇓P P 09 12 39.6 +0.6
baz=64
O15A The Old Anders 63.90 330 ⇓P P 09 12 39.8 +0.5
baz=64
DUG Dugway 64.00 329 eP P 09 12 39.9 0.0
DUG pmax pmax
comp=Z,15nm,1.2s,mb4.9
DUG Dugway 64.00 329 ⇑P P 09 12 40.4 +0.5
baz=64
DUG Dugway 64.00 329 eP P 09 12 39.9 0.0
comp=Z,15nm,1.2s,mb4.9
P13A Bates Ranch, G 64.05 328 ⇓P P 09 12 40.9 +0.7
baz=64
R11A Troy Canyon, C 64.06 326 ⇓P P 09 12 40.5 +0.1
baz=64
GRAC Grapevine Rang 64.09 324 ⇓P P 09 12 40.9 +0.3
baz=64
PKM Peak Mountain 64.10 321 ⇓P P 09 12 40.7 0.0
baz=64
CWC Cottonwood Cre 64.11 323 ⇓P P 09 12 41.0 +0.3
baz=64
Q12A Willow Creek R 64.16 327 ⇓P P 09 12 41.5 +0.5
baz=64
VES Vestal, Richgr 64.29 322 ⇓P P 09 12 41.9 0.0
baz=64
M16A Huntsville 64.29 331 ⇓P P 09 12 41.8 -0.1
baz=64
S10A Tonopah Range, 64.31 325 ⇑P P 09 12 42.2 +0.2
baz=64
R10A Warm Springs 64.41 326 ⇑P P 09 12 43.1 +0.4
baz=64
Q11A Duckwater 64.46 327 ⇑P P 09 12 43.5 +0.5
baz=64
SMMC Simmler 64.49 321 ⇑P P 09 12 43.4 +0.2
baz=64
HWUT Hardware Ranch 64.49 331 eP P 09 12 42.7 -0.4
comp=Z,18nm,1.3s,mb4.9
PDAR Pinedale Array 64.50 333 P P 09 12 42.1 -1.1
comp=Z,1.3nm,0.9s,mb4.0,baz=122,slow=9.7,SNR=3.8
S09A Goldfield 64.52 325 ⇑P P 09 12 43.4 0.0
baz=65
AGMN Agassiz Refuge 64.67 345 eP P 09 12 43.2 -0.9
comp=Z,11nm,0.8s,mb5.0
N14A Grayback Hills 64.69 330 ⇑P P 09 12 44.0 -0.4
baz=65
M15A Larsen Ranch, 64.80 330 ⇓P P 09 12 44.5 -0.6
baz=65
R09A Tonopah 64.80 325 ⇑P P 09 12 45.0 -0.2
baz=65
HELL Mitchell Peak 64.83 323 ⇑P P 09 12 45.1 -0.3
baz=65,SNR=5.2
Q10A Clear Creek Ra 64.85 326 ⇓P P 09 12 46.0 +0.5
baz=65
S08C White Mtn Res 64.89 324 ⇑P P 09 12 45.7 -0.2
baz=65
MTUM Tungsten Hills 65.02 324 eP P 09 12 46.8 +0.1
O12A Currie 65.03 328 ⇑P P 09 12 47.1 +0.4
baz=65
L15A Malad City 65.18 331 ⇑P P 09 12 47.5 -0.2
baz=65
HVU Hansel Valley 65.20 330 eP P 09 12 47.8 +0.1
M14A Sheep Mountain 65.26 330 ⇓P P 09 12 47.9 -0.2
baz=65,SNR=6.1
Q09A Carvers 65.28 326 ⇑P P 09 12 48.3 -0.1
baz=65
MLAC Mammoth Lakes 65.37 324 ⇑P P 09 12 49.1 +0.2
baz=65
O11A Cowboy Ranch, 65.40 327 ⇑P P 09 12 49.2 +0.2
baz=66
KCC Kaiser Creek 65.44 323 ⇓P P 09 12 49.2 -0.2
baz=66
P10A Eureka 65.45 327 ⇑P P 09 12 49.9 +0.5
baz=66
K16A Soda Springs 65.46 332 ⇓P P 09 12 49.5 +0.1
baz=66
L14A Malta 65.61 330 ⇑P P 09 12 50.3 -0.1
baz=66
NVAR Mina Array Bea 65.62 325 P P 09 12 50.9 +0.3
comp=Z,1.9nm,0.7s,mb4.2,baz=148,slow=7.3,SNR=8.8
U04C Hernandez Rese 65.66 321 ⇓P P 09 12 50.9 +0.1
baz=66
Q08A Gabbs 65.71 325 ⇑P P 09 12 51.3 +0.2
baz=66
V03C Hunter Liggett 65.71 321 ⇓P P 09 12 51.3 +0.1
baz=66
RRI2 Red Ridge 65.74 332 eP P 09 12 51.3 +0.1
comp=Z,15nm,1.0s,mb5.0
K15A Arbon 65.78 331 ⇑P P 09 12 51.2 -0.3
baz=66
R07C Lee Vining 65.80 324 ⇓P P 09 12 51.7 0.0
baz=66
J16A Bone 65.82 332 ⇓P P 09 12 51.8 +0.2
baz=66
O10A Cortez Mining, 65.96 327 ⇓P P 09 12 52.9 +0.3
baz=66
M12A Wells 65.97 329 ⇑P P 09 12 52.3 -0.4
baz=66
K14A Jones Ranch, D 65.97 331 ⇑P P 09 12 52.3 -0.4
baz=66
L13A Double Diamond 66.00 330 ⇑P P 09 12 53.3 +0.4
baz=66
FLWY Flagg Ranch 66.05 333 eP P 09 12 53.5 +0.3
comp=Z,17nm,0.9s,mb5.1
S06C San Francisco 66.12 323 ⇓P P 09 12 53.7 0.0
baz=66,SNR=7.1
N10A Dunphy 66.27 327 ⇓P P 09 12 55.0 +0.3
baz=66
R06C Coleville 66.33 324 ⇑P P 09 12 55.3 +0.2
baz=66
PACP Pacheco Peak 66.39 322 ⇓P P 09 12 55.8 +0.2
baz=66
M11A Holland Ranch, 66.42 328 ⇑P P 09 12 56.0 +0.3
baz=66
ULM Lac du Bonnet 66.50 346 P P 09 12 54.3 -1.6
comp=Z,6.3nm,0.9s,mb4.7,baz=194,slow=5.1,SNR=4.3
CMB Columbia Colle 66.54 323 ⇓P P 09 12 56.9 +0.4
baz=67
L12A House Creek Ra 66.56 329 ⇑P P 09 12 56.9 +0.4
baz=67
R05C Kirkwood Meado 66.81 324 ⇑P P 09 12 58.3 +0.1
baz=67,SNR=5.1
O08A Rochester Mine 66.84 326 ⇑P P 09 12 58.9 +0.6
baz=67
K12A Draper Farm, C 66.87 330 ⇓P P 09 12 58.5 0.0
baz=67,SNR=6.8
L11A Cat Creek Ranc 66.95 329 ⇑P P 09 12 59.3 +0.4
baz=67
BNLO Ben Lomond (Sa 67.01 321 ⇓P P 09 12 59.6 +0.1
baz=67
WCN Washoe City 67.04 324 ⇑P P 09 12 60.0 +0.4
baz=67
J13A Cove Ranch, Pi 67.10 331 ⇑P P 09 12 60.0 +0.1
baz=67
PAHR Pah Rah Range 67.11 325 eP P 09 13 00.8 +0.7
comp=Z,15nm,1.1s,mb4.9
O07A Toulon 67.14 326 ⇓P P 09 13 00.2 0.0
baz=67
L10A Juniper Basin 67.24 328 ⇑P P 09 13 00.9 +0.1
baz=67,SNR=6.2
M09A Marrel Ranch, 67.27 327 ⇓P P 09 13 01.2 +0.2
baz=67
HLID Hailey 67.34 331 ⇑P P 09 13 01.6 +0.2
baz=67
J12A Stokes Ranch, 67.43 330 ⇓P P 09 13 02.8 +0.8
baz=68
I13A Wildhorse Cree 67.46 331 ⇓P P 09 13 02.3 +0.1
baz=68
P05C Yuba Gap, Truc 67.52 324 ⇑P P 09 13 03.0 +0.4
baz=68
K11A Parker Ranch, 67.53 329 ⇑P P 09 13 03.0 +0.4
baz=68
Q04C Lincoln 67.66 323 ⇑P P 09 13 03.7 +0.2
baz=68
G15A Dillon 67.69 333 ⇓P P 09 13 03.8 +0.2
baz=68
BOZ Bozeman (W) 67.70 334 eP P 09 13 02.8 -0.8
BOZ pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
BOZ Bozeman (W) 67.70 334 ⇑P P 09 13 03.5 -0.1
baz=68
BOZ Bozeman (W) 67.70 334 eP P 09 13 02.8 -0.8
comp=Z,4.7nm,1.2s,mb4.4
BEKR Beckwourth 67.76 324 ⇑P P 09 13 04.1 -0.1
baz=68
L09A Wilkinson Ranc 67.81 328 ⇓P P 09 13 04.5 +0.1
baz=68,SNR=6.0
MFID Camas Ranch 67.91 330 ⇑P P 09 13 05.4 +0.4
baz=68,SNR=8.3
K10A MacKenzie Ranc 67.95 329 ⇑P P 09 13 05.4 +0.1
baz=68,SNR=7.4
H13A Challis 68.02 332 ⇓P P 09 13 05.7 0.0
baz=68
N06A Buffalo Meadow 68.08 325 ⇑P P 09 13 06.2 +0.1
baz=68,SNR=7.9
O05C Quincy 68.14 324 ⇑P P 09 13 06.8 +0.3
baz=68
M07A Soldier Meadow 68.16 326 ⇑P P 09 13 06.8 +0.1
baz=68
ORV Oroville 68.20 324 ⇑P P 09 13 06.9 0.0
baz=68
L08A Fields 68.29 327 ⇓P P 09 13 07.4 -0.1
baz=68
H12A Diamond D Ranc 68.29 331 ⇓P P 09 13 07.6 +0.2
baz=68
K09A Rome 68.33 328 ⇓P P 09 13 07.8 +0.1
baz=68,SNR=8.4
I11A Placerville 68.34 330 ⇑P P 09 13 08.0 +0.3
baz=68,SNR=6.1
G13A Cobalt 68.42 332 ⇓P P 09 13 08.2 0.0
baz=68
O04C Chester 68.48 324 ⇓P P 09 13 08.7 0.0
baz=68
J09A Fry Pan Ranch, 68.81 329 ⇓P P 09 13 10.9 +0.3
baz=69
H11A Donnelly 68.95 331 ⇓P P 09 13 11.0 -0.5
baz=69
GASB Alder Springs 68.97 323 ⇑P P 09 13 12.2 +0.5
baz=69
F13A Darby 68.99 332 ⇓P P 09 13 11.5 -0.2
baz=69,SNR=6.4
E14A Clinton 69.11 333 ⇑P P 09 13 12.6 +0.2
baz=69
K07A Rock Creek Ran 69.11 327 ⇓P P 09 13 12.2 -0.3
baz=69
MOD Modoc 69.13 326 ⇑P P 09 13 12.4 -0.2
baz=69
MOD Modoc 69.13 326 eP P 09 13 12.8 +0.2
J08A Circle Bar Ran 69.19 328 ⇓P P 09 13 13.0 0.0
baz=69
SCHQ Schefferville 69.20 6 P P 09 13 11.3 -1.5
comp=Z,5.6nm,0.9s,mb4.5,baz=207,slow=4.5,SNR=3.3
M05C Lookout 69.22 325 ⇑P P 09 13 13.4 +0.2
baz=69,SNR=6.6
P01C Double 8 Ranch 69.22 323 ⇑P P 09 13 13.5 +0.2
baz=69
O02C Red Bluff 69.36 323 ⇑P P 09 13 13.4 -0.7
baz=69
VNA1 Neumayer--Stat 69.39 161 eP P 09 13 14.4 +0.5
VNA1 e 09 13 17.0
VNA1 e pP 09 13 24.6 -1.4
F12A Elk City 69.39 332 ⇑P P 09 13 14.2 0.0
baz=70
E13A Victor 69.43 333 ⇓P P 09 13 14.9 +0.5
baz=70,SNR=5.8
L05A Lakeview 69.51 326 ⇑P P 09 13 15.0 0.0
baz=70
G11A Walters Elk Ra 69.59 331 ⇑P P 09 13 15.1 -0.4
baz=70
MSO Missoula 69.62 333 eP P 09 13 16.0 +0.4
J07A Hines 69.63 328 ⇓P P 09 13 15.8 +0.1
baz=70
I08A Drewsey 69.63 329 ⇓P P 09 13 16.0 +0.3
baz=70
M03C McCloud 69.70 325 ⇑P P 09 13 15.8 -0.4
baz=70
K06A Valley Falls 69.72 327 ⇓P P 09 13 16.5 +0.2
baz=70,SNR=14
M04C Macdoel 69.89 325 ⇑P P 09 13 17.3 0.0
baz=70
F11A Grangeville 69.90 331 ⇓P P 09 13 17.1 -0.2
baz=70,SNR=12
G10A Bishop Farm, J 69.92 330 ⇓P P 09 13 17.3 -0.1
baz=70,SNR=7.8
J06A Christmas Vall 69.98 327 ⇑P P 09 13 17.8 -0.1
baz=70,SNR=11
D13A Huson 70.05 333 ⇑P P 09 13 18.5 +0.2
baz=70
N02C Big Bar 70.08 324 ⇑P P 09 13 18.1 -0.5
baz=70,SNR=15
H08A Fairie City 70.12 329 ⇑P P 09 13 18.8 +0.2
baz=70,SNR=12
L04A Klamath Falls 70.18 325 ⇓P P 09 13 19.0 -0.1
baz=70
M02C Callahan 70.19 324 ⇓P P 09 13 18.4 -0.8
baz=70
G09A Cove 70.22 330 ⇓P P 09 13 19.2 -0.2
baz=70,SNR=8.8
I07A Izee 70.23 328 ⇓P P 09 13 19.5 +0.1
baz=70,SNR=6.1
C14A Swan Lake 70.27 334 ⇑P P 09 13 19.7 +0.1
baz=70
E11A Bogner Ranch, 70.28 332 ⇓P P 09 13 19.0 -0.6
baz=70
YBH Yreka Blue Hor 70.34 325 ⇓P P 09 13 18.9 -1.2
baz=70
YBH Yreka Blue Hor 70.34 325 eP P 09 13 18.9 -1.2
KHMM Horse Mountain 70.36 323 eP P 09 13 20.8 +0.6
D12A Red Ives Fores 70.41 333 ⇑P P 09 13 20.4 0.0
baz=70
F10A Beach Ranch, E 70.47 331 ⇓P P 09 13 21.1 +0.2
baz=70
I06A Prineville 70.49 328 ⇓P P 09 13 21.2 +0.2
baz=70
JCC Jacoby Creek 70.49 323 ⇓P P 09 13 20.7 -0.4
baz=70
C13A Hot Springs 70.55 333 ⇑P P 09 13 21.6 +0.4
baz=71,SNR=7.0
J05A Fort Rock 70.58 327 ⇑P P 09 13 21.6 0.0
baz=71
F09A S2 Ranch, Elgi 70.60 330 ⇓P P 09 13 21.5 -0.2
baz=71,SNR=5.6
E10A Myers Farm, Un 70.79 331 ⇑P P 09 13 22.8 0.0
baz=71
G08A Pilot Rock 70.81 329 ⇑P P 09 13 23.1 +0.2
baz=71
D11A Klaveano Farm, 70.85 332 ⇑P P 09 13 23.1 -0.1
baz=71
J04A Umpqua Nationa 71.02 326 ⇓P P 09 13 24.5 +0.3
baz=71
H06A Lindquist Farm 71.11 328 ⇑P P 09 13 25.0 +0.3
baz=71,SNR=6.1
L02A Cave Junction 71.12 325 ⇓P P 09 13 24.7 -0.2
baz=71
G07A Ruggs Ranch, H 71.15 329 ⇓P P 09 13 25.6 +0.7
baz=71
I05A Bend 71.19 327 ⇑P P 09 13 25.7 +0.5
baz=71
D10A Wagner Farm, O 71.29 332 ⇑P P 09 13 25.1 -0.7
baz=71
SNAA Sanae 71.34 161 eP P 09 13 25.8 0.0
SNAA e 09 13 28.1
SNAA e pP 09 13 38.0 0.0
SNAA Sanae 71.34 161 P P 09 13 25.9 +0.1
comp=Z,5.3nm,0.8s,mb4.5,baz=284,slow=5.1,SNR=41
SNAA Sanae 71.34 161 eP P 09 13 25.8 0.0
A13A Flathead Natio 71.45 334 ⇑P P 09 13 26.6 -0.1
baz=72
K02A Glendale 71.45 325 ⇑P P 09 13 26.7 -0.1
baz=72
I04A Tendick Farm, 71.55 326 ⇓P P 09 13 26.6 -0.8
baz=72
B12A Libby 71.59 333 ⇓P P 09 13 27.9 +0.4
baz=72
HAWA Hanford 71.88 330 eP P 09 13 29.7 +0.3
comp=Z,3.7nm,0.8s,mb4.4
J02A Umpqua 71.90 326 ⇑P P 09 13 29.4 -0.1
baz=72
B11A Sandpoint 71.91 333 ⇓P P 09 13 29.6 +0.1
baz=72
A12A Yaak River Ran 71.97 334 ⇑P P 09 13 30.5 +0.6
baz=72,SNR=7.1
H04A Detroit Lake 72.03 327 ⇑P P 09 13 29.7 -0.5
baz=72
F06A Goldendale 72.05 329 ⇓P P 09 13 30.4 0.0
baz=72
NEW Newport 72.11 333 eP P 09 13 30.2 -0.5
I03A Eugene 72.14 326 ⇓P P 09 13 31.2 +0.3
baz=72
OD2 Odessa Site #2 72.20 331 eP P 09 13 31.4 +0.2
C09A Chrisman Ranch 72.30 332 ⇓P P 09 13 32.3 +0.5
baz=72
A11A Hall Mountain, 72.30 333 ⇓P P 09 13 32.3 +0.5
baz=72
COR Corvallis 72.56 327 eP P 09 13 33.4 0.0
H03A Soap Creek Ran 72.61 327 ⇓P P 09 13 33.9 +0.2
baz=73
C08A Higginbotham F 72.64 331 ⇑P P 09 13 34.1 +0.3
baz=73
D07A Quincy 72.66 330 ⇑P P 09 13 34.2 +0.2
baz=73
B09A Rice 72.69 332 ⇑P P 09 13 34.1 -0.1
baz=73
E06A Yakima 72.69 329 ⇓P P 09 13 34.8 +0.6
baz=73
F04A Amboy 73.00 328 ⇓P P 09 13 35.9 -0.1
baz=73
C07A Waterville 73.06 331 ⇓P P 09 13 36.6 +0.2
baz=73
D06A Cle Elum 73.08 330 ⇓P P 09 13 37.2 +0.7
baz=73
B08A Colville Reser 73.19 331 ⇓P P 09 13 36.9 -0.2
baz=73
LIC Lamto 73.29 79 eP P 09 13 30.9 -7.6
comp=Z,57nm,1.2s,mb5.1
LIC Lamto 73.29 79 eP P 09 13 30.9 -7.6
comp=Z,28nm,1.2s,mb5.1
A09A Danville 73.30 332 ⇑P P 09 13 38.0 +0.3
baz=73
DBIC Dimbokro 73.58 79 P P 09 13 41.2 +1.0
comp=Z,11nm,0.9s,mb4.8,baz=248,slow=4.9,SNR=9.3
A08A Turner Farm, O 73.59 332 ⇓P P 09 13 39.5 +0.1
baz=74,SNR=5.5
D05A Enumclaw 73.64 329 ⇑P P 09 13 39.6 -0.2
baz=74
A07A Ashnola River, 74.17 331 ⇓P P 09 13 43.2 +0.4
baz=74,SNR=6.1
B06A Marblemount 74.32 331 ⇑P P 09 13 43.3 -0.4
baz=74
EDM Edmonton 74.39 338 eP P 09 13 43.1 -0.9
B05A Bryant 74.43 330 ⇑P P 09 13 44.2 -0.2
baz=74
NLWA Neilton Lookou 74.72 329 ⇑P P 09 13 46.6 +0.5
baz=75
NLWA Neilton Lookou 74.72 329 eP P 09 13 46.8 +0.7
comp=Z,14nm,1.0s,mb4.8
A05A Maple Falls 74.94 331 ⇑P P 09 13 47.9 +0.6
baz=75
C03A Quillayute Air 75.44 329 ⇑P P 09 13 51.1 +0.9
baz=76
TOA0 Torodi Ar. Sit 81.63 74 eP P 09 14 26.0 +1.0
TORD Torodi Ar. Bea 81.63 74 P P 09 14 25.9 +0.9
comp=Z,41nm,0.8s,mb5.4,baz=289,slow=4.3,SNR=62
YKA Yellowknife Ar 82.17 343 P P 09 14 25.4 -1.4
comp=Z,2.3nm,0.9s,mb4.1,baz=140,slow=5.2,SNR=12
YKA Yellowknife Ar 82.17 343 P P 09 14 25.4 -1.4
EVO Evora 82.33 47 eP P 09 14 18.7 -10
MDT Midelt 82.61 54 P P 09 14 30.1 +0.2
comp=Z,4.7nm,0.9s,mb4.5,baz=187,slow=1.2,SNR=7.5
VNDA Vanda 82.77 191 P P 09 14 29.1 -0.8
comp=Z,2.7nm,1.1s,mb4.2,baz=212,slow=1.0,SNR=4.0
CRAG Craig 84.28 331 eP P 09 14 38.3 +0.4
SYO Syowa Base 85.63 161 ⇓eP P 09 14 42.6 -1.9
ESDC Sonseca Array 85.68 47 P P 09 14 44.5 -0.7
comp=Z,0.3nm,0.3s,mb4.0,baz=253,slow=5.8,SNR=5.4
TSUM Tsumeb 88.75 109 P P 09 15 01.1 +0.5
comp=Z,7.5nm,0.9s,mb5.0,baz=226,slow=5.9,SNR=6.0
SJPF Ste Jean 88.85 45 eP P 09 14 53.6 -6.9
SJPF Ste Jean 88.85 45 eP P 09 14 53.6 -6.9
ETSF Etsaut 89.24 45 eP P 09 14 55.3 -7.0
comp=Z,124nm,1.8s,mb5.6
ETSF Etsaut 89.24 45 eP P 09 14 55.3 -7.0
comp=Z,62nm,1.8s,mb5.6
MAW Mawson 93.15 165 P P 09 15 19.6 -0.5
comp=Z,6.3nm,1.0s,mb5.0,baz=225,slow=6.2,SNR=8.0
SSF Saint Saulge 93.30 42 eP P 09 15 14.1 -7.0
SMF Signal de Mont 93.40 43 eP P 09 15 15.8 -5.8
comp=Z,22nm,1.1s,mb5.2
SMF Signal de Mont 93.40 43 eP P 09 15 15.8 -5.8
SMF pmax pmax
comp=Z,11nm,1.1s,mb5.2
SMF Signal de Mont 93.40 43 eP P 09 15 15.8 -5.8
comp=Z,11nm,1.1s,mb5.2
GERES GERESS Array B 100.38 42 P Pdif 09 15 52.8 -0.2
comp=Z,0.2nm,0.2s,baz=204,slow=5.7,SNR=4.8
ASAR Alice Springs 132.32 218 PKP PKPdf 09 21 20.2 -0.9
comp=Z,3.0nm,1.1s,baz=148,slow=4.6,SNR=6.2
WB2 Warramunga Arr 134.78 222 eP PKPdf 09 21 21.3 -4.6
WRA Warramunga Arr 134.79 222 PKP PKPdf 09 21 25.4 -0.4
comp=Z,2.6nm,0.8s,baz=137,slow=1.5,SNR=8.2
ZALV Zalesovo Beam 137.58 17 PKP PKPdf 09 21 28.8 -1.2
comp=Z,5.1nm,0.8s,baz=204,slow=3.3,SNR=11
ZAL Zalesovo 137.58 17 PKIKP PKPdf 09 21 28.8 -1.2
MKAR Makanchi Array 142.79 25 PKP PKPdf 09 21 36.8 -2.8
comp=Z,1.6nm,1.1s,baz=347,slow=2.7,SNR=4.6
ZAK Zakamensk 143.91 1 ⇑/PKIKP PKPdf 09 21 39.2 -2.3
ZAK pmax pmax
comp=Z,6.0nm,1.5s

SONM Songino Array 146.41 357 PKPbc PKPbc 09 21 47.2 0.0
comp=Z,13nm,0.8s,baz=324,slow=1.6,SNR=40
WMQ Urumqi 147.36 22 PKP PKPdf 09 21 47.8 +0.2
KSRS Korea Array 148.53 322 PKPbc PKPbc 09 21 50.2 -3.1
comp=Z,8.0nm,1.0s,baz=42,slow=2.0,SNR=20
HHC Hu-ho-hao-te 152.63 347 *e*PKP PKPdf 09 21 55.6 -0.4
HHC APKP 09 22 04.9
HHC PKS 09 25 28.3
HHC PP PP 09 25 48.4 +3.2
HHC SKS SKSdf 09 28 57.5 -2.6
HHC SKKS SKKSac 09 32 29.3 -4.1
HHC SS SS 09 45 10.3 -2.0
HHC PP PP
comp=Z,9μm,15.5s
HHC LR LR
comp=Z,3μm,23.8s,MS6.0
GTA Gaotai 154.62 8 *e*PKP PKPdf 09 22 00.3 +1.4
GTA APKP 09 22 11.0
GTA XPKP 09 22 14.6
LZH Lanzhou 158.21 0 *e*PKP PKPdf 09 22 03.3 -0.4
LZH APKP 09 22 14.3
LZH XPKP 09 22 17.5
LZH LR LR
comp=N,126nm,18.9s
LZH LR LR
comp=Z,158nm,19.5s,MS4.9
CD2 Chengdu 163.37 1 *e*PKP PKPdf 09 22 08.3 -1.1
GYA Guiyang 167.54 349 PKP PKPdf 09 22 13.3 +0.3
GYA APKP 09 22 24.6
GYA XPKP 09 22 29.4
GYA PKP2 PKPab 09 23 19.8 +1.2
GYA PKS 09 25 43.0
GYA PP PP 09 27 08.9 +3.2
GYA SKS SKSdf 09 29 10.4 -3.6
GYA SKKS SKKSac 09 33 50.3 -1.0
GYA PP PP
comp=Z,110nm,7.9s
GYA LR LR
comp=N,130nm,24.0s
GYA LR LR
comp=E,160nm,22.8s
GYA LR LR
comp=Z,180nm,22.2s
KMI Kunming 169.07 6 PKP PKPdf 09 22 12.8 -1.3

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*ISCJB **16** 09:06:32.4±3.6, 1402S±009×767W±02, h26km±25km, mb4.1/7, Error ellipse: s-maj=31.9km s-min=9.8km az=156.9*
*NEIC **16** 09:06:35.9±0.9, 1393S×7660W, h35km, Error ellipse: s-maj=31.1km s-min=12.7km az=55.0*
*IDC **16** 09:06:35.9±0.9, 1379S×7624W, h32km±5km, mb4.0/6, mb1 4.1/8, mb1mx3.9/19, mbtmp4.1/8, ML4.1/2, MS4.4/1, Ms1 4.5/1, ms1mx3.9/26, Error ellipse: s-maj=42.1km s-min=16.5km az=62.0*
ISC 16 09:06:35.5±3.6, 139S±01×764W±02, h30km±26km, n17, σ1°03/17, mb4.1/7, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.94**	**347**	Pn	**Pn**	**09 07 05.7**	**-0.7**
	51nm,0.3s,baz=160,slow=12,SNR=7.4						
NNA				Sn	**Sn**	**09 07 30.4**	**+0.6**
	333nm,0.3s,baz=183,slow=9.6,SNR=9.0						
ATAH	**Atahualpa**	**7.12**	**344**	Pn	**Pn**	**09 08 16.6**	**-1.0**
	1.4nm,0.3s,baz=78,slow=19,SNR=4.9						
ATAH				Sn	**Sn**	**09 09 46.3**	**+8.7**
	1.2nm,0.3s,baz=322,slow=19,SNR=2.5						
LPAZ	**La Paz**	**8.35**	**108**	Pn	**Pn**	**09 08 39.5**	**+5.1**
	0.6nm,0.3s,baz=304,slow=9.5,SNR=5.5						
LPAZ				LR	LR	09 12 32.7	
	comp=Z,2μm,18.0s,baz=163,slow=43						
LVC	**Limon Verde**	**11.22**	**142**	Pn	**Pn**	**09 09 14.6**	**+0.7**
	0.3nm,0.3s,baz=357,slow=0.0,SNR=3.4						
SDV	**Santo Domingo**	**23.34**	**15**	P	**P**	**09 11 43.7**	**+2.1**
	3.2nm,0.6s,mb4.0,baz=269,slow=9.1,SNR=2.7						
DUG	**Dugway**	**63.55**	**329**	*e*P	**P**	**09 17 04.3**	**+1.1**
NVAR	**Mina Array Bea**	**65.16**	**325**	P	**P**	**09 17 14.7**	**+0.9**
	0.6nm,0.7s,mb3.7,baz=141,slow=5.8,SNR=4.8						
ULM	**Lac du Bonnet**	**66.11**	**346**	P	**P**	**09 17 18.8**	**-0.9**
	2.1nm,0.4s,mb4.5,baz=151,slow=6.7,SNR=8.4						
SNAA	**Sanae**	**71.75**	**161**	*e*	**P**	**09 17 54.8**	**+0.3**
SNAA				*e*		09 18 06.1	
SNAA	**Sanae**	**71.75**	**161**	P	**P**	**09 17 54.8**	**+0.3**
	0.5nm,0.5s,mb3.7,baz=296,slow=7.3,SNR=22						
DBIC	**Dimbokro**	**73.88**	**79**	P	**P**	**09 18 06.9**	**-1.3**
	3.9nm,0.7s,mb4.4,baz=248,slow=4.2,SNR=4.6						
YKA	**Yellowknife Ar**	**81.77**	**343**	P	**P**	**09 18 49.8**	**-1.2**
	0.5nm,0.6s,mb3.6,baz=147,slow=5.8,SNR=8.4						
YKA				pP	pP	09 19 00.1	-0.4
	0.9nm,0.9s,baz=252,slow=12,SNR=3.6						
YKA	**Yellowknife Ar**	**81.77**	**343**	P	**P**	**09 18 49.8**	**-1.2**
YKA				pP	pP	09 19 00.1	-0.4
TORD	**Torodi Ar. Bea**	**81.89**	**74**	P	**P**	**09 18 52.2**	**-0.5**
	5.7nm,1.0s,mb4.5,baz=257,slow=3.2,SNR=11						
TORD	**Torodi Ar. Bea**	**81.89**	**74**	P	**P**	**09 18 52.2**	**-0.5**
SONM	**Songino Array**	**146.08**	**357**	PKPbc	PKPbc	09 26 12.4	-0.1
	1.2nm,0.6s,baz=317,slow=2.3,SNR=3.7						
SONM				pPKPbc	pPKPbc	09 26 22.5	+0.1
	1.0nm,0.6s,baz=332,slow=2.7,SNR=4.5						
KSRS	**Korea Array**	**148.06**	**322**	PKPbc	PKPbc	09 26 18.4	-0.1
	0.3nm,0.3s,baz=45,slow=2.1,SNR=4.5						
KSRS				pPKPbc	pPKPbc	09 26 29.0	+0.7
	1.1nm,0.6s,baz=111,slow=0.3,SNR=4.3						

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*ISCJB **16** 09:09:41.4±2.3, 98S±0.1×1594E±02, h6km±17km, mb4.3/11, Error ellipse: s-maj=27.4km s-min=15.3km az=29.0*
*IDC **16** 09:09:41.8±0.7, 982S×1594E, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.3/17, mbtmp4.3/10, Error ellipse: s-maj=27.3km s-min=7.4km az=140.0*
*NEIC **16** 09:09:43.6±0.6, 970S×1594E, h10km, mb4.5/3, Error ellipse: s-maj=20.3km s-min=10.2km az=137.0*
ISC 16 09:09:42.8±2.5, 97S±01×1594E±02, h5km±18km, n20, σ0°95/20, mb4.3/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.58**	**59**	Pg	**Pg**	**09 09 53.9**	**-0.2**
	3μm,0.3s,baz=239,slow=2.0,SNR=24						
HNR				Lg		09 10 00.9	
	8μm,0.3s,baz=88,slow=24,SNR=77						
HNR	**Honiara**	**0.58**	**59**	Pg	**Pg**	**09 09 53.9**	**-0.2**
HNR				Lg		09 10 00.9	
CTA	**Charters Tower**	**16.36**	**230**	*e*P	**Pn**	**09 13 37.5**	**+4.0**
	8.8nm,0.8s						
CTA	**Charters Tower**	**16.36**	**230**	Pn	**Pn**	**09 13 35.6**	**+2.1**
	0.2nm,0.3s,baz=64,slow=18,SNR=2.6						
ARMA	**Armidale**	**21.83**	**198**	*e*P	**P**	**09 14 38.7**	**+2.5**
WRAB	**Tennant Creek**	**26.25**	**244**	*e*P	**P**	**09 15 19.5**	**+0.3**
	3μm,3.8s						
WB2	**Warramunga Arr**	**26.25**	**244**	*e*P	**P**	**09 15 19.4**	**+0.2**
WRA	**Warramunga Arr**	**26.26**	**244**	P	**P**	**09 15 19.7**	**+0.4**
	8.9nm,0.6s,mb4.5,baz=72,slow=10,SNR=46						
STKA	**Stephens Creek**	**27.55**	**214**	*e*P	**P**	**09 15 29.9**	**-0.9**
	6.8nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**27.55**	**214**	P	**P**	**09 15 29.1**	**-1.7**
	3.9nm,0.6s,mb4.2,baz=54,slow=14,SNR=11						
ASAR	**Alice Springs**	**28.04**	**237**	P	**P**	**09 15 34.4**	**-0.9**
	3.3nm,0.5s,mb4.2,baz=62,slow=10,SNR=53						
ASAR				PcP	PcP	09 18 49.5	-0.7
	0.9nm,0.5s,baz=84,slow=3.6,SNR=7.5						
TOO	**Toolangi**	**30.44**	**202**	*e*P	**P**	**09 15 56.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**33.80**	**252**	P	**P**	**09 16 25.5**	**-0.6**
	5.2nm,0.8s,mb4.5,baz=72,slow=11,SNR=6.0						
FORT	**Forrest**	**35.92**	**230**	*e*P	**P**	**09 16 43.1**	**-1.2**
	17nm,1.1s,mb4.9						
MJAR	**Matsushiro Arr**	**50.17**	**338**	P	**P**	**09 18 39.0**	**-0.5**
	0.4nm,0.3s,mb3.9,baz=172,slow=8.3,SNR=4.2						
VNDA	**Vanda**	**67.78**	**179**	P	**P**	**09 20 40.6**	**-0.6**
	4.1nm,0.7s,mb4.5,baz=334,slow=6.3,SNR=21						
SONM	**Songino Array**	**74.03**	**326**	P	**P**	**09 21 20.7**	**+1.0**
	1.7nm,0.8s,mb4.0,baz=141,slow=6.7,SNR=4.0						
MAW	**Mawson**	**83.57**	**203**	P	**P**	**09 22 11.2**	**-0.7**
	0.6nm,0.6s,mb3.9,baz=54,slow=20,SNR=4.3						
MKAR	**Makanchi Array**	**88.36**	**318**	P	**P**	**09 22 35.9**	**0.0**
	1.2nm,0.9s,mb4.1,baz=106,slow=6.2,SNR=4.3						
YKA	**Yellowknife Ar**	**96.69**	**28**	P	**P**	**09 23 15.0**	**+1.0**
	0.5nm,0.7s,mb4.0,baz=275,slow=4.8,SNR=3.8						

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*IDC **16** 09:12:30.2±0.9, 984S×1593E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.2/17, mbtmp4.2/10, ML3.3/1, Error ellipse: s-maj=28.3km s-min=8.1km az=138.0*
*ISCJB **16** 09:12:31.7±1.8, 98S±0.1×1596E±02, h24km±15km, mb4.1/9, Error ellipse: s-maj=35.4km s-min=16.2km az=29.4*
*NEIC **16** 09:12:31.6±0.6, 980S×1596E, h10km, Error ellipse: s-maj=19.8km s-min=7.8km az=129.0*
ISC 16 09:12:32.1±2.0, 98S±01×1597E±02, h14km±15km, n12, σ0°58/12, mb4.1/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.47**	**38**	Pg	**Pg**	**09 12 41.5**	**0.0**
	783nm,0.3s,baz=260,slow=1.8,SNR=13						
HNR				Lg		09 12 49.2	
	2μm,0.3s,baz=98,slow=4.0,SNR=7.0						
CTA	**Charters Tower**	**16.48**	**230**	Pn	**Pn**	**09 16 23.8**	**+0.7**
	0.1nm,0.3s,baz=342,slow=20,SNR=1.8						
WB2	**Warramunga Arr**	**26.41**	**245**	*e*P	**P**	**09 18 08.8**	**+0.3**
WRA	**Warramunga Arr**	**26.42**	**245**	P	**P**	**09 18 08.2**	**-0.4**
	10nm,1.1s,mb4.3,baz=72,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.18**	**238**	P	**P**	**09 18 23.2**	**-1.1**
	1.0nm,0.5s,mb3.7,baz=64,slow=10,SNR=7.3						
MJAR	**Matsushiro Arr**	**50.33**	**338**	P	**P**	**09 21 27.4**	**-1.1**
	0.6nm,0.6s,mb3.8,baz=173,slow=8.7,SNR=5.0						
PETK	**Petropavlovsk-**	**62.69**	**359**	P	**P**	**09 22 56.8**	**+0.5**
	6.2nm,0.9s,mb4.8,baz=131,slow=11,SNR=5.3						
CMAR	**Chiang Mai Arr**	**66.15**	**295**	P	**P**	**09 23 20.0**	**+0.4**
	1.7nm,0.4s,mb4.4,baz=123,slow=4.7,SNR=6.6						
VNDA	**Vanda**	**67.70**	**179**	P	**P**	**09 23 28.4**	**-0.1**
	1.0nm,0.9s,mb3.8,baz=342,slow=7.7,SNR=5.3						
SONM	**Songino Array**	**74.21**	**326**	P	**P**	**09 24 08.8**	**+0.3**
	1.5nm,0.7s,mb4.0,baz=142,slow=5.5,SNR=3.1						
MAW	**Mawson**	**83.58**	**203**	P	**P**	**09 24 59.6**	**0.0**
	1.6nm,0.8s,mb4.2,baz=68,slow=8.3,SNR=3.4						
MKAR	**Makanchi Array**	**88.56**	**318**	P	**P**	**09 25 25.0**	**+0.5**

IDC 16 09:18:42.1±1.0, 982S×15953E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=35.7km s-min=8.8km az=138.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.57**	**47**	Pg	Pg	09 18 53.1	+0.1
	baz=90,slow=20,SNR=3.0						
HNR				Lg		09 19 00.8	
	2μm,0.3s,baz=269,slow=24,SNR=11						
WRA	**Warramunga Arr**	**26.31**	**245**	P	P	09 24 20.4	+0.7
	3.2nm,1.1s,baz=73,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**28.07**	**237**	P	P	09 24 35.1	-0.4
	0.5nm,0.5s,baz=63,slow=11,SNR=5.3						
VNDA	**Vanda**	**67.69**	**179**	P	P	09 29 40.8	0.0
	0.3nm,0.6s,baz=18,slow=4.3,SNR=3.8						
SONM	**Songino Array**	**74.15**	**326**	P	P	09 30 20.5	+0.1
	0.3nm,0.6s,baz=142,slow=7.3,SNR=2.5						
MKAR	**Makanchi Array**	**88.49**	**318**	P	P	09 31 36.7	+0.1
	0.2nm,0.4s,baz=87,slow=7.4,SNR=2.8						

IDC 16 09:18:51.5±1.9, 981S×15948E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/16, mbtmp3.8/4, Error ellipse: s-maj=49.3km s-min=34.7km az=91.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.60**	**51**	Lg		09 19 11.0	
	1μm,0.3s,baz=254,slow=20,SNR=5.7						
WRA	**Warramunga Arr**	**26.26**	**245**	P	P	09 24 29.4	+0.7
	2.2nm,0.6s,baz=71,slow=10.0,SNR=8.6						
ASAR	**Alice Springs**	**28.03**	**237**	P	P	09 24 44.1	-0.5
	0.4nm,0.5s,baz=62,slow=10,SNR=6.3						
VNDA	**Vanda**	**67.70**	**179**	P	P	09 29 50.4	+0.1
	0.8nm,0.7s,baz=340,slow=6.0,SNR=6.3						
SONM	**Songino Array**	**74.11**	**326**	P	P	09 30 29.8	+0.2
	0.6nm,0.7s,baz=126,slow=7.3,SNR=3.1						

IDC 16 09:22:16.2±1.1, 982S×15952E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/16, mbtmp3.8/4, Error ellipse: s-maj=49.3km s-min=8.6km az=138.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.57**	**47**	Pg	Pg	09 22 27.4	+0.2
	512nm,0.3s,baz=247,slow=1.5,SNR=5.6						
HNR				Lg		09 22 35.0	
	1μm,0.3s,baz=272,slow=23,SNR=20						
CTA	**Charters Tower**	**16.38**	**230**	Pn	Pn	09 26 11.2	+3.6
	0.2nm,0.3s,baz=14,slow=8.3,SNR=3.9						
WRA	**Warramunga Arr**	**26.30**	**245**	P	P	09 27 54.2	+0.4
	3.4nm,1.0s,baz=72,slow=10,SNR=7.1						
ASAR	**Alice Springs**	**28.06**	**237**	P	P	09 28 09.3	-0.3
	0.5nm,0.6s,baz=63,slow=9.8,SNR=4.3						
VNDA	**Vanda**	**67.69**	**179**	P	P	09 33 14.8	-0.1
	0.9nm,1.0s,baz=338,slow=5.7,SNR=4.2						
MKAR	**Makanchi Array**	**88.48**	**318**	P	P	09 35 10.7	+0.1
	0.3nm,0.5s,baz=108,slow=4.7,SNR=4.0						

IDC 16 09:24:45.1±0.9, 989S×15962E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=45.7km s-min=9.1km az=126.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.56**	**36**	Pg	Pg	09 24 54.6	-1.2
	baz=270,slow=20,SNR=1.7						
HNR				Lg		09 25 04.5	
	789nm,0.3s,baz=264,slow=22,SNR=3.8						
WRA	**Warramunga Arr**	**26.36**	**245**	P	P	09 30 23.9	+0.7
	1.5nm,0.7s,baz=72,slow=10.0,SNR=5.6						
STKA	**Stephens Creek**	**27.52**	**215**	P	P	09 30 33.8	+0.3
	3.4nm,1.0s,baz=45,slow=10.0,SNR=3.0						
ASAR	**Alice Springs**	**28.11**	**238**	P	P	09 30 38.3	-0.5
	0.4nm,0.4s,baz=64,slow=10,SNR=5.4						
VNDA	**Vanda**	**67.62**	**179**	P	P	09 35 44.7	+1.4
	0.4nm,0.6s,baz=7.6,slow=7.8,SNR=4.3						
QSPA	**South Pole Qui**	**80.11**	**180**	P	P	09 36 55.5	-0.9
	0.6nm,0.7s,baz=0.0,slow=0.0,SNR=4.4						

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*ISCJB **16** 09:32:45.5±2.8, 99S±02×1596E±03, h12km±23km, mb3.7/5, Error ellipse: s-maj=45.7km s-min=28.1km az=29.5*
*IDC **16** 09:32:45.6±0.9, 982S×1594E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.8/5, Error ellipse: s-maj=38.6km s-min=7.9km az=137.0*
*NEIC **16** 09:32:46.9±0.7, 981S×1598E, h10km, Error ellipse: s-maj=28.1km s-min=9.6km az=137.0*
ISC 16 09:32:46.5±3.3, 98S±02×1596E±03, h6km±26km, n9, σ0°44/9, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.54**	**44**	Pg	**Pg**	**09 32 57.0**	**0.0**
	1μm,0.3s,baz=91,slow=11,SNR=20						
HNR				Lg		09 33 03.2	
	2μm,0.3s,baz=136,slow=2.6,SNR=46						
HNR	**Honiara**	**0.54**	**44**	Pg	**Pg**	**09 32 57.0**	**0.0**
HNR				Lg		09 33 03.2	
WB2	**Warramunga Arr**	**26.33**	**245**	*e*P	**P**	**09 38 23.5**	**+0.2**
WRA	**Warramunga Arr**	**26.34**	**245**	P	**P**	**09 38 23.8**	**+0.4**
	2.3nm,0.6s,mb3.9,baz=72,slow=10,SNR=28						
ASAR	**Alice Springs**	**28.10**	**237**	P	**P**	**09 38 38.5**	**-0.6**
	0.6nm,0.4s,mb3.6,baz=62,slow=10,SNR=16						
ASAR				PcP	PcP	09 41 53.7	0.0
	0.3nm,0.5s,baz=81,slow=2.9,SNR=5.0						
VNDA	**Vanda**	**67.68**	**179**	P	**P**	**09 43 44.2**	**+0.1**
	0.9nm,0.7s,mb3.9,baz=346,slow=5.9,SNR=7.4						
VNDA	**Vanda**	**67.68**	**179**	P	**P**	**09 43 44.2**	**+0.1**
SONM	**Songino Array**	**74.18**	**326**	P	**P**	**09 44 24.4**	**+0.6**
	0.6nm,0.8s,mb3.6,baz=107,slow=1.5,SNR=3.3						
MKAR	**Makanchi Array**	**88.52**	**318**	P	**P**	**09 45 39.3**	**-0.7**
	0.2nm,0.4s,mb3.8,baz=123,slow=2.4,SNR=2.9						

IDC 16 09:33:24.5±17.0, 2203S×17294W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, Error ellipse: s-maj=334.4km s-min=157.7km az=83.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.06**	**265**	P	P	09 40 45.0	+0.1
	2.1nm,0.4s,baz=62,slow=15,SNR=6.0						
STKA	**Stephens Creek**	**41.45**	**246**	P	P	09 41 12.9	-0.2
	1.8nm,0.8s,baz=90,slow=3.0,SNR=2.9						
ASAR	**Alice Springs**	**48.78**	**257**	P	P	09 42 11.4	-0.1
	0.4nm,0.4s,baz=95,slow=7.7,SNR=12						
WB2	**Warramunga Arr**	**49.06**	**262**	*e*P	P	09 42 13.6	-0.2
WRA	**Warramunga Arr**	**49.07**	**262**	P	P	09 42 13.8	-0.1
	0.5nm,0.3s,baz=90,slow=6.1,SNR=42						
FITZ	**Fitzroy Crossi**	**57.50**	**262**	P	P	09 43 16.0	0.0
	2.0nm,0.8s,baz=211,slow=3.2,SNR=2.9						

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*ISCJB **16** 09:36:06.7±0.2, 4822N±001×897E±001, h12km±1km, Error ellipse: s-maj=1.8km s-min=1.5km az=174.5*
*NEIC **16** 09:36:08.4, 4820N×898E, h6km, ML3.0(STR), ML3.3(SZGRF), ML3.4(LDG), After LDG.*
*BGR **16** 09:36:08.2±0.2, 4824N×900E, h5km, ML3.3/6, Error ellipse: s-maj=2.2km s-min=1.1km az=129.0*
*VIE **16** 09:36:08.1±0.2, 4821N×906E, h7km±1km, mb2.3/5, ML3.3/8, Error ellipse: s-maj=1.8km s-min=1.1km az=83.0*
9 km SSE of Ebingen
*CSEM **16** 09:36:08.2±0.0, 4822N×901E, h15km, ML3.5/34, Error ellipse: s-maj=0.8km s-min=0.6km az=163.0*
*ZUR **16** 09:36:08.2, 4818N×905E, h14km, ML3.1/13*
*LEDBW **16** 09:36:08.2±0.1, 48212N±0003×8993E±0004, h6km±1km, ML3.3, Error ellipse: s-maj=1.6km s-min=1.0km az=103.0*
LEDBW Felt III EMS.
*LDG **16** 09:36:08.4±0.1, 4820N×898E, h6km, Ml3.4/32, Error ellipse: s-maj=1.5km s-min=1.2km az=153.0*
*STR **16** 09:36:09.0±0.2, 4818N×892E, h10km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **16** 09:36:11.1, 4824N×919E, h10km*
ISC 16 09:36:07.4±0.1, 48215N±0010×897E±001, h13km±1km, n233, σ1°13/435, 30C-23D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSS	**Messtetten**	**0.04**	**184**	⇓*i*Pg	**Pg**	**09 36 09.8**	**0.0**
MSS	**Messtetten**	**0.04**	**184**	Px	**Pg**	**09 36 10.5**	**+0.7**
MSS				*i* Sg	**Sg**	**09 36 11.0**	**-0.5**
BHBD	**Braunhartsberg**	**0.04**	**38**	⇑*i*Pg	**Pg**	**09 36 09.8**	**-0.1**
BHBD				*i* Sg	**Sg**	**09 36 11.0**	**-0.7**
JUND	**Jungingen**	**0.13**	**24**	⇑*i*Pg	**Pg**	**09 36 11.0**	**+0.3**
JUND				*i* Sg	**Sg**	**09 36 13.1**	**-0.1**
SPAK	**Spaichingen-Ko**	**0.17**	**227**	⇑*i*P*	**Pg**	**09 36 12.2**	**+0.9**
SPAK				S*	**Sg**	**09 36 14.6**	**+0.6**
SPAK	**Spaichingen-Ko**	**0.17**	**227**	⇑*i*Pg	**Pg**	**09 36 12.2**	**+0.9**
SPAK				Sg	**Sg**	**09 36 14.6**	**+0.6**
SPAK	**Spaichingen-Ko**	**0.17**	**227**	Pg	**Pg**	**09 36 12.0**	**+0.7**
SPAK				Sg	**Sg**	**09 36 14.5**	**+0.5**
GUT	**Gutenstein**	**0.18**	**145**	⇓*i*P*	**Pg**	**09 36 11.6**	**+0.1**
GUT				*i* S*	**Sg**	**09 36 13.9**	**-0.3**
TUBL	**Tuebingen-Lenn**	**0.32**	**14**	⇓*i*P*	**Pg**	**09 36 14.9**	**+0.9**
TUBL				*i* S*	**Sg**	**09 36 19.0**	**+0.7**
BUCH	**Bad Urach**	**0.35**	**48**	⇑*i*P*	**Pg**	**09 36 15.0**	**+0.5**
BUCH				*i* S*	**Sg**	**09 36 19.7**	**+0.5**
BUCH	**Bad Urach**	**0.35**	**48**	⇑*i*Pg	**Pg**	**09 36 15.0**	**+0.5**
BUCH				*i* Sg	**Sg**	**09 36 19.7**	**+0.5**
BFO	**Black Forest**	**0.44**	**285**	*e*Pg	**Pg**	**09 36 16.6**	**+0.4**
	SNR=71						
BFO				⇑*i*P*	**Pg**	**09 36 17.2**	**+1.1**
BFO				S*	**Sg**	**09 36 23.1**	**+1.1**
BFO				SmS		09 36 27.5	
BFO	**Black Forest**	**0.44**	**285**	⇑*i*Pg	**Pg**	**09 36 17.2**	**+1.1**
BFO				Sg	**Sg**	**09 36 23.1**	**+1.1**
BFO				S	**Sg**	**09 36 27.5**	**+5.5**
BFO	**Black Forest**	**0.44**	**285**	*e*Pg	**Pg**	**09 36 16.2**	**+0.1**
BFO				*e*Sg	**Sg**	**09 36 23.1**	**+1.0**
LBG	**Lerchenberg**	**0.46**	**346**	⇓*i*P*	**Pg**	**09 36 17.5**	**+0.9**
LBG				PmP		09 36 19.2	
LBG				S*	**Sg**	**09 36 23.8**	**+1.0**
LBG				SmS		09 36 27.8	
LBG	**Lerchenberg**	**0.46**	**346**	P	**Pg**	**09 36 19.2**	**+2.7**
SISB	**Singen-Schiene**	**0.53**	**180**	⇓*i*P*	**Pb**	**09 36 18.5**	**0.0**
SISB				S*	**Sb**	**09 36 25.4**	**-0.6**
SISB				SmS		09 36 29.6	
STEIN	**Stein am Rhein**	**0.55**	**187**	⇓*i*Pg	**Pg**	**09 36 18.9**	**+0.7**
	518nm,0.3s						
SLE	**Schleitheim**	**0.55**	**215**	*e*Pg	**Pg**	**09 36 18.9**	**+0.7**
	SNR=77						
SLE	**Schleitheim**	**0.55**	**215**	⇑*i*Pg	**Pg**	**09 36 18.9**	**+0.7**
	1μm,0.5s						
STU	**Stuttgart**	**0.58**	**15**	*e*Pg	**Pg**	**09 36 19.4**	**+0.6**
	SNR=18						
STU				*e*Sg	**Sg**	**09 36 26.7**	**+0.3**
	SNR=17						
STU	**Stuttgart**	**0.58**	**15**	*e*Pg	**Pg**	**09 36 19.3**	**+0.6**
STU				Sg	**Sg**	**09 36 26.7**	**+0.3**
	SNR=17						
STU	**Stuttgart**	**0.58**	**15**	*e*Pg	**Pg**	**09 36 19.3**	**+0.6**
STU				*e*Sg	**Sg**	**09 36 26.9**	**+0.5**
FLACH	**Flaach**	**0.70**	**203**	⇑*i*Pn	**Pn**	**09 36 21.7**	**-1.2**
	901nm,0.2s						
OFBG	**Offenburg**	**0.70**	**290**	P	**Pg**	**09 36 22.7**	**+1.7**
FELD	**Feldberg im Sc**	**0.73**	**243**	⇑*i*Pn	**Pn**	**09 36 22.5**	**-0.8**
FELD				*e*Pg	**Pg**	**09 36 23.4**	**+1.9**
FELD	**Feldberg im Sc**	**0.73**	**243**	⇑*e*Pn	**Pn**	**09 36 22.4**	**-0.9**
FELD	**Feldberg im Sc**	**0.73**	**243**	⇑*i*Pn	**Pn**	**09 36 22.5**	**-0.8**
FELD	**Feldberg im Sc**	**0.73**	**243**	*e*P	**Pg**	**09 36 23.4**	**+1.9**
FELD	**Feldberg im Sc**	**0.73**	**243**	Pg	**Pn**	**09 36 22.5**	**-0.8**
FELD				Sg	**Sg**	**09 36 32.9**	**+1.8**
KIZ	**Kirchzarten**	**0.75**	**250**	⇑*i*Pn	**Pn**	**09 36 22.7**	**-0.9**
KIZ				Pg	**Pg**	**09 36 23.7**	**+1.7**
KIZ				S*	**Sb**	**09 36 33.9**	**+1.6**
KIZ	**Kirchzarten**	**0.75**	**250**	⇑*i*Pn	**Pn**	**09 36 22.7**	**-0.9**
KIZ				Sg	**Sb**	**09 36 33.9**	**+1.6**
KIZ	**Kirchzarten**	**0.75**	**250**	P	**Pg**	**09 36

DAVA Sg **Sg** **09 36 43.9 +0.5**
103nnm,0.2s
CDF Champ du Feu 1.15 281 *e*Pg **Pg** **09 36 30.0 +0.5**
SNR=1.0
CDF *e*Sg **Sg** **09 36 45.5 +1.1**
454nnm,0.2s,SNR=1.0
CDF Champ du Feu 1.15 281 *e*Pg **Pg** **09 36 30.0 +0.5**
SNR=1.0
CDF *e*Sg **Sg** **09 36 45.5 +1.1**
227nnm,0.2s,SNR=1.0
CDF Champ du Feu 1.15 281 *e*Pn **Pn** **09 36 29.5 +0.4**
CDF *e*Pg **Pg** **09 36 30.0 +0.5**
CDF *e*Sg **Sg** **09 36 45.5 +1.1**
HEI Heidelberg (Ko 1.20 353 P **Pn** **09 36 31.5 +1.7**
OBER Oberstdorf 1.21 132⇓*i*Pg **Pg** **09 36 27.7 -2.9**
OBER ⇓*i*Sg **Sg** **09 36 43.1 -3.2**
ECH Echery 1.21 271 Pg **Pg** **09 36 31.5 +0.8**
ECH Sg **Sg** **09 36 47.6 +1.2**
ECH Echery 1.21 271⇑*e*Pn **Pn** **09 36 30.1 +0.1**
ECH Echery 1.21 271 Pg **Pg** **09 36 31.5 +0.8**
ECH Sg **Sg** **09 36 47.6 +1.2**
NORI Noerdlinger Ri 1.22 65⇑*i*Pg **Pg** **09 36 30.8 0.0**
NORI ⇑*i*Sg **Sg** **09 36 47.0 +0.4**
BALST Balsthal 1.23 225 *e*Pn **Pn** **09 36 30.0 -0.2**
SNR=16
BALST *e*Sg **Sg** **09 36 48.1 +1.1**
SNR=5.5
BALST Balsthal 1.23 225⇑*i*Pn **Pn** **09 36 30.0 -0.2**
857nnm,0.3s
BALST Sg **Sg** **09 36 48.1 +1.1**
SNR=5.5
BBS Basel-Blauen 1.23 233⇑*i*Pn **Pn** **09 36 30.1 -0.2**
BBS ⇑*i*Pg **Pg** **09 36 32.0 +0.8**
BBS Basel-Blauen 1.23 233⇑*i*Pn **Pn** **09 36 30.1 -0.2**
BBS Basel-Blauen 1.23 233⇑*i*P **Pg** **09 36 32.0 +0.8**
BBS Basel-Blauen 1.23 233 Pg **Pg** **09 36 31.9 +0.7**
BBS Basel-Blauen 1.23 233 Pg **Pg** **09 36 31.9 +0.7**
KTD Kalmit 1.25 333 Pg **Pg** **09 36 32.5 +1.1**
KTD Kalmit 1.25 333 Pg **Pg** **09 36 32.5 +1.0**
KTD Sg **Sg** **09 36 49.4 +1.6**
MOF Molkenrain 1.28 254 Pn **Pn** **09 36 30.9 -0.1**
MOF Molkenrain 1.28 254 Pn **Pn** **09 36 30.8 -0.2**
SWS Schriesheim-Wi 1.28 352 Pn **Pn** **09 36 31.0 0.0**
SWS Pg **Pg** **09 36 32.8 +0.7**
SWS Sg **Sg** **09 36 49.6 +0.9**
SWS Schriesheim-Wi 1.28 352 P **Pg** **09 36 32.8 +0.7**
BNALP Bannalp 1.39 195⇑*i*Pn **Pn** **09 36 32.7 +0.2**
941nnm,0.7s
BNALP Bannalp 1.39 195⇑*i*P **Pn** **09 36 33.0 +0.5**
TOD Tromm 1.40 356 P **Pn** **09 36 32.6 +0.1**
TOD Sg **Sg** **09 36 53.0 +0.6**
TOD Tromm 1.40 356 Px **Pn** **09 36 32.6 +0.1**
TOD S **Sg** **09 36 53.0 +0.6**
TOD Tromm 1.40 356 Pn **Pn** **09 36 34.0 +1.5**
TOD Sg **Sg** **09 36 52.9 +0.5**
RETA Reutte 1.41 120⇓*e*Pg **Pg** **09 36 34.3 -0.3**
SNR=13
RETA ⇑*i*Sg **Sg** **09 36 53.2 +0.3**
94nnm,0.2s
BOURR Bourrignon 1.43 236 *e*Pg **Pg** **09 36 35.8 +0.9**
SNR=37
BOURR Bourrignon 1.43 236⇑*i*Pn **Pn** **09 36 33.0 0.0**
620nnm,0.3s
BOURR Bourrignon 1.43 236 Pg **Pg** **09 36 35.8 +0.9**
SNR=37
BOURR Bourrignon 1.43 236⇑*i*P **Pn** **09 36 32.7 -0.3**
HINF Hinteralfeld 1.47 255 *e*Pg **Pg** **09 36 35.8 +0.1**
HINF *e*Sn **Sn** **09 36 52.3 -0.4**
104nnm,0.2s,SNR=1.0
HINF *e*Sg **Sg** **09 36 55.9 +1.1**
144nnm,0.3s
HINF Hinteralfeld 1.47 255 *e*Pg **Pg** **09 36 35.8 +0.1**
HINF *e*Sn **Sn** **09 36 52.3 -0.4**
52nnm,0.2s,SNR=1.0
HINF *e*Sg **Sg** **09 36 55.9 +1.1**
72nnm,0.3s
HINF Hinteralfeld 1.47 255 *e*Pn **Pn** **09 36 33.3 -0.3**
HINF *e*Pg **Pg** **09 36 35.8 +0.1**
HINF *e*Sn **Sn** **09 36 52.3 -0.4**
HINF *e*Sg **Sg** **09 36 55.9 +1.1**
FUR Furstenfeldbru 1.55 91 *e*Pg **Pg** **09 36 36.8 -0.3**
SNR=6.0
FUR *e*Sg **Sg** **09 36 57.2 0.0**
SNR=14
FUR Furstenfeldbru 1.55 91 *e*Pg **Pg** **09 36 36.8 -0.3**
FUR *e*Sg **Sg** **09 36 57.3 +0.1**
HASLI Hasliberg/Brie 1.56 201⇑*i*Pn **Pn** **09 36 36.2 +1.4**
2µm,0.3s
HASLI Hasliberg/Brie 1.56 201⇑*i*P **Pn** **09 36 35.0 +0.2**
DAVOX Davos/Dischmat 1.56 156 *e*Pn **Pn** **09 36 35.0 +0.2**
229nnm,0.5s
DAVOX Davos/Dischmat 1.56 156 *e*P **Pn** **09 36 36.2 +1.4**
DAVOX Davos/Dischmat 1.56 156 *e*P **Pn** **09 36 36.2 +1.4**
LOMF Lomont 1.68 240 P **Pn** **09 36 40.1 +3.7**
LOMF Lomont 1.68 240 Pn **Pn** **09 36 36.7 +0.3**
LOMF Pg **Pg** **09 36 40.6 +0.9**
MOTA Moosalm 1.69 120⇑*i*Pg **Pg** **09 36 39.2 -0.6**
MOTA ⇑*i*Sn **Sn** **09 37 00.1 +2.2**
MOTA ⇑*e*Sg **Sg** **09 37 02.1 +0.5**
64nnm,0.2s,SNR=13
FETA Feichten 1.69 134⇓*e*Pg **Pg** **09 36 39.7 -0.1**
SNR=6.4
FETA ⇓*i*Sg **Sg** **09 37 02.6 +0.9**
26nm,0.2s
TUE Stuetta 1.76 171 *e*Pn **Pn** **09 36 39.2 +1.6**
TUE *e*Sg **Sg** **09 37 04.6 +0.5**
TUE Stuetta 1.76 171 *e*Pn **Pn** **09 36 39.2 +1.6**
TUE *e*Sg **Sg** **09 37 04.6 +0.5**
VDL Val di Lei 1.76 169⇓*i*Pn **Pn** **09 36 38.8 +1.2**
250nnm,0.6s
VDL Val di Lei 1.76 169⇓*i*P **Pn** **09 36 39.2 +1.6**
HAU Haudompre 1.77 264 *e*Pg **Pg** **09 36 41.3 0.0**
HAU *e*Sg **Sg** **09 37 04.6 +0.4**
104nnm,0.2s,SNR=1.0
HAU Haudompre 1.77 264 *e*Pg **Pg** **09 36 41.3 0.0**
HAU *e*Sg **Sg** **09 37 04.6 +0.4**
52nnm,0.2s,SNR=1.0
HAU Haudompre 1.77 264 *e*Pn **Pn** **09 36 37.8 +0.2**
HAU *e*Pg **Pg** **09 36 41.3 0.0**
HAU *e*Sg **Sg** **09 37 04.6 +0.4**
FUSIO Fusio 1.77 187 *e*Pn **Pn** **09 36 39.2 +1.5**
460nnm,0.4s
FUSIO Fusio 1.77 187 *e*P **Pn** **09 36 38.8 +1.1**
FUSIO Fusio 1.77 187 *e*Pn **Pn** **09 36 39.2 +1.5**
460nnm,0.4s
RUP Ruppelstein 1.95 321 Pg **Pg** **09 36 45.5 +0.8**
RUP Ruppelstein 1.95 321 Pg **Pg** **09 36 45.6 +0.8**
RUP Ruppelstein 1.95 321 Pn **Pn** **09 36 41.2 +1.1**
RUP Pg **Pg** **09 36 45.6 +0.8**
WATA Walderalm 1.97 116⇓*i*Pn **Pn** **09 36 41.4 +1.0**
WATA ⇑*i*Pg **Pg** **09 36 45.1 -0.1**
WATA ⇓*e*Sn **Sn** **09 37 06.9 +2.0**
SNR=11
WATA ⇓*i*Sg **Sg** **09 37 11.3 +0.7**
57nnm,0.2s
WATA Walderalm 1.97 116 Pg **Pg** **09 36 45.1 -0.1**
WATA Sn **Sn** **09 37 06.9 +2.0**
10.0nnm,9.0s
WATA Sg **Sg** **09 37 11.3 +0.6**
57nnm,0.2s
THEF They Montfort 1.99 271 Pg **Pg** **09 36 46.3 +0.7**
THEF They Montfort 1.99 271⇓*e*Pn **Pn** **09 36 41.2 +0.5**
THEF They Montfort 1.99 271⇓*e*Pn **Pn** **09 36 41.2 +0.5**
THEF They Montfort 1.99 271 Pg **Pg** **09 36 46.3 +0.7**
THEF They Montfort 1.99 271 Pn **Pn** **09 36 41.0 +0.3**
THEF Pg **Pg** **09 36 46.3 +0.7**
WTTA Wattenberg 2.04 117⇑*e*Pn **Pn** **09 36 41.6 +0.2**
SNR=8.2
WTTA ⇑*i*Sn **Sn** **09 37 07.7 +1.1**
WTTA ⇑*i*Sg **Sg** **09 37 13.1 +0.2**
57nnm,0.3s
WTTA Wattenberg 2.04 117 Pn **Pn** **09 36 41.6 +0.3**
8.0nm,2.0s
WTTA Sn **Sn** **09 37 07.7 +1.1**
WTTA Sg **Sg** **09 37 13.1 +0.2**
57nm,0.3s
GRA1 Grafenberg Arr 2.10 44 Pn **Pn** **09 36 41.7 -0.5**
GRA1 Grafenberg Arr 2.10 44 Pg **Pg** **09 36 47.3 -0.3**
SNR=12
GRA1 Sg **Sg** **09 37 13.1 -1.7**
SNR=6.2
GRA1 Grafenberg Arr 2.10 44 *e*Pn **Pn** **09 36 41.7 -0.5**
GRA1 *e*Pg **Pg** **09 36 41.8 -5.8**
GRF Grafenberg Arr 2.10 44 *e*Pn **Pn** **09 36 41.7 -0.5**
GRF *e*Pg **Pg** **09 36 47.3 -0.3**
SNR=12
GRF *e*Sg **Sg** **09 37 13.1 -1.7**
SNR=6.2
GRF Grafenberg Arr 2.10 44 *e*Pn **Pn** **09 36 41.7 -0.5**
GRF *e*Pg **Pg** **09 36 41.8 -5.8**
WLF Walferdange 2.35 309 *e*Pn **Pn** **09 36 48.0 +2.4**
WLF *e*Pg **Pg** **09 36 53.0 +0.4**
SNR=5.2
WLF *e*Sg **Sg** **09 37 22.3 -0.7**
SNR=6.1
WLF Walferdange 2.35 309 P **Pn** **09 36 47.9 +2.2**
WLF S **Sn** **09 37 22.5 +8.0**
comp=N,37nnm,0.0s
WLF Walferdange 2.35 309 Pn **Pn** **09 36 48.0 +2.3**
WLF Walferdange 2.35 309 Pg **Pg** **09 36 53.0 +0.5**
SNR=5.2
WLF Sg **Sg** **09 37 22.3 -0.8**
SNR=6.1
RFYF Reffroy 2.36 281 *e*Pg **Pg** **09 36 52.6 -0.1**
baz=109
RFYF *e*Sg **Sg** **09 37 23.2 -0.1**
comp=N,79nnm,0.2s
RFYF Reffroy 2.36 281 *e*Pg **Pg** **09 36 52.6 -0.1**
RFYF *e*Sg **Sg** **09 37 23.2 -0.1**
comp=N,40nnm,0.2s
OG01 Vacheresse 2.44 220 Pn **Pn** **09 36 46.6 -0.3**
CABF La Chapelle 2.53 232 *e*Pg **Pg** **09 36 55.5 -0.4**
SNR=1.0
CABF *e*Sn **Sn** **09 37 18.5 -0.2**
CABF *e*Sg **Sg** **09 37 27.9 -0.7**
comp=N,46nnm,0.4s,SNR=1.0
CABF La Chapelle 2.53 232 *e*Pg **Pg** **09 36 55.5 -0.4**
SNR=1.0
CABF *e*Sn **Sn** **09 37 18.5 -0.2**
CABF *e*Sg **Sg** **09 37 27.9 -0.7**
comp=N,23nnm,0.4s,SNR=1.0
CABF La Chapelle 2.53 232 *e*Pn **Pn** **09 36 47.6 -0.5**
CABF *e*Pg **Pg** **09 36 55.5 -0.4**
CABF *e*Sn **Sn** **09 37 18.5 -0.2**
CABF *e*Sg **Sg** **09 37 27.9 -0.7**
RJOB Jochberg 2.62 99 *e*Pn **Pn** **09 36 51.3 +2.0**
RJOB *e*Sg **Sg** **09 37 32.2 +0.7**
MEZF Maizieres J'vi 2.63 278 *e*Pg **Pg** **09 36 57.4 -0.3**
baz=93,SNR=1.0
MEZF *e*Sg **Sg** **09 37 30.4 -1.3**
comp=N,68nnm,0.5s,SNR=1.0
MEZF Maizieres J'vi 2.63 278 *e*Pg **Pg** **09 36 57.4 -0.3**
SNR=1.0
MEZF *e*Sg **Sg** **09 37 30.4 -1.3**
comp=N,34nnm,0.5s,SNR=1.0
MEZF Maizieres J'vi 2.63 278 *e*Pn **Pn** **09 36 49.8 +0.4**
MEZF *e*Pg **Pg** **09 36 57.4 -0.3**
MEZF *e*Sg **Sg** **09 37 30.4 -1.3**
SFTF Sexfontaines 2.63 271 *e*Pg **Pg** **09 36 57.3 -0.4**
baz=94
SFTF *e*Sg **Sg** **09 37 32.0 +0.2**
comp=N,59nnm,0.2s
SFTF Sexfontaines 2.63 271 *e*Pg **Pg** **09 36 57.3 -0.4**
SFTF *e*Sg **Sg** **09 37 32.0 +0.2**
comp=N,30nnm,0.2s
SFTF Sexfontaines 2.63 271 *e*Pn **Pn** **09 36 49.9 +0.5**
SFTF *e*Pg **Pg** **09 36 57.3 -0.4**
SFTF *e*Sg **Sg** **09 37 32.0 +0.2**
ROTZ Rotzenmuhle 2.64 53 *e*Pn **Pn** **09 36 51.2 +1.6**
ROTZ *e*Sg **Sg** **09 37 29.9 -2.3**
UBBA Unterbreizbach 2.69 14 *e*Pg **Pg** **09 36 59.2 +0.2**
SNR=2.6
MANZ Manzenberg 2.72 48 *e*Pn **Pn** **09 36 51.5 +0.8**
WET Wettzell 2.75 69 *e*Pn **Pn** **09 36 53.0 +1.8**
WET *e*Sg **Sg** **09 37 34.4 -1.5**
SNR=8.1
WET Wettzell 2.75 69 *e*Pn **Pn** **09 36 53.0 +1.8**
WET *e*Sg **Sg** **09 37 34.4 -1.5**
MOX Moxa 2.98 34 (PN) **Pn** **09 36 53.6 -0.8**
MOX *e*PG **Pg** **09 37 04.2 -0.4**
MOX *i* SN **Sn** **09 37 28.8 -1.1**
MOX *i* SG **Sg** **09 37 41.2 -2.0**
RSL Roselend 2.99 213 Pn **Pn** **09 36 54.1 -0.4**
NKC Novy Kostel 3.05 47 *e*PG **Pg** **09 37 04.4 -1.4**
NKC *e*SG **Sg** **09 37 43.9 -1.4**
comp=Z,86nnm,0.3s
WERN Wernitzgruen 3.05 46 *e*Pn **Pn** **09 36 56.9 +1.6**
WERN *e*Sn **Sn** **09 37 32.1 +0.6**
MEM Membach 3.08 322 P **Pn** **09 36 57.2 +1.6**
GUNZ Gunzen 3.08 44 *e*Pg **Pg** **09 37 05.1 -1.2**
SNR=12
LPL La Plagne 3.10 210 *e*Pg **Pg** **09 37 06.4 -0.5**
SNR=1.0
LPL *e*Sg **Sg** **09 37 46.6 -0.5**
comp=Z,8.8nnm,0.3s
LPL La Plagne 3.10 210 *e*Pg **Pg** **09 37 06.4 -0.5**
SNR=1.0
LPL *e*Sg **Sg** **09 37 46.6 -0.5**
comp=Z,4.4nnm,0.3s
LPL La Plagne 3.10 210 *e*Pn **Pn** **09 36 56.2 +0.2**
LPL *e*Pg **Pg** **09 37 06.4 -0.5**
LPL *e*Sg **Sg** **09 37 46.6 -0.5**
LPG La Plagne 3.11 210 *e*Pg **Pg** **09 37 06.4 -0.7**
SNR=1.0
KBA Koelnbreinsper 3.17 109⇓*i*Pn **Pn** **09 36 57.9 +0.9**
KBA ⇓*i*Pg **Pg** **09 37 07.7 -0.4**
KHC Kasperske Hory 3.19 72 *e*PN **Pn** **09 36 58.0 +0.8**
KHC *e*PG **Pg** **09 37 05.8 -2.7**
KHC *e*SN **Sn** **09 37 33.8 -1.2**
KHC *e*SG **Sg** **09 37 47.8 -2.1**
comp=Z,33nnm,0.4s
GEC2 GERESS Array S 3.21 77 *e*Pn **Pn** **09 36 58.2 +0.7**
SNR=4.4
GEC2 *e*Sn **Sn** **09 37 35.4 -0.2**
GEC2 GERESS Array S 3.21 77 *e*Pn **Pn** **09 36 58.1 +0.6**
GEC2 Sn **Sn** **09 37 35.4 -0.1**
GEC2 GERESS Array S 3.21 77 *e*Pn **Pn** **09 36 58.1 +0.6**
GEC2 *e*Sn **Sn** **09 37 35.4 -0.1**
OG05 Jujurieux 3.23 229 Pn **Pn** **09 36 57.1 -0.7**
BCLA Clavier 3.26 314 P **Pn** **09 36 59.7 +1.6**
BCLA S **Sn** **09 37 36.3 -0.3**
comp=E,8.0nnm,0.0s
BCLA Clavier 3.26 314 P **Pn** **09 36 59.6 +1.5**
BCLA S **Sn** **09 37 36.3 -0.4**
GIVF Givet 3.31 306 *e*Pn **Pn** **09 36 58.9 +0.1**
GIVF *e*Sn **Sn** **09 37 37.0 -1.0**
SNR=1.0
GIVF *e*Sg **Sg** **09 37 50.8 -2.9**
comp=E,19nnm,0.3s,SNR=1.0
GIVF Givet 3.31 306 *e*Pn **Pn** **09 36 58.9 +0.1**
GIVF *e*Sn **Sn** **09 37 37.0 -1.0**
SNR=1.0
GIVF *e*Sg **Sg** **09 37 50.8 -2.9**
comp=E,9.4nnm,0.3s,SNR=1.0
DOU Dourbes 3.43 305 P **Pn** **09 37 02.5 +2.0**
DOU S **Sn** **09 37 39.8 -1.2**
comp=N,6.7nnm,0.0s
DOU Dourbes 3.43 305 P **Pn** **09 37 02.5 +2.0**
DOU S **Sn** **09 37 39.7 -1.2**
LOR Lormes 3.57 257 *e*Pn **Pn** **09 37 03.0 +0.6**
baz=78,SNR=1.0
LOR Lormes 3.57 257 *e*Pg **Pg** **09 37 15.2 -0.6**
baz=81,SNR=1.0
LOR *e*Sg **Sg** **09 38 00.0 -2.1**
comp=N,26nnm,0.2s,SNR=1.0
LOR Lormes 3.57 257 *e*Pg **Pg** **09 37 15.2 -0.6**
SNR=1.0
LOR *e*Sg **Sg** **09 38 00.0 -2.1**
comp=N,13nnm,0.2s,SNR=1.0
LOR Lormes 3.57 257 *e*Pn **Pn** **09 37 03.0 +0.6**
LOR *e*Pg **Pg** **09 37 15.2 -0.6**
LOR *e*Sg **Sg** **09 38 00.0 -2.1**
BAIF Baives 3.63 302 *e*Pn **Pn** **09 37 03.8 +0.6**
SNR=1.0
BAIF *e*Sg **Sg** **09 38 01.6 -2.3**
comp=N,24nnm,0.4s,SNR=1.0
BAIF Baives 3.63 302 *e*Pn **Pn** **09 37 03.8 +0.6**
SNR=1.0
BAIF *e*Sg **Sg** **09 38 01.6 -2.3**
comp=N,12nnm,0.4s,SNR=1.0
MBDF Montbardon 3.80 204 *e*Pg **Pg** **09 37 19.3 -1.0**
SNR=1.0
MBDF *e*Sg **Sg** **09 38 08.2 -1.3**
comp=N,25nnm,0.6s
MBDF Montbardon 3.80 204 *e*Pg **Pg** **09 37 19.3 -1.0**
SNR=1.0
MBDF *e*Sg **Sg** **09 38 08.2 -1.3**
comp=N,12nnm,0.6s
MBDF Montbardon 3.80 204 *e*Pn **Pn** **09 37 06.9 +1.3**
MBDF *e*Pg **Pg** **09 37 19.3 -1.0**
MBDF *e*Sg **Sg** **09 38 08.2 -1.3**
SMF Signal de Mont 3.82 248 *e*Pg **Pg** **09 37 19.8 -0.7**
SNR=1.0
SMF *e*Sg **Sg** **09 38 07.4 -2.5**
comp=N,21nnm,0.3s,SNR=1.0
SMF Signal de Mont 3.82 248 *e*Pg **Pg** **09 37 19.8 -0.7**
SNR=1.0
SMF *e*Sg **Sg** **09 38 07.4 -2.5**
comp=N,10nnm,0.3s,SNR=1.0
SMF Signal de Mont 3.82 248 *e*Pn **Pn** **09 37 05.9 +0.1**
SMF *e*Pg **Pg** **09 37 19.8 -0.7**
SMF *e*Sg **Sg** **09 38 07.4 -2.5**
SSF Saint Saulge 3.87 255 *e*Pg **Pg** **09 37 20.9 -0.6**
SNR=1.0
SSF *e*Sn **Sn** **09 37 49.4 -2.3**
SNR=1.0
SSF *e*Sg **Sg** **09 38 09.3 -2.2**
comp=N,21nnm,0.5s,SNR=1.0
SSF Saint Saulge 3.87 255 *e*Pg **Pg** **09 37 20.9 -0.6**
SNR=1.0
SSF *e*Sn **Sn** **09 37 49.4 -2.3**
SNR=1.0
SSF *e*Sg **Sg** **09 38 09.3 -2.2**
comp=N,10nnm,0.5s,SNR=1.0
SSF Saint Saulge 3.87 255 *e*Pn **Pn** **09 37 06.4 -0.1**
SSF *e*Pg **Pg** **09 37 20.9 -0.6**
SSF *e*Sn **Sn** **09 37 49.4 -2.3**
SSF *e*Sg **Sg** **09 38 09.3 -2.2**
ORIF Oris-en-Rattie 3.92 214 *e*Pn **Pn** **09 37 07.1 -0.2**
SNR=1.0
ORIF *e*Sg **Sg** **09 38 10.5 -2.9**
comp=N,13nnm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 3.92 214 *e*Pn **Pn** **09 37 07.1 -0.2**
SNR=1.0
ORIF *e*Sg **Sg** **09 38 10.5 -2.9**
comp=N,6.3nnm,0.5s,SNR=1.0
FBE Freiberg 3.94 45 *e*Sg **Sg** **09 38 10.2 -3.5**
VOY Vojsko 4.01 121 *e*Pn **Sn** **09 37 53.8 -1.5**
VOY *e*(Sn) **Sg** **09 38 15.0 -1.1**
VOY *e* 09 38 24.4
CLL Collm 4.05 39 *e*Pg **Pg** **09 37 24.1 -0.9**
SNR=3.0
CLL *e*Sg **Sg** **09 38 15.6 -1.9**
SNR=5.1
CLL Collm 4.05 39 *e*Pn **Pg** **09 37 24.0 -1.0**
CLL *e*Sg **Sg** **09 38 16.0 -1.5**
comp=Z,22nnm,0.8s
AVF Avril sur Loir 4.06 252 *e*Pg **Pg** **09 37 23.6 -1.6**
SNR=1.0
AVF *e*Sn **Sn** **09 37 53.1 -3.4**
SNR=1.0
AVF *e*Sg **Sg** **09 38 15.6 -2.2**
comp=Z,5.3nnm,0.2s,SNR=1.0
AVF Avril sur Loir 4.06 252 *e*Pg **Pg** **09 37 23.6 -1.6**
SNR=1.0
AVF *e*Sn **Sn** **09 37 53.1 -3.4**
SNR=1.0
AVF *e*Sg **Sg** **09 38 15.6 -2.2**
comp=Z,2.7nnm,0.2s,SNR=1.0
AVF Avril sur Loir 4.06 252 *e*Pn **Pn** **09 37 08.9 -0.3**
AVF *e*Pg **Pg** **09 37 23.6 -1.6**
AVF *e*Sn **Sn** **09 37 53.1 -3.4**
AVF *e*Sg **Sg** **09 38 15.6 -2.2**
PRU Pruhonice 4.07 62 *e*PG **Pg** **09 37 21.0 -4.4**
PRU *e*SG **Sg** **09 38 16.7 -1.4**
comp=Z,28nnm,0.5s
BRG Berggiesshubel 4.19 49 PG **Pg** **09 37 26.0 -1.7**
BRG SG **Sg** **09 38 18.2 -3.8**
comp=Z,18nnm,0.5s
HYF Humbligny 4.37 260 *e*Sg **Sg** **09 38 26.7 -1.0**
BGF Bois d'Agland 4.47 251 *e*Pg **Pg** **09 37 32.3 -0.8**
SNR=1.0
BGF *e*Sn **Sn** **09 38 04.4 -2.3**
SNR=1.0
BGF *e*Sg **Sg** **09 38 28.9 -2.1**
comp=Z,26nnm,0.4s,SNR=1.0
BGF Bois d'Agland 4.47 251 *e*Pg **Pg** **09 37 32.3 -0.8**
SNR=1.0
BGF *e*Sn **Sn** **09 38 04.4 -2.3**
SNR=1.0
BGF *e*Sg **Sg** **09 38 28.9 -2.1**
comp=Z,13nnm,0.4s,SNR=1.0
BGF Bois d'Agland 4.47 251 *e*Pn **Pn** **09 37 14.5 -0.3**
BGF *e*Pg **Pg** **09 37 32.3 -0.8**
BGF *e*Sn **Sn** **09 38 04.4 -2.3**
BGF *e*Sg **Sg** **09 38 28.9 -2.1**
VIVF Saint-Julien-l 4.48 223 *e*Pn **Pn** **09 37 13.2 -1.7**
comp=Z,8.2nnm,0.4s
VIVF Saint-Julien-l 4.48 223 *e*Pg **Pg** **09 37 32.0 -1.2**
SNR=1.0
VIVF *e*Sn **Sn** **09 38 03.1 -3.7**
SNR=1.0
VIVF *e*Sg **Sg** **09 38 28.1 -3.0**
comp=Z,24nnm,0.7s,SNR=1.0
VIVF Saint-Julien-l 4.48 223 *e*Pn **Pn** **09 37 13.2 -1.7**
comp=Z,4.1nnm,0.4s
VIVF Saint-Julien-l 4.48 223 *e*Pg **Pg** **09 37 32.0 -1.2**
SNR=1.0
VIVF *e*Sn **Sn** **09 38 03.1 -3.7**
SNR=1.0
VIVF *e*Sg **Sg** **09 38 28.1 -3.0**
comp=Z,12nnm,0.7s,SNR=1.0
VIVF Saint-Julien-l 4.48 223 *e*Pn **Pn** **09 37 13.2 -1.7**
VIVF *e*Pg **Pg** **09 37 32.0 -1.2**
VIVF *e*Sn **Sn** **09 38 03.1 -3.7**
VIVF *e*Sg **Sg** **09 38 28.1 -3.0**
FRF La Foret Royal 4.93 200 *e*Sn **Sn** **09 38 14.8 -3.1**
comp=Z,11nnm,0.8s,SNR=1.0
FRF La Foret Royal 4.93 200 *e*Sn **Sn** **09 38 14.8 -3.1**
comp=Z,5.6nnm,0.8s,SNR=1.0
TCF Toulx Ste Croi 4.99 250 *e*Pg **Pg** **09 37 41.5 -1.4**
SNR=1.0
TCF *e*Sn **Sn** **09 38 15.9 -3.4**
TCF *e*Sg **Sg** **09 38 45.8 -1.6**
comp=Z,16nnm,0.5s
TCF Toulx Ste Croi 4.99 250 *e*Pg **Pg** **09 37 41.5 -1.4**
SNR=1.0
TCF *e*Sn **Sn** **09 38 15.9 -3.4**
TCF *e*Sg **Sg** **09 38 45.8 -1.6**
comp=Z,7.8nnm,0.5s
TCF Toulx Ste Croi 4.99 250 *e*Pn **Pn** **09 37 21.4 -0.5**
TCF *e*Pg **Pg** **09 37 41.5 -1.4**
TCF *e*Sn **Sn** **09 38 15.9 -3.4**
TCF *e*Sg **Sg** **09 38 45.8 -1.6**
DPC Dobruska-Polom 5.27 63 *e*Pg **Pg** **09 37 43.4 -4.8**
comp=Z,10nnm,0.5s
DPC *e*Sg **Sg** **09 38 53.9 -2.5**
DPC Dobruska-Polom 5.27 63 *e*PG **Pg** **09 37 43.4 -4.8**
DPC *e*SG **Sg** **09 38 53.9 -2.5**
comp=Z,10nnm,0.5s
ZST Bratislava 5.44 87 *e*SG **Sg** **09 39 01.5 -0.5**
LASF Ste Croix 5.45 222 *e*Sg **Sg** **09 38 59.9 -2.4**
comp=Z,9.1nnm,0.5s
LASF Ste Croix 5.45 222 *e*Sg **Sg** **09 38 59.9 -2.4**
comp=Z,4.6nnm,0.5s
MODS Modra-Piesok 5.55 85 *e*SG **Sg** **09 39 03.7 -1.8**
RJF Les Rejaudoux 5.89 243 *e*Sg **Sg** **09 39 12.8 -3.5**
comp=Z,6.1nnm,0.4s
RJF Les Rejaudoux 5.89 243 *e*Sg **Sg** **09 39 12.8 -3.5**
comp=Z,3.0nnm,0.4s
LDF La Druitiere 6.06 277 *e*Sg **Sg** **09 39 18.6 -3.3**
comp=Z,6.5nnm,0.4s
LDF La Druitiere 6.06 277 *e*Sg **Sg** **09 39 18.6 -3.3**
comp=Z,3.2nnm,0.4s
FLN La Foliniere 6.30 279 *e*Pn **Pn** **09 37 41.0 +1.0**
FLN *e*Sg **Sg** **09 39 26.4 -3.2**
comp=Z,9.9nnm,0.3s
FLN La Foliniere 6.30 279 *e*Pn **Pn** **09 37 41.0 +1.0**
FLN *e*Sg **Sg** **09 39 26.4 -3.2**
comp=Z,4.9nnm,0.3s
MFF Saint Martin d 6.39 259 *e*Pn **Pn** **09 37 41.5 +0.4**
SNR=1.0
MFF *e*Sn **Sn** **09 38 47.9 -6.0**
MFF *e*Sg **Sg** **09 39 28.1 -4.3**
comp=Z,5.1nnm,0.4s
MFF Saint Martin d 6.39 259 *e*Pn **Pn** **09 37 41.5 +0.4**
SNR=1.0
MFF *e*Sn **Sn** **09 38 47.9 -6.0**
MFF *e*Sg **Sg** **09 39 28.1 -4.3**
comp=Z,2.5nnm,0.4s
GRR Gorron 6.56 275 *e*Pn **Pn** **09 37 43.7 +0.3**
GRR *e*Sn **Sn** **09 38 54.3 -3.7**
comp=Z,6.1nnm,0.5s,SNR=1.0
GRR Gorron 6.56 275 *e*Pn **Pn** **09 37 43.7 +0.3**
GRR *e*Sn **Sn** **09 38 54.3 -3.7**

comp=Z,3.0nm,0.5s,SNR=1.0
KECS Kecovo 7.68 84 *e*PN **Pn 09 38 03.7 +4.8**
SGMF Saint Gilles 7.70 275 *e*Sg Sx 09 40 10.0
comp=Z,4.6nm,0.4s
SGMF Saint Gilles 7.70 275 *e*Sg Sx 09 40 10.0
comp=Z,2.3nm,0.4s

*IDC **16** 09:38:43.4±0.8, 979S×159.47E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/16, mbtmp3.9/6, Error ellipse: s-maj=34.0km s-min=8.1km az=143.0*
*ISCJB **16** 09:38:44.6±2.5, 99S±02×1596E±03, h23km±24km, mb3.8/6, Error ellipse: s-maj=45.2km s-min=25.9km az=24.7*
*NEIC **16** 09:38:44.7±0.6, 980S×1595.6E, h10km, Error ellipse: s-maj=24.8km s-min=9.0km az=136.0*
ISC 16 09:38:45.3±2.7, 98S±02×1596E±03, h15km±23km, n8, σ0 56/8, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.50**	**42**	Pg	**Pg**	**09 38 55.2**	**0.0**
	429nm,0.3s,baz=267,slow=2.2,SNR=14						
HNR				Lg		09 39 02.8	
	3μm,0.3s,baz=260,slow=12,SNR=42						
WB2	**Warramunga Arr**	**26.37**	**245**	*e*P	**P**	**09 44 21.4**	**+0.2**
WRA	**Warramunga Arr**	**26.38**	**245**	P	**P**	**09 44 21.9**	**+0.6**
	2.2nm,0.7s,mb3.8,baz=72,slow=10.0,SNR=21						
STKA	**Stephens Creek**	**27.59**	**215**	P	**P**	**09 44 31.9**	**-0.1**
	1.2nm,0.6s,mb3.7,baz=37,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**28.14**	**237**	P	**P**	**09 44 36.4**	**-0.7**
	0.7nm,0.5s,mb3.5,baz=65,slow=10,SNR=13						
VNDA	**Vanda**	**67.71**	**179**	P	**P**	**09 49 41.7**	**+0.1**
	1.0nm,0.7s,mb4.0,baz=347,slow=7.3,SNR=6.4						
SONM	**Songino Array**	**74.17**	**326**	P	**P**	**09 50 20.8**	**-0.5**
	0.6nm,0.4s,mb3.9,baz=151,slow=6.3,SNR=4.3						
MKAR	**Makanchi Array**	**88.52**	**318**	P	**P**	**09 51 37.8**	**+0.4**
	0.3nm,0.6s,mb3.8,baz=84,slow=7.5,SNR=3.6						

*ISCJB **16** 09:43:49.4±0.2, 1407S±004×76.15W±004, h26km, mb5.1/84, MS6.1/2, Error ellipse: s-maj=6.8km s-min=3.2km az=138.5*
*MOS **16** 09:43:50.2±1.3, 1395S×7594W, h33km, mb5.5/26, Error ellipse: s-maj=13.1km s-min=6.9km az=112.2*
*BJI **16** 09:43:50.4, 1369S×7699W, h26km, mB5.7, Ms5.9, Msz5.7*
*NEIC **16** 09:43:52.3±0.2, 1407S×7606W, h35km, mb5.3/57, Error ellipse: s-maj=7.9km s-min=3.8km az=60.0*
NEIC Felt at Lima.
*IDC **16** 09:43:52.2±2.2, 1412S×7626W, h39km±19km, mb4.5/20, mb1 4.6/26, mb1mx4.6/27, mbtmp4.5/26, ML4.2/4, MS4.7/2, Ms1 4.8/2, ms1mx4.0/35, Error ellipse: s-maj=19.0km s-min=10.2km az=69.0*
ISC 16 09:43:52.2±0.2, 1407S±004×7606W±004, h32km, h32km±2.6km: pP-P, n540, σ0 70/517, mb5.1/84, MS6.1/2, 143C-148D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.21**	**340**	Pn	**Pn**	**09 44 25.6**	**-1.1**
	147nm,0.3s,baz=174,slow=16,SNR=14						
NNA				Sn	**Sn**	**09 44 53.0**	**0.0**
	446nm,0.3s,baz=170,slow=16,SNR=6.1						
NNA				LR	LR	09 45 26.8	
	comp=Z,13μm,18.0s,baz=179,slow=43						
ARE	**Arequipa**	**5.00**	**119**	↑P	**Pn**	**09 45 05.9**	**+0.8**
ARE				*e*S	**Sn**	**09 46 05.5**	**+3.6**
ATAH	**Atahualpa**	**7.39**	**342**	Pn	**Pn**	**09 45 36.6**	**-1.4**
	2.6nm,0.3s,baz=199,slow=4.1,SNR=9.6						
ATAH				Sn	**Sn**	**09 47 08.5**	**+7.6**
	6.1nm,0.3s,baz=111,slow=21,SNR=2.7						
LPAZ	**La Paz**	**7.96**	**107**	Pn	**Pn**	**09 45 52.1**	**+6.4**
	9.0nm,0.3s,baz=282,slow=10,SNR=73						
LPAZ				Sn	**Sn**	**09 47 23.9**	**+9.1**
	1.7nm,0.3s,baz=53,slow=24,SNR=1.6						
LPAZ				LR	LR	09 49 15.0	
	comp=Z,5μm,18.5s,baz=214,slow=40						
LPAZ	**La Paz**	**7.96**	**107**	*e*P	**Pn**	**09 45 51.8**	**+6.0**
LPAZ				pmax	pmax		
	comp=Z,162nm,0.2s						
LPAZ	**La Paz**	**7.96**	**107**	*e*Pn	**Pn**	**09 45 51.8**	**+6.0**
	comp=Z,162nm,0.2s						
LVC	**Limon Verde**	**10.87**	**142**	Pn	**Pn**	**09 46 26.3**	**+0.7**
	comp=Z,27nm,0.3s,SNR=90						
LVC				Sn	**Sn**	**09 48 24.0**	**-2.1**
	comp=Z,4.3nm,0.3s,SNR=2.1						
LVC	**Limon Verde**	**10.87**	**142**	*e*Pn	**Pn**	**09 46 26.2**	**+0.6**
OTAV	**Otavalo**	**14.41**	**350**	*e*P	**Pn**	**09 47 20.1**	**+5.9**
SIV	**San Ignacio**	**14.60**	**99**	Pn	**Pn**	**09 47 17.5**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=276,slow=17,SNR=13						
SIV				Sn	**Sn**	**09 50 02.3**	**+4.8**
	comp=Z,0.1nm,0.3s,baz=220,slow=20,SNR=1.9						
LCO	**Las Campanas**	**15.67**	**162**	*e*P	**Pn**	**09 47 30.5**	**-0.2**
	comp=Z,64nm,0.8s						
TLL	**Tololo Astrono**	**16.73**	**164**	*e*P	**Pn**	**09 47 44.6**	**+0.3**
CFAA	**Coronel Fontan**	**18.86**	**159**	P	**Pn**	**09 48 09.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=334,slow=11,SNR=87						
CFAA	**Coronel Fontan**	**18.86**	**159**	P	**Pn**	**09 48 09.6**	**-1.0**
ROSC	**El Rosal**	**18.88**	**5**	P	**Pn**	**09 48 11.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.0						
LMEL	**Las Melosas**	**20.39**	**166**	*e*P	**P**	**09 48 27.6**	**+1.2**
CPUP	**Villa Florida**	**21.36**	**128**	P	**P**	**09 48 37.6**	**+0.7**
	comp=Z,39nm,0.8s,mb4.8,baz=292,slow=11,SNR=77						
CPUP	**Villa Florida**	**21.36**	**128**	*e*P	**P**	**09 48 37.6**	**+0.7**
CPUP				pmax	pmax		
	comp=Z,234nm,1.0s						
CPUP	**Villa Florida**	**21.36**	**128**	*e*P	**P**	**09 48 37.5**	**+0.6**
	comp=Z,234nm,1.0s,mb5.5						
BCIP	**Isla Barro Col**	**23.39**	**351**	*e*P	**P**	**09 48 59.9**	**+1.2**
	comp=Z,161nm,1.8s,mb5.2						
SDV	**Santo Domingo**	**23.44**	**14**	P	**P**	**09 48 59.8**	**+0.7**
	comp=Z,9.9nm,0.6s,mb4.4,baz=270,slow=4.3,SNR=10						
PCRV	**Puerto La Cruz**	**26.62**	**26**	P	**P**	**09 49 29.7**	**+1.6**
	comp=Z,11nm,0.8s,mb4.4,baz=8.9,slow=4.5,SNR=3.2						
PLCA	**Paso Flores**	**26.99**	**171**	P	**P**	**09 49 29.9**	**-1.2**
	comp=Z,17nm,0.8s,mb4.6,baz=343,slow=10,SNR=31						
PLCA				PcP	PcP	09 52 51.5	-0.8
	comp=Z,2.3nm,0.7s,baz=3.4,slow=6.2,SNR=2.9						
PLCA	**Paso Flores**	**26.99**	**171**	P	**P**	**09 49 29.9**	**-1.2**
PLCA				PcP	PcP	09 52 51.5	-0.8
BDFB	**Brasilia**	**27.14**	**97**	P	**P**	**09 49 33.3**	**+0.5**
	comp=Z,4.0nm,0.8s,mb4.0,baz=244,slow=18,SNR=9.9						
SPB	**Sao Paulo**	**28.65**	**114**	*e*P	**P**	**09 49 50.0**	**+3.8**
CBYP	**Canovanas**	**33.68**	**18**	*e*P	**P**	**09 50 29.9**	**-0.5**
CMIG	**Matias Romero**	**36.12**	**328**	P	**P**	**09 50 50.9**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.2,baz=90,slow=11,SNR=3.1						
TEIG	**Tepich**	**36.14**	**340**	P	**P**	**09 50 51.7**	**+0.1**
	comp=Z,13nm,0.6s,mb5.0,baz=148,slow=9.5,SNR=8.9						
USHA	**Ushuaia**	**41.10**	**173**	P	**P**	**09 51 32.3**	**-0.6**
	comp=Z,36nm,0.9s,mb5.0,baz=331,slow=3.6,SNR=9.2						
GOGA	**Godfrey**	**47.74**	**352**	*e*P	**P**	**09 52 25.2**	**-1.0**
GOGA				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
GOGA	**Godfrey**	**47.74**	**352**	*e*P	**P**	**09 52 25.2**	**-1.1**
	comp=Z,33nm,1.1s,mb5.3						
CNNC	**Cliffs of the**	**49.07**	**358**	*e*P	**P**	**09 52 35.5**	**-0.9**
	comp=Z,26nm,0.8s,mb5.3						
JCT	**Junction City**	**49.84**	**333**	*e*P	**P**	**09 52 48.9**	**+6.5**
JCT				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.1						
JCT	**Junction City**	**49.84**	**333**	*e*P	**P**	**09 52 48.9**	**+6.5**
	comp=Z,33nm,1.5s,mb5.1						
CPCT	**Cooper Cave**	**49.90**	**351**	*e*P	**P**	**09 52 41.5**	**-1.3**
SWET	**Sewanee**	**49.91**	**349**	*e*P	**P**	**09 52 41.1**	**-1.7**
PLAL	**Pickwick Lake**	**50.10**	**347**	*e*P	**P**	**09 52 42.1**	**-2.2**
	comp=Z,32nm,1.1s,mb5.3						
TZTN	**Tazewell**	**50.84**	**352**	*e*P	**P**	**09 52 48.3**	**-1.5**
	comp=Z,68nm,1.6s,mb5.3						
UALR	**University of**	**50.98**	**343**	*e*P	**P**	**09 52 50.5**	**-0.5**
	comp=Z,49nm,1.2s,mb5.3						
MIAR	**Mount Ida**	**51.14**	**341**	*e*P	**P**	**09 52 51.4**	**-0.7**
BLA	**Blacksburg**	**51.17**	**356**	*e*P	**P**	**09 52 52.0**	**-0.3**
BLA				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
BLA	**Blacksburg**	**51.17**	**356**	*e*P	**P**	**09 52 52.0**	**-0.3**
	comp=Z,17nm,0.8s,mb5.0						
ELN	**Prospectdale**	**51.22**	**355**	*e*P	**P**	**09 52 52.1**	**-0.5**
PMSA	**Palmer Station**	**51.31**	**173**	*e*P	**P**	**09 52 53.2**	**+0.2**
	comp=Z,37nm,1.1s,mb5.2						
WCI	**Wyandotte Cave**	**52.90**	**350**	*e*P	**P**	**09 53 03.3**	**-1.9**
SIUC	**Southern Illin**	**52.98**	**347**	*e*P	**P**	**09 53 04.5**	**-1.3**
WMOK	**Wichita Mounta**	**53.12**	**337**	*e*P	**P**	**09 53 07.2**	**+0.3**
WMOK				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1						
WMOK	**Wichita Mounta**	**53.12**	**337**	*e*P	**P**	**09 53 07.2**	**+0.3**
	comp=Z,40nm,1.6s,mb5.1						
SDMD	**Soldier's Deli**	**53.21**	**359**	*e*P	**P**	**09 53 07.5**	**+0.1**
GDL2	**Guadalupe Moun**	**53.40**	**330**	*e*P	**P**	**09 53 09.6**	**+0.5**
FVM	**French Village**	**53.51**	**346**	*e*P	**P**	**09 53 08.7**	**-1.0**
FVM				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
FVM	**French Village**	**53.51**	**346**	*e*P	**P**	**09 53 08.7**	**-0.9**
	comp=Z,27nm,1.0s,mb5.1						
MVL	**Millersville**	**53.79**	**360**	*e*P	**P**	**09 53 07.4**	**-4.3**
	comp=Z,50nm,1.4s,mb5.2						
BLO	**Bloomington**	**53.86**	**350**	*e*P	**P**	**09 53 10.5**	**-1.7**
ACSO	**Alum Creek Sta**	**54.41**	**353**	*e*P	**P**	**09 53 14.9**	**-1.3**
PAL	**Palisades**	**54.83**	**2**	*e*P	**P**	**09 53 19.2**	**-0.1**
319A	**Douglas**	**55.31**	**325**	⇑P	**P**	**09 53 23.1**	**+0.2**
	baz=56,SNR=6.2						
318A	**Bisbee**	**55.75**	**325**	⇓P	**P**	**09 53 26.6**	**+0.5**
	baz=56,SNR=10.0						
219A	**White Tail Can**	**55.77**	**326**	⇓P	**P**	**09 53 26.5**	**+0.3**
	baz=56,SNR=6.6						
BINY	**Binghamton**	**55.99**	**0**	*e*P	**P**	**09 53 27.6**	**+0.1**
BNM	**Barren Site**	**56.09**	**329**	*e*P	**P**	**09 53 28.8**	**+0.3**
218A	**Dragoon**	**56.19**	**325**	⇑P	**P**	**09 53 30.3**	**+1.1**
	baz=56,SNR=5.6						
HRV	**Adam Dziewonsk**	**56.45**	**4**	*e*P	**P**	**09 53 30.3**	**-0.5**
HRV				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
HRV	**Adam Dziewonsk**	**56.45**	**4**	*e*P	**P**	**09 53 30.3**	**-0.5**
	comp=Z,11nm,0.8s,mb4.9						
217A	**Green Valley**	**56.47**	**324**	⇓P	**P**	**09 53 31.6**	**+0.4**
	baz=57,SNR=6.8						
LAZ	**Ladron**	**56.55**	**329**	*e*P	**P**	**09 53 32.1**	**+0.4**
118A	**Homack Ranch,**	**56.65**	**326**	⇓P	**P**	**09 53 32.0**	**-0.5**
	baz=57,SNR=7.9						
ANMO	**Albuquerque**	**56.65**	**330**	*e*P	**P**	**09 53 32.3**	**-0.2**
TUC	**Tucson**	**56.85**	**325**	*e*P	**P**	**09 53 33.7**	**-0.2**
TUC				pmax	pmax		
	comp=Z,56nm,1.8s,mb5.3						
TUC	**Tucson**	**56.85**	**325**	*e*P	**P**	**09 53 33.7**	**-0.2**
	comp=Z,56nm,1.8s,mb5.3						
216A	**Three Points,**	**57.00**	**324**	⇓P	**P**	**09 53 35.0**	**0.0**
	baz=57,SNR=5.2						
117A	**Oracle**	**57.02**	**325**	⇓P	**P**	**09 53 34.7**	**-0.4**
	baz=57,SNR=7.1						
CBKS	**Cedar Bluff**	**57.08**	**338**	*e*P	**P**	**09 53 37.5**	**+2.1**
CBKS				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.4						
CBKS	**Cedar Bluff**	**57.08**	**338**	*e*P	**P**	**09 53 37.5**	**+2.0**
	comp=Z,42nm,1.1s,mb5.4						
ACCN	**Adirondack Com**	**57.22**	**2**	*e*P	**P**	**09 53 36.5**	**+0.3**
Y19A	**Nutrioso**	**57.28**	**327**	⇓P	**P**	**09 53 36.8**	**-0.1**
	baz=58,SNR=5.9						
Y18A	**Canyon Day Jun**	**57.55**	**327**	⇑P	**P**	**09 53 39.3**	**+0.5**
	baz=58,SNR=5.5						
116A	**Eloy**	**57.56**	**324**	⇓P	**P**	**09 53 39.1**	**+0.2**
	baz=58,SNR=6.2						
214A	**Organ Pipe Nat**	**57.75**	**323**	⇓P	**P**	**09 53 40.8**	**+0.6**
	baz=58,SNR=6.6						
NCB	**Newcomb**	**57.78**	**2**	*e*P	**P**	**09 53 40.3**	**+0.1**
MDV	**Middlebury**	**57.85**	**2**	*e*P	**P**	**09 53 41.0**	**+0.3**
SCIA	**State Center**	**57.91**	**345**	*e*P	**P**	**09 53 41.4**	**+0.3**
	comp=Z,53nm,1.5s,mb5.3						
Y17A	**Roosevelt**	**57.93**	**326**	⇑P	**P**	**09 53 41.2**	**-0.3**
	baz=58						
115A	**Sonoran Desert**	**57.96**	**324**	⇓P	**P**	**09 53 41.9**	**+0.2**
	baz=58						
Z16A	**Peralta Trail,**	**57.98**	**325**	⇑P	**P**	**09 53 41.8**	**0.0**
	baz=58						
Z15A	**Gila River Ind**	**58.35**	**325**	⇓P	**P**	**09 53 44.8**	**+0.3**
	baz=58						
X17A	**Forest Lakes**	**58.39**	**326**	⇓P	**P**	**09 53 45.7**	**+1.0**
	baz=59,SNR=7.7						
Y16A	**Circle Bar Ran**	**58.41**	**326**	⇑P	**P**	**09 53 46.3**	**+1.5**
	baz=59,SNR=7.2						
LONY	**Lake Ozonia**	**58.42**	**1**	*e*P	**P**	**09 53 44.3**	**-0.4**
SDCO	**Great Sand Dun**	**58.49**	**333**	*e*P	**P**	**09 53 45.3**	**-0.1**
	comp=Z,21nm,1.0s,mb5.1						
FRNY	**Flat Rock**	**58.67**	**2**	*e*P	**P**	**09 53 46.3**	**-0.1**
X16A	**Lo Mia Camp, P**	**58.80**	**326**	⇓P	**P**	**09 53 48.0**	**+0.4**
	baz=59,SNR=7.5						
Y15A	**Casa Rosa Ranc**	**58.94**	**325**	⇓P	**P**	**09 53 49.0**	**+0.4**
	baz=59,SNR=5.8						
X15A	**Humboldt**	**59.28**	**325**	⇑P	**P**	**09 53 51.3**	**+0.4**
	baz=60,SNR=8.3						
Y14A	**Wickenburg**	**59.31**	**324**	⇓P	**P**	**09 53 51.4**	**+0.4**
	baz=60,SNR=7.1						
W16A	**Flagstaff**	**59.35**	**326**	⇓P	**P**	**09 53 52.0**	**+0.6**
	baz=60,SNR=7.5						
T19A	**Beclabito**	**59.40**	**330**	⇑P	**P**	**09 53 51.0**	**-0.7**
	baz=60,SNR=7.0						
MVCO	**Mesa Verde**	**59.45**	**330**	⇓P	**P**	**09 53 50.9**	**-1.1**
	baz=60						
MVCO	**Mesa Verde**	**59.45**	**330**	*e*P	**P**	**09 53 51.8**	**-0.2**
	comp=Z,28nm,1.4s,mb5.1						
U18A	**Rough Rock, Ch**	**59.50**	**329**	⇓P	**P**	**09 53 52.3**	**-0.1**
	baz=60,SNR=6.1						
WUAZ	**Wupatki**	**59.59**	**327**	⇑P	**P**	**09 53 53.2**	**+0.1**
	baz=60						
WUAZ	**Wupatki**	**59.59**	**327**	*e*P	**P**	**09 53 53.5**	**+0.5**
X14A	**Yava**	**59.63**	**325**	⇓P	**P**	**09 53 53.5**	**+0.2**
	baz=60,SNR=7.4						
Y13A	**Salome**	**59.68**	**324**	⇓P	**P**	**09 53 54.2**	**+0.5**
	baz=60						
GLA	**Glamis**	**59.72**	**322**	*e*P	**P**	**09 54 01.3**	**+7.3**
GLA				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.1						
GLA	**Glamis**	**59.72**	**322**	*e*P	**P**	**09 54 01.3**	**+7.3**
	comp=Z,30nm,1.4s,mb5.1						
W15A	**Williams**	**59.81**	**326**	⇑P	**P**	**09 53 55.2**	**+0.6**
	baz=60						
Y12C	**Blythe**	**60.04**	**323**	⇑P	**P**	**09 53 57.2**	**+1.0**
	baz=60						
U17A	**Shonto**	**60.05**	**328**	⇓P	**P**	**09 53 56.6**	**+0.5**
	baz=60,SNR=6.1						
T18A	**Mexican Hat**	**60.06**	**329**	⇓P	**P**	**09 53 56.1**	**-0.1**
	baz=60,SNR=5.3						
S19A	**Harvey Farm, M**	**60.18**	**330**	⇑P	**P**	**09 53 56.6**	**-0.4**
	baz=60,SNR=5.6						
PV01	**Paradox Valley**	**60.22**	**331**	*e*P	**P**	**09 53 57.7**	**+0.5**
V15A	**Kaibab Nationa**	**60.24**	**327**	⇑P	**P**	**09 53 58.3**	**+0.8**
	baz=60,SNR=7.0						
ISCO	**Idaho Springs**	**60.25**	**334**	*e*P	**P**	**09 53 57.8**	**+0.4**
X13A	**Yucca**	**60.25**	**324**	⇑P	**P**	**09 53 58.1**	**+0.5**
	baz=60,SNR=7.8						
W14A	**Seligman**	**60.29**	**325**	⇓P	**P**	**09 53 58.1**	**+0.3**
	baz=60,SNR=9.7						
T17A	**Navajo Res., N**	**60.42**	**328**	⇑P	**P**	**09 53 58.8**	**+0.1**
	baz=61,SNR=7.2						
BC3	**Big Chuckw Mtn**	**60.52**	**323**	⇓P	**P**	**09 54 00.1**	**+0.7**
	baz=61						
ECSD	**EROS,Sioux Fal**	**60.52**	**343**	*e*P	**P**	**09 53 57.8**	**-1.4**
	comp=Z,32nm,1.3s,mb5.3						
S18A	**Hurst Farm, Bl**	**60.56**	**329**	⇓P	**P**	**09 53 59.9**	**+0.3**
	baz=61						
BAR	**Barrett**	**60.57**	**321**	*e*P	**P**	**09 54 07.1**	**+7.3**
V14A	**Boquillas Ranc**	**60.61**	**326**	⇑P	**P**	**09 54 00.6**	**+0.6**
	baz=61,SNR=9.2						
W13A	**Hualapai Mount**	**60.65**	**325**	⇓P	**P**	**09 54 00.5**	**+0.2**
	baz=61,SNR=8.3						
R19A	**Curley Farm, L**	**60.67**	**330**	⇓P	**P**	**09 54 00.4**	**0.0**
	baz=61						
IRM	**Iron Mountain**	**60.70**	**323**	⇓P	**P**	**09 54 00.7**	**+0.1**
	baz=61						
U15A	**North Rim**	**60.76**	**327**	⇓P	**P**	**09 54 01.0**	**0.0**
	baz=61,SNR=9.5						
S17A	**Black Ridge (B**	**60.92**	**329**	⇑P	**P**	**09 54 02.8**	**+0.7**
	baz=61,SNR=7.9						
R18A	**Canyonlands Na**	**61.05**	**330**	⇑P	**P**	**09 54 02.2**	**-0.7**
	baz=61						
PFO	**Pinyon Flat Ob**	**61.08**	**322**	*e*P	**P**	**09 54 03.8**	**+0.6**
PFO				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.3						
PFO	**Pinyon Flat Ob**	**61.08**	**322**	⇑P	**P**	**09 54 04.1**	**+0.8**
	baz=61						
PFO	**Pinyon Flat Ob**	**61.08**	**322**	*e*P	**P**	**09 54 03.8**	**+0.5**
	comp=Z,32nm,1.3s,mb5.3						
BELC	**Belle Mtn.**	**61.08**	**322**	⇓P	**P**	**09 54 03.6**	**+0.4**
	baz=61						
Q19A	**Hogan Spring (**	**61.20**	**331**	⇑P	**P**	**09 54 03.5**	**-0.5**
	baz=61						
U14A	**Mt Trumbull**	**61.23**	**326**	⇑P	**P**	**09 54 05.2**	**+0.9**
	baz=61,SNR=8.9						
V13A	**Grand Canyon W**	**61.25**	**325**	⇓P	**P**	**09 54 04.9**	**+0.5**
	baz=62,SNR=7.8						
T15A	**Red Dirt Ranch**	**61.26**	**327**	⇑P	**P**	**09 54 05.0**	**+0.6**
	baz=62,SNR=6.6						
LDFC	**Landfair**	**61.33**	**324**	*e*P	**P**	**09 54 13.1**	**+8.3**
S16A	**Weppner Ranch,**	**61.38**	**328**	⇓P	**P**	**09 54 05.2**	**-0.1**
	baz=62,SNR=7.8						
GMRC	**Granite Mounta**	**61.43**	**323**	⇑P	**P**	**09 54 05.6**	**0.0**
	baz=62						
R17A	**Hanksville Air**	**61.48**	**329**	⇓P	**P**	**09 54 05.7**	**-0.1**
	baz=62,SNR=7.8						
MURC	**Murrieta**	**61.52**	**321**	⇑P	**P**	**09 54 06.6**	**+0.4**
	baz=62						
V12A	**Nelson**	**61.65**	**325**	⇓P	**P**	**09 54 07.2**	**+0.1**
	baz=62,SNR=7.3						
U13A	**Pakoon Wash**	**61.66**	**326**	⇓P	**P**	**09 54 07.2**	**+0.1**
	baz=62,SNR=8.1						
T14A	**Hurricane**	**61.66**	**327**	⇓P	**P**	**09 54 07.5**	**+0.4**
	baz=62,SNR=6.1						
Q18A	**Rafter H Ranch**	**61.73**	**330**	⇓P	**P**	**09 54 07.3**	**-0.3**
	baz=62,SNR=6.3						
S15A	**Panguitch**	**61.74**	**328**	⇑P	**P**	**09 54 07.8**	**+0.2**
	baz=62						
BBRC	**Big Bear Sol-O**	**61.81**	**322**	⇑P	**P**	**09 54 08.4**	**+0.3**
	baz=62						
HEC	**Hector,Ludlow**	**61.86**	**323**	⇓P	**P**	**09 54 09.5**	**+1.1**
	baz=62						
SRU	**San Rafael**	**61.93**	**330**	⇓P	**P**	**09 54 08.8**	**-0.1**
	baz=62						
SRU	**San Rafael**	**61.93**	**330**	*e*P	**P**	**09 54 08.8**	**0.0**
U12A	**Valley of Fire**	**61.98**	**325**	⇑P	**P**	**09 54 09.7**	**+0.4**
	baz=62						
TUQ	**Turquoise Mtn.**	**62.05**	**324**	⇓P	**P**	**09 54 09.2**	**-0.5**
	baz=62						
V11A	**Goodsprings**	**62.05**	**324**	⇑P	**P**	**09 54 09.8**	**0.0**
	baz=62						
T13A	**Saint George**	**62.07**	**326**	⇑P	**P**	**09 54 10.2**	**+0.4**
	baz=62						
Q16A	**Castle Valley**	**62.09**	**329**	⇑P	**P**	**09 54 09.9**	**0.0**
	baz=62						
R15A	**Junction**	**62.10**	**328**	⇓P	**P**	**09 54 10.1**	**+0.1**
	baz=62						
P18A	**Preston Nutter**	**62.20**	**331**	⇑P	**P**	**09 54 10.7**	**0.0**
	baz=62						
S14A	**Cedar City**	**62.23**	**327**	⇓P	**P**	**09 54 10.8**	**-0.1**
	baz=62						
BFSC	**Mount Baldy St**	**62.24**	**322**	⇓P	**P**	**09 54 11.2**	**+0.1**
	baz=62						
MSU	**Marysvale**	**62.28**	**329**	*e*P	**P**	**09 54 11.7**	**+0.4**
P17A	**Butcher Ranch,**	**62.31**	**330**	⇓P	**P**	**09 54 11.3**	**-0.1**
	baz=62						
SHPR	**Sheep Range**	**62.38**	**325**	*e*P	**P**	**09 54 12.3**	**+0.3**
TMUT	**Trail Mountain**	**62.40**	**330**	*e*P	**P**	**09 54 19.5**	**+7.5**
S13A	**Holt Ranch, En**	**62.46**	**327**	⇑P	**P**	**09 54 13.2**	**+0.7**
	baz=63,SNR=7.5						
GSC	**Goldstone**	**62.47**	**323**	⇑P	**P**	**09 54 12.8**	**+0.3**
	baz=63						
MWC	**Mount Wilson**	**62.47**	**321**	*e*P	**P**	**09 54 11.9**	**-0.7**
RWWY	**Rawlins**	**62.49**	**334**	*e*P	**P**	**09 54 12.6**	**0.0**
SHOC	**Shoshone**	**62.58**	**324**	⇑P	**P**	**09 54 13.4**	**+0.1**
	baz=63						
O18A	**Roosevelt**	**62.59**	**331**	⇑P	**P**	**09 54 13.3**	**0.0**
	baz=63						
DECC	**Green Verdugo**	**62.65**	**321**	⇓P	**P**	**09 54 14.2**	**+0.4**
	baz=63						
Q15A	**Fillmore**	**62.76**	**329**	⇑P	**P**	**09 54 14.6**	**+0.2**
	baz=63						
EDW2	**Edwards Air Fo**	**62.87**	**322**	⇓P	**P**	**09 54 15.8**	**+0.5**
	baz=63						
T11A	**Corn Creek, Al**	**62.95**	**326**	⇑P	**P**	**09 54 15.8**	**+0.1**
	baz=63,SNR=6.5						
R13A	**O'Grain Ranch,**	**62.96**	**327**	⇓P	**P**	**09 54 16.1**	**+0.3**
	baz=63						
N18A	**Larsen Ranch,**	**63.00**	**332**	⇑P	**P**	**09 54 16.0**	**+0.1**
	baz=63,SNR=6.3						
LRMC	**Laurel Mountai**	**63.10**	**323**	⇑P	**P**	**09 54 17.3**	**+0.5**
	baz=63						
MPU	**Maple Canyon**	**63.17**	**330**	*e*P	**P**	**09 54 24.8**	**+7.7**
Q14A	**Sevier Lake (B

baz=65,SNR=6.7
MTUM Tungsten Hills 64.91 324 eP P 09 54 29.5 +0.9
O12A Currie 64.91 328 ⇓P P 09 54 28.2 -0.4
baz=65,SNR=7.8
L15A Malad City 65.07 331 ⇑P P 09 54 28.7 -0.8
baz=65,SNR=5.6
HVU Hansel Valley 65.08 330 eP P 09 54 29.6 0.0
M14A Sheep Mountain 65.14 330 ⇑P P 09 54 29.2 -0.9
baz=65,SNR=7.5
MLAC Mammoth Lakes 65.26 324 ⇓P P 09 54 32.0 +1.1
baz=65
KCC Kaiser Creek 65.33 323 ⇓P P 09 54 31.1 -0.2
baz=66
R08A Mina 65.34 325 ⇓P P 09 54 31.9 +0.6
baz=66
P10A Eureka 65.34 327 ⇓P P 09 54 31.5 +0.2
baz=66
K16A Soda Springs 65.34 332 ⇑P P 09 54 31.1 -0.2
baz=66,SNR=5.4
T06C Millerton Lake 65.34 323 ⇓P P 09 54 31.7 +0.2
baz=66
REDW Red Top Meadow 65.43 333 eP P 09 54 32.2 +0.4
comp=Z,44nm,1.5s,mb5.3
M13A Montello 65.44 329 ⇑P P 09 54 31.5 -0.5
baz=66
SNOW Snow King Moun 65.46 333 eP P 09 54 39.5 +7.4
comp=Z,53nm,1.9s,mb5.2
L14A Malta 65.50 330 ⇓P P 09 54 31.8 -0.5
baz=66
N12A Clover Valley, 65.50 328 ⇓P P 09 54 32.2 -0.2
baz=66
NVAR Mina Array Bea 65.50 325 P P 09 54 32.0 -0.5
comp=Z,1.5nm,0.8s,mb4.1,baz=138,slow=5.7,SNR=3.0
LOHW Long Hollow 65.52 333 eP P 09 54 32.1 -0.3
comp=Z,66nm,2.1s,mb5.3
ELK Elko 65.52 328 eP P 09 54 39.7 +7.2
U04C Hernandez Rese 65.55 321 ⇑P P 09 54 33.4 +0.5
baz=66
TPAW Teton Pass 65.57 333 eP P 09 54 39.6 +6.8
comp=Z,40nm,1.6s,mb5.2
Q08A Gabbs 65.60 325 ⇑P P 09 54 33.7 +0.6
baz=66,SNR=5.2
RRI2 Red Ridge 65.62 332 eP P 09 54 33.2 0.0
comp=Z,39nm,1.0s,mb5.4
P09A Austin 65.65 326 ⇑P P 09 54 33.4 +0.1
baz=66
K15A Arbon 65.66 331 ⇓P P 09 54 33.0 -0.3
baz=66
MOOW Moose Ponds 65.69 333 eP P 09 54 33.6 +0.1
R07C Lee Vining 65.69 324 ⇑P P 09 54 34.2 +0.5
baz=66,SNR=5.5
J16A Bone 65.70 332 ⇑P P 09 54 33.3 -0.3
baz=66
O10A Cortez Mining, 65.84 327 ⇓P P 09 54 34.9 +0.3
baz=66,SNR=5.4
M12A Wells 65.85 329 ⇓P P 09 54 34.2 -0.4
baz=66
K14A Jones Ranch, D 65.86 331 ⇓P P 09 54 34.1 -0.5
baz=66
L13A Double Diamond 65.88 330 ⇓P P 09 54 35.1 +0.4
baz=66,SNR=5.8
IMW Indian Meadow 65.89 333 eP P 09 54 34.7 -0.1
comp=Z,28nm,1.4s,mb5.1
FLWY Flagg Ranch 65.93 333 eP P 09 54 35.1 0.0
S05C Merced 65.94 322 ⇑P P 09 54 35.2 -0.1
baz=66
S06C San Francisco 66.01 323 ⇓P P 09 54 36.4 +0.6
baz=66,SNR=5.8
HAST Hastings Reser 66.04 321 ⇓P P 09 54 35.8 -0.1
baz=66
O09A Fish Creek Ran 66.12 327 ⇑P P 09 54 36.4 0.0
baz=66,SNR=6.0
RLMT Red Lodge 66.16 335 eP P 09 54 36.2 -0.3
comp=Z,24nm,1.3s,mb5.1
R06C Coleville 66.22 324 ⇑P P 09 54 37.3 +0.2
baz=66,SNR=5.9
P08A Dixie Valley 66.27 326 ⇓P P 09 54 37.8 +0.5
baz=66
M11A Holland Ranch, 66.31 328 ⇑P P 09 54 37.5 0.0
baz=66,SNR=5.9
K13A Stover Farm, H 66.37 330 ⇑P P 09 54 38.5 +0.5
baz=67
ULM Lac du Bonnet 66.37 346 P P 09 54 36.1 -1.6
comp=Z,10nm,0.9s,mb4.9,baz=158,slow=6.4,SNR=10
CMB Columbia Colle 66.43 323 eP P 09 54 45.7 +7.3
CMB pmax pmax
comp=Z,34nm,1.8s,mb5.1
CMB Columbia Colle 66.43 323 ⇓P P 09 54 38.7 +0.3
baz=67
CMB Columbia Colle 66.43 323 eP P 09 54 45.7 +7.3
comp=Z,34nm,1.8s,mb5.1
L12A House Creek Ra 66.45 329 ⇑P P 09 54 38.8 +0.3
baz=67
R05C Kirkwood Meado 66.70 324 ⇑P P 09 54 40.6 +0.5
baz=67,SNR=5.7
K12A Draper Farm, C 66.76 330 ⇑P P 09 54 40.2 -0.2
baz=67,SNR=6.3
L11A Cat Creek Ranc 66.83 329 ⇓P P 09 54 40.6 -0.3
baz=67,SNR=6.1
GCMT Greycliff 66.87 335 eP P 09 54 40.8 -0.2
R04C Big Horse Ranc 66.90 323 ⇓P P 09 54 41.9 +0.4
baz=67,SNR=5.9
WCN Washoe City 66.93 324 ⇑P P 09 54 41.9 +0.4
baz=67
J13A Cove Ranch, Pi 66.98 331 ⇑P P 09 54 41.5 -0.3
baz=67
PAHR Pah Rah Range 67.00 325 eP P 09 54 43.0 +1.0
O07A Toulon 67.03 326 ⇓P P 09 54 41.9 -0.3
baz=67,SNR=5.7
N08A GE Springer Mi 67.06 326 ⇓P P 09 54 42.3 -0.1
baz=67
DGMT Dagmar 67.10 340 eP P 09 54 44.1 +1.7
comp=Z,45nm,1.4s,mb5.3
L10A Juniper Basin 67.12 328 ⇑P P 09 54 42.6 -0.1
baz=67,SNR=5.8
M09A Marrel Ranch, 67.16 327 ⇓P P 09 54 42.7 -0.3
baz=67
HLID Hailey 67.22 331 ⇑P P 09 54 43.3 0.0
baz=67
HLID Hailey 67.22 331 eP P 09 54 43.6 +0.3
comp=Z,58nm,1.9s,mb5.3
P06A Stead Airport, 67.26 325 ⇓P P 09 54 44.1 +0.4
baz=68
J12A Stokes Ranch, 67.31 330 ⇓P P 09 54 44.3 +0.4
baz=68
I13A Wildhorse Cree 67.35 331 ⇑P P 09 54 44.1 -0.1
baz=68,SNR=12
P05C Yuba Gap, Truc 67.41 324 ⇓P P 09 54 45.3 +0.7
baz=68
K11A Parker Ranch, 67.41 329 ⇑P P 09 54 44.7 +0.2
baz=68
MCMT McKenzie Canyo 67.47 333 eP P 09 54 45.4 +0.6
N07B Gerlach 67.51 326 ⇑P P 09 54 45.5 +0.3
baz=68,SNR=5.3
Q04C Lincoln 67.55 323 ⇓P P 09 54 45.6 +0.1
baz=68
G15A Dillon 67.57 333 ⇑P P 09 54 45.7 +0.2
baz=68
BOZ Bozeman (W) 67.58 334 ⇓P P 09 54 44.8 -0.7
baz=68
BOZ Bozeman (W) 67.58 334 eP P 09 54 44.7 -0.8
BEKR Beckwourth 67.65 324 ⇓P P 09 54 46.0 -0.1
baz=68
M08A Happy Creek Ra 67.67 327 ⇓P P 09 54 46.1 -0.1
baz=68
L09A Wilkinson Ranc 67.70 328 ⇑P P 09 54 46.0 -0.4
baz=68,SNR=6.7
DLMT Dillon 67.77 333 eP P 09 54 46.8 0.0
MFID Camas Ranch 67.79 330 ⇑P P 09 54 46.2 -0.7
baz=68,SNR=8.1
K10A MacKenzie Ranc 67.84 329 ⇑P P 09 54 46.8 -0.4
baz=68,SNR=6.8
H13A Challis 67.90 332 ⇓P P 09 54 47.2 -0.4
baz=68,SNR=9.3
OHCM Honcut 67.94 323 eP P 09 54 55.6 +7.6
N06A Buffalo Meadow 67.96 325 ⇑P P 09 54 47.4 -0.6
baz=68,SNR=7.5
O05C Quincy 68.03 324 ⇓P P 09 54 49.1 +0.6
baz=68
M07A Soldier Meadow 68.05 326 ⇓P P 09 54 48.9 +0.3
baz=68,SNR=6.0
LRM Limekiln Ridge 68.07 333 eP P 09 54 48.6 0.0
ORV Oroville 68.09 324 ⇓P P 09 54 48.9 -0.1
baz=68
H12A Diamond D Ranc 68.17 331 ⇑P P 09 54 48.8 -0.5
baz=68
K09A Rome 68.22 328 ⇑P P 09 54 49.4 -0.2
baz=68,SNR=7.3
I11A Placerville 68.22 330 ⇑P P 09 54 49.4 -0.2
baz=68,SNR=5.2
J10A Berg Farm, Mel 68.26 329 ⇓P P 09 54 50.0 +0.1
baz=68
G13A Cobalt 68.30 332 ⇑P P 09 54 50.1 0.0
baz=68,SNR=8.2
O04C Chester 68.37 324 ⇓P P 09 54 50.6 0.0
baz=69
F14A Wisdom 68.46 333 ⇓P P 09 54 51.4 +0.3
baz=69,SNR=5.1
L07A Adell 68.58 327 ⇓P P 09 54 52.5 +0.6
baz=69
E15A Deer Lodge 68.62 334 ⇓P P 09 54 51.5 -0.6
baz=69
M06C Likely Place G 68.63 325 ⇓P P 09 54 52.1 -0.1
baz=69,SNR=6.5
K08A Mann Creek Ran 68.63 328 ⇓P P 09 54 51.8 -0.4
baz=69
J09A Fry Pan Ranch, 68.70 329 ⇓P P 09 54 52.4 -0.2
baz=69,SNR=5.6
EGMT Eagleton 68.72 336 eP P 09 54 59.9 +7.2
H11A Donnelly 68.83 331 ⇓P P 09 54 52.8 -0.6
baz=69
GASB Alder Springs 68.86 323 ⇑P P 09 54 54.5 +0.8
baz=69
F13A Darby 68.88 332 ⇑P P 09 54 53.5 -0.2
baz=69,SNR=7.8
HATC Hat Creek Radi 68.91 325 ⇓P P 09 54 54.5 +0.5
baz=69
E14A Clinton 68.98 333 ⇓P P 09 54 54.4 +0.1
baz=69
K07A Rock Creek Ran 69.00 327 ⇑P P 09 54 54.6 +0.1
baz=69
MOD Modoc 69.01 326 ⇓P P 09 54 54.7 0.0
baz=69
MOD Modoc 69.01 326 eP P 09 54 54.7 +0.1
J08A Circle Bar Ran 69.07 328 ⇓P P 09 54 54.4 -0.6
baz=69
SCHQ Schefferville 69.08 6 P P 09 54 53.0 -1.8
comp=Z,5.6nm,0.9s,mb4.5,baz=200,slow=6.1,SNR=4.0
SCHQ Schefferville 69.08 6 P P 09 54 53.0 -1.8
H10A Noah's Angus R 69.10 330 ⇑P P 09 54 54.6 -0.5
baz=69
M05C Lookout 69.10 325 ⇑P P 09 54 55.3 +0.1
baz=69
P01C Double 8 Ranch 69.11 323 ⇑P P 09 54 55.3 0.0
baz=69,SNR=5.2
I09A Lost Marbles R 69.14 329 ⇓P P 09 54 54.9 -0.5
baz=69
O02C Red Bluff 69.25 323 ⇑P P 09 54 55.5 -0.6
baz=69
CHMT Chamberlain Mo 69.27 334 eP P 09 54 57.6 +1.6
F12A Elk City 69.27 332 ⇓P P 09 54 55.5 -0.7
baz=70
E13A Victor 69.31 333 ⇓P P 09 54 55.4 -1.0
baz=70,SNR=9.0
L05A Lakeview 69.40 326 ⇑P P 09 54 57.0 0.0
baz=70,SNR=6.3
G11A Walters Elk Ra 69.47 331 ⇑P P 09 54 56.5 -0.9
baz=70,SNR=8.3
MSO Missoula 69.50 333 eP P 09 54 57.8 +0.3
comp=Z,44nm,1.8s,mb5.1
D14A Greenough 69.51 334 ⇑P P 09 54 56.9 -0.7
baz=70
VNA1 Neumayer--Stat 69.51 161 eP P 09 54 57.9 +0.6
VNA1 e pP 09 55 08.8 +1.6
VNA1 e 09 55 12.8
J07A Hines 69.51 328 ⇑P P 09 54 57.4 -0.3
baz=70
I08A Drewsey 69.51 329 ⇑P P 09 54 57.8 +0.2
baz=70
BMO Blue Mountains 69.57 330 eP P 09 54 57.3 -0.7
M03C McCloud 69.59 325 ⇑P P 09 54 58.4 +0.2
baz=70
K06A Valley Falls 69.60 327 ⇑P P 09 54 58.4 +0.1
baz=70,SNR=13
M04C Macdoel 69.77 325 ⇑P P 09 54 59.2 -0.1
baz=70
F11A Grangeville 69.78 331 ⇑P P 09 54 58.3 -1.0
baz=70,SNR=13
G10A Bishop Farm, J 69.80 330 ⇓P P 09 54 59.2 -0.2
baz=70,SNR=12
O01C Eel River Cons 69.83 323 ⇑P P 09 54 59.7 0.0
baz=70
J06A Christmas Vall 69.87 327 ⇑P P 09 55 00.2 +0.4
baz=70,SNR=14
K05A Summer Lake 69.90 326 ⇓P P 09 55 00.1 0.0
baz=70,SNR=6.8
D13A Huson 69.93 333 ⇓P P 09 54 60.0 -0.2
baz=70
N02C Big Bar 69.97 324 ⇑P P 09 55 00.2 -0.3
baz=70,SNR=15
H08A Prairie City 70.00 329 ⇓P P 09 55 00.6 -0.1
baz=70,SNR=15
L04A Klamath Falls 70.07 325 ⇑P P 09 55 00.6 -0.5
baz=70
M02C Callahan 70.08 324 ⇑P P 09 55 00.6 -0.7
baz=70,SNR=5.6
G09A Cove 70.11 330 ⇓P P 09 55 01.3 0.0
baz=70,SNR=12
I07A Izee 70.11 328 ⇑P P 09 55 01.1 -0.3
baz=70,SNR=8.7
C14A Swan Lake 70.14 334 ⇑P P 09 55 01.2 -0.2
baz=70
E11A Bogner Ranch, 70.16 332 ⇑P P 09 55 00.7 -0.9
baz=70
YBH Yreka Blue Hor 70.23 325 ⇑P P 09 55 01.0 -1.1
baz=70
YBH Yreka Blue Hor 70.23 325 eP P 09 55 00.9 -1.2
KHMM Horse Mountain 70.25 323 eP P 09 55 07.8 +5.5
D12A Red Ives Fores 70.30 333 ⇓P P 09 55 01.7 -0.7
baz=70
F10A Beach Ranch, E 70.35 331 ⇓P P 09 55 02.6 -0.2
baz=71
I06A Prineville 70.38 328 ⇑P P 09 55 03.5 +0.5
baz=71
JCC Jacoby Creek 70.38 323 ⇓P P 09 55 02.9 -0.2
baz=71
C13A Hot Springs 70.43 333 ⇓P P 09 55 03.1 -0.1
baz=71
J05A Fort Rock 70.46 327 ⇑P P 09 55 03.7 +0.2
baz=71
F09A S2 Ranch, Elgi 70.48 330 ⇓P P 09 55 03.0 -0.6
baz=71
H07A Lands Inn, Kim 70.50 329 ⇓P P 09 55 03.5 -0.3
baz=71
E10A Myers Farm, Un 70.67 331 ⇑P P 09 55 04.7 -0.1
baz=71
G08A Pilot Rock 70.69 329 ⇓P P 09 55 04.9 0.0
baz=71
D11A Klaveano Farm, 70.73 332 ⇓P P 09 55 04.5 -0.6
baz=71
KRMB Red Mountain 70.77 324 eP P 09 55 06.0 +0.5
LNOR Lincton Mounta 70.78 330 eP P 09 55 07.1 +1.7
LNOR e*PP pP 09 55 16.9 +1.6
J04A Umpqua Nationa 70.90 326 ⇑P P 09 55 06.1 -0.1
baz=71
B13A Whitefish 70.92 334 ⇓P P 09 55 05.9 -0.3
baz=71
H06A Lindquist Farm 70.99 328 ⇑P P 09 55 06.8 +0.1
baz=71,SNR=9.7
L02A Cave Junction 71.01 325 ⇑P P 09 55 06.8 -0.1
baz=71
G07A Ruggs Ranch, H 71.03 329 ⇓P P 09 55 06.9 0.0
baz=71
M01C Crescent City 71.10 324 ⇑P P 09 55 07.4 -0.1
baz=71
D10A Wagner Farm, O 71.17 332 ⇓P P 09 55 07.8 0.0
baz=71
WALA Waterton Lakes 71.22 335 eP P 09 55 07.9 0.0
A13A Flathead Natio 71.33 334 ⇑P P 09 55 08.7 +0.1
baz=72
K02A Glendale 71.34 325 ⇑P P 09 55 08.9 0.0
baz=72
I04A Tendick Farm, 71.44 326 ⇑P P 09 55 09.1 -0.4
baz=72
SNAA Sanae 71.47 161 eP P 09 55 09.1 -0.1
SNAA e pP 09 55 20.2 +1.0
SNAA e 09 55 24.6
B12A Libby 71.47 333 ⇑P P 09 55 09.6 +0.1
baz=72
D09A Jones Farm, Ri 71.66 331 ⇓P P 09 55 10.7 0.0
baz=72
C10A Spiker Farm, 71.75 332 ⇓P P 09 55 11.1 -0.1
baz=72
HAWA Hanford 71.76 330 eP P 09 55 13.6 +2.3
comp=Z,50nm,1.8s,mb5.1
J02A Umpqua 71.78 326 ⇓P P 09 55 11.5 0.0
baz=72
B11A Sandpoint 71.79 333 ⇓P P 09 55 11.7 +0.2
baz=72
G05A Wamic 71.85 328 ⇑P P 09 55 12.3 +0.4
baz=72
A12A Yaak River Ran 71.85 334 ⇓P P 09 55 11.7 -0.1
baz=72,SNR=6.1
KEBM Edson Butte 71.88 325 eP P 09 55 20.1 +8.0
NEW Newport 72.00 333 eP P 09 55 12.9 +0.2
I03A Eugene 72.02 326 ⇓P P 09 55 12.9 -0.1
baz=72,SNR=5.9
OD2 Odessa Site #2 72.08 331 eP P 09 55 13.6 +0.3
A11A Hall Mountain, 72.18 333 ⇑P P 09 55 12.8 -1.0
baz=72
G04A Mulino 72.42 328 ⇓P P 09 55 15.2 -0.1
baz=73
COR Corvallis 72.44 327 eP P 09 55 15.7 +0.3
COR pmax pmax
comp=Z,55nm,1.4s,mb5.3
COR Corvallis 72.44 327 eP P 09 55 15.7 +0.3
comp=Z,55nm,1.4s,mb5.3
H03A Soap Creek Ran 72.50 327 ⇓P P 09 55 16.2 +0.4
baz=73
C08A Higginbotham F 72.53 331 ⇓P P 09 55 15.7 -0.2
baz=73
D07A Quincy 72.54 330 ⇓P P 09 55 15.4 -0.6
baz=73
B09A Rice 72.58 332 ⇓P P 09 55 15.7 -0.5
baz=73
E06A Yakima 72.58 329 ⇑P P 09 55 16.8 +0.6
baz=73
F04A Amboy 72.88 328 ⇓P P 09 55 17.8 -0.3
baz=73
C07A Waterville 72.94 331 ⇑P P 09 55 17.9 -0.4
baz=73
D06A Cle Elum 72.97 330 ⇓P P 09 55 17.8 -0.7
baz=73
E05A Randle 72.98 329 ⇑P P 09 55 18.6 0.0
baz=73
ETW Entiat 73.00 330 eP P 09 55 19.6 +0.8
B08A Colville Reser 73.07 331 ⇓P P 09 55 18.3 -0.8
baz=73
A09A Danville 73.18 332 ⇓P P 09 55 19.5 -0.2
baz=73
LIC Lamto 73.29 79 eP P 09 55 13.9 -7.2
comp=Z,51nm,0.9s,mb5.2,baz=266
LIC Lamto 73.29 79 eP P 09 55 20.8 -0.3
comp=Z,74nm,0.9s,mb5.6
TIC Toumodi 73.41 79 eP P 09 55 21.9 0.0
comp=Z,369nm,1.7s,mb6.0
A08A Turner Farm, O 73.47 332 ⇑P P 09 55 21.1 -0.4
baz=74,SNR=6.4
B07A Winthrop 73.51 331 ⇑P P 09 55 21.4 -0.3
baz=74
D05A Enumclaw 73.52 329 ⇓P P 09 55 21.6 -0.2
baz=74
DBIC Dimbokro 73.58 79 P P 09 55 23.1 +0.3
comp=Z,24nm,0.7s,mb5.3,baz=239,slow=6.5,SNR=40
KIC Kosan Boka 73.60 79 eP P 09 55 23.1 +0.1
comp=Z,184nm,0.7s,mb6.1
E03A Lebam 73.88 328 ⇑P P 09 55 23.9 0.0
baz=74
A07A Ashnola River, 74.05 331 ⇓P P 09 55 24.9 0.0
baz=74,SNR=5.6
RPW Rockport 74.16 330 eP P 09 55 24.6 -0.9
JCW Jim Creek 74.19 330 eP P 09 55 25.0 -0.6
GNW Green Mountain 74.20 329 eP P 09 55 32.7 +7.0
B06A Marblemount 74.20 331 ⇓P P 09 55 25.3 -0.4
baz=74
EDM Edmonton 74.27 338 eP P 09 55 24.7 -1.3
B05A Bryant 74.32 330 ⇑P P 09 55 26.2 -0.2
baz=74
D03A Wishkah Elem. 74.37 328 ⇓P P 09 55 27.0 +0.2
baz=75
C04A Brinnon 74.37 329 ⇓P P 09 55 27.1 +0.3
baz=75
NLWA Neilton Lookou 74.60 329 ⇑P P 09 55 28.3 +0.2
baz=75
NLWA Neilton Lookou 74.60 329 eP P 09 55 28.8 +0.7
comp=Z,34nm,1.3s,mb5.1
A05A Maple Falls 74.82 331 ⇓P P 09 55 29.4 +0.1
baz=75
B04A Port Angeles 74.87 329 ⇓P P 09 55 30.0 +0.4
baz=75
MAIT Maitri 76.09 160 eP P 09 55 35.8 -0.6
NVL N'lazarevskaya 76.12 160 eP P 09 55 36.1 -0.4
NVL pmax pmax
comp=Z,46nm,1.6s,mb5.2
MORF Marmelete 81.29 48 eP P 09 56 07.7 +2.2
comp=Z,70nm,1.6s,mb5.3
TOA0 Torodi Ar. Sit 81.61 74 eP P 09 56 08.3 +0.6
TORD Torodi Ar. Bea 81.61 74 P P 09 56 08.2 +0.5
comp=Z,59nm,0.8s,mb5.5,baz=250,slow=4.4,SNR=93
SBA Scott Base 81.82 191 eP P 09 56 08.3 +0.6
YKA Yellowknife Ar 82.05 343 P P 09 56 07.4 -1.5
comp=Z,2.0nm,0.7s,mb4.2,baz=144,slow=6.1,SNR=19
YKA Yellowknife Ar 82.05 343 P P 09 56 07.4 -1.5
YKW3 Yellowknife Ar 82.10 343 eP P 09 56 08.1 -1.1
PBEJ Beja 82.16 48 eP P 09 56 12.1 +2.0
comp=Z,36nm,1.7s,mb5.0
EVO Evora 82.26 47 eP P 09 56 03.7 -6.9
comp=Z,44nm,1.1s,mb5.0
PESTR Estremoz 82.70 47 eP P 09 56 14.4 +1.5
comp=Z,29nm,1.5s,mb5.1
PBAR Barrancos 82.81 48 eP P 09 56 15.4 +1.9
comp=Z,33nm,1.1s,mb5.3
VNDA Vanda 82.89 191 P P 09 56 12.8 -0.5
comp=Z,4.2nm,0.8s,mb4.5,baz=62,slow=1.8,SNR=27
PCBR Castelo Branco 83.18 46 eP P 09 56 17.2 +1.8
comp=Z,35nm,1.6s,mb5.1
PVIS Viseu 83.26 45 eP P 09 56 17.4 +1.7
comp=Z,56nm,1.7s,mb5.3
MTE Manteigas 83.37 46 eP P 09 56 18.0 +1.7
comp=Z,62nm,1.4s,mb5.5
CRAG Craig 84.16 331 eP P 09 56 22.5 +2.5
WRAK Wrangell Islan 84.35 332 eP P 09 56 21.4 +0.4
comp=Z,13nm,1.4s,mb4.9
WRAK epP pP 09 56 28.5 -2.5
ESDC Sonseca Array 85.61 47 P P 09 56 28.2 +0.6
comp=Z,2.7nm,0.7s,mb4.6,baz=252,slow=5.4,SNR=10
SYO Syowa Base 85.75 161⇓eP P 09 56 26.0 -1.9
SYO Syowa Base 85.75 161⇓ePcP PcP 09 56 30.2 -0.5
SKAG Skagway 87.39 334 eP P 09 56 35.3 -0.6
TAM Tamanrasset 87.82 66 eP P 09 56 40.4 +1.6
TSUM Tsumeb 88.81 109 eP P 09 56 43.7 0.0
comp=Z,15nm,1.1s,mb5.2
HYT Haines Junctio 89.05 335 eP P 09 56 44.3 +0.6
HYT epP pP 09 56 52.6 -1.3
HYT esP sP 09 56 56.6 -1.0
LFF La Frestale 90.73 44 eP P 09 56 49.0 -3.0
comp=Z,98nm,1.3s,mb5.7
LFF La Frestale 90.73 44 eP P 09 56 49.0 -3.0
LFF pmax pmax
comp=Z,49nm,1.3s,mb5.7
LFF La Frestale 90.73 44 eP P 09 56 49.0 -3.0
comp=Z,49nm,1.3s,mb5.7
DAWY Dawson 91.46 337 eP P 09 56 54.2 -0.7
CAF Calviac 91.61 44 eP P 09 56 53.0 -3.1
comp=Z,42nm,1.4s,mb5.3
CAF Calviac 91.61 44 eP P 09 56 53.0 -3.1
CAF pmax pmax
comp=Z,21nm,1.4s,mb5.3
CAF Calviac 91.61 44 eP P 09 56 53.0 -3.1
comp=Z,21nm,1.4s,mb5.3
INK Inuvik 91.73 342 eP P 09 56 55.2 -0.9
EGAK Eagle 92.48 337 eP P 09 56 59.1 -0.5
comp=Z,7.0nm,0.9s,mb5.0
BGF Bois d'Agland 92.64 43 eP P 09 56 56.5 -4.3
comp=Z,58nm,1.1s,mb5.6
BGF Bois d'Agland 92.64 43 eP P 09 56 56.5 -4.3
BGF pmax pmax
comp=Z,29nm,1.1s,mb5.6
BGF Bois d'Agland 92.64 43 eP P 09 56 56.5 -4.3
comp=Z,29nm,1.1s,mb5.6
BOSA Boshof 93.00 120 P P 09 57 01.4 -1.6
comp=Z,5.4nm,0.8s,mb5.0,baz=248,slow=7.3,SNR=5.0
AVF Avril sur Loir 93.04 43 eP P 09 56 59.2 -3.4
comp=Z,18nm,1.1s,mb5.1
AVF Avril sur Loir 93.04 43 eP P 09 56 59.2 -3.4
AVF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
AVF Avril sur Loir 93.04 43 eP P 09 56 59.2 -3.4
comp=Z,9.0nm,1.1s,mb5.1
SSF Saint Saulge 93.22 42 eP P 09 56 59.9 -3.6
comp=Z,20nm,1.2s,mb5.1
SSF Saint Saulge 93.22 42 eP P 09 56 59.9 -3.6

SSF				pmax	pmax			
	comp=Z,10.0nm,1.2s,mb5.1							
SSF	**Saint Saulge**	**93.22**	**42**	*e*P	**P**	**09 56 59.9**	**-3.6**	
	comp=Z,10nm,1.2s,mb5.1							
MAW	**Mawson**	**93.28**	**165**	P	**P**	**09 57 02.2**	**-1.2**	
	comp=Z,6.2nm,0.6s,mb5.2,baz=234,slow=4.0,SNR=18							
SMF	**Signal de Mont**	**93.32**	**43**	*e*P	**P**	**09 57 00.7**	**-3.2**	
	comp=Z,48nm,1.2s,mb5.5							
SMF	**Signal de Mont**	**93.32**	**43**	*e*P	**P**	**09 57 00.7**	**-3.2**	
SMF				pmax	pmax			
	comp=Z,24nm,1.3s,mb5.5							
SMF	**Signal de Mont**	**93.32**	**43**	*e*P	**P**	**09 57 00.7**	**-3.2**	
	comp=Z,24nm,1.3s,mb5.5							
LOR	**Lormes**	**93.51**	**42**	*e*P	**P**	**09 57 00.2**	**-4.6**	
KEST	**Kesra**	**94.43**	**54**	P	**P**	**09 57 08.3**	**-1.0**	
	comp=Z,1.0nm,0.9s,mb4.3,baz=0.0,slow=2.0,SNR=2.6							
BAIF	**Baives**	**94.53**	**40**	*e*P	**P**	**09 57 03.0**	**-6.4**	
LPL	**La Plagne**	**94.94**	**44**	*e*P	**P**	**09 57 09.4**	**-2.0**	
LPG	**La Plagne**	**94.95**	**44**	*e*P	**P**	**09 57 09.7**	**-1.8**	
	comp=Z,34nm,1.2s,mb5.3							
LPG	**La Plagne**	**94.95**	**44**	*e*P	**P**	**09 57 09.7**	**-1.8**	
LPG				pmax	pmax			
	comp=Z,17nm,1.2s,mb5.3							
LPG	**La Plagne**	**94.95**	**44**	*e*P	**P**	**09 57 09.7**	**-1.8**	
	comp=Z,17nm,1.2s,mb5.3							
COLA	**College**	**95.11**	**336**	*e*P	**P**	**09 57 10.5**	**-1.2**	
COLA				pmax	pmax			
	comp=Z,8.0nm,1.2s,mb5.0							
COLA	**College**	**95.11**	**336**	*e*P	**P**	**09 57 10.4**	**-1.3**	
	comp=Z,8.1nm,1.2s,mb5.0							
HINF	**Hinteralfeld**	**95.61**	**42**	*e*P	**P**	**09 57 09.8**	**-4.6**	
	comp=Z,44nm,1.4s,mb5.4							
HINF	**Hinteralfeld**	**95.61**	**42**	*e*P	**P**	**09 57 09.8**	**-4.6**	
HINF				pmax	pmax			
	comp=Z,22nm,1.4s,mb5.4							
HINF	**Hinteralfeld**	**95.61**	**42**	*e*P	**P**	**09 57 09.8**	**-4.6**	
	comp=Z,22nm,1.4s,mb5.4							
GRA1	**Grafenberg Arr**	**98.85**	**41**	*e*Pdif	**P**	**09 57 30.1**	**+1.1**	
GRF	**Grafenberg Arr**	**98.85**	**41**	*e*Pdiff	**P**	**09 57 30.1**	**+1.1**	
GERES	**GERESS Array B**	**100.29**	**42**	P	Pdif	09 57 35.5	+0.1	
	comp=Z,0.7nm,0.3s,baz=251,slow=4.1,SNR=8.3							
STKA	**Stephens Creek**	**121.78**	**218**	*e*PKP	PKPdf	10 02 42.9	-0.7	
	comp=Z,2.9nm,0.9s							
STKA	**Stephens Creek**	**121.78**	**218**	PKP	PKPdf	10 02 42.2	-1.4	
	comp=Z,2.1nm,0.6s,baz=83,slow=14,SNR=3.2							
ASAR	**Alice Springs**	**132.41**	**218**	PKP	PKPdf	10 03 03.0	-1.1	
	comp=Z,1.3nm,0.6s,baz=114,slow=2.3,SNR=15							
BVAR	**Borovoye Array**	**132.93**	**27**	PKP	PKPdf	10 03 02.4	-1.7	
	comp=Z,0.8nm,0.3s,baz=163,slow=24,SNR=7.8							
WB2	**Warramunga Arr**	**134.86**	**222**	*e*PKP	PKPdf	10 03 07.9	-0.9	
WRA	**Warramunga Arr**	**134.87**	**222**	PKP	PKPdf	10 03 07.8	-1.0	
	comp=Z,5.2nm,0.8s,baz=138,slow=1.5,SNR=26							
ZALV	**Zalesovo Beam**	**137.46**	**17**	PKP	PKPdf	10 03 12.5	-0.1	
	comp=Z,7.5nm,0.8s,baz=222,slow=2.0,SNR=7.3							
ZAL	**Zalesovo**	**137.47**	**17**	PKIKP	PKPdf	10 03 12.5	-0.1	
FITZ	**Fitzroy Crossi**	**141.53**	**214**	*e*PKP	PKPdf	10 03 19.3	-1.8	
	comp=Z,5.3nm,0.7s							
FITZ	**Fitzroy Crossi**	**141.53**	**214**	PKP	PKPdf	10 03 19.3	-1.8	
	comp=Z,3.3nm,0.8s,baz=201,slow=4.8,SNR=5.1							
MJAR	**Matsushiro Arr**	**142.10**	**312**	PKhKP		10 03 14.5		
	comp=Z,1.0nm,0.7s,baz=112,slow=2.9,SNR=5.4							
MAT	**Matsushiro**	**142.10**	**312**	PKP		10 03 16.2		
MKAR	**Makanchi Array**	**142.68**	**25**	PKhKP		10 03 17.8		
	comp=Z,1.0nm,0.6s,baz=294,slow=2.5,SNR=6.5							
ZAK	**Zakamensk**	**143.79**	**1**	*e*PKIKP	PKPdf	10 03 21.4	-2.7	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.6s							
KSH	**Kashi**	**144.69**	**39**	PKP	PKPdf	10 03 26.1	+0.1	
KSH				*e*APKP		10 03 37.1		
KSH				XPKP		10 03 40.6		
KSH				PP	PP	10 06 47.5	+5.0	
KSH				PKS		10 07 00.3		
KSH				*e*PPP		10 10 02.5		
KSH				SKS	SKSdf	10 10 30.6	-2.6	
KSH				SKKS	SKKSac	10 13 32.8	-0.4	
KSH				SS	SS	10 25 30.1	+1.8	
KSH				PP	PP			
	comp=Z,3μm,14.0s							
KSH				LR	LR			
	comp=N,3μm,13.0s,MS6.4							
KSH				LR	LR			
	comp=E,4μm,13.2s,MS6.4							
KSH				LR	LR			
	comp=Z,2μm,20.3s							
CN2	**Changchun**	**145.12**	**332**	*e*PKP	PKPdf	10 03 26.8	+0.2	
SONM	**Songino Array**	**146.28**	**357**	PKPbc	PKPbc	10 03 29.4	-0.2	
	comp=Z,14nm,0.8s,baz=334,slow=2.0,SNR=65							
WMQ	**Urumqi**	**147.25**	**22**	PKP	PKPdf	10 03 29.5	-0.7	
SNY	**Shenyang**	**147.52**	**332**	⇓PKP	PKPdf	10 03 32.5	+1.7	
KSRS	**Korea Array**	**148.42**	**322**	PKPbc	PKPbc	10 03 32.0	-3.8	
	comp=Z,12nm,1.1s,baz=32,slow=1.4,SNR=24							
HHC	**Hu-ho-hao-te**	**152.51**	**347**	*e*PKP	PKPdf	10 03 37.6	-1.0	
HHC				APKP		10 03 49.1		
HHC				PKS		10 07 11.3		
HHC				PP	PP	10 07 27.9	+0.7	
HHC				SKS	SKSdf	10 10 39.4	-4.3	
HHC				SKKS	SKKSac	10 14 12.3	-4.1	
HHC				SS	SS	10 26 50.8	-3.6	
HHC				PP	PP			
	comp=Z,2μm,11.9s							
HHC				LR	LR			
	comp=N,1μm,21.4s,MS5.8							
HHC				LR	LR			
	comp=E,1μm,23.8s,MS5.8							
HHC				LR	LR			
	comp=Z,1μm,22.6s,MS5.7							
NJ2	**Nanjing**	**157.50**	**325**	*e*PKP	PKPdf	10 03 44.0	-1.7	
LZH	**Lanzhou**	**158.08**	**0**	*e*PKP	PKPdf	10 03 47.0	+0.7	
CD2	**Chengdu**	**163.24**	**1**	*e*PKP	PKPdf	10 03 50.3	-1.8	
GYA	**Guiyang**	**167.42**	**349**	PKP	PKPdf	10 03 55.4	-0.3	
GYA				APKP		10 04 06.8		
GYA				PKP2	PKPab	10 05 02.0	+1.2	
GYA				PKS		10 07 26.4		
GYA				PP	PP	10 08 51.6	+3.8	
GYA				PP	PP			
	comp=Z,180nm,8.9s							
GYA				LR	LR			
	comp=N,230nm,24.0s							
GYA				LR	LR			
	comp=E,260nm,21.8s							
GYA				LR	LR			
	comp=Z,480nm,24.2s							
KMI	**Kunming**	**168.95**	**6**	PKP	PKPdf	10 03 55.5	-1.3	
CMAR	**Chiang Mai Arr**	**173.51**	**47**	PKP	PKPdf	10 03 59.5	+0.3	
	comp=Z,1.2nm,0.3s,baz=270,slow=1.8,SNR=2.8							
CMAR				PKPab	PKPab	10 05 28.8	+0.6	
	comp=Z,1.0nm,0.5s,baz=296,slow=5.2,SNR=5.2							

*BJI **16** 09:48:56.1, 1000S×15980E, h10km, mb4.9*
*ISCJB **16** 09:48:57.9±2.0, 100S±0.1×1598E±02, h20km±14km, mb4.3/14, Error ellipse: s-maj=37.0km s-min=13.7km az=22.0*
*IDC **16** 09:48:57.3±1.1, 995S×15966E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/19, mbtmp4.2/13, ML3.6/1, Error ellipse: s-maj=33.4km s-min=7.4km az=125.0*
*NEIC **16** 09:48:58.1±0.9, 997S×15977E, h10km, mb4.4/1, Error ellipse: s-maj=27.9km s-min=8.5km az=117.0*

ISC 16 09:48:58.0±2.2, 100S±01×1598E±02, h7km±14km, n21, σ0°92/21, mb4.3/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.60**	**16**	Pg	**Pg**		**09 49 09.5**	**-0.1**
	3μm,0.3s,baz=234,slow=2.2,SNR=26							
HNR				Lg			09 49 15.9	
	4μm,0.3s,baz=255,slow=5.3,SNR=32							
HNR	**Honiara**	**0.60**	**16**	Pg	**Pg**		**09 49 09.5**	**-0.1**
HNR				Lg			09 49 15.9	
CTA	**Charters Tower**	**16.45**	**231**	*e*P	**Pn**		**09 52 56.0**	**+6.5**
	14nm,1.1s							
CTA	**Charters Tower**	**16.45**	**231**	Pn	**Pn**		**09 52 51.0**	**+1.5**
	0.2nm,0.3s,baz=41,slow=19,SNR=2.4							
CTA	**Charters Tower**	**16.45**	**231**	Pn	**Pn**		**09 52 51.0**	**+1.5**
CTA				*e*P			09 52 56.0	
WB2	**Warramunga Arr**	**26.44**	**245**	*e*P	**P**		**09 54 36.3**	**+0.5**
WRA	**Warramunga Arr**	**26.45**	**245**	P	**P**		**09 54 36.4**	**+0.5**
	8.1nm,0.9s,mb4.2,baz=70,slow=9.9,SNR=21							
STKA	**Stephens Creek**	**27.52**	**215**	*e*P	**P**		**09 54 43.8**	**-1.5**
	9.0nm,1.3s,mb4.2							
STKA	**Stephens Creek**	**27.52**	**215**	P	**P**		**09 54 45.7**	**+0.4**
	2.2nm,0.7s,mb3.9,baz=67,slow=13,SNR=3.4							
ASAR	**Alice Springs**	**28.18**	**238**	P	**P**		**09 54 51.4**	**0.0**
	2.0nm,0.4s,mb4.1,baz=63,slow=10,SNR=32							
FITZ	**Fitzroy Crossi**	**34.04**	**253**	P	**P**		**09 55 41.9**	**-1.2**
	1.8nm,0.5s,mb4.2,baz=292,slow=20,SNR=4.1							
NWAO	**Narrogin (SRO)**	**45.27**	**233**	P	**P**		**09 57 15.2**	**-1.4**
	4.7nm,0.9s,mb4.3,baz=90,slow=5.1,SNR=2.9							
MJAR	**Matsushiro Arr**	**50.56**	**337**	P	**P**		**09 57 56.4**	**-0.9**
	0.8nm,0.8s,mb3.7,baz=165,slow=8.0,SNR=3.9							
KSRS	**Korea Array**	**55.86**	**330**	P	**P**		**09 58 36.8**	**+0.4**
	1.3nm,0.6s,mb4.1,baz=148,slow=7.5,SNR=10							
PETK	**Petropavlovsk-**	**62.89**	**359**	P	**P**		**09 59 24.6**	**-0.1**
	4.1nm,1.0s,mb4.5,baz=146,slow=7.6,SNR=4.3							
CMAR	**Chiang Mai Arr**	**66.35**	**295**	P	**P**		**09 59 47.0**	**-1.0**
	2.1nm,0.6s,mb4.4,baz=125,slow=5.1,SNR=8.4							
VNDA	**Vanda**	**67.50**	**180**	P	**P**		**09 59 54.8**	**+0.4**
	1.1nm,0.8s,mb3.9,baz=339,slow=6.8,SNR=4.0							
LZH	**Lanzhou**	**69.78**	**314**	*e*P	**P**		**10 00 10.3**	**+1.0**
LZH				AP	pP		10 00 15.6	+4.1
LZH				XP	sP		10 00 17.8	+5.5
LZH				AMB	AMB			
	comp=Z,17nm,1.3s,mb4.8							
GTA	**Gaotai**	**74.18**	**316**	*e*P	**P**		**10 00 37.5**	**+1.9**
GTA				AP	pP		10 00 41.0	+3.2
GTA				XP	sP		10 00 42.6	+4.0
GTA				AMB	AMB			
	comp=Z,6.0nm,0.8s,mb4.6							
SONM	**Songino Array**	**74.45**	**326**	P	**P**		**10 00 36.0**	**-1.0**
	comp=Z,3.5nm,1.1s,mb4.2,baz=146,slow=6.3,SNR=11							
MKAR	**Makanchi Array**	**88.79**	**318**	P	**P**		**10 01 53.2**	**+0.5**
	comp=Z,1.0nm,0.6s,mb4.3,baz=98,slow=7.5,SNR=4.5							

*ISCJB **16** 09:52:07.7±1.9, 98S±0.1×1595E±02, h13km±15km, mb4.1/11, Error ellipse: s-maj=33.4km s-min=14.5km az=36.4*
*IDC **16** 09:52:07.7±0.7, 980S×15941E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.2/18, mbtmp4.1/11, ML3.6/1, Error ellipse: s-maj=26.1km s-min=7.6km az=146.0*
*NEIC **16** 09:52:08.9±0.6, 984S×15949E, h10km, mb4.5/1, Error ellipse: s-maj=22.8km s-min=7.8km az=137.0*

ISC 16 09:52:08.5±2.2, 98S±01×1595E±02, h6km±16km, n18, σ0°69/18, mb4.1/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.61**	**50**	Pg	**Pg**		**09 52 20.4**	**0.0**
	5μm,0.3s,baz=251,slow=2.4,SNR=33							
HNR				Lg			09 52 28.5	
	10μm,0.3s,baz=140,slow=3.8,SNR=32							
HNR	**Honiara**	**0.61**	**50**	Pg	**Pg**		**09 52 20.4**	**0.0**
HNR				Lg			09 52 28.5	
CTA	**Charters Tower**	**16.33**	**230**	Pn	**Pn**		**09 55 58.2**	**-0.2**
	0.1nm,0.3s,baz=90,slow=8.1,SNR=2.1							
CTA	**Charters Tower**	**16.33**	**230**	Pn	**Pn**		**09 55 58.2**	**-0.2**
WRAB	**Tennant Creek**	**26.24**	**245**	*e*P	**P**		**09 57 45.3**	**+0.8**
	9.4nm,0.8s,mb4.4							
WB2	**Warramunga Arr**	**26.24**	**245**	*e*P	**P**		**09 57 45.2**	**+0.7**
WRA	**Warramunga Arr**	**26.25**	**245**	P	**P**		**09 57 45.5**	**+0.9**
	7.3nm,0.7s,mb4.3,baz=72,slow=10,SNR=14							
WRA				PcP	PcP		10 01 10.8	-0.5
	0.7nm,0.7s,baz=73,slow=3.0,SNR=604							
STKA	**Stephens Creek**	**27.49**	**214**	P	**P**		**09 57 54.1**	**-1.5**
	1.4nm,0.7s,mb3.6,baz=96,slow=10,SNR=2.3							
ASAR	**Alice Springs**	**28.02**	**237**	P	**P**		**09 57 59.5**	**-1.0**
	1.6nm,0.8s,mb3.7,baz=77,slow=9.5,SNR=6.1							
ASAR				PcP	PcP		10 01 16.1	+0.6
	0.9nm,0.8s,baz=78,slow=3.0,SNR=6.2							
FITZ	**Fitzroy Crossi**	**33.80**	**252**	P	**P**		**09 58 51.2**	**-0.3**
	2.9nm,0.8s,mb4.2,baz=66,slow=14,SNR=3.5							
KSRS	**Korea Array**	**55.55**	**330**	P	**P**		**10 01 44.6**	**-0.1**
	1.3nm,0.7s,mb4.1,baz=144,slow=7.5,SNR=7.1							
PETK	**Petropavlovsk-**	**62.71**	**359**	P	**P**		**10 02 34.2**	**+0.2**
	1.9nm,0.8s,mb4.3,baz=191,slow=6.8,SNR=2.5							
CMAR	**Chiang Mai Arr**	**65.99**	**295**	P	**P**		**10 02 56.0**	**-0.2**
	1.4nm,0.3s,mb4.4,baz=122,slow=4.6,SNR=5.7							
VNDA	**Vanda**	**67.68**	**179**	P	**P**		**10 03 07.1**	**+1.1**
	2.1nm,0.8s,mb4.2,baz=339,slow=6.9,SNR=11							
VNDA	**Vanda**	**67.68**	**179**	P	**P**		**10 03 07.1**	**+1.1**
MKAR	**Makanchi Array**	**88.45**	**318**	P	**P**		**10 05 01.7**	**+0.1**
	0.5nm,0.4s,mb4.1,baz=101,slow=4.6,SNR=2.3							
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**		**10 05 39.0**	**-0.6**
	0.4nm,0.8s,mb3.9,baz=257,slow=4.4,SNR=2.7							
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**		**10 05 39.0**	**-0.6**

*ISCJB **16** 09:52:32.7±0.9, 3930N±004×20.19E±007, h10km, Error ellipse: s-maj=8.1km s-min=5.3km az=177.1*
*NEIC **16** 09:52:32.6, 3931N×2012E, h0km, MD3.2(ATH), ML2.7(THE), After THE.*
*THE **16** 09:52:32.6, 3931N×2012E, h0km, ML2.7*
*ATH **16** 09:52:33.1, 3941N×2027E, h41km, MD3.2/4*
*CSEM **16** 09:52:33.2±0.1, 3933N×2017E, h12km, ML2.7, Error ellipse: s-maj=2.5km s-min=1.7km az=83.0*

ISC 16 09:52:32.9±1.0, 3931N±004×2015E±008, h11km±9km, n9, σ0°99/13, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.27**	**32**	*e*Pg	**Pg**		**09 52 37.9**	**-0.5**
IGT				*e*Sg	**Sg**		**09 52 42.1**	**0.0**
KEK	**Kerkira**	**0.49**	**327**	*e*P	**Pg**		**09 52 44.0**	**+1.6**
JAN	**Janina**	**0.65**	**57**	*e*P	**Pg**		**09 52 44.5**	**-0.9**
LKD	**Levkas**	**0.71**	**147**	*e*Pg	**Pg**		**09 52 46.0**	**-0.7**
LKD				*e*Sg	**Sg**		**09 52 56.6**	**+0.5**
VLS	**Valsamata**	**1.18**	**163**	*e*Pg	**Pg**		**09 52 55.4**	**-0.2**
VLS	**Valsamata**	**1.18**	**163**	*e*P	**Pb**		**09 52 56.0**	**+0.8**
EVR	**Evrytania**	**1.35**	**106**	*e*P	**Pn**		**09 52 56.0**	**-1.6**
THL	**Klokotos Trika**	**1.47**	**79**	*e*Pg	**Pg**		**09 53 00.3**	**-0.8**
THL				*e*Sg	**Sg**		**09 53 21.3**	**+1.2**
AGG	**Agios Georgios**	**1.72**	**99**	*e*Pb	**Pb**		**09 53 03.6**	**-0.9**
AGG				*e*Sb	**Sb**		**09 53 27.7**	**+1.7**

IDC 16 09:53:21.5±1.2, 989S×15959E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, Error ellipse: s-maj=54.6km s-min=10.1km az=129.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.57**	**38**	Pg	Pg		09 53 32.9	+0.4
	baz=104,slow=5.5,SNR=0.9							
HNR				Lg			09 53 40.2	
	634nm,0.3s,baz=176,slow=4.9,SNR=1.9							
WRA	**Warramunga Arr**	**26.33**	**245**	P	P		09 58 59.6	+0.3
	1.4nm,0.6s,baz=71,slow=10,SNR=3.0							
ASAR	**Alice Springs**	**28.08**	**238**	P	P		09 59 14.8	-0.3
	0.3nm,0.4s,baz=63,slow=10,SNR=4.3							
VNDA	**Vanda**	**67.62**	**179**	P	P		10 04 19.8	+0.1
	0.4nm,0.8s,baz=329,slow=5.9,SNR=2.0							

*NEIC **16** 09:54:26.6, 3245S×7149W, h20km, ML2.5(GUC), After GUC.*

GUC 16 09:54:26.6±0.7, 3245S×7149W, h20km±6km, MD3.5, ML2.5, 12C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.56**	**359**	⇓*i*P	Pb		09 54 37.4	-0.3
CHNG				*i* S	Sb		09 54 45.2	-0.2
ROCH	**El Roble**	**0.66**	**143**	⇑*i*P	Pb		09 54 39.4	0.0
ROCH				*i* S	Sb		09 54 48.5	+0.4
JACH	**Jahuel**	**0.79**	**107**	⇑*i*P	Pb		09 54 41.4	-0.3
JACH				*i* S	Sb		09 54 52.2	+0.3
PEL	**Peldehue**	**0.97**	**136**	⇑*i*P	Pb		09 54 44.2	-0.5
PEL				*i* S	Sb		09 54 57.3	+0.2
PEL				AML	AML		09 55 00.7	
	comp=E,404nm,0.3s							
LCCH	**Las Cruces**	**1.03**	**184**	⇓*i*P	Pb		09 54 44.8	-0.9
RCDM	**Rinconada Maip**	**1.19**	**151**	⇑*i*P	Pn		09 54 47.2	-0.9
RCDM				*i* S	Sb		09 55 02.7	-0.6
RCDM				AML	AML		09 55 03.3	
	comp=E,324nm,0.1s							
RCDM	**Rinconada Maip**	**1.19**	**151**	⇑*i*P	Pn		09 54 47.2	-0.9
RCDM				*i* S	Sb		09 55 02.7	-0.6
DSCH	**Colegio Aleman**	**1.22**	**141**	⇑*i*P	Pn		09 54 48.1	-0.5
DSCH				*i* S	Sb		09 55 04.3	-0.2
TACH	**Talagante**	**1.29**	**159**	⇑*i*P	Pn		09 54 48.9	-0.6
TACH				*i* S	Sn		09 55 05.6	-0.6
ANTU	**Antumapu**	**1.33**	**148**	⇑*i*P	Pn		09 54 49.5	-0.6
ANTU				*i* S	Sn		09 55 07.0	-0.2
ANTU				AML	AML		09 55 08.6	
	comp=N,118nm,0.5s							
ANTU	**Antumapu**	**1.33**	**148**	⇑*i*P	Pn		09 54 49.5	-0.6
ANTU				*i* S	Sn		09 55 07.0	-0.2
PCH	**Pirque**	**1.43**	**145**	⇓*i*P	Pn		09 54 51.7	+0.3
PCH				*i* S	Sn		09 55 10.6	+1.0
LNV	**Longovilo**	**1.51**	**178**	⇑*i*P	Pn		09 54 52.6	+0.1
LNV				*i* S	Sn		09 55 12.0	+0.4
SJCH	**San Jose de Ma**	**1.52**	**142**	*i* S	Sn		09 55 12.9	+0.9
SJCH				AML	AML		09 55 14.0	
	comp=N,60nm,0.4s							
CHCH	**Chadas Angostu**	**1.64**	**155**	*i* S	Sn		09 55 15.3	+0.5
LMEL	**Las Melosas**	**1.76**	**143**	⇑*i*P	Pn		09 54 56.3	+0.3
LMEL				*i* S	Sn		09 55 19.6	+1.7
LMEL				AML	AML		09 55 24.3	
	comp=N,139nm,0.1s							
LMEL	**Las Melosas**	**1.76**	**143**	⇑*i*P	Pn		09 54 56.3	+0.3
LMEL				*i* S	Sn		09 55 19.6	+1.7
CACH	**El Canelo**	**1.82**	**156**	*i* P	Pn		09 54 58.0	+1.2
CICH	**Cipreses**	**2.07**	**155**	*e*P	Pn		09 55 01.0	+0.8
CICH				*i* S	Sn		09 55 28.3	+2.8
SFDO	**San Fernando**	**2.20**	**170**	⇓*i*P	Pn		09 55 03.5	+1.4
SFDO				*i* S	Sn		09 55 30.9	+2.3

IDC 16 09:56:19.5±1.1, 983S×15953E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=55.3km s-min=8.3km az=136.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.57**	**46**	Pg	Pg		09 56 31.3	+0.8
	768nm,0.3s,baz=235,slow=1.9,SNR=8.6							
HNR				Lg			09 56 37.7	
	2μm,0.3s,baz=87,slow=21,SNR=31							
WRA	**Warramunga Arr**	**26.30**	**245**	P	P		10 01 57.5	+0.4
	2.2nm,0.6s,baz=72,slow=10.0,SNR=18							
ASAR	**Alice Springs**	**28.07**	**237**	P	P		10 02 12.2	-0.8
	0.7nm,0.3s,baz=65,slow=10,SNR=22							
VNDA	**Vanda**	**67.68**	**179**	P	P		10 07 18.2	+0.2
	0.6nm,0.6s,baz=352,slow=8.4,SNR=6.1							

IDC 16 10:03:03.5±1.1, 964S×15962E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, Error ellipse: s-maj=60.4km s-min=10.9km az=145.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.39**	**57**	Pn	Pg		10 03 16.8	+5.8
	660nm,0.3s,baz=184,slow=1.0,SNR=15							
HNR				Sn	Sg		10 03 24.3	+8.3
	2μm,0.3s,baz=63,slow=18,SNR=31							
WB2	**Warramunga Arr**	**26.45**	**244**	*e*P	P		10 08 42.9	+0.5
WRA	**Warramunga Arr**	**26.46**	**244**	P	P		10 08 42.8	+0.2
	3.0nm,0.6s,baz=72,slow=10,SNR=15							
ASAR	**Alice Springs**	**28.24**	**237**	P	P		10 08 57.8	-0.6
	0.6nm,0.4s,baz=65,slow=10,SNR=18							
VNDA	**Vanda**	**67.87**	**179**	P	P		10 14 03.5	+0.3
	0.8nm,0.9s,baz=321,slow=5.6,SNR=6.9							

*IDC **16** 10:04:47.1±0.9, 974S×15976E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=36.7km s-min=9.7km az=128.0*
*NEIC **16** 10:04:49.4±0.8, 986S×15961E, h10km, Error ellipse: s-maj=27.9km s-min=9.2km az=133.0*
*ISCJB **16** 10:04:50.2±1.0, 98S±02×1597E±02, h33km, mb3.9/6, Error ellipse: s-maj=36.1km s-min=8.7km az=40.1*

ISC 16 10:04:52.0±1.0, 98S±02×1597E±02, h35km, n8, σ1°14/9, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.38**	**33**	Pn	**Pn**		**10 04 59.5**	**-1.5**
	1μm,0.3s,baz=244,slow=2.1,SNR=26							
HNR				Sn	**Sn**		**10 05 07.0**	**-0.1**
	8μm,0.3s,baz=224,slow=0.3,SNR=50							
WB2	**Warramunga Arr**	**26.51**	**245**	*e*P	**P**		**10 10 26.1**	**-0.4**
WRA	**Warramunga Arr**	**26.52**	**245**	P	**P**		**10 10 26.4**	**-0.1**
	3.2nm,0.7s,mb4.0,baz=73,slow=10,SNR=11							
WRA				PcP	PcP		10 13 52.4	+1.5
	0.6nm,0.9s,baz=72,slow=2.8,SNR=3.5							
ASAR	**Alice Springs**	**28.28**	**237**	P	**P**		**10 10 41.1**	**-1.1**
	0.7nm,0.4s,mb3.6,baz=62,slow=10,SNR=16							
ASAR				PcP	PcP		10 13 56.2	+1.1
	0.4nm,0.6s,baz=58,slow=2.9,SNR=5.9							
FITZ	**

0.8nm,0.7s,mb3.9,baz=328,slow=6.7,SNR=5.8
SONM Songino Array 74.19 326 P **P 10 25 46.1 +1.6**
0.4nm,0.6s,mb3.6,baz=147,slow=3.4,SNR=3.2
MKAR Makanchi Array 88.54 318 P **P 10 27 02.4 +1.8**
0.2nm,0.2s,mb4.0,baz=96,slow=6.4,SNR=2.5

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*IDC **16** 10:19:50.1±0.9, 974S×1596E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/16, mbtmp4.0/5, Error ellipse: s-maj=34.0km s-min=11.5km az=134.0*
*NEIC **16** 10:19:52.4±0.8, 984S×1595E, h10km, Error ellipse: s-maj=31.1km s-min=11.2km az=137.0*
*ISCJB **16** 10:19:53.4±1.0, 98S±02×1597E±02, h33km, mb3.9/5, Error ellipse: s-maj=39.1km s-min=9.9km az=39.6*
ISC 16 10:19:55.1±1.0, 98S±02×1597E±02, h35km, n6, σ1§22/7, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.42**	**35**	Pn	**Pn**	**10 20 03.2**	**-1.5**
	96nm,0.3s,baz=255,slow=5.7,SNR=2.6						
HNR				Sn	**Sn**	**10 20 11.3**	**+0.1**
	416nm,0.3s,baz=246,slow=2.4,SNR=5.2						
WRA	**Warramunga Arr**	**26.48**	**245**	P	**P**	**10 25 28.7**	**-0.6**
	2.6nm,0.6s,mb3.9,baz=72,slow=9.9,SNR=21						
ASAR	**Alice Springs**	**28.24**	**238**	P	**P**	**10 25 43.4**	**-1.7**
	0.4nm,0.5s,mb3.3,baz=64,slow=10,SNR=11						
VNDA	**Vanda**	**67.73**	**179**	P	**P**	**10 30 49.8**	**+1.2**
	1.9nm,0.7s,mb4.3,baz=340,slow=6.4,SNR=23						
SONM	**Songino Array**	**74.21**	**326**	P	**P**	**10 31 30.3**	**+2.0**
	0.7nm,0.6s,mb3.8,baz=129,slow=6.8,SNR=5.8						
MKAR	**Makanchi Array**	**88.57**	**318**	P	**P**	**10 32 44.9**	**+0.6**
	0.3nm,0.4s,mb4.0,baz=105,slow=7.1,SNR=6.0						

IDC 16 10:26:21.9±0.9, 967S×15956E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=57.1km s-min=11.1km az=146.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.45**	**58**	Pn	Pg	10 26 35.9	+5.4
	765nm,0.3s,baz=269,slow=1.9,SNR=47						
HNR				Sn	Sg	10 26 44.1	+7.8
	2μm,0.3s,baz=88,slow=23,SNR=63						
WRA	**Warramunga Arr**	**26.40**	**244**	P	P	10 32 00.3	-0.1
	1.3nm,0.6s,baz=72,slow=10,SNR=18						
WRA				PcP	PcP	10 35 26.9	+0.6
	0.3nm,0.6s,baz=71,slow=2.9,SNR=4.6						
ASAR	**Alice Springs**	**28.18**	**237**	P	P	10 32 15.4	-0.9
	0.3nm,0.4s,baz=65,slow=10,SNR=7.9						
ASAR				PcP	PcP	10 35 30.4	-0.1
	0.3nm,0.5s,baz=75,slow=2.6,SNR=4.3						
VNDA	**Vanda**	**67.84**	**179**	P	P	10 37 21.7	+0.2
	1.0nm,0.8s,baz=345,slow=5.9,SNR=8.6						

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*IDC **16** 10:27:43.1±0.8, 1361S×7693W, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, ML3.9/2, Error ellipse: s-maj=37.5km s-min=17.1km az=80.0*
*ISCJB **16** 10:27:45.9±0.7, 1370S±006×77.1W±0.1, h33km, mb3.9/7, Error ellipse: s-maj=18.7km s-min=8.5km az=167.9*
*NEIC **16** 10:27:48.4±0.7, 1363S×7696W, h35km, Error ellipse: s-maj=23.0km s-min=11.6km az=68.0*
ISC 16 10:27:45.3±4.4, 1364S±007×769W±02, h15km±28km, n17, σ0§85/16, mb3.9/7, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.64**	**2**	Pn	**Pn**	**10 28 13.6**	**-0.2**
	164nm,0.3s,baz=176,slow=13,SNR=12						
NNA				Sn	**Sn**	**10 28 35.4**	**+0.7**
	624nm,0.3s,baz=214,slow=7.9,SNR=12						
ATAH	**Atahualpa**	**6.76**	**347**	Pn	**Pn**	**10 29 24.8**	**+0.7**
	4.1nm,0.3s,baz=160,slow=12,SNR=7.3						
ATAH				Sn	**Sn**	**10 30 37.9**	**-3.0**
	3.4nm,0.3s,baz=79,slow=15,SNR=2.2						
LPAZ	**La Paz**	**8.87**	**108**	Pn	**Pn**	**10 29 57.8**	**+4.6**
	0.2nm,0.3s,baz=192,slow=12,SNR=2.0						
LVC	**Limon Verde**	**11.71**	**141**	Pn	**Pn**	**10 30 31.8**	**-0.3**
	0.7nm,0.3s,baz=158,slow=0.1,SNR=6.4						
LVC	**Limon Verde**	**11.71**	**141**	Pn	**Pn**	**10 30 31.8**	**-0.3**
CFAA	**Coronel Fontan**	**19.57**	**157**	P	**Pn**	**10 32 13.1**	**-1.1**
	0.0nm,0.3s,baz=333,slow=11,SNR=4.3						
SDV	**Santo Domingo**	**23.23**	**16**	P	**P**	**10 32 52.4**	**+0.2**
	1.8nm,0.4s,mb3.9,baz=268,slow=4.1,SNR=3.3						
PDAR	**Pinedale Array**	**63.63**	**334**	P	**P**	**10 38 15.7**	**-0.1**
	0.5nm,0.7s,mb3.6,baz=128,slow=9.6,SNR=3.9						
NVAR	**Mina Array Bea**	**64.68**	**325**	P	**P**	**10 38 23.6**	**+0.8**
	0.8nm,0.7s,mb3.9,baz=132,slow=7.0,SNR=8.5						
ULM	**Lac du Bonnet**	**65.76**	**347**	P	**P**	**10 38 28.8**	**-0.8**
	5.2nm,0.7s,mb4.7,baz=118,slow=6.2,SNR=6.5						
YKA	**Yellowknife Ar**	**81.40**	**343**	P	**P**	**10 40 01.1**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=143,slow=5.3,SNR=12						
TORD	**Torodi Ar. Bea**	**82.28**	**74**	P	**P**	**10 40 07.3**	**+0.3**
	1.5nm,0.9s,mb3.9,baz=262,slow=4.3,SNR=4.3						
VNDA	**Vanda**	**83.17**	**191**	P	**P**	**10 40 11.6**	**+1.1**
	0.7nm,0.8s,mb3.7,baz=135,slow=5.7,SNR=4.4						
VNDA	**Vanda**	**83.17**	**191**	P	**P**	**10 40 11.6**	**+1.1**
ASAR	**Alice Springs**	**132.23**	**219**	PKP	PKPdf	10 46 59.3	-0.4
	0.4nm,1.0s,baz=112,slow=2.7,SNR=2.9						
SONM	**Songino Array**	**145.80**	**356**	PKPbc	PKPbc	10 47 24.8	+0.9
	2.7nm,1.1s,baz=334,slow=1.5,SNR=10						
KSRS	**Korea Array**	**147.57**	**321**	PKPbc	PKPbc	10 47 28.1	-1.4
	0.7nm,0.6s,baz=41,slow=2.7,SNR=6.7						

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*ISCJB **16** 10:29:57.5±0.8, 98S±0.1×1596E±0.1, h10km, mb4.1/10, Error ellipse: s-maj=24.7km s-min=8.0km az=42.3*
*IDC **16** 10:29:57.5±0.9, 977S×15974E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/16, mbtmp4.1/9, Error ellipse: s-maj=28.4km s-min=10.1km az=126.0*
*NEIC **16** 10:29:59.9±0.6, 982S×15954E, h10km, mb4.2/3, Error ellipse: s-maj=20.5km s-min=8.7km az=134.0*
ISC 16 10:29:59.0±3.0, 98S±01×1595E±02, h2km±23km, n18, σ0§63/19, mb4.1/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.59**	**49**	Pn	**Pg**	**10 30 10.5**	**+0.2**
	4μm,0.3s,baz=212,slow=1.0,SNR=155						
HNR				Sn	**Sg**	**10 30 18.1**	**-0.1**
	30μm,0.3s,baz=10.0,slow=1.0,SNR=130						
HNR	**Honiara**	**0.59**	**49**	Pn	**Pg**	**10 30 10.5**	**+0.1**
HNR				Sn	**Sg**	**10 30 18.1**	**-0.1**
CTA	**Charters Tower**	**16.35**	**230**	*eP*	**Pn**	**10 33 56.3**	**+6.5**
	5.3nm,0.9s						
CTA	**Charters Tower**	**16.35**	**230**	Pn	**Pn**	**10 33 56.2**	**+6.5**
	0.1nm,0.3s,baz=92,slow=14,SNR=4.0						
WB2	**Warramunga Arr**	**26.26**	**245**	*eP*	**P**	**10 35 36.3**	**+0.5**
WRA	**Warramunga Arr**	**26.27**	**245**	P	**P**	**10 35 36.2**	**+0.2**
	5.3nm,0.9s,mb4.1,baz=72,slow=10.0,SNR=21						
STKA	**Stephens Creek**	**27.50**	**214**	*eP*	**P**	**10 35 46.6**	**-0.3**
	6.5nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**27.50**	**214**	P	**P**	**10 35 46.6**	**-0.3**
	2.5nm,0.4s,mb4.2,baz=37,slow=9.8,SNR=4.6						
ASAR	**Alice Springs**	**28.04**	**237**	P	**P**	**10 35 51.1**	**-0.6**
	1.5nm,0.6s,mb3.8,baz=64,slow=10,SNR=24						
FITZ	**Fitzroy Crossi**	**33.82**	**252**	*eP*	**P**	**10 36 42.7**	**-0.2**
	7.7nm,1.3s,mb4.5						
MJAR	**Matsushiro Ar**	**50.28**	**338**	P	**P**	**10 38 55.3**	**-1.7**
	1.1nm,0.7s,mb4.0,baz=168,slow=8.9,SNR=7.0						
KSRS	**Korea Array**	**55.56**	**330**	P	**P**	**10 39 35.7**	**-0.2**
	1.7nm,1.0s,mb4.0,baz=147,slow=6.9,SNR=5.8						
CMAR	**Chiang Mai Arr**	**66.01**	**295**	P	**P**	**10 40 48.0**	**+0.5**
	1.7nm,0.6s,mb4.2,baz=113,slow=5.6,SNR=4.1						
VNDA	**Vanda**	**67.69**	**179**	P	**P**	**10 40 57.2**	**-0.1**
	2.8nm,0.8s,mb4.3,baz=346,slow=6.7,SNR=15						
VNDA	**Vanda**	**67.69**	**179**	P	**P**	**10 40 57.2**	**-0.1**
SONM	**Songino Array**	**74.13**	**326**	P	**P**	**10 41 37.4**	**+0.6**
	0.9nm,0.9s,mb3.7,baz=152,slow=5.6,SNR=4.7						
MKAR	**Makanchi Array**	**88.47**	**318**	P	**P**	**10 42 54.0**	**+1.1**
	0.2nm,0.3s,mb3.9,baz=121,slow=36,SNR=3.7						
STOK	**Stokkvaagen**	**119.13**	**345**	*i P*	PKPdf	10 48 49.2	+0.1

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*ISCJB **16** 10:29:56.9±4.5, 145S±0.1×767W±0.3, h4km±31km, mb3.5/3, Error ellipse: s-maj=46.6km s-min=13.6km az=161.0*
*IDC **16** 10:29:58.4±1.7, 1442S×7655W, h0km, mb3.6/3, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, ML4.3/2, Error ellipse: s-maj=60.7km s-min=23.6km az=59.0*

ISC 16 10:29:59.9±5.1, 144S±01×766W±03, h7km±35km, n7, σ0§81/8, mb3.5/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.42**	**353**	Pn	**Pn**	**10 30 40.4**	**+0.6**
	21nm,0.3s,baz=210,slow=13,SNR=3.9						
NNA				Sn	**Sn**	**10 31 09.9**	**+0.2**
	148nm,0.3s,baz=156,slow=13,SNR=5.4						
ATAH	**Atahualpa**	**7.57**	**346**	Pn	**Pn**	**10 31 50.0**	**-0.8**
	baz=360,slow=11,SNR=2.1						
LPAZ	**La Paz**	**8.34**	**104**	Pn	**Pn**	**10 32 08.6**	**+7.3**
	0.1nm,0.3s,baz=46,slow=22,SNR=1.9						
LVC	**Limon Verde**	**10.92**	**140**	Pn	**Pn**	**10 32 36.9**	**+0.3**
	0.9nm,0.3s,baz=332,slow=0.0,SNR=5.2						
PDAR	**Pinedale Array**	**64.45**	**334**	P	**P**	**10 40 36.4**	**-0.6**
	0.2nm,0.5s,mb3.4,baz=135,slow=10,SNR=2.5						
NVAR	**Mina Array Bea**	**65.49**	**325**	P	**P**	**10 40 44.6**	**+0.8**
	0.2nm,0.5s,mb3.4,baz=157,slow=4.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**82.16**	**74**	P	**P**	**10 42 21.7**	**-0.5**
	1.1nm,0.9s,mb3.8,baz=269,slow=3.4,SNR=3.3						

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*NEIC **16** 10:36:11.3, 3273S×7171W, h28km, ML3.5(GUC), After GUC.*
GUC 16 10:36:11.3±0.8, 3273S×7171W, h28km±3km, MD4.1, ML3.5, 17C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.30**	**170**	⇑*iP*	Pb	10 36 18.3	-0.3
IHA				*i* S	Sb	10 36 23.7	+0.1
ROCH	**El Roble**	**0.64**	**113**	⇑*iP*	Pb	10 36 23.8	-0.1
ROCH				*i* S	Sb	10 36 33.1	+0.7
LCCH	**Las Cruces**	**0.76**	**171**	⇑*iP*	Pb	10 36 25.3	-0.6
LCCH				*i* S	Sb	10 36 35.4	-0.5
PTCH	**Petorca**	**0.80**	**55**	⇑*iP*	Pb	10 37 06.4	+40
PTCH				*i* S	Sb	10 37 17.7	+41
PTCH				AML	AML	10 37 18.2	
	comp=E,2μm,0.5s						
CHNG	**Los Chungos**	**0.86**	**12**	⇓*iP*	Pn	10 36 26.8	-0.8
CHNG				*i* S	Sb	10 36 38.9	+0.2
JACH	**Jahuel**	**0.94**	**88**	⇑*iP*	Pn	10 36 28.3	-0.3
JACH				*i* S	Sb	10 36 41.2	+0.2
PEL	**Peldehue**	**0.95**	**116**	⇑*iP*	Pn	10 36 28.9	+0.1
PEL				*i* S	Sb	10 36 41.6	+0.1
PEL				AML	AML	10 36 43.7	
	comp=E,7μm,0.2s						
RCDM	**Rinconada Maip**	**1.07**	**135**	⇑*iP*	Pn	10 36 30.5	+0.1
RCDM				*i* S	Sn	10 36 44.5	+0.1
RCDM				AML	AML	10 36 49.8	
	comp=N,1μm,0.7s						
RCDM	**Rinconada Maip**	**1.07**	**135**	⇑*iP*	Pn	10 36 30.5	+0.1
RCDM				*i* S	Sn	10 36 44.5	+0.1
TACH	**Talagante**	**1.13**	**145**	⇑*iP*	Pn	10 36 31.2	0.0
SAN	**Santiago**	**1.14**	**130**	⇓*iP*	Pn	10 36 31.8	+0.4
SAN				*i* S	Sn	10 36 46.7	+0.6
SAN				AML	AML	10 36 49.4	
	comp=E,2μm,0.6s						
SAN	**Santiago**	**1.14**	**130**	⇓*iP*	Pn	10 36 31.8	+0.4
SAN				*i* S	Sn	10 36 46.7	+0.6
DSCH	**Colegio Aleman**	**1.17**	**125**	⇑*iP*	Pn	10 36 32.1	+0.4
DSCH				*i* S	Sn	10 36 47.6	+0.9
CLCH	**Cerro Calan**	**1.19**	**125**	*i P*	Pn	10 36 33.0	+1.0
CLCH				*i* S	Sn	10 36 48.8	+1.5
ANTU	**Antumapu**	**1.23**	**133**	⇑*iP*	Pn	10 36 32.9	+0.3
ANTU				*i* S	Sn	10 36 49.5	+1.1
ANTU	**Antumapu**	**1.23**	**133**	⇑*iP*	Pn	10 36 32.9	+0.3
ANTU				*i* S	Sn	10 36 49.5	+1.1
LNV	**Longovilo**	**1.25**	**169**	⇑*iP*	Pn	10 36 32.4	-0.5
LNV				*i* S	Sn	10 36 48.6	-0.3
FCH	**Farellones**	**1.33**	**117**	⇓*iP*	Pn	10 36 34.9	+0.8
FCH				*i* S	Sn	10 36 52.6	+1.7
FCH				AML	AML	10 36 56.6	
	comp=N,1μm,0.9s						
PCH	**Pirque**	**1.34**	**132**	⇓*iP*	Pn	10 36 35.0	+0.9
PCH				*i* S	Sn	10 36 52.7	+1.7
SJCH	**San Jose de Ma**	**1.46**	**129**	*eP*	Pn	10 36 36.6	+0.8
SJCH				*e*S	Sn	10 36 55.5	+1.6
SJCH				AML	AML	10 36 59.2	
	comp=N,764nm,0.4s						
SJCH	**San Jose de Ma**	**1.46**	**129**	*eP*	Pn	10 36 36.6	+0.8
SJCH				*e*S	Sn	10 36 55.5	+1.6
CACH	**El Canelo**	**1.67**	**147**	⇑*iP*	Pn	10 36 40.7	+2.0
LMEL	**Las Melosas**	**1.68**	**132**	⇑*iP*	Pn	10 36 40.4	+1.5
LMEL				*i* S	Sn	10 37 03.0	+3.5
LMEL				AML	AML	10 37 05.8	
	comp=N,1μm,0.2s						
LMEL	**Las Melosas**	**1.68**	**132**	⇑*iP*	Pn	10 36 40.4	+1.5
LMEL				S	Sn	10 37 03.0	+3.5
CICH	**Cipreses**	**1.92**	**146**	⇑*iP*	Pn	10 36 43.8	+1.7
CICH				*i* S	Sn	10 37 08.7	+3.4
SFDO	**San Fernando**	**1.97**	**163**	*eP*	Pn	10 36 43.6	+0.8
SFDO				*e*S	Sn	10 37 08.6	+2.0
OVCH	**Ovalle**	**2.15**	**12**	⇓*iP*	Pn	10 36 46.3	+1.0
OVCH				*i* S	Sn	10 37 13.8	+2.7
OVCH				AML	AML	10 37 20.8	
	comp=N,985nm,0.4s						
OVCH	**Ovalle**	**2.15**	**12**	⇓*iP*	Pn	10 36 46.3	+1.0
OVCH				*i* S	Sn	10 37 13.8	+2.7
NICH	**Los Niches**	**2.31**	**170**	*eP*	Pn	10 36 48.3	+0.9
TLL	**Tololo Astrono**	**2.67**	**17**	*eP*	Pn	10 36 53.8	+1.5
TLL				AML	AML	10 37 40.8	
	comp=E,302nm,0.4s						
KHC	**Kasperske Hory**	**111.11**	**45**	*eP*	PKiKP	10 54 54.5	+13

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*IDC **16** 10:48:03.6±0.9, 1371S×7701W, h0km, mb3.9/5, mb1 3.9/9, mb1mx3.8/22, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=32.7km s-min=15.5km az=81.0*
*ISCJB **16** 10:48:06.5±1.8, 1377S±008×769W±02, h34km±19km, mb3.9/5, Error ellipse: s-maj=26.0km s-min=9.6km az=158.8*
*NEIC **16** 10:48:08.7±0.6, 1368S×7688W, h35km, Error ellipse: s-maj=15.4km s-min=9.1km az=68.0*
ISC 16 10:48:09.0±1.5, 1370S±008×769W±02, h40km±16km, n16, σ0§78/15, mb3.9/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.71**	**2**	Pn	**Pn**	**10 48 35.7**	**-0.5**
	211nm,0.3s,baz=177,slow=13,SNR=37						
NNA				Sn	**Sn**	**10 48 56.7**	**-0.1**
	626nm,0.3s,baz=228,slow=18,SNR=33						
ATAH	**Atahualpa**	**6.82**	**347**	Pn	**Pn**	**10 49 47.2**	**+0.7**
	4.2nm,0.3s,baz=143,slow=9.7,SNR=25						
ATAH				Sn	**Sn**	**10 50 57.9**	**-5.1**
	2.5nm,0.3s,baz=33,slow=14,SNR=1.6						
LPAZ	**La Paz**	**8.85**	**108**	Pn	**Pn**	**10 50 16.1**	**+1.8**
	0.4nm,0.3s,baz=301,slow=9.5,SNR=11						
LVC	**Limon Verde**	**11.66**	**141**	Pn	**Pn**	**10 50 52.5**	**-0.3**
	4.2nm,0.3s,baz=341,slow=0.0,SNR=26						
SIV	**San Ignacio**	**15.46**	**100**	Pn	**Pn**	**10 51 42.7**	**-1.6**
	0.2nm,0.3s,baz=270,slow=14,SNR=3.1						
CFAA	**Coronel Fontan**	**19.51**	**157**	P	**Pn**	**10 52 34.1**	**-0.2**
	0.1nm,0.3s,baz=327,slow=12,SNR=8.8						
SDV	**Santo Domingo**	**23.29**	**16**	P	**P**	**10 53 13.3**	**-0.2**
	2.9nm,0.4s,mb4.0,baz=90,slow=21,SNR=2.5						
PLCA	**Paso Flores**	**27.49**	**170**	P	**P**	**10 53 51.7**	**+0.3**
	2.7nm,1.0s,mb3.8,baz=210,slow=20,SNR=4.8						
PLCA	**Paso Flores**	**27.49**	**170**	P	**P**	**10 53 51.7**	**+0.3**
PMSA	**Palmer Station**	**51.77**	**173**	P	**P**	**10 57 11.9**	**-0.3**
	3.7nm,0.8s,mb4.4,baz=343,slow=9.2,SNR=11						
NVAR	**Mina Array Bea**	**64.73**	**325**	P	**P**	**10 58 43.1**	**-0.1**
	0.1nm,0.3s,mb3.4,baz=312,slow=19,SNR=2.2						
TORD	**Torodi Ar. Bea**	**82.29**	**74**	P	**P**	**11 00 27.8**	**+0.8**
	1.0nm,0.8s,mb3.8,baz=264,slow=4.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**82.29**	**74**	P	**P**	**11 00 27.8**	**+0.8**
ASAR	**Alice Springs**	**132.18**	**219**	PKP	PKPdf	11 07 20.2	+0.9
	0.2nm,0.9s,baz=170,slow=1.7,SNR=2.6						
WRA	**Warramunga Arr**	**134.59**	**223**	PKP	PKPdf	11 07 24.4	+0.5
	0.3nm,0.9s,baz=128,slow=2.0,SNR=3.7						
SONM	**Songino Array**	**145.86**	**356**	PKPbc	PKPbc	11 07 46.1	+2.2
	0.3nm,0.5s,baz=50,slow=2.3,SNR=3.4						

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*ISCJB **16** 10:51:33.7±1.5, 1438S±0.10×763W±0.1, h55km±15km, mb3.9/5, Error ellipse: s-maj=27.4km s-min=8.9km az=149.3*
*NEIC **16** 10:51:33.5±0.7, 1437S×7636W, h35km, Error ellipse: s-maj=21.3km s-min=10.4km az=53.0*

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*IDC **16** 10:51:35.7±2.3, 1432S×7623W, h56km±19km, mb3.6/5, mb1 3.9/10, mb1mx3.7/22, mbtmp3.8/10, ML3.9/6, MS3.7/1, Ms1 3.7/1, ms1mx3.4/28, Error ellipse: s-maj=38.8km s-min=11.9km az=58.0*
ISC 16 10:51:35.7±1.3, 1433S±009×763W±01, h57km±12km, n19, σ0§99/16, mb3.9/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.40**	**346**	P	**Pn**	**10 52 13.1**	**+0.4**
	35nm,0.3s,baz=165,slow=12,SNR=1.3						
NNA				S	**Sn**	**10 52 41.7**	**+0.8**
	209nm,0.3s,baz=154,slow=15,SNR=7.1						
NNA				LR	LR	10 53 32.5	
	comp=Z,1μm,19.6s,baz=124,slow=49						
ATAH	**Atahualpa**	**7.58**	**344**	P	**Pn**	**10 53 22.5**	**-1.2**
	1.1nm,0.3s,baz=150,slow=18,SNR=1.9						
LPAZ	**La Paz**	**8.07**	**105**	P	**Pn**	**10 53 31.6**	**+1.3**
	1.4nm,0.3s,baz=345,slow=14,SNR=7.4						
LVC	**Limon Verde**	**10.78**	**141**	P	**Pn**	**10 54 07.3**	**0.0**
	0.5nm,0.3s,baz=326,slow=0.1,SNR=2.5						
LVC	**Limon Verde**	**10.78**	**141**	P	**Pn**	**10 54 07.3**	**0.0**
SIV	**San Ignacio**	**14.74**	**98**	P	**Pn**	**10 54 59.9**	**-1.1**
	0.3nm,0.3s,baz=285,slow=14,SNR=3.2						
CFAA	**Coronel Fontan**	**18.69**	**158**	P	**Pn**	**10 55 48.9**	**-1.4**
	0.0nm,0.3s,baz=339,slow=13,SNR=3.2						
CPUP	**Villa Florida**	**21.35**	**127**	P	**P**	**10 56 18.1**	**-0.2**
	0.9nm,0.3s,mb3.5,baz=276,slow=6.4,SNR=4.2						
SDV	**Santo Domingo**	**23.73**	**14**	P	**P**	**10 56 42.2**	**-0.6**
	3.7nm,0.7s,mb3.9,baz=270,slow=13,SNR=3.7						
NVAR	**Mina Array Bea**	**65.61**	**325**	P	**P**	**11 02 14.2**	**+0.4**
	0.4nm,0.7s,mb3.5,baz=145,slow=6.7,SNR=4.6						
VNA1	**Neumayer--Stat**	**69.33**	**161**	*e*	**P**	**11 02 38.7**	**+1.9**
SNAA	**Sanae**	**71.28**	**161**	*e*	**P**	**11 02 49.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**81.86**	**74**	P	**P**	**11 03 50.0**	**+0.5**
	5.3nm,0.6s,mb4.7,baz=272,slow=3.6,SNR=34						
TORD	**Torodi Ar. Bea**	**81.86**	**74**	P	**P**	**11 03 50.0**	**+0.5**
YKA	**Yellowknife Ar**	**82.24**	**343**	P	**P**	**11 03 48.9**	**-1.5**
	1.6nm,1.2s,mb3.8,baz=148,slow=5.7,SNR=4.1						
ASAR	**Alice Springs**	**132.09**	**218**	PKP	PKPdf	11 10 44.0	+0.1
	1.0nm,1.2s,baz=96,slow=1.9,SNR=2.9						
WRA	**Warramunga Arr**	**134.56**	**222**	PKP	PKPdf	11 10 49.5	+0.9
	0.5nm,0.8s,baz=138,slow=1.7,SNR=5.5						
SONM	**Songino Array**	**146.53**	**357**	PKPbc	PKPbc	11 11 11.1	+0.4
	1.7nm,0.6s,baz=321,slow=1.9,SNR=8.8						
KSRS	**Korea Array**	**148.51**	**321**	PKPbc	PKPbc	11 11 16.1	-0.4
	0.7nm,0.9s,baz=21,slow=3.9,SNR=3.4						

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*NEIC **16** 10:58:38.0, 5228N×16990W, h7km, ML4.0(AEIC), After AEIC.*
*ISCJB **16** 10:58:39.9±0.8, 525N±0.1×170.18W±006, h46km±8km, mb3.9/11, Error ellipse: s-maj=17.7km s-min=5.0km az=169.3*
*IDC **16** 10:58:40.9±3.4, 5237N×170.13W, h43km±31km, mb3.8/11, mb1 4.0/12, mb1mx3.7/26, mbtmp3.8/12, ML4.5/1, Error ellipse: s-maj=31.1km s-min=13.5km az=171.0*
ISC 16 10:58:42.4±0.8, 525N±01×17019W±006, h53km±8km, n224, σ0§55/227, mb3.9/11, 88C-108D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.93**	**60**	P	**Pn**	**10 58 55.4**	**-3.8**
NIKO				S	**Sn**	**10 59 07.3**	**-4.3**
OKCD	**Okmok Cone D**	**1.55**	**53**	P	**Pn**	**10 59 05.7**	**-1.9**
UNV	**Unalaska Valle**	**2.58**	**58**	P	**Pn**	**10 59 19.7**	**-2.0**
UNV				S	**Sn**	**10 59 53.0**	**+1.2**
AKGG	**Akutan Green G**	**3.02**	**55**	P	**Pn**	**10 59 26.9**	**-0.8**
AKUT	**Akutan**	**3.10**	**57**	*eP*	**Pn**	**10 59 30.4**	**+1.7**
ADK	**Adak**	**4.05**	**263**	P	**Pn**	**10 59 42.2**	**+0.6**
SDPT	**Sand Point**	**6.40**	**60**	*eP*	**Pn**	**11 00 14.2**	**+0.4**
AMKA	**Amchitka**	**6.60**	**264**	*e*Pn	**Pn**	**11 00 18.3**	**+1.7**
AMKA				*e*Sn	**Sn**	**11 01 30.2**	**-0.2**
CHGN	**Chignik**	**7.84**	**56**	*eP*	**Pn**	**11 00 33.2**	**-0.4**
KDAK	**Kodiak Island**	**11.35**	**55**	P	**Pn**	**11 01 18.4**	**-3.1**
	0.5nm,0.3s,baz=131,slow=15,SNR=9.5						
KDAK				S	**Sn**	**11 03 18.9**	**-7.8**
	baz=130,slow=20,SNR=2.4						
SVW2	**Sparrevohn**	**11.71**	**37**	*eP*	**Pn**	**11 01 30.8**	**+4.3**
RAGM	**Ragged Mountai**	**16.06**	**51**	*eP*	**Pn**	**11 02 29.0**	**+4.6**
PETK	**Petropavlovsk-**	**19.34**	**285**	P	**Pn**	**11 03 03.8**	**-0.7**
	1.3nm,0.3s,baz=126,slow=28,SNR=28						
INK	**Inuvik**	**23.50**	**34**	P	**

	baz=34						
J07A	Hines	34.63	85	⇓P	P	11 05 27.0	+0.8
	baz=34						
M05C	Lookout	34.66	89	⇓P	P	11 05 27.2	+0.8
	baz=34						
A13A	Flathead Natio	34.74	73	⇓P	P	11 05 27.2	+0.2
	baz=34						
HATC	Hat Creek Radi	34.78	90	⇑P	P	11 05 28.0	+0.6
	baz=34						
I08A	Drewsey	34.79	83	⇓P	P	11 05 28.1	+0.6
	baz=34,SNR=6.9						
MOD	Modoc	34.85	87	⇓P	P	11 05 28.8	+0.7
	baz=35						
E11A	Bogner Ranch,	34.93	78	⇑P	P	11 05 28.1	-0.6
	baz=35						
G10A	Bishop Farm, J	34.93	80	⇓P	P	11 05 28.5	-0.2
	baz=35,SNR=7.2						
B13A	Whitefish	34.97	74	⇓P	P	11 05 29.1	0.0
	baz=35						
K07A	Rock Creek Ran	35.05	86	⇑P	P	11 05 30.2	+0.5
	baz=35						
D12A	Red Ives Fores	35.09	77	⇓P	P	11 05 29.5	-0.5
	baz=35						
J08A	Circle Bar Ran	35.15	84	⇓P	P	11 05 30.7	+0.1
	baz=35,SNR=7.4						
F11A	Grangeville	35.20	79	⇑P	P	11 05 30.3	-0.7
	baz=35						
C13A	Hot Springs	35.24	75	⇓P	P	11 05 31.4	0.0
	baz=35						
I09A	Lost Marbles R	35.26	83	⇓P	P	11 05 31.4	-0.1
	baz=35						
L07A	Adell	35.38	87	⇑P	P	11 05 33.3	+0.7
	baz=35						
G11A	Walters Elk Ra	35.38	80	⇓P	P	11 05 32.4	-0.2
	baz=35						
K08A	Mann Creek Ran	35.49	85	⇑P	P	11 05 34.0	+0.5
	baz=35						
H10A	Noah's Angus R	35.52	81	⇓P	P	11 05 34.1	+0.3
	baz=35,SNR=16						
J09A	Fry Pan Ranch,	35.59	84	⇓P	P	11 05 34.5	+0.1
	baz=35,SNR=5.7						
D13A	Huson	35.60	76	⇑P	P	11 05 33.6	-0.9
	baz=35						
C14A	Swan Lake	35.69	75	⇑P	P	11 05 34.9	-0.2
	baz=35						
F12A	Elk City	35.81	78	⇑P	P	11 05 36.2	-0.1
	baz=36,SNR=6.9						
N06A	Buffalo Meadow	35.82	89	⇑P	P	11 05 36.9	+0.6
	baz=36						
M07A	Soldier Meadow	35.84	87	⇑P	P	11 05 36.9	+0.3
	baz=36						
L08A	Fields	35.88	86	⇓P	P	11 05 37.3	+0.3
	baz=36						
H11A	Donnelly	35.91	80	⇓P	P	11 05 37.0	-0.1
	baz=36						
K09A	Rome	35.97	84	⇑P	P	11 05 38.0	+0.4
	baz=36						
D14A	Greenough	36.17	75	⇓P	P	11 05 39.2	-0.1
	baz=36,SNR=11						
F13A	Darby	36.34	78	⇑P	P	11 05 40.6	-0.2
	baz=36,SNR=5.0						
I11A	Placerville	36.37	81	⇓P	P	11 05 41.1	0.0
	baz=36						
K10A	MacKenzie Ranc	36.45	84	⇓P	P	11 05 41.6	-0.1
	baz=36,SNR=7.4						
E14A	Clinton	36.52	76	⇓P	P	11 05 42.1	-0.2
	baz=36						
H12A	Diamond D Ranc	36.69	80	⇓P	P	11 05 42.9	-0.8
	baz=36						
MFID	Camas Ranch	36.72	82	⇑P	P	11 05 43.7	-0.4
	baz=36						
WCN	Washoe City	36.74	91	⇑P	P	11 05 43.8	-0.4
	baz=36						
O07A	Toulon	36.75	89	⇑P	P	11 05 44.7	+0.3
	baz=36						
G13A	Cobalt	36.77	79	⇓P	P	11 05 44.1	-0.3
	baz=36,SNR=6.8						
D15A	Lincoln	36.77	75	⇓P	P	11 05 44.1	-0.4
	baz=36,SNR=11						
F14A	Wisdom	36.90	77	⇓P	P	11 05 45.9	+0.3
	baz=37,SNR=7.4						
K11A	Parker Ranch,	36.96	83	⇑P	P	11 05 46.2	+0.1
	baz=37,SNR=7.4						
E15A	Deer Lodge	37.02	76	⇑P	P	11 05 46.0	-0.5
	baz=37,SNR=6.3						
H13A	Challis	37.04	79	⇑P	P	11 05 46.5	-0.2
	baz=37						
L10A	Juniper Basin	37.09	84	⇓P	P	11 05 47.2	0.0
	baz=37						
G14A	Jackson	37.15	78	⇑P	P	11 05 47.7	+0.1
	baz=37						
J12A	Stokes Ranch,	37.26	82	⇑P	P	11 05 48.7	+0.1
	baz=37						
M10A	I.L. Ranch, Tu	37.37	85	⇓P	P	11 05 49.8	+0.2
	baz=37						
L11A	Cat Creek Ranc	37.47	84	⇑P	P	11 05 50.5	0.0
	baz=37,SNR=9.6						
I13A	Wildhorse Cree	37.48	80	⇑P	P	11 05 50.5	0.0
	baz=37						
HLID	Hailey	37.49	81	⇑P	P	11 05 50.6	0.0
	baz=37						
K12A	Draper Farm, C	37.72	83	⇑P	P	11 05 52.9	+0.4
	baz=37						
J13A	Cove Ranch, Pi	37.73	81	⇓P	P	11 05 52.6	0.0
	baz=38,SNR=5.3						
G15A	Dillon	37.77	77	⇓P	P	11 05 52.6	-0.3
	baz=38,SNR=5.9						
EGMT	Eagleton	37.90	72	⇑P	P	11 05 54.1	+0.2
	baz=38						
L12A	House Creek Ra	37.93	83	⇓P	P	11 05 54.5	+0.1
	baz=38,SNR=6.8						
U04C	Hernandez Rese	37.98	95	⇓P	P	11 05 55.3	+0.5
	baz=38						
BOZ	Bozeman (W)	38.02	76	⇑P	P	11 05 55.2	+0.1
	baz=38						
Q08A	Gabbs	38.13	90	⇑P	P	11 05 56.3	+0.3
	baz=38						
NVAR	Mina Array Bea	38.17	91	P	P	11 05 56.6	+0.3
	1.5nm,0.8s,mb3.8,baz=299,slow=8.3,SNR=14						
NVAR				ScP	ScP	11 11 53.6	+0.7
	0.7nm,1.0s,baz=269,slow=4.8,SNR=4.0						
T06C	Millerton Lake	38.22	93	⇑P	P	11 05 57.6	+0.8
	baz=38						
KCC	Kaiser Creek	38.25	93	⇑P	P	11 05 57.5	+0.5
	baz=38						
M12A	Wells	38.42	84	⇓P	P	11 05 58.9	+0.5
	baz=38						
Q09A	Carvers	38.60	89	⇑P	P	11 06 00.5	+0.5
	baz=38						
L13A	Double Diamond	38.62	83	⇓P	P	11 06 00.6	+0.5
	baz=38						
N12A	Clover Valley,	38.68	85	⇓P	P	11 06 01.2	+0.6
	baz=38						
O11A	Cowboy Ranch,	38.74	86	⇑P	P	11 06 01.0	-0.1
	baz=38						
S08C	White Mtn Res	38.84	92	⇓P	P	11 06 02.2	+0.2
	baz=39						
HELL	Mitchell Peak	38.85	93	⇓P	P	11 06 01.8	-0.3
	baz=39						
M13A	Montello	38.91	84	⇑P	P	11 06 02.4	-0.1
	baz=39						
R09A	Tonopah	39.04	90	⇓P	P	11 06 03.7	0.0
	baz=39,SNR=5.9						
L14A	Malta	39.08	82	⇑P	P	11 06 03.8	-0.1
	baz=39,SNR=7.4						
Q10A	Clear Creek Ra	39.09	89	⇓P	P	11 06 04.1	+0.1
	baz=39,SNR=5.7						
K15A	Arbon	39.13	81	⇓P	P	11 06 04.9	+0.5
	baz=39						
MJAR	Matsushiro Arr	39.20	267	P	P	11 06 05.1	+0.1
	0.6nm,0.6s,mb3.5,baz=30,slow=6.3,SNR=5.0						
O12A	Currie	39.21	85	⇑P	P	11 06 04.9	-0.1
	baz=39,SNR=5.4						
S09A	Goldfield	39.27	91	⇓P	P	11 06 05.5	-0.1
	baz=39						
M14A	Sheep Mountain	39.32	83	⇑P	P	11 06 05.9	-0.1
	baz=39						
J16A	Bone	39.34	79	⇑P	P	11 06 06.4	+0.3
	baz=39						
VES	Vestal, Richgr	39.36	94	⇑P	P	11 06 05.7	-0.7
	baz=39						
S10A	Tonopah Range,	39.53	90	⇑P	P	11 06 07.9	+0.1
	baz=39,SNR=5.9						
L15A	Malad City	39.61	82	⇑P	P	11 06 09.0	+0.7
	baz=39						
K16A	Soda Springs	39.61	80	⇑P	P	11 06 09.7	+1.3
	baz=39,SNR=6.5						
N14A	Grayback Hills	39.81	84	⇓P	P	11 06 10.4	+0.4
	baz=40						
R11A	Troy Canyon, C	39.88	88	⇓P	P	11 06 10.4	-0.2
	baz=40						
L16A	Fish Haven	40.18	81	⇓P	P	11 06 13.3	+0.2
	baz=40,SNR=7.5						
MPMC	Manual Prospec	40.19	93	⇑P	P	11 06 13.6	+0.4
	baz=40						
TPNV	Topopah Spring	40.37	91	⇓P	P	11 06 14.6	-0.1
	baz=40						
DUG	Dugway	40.43	84	⇓P	P	11 06 15.5	+0.3
	baz=40						
Q13A	Wheeler Ranch,	40.46	87	⇓P	P	11 06 15.4	0.0
	baz=40						
M16A	Huntsville	40.47	82	⇓P	P	11 06 15.5	-0.1
	baz=40,SNR=8.5						
P14A	Drum Mountains	40.64	85	⇑P	P	11 06 17.4	+0.4
	baz=40						
T11A	Corn Creek, Al	40.81	90	⇑P	P	11 06 18.1	-0.2
	baz=40,SNR=6.4						
PDAR	Pinedale Array	40.87	79	P	P	11 06 18.2	-0.5
	6.5nm,0.7s,mb4.4,baz=307,slow=4.1,SNR=54						
Q14A	Sevier Lake (B	40.89	86	⇓P	P	11 06 19.1	+0.2
	baz=41,SNR=5.7						
R13A	O'Grain Ranch,	40.97	87	⇓P	P	11 06 19.7	0.0
	baz=41						
SHOC	Shoshone	41.03	92	⇑P	P	11 06 20.4	+0.2
	baz=41						
GSC	Goldstone	41.10	93	⇑P	P	11 06 20.8	0.0
	baz=41						
N17A	Moffit Pass	41.18	82	⇓P	P	11 06 21.1	-0.2
	baz=41						
S13A	Holt Ranch, En	41.42	88	⇓P	P	11 06 23.1	-0.2
	baz=41,SNR=5.7						
V11A	Goodsprings	41.59	91	⇑P	P	11 06 24.9	+0.2
	baz=41						
T13A	Saint George	41.75	89	⇓P	P	11 06 26.5	+0.4
	baz=42						
N18A	Larsen Ranch,	41.86	81	⇓P	P	11 06 26.4	-0.5
	baz=42						
V12A	Nelson	42.02	91	⇓P	P	11 06 28.2	-0.1
	baz=42						
O18A	Roosevelt	42.09	82	⇓P	P	11 06 29.2	+0.5
	baz=42						
U13A	Pakoon Wash	42.11	89	⇑P	P	11 06 29.3	+0.3
	baz=42,SNR=5.0						
GMRC	Granite Mounta	42.15	93	⇓P	P	11 06 29.4	0.0
	baz=42						
Q16A	Castle Valley	42.22	85	⇓P	P	11 06 29.9	+0.1
	baz=42						
T14A	Hurricane	42.23	88	⇓P	P	11 06 30.0	+0.1
	baz=42						
V13A	Grand Canyon W	42.47	90	⇓P	P	11 06 31.8	-0.1
	baz=42						
SRU	San Rafael	42.49	84	⇑P	P	11 06 32.7	+0.7
	baz=42						
U14A	Mt Trumbull	42.59	89	⇑P	P	11 06 33.3	+0.4
	baz=42						
T15A	Red Dirt Ranch	42.68	88	⇓P	P	11 06 33.7	+0.1
	baz=42						
S16A	Weppner Ranch,	42.71	86	⇓P	P	11 06 33.8	0.0
	baz=42,SNR=5.1						
Q18A	Rafter H Ranch	42.73	84	⇓P	P	11 06 33.9	-0.2
	baz=42						
R17A	Hanksville Air	42.81	85	⇑P	P	11 06 34.4	-0.3
	baz=42						
MONP	Monument Peak	42.97	95	⇓P	P	11 06 35.7	-0.3
	baz=43						
W13A	Hualapai Mount	43.02	91	⇓P	P	11 06 35.9	-0.5
	baz=43,SNR=5.5						
U15A	North Rim	43.12	88	⇑P	P	11 06 36.9	-0.3
	baz=43,SNR=7.6						
V14A	Boquillas Ranc	43.15	90	⇓P	P	11 06 37.4	0.0
	baz=43						
T16A	Glen Canyon Da	43.24	87	⇓P	P	11 06 37.5	-0.7
	baz=43						
S17A	Black Ridge (B	43.25	86	⇓P	P	11 06 37.8	-0.4
	baz=43,SNR=9.8						
R18A	Canyonlands Na	43.33	84	⇑P	P	11 06 38.2	-0.6
	baz=43						
Q19A	Hogan Spring (	43.35	83	⇓P	P	11 06 37.9	-1.1
	baz=43,SNR=5.8						
X13A	Yucca	43.40	91	⇓P	P	11 06 38.5	-0.9
	baz=43						
PDMCI	Parker Dam,Lak	43.40	92	⇑P	P	11 06 38.9	-0.6
	baz=43						
W14A	Seligman	43.44	90	⇓P	P	11 06 39.1	-0.7
	baz=43						
Y12C	Blythe	43.54	93	⇓P	P	11 06 40.0	-0.6
	baz=43						
V15A	Kaibab Nationa	43.59	89	⇓P	P	11 06 40.7	-0.3
	baz=43,SNR=6.9						
T17A	Navajo Res., N	43.66	86	⇑P	P	11 06 40.8	-0.8
	baz=43						
S18A	Hurst Farm, Bl	43.71	85	⇓P	P	11 06 41.4	-0.5
	baz=43,SNR=8.6						
R19A	Curley Farm, L	43.77	84	⇑P	P	11 06 41.9	-0.5
	baz=44						
GLA	Glamis	43.83	94	⇑P	P	11 06 42.5	-0.5
	baz=44						
X14A	Yava	44.05	91	⇑P	P	11 06 44.2	-0.5
	baz=44,SNR=5.9						
T18A	Mexican Hat	44.14	86	⇓P	P	11 06 44.4	-1.0
	baz=44,SNR=8.4						
S19A	Harvey Farm, M	44.19	84	⇑P	P	11 06 45.1	-0.7
	baz=44,SNR=6.3						
WUAZ	Wupatki	44.28	88	⇑P	P	11 06 46.1	-0.4
	baz=44						
PV01	Paradox Valley	44.29	84	eP	P	11 06 46.1	-0.5
Y14A	Wickenburg	44.34	91	⇑P	P	11 06 46.0	-1.0
	baz=44						
X15A	Humboldt	44.44	90	⇓P	P	11 06 47.6	-0.2
	baz=44						
W16A	Flagstaff	44.46	89	⇓P	P	11 06 48.1	+0.1
	baz=44						
113A	Mohawk Valley,	44.67	93	⇓P	P	11 06 49.2	-0.5
	baz=44						
Y15A	Casa Rosa Ranc	44.74	91	⇓P	P	11 06 49.9	-0.4
	baz=44						
T19A	Beclabito	44.85	85	⇓P	P	11 06 50.6	-0.5
	baz=45,SNR=12						
KSRS	Korea Array	44.89	276	P	P	11 06 52.0	+0.6
	0.9nm,0.8s,mb3.7,baz=60,slow=7.8,SNR=5.9						
MVCO	Mesa Verde	44.93	84	⇓P	P	11 06 51.4	-0.2
	baz=45						
X16A	Lo Mia Camp, P	44.97	90	⇓P	P	11 06 51.8	-0.2
	baz=45,SNR=5.3						
V18A	Ganado	45.03	87	⇓P	P	11 06 52.0	-0.5
	baz=45						
Y16A	Circle Bar Ran	45.31	90	⇑P	P	11 06 54.9	+0.2
	baz=45						
115A	Sonoran Desert	45.66	92	⇑P	P	11 06 56.9	-0.6
	baz=45						
X18A	Snowflake	45.81	88	⇑P	P	11 06 58.3	-0.3
	baz=46						
214A	Organ Pipe Nat	45.82	93	⇑P	P	11 06 58.1	-0.7
	baz=46						
Y17A	Roosevelt	45.83	90	⇑P	P	11 06 58.7	-0.1
	baz=46						
Y18A	Canyon Day Jun	46.26	89	⇓P	P	11 07 02.2	-0.1
	baz=46						
X19A	St. Johns	46.28	88	⇓P	P	11 07 01.9	-0.4
	baz=46						
Z17A	San Carlos Hig	46.32	90	⇑P	P	11 07 02.2	-0.6
	baz=46						
Y19A	Nutrioso	46.62	88	⇑P	P	11 07 05.4	+0.3
	baz=46						
117A	Oracle	46.66	91	⇓P	P	11 07 04.9	-0.4
	baz=46						
118A	Homack Ranch,	47.08	90	⇑P	P	11 07 08.1	-0.5
	baz=47						
217A	Green Valley	47.16	92	⇓P	P	11 07 09.0	-0.3
	baz=47						
119A	Ashpeak Ranch,	47.40	90	⇓P	P	11 07 10.8	-0.4
	baz=47						
LAZ	Ladron	47.61	86	eP	P	11 07 12.7	0.0
318A	Bisbee	47.90	91	⇑P	P	11 07 14.4	-0.6
	baz=48						
219A	White Tail Can	47.96	90	⇓P	P	11 07 15.5	0.0
	baz=48						
BVAR	Borovoye Array	63.28	324	P	P	11 09 06.3	+1.3
	1.8nm,0.6s,mb4.4,baz=60,slow=8.8,SNR=9.3						
CMAR	Chiang Mai Arr	76.09	282	P	P	11 10 24.2	-0.1
	1.9nm,0.8s,mb4.1,baz=28,slow=6.3,SNR=7.6						
WRA	Warramunga Arr	86.71	231	P	P	11 11 18.3	-1.9
	0.4nm,0.9s,mb3.6,baz=34,slow=6.0,SNR=8.0						
ASAR	Alice Springs	90.11	229	P	P	11 11 35.2	-1.1
	0.7nm,0.6s,mb4.2,baz=30,slow=4.9,SNR=18						
MAW	Mawson	150.68	219	PKPbc	PKPbc	11 18 26.2	-0.6
	1.0nm,0.7s,baz=68,slow=5.4,SNR=3.7						

NEIC ***16*** *11:04:00.7±0.9, 1392S×7607W, h35km, Error ellipse: s-maj=28.8km s-min=11.5km az=60.0*
ISCJB ***16*** *11:04:03.4±1.3, 140S±0.1×760W±02, h85km±13km, mb3.9/4, Error ellipse: s-maj=28.9km s-min=8.4km az=148.1*
IDC ***16*** *11:04:05.0±1.8, 1398S×7594W, h77km±14km, mb3.8/4, mb1 3.8/10, mb1mx3.6/23, mbtmp3.7/10, Error ellipse: s-maj=41.3km s-min=11.6km az=56.0*

ISC 16 11:04:04.8±1.1, 1402S±010×760W±02, h82km±11km, n16, σ1º04/17, mb3.9/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.18	338	P	Pn	11 04 38.3	-0.8
	66nm,0.3s,baz=125,slow=16,SNR=8.1						
NNA				S	Sn	11 05 05.7	+0.4
	280nm,0.3s,baz=232,slow=12,SNR=9.8						
NNA	Nana	2.18	338	ePn	Pn	11 04 34.5	-4.6
NNA				eSn	Sn	11 05 05.3	0.0
ATAH	Atahualpa	7.36	341	P	Pn	11 05 50.2	+0.6
	3.1nm,0.3s,baz=134,slow=2.2,SNR=9.6						
ATAH				S	Sn	11 07 11.4	-0.2
	0.5nm,0.3s,baz=58,slow=13,SNR=2.4						
LPAZ	La Paz	7.94	107	P	Pn	11 05 59.4	+1.9
	0.6nm,0.3s,baz=290,slow=11,SNR=12						
LVC	Limon Verde	10.88	143	P	Pn	11 06 37.6	-0.1
	1.1nm,0.3s,baz=304,slow=0.0,SNR=15						
LVC	Limon Verde	10.88	143	P	Pn	11 06 37.6	-0.1
SIV	San Ignacio	14.57	100	P	Pn	11 07 25.4	-1.5
	0.1nm,0.3s,baz=267,slow=17,SNR=3.9						
CFAA	Coronel Fontan	18.90	159	P	Pn	11 08 18.8	-1.6
	0.0nm,0.3s,baz=326,slow=10,SNR=7.8						
SDV	Santo Domingo	23.38	14	P	P	11 09 06.2	-0.2
	1.8nm,0.4s,mb3.7,baz=270,slow=10.0,SNR=3.6						
ULM	Lac du Bonnet	66.33	346	P	P	11 14 43.3	-1.2
	2.9nm,0.6s,mb4.3,baz=160,slow=10,SNR=6.9						
SNAA	Sanae	71.50	161	e	P	11 15 18.2	+1.9
SNAA				e		11 15 29.9	
TORD	Torodi Ar. Bea	81.56	74	P	P	11 16 14.4	+0.3
	2.2nm,0.7s,mb4.1,baz=264,slow=5.0,SNR=8.9						
YKA	Yellowknife Ar	82.01	343	P	P	11 16 16.0	+0.6
	0.6nm,0.8s,mb3.5,baz=144,slow=5.7,SNR=4.9						
YKA	Yellowknife Ar	82.01	343	P	P	11 16 16.0	+0.6
SONM	Songino Array	146.23	357	PKPbc	PKPbc	11 23 37.6	+1.8
	1.6nm,0.8s,baz=0.0,slow=3.2,SNR=9.9						
KSRS	Korea Array	148.40	322	PKPbc	PKPbc	11 23 44.0	+1.8
	0.6nm,0.6s,baz=69,slow=4.2,SNR=4.6						

IDC ***16*** *11:04:28.9±1.7, 4310N×14542E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, ML3.1/1, Error ellipse: s-maj=47.9km s-min=28.8km az=167.0*
ISCJB ***16*** *11:04:32.7±1.0, 4288N±007×14548E±009, h48km±7km, mb3.6/5, Error ellipse: s-maj=14.5km s-min=7.7km az=140.0*
MOS ***16*** *11:04:33.2±2.6, 4295N×14556E, h36km, mb4.1/3, Error ellipse: s-maj=32.2km s-min=20.7km az=96.4*
JMA ***16*** *11:04:33.5±0.1, 4290N×14548E, h44km±1km, M3.7*

ISC 16 11:04:33.8±1.1, 4291N±007×14548E±009, h37km±9km, n17, σ0º51/22, mb3.6/5, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.50	22	P	Pn	11 04 44.2	-0.2
NEM2				eS	Sn	11 04 51.8	0.0
JAK	Akkeshi	0.58	279	P	Pn	11 04 45.5	-0.1
JAK				eS	Sn	11 04 54.1	+0.2
JNK	Nakash	0.88	321	P	Pn	11 04 49.5	-0.1
JNK				eS	Sn	11 05 00.6	-0.6
JRA	Rausu	1.06	346	P	Pn	11 04 52.3	+0.1
JRA				eS	Sn	11 05 06.3	+0.6
YUK	Yuzh-Kuril'sk	1.16	14	i/PN	Pn	11 04 53.4	-0.1
YUK				i S	Sn	11 05 07.7	-0.4
YUK				pmax	pmax		
	comp=Z,270nm,0.3s						
YUK				pmax	pmax		
	comp=N,110nm,0.4s						
YUK				smax			
	comp=N,7μm,0.6s						
YUK				smax			
	comp=E,4μm,0.8s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
JOB	Onbets	1.21	270	P	Pn	11 04 53.9	-0.3
JAR	Ashorobuto	1.31	288	P	Pn	11 04 55.6	0.0
MJAR	Matsushiro Arr	8.47	224	Pn	Pn	11 06 33.7	-0.2
	comp=E,0.2nm,0.3s,baz=27,slow=15,SNR=4.7						
KLR	Kul'dur	11.44	308	ePN	Pn	11 07 15.6	+1.2
SONM	Songino Array	27.69	294	P	P	11 10 18.5	+0.5
	comp=E,0.7nm,0.5s,mb3.6,baz=87,slow=8.1,SNR=5.0						
SONM	Songino Array	27.69	294	P	P	11 10 18.5	+0.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	43.90	298	P	P	11 12 36.2	-0.2
	comp=Z,0.2nm,0.3s,mb3.4,baz=72,slow=11,SNR=3.6						
NVAR	Mina Array Bea	69.06	57	P	P	11 15 36.7	+1.1
	comp=Z,0.2nm,0.5s,mb3.3,baz=283,slow=5.3,SNR=2.8						
NOA	NORSAR Array B	69.94	338	P	P	11 15 39.9	-0.7
	comp=Z,1.1nm,0.8s,mb3.9,baz=49,slow=7.5,SNR=3.0						
NOA	NORSAR Array B	69.94	338	P	P	11 15 39.9	-0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	71.53	323	P	P	11 15 49.8	-0.7
	comp=Z,1.0nm,0.5s,mb4.0,baz=41,slow=6.0,SNR=6.3						
AKASG	Malin Array Be	71.53	323	P	P	11 15 49.8	-0.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC ***16*** *11:11:08.7±2.7, 2113S×17702W, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.0/16, mbtmp4.4/5, MS3.9/1, Ms1 3.9/1, ms1mx3.3/30, Error ellipse: s-maj=60.6km s-min=49.5km az=98.0*
NEIC ***16*** *11:11:47.4±2.1, 2192S×17795W, h300km, mb4.1/6, Error ellipse: s-maj=43.8km s-min=31.7km az=93.0*

ISC 16 11:11:34.7±3.3, 216S±03×1775W±05, h200km, n17, σ1º28/15, mb4.1/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	7.63	183	LR	LR	11 14 59.8	
	comp=Z,850nm,22.0s,baz=150,slow=28						
RPZ	Rata Peaks	24.02	201	P	P	11 16 30.3	-0.8
	5.4nm,0.8s,mb4.3,baz=28,slow=7.2,SNR=2.7						
CNB	Canberra Magne	32.00	237	eP	P	11 17 45.7	+3.5
CTA	Charters Tower	33.84	266	eP	P	11 18 00.1	+1.8
	3.1nm,0.3s,mb4.3						
TOO	Toolangi	35.63	235	eP	P	11 18 15.8	+2.4
STKA	Stephens Creek	37.73	246	eP	P	11 18 32.5	+1.2
	1.9nm,0.4s,mb4.0						
STKA	Stephens Creek	37.73	246	P	P	11 18 32.5	+1.2
	2.9nm,0.5s,mb4.1,baz=103,sl

*CSEM **16** 11:20:37.3, 30.10N×36.19E, h5km, ML2.8, After SNSN*
ISC 16 11:20:37.2±1.3, 2980N±005×3632E±007, h0km, n9, σ0895/15, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.14**	**282**	Pg	**Pg**	**11 20 57.7**	**-1.4**
HRFI				Sg	**Sg**	**11 21 13.7**	**-0.2**
EIL	**Elat**	**1.20**	**264**	Pg	**Pg**	**11 20 59.6**	**-0.6**
EIL				Sg	**Sg**	**11 21 16.1**	**+0.4**
HQLS		**1.21**	**246**	P	**Pg**	**11 20 59.8**	**-0.5**
HQLS		**1.21**	**246**	P	**Pg**	**11 20 59.8**	**-0.5**
HQLS				S	**Sg**	**11 21 16.6**	**+0.7**
MBRI	**Mt Berech**	**1.23**	**270**	Pg	**Pg**	**11 20 59.7**	**-1.0**
MBRI				Sg	**Sg**	**11 21 17.7**	**+1.2**
PRNI	**Paran**	**1.27**	**296**	Pg	**Pg**	**11 21 00.0**	**-1.5**
PRNI				Sg	**Sg**	**11 21 17.9**	**-0.2**
JLOS		**1.28**	**215**	P	**Pg**	**11 21 03.0**	**+1.2**
DSI	**Dead Sea**	**1.94**	**336**	Pn	**Pn**	**11 21 11.8**	**+0.3**
DSI				Sn	**Sn**	**11 21 38.6**	**+2.0**
RSHS		**2.00**	**222**	P	**Pn**	**11 21 12.1**	**-0.2**

IDC 16 11:22:22.3±2.2, 945S×15940E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=80.1km s-min=13.1km az=167.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.54**	**88**	Pn	Pg	11 22 37.9	+5.1
	930nm,0.3s,baz=249,slow=5.2,SNR=45						
HNR				Sn	Sg	11 22 46.2	+6.3
	2μm,0.3s,baz=282,slow=14,SNR=51						
WRA	**Warramunga Arr**	**26.35**	**244**	P	P	11 27 59.2	-1.1
	1.3nm,0.6s,baz=72,slow=9.6,SNR=10						
ASAR	**Alice Springs**	**28.16**	**237**	P	P	11 28 17.1	+0.6
	0.4nm,0.5s,baz=63,slow=10,SNR=9.9						
VNDA	**Vanda**	**68.06**	**179**	P	P	11 33 23.7	+0.4
	0.8nm,0.7s,baz=345,slow=7.3,SNR=5.5						

IDC 16 11:32:25.7±3.4, 983S×15998E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=87.8km s-min=13.2km az=105.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.40**	**355**	Pn	Pg	11 32 37.9	+4.5
	255nm,0.3s,baz=217,slow=1.4,SNR=29						
HNR				Sn	Sg	11 32 48.0	+9.4
	619nm,0.3s,baz=90,slow=19,SNR=59						
WRA	**Warramunga Arr**	**26.70**	**245**	P	P	11 38 06.0	-0.9
	2.1nm,0.8s,baz=72,slow=10,SNR=13						
ASAR	**Alice Springs**	**28.44**	**238**	P	P	11 38 21.2	-1.3
	0.5nm,0.7s,baz=65,slow=11,SNR=6.9						
CMAR	**Chiang Mai Arr**	**66.45**	**295**	P	P	11 43 18.7	+1.3
	0.6nm,0.3s,baz=125,slow=5.6,SNR=3.6						
SONM	**Songino Array**	**74.41**	**326**	P	P	11 44 07.3	+1.7
	0.6nm,0.7s,baz=137,slow=5.1,SNR=3.4						
MKAR	**Makanchi Array**	**88.79**	**318**	P	P	11 45 22.6	+1.0
	0.2nm,0.3s,baz=112,slow=4.8,SNR=2.2						

*IDC **16** 11:35:24.2±0.5, 14.35S×76.25W, h0km, mb4.7/19, mb1 4.7/24, mb1mx4.7/26, mbtmp4.7/24, ML4.0/2, MS4.7/1, Ms1 4.8/1, ms1mx4.0/9, Error ellipse: s-maj=17.9km s-min=8.5km az=79.0*
*ISCJB **16** 11:35:28.6±0.2, 1427S±003×7599W±004, h38km, mb5.1/189, MS5.4/29, Error ellipse: s-maj=6.1km s-min=3.4km az=144.0*
*NEIC **16** 11:35:29.4±0.2, 1423S×7582W, h35km, mb5.0/142, Error ellipse: s-maj=9.4km s-min=5.2km az=58.0*
ISC 16 11:35:31.0±0.1, 1434S±003×7607W±004, h40km, h40km±2.6km: pP-P, n781, σ0990/721, mb5.1/188, MS5.4/29, 178C-169D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NNA	**Nana**	**2.45**	**342**	Pn	**Pn**	**11 36 09.0**	**+0.4**
	22μm,0.5s,SNR=28						
NNA	**Nana**	**2.45**	**342**	Pn	**Pn**	**11 36 06.3**	**-2.3**
	59nm,0.3s,baz=169,slow=13,SNR=30						
NNA				Sn	**Sn**	**11 36 41.7**	**+4.4**
	843nm,0.3s,baz=197,slow=16,SNR=9.4						
NNA	**Nana**	**2.45**	**342**	*e*Pn	**Pn**	**11 36 06.4**	**-2.2**
ARE	**Arequipa**	**4.90**	**116**	*e*P	**Pn**	**11 36 45.0**	**+2.8**
ATAH	**Atahualpa**	**7.64**	**342**	Pn	**Pn**	**11 37 16.7**	**-3.1**
	1.5nm,0.3s,baz=233,slow=7.9,SNR=11						
ATAH				Sn	**Sn**	**11 38 46.6**	**+1.4**
	20nm,0.3s,baz=143,slow=18,SNR=2.0						
ATAH				LR	LR	11 39 26.1	
	comp=Z,1μm,20.8s,baz=10,slow=32						
LPAZ	**La Paz**	**7.91**	**105**	Pn	**Pn**	**11 37 27.6**	**+4.1**
	11nm,0.3s,baz=291,slow=8.9,SNR=161						
LPAZ				Sn	**Sn**	**11 39 00.8**	**+9.1**
	baz=143,slow=5.1,SNR=2.2						
LPAZ				LR	LR	11 40 25.8	
	comp=Z,5μm,19.6s,baz=288,slow=37						
LPAZ	**La Paz**	**7.91**	**105**	*e*P	**Pn**	**11 37 26.5**	**+3.0**
LPAZ				pmax	pmax		
	comp=Z,243nm,1.8s						
LPAZ	**La Paz**	**7.91**	**105**	*e*Pn	**Pn**	**11 37 26.8**	**+3.3**
CEN1	**Los Morros**	**10.58**	**149**	‖*e*P	**Pn**	**11 37 57.8**	**-2.3**
LVC	**Limon Verde**	**10.67**	**142**	Pn	**Pn**	**11 38 01.5**	**+0.1**
	comp=Z,3.1nm,0.3s,baz=242,slow=0.0,SNR=31						
LVC	**Limon Verde**	**10.67**	**142**	*e*Pn	**Pn**	**11 38 00.3**	**-1.1**
SIV	**San Ignacio**	**14.57**	**98**	Pn	**Pn**	**11 38 53.7**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=275,slow=14,SNR=41						
OTAV	**Otavalo**	**14.67**	**351**	*e*Pn	**Pn**	**11 38 52.5**	**-3.6**
LCO	**Las Campanas**	**15.43**	**162**	*e*Pn	**Pn**	**11 39 06.1**	**+0.2**
TLL	**Tololo Astrono**	**16.49**	**164**	‖*e*P	**Pn**	**11 39 20.8**	**+1.4**
CFAA	**Coronel Fontan**	**18.63**	**159**	P	**Pn**	**11 39 44.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=337,slow=11,SNR=15						
CFAA				S	**S**	**11 43 15.2**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=39,slow=19,SNR=1.4						
ROSC	**El Rosal**	**19.15**	**5**	P	**Pn**	**11 39 52.5**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=251,slow=6.9,SNR=10						
ROSC				S	**S**	**11 43 29.4**	**+3.3**
	comp=Z,2.0nm,0.3s,baz=90,slow=20,SNR=2.3						
ROSC	**El Rosal**	**19.15**	**5**	*e*Pn	**Pn**	**11 39 52.1**	**0.0**
LMEL	**Las Melosas**	**20.14**	**166**	‖*e*P	**P**	**11 40 03.8**	**+2.0**
CPUP	**Villa Florida**	**21.21**	**127**	P	**P**	**11 40 13.1**	**-0.3**
	comp=Z,38nm,1.1s,mb4.6,baz=291,slow=11,SNR=24						
CPUP	**Villa Florida**	**21.21**	**127**	*e*P	**P**	**11 40 12.9**	**-0.5**
CPUP				pmax	pmax		
	comp=Z,451nm,1.0s						
CPUP				MLR	MLR		
	comp=Z,3μm,21.0s						
CPUP	**Villa Florida**	**21.21**	**127**	*e*P	**P**	**11 40 12.8**	**-0.6**
	comp=Z,198nm,1.1s,mb5.4						
BCIP	**Isla Barro Col**	**23.65**	**351**	*e*Pn	**P**	**11 40 40.0**	**+1.2**
	comp=Z,296nm,1.7s,mb5.4						
SDV	**Santo Domingo**	**23.70**	**13**	P	**P**	**11 40 39.2**	**-0.2**
	comp=Z,48nm,0.7s,mb5.0,baz=270,slow=2.9,SNR=39						
SDV				S	**S**	**11 44 57.2**	**+5.7**
	comp=Z,11nm,0.9s,baz=270,slow=17,SNR=1.7						
SDV	**Santo Domingo**	**23.70**	**13**	*e*P	**P**	**11 40 39.0**	**-0.3**
	comp=Z,62nm,0.8s,mb5.1						
ACR	**Cerro Adams**	**23.90**	**342**	*e*P	**P**	**11 40 42.9**	**+1.7**
BUS	**Buena Vista**	**24.93**	**342**	*e*P	**P**	**11 40 53.1**	**+2.5**
QCR	**Quepos**	**24.93**	**341**	*e*P	**P**	**11 40 53.5**	**+2.9**
PRS1	**Puriscal**	**25.51**	**341**	*e*P	**P**	**11 40 59.0**	**+3.2**
TRQA	**Tornquist**	**26.73**	**155**	*e*P	**P**	**11 41 05.9**	**-0.8**
	comp=Z,16nm,1.1s,mb4.5						
PLCA	**Paso Flores**	**26.73**	**171**	P	**P**	**11 41 05.8**	**-0.9**
	comp=Z,12nm,1.1s,mb4.3,baz=349,slow=8.6,SNR=7.9						
PLCA	**Paso Flores**	**26.73**	**171**	P	**P**	**11 41 07.2**	**+0.5**
PLCA				pmax	pmax		
	comp=Z,83nm,1.2s						
PLCA	**Paso Flores**	**26.73**	**171**	*e*P	**P**	**11 41 05.6**	**-1.2**
	comp=Z,24nm,1.2s,mb4.6						
PCRV	**Puerto La Cruz**	**26.87**	**26**	P	**P**	**11 41 08.5**	**+0.4**
	comp=Z,8.9nm,0.7s,mb4.4,baz=213,slow=3.1,SNR=8.0						
PCRV				S	**S**	**11 45 48.0**	**+5.8**
	comp=Z,20nm,1.1s,baz=216,slow=8.7,SNR=2.0						
BDFB	**Brasilia**	**27.13**	**96**	P	**P**	**11 41 09.9**	**-0.6**
	comp=Z,8.1nm,0.8s,mb4.3,baz=259,slow=18,SNR=8.7						
BDFB	**Brasilia**	**27.13**	**96**	P	**P**	**11 41 10.0**	**-0.6**
BDFB				MLR	MLR		
	comp=Z,47μm,21.0s						
SPB	**Sao Paulo**	**28.56**	**113**	*e*P	**P**	**11 41 26.2**	**+2.9**
	comp=Z,45nm,1.0s,mb5.2						
GRGR	**Grenville**	**29.93**	**29**	*e*P	**P**	**11 41 35.6**	**+0.1**
	comp=Z,80nm,0.7s,mb5.6						
FDF	**Fort de France**	**32.44**	**28**	*e*P	**P**	**11 41 55.5**	**-2.0**
	comp=Z,146nm,1.4s,mb5.6						
MPR	**Mayaguez**	**33.52**	**16**	*e*P	**P**	**11 42 08.3**	**+1.4**
CPD	**Cerro la Pandu**	**33.69**	**18**	*e*P	**P**	**11 42 08.7**	**+0.3**
CPD				pmax	pmax		
	comp=Z,301nm,1.8s,mb5.9						
CPD	**Cerro la Pandu**	**33.69**	**18**	*e*P	**P**	**11 42 07.2**	**-1.3**
	comp=Z,14nm,0.6s,mb5.1						
SJG	**San Juan**	**33.70**	**17**	*e*P	**P**	**11 42 07.7**	**-0.8**
SJG				pmax	pmax		
	comp=Z,90nm,0.9s						
SJG				MLR	MLR		
	comp=Z,10μm,20.0s						
SJG	**San Juan**	**33.70**	**17**	*e*P	**P**	**11 42 06.0**	**-2.5**
	comp=Z,13nm,0.5s,mb5.1						
AOPR	**Arecibo Observ**	**33.75**	**16**	*e*P	**P**	**11 42 08.8**	**-0.1**
	comp=Z,22nm,1.0s,mb5.0						
HUMP	**Col San Antoni**	**33.81**	**18**	P	**P**	**11 42 06.7**	**-2.8**
	comp=Z,15nm,0.9s,mb4.9						
MTP	**Monte Pirata**	**33.86**	**18**	*e*P	**P**	**11 42 07.5**	**-2.4**
	comp=Z,6.6nm,0.6s,mb4.7						
CBYP	**Canovanas**	**33.93**	**18**	*e*P	**P**	**11 42 12.1**	**+1.5**
TEIG	**Tepich**	**36.38**	**340**	*e*P	**P**	**11 42 30.4**	**-1.2**
	comp=Z,13nm,0.5s,mb5.1						
EFI	**East Falkland**	**39.96**	**163**	*i* P	**P**	**11 42 58.8**	**-2.6**
USHA	**Ushuaia**	**40.84**	**173**	P	**P**	**11 43 08.4**	**-0.2**
	comp=Z,11nm,0.8s,mb4.5,baz=313,slow=12,SNR=3.3						
USHA	**Ushuaia**	**40.84**	**173**	P	**P**	**11 43 08.4**	**-0.2**
KVTX	**Kingsville**	**46.70**	**333**	*e*P	**P**	**11 43 54.2**	**-1.8**
	comp=Z,61nm,0.8s,mb5.6						
NHSC	**New Hope**	**47.34**	**355**	*e*P	**P**	**11 44 00.9**	**0.0**
	comp=Z,63nm,0.9s,mb5.5						
HKT	**Hockley**	**47.97**	**337**	*e*P	**P**	**11 44 08.4**	**+2.5**
HKT				pmax	pmax		
	comp=Z,296nm,1.8s,mb6.0						
HKT				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.2						
HKT	**Hockley**	**47.97**	**337**	*e*P	**P**	**11 44 06.9**	**+0.9**
	comp=Z,34nm,1.7s,mb5.5						
GOGA	**Godfrey**	**48.00**	**352**	*e*P	**P**	**11 44 05.5**	**-0.6**
GOGA				pmax	pmax		
	comp=Z,190nm,1.7s,mb5.8						
GOGA	**Godfrey**	**48.00**	**352**	*e*P	**P**	**11 44 04.7**	**-1.4**
	comp=Z,15nm,1.1s,mb4.9						
CNNC	**Cliffs of the**	**49.33**	**358**	*e*P	**P**	**11 44 16.7**	**+0.5**
	comp=Z,13nm,0.4s,mb5.3						
JCT	**Junction City**	**50.07**	**333**	*e*P	**P**	**11 44 22.8**	**+0.8**
JCT				pmax	pmax		
	comp=Z,58nm,1.2s,mb5.5						
JCT				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.0						
JCT	**Junction City**	**50.07**	**333**	*e*P	**P**	**11 44 22.7**	**+0.7**
	comp=Z,19nm,1.1s,mb5.0						
CPCT	**Cooper Cave**	**50.16**	**351**	*e*P	**P**	**11 44 21.9**	**-0.7**
SWET	**Sewanee**	**50.16**	**349**	*e*P	**P**	**11 44 20.1**	**-2.4**
OXF	**Oxford**	**50.21**	**346**	P	**P**	**11 44 24.1**	**+1.2**
OXF				pmax	pmax		
	comp=Z,130nm,1.2s,mb5.8						
OXF	**Oxford**	**50.21**	**346**	*e*P	**P**	**11 44 22.0**	**-0.9**
	comp=Z,14nm,0.8s,mb5.1						
TKL	**Tuckaleechee C**	**50.25**	**352**	P	**P**	**11 44 22.6**	**-0.7**
TKL	**Tuckaleechee C**	**50.25**	**352**	*e*P	**P**	**11 44 22.4**	**-0.9**
PMSA	**Palmer Station**	**51.05**	**173**	*e*P	**P**	**11 44 26.9**	**-2.1**
	comp=Z,23nm,0.9s,mb5.1						
TZTN	**Tazewell**	**51.09**	**352**	*e*P	**P**	**11 44 28.4**	**-1.2**
	comp=Z,48nm,1.6s,mb5.2						
UALR	**University of**	**51.23**	**343**	*e*P	**P**	**11 44 29.3**	**-1.4**
	comp=Z,16nm,0.9s,mb4.9						
MIAR	**Mount Ida**	**51.38**	**341**	*e*P	**P**	**11 44 30.9**	**-0.9**
MIAR				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.0						
MIAR	**Mount Ida**	**51.38**	**341**	*e*P	**P**	**11 44 31.5**	**-0.3**
	comp=Z,14nm,1.0s,mb4.9						
BLA	**Blacksburg**	**51.43**	**356**	P	**P**	**11 44 32.4**	**+0.3**
BLA				pmax	pmax		
	comp=Z,280nm,1.6s,mb5.9						
BLA	**Blacksburg**	**51.43**	**356**	*e*P	**P**	**11 44 32.1**	**0.0**
	comp=Z,10nm,0.7s,mb4.9						
ELN	**Prospectdale**	**51.48**	**355**	*e*P	**P**	**11 44 33.4**	**+1.0**
URVA	**University of**	**51.65**	**359**	*e*P	**P**	**11 44 34.3**	**+0.6**
PARMO	**Parma**	**52.34**	**346**	*e*P	**P**	**11 44 38.3**	**-0.6**
USIN	**University of**	**53.15**	**349**	*e*P	**P**	**11 44 45.1**	**+0.3**
	comp=Z,18nm,0.3s,mb5.5						
SIUC	**Southern Illin**	**53.23**	**347**	*e*P	**P**	**11 44 44.8**	**-0.7**
	comp=Z,12nm,0.7s,mb5.0						
WMOK	**Wichita Mounta**	**53.36**	**337**	*e*P	**P**	**11 44 45.8**	**-0.7**
WMOK				pmax	pmax		
	comp=Z,112nm,1.6s,mb5.5						
WMOK				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.0						
WMOK	**Wichita Mounta**	**53.36**	**337**	*e*P	**P**	**11 44 44.4**	**-2.1**
	comp=Z,32nm,1.5s,mb5.0						
SDMD	**Soldier's Deli**	**53.47**	**359**	*e*P	**P**	**11 44 48.0**	**+0.8**
	comp=Z,18nm,0.9s,mb5.0						
GDL2	**Guadalupe Moun**	**53.62**	**330**	*e*P	**P**	**11 44 48.8**	**+0.4**
FVM	**French Village**	**53.76**	**346**	*e*P	**P**	**11 44 49.8**	**+0.5**
FVM				pmax	pmax		
	comp=Z,271nm,2.1s,mb5.8						
FVM	**French Village**	**53.76**	**346**	*e*P	**P**	**11 44 47.9**	**-1.4**
	comp=Z,5.3nm,0.6s,mb4.7						
OLIL	**Olney**	**53.98**	**348**	*e*P	**P**	**11 44 49.3**	**-1.6**
	comp=Z,19nm,0.7s,mb5.1						
MVL	**Millersville**	**54.05**	**360**	*e*P	**P**	**11 44 47.5**	**-3.9**
	comp=Z,44nm,1.3s,mb5.2						
BLO	**Bloomington**	**54.12**	**350**	*e*P	**P**	**11 44 50.4**	**-1.5**
	comp=Z,11nm,0.4s,mb5.2						
AMTX	**Amarillo**	**54.66**	**334**	*e*P	**P**	**11 44 53.8**	**-2.2**
	comp=Z,4.0nm,0.6s,mb4.6						
ACSO	**Alum Creek Sta**	**54.67**	**354**	*e*P	**P**	**11 44 54.9**	**-1.0**
	comp=Z,21nm,0.8s,mb5.2						
BRNJ	**Basking Ridge**	**54.78**	**1**	*e*P	**P**	**11 44 53.1**	**-3.4**
	comp=Z,12nm,0.4s,mb5.3						
PAL	**Palisades**	**55.10**	**2**	*e*P	**P**	**11 44 59.3**	**+0.3**
PAL				*e**PP	pP	11 45 10.6	-0.1
PAL	**Palisades**	**55.10**	**2**	*e*P	**P**	**11 44 58.4**	**-0.5**
	comp=Z,31nm,1.1s,mb5.2						
319A	**Douglas**	**55.52**	**325**	‖P	**P**	**11 45 01.2**	**-1.0**
	baz=56,SNR=14						
ALLY	**Allegheny Colle**	**55.83**	**356**	*e*P	**P**	**11 45 03.8**	**-0.4**
	comp=Z,13nm,0.4s,mb5.3						
318A	**Bisbee**	**55.96**	**325**	⇑P	**P**	**11 45 04.7**	**-0.7**
	baz=56,SNR=17						
219A	**White Tail Can**	**55.98**	**326**	‖P	**P**	**11 45 04.5**	**-1.1**
	baz=56,SNR=14						
BRYW	**Bryant College**	**56.13**	**4**	*e*P	**P**	**11 45 04.0**	**-2.3**
	comp=Z,78nm,1.1s,mb5.7						
BINY	**Binghamton**	**56.25**	**0**	*e*P	**P**	**11 45 07.1**	**-0.2**
	comp=Z,20nm,0.8s,mb5.2						
BNM	**Baren Site**	**56.31**	**330**	*e*P	**P**	**11 45 09.6**	**+1.8**
218A	**Dragoon**	**56.39**	**325**	‖P	**P**	**11 45 07.5**	**-1.0**
	baz=57,SNR=18						
QUA2	**Belchertown**	**56.44**	**3**	*e*P	**P**	**11 45 07.0**	**-1.6**
	comp=Z,23nm,1.0s,mb5.2						
LPM	**Los Pinos Moun**	**56.44**	**330**	*e*P	**P**	**11 45 08.2**	**-0.6**
119A	**Ashpeak Ranch,**	**56.59**	**326**	‖P	**P**	**11 45 07.7**	**-2.1**
	baz=57						
217A	**Green Valley**	**56.67**	**324**	⇑P	**P**	**11 45 09.3**	**-1.1**
	baz=57,SNR=11						
HRV	**Adam Dziewonsk**	**56.71**	**4**	*e*P	**P**	**11 45 10.6**	**+0.1**
	comp=Z,24nm,1.1s,mb5.2						
LAZ	**Ladron**	**56.76**	**329**	*e*P	**P**	**11 45 12.0**	**+1.0**
118A	**Homack Ranch,**	**56.86**	**326**	‖P	**P**	**11 45 10.9**	**-0.8**
	baz=57,SNR=14						
ANMO	**Albuquerque**	**56.87**	**330**	*e*P	**P**	**11 45 11.1**	**-0.7**
ANMO				MLR	MLR		
	comp=Z,4μm,19.0s						
ANMO	**Albuquerque**	**56.87**	**330**	*e*P	**P**	**11 45 10.6**	**-1.2**
	comp=Z,14nm,1.1s,mb4.9						
TUC	**Tucson**	**57.06**	**325**	*e*P	**P**	**11 45 12.4**	**-0.8**
TUC				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.4						
TUC	**Tucson**	**57.06**	**325**	*e*P	**P**	**11 45 13.0**	**-0.2**
	comp=Z,9.4nm,1.0s,mb4.8						
216A	**Three Points,**	**57.21**	**324**	⇑P	**P**	**11 45 13.1**	**-1.2**
	baz=57						
117A	**Oracle**	**57.23**	**325**	⇑P	**P**	**11 45 13.7**	**-0.7**
	baz=57,SNR=18						
CBKS	**Cedar Bluff**	**57.32**	**338**	*e*P	**P**	**11 45 14.2**	**-0.7**
	comp=Z,38nm,1.0s,mb5.4						
ACCN	**Adirondack Com**	**57.48**	**2**	*e*P	**P**	**11 45 14.6**	**-1.3**
	comp=Z,37nm,1.1s,mb5.3						
Y19A	**Nutrioso**	**57.49**	**327**	‖P	**P**	**11 45 14.6**	**-1.6**
	baz=58,SNR=18						
Z17A	**San Carlos Hig**	**57.63**	**326**	‖P	**P**	**11 45 15.8**	**-1.4**
	baz=58						
116A	**Eloy**	**57.76**	**324**	‖P	**P**	**11 45 16.9**	**-1.3**
	baz=58						
Y18A	**Canyon Day Jun**	**57.76**	**327**	‖P	**P**	**11 45 16.3**	**-1.9**
	baz=58						
HNH	**Hanover**	**57.86**	**3**	*e*P	**P**	**11 45 19.9**	**+1.3**
	comp=Z,74nm,1.4s,mb5.5						
X19A	**St. Johns**	**57.87**	**328**	‖P	**P**	**11 45 18.0**	**-0.8**
	baz=58						
214A	**Organ Pipe Nat**	**57.95**	**323**	‖P	**P**	**11 45 18.4**	**-1.1**
	baz=58,SNR=11						
NCB	**Newcomb**	**58.05**	**2**	*e*P	**P**	**11 45 20.1**	**+0.2**
	comp=Z,75nm,1.8s,mb5.4						
MDV	**Middlebury**	**58.11**	**2**	*e*P	**P**	**11 45 19.7**	**-0.6**
Y17A	**Roosevelt**	**58.13**	**326**	‖P	**P**	**11 45 19.7**	**-1.0**
	baz=58						
SCIA	**State Center**	**58.15**	**345**	*e*P	**P**	**11 45 20.2**	**-0.5**
	comp=Z,7.3nm,0.4s,mb5.1						
115A	**Sonoran Desert**	**58.16**	**324**	⇑P	**P**	**11 45 19.8**	**-1.2**
	baz=58						
Z16A	**Peralta Trail,**	**58.19**	**325**	‖P	**P**	**11 45 20.5**	**-0.6**
	baz=58						
X18A	**Snowflake**	**58.30**	**327**	⇑P	**P**	**11 45 21.2**	**-0.6**
	baz=58						
LBNH	**Lisbon**	**58.41**	**3**	*e*P	**P**	**11 45 24.1**	**+1.6**
LBNH				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.4						
LBNH	**Lisbon**	**58.41**	**3**	*e*P	**P**	**11 45 24.0**	**+1.5**
W19A	**Sanders**	**58.45**	**328**	⇑P	**P**	**11 45 22.5**	**-0.5**
	baz=59						
X17A	**Forest Lakes**	**58.60**	**326**	‖P	**P**	**11 45 23.3**	**-0.7**
	baz=59,SNR=12						
Y16A	**Circle Bar Ran**	**58.62**	**326**	‖P	**P**	**11 45 23.8**	**-0.3**
	baz=59,SNR=11						
W18A	**Petrified Fore**	**58.64**	**328**	‖P	**P**	**11 45 24.5**	**+0.3**
	baz=59						
LONY	**Lake Ozonia**	**58.69**	**1**	*e*P	**P**	**11 45 24.0**	**-0.4**
	comp=Z,39nm,1.3s,mb5.3						
SDCO	**Great Sand Dun**	**58.72**	**333**	*e*P	**P**	**11 45 24.9**	**+0.2**
	comp=Z,12nm,1.0s,mb4.9						
V19A	**Window Rock**	**58.75**	**329**	‖P	**P**	**11 45 25.1**	**+0.1**
	baz=59						
FRNY	**Flat Rock**	**58.93**	**2**	*e*P	**P**	**11 45 24.9**	**-1.2**
	comp=Z,30nm,0.9s,mb5.3						
X16A	**Lo Mia Camp, P**	**59.01**	**326**	⇑P	**P**	**11 45 26.1**	**-0.7**
	baz=59,SNR=17						
113A	**Mohawk Valley,**	**59.09**	**323**	⇑P	**P**	**11 45 26.4**	**-1.1**
	baz=59						
Y15A	**Casa Rosa Ranc**	**59.15**	**325**	⇑P	**P**	**11 45 27.8**	**0.0**
	baz=59						
V18A	**Ganado**	**59.20**	**328**	⇑P	**P**	**11 45 28.0**	**-0.1**
	baz=59						
X15A	**Humboldt**	**59.49**	**326**	⇑P	**P**	**11 45 29.6**	**-0.6**
	baz=60,SNR=14						
Y14A	**Wickenburg**	**59.51**	**325**	‖P	**P**	**11 45 29.9**	**-0.4**
	baz=60						
W16A	**Flagstaff**	**59.56**	**327**	⇑P	**P**	**11 45 30.1**	**-0.5**
	baz=60						
T19A	**Beclabito**	**59.62**	**330**	‖P	**P**	**11 45 31.0**	**0.0**
	baz=60						
PKME	**Peaks-Kenny Pk**	**59.63**	**6**	*e*P	**P**	**11 45 31.7**	**+0.8**
	comp=Z,9.8nm,0.9s,mb4.8						
MVCO	**Mesa Verde**	**59.67**	**330**	‖P	**P**	**11 45 31.2**	**-0.1**
	baz=60						
MVCO	**Mesa Verde**	**59.67**	**330**	*e*P	**P**	**11 45 32.0**	**+0.7**
	comp=Z,10.0nm,1.0s,mb4.8						
U18A	**Rough Rock, Ch**	**59.72**	**329**	⇑P	**P**	**11 45 31.4**	**-0.3**
	baz=60						
WUAZ	**Wupatki**	**59.80**	**327**	⇑P	**P**	**11 45 32.3**	**0.0**
	baz=60						
WUAZ	**Wupatki**	**59.80**	**327**	*e*P	**P**	**11 45 32.4**	**+0.2**
	comp=Z,23nm,1.1s,mb5.1						
X14A	**Yava**	**59.84**	**325**	⇑P	**P**	**11 45 32.5**	**0.0**
	baz=60,SNR=20						
Y13A	**Salome**	**59.89**	**324**	⇑P	**P**	**11 45 33.5**	**+0.6**
	baz=60						
GLA	**Glamis**	**59.92**	**323**	*e*P	**P**	**11 45 37.1**	**+4.0**
GLA				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.4						
GLA	**Glamis**	**59.92**	**323**	⇑P	**P**	**11 45 33.8**	**+0.6**
	baz=60						
GLA	**Glamis**	**59.92**	**323**	*e*P	**P**	**

baz=62,SNR=9.3
S15A **Panguitch** 61.96 328 ⇓P P 11 45 47.3 +0.4
baz=62
BBRC **Big Bear Sol-O** 62.01 322 ⇓P P 11 45 47.9 +0.6
baz=62
HEC **Hector,Ludlow** 62.06 323 ⇓P P 11 45 48.3 +0.7
baz=62
SRU **San Rafael** 62.15 330 eP P 11 45 47.9 -0.2
SRU **San Rafael** 62.15 330 ⇓P P 11 45 48.1 0.0
baz=62
SRU **San Rafael** 62.15 330 eP P 11 45 47.2 -0.9
comp=Z,8.7nm,0.9s,mb4.9
V11A **Goodsprings** 62.26 324 ⇑P P 11 45 49.3 +0.4
baz=62
T13A **Saint George** 62.28 326 ⇑P P 11 45 49.8 +0.7
baz=62
Q16A **Castle Valley** 62.31 330 ⇓P P 11 45 49.5 +0.3
baz=62
CIS **Catalina Islan** 62.32 320 ⇓P P 11 45 49.6 +0.2
baz=62
R15A **Junction** 62.32 328 ⇓P P 11 45 49.6 +0.3
baz=62
P18A **Preston Nutter** 62.42 331 ⇑P P 11 45 50.1 +0.2
baz=63,SNR=9.4
BFSC **Mount Baldy St** 62.43 322 ⇑P P 11 45 50.4 +0.2
baz=63
MSU **Marysvale** 62.50 329 eP P 11 45 50.3 -0.2
comp=Z,7.4nm,0.9s,mb4.8
T12A **Moapa** 62.50 326 ⇑P P 11 45 51.2 +0.7
baz=63
P17A **Butcher Ranch,** 62.53 330 ⇓P P 11 45 51.5 +0.8
baz=63
SHPR **Sheep Range** 62.59 325 eP P 11 45 51.8 +0.6
TMUT **Trail Mountain** 62.62 330 eP P 11 45 50.9 -0.4
comp=Z,5.2nm,0.8s,mb4.7
MWC **Mount Wilson** 62.66 321 eP P 11 45 55.4 +3.7
MWC pmax pmax
comp=Z,130nm,1.4s
MWC **Mount Wilson** 62.66 321 eP P 11 45 51.6 0.0
comp=Z,15nm,1.0s,mb5.1
GSC **Goldstone** 62.66 323 eP P 11 45 54.5 +2.8
GSC pmax pmax
comp=Z,180nm,2.1s,mb5.8
GSC **Goldstone** 62.66 323 ⇑P P 11 45 51.9 +0.2
baz=63
GSC **Goldstone** 62.66 323 eP P 11 45 47.3 -4.3
comp=Z,3.8nm,0.7s,mb4.6
S13A **Holt Ranch, En** 62.67 327 ⇑P P 11 45 51.4 -0.2
baz=63,SNR=22
RWWY **Rawlins** 62.72 334 eP P 11 45 52.0 +0.1
comp=Z,58nm,1.4s,mb5.5
EDW2 **Edwards Air Fo** 63.07 322 ⇑P P 11 45 54.9 +0.5
baz=63
P16A **Fountain Green** 63.09 330 ⇑P P 11 45 55.3 +0.9
baz=63
T11A **Corn Creek, Al** 63.15 326 ⇓P P 11 45 55.2 +0.4
baz=63,SNR=15
R13A **O'Grain Ranch,** 63.17 327 ⇓P P 11 45 55.6 +0.7
baz=63
U10A **Ash Meadows, A** 63.18 324 ⇑P P 11 45 55.6 +0.5
baz=63
BLG **Laguna Peak** 63.20 321 ⇑P P 11 45 55.7 +0.4
baz=63
S12A **Delamar Landin** 63.22 326 ⇑P P 11 45 55.6 +0.4
baz=63
N18A **Larsen Ranch,** 63.22 332 ⇓P P 11 45 55.9 +0.6
baz=64
LRMC **Laurel Mountai** 63.30 323 ⇓P P 11 45 56.1 +0.2
baz=64
MPU **Maple Canyon** 63.39 330 eP P 11 45 54.8 -1.6
comp=Z,6.9nm,0.8s,mb4.8
Q14A **Sevier Lake (B** 63.42 328 ⇑P P 11 45 56.9 +0.3
baz=64,SNR=11
O16A **Springville** 63.47 330 ⇑P P 11 45 57.5 +0.6
baz=64
BSC **Santa Cruz Isl** 63.47 320 ⇓P P 11 45 57.5 +0.4
baz=64
EYMN **Ely** 63.51 348 eP P 11 45 57.3 +0.3
comp=Z,18nm,1.2s,mb5.0
TPNV **Topopah Spring** 63.51 325 eP P 11 45 57.8 +0.6
TPNV MLR MLR
comp=Z,3µm,19.0s,MS5.4
TPNV **Topopah Spring** 63.51 325 ⇑P P 11 45 57.7 +0.4
baz=64
TPNV **Topopah Spring** 63.51 325 eP P 11 45 57.1 -0.1
comp=Z,9.4nm,0.9s,mb4.8
DAU **Daniels Canyon** 63.51 331 eP P 11 45 57.3 +0.1
FURC **Furnace Creek,** 63.52 324 ⇓P P 11 45 56.9 -0.4
baz=64
NLU **North Lily Min** 63.55 330 eP P 11 45 54.8 -2.7
comp=Z,6.4nm,1.3s,mb4.5
MPMC **Manual Prospec** 63.59 323 ⇑P P 11 45 57.4 -0.4
baz=64
R12A **Pony Springs,** 63.62 327 ⇑P P 11 45 58.0 +0.1
baz=64,SNR=12
N17A **Moffit Pass** 63.73 331 ⇓P P 11 45 58.8 +0.2
baz=64,SNR=12
S11A **Rachel** 63.73 326 ⇑P P 11 45 58.9 +0.2
baz=64
ARVC **Arvin** 63.74 322 ⇑P P 11 45 59.4 +0.6
baz=64
JLU **Jordanelle** 63.75 331 eP P 11 45 56.9 -1.8
comp=Z,12nm,0.8s,mb5.0
P14A **Drum Mountains** 63.77 329 ⇑P P 11 45 58.6 -0.3
baz=64,SNR=15
Q13A **Wheeler Ranch,** 63.78 328 ⇑P P 11 45 58.8 -0.2
baz=64,SNR=8.6
SBC **Santa Barbara** 63.82 321 ⇑P P 11 46 00.2 +0.8
baz=64
ISA **Isabella** 63.90 322 eP P 11 46 02.1 +2.3
ISA **Isabella** 63.90 322 ⇑P P 11 46 00.5 +0.7
baz=64
ISA **Isabella** 63.90 322 eP P 11 46 00.8 +1.0
comp=Z,5.1nm,0.9s,mb4.5
N16A **Rees Ranch, Co** 63.97 331 ⇑P P 11 46 01.1 +1.0
baz=64
O15A **The Old Anders** 64.00 330 ⇓P P 11 46 00.3 -0.1
baz=64
DUG **Dugway** 64.10 329 eP P 11 46 00.9 -0.2
DUG pmax pmax
comp=Z,140nm,1.4s
DUG MLR MLR
comp=Z,4µm,19.0s
DUG **Dugway** 64.10 329 ⇓P P 11 46 00.5 -0.5
baz=64
DUG **Dugway** 64.10 329 eP P 11 46 00.7 -0.3
comp=Z,13nm,0.7s,mb5.1
NOQ **North Oquirrh** 64.11 330 eP P 11 46 01.0 -0.1
comp=Z,4.3nm,0.3s,mb5.0
P13A **Bates Ranch, G** 64.15 328 ⇑P P 11 46 01.3 -0.1
baz=64
R11A **Troy Canyon, C** 64.16 326 ⇓P P 11 46 01.9 +0.4
baz=64,SNR=11
GRAC **Grapevine Rang** 64.18 324 ⇓P P 11 46 02.0 +0.3
baz=64
PKM **Peak Mountain** 64.19 321 ⇓P P 11 46 02.8 +1.0
baz=64
CWC **Cottonwood Cre** 64.20 323 ⇓P P 11 46 02.0 +0.2
baz=64
Q12A **Willow Creek R** 64.26 327 ⇑P P 11 46 02.6 +0.4
baz=64
VES **Vestal, Richgr** 64.38 322 ⇓P P 11 46 03.5 +0.5
baz=65
M16A **Huntsville** 64.39 331 ⇑P P 11 46 03.0 +0.1
baz=65
S10A **Tonopah Range,** 64.40 325 ⇓P P 11 46 03.1 0.0
baz=65,SNR=18
N15A **Stansbury Isla** 64.49 330 ⇓P P 11 46 04.1 +0.6
baz=65
R10A **Warm Springs** 64.50 326 ⇓P P 11 46 04.1 +0.3
baz=65
Q11A **Duckwater** 64.56 327 ⇓P P 11 46 03.3 -0.7
baz=65,SNR=12
SMMC **Simmler** 64.57 321 ⇑P P 11 46 03.4 -0.9
baz=65
HWUT **Hardware Ranch** 64.59 331 eP P 11 46 03.0 -1.2
comp=Z,16nm,1.0s,mb5.0
BW06 **Boulder Array** 64.61 333 eP P 11 46 02.9 -1.4
PDAR **Pinedale Array** 64.61 333 P P 11 46 02.8 -1.6
comp=Z,1.6nm,0.8s,mb4.1,baz=125,slow=7.8,SNR=14
S09A **Goldfield** 64.61 325 ⇑P P 11 46 04.3 -0.1
baz=65
BGU **Big Grassy Mou** 64.77 330 eP P 11 46 04.2 -1.2
comp=Z,5.3nm,0.8s,mb4.6
SPUT **South Promonto** 64.78 330 eP P 11 46 03.7 -1.7
comp=Z,18nm,1.1s,mb5.0
N14A **Grayback Hills** 64.79 330 ⇓P P 11 46 05.7 +0.2
baz=65,SNR=12

RCTC **Rector, Farmer** 64.79 322 ⇓P P 11 46 06.3 +0.7
baz=65
AGMN **Agassiz Refuge** 64.80 346 eP P 11 46 04.3 -1.1
comp=Z,15nm,0.8s,mb5.1
L16A **Fish Haven** 64.85 332 ⇓P P 11 46 06.7 +0.7
baz=65
TPH **Tonopah** 64.86 325 eP P 11 46 07.2 +1.2
TPH pmax pmax
comp=Z,64nm,1.1s,mb5.6
TPH MLR MLR
comp=Z,2µm,20.0s,MS5.3
TPH **Tonopah** 64.86 325 eP P 11 46 06.8 +0.7
comp=Z,7.0nm,0.8s,mb4.7
V05C **Boulder Hill,** 64.89 322 ⇑P P 11 46 06.0 -0.2
baz=65
R09A **Tonopah** 64.89 325 ⇑P P 11 46 06.2 -0.1
baz=65,SNR=12
M15A **Larsen Ranch,** 64.90 331 ⇓P P 11 46 06.7 +0.4
baz=65
HELL **Mitchell Peak** 64.91 323 ⇓P P 11 46 06.8 +0.3
baz=65
Q10A **Clear Creek Ra** 64.94 326 ⇓P P 11 46 07.3 +0.7
baz=65,SNR=12
S08C **White Mtn Res** 64.99 324 ⇓P P 11 46 07.4 +0.5
baz=65,SNR=9.6
MTUM **Tungsten Hills** 65.11 324 eP P 11 46 02.4 -5.4
P11A **Circle Ranch,** 65.12 327 ⇓P P 11 46 08.5 +0.8
baz=65
O12A **Currie** 65.13 328 ⇓P P 11 46 08.3 +0.6
baz=65,SNR=15
L15A **Malad City** 65.29 331 ⇓P P 11 46 08.8 +0.1
baz=66,SNR=12
AHID **Auburn Hatcher** 65.29 332 eP P 11 46 07.1 -1.7
comp=Z,6.6nm,0.4s,mb5.0
N13A **Wendover, West** 65.29 329 ⇓P P 11 46 09.2 +0.4
baz=66
HVU **Hansel Valley** 65.30 331 eP P 11 46 09.6 +0.8
HVU **Hansel Valley** 65.30 331 eP P 11 46 09.5 +0.7
comp=Z,17nm,1.0s,mb5.0
PKD **Parkfield** 65.33 321 ⇓P P 11 46 08.6 -0.5
baz=66
M14A **Sheep Mountain** 65.36 330 ⇑P P 11 46 08.8 -0.4
baz=66,SNR=16
Q09A **Carvers** 65.37 326 ⇓P P 11 46 10.1 +0.7
baz=66
MLAC **Mammoth Lakes** 65.46 324 ⇓P P 11 46 10.4 +0.5
baz=66
O11A **Cowboy Ranch,** 65.50 328 ⇑P P 11 46 10.1 0.0
baz=66,SNR=8.0
KCC **Kaiser Creek** 65.53 323 ⇑P P 11 46 10.7 +0.3
baz=66
T06C **Millerton Lake** 65.54 323 ⇑P P 11 46 11.4 +0.9
baz=66,SNR=5.9
P10A **Eureka** 65.55 327 ⇓P P 11 46 11.2 +0.7
baz=66
K16A **Soda Springs** 65.56 332 ⇓P P 11 46 11.2 +0.6
baz=66,SNR=9.4
REDW **Red Top Meadow** 65.65 333 eP P 11 46 10.9 -0.2
comp=Z,19nm,1.5s,mb4.9
M13A **Montello** 65.65 329 ⇑P P 11 46 11.3 +0.1
baz=66
NVAR **Mina Array Bea** 65.71 325 P P 11 46 11.2 -0.3
comp=Z,1.2nm,0.7s,mb4.0,baz=143,slow=6.1,SNR=13
N12A **Clover Valley,** 65.71 328 ⇓P P 11 46 12.1 +0.6
baz=66
L14A **Malta** 65.72 330 ⇓P P 11 46 11.5 -0.1
baz=66,SNR=9.4
ELK **Elko** 65.73 328 eP P 11 46 12.4 +0.7
ELK MLR MLR
comp=Z,8µm,19.0s
ELK **Elko** 65.73 328 eP P 11 46 12.4 +0.7
comp=Z,6.4nm,1.0s,mb4.6
LOHW **Long Hollow** 65.74 333 eP P 11 46 10.6 -1.0
comp=Z,3.4nm,0.6s,mb4.5
TPAW **Teton Pass** 65.80 333 eP P 11 46 10.3 -1.7
comp=Z,5.2nm,0.8s,mb4.6
Q08A **Gabbs** 65.80 325 ⇑P P 11 46 13.3 +1.1
baz=66
RRI2 **Red Ridge** 65.85 333 eP P 11 46 11.4 -0.9
comp=Z,11nm,0.8s,mb4.9
P09A **Austin** 65.86 326 ⇓P P 11 46 13.4 +0.9
baz=66
K15A **Arbon** 65.88 331 ⇑P P 11 46 12.7 +0.1
baz=66
R07C **Lee Vining** 65.89 324 ⇓P P 11 46 13.0 +0.2
baz=66
MOOW **Moose Ponds** 65.91 333 eP P 11 46 12.4 -0.3
comp=Z,7.2nm,1.1s,mb4.6
DCID1 **Drake Creek** 65.98 333 eP P 11 46 13.7 +0.5
comp=Z,9.7nm,0.6s,mb5.0
N11A **Elko Archery C** 66.04 328 ⇓P P 11 46 14.2 +0.6
baz=66
O10A **Cortez Mining,** 66.05 327 ⇑P P 11 46 14.4 +0.7
baz=66,SNR=8.4
M12A **Wells** 66.07 329 ⇑P P 11 46 13.6 -0.2
baz=66
K14A **Jones Ranch, D** 66.08 331 ⇑P P 11 46 12.8 -1.0
baz=66,SNR=8.8
L13A **Double Diamond** 66.10 330 ⇑P P 11 46 13.2 -0.8
baz=66,SNR=9.5
IMW **Indian Meadow** 66.11 333 eP P 11 46 13.1 -1.0
comp=Z,5.1nm,0.7s,mb4.7
S05C **Merced** 66.13 323 ⇑P P 11 46 13.9 -0.4
baz=66
S06C **San Francisco** 66.21 323 ⇑P P 11 46 14.8 0.0
baz=66
O09A **Fish Creek Ran** 66.33 327 ⇑P P 11 46 16.3 +0.7
baz=66
Q07A **Schurz** 66.35 325 ⇑P P 11 46 15.8 +0.2
baz=66
N10A **Dunphy** 66.37 327 ⇓P P 11 46 16.3 +0.6
baz=67
RLMT **Red Lodge** 66.39 335 eP P 11 46 14.9 -0.9
comp=Z,10.0nm,1.1s,mb4.8
SAO **San Andreas Ge** 66.41 321 eP P 11 46 15.5 -0.6
comp=Z,9.3nm,1.1s,mb4.7
LKWY **Lake** 66.42 334 eP P 11 46 18.2 +2.2
LKWY pmax pmax
comp=Z,62nm,1.1s,mb5.5
LKWY MLR MLR
comp=Z,3µm,21.0s,MS5.5
LKWY **Lake** 66.42 334 eP P 11 46 15.7 -0.3
comp=Z,14nm,1.1s,mb4.9
R06C **Coleville** 66.42 324 ⇑P P 11 46 16.1 0.0
baz=67,SNR=5.6
P08A **Dixie Valley** 66.47 326 ⇑P P 11 46 17.3 +0.8
baz=67
YFT **Old Faithful** 66.51 334 eP P 11 46 15.1 -1.5
comp=Z,23nm,1.4s,mb5.0
LAO **LASA Array** 66.52 338 eP P 11 46 16.6 0.0
comp=Z,20nm,1.2s,mb5.0
M11A **Holland Ranch,** 66.52 328 ⇓P P 11 46 17.0 +0.3
baz=67,SNR=7.5
BMN **Battle Mountai** 66.54 327 P P 11 46 12.7 -4.1
comp=Z,3.4nm,0.8s,mb4.4
K13A **Stover Farm, H** 66.59 330 ⇓P P 11 46 17.1 0.0
baz=67
ULM **Lac du Bonnet** 66.62 346 P P 11 46 15.4 -1.7
comp=Z,12nm,0.8s,mb5.0,baz=163,slow=6.4,SNR=9.1
CMB **Columbia Colle** 66.63 323 eP P 11 46 17.9 +0.4
CMB MLR MLR
comp=Z,2µm,20.0s,MS5.3
CMB **Columbia Colle** 66.63 323 ⇑P P 11 46 17.8 +0.3
baz=67
CMB **Columbia Colle** 66.63 323 eP P 11 46 17.2 -0.3
comp=Z,7.0nm,1.1s,mb4.6
YNR **Norris Junctio** 66.66 334 eP P 11 46 19.1 +1.6
comp=Z,5.4nm,0.7s,mb4.7
L12A **House Creek Ra** 66.66 329 ⇑P P 11 46 17.9 +0.3
baz=67
YMR **Madison River** 66.74 334 eP P 11 46 19.4 +1.4
comp=Z,29nm,1.4s,mb5.1
R05C **Kirkwood Meado** 66.90 324 ⇑P P 11 46 20.4 +1.2
baz=67,SNR=8.1
O08A **Rochester Mine** 66.94 326 ⇓P P 11 46 20.1 +0.7
baz=67
M10A **I.L. Ranch, Tu** 66.97 328 ⇓P P 11 46 20.3 +0.7
baz=67
K12A **Draper Farm, C** 66.97 330 ⇑P P 11 46 19.4 -0.1
baz=67,SNR=15
N09A **Rock Creek Ran** 67.00 327 ⇓P P 11 46 19.8 0.0
baz=67
L11A **Cat Creek Ranc** 67.05 329 ⇓P P 11 46 19.6 -0.5
baz=67,SNR=11
QLMT **Earthquake Lak** 67.07 333 eP P 11 46 19.7 -0.4
BNLO **Ben Lomond (Sa** 67.09 321 ⇑P P 11 46 20.7 +0.2
baz=67
R04C **Big Horse Ranc** 67.10 323 ⇑P P 11 46 21.0 +0.6

baz=67
GCMT **Greycliff** 67.10 335 eP P 11 46 19.5 -0.8
WCN **Washoe City** 67.13 324 ⇑P P 11 46 20.9 +0.3
baz=67
J13A **Cove Ranch, Pi** 67.20 331 ⇓P P 11 46 21.3 +0.3
baz=67
PAHR **Pah Rah Range** 67.20 325 eP P 11 46 20.4 -0.6
comp=Z,16nm,0.9s,mb5.1
O07A **Toulon** 67.24 326 ⇓P P 11 46 21.4 +0.1
baz=67,SNR=13
N08A **GE Springer Mi** 67.27 327 ⇑P P 11 46 21.3 -0.2
baz=68,SNR=5.6
LAVA **Lava Cap Winer** 67.32 323 ⇓P P 11 46 22.1 +0.2
baz=68
L10A **Juniper Basin** 67.34 328 ⇑P P 11 46 22.0 +0.1
baz=68,SNR=12
DGMT **Dagmar** 67.34 340 eP P 11 46 19.1 -2.6
comp=Z,22nm,1.0s,mb5.1
M09A **Marrel Ranch,** 67.37 327 ⇓P P 11 46 22.0 -0.1
baz=68
HLID **Hailey** 67.44 331 ⇓P P 11 46 22.2 -0.3
baz=68
HLID **Hailey** 67.44 331 eP P 11 46 21.3 -1.2
comp=Z,4.4nm,0.7s,mb4.6
BDM **Black Diamond** 67.45 322 ⇓P P 11 46 23.6 +0.9
baz=68
P06A **Stead Airport,** 67.47 325 ⇓P P 11 46 23.1 +0.3
baz=68
J12A **Stokes Ranch,** 67.53 330 ⇑P P 11 46 22.5 -0.6
baz=68
I13A **Wildhorse Cree** 67.57 331 ⇑P P 11 46 23.0 -0.3
baz=68,SNR=16
P05C **Yuba Gap, Truc** 67.61 324 ⇑P P 11 46 23.8 +0.1
baz=68
K11A **Parker Ranch,** 67.63 329 ⇓P P 11 46 23.4 -0.4
baz=68
MCMT **McKenzie Canyo** 67.69 333 P P 11 46 23.9 -0.2
N07B **Gerlach** 67.72 326 ⇓P P 11 46 24.4 +0.1
baz=68,SNR=10
Q04C **Lincoln** 67.75 323 ⇓P P 11 46 24.6 +0.1
baz=68
O06A **Flanigan** 67.76 325 ⇑P P 11 46 25.2 +0.6
baz=68
G15A **Dillon** 67.80 333 ⇓P P 11 46 24.8 +0.1
baz=68,SNR=8.0
BOZ **Bozeman (W)** 67.80 334 eP P 11 46 23.2 -1.5
BOZ pmax pmax
comp=Z,75nm,1.4s,mb5.5
BOZ MLR MLR
comp=Z,3µm,19.0s,MS5.5
BOZ **Bozeman (W)** 67.80 334 ⇓P P 11 46 24.2 -0.5
baz=68
BOZ **Bozeman (W)** 67.80 334 eP P 11 46 23.0 -1.7
comp=Z,3.9nm,0.7s,mb4.5
BEKR **Beckwourth** 67.86 325 ⇓P P 11 46 25.0 -0.2
baz=68
M08A **Happy Creek Ra** 67.88 327 ⇓P P 11 46 26.1 +0.8
baz=68
L09A **Wilkinson Ranc** 67.91 328 ⇑P P 11 46 25.6 +0.1
baz=68,SNR=9.4
FARB **Farallon Islan** 67.96 321 ⇑P P 11 46 26.2 +0.2
baz=68
Q03C **Winters** 67.98 323 ⇑P P 11 46 26.5 +0.4
baz=68
DLMT **Dillon** 68.00 333 eP P 11 46 25.1 -0.9
comp=Z,7.6nm,0.9s,mb4.7
MFID **Camas Ranch** 68.01 330 ⇓P P 11 46 26.2 +0.1
baz=68,SNR=13
K10A **MacKenzie Ranc** 68.05 329 ⇓P P 11 46 26.7 +0.4
baz=68,SNR=8.5
CVS **Carmenet Viney** 68.06 322 ⇓P P 11 46 26.9 +0.4
baz=68
H13A **Challis** 68.13 332 ⇓P P 11 46 27.3 +0.5
baz=68,SNR=11
OHCM **Honcut** 68.14 323 eP P 11 46 26.6 -0.4
N06A **Buffalo Meadow** 68.17 326 ⇑P P 11 46 27.2 +0.1
baz=68,SNR=15
O05C **Quincy** 68.24 324 ⇓P P 11 46 27.9 +0.3
baz=68
M07A **Soldier Meadow** 68.26 326 ⇓P P 11 46 27.5 -0.2
baz=68
NSHM **Saint Helena R** 68.26 322 eP P 11 46 29.2 +1.4
ORV **Oroville** 68.29 324 ⇓P P 11 46 27.3 -0.6
baz=68
LRM **Limekiln Ridge** 68.30 333 eP P 11 46 28.5 +0.7
F15A **Butte** 68.33 333 ⇑P P 11 46 28.7 +0.7
baz=69
L08A **Fields** 68.39 327 ⇑P P 11 46 28.8 +0.3
baz=69,SNR=9.1
H12A **Diamond D Ranc** 68.39 331 ⇓P P 11 46 28.6 +0.1
baz=69,SNR=10
MNRC **McLaughlin Nat** 68.39 323 ⇓P P 11 46 28.9 +0.3
baz=69
K09A **Rome** 68.43 328 ⇑P P 11 46 28.0 -0.8
baz=69,SNR=18
I11A **Placerville** 68.44 330 ⇑P P 11 46 28.2 -0.5
baz=69,SNR=10
J10A **Berg Farm, Mel** 68.48 329 ⇑P P 11 46 28.7 -0.3
baz=69
G13A **Cobalt** 68.52 332 ⇑P P 11 46 29.6 +0.4
baz=69,SNR=12
O04C **Chester** 68.57 324 ⇓P P 11 46 30.1 +0.4
baz=69
F14A **Wisdom** 68.69 333 ⇓P P 11 46 30.3 0.0
baz=69
WVOR **Wild Horse Val** 68.71 327 P P 11 46 30.5 0.0
WVOR pmax pmax
comp=Z,79nm,1.5s,mb5.4
WVOR **Wild Horse Val** 68.71 327 eP P 11 46 30.3 -0.2
comp=Z,7.8nm,1.3s,mb4.5
L07A **Adell** 68.79 327 ⇓P P 11 46 31.1 +0.1
baz=69
M06C **Likely Place G** 68.84 326 ⇓P P 11 46 30.9 -0.4
baz=69
HOPS **Hopland** 68.84 322 ⇑P P 11 46 31.6 +0.2
baz=69
HOPS **Hopland** 68.84 322 P P 11 46 33.9 +2.5
comp=Z,4.7nm,0.8s,mb4.5
K08A **Mann Creek Ran** 68.84 328 ⇓P P 11 46 31.3 0.0
baz=69
E15A **Deer Lodge** 68.85 334 ⇓P P 11 46 31.0 -0.3
baz=69
J09A **Fry Pan Ranch,** 68.91 329 ⇓P P 11 46 31.8 0.0
baz=69,SNR=7.9
EGMT **Eagleton** 68.96 336 ⇓P P 11 46 32.0 +0.1
baz=69
EGMT **Eagleton** 68.96 336 eP P 11 46 31.6 -0.2
comp=Z,9.0nm,0.8s,mb4.8
I10A **Payette** 68.98 330 ⇓P P 11 46 32.2 0.0
baz=69
H11A **Donnelly** 69.06 331 ⇑P P 11 46 32.5 -0.1
baz=69
GASB **Alder Springs** 69.06 323 ⇑P P 11 46 33.0 +0.2
baz=69
F13A **Darby** 69.10 332 ⇑P P 11 46 32.7 -0.1
baz=69,SNR=14
HATC **Hat Creek Radi** 69.12 325 ⇑P P 11 46 32.2 -0.8
baz=69
K07A **Rock Creek Ran** 69.21 327 ⇑P P 11 46 33.6 0.0
baz=69
E14A **Clinton** 69.21 333 ⇑P P 11 46 34.3 +0.8
baz=70
MOD **Modoc** 69.22 326 ⇓P P 11 46 34.3 +0.6
baz=69
MOD **Modoc** 69.22 326 eP P 11 46 32.9 -0.8
comp=Z,13nm,1.2s,mb4.7
VNA1 **Neumayer--Stat** 69.27 161 eP P 11 46 34.3 +0.7
VNA1 e pP 11 46 44.9 -0.7
VNA1 e pP 11 46 46.9 +1.3
VNA1 e 11 46 56.5
D15A **Lincoln** 69.28 334 ⇓P P 11 46 34.9 +1.0
baz=70
J08A **Circle Bar Ran** 69.28 328 ⇑P P 11 46 34.7 +0.6
baz=70
P01C **Double 8 Ranch** 69.31 323 ⇓P P 11 46 34.0 -0.3
baz=70
M05C **Lookout** 69.31 325 ⇑P P 11 46 34.6 +0.3
baz=70
H10A **Noah's Angus R** 69.32 330 ⇑P P 11 46 35.0 +0.8
baz=70
SCHQ **Schefferville** 69.34 6 P P 11 46 32.9 -1.2
comp=Z,7.2nm,0.9s,mb4.6,baz=217,slow=6.3,SNR=5.2
SCHQ **Schefferville** 69.34 6 eP P 11 46 33.2 -0.9
comp=Z,15nm,1.1s,mb4.8
I09A **Lost Marbles R** 69.36 329 ⇓P P 11 46 34.9 +0.5
baz=70
LTIM **Timbered Crate** 69.38 325 P P 11 46 35.3 +0.6
TBI **Tubuai** 69.41 250 eS S 11 55 43.2 +3.2

comp=Z,7µm,28.5s
TBI Tubuai 69.41 250 eLR LR 12 07 54.2
comp=Z,6µm,27.2s,baz=92
O02C Red Bluff 69.45 323 ⇑P P 11 46 35.5 +0.3
baz=70
F12A Elk City 69.49 332 ⇑P P 11 46 35.3 0.0
baz=70,SNR=6.9
CHMT Chamberlain Mo 69.50 334 P P 11 46 32.6 -2.6
E13A Victor 69.54 333 ⇓P P 11 46 34.9 -0.6
baz=70,SNR=14
WDC Whiskeytown Da 69.57 324 eP P 11 46 40.5 +4.6
WDC MLR MLR
comp=Z,1µm,19.0s,MS5.1
WDC Whiskeytown Da 69.57 324 ⇑P P 11 46 34.8 -1.1
baz=70
WDC Whiskeytown Da 69.57 324 eP P 11 46 34.5 -1.4
comp=Z,3.0nm,0.6s,mb4.4
KCPM Cahto Peak 69.59 323 eP P 11 46 34.8 -1.3
comp=Z,5.5nm,1.1s,mb4.4
L05A Lakeview 69.61 326 ⇓P P 11 46 35.9 -0.1
baz=70
KIPM Iron Peak 69.61 323 eP P 11 46 40.0 +3.9
VNA2 Neumayer--Watz 69.62 161 eP P 11 46 36.1 +0.3
VNA2 e pP 11 46 47.0 -0.8
VNA2 e pP 11 46 49.0 +1.2
VNA2 e 11 46 58.2
VNA2 e 11 49 12.8
G11A Walters Elk Ra 69.70 331 ⇑P P 11 46 35.6 -0.9
baz=70,SNR=15
J07A Hines 69.72 328 ⇓P P 11 46 36.5 -0.3
baz=70
MSO Missoula 69.73 333 eP P 11 46 37.2 +0.6
comp=Z,40nm,1.7s,mb5.1
I08A Drewsey 69.73 329 ⇓P P 11 46 36.7 0.0
baz=70,SNR=7.1
D14A Greenough 69.74 334 ⇓P P 11 46 36.8 +0.1
baz=70
BMO Blue Mountains 69.79 330 eP P 11 46 37.2 +0.1
comp=Z,4.1nm,1.0s,mb4.3
K06A Valley Falls 69.81 327 ⇑P P 11 46 38.0 +0.7
baz=70,SNR=16
H09A Durkee 69.82 330 ⇑P P 11 46 37.4 0.0
baz=70
M04C Macdoel 69.98 325 ⇓P P 11 46 37.9 -0.4
baz=70
F11A Grangeville 70.01 331 ⇑P P 11 46 37.4 -1.1
baz=70,SNR=17
G10A Bishop Farm, J 70.02 330 ⇑P P 11 46 37.9 -0.7
baz=70,SNR=16
O01C Eel River Cons 70.02 323 ⇑P P 11 46 38.7 +0.1
baz=70
J06A Christmas Vall 70.08 327 ⇓P P 11 46 39.3 +0.4
baz=70,SNR=21
K05A Summer Lake 70.11 326 ⇑P P 11 46 39.5 +0.4
baz=70
D13A Huson 70.16 333 ⇑P P 11 46 39.5 +0.2
baz=70
N02C Big Bar 70.17 324 ⇓P P 11 46 39.8 +0.2
baz=70,SNR=15
H08A Prairie City 70.22 329 ⇑P P 11 46 39.4 -0.4
baz=70,SNR=24
M02C Callahan 70.29 324 ⇑P P 11 46 39.7 -0.6
baz=70
I07A Izee 70.33 328 ⇓P P 11 46 41.3 +0.8
baz=70,SNR=11
G09A Cove 70.33 330 ⇑P P 11 46 40.3 -0.1
baz=70,SNR=9.0
PPT Papeete 70.34 256 eS S 11 55 53.1 +2.0
comp=Z,2µm,29.2s
PPT Papeete 70.34 256 eLR LR 12 08 10.6
comp=Z,5µm,27.0s,baz=100
C14A Swan Lake 70.37 334 ⇑P P 11 46 40.5 -0.2
baz=71
E11A Bogner Ranch, 70.38 332 ⇓P P 11 46 39.8 -0.9
baz=71,SNR=9.4
YBH Yreka Blue Hor 70.43 325 eP P 11 46 39.9 -1.2
YBH MLR MLR
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 70.43 325 ⇑P P 11 46 40.5 -0.6
baz=71
YBH Yreka Blue Hor 70.43 325 eP P 11 46 40.6 -0.5
comp=Z,4.5nm,0.9s,mb4.4
KHMM Horse Mountain 70.45 324 eP P 11 46 42.5 +1.2
D12A Red Ives Fores 70.52 333 ⇓P P 11 46 41.4 -0.1
baz=71
F10A Beach Ranch, E 70.57 331 ⇑P P 11 46 41.6 -0.3
baz=71
JCC Jacoby Creek 70.58 323 ⇑P P 11 46 41.9 -0.2
baz=71
I06A Prineville 70.59 328 ⇑P P 11 46 42.1 0.0
baz=71,SNR=8.4
C13A Hot Springs 70.66 334 ⇑P P 11 46 42.3 -0.1
baz=71,SNR=9.2
J05A Fort Rock 70.67 327 ⇑P P 11 46 42.8 +0.3
baz=71,SNR=11
F09A S2 Ranch, Elgi 70.70 330 ⇑P P 11 46 42.9 +0.2
baz=71,SNR=6.3
H07A Lands Inn, Kim 70.72 329 ⇓P P 11 46 43.1 +0.3
baz=71
E10A Myers Farm, Un 70.89 331 ⇑P P 11 46 44.1 +0.2
baz=71
G08A Pilot Rock 70.91 329 ⇓P P 11 46 44.3 +0.4
baz=71,SNR=6.0
KRMB Red Mountain 70.97 324 eP P 11 46 45.0 +0.6
comp=Z,8.6nm,1.1s,mb4.6
LNOR Lincton Mounta 71.00 330 P P 11 46 45.1 +0.6
LNOR Lincton Mounta 71.00 330 eP P 11 46 44.0 -0.5
J04A Umpqua Nationa 71.11 326 ⇑P P 11 46 46.0 +0.8
baz=71
B13A Whitefish 71.15 334 ⇓P P 11 46 46.2 +0.8
baz=71
HUMO Hull Mountain 71.15 325 ⇓P P 11 46 46.4 +0.9
baz=71
HUMO Hull Mountain 71.15 325 eP P 11 46 42.6 -2.9
comp=Z,1.2nm,0.9s
H06A Lindquist Farm 71.21 328 ⇓P P 11 46 46.7 +0.9
baz=71,SNR=10
L02A Cave Junction 71.21 325 ⇓P P 11 46 46.5 +0.6
baz=71
SNAA Sanae 71.22 161 eP P 11 46 45.5 0.0
SNAA e pP 11 46 56.1 -1.5
SNAA e pP 11 46 58.7 +1.1
SNAA e 11 47 07.8
SNAA Sanae 71.22 161 P P 11 46 44.8 -0.7
comp=Z,5.0nm,0.9s,mb4.5,baz=284,slow=7.8
G07A Ruggs Ranch, H 71.25 329 ⇑P P 11 46 47.0 +1.0
baz=72
I05A Bend 71.29 327 ⇑P P 11 46 47.3 +1.0
baz=72
M01C Crescent City 71.30 324 ⇓P P 11 46 47.3 +0.9
baz=72
D10A Wagner Farm, O 71.39 332 ⇑P P 11 46 46.9 +0.1
baz=72,SNR=6.9
E09A Wood Farm, Sta 71.40 331 ⇑P P 11 46 46.6 -0.3
baz=72
WALA Waterton Lakes 71.45 335 eP P 11 46 45.4 -1.7
comp=Z,9.3nm,0.8s,mb4.8
K02A Glendale 71.55 325 ⇑P P 11 46 47.3 -0.6
baz=72
A13A Flathead Natio 71.56 334 ⇑P P 11 46 47.6 -0.2
baz=72,SNR=7.1
KBO Bosley Butte 71.60 324 eP P 11 46 46.8 -1.4
comp=Z,20nm,1.3s,mb4.9
I04A Tendick Farm, 71.65 326 ⇑P P 11 46 48.3 -0.1
baz=72
B12A Libby 71.70 334 ⇓P P 11 46 49.2 +0.5
baz=72,SNR=6.4
E08A Dider Farm, El 71.82 330 ⇑P P 11 46 49.6 +0.2
baz=72
D09A Jones Farm, Ri 71.88 331 ⇑P P 11 46 50.2 +0.4
baz=72
HAWA Hanford 71.98 330 eP P 11 46 50.7 +0.4
comp=Z,7.0nm,0.9s,mb4.6
J02A Umpqua 71.99 326 ⇑P P 11 46 50.6 +0.1
baz=72
RSW Rattlesnake Hi 72.01 330 eP P 11 46 49.2 -1.3
B11A Sandpoint 72.02 333 ⇓P P 11 46 51.2 +0.6
baz=72
G05A Wamic 72.06 328 ⇑P P 11 46 52.0 +1.1
baz=72
A12A Yaak River Ran 72.08 334 ⇑P P 11 46 51.5 +0.6
baz=72,SNR=13
KEBM Edson Butte 72.09 325 eP P 11 46 51.8 +0.7
comp=Z,31nm,1.3s,mb5.1
K01A Sixes 72.12 325 ⇑P P 11 46 52.2 +0.9
baz=72
H04A Detroit Lake 72.13 327 ⇑P P 11 46 51.5 +0.2
baz=72
D08A Wollman Farm, 72.16 331 ⇑P P 11 46 52.4 +0.9
baz=72
NEW Newport 72.22 333 eP P 11 46 51.6 -0.2
NEW MLR MLR
comp=Z,2µm,20.0s
NEW Newport 72.22 333 eP P 11 46 50.8 -1.0
comp=Z,11nm,1.2s,mb4.7
I03A Eugene 72.23 326 ⇓P P 11 46 53.2 +1.3
baz=72
E07A Sunnyside 72.25 330 ⇑P P 11 46 53.1 +1.1
baz=72
HOOD Mount Hood Mea 72.29 328 eP P 11 46 51.6 -0.7
comp=Z,6.5nm,0.5s,mb4.8
OD2 Odessa Site #2 72.31 331 P P 11 46 53.4 +1.1
C09A Chrisman Ranch 72.40 332 ⇑P P 11 46 53.4 +0.5
baz=73
A11A Hall Mountain, 72.41 333 ⇓P P 11 46 53.0 +0.2
baz=73,SNR=5.5
I02A Mapleton 72.55 326 ⇓P P 11 46 55.0 +1.2
baz=73
F05A White Salmon 72.58 329 ⇓P P 11 46 55.2 +1.2
baz=73
G04A Mulino 72.64 328 ⇑P P 11 46 54.6 +0.3
baz=73
H03A Soap Creek Ran 72.71 327 ⇑P P 11 46 55.3 +0.5
baz=73
C08A Higginbotham F 72.75 331 ⇑P P 11 46 55.2 +0.3
baz=73
D07A Quincy 72.76 330 ⇓P P 11 46 55.9 +0.8
baz=73
E06A Yakima 72.79 329 ⇑P P 11 46 56.0 +0.7
baz=73
B09A Rice 72.80 332 ⇑P P 11 46 55.5 +0.2
baz=73
A10A Northport 72.95 333 ⇓P P 11 46 56.7 +0.6
baz=73
F04A Amboy 73.10 328 ⇑P P 11 46 57.6 +0.6
baz=73
C07A Waterville 73.16 331 ⇓P P 11 46 57.6 +0.2
baz=73,SNR=7.6
D06A Cle Elum 73.18 330 ⇑P P 11 46 58.8 +1.2
baz=73
E05A Randle 73.19 329 ⇓P P 11 46 58.1 +0.5
baz=73
ETW Entiat 73.22 330 eP P 11 46 56.9 -0.9
B08A Colville Reser 73.30 331 ⇑P P 11 46 58.2 +0.1
baz=74
HEBO Mount Hebo 73.31 327 eP P 11 46 57.9 -0.4
comp=Z,82nm,1.5s,mb5.4
LIC Lamto 73.35 79 eP P 11 46 58.7 -0.6
comp=Z,303nm,1.5s,mb5.7,baz=266
LIC Lamto 73.35 79 eP P 11 46 58.4 -0.9
comp=Z,630nm,2.4s,mb6.1
LIC Lamto 73.35 79 eP P 11 46 58.7 -0.6
comp=Z,151nm,1.5s,mb5.7
A09A Danville 73.40 332 ⇓P P 11 46 58.5 -0.3
baz=74,SNR=6.0
TIC Toumodi 73.48 79 eP P 11 47 00.3 +0.2
comp=Z,2µm,2.0s
TIC Toumodi 73.48 79 eP P 11 47 00.3 +0.2
TIC pmax pmax
comp=Z,2µm,2.0s
DBIC Dimbokro 73.64 79 P P 11 47 00.6 -0.4
comp=Z,15nm,1.0s,mb4.9,baz=234,slow=5.3,SNR=8.0
DBIC Dimbokro 73.64 79 P P 11 47 01.3 +0.3
DBIC pmax pmax
comp=Z,200nm,1.4s
DBIC Dimbokro 73.64 79 eP P 11 47 00.5 -0.6
comp=Z,33nm,1.1s,mb5.2
KIC Kosan Boka 73.66 79 eP P 11 47 00.5 -0.6
comp=Z,2µm,1.8s
F03A Seaside 73.68 328 ⇑P P 11 47 01.5 +1.0
baz=74
A08A Turner Farm, O 73.70 332 ⇓P P 11 47 00.6 +0.1
baz=74,SNR=9.5
B07A Winthrop 73.73 331 ⇓P P 11 47 01.0 +0.3
baz=74
D05A Enumclaw 73.74 329 ⇑P P 11 47 01.3 +0.5
baz=74,SNR=5.4
BMW Boistfort Moun 73.88 328 eP P 11 47 00.2 -1.5
A07A Ashnola River, 74.28 331 ⇑P P 11 47 04.7 +0.8
baz=74,SNR=8.7
RPW Rockport 74.38 330 eP P 11 47 03.5 -1.1
JCW Jim Creek 74.41 330 eP P 11 47 03.4 -1.3
GNW Green Mountain 74.41 329 eP P 11 47 04.2 -0.5
comp=Z,6.8nm,1.0s,mb4.8
B06A Marblemount 74.42 331 ⇓P P 11 47 04.8 +0.1
baz=75
EDM Edmonton 74.50 338 eP P 11 47 03.6 -1.5
EDM Edmonton 74.50 338 eP P 11 47 03.4 -1.7
B05A Bryant 74.54 330 ⇓P P 11 47 06.5 +1.1
baz=75
D03A Wishkah Elem. 74.59 328 ⇑P P 11 47 06.8 +1.0
baz=75
C04A Brinnon 74.59 329 ⇑P P 11 47 07.4 +1.6
baz=75
NLWA Neilton Lookou 74.82 329 ⇑P P 11 47 08.0 +0.9
baz=75
NLWA Neilton Lookou 74.82 329 eP P 11 47 07.4 +0.3
comp=Z,11nm,1.0s,mb4.7
A06A Chilliwack 74.82 331 ⇑P P 11 47 07.5 +0.4
baz=75
A05A Maple Falls 75.04 331 ⇓P P 11 47 08.7 +0.4
baz=75
B04A Port Angeles 75.08 329 ⇓P P 11 47 09.4 +0.8
baz=75
A04A Legoe Bay, Lum 75.14 330 ⇑P P 11 47 09.5 +0.6
baz=75
C03A Quillayute Air 75.54 329 ⇓P P 11 47 12.8 +1.6
baz=76
QSPA South Pole Qui 75.81 180 P P 11 47 12.5 +0.1
comp=Z,5.5nm,0.9s,mb4.5,baz=142,slow=3.6,SNR=15
NVL N'lazarevskaya 75.88 160 d iP P 11 47 13.7 +0.8
NVL e*PP pP 11 47 24.7 -0.4
NVL e*SP sP 11 47 29.5 -0.2
NVL SS SS 12 01 54.9 +10
NVL pmax pmax
comp=Z,28nm,1.5s,mb5.0
NVL MLR MLR
comp=N,558nm,19.0s,MS5.1
NVL MLR MLR
comp=E,836nm,19.0s,MS5.1
NVL MLR MLR
comp=Z,1µm,19.0s,MS5.3
PFVI Vila Bisbo 81.28 48 eP P 11 47 45.3 +2.1
comp=Z,230nm,1.7s,mb5.8
MORF Marmelete 81.48 48 eP P 11 47 46.7 +2.5
comp=Z,264nm,2.0s,mb5.8
SBA Scott Base 81.56 191 eP P 11 47 44.7 +0.7
SBA pmax pmax
comp=Z,331nm,2.6s,mb5.8
SBA MLR MLR
comp=Z,2µm,19.0s,MS5.5
SBA Scott Base 81.56 191 eP P 11 47 44.3 +0.3
comp=Z,13nm,1.1s,mb4.8
TOA0 Torodi Ar. Sit 81.70 74 eP P 11 47 46.5 +0.6
TORD Torodi Ar. Bea 81.70 74 P P 11 47 45.7 -0.1
comp=Z,19nm,0.7s,mb5.2,baz=264,slow=4.4,SNR=61
TORD Torodi Ar. Bea 81.70 74 P P 11 47 45.7 -0.1
LIS Lisbon 81.73 47 eP P 11 47 46.2 +0.7
LIS eS S 11 57 58.4 +2.9
LIS eS S 11 57 58.4 +2.9
LIS AMS AMS 12 20 37.3
comp=Z,7µm,21.2s
LIS Lisbon 81.73 47 eS S 11 57 58.4 +2.9
LIS A 12 20 37.3
comp=Z,7µm,21.2s
PBDV Barranco-do-Ve 81.97 48 eP P 11 47 47.9 +1.1
comp=Z,195nm,1.6s,mb5.8
YKA Yellowknife Ar 82.29 343 P P 11 47 46.3 -1.6
comp=Z,3.9nm,0.7s,mb4.4,baz=138,slow=5.3,SNR=33
YKA Yellowknife Ar 82.29 343 P P 11 47 46.3 -1.6
PBEJ Beja 82.34 48 eP P 11 47 51.2 +2.4
comp=Z,196nm,1.8s,mb5.7
YKW3 Yellowknife Ar 82.35 343 eP P 11 47 46.3 -1.9
EVO Evora 82.45 47 eP P 11 47 45.8 -3.5
comp=Z,242nm,1.3s,mb5.7
EVO eMLR MLR
comp=Z,8µm,22.2s,MS5.7
EVO Evora 82.45 47 eP P 11 47 51.4 +2.1
comp=Z,169nm,1.9s,mb5.7
PTOM Tomar 82.63 46 eP P 11 47 51.4 +1.2
VNDA Vanda 82.63 191 P P 11 47 49.6 0.0
comp=Z,2.2nm,1.0s,mb4.2,baz=130,slow=3.8,SNR=9.5
VNDA Vanda 82.63 191 P P 11 47 49.6 -0.1
VNDA MLR MLR
comp=Z,2µm,19.0s
VNDA Vanda 82.63 191 eP P 11 47 49.3 -0.3
comp=Z,5.8nm,0.9s,mb4.6
PESTR Estremoz 82.89 47 eP P 11 47 53.9 +2.3
comp=Z,203nm,2.0s,mb5.8
PBAR Barrancos 83.00 48 eP P 11 47 53.6 +1.4
comp=Z,128nm,1.7s,mb5.7
PCBR Castelo Branco 83.38 46 eP P 11 47 55.5 +1.4
comp=Z,137nm,1.5s,mb5.8
MTE Manteigas 83.56 46 eP P 11 47 55.8 +0.8
comp=Z,40nm,1.3s,mb5.4
MTE Manteigas 83.56 46 eP P 11 47 56.7 +1.7
comp=Z,148nm,1.6s,mb5.9
CRAG Craig 84.38 331 eP P 11 47 58.3 -0.5
comp=Z,11nm,1.2s,mb4.8
WRAK Wrangell Islan 84.58 332 eP P 11 47 59.7 -0.1
comp=Z,8.1nm,1.2s,mb4.7
DLBC Dease Lake 84.80 335 eP P 11 48 01.8 +0.9
SYO Syowa Base 85.51 161 ⇓ eP P 11 48 02.6 -1.8
ESDC Sonseca Array 85.80 47 P P 11 48 06.4 +0.1
comp=Z,1.3nm,0.5s,mb4.4,baz=262,slow=4.8,SNR=9.1
SKAG Skagway 87.62 334 eP P 11 48 15.3 +0.6
comp=Z,29nm,1.9s,mb5.2
TAM Tamanrasset 87.94 66 eP P 11 48 19.6 +2.5
TAM Tamanrasset 87.94 66 eP P 11 48 18.2 +1.0
comp=Z,21nm,1.3s,mb5.2
TSUM Tsumeb 88.74 109 eP P 11 48 21.3 +0.2
comp=Z,12nm,0.9s,mb5.2
SJPF Ste Jean 88.97 45 eP P 11 48 17.7 -3.8
comp=Z,322nm,1.9s,mb6.0
SJPF Ste Jean 88.97 45 eP P 11 48 17.7 -3.8
SJPF pmax pmax
comp=Z,161nm,1.9s
SJPF Ste Jean 88.97 45 eP P 11 48 17.7 -3.8
comp=Z,161nm,1.9s,mb6.0
HYT Haines Junctio 89.28 335 eP P 11 48 22.4 -0.1
ETSF Etsaut 89.36 45 eP P 11 48 19.5 -3.8
comp=Z,144nm,1.9s,mb5.7
ETSF Etsaut 89.36 45 eP P 11 48 19.5 -3.8
ETSF pmax pmax
comp=Z,72nm,1.9s,mb5.7
ETSF Etsaut 89.36 45 eP P 11 48 19.5 -3.8
comp=Z,72nm,1.9s,mb5.7
QUIF Quistinic 89.45 40 eP P 11 48 18.8 -4.9
comp=Z,342nm,1.9s,mb6.1
QUIF Quistinic 89.45 40 eP P 11 48 18.8 -4.9
comp=Z,171nm,1.9s,mb6.0
ROSF Rostrenen 89.54 40 eP P 11 48 18.4 -5.7
comp=Z,410nm,1.9s,mb6.1
ROSF Rostrenen 89.54 40 eP P 11 48 18.4 -5.7
comp=Z,205nm,1.9s,mb6.1
SGMF Saint Gilles 89.96 40 eP P 11 48 21.3 -4.7
EPF Esparros 90.02 45 eP P 11 48 22.4 -4.0
comp=Z,96nm,1.6s,mb5.6
EPF Esparros 90.02 45 eP P 11 48 22.4 -4.0
EPF pmax pmax
comp=Z,48nm,1.6s,mb5.6
EPF Esparros 90.02 45 eP P 11 48 22.4 -4.0
comp=Z,48nm,1.6s,mb5.6
SUMG Summit 90.19 11 eP P 11 48 27.9 +1.3
comp=Z,2.5nm,0.7s,mb4.7
MFF Saint Martin d 90.90 42 eP P 11 48 25.9 -4.6
LFF La Frestale 90.93 44 eP P 11 48 26.0 -4.6
GRR Gorron 91.06 40 eP P 11 48 26.2 -5.0
comp=Z,164nm,1.7s,mb5.8
GRR Gorron 91.06 40 eP P 11 48 26.2 -5.0
comp=Z,82nm,1.7s,mb5.8
MTLF Montolieu 91.42 46 eP P 11 48 28.2 -4.8
comp=Z,132nm,1.8s,mb5.7
MTLF Montolieu 91.42 46 eP P 11 48 28.2 -4.8
MTLF pmax pmax
comp=Z,66nm,1.8s,mb5.7
MTLF Montolieu 91.42 46 eP P 11 48 28.2 -4.8
comp=Z,66nm,1.8s,mb5.7
FLN La Foliniere 91.43 40 eP P 11 48 28.1 -4.7
FLN eMLR MLR
comp=Z,3µm,22.2s,MS5.4
FLN La Foliniere 91.43 40 eP P 11 48 28.1 -4.7
FLN MLR MLR
comp=Z,3µm,22.3s,MS5.7
RJF Les Rejaudoux 91.57 44 eP P 11 48 28.8 -4.8
comp=Z,195nm,1.7s,mb5.9
RJF eMLR MLR
comp=Z,3µm,19.8s,MS5.5
RJF Les Rejaudoux 91.57 44 eP P 11 48 28.8 -4.8
comp=Z,98nm,1.7s,mb5.9
LDF La Druitiere 91.59 40 eP P 11 48 29.1 -4.5
comp=Z,134nm,1.4s,mb5.8
LDF La Druitiere 91.59 40 eP P 11 48 29.1 -4.5
LDF pmax pmax
comp=Z,67nm,1.4s
LDF La Druitiere 91.59 40 eP P 11 48 29.1 -4.5
comp=Z,67nm,1.4s,mb5.8
DAWY Dawson 91.70 337 eP P 11 48 32.5 -1.2
CAF Calviac 91.81 44 eP P 11 48 30.2 -4.5
comp=Z,49nm,1.1s,mb5.4
CAF Calviac 91.81 44 eP P 11 48 30.2 -4.5
CAF pmax pmax
comp=Z,25nm,1.1s,mb5.5
CAF Calviac 91.81 44 eP P 11 48 30.2 -4.5
comp=Z,25nm,1.1s,mb5.5
TCF Toulx Ste Croi 92.34 43 eP P 11 48 32.4 -4.7
comp=Z,48nm,1.3s,mb5.3
TCF Toulx Ste Croi 92.34 43 eP P 11 48 32.4 -4.7
comp=Z,24nm,1.3s,mb5.4
EGAK Eagle 92.72 337 eP P 11 48 38.6 +0.2
comp=Z,8.1nm,1.1s,mb5.1
LASF Ste Croix 92.78 45 eP P 11 48 35.1 -4.1
BGF Bois d'Agland 92.84 43 eP P 11 48 34.7 -4.7
BOSA Boshof 92.88 120 P P 11 48 39.6 -0.6
comp=Z,4.4nm,0.9s,mb4.9,baz=250,slow=4.1,SNR=3.4
BOSA Boshof 92.88 120 P P 11 48 39.6 -0.6
BOSA MLR MLR
comp=Z,4µm,20.0s
MAW Mawson 93.03 165 P P 11 48 39.5 -0.5
comp=Z,6.1nm,1.0s,mb5.0,baz=242,slow=6.1,SNR=8.6
MAW Mawson 93.03 165 P P 11 48 39.5 -0.5
MAW MLR MLR
comp=Z,6µm,22.0s
AVF Avril sur Loir 93.24 43 eP P 11 48 36.2 -5.1
SSF Saint Saulge 93.42 42 eP P 11 48 36.9 -5.2
comp=Z,41nm,1.3s,mb5.4
SSF Saint Saulge 93.42 42 eP P 11 48 36.9 -5.2
comp=Z,20nm,1.3s,mb5.4
SMF Signal de Mont 93.52 43 eP P 11 48 37.8 -4.8
comp=Z,188nm,1.7s,mb6.0
SMF Signal de Mont 93.52 43 eP P 11 48 37.8 -4.8
comp=Z,94nm,1.7s,mb5.9
VIVF Saint-Julien-l 93.56 45 eP P 11 48 38.7 -4.1
LOR Lormes 93.72 42 eP P 11 48 38.4 -5.1
comp=Z,108nm,1.6s,mb5.7
LOR eMLR MLR
comp=Z,2µm,20.5s,MS5.2
LOR Lormes 93.72 42 eP P 11 48 38.4 -5.1
comp=Z,54nm,1.6s,mb5.7
SMRF Simiane la Rot 93.94 46 eP P 11 48 40.8 -3.8
ORIF Oris-en-Rattie 94.40 45 eP P 11 48 42.9 -3.8
ORIF eMLR MLR
comp=Z,5µm,20.2s,MS5.7
LMR La Mourre 94.41 47 eP P 11 48 42.6 -4.2
comp=Z,47nm,1.1s,mb5.5
LMR La Mourre 94.41 47 eP P 11 48 42.6 -4.2
LMR pmax pmax
comp=Z,23nm,1.1s,mb5.5
LMR La Mourre 94.41 47 eP P 11 48 42.6 -4.2
comp=Z,23nm,1.1s,mb5.5
FRF La Foret Royal 94.57 46 eP P 11 48 43.1 -4.4
comp=Z,64nm,1.2s,mb5.6
FRF La Foret Royal 94.57 46 eP P 11 48 43.1 -4.4
FRF pmax pmax
comp=Z,32nm,1.2s,mb5.6
FRF La Foret Royal 94.57 46 eP P 11 48 43.1 -4.4
comp=Z,32nm,1.2s,mb5.6
BAIF Baives 94.74 40 eP P 11 48 41.7 -6.4
MEZF Maizieres J'vi 94.84 41 eP P 11 48 43.9 -4.7
MBDF Montbardon 94.96 45 eP P 11 48 45.5 -3.8
comp=Z,61nm,1.6s,mb5.5
MBDF Montbardon 94.96 45 eP P 11 48 45.5 -3.8
MBDF pmax pmax
comp=Z,31nm,1.6s,mb5.5
MBDF Montbardon 94.96 45 eP P 11 48 45.5 -3.8
comp=Z,31nm,1.6s,mb5.5
CABF La Chapelle 95.00 43 eP P 11 48 45.1 -4.3
comp=Z,234nm,1.9s,mb6.0
CABF La Chapelle 95.00 43 eP P 11 48 45.1 -4.3
CABF pmax pmax
comp=Z,117nm,1.9s
CABF La Chapelle 95.00 43 eP P 11 48 45.1 -4.3

comp=Z,117nm,1.9s,mb6.0
GIVF Givet 95.14 40 *e*P **P 11 48 45.3 -4.6**
LPL La Plagne 95.14 44 *e*P **P 11 48 46.7 -3.4**
SBF Sospel 95.20 46 *e*P **P 11 48 46.2 -4.2**
COLA College 95.34 336 P **P 11 48 49.4 -1.1**
COLA pmax pmax
comp=Z,32nm,1.3s,mb5.6
COLA College 95.34 336 *e*P **P 11 48 48.9 -1.6**
HAU Haudompre 95.54 42 *e*P **P 11 48 47.0 -4.8**
HAU *e*MLR MLR
comp=Z,2μm,20.5s,MS5.2
HINF Hinteralfeld 95.82 42 *e*P **P 11 48 48.2 -4.9**
TRF Thorofare Moun 95.82 334 *e*P **P 11 48 53.8 +1.1**
comp=Z,9.2nm,1.4s,mb5.0
ECH Echery 96.12 42 *e*P **P 11 48 55.2 +0.8**
comp=Z,7.6nm,1.1s,mb5.0
ECH Echery 96.12 42 *e*P **P 11 48 54.2 -0.2**
KTH Kantishna Hill 96.12 334 *e*P **P 11 48 53.3 -0.7**
comp=Z,8.6nm,1.3s,mb5.0
CDF Champ du Feu 96.24 42 *e*P **P 11 48 50.4 -4.6**
comp=Z,174nm,1.8s,mb6.9
CDF Champ du Feu 96.24 42 *e*P **P 11 48 50.4 -4.6**
CDF pmax pmax
comp=Z,87nm,1.8s
CDF Champ du Feu 96.24 42 *e*P **P 11 48 50.4 -4.6**
comp=Z,87nm,1.8s,mb5.9
PPLA Purkeypile 96.44 333 *e*P **P 11 48 57.0 +1.5**
comp=Z,4.0nm,0.8s,mb4.9
COLD Coldfoot 97.09 338 *e*P **P 11 48 58.7 +0.3**
comp=Z,1.9nm,0.7s,mb4.6
TUE Stuetta 97.14 44 *e*P **P 11 49 00.8 +1.6**
comp=Z,4.1nm,0.9s,mb4.9
GSCL Gusciola 97.52 46 P **P 11 49 02.8 +1.9**
IMA2 Indian Mountai 98.04 336 *e*P **P 11 49 02.5 -0.2**
FETA Feichten 98.19 44⇑*i*Pdiff **P 11 49 04.5 +0.7**
comp=Z,35nm,1.4s,mb5.7
CTI Castel Tesino 98.61 45 P **P 11 49 06.7 +1.0**
WTTA Wattenberg 98.85 44⇑*i*Pdiff **P 11 49 07.7 +0.9**
comp=Z,77nm,1.3s,mb6.1
GRA1 Grafenberg Arr 99.06 41 *e*Pdif **P 11 49 08.8 +1.2**
GRF Grafenberg Arr 99.06 41 *e*Pdiff **P 11 49 08.8 +1.2**
ABTA Abfaltersbach 99.33 44⇓*i*Pdiff **P 11 49 09.5 +0.5**
comp=Z,36nm,1.2s,mb5.8
PTCC Patocco-Chiusa 99.84 45 P Pdif 11 49 11.6 +0.4
comp=Z,24nm,1.2s
KHC Kasperske Hory 100.47 42 *e*PDIF Pdif 11 49 14.5 +0.6
GEC2 GERESS Array S 100.50 42 *e*Pdif Pdif 11 49 10.9 -3.1
GERES GERESS Array B 100.50 42 P Pdif 11 49 14.5 +0.5
comp=Z,0.5nm,0.5s,baz=243,slow=1.5,SNR=6.1
CSNA Conrad Observa 101.78 43⇑*i*Pdiff Pdif 11 49 21.0 +1.2
comp=Z,26nm,1.7s
CONA Conrad Observa 101.78 43⇓*i*Pdiff Pdif 11 49 21.6 +1.8
comp=Z,28nm,1.6s
MODS Modra-Piesok 102.78 43 *e*Pdif Pdif 11 49 24.0 -0.2
MODS Modra-Piesok 102.78 43 PDIF Pdif 11 49 24.0 -0.2
OBN Obninsk 114.57 36 *i* PKP PKiKP 11 54 05.2 -1.4
OBN Obninsk 114.57 36 *i* PKIKP PKiKP 11 54 05.0 -1.6
ANN Anapa 116.62 47 *i* PKIKP PKPdf 11 54 13.5 +2.6
ANN *e* 11 55 24.6
ANN *e* 12 01 02.6
ANN MLR MLR
comp=N,586nm,22.0s,MS5.5
ANN MLR MLR
comp=E,1μm,22.0s,MS5.5
ANN MLR MLR
comp=Z,1μm,22.0s,MS5.5
SOC Sochi 118.39 48 *i* PKIKP PKPdf 11 54 15.8 +1.5
SEY Seymchan 120.86 336 *e*PKIKP PKPdf 11 54 17.3 -1.2
MAK Makhachkala 124.10 48 *i* PKIKP PKPdf 11 54 27.0 +1.7
MAK pmax pmax
comp=Z,276nm,2.4s
YAK Yakutsk 128.94 345 *i* PKIKP PKPdf 11 54 33.2 -0.8
YAK MLR MLR
comp=Z,1μm,22.0s,MS5.5
ASAR Alice Springs 132.19 218 PKP PKPdf 11 54 40.5 -0.9
comp=Z,1.7nm,1.1s,baz=120,slow=1.9,SNR=9.5
BRVK Borovoye 133.10 27 *e*PKIKP PKPdf 11 54 42.6 +0.5
BRVK MLR MLR
comp=Z,3μm,22.0s
BRVK Borovoye 133.10 27 *e*PKP PKPdf 11 54 42.6 +0.5
BRVK *e*PKPdf PKPdf 11 54 44.4 +2.3
WB2 Warramunga Arr 134.66 222 *e*PKP PKPdf 11 54 44.4 -1.7
WRAB Tennant Creek 134.66 222 *i* PKIKP PKPdf 11 54 44.0 -2.1
WRAB Tennant Creek 134.66 222 *e*PKPdf PKPdf 11 54 45.3 -0.8
WRA Warramunga Arr 134.66 222 PKP PKPdf 11 54 43.8 -2.3
comp=Z,1.6nm,0.7s,baz=130,slow=2.0,SNR=17
BOD Bodaibo 135.94 352 *e*PKIKP PKPdf 11 54 45.3 -2.0
BOD pmax pmax
comp=Z,8.0nm,2.0s
BOD pmax pmax
comp=Z,10.0nm,1.9s
NVS Novosibirsk 136.49 17 *e*PKIKP PKPdf 11 54 51.8 +3.4
NVS pmax pmax
comp=E,20nm,2.0s
NVS pmax pmax
comp=Z,55nm,2.0s
ZALV Zalesovo Beam 137.72 17 PKP PKPdf 11 54 50.0 -0.7
comp=Z,4.5nm,0.7s,baz=326,slow=1.5,SNR=12
ZAL Zalesovo 137.72 17 PKIKP PKPdf 11 54 50.0 -0.7
KURK Kurchatov 138.33 24 *i* PKIKP PKPdf 11 54 51.8 -0.1
KURK MLR MLR
comp=Z,1μm,20.0s,MS5.7
KLR Kul'dur 138.40 333 *e*PKIKP PKPdf 11 54 53.2 +1.1
FITZ Fitzroy Crossi 141.30 214 *e*PKP PKPdf 11 54 57.4 -0.9
comp=Z,21nm,1.4s
EKS2 Erkin-Say 141.66 37 *e*PKPdf PKPdf 11 55 00.3 +2.1
AML Almayashu 141.94 37 *e*PKPdf PKPdf 11 54 56.2 -2.6
IRK Irkutsk 142.19 360 *e*PKIKP PKPdf 11 54 56.1 -2.8
IRK *e* 11 58 02.4
IRK pmax pmax
comp=Z,49nm,2.1s
MJAR Matsushiro Arr 142.26 312 PKhKP 11 54 54.1
comp=Z,1.2nm,0.7s,baz=95,slow=1.5,SNR=6.5
MJAR PKP PKPdf 11 54 59.9 +0.4
comp=Z,1.1nm,0.7s,baz=90,slow=3.5,SNR=6.4
MJAR Matsushiro Arr 142.26 312 PKIKP PKPdf 11 54 59.9 +0.4
MJAR Matsushiro Arr 142.26 312 PKP PKPdf 11 54 54.1 -5.4
MJAR PKP PKPdf 11 54 59.9 +0.4
MAJO Matsushiro 142.26 312 *e*PKIKP PKPdf 11 55 01.3 +1.8
MAJO Matsushiro 142.26 312 *e*PKPdf PKPdf 11 54 56.9 -2.6
MAT Matsushiro 142.26 312 PKPdf PKPdf 11 54 53.7 -5.8
HVS Khovu-Aksy 142.38 11 *i* PKIKP PKPdf 11 55 01.6 +2.4
TKM2 Tokmak 2 142.53 35 *e*PKIKP PKPdf 11 54 58.5 -1.3
TKM2 Tokmak 2 142.53 35 *e*PKPdf PKPdf 11 54 57.3 -2.5
TLY Talaya 142.75 0 *e*PKIKP PKiKP 11 55 03.2 +0.2
MK31 Makanchi Array 142.92 25 *e*PKPdf PKPdf 11 55 04.4 +4.0
MKAR Makanchi Array 142.92 25 PKP PKPdf 11 54 59.4 -1.0
comp=Z,1.1nm,0.7s,baz=323,slow=1.0,SNR=6.3
ZAK Zakamensk 144.05 1 *e*PKIKP PKPdf 11 54 59.5 -2.7
ZAK pmax pmax
comp=Z,10.0nm,1.4s
KSH Kashi 144.91 39 *e*PKP PKPdf 11 55 05.3 +1.2
KSH APKP 11 55 16.4
KSH XPKP 11 55 20.9
KSH PKS 11 58 39.8
KSH PPP 12 01 49.4
KSH SKS SKSdf 12 02 09.0 -1.3
KSH PP PP
comp=Z,1μm,5.1s
KSH LR LR
comp=N,912nm,9.8s
KSH LR LR
comp=E,1μm,13.0s
KSH LR LR
comp=Z,5μm,22.2s
CN2 Changchun 145.35 332 *e*PKP PKPdf 11 55 04.8 +0.1
CN2 *e*XPKP 11 55 20.0
CN2 *e*PP PP 11 58 27.9 +4.1
CN2 PP PP
comp=Z,200nm,8.0s
SONM Songino Array 146.54 357 PKPbc PKPbc 11 55 07.3 -0.7
comp=Z,10nm,0.7s,baz=336,slow=1.6,SNR=48
WMQ Urumqi 147.50 22 PKP PKPdf 11 55 09.6 +1.3
WMQ APKP 11 55 20.3
WMQ XPKP 11 55 24.0
WMQ PP PP 11 58 38.8 +2.5
WMQ PKS 11 58 43.3
WMQ SKS SKSdf 12 02 12.8 -1.0
WMQ SKKS SKKSac 12 05 27.3 +1.7
WMQ PP PP
comp=Z,681nm,9.8s
WMQ LR LR
comp=N,1μm,22.7s,MS5.8
WMQ LR LR
comp=E,883nm,21.8s,MS5.8
WMQ LR LR
comp=Z,1μm,24.5s,MS5.6
SNY Shenyang 147.75 332⇑PKP PKPdf 11 55 09.1 +0.3
SNY APKP 11 55 16.9
SNY XPKP 11 55 23.9
SNY PP PP
comp=Z,610nm,14.4s
SNY LR LR
comp=N,521nm,16.2s,MS5.5
SNY LR LR
comp=E,444nm,16.8s,MS5.5
SNY LR LR
comp=Z,807nm,21.0s,MS5.5
KSRS Korea Array 148.62 322 PKPbc PKPbc 11 55 11.2 -2.9
comp=Z,6.8nm,1.1s,baz=47,slow=2.1,SNR=25
HHC Hu-ho-hao-te 152.76 347 *e*PKP PKPdf 11 55 16.1 -0.6
HHC XPKP 11 55 30.4
HHC PKS 11 58 49.0
HHC PP PP 11 59 06.9 +0.5
HHC SKS SKSdf 12 02 18.3 -2.5
HHC SKKS SKKSac 12 05 51.6 -3.0
HHC PP PP
comp=Z,759nm,10.7s
HHC LR LR
comp=N,557nm,20.2s,MS5.5
HHC LR LR
comp=E,419nm,21.4s,MS5.5
HHC LR LR
comp=Z,935nm,20.2s,MS5.6
GTA Gaotai 154.76 7 PKP PKPdf 11 55 21.1 +1.5
GTA APKP 11 55 31.9
GTA XPKP 11 55 35.5
GTA PKP2 PKPab 11 55 48.1 +5.0
GTA PP PP 11 59 24.9 +7.3
GTA PP PP
comp=Z,564nm,9.9s
GTA LR LR
comp=N,1μm,21.3s
GTA LR LR
comp=E,984nm,20.7s
GTA LR LR
comp=Z,2μm,21.9s
HYB Hyderabad 155.41 79 *i* PKP PKPab 11 55 46.0 -0.7
HYB *e*PP PP 11 59 23.0 -0.6
SSE Sheshan 157.00 319 PKP PKPdf 11 55 21.6 -1.2
SSE PP PP 11 59 33.6 +2.6
SSE SS SS 12 19 21.0 -0.8
SSE PP PP
comp=Z,354nm,10.2s
SSE LR LR
comp=N,322nm,17.5s,MS5.6
SSE LR LR
comp=E,648nm,17.5s,MS5.6
SSE LR LR
comp=Z,757nm,15.6s,MS5.6
NJ2 Nanjing 157.71 325 *e*PKP PKPdf 11 55 21.4 -2.3
NJ2 APKP 11 55 31.3
NJ2 XPKP 11 55 35.1
NJ2 PKP2 PKPab 11 55 53.3 -2.7
NJ2 PKS 11 58 53.3
NJ2 PP PP
comp=Z,4μm,10.1s
NJ2 LR LR
comp=N,6μm,35.4s
NJ2 LR LR
comp=E,7μm,33.6s
NJ2 LR LR
comp=Z,11μm,32.2s
CD2 Chengdu 163.50 1 *e*PKP PKPdf 11 55 31.6 +1.6
CD2 APKP 11 55 38.9
CD2 XPKP 11 55 43.6
CD2 PKP2 PKPab 11 56 21.8 +0.6
CD2 PP PP 12 00 08.3 +3.2
CD2 SKS SKSdf 12 02 28.0 -3.6
CD2 SKKS SKKSac 12 06 50.8 -0.5
CD2 LR LR
comp=N,1μm,22.8s
CD2 LR LR
comp=E,950nm,20.4s
CD2 LR LR
comp=Z,1μm,22.8s
GYA Guiyang 167.67 348 PKP PKPdf 11 55 32.8 -0.8
GYA APKP 11 55 43.8
GYA XPKP 11 55 47.0
GYA PKP2 PKPab 11 56 40.4 +0.8
GYA PKS 11 59 03.8
GYA PP PP 12 00 26.3 -0.5
GYA PPP 12 04 30.8
GYA SKKS SKKSac 12 07 12.5 +0.1
GYA PP PP
comp=Z,3μm,9.8s
GYA LR LR
comp=N,6μm,24.6s
GYA LR LR
comp=E,6μm,22.2s
GYA LR LR
comp=Z,9μm,23.1s
KMI Kunming 169.21 6 PKP PKPdf 11 55 33.3 -1.3
KMI APKP 11 55 44.6
KMI XPKP 11 55 48.8
KMI PKP2 PKPab 11 56 47.3 +0.8
KMI PKS 11 59 00.8
KMI PP PP 12 00 36.3 +1.7
KMI PPP 12 04 41.3
KMI SKKS SKKSac 12 07 19.6 -0.4
KMI PP PP
comp=Z,844nm,9.5s
KMI LR LR
comp=N,967nm,18.1s
KMI LR LR
comp=E,948nm,19.2s
KMI LR LR
comp=Z,2μm,19.5s
CHTO Chiang Mai 173.47 46 *e*PKIKP PKPdf 11 55 37.4 +0.5
CHTO MLR MLR
comp=Z,1μm,22.0s
CHTO Chiang Mai 173.47 46 *e*PKPdf PKPdf 11 55 37.4 +0.5
CMAR Chiang Mai Arr 173.70 49 PKP PKPdf 11 55 37.0 -0.1
comp=Z,0.6nm,0.4s,baz=307,slow=2.1,SNR=9.1
CMAR PP PP 12 01 03.3 +5.0
comp=Z,2.0nm,1.0s,baz=311,slow=7.4,SNR=4.8

MOS ***16*** *11:35:28.4±1.9, 14.15S×75.66W, h33km, mb5.9/37, MS5.5/41, Error ellipse: s-maj=10.5km s-min=5.8km az=104.6*
BJI ***16*** *11:35:30.3, 14.30S×76.10W, h35km, mB5.8, Ms5.9, Msz5.7*
GCMT ***16*** *11:35:30.3±0.2, 14.44S×76.39W, h21km, MW6.0/96, Moment Tensor Solution. s71,c116; s96,c195; Duration: 2s3 Moment tensor: Scale 10^18Nm; Mrr0.73±.02; Mθθ-0.15±.01; Mφφ-0.57±.01; Mrθ0.23±.02; Mθφ0.36±.01; Mφr-0.76±.04; Best double couple: M0 1.09700×10^18 NP1:φs320.00000°, δ23.00000°, λ72.00000°. NP2:φs160.00000°, δ68.00000°, λ97.00000°. Principal axes: T 1.0780, Plg66.0000°, Azm82.0000°; N 0.0370, Plg7.0000°, Azm337.0000°; P -1.1150, Plg23.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IGIL ***16*** *11:35:33.0, 14.40S×76.15W, h35km, MS5.9*
IDC ***16*** *11:35:36.5±0.5, 14.27S×76.26W, h0km, mb5.1/18, mb1 5.1/25, mb1mx5.1/27, mbtmp5.0/25, ML4.8/5, MS5.6/1, Ms1 5.6/1, ms1mx4.5/5, Error ellipse: s-maj=19.4km s-min=11.0km az=71.0*
ISCJB ***16*** *11:35:39.6±0.2, 14.22S±.004×76.25W±.004, h30km, mb5.5/164, MS5.5/173, Error ellipse: s-maj=7.1km s-min=4.3km az=143.2*
NEIC ***16*** *11:35:41.8±0.2, 14.29S×76.21W, h35km, mb5.7/150, MS5.6/172, ML5.6(LIM), Error ellipse: s-maj=6.7km s-min=3.8km az=56.0*
NEIC Felt [VI] at Lima and [IV] at Ica and Pisco.
ISC 16 11:35:41.7±0.2, 14.25S±.004×76.20W±.004, h32km, h32km±1.1km: pP-P, n427, σ0.997/258, mb5.5/164, MS5.5/173, 1C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.34**	**344**	Pn	**Pn**	**11 36 16.7**	**-1.3**
	265nm,0.3s,baz=176,slow=15,SNR=14						
NNA				Sn	**Sn**	**11 36 50.2**	**+4.5**
	1μm,0.3s,baz=200,slow=18,SNR=16						
NNA	**Nana**	**2.34**	**344**	*e*Pn	**Pn**	**11 36 14.5**	**-3.5**
NNA				*e*Sn	**Sn**	**11 36 45.2**	**-0.5**
NNA				Sn	**Sn**	**11 36 50.1**	**+4.5**
ATAH	**Atahualpa**	**7.52**	**343**	Pn	**Pn**	**11 37 24.6**	**-4.7**
	16nm,0.3s,baz=147,slow=8.7,SNR=51						
ATAH				Sn	**Sn**	**11 39 03.2**	**+10**
	22nm,0.3s,baz=59,slow=12,SNR=2.4						
LPAZ	**La Paz**	**8.05**	**106**	Pn	**Pn**	**11 37 37.9**	**+1.4**
	16nm,0.3s,baz=291,slow=14,SNR=17						
LPAZ				Sn	**Sn**	**11 39 15.7**	**+9.4**
	baz=194,slow=19,SNR=2.1						
LVC	**Limon Verde**	**10.81**	**141**	Pn	**Pn**	**11 38 12.8**	**-1.6**
	15nm,0.3s,SNR=18						
LVC	**Limon Verde**	**10.81**	**141**	*e*Pn	**Pn**	**11 38 12.5**	**-1.8**
LVC				*e*Sn	**Sn**	**11 40 13.7**	**-0.6**
OTAV	**Otavalo**	**14.57**	**351**	*e*Pn	**Pn**	**11 39 01.5**	**-4.2**
OTAV				*e*Sn	**Sn**	**11 41 43.9**	**-2.4**
SIV	**San Ignacio**	**14.71**	**99**	Pn	**Pn**	**11 39 06.2**	**-1.5**
	3.3nm,0.3s,baz=272,slow=16,SNR=11						
LCO	**Las Campanas**	**15.54**	**162**	*e*Pn	**Pn**	**11 39 16.0**	**-2.6**
	171nm,1.0s						
CFAA	**Coronel Fontan**	**18.75**	**158**	P	**Pn**	**11 39 57.5**	**-1.2**
	0.3nm,0.3s,baz=336,slow=12,SNR=13						
CFAA				S	**Sn**	**11 43 36.5**	**+9.0**
	0.0nm,0.3s,baz=105,slow=11,SNR=1.9						
ROSC	**El Rosal**	**19.08**	**6**	P	**Pn**	**11 40 01.5**	**-1.2**
	2.2nm,0.3s,baz=88,slow=23,SNR=6.8						
ROSC				S	**Sn**	**11 43 44.5**	**+8.9**
	2.0nm,0.3s,baz=107,slow=19,SNR=2.0						
ROSC				LR	LR	11 48 19.0	
	comp=Z,19μm,19.2s,baz=194,slow=40						
ROSC	**El Rosal**	**19.08**	**6**	*e*P	**Pn**	**11 40 02.3**	**-0.4**
ROSC				S	**Sn**	**11 43 44.5**	**+8.9**
ROSC				*e*PcP	PcP	11 44 24.1	-1.7
CPUP	**Villa Florida**	**21.36**	**127**	P	**P**	**11 40 25.0**	**-1.5**
	108nm,1.0s,mb5.2,baz=286,slow=14,SNR=22						
CPUP	**Villa Florida**	**21.36**	**127**	*e*Pn	**P**	**11 40 24.8**	**-1.7**
	450nm,1.0s,mb5.8						
CPUP				P		11 40 25.0	
CPUP	**Villa Florida**	**21.36**	**127**	*e*	**P**	**11 40 24.9**	**-1.6**
BCIP	**Isla Barro Col**	**23.55**	**351**	*e*Pn	**P**	**11 40 51.3**	**+1.8**
	600nm,1.5s,mb5.8						
SDV	**Santo Domingo**	**23.64**	**14**	P	**P**	**11 40 50.2**	**-0.3**
	72nm,1.0s,mb5.0,baz=270,slow=6.5,SNR=14						
SDV				S	**S**	**11 45 18.9**	**+16**
	18nm,1.0s,baz=270,slow=17,SNR=2.3						
SDV	**Santo Domingo**	**23.64**	**14**	*e*P	**P**	**11 40 51.1**	**+0.6**
	241nm,0.9s,mb5.6						
SDV				*e*PcP	PcP	11 44 33.4	-1.3
SDV				*e*S	**S**	**11 45 02.8**	**-0.2**
SDV				S	**S**	**11 45 18.9**	**+16**
LIO	**Limon**	**25.04**	**344**	*e*P	**P**	**11 41 00.1**	**-3.1**
LCR2	**La Lucha 2**	**25.07**	**342**	*e*P	**P**	**11 41 01.2**	**-2.3**
PLCA	**Paso Flores**	**26.84**	**170**	P	**P**	**11 41 18.5**	**-0.8**
	18nm,1.0s,mb4.6,baz=300,slow=7.1,SNR=24						
PLCA	**Paso Flores**	**26.84**	**170**	*e*P	**P**	**11 41 16.8**	**-2.5**
	98nm,1.3s,mb5.2						
PCRV	**Puerto La Cruz**	**26.84**	**26**	P	**P**	**11 41 19.7**	**+0.2**
	54nm,1.1s,mb5.0,baz=200,slow=4.0,SNR=8.8						
PCRV				S	**S**	**11 46 07.5**	**+13**
	5.6nm,0.6s,baz=343,slow=14,SNR=1.5						
PCRV	**Puerto La Cruz**	**26.84**	**26**	P	**P**	**11 41 19.7**	**+0.2**
PCRV				S	**S**	**11 46 07.5**	**+13**
TRQA	**Tornquist**	**26.85**	**155**	*e*P	**P**	**11 41 15.6**	**-3.9**
	58nm,1.1s,mb5.0						
BDFB	**Brasilia**	**27.26**	**97**	P	**P**	**11 41 23.2**	**-0.2**
	18nm,0.9s,mb4.6,baz=253,slow=18,SNR=8.1						
BDFB	**Brasilia**	**27.26**	**97**	P	**P**	**11 41 23.2**	**-0.2**
BDFB				LR	LR		
	comp=Z,47μm,21.0s,MS6.0						
SPB	**Sao Paulo**	**28.71**	**113**	*e*P	**P**	**11 41 37.7**	**+1.5**
	comp=Z,195nm,1.1s,mb5.8						
GRGR	**Grenville**	**29.92**	**30**	*e*P	**P**	**11 41 47.0**	**0.0**
	comp=Z,841nm,1.3s,mb6.3						
GRGR				LR	LR		
	comp=Z,11μm,19.0s,MS5.5						
TGUH	**Tegucigalpa,Un**	**30.19**	**338**	*e*P	**P**	**11 41 44.7**	**-4.6**
	comp=Z,80nm,1.2s,mb5.3						
BBGH	**Gun Hill**	**31.82**	**32**	PFAKE		11 42 10.0	+6.2
BBGH				LR	LR		
	comp=Z,24μm,22.0s,MS5.8						
FDF	**Fort de France**	**32.42**	**28**	P	**P**	**11 42 06.7**	**-2.3**
FDF	**Fort de France**	**32.42**	**28**	*e*P	**P**	**11 42 05.9**	**-3.1**
	comp=Z,224nm,1.2s,mb5.9						
RPN	**Rapa Nui**	**33.42**	**242**	P	**P**	**11 42 20.0**	**+2.2**
RPN				MLR	MLR		
	comp=Z,11μm,22.0s,MS5.5						
RPN	**Rapa Nui**	**33.42**	**242**	PFAKE		11 42 30.0	+12
RPN				LR	LR		
	comp=Z,11μm,22.0s,MS5.5						
CPD	**Cerro la Pandu**	**33.65**	**18**	*e*P	**P**	**11 42 19.0**	**-0.7**
	comp=Z,301nm,1.8s,mb5.9						
CPD				*e*	pP	11 42 27.0	-2.0
SJG	**San Juan**	**33.65**	**17**	*e*P	**P**	**11 42 19.1**	**-0.6**
	comp=Z,90nm,0.9s,mb5.7						
SJG				*e*	pP	11 42 27.2	-1.8
SJG				LR	LR		
	comp=Z,10μm,20.0s,MS5.5						
AOPR	**Arecibo Observ**	**33.71**	**16**	*e*P	**P**	**11 42 20.1**	**-0.1**
	comp=Z,135nm,1.3s,mb5.7						
AOPR				*e*	pP	11 42 27.7	-1.8
MTP	**Monte Pirata**	**33.82**	**18**	*e*P	**P**	**11 42 18.5**	**-2.7**
	comp=Z,67nm,1.1s,mb5.5						
BPA	**Boggy Peak**	**34.17**	**25**	*e*	**P**	**11 42 22.6**	**-1.7**
CAM3	**Guarapari**	**34.58**	**106**⇓*i*P		**P**	**11 42 27.4**	**-0.5**
CAM3				*i*		11 42 32.8	
CAM3				*i*	pP	11 42 37.4	+0.2
CAM3				*i*		11 43 03.0	
TEIG	**Tepich**	**36.26**	**341**	*e*P	**P**	**11 42 40.7**	**-1.5**
	comp=Z,103nm,0.8s,mb5.8						
TEIG				*e*	pP	11 42 50.9	-0.6
TEIG				*e*		11 42 56.0	
TEIG				LR	LR		
	comp=Z,7μm,19.0s,MS5.5						
EFI	**East Falkland**	**40.07**	**162**	PFAKE		11 43 20.0	+6.0
EFI				LR	LR		
	comp=Z,7μm,20.0s,MS5.5						
USHA	**Ushuaia**	**40.94**	**173**	P	**P**	**11 43 21.6**	**+0.5**
	comp=Z,32nm,1.1s,mb4.8,baz=266,slow=8.6,SNR=3.7						
BRAL	**Brewton**	**46.20**	**347**	PFAKE		11 44 10.0	+6.3
BRAL				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
KVTX	**Kingsville**	**46.58**	**333**	*e*P	**P**	**11 44 03.9**	**-2.8**
	comp=Z,254nm,1.0s,mb6.1						
KVTX				LR	LR		
	comp=Z,4μm,19.0s,MS5.4						
NHSC	**New Hope**	**47.25**	**355**	*e*P	**P**	**11 44 12.1**	**+0.2**
	comp=Z,472nm,1.6s,mb6.2						
NHSC				*e*	pP	11 44 20.3	-1.2
NHSC				LR	LR		
	comp=Z,6μm,20.0s,MS5.6						
BBSR	**BB Station**	**47.65**	**13**	PFAKE		11 44 20.0	+5.0
BBSR				LR	LR		
	comp=Z,4μm,22.0s,MS5.3						
HKT	**Hockley**	**47.85**	**337**	*e*P	**P**	**11 44 17.6**	**+0.9**
	comp=Z,296nm,1.8s,mb6.0						
HKT				*e*	pP	11 44 24.8	-1.4
HKT				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
GOGA	**Godfrey**	**47.90**	**352**	*e*P	**P**	**11 44 15.8**	**-1.2**
	comp=Z,188nm,1.7s,mb5.8						
GOGA				LR	LR		
	comp=Z,5μm,20.0s,MS5.5						
VBMS	**Vicksburg**	**48.20**	**344**	PFAKE		11 44 30.0	+11
VBMS				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
NATX	**Nacogdoches**	**49.06**	**339**	PFAKE		11 44 40.0	+14
NATX				LR	LR		
	comp=Z,2μm,22.0s,MS5.1						
CNNC	**Cliffs of the**	**49.25**	**358**	*e*P	**P**	**11 44 27.1**	**-0.2**
	comp=Z,189nm,1.4s,mb5.9						
CNNC				LR	LR		
	comp=Z,4μm,19.0s,MS5.4						
JCT	**Junction City**	**49.94**	**333**	*e*P	**P**	**11 44 36.2**	**+3.5**
	comp=Z,58nm,1.2s,mb5.5						
JCT				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
CPCT	**Cooper Cave**	**50.06**	**351**	*e*P	**P**	**11 44 32.6**	**-0.8**
CPCT				*e*	pP	11 44 43.0	-0.1
CPCT				*e*		11 44 47.7	
CPCT				*e*PcP	PcP	11 45 52.3	-0.7
SWET	**Sewanee**	**50.06**	**350**	*e*P	**P**	**11 44 32.1**	**-1.3**
SWET				*e*	pP	11 44 42.9	-0.1
SWET				*e*		11 44 47.5	
OXF	**Oxford**	**50.09**	**346**	*e*P	**P**	**11 44 30.7**	**-3.1**
	comp=Z,129nm,1.3s,mb5.8						

OXF e 11 44 42.4
OXF LR LR
comp=Z,3μm,21.0s,MS5.2
TKL Tuckaleechee C 50.15 352 *e*P **P 11 44 33.0 -1.2**
PLAL Pickwick Lake 50.24 347 PFAKE 11 44 40.0 +5.1
PLAL LR LR
comp=Z,2μm,20.0s,MS5.2
HOPE Hope Point 50.54 151 PFAKE 11 44 50.0 +13
HOPE LR LR
comp=Z,3.0nm,22.0s
TZTN Tazewell 51.00 352 *e*P **P 11 44 39.9 -0.6**
comp=Z,174nm,1.6s,mb5.7
TZTN LR LR
comp=Z,6μm,19.0s,MS5.6
UALR University of 51.11 343 *e*P **P 11 44 41.1 -0.3**
comp=Z,77nm,1.0s,mb5.6
PMSA Palmer Station 51.15 173 *e*P **P 11 44 40.6 -0.7**
comp=Z,96nm,1.3s,mb5.6
PMSA *e* pP 11 44 48.0 -2.9
PMSA LR LR
comp=Z,2μm,20.0s,MS5.1
MIAR Mount Ida 51.26 342 *e*P **P 11 44 42.4 -0.2**
comp=Z,49nm,0.9s,mb5.4
MIAR *e* pP 11 44 50.1 -2.1
MIAR *e* 11 44 56.0
MIAR LR LR
comp=Z,2μm,21.0s,MS5.0
BLA Blacksburg 51.34 356 *e*P **P 11 44 43.0 -0.2**
comp=Z,275nm,1.7s,mb5.9
BLA LR LR
comp=Z,4μm,21.0s,MS5.4
ELN Prospectdale 51.38 355 *e*P **P 11 44 44.1 +0.7**
ELN *e*PcP PcP 11 45 56.6 -1.2
URVA University of 51.56 359 *e*P **P 11 44 44.8 0.0**
URVA *e* pP 11 44 53.0 -1.4
URVA *e* 11 44 59.1
PARMO Parma 52.23 346 *e*P **P 11 44 48.9 -0.8**
USIN University of 53.05 349 *e*P **P 11 44 54.7 -1.1**
comp=Z,184nm,1.1s,mb5.9
WCI Wyandotte Cave 53.06 350 PFAKE 11 45 10.0 +14
WCI LR LR
comp=Z,3μm,21.0s,MS5.3
SIUC Southern Illin 53.12 347 *e*P **P 11 44 55.8 -0.6**
comp=Z,83nm,1.0s,mb5.6
WMOK Wichita Mounta 53.23 337 *e*P **P 11 44 57.8 +0.5**
comp=Z,112nm,1.6s,mb5.5
WMOK LR LR
comp=Z,1μm,19.0s,MS5.0
SDMD Soldier's Deli 53.39 359 *e*P **P 11 44 58.6 +0.4**
comp=Z,275nm,2.2s,mb5.8
FVM French Village 53.65 346 *e*P **P 11 44 59.2 -1.0**
comp=Z,358nm,2.1s,mb5.9
MCWV Mont Chateau 53.74 357 PFAKE 11 45 10.0 +9.2
MCWV LR LR
comp=Z,5μm,20.0s,MS5.5
OLIL Olney 53.87 348 *e*P **P 11 45 00.5 -1.3**
comp=Z,78nm,0.9s,mb5.6
MVL Millersville 53.97 360 *e*P **P 11 44 58.6 -3.9**
comp=Z,196nm,1.6s,mb5.8
BLO Bloomington 54.01 350 *e*P **P 11 45 02.5 -0.3**
BLO Bloomington 54.01 350 *e*P **P 11 45 01.2 -1.7**
comp=Z,342nm,1.7s,mb6.0
AMTX Amarillo 54.53 334 *e*P **P 11 45 05.2 -1.5**
comp=Z,153nm,1.7s,mb5.8
AMTX LR LR
comp=Z,2μm,19.0s,MS5.3
ACSO Alum Creek Sta 54.57 354 *e*P **P 11 45 06.0 -0.8**
comp=Z,150nm,1.5s,mb5.8
ACSO LR LR
comp=Z,6μm,19.0s,MS5.7
BRNJ Basking Ridge 54.67 2 *e*P **P 11 45 07.9 +0.3**
comp=Z,21nm,0.5s,mb5.4
PAL Palisades 55.02 2 *e*P **P 11 45 09.7 -0.4**
comp=Z,40nm,1.0s,mb5.4
ALLY Alegheny Colle 55.74 356 *e*P **P 11 45 14.7 -0.6**
comp=Z,162nm,1.5s,mb5.8
BRYW Bryant College 56.05 4 *e*P **P 11 45 18.2 +0.7**
RKT Rikitea 56.06 252 *e*S **S 11 52 58.2 -6.8**
comp=Z,8μm,26.0s
RKT *e*SS SS 11 56 47.4 -4.1
comp=Z,1μm,25.0s
RKT *e*LQ 11 59 17.6
comp=Z,1μm,28.8s
RKT *e*LR LR 12 01 43.4
comp=Z,8μm,27.8s,baz=89
BINY Binghamton 56.17 0 *e*P **P 11 45 18.9 +0.5**
BNM Barren Site 56.18 330 *e*P **P 11 45 16.6 -2.0**
comp=Z,148nm,1.8s,mb5.7
BNM *e* pP 11 45 27.7 -0.6
BNM *e*PcP PcP 11 46 17.7 +1.6
LPM Los Pinos Moun 56.31 330 *e*P **P 11 45 21.2 +1.7**
comp=Z,57nm,1.5s,mb5.4
QUA2 Belchertown 56.36 3 *e*P **P 11 45 19.9 +0.2**
comp=Z,234nm,1.5s,mb6.0
KSU1 Kansas State U 56.40 341 PFAKE 11 45 30.0 +10
KSU1 LR LR
comp=Z,2μm,20.0s,MS5.1
WES Weston 56.53 4 PFAKE 11 45 30.0 +9.1
WES LR LR
comp=Z,2μm,20.0s,MS5.2
LAZ Ladron 56.63 329 *e*P **P 11 45 21.3 -0.5**
comp=Z,148nm,1.9s,mb5.7
HRV Adam Dziewonsk 56.64 4 *e*P **P 11 45 22.6 +0.9**
comp=Z,189nm,1.8s,mb5.8
HRV LR LR
comp=Z,3μm,20.0s,MS5.3
AAM Ann Arbor 56.69 353 PFAKE 11 45 30.0 +8.0
AAM LR LR
comp=Z,7μm,20.0s,MS5.8
ANMO Albuquerque 56.74 330 *e*P **P 11 45 23.5 +0.9**
comp=Z,52nm,1.3s,mb5.4
ANMO *e* pP 11 45 32.5 +0.2
ANMO LR LR
comp=Z,4μm,19.0s,MS5.5
TUC Tucson 56.92 325 *e*P **P 11 45 24.6 +0.7**
comp=Z,39nm,1.1s,mb5.3
TUC *e*PcP PcP 11 46 24.3 +5.2
TUC LR LR
comp=Z,3μm,20.0s,MS5.4
CBKS Cedar Bluff 57.20 338 *e*P **P 11 45 19.4 -6.3**
CBKS pmax pmax
comp=Z,105nm,1.1s,mb5.8
CBKS MLR MLR
comp=Z,1μm,22.0s,MS5.0
CBKS Cedar Bluff 57.20 338 *e*P **P 11 45 25.5 -0.3**
comp=Z,105nm,1.1s,mb5.8
CBKS LR LR
comp=Z,1μm,22.0s,MS5.0
ACCN Adirondack Com 57.40 2 *e*P **P 11 45 28.1 +1.1**
comp=Z,264nm,1.5s,mb6.0
HNH Hanover 57.79 3 *e*P **P 11 45 30.0 +0.3**
comp=Z,407nm,1.5s,mb6.2
NCB Newcomb 57.97 2 *e*P **P 11 45 30.4 -0.6**
comp=Z,131nm,1.4s,mb5.8
NCB LR LR
comp=Z,2μm,20.0s,MS5.2
MDV Middlebury 58.03 3 *e*P **P 11 45 32.2 +0.7**
SCIA State Center 58.04 345 *e*P **P 11 45 31.9 +0.3**
comp=Z,258nm,1.9s,mb5.9
SCIA LR LR
comp=Z,2μm,19.0s,MS5.3
LBNH Lisbon 58.34 4 *e*P **P 11 45 34.8 +1.2**
comp=Z,26nm,1.2s,mb5.1
LBNH LR LR
comp=Z,3μm,20.0s,MS5.4
SDCO Great Sand Dun 58.59 333 *e*P **P 11 45 35.8 +0.3**
comp=Z,102nm,1.3s,mb5.7
SDCO *e* pP 11 45 45.5 +0.2
SDCO LR LR
comp=Z,3μm,21.0s,MS5.3
LONY Lake Ozonia 58.61 1 *e*P **P 11 45 35.8 +0.3**
comp=Z,152nm,1.5s,mb5.8
LONY LR LR
comp=Z,3μm,19.0s,MS5.4
FRNY Flat Rock 58.85 2 *e*P **P 11 45 37.3 +0.1**
comp=Z,182nm,1.4s,mb5.9
GLMI Grayling 59.29 353 PFAKE 11 45 50.0 +10
GLMI LR LR
comp=Z,9μm,19.0s,MS5.9
MVCO Mesa Verde 59.53 330 *e*P **P 11 45 40.9 -1.2**
comp=Z,132nm,1.5s,mb5.7
MVCO *e* pP 11 45 51.6 -0.2
PKME Peaks-Kenny Pk 59.56 6 *e*P **P 11 45 43.6 +1.5**
comp=Z,33nm,1.0s,mb5.3
PKME *e*PcP PcP 11 46 26.6 -2.6
PKME LR LR
comp=Z,3μm,21.0s,MS5.4

WUAZ Wupatki 59.66 327 *e*P **P 11 45 45.1 +2.0**
comp=Z,130nm,1.4s,mb5.8
WUAZ LR LR
comp=Z,7μm,20.0s,MS5.8
GLA Glamis 59.78 323 *e*P **P 11 45 43.1 -0.8**
comp=Z,42nm,1.4s,mb5.3
GLA LR LR
comp=Z,3μm,19.0s,MS5.4
ISCO Idaho Springs 60.35 334 *e*P **P 11 45 48.3 +0.6**
comp=Z,34nm,1.4s,mb5.2
ISCO LR LR
comp=Z,2μm,20.0s,MS5.3
BAR Barrett 60.62 321 *e*P **P 11 45 48.6 -1.1**
comp=Z,110nm,1.8s,mb5.7
BAR *e* pP 11 45 59.5 +0.1
BAR *e*PcP PcP 11 46 33.4 -0.4
BAR LR LR
comp=Z,2μm,20.0s,MS5.2
ECSD EROS,Sioux Fal 60.65 343 *e*P **P 11 45 49.9 +0.3**
comp=Z,216nm,1.7s,mb6.0
ECSD LR LR
comp=Z,2μm,20.0s,MS5.3
PV10 Paradox Valley 60.72 331 *e*P **P 11 45 51.9 +1.7**
comp=Z,15μm,1.5s
ASCN Ascension 60.87 91 PFAKE 11 46 00.0 +8.2
ASCN LR LR
comp=Z,11μm,20.0s,MS6.0
PFO Pinyon Flat Ob 61.13 322 *e*P **P 11 45 54.5 +1.4**
comp=Z,57nm,1.2s,mb5.6
PFO LR LR
comp=Z,2μm,20.0s,MS5.3
COWI Conover 61.20 350 PFAKE 11 46 00.0 +6.8
COWI LR LR
comp=Z,4μm,19.0s,MS5.6
LDFC Landfair 61.39 324 *e*P **P 11 45 54.5 -0.3**
comp=Z,52nm,1.1s,mb5.6
PHWY Pilot Hill 61.54 335 *e*P **P 11 45 56.2 +0.5**
comp=Z,215nm,2.0s,mb5.9
SRU San Rafael 62.01 330 *e*P **P 11 45 59.8 +0.9**
comp=Z,71nm,1.2s,mb5.7
MSU Marysvale 62.36 329 *e*P **P 11 46 01.8 +0.5**
MVU Marysvale 62.38 329 PFAKE 11 46 10.0 +8.6
MVU LR LR
comp=Z,7μm,19.0s,MS5.8
TMUT Trail Mountain 62.49 330 *e*P **P 11 46 03.1 +1.0**
comp=Z,44nm,1.2s,mb5.5
MWC Mount Wilson 62.52 321 *e*P **P 11 46 02.0 -0.5**
comp=Z,128nm,1.4s,mb5.9
MWC LR LR
comp=Z,2μm,19.0s,MS5.3
GSC Goldstone 62.52 323 *e*P **P 11 46 01.4 -1.0**
comp=Z,176nm,2.1s,mb5.8
GSC *e* pP 11 46 10.7 -1.6
GSC LR LR
comp=Z,3μm,19.0s,MS5.5
RWWY Rawlins 62.59 334 *e*P **P 11 46 04.5 +1.7**
comp=Z,207nm,1.6s,mb6.0
TAOE Nuku Hiva Isla 62.73 267 *e*LQ 12 02 04.9
comp=Z,22μm,27.9s
TAOE *e*LR LR 12 04 47.8
comp=Z,40μm,25.1s,baz=104
SNCC San Nicolas Is 62.77 320 PFAKE 11 46 10.0 +5.9
SNCC LR LR
comp=Z,1μm,19.0s,MS5.2
MPU Maple Canyon 63.25 330 *e*P **P 11 46 07.6 +0.4**
comp=Z,3.0nm,0.9s,mb4.4
MPU LR LR
comp=Z,4μm,20.0s,MS5.5
TPNV Topopah Spring 63.37 325 *e*P **P 11 46 08.9 +0.9**
comp=Z,29nm,0.9s,mb5.4
TPNV LR LR
comp=Z,3μm,19.0s,MS5.4
DAU Daniels Canyon 63.38 331 *e*P **P 11 46 10.3 +2.3**
EYMN Ely 63.41 349 *e*P **P 11 46 07.5 -0.5**
comp=Z,51nm,1.4s,mb5.5
EYMN LR LR
comp=Z,4μm,20.0s,MS5.6
NLU North Lily Min 63.42 330 *e*P **P 11 46 07.7 -0.6**
comp=Z,166nm,1.8s,mb5.9
JLU Jordanelle 63.62 331 *e*P **P 11 46 08.8 -0.8**
comp=Z,111nm,1.3s,mb5.7
DAC Darwin (Calif) 63.66 323 PFAKE 11 46 20.0 +10
DAC LR LR
comp=Z,3μm,19.0s,MS5.5
ISA Isabella 63.75 322 *e*P **P 11 46 10.0 -0.6**
comp=Z,26nm,1.1s,mb5.2
ISA LR LR
comp=Z,2μm,20.0s,MS5.2
DUG Dugway 63.97 329 *e*P **P 11 46 13.2 +1.3**
comp=Z,140nm,1.4s,mb5.8
DUG LR LR
comp=Z,4μm,19.0s,MS5.6
NOQ North Oquirrh 63.98 330 *e*P **P 11 46 12.2 +0.2**
comp=Z,87nm,1.4s,mb5.6
HWUT Hardware Ranch 64.46 331 *e*P **P 11 46 15.6 +0.5**
comp=Z,62nm,1.0s,mb5.6
HWUT LR LR
comp=Z,6μm,20.0s,MS5.8
PDAR Pinedale Array 64.48 333 P **P 11 46 15.4 +0.2**
comp=Z,6.3nm,0.7s,mb4.8,baz=153,slow=8.0,SNR=18
BGU Big Grassy Mou 64.63 330 *e*P **P 11 46 17.0 +0.7**
comp=Z,82nm,1.5s,mb5.5
SPUT South Promonto 64.65 330 *e*P **P 11 46 17.1 +0.8**
AGMN Agassiz Refuge 64.69 346 *e*P **P 11 46 15.9 -0.5**
comp=Z,14nm,0.8s,mb5.1
AGMN LR LR
comp=Z,2μm,20.0s,MS5.3
TPH Tonopah 64.72 325 *e*P **P 11 46 17.0 +0.2**
comp=Z,64nm,1.1s,mb5.6
TPH LR LR
comp=Z,2μm,20.0s,MS5.3
MTUM Tungsten Hills 64.97 324 *e*P **P 11 46 18.3 -0.3**
AHID Auburn Hatcher 65.16 332 *e*P **P 11 46 17.8 -1.8**
comp=Z,94nm,1.4s,mb5.6
AHID LR LR
comp=Z,4μm,20.0s,MS5.6
HVU Hansel Valley 65.17 331 *e*P **P 11 46 20.0 +0.3**
comp=Z,83nm,1.2s,mb5.6
REDW Red Top Meadow 65.52 333 *e*P **P 11 46 21.0 -0.9**
comp=Z,134nm,1.5s,mb5.8
NVAR Mina Array Bea 65.57 325 P **P 11 46 22.9 +0.5**
comp=Z,6.7nm,0.7s,mb4.8,baz=148,slow=4.6,SNR=18
ELK Elko 65.60 328 *e*P **P 11 46 23.5 +1.0**
comp=Z,64nm,1.3s,mb5.5
ELK LR LR
comp=Z,8μm,19.0s,MS6.0
LOHW Long Hollow 65.61 333 *e*P **P 11 46 23.1 +0.5**
comp=Z,109nm,1.9s,mb5.6
TPAW Teton Pass 65.67 333 *e*P **P 11 46 23.7 +0.8**
comp=Z,54nm,1.3s,mb5.4
RRI2 Red Ridge 65.72 333 *e*P **P 11 46 23.6 +0.4**
comp=Z,33nm,0.7s,mb5.5
MOOW Moose Ponds 65.78 333 *e*P **P 11 46 23.1 -0.6**
comp=Z,45nm,1.2s,mb5.4
DCID1 Drake Creek 65.85 333 *e*P **P 11 46 24.8 +0.7**
comp=Z,56nm,0.9s,mb5.6
IMW Indian Meadow 65.99 333 *e*P **P 11 46 24.7 -0.3**
comp=Z,91nm,1.4s,mb5.6
RLMT Red Lodge 66.27 335 *e*P **P 11 46 26.6 -0.1**
comp=Z,86nm,1.4s,mb5.6
RLMT LR LR
comp=Z,3μm,20.0s,MS5.5
SAO San Andreas Ge 66.27 321 *e*P **P 11 46 28.7 +1.8**
comp=Z,60nm,1.7s,mb5.3
SAO LR LR
comp=Z,2μm,19.0s,MS5.2
LKWY Lake 66.29 334 *e*P **P 11 46 26.4 -0.5**
comp=Z,79nm,1.1s,mb5.7
LKWY LR LR
comp=Z,4μm,21.0s,MS5.6
YFT Old Faithful 66.38 334 *e*P **P 11 46 25.6 -1.9**
comp=Z,112nm,1.5s,mb5.7
LAO LASA Array 66.39 338 *e*P **P 11 46 27.2 -0.3**
comp=Z,185nm,1.8s,mb5.8
LAO LR LR
comp=Z,2μm,21.0s,MS5.3
BMN Battle Mountai 66.40 327 *e*P **P 11 46 26.3 -1.4**
comp=Z,55nm,1.6s,mb5.3
BMN LR LR
comp=Z,3μm,19.0s,MS5.5
CMB Columbia Colle 66.49 323 *e*P **P 11 46 29.1 +0.8**
comp=Z,34nm,1.2s,mb5.3
CMB LR LR
comp=Z,2μm,20.0s,MS5.3
ULM Lac du Bonnet 66.51 346 P **P 11 46 26.8 -1.4**
comp=Z,17nm,0.8s,mb5.1,baz=159,slow=5.6,SNR=11
ULM Lac du Bonnet 66.51 346 P **P 11 46 26.8 -1.4**
ULM LR LR
comp=Z,3μm,20.0s,MS5.5
YNR Norris Junctio 66.53 334 *e*P **P 11 46 29.6 +1.2**
comp=Z,34nm,1.3s,mb5.2
YMR Madison River 66.61 334 *e*P **P 11 46 28.4 -0.6**
comp=Z,248nm,1.7s,mb6.0
QLMT Earthquake Lak 66.94 334 *e*P **P 11 46 30.8 -0.2**
GCMT Greycliff 66.97 335 *e*P **P 11 46 32.0 +0.7**
comp=Z,111nm,1.7s,mb5.6
PAHR Pah Rah Range 67.06 325 *e*P **P 11 46 32.4 +0.4**
comp=Z,143nm,1.3s,mb5.8
DGMT Dagmar 67.22 340 *e*P **P 11 46 32.8 +0.1**
comp=Z,99nm,1.1s,mb5.8
DGMT LR LR
comp=Z,2μm,19.0s,MS5.3
HLID Hailey 67.31 331 *e*P **P 11 46 34.6 +1.2**
comp=Z,137nm,2.0s,mb5.6
HLID LR LR
comp=Z,2μm,20.0s,MS5.3
BOZ Bozeman (W) 67.68 334 *e*P **P 11 46 35.7 0.0**
comp=Z,75nm,1.4s,mb5.5
BOZ LR LR
comp=Z,3μm,19.0s,MS5.5
DLMT Dillon 67.87 333 *e*P **P 11 46 37.1 +0.3**
comp=Z,76nm,1.3s,mb5.6
OHCM Honcut 68.00 324 *e*P **P 11 46 38.5 +0.6**
MCCM Marconi Confer 68.04 322 PFAKE 11 46 50.0 +12
MCCM LR LR
comp=Z,3μm,19.0s,MS5.5
NSHM Saint Helena R 68.12 322 *e*P **P 11 46 39.7 +1.1**
WVOR Wild Horse Val 68.58 328 *e*P **P 11 46 39.8 -1.6**
comp=Z,79nm,1.5s,mb5.4
WVOR LR LR
comp=Z,3μm,20.0s,MS5.5
HOPS Hopland 68.70 322 *e*P **P 11 46 42.4 +0.1**
comp=Z,67nm,1.5s,mb5.3
HOPS LR LR
comp=Z,2μm,20.0s,MS5.3
EGMT Eagleton 68.83 337 *e*P **P 11 46 43.2 +0.4**
comp=Z,36nm,1.0s,mb5.2
EGMT LR LR
comp=Z,2μm,19.0s,MS5.5
MOD Modoc 69.08 326 *e*P **P 11 46 45.3 +0.7**
comp=Z,163nm,1.5s,mb5.7
MOD LR LR
comp=Z,3μm,19.0s,MS5.5
SCHQ Schefferville 69.27 6 P **P 11 46 44.6 -0.8**
comp=Z,8.8nm,0.8s,mb4.7,baz=159,slow=1.6,SNR=8.0
SCHQ Schefferville 69.27 6 P **P 11 46 44.6 -0.8**
SCHQ LR LR
comp=Z,3μm,20.0s,MS5.5
CHMT Chamberlain Mo 69.37 334 *e*P **P 11 46 47.0 +0.8**
WDC Whiskeytown Da 69.43 324 *e*P **P 11 46 45.9 -0.9**
comp=Z,28nm,1.3s,mb5.0
WDC LR LR
comp=Z,1μm,19.0s,MS5.1
KCPM Cahto Peak 69.45 323 *e*P **P 11 46 45.3 -1.6**
comp=Z,52nm,1.5s,mb5.2
KIPM Iron Peak 69.47 323 *e*P **P 11 46 47.5 +0.5**
comp=Z,77nm,1.3s,mb5.5
MSO Missoula 69.60 333 *e*P **P 11 46 49.0 +1.4**
comp=Z,137nm,1.6s,mb5.6
MSO LR LR
comp=Z,2μm,19.0s,MS5.3
BMO Blue Mountains 69.65 330 *e*P **P 11 46 48.3 +0.3**
comp=Z,78nm,1.8s,mb5.3
BMO LR LR
comp=Z,4μm,19.0s,MS5.7
YBH Yreka Blue Hor 70.29 325 *e*P **P 11 46 51.6 -0.4**
comp=Z,27nm,1.1s,mb5.1
YBH LR LR
comp=Z,2μm,19.0s,MS5.5
KRMB Red Mountain 70.83 324 *e*P **P 11 46 55.4 0.0**
comp=Z,77nm,1.4s,mb5.4
LNOR Lincton Mounta 70.87 330 *e*P **P 11 46 55.6 +0.2**
comp=Z,22nm,1.2s,mb5.0
HUMO Hull Mountain 71.01 325 *e*P **P 11 46 55.4 -1.0**
comp=Z,16nm,1.2s,mb4.8
HUMO LR LR
comp=Z,2μm,19.0s,MS5.4
WALA Waterton Lakes 71.32 335 *e*P **P 11 46 58.4 +0.3**
comp=Z,91nm,1.4s,mb5.5
SNAA Sanae 71.34 161 P **P 11 46 57.5 -0.5**
comp=Z,7.9nm,0.9s,mb4.7,baz=290,slow=7.7
KBO Bosley Butte 71.46 324 *e*P **P 11 46 59.5 +0.4**
comp=Z,160nm,1.6s,mb5.7
HAWA Hanford 71.85 330 *e*P **P 11 47 00.3 -1.1**
comp=Z,132nm,1.5s,mb5.6
HAWA LR LR
comp=Z,4μm,19.0s,MS5.7
RSW Rattlesnake Hi 71.88 330 *e*P **P 11 47 00.5 -1.0**
comp=Z,180nm,1.5s,mb5.8
KEBM Edson Butte 71.95 325 *e*P **P 11 47 02.2 +0.1**
comp=Z,80nm,1.2s,mb5.5
NEW Newport 72.09 333 *e*P **P 11 47 02.8 0.0**
comp=Z,77nm,1.3s,mb5.5
NEW LR LR
comp=Z,2μm,20.0s,MS5.5
HOOD Mount Hood Mea 72.15 328 *e*P **P 11 47 02.6 -0.6**
comp=Z,66nm,1.1s,mb5.5
ETW Entiat 73.09 330 *e*P **P 11 47 09.1 +0.4**
comp=Z,238nm,1.7s,mb5.8
HEBO Mount Hebo 73.17 327 *e*P **P 11 47 09.0 -0.3**
comp=Z,132nm,1.4s,mb5.3
BMW Boistfort Moun 73.74 328 *e*P **P 11 47 13.0 +0.4**
DBIC Dimbokro 73.75 79 P **P 11 47 12.6 -0.8**
comp=Z,15nm,0.8s,mb5.0,baz=258,slow=7.0,SNR=15
DBIC Dimbokro 73.75 79 *e*P **P 11 47 14.2 +0.8**
DBIC LR LR
comp=Z,8μm,20.0s,MS6.0
RPW Rockport 74.25 331 *e*P **P 11 47 15.9 +0.4**
comp=Z,47nm,1.4s,mb5.2
JCW Jim Creek 74.27 330 *e*P **P 11 47 15.4 -0.2**
GNW Green Mountain 74.28 329 *e*P **P 11 47 15.2 -0.5**
comp=Z,51nm,1.3s,mb5.3
EDM Edmonton 74.38 338 *e*P **P 11 47 15.9 -0.2**
NLWA Neilton Lookou 74.69 329 *e*P **P 11 47 18.5 +0.5**
comp=Z,167nm,1.4s,mb5.8
NLWA LR LR
comp=Z,4μm,19.0s,MS5.8
PGC Sidney 75.33 330 *e*P **P 11 47 21.3 -0.4**
comp=Z,186nm,1.3s,mb5.9
QSPA South Pole Qui 75.89 180 P **P 11 47 24.8 +0.2**
comp=Z,32nm,1.1s,mb5.2,baz=156,slow=4.5,SNR=20
PFVI Vila Bisbo 81.31 48 *e*pP **P 11 47 56.6 +1.5**
PFVI Vila Bisbo 81.31 48 *e*S S 11 58 05.1 +1.3
PFVI Vila Bisbo 81.31 48 *e*LR LR 12 17 02.4
comp=Z,3μm,18.0s
RTC Rabat Centre 81.49 52 PFAKE 11 48 10.0 +14
RTC LR LR
comp=Z,5μm,20.0s,MS5.8
MORF Marmelete 81.51 48 *e*pP **P 11 47 57.4 +1.2**
MORF Marmelete 81.51 48 *e*S S 11 58 07.3 +1.4
MORF Marmelete 81.51 48 *e*LR LR 12 17 06.0
comp=Z,3μm,16.0s
PTEO Sao Teotonio 81.56 48 *e*pP **P 11 47 57.9 +1.5**
SBA Scott Base 81.62 191 *e*P **P 11 47 56.1 0.0**
comp=Z,331nm,2.6s,mb5.8
SBA LR LR
comp=Z,2μm,19.0s,MS5.5
PMAFR Mafra 81.77 46 *e*pP **P 11 47 58.8 +1.3**
PMAFR Mafra 81.77 46 *e*S S 11 58 02.7 -5.8
PMAFR Mafra 81.77 46 *e*LR LR 12 16 16.3
comp=Z,8μm,20.0s
TOA0 Torodi Ar. Sit 81.79 74 *e*P **P 11 47 57.8 -0.4**
TORD Torodi Ar. Bea 81.79 74 P **P 11 47 59.8 +1.7**
comp=Z,41nm,0.9s,mb5.4,baz=270,slow=4.0,SNR=23
PBDV Barranco-do-Ve 82.01 48 *e*pP **P 11 48 00.3 +1.5**
PBDV Barranco-do-Ve 82.01 48 *e*S S 11 58 05.2 -5.8
PBDV Barranco-do-Ve 82.01 48 *e*LQ 12 12 54.5
PBDV *e*LR LR 12 16 36.3
comp=Z,3μm,18.0s
XMAS Kiritimati 82.02 274 PFAKE 11 48 10.0 +11
XMAS LR LR
comp=Z,5μm,21.0s,MS5.9
YKA Yellowknife Ar 82.18 343 P **P 11 47 58.7 -0.4**
comp=Z,5.5nm,0.7s,mb4.6,baz=145,slow=5.8,SNR=12
YKA Yellowknife Ar 82.18 343 P **P 11 47 58.7 -0.4**
PVAQ Vaqueiros 82.23 48 *e*pP **P 11 48 01.3 +1.3**
PVAQ Vaqueiros 82.23 48 *e*S S 11 58 09.2 -4.1
PVAQ Vaqueiros 82.23 48 *e*LQ 12 12 50.0
PVAQ *e*LR LR 12 16 37.9
comp=Z,3μm,20.0s
PBEJ Beja 82.38 48 *e*pP **P 11 48 02.2 +1.5**
EVO Evora 82.49 47 *e*pP **P 11 48 02.4 +1.1**
VNDA Vanda 82.69 191 P **P 11 48 06.0 +4.3**
comp=Z,8.4nm,1.0s,mb4.7,baz=143,slow=3.2,SNR=12
VNDA Vanda 82.69 191 P **P 11 48 06.0 +4.3**

VNDA LR LR
comp=Z,2µm,19.0s,MS5.5
PESTR Estremoz 82.93 47 *e*pP **P 11 48 04.6 +1.0**
PESTR Estremoz 82.93 47 *e*S S 11 58 18.8 -1.6
PESTR Estremoz 82.93 47 *e*LQ 12 12 33.6
PESTR *e*LR LR 12 16 54.3
comp=Z,5µm,20.0s
SFS San Fernando 82.96 50 PFAKE 11 48 10.0 +6.2
SFS LR LR
comp=Z,3µm,22.0s,MS5.7
PBAR Barrancos 83.03 48 *e*pP **P 11 48 05.0 +0.9**
PBAR Barrancos 83.03 48 *e*S S 11 58 15.4 -6.1
PBAR Barrancos 83.03 48 *e*LQ 12 13 08.5
PBAR *e*LR LR 12 17 01.8
comp=Z,3µm,16.0s
SFJD Kangerlussuaq 83.18 10 PFAKE 11 48 10.0 +5.8
SFJD LR LR
comp=Z,1µm,21.0s,MS5.3
PMRV Marv??o 83.30 47 *e*pP **P 11 48 05.6 +0.1**
PMRV Marv??o 83.30 47 *e*S S 11 58 20.7 -3.4
PMRV Marv??o 83.30 47 *e*LQ 12 11 50.8
PMRV *e*LR LR 12 16 52.5
comp=Z,6µm,20.0s
PCBR Castelo Branco 83.41 46 *e*pP **P 11 48 07.3 +1.3**
PVIS Viseu 83.48 45 *e*pP **P 11 48 06.9 +0.5**
MTE Manteigas 83.59 46 *e*pP **P 11 48 07.2 +0.2**
MTE Manteigas 83.59 46 *e*S S 11 58 23.5 -3.6
MTE Manteigas 83.59 46 *e*LQ 12 10 36.6
MTE *e*LR LR 12 15 50.5
comp=Z,7µm,20.0s
MTE Manteigas 83.59 46 *e*P **P 11 48 07.9 +0.9**
comp=Z,44nm,0.9s,mb5.6
MTE LR LR
comp=Z,7µm,20.0s,MS6.0
PCAB Cabril 83.81 44 *e*pP **P 11 48 08.4 +0.3**
CRAG Craig 84.25 331 *e*P **P 11 48 09.8 -0.1**
comp=Z,66nm,1.4s,mb5.6
MVO Moncorvo 84.27 45 *e*pP **P 11 48 10.9 +0.5**
MVO Moncorvo 84.27 45 *e*S S 11 58 25.5 -8.3
MVO Moncorvo 84.27 45 *e*LR LR 12 16 10.9
comp=Z,4µm,18.0s
WRAK Wrangell Islan 84.45 332 *e*P **P 11 48 10.2 -0.7**
comp=Z,99nm,1.5s,mb5.7
WRAK LR LR
comp=Z,3µm,20.0s,MS5.6
DLBC Dease Lake 84.67 335 *e*P **P 11 48 12.0 0.0**
POHA Pohakuloa 85.02 292 PFAKE 11 48 20.0 +5.4
POHA LR LR
comp=Z,3µm,19.0s,MS5.7
PAB San Pablo 85.51 47 PFAKE 11 48 30.0 +13
PAB LR LR
comp=Z,4µm,20.0s,MS5.8
SYO Syowa Base 85.63 161⇑ *e*P **P 11 48 08.0 -8.8**
ESDC Sonseca Array 85.83 47 P **P 11 48 18.7 +0.5**
comp=Z,4.2nm,0.8s,mb4.7,baz=261,slow=5.2,SNR=6.7
SIT Sitka 86.16 332 PFAKE 11 48 30.0 +11
SIT LR LR
comp=Z,3µm,20.0s,MS5.7
KIP Kipapa 87.72 293 PFAKE 11 48 40.0 +12
KIP LR LR
comp=Z,3µm,19.0s,MS5.7
TAM Tamanrasset 88.02 66 *e*P **P 11 48 30.1 +0.8**
comp=Z,218nm,1.9s,mb6.1
SUR Sutherland 88.27 123 PFAKE 11 48 40.0 +10
SUR LR LR
comp=Z,4µm,20.0s,MS5.8
TSUM Tsumeb 88.88 109 *e*P **P 11 48 33.2 -0.3**
comp=Z,61nm,1.5s,mb5.7
TSUM LR LR
comp=Z,2µm,19.0s,MS5.6
BORG Borgarnes 88.95 21 PFAKE 11 48 40.0 +7.3
BORG LR LR
comp=Z,2µm,22.0s,MS5.4
HYT Haines Junctio 89.15 335 *e*P **P 11 48 35.0 +1.3**
SUMG Summit 90.13 11 *e*P **P 11 48 38.5 +0.4**
comp=Z,65nm,1.8s,mb5.7
DAWY Dawson 91.57 337 *e*P **P 11 48 44.5 -0.4**
AFI Afiamalu 91.89 255 PFAKE 11 49 00.0 +12
AFI LR LR
comp=Z,3µm,19.0s,MS5.7
ESK Eskdalemuir 92.22 33 PFAKE 11 49 00.0 +12
ESK LR LR
comp=Z,2µm,22.0s,MS5.6
EGAK Eagle 92.59 337 *e*P **P 11 48 49.5 -0.2**
comp=Z,67nm,1.5s,mb5.8
EGAK LR LR
comp=Z,3µm,19.0s,MS5.7
BOSA Boshof 93.02 120 P **P 11 48 51.0 -1.7**
comp=Z,6.4nm,0.8s,mb5.1,baz=286,slow=20,SNR=7.3
BOSA Boshof 93.02 120 P **P 11 48 51.0 -1.7**
BOSA LR LR
comp=Z,4µm,20.0s,MS5.8
RAO Raoul Island 93.05 239 PFAKE 11 49 00.0 +7.3
RAO LR LR
comp=Z,3µm,19.0s,MS5.8
MAW Mawson 93.14 165 P **P 11 48 53.0 +0.7**
comp=Z,10nm,1.0s,mb5.2,baz=222,slow=2.3,SNR=7.6
MAW Mawson 93.14 165 P **P 11 48 53.0 +0.7**
MAW LR LR
comp=Z,6µm,22.0s,MS6.0
LBTB Lobatse 94.42 117 PFAKE 11 49 10.0 +11
LBTB LR LR
comp=Z,3µm,20.0s,MS5.8
SNZO South Karori 94.48 226 PFAKE 11 49 10.0 +11
SNZO LR LR
comp=Z,6µm,19.0s,MS6.1
PMR Palmer 94.52 333 PFAKE 11 49 10.0 +11
PMR LR LR
comp=Z,2µm,21.0s,MS5.6
KDAK Kodiak Island 94.84 328 PFAKE 11 49 10.0 +10
KDAK LR LR
comp=Z,412nm,21.0s,MS4.9
BNI Bardonecchia 95.01 45 PFAKE 11 49 10.0 +8.7
BNI LR LR
comp=Z,3µm,20.0s,MS5.8
TRF Thorofare Moun 95.69 334 *e*P **P 11 49 04.1 +0.2**
comp=Z,21nm,1.6s,mb5.3
WLF Walferdange 95.86 40 PFAKE 11 49 10.0 +5.0
WLF LR LR
comp=Z,2µm,19.0s,MS5.6
KTH Kantishna Hill 95.99 334 *e*P **P 11 49 05.0 -0.3**
comp=Z,14nm,1.1s,mb5.3
ECH Echery 96.14 42 *e**PP **P 11 49 06.4 +0.1**
ECH Echery 96.14 42 *e*P **P 11 49 06.4 +0.1**
comp=Z,39nm,1.4s,mb5.7
PPLA Purkeypile 96.31 333 *e*P **P 11 49 06.2 -0.5**
comp=Z,12nm,0.6s,mb5.5
BFO Black Forest 96.92 42 PFAKE 11 49 20.0 +10
BFO LR LR
comp=Z,1µm,20.0s,MS5.4
COLD Coldfoot 96.97 338 *e*P **P 11 49 09.0 -0.6**
comp=Z,14nm,1.3s,mb5.2
TUE Stuetta 97.17 44 *e*P **P 11 49 11.3 +0.3**
comp=Z,15nm,1.5s,mb5.2
VLC Villacollemand 97.37 46 PFAKE 11 49 20.0 +8.0
VLC LR LR
comp=Z,3µm,21.0s,MS5.7
IMA2 Indian Mountai 97.91 336 *e*P **P 11 49 13.5 -0.4**
GRA1 Grafenberg Arr 99.08 41 *e*PP PP 11 53 19.9 -2.3
GRF Grafenberg Arr 99.08 41 *e*pPdiff **P 11 49 19.7 +0.2**
GRF *e*PP PP 11 53 19.9 -2.3
AQU L'Aquila 99.16 49 PFAKE 11 49 30.0 +10
AQU LR LR
comp=Z,3µm,21.0s,MS5.7
SDI San Donato 99.34 49 P **P 11 49 20.7 -0.2**
comp=Z,48nm,1.8s,mb5.7
CASY Casey 99.54 183 PFAKE 11 49 30.0 +8.6
CASY LR LR
comp=Z,2µm,19.0s,MS5.6
LSZ Lusaka 99.70 108 PFAKE 11 49 30.0 +7.7
LSZ LR LR
comp=Z,8µm,21.0s,MS6.2
NKC Novy Kostel 99.95 41 *e*P Pdif 11 49 24.5 +1.1
NKC MLR MLR
comp=Z,2µm,20.8s,MS5.5
NKC Novy Kostel 99.95 41 *e*pP 11 49 24.5
NKC *e*PP PP 11 53 27.7 -1.2
NKC *e*PS PS 12 02 31.0 +2.9
NKC AMS AMS 12 34 30.0
comp=Z,2µm,20.8s
NKC Novy Kostel 99.95 41 *e*Pdif Pdif 11 49 24.5 +1.1
NKC *e*PP PP 11 53 27.7 -1.2
NKC *e*PS PS 12 02 31.0 +2.9
CLL Collm 100.49 40 *e*P Pdif 11 49 26.0 +0.2
CLL pmax pmax
comp=Z,26nm,1.9s
CLL MLR MLR
comp=Z,3µm,22.3s,MS5.7
CLL Collm 100.49 40 *e*Pdif Pdif 11 49 26.0 +0.2
comp=Z,47nm,1.9s
CLL *e*(PP) 11 53 47.0
CLL *e*SKSac SKSac 12 00 11.0 +8.7
CLL *e*sSdiff 12 01 17.0
CLL *e*PS PS 12 02 40.0 +6.3
CLL *e*PPS 12 03 21.0
CLL *e*SS SS 12 08 19.0 +22
CLL *e*SSS 12 11 40.0
CLL *e*x x 12 13 27.0
CLL Collm 100.49 40 *e*Pdif Pdif 11 49 26.0 +0.2
comp=Z,47nm,1.9s
CLL PP PP 11 53 47.0 +14
CLL *e*SKKS SKKSac 12 00 18.0 -19
CLL LR LR
comp=Z,3µm,22.3s,MS5.7
KHC Kasperske Hory 100.49 42 *e*P Pdif 11 49 26.3 +0.5
KHC *e* 11 53 18.0
KHC MLR MLR
comp=Z,2µm,19.2s,MS5.7
KHC Kasperske Hory 100.49 42 *e*pP Pdif 11 49 26.3 +0.5
KHC *e*x x 11 53 18.0
KHC *e*PP PP 11 53 29.9 -3.0
KHC *e*SKS 12 00 05.0
KHC *e*PS PS 12 02 34.5 +0.7
KHC AMS AMS 12 33 20.0
comp=Z,2µm,19.2s
KHC Kasperske Hory 100.49 42 *e*Pdif Pdif 11 49 26.3 +0.5
KHC *e* 11 53 18.0
KHC *e*PP PP 11 53 29.9 -3.0
KHC *e*SKS 12 00 05.0
KHC *e*PS PS 12 02 34.5 +0.7
KHC LR LR
comp=Z,2µm,19.2s,MS5.7
GEC2 GERESS Array S 100.52 42 *e*Pdif Pdif 11 49 26.3 +0.3
GERES GERESS Array B 100.52 42 P Pdif 11 49 26.6 +0.6
comp=Z,3.4nm,0.9s,baz=242,slow=2.9,SNR=8.6
NAO01 NORSAR Array S 100.91 30 PFAKE 11 49 40.0 +12
NAO01 LR LR
comp=Z,3µm,19.0s,MS5.8
BRG Berggiesshubel 101.00 40 *e*P Pdif 11 49 29.0 +0.9
BRG pmax pmax
comp=Z,11nm,1.4s
BRG MLR MLR
comp=N,10µm,16.9s,MS6.4
BRG MLR MLR
comp=E,123nm,19.6s,MS6.4
BRG MLR MLR
comp=Z,77nm,19.0s
BRG Berggiesshubel 101.00 40 *e*P Pdif 11 49 29.0 +0.9
comp=Z,16nm,1.4s
BRG SKS 12 00 14.0
BRG S Sdif 12 01 14.0 +10
BRG *i* 12 02 47.0
BRG SS SS 12 08 16.0 +12
BRG
comp=N,205nm,16.9s
BRG
comp=E,129nm,19.6s
BRG
comp=Z,244nm,19.0s
BRG Berggiesshubel 101.00 40 *e*P Pdif 11 49 29.0 +0.9
comp=Z,9.8nm,1.4s
BRG SKS 12 00 14.0
BRG S Sdif 12 01 14.0 +10
BRG *i* 12 02 47.0
BRG SS SS 12 08 16.0 +12
BRG LR LR
comp=Z,150nm,19.0s,MS4.5
NOA NORSAR Array B 101.10 30 P Pdif 11 49 29.5 +1.0
comp=Z,1.1nm,0.8s,baz=260,slow=4.6,SNR=2.4
TIP Timpagrande 101.12 52 PFAKE 11 49 40.0 +11
TIP LR LR
comp=Z,4µm,22.0s,MS5.8
PRU Pruhonice 101.24 41 *e*P Pdif 11 49 30.0 +0.8
PRU *e* 11 53 30.9
PRU MLR MLR
comp=Z,2µm,18.0s,MS5.7
PRU Pruhonice 101.24 41 *e*pP Pdif 11 49 30.0 +0.8
PRU *e*PP PP 11 53 30.9 -7.7
PRU *e*SKS 12 00 05.9
PRU *e*PS PS 12 02 50.8 +8.9
PRU AMS AMS 12 34 10.0
comp=Z,2µm,18.0s
PVCC Panska Ves 101.34 41 AMS AMS 12 31 50.0
comp=Z,2µm,21.7s
TREC Trest 101.75 42 *e*P Pdif 11 49 32.3 +0.9
TREC MLR MLR
comp=Z,3µm,17.9s,MS5.9
TREC Trest 101.75 42 *e*pP Pdif 11 49 32.3 +0.9
TREC *e*SKS 12 00 10.9
TREC *e*PS PS 12 02 49.8 +2.5
TREC AMS AMS 12 34 50.0
comp=Z,3µm,17.9s
FUNA Funafuti 101.87 258 PFAKE 11 49 40.0 +8.0
FUNA LR LR
comp=Z,4µm,22.0s,MS5.9
UPC Upice 102.25 41 *e*pP Pdif 11 49 35.5 +1.8
DPC Dobruska-Polom 102.43 41 *e*pP Pdif 11 49 35.7 +1.3
DPC *e*PP PP 11 53 45.7 -1.8
DPC AMS AMS 12 34 30.0
comp=Z,2µm,19.2s
KSP Ksiaz 102.47 40 *e*P Pdif 11 49 35.2 +0.6
KSP MLR MLR
comp=Z,6µm,18.6s,MS6.2
MODS Modra-Piesok 102.80 43 pPDIF Pdif 11 49 37.6 +1.5
MODS *e*PP PP 11 53 44.1 -6.3
MODS *e*PP PP 11 53 44.1 -6.3
MODS Modra-Piesok 102.80 43 *e* Pdif 11 49 37.6 +1.5
KBS Kingsbay 103.53 11 PFAKE 11 49 50.0 +11
KBS LR LR
comp=Z,1µm,22.0s,MS5.5
OKC Ostrava-Krasne 103.54 42 *e*PP PP 11 53 53.7 -2.1
OKC *e*PS PS 12 02 41.5 -25
OKC AMS AMS 12 36 00.0
comp=Z,2µm,20.6s
PSZ Piszkesteto 104.50 44 PFAKE 11 49 50.0 +6.4
PSZ LR LR
comp=Z,2µm,20.0s,MS5.6
MIDW Midway 106.31 296 PFAKE 11 54 10.0 +6.3
MIDW LR LR
comp=Z,2µm,19.0s,MS5.8
KWP Kalwaria 106.47 42 PFAKE 11 54 10.0 +6.7
KWP LR LR
comp=Z,3µm,21.0s,MS5.8
ADK Adak 107.54 320 PFAKE 11 54 10.0 +4.8
ADK LR LR
comp=Z,1µm,21.0s,MS5.4
KEV Kevo 107.85 21 PFAKE 11 54 10.0 +4.7
KEV LR LR
comp=Z,925nm,21.0s,MS5.3
TAU Tasmania Unive 110.52 213 PFAKE 11 54 20.0 +8.8
TAU LR LR
comp=Z,3µm,20.0s,MS5.8
KIEV Kiev 110.65 41 PFAKE 11 54 20.0 +8.9
KIEV LR LR
comp=Z,2µm,21.0s,MS5.8
LVZ Lovozero 110.92 22 PFAKE 11 54 20.0 +8.9
LVZ LR LR
comp=Z,1µm,20.0s,MS5.5
ISP Isparta 111.73 55 PFAKE 11 54 20.0 +6.5
ISP LR LR
comp=Z,1µm,19.0s,MS5.5
KMBO Kilima Mbogo 112.40 97 PFAKE 11 54 30.0 +14
KMBO LR LR
comp=Z,2µm,20.0s,MS5.8
SMY Shemya 113.14 321 PFAKE 11 54 30.0 +14
SMY LR LR
comp=Z,1µm,20.0s,MS5.5
ANTO Ankara 113.52 53 PFAKE 11 54 30.0 +13
ANTO LR LR
comp=Z,966nm,21.0s,MS5.4
OBN Obninsk 114.57 36 *e* PKiKP 11 54 18.7 +0.3
OBN *e* 12 15 09.5
ABPO Ambohimpanom 115.22 119 PFAKE 11 54 30.0 +9.2
ABPO LR LR
comp=Z,4µm,21.0s,MS6.0
MALT Malatya 117.96 54 PFAKE 11 54 40.0 +15
MALT LR LR
comp=Z,1µm,21.0s,MS5.4
SOC Sochi 118.43 48 *e*SS SS 12 11 59.3 +1.3
HNR Honiara 119.54 250 PFAKE 11 54 40.0 +11
HNR LR LR
comp=Z,1µm,20.0s,MS5.6
KIV Kislovodsk 120.50 47 PFAKE 11 54 40.0 +10
KIV LR LR
comp=Z,840nm,21.0s,MS5.4
TIXI Tiksi 120.68 351 PFAKE 11 54 40.0 +10
TIXI LR LR
comp=Z,1µm,19.0s,MS5.6
STKA Stephens Creek 121.55 218 *e*PKP PKPdf 11 54 31.9 -0.8
comp=Z,4.0nm,1.3s
MSL Mosul 121.83 56 *ex* x 11 54 37.0
PET Petropavlovsk 122.15 324 PFAKE 11 54 40.0 +6.9
PET LR LR
comp=Z,909nm,20.0s,MS5.4
GNI Garni 122.63 51 PFAKE 11 54 40.0 +5.6
GNI LR LR
comp=Z,918nm,20.0s,MS5.4
BHD Baghdad 123.15 59 *ex* x 11 54 34.5
BHD *ex* x 11 56 02.0
BHD *ex* x 11 58 55.0
BHD *ex* x 12 01 36.3
ARU Arti 125.64 29 PFAKE 11 54 50.0 +10
ARU LR LR
comp=Z,309nm,20.0s,MS5.0
CTA Charters Tower 126.08 232 *e*PKP PKPdf 11 54 40.9 -0.7
comp=Z,11nm,1.0s
CTA Charters Tower 126.08 232 PKP PKPdf 11 54 41.1 -0.6
comp=Z,9.7nm,1.1s,baz=106,slow=12,SNR=3.7
CTAO Charters Tower 126.08 232 PFAKE 11 54 50.0 +8.4
CTAO LR LR
comp=Z,2µm,20.0s,MS5.8
MSEY Mahe Island 128.52 108 PFAKE 11 55 00.0 +13
MSEY LR LR
comp=Z,2µm,21.0s,MS5.8
PMG Port Moresby 130.99 244 PFAKE 11 55 00.0 +8.8
PMG LR LR
comp=Z,1µm,19.0s,MS5.6
NWAO Narrogin (SRO) 131.36 195 PFAKE 11 55 00.0 +8.6
NWAO LR LR
comp=Z,941nm,19.0s,MS5.5
ASAR Alice Springs 132.18 218 PKP PKPdf 11 54 52.6 -0.5
comp=Z,2.0nm,0.6s,baz=115,slow=2.2,SNR=6.9
BRVK Borovoye 133.08 27 *e*PKPdf PKPdf 11 54 54.2 +0.3
BRVK LR LR
comp=Z,2µm,22.0s,MS5.7
YSS Yuzh-Sakhalins 134.01 323 PFAKE 11 55 10.0 +14
YSS LR LR
comp=Z,412nm,20.0s,MS5.1
WRA Warramunga Arr 134.64 222 PKP PKPdf 11 54 57.1 -0.8
comp=Z,3.6nm,0.6s,baz=137,slow=1.7,SNR=11
WRAB Tennant Creek 134.64 222 *e*PKPdf PKPdf 11 54 57.2 -0.7
WRAB LR LR
comp=Z,2µm,19.0s,MS5.9
ZALV Zalesovo Beam 137.68 17 PKP PKPdf 11 55 02.7 +0.2
comp=Z,6.6nm,0.7s,baz=243,slow=1.3,SNR=5.7
ZALV Zalesovo Beam 137.68 17 PKP PKPdf 11 55 02.7 +0.2
GUMO Guam 140.17 274 PFAKE 11 55 20.0 +12
GUMO LR LR
comp=Z,2µm,19.0s,MS5.8
FITZ Fitzroy Crossi 141.30 214 PKP PKPdf 11 55 09.5 -0.6
comp=Z,3.5nm,0.9s,baz=150,slow=6.9,SNR=3.2
MBWA Marble Bar 141.49 204 PFAKE 11 55 20.0 +10
MBWA LR LR
comp=Z,2µm,19.0s,MS5.8
EKS2 Erkin-Say 141.67 37 *e*PKPdf PKPdf 11 55 11.7 +1.6
EKS2 LR LR
comp=Z,1µm,20.0s,MS5.7
AML Almayashu 141.95 37 *e*PKPdf PKPdf 11 55 07.7 -2.9
AML LR LR
comp=Z,1µm,20.0s,MS5.7
FRU Bishkek 142.04 36 *e*PKIKP PKPdf 11 55 05.5 -5.3
FRU *e* 11 58 04.0
FRU pmax pmax
comp=Z,210nm,2.5s
MJAR Matsushiro Arr 142.12 312 PKhKP 11 55 06.8
comp=Z,2.7nm,0.8s,baz=100,slow=1.4,SNR=8.1
MJAR PKP PKPdf 11 55 12.0 +0.9
comp=Z,1.8nm,0.8s,baz=66,slow=2.4,SNR=6.2
MAJO Matsushiro 142.12 312 PKPdf PKPdf 11 55 10.0 -1.1
MAJO LR LR
comp=Z,2µm,20.0s,MS6.0
TKM2 Tokmak 2 142.53 35 *e*PKPdf PKPdf 11 55 10.5 -1.2
TKM2 LR LR
comp=Z,2µm,20.0s,MS5.9
MOY Mondy 142.62 3 *e*PKIKP PKPdf 11 55 06.9 -4.6
TLY Talaya 142.67 0 *i* PKPdf 11 55 07.7 -3.9
TLY pmax pmax
comp=Z,4.0nm,0.7s
TLY MLR MLR
comp=Z,1µm,24.0s,MS5.5
TLY Talaya 142.67 0 PFAKE 11 55 20.0 +8.4
TLY LR LR
comp=Z,883nm,21.0s,MS5.5
MK31 Makanchi Array 142.90 25 *e*PKPdf PKPdf 11 55 12.1 -0.1
MKAR Makanchi Array 142.90 25 PKP PKPdf 11 55 12.2 0.0
comp=Z,2.0nm,0.7s,baz=318,slow=1.6,SNR=9.0
SONM Songino Array 146.45 357 PKPbc PKPbc 11 55 20.2 +0.5
comp=Z,20nm,0.7s,baz=330,slow=1.6,SNR=17
BHJ Bhuj 146.52 69 *e*P PKPdf 11 55 16.8 -2.3
JASL Jaisalmer 146.83 62 *ex* x 11 55 08.4
KSRS Korea Array 148.47 322 PKPbc PKPbc 11 55 24.9 -0.7
comp=Z,14nm,1.2s,baz=46,slow=3.8,SNR=16
INCN Inchon 149.22 323 PFAKE 11 55 30.0 +6.8
INCN LR LR
comp=Z,1µm,22.0s,MS5.7
AJM Ajmer 150.16 61 *e*P PKPdf 11 55 24.1 -0.9
SMLA Simla 150.36 51 *ex* x 11 55 18.9
KLP Kalpa 150.97 49 *e*P PKPdf 11 55 21.8 -4.3
POO Poona 150.97 77 *e*P PKPdf 11 55 24.4 -2.1
KUDL Kundal 151.12 57 *ex* x 11 55 20.7
KAD Karad 151.35 80 *ex* x 11 55 25.5
AYAN Aya Nagar 151.50 56 *e*P PKPdf 11 55 22.0 -5.0
SONA Sohna 151.56 56 *ex* x 11 55 21.1
BJT Baijiatuau 152.13 339 *e*PKPdf PKPdf 11 55 25.1 -2.5
BJT *e*PKPbc PKPbc 11 55 32.9 -1.3
BJT *e*PKPab PKPab 11 55 41.1 -2.7
BJT LR LR
comp=Z,2µm,21.0s,MS5.9
JOSI Joshimath 152.43 50 *e*P PKPdf 11 55 25.2 -3.2
COCO West Island 152.84 165 PFAKE 11 55 40.0 +11
COCO LR LR
comp=Z,1µm,21.0s,MS5.7
LATR Latur 153.55 77 *e*P PKPdf 11 55 28.1 -2.2
KOD Kodaikanal 153.97 96 *e*P PKPdf 11 55 29.0 -2.0
KAPI Kappang 155.16 221 PFAKE 11 55 40.0 +7.3
KAPI LR LR
comp=Z,3µm,19.0s,MS6.1
PALK Pallekele 156.29 105 PFAKE 11 55 40.0 +5.8
PALK LR LR
comp=Z,2µm,19.0s,MS5.8
MDRS Chennai 157.08 90 *ex* x 11 55 35.0
DAV Davao City (W) 157.45 254 PFAKE 11 55 50.0 +14
DAV LR LR
comp=Z,2µm,22.0s,MS5.8
BLSP Bilaspur 157.99 66 *ex* x 11 55 39.4
VIS Vishakhapatnam 160.02 77 *ex* x 11 55 15.5
TATO Taipei 160.24 305 PFAKE 11 55 50.0 +11
TATO LR LR
comp=Z,1µm,19.0s
YHNB Yeheng 160.48 305 PFAKE 11 55 50.0 +11
YHNB LR LR
comp=Z,2µm,21.0s
BOK Bokaro 160.61 58 *ex* x 11 55 11.9
LSA Lhasa 160.69 35 PFAKE 11 55 50.0 +11
LSA LR LR
comp=Z,2µm,19.0s
SHL Shillong 164.13 43 *ex* x 11 55 27.5
KKM Kota Kinabalu 165.31 237 PFAKE 11 55 50.0 +6.0
KKM LR LR
comp=Z,2µm,22.0s
QIZ Qiongzhong 172.51 310 PFAKE 11 56 00.0 +12
QIZ LR LR
comp=Z,1µm,21.0s
CHTO Chiang Mai 173.50 45 *e*PKPdf PKPdf 11 55 47.7 -1.1
CHTO LR LR
comp=Z,1µm,22.0s
CM31 Chiang Mai Arr 173.74 47 PFAKE 11 56 00.0 +11
CM31 LR LR
comp=Z,1µm,19.0s
CMAR Chiang Mai Arr 173.74 47 PKP PKPdf 11 55 48.0 -0.9
comp=Z,2.1nm,0.9s,baz=266,slow=1.6,SNR=7.6
CMAR PKPab PKPab 11 57 18.1 -0.6
comp=Z,1.2nm,0.6s,baz=304,slow=5.8,SNR=5.2
CMAR PP PP 12 01 14.3 +4.1

comp=Z,0.6nm,0.3s,baz=284,slow=5.9,SNR=4.9
CMAR Chiang Mai Arr 173.74 47 PKP PKPdf 11 55 48.0 -0.9
CMAR PKPab PKPab 11 57 18.1 -0.6
CMAR PP PP 12 01 14.3 +4.1

IDC 16 11:36:55.8±2.0, 690S×15536E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, Error ellipse: s-maj=66.3km s-min=23.2km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.16**	**236**	*e*P	P	11 42 13.6	-0.3
WRA	**Warramunga Arr**	**24.17**	**236**	P	P	11 42 13.8	-0.1
	0.9nm,0.6s,baz=57,slow=9.5,SNR=12						
WRA				PcP	PcP	11 45 54.9	-0.2
	0.4nm,0.6s,baz=54,slow=2.7,SNR=6.8						
ASAR	**Alice Springs**	**26.51**	**229**	P	P	11 42 35.2	0.0
	0.5nm,0.6s,baz=61,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**31.02**	**246**	P	P	11 43 16.2	+0.7
	2.1nm,1.0s,baz=63,slow=9.0,SNR=3.7						
PETK	**Petropavlovsk-**	**59.81**	**2**	P	P	11 47 03.5	+0.7
	7.8nm,1.2s,baz=190,slow=15,SNR=2.3						
CMAR	**Chiang Mai Arr**	**61.07**	**295**	P	P	11 47 12.3	+0.2
	1.0nm,0.6s,baz=121,slow=5.7,SNR=6.3						
SONM	**Songino Array**	**69.46**	**327**	P	P	11 48 05.4	-0.5
	0.4nm,0.5s,baz=122,slow=5.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**153.35**	**286**	PKPbc	PKPbc	11 56 56.6	-0.5
	1.4nm,0.7s,baz=62,slow=2.0,SNR=7.6						

GUC 16 11:44:27.9±0.8, 3234S×7212W, h0km±12km, MD3.5, ML2.5, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.13**	**124**	*i* P	Pg	11 44 49.9	+0.3
ROCH				*i* S	Sg	11 45 05.2	+0.9
JACH	**Jahuel**	**1.34**	**105**	*e*P	Pg	11 44 53.0	-0.5
JACH				*i* S	Sg	11 45 11.0	+0.1
PEL	**Peldehue**	**1.46**	**124⇑**	*e*P	Pn	11 44 55.0	-0.5
PEL				*i* S	Sg	11 45 13.6	-1.0
PEL				AML	AML	11 45 18.9	
	comp=E,445nm,0.5s						
RCDM	**Rinconada Maip**	**1.60**	**136**	*e*P	Pn	11 44 56.7	-0.7
RCDM				*i* S	Sn	11 45 18.1	-0.6
RCDM				AML	AML	11 45 24.0	
	comp=E,106nm,0.3s						
RCDM	**Rinconada Maip**	**1.60**	**136**	*e*P	Pn	11 44 56.7	-0.7
RCDM				*i* S	Sn	11 45 18.1	-0.6
TACH	**Talagante**	**1.65**	**143**	*e*P	Pn	11 44 57.7	-0.4
TACH				*i* S	Sn	11 45 18.8	-1.2
LNV	**Longovilo**	**1.72**	**160**	*i* S	Sn	11 45 21.9	0.0
PCH	**Pirque**	**1.86**	**134⇑**	*i* P	Pn	11 45 01.2	+0.2
PCH				*e*P		11 45 01.2	
PCH				*i* S	Sn	11 45 25.0	-0.3
CHCH	**Chadas Angostu**	**2.02**	**143**	*i* P	Pn	11 45 03.3	+0.2
CHCH				*i* S	Sn	11 45 30.6	+1.5
CACH	**El Canelo**	**2.19**	**145**	*i* P	Pn	11 45 06.8	+1.3
CACH				*i* S	Sn	11 45 37.2	+3.9
CICH	**Cipreses**	**2.44**	**145⇑**	*i* P	Pn	11 45 10.6	+1.6
CICH				*i* S	Sn	11 45 43.0	+3.5
SFDO	**San Fernando**	**2.46**	**158⇑**	*i* P	Pn	11 45 10.8	+1.7
SFDO				*i* S	Sn	11 45 42.2	+2.3

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*IDC **16** 11:55:56.3±1.0, 979S×15979E, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, Error ellipse: s-maj=32.0km s-min=10.0km az=123.0*
*NEIC **16** 11:55:58.6±0.8, 988S×15962E, h10km, Error ellipse: s-maj=26.0km s-min=9.2km az=132.0*
*ISCJB **16** 11:55:59.7±1.0, 99S±0.1×1597E±0.2, h33km, mb4.0/8, Error ellipse: s-maj=32.0km s-min=8.4km az=35.5*

ISC 16 11:56:01.6±1.2, 98S±01×1598E±02, h35km, n12, σ1§31/14, mb4.0/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.39**	**23**	Pn	**Pn**	**11 56 09.0**	**-1.8**
	602nm,0.3s,baz=252,slow=2.2,SNR=48						
HNR				Sn	**Sn**	**11 56 16.9**	**0.0**
	3μm,0.3s,baz=270,slow=20,SNR=49						
HNR	**Honiara**	**0.39**	**23**	Pn	**Pn**	**11 56 09.0**	**-1.8**
HNR				Sn	**Sn**	**11 56 16.9**	**0.0**
CTA	**Charters Tower**	**16.60**	**230**	Pn	**Pn**	**11 59 53.7**	**+2.0**
	0.3nm,0.3s,baz=62,slow=12,SNR=5.7						
WB2	**Warramunga Arr**	**26.54**	**245**	*e*P	**P**	**12 01 35.4**	**-0.9**
WRA	**Warramunga Arr**	**26.55**	**245**	P	**P**	**12 01 35.3**	**-1.1**
	4.9nm,0.6s,mb4.2,baz=72,slow=10.0,SNR=35						
ASAR	**Alice Springs**	**28.30**	**238**	P	**P**	**12 01 50.2**	**-1.9**
	1.2nm,0.5s,mb3.8,baz=64,slow=10,SNR=29						
FITZ	**Fitzroy Crossi**	**34.11**	**252**	P	**P**	**12 02 41.7**	**-1.6**
	2.4nm,0.8s,mb4.2,baz=81,slow=10,SNR=3.8						
KSRS	**Korea Array**	**55.68**	**329**	P	**P**	**12 05 36.0**	**+1.5**
	0.6nm,0.6s,mb3.8,baz=142,slow=6.3,SNR=4.6						
CMAR	**Chiang Mai Arr**	**66.26**	**295**	P	**P**	**12 06 48.0**	**+1.3**
	0.7nm,0.4s,mb4.0,baz=125,slow=5.5,SNR=6.9						
VNDA	**Vanda**	**67.72**	**180**	P	**P**	**12 06 55.8**	**+0.8**
	2.2nm,0.8s,mb4.2,baz=342,slow=6.8,SNR=14						
SONM	**Songino Array**	**74.27**	**326**	P	**P**	**12 07 36.2**	**+1.0**
	1.0nm,0.7s,mb3.9,baz=143,slow=5.9,SNR=6.0						
MKAR	**Makanchi Array**	**88.64**	**318**	P	**P**	**12 08 51.8**	**+0.7**
	0.3nm,0.2s,mb4.2,baz=90,slow=7.3,SNR=5.0						

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*BJI **16** 11:57:18.5, 979S×16022E, h10km, mB5.0, mb4.7, Ms5.0, Msz4.7*
*IDC **16** 11:57:20.0±0.6, 979S×15958E, h0km, mb4.6/14, mb1 4.7/15, mb1mx4.7/19, mbtmp4.6/15, ML4.1/1, Error ellipse: s-maj=22.2km s-min=11.6km az=129.0*
*ISCJB **16** 11:57:21.3±1.1, 986S±006×15956E±008, h14km±7km, mb4.7/37, MS4.7/2, Error ellipse: s-maj=15.0km s-min=6.6km az=33.6*
*NEIC **16** 11:57:22.5±0.3, 976S×15948E, h10km, mb4.9/16, Error ellipse: s-maj=13.2km s-min=6.0km az=129.0*
NEIC Felt [III] at Honiara.
*MOS **16** 11:57:23.7±1.2, 975S×15954E, h33km, mb5.1/9, Error ellipse: s-maj=15.7km s-min=9.6km az=54.4*

ISC 16 11:57:22.3±1.3, 983S±006×15953E±008, h8km±9km, h20km±4.6km: pP-P, n75, σ1§18/79, mb4.7/37, MS4.7/2, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.57**	**46**	Pn	**Pg**	**11 57 34.0**	**+0.6**
	6μm,0.3s,baz=247,slow=7.6,SNR=68						
HNR				Sn	**Sg**	**11 57 40.7**	**0.0**
	21μm,0.3s,baz=274,slow=12,SNR=35						
HNR	**Honiara**	**0.57**	**46**	*e*Pg	**Pg**	**11 57 33.3**	**-0.1**
HNR				*e*Sg	**Sg**	**11 57 40.9**	**+0.1**
CTA	**Charters Tower**	**16.37**	**230⇑**	*i* P	**Pn**	**12 01 18.5**	**+5.9**
	39nm,0.8s						
CTA	**Charters Tower**	**16.37**	**230**	Pn	**Pn**	**12 01 12.3**	**-0.3**
	0.5nm,0.3s,baz=58,slow=16,SNR=3.5						
CTA	**Charters Tower**	**16.37**	**230**	Pn	**Pn**	**12 01 12.3**	**-0.3**
CTAO	**Charters Tower**	**16.37**	**230**	*e*P	**Pn**	**12 01 15.2**	**+2.6**
CTAO				pmax	pmax		
	comp=Z,70nm,0.9s						
CTAO	**Charters Tower**	**16.37**	**230**	*e*P	**Pn**	**12 01 15.2**	**+2.6**
	comp=Z,70nm,0.9s						
ARMA	**Armidale**	**21.77**	**199**	*e*P	**P**	**12 02 15.0**	**+0.5**
WRAB	**Tennant Creek**	**26.29**	**245**	*e*P	**P**	**12 02 58.1**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**26.29**	**245**	*e*P	**P**	**12 02 58.1**	**-0.3**
	comp=Z,22nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**26.29**	**245**	‖*i* P	**P**	**12 02 58.0**	**-0.5**
WB2				*e*PCP	PcP	12 06 24.5	-0.4
WB2	**Warramunga Arr**	**26.29**	**245**	*e*P	**P**	**12 02 58.2**	**-0.2**
WB2				*e*PcP	PcP	12 06 24.9	-0.1
WRA	**Warramunga Arr**	**26.30**	**245**	P	**P**	**12 02 58.0**	**-0.6**
	comp=Z,26nm,0.7s,mb4.9,baz=73,slow=9.9,SNR=31						
WRA				PcP	PcP	12 06 24.5	-0.4
	comp=Z,3.0nm,0.8s,baz=67,slow=2.6,SNR=7.8						
KAKA	**Kakadu**	**26.72**	**261**	*e*P	**P**	**12 03 03.8**	**+1.4**
	comp=Z,8.1nm,0.6s,mb4.4						
CNB	**Canberra Magne**	**27.01**	**199**	*e*P	**P**	**12 03 05.4**	**+0.6**
STKA	**Stephens Creek**	**27.52**	**215**	*e*P	**P**	**12 03 08.4**	**-1.0**
	comp=Z,18nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**27.52**	**215**	P	**P**	**12 03 08.1**	**-1.4**
	comp=Z,11nm,0.6s,mb4.7,baz=48,slow=13,SNR=17						
STKA	**Stephens Creek**	**27.52**	**215**	*e*P	**P**	**12 03 09.3**	**-0.1**
	comp=Z,14nm,1.0s,mb4.6						
ASAR	**Alice Springs**	**28.06**	**237**	P	**P**	**12 03 13.3**	**-1.1**
	comp=Z,8.8nm,0.6s,mb4.5,baz=62,slow=11,SNR=63						
ASAR				PcP	PcP	12 06 28.6	-0.6
	comp=Z,2.1nm,0.5s,baz=86,slow=3.0,SNR=8.8						
TOO	**Toolangi**	**30.38**	**202**	*e*P	**P**	**12 03 35.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**33.85**	**252**	*e*P	**P**	**12 04 04.2**	**-1.3**
	comp=Z,17nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.85**	**252**	P	**P**	**12 04 04.3**	**-1.2**
	comp=Z,8.3nm,0.6s,mb4.8,baz=101,slow=7.5,SNR=27						
TAU	**Tasmania Unive**	**34.64**	**196**	*e*P	**P**	**12 04 13.4**	**+1.4**
TAU				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
TAU	**Tasmania Unive**	**34.64**	**196**	*e*P	**P**	**12 04 13.4**	**+1.4**
	comp=Z,42nm,1.5s,mb5.2						
FORT	**Forrest**	**35.92**	**230**	*e*P	**P**	**12 04 22.6**	**-0.7**
	comp=Z,19nm,1.2s,mb4.9						
MBWA	**Marble Bar**	**39.86**	**249**	*e*P	**P**	**12 04 56.0**	**-0.7**
	comp=Z,27nm,1.2s,mb4.8						
KLBR	**Kellerberrin**	**44.31**	**234**	*e*P	**P**	**12 05 31.3**	**-1.5**
	comp=Z,13nm,0.8s,mb4.7						
NWAO	**Narrogin (SRO)**	**45.18**	**233**	P	**P**	**12 05 35.9**	**-3.9**
	comp=Z,5.4nm,0.8s,mb4.4,baz=68,slow=11,SNR=5.3						
KKM	**Kota Kinabalu**	**45.94**	**288**	P	**P**	**12 05 46.4**	**+0.3**
MJAR	**Matsushiro Arr**	**50.30**	**338**	P	**P**	**12 06 16.8**	**-2.6**
	comp=Z,3.7nm,0.7s,mb4.5,baz=169,slow=8.8,SNR=17						
MAJO	**Matsushiro**	**50.30**	**338**	*e*P	**P**	**12 06 17.9**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
MAJO	**Matsushiro**	**50.30**	**338**	*e*P	**P**	**12 06 17.9**	**-1.5**
	comp=Z,8.1nm,0.7s,mb4.9						
MAT	**Matsushiro**	**50.30**	**338**	P	**P**	**12 06 17.4**	**-2.0**
MAT				*e*S	**S**	**12 13 30.4**	**-1.9**
KSRS	**Korea Array**	**55.58**	**330**	P	**P**	**12 06 58.1**	**-0.2**
	comp=Z,4.4nm,0.9s,mb4.5,baz=150,slow=7.3,SNR=15						
NJ2	**Nanjing**	**56.97**	**319**	*e*P	**P**	**12 07 12.0**	**+3.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
CN2	**Changchun**	**61.70**	**333**	*e*P	**P**	**12 07 46.3**	**+5.4**
PETK	**Petropavlovsk-**	**62.71**	**359**	P	**P**	**12 07 45.5**	**-1.9**
	comp=Z,3.4nm,0.8s,mb4.5,baz=173,slow=7.3,SNR=3.6						
GYA	**Guiyang**	**62.73**	**306**	P	**P**	**12 07 52.4**	**+4.2**
GYA				PCP	PcP	12 08 30.4	+3.5
GYA				PP	PP	12 10 12.8	+6.4
GYA				SCP	ScP	12 12 31.3	+1.8
GYA				S	**S**	**12 16 19.5**	**+2.0**
GYA				SKS		12 17 41.4	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,20.6s,MS4.8						
GYA				LR	LR		
	comp=E,440nm,21.2s,MS4.8						
GYA				LR	LR		
	comp=Z,470nm,20.1s,MS4.7						
KLR	**Kul'dur**	**63.67**	**340**	*e*P	**P**	**12 07 49.8**	**-4.2**
BJI	**Beijing**	**63.80**	**324**	P	**P**	**12 07 58.0**	**+3.0**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.8						
KMI	**Kunming**	**65.31**	**303**	P	**P**	**12 08 06.6**	**+1.4**
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.9						
CMAR	**Chiang Mai Arr**	**66.05**	**295**	P	**P**	**12 08 10.0**	**-0.1**
	comp=Z,3.1nm,0.7s,mb4.4,baz=123,slow=5.2,SNR=12						
CHTO	**Chiang Mai**	**66.17**	**296**	*e*P	**P**	**12 08 11.5**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
CHTO	**Chiang Mai**	**66.17**	**296**	*e*P	**P**	**12 08 11.5**	**+0.7**
	comp=Z,12nm,1.3s,mb4.8						
HHC	**Hu-ho-hao-te**	**67.04**	**322**	*e*P	**P**	**12 08 19.1**	**+3.1**
HHC				PP	PP	12 10 48.0	+4.1
HHC				S	S	12 17 12.1	+2.1
HHC				PS		12 17 34.8	
HHC				SCS	ScS	12 18 14.0	0.0
HHC				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.4						
HHC				LR	LR		
	comp=N,227nm,20.2s,MS4.7						
HHC				LR	LR		
	comp=E,447nm,20.2s,MS4.7						
HHC				LR	LR		
	comp=Z,483nm,20.2s,MS4.7						
CD2	**Chengdu**	**67.06**	**309**	*e*P	**P**	**12 08 19.3**	**+3.0**
CD2				AP	pP	12 08 24.8	+5.7
CD2				XP	sP	12 08 27.3	+7.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,5.6s						
VNDA	**Vanda**	**67.68**	**179**	P	**P**	**12 08 19.5**	**0.0**
	comp=Z,8.5nm,0.7s,mb4.9,baz=341,slow=6.8,SNR=48						
VNDA	**Vanda**	**67.68**	**179**	*e*P	**P**	**12 08 19.6**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VNDA	**Vanda**	**67.68**	**179**	*e*P	**P**	**12 08 19.6**	**+0.1**
	comp=Z,8.1nm,0.8s,mb4.8						
LZH	**Lanzhou**	**69.48**	**314**	*e*P	**P**	**12 08 32.0**	**+0.6**
LZH				AP	pP	12 08 40.8	+6.6
LZH				XP	sP	12 08 43.8	+8.6
LZH				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,118nm,4.3s						
GTA	**Gaotai**	**73.87**	**316**	*e*P	**P**	**12 08 59.1**	**+1.3**
GTA				AP	pP	12 09 02.6	+2.0
GTA				XP	sP	12 09 04.1	+2.5
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
SONM	**Songino Array**	**74.16**	**326**	P	**P**	**12 08 59.7**	**+0.4**
	comp=Z,5.4nm,0.9s,mb4.5,baz=141,slow=6.2,SNR=8.8						
ZAK	**Zakamensk**	**77.28**	**327**	*e*P	**P**	**12 09 16.3**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
BILL	**Bilibino**	**77.82**	**3**	P	**P**	**12 09 21.0**	**+1.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
KDAK	**Kodiak Island**	**77.83**	**24**	P	**P**	**12 09 20.6**	**+0.6**
	comp=Z,4.1nm,0.9s,mb4.3,baz=312,slow=4.8,SNR=4.6						
SVW2	**Sparrevohn**	**78.99**	**20**	P	**P**	**12 09 26.9**	**+0.5**
SLKM	**Skilak Lake**	**80.54**	**23**	P	**P**	**12 09 33.1**	**-1.6**
PMR	**Palmer**	**81.64**	**22**	*e*P	**P**	**12 09 40.9**	**+0.3**
PMR				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
PMR	**Palmer**	**81.64**	**22**	*e*P	**P**	**12 09 40.9**	**+0.3**
	comp=Z,8.5nm,0.8s,mb4.7						
KTH	**Kantishna Hill**	**82.26**	**20**	P	**P**	**12 09 43.1**	**-0.7**
	comp=Z,3μm,0.9s						
TRF	**Thorofare Moun**	**82.41**	**20**	*e*P	**P**	**12 09 44.6**	**0.0**
	comp=Z,5.6nm,0.8s,mb4.5						
MCK	**McKinley**	**83.06**	**21**	*e*P	**P**	**12 09 46.8**	**-1.2**
MCK						12 09 52.0	
MCK				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
MCK	**McKinley**	**83.06**	**21**	*e*P	**P**	**12 09 46.8**	**-1.2**
	comp=Z,18nm,0.9s,mb5.1						
MCK				PcP	PcP	12 09 52.0	-0.6
IMA2	**Indian Mountai**	**83.08**	**17**	*e*P	**P**	**12 09 48.6**	**+0.5**
MAW	**Mawson**	**83.52**	**203**	P	**P**	**12 09 49.8**	**-0.6**
	comp=Z,5.5nm,0.8s,mb4.7,baz=88,slow=4.3,SNR=12						
WMQ	**Urumqi**	**83.95**	**316**	P	**P**	**12 09 54.6**	**+1.6**
COLA	**College**	**84.14**	**20**	*e*P	**P**	**12 09 53.6**	**+0.1**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
COLA	**College**	**84.14**	**20**	*e*P	**P**	**12 09 53.6**	**+0.1**
	comp=Z,10nm,0.8s,mb5.0						
HYT	**Haines Junctio**	**85.89**	**26**	*e*P	**P**	**12 10 03.9**	**+1.6**
EGAK	**Eagle**	**86.43**	**22**	*e*P	**P**	**12 10 06.2**	**+1.3**
DAWY	**Dawson**	**86.72**	**23**	*e*P	**P**	**12 10 11.9**	**+5.5**
MK31	**Makanchi Array**	**88.49**	**318**	*e*P	**P**	**12 10 14.9**	**-0.4**
MKAR	**Makanchi Array**	**88.49**	**318**	P	**P**	**12 10 14.6**	**-0.7**
	comp=Z,1.8nm,0.7s,mb4.4,baz=95,slow=5.8,SNR=6.6						
MKAR	**Makanchi Array**	**88.49**	**318**	P	**P**	**12 10 14.6**	**-0.7**
YKA	**Yellowknife Ar**	**96.73**	**28**	P	**P**	**12 10 51.1**	**-1.9**
	comp=Z,0.3nm,0.6s,mb3.9,baz=272,slow=4.9,SNR=3.2						

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*ISCJB **16** 12:02:02.9±0.7, 3954N±005×3662E±005, h10km, Error ellipse: s-maj=7.9km s-min=4.5km az=144.8*
*CSEM **16** 12:02:02.7±0.1, 3954N×3661E, h5km, MD2.8, Error ellipse: s-maj=3.5km s-min=1.2km az=130.0*
*ISK **16** 12:02:03.1, 3959N×3662E, h26km, MD2.8*
*DDA **16** 12:02:08.7, 3945N×3636E, h8km, Md3.1*

ISC 16 12:02:03.8±0.7, 3954N±005×3664E±005, h10km, n8, σ1§16/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVSK	**Karacayir**	**0.46**	**36**	*e*PG	**Pg**	**12 02 12.4**	**-0.5**
SVSK				*e*SG	**Sg**	**12 02 20.0**	**+0.9**
SARI	**SarD1z-Kayseri**	**0.86**	**177**	*e*PN	**Pg**	**12 02 25.3**	**+4.9**
BNN	**Bunyan**	**0.93**	**222**	*e*PG	**Pg**	**12 02 20.8**	**-0.9**
BNN				*e*SG	**Sg**	**12 02 34.0**	**+0.3**
YOZ	**Yozgat**	**1.03**	**276**	*e*PG	**Pg**	**12 02 22.6**	**-1.0**
DARE	**Darende-Malaty**	**1.08**	**123**	*e*PN	**Pg**	**12 02 25.3**	**+0.8**
AVNT	**Avonos**	**1.58**	**242**	*i* P	**Pg**	**12 02 32.6**	**-1.7**
AVNT				*i* S	**Sg**	**12 02 56.8**	**+2.0**
CDAG	**Cicekdag**	**1.76**	**273**	*i* P	**Pg**	**12 02 36.0**	**-1.5**
CDAG				*i* S	**Sg**	**12 03 01.9**	**+1.6**
CTKT	**Corum**	**1.79**	**308**	*i* P	**Pg**	**12 02 38.1**	**0.0**
CTKT				*i* S	**Sg**	**12 03 05.8**	**+4.5**

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*ISCJB **16** 12:03:11.8±1.2, 1459S±007×763W±0.1, h47km±10km, mb4.2/17, MS4.7/2, Error ellipse: s-maj=20.2km s-min=6.3km az=149.6*
*MOS **16** 12:03:11.0±1.3, 1456S×7632W, h33km, mb4.5/3, Error ellipse: s-maj=27.0km s-min=13.2km az=31.6*
*NEIC **16** 12:03:12.6±0.4, 1455S×7633W, h35km, mb4.5/3, Error ellipse: s-maj=13.7km s-min=6.7km az=53.0*
*IDC **16** 12:03:13.7±1.7, 1453S×7629W, h49km±14km, mb4.0/14, mb1 4.2/18, mb1mx4.1/24, mbtmp4.1/18, ML4.5/2, MS4.4/3, Ms1 4.4/3, ms1mx3.9/27, Error ellipse: s-maj=24.0km s-min=10.2km az=60.0*

ISC 16 12:03:14.1±1.0, 1454S±007×762W±01, h49km±9km, n43, σ0§78/40, mb4.2/17, MS4.7/2, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.60**	**347**	P	**Pn**	**12 03 54.1**	**+0.3**
	60nm,0.3s,baz=169,slow=14,SNR=8.6						
NNA				S	**Sn**	**12 04 23.8**	**-0.4**
	103nm,0.3s,baz=190,slow=18,SNR=7.2						
ARE	**Arequipa**	**4.96**	**113**	*e*P	**Pn**	**12 04 26.0**	**-0.1**
ARE				*e*S	**Sn**	**12 05 36.0**	**+14**
ATAH	**Atahualpa**	**7.79**	**344**	P	**Pn**	**12 05 05.0**	**+0.1**
	1.4nm,0.3s,baz=30,slow=21,SNR=6.2						
ATAH				S	**Sn**	**12 06 43.0**	**+11**
	1.6nm,0.3s,baz=18,slow=17,SNR=2.4						
LPAZ	**La Paz**	**8.01**	**104**	P	**Pn**	**12 05 10.7**	**+2.8**
	3.3nm,0.3s,baz=292,slow=8.4,SNR=126						
LPAZ				S	**Sn**	**12 06 50.2**	**+13**
	baz=152,slow=11,SNR=2.1						
LVC	**Limon Verde**	**10.61**	**140**	P	**Pn**	**12 05 43.0**	**-0.6**
	3.1nm,0.3s,baz=137,slow=0.0,SNR=26						
LVC				S	**Sn**	**12 07 40.5**	**-0.5**
	2.9nm,0.3s,baz=184,slow=0.0,SNR=3.3						
LVC				LR	LR	12 09 24.4	
	comp=Z,748nm,20.6s,baz=224,slow=35						
LVC	**Limon Verde**	**10.61**	**140**	P	**Pn**	**12 05 43.0**	**-0.6**
LVC				S	**Sn**	**12 07 40.5**	**-0.6**
LVC				LR	LR	12 09 24.4	
SIV	**San Ignacio**	**14.70**	**98**	P	**Pn**	**12 06 34.9**	**-4.4**
	0.5nm,0.3s,baz=278,slow=16,SNR=9.2						
SIV				S	**Sn**	**12 09 30.2**	**+9.2**
	0.1nm,0.3s,baz=242,slow=22,SNR=2.5						
CFAA	**Coronel Fontan**	**18.50**	**158**	P	**Pn**	**12 07 27.0**	**+0.1**
	0.0nm,0.3s,baz=336,slow=8.1,SNR=7.1						
CFAA	**Coronel Fontan**	**18.50**	**158**	P	**Pn**	**12 07 27.0**	**+0.1**
ROSC	**El Rosal**	**19.36**	**6**	S	**S**	**12 11 21.3**	**+8.8**
	2.0nm,0.3s,baz=95,slow=23,SNR=2.3						
CPUP	**Villa Florida**	**21.22**	**127**	P	**P**	**12 07 55.5**	**-0.5**
	12nm,1.0s,mb4.2,baz=289,slow=9.8,SNR=13						
CPUP	**Villa Florida**	**21.22**	**127**	*e*P	**P**	**12 07 56.3**	**+0.4**
SDV	**Santo Domingo**	**23.93**	**14**	P	**P**	**12 08 23.2**	**-0.7**
	15nm,0.8s,mb4.5,baz=270,slow=3.4,SNR=12						
PLCA	**Paso Flores**	**26.56**	**170**	P	**P**	**12 08 46.5**	**-1.0**
	1.4nm,0.7s,mb3.6,baz=320,slow=7.9,SNR=2.3						
PCRV	**Puerto La Cruz**	**27.12**	**26**	P	**P**	**12 08 52.3**	**-0.4**
	4.4nm,0.6s,mb4.1,baz=180,slow=8.1,SNR=2.2						
BDFB	**Brasilia**	**27.26**	**96**	P	**P**	**12 08 53.6**	**-0.5**
	3.5nm,0.7s,mb4.0,baz=255,slow=20,SNR=5.1						
BDFB				LR	LR	12 20 28.2	
	comp=Z,1μm,18.0s,MS4.5,baz=313,slow=38						
TXAR	**Lajitas Array**	**51.03**	**329**	P	**P**	**12 12 11.5**	**0.0**
	0.0nm,0.8s,mb3.8,baz=149,slow=8.0,SNR=12						
WUAZ	**Wupatki**	**59.88**	**327**	*e*P	**P**	**12 13 15.5**	**+0.5**
	2.7nm,0.8s,mb4.3						
DUG	**Dugway**	**64.19**	**330**	*e*P	**P**	**12 13 45.1**	**+1.2**
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
DUG	**Dugway**	**64.19**	**330**	*e*P	**P**	**12 13 45.1**	**+1.2**
	comp=Z,5.3nm,0.9s,mb4.6						
PDAR	**Pinedale Array**	**64.72**	**

IDC 16 12:24:15.9±15.0, 781S×11918E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=281.7km s-min=175.7km az=7.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.00	131	P	Pn	12 28 39.3	-0.6
	0.2nm,0.3s,baz=306,slow=12,SNR=5.5						
ASAR	Alice Springs	21.16	140	P	P	12 29 03.2	+0.4
	1.3nm,0.4s,baz=317,slow=8.8,SNR=20						
STKA	Stephens Creek	31.76	142	P	P	12 30 41.7	-0.2
	1.5nm,0.8s,baz=338,slow=11,SNR=2.5						

IDC 16 12:24:38.8±7.2, 3276S×17974W, h159km±57km, mb3.7/3, mb1 3.8/4, mb1mx3.4/18, mbtmp3.6/4, Error ellipse: s-maj=59.8km s-min=31.2km az=37.0

ISC 16 12:24:44.0±6.0, 329S±03×1797E±04, h176km±42km, n11, σ0°36/10, mb3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.76	201	P	Pn	12 26 07.7	0.0
	1.4nm,0.3s,baz=209,slow=23,SNR=16						
URZ				S	Sn	12 27 13.6	0.0
	6.3nm,0.3s,baz=324,slow=21,SNR=19						
RPZ	Rata Peaks	12.76	210	P	Pn	12 27 34.6	-4.5
	0.3nm,0.3s,baz=54,slow=14,SNR=3.5						
ASAR	Alice Springs	41.13	271	P	P	12 32 10.8	0.0
	1.0nm,0.3s,mb3.9,baz=109,slow=8.0,SNR=15						
WB2	Warramunga Arr	42.34	276	eP	P	12 32 20.7	0.0
WRA	Warramunga Arr	42.35	276	P	P	12 32 20.5	-0.3
	2.1nm,0.4s,mb4.1,baz=116,slow=8.2,SNR=36						
FITZ	Fitzroy Crossi	50.49	273	P	P	12 33 24.5	+0.3
	2.7nm,1.1s,mb3.8,baz=194,slow=4.2,SNR=4.1						
VNA3	Neumayer Olymp	75.94	177	e	P	12 36 10.3	-0.4
VNA2	Neumayer--Watz	76.35	178	e	P	12 36 12.7	-0.3
VNA2				e		12 36 27.3	
VNA1	Neumayer--Stat	76.59	177	e	P	12 36 15.1	+0.7
VNA1				e		12 36 27.7	
HFS	Hagfors	151.24	345	PKPbc	PKPbc	12 44 11.3	-4.3
	1.0nm,0.5s,baz=358,slow=3.7,SNR=4.0						
TORD	Torodi Ar. Bea	160.26	186	PKPab	PKPab	12 45 01.7	-2.2
	0.4nm,0.5s,baz=184,slow=3.6,SNR=5.9						

IDC 16 12:32:51.1±1.7, 975S×15982E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=60.8km s-min=10.2km az=122.0

ISCJB 16 12:32:52.1±1.5, 99S±03×1597E±04, h10km, mb3.7/4, Error ellipse: s-maj=63.1km s-min=7.5km az=36.8

NEIC 16 12:32:54.1±1.1, 983S×15962E, h10km, Error ellipse: s-maj=52.6km s-min=11.3km az=132.0

ISC 16 12:32:54.1±1.4, 98S±03×1596E±03, h10km, n7, σ0°65/9, mb3.7/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.51	36	Pn	Pg	12 33 03.4	-0.6
	1μm,0.3s,baz=195,slow=2.0,SNR=108						
HNR				Sn	Sg	12 33 10.5	-0.2
	7μm,0.3s,baz=196,slow=19,SNR=92						
HNR	Honiara	0.51	36	ePg	Pg	12 33 03.8	-0.2
HNR				eSg	Sg	12 33 11.0	+0.4
WRA	Warramunga Arr	26.40	245	P	P	12 38 30.8	-0.2
	1.7nm,0.6s,mb3.8,baz=73,slow=9.9,SNR=16						
STKA	Stephens Creek	27.57	215	P	P	12 38 42.2	+0.7
	2.9nm,0.8s,mb4.0,baz=26,slow=14,SNR=2.5						
STKA	Stephens Creek	27.57	215	P	P	12 38 42.2	+0.7
ASAR	Alice Springs	28.15	238	P	P	12 38 45.7	-1.0
	0.7nm,0.6s,mb3.5,baz=63,slow=10,SNR=20						
SONM	Songino Array	74.23	326	P	P	12 44 32.0	+0.8
	0.4nm,0.6s,mb3.5,baz=134,slow=6.2,SNR=2.7						

IDC 16 12:38:50.9±4.0, 1757S×7744W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/19, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=147.1km s-min=32.7km az=22.0, Southeastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	9.00	83	Pn	Pn	12 41 04.0	+1.9
	1.0nm,0.3s,baz=294,slow=9.6,SNR=20						
TXAR	Lajitas Array	53.06	331	P	P	12 48 08.7	-1.3
	0.5nm,0.7s,baz=141,slow=8.1,SNR=7.6						
TORD	Torodi Ar. Bea	83.83	74	P	P	12 51 21.9	-1.0
	3.3nm,0.6s,baz=266,slow=4.7,SNR=27						
YKA	Yellowknife Ar	85.00	344	P	P	12 51 29.7	+2.0
	0.6nm,0.9s,baz=142,slow=6.2,SNR=4.2						
SONM	Songino Array	149.65	355	PKPbc	PKPbc	12 58 42.7	+0.2
	0.5nm,0.5s,baz=338,slow=2.0,SNR=3.7						

TEH 16 12:41:03.8, 2978N×5867E, h7km, ML3.7

CSEM 16 12:41:24.1±0.1, 3015N×5766E, h2km, ML3.7, Error ellipse: s-maj=3.8km s-min=3.6km az=102.0

THR 16 12:41:25.1±1.5, 3016N×5759E, h15km, ML3.5

ISCJB 16 12:41:26.4±0.7, 3013N±006×5762E±005, h10km, Error ellipse: s-maj=8.7km s-min=6.5km az=158.1

ISC 16 12:41:27.1±0.7, 3014N±006×5760E±005, h10km, n16, σ1°23/18, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.74	258	ePg	Pg	12 41 38.8	-2.6
KRBR				eSg	Sg	12 41 49.5	-1.5
KRBR	Kerman	0.74	258	ePg	Pg	12 41 38.8	-2.6
	SNR=91						
KRBR				eSg	Sg	12 41 49.5	-1.6
	SNR=91						
IBAF	Bafgh	2.27	310	ePn	Pn	12 42 06.0	+1.4
IBAF				e		12 42 07.3	
IKOO	Kooshah	2.58	27	ePn	Pn	12 42 08.4	-0.5
IKOO				eLg		12 42 48.2	
IKOO				e		12 42 58.8	
ZHSF	Zahedan	2.81	100	ePn	Pn	12 42 11.3	-0.7
ZHSF				AML	AML	12 42 53.7	
	comp=N,200nm,0.4s						
ZHSF				AML	AML	12 42 55.0	
	comp=E,143nm,0.4s						
IBND	Bandar-abas	2.83	199	ePn	Pn	12 42 12.7	+0.3
IBND				e		12 43 40.0	
IMEH	Mehriz	2.86	297	ePn	Pn	12 42 13.6	+0.9
IMEH				e		12 42 57.9	
ITEG	Tejag	2.92	19	ePn	Pb	12 42 20.6	+1.3
ITEG				e		12 42 21.2	
BNDS	Bandar-Abbas	3.00	205	ePn	Pn	12 42 15.3	+0.6
BNDS				AML	AML	12 43 03.0	
	comp=N,109nm,0.4s						
IDAH	Dahanechah	3.24	36	ePn	Pn	12 42 15.1	-2.9
IDAH				e		12 43 19.0	
ICHK	Chekchek	3.45	308	ePn	Pb	12 42 27.4	-0.8
ICHK				e		12 42 33.4	
IPAR	Pars	3.96	267	ePn	Pb	12 42 38.2	+1.3
IPAR				e		12 43 46.7	
ISRV	Sarvestan	3.97	260	ePn	Pb	12 42 38.9	+1.8
ISRV				e		12 43 38.4	
IMOK	Mouk	4.39	257	ePn	Pb	12 42 44.1	-0.2
NASN	Na'in	4.88	304	eP	Pn	12 42 40.9	+0.4
IZEF	Zefreh	5.27	303	ePn	Pb	12 42 58.3	-1.0
IZEF				e		12 44 21.0	

ISCJB 16 12:44:03.9±1.1, 2889N±003×3427E±007, h1km±5km, Error ellipse: s-maj=10.2km s-min=5.5km az=175.1

GII 16 12:44:05.8±0.8, 2899N×3436E, h0km±3km, ML3.2/10, Mw2.5/4

SGS 16 12:44:05.4, 2892N×3433E, h5km

ISC 16 12:44:04.1±1.2, 2888N±003×3425E±008, h0km±6km, n20, σ0°66/31, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSHS		0.75	140	P	Pg	12 44 19.9	+1.4
HQLS		0.83	59	P	Pg	12 44 20.0	-0.1
GLFJ		0.92	46	eP	Pg	12 44 22.5	+0.8
	SNR=95						
GLFJ				eS	Sg	12 44 36.0	+2.3
	SNR=95						
EIL	Elat	1.00	38	Pg	Pg	12 44 23.3	-0.1
EIL				Sg	Sg	12 44 36.2	-0.2
MBRI	Mt Berech	1.09	32	Pg	Pg	12 44 24.9	-0.1
MBRI				Sg	Sg	12 44 39.5	+0.5
JLOS		1.10	97	S	Sg	12 44 39.0	-0.6
JLOS		1.10	97	P	Pg	12 44 24.7	-0.6
KRMI	Paran Flat	1.31	19	Pg	Pg	12 44 28.6	-0.6
KRMI				Sg	Sg	12 44 45.7	-0.4
HRFI	Mount Harif	1.35	31	Pg	Pg	12 44 29.0	-1.0
HRFI				Sg	Sg	12 44 47.0	-0.5
PRNI	Paran	1.61	24	Pn	Pn	12 44 33.4	-0.5
PRNI				Sn	Sn	12 44 55.0	-0.3
RMNI	Mount Ramon	1.77	15	Pn	Pn	12 44 36.4	+0.4
RMNI				Sn	Sn	12 45 00.4	+1.1
ZFRI	Zfri	1.86	26	Pn	Pn	12 44 37.3	+0.1
ZFRI				Sn	Sn	12 45 00.9	-0.5
KZIT	Kziot	2.03	4	Pn	Pn	12 44 39.5	0.0
KZIT				Sn	Sn	12 45 05.7	+0.1
RTMI	Retamim	2.21	10	Pn	Pn	12 44 42.0	0.0
YTIR	Yattir	2.59	17	Pn	Pn	12 44 46.7	-0.6
MZDA	Masada	2.61	21	Pn	Pn	12 44 47.6	0.0
MZDA				Sn	Sn	12 45 19.3	-0.7
DSI	Dead Sea	2.86	20	Pn	Pn	12 44 51.5	+0.5
WJHS		2.86	138	P	Pn	12 44 50.3	-0.7
SLTI	Sal'it	3.42	11	Sn	Sn	12 45 40.3	+0.3
HMDT	Nahal Hemdat	3.54	18	Pn	Pn	12 45 01.2	+0.8
HMDT				Sn	Sn	12 45 43.0	+0.1

ISCJB 16 12:54:13.3±0.5, 697N±005×12674E±008, h176km±4km, mb4.1/22, Error ellipse: s-maj=13.4km s-min=8.5km az=179.7

NEIC 16 12:54:14.4±1.1, 698N×12680E, h172km±10km, mb4.4/4, Error ellipse: s-maj=19.2km s-min=9.0km az=73.0

IDC 16 12:54:14.4±0.7, 700N×12680E, h171km±7km, mb3.7/18, mb1 3.8/19, mb1mx3.8/26, mbtmp3.8/19, Error ellipse: s-maj=17.1km s-min=8.9km az=75.0

MAN 16 12:54:19, 703N×12653E, h127km, mb4.6, ML3.5, MS3.4

ISC 16 12:54:14.5±0.5, 696N±005×12675E±008, h170km±4km, n37, σ1°00/43, mb4.1/22, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.49	268	eP	Pn	12 54 38.5	+0.4
MATI				eS	Sn	12 54 55.6	-0.5
DAV	Davao City (W)	1.17	275	P	Pn	12 54 43.1	+0.5
	442nm,0.3s,baz=233,slow=2.3,SNR=15						
DAV				S	Sn	12 55 05.0	+0.9
	316nm,0.3s,baz=12,slow=22,SNR=18						
DAV	Davao City (W)	1.17	275	P	Pn	12 54 43.1	+0.5
DAV				S	Sn	12 55 05.0	+0.9
DMPH	Davao City--Mi	1.24	276	↑iP	Pn	12 54 44.0	+0.8
DMPH				iS	Sn	12 55 05.7	+0.5
BIPH	Bislig	1.27	343	↑eP	Pn	12 54 44.6	+1.0
BIPH				eS	Sn	12 55 04.9	-1.1
KCP	Kidapawan	1.65	272	↑eP	Pn	12 54 47.0	-0.1
KCP				iS	Sn	12 55 10.5	-1.7
BUKP	Musuan	1.91	299	eP	Pn	12 54 50.2	+0.3
GSPH	General Santos	1.99	244	eP	Pn	12 54 49.8	-0.9
GSPH				eS	Sn	12 55 15.8	-2.9
BUTP	Butuan	2.29	331	eP	Pn	12 54 57.1	+3.0
PAGZ	Pagadian	3.45	285	eP	Pn	12 55 08.7	+0.4
BATI	Baumata	17.33	190	P	Pn	12 58 07.0	+0.8
	6.1nm,0.3s,baz=148,slow=3.7,SNR=5.3						
CBIJ	Chichi jima	24.82	34	P	P	12 59 19.8	-1.3
	77nm,0.8s,mb5.3,baz=282,slow=22,SNR=18						
FITZ	Fitzroy Crossi	24.93	183	eP	P	12 59 22.4	+0.4
	4.3nm,0.5s,mb4.2						
FITZ	Fitzroy Crossi	24.93	183	P	P	12 59 22.4	+0.4
	2.6nm,0.5s,mb4.0,baz=26,slow=11,SNR=16						
WRA	Warramunga Arr	27.76	165	P	P	12 59 47.4	0.0
	0.5nm,0.6s,mb3.4,baz=345,slow=9.6,SNR=5.2						
CMAR	Chiang Mai Arr	29.38	296	P	P	13 00 02.0	+0.1
	0.4nm,0.4s,mb3.5,baz=92,slow=6.8,SNR=4.1						
KSRS	Korea Array	30.37	2	P	P	13 00 10.3	-0.1
	0.7nm,0.5s,mb3.6,baz=184,slow=9.8,SNR=4.6						
ASAR	Alice Springs	31.23	167	P	P	13 00 17.9	-0.1
	0.4nm,0.3s,mb3.6,baz=341,slow=7.1,SNR=24						
ASAR				PcP	PcP	13 03 09.0	+0.4
	0.5nm,0.5s,baz=354,slow=2.8,SNR=6.6						
MJAR	Matsushiro Arr	31.25	18	P	P	13 00 15.9	-2.1
	0.4nm,0.4s,mb3.5,baz=200,slow=8.7,SNR=4.9						
CTA	Charters Tower	33.03	145	P	P	13 00 31.8	-2.0
	4.2nm,1.0s,mb4.1,baz=136,slow=20,SNR=2.3						
KLBR	Kellerberrin	39.28	192	eP	P	13 01 27.2	+0.5
	4.5nm,0.3s,mb4.6						
STKA	Stephens Creek	41.14	161	P	P	13 01 43.3	+1.3
	1.0nm,0.4s,mb3.8,baz=319,slow=16,SNR=2.7						
SONM	Songino Array	44.27	340	P	P	13 02 07.4	+0.4
	0.9nm,0.5s,mb3.7,baz=151,slow=7.9,SNR=6.7						
PETK	Petropavlovsk-	52.46	23	P	P	13 03 10.4	+0.9
	2.0nm,0.7s,mb3.9,baz=184,slow=5.2,SNR=8.6						
MK31	Makanchi Array	54.95	324	eP	P	13 03 28.4	+0.6
MKAR	Makanchi Array	54.95	324	P	P	13 03 27.9	+0.1
	5.3nm,0.5s,mb4.5,baz=120,slow=8.2,SNR=41						
MKAR				PcP	PcP	13 04 25.6	-1.8
	0.5nm,0.6s,baz=115,slow=7.0,SNR=3.8						
ZALV	Zalesovo Beam	57.75	332	P	P	13 03 46.6	-0.8
	4.7nm,0.5s,mb4.5,baz=116,slow=6.8,SNR=14						
KURK	Kurchatov	59.06	327	eP	P	13 03 57.2	+0.6
	13nm,0.9s,mb4.8						
BVAR	Borovoye Array	64.65	326	P	P	13 04 34.2	+0.3
	5.0nm,0.7s,mb4.5,baz=129,slow=8.1,SNR=22						
AKTK	Aktyubinsk	71.17	321	P	P	13 05 14.5	-0.1
AKTO	Aktyubinsk	71.17	321	P	P	13 05 14.5	-0.1
	4.4nm,0.7s,mb4.3,baz=97,slow=7.3,SNR=14						
KDAK	Kodiak Island	79.17	33	P	P	13 06 01.1	+1.0
	5.8nm,0.6s,mb4.4,baz=258,slow=4.2,SNR=20						
BPAW	Bear Paw Mtn.	80.40	26	eP	P	13 06 08.3	+1.6
	3.8nm,0.8s,mb4.1						
INK	Inuvik	87.17	22	P	P	13 06 39.5	-1.4
	1.3nm,0.5s,mb4.0,baz=329,slow=1.6,SNR=4.4						
ARCES	ARCESS Array B	87.44	340	P	P	13 06 40.5	-1.7
	1.6nm,0.8s,mb3.9,baz=70,slow=7.0,SNR=6.7						
YKA	Yellowknife Ar	96.57	24	P	P	13 07 24.0	-0.6
	0.7nm,0.7s,mb4.1,baz=299,slow=4.4,SNR=6.3						
TORD	Torodi Ar. Bea	121.88	290	PKP	PKPdf	13 12 48.6	-0.8
	0.4nm,0.4s,baz=46,slow=1.8,SNR=7.6						

ASRS 16 13:01:44.6±1.8, 4992N×9743E, h15km, Ms3.3

MOS 16 13:01:42.5±1.8, 4951N×9707E, h15km, mb4.3/1, 1C-2D, Error ellipse: s-maj=16.7km s-min=13.1km az=56.9, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	Khovu-Aksy	2.70	308	ePN	Pn	13 02 30.0	+4.6
MOY	Mondy	3.30	48	ePN	Pn	13 02 33.4	-0.2
MOY				e		13 03 20.1	
MOY				pmax	pmax		
	comp=Z,86nm,0.4s						
MOY				smax			
	comp=E,700nm,0.5s						
ORL	Orlik	3.49	29	ePN	Pn	13 02 42.5	+6.3
ORL				e		13 03 28.2	
ORL				pmax	pmax		
	comp=Z,52nm,0.6s						
ORL				smax			
	comp=N,372nm,0.7s						
ZAK	Zakamensk	4.11	75	↑iPN	Pn	13 02 42.6	-2.0
ZAK				e		13 03 44.7	
ZAK				pmax	pmax		
	comp=Z,71nm,0.8s						
ZAK				smax			
	comp=N,382nm,0.9s						
ARS	Arshan	4.17	53	ePN	Pn	13 02 56.4	+11
ARS				e		13 03 47.1	
ARS				pmax	pmax		
	comp=Z,41nm,0.5s						
ARS				smax			
	comp=E,603nm,0.8s						
BLRR	Bol'shaya Rech	4.58	322	kePN	Pn	13 02 56.9	+5.8
BLRR				e		13 03 06.2	
BLRR				e		13 03 59.6	
TLY	Talaya	4.72	60	ePN	Pn	13 02 51.3	-1.7
TLY				e		13 04 04.2	
TLY				pmax	pmax		
	comp=Z,22nm,0.6s						
TLY				smax			
	comp=N,303nm,1.0s						
IRK	Irkutsk	5.32	56	ePN	Pn	13 03 16.6	+15
IRK				e		13 04 20.1	
IRK				pmax	pmax		
	comp=Z,47nm,0.1s						
IRK				smax			
	comp=N,843nm,1.1s						
AKAR	Aktash	6.16	281	ePN	Pn	13 03 19.5	+6.7
AKAR				e		13 03 38.5	
AKAR	Aktash	6.16	281	ePn	Pn	13 03 19.5	+6.7
AKAR				ePg	Pg	13 03 38.5	-1.8
AKAR				eSg	Sg	13 05 01.6	+1.6
KAB	Kabansk	6.59	64	ePN	Pn	13 03 37.9	+19
KAB				e		13 05 03.4	
KAB				pmax	pmax		
	comp=Z,257nm,0.3s						
KAB				smax			
	comp=N,564nm,1.6s						
ELT	Yel'tsovka	7.75	303	ePn	Pn	13 03 40.0	+5.4
ELT				eSg	Sn	13 05 45.8	+44
OGRR	Ongureny	7.75	54	eP	Pn	13 03 32.3	-2.4
OGRR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
UKR	Ust'-Kan	8.02	285	ePg	Pn	13 04 12.0	+34
UKR				eSg	Sn	13 05 58.0	+49
NVS	Novosibirsk	10.03	307	eP	Pn	13 03 56.3	-10
NVS	Novosibirsk	10.03	307	eSg	Sn	13 06 54.2	+56

IDC 16 13:01:44.4±0.9, 1342S×77.15W, h0km, mb4.1/8, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, ML4.2/2, Error ellipse: s-maj=29.8km s-min=17.3km az=72.0

ISCJB 16 13:01:46.1±3.5, 1347S±006×773W±0.1, h26km±25km, mb4.2/11, Error ellipse: s-maj=19.6km s-min=9.1km az=166.9

NEIC 16 13:01:48.2±4.2, 1342S×7724W, h27km±30km, mb4.4/3, Error ellipse: s-maj=22.1km s-min=9.7km az=68.0

ISC 16 13:01:49.7±1.5, 1341S±007×772W±01, h37km±14km, n23, σ0°86/23, mb4.2/11, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.46	15	Pn	Pn	13 02 12.8	-0.9
	334nm,0.3s,baz=192,slow=13,SNR=84						
NNA				Sn	Sn	13 02 32.2	+0.6
	224nm,0.3s,baz=173,slow=19,SNR=5.7						
ATAH	Atahualpa	6.47	350	Pn	Pn	13 03 22.7	+0.1
	7.0nm,0.3s,baz=168,slow=5.1,SNR=24						
LPAZ	La Paz	9.24	109	Pn	Pn	13 04 02.3	+1.7
	0.2nm,0.3s,baz=336,slow=7.2,SNR=4.6						
LVC	Limon Verde	12.09	140	Pn	Pn	13 04 38.5	-1.0
	0.6nm,0.3s,baz=320,slow=0.1,SNR=4.1						
LVC	Limon Verde	12.09	140	ePn	Pn	13 04 38.1	-1.4
OTAV	Otavalo	13.62	355	eP	Pn	13 05 08.5	+8.0
	11nm,0.8s						
SIV	San Ignacio	15.83	101	Pn	Pn	13 05 29.6	-0.4
	0.1nm,0.3s,baz=283,slow=12,SNR=5.8						
CFAA	Coronel Fontan	19.90	157	P	Pn	13 06 20.8	+0.9
	0.0nm,0.3s,baz=319,slow=11,SNR=3.1						
SDV	Santo Domingo	23.10	17	P	P	13 06 51.5	-1.0
	5.7nm,0.7s,mb4.1,baz=269,slow=12,SNR=8.5						
SDV	Santo Domingo	23.10	17	P	P	13 06 51.5	-1.0
PLCA	Paso Flores	27.84	169	P	P	13 07 35.2	-0.4
	4.2nm,1.1s,mb4.0,baz=324,slow=12,SNR=4.4						
TXAR	Lajitas Array	49.58	329	P	P	13 10 39.0	+1.6
	0.3nm,0.7s,mb3.5,baz=143,slow=6.8,SNR=3.4						
MIAR	Mount Ida	50.16	342	eP	P	13 10 41.8	+0.1
	2.5nm,0.5s,mb4.5						
ANMO	Albuquerque	55.52	331	P	P	13 11 17.0	-4.3
	1.9nm,0.9s,mb4.1						
PDAR	Pinedale Array	63.29	334	P	P	13 12 15.6	+0.8
	0.4nm,0.6s,mb3.7,baz=128,slow=5.8,SNR=3.2						
ULM	Lac du Bonnet	65.47	347	P	P	13 12 28.3	-0.5
	4.0nm,0.7s,mb4.6,baz=336,slow=1.7,SNR=5.8						
WVOR	Wild Horse Val	67.34	328	P	P	13 12 40.0	-1.0
	2.3nm,0.6s,mb4.4						
SNAA	Sanae	72.45	161	P	P	13 13 18.4	+6.4
DBIC	Dimbokro	74.56	79	P	P	13 13 25.3	-0.2
	4.2nm,0.9s,mb4.4,baz=223,slow=6.9,SNR=4.9						
YKA	Yellowknife Ar	81.09	343	P	P	13 14 00.9	+0.2
	0.9nm,0.7s,mb3.8,baz=144,slow=6.4,SNR=11						
YKA	Yellowknife Ar	81.09	343	P	P	13 14 00.9	+0.2
TORD	Torodi Ar. Bea	82.52	75	P	P	13 14 09.4	+0.1
	3.5nm,0.7s,mb4.5,baz=266,slow=4.4,SNR=14						
SONM	Songino Array	145.55	356	PKPbc	PKPbc	13 21 24.5	+0.2
	2.3nm,0.8s,baz=332,slow=1.8,SNR=12						

IDC 16 13:02:24.1±1.1, 1852N×15548W, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.9/22, mbtmp3.7/8, Error ellipse: s-maj=44.4km s-min=20.8km az=155.0

ISCJB 16 13:02:29.3±2.4, 1952N±005×15539W±006, h14km±16km, mb3.8/8, Error ellipse: s-maj=9.9km s-min=7.8km az=168.9

NEIC 16 13:02:32.0, 1952N×15525W, h28km, MD3.8(HVO), After HVO.

NEIC Felt [IV] at Kurtistown, Mountain View and Volcano; [III] at Hawaii National Park, Hilo, Holualoa, Kailua Kona, Kamuela, Kea'au, Pahoa, Papa'ikou and Pepeekeo; [II] at Captain Cook and Kealakekua. Felt at Hakalau, Honaunau, Honomu, Kapaau, Pa'auilo and Papa'aloa. Also felt [II] at Honolulu, O'ahu.

ISC 16 13:02:33.5±0.6, 1956N±005×15557W±007, h31km±4km, n19, σ0°75/21, mb3.8/8, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	Pohakuloa	0.20	10	ePn	Pb	13 02 39.4	-0.5
POHA				eSn	Sb	13 02 44.7	+0.5
KHU	Kahuku	0.31	188	ePn	Pb	13 02 40.5	-0.8
KHU				eSn	Sb	13 02 46.8	+0.3
KKH	Kailua Kona	0.43	283	ePn	Pn	13 02 44.1	+0.6
STCH	Steam Cracks	0.45	112	ePn	Pn	13 02 37.1	-6.7
HPO	Honuapo	0.47	178	ePn	Pn	13 02 39.8	-4.2
HKL	Haleakala	1.31	331	ePn	Pn	13 02 56.6	+0.9
HKL				eSn	Sn	13 03 11.3	-0.9
HON	Honolulu	2.88	308	ePn	Pn	13 03 16.9	-0.2
KIP	Kipapa	2.95	309	ePn	Pn	13 03 17.7	-0.4
KIP				eSn	Sn	13 03 52.1	-0.4
NVAR	Mina Array Bea	37.31	52	P	P	13 09 43.3	+0.4
	0.4nm,0.7s,mb3.3,baz=241,slow=12,SNR=3.7						
DIB	Dawson Inlet,	38.03	23	T		13 50 04.2	
	SNR=1042						
VIB	Van Inlet	38.05	22	T		13 50 02.2	
	SNR=217						
PDAR	Pinedale Array	44.97	49	P	P	13 10 45.1	-0.7
	1.3nm,1.0s,mb3.7,baz=233,slow=6.5,SNR=7.2						
TXAR	Lajitas Array	47.91	68	P	P	13 11 08.6	-0.5
	3.6nm,0.8s,mb4.5,baz=255,slow=8.9,SNR=30						
TXAR	Lajitas Array	47.91	68	P	P	13 11 08.6	-0.5
PETK	Petropavlovsk-	49.06	324	P	P	13 11 20.6	+3.1
	1.9nm,0.8s,mb4.2,baz=100,slow=12,SNR=2.9						
YKA	Yellowknife Ar	51.29	23	P	P	13 11 34.5	+0.2
	0.3nm,0.5s,mb3.5,baz=232,slow=7.6,SNR=3.7		

WRA	**Warramunga Arr**	**26.29 245**	P		**P**	**13 10 17.0**	**+0.1**
	4.1nm,0.6s,mb4.1,baz=72,slow=10,SNR=26						
ASAR	**Alice Springs**	**28.05 237**	P		**P**	**13 10 32.1**	**-0.6**
	0.8nm,0.4s,mb3.7,baz=64,slow=10,SNR=27						
ASAR			PcP		PcP	13 13 47.0	-0.6
	0.4nm,0.5s,baz=96,slow=3.1,SNR=6.5						
FITZ	**Fitzroy Crossi**	**33.84 252**	P		**P**	**13 11 23.6**	**-0.2**
	2.4nm,0.9s,mb4.1,baz=66,slow=12,SNR=5.5						
KSRS	**Korea Array**	**55.59 330**	P		**P**	**13 14 17.1**	**+0.3**
	1.0nm,0.9s,mb3.9,baz=132,slow=8.6,SNR=5.3						
CMAR	**Chiang Mai Arr**	**66.05 295**	P		**P**	**13 15 29.6**	**+1.2**
	0.9nm,0.3s,mb4.2,baz=126,slow=5.2,SNR=5.0						
VNDA	**Vanda**	**67.66 179**	P		**P**	**13 15 38.1**	**+0.3**
SONM	**Songino Array**	**74.17 326**	P		**P**	**13 16 16.9**	**-0.8**
	1.0nm,0.7s,mb3.9,baz=135,slow=6.4,SNR=4.7						
MKAR	**Makanchi Array**	**88.50 318**	P		**P**	**13 17 33.5**	**-0.3**
	0.6nm,0.5s,mb4.2,baz=97,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**88.50 318**	P		**P**	**13 17 33.5**	**-0.3**

*ISCJB **16** 13:06:34.5±3.1, 1445S±007×764W±0.1, h20km±22km, mb4.2/13, Error ellipse: s-maj=22.7km s-min=7.1km az=153.8*
*NEIC **16** 13:06:34.9±0.5, 1433S×7627W, h10km, mb4.6/9, Error ellipse: s-maj=19.6km s-min=8.5km az=54.0*
*IDC **16** 13:06:38.8±2.8, 1434S×7625W, h39km±23km, mb3.7/8, mb1 4.0/12, mb1mx3.9/22, mbtmp3.9/12, ML3.8/3, MS3.4/2, Ms1 3.4/2, ms1mx3.0/30, Error ellipse: s-maj=36.6km s-min=15.4km az=55.0*

ISC 16 13:06:38.2±3.2, 1441S±007×762W±01, h32km±23km, n35, σ1§23/36, mb4.2/13, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.49**	**345**	Pn	**Pn**	**13 07 16.5**	**-0.1**
	32nm,0.3s,baz=191,slow=16,SNR=5.1						
NNA				Sn	**Sn**	**13 07 44.7**	**-1.1**
	82nm,0.3s,baz=94,slow=23,SNR=6.8						
NNA				LR	LR	13 08 21.2	
	comp=Z,872nm,18.7s,baz=170,slow=43						
NNA	**Nana**	**2.49**	**345**	*e*Pn	**Pn**	**13 07 12.7**	**-3.8**
NNA				Pn	**Pn**	**13 07 16.5**	**-0.1**
NNA				Sn	**Sn**	**13 07 44.7**	**-1.1**
NNA				LR	LR	13 08 21.2	
ATAH	**Atahualpa**	**7.67**	**343**	Pn	**Pn**	**13 08 25.8**	**-2.0**
	0.7nm,0.3s,baz=168,slow=20,SNR=3.0						
ATAH				Sn	**Sn**	**13 09 55.1**	**+1.4**
	1.8nm,0.3s,baz=94,slow=23,SNR=2.0						
LPAZ	**La Paz**	**8.01**	**105**	Pn	**Pn**	**13 08 37.2**	**+4.8**
	1.8nm,0.3s,baz=297,slow=8.8,SNR=22						
LPAZ	**La Paz**	**8.01**	**105**	*e*Pn	**Pn**	**13 08 37.4**	**+5.0**
	19nm,0.6s						
LVC	**Limon Verde**	**10.69**	**141**	Pn	**Pn**	**13 09 08.9**	**-0.3**
	1.4nm,0.3s,baz=200,slow=0.0,SNR=9.1						
LVC				Sn	**Sn**	**13 11 06.2**	**-1.6**
	1.2nm,0.3s,baz=144,slow=0.0,SNR=2.7						
LVC				LR	LR	13 12 22.9	
	comp=Z,182nm,20.9s,baz=44,slow=32						
LVC	**Limon Verde**	**10.69**	**141**	*e*Pn	**Pn**	**13 09 09.2**	**0.0**
	13nm,0.6s						
SIV	**San Ignacio**	**14.69**	**98**	Pn	**Pn**	**13 10 05.5**	**+1.6**
	0.3nm,0.3s,baz=219,slow=22,SNR=3.8						
CFAA	**Coronel Fontan**	**18.61**	**158**	P	**Pn**	**13 10 54.4**	**+1.0**
	0.0nm,0.3s,baz=335,slow=18,SNR=3.2						
CPUP	**Villa Florida**	**21.27**	**127**	P	**P**	**13 11 22.6**	**+0.6**
	2.0nm,0.6s,mb3.7,baz=276,slow=11,SNR=7.4						
CPUP	**Villa Florida**	**21.27**	**127**	*e*P	**P**	**13 11 22.2**	**+0.2**
	31nm,1.1s,mb4.5						
SDV	**Santo Domingo**	**23.79**	**14**	P	**P**	**13 11 48.2**	**-0.1**
	2.7nm,0.4s,mb4.0,baz=270,slow=18,SNR=4.7						
SDV	**Santo Domingo**	**23.79**	**14**	*e*P	**P**	**13 11 48.1**	**-0.2**
	31nm,1.4s,mb4.5						
TEIG	**Tepich**	**36.41**	**341**	P	**P**	**13 13 43.8**	**+3.9**
	14nm,1.0s,mb4.9						
TXAR	**Lajitas Array**	**50.94**	**329**	P	**P**	**13 15 34.6**	**-2.1**
	0.9nm,1.0s,mb3.7,baz=125,slow=7.8,SNR=3.4						
ANMO	**Albuquerque**	**56.87**	**330**	P	**P**	**13 16 23.1**	**+3.1**
	1.4nm,0.8s,mb4.0						
SDCO	**Great Sand Dun**	**58.73**	**333**	*e*P	**P**	**13 16 32.1**	**-0.8**
	1.6nm,0.9s,mb4.0						
PV10	**Paradox Valley**	**60.86**	**331**	*e*P	**P**	**13 16 49.4**	**+1.8**
DUG	**Dugway**	**64.10**	**329**	*e*P	**P**	**13 17 10.2**	**+0.9**
	3.0nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**64.62**	**333**	P	**P**	**13 17 12.1**	**-0.5**
	0.3nm,0.5s,mb3.6,baz=113,slow=10,SNR=2.8						
NVAR	**Mina Array Bea**	**65.70**	**325**	P	**P**	**13 17 19.5**	**-0.2**
	0.4nm,0.7s,mb3.6,baz=131,slow=6.6,SNR=3.0						
HLID	**Hailey**	**67.44**	**331**	*e*P	**P**	**13 17 32.0**	**+1.3**
	1.2nm,0.7s,mb4.0						
SNAA	**Sanae**	**71.19**	**161**	*e*	**P**	**13 17 53.6**	**0.0**
SNAA				*e*		13 18 00.2	
SNAA	**Sanae**	**71.19**	**161**	*e*P	**P**	**13 17 53.3**	**-0.3**
	9.3nm,1.4s,mb4.5						
DBIC	**Dimbokro**	**73.78**	**79**	P	**P**	**13 18 09.3**	**-0.7**
	2.8nm,0.6s,mb4.3,baz=218,slow=9.4,SNR=6.0						
DBIC	**Dimbokro**	**73.78**	**79**	P	**P**	**13 18 09.6**	**-0.5**
	12nm,1.1s,mb4.7						
TOA0	**Torodi Ar. Sit**	**81.83**	**74**	*e*P	**P**	**13 18 54.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**81.83**	**74**	P	**P**	**13 18 54.8**	**0.0**
	8.0nm,0.7s,mb4.8,baz=272,slow=4.4,SNR=41						
YKA	**Yellowknife Ar**	**82.33**	**343**	P	**P**	**13 18 54.1**	**-2.3**
	0.4nm,0.7s,baz=134,slow=6.0,SNR=4.9						
YKA	**Yellowknife Ar**	**82.33**	**343**	P	**P**	**13 18 54.1**	**-2.3**
INK	**Inuvik**	**92.01**	**342**	*e*P	**P**	**13 19 44.7**	**+1.3**
	90nm,1.2s						
ASAR	**Alice Springs**	**132.06**	**218**	PKP	PKPdf	13 25 49.2	-0.2
	0.3nm,0.7s,baz=108,slow=2.4,SNR=2.9						
WRA	**Warramunga Arr**	**134.53**	**222**	PKP	PKPdf	13 25 54.5	+0.3
	0.2nm,0.4s,baz=130,slow=1.9,SNR=7.1						
MKAR	**Makanchi Array**	**143.04**	**25**	PKP	PKPdf	13 26 10.1	+1.2
	0.2nm,0.4s,baz=318,slow=4.1,SNR=3.9						
SONM	**Songino Array**	**146.60**	**357**	PKPbc	PKPbc	13 26 16.1	-0.5
	1.1nm,0.6s,baz=324,slow=2.0,SNR=4.4						

NDI 16 13:11:59.2±3.9, 3031N×8034E, h10km, ML3.6, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**0.72**	**291**	*e*P	Pg	13 12 08.6	-4.4
JOSI				*e*S	Sg	13 12 16.2	-6.2
PTH	**Pithoragarh**	**0.76**	**188**	*ex*	x	13 12 07.0	
PTH				*e*S	Sg	13 12 23.2	-0.6
KLP	**Kalpa**	**2.17**	**305**	*e*P	Pn	13 12 34.6	-0.8
KLP				*e*P		13 12 34.9	
KLP				*e*S	Sn	13 13 03.1	+0.8
SMLA	**Simla**	**2.85**	**288**	*i* P	Pn	13 12 45.6	+0.9
SMLA				*i* S	Sn	13 13 19.6	+0.5
SMLA				*ex*	x	13 13 22.2	
	comp=N,308nm,0.3s						
SMLA				*ex*	x	13 13 30.7	
	comp=E,458nm,0.3s						
KUDL	**Kundal**	**3.99**	**238**	*ex*	x	13 14 03.8	

*IDC **16** 13:27:52.7±1.6, 4388N×8200E, h0km, mb4.0/4, mb1 4.0/7, mb1mx3.7/25, mbtmp3.9/7, ML3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.8/36, Error ellipse: s-maj=29.6km s-min=13.9km az=107.0*
*MOS **16** 13:27:59.5±2.8, 4422N×8140E, h33km, mb4.8/2, Error ellipse: s-maj=17.6km s-min=9.5km az=93.6*
*ISCJB **16** 13:27:59.7±1.0, 4445N±004×8128E±005, h15km±7km, mb4.2/8, Error ellipse: s-maj=6.0km s-min=5.5km az=11.3*
*BJI **16** 13:27:59.5, 4422N×8151E, h13km, mB4.5, mb4.3, ML3.6, Ms4.2, Msz4.2*
*NNC **16** 13:28:01.9±0.9, 4451N×8108E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=10.6km s-min=5.0km az=129.0*
*NEIC **16** 13:28:02.1±1.1, 4433N×8147E, h47km±10km, mb4.6/2, Error ellipse: s-maj=15.2km s-min=8.3km az=133.0*

ISC 16 13:27:59.8±0.9, 4438N±003×8127E±004, h3km±6km, n45, σ1§23/65, mb4.2/8, 10C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.52**	**16**	⇑Pn	**Pn**	**13 28 42.3**	**+0.8**
	1.9nm,0.3s,baz=201,slow=12,SNR=854						
MK31				⇓Pg	**Pg**	**13 28 47.6**	**-0.4**
	20nm,0.3s,baz=188,slow=12,SNR=5.5						
MK31				⇑Lg		13 29 18.9	
	147nm,0.6s,baz=18,slow=24,SNR=9.4						
MK31	**Makanchi Array**	**2.52**	**16**	PN	**Pg**	**13 28 47.9**	**-0.1**
MK31						13 29 18.9	
MK31				pmax	pmax		
	comp=Z,21nm,0.3s						
MK31				pmax	pmax		
	comp=Z,21nm,0.2s						
MK31	**Makanchi Array**	**2.52**	**16**	*e*Pn	**Pn**	**13 28 42.0**	**+0.4**
MK31				*e*Pb	**Pb**	**13 28 47.6**	**+2.0**
MK31				*e*Sn	**Sn**	**13 29 15.0**	**+2.3**
MKAR	**Makanchi Array**	**2.52**	**16**	Pn	**Pn**	**13 28 42.2**	**+0.7**
	comp=Z,3.6nm,0.3s,baz=203,slow=13,SNR=81						
MKAR				Pg	**Pg**	**13 28 47.9**	**-0.1**
	comp=Z,36nm,0.3s,baz=187,slow=16,SNR=180						
MKAR				Sn	**Sn**	**13 29 17.5**	**+4.8**
	comp=Z,72nm,0.3s,baz=202,slow=26,SNR=13						
MKAR				Lg		13 29 24.3	
	comp=Z,64nm,0.3s,baz=193,slow=27,SNR=13						
MKAR				LR	LR	13 29 55.2	
	comp=Z,251nm,18.6s,baz=315,slow=42						
MKAR	**Makanchi Array**	**2.52**	**16**	PN	**Pn**	**13 28 42.2**	**+0.7**
MKAR						13 28 47.9	
MKAR						13 29 17.5	
MKAR	**Makanchi Array**	**2.52**	**16**	Pn	**Pn**	**13 28 42.2**	**+0.7**
MKAR				Pg	**Pg**	**13 28 47.9**	**-0.1**
MKAR				Sn	**Sn**	**13 29 17.5**	**+4.8**
MKAR				Lg		13 29 24.3	
MKAR				LR	LR	13 29 55.2	
ULHL	**Ulahol**	**4.25**	**242**	P	**Pn**	**13 29 05.8**	**+0.5**
	SNR=13						
TKM2	**Tokmak 2**	**4.37**	**252**	⇑Pn	**Pn**	**13 29 07.4**	**+0.4**
	comp=Z,2.3nm,0.3s						
TKM2				⇓Pg	**Pg**	**13 29 20.6**	**-2.8**
	comp=Z,23nm,0.5s						
TKM2				⇓Lg		13 30 20.2	
	comp=Z,86nm,0.6s						
TKM2	**Tokmak 2**	**4.37**	**252**	*e*PN	**Pn**	**13 29 07.1**	**+0.1**
TKM2				*e*		13 29 18.9	
TKM2	**Tokmak 2**	**4.37**	**252**	P	**Pn**	**13 29 07.5**	**+0.5**
	SNR=6.9						
TKM2	**Tokmak 2**	**4.37**	**252**	*e*Pn	**Pn**	**13 29 07.1**	**+0.1**
TKM2				*e*Pb	**Pb**	**13 29 18.9**	**+1.8**
TKM2				*e*Sg	**Sg**	**13 30 19.3**	**-0.7**
WMQ	**Urumqi**	**4.66**	**95**	*e*PG	**Pb**	**13 29 18.5**	**-3.6**
WMQ				SG	**Sb**	**13 30 19.0**	**+0.4**
WMQ				Smax			
	comp=N,127nm,0.4s						
WMQ				Smax			
	comp=E,66nm,0.5s						
KBK	**Karagaybulak**	**4.91**	**252**	P	**Pn**	**13 29 16.1**	**+1.7**
	SNR=5.7						
CHMS	**Chumysh**	**4.92**	**256**	P	**Pn**	**13 29 15.3**	**+0.7**
	SNR=12						
USP	**Ospenovka**	**5.02**	**260**	P	**Pn**	**13 29 16.6**	**+0.6**
	SNR=5.6						
EKS2	**Erkin-Say**	**5.71**	**255**	P	**Pn**	**13 29 26.6**	**+1.2**
	SNR=11						
EKS2	**Erkin-Say**	**5.71**	**255**	*e*Pn	**Pn**	**13 29 26.1**	**+0.6**
	comp=E,10nm,0.4s						
EKS2				*e*Pb	**Pb**	**13 29 45.5**	**+5.4**
EKS2				*e*Sg	**Sg**	**13 31 02.7**	**-0.5**
AML	**Almayashu**	**5.97**	**251**	*e*Pn	**Pn**	**13 29 30.2**	**+1.2**
	comp=E,20nm,0.7s						
KURBB	**Kurchatov Arra**	**6.51**	**344**	⇓Pn	**Pn**	**13 29 36.9**	**+0.5**
	comp=E,1.1nm,0.5s						
KURBB				⇑Sn	**Sn**	**13 30 50.5**	**-0.7**
	comp=E,7.3nm,0.6s						
KURBB				⇓Lg		13 31 22.7	
	comp=E,48nm,0.8s						
KURK	**Kurchatov**	**6.59**	**345**	⇑Pn	**Pn**	**13 29 37.4**	**0.0**
	comp=E,6.3nm,1.0s						
KURK				⇑Sn	**Sn**	**13 30 52.6**	**-0.4**
	comp=E,11nm,0.4s						
KURK				⇑Lg		13 31 24.9	
	comp=E,36nm,0.5s						
KURK	**Kurchatov**	**6.59**	**345**	*e*PN	**Pn**	**13 29 37.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,12nm,0.8s						
KURK	**Kurchatov**	**6.59**	**345**	*e*Pn	**Pn**	**13 29 37.0**	**-0.4**
	comp=Z,12nm,0.8s						
KURK				*e*		13 29 44.4	
KURK				*e*Sn	**Sn**	**13 30 48.6**	**-4.3**
KK31	**Karatay Array**	**7.90**	**264**	⇑Pn	**Pn**	**13 29 56.8**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=73,slow=15,SNR=4.5						
KK31				⇓Lg		13 32 10.4	
	comp=Z,7.5nm,0.4s,baz=73,slow=29,SNR=7.8						
KK31	**Karatay Array**	**7.90**	**264**	*e*P	**Pn**	**13 29 55.4**	**0.0**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAL	**Zalesovo**	**9.84**	**12**	P	**Pn**	**13 30 20.4**	**-1.6**
ZALV	**Zalesovo Beam**	**9.85**	**12**	Pn	**Pn**	**13 30 20.4**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=195,slow=15,SNR=6.5						
ZALV				Lg		13 33 17.3	
	comp=Z,0.6nm,0.3s,baz=189,slow=28,SNR=6.7						
VOSK	**Vostochnaya**	**10.77**	**324**	⇑Pn	**Pn**	**13 30 36.5**	**+1.7**
	comp=Z,1.1nm,0.4s						
VOSK				⇓Sn	**Sn**	**13 32 35.4**	**-0.3**
	comp=Z,2.2nm,0.5s						
VOSK				⇑Lg		13 33 37.5	
	comp=Z,32nm,1.0s						
VOSK	**Vostochnaya**	**10.77**	**324**	P	**Pn**	**13 30 39.2**	**+4.5**
VOSK						13 32 35.4	
VOSK				smax			
	comp=Z,1.0nm,0.5s						
VOSK				pmax	pmax		
	comp=Z,32nm,1.0s						
BVAR	**Borovoye Array**	**11.24**	**324**	Pn	**Pn**	**13 30 41.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=252,slow=37,SNR=2.8						
BVAR				Sn	**Sn**	**13 32 55.7**	**+8.6**
	comp=Z,0.4nm,0.3s,baz=130,slow=23,SNR=2.7						
BVAR				Lg		13 34 00.7	
	comp=Z,0.9nm,0.3s,baz=123,slow=27,SNR=9.2						
BVAR	**Borovoye Array**	**11.24**	**324**	P	**Pn**	**13 30 41.5**	**+0.4**
BVAR						13 32 55.7	
SONM	**Songino Array**	**17.74**	**70**	Pn	**Pn**	**13 32 02.5**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=265,slow=12,SNR=3.0						
LZH	**Lanzhou**	**19.08**	**108**	*e*P	**Pn**	**13 32 24.5**	**+0.4**
LZH				AMB	AMB		
	comp=Z,18nm,1.5s						
CD2	**Chengdu**	**22.22**	**120**	*e*P	**P**	**13 32 57.3**	**-0.1**
CD2				S	**S**	**13 36 54.4**	**-8.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,290nm,15.6s						
CD2				LR	LR		
	comp=E,430nm,14.4s						
CD2				LR	LR		
	comp=Z,620nm,14.4s						
GYA	**Guiyang**	**27.18**	**123**	P	**P**	**13 33 44.0**	**-0.5**
GYA				PP		13 34 33.3	
GYA				S	**S**	**13 38 17.4**	**-6.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
NJ2	**Nanjing**	**31.72**	**100**	*e*P	**P**	**13 34 25.8**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
KEV	**Kevo**	**36.95**	**332**	P	**P**	**13 35 06.0**	**-3.6**
KEV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
KEV	**Kevo**	**36.95**	**332**	P	**P**	**13 35 06.0**	**-3.6**
	comp=Z,7.9nm,1.0s,mb4.5						
PALK	**Pallekele**	**36.97**	**181**	P	**P**	**13 35 08.1**	**-2.2**
PALK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
PALK	**Pallekele**	**36.97**	**181**	P	**P**	**13 35 08.1**	**-2.2**
	comp=Z,7.0nm,0.9s,mb4.5						
ARCES	**ARCESS Array B**	**37.41**	**331**	P	**P**	**13 35 12.3**	**-1.2**
	comp=Z,1.5nm,0.5s,mb4.1,baz=91,slow=9.7,SNR=14						
NB2	**NORSAR Subarra**	**43.29**	**318**	P	**P**	**13 36 01.0**	**-1.3**
	comp=Z,1.4nm,0.5s,mb4.0,baz=78,slow=8.6						
NOA	**NORSAR Array B**	**43.29**	**318**	P	**P**	**13 36 00.7**	**-1.6**
	comp=Z,1.5nm,0.5s,mb4.0,baz=80,slow=8.1,SNR=4.4						
YKA	**Yellowknife Ar**	**72.72**	**8**	P	**P**	**13 39 25.4**	**-3.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=342,slow=6.0,SNR=6.4						
TOA0	**Torodi Ar. Sit**	**73.51**	**272**	P	**P**	**13 39 30.2**	**-3.8**
TORD	**Torodi Ar. Bea**	**73.51**	**272**	P	**P**	**13 39 30.9**	**-3.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=45,slow=5.7,SNR=7.9						

*CSEM **16** 13:36:53.5±0.1, 3903N×3490E, h2km, MD3.2, Error ellipse: s-maj=3.4km s-min=2.7km az=103.0*
*DDA **16** 13:36:53.9, 3880N×3461E, h14km, Md3.2*
*ISCJB **16** 13:36:54.2±0.7, 3903N±003×3487E±007, h1km±11km, Error ellipse: s-maj=8.8km s-min=4.7km az=175.2*
*ISK **16** 13:36:54.1, 3901N×3495E, h19km, MD3.0*

ISC 16 13:36:54.7±0.6, 3902N±003×3488E±007, h8km±8km, n10, σ1§08/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVNT	**Avonos**	**0.24**	**185**	*i* P	**Pg**	**13 36 58.3**	**-1.2**
AVNT				*i* S	**Sg**	**13 37 02.2**	**-0.6**
YOZ	**Yozgat**	**0.71**	**29**	*e*PG	**Pg**	**13 37 07.7**	**-0.6**
YOZ				*e*SG	**Sg**	**13 37 18.5**	**+1.0**
CDAG	**Cicekdag**	**0.72**	**327**	*i* P	**Pg**	**13 37 08.5**	**-0.1**
CDAG				*i* S	**Sg**	**13 37 18.0**	**0.0**
NIG	**Nigde**	**0.93**	**193**	*e*PG	**Pg**	**13 37 13.3**	**+0.6**
NIG				*e*SG	**Sg**	**13 37 26.1**	**+1.3**
KAMT	**Kaman**	**0.97**	**291**	*e*PG	**Pg**	**13 37 13.6**	**+0.2**
CORM	**Corum**	**1.17**	**351**	*e*PN	**Pn**	**13 37 16.6**	**-0.8**
PINB	**Pinarbasi**	**1.24**	**106**	*i* P	**Pn**	**13 37 17.8**	**-0.5**
PINB				*i* S	**Sb**	**13 37 35.6**	**+1.2**
SARI	**SarD1z-Kayseri**	**1.46**	**103**	*e*PN	**Pn**	**13 37 17.6**	**-3.8**
CTKT	**Corum**	**1.60**	**358**	*i* P	**Pn**	**13 37 25.5**	**+2.1**
CTKT				*i* S	**Sn**	**13 37 49.8**	**+5.6**
SVSK	**Karacayir**	**1.87**	**61**	*e*PN	**Pn**	**13 37 24.9**	**-2.0**

IDC 16 13:38:43.0±1.4, 1742S×6912W, h173km±9km, mb3.3/2, mb1 3.5/5, mb1mx3.2/21, mbtmp3.4/5, Error ellipse: s-maj=22.7km s-min=20.9km az=112.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.47**	**40**	P	Pn	13 39 15.5	+1.3
	8.1nm,0.3s,baz=311,slow=2.1,SNR=166						
LPAZ				S	Sn	13 39 39.2	+1.1
	1.9nm,0.3s,baz=331,slow=25,SNR=12						
LVC	**Limon Verde**	**5.17**	**178**	P	Pn	13 39 58.7	-0.4
	1.7nm,0.3s,baz=278,slow=0.0,SNR=49						
LVC				S	Sn	13 40 54.7	-3.9
	2.5nm,0.3s,baz=340,slow=0.1,SNR=6.0						
SIV	**San Ignacio**	**7.84**	**81**	P	Pn	13 40 35.8	+1.6
	1.5nm,0.3s,baz=272,slow=12,SNR=22						
SIV				S	Sn	13 42 01.2	-0.9
	0.0nm,0.3s,baz=356,slow=18,SNR=3.9						
ATAH	**Atahualpa**	**13.76**	**318**	P	Pn	13 41 51.0	-0.2
	0.4nm,0.3s,baz=30,slow=18,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.21**	**71**	P	P	13 50 13.0	+0.2
	0.3nm,0.4s,baz=260,slow=4.8,SNR=10						
YKA	**Yellowknife Ar**	**87.30**	**341**	P	P	13 51 09.0	-0.7
	0.2nm,0.5s,baz=133,slow=5.1,SNR=4.6						

IDC 16 13:39:51.7±1.5, 957S×15956E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/16, mbtmp4.1/3, Error ellipse: s-maj=91.6km s-min=10.9km az=155.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.41**	**70**	Pn	Pg	13 40 05.3	+5.8
	2μm,0.3s,baz=215,slow=2.3,SNR=60						
HNR				Sn	Sg	13 40 12.3	+7.6
	6μm,0.3s,baz=186,slow=1.2,SNR=96						
WB2	**Warramunga Arr**	**26.43**	**244**	*e*P	P	13 45 32.2	+1.8
WRA	**Warramunga Arr**	**26.44**	**244**	P	P	13 45 30.7	+0.1
	2.6nm,0.9s,baz=71,slow=9.4,SNR=6.2						
STKA	**Stephens Creek**	**27.75**	**214**	P	P	13 45 42.4	+0.2
	2.6nm,0.6s,baz=38,slow=13,SNR=4.1						
ASAR	**Alice Springs**	**28.23**	**237**	P	P	13 45 46.1	-0.4
	0.7nm,0.6s,baz=63,slow=10,SNR=18						

*IDC **16** 13:54:25.9±1.0, 1340S×7689W, h0km, mb3.5/6, mb1 3.8/9, mb1mx3.8/20, mbtmp3.6/9, ML3.8/3, MS3.5/3, Ms1 3.4/3, ms1mx3.0/38, Error ellipse: s-maj=33.4km s-min=14.8km az=62.0*
*ISCJB **16** 13:54:26.7±3.2, 1347S±006×770W±0.1, h18km±23km, mb3.7/7, MS3.5/2, Error ellipse: s-maj=20.1km s-min=7.1km az=160.5*
*NEIC **16** 13:54:30.1±4.4, 1338S×7692W, h29km±32km, mb4.3/2, Error ellipse: s-maj=23.8km s-min=10.1km az=70.0*

ISC 16 13:54:30.6±3.3, 1337S±006×769W±01, h30km±24km, n28, σ0§95/35, mb3.7/7, MS3.5/2, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.38**	**3**	Pn	**Pn**	**13 54 52.8**	**-1.0**
	84nm,0.3s,baz=184,slow=13,SNR=25						
NNA				Sn	**Sn**	**13 55 11.7**	**+0.6**
	516nm,0.3s,baz=182,slow=12,SNR=25						
NNA	**Nana**	**1.38**	**3**	Pn	**Pn**	**13 54 52.8**	**-1.0**
NNA				*e*Sn	**Sn**	**13 55 11.1**	**+0.1**
NNA				Sn	**Sn**	**13 55 11.7**	**+0.6**
ARE	**Arequipa**	**6.09**	**121**	*e*P	**Pn**	**13 56 06.0**	**+7.4**
ARE				*e*S	**Sn**	**13 57 19.0**	**+12**
ATAH	**Atahualpa**	**6.49**	**347**	Pn	**Pn**	**13 56 04.7**	**+0.5**
	2.2nm,0.3s,baz=176,slow=2.8,SNR=10.0						
ATAH				Sn	**Sn**	**13 57 24.4**	**+7.0**
	2.6nm,0.3s,baz=88,slow=14,SNR=2.2						
LPAZ	**La Paz**	**8.99**	**110**	Pn	**Pn**	**13 56 41.8**	**+3.4**
	0.8nm,0.3s,baz=274,slow=11,SNR=17						
LPAZ				Sn	**Sn**	**13 58 28.1**	**+9.5**
	0.1nm,0.3s,baz=7.0,slow=22,SNR=2.2						
LPA

46nm,0.3s,SNR=20
LPAZ La Paz 4.92 0 P Pn 14 06 10.1 +1.0
2.2nm,0.3s,baz=179,slow=6.5,SNR=48
LPAZ S Sn 14 07 06.4 +1.4
baz=85,slow=24,SNR=1.6
SIV San Ignacio 8.49 53 P Pn 14 06 56.9 -0.5
1.4nm,0.3s,baz=247,slow=14,SNR=16
TORD Torodi Ar. Bea 76.60 70 P P 14 16 34.2 -0.3
0.9nm,0.5s,baz=256,slow=5.4,SNR=13
MKAR Makanchi Array 145.00 36 PKPbc PKPbc 14 24 19.3 +0.2
0.4nm,0.3s,baz=325,slow=1.5,SNR=4.9

SZGRF ***16*** *14:18:11.3, 585S×1167W, h23km, mb5.2, Ascension Island region*
BJI ***16*** *14:18:21.2, 407S×1167W, h7km, mB5.7, mb5.7, Ms5.4, Msz5.1*
IDC ***16*** *14:18:24.0±0.5, 349S×1199W, h0km, mb4.3/22, mb1 4.5/24, mb1mx4.4/30, mbtmp4.4/24, ML4.0/2, MS4.8/26, Ms1 4.8/26, ms1mx4.8/32, Error ellipse: s-maj=15.2km s-min=12.8km az=150.0*
MOS ***16*** *14:18:23.0±0.9, 343S×12.14W, h10km, mb5.4/65, MS4.9/30, Error ellipse: s-maj=11.5km s-min=3.9km az=68.1*
GCMT ***16*** *14:18:24.6±0.2, 343S×12.16W, h12km, MW5.5/94, Moment Tensor Solution. s53,c75; s94,c185; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.03±.04; $M_{\theta\theta}$0.02±.03; $M_{\phi\phi}$2.01±.03; $M_{r\theta}$0.16±.11; $M_{\theta\phi}$-0.27±.03; $M_{\phi r}$-0.19±.09; Best double couple: $M_0$2.05300×10^{17} NP1:ϕ_s176.00000°, δ42.00000°, λ-84.00000°. NP2: ϕ_s349.00000°, δ48.00000°, λ-95.00000°. Principal axes: T 2.0560, Plg3.0000°, Azm82.0000°; N -0.0080, Plg4.0000°, Azm352.0000°; P -2.0500, Plg85.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***16*** *14:18:24.6±0.2, 352S×12.15W, h10km, mb5.2/83, MS5.0/87 Error ellipse: s-maj=7.5km s-min=5.0km az=129.0*
ISCJB ***16*** *14:18:24.9±0.2, 346S±004×12.10W±005, h21km, mb5.0/117, MS5.0/120, Error ellipse: s-maj=7.6km s-min=5.0km az=35.3*
ISC 16 14:18:27.1±0.2, 350S±004×1214W±005, h22km, h22km±.6km:pP-P, n466, o0°93/392, mb5.0/117, MS5.0/120, 18C-43D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIC	**Lamto**	**11.98**	**36**	*eP*		**Pn**		**14 21 15.3**	**-1.4**
	215nm,1.8s,baz=237								
LIC				*e*MLR		MLR			
	comp=Z,11μm,20.0s								
LIC	**Lamto**	**11.98**	**36**	*eP*		**Pn**		**14 21 19.5**	**+2.8**
	comp=Z,158nm,1.8s								
LIC	**Lamto**	**11.98**	**36**	*eP*		**Pn**		**14 21 15.3**	**-1.4**
	comp=Z,107nm,1.8s								
LIC				*eP*				14 21 19.5	
KIC	**Kosan Boka**	**12.26**	**37**	*eP*		**Pn**		**14 21 21.2**	**+0.7**
	comp=Z,697nm,1.9s								
TIC	**Toumodi**	**12.33**	**35**	*eP*		**Pn**		**14 21 22.3**	**+0.9**
	comp=Z,38nm,0.2s								
TIC	**Toumodi**	**12.33**	**35**	*eP*		**Pn**		**14 21 22.3**	**+0.9**
TIC					pmax	pmax			
	comp=Z,38nm,0.2s								
DBIC	**Dimbokro**	**12.44**	**36**	Pn		**Pn**		**14 21 23.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=196,slow=14,SNR=7.9								
DBIC					LR	LR		14 25 16.8	
	comp=Z,9μm,20.5s,baz=188,slow=33								
DBIC	**Dimbokro**	**12.44**	**36⇑**	*eP*		**Pn**		**14 21 22.7**	**-0.3**
DBIC					pmax	pmax			
	comp=Z,123nm,1.6s								
DBIC	**Dimbokro**	**12.44**	**36⇑**	*e*Pn		**Pn**		**14 21 22.7**	**-0.2**
	comp=Z,124nm,1.6s								
BBTS	**Babate**	**18.56**	**347**	P		**Pn**		**14 22 44.6**	**+1.8**
	comp=Z,2.1nm,0.3s,baz=173,slow=1.2,SNR=3.7								
BBTS					LR	LR		14 28 35.4	
	comp=Z,2μm,22.0s,baz=179,slow=33								
TOA0	**Torodi Ar. Sit**	**21.50**	**39⇓**	*eP*		**P**		**14 23 11.7**	**-2.9**
TORD	**Torodi Ar. Bea**	**21.50**	**39**	P		**P**		**14 23 12.5**	**-2.0**
	comp=Z,12nm,0.7s,mb4.3,baz=224,slow=9.9,SNR=33								
TORD					LR	LR		14 30 32.2	
	comp=Z,5μm,21.3s,MS4.9,baz=245,slow=34								
TAM	**Tamanrasset**	**31.31**	**33**	*eP*		**P**		**14 24 46.4**	**+0.6**
TSUM	**Tsumeb**	**32.96**	**121**	P		**P**		**14 24 58.5**	**-1.9**
	comp=Z,2.6nm,0.8s,mb4.2,baz=126,slow=24,SNR=2.6								
TSUM	**Tsumeb**	**32.96**	**121**	*eP*		**P**		**14 25 00.3**	**-0.1**
	comp=Z,12nm,1.3s,mb4.7								
BDFB	**Brasilia**	**37.30**	**249**	P		**P**		**14 25 38.3**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.3,baz=48,slow=13,SNR=7.5								
BDFB					LR	LR		14 38 12.6	
	comp=Z,2μm,21.2s,MS4.8,baz=247,slow=32								
LSZ	**Lusaka**	**41.38**	**109**	P		**P**		**14 26 11.9**	**-0.1**
	comp=Z,7.0nm,0.8s,mb4.3,baz=277,slow=7.0,SNR=12								
LSZ	**Lusaka**	**41.38**	**109**	*eP*		**P**		**14 26 12.3**	**+0.3**
LSZ					pmax	pmax			
	comp=Z,13nm,0.9s,mb4.6								
LSZ					MLR	MLR			
	comp=Z,2μm,22.0s,MS5.0								
LSZ	**Lusaka**	**41.38**	**109**	*eP*		**P**		**14 26 12.3**	**+0.3**
	comp=Z,13nm,0.9s,mb4.5								
LSZ					LR	LR			
	comp=Z,2μm,22.0s,MS5.0								
EVO	**Evora**	**41.99**	**5**	*eP*		**P**		**14 26 16.9**	**+0.3**
	comp=Z,176nm,1.8s,mb5.1								
EVO				*e*MLR		MLR			
	comp=Z,1μm,18.5s,MS4.4								
LBTB	**Lobatse**	**42.12**	**124**	P		**P**		**14 26 17.7**	**-0.2**
	comp=Z,10nm,1.1s,mb4.4,baz=292,slow=8.4,SNR=6.2								
LBTB	**Lobatse**	**42.12**	**124**	*eP*		**P**		**14 26 17.5**	**-0.4**
LBTB					pmax	pmax			
	comp=Z,137nm,1.9s,mb5.3								
LBTB					MLR	MLR			
	comp=Z,2μm,20.0s,MS5.0								
LBTB	**Lobatse**	**42.12**	**124**	*eP*		**P**		**14 26 17.4**	**-0.5**
	comp=Z,137nm,1.9s,mb5.3								
LBTB					LR	LR			
	comp=Z,2μm,20.0s,MS5.0								
CTEI	**Djebel Teioual**	**43.01**	**22**	P		**P**		**14 26 26.0**	**+1.1**
CASM	**Ain Smara**	**43.21**	**22**	P		**P**		**14 26 28.0**	**+1.4**
PAB	**San Pablo**	**43.43**	**9**	PFAKE				14 26 40.0	+12
PAB					LR	LR			
	comp=Z,1μm,20.0s,MS4.8								
BOSA	**Boshof**	**43.44**	**129**	P		**P**		**14 26 27.6**	**-1.0**
	comp=Z,7.3nm,0.8s,mb4.5,baz=302,slow=13,SNR=8.2								
BOSA					LR	LR		14 42 24.0	
	comp=Z,2μm,18.1s,MS5.0,baz=303,slow=33								
BOSA	**Boshof**	**43.44**	**129**	*eP*		**P**		**14 26 26.7**	**-1.9**
BOSA					pmax	pmax			
	comp=Z,17nm,1.0s,mb4.7								
BOSA	**Boshof**	**43.44**	**129**	*eP*		**P**		**14 26 26.7**	**-1.9**
	comp=Z,17nm,1.0s,mb4.7								
ESDC	**Sonseca Array**	**43.61**	**9**	P		**P**		**14 26 29.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=6.7,slow=27,SNR=4.5								
ESDC					PP	PP		14 28 10.7	-0.8
	comp=Z,0.3nm,0.4s,baz=190,slow=11,SNR=5.3								
ESDC					LR	LR		14 45 52.7	
	comp=Z,735nm,18.9s,MS4.6,baz=200,slow=38								
KEST	**Kesra**	**43.91**	**25**	P		**P**		**14 26 32.9**	**+0.8**
	comp=Z,2.3nm,0.4s,mb4.2,baz=154,slow=3.5,SNR=12								
KEST					LR	LR		14 45 51.2	
	comp=Z,1μm,18.4s,MS4.9,baz=27,slow=38								
ETSF	**Etsaut**	**47.35**	**12**	*eP*		**P**		**14 26 57.7**	**-1.6**
	comp=Z,71nm,1.5s,mb5.1								
ETSF	**Etsaut**	**47.35**	**12**	*eP*		**P**		**14 26 57.7**	**-1.6**
ETSF					pmax	pmax			
	comp=Z,35nm,1.5s,mb5.1								
ETSF	**Etsaut**	**47.35**	**12**	*eP*		**P**		**14 26 57.7**	**-1.6**
	comp=Z,36nm,1.5s,mb5.1								
SJPF	**Ste Jean**	**47.43**	**11**	*eP*		**P**		**14 26 59.0**	**-0.9**
	comp=Z,190nm,1.8s,mb5.4								
SJPF	**Ste Jean**	**47.43**	**11**	*eP*		**P**		**14 26 59.0**	**-0.9**
SJPF					pmax	pmax			
	comp=Z,95nm,1.8s,mb5.4								
SJPF	**Ste Jean**	**47.43**	**11**	*eP*		**P**		**14 26 59.0**	**-0.9**
	comp=Z,95nm,1.8s,mb5.4								
EPF	**Esparros**	**47.67**	**12**	*eP*		**P**		**14 27 02.0**	**+0.3**
	comp=Z,112nm,1.8s,mb5.3								
EPF	**Esparros**	**47.67**	**12**	*eP*		**P**		**14 27 02.0**	**+0.3**
EPF					pmax	pmax			
	comp=Z,56nm,1.8s,mb5.3								
EPF	**Esparros**	**47.67**	**12**	*eP*		**P**		**14 27 02.0**	**+0.3**
	comp=Z,56nm,1.8s,mb5.3								
MTLF	**Montolieu**	**48.39**	**14**	*eP*		**P**		**14 27 06.8**	**-0.5**
	comp=Z,42nm,1.5s,mb5.0								
MTLF	**Montolieu**	**48.39**	**14**	*eP*		**P**		**14 27 06.8**	**-0.5**
MTLF					pmax	pmax			
	comp=Z,21nm,1.5s,mb5.0								
MTLF	**Montolieu**	**48.39**	**14**	*eP*		**P**		**14 27 06.8**	**-0.5**
	comp=Z,21nm,1.5s,mb5.0								
MTTG	**Motta San Giov**	**48.69**	**29**	P		**P**		**14 27 11.4**	**+1.7**
CPUP	**Villa Florida**	**48.85**	**238**	P		**P**		**14 27 13.4**	**+2.1**
	comp=Z,0.9nm,0.4s,mb4.1,baz=53,slow=7.3,SNR=4.1								
CPUP	**Villa Florida**	**48.85**	**238**	*eP*		**P**		**14 27 10.6**	**-0.7**
CPUP					pmax	pmax			
	comp=Z,25nm,1.0s								
CPUP					MLR	MLR			
	comp=Z,529nm,21.0s								
CPUP	**Villa Florida**	**48.85**	**238**	*eP*		**P**		**14 27 10.6**	**-0.7**
	comp=Z,24nm,1.0s,mb5.2								
CPUP					LR	LR			
	comp=Z,529nm,21.0s,MS4.5								
SOI	**Samo**	**48.92**	**30**	P		**P**		**14 27 13.5**	**+2.0**
CEL	**Celeste**	**48.98**	**29**	*eP*		**P**		**14 27 13.8**	**+1.8**
	comp=Z,52nm,1.5s,mb5.3								
KMBO	**Kilima Mbogo**	**49.40**	**88**	P		**P**		**14 27 16.5**	**+0.8**
	comp=Z,0.6nm,0.4s,mb4.0,baz=70,slow=24,SNR=9.3								
KMBO					LR	LR		14 46 39.9	
	comp=Z,5μm,18.9s,MS5.5,baz=276,slow=34								
KMBO	**Kilima Mbogo**	**49.40**	**88**	*eP*		**P**		**14 27 17.2**	**+1.5**
KMBO					pmax	pmax			
	comp=Z,123nm,2.7s								
KMBO					MLR	MLR			
	comp=Z,5μm,20.0s								
KMBO	**Kilima Mbogo**	**49.40**	**88**	*eP*		**P**		**14 27 17.1**	**+1.5**
	comp=Z,123nm,2.7s,mb5.5								
KMBO					LR	LR			
	comp=Z,5μm,20.0s,MS5.5								
LASF	**Ste Croix**	**49.49**	**15**	*eP*		**P**		**14 27 15.6**	**-0.2**
	comp=Z,134nm,1.8s,mb5.4								
LMR	**La Mourre**	**49.56**	**18**	*eP*		**P**		**14 27 16.1**	**-0.2**
	comp=Z,69nm,1.3s,mb5.2								
LMR	**La Mourre**	**49.56**	**18**	*eP*		**P**		**14 27 16.1**	**-0.2**
LMR					pmax	pmax			
	comp=Z,35nm,1.3s,mb5.2								
LMR	**La Mourre**	**49.56**	**18**	*eP*		**P**		**14 27 16.1**	**-0.2**
	comp=Z,35nm,1.3s,mb5.2								
LFF	**La Frestale**	**49.58**	**12**	*eP*		**P**		**14 27 15.5**	**-0.9**
	comp=Z,73nm,1.3s,mb5.2								
LFF	**La Frestale**	**49.58**	**12**	*eP*		**P**		**14 27 15.5**	**-0.9**
LFF					pmax	pmax			
	comp=Z,37nm,1.3s,mb5.2								
LFF	**La Frestale**	**49.58**	**12**	*eP*		**P**		**14 27 15.5**	**-0.9**
	comp=Z,36nm,1.3s,mb5.2								
SIV	**San Ignacio**	**49.67**	**252**	P		**P**		**14 27 19.4**	**+1.8**
	comp=Z,2.2nm,0.8s,mb4.2								
PGF	**Pioggiola**	**49.67**	**20**	*eP*		**P**		**14 27 17.2**	**0.0**
	comp=Z,62nm,1.5s,mb5.1								
PGF	**Pioggiola**	**49.67**	**20**	*eP*		**P**		**14 27 17.2**	**0.0**
PGF					pmax	pmax			
	comp=Z,31nm,1.5s,mb5.1								
PGF	**Pioggiola**	**49.67**	**20**	*eP*		**P**		**14 27 17.2**	**0.0**
	comp=Z,31nm,1.5s,mb5.1								
CAF	**Calviac**	**49.85**	**13**	*eP*		**P**		**14 27 18.1**	**-0.4**
	comp=Z,58nm,1.5s,mb5.1								
CAF	**Calviac**	**49.85**	**13**	*eP*		**P**		**14 27 18.1**	**-0.4**
CAF					pmax	pmax			
	comp=Z,29nm,1.5s,mb5.1								
CAF	**Calviac**	**49.85**	**13**	*eP*		**P**		**14 27 18.1**	**-0.4**
	comp=Z,29nm,1.5s,mb5.1								
BBGH	**Gun Hill**	**49.90**	**290**	PFAKE				14 27 30.0	+11
BBGH					LR	LR			
	comp=Z,2μm,21.0s,MS5.1								
RJF	**Les Rejaudoux**	**50.09**	**13**	*eP*		**P**		**14 27 19.7**	**-0.6**
	comp=Z,80nm,1.4s,mb5.3								
RJF				*e*MLR		MLR			
	comp=Z,1μm,19.5s,MS4.7								
RJF	**Les Rejaudoux**	**50.09**	**13**	*eP*		**P**		**14 27 19.7**	**-0.6**
RJF					pmax	pmax			
	comp=Z,40nm,1.4s,mb5.3								
RJF					MLR	MLR			
	comp=Z,1μm,19.5s,MS5.0								
RJF	**Les Rejaudoux**	**50.09**	**13**	*eP*		**P**		**14 27 19.7**	**-0.6**
	comp=Z,40nm,1.4s,mb5.3								
RJF					LR	LR			
	comp=Z,1μm,19.5s,MS5.0								
TIP	**Timpagrande**	**50.12**	**29**	*eP*		**P**		**14 27 20.8**	**+0.1**
	comp=Z,40nm,1.5s,mb5.2								
CUC	**Castrocucco**	**50.31**	**28**	P		**P**		**14 27 22.6**	**+0.5**
CUC					LR	LR			
	comp=Z,2μm,22.0s,MS5.1								
SBF	**Sospel**	**50.32**	**18**	*eP*		**P**		**14 27 22.2**	**+0.1**
	comp=Z,142nm,1.5s,mb5.5								
SBF	**Sospel**	**50.32**	**18**	*eP*		**P**		**14 27 22.2**	**+0.1**
SBF					pmax	pmax			
	comp=Z,71nm,1.5s,mb5.5								
SBF	**Sospel**	**50.32**	**18**	*eP*		**P**		**14 27 22.2**	**+0.1**
	comp=Z,71nm,1.5s,mb5.5								
VIVF	**Saint-Julien-l**	**50.43**	**15**	*eP*		**P**		**14 27 23.0**	**+0.1**
	comp=Z,98nm,1.7s,mb5.3								
VIVF	**Saint-Julien-l**	**50.43**	**15**	*eP*		**P**		**14 27 23.0**	**+0.1**
VIVF					pmax	pmax			
	comp=Z,49nm,1.7s,mb5.3								
VIVF	**Saint-Julien-l**	**50.43**	**15**	*eP*		**P**		**14 27 23.0**	**+0.1**
	comp=Z,49nm,1.7s,mb5.3								
CERT	**Cerreto**	**50.67**	**24**	P		**P**		**14 27 25.3**	**+0.6**
ORIF	**Oris-en-Rattie**	**50.82**	**16**	*eP*		**P**		**14 27 26.5**	**+0.7**
	comp=Z,88nm,1.6s,mb5.1								
ORIF				*e*MLR		MLR			
	comp=Z,2μm,17.2s,MS4.9								
ORIF	**Oris-en-Rattie**	**50.82**	**16**	*eP*		**P**		**14 27 26.5**	**+0.7**
ORIF					pmax	pmax			
	comp=Z,44nm,1.6s,mb5.1								
ORIF	**Oris-en-Rattie**	**50.82**	**16**	*eP*		**P**		**14 27 26.5**	**+0.7**
	comp=Z,44nm,1.6s,mb5.1								
PSB1	**Pescosannita**	**50.84**	**26**	P		**P**		**14 27 27.7**	**+1.6**
VVLD	**Villa Vallelon**	**50.87**	**25**	P		**P**		**14 27 27.1**	**+0.8**
PTQR	**Pietraquaria**	**50.90**	**24**	P		**P**		**14 27 28.3**	**+1.8**
MBDF	**Montbardon**	**50.90**	**17**	*eP*		**P**		**14 27 27.2**	**+0.7**
	comp=Z,66nm,1.4s,mb5.1								
MBDF	**Montbardon**	**50.90**	**17**	*eP*		**P**		**14 27 27.2**	**+0.7**
MBDF					pmax	pmax			
	comp=Z,33nm,1.4s,mb5.1								
MBDF	**Montbardon**	**50.90**	**17**	*eP*		**P**		**14 27 27.2**	**+0.7**
	comp=Z,33nm,1.4s,mb5.1								
FIAM	**Fiamignano**	**50.99**	**24**	P		**P**		**14 27 28.3**	**+1.1**
MFF	**Saint Martin d**	**51.00**	**11**	*eP*		**P**		**14 27 27.3**	**+0.1**
BNI	**Bardonecchia**	**51.17**	**17**	*eP*		**P**		**14 27 26.7**	**-1.8**
BNI					pmax	pmax			
	comp=Z,61nm,1.8s,mb5.2								
BNI					MLR	MLR			
	comp=Z,898nm,19.0s,MS4.8								
BNI	**Bardonecchia**	**51.17**	**17**	*eP*		**P**		**14 27 26.7**	**-1.8**
	comp=Z,61nm,1.8s,mb5.2								
BNI					LR	LR			
	comp=Z,898nm,19.0s,MS4.8								
TCF	**Toulx Ste Croi**	**51.17**	**13**	*eP*		**P**		**14 27 28.5**	**0.0**
	comp=Z,142nm,1.7s,mb5.3								
TCF	**Toulx Ste Croi**	**51.17**	**13**	*eP*		**P**		**14 27 28.5**	**0.0**
TCF					pmax	pmax			
	comp=Z,71nm,1.7s,mb5.3								
TCF	**Toulx Ste Croi**	**51.17**	**13**	*eP*		**P**		**14 27 28.5**	**0.0**
	comp=Z,71nm,1.7s,mb5.3								
AQU	**L'Aquila**	**51.18**	**24**	*eP*		**P**		**14 27 29.4**	**+0.8**
AQU					pmax	pmax			
	comp=Z,77nm,1.5s,mb5.4								
AQU					MLR	MLR			
	comp=Z,2μm,20.0s,MS5.1								
AQU	**L'Aquila**	**51.18**	**24**	*eP*		**P**		**14 27 29.4**	**+0.8**
	comp=Z,77nm,1.5s,mb5.4								
AQU					LR	LR			
	comp=Z,2μm,20.0s,MS5.1								
BGF	**Bois d'Agland**	**51.57**	**13**	*eP*		**P**		**14 27 31.4**	**-0.1**
	comp=Z,69nm,1.4s,mb5.1								
BGF	**Bois d'Agland**	**51.57**	**13**	*eP*		**P**		**14 27 31.4**	**-0.1**
BGF					pmax	pmax			
	comp=Z,34nm,1.4s,mb5.1								
BGF	**Bois d'Agland**	**51.57**	**13**	*eP*		**P**		**14 27 31.4**	**-0.1**
	comp=Z,34nm,1.4s,mb5.1								
LPG	**La Plagne**	**51.60**	**17**	*eP*		**P**		**14 27 32.5**	**+0.8**
	comp=Z,107nm,1.5s,mb5.2								
LPG	**La Plagne**	**51.60**	**17**	*eP*		**P**		**14 27 32.5**	**+0.8**
LPG					pmax	pmax			
	comp=Z,53nm,1.5s,mb5.2								
LPG	**La Plagne**	**51.60**	**17**	*eP*		**P**		**14 27 32.5**	**+0.8**
	comp=Z,53nm,1.5s,mb5.2								
GRGR	**Grenville**	**51.60**	**288**	PFAKE				14 27 40.0	+7.7
GRGR					LR	LR			
	comp=Z,558nm,21.0s,MS4.6								
LPL	**La Plagne**	**51.61**	**17**	*eP*		**P**		**14 27 32.5**	**+0.7**
	comp=Z,55nm,1.3s,mb5.0								
LPL	**La Plagne**	**51.61**	**17**	*eP*		**P**		**14 27 32.5**	**+0.7**
LPL					pmax	pmax			
	comp=Z,28nm,1.3s,mb5.0								
LPL	**La Plagne**	**51.61**	**17**	*eP*		**P**		**14 27 32.5**	**+0.7**
	comp=Z,28nm,1.3s,mb5.0								
QUIF	**Quistinic**	**51.80**	**8**	*eP*		**P**		**14 27 33.0**	**-0.1**
	comp=Z,221nm,1.7s,mb5.5								
QUIF	**Quistinic**	**51.80**	**8**	*eP*		**P**		**14 27 33.0**	**-0.1**
QUIF					pmax	pmax			
	comp=Z,110nm,1.7s,mb5.5								
QUIF	**Quistinic**	**51.80**	**8**	*eP*		**P**		**14 27 33.0**	**-0.1**
	comp=Z,110nm,1.7s,mb5.5								
SMF	**Signal de Mont**	**51.89**	**14**	*eP*		**P**		**14 27 33.4**	**-0.4**
	comp=Z,85nm,1.6s,mb5.1								
SMF	**Signal de Mont**	**51.89**	**14**	*eP*		**P**		**14 27 33.4**	**-0.4**
SMF					pmax	pmax			
	comp=Z,43nm,1.6s,mb5.1								
SMF	**Signal de Mont**	**51.89**	**14**	*eP*		**P**		**14 27 33.4**	**-0.4**
	comp=Z,42nm,1.6s,mb5.1								
AVF	**Avril sur Loir**	**51.91**	**13**	*eP*		**P**		**14 27 33.6**	**-0.4**
	comp=Z,34nm,1.4s,mb4.8								
AVF	**Avril sur Loir**	**51.91**	**13**	*eP*		**P**		**14 27 33.6**	**-0.4**
AVF					pmax	pmax			
	comp=Z,17nm,1.4s,mb4.8								
AVF	**Avril sur Loir**	**51.91**	**13**	*eP*		**P**		**14 27 33.6**	**-0.4**
	comp=Z,17nm,1.4s,mb4.8								
ROSF	**Rostrenen**	**52.20**	**7**	*eP*		**P**		**14 27 35.7**	**-0.4**
	comp=Z,151nm,1.5s,mb5.4								
ROSF	**Rostrenen**	**52.20**	**7**	*eP*		**P**		**14 27 35.7**	**-0.4**
ROSF					pmax	pmax			
	comp=Z,76nm,1.5s,mb5.4								
ROSF	**Rostrenen**	**52.20**	**7**	*eP*		**P**		**14 27 35.7**	**-0.4**
	comp=Z,76nm,1.5s,mb5.4								
SSF	**Saint Saulge**	**52.20**	**13**	*eP*		**P**		**14 27 35.8**	**-0.3**
	comp=Z,57nm,1.3s,mb5.0								
SSF	**Saint Saulge**	**52.20**	**13**	*eP*		**P**		**14 27 35.8**	**-0.3**
SSF					pmax	pmax			
	comp=Z,28nm,1.3s,mb5.0								
SSF	**Saint Saulge**	**52.20**	**13**	*eP*		**P**		**14 27 35.8**	**-0.3**
	comp=Z,28nm,1.3s,mb5.0								
SGMF	**Saint Gilles**	**52.21**	**8**	*eP*		**P**		**14 27 35.4**	**-0.8**
	comp=Z,114nm,1.4s,mb5.3								
SGMF	**Saint Gilles**	**52.21**	**8**	*eP*		**P**		**14 27 35.4**	**-0.8**
SGMF					pmax	pmax			
	comp=Z,57nm,1.4s,mb5.3								
SGMF	**Saint Gilles**	**52.21**	**8**	*eP*		**P**		**14 27 35.4**	**-0.8**
	comp=Z,57nm,1.4s,mb5.3								
CABF	**La Chapelle**	**52.43**	**16**	*eP*		**P**		**14 27 37.5**	**-0.4**
	comp=Z,94nm,1.5s,mb5.2								
CABF	**La Chapelle**	**52.43**	**16**	*eP*		**P**		**14 27 37.5**	**-0.4**
CABF					pmax	pmax			
	comp=Z,47nm,1.5s,mb5.2								
CABF	**La Chapelle**	**52.43**	**16**	*eP*		**P**		**14 27 37.5**	**-0.4**
	comp=Z,47nm,1.5s,mb5.2								
LOR	**Lormes**	**52.48**	**14**	*eP*		**P**		**14 27 37.6**	**-0.6**
	comp=Z,64nm,1.5s,mb5.0								
LOR				*e*MLR		MLR			
	comp=Z,2μm,22.2s,MS4.7								
LOR	**Lormes**	**52.48**	**14**	*eP*		**P**		**14 27 37.6**	**-0.6**
LOR					pmax	pmax			
	comp=Z,32nm,1.5s,mb5.0								
LOR					MLR	MLR			
	comp=Z,2μm,22.3s,MS5.0								
LOR	**Lormes**	**52.48**	**14**	*eP*		**P**		**14 27 37.6**	**-0.6**
	comp=Z,32nm,1.5s,mb5.0								
LOR					LR	LR			
	comp=Z,2μm,22.3s,MS5.0								
GRR	**Gorron**	**52.60**	**9**	*eP*		**P**		**14 27 38.5**	**-0.6**
	comp=Z,143nm,1.5s,mb5.4								
GRR	**Gorron**	**52.60**	**9**	*eP*		**P**		**14 27 38.5**	**-0.6**
GRR					pmax	pmax			
	comp=Z,71nm,1.5s,mb5.4								
GRR	**Gorron**	**52.60**	**9**	*eP*		**P**		**14 27 38.5**	**-0.6**
	comp=Z,71nm,1.5s,mb5.4								
LDF	**La Druitiere**	**52.92**	**10**	*eP*		**P**		**14 27 41.1**	**-0.4**
	comp=Z,141nm,1.7s,mb5.3								
LDF	**La Druitiere**	**52.92**	**10**	*eP*		**P**		**14 27 41.1**	**-0.4**
LDF					pmax	pmax			
	comp=Z,71nm,1.7s,mb5.3								
LDF	**La Druitiere**	**52.92**	**10**	*eP*		**P**		**14 27 41.1**	**-0.4**
	comp=Z,71nm,1.7s,mb5.3								
FLN	**La Foliniere**	**53.03**	**10**	*eP*		**P**		**14 27 41.7**	**-0.5**
FLN				*e*MLR	

WLF *e*PP PP 14 30 04.4 +2.1
DOU Dourbes 55.30 13 P **P 14 27 57.9 -0.8**
comp=Z,17nm,1.7s,mb4.8
KKB Krupnik 55.33 32 *i* P **P 14 28 00.0 +0.8**
GIVF Givet 55.36 13 *e*P **P 14 27 58.1 -1.1**
comp=Z,64nm,1.2s,mb5.2
GIVF Givet 55.36 13 *e*P **P 14 27 58.1 -1.1**
GIVF pmax pmax
comp=Z,32nm,1.2s,mb5.2
GIVF Givet 55.36 13 *e*P **P 14 27 58.1 -1.1**
comp=Z,32nm,1.2s,mb5.2
FUR Furstenfeldbru 55.37 19 *e*P **P 14 27 59.5 +0.2**
FUR pmax pmax
comp=Z,53nm,1.2s,mb5.5
FUR Furstenfeldbru 55.37 19 *e*P **P 14 27 59.5 +0.2**
comp=Z,53nm,1.2s,mb5.5
SOKA Soboth 55.42 22⇑*i*P **P 14 28 00.6 +0.9**
comp=Z,18nm,1.2s,mb5.0
MMB Musomiste 55.48 32 *i* P **P 14 28 00.7 +0.5**
AKAS Kas 55.49 41⇓*i*P **P 14 28 00.9 +0.4**
RJOB Jochberg 55.51 20 *e*P **P 14 27 59.5 -0.8**
comp=Z,14nm,1.1s,mb4.9
BOZC Bozcaada 55.57 35⇓*i*P **P 14 28 01.6 +0.6**
VTS Vitosha 55.92 31 *i* P **P 14 28 04.7 +1.3**
VTS Vitosha 55.92 31⇓*i*P **P 14 28 04.2 +0.8**
VTS Vitosha 55.92 31 P **P 14 28 05.2 +1.8**
AKHS Akhisar 55.99 37⇓*i*P **P 14 28 04.7 +0.8**
GRC2 Grafenberg Arr 56.02 19 *e*PP PP 14 30 13.9 +4.8
GOLH Golhisar 56.06 40⇓*i*P **P 14 28 06.1 +1.6**
RZN Rozhen 56.08 33 *i* P **P 14 28 05.0 +0.5**
MEM Membach 56.10 14 P **P 14 28 05.2 +0.6**
comp=Z,14nm,1.9s,mb4.7
MOA Molln 56.12 21⇑*i*P **P 14 28 04.4 -0.3**
comp=Z,18nm,1.0s,mb5.0
BEBN Eben Emael 56.20 14 P **P 14 28 06.1 +0.9**
PGB Panagyurishte 56.38 32 *i* P **P 14 28 06.1 -0.6**
BALY Balya 56.42 36⇓*i*P **P 14 28 07.6 +0.6**
LPAZ La Paz 56.43 253 P **P 14 28 09.0 +1.5**
comp=Z,6.6nm,1.1s,mb4.6,baz=77,slow=7.0,SNR=7.3
LPAZ LR LR 14 51 28.0
comp=Z,2μm,19.2s,MS5.1,baz=250,slow=35
LPAZ La Paz 56.43 253 *e*P **P 14 28 06.0 -1.5**
LPAZ pmax pmax
comp=Z,34nm,1.7s
LPAZ MLR MLR
comp=Z,2μm,19.0s
LPAZ La Paz 56.43 253 *e*P **P 14 28 06.0 -1.5**
comp=Z,34nm,1.7s,mb5.1
LPAZ LR LR
comp=Z,2μm,19.0s,MS5.2
KDZ Kurdzhali 56.43 33 *i* P **P 14 28 06.6 -0.5**
PKSM Moragy 56.50 25⇓*i*P **P 14 28 07.1 -0.4**
PKSM Moragy 56.50 25 P **P 14 28 08.8 +1.3**
GRB3 Grafenberg Arr 56.58 19 *e*PP PP 14 30 19.3 +5.2
DEMI Demirci 56.64 38⇓*i*P **P 14 28 08.5 0.0**
GRA1 Grafenberg Arr 56.70 18 *e*P **P 14 28 08.3 -0.5**
comp=Z,66nm,1.8s,mb5.4
GRA1 *e*pP pP 14 28 14.7 -1.1
GRF Grafenberg Arr 56.70 18 *e*P **P 14 28 08.3 -0.5**
GRF *e**PP pP 14 28 14.7 -1.1
GRF pmax pmax
comp=Z,66nm,1.8s,mb5.4
GRF Grafenberg Arr 56.70 18 *e*P **P 14 28 08.3 -0.5**
GRF *e**PP pP 14 28 14.7 -1.1
GRF pmax pmax
comp=Z,66nm,1.8s,mb5.4
GRF Grafenberg Arr 56.70 18 *e*P **P 14 28 08.3 -0.5**
comp=Z,66nm,1.8s,mb5.4
GRF *e*pP pP 14 28 14.7 -1.1
WET Wettzell 56.75 19 *e*P **P 14 28 08.8 -0.4**
WET *e**PP pP 14 28 15.2 -1.0
WET *e* 14 30 15.6
WET pmax pmax
comp=Z,34nm,1.3s,mb5.2
WET Wettzell 56.75 19 *e*P **P 14 28 08.8 -0.4**
comp=Z,34nm,1.3s,mb5.2
WET *e*pP pP 14 28 15.2 -1.0
WET *e*PP PP 14 30 15.6 0.0
GEC2 GERESS Array S 56.77 20 *e*P **P 14 28 09.2 -0.1**
GEC2 *e**PP pP 14 28 15.4 -0.9
GEC2 *e* 14 30 14.6
GEC2 pmax pmax
comp=Z,48nm,1.3s,mb5.4
GEC2 GERESS Array S 56.77 20 *e*P **P 14 28 09.2 -0.1**
comp=Z,48nm,1.3s,mb5.4
GEC2 *e*pP pP 14 28 15.4 -0.9
GEC2 *e*PP PP 14 30 14.6 -1.2
GERES GERESS Array B 56.77 20 P **P 14 28 09.0 -0.3**
comp=Z,8.3nm,0.9s,mb4.8,baz=201,slow=5.7,SNR=20
GERES LR LR 14 54 20.7
comp=Z,1μm,18.7s,MS5.0,baz=214,slow=38
CSNA Conrad Observa 56.78 22⇑*i*P **P 14 28 09.9 +0.5**
comp=Z,21nm,1.4s,mb5.0
CONA Conrad Observa 56.78 22⇑*i*P **P 14 28 09.9 +0.5**
comp=Z,23nm,1.4s,mb5.0
SOP Sopron 56.84 23⇑*e*P **P 14 28 11.1 +1.3**
KHC Kasperske Hory 56.97 20 *e*P **P 14 28 10.7 -0.1**
KHC *e*pP pP 14 28 17.1 -0.7
KHC *e*S **S 14 36 08.2 +4.5**
KHC AMS AMS 14 53 20.0
comp=Z,1μm,17.8s
TKTP Tekketepe 57.02 39⇓*i*P **P 14 28 12.2 +0.8**
ISP Isparta 57.03 40 PFAKE 14 28 20.0 +8.6
ISP LR LR
comp=Z,606nm,19.0s,MS4.7
ROTZ Rotzenmuhle 57.07 19 *e*P **P 14 28 10.4 -1.1**
comp=Z,38nm,1.6s,mb5.2
ROTZ *e*pP pP 14 28 17.2 -1.3
GDZ Gediz 57.13 38⇓*i*P **P 14 28 12.4 +0.3**
BUG Bochum--Univer 57.18 14 *e*P **P 14 28 12.5 +0.3**
comp=Z,17nm,1.0s,mb5.0
BUG *e*PP PP 14 30 21.6 +2.2
MANZ Manzenberg 57.23 18 *e*P **P 14 28 12.2 -0.4**
comp=Z,69nm,1.9s,mb5.4
MANZ *e*pP pP 14 28 18.4 -1.2
UBBA Unterbreizbach 57.34 16 *e*P **P 14 28 12.9 -0.4**
comp=Z,33nm,1.6s,mb5.1
BZS Buzias 57.36 28⇓*i*P **P 14 28 14.1 +0.5**
BZS Buzias 57.36 28 P **P 14 28 14.6 +1.1**
SJG San Juan 57.38 294 LR LR 14 47 10.5
comp=Z,2μm,21.6s,MS5.1,baz=140,slow=30
NKC Novy Kostel 57.56 18 *e*P **P 14 28 15.0 +0.1**
NKC *e*pP pP 14 28 22.2 +0.3
NKC *e*S **S 14 36 20.0 +8.7**
NKC AMS AMS 14 53 40.0
comp=Z,1μm,15.5s
NKC Novy Kostel 57.56 18 *e*P **P 14 28 15.0 +0.1**
NKC *e*pP pP 14 28 22.2 +0.3
NKC *e*S **S 14 36 20.0 +8.7**
JMB Yambol 57.62 33 *i* P **P 14 28 15.1 -0.4**
MOX Moxa 57.66 18 *e*P **P 14 28 16.0 +0.4**
comp=Z,41nm,2.3s,mb5.0
MOX *e* pP 14 28 21.6 -1.0
MOX
comp=Z,500nm,18.0s
MOX Moxa 57.66 18 *e*P **P 14 28 16.0 +0.4**
MOX *e* pP 14 28 21.6 -1.0
MOX pmax pmax
comp=Z,41nm,2.3s,mb5.0
MOX MLR MLR
comp=Z,500nm,18.0s,MS4.7
MOX Moxa 57.66 18 *e*P **P 14 28 15.2 -0.4**
comp=Z,41nm,1.6s,mb5.2
MOX *e*pP pP 14 28 21.4 -1.2
BUD Budapest 57.67 25⇑*e*P **P 14 28 17.2 +1.5**
MODS Modra-Piesok 57.68 23 *e*P **P 14 28 15.8 0.0**
MODS *e*pP pP 14 28 22.6 -0.2
TREC Trest 57.78 21 *e*P pP 14 28 27.2 +3.7
TREC AMS AMS 14 52 00.0
comp=Z,2μm,20.9s
SZH Strazhica 57.82 32 *i* P **P 14 28 16.8 0.0**
BOLV Bolvadin 57.82 39⇓*i*P **P 14 28 18.1 +1.1**
PRU Pruhonice 58.03 20 *e*P **P 14 28 17.8 -0.4**
PRU *e*pP pP 14 28 25.0 -0.2
PRU *e*S **S 14 36 23.6 +6.0**
PRU AMS AMS 14 54 10.0
comp=Z,800nm,15.5s
PRA Prague 58.07 20 P **P 14 28 17.0 -1.4**
LVC Limon Verde 58.09 246 LR LR 14 51 57.1
comp=Z,1μm,18.8s,MS5.0,baz=314,slow=35
LVC Limon Verde 58.09 246 P **P 14 28 18.0 -1.2**
LVC LR LR
comp=Z,2μm,21.0s,MS5.2
IBBN Ibbenburen 58.10 14 *e*P **P 14 28 18.6 0.0**

VRAC Vranov 58.19 22⇑*i*P **P 14 28 18.8 -0.5**
VRAC Vranov 58.19 22⇑P **P 14 28 18.8 -0.5**
KOLL Kolacno 58.29 23 *e*P **P 14 28 20.7 +0.7**
CLZ Clausthal 58.36 16 *e*P **P 14 28 19.4 -1.1**
CLZ *e* 14 30 28.5
CLZ pmax pmax
comp=Z,17nm,1.2s,mb5.0
CLZ Clausthal 58.36 16 *e*P **P 14 28 19.4 -1.1**
comp=Z,17nm,1.2s,mb5.0
CLZ *e*PP PP 14 30 28.5 -1.4
PSZ Piszkesteto 58.37 25 P **P 14 28 21.8 +1.2**
PSZ Piszkesteto 58.37 25⇓*e*P **P 14 28 21.1 +0.5**
PSZ Piszkesteto 58.37 25⇓*i*P **P 14 28 21.0 +0.4**
PSZ Piszkesteto 58.37 25 *e*P **P 14 28 20.9 +0.2**
comp=Z,40nm,1.4s,mb5.3
PSZ *e* pP 14 28 27.6 -0.1
KDHN Kadinhani 58.45 40⇓*i*P **P 14 28 21.9 +0.6**
PVCC Panska Ves 58.50 20 *e*P **P 14 28 21.7 +0.2**
PVCC *e*pP pP 14 28 28.2 -0.3
PVCC *e*S **S 14 36 34.8 +11**
PVCC AMS AMS 14 51 30.0
comp=Z,900nm,16.6s
PRD Provadia 58.56 33 *i* P **P 14 28 22.2 +0.2**
BRG Berggiesshubel 58.59 19 *e*P **P 14 28 21.7 -0.4**
BRG *e* 14 30 36.9
BRG S **S 14 36 35.0 +10**
BRG pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
BRG MLR MLR
comp=Z,830nm,15.7s,MS5.0
BRG Berggiesshubel 58.59 19 *e*P **P 14 28 20.2 -1.9**
comp=Z,25nm,1.5s,mb5.0
BRG *e*PP PP 14 30 29.2 -2.7
BRG Berggiesshubel 58.59 19 *e*P **P 14 28 21.7 -0.4**
comp=Z,14nm,1.4s,mb4.8
BRG *e* 14 30 36.9
comp=Z,20nm,1.6s
BRG PP PP 14 30 46.0 +14
BRG S **S 14 36 35.0 +10**
BRG
comp=N,944nm,13.6s
BRG
comp=E,544nm,16.9s
BRG
comp=Z,1μm,15.7s
BRG Berggiesshubel 58.59 19 *e*P **P 14 28 21.7 -0.4**
comp=Z,8.7nm,1.4s,mb4.6
BRG *e* 14 30 36.9
BRG PP PP 14 30 46.0 +14
BRG S **S 14 36 35.0 +10**
BRG LR LR
comp=Z,830nm,15.7s,MS5.0
CLL Collm 58.66 18 *i* P **P 14 28 22.4 -0.2**
CLL *i* pP 14 28 28.8 -0.8
CLL *e*S **S 14 36 34.0 +8.2**
CLL pmax pmax
comp=Z,22nm,1.4s,mb5.0
CLL MLR MLR
comp=Z,1μm,20.9s,MS4.9
CLL Collm 58.66 18 *e*P **P 14 28 22.8 +0.2**
comp=Z,19nm,1.2s,mb5.0
CLL Collm 58.66 18 *i* P **P 14 28 22.4 -0.2**
comp=Z,22nm,1.4s,mb5.0
CLL *i* sP sP 14 28 28.8 -3.5
CLL *e*x x 14 28 33.0
CLL *e*PP PP 14 30 37.0 +4.4
CLL *e*S **S 14 36 34.0 +8.2**
CLL *e*x x 14 37 44.0
CLL *e*(SS) 14 40 06.0
CLL *e*SSS 14 42 54.0
CLL Lm 14 53 00.0
comp=N,600nm,21.5s
CLL Lm 14 53 00.0
comp=E,500nm,19.7s
CLL Lm 14 53 00.0
comp=Z,1μm,20.9s
CLL Collm 58.66 18 *i* P **P 14 28 22.4 -0.2**
comp=Z,22nm,1.4s,mb5.0
CLL *i* pP 14 28 28.8 -0.8
CLL *e*S **S 14 36 34.0 +8.2**
CLL LR LR
comp=Z,1μm,20.9s,MS4.9
DRGR 58.75 27⇓*i*P **P 14 28 23.7 +0.4**
DRGR 58.75 27 P **P 14 28 23.8 +0.5**
MORC Moravsky Berou 58.93 22 *e*P **P 14 28 23.2 -1.3**
MORC pmax pmax
comp=Z,73nm,2.0s,mb5.4
MORC Moravsky Berou 58.93 22⇓*i*P **P 14 28 24.3 -0.2**
MORC Moravsky Berou 58.93 22 *e*P **P 14 28 23.2 -1.3**
comp=Z,73nm,2.0s,mb5.4
DPC Dobruska-Polom 58.96 21 *e*P **P 14 28 24.2 -0.5**
DPC *e*pP pP 14 28 31.1 -0.6
DPC *e*S **S 14 36 35.4 +5.8**
DPC AMS AMS 14 53 50.0
comp=Z,1μm,18.8s
UPC Upice 58.98 21 *e*P **P 14 28 24.8 0.0**
UPC *e*pP pP 14 28 31.1 -0.7
KECS Kecovo 59.06 25 *e*P **P 14 28 26.0 +0.6**
KECS *e* pP 14 28 33.0 +0.5
KECS pmax pmax
comp=Z,11nm,1.5s,mb4.7
KECS Kecovo 59.06 25 *e*P **P 14 28 26.0 +0.6**
comp=Z,11nm,1.5s,mb4.7
KECS *e* pP 14 28 33.0 +0.5
OKC Ostrava-Krasne 59.21 22 *e*P **P 14 28 26.7 +0.3**
OKC *e*pP pP 14 28 33.1 -0.3
OKC *e*S **S 14 36 44.3 +11**
OKC AMS AMS 14 53 30.0
comp=Z,1μm,19.4s
OKC Ostrava-Krasne 59.21 22 *e*P **P 14 28 26.7 +0.3**
OKC *e*pP pP 14 28 33.1 -0.3
OKC *e*S **S 14 36 44.3 +11**
PSN Preselentsi 59.31 33 *i* P **P 14 28 26.2 -1.0**
KSP Ksiaz 59.36 21 *e*P **P 14 28 27.4 0.0**
KSP *e*S **S 14 36 37.0 +2.2**
KSP MLR MLR
comp=Z,2μm,27.2s,MS5.0
MLR Muntele Rosu 59.36 30⇓*i*P **P 14 28 27.2 -0.4**
MLR Muntele Rosu 59.36 30 P **P 14 28 28.3 +0.8**
CFAA Coronel Fontan 59.56 235 LR LR 14 51 59.8
comp=Z,269nm,19.2s,MS4.4,baz=76,slow=34
SDV Santo Domingo 59.59 282 *e*P **P 14 28 30.4 +0.7**
comp=Z,7.8nm,0.9s,mb4.7
ANTO Ankara 59.66 39 *e*P **P 14 28 29.7 0.0**
ANTO pmax pmax
comp=Z,79nm,1.6s,mb5.5
ANTO MLR MLR
comp=Z,1μm,22.0s,MS5.0
ANTO Ankara 59.66 39⇓*i*P **P 14 28 30.7 +1.0**
ANTO Ankara 59.66 39 *e*P **P 14 28 29.7 0.0**
comp=Z,79nm,1.6s,mb5.5
ANTO LR LR
comp=Z,1μm,22.0s,MS5.0
NIE Niedzica 59.72 24 *e*P **P 14 28 31.1 +1.1**
CRVS Cervenica-Dubn 59.80 25 *e*P **P 14 28 31.5 +1.0**
ABPO Ambohimpanom 59.94 110 PFAKE 14 28 40.0 +7.9
ABPO LR LR
comp=Z,1μm,19.0s,MS5.0
UZH Uzhgorod 59.94 26*d i*P **P 14 28 30.5 -1.0**
UZH *i* 14 28 41.3
UZH *i* 14 29 19.5
UZH *e*S **S 14 36 35.7 -6.8**
UZH *i* PS 14 36 51.0
UZH *e*SS SS 14 40 37.0 -2.3
UZH *i* SSS 14 43 05.0
UZH MLR MLR
comp=N,530nm,15.0s,MS4.9
UZH MLR MLR
comp=E,420nm,15.0s,MS4.9
UZH MLR MLR
comp=Z,230nm,15.0s,MS4.4
TIRR Tirgusor 59.94 33⇑*i*P **P 14 28 30.8 -0.8**
TIRR Tirgusor 59.94 33⇑P **P 14 28 30.8 -0.8**
VRI Vrincioaia 60.02 30⇓*i*P **P 14 28 31.1 -1.0**
VRI Vrincioaia 60.02 30 P **P 14 28 32.1 +0.1**
OJC Ojcow 60.15 23 *e*P **P 14 28 32.8 -0.1**
OJC *e*S **S 14 36 40.0 -5.0**
OJC L 14 55 53.6
comp=Z,1.5nm,18.9s
KOLS Kolonicke sedl 60.16 25 *e*P **P 14 28 33.3 +0.3**
BSEG Bad Segeberg 60.23 15 *e*P **P 14 28 33.1 -0.2**
comp=Z,54nm,1.7s,mb5.3
BSEG *e*pP pP 14 28 39.3 -1.1
BSEG *e*PP PP 14 30 45.2 -1.2

AVNT Avonos 60.37 41⇓*i*P **P 14 28 34.4 -0.3**
CDAG Cicekdag 60.52 40⇓*i*P **P 14 28 36.0 +0.3**
ANDN Andirin 60.73 43⇓*i*P **P 14 28 37.8 +0.6**
KWP Kalwaria 60.88 25 *e*P **P 14 28 36.3 -1.6**
KWP pmax pmax
comp=Z,21nm,1.0s,mb5.2
KWP Kalwaria 60.88 25 *e*P **P 14 28 36.3 -1.6**
comp=Z,21nm,1.0s,mb5.2
ILGA Ilgaz 60.91 38⇓*i*P **P 14 28 39.0 +0.8**
LCO Las Campanas 60.97 239 PFAKE 14 28 50.0 +11
LCO LR LR
comp=Z,3μm,19.0s,MS5.4
BALT Daday 60.99 38⇓*i*P **P 14 28 39.0 +0.3**
BBSR BB Station 61.24 310 PFAKE 14 28 50.0 +9.3
BBSR LR LR
comp=Z,775nm,21.0s,MS4.8
EFI East Falkland 61.33 211 PFAKE 14 28 50.0 +9.0
EFI LR LR
comp=Z,2μm,21.0s,MS5.3
PINB Pinarbasi 61.34 42⇓*i*P **P 14 28 42.2 +0.9**
CTKT Corum 61.34 39⇓*i*P **P 14 28 42.0 +0.8**
LVV L'vov 61.59 26 *e*P **P 14 28 41.8 -0.9**
LVV MLR MLR
comp=Z,500nm,20.0s,MS4.7
MALT Malatya 62.52 43 *e*P **P 14 28 50.0 +0.8**
MALT pmax pmax
comp=Z,22nm,1.4s,mb5.1
MALT Malatya 62.52 43⇓*i*P **P 14 28 49.9 +0.7**
MALT Malatya 62.52 43 *e*P **P 14 28 50.0 +0.7**
comp=Z,22nm,1.4s,mb5.1
ROSC El Rosal 62.69 277 P **P 14 28 53.2 +2.4**
comp=Z,7.8nm,0.3s,mb5.2,baz=99,slow=19,SNR=9.2
ROSC LR LR 14 53 02.7
comp=Z,2μm,20.7s,MS5.3,baz=19,slow=33
ROSC El Rosal 62.69 277 *e*P **P 14 28 53.0 +2.2**
ELZG Elazig 63.00 43⇓*i*P **P 14 28 53.0 +0.6**
DIYA Diyarbakir 63.51 44⇓*i*P **P 14 28 56.4 +0.6**
MARD Mardin 63.69 45⇓*i*P **P 14 28 56.7 -0.3**
PLCA Paso Flores 64.11 226 P **P 14 29 02.0 +2.3**
comp=Z,2.5nm,0.9s,mb4.2,baz=37,slow=8.2,SNR=3.1
PLCA Paso Flores 64.11 226 P **P 14 29 02.0 +2.3**
PLCA LR LR
comp=Z,930nm,20.0s,MS5.0
KIEV Kiev 64.54 28 *e*P **P 14 29 01.3 -1.0**
KIEV pmax pmax
comp=Z,18nm,1.0s,mb5.1
KIEV Kiev 64.54 28 *e*P **P 14 29 01.3 -0.9**
comp=Z,18nm,1.0s,mb5.1
AKASG Malin Array Be 64.55 28 P **P 14 29 01.5 -0.9**
comp=Z,2.4nm,0.8s,mb4.3,baz=229,slow=7.2,SNR=31
AKASG LR LR 14 59 13.1
comp=Z,540nm,19.4s,MS4.8,baz=205,slow=38
AKBB Malin Array Si 64.55 28 *e*P **P 14 29 00.9 -1.5**
ANN Anapa 65.27 37 *e*P **P 14 29 04.6 -2.6**
ANN *e*S S 14 37 44.0 -5.6
ANN *e*SS SS 14 42 00.1 -2.7
ANN pmax pmax
comp=Z,90nm,1.8s,mb5.5
ANN pmax pmax
comp=Z,217nm,9.6s
ANN MLR MLR
comp=E,263nm,20.0s
ANN MLR MLR
comp=Z,366nm,20.0s,MS4.6
HOMI Horasan 65.72 43⇓*i*P **P 14 29 11.2 +1.0**
HAKT HAKKARI 65.88 46⇓*i*P **P 14 29 11.1 -0.2**
SOC Sochi 66.02 39*d i*P **P 14 29 11.0 -1.0**
SOC *e**PP pP 14 29 19.3 +0.1
SOC *e* 14 29 42.9
SOC *e*S S 14 37 57.2 -1.6
SOC *e**SS sS 14 38 13.1 +2.6
SOC *e* 14 39 03.1
SOC *e*SS SS 14 42 12.3 -2.2
SOC pmax pmax
comp=Z,59nm,1.9s,mb5.3
OTAV Otavalo 66.38 272 *e*P **P 14 29 16.1 +1.1**
comp=Z,14nm,1.4s,mb4.8
OTAV LR LR
comp=Z,1μm,19.0s,MS5.1
NOA NORSAR Array B 66.85 12 LR LR 15 00 34.3
comp=Z,265nm,18.6s,MS4.5,baz=200,slow=38
VNA1 Neumayer--Stat 67.10 179 *e*P **P 14 29 19.4 +0.9**
VNA1 *e* 14 29 22.8
VNA1 *e* pP 14 29 24.9 -0.7
VNA2 Neumayer--Watz 67.40 178 *e*P **P 14 29 20.4 0.0**
VNA2 *e* 14 29 23.3
VNA2 *e* pP 14 29 26.2 -1.3
VNA3 Neumayer Olymp 67.67 179 *e*P **P 14 29 21.7 -0.3**
VNA3 *e* 14 29 24.8
VNA3 *e* pP 14 29 27.6 -1.6
GNI Garni 67.72 44 P **P 14 29 23.2 +0.3**
GNI pmax pmax
comp=Z,137nm,1.8s
GNI MLR MLR
comp=Z,478nm,20.0s
GNI Garni 67.72 44 P **P 14 29 23.2 +0.3**
comp=Z,137nm,1.8s,mb5.7
GNI LR LR
comp=Z,478nm,20.0s,MS4.7
KIV Kislovodsk 68.07 40*d i*P **P 14 29 24.1 -1.0**
KIV pmax pmax
comp=Z,61nm,2.3s,mb5.2
KIV Kislovodsk 68.07 40⇓*i*P **P 14 29 25.3 +0.2**
KIV Kislovodsk 68.07 40 *e*P **P 14 29 24.1 -0.9**
comp=Z,47nm,1.3s,mb5.4
KIV *e* pP 14 29 31.4 -0.8
KIV LR LR
comp=Z,385nm,19.0s,MS4.7
SNAA Sanae 68.34 177 *e*P **P 14 29 26.1 -0.1**
SNAA *e* 14 29 29.0
SNAA *e* pP 14 29 31.9 -1.5
SNAA Sanae 68.34 177 LR LR 14 52 06.8
comp=Z,381nm,21.7s,MS4.6,baz=3.1,slow=30
SNAA Sanae 68.34 177 *e*P **P 14 29 25.7 -0.5**
SNAA Sanae 68.34 177 *e*P **P 14 29 25.6 -0.6**
comp=Z,27nm,1.1s,mb5.2
BCIP Isla Barro Col 68.63 281 PFAKE 14 29 40.0 +11
BCIP LR LR
comp=Z,797nm,21.0s,MS4.9
VRSR Storozhevoye 69.81 32 *e*P **P 14 29 34.5 -1.2**
VRSR pmax pmax
comp=Z,10.0nm,1.8s,mb4.4
VRSR pmax pmax
comp=N,5.0nm,1.7s
VRSR pmax pmax
comp=E,4.0nm,1.0s
HRV Adam Dziewonsk 70.45 317 PFAKE 14 29 50.0 +10
HRV LR LR
comp=Z,725nm,20.0s,MS4.9
MAK Makhachkala 70.78 42 *e*P **P 14 29 39.8 -2.0**
MAK *e* 14 29 58.7
MAK *e* 14 32 16.4
MAK *e*S S 14 38 51.7 -3.8
MAK *e* 14 39 41.2
MAK pmax pmax
comp=Z,270nm,2.3s,mb5.8
MAK MLR MLR
comp=Z,660nm,16.0s,MS5.0
OBN Obninsk 70.80 27 P **P 14 29 41.0 -0.7**
OBN *e* pP 14 29 48.2 -0.7
OBN *e* 14 30 02.6
OBN *e* 14 32 14.2
OBN *e*S S 14 39 00.0 +4.8
OBN pmax pmax
comp=Z,41nm,1.8s,mb5.1
OBN MLR MLR
comp=Z,600nm,19.0s,MS4.9
PMSA Palmer Station 71.42 201 *e*P **P 14 29 44.9 -0.5**
comp=Z,22nm,1.3s,mb4.9
PMSA LR LR
comp=Z,447nm,21.0s,MS4.7
MOS Moscow 71.66 27 *e*P **P 14 29 43.4 -3.5**
MOS *e* 14 29 52.1
KAF Kangasniemi 71.69 18 *e*pkp **P 14 29 44.5 -2.4**
CNNC Cliffs of the 72.50 309 PFAKE 14 30 00.0 +7.6
CNNC LR LR
comp=Z,1μm,21.0s,MS5.2
LONY Lake Ozonia 73.30 319 PFAKE 14 30 10.0 +13
LONY LR LR
comp=Z,507nm,22.0s,MS4.8
BINY Binghamton 73.36 316 PFAKE 14 30 10.0 +13
BINY LR LR
comp=Z,584nm,21.0s,MS4.8
SCHQ Schefferville 73.48 330 LR LR 14 56 59.7

comp=Z,404nm,19.9s,MS4.7,baz=284,slow=32
SCHQ Schefferville 73.48 330 P **P 14 29 56.3 -1.5**
comp=Z,23nm,1.4s,mb4.9
JOF Joensuu 73.87 19 *e*pkp **P 14 29 56.4 -3.5**
BLA Blacksburg 75.03 310 PFAKE 14 30 20.0 +13
BLA LR LR
comp=Z,985nm,19.0s,MS5.1
ELN Prospectdale 75.29 310 *e*P **P 14 30 08.5 -0.1**
KLMR Klimovskoe 75.50 23 *e*P **P 14 30 08.6 -0.8**
KLMR *e* 14 32 54.1
KLMR *e*S S 14 39 45.3 -3.1
KLMR pmax pmax
comp=Z,45nm,1.8s,mb5.1
GOGA Godfrey 76.46 305 PFAKE 14 30 30.0 +15
GOGA LR LR
comp=Z,889nm,22.0s,MS5.0
ARCES ARCESS Array B 77.22 13 P **P 14 30 18.4 -0.6**
comp=Z,4.1nm,0.9s,mb4.3,baz=340,slow=14,SNR=5.3
ARCES LR LR 15 06 13.7
comp=Z,503nm,19.4s,MS4.8,baz=223,slow=37
TKL Tuckaleechee C 77.24 308 *e*P **P 14 30 19.6 -0.2**
KEV Kevo 77.72 13 P **P 14 30 21.2 -0.6**
KEV MLR MLR
comp=Z,589nm,20.0s,MS4.9
SUMG Summit 77.77 352 *e*pP pP 14 30 29.7 +0.4
ACSO Alum Creek Sta 77.78 312 PFAKE 14 30 30.0 +7.3
ACSO LR LR
comp=Z,623nm,22.0s,MS4.9
AAM Ann Arbor 78.81 314 PFAKE 14 30 40.0 +12
AAM LR LR
comp=Z,548nm,19.0s,MS4.9
SWET Sewanee 78.86 307 *e*P **P 14 30 27.9 -0.9**
BRAL Brewton 78.94 302 PFAKE 14 30 40.0 +11
BRAL LR LR
comp=Z,769nm,20.0s,MS5.0
GLMI Grayling 80.14 316 PFAKE 14 30 50.0 +14
GLMI LR LR
comp=Z,631nm,21.0s,MS4.9
DAG Danmarks Havn 80.25 358⇓ *e*P **P 14 30 35.9 +0.4**
DAG pmax pmax
comp=Z,11nm,1.1s,mb4.7
DAG Danmarks Havn 80.25 358⇓ *i*P **P 14 30 35.9 +0.4**
comp=Z,11nm,1.1s,mb4.7
DAG Danmarks Havn 80.25 358⇓ *e*P **P 14 30 35.9 +0.4**
comp=Z,11nm,1.1s,mb4.7
PLAL Pickwick Lake 80.53 306 PFAKE 14 30 50.0 +12
PLAL LR LR
comp=Z,681nm,22.0s,MS5.0
MAW Mawson 81.09 158 P **P 14 30 40.7 +0.5**
comp=Z,3.8nm,0.8s,mb4.4,baz=282,slow=13,SNR=7.2
MAW LR LR 14 58 37.1
comp=Z,459nm,21.9s,MS4.8,baz=277,slow=30
MAW Mawson 81.09 158 *e*P **P 14 30 39.1 -1.1**
MAW pmax pmax
comp=Z,79nm,2.0s
MAW Mawson 81.09 158 *e*P **P 14 30 39.1 -1.1**
comp=Z,79nm,2.0s,mb5.3
ARU Arti 82.36 32 P **P 14 30 47.5 +0.4**
comp=Z,82nm,1.0s,mb5.6,SNR=5.3
SOKR Solikamsk 82.50 29*c* *i*P **P 14 30 48.4 +0.7**
SOKR pmax pmax
comp=Z,80nm,3.9s
FVM French Village 82.94 309 P **P 14 30 49.6 -0.9**
FVM pmax pmax
comp=Z,33nm,1.3s,mb5.2
FVM French Village 82.94 309 P **P 14 30 49.6 -1.0**
comp=Z,33nm,1.3s,mb5.2
JFWS Jewell Farm 83.69 314 PFAKE 14 31 10.0 +16
JFWS LR LR
comp=Z,540nm,22.0s,MS4.9
KBL Kabul 84.71 55 P **P 14 30 59.0 -0.7**
EYMN Ely 85.47 318 PFAKE 14 31 10.0 +6.9
EYMN LR LR
comp=Z,659nm,21.0s,MS5.0
HKT Hockley 86.27 300 PFAKE 14 31 20.0 +12
HKT LR LR
comp=Z,464nm,20.0s,MS4.9
QSPA South Pole Qui 86.59 180 LR LR 15 04 16.1
comp=Z,484nm,18.2s,MS4.9,baz=210,slow=32
KSU1 Kansas State U 87.89 309 PFAKE 14 31 30.0 +15
KSU1 LR LR
comp=Z,926nm,21.0s,MS5.2
BRVK Borovoye 88.21 37 *e*P **P 14 31 16.3 -0.1**
BRVK pmax pmax
comp=Z,13nm,1.4s,mb5.0
BRVK MLR MLR
comp=Z,647nm,20.0s,MS5.0
BRVK Borovoye 88.21 37 *e*P **P 14 31 16.3 -0.1**
comp=Z,13nm,1.4s,mb5.0
BRVK LR LR
comp=Z,647nm,20.0s,MS5.0
BVAR Borovoye Array 88.27 37 P **P 14 31 16.8 +0.1**
comp=Z,1.5nm,0.9s,mb4.2,baz=298,slow=3.2,SNR=6.9
BVAR LR LR 15 10 45.7
comp=Z,242nm,21.4s,MS4.6,baz=255,slow=36
ECSD EROS,Sioux Fal 88.40 314 *e*P **P 14 31 16.5 -1.1**
comp=Z,21nm,1.2s,mb5.2
ECSD LR LR
comp=Z,419nm,22.0s,MS4.8
ULM Lac du Bonnet 88.66 320 LR LR 15 07 37.2
comp=Z,496nm,18.8s,MS5.0,baz=201,slow=33
WMOK Wichita Mounta 89.21 305 *e*P **P 14 31 20.4 -1.2**
WMOK pmax pmax
comp=Z,20nm,1.5s,mb5.2
WMOK Wichita Mounta 89.21 305 *e*P **P 14 31 20.4 -1.2**
comp=Z,20nm,1.5s,mb5.2
AML Almayashu 89.23 48 *e*P **P 14 31 21.0 -0.4**
comp=Z,30nm,1.7s,mb5.3
AML LR LR
comp=Z,665nm,20.0s,MS5.1
EKS2 Erkin-Say 89.34 47 *e*P **P 14 31 21.2 -0.7**
comp=Z,14nm,1.4s,mb5.1
EKS2 LR LR
comp=Z,907nm,20.0s,MS5.2
JCT Junction City 89.74 300 PFAKE 14 31 30.0 +5.9
JCT LR LR
comp=Z,568nm,21.0s,MS5.0
FRU Bishkek 89.97 47 *e*P **P 14 31 25.6 +0.7**
CBKS Cedar Bluff 90.30 309 PFAKE 14 31 40.0 +13
CBKS LR LR
comp=Z,791nm,20.0s,MS5.1
TKM2 Tokmak 2 90.69 47 *e*P **P 14 31 28.1 -0.2**
comp=Z,0.6nm,0.6s,mb4.1
TKM2 *e* pP 14 31 34.5 -1.1
AMTX Amarillo 91.60 305 PFAKE 14 31 40.0 +7.3
AMTX LR LR
comp=Z,986nm,21.0s,MS5.2
TXAR Lajitas Array 93.03 299 P **P 14 31 40.0 +0.5**
comp=Z,1.2nm,0.9s,mb4.3,baz=120,slow=7.4,SNR=7.2
TXAR Lajitas Array 93.03 299 P **P 14 31 40.0 +0.5**
KURK Kurchatov 93.16 40 P **P 14 31 39.1 -0.4**
KURK pmax pmax
comp=Z,6.0nm,1.2s,mb4.9
KURK Kurchatov 93.16 40 P **P 14 31 39.1 -0.4**
comp=Z,5.7nm,1.2s,mb4.9
RSSD Black Hills 93.78 314 P **P 14 31 40.5 -2.0**
DGMT Dagmar 93.96 318 PFAKE 14 31 50.0 +6.7
DGMT LR LR
comp=Z,675nm,21.0s,MS5.1
SDCO Great Sand Dun 94.78 307 *e*P **P 14 31 47.8 +0.4**
comp=Z,8.5nm,1.4s,mb5.0
ANMO Albuquerque 95.53 305 *e*P **P 14 31 51.6 +0.8**
ANMO Albuquerque 95.53 305 PFAKE 14 32 00.0 +9.2
ANMO LR LR
comp=Z,788nm,21.0s,MS5.2
MKAR Makanchi Array 95.56 43 P **P 14 31 50.5 -0.1**
comp=Z,0.3nm,0.4s,mb4.1,baz=255,slow=5.7,SNR=2.3
MKAR PP PP 14 35 44.7 +2.8
comp=Z,1.4nm,1.0s,baz=284,slow=7.0,SNR=3.8
MKAR LR LR 15 22 14.2
comp=Z,462nm,19.2s,MS5.0,baz=259,slow=40
MKAR Makanchi Array 95.56 43 P **P 14 31 50.5 -0.2**
MKAR 14 35 44.7
MKAR Makanchi Array 95.56 43 P **P 14 31 50.5 -0.1**
MKAR PP PP 14 35 44.7 +2.8
MKAR LR LR 15 22 14.2
LAZ Ladron 96.09 304 *e*P **P 14 31 53.6 +0.2**
MVCO Mesa Verde 97.17 307 PFAKE 14 32 10.0 +12
MVCO LR LR
comp=Z,335nm,21.0s,MS4.8
BW06 Boulder Array 97.81 313 PFAKE 14 32 10.0 +9.1
BW06 LR LR
comp=Z,708nm,19.0s,MS5.2
SBA Scott Base 98.75 180 P **P 14 32 07.0 +2.5**
YKA Yellowknife Ar 98.84 333 P **P 14 32 06.5 +1.4**
comp=Z,1.5nm,1.1s,mb4.4,baz=70,slow=5.0,SNR=4.9
YKA LR LR 15 11 36.9
comp=Z,277nm,21.1s,MS4.7,baz=125,slow=32
YKA Yellowknife Ar 98.84 333 P **P 14 32 06.5 +1.4**
YKA LR LR 15 11 36.9
AHID Auburn Hatcher 98.95 313 PFAKE 14 32 20.0 +14
AHID LR LR
comp=Z,661nm,19.0s,MS5.2
VNDA Vanda 99.02 179 LR LR 15 12 02.9
comp=Z,362nm,19.2s,MS4.9,baz=159,slow=32
BOZ Bozeman (W) 99.13 316 PFAKE 14 32 20.0 +13
BOZ LR LR
comp=Z,442nm,19.0s,MS5.0
CASY Casey 99.36 160 PFAKE 14 32 20.0 +13
CASY LR LR
comp=Z,337nm,20.0s,MS4.8
HWUT Hardware Ranch 99.36 311 PFAKE 14 32 20.0 +12
HWUT LR LR
comp=Z,1μm,22.0s,MS5.3
WMQ Urumqi 99.51 46 *e*P **P 14 32 07.6 -0.9**
WMQ AP pP 14 32 12.4 -3.5
WMQ XP sP 14 32 14.6 -3.9
WMQ PP PP 14 36 13.6 +1.4
WMQ SKS 14 42 44.4
WMQ *e*S S 14 43 36.1 -4.1
WMQ XS sS 14 43 44.6 -7.8
WMQ PS PS 14 45 09.6 -0.5
WMQ SS SS 14 50 30.1 -0.5
WMQ AMB AMB
comp=Z,8.0nm,0.6s,mb5.3
WMQ LR LR
comp=N,264nm,21.6s,MS4.9
WMQ LR LR
comp=E,324nm,20.8s,MS4.9
WMQ LR LR
comp=Z,452nm,21.6s,MS4.9
DUG Dugway 100.41 310 PFAKE 14 32 20.0 +7.8
DUG LR LR
comp=Z,845nm,20.0s,MS5.2
ELK Elko 102.20 311 PFAKE 14 32 30.0 +10
ELK LR LR
comp=Z,1μm,21.0s,MS5.3
GLA Glamis 102.54 303 PFAKE 14 32 30.0 +8.3
GLA LR LR
comp=Z,377nm,20.0s,MS4.9
BMO Blue Mountains 103.20 315 PFAKE 14 32 40.0 +15
BMO LR LR
comp=Z,468nm,19.0s,MS5.0
BMN Battle Mountai 103.74 311 PFAKE 14 32 40.0 +13
BMN LR LR
comp=Z,824nm,21.0s,MS5.2
GSC Goldstone 103.98 305 PFAKE 14 32 40.0 +12
GSC LR LR
comp=Z,469nm,21.0s,MS5.0
BAR Barrett 104.11 303 PFAKE 14 32 40.0 +11
BAR LR LR
comp=Z,477nm,22.0s,MS5.0
DAC Darwin (Calif) 104.52 306 PFAKE 14 32 40.0 +9.5
DAC LR LR
comp=Z,500nm,22.0s,MS5.0
ISA Isabella 105.30 306 PFAKE 14 37 00.0 +11
ISA LR LR
comp=Z,368nm,20.0s,MS4.9
CMB Columbia Colle 106.50 309 PFAKE 14 37 00.0 +9.3
CMB LR LR
comp=Z,394nm,21.0s,MS4.9
HUMO Hull Mountain 107.63 314 PFAKE 14 37 00.0 +7.3
HUMO LR LR
comp=Z,439nm,22.0s,MS5.0
COCO West Island 107.73 104 PFAKE 14 37 00.0 +6.4
COCO LR LR
comp=Z,359nm,19.0s,MS5.0
HOPS Hopland 108.42 310 PFAKE 14 37 10.0 +16
HOPS LR LR
comp=Z,811nm,19.0s,MS5.3
CHTO Chiang Mai 111.07 71 PFAKE 14 37 10.0 +10
CHTO LR LR
comp=Z,388nm,19.0s,MS5.0
CM31 Chiang Mai Arr 111.09 72 PFAKE 14 37 10.0 +10
CM31 LR LR
comp=Z,562nm,22.0s,MS5.1
LZH Lanzhou 112.94 52 *e*PKP PKiKP 14 37 01.8 -1.1
KMI Kunming 113.97 64 PKP PKiKP 14 37 04.4 -0.8
BILL Bilibino 115.56 1 PFAKE 14 37 20.0 +13
BILL LR LR
comp=Z,237nm,20.0s,MS4.8
HHC Hu-ho-hao-te 117.36 45 *e*PKP PKPdf 14 37 08.8 -2.4
HHC PP PP 14 38 23.9 +1.6
HHC PKS 14 40 44.3
HHC SKS SKSdf 14 44 20.8 -1.4
HHC SKKS SKKSac 14 45 16.6 -5.6
HHC SS SS 14 54 30.8 -0.7
HHC LR LR
comp=N,266nm,19.0s,MS5.2
HHC LR LR
comp=E,442nm,17.8s,MS5.2
HHC LR LR
comp=Z,580nm,17.8s,MS5.2
KDAK Kodiak Island 117.61 337 PFAKE 14 37 20.0 +8.8
KDAK LR LR
comp=Z,54nm,20.0s,MS4.2
RKT Rikitea 118.34 242 *e*SS SS 14 54 52.0 +6.8
comp=Z,641nm,28.8s
RKT Rikitea 118.34 242 *e*LR LR 15 13 25.1
comp=Z,1μm,29.2s
BJI Beijing 120.92 45 PKP PKPdf 14 37 17.4 -0.7
BJI PP PP 14 38 44.9 -1.9
BJI PP PP
comp=Z,256nm,5.5s
BJI LR LR
comp=N,307nm,27.4s,MS4.9
BJI LR LR
comp=E,265nm,27.4s,MS4.9
BJI LR LR
comp=Z,400nm,30.5s,MS4.9
CN2 Changchun 125.12 37 *e*PKP PKPdf 14 37 22.0 -4.1
NJ2 Nanjing 126.01 52 *e*PKP PKPdf 14 37 24.8 -3.3
TAOE Nuku Hiva Isla 126.74 256 *e*SS SS 14 56 37.4 +4.5
comp=Z,755nm,28.4s
TAOE Nuku Hiva Isla 126.74 256 *e*LR LR 15 17 16.2
comp=Z,5μm,23.2s
MBWA Marble Bar 126.88 120 PFAKE 14 37 40.0 +10
MBWA LR LR
comp=Z,830nm,20.0s,MS5.4
SSE Sheshan 128.22 53 PKP PKPdf 14 37 27.1 -5.3
SSE PP PP 14 39 35.3 -0.7
SSE SS SS 14 56 44.8 -5.1
SSE PP PP
comp=Z,167nm,6.6s
SSE LR LR
comp=N,188nm,20.3s,MS4.9
SSE LR LR
comp=E,181nm,20.4s,MS4.9
SSE LR LR
comp=Z,260nm,14.6s
INCN Inchon 129.34 43 PFAKE 14 37 50.0 +16
INCN LR LR
comp=Z,503nm,21.0s,MS5.2
PET Petropavlovsk 130.05 7 PFAKE 14 37 50.0 +15
PET LR LR
comp=Z,307nm,19.0s,MS5.0
TBI Tubuai 130.59 235 *e*SS SS 14 57 21.5 +2.2
comp=Z,477nm,29.8s
TBI Tubuai 130.59 235 *e*LR LR 15 19 00.7
comp=Z,1μm,27.5s
KAPI Kappang 131.20 100 PFAKE 14 37 50.0 +11
KAPI LR LR
comp=Z,640nm,21.0s,MS5.3
PPT Papeete 133.09 242 *e*SS SS 14 57 51.6 +1.2
comp=Z,1μm,25.2s
PPT Papeete 133.09 242 *e*LR LR 15 20 12.7
comp=Z,1μm,26.0s
MAJO Matsushiro 137.26 36 PFAKE 14 38 00.0 +11
MAJO LR LR
comp=Z,315nm,20.0s,MS5.0
ASAR Alice Springs 137.30 131 PKhKP 14 37 37.7
comp=Z,0.6nm,0.8s,baz=217,slow=2.5,SNR=7.6
DAV Davao City (W) 137.76 83 PFAKE 14 38 00.0 +9.2
DAV LR LR
comp=Z,1μm,22.0s,MS5.5
WRA Warramunga Arr 139.67 127 PKhKP 14 37 43.9
comp=Z,0.8nm,0.8s,baz=232,slow=2.8,SNR=7.0
WRA PKP PKPdf 14 37 51.5 -2.6
comp=Z,1.3nm,0.9s,baz=232,slow=2.5,SNR=4.8
WRAB Tennant Creek 139.68 127 *i* PKIKP PKPdf 14 37 54.7 +0.6
CTAO Charters Tower 148.38 139 *e*PKP2 PKPbc 14 38 12.0 -0.7
PMG Port Moresby 155.71 122 PFAKE 14 38 30.0 +10
PMG LR LR
comp=Z,666nm,19.0s,MS5.5

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*ISCJB **16** 14:36:11.4±0.4, 1449S±006×7642W±008, h19km, mb4.5/35, MS4.3/2, Error ellipse: s-maj=12.3km s-min=5.0km az=146.0*
*NEIC **16** 14:36:14.2±0.3, 1436S×7629W, mb4.7/25, Error ellipse: s-maj=11.2km s-min=5.2km az=49.0*
*BJI **16** 14:36:14.2, 1440S×7630W, h22km, mB5.0*
*MOS **16** 14:36:15.1±1.9, 1402S×7605W, h33km, mb4.7/11, Error ellipse: s-maj=19.2km s-min=10.1km az=132.1*
*IDC **16** 14:36:18.5±2.3, 1436S×7616W, h54km±17km, mb4.1/12, mb1 4.3/16, mb1mx4.2/23, mbtmp4.2/16, ML4.6/4, MS4.1/4, Ms1 4.1/4, ms1mx3.6/31, Error ellipse: s-maj=28.5km s-min=11.1km az=50.0*

ISC 16 14:36:13.7±0.4, 1450S±006×7637W±008, h20km, h20km±1.5km:pP-P, n92, σ1s13/84, mb4.5/35, MS4.3/2, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.53**	**350**	P	**Pn**	**14 36 55.5**	**+1.8**
	148nm,0.3s,baz=189,slow=11,SNR=10.0						
NNA				S	**Sn**	**14 37 25.7**	**+1.7**
	160nm,0.3s,baz=172,slow=11,SNR=7.1						
NNA	**Nana**	**2.53**	**350**	*e*Pn	**Pn**	**14 36 52.9**	**-0.8**
NNA				*e*Sn	**Sn**	**14 37 27.7**	**+3.7**
ARE	**Arequipa**	**5.10**	**113**⇑	*i*P	**Pn**	**14 37 31.0**	**+2.0**
ARE				*i* S	**Sn**	**14 38 36.0**	**+8.7**
ATAH	**Atahualpa**	**7.71**	**345**	P	**Pn**	**14 38 07.5**	**+2.6**
	2.8nm,0.3s,baz=183,slow=8.8,SNR=4.8						
ATAH				S	**Sn**	**14 39 31.9**	**+0.3**
	3.9nm,0.3s,baz=297,slow=19,SNR=2.1						
ATAH				LR	LR	14 41 28.5	
	comp=Z,670nm,18.6s,baz=181,slow=41						
LPAZ	**La Paz**	**8.15**	**104**	P	**Pn**	**14 38 13.2**	**+2.3**
	7.3nm,0.3s,baz=288,slow=8.3,SNR=119						
LPAZ				S	**Sn**	**14 39 51.1**	**+8.6**
	0.6nm,0.3s,baz=278,slow=12,SNR=1.7						
LPAZ	**La Paz**	**8.15**	**104**	*e*P	**Pn**	**14 38 13.4**	**+2.5**
LPAZ				pmax	pmax		
	comp=Z,19nm,0.4s						
LPAZ	**La Paz**	**8.15**	**104**	*e*Pn	**Pn**	**14 38 13.4**	**+2.5**
	comp=Z,19nm,0.4s						
LVC	**Limon Verde**	**10.73**	**140**	P	**Pn**	**14 38 46.5**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=358,slow=0.0,SNR=11						
LVC				S	**Sn**	**14 40 49.9**	**+4.0**
	comp=Z,2.4nm,0.3s,baz=129,slow=0.0,SNR=2.9						
LVC				LR	LR	14 43 22.2	
	comp=Z,980nm,19.8s,baz=44,slow=40						
LVC	**Limon Verde**	**10.73**	**140**	*e*Pn	**Pn**	**14 38 45.9**	**-0.5**
	comp=Z,31nm,0.8s						
LVC				*e*Sn	**Sn**	**14 40 37.8**	**-8.2**
OTAV	**Otavalo**	**14.78**	**352**	*e*Pn	**Pn**	**14 39 44.5**	**+2.8**
	comp=Z,14nm,0.8s						
SIV	**San Ignacio**	**14.84**	**98**	P	**Pn**	**14 39 41.2**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=258,slow=14,SNR=5.5						
CFAA	**Coronel Fontan**	**18.59**	**158**	P	**Pn**	**14 40 32.9**	**+2.9**
	comp=Z,0.0nm,0.3s,baz=342,slow=17,SNR=3.8						
ROSC	**El Rosal**	**19.33**	**6**	P	**Pn**	**14 40 40.4**	**+1.4**
CPUP	**Villa Florida**	**21.35**	**126**	P	**P**	**14 40 59.5**	**-0.2**
	comp=Z,3.4nm,0.6s,mb3.8,baz=292,slow=10,SNR=10						
CPUP	**Villa Florida**	**21.35**	**126**	*e*P	**P**	**14 40 58.8**	**-1.0**
CPUP				pmax	pmax		
	comp=Z,51nm,1.1s						
CPUP	**Villa Florida**	**21.35**	**126**	*e*P	**P**	**14 40 58.8**	**-1.0**
	comp=Z,51nm,1.1s,mb4.8						
SDV	**Santo Domingo**	**23.92**	**14**	P	**P**	**14 41 26.4**	**-0.1**
	comp=Z,21nm,0.7s,mb4.7,baz=270,slow=9.3,SNR=18						
SDV	**Santo Domingo**	**23.92**	**14**	*e*P	**P**	**14 41 26.1**	**-0.3**
	comp=Z,65nm,1.3s,mb4.9						
PLCA	**Paso Flores**	**26.63**	**170**	P	**P**	**14 41 45.3**	**-5.6**
PLCA				pmax	pmax		
	comp=Z,17nm,1.5s						
PLCA	**Paso Flores**	**26.63**	**170**	P	**P**	**14 41 45.3**	**-5.6**
	comp=Z,17nm,1.5s,mb4.4						
PCRV	**Puerto La Cruz**	**27.13**	**26**	P	**P**	**14 41 55.2**	**-0.5**
	comp=Z,7.3nm,0.8s,mb4.3,baz=161,slow=10,SNR=3.8						
BDFB	**Brasilia**	**27.40**	**96**	P	**P**	**14 41 56.5**	**-1.7**
	comp=Z,3.8nm,0.8s,mb4.0,baz=250,slow=19,SNR=6.3						
BDFB				LR	LR	14 52 32.3	
	comp=Z,298nm,20.2s,MS3.9,baz=82,slow=36						
AOPR	**Arecibo Observ**	**33.98**	**16**	P	**P**	**14 42 55.1**	**-1.0**
	comp=Z,21nm,1.0s,mb5.0						
TEIG	**Tepich**	**36.43**	**341**	P	**P**	**14 43 15.9**	**-1.3**
	comp=Z,22nm,1.0s,mb5.0						
SWET	**Sewanee**	**50.26**	**350**	P	**P**	**14 45 11.8**	**+3.2**
TXAR	**Lajitas Array**	**50.92**	**329**	P	**P**	**14 45 14.3**	**+0.6**
	comp=Z,1.7nm,0.7s,mb4.1,baz=151,slow=8.4,SNR=17						
PMSA	**Palmer Station**	**50.93**	**173**	*e*P	**P**	**14 45 14.1**	**+0.8**
	comp=Z,12nm,1.1s,mb4.7						
MIAR	**Mount Ida**	**51.44**	**342**	*e*P	**P**	**14 45 16.9**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
MIAR	**Mount Ida**	**51.44**	**342**	*e*P	**P**	**14 45 16.9**	**-0.6**
	comp=Z,16nm,1.2s,mb4.8						
WMOK	**Wichita Mounta**	**53.39**	**337**	*e*P	**P**	**14 45 31.2**	**-0.8**
WMOK				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.7						
WMOK	**Wichita Mounta**	**53.39**	**337**	*e*P	**P**	**14 45 31.2**	**-0.8**
	comp=Z,14nm,1.5s,mb4.7						
LAZ	**Ladron**	**56.75**	**330**	*e*P	**P**	**14 45 56.6**	**+0.3**
ANMO	**Albuquerque**	**56.87**	**331**	*e*P	**P**	**14 45 57.1**	**0.0**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ANMO	**Albuquerque**	**56.87**	**331**	*e*P	**P**	**14 45 57.1**	**0.0**
	comp=Z,5.0nm,1.2s,mb4.4						
MDV	**Middlebury**	**58.28**	**3**	*e*P	**P**	**14 46 06.5**	**-0.4**
MDV				*e*pP	pP	14 46 12.7	-0.6
JFWS	**Jewell Farm**	**58.53**	**348**	*e*P	**P**	**14 46 10.0**	**+1.4**
JFWS				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
JFWS	**Jewell Farm**	**58.53**	**348**	*e*P	**P**	**14 46 10.0**	**+1.4**
	comp=Z,20nm,0.8s,mb5.2						
SDCO	**Great Sand Dun**	**58.73**	**333**	*e*P	**P**	**14 46 10.1**	**0.0**
	comp=Z,5.6nm,1.2s,mb4.5						
FRNY	**Flat Rock**	**59.10**	**2**	*e*P	**P**	**14 46 11.4**	**-1.2**
	comp=Z,16nm,1.1s,mb5.0						
PV01	**Paradox Valley**	**60.44**	**331**	P	**P**	**14 46 22.0**	**+0.1**
MSU	**Marysvale**	**62.48**	**329**	P	**P**	**14 46 33.5**	**-2.2**
RSSD	**Black Hills**	**63.56**	**338**	P	**P**	**14 46 43.0**	**+0.2**
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
RSSD	**Black Hills**	**63.56**	**338**	P	**P**	**14 46 43.0**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.3						
DUG	**Dugway**	**64.09**	**330**	*e*P	**P**	**14 46 47.2**	**+0.8**
DUG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
DUG	**Dugway**	**64.09**	**330**	*e*P	**P**	**14 46 47.2**	**+0.8**
	comp=Z,4.9nm,0.8s,mb4.6						
HWUT	**Hardware Ranch**	**64.59**	**331**	*e*P	**P**	**14 46 49.4**	**-0.2**
	comp=Z,6.8nm,0.9s,mb4.7						
PDAR	**Pinedale Array**	**64.62**	**334**	P	**P**	**14 46 49.9**	**+0.1**
	comp=Z,1.1nm,1.0s,mb3.9,baz=151,slow=6.4,SNR=7.3						
AGMN	**Agassiz Refuge**	**64.88**	**346**	*e*P	**P**	**14 46 49.7**	**-1.6**
	comp=Z,9.4nm,0.9s,mb4.8						
MTUM	**Tungsten Hills**	**65.06**	**324**	*e*P	**P**	**14 46 54.2**	**+1.4**
NVAR	**Mina Array Bea**	**65.67**	**325**	P	**P**	**14 46 57.5**	**+0.8**
	comp=Z,0.9nm,0.7s,mb3.9,baz=138,slow=7.0,SNR=6.6						
RRI2	**Red Ridge**	**65.85**	**333**	*e*P	**P**	**14 46 57.3**	**-0.5**
	comp=Z,4.7nm,0.7s,mb4.6						
ULM	**Lac du Bonnet**	**66.71**	**347**	P	**P**	**14 47 01.6**	**-1.5**
	comp=Z,5.2nm,0.6s,mb4.7,baz=158,slow=3.2,SNR=5.5						
HLID	**Hailey**	**67.43**	**331**	*e*P	**P**	**14 47 08.7**	**+0.8**
	comp=Z,1.5nm,0.7s,mb4.1						
BOZ	**Bozeman (W)**	**67.82**	**334**	*e*P	**P**	**14 47 09.3**	**-0.9**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
BOZ	**Bozeman (W)**	**67.82**	**334**	*e*P	**P**	**14 47 09.3**	**-1.0**
	comp=Z,3.9nm,1.2s,mb4.3						
VNA3	**Neumayer Olymp**	**68.95**	**161**	*e*	**P**	**14 47 17.5**	**+0.5**
VNA3				*e*	pP	14 47 22.9	-0.7
SCHQ	**Schefferville**	**69.53**	**6**	P	**P**	**14 47 18.8**	**-1.9**
	comp=Z,26nm,1.5s,mb4.9						
VNA2	**Neumayer--Watz**	**69.57**	**161**	*e*	**P**	**14 47 16.4**	**-4.5**
VNA2				*e*	pP	14 47 21.3	-6.1
VNA2				*e*		14 47 28.0	
SNAA	**Sanae**	**71.17**	**161**	*e*	**P**	**14 47 30.7**	**+0.1**
SNAA				*e*	pP	14 47 35.5	-1.7
SNAA				*e*		14 47 42.2	
SNAA	**Sanae**	**71.17**	**161**	*e*P	**P**	**14 47 31.0**	**+0.4**
SNAA				pmax	pmax		

comp=Z,11nm,1.3s
SNAA Sanae 71.17 161 *e*P P **14 47 31.0 +0.3**
comp=Z,11nm,1.3s,mb4.6
WALA Waterton Lakes 71.47 335 *e*P P **14 47 33.2 +0.6**
comp=Z,4.2nm,0.9s,mb4.4
EDM Edmonton 74.54 338 *e*P P **14 47 49.8 -1.0**
EDM *e**PP pP 14 47 57.7 +0.3
SBA Scott Base 81.35 191 P P **14 48 33.9 +5.5**
SBA pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
SBA Scott Base 81.35 191 P P **14 48 33.9 +5.5**
comp=Z,3.8nm,1.1s,mb4.2
TOA0 Torodi Ar. Sit 82.02 74 *e*P P **14 48 32.1 -1.0**
TOA0 *e* 14 48 51.3
TORD Torodi Ar. Bea 82.02 74 P P **14 48 32.6 -0.4**
comp=Z,17nm,0.8s,mb5.0,baz=258,slow=4.8,SNR=54
YKA Yellowknife Ar 82.36 343 P P **14 48 33.0 -0.7**
comp=Z,2.4nm,0.8s,mb4.2,baz=135,slow=5.3,SNR=20
YKA Yellowknife Ar 82.36 343 P P **14 48 33.0 -0.7**
VNDA Vanda 82.43 191 P P **14 48 40.4 +6.3**
comp=Z,1.4nm,0.9s,mb3.9,baz=94,slow=3.5,SNR=4.1
VNDA Vanda 82.43 191 P P **14 48 40.3 +6.2**
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA Vanda 82.43 191 P P **14 48 40.3 +6.2**
comp=Z,1.8nm,1.0s,mb4.0
MDT Midelt 83.04 54 P P **14 48 37.4 -0.6**
comp=Z,2.8nm,0.9s,mb4.3,baz=270,slow=6.2,SNR=5.1
DLBC Dease Lake 84.81 335 P P **14 48 45.9 -0.5**
ESDC Sonseca Array 86.12 48 P P **14 48 53.6 +0.2**
comp=Z,0.5nm,0.4s,mb4.1,baz=259,slow=4.9,SNR=6.8
TAM Tamanrasset 88.27 66 *e*P P **14 49 04.9 +0.7**
TAM *e**PP pP 14 49 11.6 +0.6
SUMG Summit 90.40 11 *e*P P **14 49 12.9 -0.2**
comp=Z,2.0nm,0.7s,mb4.6
LSZ Lusaka 99.78 109 LR LR 15 32 06.6
comp=Z,277nm,18.3s,MS4.8,baz=101,slow=34
GERES GERESS Array B 100.81 42 P Pdif 14 50 01.0 0.0
comp=Z,0.8nm,0.8s,baz=298,slow=2.9,SNR=4.4
ASAR Alice Springs 131.89 218 PKP PKPdf 14 55 27.8 +1.3
comp=Z,0.7nm,0.9s,baz=133,slow=6.4,SNR=3.1
WRA Warramunga Arr 134.35 222 PKP PKPdf 14 55 31.5 +0.4
comp=Z,1.4nm,0.9s,baz=131,slow=1.5,SNR=4.7
ZALV Zalesovo Beam 137.95 17 PKP PKPdf 14 55 37.1 +0.3
comp=Z,2.4nm,0.7s,baz=188,slow=4.2,SNR=9.7
ZAL Zalesovo 137.96 17 PKIKP PKPdf 14 55 37.1 +0.3
MJAR Matsushiro Arr 142.15 312 PKP PKPdf 14 55 46.2 +1.2
comp=Z,0.4nm,0.7s,baz=149,slow=0.7,SNR=3.7
MKAR Makanchi Array 143.19 25 PKP PKPdf 14 55 46.9 +0.4
comp=Z,0.3nm,0.3s,baz=70,slow=1.4,SNR=3.6
ZAK Zakamensk 144.21 0 *e*PKIKP PKPdf 14 55 45.7 -2.4
SONM Songino Array 146.68 357 PKPbc PKPbc 14 55 54.1 0.0
comp=Z,3.8nm,0.7s,baz=331,slow=1.9,SNR=19
KSRS Korea Array 148.56 321 PKPbc PKPbc 14 55 59.4 -0.2
comp=Z,1.4nm,0.9s,baz=6.1,slow=1.3,SNR=8.2
LZH Lanzhou 158.50 360 *e*PKP PKPdf 14 56 08.0 -2.1
LZH APKP 14 56 17.3
LZH XPKP 14 56 22.5
CD2 Chengdu 163.66 360 *e*PKP PKPdf 14 56 12.5 -3.3
GYA Guiyang 167.76 347 *e*PKP PKPdf 14 56 17.8 -1.5
GYA APKP 14 56 25.9
GYA PKP2 PKPab 14 57 26.3 +0.7
GYA PKS 14 59 49.4
GYA PP PP 15 01 15.6 +2.8
GYA PP PP
comp=Z,90nm,8.2s
CMAR Chiang Mai Arr 174.03 48 PKP PKPdf 14 56 23.6 +0.8
comp=Z,1.0nm,1.0s,baz=201,slow=27,SNR=3.3

NEIC ***16*** *14:37:32.2±2.0,2337S×17991W,h522km±23km,mb4.4/23, Error ellipse: s-maj=12.1km s-min=10.0km az=189.0*
BJI ***16*** *14:37:32.2,2340S×17990W,h522km,mB4.6,mb4.4*
ISCJB ***16*** *14:37:36.4±1.8,2346S±007×17989E±005,h580km±22km, mb4.3/39, Error ellipse: s-maj=10.7km s-min=6.6km az=157.3*
IDC ***16*** *14:37:36.2±1.7,2332S×17996E,h560km±18km,mb3.9/17, mb1 4.1/17,mb1mx4.0/21,mbtmp3.9/17, Error ellipse: s-maj=12.8km s-min=10.9km az=0.0*
ISC 16 14:37:37.5±1.9,2339S±008×17991E±006,h577km±22km, n252,σ0°53/250,mb4.3/39,97C-102D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.02**	**189**	P	**P**	**14 40 40.1**	**-6.4**
	1.3nm,0.3s,baz=30,slow=17,SNR=6.7						
URZ				S	**S**	**14 43 14.7**	**-6.3**
	1.5nm,0.3s,baz=217,slow=24,SNR=6.3						
ARMA	**Armidale**	**26.13**	**248**	*e*P	**P**	**14 42 27.5**	**+0.8**
	0.3nm,0.8s						
EIDS	**Eidsvold**	**26.31**	**260**	*e*P	**P**	**14 42 32.7**	**+4.3**
CNB	**Canberra Magne**	**29.04**	**239**	*e*P	**P**	**14 42 53.0**	**+0.9**
CTA	**Charters Tower**	**31.39**	**269**	||*i*P	**P**	**14 43 12.9**	**+0.5**
	54nm,0.5s,mb5.4						
CTA	**Charters Tower**	**31.39**	**269**	P	**P**	**14 43 12.8**	**+0.3**
	76nm,0.5s,baz=98,slow=12,SNR=31						
CTAO	**Charters Tower**	**31.39**	**269**	||*i*P	**P**	**14 43 12.9**	**+0.4**
	74nm,0.5s						
TOO	**Toolangi**	**32.66**	**236**	*e*P	**P**	**14 43 23.1**	**+0.2**
PMG	**Port Moresby**	**34.25**	**288**	||*i*P	**P**	**14 43 36.0**	**-0.6**
	54nm,0.7s,mb5.3						
STKA	**Stephens Creek**	**34.84**	**247**	||*i*P	**P**	**14 43 41.6**	**+0.3**
	9.1nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**34.84**	**247**	P	**P**	**14 43 41.6**	**+0.3**
	13nm,0.6s,mb4.8,baz=93,slow=9.6,SNR=39						
ASAR	**Alice Springs**	**42.04**	**260**	P	**P**	**14 44 39.5**	**0.0**
	23nm,0.8s,mb4.8,baz=100,slow=7.3,SNR=188						
ASAR				ScP	ScP	14 49 19.9	+3.1
	4.0nm,0.9s,baz=132,slow=5.5,SNR=15						
ASAR				S	**S**	**14 50 18.8**	**+0.9**
	1.1nm,0.6s,baz=98,slow=15,SNR=8.1						
WB2	**Warramunga Arr**	**42.35**	**266**	||*i*P	**P**	**14 44 41.4**	**-0.6**
WB2				*e*S	**S**	**14 50 21.6**	**-0.8**
WRAB	**Tennant Creek**	**42.35**	**266**	||*i*P	**P**	**14 44 41.3**	**-0.8**
	34nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**42.36**	**266**	P	**P**	**14 44 41.6**	**-0.5**
	11nm,0.3s,mb4.8,baz=90,slow=6.1,SNR=182						
WRA				ScP	ScP	14 49 21.9	+3.7
	4.3nm,0.9s,baz=96,slow=4.0,SNR=12						
WRA				S	**S**	**14 50 22.3**	**-0.2**
	1.9nm,1.0s,baz=98,slow=14,SNR=4.6						
KAKA	**Kakadu**	**46.18**	**275**	||*i*P	**P**	**14 45 10.9**	**-0.7**
	19nm,0.6s,mb4.8						
FORT	**Forrest**	**46.41**	**249**	||*i*P	**P**	**14 45 12.4**	**-0.7**
	36nm,0.5s,mb5.2						
FITZ	**Fitzroy Crossi**	**50.79**	**265**	||*i*P	**P**	**14 45 45.7**	**+0.1**
	22nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**50.79**	**265**	P	**P**	**14 45 46.1**	**+0.4**
	9.6nm,0.6s,mb4.4,baz=104,slow=8.2,SNR=47						
VNDA	**Vanda**	**54.88**	**185**	P	**P**	**14 46 14.4**	**+0.6**
	2.0nm,0.6s,mb3.6,baz=355,slow=7.4,SNR=27						
VNDA				PcP	PcP	14 47 07.2	+0.3
	1.6nm,0.6s,baz=340,slow=2.3,SNR=7.4						
VNDA	**Vanda**	**54.88**	**185**	*e*P	**P**	**14 46 13.6**	**-0.2**
	1.7nm,0.6s,mb3.5						
SBA	**Scott Base**	**54.88**	**183**	*e*P	**P**	**14 46 14.6**	**+0.8**
	12nm,0.9s,mb4.2						
SBA				*e*PcP	PcP	14 47 07.4	+0.5
BATI	**Baumata**	**55.11**	**274**	P	**P**	**14 46 18.1**	**+1.7**
	35nm,0.5s,mb4.9,baz=153,slow=3.3,SNR=18						
KLBR	**Kellerberrin**	**55.11**	**247**	||*i*P	**P**	**14 46 15.7**	**-0.5**
	19nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**55.37**	**245**	*e*P	**P**	**14 46 17.5**	**-0.5**
	1.8nm,0.4s,mb3.8						
MBWA	**Marble Bar**	**55.38**	**260**	*e*P	**P**	**14 46 17.5**	**-0.7**
	25nm,0.9s,mb4.5						
MUN	**Mundaring**	**56.36**	**246**	*e*P	**P**	**14 46 25.0**	**+0.2**
CASY	**Casey**	**60.54**	**206**	*e*P	**P**	**14 46 50.9**	**-1.3**
	2.9nm,0.6s,mb3.7						
QSPA	**South Pole Qui**	**66.69**	**180**	P	**P**	**14 47 31.6**	**+0.4**
	16nm,0.6s,mb4.6,baz=25,slow=1.5,SNR=122						
KKM	**Kota Kinabalu**	**68.67**	**287**	*e*P	**P**	**14 47 44.4**	**0.0**
JOW	**Kunigami**	**70.58**	**312**	P	**P**	**14 47 53.5**	**-1.9**
	7.6nm,0.5s,mb4.5,baz=116,slow=24,SNR=7.0						
MJAR	**Matsushiro Arr**	**71.43**	**326**	P	**P**	**14 48 00.1**	**-0.1**
	3.1nm,0.8s,mb3.9,baz=157,slow=5.8,SNR=20						
MAJO	**Matsushiro**	**71.43**	**326**	*e*P	**P**	**14 47 59.9**	**-0.3**
	3.3nm,0.7s,mb4.0						
KSM	**Kuching**	**71.94**	**280**	*e*P	**P**	**14 48 03.5**	**-0.1**
KSRS	**Korea Array**	**77.80**	**320**	P	**P**	**14 48 37.0**	**+1.1**
	1.6nm,0.8s,mb3.5,baz=139,slow=5.2,SNR=9.7						
MAW	**Mawson**	**78.20**	**200**	*e*P	**P**	**14 48 39.6**	**+2.1**
	1.6nm,0.6s,mb3.6						
PETK	**Petropavlovsk-**	**78.58**	**347**	P	**P**	**14 48 39.2**	**-0.4**
	1.2nm,0.7s,mb3.4,baz=249,slow=20,SNR=5.6						
HAST	**Hastings Reser**	**81.15**	**44**	⇑P	**P**	**14 48 53.5**	**0.0**
	baz=81						
U04C	**Hernandez Rese**	**81.63**	**45**	⇑P	**P**	**14 48 55.8**	**-0.1**
	baz=82						
PACP	**Pacheco Peak**	**81.70**	**44**	⇓P	**P**	**14 48 56.0**	**-0.2**
	baz=82						
CVS	**Carmenet Viney**	**81.78**	**42**	⇑P	**P**	**14 48 56.8**	**+0.1**
	baz=82						
HOPS	**Hopland**	**81.81**	**41**	⇓P	**P**	**14 48 56.8**	**0.0**
	baz=82						
MNRC	**McLaughlin Nat**	**82.12**	**42**	⇑P	**P**	**14 48 58.5**	**+0.1**
	baz=82						
GASB	**Alder Springs**	**82.44**	**41**	⇓P	**P**	**14 49 00.7**	**+0.8**
	baz=83						
BFSC	**Mount Baldy St**	**82.46**	**48**	⇓P	**P**	**14 48 59.8**	**-0.3**
	baz=83						
S05C	**Merced**	**82.51**	**44**	⇑P	**P**	**14 49 00.6**	**+0.3**
	baz=83						
MONP	**Monument Peak**	**82.56**	**50**	⇓P	**P**	**14 49 00.9**	**+0.2**
	baz=83						
EDW2	**Edwards Air Fo**	**82.60**	**47**	⇓P	**P**	**14 49 00.3**	**-0.6**
	baz=83						
T06C	**Millerton Lake**	**82.70**	**45**	⇓P	**P**	**14 49 01.1**	**-0.2**
	baz=83						
O02C	**Red Bluff**	**82.72**	**41**	⇓P	**P**	**14 49 01.6**	**+0.3**
	baz=83						
ISA	**Isabella**	**82.73**	**46**	⇑P	**P**	**14 49 01.5**	**0.0**
	baz=83						
ISA	**Isabella**	**82.73**	**46**	*e*P	**P**	**14 49 01.1**	**-0.4**
	19nm,1.3s,mb4.5						
N02C	**Big Bar**	**82.82**	**40**	⇓P	**P**	**14 49 02.0**	**+0.1**
	baz=83						
CMB	**Columbia Colle**	**82.89**	**43**	⇓P	**P**	**14 49 02.1**	**-0.1**
	baz=83						
CMB	**Columbia Colle**	**82.89**	**43**	*e*P	**P**	**14 49 01.0**	**-1.2**
	5.5nm,0.8s,mb4.1						
KRMB	**Red Mountain**	**82.92**	**39**	P	**P**	**14 49 01.4**	**-0.9**
HELL	**Mitchell Peak**	**82.96**	**45**	⇓P	**P**	**14 49 02.2**	**-0.5**
	baz=83						
M01C	**Crescent City**	**83.00**	**39**	⇓P	**P**	**14 49 03.2**	**+0.5**
	baz=83						
SWSC	**Sam W. Stewart**	**83.02**	**50**	⇑P	**P**	**14 49 02.8**	**-0.2**
	baz=83						
LAVA	**Lava Cap Winer**	**83.10**	**43**	⇑P	**P**	**14 49 02.8**	**-0.5**
	baz=83						
ORV	**Oroville**	**83.11**	**42**	⇑P	**P**	**14 49 03.1**	**-0.2**
	baz=83						
WDC	**Whiskeytown Da**	**83.12**	**40**	⇓P	**P**	**14 49 03.2**	**-0.1**
	baz=83						
S06C	**San Francisco**	**83.14**	**44**	⇑P	**P**	**14 49 03.1**	**-0.4**
	baz=83						
KCC	**Kaiser Creek**	**83.14**	**44**	⇑P	**P**	**14 49 03.2**	**-0.3**
	baz=83						
LRMC	**Laurel Mountai**	**83.14**	**47**	⇑P	**P**	**14 49 03.4**	**-0.2**
	baz=83						
CWC	**Cottonwood Cre**	**83.44**	**46**	⇑P	**P**	**14 49 04.8**	**-0.2**
	baz=84						
M02C	**Callahan**	**83.44**	**40**	⇓P	**P**	**14 49 05.1**	**+0.1**
	baz=84						
BELC	**Belle Mtn.**	**83.46**	**49**	⇓P	**P**	**14 49 04.9**	**-0.3**
	baz=84						
R05C	**Kirkwood Meado**	**83.48**	**43**	⇓P	**P**	**14 49 05.1**	**-0.1**
	baz=84						
SYO	**Syowa Base**	**83.49**	**193**	||*e*P	**P**	**14 49 01.6**	**-3.2**
SYO	**Syowa Base**	**83.49**	**193**	||*e*pP	pP	14 51 07.5	-0.5
L02A	**Cave Junction**	**83.50**	**39**	⇓P	**P**	**14 49 05.0**	**-0.1**
	baz=84						
P05C	**Yuba Gap, Truc**	**83.51**	**42**	⇑P	**P**	**14 49 05.5**	**+0.1**
	baz=84						
MPMC	**Manual Prospec**	**83.61**	**46**	⇑P	**P**	**14 49 05.9**	**0.0**
	baz=84						
GSC	**Goldstone**	**83.64**	**47**	⇓P	**P**	**14 49 05.8**	**-0.2**
	baz=84						
BC3	**Big Chuckw Mtn**	**83.65**	**49**	⇑P	**P**	**14 49 06.4**	**+0.3**
	baz=84						
HEC	**Hector,Ludlow**	**83.70**	**48**	⇑P	**P**	**14 49 06.1**	**-0.2**
	baz=84						
YBH	**Yreka Blue Hor**	**83.74**	**39**	⇑P	**P**	**14 49 06.8**	**+0.4**
	baz=84						
GLA	**Glamis**	**83.76**	**50**	⇑P	**P**	**14 49 07.0**	**+0.3**
	baz=84						
R06C	**Coleville**	**83.77**	**43**	⇑P	**P**	**14 49 06.7**	**+0.1**
	baz=84						
M03C	**McCloud**	**83.80**	**40**	⇓P	**P**	**14 49 07.1**	**+0.4**
	baz=84						
HATC	**Hat Creek Radi**	**83.91**	**41**	⇓P	**P**	**14 49 07.3**	**0.0**
	baz=84						
K02A	**Glendale**	**83.95**	**38**	⇓P	**P**	**14 49 07.6**	**+0.3**
	baz=84						
S08C	**White Mtn Res**	**83.99**	**45**	⇓P	**P**	**14 49 07.9**	**+0.1**
	baz=84						
WCN	**Washoe City**	**84.04**	**43**	⇓P	**P**	**14 49 08.3**	**+0.4**
	baz=84						
GMRC	**Granite Mounta**	**84.13**	**48**	⇑P	**P**	**14 49 08.4**	**-0.1**
	baz=84						
IRM	**Iron Mountain**	**84.14**	**49**	⇑P	**P**	**14 49 08.6**	**0.0**
	baz=84						
HUMO	**Hull Mountain**	**84.15**	**39**	⇓P	**P**	**14 49 08.9**	**+0.5**
	baz=84						
HUMO	**Hull Mountain**	**84.15**	**39**	*e*P	**P**	**14 49 08.4**	**0.0**
	6.6nm,1.2s,mb4.0						
GRAC	**Grapevine Rang**	**84.22**	**46**	⇓P	**P**	**14 49 08.9**	**0.0**
	baz=84						
J02A	**Umpqua**	**84.28**	**38**	⇑P	**P**	**14 49 09.8**	**+0.8**
	baz=84						
M04C	**Macdoel**	**84.28**	**40**	⇑P	**P**	**14 49 08.6**	**-0.5**
	baz=84						
TUQ	**Turquoise Mtn.**	**84.31**	**48**	⇓P	**P**	**14 49 08.9**	**-0.5**
	baz=84						
NVAR	**Mina Array Bea**	**84.44**	**44**	P	**P**	**14 49 09.6**	**-0.3**
	2.3nm,0.9s,mb3.7,baz=220,slow=8.0,SNR=9.8						
214A	**Organ Pipe Nat**	**84.62**	**52**	⇑P	**P**	**14 49 11.4**	**+0.4**
	baz=85						
S09A	**Goldfield**	**84.73**	**45**	⇑P	**P**	**14 49 10.8**	**-0.6**
	baz=85						
Y13A	**Salome**	**84.88**	**50**	⇑P	**P**	**14 49 12.3**	**+0.2**
	baz=85						
PDMCI	**Parker Dam,Lak**	**84.92**	**49**	⇑P	**P**	**14 49 12.6**	**+0.3**
	baz=85						
TPNV	**Topopah Spring**	**84.94**	**46**	⇓P	**P**	**14 49 12.1**	**-0.2**
	baz=85						
J04A	**Umpqua Nationa**	**85.03**	**38**	⇑P	**P**	**14 49 12.9**	**+0.3**
	baz=85						
L05A	**Lakeview**	**85.04**	**40**	⇑P	**P**	**14 49 13.1**	**+0.4**
	baz=85						
O07A	**Toulon**	**85.09**	**42**	⇓P	**P**	**14 49 12.8**	**-0.2**
	baz=85						
SNAA	**Sanae**	**85.18**	**179**	*e*	**P**	**14 49 11.4**	**-1.6**
SNAA				*e*		14 49 15.4	
SNAA	**Sanae**	**85.18**	**179**	*e*P	**P**	**14 49 11.2**	**-1.9**
	8.7nm,1.1s,mb4.3						
I04A	**Tendick Farm,**	**85.21**	**38**	⇓P	**P**	**14 49 13.1**	**-0.4**
	baz=85						
S10A	**Tonopah Range,**	**85.25**	**45**	⇓P	**P**	**14 49 13.8**	**-0.1**
	baz=85						
Z14A	**Wintersburg**	**85.26**	**51**	⇓P	**P**	**14 49 14.2**	**+0.2**
	baz=85						
MOD	**Modoc**	**85.27**	**40**	⇑P	**P**	**14 49 14.0**	**+0.1**
	baz=86						
X13A	**Yucca**	**85.29**	**49**	⇓P	**P**	**14 49 14.2**	**0.0**
	baz=86						
K05A	**Summer Lake**	**85.42**	**39**	⇓P	**P**	**14 49 15.3**	**+0.8**
	baz=86						
Y14A	**Wickenburg**	**85.52**	**50**	⇑P	**P**	**14 49 15.4**	**+0.1**
	baz=86						
W13A	**Hualapai Mount**	**85.52**	**49**	⇑P	**P**	**14 49 15.4**	**+0.1**
	baz=86						
J05A	**Fort Rock**	**85.56**	**39**	⇓P	**P**	**14 49 15.3**	**+0.1**
	baz=86,SNR=6.9						
216A	**Three Points,**	**85.63**	**53**	⇓P	**P**	**14 49 16.2**	**+0.4**
	baz=86						
T11A	**Corn Creek, Al**	**85.78**	**46**	⇑P	**P**	**14 49 16.2**	**-0.2**
	baz=86						
U12A	**Valley of Fire**	**85.80**	**47**	⇑P	**P**	**14 49 16.1**	**-0.4**
	baz=86						
VNA2	**Neumayer--Watz**	**85.81**	**178**	*e*	**P**	**14 49 14.7**	**-1.3**
VNA2				*e*		14 49 18.4	
K06A	**Valley Falls**	**85.84**	**40**	⇓P	**P**	**14 49 16.7**	**+0.1**
	baz=86						
V13A	**Grand Canyon W**	**85.86**	**48**	⇑P	**P**	**14 49 16.5**	**-0.4**
	baz=86						
X14A	**Yava**	**85.88**	**50**	⇓P	**P**	**14 49 17.0**	**0.0**
	baz=86						
H04A	**Detroit Lake**	**85.89**	**37**	⇑P	**P**	**14 49 16.2**	**-0.5**
	baz=86						
L07A	**Adell**	**85.91**	**41**	⇑P	**P**	**14 49 17.1**	**+0.3**
	baz=86						
N08A	**GE Springer Mi**	**85.92**	**42**	⇑P	**P**	**14 49 17.0**	**0.0**
	baz=86						
217A	**Green Valley**	**85.98**	**53**	⇑P	**P**	**14 49 18.3**	**+0.8**
	baz=86,SNR=9.1						
Y15A	**Casa Rosa Ranc**	**86.00**	**50**	⇓P	**P**	**14 49 17.6**	**0.0**
	baz=86						
W14A	**Seligman**	**86.14**	**49**	⇑P	**P**	**14 49 18.7**	**+0.5**
	baz=86						
O09A	**Fish Creek Ran**	**86.15**	**43**	⇑P	**P**	**14 49 18.0**	**-0.1**
	baz=86						
M08A	**Happy Creek Ra**	**86.15**	**42**	⇑P	**P**	**14 49 18.3**	**+0.3**
	baz=86						
R11A	**Troy Canyon, C**	**86.15**	**45**	⇓P	**P**	**14 49 18.3**	**+0.1**
	baz=86						
J06A	**Christmas Vall**	**86.17**	**39**	⇑P	**P**	**14 49 18.1**	**0.0**
	baz=86						
U13A	**Pakoon Wash**	**86.17**	**48**	⇓P	**P**	**14 49 18.4**	**+0.1**
	baz=86						
S12A	**Delamar Landin**	**86.23**	**46**	⇑P	**P**	**14 49 19.0**	**+0.5**
	baz=86						
N09A	**Rock Creek Ran**	**86.33**	**42**	⇑P	**P**	**14 49 19.2**	**+0.3**
	baz=86						
V14A	**Boquillas Ranc**	**86.35**	**49**	⇓P	**P**	**14 49 19.8**	**+0.6**
	baz=86						
X15A	**Humboldt**	**86.35**	**50**	⇑P	**P**	**14 49 19.6**	**+0.4**
	baz=86						
K07A	**Rock Creek Ran**	**86.36**	**40**	⇓P	**P**	**14 49 19.2**	**+0.1**
	baz=87,SNR=7.8						
Q11A	**Duckwater**	**86.38**	**45**	⇓P	**P**	**14 49 19.4**	**+0.1**
	baz=87						
GYA	**Guiyang**	**86.41**	**301**	P	**P**	**14 49 21.3**	**+1.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
318A	**Bisbee**	**86.42**	**54**	⇓P	**P**	**14 49 20.0**	**+0.4**
	baz=87,SNR=9.6						
I06A	**Prineville**	**86.55**	**39**	⇓P	**P**	**14 49 20.1**	**+0.3**
	baz=87						
Y16A	**Circle Bar Ran**	**86.57**	**51**	⇓P	**P**	**14 49 20.3**	**0.0**
	baz=87						
L08A	**Fields**	**86.61**	**41**	⇓P	**P**	**14 49 20.6**	**+0.4**
	baz=87						
218A	**Dragoon**	**86.64**	**53**	⇓P	**P**	**14 49 21.0**	**+0.4**
	baz=87,SNR=10						
C03A	**Quillayute Air**	**86.70**	**34**	⇑P	**P**	**14 49 20.2**	**-0.2**
	baz=87						
U14A	**Mt Trumbull**	**86.71**	**48**	⇑P	**P**	**14 49 20.7**	**-0.1**
	baz=87,SNR=7.8						
J07A	**Hines**	**86.73**	**40**	⇓P	**P**	**14 49 21.4**	**+0.6**
	baz=87						
K08A	**Mann Creek Ran**	**86.84**	**40**	⇑P	**P**	**14 49 21.6**	**+0.4**
	baz=87,SNR=9.7						
S13A	**Holt Ranch, En**	**86.87**	**47**	⇓P	**P**	**14 49 21.6**	**0.0**
	baz=87						
X16A	**Lo Mia Camp, P**	**86.88**	**50**	⇓P	**P**	**14 49 22.0**	**+0.4**
	baz=87						
319A	**Douglas**	**86.91**	**54**	⇑P	**P**	**14 49 22.4**	**+0.5**
	baz=87,SNR=7.4						
H06A	**Lindquist Farm**	**86.96**	**38**	⇑P	**P**	**14 49 21.7**	**-0.1**
	baz=87,SNR=5.6						
118A	**Homack Ranch,**	**87.03**	**53**	⇓P	**P**	**14 49 22.5**	**0.0**
	baz=87,SNR=5.9						
I07A	**Izee**	**87.04**	**39**	⇑P	**P**	**14 49 22.2**	**0.0**
	baz=87,SNR=6.2						
V15A	**Kaibab Nationa**	**87.09**	**49**	⇓P	**P**	**14 49 23.2**	**+0.6**
	baz=87						
R13A	**O'Grain Ranch,**	**87.12**	**46**	⇑P	**P**	**14 49 23.0**	**+0.3**
	baz=87						
W16A	**Flagstaff**	**87.16**	**50**	⇓P	**P**	**14 49 23.2**	**+0.3**
	baz=87						
J08A	**Circle Bar Ran**	**87.22**	**40**	⇓P	**P**	**14 49 23.3**	**+0.3**
	baz=87						
219A	**White Tail Can**	**87.24**	**53**	⇓P	**P**	**14 49 23.7**	**+0.3**
	baz=87,SNR=5.9						
K09A	**Rome**	**87.28**	**41**	⇑P	**P**	**14 49 23.2**	**-0.1**
	baz=88,SNR=6.3						
E05A	**Randle**	**87.29**	**36**	⇓P	**P**	**14 49 22.9**	**-0.4**
	baz=88						
H07A	**Lands Inn, Kim**	**87.31**	**39**	⇑P	**P**	**14 49 22.9**	**-0.5**
	baz=88,SNR=6.5						
M10A	**I.L. Ranch, Tu**	**87.33**	**42**	⇓P	**P**	**14 49 23.6**	**0.0**
	baz=88						
U15A	**North Rim**	**87.33**	**48**	⇑P	**P**	**14 49 23.8**	**+0.1**
	baz=88,SNR=11						
I08A	**Drewsey**	**87.48**	**39**	⇑P	**P**	**14 49 24.3**	**0.0**
	baz=88,SNR=5.3						
WUAZ	**Wupatki**	**87.49**	**50**	⇑P	**P**	**14 49 25.3**	**+0.8**
	baz=88						
Y18A	**Canyon Day Jun**	**87.56**	**52**	⇓P	**P**	**14 49 25.1**	**+0.3**
	baz=88						
D05A	**Enumclaw**	**87.56**	**35**	⇑P	**P**	**14 49 25.0**	**+0.5**
	baz=88						
T15A	**Red Dirt Ranch**	**87.57**	**48**	⇓P	**P**	**14 49 25.1**	**+0.3**
	baz=88						
119A	**Ashpeak Ranch,**	**87.58**	**53**	⇓P	**P**	**14 49 25.7**	**+0.6**
	baz=88						
J09A	**Fry Pan Ranch,**	**87.64**	**40**	⇓P	**P**	**14 49 24.7**	**-0.2**
	baz=88,SNR=5.2						
G07A	**Ruggs Ranch, H**	**87.66**	**38**	⇑P	**P**	**14 49 24.7**	**-0.4**
	baz=88						
L10A	**Juniper Basin**	**87.68**	**42**	⇑P	**P**	**14 49 24.9**	**-0.4**
	baz=88,SNR=5.9						
E06A	**Yakima**	**87.71**	**36**	⇑P	**P**	**14 49 25.1**	**-0.1**
	baz=88						
M11A	**Holland Ranch,**	**87.74**	**43**	⇑P	**P**	**14 49 25.6**	**+0.1**
	baz=88						
P13A	**Bates Ranch, G**	**87.78**	**45**	⇓P	**P**	**14

baz=90,SNR=9.3
CHTO Chiang Mai 89.42 291 *e*P P **14 49 35.4 +1.6**
comp=Z,6.2nm,1.0s,mb4.4
R17A Hanksville Air 89.43 47 ⇑P P **14 49 33.1 -0.4**
baz=90
H11A Donnelly 89.44 40 ⇓P P **14 49 33.5 +0.1**
baz=90
F10A Beach Ranch, E 89.46 38 ⇑P P **14 49 33.1 -0.2**
baz=90
K13A Stover Farm, H 89.47 42 ⇑P P **14 49 33.2 -0.4**
baz=90
D09A Jones Farm, Ri 89.48 37 ⇑P P **14 49 32.9 -0.6**
baz=90
TMUT Trail Mountain 89.55 46 *e*P P **14 49 34.4 +0.4**
A07A Ashnola River, 89.56 35 ⇑P P **14 49 33.3 -0.5**
baz=90
B08A Colville Reser 89.70 36 ⇓P P **14 49 34.1 -0.4**
baz=90
HLID Hailey 89.77 41 ⇑P P **14 49 34.8 -0.1**
baz=90
HLID Hailey 89.77 41 *e*P P **14 49 34.3 -0.6**
comp=Z,4.2nm,1.0s,mb4.2
T19A Beclabito 89.79 49 ⇓P P **14 49 35.2 0.0**
baz=90
J13A Cove Ranch, Pi 89.82 42 ⇑P P **14 49 35.0 -0.1**
baz=90,SNR=6.2
M15A Larsen Ranch, 89.87 44 ⇓P P **14 49 35.1 -0.2**
baz=90
SRU San Rafael 89.91 47 ⇓P P **14 49 35.7 0.0**
baz=90
SRU San Rafael 89.91 47 *e*P P **14 49 35.2 -0.5**
comp=Z,6.6nm,0.9s,mb4.5
LAZ Ladron 89.96 52 *e*P P **14 49 35.5 -0.5**
R18A Canyonlands Na 89.97 48 ⇑P P **14 49 35.5 -0.5**
baz=90,SNR=6.8
K14A Jones Ranch, D 89.98 43 ⇓P P **14 49 35.8 -0.1**
baz=90
H12A Diamond D Ranc 90.04 40 ⇓P P **14 49 35.5 -0.6**
baz=90,SNR=5.4
D10A Wagner Farm, O 90.06 37 ⇑P P **14 49 35.4 -0.8**
baz=90
BPAW Bear Paw Mtn. 90.11 12 P P **14 49 38.2 +2.2**
comp=Z,2.0nm,1.0s,mb3.9
I13A Wildhorse Cree 90.14 41 ⇓P P **14 49 36.5 -0.1**
baz=90
Q18A Rafter H Ranch 90.17 47 ⇑P P **14 49 36.6 -0.2**
baz=90
S19A Harvey Farm, M 90.17 49 ⇑P P **14 49 36.8 -0.1**
baz=90
L15A Malad City 90.19 44 ⇓P P **14 49 36.6 -0.3**
baz=90
N16A Rees Ranch, Co 90.22 45 ⇓P P **14 49 37.3 +0.2**
baz=90
TXAR Lajitas Array 90.23 58 P P **14 49 37.6 +0.3**
comp=Z,3.3nm,0.7s,mb4.3,baz=211,slow=6.6,SNR=26
P18A Preston Nutter 90.36 46 ⇓P P **14 49 37.8 +0.1**
baz=90
H13A Challis 90.41 41 ⇓P P **14 49 38.1 +0.2**
baz=91
K15A Arbon 90.46 43 ⇑P P **14 49 37.8 -0.3**
baz=91
F12A Elk City 90.47 39 ⇑P P **14 49 37.3 -0.8**
baz=91
Q19A Hogan Spring (90.68 47 ⇑P P **14 49 39.0 -0.3**
baz=91
ANMO Albuquerque 90.71 52 *e*P P **14 49 38.2 -1.2**
comp=Z,4.3nm,1.0s,mb4.3
G13A Cobalt 90.71 40 ⇑P P **14 49 39.3 +0.1**
baz=91
F13A Darby 91.03 40 ⇓P P **14 49 39.9 -0.8**
baz=91
J16A Bone 91.34 43 ⇓P P **14 49 42.1 0.0**
baz=92
N18A Larsen Ranch, 91.41 46 ⇓P P **14 49 42.2 -0.4**
baz=92
PDAR Pinedale Array 92.38 44 P P **14 49 46.4 -0.6**
comp=Z,1.7nm,0.8s,mb4.1,baz=223,slow=3.6,SNR=8.7
BOZ Bozeman (W) 92.56 41 ⇓P P **14 49 47.3 -0.4**
baz=93
LZH Lanzhou 92.99 308 *e*P P **14 49 49.0 -0.9**
LZH AP pP 14 51 48.5 -7.3
LZH AMB AMB
comp=Z,19nm,1.4s,mb4.9
ARCES ARCESS Array B 131.37 348 PKP PKPdf 14 55 42.8 -1.1
comp=Z,2.0nm,0.9s,baz=5.7,slow=1.2,SNR=7.1
CLL Collm 150.34 343 *i* PKPbc PKPbc 14 56 23.9 0.0
comp=Z,8.0nm,0.7s
BRG Berggiesshubel 150.47 342 *i* P PKPdf 14 56 24.2 +6.0
comp=Z,4.0nm,0.6s
TORD Torodi Ar. Bea 169.68 190 PKP PKPdf 14 56 39.0 -1.1
comp=Z,1.4nm,1.0s,baz=236,slow=2.2,SNR=3.8
TORD PKPab PKPab 14 57 57.5 -0.3
comp=Z,1.6nm,0.8s,baz=188,slow=4.9,SNR=6.3
TORD Torodi Ar. Bea 169.68 190 PKP PKPdf 14 56 39.0 -1.1
TORD PKPab PKPab 14 57 57.5 -0.3

ISCJB ***16*** *14:44:02.8±0.3, 348S±005×11.76W±006, h10km, mb4.6/70, MS4.4/14, Error ellipse: s-maj=9.8km s-min=5.4km az=26.9*

MOS ***16*** *14:44:02.4±0.9, 346S×1187W, h10km, mb4.9/33, MS4.4/4, Error ellipse: s-maj=16.5km s-min=5.2km az=70.3*

IDC ***16*** *14:44:03.8±0.5, 351S×1179W, h0km, mb4.4/28, mb1 4.4/29, mb1mx4.4/35, mbtmp4.3/29, ML3.1/1, MS4.4/9, Ms1 4.4/9, ms1mx4.1/33, Error ellipse: s-maj=15.5km s-min=11.9km az=127.0*

GCMT ***16*** *14:44:04.0±0.4, 348S×12.16W, h12km, MW5.3/66, Moment Tensor Solution. s22,c24; s66,c96; Duration: 1s1 Moment tensor: Scale 10^17^Nm; Mrr=0.96±.04; Mθθ=0.01±.03; Mφφ=0.95±.03; Mrθ=-0.18±.14; Mθφ=-0.01±.03; Mφr=-0.07±.10; Best double couple: M0=0.97700×10^17^ NP1:φs=169.00000°, δ=44.00000°, λ=-105.00000°. NP2: φs=10.00000°, δ=48.00000°, λ=-76.00000°. Principal axes: T 0.9560, Plg=2.0000°, Azm=90.0000°; N 0.0430, Plg=10.0000°, Azm=180.0000°; P -0.9990, Plg=79.0000°, Azm=348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *14:44:04.0±0.3, 359S×1180W, h10km, mb4.8/46, MS4.4/2 Error ellipse: s-maj=9.4km s-min=5.5km az=114.0*

SZGRF ***16*** *14:44:13.2, 241S×1190W, h16km, mb4.7, North of Ascension Island*

ISC 16 14:44:04.8±0.2, 351S±004×1176W±006, h10km, (h15km±.4km:pP-P), n188, σ1§04/185, mb4.6/70, MS4.4/14, 8C-1D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**11.78**	**35**	*e*P	**Pn**	**14 46 55.2**	**+2.2**
	35nm,1.0s,baz=242						
LIC				*e*MLR	MLR		
	comp=Z,2μm,20.2s						
LIC	**Lamto**	**11.78**	**35**	*e*P	**Pn**	**14 46 56.5**	**+3.5**
	comp=Z,46nm,1.0s						
LIC	**Lamto**	**11.78**	**35**	*e*P	**Pn**	**14 46 55.2**	**+2.2**
	comp=Z,17nm,1.0s						
KIC	**Kosan Boka**	**12.05**	**36**	*e*P	**Pn**	**14 46 59.2**	**+2.5**
	comp=Z,80nm,1.0s						
TIC	**Toumodi**	**12.12**	**34**	*e*P	**Pn**	**14 47 01.1**	**+3.4**
	comp=Z,18nm,0.2s						
TIC	**Toumodi**	**12.12**	**34**	*e*P	**Pn**	**14 47 01.1**	**+3.4**
TIC				pmax	pmax		
	comp=Z,18nm,0.2s						
DBIC	**Dimbokro**	**12.24**	**34**	Pn	**Pn**	**14 47 01.6**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=186,slow=7.9,SNR=3.0						
DBIC	**Dimbokro**	**12.24**	**34**	*e*P	**Pn**	**14 47 00.5**	**+1.2**
DBIC				pmax	pmax		
	comp=Z,44nm,1.4s						
DBIC	**Dimbokro**	**12.24**	**34**	*e*Pn	**Pn**	**14 47 00.5**	**+1.2**
	comp=Z,44nm,1.4s						
SHEL	**Horse Pasture**	**13.71**	**155**	Pn	**Pn**	**14 47 16.0**	**-3.4**
	comp=Z,175nm,1.2s						
BBTS	**Babate**	**18.67**	**345**	P	**Pn**	**14 48 26.9**	**+3.5**
	comp=Z,0.8nm,0.3s,baz=157,slow=10,SNR=7.9						
BBTS				LR	LR	14 54 39.0	
	comp=Z,441nm,21.5s,baz=201,slow=34						
TORD	**Torodi Ar. Bea**	**21.27**	**39**	P	**P**	**14 48 52.2**	**+0.8**
	comp=Z,23nm,0.9s,mb4.5,baz=226,slow=10,SNR=29						
TORD				LR	LR	14 56 12.8	
	comp=Z,1μm,21.6s,MS4.2,baz=225,slow=34						
TSUM	**Tsumeb**	**32.63**	**121**	P	**P**	**14 50 38.9**	**+1.8**
	comp=Z,1.4nm,0.8s,mb4.0,baz=205,slow=20,SNR=3.2						
TSUM	**Tsumeb**	**32.63**	**121**	P	**P**	**14 50 37.2**	**+0.1**
	comp=Z,4.7nm,0.9s,mb4.4						
MDT	**Midelt**	**36.76**	**10**	P	**P**	**14 51 14.0**	**+1.4**
	comp=Z,2.5nm,0.9s,mb4.0,baz=205,slow=7.8,SNR=2.6						
BDFB	**Brasilia**	**37.65**	**249**	P	**P**	**14 51 22.1**	**+1.7**
	comp=Z,6.2nm,0.8s,mb4.4,baz=60,slow=16,SNR=6.6						
BDFB				LR	LR	15 05 07.3	
	comp=Z,396nm,18.1s,MS4.3,baz=244,slow=34						
BDFB	**Brasilia**	**37.65**	**249**	*e*P	**P**	**14 51 17.7**	**-2.7**
BDFB				pmax	pmax		
	comp=Z,29nm,1.2s						
BDFB	**Brasilia**	**37.65**	**249**	*e*P	**P**	**14 51 17.7**	**-2.7**
	comp=Z,29nm,1.2s,mb4.9						
BDFB				LR	LR	15 05 07.3	
LSZ	**Lusaka**	**41.02**	**109**	P	**P**	**14 51 51.1**	**+2.5**
	comp=Z,6.3nm,0.9s,mb4.2,baz=289,slow=9.3,SNR=6.8						
LSZ	**Lusaka**	**41.02**	**109**	*e*P	**P**	**14 51 51.5**	**+2.9**
LSZ				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
LSZ	**Lusaka**	**41.02**	**109**	*e*P	**P**	**14 51 51.5**	**+2.9**
	comp=Z,10nm,1.0s,mb4.4						
LBTB	**Lobatse**	**41.80**	**124**	*e*P	**P**	**14 51 53.9**	**-1.0**
LBTB				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.7						
LBTB	**Lobatse**	**41.80**	**124**	*e*P	**P**	**14 51 53.9**	**-1.0**
	comp=Z,23nm,1.3s,mb4.7						
EVO	**Evora**	**41.98**	**4**	*e*P	**P**	**14 51 54.7**	**-1.3**
	comp=Z,11nm,0.8s,mb4.2						
EVO				*e*MLR	MLR		
	comp=Z,318nm,18.5s,MS3.9						
BOSA	**Boshof**	**43.13**	**129**	P	**P**	**14 52 06.8**	**+1.1**
	comp=Z,9.0nm,0.9s,mb4.5,baz=304,slow=12,SNR=8.6						
BOSA				LR	LR	15 08 24.8	
	comp=Z,392nm,18.4s,MS4.3,baz=309,slow=34						
BOSA	**Boshof**	**43.13**	**129**	*e*P	**P**	**14 52 06.4**	**+0.7**
BOSA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
BOSA	**Boshof**	**43.13**	**129**	*e*P	**P**	**14 52 06.4**	**+0.7**
	comp=Z,9.3nm,0.9s,mb4.5						
ESDC	**Sonseca Array**	**43.57**	**9**	P	**P**	**14 52 10.1**	**+1.1**
	comp=Z,0.3nm,0.3s,mb3.5,baz=188,slow=9.0,SNR=3.6						
KEST	**Kesra**	**43.76**	**25**	P	**P**	**14 52 12.9**	**+2.4**
	comp=Z,3.0nm,0.6s,mb4.2,baz=24,slow=1.1,SNR=10						
KEST				LR	LR	15 11 13.3	
	comp=Z,309nm,18.5s,MS4.2,baz=197,slow=37						
ETSF	**Etsaut**	**47.29**	**11**	*e*P	**P**	**14 52 38.3**	**-0.1**
SJPF	**Ste Jean**	**47.38**	**10**	*e*P	**P**	**14 52 38.8**	**-0.3**
MTLF	**Montolieu**	**48.31**	**14**	*e*P	**P**	**14 52 45.5**	**-0.8**
	comp=Z,9.6nm,1.0s,mb4.5						
MTLF	**Montolieu**	**48.31**	**14**	*e*P	**P**	**14 52 45.5**	**-0.8**
MTLF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
MTLF	**Montolieu**	**48.31**	**14**	*e*P	**P**	**14 52 45.5**	**-0.8**
	comp=Z,4.8nm,1.0s,mb4.5						
KMBO	**Kilima Mbogo**	**49.02**	**88**	LR	LR	15 12 01.9	
	comp=Z,1μm,19.2s,MS5.0,baz=274,slow=34						
CPUP	**Villa Florida**	**49.16**	**238**	P	**P**	**14 52 53.8**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.9,baz=64,slow=10,SNR=3.0						
LASF	**Ste Croix**	**49.41**	**15**	*e*P	**P**	**14 52 54.4**	**-0.3**
	comp=Z,18nm,1.0s,mb4.8						
LMR	**La Mourre**	**49.46**	**18**	*e*P	**P**	**14 52 55.0**	**-0.1**
	comp=Z,39nm,0.9s,mb5.1						
LMR	**La Mourre**	**49.46**	**18**	*e*P	**P**	**14 52 55.0**	**-0.1**
LMR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
LMR	**La Mourre**	**49.46**	**18**	*e*P	**P**	**14 52 55.0**	**-0.1**
	comp=Z,20nm,0.9s,mb5.1						
PGF	**Pioggiola**	**49.55**	**20**	*e*P	**P**	**14 52 55.8**	**-0.1**
	comp=Z,27nm,1.2s,mb4.9						
PGF	**Pioggiola**	**49.55**	**20**	*e*P	**P**	**14 52 55.8**	**-0.1**
PGF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
PGF	**Pioggiola**	**49.55**	**20**	*e*P	**P**	**14 52 55.8**	**-0.1**
	comp=Z,14nm,1.2s,mb4.8						
RJF	**Les Rejaudoux**	**50.02**	**12**	*e*P	**P**	**14 52 58.5**	**-0.9**
	comp=Z,49nm,1.3s,mb5.1						
RJF				*e*MLR	MLR		
	comp=Z,437nm,19.8s,MS4.2						
RJF	**Les Rejaudoux**	**50.02**	**12**	*e*P	**P**	**14 52 58.5**	**-0.9**
RJF				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.1						
RJF				MLR	MLR		
	comp=Z,440nm,19.8s,MS4.5						
RJF	**Les Rejaudoux**	**50.02**	**12**	*e*P	**P**	**14 52 58.5**	**-0.9**
	comp=Z,24nm,1.3s,mb5.1						
RJF				LR	LR		
	comp=Z,440nm,19.8s,MS4.5						
SIV	**San Ignacio**	**50.02**	**252**	P	**P**	**14 53 00.3**	**+0.4**
	comp=Z,3.7nm,1.0s,mb4.4,baz=97,slow=13,SNR=4.6						
SBF	**Sospel**	**50.22**	**18**	*e*P	**P**	**14 53 00.3**	**-0.6**
VIVF	**Saint-Julien-l**	**50.34**	**15**	*e*P	**P**	**14 53 01.6**	**-0.3**
ORIF	**Oris-en-Rattie**	**50.73**	**16**	*e*P	**P**	**14 53 05.1**	**+0.4**
	comp=Z,23nm,1.1s,mb4.7						
ORIF				*e*MLR	MLR		
	comp=Z,422nm,19.2s,MS4.2						
ORIF	**Oris-en-Rattie**	**50.73**	**16**	*e*P	**P**	**14 53 05.1**	**+0.4**
ORIF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
ORIF	**Oris-en-Rattie**	**50.73**	**16**	*e*P	**P**	**14 53 05.1**	**+0.4**
	comp=Z,12nm,1.1s,mb4.7						
MBDF	**Montbardon**	**50.80**	**17**	*e*P	**P**	**14 53 05.9**	**+0.6**
	comp=Z,23nm,0.9s,mb4.8						
MBDF	**Montbardon**	**50.80**	**17**	*e*P	**P**	**14 53 05.9**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
MBDF	**Montbardon**	**50.80**	**17**	*e*P	**P**	**14 53 05.9**	**+0.6**
	comp=Z,12nm,0.9s,mb4.8						
TCF	**Toulx Ste Croi**	**51.11**	**12**	*e*P	**P**	**14 53 07.3**	**-0.3**
	comp=Z,25nm,1.1s,mb4.8						
TCF	**Toulx Ste Croi**	**51.11**	**12**	*e*P	**P**	**14 53 07.3**	**-0.3**
TCF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
TCF	**Toulx Ste Croi**	**51.11**	**12**	*e*P	**P**	**14 53 07.3**	**-0.3**
	comp=Z,13nm,1.1s,mb4.8						
BGF	**Bois d'Agland**	**51.50**	**13**	*e*P	**P**	**14 53 10.9**	**+0.4**
LPG	**La Plagne**	**51.50**	**17**	*e*P	**P**	**14 53 11.3**	**+0.7**
LPL	**La Plagne**	**51.52**	**17**	*e*P	**P**	**14 53 11.2**	**+0.5**
	comp=Z,17nm,0.8s,mb4.7						
LPL	**La Plagne**	**51.52**	**17**	*e*P	**P**	**14 53 11.2**	**+0.5**
LPL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
LPL	**La Plagne**	**51.52**	**17**	*e*P	**P**	**14 53 11.2**	**+0.5**
	comp=Z,8.3nm,0.8s,mb4.7						
SMF	**Signal de Mont**	**51.81**	**14**	*e*P	**P**	**14 53 12.0**	**-0.9**
AVF	**Avril sur Loir**	**51.84**	**13**	*e*P	**P**	**14 53 12.4**	**-0.6**
	comp=Z,36nm,1.4s,mb4.8						
AVF	**Avril sur Loir**	**51.84**	**13**	*e*P	**P**	**14 53 12.4**	**-0.6**
AVF				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
AVF	**Avril sur Loir**	**51.84**	**13**	*e*P	**P**	**14 53 12.4**	**-0.6**
	comp=Z,18nm,1.4s,mb4.8						
SSF	**Saint Saulge**	**52.13**	**13**	*e*P	**P**	**14 53 14.5**	**-0.7**
	comp=Z,12nm,0.8s,mb4.6						
SSF	**Saint Saulge**	**52.13**	**13**	*e*P	**P**	**14 53 14.5**	**-0.7**
SSF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
SSF	**Saint Saulge**	**52.13**	**13**	*e*P	**P**	**14 53 14.5**	**-0.7**
	comp=Z,6.2nm,0.8s,mb4.6						
ROSF	**Rostrenen**	**52.16**	**7**	*e*P	**P**	**14 53 14.0**	**-1.4**
	comp=Z,97nm,1.4s,mb5.2						
ROSF	**Rostrenen**	**52.16**	**7**	*e*P	**P**	**14 53 14.0**	**-1.4**
ROSF				pmax	pmax		
	comp=Z,48nm,1.4s,mb5.2						
ROSF	**Rostrenen**	**52.16**	**7**	*e*P	**P**	**14 53 14.0**	**-1.4**
	comp=Z,48nm,1.4s,mb5.2						
SGMF	**Saint Gilles**	**52.18**	**8**	*e*P	**P**	**14 53 14.2**	**-1.3**
CABF	**La Chapelle**	**52.34**	**15**	*e*P	**P**	**14 53 16.3**	**-0.5**
	comp=Z,15nm,0.8s,mb4.7						
CABF	**La Chapelle**	**52.34**	**15**	*e*P	**P**	**14 53 16.3**	**-0.5**
CABF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
CABF	**La Chapelle**	**52.34**	**15**	*e*P	**P**	**14 53 16.3**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.7						
LOR	**Lormes**	**52.40**	**13**	*e*P	**P**	**14 53 16.3**	**-0.9**
LOR				*e*MLR	MLR		
	comp=Z,421nm,22.8s,MS4.1						
LOR	**Lormes**	**52.40**	**13**	*e*P	**P**	**14 53 16.3**	**-0.9**
LOR				LR	LR		
	comp=Z,420nm,22.8s,MS4.4						
HINF	**Hinteralfeld**	**53.66**	**15**	*e*P	**P**	**14 53 25.0**	**-1.5**
HAU	**Haudompre**	**53.70**	**15**	*e*P	**P**	**14 53 25.8**	**-1.0**
HAU				*e*MLR	MLR		
	comp=Z,274nm,18.5s,MS4.0						
HAU	**Haudompre**	**53.70**	**15**	*e*P	**P**	**14 53 25.8**	**-1.0**
HAU				LR	LR		
	comp=Z,270nm,18.5s,MS4.3						
MEZF	**Maizieres J'vi**	**53.84**	**14**	*e*P	**P**	**14 53 27.1**	**-0.7**
DAVA	**Damuels**	**54.05**	**18**	⇑*i*P	**P**	**14 53 29.3**	**-0.1**
	comp=Z,19nm,0.8s,mb5.1						
CDF	**Champ du Feu**	**54.32**	**16**	*e*P	**P**	**14 53 30.1**	**-1.2**
	comp=Z,14nm,1.0s,mb4.5						
CDF	**Champ du Feu**	**54.32**	**16**	*e*P	**P**	**14 53 30.1**	**-1.2**
CDF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
CDF	**Champ du Feu**	**54.32**	**16**	*e*P	**P**	**14 53 30.1**	**-1.2**
	comp=Z,7.1nm,1.0s,mb4.5						
VOY	**Vojsko**	**54.32**	**22**	*e*P	**P**	**14 53 32.2**	**+0.8**
ABTA	**Abfaltersbach**	**54.44**	**20**	⇑*i*P	**P**	**14 53 33.1**	**+0.9**
	comp=Z,4.5nm,0.7s,mb4.5						
WTTA	**Wattenberg**	**54.59**	**19**	⇑*i*P	**P**	**14 53 33.7**	**+0.4**
	comp=Z,13nm,0.8s,mb5.0						
WTTA	**Wattenberg**	**54.59**	**19**	⇑*i*P	**P**	**14 53 33.7**	**+0.4**
WTTA				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
BAIF	**Baives**	**55.11**	**12**	*e*P	**P**	**14 53 36.4**	**-0.6**
	comp=Z,21nm,0.8s,mb4.9						
BAIF	**Baives**	**55.11**	**12**	*e*P	**P**	**14 53 36.4**	**-0.6**
BAIF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
BAIF	**Baives**	**55.11**	**12**	*e*P	**P**	**14 53 36.4**	**-0.6**
	comp=Z,10nm,0.8s,mb4.9						
GIVF	**Givet**	**55.28**	**13**	*e*P	**P**	**14 53 37.8**	**-0.5**
SOKA	**Soboth**	**55.29**	**22**	⇓*i*P	**P**	**14 53 39.3**	**+0.9**
	comp=Z,7.7nm,1.1s,mb4.7						
MOA	**Molln**	**56.00**	**21**	⇑*i*P	**P**	**14 53 43.1**	**-0.4**
	comp=Z,11nm,1.4s,mb4.7						
GRA1	**Grafenberg Arr**	**56.60**	**18**	*e*P	**P**	**14 53 47.3**	**-0.4**
	comp=Z,7.0nm,0.9s,mb4.7						
GRA1				*e*pP	pP	14 53 51.6	+0.7
GRF	**Grafenberg Arr**	**56.60**	**18**	*e*P	**P**	**14 53 47.3**	**-0.4**
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**56.60**	**18**	*e*P	**P**	**14 53 47.3**	**-0.4**
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**56.60**	**18**	*e*P	**P**	**14 53 47.3**	**-0.4**
	comp=Z,7.0nm,0.9s,mb4.7						
GRF				*e*pP	pP	14 53 51.6	+0.7
CSNA	**Conrad Observa**	**56.65**	**22**	⇑*i*P	**P**	**14 53 49.0**	**+0.9**
	comp=Z,12nm,1.5s,mb4.7						
CONA	**Conrad Observa**	**56.65**	**22**	⇑*i*P	**P**	**14 53 49.0**	**+0.9**
	comp=Z,8.7nm,1.2s,mb4.7						
GEC2	**GERESS Array S**	**56.66**	**20**	*e*P	**P**	**14 53 47.3**	**-0.8**
GERES	**GERESS Array B**	**56.66**	**20**	P	**P**	**14 53 48.2**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.5,baz=195,slow=5.9,SNR=3.7						
GERES				LR	LR	15 20 00.7	
	comp=Z,357nm,18.4s,MS4.5,baz=241,slow=38						
LPAZ	**La Paz**	**56.78**	**253**	P	**P**	**14 53 49.6**	**-0.1**
	comp=Z,4.6nm,1.1s,mb4.4,baz=72,slow=9.9,SNR=3.8						
LPAZ	**La Paz**	**56.78**	**253**	*e*P	**P**	**14 53 45.9**	**-3.8**
LPAZ				pmax	pmax		
	comp=Z,8.0nm,1.3s						
LPAZ	**La Paz**	**56.78**	**253**	*e*P	**P**	**14 53 45.9**	**-3.7**
	comp=Z,8.5nm,1.3s,mb4.6						
KHC	**Kasperske Hory**	**56.86**	**20**	*e*P	**P**	**14 53 48.8**	**-0.8**
KHC	**Kasperske Hory**	**56.86**	**20**	*e*P	**P**	**14 53 49.5**	**-0.1**
KHC				*ex*	x	14 54 02.0	
TRQA	**Tornquist**	**57.22**	**226**	*e*P	**P**	**14 53 53.3**	**+0.9**
	comp=Z,16nm,1.2s,mb4.9						
NKC	**Novy Kostel**	**57.45**	**18**	*e*P	**P**	**14 54 00.6**	**+6.9**
MODS	**Modra-Piesok**	**57.55**	**23**	*e*P	**P**	**14 53 53.1**	**-1.4**
PRU	**Pruhonice**	**57.92**	**20**	*e*P	**P**	**14 54 01.8**	**+4.8**
KOLL	**Kolacno**	**58.15**	**23**	*e*P	**P**	**14 53 59.4**	**+0.7**
PSZ	**Piszkesteto**	**58.23**	**25**	*e*P	**P**	**14 53 55.4**	**-3.9**
PSZ				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
PSZ	**Piszkesteto**	**58.23**	**25**	*e*P	**P**	**14 53 55.4**	**-3.8**
	comp=Z,11nm,1.1s,mb4.8						
PVCC	**Panska Ves**	**58.39**	**19**	*e*P	**P**	**14 54 00.4**	**+0.1**
CLL	**Collm**	**58.56**	**18**	*e*P	**P**	**14 54 02.0**	**+0.5**
CLL				*e*		14 54 07.0	
MORC	**Moravsky Berou**	**58.80**	**22**	*e*P	**P**	**14 54 01.2**	**-2.0**
MORC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
MORC	**Moravsky Berou**	**58.80**	**22**	*e*P	**P**	**14 54 01.2**	**-2.0**
	comp=Z,4.8nm,0.9s,mb4.5						
DPC	**Dobruska-Polom**	**58.84**	**21**	*e*P	**P**	**14 54 03.7**	**+0.2**
KECS	**Kecovo**	**58.92**	**24**	*e*P	**P**	**14 54 05.2**	**+1.2**
KECS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
KECS	**Kecovo**	**58.92**	**24**	*e*P	**P**	**14 54 05.2**	**+1.2**
	comp=Z,3.1nm,0.9s,mb4.3						
OKC	**Ostrava-Krasne**	**59.08**	**22**	*e*P	**P**	**14 54 04.7**	**-0.4**
CRVS	**Cervenica-Dubn**	**59.65**	**25**	*e*P	**P**	**14 54 09.7**	**+0.6**
CFAA	**Coronel Fontan**	**59.87**	**235**	P	**P**	**14 54 11.3**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=61,slow=6.1,SNR=8.0						
CFAA	**Coronel Fontan**	**59.87**	**235**	P	**P**	**14 54 11.3**	**+0.3**
SDV	**Santo Domingo**	**59.97**	**282**	P	**P**	**14 54 13.6**	**+1.6**
	comp=Z,4.2nm,0.8s,mb4.5,baz=88,slow=6.2,SNR=3.9						
SDV	**Santo Domingo**	**59.97**	**282**	*e*P	**P**	**14 54 13.5**	**+1.5**
	comp=Z,15nm,1.2s,mb4.9						
KOLS	**Kolonicke sedl**	**60.02**	**25**	*e*P	**P**	**14 54 12.9**	**+1.3**
OJC	**Ojcow**	**60.02**	**23**	*e*P	**P**	**14 54 11.9**	**+0.3**
KWP	**Kalwaria**	**60.73**	**25**	*e*P	**P**	**14 54 17.3**	**+0.8**
KWP				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
KWP	**Kalwaria**	**60.73**	**25**	*e*P	**P**	**14 54 17.3**	**+0.7**
	comp=Z,8.6nm,0.8s,mb4.9						
LCO	**Las Campanas**	**61.29**	**239**	P	**P**	**14 54 25.2**	**+4.4**
	comp=Z,10nm,0.8s,mb5.0						
MALT	**Malatya**	**62.28**	**43**	P	**P**	**14 54 24.7**	**-2.5**
MALT				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
MALT	**Malatya**	**62.28**	**43**	P	**P**	**14 54 24.7**	**-2.5

comp=Z,3.7nm,0.8s,mb4.4,baz=188,slow=7.4,SNR=4.9
SUMG Summit 77.84 352 P **P 14 56 01.7 -0.4**
comp=Z,2.6nm,0.9s,mb4.2
MAW Mawson 80.93 158 P **P 14 56 19.9 +0.9**
comp=Z,8.3nm,0.8s,mb4.7,baz=293,slow=8.9,SNR=12
MAW LR LR 15 23 44.6
comp=Z,241nm,19.7s,MS4.6,baz=240,slow=29
MAW Mawson 80.93 158 *eP* **P 14 56 19.5 +0.4**
MAW pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 80.93 158 *eP* **P 14 56 19.5 +0.4**
comp=Z,8.4nm,0.8s,mb4.7
OXF Oxford 81.84 305 P **P 14 56 26.3 +1.7**
OXF pmax pmax
comp=Z,16nm,0.8s,mb5.0
OXF Oxford 81.84 305 P **P 14 56 26.3 +1.8**
comp=Z,16nm,0.8s,mb5.0
QSPA South Pole Qui 86.58 180 P **P 14 56 47.9 +0.1**
comp=Z,8.6nm,0.9s,mb5.0,baz=214,slow=3.1,SNR=20
QSPA LR LR 15 29 47.6
comp=Z,219nm,18.4s,MS4.6,baz=222,slow=32
BRVK Borovoye 88.00 37 *eP* **P 14 56 55.0 -0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
BRVK Borovoye 88.00 37 *eP* **P 14 56 55.0 -0.1**
comp=Z,3.0nm,0.9s,mb4.5
BVAR Borovoye Array 88.06 37 P **P 14 56 55.2 -0.2**
comp=Z,1.3nm,0.7s,mb4.3,baz=289,slow=4.5,SNR=6.2
ECSD EROS,Sioux Fal 88.69 314 *eP* **P 14 56 58.9 +0.3**
comp=Z,8.5nm,1.0s,mb5.0
EKS2 Erkin-Say 89.07 47 *eP* **P 14 57 00.1 -0.3**
comp=Z,4.1nm,1.0s,mb4.7
WMOK Wichita Mounta 89.53 305 P **P 14 57 00.0 -2.8**
WMOK pmax pmax
comp=Z,7.0nm,1.3s,mb4.8
WMOK Wichita Mounta 89.53 305 P **P 14 56 60.0 -2.8**
comp=Z,7.4nm,1.3s,mb4.9
RES Resolute Bay 91.55 345 P **P 14 57 11.0 -0.3**
comp=Z,433nm,0.9s
TXAR Lajitas Array 93.37 299 P **P 14 57 20.5 -0.2**
comp=Z,1.3nm,0.9s,mb4.4,baz=111,slow=6.9,SNR=7.5
TXAR Lajitas Array 93.37 299 P **P 14 57 20.5 -0.2**
MK31 Makanchi Array 95.31 43 P **P 14 57 28.5 -0.7**
YKA Yellowknife Ar 99.03 333 P **P 14 57 45.7 +0.1**
comp=Z,0.7nm,0.8s,mb4.2,baz=72,slow=5.7,SNR=5.0
YKA Yellowknife Ar 99.03 333 P **P 14 57 45.7 +0.1**
ASAR Alice Springs 137.00 131 PKhKP 15 03 16.6
comp=Z,0.4nm,0.7s,baz=214,slow=2.4,SNR=4.6
ASAR PKP PKPdf 15 03 29.2 +0.3
comp=Z,2.3nm,1.1s,baz=235,slow=2.0,SNR=4.4
WRA Warramunga Arr 139.35 126 PKhKP 15 03 16.0
comp=Z,0.2nm,0.4s,baz=239,slow=2.9,SNR=5.8
WRA PKP PKPdf 15 03 35.1 +1.8
comp=Z,1.8nm,1.0s,baz=239,slow=1.9,SNR=5.3

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*ISCJB **16** 14:49:40.0±0.7, 3170S±005×1790W±01, h99km±7km, mb4.5/21, Error ellipse: s-maj=15.2km s-min=6.7km az=20.8*
*NEIC **16** 14:49:40.7±1.2, 3183S×17869W, h110km±11km, mb4.7/14, Error ellipse: s-maj=20.8km s-min=10.3km az=109.0*
*IDC **16** 14:49:46.9±1.1, 3120S×17878W, h158km±12km, mb4.0/14, mb1 4.2/15, mb1mx4.1/20, mbtmp4.1/15, MS4.5/1, Ms1 4.5/1, ms1mx2.8/33, Error ellipse: s-maj=15.3km s-min=12.9km az=46.0*

ISC 16 14:49:40.9±0.6, 3171S±005×1790W±01, h94km±6km, n59, σ1§36/55, mb4.5/21, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.61**	**20**	P	**Pn**	**14 50 23.5**	**+2.1**
RAO	93nm,0.3s,baz=255,slow=23,SNR=2.6			S	**Sn**	**14 50 51.9**	**-0.4**
MWZ	**Matawai**	**7.21**	**203**	P	**Pn**	**14 51 28.2**	**+4.6**
URZ	**Urewera**	**7.29**	**205**	P	**Pn**	**14 51 30.3**	**+5.6**
URZ	2.6nm,0.3s,baz=347,slow=8.6,SNR=62			S	**Sn**	**14 52 52.5**	**+6.7**
URZ	**Urewera**	**7.29**	**205**	P	**Pn**	**14 51 29.5**	**+4.9**
BKZ	**Black Stump Fm**	**8.31**	**205**	P	**Pn**	**14 51 42.0**	**+3.4**
MRZ	**Mangatainoka R**	**9.96**	**205**	P	**Pn**	**14 52 01.1**	**+0.1**
KIW	**Kapiti Island**	**10.38**	**207**	P	**Pn**	**14 52 06.5**	**-0.3**
CAW	**Cannon Point**	**10.54**	**205**	P	**Pn**	**14 52 08.3**	**-0.6**
WEL	**Wellington**	**10.80**	**206**	P	**Pn**	**14 52 11.8**	**-0.7**
SNZO	**South Karori**	**10.85**	**206**	P	**Pn**	**14 52 11.9**	**-1.2**
BHW	**Baring Head**	**10.87**	**205**	P	**Pn**	**14 52 15.3**	**+1.9**
TCW	**Tory Channel**	**10.93**	**208**	P	**Pn**	**14 52 12.8**	**-1.4**
THZ	**Tophouse**	**11.96**	**211**	P	**Pn**	**14 52 26.9**	**-1.2**
KHZ	**Kahutara**	**12.25**	**207**	P	**Pn**	**14 52 30.0**	**-1.9**
LTZ	**Lake Taylor**	**13.07**	**210**	P	**Pn**	**14 52 40.5**	**-2.2**
RPZ	**Rata Peaks**	**14.34**	**211**	P	**Pn**	**14 52 58.6**	**-0.7**
ODZ	**Otahua Downs**	**15.59**	**208**	P	**Pn**	**14 53 13.4**	**-1.8**
CNB	**Canberra Magne**	**26.60**	**254**	*eP*	**P**	**14 55 14.5**	**+4.2**
TOO	**Toolangi**	**29.71**	**249**	*eP*	**P**	**14 55 41.1**	**+3.1**
CTA	**Charters Tower**	**33.23**	**282**	*eP*	**P**	**14 56 10.7**	**+1.6**
CTA	**Charters Tower**	**33.23**	**282**	P	**P**	**14 56 10.7**	**+1.6**
CTAO	**Charters Tower**	**33.23**	**282**	*eP*	**P**	**14 56 10.4**	**+1.3**
STKA	**Stephens Creek**	**33.40**	**259**	⇑*iP*	**P**	**14 56 13.3**	**+2.8**
STKA	**Stephens Creek**	**33.40**	**259**	P	**P**	**14 56 13.6**	**+3.1**
ASAR	**Alice Springs**	**42.24**	**269**	P	**P**	**14 57 25.6**	**+0.7**
WB2	**Warramunga Arr**	**43.34**	**274**	*eP*	**P**	**14 57 34.0**	**+0.2**
WRAB	**Tennant Creek**	**43.34**	**274**	*eP*	**P**	**14 57 33.8**	**-0.1**
WRA	**Warramunga Arr**	**43.35**	**274**	P	**P**	**14 57 33.9**	**-0.1**
FORT	**Forrest**	**44.93**	**257**	*eP*	**P**	**14 57 46.9**	**+0.4**
SBA	**Scott Base**	**46.67**	**184**	*eP*	**P**	**14 58 04.9**	**+5.4**
VNDA	**Vanda**	**46.71**	**186**	P	**P**	**14 58 04.5**	**+4.7**
VNDA	**Vanda**	**46.71**	**186**	*eP*	**P**	**14 58 03.8**	**+4.0**
FITZ	**Fitzroy Crossi**	**51.55**	**271**	*eP*	**P**	**14 58 37.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**51.55**	**271**	P	**P**	**14 58 37.3**	**-0.2**
KLBR	**Kellerberrin**	**53.16**	**252**	*eP*	**P**	**14 58 48.5**	**-0.8**
NWAO	**Narrogin (SRO)**	**53.18**	**251**	LR	LR	15 20 20.8	
CASY	**Casey**	**53.60**	**208**	*eP*	**P**	**14 58 50.9**	**-1.0**
MUN	**Mundaring**	**54.29**	**251**	*eP*	**P**	**14 58 57.9**	**+0.4**
QSPA	**South Pole Qui**	**58.40**	**180**	P	**P**	**14 59 29.8**	**+3.8**
MAW	**Mawson**	**70.80**	**201**	P	**P**	**15 00 47.3**	**+0.5**
PMSA	**Palmer Station**	**71.41**	**156**	P	**P**	**15 00 50.6**	**+0.2**
PMSA	**Palmer Station**	**71.41**	**156**	*eP*	**P**	**15 00 43.3**	**-7.2**
SNAA	**Sanae**	**76.87**	**179**	*e*	**P**	**15 01 23.3**	**+1.2**
SNAA				*e*		15 01 26.9	
SNAA	**Sanae**	**76.87**	**179**	P	**P**	**15 01 23.3**	**+1.2**
SNAA	**Sanae**	**76.87**	**179**	*eP*	**P**	**15 01 23.0**	**+0.9**
VNA2	**Neumayer--Watz**	**77.48**	**177**	*e*	**P**	**15 01 27.2**	**+1.7**
VNA2				*e*		15 01 30.7	
VNA1	**Neumayer--Stat**	**77.71**	**177**	*e*	**P**	**15 01 28.7**	**+1.9**
VNA1				*e*		15 01 32.4	
MJAR	**Matsushiro Arr**	**78.86**	**326**	P	**P**	**15 01 29.9**	**-3.6**
PLCA	**Paso Flores**	**82.21**	**133**	P	**P**	**15 01 52.4**	**+0.7**
PLCA	**Paso Flores**	**82.21**	**133**	P	**P**	**15 01 52.6**	**+1.0**
KSRS	**Korea Array**	**84.82**	**320**	P	**P**	**15 02 03.0**	**-1.7**
PETK	**Petropavlovsk-**	**86.88**	**346**	P	**P**	**15 02 11.1**	**-3.4**
ISA	**Isabella**	**87.80**	**45**	P	**P**	**15 02 17.6**	**-1.8**
NVAR	**Mina Array Bea**	**89.75**	**43**	P	**P**	**15 02 26.7**	**-1.8**
NB2	**NORSAR Subarra**	**149.91**	**350**	PKP	PKPdf	15 09 16.2	+1.8
NOA	**NORSAR Array B**	**149.91**	**350**	PKPbc	PKPbc	15 09 16.1	-3.2
AKASG	**Malin Array Be**	**151.81**	**321**	PKPbc	PKPbc	15 09 21.0	-3.2
AKASG				PKPab	PKPab	15 09 28.9	-4.7
TORD	**Torodi Ar. Bea**	**161.51**	**182**	PKP	PKPdf	15 09 30.8	-0.5
TORD				PKPab	PKPab	15 10 16.0	0.0
TORD	**Torodi Ar. Bea**	**161.51**	**182**	PKP	PKPdf	15 09 30.8	-0.5
TORD				PKPab	PKPab	15 10 16.0	0.0

comp=Z,1.3nm,0.7s,baz=17,slow=2.6
comp=Z,2.2nm,0.8s,baz=16,slow=4.2,SNR=4.5
comp=Z,0.2nm,0.3s,baz=56,slow=2.4,SNR=4.7
comp=Z,0.5nm,0.4s,baz=53,slow=4.4,SNR=5.4
comp=Z,2.0nm,1.0s,baz=240,slow=3.5,SNR=4.2
comp=Z,4.7nm,0.8s,baz=174,slow=3.5,SNR=14

IDC 16 14:56:55.0±2.4, 1279S×7604W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/20, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=95.2km s-min=22.5km az=39.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.12**	**315**	Pn	Pn	14 57 16.7	-1.3
NNA	16nm,0.3s,baz=192,slow=15,SNR=5.0			Sn	Sn	14 57 36.1	+2.0
ATAH	**Atahualpa**	**6.21**	**338**	Pn	Pn	14 58 26.3	-1.6
ATAH	1.0nm,0.3s,baz=134,slow=4.6,SNR=4.7			Sn	Sn	14 59 39.5	-0.1
LPAZ	**La Paz**	**8.41**	**115**	Pn	Pn	14 59 05.9	+7.8
TXAR	**Lajitas Array**	**49.65**	**328**	P	P	15 05 48.9	+0.4
YKA	**Yellowknife Ar**	**80.84**	**343**	P	P	15 09 10.5	+0.3
TORD	**Torodi Ar. Bea**	**81.25**	**74**	P	P	15 09 12.9	-0.7
ZALV	**Zaltsovo Beam**	**136.24**	**16**	PKP	PKPdf	15 16 17.1	-1.2
SONM	**Songino Array**	**145.01**	**357**	PKPbc	PKPbc	15 16 34.2	+0.7

0.4nm,0.4s,baz=90,slow=2.4,SNR=4.5
0.6nm,0.3s,baz=28,slow=11,SNR=6.2
0.6nm,0.3s,baz=108,slow=20,SNR=2.4
0.2nm,0.3s,baz=303,slow=10,SNR=6.6
0.3nm,0.6s,baz=137,slow=14,SNR=3.5
0.4nm,0.6s,baz=140,slow=6.1,SNR=4.4
0.6nm,0.8s,baz=252,slow=4.1,SNR=2.4
0.6nm,0.5s,baz=352,slow=4.2,SNR=4.5
1.3nm,0.5s,baz=17,slow=1.5,SNR=8.6

IDC 16 14:59:18.2±1.7, 955S×15952E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.6/3, MS4.5/1, Ms1 4.5/1, ms1mx3.0/20, Error ellipse: s-maj=72.4km s-min=12.3km az=157.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.43**	**75**	Pn	Pg	14 59 32.1	+5.6
HNR	2μm,0.3s,baz=256,slow=2.3,SNR=160			Sn	Sg	14 59 39.9	+7.7
WRA	**Warramunga Arr**	**26.42**	**244**	P	P	15 04 57.0	+0.2
ASAR	**Alice Springs**	**28.21**	**237**	P	P	15 05 12.1	-0.8
PPT	**Papeete**	**50.00**	**105**	LR	LR	15 25 09.3	
VNDA	**Vanda**	**67.96**	**179**	P	P	15 10 19.0	+0.4

1.0nm,0.6s,baz=72,slow=9.7,SNR=4.6
0.4nm,0.9s,baz=64,slow=10,SNR=4.7
comp=Z,428nm,18.8s,baz=284,slow=31
0.6nm,0.8s,baz=338,slow=6.7,SNR=4.4

NEIC 16 15:00:49.6, 4430S×16777E, h5km, ML4.4(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.39**	**163**	P	Pg	15 00 57.5	+0.4
MSZ				S	Sg	15 01 02.3	+0.1
JCZ	**Jackson Bay**	**0.75**	**73**	P	Pg	15 01 04.5	+0.6
JCZ				S	Sg	15 01 15.2	+1.6
WKZ	**Wanaka**	**1.04**	**121**	P	Pg	15 01 08.9	-0.6
MLZ	**Mavora Lakes**	**1.09**	**165**	P	Pg	15 01 10.4	0.0
DCZ	**Deep Cove**	**1.26**	**200**	P	Pg	15 01 12.9	-0.8
EAZ	**Earnscleugh**	**1.44**	**131**	P	Pn	15 01 16.1	-0.2
FOZ	**Fox Glacier**	**1.57**	**63**	P	Pn	15 01 18.2	+0.1
FOZ				S	Sn	15 01 42.8	+4.1
WHZ	**Wether Hill Ro**	**1.60**	**176**	P	Pn	15 01 18.7	+0.2
LBZ	**Lake Benmore**	**1.73**	**94**	P	Pn	15 01 21.6	+1.2
TUZ	**Tuapeka**	**2.12**	**142**	P	Pn	15 01 26.3	+0.7
ODZ	**Otahua Downs**	**2.18**	**111**	P	Pn	15 01 27.2	+0.7
RPZ	**Rata Peaks**	**2.44**	**77**	P	Pn	15 01 30.1	0.0
WVZ	**Waitaha Valley**	**2.48**	**61**	P	Pn	15 01 29.0	-1.5
MQZ	**McQueen's Vall**	**3.57**	**82**	P	Pn	15 01 44.3	-1.3
CRLZ	**Canterbury Las**	**3.58**	**80**	P	Pn	15 01 44.4	-1.3
LTZ	**Lake Taylor**	**3.60**	**67**	P	Pn	15 01 45.0	-1.1
DSZ	**Denniston Nort**	**3.91**	**51**	P	Pn	15 01 49.3	-0.9
THZ	**Tophouse**	**4.54**	**58**	P	Pn	15 01 58.6	-0.3
KHZ	**Kahutara**	**4.61**	**68**	P	Pn	15 01 59.1	-0.8
NNZ	**Nelson**	**5.15**	**55**	P	Pn	15 02 06.9	-0.4
TCW	**Tory Channel**	**5.70**	**59**	P	Pn	15 02 15.6	+0.8
SNZO	**South Karori**	**5.91**	**62**	P	Pn	15 02 17.0	-0.8
CAW	**Cannon Point**	**6.25**	**62**	*eP*	Pn	15 02 20.4	-2.0

IDC 16 15:02:13.1±2.7, 1425S×7602W, h0km, mb3.8/2, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, ML3.1/2, Error ellipse: s-maj=88.2km s-min=25.3km az=44.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.39**	**340**	Pn	Pn	15 02 54.1	+0.6
NNA	4.7nm,0.3s,baz=212,slow=15,SNR=2.4			Sn	Sn	15 03 23.4	-0.2
LPAZ	**La Paz**	**7.88**	**106**	Pn	Pn	15 04 11.6	+2.6
TXAR	**Lajitas Array**	**50.89**	**329**	P	P	15 11 17.4	+1.3
TORD	**Torodi Ar. Bea**	**81.62**	**74**	P	P	15 14 33.2	-0.5
SONM	**Songino Array**	**146.46**	**357**	PKPbc	PKPbc	15 21 54.4	-1.8

0.1nm,0.3s,baz=247,slow=13,SNR=3.0
0.4nm,0.6s,baz=149,slow=13,SNR=3.9
1.0nm,0.5s,baz=252,slow=3.6,SNR=9.5
0.5nm,0.6s,baz=326,slow=3.0,SNR=3.7

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*NEIC **16** 15:06:45.3, 3244S×7211W, h1km±9km, MD3.8, ML2.8, 7C-2D, Off coast of central Chile*

GUC 16 15:06:45.3±0.7, 3244S×7211W, h1km±9km, MD3.8, ML2.8, 7C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.76**	**43**	⇓*iP*	Pg	15 07 00.3	+0.4
CHNG				*i S*	Sg	15 07 12.6	+2.9
ROCH	**El Roble**	**1.06**	**120**	⇑*iP*	Pg	15 07 05.9	+0.2
ROCH				*i S*	Sg	15 07 21.6	+2.1
LCCH	**Las Cruces**	**1.12**	**156**	*eP*	Pg	15 07 06.7	-0.2
JACH	**Jahuel**	**1.30**	**101**	⇑*iP*	Pg	15 07 09.5	-0.7
JACH				*i S*	Sg	15 07 28.0	+0.8
PEL	**Peldehue**	**1.39**	**121**	⇓*iP*	Pn	15 07 11.1	-0.7
PEL				*i S*	Sg	15 07 30.5	+0.6
PEL				AML	AML	15 07 33.5	
	comp=E,446nm,0.3s						
TACH	**Talagante**	**1.56**	**141**	⇑*iP*	Pn	15 07 13.6	-0.6
TACH				*i S*	Sn	15 07 34.5	-0.5
FCH	**Farellones**	**1.77**	**120**	⇑*iP*	Pn	15 07 16.9	-0.1
FCH				*i S*	Sn	15 07 41.5	+1.3
FCH				AML	AML	15 07 43.1	
	comp=E,131nm,0.4s						
PCH	**Pirque**	**1.78**	**132**	⇑*iP*	Pn	15 07 17.4	+0.1
LMEL	**Las Melosas**	**2.12**	**132**	⇑*iP*	Pn	15 07 22.6	+0.6
LMEL				*i S*	Sn	15 07 51.0	+2.0
LMEL				AML	AML	15 08 00.2	
	comp=N,88nm,0.3s						
LMEL	**Las Melosas**	**2.12**	**132**	⇑*iP*	Pn	15 07 22.6	+0.6
LMEL				*i S*	Sn	15 07 51.0	+2.0
SFDO	**San Fernando**	**2.35**	**157**	*eP*	Pn	15 07 27.4	+2.3

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*IDC **16** 15:11:17.9±0.4, 1348S×7689W, h0km, mb5.0/25, mb1 5.1/30, mb1mx5.1/32, mbtmp5.0/30, ML4.3/4, MS5.1/1, Ms1 5.1/1, ms1mx3.9/15, Error ellipse: s-maj=15.1km s-min=7.8km az=83.0*
*ISCJB **16** 15:11:20.0±0.2, 1342S±003×7677W±003, h24km, mb5.3/137, MS4.8/11, Error ellipse: s-maj=5.7km s-min=3.3km az=136.1*
*MOS **16** 15:11:21.3±1.0, 1335S×7680W, h33km, mb5.5/48, Error ellipse: s-maj=10.1km s-min=5.5km az=110.5*
*GCMT **16** 15:11:22.8±0.4, 1367S×7679W, h22km±2km, MW5.3/63, Moment Tensor Solution. s26,c28; s63,c92; Duration: 1§1 Moment tensor: Scale 10^17Nm; M_{rr}-0.17±.07; $M_{\theta\theta}$0.16±.04; $M_{\phi\phi}$0.01±.06; $M_{r\theta}$1.08±.17; $M_{\theta\phi}$0.64±.03; $M_{\phi r}$-0.31±.09; Best double couple: $M_0$1.28500×10^17 NP1:φ§12.00000°, δ31.00000°, λ-173.00000°. NP2: φ§276.00000°, δ86.00000°, λ-60.00000°. Principal axes: T 1.1690, Plg34.0000°, Azm340.0000°; N 0.2330, Plg30.0000°, Azm94.0000°; P -1.4020, Plg41.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **16** 15:11:22.2, 1318S×7742W, h33km, mB5.5, Ms5.5, Msz5.2*
*NEIC **16** 15:11:22.8±1.6, 1345S×7672W, h34km±10km, mb5.4/110, MS4.8/3, Error ellipse: s-maj=6.2km s-min=3.4km az=58.0*
NEIC Felt [IV] at Lima and [III] at San Vicente de Canete.

ISC 16 15:11:19.3±2.0, 1343S±003×7669W±003, h6km±12km, n743, σ0§69/701, mb5.3/137, MS4.8/11, 194C-163D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.44**	**354**	Pn	**Pn**	**15 11 46.0**	**0.0**
NNA	99μm,0.6s **Nana**	**1.44**	**354**	Pn	**Pn**	**15 11 46.2**	**+0.2**
NNA	1μm,0.3s,baz=187,slow=12,SNR=664			Sn	**Sn**	**15 12 05.5**	**+0.2**
NNA	4μm,0.3s,baz=200,slow=8.1,SNR=18			LR	LR	15 12 24.5	
NNA	**Nana**	**1.44**	**354**	⇓*iP*n	**Pn**	**15 11 46.0**	**0.0**
NNA				*e*Sn	**Sn**	**15 12 04.2**	**-1.1**
ARE	**Arequipa**	**5.86**	**122**	*eP*	**Pn**	**15 12 48.0**	**+1.2**
ARE				*eS*	**Sn**	**15 14 12.0**	**+18**
ATAH	**Atahualpa**	**6.61**	**345**	Pn	**Pn**	**15 12 57.0**	**0.0**
ATAH	10.0nm,0.3s,baz=174,slow=7.4,SNR=67			Sn	**Sn**	**15 14 09.0**	**-3.7**
LPAZ	**La Paz**	**8.75**	**110**	*eP*	**Pn**	**15 13 29.5**	**+3.0**
LPAZ	42nm,0.3s,baz=249,slow=20,SNR=2.1			pmax	pmax		
LPAZ	**La Paz**	**8.75**	**110**	*eP*n	**Pn**	**15 13 30.6**	**+4.1**
LPAZ	5.7nm,0.3s,baz=275,slow=10,SNR=63			pmax	pmax		
LPAZ	**La Paz**	**8.75**	**110**	*eP*n	**Pn**	**15 13 30.6**	**+4.1**
LVC	**Limon Verde**	**11.75**	**142**	Pn	**Pn**	**15 14 07.4**	**-0.2**
LVC	comp=Z,1.5nm,0.3s,baz=277,slow=0.0,SNR=16			Sn	**Sn**	**15 16 29.1**	**+10**
LVC	**Limon Verde**	**11.75**	**142**	⇑*eP*n	**Pn**	**15 14 07.3**	**-0.3**
LVC				*e*Sn	**Sn**	**15 16 12.1**	**-7.0**
OTAV	**Otavalo**	**13.69**	**353**	*eP*n	**Pn**	**15 14 36.7**	**+2.5**
SIV	**San Ignacio**	**15.32**	**101**	Pn	**Pn**	**15 14 56.4**	**+0.1**
LCO	**Las Campanas**	**16.47**	**161**	*eP*n	**Pn**	**15 15 13.1**	**+1.9**
ROSC	**El Rosal**	**18.32**	**8**	P	**Pn**	**15 15 36.4**	**+2.1**
ROSC	comp=Z,1.0nm,0.3s,baz=94,slow=21,SNR=13			S	**Sn**	**15 19 03.5**	**+4.2**
ROSC	**El Rosal**	**18.32**	**8**	⇑*eP*n	**Pn**	**15 15 38.9**	**+4.6**
CFAA	**Coronel Fontan**	**19.68**	**158**	P	**Pn**	**15 15 49.8**	**-0.8**
CFAA	comp=Z,0.1nm,0.3s,baz=330,slow=12,SNR=33			S	**Sn**	**15 19 44.8**	**+13**
CPUP	**Villa Florida**	**22.24**	**128**	P	**P**	**15 16 17.4**	**+0.5**
CPUP	comp=Z,41nm,0.9s,mb4.9,baz=296,slow=10.0,SNR=46 **Villa Florida**	**22.24**	**128**	⇑*eP*	**P**	**15 16 16.0**	**-0.9**
CPUP				pmax	pmax		
CPUP	**Villa Florida**	**22.24**	**128**	⇑*eP*	**P**	**15 16 16.0**	**-0.9**
SDV	**Santo Domingo**	**22.97**	**16**	⇑*iP*	**P**	**15 16 25.6**	**+0.8**
PCRV	**Puerto La Cruz**	**26.33**	**28**	P	**P**	**15 16 58.4**	**+2.2**
PCRV	comp=Z,33nm,0.8s,mb4.9,baz=211,slow=2.4,SNR=11			S	**S**	**15 21 45.8**	**+16**
LPA	**La Plata**	**27.29**	**145**	*ceP*	**P**	**15 17 09.0**	**+4.3**
PLCA	**Paso Flores**	**27.72**	**170**	P	**P**	**15 17 07.8**	**-0.7**
PLCA	comp=Z,17nm,0.9s,mb4.7,baz=336,slow=11,SNR=26 **Paso Flores**	**27.72**	**170**	*eP*	**P**	**15 17 07.9**	**-0.6**
PLCA				pmax	pmax		
PLCA	**Paso Flores**	**27.72**	**170**	*eP*	**P**	**15 17 07.9**	**-0.6**
TRQA	**Tornquist**	**27.80**	**155**	*eP*	**P**	**15 17 07.6**	**-1.6**
BDFB	**Brasilia**	**27.84**	**98**	P	**P**	**15 17 10.6**	**+0.8**
BDFB	comp=Z,17nm,0.9s,mb4.7,baz=261,slow=17,SNR=25 **Brasilia**	**27.84**	**98**	⇑*eP*	**P**	**15 17 09.5**	**-0.3**
BDFB				*e*		15 17 20.4	
BDFB				pmax	pmax		
BDFB	**Brasilia**	**27.84**	**98**	⇑*eP*	**P**	**15 17 09.4**	**-0.4**
BDFB				*e*		15 17 20.4	
TGUH	**Tegucigalpa,Un**	**29.25**	**339**	⇑*eP*	**P**	**15 17 22.8**	**+0.4**
GRGR	**Grenville**	**29.45**	**31**	*eP*	**P**	**15 17 24.1**	**0.0**
SPB	**Sao Paulo**	**29.47**	**114**	*eP*	**P**	**15 17 23.5**	**-0.9**
MPR	**Mayaguez**	**32.82**	**17**	*eP*	**P**	**15 17 54.0**	**+0.1**
SJG	**San Juan**	**33.02**	**19**	P	**P**	**15 17 55.5**	**-0.1**
SJG	**San Juan**	**33.02**	**19**	*eP*	**P**	**15 17 55.2**	**-0.4**
SJG				pmax	pmax		
SJG	**San Juan**	**33.02**	**19**	*eP*	**P**	**15 17 55.2**	**-0.4**
CPD	**Cerro la Pandu**	**33.03**	**19**	*eP*	**P**	**15 17 55.0**	**-0.6**
CPD				pmax	pmax		
CPD	**Cerro la Pandu**	**33.03**	**19**	*eP*	**P**	**15 17 55.0**	**-0.6**
AOPR	**Arecibo Observ**	**33.06**	**17**	*eP*	**P**	**15 17 56.3**	**+0.4**
HUMP	**Col San Antoni**	**33.15**	**19**	*eP*	**P**	**15 17 56.0**	**-0.6**
MTP	**Monte Pirata**	**33.20**	**20**	*eP*	**P**	**15 17 57.1**	**0.0**
CBYP	**Canovanas**	**33.27**	**19**	*eP*	**P**	**15 17 57.5**	**-0.2**
CMIG	**Matias Romero**	**35.25**	**329**	P	**P**	**15 18 15.8**	**+0.8**
CAM3	**Guarapari**	**35.27**	**107**	⇑*iP*	**P**	**15 18 15.1**	**-0.1**
CAM3				*i*	pP	15 18 18.2	+1.2
CAM3				*i*		15 18 22.1	
CAM3				*i*		15 18 29.4	
CAM3				*i*		15 18 37.5	
CAM3				*i*		15 18 47.0	
CAM3				*i*		15 19 01.5	
TEIG	**Tepich**	**35.33**	**341**	*eP*	**P**	**15 18 15.5**	**-0.1**
USHA	comp=Z,58nm,1.0s,mb5.5 **Ushuaia**	**41.81**	**173**	P	**P**	**15 19 08.9**	**-0.7**
USHA	comp=Z,16nm,0.9s,mb4.7,baz=315,slow=7.0,SNR=5.0			LR	LR	15 34 41.3	
USHA	comp=Z,2μm,18.2s,MS5.1,baz=328,slow=34 **Ushuaia**	**41.81**	**173**	P	**P**	**15 19 08.9**	**-0.7**
USHA				LR	LR	15 34 41.3	
HKT	**Hockley**	**46.91**	**337**	*eP*	**P**	**15 19 47.3**	**-3.5**
HKT				pmax	pmax		
HKT	comp=Z,46nm,1.5s,mb5.2 **Hockley**	**46.91**	**337**	*eP*	**P**	**15 19 47.3**	**-3.5**
BBSR	comp=Z,46nm,1.5s,mb5.2 **BB Station**	**46.97**	**14**	*eP*	**P**	**15 19 49.1**	**-2.0**
GOGA	comp=Z,46nm,1.0s,mb5.4 **Godfrey**	**47.02**	**352**	*eP*	**P**	**15 19 49.7**	**-1.9**
LHS	**Liberty Hill**	**47.80**	**355**	*e*ScP	ScP	15 25 09.5	-12
NATX	**Nacogdoches**	**48.12**	**339**	*eP*	**P**	**15 20 00.3**	**+0.2**
JCT	comp=Z,52nm,0.9s,mb5.6 **Junction City**	**49.00**	**333**	*eP*	**P**	**15 20 06.0**	**-0.9**
SWET	**Sewanee**	**49.17**	**350**	*eP*	**P**	**15 20 06.0**	**-2.2**
OXF	**Oxford**	**49.19**	**346**	*eP*	**P**	**15 20 07.0**	**-1.3**
OXF				pmax	pmax

comp=Z,52nm,1.1s,mb5.5
MIAR Mount Ida 50.34 342 eP P 15 20 16.2 -0.9
BLA Blacksburg 50.49 356 eP P 15 20 16.7 -1.5
BLA pmax pmax
comp=Z,28nm,1.1s,mb5.2
BLA Blacksburg 50.49 356 eP P 15 20 16.7 -1.5
comp=Z,28nm,1.1s,mb5.2
ELN Prospectdale 50.53 356 eP P 15 20 18.1 -0.4
URVA University of 50.73 359 eP P 15 20 19.4 -0.7
PMSA Palmer Station 52.02 173 P P 15 20 27.4 -1.9
comp=Z,16nm,1.0s,mb4.9,baz=346,slow=6.4,SNR=6.8
PMSA Palmer Station 52.02 173 eP P 15 20 27.0 -2.3
comp=Z,46nm,1.1s,mb5.3
USIN University of 52.15 349 eP P 15 20 28.8 -1.8
comp=Z,66nm,1.1s,mb5.5
WCI Wyandotte Cave 52.17 350 eP P 15 20 28.6 -2.2
WCI pmax pmax
comp=Z,16nm,0.8s,mb5.0
WCI Wyandotte Cave 52.17 350 eP P 15 20 28.6 -2.2
comp=Z,16nm,0.8s,mb5.0
SIUC Southern Illin 52.22 347 eP P 15 20 29.4 -1.7
WMOK Wichita Mounta 52.30 337 eP P 15 20 29.6 -2.2
GDL2 Guadalupe Moun 52.54 330 eP P 15 20 33.9 +0.3
SDMD Soldier's Deli 52.57 360 eP P 15 20 34.1 +0.4
comp=Z,67nm,0.9s,mb5.6
FVM French Village 52.74 346 eP P 15 20 33.8 -1.2
FVM pmax pmax
comp=Z,44nm,1.1s,mb5.3
FVM French Village 52.74 346 eP P 15 20 33.8 -1.2
comp=Z,44nm,1.1s,mb5.3
OLIL Olney 52.98 349 eP P 15 20 34.9 -1.9
comp=Z,72nm,1.0s,mb5.6
BLO Bloomington 53.13 350 eP P 15 20 36.7 -1.2
MVL Millersville 53.16 0 eP P 15 20 33.1 -4.9
comp=Z,95nm,1.3s,mb5.6
SLM Saint Louis 53.32 347 eP P 15 20 36.8 -2.5
SLM pmax pmax
comp=Z,72nm,1.1s,mb5.5
SLM Saint Louis 53.32 347 eP P 15 20 36.8 -2.4
comp=Z,72nm,1.1s,mb5.5
AMTX Amarillo 53.58 334 eP P 15 20 40.2 -1.1
comp=Z,56nm,1.5s,mb5.3
ACSO Alum Creek Sta 53.71 354 eP P 15 20 40.7 -1.3
PAL Palisades 54.22 3 eP P 15 20 46.1 +0.3
PAL pmax pmax
comp=Z,41nm,0.9s,mb5.4
PAL Palisades 54.22 3 eP P 15 20 46.1 +0.3
comp=Z,41nm,0.9s,mb5.4
319A Douglas 54.43 326 ⇑P P 15 20 47.7 +0.2
baz=55,SNR=9.0
318A Bisbee 54.88 325 ⇑P P 15 20 51.0 +0.2
baz=55,SNR=22
ALLY Alegheny Colle 54.90 357 eP P 15 20 50.4 -0.3
219A White Tail Can 54.90 326 ⇑P P 15 20 51.0 +0.1
baz=55,SNR=18
BNM Barren Site 55.23 330 eP P 15 20 52.8 -0.4
BRYW Bryant College 55.28 5 eP P 15 20 53.7 +0.3
comp=Z,220nm,1.0s,mb6.1
218A Dragoon 55.31 325 ⇑P P 15 20 53.8 -0.1
baz=56,SNR=12
BINY Binghamton 55.36 1 eP P 15 20 54.2 +0.2
LPM Los Pinos Moun 55.36 330 eP P 15 20 54.5 +0.3
LENM Lemitar 55.41 329 eP P 15 20 55.1 +0.5
119A Ashpeak Ranch, 55.51 327 ⇑P P 15 20 55.5 +0.1
baz=56
QUA2 Belchertown 55.58 4 eP P 15 20 55.5 -0.1
comp=Z,102nm,1.0s,mb5.8
217A Green Valley 55.59 325 ⇓P P 15 20 55.8 -0.2
baz=56,SNR=14
LAZ Ladron 55.68 330 eP P 15 20 56.6 0.0
WES Weston 55.76 5 eP P 15 20 56.5 -0.4
WES pmax pmax
comp=Z,68nm,0.9s,mb5.7
WES Weston 55.76 5 eP P 15 20 56.5 -0.4
comp=Z,68nm,0.9s,mb5.7
118A Homack Ranch, 55.77 326 ⇑P P 15 20 57.2 0.0
baz=56
ANMO Albuquerque 55.79 330 eP P 15 20 57.7 +0.4
ANMO pmax pmax
comp=Z,28nm,1.1s
ANMO Albuquerque 55.79 330 eP P 15 20 57.7 +0.4
comp=Z,28nm,1.1s,mb5.2
HRV Adam Dziewonsk 55.86 5 eP P 15 20 58.3 +0.7
RKT Rikitea 55.87 251 eS S 15 28 48.8 +2.3
comp=Z,650nm,26.8s
RKT eLR LR 15 37 07.8
comp=Z,960nm,25.8s,baz=84
Z19A T-Link Ranch, 55.90 327 ⇓P P 15 20 58.4 +0.3
baz=56
TUC Tucson 55.97 325 eP P 15 20 58.6 -0.1
TUC e 15 21 05.4
TUC pmax pmax
comp=Z,29nm,1.2s,mb5.2
TUC Tucson 55.97 325 eP P 15 20 58.6 -0.1
comp=Z,29nm,1.2s,mb5.2
TUC e 15 21 05.3
216A Three Points, 56.12 324 ⇓P P 15 20 59.8 0.0
baz=56,SNR=6.3
117A Oracle 56.15 325 ⇓P P 15 20 59.8 -0.1
baz=56,SNR=18
CBKS Cedar Bluff 56.26 338 eP P 15 20 59.2 -1.4
CBKS pmax pmax
comp=Z,39nm,1.0s,mb5.4
CBKS Cedar Bluff 56.26 338 eP P 15 20 59.2 -1.4
comp=Z,39nm,1.0s,mb5.4
Y19A Nutrioso 56.41 328 ⇓P P 15 21 02.2 +0.4
baz=57,SNR=15
Z17A San Carlos Hig 56.55 326 ⇓P P 15 21 02.4 -0.4
baz=57
116A Eloy 56.68 325 ⇑P P 15 21 03.4 -0.3
baz=57,SNR=6.4
Y18A Canyon Day Jun 56.68 327 ⇓P P 15 21 03.6 -0.1
baz=57
X19A St. Johns 56.79 328 ⇑P P 15 21 04.5 0.0
baz=57
214A Organ Pipe Nat 56.87 323 ⇑P P 15 21 05.2 +0.1
baz=57,SNR=10.0
HNH Hanover 57.00 4 eP P 15 21 06.3 +0.5
comp=Z,142nm,0.9s,mb6.0
Y17A Roosevelt 57.05 326 ⇓P P 15 21 06.2 -0.1
baz=57,SNR=7.2
115A Sonoran Desert 57.08 324 ⇑P P 15 21 06.6 +0.1
baz=57,SNR=8.1
Z16A Peralta Trail, 57.10 325 ⇓P P 15 21 06.4 -0.3
baz=57
SCIA State Center 57.13 345 eP P 15 21 05.6 -1.1
NCB Newcomb 57.17 2 eP P 15 21 06.7 -0.2
comp=Z,100nm,1.4s,mb5.7
X18A Snowflake 57.21 327 ⇓P P 15 21 07.7 +0.2
baz=57
MDV Middlebury 57.24 3 eP P 15 21 07.4 0.0
W19A Sanders 57.37 328 ⇓P P 15 21 08.7 +0.1
baz=58
X17A Forest Lakes 57.52 327 ⇓P P 15 21 10.0 +0.3
baz=58,SNR=8.9
Y16A Circle Bar Ran 57.54 326 ⇑P P 15 21 10.0 +0.2
baz=58,SNR=6.8
LBNH Lisbon 57.56 4 eP P 15 21 10.1 +0.4
LBNH pmax pmax
comp=Z,89nm,0.9s,mb5.8
LBNH Lisbon 57.56 4 eP P 15 21 10.1 +0.4
comp=Z,89nm,0.9s,mb5.8
W18A Petrified Fore 57.56 328 ⇑P P 15 21 10.0 +0.1
baz=58,SNR=7.1
SDCO Great Sand Dun 57.64 333 eP P 15 21 10.0 -0.4
comp=Z,29nm,1.1s,mb5.2
V19A Window Rock 57.67 329 ⇑P P 15 21 10.8 +0.1
baz=58,SNR=8.9
LONY Lake Ozonia 57.80 2 eP P 15 21 10.7 -0.7
comp=Z,38nm,1.0s,mb5.4
X16A Lo Mia Camp, P 57.92 326 ⇑P P 15 21 12.8 +0.3
baz=58,SNR=9.0
113A Mohawk Valley, 58.01 323 ⇓P P 15 21 12.9 -0.3
baz=58
W17A Winslow 58.03 327 ⇓P P 15 21 13.1 -0.1
baz=58
FRNY Flat Rock 58.05 3 eP P 15 21 13.1 0.0
Y15A Casa Rosa Ranc 58.06 325 ⇑P P 15 21 13.4 0.0
baz=58,SNR=8.1
X15A Humboldt 58.41 326 ⇓P P 15 21 16.2 +0.3
baz=59,SNR=6.9
Y14A Wickenburg 58.43 325 ⇑P P 15 21 15.9 -0.1
baz=59,SNR=6.8
EMMW East Machias 58.47 8 eP P 15 21 16.6 +0.6
EMMW eScP ScP 15 25 43.4 -24
W16A Flagstaff 58.48 327 ⇑P P 15 21 16.9 +0.6
baz=59,SNR=8.5

T19A Beclabito 58.54 330 ⇓P P 15 21 16.2 -0.6
baz=59,SNR=10
MVCO Mesa Verde 58.59 330 ⇑P P 15 21 16.9 -0.2
baz=59
MVCO Mesa Verde 58.59 330 eP P 15 21 16.5 -0.6
comp=Z,39nm,1.4s,mb5.2
U18A Rough Rock, Ch 58.64 329 ⇑P P 15 21 17.3 -0.1
baz=59
WUAZ Wupatki 58.72 327 ⇑P P 15 21 18.3 +0.3
baz=59
WUAZ Wupatki 58.72 327 eP P 15 21 18.1 +0.1
comp=Z,50nm,1.1s,mb5.5
WUAZ e 15 21 25.2
X14A Yava 58.75 325 ⇑P P 15 21 18.5 +0.3
baz=59,SNR=14
Y13A Salome 58.80 324 ⇑P P 15 21 18.8 +0.1
baz=59
GLA Glamis 58.84 323 eP P 15 21 18.1 -0.8
GLA e 15 21 25.9
GLA pmax pmax
comp=Z,43nm,1.4s,mb5.3
GLA Glamis 58.84 323 ⇑P P 15 21 18.8 -0.1
baz=59
GLA Glamis 58.84 323 eP P 15 21 18.1 -0.8
comp=Z,43nm,1.4s,mb5.3
GLA e 15 21 25.9
GLA e 15 21 54.9
W15A Williams 58.94 326 ⇓P P 15 21 20.1 +0.5
baz=59
Y12C Blythe 59.16 323 ⇑P P 15 21 21.2 +0.1
baz=59
U17A Shonto 59.18 328 ⇑P P 15 21 21.2 0.0
baz=59,SNR=6.1
T18A Mexican Hat 59.20 329 ⇓P P 15 21 20.8 -0.5
baz=59,SNR=24
S19A Harvey Farm, M 59.32 330 ⇑P P 15 21 21.9 -0.3
baz=60,SNR=8.8
SWSC Sam W. Stewart 59.33 322 ⇑P P 15 21 22.2 -0.2
baz=60
PV01 Paradox Valley 59.36 331 eP P 15 21 22.0 -0.4
PV01 e 15 21 29.3
V15A Kaibab Nationa 59.37 327 ⇑P P 15 21 23.0 +0.5
baz=60,SNR=8.8
X13A Yucca 59.37 325 ⇑P P 15 21 22.6 0.0
baz=60,SNR=13
ISCO Idaho Springs 59.41 334 eP P 15 21 21.9 -0.8
W14A Seligman 59.41 326 ⇓P P 15 21 23.3 +0.4
baz=60,SNR=8.4
T17A Navajo Res., N 59.56 329 ⇑P P 15 21 24.3 +0.5
baz=60,SNR=6.9
BC3 Big Chuckw Mtn 59.63 323 ⇓P P 15 21 24.5 +0.1
baz=60,SNR=9.3
MONP Monument Peak 59.67 321 ⇓P P 15 21 24.7 0.0
baz=60
S18A Hurst Farm, Bl 59.69 330 ⇑P P 15 21 24.7 0.0
baz=60,SNR=23
ECSD EROS,Sioux Fal 59.73 343 eP P 15 21 23.0 -1.8
comp=Z,46nm,0.9s,mb5.5
V14A Boquillas Ranc 59.73 326 ⇓P P 15 21 25.5 +0.5
baz=60,SNR=20
W13A Hualapai Mount 59.77 325 ⇓P P 15 21 25.6 +0.3
baz=60,SNR=23
PV10 Paradox Valley 59.77 331 eP P 15 21 23.4 -1.9
IRM Iron Mountain 59.81 323 ⇑P P 15 21 25.6 0.0
baz=60,SNR=36
R19A Curley Farm, L 59.81 331 ⇑P P 15 21 25.3 -0.2
baz=60
U15A North Rim 59.89 327 ⇑P P 15 21 26.5 +0.4
baz=60,SNR=14
NEE2 Needles Airpor 59.94 324 ⇑P P 15 21 26.4 -0.1
baz=60
S17A Black Ridge (B 60.05 329 ⇑P P 15 21 27.3 +0.1
baz=60
R18A Canyonlands Na 60.19 330 ⇑P P 15 21 27.8 -0.3
baz=60
PFO Pinyon Flat Ob 60.20 322 eP P 15 21 28.3 0.0
PFO e 15 21 35.4
PFO pmax pmax
comp=Z,37nm,1.4s,mb5.2
PFO Pinyon Flat Ob 60.20 322 ⇑P P 15 21 28.6 +0.4
baz=60
PFO Pinyon Flat Ob 60.20 322 eP P 15 21 28.3 0.0
PFO e 15 21 35.4
BELC Belle Mtn. 60.20 323 ⇑P P 15 21 28.6 +0.3
baz=60
COWI Conover 60.31 350 eP P 15 21 28.3 -0.5
comp=Z,30nm,1.1s,mb5.2
Q19A Hogan Spring (60.34 331 ⇑P P 15 21 28.8 -0.4
baz=61,SNR=9.5
U14A Mt Trumbull 60.36 327 ⇓P P 15 21 29.9 +0.5
baz=61,SNR=15
V13A Grand Canyon W 60.38 326 ⇓P P 15 21 29.6 +0.2
baz=61,SNR=11
T15A Red Dirt Ranch 60.39 328 ⇓P P 15 21 29.8 +0.3
baz=61,SNR=6.5
LDFC Landfair 60.45 324 eP P 15 21 30.9 +1.0
LDFC e 15 21 38.1
W12A Cal Nev Ari 60.47 324 ⇑P P 15 21 30.3 +0.2
baz=61
S16A Weppner Ranch, 60.52 329 ⇓P P 15 21 30.2 -0.2
baz=61
GMRC Granite Mounta 60.55 324 ⇑P P 15 21 30.9 +0.2
baz=61,SNR=7.6
PHWY Pilot Hill 60.60 335 eP P 15 21 30.1 -0.8
PHWY e 15 21 37.7
R17A Hanksville Air 60.61 330 ⇑P P 15 21 30.9 -0.1
baz=61,SNR=8.4
MURC Murrieta 60.64 322 ⇓P P 15 21 31.4 +0.1
baz=61
V12A Nelson 60.77 325 ⇑P P 15 21 32.1 0.0
baz=61
U13A Pakoon Wash 60.78 326 ⇑P P 15 21 32.5 +0.3
baz=61,SNR=8.1
T14A Hurricane 60.79 327 ⇓P P 15 21 32.7 +0.4
baz=61
Q18A Rafter H Ranch 60.87 331 ⇓P P 15 21 32.6 -0.1
baz=61,SNR=13
S15A Panguitch 60.87 328 ⇓P P 15 21 33.0 +0.1
baz=61
BBRC Big Bear Sol-O 60.93 322 ⇑P P 15 21 33.9 +0.7
baz=61
HEC Hector,Ludlow 60.97 323 ⇑P P 15 21 34.1 +0.5
baz=61,SNR=9.4
SRU San Rafael 61.06 330 ⇑P P 15 21 33.9 -0.2
baz=61
SRU San Rafael 61.06 330 eP P 15 21 33.3 -0.7
SRU e 15 21 40.6
U12A Valley of Fire 61.11 326 ⇓P P 15 21 34.6 +0.2
baz=61
TUQ Turquoise Mtn. 61.17 324 ⇓P P 15 21 34.9 0.0
baz=61
V11A Goodsprings 61.17 325 ⇓P P 15 21 34.6 -0.3
baz=61
T13A Saint George 61.20 326 ⇓P P 15 21 35.5 +0.5
baz=61
Q16A Castle Valley 61.23 330 ⇓P P 15 21 35.2 0.0
baz=62
R15A Junction 61.24 328 ⇓P P 15 21 35.2 -0.1
baz=62
CCUT Cedar City 61.30 327 eP P 15 21 45.0 +9.3
CCUT e 15 21 51.9
P18A Preston Nutter 61.34 331 ⇓P P 15 21 36.1 +0.1
baz=62
BFSC Mount Baldy St 61.35 322 ⇑P P 15 21 36.3 +0.2
baz=62,SNR=7.9
MSU Marysvale 61.42 329 eP P 15 21 36.2 -0.3
MSU e 15 21 43.3
T12A Moapa 61.42 326 ⇑P P 15 21 36.5 0.0
baz=62
P17A Butcher Ranch, 61.45 330 ⇓P P 15 21 36.5 -0.2
baz=62
SHPR Sheep Range 61.50 325 eP P 15 21 37.6 +0.5
TMUT Trail Mountain 61.54 330 eP P 15 21 37.4 +0.1
GSC Goldstone 61.58 323 eP P 15 21 37.5 -0.2
GSC e 15 21 44.1
GSC pmax pmax
comp=Z,35nm,1.3s,mb5.3
GSC Goldstone 61.58 323 ⇓P P 15 21 37.8 +0.2
baz=62
GSC Goldstone 61.58 323 eP P 15 21 37.5 -0.1
comp=Z,35nm,1.3s,mb5.3
GSC e 15 21 44.1
MWC Mount Wilson 61.58 321 eP P 15 21 37.4 -0.3
MWC e 15 21 45.2
MWC pmax pmax
comp=Z,61nm,1.3s,mb5.6

MWC Mount Wilson 61.58 321 eP P 15 21 37.4 -0.3
comp=Z,61nm,1.3s,mb5.6
MWC e 15 21 45.2
S13A Holt Ranch, En 61.59 327 ⇑P P 15 21 38.5 +0.8
baz=62,SNR=12
RWWY Rawlins 61.65 334 eP P 15 21 37.7 -0.3
comp=Z,60nm,1.3s,mb5.6
RWWY e 15 21 44.1
R14A James Farms, M 61.68 328 ⇓P P 15 21 38.8 +0.5
baz=62
SHOC Shoshone 61.70 324 ⇑P P 15 21 38.6 +0.1
baz=62
O18A Roosevelt 61.73 331 ⇓P P 15 21 38.7 +0.1
baz=62
Q15A Fillmore 61.89 329 ⇓P P 15 21 40.1 +0.5
baz=62
EDW2 Edwards Air Fo 61.99 322 ⇓P P 15 21 40.4 -0.1
baz=62,SNR=6.0
T11A Corn Creek, Al 62.07 326 ⇑P P 15 21 41.1 +0.2
baz=62,SNR=18
R13A O'Grain Ranch, 62.09 327 ⇑P P 15 21 41.9 +0.9
baz=62,SNR=10
U10A Ash Meadows, A 62.10 324 ⇓P P 15 21 41.6 +0.5
baz=62
S12A Delamar Landin 62.14 326 ⇓P P 15 21 41.8 +0.5
baz=62
N18A Larsen Ranch, 62.15 332 ⇑P P 15 21 41.2 -0.1
baz=62,SNR=10
LRMC Laurel Mountai 62.22 323 ⇑P P 15 21 42.2 +0.2
baz=62
OSI Osito Adit 62.25 321 ⇑P P 15 21 42.5 +0.3
baz=62
OSI Osito Adit 62.25 321 eP P 15 21 41.9 -0.3
comp=Z,41nm,1.0s,mb5.5
OSI e 15 21 49.6
P15A Leamington 62.28 329 ⇑P P 15 21 42.4 +0.1
baz=62
TAOE Nuku Hiva Isla 62.29 267 eLR LR 15 40 13.4
comp=Z,4μm,25.5s
MPU Maple Canyon 62.31 330 eP P 15 21 42.0 -0.4
comp=Z,24nm,1.2s,mb5.2
MPU e 15 21 49.4
Q14A Sevier Lake (B 62.34 328 ⇓P P 15 21 43.6 +0.9
baz=63,SNR=22
O16A Springville 62.39 330 ⇑P P 15 21 43.3 +0.3
baz=63
BSC Santa Cruz Isl 62.40 320 ⇓P P 15 21 43.6 +0.5
baz=63
TPNV Topopah Spring 62.43 325 eP P 15 21 43.5 +0.2
TPNV e 15 21 50.6
TPNV pmax pmax
comp=Z,30nm,1.1s,mb5.3
TPNV Topopah Spring 62.43 325 ⇑P P 15 21 44.4 +1.1
baz=63
TPNV Topopah Spring 62.43 325 eP P 15 21 43.5 +0.2
comp=Z,30nm,1.1s,mb5.3
TPNV e 15 21 50.6
DAU Daniels Canyon 62.43 331 eP P 15 21 43.2 -0.1
DAU e 15 21 50.7
FURC Furnace Creek, 62.44 324 ⇑P P 15 21 43.4 0.0
baz=63
RSSD Black Hills 62.46 338 eP P 15 21 42.7 -0.7
RSSD e 15 21 49.6
RSSD pmax pmax
comp=Z,22nm,1.1s,mb5.2
RSSD Black Hills 62.46 338 eP P 15 21 42.7 -0.6
comp=Z,22nm,1.1s,mb5.2
RSSD e 15 21 49.6
NLU North Lily Min 62.47 330 eP P 15 21 44.3 +0.8
NLU e 15 21 50.8
EYMN Ely 62.51 349 eP P 15 21 42.0 -1.6
comp=Z,38nm,1.1s,mb5.4
MPMC Manual Prospec 62.51 323 ⇑P P 15 21 43.6 -0.3
baz=63,SNR=7.6
R12A Pony Springs, 62.53 327 ⇑P P 15 21 44.5 +0.5
baz=63,SNR=11
S11A Rachel 62.65 326 ⇓P P 15 21 45.1 +0.3
baz=63
N17A Moffit Pass 62.65 331 ⇑P P 15 21 45.1 +0.3
baz=63
ARVC Arvin 62.66 322 ⇑P P 15 21 45.0 +0.1
baz=63
JLU Jordanelle 62.67 331 eP P 15 21 44.9 +0.1
JLU e 15 21 51.6
P14A Drum Mountains 62.69 329 ⇑P P 15 21 45.8 +0.8
baz=63,SNR=15
Q13A Wheeler Ranch, 62.69 328 ⇓P P 15 21 45.6 +0.5
baz=63,SNR=11
ISA Isabella 62.81 322 ⇓P P 15 21 46.2 +0.3
baz=63,SNR=5.8
ISA Isabella 62.81 322 eP P 15 21 53.1 +7.1
N16A Rees Ranch, Co 62.89 331 ⇓P P 15 21 46.9 +0.5
baz=63
O15A The Old Anders 62.92 330 ⇑P P 15 21 46.9 +0.4
baz=63,SNR=8.7
DUG Dugway 63.02 330 ⇓P P 15 21 47.8 +0.6
baz=63
DUG Dugway 63.02 330 eP P 15 21 47.3 +0.1
DUG e 15 21 54.5
P13A Bates Ranch, G 63.06 328 ⇑P P 15 21 47.8 +0.3
baz=63,SNR=18
R11A Troy Canyon, C 63.07 326 ⇑P P 15 21 48.2 +0.6
baz=63,SNR=18
GRAC Grapevine Rang 63.10 324 ⇓P P 15 21 48.1 +0.4
baz=63,SNR=8.1
PKM Peak Mountain 63.11 321 ⇓P P 15 21 48.1 +0.2
baz=63
CWC Cottonwood Cre 63.12 323 ⇑P P 15 21 48.3 +0.3
baz=63,SNR=11
Q12A Willow Creek R 63.18 327 ⇓P P 15 21 48.5 +0.2
baz=63,SNR=7.5
VES Vestal, Richgr 63.30 322 ⇓P P 15 21 49.1 0.0
baz=64
M16A Huntsville 63.32 331 ⇓P P 15 21 48.7 -0.5
baz=64
S10A Tonopah Range, 63.32 325 ⇑P P 15 21 49.4 +0.2
baz=64,SNR=21
N15A Stansbury Isla 63.41 330 ⇓P P 15 21 49.5 -0.3
baz=64
Q11A Duckwater 63.47 327 ⇑P P 15 21 50.6 +0.4
baz=64,SNR=19
SMMC Simmler 63.49 321 ⇑P P 15 21 50.7 +0.3
baz=64
HWUT Hardware Ranch 63.51 331 eP P 15 21 50.1 -0.4
comp=Z,38nm,0.8s,mb5.5
HWUT e 15 21 57.0
S09A Goldfield 63.53 325 ⇓P P 15 21 50.6 0.0
baz=64
BW06 Boulder Array 63.53 333 eP P 15 21 50.0 -0.5
PDAR Pinedale Array 63.53 333 P P 15 21 49.2 -1.3
comp=Z,5.6nm,1.0s,mb4.5,baz=132,slow=7.7,SNR=28
O13A Hicks Ranch, I 63.55 329 ⇑P P 15 21 51.3 +0.6
baz=64
TIN Tinemaha 63.63 324 ⇓P P 15 21 51.6 +0.3
baz=64
BGU Big Grassy Mou 63.69 330 eP P 15 21 51.2 -0.4
BGU e 15 21 58.4
SPUT South Promonto 63.70 331 eP P 15 21 51.8 +0.2
N14A Grayback Hills 63.70 330 ⇑P P 15 21 51.5 -0.2
baz=64,SNR=6.0
RCTC Rector, Farmer 63.71 322 ⇓P P 15 21 51.4 -0.5
baz=64
L16A Fish Haven 63.77 332 ⇑P P 15 21 51.6 -0.6
baz=64
TPH Tonopah 63.77 325 eP P 15 21 53.2 +1.0
TPH e 15 22 00.0
TPH e 15 22 27.7
TPH pmax pmax
comp=Z,53nm,1.3s,mb5.4
TPH Tonopah 63.77 325 eP P 15 21 53.1 +0.9
comp=Z,53nm,1.3s,mb5.4
TPH e 15 21 60.0
TPH e 15 22 27.7
AGMN Agassiz Refuge 63.77 346 eP P 15 21 51.5 -0.5
AGMN e 15 21 58.2
R09A Tonopah 63.81 325 ⇓P P 15 21 52.7 +0.2
baz=64,SNR=18
V05C Boulder Hill, 63.81 322 ⇑P P 15 21 52.6 +0.1
baz=64
M15A Larsen Ranch, 63.82 331 ⇓P P 15 21 52.1 -0.4
baz=64
HELL Mitchell Peak 63.83 323 ⇑P P 15 21 52.7 0.0
baz=64,SNR=9.7
PTRM Twissleman Ran 63.85 321 eP P 15 21 52.8 0.0
PTRM e 15 22 00.2
Q10A Clear Creek Ra 63.86 326 ⇑P P 15 21 53.6 +0.8
baz=64

S08C **White Mtn Res** 63.90 324 ⇑P P 15 21 53.6 +0.5
baz=64,SNR=17
MTUM **Tungsten Hills** 64.03 324 eP P 15 21 53.8 -0.2
MTUM e 15 22 01.7
P11A **Circle Ranch,** 64.04 327 ⇑P P 15 21 54.7 +0.7
baz=64
O12A **Currie** 64.05 328 ⇓P P 15 21 54.6 +0.7
baz=64,SNR=18
L15A **Malad City** 64.21 331 ⇑P P 15 21 55.0 0.0
baz=64,SNR=9.4
N13A **Wendover, West** 64.21 329 ⇑P P 15 21 55.0 -0.1
baz=64
HVU **Hansel Valley** 64.22 331 eP P 15 21 54.3 -0.8
HVU e 15 22 01.4
M14A **Sheep Mountain** 64.28 330 ⇓P P 15 21 55.5 0.0
baz=64,SNR=16
Q09A **Carvers** 64.29 326 ⇓P P 15 21 56.1 +0.4
baz=64
MLAC **Mammoth Lakes** 64.38 324 ⇓P P 15 21 56.7 +0.5
baz=65
O11A **Cowboy Ranch,** 64.41 328 ⇑P P 15 21 56.8 +0.4
baz=65
KCC **Kaiser Creek** 64.44 323 ⇓P P 15 21 56.4 -0.2
baz=65,SNR=23
R08A **Mina** 64.46 325 ⇓P P 15 21 57.3 +0.5
baz=65
P10A **Eureka** 64.47 327 ⇑P P 15 21 57.4 +0.6
baz=65
K16A **Soda Springs** 64.49 332 ⇓P P 15 21 56.7 -0.1
baz=65
M13A **Montello** 64.57 330 ⇑P P 15 21 57.3 -0.1
baz=65
REDW **Red Top Meadow** 64.58 333 eP P 15 21 56.5 -0.9
comp=Z,22nm,1.0s,mb5.1
REDW e 15 22 03.2
NVAR **Mina Array Bea** 64.63 325 P P 15 21 56.2 -1.6
comp=Z,4.9nm,0.8s,mb4.6,baz=142,slow=5.5,SNR=27
N12A **Clover Valley,** 64.63 329 ⇑P P 15 21 57.8 0.0
baz=65
L14A **Malta** 64.64 331 ⇑P P 15 21 57.5 -0.3
baz=65,SNR=9.0
ELK **Elko** 64.65 328 eP P 15 21 58.1 +0.2
ELK e 15 22 04.8
ELK pmax pmax
comp=Z,37nm,1.3s
ELK **Elko** 64.65 328 eP P 15 21 58.1 +0.1
comp=Z,37nm,1.3s,mb5.3
ELK e 15 22 04.8
LOHW **Long Hollow** 64.67 333 eP P 15 21 57.2 -0.7
LOHW e 15 22 04.5
U04C **Hernandez Rese** 64.67 322 ⇑P P 15 21 58.4 +0.3
baz=65,SNR=5.7
Q08A **Gabbs** 64.72 325 ⇓P P 15 21 58.5 +0.1
baz=65
TPAW **Teton Pass** 64.72 333 eP P 15 21 57.7 -0.6
comp=Z,34nm,1.3s,mb5.2
TPAW e 15 22 05.5
RRI2 **Red Ridge** 64.77 333 eP P 15 21 58.6 0.0
comp=Z,51nm,0.9s,mb5.5
RRI2 e 15 22 05.5
P09A **Austin** 64.78 326 ⇓P P 15 21 58.9 +0.1
baz=65
K15A **Arbon** 64.80 332 ⇓P P 15 21 58.4 -0.5
baz=65
R07C **Lee Vining** 64.81 324 ⇑P P 15 21 59.4 +0.4
baz=65
MOOW **Moose Ponds** 64.84 333 eP P 15 21 58.2 -0.9
comp=Z,14nm,1.2s,mb4.9
MOOW e 15 22 04.3
MOOW e 15 22 29.8
J16A **Bone** 64.84 332 ⇑P P 15 21 59.0 -0.1
baz=65
N11A **Elko Archery C** 64.96 328 ⇓P P 15 21 59.9 0.0
baz=65
O10A **Cortez Mining,** 64.97 327 ⇓P P 15 22 00.4 +0.4
baz=65,SNR=7.1
M12A **Wells** 64.99 329 ⇑P P 15 21 59.8 -0.3
baz=65
K14A **Jones Ranch, D** 65.00 331 ⇑P P 15 21 59.6 -0.6
baz=65
L13A **Double Diamond** 65.02 330 ⇑P P 15 22 00.4 +0.2
baz=65,SNR=9.4
IMW **Indian Meadow** 65.04 333 eP P 15 22 07.6 +7.2
S05C **Merced** 65.05 323 ⇓P P 15 22 00.8 +0.2
baz=65
FLWY **Flagg Ranch** 65.08 334 eP P 15 22 00.5 -0.2
comp=Z,44nm,1.0s,mb5.5
FLWY e 15 22 08.0
S06C **San Francisco** 65.13 323 ⇑P P 15 22 01.4 +0.2
baz=65,SNR=13
O09A **Fish Creek Ran** 65.25 327 ⇓P P 15 22 02.4 +0.6
baz=66,SNR=8.9
Q07A **Schurz** 65.26 325 ⇓P P 15 22 02.3 +0.3
baz=66
N10A **Dunphy** 65.28 328 ⇓P P 15 22 02.4 +0.3
baz=66
RLMT **Red Lodge** 65.32 335 eP P 15 22 01.7 -0.6
comp=Z,39nm,1.3s,mb5.3
RLMT e 15 22 09.1
R06C **Coleville** 65.34 324 ⇑P P 15 22 02.8 +0.4
baz=66,SNR=7.3
LKWY **Lake** 65.34 334 eP P 15 22 03.2 +0.8
P08A **Dixie Valley** 65.39 326 ⇓P P 15 22 03.3 +0.5
baz=66
PACP **Pacheco Peak** 65.40 322 ⇑P P 15 22 03.2 +0.3
baz=66
YFT **Old Faithful** 65.44 334 eP P 15 22 04.2 +1.2
YFT e 15 22 11.4
M11A **Holland Ranch,** 65.44 329 ⇓P P 15 22 03.4 +0.3
baz=66,SNR=6.5
BMN **Battle Mountai** 65.45 327 eP P 15 22 03.3 +0.1
BMN e 15 22 10.3
BMN pmax pmax
comp=Z,31nm,1.4s,mb5.2
BMN **Battle Mountai** 65.45 327 eP P 15 22 03.3 +0.1
comp=Z,31nm,1.4s,mb5.2
BMN e 15 22 10.3
K13A **Stover Farm, H** 65.51 331 ⇑P P 15 22 03.9 +0.4
baz=66
CMB **Columbia Colle** 65.55 323 eP P 15 22 03.0 -0.8
CMB e 15 22 11.0
CMB pmax pmax
comp=Z,37nm,1.4s,mb5.2
CMB **Columbia Colle** 65.55 323 ⇓P P 15 22 03.8 0.0
baz=66
CMB **Columbia Colle** 65.55 323 eP P 15 22 03.0 -0.9
comp=Z,37nm,1.4s,mb5.2
CMB e 15 22 11.0
L12A **House Creek Ra** 65.58 330 ⇓P P 15 22 04.1 +0.1
baz=66
ULM **Lac du Bonnet** 65.61 347 P P 15 22 02.5 -1.4
comp=Z,67nm,0.9s,mb5.7,baz=160,slow=6.7,SNR=35
ULM **Lac du Bonnet** 65.61 347 eP P 15 22 02.5 -1.5
comp=Z,95nm,1.0s,mb5.8
P07A **Fallon** 65.73 325 ⇑P P 15 22 05.6 +0.6
baz=66
S04C **Ingram Canyon,** 65.75 322 ⇓P P 15 22 05.4 +0.3
baz=66
BBTS **Babate** 65.76 67 P P 15 22 07.3 +1.7
comp=Z,72nm,0.9s,mb5.7,baz=240,slow=1.2,SNR=15
BBTS **Babate** 65.76 67 P P 15 22 07.3 +1.6
R05C **Kirkwood Meado** 65.82 324 ⇑P P 15 22 06.3 +0.7
baz=66,SNR=7.0
O08A **Rochester Mine** 65.85 326 ⇑P P 15 22 05.9 +0.1
baz=66
M10A **I.L. Ranch, Tu** 65.89 328 ⇓P P 15 22 06.2 +0.3
baz=66
K12A **Draper Farm, C** 65.89 330 ⇓P P 15 22 06.3 +0.4
baz=66,SNR=12
N09A **Rock Creek Ran** 65.92 327 ⇓P P 15 22 06.3 +0.1
baz=66
L11A **Cat Creek Ranc** 65.96 329 ⇓P P 15 22 07.0 +0.6
baz=66,SNR=17
QLMT **Earthquake Lak** 66.00 334 eP P 15 22 07.6 +1.0
BNLO **Ben Lomond (Sa** 66.01 321 ⇓P P 15 22 06.9 0.0
baz=66,SNR=5.5
R04C **Big Horse Ranc** 66.02 323 ⇓P P 15 22 07.2 +0.3
baz=66
GCMT **Greycliff** 66.03 335 eP P 15 22 05.8 -1.0
GCMT e 15 22 13.5
WCN **Washoe City** 66.05 325 ⇓P P 15 22 07.9 +0.8
baz=66
PAHR **Pah Rah Range** 66.12 325 eP P 15 22 07.6 +0.2
PAHR e 15 22 15.3
J13A **Cove Ranch, Pi** 66.12 331 ⇓P P 15 22 07.8 +0.4
baz=66,SNR=6.2
O07A **Toulon** 66.15 326 ⇑P P 15 22 07.6 -0.1
baz=66,SNR=10
N08A **GE Springer Mi** 66.19 327 ⇑P P 15 22 08.3 +0.3
baz=66,SNR=5.7
LAVA **Lava Cap Winer** 66.24 324 ⇑P P 15 22 08.4 +0.1
baz=66
L10A **Juniper Basin** 66.26 329 ⇑P P 15 22 08.9 +0.5
baz=66,SNR=15
M09A **Marrel Ranch,** 66.29 328 ⇓P P 15 22 08.4 -0.1
baz=66
DGMT **Dagmar** 66.29 340 eP P 15 22 08.2 -0.2
comp=Z,78nm,1.2s,mb5.6
DGMT e 15 22 14.9
HLID **Hailey** 66.36 331 ⇑P P 15 22 09.4 +0.5
baz=67
HLID **Hailey** 66.36 331 eP P 15 22 08.9 -0.1
comp=Z,75nm,2.1s,mb5.3
HLID e 15 22 15.6
BDM **Black Diamond** 66.37 322 ⇑P P 15 22 09.6 +0.5
baz=67
P06A **Stead Airport,** 66.39 325 ⇓P P 15 22 09.9 +0.7
baz=67
J12A **Stokes Ranch,** 66.45 330 ⇓P P 15 22 09.8 +0.3
baz=67,SNR=8.6
I13A **Wildhorse Cree** 66.49 331 ⇓P P 15 22 09.9 +0.2
baz=67,SNR=26
P05C **Yuba Gap, Truc** 66.53 324 ⇑P P 15 22 10.7 +0.6
baz=67
K11A **Parker Ranch,** 66.55 329 ⇑P P 15 22 10.3 +0.1
baz=67,SNR=5.2
MCMT **McKenzie Canyo** 66.62 333 eP P 15 22 10.4 -0.1
MCMT e 15 22 17.4
N07B **Gerlach** 66.64 326 ⇑P P 15 22 10.8 0.0
baz=67,SNR=18
Q04C **Lincoln** 66.66 323 ⇑P P 15 22 11.7 +0.7
baz=67
G15A **Dillon** 66.72 333 ⇓P P 15 22 11.3 +0.1
baz=67,SNR=14
BOZ **Bozeman (W)** 66.73 334 eP P 15 22 10.8 -0.5
BOZ e 15 22 16.9
BOZ pmax pmax
comp=Z,38nm,1.4s,mb5.2
BOZ **Bozeman (W)** 66.73 334 ⇓P P 15 22 11.3 0.0
baz=67
BOZ **Bozeman (W)** 66.73 334 eP P 15 22 10.8 -0.5
comp=Z,38nm,1.4s,mb5.2
BOZ e 15 22 16.9
BEKR **Beckwourth** 66.77 325 ⇓P P 15 22 11.8 +0.1
baz=67,SNR=8.6
L09A **Wilkinson Ranc** 66.83 328 ⇑P P 15 22 12.2 +0.3
baz=67
Q03C **Winters** 66.90 323 ⇑P P 15 22 13.6 +1.1
baz=67
DLMT **Dillon** 66.92 333 eP P 15 22 12.1 -0.4
comp=Z,36nm,1.0s,mb5.3
DLMT e 15 22 19.7
MFID **Camas Ranch** 66.93 330 ⇓P P 15 22 12.8 +0.2
baz=67,SNR=16
K10A **MacKenzie Ranc** 66.97 329 ⇓P P 15 22 13.3 +0.4
baz=67,SNR=18
CVS **Carmenet Viney** 66.97 322 ⇑P P 15 22 13.3 +0.3
baz=67
H13A **Challis** 67.05 332 ⇑P P 15 22 13.5 +0.2
baz=67,SNR=8.6
OHCM **Honcut** 67.06 324 eP P 15 22 13.9 +0.4
OHCM e 15 22 20.7
N06A **Buffalo Meadow** 67.09 326 ⇑P P 15 22 13.8 +0.2
baz=67,SNR=44
O05C **Quincy** 67.15 324 ⇓P P 15 22 14.6 +0.5
baz=67
SUTB **Sutter Butte** 67.16 323 ⇓P P 15 22 13.9 -0.3
baz=67
M07A **Soldier Meadow** 67.17 327 ⇓P P 15 22 14.1 -0.1
baz=67
NSHM **Saint Helena R** 67.18 322 eP P 15 22 14.7 +0.4
NSHM e 15 22 20.2
G14A **Jackson** 67.21 333 ⇑P P 15 22 14.5 +0.2
baz=68,SNR=6.2
ORV **Orville** 67.21 324 ⇑P P 15 22 14.8 +0.3
baz=67,SNR=48
LRM **Limekiln Ridge** 67.22 334 eP P 15 22 14.6 +0.2
F15A **Butte** 67.25 334 ⇑P P 15 22 14.8 +0.2
baz=68
L08A **Fields** 67.30 328 ⇑P P 15 22 14.3 -0.7
baz=68,SNR=14
MNRC **McLaughlin Nat** 67.31 323 ⇓P P 15 22 15.3 +0.2
baz=68
H12A **Diamond D Ranc** 67.32 331 ⇓P P 15 22 15.1 +0.1
baz=68,SNR=10
K09A **Rome** 67.35 328 ⇓P P 15 22 15.4 +0.2
baz=68,SNR=26
I11A **Placerville** 67.36 330 ⇑P P 15 22 15.2 -0.1
baz=68
J10A **Berg Farm, Mel** 67.40 329 ⇑P P 15 22 15.3 -0.2
baz=68
G13A **Cobalt** 67.44 332 ⇑P P 15 22 15.7 -0.1
baz=68,SNR=11
O04C **Chester** 67.49 325 ⇓P P 15 22 16.2 0.0
baz=68
ELFS **Eagle Lake Fie** 67.49 325 ⇑P P 15 22 16.3 0.0
baz=68,SNR=7.1
F14A **Wisdom** 67.61 333 ⇑P P 15 22 17.2 +0.3
baz=68
WVOR **Wild Horse Val** 67.63 328 eP P 15 22 16.5 -0.5
WVOR pmax pmax
comp=Z,28nm,1.4s,mb5.1
WVOR **Wild Horse Val** 67.63 328 eP P 15 22 16.5 -0.6
comp=Z,28nm,1.4s,mb5.1
HRY **Holter Researc** 67.66 335 eP P 15 22 17.5 +0.3
L07A **Adell** 67.70 327 ⇓P P 15 22 17.9 +0.3
baz=68
M06C **Likely Place G** 67.75 326 ⇑P P 15 22 18.1 +0.3
baz=68
HOPS **Hopland** 67.76 322 eP P 15 22 23.4 +5.4
comp=Z,60nm,1.4s,mb5.4
K08A **Mann Creek Ran** 67.76 328 ⇓P P 15 22 17.6 -0.3
baz=68,SNR=7.9
E15A **Deer Lodge** 67.78 334 ⇓P P 15 22 18.0 +0.1
baz=68
J09A **Fry Pan Ranch,** 67.83 329 ⇓P P 15 22 18.5 +0.2
baz=68
EGMT **Eagleton** 67.89 337 ⇓P P 15 22 18.2 -0.3
baz=68
EGMT **Eagleton** 67.89 337 eP P 15 22 18.5 0.0
comp=Z,36nm,1.0s,mb5.4
I10A **Payette** 67.90 330 ⇓P P 15 22 18.6 -0.1
baz=68
GASB **Alder Springs** 67.98 323 ⇑P P 15 22 20.0 +0.6
baz=68,SNR=8.6
F13A **Darby** 68.02 333 ⇑P P 15 22 19.6 +0.2
baz=68,SNR=14
HATC **Hat Creek Radi** 68.04 325 ⇑P P 15 22 19.6 -0.1
baz=68
E14A **Clinton** 68.14 333 ⇑P P 15 22 20.3 +0.1
baz=68,SNR=5.1
MOD **Modoc** 68.14 326 ⇓P P 15 22 20.4 +0.1
baz=68,SNR=18
MOD **Modoc** 68.14 326 eP P 15 22 20.5 +0.2
comp=Z,109nm,1.4s,mb5.7
MOD e 15 22 27.8
P01C **Double 8 Ranch** 68.23 323 ⇓P P 15 22 21.0 +0.2
baz=68,SNR=7.2
M05C **Lookout** 68.23 325 ⇑P P 15 22 20.9 0.0
baz=68,SNR=12
LTIM **Timbered Crate** 68.29 325 P P 15 22 21.5 +0.3
O02C **Red Bluff** 68.37 324 ⇓P P 15 22 21.1 -0.6
baz=69,SNR=6.2
F12A **Elk City** 68.42 332 ⇑P P 15 22 21.6 -0.3
baz=69,SNR=8.2
CHMT **Chamberlain Mo** 68.42 334 eP P 15 22 21.5 -0.4
CHMT e 15 22 27.9
E13A **Victor** 68.46 333 ⇓P P 15 22 22.4 +0.2
baz=69,SNR=7.6
WDC **Whiskeytown Da** 68.49 324 eP P 15 22 21.0 -1.5
WDC e 15 22 28.0
WDC pmax pmax
comp=Z,15nm,1.1s,mb4.9
WDC **Whiskeytown Da** 68.49 324 ⇓P P 15 22 22.4 -0.1
baz=69
WDC **Whiskeytown Da** 68.49 324 eP P 15 22 21.0 -1.5
comp=Z,15nm,1.1s,mb4.9
WDC e 15 22 28.0
SCHQ **Schefferville** 68.51 6 P P 15 22 22.2 -0.1
comp=Z,44nm,0.9s,mb5.4,baz=186,slow=4.8,SNR=33
SCHQ **Schefferville** 68.51 6 eP P 15 22 21.6 -0.7
comp=Z,50nm,0.9s,mb5.4
SCHQ e 15 22 29.7
KCPM **Cahto Peak** 68.51 323 eP P 15 22 23.0 +0.4
KCPM e 15 22 30.5
L05A **Lakeview** 68.53 326 ⇓P P 15 22 23.1 +0.4
baz=69,SNR=9.8
KIPM **Iron Peak** 68.53 323 eP P 15 22 22.8 +0.1
KIPM e 15 22 30.9
G11A **Walters Elk Ra** 68.62 331 ⇑P P 15 22 24.0 +0.8
baz=69,SNR=6.4
J07A **Hines** 68.64 328 ⇓P P 15 22 24.1 +0.7
baz=69,SNR=5.6
I08A **Drewsey** 68.65 329 ⇑P P 15 22 23.8 +0.4
baz=69,SNR=7.8
MSO **Missoula** 68.65 334 eP P 15 22 23.1 -0.3
comp=Z,40nm,1.3s,mb5.2
MSO e 15 22 30.9
D14A **Greenough** 68.66 334 ⇓P P 15 22 23.8 +0.3
baz=69,SNR=5.7
BMO **Blue Mountains** 68.71 330 eP P 15 22 23.4 -0.4
BMO pmax pmax
comp=Z,93nm,2.3s,mb5.3
BMO **Blue Mountains** 68.71 330 eP P 15 22 23.4 -0.4
comp=Z,93nm,2.3s,mb5.3
M03C **McCloud** 68.71 325 ⇑P P 15 22 23.2 -0.7
baz=69
K06A **Valley Falls** 68.73 327 ⇓P P 15 22 24.3 +0.3
baz=69,SNR=30
M04C **Macdoel** 68.90 325 ⇓P P 15 22 25.0 0.0
baz=69
F11A **Grangeville** 68.93 332 ⇓P P 15 22 24.8 -0.3
baz=69,SNR=12
G10A **Bishop Farm, J** 68.94 331 ⇑P P 15 22 25.1 -0.1
baz=69,SNR=12
O01C **Eel River Cons** 68.94 323 ⇑P P 15 22 25.8 +0.5
baz=69
J06A **Christmas Vall** 69.00 327 ⇑P P 15 22 25.8 +0.2
baz=69,SNR=43
K05A **Summer Lake** 69.02 327 ⇓P P 15 22 26.3 +0.5
baz=69,SNR=14
D13A **Huson** 69.08 333 ⇓P P 15 22 26.1 +0.1
baz=69,SNR=8.2
N02C **Big Bar** 69.09 324 ⇓P P 15 22 26.2 0.0
baz=69,SNR=32
H08A **Prairie City** 69.13 329 ⇓P P 15 22 26.8 +0.4
baz=69,SNR=24
TBI **Tubuai** 69.15 250 eLR LR 15 43 21.5
comp=Z,908nm,25.0s,baz=82
L04A **Klamath Falls** 69.19 326 ⇓P P 15 22 27.0 +0.1
baz=69
M02C **Callahan** 69.20 325 ⇑P P 15 22 26.4 -0.6
baz=69,SNR=8.2
I07A **Izee** 69.24 328 ⇓P P 15 22 27.3 +0.1
baz=70,SNR=27
G09A **Cove** 69.25 330 ⇑P P 15 22 27.0 -0.1
baz=70,SNR=14
C14A **Swan Lake** 69.30 334 ⇑P P 15 22 27.6 +0.2
baz=70
E11A **Bogner Ranch,** 69.30 332 ⇑P P 15 22 27.0 -0.4
baz=70,SNR=11
YBH **Yreka Blue Hor** 69.35 325 ⇓P P 15 22 27.6 -0.2
baz=70,SNR=9.6
YBH **Yreka Blue Hor** 69.35 325 eP P 15 22 26.6 -1.2
YBH e 15 22 33.1
KHMM **Horse Mountain** 69.37 324 eP P 15 22 28.8 +0.9
K04A **Chilquin** 69.40 326 ⇓P P 15 22 28.0 -0.1
baz=70
D12A **Red Ives Fores** 69.44 333 ⇑P P 15 22 28.4 +0.1
baz=70
F10A **Beach Ranch, E** 69.49 331 ⇑P P 15 22 28.5 -0.1
baz=70,SNR=5.4
I06A **Prineville** 69.51 328 ⇓P P 15 22 29.4 +0.7
baz=70
C13A **Hot Springs** 69.58 334 ⇓P P 15 22 29.2 +0.1
baz=70,SNR=8.1
J05A **Fort Rock** 69.59 327 ⇑P P 15 22 29.2 0.0
baz=70,SNR=16
F09A **S2 Ranch, Elgi** 69.62 330 ⇑P P 15 22 29.5 +0.1
baz=70,SNR=5.6
H07A **Lands Inn, Kim** 69.63 329 ⇓P P 15 22 29.7 +0.1
baz=70
E10A **Myers Farm, Un** 69.82 331 ⇑P P 15 22 30.6 0.0
baz=70
G08A **Pilot Rock** 69.83 330 ⇑P P 15 22 30.6 -0.2
baz=70,SNR=12
KRMB **Red Mountain** 69.89 324 eP P 15 22 31.1 -0.1
KRMB e 15 22 38.7
LNOR **Lincton Mounta** 69.92 330 eP P 15 22 29.9 -1.4
PPT **Papeete** 69.97 256 eLR LR 15 43 45.1
comp=Z,528nm,26.0s,baz=91
J04A **Umpqua Nationa** 70.03 326 ⇓P P 15 22 32.1 +0.2
baz=70
HUMO **Hull Mountain** 70.06 325 eP P 15 22 29.9 -2.3
VIPM **Ingram Point** 70.11 328 P P 15 22 33.2 +0.7
H06A **Lindquist Farm** 70.12 328 ⇑P P 15 22 32.7 +0.1
baz=70,SNR=22
L02A **Cave Junction** 70.13 325 ⇓P P 15 22 32.4 -0.2
baz=70,SNR=7.0
G07A **Ruggs Ranch, H** 70.16 329 ⇓P P 15 22 33.6 +0.8
baz=70
I05A **Bend** 70.21 328 ⇑P P 15 22 33.6 +0.5
baz=70
M01C **Crescent City** 70.22 324 ⇓P P 15 22 33.4 +0.2
baz=70
D10A **Wagner Farm, O** 70.31 332 ⇑P P 15 22 33.6 -0.1
baz=71,SNR=5.7
VNA1 **Neumayer--Stat** 70.32 161 eP P 15 22 34.0 +0.6
VNA1 e 15 22 42.7
VNA1 e 15 22 46.9
WALA **Waterton Lakes** 70.38 335 eP P 15 22 40.8 +6.8
K02A **Glendale** 70.47 325 ⇑P P 15 22 34.6 -0.1
baz=71,SNR=13
A13A **Flathead Natio** 70.49 335 ⇑P P 15 22 35.2 +0.6
baz=71
KBO **Bosley Butte** 70.52 324 eP P 15 22 35.0 0.0
KBO e 15 22 42.7
I04A **Tendick Farm,** 70.56 327 ⇑P P 15 22 34.7 -0.5
baz=71
B12A **Libby** 70.63 334 ⇑P P 15 22 35.7 +0.2
baz=71,SNR=5.0
CROR **Criterion Ridg** 70.63 328 P P 15 22 36.6 +1.0
VNA2 **Neumayer--Watz** 70.67 161 eP P 15 22 35.2 -0.3
VNA2 e 15 22 44.3
VNA2 e 15 22 48.4
F07A **Phinny Hill Vi** 70.74 330 ⇑P P 15 22 36.8 +0.5
baz=71
D09A **Jones Farm, Ri** 70.80 331 ⇓P P 15 22 36.5 -0.1
baz=71,SNR=8.5
C10A **Spilker Farm,** 70.90 332 ⇓P P 15 22 37.3 +0.1
baz=71
HAWA **Hanford** 70.90 330 eP P 15 22 36.9 -0.3
comp=Z,46nm,1.4s,mb5.2
HAWA e 15 22 44.6
J02A **Umpqua** 70.91 326 ⇑P P 15 22 37.6 +0.2
baz=71,SNR=9.1
RSW **Rattlesnake Hi** 70.93 330 eP P 15 22 37.2 -0.2
RSW e 15 22 45.0
B11A **Sandpoint** 70.94 333 ⇑P P 15 22 37.5 +0.1
baz=71,SNR=6.2
G05A **Wamic** 70.98 328 ⇑P P 15 22 38.3 +0.6
baz=71
KEBM **Edson Butte** 71.00 325 eP P 15 22 38.4 +0.5
KEBM e 15 22 46.0
A12A **Yaak River Ran** 71.01 334 ⇑P P 15 22 38.4 +0.5
baz=71
H04A **Detroit Lake** 71.05 327 ⇓P P 15 22 37.7 -0.5
baz=71,SNR=6.4
F06A **Goldendale** 71.07 329 ⇓P P 15 22 39.0 +0.7
baz=71
D08A **Wollman Farm,** 71.08 331 ⇑P P 15 22 38.5 +0.2
baz=71
NEW **Newport** 71.14 333 eP P 15 22 38.0 -0.7
NEW e 15 22 45.9
I03A **Eugene** 71.15 326 ⇑P P 15 22 38.7 -0.1
baz=71,SNR=5.9
E07A **Sunnyside** 71.17 330 ⇑P P 15 22 39.5 +0.6
baz=71
HOOD **Mount Hood Mea** 71.20 328 eP P 15 22 39.7 +0.6
comp=Z,32nm,1.1s,mb5.2
B10A **Chitwood Farm,** 71.22 333 ⇓P P 15 22 39.1 0.0
baz=72
OD2 **Odessa Site #2** 71.23 331 eP P 15 22 39.0 -0.2
OD2 e 15 22 46.5
C09A **Chrisman Ranch** 71.32 332 ⇑P P 15 22 40.0 +0.2
baz=72
A11A **Hall Mountain,** 71.33 334 ⇑P P 15 22 40.0 +0.2
baz=72,SNR=9.5
F05A **White Salmon** 71.49 329 ⇑P P 15 22 41.3 +0.5
baz=72
G04A **Mulino** 71.55 328 ⇑P P 15 22 41.0 -0.3

baz=72
H03A Soap Creek Ran 71.62 327 ⇑P **P 15 22 41.8 +0.2**
baz=72
C08A Higginbotham F 71.67 331 ⇑P **P 15 22 42.2 +0.3**
baz=72
D07A Quincy 71.68 330 ⇓P **P 15 22 42.7 +0.7**
baz=72,SNR=5.4
B09A Rice 71.72 332 ⇓P **P 15 22 42.2 0.0**
baz=72,SNR=7.2
EBG Ellensburg 71.77 330 P **P 15 22 43.6 +1.1**
F04A Amboy 72.02 328 ⇓P **P 15 22 43.7 -0.3**
baz=72
WTV Waterville 72.03 331 P **P 15 22 44.6 +0.6**
C07A Waterville 72.08 331 ⇑P **P 15 22 44.6 +0.3**
baz=72
D06A Cle Elum 72.10 330 ⇓P **P 15 22 44.7 +0.3**
baz=72
ETW Entiat 72.14 331 *e*P **P 15 22 44.9 +0.2**
ETW *e* 15 22 52.2
B08A Colville Reser 72.22 332 ⇓P **P 15 22 45.1 0.0**
baz=72
HEBO Mount Hebo 72.23 327 P **P 15 22 45.9 +0.6**
comp=Z,66nm,1.1s,mb5.5
HEBO *e* 15 22 52.5
LON Longmire 72.27 329 *e*P **P 15 22 44.7 -0.8**
LON *e* 15 22 52.0
LON pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LON Longmire 72.27 329 *e*P **P 15 22 44.7 -0.8**
comp=Z,2.5nm,0.8s,mb4.2
LON *e* 15 22 52.0
SNAA Sanae 72.27 161 *e*P **P 15 22 44.6 -0.6**
SNAA *e* 15 22 53.7
SNAA Sanae 72.27 161 P **P 15 22 44.9 -0.2**
comp=Z,12nm,0.9s,mb4.8
SNAA Sanae 72.27 161 *e*P **P 15 22 44.7 -0.5**
SNAA *e* 15 22 53.4
SNAA pmax pmax
comp=Z,48nm,1.0s
SNAA Sanae 72.27 161 *e*P **P 15 22 44.7 -0.5**
comp=Z,48nm,1.0s,mb5.4
SNAA *e* 15 22 53.4
A09A Danville 72.32 332 ⇑P **P 15 22 46.1 +0.3**
baz=73,SNR=6.2
E04A Onalaska 72.62 329 ⇑P **P 15 22 47.7 +0.1**
baz=73
A08A Turner Farm, O 72.62 332 ⇓P **P 15 22 47.5 0.0**
baz=73,SNR=10.0
C06A Tall Timber Ra 72.64 331 ⇑P **P 15 22 47.5 -0.2**
baz=73,SNR=7.4
B07A Winthrop 72.66 331 ⇓P **P 15 22 47.7 0.0**
baz=73
D05A Enumclaw 72.66 329 ⇓P **P 15 22 47.8 0.0**
baz=73
BMW Boistfort Moun 72.80 328 *e*P **P 15 22 45.2 -3.4**
BMW *e* 15 22 56.1
E03A Lebam 73.02 328 ⇓P **P 15 22 50.1 +0.2**
baz=73
A07A Ashnola River, 73.20 332 ⇑P **P 15 22 51.8 +0.9**
baz=73,SNR=13
RPW Rockport 73.30 331 P **P 15 22 51.4 -0.2**
JCW Jim Creek 73.33 330 *e*P **P 15 22 50.8 -0.9**
GNW Green Mountain 73.33 329 *e*P **P 15 22 51.1 -0.6**
comp=Z,42nm,1.4s,mb5.2
GNW *e* 15 22 58.5
B06A Marblemount 73.34 331 ⇑P **P 15 22 51.5 -0.3**
baz=74
EDM Edmonton 73.44 338 *e*P **P 15 22 51.0 -1.3**
EDM *e* 15 22 58.4
B05A Bryant 73.45 330 ⇓P **P 15 22 52.3 -0.2**
baz=74
C04A Brinnon 73.51 329 ⇑P **P 15 22 52.8 0.0**
baz=74,SNR=5.3
NLWA Neilton Lookou 73.74 329 ⇑P **P 15 22 54.6 +0.4**
baz=74,SNR=7.4
NLWA Neilton Lookou 73.74 329 *e*P **P 15 22 54.1 -0.1**
comp=Z,49nm,1.2s,mb5.3
NLWA *e* 15 23 00.6
A06A Chilliwack 73.74 331 ⇓P **P 15 22 54.1 -0.1**
baz=74
LIC Lamto 73.77 79 ⇑*i*P **P 15 22 55.4 +0.2**
comp=Z,92nm,1.0s,mb5.4,baz=262
LIC *e*MLR MLR
comp=Z,2μm,22.2s,MS5.0
LIC Lamto 73.77 79 ⇑*i*P **P 15 22 55.4 +0.2**
comp=Z,46nm,1.0s,mb5.4
LIC LR LR
comp=Z,800nm,22.3s,MS5.0
A05A Maple Falls 73.96 331 ⇓P **P 15 22 55.2 -0.2**
baz=74
B04A Port Angeles 74.00 329 ⇑P **P 15 22 56.6 +0.9**
baz=74
DBIC Dimbokro 74.06 79 P **P 15 22 57.2 +0.4**
comp=Z,24nm,0.7s,mb5.3,baz=235,slow=5.3,SNR=34
DBIC Dimbokro 74.06 79 *e*P **P 15 22 57.0 +0.2**
DBIC pmax pmax
comp=Z,23nm,0.8s
DBIC Dimbokro 74.06 79 *e*P **P 15 22 57.0 +0.2**
comp=Z,23nm,0.8s,mb5.2
A04A Legoe Bay, Lum 74.06 330 ⇑P **P 15 22 57.0 +0.9**
baz=74
C03A Quillayute Air 74.46 329 ⇓P **P 15 22 59.2 +0.8**
baz=75
QSPA South Pole Qui 76.71 180 P **P 15 23 11.5 +0.6**
comp=Z,7.2nm,0.8s,mb4.7,baz=147,slow=2.6,SNR=47
MAIT Maitri 76.90 160 *e*P **P 15 23 11.6 -0.5**
NVL N'lazarevskaya 76.94 160 *e*P **P 15 23 12.5 +0.2**
NVL *e* 15 23 21.5
NVL pmax pmax
comp=Z,19nm,1.0s,mb5.0
PFVI Vila Bisbo 81.13 49 *e*LR LR 15 53 42.1
comp=Z,505nm,22.0s
YKA Yellowknife Ar 81.26 343 P **P 15 23 34.8 -1.1**
comp=Z,13nm,0.9s,mb4.8,baz=139,slow=5.4,SNR=70
YKA Yellowknife Ar 81.26 343 P **P 15 23 34.8 -1.1**
YKW3 Yellowknife Ar 81.31 343 *e*P **P 15 23 35.1 -1.1**
MORF Marmelete 81.33 48 *e*P **P 15 23 39.0 +2.1**
comp=Z,110nm,1.4s,mb5.6
MORF Marmelete 81.33 48 *e*LR LR 15 53 43.3
comp=Z,574nm,20.0s
PTEO Sao Teotonio 81.37 48 *e*P **P 15 23 38.0 +0.9**
comp=Z,125nm,1.9s,mb5.5
PMAFR Mafra 81.55 47 *e*LR LR 15 52 49.0
comp=Z,785nm,20.0s
PBDV Barranco-do-Ve 81.83 49 *e*P **P 15 23 41.8 +2.3**
comp=Z,88nm,1.3s,mb5.5
PBDV Barranco-do-Ve 81.83 49 *e*LR LR 15 53 32.3
comp=Z,683nm,22.0s
TOA0 Torodi Ar. Sit 82.03 74 *e*P **P 15 23 41.3 +0.2**
TOA0 *e* 15 23 49.5
TORD Torodi Ar. Bea 82.03 74 P **P 15 23 41.7 +0.6**
comp=Z,108nm,0.9s,mb5.8,baz=260,slow=5.0,SNR=151
TORD Torodi Ar. Bea 82.03 74 P **P 15 23 41.7 +0.6**
PVAQ Vaqueiros 82.05 49 *e*P **P 15 23 42.5 +1.8**
comp=Z,51nm,1.6s,mb5.2
PVAQ Vaqueiros 82.05 49 *e*LR LR 15 53 58.4
comp=Z,630nm,22.0s
PBEJ Beja 82.19 48 *e*P **P 15 23 43.7 +2.3**
comp=Z,47nm,1.4s,mb5.2
EVO Evora 82.28 48 ⇑*i*P **P 15 23 43.1 +1.2**
comp=Z,96nm,1.0s,mb5.4
EVO *e*MLR MLR
comp=Z,964nm,22.5s,MS4.8
EVO Evora 82.28 48 *e*P **P 15 23 44.2 +2.3**
comp=Z,46nm,1.6s,mb5.2
SBA Scott Base 82.33 191 *e*P **P 15 23 42.1 +0.6**
SBA *e* 15 23 50.6
PESTR Estremoz 82.72 47 *e*P **P 15 23 46.2 +2.0**
comp=Z,40nm,1.7s,mb5.2
PESTR Estremoz 82.72 47 *e*LR LR 15 53 56.1
comp=Z,586nm,22.0s
PBAR Barrancos 82.84 48 *e*P **P 15 23 46.2 +1.4**
comp=Z,45nm,1.3s,mb5.3
PBAR Barrancos 82.84 48 *e*LR LR 15 54 27.3
comp=Z,498nm,22.0s
PMRV Marv??o 83.09 47 *e*P **P 15 23 45.2 -0.9**
comp=Z,27nm,1.3s,mb5.1
PMRV Marv??o 83.09 47 *e*LR LR 15 53 46.8
comp=Z,604nm,22.0s
PCBR Castelo Branco 83.19 46 *e*P **P 15 23 47.6 +1.0**
comp=Z,27nm,1.3s,mb5.1
PVIS Viseu 83.25 46 *e*P **P 15 23 48.0 +1.1**
comp=Z,38nm,0.9s,mb5.4
CRAG Craig 83.30 331 *e*P **P 15 23 47.1 +0.3**
MTE Manteigas 83.37 46 *e*P **P 15 23 48.8 +1.3**
comp=Z,38nm,1.2s,mb5.3
MTE Manteigas 83.37 46 *e*LR LR 15 54 40.4
comp=Z,759nm,22.0s
MTE Manteigas 83.37 46 *e*P **P 15 23 47.8 +0.3**
comp=Z,24nm,1.1s,mb5.2
VNDA Vanda 83.41 191 P **P 15 23 47.6 +0.5**
comp=Z,6.6nm,0.9s,mb4.7,baz=124,slow=4.9,SNR=34
VNDA Vanda 83.41 191 *e*P **P 15 23 47.6 +0.5**
VNDA *e* 15 23 54.8
VNDA pmax pmax
comp=Z,44nm,1.6s
VNDA Vanda 83.41 191 *e*P **P 15 23 47.6 +0.4**
comp=Z,44nm,1.6s,mb5.2
VNDA *e* 15 23 54.8
DLBC Dease Lake 83.72 335 *e*P **P 15 23 48.8 0.0**
DLBC *e* 15 23 55.3
MVO Moncorvo 84.03 45 *e*P **P 15 23 52.6 +1.7**
comp=Z,34nm,1.4s,mb5.3
MVO Moncorvo 84.03 45 *e*LR LR 15 54 49.4
comp=Z,509nm,22.0s
ESDC Sonseca Array 85.63 48 P **P 15 24 00.2 +1.2**
comp=Z,5.4nm,0.9s,mb4.8,baz=253,slow=4.9,SNR=12
SKAG Skagway 86.55 334 *e*P **P 15 24 02.5 -0.6**
comp=Z,16nm,0.9s,mb5.2
SKAG *e* 15 24 10.6
SYO Syowa Base 86.56 161 ⇓*e*P **P 15 24 00.6 -2.5**
SYO Syowa Base 86.56 161 ⇓*i*PcP PcP 15 24 02.8 -2.7
SYO Syowa Base 86.56 161 ⇓*i*pP pP 15 24 10.0 +5.0
TAM Tamanrasset 88.13 66 *e*P **P 15 24 13.0 +1.5**
TAM *e* 15 24 20.9
HYT Haines Junctio 88.21 335 *e*P **P 15 24 11.2 +0.3**
HYT *e* 15 24 18.6
BORG Borgarnes 88.36 21 *e*P **P 15 24 12.1 +0.5**
BORG *e*P pP 15 24 13.0 -0.5
SUR Sutherland 89.11 123 *e*P **P 15 24 15.6 -0.5**
SUR *e* 15 24 23.3
ETSF Etsaut 89.15 46 *e*P **P 15 24 16.1 +0.2**
ROSF Rostrenen 89.23 40 *e*P **P 15 24 15.4 -0.7**
SUMG Summit 89.42 11 *e*P **P 15 24 16.5 0.0**
comp=Z,24nm,1.2s,mb5.4
SUMG *e* 15 24 24.9
TSUM Tsumeb 89.61 110 P **P 15 24 18.9 +0.3**
comp=Z,14nm,1.1s,mb5.2,baz=236,slow=3.5,SNR=7.5
DAWY Dawson 90.63 337 *e*P **P 15 24 21.4 -0.9**
DAWY *e* 15 24 29.1
MFF Saint Martin d 90.64 42 *e*P **P 15 24 22.1 -0.6**
GRR Gorron 90.77 40 *e*P **P 15 24 22.5 -0.8**
comp=Z,27nm,1.0s,mb5.2
GRR Gorron 90.77 40 *e*P **P 15 24 22.5 -0.8**
GRR pmax pmax
comp=Z,13nm,1.0s,mb5.2
GRR Gorron 90.77 40 *e*P **P 15 24 22.5 -0.8**
comp=Z,13nm,1.0s,mb5.2
FLN La Foliniere 91.12 40 *e*P **P 15 24 24.4 -0.6**
comp=Z,26nm,1.1s,mb5.2
FLN *e*MLR MLR
comp=Z,240nm,22.0s,MS4.3
FLN La Foliniere 91.12 40 *e*P **P 15 24 24.4 -0.6**
FLN pmax pmax
comp=Z,13nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,240nm,22.0s,MS4.6
FLN La Foliniere 91.12 40 *e*P **P 15 24 24.4 -0.6**
comp=Z,13nm,1.0s,mb5.2
FLN LR LR
comp=Z,240nm,22.0s,MS4.6
MTLF Montolieu 91.22 46 *e*P **P 15 24 24.9 -0.6**
comp=Z,8.7nm,0.9s,mb4.8
MTLF Montolieu 91.22 46 *e*P **P 15 24 24.9 -0.6**
MTLF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
MTLF Montolieu 91.22 46 *e*P **P 15 24 24.9 -0.6**
comp=Z,4.3nm,0.9s,mb4.8
LDF La Druitiere 91.29 40 *e*P **P 15 24 25.1 -0.6**
comp=Z,14nm,0.8s,mb5.1
LDF La Druitiere 91.29 40 *e*P **P 15 24 25.1 -0.6**
LDF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
LDF La Druitiere 91.29 40 *e*P **P 15 24 25.1 -0.6**
comp=Z,7.2nm,0.8s,mb5.0
BMRM Bremner River 91.32 333 *e*P **P 15 24 21.2 -4.4**
RJF Les Rejaudoux 91.33 44 *e*P **P 15 24 25.4 -0.6**
comp=Z,22nm,1.0s,mb5.1
RJF *e*MLR MLR
comp=Z,519nm,21.0s,MS4.7
RJF Les Rejaudoux 91.33 44 *e*P **P 15 24 25.4 -0.6**
RJF pmax pmax
comp=Z,11nm,1.0s,mb5.1
RJF MLR MLR
comp=Z,520nm,21.0s,MS5.0
RJF Les Rejaudoux 91.33 44 *e*P **P 15 24 25.4 -0.6**
comp=Z,11nm,1.0s,mb5.2
RJF LR LR
comp=Z,520nm,21.0s,MS5.0
CAF Calviac 91.59 44 *e*P **P 15 24 26.6 -0.6**
comp=Z,38nm,1.3s,mb5.3
CAF Calviac 91.59 44 *e*P **P 15 24 26.6 -0.6**
CAF pmax pmax
comp=Z,19nm,1.3s,mb5.3
CAF Calviac 91.59 44 *e*P **P 15 24 26.6 -0.6**
comp=Z,19nm,1.3s,mb5.3
EGAK Eagle 91.65 337 *e*P **P 15 24 25.9 -1.1**
EGAK *e* 15 24 34.0
DIV Divide 91.90 333 *e*P **P 15 24 26.7 -1.6**
comp=Z,21μm,0.9s
DIV *e* 15 24 34.1
TCF Toulx Ste Croi 92.09 43 *e*P **P 15 24 27.5 -2.0**
comp=Z,30nm,1.3s,mb5.1
TCF Toulx Ste Croi 92.09 43 *e*P **P 15 24 27.5 -2.0**
TCF pmax pmax
comp=Z,15nm,1.3s,mb5.2
TCF Toulx Ste Croi 92.09 43 *e*P **P 15 24 27.5 -2.0**
comp=Z,15nm,1.3s,mb5.2
LASF Ste Croix 92.57 45 *e*P **P 15 24 40.6 +8.8**
comp=Z,66nm,1.4s,mb5.6
BGF Bois d'Agland 92.59 43 *e*P **P 15 24 31.1 -0.7**
AVF Avril sur Loir 92.99 43 *e*P **P 15 24 33.9 +0.3**
SMF Signal de Mont 93.27 43 *e*P **P 15 24 34.3 -0.6**
comp=Z,15nm,0.9s,mb5.1
SMF Signal de Mont 93.27 43 *e*P **P 15 24 34.3 -0.6**
SMF pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
SMF Signal de Mont 93.27 43 *e*P **P 15 24 34.3 -0.6**
comp=Z,7.4nm,0.9s,mb5.1
LOR Lormes 93.45 42 *e*P **P 15 24 34.9 -0.9**
LOR *e*MLR MLR
comp=Z,337nm,20.2s,MS4.5
LOR Lormes 93.45 42 *e*P **P 15 24 34.9 -0.9**
LOR LR LR
comp=Z,340nm,20.3s,MS4.8
MAW Mawson 94.05 166 P **P 15 24 36.8 -1.4**
comp=Z,7.2nm,1.2s,mb5.0,baz=234,slow=7.0,SNR=6.3
MAW Mawson 94.05 166 *e*P **P 15 24 36.1 -2.1**
MAW *e* 15 24 45.5
MAW pmax pmax
comp=Z,10.0nm,1.1s
MAW Mawson 94.05 166 *e*P **P 15 24 36.1 -2.1**
comp=Z,10nm,1.1s,mb5.2
MAW *e* 15 24 45.5
ORIF Oris-en-Rattie 94.19 45 *e*P **P 15 24 39.6 +0.4**
comp=Z,25nm,1.1s,mb5.2
ORIF *e*MLR MLR
comp=Z,454nm,21.8s,MS4.6
ORIF Oris-en-Rattie 94.19 45 *e*P **P 15 24 39.6 +0.4**
ORIF pmax pmax
comp=Z,12nm,1.1s,mb5.2
ORIF Oris-en-Rattie 94.19 45 *e*P **P 15 24 39.6 +0.4**
comp=Z,12nm,1.1s,mb5.2
COLA College 94.28 336 *e*P **P 15 24 37.5 -1.6**
COLA *e* 15 24 45.6
COLA pmax pmax
comp=Z,31nm,1.1s,mb5.7
COLA College 94.28 336 *e*P **P 15 24 37.5 -1.7**
comp=Z,31nm,1.1s,mb5.7
COLA *e* 15 24 45.5
MCK McKinley 94.28 335 *e*P **P 15 24 37.6 -1.6**
MCK *e* 15 24 46.4
MCK pmax pmax
comp=Z,17nm,1.3s,mb5.3
MCK McKinley 94.28 335 *e*P **P 15 24 37.6 -1.5**
comp=Z,17nm,1.3s,mb5.3
MCK *e* 15 24 46.4
KEST Kesra 94.56 55 P **P 15 24 41.8 +0.6**
comp=Z,1.1nm,0.7s,mb4.4,baz=264,slow=5.7,SNR=3.5
TRF Thorofare Moun 94.74 334 *e*P **P 15 24 40.0 -1.3**
comp=Z,14nm,1.1s,mb5.3
TRF *e* 15 24 47.7
CABF La Chapelle 94.76 43 *e*P **P 15 24 41.3 -0.5**
comp=Z,11nm,0.9s,mb5.0
CABF La Chapelle 94.76 43 *e*P **P 15 24 41.3 -0.5**
CABF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
CABF La Chapelle 94.76 43 *e*P **P 15 24 41.3 -0.5**
comp=Z,5.6nm,0.9s,mb5.0
MBDF Montbardon 94.76 45 *e*P **P 15 24 42.1 +0.3**
comp=Z,17nm,1.2s,mb5.0
MBDF Montbardon 94.76 45 *e*P **P 15 24 42.1 +0.3**
MBDF pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
MBDF Montbardon 94.76 45 *e*P **P 15 24 42.1 +0.3**
comp=Z,8.6nm,1.2s,mb5.1
LPL La Plagne 94.92 45 *e*P **P 15 24 43.2 +0.6**
LPG La Plagne 94.93 45 *e*P **P 15 24 43.3 +0.7**
KTH Kantishna Hill 95.05 334 *e*P **P 15 24 41.2 -1.5**
comp=Z,7μm,1.3s
KTH *e* 15 24 48.6
BPAW Bear Paw Mtn. 95.26 335 *e*P **P 15 24 41.7 -2.0**
comp=Z,20nm,1.2s,mb5.4
BPAW *e* 15 24 49.9
PPLA Purkeypile 95.37 334 *e*P **P 15 24 42.7 -1.5**
comp=Z,23nm,1.1s,mb5.5
PPLA *e* 15 24 50.6
HINF Hinteralfeld 95.56 42 *e*P **P 15 24 44.6 -0.8**
CDF Champ du Feu 95.97 42 *e*P **P 15 24 46.5 -0.8**
COLD Coldfoot 96.03 338 *e*P **P 15 24 46.9 -0.2**
comp=Z,10nm,1.0s,mb5.2
COLD *e* 15 24 54.5
SVW2 Sparrevohn 96.35 331 *e*P **P 15 24 45.4 -3.3**
SVW2 *e* 15 24 54.7
TUE Stuetta 96.91 44 *e*P **P 15 24 51.8 +0.2**
comp=Z,3.4nm,0.8s,mb4.8
IMA2 Indian Mountai 96.97 336 *e*P **P 15 24 50.0 -1.4**
IMA2 *e* 15 24 57.9
GERES GERESS Array B 100.24 42 P Pdif 15 25 07.6 +1.2
comp=Z,0.5nm,0.6s,baz=194,slow=2.2,SNR=4.5
STKA Stephens Creek 121.90 218 PKP PKPdf 15 30 13.8 -1.4
comp=Z,4.6nm,1.1s,baz=81,slow=24,SNR=3.3
STKA Stephens Creek 121.90 218 PKP PKPdf 15 30 13.8 -1.4
YAK Yakutsk 127.92 345 *i* PKIKP PKPdf 15 30 22.2 -3.5
YAK Yakutsk 127.92 345 *e*PKPdf PKPdf 15 30 22.4 -3.3
ASAR Alice Springs 132.51 219 PKP PKPdf 15 30 34.4 -1.3
comp=Z,1.8nm,0.8s,baz=123,slow=2.2,SNR=22
WB2 Warramunga Arr 134.91 223 *e*PKP PKPdf 15 30 39.4 -0.8
WRAB Tennant Creek 134.92 223 *e*PKPdf PKPdf 15 30 38.9 -1.3
WRA Warramunga Arr 134.92 223 PKP PKPdf 15 30 39.4 -0.9
comp=Z,3.5nm,0.8s,baz=134,slow=1.6,SNR=20
BOD Bodaibo 134.96 352 *e*PKIKP PKPdf 15 30 35.7 -3.4
BOD pmax pmax
comp=Z,3.0nm,1.8s
ZALV Zalesovo Beam 137.02 16 PKP PKPdf 15 30 40.5 -2.6
comp=Z,8.1nm,0.8s,baz=204,slow=3.3,SNR=13
ZAL Zalesovo 137.03 16 PKIKP PKPdf 15 30 40.5 -2.6
MJAR Matsushiro Arr 141.21 313 PKhKP 15 30 43.8
comp=Z,2.1nm,0.8s,baz=26,slow=0.6,SNR=9.4
AML Almayashu 141.58 36 *e*PKPdf PKPdf 15 30 49.6 -2.2
HVS Khovu-Aksy 141.60 10 *i* PKIKP PKPdf 15 30 48.9 -2.6
TKM2 Tokmak 2 142.13 34 *e* PKPdf 15 30 53.7 +0.9
MKAR Makanchi Array 142.35 24 PKP PKPdf 15 30 50.0 -3.0
comp=Z,5.1nm,0.9s,baz=20,slow=3.9,SNR=11
MKAR Makanchi Array 142.35 24 PKP PKPdf 15 30 50.0 -3.1
ZAK Zakamensk 143.15 0 *e*PKIKP PKPdf 15 30 49.5 -4.8
ZAK *e* 15 33 58.5
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi 144.58 38 *e*PKP PKPdf 15 30 56.6 -0.6
KSH APKP 15 31 07.3
KSH XPKP 15 31 11.3
KSH PP PP 15 34 18.3 +5.4
KSH PKS 15 34 30.1
KSH PPP 15 37 33.5
KSH SKS SKSdf 15 38 00.3 -7.0
KSH SKKS SKKSac 15 41 03.3 -3.4
KSH PP PP
comp=Z,302nm,6.6s
KSH LR LR
comp=N,388nm,3.9s
KSH LR LR
comp=E,588nm,4.8s
KSH LR LR
comp=Z,293nm,4.3s
SONM Songino Array 145.61 356 PKPbc PKPbc 15 30 58.7 -0.2
comp=Z,57nm,1.1s,baz=345,slow=2.3,SNR=148
SNY Shenyang 146.67 332 ⇑PKP PKPdf 15 31 00.9 +0.2
SNY APKP 15 31 10.8
SNY XPKP 15 31 15.8
SNY LR LR
comp=N,177nm,18.0s,MS5.0
SNY LR LR
comp=E,166nm,19.2s,MS5.0
SNY LR LR
comp=Z,187nm,23.4s,MS4.8
WMQ Urumqi 146.88 21 *e*PKP PKPdf 15 31 03.0 +2.0
WMQ LR LR
comp=N,201nm,20.8s,MS5.0
WMQ LR LR
comp=E,198nm,23.4s,MS5.0
WMQ LR LR
comp=Z,209nm,23.4s,MS4.8
KSRS Korea Array 147.53 322 PKPbc PKPdf 15 31 02.2 0.0
comp=Z,18nm,1.1s,baz=46,slow=2.4,SNR=27
BATI Baumata 149.02 222 PKPbc PKPbc 15 31 09.7 +0.2
comp=Z,14nm,0.8s,baz=301,slow=2.7,SNR=4.4
BJT Baijiatuau 151.20 339 *e*PKIKP PKPbc 15 31 12.2 -1.8
HHC Hu-ho-hao-te 151.75 347 *e*PKP PKPdf 15 31 07.3 -1.6
HHC XPKP 15 31 21.3
HHC PKS 15 34 41.1
HHC SKS SKSdf 15 38 09.3 -7.7
HHC SKKS SKKSac 15 41 42.1 -4.4
HHC SS SS 15 54 15.0 -4.9
HHC PP PP
comp=Z,483nm,8.3s
HHC LR LR
comp=N,157nm,22.6s,MS4.9
HHC LR LR
comp=E,134nm,22.6s,MS4.9
HHC LR LR
comp=Z,252nm,26.2s,MS4.9
GTA Gaotai 153.94 6 PKP PKPdf 15 31 12.5 +0.4
GTA APKP 15 31 22.9
GTA XPKP 15 31 27.0
GTA PP PP
comp=Z,141nm,7.2s
GTA LR LR
comp=N,332nm,19.8s,MS5.3
GTA LR LR
comp=E,362nm,18.3s,MS5.3
GTA LR LR
comp=Z,292nm,20.4s,MS5.1
NJ2 Nanjing 156.62 325 *e*PKP PKPdf 15 31 14.8 -1.2
LZH Lanzhou 157.44 359 *e*PKP PKPdf 15 31 15.0 -1.9
LZH APKP 15 31 25.1
LSA Lhasa 160.28 33 *e*PKP PKPdf 15 31 17.0 -3.5
LSA Lhasa 160.28 33 *e*PKPdf PKPdf 15 31 21.3 +0.8
LSA *e*PKPab PKPab 15 31 55.2 -5.6
GYA Guiyang 166.66 347 PKP PKPdf 15 31 26.6 +0.1
GYA APKP 15 31 36.4
GYA XPKP 15 31 40.8
GYA PKP2 PKPab 15 32 28.0 -0.7
GYA SKS SKSdf 15 38 22.6 -8.9
GYA SKKS SKKSac 15 42 59.3 -5.5
GYA SS SS 15 56 54.0 -3.8
GYA PP PP
comp=Z,160nm,8.2s
GYA LR LR
comp=N,260nm,25.6s
GYA LR LR
comp=E,220nm,23.2s
GYA LR LR
comp=Z,240nm,24.1s
KMI Kunming 168.36 3 PKP PKPdf 15 31 25.8 -2.0
KMI APKP 15 31 37.3
KMI PKP2 PKPab 15 32 35.4 -0.8
KMI PKS 15 34 56.6
KMI PP PP 15 36 26.4 +2.7
KMI SKKS SKKSac 15 43 09.1 -4.1
KMI SS SS 15 57 11.1 -3.5
KMI PP PP
comp=Z,85nm,4.3s
KMI LR LR
comp=N,296nm,15.7s
KMI LR LR
comp=E,235nm,15.7s

KMI LR LR
comp=Z,300nm,21.0s
CHTO Chiang Mai 173.20 38 *e*PKPdf PKPdf 15 31 29.1 -1.4
CHTO *e*PKPab PKPab 15 32 57.8 -0.2
CMAR Chiang Mai Arr 173.47 39 PKP PKPdf 15 31 29.9 -0.7
comp=Z,6.2nm,1.1s,baz=283,slow=1.7,SNR=21
CMAR PKPab PKPab 15 33 00.1 +0.9
comp=Z,3.4nm,0.9s,baz=322,slow=5.7,SNR=8.0

IDC ***16*** *15:11:51.2±0.5, 1360S×7677W, h0km, mb5.1/16, mb1 5.2/17, mb1mx5.1/24, mbtmp5.1/17, ML4.9/1, MS4.7/5, Ms1 4.7/5, ms1mx4.4/15, Error ellipse: s-maj=28.1km s-min=12.3km az=77.0*
ISCJB ***16*** *15:11:54.5±0.4, 1365S±005×770W±0.1, h33km, mb5.1/23, MS4.8/2, Error ellipse: s-maj=16.6km s-min=7.0km az=173.1*
MOS ***16*** *15:11:55.7±1.1, 1361S×7656W, h33km, mb5.1/10, Error ellipse: s-maj=43.3km s-min=20.8km az=101.9*
ISC 16 15:11:56.7±0.4, 1362S±005×768W±01, h35km, n71, σ0°92/51, mb5.1/23, MS4.8/2, 6C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.62**	**359**	Pn	**Pn**	**15 12 21.2**	**-1.5**
	2μm,0.3s,baz=176,slow=19,SNR=3.8						
NNA				Sn	**Sn**	**15 12 43.0**	**+0.5**
	10μm,0.3s,baz=164,slow=11,SNR=16						
ATAH	**Atahualpa**	**6.75**	**347**	Pn	**Pn**	**15 13 29.2**	**-4.2**
	27nm,0.3s,baz=294,slow=20,SNR=6.0						
ATAH				Sn	**Sn**	**15 14 40.8**	**-8.4**
	32nm,0.3s,baz=219,slow=20,SNR=4.7						
ATAH				LR	LR	15 15 59.1	
	comp=Z,6μm,19.3s,baz=48,slow=37						
LPAZ	**La Paz**	**8.81**	**109**	LR	LR	15 18 00.7	
	comp=Z,5μm,20.4s,baz=302,slow=42						
ROSC	**El Rosal**	**18.52**	**8**	LR	LR	15 23 50.1	
	comp=Z,4μm,20.8s,baz=198,slow=39						
PLCA	**Paso Flores**	**27.57**	**170**	*e*P	**P**	**15 17 39.2**	**-1.2**
PLCA	**Paso Flores**	**27.57**	**170**	*e*	**P**	**15 17 39.2**	**-1.1**
CMIG	**Matias Romero**	**35.34**	**329**	P	**P**	**15 18 49.5**	**+0.5**
	15nm,1.0s,mb4.9,baz=152,slow=9.1,SNR=4.1						
USHA	**Ushuaia**	**41.64**	**173**	P	**P**	**15 19 40.7**	**-0.8**
	36nm,1.0s,mb5.0,baz=317,slow=5.5,SNR=5.5						
GOGA	**Godfrey**	**47.19**	**352**	*e*	**P**	**15 20 25.4**	**-0.6**
TXAR	**Lajitas Array**	**49.95**	**329**	P	**P**	**15 20 48.1**	**+0.8**
	14nm,1.0s,mb4.9,baz=146,slow=7.9,SNR=7.1						
TXAR	**Lajitas Array**	**49.95**	**329**	P	**P**	**15 20 48.2**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,14nm,1.0s						
PMSA	**Palmer Station**	**51.85**	**173**	P	**P**	**15 20 59.6**	**-1.5**
	comp=Z,19nm,0.9s,mb5.0,baz=335,slow=3.2,SNR=6.4						
FVM	**French Village**	**52.89**	**347**	*e*	**P**	**15 21 09.2**	**0.0**
BLO	**Bloomington**	**53.29**	**351**	*e*	**P**	**15 21 11.3**	**-0.7**
MVL	**Millersville**	**53.34**	**0**	*e*	**P**	**15 21 08.7**	**-3.8**
ALLY	**Alegheny Colle**	**55.07**	**357**	*e*pP	**P**	**15 21 25.2**	**+0.2**
LPM	**Los Pinos Moun**	**55.46**	**330**	*e*	**P**	**15 21 26.5**	**-1.5**
BINY	**Binghamton**	**55.54**	**1**	*e*	**P**	**15 21 28.1**	**-0.3**
MDV	**Middlebury**	**57.43**	**3**	*e*	**P**	**15 21 42.4**	**+0.6**
PDAR	**Pinedale Array**	**63.64**	**334**	P	**P**	**15 22 23.7**	**-0.5**
	comp=Z,14nm,1.0s,mb5.0,baz=144,slow=5.5,SNR=11						
NVAR	**Mina Array Bea**	**64.70**	**325**	P	**P**	**15 22 31.6**	**+0.3**
	comp=Z,8.9nm,0.8s,mb4.8,baz=143,slow=6.2,SNR=8.3						
ULM	**Lac du Bonnet**	**65.76**	**347**	P	**P**	**15 22 37.3**	**-0.5**
	comp=Z,93nm,0.9s,mb5.8,baz=162,slow=7.4,SNR=6.7						
ULM				LR	LR	15 55 45.4	
	comp=Z,724nm,18.4s,MS4.9,baz=136,slow=40						
SCHQ	**Schefferville**	**68.70**	**6**	P	**P**	**15 22 56.4**	**-0.1**
	comp=Z,28nm,0.8s,mb5.2,baz=214,slow=5.7,SNR=6.6						
MSO	**Missoula**	**68.76**	**334**	*e*pP	**P**	**15 22 59.0**	**+2.0**
SNAA	**Sanae**	**72.13**	**161**	P	**P**	**15 23 17.9**	**+0.6**
	comp=Z,23nm,1.2s,mb5.0,baz=254,slow=4.3,SNR=6.0						
SNAA	**Sanae**	**72.13**	**161**	P	**P**	**15 23 17.9**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,23nm,1.2s						
DBIC	**Dimbokro**	**74.22**	**79**	P	**P**	**15 23 29.9**	**-0.7**
	comp=Z,11nm,0.7s,mb4.9,baz=257,slow=8.0,SNR=3.7						
DBIC	**Dimbokro**	**74.22**	**79**	P	**P**	**15 23 29.9**	**-0.8**
DBIC				pmax	pmax		
	comp=Z,11nm,0.7s						
QSPA	**South Pole Qui**	**76.53**	**180**	P	**P**	**15 23 43.0**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0,baz=193,slow=1.6,SNR=7.6						
NVL	**N'lazarevskaya**	**76.81**	**160**	*e*P	**P**	**15 23 45.4**	**+1.0**
YKA	**Yellowknife Ar**	**81.40**	**343**	P	**P**	**15 24 09.7**	**+0.2**
	comp=Z,13nm,0.9s,mb4.8,baz=138,slow=5.3,SNR=8.8						
YKA	**Yellowknife Ar**	**81.40**	**343**	P	**P**	**15 24 09.7**	**+0.2**
YKA				pmax	pmax		
	comp=Z,13nm,1.0s						
TORD	**Torodi Ar. Bea**	**82.20**	**74**	P	**P**	**15 24 14.5**	**-0.4**
	comp=Z,72nm,1.1s,mb5.5,baz=256,slow=4.9,SNR=6.5						
EVO	**Evora**	**82.50**	**48**	⇑*i*P	**P**	**15 24 16.9**	**+1.0**
	comp=Z,76nm,1.0s,mb5.4						
VNDA	**Vanda**	**83.20**	**191**	P	**P**	**15 24 20.4**	**+1.5**
	comp=Z,10nm,1.1s,mb4.8,baz=42,slow=1.5,SNR=7.6						
VNDA	**Vanda**	**83.20**	**191**	P	**P**	**15 24 20.4**	**+1.5**
VNDA				pmax	pmax		
	comp=Z,11nm,1.1s						
ESDC	**Sonseca Array**	**85.85**	**48**	P	**P**	**15 24 33.8**	**+0.9**
	comp=Z,5.6nm,0.8s,mb4.8,baz=257,slow=5.1,SNR=6.4						
SJPF	**Ste Jean**	**88.98**	**45**	*e*P	**P**	**15 24 50.3**	**+2.4**
	comp=Z,57nm,1.2s,mb5.5						
ETSF	**Etsaut**	**89.37**	**46**	*e*P	**P**	**15 24 51.6**	**+1.9**
TSUM	**Tsumeb**	**89.86**	**110**	P	**P**	**15 24 52.4**	**+0.7**
	comp=Z,5.8nm,1.1s,mb4.8,baz=194,slow=7.3,SNR=3.8						
GRR	**Gorron**	**90.98**	**40**	*e*P	**P**	**15 24 55.8**	**-1.3**
AFI	**Afiamalu**	**91.47**	**255**	LR	LR	15 57 01.3	
	comp=Z,278nm,21.1s,MS4.7,baz=7.8,slow=30						
RJF	**Les Rejaudoux**	**91.55**	**44**	*e*P	**P**	**15 24 59.4**	**-0.4**
	comp=Z,37nm,1.2s,mb5.3						
TCF	**Toulx Ste Croi**	**92.31**	**43**	⇑*i*P	**P**	**15 25 02.9**	**-0.4**
BGF	**Bois d'Agland**	**92.81**	**43**	⇑*i*P	**P**	**15 25 05.3**	**-0.3**
AVF	**Avril sur Loir**	**93.21**	**43**	⇑*i*P	**P**	**15 25 06.9**	**-0.6**
SSF	**Saint Saulge**	**93.39**	**42**	*e*P	**P**	**15 25 07.7**	**-0.6**
SMF	**Signal de Mont**	**93.49**	**43**	⇑*i*P	**P**	**15 25 08.4**	**-0.4**
	comp=Z,21nm,1.0s,mb5.2						
VIVF	**Saint-Julien-l**	**93.56**	**45**	*e*P	**P**	**15 25 09.4**	**+0.2**
	comp=Z,34nm,1.3s,mb5.3						
LOR	**Lormes**	**93.67**	**42**	*e*P	**P**	**15 25 09.1**	**-0.5**
PGF	**Pioggiola**	**96.04**	**48**	*e*P	**P**	**15 25 21.6**	**+1.0**
	comp=Z,62nm,1.4s,mb5.5						
CDF	**Champ du Feu**	**96.19**	**42**	⇑*i*P	**P**	**15 25 20.8**	**-0.3**
	comp=Z,32nm,1.3s,mb5.3						
GERES	**GERESS Array B**	**100.46**	**42**	P	Pdif	15 25 40.6	+0.4
	comp=Z,0.8nm,0.8s,baz=257,slow=5.3,SNR=3.9						
GERES	**GERESS Array B**	**100.46**	**42**	P	Pdif	15 25 40.6	+0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**132.29**	**219**	PKP	PKPdf	15 31 08.5	+0.6
	comp=Z,12nm,1.2s,baz=149,slow=4.5,SNR=10						
ASAR	**Alice Springs**	**132.29**	**219**	PKIKP	PKPdf	15 31 08.5	+0.6
ASAR				pmax	pmax		
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**134.70**	**223**	PKP	PKPdf	15 31 13.1	+0.6
	comp=Z,5.6nm,1.0s,baz=133,slow=1.6,SNR=33						
WRA	**Warramunga Arr**	**134.70**	**223**	PKIKP	PKPdf	15 31 13.1	+0.6
WRA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZALV	**Zalesovo Beam**	**137.24**	**16**	PKP	PKPdf	15 31 15.3	-0.8
	comp=Z,12nm,0.9s,baz=209,slow=2.7,SNR=5.0						
ZAL	**Zalesovo**	**137.24**	**16**	PKIKP	PKPdf	15 31 15.4	-0.8
ZAL				pmax	pmax		
	comp=Z,12nm,0.9s						
MJAR	**Matsushiro Arr**	**141.25**	**312**	PKhKP		15 31 18.5	
	comp=Z,4.9nm,0.9s,baz=95,slow=1.6,SNR=7.0						
MJAR	**Matsushiro Arr**	**141.25**	**312**	PKHKP		15 31 18.5	
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**141.47**	**216**	PKhKP		15 31 18.6	
	comp=Z,9.5nm,1.1s,baz=221,slow=6.8,SNR=4.0						
MKAR	**Makanchi Array**	**142.57**	**24**	PKP	PKPdf	15 31 23.8	-2.3
	comp=Z,2.6nm,0.9s,baz=329,slow=1.7,SNR=2.4						
MKAR	**Makanchi Array**	**142.57**	**24**	PKIKP	PKPdf	15 31 23.8	-2.3
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**145.78**	**356**	PKPbc	PKPbc	15 31 32.1	0.0
	comp=Z,43nm,0.9s,baz=336,slow=3.4,SNR=7.5						
SONM	**Songino Array**	**145.78**	**356**	PKP2	PKPab	15 31 32.1	-0.4
SONM				pmax	pmax		
	comp=Z,43nm,0.9s						
KSRS	**Korea Array**	**147.60**	**322**	PKPbc	PKPbc	15 31 36.2	-1.5
	comp=Z,16nm,1.1s,baz=46,slow=2.3,SNR=6.4						
KSRS	**Korea Array**	**147.60**	**322**	PKIKP	PKPdf	15 31 36.3	+1.2
KSRS				pmax	pmax		
	comp=Z,16nm,1.1s						
CMAR	**Chiang Mai Arr**	**173.70**	**40**	PKP	PKPdf	15 32 03.8	+0.4
	comp=Z,5.9nm,1.0s,baz=272,slow=1.7,SNR=7.8						
CMAR	**Chiang Mai Arr**	**173.70**	**40**	PKIKP	PKPdf	15 32 03.8	+0.4
CMAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						

ISCJB ***16*** *15:18:22.0±1.2, 37S±0.1×117W±03, h10km, mb4.0/5, MS4.2/4, Error ellipse: s-maj=45.8km s-min=18.4km az=8.7*
IDC ***16*** *15:18:22.5±1.6, 370S×1168W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/25, mbtmp4.1/5, MS4.1/5, Ms1 4.2/5, ms1mx3.6/35, Error ellipse: s-maj=59.2km s-min=25.3km az=92.0*
ISC 16 15:18:24.2±1.2, 37S±01×117W±03, h10km, n11, σ0°14/7, mb4.0/5, MS4.2/4, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.34**	**33**	LR	LR	15 25 18.2	
	comp=Z,475nm,18.4s,baz=125,slow=34						
TORD	**Torodi Ar. Bea**	**21.35**	**38**	P	**P**	**15 23 12.0**	**+0.1**
	3.4nm,0.8s,mb3.7,baz=214,slow=12,SNR=12						
TORD				LR	LR	15 30 42.2	
	comp=Z,272nm,19.2s,MS3.7,baz=250,slow=35						
LBTB	**Lobatse**	**41.62**	**124**	P	**P**	**15 26 12.7**	**-0.1**
	6.7nm,0.8s,mb4.3,baz=288,slow=3.2,SNR=6.6						
KMBO	**Kilima Mbogo**	**48.93**	**88**	LR	LR	15 46 09.4	
	comp=Z,300nm,19.7s,MS4.3,baz=115,slow=34						
CPUP	**Villa Florida**	**49.15**	**238**	LR	LR	15 47 25.5	
	comp=Z,283nm,19.1s,MS4.3,baz=317,slow=36						
GERES	**GERESS Array B**	**56.80**	**20**	P	**P**	**15 28 08.7**	**+0.1**
	1.7nm,0.7s,mb4.2,baz=190,slow=6.8,SNR=8.7						
LPAZ	**La Paz**	**56.82**	**253**	LR	LR	15 49 55.4	
	comp=Z,312nm,19.8s,MS4.4,baz=210,slow=33						
VNA2	**Neumayer--Watz**	**67.19**	**178**	*e*	**P**	**15 29 18.1**	**0.0**
VNA2				*e*		15 29 25.0	
SNAA	**Sanae**	**68.11**	**177**	*e*	**P**	**15 29 24.0**	**+0.1**
SNAA				*e*		15 29 30.9	
SNAA	**Sanae**	**68.11**	**177**	P	**P**	**15 29 24.2**	**+0.2**
	1.1nm,0.9s,mb3.9,baz=340,slow=8.2,SNR=5.3						
ARCES	**ARCESS Array B**	**77.31**	**13**	P	**P**	**15 30 18.4**	**-0.2**
	2.7nm,0.9s,mb4.2,baz=220,slow=6.9,SNR=3.9						

NIED ***16*** *15:22:00, 3540N×14040E, h20km, Mw4.4 Best double couple: M0:4.13000×10^15 NP1:φs60.00000°, δ73.00000°, λ92.00000°. NP2:φs234.00000°, δ17.00000°, λ84.00000°.*
ISCJB ***16*** *15:22:01.9±0.4, 3532N±003×14033E±005, h36km±4km, mb4.2/10, Error ellipse: s-maj=7.3km s-min=4.9km az=158.1*
JMA ***16*** *15:22:02.5±0.1, 3534N×14034E, h22km±2km, M4.4 Broadband fault plane solution: P waves. NP1: φs263.00000°, δ31.00000°, λ106.00000°. NP2: φs64.00000°, δ60.00000°, λ80.00000°. Principal axes: T Plg73.0000°, Azm310.0000°; N Plg8.0000°, Azm69.0000°; P Plg15.0000°, Azm161.0000°;*
JMA Felt III J1.
MOS ***16*** *15:22:04.2±1.4, 3482N×13923E, h33km, mb4.5/2 Error ellipse: s-maj=28.7km s-min=11.5km az=121.6*
NEIC ***16*** *15:22:08.4±2.1, 3488N×13902E, h44km±17km, MW4.3(NIED), Error ellipse: s-maj=21.4km s-min=18.3km az=58.0*
NEIC Recorded [3 JMA] in Chiba and [1 JMA] in Kanagawa and Tokyo Prefectures.
IDC ***16*** *15:22:08.4±1.9, 3486N×13899E, h45km±18km, mb3.7/9, mb1 3.9/9, mb1mx3.7/21, mbtmp3.7/9, MS4.1/1, Ms1 4.1/1, ms1mx3.2/40, Error ellipse: s-maj=26.8km s-min=14.3km az=74.0*
ISC 16 15:22:02.4±0.5, 3530N±003×14034E±005, h31km±3km, n37, σ1°07/43, mb4.2/10, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.15**	**186**	⇑P	**Pb**	**15 22 07.5**	**-0.8**
KTR				*e*S	**Sb**	**15 22 11.2**	**-1.1**
JCN	**Nagara**	**0.16**	**317**	⇓P	**Pb**	**15 22 07.6**	**-0.8**
JCN				S	**Sb**	**15 22 12.2**	**-0.3**
BSO4	**Boso 4**	**0.31**	**180**	⇑P	**Pb**	**15 22 10.5**	**+0.4**
TATJ	**Tateyama 2**	**0.45**	**234**	P	**Pb**	**15 22 12.9**	**+0.8**
TATJ				S	**Sb**	**15 22 20.7**	**+1.9**
BSO3	**Boso 3**	**0.52**	**164**	⇓P	**Pb**	**15 22 13.7**	**+0.6**
BSO2	**Boso 2**	**0.65**	**148**	*e*S	**Sb**	**15 22 25.3**	**+1.3**
BSO1	**Boso 1**	**0.83**	**140**	⇓P	**Pn**	**15 22 17.3**	**-0.6**
BSO1				*e*S	**Sn**	**15 22 29.8**	**+0.7**
JYT	**Yasato**	**0.93**	**353**	⇓P	**Pn**	**15 22 18.2**	**-1.1**
JYT				*e*S	**Sn**	**15 22 30.7**	**-0.9**
JIM2	**Oshima 3**	**0.94**	**232**	P	**Pn**	**15 22 18.5**	**-0.9**
JIM2				*e*S	**Sn**	**15 22 31.0**	**-0.8**
JOD2	**Odawara 2**	**1.02**	**268**	⇑P	**Pn**	**15 22 19.8**	**-0.7**
JOD2				*e*S	**Sn**	**15 22 33.0**	**-0.7**
MJAR	**Matsushiro Arr**	**2.12**	**306**	P	**Pn**	**15 22 36.9**	**+1.2**
	22nm,0.3s,baz=132,slow=14,SNR=192						
MJAR				S	**Sn**	**15 23 07.0**	**+6.0**
	22nm,0.3s,baz=151,slow=30,SNR=8.4						
MAJO	**Matsushiro**	**2.13**	**306**	*e*P	**Pn**	**15 22 36.6**	**+0.9**
MAT	**Matsushiro**	**2.13**	**306**	P	**Pn**	**15 22 36.6**	**+0.9**
MAT				S	**Sn**	**15 23 04.7**	**+3.7**
JHJ	**Hachijo jima 2**	**2.22**	**192**	P	**Pn**	**15 22 37.0**	**-0.1**
	432nm,0.3s,baz=28,slow=2.7,SNR=372						
JHJ				S	**Sn**	**15 23 03.2**	**-0.1**
	307nm,0.3s,baz=52,slow=19,SNR=18						
CBIJ	**Chichi jima**	**8.33**	**169**	P	**Pn**	**15 23 59.2**	**-1.7**
	8.1nm,0.3s,baz=102,slow=23,SNR=7.3						
CBIJ				S	**Sn**	**15 25 31.1**	**-2.8**
	6.0nm,0.3s,baz=287,slow=23,SNR=3.1						
KSRS	**Korea Array**	**10.24**	**286**	P	**Pn**	**15 24 23.7**	**-3.4**
	0.1nm,0.3s,baz=110,slow=8.1,SNR=2.4						
KLR	**Kul'dur**	**15.29**	**338**	*e*P	pP	15 25 48.9	+0.4
BOD	**Bodaibo**	**28.56**	**330**	*e*P	**P**	**15 27 54.5**	**-0.6**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.9						
ZALV	**Zalesovo Beam**	**42.46**	**314**	P	**P**	**15 29 54.4**	**+0.2**
	comp=Z,1.6nm,0.3s,mb4.1,baz=111,slow=8.3,SNR=9.8						
ZAL	**Zalesovo**	**42.47**	**314**	P	**P**	**15 29 54.4**	**+0.2**
NVS	**Novosibirsk**	**43.43**	**315**	*e*P	**P**	**15 30 01.7**	**-0.3**
NVS				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
MK31	**Makanchi Array**	**44.32**	**303**	*e*P	**P**	**15 30 09.9**	**+0.6**
MK31				*e*	pP	15 30 18.4	-0.2
MKAR	**Makanchi Array**	**44.32**	**303**	P	**P**	**15 30 09.5**	**+0.2**
	comp=E,1.0nm,0.4s,mb3.9,baz=82,slow=8.9,SNR=9.5						
KURK	**Kurchatov**	**46.33**	**309**	*e*P	**P**	**15 30 25.0**	**-0.2**
KURK				*e*	pP	15 30 33.9	-0.7
KURK				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
KURK	**Kurchatov**	**46.33**	**309**	*e*P	**P**	**15 30 25.0**	**-0.2**
	comp=Z,21nm,1.1s,mb5.0						
KURK				*e*	pP	15 30 33.9	-0.7
TKM2	**Tokmak 2**	**49.70**	**299**	*e*P	**P**	**15 30 48.4**	**-2.9**
	comp=Z,15nm,1.3s,mb4.9						
AML	**Almayashu**	**51.27**	**299**	*e*P	**P**	**15 31 05.0**	**+1.9**
WRA	**Warramunga Arr**	**55.23**	**187**	P	**P**	**15 31 32.9**	**+0.5**
	comp=Z,1.2nm,0.4s,mb4.3,baz=4.2,slow=7.2,SNR=15						
HYT	**Haines Junctio**	**56.21**	**36**	P	**P**	**15 31 42.5**	**+3.5**
ASAR	**Alice Springs**	**58.96**	**187**	P	**P**	**15 31 59.8**	**+1.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=24,slow=11,SNR=16						
YKA	**Yellowknife Ar**	**65.74**	**29**	P	pP	15 32 53.9	+0.5
	comp=Z,0.2nm,0.5s,baz=306,slow=6.9,SNR=4.8						
YKA	**Yellowknife Ar**	**65.74**	**29**	P	pP	15 32 53.9	+0.5
AKASG	**Malin Array Be**	**75.13**	**322**	P	**P**	**15 33 42.0**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=48,slow=6.4,SNR=10						
AKASG	**Malin Array Be**	**75.13**	**322**	P	**P**	**15 33 42.0**	**+0.7**
NOA	**NORSAR Array B**	**75.44**	**337**	P	**P**	**15 33 47.5**	**+4.7**
	comp=Z,1.0nm,0.7s,mb3.8,baz=142,slow=24,SNR=3.0						
NVAR	**Mina Array Bea**	**76.73**	**52**	P	pP	15 34 02.4	+1.9
	comp=Z,0.6nm,0.7s,baz=276,slow=7.2,SNR=5.0						
PDAR	**Pinedale Array**	**79.51**	**45**	P	pP	15 34 16.4	+0.6
	comp=Z,0.6nm,0.8s,baz=298,slow=3.2,SNR=4.5						

ISCJB ***16*** *15:25:47.2±0.5, 3528N±003×14031E±005, h33km, mb3.8/3, Error ellipse: s-maj=6.6km s-min=3.9km az=149.5*
JMA ***16*** *15:25:47.7±0.1, 3534N×14033E, h21km±2km, M3.4 Broadband fault plane solution: P waves. NP1: φs265.00000°, δ23.00000°, λ113.00000°. NP2: φs60.00000°, δ69.00000°, λ80.00000°. Principal axes: T Plg65.0000°, Azm313.0000°; N Plg9.0000°, Azm63.0000°; P Plg23.0000°, Azm157.0000°;*
JMA Felt II J1.
IDC ***16*** *15:25:49.1±1.3, 3470N×13874E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/22, mbtmp3.9/4, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.8/39 Error ellipse: s-maj=55.6km s-min=15.4km az=68.0*
ISC 16 15:25:47.7±0.5, 3528N±003×14029E±005, h27km±3km, n17, σ1°07/26, mb3.8/3, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.14**	**171**	⇑P	**Pb**	**15 25 52.5**	**-0.3**
KTR				*e*S	**Sb**	**15 25 56.1**	**-0.2**
JCN	**Nagara**	**0.15**	**332**	⇓P	**Pb**	**15 25 52.7**	**-0.3**
JCN				S	**Sb**	**15 25 57.2**	**+0.6**
BSO4	**Boso 4**	**0.30**	**172**	⇑P	**Pb**	**15 25 55.5**	**+0.7**
TATJ	**Tateyama 2**	**0.41**	**232**	P	**Pb**	**15 25 58.1**	**+1.6**
BSO3	**Boso 3**	**0.52**	**159**	⇓P	**Pb**	**15 25 58.6**	**+0.4**
BSO2	**Boso 2**	**0.66**	**144**	*e*S	**Sb**	**15 26 10.4**	**+1.1**
BSO1	**Boso 1**	**0.85**	**138**	P	**Pb**	**15 26 02.4**	**-1.3**
BSO1				S	**Sb**	**15 26 14.8**	**+0.1**
JIM2	**Oshima 3**	**0.90**	**231**	⇓P	**Pn**	**15 26 03.2**	**-1.4**
JIM2				*e*S	**Sb**	**15 26 15.6**	**-0.7**
JYT	**Yasato**	**0.94**	**355**	⇓P	**Pn**	**15 26 03.3**	**-1.9**
JYT				*e*S	**Sb**	**15 26 16.1**	**-1.4**
JOD2	**Odawara 2**	**0.98**	**269**	⇑P	**Pn**	**15 26 04.9**	**-0.8**
JOD2				*e*S	**Sb**	**15 26 18.0**	**-0.6**
MJAR	**Matsushiro Arr**	**2.10**	**307**	Pn	**Pn**	**15 26 22.3**	**+1.2**
	4.4nm,0.3s,baz=274,slow=19,SNR=18						
MJAR				Sn	**Sn**	**15 26 46.5**	**+0.2**
	6.9nm,0.3s,baz=157,slow=12,SNR=4.1						
MAT	**Matsushiro**	**2.10**	**307**	P	**Pn**	**15 26 22.0**	**+0.9**
MAT				S	**Sn**	**15 26 48.9**	**+2.5**
JHJ	**Hachijo jima 2**	**2.10**	**291**	Pn	**Pn**	**15 26 21.6**	**-0.8**
	115nm,0.3s,baz=72,slow=22,SNR=14						
JHJ				Sn	**Sn**	**15 26 47.2**	**-1.5**
	143nm,0.3s,baz=250,slow=24,SNR=11						
CBIJ	**Chichi jima**	**8.32**	**168**	Pn	**Pn**	**15 27 48.5**	**+1.9**
	9.3nm,0.3s,baz=287,slow=19,SNR=5.1						
CBIJ				LR	LR	15 31 08.6	
	comp=Z,99nm,18.0s,baz=202,slow=39						
MKAR	**Makanchi Array**	**44.30**	**303**	P	**P**	**15 33 55.2**	**+0.2**
	0.4nm,0.2s,mb3.7,baz=79,slow=9.0,SNR=2.5						
WRA	**Warramunga Arr**	**55.21**	**187**	P	**P**	**15 35 17.7**	**-0.5**
	0.7nm,0.6s,mb3.9,baz=2.3,slow=7.6,SNR=8.1						
ASAR	**Alice Springs**	**58.94**	**187**	P	**P**	**15 35 45.5**	**+0.9**
	0.6nm,0.9s,mb3.6,baz=12,slow=8.5,SNR=6.5						

ISCJB ***16*** *15:49:47.9±0.8, 94S±0.1×12069E±009, h33km, mb4.2/5, MS4.1/2, Error ellipse: s-maj=16.8km s-min=9.6km az=34.9*
NEIC ***16*** *15:49:49.6±1.3, 926S×12064E, h53km±20km, mb4.0/3, Error ellipse: s-maj=24.7km s-min=10.9km az=54.0*
IDC ***16*** *15:49:55.7±4.2, 957S×12070E, h88km±42km, mb3.8/4, mb1 3.9/8, mb1mx3.6/19, mbtmp3.8/8, MS3.8/3, Ms1 3.8/3, ms1mx3.2/26, Error ellipse: s-maj=53.1km s-min=22.3km az=73.0*
ISC 16 15:49:50.6±0.9, 95S±01×12066E±009, h35km, n17, σ0°85/24, mb4.2/5, MS4.1/2, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.04**	**103**	P	**Pn**	**15 50 42.2**	**+6.1**
	16nm,0.3s,baz=290,slow=1.5,SNR=48						
BATI				S	**Sn**	**15 51 11.1**	**-0.2**
	75nm,0.3s,baz=262,slow=4.8,SNR=4.4						
BATI				LR	LR	15 51 55.6	
	comp=Z,314nm,19.4s,baz=111,slow=40						
KAPI	**Kappang**	**4.57**	**349**	*e*Pn	**Pn**	**15 50 52.5**	**-4.8**
FITZ	**Fitzroy Crossi**	**9.80**	**151**	*e*P	**Pn**	**15 52 11.4**	**+2.3**
	5.9nm,0.8s						
FITZ				*e*S	**Sn**	**15 53 50.5**	**-7.4**
FITZ	**Fitzroy Crossi**	**9.80**	**151**	P	**Pn**	**15 52 11.5**	**+2.5**
	0.5nm,0.3s,baz=197,slow=20,SNR=22						
FITZ				S	**Sn**	**15 53 53.4**	**-4.5**
	2

KLR	**Kul'dur**	**8.79**	**299**	*e*PN	**Pn**	**15 58 08.8**	**-5.2**
MAT	**Matsushiro**	**9.86**	**206**	P	**Pn**	**15 58 27.7**	**+0.5**
MAT				*e*S	**S**	**16 00 23.2**	**+4.6**
MJAR	**Matsushiro Arr**	**9.86**	**206**	P	**Pn**	**15 58 27.7**	**+0.5**
	0.9nm,0.3s,baz=16,slow=12,SNR=23						
MJAR	**Matsushiro Arr**	**9.86**	**206**	PN	**Pn**	**15 58 27.7**	**+0.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**11.92**	**46**	P	**Pn**	**15 58 52.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=234,slow=8.8,SNR=2.8						
KSRS	**Korea Array**	**14.21**	**241**	P	**P**	**15 59 19.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=61,slow=9.8,SNR=6.0						
SONM	**Songino Array**	**25.41**	**289**	P	**P**	**16 01 09.5**	**-1.1**
	comp=Z,0.5nm,0.6s,mb3.1,baz=110,slow=9.9,SNR=3.7						
SONM	**Songino Array**	**25.41**	**289**	P	**P**	**16 01 09.5**	**-1.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**55.72**	**33**	P	**P**	**16 05 14.3**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.3,baz=306,slow=7.0,SNR=13						
YKA	**Yellowknife Ar**	**55.72**	**33**	P	**P**	**16 05 14.3**	**-1.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**70.67**	**48**	P	**P**	**16 06 53.7**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.4,baz=354,slow=1.5,SNR=4.8						

BJI ***16*** *15:56:49.6, 950S×15973E, h4km, mB5.0, mb4.9, Ms4.8, Msz4.4*
IDC ***16*** *15:56:49.9±0.6, 979S×15976E, h0km, mb4.5/19, mb1 4.6/20, mb1mx4.6/21, mbtmp4.5/20, ML4.1/1, Error ellipse: s-maj=21.1km s-min=8.8km az=123.0*
ISCJB ***16*** *15:56:51.8±0.4, 981S±007×15963E±007, h21km, mb4.7/46, MS4.5/2, Error ellipse: s-maj=12.4km s-min=6.1km az=137.6*
NEIC ***16*** *15:56:52.6±1.1, 981S×15964E, h16km±7km, mb4.8/20, Error ellipse: s-maj=11.2km s-min=5.6km az=135.0*
MOS ***16*** *15:56:53.4±1.0, 975S×15962E, h33km, mb5.0/12, Error ellipse: s-maj=13.5km s-min=10.5km az=63.3*

ISC 16 15:56:52.9±1.3, 986S±007×15966E±007, h17km±7km, h22km±2.8km:pP-P, n90, σ0s96/92, mb4.7/46, MS4.5/2, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.51**	**34**	Pn	**Pg**	**15 57 02.0**	**-1.0**
	11μm,0.3s,baz=226,slow=1.9,SNR=2137						
HNR				Sn	**Sg**	**15 57 10.2**	**+0.8**
	13μm,0.3s,baz=86,slow=20,SNR=81						
HNR	**Honiara**	**0.51**	**34**	*e*Pn	**Pg**	**15 57 02.0**	**-1.1**
HNR				*e*Sn	**Sg**	**15 57 11.4**	**+2.0**
CTA	**Charters Tower**	**16.46**	**230**	*e*P	**Pn**	**16 00 48.7**	**+5.6**
	13nm,1.0s						
CTA	**Charters Tower**	**16.46**	**230**	Pn	**Pn**	**16 00 45.0**	**+2.0**
	0.5nm,0.3s,baz=52,slow=15,SNR=3.2						
CTA	**Charters Tower**	**16.46**	**230**	Pn	**Pn**	**16 00 45.0**	**+2.0**
CTA				*e*P		16 00 48.7	
CTAO	**Charters Tower**	**16.46**	**230**	*e*P	**Pn**	**16 00 48.4**	**+5.3**
CTAO				pmax	pmax		
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**16.46**	**230**	*e*P	**Pn**	**16 00 48.4**	**+5.3**
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**26.40**	**245**	*e*P	**P**	**16 02 29.0**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**26.40**	**245**	*e*P	**P**	**16 02 29.0**	**+0.4**
	comp=Z,9.8nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**26.40**	**245**	*e*P	**P**	**16 02 31.6**	**+2.9**
WB2	**Warramunga Arr**	**26.40**	**245**	*e*Pn	**P**	**16 02 28.8**	**+0.2**
WRA	**Warramunga Arr**	**26.41**	**245**	P	**P**	**16 02 28.9**	**+0.1**
	comp=Z,6.3nm,0.7s,mb4.3,baz=73,slow=9.8,SNR=25						
WRA				PcP	PcP	16 05 54.8	+0.5
	comp=Z,2.3nm,0.9s,baz=72,slow=2.1,SNR=6.2						
STKA	**Stephens Creek**	**27.57**	**215**	*e*P	**P**	**16 02 39.6**	**+0.5**
	comp=Z,11nm,1.7s,mb4.2						
STKA	**Stephens Creek**	**27.57**	**215**	P	**P**	**16 02 38.4**	**-0.8**
	comp=Z,2.9nm,0.6s,mb4.1,baz=52,slow=15,SNR=7.2						
STKA				PcP	PcP	16 05 56.8	0.0
	comp=Z,2.9nm,1.1s,baz=84,slow=3.7,SNR=2.8						
STKA	**Stephens Creek**	**27.57**	**215**	*e*P	**P**	**16 02 39.5**	**+0.4**
	comp=Z,27nm,1.3s,mb4.7						
ASAR	**Alice Springs**	**28.16**	**238**	P	**P**	**16 02 43.9**	**-0.6**
	comp=Z,1.6nm,0.6s,mb3.8,baz=67,slow=10,SNR=18						
ASAR				PcP	PcP	16 05 58.9	+0.5
	comp=Z,1.8nm,0.5s,baz=83,slow=3.2,SNR=16						
FITZ	**Fitzroy Crossi**	**33.97**	**252**	*e*P	**P**	**16 03 35.4**	**-0.4**
	comp=Z,6.3nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.97**	**252**	P	**P**	**16 03 35.5**	**-0.3**
	baz=65,slow=11						
MBWA	**Marble Bar**	**39.97**	**249**	*e*P	**P**	**16 04 25.2**	**-1.6**
	comp=Z,13nm,1.0s,mb4.6						
NWAO	**Narrogin (SRO)**	**45.27**	**233**	P	**P**	**16 05 09.8**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.3,baz=76,slow=8.3,SNR=4.0						
NWAO	**Narrogin (SRO)**	**45.27**	**233**	*e*P	**P**	**16 05 08.1**	**-1.6**
NWAO				pmax	pmax		
	comp=Z,16nm,1.3s						
NWAO	**Narrogin (SRO)**	**45.27**	**233**	*e*P	**P**	**16 05 08.1**	**-1.7**
	comp=Z,16nm,1.3s,mb4.7						
KKM	**Kota Kinabalu**	**46.08**	**288**	*e*P	**P**	**16 05 16.1**	**-0.3**
JOW	**Kunigami**	**47.52**	**321**	P	**P**	**16 05 28.8**	**+1.4**
	comp=Z,17nm,0.6s,mb5.2,baz=165,slow=12,SNR=5.8						
MJAR	**Matsushiro Arr**	**50.37**	**338**	P	**P**	**16 05 48.0**	**-1.0**
	comp=Z,5.1nm,0.7s,mb4.7,baz=170,slow=8.9,SNR=31						
MAJO	**Matsushiro**	**50.37**	**338**	*e*P	**P**	**16 05 47.9**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
MAJO	**Matsushiro**	**50.37**	**338**	*e*P	**P**	**16 05 47.9**	**-1.2**
	comp=Z,6.9nm,0.6s,mb4.9						
MAT	**Matsushiro**	**50.37**	**338**	P	**P**	**16 05 48.2**	**-0.9**
KSM	**Kuching**	**50.41**	**280**	*e*P	**P**	**16 05 49.1**	**-0.8**
KSRS	**Korea Array**	**55.67**	**330**	P	**P**	**16 06 28.6**	**+0.5**
	comp=Z,7.2nm,1.0s,mb4.7,baz=150,slow=7.9,SNR=28						
KSRS	**Korea Array**	**55.67**	**330**	*e*P	**P**	**16 06 28.6**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
QIZ	**Qiongzhong**	**56.88**	**300**	P	**P**	**16 06 36.9**	**-0.3**
	comp=Z,23nm,1.2s,mb5.1						
NJ2	**Nanjing**	**57.07**	**319**	*e*P	**P**	**16 06 39.8**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
YSS	**Yuzh-Sakhalins**	**58.53**	**346**	*e*P	**P**	**16 06 47.5**	**-0.7**
YSS				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
CN2	**Changchun**	**61.79**	**332**	*e*P	**P**	**16 07 10.8**	**+0.2**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
PETK	**Petropavlovsk-**	**62.74**	**359**	P	**P**	**16 07 17.0**	**+0.3**
	comp=Z,19nm,0.9s,mb5.2,baz=153,slow=7.5,SNR=14						
PETK	**Petropavlovsk-**	**62.74**	**359**	P	**P**	**16 07 17.0**	**+0.2**
GYA	**Guiyang**	**62.85**	**306**	P	**P**	**16 07 20.8**	**+2.7**
GYA				PCP	PcP	16 07 58.3	+1.9
GYA				PP	PP	16 09 40.8	+4.2
GYA				SCP	ScP	16 11 58.3	+0.2
GYA				S	**S**	**16 15 47.4**	**+0.2**
GYA				PS		16 16 06.3	
GYA				SKS		16 17 08.9	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,460nm,19.6s,MS4.8						
GYA				LR	LR		
	comp=E,420nm,20.2s,MS4.8						
GYA				LR	LR		
	comp=Z,440nm,19.1s,MS4.7						
KLR	**Kul'dur**	**63.74**	**340**	*e*P	**P**	**16 07 20.0**	**-3.5**
XAN	**Xi'an**	**64.97**	**315**	P	**P**	**16 07 31.8**	**-0.1**
XAN				AP	pP	16 07 38.8	+1.2
XAN				XP	sP	16 07 42.8	+3.1
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
XAN				AMB	AMB		
	comp=Z,55nm,6.3s						
XAN				LR	LR		
	comp=N,134nm,19.2s						
XAN				LR	LR		
	comp=Z,248nm,21.7s,MS4.4						
KMI	**Kunming**	**65.44**	**303**	P	**P**	**16 07 36.5**	**+1.4**
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.8						
CM31	**Chiang Mai Arr**	**66.17**	**295**	*e*P	**P**	**16 07 40.6**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.5						
CMAR	**Chiang Mai Arr**	**66.17**	**295**	P	**P**	**16 07 41.0**	**+1.0**
	comp=Z,5.8nm,0.7s,mb4.7,baz=120,slow=5.0,SNR=33						
CHTO	**Chiang Mai**	**66.30**	**296**	*e*P	**P**	**16 07 40.4**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.9						
CHTO	**Chiang Mai**	**66.30**	**296**	*e*P	**P**	**16 07 40.4**	**-0.4**
	comp=Z,20nm,1.6s,mb4.9						
CD2	**Chengdu**	**67.18**	**309**	P	**P**	**16 07 46.4**	**+0.2**
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
VNDA	**Vanda**	**67.65**	**179**	P	**P**	**16 07 48.8**	**+0.4**
	comp=Z,1.7nm,0.9s,mb4.1,baz=335,slow=7.5,SNR=10						
VNDA	**Vanda**	**67.65**	**179**	*e*P	**P**	**16 07 49.1**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**67.65**	**179**	*e*P	**P**	**16 07 49.1**	**+0.6**
	comp=Z,1.7nm,0.7s,mb4.2						
LZH	**Lanzhou**	**69.59**	**314**	*e*P	**P**	**16 08 03.5**	**+2.3**
LZH				AP	pP	16 08 11.1	+4.2
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,196nm,4.8s						
GTA	**Gaotai**	**73.98**	**316**	*e*P	**P**	**16 08 28.8**	**+1.3**
GTA				AP	pP	16 08 33.3	+0.1
GTA				XP	sP	16 08 35.8	+0.5
GTA				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
SONM	**Songino Array**	**74.25**	**326**	P	**P**	**16 08 29.8**	**+0.9**
	comp=Z,6.0nm,0.7s,mb4.6,baz=141,slow=5.8,SNR=29						
SONM	**Songino Array**	**74.25**	**326**	*e*P	**P**	**16 08 29.7**	**+0.8**
SONM				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YAK	**Yakutsk**	**75.38**	**346**	*e*P	**P**	**16 08 33.9**	**-1.2**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK	**Yakutsk**	**75.38**	**346**	*e*P	**P**	**16 08 34.7**	**-0.4**
	comp=E,29nm,0.7s,mb5.3						
BOD	**Bodaibo**	**77.00**	**337**	*e*P	**P**	**16 08 43.7**	**-0.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
OHAK	**Old Harbor**	**77.14**	**24**	*e*P	**P**	**16 08 44.8**	**-0.5**
	comp=Z,43nm,1.6s,mb5.1						
ZAK	**Zakamensk**	**77.37**	**327**	*e*P	**P**	**16 08 42.6**	**-4.1**
BILL	**Bilibino**	**77.84**	**3⇓**	*e*P	**P**	**16 08 49.3**	**+0.4**
BILL						16 08 57.0	
BILL				pmax	pmax		
	comp=Z,23nm,1.8s,mb4.8						
BILL	**Bilibino**	**77.84**	**3**	*e*P	**P**	**16 08 48.4**	**-0.6**
	comp=Z,29nm,1.2s,mb5.1						
TLY	**Talaya**	**77.89**	**328**	P	**P**	**16 08 49.4**	**-0.1**
	comp=Z,3.1nm,0.9s,mb4.2						
SVW2	**Sparrevohn**	**78.97**	**20**	*e*P	**P**	**16 08 55.5**	**+0.2**
TTA	**Tatalina**	**80.14**	**19**	*e*P	**P**	**16 09 01.8**	**+0.2**
TTA				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
TTA	**Tatalina**	**80.14**	**19**	*e*P	**P**	**16 09 01.8**	**+0.2**
	comp=Z,24nm,1.2s,mb5.0						
HVS	**Khovu-Aksy**	**83.06**	**325**	*e*P	**P**	**16 09 18.2**	**+0.9**
IMA2	**Indian Mountai**	**83.07**	**17**	*e*P	**P**	**16 09 16.6**	**-0.5**
MAW	**Mawson**	**83.55**	**203**	P	**P**	**16 09 19.6**	**0.0**
	comp=Z,2.8nm,1.0s,mb4.3,baz=97,slow=6.5,SNR=5.1						
MAW	**Mawson**	**83.55**	**203**	*e*P	**P**	**16 09 20.1**	**+0.5**
MAW				pmax	pmax		
	comp=Z,11nm,1.4s						
MAW	**Mawson**	**83.55**	**203**	*e*P	**P**	**16 09 20.1**	**+0.5**
	comp=Z,11nm,1.4s,mb4.8						
COLA	**College**	**84.12**	**20**	*e*P	**P**	**16 09 20.9**	**-1.6**
COLD	**Coldfoot**	**84.88**	**17**	P	**P**	**16 09 26.4**	**+0.1**
	comp=Z,70nm,1.1s,mb5.7						
HYT	**Haines Junctio**	**85.86**	**26**	*e*P	**P**	**16 09 32.0**	**+0.7**
EGAK	**Eagle**	**86.41**	**22**	*e*P	**P**	**16 09 34.1**	**+0.2**
	comp=Z,11nm,1.2s,mb5.0						
KRMB	**Red Mountain**	**86.48**	**47**	*e*P	**P**	**16 09 33.5**	**-1.4**
YBH	**Yreka Blue Hor**	**87.41**	**47**	P	**P**	**16 09 40.3**	**+1.0**
	comp=Z,1.2nm,0.7s,mb4.2,baz=266,slow=2.3,SNR=3.7						
MK31	**Makanchi Array**	**88.60**	**318**	*e*P	**P**	**16 09 44.3**	**-0.6**
MKAR	**Makanchi Array**	**88.60**	**318**	P	**P**	**16 09 44.5**	**-0.3**
	comp=Z,3.7nm,0.7s,mb4.8,baz=96,slow=6.3,SNR=28						
MKAR	**Makanchi Array**	**88.60**	**318**	*e*P	**P**	**16 09 44.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**89.13**	**325**	P	**P**	**16 09 46.2**	**-1.0**
	comp=Z,1.3nm,0.5s,mb4.5,baz=97,slow=6.3,SNR=6.9						
ZAL	**Zalesovo**	**89.14**	**325**	P	**P**	**16 09 46.3**	**-1.0**
NVAR	**Mina Array Bea**	**89.89**	**51**	P	**P**	**16 09 52.3**	**+1.2**
	comp=Z,1.1nm,0.8s,mb4.2,baz=240,slow=7.2						
KURK	**Kurchatov**	**91.93**	**321**	*e*P	**P**	**16 09 58.7**	**-1.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.6						
BMO	**Blue Mountains**	**91.98**	**45**	*e*P	**P**	**16 10 01.1**	**+0.4**
BMO				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.4						
BMO	**Blue Mountains**	**91.98**	**45**	*e*P	**P**	**16 10 01.1**	**+0.4**
	comp=Z,2.3nm,1.0s,mb4.5						
TKM2	**Tokmak 2**	**92.32**	**313**	P	**P**	**16 10 01.7**	**-0.7**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.3						
TKM2	**Tokmak 2**	**92.32**	**313**	P	**P**	**16 10 01.7**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.4						
ELK	**Elko**	**92.67**	**49**	P	**P**	**16 10 05.2**	**+1.2**
	comp=Z,0.4nm,0.3s,mb4.3,baz=205,slow=2.7,SNR=3.8						
YKA	**Yellowknife Ar**	**96.69**	**28**	P	**P**	**16 10 21.0**	**-0.9**
	comp=Z,0.7nm,0.6s,mb4.2,baz=262,slow=4.5,SNR=7.6						
PDAR	**Pinedale Array**	**97.18**	**48**	P	**P**	**16 10 24.9**	**+0.3**
	comp=Z,0.7nm,0.8s,mb4.1,baz=316,slow=4.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**158.17**	**281**	PKP	PKPdf	16 16 49.4	-0.6
	comp=Z,0.5nm,0.8s,baz=0.2,slow=2.5,SNR=2.9						
TORD				PKPab	PKPab	16 17 24.0	+0.1
	comp=Z,0.9nm,0.8s,baz=87,slow=5.0,SNR=4.6						

THR ***16*** *15:58:40.6±0.3, 2685N×5474E, h46km±3km, ML3.2*
ISCJB ***16*** *15:58:41.7±1.2, 27.1N±0.1×5474E±004, h10km, Error ellipse: s-maj=19.7km s-min=5.4km az=5.5*
CSEM ***16*** *15:58:41.5±0.3, 27.16N×5476E, h12km, ML2.9, Error ellipse: s-maj=10.8km s-min=2.8km az=2.0*
KISR ***16*** *15:58:47.7, 2760N×5416E, h6km, ML2.9*

ISC 16 15:58:43.7±1.2, 271N±01×5478E±005, h10km, n9, σ0s75/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.26**	**78**	*e*Pg	**Pn**	**15 59 06.3**	**-1.1**
BNDS				*e*Sg	**Sg**	**15 59 25.2**	**+0.7**
BNDS				AML	AML	15 59 31.1	
	comp=N,358nm,0.6s						
BNDS	**Bandar-Abbas**	**1.26**	**78**	*e*Pg	**Pn**	**15 59 06.3**	**-1.1**
	SNR=103						
BNDS				*e*Sg	**Sg**	**15 59 25.2**	**+0.8**
	SNR=103						
GHIR	**Ghir-Karzin**	**1.96**	**306**	*e*Pg	**Pn**	**15 59 18.6**	**+1.7**
GHIR				*e*Sg	**Sg**	**15 59 46.3**	**-0.3**
GHIR				AML	AML	15 59 51.9	
	comp=E,212nm,0.5s						
GHIR				AML	AML	15 59 55.6	
	comp=N,162nm,0.5s						
GHIR	**Ghir-Karzin**	**1.96**	**306**	*e*Pg	**Pn**	**15 59 18.6**	**+1.6**
	SNR=98						
GHIR				*e*Sg	**Sg**	**15 59 46.3**	**-0.3**
	SNR=98						
KRBR	**Kerman**	**3.32**	**31**	*e*Pn	**Pn**	**15 59 35.2**	**-0.5**
KRBR				AML	AML	16 00 35.0	
	comp=N,28nm,0.5s						
RDF	**Al-Radifah**	**6.63**	**287**	*e*P	**Pn**	**16 00 21.6**	**+0.3**
	baz=284						
RDF				*e*S	**Sn**	**16 01 31.3**	**-5.6**
	baz=284						
RDF				AML	AML	16 01 35.1	
	comp=Z,5.0nm,0.3s,baz=284						
UMR	**Umm Al-Rimmam**	**6.67**	**293**	*e*P	**Pn**	**16 00 21.5**	**-0.3**
NAY	**Al-Naaiem**	**6.97**	**289**	*e*P	**Pn**	**16 00 25.9**	**-0.1**
	baz=287						
NAY				*e*S	**Sn**	**16 01 40.0**	**-5.4**
	baz=287						
NAY				AML	AML	16 01 42.1	
	comp=Z,3.0nm,0.6s,baz=287						
MIB	**Mutribah**	**7.07**	**294**	*e*P	**Pn**	**16 00 27.0**	**-0.2**

ISCJB ***16*** *16:09:27.5±0.6, 1098N±003×6236W±003, h111km±6km, Error ellipse: s-maj=5.9km s-min=4.3km az=159.1*
FUNV ***16*** *16:09:28.3, 1104N×6223W, h104km, MW3.5*
TRN ***16*** *16:09:30.0, 1100N×6229W, h102km, MD3.6*
NEIC ***16*** *16:09:30.0, 1103N×6228W, h102km, MD3.6(TRN), After TRN.*

ISC 16 16:09:28.4±0.6, 1098N±003×6235W±003, h106km±6km, n25, σ0s86/43, 9C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.35**	**159⇑**	*e*P	**Pn**	**16 09 44.2**	**+0.1**
GUIV				*e*S	**Sn**	**16 09 54.8**	**-0.9**
TCE	**Chacachacare**	**0.65**	**115⇑**	*i*P	**Pn**	**16 09 46.9**	**+0.9**
TCE				*e*S	**Sn**	**16 09 58.8**	**-0.4**
ITEV	**Isla Los Testi**	**0.85**	**296⇓**	*i*P	**Pn**	**16 09 47.9**	**0.0**
ITEV				*e*S	**Sn**	**16 10 01.7**	**-0.8**
CRUV	**Carupano**	**0.92**	**251⇑**	*i*P	**Pn**	**16 09 48.9**	**+0.4**
CRUV				*e*S	**Sn**	**16 10 03.5**	**-0.1**
TRN	**Trinidad (W)**	**0.99**	**109⇑**	*i*P	**Pn**	**16 09 50.4**	**+1.2**
TRN				*e*S	**Sn**	**16 10 04.7**	**-0.1**
GUNV	**Guanoco**	**1.00**	**216**	*e*P	**Pn**	**16 09 50.3**	**+1.0**
GUNV				*e*S	**Sn**	**16 10 06.6**	**+1.5**
GRGR	**Grenville**	**1.33**	**31**	*e*Pn	**Pn**	**16 09 52.0**	**-1.1**
GRGR				*e*Sn	**Sn**	**16 10 06.8**	**-4.9**
TBH	**Brigand Hill**	**1.35**	**111⇑**	*i*P	**Pn**	**16 09 54.6**	**+1.3**
TBH				*e*S	**Sn**	**16 10 12.9**	**+0.8**
GRW	**Mount Saint Ca**	**1.35**	**30**	*e*P	**Pn**	**16 09 54.1**	**+0.8**
GRW				*e*S	**Sn**	**16 10 11.9**	**-0.3**
TPR	**Prospect**	**1.56**	**82⇑**	*i*P	**Pn**	**16 09 56.6**	**+0.9**
TPR				*e*S	**Sn**	**16 10 15.7**	**-0.8**
TOSP	**Speyside**	**1.81**	**80⇑**	*i*P	**Pn**	**16 09 58.6**	**-0.3**
TOSP				*e*S	**Sn**	**16 10 20.6**	**-1.5**
ORIV	**Oritupano**	**2.16**	**209**	*e*P	**Pn**	**16 10 04.0**	**+0.7**
ORIV				*e*S	**Sn**	**16 10 30.5**	**+0.4**
IBAV	**Isla La Blanqu**	**2.34**	**291⇑**	*i*P	**Pn**	**16 10 05.7**	**+0.1**
IBAV				*e*S	**Sn**	**16 10 33.1**	**-1.1**
PCRV	**Puerto La Cruz**	**2.38**	**251⇑**	*e*P	**Pn**	**16 10 07.0**	**+0.8**
PCRV				*e*S	**Sn**	**16 10 35.7**	**+0.5**
SVB	**Belmont**	**2.52**	**25**	*e*P	**Pn**	**16 10 08.4**	**+0.4**
SVB				*e*S	**Sn**	**16 10 38.7**	**+0.3**
RIOV	**Rio Grande**	**2.94**	**170**	*e*P	**Pn**	**16 10 13.5**	**-0.1**
RIOV				*e*S	**Sn**	**16 10 45.7**	**-2.6**
PRGV	**PARIAGUAN**	**3.16**	**226**	*e*P	**Pn**	**16 10 16.7**	**+0.2**
GURV	**El Guri**	**3.28**	**193⇓**	*i*P	**Pn**	**16 10 18.1**	**0.0**
CUPV	**Ccepira**	**3.50**	**255**	*e*P	**Pn**	**16 10 21.9**	**+0.9**
BIRV	**Birongo**	**3.88**	**263**	*e*P	**Pn**	**16 10 26.8**	**+0.7**
MERV	**Las Mercedes**	**4.25**	**247**	*e*P	**Pn**	**16 10 30.9**	**-0.1**
MERV				*e*S	**Sn**	**16 11 17.8**	**-1.9**
LUEV	**Luepa**	**5.18**	**170**	*e*P	**Pn**	**16 10 42.5**	**-1.2**
LUEV				*e*S	**Sn**	**16 11 36.7**	**-5.5**
CAOV	**Caicara del Or**	**5.34**	**228**	*e*P	**Pn**	**16 10 45.0**	**-0.9**
TURV	**Turiamo**	**5.42**	**265**	*e*P	**Pn**	**16 10 47.5**	**+0.5**
BAUV	**El Baul**	**5.96**	**251**	*e*P	**Pn**	**16 10 53.2**	**-1.1**

IDC 16 16:11:44.7±2.5, 292N×6652E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/22, mbtmp3.9/4, Error ellipse: s-maj=87.0km s-min=33.5km az=66.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**53.04**	**13**	P	P	16 21 01.9	-1.4
	0.4nm,0.3s,baz=197,slow=8.9,SNR=3.8						
SONM	**Songino Array**	**56.37**	**31**	P	P	16 21 28.9	+1.2
	1.0nm,1.0s,baz=224,slow=8.0,SNR=5.3						
WRA	**Warramunga Arr**	**70.27**	**112**	P	P	16 23 00.7	+0.3
	1.4nm,0.9s,baz=288,slow=5.7,SNR=4.6						
ASAR	**Alice Springs**	**70.61**	**116**	P	P	16 23 02.2	-0.2
	0.8nm,1.1s,baz=287,slow=6.4,SNR=2.6						
TXAR	**Lajitas Array**	**146.58**	**344**	PKPbc	PKPbc	16 31 28.6	-0.3
	0.9nm,0.7s,baz=66,slow=2.2,SNR=6.8						

ISCJB ***16*** *15:40.4±1.9, 6.1S±0.1×1075E±01, h385km±21km, mb3.5/11, Error ellipse: s-maj=25.2km s-min=9.2km az=140.0*
NEIC ***16*** *16:15:41.6±2.0, 608S×10757E, h379km±21km, mb3.9/3, Error ellipse: s-maj=35.6km s-min=7.6km az=61.0*
IDC ***16*** *16:15:43.5±5.6, 606S×10756E, h398km±69km, mb3.1/9, mb1 3.2/10, mb1mx3.1/20, mbtmp3.2/10, Error ellipse: s-maj=33.7km s-min=12.6km az=61.0*

ISC 16 16:15:42.3±1.8, 61S±01×1076E±01, h385km±19km, n18, σ0s81/19, mb3.5/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**7.95**	**20**	*e*Pn	**Pn**	**16 17 36.4**	**-0.2**
BATI	**Baumata**	**16.41**	**106**	P	**P**	**16 19 12.4**	**+1.5**
	2.9nm,0.3s,baz=290,slow=13,SNR=5.1

RUS	**Russkaya**	**1.92**	**227**	*e*P	**Pn**	**16 21 32.0 -0.3**
RUS				*i* S	**Sn**	**16 21 54.6 -0.8**
PETK	**Petropavlovsk-**	**1.97**	**252**	P	**Pn**	**16 21 33.9 +1.0**
	comp=N,32nm,0.3s,baz=73,slow=20,SNR=765					
PETK				S	**Sn**	**16 21 59.0 +2.4**
	comp=N,46nm,0.3s,baz=64,slow=20,SNR=12					
KMNR	**Kamenistaya**	**2.02**	**351**	*e*P	**Pn**	**16 21 34.0 +0.4**
KMNR				*i* S	**Sn**	**16 21 58.0 +0.3**
GRL	**Gorelyy**	**2.05**	**235**	*e*P	**Pn**	**16 21 34.6 +0.7**
GRL				*i* S	**Sn**	**16 21 59.6 +1.2**
BZMR	**Bezymyannaya**	**2.18**	**355**	*e*P	**Pn**	**16 21 36.1 +0.4**
KIRR	**Kirishev**	**2.21**	**353**	*e*P	**Pn**	**16 21 36.4 +0.3**
KIRR				*i* S	**Sn**	**16 22 03.5 +1.3**
KPT	**Kopyto**	**2.23**	**352**	*e*P	**Pn**	**16 21 36.2 -0.2**
ZLN	**Zelenaya**	**2.25**	**0**	*e*P	**Pn**	**16 21 37.2 +0.5**
ZLN				*i* S	**Sn**	**16 22 04.1 +0.7**
CIRR	**Tsirk**	**2.35**	**359**	*e*P	**Pn**	**16 21 38.6 +0.5**
CIRR				*i* S	**Sn**	**16 22 07.3 +1.5**
KOZ	**Kozyrevsk**	**2.36**	**347**	*e*P	**Pn**	**16 21 38.3 +0.2**
KOZR	**Kozyr**	**2.36**	**348**	PN	**Pn**	**16 21 38.3 +0.1**
KRSR	**Krestovskiy**	**2.46**	**357**	*e*P	**Pn**	**16 21 39.7 +0.2**
KRSR				*i* S	**Sn**	**16 22 08.9 +0.5**
KLY	**Klyuchi**	**2.55**	**358**	*e*P	**Pn**	**16 21 40.6 -0.2**
KLY				*i* S	**Sn**	**16 22 10.0 -0.7**
SRDR	**Sredinnyy**	**2.63**	**347**	*e*P	**Pn**	**16 21 41.5 -0.4**
SRDR				*i* S	**Sn**	**16 22 12.5 -0.1**
KBTR	**Krutoberegovo**	**2.71**	**25**	*e*P	**Pn**	**16 21 42.2 -0.7**
KBTR				*i* S	**Sn**	**16 22 12.9 -1.5**
BDR	**Baidarnaya**	**2.81**	**5**	*e*P	**Pn**	**16 21 44.8 +0.4**
BDR				*i* S	**Sn**	**16 22 17.5 +0.4**
SMKR	**Semkarok**	**2.84**	**7**	*e*P	**Pn**	**16 21 44.8 0.0**
SMKR				*i* S	**Sn**	**16 22 18.0 +0.2**
MIPR	**Malaya Ipel'ka**	**2.86**	**240**	*e*P	**Pn**	**16 21 46.4 +1.3**
SRKR	**Sorokina**	**2.90**	**4**	*e*P	**Pn**	**16 21 45.6 +0.1**
YAK	**Yakutsk**	**18.33**	**309**	*e*P	**Pn**	**16 25 09.5 -1.8**
YAK				pmax	pmax	
	comp=Z,15nm,0.8s					
YAK	**Yakutsk**	**18.33**	**309**	*e*P	**Pn**	**16 25 09.5 -1.8**
	comp=Z,15nm,0.8s					
YAK				*e*		16 25 24.2
UNV	**Unalaska Valle**	**19.22**	**76**	P	**Pn**	**16 25 21.0 -1.0**
MAJO	**Matsushiro**	**23.30**	**231**	*e*P	**P**	**16 26 04.7 +0.6**
MAJO				pmax	pmax	
	comp=Z,7.0nm,0.8s,mb4.1					
MAJO	**Matsushiro**	**23.30**	**231**	*e*P	**P**	**16 26 04.7 +0.6**
	comp=Z,7.1nm,0.8s,mb4.2					
MAT	**Matsushiro**	**23.30**	**231**	P	**P**	**16 26 05.0 +0.9**
MAT				*e*S	**S**	**16 30 12.6 +1.0**
MJAR	**Matsushiro Arr**	**23.30**	**231**	P	**P**	**16 26 05.0 +0.9**
	comp=Z,5.2nm,0.8s,mb4.0,baz=21,slow=11,SNR=30					
MJAR				S	**S**	**16 30 04.2 -7.3**
	comp=Z,0.4nm,0.3s,baz=27,slow=24,SNR=6.0					
KDAK	**Kodiak Island**	**26.11**	**62**	P	**P**	**16 26 32.5 +3.1**
	comp=Z,5.2nm,1.3s,mb3.9,baz=260,slow=18,SNR=2.6					
BOD	**Bodaibo**	**26.20**	**298**	*e*P	**P**	**16 26 28.3 -1.9**
BOD				pmax	pmax	
	comp=Z,3.0nm,1.8s,mb3.5					
BOD				pmax	pmax	
	comp=Z,4.0nm,1.2s,mb3.8					
KSRS	**Korea Array**	**27.87**	**248**	P	**P**	**16 26 46.3 +0.9**
	comp=Z,0.6nm,0.6s,mb3.4,baz=44,slow=9.3,SNR=4.8					
KSRS	**Korea Array**	**27.87**	**248**	P	**P**	**16 26 46.3 +0.9**
KSRS				pmax	pmax	
	comp=Z,1.0nm,0.6s,mb3.6					
SONM	**Songino Array**	**34.16**	**283**	P	**P**	**16 27 40.1 -0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=60,slow=8.5,SNR=2.7					
SONM				PcP	PcP	16 30 17.3 +1.1
	comp=Z,0.6nm,0.9s,baz=48,slow=2.1,SNR=3.0					
YKA	**Yellowknife Ar**	**42.38**	**43**	P	**P**	**16 28 49.7 +0.3**
	comp=Z,0.5nm,0.5s,mb3.4,baz=298,slow=7.8,SNR=6.4					
YKA	**Yellowknife Ar**	**42.38**	**43**	P	**P**	**16 28 49.7 +0.3**
LZH	**Lanzhou**	**42.77**	**269**	*e*P	**P**	**16 28 52.0 -0.9**
LZH				AP	pP	16 29 07.1 -1.6
LZH				XP	sP	16 29 15.0 -1.0
LZH				AMB	AMB	
	comp=Z,18nm,1.3s,mb4.6					
ZALV	**Zalesovo Beam**	**42.77**	**302**	P	**P**	**16 28 50.8 -1.9**
	comp=Z,0.3nm,0.3s,mb3.5,baz=76,slow=6.1,SNR=2.1					
ZAL	**Zalesovo**	**42.79**	**302**	P	**P**	**16 28 50.8 -2.0**
GTA	**Gaotai**	**42.95**	**276**	*e*P	**P**	**16 28 55.0 +0.6**
GTA				AMB	AMB	
	comp=Z,3.0nm,1.5s,mb3.8					
NVS	**Novosibirsk**	**43.08**	**304**	*e*P	**P**	**16 28 52.4 -2.8**
CD2	**Chengdu**	**46.46**	**264**	*e*P	**P**	**16 29 21.8 -0.6**
CD2				AMB	AMB	
	comp=Z,10.0nm,0.7s,mb4.8					
CD2				AMB	AMB	
	comp=Z,20nm,4.8s					
KURK	**Kurchatov**	**47.74**	**302**	*e*P	**P**	**16 29 29.3 -2.8**
KURK				pmax	pmax	
	comp=Z,1.0nm,0.4s,mb4.2					
KURK	**Kurchatov**	**47.74**	**302**	*e*P	**P**	**16 29 29.3 -2.8**
	comp=Z,1.4nm,0.4s,mb4.3					
GYA	**Guiyang**	**48.06**	**258**	P	**P**	**16 29 36.0 +1.2**
GYA				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.9					
MKAR	**Makanchi Array**	**48.25**	**296**	P	**P**	**16 29 34.2 -1.9**
	comp=Z,0.4nm,0.4s,mb3.8,baz=55,slow=6.8,SNR=4.9					
MKAR	**Makanchi Array**	**48.25**	**296**	P	**P**	**16 29 34.2 -1.9**
BRVK	**Borovoye**	**50.33**	**308**	P	**P**	**16 29 50.2 -1.6**
BRVK				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.4					
BRVK	**Borovoye**	**50.33**	**308**	P	**P**	**16 29 50.2 -1.7**
	comp=Z,2.7nm,0.8s,mb4.3					
ARCES	**ARCESS Array B**	**52.78**	**342**	P	**P**	**16 30 08.9 -0.9**
	comp=Z,1.8nm,0.8s,mb4.0,baz=31,slow=9.2,SNR=6.2					
SUMG	**Summit**	**53.24**	**7**	*e*P	**P**	**16 30 13.2 0.0**
	comp=Z,3.6nm,0.9s,mb4.3					
NVAR	**Mina Array Bea**	**55.12**	**71**	P	**P**	**16 30 30.0 +2.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=304,slow=6.9,SNR=7.1					
PDAR	**Pinedale Array**	**56.83**	**62**	P	**P**	**16 30 40.5 +1.0**
	comp=Z,0.5nm,0.8s,mb3.6,baz=298,slow=3.2,SNR=4.1					
CMAR	**Chiang Mai Arr**	**58.74**	**258**	P	**P**	**16 30 54.0 +0.9**
	comp=Z,0.2nm,0.3s,mb3.6,baz=17,slow=7.4,SNR=4.1					
NOA	**NORSAR Array B**	**63.01**	**344**	P	**P**	**16 31 21.0 -0.6**
	comp=Z,0.8nm,0.4s,mb4.2,baz=22,slow=6.8,SNR=3.7					
NOA	**NORSAR Array B**	**63.01**	**344**	P	**P**	**16 31 21.0 -0.6**
AKASG	**Malin Array Be**	**68.25**	**329**	P	**P**	**16 31 54.6 -0.9**
	comp=Z,2.4nm,0.7s,mb4.4,baz=29,slow=6.6,SNR=7.6					
TXAR	**Lajitas Array**	**69.98**	**68**	P	**P**	**16 32 07.5 +1.0**
	comp=Z,1.3nm,0.7s,mb3.9,baz=295,slow=3.8,SNR=8.2					
KHC	**Kasperske Hory**	**73.80**	**338**	*e*P	**P**	**16 32 30.0 +0.9**
GERES	**GERESS Array B**	**74.05**	**338**	P	**P**	**16 32 30.8 +0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=26,slow=3.4,SNR=8.5					
WRA	**Warramunga Arr**	**76.87**	**205**	P	**P**	**16 32 47.8 +0.8**
	comp=Z,0.7nm,0.8s,mb3.6,baz=17,slow=6.0,SNR=5.6					
ASAR	**Alice Springs**	**80.55**	**205**	P	**P**	**16 33 08.8 +1.7**
	comp=Z,1.2nm,0.8s,mb3.9,baz=16,slow=6.8,SNR=12					
LPAZ	**La Paz**	**126.79**	**65**	PKP	PKPdf	16 40 00.9 +2.8
	comp=Z,0.6nm,0.6s,baz=304,slow=3.6,SNR=4.7					

*IDC **16** 16:38:34.5±1.8, 977S×1596.7E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/17, mbtmp3.9/5, ML3.4/1, Error ellipse: s-maj=65.0km s-min=11.7km az=138.0*
*ISCJB **16** 16:38:36.4±4.6, 100S±02×1599E±06, h35km±21km, mb3.9/5, Error ellipse: s-maj=112.8km s-min=17.3km az=20.0*
*NEIC **16** 16:38:37.1±1.2, 985S×1595.5E, h10km, mb4.4/1, Error ellipse: s-maj=49.8km s-min=9.7km az=136.0*
ISC 16 16:38:37.3±3.7, 100S±02×1600E±05, h31km±10km, n9, σ0°56/13, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.54**	**358**	Pn	**Pn**	**16 38 48.5**	**-0.3**
	baz=244,slow=6.1						
HNR				Sn	**Sn**	**16 38 56.3**	**-0.4**
	17μm,0.3s,baz=248,slow=16,SNR=136						
HNR	**Honiara**	**0.54**	**358**	*e*Pg	**Pb**	**16 38 48.4**	**+0.1**
HNR				Pn	**Pn**	**16 38 48.5**	**-0.3**
HNR				*e*Sg	**Sb**	**16 38 55.9**	**+0.1**
HNR				Sn	**Sn**	**16 38 56.3**	**-0.4**
CTA	**Charters Tower**	**16.62**	**231**	Pn	**Pn**	**16 42 27.6**	**-0.5**
	0.1nm,0.3s,baz=62,slow=8.4,SNR=1.8						
WRAB	**Tennant Creek**	**26.62**	**245**	*e*P	**P**	**16 44 13.1**	**-0.2**
	9.4nm,1.0s,mb4.3						
WB2	**Warramunga Arr**	**26.62**	**245**	*e*P	**P**	**16 44 13.4**	**+0.1**
WRA	**Warramunga Arr**	**26.64**	**245**	P	**P**	**16 44 13.4**	**0.0**
	4.2nm,0.7s,mb4.1,baz=71,slow=9.7,SNR=21						
ASAR	**Alice Springs**	**28.36**	**238**	P	**P**	**16 44 28.4**	**-0.4**
	0.6nm,0.4s,mb3.6,baz=68,slow=10,SNR=19						
CMAR	**Chiang Mai Arr**	**66.50**	**295**	P	**P**	**16 49 26.2**	**+1.7**
	1.1nm,0.9s,mb3.9,baz=105,slow=7.1,SNR=4.0						
SONM	**Songino Array**	**74.51**	**326**	P	**P**	**16 50 12.7**	**-0.1**
	0.4nm,0.7s,mb3.5,baz=122,slow=7.0,SNR=2.6						

*ISCJB **16** 16:39:29.2±3.0, 1620S±007×1682E±02, h181km±24km, mb4.4/34, Error ellipse: s-maj=24.6km s-min=12.0km az=176.5*
*IDC **16** 16:39:29.2±2.6, 1617S×1681E, h163km±21km, mb4.1/19, mb1 4.1/19, mb1mx4.0/24, mbtmp4.1/19, Error ellipse: s-maj=19.8km s-min=12.3km az=91.0*
*NEIC **16** 16:39:31.6±2.6, 1619S×1681.7E, h186km±20km, mb4.4/12, Error ellipse: s-maj=17.7km s-min=10.2km az=91.0*
*BJI **16** 16:39:31.2, 1554S×1686.1E, h186km, mB4.8, mb4.6*
ISC 16 16:39:30.7±2.9, 1618S±007×1682E±01, h175km±23km, h207km±.3km:pP-P, n84, σ0°96/41, mb4.4/34, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**10.46**	**309**	Pn	**Pn**	**16 41 57.3**	**+0.9**
CTA	**Charters Tower**	**21.19**	**256**	*e*P	**P**	**16 44 03.7**	**+1.1**
	2.7nm,0.6s,mb3.8						
CTA	**Charters Tower**	**21.19**	**256**	P	**P**	**16 44 02.7**	**+0.1**
	3.8nm,0.6s,mb3.9,baz=99,slow=11,SNR=6.7						
CTAO	**Charters Tower**	**21.19**	**256**	*e*P	**P**	**16 44 02.8**	**+0.2**
	9.7nm,1.0s,mb4.1						
PMG	**Port Moresby**	**21.56**	**286**	*e*P	**P**	**16 44 07.0**	**+0.4**
	36nm,0.9s,mb4.8						
RPZ	**Rata Peaks**	**27.55**	**175**	P	**P**	**16 45 00.2**	**-0.9**
	8.8nm,0.7s,mb4.6,baz=0.0,slow=4.0,SNR=3.6						
STKA	**Stephens Creek**	**28.76**	**232**	P	**P**	**16 45 11.3**	**-0.7**
	3.0nm,0.7s,mb4.2,baz=79,slow=12,SNR=4.7						
STKA				PcP	PcP	16 48 18.1	+0.5
	3.4nm,1.0s,baz=60,slow=3.1,SNR=3.6						
STKA	**Stephens Creek**	**28.76**	**232**	P	**P**	**16 45 11.8**	**-0.2**
WRAB	**Tennant Creek**	**32.34**	**258**	P	**P**	**16 45 42.6**	**-1.1**
	18nm,1.5s,mb4.6						
WRA	**Warramunga Arr**	**32.35**	**258**	P	**P**	**16 45 42.2**	**-1.6**
	0.5nm,0.3s,mb3.7,baz=83,slow=7.6,SNR=12						
WRA				PcP	PcP	16 48 27.2	-0.2
	0.3nm,0.8s,baz=84,slow=2.7,SNR=4.8						
WRA				ScP	ScP	16 51 54.7	-0.1
	1.1nm,0.8s,baz=87,slow=3.1,SNR=5.5						
ASAR	**Alice Springs**	**33.01**	**251**	P	**P**	**16 45 48.5**	**-1.0**
	10nm,0.5s,mb4.8,baz=79,slow=9.2,SNR=193						
ASAR				PcP	PcP	16 48 28.2	-0.9
	0.5nm,0.6s,baz=81,slow=3.6,SNR=5.0						
ASAR				ScP	ScP	16 51 56.9	0.0
	2.0nm,0.9s,baz=87,slow=3.8,SNR=11						
FITZ	**Fitzroy Crossi**	**40.63**	**261**	*e*P	**P**	**16 46 53.5**	**-0.3**
	4.8nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.63**	**261**	P	**P**	**16 46 53.6**	**-0.3**
	2.5nm,0.3s,mb4.2,baz=82,slow=10,SNR=22						
BATI	**Baumata**	**43.67**	**272**	P	**P**	**16 47 18.9**	**+0.4**
	16nm,0.8s,mb4.7,baz=124,slow=7.3,SNR=4.1						
MBWA	**Marble Bar**	**46.02**	**256**	*e*P	**P**	**16 47 36.8**	**-0.2**
	6.4nm,0.8s,mb4.3						
CBIJ	**Chichi jima**	**49.87**	**329**	P	**P**	**16 48 04.7**	**-1.6**
	32nm,0.6s,mb5.1,baz=239,slow=19,SNR=7.5						
JOW	**Kunigami**	**57.70**	**317**	P	**P**	**16 49 03.6**	**+0.4**
	13nm,0.7s,mb4.9,baz=142,slow=12,SNR=3.5						
MJAR	**Matsushiro Arr**	**59.59**	**332**	P	**P**	**16 49 15.2**	**-0.8**
	4.9nm,0.8s,mb4.4,baz=168,slow=8.1,SNR=26						
MAJO	**Matsushiro**	**59.59**	**332**	*e*P	**P**	**16 49 14.5**	**-1.5**
	14nm,1.0s,mb4.7						
VNDA	**Vanda**	**61.44**	**182**	P	**P**	**16 49 28.4**	**+0.3**
	0.9nm,0.6s,mb3.8,baz=358,slow=7.8,SNR=7.6						
VNDA	**Vanda**	**61.44**	**182**	*e*P	**P**	**16 49 28.2**	**+0.2**
	2.4nm,0.9s,mb4.0						
SBA	**Scott Base**	**61.70**	**180**	*e*P	**P**	**16 49 31.8**	**+2.0**
	8.5nm,1.3s,mb4.4						
CASY	**Casey**	**62.52**	**203**	*e*P	**P**	**16 49 35.2**	**-0.1**
	3.6nm,0.7s,mb4.3						
ASAJ	**Asahikawa**	**64.40**	**340**	P	**P**	**16 49 48.6**	**+0.7**
	3.4nm,0.5s,mb4.4,baz=173,slow=17,SNR=5.1						
KSRS	**Korea Array**	**65.42**	**326**	P	**P**	**16 49 54.5**	**-0.2**
	1.6nm,0.8s,mb3.9,baz=135,slow=7.1,SNR=9.1						
PETK	**Petropavlovsk-**	**69.59**	**353**	P	**P**	**16 50 19.4**	**-1.1**
	2.9nm,0.9s,mb4.0,baz=138,slow=12,SNR=3.2						
MDJ	**Mudanjiang**	**69.97**	**332**	P	**P**	**16 50 22.9**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,52nm,5.6s						
CN2	**Changchun**	**71.33**	**329**	*e*P	**P**	**16 50 29.3**	**-2.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
GYA	**Guiyang**	**73.25**	**305**	P	**P**	**16 50 44.8**	**+1.8**
GYA				PCP	PcP	16 51 01.3	+2.7
GYA				AP	pP	16 51 33.8	+8.5
GYA				PP	PP	16 53 32.0	+3.1
GYA				S	S	16 59 54.5	-2.7
GYA				SKS		17 00 26.0	
GYA				SCS	ScS	17 00 30.8	-4.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
KMI	**Kunming**	**75.81**	**302**	P	**P**	**16 50 59.3**	**+1.5**
KMI				XP	sP	16 52 08.4	+9.5
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.3						
CMAR	**Chiang Mai Arr**	**76.33**	**294**	P	**P**	**16 51 01.6**	**+0.7**
	comp=Z,1.8nm,0.8s,mb3.8,baz=132,slow=4.6,SNR=9.0						
CHTO	**Chiang Mai**	**76.47**	**294**	*e*P	**P**	**16 51 01.6**	**-0.1**
	comp=Z,1.7nm,0.6s,mb3.9						
CD2	**Chengdu**	**77.58**	**307**	*e*P	**P**	**16 51 08.6**	**+1.0**
CD2				AP	pP	16 51 58.0	+7.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
CD2				AMB	AMB		
	comp=Z,20nm,6.2s						
LZH	**Lanzhou**	**79.94**	**312**	*e*P	**P**	**16 51 22.0**	**+1.7**
LZH				AP	pP	16 52 12.0	+8.7
LZH				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.5						
MAW	**Mawson**	**80.87**	**202**	P	**P**	**16 51 25.0**	**+0.2**
	comp=Z,2.2nm,0.9s,mb3.8,baz=50,slow=6.7,SNR=4.2						
SONM	**Songino Array**	**84.18**	**323**	P	**P**	**16 51 42.4**	**+0.3**
	comp=Z,4.2nm,0.8s,mb4.2,baz=139,slow=5.0,SNR=20						
GTA	**Gaotai**	**84.30**	**314**	*e*P	**P**	**16 51 43.6**	**+0.6**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
LSA	**Lhasa**	**87.07**	**302**	P	**P**	**16 51 57.2**	**+0.4**
	comp=Z,6.6nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**98.85**	**316**	P	**P**	**16 52 50.7**	**0.0**
	comp=Z,0.9nm,0.7s,mb4.3,baz=99,slow=6.3,SNR=4.7						
MKAR	**Makanchi Array**	**98.85**	**316**	P	**P**	**16 52 50.7**	**0.0**
ZALV	**Zalesovo Beam**	**99.07**	**324**	P	**P**	**16 52 50.8**	**-0.7**
	comp=Z,0.4nm,0.3s,mb4.3,baz=116,slow=6.8,SNR=3.7						
CPUP	**Villa Florida**	**118.83**	**133**	PKP	PKPdf	16 57 59.0	+0.1
	comp=Z,1.1nm,0.7s,baz=225,slow=2.9,SNR=3.4						
CPUP	**Villa Florida**	**118.83**	**133**	PKP	PKPdf	16 57 59.0	+0.1
ARCES	**ARCESS Array B**	**121.87**	**345**	PKP	PKPdf	16 58 02.9	-0.4
	comp=Z,0.9nm,0.5s,baz=38,slow=1.6,SNR=11						
ARCES	**ARCESS Array B**	**121.87**	**345**	PKP	PKPdf	16 58 02.9	-0.4
AKASG	**Malin Array Be**	**132.42**	**326**	PKP	PKPdf	16 58 23.8	-0.2
	comp=Z,0.7nm,0.4s,baz=46,slow=2.7,SNR=4.2						
GERES	**GERESS Array B**	**141.33**	**333**	PKhKP		16 58 36.6	
	comp=Z,0.8nm,0.6s,baz=48,slow=1.5,SNR=8.8						
ABTA	**Abfaltersbach**	**143.43**	**332**	⇑*i*P	PKPdf	16 58 41.6	-2.7
	comp=Z,9.9nm,0.6s						
FETA	**Feichten**	**144.01**	**333**	⇑*i*P	PKPdf	16 58 44.6	-0.7
	comp=Z,8.0nm,1.1s						
DAVA	**Damuels**	**144.16**	**335**	⇑*i*P	PKPdf	16 58 45.5	-0.1
	comp=Z,6.4nm,1.1s						
CDF	**Champ du Feu**	**144.24**	**338**	*e*PKP1	PKPdf	16 58 44.4	-1.3
	comp=Z,9.3nm,0.6s						
HINF	**Hinteralfeld**	**144.90**	**338**	*e*PKP1	PKPdf	16 58 46.3	-0.5
	comp=Z,8.6nm,0.7s						
HAU	**Haudompre**	**144.92**	**339**	*e*PKP1	PKPdf	16 58 46.7	-0.2
	comp=Z,28nm,0.9s						
MEZF	**Maizieres J'vi**	**144.92**	**340**	*e*PKP1	PKPdf	16 58 47.1	+0.2
	comp=Z,13nm,0.6s						
TUE	**Stuetta**	**145.03**	**334**	*e*PKPdf	PKPdf	16 58 47.1	0.0
TIP	**Timpagrande**	**146.11**	**318**	*e*PKPbc	PKPbc	16 58 50.6	+0.2
AQU	**L'Aquila**	**146.12**	**325**	*e*PKPdf	PKPdf	16 58 48.0	-1.1
CABF	**La Chapelle**	**146.20**	**338**	*e*PKP1	PKPbc	16 58 51.2	+0.8
FLN	**La Foliniere**	**146.21**	**346**	*e*PKP1	PKPbc	16 58 50.0	-0.4
	comp=Z,14nm,0.6s						
LDF	**La Druitiere**	**146.28**	**346**	*e*PKP1	PKPbc	16 58 50.4	-0.2
	comp=Z,12nm,0.7s						
LOR	**Lormes**	**146.39**	**341**	*e*PKP1	PKPbc	16 58 51.2	+0.2
	comp=Z,9.8nm,0.9s						
GRR	**Gorron**	**146.64**	**347**	*e*PKP1	PKPbc	16 58 51.8	+0.1
SSF	**Saint Saulge**	**146.69**	**341**	*e*PKP1	PKPbc	16 58 52.2	+0.4
	comp=Z,7.0nm,0.7s						
LPL	**La Plagne**	**146.87**	**336**	*e*PKP1	PKPbc	16 58 53.1	+0.7
LPG	**La Plagne**	**146.88**	**336**	*e*PKP1	PKPbc	16 58 53.2	+0.8
SMF	**Signal de Mont**	**146.95**	**340**	*e*PKP1	PKPbc	16 58 52.7	+0.1
AVF	**Avril sur Loir**	**146.98**	**341**	*e*PKP1	PKPbc	16 58 52.6	0.0
CEL	**Celeste**	**147.19**	**317**	*e*PKPdf	PKPdf	16 58 51.2	+0.2
CEL				*e*PKPbc	PKPbc	16 58 53.7	+0.2
CEL				*e*PKPbc	PKPbc	16 58 56.7	+3.2
MBDF	**Montbardon**	**147.50**	**335**	*e*PKP1	PKPbc	16 58 54.2	0.0
	comp=Z,6.0nm,0.6s						
ORIF	**Oris-en-Rattie**	**147.70**	**336**	*e*PKP1	PKPbc	16 58 55.0	+0.3
	comp=Z,12nm,0.8s						
TCF	**Toulx Ste Croi**	**147.78**	**342**	*e*PKP1	PKPbc	16 58 54.9	+0.1
MFF	**Saint Martin d**	**148.15**	**345**	*e*PKP1	PKPbc	16 58 55.1	-0.7
VIVF	**Saint-Julien-l**	**148.21**	**337**	*e*PKP1	PKPbc	16 58 56.2	+0.2
PGF	**Pioggiola**	**148.24**	**330**	*e*PKP1	PKPbc	16 58 56.2	0.0
	comp=Z,36nm,0.9s						
SMRF	**Simiane la Rot**	**148.61**	**336**	*e*PKP1	PKPbc	16 58 58.2	+1.1
	comp=Z,30nm,1.1s						
LMR	**La Mourre**	**148.75**	**334**	*e*PKP1	PKPbc	16 58 57.4	-0.1
RJF	**Les Rejaudoux**	**148.88**	**342**	*e*PKP1	PKPbc	16 58 58.6	+0.9
CAF	**Calviac**	**149.05**	**341**	*e*PKP1	PKPbc	16 58 59.3	+1.2
LASF	**Ste Croix**	**149.18**	**338**	*e*PKP1	PKPbc	16 58 58.1	-0.4
	comp=Z,7.7nm,0.8s						
MTLF	**Montolieu**	**150.40**	**339**	*e*PKP1	PKPbc	16 59 01.7	+0.2
	comp=Z,9.3nm,0.9s						
SJPF	**Ste Jean**	**151.67**	**344**	*e*PKP1	PKPbc	16 59 05.0	+0.6
ETSF	**Etsaut**	**151.68**	**342**	*e*PKP1	PKPbc	16 59 05.7	+1.2
	comp=Z,6.0nm,0.6s						
KEST	**Kesra**	**152.88**	**320**	PKPbc	PKPbc	16 59 07.0	-0.3
	comp=Z,1.4nm,0.7s,baz=150,slow=4.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**166.58**	**259**	PKP	PKPdf	16 59 14.8	-1.2
	comp=Z,0.8nm,0.9s,baz=9.0,slow=1.5,SNR=2.8						
TORD				PKPab	PKPab	17 00 19.3	0.0
	comp=Z,0.7nm,0.9s,baz=84,slow=4.2,SNR=2.8						

*SKHL **16** 16:39:46.0±0.5, 4655N×1534.5E, h63km±15km, mb5.2/2*
*ISCJB **16** 16:39:50.5±0.8, 4677N±006×1528.5E±007, h46km±7km, mb4.3/37, Error ellipse: s-maj=11.0km s-min=5.4km az=143.0*
*JMA **16** 16:39:51.2±0.8, 4687N×1528.5E, h30km, M4.7*
*MOS **16** 16:39:52.3±1.4, 4694N×1528.8E, h55km, mb4.7/8, Error ellipse: s-maj=11.3km s-min=8.3km az=67.0*
*IDC **16** 16:39:55.4±2.5, 4684N×1528.3E, h75km±22km, mb3.8/20, mb1 3.9/23, mb1mx3.9/29, mbtmp3.8/23, Error ellipse: s-maj=17.0km s-min=10.3km az=139.0*
*NEIC **16** 16:39:55.9±0.9, 4689N×1528.2E, h78km±8km, mb4.4/16, Error ellipse: s-maj=9.9km s-min=5.4km az=142.0*
*BJI **16** 16:39:56.2, 4759N×153.13E, h107km, mB4.0, mb4.3*
ISC 16 16:39:53.1±0.6, 4678N±005×15287E±007, h53km±5km, n111, σ1°21/121, mb4.3/37, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.81**	**248**	⇑*i*PN	**Pn**	**16 40 45.8**	**-3.4**
KUR				*e*S	**Sn**	**16 41 31.0**	**-1.8**
KUR				pmax	pmax

comp=Z,2.1nm,0.5s,baz=61,slow=8.8,SNR=16
JNU Nakatsue 21.59 239 P **P 16 44 38.9 +0.5**
baz=194,slow=3.5
BOD Bodaibo 25.84 310 *eP* **P 16 45 16.5 -2.7**
JOW Kunigami 27.81 233 P **P 16 45 37.3 +0.1**
comp=Z,14nm,1.0s,mb4.5,baz=65,slow=14,SNR=2.2
SONM Songino Array 31.16 289 P **P 16 46 07.0 +0.3**
comp=Z,0.7nm,0.8s,mb3.6,baz=71,slow=10,SNR=3.0
IMA2 Indian Mountai 33.88 36 *eP* **P 16 46 30.8 +0.5**
KDAK Kodiak Island 34.22 51 P **P 16 46 32.8 -0.4**
comp=Z,1.9nm,0.7s,mb4.1,baz=264,slow=18,SNR=3.3
KTH Kantishna Hill 34.85 41 *eP* **P 16 46 39.7 +1.1**
comp=Z,4.0nm,0.9s,mb4.3
COLD Coldfoot 35.40 34 *eP* **P 16 46 43.8 +0.4**
comp=Z,1.9nm,0.4s,mb4.4
LZH Lanzhou 37.72 272 *eP* **P 16 47 05.5 +2.0**
LZH AMB AMB
comp=Z,18nm,1.4s,mb4.6
GTA Gaotai 38.80 279 *eP* **P 16 47 13.8 +1.3**
GTA AMB AMB
comp=Z,2.0nm,1.1s,mb3.8
GYA Guiyang 41.56 257 P **P 16 47 38.6 +3.1**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
INK Inuvik 41.72 32 P **P 16 47 37.4 +1.2**
comp=Z,1.5nm,0.5s,mb3.9
INK Inuvik 41.72 32 *eP* **P 16 47 37.1 +0.8**
comp=Z,101nm,0.8s,mb5.5
ZALV Zalesovo Beam 42.46 306 P **P 16 47 40.9 -1.5**
comp=Z,1.0nm,0.4s,mb3.8,baz=77,slow=6.3,SNR=4.0
ZALV PcP PcP 16 49 33.7 -0.8
comp=Z,1.1nm,0.7s,baz=90,slow=2.9,SNR=4.8
ZALV Zalesovo Beam 42.46 306 P **P 16 47 40.9 -1.5**
ZALV PcP PcP 16 49 33.7 -0.8
ZAL Zalesovo 42.47 306 P **P 16 47 40.9 -1.7**
ZAL 16 49 33.7
SIT Sitka 43.48 49 P **P 16 47 54.0 +3.3**
SIT pmax pmax
comp=Z,16nm,1.3s,mb4.6
SIT Sitka 43.48 49 P **P 16 47 54.0 +3.4**
comp=Z,16nm,1.3s,mb4.6
QIZ Qiongzhong 44.70 247 P **P 16 47 56.0 -4.9**
comp=Z,17nm,1.7s,mb4.6
MK31 Makanchi Array 46.78 297 *eP* **P 16 48 15.9 -1.1**
MKAR Makanchi Array 46.78 297 P **P 16 48 15.9 -1.1**
comp=Z,1.2nm,0.5s,mb4.0,baz=68,slow=7.6,SNR=6.4
MKAR PcP PcP 16 49 49.3 -0.1
comp=Z,0.9nm,0.6s,baz=68,slow=3.6,SNR=3.8
KURK Kurchatov 47.21 304 *eP* **P 16 48 18.6 -1.7**
KURK pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
KURK Kurchatov 47.21 304 *eP* **P 16 48 18.6 -1.7**
comp=Z,1.7nm,0.4s,mb4.3
BBB Bella Bella 49.23 53 P **P 16 48 35.2 -0.7**
comp=Z,3.6nm,1.0s,mb4.3,baz=278,slow=15,SNR=2.4
BBB Bella Bella 49.23 53 P **P 16 48 35.2 -0.7**
LSA Lhasa 50.10 273 *eP* **P 16 48 43.9 +1.1**
BRVK Borovoye 50.75 309 P **P 16 48 47.2 -0.1**
YKA Yellowknife Ar 51.00 37 P **P 16 48 49.4 +0.3**
comp=Z,0.7nm,0.7s,mb3.7,baz=295,slow=6.9,SNR=4.4
YKA PcP PcP 16 50 04.5 +0.1
comp=Z,0.4nm,0.4s,baz=302,slow=3.6,SNR=5.5
YKA Yellowknife Ar 51.00 37 P **P 16 48 49.4 +0.3**
YKA PcP PcP 16 50 04.5 +0.1
CMAR Chiang Mai Arr 52.21 256 P **P 16 48 59.5 +0.8**
comp=Z,1.4nm,0.6s,mb4.1,baz=36,slow=7.6,SNR=11
SPB4 Spitsbergen Ar 52.56 350 *eP* **P 16 48 56.5 -4.0**
ARCES ARCESS Array B 57.77 341 P **P 16 49 37.0 -1.1**
comp=Z,2.3nm,0.8s,mb4.3,baz=30,slow=7.6,SNR=6.0
WALA Waterton Lakes 58.55 50 P **P 16 49 44.6 +0.7**
comp=Z,2.7nm,0.7s,mb4.4
SUMG Summit 61.23 334 *ep* **P 16 49 58.1 -0.1**
comp=Z,2.5nm,0.9s,mb4.3
JOF Joensuu 61.23 334 *ep* **P 16 50 00.1 -1.9**
comp=Z,0.7nm,0.3s,mb4.3
NVAR Mina Array Bea 62.57 62 P **P 16 50 10.0 -1.5**
comp=Z,0.4nm,0.4s,mb3.9,baz=292,slow=9.5,SNR=3.8
KAF Kangasniemi 63.35 335 *ep* **P 16 50 07.4 -8.8**
comp=Z,1.4nm,0.4s,mb4.4
KAF Kangasniemi 63.35 335 *eP* **P 16 50 07.4 -8.8**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
PDAR Pinedale Array 64.87 54 P **P 16 50 26.8 +0.3**
comp=Z,0.7nm,0.7s,mb3.8,baz=295,slow=2.0,SNR=6.5
RSSD Black Hills 66.94 50 P **P 16 50 40.1 +0.4**
RSSD pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
RSSD Black Hills 66.94 50 P **P 16 50 40.1 +0.3**
comp=Z,2.0nm,0.7s,mb4.3
NB2 NORSAR Subarra 68.15 341 P **P 16 50 46.5 -0.6**
comp=Z,2.6nm,0.5s,mb4.5,baz=27,slow=6.5
NOA NORSAR Array B 68.15 341 P **P 16 50 46.8 -0.3**
comp=Z,3.3nm,0.5s,mb4.6,baz=28,slow=6.3,SNR=12
WRA Warramunga Arr 68.48 199 P **P 16 50 48.8 -0.8**
comp=Z,0.9nm,0.8s,mb3.9,baz=19,slow=6.9,SNR=4.4
AKASG Malin Array Be 71.43 326 P **P 16 51 06.5 -0.9**
comp=Z,2.9nm,0.3s,mb4.7,baz=35,slow=6.2,SNR=21
ASAR Alice Springs 72.18 198 P **P 16 51 12.5 +0.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=14,slow=5.7,SNR=22
BURAR Bucovina Array 75.47 326 ||*P* **P 16 51 31.2 0.0**
MORC Moravsky Berou 76.34 332 *eP* **P 16 51 36.0 -0.1**
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MORC Moravsky Berou 76.34 332 *eP* **P 16 51 36.0 -0.2**
comp=Z,4.8nm,1.0s,mb4.4
CLL Collm 76.37 335 *i* P **P 16 51 35.6 -0.7**
CLL pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CLL Collm 76.37 335 *i* P **P 16 51 35.6 -0.7**
comp=Z,8.0nm,0.9s,mb4.7
MLR Muntele Rosu 76.94 325 ||*P* **P 16 51 40.7 +1.1**
MALT Malatya 77.01 313 *eP* **P 16 51 41.1 +1.0**
MALT pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MALT Malatya 77.01 313 *eP* **P 16 51 41.0 +0.9**
comp=Z,1.7nm,0.6s,mb4.2
TXAR Lajitas Array 77.63 60 P **P 16 51 44.1 +0.4**
comp=Z,0.3nm,0.4s,mb3.5,baz=286,slow=4.4,SNR=7.3
KHC Kasperske Hory 78.14 334 *eP* **P 16 51 46.5 +0.3**
GERES GERESS Array B 78.36 334 P **P 16 51 47.1 -0.4**
comp=Z,0.4nm,0.4s,mb3.8,baz=35,slow=4.9,SNR=5.1
BZS Buzias 78.50 327 ||*P* **P 16 51 48.1 -0.2**
STKA Stephens Creek 78.95 190 P **P 16 51 43.3 -7.4**
comp=Z,6.6nm,1.0s,mb4.5
ELN Prospectdale 83.56 40 P **P 16 52 09.9 -5.5**
BLA Blacksburg 83.72 40 *eP* **P 16 52 17.4 +1.2**
BLA pmax pmax
comp=Z,29nm,1.0s,mb5.4
BLA Blacksburg 83.72 40 *eP* **P 16 52 17.4 +1.2**
comp=Z,29nm,1.0s,mb5.4
NWAO Narrogin (SRO) 85.59 209 P **P 16 52 25.2 -0.1**
comp=Z,2.7nm,0.8s,mb4.6,baz=27,slow=6.8,SNR=2.4
TORD Torodi Ar. Bea 114.98 329 PKP PKiKP 16 58 26.4 -1.9
comp=Z,0.3nm,0.5s,baz=45,slow=1.4,SNR=2.7
QSPA South Pole Qui 136.51 180 PKP PKPdf 16 59 08.3 +0.9
comp=Z,0.9nm,0.8s,baz=147,slow=1.6,SNR=5.3
PLCA Paso Flores 148.38 95 PKPbc PKPbc 16 59 31.6 -1.4
comp=Z,1.5nm,0.8s,baz=297,slow=9.0,SNR=3.7
CPUP Villa Florida 148.60 60 PKPbc PKPbc 16 59 34.0 0.0
comp=Z,0.9nm,0.7s,baz=342,slow=6.4,SNR=3.0
SNAA Sanae 152.53 196 *e* PKPbc 16 59 42.0 0.0
SNAA Sanae 152.53 196 PKPbc PKPbc 16 59 41.3 -0.7
comp=Z,0.2nm,0.6s,baz=180,slow=8.1,SNR=5.6
VNA2 Neumayer--Watz 153.99 195 *e* PKPbc 16 59 44.9 -0.3
VNA2 *e* 16 59 50.8

IDC 16 16:42:15.9±6.4,1278S×7585W,h0km,mb4.2/1, mb1 3.9/2,mb1mx3.5/20,mbtmp3.9/2,ML3.4/1,MS3.1/1, Ms1 3.1/1,ms1mx2.5/32,Error ellipse: s-maj=259.0km s-min=49.3km az=35.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.25**	**116**	Pn	Pn	16 44 17.8	+0.9
	0.2nm,0.3s,baz=300,slow=9.9,SNR=7.2						
CPUP	**Villa Florida**	**22.01**	**130**	LR	LR	16 57 08.0	
	comp=Z,49nm,20.8s,baz=347,slow=40						
TORD	**Torodi Ar. Bea**	**81.06**	**74**	P	P	16 54 33.4	-0.1
	1.4nm,0.6s,baz=259,slow=5.1,SNR=11						
SONM	**Songino Array**	**145.00**	**357**	PKPbc	PKPbc	17 01 54.2	-0.3
	0.5nm,0.6s,baz=9.9,slow=3.4,SNR=4.1						

IDC 16 16:50:24.6±0.7,981S×15963E,h0km,mb4.1/12, mb1 4.2/13,mb1mx4.1/19,mbtmp4.1/13,ML3.6/1,Error ellipse: s-maj=24.3km s-min=10.5km az=130.0
ISCJB 16 16:50:27.7±1.2,977S±009×15949E±009,h30km±9km, mb4.1/15,Error ellipse: s-maj=20.4km s-min=8.6km az=136.3
NEIC 16 16:50:27.7±1.5,976S×15948E,h16km±10km,mb4.3/4, Error ellipse: s-maj=17.5km s-min=8.7km az=121.0
ISC 16 16:50:28.0±1.8,977S±010×1595E±01,h17km±13km,n25, σ0§70/29,mb4.1/15,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.58**	**54**	Pn	**Pg**	**16 50 39.1**	**-0.3**
	1μm,0.3s,baz=233,slow=5.4,SNR=145						
HNR				Sn	**Sg**	**16 50 47.6**	**+0.4**
	6μm,0.3s,baz=256,slow=19,SNR=167						
HNR	**Honiara**	**0.58**	**54**	*e*Pg	**Pg**	**16 50 38.9**	**-0.5**
HNR				Pn	**Pg**	**16 50 39.1**	**-0.3**
HNR				*e*Sg	**Sg**	**16 50 47.4**	**+0.3**
HNR				Sn	**Sg**	**16 50 47.6**	**+0.4**
CTA	**Charters Tower**	**16.37**	**230**	Pn	**Pn**	**16 54 17.5**	**+0.4**
	0.1nm,0.3s,baz=57,slow=17,SNR=2.2						
CTA	**Charters Tower**	**16.37**	**230**	Pn	**Pn**	**16 54 17.5**	**+0.4**
WRAB	**Tennant Creek**	**26.27**	**245**	*eP*	**P**	**16 56 02.4**	**-0.2**
	4.6nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**26.28**	**245**	P	**P**	**16 56 02.8**	**0.0**
	3.3nm,0.7s,mb4.0,baz=72,slow=10,SNR=16						
STKA	**Stephens Creek**	**27.54**	**214**	P	**P**	**16 56 13.3**	**-0.6**
	0.9nm,0.5s,mb3.6,baz=45,slow=13,SNR=1.7						
STKA	**Stephens Creek**	**27.54**	**214**	P	**P**	**16 56 13.3**	**-0.6**
ASAR	**Alice Springs**	**28.05**	**237**	P	**P**	**16 56 17.4**	**-1.2**
	0.8nm,0.8s,mb3.4,baz=65,slow=10,SNR=25						
ASAR				PcP	PcP	16 59 31.5	-1.8
	0.1nm,0.5s,baz=84,slow=3.8,SNR=3.6						
MJAR	**Matsushiro Arr**	**50.23**	**338**	P	**P**	**16 59 22.6**	**-0.5**
	1.0nm,0.7s,mb4.0,baz=172,slow=8.7,SNR=6.8						
MAJO	**Matsushiro**	**50.23**	**338**	P	**P**	**16 59 22.6**	**-0.5**
	2.4nm,0.6s,mb4.4						
KSRS	**Korea Array**	**55.51**	**330**	P	**P**	**17 00 03.3**	**+1.1**
	1.3nm,0.6s,mb4.2,baz=144,slow=6.8,SNR=8.0						
ASAJ	**Asahikawa**	**55.78**	**345**	P	**P**	**17 00 03.5**	**-0.5**
	8.2nm,1.0s,mb4.7,baz=228,slow=6.3,SNR=4.1						
PETK	**Petropavlovsk-**	**62.65**	**359**	P	**P**	**17 00 51.2**	**-0.1**
	2.1nm,1.0s,mb4.2,baz=171,slow=4.4,SNR=4.4						
CMAR	**Chiang Mai Arr**	**65.97**	**295**	P	**P**	**17 01 15.3**	**+1.4**
	0.8nm,0.6s,mb3.9,baz=125,slow=5.3,SNR=7.3						
VNDA	**Vanda**	**67.74**	**179**	P	**P**	**17 01 24.4**	**+0.3**
	1.6nm,0.7s,mb4.2,baz=341,slow=5.9,SNR=19						
VNDA	**Vanda**	**67.74**	**179**	*eP*	**P**	**17 01 24.0**	**-0.1**
	1.7nm,0.8s,mb4.1						
VNDA				*e*		17 01 36.9	
SBA	**Scott Base**	**68.17**	**178**	P	**P**	**17 01 28.0**	**+1.2**
	3.0nm,1.1s,mb4.2						
SONM	**Songino Array**	**74.08**	**326**	P	**P**	**17 02 04.0**	**+0.9**
	0.8nm,0.6s,mb3.9,baz=139,slow=6.0,SNR=7.0						
SONM	**Songino Array**	**74.08**	**326**	P	**P**	**17 02 04.0**	**+0.9**
KDAK	**Kodiak Island**	**77.80**	**24**	P	**P**	**17 02 23.5**	**-0.6**
	3.4nm,0.9s,mb4.3,baz=170,slow=6.1,SNR=3.2						
KDAK	**Kodiak Island**	**77.80**	**24**	P	**P**	**17 02 23.5**	**-0.6**
DLBC	**Dease Lake**	**88.30**	**30**	P	**P**	**17 03 17.7**	**-0.7**
	baz=315,slow=1.4						
DLBC	**Dease Lake**	**88.30**	**30**	P	**P**	**17 03 17.7**	**-0.7**
MKAR	**Makanchi Array**	**88.41**	**318**	P	**P**	**17 03 19.2**	**+0.1**
	0.2nm,0.3s,mb3.9,baz=94,slow=4.3,SNR=4.9						

IDC 16 16:52:18.6±0.7,5028N×17766W,h0km,mb3.9/14, mb1 4.1/16,mb1mx4.0/27,mbtmp3.9/16,ML3.5/2,Error ellipse: s-maj=22.5km s-min=15.6km az=151.0
NEIC 16 16:52:19.0±3.4,5027N×17759W,h2km±21km, ML3.6(AEIC),Error ellipse: s-maj=13.2km s-min=5.6km az=171.0
ISCJB 16 16:52:21.8±0.5,5031N±007×17762W±009,h33km, mb3.9/14,Error ellipse: s-maj=10.8km s-min=7.1km az=152.3
ISC 16 16:52:19.4±3.1,5030N±007×17762W±009,h4km±19km, n31,σ0§90/32,mb3.9/14,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.70**	**20**	P	**Pn**	**16 52 49.5**	**-0.2**
ADK				S	**Sn**	**16 53 10.6**	**-1.4**
AMKA	**Amchitka**	**2.23**	**300**	P	**Pn**	**16 52 56.6**	**-0.5**
NIKO	**Nikolski**	**6.08**	**60**	P	**Pn**	**16 53 50.1**	**+0.1**
FX1	**Attu Island--F**	**6.30**	**298**	P	**Pn**	**16 53 54.2**	**+1.3**
SDPT	**Sand Point**	**11.53**	**57**	*e*Pn	**Pn**	**16 55 03.2**	**-1.4**
SDPT				*e*Sn	**Sn**	**16 57 09.2**	**-4.6**
PETK	**Petropavlovsk-**	**15.53**	**290**	Pn	**Pn**	**16 56 00.0**	**+1.0**
	0.1nm,0.3s,baz=106,slow=15,SNR=5.2						
PETK				Sn	**Sn**	**16 58 56.9**	**+5.5**
	0.1nm,0.3s,baz=80,slow=26,SNR=2.6						
KDAK	**Kodiak Island**	**16.43**	**53**	Pn	**Pn**	**16 56 10.1**	**-0.5**
	0.8nm,0.3s,baz=257,slow=6.1,SNR=8.9						
KDAK				Sn	**Sn**	**16 59 15.3**	**+2.1**
	0.4nm,0.3s,baz=210,slow=20,SNR=7.6						
KDAK	**Kodiak Island**	**16.43**	**53**	Pn	**Pn**	**16 56 10.1**	**-0.5**
KDAK				Sn	**Sn**	**16 59 15.3**	**+2.1**
TRF	**Thorofare Moun**	**19.71**	**38**	*eP*	**Pn**	**16 56 50.0**	**-0.8**
IMA2	**Indian Mountai**	**20.01**	**29**	*eP*	**P**	**16 56 55.8**	**+3.0**
BMRM	**Bremner River**	**21.24**	**47**	*eP*	**P**	**16 57 07.2**	**+1.1**
INK	**Inuvik**	**27.94**	**34**	P	**P**	**16 58 10.1**	**-0.2**
	0.5nm,0.3s,mb3.6,baz=249,slow=11,SNR=4.1						
INK	**Inuvik**	**27.94**	**34**	P	**P**	**16 58 10.1**	**-0.2**
YKA	**Yellowknife Ar**	**35.45**	**46**	P	**P**	**16 59 17.2**	**+1.0**
	1.0nm,0.6s,mb3.9,baz=276,slow=8.1,SNR=12						
NVAR	**Mina Array Bea**	**42.95**	**82**	P	**P**	**17 00 18.4**	**-0.8**
	0.4nm,0.8s,mb3.2,baz=298,slow=9.3,SNR=4.1						
PDAR	**Pinedale Array**	**45.93**	**72**	P	**P**	**17 00 43.7**	**+0.7**
	0.6nm,0.7s,mb3.6,baz=322,slow=4.5,SNR=4.6						
SONM	**Songino Array**	**47.81**	**298**	P	**P**	**17 00 57.0**	**-0.7**
	0.5nm,0.8s,mb3.6,baz=45,slow=4.3,SNR=3.4						
TXAR	**Lajitas Array**	**58.08**	**81**	P	**P**	**17 02 13.6**	**-0.1**
	0.5nm,0.6s,mb3.7,baz=309,slow=5.9,SNR=4.4						
ARCES	**ARCESS Array B**	**59.29**	**351**	P	**P**	**17 02 21.5**	**-0.1**
	2.2nm,0.7s,mb4.3,baz=28,slow=8.2,SNR=6.9						
MKAR	**Makanchi Array**	**61.30**	**310**	P	**P**	**17 02 35.0**	**-0.6**
	0.2nm,0.2s,mb3.8,baz=59,slow=8.6,SNR=3.4						
NOA	**NORSAR Array B**	**68.79**	**355**	P	**P**	**17 03 24.1**	**0.0**
	0.7nm,0.5s,mb3.8,baz=7.1,slow=6.4,SNR=2.6						
AKASG	**Malin Array Be**	**76.81**	**343**	P	**P**	**17 04 12.2**	**+0.4**
	2.2nm,0.7s,mb4.2,baz=19,slow=5.8,SNR=7.5						
WRA	**Warramunga Arr**	**81.76**	**225**	P	**P**	**17 04 38.3**	**-0.9**
	0.7nm,1.0s,mb3.5,baz=33,slow=5.7,SNR=3.7						
FITZ	**Fitzroy Crossi**	**84.40**	**233**	P	**P**	**17 04 52.7**	**-0.2**
	2.8nm,1.0s,mb4.3,baz=9.5,slow=6.1,SNR=5.2						
ASAR	**Alice Springs**	**85.20**	**224**	P	**P**	**17 04 56.6**	**-0.2**
	0.4nm,0.9s,mb3.5,baz=240,slow=37,SNR=4.6						
STKA	**Stephens Creek**	**89.43**	**214**	P	**P**	**17 05 17.4**	**+0.4**
	2.6nm,0.8s,mb4.6,baz=45,slow=2.9,SNR=3.0						
STKA	**Stephens Creek**	**89.43**	**214**	P	**P**	**17 05 17.4**	**+0.4**
QSPA	**South Pole Qui**	**140.05**	**180**	PKhKP		17 11 40.1	
	1.2nm,1.0s,baz=45,slow=1.4,SNR=4.1						
QSPA				PKP	PKPdf	17 11 48.7	+1.4
	1.1nm,1.1s,baz=80,slow=5.3,SNR=4.3						
QSPA	**South Pole Qui**	**140.05**	**180**	PKP	PKPdf	17 11 48.7	+1.4
MAW	**Mawson**	**146.07**	**217**	PKPbc	PKPbc	17 11 58.7	-0.5
	1.5nm,0.9s,baz=88,slow=3.2,SNR=3.6						
BOSA	**Boshof**	**152.26**	**313**	PKPbc	PKPbc	17 12 16.1	-0.1
	1.4nm,0.5s,baz=16,slow=3.5,SNR=4.1						

ISCJB 16 16:52:47.3±2.9,215S±01×1764W±03,h188km±44km, mb3.9/7,Error ellipse: s-maj=43.2km s-min=23.8km az=179.0
NEIC 16 16:52:48.6±1.7,2147S×17640W,h186km±20km,mb4.1/1, Error ellipse: s-maj=22.4km s-min=13.5km az=115.0
IDC 16 16:52:48.2±3.4,2149S×17645W,h180km±35km,mb3.7/7, mb1 3.8/9,mb1mx3.5/21,mbtmp3.7/9,Error ellipse: s-maj=29.8km s-min=23.1km az=129.0
ISC 16 16:52:47.8±2.4,215S±01×1764W±03,h178km±38km,n13, σ0§57/13,mb3.9/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.77**	**31**	P	**Pn**	**16 54 51.3**	**0.0**
	0.7nm,0.3s,baz=217,slow=5.1,SNR=3.1						
AFI				S	**Sn**	**16 56 21.1**	**-8.1**
	0.9nm,0.3s,baz=155,slow=19,SNR=2.4						
URZ	**Urewera**	**17.58**	**197**	P	**Pn**	**16 56 41.6**	**-0.4**
	0.6nm,0.3s,baz=4.4,slow=13,SNR=4.1						
URZ				S	**S**	**16 59 44.8**	**-9.1**
	0.3nm,0.3s,baz=72,slow=20,SNR=2.6						
RPZ	**Rata Peaks**	**24.46**	**202**	P	**P**	**16 57 51.0**	**+0.9**
	13nm,1.0s,mb4.4,baz=338,slow=19,SNR=2.2						
HNR	**Honiara**	**25.74**	**294**	P	**P**	**16 57 53.8**	**-8.2**
CTA	**Charters Tower**	**34.89**	**265**	P	**P**	**16 59 23.1**	**+0.5**
	4.1nm,0.8s,mb4.1,baz=90,slow=8.1,SNR=5.6						
CTAO	**Charters Tower**	**34.89**	**265**	*eP*	**P**	**16 59 23.7**	**+1.2**
	2.4nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**38.71**	**246**	P	**P**	**16 59 54.6**	**0.0**
	2.1nm,0.7s,mb3.9,baz=69,slow=8.6,SNR=2.6						
ASAR	**Alice Springs**	**45.75**	**257**	P	**P**	**17 00 51.8**	**+0.1**
	2.2nm,0.8s,mb3.9,baz=101,slow=8.3,SNR=19						
WRA	**Warramunga Arr**	**45.95**	**263**	P	**P**	**17 00 52.2**	**-1.1**
	1.6nm,0.9s,mb3.7,baz=91,slow=6.3,SNR=23						
FITZ	**Fitzroy Crossi**	**54.38**	**263**	P	**P**	**17 01 56.5**	**-0.1**
	2.1nm,0.9s,mb3.9,baz=100,slow=6.1,SNR=4.3						
MAW	**Mawson**	**81.10**	**199**	P	**P**	**17 04 42.5**	**-0.2**
	1.3nm,0.9s,mb3.6,baz=135,slow=8.6,SNR=4.5						
AKASG	**Malin Array Be**	**144.64**	**332**	PKP	PKPdf	17 12 00.7	-2.3
	0.6nm,0.4s,baz=44,slow=3.9,SNR=4.7						
GERES	**GERESS Array B**	**151.58**	**346**	PKPbc	PKPbc	17 12 22.1	+1.4
	0.2nm,0.3s,baz=90,slow=4.0,SNR=3.8						

ISCJB 16 16:54:25.3±0.7,481S±02×327E±05,h10km,mb3.9/7, MS3.5/7,Error ellipse: s-maj=48.3km s-min=12.0km az=154.1
IDC 16 16:54:25.7±0.9,481OS×3274E,h0km,mb3.9/7,mb1 4.0/8, mb1mx3.8/19,mbtmp4.0/8,ML3.5/1,MS3.6/7,Ms1 3.6/7, ms1mx3.3/25,Error ellipse: s-maj=54.1km s-min=16.9km az=63.0
NEIC 16 16:54:26.7±0.8,4829S×3199E,h10km,mb4.5/2,Error ellipse: s-maj=42.5km s-min=14.6km az=66.0
ISC 16 16:54:27.2±0.7,481S±02×327E±05,h10km,n16,σ0§59/12, mb3.9/7,MS3.5/7,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.10**	**326**	P	**Pn**	**16 58 38.4**	**-0.2**
	0.2nm,0.3s,baz=160,slow=15,SNR=2.5						
SUR	**Sutherland**	**18.10**	**326**	P	**Pn**	**16 58 38.4**	**-0.2**
BOSA	**Boshof**	**20.29**	**341**	P	**P**	**16 59 02.5**	**-0.5**
	2.9nm,0.9s,baz=175,slow=12,SNR=3.3						
BOSA				LR	LR	17 04 19.5	
	comp=Z,82nm,21.1s,MS3.1,baz=247,slow=29						
LBTB	**Lobatse**	**23.71**	**344**	LR	LR	17 07 30.0	
	comp=Z,118nm,18.4s,MS3.4,baz=32,slow=33						
MAW	**Mawson**	**24.84**	**153**	P	**P**	**16 59 50.1**	**+0.9**
	3.9nm,0.9s,mb3.9,baz=301,slow=12,SNR=5.5						
MAW				LR	LR	17 07 14.2	
	comp=Z,118nm,21.4s,MS3.4,baz=61,slow=31						
MAW	**Mawson**	**24.84**	**153**	*eP*	**P**	**16 59 49.6**	**+0.4**
	6.7nm,1.0s,mb4.1						
MAW				LR	LR	17 07 14.2	
SNAA	**Sanae**	**28.78**	**202**	LR	LR	17 09 49.2	
	comp=Z,35nm,18.7s,MS3.0,baz=16,slow=32						
TSUM	**Tsumeb**	**31.33**	**332**	LR	LR	17 12 57.4	
	comp=Z,94nm,18.3s,MS3.5,baz=52,slow=36						
QSPA	**South Pole Qui**	**42.12**	**180**	P	**P**	**17 02 18.8**	**-0.2**
	3.5nm,1.0s,mb4.0,baz=261,slow=7.8,SNR=9.6						
VNDA	**Vanda**	**50.79**	**167**	P	**P**	**17 03 26.1**	**-0.8**
	0.8nm,0.8s,mb3.7,baz=242,slow=8.2,SNR=3.7						
VNDA				LR	LR	17 23 52.3	
	comp=Z,88nm,21.7s,MS3.7,baz=260,slow=35						
DBIC	**Dimbokro**	**63.76**	**318**	P	**P**	**17 05 00.4**	**+1.1**
	3.3nm,0.9s,mb4.3,baz=153,slow=9.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**66.92**	**327**	P	**P**	**17 05 19.6**	**-0.1**
	0.4nm,1.0s,mb3.4,baz=178,slow=7.4,SNR=3.1						
CPUP	**Villa Florida**	**70.92**	**252**	P	**P**	**17 05 49.2**	**+4.5**
	1.3nm,0.5s,mb4.1,baz=112,slow=6.5,SNR=6.3						
CPUP	**Villa Florida**	**70.92**	**252**	P	**P**	**17 05 38.6**	**-6.1**
	7.7nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**79.81**	**114**	P	**P**	**17 06 35.8**	**0.0**
	0.8nm,0.7s,mb3.7,baz=224,slow=3.9,SNR=11						
CTA	**Charters Tower**	**89.90**	**120**	LR	LR	17 41 09.8	
	comp=Z,227nm,18.3s,MS4.6,baz=50,slow=31						

IDC 16 17:00:10.9±1.1,5865S×2282W,h0km,mb4.0/3,mb1 4.1/4, mb1mx3.8/19,mbtmp4.0/4,ML4.0/1,Error ellipse: s-maj=76.3km s-min=24.1km az=95.0
ISCJB 16 17:00:11.6±1.5,587S±01×222W±07,h10km,mb3.9/3, Error ellipse: s-maj=56.2km s-min=18.4km az=172.0
ISC 16 17:00:13.4±1.5,587S±01×223W±07,h10km,n10,σ0§35/9, mb3.9/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.34**	**160**	*e*	**Pn**	**17 03 23.2**	**+0.6**
VNA1				*e*		17 03 26.5	
VNA2	**Neumayer--Watz**	**13.73**	**159**	*e*	**Pn**	**17 03 27.6**	**-0.3**
VNA2				*e*		17 03 30.4	
VNA2				*e*S	**Sn**	**17 05 48.5**	**-12**
VNA2				*e*		17 05 52.7	
SNAA	**Sanae**	**15.23**	**156**	*e*	**Pn**	**17 03 47.8**	**-0.3**
SNAA				*e*		17 03 50.9	
SNAA				*e*S	**Sn**	**17 06 22.3**	**-14**
SNAA				*e*		17 06 25.5	
SNAA	**Sanae**	**15.23**	**156**	Pn	**Pn**	**17 03 47.8**	**-0.3**
	0.6nm,0.3s,baz=338,slow=10,SNR=78						
QSPA	**South Pole Qui**	**31.54**	**180**	P	**P**	**17 06 34.8**	**-0.3**
	1.8nm,1.2s,mb3.8,baz=196,slow=5.8,SNR=5.8						
VNDA	**Vanda**	**44.01**	**181**	P	**P**	**17 08 20.5**	**+0

JSB S Sg 17 10 11.2 +0.2
JFY Yanaizu 0.36 335 ⇓P Pg 17 10 13.4 +0.1
JFY S Sg 17 10 18.2 0.0
JFT Otama 0.56 38 ⇑P Pg 17 10 17.1 +0.1
JFT eS Sg 17 10 24.7 +0.3
JKT Katashina 0.61 239 ⇑P Pg 17 10 17.8 -0.1
JKT S Sg 17 10 25.7 -0.2
JHK Hiroka 0.72 284 ⇓P Pg 17 10 20.1 0.0
JHK eS Sg 17 10 29.2 -0.4
JAG Ashikaga 0.75 209 ⇑P Pg 17 10 20.2 -0.3
JAG eS Sg 17 10 29.7 -0.6
JFK Kawauchi 0.83 70 ⇑P Pg 17 10 21.7 -0.4
JFK eS Sg 17 10 32.4 -0.5
JNS Sasagawa 0.87 328 ⇓P Pg 17 10 22.6 -0.3
JNS eS Sg 17 10 34.0 -0.3
JIZZ Izumozaki 1.05 296 ⇓P Pb 17 10 26.6 +0.3
JIZZ eS Sg 17 10 42.2 +2.2
JMM Marumori 1.06 42 ⇑P Pb 17 10 25.8 -0.6
JMM eS Sg 17 10 39.7 -0.6
MAT Matsushiro 1.46 249 P Pn 17 10 32.9 +0.5
MAT S Sn 17 10 53.0 +1.5

*IDC **16** 17:28:42.0±1.0, 1319S×16662E, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/18, mbtmp4.0/12, ML4.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/23 Error ellipse: s-maj=30.6km s-min=21.5km az=94.0*
*NEIC **16** 17:28:43.6±0.8, 1321S×16653E, h10km, mb4.3/1, Error ellipse: s-maj=19.8km s-min=16.0km az=92.0*
*ISCJB **16** 17:28:44.5±4.9, 132S±0.1×1664E±02, h25km±33km, mb3.9/12, MS3.2/2, Error ellipse: s-maj=29.4km s-min=15.7km az=160.8*
*BJI **16** 17:28:45.6, 1287S×16742E, h40km, mB5.0, mb4.6*
ISC 16 17:28:48.4±2.1, 132S±01×1664E±02, h41km±17km, n18, σ0§80/16, mb3.9/12, MS3.2/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.37**	**300**	Pn	**Pn**	**17 30 33.4**	**-0.1**
	11nm,0.3s,baz=90,slow=13,SNR=3.4						
DZM	**Mont Dzumac**	**8.85**	**180**	P	**Pn**	**17 30 54.0**	**+0.2**
STKA	**Stephens Creek**	**29.42**	**227**	P	**P**	**17 34 48.3**	**+0.1**
	1.0nm,0.6s,mb3.8,baz=45,slow=11,SNR=2.2						
STKA				PcP	PcP	17 37 52.9	-0.6
	3.4nm,0.9s,baz=51,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**29.42**	**227**	P	**P**	**17 34 48.3**	**+0.1**
STKA				PcP	PcP	17 37 52.9	-0.6
WRAB	**Tennant Creek**	**31.44**	**253**	*eP*	**P**	**17 35 03.6**	**-2.6**
	4.7nm,1.2s,mb4.2						
WRA	**Warramunga Arr**	**31.45**	**253**	P	**P**	**17 35 06.6**	**+0.3**
	0.4nm,0.6s,mb3.4,baz=84,slow=9.0,SNR=4.3						
WRA				LR	LR	17 45 20.0	
	comp=Z,65nm,21.9s,MS3.3,baz=80,slow=32						
ASAR	**Alice Springs**	**32.50**	**247**	P	**P**	**17 35 16.2**	**+0.7**
	0.9nm,0.7s,mb3.8,baz=78,slow=9.3,SNR=18						
ASAR				PcP	PcP	17 38 02.0	+0.2
	0.7nm,0.6s,baz=71,slow=2.5,SNR=6.6						
PPT	**Papeete**	**42.57**	**102**	LR	LR	17 50 30.1	
	comp=Z,25nm,20.7s,MS3.1,baz=275,slow=31						
MJAR	**Matsushiro Arr**	**56.16**	**333**	P	**P**	**17 38 23.9**	**-0.2**
	1.0nm,0.6s,mb4.0,baz=171,slow=8.1,SNR=5.7						
VNDA	**Vanda**	**64.39**	**181**	P	**P**	**17 39 19.3**	**-0.5**
	0.9nm,1.1s,mb3.7,baz=353,slow=9.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**73.58**	**294**	P	**P**	**17 40 19.9**	**+2.0**
	0.9nm,0.7s,mb3.8,baz=129,slow=4.9,SNR=6.3						
SONM	**Songino Array**	**80.77**	**324**	P	**P**	**17 40 57.2**	**-0.3**
	0.4nm,0.4s,mb3.7,baz=153,slow=5.6,SNR=3.7						
MAW	**Mawson**	**83.01**	**202**	P	**P**	**17 41 09.2**	**0.0**
	1.2nm,0.7s,mb4.0,baz=211,slow=5.9,SNR=5.7						
MKAR	**Makanchi Array**	**95.52**	**317**	P	**P**	**17 42 09.0**	**-0.1**
	2.0nm,0.8s,mb4.6,baz=101,slow=6.4,SNR=8.1						
MKAR	**Makanchi Array**	**95.52**	**317**	P	**P**	**17 42 09.0**	**-0.1**
ZALV	**Zalesovo Beam**	**95.66**	**324**	P	**P**	**17 42 09.5**	**-0.1**
	0.5nm,0.4s,mb4.3,baz=108,slow=4.7,SNR=3.3						
YKA	**Yellowknife Ar**	**96.55**	**27**	P	**P**	**17 42 13.4**	**0.0**
	0.3nm,0.7s,mb3.8,baz=256,slow=4.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**165.14**	**272**	PKPab	PKPab	17 49 47.2	+0.7
	1.2nm,0.8s,baz=91,slow=5.4,SNR=5.4						

*IDC **16** 17:31:22.3±0.7, 5029N×17768W, h0km, mb4.1/19, mb1 4.2/20, mb1mx4.2/28, mbtmp4.1/20, ML3.5/1, Error ellipse: s-maj=20.8km s-min=14.6km az=165.0*
*ISCJB **16** 17:31:25.6±0.5, 5034N±006×17764W±007, h33km, mb4.1/32, Error ellipse: s-maj=9.7km s-min=5.4km az=160.5*
*NEIC **16** 17:31:25.2, 5018N×17757W, h24km, mb4.2/11, ML3.8(AEIC), After AEIC.*
*MOS **16** 17:31:25.8±1.0, 5037N×17765W, h33km, mb4.6/9, Error ellipse: s-maj=13.6km s-min=7.9km az=98.6*
ISC 16 17:31:27.7±0.5, 5037N±006×17759W±006, h35km, n75, σ1§10/75, mb4.1/32, 3C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.62**	**20**	P	**Pn**	**17 31 52.9**	**-0.9**
ADK				S	**Sn**	**17 32 14.1**	**+0.7**
AMKA	**Amchitka**	**2.21**	**298**	P	**Pn**	**17 31 59.6**	**-2.3**
NIKO	**Nikolski**	**6.03**	**61**	P	**Pn**	**17 32 52.5**	**-1.8**
FX1	**Attu Island--F**	**6.28**	**297**	P	**Pn**	**17 32 57.2**	**-0.6**
UNV	**Unalaska Valle**	**7.67**	**59**	*eP*	**Pn**	**17 33 15.0**	**-1.7**
PETK	**Petropavlovsk-**	**15.53**	**290**	Pn	**Pn**	**17 35 02.0**	**-1.7**
	0.2nm,0.3s,baz=82,slow=23,SNR=6.3						
SVW2	**Sparrevohn**	**16.31**	**40**	*eP*	**Pn**	**17 35 12.8**	**-0.9**
KDAK	**Kodiak Island**	**16.38**	**53**	Pn	**Pn**	**17 35 10.2**	**-4.3**
	0.7nm,0.3s,baz=32,slow=1.2,SNR=10						
KDAK				Sn	**Sn**	**17 38 18.1**	**+3.2**
	0.3nm,0.3s,baz=143,slow=23,SNR=7.1						
TTA	**Tatalina**	**17.18**	**35**	*eP*	**Pn**	**17 35 24.7**	**+0.1**
SLKM	**Skilak Lake**	**18.41**	**46**	*eP*	**Pn**	**17 35 38.1**	**-1.7**
PPLA	**Purkeypile**	**18.61**	**38**	*eP*	**Pn**	**17 35 43.4**	**+1.2**
	30nm,1.5s						
CHUM	**Lake Minchumin**	**19.09**	**35**	*eP*	**Pn**	**17 35 46.8**	**-1.1**
	7.9nm,1.0s						
BILL	**Bilibino**	**19.43**	**342**	*αiP*	**Pn**	**17 35 52.1**	**+0.1**
BILL				pmax	pmax		
	comp=Z,43nm,1.2s						
BILL	**Bilibino**	**19.43**	**342**	*eP*	**Pn**	**17 35 52.0**	**-0.1**
	comp=Z,27nm,0.9s						
KTH	**Kantishna Hill**	**19.44**	**37**	*eP*	**Pn**	**17 35 51.0**	**-1.1**
	comp=Z,28nm,1.1s						
BPAW	**Bear Paw Mtn.**	**19.70**	**36**	*eP*	**Pn**	**17 35 54.0**	**-1.2**
	comp=Z,6.4nm,0.8s						
BPAW				*eP*		17 35 54.1	
IMA2	**Indian Mountai**	**19.94**	**29**	*eP*	**Pn**	**17 35 56.5**	**-1.5**
SEY	**Seymchan**	**20.51**	**319**	*eP*	**P**	**17 36 03.5**	**+1.1**
BMRM	**Bremner River**	**21.18**	**47**	P	**P**	**17 36 12.2**	**+2.6**
COLD	**Coldfoot**	**21.75**	**29**	*eP*	**P**	**17 36 15.5**	**-0.2**
	comp=Z,3.9nm,0.9s,mb3.8						
EGAK	**Eagle**	**23.83**	**39**	*eP*	**P**	**17 36 35.6**	**-1.5**
	comp=Z,3.2nm,0.8s,mb3.8						
HYT	**Haines Junctio**	**24.55**	**49**	*eP*	**P**	**17 36 45.5**	**+1.8**
INK	**Inuvik**	**27.87**	**34**	P	**P**	**17 37 12.8**	**-0.8**
	comp=Z,0.6nm,0.4s,mb3.6,baz=246,slow=4.8						
YAK	**Yakutsk**	**30.66**	**313**	*eP*	**P**	**17 37 39.0**	**+0.6**
YAK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.5						
KLR	**Kul'dur**	**32.21**	**288**	*eP*	**P**	**17 37 48.8**	**-3.3**
YKA	**Yellowknife Ar**	**35.38**	**46**	P	**P**	**17 38 20.9**	**+1.3**
	comp=Z,3.0nm,0.8s,mb4.3,baz=276,slow=7.3,SNR=19						
YBH	**Yreka Blue Hor**	**38.27**	**81**	P	**P**	**17 38 45.2**	**+0.8**
	comp=Z,1.4nm,0.8s,mb3.7,baz=261,slow=3.4,SNR=4.1						
EDM	**Edmonton**	**38.65**	**60**	*eP*	**P**	**17 38 48.5**	**+1.1**
BOD	**Bodaibo**	**39.20**	**308**	*eP*	**P**	**17 38 51.3**	**-0.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
KSRS	**Korea Array**	**40.44**	**273**	P	**P**	**17 39 03.0**	**+0.6**
	comp=Z,1.9nm,0.8s,mb3.9,baz=60,slow=8.5,SNR=12						
KSRS	**Korea Array**	**40.44**	**273**	P	**P**	**17 39 03.1**	**+0.6**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
NVAR	**Mina Array Bea**	**42.92**	**83**	P	**P**	**17 39 23.7**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.5,baz=301,slow=8.9,SNR=6.1						
BOZ	**Bozeman (W)**	**43.08**	**70**	*eP*	**P**	**17 39 20.2**	**-3.8**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
BOZ	**Bozeman (W)**	**43.08**	**70**	*eP*	**P**	**17 39 20.2**	**-3.8**
	comp=Z,1.8nm,0.8s,mb3.9						
TPNV	**Topopah Spring**	**45.11**	**83**	*eP*	**P**	**17 39 39.2**	**-1.2**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
TPNV	**Topopah Spring**	**45.11**	**83**	*eP*	**P**	**17 39 39.2**	**-1.2**
	comp=Z,3.9nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**45.89**	**72**	P	**P**	**17 39 47.0**	**+0.5**
	comp=Z,1.4nm,1.0s,mb3.9,baz=306,slow=6.4,SNR=8.3						
SONM	**Songino Array**	**47.79**	**298**	P	**P**	**17 40 02.1**	**+0.9**
	comp=Z,2.6nm,1.1s,mb4.2,baz=55,slow=7.2,SNR=10						
ZAK	**Zakamensk**	**48.14**	**302**	*⇓iP*	**P**	**17 40 03.9**	**0.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
KBS	**Kingsbay**	**50.84**	**358**	*eP*	**P**	**17 40 24.4**	**+0.3**
SPITS	**Spitsbergen Ar**	**51.44**	**356**	P	**P**	**17 40 28.7**	**+0.1**
	comp=Z,6.2nm,0.8s,mb4.6,baz=46,slow=5.6,SNR=6.0						
HVS	**Khovu-Aksy**	**52.73**	**308**	*eP*	**P**	**17 40 39.4**	**+0.8**
ZALV	**Zalesovo Beam**	**55.29**	**315**	P	**P**	**17 40 56.2**	**-0.9**
	comp=Z,0.3nm,0.2s,mb3.9,baz=46,slow=6.2,SNR=3.1						
ZAL	**Zalesovo**	**55.30**	**315**	P	**P**	**17 40 56.2**	**-1.1**
ZAL	**Zalesovo**	**55.30**	**315**	P	**P**	**17 40 56.3**	**-1.0**
GTA	**Gaotai**	**56.66**	**293**	*eP*	**P**	**17 41 01.1**	**-6.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.3						
ARCES	**ARCESS Array B**	**59.22**	**351**	P	**P**	**17 41 23.9**	**-0.7**
	comp=Z,1.7nm,0.6s,mb4.3,baz=26,slow=8.6,SNR=7.5						
ARCES	**ARCESS Array B**	**59.22**	**351**	P	**P**	**17 41 23.9**	**-0.7**
KURK	**Kurchatov**	**60.28**	**315**	*eP*	**P**	**17 41 31.9**	**-0.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
MKAR	**Makanchi Array**	**61.27**	**310**	P	**P**	**17 41 38.7**	**-0.3**
	comp=Z,0.8nm,0.7s,mb4.0,baz=58,slow=7.3,SNR=7.8						
MKAR	**Makanchi Array**	**61.27**	**310**	P	**P**	**17 41 38.7**	**-0.3**
SVE	**Sverdlovsk**	**62.86**	**328**	*eP*	**P**	**17 41 50.8**	**+1.3**
SVE				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.0						
EKS2	**Erkin-Say**	**68.43**	**311**	*eP*	**P**	**17 42 27.4**	**+1.7**
	comp=Z,2.1nm,0.7s,mb4.3						
NB2	**NORSAR Subarra**	**68.72**	**355**	P	**P**	**17 42 27.8**	**+0.6**
	comp=Z,1.4nm,0.9s,mb3.9,baz=7.1,slow=6.5						
NOA	**NORSAR Array B**	**68.72**	**355**	P	**P**	**17 42 28.0**	**+0.8**
	comp=Z,0.5nm,0.7s,mb3.5,baz=1.7,slow=6.2,SNR=3.8						
AKTK	**Aktyubinsk**	**68.95**	**326**	P	**P**	**17 42 29.9**	**+1.0**
AKTO	**Aktyubinsk**	**68.95**	**326**	P	**P**	**17 42 29.9**	**+1.0**
	comp=Z,9.7nm,0.8s,mb4.8,baz=42,slow=6.6,SNR=24						
OBN	**Obninsk**	**71.09**	**340**	*⇑eP*	**P**	**17 42 42.7**	**+0.9**
OBN				*e*		17 42 56.3	
OBN				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
CMAR	**Chiang Mai Arr**	**71.89**	**277**	P	**P**	**17 42 47.1**	**-0.1**
	comp=Z,0.5nm,0.9s,mb3.5,baz=31,slow=7.1,SNR=6.0						
CMAR	**Chiang Mai Arr**	**71.89**	**277**	P	**P**	**17 42 47.1**	**-0.1**
AKASG	**Malin Array Be**	**76.75**	**343**	P	**P**	**17 43 15.4**	**+0.4**
	comp=Z,4.3nm,0.7s,mb4.5,baz=18,slow=5.8,SNR=18						
AKBB	**Malin Array Si**	**76.75**	**343**	*eP*	**P**	**17 43 15.3**	**+0.3**
KIEV	**Kiev**	**76.76**	**343**	*eP*	**P**	**17 43 15.1**	**+0.1**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KIEV	**Kiev**	**76.76**	**343**	*eP*	**P**	**17 43 15.1**	**0.0**
	comp=Z,4.2nm,0.7s,mb4.5						
OKC	**Ostrava-Krasne**	**79.27**	**350**	*eP*	**P**	**17 43 30.2**	**+1.2**
NKC	**Novy Kostel**	**79.41**	**353**	*eP*	**P**	**17 43 31.1**	**+1.3**
KHC	**Kasperske Hory**	**80.42**	**353**	*eP*	**P**	**17 43 35.7**	**+0.5**
KHC	**Kasperske Hory**	**80.42**	**353**	*eP*	**P**	**17 43 36.7**	**+1.5**
GERES	**GERESS Array B**	**80.69**	**352**	P	**P**	**17 43 37.2**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.5,baz=15,slow=4.1,SNR=4.4						
WRA	**Warramunga Arr**	**81.83**	**225**	P	**P**	**17 43 41.4**	**-1.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=33,slow=6.0,SNR=3.9						
ASAR	**Alice Springs**	**85.27**	**224**	P	**P**	**17 43 59.7**	**-0.8**
	comp=Z,0.7nm,0.9s,mb3.8,baz=31,slow=5.7,SNR=4.1						
STKA	**Stephens Creek**	**89.50**	**214**	P	**P**	**17 44 20.8**	**0.0**
	comp=Z,6.1nm,1.1s,mb4.9,baz=21,slow=8.6,SNR=4.0						
STKA	**Stephens Creek**	**89.50**	**214**	P	**P**	**17 44 20.8**	**0.0**
MAW	**Mawson**	**146.14**	**217**	PKPbc	PKPbc	17 51 02.1	-0.5
	comp=Z,1.7nm,0.8s,baz=74,slow=11,SNR=4.9						
BOSA	**Boshof**	**152.23**	**313**	PKPbc	PKPbc	17 51 19.5	+0.2
	comp=Z,3.5nm,0.7s,baz=328,slow=2.2,SNR=4.9						

*CSEM **16** 17:43:27.7±0.8, 2711N×5407E, h15km, ML2.7, Error ellipse: s-maj=20.0km s-min=7.3km az=80.0*
*KISR **16** 17:43:28.6, 2821N×5424E, h14km, ML2.7*
ISC 16 17:43:27.8±2.2, 2718N±007×542E±02, h10km, n10, σ1§19/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTHS		**4.37**	**225**	P	**Pn**	**17 44 33.4**	**-0.8**
HRDDS		**6.05**	**227**	S	**Sn**	**17 46 08.9**	**+2.2**
HRDDS		**6.05**	**227**	P	**Pn**	**17 44 56.5**	**-0.8**
RDF	**Al-Radifah**	**6.15**	**288**	*eP*	**Pn**	**17 45 00.3**	**+1.6**
	baz=279						
RDF				AML	AML	17 46 13.2	
	comp=Z,4.0nm,0.5s,baz=279						
UMR	**Umm Al-Rimmam**	**6.20**	**294**	*eP*	**Pn**	**17 44 59.9**	**+0.4**
NAY	**Al-Naaiem**	**6.50**	**290**	*eP*	**Pn**	**17 45 04.4**	**+0.9**
NAY				*eS*	**Sn**	**17 46 17.1**	**-0.6**
NAY	**Al-Naaiem**	**6.50**	**290**	*eP*	**Pn**	**17 45 04.4**	**+0.9**
	baz=281						
NAY				*eS*	**Sn**	**17 46 17.1**	**-0.6**
	baz=281						
NAY				AML	AML	17 46 20.5	
	comp=Z,2.0nm,0.6s,baz=281						
MIB	**Mutribah**	**6.60**	**295**	*eP*	**Pn**	**17 45 05.2**	**+0.3**
MIB				*eS*	**Sn**	**17 46 17.0**	**-3.2**
	comp=Z,1.6nm,0.2s						
MIB	**Mutribah**	**6.60**	**295**	*eP*	**Pn**	**17 45 05.2**	**+0.3**
	baz=286						
MIB				*eS*	**Sn**	**17 46 17.0**	**-3.3**
	baz=286						
MIB				AML	AML	17 46 18.4	
	comp=Z,2.0nm,0.2s,baz=286						
LYLS		**8.16**	**233**	P	**Pn**	**17 45 24.8**	**-1.5**
LYLS				S	**Sn**	**17 46 58.5**	**-0.1**

*IDC **16** 17:48:09.5±0.5, 5027N×17764W, h0km, mb4.3/22, mb1 4.5/23, mb1mx4.5/26, mbtmp4.3/23, ML4.0/1, MS3.5/5, Ms1 3.5/5, ms1mx2.9/44, Error ellipse: s-maj=18.7km s-min=11.9km az=160.0*
*BJI **16** 17:48:10.3, 5030N×17760W, h19km, mB5.3, mb4.6, Ms4.2, Msz4.0*
*ISCJB **16** 17:48:10.3±0.2, 5033N±004×17768W±003, h10km, mb4.5/71, MS3.5/5, Error ellipse: s-maj=6.0km s-min=3.0km az=10.5*
*MOS **16** 17:48:13.6±1.0, 5032N×17772W, h33km, mb4.8/32, Error ellipse: s-maj=10.7km s-min=6.0km az=99.1*
*NEIC **16** 17:48:13.4, 5025N×17757W, h20km, mb4.6/41, ML4.4(AEIC), After AEIC.*
*SZGRF **16** 17:48:22.5, 5122N×17804W, h33km, mb4.4, Andreanof Islands, Aleutian Islands, United States*
ISC 16 17:48:11.2±2.2, 5037N±004×17767W±004, h5km±13km, h11km±1.6km; pP-P, n310, σ0§69/306, mb4.5/71, MS3.5/5, 73C-72D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.64**	**22**	P	**Pn**	**17 48 40.1**	**-0.6**
ADK				S	**Sn**	**17 49 01.4**	**-0.8**
AMKA	**Amchitka**	**2.17**	**299**	P	**Pn**	**17 48 46.9**	**-1.0**
NIKO	**Nikolski**	**6.08**	**61**	P	**Pn**	**17 49 40.7**	**-0.9**
FX1	**Attu Island--F**	**6.24**	**297**	P	**Pn**	**17 49 45.0**	**+1.2**
UNV	**Unalaska Valle**	**7.71**	**59**	*eP*	**Pn**	**17 50 03.9**	**-0.1**
SDPT	**Sand Point**	**11.52**	**58**	*eP*	**Pn**	**17 50 54.2**	**-2.0**
PETK	**Petropavlovsk-**	**15.48**	**290**	Pn	**Pn**	**17 51 51.8**	**+1.8**
	0.6nm,0.3s,baz=93,slow=17,SNR=19						
OHAK	**Old Harbor**	**15.90**	**55**	*eP*	**Pn**	**17 51 49.1**	**-6.3**
SVW2	**Sparrevohn**	**16.35**	**40**	*eP*	**Pn**	**17 52 01.4**	**+0.2**
KDAK	**Kodiak Island**	**16.42**	**53**	Pn	**Pn**	**17 51 57.7**	**-4.4**
	2.2nm,0.3s,baz=295,slow=5.3,SNR=16						
KDAK				Sn	**Sn**	**17 55 04.5**	**+0.1**
	1.2nm,0.3s,baz=157,slow=23,SNR=12						
TTA	**Tatalina**	**17.21**	**35**	*eP*	**Pn**	**17 52 12.6**	**+0.6**
TTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TTA	**Tatalina**	**17.21**	**35**	*eP*	**Pn**	**17 52 12.6**	**+0.6**
	comp=Z,10.0nm,0.9s						
PPLA	**Purkeypile**	**18.65**	**38**	*eP*	**Pn**	**17 52 31.4**	**+1.6**
	comp=Z,31nm,1.2s						
RC01	**Rabbit Creek A**	**18.88**	**45**	*eP*	**Pn**	**17 52 33.9**	**+1.3**
CHUM	**Lake Minchumin**	**19.12**	**35**	*eP*	**Pn**	**17 52 34.9**	**-0.6**
	comp=Z,11nm,1.0s						
BILL	**Bilibino**	**19.42**	**342**	*αeP*	**Pn**	**17 52 39.6**	**+0.6**
BILL				pmax	pmax		
	comp=Z,54nm,1.4s						
BILL	**Bilibino**	**19.42**	**342**	*eP*	**Pn**	**17 52 39.6**	**+0.6**
	comp=Z,19nm,0.5s						
KTH	**Kantishna Hill**	**19.48**	**37**	*eP*	**Pn**	**17 52 38.4**	**-1.3**
	comp=Z,13nm,0.7s						
BPAW	**Bear Paw Mtn.**	**19.73**	**36**	*eP*	**Pn**	**17 52 41.4**	**-1.3**
	comp=Z,7.3nm,0.5s						
IMA2	**Indian Mountai**	**19.97**	**29**	*eP*	**Pn**	**17 52 43.7**	**-1.9**
SEY	**Seymchan**	**20.48**	**319**	*eP*	**P**	**17 52 50.6**	**+1.1**
RAGM	**Ragged Mountai**	**21.04**	**49**	*eP*	**P**	**17 52 55.7**	**+0.2**
EGAK	**Eagle**	**23.87**	**39**	*eP*	**P**	**17 53 23.9**	**-1.3**
	comp=Z,5.5nm,0.6s,mb4.2						
DAWY	**Dawson**	**24.38**	**41**	*eP*	**P**	**17 53 29.5**	**-0.3**
HYT	**Haines Junctio**	**24.59**	**49**	*eP*	**P**	**17 53 32.8**	**+1.0**
SIT	**Sitka**	**25.60**	**58**	*eP*	**P**	**17 53 42.8**	**+1.8**
SIT				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
SIT	**Sitka**	**25.60**	**58**	*eP*	**P**	**17 53 42.8**	**+1.9**
	comp=Z,40nm,1.0s,mb4.9						
YSS	**Yuzh-Sakhalins**	**26.14**	**278**	*eP*	**P**	**17 53 47.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.4						
INK	**Inuvik**	**27.90**	**34**	P	**P**	**17 54 00.8**	**-0.8**
	comp=Z,2.0nm,0.3s,mb4.2						
INK				LR	LR	18 04 38.7	
	comp=Z,44nm,20.0s,MS3.0,baz=293,slow=35						
INK	**Inuvik**	**27.90**	**34**	P	**P**	**17 54 00.8**	**-0.8**
INK				LR	LR	18 04 38.7	
YAK	**Yakutsk**	**30.63**	**313**	*eP*	**P**	**17 54 26.1**	**+0.3**
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
MJAR	**Matsushiro Arr**	**34.35**	**263**	P	**P**	**17 54 57.6**	**-1.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=50,slow=5.5,SNR=5.9						
MJAR				PcP	PcP	17 57 33.9	-0.6
	comp=Z,1.6nm,1.0s,baz=228,slow=1.8,SNR=5.7						
NLWA	**Neilton Lookou**	**34.87**	**74**	*⇑P*	**P**	**17 55 03.1**	**+0.1**
	baz=35						
YKA	**Yellowknife Ar**	**35.42**	**46**	P	**P**	**17 55 08.1**	**+0.4**
	comp=Z,4.3nm,0.6s,mb4.5,baz=276,slow=7.3,SNR=45						
YKA				PcP	PcP	17 57 36.2	-0.9
	comp=Z,0.8nm,0.8s,baz=280,slow=3.4,SNR=4.8						
YKA				LR	LR	18 09 45.3	
	comp=Z,21nm,18.5s,MS2.9,baz=125,slow=36						
YKA	**Yellowknife Ar**	**35.42**	**46**	P	**P**	**17 55 08.1**	**+0.4**
YKA						17 57 36.2	
YKA	**Yellowknife Ar**	**35.42**	**46**	P	**P**	**17 55 08.1**	**+0.4**
YKA				PcP	PcP	17 57 36.2	-0.9
YKA				LR	LR	18 09 45.3	
J02A	**Umpqua**	**36.93**	**79**	*⇓P*	**P**	**17 55 21.0**	**+0.2**
	baz=37						
E06A	**Yakima**	**37.02**	**73**	*⇑P*	**P**	**17 55 21.3**	**-0.3**
	baz=37						
K02A	**Glendale**	**37.29**	**80**	*⇓P*	**P**	**17 55 24.1**	**+0.2**
	baz=37						
G05A	**Wamic**	**37.42**	**75**	*⇓P*	**P**	**17 55 25.4**	**+0.4**
	baz=37						
I04A	**Tendick Farm,**	**37.45**	**78**	*⇑P*	**P**	**17 55 25.5**	**+0.3**
	baz=37,SNR=5.6						
L02A	**Cave Junction**	**37.54**	**81**	*⇓P*	**P**	**17 55 27.1**	**+1.1**
	baz=37						
HUMO	**Hull Mountain**	**37.71**	**80**	*⇑P*	**P**	**17 55 28.4**	**+1.0**
	baz=38						
JCC	**Jacoby Creek**	**37.98**	**83**	*⇑P*	**P**	**17 55 30.2**	**+0.5**
	baz=38						
YBH	**Yreka Blue Hor**	**38.33**	**81**	*eP*	**P**	**17 55 34.0**	**+1.4**
YBH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YBH	**Yreka Blue Hor**	**38.33**	**81**	*⇑P*	**P**	**17 55 33.9**	**+1.3**
	baz=38						
YBH	**Yreka Blue Hor**	**38.33**	**81**	*eP*	**P**	**17 55 34.0**	**+1.3**
	comp=Z,4.7nm,1.0s,mb4.2						
M02C	**Callahan**	**38.42**	**82**	*⇓P*	**P**	**17 55 34.1**	**+0.7**
	baz=38						
N02C	**Big Bar**	**38.44**	**83**	*⇑P*	**P**	**17 55 34.2**	**+0.6**
	baz=38,SNR=6.1						
J05A	**Fort Rock**	**38.44**	**78**	*⇓P*	**P**	**17 55 34.2**	**+0.6**
	baz=38						
EDM	**Edmonton**	**38.69**	**60**	*eP*	**P**	**17 55 35.8**	**+0.2**
A11A	**Hall Mountain,**	**38.72**	**68**	*⇑P*	**P**	**17 55 36.3**	**+0.5**
	baz=38						
K05A	**Summer Lake**	**38.95**	**79**	*⇓P*	**P**	**17 55 38.6**	**+0.8**
	baz=39						
WDC	**

J12A	Stokes Ranch,	42.28	75	⇓P	P	17 56 05.4	+0.1
	baz=42						
S06C	San Francisco	42.31	84	⇑P	P	17 56 06.3	+0.6
	baz=42,SNR=5.5						
M10A	I.L. Ranch, Tu	42.32	78	⇓P	P	17 56 05.9	+0.2
	baz=42						
I13A	Wildhorse Cree	42.53	73	⇓P	P	17 56 07.4	0.0
	baz=42						
HLID	Hailey	42.53	74	⇑P	P	17 56 07.5	0.0
	baz=42						
HLID	Hailey	42.53	74	eP	P	17 56 07.4	0.0
	comp=Z,1.9nm,0.8s,mb3.9						
U04C	Hernandez Rese	42.63	87	⇑P	P	17 56 08.6	+0.3
	baz=42						
O09A	Fish Creek Ran	42.67	80	⇓P	P	17 56 08.9	+0.3
	baz=42						
K12A	Draper Farm, C	42.73	75	⇑P	P	17 56 09.2	+0.2
	baz=42						
J13A	Cove Ranch, Pi	42.77	74	⇓P	P	17 56 09.5	+0.1
	baz=43						
M11A	Holland Ranch,	42.84	77	⇓P	P	17 56 10.2	+0.3
	baz=43						
T06C	Millerton Lake	42.93	85	⇓P	P	17 56 11.3	+0.6
	baz=43						
L12A	House Creek Ra	42.93	76	⇓P	P	17 56 11.1	+0.5
	baz=43						
NVAR	Mina Array Bea	42.98	82	P	P	17 56 10.2	-0.9
	comp=Z,2.7nm,0.9s,mb4.0,baz=293,slow=7.7,SNR=16						
NVAR				PcP	PcP	17 58 01.1	-0.3
	comp=Z,1.6nm,1.0s,baz=254,slow=5.0,SNR=4.6						
KCC	Kaiser Creek	42.98	84	⇑P	P	17 56 11.4	+0.2
	baz=43,SNR=5.7						
EGMT	Eagleton	43.04	66	⇓P	P	17 56 11.2	-0.3
	baz=43						
BOZ	Bozeman (W)	43.13	70	eP	P	17 56 11.8	-0.5
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
BOZ	Bozeman (W)	43.13	70	⇓P	P	17 56 12.1	-0.1
	baz=43						
BOZ	Bozeman (W)	43.13	70	eP	P	17 56 11.8	-0.4
	comp=Z,3.1nm,0.6s,mb4.2						
M12A	Wells	43.40	77	⇑P	P	17 56 14.6	+0.1
	baz=43						
HELL	Mitchell Peak	43.56	85	⇓P	P	17 56 15.6	-0.3
	baz=43,SNR=5.9						
L13A	Double Diamond	43.63	75	⇓P	P	17 56 16.1	-0.2
	baz=43						
N12A	Clover Valley,	43.64	77	⇑P	P	17 56 16.0	-0.3
	baz=44,SNR=5.3						
O11A	Cowboy Ranch,	43.66	79	⇓P	P	17 56 16.5	0.0
	baz=44						
R09A	Tonopah	43.87	82	⇑P	P	17 56 18.5	+0.2
	baz=44						
Q10A	Clear Creek Ra	43.95	81	⇓P	P	17 56 19.5	+0.5
	baz=44						
L14A	Malta	44.09	75	⇓P	P	17 56 20.2	+0.2
	baz=44						
O12A	Currie	44.15	78	⇑P	P	17 56 20.3	-0.2
	baz=44,SNR=11						
S10A	Tonopah Range,	44.36	82	⇑P	P	17 56 22.1	-0.2
	baz=44,SNR=8.2						
Q11A	Duckwater	44.41	80	⇓P	P	17 56 22.2	-0.4
	baz=44,SNR=5.1						
ISA	Isabella	44.54	86	⇓P	P	17 56 22.7	-1.0
	baz=44						
K16A	Soda Springs	44.67	73	⇓P	P	17 56 25.4	+0.8
	baz=44						
R11A	Troy Canyon, C	44.74	81	⇓P	P	17 56 25.0	-0.3
	baz=45,SNR=8.5						
N14A	Grayback Hills	44.79	76	⇓P	P	17 56 25.4	-0.3
	baz=45						
Q12A	Willow Creek R	44.81	79	⇑P	P	17 56 26.1	+0.2
	baz=45						
RLMT	Red Lodge	44.83	69	eP	P	17 56 25.7	-0.1
	comp=Z,12nm,1.0s,mb4.7						
MPMC	Manual Prospec	44.92	85	⇑P	P	17 56 27.1	+0.3
	baz=45						
FURC	Furnace Creek,	45.07	84	⇓P	P	17 56 28.1	+0.2
	baz=45						
P13A	Bates Ranch, G	45.08	78	⇑P	P	17 56 28.3	+0.3
	baz=45						
LRMC	Laurel Mountai	45.15	85	⇓P	P	17 56 28.3	-0.2
	baz=45						
TPNV	Topopah Spring	45.16	83	eP	P	17 56 28.4	-0.3
TPNV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
TPNV	Topopah Spring	45.16	83	⇑P	P	17 56 28.7	0.0
	baz=45,SNR=11						
TPNV	Topopah Spring	45.16	83	eP	P	17 56 28.4	-0.2
	comp=Z,9.3nm,0.9s,mb4.6						
EDW2	Edwards Air Fo	45.33	86	⇑P	P	17 56 29.7	-0.4
	baz=45						
Q13A	Wheeler Ranch,	45.37	79	⇑P	P	17 56 30.1	-0.2
	baz=45,SNR=5.1						
DUG	Dugway	45.40	77	eP	P	17 56 29.8	-0.7
DUG				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.5						
DUG	Dugway	45.40	77	⇑P	P	17 56 30.4	-0.1
	baz=45						
DUG	Dugway	45.40	77	eP	P	17 56 29.8	-0.7
	comp=Z,9.0nm,1.2s,mb4.5						
P14A	Drum Mountains	45.60	78	⇑P	P	17 56 31.7	-0.4
	baz=45,SNR=6.7						
T11A	Corn Creek, Al	45.64	82	⇓P	P	17 56 32.1	-0.3
	baz=46,SNR=5.8						
SHOC	Shoshone	45.79	84	⇑P	P	17 56 33.7	+0.1
	baz=46						
Q14A	Sevier Lake (B	45.82	79	⇓P	P	17 56 33.3	-0.6
	baz=46,SNR=10.0						
GSC	Goldstone	45.83	85	eP	P	17 56 33.3	-0.6
GSC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
GSC	Goldstone	45.83	85	⇑P	P	17 56 33.6	-0.3
	baz=46						
GSC	Goldstone	45.83	85	eP	P	17 56 33.3	-0.6
	comp=Z,4.5nm,0.8s,mb4.5						
R13A	O'Grain Ranch,	45.87	80	⇓P	P	17 56 33.6	-0.6
	baz=46						
PDAR	Pinedale Array	45.94	72	P	P	17 56 34.2	-0.5
	comp=Z,2.2nm,0.7s,mb4.2,baz=307,slow=5.4,SNR=15						
BFSC	Mount Baldy St	45.95	87	⇓P	P	17 56 35.0	+0.1
	baz=46						
O16A	Springville	46.21	76	⇓P	P	17 56 36.6	-0.3
	baz=46						
S13A	Holt Ranch, En	46.30	80	⇑P	P	17 56 37.5	-0.1
	baz=46,SNR=6.7						
BJI	Beijing	46.30	284	P	P	17 56 36.8	-0.8
BJI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
T13A	Saint George	46.61	81	⇓P	P	17 56 40.2	+0.2
	baz=46						
MSU	Marysvale	46.79	78	eP	P	17 56 41.4	-0.1
GMRC	Granite Mounta	46.88	85	⇓P	P	17 56 42.5	+0.3
	baz=47						
U13A	Pakoon Wash	46.94	82	⇓P	P	17 56 42.6	-0.1
	baz=47,SNR=8.1						
T14A	Hurricane	47.10	81	⇑P	P	17 56 43.7	-0.2
	baz=47						
PFO	Pinyon Flat Ob	47.12	87	⇓P	P	17 56 44.0	-0.1
	baz=47						
V13A	Grand Canyon W	47.28	82	⇑P	P	17 56 45.2	-0.2
	baz=47,SNR=5.2						
P18A	Preston Nutter	47.33	76	⇑P	P	17 56 45.4	-0.3
	baz=47						
U14A	Mt Trumbull	47.44	81	⇑P	P	17 56 46.5	-0.1
	baz=47						
SRU	San Rafael	47.47	77	⇓P	P	17 56 47.1	+0.3
	baz=47						
T15A	Red Dirt Ranch	47.57	80	⇓P	P	17 56 47.3	-0.3
	baz=47						
IRM	Iron Mountain	47.60	85	⇑P	P	17 56 47.9	0.0
	baz=48						
MONP	Monument Peak	47.61	87	⇑P	P	17 56 47.9	0.0
	baz=48						
S16A	Weppner Ranch,	47.64	79	⇑P	P	17 56 48.1	+0.1
	baz=48						
Q18A	Rafter H Ranch	47.72	76	⇑P	P	17 56 48.4	-0.3
	baz=48						
SONM	Songino Array	47.75	298	P	P	17 56 49.2	+0.4
	comp=Z,2.5nm,0.9s,mb4.3,baz=54,slow=8.9,SNR=14						
SONM				PcP	PcP	17 58 17.5	-0.3
	comp=Z,1.5nm,0.7s,baz=75,slow=2.9,SNR=5.3						
R17A	Hanksville Air	47.77	78	⇓P	P	17 56 48.8	-0.2
	baz=48						
V14A	Boquillas Ranc	47.97	82	⇑P	P	17 56 50.5	-0.2
	baz=48						
U15A	North Rim	47.99	81	⇓P	P	17 56 51.0	+0.1
	baz=48,SNR=7.0						
ZAK	Zakamensk	48.09	302	eP	P	17 56 52.0	+0.6
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
PDMCI	Parker Dam,Lak	48.16	84	⇑P	P	17 56 51.8	-0.3
	baz=48						
S17A	Black Ridge (B	48.19	78	⇑P	P	17 56 52.1	-0.2
	baz=48						
R18A	Canyonlands Na	48.30	77	⇓P	P	17 56 52.2	-1.0
	baz=48						
V15A	Kaibab Nationa	48.45	81	⇑P	P	17 56 54.4	0.0
	baz=48						
GLA	Glamis	48.52	86	⇓P	P	17 56 54.6	-0.4
	baz=48						
S18A	Hurst Farm, Bl	48.66	78	⇓P	P	17 56 55.6	-0.4
	baz=48,SNR=5.8						
X14A	Yava	48.84	83	⇑P	P	17 56 57.1	-0.4
	baz=49						
T18A	Mexican Hat	49.08	78	⇓P	P	17 56 57.9	-1.3
	baz=49,SNR=6.7						
WUAZ	Wupatki	49.14	81	⇑P	P	17 56 59.6	-0.1
	baz=49						
WUAZ	Wupatki	49.14	81	eP	P	17 56 59.6	-0.1
	comp=Z,3.3nm,0.9s,mb4.4						
S19A	Harvey Farm, M	49.16	77	⇓P	P	17 56 58.7	-1.1
	baz=49						
X15A	Humboldt	49.25	83	⇓P	P	17 57 00.1	-0.4
	baz=49						
PV01	Paradox Valley	49.28	76	eP	P	17 57 00.0	-0.7
W16A	Flagstaff	49.31	82	⇑P	P	17 57 00.9	-0.1
	baz=49						
U18A	Rough Rock, Ch	49.52	79	⇑P	P	17 57 01.9	-0.7
	baz=49						
ULM	Lac du Bonnet	49.65	56	P	P	17 57 02.3	-1.1
	comp=Z,1.2nm,0.4s,mb4.3,baz=324,slow=9.6,SNR=4.6						
X16A	Lo Mia Camp, P	49.80	82	⇑P	P	17 57 04.4	-0.3
	baz=50						
T19A	Beabito	49.80	78	⇓P	P	17 57 04.1	-0.6
	baz=50,SNR=5.1						
KRAR	Krasnoyarsk	50.29	313	eP	P	17 57 07.9	-0.3
KRAR				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
Y17A	Roosevelt	50.64	82	⇑P	P	17 57 11.1	0.0
	baz=50						
X18A	Snowflake	50.67	81	⇑P	P	17 57 11.1	-0.2
	baz=50						
AGMN	Agassiz Refuge	50.76	59	eP	P	17 57 10.6	-1.2
	comp=Z,4.0nm,0.7s,mb4.5						
118A	Homack Ranch,	51.88	83	⇑P	P	17 57 19.9	-0.6
	baz=52						
119A	Ashpeak Ranch,	52.23	82	⇓P	P	17 57 22.6	-0.4
	baz=52						
LAZ	Ladron	52.53	79	eP	P	17 57 25.2	0.0
HVS	Khovu-Aksy	52.69	308	eP	P	17 57 26.4	+0.2
HVS				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
ZALV	Zalesovo Beam	55.25	314	P	P	17 57 43.0	-1.8
	comp=Z,0.4nm,0.3s,mb4.0,baz=52,slow=9.6,SNR=3.6						
ZAL	Zalesovo	55.27	314	P	P	17 57 43.1	-1.9
GTA	Gaotai	56.61	293	eP	P	17 57 54.5	-0.3
GTA				AP	pP	17 57 58.8	+2.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
TXAR	Lajitas Array	58.10	81	P	P	17 58 04.1	-1.4
	comp=Z,1.7nm,0.6s,mb4.2,baz=301,slow=4.5,SNR=14						
KEV	Kevo	58.84	350	ep	P	17 58 09.3	-0.8
	comp=Z,0.5nm,0.3s,mb4.0						
KEV	Kevo	58.84	350	eP	P	17 58 09.3	-0.8
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ARCES	ARCESS Array B	59.21	351	P	P	17 58 12.1	-0.6
	comp=Z,2.8nm,0.5s,mb4.5,baz=26,slow=7.8,SNR=26						
ARCES				LR	LR	18 24 36.7	
	comp=Z,44nm,18.8s,MS3.6,baz=297,slow=37						
KURK	Kurchatov	60.24	315	eP	P	17 58 19.6	-0.4
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
KURK	Kurchatov	60.24	315	eP	P	17 58 19.6	-0.4
	comp=Z,3.7nm,0.7s,mb4.5						
SCHQ	Scheefferville	60.36	38	P	P	17 58 21.0	+0.3
	comp=Z,3.6nm,0.8s,mb4.5,baz=292,slow=11,SNR=3.2						
MK31	Makanchi Array	61.23	309	eP	P	17 58 26.1	-0.7
MKAR	Makanchi Array	61.23	309	P	P	17 58 25.8	-0.9
	comp=Z,1.6nm,0.7s,mb4.3,baz=58,slow=7.3,SNR=16						
VOSK	Vostochnaya	62.11	320	P	P	17 58 32.3	-0.3
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
BVA0	Borovoye Array	62.13	321	i P	P	17 58 32.7	0.0
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
BVAR	Borovoye Array	62.13	321	LR	LR	18 26 25.8	
	comp=Z,71nm,20.0s,MS3.8,baz=314,slow=37						
BRVK	Borovoye	62.15	321	eP	P	17 58 33.2	+0.4
BRVK				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
BRVK	Borovoye	62.15	321	eP	P	17 58 33.2	+0.4
	comp=Z,11nm,0.9s,mb5.0						
SVE	Sverdlovsk	62.83	328	eP	P	17 58 38.6	+1.2
SVE				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.0						
ALLY	Alegheny Colle	63.54	56	eP	P	17 58 41.6	-0.7
	comp=Z,14nm,0.7s,mb5.1						
JOF	Joensuu	64.76	346	ep	P	17 58 48.1	-1.9
	comp=Z,1.5nm,0.4s,mb4.4						
KLMR	Klimovskoe	65.17	341	eP	P	17 58 51.9	-0.8
ACCN	Adirondack Com	65.63	51	eP	P	17 58 58.4	+2.5
	comp=Z,23nm,1.1s,mb5.1						
KAF	Kangasniemi	66.26	348	ep	P	17 58 59.1	-0.6
	comp=Z,1.3nm,0.4s,mb4.3						
KAF	Kangasniemi	66.26	348	eP	P	17 58 59.1	-0.6
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
BLA	Blacksburg	66.55	60	P	P	17 59 01.2	-0.8
BLA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
BLA	Blacksburg	66.55	60	P	P	17 59 01.1	-0.8
	comp=Z,7.5nm,0.8s,mb4.8						
EKS2	Erkin-Say	68.39	311	eP	P	17 59 13.9	+0.4
	comp=Z,6.6nm,0.6s,mb4.8						
LSA	Lhasa	68.46	291	eP	P	17 59 15.3	+1.1
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
LSA	Lhasa	68.46	291	eP	P	17 59 15.3	+1.1
	comp=Z,3.4nm,0.6s,mb4.5						
NB2	NORSAR Subarra	68.72	355	P	P	17 59 15.3	0.0
	comp=Z,2.3nm,0.5s,mb4.4,baz=8.1,slow=6.9						
NOA	NORSAR Array B	68.72	355	P	P	17 59 15.4	+0.2
	comp=Z,2.8nm,0.6s,mb4.4,baz=6.8,slow=6.4,SNR=9.8						
AML	Almayashu	68.83	311	eP	P	17 59 17.9	+1.6
	comp=Z,4.0nm,0.7s,mb4.5						
AKTO	Aktyubinsk	68.93	326	i P	P	17 59 16.8	+0.1
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
AB31	Akbulak array	69.18	324	i P	P	17 59 18.4	+0.1
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
KK31	Karatay Array	69.60	313	i P	P	17 59 20.8	-0.2
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
OBN	Obninsk	71.07	340	eP	P	17 59 30.1	+0.3
OBN				e		17 59 40.1	
OBN				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
CMAR	Chiang Mai Arr	71.84	277	P	P	17 59 34.4	-0.6
	comp=Z,1.4nm,0.7s,mb4.0,baz=27,slow=5.8,SNR=10						
AKASG	Malin Array Be	76.73	343	P	P	18 00 02.8	-0.2
	comp=Z,9.3nm,0.8s,mb4.8,baz=18,slow=5.6,SNR=29						
AKBB	Malin Array Si	76.73	343	eP	P	18 00 03.1	+0.1
AKBB				e		18 00 13.1	
KIEV	Kiev	76.74	343	eP	P	18 00 01.9	-1.2
KIEV				e		18 00 13.1	
KIEV				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
KIEV	Kiev	76.74	343	eP	P	18 00 01.9	-1.2
	comp=Z,17nm,1.1s,mb4.9						
KIEV				e		18 00 13.1	
KBL	Kabul	77.03	309	eP	P	18 00 03.8	-1.2
KBL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KBL	Kabul	77.03	309	eP	P	18 00 03.8	-1.2
	comp=Z,5.0nm,0.9s,mb4.4						
BRG	Berggiesshubel	78.66	353	P	P	18 00 13.6	-0.2
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRG	Berggiesshubel	78.66	353	e(P)	P	18 00 13.6	-0.2
	comp=Z,4.3nm,0.8s,mb4.4						
DPC	Dobruska-Polom	78.95	351	eP	P	18 00 16.2	+0.8
DPC				epP	pP	18 00 18.8	+1.8
OKC	Ostrava-Krasne	79.26	350	eP	P	18 00 20.5	+3.4
NKC	Novy Kostel	79.41	353	eP	P	18 00 18.4	+0.5
PRU	Pruhonice	79.48	352	eP	P	18 00 18.8	+0.5
KOLS	Kolonicke sedl	79.61	347	eP	P	18 00 17.7	-1.3
KIV	Kislovodsk	79.70	332	eP	P	18 00 19.7	+0.1
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CRVS	Cervenica-Dubn	79.76	347	eP	P	18 00 19.7	-0.1
GIVF	Givet	79.89	358	eP	P	18 00 20.9	+0.4
BAIF	Baives	79.94	359	eP	P	18 00 21.4	+0.6
GRA1	Grafenberg Arr	80.03	354	eP	P	18 00 22.3	+1.0
	comp=Z,4.0nm,1.0s,mb4.3						
GRF	Grafenberg Arr	80.03	354	eP	P	18 00 22.3	+1.0
GRF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
GRF	Grafenberg Arr	80.03	354	eP	P	18 00 22.3	+1.0
GRF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
GRF	Grafenberg Arr	80.03	354	eP	P	18 00 22.3	+1.0
	comp=Z,4.0nm,1.0s,mb4.3						
KHC	Kasperske Hory	80.42	353	eP	P	18 00 23.5	+0.1
KHC	Kasperske Hory	80.42	353	eP	P	18 00 24.1	+0.7
KHC				epP	pP	18 00 27.1	+2.2
BURAR	Bucovina Array	80.43	345	‖ iP	P	18 00 24.1	+0.6
GERES	GERESS Array B	80.69	352	P	P	18 00 24.5	-0.4
	comp=Z,1.1nm,0.8s,mb3.9,baz=20,slow=4.3,SNR=6.5						
MODS	Modra-Piesok	80.81	350	eP	P	18 00 25.3	-0.2
FLN	La Foliniere	81.22	2	eP	P	18 00 28.6	+0.9
LDF	La Druitiere	81.40	2	eP	P	18 00 28.7	0.0
	comp=Z,22nm,1.0s,mb4.8						
LDF	La Druitiere	81.40	2	eP	P	18 00 28.7	0.0
LDF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
LDF	La Druitiere	81.40	2	eP	P	18 00 28.7	0.0
	comp=Z,11nm,1.0s,mb4.8						
MEZF	Maizieres J'vi	81.49	358	eP	P	18 00 29.9	+0.8
CDF	Champ du Feu	81.51	357	eP	P	18 00 29.5	+0.2
ROSF	Rostrenen	81.56	4	eP	P	18 00 29.7	+0.2
GRR	Gorron	81.59	2	eP	P	18 00 30.6	+0.9
SGMF	Saint Gilles	81.67	3	eP	P	18 00 30.1	0.0
WRA	Warramunga Arr	81.79	225	P	P	18 00 28.8	-2.1
	comp=Z,1.8nm,0.8s,mb4.0,baz=32,slow=5.7,SNR=9.2						
QUIF	Quistinic	81.99	4	eP	P	18 00 31.3	-0.5
	comp=Z,26nm,1.0s,mb4.8						
QUIF	Quistinic	81.99	4	eP	P	18 00 31.3	-0.5
QUIF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
QUIF	Quistinic	81.99	4	eP	P	18 00 31.3	-0.5
	comp=Z,13nm,1.0s,mb4.8						
HINF	Hinteralfeld	82.12	357	eP	P	18 00 32.1	-0.4
MLR	Muntele Rosu	82.35	343	‖ iP	P	18 00 35.6	+1.9
LOR	Lormes	82.74	359	eP	P	18 00 35.8	+0.1
BZS	Buzias	82.95	346	‖ iP	P	18 00 37.0	+0.2
SSF	Saint Saulge	82.95	359	eP	P	18 00 36.8	0.0
AVF	Avril sur Loir	83.22	359	eP	P	18 00 38.6	+0.4
TUE	Stuetta	83.36	355	eP	P	18 00 39.8	+0.9
	comp=Z,17nm,1.5s,mb4.9						
SMF	Signal de Mont	83.36	359	eP	P	18 00 39.4	+0.4
	comp=Z,21nm,1.0s,mb4.8						
SMF	Signal de Mont	83.36	359	eP	P	18 00 39.4	+0.4
SMF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
SMF	Signal de Mont	83.36	359	eP	P	18 00 39.4	+0.4
	comp=Z,11nm,1.0s,mb4.8						
TCF	Toulx Ste Croi	83.73	0	eP	P	18 00 41.1	+0.3
FITZ	Fitzroy Crossi	84.41	233	eP	P	18 00 43.6	-0.9
	comp=Z,6.4nm,0.6s,mb4.9						
FITZ				e		18 00 54.1	
FITZ	Fitzroy Crossi	84.41	233	P	P	18 00 43.8	-0.8
	comp=Z,4.2nm,0.6s,mb4.7,baz=12,slow=4.8,SNR=18						
LPG	La Plagne	84.44	357	eP	P	18 00 46.1	+1.6
BNI	Bardonecchia	84.89	357	eP	P	18 00 47.3	+0.5
BNI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
BNI	Bardonecchia	84.89	357	eP	P	18 00 47.3	+0.5
	comp=Z,7.4nm,0.9s,mb4.8						
LFF	La Frestale	85.07	1	eP	P	18 00 48.2	+0.5
CAF	Calviac	85.09	0	eP	P	18 00 48.3	+0.5
MBDF	Montbardon	85.21	357	eP	P	18 00 48.9	+0.5
	comp=Z,7.8nm,0.7s,mb4.7						
MBDF	Montbardon	85.21	357	eP	P	18 00 48.9	+0.5
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
MBDF	Montbardon	85.21	357	eP	P	18 00 48.9	+0.5
	comp=Z,3.9nm,0.7s,mb4.7						
ASAR	Alice Springs	85.23	223	P	P	18 00 47.1	-1.5
	comp=Z,0.9nm,0.7s,mb4.0,baz=30,slow=5.4,SNR=14						
ETSF	Etsaut	87.08	2	eP	P	18 00 57.8	+0.1
STKA	Stephens Creek	89.47	214	eP	P	18 01 08.2	-0.6
	comp=Z,4.7nm,0.7s,mb4.9						
STKA				e		18 01 17.8	
STKA	Stephens Creek	89.47	214	P	P	18 01 08.1	-0.7
	comp=Z,5.3nm,0.7s,mb5.0,baz=352,slow=7.1,SNR=11						
ESDC	Sonseca Array	90.17	5	P	P	18 01 11.0	-1.3
	comp=Z,1.3nm,0.7s,mb4.3,baz=354,slow=5.4,SNR=6.1						
KEST	Kesra	94.05	354	LR	LR	18 48 17.0	
	comp=Z,58nm,18.5s,MS4.1,baz=251,slow=38						
TORD	Torodi Ar. Bea	116.76	1	PKP	PKPdf	18 06 54.9	-2.0
	comp=Z,0.4nm,0.6s,baz=320,slow=2.8,SNR=4.4						
PLCA	Paso Flores	129.98	109	PKP	PKPdf	18 07 20.4	-0.8
	comp=Z,1.4nm,0.7s,baz=240,slow=1.6,SNR=2.9						
MAW	Mawson	146.10	217	PKPbc	PKPbc	18 07 49.4	-1.4
	comp=Z,4.4nm,0.9s,baz=96,slow=4.7,SNR=9.4						
BOSA	Boshof	152.19	313	PKPbc	PKPbc	18 08 06.8	-0.8
	comp=Z,5.9nm,0.6s,baz=329,slow=1.0,S

14nm,0.8s,mb4.3,baz=289,slow=11,SNR=24
CPUP LR LR 18 03 46.8
comp=Z,472nm,18.9s,MS3.9,baz=286,slow=41
BCIP Isla Barro Col 23.66 351 *eP* **P 17 54 21.5 +1.1**
SDV Santo Domingo 23.72 14 P **P 17 54 21.7 +0.8**
6.7nm,0.6s,mb4.3,baz=207,slow=7.7,SNR=19
PLCA Paso Flores 26.72 171 P **P 17 54 47.2 -0.8**
5.3nm,1.1s,mb4.0,baz=337,slow=12,SNR=3.7
PLCA Paso Flores 26.72 171 P **P 17 54 47.2 -0.8**
PCRV Puerto La Cruz 26.90 26 P **P 17 54 49.5 -0.3**
3.7nm,0.4s,mb4.2,baz=15,slow=20,SNR=3.8
PCRV LR LR 18 06 30.9
comp=Z,971nm,18.2s,MS4.4,baz=42,slow=39
BDFB Brasilia 27.16 96 P **P 17 54 51.1 -1.1**
4.8nm,0.8s,mb4.1,baz=258,slow=18,SNR=8.7
BDFB LR LR 18 06 28.1
comp=Z,771nm,18.0s,MS4.3,baz=101,slow=38
SPB Sao Paulo 28.59 113 *eP* **P 17 55 05.2 +0.3**
CMIG Matias Romero 36.33 329 LR LR 18 09 07.7
comp=Z,213nm,18.4s,MS4.0,baz=173,slow=33
TEIG Tepich 36.39 341 LR LR 18 11 13.0
comp=Z,232nm,18.2s,MS4.0,baz=138,slow=36
TKL Tuckaleechee C 50.27 352 LR LR 18 21 09.8
comp=Z,199nm,18.1s,MS4.2,baz=226,slow=38
TXAR Lajitas Array 50.94 329 P **P 17 58 10.1 0.0**
1.0nm,0.6s,mb3.9,baz=144,slow=9.1,SNR=6.9
TXAR LR LR 18 18 29.9
comp=Z,222nm,18.6s,MS4.2,baz=250,slow=35
TXAR Lajitas Array 50.94 329 P **P 17 58 10.1 0.0**
TXAR Lajitas Array 50.94 329 P **P 17 58 10.1 0.0**
TXAR LR LR 18 18 29.9
PMSA Palmer Station 51.04 173 *eP* **P 17 58 10.0 -0.4**
MIAR Mount Ida 51.39 342 *eP* **P 17 58 13.7 +0.3**
6.7nm,0.8s,mb4.6
AMTX Amarillo 54.66 334 *eP* **P 17 58 37.3 -0.2**
RKT Rikitea 56.11 252 *eS* **S 18 06 29.2 -7.4**
259nm,28.8s
RKT *e*LR LR 18 15 01.3
257nm,27.5s
ANMO Albuquerque 56.87 330 *eP* **P 17 58 52.7 -0.7**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 56.87 330 *eP* **P 17 58 52.7 -0.7**
comp=Z,6.3nm,1.2s,mb4.5
MDV Middlebury 58.13 2 *eP* **P 17 59 04.4 +2.4**
SDCO Great Sand Dun 58.72 333 *eP* **P 17 59 06.6 +0.3**
comp=Z,8.1nm,1.3s,mb4.6
FRNY Flat Rock 58.95 2 *eP* **P 17 59 08.2 +0.4**
comp=Z,9.6nm,0.9s,mb4.8
WUAZ Wupatki 59.80 327 *eP* **P 17 59 15.6 +1.8**
comp=Z,9.1nm,1.1s,mb4.7
MSU Marysvale 62.50 329 *eP* **P 17 59 32.4 +0.3**
RWWY Rawlins 62.72 334 *eP* **P 17 59 35.0 +1.5**
TAOE Nuku Hiva Isla 62.81 267 *e*LR LR 18 18 14.0
comp=Z,1μm,26.6s
TPNV Topopah Spring 63.51 325 *eP* **P 17 59 38.0 -0.8**
TPNV pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
TPNV Topopah Spring 63.51 325 *eP* **P 17 59 38.0 -0.9**
comp=Z,7.1nm,1.1s,mb4.6
DUG Dugway 64.10 329 *eP* **P 17 59 43.0 +0.3**
DUG pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
DUG Dugway 64.10 329 *eP* **P 17 59 43.0 +0.3**
comp=Z,4.9nm,0.6s,mb4.7
HWUT Hardware Ranch 64.59 331 *eP* **P 17 59 46.0 +0.1**
comp=Z,9.5nm,0.9s,mb4.8
PDAR Pinedale Array 64.61 333 P **P 17 59 45.3 -0.6**
comp=Z,0.4nm,0.5s,mb3.7,baz=120,slow=8.4,SNR=3.6
PDAR LR LR 18 29 08.0
comp=Z,88nm,18.3s,MS4.0,baz=336,slow=37
MTUM Tungsten Hills 65.11 324 *eP* **P 17 59 53.5 +4.2**
BBTS Babate 65.61 66 LR LR 18 27 17.1
comp=Z,172nm,19.1s,MS4.3,baz=111,slow=35
NVAR Mina Array Bea 65.70 325 P **P 17 59 54.4 +1.2**
comp=Z,1.1nm,0.8s,mb3.9,baz=170,slow=7.3,SNR=3.7
NVAR Mina Array Bea 65.70 325 P **P 17 59 54.4 +1.2**
RRI2 Red Ridge 65.85 333 *eP* **P 17 59 53.8 -0.2**
comp=Z,12nm,1.0s,mb4.9
ULM Lac du Bonnet 66.63 346 P **P 17 59 58.3 -0.5**
comp=Z,2.4nm,0.5s,mb4.5,baz=112,slow=5.4,SNR=3.5
GCMT Greycliff 67.10 335 *eP* **P 18 00 00.9 -1.1**
HLID Hailey 67.44 331 *eP* **P 18 00 04.4 +0.2**
comp=Z,2.9nm,0.7s,mb4.4
VNA1 Neumayer--Stat 69.26 161 *e* **P 18 00 16.3 +1.1**
VNA1 *e* 18 00 24.7
TBI Tubuai 69.37 250 *e*LR LR 18 21 21.6
comp=Z,295nm,25.8s
PPT Papeete 70.31 256 *e*LR LR 18 21 40.5
comp=Z,182nm,27.2s
PPT Papeete 70.31 256 LR LR 18 22 22.9
comp=Z,112nm,20.8s,MS4.1,baz=80,slow=28
SNAA Sanae 71.22 161 *e* **P 18 00 26.8 -0.4**
SNAA *e* 18 00 35.4
SNAA Sanae 71.22 161 *eP* **P 18 00 26.5 -0.7**
SNAA pmax pmax
comp=Z,7.0nm,0.8s
SNAA Sanae 71.22 161 *eP* **P 18 00 26.5 -0.6**
comp=Z,6.8nm,0.8s,mb4.6
OD2 Odessa Site #2 72.31 331 *eP* **P 18 00 34.3 +0.3**
LIC Lamto 73.39 79 *eP* **P 18 00 41.5 +0.3**
comp=Z,36nm,1.1s,mb5.2
TIC Toumodi 73.52 79 *eP* **P 18 00 40.9 -1.1**
comp=Z,37nm,0.9s,mb5.3
DBIC Dimbokro 73.68 79 P **P 18 00 43.2 +0.3**
comp=Z,9.4nm,0.9s,mb4.7,baz=206,slow=6.2,SNR=9.0
DBIC LR LR 18 31 21.5
comp=Z,360nm,19.8s,MS4.7,baz=208,slow=34
KIC Kosan Boka 73.70 79 *eP* **P 18 00 42.5 -0.5**
comp=Z,116nm,1.1s,mb5.7
EDM Edmonton 74.51 338 *eP* **P 18 00 44.7 -2.1**
QSPA South Pole Qui 75.79 180 *eP* **P 18 00 53.3 -0.7**
comp=Z,14nm,1.1s,mb4.8
SBA Scott Base 81.54 191 *eP* **P 18 01 26.3 +0.7**
TOA0 Torodi Ar. Sit 81.73 74 *eP* **P 18 01 28.3 +0.5**
TORD Torodi Ar. Bea 81.73 74 P **P 18 01 28.3 +0.6**
comp=Z,28nm,0.8s,mb5.2,baz=264,slow=5.5,SNR=84
TORD LR LR 18 39 17.2
comp=Z,171nm,18.9s,MS4.4,baz=220,slow=37
YKA Yellowknife Ar 82.30 343 P **P 18 01 28.3 -1.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=139,slow=4.9,SNR=16
VNDA Vanda 82.61 191 P **P 18 01 31.9 +0.7**
comp=Z,1.2nm,1.0s,mb3.9,baz=91,slow=3.4,SNR=5.1
VNDA Vanda 82.61 191 P **P 18 01 31.9 +0.6**
ESDC Sonseca Array 85.83 47 P **P 18 01 49.1 +0.9**
comp=Z,1.6nm,0.7s,mb4.4,baz=251,slow=5.1,SNR=8.1
TAM Tamanrasset 87.98 66 *eP* **P 18 02 00.7 +1.6**
TAM *e* pP 18 02 07.8 +2.0
TSUM Tsumeb 88.77 109 *eP* **P 18 02 00.2 -2.7**
comp=Z,30nm,1.6s,mb5.4
INK Inuvik 91.99 342 P **P 18 02 15.9 -0.8**
comp=Z,1.5nm,0.8s,mb4.3,baz=141,slow=9.2,SNR=3.9
BOSA Boshof 92.90 120 LR LR 18 40 46.7
comp=Z,160nm,18.2s,MS4.5,baz=157,slow=33
MAW Mawson 93.02 165 P **P 18 02 21.2 -0.5**
comp=Z,3.3nm,0.9s,mb4.8,baz=225,slow=8.7,SNR=5.7
LSZ Lusaka 99.58 108 LR LR 18 45 14.6
comp=Z,288nm,20.0s,MS4.8,baz=203,slow=34
GERES GERESS Array B 100.54 42 P Pdif 18 02 56.5 +0.4
comp=Z,0.4nm,0.6s,baz=227,slow=5.1,SNR=4.6
ASAR Alice Springs 132.15 218 PKP PKPdf 18 08 22.2 -0.9
comp=Z,0.6nm,1.0s,baz=121,slow=2.0,SNR=4.2
WRA Warramunga Arr 134.63 222 PKP PKPdf 18 08 27.9 0.0
comp=Z,1.2nm,0.8s,baz=137,slow=1.4,SNR=6.5
WRA Warramunga Arr 134.63 222 PKP PKPdf 18 08 27.9 0.0
ZALV Zalesovo Beam 137.75 17 PKP PKPdf 18 08 32.2 -0.4
comp=Z,2.0nm,0.7s,baz=222,slow=2.0,SNR=8.2
ZAL Zalesovo 137.75 17 PKIKP PKPdf 18 08 32.3 -0.3
KURK Kurchatov 138.36 24 *e*PKIKP PKPdf 18 08 34.1 +0.2
MKAR Makanchi Array 142.96 25 PKP PKPdf 18 08 42.1 -0.1
comp=Z,0.5nm,0.6s,baz=346,slow=1.4,SNR=3.6
ZAK Zakamensk 144.07 1 *e*PKIKP PKPdf 18 08 41.1 -3.0
ZAK pmax pmax
comp=Z,5.0nm,1.5s
SONM Songino Array 146.56 357 PKPbc PKPbc 18 08 50.2 +0.3
comp=Z,3.8nm,0.6s,baz=331,slow=2.3,SNR=28
WMQ Urumqi 147.53 22 *e*PKP PKPdf 18 08 51.5 +1.2
KSRS Korea Array 148.61 322 PKPbc PKPbc 18 08 55.6 -0.3
comp=Z,1.6nm,0.9s,baz=30,slow=2.0,SNR=12
GTA Gaotai 154.79 7 *e*PKP PKPdf 18 09 02.4 +0.9
GTA APKP 18 09 07.9
GTA XPKP 18 09 10.8

*NEIC **15** 18:06:50.0±2.0, 9.00N×82.93W, h8km±8km, MD4.5(CASC), Error ellipse: s-maj=25.5km s-min=8.9km az=101.0*

*IDC **16** 18:06:19.6±23.0, 1.000N×68.73W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/20, mbtmp4.1/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/34, Error ellipse: s-maj=812.4km s-min=36.7km az=32.0*
*ISCJB **16** 18:06:50.1±0.5, 887N±006×8287W±005, h25km±5km, mb4.0/2, Error ellipse: s-maj=10.8km s-min=6.6km az=30.2*
*CASC **16** 18:06:50.0±2.5, 8.93N×82.90W, h8km±11km, MD4.2, ML3.3*
ISC 16 18:06:50.6±0.5, 892N±006×8289W±004, h15km±6km, n35, σ1§23/46, mb4.0/2, 12C-8D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.13**	**100**	⇑*iP*			**Pg**	**18 06 54.0**	**-0.3**
BRU2	**Volcan**	**0.23**	**122**	⇑*iP*			**Pg**	**18 06 55.6**	**-0.1**
BRU2				*eS*			**Sg**	**18 07 00.0**	**+0.7**
TBS2		**0.26**	**118**	⇑*iP*			**Pg**	**18 06 56.6**	**+0.3**
TBS2				*eS*			**Sg**	**18 07 00.8**	**+0.7**
ACR	**Cerro Adams**	**0.38**	**226**	⇓*iP*			**Pg**	**18 06 58.1**	**-0.2**
ACR				⇓*iP*				18 06 58.2	
ACR	**Cerro Adams**	**0.38**	**226**	⇓*iP*			**Pg**	**18 06 58.1**	**-0.2**
BAR1		**0.53**	**308**	⇓*iP*			**Pg**	**18 06 59.8**	**-1.2**
BAR1				⇓*iP*				18 06 59.9	
BUS	**Buena Vista**	**1.07**	**306**	⇑*iP*			**Pb**	**18 07 09.1**	**-1.6**
BUS				⇑*iP*				18 07 09.1	
BUS				*eS*			**Sb**	**18 07 24.2**	**-0.2**
BUS	**Buena Vista**	**1.07**	**306**	⇑*iP*			**Pb**	**18 07 09.1**	**-1.6**
BUS				*eS*			**Sb**	**18 07 24.2**	**-0.2**
LIO	**Limon**	**1.09**	**352**	⇓*eP*			**Pb**	**18 07 09.9**	**-1.2**
LIO				*eS*			**Sb**	**18 07 25.1**	**0.0**
LIO	**Limon**	**1.09**	**352**	*eP*			**Pb**	**18 07 09.3**	**-1.8**
LIO				*eS*			**Sb**	**18 07 26.3**	**+1.2**
QCR	**Quepos**	**1.36**	**292**	⇑*iP*			**Pn**	**18 07 12.9**	**-2.0**
QCR				⇑*eP*				18 07 13.0	
QCR	**Quepos**	**1.36**	**292**	⇑*eP*			**Pn**	**18 07 13.0**	**-1.9**
LCR2	**La Lucha 2**	**1.37**	**307**	*eP*			**Pn**	**18 07 14.0**	**-1.1**
LCR2	**La Lucha 2**	**1.37**	**307**	*eP*			**Pn**	**18 07 14.0**	**-1.1**
SJS	**Escuela Geolog**	**1.53**	**312**	*eP*			**Pn**	**18 07 16.8**	**-0.6**
SJS				*eS*			**Sn**	**18 07 37.1**	**+0.2**
SJS	**Escuela Geolog**	**1.53**	**312**	⇓*eP*			**Pn**	**18 07 17.2**	**-0.2**
SJS				*eS*			**Sn**	**18 07 37.1**	**+0.2**
PRS1	**Puriscal**	**1.76**	**307**	⇑*eP*			**Pn**	**18 07 19.6**	**-0.9**
PRS1				⇑*iP*				18 07 19.6	
PRS1	**Puriscal**	**1.76**	**307**	⇑*eP*			**Pn**	**18 07 19.6**	**-0.9**
CGA2	**Cerro Gallo 2**	**1.90**	**305**	*eP*			**Pn**	**18 07 22.0**	**-0.4**
CGA2				*eS*			**Sn**	**18 07 46.0**	**0.0**
CGA2	**Cerro Gallo 2**	**1.90**	**305**	*eP*			**Pn**	**18 07 22.1**	**-0.2**
CGA2				*eS*			**Sn**	**18 07 45.9**	**-0.2**
JCR	**Jicaral**	**2.38**	**293**	⇓*eP*			**Pn**	**18 07 29.0**	**0.0**
JCR				*eS*			**Sn**	**18 07 59.7**	**+1.8**
JCR	**Jicaral**	**2.38**	**293**	*eP*			**Pn**	**18 07 28.7**	**-0.3**
JCR				*eS*			**Sn**	**18 07 55.3**	**-2.6**
CUI		**2.84**	**308**	*i P*			**Pn**	**18 07 36.4**	**+1.0**
CUI				*i S*			**Sn**	**18 08 11.3**	**+1.9**
VCR	**Vista de Mar**	**2.96**	**294**	*eP*			**Pn**	**18 07 37.2**	**+0.3**
VCR	**Vista de Mar**	**2.96**	**294**	*eP*			**Pn**	**18 07 37.2**	**+0.3**
BCIP	**Isla Barro Col**	**3.02**	**85**	*eP*			**Pn**	**18 07 37.3**	**-0.6**
MADN	**Villa Maderas**	**3.59**	**314**	*eP*			**Pn**	**18 07 47.1**	**+1.5**
MADN						AML	AML	18 08 40.0	
	comp=Z,115nm,0.7s								
CONN	**Concepcion**	**3.76**	**315**	*eP*			**Pn**	**18 07 49.9**	**+1.9**
APON	**Apoyo**	**4.32**	**314**	*eP*			**Pn**	**18 07 57.8**	**+2.1**
CSAN		**4.75**	**313**	*eP*			**Pn**	**18 08 03.6**	**+2.0**
COPN	**Copaltepe**	**4.87**	**312**	*eP*			**Pn**	**18 08 04.8**	**+1.5**
LAPE	**La Pedrera**	**11.28**	**96**	*i P*			Px	18 07 39.2	
SDV	**Santo Domingo**	**12.11**	**89**	LR			LR	18 07 31.5	
	comp=Z,339nm,18.1s,baz=101,slow=33								
ULM	**Lac du Bonnet**	**42.59**	**348**	P			**P**	**18 14 43.4**	**-2.4**
	comp=Z,3.8nm,0.6s,mb4.3,baz=137,slow=8.7,SNR=4.7								
YKA	**Yellowknife Ar**	**58.22**	**343**	P			**P**	**18 16 41.5**	**-2.4**
	comp=Z,0.7nm,0.8s,mb3.8,baz=136,slow=7.9,SNR=5.8								

*MOS **16** 18:07:49.0±2.4, 46.10N×153.00E, h39km, mb4.3/2, Error ellipse: s-maj=50.0km s-min=25.8km az=151.5*
*JMA **16** 18:07:50.7±0.8, 46.70N×152.67E, h30km, M4.4*
*ISCJB **16** 18:07:51.6±2.0, 46.1N±03×152.9E±03, h100km±15km, mb3.6/3, Error ellipse: s-maj=56.7km s-min=11.7km az=139.4*
*IDC **16** 18:08:03.0±3.0, 47.90N×150.56E, h53km±28km, mb3.4/5, mb1 3.5/9, mb1mx3.4/24, mbtmp3.4/9, ML3.3/4, Error ellipse: s-maj=30.2km s-min=20.3km az=129.0*
ISC 16 18:07:53.1±2.0, 46.1N±03×152.9E±03, h101km±13km, n29, σ1§12/28, mb3.6/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.65**	**258**	*e*PN			**Pn**	**18 08 42.5**	**-4.9**
KUR					pmax		pmax		
	comp=N,90nm,0.3s								
KUR					pmax		pmax		
	comp=Z,140nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**5.41**	**250**	*e*PN			**Pn**	**18 09 11.6**	**+0.4**
YUK				*eS*			**Sn**	**18 10 16.7**	**+4.6**
YUK					smax				
	comp=E,290nm,0.5s								
NEM2	**Nemuro 2**	**5.79**	**245**	P			**Pn**	**18 09 15.3**	**-1.2**
NEM2				*eS*			**Sn**	**18 10 18.7**	**-2.8**
JRA	**Rausu**	**5.93**	**252**	P			**Pn**	**18 09 19.6**	**+1.2**
JNK	**Nakash**	**6.34**	**250**	P			**Pn**	**18 09 24.3**	**+0.3**
JNK				*eS*			**Sn**	**18 10 35.1**	**+0.1**
JAK	**Akkeshi**	**6.64**	**245**	P			**Pn**	**18 09 27.0**	**-1.0**
JAK				*eS*			**Sn**	**18 10 38.8**	**-3.3**
JTKR	**Abashiri--Toko**	**6.73**	**255**	P			**Pn**	**18 09 30.2**	**+1.0**
JMP	**Maruseppu**	**7.08**	**256**	P			**Pn**	**18 09 35.3**	**+1.3**
JAR	**Ashorobuto**	**7.09**	**250**	P			**Pn**	**18 09 34.5**	**+0.4**
JKK2	**Kamakawa 2**	**7.55**	**257**	P			**Pn**	**18 09 41.4**	**+1.1**
ASAJ	**Asahikawa**	**7.57**	**259**	P			**Pn**	**18 09 40.2**	**-0.4**
	comp=E,0.6nm,0.3s,baz=107,slow=29,SNR=5.0								
ASAJ	**Asahikawa**	**7.57**	**259**	PN			**Pn**	**18 09 40.2**	**-0.4**
ASAJ					pmax		pmax		
	comp=Z,1.0nm,0.3s								
PETK	**Petropavlovsk-**	**7.68**	**22**	P			**Pn**	**18 09 41.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=170,slow=12,SNR=4.7								
JCH	**Churui**	**7.68**	**247**	P			**Pn**	**18 09 41.9**	**-0.2**
JCH				*eS*			Sx	18 11 04.1	
JEM	**Erimo**	**8.12**	**243**	P			**Pn**	**18 09 49.2**	**+1.0**
JNBK	**Urakawa-nobuka**	**8.24**	**246**	P			**Pn**	**18 09 48.6**	**-1.1**
JKB	**Kayabe**	**9.54**	**248**	P			**Pn**	**18 10 06.4**	**-1.0**
JKB				*eS*			Sx	18 11 47.7	
JTH	**Tanohata**	**10.16**	**237**	*eS*			Sx	18 12 00.1	
OFUJ	**Ofunato**	**10.85**	**234**	*eS*			Sx	18 12 17.7	
JIO	**Ouri**	**11.47**	**232**	*eS*			Sx	18 12 32.2	
MJAR	**Matsushiro Arr**	**14.58**	**234**	P			**Pn**	**18 11 23.8**	**+9.5**
	comp=Z,0.3nm,0.3s,baz=39,slow=8.8,SNR=7.2								
KSRS	**Korea Array**	**20.48**	**254**	P			**P**	**18 12 25.6**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=56,slow=10,SNR=3.9								
MKAR	**Makanchi Array**	**47.13**	**298**	P			**P**	**18 16 13.5**	**-1.3**
	comp=Z,0.4nm,0.6s,mb3.4,baz=78,slow=6.3,SNR=3.5								
NOA	**NORSAR Array B**	**68.81**	**341**	P			**P**	**18 18 45.4**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.6,baz=32,slow=6.7,SNR=2.6								
NOA	**NORSAR Array B**	**68.81**	**341**	P			**P**	**18 18 45.4**	**-0.5**
NOA					pmax		pmax		
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**	**71.54**	**198**	P			pP	18 19 25.4	-3.1
	comp=Z,0.3nm,0.9s,baz=12,slow=5.6,SNR=3.8								
AKASG	**Malin Array Be**	**72.02**	**326**	P			**P**	**18 19 06.2**	**+0.6**
	comp=Z,0.9nm,0.3s,mb4.0,baz=37,slow=6.1,SNR=5.3								
AKASG	**Malin Array Be**	**72.02**	**326**	P			**P**	**18 19 06.2**	**+0.6**
AKASG					pmax		pmax		
	comp=Z,1.0nm,0.3s								
TXAR	**Lajitas Array**	**77.94**	**60**	P			pP	18 19 59.1	-6.8
	comp=Z,0.4nm,0.5s,baz=301,slow=3.5,SNR=5.2								

KRSC 16 18:12:14.6±1.4, 5336N×15730E, h294km±63km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.51**	**49**	*eP*			Pn	18 12 54.1	+1.7
AVH	**Avacha**	**0.87**	**96**	*eP*			Pn	18 12 54.7	+1.0
PET	**Petropavlovsk**	**0.88**	**112**	*eP*			Pn	18 12 55.6	+1.8
MIPR	**Malaya Ipel'ka**	**1.14**	**197**	*eP*			Pn	18 12 56.3	+1.3
RUS	**Russkaya**	**1.18**	**141**	*eP*			Pn	18 12 56.4	+1.1
RUS				*i S*			S	18 13 26.7	-0.9
NLC	**Nalytchevo**	**1.24**	**98**	*eP*			Pn	18 12 57.4	+1.9
NLC				*i S*			S	18 13 28.9	+0.9
SPN	**Mys Shipunski**	**1.66**	**98**	*eP*			Pn	18 12 59.4	+1.2
SPN				*i S*			S	18 13 31.7	-1.1
MKZ	**Mys Kozlova**	**2.88**	**64**	*eP*			Pn	18 13 10.2	+1.6
MKZ				*i S*			S	18 13 50.3	-1.4
KBTR	**Krutoberegovo**	**4.28**	**46**	*eP*			Pn	18 13 25.4	+1.9
KBTR				*i S*			S	18 14 17.0	-1.7

*IDC **16** 18:14:02.4±1.1, 9.78S×159.83E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.7/5, Error ellipse: s-maj=38.7km s-min=10.5km az=118.0*
*NEIC **16** 18:14:04.7±0.9, 9.91S×159.67E, h10km, mb4.2/1, Error ellipse: s-maj=31.4km s-min=10.8km az=127.0*
*ISCJB **16** 18:14:05.5±1.1, 9.9S±0.1×159.7E±0.2, h33km, mb3.7/6, Error ellipse: s-maj=36.3km s-min=9.0km az=33.0*
ISC 16 18:14:07.3±1.2, 9.8S±01×159.8E±02, h35km, n8, σ1§38/10, mb3.7/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.38**	**25**	Pn			**Pn**	**18 14 14.7**	**-1.6**
	319nm,0.3s,baz=240,slow=1.9,SNR=44								
HNR					Sn		**Sn**	**18 14 22.4**	**-0.1**
	1μm,0.3s,baz=101,slow=19,SNR=144								
HNR	**Honiara**	**0.38**	**25**	Pn			**Pn**	**18 14 14.7**	**-1.6**
HNR					Sn		**Sn**	**18 14 22.4**	**-0.1**
WRAB	**Tennant Creek**	**26.53**	**245**	*eP*			**P**	**18 19 41.0**	**-0.9**
	5.9nm,1.1s,mb4.0								
WRA	**Warramunga Arr**	**26.55**	**245**	P			**P**	**18 19 41.2**	**-0.9**
	1.7nm,0.8s,mb3.6,baz=73,slow=10,SNR=9.0								
ASAR	**Alice Springs**	**28.30**	**238**	P			**P**	**18 19 56.5**	**-1.3**
	0.4nm,0.4s,mb3.4,baz=64,slow=10,SNR=18								
ASAR					PcP		PcP	18 23 11.6	+1.1
	0.2nm,0.6s,baz=90,slow=2.8,SNR=4.6								
CMAR	**Chiang Mai Arr**	**66.25**	**295**	P			**P**	**18 24 54.4**	**+2.0**
	0.4nm,0.5s,mb3.7,baz=130,slow=5.4,SNR=4.0								
VNDA	**Vanda**	**67.73**	**180**	P			**P**	**18 25 01.8**	**+1.0**
	0.6nm,0.7s,mb3.7,baz=332,slow=5.1,SNR=5.7								
SONM	**Songino Array**	**74.25**	**326**	P			**P**	**18 25 43.0**	**+2.3**
	0.4nm,0.6s,mb3.5,baz=139,slow=5.0,SNR=2.4								

*IDC **16** 18:15:08.8±9.5, 24.64N×122.75E, h135km±54km, mb3.2/2, mb1 3.3/5, mb1mx3.0/23, mbtmp3.2/5, MS3.9/1, Ms1 3.9/1, ms1mx2.7/16, Error ellipse: s-maj=113.5km s-min=43.6km az=22.0*
*ISCJB **16** 18:15:10.1±0.5, 24.89N±006×122.67E±004, h132km, mb3.5/3, Error ellipse: s-maj=8.2km s-min=5.3km az=3.7*
*NEIC **16** 18:15:10.2±1.0, 25.01N×122.72E, h126km±15km, mb4.3/1, Error ellipse: s-maj=42.7km s-min=13.0km az=168.0*
*TAP **16** 18:15:11.3, 24.78N×122.74E, h132km±1km, ML4.2*
*JMA **16** 18:15:12.4±0.2, 24.83N×122.72E, h122km±2km, M3.6*
ISC 16 18:15:10.9±0.6, 249N±01×12266E±005, h131km±9km, n21, σ0§89/32, mb3.5/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.50**	**140**	P			**Pn**	**18 15 30.4**	**+0.3**
YOJ				*eS*			**Sn**	**18 15 44.3**	**-0.3**
TATO	**Taipei**	**1.07**	**277**	*eP*			**Pn**	**18 15 32.9**	**-1.7**
IRIF	**Iriomote-Funau**	**1.10**	**117**	P			**Pn**	**18 15 35.1**	**+0.3**
IRIF				S			**Sn**	**18 15 52.6**	**-0.4**
NACB	**Ninganchiao**	**1.18**	**236**	*eP*			**Pn**	**18 15 35.4**	**-0.3**
YHNB	**Yeheng**	**1.18**	**262**	*eP*			**Pn**	**18 15 36.8**	**+1.1**
HATJ	**Hateruma jima**	**1.31**	**127**	P			**Pn**	**18 15 37.4**	**+0.5**
HATJ				S			**Sn**	**18 15 56.3**	**-0.5**
JKRS	**Kuro-shima**	**1.37**	**116**	P			**Pn**	**18 15 38.4**	**+0.8**
JKRS				S			**Sn**	**18 15 57.8**	**-0.1**
JIJ	**Ishigaki jima**	**1.43**	**109**	P			**Pn**	**18 15 38.7**	**+0.4**
JIJ				S			**Sn**	**18 15 57.9**	**-1.3**
JTJ	**Tarama**	**1.87**	**96**	P			**Pn**	**18 15 43.9**	**+0.6**
JTJ				S			**Sn**	**18 16 07.4**	**-0.7**
JMJ	**Miyako jima 2**	**2.39**	**90**	P			**Pn**	**18 15 51.0**	**+1.3**
JMJ				S			**Sn**	**18 16 19.3**	**-0.3**
JOGS	**Gusukube**	**2.50**	**91**	P			**Pn**	**18 15 52.7**	**+1.6**
JOGS				*eS*			**Sn**	**18 16 22.2**	**+0.3**
JKE	**Kume jima 2**	**4.00**	**68**	P			**Pn**	**18 16 11.3**	**+0.6**
JKE				*eS*			**Sn**	**18 16 57.0**	**-0.1**
JAGN	**Aguni-jima**	**4.48**	**66**	P			**Pn**	**18 16 18.3**	**+1.3**
JAGN				*eS*			**Sn**	**18 17 07.6**	**-0.8**
JOW	**Kunigami**	**5.43**	**67**	P			**Pn**	**18 16 27.8**	**-1.9**
JOW				*eS*			**Sn**	**18 17 27.0**	**-4.2**
JOW	**Kunigami**	**5.43**	**67**	P			**Pn**	**18 16 28.2**	**-1.5**
	1.3nm,0.3s,baz=185,slow=12,SNR=5.4								
JOW					S		**Sn**	**18 17 26.4**	**-4.7**
	3.5nm,0.3s,baz=134,slow=25,SNR=6.3								
KSRS	**Korea Array**	**13.35**	**18**	P			**Pn**	**18 18 16.5**	**+1.4**
	0.4nm,0.3s,baz=199,slow=12,SNR=31								
MJAR	**Matsushiro Arr**	**17.71**	**45**	P			**Pn**	**18 19 05.3**	**-4.0**
	0.0nm,0.3s,baz=218,slow=9.3,SNR=4.3								
SONM	**Songino Array**	**26.31**	**335**	P			**P**	**18 20 33.4**	**-0.8**
	0.7nm,0.7s,mb3.4,baz=150,slow=8.9,SNR=6.7								
FITZ	**Fitzroy Crossi**	**42.79**	**176**	LR			LR	18 42 38.4	
	comp=Z,144nm,18.8s,baz=306,slow=39								
BRVK	**Borovoye**	**48.09**	**320**	*eP*			**P**	**18

QIZ S **S** **18 36 15.9 -0.5**
QIZ AMB AMB
comp=Z,16nm,1.3s,mb4.4
QIZ LR LR
comp=N,642nm,15.8s
QIZ LR LR
comp=Z,790nm,17.9s,MS4.3
KAKA Kakadu 28.28 105 *e*P **P** **18 32 06.2 -0.7**
comp=Z,35nm,0.5s,mb5.2
NWAO Narrogin (SRO) 28.79 157 LR LR 18 42 39.7
comp=Z,575nm,19.6s,MS4.2,baz=325,slow=34
KMI Kunming 31.57 357 P **P** **18 32 37.8 +1.9**
KMI AP pP 18 32 43.6 +1.1
KMI XP sP 18 32 46.0 +0.8
KMI PP PP 18 33 44.5 -3.0
KMI PPP 18 34 00.4
KMI S **S** **18 37 43.0 -0.5**
KMI SSS 18 40 01.3
KMI AMB AMB
comp=Z,27nm,0.9s,mb5.1
KMI AMB AMB
comp=Z,72nm,6.1s
KMI LR LR
comp=N,698nm,15.1s,MS4.5
KMI LR LR
comp=E,400nm,15.9s,MS4.5
KMI LR LR
comp=Z,805nm,15.9s,MS4.5
WRA Warramunga Arr 31.94 117 P **P** **18 32 39.5 +0.3**
comp=Z,9.9nm,0.8s,mb4.7,baz=287,slow=12,SNR=41
WRAB Tennant Creek 31.94 117 P **P** **18 32 39.6 +0.3**
comp=Z,126nm,1.3s,mb5.6,SNR=14
WRAB Tennant Creek 31.94 117 *e*P **P** **18 32 39.5 +0.2**
WRAB pmax pmax
comp=Z,26nm,0.9s,mb5.1
WRAB Tennant Creek 31.94 117 *e*P **P** **18 32 39.5 +0.2**
comp=Z,26nm,0.9s,mb5.1
WB2 Warramunga Arr 31.95 117 *e*P **P** **18 32 39.4 +0.1**
WB2 *e*pP pP 18 32 45.4 -0.6
WB2 *e* 18 32 53.4
WB2 *e*PP PP 18 33 52.4 +0.7
WB2 Warramunga Arr 31.95 117 *e*P **P** **18 32 39.3 0.0**
WB2 *e*P 18 32 39.4
WB2 *e*pP pP 18 32 45.4 -0.6
WB2 *e* 18 32 53.4
WB2 *e*PP PP 18 33 52.4 +0.7
GYA Guiyang 32.94 4 P **P** **18 32 48.3 +0.5**
GYA AP pP 18 32 57.6 +3.1
GYA XP sP 18 33 01.3 +4.1
GYA PP PP 18 34 03.6 +1.0
GYA S **S** **18 38 02.0 -2.7**
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA LR LR
comp=N,520nm,17.3s,MS4.4
GYA LR LR
comp=E,430nm,17.1s,MS4.4
GYA LR LR
comp=Z,530nm,18.3s,MS4.3
ASAR Alice Springs 33.03 124 P **P** **18 32 49.2 +0.5**
comp=Z,1.8nm,0.5s,mb4.2,baz=301,slow=7.7,SNR=19
ODAN Odare 37.12 334 *e*P **P** **18 33 23.4 -0.5**
CD2 Chengdu 37.30 359 P **P** **18 33 25.8 +0.4**
CD2 AP pP 18 33 31.8 -0.3
CD2 XP sP 18 33 36.4 +1.6
CD2 PP PP 18 34 54.5 +3.7
CD2 S **S** **18 39 14.0 +2.2**
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,80nm,4.2s
CD2 LR LR
comp=N,360nm,14.4s,MS4.4
CD2 LR LR
comp=E,300nm,18.0s,MS4.4
CD2 LR LR
comp=Z,430nm,14.4s,MS4.4
TAPN Taplejung 37.42 335 *e*P **P** **18 33 26.8 +0.4**
comp=Z,63nm,0.9s,mb5.5
RAMN Ramite 37.55 333 *e*P **P** **18 33 27.7 +0.2**
WHN Wuhan 38.14 14 P **P** **18 33 33.4 +0.9**
LSA Lhasa 38.27 341 P **P** **18 33 34.8 +1.2**
LSA AMB AMB
comp=Z,20nm,0.9s,mb4.8
LSA Lhasa 38.27 341 *e*P **P** **18 33 33.9 +0.3**
LSA pmax pmax
comp=Z,16nm,0.8s,mb4.8
LSA Lhasa 38.27 341 *e*P **P** **18 33 33.9 +0.2**
comp=Z,16nm,0.8s,mb4.8
JIRN Jiri 38.34 333 *e*P **P** **18 33 34.7 +0.5**
PKI Pulchoki 38.62 332 *e*P **P** **18 33 36.3 -0.3**
GUN Gumba 38.70 333 *e*P **P** **18 33 37.4 +0.2**
comp=Z,53nm,0.4s,mb5.6
DMN Daman 38.79 332 *e*P **P** **18 33 39.0 +1.0**
comp=Z,38nm,0.9s,mb5.1
COEN Coen 38.80 104 *e*P **P** **18 33 37.7 -0.7**
comp=Z,8.3nm,0.6s,mb4.6
KKN Kakani 38.86 332 *e*P **P** **18 33 38.4 -0.2**
comp=Z,47nm,0.7s,mb5.3
GKN Gorkha 39.34 332 *e*P **P** **18 33 43.2 +0.6**
KOLN Koldanda 39.65 330 *e*P **P** **18 33 45.5 +0.3**
comp=Z,66nm,0.6s,mb5.5
DANN Dangsing 40.05 331 *e*P **P** **18 33 49.1 +0.6**
XAN Xi'an 40.64 6 P **P** **18 33 52.0 -1.3**
XAN AP pP 18 34 00.0 -0.1
XAN XP sP 18 34 03.8 +1.0
XAN AMB AMB
comp=Z,21nm,1.0s,mb4.7
XAN AMB AMB
comp=Z,28nm,5.3s
XAN LR LR
comp=N,131nm,16.2s
XAN LR LR
comp=Z,327nm,18.7s,MS4.2
NJ2 Nanjing 40.83 19 *e*P **P** **18 33 58.8 +3.9**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.0
PMG Port Moresby 42.41 97 *e*P **P** **18 34 08.2 0.0**
PMG pmax pmax
comp=Z,67nm,0.9s
PMG Port Moresby 42.41 97 *e*P **P** **18 34 08.2 -0.1**
comp=Z,66nm,0.9s,mb5.3
LZH Lanzhou 42.46 359 *e*P **P** **18 34 09.3 +1.1**
LZH AP pP 18 34 13.6 -1.4
LZH XP sP 18 34 16.0 -1.7
LZH AMB AMB
comp=Z,43nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,219nm,4.6s
CTA Charters Tower 42.73 112 *e*P **P** **18 34 11.3 +0.5**
comp=Z,7.1nm,0.8s,mb4.5
CTA Charters Tower 42.73 112 *e*P **P** **18 34 11.3 +0.5**
CTA pmax pmax
comp=Z,7.0nm,0.8s
STKA Stephens Creek 42.84 131 *e*P **P** **18 34 11.8 +0.4**
comp=Z,7.6nm,0.6s,mb4.6
STKA *e* 18 34 26.7
STKA Stephens Creek 42.84 131 P **P** **18 34 12.2 +0.8**
comp=Z,10nm,0.6s,mb4.7,baz=301,slow=7.6,SNR=29
STKA LR LR 18 52 20.4
comp=Z,291nm,21.7s,MS4.1,baz=218,slow=37
GTA Gaotai 45.98 355 P **P** **18 34 36.8 +0.5**
GTA AP pP 18 34 41.3 -1.8
GTA XP sP 18 34 43.8 -2.0
GTA PP PP 18 36 25.4 +1.0
GTA S **S** **18 41 22.4 +2.3**
GTA AMB AMB
comp=Z,30nm,1.2s,mb5.1
GTA AMB AMB
comp=Z,53nm,3.6s
GTA LR LR
comp=N,315nm,18.6s,MS4.4
GTA LR LR
comp=E,291nm,18.6s,MS4.4
GTA LR LR
comp=Z,387nm,18.9s,MS4.4
BJI Beijing 47.66 12 P **P** **18 34 49.4 -0.1**
BJI AMB AMB
comp=Z,39nm,0.7s,mb5.5
BJI LR LR
comp=N,205nm,21.5s
BJI LR LR
comp=Z,234nm,23.0s,MS4.1
HHC Hu-ho-hao-te 47.67 7 *e*P **P** **18 34 50.3 +0.7**
HHC XP sP 18 34 56.0 -3.1

HHC PCP PcP 18 36 18.1 -0.8
HHC PP PP 18 36 41.9 +0.5
HHC S **S** **18 41 46.3 +2.0**
HHC SCS ScS 18 44 41.3 -0.7
HHC SS SS 18 45 10.9 -2.0
HHC AMB AMB
comp=Z,32nm,0.5s,mb5.6
HHC LR LR
comp=N,242nm,19.0s,MS4.3
HHC LR LR
comp=E,201nm,17.8s,MS4.3
HHC LR LR
comp=Z,345nm,20.2s,MS4.3
KSRS Korea Array 49.02 25 P **P** **18 35 00.1 +0.1**
comp=Z,12nm,0.7s,mb5.0,baz=220,slow=7.4,SNR=78
KSRS Korea Array 49.02 25 P **P** **18 35 00.2 +0.1**
KSRS pmax pmax
comp=Z,12nm,0.7s,mb5.0
WMQ Urumqi 52.41 345 P **P** **18 35 28.0 +2.5**
WMQ AP pP 18 35 34.0 +1.6
WMQ XP sP 18 35 36.9 +1.8
WMQ PP PP 18 37 28.1 +3.6
WMQ AMB AMB
comp=Z,58nm,0.8s,mb5.6
WMQ LR LR
comp=N,89nm,22.0s,MS3.9
WMQ LR LR
comp=E,67nm,21.0s,MS3.9
WMQ LR LR
comp=Z,107nm,24.7s,MS3.8
KBL Kabul 52.81 323 *e*P **P** **18 35 28.1 -0.6**
KBL pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KBL Kabul 52.81 323 *e*P **P** **18 35 28.1 -0.6**
comp=Z,6.1nm,0.6s,mb4.7
MAJO Matsushiro 53.34 34 *e*P **P** **18 35 30.1 -2.4**
MAJO pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MAJO Matsushiro 53.34 34 *e*P **P** **18 35 30.1 -2.4**
comp=Z,5.6nm,0.7s,mb4.6
MAT Matsushiro 53.34 34 P **P** **18 35 30.2 -2.3**
MJAR Matsushiro Arr 53.34 34 P **P** **18 35 30.4 -2.1**
comp=Z,7.2nm,0.8s,mb4.7,baz=207,slow=7.6,SNR=45
CN2 Changchun 53.66 19 ⇑P **P** **18 35 33.5 -1.2**
CN2 *e*S **S** **18 43 07.4 +0.1**
CN2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,15.0s,MS5.3
CN2 LR LR
comp=E,2μm,15.0s,MS5.3
SONM Songino Array 54.23 2 P **P** **18 35 39.1 +0.3**
comp=E,5.8nm,0.4s,mb4.9,baz=175,slow=8.7,SNR=111
SONM PcP PcP 18 36 43.2 +0.3
comp=E,4.5nm,0.8s,baz=180,slow=3.6,SNR=5.4
SONM LR LR 19 02 07.9
comp=E,136nm,18.1s,MS4.0,baz=297,slow=40
SONM Songino Array 54.23 2 P **P** **18 35 39.1 +0.3**
SONM 18 36 43.2
VLA Vladivostok 55.42 24 *e*P **P** **18 35 46.0 -1.5**
VLA pmax pmax
comp=Z,59nm,1.5s,mb5.4
MDJ Mudanjiang 55.80 22 P **P** **18 35 49.8 -0.4**
MDJ AMB AMB
comp=Z,12nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,56nm,4.6s
TKM2 Tokmak 2 55.81 335 *e*P **P** **18 35 50.3 0.0**
TKM2 pmax pmax
comp=Z,29nm,0.8s,mb5.4
TKM2 Tokmak 2 55.81 335 *e*P **P** **18 35 50.3 0.0**
comp=Z,29nm,0.8s,mb5.3
AML Almayashu 56.01 333 *e*P **P** **18 35 52.1 +0.3**
comp=Z,17nm,1.0s,mb5.0
EKS2 Erkin-Say 56.39 333 *e*P **P** **18 35 54.6 +0.1**
comp=Z,18nm,0.8s,mb5.2
MK31 Makanchi Array 56.67 342 *i*P **P** **18 35 55.7 -0.7**
MK31 pmax pmax
comp=Z,40nm,1.1s,mb5.4
MK31 Makanchi Array 56.67 342 *e*P **P** **18 35 55.8 -0.6**
MKAR Makanchi Array 56.67 342 P **P** **18 35 56.0 -0.5**
comp=Z,26nm,0.9s,mb5.3,baz=145,slow=8.3,SNR=137
ZAK Zakamensk 56.76 359 *e*P **P** **18 35 56.3 -0.6**
ZAK *e* 18 36 52.4
ZAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TLY Talaya 58.05 359 *e*P **P** **18 36 05.1 -1.0**
TLY pmax pmax
comp=Z,18nm,0.8s,mb5.2
TLY MLR MLR
comp=Z,190nm,18.0s,MS4.2
TLY Talaya 58.05 359 *e*P **P** **18 36 07.0 +0.9**
comp=Z,14nm,0.8s,mb5.0
MOY Mondy 58.11 358 *e*P **P** **18 36 07.5 +1.1**
HVS Khovu-Aksy 58.24 352 *e*P **P** **18 36 06.9 -0.5**
KK31 Karatay Array 58.25 331 *i*P **P** **18 36 06.6 -1.0**
CASY Casey 59.73 177 *e*P **P** **18 36 18.7 +1.1**
KLR Kul'dur 60.51 20 *e*P **P** **18 36 18.2 -4.9**
KLR pmax pmax
comp=Z,36nm,1.0s,mb5.5
ASAJ Asahikawa 61.11 31 P **P** **18 36 26.4 -0.9**
comp=Z,8.8nm,0.8s,mb5.0,baz=252,slow=7.9,SNR=5.2
ASAJ LR LR 19 00 08.0
comp=Z,94nm,21.1s,MS3.9,baz=176,slow=33
ASAJ Asahikawa 61.11 31 P **P** **18 36 26.4 -0.9**
ASAJ pmax pmax
comp=Z,9.0nm,0.8s
ASAJ MLR MLR
comp=Z,94nm,21.1s
KURK Kurchatov 61.28 342 P **P** **18 36 28.7 +0.4**
comp=Z,182nm,0.9s,SNR=22
KURK Kurchatov 61.28 342 ⇑*i*P **P** **18 36 27.9 -0.4**
ZAL Zalesovo 62.53 347 P **P** **18 36 35.9 -0.8**
ZALV Zalesovo Beam 62.54 347 P **P** **18 36 35.9 -0.8**
comp=Z,37nm,0.4s,mb5.9,baz=146,slow=5.5,SNR=138
YSS Yuzh-Sakhalins 63.22 28 *e*P **P** **18 36 40.2 -1.2**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 63.22 28 *e*P **P** **18 36 40.6 -0.8**
NVS Novosibirsk 63.72 347 *e*P **P** **18 36 42.5 -2.0**
NVS pmax pmax
comp=N,22nm,1.4s
NVS pmax pmax
comp=E,16nm,1.4s
NVS pmax pmax
comp=Z,29nm,1.4s,mb5.1
BOD Bodaibo 64.67 6 *e*P **P** **18 36 49.9 -0.8**
BOD pmax pmax
comp=Z,13nm,1.0s,mb4.9
BVA0 Borovoye Array 66.02 338 P **P** **18 36 59.0 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BVAR Borovoye Array 66.02 338 P **P** **18 36 59.1 -0.4**
comp=Z,11nm,0.6s,mb5.0,baz=143,slow=8.6,SNR=44
BRVK Borovoye 66.08 338 ⇑*i*P **P** **18 36 59.5 -0.5**
MAW Mawson 67.02 196 LR LR 19 01 45.7
comp=Z,208nm,18.7s,MS4.4,baz=167,slow=32
KMBO Kilima Mbogo 67.17 272 LR LR 19 01 36.2
comp=Z,179nm,20.3s,MS4.3,baz=90,slow=32
AB31 Akbulak array 67.77 330 *i*P **P** **18 37 10.4 -0.4**
AB31 pmax pmax
comp=Z,13nm,0.6s,mb5.1
AB31 Akbulak array 67.77 330 *i*P **P** **18 37 10.5 -0.3**
AKTO Aktyubinsk 69.48 330 LR LR 19 15 01.7
comp=Z,68nm,18.4s,MS3.9,baz=24,slow=42
YAK Yakutsk 71.17 12 *e*P **P** **18 37 29.0 -2.5**
YAK pmax pmax
comp=Z,27nm,0.9s,mb5.2
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK Yakutsk 71.17 12 ⇑*i*P **P** **18 37 30.2 -1.3**
SVE Sverdlovsk 72.60 337 *e*P **P** **18 37 40.5 +0.3**
SVE pmax pmax
comp=Z,29nm,0.9s,mb5.2
PETK Petropavlovsk- 74.52 30 P **P** **18 37 50.7 -0.9**
comp=Z,9.5nm,0.7s,mb4.8,baz=206,slow=4.4,SNR=14
PETK LR LR 19 15 07.8
comp=Z,36nm,18.2s,MS3.7,baz=153,slow=40
KIV Kislovodsk 74.87 319 *e*P **P** **18 37 54.4 +0.5**
KIV pmax pmax
comp=Z,19nm,1.4s,mb4.8
PET Petropavlovsk 74.95 31 *c i*P **P** **18 37 53.1 -1.0**

PET pmax pmax
comp=Z,76nm,1.3s,mb5.5
MALT Malatya 75.66 312 *e*P **P** **18 37 59.6 +1.1**
MALT pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MALT Malatya 75.66 312 *e*P **P** **18 37 59.6 +1.1**
comp=Z,3.6nm,0.9s,mb4.3
SOKR Solikamsk 75.96 337 ⇓*i*P **P** **18 38 00.6 +0.9**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.0
VNDA Vanda 76.84 169 P **P** **18 38 05.1 +0.6**
comp=Z,0.7nm,0.7s,baz=305,slow=4.8,SNR=6.4
VNDA LR LR 19 07 08.8
comp=Z,127nm,19.6s,MS4.2,baz=253,slow=32
BOSA Boshof 77.36 242 LR LR 19 05 18.5
comp=Z,95nm,20.9s,MS4.1,baz=236,slow=30
SEY Seymchan 78.31 20 *e*P **P** **18 38 12.2 -0.7**
VRHR Novokhopersk 78.58 325 *e*P **P** **18 38 14.6 -0.1**
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.2
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
TIXI Tiksi 79.74 8 *e*P **P** **18 38 19.4 -1.2**
TIXI pmax pmax
comp=Z,23nm,2.0s,mb4.8
TIXI Tiksi 79.74 8 *e*P **P** **18 38 19.5 -1.1**
VRSR Storozhevoye 80.03 325 *e*P **P** **18 38 22.2 -0.3**
VRSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=N,3.0nm,0.9s
VRSR pmax pmax
comp=E,4.0nm,0.8s
OBN Obninsk 83.00 328α*e*P **P** **18 38 38.7 +0.5**
OBN *e* 18 38 50.5
OBN *e* 18 38 54.3
OBN pmax pmax
comp=Z,49nm,1.6s,mb5.3
OBN Obninsk 83.00 328 *e*P **P** **18 38 38.6 +0.4**
KLMR Klimovskoe 83.86 334 *e*P **P** **18 38 42.3 -0.2**
AKASG Malin Array Be 85.78 322 P **P** **18 38 52.6 +0.2**
comp=Z,1.1nm,0.5s,mb4.4,baz=89,slow=4.5,SNR=13
AKASG Malin Array Be 85.78 322 *i*P **P** **18 38 52.5 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
MLR Muntele Rosu 86.64 316 ⇓*i*P **P** **18 38 59.0 +2.3**
BURAR Bucovina Array 87.59 318 ⇓*i*P **P** **18 39 03.0 +1.7**
JOF Joensuu 88.24 334 *e*pkp **P** **18 39 04.4 +0.3**
SNAA Sanae 89.13 198 LR LR 19 12 25.9
comp=Z,33nm,18.9s,MS3.8,baz=38,slow=31
KAF Kangasniemi 90.25 333 *e*pkp **P** **18 39 13.6 +0.1**
ARCES ARCESS Array B 92.27 340 P **P** **18 39 22.8 0.0**
comp=Z,3.8nm,0.9s,mb4.7,baz=77,slow=5.5,SNR=6.7
ARCES LR LR 19 25 06.8
comp=Z,70nm,20.1s,MS4.1,baz=98,slow=38
ARCES ARCESS Array B 92.27 340 P **P** **18 39 22.8 0.0**
ARCES LR LR 19 25 06.8
NOA NORSAR Array B 97.28 331 LR LR 19 28 43.2
comp=Z,26nm,20.2s,MS3.7,baz=90,slow=39
YKA Yellowknife Ar 117.36 19 PKP PKPdf 18 44 57.6 -0.7
comp=Z,0.4nm,0.7s,baz=351,slow=2.9,SNR=4.9
NVAR Mina Array Bea 130.10 44 PKP PKPdf 18 45 24.1 +0.6
comp=Z,0.6nm,0.6s,baz=306,slow=2.1,SNR=2.2
NVAR Mina Array Bea 130.10 44 PKP PKPdf 18 45 24.1 +0.6
ELK Elko 130.96 40 PKP PKPdf 18 45 26.6 +1.6
comp=Z,0.8nm,0.5s,baz=338,slow=3.8,SNR=4.1
PDAR Pinedale Array 133.16 34 PKP PKPdf 18 45 30.4 +1.3
comp=Z,0.6nm,0.6s,baz=118,slow=1.1,SNR=4.3
WMOK Wichita Mounta 144.77 34 *e*PKIKP PKPdf 18 45 48.6 -1.9
TXAR Lajitas Array 145.19 46 PKPbc PKPbc 18 45 51.8 +0.8
comp=Z,16nm,0.7s,baz=280,slow=1.3,SNR=151
JCT Junction City 147.13 41 *e*PKIKP PKPdf 18 45 55.5 +0.8
MIAR Mount Ida 147.62 28 *e*PKP2 PKPbc 18 45 57.0 -1.0
TKL Tuckaleechee C 150.12 13 *e*PKP2 PKPbc 18 46 03.7 -0.7
LVC Limon Verde 150.24 193 PKPbc PKPbc 18 46 06.6 +1.5
comp=Z,4.4nm,0.8s,baz=330,slow=6.8,SNR=3.7

MAN 16 18:32:05, 1747N×12244E, h32km, mb4.1, ML2.9, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.40**	**182**	*e*P	Pb	18 32 15.5	+1.5
PALP				*e*S	Sb	18 32 22.4	+2.1
CAUP	**Cauayan**	**0.79**	**229**	*e*P	Pn	18 32 21.1	+1.2
SGCP	**Mt. Cagua**	**0.86**	**334**	*e*P	Pn	18 32 21.0	+0.1
ABRA	**Dolores**	**1.66**	**277**	*e*P	Pn	18 32 32.5	+0.6
ABRA				*e*S	Sn	18 32 52.4	+0.3
POLP	**Polilio Island**	**2.77**	**190**	*e*P	Sn	18 33 19.7	+0.3

ISCJB ***16*** *18:37:08.6±2.1, 144S±01×763W±02, h56km±16km, mb3.7/4, MS3.3/3, Error ellipse: s-maj=40.4km s-min=9.1km az=147.9*
NEIC ***16*** *18:37:08.6±1.3, 1433S×7638W, h35km, Error ellipse: s-maj=33.8km s-min=10.5km az=55.0*
IDC ***16*** *18:37:10.2±4.1, 1434S×7633W, h54km±26km, mb3.6/4, mb1 3.8/8, mb1mx3.6/22, mbtmp3.7/8, ML3.8/4, MS3.4/3, Ms1 3.4/3, ms1mx2.9/23, Error ellipse: s-maj=62.5km s-min=14.4km az=55.0*

ISC 16 18:37:10.3±1.7, 143S±01×764W±02, h57km±14km, n15, σ1§01/14, mb3.7/4, MS3.3/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.36**	**348**	P	**Pn**	**18 37 46.2**	**-0.4**
	54nm,0.3s,baz=188,slow=13,SNR=22						
NNA				S	**Sn**	**18 38 16.1**	**+1.6**
	204nm,0.3s,baz=183,slow=9.0,SNR=14						
ATAH	**Atahualpa**	**7.54**	**344**	P	**Pn**	**18 38 55.5**	**-2.2**
	1.0nm,0.3s,baz=120,slow=9.4,SNR=5.5						
ATAH				S	**Sn**	**18 40 21.0**	**-0.7**
	1.2nm,0.3s,baz=0.0,slow=20,SNR=1.7						
LPAZ	**La Paz**	**8.17**	**105**	P	**Pn**	**18 39 07.4**	**+1.1**
	0.8nm,0.3s,baz=286,slow=9.7,SNR=11						
LPAZ	**La Paz**	**8.17**	**105**	*e*P	**Pn**	**18 39 06.5**	**+0.2**
LVC	**Limon Verde**	**10.86**	**141**	*e*P	**Pn**	**18 39 43.5**	**+0.4**
OTAV	**Otavalo**	**14.60**	**352**	P	**Pn**	**18 40 35.2**	**+1.3**
	5.1nm,1.0s						
SIV	**San Ignacio**	**14.84**	**98**	P	**Pn**	**18 40 36.0**	**-1.0**
	0.1nm,0.3s,baz=278,slow=17,SNR=6.5						
CPUP	**Villa Florida**	**21.44**	**127**	P	**P**	**18 41 53.5**	**-0.3**
	0.5nm,0.3s,mb3.3,baz=322,slow=9.2,SNR=3.5						
CPUP				LR	LR	18 51 28.1	
	comp=Z,39nm,20.9s,MS2.8,baz=96,slow=40						
SDV	**Santo Domingo**	**23.73**	**14**	P	**P**	**18 42 16.5**	**-0.8**
	3.0nm,0.5s,mb4.0,baz=141,slow=11,SNR=5.1						
PCRV	**Puerto La Cruz**	**26.96**	**26**	LR	LR	18 53 15.7	
	comp=Z,62nm,21.6s,MS3.1,baz=82,slow=36						
BBTS	**Babate**	**65.80**	**67**	LR	LR	19 17 34.4	
	comp=Z,88nm,18.4s,MS4.0,baz=56,slow=37						
TORD	**Torodi Ar. Bea**	**81.95**	**74**	P	**P**	**18 49 25.0**	**+0.5**
	2.7nm,0.6s,mb4.3,baz=263,slow=4.6,SNR=32						
TORD	**Torodi Ar. Bea**	**81.95**	**74**	P	**P**	**18 49 25.0**	**+0.5**
YKA	**Yellowknife Ar**	**82.19**	**343**	P	**P**	**18 49 25.2**	**+0.5**
	0.1nm,0.3s,mb3.2,baz=132,slow=5.2,SNR=3.4						
SONM	**Songino Array**	**146.50**	**357**	PKPbc	PKPbc	18 56 45.3	+0.1
	1.6nm,0.8s,baz=17,slow=1.5,SNR=6.0						

IDC 16 18:37:53.4±2.2, 594S×13079E, h0km, mb3.6/1, mb1 4.0/5, mb1mx3.6/16, mbtmp3.8/5, ML3.9/4, MS3.9/1, Ms1 3.9/1, ms1mx3.1/19, Error ellipse: s-maj=55.9km s-min=29.2km az=84.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**8.23**	**239**	Pn	Pn	18 39 55.6	+1.5
	2.2nm,0.3s,baz=72,slow=14,SNR=6.3						
BATI				Sn	Sn	18 41 18.2	-10
	1.8nm,0.3s,baz=47,slow=23,SNR=5.6						
BATI				LR	LR	18 43 11.5	
	comp=Z,798nm,20.1s,baz=32,slow=39						
FITZ	**Fitzroy Crossi**	**13.09**	**202**	Pn	Pn	18 40 58.9	-1.9
	0.5nm,0.3s,baz=243,slow=21,SNR=23						
FITZ				Sn	Sn	18 43 07.7	-20
	1.1nm,0.3s,baz=162,slow=20,SNR=10						
WRA	**Warramunga Arr**	**14.34**	**166**	Pn	Pn	18 41 18.1	+0.3
	0.6nm,0.3s,baz=348,slow=14,SNR=19						
WRA				Sn	Sn	18 43 44.4	-13
	0.7nm,0.3s,baz=341,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**17.88**	**171**	Pn	Pn	18 42 04.2	+0.5

0.4nm,0.3s,baz=345,slow=8.6,SNR=14
ASAR Sn Sn 18 45 11.3 -12
0.1nm,0.3s,baz=345,slow=25,SNR=5.2
MKAR Makanchi Array 67.78 326 P P 18 48 53.0 0.0
0.3nm,0.5s,baz=142,slow=6.1,SNR=5.2

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*ISCJB **16** 18:51:46.9±0.6,3749N±003×3601E±003,h6km±5km, Error ellipse: s-maj=5.2km s-min=4.1km az=157.6*
*CSEM **16** 18:51:46.6±0.1,3748N×3605E,h12km,MD2.9,Error ellipse: s-maj=2.3km s-min=1.6km az=165.0*
*ISK **16** 18:51:46.7,3747N×3603E,h12km,MD3.2*
*DDA **16** 18:51:47.2,3748N×3605E,h7km±3km,Md2.9*
ISC 16 18:51:47.6±0.6,3748N±003×3602E±003,h10km±5km,n23, σ0°77/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.27**	**69**	*i* P	**Pg**	**18 51 52.8**	**-0.3**
ANDN				*i* S	**Sg**	**18 51 57.2**	**+0.4**
CEYT	**Ceyhan**	**0.52**	**205**	*e*PG	**Pg**	**18 51 57.3**	**-0.4**
KMRS	**Kahramanmaras**	**0.70**	**88**	*e*PG	**Pg**	**18 51 59.9**	**-1.1**
KARA	**Karaisali**	**0.80**	**254**	*e*PG	**Pg**	**18 52 03.0**	**-0.1**
KARA				*e*SG	**Sg**	**18 52 14.5**	**+1.0**
COBT	**Iskenderun**	**0.98**	**169**	*e*P	**Pg**	**18 52 06.5**	**+0.1**
COBT				*e*S	**Sg**	**18 52 19.6**	**+0.5**
GAZ	**Gaziantep**	**0.99**	**108**	*e*PG	**Pg**	**18 52 06.2**	**-0.5**
GAZ				*e*SG	**Sg**	**18 52 20.4**	**+0.7**
PINB	**Pinarbasi**	**1.23**	**14**	*i* P	**Pn**	**18 52 10.2**	**-0.6**
PINB				*i* S	**Sb**	**18 52 28.0**	**+1.2**
GZT	**Gaziantep**	**1.23**	**95**	*i* P	**Pn**	**18 52 10.4**	**-0.4**
GZT				*i* S	**Sb**	**18 52 27.6**	**+0.7**
NIG	**Nigde**	**1.28**	**300**	*e*PN	**Pn**	**18 52 10.6**	**-0.9**
SARI	**SarD1z-Kayseri**	**1.31**	**24**	*e*PG	**Pg**	**18 52 06.0**	**-6.8**
SARI				*e*SG	**Sg**	**18 52 20.1**	**-10**
MERS	**Mersin**	**1.35**	**243**	*e*PN	**Pn**	**18 52 11.3**	**-1.1**
BNN	**Bunyan**	**1.38**	**354**	*e*PN	**Pn**	**18 52 12.7**	**-0.1**
YAYL	**Yayladag**	**1.45**	**177**	*e*P	**Pn**	**18 52 11.9**	**-1.8**
YAYL				*e*S	**Sn**	**18 52 33.7**	**+0.9**
YAYL	**Yayladag**	**1.45**	**177**	*e*P	**Pn**	**18 52 11.9**	**-1.9**
YAYL				*e*S	**Sn**	**18 52 33.7**	**+1.0**
DARE	**Darende-Malaty**	**2.03**	**43**	*e*PN	**Pn**	**18 52 15.7**	**-6.2**
MALT	**Malatya**	**2.08**	**66**	*e*PN	**Pn**	**18 52 21.7**	**-0.7**
MYA	**Malataya**	**2.08**	**65**	*e*PN	**Pn**	**18 52 23.3**	**+0.8**
IKL	**Isikli**	**2.25**	**237**	*e*PN	**Pn**	**18 52 25.2**	**+0.4**
SVSK	**Karacayir**	**2.55**	**17**	*e*PN	**Pn**	**18 52 29.8**	**+0.9**
KAMT	**Kaman**	**2.62**	**317**	*e*PN	**Pn**	**18 52 30.0**	**+0.1**
SVRC	**Sivrice-ELAZID**	**2.75**	**70**	*e*PN	**Pn**	**18 52 31.7**	**+0.1**
HDMB	**Hadim**	**2.87**	**261**	*e*PN	**Pn**	**18 52 34.3**	**+1.0**
PTK	**Pertek**	**3.00**	**61**	*e*PN	**Pn**	**18 52 34.5**	**-0.7**

IDC 16 18:59:13.8±4.2,637S×10445E,h0km,mb3.7/4,mb1 3.8/4, mb1mx3.4/20,mbtmp3.7/4,Error ellipse: s-maj=210.9km s-min=23.8km az=49.0,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.00**	**118**	P	P	19 05 42.1	0.0
	0.2nm,0.4s,baz=298,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**33.12**	**124**	P	P	19 05 51.9	0.0
	0.4nm,1.0s,baz=304,slow=7.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**62.33**	**347**	P	P	19 09 37.9	+0.1
	1.3nm,0.3s,baz=170,slow=6.3,SNR=7.0						
BVAR	**Borovoye Array**	**65.83**	**338**	P	P	19 10 00.7	-0.1
	0.5nm,0.6s,baz=140,slow=7.2,SNR=4.0						
TXAR	**Lajitas Array**	**145.00**	**46**	PKPbc	PKPbc	19 18 52.8	-0.3
	0.5nm,0.5s,baz=269,slow=2.0,SNR=4.9						

IDC 16 18:59:46.7±1.2,2395S×6670W,h204km±13km,mb3.3/2, mb1 3.4/6,mb1mx3.2/19,mbtmp3.2/6,Error ellipse: s-maj=24.5km s-min=17.9km az=48.0,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.43**	**303**	P	Pn	19 00 31.9	+1.8
	36nm,0.3s,baz=130,slow=5.8,SNR=400						
LVC				S	Sn	19 01 04.5	+0.6
	12nm,0.3s,baz=263,slow=21,SNR=16						
LPAZ	**La Paz**	**7.74**	**350**	P	Pn	19 01 38.2	+1.5
	0.7nm,0.3s,baz=173,slow=7.1,SNR=14						
CFAA	**Coronel Fontan**	**7.75**	**190**	P	Pn	19 01 36.4	-0.3
	0.1nm,0.3s,baz=29,slow=17,SNR=5.0						
CPUP	**Villa Florida**	**8.81**	**108**	P	Pn	19 01 50.9	+0.3
	0.2nm,0.3s,baz=274,slow=9.9,SNR=5.4						
SIV	**San Ignacio**	**9.52**	**35**	P	Pn	19 01 58.7	-1.1
	0.2nm,0.3s,baz=220,slow=15,SNR=6.6						
TORD	**Torodi Ar. Bea**	**76.29**	**69**	P	P	19 11 13.4	-0.1
	0.4nm,0.6s,baz=242,slow=4.6,SNR=6.5						
YKA	**Yellowknife Ar**	**94.17**	**340**	P	P	19 12 41.6	-0.2
	0.3nm,0.6s,baz=139,slow=4.4,SNR=4.9						
MKAR	**Makanchi Array**	**146.31**	**40**	PKPbc	PKPbc	19 19 02.6	-0.6
	0.6nm,0.5s,baz=312,slow=3.8,SNR=8.3						

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*ISCJB **16** 19:08:15.4±0.8,3933N±003×20.16E±006,h7km±5km, Error ellipse: s-maj=7.2km s-min=4.4km az=179.1*
*ATH **16** 19:08:16.7,3929N×2027E,h15km±6km,MD3.4/5*
*NEIC **16** 19:08:17.8,3931N×2028E,h0km,MD3.4(ATH), ML3.1(THE),After THE.*
*THE **16** 19:08:17.8,3931N×2028E,h0km,ML3.1*
*CSEM **16** 19:08:17.4±0.1,3933N×2030E,h10km,ML3.1,Error ellipse: s-maj=3.2km s-min=2.1km az=82.0*
ISC 16 19:08:17.5±0.6,3932N±002×2027E±004,h5km±5km,n20, σ1°09/34,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.21**	**12**	*e*Pg	**Pg**	**19 08 21.2**	**-0.4**
IGT				*e*Sg	**Sg**	**19 08 24.9**	**+0.4**
KEK	**Kerkira**	**0.54**	**317**	*e*PN	**Pg**	**19 08 27.5**	**-0.3**
KEK				*e*SN	**Sg**	**19 08 35.8**	**+1.1**
JAN	**Janina**	**0.56**	**53**	*e*PN	**Pg**	**19 08 27.7**	**-0.5**
JAN				*e*SN	**Sg**	**19 08 35.9**	**+0.4**
LKD	**Levkas**	**0.68**	**154**	*e*Pg	**Pg**	**19 08 29.9**	**-0.6**
LKD				*e*Sg	**Sg**	**19 08 40.0**	**+0.7**
VLS	**Valsamata**	**1.17**	**168**	*e*Pg	**Pg**	**19 08 39.2**	**-0.6**
VLS				*e*Sg	**Sg**	**19 08 56.6**	**+1.6**
VLS	**Valsamata**	**1.17**	**168**	*e*Pn	**Pn**	**19 08 38.5**	**-1.9**
VLS	**Valsamata**	**1.17**	**168**	*e*Pg	**Pg**	**19 08 39.2**	**-0.7**
VLS				*e*Sg	**Sg**	**19 08 56.6**	**+1.6**
EVR	**Evrytania**	**1.26**	**108**	*e*PN	**Pn**	**19 08 40.5**	**-1.2**
KFL	**Anninata**	**1.28**	**161**	*e*Pg	**Pg**	**19 08 41.4**	**-0.5**
KFL				*e*Sg	**Sg**	**19 08 59.9**	**+1.5**
THL	**Klokotos Trika**	**1.37**	**79**	*e*Pg	**Pg**	**19 08 42.1**	**-1.6**
THL				*e*Sg	**Sg**	**19 09 03.0**	**+1.5**
THL	**Klokotos Trika**	**1.37**	**79**	*e*Pn	**Pn**	**19 08 42.7**	**-0.5**
THL				*e*Sg	**Sg**	**19 09 03.0**	**+1.5**
AGG	**Agios Georgios**	**1.63**	**100**	*e*Pg	**Pg**	**19 08 47.2**	**-1.4**
AGG				*e*Sg	**Sg**	**19 09 09.1**	**-0.6**
FNA	**Florina**	**1.69**	**30**	*e*Pb	**Pb**	**19 08 49.1**	**+0.1**
FNA				*e*Sb	**Sb**	**19 09 12.2**	**+1.6**
FNA	**Florina**	**1.69**	**30**	*e*Pb	**Pb**	**19 08 49.1**	**+0.1**
FNA				*e*Sb	**Sb**	**19 09 12.1**	**+1.6**
BIA	**Bitola**	**1.88**	**25**	*e*Pn	**Pn**	**19 08 53.0**	**+2.9**
BIA	**Bitola**	**1.88**	**25**	*e*Pn	**Pn**	**19 08 53.0**	**+2.8**
LIT	**Litokhoron**	**1.88**	**65**	*e*Pb	**Pb**	**19 08 51.5**	**-0.7**
LIT				*e*Sb	**Sb**	**19 09 16.2**	**+0.2**
KRUS	**Krusevo**	**2.18**	**20**	*e*Pn	**Pn**	**19 08 52.8**	**-1.5**
KRUS	**Krusevo**	**2.18**	**20**	*e*Pn	**Pn**	**19 08 52.7**	**-1.6**
DID	**Didima**	**2.95**	**127**	*e*Pn	**Pn**	**19 09 05.9**	**+1.0**
DID				*e*Sn	**Sn**	**19 09 41.7**	**+1.0**

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*ISCJB **16** 19:23:22.2±0.5,3428N±002×11865W±002,h10km±3km, Error ellipse: s-maj=3.0km s-min=2.1km az=30.1*
*NEIC **16** 19:23:23.5,3430N×11861W,h5km,ML3.5(PAS),After PAS.*
NEIC Felt [IV] at Canoga Park, Chatsworth, Panorama City and Simi Valley; [III] at Agoura Hills, Beverly Hills, Burbank, Calabasas, Canyon Country, Castaic, Culver City, Encino, Granada Hills, Los Angeles, Marina del Ray, Mission Hills, Moorpark, Newbury Park, Newhall, North Hills, North Hollywood, Northridge, Oak Park, Reseda, San Fernando, Santa Clarita, Santa Monica, Sherman Oaks, Stevenson Ranch, Studio City, Sylmar, Tarzana, Thousand Oaks, Valencia, Van Nuys, West Hills, Westlake Village, Winnetka and Woodland Hills; [II] at Camarillo, Glendale, Pasadena, Sunland, Topanga, Valley Village, Venice and West Hollywood. Felt as far north as Exeter and as far south as Dana Point.
ISC 16 19:23:22.7±0.3,3428N±002×11865W±002,h10km±2km, n74,σ0°86/105,44C-33D,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DECC	**Green Verdugo**	**0.27**	**96**	P	**Pg**	**19 23 28.2**	**+0.1**
	baz=0.2,SNR=203						
DECC				⇓S	**Sg**	**19 23 32.0**	**+0.2**
	baz=0.2						
OSI	**Osito Adit**	**0.34**	**350**	⇓P	**Pg**	**19 23 29.7**	**+0.3**
	baz=0.3						
OSI				⇑S	**Sg**	**19 23 34.3**	**+0.3**
	baz=0.3						
OSI	**Osito Adit**	**0.34**	**350**	*e*P	**Pg**	**19 23 29.2**	**-0.2**
BLG	**Laguna Peak**	**0.38**	**244**	P	**Pg**	**19 23 30.7**	**+0.5**
	baz=0.4,SNR=951						
BLG				⇑S	**Sg**	**19 23 36.7**	**+1.5**
	baz=0.4						
MWC	**Mount Wilson**	**0.49**	**96**	*e*P	**Pg**	**19 23 31.9**	**-0.4**
FMP	**Fort Macarthur**	**0.64**	**152**	⇓P	**Pg**	**19 23 34.9**	**-0.1**
	baz=0.6,SNR=38						
FMP				⇓S	**Sg**	**19 23 44.3**	**+0.9**
	baz=0.6						
EDW2	**Edwards Air Fo**	**0.81**	**42**	⇑P	**Pg**	**19 23 37.5**	**-0.9**
	baz=0.8						
EDW2				⇑S	**Sg**	**19 23 48.3**	**-0.6**
	baz=0.8						
BFSC	**Mount Baldy St**	**0.82**	**92**	⇑P	**Pg**	**19 23 37.4**	**-1.2**
	baz=0.8,SNR=145						
BFSC				⇓S	**Sg**	**19 23 49.2**	**-0.2**
	baz=0.8						
ARVC	**Arvin**	**0.86**	**350**	⇑P	**Pg**	**19 23 38.8**	**-0.5**
	baz=0.8						
ARVC				⇑S	**Sg**	**19 23 51.1**	**+0.7**
	baz=0.8						
BSC	**Santa Cruz Isl**	**0.86**	**251**	⇑P	**Pg**	**19 23 38.5**	**-0.8**
	baz=0.9,SNR=78						
BSC				⇑S	**Sg**	**19 23 51.3**	**+0.8**
	baz=0.9						
CIS	**Catalina Islan**	**0.89**	**167**	⇑P	**Pg**	**19 23 39.5**	**-0.4**
	baz=0.9,SNR=6.4						
CIS				⇑S	**Sg**	**19 23 52.4**	**+0.8**
	baz=0.9						
SBC	**Santa Barbara**	**0.89**	**281**	⇑P	**Pg**	**19 23 39.8**	**-0.1**
	baz=0.9,SNR=11						
SBC				⇑S	**Sg**	**19 23 52.9**	**+1.4**
	baz=0.9						
PKM	**Peak Mountain**	**1.14**	**303**	⇑P	**Pb**	**19 23 44.1**	**-0.5**
	baz=1.2,SNR=282						
PKM				⇑S	**Sb**	**19 24 00.2**	**+0.8**
	baz=1.2						
SCI	**San Clemente I**	**1.30**	**176**	⇑S	**Sb**	**19 24 04.2**	**+0.3**
	baz=1.3						
MURC	**Murrieta**	**1.38**	**119**	⇓P	**Pn**	**19 23 47.4**	**-0.7**
	baz=1.4,SNR=75						
MURC				⇑S	**Sb**	**19 24 05.8**	**-0.5**
	baz=1.4						
ISA	**Isabella**	**1.39**	**6**	P	**Pn**	**19 23 48.0**	**-0.2**
	baz=1.4,SNR=111						
ISA				⇑S	**Sb**	**19 24 07.0**	**+0.4**
	baz=1.4						
ISA	**Isabella**	**1.39**	**6**	*e*P	**Pn**	**19 23 47.6**	**-0.6**
BBRC	**Big Bear Sol-O**	**1.43**	**90**	⇑P	**Pn**	**19 23 48.1**	**-0.6**
	baz=1.4,SNR=21						
BBRC				⇑S	**Sn**	**19 24 08.2**	**+0.5**
	baz=1.4						
LRMC	**Laurel Mountai**	**1.43**	**33**	⇑P	**Pn**	**19 23 48.3**	**-0.5**
	baz=1.4,SNR=75						
LRMC				⇓S	**Sn**	**19 24 06.8**	**-0.9**
	baz=1.4						
RRX	**Edison Barstow**	**1.49**	**66**	⇓P	**Pn**	**19 23 48.9**	**-0.6**
	baz=1.4,SNR=17						
RRX				⇑S	**Sn**	**19 24 08.7**	**-0.4**
	baz=1.4						
SMMC	**Simmler**	**1.51**	**313**	⇓P	**Pn**	**19 23 49.7**	**-0.1**
	baz=1.5,SNR=49						
SMMC				⇓S	**Sn**	**19 24 10.5**	**+0.9**
	baz=1.5						
VES	**Vestal, Richgr**	**1.60**	**347**	⇓P	**Pn**	**19 23 50.7**	**-0.3**
	baz=1.6,SNR=33						
VES				⇑S	**Sn**	**19 24 12.1**	**+0.4**
	baz=1.6						
GSC	**Goldstone**	**1.83**	**56**	⇓P	**Pn**	**19 23 53.8**	**-0.4**
	baz=1.8,SNR=24						
GSC				⇓S	**Sn**	**19 24 18.4**	**+0.9**
	baz=1.8						
GSC	**Goldstone**	**1.83**	**56**	*e*P	**Pn**	**19 23 53.5**	**-0.7**
PTRM	**Twissleman Ran**	**1.88**	**317**	*e*P	**Pn**	**19 23 55.1**	**+0.2**
V05C	**Boulder Hill,**	**1.89**	**327**	⇑P	**Pn**	**19 23 54.5**	**-0.5**
	baz=1.9						
V05C				⇓S	**Sn**	**19 24 21.1**	**+2.2**
	baz=1.9						
109C	**Camp Elliot, M**	**1.89**	**137**	⇓P	**Pn**	**19 23 54.0**	**-1.1**
	baz=1.9						
PFO	**Pinyon Flat Ob**	**1.94**	**109**	⇑P	**Pn**	**19 23 55.4**	**-0.3**
	baz=1.9,SNR=24						
PFO				⇑S	**Sn**	**19 24 20.8**	**+0.5**
	baz=1.9						
PFO	**Pinyon Flat Ob**	**1.94**	**109**	*e*P	**Pn**	**19 23 55.6**	**-0.1**
HEC	**Hector,Ludlow**	**1.99**	**73**	P	**Pn**	**19 23 55.6**	**-0.9**
	baz=1.9,SNR=33						
HEC				⇑S	**Sn**	**19 24 20.6**	**-0.9**
	baz=1.9						
MPMC	**Manual Prospec**	**2.02**	**28**	⇓P	**Pn**	**19 23 56.1**	**-0.7**
	baz=2.0,SNR=70						
RCTC	**Rector, Farmer**	**2.08**	**347**	⇑S	**Sn**	**19 24 23.7**	**0.0**
	baz=2.1						
CWC	**Cottonwood Cre**	**2.21**	**12**	⇓Sb	**Sb**	**19 24 32.0**	**+1.9**
	baz=2.2						
BELC	**Belle Mtn.**	**2.22**	**96**	⇓P	**Pn**	**19 24 00.0**	**+0.5**
	baz=2.2,SNR=26						
BELC				⇑Sb	**Sb**	**19 24 31.6**	**+1.2**
	baz=2.2						
V04C	**Ramage Ranch,**	**2.27**	**307**	⇑P	**Pn**	**19 23 59.4**	**-0.8**
	baz=2.3,SNR=27						
V04C				⇓S	**Sn**	**19 24 28.0**	**-0.2**
	baz=2.3						
PKD	**Parkfield**	**2.27**	**318**	P	**Pn**	**19 23 59.9**	**-0.4**
	baz=2.3,SNR=105						
PKD				⇓S	**Sn**	**19 24 27.5**	**-0.9**
	baz=2.3						
BAR	**Barrett**	**2.30**	**133**	*e*P	**Pn**	**19 23 59.3**	**-1.3**
MONP	**Monument Peak**	**2.32**	**126**	P	**Pn**	**19 24 00.6**	**-0.4**
	baz=2.3,SNR=41						
MONP				⇑S	**Sn**	**19 24 29.9**	**+0.3**
	baz=2.3						
U05C	**Westside ANR,**	**2.38**	**330**	⇑S	**Sn**	**19 24 30.6**	**-0.4**
	baz=2.4						
HELL	**Mitchell Peak**	**2.42**	**353**	⇑P	**Pn**	**19 24 02.8**	**+0.5**
	baz=2.4,SNR=16						
GMRC	**Granite Mounta**	**2.52**	**78**	P	**Pn**	**19 24 02.7**	**-1.0**
	baz=2.5,SNR=33						
GMRC				⇓Sb	**Sb**	**19 24 40.8**	**+1.7**
	baz=2.5						
TUQ	**Turquoise Mtn.**	**2.52**	**62**	⇓Pb	**Pb**	**19 24 08.6**	**+0.6**
	baz=2.5,SNR=12						
TUQ				⇑Sb	**Sb**	**19 24 40.5**	**+1.4**
	baz=2.5						
SHOC	**Shoshone**	**2.53**	**50**	⇑Pb	**Pb**	**19 24 09.1**	**+0.9**
	baz=2.5,SNR=5.9						
SHOC				⇓Sb	**Sb**	**19 24 41.2**	**+1.8**
	baz=2.5						
DVTC	**Desert V Tower**	**2.67**	**126**	⇓Sb	**Sb**	**19 24 44.9**	**+1.4**
	baz=2.7						
U04C	**Hernandez Rese**	**2.71**	**321**	⇑P	**Pn**	**19 24 06.3**	**-0.1**
	baz=2.7,SNR=22						
V03C	**Hunter Liggett**	**2.74**	**310**	⇓P	**Pn**	**19 24 05.8**	**-0.9**
	baz=2.8,SNR=601						
V03C				⇓S	**Sn**	**19 24 38.9**	**-0.9**
	baz=2.8						
T06C	**Millerton Lake**	**2.85**	**343**	⇑P	**Pn**	**19 24 07.9**	**-0.4**
	baz=2.9						
IRM	**Iron Mountain**	**2.90**	**91**	⇑P	**Pn**	**19 24 08.3**	**-0.6**
	baz=2.9,SNR=6.5						
LDFC	**Landfair**	**3.03**	**74**	*e*Pn	**Pn**	**19 24 10.1**	**-0.6**
MTUM	**Tungsten Hills**	**3.07**	**1**	*e*P	**Pn**	**19 24 12.4**	**+1.2**
KCC	**Kaiser Creek**	**3.09**	**350**	⇓P	**Pn**	**19 24 11.7**	**+0.3**
	baz=3.1,SNR=6.5						
HAST	**Hastings Reser**	**3.17**	**312**	P	**Pn**	**19 24 11.5**	**-1.2**
	baz=3.2,SNR=53						
TPNV	**Topopah Spring**	**3.31**	**36**	⇓P	**Pn**	**19 24 14.6**	**+0.1**
	baz=3.3						
TPNV	**Topopah Spring**	**3.31**	**36**	*e*Pn	**Pn**	**19 24 14.5**	**0.0**
TPNV				*e*Pg	**Pg**	**19 24 24.4**	**-1.6**
S05C	**Merced**	**3.35**	**336**	⇑P	**Pn**	**19 24 14.9**	**-0.2**
	baz=3.4,SNR=11						
NEE2	**Needles Airpor**	**3.37**	**81**	⇑P	**Pn**	**19 24 14.6**	**-0.7**
	baz=3.3						
SAO	**San Andreas Ge**	**3.37**	**318**	*e*Pn	**Pn**	**19 24 14.2**	**-1.1**
GLA	**Glamis**	**3.42**	**110**	*e*Pn	**Pn**	**19 24 17.7**	**+1.7**
V12A	**Nelson**	**3.44**	**64**	⇑P	**Pn**	**19 24 16.3**	**0.0**
	baz=3.4,SNR=16						
S09A	**Goldfield**	**3.63**	**18**	⇓P	**Pn**	**19 24 19.9**	**+0.9**
	baz=3.6,SNR=12						
S06C	**San Francisco**	**3.72**	**345**	⇓P	**Pn**	**19 24 21.0**	**+0.8**
	baz=3.7,SNR=14						
TPH	**Tonopah**	**3.96**	**17**	*e*Pg	**Pg**	**19 24 35.7**	**-2.8**
U12A	**Valley of Fire**	**3.99**	**56**	⇓P	**Pn**	**19 24 24.7**	**+0.8**
	baz=3.9,SNR=6.9						
X13A	**Yucca**	**4.00**	**84**	P	**Pn**	**19 24 23.5**	**-0.5**
	baz=4.0,SNR=43						
CMB	**Columbia Colle**	**4.00**	**340**	*e*Pn	**Pn**	**19 24 26.1**	**+2.0**
W13A	**Hualapai Mount**	**4.01**	**77**	P	**Pn**	**19 24 23.8**	**-0.4**
	baz=4.0,SNR=27						
BNLO	**Ben Lomond (Sa**	**4.04**	**316**	P	**Pn**	**19 24 22.9**	**-1.6**
	baz=4.0,SNR=20						
T11A	**Corn Creek, Al**	**4.07**	**42**	⇑P	**Pn**	**19 24 25.4**	**+0.5**
	baz=4.0						
V13A	**Grand Canyon W**	**4.14**	**66**	P	**Pn**	**19 24 26.0**	**0.0**
	baz=4.1,SNR=8.6						
JRSC	**Jasper Ridge**	**4.27**	**318**	⇑P	**Pn**	**19 24 26.8**	**-0.9**
	baz=4.3,SNR=8.4						
U13A	**Pakoon Wash**	**4.38**	**60**	⇓P	**Pn**	**19 24 29.8**	**+0.5**
	baz=4.3,SNR=19						
V14A	**Boquillas Ranc**	**4.75**	**72**	⇓P	**Pn**	**19 24 34.0**	**-0.4**
	baz=4.7,SNR=12						
X14A	**Yava**	**4.77**	**86**	⇑P	**Pn**	**19 24 34.0**	**-0.6**
	baz=4.7,SNR=12						
PAHR	**Pah Rah Range**	**5.45**	**354**	*e*P	**Pb**	**19 24 59.1**	**+1.1**

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*CSEM **16** 19:26:49.0±0.1,3758N×2991E,h2km,MD2.8,Error ellipse: s-maj=2.5km s-min=1.8km az=155.0*
*ISK **16** 19:26:49.4,3753N×2991E,h8km,MD3.0*
*ISCJB **16** 19:26:50.7±0.6,3757N±003×2992E±004,h6km±6km, Error ellipse: s-maj=6.1km s-min=4.6km az=33.8*
*DDA **16** 19:26:51.2,3757N×2987E,h7km±6km,Md2.8*
ISC 16 19:26:51.3±0.5,3757N±003×2993E±004,h12km±5km,n11, σ1°33/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.44**	**222**	*i* P	**Pg**	**19 26 58.6**	**-1.4**
GOLH				*i* S	**Sg**	**19 27 06.9**	**+1.0**
BCK	**Bucak**	**0.53**	**101**	*e*PG	**Pg**	**19 26 59.5**	**-2.2**
BCK				*e*SG	**Sg**	**19 27 09.2**	**+0.4**
ISP	**Isparta**	**0.54**	**59**	*e*PG	**Pg**	**19 27 00.5**	**-1.3**
ISP				*e*SG	**Sg**	**19 27 09.7**	**+0.9**
TKTP	**Tekketepe**	**0.56**	**33**	*i* P	**Pg**	**19 27 01.9**	**-0.5**
TKTP				*i* S	**Sg**	**19 27 12.1**	**+2.3**
KHL	**Karahalli**	**0.82**	**337**	*e*PG	**Pg**	**19 27 05.6**	**-1.5**
KHL				*e*SG	**Sg**	**19 27 19.4**	**+1.5**
KHAL	**Karahalli**	**0.88**	**337**	*i* P	**Pg**	**19 27 06.9**	**-1.3**
KHAL				*i* S	**Sg**	**19 27 21.2**	**+1.6**
SHUT	**Suhut-Afyon**	**1.10**	**26**	*e*PN	**Pn**	**19 27 11.3**	**-1.2**
SHUT				*e*SN	**Sn**	**19 27 28.2**	**+0.6**
AKAS	**Kas**	**1.35**	**191**	*i* P	**Pn**	**19 27 17.3**	**+1.4**
AKAS				*i* S	**Sb**	**19 27 36.7**	**+2.9**
KULA	**Kula-Manisa**	**1.38**	**314**	*e*PN	**Pn**	**19 27 14.9**	**-1.3**
YER	**Yerkesik**	**1.38**	**252**	*e*PN	**Pn**	**19 27 15.8**	**-0.5**
MLSB	**Milas**	**1.74**	**262**	*e*PN	**Pn**	**19 27 21.1**	**-0.1**

IDC 16 19:29:41.2±0.9,980S×15945E,h0km,mb3.8/6,mb1 4.0/6, mb1mx3.8/16,mbtmp3.8/6,Error ellipse: s-maj=28.4km s-min=8.2km az=145.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.61**	**53**	Pg	Pg	19 29 53.6	+0.7
	603nm,0.3s,baz=234,slow=8.7,SNR=31						
HNR				Lg		19 30 00.8	
	3μm,0.3s,baz=86,slow=16,SNR=49						
WRA	**Warramunga Arr**	**26.25**	**245**	P	P	19 35 19.2	+0.9
	3.0nm,0.8s,baz=72,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.02**	**237**	P	P	19 35 33.4	-0.7
	0.3nm,0.4s,baz=65,slow=10,SNR=6.5						
MJAR	**Matsushiro Arr**	**50.24**	**338**	P	P	19 38 38.2	-0.9
	0.3nm,0.4s,baz=161,slow=9.0,SNR=4.6						
KSRS	**Korea Array**	**55.51**	**330**	P	P	19 39 17.9	-0.3
	0.6nm,0.7s,baz=140,slow=8.7,SNR=3.9						
VNDA	**Vanda**	**67.72**	**179**	P	P	19 40 39.7	-0.2
	1.5nm,0.8s,baz=339,slow=7.0,SNR=10						
SONM	**Songino Array**	**74.08**	**326**	P	P	19 41 19.9	+0.9
	0.2nm,0.4s,baz=124,slow=5.8,SNR=2.8						

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*SZGRF **16** 19:38:52.5,756N×9246E,h33km,mb4.9,Nicobar Islands, India, region*
*MOS **16** 19:38:53.6±0.8,793N×9217E,h33km,mb5.1/42,Error ellipse: s-maj=9.7km s-min=4.5km az=116.6*
*BJI **16** 19:38:53.8,788N×9219E,h38km,mB4.8,mb4.8,Ms4.3, Msz3.8*
*ISCJB **16** 19:38:53.5±0.2,780N±004×9218E±003,h37km, mb4.7/105,MS3.8/19,Error ellipse: s-maj=5.5km s-min=3.9km az=28.3*
*DJA **16** 19:38:56,783N×9213E,h32km,mb4.9/7*
*IDC **16** 19:38:56.

BLSP Bilaspur 17.21 327 *eP* **Pn 19 42 53.4 +0.2**
BLSP AMb AMB 19 42 54.5
comp=Z,65nm,0.5s
BLSP *ex* x 19 46 22.6
SHL Shillong 17.67 359 *eP* **Pn 19 42 56.5 -2.4**
SHL *ex* x 23 43 59.0
NGP Nagpur 18.34 318 *eP* **Pn 19 43 07.1 0.0**
NGP *ex* x 19 43 08.4
comp=Z,61nm,0.6s
NGP *ex* x 19 46 14.3
LATR Latur 18.48 306 *eP* **Pn 19 43 09.7 +0.9**
LATR AMb AMB 19 43 11.1
comp=Z,29nm,0.8s
LATR *ex* x 19 46 16.0
KSM Kuching 19.15 108 ⇓P **Pn 19 43 24.0 +7.0**
KSM Kuching 19.15 108 *eP* **Pn 19 43 16.5 -0.5**
AKL Akola 19.46 313 *eP* **Pn 19 43 20.4 -0.2**
ODAN Odare 19.49 347 *eP* **Pn 19 43 20.4 -0.5**
RAMN Ramite 19.77 345 *eP* **Pn 19 43 24.2 0.0**
comp=Z,146nm,1.1s
TAPN Taplejung 19.90 348 *eP* **Pn 19 43 25.5 -0.2**
comp=Z,143nm,0.8s
KAD Karad 19.90 300 *eP* **Pn 19 43 23.5 -2.4**
KAD AMb AMB 19 43 43.5
comp=Z,51nm,1.3s
KAD *ex* x 19 46 46.3
KMI Kunming 19.98 29 P **Pn 19 43 26.3 -0.4**
KMI AP pP 19 43 31.9 -2.7
KMI PP 19 43 47.6
KMI PPP 19 43 53.9
KMI S **S 19 47 07.3 -0.2**
KMI XS sS 19 47 14.8 -8.4
KMI SS 19 47 34.4
KMI SSS 19 47 48.1
KMI AMB AMB
comp=Z,44nm,0.9s
KMI AMB AMB
comp=Z,77nm,3.1s
KMI LR LR
comp=N,187nm,13.2s
KMI LR LR
comp=E,219nm,14.5s
KMI LR LR
comp=Z,206nm,13.7s
QIZ Qiongzhong 20.49 55 P **P 19 43 31.4 +1.0**
QIZ S **S 19 47 20.0 +2.2**
QIZ AMB AMB
comp=Z,21nm,1.4s
QIZ LR LR
comp=N,341nm,12.1s
QIZ LR LR
comp=Z,259nm,12.2s,MS3.8
JIRN Jiri 20.55 345 *eP* **P 19 43 32.4 +1.5**
comp=Z,88nm,0.7s
SBUM Sibu 20.68 104 ⇑P **P 19 43 33.3 +0.9**
PKI Pulchoki 20.68 343 *eP* **P 19 43 33.4 +1.0**
comp=Z,199nm,1.2s
PKI Pulchoki 20.68 343 *eP* **P 19 43 33.4 +1.0**
PKI pmax pmax
comp=Z,199nm,1.2s
POO Poona 20.75 303 ⇑*iP* **P 19 43 35.0 +1.8**
comp=Z,50nm,1.0s
DMN Daman 20.80 342 *eP* **P 19 43 34.6 +0.9**
GUN Gumba 20.87 344 *eP* **P 19 43 35.3 +0.9**
comp=Z,122nm,0.7s
KKN Kakani 20.92 343 *eP* **P 19 43 35.5 +0.5**
GKN Gorkha 21.32 341 *eP* **P 19 43 40.3 +1.1**
comp=Z,25nm,0.8s,mb4.6
BTM Bintulu 21.33 101 ⇓P **P 19 43 41.1 +1.6**
KOLN Koldanda 21.45 339 *eP* **P 19 43 41.3 +0.6**
comp=Z,194nm,0.8s,mb5.5
LSA Lhasa 21.81 358 P **P 19 43 44.0 -0.5**
LSA AMB AMB
comp=Z,30nm,1.0s,mb4.7
LSA Lhasa 21.81 358 *eP* **P 19 43 44.1 -0.4**
LSA pmax pmax
comp=Z,80nm,0.7s,mb5.3
LSA Lhasa 21.81 358 *eP* **P 19 43 44.1 -0.4**
comp=Z,80nm,0.7s,mb5.3
DANN Dangsing 21.93 340 *eP* **P 19 43 46.5 +0.7**
GYA Guiyang 23.13 35 P **P 19 43 57.8 -0.7**
GYA AP 19 44 06.9
GYA XP sP 19 44 09.8 -3.7
GYA PP 19 44 31.0
GYA PCP PcP 19 47 50.0 +3.6
GYA S **S 19 48 07.5 +0.4**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,120nm,4.2s
GYA LR LR
comp=N,560nm,18.3s,MS4.2
GYA LR LR
comp=E,480nm,17.1s,MS4.2
GYA LR LR
comp=Z,510nm,17.3s,MS4.0
KKM Kota Kinabalu 23.95 93 ⇑P **P 19 44 14.1 +7.5**
PTH Pithoragarh 24.38 334 *eP* **P 19 44 11.8 +1.6**
AJM Ajmer 24.94 320 *ex* x 19 44 09.8
SDKM Sandakan 24.96 93 ⇑P **P 19 44 17.6 +1.9**
NDI New Delhi 25.10 328 *eP* **P 19 44 17.0 +0.2**
CD2 Chengdu 25.43 24 P **P 19 44 19.5 -0.3**
CD2 AP pP 19 44 25.1 -5.4
CD2 PP 19 44 58.0
CD2 S **S 19 48 44.3 +0.2**
CD2 XS sS 19 48 53.3 -8.8
CD2 SS 19 49 47.5
CD2 AMB AMB
comp=Z,110nm,0.8s,mb5.4
CD2 AMB AMB
comp=Z,80nm,4.2s
CD2 LR LR
comp=N,190nm,16.8s,MS4.0
CD2 LR LR
comp=E,320nm,13.2s,MS4.0
CD2 LR LR
comp=Z,120nm,12.0s,MS3.6
MYLDM Lahad Datu 26.31 94 ⇑P pP 19 44 40.7 +2.0
SMLA Simla 27.11 331 *eP* **P 19 44 35.9 +0.9**
SMLA AMb AMB 19 44 37.7
comp=Z,32nm,1.8s,mb4.5
LZH Lanzhou 30.12 19 *eP* **P 19 45 03.9 +2.2**
LZH AP pP 19 45 12.0 -0.5
LZH XP sP 19 45 14.6 -2.6
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,148nm,4.8s
XAN Xi'an 30.36 28 P **P 19 45 01.9 -1.9**
XAN AP pP 19 45 09.8 -4.9
XAN XP sP 19 45 13.9 -5.5
XAN AMB AMB
comp=Z,11nm,1.0s,mb4.5
XAN AMB AMB
comp=Z,126nm,5.9s
XAN LR LR
comp=N,111nm,9.5s
XAN LR LR
comp=E,127nm,12.6s
XAN LR LR
comp=Z,213nm,16.1s,MS3.9
WHN Wuhan 30.73 40 ⇑P **P 19 45 06.3 -0.8**
WHN AMB AMB
comp=Z,48nm,0.8s,mb5.4
GTA Gaotai 32.22 11 ⇓P **P 19 45 20.8 +0.6**
GTA AP pP 19 45 26.8 -4.2
GTA XP sP 19 45 29.8 -5.9
GTA PCP PcP 19 48 09.5 +1.3
GTA S **S 19 50 32.5 +1.8**
GTA SS SS 19 52 26.5 -24
GTA AMB AMB
comp=Z,39nm,1.2s,mb5.1
GTA AMB AMB
comp=Z,161nm,4.8s
GTA LR LR
comp=N,178nm,19.2s,MS3.9
GTA LR LR
comp=E,183nm,18.0s,MS3.9
GTA LR LR
comp=Z,60nm,16.8s,MS3.4
KBL Kabul 34.06 325 *eP* **P 19 45 35.2 -1.1**
KBL pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KBL Kabul 34.06 325 *eP* **P 19 45 35.2 -1.2**
comp=Z,7.8nm,0.8s,mb4.7

NJ2 Nanjing 34.63 42 *eP* **P 19 45 44.8 +3.5**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
WMQ Urumqi 36.09 355 P **P 19 45 54.8 +1.1**
WMQ AP pP 19 46 00.6 -4.0
WMQ XP sP 19 46 03.5 -5.8
WMQ PP PP 19 47 16.6 +0.3
WMQ PCP PcP 19 48 21.3 +2.2
WMQ AMB AMB
comp=Z,14nm,0.8s,mb4.9
WMQ LR LR
comp=N,111nm,24.6s
WMQ LR LR
comp=Z,113nm,26.0s,MS3.5
HHC Hu-ho-hao-te 37.18 25 *eP* **P 19 46 00.5 -2.5**
HHC PP PP 19 47 27.1 -1.2
HHC PCP PcP 19 48 19.4 -3.1
HHC S **S 19 51 45.3 -1.8**
HHC PCS PcS 19 52 07.8 -2.9
HHC SS SS 19 54 13.8 -17
HHC SCS ScS 19 56 11.6 -2.7
HHC AMB AMB
comp=Z,11nm,0.5s,mb4.9
HHC AMB AMB
comp=Z,108nm,5.3s
HHC LR LR
comp=N,248nm,17.8s,MS4.2
HHC LR LR
comp=E,285nm,19.6s,MS4.2
HHC LR LR
comp=Z,175nm,21.4s,MS3.8
KBK Karagaybulak 37.88 339 P **P 19 46 10.7 +1.7**
SNR=26
AML Almayashu 37.89 337 P **P 19 46 10.9 +1.9**
SNR=52
AML Almayashu 37.89 337 *eP* **P 19 46 10.3 +1.3**
comp=Z,76nm,0.7s,mb5.5
TKM2 Tokmak 2 37.89 340 *eP* **P 19 46 09.7 +0.7**
TKM2 pmax pmax
comp=Z,13nm,0.9s,mb4.7
TKM2 Tokmak 2 37.89 340 P **P 19 46 09.6 +0.6**
SNR=12
TKM2 Tokmak 2 37.89 340 *eP* **P 19 46 09.7 +0.7**
comp=Z,13nm,0.9s,mb4.7
AAK Ala-Archa 38.03 339 P **P 19 46 11.7 +1.6**
SNR=15
FRU Bishkek 38.16 339 *eP* **P 19 46 12.0 +0.8**
CHMS Chumysh 38.25 339 P **P 19 46 13.2 +1.2**
SNR=13
EKS2 Erkin-Say 38.31 338 P **P 19 46 14.2 +1.7**
SNR=15
EKS2 Erkin-Say 38.31 338 *eP* **P 19 46 13.5 +1.0**
comp=Z,25nm,0.8s,mb5.0
USP Ospenovka 38.58 339 P **P 19 46 15.7 +1.0**
SNR=24
BJI Beijing 38.63 30 P **P 19 46 15.6 +0.3**
BJI AMB AMB
comp=Z,11nm,0.6s,mb4.8
BJI LR LR
comp=N,162nm,29.8s,MS3.7
BJI LR LR
comp=E,113nm,33.2s,MS3.7
BJI LR LR
comp=Z,123nm,32.4s,MS3.5
MK31 Makanchi Array 39.77 349 *iP* **P 19 46 24.1 -0.5**
MK31 pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
MK31 Makanchi Array 39.77 349 *eP* **P 19 46 24.0 -0.6**
MKAR Makanchi Array 39.77 349 P **P 19 46 24.5 -0.1**
comp=Z,22nm,0.8s,mb4.9,baz=167,slow=8.5,SNR=129
MKAR PcP PcP 19 48 30.4 0.0
comp=Z,1.8nm,0.7s,baz=189,slow=3.0,SNR=2.9
KK31 Karatay Array 39.97 335 *iP* **P 19 46 26.5 +0.1**
SONM Songino Array 41.70 14 P **P 19 46 40.6 0.0**
comp=Z,16nm,0.8s,mb4.7,baz=195,slow=8.1,SNR=106
SONM PcP PcP 19 48 37.3 +0.6
comp=Z,2.2nm,0.7s,baz=196,slow=3.2,SNR=4.1
SONM LR LR 20 06 47.4
comp=Z,139nm,20.7s,MS3.8,baz=57,slow=40
SONM Songino Array 41.70 14 P **P 19 46 40.6 +0.1**
SONM 19 48 37.3
FITZ Fitzroy Crossi 41.90 128 *eP* **P 19 46 42.9 +0.4**
comp=Z,10nm,0.9s,mb4.5
FITZ *es*P sP 19 46 54.3 -4.0
FITZ Fitzroy Crossi 41.90 128 P **P 19 46 42.4 -0.1**
comp=Z,2.6nm,0.9s,mb3.8,baz=330,slow=10.0,SNR=5.2
HVS Khovu-Aksy 43.22 1*c iP* **P 19 46 53.3 +0.4**
ZAK Zakamensk 43.45 10 *eP* **P 19 46 54.0 -0.7**
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
KSRS Korea Array 43.83 42 P **P 19 46 56.9 -1.2**
comp=Z,1.2nm,0.7s,mb3.7,baz=255,slow=8.2,SNR=8.2
KSRS pP pP 19 47 09.6 +0.4
comp=Z,1.4nm,0.7s,baz=227,slow=9.8,SNR=4.8
KSRS LR LR 20 05 22.9
comp=Z,61nm,19.7s,MS3.5,baz=214,slow=36
KURK Kurchatov 44.24 348 *eP* **P 19 47 01.1 +0.1**
KURK pmax pmax
comp=Z,35nm,1.0s,mb5.0
KURK Kurchatov 44.24 348 *eP* **P 19 47 01.1 +0.1**
comp=Z,35nm,1.0s,mb5.0
TLY Talaya 44.76 10 *eP* **P 19 47 05.5 +0.3**
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
TLY Talaya 44.76 10 *eP* **P 19 47 05.6 +0.4**
comp=Z,6.9nm,0.9s,mb4.5
MUN Mundaring 45.74 151 *eP* **P 19 47 15.6 +2.4**
MUN *es*P sP 19 47 26.6 -2.5
CN2 Changchun 46.16 33 *eP* **P 19 47 19.5 +3.1**
ZAL Zalesovo 46.39 354 P **P 19 47 18.0 0.0**
ZAL 19 48 51.0
ZALV Zalesovo Beam 46.40 354 P **P 19 47 18.0 -0.1**
comp=Z,11nm,0.6s,mb5.0,baz=167,slow=14,SNR=58
ZALV PcP PcP 19 48 51.0 -1.5
comp=Z,2.1nm,0.6s,baz=160,slow=4.6,SNR=2.6
RDF Al-Radifah 46.90 303 *eP* **P 19 47 22.9 +0.5**
baz=302
RDF AMb AMB 19 47 24.4
comp=Z,22nm,1.0s,mb5.0,baz=302
NAY Al-Naaiem 47.25 303 *eP* **P 19 47 24.9 -0.3**
baz=302
NAY AMb AMB 19 47 26.9
comp=Z,17nm,0.9s,mb5.0,baz=302
MIB Mutribah 47.34 304 *eP* **P 19 47 26.2 +0.3**
baz=303
MIB AMb AMB 19 47 27.8
comp=Z,42nm,0.9s,mb5.4,baz=303
NVS Novosibirsk 47.45 353 *eP* **P 19 47 25.2 -1.1**
NVS pmax pmax
comp=Z,23nm,0.9s,mb5.1
NVS pmax pmax
comp=N,27nm,1.5s
NVS pmax pmax
comp=E,15nm,1.3s
KRAR Krasnoyarsk 48.09 1 *eP* **P 19 47 31.0 -0.3**
KRAR pmax pmax
comp=Z,22nm,1.2s,mb5.1
BVA0 Borovoye Array 48.45 343 *iP* **P 19 47 33.5 -0.6**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BVAR Borovoye Array 48.45 343 P **P 19 47 33.8 -0.3**
comp=Z,12nm,0.8s,mb5.0,baz=146,slow=8.2,SNR=70
BVAR PcP PcP 19 49 00.3 +0.4
comp=Z,1.3nm,0.6s,baz=168,slow=4.3,SNR=3.1
BVAR LR LR 20 10 30.8
comp=Z,113nm,19.4s,MS3.9,baz=158,slow=39
BVAR Borovoye Array 48.45 343 P **P 19 47 33.8 -0.3**
BVAR 19 49 00.3
BRVK Borovoye 48.51 343 *eP* **P 19 47 34.2 -0.3**
BRVK pmax pmax
comp=Z,17nm,1.0s,mb5.0
BRVK Borovoye 48.51 343 *eP* **P 19 47 34.2 -0.4**
comp=Z,17nm,1.0s,mb5.0
AB31 Akbulak array 49.37 333 P **P 19 47 41.3 +0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
WRA Warramunga Arr 49.84 124 P **P 19 47 44.4 -0.8**
comp=Z,0.9nm,0.4s,mb4.2,baz=300,slow=9.9,SNR=13
WRA pP pP 19 47 56.7 +0.2
comp=Z,8.9nm,0.7s,baz=304,slow=8.6,SNR=23
WRAB Tennant Creek 49.84 124 *eP* pP 19 47 55.8 -0.7
WB2 Warramunga Arr 49.84 124 *eP* **P 19 47 45.5 +0.2**
WB2 *es*P sP 19 47 56.4 -4.8
MAT Matsushiro 50.68 49 P **P 19 47 51.9 +0.5**
MJAR Matsushiro Arr 50.68 49 P **P 19 47 51.4 0.0**
comp=Z,1.1nm,0.7s,mb3.9,baz=225,slow=5.3,SNR=6.9

MJAR pP pP 19 48 04.8 +2.1
comp=Z,2.0nm,0.7s,baz=238,slow=6.2,SNR=7.8
MJAR PcP PcP 19 49 08.7 +0.3
comp=Z,3.5nm,0.8s,baz=237,slow=3.3,SNR=13
MJAR pPcP 19 49 21.5
comp=Z,1.5nm,0.7s,baz=240,slow=4.1,SNR=4.6
MJAR Matsushiro Arr 50.68 49 P **P 19 47 51.4 0.0**
MJAR *PP pP 19 48 04.8 +2.1
MJAR 19 49 08.7
MJAR Matsushiro Arr 50.68 49 P **P 19 47 51.4 0.0**
MJAR pP pP 19 48 04.8 +2.1
MJAR PcP PcP 19 49 08.7 +0.3
MJAR pPcP 19 49 21.5
AKTO Aktyubinsk 51.09 333 *iP* **P 19 47 53.2 -1.0**
AKTO pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
ASAR Alice Springs 51.39 129 P **P 19 47 56.7 -0.2**
comp=Z,0.9nm,0.6s,mb3.9,baz=302,slow=6.9,SNR=10
ASAR PcP PcP 19 49 13.2 +2.0
comp=Z,1.2nm,0.9s,baz=324,slow=2.5,SNR=2.6
ASAR pPcP 19 49 24.7
comp=Z,1.1nm,0.6s,baz=300,slow=3.2,SNR=4.8
ASAR Alice Springs 51.39 129 P **P 19 47 56.7 -0.2**
ASAR 19 49 13.3
ASAR Alice Springs 51.39 129 P **P 19 47 56.6 -0.2**
ASAR PcP PcP 19 49 13.2 +2.0
ASAR pPcP 19 49 24.7
FORT Forrest 51.53 140 *eP* **P 19 47 58.8 +1.0**
comp=Z,9.6nm,0.8s,mb4.8
FORT *es*P sP 19 48 10.7 -3.0
BOD Bodaibo 52.70 15 ⇓*iP* **P 19 48 06.2 +0.1**
BOD pmax pmax
comp=Z,22nm,1.0s,mb5.0
GNI Garni 53.09 315 *eP* **P 19 48 08.0 -1.3**
GNI pmax pmax
comp=Z,17nm,1.4s
SVE Sverdlovsk 54.76 339⇑*eP* **P 19 48 21.3 +0.1**
SVE pmax pmax
comp=Z,66nm,0.9s,mb5.7
KMBO Kilima Mbogo 55.45 263 P **P 19 48 29.1 +2.2**
comp=Z,1.8nm,0.9s,mb4.1,baz=48,slow=22,SNR=5.5
KMBO LR LR 20 11 28.3
comp=Z,94nm,18.8s,MS3.9,baz=94,slow=35
KIV Kislovodsk 56.06 319 *eP* **P 19 48 30.8 0.0**
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.9
KIV MLR MLR
comp=Z,35nm,19.0s,MS3.5
KIV Kislovodsk 56.06 319 *eP* **P 19 48 31.0 +0.2**
comp=Z,16nm,1.1s,mb5.0
ASAJ Asahikawa 56.77 42 P **P 19 48 34.9 -1.0**
comp=Z,4.1nm,0.7s,mb4.6,baz=247,slow=7.1
ASAJ LR LR 20 16 32.4
comp=Z,44nm,18.2s,MS3.6,baz=192,slow=40
MALT Malatya 57.02 311 *eP* **P 19 48 38.4 +0.7**
MALT pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
MALT Malatya 57.02 311 *eP* **P 19 48 38.4 +0.7**
comp=Z,5.8nm,1.1s,mb4.5
YSS Yuzh-Sakhalins 58.06 39 *eP* **P 19 48 45.1 +0.2**
YSS pmax pmax
comp=Z,35nm,1.3s,mb5.2
SOKR Solikamsk 58.17 340*c iP* **P 19 48 45.9 +0.5**
SOKR pmax pmax
comp=Z,20nm,0.6s,mb5.3
YAK Yakutsk 60.71 19 *eP* **P 19 49 00.1 -2.7**
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.2
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK Yakutsk 60.71 19 *eP* **P 19 49 02.4 -0.5**
comp=E,7.5nm,0.6s,mb5.0
STKA Stephens Creek 61.49 133 *eP* **P 19 49 09.3 +0.6**
comp=E,4.1nm,1.2s,mb4.4
STKA *es*P sP 19 49 21.4 -3.4
STKA Stephens Creek 61.49 133 P **P 19 49 07.2 -1.4**
comp=E,3.4nm,0.9s,mb4.5,baz=345,slow=16,SNR=2.7
STKA LR LR 20 21 34.0
comp=E,130nm,18.4s,MS4.1,baz=347,slow=42
OBN Obninsk 64.40 328*κeP* **P 19 49 26.5 -1.1**
OBN *e* 19 50 01.4
OBN pmax pmax
comp=Z,29nm,1.6s,mb5.1
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
KLMR Klimovskoe 65.67 335 *eP* **P 19 49 33.6 -2.2**
KLMR pmax pmax
comp=Z,26nm,1.5s,mb5.0
TIRR Tirgusor 65.92 315 ⇓*iP* **P 19 49 36.9 -0.8**
TIRR Tirgusor 65.92 315 ⇓P **P 19 49 36.9 -0.8**
AKASG Malin Array Be 67.00 322 P **P 19 49 43.0 -1.5**
comp=Z,2.6nm,0.7s,mb4.3,baz=90,slow=4.5,SNR=15
VRI Vrincioaia 67.39 317 ⇓*iP* **P 19 49 47.5 +0.4**
PLOR Plostina 67.44 316 ⇓*iP* **P 19 49 47.7 +0.3**
TIXI Tiksi 67.70 12 *iP* **P 19 49 47.9 -0.7**
TIXI pmax pmax
comp=Z,44nm,0.9s,mb5.5
TIXI Tiksi 67.70 12 *eP* **P 19 49 47.9 -0.7**
comp=Z,37nm,0.8s,mb5.5
MLR Muntele Rosu 67.85 316 ⇓⇓*iP* **P 19 49 50.2 +0.2**
MLR Muntele Rosu 67.85 316 ⇓P **P 19 49 50.2 +0.2**
BURAR Bucovina Array 68.78 318 ⇓⇓*iP* **P 19 49 55.9 +0.1**
BURAR Bucovina Array 68.78 318 ⇓P **P 19 49 55.9 +0.1**
VTS Vitosha 69.28 313 ⇓⇓*iP* **P 19 49 59.0 0.0**
VTS Vitosha 69.28 313 ⇓P **P 19 49 59.0 0.0**
SEY Seymchan 69.83 25 *eP* **P 19 50 01.4 -0.5**
JOF Joensuu 70.07 335 *ep* **P 19 49 59.8 -3.6**
comp=Z,0.9nm,0.4s,mb4.0
KRUS Krusevo 70.56 311 *eP* **P 19 50 05.2 -1.7**
BZS Buzias 70.87 316 ⇓⇓*iP* **P 19 50 08.2 -0.4**
BZS Buzias 70.87 316 ⇓P **P 19 50 08.2 -0.5**
KOLS Kolonicke sedl 70.97 319 *eP* **P 19 50 09.4 +0.2**
CRVS Cervenica-Dubn 71.49 319 *eP* **P 19 50 12.5 +0.2**
KAF Kangasniemi 71.97 333 *ep* **P 19 50 13.7 -1.2**
comp=Z,1.1nm,0.4s,mb4.1
KAF Kangasniemi 71.97 333 *eP* **P 19 50 13.7 -1.2**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KECS Kecovo 72.06 318 *eP* **P 19 50 15.8 0.0**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 72.06 318 *eP* **P 19 50 15.8 0.0**
comp=Z,2.1nm,0.9s,mb4.1
NIE Niedzica 72.32 319 *eP* **P 19 50 17.6 +0.3**
OJC Ojcow 72.77 320 *eP* **P 19 50 19.7 -0.3**
PKSM Moragy 73.00 316 ⇓⇓*iP* **P 19 50 20.7 -0.7**
PKSM Moragy 73.00 316 ⇓P **P 19 50 20.7 -0.7**
KOLL Kolacno 73.45 318 *eP* **P 19 50 24.0 0.0**
OKC Ostrava-Krasne 73.77 320 *eP* **P 19 50 25.8 -0.1**
TIP Timpagrande 73.80 308 *eP* **P 19 50 26.2 0.0**
comp=Z,17nm,1.3s,mb4.8
BOSA Boshof 73.88 237 P **P 19 50 28.1 +1.2**
comp=Z,1.6nm,0.9s,mb4.0,baz=163,slow=7.3,SNR=3.6
BOSA LR LR 20 19 06.2
comp=Z,64nm,20.4s,MS3.9,baz=227,slow=33
MORC Moravsky Berou 74.15 319 ⇓⇓*iP* **P 19 50 27.9 -0.2**
MORC Moravsky Berou 74.15 319 ⇓P **P 19 50 27.9 -0.2**
MODS Modra-Piesok 74.17 318 *eP* **P 19 50 28.0 -0.2**
MODS pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
MODS Modra-Piesok 74.17 318 *eP* **P 19 50 28.0 -0.2**
MODS Modra-Piesok 74.17 318 *eP* **P 19 50 28.0 -0.2**
comp=Z,8.5nm,1.6s,mb4.4
KEV Kevo 74.26 341 *ep* **P 19 50 24.6 -3.7**
comp=Z,0.4nm,0.4s,mb3.7
ZST Bratislava 74.26 318 *eP* **P 19 50 28.6 -0.2**
ZST pmax pmax
comp=Z,14nm,0.9s,mb4.9
ZST Bratislava 74.26 318 *eP* **P 19 50 28.5 -0.3**
ZST Bratislava 74.26 318 *eP* **P 19 50 28.6 -0.2**
comp=Z,14nm,0.9s,mb4.9
ARCES ARCESS Array B 74.67 340 P **P 19 50 30.5 -0.3**
comp=Z,7.1nm,0.8s,mb4.6,baz=92,slow=6.1,SNR=14
ARCES LR LR 20 25 58.9
comp=Z,90nm,18.8s,MS4.1,baz=157,slow=38
DPC Dobruska-Polom 75.00 320 *eP* **P 19 50 33.6 +0.6**
KSP Ksiaz 75.06 320 *eP* **P 19 50 33.6 +0.2**
UPC Upice 75.21 320 *eP* **P 19 50 34.5 +0.3**
BOJS Bojanci 75.30 315 *eP* **P 19 50 34.4 -0.5**
TREC Trest 75.43 319 *eP* **P 19 50 35.5 0.0**
SOKA Soboth 75.53 316⇑*iP* **P 19 50 36.4 +0.3**
comp=Z,12nm,1.2s,mb4.7
OBKA Obir 75.85 316⇑*iP* **P 19 50 38.4 +0.4**

comp=Z,7.1nm,1.0s,mb4.5
PRU Pruhonice 76.10 319 *e*P **P 19 50 38.7 -0.6**
PVCC Panska Ves 76.13 320 *e*P **P 19 50 39.7 +0.2**
BRG Berggiesshubel 76.55 320 *e*P **P 19 50 41.8 -0.1**
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BRG Berggiesshubel 76.55 320 *e*P **P 19 50 41.8 -0.1**
comp=Z,8.0nm,0.9s,mb4.7
GEC2 GERESS Array S 76.57 318 *e*P **P 19 50 42.2 +0.2**
GEC2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GEC2 GERESS Array S 76.57 318 *e*P **P 19 50 42.2 +0.2**
comp=Z,7.0nm,0.9s,mb4.6
GERES GERESS Array B 76.57 318 P **P 19 50 42.0 -0.1**
comp=Z,5.8nm,0.8s,mb4.5,baz=91,slow=5.3,SNR=43
GERES pP pP 19 50 54.2 +0.3
comp=Z,2.4nm,0.8s,baz=84,slow=6.8,SNR=7.5
KHC Kasperske Hory 76.67 319 *e*P **P 19 50 42.4 -0.2**
KHC Kasperske Hory 76.67 319 *e*P **P 19 50 42.3 -0.3**
KHC *e*pP pP 19 50 56.0 +1.5
RJOB Jochberg 77.11 317 *e*P **P 19 50 44.8 -0.3**
comp=Z,9.0nm,1.1s,mb4.6
WET Wettzell 77.13 319 *e*P **P 19 50 45.3 +0.1**
WET pmax pmax
comp=Z,14nm,1.3s,mb4.7
WET Wettzell 77.13 319 *e*P **P 19 50 45.3 +0.1**
comp=Z,14nm,1.3s,mb4.7
CLL Collm 77.17 321 *i*P **P 19 50 45.0 -0.4**
CLL *e**PP pP 19 50 51.0 -6.2
CLL pmax pmax
comp=Z,14nm,1.5s,mb4.7
CLL Collm 77.17 321 *e*P **P 19 50 45.0 -0.4**
comp=Z,14nm,1.6s,mb4.6
CLL Collm 77.17 321 *i*P **P 19 50 45.0 -0.4**
comp=Z,14nm,1.5s,mb4.7
CLL *e*pP pP 19 50 51.0 -6.2
NKC Novy Kostel 77.46 320 *e*P **P 19 50 47.6 +0.6**
ROTZ Rotzenmuhle 77.60 319 *e*P **P 19 50 48.3 +0.5**
comp=Z,11nm,1.0s,mb4.7
MANZ Manzenberg 77.67 319 *e*P **P 19 50 48.6 +0.4**
comp=Z,18nm,1.2s,mb4.9
WTTA Wattenberg 77.88 317⇓*i*P **P 19 50 48.8 -0.6**
comp=Z,14nm,1.1s,mb4.8
WTTA Wattenberg 77.88 317⇓*i*P **P 19 50 48.8 -0.6**
WTTA pmax pmax
comp=Z,14nm,1.1s,mb4.8
MOX Moxa 78.01 320 *e*P **P 19 50 50.1 0.0**
comp=Z,9.0nm,1.3s,mb4.5
MAW Mawson 78.07 191 P **P 19 50 51.8 +1.9**
comp=Z,2.8nm,0.9s,mb4.2,baz=21,slow=3.9,SNR=4.7
GRA1 Grafenberg Arr 78.23 319 *e*P **P 19 50 51.7 +0.4**
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 78.23 319 *e*P **P 19 50 51.7 +0.4**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 78.23 319 *e*P **P 19 50 51.7 +0.4**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 78.23 319 *e*P **P 19 50 51.7 +0.4**
comp=Z,14nm,1.0s,mb4.8
MOTA Moosalm 78.25 317⇓*i*P **P 19 50 50.5 -0.9**
comp=Z,9.9nm,1.0s,mb4.7
MOTA Moosalm 78.25 317⇓*i*P **P 19 50 50.5 -0.9**
MOTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
RETA Reutte 78.48 317⇑*i*P **P 19 50 52.2 -0.6**
comp=Z,20nm,1.3s,mb4.9
FETA Feichten 78.50 316⇓*i*P **P 19 50 52.6 -0.2**
comp=Z,7.8nm,1.0s,mb4.6
NB2 NORSAR Subarra 78.83 331 P **P 19 50 53.1 -1.3**
comp=Z,2.8nm,0.8s,mb4.2,baz=92,slow=5.9
NOA NORSAR Array B 78.83 331 P **P 19 50 53.2 -1.1**
comp=Z,4.3nm,0.8s,mb4.4,baz=94,slow=5.6,SNR=8.8
NOA LR LR 20 29 30.8
comp=Z,82nm,18.1s,MS4.1,baz=0.0,slow=38
CLZ Clausthal 78.84 321 *e*P **P 19 50 54.6 0.0**
CLZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLZ Clausthal 78.84 321 *e*P **P 19 50 54.6 0.0**
comp=Z,10.0nm,0.9s,mb4.8
BSEG Bad Segeberg 78.94 323 *e*P **P 19 50 55.1 0.0**
comp=Z,14nm,1.1s,mb4.8
DAVA Damuels 79.08 317⇓*i*P **P 19 50 55.9 -0.1**
comp=Z,15nm,1.1s,mb4.8
TUE Stuetta 79.44 316 *e*P **P 19 50 58.1 +0.1**
comp=Z,8.9nm,1.0s,mb4.7
SPITS Spitsbergen Ar 79.51 348 P **P 19 50 57.2 -0.6**
comp=Z,8.2nm,0.6s,mb4.8,baz=103,slow=5.6,SNR=11
SPITS Spitsbergen Ar 79.51 348 P **P 19 50 57.2 -0.6**
KEST Kesra 79.67 305 P **P 19 51 00.2 +0.7**
comp=Z,1.0nm,0.7s,mb3.9,baz=18,slow=4.0,SNR=4.1
BFO Black Forest 80.12 318 *e*P **P 19 51 01.3 -0.4**
BFO pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BFO Black Forest 80.12 318 *e*P **P 19 51 01.3 -0.4**
comp=Z,8.0nm,1.2s,mb4.5
BUG Bochum--Univer 80.77 321 *e*P **P 19 51 05.1 0.0**
comp=Z,11nm,0.9s,mb4.8
CDF Champ du Feu 80.82 318 *e*P **P 19 51 05.7 +0.3**
LPG La Plagne 81.27 315 *e*P **P 19 51 08.0 +0.1**
comp=Z,28nm,1.0s,mb4.8
LPG La Plagne 81.27 315 *e*P **P 19 51 08.0 +0.1**
LPG pmax pmax
comp=Z,14nm,1.0s,mb4.8
LPG La Plagne 81.27 315 *e*P **P 19 51 08.0 +0.1**
comp=Z,14nm,1.0s,mb4.8
LPL La Plagne 81.29 315 *e*P **P 19 51 08.1 +0.1**
comp=Z,38nm,1.0s,mb5.0
LPL La Plagne 81.29 315 *e*P **P 19 51 08.1 +0.1**
LPL pmax pmax
comp=Z,19nm,1.0s,mb5.0
LPL La Plagne 81.29 315 *e*P **P 19 51 08.1 +0.1**
comp=Z,19nm,1.0s,mb5.0
MBDF Montbardon 81.29 314 *e*P **P 19 51 07.4 -0.6**
comp=Z,11nm,1.0s,mb4.4
MBDF Montbardon 81.29 314 *e*P **P 19 51 07.4 -0.6**
MBDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MBDF Montbardon 81.29 314 *e*P **P 19 51 07.4 -0.6**
comp=Z,5.5nm,1.0s,mb4.4
FRF La Foret Royal 81.43 313 *e*P **P 19 51 08.6 -0.2**
HAU Haudompre 81.46 317 *e*P **P 19 51 08.1 -0.7**
comp=Z,25nm,1.1s,mb4.8
HAU Haudompre 81.46 317 *e*P **P 19 51 08.1 -0.7**
HAU pmax pmax
comp=Z,13nm,1.1s,mb4.8
HAU Haudompre 81.46 317 *e*P **P 19 51 08.1 -0.7**
comp=Z,13nm,1.1s,mb4.8
LMR La Mourre 81.54 313 *e*P **P 19 51 09.1 -0.3**
CABF La Chapelle 81.69 316 *e*P **P 19 51 09.4 -0.7**
ORIF Oris-en-Rattie 81.92 314 *e*P **P 19 51 11.4 +0.1**
comp=Z,29nm,1.4s,mb4.7
ORIF Oris-en-Rattie 81.92 314 *e*P **P 19 51 11.4 +0.1**
ORIF pmax pmax
comp=Z,15nm,1.4s,mb4.7
ORIF Oris-en-Rattie 81.92 314 *e*P **P 19 51 11.4 +0.1**
comp=Z,15nm,1.4s,mb4.7
SMRF Simiane la Rot 82.19 313 *e*P **P 19 51 10.5 -2.2**
comp=Z,14nm,1.0s,mb4.6
SMRF Simiane la Rot 82.19 313 *e*P **P 19 51 10.5 -2.2**
comp=Z,14nm,1.0s,mb4.8
BAIF Baives 82.76 320 *e*P **P 19 51 15.2 -0.4**
VIVF Saint-Julien-l 82.78 314 *e*P **P 19 51 15.7 -0.1**
comp=Z,22nm,1.1s,mb4.8
VIVF Saint-Julien-l 82.78 314 *e*P **P 19 51 15.7 -0.1**
VIVF pmax pmax
comp=Z,11nm,1.1s,mb4.8
VIVF Saint-Julien-l 82.78 314 *e*P **P 19 51 15.7 -0.1**
comp=Z,11nm,1.1s,mb4.8
LOR Lormes 83.18 317 *e*P **P 19 51 17.2 -0.6**
comp=Z,36nm,1.4s,mb4.9
LOR Lormes 83.18 317 *e*P **P 19 51 17.2 -0.6**
LOR pmax pmax
comp=Z,18nm,1.4s,mb4.9
LOR Lormes 83.18 317 *e*P **P 19 51 17.2 -0.6**
comp=Z,18nm,1.4s,mb4.9
SMF Signal de Mont 83.23 316 *e*P **P 19 51 17.4 -0.7**
comp=Z,48nm,1.5s,mb5.0
SMF Signal de Mont 83.23 316 *e*P **P 19 51 17.4 -0.7**
SMF pmax pmax
comp=Z,24nm,1.5s,mb5.0
SMF Signal de Mont 83.23 316 *e*P **P 19 51 17.4 -0.7**
comp=Z,24nm,1.5s,mb5.0
SSF Saint Saulge 83.43 317 *e*P **P 19 51 18.7 -0.4**
comp=Z,30nm,1.4s,mb4.8
SSF Saint Saulge 83.43 317 *e*P **P 19 51 18.7 -0.4**
SSF pmax pmax
comp=Z,15nm,1.4s,mb4.8
SSF Saint Saulge 83.43 317 *e*P **P 19 51 18.7 -0.4**
comp=Z,15nm,1.4s,mb4.8
AVF Avril sur Loir 83.56 316 *e*P **P 19 51 19.1 -0.7**
BGF Bois d'Agland 83.92 316 *e*P **P 19 51 21.4 -0.3**
comp=Z,43nm,1.4s,mb5.1
BGF Bois d'Agland 83.92 316 *e*P **P 19 51 21.4 -0.3**
BGF pmax pmax
comp=Z,21nm,1.4s,mb5.1
BGF Bois d'Agland 83.92 316 *e*P **P 19 51 21.4 -0.3**
comp=Z,21nm,1.4s,mb5.1
TAM Tamanrasset 83.93 292 *e*P **P 19 51 24.2 +2.0**
TAM *e* pP 19 51 37.2 +3.0
TCF Toulx Ste Croi 84.39 316 *e*P **P 19 51 24.0 0.0**
MTLF Montolieu 84.66 313 *e*P **P 19 51 25.3 -0.2**
comp=Z,9.5nm,1.0s,mb4.6
MTLF Montolieu 84.66 313 *e*P **P 19 51 25.3 -0.2**
MTLF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
MTLF Montolieu 84.66 313 *e*P **P 19 51 25.3 -0.2**
comp=Z,4.8nm,1.0s,mb4.6
ETSF Etsaut 86.73 313 *e*P **P 19 51 38.3 +2.5**
TORD Torodi Ar. Bea 88.69 283 P **P 19 51 45.6 -0.1**
comp=Z,1.3nm,1.0s,mb4.2,baz=92,slow=4.7,SNR=5.2
TORD pP pP 19 51 58.6 +0.8
comp=Z,1.3nm,1.0s,baz=49,slow=6.7,SNR=4.6
ESDC Sonseca Array 89.76 310 P **P 19 51 49.6 -0.6**
comp=Z,1.1nm,0.8s,mb4.2,baz=60,slow=4.4,SNR=7.3
IMA2 Indian Mountai 92.43 22 *e*P **P 19 52 02.3 +0.2**
VNDA Vanda 93.25 168 P **P 19 52 06.0 +0.4**
comp=Z,0.7nm,0.9s,mb4.1,baz=280,slow=6.7,SNR=2.8
VNDA Vanda 93.25 168 P **P 19 52 06.0 +0.4**
DBIC Dimbokro 96.00 278 P **P 19 52 21.1 +1.6**
comp=Z,2.1nm,0.8s,mb4.6,baz=121,slow=12,SNR=3.1
HUMO Hull Mountain 120.50 30 *e*PKPdf PKPdf 19 57 44.0 +0.6
ULM Lac du Bonnet 121.78 6 PKP PKPdf 19 57 44.5 -1.1
comp=Z,2.2nm,0.6s,baz=21,slow=8.6,SNR=3.0
MCMT McKenzie Canyo 122.98 21 *e*PKPdf PKPdf 19 57 47.6 -0.5
RLMT Red Lodge 123.91 18 *e*PKPdf PKPdf 19 57 50.0 +0.1
REDW Red Top Meadow 124.96 20 *e*PKPdf PKPdf 19 57 52.2 +0.4
ELK Elko 125.51 25 PKP PKPdf 19 57 53.5 +0.5
comp=Z,1.7nm,0.9s,baz=253,slow=11
PDAR Pinedale Array 125.93 20 PKP PKPdf 19 57 54.1 +0.3
comp=Z,2.0nm,0.7s,baz=34,slow=2.1,SNR=17
PDAR pPKP pPKPdf 19 58 07.1 +0.9
comp=Z,0.9nm,0.6s,baz=40,slow=2.1,SNR=4.3
NVAR Mina Array Bea 125.98 29 PKP PKPdf 19 57 55.5 +1.5
comp=Z,3.3nm,0.8s,baz=291,slow=1.6,SNR=19
NVAR pPKP pPKPdf 19 58 08.4 +2.0
comp=Z,1.1nm,0.7s,baz=278,slow=1.9,SNR=7.0
NVAR Mina Array Bea 125.98 29 PKP PKPdf 19 57 55.5 +1.5
NVAR pPKP pPKPdf 19 58 08.4 +2.0
ECSD EROS,Sioux Fal 128.10 8 *e*PKPdf PKPdf 19 57 58.1 +0.2
ECSD *e* 19 58 10.9
MSU Marysvale 128.67 24 *e*PKIKP PKPdf 19 58 01.3 +2.2
BNM Barren Site 134.65 22 *e*PKPdf PKPdf 19 58 12.5 +2.0
TXAR Lajitas Array 140.07 22 PKP PKPdf 19 58 20.9 +0.2
comp=Z,1.1nm,0.6s,baz=153,slow=0.3,SNR=9.4
TXAR pPKP pPKPdf 19 58 33.6 +0.4
comp=Z,0.6nm,0.7s,baz=135,slow=1.2,SNR=3.1
TXAR Lajitas Array 140.07 22 PKP PKPdf 19 58 20.9 +0.2
TXAR pPKP pPKPdf 19 58 33.6 +0.4
JCT Junction City 140.25 16 *e*PKIKP PKPdf 19 58 21.3 +0.3
CPUP Villa Florida 145.64 234 PKPbc PKPbc 19 58 31.1 +0.2
comp=Z,3.1nm,0.7s,baz=126,slow=2.1,SNR=9.9
CPUP Villa Florida 145.64 234 *e*P PKPdf 19 58 29.9 -0.7
LPAZ La Paz 158.97 245 PKP PKPdf 19 58 51.8 +1.4
comp=Z,1.4nm,0.9s,baz=149,slow=5.9,SNR=4.1
LPAZ PKPab PKPab 19 59 28.0 +1.2
comp=Z,1.0nm,0.7s,baz=90,slow=3.0,SNR=3.0
LPAZ La Paz 158.97 245 PKP PKPdf 19 58 51.8 +1.4
LPAZ PKPab PKPab 19 59 28.0 +1.2

*ATH **16** 19:39:27.4, 3933N×1985E, h106km±5km*
*ISCJB **16** 19:39:32.7±0.7, 3929N±003×20.13E±005, h7km±6km, Error ellipse: s-maj=7.1km s-min=4.2km az=169.6*
*NEIC **16** 19:39:32.4, 3930N×2008E, h1km, ML3.6(THE), After THE.*
*THE **16** 19:39:32.4, 3930N×2008E, h0km, ML3.6*
*CSEM **16** 19:39:33.0±0.3, 3930N×2026E, h15km, ML3.6, Error ellipse: s-maj=10.5km s-min=5.7km az=119.0*

ISC 16 19:39:33.4±0.6, 3928N±003×2017E±006, h6km±6km, n21, σ1§04/29, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**27**	*e*Pg	**Pg**	**19 39 37.9**	**-0.9**
IGT				*e*Sg	**Sg**	**19 39 42.6**	**0.0**
KEK	**Kerkira**	**0.52**	**326**	*e*P	**Pg**	**19 39 43.5**	**+0.1**
SRN	**Sarande**	**0.61**	**348**	*e*PN	**Pg**	**19 39 45.0**	**-0.2**
LKD	**Levkas**	**0.69**	**147**	*e*Pg	**Pg**	**19 39 46.8**	**+0.2**
LKD				*e*Sg	**Sg**	**19 39 58.8**	**+3.3**
VLS	**Valsamata**	**1.15**	**163**	*e*Pg	**Pg**	**19 39 54.0**	**-1.5**
VLS				*e*Sg	**Sg**	**19 40 12.1**	**+1.7**
VLS	**Valsamata**	**1.15**	**163**	*e*P	**Pg**	**19 39 52.3**	**-3.2**
VLS				*e*S	**Sg**	**19 40 10.9**	**+0.5**
VLS	**Valsamata**	**1.15**	**163**	*e*Pg	**Pg**	**19 39 54.0**	**-1.5**
VLS				*e*S	**Sg**	**19 40 10.9**	**+0.5**
VLS				*e*Sg	**Sg**	**19 40 12.1**	**+1.7**
KFL	**Anninata**	**1.27**	**157**	*e*Pg	**Pg**	**19 39 56.8**	**-0.9**
KFL				*e*Sg	**Sg**	**19 40 17.7**	**+3.6**
EVR	**Evrytania**	**1.32**	**106**	*e*P	**Pn**	**19 39 56.1**	**-2.3**
THL	**Klokotos Trika**	**1.46**	**78**	*e*P	**Pn**	**19 39 56.7**	**-3.5**
THL				*e*S	**Sn**	**19 40 19.2**	**-0.3**
BIA	**Bitola**	**1.95**	**27**	*i* Pn	**Pn**	**19 40 08.2**	**+1.3**
KRUS	**Krusevo**	**2.24**	**21**	*i* Pn	**Pn**	**19 40 11.9**	**+0.9**
KRUS	**Krusevo**	**2.24**	**21**	*i* Pn	**Pn**	**19 40 11.8**	**+0.8**
QSH	**Qafa e Shtames**	**2.25**	**355**	*e*PN	**Pn**	**19 40 11.5**	**+0.4**
PHP	**Peshkopia**	**2.41**	**5**	*e*PN	**Pn**	**19 40 13.9**	**+0.6**
TIP	**Timpagrande**	**2.65**	**269**	*e*Pn	**Pn**	**19 40 16.2**	**-0.5**
PUK	**Puka**	**2.77**	**356**	*e*PN	**Pn**	**19 40 18.2**	**0.0**
BCI	**Bajram Curri**	**3.08**	**359**	*e*PN	**Pn**	**19 40 23.2**	**+0.7**
SG1	**Sgolgore (BA)**	**3.10**	**301**	*e*Pn	**Pn**	**19 40 23.1**	**+0.3**
CEL	**Celeste**	**3.50**	**254**	*e*Pn	**Pn**	**19 40 27.5**	**-0.8**
CEL	**Celeste**	**3.50**	**254**	*e*Pn	**Pn**	**19 40 27.5**	**-0.7**

*ISCJB **16** 20:08:45.3±0.7, 21.1N±0.1×457W±0.1, h10km, mb3.9/10, MS3.6/16, Error ellipse: s-maj=21.6km s-min=15.6km az=141.1*
*IDC **16** 20:08:45.3±0.8, 21.19N×4574W, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/25, mbtmp3.9/10, MS3.6/16, Ms1 3.6/16, ms1mx3.4/31, Error ellipse: s-maj=24.6km s-min=19.7km az=132.0*
*NEIC **16** 20:08:46.7±0.7, 21.16N×4576W, h10km, Error ellipse: s-maj=20.0km s-min=16.3km az=127.0*

ISC 16 20:08:47.4±0.7, 211N±01×457W±01, h10km, n26, σ1§03/12, mb3.9/10, MS3.6/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**21.24**	**242**	LR	LR	20 20 57.2	
	comp=Z,77nm,20.2s,MS3.1,baz=332,slow=35						
SDV	**Santo Domingo**	**26.96**	**247**	LR	LR	20 23 43.3	
	comp=Z,77nm,19.5s,MS3.3,baz=202,slow=33						
BBTS	**Babate**	**28.41**	**98**	LR	LR	20 23 16.1	
	comp=Z,196nm,20.0s,MS3.7,baz=215,slow=30						
ROSC	**El Rosal**	**32.18**	**244**	LR	LR	20 28 04.5	
	comp=Z,73nm,19.3s,MS3.4,baz=5.7,slow=36						
TKL	**Tuckaleechee C**	**36.30**	**302**	LR	LR	20 27 41.0	
	comp=Z,88nm,21.9s,MS3.5,baz=209,slow=31						
TEIG	**Tepich**	**39.80**	**277**	LR	LR	20 31 38.6	
	comp=Z,87nm,20.6s,MS3.6,baz=71,slow=35						
SIV	**San Ignacio**	**39.85**	**204**	P	**P**	**20 16 21.0**	**-0.3**
	1.3nm,0.8s,mb3.7,baz=7.5,slow=6.0,SNR=5.7						
DBIC	**Dimbokro**	**41.97**	**104**	P	**P**	**20 16 39.4**	**+0.4**
	5.7nm,0.8s,mb4.2,baz=305,slow=6.1,SNR=6.9						
ATAH	**Atahualpa**	**42.58**	**233**	P	**P**	**20 16 45.8**	**+1.9**
	4.2nm,0.7s,mb4.3,baz=299,slow=19						
LPAZ	**La Paz**	**43.21**	**212**	P	**P**	**20 16 49.6**	**+0.7**
	0.9nm,0.8s,mb3.6,baz=41,slow=13,SNR=4.1						
TORD	**Torodi Ar. Bea**	**45.80**	**92**	P	**P**	**20 17 09.4**	**-0.4**
	0.5nm,0.7s,mb3.5,baz=281,slow=8.7,SNR=3.3						
TORD				LR	LR	20 34 24.7	
	comp=Z,159nm,18.2s,MS4.0,baz=270,slow=34						
CMIG	**Matias Romero**	**46.55**	**274**	LR	LR	20 34 06.8	
	comp=Z,30nm,21.4s,MS3.2,baz=205,slow=33						
CPUP	**Villa Florida**	**48.49**	**194**	P	**P**	**20 17 29.4**	**-1.0**
	0.7nm,0.4s,mb4.0,baz=35,slow=6.7,SNR=5.1						
CPUP	**Villa Florida**	**48.49**	**194**	P	**P**	**20 17 29.4**	**-1.1**
ULM	**Lac du Bonnet**	**48.86**	**319**	LR	LR	20 36 46.8	
	comp=Z,68nm,18.4s,MS3.7,baz=16,slow=34						
KEST	**Kesra**	**49.92**	**61**	LR	LR	20 34 14.9	
	comp=Z,41nm,21.5s,MS3.4,baz=196,slow=31						
TXAR	**Lajitas Array**	**52.68**	**291**	LR	LR	20 39 35.5	
	comp=Z,58nm,19.8s,MS3.6,baz=180,slow=35						
GERES	**GERESS Array B**	**54.33**	**44**	P	**P**	**20 18 15.1**	**+1.0**
	1.4nm,1.0s,mb3.8,baz=274,slow=6.0,SNR=3.8						
NOA	**NORSAR Array B**	**55.87**	**29**	LR	LR	20 38 13.0	
	comp=Z,52nm,18.4s,MS3.7,baz=270,slow=32						
PDAR	**Pinedale Array**	**57.00**	**308**	P	**P**	**20 18 33.4**	**-0.1**
	0.4nm,0.6s,mb3.6,baz=87,slow=7.6,SNR=4.2						
PDAR				LR	LR	20 40 28.1	
	comp=Z,63nm,19.2s,MS3.7,baz=261,slow=33						
YKA	**Yellowknife Ar**	**61.79**	**331**	P	**P**	**20 19 02.9**	**-3.2**
	0.8nm,0.9s,mb3.9,baz=95,slow=7.2,SNR=5.1						
YKA	**Yellowknife Ar**	**61.79**	**331**	P	**P**	**20 19 02.9**	**-3.2**
PLCA	**Paso Flores**	**65.73**	**201**	P	**P**	**20 19 31.5**	**-0.8**
	1.6nm,0.7s,mb4.2,baz=2.9,slow=8.3,SNR=4.8						
KMBO	**Kilima Mbogo**	**83.78**	**94**	LR	LR	20 58 19.9	
	comp=Z,56nm,18.4s,MS4.0,baz=95,slow=36						
BOSA	**Boshof**	**84.38**	**123**	LR	LR	20 51 36.6	
	comp=Z,58nm,19.7s,MS4.0,baz=155,slow=30						
MKAR	**Makanchi Array**	**97.73**	**33**	LR	LR	21 08 17.6	
	comp=Z,26nm,19.2s,MS3.7,baz=143,slow=37						

IDC 16 20:20:53.6±2.5, 1347S×7586W, h49km±27km, mb4.0/2, mb1 3.9/3, mb1mx3.4/19, mbtmp4.0/3, ML4.7/1, Error ellipse: s-maj=68.8km s-min=18.6km az=55.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.76**	**327**	P	Pn	20 21 21.5	-0.2
	24nm,0.3s,baz=147,slow=18,SNR=6.5						
NNA				S	Sn	20 21 43.4	+0.4
	118nm,0.3s,baz=200,slow=8.7,SNR=8.8						
ATAH	**Atahualpa**	**6.90**	**339**	P	Pn	20 22 35.3	+3.1
	0.4nm,0.3s,baz=60,slow=20,SNR=2.5						
LPAZ	**La Paz**	**7.98**	**112**	P	Pn	20 22 51.1	+4.1
	1.2nm,0.3s,baz=297,slow=12,SNR=27						
LVC	**Limon Verde**	**11.23**	**145**	P	Pn	20 23 32.0	+0.4
	0.5nm,0.3s,baz=12,slow=10.0,SNR=6.9						
DBIC	**Dimbokro**	**73.27**	**79**	P	P	20 32 20.1	-0.3
	2.6nm,0.8s,baz=207,slow=6.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**81.26**	**74**	P	P	20 33 05.6	+0.4
	1.6nm,0.8s,baz=252,slow=4.2,SNR=11						
SONM	**Songino Array**	**145.69**	**357**	PKPbc	PKPbc	20 40 26.4	-0.7
	0.8nm,0.8s,baz=356,slow=1.8,SNR=5.4						

IDC 16 20:24:60.0±1.4, 2458S×11147W, h0km, mb4.0/4, mb1 4.4/4, mb1mx4.0/16, mbtmp4.0/4, MS3.6/4, Ms1 3.6/4, ms1mx3.1/26, Error ellipse: s-maj=50.1km s-min=40.2km az=43.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**35.08**	**75**	LR	LR	20 41 58.4	
	comp=Z,145nm,19.6s,baz=159,slow=29						
ATAH	**Atahualpa**	**36.16**	**67**	LR	LR	20 43 47.1	
	comp=Z,61nm,20.0s,baz=122,slow=31						
CFAA	**Coronel Fontan**	**38.58**	**110**	LR	LR	20 44 13.4	
	comp=Z,33nm,21.4s,baz=74,slow=30						
SIV	**San Ignacio**	**47.82**	**90**	P	P	20 33 39.9	+0.2
	1.2nm,0.7s,baz=264,slow=18,SNR=4.6						
NVAR	**Mina Array Bea**	**63.01**	**354**	P	P	20 35 30.5	+1.9
	1.5nm,0.7s,baz=187,slow=9.8,SNR=10						
PDAR	**Pinedale Array**	**67.03**	**2**	P	P	20 35 53.5	-1.2
	0.7nm,0.7s,baz=164,slow=6.0,SNR=5.8						
HNR	**Honiara**	**84.86**	**262**	LR	LR	21 11 05.2	
	comp=Z,52nm,18.5s,baz=357,slow=33						
YKA	**Yellowknife Ar**	**86.81**	**359**	P	P	20 37 45.4	-0.2
	2.5nm,0.9s,baz=172,slow=4.3,SNR=14						
AKASG	**Malin Array Be**	**140.11**	**39**	PKP	PKPdf	20 44 31.3	+1.0
	0.2nm,0.4s,baz=279,slow=2.6,SNR=6.8						
SONM	**Songino Array**	**142.18**	**357**	PKP	PKPdf	20 44 33.0	-1.1
	0.7nm,0.9s,baz=57,slow=5.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**148.24**	**342**	PKPbc	PKPbc	20 44 46.5	-1.2
	2.0nm,0.7s,baz=39,slow=2.6,SNR=9.7						
CMAR	**Chiang Mai Arr**	**151.10**	**264**	PKPbc	PKPbc	20 44 55.8	0.0
	1.2nm,0.6s,baz=94,slow=0.7,SNR=10						
MKAR	**Makanchi Array**	**155.25**	**337**	PKP	PKPdf	20 44 54.2	-0.9
	0.2nm,0.2s,baz=38,slow=2.6,SNR=3.7						
MKAR				PKPbc	PKPdf	20 45 03.8	+8.7
	0.3nm,0.3s,baz=35,slow=3.0,SNR=4.1						

*ISCJB **16** 20:34:29.3±1.6, 174S±02×1788W±02, h537km±32km, mb3.9/5, Error ellipse: s-maj=31.6km s-min=22.0km az=41.8*
*IDC **16** 20:34:30.4±1.9, 1751S×17876W, h543km±27km, mb3.4/5, mb1 3.6/7, mb1mx3.3/18, mbtmp3.5/7, Error ellipse: s-maj=31.9km s-min=17.8km az=151.0*
*NEIC **16** 20:34:30.1±1.1, 1736S×17880W, h534km±17km, Error ellipse: s-maj=20.3km s-min=15.9km az=140.0*

ISC 16 20:34:30.5±1.4, 174S±02×1788W±02, h543km±27km, n11, σ0§55/9, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.58**	**63**	P	**P**	**20 36 23.8**	**-0.1**
	2.6nm,0.3s,baz=295,slow=18,SNR=3.5						
AFI	**Afiamalu**	**7.58**	**63**	P	**P**	**20 36 23.8**	**-0.1**
RAO	**Raoul Island**	**11.79**	**176**	P	**P**	**20 37 07.3**	**+0.7**
	129nm,0.3s,baz=53,slow=20,SNR=2.8						
RAR	**Rarotonga**	**18.30**	**105**	P	**P**	**20 38 11.0**	**-0.5**
	1.7nm,0.3s,baz=189,slow=13,SNR=2.1						
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**20 41 06.8**	**-0.3**
	2.9nm,0.8s,mb3.9,baz=83,slow=9.6,SNR=9.1						
WRA	**Warramunga Arr**	**44.40**	**259**	P	**P**	**20 41 52.6**	**-0.7**
	2.0nm,0.6s,mb3.8,baz=95,slow=7.9,SNR=15						
WRA				PcP	PcP	20 43 24.6	-0.7
	0.7nm,0.7s,baz=90,slow=3.0,SNR=2.9						
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**20 41 54.5**	**-0.4**
	16nm,0.6s,mb4.7,baz=88,slow=8.5,SNR=277						
ASAR				PcP	PcP	20 43 25.0	-1.0
	0.9nm,0.7s,baz=101,slow=4.8,SNR=5.8						
MJAR	**Matsushiro Arr**	**67.33**	**323**	P	**P**	**20 44 32.0**	**+0.4**
	1.8nm,0.9s,mb3.6,baz=153,slow=6.6,SNR=6.3						
CMAR	**Chiang Mai Arr**	**88.42**	**290**	P	**P**	**20 46 26.3**	**+0.9**
	0.7nm,0.9s,mb3.4,baz=108,slow=3.3,SNR=3.0						
CLL	**Collm**	**144.93**	**347**	*e*PKPdf	PKPdf	20 53 06.0	+0.3
GERES	**GERESS Array B**	**147.07**	**345**	PKPbc	PKPbc	20 53 12.3	-0.2
	1.1nm,0.5s,baz=20,slow=3.2,SNR=12						

*GUC **16** 20:35:33.9±0.7, 3478S×7178W, h41km±2km, ML4.7*
*NEIC **16**

RCDM	**Rinconada Maip**	**1.54**	**32**⇑	*i*P		**Pn**	**20 35 59.6**	**-0.4**
RCDM				*i* S		**Sn**	**20 36 18.9**	**0.0**
RCDM				AML		AML	20 36 22.6	
	comp=E,14µm,0.1s							
RCDM	**Rinconada Maip**	**1.54**	**32**⇑	*i*P		**Pn**	**20 35 59.6**	**-0.4**
RCDM				*i* S		**Sn**	**20 36 18.9**	**0.0**
ANTU	**Antumapu**	**1.55**	**38**⇓	*i*P		**Pn**	**20 36 00.4**	**+0.1**
ANTU				*e*S		**Sn**	**20 36 19.5**	**+0.2**
ANTU				AML		AML	20 36 24.7	
	comp=N,19µm,0.5s							
ANTU	**Antumapu**	**1.55**	**38**⇓	*i*P		**Pn**	**20 36 00.4**	**+0.1**
ANTU				*e*S		**Sn**	**20 36 19.5**	**+0.2**
PCH	**Pirque**	**1.58**	**42**⇑	*i*P		**Pn**	**20 36 00.5**	**-0.1**
LMEL	**Las Melosas**	**1.61**	**54**⇓	*i*P		**Pn**	**20 36 01.1**	**0.0**
LMEL				*i* S		**Sn**	**20 36 21.9**	**+1.2**
LMEL				AML		AML	20 36 25.7	
	comp=N,19µm,0.2s							
LMEL	**Las Melosas**	**1.61**	**54**⇓	*i*P		**Pn**	**20 36 01.1**	**0.0**
LMEL				*i* S		**Sn**	**20 36 21.9**	**+1.2**
SAN	**Santiago**	**1.64**	**35**⇓	*i*P		**Pn**	**20 36 01.1**	**-0.2**
SAN				*i* S		**Sn**	**20 36 21.8**	**+0.6**
SAN				AML		AML	20 36 26.0	
	comp=N,11µm,0.4s							
SAN	**Santiago**	**1.64**	**35**⇓	*i*P		**Pn**	**20 36 01.1**	**-0.2**
SAN				*i* S		**Sn**	**20 36 21.8**	**+0.6**
DSCH	**Colegio Aleman**	**1.72**	**36**	*e*P		**Pn**	**20 36 02.4**	**-0.1**
CCHI	**Chillan**	**1.81**	**188**⇓	*i*P		**Pn**	**20 36 04.4**	**+0.7**
CCHI				*i* S		**Sn**	**20 36 26.2**	**+0.7**
CCHI				AML		AML	20 36 38.5	
	comp=N,6µm,0.6s							
CCHI	**Chillan**	**1.81**	**188**⇓	*i*P		**Pn**	**20 36 04.4**	**+0.7**
CCHI				*i* S		**Sn**	**20 36 26.2**	**+0.7**
PEL	**Peldehue**	**1.89**	**29**⇑	*i*P		**Pn**	**20 36 04.4**	**-0.4**
PEL				*i* S		**Sn**	**20 36 28.0**	**+0.6**
PEL				AML		AML	20 36 33.5	
	comp=N,25µm,0.5s							
FCH	**Farellones**	**1.92**	**40**⇑	*i*P		**Pn**	**20 36 05.6**	**+0.3**
FCH				*i* S		**Sn**	**20 36 30.0**	**+1.8**
FCH				AML		AML	20 36 34.1	
	comp=N,9µm,0.7s							
ROCH	**El Roble**	**1.94**	**20**⇓	*i*P		**Pn**	**20 36 05.5**	**+0.1**
ROCH				*i* S		**Sn**	**20 36 29.9**	**+1.4**
JACH	**Jahuel**	**2.33**	**25**⇓	*i*P		**Pn**	**20 36 10.7**	**-0.2**
JACH				*i* S		**Sn**	**20 36 39.2**	**+0.8**
CFAA	**Coronel Fontan**	**4.36**	**44**	P		**Pn**	**20 36 38.2**	**-0.4**
	comp=N,1.7nm,0.3s,baz=218,slow=11,SNR=40							
CFAA				S		**Sn**	**20 37 36.7**	**+8.6**
	comp=N,8.6nm,0.3s,baz=62,slow=15,SNR=8.0							
LCO	**Las Campanas**	**5.85**	**9**	*e*P		**Pn**	**20 36 57.4**	**-1.7**
	comp=N,55nm,0.3s							
PLCA	**Paso Flores**	**6.00**	**171**	P		**Pn**	**20 37 02.5**	**+1.4**
	comp=N,3.9nm,0.3s,baz=331,slow=11,SNR=76							
PLCA				LR		LR	20 39 28.3	
	comp=N,300nm,19.0s,baz=356,slow=39							
PLCA	**Paso Flores**	**6.00**	**171**	P		**Pn**	**20 37 02.5**	**+1.4**
PLCA				LR		LR	20 39 28.3	
TRQA	**Tornquist**	**8.54**	**115**	*e*P		**Pn**	**20 37 36.9**	**+0.9**
	comp=N,33nm,0.9s							
LVC	**Limon Verde**	**12.40**	**12**	P		**Pn**	**20 38 28.6**	**-0.2**
	comp=N,0.9nm,0.3s,baz=170,slow=9.0,SNR=7.1							
LVC				S		**Sn**	**20 40 55.8**	**+10**
	comp=N,0.6nm,0.3s,baz=270,slow=20,SNR=2.0							
LVC	**Limon Verde**	**12.40**	**12**	P		**Pn**	**20 38 28.6**	**-0.2**
LVC				S		**Sn**	**20 40 55.8**	**+10**
CPUP	**Villa Florida**	**15.03**	**60**	P		**Pn**	**20 39 05.4**	**+1.3**
	comp=N,0.8nm,0.3s,baz=216,slow=11,SNR=3.8							
CPUP				LR		LR	20 45 23.9	
	comp=N,327nm,19.5s,baz=219,slow=40							
LPAZ	**La Paz**	**18.73**	**11**	P		**Pn**	**20 39 50.5**	**+0.2**
	comp=N,1.0nm,0.3s,baz=170,slow=8.0,SNR=23							
USHA	**Ushuaia**	**20.16**	**174**	P		**P**	**20 40 06.2**	**+1.4**
	comp=N,4.4nm,0.6s,baz=324,slow=9.7,SNR=2.6							
SIV	**San Ignacio**	**21.05**	**30**	P		**P**	**20 40 13.3**	**-1.3**
	comp=N,22nm,0.8s,mb4.5,baz=212,slow=9.6,SNR=72							
BDFB	**Brasilia**	**28.62**	**54**	P		**P**	**20 41 24.4**	**-2.2**
	comp=N,2.1nm,0.5s,mb4.1,baz=234,slow=15,SNR=4.1							
BDFB				LR		LR	20 53 22.7	
	comp=N,105nm,20.4s,MS3.4,baz=314,slow=38							
SDV	**Santo Domingo**	**43.46**	**2**	P		**P**	**20 43 32.5**	**-0.5**
	comp=N,5.4nm,0.6s,mb4.4,baz=278,slow=8.0,SNR=6.4							
SNAA	**Sanae**	**50.76**	**158**	*e*		**P**	**20 44 29.3**	**0.0**
SNAA				*e*		pP	20 44 38.2	-5.1
SNAA	**Sanae**	**50.76**	**158**	P		**P**	**20 44 29.0**	**-0.3**
	comp=N,1.3nm,0.8s,mb3.9,baz=286,slow=6.0,SNR=14							
QSPA	**South Pole Qui**	**55.44**	**180**	P		**P**	**20 45 04.9**	**+1.3**
	comp=N,4.5nm,0.8s,mb4.5,baz=38,slow=5.6,SNR=15							
SYO	**Syowa Base**	**65.04**	**158**⇑	*e*P		**P**	**20 46 07.8**	**-1.5**
TXAR	**Lajitas Array**	**70.54**	**331**	P		**P**	**20 46 45.0**	**+0.7**
	comp=N,0.8nm,0.5s,mb3.9,baz=158,slow=9.1,SNR=18							
TXAR				pP		pP	20 46 57.1	-1.8
	comp=N,1.6nm,0.5s,baz=153,slow=8.7,SNR=17							
SWET	**Sewanee**	**70.90**	**348**	*e*P		**P**	**20 46 46.1**	**-0.3**
PLAL	**Pickwick Lake**	**71.08**	**346**	*e*P		**P**	**20 46 46.8**	**-0.6**
	comp=N,6.9nm,0.8s,mb4.6							
BBTS	**Babate**	**71.87**	**57**	LR		LR	21 16 56.1	
	comp=N,101nm,21.3s,MS4.1,baz=207,slow=35							
MAW	**Mawson**	**72.35**	**163**	P		**P**	**20 46 55.3**	**+0.5**
	comp=N,4.8nm,0.8s,mb4.5,baz=209,slow=5.0,SNR=11							
MAW				pP		pP	20 47 07.8	-1.7
	comp=N,5.4nm,0.8s,baz=218,slow=5.4,SNR=5.8							
MAW				LR		LR	21 17 54.7	
	comp=N,61nm,19.0s,MS3.9,baz=235,slow=35							
DBIC	**Dimbokro**	**75.24**	**71**	P		**P**	**20 47 11.8**	**-0.8**
	comp=N,7.6nm,0.7s,mb4.8,baz=211,slow=5.2,SNR=15							
BOSA	**Boshof**	**79.51**	**117**	P		**P**	**20 47 35.6**	**-0.7**
	comp=N,7.1nm,0.6s,mb4.8,baz=239,slow=3.6,SNR=17							
BOSA				pP		pP	20 47 49.6	-1.6
	comp=N,3.6nm,0.7s,baz=175,slow=5.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**84.28**	**70**	P		**P**	**20 48 01.0**	**-0.5**
	comp=N,4.7nm,0.8s,mb4.7,baz=260,slow=3.8,SNR=19							
TORD				pP		pP	20 48 14.1	-2.4
	comp=N,4.4nm,0.8s,baz=258,slow=4.7,SNR=10							
PDAR	**Pinedale Array**	**84.57**	**333**	P		**P**	**20 48 02.5**	**+0.3**
	comp=N,0.6nm,0.7s,mb3.8,baz=123,slow=3.3,SNR=5.1							
PDAR				pP		pP	20 48 15.4	-1.8
	comp=N,0.8nm,0.8s,baz=144,slow=5.3,SNR=4.3							
NVAR	**Mina Array Bea**	**84.66**	**325**	P		**P**	**20 48 03.8**	**+1.0**
	comp=N,0.6nm,0.7s,mb3.8,baz=155,slow=6.7,SNR=3.2							
MDT	**Midelt**	**92.15**	**51**	LR		LR	21 30 04.2	
	comp=N,56nm,18.4s,MS4.0,baz=16,slow=36							
WRA	**Warramunga Arr**	**120.17**	**209**	PKP		PKPdf	20 54 19.5	-1.1
	comp=N,0.4nm,0.5s,baz=166,slow=1.7,SNR=4.3							
WRA				pPKP		pPKPdf	20 54 33.4	-2.8
	comp=N,0.4nm,0.5s,baz=166,slow=1.5,SNR=2.1							
ZALV	**Zalesovo Beam**	**154.78**	**33**	PKPbc		PKPbc	20 55 27.9	-1.8
	comp=N,0.6nm,0.3s,baz=242,slow=3.2,SNR=3.6							
ZALV				PKPab		PKPab	20 55 43.5	-1.5
	comp=N,1.5nm,0.6s,baz=254,slow=2.6,SNR=5.8							
MKAR	**Makanchi Array**	**157.12**	**51**	PKPab		PKPab	20 55 54.2	-1.1
	comp=N,0.3nm,0.3s,baz=304,slow=2.4,SNR=5.4							

PRU ***16*** *20:46:04.2,4135N×1365E,h0km*
NEIC ***16*** *20:46:04.0,4149N×1377E,h10km,ML2.8(LDG), ML3.5(ROM),After ROM.*
NEIC Felt [IV] at Cassino, Cervaro and Piedimonte San Germano; [III] at Aquino.
CSEM ***16*** *20:46:05.6±0.1,4144N×1373E,h30km,ML3.5,Error ellipse: s-maj=1.8km s-min=0.9km az=36.0*
ISCJB ***16*** *20:46:05.1±0.2,4151N±002×1376E±002,h10km,Error ellipse: s-maj=3.0km s-min=2.0km az=35.3*
ROM ***16*** *20:46:05.0±0.2,4151N×1377E,h7km±1km,Ml3.2/53, Error ellipse: s-maj=2.0km s-min=1.2km az=39.0*
LDG ***16*** *20:46:07.1±0.2,4146N×1381E,h10km,Ml2.8/2,Error ellipse: s-maj=7.6km s-min=4.4km az=28.0*

ISC 16 20:46:05.9±0.2,4149N±002×1376E±002,h10km,n122,
σ1§16/143,10C-10D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.22**	**61**	Pg	**Pg**	**20 46 09.7**	**-0.8**
CERA				Sg	**Sg**	**20 46 14.0**	**+0.4**
	24µm,0.6s						
SDI	**San Donato**	**0.22**	**10**⇓	*i*Pg	**Pg**	**20 46 10.0**	**-0.5**
POFI	**Posta Fibreno**	**0.23**	**351**⇓	*i*Pg	**Pg**	**20 46 10.3**	**-0.4**
POFI				Sg	**Sg**	**20 46 13.5**	**-0.4**
	7µm,0.8s						
RFI	**Roccamonfina**	**0.25**	**138**⇑	*i*Pg	**Pg**	**20 46 10.8**	**-0.3**
	466nm,0.7s						
MOCO	**Biccari - m.te**	**0.32**	**112**	Pg	**Sg**	**20 46 26.2**	**+10**
	329nm,0.7s						
MODR	**Mondragone**	**0.35**	**165**⇓	*i*Pg	**Pg**	**20 46 12.4**	**-0.5**
	3µm,0.9s						
RNI2	**Rionero Sannit**	**0.36**	**54**	Pg	**Pg**	**20 46 12.7**	**-0.4**
RNI2				Sg	**Sg**	**20 46 18.6**	**+0.6**
	12µm,1.0s						
VAGA	**Valle Agricola**	**0.36**	**102**	Pg	**Pg**	**20 46 12.4**	**-0.7**
	3µm,0.6s						
GIUL	**Giuliano Di Ro**	**0.39**	**280**	Pg	**Pg**	**20 46 13.6**	**+0.1**
GIUL				Sg	**Sg**	**20 46 21.3**	**+2.6**
	2µm,0.7s						
VVLD	**Villa Vallelon**	**0.40**	**345**	Pg	**Pg**	**20 46 12.9**	**-0.8**
VVLD				Sg	**Sg**	**20 46 19.5**	**+0.5**
	4µm,0.5s						
MIDA	**Miranda**	**0.40**	**68**⇓	*i*Pg	**Pg**	**20 46 12.8**	**-1.0**
	4µm,0.8s						
SGG	**Gregorio Mates**	**0.48**	**102**	Pg	**Pg**	**20 46 14.6**	**-0.6**
	2µm,0.6s						
INTR	**Introdacqua**	**0.53**	**12**⇓	*i*Pg	**Pg**	**20 46 15.1**	**-1.2**
PTRJ	**Pietraroja**	**0.59**	**102**	Pg	**Pg**	**20 46 16.6**	**-0.8**
	2µm,1.0s						
PTQR	**Pietraquaria**	**0.60**	**333**⇓	*i*Pg	**Pg**	**20 46 16.5**	**-1.0**
BSSO	**Busso**	**0.63**	**85**	Pg	**Pg**	**20 46 17.5**	**-0.6**
	3µm,1.3s						
TRIV	**Trivento**	**0.65**	**65**	Pg	**Pg**	**20 46 17.5**	**-1.1**
	897nm,0.7s						
SACR	**S. Croce Del S**	**0.72**	**97**	Pg	**Pg**	**20 46 19.2**	**-0.6**
	3µm,1.4s						
VENT	**Ventotene**	**0.74**	**200**	Pg	**Pg**	**20 46 19.5**	**-0.7**
	1µm,0.6s						
CERT	**Cerreto**	**0.74**	**308**	Pg	**Pg**	**20 46 19.2**	**-1.1**
	2µm,0.8s						
FAGN	**Fagnano**	**0.79**	**350**	Pg	**Pg**	**20 46 19.6**	**-1.5**
	3µm,0.5s						
LAV9	**Lanuvio**	**0.82**	**284**	Pg	**Pg**	**20 46 21.7**	**0.0**
	780nm,0.3s						
RDP	**Rocca di Papa**	**0.83**	**289**	Pg	**Pg**	**20 46 21.4**	**-0.5**
	2µm,0.5s						
PSB1	**Pescosannita**	**0.83**	**108**	Pg	**Pg**	**20 46 21.8**	**-0.2**
	4µm,1.4s						
CAFR	**Castel Frentan**	**0.86**	**31**	Pg	**Pg**	**20 46 21.1**	**-1.4**
	2µm,0.6s						
MA9	**Marino**	**0.87**	**289**	Pg	**Pg**	**20 46 22.5**	**-0.2**
	372nm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.88**	**79**	Pg	**Pg**	**20 46 21.7**	**-1.1**
	1µm,1.2s						
AQU	**L'Aquila**	**0.90**	**343**	Pg	**Pg**	**20 46 21.8**	**-1.5**
	1µm,1.0s						
AQU	**L'Aquila**	**0.90**	**343**	*e*P	**Pg**	**20 46 21.6**	**-1.7**
AQU	**L'Aquila**	**0.90**	**343**	Pg	**Pg**	**20 46 21.8**	**-1.5**
	1µm,1.0s						
AQU	**L'Aquila**	**0.90**	**343**	*e*P	**Pg**	**20 46 21.6**	**-1.8**
VCEL	**Villa Celiera**	**0.91**	**4**	Pg	**Pg**	**20 46 21.7**	**-1.7**
	1µm,0.5s						
FIAM	**Fiamignano**	**0.91**	**329**	Pg	**Pg**	**20 46 21.8**	**-1.7**
	1µm,0.8s						
MTCE	**Montecelio**	**0.93**	**305**	Pg	**Pg**	**20 46 22.4**	**-1.4**
	1µm,0.8s						
CAMP	**Campotosto**	**1.08**	**346**	Pg	**Pg**	**20 46 24.6**	**-2.0**
	100nm,0.6s						
TERO	**Teramo**	**1.14**	**354**	Pg	**Pg**	**20 46 25.3**	**-2.5**
	709nm,0.9s						
CSSN	**Cassano Irpino**	**1.14**	**123**	Pg	**Pg**	**20 46 26.4**	**-1.5**
	341nm,1.0s						
FG5	**Orsara di Pugl**	**1.15**	**100**	Pg	**Pg**	**20 46 28.3**	**+0.2**
	939nm,1.6s						
CAFE	**Carife**	**1.21**	**112**	Pg	**Pg**	**20 46 28.1**	**-1.0**
	676nm,1.2s						
SNAL	**S. Angelo Dei**	**1.23**	**117**	Pg	**Pg**	**20 46 28.3**	**-1.2**
	779nm,1.0s						
LNSS	**Leonessa**	**1.23**	**335**	Pg	**Pg**	**20 46 28.7**	**-0.9**
	2µm,1.0s						
MCRV	**Calabrutti - M**	**1.28**	**123**	Pg	**Pg**	**20 46 29.0**	**-1.4**
	762nm,1.1s						
FG4	**Candela**	**1.37**	**105**	Pg	**Pg**	**20 46 31.2**	**-1.0**
	129nm,0.5s						
RGNG	**Rignano Grg**	**1.38**	**82**	Pg	**Pn**	**20 46 30.9**	**-0.4**
NRCA	**Norcia**	**1.43**	**341**	Pg	**Pn**	**20 46 30.9**	**-1.0**
	85nm,0.6s						
TOLF	**Tolfa**	**1.44**	**294**	Pg	**Pn**	**20 46 31.2**	**-0.8**
	208nm,0.6s						
SGO	**Sicignano**	**1.49**	**128**	Pg	**Pn**	**20 46 32.2**	**-0.6**
	62nm,0.4s						
VULT	**Monte Vulture**	**1.50**	**110**	Pg	**Pn**	**20 46 32.9**	**+0.1**
	299nm,0.6s						
SGRT	**San Giovanni R**	**1.51**	**79**	Pg	**Pn**	**20 46 33.0**	**0.0**
	377nm,0.6s						
CDRU	**Civita di Ruta**	**1.54**	**130**	Pg	**Pn**	**20 46 32.9**	**-0.5**
	174nm,1.2s						
MSAG	**Monte S. Angel**	**1.63**	**81**	Pg	**Pn**	**20 46 35.3**	**+0.7**
	414nm,0.6s						
MS1	**Monte Sant'Ang**	**1.65**	**82**	*e*Pn	**Pn**	**20 46 35.4**	**+0.5**
CMPR	**Campora**	**1.66**	**135**	Pg	**Pn**	**20 46 34.5**	**-0.5**
	104nm,0.8s						
FGMS	**Monte Sant'Ang**	**1.66**	**82**	Pg	**Pn**	**20 46 35.6**	**+0.5**
	445nm,1.0s						
PALZ	**Palazzo San Ge**	**1.75**	**107**	Pg	**Pn**	**20 46 36.3**	**0.0**
	1µm,1.7s						
SNTG	**Esanatoglia**	**1.87**	**341**	Pg	**Pn**	**20 46 39.8**	**+1.9**
	78nm,0.5s						
BULG	**Bulgheria - Ca**	**1.87**	**138**	Pg	**Pn**	**20 46 39.4**	**+1.4**
	121nm,0.9s						
MRVN	**Minervino Murg**	**1.89**	**102**	Pg	**Pn**	**20 46 37.7**	**-0.5**
	87nm,0.7s						
CING	**Cingoli**	**1.93**	**348**	Pg	**Pn**	**20 46 40.3**	**+1.5**
	175nm,0.9s						
SACS	**San Casciano d**	**1.93**	**315**	Pg	**Pn**	**20 46 39.7**	**+0.9**
	309nm,1.2s						
CDT	**Castel del Mon**	**1.94**	**101**	*e*Pn	**Pn**	**20 46 37.6**	**-1.3**
MURB	**Monte Urbino**	**2.00**	**333**	Pg	**Pn**	**20 46 41.7**	**+2.0**
	1µm,1.3s						
ARVD	**Arcevia**	**2.10**	**343**	Pg	**Pn**	**20 46 43.3**	**+2.2**
CUC	**Castrocucco**	**2.16**	**133**	Pg	**Pn**	**20 46 43.0**	**+1.0**
	246nm,1.2s						
CUC	**Castrocucco**	**2.16**	**133**	*e*Pn	**Pn**	**20 46 42.2**	**+0.2**
CUC	**Castrocucco**	**2.16**	**133**	Pg	**Pn**	**20 46 43.0**	**+1.0**
	246nm,1.2s						
CUC	**Castrocucco**	**2.16**	**133**	*e*Pn	**Pn**	**20 46 42.1**	**+0.2**
MAON	**Monte Argentar**	**2.17**	**296**	Pg	**Pn**	**20 46 42.1**	**0.0**
	131nm,1.7s						
ARCI	**Arcidosso**	**2.18**	**309**	Pg	**Pn**	**20 46 43.7**	**+1.5**
	131nm,1.7s						
AMUR	**Altamura**	**2.22**	**104**	Pg	**Pn**	**20 46 43.0**	**+0.2**
	93nm,0.8s						
SG1	**Sgolgore (BA)**	**2.30**	**105**	*e*Pn	**Pn**	**20 46 44.6**	**+0.8**
BADI	**Badiali**	**2.31**	**331**	Pg	**Pn**	**20 46 45.5**	**+1.5**
	328µm,49.0s						
BAI	**Bari**	**2.38**	**98**	*e*Pn	**Pn**	**20 46 45.5**	**+0.5**
CASP	**Castiglione de**	**2.52**	**302**	Pg	**Pn**	**20 46 47.1**	**+0.3**
	55nm,1.4s						
NOCI	**Noci**	**2.59**	**105**	Pg	**Pn**	**20 46 48.3**	**+0.4**
	235nm,1.6s						
PE1	**Pezze di Greco**	**2.85**	**103**	*e*Pn	**Pn**	**20 46 53.5**	**+2.1**
NVLJ	**Novalja**	**3.18**	**14**	*e*Pn	**Pn**	**20 46 55.7**	**-0.2**
NVLJ				Sn	**Sn**	**20 47 34.9**	**+1.0**
NVLJ	**Novalja**	**3.18**	**14**	*e*Pn	**Pn**	**20 46 55.7**	**-0.2**
NVLJ				Sn	**Sn**	**20 47 34.8**	**+0.9**
STON	**Ston**	**3.24**	**63**	*e*Pn	**Pg**	**20 47 07.1**	**-0.8**
STON				Sn	**Sg**	**20 47 52.9**	**+3.0**
TIP	**Timpagrande**	**3.25**	**134**	*e*P	**Pn**	**20 46 59.7**	**+2.7**
SERS	**Sersale**	**3.32**	**137**	Pg	**Pn**	**20 46 59.2**	**+1.3**
	16nm,0.8s						
DGI	**Dorgali Grotta**	**3.36**	**251**	Pg	**Pn**	**20 46 57.8**	**-0.6**
	33nm,1.0s						
CEL	**Celeste**	**3.62**	**152**	*e*P	**Pn**	**20 47 04.6**	**+2.6**
TREB	**Trebinje**	**3.63**	**69**	*e*Pn	**Pn**	**20 47 02.7**	**+0.6**
TREB				*e*Sn	**Sn**	**20 47 40.0**	**-5.0**
PGF	**Pioggiola**	**3.70**	**288**	*e*Pn	**Pn**	**20 47 03.6**	**+0.5**
SKDS	**Skadanscina**	**4.06**	**3**	*i* Pn	**Pn**	**20 47 08.4**	**+0.3**
BLY	**Banja Luka**	**4.11**	**36**	*e*Pn	**Pn**	**20 47 11.4**	**+2.7**
TIR	**Tirane**	**4.59**	**90**	*e*P	**Pn**	**20 47 16.8**	**+1.4**
TIR	**Tirane**	**4.59**	**90**	*e*P	**Pn**	**20 47 16.8**	**+1.4**
GOLS	**Golise**	**4.72**	**16**	*e*Pn	**Pn**	**20 47 17.5**	**+0.4**
MAGA	**Magasa**	**4.85**	**333**	Pg	**Pn**	**20 47 19.4**	**+0.5**
	33nm,0.5s						
OBKA	**Obir**	**5.05**	**6**⇑	*i*Pn	**Pn**	**20 47 23.0**	**+1.4**
SBF	**Sospel**	**5.23**	**299**	*e*Pg	**Pg**	**20 47 42.7**	**-3.4**
SBF				*e*Sn	**Sn**	**20 48 21.6**	**-2.9**
	2.3nm,0.3s						
SBF	**Sospel**	**5.23**	**299**	*e*Pg	**Pg**	**20 47 42.7**	**-3.4**
SBF				*e*Sn	**Sn**	**20 48 21.6**	**-2.9**
	1.1nm,0.3s						
SBF	**Sospel**	**5.23**	**299**	*e*Pn	**Pn**	**20 47 24.6**	**+0.5**
SBF				*e*Pg	**Pg**	**20 47 42.7**	**-3.4**
SBF				*e*Sn	**Sn**	**20 48 21.6**	**-2.9**
ABTA	**Abfaltersbach**	**5.33**	**351**⇑	*i*Pn	**Pn**	**20 47 25.5**	**0.0**
ABTA				⇓*i*Sn	**Sn**	**20 48 27.7**	**+0.7**
KRUS	**Krusevo**	**5.63**	**89**	*e*Pn	**Pn**	**20 47 31.8**	**+2.1**
KRUS	**Krusevo**	**5.63**	**89**	*e*Pn	**Pn**	**20 47 31.7**	**+2.1**
FRF	**La Foret Royal**	**5.65**	**294**	*e*Pn	**Pn**	**20 47 29.2**	**-0.7**
LMR	**La Mourre**	**5.67**	**291**	*e*Pn	**Pn**	**20 47 30.2**	**0.0**
LMR				*e*Sn	**Sn**	**20 48 32.3**	**-3.1**
	2.9nm,0.5s						
BIA	**Bitola**	**5.72**	**92**	*e*Pn	**Pn**	**20 47 30.5**	**-0.3**
ARSA	**Arzberg**	**5.90**	**12**⇑	*i*Sn	**Sn**	**20 48 43.4**	**+2.5**
ARSA	**Arzberg**	**5.90**	**12**⇑	*i*Pn	**Pn**	**20 47 33.8**	**+0.5**
ARSA				⇓*i*Sn	**Sn**	**20 48 39.3**	**-1.5**
ARSA	**Arzberg**	**5.90**	**12**⇑	*i*Pn	**Pn**	**20 47 33.8**	**+0.5**
ARSA				*i* Sn	**Sn**	**20 48 43.4**	**+2.5**
BNI	**Bardonecchia**	**6.28**	**307**	*e*P	**Pn**	**20 47 40.4**	**+1.9**
	4.0nm,0.8s						
BNI	**Bardonecchia**	**6.28**	**307**	*e*P	**Pn**	**20 47 40.4**	**+1.9**
	4.0nm,0.8s						
MOA	**Molln**	**6.37**	**3**⇑	*i*Sn	**Sn**	**20 48 54.8**	**+2.3**
MOA	**Molln**	**6.37**	**3**⇓	*i*Pn	**Pn**	**20 47 41.2**	**+1.5**
MOA				⇑*i*Sn	**Sn**	**20 48 54.0**	**+1.5**
MOA	**Molln**	**6.37**	**3**⇓	*i*Pn	**Pn**	**20 47 41.2**	**+1.5**
MOA				*i* Sn	**Sn**	**20 48 54.8**	**+2.3**
LPL	**La Plagne**	**6.50**	**311**	*e*Pn	**Pn**	**20 47 46.8**	**+5.2**
SMRF	**Simiane la Rot**	**6.52**	**295**	*e*Pn	**Pn**	**20 47 43.4**	**+1.6**
SMRF				*e*Pg	**Pg**	**20 48 07.9**	**-2.8**
CONA	**Conrad Observa**	**6.61**	**12**⇑	*i*Pn	**Pn**	**20 47 43.8**	**+0.7**
CSNA	**Conrad Observa**	**6.61**	**12**⇑	*i*Pn	**Pn**	**20 47 43.8**	**+0.7**
ORIF	**Oris-en-Rattie**	**6.70**	**303**	*e*P	**Pn**	**20 47 49.7**	**+5.4**
GEC2	**GERESS Array S**	**7.36**	**360**	*e*P	**Pn**	**20 47 54.2**	**+0.9**
GEC2	**GERESS Array S**	**7.36**	**360**	*e*P	**Pn**	**20 47 54.2**	**+0.9**
CABF	**La Chapelle**	**7.53**	**315**	*e*P	**Pn**	**20 48 01.1**	**+5.4**
KHC	**Kasperske Hory**	**7.64**	**359**	*e*PN	**Pn**	**20 47 57.0**	**-0.2**
KHC				*ex*	x	20 48 04.5	
KHC				*e*SN	**Sn**	**20 49 22.5**	**-1.3**
LASF	**Ste Croix**	**7.73**	**293**	*e*Pn	**Pn**	**20 47 58.7**	**+0.3**
HINF	**Hinteralfeld**	**8.01**	**324**	*e*P	**Pn**	**20 48 07.5**	**+5.2**
CDF	**Champ du Feu**	**8.31**	**329**	*e*Pn	**Pn**	**20 48 05.8**	**-0.5**
AVF	**Avril sur Loir**	**9.17**	**309**	*e*P	**Pn**	**20 48 21.3**	**+3.2**

ISCJB ***16*** *20:54:02.0±0.6,2077S±004×6721W±005,h175km±5km, mb4.4/45,Error ellipse: s-maj=7.6km s-min=6.4km az=148.4*
MOS ***16*** *20:54:02.4±1.1,2068S×6721W,h176km,mb4.5/10,Error ellipse: s-maj=18.5km s-min=9.3km az=119.1*
IDC ***16*** *20:54:03.2±0.8,2074S×6724W,h172km±8km,mb4.1/17, mb1 4.2/22,mb1mx4.2/26,mbtmp4.1/22,Error ellipse: s-maj=11.0km s-min=8.9km az=107.0*
NEIC ***16*** *20:54:04.4±0.6,2087S×67.19W,h187km±6km,mb4.5/31, Error ellipse: s-maj=8.5km s-min=5.9km az=67.0*

ISC 16 20:54:03.2±0.5,2076S±004×6721W±005,h169km±5km,
n119,σ1§05/103,mb4.4/45,2C-1D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.44**	**220**	P	**Pn**	**20 54 46.6**	**+2.1**
	68nm,0.3s,baz=21,slow=7

TPNV	Topopah Spring	73.70	321	eP		P	21 05 19.8 +1.4
	comp=Z,10.0nm,1.1s,mb4.5						
DUG	Dugway	74.03	325	eP		P	21 05 21.0 +0.7
DUG					pmax	pmax	
	comp=Z,4.0nm,0.7s,mb4.3						
DUG	Dugway	74.03	325	eP		P	21 05 21.0 +0.7
	comp=Z,4.4nm,0.7s,mb4.3						
ISA	Isabella	74.19	319	eP		P	21 05 22.5 +1.1
ISA					pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.2						
ISA	Isabella	74.19	319	eP		P	21 05 22.4 +1.1
	comp=Z,5.1nm,0.9s,mb4.2						
PDAR	Pinedale Array	74.28	329	P		P	21 05 21.8 +0.1
	comp=Z,1.5nm,0.4s,mb4.1,baz=124,slow=8.5,SNR=14						
ULM	Lac du Bonnet	75.10	341	P		P	21 05 25.5 -0.8
	comp=Z,21nm,0.5s,mb5.0,baz=152,slow=6.0,SNR=25						
HVU	Hansel Valley	75.16	326	eP		P	21 05 26.7 0.0
HVU					pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.3						
HVU	Hansel Valley	75.16	326	eP		P	21 05 26.7 0.0
	comp=Z,7.9nm,0.9s,mb4.3						
SCHQ	Schefferville	75.28	0	P		P	21 05 26.1 -1.0
	comp=Z,9.5nm,0.9s,mb4.4,baz=173,slow=2.3,SNR=7.7						
REDW	Red Top Meadow	75.35	329	eP		P	21 05 28.2 +0.4
	comp=Z,3.2nm,0.6s,mb4.1						
RRI2	Red Ridge	75.57	328	eP		P	21 05 29.6 +0.6
	comp=Z,19nm,1.0s,mb4.7						
TOA0	Torodi Ar. Sit	75.61	70	eP		P	21 05 28.6 -1.3
TORD	Torodi Ar. Bea	75.61	70	P		P	21 05 29.1 -0.8
	comp=Z,4.2nm,0.5s,mb4.3,baz=253,slow=5.6,SNR=60						
IMW	Indian Meadow	75.79	329	eP		P	21 05 31.4 +1.1
	comp=Z,14nm,0.9s,mb4.6						
NVAR	Mina Array Bea	75.90	321	P		P	21 05 30.5 -0.6
	comp=Z,1.7nm,0.6s,mb3.8,baz=164,slow=6.8,SNR=9.5						
RLMT	Red Lodge	75.93	331	eP		P	21 05 31.3 +0.2
	comp=Z,7.2nm,0.6s,mb4.5						
YMR	Madison River	76.38	329	eP		P	21 05 35.5 +1.9
	comp=Z,6.0nm,0.4s,mb4.6						
GCMT	Greycliff	76.62	331	eP		P	21 05 35.7 +0.8
SYO	Syowa Base	76.64	159	‖eP		P	21 05 33.3 -1.5
HLID	Hailey	77.28	327	eP		P	21 05 39.2 +0.5
	comp=Z,13nm,0.8s,mb4.6						
PAHR	Pah Rah Range	77.38	321	eP		P	21 05 40.4 +1.1
	comp=Z,26nm,1.0s,mb4.8						
MCMT	McKenzie Canyo	77.40	329	eP		P	21 05 40.7 +1.3
VNDA	Vanda	77.85	190	P		P	21 05 41.9 +0.5
	comp=Z,1.9nm,0.7s,mb3.8,baz=129,slow=5.5,SNR=16						
VNDA	Vanda	77.85	190	P		P	21 05 41.9 +0.5
MOD	Modoc	79.33	323	eP		P	21 05 50.1 +0.1
	comp=Z,11nm,1.1s,mb4.4						
YBH	Yreka Blue Hor	80.61	321	eP		P	21 05 56.1 -0.8
YBH					pmax	pmax	
	comp=Z,2.0nm,0.8s						
YBH	Yreka Blue Hor	80.61	321	eP		P	21 05 56.1 -0.7
	comp=Z,1.7nm,0.8s,mb3.7						
WALA	Waterton Lakes	80.98	331	eP		P	21 05 58.8 +0.1
	comp=Z,8.7nm,0.8s,mb4.4						
HUMO	Hull Mountain	81.30	322	eP		P	21 05 60.0 -0.5
	comp=Z,6.0nm,1.1s,mb4.1						
CROR	Criterion Ridg	81.70	325	P		P	21 06 04.0 +1.4
HAWA	Hanford	81.86	326	eP		P	21 06 04.1 +0.8
	comp=Z,14nm,0.9s,mb4.6						
RSW	Rattlesnake Hi	81.89	326	eP		P	21 06 04.3 +0.8
OD2	Odessa Site #2	82.11	328	eP		P	21 06 04.9 +0.3
BOSA	Boshof	82.39	118	P		P	21 06 06.5 -0.1
	comp=Z,2.5nm,0.6s,mb4.0,baz=168,slow=11,SNR=6.2						
ETW	Entiat	83.07	327	P		P	21 06 10.3 +0.7
EDM	Edmonton	83.78	334	eP		P	21 06 12.1 -0.9
ESDC	Sonseca Array	84.19	44	P		P	21 06 16.2 +0.7
	comp=Z,3.3nm,0.8s,mb4.1,baz=246,slow=4.6,SNR=14						
RPW	Rockport	84.22	327	eP		P	21 06 15.0 -0.4
JCW	Jim Creek	84.27	327	P		P	21 06 15.2 -0.4
MAW	Mawson	84.58	163	P		P	21 06 17.0 -0.1
	comp=Z,1.4nm,0.6s,mb3.9,baz=159,slow=4.1,SNR=9.7						
YKA	Yellowknife Ar	91.02	340	P		P	21 06 47.4 -0.2
	comp=Z,11nm,0.7s,mb5.0,baz=131,slow=4.4,SNR=84						
YKA	Yellowknife Ar	91.02	340	P		P	21 06 47.4 -0.2
ASAR	Alice Springs	131.29	206	PKP		PKPdf	21 12 55.0 -0.9
	comp=Z,1.9nm,0.5s,baz=129,slow=2.2,SNR=26						
PETK	Petropavlovsk-	132.90	324	PKP		PKPdf	21 12 57.2 -0.7
	comp=Z,1.9nm,0.6s,baz=44,slow=2.4,SNR=4.3						
WB2	Warramunga Arr	134.38	209	eP		PKPdf	21 13 00.5 -1.3
WRA	Warramunga Arr	134.39	209	PKP		PKPdf	21 13 01.2 -0.6
	comp=Z,4.0nm,0.6s,baz=158,slow=1.7,SNR=18						
NVS	Novosibirsk	139.31	26	ePKIKP		PKPdf	21 13 09.5 -0.3
ZAL	Zalesovo	140.60	26	PKIKP			21 13 07.5
ZALV	Zalesovo Beam	140.60	26	PKhKP			21 13 07.5
	comp=Z,6.3nm,0.7s,baz=271,slow=2.6,SNR=10						
BOD	Bodaibo	142.97	359	ePKIKP		PKPdf	21 13 11.7 -4.6
BOD					pmax	pmax	
	comp=Z,5.0nm,1.1s						
MK31	Makanchi Array	144.10	36	ePKIKP		PKPdf	21 13 17.2 -1.4
MKAR	Makanchi Array	144.10	36	PKP		PKPdf	21 13 17.2 -1.4
	comp=Z,12nm,0.8s,baz=316,slow=3.3,SNR=57						
MKAR	Makanchi Array	144.10	36	PKP		PKPdf	21 13 17.2 -1.4
YSS	Yuzh-Sakhalins	144.30	324	ePKIKP		PKPdf	21 13 17.4 -1.5
BATI	Baumata	147.43	200	PKPbc		PKPbc	21 13 28.2 +0.2
	comp=Z,33nm,0.7s,baz=257,slow=2.8,SNR=9.5						
MOY	Mondy	147.80	14	ePKP2		PKPbc	21 13 28.8 +1.0
KLR	Kul'dur	147.81	336	ePKHKP			21 13 19.0
ZAK	Zakamensk	149.49	12	ePKHKP		PKPdf	21 13 26.5 -1.0
ZAK					pmax	pmax	
	comp=Z,5.0nm,1.0s						
SONM	Songino Array	152.49	9	PKP		PKPdf	21 13 32.8 +0.6
	comp=Z,1.7nm,0.7s,baz=328,slow=1.9,SNR=8.2						
SONM				PKPbc		PKPbc	21 13 39.6 +0.3
	comp=Z,3.6nm,0.4s,baz=292,slow=1.2,SNR=19						
SONM				PKPab		PKPab	21 13 50.3 +0.2
	comp=Z,1.8nm,0.7s,baz=319,slow=2.3,SNR=5.8						
MJAR	Matsushiro Arr	152.82	311	PKPbc		PKPbc	21 13 39.6 -0.8
	comp=Z,2.6nm,0.6s,baz=82,slow=1.7,SNR=11						
MJAR				PKPab		PKPab	21 13 50.6 -1.3
	comp=Z,3.2nm,0.9s,baz=49,slow=2.5,SNR=7.5						
MAJO	Matsushiro	152.82	311	ePKIKP		PKPbc	21 13 39.6 -0.8
MAT	Matsushiro	152.82	311	PKP		PKPbc	21 13 39.4 -0.9
KSRS	Korea Array	158.80	325	PKP		PKPdf	21 13 41.1 +0.2
	comp=Z,1.7nm,0.9s,baz=72,slow=1.5,SNR=11						
KSRS				PKPab		PKPab	21 14 17.5 0.0
	comp=Z,1.5nm,0.9s,baz=50,slow=4.7,SNR=6.1						

IDC 16 21:03:21.2±14.0, 046S×12618E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=232.3km s-min=108.5km az=140.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.54	182	P	Pn	21 07 27.9	+0.6
	0.1nm,0.3s,baz=12,slow=15,SNR=2.6						
WRA	Warramunga Arr	20.95	158	P	P	21 08 05.9	+0.1
	1.0nm,0.6s,baz=336,slow=12,SNR=4.9						
ASAR	Alice Springs	24.26	163	P	P	21 08 39.5	-0.5
	0.3nm,0.4s,baz=348,slow=8.3,SNR=7.0						
STKA	Stephens Creek	34.48	156	P	P	21 10 11.4	+0.4
	1.5nm,0.7s,baz=338,slow=11,SNR=3.7						

*ISCJB **16** 21:05:57.5±0.5, 1313S×1147W±0.1, h10km, mb4.4/21, MS3.9/19, Error ellipse: s-maj=15.3km s-min=7.5km az=159.4*
*IDC **16** 21:05:57.4±0.7, 1314S×11482W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.3/20, mbtmp4.2/12, MS3.8/19, Ms1 3.8/19, ms1mx3.7/28, Error ellipse: s-maj=28.0km s-min=17.1km az=83.0*
*MOS **16** 21:05:57.8±1.0, 1311S×11470W, h10km, mb4.7/6, Error ellipse: s-maj=22.9km s-min=10.4km az=85.0*
*NEIC **16** 21:05:58.9±0.3, 1320S×11477W, h10km, mb4.6/14, Error ellipse: s-maj=10.7km s-min=5.8km az=74.0*
ISC 16 21:05:59.4±0.5, 1317S±006×1147W±01, h10km, n95, σ0§86/68, mb4.4/21, MS3.9/19, 2D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	Papeete	33.87	258	LR	LR	21 22 33.9	
	comp=Z,104nm,18.4s,MS3.6,baz=351,slow=30						
CMIG	Matias Romero	35.89	34	LR	LR	21 24 14.0	
	comp=Z,141nm,20.6s,MS3.7,baz=24,slow=30						
NNA	Nana	36.96	92	P	P	21 13 09.0	-0.1
LPIG	La Paz	37.30	7	LR	LR	21 24 23.2	
	comp=Z,251nm,20.8s,MS4.0,baz=177,slow=30						
OTAV	Otavalo	38.33	72	P	P	21 13 21.0	+0.2
TGUH	Tegucigalpa,Un	38.35	46	eP	P	21 13 19.2	-1.6
	26nm,1.2s,mb4.8						
TEIG	Tepich	42.16	39	P	P	21 13 52.7	+0.3
	12nm,0.8s,mb4.6,baz=303,slow=13,SNR=3.7						
TEIG	Tepich	42.16	39	eP	P	21 13 52.7	+0.2
	13nm,0.7s,mb4.7						
TXAR	Lajitas Array	43.58	14	P	P	21 14 04.8	+0.9
	1.4nm,0.9s,mb3.7,baz=196,slow=12,SNR=8.8						
TXAR				PcP	PcP	21 15 50.8	-0.7
	0.4nm,0.9s,baz=226,slow=4.9,SNR=2.9						
TXAR				LR	LR	21 29 01.5	
	comp=Z,67nm,18.0s,MS3.6,baz=180,slow=32						
TXAR	Lajitas Array	43.58	14	P	P	21 14 04.8	+1.0
TXAR						21 15 50.8	
LCO	Las Campanas	43.71	118	P	P	21 14 04.3	-0.7
LVC	Limon Verde	44.44	109	P	P	21 14 11.6	+0.7
	3.9nm,0.7s,mb4.2						
LPAZ	La Paz	45.08	100	P	P	21 14 17.4	+1.3
	3.0nm,1.0s,mb4.1,baz=312,slow=4.9,SNR=5.2						
LPAZ				LR	LR	21 28 38.4	
	comp=Z,162nm,21.2s,MS3.9,baz=256,slow=30						
LPAZ	La Paz	45.08	100	eP	P	21 14 17.4	+1.3
LPAZ				pmax	pmax		
	comp=Z,7.0nm,1.3s						
LPAZ	La Paz	45.08	100	eP	P	21 14 17.4	+1.2
	comp=Z,6.8nm,1.3s,mb4.3						
LPAZ				LR	LR	21 28 38.4	
JCT	Junction City	45.71	18	eP	P	21 14 21.6	+0.8
JCT				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
JCT	Junction City	45.71	18	eP	P	21 14 21.6	+0.8
	comp=Z,15nm,0.9s,mb4.9						
CFAA	Coronel Fontan	46.33	121	P	P	21 14 25.4	-0.4
	comp=Z,0.2nm,0.4s,baz=288,slow=4.8,SNR=5.5						
PFO	Pinyon Flat Ob	46.55	358	LR	LR	21 29 39.9	
	comp=Z,114nm,19.5s,MS3.8,baz=324,slow=31						
PLCA	Paso Flores	47.30	134	P	P	21 14 34.5	+1.3
	comp=Z,2.1nm,1.0s,mb4.0,baz=297,slow=6.8,SNR=2.3						
PLCA				LR	LR	21 29 45.9	
	comp=Z,101nm,18.9s,MS3.8,baz=329,slow=30						
BNM	Barren Site	47.68	9	P	P	21 14 35.5	-0.6
ANMO	Albuquerque	48.49	9	LR	LR	21 31 20.6	
	comp=Z,128nm,18.6s,MS3.9,baz=318,slow=31						
ANMO	Albuquerque	48.49	9	eP	P	21 14 44.1	+1.7
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ANMO	Albuquerque	48.49	9	eP	P	21 14 44.1	+1.6
	comp=Z,4.0nm,1.0s,mb4.4						
ISA	Isabella	48.70	356	P	P	21 14 43.9	-0.1
SDV	Santo Domingo	48.95	66	P	P	21 14 45.7	-0.7
	comp=Z,3.0nm,0.4s,mb4.6,baz=293,slow=6.0,SNR=3.2						
SDV	Santo Domingo	48.95	66	eP	P	21 14 46.3	-0.1
	comp=Z,6.7nm,1.1s,mb4.6						
AMTX	Amarillo	49.37	14	eP	P	21 14 49.6	+0.4
SHPR	Sheep Range	49.41	360	eP	P	21 14 50.6	+1.1
WMOK	Wichita Mounta	49.99	17	eP	P	21 14 53.5	-0.4
VBMS	Vicksburg	50.73	27	eP	P	21 14 59.7	+0.1
CMB	Columbia Colle	51.21	354	eP	P	21 15 02.0	-1.1
PV01	Paradox Valley	51.36	6	eP	P	21 15 04.4	+0.2
SDCO	Great Sand Dun	51.38	9	eP	P	21 15 05.2	+0.8
NVAR	Mina Array Bea	51.44	356	P	P	21 15 05.3	+0.6
	comp=Z,2.5nm,0.7s,mb4.2,baz=170,slow=7.3,SNR=16						
NVAR	Mina Array Bea	51.44	356	P	P	21 15 05.3	+0.6
MSU	Marysvale	51.47	3	eP	P	21 15 04.1	-0.9
MIAR	Mount Ida	51.53	22	eP	P	21 15 05.2	-0.3
PV10	Paradox Valley	51.55	6	eP	P	21 15 05.0	-0.6
SMCO	Snowmass	52.58	8	eP	P	21 15 11.1	-2.1
	comp=Z,6.3nm,0.7s,mb4.7						
TRQA	Tornquist	52.80	128	P	P	21 15 14.9	-0.2
DUG	Dugway	53.12	2	eP	P	21 15 18.1	+0.9
DUG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
DUG	Dugway	53.12	2	eP	P	21 15 18.1	+0.8
	comp=Z,2.5nm,0.8s,mb4.2						
ISCO	Idaho Springs	53.38	9	eP	P	21 15 20.1	+1.0
DAU	Daniels Canyon	53.41	3	eP	P	21 15 20.8	+1.5
SPUT	South Promonto	54.25	2	eP	P	21 15 26.6	+1.1
KHMM	Horse Mountain	54.42	352	eP	P	21 15 28.5	+1.7
HWUT	Hardware Ranch	54.58	3	eP	P	21 15 28.6	+0.7
KSU1	Kansas State U	54.68	17	P	P	21 15 28.7	+0.1
GOGA	Godfrey	55.08	32	eP	P	21 15 31.3	-0.4
YBH	Yreka Blue Hor	55.13	353	LR	LR	21 33 14.5	
	comp=Z,165nm,19.6s,MS4.1,baz=175,slow=30						
CPUP	Villa Florida	55.17	113	LR	LR	21 34 31.7	
	comp=Z,70nm,18.7s,MS3.8,baz=86,slow=31						
CPUP	Villa Florida	55.17	113	P	P	21 15 32.4	-0.2
SWET	Sewanee	55.32	29	eP	P	21 15 33.0	-0.4
PDAR	Pinedale Array	55.86	5	P	P	21 15 36.4	-0.7
	comp=Z,1.5nm,0.7s,mb4.1,baz=160,slow=4.7,SNR=11						
PDAR				LR	LR	21 35 26.4	
	comp=Z,58nm,21.1s,MS3.6,baz=351,slow=32						
RRI2	Red Ridge	56.33	3	eP	P	21 15 40.8	+0.3
HLID	Hailey	56.46	0	eP	P	21 15 40.6	-0.8
	comp=Z,1.8nm,0.8s,mb4.2						
TKL	Tuckaleechee C	56.71	30	LR	LR	21 40 16.7	
	comp=Z,51nm,19.4s,MS3.6,baz=258,slow=36						
IMW	Indian Meadow	56.90	3	eP	P	21 15 44.4	-0.1
	comp=Z,6.9nm,0.8s,mb4.7						
MCMT	McKenzie Canyo	57.75	2	eP	P	21 15 51.4	+0.9
RSSD	Black Hills	57.84	9	eP	P	21 15 50.8	-0.3
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
RSSD	Black Hills	57.84	9	eP	P	21 15 50.8	-0.3
	comp=Z,4.3nm,0.8s,mb4.5						
CHMT	Chamberlain Mo	59.82	1	eP	P	21 16 05.1	+0.2
WALA	Waterton Lakes	61.96	1	P	P	21 16 18.2	-1.2
BRNJ	Basking Ridge	65.22	33	eP	P	21 16 40.1	-0.9
ULM	Lac du Bonnet	65.28	13	LR	LR	21 42 46.9	
	comp=Z,76nm,21.1s,MS3.9,baz=98,slow=34						
BBB	Bella Bella	66.11	351	LR	LR	21 39 16.7	
	comp=Z,62nm,18.1s,MS3.9,baz=231,slow=30						
SBA	Scott Base	74.79	192	P	P	21 17 38.7	-0.7
YKA	Yellowknife Ar	75.42	0	P	P	21 17 42.0	-1.1
	comp=Z,1.1nm,0.7s,mb3.9,baz=178,slow=5.8,SNR=9.4						
YKA				LR	LR	21 46 48.8	
	comp=Z,69nm,19.0s,MS4.0,baz=145,slow=32						
YKA	Yellowknife Ar	75.42	0	P	P	21 17 42.0	-1.1
YKA				LR	LR	21 46 48.8	
VNDA	Vanda	75.80	193	P	P	21 17 45.5	+0.3
	comp=Z,0.7nm,0.9s,mb3.6,baz=48,slow=6.8,SNR=3.7						
VNDA				LR	LR	21 45 14.9	
	comp=Z,55nm,20.1s,MS3.9,baz=123,slow=31						
VNDA	Vanda	75.80	193	P	P	21 17 45.4	+0.1
VNDA				LR	LR	21 45 14.9	
QSPA	South Pole Qui	76.92	180	P	P	21 17 52.5	+1.0
	comp=Z,7.6nm,1.2s,mb4.5,baz=105,slow=3.6,SNR=12						
SCHQ	Schefferville	78.86	26	P	P	21 18 01.6	-1.0
	comp=Z,6.7nm,0.8s,mb4.6,baz=235,slow=6.9,SNR=4.7						
SCHQ	Schefferville	78.86	26	eP	P	21 18 01.9	-0.6
	comp=Z,6.2nm,0.7s,mb4.7						
KTH	Kantishna Hill	81.41	344	eP	P	21 18 15.1	-1.0
	comp=Z,11nm,0.9s,mb4.8						
INK	Inuvik	82.38	353	LR	LR	21 49 03.6	
	comp=Z,102nm,18.3s,MS4.2,baz=253,slow=31						
COLD	Coldfoot	84.25	347	eP	P	21 18 29.4	-1.4
	comp=Z,57nm,0.6s						
SNAA	Sanae	84.26	163	eP	P	21 18 30.5	-0.5
PETK	Petropavlovsk-	98.97	322	LR	LR	21 58 02.4	
	comp=Z,29nm,18.3s,MS3.8,baz=294,slow=32						
MAW	Mawson	99.42	179	LR	LR	21 59 09.1	
	comp=Z,76nm,18.4s,MS4.2,baz=66,slow=32						
BORG	Borgarnes	103.25	26	eP	Pdif	21 19 58.2	-1.0
TSUM	Tsumeb	123.05	123	ePKPdf	PKPdf	21 24 56.3	-0.8
LBTB	Lobatse	125.79	134	PKIKP	PKPdf	21 25 01.7	-0.5
SONM	Songino Array	131.44	324	PKP	PKPdf	21 25 12.6	+0.3
	comp=Z,0.8nm,0.4s,baz=27,slow=1.6,SNR=5.9						
GZR	Gura Zlata	131.81	40	‖eP	Pdif	21 22 01.0	-5.2
GZR	Gura Zlata	131.81	40	‖P	Pdif	21 22 01.0	-5.2
LSZ	Lusaka	133.67	126	PKIKP	PKPdf	21 25 17.2	-0.2
MKAR	Makanchi Array	143.56	340	PKP	PKPdf	21 25 32.5	-2.1
	comp=Z,0.8nm,0.6s,baz=355,slow=1.5,SNR=6.4						
KIV	Kislovodsk	143.71	28	ePKIKP	PKPdf	21 25 32.1	-2.8
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CMAR	Chiang Mai Arr	147.23	284	PKPbc	PKPbc	21 25 41.2	-2.8
	comp=Z,3.1nm,0.9s,baz=63,slow=1.2,SNR=15						
KMBO	Kilima Mbogo	148.77	115	PKPbc	PKPbc	21 25 47.5	-0.7
	comp=Z,1.7nm,0.9s,baz=226,slow=4.3,SNR=3.8						
TKM2	Tokmak 2	149.05	345	ePKIKP	PKPdf	21 25 43.6	-0.4
TKM2				e		21 25 47.6	
EKS2	Erkin-Say	149.71	348	ePKPdf	PKPdf	21 25 45.0	0.0
EKS2				ePKPbc	PKPbc	21 25 49.5	-0.2
LSA	Lhasa	150.95	309	ePKIKP	PKPdf	21 25 47.0	-0.4
LSA				e		21 25 53.0	

*CSEM **16** 21:20:32.9±0.0, 3997N×3310E, h2km, MD3.7, Error ellipse: s-maj=1.2km s-min=0.9km az=149.0*
*DDA **16** 21:20:33.0, 3990N×3317E, h3km±2km, Md3.7*
*ISK **16** 21:20:33.9, 3997N×3311E, h8km, MD3.7, ML3.8*
*ISCJB **16** 21:20:34.3±0.2, 3997N±002×3309E±002, h10km, Error ellipse: s-maj=2.5km s-min=2.1km az=162.0*
ISC 16 21:20:34.3±0.4, 3996N±002×3311E±002, h1km±4km, n79, σ1§14/105, 2C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	Ankara	0.26	251	PG	Pg	21 20 39.6	+0.3
ANTO				eSG	Sg	21 20 44.1	+1.4
ELDT	Eldivan	0.58	24	iP	Pg	21 20 45.5	-0.1
ELDT				iS	Sg	21 20 55.0	+1.8
KAMT	Kaman	0.75	142	ePG	Pg	21 20 47.3	-1.3
CANT	Cankiri	0.76	31	ePG	Pg	21 20 48.9	+0.1
CANT				eSG	Sg	21 21 00.2	+1.6
SGKT	Sivrigoynuk	1.02	308	iP	Pg	21 20 53.8	-0.1
SGKT				eS	Sg	21 21 08.7	+1.6
CDAG	Cicekdag	1.02	108	iP	Pg	21 20 52.2	-1.7
CDAG				iS	Sg	21 21 06.2	-1.0
CDAG	Cicekdag	1.02	108	iP	Pg	21 20 52.2	-1.8
CDAG				iS	Sg	21 21 06.2	-1.0
CORM	Corum	1.19	79	ePN	Pn	21 20 56.2	-1.8
CORM				eSN	Sn	21 21 13.8	-1.0
ILGA	Ilgaz	1.19	23	iP	Pg	21 20 56.5	-0.6
ILGA				iS	Sg	21 21 13.7	+1.2
ILGA	Ilgaz	1.19	23	iP	Pg	21 20 56.5	-0.6
ILGA				iS	Sg	21 21 13.7	+1.2
TOS	Tosya	1.28	32	ePN	Pn	21 20 58.5	-0.9
TOS				eSN	Sn	21 21 16.2	-1.0
KIZT	Kizilcal	1.44	222	ePN	Pn	21 21 00.9	-0.6
CTKT	Corum	1.45	62	iP	Pn	21 21 00.6	-1.0
CTKT				eS	Sg	21 21 21.4	+0.7
MDU	Mudurnu	1.54	290	ePN	Pg	21 21 03.2	-0.7
BALT	Daday	1.59	7	iP	Pg	21 21 03.2	-1.6
BALT				eS	Sg	21 21 26.4	+1.0
KDHN	Kadinhani	1.63	209	iP	Pg	21 21 03.1	-2.4
KDHN				iS	Sg	21 21 27.2	+0.6
YOZ	Yozgat	1.73	100	ePN	Pn	21 21 05.1	-0.4
AVNT	Avonos	1.79	130	iP	Pn	21 21 04.8	-1.5
AVNT				iS	Sn	21 21 29.2	-0.4
AVNT	Avonos	1.79	130	iP	Pn	21 21 04.8	-1.5
AVNT				iS	Sn	21 21 29.2	-0.5
ESKT	Eskisehir	1.80	257	iP	Pg	21 21 05.2	-3.6
ESKT				eS	Sg	21 21 33.1	+1.0
SEYT	Eskypehyr	1.80	257	iP	Pg	21 21 05.2	-3.6
SEYT				eS	Sg	21 21 33.1	+1.0
LADK	Ladik-KONYA	1.85	199	ePN	Pn	21 21 06.5	-0.6
KDZE	Karadeniz Ereo	1.86	317	ePN	Pn	21 21 07.0	-0.3
HENT	Hendek	1.90	298	iP	Pg	21 21 10.2	-0.6
HENT				iS	Sg	21 21 37.8	+2.4
BYBT	Boyabat	1.96	39	ePN	Pn	21 21 08.1	-0.7
BOYT	Boyabat	2.00	42	iP	Pg	21 21 11.2	-1.4
BOYT				iS	Sg	21 21 38.3	-0.2
BOLV	Bolvadin	2.08	234	iP	Pn	21 21 09.5	-0.9
BOLV				iS	Sn	21 21 40.5	+3.6
KONT	Konya--Tatoy	2.09	197	ePN	Pn	21 21 10.5	0.0
BZK	Bozkurt	2.11	18	ePN	Pn	21 21 10.6	-0.2
GPA	Golpazari	2.18	280	ePN	Pn	21 21 10.8	-0.8
NIG	Nigde	2.18	147	ePN	Pn	21 21 11.9	+0.2
DIKM	Dikmen	2.35	43	ePN	Pn	21 21 13.1	-0.9
BNN	Bunyan	2.39	117	ePN	Pn	21 21 15.5	+1.0
SHUT	Suhut-Afyon	2.43	236	ePN	Pn	21 21 15.0	-0.2
ALT	Altintas	2.49	250	ePN	Pn	21 21 15.6	-0.4
KVT	Kavak	2.50	62	ePN	Pn	21 21 15.7	-0.4
ADVT	Abdulvahap	2.63	282	ePN	Pn	21 21 17.4	-0.5
TOKT	Tokat	2.66	81	ePN	Pn	21 21 18.2	0.0
HRT	Hereke	2.77	289	ePN	Pn	21 21 19.2

STKA **Stephens Creek** 45.70 184 *e*P P 21 34 13.0 +1.1
1.3nm,0.4s,mb3.9
SONM **Songino Array** 46.33 325 P P 21 34 15.1 -1.5
0.2nm,0.3s,mb3.2,baz=127,slow=8.1,SNR=2.9
TLY **Talaya** 49.95 328 *e*P P 21 34 43.6 -0.7
3.0nm,0.5s,mb4.2
LSA **Lhasa** 51.70 297 *e*P P 21 35 00.2 +2.4
1.9nm,0.4s,mb4.1
MKAR **Makanchi Array** 61.11 316 P P 21 36 05.3 +1.4
0.4nm,0.3s,mb3.7,baz=86,slow=7.8,SNR=5.5
BRVK **Borovoye** 69.60 322 *e*P P 21 36 56.7 -1.6
1.1nm,0.6s,mb3.8
KBL **Kabul** 70.51 302 *e*P P 21 37 03.9 -0.3
YKA **Yellowknife Ar** 82.56 27 P P 21 38 11.0 -0.2
0.2nm,0.5s,mb3.1,baz=288,slow=5.1,SNR=2.4
HOOD **Mount Hood Mea** 82.70 45 P P 21 38 10.8 -1.4
NVAR **Mina Array Bea** 86.77 51 P P 21 38 36.4 +3.6
0.2nm,0.3s,mb3.4,baz=263,slow=5.4,SNR=3.3
TORD **Torodi Ar. Bea** 134.53 305 PKP PKPdf 21 45 08.6 +2.1
0.2nm,0.5s,baz=0.0,slow=0.3,SNR=4.9

IDC 16 22:17:42.4±1.4,1433N×14554E,h0km,mb3.6/5, mb1 3.9/5,mb1mx3.7/19,mbtmp3.6/5,Error ellipse: s-maj=51.0km s-min=24.7km az=86.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	35.80	198	P	P	22 24 43.0	-0.6
1.4nm,0.7s,baz=23,slow=10,SNR=5.9							
ASAR	**Alice Springs**	39.44	197	P	P	22 25 15.0	+0.6
0.4nm,0.8s,baz=23,slow=13,SNR=4.3							
SONM	**Songino Array**	46.51	324	P	P	22 26 11.6	+0.1
0.6nm,0.5s,baz=127,slow=9.2,SNR=3.0							
MKAR	**Makanchi Array**	61.42	316	P	P	22 28 00.5	0.0
0.2nm,0.3s,baz=87,slow=7.4,SNR=6.3							
NVAR	**Mina Array Bea**	85.95	52	P	P	22 30 25.1	+0.4
0.4nm,0.6s,baz=273,slow=4.7,SNR=3.8							

*ISCJB **16** 22:30:33.0±1.3,977S±009×15945E±009,h23km±11km, mb4.1/11,Error ellipse: s-maj=18.9km s-min=10.4km az=136.2*
*IDC **16** 22:30:33.5±2.8,979S×15953E,h16km±21km,mb4.1/9, mb1 4.2/10,mb1mx4.0/18,mbtmp4.1/10,ML3.4/1,MS3.3/1, Ms1 3.3/1,ms1mx2.8/22,Error ellipse: s-maj=31.1km s-min=16.7km az=113.0*
*NEIC **16** 22:30:34.2±1.1,974S×15952E,h20km±8km,mb4.3/4, Error ellipse: s-maj=10.9km s-min=6.1km az=136.0*
ISC 16 22:30:34.1±1.4,977S±009×15952E±009,h19km±9km,n33, σ0:65/32,mb4.1/11,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	0.54	51	Pg	Pg	22 30 44.4	-0.6
1μm,0.3s,baz=247,slow=2.3,SNR=181							
HNR				Lg		22 30 51.8	
6μm,0.3s,baz=240,slow=20,SNR=160							
HNR	**Honiara**	0.54	51	*e*P	Pb	22 30 44.6	-0.3
HNR				Lg		22 30 51.8	
HNR				*e*S	Sg	22 30 52.9	+0.6
PMG	**Port Moresby**	12.19	271	Pn	Pn	22 33 26.3	-0.5
CTA	**Charters Tower**	16.40	230	Pn	Pn	22 34 25.2	+1.8
0.1nm,0.3s,baz=43,slow=8.5,SNR=4.8							
CTA	**Charters Tower**	16.40	230	Pn	Pn	22 34 25.2	+1.8
CTAO	**Charters Tower**	16.40	230	*e*P	Pn	22 34 28.4	+5.0
17nm,1.1s							
WRAB	**Tennant Creek**	26.30	245	*e*P	P	22 36 08.6	-0.2
5.5nm,0.8s,mb4.1							
WB2	**Warramunga Arr**	26.31	245	*e*P	P	22 36 08.9	+0.2
WRA	**Warramunga Arr**	26.32	245	P	P	22 36 08.8	-0.1
5.1nm,0.7s,mb4.2,baz=72,slow=10,SNR=13							
STKA	**Stephens Creek**	27.56	214	P	P	22 36 19.8	-0.1
2.8nm,0.8s,mb3.9,baz=52,slow=12,SNR=3.4							
ASAR	**Alice Springs**	28.09	237	P	P	22 36 23.3	-1.4
1.5nm,0.9s,mb3.6,baz=63,slow=10,SNR=7.7							
FITZ	**Fitzroy Crossi**	33.86	252	*e*P	P	22 37 16.1	+0.4
KKM	**Kota Kinabalu**	45.91	288	*e*P	P	22 38 56.5	+0.6
MJAR	**Matsushiro Arr**	50.24	338	P	P	22 39 28.3	-0.7
0.7nm,0.5s,mb3.9,baz=169,slow=8.6,SNR=5.6							
KSRS	**Korea Array**	55.52	330	P	P	22 40 09.1	+1.1
1.5nm,0.5s,mb4.3,baz=142,slow=8.0,SNR=9.5							
YSS	**Yuzh-Sakhalins**	58.42	347	*e*P	P	22 40 28.1	-0.2
COCO	**West Island**	61.47	261	P	P	22 40 50.3	+0.3
ENH	**Enshi**	62.41	312	P	P	22 40 55.6	-0.4
VNDA	**Vanda**	67.74	179	P	P	22 41 30.2	+0.3
2.2nm,0.7s,mb4.3,baz=340,slow=6.2,SNR=22							
VNDA	**Vanda**	67.74	179	*e*P	P	22 41 30.0	+0.1
2.3nm,0.8s,mb4.3							
SBA	**Scott Base**	68.17	178	*e*P	P	22 41 32.1	-0.4
SONM	**Songino Array**	74.10	326	P	P	22 42 09.8	+0.9
1.1nm,0.7s,mb3.9,baz=148,slow=6.6,SNR=4.7							
KDAK	**Kodiak Island**	77.78	24	P	P	22 42 28.9	-0.8
3.1nm,0.9s,mb4.2,baz=270,slow=9.1,SNR=2.7							
MCK	**McKinley**	83.01	21	*e*P	P	22 42 57.2	-0.5
10nm,1.1s,mb4.8							
MK31	**Makanchi Array**	88.44	318	*e*P	P	22 43 25.4	+0.4
MK31				*e*	pP	22 43 30.2	-1.2
MKAR	**Makanchi Array**	88.44	318	P	P	22 43 25.2	+0.1
0.6nm,0.6s,mb4.0,baz=95,slow=5.6,SNR=7.1							
MKAR	**Makanchi Array**	88.44	318	P	P	22 43 25.2	+0.1
KURK	**Kurchatov**	91.78	321	P	P	22 43 40.0	-0.5
TKM2	**Tokmak 2**	92.16	313	*e*P	P	22 43 43.0	+0.5
EKS2	**Erkin-Say**	93.43	313	*e*P	P	22 43 47.6	-0.8
MSU	**Marysvale**	94.69	52	*e*P	P	22 43 55.4	+1.1
KIV	**Kislovodsk**	115.97	314	PKPdf	PKPdf	22 49 16.4	+0.6
LSZ	**Lusaka**	125.74	243	*e*PKPdf	PKPdf	22 49 35.5	+0.1

*ISCJB **16** 22:37:58.1±1.3,1915N±005×1455E±01,h189km±12km, mb4.1/17,Error ellipse: s-maj=16.2km s-min=7.9km az=177.5*
*NEIC **16** 22:37:58.9±1.2,1916N×14549E,h180km±11km,mb4.5/8, Error ellipse: s-maj=11.3km s-min=6.0km az=89.0*
*MOS **16** 22:37:58.1±0.9,1915N×14545E,h192km,mb4.7/4,Error ellipse: s-maj=23.2km s-min=8.9km az=95.0*
*IDC **16** 22:37:59.1±2.3,1914N×14556E,h182km±22km,mb3.6/11, mb1 3.8/14,mb1mx3.7/24,mbtmp3.6/14,Error ellipse: s-maj=22.5km s-min=12.6km az=83.0*
ISC 16 22:37:59.2±1.2,1915N±005×1455E±01,h182km±12km, n51,σ0:84/51,mb4.1/17,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	5.56	186	P	Pn	22 39 20.0	-0.5
28nm,0.3s,baz=18,slow=16,SNR=5.3							
CBIJ	**Chichi jima**	8.48	340	P	Pn	22 39 58.2	-0.5
12nm,0.3s,baz=277,slow=24,SNR=5.4							
MJAR	**Matsushiro Arr**	18.48	341	P	P	22 42 02.1	+0.9
1.0nm,0.3s,baz=137,slow=28,SNR=11							
MAJO	**Matsushiro**	18.48	341	*e*P	P	22 42 02.5	+1.2
MAJO				pmax	pmax		
comp=Z,9.0nm,0.4s							
MAJO	**Matsushiro**	18.48	341	*e*Pn	Pn	22 42 02.5	-1.2
comp=Z,9.0nm,0.4s							
MAT	**Matsushiro**	18.48	341	P	P	22 42 02.1	+0.8
NACB	**Ninganchiao**	22.75	287	*e*P	P	22 42 46.3	+0.4
comp=Z,20nm,0.7s,mb4.7							
TATO	**Taipei**	22.98	289	P	P	22 42 47.5	-0.4
KSRS	**Korea Array**	23.84	324	P	P	22 42 56.8	+1.1
comp=Z,3.6nm,0.6s,mb4.1,baz=148,slow=8.8,SNR=21							
YSS	**Yuzh-Sakhalins**	27.82	356	*e*P	P	22 43 31.0	-0.3
YSS	**Yuzh-Sakhalins**	27.82	356	P	P	22 43 31.0	-0.3
PMG	**Port Moresby**	28.42	177	*e*P	P	22 43 36.3	-0.6
PMG				pmax	pmax		
comp=Z,15nm,0.9s							
PMG	**Port Moresby**	28.42	177	*e*P	P	22 43 36.3	-0.6
comp=Z,15nm,0.9s,mb4.7							
WRAB	**Tennant Creek**	40.34	196	*e*P	P	22 45 19.4	+0.3
WRAB				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.4							
WRAB	**Tennant Creek**	40.34	196	*e*P	P	22 45 19.4	+0.3
comp=Z,9.9nm,1.1s,mb4.3							
WB2	**Warramunga Arr**	40.35	196	*e*P	P	22 45 19.2	0.0
WRA	**Warramunga Arr**	40.36	196	P	P	22 45 20.0	+0.8
comp=Z,3.8nm,0.9s,mb4.0,baz=14,slow=8.3,SNR=11							
SONM	**Songino Array**	42.67	321	P	P	22 45 38.9	+1.1
comp=Z,1.4nm,0.6s,mb3.8,baz=134,slow=8.9,SNR=7.0							
ASAR	**Alice Springs**	44.03	195	P	P	22 45 48.2	-0.6
comp=Z,0.3nm,0.5s,baz=20,slow=13,SNR=6.1							
TLY	**Talaya**	46.09	325	*e*P	P	22 46 03.4	-1.4
MBWA	**Marble Bar**	47.34	213	*e*P	P	22 46 15.6	+0.8
BILL	**Bilibino**	50.61	10	*e*P	P	22 46 40.4	+1.3
BILL	**Bilibino**	50.61	10	P	P	22 46 40.4	+1.3
STKA	**Stephens Creek**	50.87	184	P	P	22 46 41.4	0.0
ZALV	**Zalesovo Beam**	57.54	322	P	P	22 47 29.2	-0.3
comp=Z,0.8nm,0.4s,mb3.9,baz=138,slow=11,SNR=5.2							
ZALV	**Zalesovo Beam**	57.54	322	P	P	22 47 29.2	-0.3
ZAL	**Zalesovo**	57.55	322	P	P	22 47 29.2	-0.3
MKAR	**Makanchi Array**	58.01	314	P	P	22 47 33.3	+0.5
comp=Z,0.4nm,0.6s,mb3.4,baz=73,slow=11,SNR=6.5							
MKAR				PcP	PcP	22 48 21.4	-1.4
comp=Z,0.4nm,0.7s,baz=80,slow=4.3,SNR=4.1							
NWAO	**Narrogin (SRO)**	58.40	208	*e*P	P	22 47 35.6	0.0
NWAO				pmax	pmax		
comp=Z,6.0nm,0.8s							
NWAO	**Narrogin (SRO)**	58.40	208	*e*P	P	22 47 35.6	-0.1
comp=Z,6.5nm,0.8s,mb4.5							
KTH	**Kantishna Hill**	61.33	27	*e*P	P	22 47 55.1	0.0
comp=Z,5.5nm,0.9s,mb4.4							
BPAW	**Bear Paw Mtn.**	61.45	27	*e*P	P	22 47 56.3	+0.4
comp=Z,2μm,0.6s							
TAU	**Tasmania Unive**	61.77	178	*e*P	P	22 47 59.3	+1.0
TAU				pmax	pmax		
comp=Z,15nm,0.9s,mb4.8							
TAU	**Tasmania Unive**	61.77	178	*e*P	P	22 47 59.3	+1.0
comp=Z,16nm,0.9s,mb4.8							
BRVK	**Borovoye**	66.07	320	*e*P	P	22 48 26.4	0.0
BRVK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.1							
BRVK	**Borovoye**	66.07	320	*e*P	P	22 48 26.4	0.0
comp=Z,1.6nm,0.6s,mb4.0							
HYT	**Haines Junctio**	67.15	31	*e*P	P	22 48 34.9	+1.9
INK	**Inuvik**	69.04	23	P	P	22 48 44.4	-0.3
comp=Z,2.7nm,0.7s,mb4.1,baz=306,slow=6.1,SNR=4.4							
INK	**Inuvik**	69.04	23	*e*P	P	22 48 43.8	-0.9
YKA	**Yellowknife Ar**	77.69	28	P	P	22 49 34.9	-0.4
comp=Z,1.5nm,0.7s,mb3.7,baz=289,slow=5.5,SNR=7.7							
RES	**Resolute Bay**	79.04	14	P	P	22 49 41.7	-0.8
KEV	**Kevo**	81.45	342	*e*pkp	P	22 49 53.6	-1.9
WVOR	**Wild Horse Val**	81.51	48	*e*P	P	22 49 55.7	-0.7
ARCES	**ARCESS Array B**	82.01	342	P	P	22 49 58.1	-0.3
comp=Z,1.8nm,0.5s,mb4.0,baz=86,slow=8.2,SNR=27							
NVAR	**Mina Array Bea**	83.02	52	P	P	22 50 05.0	+0.8
comp=Z,3.5nm,0.8s,mb4.1,baz=268,slow=6.6,SNR=18							
JOF	**Joensuu**	83.53	335	*e*pkp	P	22 50 04.7	-1.7
OBN	**Obninsk**	84.80	327	*e*P	P	22 50 12.9	0.0
OBN	**Obninsk**	84.80	327	P	P	22 50 12.9	0.0
KAF	**Kangasniemi**	85.93	336	*e*pkp	P	22 50 15.0	-3.4
PDAR	**Pinedale Array**	87.65	45	P	P	22 50 27.1	0.0
comp=Z,0.3nm,0.5s,mb3.4,baz=104,slow=1.1,SNR=3.3							
FCC	**Fort Churchill**	88.35	27	P	P	22 50 29.9	-0.1

*ISCJB **16** 22:49:43.5±0.2,1354S±004×7672W±006,h24km, mb4.8/68,MS4.3/19,Error ellipse: s-maj=9.2km s-min=4.0km az=149.9*
*IDC **16** 22:49:45.4±0.8,1351S×7669W,h24km±5km,mb4.4/18, mb1 4.5/21,mb1mx4.5/23,mbtmp4.4/21,ML4.3/1,MS4.3/19, Ms1 4.3/19,ms1mx4.2/23,Error ellipse: s-maj=19.9km s-min=10.6km az=70.0*
*MOS **16** 22:49:45.3±0.9,1342S×7668W,h33km,mb5.2/18,Error ellipse: s-maj=11.6km s-min=7.4km az=116.4*
*NEIC **16** 22:49:47.4±0.7,1351S×7662W,h38km±6km,mb4.9/50, Error ellipse: s-maj=7.4km s-min=3.7km az=58.0*
NEIC Felt [III] at Pisco.
*BJI **16** 22:49:49.3,1350S×7660W,h38km*
ISC 16 22:49:45.9±0.2,1353S±004×7661W±006,h26km, h26km±1.0km:pP-P,n191,σ0:85/175,mb4.8/68,MS4.3/19, 4C,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	1.55	352	Pn	Pn	22 50 11.4	-0.4
592nm,0.3s,baz=179,slow=13,SNR=102							
NNA				Sn	Sn	22 50 31.8	+0.7
3μm,0.3s,baz=196,slow=13,SNR=12							
ARE	**Arequipa**	5.74	121	*e*P	Pn	22 51 11.0	+1.5
ARE				*e*S	Sn	22 52 34.0	+19
ATAH	**Atahualpa**	6.72	345	Pn	Pn	22 51 23.3	+0.4
3.9nm,0.3s,baz=174,slow=5.0,SNR=14							
ATAH				Sn	Sn	22 52 40.7	+2.0
4.1nm,0.3s,baz=71,slow=15,SNR=2.1							
LPAZ	**La Paz**	8.65	110	Pn	Pn	22 51 54.7	+5.3
3.5nm,0.3s,baz=301,slow=12,SNR=43							
LPAZ				Sn	Sn	22 53 41.1	+15
baz=192,slow=20,SNR=4.7							
LPAZ				LR	LR	22 56 02.3	
comp=Z,2μm,19.7s,baz=291,slow=43							
LVC	**Limon Verde**	11.63	142	Pn	Pn	22 52 30.8	+0.6
7.4nm,0.3s,baz=302,slow=9.5,SNR=61							
LVC				Sn	Sn	22 54 43.9	+4.6
2.6nm,0.3s,baz=100,slow=18,SNR=3.6							
LVC				LR	LR	22 57 33.1	
comp=Z,1μm,18.9s,baz=306,slow=40							
LVC	**Limon Verde**	11.63	142	*e*Pn	Pn	22 52 31.1	+0.9
OTAV	**Otavalo**	13.80	352	*e*Pn	Pn	22 53 01.7	+1.8
SIV	**San Ignacio**	15.23	101	Pn	Pn	22 53 19.2	0.0
0.6nm,0.3s,baz=278,slow=13,SNR=22							
ROSC	**El Rosal**	18.40	7	P	Pn	22 54 02.7	+3.3
0.7nm,0.3s,baz=256,slow=19,SNR=2.9							
ROSC				LR	LR	23 02 01.4	
comp=Z,1μm,20.2s,baz=19,slow=40							
ROSC	**El Rosal**	18.40	7	P	Pn	22 54 00.7	+1.3
CFAA	**Coronel Fontan**	19.57	158	P	Pn	22 54 13.3	0.0
0.2nm,0.3s,baz=336,slow=12,SNR=22							
CFAA				LR	LR	23 00 29.5	
comp=Z,33nm,18.8s,baz=341,slow=33							
CFAA	**Coronel Fontan**	19.57	158	P	Pn	22 54 13.3	0.0
CFAA				LR	LR	23 00 29.5	
CPUP	**Villa Florida**	22.12	128	P	P	22 54 39.0	-0.4
12nm,0.9s,mb4.3,baz=298,slow=10,SNR=15							
CPUP				LR	LR	23 05 07.9	
comp=Z,792nm,19.7s,MS4.1,baz=290,slow=42							
CPUP	**Villa Florida**	22.12	128	*e*P	P	22 54 39.9	+0.4
CPUP				pmax	pmax		
comp=Z,39nm,0.8s							
CPUP	**Villa Florida**	22.12	128	*e*P	P	22 54 39.9	+0.4
comp=Z,39nm,0.8s,mb4.9							
CPUP				LR	LR	23 05 07.9	
SDV	**Santo Domingo**	23.05	15	P	P	22 54 48.9	-0.5
comp=Z,20nm,0.8s,mb4.6,baz=218,slow=4.0,SNR=14							
SDV				LR	LR	23 04 57.4	
comp=Z,831nm,18.3s,MS4.2,baz=26,slow=40							
SDV	**Santo Domingo**	23.05	15	Pn	P	22 54 50.4	+1.0
PCRV	**Puerto La Cruz**	26.38	27	P	P	22 55 19.5	-0.8
comp=Z,10nm,0.8s,mb4.5,baz=219,slow=6.5,SNR=3.1							
PCRV				LR	LR	23 06 40.5	
comp=Z,2μm,18.0s,MS4.7,baz=204,slow=38							
PLCA	**Paso Flores**	27.62	170	P	P	22 55 31.4	+0.2
comp=Z,12nm,1.1s,mb4.5,baz=338,slow=9.6,SNR=13							
PLCA				LR	LR	23 04 29.1	
comp=Z,212nm,18.4s,MS3.8,baz=335,slow=32							
BDFB	**Brasilia**	27.75	98	P	P	22 55 32.4	-0.3
comp=Z,1.6nm,0.5s,mb3.9,baz=243,slow=21,SNR=4.4							
BDFB				LR	LR	23 07 08.3	
comp=Z,465nm,18.1s,MS4.1,baz=96,slow=38							
TGUH	**Tegucigalpa,Un**	29.37	339	P	P	22 55 46.5	-0.6
MPR	**Mayaguez**	32.89	17	*e*P	P	22 56 23.7	+5.6
SJG	**San Juan**	33.09	18	*e*P	P	22 56 19.1	-0.7
AOPR	**Arecibo Observ**	33.13	17	*e*P	P	22 56 19.9	-0.3
comp=Z,9.9nm,0.6s,mb4.9							
TEIG	**Tepich**	35.45	341	*e*P	P	22 56 39.7	-0.6
USHA	**Ushuaia**	41.70	173	P	P	22 57 31.1	-1.2
comp=Z,13nm,0.9s,mb4.5,baz=292,slow=6.3,SNR=4.3							
BBSR	**BB Station**	47.00	14	*e*P	P	22 58 15.0	-0.3
SWET	**Sewanee**	49.27	350	*e*P	P	22 58 31.1	-1.4
CPCT	**Cooper Cave**	49.28	351	*e*P	P	22 58 32.2	-0.4
OXF	**Oxford**	49.30	346	*e*P	P	22 58 31.1	-1.6
TKL	**Tuckaleechee C**	49.38	352	*e*P	P	22 58 32.3	-1.0
TKL				*e*		22 59 53.0	
PLAL	**Pickwick Lake**	49.45	348	*e*P	P	22 58 32.4	-1.5
TXAR	**Lajitas Array**	49.98	329	P	P	22 58 36.8	-1.2
comp=Z,1.1nm,0.8s,mb3.9,baz=133,slow=8.7,SNR=5.7							
TXAR				LR	LR	23 18 29.7	
comp=Z,197nm,18.7s,MS4.1,baz=110,slow=34							
TZTN	**Tazewell**	50.23	353	*e*P	P	22 58 39.0	-0.8
comp=Z,10nm,0.8s,mb4.9							
MIAR	**Mount Ida**	50.45	342	*e*P	P	22 58 40.8	-0.7
MIAR				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.7							
MIAR	**Mount Ida**	50.45	342	*e*P	P	22 58 40.8	-0.6
comp=Z,7.3nm,0.9s,mb4.7							
ELN	**Prospectdale**	50.63	356	*e*P	P	22 58 42.2	-0.5
WCI	**Wyandotte Cave**	52.28	350	*e*P	P	22 58 54.0	-1.1
WCI				pmax	pmax		
comp=Z,18nm,1.0s,mb5.0							
WCI	**Wyandotte Cave**	52.28	350	*e*P	P	22 58 54.0	-1.1
comp=Z,18nm,1.0s,mb5.0							
SIUC	**Southern Illin**	52.33	347	*e*P	P	22 58 54.5	-1.0
WMOK	**Wichita Mounta**	52.41	337	*e*P	P	22 58 55.0	-1.2
WMOK				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
WMOK	**Wichita Mounta**	52.41	337	*e*P	P	22 58 55.0	-1.2
comp=Z,1.4nm,0.6s,mb4.1							
SDMD	**Soldier's Deli**	52.66	360	*e*P	P	22 58 58.4	+0.5
BLO	**Bloomington**	53.23	350	*e*P	P	22 59 01.2	-0.9
MVL	**Millersville**	53.25	0	*e*P	P	22 58 58.3	-3.9
ACSO	**Alum Creek Sta**	53.81	354	*e*P	P	22 59 05.6	-0.8
BINY	**Binghamton**	55.45	1	*e*P	P	22 59 18.1	-0.1
comp=Z,30nm,0.9s,mb5.3							
KSU1	**Kansas State U**	55.59	341	P	P	22 59 19.0	-0.2
LAZ	**Ladron**	55.80	329	*e*P	P	22 59 21.4	+0.5
RKT	**Rikitea**	55.91	251	*e*S	S	23 07 09.8	+1.2
comp=Z,115nm,28.2s							
RKT				*e*LR	LR	23 15 37.2	
comp=Z,382nm,26.2s							
ANMO	**Albuquerque**	55.91	330	*e*P	P	22 59 22.2	+0.5
ANMO				pmax	pmax		
comp=Z,4.0nm,0.9s							
ANMO	**Albuquerque**	55.91	330	*e*P	P	22 59 22.2	+0.5
comp=Z,3.9nm,0.9s,mb4.4							
TUC	**Tucson**	56.10	325	*e*P	P	22 59 22.3	-0.8
TUC				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
TUC	**Tucson**	56.10	325	*e*P	P	22 59 22.3	-0.8
comp=Z,2.8nm,0.8s,mb4.3							
ACCN	**Adirondack Com**	56.70	3	*e*P	P	22 59 26.9	-0.2
comp=Z,28nm,1.0s,mb5.2							
NCB	**Newcomb**	57.26	2	*e*P	P	22 59 31.5	+0.4
comp=Z,9.0nm,0.7s,mb4.9							
LBNH	**Lisbon**	57.65	4	*e*P	P	22 59 34.9	+1.1
LBNH				pmax	pmax		
comp=Z,16nm,1.0s,mb5.0							
LBNH	**Lisbon**	57.65	4	*e*P	P	22 59 34.9	+1.2
comp=Z,16nm,1.0s,mb5.0							
SDCO	**Great Sand Dun**	57.77	333	*e*P	P	22 59 33.4	-1.3
comp=Z,2.3nm,0.7s,mb4.3							
LONY	**Lake Ozonia**	57.90	2	*e*P	P	22 59 35.8	+0.3
comp=Z,30nm,1.5s,mb5.1							
FRNY	**Flat Rock**	58.15	3	*e*P	P	22 59 37.3	0.0
comp=Z,34nm,0.9s,mb5.4							
PV01	**Paradox Valley**	59.48	331	*e*P	P	22 59 47.9	+1.2
PV01				*e*	pP	22 59 55.3	+0.5
ECSD	**EROS,Sioux Fal**	59.84	343	*e*P	P	22 59 48.3	-0.8
comp=Z,7.7nm,0.8s,mb4.8							
SRU	**San Rafael**	61.19	330	*e*P	P	22 59 59.5	+1.1
SRU				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.5							
SRU	**San Rafael**	61.19	330	*e*P	P	22 59 59.5	+1.1
comp=Z,4.2nm,1.1s,mb4.5							
MSU	**Marysvale**	61.54	329	*e*P	P	23 00 00.8	0.0
TAOE	**Nuku Hiva Isla**	62.36	267	*e*LR	LR	23 18 45.2	
comp=Z,2μm,25.0s							
TPNV	**Topopah Spring**	62.55	325	*e*P	P	23 00 09.6	+2.0
TPNV				*e*	pP	23 00 15.6	-0.1
TPNV				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.6							
TPNV	**Topopah Spring**	62.55	325	*e*P	P	23 00 09.6	+2.0
comp=Z,4.3nm,0.8s,mb4.6							
TPNV				*e*	pP	23 00 15.6	-0.1
DAU	**Daniels Canyon**	62.56	331	*e*P	P	23 00 08.1	+0.5
RSSD	**Black Hills**	62.58	338	*e*P	P	23 00 07.8	+0.2
RSSD				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.5							
RSSD	**Black Hills**	62.58	338	*e*P	P	23 00 07.8	+0.1
comp=Z,4.1nm,1.1s,mb4.5							
DUG	**Dugway**	63.14	330	*e*P	P	23 00 12.7	+1.2
DUG				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.9							
DUG	**Dugway**	63.14	330	*e*P	P	23 00 12.7	+1.2
comp=Z,9.1nm,0.9s,mb4.9							
HWUT	**Hardware Ranch**	63.63	331	*e*P	P	23 00 13.5	-1.2
comp=Z,8.4nm,0.9s,mb4.8							
HWUT				*e*	pP	23 00 22.5	-0.3
PDAR	**Pinedale Array**	63.65	333	P	P	23 00 14.7	-0.1
comp=Z,1.5nm,0.9s,mb4.0,baz=148,slow=6.8,SNR=10							
PDAR				pP	pP	23 00 21.4	-1.4
comp=Z,1.5nm,0.8s,baz=128,slow=9.0,SNR=7.3							
PDAR				LR	LR	23 27 50.2	
comp=Z,117nm,20.4s,MS4.0,baz=330,slow=36							
SPUT	**South Promonto**	63.82	331	*e*P	P	23 00 16.7	+0.8
AGMN	**Agassiz Refuge**	63.89	346

SNAA	Sanae	72.15	161	eP		P	23 01 07.9	0.0
	comp=Z,15nm,0.9s,mb4.9							
SNAA				ePP	PP		23 03 47.4	-0.8
EDM	Edmonton	73.56	338	eP		P	23 01 15.9	-0.5
LIC	Lamto	73.71	79	⇑iP		P	23 01 18.3	+0.1
	comp=Z,41nm,1.1s,mb5.0,baz=271							
LIC				eMLR	MLR			
	comp=Z,570nm,22.0s,MS4.5							
LIC	Lamto	73.71	79	eP		P	23 01 18.2	0.0
	comp=Z,52nm,1.1s,mb5.4							
LIC	Lamto	73.71	79	⇑iP		P	23 01 18.3	+0.1
	comp=Z,21nm,1.1s,mb5.0							
LIC				LR	LR			
	comp=Z,290nm,22.0s,MS4.5							
TIC	Toumodi	73.84	79	eP		P	23 01 17.8	-1.1
	comp=Z,128nm,1.5s,mb5.6							
TIC	Toumodi	73.84	79	eP		P	23 01 17.8	-1.1
TIC				pmax	pmax			
	comp=Z,128nm,1.5s,mb5.6							
DBIC	Dimbokro	74.00	79	P		P	23 01 20.6	+0.7
	comp=Z,11nm,0.7s,mb4.9,baz=234,slow=6.1,SNR=20							
DBIC				LR	LR		23 32 46.4	
	comp=Z,375nm,18.3s,MS4.7,baz=226,slow=35							
DBIC	Dimbokro	74.00	79	P		P	23 01 20.6	+0.7
DBIC				LR	LR		23 32 46.4	
KIC	Kosan Boka	74.03	79	eP		P	23 01 20.4	+0.4
	comp=Z,109nm,0.8s,mb5.8							
QSPA	South Pole Qui	76.61	180	LR	LR		23 29 53.5	
	comp=Z,86nm,18.1s,MS4.1,baz=149,slow=31							
YKA	Yellowknife Ar	81.37	343	P		P	23 01 59.2	-0.6
	comp=Z,4.4nm,0.9s,mb4.4,baz=137,slow=5.4,SNR=20							
YKA	Yellowknife Ar	81.37	343	P		P	23 01 59.2	-0.6
YKW3	Yellowknife Ar	81.43	343	eP		P	23 01 59.9	-0.3
TORD	Torodi Ar. Bea	81.98	74	P		P	23 02 04.8	+0.6
	comp=Z,26nm,1.0s,mb5.1,baz=262,slow=4.9,SNR=79							
TORD				LR	LR		23 38 03.9	
	comp=Z,232nm,18.2s,MS4.6,baz=220,slow=35							
EVO	Evora	82.29	47	⇑iP		P	23 02 06.5	+1.2
	comp=Z,37nm,0.9s,mb5.0							
EVO				eMLR	MLR			
	comp=Z,200nm,21.2s,MS4.2							
VNDA	Vanda	83.33	191	P		P	23 02 11.0	+0.9
	comp=Z,2.8nm,0.9s,mb4.3,baz=130,slow=3.6,SNR=18							
VNDA				LR	LR		23 33 24.6	
	comp=Z,86nm,18.1s,MS4.2,baz=24,slow=31							
ESDC	Sonseca Array	85.64	48	P		P	23 02 23.6	+1.3
	comp=Z,3.7nm,0.9s,mb4.6,baz=256,slow=5.8,SNR=15							
ESDC				LR	LR		23 40 10.0	
	comp=Z,132nm,19.1s,MS4.3,baz=260,slow=35							
SYO	Syowa Base	86.44	161	⇑eP		P	23 02 24.5	-1.4
TAM	Tamanrasset	88.09	66	eP		P	23 02 36.2	+1.5
ETSF	Etsaut	89.16	46	eP		P	23 02 40.2	+0.9
ROSF	Rostrenen	89.26	40	eP		P	23 02 39.1	-0.5
	comp=Z,22nm,1.0s,mb5.1							
ROSF	Rostrenen	89.26	40	eP		P	23 02 39.1	-0.5
ROSF				pmax	pmax			
	comp=Z,11nm,1.0s,mb5.1							
ROSF	Rostrenen	89.26	40	eP		P	23 02 39.1	-0.5
	comp=Z,11nm,1.0s,mb5.1							
SUMG	Summit	89.50	11	eP		P	23 02 41.0	+0.8
	comp=Z,4.5nm,1.0s,mb4.8							
SUMG				e	pP		23 02 48.7	+0.2
MFF	Saint Martin d	90.65	42	eP		P	23 02 45.2	-1.0
	comp=Z,24nm,1.1s,mb5.1							
MFF	Saint Martin d	90.65	42	eP		P	23 02 45.2	-1.0
MFF				pmax	pmax			
	comp=Z,12nm,1.1s,mb5.1							
MFF	Saint Martin d	90.65	42	eP		P	23 02 45.2	-1.0
	comp=Z,12nm,1.1s,mb5.1							
LFF	La Frestale	90.71	44	eP		P	23 02 46.5	0.0
	comp=Z,68nm,1.4s,mb5.5							
LFF	La Frestale	90.71	44	eP		P	23 02 46.5	0.0
LFF				pmax	pmax			
	comp=Z,34nm,1.4s,mb5.5							
LFF	La Frestale	90.71	44	eP		P	23 02 46.5	0.0
	comp=Z,34nm,1.4s,mb5.5							
DAWY	Dawson	90.75	337	eP		P	23 02 45.7	-0.5
INK	Inuvik	91.05	342	eP		P	23 02 47.6	+0.1
MTLF	Montolieu	91.23	46	eP		P	23 02 48.7	-0.2
	comp=Z,12nm,1.0s,mb4.8							
MTLF	Montolieu	91.23	46	eP		P	23 02 48.7	-0.2
MTLF				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.9							
MTLF	Montolieu	91.23	46	eP		P	23 02 48.7	-0.2
	comp=Z,5.8nm,1.0s,mb4.9							
LDF	La Druitiere	91.32	40	eP		P	23 02 48.2	-1.0
	comp=Z,28nm,1.1s,mb5.2							
LDF	La Druitiere	91.32	40	eP		P	23 02 48.2	-1.0
LDF				pmax	pmax			
	comp=Z,14nm,1.1s,mb5.2							
LDF	La Druitiere	91.32	40	eP		P	23 02 48.2	-1.0
	comp=Z,14nm,1.1s,mb5.2							
CAF	Calviac	91.60	44	eP		P	23 02 50.5	-0.1
EGAK	Eagle	91.77	337	eP		P	23 02 48.3	-2.6
	comp=Z,6.4nm,0.9s,mb5.0							
EGAK				e	pP		23 02 57.7	-1.6
TCF	Toulx Ste Croi	92.10	43	eP		P	23 02 52.6	-0.3
	comp=Z,28nm,1.4s,mb5.1							
TCF	Toulx Ste Croi	92.10	43	eP		P	23 02 52.6	-0.3
TCF				pmax	pmax			
	comp=Z,14nm,1.4s,mb5.1							
TCF	Toulx Ste Croi	92.10	43	eP		P	23 02 52.6	-0.3
	comp=Z,14nm,1.4s,mb5.1							
BGF	Bois d'Agland	92.60	43	eP		P	23 02 55.0	-0.2
	comp=Z,11nm,0.9s,mb5.0							
BGF	Bois d'Agland	92.60	43	eP		P	23 02 55.0	-0.2
BGF				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb5.0							
BGF	Bois d'Agland	92.60	43	eP		P	23 02 55.0	-0.2
	comp=Z,5.7nm,0.9s,mb5.0							
AVF	Avril sur Loir	93.00	43	eP		P	23 02 56.4	-0.7
SMF	Signal de Mont	93.29	43	eP		P	23 02 58.1	-0.3
	comp=Z,14nm,1.2s,mb5.0							
SMF	Signal de Mont	93.29	43	eP		P	23 02 58.1	-0.3
SMF				pmax	pmax			
	comp=Z,7.0nm,1.2s,mb5.0							
SMF	Signal de Mont	93.29	43	eP		P	23 02 58.1	-0.3
	comp=Z,7.2nm,1.2s,mb5.0							
VIVF	Saint-Julien-l	93.36	45	eP		P	23 02 59.2	+0.5
	comp=Z,24nm,1.2s,mb5.2							
VIVF	Saint-Julien-l	93.36	45	eP		P	23 02 59.2	+0.5
VIVF				pmax	pmax			
	comp=Z,12nm,1.2s,mb5.2							
VIVF	Saint-Julien-l	93.36	45	eP		P	23 02 59.2	+0.5
	comp=Z,12nm,1.2s,mb5.2							
BOSA	Boshof	93.73	120	LR	LR		23 43 02.1	
	comp=Z,236nm,18.3s,MS4.7,baz=257,slow=34							
MAW	Mawson	93.94	166	P		P	23 03 00.8	-0.3
	comp=Z,2.3nm,1.0s,mb4.6,baz=192,slow=5.7,SNR=4.4							
MAW				LR	LR		23 41 44.6	
	comp=Z,151nm,18.8s,MS4.5,baz=71,slow=33							
ORIF	Oris-en-Rattie	94.20	45	eP		P	23 03 02.6	0.0
	comp=Z,41nm,1.6s,mb5.3							
ORIF				eMLR	MLR			
	comp=Z,159nm,18.5s,MS4.2							
ORIF	Oris-en-Rattie	94.20	45	eP		P	23 03 02.6	0.0
ORIF				pmax	pmax			
	comp=Z,20nm,1.6s,mb5.3							
ORIF	Oris-en-Rattie	94.20	45	eP		P	23 03 02.6	0.0
	comp=Z,20nm,1.6s,mb5.3							
KEST	Kesra	94.55	55	P		P	23 03 04.3	-0.2
	comp=Z,0.9nm,0.8s,mb4.2,baz=209,slow=14,SNR=5.8							
CABF	La Chapelle	94.77	43	eP		P	23 03 05.1	-0.1
LPL	La Plagne	94.94	45	eP		P	23 03 06.1	+0.1
	comp=Z,9.8nm,1.0s,mb4.9							
LPL	La Plagne	94.94	45	eP		P	23 03 06.1	+0.1
LPL				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.9							
LPL	La Plagne	94.94	45	eP		P	23 03 06.1	+0.1
	comp=Z,4.9nm,1.0s,mb4.9							
MEM	Membach	95.71	39	P	pP		23 03 24.4	+6.6
PETK	Petropavlovsk-	121.84	325	PKP	PKPdf		23 08 36.3	-1.2
	comp=Z,3.7nm,1.0s,baz=66,slow=2.0,SNR=2.8							
AKTK	Aktyubinsk	128.00	35	PKP	PKPdf		23 08 47.8	-1.7
AKTO	Aktyubinsk	128.00	35	PKP	PKPdf		23 08 47.8	-1.7
	comp=Z,1.0nm,0.6s,baz=280,slow=11,SNR=3.6							
ASAR	Alice Springs	132.49	219	PKP	PKPdf		23 08 57.5	-1.4
	comp=Z,1.6nm,1.0s,baz=130,slow=5.1,SNR=6.1							
ASAR				pPKP	pPKPdf		23 09 06.5	-1.0
	comp=Z,2.5nm,1.2s,baz=158,slow=4.7,SNR=3.5							
WRA	Warramunga Arr	134.90	223	PKP	PKPdf		23 09 03.0	-0.5
	comp=Z,2.5nm,0.7s,baz=136,slow=1.6,SNR=8.4							
ZALV	Zalesovo Beam	137.09	16	PKP	PKPdf		23 09 05.8	-0.6
	comp=Z,1.4nm,0.5s,baz=325,slow=1.8,SNR=8.4							
ZALV				pPKP	pPKPdf		23 09 15.6	+0.4
	comp=Z,3.9nm,0.8s,baz=183,slow=2.7,SNR=4.8							
ZAL	Zalesovo	137.10	16	PKIKP	PKPdf		23 09 05.9	-0.6
ZAL							23 09 15.6	
MJAR	Matsushiro Arr	141.34	313	PKhKP			23 09 07.3	
	comp=Z,1.7nm,0.9s,baz=88,slow=3.3,SNR=6.0							
MKAR	Makanchi Array	142.41	24	PKhKP			23 09 06.2	
	comp=Z,0.1nm,0.5s,baz=330,slow=1.6,SNR=3.9							
MKAR				PKP	PKPdf		23 09 14.7	-1.7
	comp=Z,1.2nm,0.8s,baz=305,slow=3.5,SNR=7.2							
ZAK	Zakamensk	143.25	0	ePKHKP			23 09 12.1	
SONM	Songino Array	145.71	356	PKPbc	PKPbc		23 09 22.9	+0.4
	comp=Z,16nm,1.0s,baz=342,slow=2.8,SNR=44							
WMQ	Urumqi	146.94	21	ePKP	PKPdf		23 09 26.8	+2.5
KSRS	Korea Array	147.66	322	PKPbc	PKPbc		23 09 25.9	-2.6
	comp=Z,3.4nm,0.8s,baz=40,slow=2.7,SNR=14							
CMAR	Chiang Mai Arr	173.50	41	PKP	PKPdf		23 09 53.2	-0.6
	comp=Z,0.8nm,0.3s,baz=296,slow=3.4,SNR=6.3							

CASC 16 22:49:51.6±2.5, 1129N×8667W, h29km±6km, MD3.9, ML3.9, 6C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.78	28	⇑iP	Pb	22 50 07.0	+0.3
SSN	San Juan del S	0.80	89	⇓eP	Pn	22 50 05.7	-1.3
SSN				eS	Sb	22 50 18.9	+1.4
APON	Apoyo	0.86	43	⇓eP	Pn	22 50 07.7	-0.1
MASN	Masaya	0.86	36	⇓eP	Pn	22 50 07.3	-0.5
COPN	Copaltepe	0.89	5	⇑eP	Pn	22 50 07.5	-0.8
COPN				eS	Sb	22 50 20.9	+0.8
XAVN	Gruta Xavier	0.92	21	eP	Pn	22 50 08.4	-0.2
CSAN		0.93	15	eP	Pn	22 50 07.8	-0.9
TISN	Laguna Tiscapa	0.94	25	⇓eP	Pn	22 50 08.5	-0.4
TISN				eS	Sn	22 50 22.3	+1.0
MGAN	Managua	0.95	26	⇓eP	Pn	22 50 08.6	-0.4
MGAN				AML	AML	22 50 24.1	
	comp=N,3μm,0.4s						
APYN	Apoyeque	0.99	18	eP	Pn	22 50 09.2	-0.4
CONN	Concepcion	1.06	75	⇑eP	Pn	22 50 10.3	-0.2
MADN	Villa Maderas	1.12	84	⇓eP	Pn	22 50 10.7	-0.7
LEON	Leon	1.15	349	⇓eP	Pn	22 50 10.9	-0.8
HUEN		1.15	25	⇓eP	Pn	22 50 11.4	-0.4
CNGN	Cerro Negro	1.21	359	⇓eP	Pn	22 50 11.7	-0.8
CNGN				eS	Sn	22 50 30.1	+2.1
TEL3	Telica 3	1.29	352	eP	Pn	22 50 13.2	-0.5
TEL3				eS	Sn	22 50 31.5	+1.5
CRIN	San Cristobal	1.45	345	⇓eP	Pn	22 50 15.3	-0.6
CRIN				eS	Sn	22 50 34.3	+0.2
VCR	Vista de Mar	1.54	138	eP	Pn	22 50 18.7	+1.6
JCR	Jicaral	2.09	133	eP	Pn	22 50 27.7	+2.9
CNCH	Conchagua	2.28	330	⇓eP	x	22 50 26.9	
CNCH				eS	x	22 50 57.8	
CGA2	Cerro Gallo 2	2.51	120	eP	Pn	22 50 31.5	+1.1
PRS1	Puriscal	2.66	119	eP	Pn	22 50 34.9	+2.4
TGUH	Tegucigalpa,Un	2.82	348	eP	Pn	22 50 35.2	+0.4
CAHU	Cacacuatique	2.89	329	eP	x	22 50 35.8	
LCR2	La Lucha 2	3.04	120	eP	Pn	22 50 38.2	+0.5
CHI2		14.40	116	⇑eP		22 50 14.5	
LAPE	La Pedrera	15.34	103	⇑eP		22 50 12.5	
LAPE				eS		22 50 32.2	

LJU 17 00:05:06.9, 4662N×1389E, h13km, ML2.0
ISCJB 17 00:05:06.7±0.3, 4665N±002×1389E±002, h10km, Error ellipse: s-maj=2.6km s-min=1.8km az=151.9
VIE 17 00:05:07.2±0.1, 4662N×1389E, h12km±2km, mb1.7/6, ML2.4/8, Error ellipse: s-maj=0.8km s-min=0.5km az=172.0
ROM 17 00:05:07.5±0.4, 4658N×1388E, h9km±2km, Md2.5/3, Ml2.1/1, Error ellipse: s-maj=4.2km s-min=3.3km az=47.0
CSEM 17 00:05:07.4±0.1, 4661N×1387E, h12km, ML2.7/5, Error ellipse: s-maj=1.5km s-min=0.9km az=166.0
PRU 17 00:05:10.0, 4669N×1377E, h0km

ISC 17 00:05:07.8±0.3, 4662N±002×1389E±002, h10km, n44, σ0§74/75, 13C-15D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYKA	Terra Mystica	0.17	273	⇓iPg	Pg	00 05 11.3	-0.2
	comp=Z,296nm,0.0s						
MYKA				⇓iSg	Sg	00 05 14.2	+0.2
	comp=E,118nm,0.1s						
LSR	Lussari	0.29	240	⇓iPg	Pg	00 05 13.5	-0.1
LSR				iSg	Sg	00 05 17.7	+0.2
LSR	Lussari	0.29	240		Pg	00 05 13.5	-0.1
GORS	Gorjuse	0.31	167	iPg	Pg	00 05 13.5	-0.4
GORS				iSg	Sg	00 05 18.0	-0.2
GORS							
	comp=Z,50nm,0.1s						
GORS	Gorjuse	0.31	167	iPg	Pg	00 05 13.5	-0.5
GORS				iSg	Sg	00 05 18.0	-0.2
	comp=Z,50nm,0.1s						
PTCC	Patocco-Chiusa	0.43	240	Pg	Pg	00 05 15.9	-0.3
PTCC				Sg	Sg	00 05 21.8	-0.1
	comp=Z,37nm,0.3s						
ROBS	Robic	0.46	215	iPg	Pg	00 05 16.2	-0.6
ROBS				iSg	Sg	00 05 22.9	+0.1
ROBS							
	comp=Z,13nm,0.1s						
ROBS	Robic	0.46	215	iPg	Pg	00 05 16.2	-0.5
ROBS				iSg	Sg	00 05 22.9	+0.1
	comp=Z,13nm,0.1s						
OBKA	Obir	0.47	104	⇑ePg	Pg	00 05 17.0	+0.1
	comp=Z,6.0nm,0.1s,SNR=44						
OBKA				⇓iSg	Sg	00 05 23.5	+0.4
	comp=Z,38nm,0.1s						
DRE	Drenchia	0.48	201	⇓iPg	Pg	00 05 16.4	-0.7
DRE				iSg	Sg	00 05 23.4	-0.1
DRE	Drenchia	0.48	201		Pg	00 05 16.5	-0.6
PLRO	Paularo	0.52	262	⇓iPg	Pg	00 05 17.7	-0.2
PLRO				iSg	Sg	00 05 24.8	+0.1
PLRO	Paularo	0.52	262		Pg	00 05 17.7	-0.1
GMNA	Gemona	0.57	233	Pg	Pg	00 05 19.5	+0.7
GMNA				Sg	Sg	00 05 28.5	+2.2
	comp=Z,60nm,0.2s						
VOY	Vojsko	0.59	180	ePg	Pg	00 05 19.3	+0.1
VOY				eSg	Sg	00 05 27.4	+0.5
BAD	Bernadia	0.59	230	⇓iPg	Pg	00 05 17.5	-1.7
BAD				iSg	Sg	00 05 26.2	-0.7
BAD	Bernadia	0.59	230		Pg	00 05 17.6	-1.6
COLI	Coloredo	0.60	216	⇓iPg	Pg	00 05 19.0	-0.5
COLI				iSg	Sg	00 05 27.9	+0.6
COLI	Coloredo	0.60	216		Pg	00 05 19.0	-0.5
BOO	Bordano	0.62	241	⇑iPg	Pg	00 05 19.3	-0.5
ZOU	Zoufplan	0.64	265	⇑iPg	Pg	00 05 19.8	-0.3
ZOU				iSg	Sg	00 05 28.7	+0.2
ZOU	Zoufplan	0.64	265		Pg	00 05 20.2	+0.1
BUA	Buia	0.67	233	⇑iPg	Pg	00 05 20.5	-0.2
BUA				iSg	Sg	00 05 30.1	+0.7
LJU	Ljubljana	0.73	142	ePg	Pg	00 05 21.7	-0.1
MPRI	Monte Prat	0.73	239	⇓iPg	Pg	00 05 21.5	-0.4
MPRI				iSg	Sg	00 05 31.9	+0.5
MPRI	Monte Prat	0.73	239		Pg	00 05 21.5	-0.4
JAVS	Javornik	0.74	171	iPg	Pg	00 05 21.6	-0.4
FVI	Forni Avoltri	0.77	269	Pg	Pg	00 05 22.2	-0.4
FVI				Sg	Sg	00 05 32.9	+0.3
	comp=Z,60nm,0.4s						
SOKA	Soboth	0.79	85	⇑iPg	Pg	00 05 22.4	-0.6
SOKA				⇓iSg	Sg	00 05 33.5	+0.2
ZAVS	Zavodnje	0.80	103	iPg	Pg	00 05 23.1	-0.2
ZAVS				eSg	Sg	00 05 34.0	+0.3
ZAVS	Zavodnje	0.80	103	iPg	Pg	00 05 23.0	-0.3
ZAVS				eSg	Sg	00 05 34.0	+0.2
PERS	Pernice	0.84	89	iPg	Pg	00 05 23.8	-0.2
PERS							
	comp=Z,24nm,0.1s						
PERS	Pernice	0.84	89	iPg	Pg	00 05 23.8	-0.2
	comp=Z,24nm,0.1s						
ABTA	Abfaltersbach	0.96	278	⇑ePg	Pg	00 05 25.8	-0.4
	comp=Z,3.9nm,0.1s,SNR=23						
ABTA				⇑iSg	Sg	00 05 39.1	+0.4
	comp=Z,14nm,0.2s						
MOA	Molln	1.26	12	⇑ePn	Pn	00 05 33.2	+1.8
	comp=Z,1.0nm,0.1s,SNR=7.5						
MOA				⇓iSg	Sg	00 05 48.8	+0.6
	comp=Z,4.9nm,0.1s						
ARSA	Arzberg	1.28	60	⇑iPn	Pn	00 05 31.9	+0.1
ARSA				⇑ePg	Pg	00 05 32.1	-0.3
	comp=Z,2.7nm,0.2s,SNR=10						
ARSA	Arzberg	1.28	60	⇑iPn	Pn	00 05 31.9	+0.1
ARSA				⇑ePg	Pg	00 05 32.1	-0.3
	comp=Z,2.7nm,0.2s,SNR=10						
ARSA				⇓iSg	Sg	00 05 49.6	+0.5
	comp=Z,4.2nm,0.2s						
ARSA	Arzberg	1.28	60	Pg	Pg	00 05 32.1	-0.3
	comp=Z,2.7nm,0.2s,SNR=10						
ARSA				Sg	Sg	00 05 49.6	+0.5
	comp=Z,4.2nm,0.2s						
WTTA	Wattenberg	1.67	293	⇓iPg	Pg	00 05 39.0	-0.9
	comp=Z,2.0nm,0.2s						
WTTA				⇓iSg	Sg	00 06 02.6	+1.0
	comp=Z,29nm,0.0s						
CONA	Conrad Observa	1.87	45	⇑iPg	Pg	00 05 43.7	0.0
	comp=Z,0.8nm,0.1s						
CONA				⇓iSg	Sg	00 06 09.1	+1.1
	comp=Z,2.4nm,0.3s						
KHC	Kasperske Hory	2.52	355	ePN	Pn	00 05 51.6	+2.9
KHC				ePG	Pg	00 05 53.9	-2.2
KHC				eSG	Sg	00 06 27.1	-1.6
	comp=Z,3.9nm,0.5s						
PRU	Pruhonice	3.40	7	eSG	Sg	00 06 57.6	+0.7
	comp=Z,4.0nm,0.5s						
NKC	Novy Kostel	3.74	346	eSG	Sg	00 07 07.6	-0.2
BRG	Berggiesshubel	4.26	0	SG	Sg	00 07 23.5	-0.9
	comp=Z,1.2nm,0.6s						

NEIC 17 00:25:36.1, 1926N×6994W, h25km, MD4.0(RSPR), After RSPR.

RSPR 17 00:25:36.1, 1926N×6994W, h25km±39km, 4C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDO	Santo Domingo	0.80	179	⇑eP	Pb	00 25 48.8	-2.7
STDO				eS	Sb	00 26 00.2	-1.8
LSP	Las Mesas	2.91	111	⇑eP	Pn	00 26 19.9	-1.0
LSP				eS	Sn	00 26 53.2	-1.8
CRPR	Cabo Rojo, PR	2.96	114	⇑eP	Pn	00 26 19.3	-2.2
CRPR				eS	Sn	00 26 53.4	-2.8
AOPR	Arecibo Observ	3.15	106	⇑eP	Pn	00 26 23.1	-1.1
AOPR				eS	Sn	00 26 59.8	-1.2
CELP	Cerrillos	3.39	110	eS	Sn	00 27 04.9	-2.1
SJG	San Juan	3.77	107	eS	Sn	00 27 14.2	-2.0
HUMP	Col San Antoni	4.03	105	eS	Sn	00 27 20.6	-2.1
MTP	Monte Pirata	4.31	105	⇓eP	Pn	00 26 39.1	-1.1
MTP				eS	Sn	00 27 28.1	-1.6

ISCJB 17 00:28:43.5±5.0, 98S±02×1597E±02, h10km±33km, mb4.1/9, Error ellipse: s-maj=37.7km s-min=9.4km az=44.2
IDC 17 00:28:43.1±2.1, 973S×1598E, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/16, mbtmp4.0/6, MS3.5/1, Ms1 3.4/1, ms1mx2.7/28, Error ellipse: s-maj=69.3km s-min=10.3km az=122.0
NEIC 17 00:28:46.4±1.4, 979S×15974E, h19km±13km, mb4.4/2, Error ellipse: s-maj=43.5km s-min=11.2km az=116.0

ISC 17 00:28:46.6±1.9, 98S±02×1596E±03, h16km±20km, n20, σ0§85/22, mb4.1/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.45	43	Pn	Pg	00 28 55.0	-0.6
	654nm,0.3s,baz=242,slow=1.7,SNR=159						
HNR				Sn	Sg	00 29 02.1	+0.5
	3μm,0.3s,baz=92,slow=6.2,SNR=84						
HNR	Honiara	0.45	43	Pn	Pg	00 28 55.0	-0.6
HNR				Sn	Sg	00 29 02.1	+0.5
CTAO	Charters Tower	16.50	230	Pn	Pn	00 32 38.3	+0.7
WRAB	Tennant Creek	26.41	245	eP	P	00 34 22.4	-0.4
	7.4nm,1.0s,mb4.2						
WB2	Warramunga Arr	26.42	245	eP	P	00 34 22.5	-0.3
WRA	Warramunga Arr	26.43	245	P	P	00 34 22.8	-0.1
	4.2nm,0.9s,mb4.0,baz=73,slow=9.9,SNR=8.9						
STKA	Stephens Creek	27.64	215	P	P	00 34 34.5	+0.9
	1.2nm,0.4s,mb3.8,baz=49,slow=14,SNR=3.0						
STKA				LR	LR	00 44 39.8	
	comp=Z,98nm,20.8s,baz=24,slow=34						
STKA	Stephens Creek	27.64	215	eP	P	00 34 33.9	+0.2
	16nm,1.5s,mb4.4						
STKA				LR	LR	00 44 39.8	
ASAR	Alice Springs	28.19	237	P	P	00 34 37.5	-1.2
	1.3nm,0.5s,mb3.8,baz=62,slow=10,SNR=24						
FITZ	Fitzroy Crossi	33.98	252	eP	P	00 35 29.8	+0.1
	5.5nm,1.0s,mb4.4						
MBWA	Marble Bar	39.98	249	eP	P	00 36 20.4	-0.5
	29nm,1.1s,mb4.9						
KKM	Kota Kinabalu	46.02	288	P	P	00 37 11.7	+1.9
MAJO	Matsushiro	50.27	338	eP	P	00 37 40.5	-1.9
KSM	Kuching	50.36	280	eP	P	00 37 43.8	+0.3
KSRS	Korea Array	55.57	330	P	P	00 38 21.4	0.0
	0.6nm,0.5s,mb3.9,baz=134,slow=8.2,SNR=7.2						
ENH	Enshi	62.49	312	P	P	00 39 09.1	-0.5
SONM	Songino Array	74.16	326	P	P	00 40 23.6	+1.2
	0.6nm,0.6s,mb3.7,baz=170,slow=8.8,SNR=2.8						
MK31	Makanchi Array	88.51	318	eP	P

HUEN		2.46	106	⇑eP	Pn	00 31 51.1 -0.7
CRUN	El Crucero	2.47	115	eP	Pn	00 31 52.7 +0.8
MASN	Masaya	2.60	113	eP	Pn	00 31 53.6 -0.1
FG6		2.69	305	eP	Pn	00 31 54.1 -0.8
APON	Apoyo	2.71	114	eP	Pn	00 31 55.2 +0.2
JAT	Jato	3.22	294	eP	Pn	00 31 59.9 -2.1
CONN	Concepcion	3.25	116	eP	Pn	00 32 02.6 +0.3
MADN	Villa Maderas	3.40	118	eP	Pn	00 32 04.4 -0.1
JCR	Jicaral	4.65	132	eP	Pn	00 32 21.9 +0.4
CCIG	Comitan	4.71	314	i P	Pn	00 32 21.9 -0.4
CCIG				i S	Sn	00 33 12.2 -3.5
CGA2	Cerro Gallo 2	5.03	126	eP	Pn	00 32 28.4 +1.7
CGA2				eS	Sn	00 33 23.0 -0.6
PRS1	Puriscal	5.17	125	eP	Pn	00 32 30.6 +2.0
SCX	San Cristobal	5.37	314	i P	Pn	00 32 40.6 +9.4
LCR2	La Lucha 2	5.56	126	eP	Pn	00 32 35.6 +1.7
QCR	Quepos	5.63	129	eP	Pn	00 32 35.7 +0.9
BUS	Buena Vista	5.87	126	⇓eP	Pn	00 32 39.9 +1.9
ACR	Cerro Adams	6.88	129	eP	Pn	00 32 53.2 +1.3
TEIG	Tepich	7.16	2	P	Pn	00 32 56.1 +0.4
	comp=N,20nm,0.3s,baz=175,slow=4.6,SNR=142					
TEIG				LR	LR	00 36 06.4
	comp=N,433nm,18.3s,baz=25,slow=42					
TEIG	Tepich	7.16	2	ePn	Pn	00 32 56.5 +0.8
BRU2	Volcan	7.16	125	eP	Pn	00 32 56.1 +0.4
CMIG	Matias Romero	7.29	304	P	Pn	00 32 57.4 -0.1
	comp=N,1.4nm,0.3s,baz=130,slow=9,9,SNR=12					
CMIG				S	Sn	00 34 17.8 -1.0
	comp=N,3.4nm,0.3s,baz=243,slow=16,SNR=3.4					
CMIG	Matias Romero	7.29	304	eP	Pn	00 32 55.6 -1.9
CMIG				i S	Sn	00 34 15.6 -3.2
VHO	Vista Hermosa	8.83	298	i P	Pn	00 33 20.2 +1.8
VHO				i S	Sn	00 34 55.5 -0.8
PPM	Popocatepetl	11.36	303	i P	Pn	00 33 55.7 +2.8
OTAV	Otavalo	16.21	141	eP	Pn	00 34 57.0 +0.7
CHI2		16.87	118	eP	Px	00 31 38.6
SDV	Santo Domingo	18.11	101	P	Pn	00 35 19.0 -0.6
	comp=N,1.7nm,0.3s,baz=317,slow=6.6,SNR=17					
SDV	Santo Domingo	18.11	101	ePn	Pn	00 35 19.1 -0.6
	comp=N,20nm,0.7s					
NATX	Nacogdoches	19.46	344	ePn	Pn	00 35 43.2 +7.7
JCT	Junction City	20.22	331	eP	P	00 35 42.0 +0.1
GOGA	Godfrey	20.82	12	eP	P	00 35 55.0 +6.7
	comp=N,14nm,0.8s					
OXF	Oxford	21.40	358	eP	P	00 35 54.1 -0.3
	comp=N,25nm,0.9s,mb4.5					
TXAR	Lajitas Array	21.42	322	P	P	00 35 55.5 +0.7
	comp=N,4.1nm,0.6s,mb3.9,baz=144,slow=10,SNR=40					
TXAR				PcP	PcP	00 39 56.2 +0.9
	comp=N,0.5nm,0.7s,baz=121,slow=5.1,SNR=4.5					
TXAR	Lajitas Array	21.42	322	P	P	00 35 55.5 +0.7
TXAR				PcP	PcP	00 39 56.2 +0.9
MIAR	Mount Ida	21.89	349	eP	P	00 36 00.4 +0.7
	comp=N,15nm,0.8s,mb4.4					
UALR	University of	21.91	352	eP	P	00 36 01.2 +1.3
	comp=N,24nm,1.0s,mb4.5					
UALR				epP		00 36 19.1
JSC	Jenkinsville	22.18	16	eP	P	00 36 04.7 +1.9
SWET	Sewanee	22.22	6	eP	P	00 36 03.4 +0.2
HBAR	Harrisburg	22.50	356	P	P	00 36 06.3 +0.1
CPCT	Cooper Cave	22.62	9	epP	pP	00 36 26.2 +1.7
GNAR	Gosnell	22.87	357	P	P	00 36 10.3 +0.2
TKL	Tuckaleechee C	22.95	10	P	P	00 36 10.4 -0.4
	comp=N,12nm,0.7s,mb4.3,baz=191,slow=12,SNR=8.3					
TKL				LR	LR	00 46 26.9
	comp=N,60nm,19.2s,baz=82,slow=40					
WMOK	Wichita Mounta	23.50	339	eP	P	00 36 15.9 0.0
PCRV	Puerto La Cruz	23.64	94	P	P	00 36 16.9 -0.5
	comp=N,10nm,0.6s,mb4.4,baz=226,slow=8.3,SNR=7.6					
TZTN	Tazewell	23.85	10	eP	P	00 36 20.8 +1.7
TZTN				epP		00 36 39.9
GDL2	Guadalupe Moun	23.94	325	eP	P	00 36 21.4 +1.5
SIUC	Southern Illin	24.59	359	P	P	00 36 25.6 -0.2
AMTX	Amarillo	24.78	334	eP	P	00 36 28.4 +0.9
	comp=N,12nm,0.7s,mb4.4					
WCI	Wyandotte Cave	25.18	4	eP	P	00 36 30.7 -0.5
	comp=N,10nm,0.6s,mb4.4					
LENM	Lemitar	26.86	325	P	P	00 36 40.0 -6.4
NNA	Nana	27.45	154	P	P	00 36 50.4 -1.4
ACSO	Alum Creek Sta	27.54	9	eP	P	00 36 52.1 -0.3
	comp=N,8.8nm,0.7s,mb4.4					
SDCO	Great Sand Dun	28.87	331	eP	P	00 37 04.8 +0.5
	comp=N,39nm,2.5s,mb4.6					
ISCO	Idaho Springs	30.60	334	eP	P	00 37 20.4 +0.9
PV01	Paradox Valley	30.68	328	P	P	00 37 21.0 +0.8
PHWY	Pilot Hill	31.79	335	eP	P	00 37 30.9 +0.9
SRU	San Rafael	32.42	327	eP	P	00 37 35.7 +0.1
	comp=N,2.3nm,0.7s,mb4.0					
MSU	Marysvale	32.90	325	eP	P	00 37 35.8 -3.9
CCUT	Cedar City	32.94	322	eP	P	00 37 34.9 -5.2
COWI	Conover	32.97	359	eP	P	00 37 38.9 -1.3
	comp=N,11nm,1.1s,mb4.6					
RSSD	Black Hills	33.70	340	eP	P	00 37 47.7 +1.1
P13A	Bates Ranch, Z	34.59	324	⇑P	P	00 37 55.6 +1.3
	baz=35					
PDAR	Pinedale Array	34.74	332	P	P	00 37 55.6 0.0
	comp=N,1.8nm,0.6s,mb4.1,baz=124,slow=10,SNR=20					
PDAR				PcP	PcP	00 40 27.1 -0.6
	comp=N,0.7nm,0.5s,baz=150,slow=7.0,SNR=3.5					
BW06	Boulder Array	34.74	332	eP	P	00 37 55.7 0.0
HWUT	Hardware Ranch	34.80	329	eP	P	00 37 56.6 +0.4
BGU	Big Grassy Mou	35.06	327	eP	P	00 37 58.2 -0.2
N14A	Grayback Hills	35.09	327	⇓P	P	00 37 59.5 +0.8
	baz=35					
M15A	Larsen Ranch,	35.15	328	⇓P	P	00 37 59.4 +0.3
	baz=35,SNR=5.3					
S10A	Tonopah Range,	35.15	320	⇓P	P	00 37 59.9 +0.6
	baz=35					
LPAZ	La Paz	35.47	145	eP	P	00 38 02.2 0.0
L15A	Malad City	35.51	329	⇑P	P	00 38 02.3 0.0
	baz=36,SNR=8.3					
M14A	Sheep Mountain	35.64	327	⇓P	P	00 38 03.5 +0.1
	baz=36,SNR=12					
REDW	Red Top Meadow	35.80	332	eP	P	00 38 04.7 0.0
	comp=N,18nm,0.6s,mb5.2					
SNOW	Snow King Moun	35.83	332	eP	P	00 38 05.7 +0.7
	comp=N,22nm,0.6s,mb5.3					
LOHW	Long Hollow	35.88	332	eP	P	00 38 05.7 +0.3
	comp=N,6.2nm,0.6s,mb4.7					
TPAW	Teton Pass	35.94	332	eP	P	00 38 06.7 +0.8
L14A	Malta	35.97	328	⇓P	P	00 38 06.8 +0.6
	baz=36					
M13A	Montello	35.98	326	⇑P	P	00 38 07.0 +0.7
	baz=36					
RRI2	Red Ridge	36.00	331	eP	P	00 38 07.2 +0.8
HELL	Mitchell Peak	36.02	316	⇑P	P	00 38 07.5 +0.8
	baz=36					
MOOW	Moose Ponds	36.05	332	eP	P	00 38 07.0 +0.2
	comp=N,5.9nm,0.6s,mb4.7					
J16A	Bone	36.08	331	⇑P	P	00 38 08.0 +0.9
	baz=36					
K15A	Arbon	36.09	329	⇑P	P	00 38 07.7 +0.5
	baz=36					
N12A	Clover Valley,	36.11	325	⇑P	P	00 38 08.3 +0.9
	baz=36					
IMW	Indian Meadow	36.25	332	eP	P	00 38 09.0 +0.5
	comp=N,4.5nm,0.5s,mb4.7					
FLWY	Flagg Ranch	36.29	333	eP	P	00 38 03.4 -5.5
K14A	Jones Ranch, D	36.30	329	⇓P	P	00 38 09.2 +0.1
	baz=36,SNR=5.6					
N11A	Elko Archery C	36.48	324	⇓P	P	00 38 11.7 +1.1
	baz=37					
RLMT	Red Lodge	36.51	335	eP	P	00 38 10.8 0.0
	comp=N,8.7nm,0.6s,mb4.9					
NVAR	Mina Array Bea	36.53	319	P	P	00 38 11.8 +0.8
	comp=N,1.8nm,0.6s,mb4.2,baz=137,slow=7.4,SNR=13					
NVAR				PcP	PcP	00 40 34.2 +1.2
	comp=N,3.0nm,0.6s,baz=122,slow=3.7,SNR=16					
NVAR	Mina Array Bea	36.53	319	P	P	00 38 11.8 +0.8
NVAR				PcP	PcP	00 40 34.2 +1.2
O09A	Fish Creek Ran	36.90	322	⇓P	P	00 38 15.0 +0.8
	baz=37					
QLMT	Earthquake Lak	37.20	333	eP	P	00 38 17.7 +1.1
GCMT	Greycliff	37.22	335	eP	P	00 38 16.9 +0.1
K12A	Draper Farm, C	37.26	327	⇓P	P	00 38 17.5 +0.3
	baz=37					
L11A	Cat Creek Ranc	37.39	326	⇓P	P	00 38 18.3 0.0
	baz=38					
J13A	Cove Ranch, Pi	37.43	329	⇓P	P	00 38 18.8 +0.2
	baz=38					
ULM	Lac du Bonnet	37.59	352	P	P	00 38 18.3 -1.6
	comp=N,10nm,0.6s,mb4.8,baz=164,slow=9.6,SNR=15					
ULM	Lac du Bonnet	37.59	352	P	P	00 38 18.3 -1.6
DGMT	Dagmar	37.64	343	eP	P	00 38 19.7 -0.5
	comp=N,23nm,0.6s,mb5.2					
HLID	Hailey	37.67	329	⇓P	P	00 38 20.6 0.0
	baz=38,SNR=6.8					
HLID	Hailey	37.67	329	eP	P	00 38 20.8 +0.2
	comp=N,1.6nm,0.5s,mb4.1					
CMB	Columbia Colle	37.67	314	eP	P	00 38 21.0 +0.3
	comp=N,1.3nm,0.6s,mb3.9					
L10A	Juniper Basin	37.73	325	⇑P	P	00 38 21.6 +0.5
	baz=38					
I13A	Wildhorse Cree	37.77	329	⇑P	P	00 38 22.3 +0.8
	baz=38					
J12A	Stokes Ranch,	37.80	328	⇓P	P	00 38 22.3 +0.7
	baz=38					
MCMT	McKenzie Canyo	37.84	332	eP	P	00 38 23.3 +1.2
O07A	Toulon	37.92	321	⇑P	P	00 38 23.1 +0.4
	baz=38					
BOZ	Bozeman (W)	37.93	333	⇓P	P	00 38 23.2 +0.4
	baz=38					
BOZ	Bozeman (W)	37.93	333	eP	P	00 38 23.3 +0.6
G15A	Dillon	37.94	332	⇓P	P	00 38 23.1 +0.3
	baz=38,SNR=10					
DLMT	Dillon	38.13	332	eP	P	00 38 25.6 +1.1
	comp=N,10nm,1.1s,mb4.6					
H13A	Challis	38.31	330	⇑P	P	00 38 26.6 +0.6
	baz=38					
K10A	MacKenzie Ranc	38.41	326	⇓P	P	00 38 26.6 -0.3
	baz=38					
LRM	Limekiln Ridge	38.42	333	eP	P	00 38 27.4 +0.5
G14A	Jackson	38.44	331	⇑P	P	00 38 27.7 +0.6
	baz=39					
F15A	Butte	38.46	333	⇓P	P	00 38 27.4 +0.2
	baz=39,SNR=13					
H12A	Diamond D Ranc	38.60	330	⇓P	P	00 38 28.9 +0.5
	baz=39,SNR=6.9					
G13A	Cobalt	38.69	331	⇑P	P	00 38 29.2 0.0
	baz=39,SNR=5.3					
I11A	Placerville	38.70	328	⇑P	P	00 38 29.9 +0.6
	baz=39					
K09A	Rome	38.84	325	⇑P	P	00 38 30.9 +0.4
	baz=39					
M07A	Soldier Meadow	38.84	322	⇓P	P	00 38 30.2 -0.2
	baz=39					
N06A	Buffalo Meadow	38.85	321	⇑P	P	00 38 30.8 +0.2
	baz=39					
L08A	Fields	38.86	324	⇓P	P	00 38 31.0 +0.4
	baz=39					
E15A	Deer Lodge	38.97	333	⇓P	P	00 38 31.4 -0.1
	baz=39,SNR=7.1					
EGMT	Eagleton	39.09	337	⇑P	P	00 38 32.9 +0.5
	baz=39					
EGMT	Eagleton	39.09	337	eP	P	00 38 32.7 +0.3
F13A	Darby	39.26	331	⇑P	P	00 38 33.2 -0.6
	baz=39,SNR=9.3					
J09A	Fry Pan Ranch,	39.28	326	⇓P	P	00 38 33.7 -0.4
	baz=39,SNR=5.3					
K08A	Mann Creek Ran	39.28	325	⇑P	P	00 38 34.1 -0.1
	baz=39,SNR=22					
H11A	Donnelly	39.29	329	⇓P	P	00 38 33.8 -0.3
	baz=39,SNR=6.4					
L07A	Adell	39.33	323	⇑P	P	00 38 33.8 -0.7
	baz=39,SNR=6.3					
E14A	Clinton	39.34	333	⇓P	P	00 38 34.7 +0.1
	baz=40					
D15A	Lincoln	39.40	334	⇓P	P	00 38 34.6 -0.5
	baz=40,SNR=9.7					
H10A	Noah's Angus R	39.58	328	⇓P	P	00 38 35.9 -0.7
	baz=40					
CHMT	Chamberlain Mo	39.62	333	eP	P	00 38 37.0 +0.1
F12A	Elk City	39.67	331	⇓P	P	00 38 36.9 -0.4
	baz=40,SNR=22					
E13A	Victor	39.68	332	⇓P	P	00 38 37.0 -0.4
	baz=40,SNR=6.5					
K07A	Rock Creek Ran	39.69	324	⇓P	P	00 38 37.1 -0.5
	baz=40,SNR=6.5					
MOD	Modoc	39.83	322	⇓P	P	00 38 38.4 -0.3
	baz=40					
D14A	Greenough	39.86	333	⇑P	P	00 38 38.5 -0.4
	baz=40					
G11A	Walters Elk Ra	39.91	329	⇓P	P	00 38 38.7 -0.6
	baz=40					
D13A	Huson	40.29	333	⇑P	P	00 38 42.1 -0.4
	baz=40,SNR=5.2					
H08A	Prairie City	40.55	327	⇑P	P	00 38 44.8 +0.2
	baz=41					
J06A	Christmas Vall	40.56	324	⇑P	P	00 38 44.1 -0.6
	baz=41					
E11A	Bogner Ranch,	40.56	330	⇑P	P	00 38 44.0 -0.7
	baz=41					
D12A	Red Ives Fores	40.67	332	⇓P	P	00 38 45.0 -0.5
	baz=41,SNR=6.5					
I07A	Izee	40.72	325	⇑P	P	00 38 45.9 -0.1
	baz=41					
C13A	Hot Springs	40.78	333	⇑P	P	00 38 46.5 0.0
	baz=41					
F10A	Beach Ranch, E	40.79	329	⇓P	P	00 38 46.5 -0.1
	baz=41					
YBH	Yreka Blue Hor	41.19	320	LR	LR	00 59 54.5
	comp=N,64nm,19.9s,baz=317,slow=42					
WALA	Waterton Lakes	41.56	335	eP	P	00 38 53.1 +0.3
	comp=N,7.4nm,1.1s,mb4.3					
A13A	Flathead Natio	41.67	334	⇑P	P	00 38 53.8 0.0
	baz=42,SNR=11					
D09A	Jones Farm, Ri	42.08	330	⇑P	P	00 38 56.5 -0.6
	baz=42,SNR=6.3					
B11A	Sandpoint	42.15	332	⇓P	P	00 38 57.8 +0.2
	baz=42					
I04A	Tendick Farm,	42.20	323	⇑P	P	00 38 57.3 -0.8
	baz=42					
NEW	Newport	42.37	332	eP	P	00 38 58.2 -1.2
	comp=N,2.3nm,0.7s,mb4.0					
D08A	Wollman Farm,	42.38	329	⇑P	P	00 38 59.3 -0.3
	baz=42					
E07A	Sunnyside	42.52	328	⇓P	P	00 39 00.1 -0.6
	baz=43					
A11A	Hall Mountain,	42.53	333	⇑P	P	00 39 00.9 +0.2
	baz=43					
C09A	Chrisman Ranch	42.58	330	⇑P	P	00 39 01.0 -0.1
	baz=43					
H04A	Detroit Lake	42.60	324	⇓P	P	00 39 00.9 -0.4
	baz=43					
B09A	Rice	42.96	331	⇑P	P	00 39 03.7 -0.5
	baz=43					
A10A	Northport	43.09	332	⇑P	P	00 39 05.4 +0.1
	baz=43					
A07A	Ashnola River,	44.46	330	⇑P	P	00 39 16.1 -0.2
	baz=45					
EDM	Edmonton	44.67	339	eP	P	00 39 17.3 -0.5
SCHQ	Schefferville	45.06	18	P	P	00 39 18.5 -2.3
	comp=N,6.0nm,0.7s,mb4.4,baz=215,slow=5.6,SNR=6.9					
SCHQ				PcP	PcP	00 40 59.6 -0.7
	comp=N,4.9nm,0.9s,baz=66,slow=4.3,SNR=5.0					
SCHQ	Schefferville	45.06	18	eP	P	00 39 19.6 -1.3
SCHQ				PcP	PcP	00 40 59.6 -0.7
NLWA	Neilton Lookou	45.17	326	⇑P	P	00 39 21.9 0.0
	baz=45					
A05A	Maple Falls	45.26	329	⇑P	P	00 39 22.4 -0.2
	baz=45					
FCC	Fort Churchill	45.83	356	eP	P	00 39 25.6 -1.3
CPUP	Villa Florida	49.55	142	P	P	00 39 55.9 -0.2
	comp=N,2.0nm,0.5s,mb4.3,baz=159,slow=16,SNR=3.2					
CPUP	Villa Florida	49.55	142	eP	P	00 39 55.5 -0.6
YKA	Yellowknife Ar	52.77	345	P	P	00 40 18.1 -1.5
	comp=N,7.1nm,0.6s,mb4.9,baz=138,slow=7.9,SNR=56					
PLCA	Paso Flores	56.04	164	P	P	00 40 43.8 +0.1
	comp=N,2.2nm,0.8s,mb4.2,baz=166,slow=3.4,SNR=3.3					
PLCA	Paso Flores	56.04	164	eP	P	00 40 43.1 -0.6
HYT	Haines Junctio	59.39	335	eP	P	00 41 07.3 +0.4
RES	Resolute Bay	61.74	358	eP	P	00 41 21.3 -1.4
BMRM	Bremner River	62.53	333	eP	P	00 41 28.2 0.0
EGAK	Eagle	62.85	338	eP	P	00 41 29.3 -1.0
	comp=N,2.3nm,0.7s,mb4.2					
RC01	Rabbit Creek A	64.89	332	eP	P	00 41 42.5 -1.2
COLA	College	65.46	336	eP	P	00 41 45.5 -1.8
TRF	Thorofare Moun	65.93	334	eP	P	00 41 49.0 -1.4
	comp=N,7.0nm,0.7s,mb4.6					
SUMG	Summit	66.31	15	P	P	00 41 52.5 -0.1
BPAW	Bear Paw Mtn.	66.44	335	eP	P	00 41 52.2 -1.5
	comp=N,8.2nm,0.7s,mb4.7					
PPLA	Purkeypile	66.57	333	eP	P	00 41 52.6 -1.9
	comp=N,12nm,1.1s,mb4.6					
COLD	Coldfoot	67.25	338	eP	P	00 41 58.7 0.0
	comp=N,5.7nm,0.8s,mb4.5					
TTA	Tatalina	68.26	333	eP	P	00 42 03.2 -1.9
TORD	Torodi Ar. Bea	87.37	77	P	P	00 43 49.2 -2.9
	comp=N,0.6nm,0.9s,mb3.5,baz=299,slow=5.8,SNR=9.4					
VNDA	Vanda	106.83	192	ePKiKP	PKiKP	00 49 26.4 -2.3
BOSA	Boshof	116.95	116	PKP	PKPdf	00 49 49.0 -0.1
	comp=N,4.0nm,1.0s,baz=151,slow=14,SNR=6.2					
LBTB	Lobatse	117.16	112	ePKPdf	PKPdf	00 49 49.7 0.0
LSZ	Lusaka	118.85	100	eP	PKPdf	00 49 52.5 -0.7
KSRS	Korea Array	119.19	327	PKP	PKPdf	00 49 52.4 -0.9
	comp=N,1.6nm,0.6s,baz=20,slow=1.8,SNR=9.3					
MKAR	Makanchi Array	119.89	7	PKP	PKPdf	00 49 52.0 -2.4
	comp=N,0.1nm,0.4s,baz=313,slow=5.1,SNR=4.3					
HHC	Hu-ho-hao-te	123.23	342	ePKP	PKPdf	00 49 59.1 -1.9
HHC				PP	PP	
	comp=Z,99nm,5.9s					
HHC				LR	LR	
	comp=N,215nm,21.4s					
HHC				LR	LR	
	comp=E,167nm,19.0s					
HHC				LR	LR	
	comp=Z,240nm,19.0s					
WMQ	Urumqi	123.33	3	PKP	PKPdf	00 49 59.9 -1.2
CD2	Chengdu	134.73	345	ePKP	PKPdf	00 50 20.9 -2.3
WB2	Warramunga Arr	138.34	255	eP	PKPdf	00 50 29.9 -0.2
WB2				e		00 50 49.7
WRA	Warramunga Arr	138.35	255	PKP	PKPdf	00 50 31.1 +1.0
	comp=Z,1.9nm,0.5s,baz=89,slow=2.1,SNR=11					
ASAR	Alice Springs	138.44	249	PKP	PKPdf	00 50 30.9 +0.8
	comp=Z,1.0nm,0.6s,baz=88,slow=1.9,SNR=7.6					
FITZ	Fitzroy Crossi	146.67	257	eP	PKPdf	00 50 47.3 +2.4
	comp=Z,10nm,1.2s					
FITZ				e		00 51 05.6
FITZ	Fitzroy Crossi	146.67	257	PKPbc	PKPbc	00 50 46.9 +0.3
	comp=Z,6.3nm,0.9s,baz=79,slow=3.6,SNR=11					
CMAR	Chiang Mai Arr	147.84	346	PKPbc	PKPbc	00 50 47.8 -2.1
	comp=Z,1.9nm,0.6s,baz=333,slow=3.3,SNR=5.9					

*IDC **17** 00:31:37.7±0.5, 1448S×7628W, h0km, mb4.9/24, mb1 5.0/29, mb1mx5.0/30, mbtmp4.9/29, ML4.8/5, MS4.8/20, Ms1 4.8/20, ms1mx4.7/25, Error ellipse: s-maj=16.3km s-min=8.7km az=68.0*

*ISCJB **17** 00:31:40.9±0.2, 1443S±003×7626W±003, h29km, mb5.1/134, MS5.0/26, Error ellipse: s-maj=6.1km s-min=3.1km az=43.7*

*MOS **17** 00:31:42.0±1.0, 1439S×76.17W, h33km, mb5.4/47, Error ellipse: s-maj=8.3km s-min=5.9km az=105.0*

*BJI **17** 00:31:43.1, 1440S×76.10W, h30km, mB5.3, Ms5.4, Msz5.1*

*NEIC **17** 00:31:43.1±1.5, 1443S×76.13W, h31km±10km, mb5.2/95, MS5.3/2, ML4.7(LIM), Error ellipse: s-maj=5.8km s-min=3.2km az=51.0*

NEIC Felt [II] at Ica.

*GCMT **17** 00:31:43.1±0.2, 1441S×7637W, h18km, MW5.5/83, Moment Tensor Solution. s61,c113; s83,c152; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.07±.03; $M_{\theta\theta}$-0.01±.02; $M_{\phi\phi}$-1.06±.03; $M_{r\theta}$0.26±.05; $M_{r\phi}$0.46±.01; $M_{\theta\phi}$-1.59±.09; Best double couple: $M_0$1.98100×10^{17} NP1ϕ_s327.00000°, δ19.00000°, λ69.00000°. NP2ϕ_s169.00000°, δ72.00000°, λ97.00000°. Principal axes: T 1.9190, Plg62.0000°, Azm89.0000°; N 0.1310, Plg6.0000°, Azm347.0000°; P -2.0440, Plg27.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 00:31:40.8±1.9, 1440S±003×7616W±003, h14km±11km, n689, σ0°66/628, mb5.1/134, MS5.0/26, 215C-139D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.49	345	Pn	Pn	00 32 20.0	-0.9
	15μm,0.4s,SNR=46						
NNA	Nana	2.49	345	Pn	Pn	00 32 20.2	-0.7
	82nm,0.3s,baz=166,slow=13,SNR=39						
NNA				Sn	Sn	00 32 49.4	-1.7
	374nm,0.3s,baz=278,slow=17,SNR=10						
NNA				Lg		00 32 57.9	
	753nm,0.3s,baz=219,slow=19,SNR=13						
NNA				LR	LR	00 33 40.7	
	comp=Z,17μm,18.2s,baz=26,slow=49						
NNA	Nana	2.49	345	ePn	Pn	00 32 20.0	-0.9
ARE	Arequipa	4.95	115	eP	Pn	00 32 54.0	-0.8
ARE				eS	Sn	00 34 01.0	+9.0
ATAH	Atahualpa	7.67	343	Pn	Pn	00 33 31.9	-0.4
	5.0nm,0.3s,baz=139,slow=4.1,SNR=29						
ATAH				Lg		00 35 22.8	
	20nm,0.3s,baz=56,slow=22,SNR=6.6						
LPAZ	La Paz	7.97	105	Pn	Pn	00 33 38.8	+2.4
	25nm,0.3s,baz=298,slow=9.6,SNR=507						
LPAZ				Lg		00 35 52.9	
	baz=214,slow=13,SNR=2.8						
LPAZ				LR	LR	00 36 22.9	
	comp=Z,1μm,21.0s,baz=285,slow=35						
LVC	Limon Verde	10.68	141	Pn	Pn	00 34 13.7	+0.2
	8.1nm,0.3s,baz=306,slow=9.4,SNR=81						
LVC				Sn	Sn	00 36 13.8	+0.9
	9.3nm,0.3s,baz=76,slow=19,SNR=3.8						
LVC				Lg		00 37 07.4	
	3.4nm,0.3s,baz=304,slow=16,SNR=6.6						
LVC				LR	LR	00 38 30.9	
	comp=Z,5μm,21.2s,baz=321,slow=39						
LVC	Limon Verde	10.68	141	ePn	Pn	00 34 13.6	+0.1
SIV	San Ignacio	14.65	98	Pn	Pn	00 35 03.9	-3.9
	1.9nm,0.3s,baz=278,slow=12,SNR=60						
SIV				Sn	Sn	00 38 08.7	+18
	0.6nm,0.3s,baz=200,slow=22,SNR=4.6						
SIV				Lg		00 39 39.1	
	0.5nm,0.3s,baz=42,slow=18,SNR=1.8						
LCO	Las Campanas	15.40	162	ePn	Pn	00 35 18.4	+0.7
	49nm,0.9s						
CFAA	Coronel Fontan	18.60	158	P	Pn	00 35 57.8	-0.3
	0.2nm,0.3s,baz=340,slow=10,SNR=28						
CFAA				Lg		00 41 21.5	
	0.0nm,0.3s,baz=201,slow=4.9,SNR=4.0						

BDFB LR LR 00 50 09.9
comp=Z,1µm,21.5s,MS4.5,baz=104,slow=41
SPB Sao Paulo 28.62 113 *eP* **P 00 37 38.6 +1.6**
GRGR Grenville 30.02 29 *eP* **P 00 37 49.0 -0.5**
MPR Mayaguez 33.60 16 *eP* **P 00 38 21.1 +0.2**
CPD Cerro la Pandu 33.78 18 *eP* **P 00 38 21.9 -0.5**
CPD pmax pmax
comp=Z,25nm,0.9s,mb5.1
CPD Cerro la Pandu 33.78 18 *eP* **P 00 38 21.9 -0.5**
comp=Z,25nm,0.9s,mb5.1
SJG San Juan 33.78 17 P **P 00 38 21.6 -0.8**
comp=Z,32nm,0.8s,mb5.3,baz=243,slow=6.9,SNR=7.0
SJG San Juan 33.78 17 *eP* **P 00 38 22.0 -0.4**
CMIG Matias Romero 36.34 329 P **P 00 38 44.6 +0.1**
comp=Z,7.9nm,0.8s,mb4.7,baz=142,slow=6.0,SNR=9.4
TEIG Tepich 36.41 341 P **P 00 38 44.9 -0.2**
comp=Z,22nm,0.6s,mb5.3,baz=154,slow=8.0,SNR=16
TEIG Tepich 36.41 341 *eP* **P 00 38 45.7 +0.6**
USHA Ushuaia 40.79 173 P **P 00 39 20.7 -0.9**
comp=Z,17nm,0.8s,mb4.7,baz=325,slow=6.0,SNR=6.6
USHA LR LR 00 53 50.9
comp=Z,835nm,18.9s,MS4.6,baz=329,slow=33
KVTX Kingsville 46.72 333 *eP* **P 00 40 11.7 +2.1**
NHSC New Hope 47.39 355 *eP* **P 00 40 15.0 +0.3**
GOGA Godfrey 48.05 352 *eP* **P 00 40 19.0 -0.8**
GOGA pmax pmax
comp=Z,31nm,1.3s,mb5.2
GOGA Godfrey 48.05 352 *eP* **P 00 40 18.9 -0.9**
comp=Z,30nm,1.3s,mb5.2
JCT Junction City 50.09 333 *eP* **P 00 40 36.4 +0.9**
CPCT Cooper Cave 50.20 351 *eP* **P 00 40 35.7 -0.6**
SWET Sewanee 50.20 350 *eP* **P 00 40 35.0 -1.3**
TKL Tuckaleechee C 50.30 352 P **P 00 40 35.7 -1.3**
comp=Z,6.6nm,1.1s,mb4.6,baz=166,slow=7.9,SNR=9.0
TKL Tuckaleechee C 50.30 352 P **P 00 40 35.7 -1.3**
PLAL Pickwick Lake 50.39 347 *eP* **P 00 40 35.9 -1.8**
LPIG La Paz 50.76 319 LR LR 00 57 29.9
comp=Z,470nm,20.8s,MS4.5,baz=163,slow=31
TXAR Lajitas Array 50.95 329 P **P 00 40 41.3 -0.7**
comp=Z,7.9nm,0.8s,mb4.7,baz=148,slow=9.1,SNR=32
TXAR LR LR 01 01 04.4
comp=Z,1µm,18.3s,MS5.0,baz=85,slow=35
PMSA Palmer Station 51.01 173 *eP* **P 00 40 41.9 -0.1**
comp=Z,27nm,1.0s,mb5.1
TZTN Tazewell 51.14 352 *eP* **P 00 40 42.5 -0.9**
UALR University of 51.26 343 *eP* **P 00 40 44.0 -0.2**
comp=Z,28nm,1.2s,mb5.1
MIAR Mount Ida 51.41 342 *eP* **P 00 40 45.4 0.0**
MIAR pmax pmax
comp=Z,17nm,0.8s,mb5.0
MIAR Mount Ida 51.41 342 *eP* **P 00 40 45.4 0.0**
comp=Z,17nm,0.8s,mb5.0
BLA Blacksburg 51.49 356 *eP* **P 00 40 45.7 -0.2**
BLA pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
BLA Blacksburg 51.49 356 *eP* **P 00 40 45.7 -0.2**
comp=Z,7.0nm,0.5s,mb4.8
ELN Prospectdale 51.53 355 *eP* **P 00 40 46.1 -0.1**
URVA University of 51.71 359 *eP* **P 00 40 47.2 -0.3**
WCI Wyandotte Cave 53.20 350 *eP* **P 00 40 57.5 -1.2**
WCI pmax pmax
comp=Z,38nm,1.1s,mb5.2
WCI Wyandotte Cave 53.20 350 *eP* **P 00 40 57.5 -1.1**
comp=Z,38nm,1.1s,mb5.2
SIUC Southern Illin 53.27 347 *eP* **P 00 40 58.2 -0.9**
comp=Z,42nm,1.0s,mb5.3
WMOK Wichita Mounta 53.38 337 *eP* **P 00 41 02.2 +2.2**
SDMD Soldier's Deli 53.53 359 *eP* **P 00 41 01.4 +0.3**
comp=Z,22nm,1.0s,mb5.0
GDL2 Guadalupe Moun 53.63 330 *eP* **P 00 41 02.7 +0.8**
FVM French Village 53.80 346 *eP* **P 00 41 03.5 +0.5**
OLIL Olney 54.02 348 *eP* **P 00 41 02.6 -2.0**
comp=Z,36nm,0.8s,mb5.3
OLIL *e*PcP PcP 00 42 10.0 +0.4
MVL Millersville 54.12 360 *eP* **P 00 41 01.3 -4.0**
comp=Z,29nm,1.1s,mb5.1
BLO Bloomington 54.16 350 *eP* **P 00 41 05.5 -0.2**
BLO pmax pmax
comp=Z,15nm,0.8s,mb5.0
BLO Bloomington 54.16 350 *eP* **P 00 41 05.5 -0.1**
comp=Z,15nm,0.8s,mb5.0
SLM Saint Louis 54.38 346 *eP* **P 00 41 06.1 -1.1**
ACSO Alum Creek Sta 54.72 354 *eP* **P 00 41 08.6 -1.1**
comp=Z,23nm,1.0s,mb5.2
PAL Palisades 55.16 2 *eP* **P 00 41 13.3 +0.4**
PAL pmax pmax
comp=Z,22nm,0.8s,mb5.2
PAL Palisades 55.16 2 *eP* **P 00 41 13.3 +0.5**
comp=Z,22nm,0.8s,mb5.2
319A Douglas 55.52 325 ⇑P **P 00 41 16.0 +0.4**
baz=56,SNR=9.5
318A Bisbee 55.96 325 ⇑P **P 00 41 19.2 +0.3**
baz=56,SNR=27
219A White Tail Can 55.98 326 ⇑P **P 00 41 19.1 +0.1**
baz=56,SNR=13
RKT Rikitea 56.05 252 *e*S **S 00 49 08.7 +0.4**
RKT *e*LR LR 00 57 47.5
comp=Z,2µm,28.2s,baz=83
BRYW Bryant College 56.19 4 *eP* **P 00 41 20.6 +0.3**
comp=Z,46nm,1.0s,mb5.5
BINY Binghamton 56.31 0 *eP* **P 00 41 21.6 +0.4**
comp=Z,23nm,0.9s,mb5.2
BNM Barren Site 56.32 330 *eP* **P 00 41 21.9 +0.6**
218A Dragoon 56.39 325 ⇑P **P 00 41 22.2 +0.2**
baz=57,SNR=16
119A Ashpeak Ranch, 56.60 327 ⇑P **P 00 41 23.3 -0.1**
baz=57
LAZ Ladron 56.77 329 *eP* **P 00 41 25.5 +0.9**
HRV Adam Dziewonsk 56.78 4 *eP* **P 00 41 24.6 +0.2**
HRV pmax pmax
comp=Z,18nm,1.0s,mb5.1
HRV Adam Dziewonsk 56.78 4 *eP* **P 00 41 24.6 +0.2**
comp=Z,18nm,1.0s,mb5.0
118A Homack Ranch, 56.86 326 ⇓P **P 00 41 25.0 -0.2**
baz=57,SNR=14
ANMO Albuquerque 56.88 330 P **P 00 41 24.8 -0.5**
comp=Z,7.9nm,1.0s,mb4.7,baz=165,slow=8.3,SNR=11
ANMO Albuquerque 56.88 330 *eP* **P 00 41 25.4 +0.1**
Z19A T-Link Ranch, 56.98 327 ⇑P **P 00 41 25.6 -0.4**
baz=57
TUC Tucson 57.06 325 *eP* **P 00 41 26.9 +0.3**
216A Three Points, 57.20 324 ⇓P **P 00 41 27.0 -0.7**
baz=57
117A Oracle 57.23 325 ⇑P **P 00 41 27.2 -0.6**
baz=57,SNR=22
Y19A Nutrioso 57.49 327 ⇑P **P 00 41 29.3 -0.4**
baz=58,SNR=17
ACCN Adirondack Com 57.54 2 *eP* **P 00 41 30.3 +0.4**
comp=Z,30nm,0.9s,mb5.3
116A Eloy 57.76 325 ⇑P **P 00 41 30.8 -0.8**
baz=58
Y18A Canyon Day Jun 57.76 327 ⇑P **P 00 41 31.2 -0.4**
baz=58
X19A St. Johns 57.88 328 ⇓P **P 00 41 31.8 -0.5**
baz=58
214A Organ Pipe Nat 57.95 323 ⇑P **P 00 41 32.2 -0.7**
baz=58,SNR=10
NCB Newcomb 58.11 2 *eP* **P 00 41 34.1 +0.3**
Y17A Roosevelt 58.14 326 ⇓P **P 00 41 34.2 0.0**
baz=58,SNR=12
115A Sonoran Desert 58.16 324 ⇑P **P 00 41 34.1 -0.3**
baz=58
Z16A Peralta Trail, 58.19 325 ⇑P **P 00 41 34.3 -0.2**
baz=58
X18A Snowflake 58.30 327 ⇑P **P 00 41 35.4 +0.1**
baz=58
W19A Sanders 58.46 328 ⇑P **P 00 41 36.4 0.0**
baz=59
X17A Forest Lakes 58.60 327 ⇑P **P 00 41 37.6 +0.2**
baz=59,SNR=11
Y16A Circle Bar Ran 58.62 326 ⇑P **P 00 41 37.6 0.0**
baz=59
W18A Petrified Fore 58.64 328 ⇑P **P 00 41 37.7 0.0**
baz=59
SDCO Great Sand Dun 58.73 333 *eP* **P 00 41 38.5 +0.1**
comp=Z,18nm,0.9s,mb5.1
V19A Window Rock 58.76 329 ⇓P **P 00 41 38.4 -0.1**
baz=59
X16A Lo Mia Camp, P 59.01 326 ⇑P **P 00 41 40.2 -0.1**
baz=59,SNR=13
Z14A Wintersburg 59.05 324 ⇑P **P 00 41 40.3 -0.3**
baz=59
113A Mohawk Valley, 59.09 323 ⇓P **P 00 41 40.6 -0.3**
baz=59
W17A Winslow 59.12 327 ⇑P **P 00 41 41.0 -0.1**
baz=59
Y15A Casa Rosa Ranc 59.15 325 ⇓P **P 00 41 41.4 +0.1**
baz=59,SNR=9.1
V18A Ganado 59.20 328 ⇑P **P 00 41 41.4 -0.3**
baz=59
112A Yuma 59.40 322 ⇑P **P 00 41 42.6 -0.5**
baz=60
X15A Humboldt 59.49 326 ⇑P **P 00 41 44.3 +0.6**
baz=60,SNR=11
Y14A Wickenburg 59.51 325 ⇓P **P 00 41 43.5 -0.3**
baz=60,SNR=10
W16A Flagstaff 59.57 327 ⇑P **P 00 41 44.4 +0.3**
baz=60
T19A Beclabito 59.63 330 ⇑P **P 00 41 44.3 -0.2**
baz=60
MVCO Mesa Verde 59.68 330 ⇑P **P 00 41 44.4 -0.4**
baz=60
MVCO Mesa Verde 59.68 330 *eP* **P 00 41 51.5 +6.7**
comp=Z,13nm,0.9s,mb5.0
U18A Rough Rock, Ch 59.73 329 ⇓P **P 00 41 45.2 0.0**
baz=60
WUAZ Wupatki 59.80 327 ⇓P **P 00 41 46.1 +0.3**
baz=60
WUAZ Wupatki 59.80 327 *eP* **P 00 41 46.9 +1.2**
comp=Z,26nm,1.0s,mb5.2
X14A Yava 59.84 325 ⇓P **P 00 41 46.0 0.0**
baz=60,SNR=19
Y13A Salome 59.88 324 ⇑P **P 00 41 46.4 +0.1**
baz=60
GLA Glamis 59.91 323 ⇓P **P 00 41 46.2 -0.3**
baz=60
W15A Williams 60.02 326 ⇓P **P 00 41 47.2 -0.1**
baz=60
Y12C Blythe 60.24 323 ⇑P **P 00 41 48.7 -0.1**
baz=60,SNR=13
U17A Shonto 60.27 328 ⇑P **P 00 41 48.8 -0.1**
baz=60
T18A Mexican Hat 60.29 329 ⇓P **P 00 41 48.6 -0.5**
baz=60,SNR=12
S19A Harvey Farm, M 60.41 330 ⇓P **P 00 41 49.1 -0.8**
baz=61
PV01 Paradox Valley 60.45 331 *eP* **P 00 41 50.6 +0.4**
X13A Yucca 60.45 325 ⇑P **P 00 41 50.0 -0.3**
baz=61,SNR=7.8
V15A Kaibab Nationa 60.46 327 ⇑P **P 00 41 50.3 +0.1**
baz=61
ISCO Idaho Springs 60.49 334 *eP* **P 00 41 50.8 +0.4**
W14A Seligman 60.49 326 ⇑P **P 00 41 50.8 +0.3**
baz=61,SNR=9.5
SMCO Snowmass 60.57 333 *eP* **P 00 41 56.0 +5.1**
T17A Navajo Res., N 60.65 329 ⇓P **P 00 41 51.7 +0.3**
baz=61,SNR=7.8
BC3 Big Chuckw Mtn 60.71 323 ⇑P **P 00 41 52.1 +0.1**
baz=61,SNR=11
BAR Barrett 60.76 321 *eP* **P 00 41 50.7 -1.6**
comp=Z,6.4nm,0.8s,mb4.8
S18A Hurst Farm, Bl 60.78 330 ⇑P **P 00 41 52.3 -0.1**
baz=61
ECSD EROS,Sioux Fal 60.80 343 *eP* **P 00 41 51.1 -1.3**
V14A Boquillas Ranc 60.82 326 ⇓P **P 00 41 53.5 +0.8**
baz=61,SNR=11
W13A Hualapai Mount 60.85 325 ⇑P **P 00 41 53.5 +0.5**
baz=61
IRM Iron Mountain 60.89 323 ⇓P **P 00 41 53.4 +0.2**
baz=61,SNR=8.1
R19A Curley Farm, L 60.90 331 ⇓P **P 00 41 52.9 -0.3**
baz=61
U15A North Rim 60.98 327 ⇑P **P 00 41 53.6 -0.2**
baz=61,SNR=9.9
S17A Black Ridge (B 61.14 329 ⇓P **P 00 41 54.9 0.0**
baz=61
109C Camp Elliot, M 61.16 321 ⇓P **P 00 41 54.7 -0.4**
baz=61
PFO Pinyon Flat Ob 61.27 322 LR LR 01 03 32.0
comp=Z,585nm,21.9s,MS4.7,baz=137,slow=31
PFO Pinyon Flat Ob 61.27 322 *eP* **P 00 41 57.4 +1.6**
PFO pmax pmax
comp=Z,19nm,1.0s,mb5.2
PFO Pinyon Flat Ob 61.27 322 ⇓P **P 00 41 55.7 -0.1**
baz=61
PFO Pinyon Flat Ob 61.27 322 *eP* **P 00 41 57.4 +1.6**
comp=Z,19nm,1.0s,mb5.2
BELC Belle Mtn. 61.27 323 ⇑P **P 00 41 56.0 +0.2**
baz=61
R18A Canyonlands Na 61.28 330 ⇑P **P 00 41 55.6 -0.2**
baz=62
Q19A Hogan Spring (61.43 331 ⇑P **P 00 41 56.9 +0.1**
baz=62
U14A Mt Trumbull 61.44 326 ⇑P **P 00 41 57.2 +0.3**
baz=62,SNR=9.7
V13A Grand Canyon W 61.46 325 ⇓P **P 00 41 57.6 +0.5**
baz=62,SNR=11
T15A Red Dirt Ranch 61.47 327 ⇑P **P 00 41 58.0 +0.8**
baz=62,SNR=8.4
S16A Weppner Ranch, 61.60 328 ⇓P **P 00 41 58.4 +0.4**
baz=62
GMRC Granite Mounta 61.63 323 ⇑P **P 00 41 58.7 +0.5**
baz=62
R17A Hanksville Air 61.70 330 ⇓P **P 00 41 58.8 +0.2**
baz=62,SNR=8.2
MURC Murrieta 61.71 322 ⇓P **P 00 41 58.7 -0.1**
baz=62
V12A Nelson 61.85 325 ⇑P **P 00 42 00.1 +0.4**
baz=62
U13A Pakoon Wash 61.86 326 ⇓P **P 00 41 59.9 +0.2**
baz=62
T14A Hurricane 61.87 327 ⇑P **P 00 42 00.2 +0.3**
baz=62
Q18A Rafter H Ranch 61.96 330 ⇑P **P 00 42 00.2 -0.2**
baz=62
S15A Panguitch 61.96 328 ⇑P **P 00 42 00.4 0.0**
baz=62
HEC Hector,Ludlow 62.05 323 ⇓P **P 00 42 01.0 0.0**
baz=62
SRU San Rafael 62.15 330 ⇑P **P 00 42 01.5 -0.2**
baz=62,SNR=7.7
SRU San Rafael 62.15 330 *eP* **P 00 42 02.2 +0.5**
U12A Valley of Fire 62.19 326 ⇓P **P 00 42 01.9 -0.1**
baz=62
TUQ Turquoise Mtn. 62.25 324 ⇓P **P 00 42 02.8 +0.5**
baz=62
V11A Goodsprings 62.26 324 ⇑P **P 00 42 02.3 -0.1**
baz=62
T13A Saint George 62.28 326 ⇑P **P 00 42 02.6 +0.1**
baz=62
Q16A Castle Valley 62.32 330 ⇑P **P 00 42 02.9 +0.2**
baz=62
R15A Junction 62.32 328 ⇓P **P 00 42 02.7 -0.1**
baz=62
BFSC Mount Baldy St 62.42 322 ⇑P **P 00 42 03.2 -0.4**
baz=63,SNR=6.4
P18A Preston Nutter 62.43 331 ⇑P **P 00 42 03.6 +0.1**
baz=63
S14A Cedar City 62.44 327 ⇓P **P 00 42 03.7 +0.1**
baz=63
T12A Moapa 62.50 326 ⇓P **P 00 42 03.8 -0.2**
baz=63
MSU Marysvale 62.51 329 *eP* **P 00 42 04.8 +0.8**
P17A Butcher Ranch, 62.54 330 ⇑P **P 00 42 03.8 -0.4**
baz=63,SNR=7.2
SHPR Sheep Range 62.59 325 *eP* **P 00 42 05.3 +0.7**
MWC Mount Wilson 62.66 321 *eP* **P 00 42 12.0 +6.9**
MWC pmax pmax
comp=Z,26nm,1.1s,mb5.3
MWC Mount Wilson 62.66 321 *eP* **P 00 42 12.0 +6.9**
comp=Z,26nm,1.1s,mb5.3
GSC Goldstone 62.66 323 ⇑P **P 00 42 05.1 0.0**
baz=63
GSC Goldstone 62.66 323 *eP* **P 00 42 07.3 +2.2**
S13A Holt Ranch, En 62.67 327 ⇑P **P 00 42 06.0 +0.8**
baz=63,SNR=27
RWWY Rawlins 62.74 334 *eP* **P 00 42 06.1 +0.6**
TAOE Nuku Hiva Isla 62.75 267 *e*S **S 00 50 35.9 +0.6**
comp=Z,3µm,27.2s
TAOE Nuku Hiva Isla 62.75 267 *e*LR LR 01 00 50.9
comp=Z,10µm,24.9s,baz=104
O18A Roosevelt 62.82 331 ⇑P **P 00 42 06.2 +0.1**
baz=63
T11A Corn Creek, Al 63.15 326 ⇑P **P 00 42 08.8 +0.4**
baz=63,SNR=14
R13A O'Grain Ranch, 63.17 327 ⇓P **P 00 42 08.3 -0.1**
baz=63
U10A Ash Meadows, A 63.18 324 ⇓P **P 00 42 08.7 +0.1**
baz=63
N18A Larsen Ranch, 63.23 332 ⇓P **P 00 42 08.5 -0.4**
baz=63
P15A Leamington 63.37 329 ⇓P **P 00 42 09.8 0.0**
baz=64
MPU Maple Canyon 63.40 330 *eP* **P 00 42 10.7 +0.8**
Q14A Sevier Lake (B 63.42 328 ⇓P **P 00 42 10.6 +0.5**
baz=64,SNR=9.5
O16A Springville 63.48 330 ⇑P **P 00 42 10.8 +0.3**
baz=64
TPNV Topopah Spring 63.51 325 *eP* **P 00 42 12.0 +1.2**
TPNV pmax pmax
comp=Z,14nm,0.8s,mb5.0
TPNV Topopah Spring 63.51 325 ⇓P **P 00 42 11.1 +0.4**
baz=64
TPNV Topopah Spring 63.51 325 *eP* **P 00 42 12.0 +1.3**
comp=Z,14nm,0.8s,mb5.0
FURC Furnace Creek, 63.52 324 ⇓P **P 00 42 10.9 +0.1**
baz=64,SNR=5.3
DAU Daniels Canyon 63.52 331 *eP* **P 00 42 11.6 +0.8**
RSSD Black Hills 63.54 338 *eP* **P 00 42 10.3 -0.5**
RSSD pmax pmax
comp=Z,23nm,1.5s,mb5.0
RSSD Black Hills 63.54 338 *eP* **P 00 42 10.3 -0.5**
comp=Z,23nm,1.5s,mb5.0
EYMN Ely 63.55 349 *eP* **P 00 42 11.6 +0.8**
comp=Z,16nm,1.0s,mb5.0
NLU North Lily Min 63.56 330 *eP* **P 00 42 11.4 +0.3**
MPMC Manual Prospec 63.59 323 ⇓P **P 00 42 11.2 -0.1**
baz=64,SNR=6.2
R12A Pony Springs, 63.62 327 ⇑P **P 00 42 11.5 +0.1**
baz=64
S11A Rachel 63.73 326 ⇑P **P 00 42 12.6 +0.4**
baz=64
ARVC Arvin 63.73 322 ⇑P **P 00 42 12.6 +0.3**
baz=64
N17A Moffit Pass 63.74 331 ⇓P **P 00 42 12.5 +0.4**
baz=64
JLU Jordanelle 63.76 331 *eP* **P 00 42 13.3 +0.9**
P14A Drum Mountains 63.77 329 ⇓P **P 00 42 13.0 +0.5**
baz=64,SNR=8.4
Q13A Wheeler Ranch, 63.78 328 ⇑P **P 00 42 13.0 +0.5**
baz=64,SNR=8.1
ISA Isabella 63.89 322 *eP* **P 00 42 15.1 +1.8**
ISA pmax pmax
comp=Z,11nm,0.9s,mb4.9
ISA Isabella 63.89 322 *eP* **P 00 42 15.1 +1.8**
comp=Z,11nm,0.9s,mb4.9
N16A Rees Ranch, Co 63.98 331 ⇓P **P 00 42 14.1 +0.3**
baz=64
DUG Dugway 64.11 329 ⇑P **P 00 42 14.9 +0.3**
baz=64
DUG Dugway 64.11 329 *eP* **P 00 42 15.2 +0.6**
P13A Bates Ranch, G 64.15 328 ⇑P **P 00 42 15.7 +0.8**
baz=64,SNR=11
R11A Troy Canyon, C 64.16 326 ⇑P **P 00 42 15.7 +0.7**
baz=64,SNR=12
PKM Peak Mountain 64.18 321 ⇓P **P 00 42 15.4 +0.2**
baz=64
CWC Cottonwood Cre 64.19 323 ⇑P **P 00 42 15.5 +0.2**
baz=64
Q12A Willow Creek R 64.26 327 ⇑P **P 00 42 16.0 +0.4**
baz=64,SNR=10
VES Vestal, Richgr 64.37 322 ⇓P **P 00 42 16.1 -0.3**
baz=64
S10A Tonopah Range, 64.40 325 ⇓P **P 00 42 16.9 +0.3**
baz=65
M16A Huntsville 64.41 331 ⇓P **P 00 42 16.3 -0.3**
baz=65
R10A Warm Springs 64.50 326 ⇓P **P 00 42 18.2 +0.9**
baz=65
Q11A Duckwater 64.56 327 ⇓P **P 00 42 18.3 +0.7**
baz=65
HWUT Hardware Ranch 64.60 331 *eP* **P 00 42 17.1 -0.8**
comp=Z,22nm,0.9s,mb5.2
S09A Goldfield 64.61 325 ⇑P **P 00 42 18.7 +0.8**
baz=65
BW06 Boulder Array 64.62 333 *eP* **P 00 42 17.7 -0.3**
PDAR Pinedale Array 64.62 333 P **P 00 42 17.3 -0.6**
comp=Z,3.6nm,0.9s,mb4.4,baz=136,slow=7.4,SNR=14
O13A Hicks Ranch, I 64.64 329 ⇑P **P 00 42 18.4 +0.3**
baz=65
BGU Big Grassy Mou 64.77 330 *eP* **P 00 42 18.8 -0.1**
SPUT South Promonto 64.79 330 *eP* **P 00 42 19.4 +0.4**
N14A Grayback Hills 64.79 330 ⇓P **P 00 42 18.9 -0.2**
baz=65,SNR=11
AGMN Agassiz Refuge 64.83 346 *eP* **P 00 42 18.7 -0.5**
TPH Tonopah 64.86 325 *eP* **P 00 42 22.1 +2.5**
TPH pmax pmax
comp=Z,21nm,1.0s,mb5.1
TPH Tonopah 64.86 325 *eP* **P 00 42 22.1 +2.5**
comp=Z,21nm,1.0s,mb5.1
L16A Fish Haven 64.86 332 ⇓P **P 00 42 19.4 -0.1**
baz=65
R09A Tonopah 64.89 325 ⇑P **P 00 42 19.9 +0.2**
baz=65,SNR=9.5
M15A Larsen Ranch, 64.91 331 ⇓P **P 00 42 19.4 -0.4**
baz=65,SNR=13
HELL Mitchell Peak 64.91 323 ⇑P **P 00 42 19.9 -0.1**
baz=65,SNR=5.6
Q10A Clear Creek Ra 64.94 326 ⇑P **P 00 42 20.5 +0.4**
baz=65
S08C White Mtn Res 64.98 324 ⇑P **P 00 42 21.0 +0.6**
baz=65
MTUM Tungsten Hills 65.11 324 *eP* **P 00 42 22.3 +1.1**
P11A Circle Ranch, 65.13 327 ⇓P **P 00 42 21.4 +0.1**
baz=65
O12A Currie 65.13 328 ⇑P **P 00 42 21.3 0.0**
baz=65,SNR=14
L15A Malad City 65.30 331 ⇓P **P 00 42 21.7 -0.6**
baz=66,SNR=9.0
N13A Wendover, West 65.30 329 ⇓P **P 00 42 21.9 -0.5**
baz=66
HVU Hansel Valley 65.31 331 *eP* **P 00 42 22.5 +0.1**
M14A Sheep Mountain 65.37 330 ⇑P **P 00 42 22.6 -0.2**
baz=66,SNR=15
O11A Cowboy Ranch, 65.50 328 ⇓P **P 00 42 23.8 +0.1**
baz=66,SNR=6.7
KCC Kaiser Creek 65.52 323 ⇑P **P 00 42 23.5 -0.4**
baz=66
P10A Eureka 65.55 327 ⇓P **P 00 42 23.9 -0.2**
baz=66
K16A Soda Springs 65.58 332 ⇑P **P 00 42 24.4 +0.3**
baz=66
REDW Red Top Meadow 65.67 333 *eP* **P 00 42 25.0 +0.3**
comp=Z,23nm,1.3s,mb5.0
SNOW Snow King Moun 65.70 333 *eP* **P 00 42 25.2 +0.3**
comp=Z,15nm,0.4s,mb5.4
NVAR Mina Array Bea 65.71 325 P **P 00 42 24.9 -0.1**
comp=Z,2.6nm,0.8s,mb4.3,baz=131,slow=6.0,SNR=10.0
N12A Clover Valley, 65.72 329 ⇓P **P 00 42 24.9 -0.2**
baz=66
L14A Malta 65.72 330 ⇓P **P 00 42 24.6 -0.5**
baz=66,SNR=8.9
ELK Elko 65.74 328 *eP* **P 00 42 25.5 +0.3**
LOHW Long Hollow 65.76 333 *eP* **P 00 42 25.1 -0.1**
Q08A Gabbs 65.80 325 ⇓P **P 00 42 25.6 -0.1**
baz=66
TPAW Teton Pass 65.81 333 *eP* **P 00 42 26.1 +0.4**
comp=Z,11nm,1.0s,mb4.9
RRI2 Red Ridge 65.86 333 *eP* **P 00 42 26.6 +0.7**
K15A Arbon 65.89 331 ⇑P **P 00 42 25.7 -0.5**
baz=66
MOOW Moose Ponds 65.93 333 *eP* **P 00 42 26.4 +0.1**
J16A Bone 65.93 332 ⇑P **P 00 42 25.9 -0.5**
baz=66
N11A Elko Archery C 66.05 328 ⇑P **P 00 42 27.1 -0.1**
baz=66
O10A Cortez Mining, 66.06 327 ⇑P **P 00 42 27.3 0.0**
baz=66,SNR=12
M12A Wells 66.07 329 ⇓P **P 00 42 27.2 -0.2**
baz=66
K14A Jones Ranch, D 66.09 331 ⇓P **P 00 42 27.0 -0.4**
baz=66
L13A Double Diamond 66.11 330 ⇑P **P 00 42 27.4 -0.2**
baz=66
S05C Merced 66.13 323 ⇑P **P 00 42 27.6 -0.2**
baz=66
IMW Indian Meadow 66.13 333 *eP* **P 00 42 27.9 +0.2**
comp=Z,31nm,1.6s,mb5.1
FLWY Flagg Ranch 66.17 333 *eP* **P 00 42 28.5 +0.5**
S06C San Francisco 66.21 323 ⇑P **P 00 42 28.2 -0.2**
baz=66,SNR=5.7
O09A Fish Creek Ran 66.33 327 ⇓P **P 00 42 29.3 +0.2**
baz=66
RLMT Red Lodge 66.41 335 *eP* **P 00 42 29.5 0.0**
comp=Z,13nm,0.9s,mb5.0
R06C Coleville 66.42 324 ⇑P **P 00 42 29.9 +0.2**
baz=67
LKWY Lake 66.43 334 *eP* **P 00 42 31.4 +1.8**
LKWY pmax pmax
comp=Z,16nm,1.0s,mb5.0
LKWY Lake 66.43 334 *eP* **P 00 42 31.4 +1.8**

comp=Z,16nm,1.0s,mb5.0
P08A **Dixie Valley** 66.47 326 ⇑P P 00 42 30.4 +0.4
baz=67
M11A **Holland Ranch,** 66.53 328 ⇓P P 00 42 30.4 +0.1
baz=67,SNR=9.3
K13A **Stover Farm, H** 66.60 330 ⇓P P 00 42 30.7 0.0
baz=67
CMB **Columbia Colle** 66.62 323 ⇑P P 00 42 30.8 -0.2
baz=67,SNR=5.7
CMB **Columbia Colle** 66.62 323 *e*P P 00 42 31.6 +0.6
ULM **Lac du Bonnet** 66.66 346 P P 00 42 29.7 -1.2
comp=Z,17nm,0.8s,mb5.1,baz=160,slow=6.7,SNR=12
L12A **House Creek Ra** 66.67 329 ⇑P P 00 42 31.1 -0.1
baz=67
S04C **Ingram Canyon,** 66.82 322 ⇓P P 00 42 33.2 +0.9
baz=67
R05C **Kirkwood Meado** 66.90 324 ⇑P P 00 42 33.1 +0.4
baz=67
O08A **Rochester Mine** 66.94 326 ⇓P P 00 42 33.2 +0.3
baz=67
M10A **I.L. Ranch, Tu** 66.97 328 ⇓P P 00 42 33.3 +0.1
baz=67
K12A **Draper Farm, C** 66.98 330 ⇑P P 00 42 33.5 +0.3
baz=67,SNR=18
L11A **Cat Creek Ranc** 67.05 329 ⇓P P 00 42 33.8 +0.2
baz=67,SNR=15
QLMT **Earthquake Lak** 67.09 334 *e*P P 00 42 35.1 +1.4
R04C **Big Horse Ranc** 67.09 323 ⇑P P 00 42 34.0 +0.1
baz=67
GCMT **Greycliff** 67.12 335 *e*P P 00 42 33.9 0.0
WCN **Washoe City** 67.13 325 ⇓P P 00 42 34.8 +0.6
baz=67
PAHR **Pah Rah Range** 67.20 325 *e*P P 00 42 36.0 +1.4
J13A **Cove Ranch, Pi** 67.21 331 ⇑P P 00 42 34.7 +0.1
baz=67,SNR=9.6
O07A **Toulon** 67.24 326 ⇑P P 00 42 34.8 -0.1
baz=67,SNR=12
L10A **Juniper Basin** 67.35 329 ⇓P P 00 42 35.1 -0.4
baz=68,SNR=11
DGMT **Dagmar** 67.37 340 *e*P P 00 42 36.1 +0.6
M09A **Marrel Ranch,** 67.37 327 ⇓P P 00 42 35.4 -0.3
baz=68
HLID **Hailey** 67.45 331 ⇓P P 00 42 36.2 +0.1
baz=68,SNR=16
HLID **Hailey** 67.45 331 *e*P P 00 42 36.6 +0.5
J12A **Stokes Ranch,** 67.54 330 ⇓P P 00 42 36.2 -0.4
baz=68,SNR=8.0
I13A **Wildhorse Cree** 67.58 331 ⇓P P 00 42 37.4 +0.5
baz=68,SNR=24
P05C **Yuba Gap, Truc** 67.61 324 ⇑P P 00 42 37.6 +0.4
baz=68
K11A **Parker Ranch,** 67.64 329 ⇑P P 00 42 37.4 0.0
baz=68
MCMT **McKenzie Canyo** 67.71 333 P P 00 42 38.5 +0.8
N07B **Gerlach** 67.72 326 ⇑P P 00 42 37.6 -0.3
baz=68
O06A **Flanigan** 67.76 325 ⇓P P 00 42 37.9 -0.2
baz=68
G15A **Dillon** 67.81 333 ⇑P P 00 42 38.1 -0.2
baz=68,SNR=15
BOZ **Bozeman (W)** 67.82 334 *e*P P 00 42 38.6 +0.2
BOZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BOZ **Bozeman (W)** 67.82 334 ⇓P P 00 42 37.8 -0.6
baz=68
BOZ **Bozeman (W)** 67.82 334 *e*P P 00 42 38.5 +0.2
comp=Z,10nm,0.9s,mb4.8
BEKR **Beckwourth** 67.86 325 ⇑P P 00 42 39.0 +0.3
baz=68
M08A **Happy Creek Ra** 67.88 327 ⇑P P 00 42 38.8 0.0
baz=68
L09A **Wilkinson Ranc** 67.92 328 ⇓P P 00 42 38.9 -0.1
baz=68
DLMT **Dillon** 68.01 333 *e*P P 00 42 39.8 +0.1
comp=Z,17nm,1.0s,mb5.0
MFID **Camas Ranch** 68.02 330 ⇑P P 00 42 39.7 +0.1
baz=68,SNR=22
K10A **MacKenzie Ranc** 68.06 329 ⇑P P 00 42 40.1 +0.1
baz=68,SNR=12
OHCM **Honcut** 68.14 324 *e*P P 00 42 40.4 -0.1
H13A **Challis** 68.14 332 ⇓P P 00 42 40.8 +0.4
baz=68
N06A **Buffalo Meadow** 68.17 326 ⇓P P 00 42 40.7 0.0
baz=68,SNR=9.1
O05C **Quincy** 68.23 324 ⇓P P 00 42 41.2 +0.1
baz=68
SUTB **Sutter Butte** 68.24 323 ⇑P P 00 42 41.0 -0.2
baz=68
M07A **Soldier Meadow** 68.26 326 ⇓P P 00 42 41.1 -0.2
baz=68
ORV **Oroville** 68.29 324 ⇓P P 00 42 41.5 0.0
baz=68,SNR=11
G14A **Jackson** 68.30 333 ⇑P P 00 42 41.3 -0.1
baz=68
LRM **Limekiln Ridge** 68.31 334 *e*P P 00 42 41.7 +0.2
F15A **Butte** 68.34 334 ⇑P P 00 42 41.6 -0.1
baz=68
L08A **Fields** 68.39 328 ⇓P P 00 42 41.7 -0.4
baz=69
H12A **Diamond D Ranc** 68.41 331 ⇑P P 00 42 42.2 +0.1
baz=69,SNR=17
K09A **Rome** 68.44 328 ⇑P P 00 42 42.6 +0.3
baz=69,SNR=17
I11A **Placerville** 68.45 330 ⇑P P 00 42 42.1 -0.3
baz=69
J10A **Berg Farm, Mel** 68.48 329 ⇓P P 00 42 42.0 -0.6
baz=69
G13A **Cobalt** 68.53 332 ⇓P P 00 42 42.8 -0.1
baz=69,SNR=12
O04C **Chester** 68.57 325 ⇓P P 00 42 43.0 -0.2
baz=69
F14A **Wisdom** 68.70 333 ⇓P P 00 42 43.7 -0.2
baz=69
L07A **Adell** 68.79 327 ⇓P P 00 42 44.5 0.0
baz=69
K08A **Mann Creek Ran** 68.85 328 ⇑P P 00 42 44.9 0.0
baz=69
E15A **Deer Lodge** 68.87 334 ⇑P P 00 42 44.9 -0.1
baz=69
J09A **Fry Pan Ranch,** 68.92 329 ⇑P P 00 42 44.7 -0.6
baz=69
EGMT **Eagleton** 68.98 337 ⇓P P 00 42 45.1 -0.5
baz=69
EGMT **Eagleton** 68.98 337 *e*P P 00 42 45.7 +0.1
comp=Z,17nm,0.9s,mb5.0
I10A **Payette** 68.99 330 ⇓P P 00 42 45.4 -0.3
baz=69
H11A **Donnelly** 69.07 331 ⇓P P 00 42 45.9 -0.3
baz=69,SNR=8.7
F13A **Darby** 69.11 332 ⇓P P 00 42 46.5 0.0
baz=69,SNR=15
K07A **Rock Creek Ran** 69.22 327 ⇓P P 00 42 46.9 -0.3
baz=69
MOD **Modoc** 69.22 326 ⇓P P 00 42 46.8 -0.4
baz=69
MOD **Modoc** 69.22 326 *e*P P 00 42 48.3 +1.0
VNA1 **Neumayer--Stat** 69.24 161 *e*Pdiff P 00 42 47.2 +0.2
VNA1 *e* 00 42 55.4
VNA1 *e* 00 42 57.8
VNA1 *e* 00 43 11.5
J08A **Circle Bar Ran** 69.29 328 ⇑P P 00 42 47.5 -0.1
baz=70
D15A **Lincoln** 69.30 334 ⇓P P 00 42 47.8 +0.2
baz=70,SNR=7.0
P01C **Double 8 Ranch** 69.30 323 ⇑P P 00 42 47.2 -0.6
baz=70
TBI **Tubuai** 69.31 250 *e*S S 00 51 56.1 +1.2
comp=Z,2μm,29.5s
TBI **Tubuai** 69.31 250 *e*LR LR 01 03 53.7
comp=Z,2μm,27.2s,baz=93
M05C **Lookout** 69.31 325 ⇓P P 00 42 47.8 0.0
baz=70
H10A **Noah's Angus R** 69.33 330 ⇓P P 00 42 47.7 -0.2
baz=70
I09A **Lost Marbles R** 69.37 329 ⇑P P 00 42 48.0 -0.1
baz=70
SCHQ **Schefferville** 69.41 6 P P 00 42 46.6 -1.5
comp=Z,11nm,0.8s,mb4.8,baz=204,slow=5.4,SNR=8.5
SCHQ LR LR 01 14 48.4
comp=Z,545nm,19.8s,MS4.8,baz=193,slow=37
O02C **Red Bluff** 69.44 324 ⇑P P 00 42 48.3 -0.4
baz=70
F12A **Elk City** 69.50 332 ⇑P P 00 42 48.8 -0.1
baz=70,SNR=8.9
CHMT **Chamberlain Mo** 69.51 334 *e*P P 00 42 49.5 +0.6
E13A **Victor** 69.55 333 ⇓P P 00 42 48.8 -0.4
baz=70,SNR=7.9
WDC **Whiskeytown Da** 69.57 324 ⇓P P 00 42 49.0 -0.4
baz=70
WDC **Whiskeytown Da** 69.57 324 *e*P P 00 42 50.2 +0.8
KIPM **Iron Peak** 69.61 323 *e*P P 00 42 51.0 +1.3
L05A **Lakeview** 69.61 326 ⇑P P 00 42 48.9 -0.7
baz=70
G11A **Walters Elk Ra** 69.71 331 ⇓P P 00 42 49.9 -0.3
baz=70,SNR=14
I08A **Drewsey** 69.73 329 ⇑P P 00 42 50.3 -0.1
baz=70
MSO **Missoula** 69.74 333 *e*P P 00 42 51.1 +0.8
D14A **Greenough** 69.75 334 ⇑P P 00 42 50.3 -0.1
baz=70,SNR=9.2
BMO **Blue Mountains** 69.80 330 *e*P P 00 42 50.7 0.0
M03C **McCloud** 69.80 325 ⇓P P 00 42 49.9 -0.9
baz=70
K06A **Valley Falls** 69.82 327 ⇓P P 00 42 50.9 0.0
baz=70,SNR=24
H09A **Durkee** 69.83 330 ⇓P P 00 42 50.6 -0.3
baz=70
M04C **Macdoel** 69.98 325 ⇑P P 00 42 51.3 -0.6
baz=70
F11A **Grangeville** 70.02 331 ⇑P P 00 42 51.5 -0.5
baz=70,SNR=21
G10A **Bishop Farm, J** 70.03 331 ⇑P P 00 42 52.2 +0.1
baz=70,SNR=14
J06A **Christmas Vall** 70.08 327 ⇓P P 00 42 52.5 0.0
baz=70,SNR=18
K05A **Summer Lake** 70.11 327 ⇓P P 00 42 52.9 +0.2
baz=70
N02C **Big Bar** 70.17 324 ⇓P P 00 42 53.1 0.0
baz=70
D13A **Huson** 70.17 333 ⇑P P 00 42 53.3 +0.3
baz=70,SNR=6.5
H08A **Prairie City** 70.22 329 ⇑P P 00 42 53.6 +0.3
baz=70,SNR=18
PPT **Papeete** 70.24 256 *e*S S 00 52 06.3 +0.3
comp=Z,2μm,27.8s
PPT **Papeete** 70.24 256 *e*LR LR 01 04 14.2
comp=Z,1μm,27.0s,baz=98
L04A **Klamath Falls** 70.27 326 ⇓P P 00 42 53.9 +0.1
baz=70
M02C **Callahan** 70.28 324 ⇓P P 00 42 53.0 -0.8
baz=70
I07A **Izee** 70.33 328 ⇑P P 00 42 54.1 +0.1
baz=70,SNR=11
G09A **Cove** 70.34 330 ⇓P P 00 42 54.2 +0.2
baz=70,SNR=14
C14A **Swan Lake** 70.39 334 ⇓P P 00 42 54.2 -0.1
baz=71,SNR=21
E11A **Bogner Ranch,** 70.39 332 ⇓P P 00 42 54.3 0.0
baz=71,SNR=10
YBH **Yreka Blue Hor** 70.43 325 ⇑P P 00 42 53.8 -0.9
baz=71
YBH **Yreka Blue Hor** 70.43 325 *e*P P 00 42 54.0 -0.7
KHMM **Horse Mountain** 70.44 324 *e*P P 00 42 58.1 +3.3
D12A **Red Ives Fores** 70.53 333 ⇓P P 00 42 55.0 -0.2
baz=71,SNR=15
F10A **Beach Ranch, E** 70.58 331 ⇑P P 00 42 55.3 -0.2
baz=71,SNR=8.0
I06A **Prineville** 70.59 328 ⇑P P 00 42 55.6 0.0
baz=71,SNR=11
C13A **Hot Springs** 70.67 334 ⇑P P 00 42 56.1 0.0
baz=71,SNR=27
J05A **Fort Rock** 70.67 327 ⇑P P 00 42 55.5 -0.7
baz=71
F09A **S2 Ranch, Elgi** 70.71 330 ⇑P P 00 42 56.1 -0.2
baz=71
H07A **Lands Inn, Kim** 70.72 329 ⇓P P 00 42 56.0 -0.4
baz=71
E10A **Myers Farm, Un** 70.91 331 ⇓P P 00 42 57.2 -0.3
baz=71
G08A **Pilot Rock** 70.92 330 ⇓P P 00 42 57.4 -0.2
baz=71,SNR=8.5
KRMB **Red Mountain** 70.97 324 *e*P P 00 42 58.5 +0.5
D11A **Klaveano Farm,** 70.97 332 ⇑P P 00 42 57.6 -0.3
baz=71
LNOR **Lincton Mounta** 71.01 330 *e*P P 00 42 58.8 +0.7
J04A **Umpqua Nationa** 71.11 326 ⇓P P 00 42 58.4 -0.5
baz=71
HUMO **Hull Mountain** 71.15 325 *e*P P 00 43 04.5 +5.5
B13A **Whitefish** 71.16 334 ⇓P P 00 42 58.7 -0.3
baz=71
SNAA **Sanae** 71.19 161 *e*Pdiff P 00 42 58.4 -0.5
SNAA *e* 00 43 06.6
SNAA *e* 00 43 09.0
SNAA **Sanae** 71.19 161 *c i*P P 00 42 58.3 -0.6
SNAA **Sanae** 71.19 161 *e*P P 00 42 58.4 -0.5
G07A **Ruggs Ranch, H** 71.25 329 ⇑P P 00 42 60.0 +0.4
baz=71
D10A **Wagner Farm, O** 71.41 332 ⇑P P 00 42 59.8 -0.7
baz=72
E09A **Wood Farm, Sta** 71.41 331 ⇑P P 00 42 60.0 -0.6
baz=72
WALA **Waterton Lakes** 71.46 335 *e*P P 00 43 01.0 +0.2
comp=Z,19nm,0.9s,mb5.0
K02A **Glendale** 71.55 325 ⇑P P 00 43 01.1 -0.4
baz=72
A13A **Flathead Natio** 71.57 335 ⇓P P 00 43 01.5 0.0
baz=72,SNR=10
I04A **Tendick Farm,** 71.65 327 ⇑P P 00 43 01.8 -0.2
baz=72
B12A **Libby** 71.72 334 ⇑P P 00 43 02.6 +0.3
baz=72
F07A **Phinny Hill Vi** 71.83 329 ⇑P P 00 43 02.7 -0.4
baz=72
E08A **Dider Farm, El** 71.83 330 ⇓P P 00 43 02.9 -0.2
baz=72
D09A **Jones Farm, Ri** 71.89 331 ⇑P P 00 43 03.3 -0.1
baz=72
C10A **Spilker Farm,** 71.99 332 ⇑P P 00 43 03.7 -0.3
baz=72
HAWA **Hanford** 71.99 330 P P 00 43 03.6 -0.4
comp=Z,12nm,0.9s,mb4.8
J02A **Umpqua** 71.99 326 ⇑P P 00 43 03.5 -0.6
baz=72
RSW **Rattlesnake Hi** 72.02 330 *e*P P 00 43 04.8 +0.6
B11A **Sandpoint** 72.03 333 ⇑P P 00 43 04.5 +0.2
baz=72
G05A **Wamic** 72.07 328 ⇓P P 00 43 04.6 +0.1
baz=72
A12A **Yaak River Ran** 72.10 334 ⇓P P 00 43 04.6 0.0
baz=72,SNR=20
H04A **Detroit Lake** 72.13 327 ⇑P P 00 43 04.5 -0.4
baz=72
F06A **Goldendale** 72.16 329 ⇓P P 00 43 05.1 0.0
baz=72
D08A **Wollman Farm,** 72.17 331 ⇑P P 00 43 05.2 +0.1
baz=72
I03A **Eugene** 72.23 326 ⇓P P 00 43 05.6 0.0
baz=72
NEW **Newport** 72.23 333 *e*P P 00 43 05.7 +0.3
E07A **Sunnyside** 72.26 330 ⇓P P 00 43 05.9 +0.3
baz=72
HOOD **Mount Hood Mea** 72.29 328 *e*P P 00 43 07.9 +2.0
OD2 **Odessa Site #2** 72.32 331 P P 00 43 06.9 +1.0
C09A **Chrisman Ranch** 72.41 332 ⇓P P 00 43 06.9 +0.3
baz=73
A11A **Hall Mountain,** 72.42 333 ⇓P P 00 43 06.8 +0.3
baz=73,SNR=6.1
G04A **Mulino** 72.64 328 ⇑P P 00 43 07.4 -0.5
baz=73
D07A **Quincy** 72.77 330 ⇑P P 00 43 08.8 +0.2
baz=73
E06A **Yakima** 72.80 329 ⇑P P 00 43 08.8 -0.1
baz=73
B09A **Rice** 72.81 332 ⇑P P 00 43 09.1 +0.2
baz=73
F04A **Amboy** 73.10 328 ⇓P P 00 43 10.4 -0.3
baz=73
C07A **Waterville** 73.17 331 ⇑P P 00 43 10.8 -0.2
baz=73
D06A **Cle Elum** 73.19 330 ⇓P P 00 43 10.9 -0.2
baz=73
E05A **Randle** 73.20 329 ⇑P P 00 43 10.2 -1.0
baz=73
ETW **Entiat** 73.23 330 *e*P P 00 43 12.7 +1.3
B08A **Colville Reser** 73.31 332 ⇓P P 00 43 11.4 -0.4
baz=74,SNR=6.1
A09A **Danville** 73.41 332 ⇑P P 00 43 12.0 -0.4
baz=74
LIC **Lamto** 73.45 79 *e*P P 00 43 12.1 -1.4
comp=Z,37nm,1.0s,mb5.0,baz=257
LIC *e*MLR MLR
comp=Z,4μm,20.5s,MS5.4
LIC **Lamto** 73.45 79 *e*P P 00 43 12.4 -1.1
comp=Z,49nm,1.0s,mb5.4
LIC **Lamto** 73.45 79 *e*P P 00 43 12.1 -1.4
comp=Z,19nm,1.0s,mb5.0
LIC LR LR
comp=Z,2μm,20.5s,MS5.4
TIC **Toumodi** 73.58 79 *e*P P 00 43 13.0 -1.2
comp=Z,75nm,1.1s,mb5.5
TIC **Toumodi** 73.58 79 *e*P P 00 43 13.0 -1.2
TIC pmax pmax
comp=Z,75nm,1.1s,mb5.5
F03A **Seaside** 73.69 328 ⇓P P 00 43 13.6 -0.6
baz=74
A08A **Turner Farm, O** 73.71 332 ⇑P P 00 43 13.9 -0.3
baz=74,SNR=6.8
DBIC **Dimbokro** 73.74 79 P P 00 43 14.2 -0.9
comp=Z,19nm,0.8s,mb5.1,baz=238,slow=5.9,SNR=19
DBIC LR LR 01 14 02.5
comp=Z,3μm,19.9s,MS5.5,baz=219,slow=34
B07A **Winthrop** 73.75 331 ⇓P P 00 43 14.2 -0.2
baz=74
D05A **Enumclaw** 73.75 329 ⇓P P 00 43 13.8 -0.6
baz=74
KIC **Kosan Boka** 73.76 79 *e*P P 00 43 14.4 -0.9
comp=Z,122nm,0.8s,mb5.9
E03A **Lebam** 74.10 328 ⇓P P 00 43 15.9 -0.7
baz=74
A07A **Ashnola River,** 74.29 332 ⇑P P 00 43 17.4 -0.2
baz=74,SNR=8.3
RPW **Rockport** 74.39 331 *e*P P 00 43 18.0 -0.2
JCW **Jim Crok** 74.42 330 *e*P P 00 43 18.3 -0.1
EDM **Edmonton** 74.53 338 *e*P P 00 43 17.3 -1.6
B05A **Bryant** 74.54 330 ⇓P P 00 43 18.6 -0.5
baz=75,SNR=6.9
D03A **Wishkah Elem.** 74.59 328 ⇑P P 00 43 19.4 +0.1
baz=75
C04A **Brinnon** 74.60 329 ⇑P P 00 43 19.1 -0.3
baz=75
NLWA **Neilton Lookou** 74.83 329 ⇓P P 00 43 20.6 -0.2
baz=75
NLWA **Neilton Lookou** 74.83 329 *e*P P 00 43 21.6 +0.9
A05A **Maple Falls** 75.05 331 ⇓P P 00 43 21.7 -0.2
baz=75
B04A **Port Angeles** 75.09 329 ⇑P P 00 43 22.5 +0.2
baz=75
MAIT **Maitri** 75.82 160 *e*P P 00 43 25.6 -0.6
NVL **N'lazarevskaya** 75.86 160 *c i*P P 00 43 26.7 +0.3
NVL pmax pmax
comp=Z,23nm,1.1s,mb5.0
PFVI **Vila Bisbo** 81.38 48 *e*P P 00 43 58.6 +1.2
comp=Z,113nm,1.5s,mb5.6
PFVI **Vila Bisbo** 81.38 48 *e*S S 00 54 11.7 +3.5
PFVI **Vila Bisbo** 81.38 48 *e*LR LR 01 13 15.6
comp=Z,708nm,18.0s
SBA **Scott Base** 81.49 191 *e*P P 00 43 58.1 +0.8
MORF **Marmelete** 81.58 48 *e*P P 00 44 00.0 +1.6
comp=Z,95nm,1.4s,mb5.5
MORF **Marmelete** 81.58 48 *e*S S 00 54 09.3 -1.0
MORF **Marmelete** 81.58 48 *e*LR LR 01 12 47.3
comp=Z,697nm,18.0s
PTEO **Sao Teotonio** 81.63 48 *e*P P 00 44 00.5 +1.8
comp=Z,123nm,1.2s,mb5.7
TOA0 **Torodi Ar. Sit** 81.80 74 *e*P P 00 43 59.9 -0.2
TORD **Torodi Ar. Bea** 81.80 74 P P 00 44 00.2 +0.1
comp=Z,67nm,0.8s,mb5.6,baz=271,slow=4.6,SNR=235
TORD **Torodi Ar. Bea** 81.80 74 P P 00 44 00.2 +0.1
PMAFR **Mafra** 81.84 46 *e*P P 00 44 00.1 +0.4
comp=Z,154nm,1.8s,mb5.6
PMAFR **Mafra** 81.84 46 *e*LR LR 01 12 06.2
comp=Z,2μm,20.0s
PBDV **Barranco-do-Ve** 82.08 48 *e*P P 00 44 01.4 +0.4
comp=Z,90nm,1.2s,mb5.6
PBDV **Barranco-do-Ve** 82.08 48 *e*S S 00 54 18.5 +3.1
PBDV **Barranco-do-Ve** 82.08 48 *e*LR LR 01 13 28.7
comp=Z,737nm,20.0s
PVAQ **Vaqueiros** 82.30 48 *e*P P 00 44 04.0 +1.8
comp=Z,76nm,1.4s,mb5.4
PVAQ **Vaqueiros** 82.30 48 *e*S S 00 54 16.7 -1.0
PVAQ **Vaqueiros** 82.30 48 *e*LQ 01 09 38.4
PVAQ *e*LR LR 01 12 47.7
comp=Z,766nm,20.0s
MOE **Montemor** 82.31 47 *e*P P 00 44 04.6 +2.4
YKA **Yellowknife Ar** 82.33 343 P P 00 44 00.7 -1.0
comp=Z,11nm,0.9s,mb4.8,baz=137,slow=5.3,SNR=36
YKA LR LR 01 23 04.2
comp=Z,382nm,19.1s,MS4.8,baz=170,slow=38
YKW3 **Yellowknife Ar** 82.38 343 *e*P P 00 44 01.1 -0.9
PBEJ **Beja** 82.45 48 *e*P P 00 44 04.5 +1.5
comp=Z,48nm,2.1s,mb5.1
EGRO **El Granado** 82.52 48 P P 00 44 03.3 -0.1
EVO **Evora** 82.56 47 ⇑*i*P P 00 44 04.4 +0.9
comp=Z,97nm,1.1s,mb5.5
EVO *e*MLR MLR
comp=Z,2μm,22.2s,MS5.1
VNDA **Vanda** 82.56 191 P P 00 44 02.2 -0.7
comp=Z,4.1nm,0.9s,mb4.5,baz=87,slow=2.4,SNR=16
VNDA **Vanda** 82.56 191 P P 00 44 02.2 -0.7
PESTR **Estremoz** 83.00 47 *e*P P 00 44 06.3 +0.5
comp=Z,36nm,1.6s,mb5.2
PESTR **Estremoz** 83.00 47 *e*S S 00 54 23.6 -1.2
PESTR **Estremoz** 83.00 47 *e*LQ 01 09 23.6
PESTR *e*LR LR 01 12 58.6
comp=Z,1μm,20.0s
PBAR **Barrancos** 83.11 48 *e*P P 00 44 07.5 +1.1
PBAR **Barrancos** 83.11 48 *e*S S 00 54 28.9 +3.0
PBAR **Barrancos** 83.11 48 *e*LR LR 01 13 05.3
comp=Z,868nm,16.0s
EMIN **Mina Concepcio** 83.20 48 P P 00 44 07.5 +0.6
comp=Z,3.1nm,0.7s,mb4.5
EBAD **Badajoz** 83.36 47 P P 00 44 03.3 -4.4
comp=Z,23nm,1.1s,mb5.1
PMRV **Marv??o** 83.37 47 *e*S S 00 54 27.1 -1.4
PMRV **Marv??o** 83.37 47 *e*LR LR 01 11 21.9
comp=Z,2μm,20.0s
ESPR **Espera** 83.44 49 P P 00 44 08.9 +0.8
comp=Z,6.4nm,0.6s,mb4.8
PCBR **Castelo Branco** 83.48 46 *e*P P 00 44 09.2 +0.9
comp=Z,47nm,1.5s,mb5.3
PVIS **Viseu** 83.56 45 *e*P P 00 44 09.5 +0.8
comp=Z,45nm,1.5s,mb5.4
EJIF **Jimena Fronter** 83.56 50 P P 00 44 10.8 +2.0
EJIF pmax pmax
comp=Z,51nm,1.0s,mb5.6
EJIF **Jimena Fronter** 83.56 50 P P 00 44 10.8 +2.0
comp=Z,51nm,1.0s,mb5.6
MTE **Manteigas** 83.67 46 *e*P P 00 44 10.4 +1.2
comp=Z,44nm,1.2s,mb5.5
MTE **Manteigas** 83.67 46 *e*S S 00 54 31.9 +0.4
MTE **Manteigas** 83.67 46 *e*LQ 01 06 53.0
MTE *e*LR LR 01 13 17.4
comp=Z,2μm,22.0s
MTE **Manteigas** 83.67 46 *e*P P 00 44 09.7 +0.5
comp=Z,27nm,1.0s,mb5.3
EMIJ **Mijas** 84.12 50 P P 00 44 12.2 +0.5
comp=Z,18nm,0.6s,mb5.4
MVO **Moncorvo** 84.34 45 *e*P P 00 44 13.3 +0.7
comp=Z,35nm,1.8s,mb5.2
MVO **Moncorvo** 84.34 45 *e*S S 00 54 38.4 +0.2
MVO **Moncorvo** 84.34 45 *e*LR LR 01 13 24.4
comp=Z,1μm,20.0s
ELOJ **Sierra Loja** 84.81 50 P P 00 44 16.6 +1.5
ELOJ pmax pmax
comp=Z,40nm,1.0s,mb5.5
ELOJ **Sierra Loja** 84.81 50 P P 00 44 16.6 +1.5
comp=Z,40nm,1.0s,mb5.5
DLBC **Dease Lake** 84.81 335 *e*P P 00 44 15.3 +0.7
ELUQ **Luque** 84.88 49 P P 00 44 16.7 +1.3
ELUQ pmax pmax
comp=Z,17nm,0.7s,mb5.3
ELUQ **Luque** 84.88 49 P P 00 44 16.7 +1.2
comp=Z,17nm,0.7s,mb5.3
ERON **Agron** 85.01 50 P P 00 44 16.9 +0.7
comp=Z,6.3nm,0.4s,mb5.1
ECOG **Cogollos-Vega** 85.29 50 P P 00 44 17.5 0.0
ECOG pmax pmax
comp=Z,4.0nm,0.2s,mb5.2
ECOG **Cogollos-Vega** 85.29 50 P P 00 44 17.5 0.0
comp=Z,3.8nm,0.2s,mb5.2
EBAN **Banos Encina** 85.46 49 P P 00 44 19.4 +1.0
comp=Z,0.4nm,0.4s,mb3.9
SYO **Syowa Base** 85.48 161 ⇑*e*P P 00 44 15.2 -2.7
SYO **Syowa Base** 85.48 161 ⇑*e*P P 00 44 23.4 +5.5
PAB **San Pablo** 85.58 47 *e*P P 00 44 18.9 0.0
PAB pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
PAB **San Pablo** 85.58 47 *e*P P 00 44 18.9 0.0
comp=Z,5.7nm,0.7s,mb4.9
EBER **Berja** 85.65 50 P P 00 44 19.7 +0.3
comp=Z,14nm,0.8s,mb5.2

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EQES Quesada          85.85 49 P          P          00 44 18.7 -1.6
     comp=Z,11nm,0.7s,mb5.2
ESDC Sonseca Array    85.90 47 P          P          00 44 21.0 +0.5
     comp=Z,5.0nm,0.7s,mb4.8,baz=258,slow=5.5,SNR=28
ESDC                            LR         LR         01 20 08.8
     comp=Z,842nm,19.0s,MS5.2,baz=260,slow=34
ESDC Sonseca Array    85.90 47 P          P          00 44 21.0 +0.5
     comp=Z,4.6nm,0.8s,mb4.8
GUD  Guadarrama       86.13 47 P          P          00 44 20.7 -1.0
     comp=Z,0.3nm,0.4s,mb3.9
EHUE Huescar          86.20 50 P          P          00 44 21.6 -0.4
EHUE                            pmax       pmax
     comp=Z,9.0nm,0.8s,mb5.0
EHUE Huescar          86.20 50 P          P          00 44 21.6 -0.5
     comp=Z,9.3nm,0.8s,mb5.1
EVIA Vianos           86.57 49 P          P          00 44 24.4 +0.6
EVIA                            pmax       pmax
     comp=Z,13nm,0.8s,mb5.2
EVIA Vianos           86.57 49 P          P          00 44 24.4 +0.6
     comp=Z,13nm,0.8s,mb5.2
ETOB Tobarra          87.27 49 P          P          00 44 26.0 -1.2
     comp=Z,39nm,1.2s,mb5.5
ETOR Torete           87.68 47 P          P          00 44 27.2 -2.0
ETOR                            pmax       pmax
     comp=Z,2.0nm,0.3s,mb4.8
ETOR Torete           87.68 47 P          P          00 44 27.2 -2.0
     comp=Z,1.5nm,0.3s,mb4.7
TAM  Tamanrasset      88.05 66 eP         P          00 44 32.1 +0.8
TAM                             e          00 44 40.9
TSUM Tsumeb           88.80 109 eP        P          00 44 34.9 -0.2
     comp=Z,11nm,0.9s,mb5.2
SJPF Ste Jean         89.08 45⇑iP         P          00 44 35.9 +0.2
     comp=Z,146nm,1.6s,mb5.8
SJPF Ste Jean         89.08 45⇑iP         P          00 44 35.9 +0.2
SJPF                            pmax       pmax
     comp=Z,73nm,1.6s,mb5.8
SJPF Ste Jean         89.08 45⇑iP         P          00 44 35.9 +0.2
     comp=Z,73nm,1.6s,mb5.8
HYT  Haines Junctio   89.29 335 eP        P          00 44 37.1 +0.8
EBIE Bielsa           89.87 46 P          P          00 44 36.2 -3.2
     comp=Z,13nm,0.8s,mb5.3
SUMG Summit           90.27 11 eP         P          00 44 40.9 +0.3
     comp=Z,6.1nm,0.8s,mb5.0
MFF  Saint Martin d   91.00 42⇑iP         P          00 44 44.0 -0.6
     comp=Z,20nm,0.9s,mb5.1
MFF  Saint Martin d   91.00 42⇑iP         P          00 44 44.0 -0.6
MFF                            pmax       pmax
     comp=Z,10.0nm,0.9s,mb5.2
MFF  Saint Martin d   91.00 42⇑iP         P          00 44 44.0 -0.6
     comp=Z,10nm,0.9s,mb5.2
LFF  La Frestale      91.03 44⇑iP         P          00 44 44.4 -0.4
     comp=Z,32nm,1.0s,mb5.3
LFF  La Frestale      91.03 44⇑iP         P          00 44 44.4 -0.4
LFF                            pmax       pmax
     comp=Z,16nm,1.0s,mb5.3
LFF  La Frestale      91.03 44⇑iP         P          00 44 44.4 -0.4
     comp=Z,16nm,1.0s,mb5.3
MTLF Montolieu        91.52 46 eP         P          00 44 46.5 -0.6
     comp=Z,18nm,1.0s,mb5.0
MTLF Montolieu        91.52 46 eP         P          00 44 46.5 -0.6
MTLF                           pmax       pmax
     comp=Z,9.0nm,1.0s,mb5.0
MTLF Montolieu        91.52 46 eP         P          00 44 46.5 -0.6
     comp=Z,9.1nm,1.0s,mb5.1
RJF  Les Rejaudoux    91.67 44⇑iP         P          00 44 47.1 -0.7
     comp=Z,18nm,0.9s,mb5.1
RJF                            eMLR       MLR
     comp=Z,1μm,20.0s,MS5.0
RJF  Les Rejaudoux    91.67 44⇑iP         P          00 44 47.1 -0.7
RJF                            pmax       pmax
     comp=Z,9.0nm,0.9s,mb5.1
RJF                            MLR        MLR
     comp=Z,1μm,20.0s,MS5.3
RJF  Les Rejaudoux    91.67 44⇑iP         P          00 44 47.1 -0.7
     comp=Z,9.3nm,0.9s,mb5.1
RJF                            LR         LR
     comp=Z,1μm,20.0s,MS5.3
DAWY Dawson           91.72 337 eP        P          00 44 46.8 -0.7
CAF  Calviac          91.92 44⇑iP         P          00 44 48.4 -0.5
     comp=Z,20nm,1.0s,mb5.1
CAF  Calviac          91.92 44⇑iP         P          00 44 48.4 -0.5
CAF                            pmax       pmax
     comp=Z,10.0nm,1.0s,mb5.1
CAF  Calviac          91.92 44⇑iP         P          00 44 48.4 -0.5
     comp=Z,9.9nm,1.0s,mb5.1
TCF  Toulx Ste Croi   92.44 43⇑iP         P          00 44 50.6 -0.7
     comp=Z,25nm,1.2s,mb5.1
TCF  Toulx Ste Croi   92.44 43⇑iP         P          00 44 50.6 -0.7
TCF                            pmax       pmax
     comp=Z,12nm,1.2s,mb5.1
TCF  Toulx Ste Croi   92.44 43⇑iP         P          00 44 50.6 -0.7
     comp=Z,12nm,1.2s,mb5.1
EGAK Eagle            92.74 337 eP        P          00 44 50.7 -1.5
     comp=Z,5.2nm,0.8s,mb5.0
BOSA Boshof           92.92 120 P         P          00 44 53.1 -0.9
     comp=Z,3.7nm,0.7s,mb4.9,baz=56,slow=12,SNR=6.0
BOSA                            LR         LR         01 22 31.8
     comp=Z,843nm,21.1s,MS5.2,baz=260,slow=33
BGF  Bois d'Agland    92.94 43⇑iP         P          00 44 53.0 -0.6
     comp=Z,23nm,0.8s,mb5.4
BGF  Bois d'Agland    92.94 43⇑iP         P          00 44 53.0 -0.6
BGF                            pmax       pmax
     comp=Z,12nm,0.8s,mb5.4
BGF  Bois d'Agland    92.94 43⇑iP         P          00 44 53.0 -0.6
     comp=Z,12nm,0.8s,mb5.4
MAW  Mawson           92.99 165 P         P          00 44 52.5 -1.1
     comp=Z,9.7nm,0.6s,mb5.4,baz=297,slow=6.7,SNR=40
MAW                            LR         LR         01 23 15.0
     comp=Z,702nm,21.1s,MS5.1,baz=230,slow=33
HYF  Humbligny        93.03 42 eP         P          00 44 53.6 -0.4
AVF  Avril sur Loir   93.35 43⇑iP         P          00 44 54.6 -0.9
     comp=Z,12nm,0.9s,mb5.0
AVF  Avril sur Loir   93.35 43⇑iP         P          00 44 54.6 -0.9
AVF                            pmax       pmax
     comp=Z,6.0nm,0.9s,mb5.0
AVF  Avril sur Loir   93.35 43⇑iP         P          00 44 54.6 -0.9
     comp=Z,5.9nm,0.9s,mb5.0
SSF  Saint Saulge     93.53 42 eP         P          00 44 55.3 -1.0
     comp=Z,20nm,1.2s,mb5.1
SSF  Saint Saulge     93.53 42 eP         P          00 44 55.3 -1.0
SSF                            pmax       pmax
     comp=Z,10.0nm,1.2s,mb5.1
SSF  Saint Saulge     93.53 42 eP         P          00 44 55.3 -1.0
     comp=Z,9.9nm,1.2s,mb5.1
SMF  Signal de Mont   93.62 43⇑iP         P          00 44 56.1 -0.6
     comp=Z,26nm,1.0s,mb5.3
SMF  Signal de Mont   93.62 43⇑iP         P          00 44 56.1 -0.6
SMF                            pmax       pmax
     comp=Z,13nm,1.0s,mb5.3
SMF  Signal de Mont   93.62 43⇑iP         P          00 44 56.1 -0.6
     comp=Z,13nm,1.0s,mb5.3
VIVF Saint-Julien-l   93.67 45⇑iP         P          00 44 57.0  0.0
     comp=Z,16nm,1.0s,mb5.1
VIVF Saint-Julien-l   93.67 45⇑iP         P          00 44 57.0  0.0
VIVF                           pmax       pmax
     comp=Z,8.0nm,1.0s,mb5.1
VIVF Saint-Julien-l   93.67 45⇑iP         P          00 44 57.0  0.0
     comp=Z,7.9nm,1.0s,mb5.1
ORIF Oris-en-Rattie   94.51 45⇑iP         P          00 45 01.3 +0.5
     comp=Z,20nm,0.9s,mb5.3
ORIF                           eMLR       MLR
     comp=Z,1μm,20.5s,MS5.1
ORIF Oris-en-Rattie   94.51 45⇑iP         P          00 45 01.3 +0.5
ORIF                           pmax       pmax
     comp=Z,10.0nm,0.9s,mb5.2
ORIF Oris-en-Rattie   94.51 45⇑iP         P          00 45 01.3 +0.5
     comp=Z,10nm,0.9s,mb5.2
KEST Kesra            94.70 54 P          P          00 45 01.9 -0.1
     comp=Z,1.9nm,0.9s,mb4.5,baz=177,slow=2.3,SNR=6.7
KEST                            LR         LR         01 27 38.2
     comp=Z,334nm,21.2s,MS4.8,baz=197,slow=35
CABF La Chapelle      95.10 43 eP         P          00 45 03.2 -0.3
     comp=Z,28nm,1.1s,mb5.3
CABF La Chapelle      95.10 43 eP         P          00 45 03.2 -0.3
CABF                           pmax       pmax
     comp=Z,14nm,1.1s,mb5.3
CABF La Chapelle      95.10 43 eP         P          00 45 03.2 -0.3
     comp=Z,14nm,1.1s,mb5.3
LPL  La Plagne        95.25 44⇑iP         P          00 45 04.7 +0.5
     comp=Z,25nm,1.1s,mb5.3
LPL  La Plagne        95.25 44⇑iP         P          00 45 04.7 +0.5
LPL                            pmax       pmax
     comp=Z,13nm,1.1s,mb5.3
LPL  La Plagne        95.25 44⇑iP         P          00 45 04.7 +0.5
     comp=Z,13nm,1.1s,mb5.3
LPG  La Plagne        95.25 45⇑iP         P          00 45 05.0 +0.7
     comp=Z,18nm,1.0s,mb5.2
LPG  La Plagne        95.25 45⇑iP         P          00 45 05.0 +0.7
LPG                            pmax       pmax
     comp=Z,9.0nm,1.0s,mb5.2
LPG  La Plagne        95.25 45⇑iP         P          00 45 05.0 +0.7
     comp=Z,8.8nm,1.0s,mb5.1
COLA College          95.36 336 eP        P          00 45 03.0 -1.3
HINF Hinteralfeld     95.92 42 eP         P          00 45 06.5 -0.7
KTH  Kantishna Hill   96.14 334 eP        P          00 45 06.3 -1.6
     comp=Z,7.8nm,1.1s,mb5.0
ECH  Echery           96.22 42 eP         P          00 45 07.7 -0.9
CDF  Champ du Feu     96.34 42⇑iP         P          00 45 08.5 -0.6
     comp=Z,10nm,0.9s,mb5.0
CDF  Champ du Feu     96.34 42⇑iP         P          00 45 08.5 -0.6
CDF                            pmax       pmax
     comp=Z,5.0nm,0.9s,mb4.9
CDF  Champ du Feu     96.34 42⇑iP         P          00 45 08.5 -0.6
     comp=Z,5.3nm,0.9s,mb5.0
BPAW Bear Paw Mtn.    96.35 335 eP        P          00 45 07.2 -1.6
     comp=Z,5.4nm,1.0s,mb4.9
TUE  Stuetta          97.25 44 eP         P          00 45 11.2 -2.1
     comp=Z,9.4nm,1.3s,mb5.1
DAVA Damuels          97.79 43⇑iP         P          00 45 15.8 +0.1
     comp=Z,10nm,0.9s,mb5.3
DAVA Damuels          97.79 43⇑iPcP       PcP        00 45 15.8 +0.1
     comp=Z,10nm,0.9s
FETA Feichten         98.30 44⇓iP         P          00 45 18.3 +0.4
     comp=Z,6.2nm,1.0s,mb5.1
RETA Reutte           98.42 43⇑iP         P          00 45 18.4 -0.1
     comp=Z,9.8nm,0.9s,mb5.3
MOTA Moosalm          98.61 43⇑iP         P          00 45 19.2 -0.2
     comp=Z,9.7nm,0.9s,mb5.3
MOTA Moosalm          98.61 43⇑iP         P          00 45 19.2 -0.2
MOTA                           pmax       pmax
     comp=Z,10.0nm,0.9s,mb5.3
WATA Walderalm        98.92 43⇑iP         P          00 45 20.9 +0.1
     comp=Z,6.0nm,1.0s,mb5.1
WATA Walderalm        98.92 43⇑iP         P          00 45 20.9 +0.1
WATA                           pmax       pmax
     comp=Z,6.0nm,1.0s,mb5.1
WTTA Wattenberg       98.95 44⇑iP         P          00 45 21.2 +0.2
     comp=Z,19nm,0.9s,mb5.6
WTTA Wattenberg       98.95 44⇑iP         P          00 45 21.2 +0.3
WTTA                           pmax       pmax
     comp=Z,19nm,0.9s,mb5.6
GRA1 Grafenberg Arr   99.16 41 ePdif      P          00 45 22.4 +0.6
GRF  Grafenberg Arr   99.16 41 ePdiff     P          00 45 22.4 +0.6
AQU  L'Aquila         99.23 49 eP         P          00 45 21.0 -1.3
AQU                            pmax       pmax
     comp=Z,6.0nm,1.0s,mb5.1
AQU  L'Aquila         99.23 49 eP         P          00 45 21.0 -1.3
     comp=Z,6.3nm,1.0s,mb5.1
ABTA Abfaltersbach    99.44 44⇑iP         P          00 45 23.3 +0.2
     comp=Z,11nm,1.1s,mb5.3
KHC  Kasperske Hory   100.57 42 ePDIF     Pdif       00 45 28.5 +0.4
CLL  Collm            100.57 40 eP        Pdif       00 45 30.0 +1.9
CLL                             e                    00 49 38.0
CLL                             eS         Sdif       00 57 06.0 +1.4
CLL                            MLR        MLR
     comp=Z,600nm,22.3s,MS5.0
CLL  Collm            100.57 40 e(Pdif)              00 45 30.0
CLL                             ePP        PP         00 49 38.0 +2.8
CLL                             eSKSac     SKSac      00 56 16.0 +9.4
CLL                             eSdif      Sdif       00 57 06.0 +1.4
CLL                             ePS        PS         00 58 40.0 +3.9
CLL                             ePPS                  00 59 28.0
CLL                             esPPS                 00 59 47.0
CLL                             eSS        SS         01 04 15.0 +14
CLL                             eSSS                  01 07 49.0
CLL                             ex         x          01 13 54.0
CLL  Collm            100.57 40 ePdif     Pdif       00 45 30.0 +1.9
CLL                             ePP        PP         00 49 38.0 +2.8
CLL                             eSKS                  00 56 16.0
CLL                             eSdif      Sdif       00 57 06.0 +1.4
CLL                             LR         LR
     comp=Z,600nm,22.3s,MS5.0
GEC2 GERESS Array S   100.60 42 eP        Pdif       00 45 27.9 -0.3
GERES GERESS Array B  100.60 42 P         Pdif       00 45 27.4 -0.8
     comp=Z,2.4nm,0.8s,baz=247,slow=2.8,SNR=18
BRG  Berggiesshubel   101.09 40 e(P)      Pdif       00 45 34.0 +3.6
BRG                             e                    00 49 09.0
BRG                             e                    00 56 15.0
BRG                             e                    00 58 45.0
BRG                             e                    01 04 17.0
BRG
     comp=N,244nm,16.6s
BRG
     comp=E,346nm,17.7s
BRG
     comp=Z,559nm,15.5s
BRG  Berggiesshubel   101.09 40 P         Pdif       00 45 34.0 +3.6
BRG                             e                    00 49 09.0
BRG                             e                    00 56 15.0
BRG                             e                    00 58 45.0
BRG                             e                    01 04 17.0
BRG                             LR         LR
     comp=Z,340nm,15.5s,MS5.0
OBN  Obninsk          114.67 36 ePKIKP    PKiKP      00 50 18.6 -2.0
OBN                            pmax       pmax
     comp=Z,6.0nm,1.3s
MALT Malatya          118.02 54 ePKIKP    PKPdf      00 50 26.9 -0.7
STKA Stephens Creek   121.46 218 PKP      PKPdf      00 50 33.0 -1.5
     comp=Z,3.6nm,0.8s,baz=323,slow=5.5,SNR=4.3
ASAR Alice Springs    132.09 218 PKP      PKPdf      00 50 53.8 -1.2
     comp=Z,3.0nm,0.9s,baz=145,slow=2.7,SNR=10
MUN  Mundaring        132.39 194 eP       PKPdf      00 50 54.3 -1.1
MUN                             e                    00 51 15.4
WRA  Warramunga Arr   134.56 222 PKP      PKPdf      00 50 58.2 -1.5
     comp=Z,6.0nm,0.8s,baz=147,slow=1.3,SNR=11
WRAB Tennant Creek    134.56 222 ePKHKP              00 50 30.7
NVS  Novosibirsk      136.57 17 ePKIKP    PKPdf      00 51 01.1 -1.3
NVS                            pmax       pmax
     comp=Z,36nm,2.8s
ZALV Zalesovo Beam    137.80 17 PKP       PKPdf      00 51 04.0 -0.7
     comp=Z,18nm,0.9s,baz=248,slow=0.8,SNR=24
ZALV Zalesovo Beam    137.80 17 PKP       PKPdf      00 51 04.0 -0.7
ZAL  Zalesovo         137.81 17 PKIKP     PKPdf      00 51 04.0 -0.7
KLR  Kul'dur          138.41 332 ePKIKP   PKPdf      00 51 05.2 -0.7
KURK Kurchatov        138.42 24 ePKIKP    PKPdf      00 51 05.6 -0.3
MJAR Matsushiro Arr   142.24 312 PKhKP              00 51 07.6
     comp=Z,1.1nm,0.4s,baz=98,slow=1.7,SNR=6.8
MK31 Makanchi Array   143.01 25 ePKIKP    PKPdf      00 51 10.3 -4.0
MKAR Makanchi Array   143.01 25 PKP       PKPdf      00 51 10.9 -3.4
     comp=Z,1.5nm,0.7s,baz=349,slow=2.5,SNR=8.5
ZAK  Zakamensk        144.11 1⇑iPKIKP     PKPdf      00 51 14.0 -2.1
ZAK                            pmax       pmax
     comp=Z,10.0nm,1.3s
KSH  Kashi            145.01 39 ePKP      PKPdf      00 51 18.5 +0.4
KSH                             ePKP2      PKPab      00 51 22.3 +4.9
KSH                             APKP                  00 51 29.5
KSH                             XPKP                  00 51 33.6
KSH                             PKS                   00 54 52.3
KSH                             PPP                   00 58 02.0
KSH                             SKS        SKSdf      00 58 22.3 -4.8
KSH                             PP         PP
     comp=Z,298nm,4.3s
KSH                             LR         LR
     comp=N,341nm,4.5s
KSH                             LR         LR
     comp=E,408nm,4.6s
KSH                             LR         LR
     comp=Z,760nm,14.4s,MS5.6
CN2  Changchun        145.36 332 ePKP     PKPdf      00 51 17.1 -1.4
SONM Songino Array    146.59 357 PKPbc    PKPbc      00 51 22.0  0.0
     comp=Z,16nm,0.8s,baz=331,slow=1.9,SNR=45
WMQ  Urumqi           147.59 22 PKP       PKPdf      00 51 22.0 -0.3
WMQ                             APKP                  00 51 31.5
WMQ                             XPKP                  00 51 35.6
WMQ                             PP         PP         00 54 55.4 +5.0
WMQ                             PPP                   00 58 14.6
WMQ                             SKS        SKSdf      00 58 25.3 -5.3
WMQ                             SKKS       SKKSac     01 01 39.8 -2.8
WMQ                             PP         PP
     comp=Z,61nm,9.8s
WMQ                             LR         LR
     comp=N,387nm,22.7s,MS5.2
WMQ                             LR         LR
     comp=E,261nm,25.0s,MS5.2
WMQ                             LR         LR
     comp=Z,332nm,22.7s,MS5.1
KSRS Korea Array      149.61 321 PKPbc    PKPbc      00 51 24.4 -3.5
     comp=Z,7.1nm,0.9s,baz=110,slow=0.8,SNR=8.7
NDI  New Delhi        151.54 56 eP        PKPdf      00 51 34.0 +4.9
BJI  Beijing          152.26 339 PKP      PKPdf      00 51 35.0 +5.2
BJI                             PP         PP         00 55 16.3 -1.1
BJI                             LR         LR
     comp=N,150nm,36.5s
BJI                             LR         LR
     comp=E,134nm,42.5s
BJI                             LR         LR
     comp=Z,84nm,20.3s
BJT  Baijiatuau       152.28 339 ePKIKP   PKPdf      00 51 35.5 +5.7
HHC  Hu-ho-hao-te     152.80 347 ePKP     PKPdf      00 51 26.8 -3.8
HHC                             XPKP                  00 51 40.9
HHC                             PKS                   00 54 59.5
HHC                             SKS        SKSdf      00 58 28.8 -8.7
HHC                             PP         PP
     comp=Z,162nm,8.3s
HHC                             LR         LR
     comp=N,244nm,20.2s,MS5.2
HHC                             LR         LR
     comp=E,280nm,20.2s,MS5.2
HHC                             LR         LR
     comp=Z,435nm,20.2s,MS5.3
GTA  Gaotai           154.83 7 ePKP       PKPdf      00 51 33.8 +0.3
GTA                             PKS                   00 55 06.1
GTA                             PP         PP         00 55 36.0 +4.4
GTA                             SKS        SKSdf      00 58 30.8 -9.1
GTA                             SKKS       SKKSac     01 02 15.0 -7.4
GTA                             PP         PP
     comp=Z,179nm,6.3s
GTA                             LR         LR
     comp=N,127nm,20.4s,MS5.0
GTA                             LR         LR
     comp=E,162nm,19.2s,MS5.0
GTA                             LR         LR
     comp=Z,296nm,22.2s,MS5.1
NJ2  Nanjing          157.70 325 ePKP     PKPdf      00 51 34.8 -2.7
LZH  Lanzhou          158.40 360 ePKP     PKPdf      00 51 37.0 -1.2
LZH                             PP         PP         00 55 55.3 +4.0
LZH                             SKKS       SKKSac     01 02 38.3 -3.1
LZH                             PP         PP
     comp=Z,135nm,8.4s
LZH                             LR         LR
     comp=E,168nm,19.0s
LZH                             LR         LR
     comp=Z,321nm,20.5s,MS5.2
LSA  Lhasa            160.79 35 PKP       PKPdf      00 51 42.8 +1.6
LSA  Lhasa            160.79 35 ePKPdf    PKPdf      00 51 42.5 +1.3
CD2  Chengdu          163.56 0 ePKP       PKPdf      00 51 41.9 -2.0
CD2                             APKP                  00 51 50.3
CD2                             XPKP                  00 51 55.6
CD2                             PKP2       PKPab      00 52 35.3 +0.2
CD2                             PP         PP         00 56 22.5 +3.4
CD2                             SKS        SKSdf      00 58 41.3 -7.1
CD2                             SKKS       SKKSac     01 03 04.8 -3.4
CD2                             PP         PP
     comp=Z,160nm,10.4s
CD2                             LR         LR
     comp=N,200nm,18.5s
CD2                             LR         LR
     comp=E,260nm,16.8s
CD2                             LR         LR
     comp=Z,160nm,18.4s
GYA  Guiyang          167.71 348 PKP      PKPdf      00 51 47.6 +0.1
GYA                             APKP                  00 51 54.8
GYA                             XPKP                  00 51 58.9
GYA                             PKP2       PKPab      00 52 55.8 +2.3
GYA                             PKS                   00 55 18.0
GYA                             PP         PP         00 56 44.3 +3.6
GYA                             SKS        SKSdf      00 58 46.4 -4.9
GYA                             SKKS       SKKSac     01 03 28.0 -1.2
GYA                             PP         PP
     comp=Z,120nm,8.0s
GYA                             LR         LR
     comp=N,260nm,24.3s
GYA                             LR         LR
     comp=E,180nm,25.1s
GYA                             LR         LR
     comp=Z,210nm,24.3s
KMI  Kunming          169.28 5 PKP        PKPdf      00 51 47.6 -0.9
KMI                             APKP                  00 51 53.8
KMI                             XPKP                  00 51 56.3
KMI                             PP         PP         00 56 50.6 +2.0
KMI                             PP         PP
     comp=Z,223nm,5.2s
KMI                             LR         LR
     comp=N,327nm,21.9s
KMI                             LR         LR
     comp=E,348nm,17.6s
KMI                             LR         LR
     comp=Z,296nm,23.2s
CMAR Chiang Mai Arr   173.81 49 PKP       PKPdf      00 51 50.0 -0.9
     comp=Z,1.3nm,0.3s,baz=267,slow=1.3,SNR=5.2
```

IDC ***17*** *00:38:26.3±1.6, 950S×1596.3E, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/16, mbtmp4.1/4, MS3.6/2, Ms1 3.6/2, ms1mx3.1/24, Error ellipse: s-maj=66.4km s-min=9.9km az=158.0*

ISCJB ***17*** *00:38:27.1±3.9, 951S±0.10×1595.4E±0.06, h16km±30km, mb4.1/6, Error ellipse: s-maj=16.4km s-min=8.6km az=165.8*

NEIC ***17*** *00:38:30.0±1.1, 952S×1595.6E, h24km±9km, mb4.3/3, Error ellipse: s-maj=9.3km s-min=8.8km az=149.0*

ISC 17 00:38:30.3±1.3, 952S±010×1595E±009, h26km±13km, n21, o0°53/22, mb4.1/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.40	78	Pn	Pb	00 38 38.6	-0.3
	1μm,0.3s,baz=221,slow=1.7,SNR=188						
HNR				Sn	Sb	00 38 45.3	+0.4
	5μm,0.3s,baz=89,slow=2.3,SNR=99						
HNR	Honiara	0.40	78	Pn	Pb	00 38 38.6	-0.3
HNR				Sn	Sb	00 38 45.3	+0.4
PMG	Port Moresby	12.22	270	Pn	Pn	00 41 22.0	-0.9
CTA	Charters Tower	16.59	229	LR		00 47 44.8	
	comp=Z,74nm,21.5s,baz=231,slow=34						
CTAO	Charters Tower	16.59	229	Pn	Pn	00 42 21.1	-0.2
WRAB	Tennant Creek	26.44	244	eP	P	00 44 06.3	+0.9
	6.8nm,0.9s,mb4.2						
WB2	Warramunga Arr	26.44	244	eP	P	00 44 05.3	-0.1
WRA	Warramunga Arr	26.45	244	P	P	00 44 06.5	+1.1
	4.4nm,0.9s,mb4.0,baz=70,slow=9.6,SNR=9.4						
STKA	Stephens Creek	27.79	214	P	P	00 44 18.1	+0.7
	2.0nm,0.7s,mb3.9,baz=44,slow=16,SNR=3.7						
STKA	Stephens Creek	27.79	214	eP	P	00 44 16.7	-0.6
	2.1nm,0.8s,mb3.8						
ASAR	Alice Springs	28.25	237	P	P	00 44 21.1	-0.4
	1.0nm,0.4s,mb3.8,baz=63,slow=10,SNR=20						
RAO	Raoul Island	28.83	136	P	P	00 44 25.9	-0.7
FITZ	Fitzroy Crossi	33.97	252	eP	P	00 45 12.3	+0.3
	9.7nm,1.0s,mb4.7						
TAU	Tasmania Unive	34.94	196	P	P	00 45 20.1	0.0
KKM	Kota Kinabalu	45.87	288	P	P	00 46 51.0	+0.1
NACB	Ninganchiao	49.95	313	P	P	00 47 22.5	+0.1
MAJO	Matsushiro	50.02	338	P	P	00 47 22.0	-0.7
YHNB	Yeheng	50.41	313	P	P	00 47 26.2	+0.4
VNDA	Vanda	67.99	179	P	P	00 49 26.7	-0.1
	1.2nm,0.8s,mb4.0,baz=342,slow=7.3,SNR=5.9						
VNDA	Vanda	67.99	179	P	P	00 49 26.7	-0.1
TLY	Talaya	77.54	328	eP	P	00 50 24.0	+0.1

ISCJB ***17*** *00:51:16.6±2.0, 1447S±0.04×76.17W±0.03, h14km±12km, mb5.1/109, MS5.0/26, Error ellipse: s-maj=7.4km s-min=3.6km az=39.4*

IDC ***17*** *00:51:17.3±2.6, 1443S×7620W, h10km±16km, mb4.6/21, mb1 4.7/27, mb1mx4.7/28, mbtmp4.6/27, ML4.8/6, MS4.8/17, Ms1 4.7/17, ms1mx4.6/22, Error ellipse: s-maj=16.8km s-min=9.3km az=66.0*

MOS ***17*** *00:51:20.0±1.0, 1439S×7608W, h33km, mb5.4/38, MS4.8/4, Error ellipse: s-maj=9.2km s-min=6.1km az=108.0*

BJI ***17*** *00:51:22.9, 1450S×7600W, h46km, mB5.3, Ms5.5, Msz5.3*

NEIC ***17*** *00:51:23.0±0.8, 1446S×7598W, h47km±7km, mb5.2/77, MS5.0/4, Error ellipse: s-maj=7.0km s-min=3.9km az=55.0*

NEIC Felt at Lima.

GCMT ***17*** *00:51:23.0±0.2, 1438S×7635W, h17km±1km, MW5.4/65, Moment Tensor Solution. s36,c53; s65,c109; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.75±.04; $M_{\theta\theta}$0.13±.02; $M_{\phi\phi}$-0.88±.03; $M_{r\theta}$0.16±.05; $M_{\theta\phi}$0.30±.01; $M_{\phi r}$-1.42±.13; Best double couple: $M_0$1.66900×10^{17}*

NP1:ϕ_0=332.00000°,δ16.00000°,λ70.00000°. NP2: ϕ_0=173.00000°,δ75.00000°,λ96.00000°. Principal axes: T 1.5750, Plg60.0000°, Azm91.0000°; N 0.1890, Plg6.0000°, Azm352.0000°; P -1.7640, Plg29.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 17 00:51:21.9±0.7,1447S±004×7611W±004,h36km±6km, n616,σ0§78/570,mb5.1/109,MS5.0/26,149C-125D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.57**	**344**	Pn		**Pn**		**00 51 58.2**	**-2.8**
	17μm,0.6s,SNR=9.8								
NNA	**Nana**	**2.57**	**344**	Pn		**Pn**		**00 51 58.1**	**-2.9**
	57nm,0.3s,baz=167,slow=16,SNR=20								
NNA				Lg				00 52 35.7	
	904nm,0.3s,baz=70,slow=20,SNR=16								
NNA				LR		LR		00 53 07.5	
	comp=Z,14μm,18.3s,baz=179,slow=44								
ARE	**Arequipa**	**4.88**	**115**	*e*P		**Pn**		**00 52 32.0**	**-0.8**
ARE				*e*S		**Sn**		**00 53 29.0**	**+1.0**
ATAH	**Atahualpa**	**7.75**	**343**	Pn		**Pn**		**00 53 10.0**	**-2.3**
	2.4nm,0.3s,baz=294,slow=0.9,SNR=15								
ATAH				Sn		**Sn**		**00 54 48.3**	**+9.3**
	16nm,0.3s,baz=60,slow=18,SNR=2.3								
LPAZ	**La Paz**	**7.91**	**104**	Pn		**Pn**		**00 53 16.1**	**+1.6**
	26nm,0.3s,baz=290,slow=8.2,SNR=606								
LPAZ				Lg				00 55 26.5	
	baz=229,slow=21,SNR=1.4								
LPAZ	**La Paz**	**7.91**	**104**	Pn		**Pn**		**00 53 16.1**	**+1.6**
LPAZ				*e*Sn		**Sn**		**00 54 32.0**	**-11**
LPAZ				Lg				00 55 26.5	
LVC	**Limon Verde**	**10.59**	**141**	Pn		**Pn**		**00 53 51.1**	**-0.1**
	11nm,0.3s,baz=306,slow=9.5,SNR=124								
LVC				Sn		**Sn**		**00 55 49.7**	**+1.1**
	9.3nm,0.3s,baz=60,slow=22,SNR=5.9								
LVC				Lg				00 56 50.5	
	0.3nm,0.3s,baz=122,slow=22,SNR=5.3								
LVC				LR		LR		00 57 33.4	
	comp=Z,4μm,19.1s,baz=321,slow=35								
LVC	**Limon Verde**	**10.59**	**141**	*e*Pn		**Pn**		**00 53 50.4**	**-0.8**
SIV	**San Ignacio**	**14.60**	**98**	Pn		**Pn**		**00 54 43.5**	**-2.5**
	1.7nm,0.3s,baz=274,slow=13,SNR=25								
SIV				Sn		**Sn**		**00 57 27.4**	**+0.8**
	0.7nm,0.3s,baz=256,slow=19,SNR=1.6								
SIV				Lg				00 59 14.6	
	0.4nm,0.3s,baz=51,slow=24,SNR=2.4								
OTAV	**Otavalo**	**14.79**	**351**	*e*Pn		**Pn**		**00 54 50.3**	**+1.6**
LCO	**Las Campanas**	**15.31**	**162**	*e*Pn		**Pn**		**00 54 56.4**	**+1.0**
	76nm,1.1s								
CFAA	**Coronel Fontan**	**18.52**	**158**	P		**Pn**		**00 55 35.2**	**-0.4**
	0.3nm,0.3s,baz=338,slow=11,SNR=22								
CFAA				LR		LR		01 01 46.0	
	comp=Z,206nm,19.5s,baz=341,slow=34								
ROSC	**El Rosal**	**19.28**	**5**	P		**Pn**		**00 55 45.6**	**+0.6**
	1.1nm,0.3s,baz=88,slow=21,SNR=6.5								
ROSC				S		**S**		**00 59 33.4**	**+13**
	0.9nm,0.3s,baz=75,slow=20,SNR=2.0								
ROSC				LR		LR		01 03 59.5	
	comp=Z,3μm,18.6s,baz=195,slow=40								
ROSC	**El Rosal**	**19.28**	**5**	*e*P		**Pn**		**00 55 47.7**	**+2.7**
CPUP	**Villa Florida**	**21.16**	**127**	P		**P**		**00 56 04.3**	**+0.2**
	27nm,0.7s,mb4.7,baz=292,slow=10,SNR=57								
CPUP				LR		LR		01 05 55.3	
	comp=Z,3μm,18.5s,MS4.7,baz=286,slow=41								
BCIP	**Isla Barro Col**	**23.77**	**351**	*e*P		**P**		**00 56 32.9**	**+1.6**
SDV	**Santo Domingo**	**23.83**	**14**	P		**P**		**00 56 31.6**	**-0.2**
	47nm,0.7s,mb5.0,baz=227,slow=7.3,SNR=39								
SDV				S		**S**		**01 00 48.0**	**+2.6**
	2.6nm,0.5s,baz=84,slow=9.9,SNR=2.1								
SDV	**Santo Domingo**	**23.83**	**14**	*e*P		**P**		**00 56 31.5**	**-0.4**
	71nm,0.8s,mb5.2								
PLCA	**Paso Flores**	**26.61**	**171**	P		**P**		**00 56 56.6**	**-0.3**
	7.9nm,0.7s,mb4.3,baz=340,slow=9.9,SNR=18								
PLCA				PcP		PcP		01 00 20.0	-0.4
	2.6nm,0.7s,baz=16,slow=2.5,SNR=3.4								
PLCA				LR		LR		01 05 05.8	
	comp=Z,783nm,19.7s,MS4.3,baz=334,slow=31								
PLCA	**Paso Flores**	**26.61**	**171**	P		**P**		**00 56 56.6**	**-0.3**
PLCA								01 00 20.0	
PLCA	**Paso Flores**	**26.61**	**171**	P		**P**		**00 56 56.6**	**-0.3**
PLCA				PcP		PcP		01 00 20.0	-0.4
PLCA				LR		LR		01 05 05.8	
TRQA	**Tornquist**	**26.62**	**155**	*e*P		**P**		**00 56 55.8**	**-1.2**
	144nm,2.1s,mb5.1								
PCRV	**Puerto La Cruz**	**27.00**	**26**	P		**P**		**00 57 01.3**	**+0.7**
	19nm,0.7s,mb4.7,baz=130,slow=1.6,SNR=7.3								
PCRV				LR		LR		01 08 41.2	
	comp=Z,4μm,18.7s,MS5.1,baz=41,slow=39								
BDFB	**Brasilia**	**27.15**	**96**	P		**P**		**00 57 01.2**	**-0.9**
	11nm,0.6s,mb4.6,baz=251,slow=18,SNR=25								
BDFB				LR		LR		01 08 54.1	
	comp=Z,4μm,18.2s,MS5.0,baz=88,slow=39								
SPB	**Sao Paulo**	**28.55**	**113**	*e*P		**P**		**00 57 18.2**	**+3.8**
GRGR	**Grenville**	**30.06**	**29**	*e*P		**P**		**00 57 26.1**	**-1.8**
TGUH	**Tegucigalpa,Un**	**30.42**	**338**	*e*P		**P**		**00 57 33.1**	**+2.0**
MPR	**Mayaguez**	**33.66**	**16**	*e*P		**P**		**00 57 59.4**	**0.0**
SJG	**San Juan**	**33.83**	**17**	*e*P		**P**		**00 58 00.4**	**-0.6**
AOPR	**Arecibo Observ**	**33.89**	**16**	*e*P		**P**		**00 58 00.1**	**-1.4**
	48nm,1.2s,mb5.3								
CBYP	**Canovanas**	**34.07**	**18**	*e*P		**P**		**00 58 02.6**	**-0.4**
	28nm,0.9s,mb5.2								
CAM3	**Guarapari**	**34.44**	**106**	(P)		**P**		**00 58 12.4**	**+6.0**
CAM3				*i*				00 58 15.2	
CAM3				*i*				00 58 18.6	
CAM3				*i*		pP		00 58 20.5	+3.9
CAM3				*i*				00 58 35.1	
CAM3				*i*				00 58 42.8	
CAM3				*i*				00 58 52.0	
CAM3				*i*				00 58 55.4	
TEIG	**Tepich**	**36.49**	**341**	*e*P		**P**		**00 58 25.0**	**+1.2**
NHSC	**New Hope**	**47.47**	**355**	*e*P		**P**		**00 59 54.8**	**+1.5**
BBSR	**BB Station**	**47.84**	**13**	*e*P		**P**		**00 59 57.5**	**+1.3**
HKT	**Hockley**	**48.08**	**337**	*e*P		**P**		**00 59 57.8**	**-0.3**
HKT				pmax		pmax			
	comp=Z,54nm,1.5s,mb5.4								
HKT	**Hockley**	**48.08**	**337**	*e*P		**P**		**00 59 57.8**	**-0.2**
	comp=Z,54nm,1.5s,mb5.3								
GOGA	**Godfrey**	**48.13**	**352**	*e*P		**P**		**00 59 57.3**	**-1.1**
GOGA				pmax		pmax			
	comp=Z,23nm,1.1s,mb5.1								
GOGA	**Godfrey**	**48.13**	**352**	*e*P		**P**		**00 59 57.3**	**-1.0**
	comp=Z,23nm,1.1s,mb5.1								
VBMS	**Vicksburg**	**48.43**	**344**	P		**P**		**01 00 01.2**	**+0.4**
JSC	**Jenkinsville**	**48.73**	**354**	*e*P		**P**		**01 00 02.4**	**-0.6**
JSC				*e*				01 01 25.9	
NATX	**Nacogdoches**	**49.29**	**339**	*e*P		**P**		**01 00 07.9**	**+0.6**
	comp=Z,17nm,0.8s,mb5.1								
JCT	**Junction City**	**50.17**	**333**	*e*P		**P**		**01 00 15.3**	**+1.2**
CPCT	**Cooper Cave**	**50.28**	**351**	*e*P		**P**		**01 00 14.0**	**-0.8**
SWET	**Sewanee**	**50.28**	**350**	*e*P		**P**		**01 00 13.1**	**-1.8**
OXF	**Oxford**	**50.32**	**346**	*e*P		**P**		**01 00 14.7**	**-0.4**
OXF				pmax		pmax			
	comp=Z,39nm,1.1s,mb5.3								
OXF	**Oxford**	**50.32**	**346**	*e*P		**P**		**01 00 14.7**	**-0.5**
	comp=Z,39nm,1.1s,mb5.3								
TKL	**Tuckaleechee C**	**50.38**	**352**	*e*P		**P**		**01 00 14.1**	**-1.4**
PLAL	**Pickwick Lake**	**50.47**	**347**	*e*P		**P**		**01 00 15.3**	**-1.0**
PMSA	**Palmer Station**	**50.93**	**173**	*e*P		**P**		**01 00 19.7**	**+0.3**
	comp=Z,31nm,1.0s,mb5.2								
TXAR	**Lajitas Array**	**51.03**	**329**	P		**P**		**01 00 19.4**	**-1.2**
	comp=Z,4.9nm,0.7s,mb4.5,baz=146,slow=9.6,SNR=20								
TXAR				LR		LR		01 20 49.3	
	comp=Z,983nm,18.1s,MS4.9,baz=105,slow=35								
TZTN	**Tazewell**	**51.22**	**352**	*e*P		**P**		**01 00 20.9**	**-0.9**
UALR	**University of**	**51.34**	**343**	*e*P		**P**		**01 00 23.9**	**+1.0**
	comp=Z,24nm,1.1s,mb5.0								
MIAR	**Mount Ida**	**51.49**	**342**	*e*P		**P**		**01 00 26.7**	**+2.8**
MIAR				pmax		pmax			
	comp=Z,22nm,0.9s,mb5.1								
MIAR	**Mount Ida**	**51.49**	**342**	*e*P		**P**		**01 00 26.7**	**+2.7**
	comp=Z,22nm,0.9s,mb5.1								
BLA	**Blacksburg**	**51.56**	**356**	*e*P		**P**		**01 00 24.0**	**-0.4**
BLA				pmax		pmax			
	comp=Z,13nm,0.8s,mb4.9								
BLA	**Blacksburg**	**51.56**	**356**	*e*P		**P**		**01 00 24.0**	**-0.4**
	comp=Z,13nm,0.8s,mb4.9								
ELN	**Prospectdale**	**51.60**	**355**	*e*P		**P**		**01 00 24.4**	**-0.4**
HBAR	**Harrisburg**	**51.62**	**345**	*e*P		**P**		**01 00 25.0**	**+0.1**
PARMO	**Parma**	**52.46**	**346**	*e*P		**P**		**01 00 31.5**	**+0.4**
PARMO				PcP		PcP		01 01 40.5	-1.0
USIN	**University of**	**53.27**	**349**	*e*P		**P**		**01 00 36.2**	**-0.9**
WCI	**Wyandotte Cave**	**53.28**	**350**	*e*P		**P**		**01 00 35.9**	**-1.2**
WCI				pmax		pmax			
	comp=Z,19nm,0.9s,mb5.0								
WCI	**Wyandotte Cave**	**53.28**	**350**	*e*P		**P**		**01 00 35.9**	**-1.2**
	comp=Z,19nm,0.9s,mb5.0								
SIUC	**Southern Illin**	**53.35**	**347**	*e*P		**P**		**01 00 37.9**	**+0.2**
	comp=Z,20nm,0.6s,mb5.2								
WMOK	**Wichita Mounta**	**53.47**	**337**	*e*P		**P**		**01 00 38.6**	**0.0**
SDMD	**Soldier's Deli**	**53.60**	**359**	*e*P		**P**		**01 00 39.7**	**+0.3**
	comp=Z,18nm,0.9s,mb5.0								
GDL2	**Guadalupe Moun**	**53.72**	**330**	*e*P		**P**		**01 00 42.2**	**+1.8**
FVM	**French Village**	**53.88**	**346**	*e*P		**P**		**01 00 41.6**	**+0.1**
FVM				pmax		pmax			
	comp=Z,32nm,1.6s,mb5.0								
FVM	**French Village**	**53.88**	**346**	*e*P		**P**		**01 00 41.6**	**+0.1**
	comp=Z,32nm,1.6s,mb5.0								
OLIL	**Olney**	**54.10**	**348**	*e*P		**P**		**01 00 42.7**	**-0.4**
	comp=Z,30nm,0.7s,mb5.3								
MVL	**Millersville**	**54.19**	**360**	*e*P		**P**		**01 00 43.5**	**-0.2**
	comp=Z,15nm,0.9s,mb4.9								
BLO	**Bloomington**	**54.24**	**350**	*e*P		**P**		**01 00 42.8**	**-1.3**
BLO				pmax		pmax			
	comp=Z,15nm,0.7s,mb5.0								
BLO	**Bloomington**	**54.24**	**350**	*e*P		**P**		**01 00 42.8**	**-1.4**
	comp=Z,15nm,0.7s,mb5.0								
AMTX	**Amarillo**	**54.76**	**334**	*e*P		**P**		**01 00 49.1**	**+1.1**
	comp=Z,19nm,1.2s,mb5.0								
ACSO	**Alum Creek Sta**	**54.79**	**354**	*e*P		**P**		**01 00 47.5**	**-0.6**
	comp=Z,26nm,1.0s,mb5.2								
BRNJ	**Basking Ridge**	**54.89**	**1**	P		**P**		**01 00 49.4**	**+0.6**
PAL	**Palisades**	**55.23**	**2**	*e*P		**P**		**01 00 51.3**	**0.0**
PAL				pmax		pmax			
	comp=Z,17nm,0.8s,mb5.1								
PAL	**Palisades**	**55.23**	**2**	*e*P		**P**		**01 00 51.3**	**0.0**
	comp=Z,17nm,0.8s,mb5.1								
319A	**Douglas**	**55.60**	**325**	⇓P		**P**		**01 00 53.6**	**-0.6**
	baz=56								
ALLY	**Alegheny Colle**	**55.96**	**356**	*e*P		**P**		**01 00 56.3**	**-0.2**
318A	**Bisbee**	**56.05**	**325**	⇓P		**P**		**01 00 57.0**	**-0.4**
	baz=56,SNR=18								
219A	**White Tail Can**	**56.07**	**326**	⇑P		**P**		**01 00 57.0**	**-0.5**
	baz=56,SNR=13								
RKT	**Rikitea**	**56.07**	**252**	*e*S		**S**		**01 08 34.1**	**-10**
	comp=Z,1μm,25.8s								
RKT				*e*LR		LR		01 17 13.1	
	comp=Z,2μm,28.2s,baz=87								
BRYW	**Bryant College**	**56.26**	**4**	*e*P		**P**		**01 00 58.7**	**0.0**
BINY	**Binghamton**	**56.38**	**0**	*e*P		**P**		**01 00 58.8**	**-0.7**
	comp=Z,20nm,0.8s,mb5.2								
BNM	**Barren Site**	**56.40**	**330**	*e*P		**P**		**01 01 00.5**	**+0.7**
218A	**Dragoon**	**56.48**	**325**	⇑P		**P**		**01 00 59.5**	**-1.0**
	baz=57,SNR=14								
LENM	**Lemitar**	**56.59**	**329**	*e*P		**P**		**01 01 03.5**	**+2.4**
KSU1	**Kansas State U**	**56.63**	**341**	*e*P		**P**		**01 00 59.7**	**-1.6**
119A	**Ashpeak Ranch,**	**56.68**	**327**	⇑P		**P**		**01 01 01.3**	**-0.6**
	baz=57								
217A	**Green Valley**	**56.76**	**325**	⇑P		**P**		**01 01 01.8**	**-0.6**
	baz=57								
LAZ	**Ladron**	**56.86**	**329**	*e*P		**P**		**01 01 01.9**	**-1.1**
118A	**Homack Ranch,**	**56.95**	**326**	⇑P		**P**		**01 01 02.9**	**-0.8**
	baz=57								
ANMO	**Albuquerque**	**56.97**	**330**	*e*P		**P**		**01 01 03.2**	**-0.6**
ANMO				pmax		pmax			
	comp=Z,51nm,2.0s								
ANMO	**Albuquerque**	**56.97**	**330**	*e*P		**P**		**01 01 03.2**	**-0.6**
	comp=Z,51nm,2.0s,mb5.2								
Z19A	**T-Link Ranch,**	**57.07**	**327**	⇑P		**P**		**01 01 03.8**	**-0.8**
	baz=57								
TUC	**Tucson**	**57.14**	**325**	*e*P		**P**		**01 01 04.5**	**-0.6**
216A	**Three Points,**	**57.29**	**324**	⇓P		**P**		**01 01 05.6**	**-0.6**
	baz=58								
117A	**Oracle**	**57.31**	**325**	⇓P		**P**		**01 01 05.2**	**-1.1**
	baz=58,SNR=9.1								
CBKS	**Cedar Bluff**	**57.43**	**338**	*e*P		**P**		**01 01 13.5**	**+6.5**
CBKS				pmax		pmax			
	comp=Z,25nm,0.8s,mb5.3								
CBKS	**Cedar Bluff**	**57.43**	**338**	*e*P		**P**		**01 01 13.5**	**+6.5**
	comp=Z,25nm,0.8s,mb5.3								
Y19A	**Nutrioso**	**57.58**	**327**	⇓P		**P**		**01 01 07.6**	**-0.6**
	baz=58								
ACCN	**Adirondack Com**	**57.61**	**2**	*e*P		**P**		**01 01 08.8**	**+0.6**
	comp=Z,31nm,1.0s,mb5.3								
Z17A	**San Carlos Hig**	**57.72**	**326**	⇓P		**P**		**01 01 08.5**	**-0.7**
	baz=58								
Y18A	**Canyon Day Jun**	**57.85**	**327**	⇑P		**P**		**01 01 09.9**	**-0.2**
	baz=58								
X19A	**St. Johns**	**57.96**	**328**	⇑P		**P**		**01 01 10.8**	**-0.1**
	baz=58								
214A	**Organ Pipe Nat**	**58.03**	**323**	⇑P		**P**		**01 01 11.1**	**-0.3**
	baz=58								
NCB	**Newcomb**	**58.18**	**2**	*e*P		**P**		**01 01 11.9**	**-0.2**
Y17A	**Roosevelt**	**58.22**	**326**	⇓P		**P**		**01 01 12.4**	**-0.3**
	baz=58								
Z16A	**Peralta Trail,**	**58.27**	**325**	⇑P		**P**		**01 01 12.2**	**-0.8**
	baz=58								
X18A	**Snowflake**	**58.38**	**327**	⇑P		**P**		**01 01 13.5**	**-0.3**
	baz=59								
W19A	**Sanders**	**58.55**	**328**	⇓P		**P**		**01 01 14.5**	**-0.4**
	baz=59								
Z15A	**Gila River Ind**	**58.64**	**325**	⇑P		**P**		**01 01 15.3**	**-0.3**
	baz=59								
X17A	**Forest Lakes**	**58.69**	**327**	⇑P		**P**		**01 01 15.6**	**-0.3**
	baz=59								
Y16A	**Circle Bar Ran**	**58.71**	**326**	⇓P		**P**		**01 01 15.9**	**-0.2**
	baz=59,SNR=9.1								
W18A	**Petrified Fore**	**58.73**	**328**	⇑P		**P**		**01 01 15.8**	**-0.4**
	baz=59								
LONY	**Lake Ozonia**	**58.82**	**1**	*e*P		**P**		**01 01 16.3**	**-0.3**
SDCO	**Great Sand Dun**	**58.82**	**333**	*e*P		**P**		**01 01 16.1**	**-0.7**
	comp=Z,12nm,0.9s,mb4.9								
V19A	**Window Rock**	**58.85**	**329**	⇑P		**P**		**01 01 16.3**	**-0.7**
	baz=59								
FRNY	**Flat Rock**	**59.06**	**2**	*e*P		**P**		**01 01 17.7**	**-0.6**
X16A	**Lo Mia Camp, P**	**59.09**	**326**	⇑P		**P**		**01 01 18.4**	**-0.3**
	baz=59,SNR=7.0								
Z14A	**Wintersburg**	**59.14**	**324**	⇓P		**P**		**01 01 18.1**	**-1.0**
	baz=59								
113A	**Mohawk Valley,**	**59.18**	**323**	⇑P		**P**		**01 01 18.6**	**-0.7**
	baz=59								
W17A	**Winslow**	**59.21**	**327**	⇑P		**P**		**01 01 19.0**	**-0.6**
	baz=60								
Y15A	**Casa Rosa Ranc**	**59.23**	**325**	⇑P		**P**		**01 01 19.5**	**-0.2**
	baz=60								
V18A	**Ganado**	**59.29**	**328**	⇓P		**P**		**01 01 19.4**	**-0.7**
	baz=60								
112A	**Yuma**	**59.49**	**322**	⇑P		**P**		**01 01 20.7**	**-0.8**
	baz=60								
X15A	**Humboldt**	**59.58**	**326**	⇓P		**P**		**01 01 21.9**	**-0.2**
	baz=60								
Y14A	**Wickenburg**	**59.59**	**325**	⇑P		**P**		**01 01 22.1**	**-0.1**
	baz=60								
W16A	**Flagstaff**	**59.65**	**327**	⇑P		**P**		**01 01 22.5**	**-0.1**
	baz=60								
T19A	**Beclabito**	**59.72**	**330**	⇑P		**P**		**01 01 23.3**	**+0.4**
	baz=60								
MVCO	**Mesa Verde**	**59.76**	**330**	⇓P		**P**		**01 01 22.8**	**-0.5**
	baz=60								
MVCO	**Mesa Verde**	**59.76**	**330**	*e*P		**P**		**01 01 24.4**	**+1.1**
WUAZ	**Wupatki**	**59.89**	**327**	⇑P		**P**		**01 01 24.0**	**-0.2**
	baz=60								
WUAZ	**Wupatki**	**59.89**	**327**	*e*P		**P**		**01 01 24.9**	**+0.7**
X14A	**Yava**	**59.92**	**325**	⇑P		**P**		**01 01 24.4**	**-0.1**
	baz=60,SNR=8.3								
Y13A	**Salome**	**59.97**	**324**	⇓P		**P**		**01 01 24.8**	**0.0**
	baz=60								
GLA	**Glamis**	**60.00**	**323**	⇓P		**P**		**01 01 24.8**	**-0.2**
	baz=60								
W15A	**Williams**	**60.11**	**326**	⇓P		**P**		**01 01 25.2**	**-0.6**
	baz=60								
Y12C	**Blythe**	**60.32**	**323**	⇑P		**P**		**01 01 26.6**	**-0.6**
	baz=61								
U17A	**Shonto**	**60.35**	**328**	⇓P		**P**		**01 01 26.7**	**-0.7**
	baz=61								
T18A	**Mexican Hat**	**60.38**	**329**	⇑P		**P**		**01 01 26.6**	**-0.9**
	baz=61								
SWSC	**Sam W. Stewart**	**60.49**	**322**	⇓P		**P**		**01 01 28.0**	**-0.4**
	baz=61								
PV01	**Paradox Valley**	**60.54**	**331**	*e*P		**P**		**01 01 28.2**	**-0.3**
X13A	**Yucca**	**60.54**	**325**	⇑P		**P**		**01 01 28.1**	**-0.6**
	baz=61								
V15A	**Kaibab Nationa**	**60.54**	**327**	⇑P		**P**		**01 01 28.1**	**-0.5**
	baz=61								
ISCO	**Idaho Springs**	**60.58**	**334**	*e*P		**P**		**01 01 29.9**	**+1.1**
ISCO				pmax		pmax			
	comp=Z,20nm,1.5s,mb5.0								
ISCO	**Idaho Springs**	**60.58**	**334**	*e*P		**P**		**01 01 29.9**	**+1.1**
	comp=Z,20nm,1.5s,mb5.0								
W14A	**Seligman**	**60.58**	**326**	⇓P		**P**		**01 01 28.4**	**-0.6**
	baz=61								
T17A	**Navajo Res., N**	**60.73**	**329**	⇓P		**P**		**01 01 29.4**	**-0.5**
	baz=61								
BC3	**Big Chuckw Mtn**	**60.80**	**323**	⇑P		**P**		**01 01 30.1**	**-0.4**
	baz=61								
S18A	**Hurst Farm, Bl**	**60.87**	**330**	⇓P		**P**		**01 01 30.5**	**-0.4**
	baz=61								
ECSD	**EROS,Sioux Fal**	**60.88**	**343**	*e*P		**P**		**01 01 29.7**	**-1.1**
V14A	**Boquillas Ranc**	**60.91**	**326**	⇑P		**P**		**01 01 31.0**	**-0.2**
	baz=61								
W13A	**Hualapai Mount**	**60.94**	**325**	⇓P		**P**		**01 01 31.3**	**-0.1**
	baz=61,SNR=5.6								
PV10	**Paradox Valley**	**60.95**	**331**	*e*P		**P**		**01 01 31.9**	**+0.5**
IRM	**Iron Mountain**	**60.98**	**323**	⇑P		**P**		**01 01 31.8**	**+0.1**
	baz=61								
R19A	**Curley Farm, L**	**60.99**	**331**	⇓P		**P**		**01 01 30.9**	**-0.7**
	baz=61								
U15A	**North Rim**	**61.06**	**327**	⇑P		**P**		**01 01 32.3**	**+0.1**
	baz=61								
S17A	**Black Ridge (B**	**61.23**	**329**	⇓P		**P**		**01 01 32.9**	**-0.4**
	baz=62								
PFO	**Pinyon Flat Ob**	**61.36**	**322**	P		**P**		**01 01 33.6**	**-0.6**
	comp=Z,3.8nm,0.9s,mb4.5,baz=147,slow=5.9,SNR=3.4								
PFO	**Pinyon Flat Ob**	**61.36**	**322**	*e*P		**P**		**01 01 34.8**	**+0.5**
PFO				pmax		pmax			
	comp=Z,20nm,1.2s,mb5.1								
PFO	**Pinyon Flat Ob**	**61.36**	**322**	⇓P		**P**		**01 01 34.5**	**+0.3**
	baz=62								
PFO	**Pinyon Flat Ob**	**61.36**	**322**	*e*P		**P**		**01 01 34.8**	**+0.5**
	comp=Z,20nm,1.2s,mb5.1								
BELC	**Belle Mtn.**	**61.36**	**323**	⇓P		**P**		**01 01 34.5**	**+0.3**
	baz=62								
R18A	**Canyonlands Na**	**61.37**	**330**	⇓P		**P**		**01 01 34.7**	**+0.5**
	baz=62								
Q19A	**Hogan Spring (**	**61.52**	**331**	⇑P		**P**		**01 01 35.6**	**+0.4**
	baz=62								
U14A	**Mt Trumbull**	**61.53**	**326**	⇓P		**P**		**01 01 35.7**	**+0.3**
	baz=62								
V13A	**Grand Canyon W**	**61.55**	**325**	⇓P		**P**		**01 01 35.8**	**+0.3**
	baz=62								
T15A	**Red Dirt Ranch**	**61.56**	**327**	⇑P		**P**		**01 01 36.0**	**+0.5**
	baz=62								
W12A	**Cal Nev Ari**	**61.64**	**324**	⇓P		**P**		**01 01 36.5**	**+0.4**
	baz=62								
S16A	**Weppner Ranch,**	**61.69**	**328**	⇑P		**P**		**01 01 37.3**	**+0.9**
	baz=62								
GMRC	**Granite Mounta**	**61.72**	**323**	⇑P		**P**		**01 01 37.1**	**+0.4**
	baz=62								
R17A	**Hanksville Air**	**61.79**	**330**	⇓P		**P**		**01 01 36.8**	**-0.2**
	baz=62								
MURC	**Murrieta**	**61.80**	**322**	⇓P		**P**		**01 01 36.7**	**-0.5**
	baz=62								
V12A	**Nelson**	**61.94**	**325**	⇑P		**P**		**01 01 37.8**	**-0.3**
	baz=62								
U13A	**Pakoon Wash**	**61.95**	**326**	⇓P		**P**		**01 01 37.9**	**-0.3**
	baz=62								
T14A	**Hurricane**	**61.96**	**327**	⇑P		**P**		**01 01 38.3**	**+0.1**
	baz=62								
Q18A	**Rafter H Ranch**	**62.05**	**330**	⇓P		**P**		**01 01 38.8**	**0.0**
	baz=62								
S15A	**Panguitch**	**62.05**	**328**	⇑P		**P**		**01 01 38.8**	**0.

comp=Z,34nm,1.3s,mb5.2
NOQ North Oquirrh 64.21 330 eP P 01 01 53.9 +0.8
comp=Z,22nm,1.0s,mb5.2
P13A Bates Ranch, G 64.24 328 ⇑P P 01 01 54.6 +1.2
baz=64,SNR=8.5
R11A Troy Canyon, C 64.25 326 ⇑P P 01 01 53.9 +0.5
baz=64
PKM Peak Mountain 64.27 321 ⇑P P 01 01 53.5 -0.1
baz=64
CWC Cottonwood Cre 64.28 323 ⇑P P 01 01 53.3 -0.3
baz=64
Q12A Willow Creek R 64.35 327 ⇓P P 01 01 54.2 +0.1
baz=65
S10A Tonopah Range, 64.49 325 ⇓P P 01 01 55.3 +0.3
baz=65
M16A Huntsville 64.49 331 ⇑P P 01 01 55.2 +0.3
baz=65
N15A Stansbury Isla 64.59 330 ⇑P P 01 01 56.1 +0.5
baz=65
R10A Warm Springs 64.59 326 ⇑P P 01 01 55.9 +0.2
baz=65
Q11A Duckwater 64.64 327 ⇑P P 01 01 56.7 +0.7
baz=65,SNR=7.3
HWUT Hardware Ranch 64.69 331 eP P 01 01 55.4 -0.8
S09A Goldfield 64.69 325 ⇑P P 01 01 56.4 +0.1
baz=65
BW06 Boulder Array 64.71 333 eP P 01 01 56.1 -0.3
PDAR Pinedale Array 64.71 333 P P 01 01 54.9 -1.4
comp=Z,2.6nm,0.9s,mb4.2,baz=138,slow=6.9,SNR=14
BGU Big Grassy Mou 64.86 330 eP P 01 01 56.5 -0.9
SPUT South Promonto 64.88 330 eP P 01 01 59.3 +1.9
N14A Grayback Hills 64.88 330 ⇓P P 01 01 58.0 +0.5
baz=65
AGMN Agassiz Refuge 64.92 346 eP P 01 01 58.6 +1.0
TPH Tonopah 64.94 325 eP P 01 02 04.1 +6.1
L16A Fish Haven 64.95 332 ⇓P P 01 01 59.6 +1.7
baz=65
V05C Boulder Hill, 64.97 322 ⇓P P 01 01 58.3 +0.1
baz=65
R09A Tonopah 64.98 325 ⇑P P 01 01 58.0 -0.2
baz=65
M15A Larsen Ranch, 64.99 331 ⇓P P 01 01 57.6 -0.6
baz=65
HELL Mitchell Peak 65.00 323 ⇑P P 01 01 59.0 +0.7
baz=65
Q10A Clear Creek Ra 65.03 326 ⇑P P 01 01 59.3 +0.8
baz=65
S08C White Mtn Res 65.07 324 ⇓P P 01 01 59.1 +0.3
baz=65
MTUM Tungsten Hills 65.19 324 eP P 01 02 00.9 +1.3
O12A Currie 65.22 328 ⇑P P 01 01 59.7 0.0
baz=66,SNR=12
L15A Malad City 65.38 331 ⇑P P 01 02 00.3 -0.5
baz=66
HVU Hansel Valley 65.39 331 eP P 01 02 01.6 +0.8
M14A Sheep Mountain 65.46 330 ⇑P P 01 02 00.5 -0.7
baz=66
O11A Cowboy Ranch, 65.59 328 ⇑P P 01 02 02.3 +0.2
baz=66
P10A Eureka 65.64 327 ⇑P P 01 02 02.5 +0.1
baz=66
K16A Soda Springs 65.66 332 ⇓P P 01 02 03.2 +0.7
baz=66
REDW Red Top Meadow 65.75 333 eP P 01 02 04.4 +1.4
comp=Z,33nm,1.4s,mb5.2
NVAR Mina Array Bea 65.80 325 P P 01 02 02.8 -0.7
comp=Z,0.7nm,0.8s,baz=235,slow=49,SNR=5.9
L14A Malta 65.81 330 ⇑P P 01 02 03.9 +0.4
baz=66
ELK Elko 65.83 328 eP P 01 02 03.6 0.0
TPAW Teton Pass 65.90 333 eP P 01 02 05.3 +1.3
comp=Z,26nm,1.4s,mb5.1
RRI2 Red Ridge 65.95 333 eP P 01 02 04.2 -0.1
comp=Z,23nm,0.9s,mb5.2
K15A Arbon 65.98 331 ⇓P P 01 02 05.0 +0.4
baz=66
J16A Bone 66.02 332 ⇑P P 01 02 05.0 +0.2
baz=66
O10A Cortez Mining, 66.14 327 ⇑P P 01 02 06.0 +0.4
baz=66
M12A Wells 66.16 329 ⇑P P 01 02 05.8 0.0
baz=66
K14A Jones Ranch, D 66.17 331 ⇓P P 01 02 05.6 -0.2
baz=66
L13A Double Diamond 66.19 330 ⇑P P 01 02 06.0 0.0
baz=66
S05C Merced 66.21 323 ⇑P P 01 02 06.3 +0.2
baz=66
IMW Indian Meadow 66.22 333 eP P 01 02 05.9 -0.2
comp=Z,21nm,1.3s,mb5.0
FLWY Flagg Ranch 66.26 333 eP P 01 02 06.0 -0.3
S06C San Francisco 66.30 323 ⇑P P 01 02 06.6 -0.1
baz=66
HAST Hastings Reser 66.31 321 ⇑P P 01 02 06.7 -0.1
baz=67
O09A Fish Creek Ran 66.42 327 ⇑P P 01 02 08.0 +0.6
baz=67
N10A Dunphy 66.46 328 ⇓P P 01 02 07.5 -0.1
baz=67
RLMT Red Lodge 66.50 335 eP P 01 02 07.3 -0.5
comp=Z,22nm,1.4s,mb5.0
LKWY Lake 66.52 334 eP P 01 02 09.7 +1.7
M11A Holland Ranch, 66.61 328 ⇑P P 01 02 08.8 +0.1
baz=67
YFT Old Faithful 66.61 334 eP P 01 02 11.0 +2.4
BMN Battle Mountai 66.63 327 P P 01 02 10.4 +1.6
CMB Columbia Colle 66.71 323 ⇑P P 01 02 09.7 +0.3
baz=67
CMB Columbia Colle 66.71 323 eP P 01 02 14.3 +4.9
ULM Lac du Bonnet 66.74 346 P P 01 02 06.9 -2.4
comp=Z,12nm,0.8s,mb5.0,baz=169,slow=7.2,SNR=8.8
L12A House Creek Ra 66.76 329 ⇑P P 01 02 09.8 +0.3
baz=67
YMR Madison River 66.84 334 eP P 01 02 10.8 +0.8
comp=Z,33nm,1.3s,mb5.2
S04C Ingram Canyon, 66.91 322 ⇓P P 01 02 10.5 -0.1
baz=67
R05C Kirkwood Meado 66.99 324 ⇑P P 01 02 11.4 +0.3
baz=67
O08A Rochester Mine 67.02 326 ⇓P P 01 02 10.9 -0.4
baz=67
M10A I.L. Ranch, Tu 67.06 328 ⇑P P 01 02 11.4 -0.1
baz=67
K12A Draper Farm, C 67.07 330 ⇑P P 01 02 11.6 0.0
baz=67,SNR=13
L11A Cat Creek Ranc 67.14 329 ⇓P P 01 02 11.9 -0.1
baz=67,SNR=14
BNLO Ben Lomond (Sa 67.17 321 ⇓P P 01 02 11.4 -0.9
baz=67
QLMT Earthquake Lak 67.17 333 eP P 01 02 13.7 +1.6
GCMT Greycliff 67.20 335 eP P 01 02 11.9 -0.4
WCN Washoe City 67.22 324 ⇓P P 01 02 12.0 -0.6
baz=68
PAHR Pah Rah Range 67.29 325 eP P 01 02 16.2 +3.2
comp=Z,27nm,1.1s,mb5.2
J13A Cove Ranch, Pi 67.30 331 ⇓P P 01 02 12.6 -0.3
baz=68
O07A Toulon 67.33 326 ⇑P P 01 02 12.9 -0.3
baz=68
N08A GE Springer Mi 67.36 327 ⇓P P 01 02 13.0 -0.4
baz=68
L10A Juniper Basin 67.43 329 ⇓P P 01 02 13.1 -0.7
baz=68
M09A Marrel Ranch, 67.46 327 ⇓P P 01 02 13.0 -1.0
baz=68
HLID Hailey 67.54 331 ⇑P P 01 02 13.8 -0.7
baz=68
HLID Hailey 67.54 331 eP P 01 02 14.3 -0.2
comp=Z,42nm,2.0s,mb5.1
J12A Stokes Ranch, 67.63 330 ⇑P P 01 02 14.1 -1.0
baz=68
I13A Wildhorse Cree 67.67 331 ⇑P P 01 02 15.7 +0.4
baz=68,SNR=12
P05C Yuba Gap, Truc 67.70 324 ⇑P P 01 02 15.8 +0.2
baz=68
K11A Parker Ranch, 67.72 329 ⇑P P 01 02 15.9 +0.3
baz=68
N07B Gerlach 67.81 326 ⇓P P 01 02 16.3 +0.1
baz=68
Q04C Lincoln 67.83 323 ⇓P P 01 02 16.6 +0.2
baz=68
O06A Flanigan 67.85 325 ⇓P P 01 02 16.0 -0.5
baz=68
G15A Dillon 67.90 333 ⇓P P 01 02 17.0 +0.3
baz=68
BOZ Bozeman (W) 67.91 334 ⇑P P 01 02 17.2 +0.4
baz=68
BOZ Bozeman (W) 67.91 334 eP P 01 02 17.2 +0.5
BEKR Beckwourth 67.94 325 ⇓P P 01 02 17.2 +0.1
baz=68
DLMT Dillon 68.10 333 eP P 01 02 19.0 +1.0
comp=Z,22nm,1.2s,mb5.1
MFID Camas Ranch 68.10 330 ⇑P P 01 02 17.9 -0.1
baz=68,SNR=7.3
CVS Carmenet Viney 68.14 322 ⇓P P 01 02 18.1 -0.2
baz=68
K10A MacKenzie Ranc 68.15 329 ⇑P P 01 02 18.2 -0.1
baz=68
OHCM Honcut 68.22 324 eP P 01 02 24.9 +6.0
H13A Challis 68.22 332 ⇑P P 01 02 18.6 -0.2
baz=68
N06A Buffalo Meadow 68.26 326 ⇓P P 01 02 19.0 0.0
baz=68
O05C Quincy 68.32 324 ⇓P P 01 02 19.5 +0.1
baz=69
SUTB Sutter Butte 68.33 323 ⇓P P 01 02 19.3 -0.2
baz=69
M07A Soldier Meadow 68.34 326 ⇓P P 01 02 20.1 +0.5
baz=69
ORV Oroville 68.38 324 ⇑P P 01 02 20.2 +0.3
baz=69
G14A Jackson 68.39 333 ⇑P P 01 02 20.1 +0.3
baz=69
LRM Limekiln Ridge 68.40 334 eP P 01 02 19.9 +0.1
F15A Butte 68.43 334 ⇓P P 01 02 20.2 +0.2
baz=69
L08A Fields 68.47 328 ⇑P P 01 02 20.8 +0.4
baz=69
H12A Diamond D Ranc 68.49 331 ⇑P P 01 02 20.6 +0.2
baz=69
K09A Rome 68.52 328 ⇑P P 01 02 20.8 +0.1
baz=69
I11A Placerville 68.54 330 ⇑P P 01 02 20.6 -0.1
baz=69
G13A Cobalt 68.62 332 ⇓P P 01 02 21.2 -0.1
baz=69,SNR=11
F14A Wisdom 68.79 333 ⇑P P 01 02 22.2 -0.1
baz=69
L07A Adell 68.88 327 ⇑P P 01 02 23.0 +0.1
baz=69
M06C Likely Place G 68.92 326 ⇑P P 01 02 22.4 -0.8
baz=69
K08A Mann Creek Ran 68.94 328 ⇑P P 01 02 22.9 -0.4
baz=69
E15A Deer Lodge 68.95 334 ⇑P P 01 02 22.7 -0.5
baz=69
J09A Fry Pan Ranch, 69.00 329 ⇓P P 01 02 23.8 +0.1
baz=69
EGMT Eagleton 69.06 337 ⇓P P 01 02 24.3 +0.3
baz=69
EGMT Eagleton 69.06 337 eP P 01 02 24.7 +0.8
comp=Z,18nm,1.1s,mb4.9
GASB Alder Springs 69.15 323 ⇑P P 01 02 24.1 -0.6
baz=69
H11A Donnelly 69.15 331 ⇓P P 01 02 24.3 -0.2
baz=69
VNA1 Neumayer--Stat 69.16 161 eP P 01 02 25.6 +1.3
VNA1 e 01 02 31.2
F13A Darby 69.20 332 ⇓P P 01 02 25.1 +0.3
baz=69,SNR=14
HATC Hat Creek Radi 69.20 325 ⇓P P 01 02 24.4 -0.6
baz=70
K07A Rock Creek Ran 69.30 327 ⇑P P 01 02 25.1 -0.4
baz=70
MOD Modoc 69.31 326 ⇑P P 01 02 26.1 +0.5
baz=70
MOD Modoc 69.31 326 eP P 01 02 28.8 +3.2
E14A Clinton 69.31 333 ⇓P P 01 02 24.7 -0.8
baz=70,SNR=6.4
TBI Tubuai 69.33 250 eS S 01 11 22.6 -8.2
comp=Z,1μm,29.5s
TBI Tubuai 69.33 250 eLR LR 01 23 19.8
comp=Z,1μm,26.8s,baz=89
D15A Lincoln 69.39 334 ⇓P P 01 02 25.5 -0.4
baz=70
M05C Lookout 69.40 325 ⇑P P 01 02 26.2 +0.1
baz=70
SCHQ Schefferville 69.48 6 P P 01 02 25.5 -0.8
comp=Z,8.3nm,0.9s,mb4.7,baz=178,slow=4.2,SNR=6.9
SCHQ LR LR 01 34 36.4
comp=Z,419nm,20.9s,MS4.7,baz=194,slow=37
F12A Elk City 69.59 332 ⇓P P 01 02 27.2 -0.1
baz=70,SNR=7.8
CHMT Chamberlain Mo 69.60 334 eP P 01 02 28.1 +0.8
E13A Victor 69.64 333 ⇓P P 01 02 27.4 -0.1
baz=70
WDC Whiskeytown Da 69.66 324 ⇑P P 01 02 27.6 -0.2
baz=70
WDC Whiskeytown Da 69.66 324 eP P 01 02 27.3 -0.5
KCPM Cahto Peak 69.67 323 P P 01 02 32.3 +4.4
G11A Walters Elk Ra 69.79 331 ⇑P P 01 02 28.3 -0.2
baz=70,SNR=16
J07A Hines 69.82 328 ⇓P P 01 02 28.4 -0.3
baz=70
I08A Drewsey 69.82 329 ⇓P P 01 02 28.8 +0.1
baz=70
MSO Missoula 69.83 333 eP P 01 02 31.4 +2.7
comp=Z,21nm,1.4s,mb4.9
D14A Greenough 69.84 334 ⇑P P 01 02 29.0 +0.3
baz=70
BMO Blue Mountains 69.88 330 eP P 01 02 29.4 +0.3
K06A Valley Falls 69.90 327 ⇓P P 01 02 28.6 -0.6
baz=70
M04C Macdoel 70.07 325 ⇓P P 01 02 29.8 -0.4
baz=70
F11A Grangeville 70.11 331 ⇓P P 01 02 30.1 -0.3
baz=70,SNR=14
G10A Bishop Farm, J 70.12 330 ⇑P P 01 02 30.1 -0.3
baz=70
J06A Christmas Vall 70.17 327 ⇓P P 01 02 30.3 -0.5
baz=70
N02C Big Bar 70.25 324 ⇑P P 01 02 31.5 0.0
baz=70
D13A Huson 70.26 333 ⇑P P 01 02 31.9 +0.6
baz=70,SNR=9.2
PPT Papeete 70.27 256 eS S 01 11 31.2 -11
comp=Z,2μm,28.2s
PPT Papeete 70.27 256 eLR LR 01 23 38.7
comp=Z,843nm,27.0s,baz=101
PPT Papeete 70.27 256 LR LR 01 25 42.0
comp=Z,321nm,19.4s,MS4.6,baz=123,slow=29
H08A Prairie City 70.31 329 ⇑P P 01 02 31.3 -0.4
baz=71,SNR=11
L04A Klamath Falls 70.36 326 ⇓P P 01 02 31.3 -0.8
baz=71
M02C Callahan 70.37 324 ⇓P P 01 02 31.9 -0.2
baz=71
I07A Izee 70.42 328 ⇓P P 01 02 32.7 +0.4
baz=71
G09A Cove 70.42 330 ⇑P P 01 02 32.4 0.0
baz=71,SNR=9.1
C14A Swan Lake 70.47 334 ⇓P P 01 02 32.8 +0.2
baz=71,SNR=12
E11A Bogner Ranch, 70.48 332 ⇑P P 01 02 32.5 -0.2
baz=71
YBH Yreka Blue Hor 70.52 325 P P 01 02 32.3 -0.7
comp=Z,1.8nm,0.7s,mb4.1,baz=91,slow=4.5,SNR=7.2
YBH Yreka Blue Hor 70.52 325 ⇑P P 01 02 32.2 -0.8
baz=71
YBH Yreka Blue Hor 70.52 325 eP P 01 02 32.9 -0.1
KHMM Horse Mountain 70.53 324 eP P 01 02 39.3 +6.2
D12A Red Ives Fores 70.62 333 ⇑P P 01 02 33.3 -0.2
baz=71
F10A Beach Ranch, E 70.67 331 ⇑P P 01 02 33.4 -0.5
baz=71
I06A Prineville 70.68 328 ⇓P P 01 02 33.6 -0.4
baz=71
C13A Hot Springs 70.76 334 ⇑P P 01 02 34.3 -0.1
baz=71,SNR=14
J05A Fort Rock 70.76 327 ⇑P P 01 02 34.1 -0.4
baz=71
F09A S2 Ranch, Elgi 70.80 330 ⇑P P 01 02 34.8 +0.1
baz=71
H07A Lands Inn, Kim 70.81 329 ⇓P P 01 02 35.0 +0.2
baz=71
G08A Pilot Rock 71.01 329 ⇑P P 01 02 35.9 0.0
baz=71
KRMB Red Mountain 71.05 324 eP P 01 02 37.2 +0.9
D11A Klaveano Farm, 71.06 332 ⇓P P 01 02 35.8 -0.3
baz=71
SNAA Sanae 71.11 161 eP P 01 02 35.8 -0.4
SNAA e 01 02 43.2
SNAA Sanae 71.11 161 eP P 01 02 35.9 -0.3
SNAA pmax pmax
comp=Z,27nm,0.8s
SNAA Sanae 71.11 161 eP P 01 02 35.9 -0.3
comp=Z,27nm,0.8s,mb5.2
B13A Whitefish 71.25 334 ⇓P P 01 02 37.3 -0.1
baz=72
H06A Lindquist Farm 71.30 328 ⇑P P 01 02 37.8 +0.1
baz=72
G07A Ruggs Ranch, H 71.34 329 ⇑P P 01 02 37.8 -0.1
baz=72
E09A Wood Farm, Sta 71.50 331 ⇓P P 01 02 38.5 -0.3
baz=72
WALA Waterton Lakes 71.55 335 eP P 01 02 38.6 -0.5
K02A Glendale 71.64 325 ⇑P P 01 02 39.7 -0.1
baz=72
A13A Flathead Natio 71.66 334 ⇑P P 01 02 39.7 -0.1
baz=72
KBO Bosley Butte 71.68 324 eP P 01 02 49.8 +10
D09A Jones Farm, Ri 71.97 331 ⇑P P 01 02 41.6 -0.1
baz=72
J02A Umpqua 72.08 326 ⇑P P 01 02 42.1 -0.3
baz=72
RSW Rattlesnake Hi 72.10 330 eP P 01 02 43.6 +1.1
B11A Sandpoint 72.12 333 ⇓P P 01 02 42.4 -0.1
baz=72
A12A Yaak River Ran 72.18 334 ⇓P P 01 02 43.3 +0.4
baz=72,SNR=5.2
E07A Sunnyside 72.35 330 ⇓P P 01 02 44.7 +0.8
baz=73
OD2 Odessa Site #2 72.40 331 eP P 01 02 44.5 +0.2
A11A Hall Mountain, 72.51 333 ⇓P P 01 02 45.3 +0.4
baz=73
E06A Yakima 72.89 329 ⇓P P 01 02 47.7 +0.5
baz=73
B09A Rice 72.90 332 ⇓P P 01 02 48.0 +0.8
baz=73
A10A Northport 73.05 333 ⇑P P 01 02 48.3 +0.3
baz=73
C07A Waterville 73.25 331 ⇓P P 01 02 50.1 +0.8
baz=74
D06A Cle Elum 73.28 330 ⇑P P 01 02 50.1 +0.6
baz=74
E05A Randle 73.29 329 ⇓P P 01 02 50.1 +0.6
baz=74
ETW Entiat 73.32 330 eP P 01 02 50.6 +0.9
B08A Colville Reser 73.39 332 ⇑P P 01 02 50.5 +0.4
baz=74
LIC Lamto 73.42 79 eP P 01 02 50.3 -0.7
comp=Z,65nm,1.1s,mb5.2,baz=264
LIC eMLR MLR
comp=Z,3μm,20.5s,MS5.3
LIC Lamto 73.42 79 eP P 01 02 50.3 -0.7
comp=Z,32nm,1.1s,mb5.2
LIC LR LR
comp=Z,2μm,20.5s,MS5.3
A09A Danville 73.50 332 ⇓P P 01 02 51.6 +0.9
baz=74
DBIC Dimbokro 73.71 79 P P 01 02 52.7 -0.1
comp=Z,18nm,0.7s,mb5.1,baz=232,slow=5.9,SNR=22
DBIC LR LR 01 33 20.3
comp=Z,2μm,20.9s,MS5.4,baz=220,slow=34
DBIC Dimbokro 73.71 79 P P 01 02 52.7 -0.1
DBIC LR LR 01 33 20.3
A08A Turner Farm, O 73.80 332 ⇓P P 01 02 53.2 +0.8
baz=74
B07A Winthrop 73.83 331 ⇑P P 01 02 52.9 +0.3
baz=74
D05A Enumclaw 73.83 329 ⇓P P 01 02 53.0 +0.2
baz=74
A07A Ashnola River, 74.37 332 ⇑P P 01 02 56.1 +0.3
baz=75
JCW Jim Creek 74.50 330 eP P 01 02 57.3 +0.7
B06A Marblemount 74.51 331 ⇑P P 01 02 56.3 -0.4
baz=75
EDM Edmonton 74.61 338 eP P 01 02 57.5 +0.4
NLWA Neilton Lookou 74.91 329 ⇑P P 01 02 60.0 +1.0
baz=75
NLWA Neilton Lookou 74.91 329 eP P 01 03 02.6 +3.6
comp=Z,32nm,1.4s,mb5.1
A05A Maple Falls 75.13 331 ⇓P P 01 03 01.2 +1.0
baz=75
B04A Port Angeles 75.18 329 ⇑P P 01 03 01.7 +1.2
baz=75
MAIT Maitri 75.74 160 eP P 01 03 03.1 -0.4
NVL N'lazarevskaya 75.77 160 c iP P 01 03 03.8 +0.1
NVL pmax pmax
comp=Z,60nm,2.3s,mb5.1
SBA Scott Base 81.42 191 eP P 01 03 36.5 +1.8
SBA pmax pmax
comp=Z,48nm,1.9s,mb5.1
SBA Scott Base 81.42 191 eP P 01 03 36.5 +1.8
comp=Z,48nm,1.9s,mb5.1
MORF Marmelete 81.59 48 eP P 01 03 37.6 +1.4
comp=Z,103nm,1.4s,mb5.6
TOA0 Torodi Ar. Sit 81.77 74 eP P 01 03 37.5 -0.2
TORD Torodi Ar. Bea 81.77 74 P P 01 03 37.5 -0.2
comp=Z,74nm,0.7s,mb5.7,baz=267,slow=5.1,SNR=342
TORD LR LR 01 37 44.0
comp=Z,928nm,20.5s,MS5.1,baz=220,slow=34
PMAFR Mafra 81.86 46 eP P 01 03 39.2 +1.6
comp=Z,151nm,1.3s,mb5.8
PMAFR Mafra 81.86 46 eLR LR 01 32 29.2
comp=Z,1μm,22.0s
PBDV Barranco-do-Ve 82.09 48 eP P 01 03 41.0 +2.2
comp=Z,79nm,1.3s,mb5.5
PVAQ Vaqueiros 82.31 48 eP P 01 03 41.8 +1.8
comp=Z,66nm,1.8s,mb5.3
YKA Yellowknife Ar 82.41 343 P P 01 03 38.1 -1.8
comp=Z,4.0nm,0.7s,mb4.5,baz=142,slow=5.9,SNR=23
YKA LR LR 01 41 47.3
comp=Z,321nm,18.9s,MS4.7,baz=160,slow=37
PBEJ Beja 82.46 48 eP P 01 03 42.0 +1.2
comp=Z,64nm,1.3s,mb5.4
YKW3 Yellowknife Ar 82.47 343 eP P 01 03 38.7 -1.5
VNDA Vanda 82.50 191 P P 01 03 39.8 -0.6
comp=Z,3.4nm,0.9s,mb4.3,baz=149,slow=5.3,SNR=6.3
EVO Evora 82.57 47 eP P 01 03 41.3 0.0
comp=Z,116nm,1.2s,mb5.5
EVO eMLR MLR
comp=Z,1μm,22.2s,MS5.0
PESTR Estremoz 83.01 47 eP P 01 03 44.4 +0.8
comp=Z,66nm,1.9s,mb5.3
PESTR Estremoz 83.01 47 eLR LR 01 32 36.8
comp=Z,963nm,20.0s
PBAR Barrancos 83.12 48 eP P 01 03 45.4 +1.2
comp=Z,43nm,1.1s,mb5.4
PMRV Marv??o 83.39 47 eLR LR 01 32 54.8
comp=Z,1μm,20.0s
PCBR Castelo Branco 83.50 46 eP P 01 03 47.1 +1.0
comp=Z,54nm,1.4s,mb5.4
PVIS Viseu 83.58 45 eP P 01 03 47.5 +1.0
comp=Z,61nm,1.6s,mb5.5
MTE Manteigas 83.69 46 eP P 01 03 48.0 +1.0
comp=Z,57nm,1.6s,mb5.5
MTE Manteigas 83.69 46 eLR LR 01 34 10.5
comp=Z,1μm,20.0s
MVO Moncorvo 84.36 45 eP P 01 03 51.4 +0.9
comp=Z,53nm,1.8s,mb5.4
MVO Moncorvo 84.36 45 eLR LR 01 33 13.4
comp=Z,787nm,20.0s
DLBC Dease Lake 84.90 335 eP P 01 03 55.5 +2.7
SYO Syowa Base 85.40 161 ⇓eP P 01 03 53.2 -2.0
ESDC Sonseca Array 85.91 47 P P 01 03 57.4 -0.9
comp=Z,4.0nm,0.7s,mb4.7,baz=256,slow=5.2,SNR=23
SKAG Skagway 87.72 334 eP P 01 04 05.4 -1.2
comp=Z,11nm,0.8s,mb5.1
TAM Tamanrasset 88.03 66 eP P 01 04 09.3 +0.3
TSUM Tsumeb 88.73 109 eP P 01 04 12.4 0.0
comp=Z,4.8nm,0.8s,mb4.9
SJPF Ste Jean 89.09 45 eP P 01 04 13.4 -0.1
comp=Z,35nm,1.1s,mb5.3
SJPF Ste Jean 89.09 45 eP P 01 04 13.4 -0.1
SJPF pmax pmax
comp=Z,17nm,1.1s,mb5.3
SJPF Ste Jean 89.09 45 eP P 01 04 13.4 -0.1
comp=Z,17nm,1.1s,mb5.3
BORG Borgarnes 89.12 21 eP P 01 04 12.0 -1.1
HYT Haines Junctio 89.38 335 eP P 01 04 15.3 +0.9
ETSF Etsaut 89.47 45 eP P 01 04 15.4 +0.1
RES Resolute Bay 89.75 355 P P 01 04 14.9 -1.0
EPF Esparros 90.14 45 eP P 01 04 18.3 -0.1
SUMG Summit 90.33 11 eP P 01 04 19.6 +1.0
MFF Saint Martin d 91.03 42 eP P 01 04 21.8 -0.6
comp=Z,24nm,0.9s,mb5.2
MFF Saint Martin d 91.03 42 eP P 01 04 21.8 -0.6
MFF pmax pmax
comp=Z,12nm,0.9s,mb5.2
MFF Saint Martin d 91.03 42 eP P 01 04 21.8 -0.6
comp=Z,12nm,0.9s,mb5.2
LFF La Frestale 91.05 44 eP P 01 04 22.0 -0.6

comp=Z,37nm,1.1s,mb5.3
LFF La Frestale 91.05 44 *e*P **P 01 04 22.0 -0.6**
LFF pmax pmax
comp=Z,19nm,1.1s,mb5.3
LFF La Frestale 91.05 44 *e*P **P 01 04 22.0 -0.6**
comp=Z,19nm,1.1s,mb5.3
GRR Gorron 91.19 40 *e*P **P 01 04 22.3 -0.8**
MTLF Montolieu 91.54 46 *e*P **P 01 04 24.2 -0.7**
comp=Z,56nm,1.6s,mb5.3
MTLF Montolieu 91.54 46 *e*P **P 01 04 24.2 -0.7**
MTLF pmax pmax
comp=Z,28nm,1.6s,mb5.3
MTLF Montolieu 91.54 46 *e*P **P 01 04 24.2 -0.7**
comp=Z,28nm,1.6s,mb5.3
RJF Les Rejaudoux 91.69 44 *e*P **P 01 04 24.8 -0.7**
comp=Z,34nm,1.1s,mb5.3
RJF *e*MLR MLR
comp=Z,637nm,19.2s,MS4.8
RJF Les Rejaudoux 91.69 44 *e*P **P 01 04 24.8 -0.7**
RJF pmax pmax
comp=Z,17nm,1.1s,mb5.3
RJF MLR MLR
comp=Z,640nm,19.3s,MS5.1
RJF Les Rejaudoux 91.69 44 *e*P **P 01 04 24.8 -0.7**
comp=Z,17nm,1.1s,mb5.3
RJF LR LR
comp=Z,640nm,19.3s,MS5.1
CAF Calviac 91.94 44 *e*P **P 01 04 26.1 -0.6**
comp=Z,17nm,0.9s,mb5.1
CAF Calviac 91.94 44 *e*P **P 01 04 26.1 -0.6**
CAF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
CAF Calviac 91.94 44 *e*P **P 01 04 26.1 -0.6**
comp=Z,8.6nm,0.9s,mb5.1
INK Inuvik 92.09 342 P **P 01 04 25.4 -1.5**
comp=Z,2.7nm,0.7s,mb4.7,baz=157,slow=4.7,SNR=4.8
EKA Eskdalemuir Ar 92.38 33 P **P 01 04 26.4 -2.1**
comp=Z,2.0nm,0.9s,mb4.4,baz=270,slow=2.1,SNR=3.0
TCF Toulx Ste Croi 92.46 43 *e*P **P 01 04 28.2 -0.9**
comp=Z,13nm,1.0s,mb4.9
TCF Toulx Ste Croi 92.46 43 *e*P **P 01 04 28.2 -0.9**
TCF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
TCF Toulx Ste Croi 92.46 43 *e*P **P 01 04 28.2 -0.9**
comp=Z,6.6nm,1.0s,mb4.9
EGAK Eagle 92.82 337 *e*P **P 01 04 30.0 -0.3**
BOSA Boshof 92.84 120 P **P 01 04 30.3 -1.1**
comp=Z,3.0nm,0.6s,mb4.9,baz=274,slow=3.3,SNR=8.8
BOSA LR LR 01 42 44.5
comp=Z,724nm,20.1s,MS5.1,baz=264,slow=33
BOSA Boshof 92.84 120 *e*P **P 01 04 30.2 -1.2**
BOSA pmax pmax
comp=Z,26nm,1.5s,mb5.4
BOSA Boshof 92.84 120 *e*P **P 01 04 30.2 -1.2**
comp=Z,26nm,1.5s,mb5.4
BOSA LR LR 01 42 44.5
MAW Mawson 92.91 165 P **P 01 04 30.1 -0.7**
comp=Z,6.8nm,0.9s,mb5.1,baz=215,slow=6.2,SNR=13
MAW LR LR 01 41 45.3
comp=Z,539nm,21.3s,MS5.0,baz=230,slow=33
BGF Bois d'Agland 92.96 43 *e*P **P 01 04 30.8 -0.6**
comp=Z,19nm,0.8s,mb5.3
BGF Bois d'Agland 92.96 43 *e*P **P 01 04 30.8 -0.6**
BGF pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
BGF Bois d'Agland 92.96 43 *e*P **P 01 04 30.8 -0.6**
comp=Z,9.6nm,0.8s,mb5.3
AVF Avril sur Loir 93.37 43 *e*P **P 01 04 32.3 -1.0**
comp=Z,3.9nm,0.7s,mb4.6
AVF Avril sur Loir 93.37 43 *e*P **P 01 04 32.3 -1.0**
AVF pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
AVF Avril sur Loir 93.37 43 *e*P **P 01 04 32.3 -1.0**
comp=Z,2.0nm,0.7s,mb4.7
SSF Saint Saulge 93.55 42 *e*P **P 01 04 32.9 -1.2**
comp=Z,24nm,1.4s,mb5.2
SSF Saint Saulge 93.55 42 *e*P **P 01 04 32.9 -1.2**
SSF pmax pmax
comp=Z,12nm,1.4s,mb5.1
SSF Saint Saulge 93.55 42 *e*P **P 01 04 32.9 -1.2**
comp=Z,12nm,1.4s,mb5.1
SMF Signal de Mont 93.64 43 *e*P **P 01 04 33.8 -0.7**
comp=Z,64nm,1.4s,mb5.5
SMF Signal de Mont 93.64 43 *e*P **P 01 04 33.8 -0.7**
SMF pmax pmax
comp=Z,32nm,1.4s,mb5.6
SMF Signal de Mont 93.64 43 *e*P **P 01 04 33.8 -0.7**
comp=Z,32nm,1.4s,mb5.6
VIVF Saint-Julien-l 93.68 45 *e*P **P 01 04 34.8 0.0**
comp=Z,50nm,1.4s,mb5.4
VIVF Saint-Julien-l 93.68 45 *e*P **P 01 04 34.8 0.0**
VIVF pmax pmax
comp=Z,25nm,1.4s,mb5.5
VIVF Saint-Julien-l 93.68 45 *e*P **P 01 04 34.8 0.0**
comp=Z,25nm,1.4s,mb5.5
LOR Lormes 93.84 42 *e*P **P 01 04 34.4 -1.0**
LOR *e*MLR MLR
comp=Z,438nm,19.2s,MS4.6
LOR Lormes 93.84 42 *e*P **P 01 04 34.4 -1.0**
LOR LR LR
comp=Z,440nm,19.3s,MS4.9
SMRF Simiane la Rot 94.06 46 *e*P **P 01 04 36.5 0.0**
LBTB Lobatse 94.24 117 P **P 01 04 36.4 -1.5**
ORIF Oris-en-Rattie 94.52 45 *e*P **P 01 04 37.7 -0.9**
comp=Z,9.1nm,0.6s,mb5.0
ORIF *e*MLR MLR
comp=Z,937nm,19.8s,MS5.0
ORIF Oris-en-Rattie 94.52 45 *e*P **P 01 04 37.7 -0.9**
ORIF pmax pmax
comp=Z,5.0nm,0.6s,mb5.1
ORIF Oris-en-Rattie 94.52 45 *e*P **P 01 04 37.7 -0.9**
comp=Z,4.6nm,0.6s,mb5.1
FRF La Foret Royal 94.69 46 *e*P **P 01 04 39.2 -0.2**
KEST Kesra 94.70 54 P **P 01 04 38.7 -1.0**
comp=Z,1.1nm,0.9s,mb4.3,baz=115,slow=2.4,SNR=4.3
KEST LR LR 01 47 16.3
comp=Z,300nm,19.1s,MS4.8,baz=194,slow=36
CABF La Chapelle 95.12 43 *e*P **P 01 04 41.1 -0.2**
LPL La Plagne 95.26 44 *e*P **P 01 04 42.4 +0.4**
comp=Z,6.9nm,0.8s,mb4.9
LPL La Plagne 95.26 44 *e*P **P 01 04 42.4 +0.4**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
LPL La Plagne 95.26 44 *e*P **P 01 04 42.4 +0.4**
comp=Z,3.5nm,0.8s,mb4.8
LPG La Plagne 95.27 44 *e*P **P 01 04 42.6 +0.6**
COLA College 95.45 336 P **P 01 04 40.9 -1.5**
HAU Haudompre 95.66 42 *e*P **P 01 04 43.0 -0.7**
comp=Z,64nm,1.7s,mb5.5
HAU *e*MLR MLR
comp=Z,457nm,20.0s,MS4.7
HAU Haudompre 95.66 42 *e*P **P 01 04 43.0 -0.7**
HAU pmax pmax
comp=Z,32nm,1.7s,mb5.5
HAU MLR MLR
comp=Z,460nm,20.0s,MS5.0
HAU Haudompre 95.66 42 *e*P **P 01 04 43.0 -0.7**
comp=Z,32nm,1.7s,mb5.5
HAU LR LR
comp=Z,460nm,20.0s,MS5.0
HINF Hinteralfeld 95.94 42 *e*P **P 01 04 44.2 -0.8**
CDF Champ du Feu 96.37 42 *e*P **P 01 04 46.3 -0.6**
comp=Z,22nm,1.2s,mb5.2
CDF Champ du Feu 96.37 42 *e*P **P 01 04 46.3 -0.6**
CDF pmax pmax
comp=Z,11nm,1.2s,mb5.2
CDF Champ du Feu 96.37 42 *e*P **P 01 04 46.3 -0.6**
comp=Z,11nm,1.2s,mb5.2
BPAW Bear Paw Mtn. 96.43 335 *e*P **P 01 04 45.9 -1.0**
comp=Z,3um,0.9s
COLD Coldfoot 97.20 338 *e*P **P 01 04 50.5 +0.2**
comp=Z,7.1nm,1.3s,mb4.9
TUE Stuetta 97.27 44 *e*P **P 01 04 50.8 -0.3**
comp=Z,6.3nm,1.1s,mb5.0
DAVA Damuels 97.81 43⇑ *i*P **P 01 04 54.2 +0.7**
comp=Z,11nm,1.1s,mb5.3
DAVA Damuels 97.81 43⇑ *i*PcP PcP 01 04 54.2 +0.6
comp=Z,11nm,1.1s
RETA Reute 98.43 43⇑ *i*P **P 01 04 56.9 +0.6**
comp=Z,15nm,1.5s,mb5.3
MOTA Moosalm 98.63 43⇑ *i*P **P 01 04 56.6 -0.6**
comp=Z,10nm,1.0s,mb5.3
MOTA Moosalm 98.63 43⇑ *i*P **P 01 04 56.6 -0.6**
MOTA pmax pmax
comp=Z,10.0nm,1.0s,mb5.3
WATA Walderalm 98.94 43⇑ *i*P **P 01 04 58.9 +0.3**
comp=Z,11nm,1.2s,mb5.3
WATA Walderalm 98.94 43⇑ *i*P **P 01 04 58.9 +0.3**
WATA pmax pmax
comp=Z,11nm,1.2s,mb5.3
WTTA Wattenberg 98.97 44⇓ *i*P **P 01 04 59.3 +0.6**
comp=Z,20nm,1.2s,mb5.5
WTTA Wattenberg 98.97 44⇓ *i*P **P 01 04 59.3 +0.6**
WTTA pmax pmax
comp=Z,20nm,1.2s,mb5.5
GRA1 Grafenberg Arr 99.18 41 *e*Pdif **P 01 05 00.4 +0.8**
GRF Grafenberg Arr 99.18 41 *e*Pdiff **P 01 05 00.4 +0.8**
ABTA Abfaltersbach 99.46 44⇓ *i*P **P 01 05 01.8 +0.9**
comp=Z,10.0nm,1.0s,mb5.3
MOX Moxa 99.62 40 *e*Pdiff Pdif 01 05 01.3 -0.2
MANZ Manzenberg 99.80 41 *e*Pdiff Pdif 01 05 03.2 +0.8
ROTZ Rotzenmuhle 99.82 41 *e*Pdiff Pdif 01 05 03.1 +0.6
GUNZ Gunzen 100.01 41 *e*Pdiff Pdif 01 05 04.4 +1.1
WET Wettzell 100.14 42 *e*Pdiff Pdif 01 05 04.4 +0.5
GEC2 GERESS Array S 100.62 42 *e*Pdiff Pdif 01 05 06.9 +0.9
GERES GERESS Array B 100.62 42 P Pdif 01 05 06.2 +0.2
comp=Z,1.5nm,0.8s,baz=230,slow=3.3,SNR=14
FBE Freiberg 100.75 40 *e*Pdiff Pdif 01 05 08.2 +1.6
BRG Berggiesshubel 101.11 40 *e*Pdiff Pdif 01 05 10.7 +2.5
OBN Obninsk 114.70 36 *e*PKIKP PKiKP 01 09 58.0 -0.2
OBN *e* 01 10 54.9
OBN *e* 01 16 42.0
OBN *e*SS SS 01 26 47.2 -0.6
OBN pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 120.58 47 *e*PKIKP PKPdf 01 10 09.1 -0.8
KIV *e* 01 11 34.7
KIV *e*PS PS 01 21 27.5 -1.6
KIV pmax pmax
comp=Z,1.0nm,0.7s
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.5
ASAR Alice Springs 132.06 218 PKP PKPdf 01 10 32.4 -0.2
comp=Z,0.5nm,0.5s,baz=120,slow=2.1,SNR=7.4
WB2 Warramunga Arr 134.53 222 *e*PKP PKPdf 01 10 36.9 -0.4
WRA Warramunga Arr 134.54 222 PKP PKPdf 01 10 36.3 -1.0
comp=Z,1.8nm,0.7s,baz=145,slow=1.7,SNR=6.9
WRAB Tennant Creek 134.54 222 *e*PKIKP PKPdf 01 10 36.9 -0.4
NVS Novosibirsk 136.62 17 *e*PKIKP PKPdf 01 10 38.1 -2.0
ZALV Zalesovo Beam 137.86 17 PKP PKPdf 01 10 41.4 -1.0
comp=Z,1.7nm,0.7s,baz=176,slow=2.4,SNR=4.0
ZAL Zalesovo 137.86 17 PKIKP PKPdf 01 10 41.4 -1.0
KURK Kurchatov 138.47 24 *i* PKIKP PKPdf 01 10 43.9 +0.3
KURK Kurchatov 138.47 24 *e*P PKPdf 01 10 43.8 +0.2
FITZ Fitzroy Crossi 141.17 214 *e*PKP PKPdf 01 10 51.0 +1.5
comp=Z,8.7nm,1.4s
MJAR Matsushiro Arr 142.32 312 PKP PKPdf 01 10 50.3 -0.8
comp=Z,0.7nm,0.3s,baz=87,slow=1.9,SNR=3.0
MK31 Makanchi Array 143.06 25 *e*PKIKP PKPdf 01 10 51.5 -0.5
MKAR Makanchi Array 143.06 25 PKP PKPdf 01 10 50.9 -1.1
comp=Z,0.8nm,0.6s,baz=20,slow=3.9,SNR=8.9
ZAK Zakamensk 144.18 1 *e*PKIKP PKPdf 01 10 50.7 -3.2
ZAK *e* 01 14 05.4
ZAK pmax pmax
comp=Z,9.0nm,1.7s
KSH Kashi 145.03 39 *e*PKP PKPdf 01 10 56.6 +0.9
KSH APKP 01 11 06.9
KSH XPKP 01 11 10.3
KSH PKS 01 14 30.5
KSH PPP 01 17 45.5
KSH SKS SKSdf 01 17 59.0 -3.3
KSH PP PP
comp=Z,228nm,3.5s
KSH LR LR
comp=N,418nm,4.3s
KSH LR LR
comp=E,376nm,4.2s
KSH LR LR
comp=Z,638nm,12.2s,MS5.6
CN2 Changchun 145.44 332 *e*PKP PKPdf 01 10 53.1 -3.2
SONM Songino Array 146.67 357 PKPbc PKPbc 01 10 59.2 -0.6
comp=Z,5.9nm,0.5s,baz=336,slow=2.1,SNR=40
WMQ Urumqi 147.64 22 PKP PKPdf 01 11 00.0 0.0
WMQ LR LR
comp=N,386nm,22.8s,MS5.2
WMQ LR LR
comp=E,262nm,25.1s,MS5.2
WMQ LR LR
comp=Z,334nm,22.6s,MS5.1
KSRS Korea Array 148.69 321 PKPbc PKPbc 01 11 04.3 -1.3
comp=Z,2.9nm,0.9s,baz=56,slow=1.2,SNR=19
POO Poona 150.94 78 *ex* PKPab 01 11 17.0 -2.1
NDI New Delhi 151.54 56 *e*P PKPdf 01 11 12.0 +5.4
BJI Beijing 152.34 339 PKP PKPdf 01 11 07.3 -0.2
BJI PP PP 01 14 56.5 +0.9
BJI LR LR
comp=N,214nm,16.8s,MS5.2
BJI LR LR
comp=E,274nm,20.7s,MS5.2
BJI LR LR
comp=Z,577nm,41.9s
HHC Hu-ho-hao-te 152.88 347 *e*PKP PKPdf 01 11 04.0 -4.3
HHC PKS 01 14 37.4
HHC PP PP 01 14 57.6 -0.9
HHC SKS SKSdf 01 18 06.8 -6.0
HHC PP PP
comp=Z,100nm,11.9s
HHC LR LR
comp=N,314nm,17.8s,MS5.3
HHC LR LR
comp=E,283nm,20.2s,MS5.3
HHC LR LR
comp=Z,420nm,20.2s,MS5.2
GTA Gaotai 154.90 7 *e*PKP PKPdf 01 11 11.9 +0.7
GTA PKS 01 14 42.9
GTA PP PP 01 15 13.3 +3.5
GTA SKKS SKKSac 01 21 54.1 -3.9
GTA PP PP
comp=Z,113nm,8.1s
GTA LR LR
comp=N,403nm,21.9s,MS5.3
GTA LR LR
comp=E,213nm,21.3s,MS5.3
GTA LR LR
comp=Z,495nm,21.3s,MS5.3
NJ2 Nanjing 157.79 325 *e*PKP PKPdf 01 11 10.8 -4.4
LZH Lanzhou 158.47 0 *e*PKP PKPdf 01 11 14.5 -1.4
LZH APKP 01 11 26.4
LZH XPKP 01 11 29.0
LZH PP PP 01 15 32.6 +3.1
LZH SKKS SKKSac 01 22 15.8 -1.3
LZH PP PP
comp=Z,159nm,8.7s
LZH LR LR
comp=E,187nm,19.2s
LZH LR LR
comp=Z,375nm,20.7s,MS5.2
CD2 Chengdu 163.64 0 *e*PKP PKPdf 01 11 18.9 -2.7
GYA Guiyang 167.79 348 *e*PKP PKPdf 01 11 24.0 -1.1
GYA PKP2 PKPab 01 12 32.9 +1.3
GYA PKS 01 14 55.6
GYA PP PP 01 16 22.4 +3.5
GYA SKS SKSdf 01 18 24.0 -2.5
GYA PP PP
comp=Z,130nm,8.4s
GYA LR LR
comp=N,280nm,23.3s
GYA LR LR
comp=E,220nm,24.1s
GYA LR LR
comp=Z,260nm,25.3s
KMI Kunming 169.35 6 PKP PKPdf 01 11 25.5 -0.6
KMI PP PP 01 16 26.0 -0.7
KMI SSS 01 43 58.8
KMI PP PP
comp=Z,239nm,6.1s
CMAR Chiang Mai Arr 173.82 49 PKP PKPdf 01 11 28.5 0.0
comp=Z,0.8nm,0.3s,baz=22,slow=1.5,SNR=7.6

NEIC 17 00:58:09.8, 5156N×17886E, h56km, ML2.9(AEIC), **ML3.5**(PMR), **After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.33**	**123**	P	Pn	00 58 19.2	-0.5
AMKA				S	Sn	00 58 28.1	+1.2
ADK	**Adak**	**2.79**	**82**	P	Pn	00 58 51.6	-0.3
SMY	**Shemya**	**3.16**	**294**	*e*P	Pn	00 58 55.6	-1.4
FX1	**Attu Island--F**	**3.75**	**293**	P	Pn	00 59 03.5	-1.5

MAN 17 01:03:54, 1798N×11971E, h17km, mb4.2, ML3.1, MS2.8, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.71**	**95**⇑	*e*P	Pb	01 04 08.1	+0.1
SIPP				*i* S	Sg	01 04 20.4	+2.9
ABRA	**Dolores**	**1.01**	**109**	*e*P	Pb	01 04 13.0	-0.1
ABRA				*e*S	Sb	01 04 28.2	+2.2
BOLP	**Bolinao**	**1.60**	**173**	*e*P	Pn	01 04 21.5	-0.1

IDC ***17*** *01:17:45.8±0.7, 1438S×7607W, h0km, mb4.0/10, mb1 4.3/13, mb1mx4.2/19, mbtmp4.1/13, ML4.1/4, MS3.9/5, Ms1 3.9/5, ms1mx3.5/28, Error ellipse: s-maj=26.4km s-min=12.5km az=57.0*
MOS ***17*** *01:17:48.7±1.1, 1437S×7621W, h33km, mb4.5/13, Error ellipse: s-maj=19.5km s-min=10.3km az=126.7*
ISCJB ***17*** *01:17:49.6±1.4, 1451S±008×763W±0.1, h46km±12km, mb4.3/34, MS3.9/2, Error ellipse: s-maj=19.4km s-min=7.7km az=146.1*
NEIC ***17*** *01:17:49.8±1.7, 1440S×7608W, h29km±12km, mb4.4/26, Error ellipse: s-maj=9.9km s-min=4.1km az=57.0*
ISC 17 01:17:51.0±1.2, 1443S±007×761W±01, h38km±11km, n81, σ0=77/77, mb4.3/34, MS3.9/2, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.53**	**344**	Pn	**Pn**	**01 18 29.3**	**-0.4**
	34nm,0.3s,baz=137,slow=15,SNR=3.9						
NNA				Lg		01 19 05.7	
	370nm,0.3s,baz=236,slow=21,SNR=7.8						
NNA				LR	LR	01 19 38.7	
	comp=Z,1μm,18.9s,baz=156,slow=45						
ATAH	**Atahualpa**	**7.71**	**343**	Pn	**Pn**	**01 19 45.2**	**+4.3**
	4.4nm,0.3s,baz=135,slow=3.9,SNR=8.3						
ATAH				Lg		01 21 26.2	
	3.5nm,0.3s,baz=54,slow=18,SNR=3.0						
LPAZ	**La Paz**	**7.93**	**104**	Pn	**Pn**	**01 19 47.9**	**+4.1**
	7.2nm,0.3s,baz=288,slow=8.3,SNR=106						
LPAZ				Sn	**Sn**	**01 21 30.2**	**+18**
	0.1nm,0.3s,baz=171,slow=16,SNR=2.5						
LPAZ				LR	LR	01 23 08.2	
	comp=Z,806nm,18.2s,baz=285,slow=41						
LPAZ	**La Paz**	**7.93**	**104**	Pn	**Pn**	**01 19 47.9**	**+4.1**
LPAZ				Sn	**Sn**	**01 21 30.2**	**+18**
LPAZ				LR	LR	01 23 08.2	
LVC	**Limon Verde**	**10.63**	**141**	Pn	**Pn**	**01 20 20.5**	**-0.3**
	1.8nm,0.3s,baz=311,slow=10,SNR=14						
LVC				Sn	**Sn**	**01 22 13.5**	**-5.0**
	3.0nm,0.3s,baz=88,slow=21,SNR=6.0						
LVC				Lg		01 23 14.9	
	0.7nm,0.3s,baz=32,slow=22,SNR=6.1						
LVC				LR	LR	01 24 54.8	
	comp=Z,790nm,18.2s,baz=330,slow=40						
LVC	**Limon Verde**	**10.63**	**141**	Pn	**Pn**	**01 20 20.5**	**-0.3**
LVC				Sn	**Sn**	**01 22 13.5**	**-5.1**
LVC				Lg		01 23 14.9	
LVC				LR	LR	01 24 54.8	
SIV	**San Ignacio**	**14.61**	**98**	Pn	**Pn**	**01 21 13.3**	**-2.0**
	0.5nm,0.3s,baz=270,slow=16,SNR=8.4						
SIV				Sn	**Sn**	**01 24 15.6**	**+20**
	0.1nm,0.3s,baz=215,slow=18,SNR=4.2						
OTAV	**Otavalo**	**14.76**	**351**	*e*Pn	**Pn**	**01 21 17.5**	**+0.2**
	9.1nm,0.9s						
CFAA	**Coronel Fontan**	**18.56**	**158**	P	**Pn**	**01 22 05.0**	**-0.1**
	0.1nm,0.3s,baz=326,slow=14,SNR=6.1						
CFAA	**Coronel Fontan**	**18.56**	**158**	P	**Pn**	**01 22 05.0**	**-0.1**
ROSC	**El Rosal**	**19.25**	**5**	P	**Pn**	**01 22 17.0**	**+3.5**
	0.7nm,0.3s,baz=101,slow=21,SNR=3.0						
CPUP	**Villa Florida**	**21.19**	**127**	P	**P**	**01 22 33.5**	**+0.2**
	7.6nm,0.9s,mb4.0,baz=289,slow=10,SNR=12						
CPUP	**Villa Florida**	**21.19**	**127**	*e*P	**P**	**01 22 32.8**	**-0.6**
CPUP				pmax	pmax		
	comp=Z,37nm,1.0s						
CPUP	**Villa Florida**	**21.19**	**127**	*e*P	**P**	**01 22 32.8**	**-0.6**
	comp=Z,37nm,1.0s,mb4.7						
BCIP	**Isla Barro Col**	**23.73**	**351**	*e*P	**P**	**01 22 59.1**	**-0.7**
	comp=Z,41nm,1.3s,mb4.7						
SDV	**Santo Domingo**	**23.80**	**14**	P	**P**	**01 23 01.2**	**+0.8**
	comp=Z,17nm,0.8s,mb4.5,baz=193,slow=6.3,SNR=16						
SDV	**Santo Domingo**	**23.80**	**14**	*e*P	**P**	**01 23 00.6**	**+0.1**
	comp=Z,18nm,0.8s,mb4.6						
PLCA	**Paso Flores**	**26.65**	**171**	P	**P**	**01 23 32.9**	**+6.7**
	comp=Z,1.5nm,0.7s,mb3.6,baz=321,slow=13,SNR=5.0						
PLCA	**Paso Flores**	**26.65**	**171**	*e*P	**P**	**01 23 26.1**	**-0.1**
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PLCA	**Paso Flores**	**26.65**	**171**	*e*P	**P**	**01 23 26.1**	**-0.1**
	comp=Z,2.7nm,0.8s,mb3.8						
BDFB	**Brasilia**	**27.17**	**96**	P	**P**	**01 23 30.1**	**-1.0**
	comp=Z,3.5nm,0.9s,mb3.9,baz=256,slow=18,SNR=7.4						
BDFB				LR	LR	01 36 16.1	
	comp=Z,219nm,18.1s,MS3.8,baz=78,slow=41						
TXAR	**Lajitas Array**	**50.99**	**329**	P	**P**	**01 26 47.8**	**-1.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=149,slow=8.6,SNR=11						
MIAR	**Mount Ida**	**51.45**	**342**	*e*P	**P**	**01 26 52.0**	**-0.5**
MIAR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MIAR	**Mount Ida**	**51.45**	**342**	*e*P	**P**	**01 26 52.0**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.3						
WCI	**Wyandotte Cave**	**53.24**	**350**	*e*P	**P**	**01 27 04.9**	**-0.8**
WCI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
WCI	**Wyandotte Cave**	**53.24**	**350**	*e*P	**P**	**01 27 04.9**	**-0.8**
	comp=Z,6.8nm,0.8s,mb4.6						
LAZ	**Ladron**	**56.82**	**329**	*e*P	**P**	**01 27 30.1**	**-1.6**
ANMO	**Albuquerque**	**56.93**	**330**	*e*P	**P**	**01 27 32.4**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANMO	**Albuquerque**	**56.93**	**330**	*e*P	**P**	**01 27 32.4**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.1						
SDCO	**Great Sand Dun**	**58.78**	**333**	*e*P	**P**	**01 27 45.3**	**-0.1**
	comp=Z,2.4nm,0.9s,mb4.2						
LONY	**Lake Ozonia**	**58.78**	**1**	*e*P	**P**	**01 27 44.5**	**-0.8**
	comp=Z,3.4nm,0.7s,mb4.5						
WUAZ	**Wupatki**	**59.85**	**327**	*e*P	**P**	**01 27 53.0**	**+0.2**
	comp=Z,4.3nm,1.1s,mb4.4						
ISCO	**Idaho Springs**	**60.54**	**334**	*e*P	**P**	**01 27 57.7**	**+0.2**
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
ISCO	**Idaho Springs**	**60.54**	**334**	*e*P	**P**	**01 27 57.7**	**+0.2**
	comp=Z,0.8nm,0.5s,mb4.1						
ECSD	**EROS,Sioux Fal**	**60.84**	**343**	*e*P	**P**	**01 27 58.2**	**-1.2**
	comp=Z,3.6nm,1.0s,mb4.5						
PFO	**Pinyon Flat Ob**	**61.32**	**322**	*e*P	**P**	**01 28 02.4**	**-0.5**
PFO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
PFO	**Pinyon Flat Ob**	**61.32**	**322**	*e*P	**P**	**01 28 02.4**	**-0.5**
	comp=Z,4.5nm,1.0s,mb4.5						
SRU	**San Rafael**	**62.20**	**330**	*e*P	**P**	**01 28 08.4**	**-0.3**
SRU				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
SRU	**San Rafael**	**62.20**	**330**	*e*P	**P**	**01 28 08.4**	**-0.4**
	comp=Z,0.8nm,0.5s,mb4.1						
TPNV	**Topopah Spring**	**63.56**	**325**	*e*P	**P**	**01 28 18.6**	**+0.8**
TPNV				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
TPNV	**Topopah Spring**	**63.56**	**325**	*e*P	**P**	**01 28 18.6**	**+0.8**
	comp=Z,2.4nm,1.0s,mb4.2						
DAU	**Daniels Canyon**	**63.57**	**331**	*e*P	**P**	**01 28 18.5**	**+0.7**
DUG	**Dugway**	**64.16**	**329**	*e*P	**P**	**01 28 22.0**	**+0.3**
DUG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
DUG	**Dugway**	**64.16**	**329**	*e*P	**P**	**01 28 22.0**	**+0.3**
	comp=Z,4.9nm,0.8s,mb4.6						
HWUT	**Hardware Ranch**	**64.65**	**331**	*e*P	**P**	**01 28 24.5**	**-0.4**
	comp=Z,3.6nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**64.67**	**333**	P	**P**	**01 28 25.3**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.6,baz=96,slow=5.5,SNR=3.5						
BGU	**Big Grassy Mou**	**64.82**	**330**	*e*P	**P**	**01 28 26.1**	**+0.1**
NVAR	**Mina Array Bea**	**65.76**	**325**	P	**P**	**01 28 33.8**	**+1.7**
	comp=Z,0.1nm,0.3s,mb3.3,baz=167,slow=8.3,SNR=2.6						
ELK	**Elko**	**65.79**	**328**	*e*P	**P**	**01 28 32.7**	**+0.5**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ELK	**Elko**	**65.79**	**328**	*e*P	**P**	**01 28 32.7**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.2						
RRI2	**Red Ridge**	**65.91**	**333**	*e*P	**P**	**01 28 33.7**	**+0.7**
	comp=Z,3.9nm,0.8s,mb4.5						
MOOW	**Moose Ponds**	**65.97**	**333**	*e*P	**P**	**01 28 33.6**	**+0.2**
	comp=Z,2.8nm,1.2s,mb4.2						
FLWY	**Flagg Ranch**	**66.22**	**333**	*e*P	**P**	**01 28 35.3**	**+0.3**
	comp=Z,3.5nm,0.7s,mb4.5						

RLMT Red Lodge 66.46 335 *e*P **P 01 28 36.2 -0.2**
comp=Z,2.9nm,0.9s,mb4.3
HLID Hailey 67.50 331 *e*P **P 01 28 43.9 +0.8**
comp=Z,1.3nm,0.6s,mb4.1
DLMT Dillon 68.06 333 *e*P **P 01 28 46.8 +0.2**
comp=Z,5.1nm,1.1s,mb4.5
YBH Yreka Blue Hor 70.48 325 LR LR 02 00 08.1
comp=Z,103nm,18.1s,MS4.1,baz=277,slow=36
SNAA Sanae 71.15 161 *e* **P 01 29 05.4 +0.1**
SNAA *e* pP 01 29 14.2 -2.7
SNAA Sanae 71.15 161 *e*P **P 01 29 05.1 -0.2**
SNAA pmax pmax
comp=Z,5.0nm,0.8s
SNAA Sanae 71.15 161 *e*P **P 01 29 05.1 -0.2**
comp=Z,4.8nm,0.8s,mb4.5
OD2 Odessa Site #2 72.37 331 *e*P **P 01 29 13.2 +0.3**
DBIC Dimbokro 73.71 79 P **P 01 29 21.5 -0.2**
comp=Z,5.0nm,0.9s,mb4.5,baz=199,slow=6.2,SNR=5.4
EDM Edmonton 74.58 338 *e*P **P 01 29 25.1 -0.7**
TOA0 Torodi Ar. Sit 81.77 74 *e*P **P 01 30 06.6 +0.1**
TORD Torodi Ar. Bea 81.77 74 P **P 01 30 06.9 +0.4**
comp=Z,20nm,0.8s,mb5.1,baz=271,slow=4.8,SNR=112
YKA Yellowknife Ar 82.37 343 P **P 01 30 07.8 -0.7**
comp=Z,1.3nm,0.6s,mb4.0,baz=137,slow=5.5,SNR=10
YKA Yellowknife Ar 82.37 343 P **P 01 30 07.8 -0.7**
VNDA Vanda 82.53 191 P **P 01 30 11.0 +1.6**
comp=Z,0.7nm,0.9s,mb3.7,baz=238,slow=1.0,SNR=4.3
VNDA Vanda 82.53 191 *e*P **P 01 30 10.3 +0.9**
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 82.53 191 *e*P **P 01 30 10.3 +0.9**
comp=Z,1.4nm,0.9s,mb4.0
ESDC Sonseca Array 85.89 47 P **P 01 30 27.8 +0.8**
comp=Z,1.2nm,0.7s,mb4.2,baz=263,slow=5.7,SNR=8.1
TAM Tamanrasset 88.02 66 *e*P **P 01 30 39.1 +1.3**
DAWY Dawson 91.77 337 *e*P **P 01 30 53.5 -0.8**
GERES GERESS Array B 100.60 42 P Pdif 01 31 35.0 +0.3
comp=Z,0.8nm,0.9s,baz=232,slow=3.2,SNR=5.7
WRA Warramunga Arr 134.56 222 PKP PKPdf 01 37 06.2 0.0
comp=Z,1.1nm,0.9s,baz=144,slow=1.8,SNR=7.0
ZALV Zalesovo Beam 137.82 17 PKP PKPdf 01 37 11.3 +0.2
comp=Z,2.1nm,0.7s,baz=318,slow=2.0,SNR=6.8
ZAL Zalesovo 137.83 17 PKIKP PKPdf 01 37 11.4 +0.2
KURK Kurchatov 138.44 24 *e*PKIKP PKPdf 01 37 12.8 +0.4
ZAK Zakamensk 144.15 1 *e*PKIKP PKPdf 01 37 20.4 -2.2
SONM Songino Array 146.63 357 PKPbc PKPbc 01 37 28.9 +0.3
comp=Z,3.2nm,0.6s,baz=327,slow=1.7,SNR=19
KSRS Korea Array 148.66 321 PKPbc PKPbc 01 37 35.9 +1.5
comp=Z,1.3nm,0.6s,baz=144,slow=38,SNR=5.2

MAN 17 01:20:48,1007N×12578E,h56km,mb4.4,ML3.3,MS3.1, 2D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.41**	**225**	⇓*e*P	Pn	01 20 56.5	-2.2
SCPH				*e*S	Sn	01 21 06.2	-0.2
MSLP	**Maasin**	**0.91**	**274**	*e*P	Pn	01 21 06.0	+1.2
BUTP	**Butuan**	**1.11**	**188**	*e*P	Pn	01 21 00.9	-6.4
BESP	**Borongan**	**1.56**	**347**	*e*P	Pn	01 21 15.1	+1.7
TBP	**Tagbilaran**	**1.93**	**259**	*e*P	Pn	01 21 20.8	+2.3
TBP				*e*S	Sn	01 21 42.0	+0.4
BUKP	**Musuan**	**2.29**	**198**	*e*P	Pn	01 21 22.4	-1.1
CNP	**Catarman**	**2.66**	**336**	*e*P	Pn	01 21 29.6	+1.1
PAGZ	**Pagadian**	**3.24**	**227**	*e*P	Pn	01 21 37.1	+0.7
RCP	**Roxas**	**3.33**	**297**	⇓*e*P	Pn	01 21 43.7	+6.0

*ISCJB **17** 01:45:25.3±1.6, 14.14S±0.08×76.7W±0.1, h51km±14km, mb4.0/13, Error ellipse: s-maj=24.7km s-min=7.9km az=151.7*
*NEIC **17** 01:45:25.6±0.6, 14.12S×76.67W, h35km, mb4.2/7, ML3.7(LIM), Error ellipse: s-maj=22.5km s-min=10.2km az=58.0*
NEIC Felt [III] at Ica.
*IDC **17** 01:45:29.2±2.6, 13.98S×76.47W, h59km±18km, mb3.7/8, mb1 3.9/13, mb1mx3.7/23, mbtmp3.8/13, MS3.3/1, Ms1 3.3/1, ms1mx2.9/28, Error ellipse: s-maj=40.3km s-min=11.2km az=56.0*

ISC 17 01:45:28.1±1.4,1405S±0.09×766W±0.1,h54km±11km,n27, σ0=93/27,mb4.0/13,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.06**	**354**	P	Pn	01 46 00.2	-0.1
39nm,0.3s,baz=148,slow=13,SNR=12							
NNA				S	Sn	01 46 25.4	+0.5
140nm,0.3s,baz=233,slow=13,SNR=14							
NNA				LR	LR	01 46 31.2	
comp=Z,712nm,20.1s,baz=125,slow=31							
ATAH	**Atahualpa**	**7.22**	**346**	P	Pn	01 47 10.2	-0.8
1.2nm,0.3s,baz=62,slow=5.6,SNR=10							
LPAZ	**La Paz**	**8.50**	**106**	P	Pn	01 47 30.1	+1.4
1.3nm,0.3s,baz=298,slow=10,SNR=30							
LVC	**Limon Verde**	**11.23**	**140**	P	Pn	01 48 06.5	+0.6
1.9nm,0.3s,baz=312,slow=10,SNR=14							
LVC	**Limon Verde**	**11.23**	**140**	P	Pn	01 48 06.5	+0.6
OTAV	**Otavalo**	**14.31**	**353**	*e*Pn	Pn	01 48 44.7	-3.2
SIV	**San Ignacio**	**15.15**	**99**	P	Pn	01 48 58.7	-0.2
0.2nm,0.3s,baz=283,slow=10,SNR=6.6							
CFAA	**Coronel Fontan**	**19.09**	**158**	P	Pn	01 49 44.0	-3.6
0.0nm,0.3s,baz=343,slow=14,SNR=1.9							
CPUP	**Villa Florida**	**21.82**	**127**	P	P	01 50 15.2	-0.6
2.7nm,0.7s,mb3.8,baz=282,slow=10,SNR=9.0							
CPUP	**Villa Florida**	**21.82**	**127**	*e*P	P	01 50 15.6	-0.3
16nm,0.9s,mb4.5							
SDV	**Santo Domingo**	**23.55**	**15**	P	P	01 50 34.1	+0.3
1.7nm,0.4s,mb3.8,baz=234,slow=8.7,SNR=2.5							
SDV	**Santo Domingo**	**23.55**	**15**	*e*P	P	01 50 32.2	-1.6
3.1nm,0.5s,mb4.0							
PLCA	**Paso Flores**	**27.11**	**170**	*e*P	P	01 51 05.6	-0.3
2.2nm,0.9s,mb3.7							
SWET	**Sewanee**	**49.78**	**350**	*e*P	P	01 54 15.3	-0.1
TXAR	**Lajitas Array**	**50.41**	**329**	P	P	01 54 22.0	+1.7
0.3nm,0.5s,mb3.6,baz=152,slow=9.0,SNR=7.4							
MIAR	**Mount Ida**	**50.94**	**342**	*e*P	P	01 54 23.3	-0.8
1.6nm,0.6s,mb4.1							
SDCO	**Great Sand Dun**	**58.22**	**333**	*e*P	P	01 55 15.9	-0.9
1.0nm,0.7s,mb4.0							
ECSD	**EROS,Sioux Fal**	**60.33**	**343**	*e*P	P	01 55 31.5	+0.2
2.7nm,0.9s,mb4.3							
DUG	**Dugway**	**63.58**	**330**	*e*P	P	01 55 53.4	+0.2
1.9nm,0.8s,mb4.2							
PDAR	**Pinedale Array**	**64.11**	**334**	P	P	01 55 57.6	+1.0
0.2nm,0.6s,mb3.3,baz=103,slow=4.1,SNR=2.3							
ULM	**Lac du Bonnet**	**66.22**	**347**	P	P	01 56 10.7	+0.5
1.6nm,0.4s,mb4.4,baz=249,slow=8.9,SNR=6.1							
DBIC	**Dimbokro**	**74.12**	**79**	P	P	01 56 58.2	-1.1
2.4nm,0.7s,mb4.2,baz=292,slow=16,SNR=4.8							
DBIC	**Dimbokro**	**74.12**	**79**	P	P	01 56 58.2	-1.1
YKA	**Yellowknife Ar**	**81.86**	**343**	P	P	01 57 42.2	+1.1
0.5nm,0.5s,mb3.7,baz=148,slow=5.8,SNR=5.3							
YKA	**Yellowknife Ar**	**81.86**	**343**	P	P	01 57 42.2	+1.1
TORD	**Torodi Ar. Bea**	**82.14**	**74**	P	P	01 57 43.8	+0.1
3.6nm,0.8s,mb4.3,baz=248,slow=4.7,SNR=22							
SONM	**Songino Array**	**146.22**	**356**	PKPbc	PKPbc	02 04 60.0	-2.5
0.5nm,0.3s,baz=299,slow=37,SNR=3.7							

*MOS **17** 01:46:07.4±0.5, 1377S×76.58W, h33km, mb4.6/14, Error ellipse: s-maj=29.9km s-min=10.6km az=119.4*
*ISCJB **17** 01:46:10.3±1.3, 1388S±0.08×76.6W±0.1, h57km±12km, mb4.3/33, MS4.1/3, Error ellipse: s-maj=19.7km s-min=7.4km az=144.3*
*NEIC **17** 01:46:10.7±0.8, 1380S×76.55W, h44km±8km, mb4.4/23, Error ellipse: s-maj=12.3km s-min=4.5km az=57.0*
*BJI **17** 01:46:10.7, 1380S×76.60W, h44km, mB4.9, Ms5.2, Msz5.1*
*IDC **17** 01:46:11.1±2.2, 1381S×76.57W, h46km±20km, mb4.0/12, mb1 4.1/15, mb1mx4.0/22, mbtmp4.0/15, ML4.3/3, MS3.7/4, Ms1 3.7/4, ms1mx3.4/27, Error ellipse: s-maj=29.4km s-min=12.6km az=53.0*

ISC 17 01:46:12.2±1.1,1385S±0.07×765W±0.1,h54km±10km,n231, σ0=56/222,mb4.3/33,MS4.1/3,76C-75D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.89**	**349**	P	Pn	01 46 40.7	-1.3
609nm,0.3s,baz=196,slow=17,SNR=9.4							
NNA				S	Sn	01 46 59.3	-5.4
1μm,0.3s,baz=203,slow=15,SNR=8.2							
ATAH	**Atahualpa**	**7.06**	**344**	P	Pn	01 47 54.5	+1.5
5.4nm,0.3s,baz=212,slow=16,SNR=5.7							
ATAH				S	Sn	01 49 22.1	+10
4.2nm,0.3s,baz=319,slow=18,SNR=2.5							
LPAZ	**La Paz**	**8.43**	**108**	P	Pn	01 48 17.6	+5.9
2.0nm,0.3s,baz=288,slow=18,SNR=6.3							
LPAZ				LR	LR	01 51 19.1	
comp=Z,172nm,22.0s,baz=99,slow=36							
LPAZ	**La Paz**	**8.43**	**108**	*e*Pn	Pn	01 48 17.2	+5.6
LVC	**Limon Verde**	**11.30**	**142**	P	Pn	01 48 50.5	-0.4
3.6nm,0.3s,baz=310,slow=14,SNR=10							
LVC	**Limon Verde**	**11.30**	**142**	*e*Pn	Pn	01 48 49.9	-1.0
16nm,0.6s							
OTAV	**Otavalo**	**14.13**	**352**	*e*Pn	Pn	01 49 32.5	+2.9
7.0nm,0.6s							
SIV	**San Ignacio**	**15.05**	**100**	P	Pn	01 49 41.8	+0.2
0.3nm,0.3s,baz=263,slow=12,SNR=3.6							
ROSC	**El Rosal**	**18.71**	**7**	P	Pn	01 50 28.9	+1.7
0.7nm,0.3s,baz=271,slow=22,SNR=2.1							
ROSC				LR	LR	01 58 48.9	
comp=Z,321nm,18.4s,baz=1.3,slow=41							
CFAA	**Coronel Fontan**	**19.22**	**158**	P	Pn	01 50 33.0	-0.3
0.1nm,0.3s,baz=335,slow=11,SNR=12							
CPUP	**Villa Florida**	**21.82**	**128**	P	P	01 51 00.5	+0.5
3.1nm,0.8s,mb3.8,baz=293,slow=9.7,SNR=6.3							
CPUP				LR	LR	02 01 35.6	
comp=Z,321nm,18.8s,MS3.8,baz=325,slow=42							
CPUP	**Villa Florida**	**21.82**	**128**	*e*P	P	01 50 59.7	-0.3
CPUP				pmax	pmax		
comp=Z,21nm,0.9s							
CPUP	**Villa Florida**	**21.82**	**128**	*e*P	P	01 50 59.7	-0.3
comp=Z,21nm,0.9s,mb4.6							
BCIP	**Isla Barro Col**	**23.11**	**352**	*e*P	P	01 51 12.5	-1.2
PLCA	**Paso Flores**	**27.28**	**170**	P	P	01 51 51.6	+0.2
comp=Z,3.1nm,0.7s,mb4.0,baz=346,slow=8.4,SNR=7.9							
PLCA	**Paso Flores**	**27.28**	**170**	*e*P	P	01 51 51.2	-0.2
PLCA				pmax	pmax		
comp=Z,7.0nm,0.9s							
PLCA	**Paso Flores**	**27.28**	**170**	*e*P	P	01 51 51.2	-0.2
comp=Z,6.9nm,0.9s,mb4.2							
BDFB	**Brasilia**	**27.59**	**97**	P	P	01 51 54.6	+0.1
comp=Z,0.9nm,0.7s,mb3.5,baz=183,slow=25,SNR=3.1							
CMIG	**Matias Romero**	**35.71**	**329**	P	P	01 53 05.0	-0.6
comp=Z,2.3nm,0.7s,mb4.2,baz=49,slow=22,SNR=3.4							
CMIG				LR	LR	02 05 32.0	
comp=Z,160nm,18.0s,MS3.8,baz=320,slow=33							
TXAR	**Lajitas Array**	**50.32**	**329**	P	P	01 55 03.0	-0.6
comp=Z,0.7nm,0.6s,mb3.9,baz=152,slow=8.7,SNR=6.4							
WCI	**Wyandotte Cave**	**52.62**	**350**	*e*P	P	01 55 18.8	-1.8
WCI				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.6							
WCI	**Wyandotte Cave**	**52.62**	**350**	*e*P	P	01 55 18.8	-1.7
comp=Z,6.9nm,0.8s,mb4.6							
WMOK	**Wichita Mounta**	**52.76**	**337**	*e*P	P	01 55 20.6	-1.1
WMOK				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
WMOK	**Wichita Mounta**	**52.76**	**337**	*e*P	P	01 55 20.6	-1.1
comp=Z,2.9nm,0.9s,mb4.2							
319A	**Douglas**	**54.89**	**326**	⇓P	P	01 55 37.1	-0.3
baz=55							
318A	**Bisbee**	**55.33**	**325**	⇑P	P	01 55 40.4	-0.2
baz=56,SNR=6.3							
219A	**White Tail Can**	**55.36**	**326**	⇓P	P	01 55 40.4	-0.3
baz=56							
218A	**Dragoon**	**55.77**	**325**	⇓P	P	01 55 43.4	-0.3
baz=56,SNR=5.4							
217A	**Green Valley**	**56.05**	**325**	⇓P	P	01 55 45.7	+0.1
baz=56							
118A	**Homack Ranch,**	**56.23**	**326**	⇑P	P	01 55 46.8	-0.1
baz=56							
ANMO	**Albuquerque**	**56.26**	**330**	*e*P	P	01 55 45.7	-1.4
ANMO				pmax	pmax		
comp=Z,5.0nm,1.1s							
ANMO	**Albuquerque**	**56.26**	**330**	*e*P	P	01 55 45.7	-1.4
comp=Z,5.5nm,1.1s,mb4.5							
TUC	**Tucson**	**56.43**	**325**	*e*P	P	01 55 47.4	-1.0
TUC				pmax	pmax		
comp=Z,3.0nm,1.3s,mb4.2							
TUC	**Tucson**	**56.43**	**325**	*e*P	P	01 55 47.4	-1.0
comp=Z,2.7nm,1.3s,mb4.1							
117A	**Oracle**	**56.60**	**325**	⇓P	P	01 55 49.5	-0.1
baz=57,SNR=5.9							
CBKS	**Cedar Bluff**	**56.72**	**338**	*e*P	P	01 55 49.3	-1.0
CBKS				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.9							
CBKS	**Cedar Bluff**	**56.72**	**338**	*e*P	P	01 55 49.3	-1.0
comp=Z,9.2nm,0.7s,mb4.9							
Y19A	**Nutrioso**	**56.87**	**328**	⇑P	P	01 55 51.7	+0.3
baz=57							
116A	**Eloy**	**57.13**	**325**	⇑P	P	01 55 53.0	-0.4
baz=57							
214A	**Organ Pipe Nat**	**57.32**	**323**	⇑P	P	01 55 54.0	-0.7
baz=58							
Y17A	**Roosevelt**	**57.51**	**326**	⇑P	P	01 55 55.9	-0.1
baz=58							
X17A	**Forest Lakes**	**57.98**	**327**	⇑P	P	01 55 59.3	0.0
baz=58							
Y16A	**Circle Bar Ran**	**57.99**	**326**	⇑P	P	01 55 59.4	0.0
baz=58							
SDCO	**Great Sand Dun**	**58.11**	**333**	*e*P	P	01 55 59.6	-0.5
comp=Z,3.4nm,0.8s,mb4.4							
X16A	**Lo Mia Camp, P**	**58.38**	**326**	⇓P	P	01 56 01.9	-0.2
baz=58							
X15A	**Humboldt**	**58.87**	**326**	⇓P	P	01 56 05.6	+0.2
baz=59							
Y14A	**Wickenburg**	**58.88**	**325**	⇑P	P	01 56 05.5	-0.1
baz=59							
W16A	**Flagstaff**	**58.94**	**327**	⇑P	P	01 56 06.3	+0.3
baz=59							
MVCO	**Mesa Verde**	**59.05**	**330**	⇑P	P	01 56 06.6	-0.1
baz=59							
X14A	**Yava**	**59.21**	**325**	⇑P	P	01 56 08.1	+0.3
baz=59							
Y13A	**Salome**	**59.26**	**324**	⇑P	P	01 56 08.3	+0.1
baz=59							
T18A	**Mexican Hat**	**59.66**	**329**	⇑P	P	01 56 10.4	-0.5
baz=60,SNR=6.4							
S19A	**Harvey Farm, M**	**59.78**	**330**	⇓P	P	01 56 10.9	-0.8
baz=60							
X13A	**Yucca**	**59.83**	**325**	⇓P	P	01 56 11.7	-0.4
baz=60							
V15A	**Kaibab Nationa**	**59.83**	**327**	⇑P	P	01 56 11.8	-0.3
baz=60							
ISCO	**Idaho Springs**	**59.87**	**334**	*e*P	P	01 56 11.5	-0.8
ISCO				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.9							
ISCO	**Idaho Springs**	**59.87**	**334**	*e*P	P	01 56 11.4	-0.8
comp=Z,1.3nm,0.8s,mb4.0							
W14A	**Seligman**	**59.87**	**326**	⇓P	P	01 56 12.5	+0.2
baz=60							
T17A	**Navajo Res., N**	**60.02**	**329**	⇑P	P	01 56 13.4	0.0
baz=60,SNR=7.3							
S18A	**Hurst Farm, Bl**	**60.16**	**330**	⇓P	P	01 56 14.2	-0.1
baz=60							
V14A	**Boquillas Ranc**	**60.19**	**326**	⇓P	P	01 56 15.0	+0.4
baz=60							
W13A	**Hualapai Mount**	**60.23**	**325**	⇓P	P	01 56 15.4	+0.5
baz=60							
IRM	**Iron Mountain**	**60.27**	**323**	⇓P	P	01 56 14.8	-0.3
baz=60,SNR=5.3							
U15A	**North Rim**	**60.35**	**327**	⇓P	P	01 56 16.0	+0.3
baz=60							
PFO	**Pinyon Flat Ob**	**60.65**	**322**	⇑P	P	01 56 17.7	0.0
baz=61							
BELC	**Belle Mtn.**	**60.65**	**323**	⇓P	P	01 56 17.0	-0.8
baz=61							
R18A	**Canyonlands Na**	**60.65**	**330**	⇓P	P	01 56 17.1	-0.6
baz=61							
Q19A	**Hogan Spring (**	**60.80**	**331**	⇑P	P	01 56 18.8	+0.1
baz=61							
U14A	**Mt Trumbull**	**60.82**	**326**	⇑P	P	01 56 19.2	+0.3
baz=61							
V13A	**Grand Canyon W**	**60.84**	**326**	⇓P	P	01 56 19.0	+0.1
baz=61							
T15A	**Red Dirt Ranch**	**60.85**	**327**	⇓P	P	01 56 19.6	+0.6
baz=61							
GMRC	**Granite Mounta**	**61.01**	**324**	⇓P	P	01 56 19.9	-0.2
baz=61							
R17A	**Hanksville Air**	**61.08**	**330**	⇑P	P	01 56 20.5	-0.1
baz=61							
V12A	**Nelson**	**61.23**	**325**	⇑P	P	01 56 21.5	-0.1
baz=61							
Q18A	**Rafter H Ranch**	**61.33**	**331**	⇓P	P	01 56 22.1	-0.2
baz=62							
HEC	**Hector,Ludlow**	**61.43**	**323**	⇑P	P	01 56 23.1	+0.1
baz=62							
SRU	**San Rafael**	**61.53**	**330**	⇓P	P	01 56 23.5	0.0
baz=62							
V11A	**Goodsprings**	**61.63**	**325**	⇑P	P	01 56 24.4	0.0
baz=62							
T13A	**Saint George**	**61.65**	**326**	⇑P	P	01 56 24.9	+0.5
baz=62							
BFSC	**Mount Baldy St**	**61.80**	**322**	⇑P	P	01 56 26.0	+0.5
baz=62							
MSU	**Marysvale**	**61.88**	**329**	*e*P	P	01 56 25.7	-0.2
GSC	**Goldstone**	**62.04**	**323**	⇓P	P	01 56 27.2	+0.1
baz=62							
S13A	**Holt Ranch, En**	**62.05**	**327**	⇑P	P	01 56 27.3	+0.2
baz=62,SNR=6.6							
T11A	**Corn Creek, Al**	**62.53**	**326**	⇓P	P	01 56 30.5	+0.2
baz=63,SNR=5.5							
R13A	**O'Grain Ranch,**	**62.55**	**327**	⇑P	P	01 56 30.9	+0.5
baz=63							
N18A	**Larsen Ranch,**	**62.61**	**332**	⇑P	P	01 56 30.8	0.0
baz=63							
Q14A	**Sevier Lake (B**	**62.80**	**328**	⇑P	P	01 56 32.4	+0.3
baz=63,SNR=5.6							
RSSD	**Black Hills**	**62.92**	**338**	*e*P	P	01 56 32.3	-0.5
RSSD				pmax	pmax		
comp=Z,2.0nm,1.0s,mb4.2							
RSSD	**Black Hills**	**62.92**	**338**	*e*P	P	01 56 32.2	-0.5
comp=Z,2.3nm,1.0s,mb4.3							
MPMC	**Manual Prospec**	**62.97**	**323**	⇓P	P	01 56 33.5	+0.3
baz=63							
R12A	**Pony Springs,**	**62.99**	**327**	⇓P	P	01 56 33.9	+0.5
baz=63							
N17A	**Moffit Pass**	**63.11**	**331**	⇓P	P	01 56 34.9	+0.8
baz=63							
JLU	**Jordanelle**	**63.14**	**331**	*e*P	P	01 56 33.7	-0.6
DUG	**Dugway**	**63.48**	**330**	*e*P	P	01 56 36.6	0.0
DUG				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.8							
DUG	**Dugway**	**63.48**	**330**	⇓P	P	01 56 37.0	+0.5
baz=64							
DUG	**Dugway**	**63.48**	**330**	*e*P	P	01 56 36.6	0.0
comp=Z,5.1nm,0.7s,mb4.8							
P13A	**Bates Ranch, G**	**63.53**	**328**	⇑P	P	01 56 37.3	+0.4
baz=64							
R11A	**Troy Canyon, C**	**63.53**	**326**	⇑P	P	01 56 37.2	+0.3
baz=64							
Q12A	**Willow Creek R**	**63.64**	**327**	⇑P	P	01 56 38.2	+0.5
baz=64							
VES	**Vestal, Richgr**	**63.75**	**322**	⇑P	P	01 56 38.6	+0.2
baz=64							
S10A	**Tonopah Range,**	**63.77**	**325**	⇑P	P	01 56 38.9	+0.4
baz=64,SNR=6.0							
N15A	**Stansbury Isla**	**63.87**	**330**	⇓P	P	01 56 40.1	+1.0
baz=64							
R10A	**Warm Springs**	**63.88**	**326**	⇓P	P	01 56 39.8	+0.6
baz=64							
Q11A	**Duckwater**	**63.93**	**327**	⇓P	P	01 56 39.8	+0.3
baz=64,SNR=7.9							
HWUT	**Hardware Ranch**	**63.98**	**331**	*e*P	P	01 56 39.2	-0.6
comp=Z,6.9nm,0.8s,mb4.7							
S09A	**Goldfield**	**63.98**	**325**	⇑P	P	01 56 40.3	+0.3
baz=64							
BW06	**Boulder Array**	**64.00**	**333**	*e*P	P	01 56 39.0	-0.9
comp=Z,1.2nm,0.8s,mb4.0							
PDAR	**Pinedale Array**	**64.00**	**333**	P	P	01 56 39.2	-0.7
comp=Z,1.5nm,0.7s,mb4.2,baz=127,slow=9.3,SNR=10							
N14A	**Grayback Hills**	**64.17**	**330**	⇓P	P	01 56 40.9	-0.1
baz=64							
AGMN	**Agassiz Refuge**	**64.23**	**346**	*e*P	P	01 56 40.1	-1.2
comp=Z,6.6nm,0.7s,mb4.8							
R09A	**Tonopah**	**64.26**	**325**	⇑P	P	01 56 41.6	-0.1
baz=64							
M15A	**Larsen Ranch,**	**64.28**	**331**	⇑P	P	01 56 41.8	0.0
baz=64							
HELL	**Mitchell Peak**	**64.29**	**323**	⇓P	P	01 56 41.9	-0.1
baz=64							
S08C	**White Mtn Res**	**64.36**	**324**	⇓P	P	01 56 42.7	+0.3
baz=64							
MTUM	**Tungsten Hills**	**64.48**	**324**	*e*P	P	01 56 43.0	-0.2
O12A	**Currie**	**64.51**	**328**	⇓P	P	01 56 43.6	+0.3
baz=65							
L15A	**Malad City**	**64.67**	**331**	⇓P	P	01 56 44.5	+0.1
baz=65							
M14A	**Sheep Mountain**	**64.74**	**330**	⇓P	P	01 56 44.4	-0.4
baz=65,SNR=6.7							
O11A	**Cowboy Ranch,**	**64.87**	**328**	⇓P	P	01 56 46.5	+0.8
baz=65							
KCC	**Kaiser Creek**	**64.90**	**323**	⇓P	P	01 56 46.4	+0.4
baz=65							
K16A	**Soda Springs**	**64.95**	**332**	⇓P	P	01 56 46.3	+0.2
baz=65							
NVAR	**Mina Array Bea**	**65.08**	**325**	P	P	01 56 47.6	+0.5
comp=Z,1.7nm,0.8s,mb4.1,baz=134,slow=6.5,SNR=8.2							
L14A	**Malta**	**65.10**	**331**	⇑P	P	01 56 47.1	0.0
baz=65							
ELK	**Elko**	**65.11**	**328**	*e*P	P	01 56 46.9	-0.3
ELK				pmax	pmax		
comp=Z,2.0nm,0.7s							
ELK	**Elko**	**65.11**	**328**	*e*P	P	01 56 46.9	-0.3
comp=Z,2.2nm,0.7s,mb4.3							
LOHW	**Long Hollow**	**65.13**	**333**	*e*P	P	01 56 46.9	-0.4
RRI2	**Red Ridge**	**65.24**	**333**	*e*P	P	01 56 47.5	-0.5
comp=Z,12nm,0.8s,mb5.0							
K15A	**Arbon**	**65.27**	**331**	⇓P	P	01 56 48.0	-0.2
baz=65							
O10A	**Cortez Mining,**	**65.43**	**327**	⇓P	P	01 56 50.1	+0.8
baz=66							
M12A	**Wells**	**65.45**	**329**	⇓P	P	01 56 49.1	-0.3
baz=66							
K14A	**Jones Ranch, D**	**65.46**	**331**	⇓P	P	01 56 49.0	-0.5
baz=66							
S05C	**Merced**	**65.

EGMT	Eagleton	68.36	337	⇑P	P	01 57 07.8 0.0
	baz=68					
GASB	Alder Springs	68.44	323	⇓P	P	01 57 09.9 +1.4
	baz=69					
F13A	Darby	68.49	333	⇑P	P	01 57 08.1 -0.5
	baz=69,SNR=5.2					
E14A	Clinton	68.60	333	⇑P	P	01 57 09.3 0.0
	baz=69					
P01C	Double 8 Ranch	68.68	323	⇓P	P	01 57 09.9 -0.1
	baz=69					
M05C	Lookout	68.69	325	⇑P	P	01 57 09.8 -0.1
	baz=69					
O02C	Red Bluff	68.82	324	⇑P	P	01 57 10.5 -0.3
	baz=69					
F12A	Elk City	68.88	332	⇑P	P	01 57 11.0 -0.1
	baz=69					
E13A	Victor	68.93	333	⇑P	P	01 57 12.0 +0.7
	baz=69					
G11A	Walters Elk Ra	69.08	331	⇓P	P	01 57 12.1 -0.2
	baz=69					
MSO	Missoula	69.12	333	*e*P	P	01 57 12.6 0.0
	comp=Z,2.2nm,0.9s,mb4.1					
D14A	Greenough	69.13	334	⇑P	P	01 57 12.4 -0.1
	baz=69					
K06A	Valley Falls	69.19	327	⇑P	P	01 57 13.3 +0.2
	baz=69,SNR=7.5					
F11A	Grangeville	69.39	332	⇓P	P	01 57 13.9 -0.3
	baz=70,SNR=8.4					
J06A	Christmas Vall	69.45	327	⇑P	P	01 57 14.8 +0.1
	baz=70,SNR=9.1					
N02C	Big Bar	69.54	324	⇓P	P	01 57 15.3 0.0
	baz=70,SNR=6.1					
D13A	Huson	69.55	333	⇓P	P	01 57 15.4 +0.2
	baz=70					
H08A	Prairie City	69.60	329	⇑P	P	01 57 15.8 +0.2
	baz=70,SNR=7.2					
M02C	Callahan	69.66	324	⇓P	P	01 57 15.4 -0.6
	baz=70					
I07A	Izee	69.70	328	⇓P	P	01 57 16.3 +0.1
	baz=70,SNR=5.5					
G09A	Cove	69.71	330	⇓P	P	01 57 16.2 0.0
	baz=70,SNR=8.5					
C14A	Swan Lake	69.76	334	⇑P	P	01 57 17.2 +0.7
	baz=70					
E11A	Bogner Ranch,	69.77	332	⇓P	P	01 57 16.2 -0.3
	baz=70					
YBH	Yreka Blue Hor	69.81	325	P	P	01 57 15.7 -1.1
	comp=Z,1.7nm,0.8s,mb4.0,baz=152,slow=6.8,SNR=5.3					
YBH	Yreka Blue Hor	69.81	325	⇑P	P	01 57 16.8 -0.1
	baz=70					
VNA1	Neumayer--Stat	69.85	161	*e*P	pP	01 57 28.7 -3.2
D12A	Red Ives Fores	69.91	333	⇑P	P	01 57 18.0 +0.6
	baz=70					
F10A	Beach Ranch, E	69.96	331	⇓P	P	01 57 18.4 +0.7
	baz=70					
JCC	Jacoby Creek	69.96	323	⇑P	P	01 57 18.4 +0.6
	baz=70					
I06A	Prineville	69.97	328	⇓P	P	01 57 18.5 +0.7
	baz=70					
C13A	Hot Springs	70.05	334	⇑P	P	01 57 18.6 +0.4
	baz=70,SNR=7.0					
J05A	Fort Rock	70.05	327	⇑P	P	01 57 18.6 +0.3
	baz=70					
G08A	Pilot Rock	70.29	330	⇑P	P	01 57 19.5 -0.2
	baz=70					
D11A	Klaveano Farm,	70.34	332	⇓P	P	01 57 20.1 +0.1
	baz=70					
B13A	Whitefish	70.54	334	⇑P	P	01 57 22.0 +0.7
	baz=71					
H06A	Lindquist Farm	70.59	328	⇑P	P	01 57 21.8 +0.2
	baz=71					
G07A	Ruggs Ranch, H	70.63	329	⇑P	P	01 57 22.1 +0.2
	baz=71					
WALA	Waterton Lakes	70.84	335	*e*P	P	01 57 22.6 -0.4
	comp=Z,2.8nm,0.7s,mb4.3					
K02A	Glendale	70.92	325	⇓P	P	01 57 23.7 0.0
	baz=71					
A13A	Flathead Natio	70.95	335	⇓P	P	01 57 24.1 +0.4
	baz=71					
B12A	Libby	71.09	334	⇓P	P	01 57 25.0 +0.5
	baz=71					
D09A	Jones Farm, Ri	71.26	331	⇑P	P	01 57 25.3 -0.3
	baz=71					
J02A	Umpqua	71.36	326	⇓P	P	01 57 26.0 -0.3
	baz=72					
B11A	Sandpoint	71.40	333	⇑P	P	01 57 26.8 +0.3
	baz=72					
A12A	Yaak River Ran	71.47	334	⇓P	P	01 57 27.3 +0.5
	baz=72,SNR=5.3					
NEW	Newport	71.61	333	*e*P	P	01 57 27.2 -0.5
NEW				pmax	pmax	
	comp=Z,5.0nm,0.9s					
NEW	Newport	71.61	333	*e*P	P	01 57 27.2 -0.5
	comp=Z,5.0nm,0.9s,mb4.4					
OD2	Odessa Site #2	71.69	331	*e*P	P	01 57 28.3 +0.1
OD2				*e*		01 57 36.6
A11A	Hall Mountain,	71.80	334	⇓P	P	01 57 28.9 +0.1
	baz=72					
SNAA	Sanae	71.81	161	*e*P	P	01 57 29.9 +1.3
SNAA				*e*		01 57 36.5
SNAA				*e*	pP	01 57 40.2 -3.6
SNAA	Sanae	71.81	161	*e*P	P	01 57 29.3 +0.7
SNAA				pmax	pmax	
	comp=Z,17nm,1.3s					
SNAA	Sanae	71.81	161	*e*P	P	01 57 29.3 +0.7
	comp=Z,17nm,1.3s,mb4.8					
A07A	Ashnola River,	73.66	332	⇑P	P	01 57 40.9 +1.1
	baz=74					
EDM	Edmonton	73.91	338	*e*P	P	01 57 40.2 -1.0
DBIC	Dimbokro	73.94	79	P	P	01 57 42.8 +0.5
	comp=Z,5.5nm,0.5s,mb4.7,baz=263,slow=4.7,SNR=13					
NLWA	Neilton Lookou	74.20	329	⇑P	P	01 57 43.8 +0.7
	baz=74					
YKA	Yellowknife Ar	81.72	343	P	P	01 58 22.7 -1.7
	comp=Z,1.3nm,0.8s,mb3.9,baz=140,slow=5.3,SNR=6.8					
YKA	Yellowknife Ar	81.72	343	P	P	01 58 22.7 -1.7
TORD	Torodi Ar. Bea	81.95	74	P	P	01 58 27.5 +0.7
	comp=Z,6.0nm,0.7s,mb4.7,baz=262,slow=4.1,SNR=17					
ZALV	Zalesovo Beam	137.37	16	PKP	PKPdf	02 05 30.4 +0.9
	comp=Z,0.5nm,0.3s,baz=2.8,slow=5.9,SNR=3.8					
ZALV	Zalesovo Beam	137.37	16	PKP	PKPdf	02 05 30.4 +0.9
ZAL	Zalesovo	137.38	16	PKIKP	PKPdf	02 05 30.4 +0.9
SONM	Songino Array	146.04	357	PKPbc	PKPbc	02 05 46.9 +0.9
	comp=Z,1.9nm,0.8s,baz=348,slow=2.2,SNR=4.0					
WMQ	Urumqi	147.20	21	*e*PKP	PKPdf	02 05 47.3 +0.1
KSRS	Korea Array	147.99	322	PKPbc	PKPbc	02 05 51.4 -0.5
	comp=Z,1.0nm,0.7s,baz=47,slow=2.4,SNR=6.7					
HHC	Hu-ho-hao-te	152.20	347	*e*PKP	PKPdf	02 05 55.4 +0.1
HHC				APKP		02 06 05.8
HHC				XPKP		02 06 09.3
HHC				PKS		02 09 29.1
HHC				PP	PP	02 09 48.3 +5.5
HHC				SKS	SKSdf	02 12 58.5 +0.4
HHC				SKKS	SKKSac	02 16 30.3 +0.6
HHC				PP	PP	
	comp=Z,204nm,11.9s					
LZH	Lanzhou	157.86	359	*e*PKP	PKPdf	02 06 03.5 +0.4
LZH				APKP		02 06 14.3
LZH				XPKP		02 06 18.0
LZH				LR	LR	
	comp=N,112nm,18.3s					
LZH				LR	LR	
	comp=Z,156nm,20.5s,MS4.8					
CD2	Chengdu	163.02	359	*e*PKP	PKPdf	02 06 08.0 -1.0
GYA	Guiyang	167.12	347	*e*PKP	PKPdf	02 06 11.8 -0.8
GYA				APKP		02 06 23.9
GYA				XPKP		02 06 29.4
GYA				PKP2	PKPab	02 07 17.8 +1.1
GYA				PKS		02 09 42.0
GYA				PP	PP	02 11 05.8 +2.3
GYA				PP	PP	
	comp=Z,60nm,8.9s					

ISCJB ***17*** *01:58:14.2±0.4, 1389S×006×7693W×007, h33km, mb4.1/22, Error ellipse: s-maj=12.0km s-min=5.2km az=145.1*
MOS ***17*** *01:58:15.8±1.4, 1359S×7678W, h33km, mb4.3/7, Error ellipse: s-maj=33.4km s-min=11.5km az=44.9*
NEIC ***17*** *01:58:16.0±2.4, 1382S×7686W, h29km±17km, mb4.3/15, Error ellipse: s-maj=17.6km s-min=5.2km az=59.0*
IDC ***17*** *01:58:19.3±2.9, 1368S×7685W, h50km±24km, mb3.7/9, mb1 4.0/12, mb1mx3.8/22, mbtmp3.8/12, ML3.8/4, MS3.3/1, Ms1 3.2/1, ms1mx2.6/32, Error ellipse: s-maj=35.9km s-min=11.8km az=62.0*

ISC 17 01:58:16.9±0.4, 1383S±006×7685W±008, h35km, n55, σ0§81/55, mb4.1/22, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.83	0	P	Pn	01 58 45.5	-0.4
	103nm,0.3s,baz=188,slow=11,SNR=15						
NNA				S	Sn	01 59 07.2	-0.7
	110nm,0.3s,baz=256,slow=16,SNR=7.6						
ARE	Arequipa	5.79	118	*e*P	Pn	01 59 40.0	-0.4
ARE				*e*S	Sn	02 00 46.0	+0.3
ATAH	Atahualpa	6.96	347	P	Pn	01 59 55.0	-1.4
	4.2nm,0.3s,baz=177,slow=7.0,SNR=16						
ATAH				S	Sn	02 01 17.1	+2.7
	1.4nm,0.3s,baz=17,slow=19,SNR=1.7						
LPAZ	La Paz	8.77	107	P	Pn	02 00 25.8	+4.5
	0.7nm,0.3s,baz=284,slow=10,SNR=14						
LPAZ	La Paz	8.77	107	P	Pn	02 00 25.8	+4.5
LVC	Limon Verde	11.53	140	P	Pn	02 00 59.4	+0.3
	1.7nm,0.3s,baz=336,slow=9.0,SNR=8.3						
LVC				S	Sn	02 03 05.2	-1.6
	0.5nm,0.3s,baz=83,slow=18,SNR=3.7						
LVC	Limon Verde	11.53	140	P	Pn	02 00 59.4	+0.3
LVC				S	Sn	02 03 05.2	-1.6
OTAV	Otavalo	14.07	353	*e*Pn	Pn	02 01 34.4	+0.6
SIV	San Ignacio	15.40	100	P	Pn	02 01 55.1	+3.5
	0.7nm,0.3s,baz=280,slow=13,SNR=10						
CFAA	Coronel Fontan	19.38	157	P	Pn	02 02 43.2	+2.2
	0.0nm,0.3s,baz=335,slow=12,SNR=6.1						
CFAA	Coronel Fontan	19.38	157	P	Pn	02 02 43.2	+2.2
CPUP	Villa Florida	22.11	127	P	P	02 03 10.1	+0.7
	0.4nm,0.3s,mb3.3,baz=251,slow=10,SNR=2.7						
CPUP	Villa Florida	22.11	127	*e*P	P	02 03 09.2	-0.2
CPUP				pmax	pmax		
	comp=Z,16nm,1.0s						
CPUP	Villa Florida	22.11	127	*e*P	P	02 03 09.2	-0.2
	comp=Z,16nm,1.0s,mb4.4						
SDV	Santo Domingo	23.40	16	P	P	02 03 26.3	+3.3
	comp=Z,2.9nm,0.5s,mb4.0,baz=283,slow=11,SNR=4.1						
SDV	Santo Domingo	23.40	16	*e*P	P	02 03 23.7	+0.7
	comp=Z,3.5nm,0.7s,mb3.9						
CMIG	Matias Romero	35.51	329	P	P	02 05 10.7	+0.1
	comp=Z,2.6nm,0.9s,mb4.2,baz=166,slow=20,SNR=4.3						
TXAR	Lajitas Array	50.12	329	P	P	02 07 09.0	+0.1
	comp=Z,0.9nm,0.8s,mb3.9,baz=140,slow=9.9,SNR=6.6						
MIAR	Mount Ida	50.67	342	*e*P	P	02 07 12.6	-0.3
MIAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
MIAR	Mount Ida	50.67	342	*e*P	P	02 07 12.6	-0.3
	comp=Z,0.9nm,0.5s,mb4.0						
LAZ	Ladron	55.95	330	*e*P	P	02 07 52.3	+0.6
ANMO	Albuquerque	56.06	331	*e*P	P	02 07 52.8	+0.3
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANMO	Albuquerque	56.06	331	*e*P	P	02 07 52.8	+0.2
	comp=Z,1.9nm,0.8s,mb4.2						
TUC	Tucson	56.22	325	*e*P	P	02 07 53.8	+0.1
TUC				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
TUC	Tucson	56.22	325	*e*P	P	02 07 53.8	+0.1
	comp=Z,1.4nm,0.8s,mb4.0						
SDCO	Great Sand Dun	57.93	333	*e*P	P	02 08 05.7	0.0
	comp=Z,0.6nm,0.6s,mb3.8						
PV01	Paradox Valley	59.64	331	*e*P	P	02 08 17.2	-0.4
ECSD	EROS,Sioux Fal	60.06	344	*e*P	P	02 08 19.3	-1.1
	comp=Z,1.9nm,0.8s,mb4.2						
SRU	San Rafael	61.34	331	*e*P	P	02 08 29.1	0.0
SRU				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.0						
SRU	San Rafael	61.34	331	*e*P	P	02 08 29.1	-0.1
	comp=Z,1.5nm,0.8s,mb4.2						
TPNV	Topopah Spring	62.67	325	*e*P	P	02 08 37.6	-0.5
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
TPNV	Topopah Spring	62.67	325	*e*P	P	02 08 37.6	-0.6
	comp=Z,1.8nm,0.8s,mb4.2						
DAU	Daniels Canyon	62.71	331	*e*P	P	02 08 38.3	0.0
DUG	Dugway	63.29	330	*e*P	P	02 08 42.8	+0.6
DUG				*e*		02 08 49.9	
DUG				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.3						
DUG	Dugway	63.29	330	*e*P	P	02 08 42.8	+0.6
	comp=Z,3.0nm,1.2s,mb4.3						
DUG				*e*		02 08 49.9	
HWUT	Hardware Ranch	63.79	332	*e*P	P	02 08 45.3	-0.2
PDAR	Pinedale Array	63.82	334	P	P	02 08 45.5	-0.1
	comp=Z,0.7nm,0.8s,mb3.7,baz=95,slow=8.0,SNR=4.6						
BGU	Big Grassy Mou	63.95	330	*e*P	P	02 08 46.6	0.0
NVAR	Mina Array Bea	64.86	325	P	P	02 08 53.6	+1.0
	comp=Z,1.4nm,0.7s,mb4.1,baz=145,slow=6.4,SNR=8.0						
RRI2	Red Ridge	65.06	333	*e*P	P	02 08 54.0	+0.2
	comp=Z,2.7nm,0.8s,mb4.3						
RLMT	Red Lodge	65.62	335	*e*P	P	02 08 57.1	-0.2
ULM	Lac du Bonnet	65.96	347	P	P	02 08 58.1	-1.2
	comp=Z,3.9nm,0.6s,mb4.6,baz=206,slow=4.2,SNR=5.9						
ULM	Lac du Bonnet	65.96	347	*e*P	P	02 08 57.9	-1.5
	comp=Z,4.3nm,0.8s,mb4.5						
HLID	Hailey	66.64	331	*e*P	P	02 09 04.3	+0.4
	comp=Z,3.7nm,1.3s,mb4.2						
DLMT	Dillon	67.21	333	*e*P	P	02 09 07.6	+0.1
	comp=Z,2.0nm,0.8s,mb4.2						
EGMT	Eagleton	68.20	337	*e*P	P	02 09 13.7	0.0
	comp=Z,18nm,1.3s,mb4.9						
YBH	Yreka Blue Hor	69.59	325	P	P	02 09 21.9	-0.6
	comp=Z,0.6nm,0.4s,mb3.8,baz=64,slow=3.2,SNR=6.0						
YKA	Yellowknife Ar	81.59	343	P	P	02 10 29.9	-0.9
	comp=Z,3.3nm,1.1s,mb4.2,baz=134,slow=5.5,SNR=5.5						
TORD	Torodi Ar. Bea	82.28	74	P	P	02 10 36.0	+0.6
	comp=Z,1.3nm,0.8s,mb3.9,baz=266,slow=5.6,SNR=7.0						
DAWY	Dawson	90.94	337	*e*P	P	02 11 16.5	-0.3
ASAR	Alice Springs	132.12	219	PKP	PKPdf	02 17 28.0	+0.2
	comp=Z,0.2nm,0.4s,baz=160,slow=3.0,SNR=3.5						
WRA	Warramunga Arr	134.53	223	PKP	PKPdf	02 17 33.5	+1.0
	comp=Z,0.5nm,0.4s,baz=129,slow=2.6,SNR=4.6						
ZALV	Zalesovo Beam	137.45	16	PKP	PKPdf	02 17 38.3	+1.5
	comp=Z,0.4nm,0.3s,baz=274,slow=2.3,SNR=3.8						
ZAL	Zalesovo	137.45	16	PKIKP	PKPdf	02 17 38.3	+1.5
SONM	Songino Array	145.99	356	PKPbc	PKPbc	02 17 53.5	+0.5
	comp=Z,0.8nm,0.6s,baz=0.0,slow=1.4,SNR=3.4						

ISCJB ***17*** *02:08:48.7±0.4, 4244N×002×45.12E±003, h6km±5km, Error ellipse: s-maj=3.7km s-min=3.1km az=20.5*
TIF ***17*** *02:08:48.4, 4245N×45.11E, h12km±2km*
CSEM ***17*** *02:08:49.8±0.2, 4240N×4509E, h5km, mb4.2, Error ellipse: s-maj=5.6km s-min=3.6km az=16.0*
MOS ***17*** *02:08:49.2±1.3, 4242N×45.11E, h15km, mb4.2/1, Error ellipse: s-maj=9.1km s-min=6.7km az=114.7*

ISC 17 02:08:49.6±0.4, 4244N±002×4512E±003, h13km±4km, n35, σ1§14/58, 5C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	Sundja	0.67	341	*i* Pg	Pg	02 09 03.7	+1.1
SNJR				*e*Sg	Sg	02 09 14.1	+2.6
LACR	Lac	0.72	303	*i* Pg	Pg	02 09 02.5	-1.1
LACR				*i* Sg	Sg	02 09 12.2	-0.8
TBLG	Delisi	0.76	202	*e*Pg	Pg	02 09 03.9	-0.5
TBLG	Delisi	0.76	202	P	Pg	02 09 03.9	-0.5
TBLG				S	Sg	02 09 14.6	+0.3
MTA	Mtatsminda	0.78	198	*e*Pg	Pg	02 09 04.2	-0.6
MTA	Mtatsminda	0.78	198	P	Pg	02 09 04.2	-0.6
MTA				S	Sg	02 09 15.1	+0.1
ZEI	Tsey	0.96	291	*e*Pg	Pg	02 09 07.0	-1.1
ZEI				*i* Sg	Sg	02 09 19.5	-1.1
ARNR	Ardon	0.97	321	*i* Pg	Pg	02 09 08.6	+0.2
ARNR				*e*Sg	Sg	02 09 22.1	+1.1
DGRG	David-gareji	1.00	169	*e*Pg	Pg	02 09 09.6	+0.6
DGRG	David-gareji	1.00	169	P	Pb	02 09 09.6	+0.7
DGRG				S	Sg	02 09 25.3	+3.2
BTKR	Batakoyurt	1.02	336	*i* Pg	Pg	02 09 10.4	+1.0
BTKR				*e*Sg	Sg	02 09 26.0	+3.3
KMSR	Komsomolskaya	1.11	327	*i* Pg	Pg	02 09 11.2	+0.2
KMSR				*e*Sg	Sg	02 09 27.2	+1.7
XNZR	Khunzakh	1.18	84	⇑*i*PG	Pg	02 09 11.8	-0.5
XNZR				*i* S	Sg	02 09 27.5	-0.2
XNZR				pmax	pmax		
	comp=Z,220nm,0.2s						
XNZR	Khunzakh	1.18	84	*i* Pg	Pg	02 09 11.8	-0.5
	comp=Z,220nm,0.2s						
XNZR				*i* Sg	Sg	02 09 27.5	-0.2
DIGR	Digorskoe uzhe	1.22	293	*e*Pg	Pg	02 09 11.6	-1.6
DIGR				*i* Sg	Sg	02 09 27.6	-1.5
ONI	Oni	1.24	277	P	Pn	02 09 12.1	-0.6
ONI				S	Sb	02 09 29.4	+0.5
LSNR	Lesken	1.27	312	*e*Pg	Pg	02 09 13.4	-0.7
LSNR				*e*Sg	Sg	02 09 30.0	-0.6
KRNR	Karanay	1.38	73	*i* PG	Pg	02 09 13.0	-3.1
KRNR				*e*S	Sn	02 09 32.0	-0.7
KRNR				pmax	pmax		
	comp=Z,74nm,0.3s						
KRNR	Karanay	1.38	73	*i* Pg	Pg	02 09 13.0	-3.1
	comp=Z,74nm,0.3s						
KRNR				*e*Sg	Sn	02 09 32.0	-0.7
DBC	Dubki	1.39	65	⇑*i*PG	Pg	02 09 12.5	-3.8
DBC				*i* S	Sn	02 09 32.2	-0.8
DBC				pmax	pmax		
	comp=Z,104nm,0.2s						
DBC	Dubki	1.39	65	*i* Pg	Pg	02 09 12.5	-3.8
	comp=Z,104nm,0.2s						
DBC				*i* Sg	Sn	02 09 32.2	-0.8
BUJR	Buynaksk	1.52	75	*i* PG	Pg	02 09 18.5	-0.3
BUJR				*e*S	Sg	02 09 41.5	+2.9
BUJR				pmax	pmax		
	comp=Z,68nm,0.3s						
BUJR	Buynaksk	1.52	75	*i* Pg	Pg	02 09 18.5	-0.3
	comp=Z,68nm,0.3s						
BUJR				*e*Sg	Sg	02 09 41.5	+2.9
MAK	Makhachkala	1.84	73	*e*PN	Pn	02 09 19.3	-1.6
MAK				*e*		02 09 24.9	
MAK				*e*		02 09 53.3	
MAK				pmax	pmax		
	comp=Z,144nm,0.3s						
MAK	Makhachkala	1.84	73	*e*Pn	Pn	02 09 19.3	-1.6
	comp=Z,144nm,0.3s						
MAK	Makhachkala	1.84	73	*e*Pg	Pg	02 09 24.9	0.0
MAK				*e*Sg	Sg	02 09 53.3	+4.6
URKR	Urkarakh	1.89	97	*i* PN	Pn	02 09 22.5	+0.9
URKR				pmax	pmax		
	comp=Z,60nm,0.4s						
URKR	Urkarakh	1.89	97	*i* Pn	Pn	02 09 22.5	+0.9
	comp=Z,60nm,0.4s						
GNI	Garni	2.30	187	*e*Pn	Pn	02 09 29.0	+1.7
KIV	Kislovodsk	2.34	311	⇓*e*PN	Pn	02 09 28.4	+0.6
KIV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KIV	Kislovodsk	2.34	311	*e*Pn	Pn	02 09 28.4	+0.6
	comp=Z,4.0nm,0.4s						
ANN	Anapa	6.06	296	*e*P	Pn	02 10 20.5	+1.6
ANN				pmax	pmax		
	comp=Z,31nm,0.9s						
ANN	Anapa	6.06	296	*e*P	Pn	02 10 20.5	+1.6
	comp=Z,31nm,0.9s						
AKTO	Aktyubinsk	11.95	44	⇑Pn	Pn	02 11 38.6	-1.1
	comp=Z,0.3nm,0.8s						
AKTO				⇑Sn	Sn	02 13 41.2	-12
	comp=Z,0.2nm,0.6s						
AB31	Akbulak array	12.37	51	⇑Pn	Pn	02 11 45.4	+0.1
	comp=Z,0.5nm,0.5s,baz=239,slow=14,SNR=22						
AB31				⇓Sn	Sn	02 13 54.4	-8.7
	comp=Z,1.2nm,0.7s						

IDC 17 02:10:55.8±3.0, 1177S×6852W, h0km, mb4.6/2, mb1 4.5/4, mb1mx3.9/20, mbtmp4.5/4, ML4.2/2, Error ellipse: s-maj=70.6km s-min=38.3km az=96.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.51	175	Pn	Pn	02 12 06.7	+1.4
	3.1nm,0.3s,baz=195,slow=7.7,SNR=73						
LPAZ				Sn	Sn	02 12 55.6	-2.9
	1.5nm,0.3s,baz=176,slow=5.3,SNR=4.2						
SIV	San Ignacio	8.36	121	Pn	Pn	02 12 57.0	-1.3
	4.5nm,0.3s,baz=245,slow=11,SNR=83						
SIV				Sn	Sn	02 14 32.4	-1.0
	baz=161,slow=22,SNR=4.8						
DBIC	Dimbokro	65.91	77	P	P	02 21 44.1	-0.1
	9.0nm,0.7s,baz=226,slow=7.9,SNR=11						
TORD	Torodi Ar. Bea	73.91	73	P	P	02 22 34.0	+0.7
	2.4nm,0.6s,baz=256,slow=5.3,SNR=52						
MKAR	Makanchi Array	137.27	30	PKP	PKPdf	02 30 18.6	-2.7
	1.9nm,0.7s,baz=336,slow=3.9,SNR=4.1						

IDC ***17*** *02:11:10.9±2.5, 1405N×14673E, h10km±14km, mb4.8/26, mb1 4.8/28, mb1mx4.8/31, mbtmp4.9/28, ML4.4/2, MS4.7/1, Ms1 4.7/1, ms1mx3.1/35, Error ellipse: s-maj=13.6km s-min=9.8km az=92.0*
DJA ***17*** *02:11:12, 1406N×14680E, h10km, mb5.4/28*
ISCJB ***17*** *02:11:14.7±0.1, 1412N±003×14655E±002, h44km, mb5.2/152, MS5.0/22, Error ellipse: s-maj=4.5km s-min=2.8km az=172.3*
MOS ***17*** *02:11:14.4±0.8, 1438N×14651E, h33km, mb5.5/57, MS4.9/5, Error ellipse: s-maj=8.1km s-min=6.2km az=104.9*
BJI ***17*** *02:11:14.7, 1430N×14691E, h54km, mB5.5, mb5.1, Ms5.3, Msz5.0*
NEIC ***17*** *02:11:16.4±0.1, 1407N×14654E, mb5.3/89, Error ellipse: s-maj=4.3km s-min=3.1km az=146.0*
GCMT ***17*** *02:11:16.5±0.3, 1384N×14700E, h12km, MW5.3/69, Moment Tensor Solution. s45,c61; s69,c108; Duration: 1s1 Moment tensor: Scale 10^17Nm; M_{rr}0.89±.04; $M_{\theta\theta}$0.06±.03; $M_{\phi\phi}$-0.94±.04; $M_{r\theta}$-0.07±.09; $M_{\theta\phi}$-0.29±.03; $M_{\phi r}$0.53±.09; Best double couple: $M_0$1.09800×10^17 NP1:ϕ_s208.00000°, δ33.00000°, λ111.00000°. NP2: ϕ_s3.00000°, δ60.00000°, λ77.00000°. Principal axes: T 1.0470, Plg72.0000°, Azm242.0000°; N 0.1020, Plg11.0000°, Azm10.0000°; P -1.1480, Plg14.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 02:11:16.4±0.1, 1408N±003×14661E±002, h46km, h46km±1.1km: pP-P, n728, σ0§69/721, mb5.2/152, MS5.1/22, 215C-195D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.76	254	Pn	Pn	02 11 44.1	-0.3
	494nm,0.3s,baz=98,slow=5.2,SNR=126						
GUMO				Sn	Sn	02 12 05.7	+0.1
	344nm,0.3s,baz=96,slow=14,SNR=10.0						
GUMO	Guam	1.76	254	⇑*i*Pn

comp=Z,47nm,0.9s,mb5.2,baz=147,slow=9.6,SNR=63
KSRS ScP ScP 02 23 59.9 +3.6
comp=Z,2.3nm,1.0s,baz=146,slow=4.3,SNR=6.7
KS15 Wonju Array Si 28.62 328 *e*P **P 02 17 07.6 -0.8**
MYLDM Lahad Datu 29.06 255 ⇑P **P 02 17 14.8 +2.1**
TSM Tawau 29.95 254 ⇓P **P 02 17 19.2 -1.4**
KAKA Kakadu 30.10 208 *e*P **P 02 17 21.0 -0.7**
comp=Z,33nm,0.9s,mb5.1
ASAJ Asahikawa 30.13 354 P **P 02 17 21.6 -0.1**
comp=Z,10nm,0.3s,mb5.0,baz=104,slow=27,SNR=7.1
SDKM Sandakan 30.14 257 ⇓P **P 02 17 22.4 +0.2**
KKM Kota Kinabalu 30.94 258 ⇓P **P 02 17 30.0 +0.7**
KKM Kota Kinabalu 30.94 258 *e*P **P 02 17 28.9 -0.4**
NJ2 Nanjing 31.03 310 *e*P **P 02 17 31.8 +1.9**
NJ2 AP pP 02 17 41.5 -0.6
NJ2 XP sP 02 17 47.3 -0.3
NJ2 PP PP 02 18 37.1 -3.5
NJ2 S **S 02 22 30.0 -1.9**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
NJ2 AMB AMB
comp=Z,380nm,5.4s
NJ2 LR LR
comp=N,1μm,15.6s,MS4.8
NJ2 LR LR
comp=E,2μm,19.6s,MS4.8
NJ2 LR LR
comp=Z,2μm,18.6s,MS4.7
YSS Yuzh-Sakhalins 32.93 355⇑*e*P **P 02 17 45.0 -1.3**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.3
YSS MLR MLR
comp=N,1μm,16.0s,MS4.8
YSS MLR MLR
comp=E,1μm,16.0s,MS4.8
YSS MLR MLR
comp=Z,2μm,16.0s,MS4.8
YSS Yuzh-Sakhalins 32.93 355 *e*P **P 02 17 46.4 +0.1**
DL2 Dalian 33.12 323⇑*i*P **P 02 17 47.8 -0.3**
DL2 PP PP 02 19 02.9 -0.8
DL2 S **S 02 23 06.3 +2.0**
DL2 XS sS 02 23 22.5 -2.3
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
DL2 AMB AMB
comp=Z,200nm,4.2s
DL2 LR LR
comp=N,350nm,15.0s,MS4.5
DL2 LR LR
comp=E,510nm,14.3s,MS4.5
DL2 LR LR
comp=Z,530nm,15.8s,MS4.3
MDJ Mudanjiang 33.70 338 P **P 02 17 53.6 +0.5**
MDJ AP pP 02 18 04.6 -0.8
MDJ XP sP 02 18 09.8 -1.1
MDJ PCP PcP 02 20 29.5 -2.6
MDJ S **S 02 23 15.0 +1.9**
MDJ SCP ScP 02 24 10.9 -2.2
MDJ PCS PcS 02 24 16.3 -1.5
MDJ AMB AMB
comp=Z,15nm,1.5s,mb4.7
MDJ AMB AMB
comp=Z,123nm,10.8s
MDJ LR LR
comp=N,872nm,18.1s,MS4.7
MDJ LR LR
comp=E,1μm,18.1s,MS4.7
MDJ LR LR
comp=Z,2μm,18.6s,MS4.9
WHN Wuhan 33.88 304 ⇑P **P 02 17 55.1 +0.2**
WHN AP pP 02 18 05.8 -1.3
WHN XP sP 02 18 11.3 -1.3
WHN S **S 02 23 18.4 +2.1**
WHN AMB AMB
comp=Z,97nm,1.2s,mb5.6
WHN LR LR
comp=Z,5μm,17.3s,MS5.3
SNY Shenyang 34.10 329 ⇑P **P 02 17 55.5 -1.1**
SNY S **S 02 23 14.0 -5.3**
SNY AMB AMB
comp=Z,14nm,2.3s,mb4.5
SNY AMB AMB
comp=Z,480nm,9.4s
SNY LR LR
comp=E,4μm,18.2s
SNY LR LR
comp=Z,2μm,20.1s,MS4.8
TIA Tai'an 34.38 315 *e*P **P 02 17 58.5 -0.6**
TIA LR LR
comp=N,339nm,10.0s,MS4.9
TIA LR LR
comp=E,1μm,13.0s,MS4.9
CN2 Changchun 34.72 333 *e*P **P 02 18 01.0 -0.9**
CN2 *e*AP pP 02 18 13.5 -0.7
CN2 *e*S **S 02 23 27.0 -1.8**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,3μm,16.0s,MS5.2
CN2 LR LR
comp=E,2μm,16.0s,MS5.2
CN2 LR LR
comp=Z,2μm,18.0s,MS5.0
BTM Bintulu 34.81 255 ⇓P **P 02 18 04.0 +0.9**
QIZ Qiongzhong 35.54 283 P **P 02 18 09.8 +0.5**
QIZ AMB AMB
comp=Z,14nm,1.5s,mb4.7
QIZ AMB AMB
comp=Z,380nm,7.8s
SBUM Sibu 35.88 254 ⇑P **P 02 18 14.3 +2.0**
WRAB Tennant Creek 35.89 200 P **P 02 18 11.0 -1.2**
comp=Z,335nm,0.8s,mb6.3,SNR=12
WRAB Tennant Creek 35.89 200 *e*P **P 02 18 11.9 -0.3**
WRAB pmax pmax
comp=Z,64nm,1.0s,mb5.5
WRAB Tennant Creek 35.89 200 *e*P **P 02 18 11.9 -0.3**
comp=Z,64nm,1.0s,mb5.5
WB2 Warramunga Arr 35.90 200 *e*P **P 02 18 11.3 -1.0**
WRA Warramunga Arr 35.90 200 P **P 02 18 11.4 -1.0**
comp=Z,29nm,0.8s,mb5.3,baz=21,slow=9.6,SNR=46
KLR Kul'dur 37.12 344 *e*P **P 02 18 16.6 -5.8**
BJT Baijiatuan 37.12 320 *e*P **P 02 18 22.6 0.0**
comp=Z,60nm,1.1s,mb5.3
BJI Beijing 37.13 320 P **P 02 18 22.1 -0.6**
BJI PP PP 02 19 48.3 +0.4
BJI S **S 02 24 05.8 -0.1**
BJI AMB AMB
comp=Z,52nm,1.6s,mb5.1
BJI AMB AMB
comp=Z,854nm,3.4s
BJI LR LR
comp=N,2μm,16.4s
BJI LR LR
comp=E,2μm,23.2s
BJI LR LR
comp=Z,3μm,18.1s,MS5.1
KSM Kuching 38.01 254 ⇑P **P 02 18 30.5 +0.1**
KSM Kuching 38.01 254 *e*P **P 02 18 30.2 -0.2**
KSM *e*pP pP 02 18 42.2 -0.5
FITZ Fitzroy Crossi 38.08 213 *e*P **P 02 18 31.0 +0.1**
comp=Z,24nm,0.9s,mb4.9
FITZ Fitzroy Crossi 38.08 213 P **P 02 18 30.7 -0.2**
comp=Z,11nm,1.0s,mb4.6,baz=60,slow=9.4,SNR=9.5
TIY Taiyuan 38.38 314⇑*i*P **P 02 18 34.0 +0.8**
TIY AP pP 02 18 43.5 -2.1
TIY PP PP 02 20 04.8 +3.2
TIY PPP 02 20 26.3
TIY S **S 02 24 25.9 +1.1**
TIY PCS PcS 02 24 36.0 +0.8
TIY AMB AMB
comp=Z,533nm,4.0s
TIY LR LR
comp=N,1μm,10.3s,MS5.1
TIY LR LR
comp=E,1μm,11.2s,MS5.1
TIY LR LR
comp=Z,2μm,15.7s,MS5.1
GYA Guiyang 39.28 295 P **P 02 18 42.4 +1.4**
GYA AP pP 02 18 54.5 +1.1
GYA XP sP 02 19 01.3 +2.5
GYA PP PP 02 20 16.8 +5.1
GYA PCP PcP 02 20 45.9 -3.3
GYA AMB AMB
comp=Z,30nm,1.1s,mb4.9
GYA AMB AMB
comp=Z,340nm,3.4s
GYA LR LR
comp=N,2μm,14.4s,MS5.2
GYA LR LR
comp=E,2μm,13.2s,MS5.2
GYA LR LR
comp=Z,2μm,11.4s,MS5.2
XAN Xi'an 39.43 307 P **P 02 18 41.9 -0.2**
XAN PP PP 02 20 16.1 +2.9
XAN PPP 02 20 42.1
XAN AMB AMB
comp=Z,22nm,1.8s,mb4.6
XAN AMB AMB
comp=Z,403nm,5.6s
XAN LR LR
comp=E,2μm,22.4s
XAN LR LR
comp=Z,3μm,20.8s,MS5.0
ASAR Alice Springs 39.52 198 P **P 02 18 42.0 -0.9**
comp=Z,3.6nm,0.7s,mb4.2,baz=26,slow=9.0,SNR=34
PETK Petropavlovsk- 39.91 10 P **P 02 18 44.6 -1.2**
comp=Z,0.8nm,0.5s,baz=324,slow=9.8,SNR=2.9
PET Petropavlovsk 40.01 11 *e*P **P 02 18 45.9 -0.7**
PET *e*S **S 02 24 49.6 +0.7**
PET *e*SS SS 02 27 43.3 -4.0
PET pmax pmax
comp=Z,28nm,0.8s,mb5.0
PET MLR MLR
comp=Z,1μm,20.0s,MS4.8
PET Petropavlovsk 40.01 11 *e*P **P 02 18 46.1 -0.5**
HHC Hu-ho-hao-te 40.52 318 *e*P **P 02 18 51.3 +0.3**
HHC AP pP 02 19 02.9 -0.6
HHC XP sP 02 19 07.6 -1.3
HHC PP PP 02 20 28.5 +3.5
HHC PCS PcS 02 24 43.0 -0.4
HHC S **S 02 24 55.5 -1.4**
HHC AMB AMB
comp=Z,59nm,1.5s,mb5.0
HHC LR LR
comp=N,1μm,20.2s,MS5.0
HHC LR LR
comp=E,2μm,23.8s,MS5.0
HHC LR LR
comp=Z,2μm,23.8s,MS5.0
BTO Baotou 41.41 317 *e*P **P 02 18 58.8 +0.4**
HIA Hailar 41.43 333*c i*P **P 02 18 57.3 -1.1**
HIA Hailar 41.43 333 *e*P **P 02 18 57.1 -1.3**
comp=Z,28nm,0.9s,mb4.9
KMI Kunming 42.59 292 P **P 02 19 09.4 +1.2**
KMI AP pP 02 19 19.8 -0.9
KMI XP sP 02 19 23.6 -2.6
KMI PP PP 02 20 50.3 +2.7
KMI PCP PcP 02 21 02.6 +2.6
KMI AMB AMB
comp=Z,16nm,1.2s,mb4.6
KMI AMB AMB
comp=Z,288nm,5.9s
KMI LR LR
comp=N,3μm,17.2s,MS5.4
KMI LR LR
comp=E,3μm,16.0s,MS5.4
KMI LR LR
comp=Z,3μm,27.5s
CD2 Chengdu 42.69 300 P **P 02 19 08.9 -0.1**
CD2 AP pP 02 19 21.5 0.0
CD2 XP sP 02 19 26.9 0.0
CD2 PCP PcP 02 21 01.3 +1.1
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.2
CD2 AMB AMB
comp=Z,130nm,4.6s
CD2 LR LR
comp=N,6μm,13.2s,MS5.7
CD2 LR LR
comp=E,3μm,16.8s,MS5.7
CD2 LR LR
comp=Z,1μm,9.0s
MBWA Marble Bar 43.85 218 *e*P **P 02 19 18.8 +0.4**
MYKOM Kota Tinggi 43.98 258 ⇓P **P 02 19 20.7 +1.1**
LZH Lanzhou 44.04 308 ⇑P **P 02 19 21.3 +1.5**
LZH AP pP 02 19 31.5 -0.9
LZH PP PP 02 21 04.5 +1.5
LZH AMB AMB
comp=Z,172nm,1.4s,mb5.6
LZH AMB AMB
comp=Z,649nm,6.7s
LZH LR LR
comp=E,2μm,15.2s
LZH LR LR
comp=Z,5μm,18.3s,MS5.4
KGM Kluang 44.41 258 ⇓P **P 02 19 24.0 +1.0**
FRIM Kepong 45.67 261 ⇓P **P 02 19 33.8 +0.8**
CLNS Chul'man 45.78 344 *e*P **P 02 19 32.8 -0.4**
CLNS *e**PP pP 02 19 39.3 -6.5
CLNS *e* 02 21 13.9
CLNS *e* 02 21 17.8
CLNS *e*S **S 02 26 06.6 -6.8**
CLNS *e*SS SS 02 29 20.9 -17
CLNS pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS smax
comp=N,149nm,12.3s
CLNS smax
comp=E,86nm,11.5s
CLNS MLR MLR
comp=E,389nm,13.0s,MS4.9
CLNS MLR MLR
comp=Z,1μm,13.0s,MS5.0
CLNS MLR MLR
comp=N,951nm,15.0s,MS4.9
CHTO Chiang Mai 45.85 283 *e*P **P 02 19 35.1 +0.7**
comp=N,8.0nm,0.8s,mb4.7
CMAR Chiang Mai Arr 45.86 282 P **P 02 19 34.5 -0.1**
comp=N,18nm,1.0s,mb5.0,baz=81,slow=6.0,SNR=40
CMAR Chiang Mai Arr 45.86 282 P **P 02 19 34.5 -0.1**
IPM Ipoh 45.91 263 ⇓P **P 02 19 35.6 +0.7**
STKA Stephens Creek 45.95 186 *e*P **P 02 19 33.7 -1.1**
comp=N,3.5nm,0.5s,mb4.5
STKA Stephens Creek 45.95 186 P **P 02 19 33.4 -1.4**
comp=N,3.3nm,0.7s,mb4.4,baz=3.8,slow=8.1,SNR=5.7
KULM Kulim 46.06 264 ⇓P **P 02 19 38.0 +1.8**
SONM Songino Array 47.32 324 P **P 02 19 46.1 +0.6**
comp=N,31nm,0.8s,mb5.3,baz=134,slow=8.6,SNR=32
FORT Forrest 48.04 202 *e*P **P 02 19 51.2 0.0**
comp=N,32nm,0.7s,mb5.5
GTA Gaotai 48.12 311 P **P 02 19 52.8 +1.0**
GTA AP pP 02 20 04.9 +0.3
GTA PP PP 02 21 48.0 +3.6
GTA AMB AMB
comp=Z,31nm,1.6s,mb5.1
GTA AMB AMB
comp=Z,489nm,7.2s
GTA LR LR
comp=N,1μm,17.4s,MS5.1
GTA LR LR
comp=E,1μm,18.6s,MS5.1
GTA LR LR
comp=Z,2μm,19.5s,MS5.1
PSI Prapat 48.38 261 P **P 02 19 54.8 +0.6**
comp=Z,13nm,0.8s,mb5.0,baz=82,slow=2.7,SNR=11
SEY Seymchan 48.95 3 *e*P **P 02 19 57.4 -0.4**
YAK Yakutsk 49.39 350 *e*P **P 02 19 59.1 -2.1**
YAK *e* pP 02 20 10.5 -3.4
YAK pmax pmax
comp=Z,70nm,1.1s,mb5.6
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK Yakutsk 49.39 350 *e*P **P 02 20 00.7 -0.5**
comp=E,60nm,0.7s,mb5.7
BOD Bodaibo 50.08 338 *e*P **P 02 20 04.6 -1.9**
BOD pmax pmax
comp=Z,13nm,1.6s,mb4.7
ZAK Zakamensk 50.38 325⇑*i*P **P 02 20 08.7 -0.2**
ZAK pmax pmax
comp=Z,37nm,1.1s,mb5.3
IRK Irkutsk 50.82 328 *e*P **P 02 20 11.2 -1.0**
IRK pmax pmax
comp=Z,96nm,1.6s,mb5.5
TLY Talaya 50.85 327 P **P 02 20 13.6 +1.2**
comp=Z,205nm,0.9s,mb6.1,SNR=18
TLY Talaya 50.85 327 *e*P **P 02 20 12.3 -0.1**
TLY *e*S **S 02 27 36.8 +12**
TLY pmax pmax
comp=Z,58nm,1.5s,mb5.3
TLY MLR MLR
comp=Z,1μm,19.0s,MS4.9
TLY Talaya 50.85 327 *e*P **P 02 20 12.3 -0.1**
comp=Z,36nm,1.0s,mb5.3
KLBR Kellerberrin 53.19 211 *e*P **P 02 20 29.3 -0.7**
comp=Z,232nm,2.2s,mb5.7
LSA Lhasa 53.28 297 P **P 02 20 32.6 +1.7**
LSA AMB AMB
comp=Z,30nm,0.9s,mb5.2
LSA Lhasa 53.28 297 *e*P **P 02 20 33.0 +2.1**
LSA pmax pmax
comp=Z,49nm,0.8s,mb5.5
LSA Lhasa 53.28 297 *e*P **P 02 20 33.0 +2.1**
comp=Z,49nm,0.8s,mb5.5
MUN Mundaring 54.28 212 *e*P **P 02 20 35.9 -2.1**
NWAO Narrogin (SRO) 54.52 210 P **P 02 20 39.1 -0.7**
comp=Z,8.6nm,0.7s,mb4.9,baz=48,slow=7.6,SNR=6.3
HKL Haleakala 54.69 74 *e*P **P 02 20 48.3 +7.0**
HKL Haleakala 54.69 74 *e*pP pP 02 20 48.3 -5.9
BILL Bilibino 55.41 9 *e*P **P 02 20 45.5 -0.2**
BILL pmax pmax
comp=Z,20nm,1.0s,mb5.1
BILL Bilibino 55.41 9 *e*P **P 02 20 45.6 -0.1**
HVS Khovu-Aksy 56.19 323*d i*P **P 02 20 53.4 +1.9**
TAPN Taplejung 56.20 294 *e*P **P 02 20 52.5 +0.5**
ODAN Odare 56.48 293 *e*P **P 02 20 54.4 +0.4**
RAMN Ramite 57.18 293 *e*P **P 02 20 59.6 +0.6**
JIRN Jiri 57.55 294 *e*P **P 02 21 02.2 +0.6**
SDPT Sand Point 57.81 33 *e*P **P 02 21 02.4 -0.6**
comp=Z,103nm,0.9s,mb5.9
GUN Gumba 57.83 294 *e*P **P 02 21 04.4 +0.8**
comp=Z,127nm,0.9s,mb5.9
WMQ Urumqi 58.03 313 P **P 02 21 05.8 +1.1**
WMQ AP pP 02 21 18.5 +0.8
WMQ XP sP 02 21 23.8 +0.8
WMQ PCP PcP 02 21 57.3 +1.0
WMQ PP PP 02 23 16.3 +2.8
WMQ SCP ScP 02 25 52.1 -0.7
WMQ AMB AMB
comp=Z,53nm,1.1s,mb5.5
WMQ LR LR
comp=N,5μm,36.0s
WMQ LR LR
comp=E,3μm,22.3s
WMQ LR LR
comp=Z,2μm,24.3s
PKI Pulchoki 58.24 294 *e*P **P 02 21 06.6 +0.1**
comp=Z,99nm,1.1s,mb5.8
PKI Pulchoki 58.24 294 *e*P **P 02 21 06.6 +0.1**
PKI pmax pmax
comp=Z,99nm,1.1s,mb5.8
KKN Kakani 58.36 294 *e*P **P 02 21 07.8 +0.5**
DMN Daman 58.51 294 *e*P **P 02 21 08.8 +0.4**
comp=Z,59nm,0.8s,mb5.7
TIXI Tiksi 58.53 354 *e*P pP 02 21 18.4 -2.3
TIXI pmax pmax
comp=Z,19nm,1.2s,mb5.0
TIXI MLR MLR
comp=Z,896nm,18.0s,MS4.9
GKN Gorkha 58.93 294 *e*P **P 02 21 11.6 +0.3**
comp=Z,29nm,1.0s,mb5.3
CHGN Chignik 59.26 32 *e*pP pP 02 21 25.8 -0.3
DANN Dangsing 59.70 295 *e*P **P 02 21 17.1 +0.5**
comp=Z,76nm,0.6s,mb5.9
KOLN Koldanda 59.85 294 *e*P **P 02 21 17.8 +0.2**
comp=Z,46nm,0.8s,mb5.5
ZALV Zalesovo Beam 62.21 324 P **P 02 21 32.5 -0.7**
comp=Z,29nm,0.7s,mb5.5,baz=108,slow=7.2,SNR=78
ZALV Zalesovo Beam 62.21 324 P **P 02 21 32.5 -0.7**
ZAL Zalesovo 62.22 324 P **P 02 21 32.5 -0.7**
OHAK Old Harbor 62.23 32 *e*P **P 02 21 33.0 -0.2**
comp=Z,125nm,1.4s,mb5.8
MK31 Makanchi Array 62.31 316 *e*P **P 02 21 34.8 +0.8**
MKAR Makanchi Array 62.31 316 P **P 02 21 34.4 +0.4**
comp=Z,12nm,0.5s,mb5.3,baz=87,slow=8.6,SNR=84
SVW2 Sparrevohn 62.45 28 *e*P **P 02 21 34.7 +0.1**
KDAK Kodiak Island 62.76 32 P **P 02 21 36.1 -0.6**
comp=Z,7.9nm,0.7s,mb4.9,baz=297,slow=6.2,SNR=14
KDAK PcP PcP 02 22 16.3 +1.4
comp=Z,20nm,0.9s,baz=190,slow=2.5,SNR=4.0
KDAK Kodiak Island 62.76 32 *e*P **P 02 21 36.8 +0.1**
KDAK pmax pmax
comp=Z,33nm,1.0s,mb5.4
KDAK Kodiak Island 62.76 32 *e*P **P 02 21 36.8 0.0**
comp=Z,33nm,1.0s,mb5.4
TTA Tatalina 62.98 26 *e*P **P 02 21 38.4 +0.3**
NVS Novosibirsk 63.33 325 *e*P **P 02 21 39.8 -0.8**
NVS *e*S **S 02 30 10.2 +0.7**
NVS pmax pmax
comp=E,100nm,1.2s
NVS pmax pmax
comp=Z,140nm,1.2s,mb6.0
NVS smax
comp=E,67nm,1.5s
SLKM Skilak Lake 64.73 29 *e*P **P 02 21 48.9 -0.8**
IMA2 Indian Mountai 65.14 23 *e*P **P 02 21 52.5 +0.2**
HYB Hyderabad 65.28 283 *i* P **P 02 21 54.0 0.0**
HYB Hyderabad 65.28 283 *e*P **P 02 21 54.0 0.0**
KURK Kurchatov 65.30 320 P **P 02 21 53.9 +0.3**
comp=E,693nm,0.9s,mb6.7,SNR=85
KURK Kurchatov 65.30 320 P **P 02 21 52.9 -0.7**
KURK pmax pmax
comp=Z,181nm,1.2s,mb6.0
KURK Kurchatov 65.30 320 *e*P **P 02 21 52.8 -0.7**
comp=Z,178nm,1.1s,mb6.0
PMR Palmer 65.55 28 *e*P **P 02 21 54.4 -0.6**
PMR pmax pmax
comp=Z,26nm,0.8s,mb5.3
PMR Palmer 65.55 28 *e*P **P 02 21 54.4 -0.5**
comp=Z,26nm,0.8s,mb5.3
MCK McKinley 66.25 26 *e*P **P 02 22 00.6 +1.2**
MCK pmax pmax
comp=Z,104nm,1.6s,mb5.6
MCK McKinley 66.25 26 *e*P **P 02 22 00.6 +1.1**
comp=Z,104nm,1.6s,mb5.6
KSH Kashi 66.29 307 P **P 02 22 02.0 +1.8**
KSH AP pP 02 22 15.0 +1.6
KSH XP sP 02 22 20.5 +1.9
KSH PCP PcP 02 22 31.6 +1.7
KSH PP PP 02 24 30.9 +4.5
KSH PPP 02 26 06.5
KSH SCP 02 26 29.8
KSH PCS 02 26 35.3
KSH AMB AMB
comp=Z,88nm,0.4s,mb6.1
KSH AMB AMB
comp=Z,1μm,4.1s
KSH LR LR
comp=N,830nm,7.0s
KSH LR LR
comp=E,1μm,6.4s
KSH LR LR
comp=Z,4μm,20.7s,MS5.6
EYAK Cordova Ski Ar 66.88 30 *e*P **P 02 22 03.4 -0.1**
comp=Z,22nm,0.6s,mb5.4
DIV Divide 67.00 29 *e*P **P 02 22 04.8 +0.5**
comp=Z,30nm,0.9s,mb5.3
COLA College 67.03 25 *e*P **P 02 22 04.2 -0.2**
COLA pmax pmax
comp=Z,19nm,0.8s,mb5.2
COLA College 67.03 25 *e*P **P 02 22 04.2 -0.2**
comp=Z,19nm,0.8s,mb5.2
RAGM Ragged Mountai 67.37 30 *e*P **P 02 22 06.9 +0.3**
EGAK Eagle 69.80 26 *e*P **P 02 22 21.7 0.0**
comp=Z,31nm,0.9s,mb5.2
VOSK Vostochnaya 70.22 321 P **P 02 22 23.3 -1.2**
VOSK pmax pmax
comp=Z,17nm,0.9s,mb5.0
KK31 Karatay Array 70.40 311 *i* P **P 02 22 25.7 -0.1**
DAWY Dawson 70.44 27 *e*P **P 02 22 25.9 +0.2**
BVA0 Borovoye Array 70.59 322 *i* P **P 02 22 26.5 -0.3**
BVA0 pmax pmax
comp=Z,16nm,1.0s,mb4.9
BVAR Borovoye Array 70.59 322 P **P 02 22 26.6 -0.2**
comp=Z,32nm,0.6s,mb5.4,baz=99,slow=7.7,SNR=173
BRVK Borovoye 70.66 322 P **P 02 22 27.9 +0.8**
comp=Z,359nm,0.8s,mb6.3,SNR=31
BRVK Borovoye 70.66 322 *e*P **P 02 22 26.9 -0.2**
BRVK pmax pmax

comp=Z,57nm,0.9s,mb5.5
BRVK Borovoye 70.66 322 eP P 02 22 26.9 -0.2
comp=Z,57nm,0.9s,mb5.5
HYT Haines Junctio 70.93 30 eP P 02 22 30.0 +1.4
SKAG Skagway 71.92 32 eP P 02 22 35.5 +0.9
comp=Z,66nm,1.5s,mb5.3
KBL Kabul 72.00 302 eP P 02 22 36.1 +0.4
KBL pmax pmax
comp=Z,22nm,1.0s,mb5.0
KBL Kabul 72.00 302 eP P 02 22 36.1 +0.4
comp=Z,22nm,1.0s,mb5.0
INK Inuvik 73.27 22 eP P 02 22 42.4 -0.1
DLBC Dease Lake 74.66 33 eP P 02 22 51.9 +1.1
SVE Sverdlovsk 76.14 326 eP P 02 23 00.1 +0.7
SVE pmax pmax
comp=Z,47nm,1.0s,mb5.4
AB31 Akbulak array 77.31 318⇑eP P 02 23 05.4 -0.7
ARU Arti 77.32 325 P P 02 23 06.9 +0.9
comp=Z,194nm,0.8s,mb6.1,SNR=8.8
SOKR Solikamsk 77.89 329⇑rP P 02 23 09.6 +0.4
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.0
AKTK Aktyubinsk 78.40 319 P P 02 23 12.0 -0.1
AKTO Aktyubinsk 78.40 319 P P 02 23 12.0 -0.1
comp=Z,6.2nm,0.8s,mb4.6,baz=87,slow=7.7,SNR=24
C03A Quillayute Air 78.91 43 ⇑P P 02 23 16.2 +1.2
baz=79
NLWA Neilton Lookou 79.46 44 ⇓P P 02 23 18.9 +0.8
baz=79
NLWA Neilton Lookou 79.46 44 eP P 02 23 19.2 +1.1
comp=Z,32nm,1.0s,mb5.2
NLWA epP pP 02 23 32.2 +0.6
PGC Sidney 79.53 42 eP P 02 23 18.6 +0.2
comp=Z,56nm,1.1s,mb5.4
D03A Wishkah Elem. 79.57 44 ⇓P P 02 23 19.0 +0.3
baz=80
B04A Port Angeles 79.60 43 ⇓P P 02 23 19.0 +0.2
baz=80
K01A Sixes 79.80 48 ⇓P P 02 23 20.7 +0.8
baz=80
E03A Lebam 79.81 45 ⇑P P 02 23 20.5 +0.6
baz=80
H02A Toledo 79.82 46 ⇓P P 02 23 20.5 +0.4
baz=80
F03A Seaside 79.91 45 ⇑P P 02 23 20.8 +0.3
baz=80
C04A Brinnon 80.01 43 ⇑P P 02 23 21.4 +0.4
baz=80
A04A Legoe Bay, Lum 80.01 42 ⇓P P 02 23 21.4 +0.4
baz=80
I02A Mapleton 80.05 47 ⇓P P 02 23 21.9 +0.5
baz=80
GNW Green Mountain 80.13 43 eP P 02 23 22.8 +1.2
comp=Z,72nm,1.6s,mb5.3
G03A Yamhill 80.21 46 ⇑P P 02 23 22.4 +0.3
baz=80
M01C Crescent City 80.22 49 ⇓P P 02 23 22.8 +0.5
baz=80
D04A Dobbs Creek Ra 80.22 44 ⇑P P 02 23 22.1 -0.1
baz=80
H03A Soap Creek Ran 80.31 46 ⇑P P 02 23 23.8 +1.0
baz=80
J02A Umpqua 80.35 48 ⇓P P 02 23 22.6 -0.3
baz=80
A05A Maple Falls 80.36 42 ⇑P P 02 23 22.3 -0.6
baz=80
E04A Onalaska 80.37 44 ⇑P P 02 23 22.8 -0.2
baz=80
KRMB Red Mountain 80.43 50 eP P 02 23 24.2 +0.8
I03A Eugene 80.45 47 ⇑P P 02 23 23.9 +0.4
baz=80
JCC Jacoby Creek 80.47 50 ⇑P P 02 23 23.8 +0.1
baz=80
B05A Bryant 80.49 43 ⇑P P 02 23 24.0 +0.4
baz=80
K02A Glendale 80.51 48 ⇑P P 02 23 24.5 +0.6
baz=80
MBW Mount Baker 80.52 42 P P 02 23 24.2 +0.5
L02A Cave Junction 80.54 49 ⇓P P 02 23 23.8 -0.2
baz=80
JCW Jim Creek 80.61 43 eP P 02 23 24.7 +0.4
KHMM Horse Mountain 80.68 50 eP P 02 23 26.3 +1.6
FL2 Flat Top 2 80.69 45 P P 02 23 25.9 +1.2
F04A Amboy 80.70 45 ⇓P P 02 23 23.9 -0.8
baz=81
A06A Chilliwack 80.74 42 ⇓P P 02 23 24.3 -0.6
baz=81
O01C Eel River Cons 80.75 51 ⇓P P 02 23 24.6 -0.5
baz=81
D05A Enumclaw 80.76 44 ⇓P P 02 23 24.5 -0.6
baz=81
TDL Tradedollar La 80.76 45 P P 02 23 25.7 +0.6
G04A Mulino 80.79 46 ⇓P P 02 23 24.3 -1.0
baz=81
RPW Rockport 80.84 42 P P 02 23 25.8 +0.4
B06A Marblemount 80.84 42 ⇓P P 02 23 24.9 -0.6
baz=81
C05A Tolt Reservoir 80.86 43 ⇓P P 02 23 25.4 -0.2
baz=81
HUMO Hull Mountain 80.93 48 ⇑P P 02 23 25.6 -0.5
baz=81
HUMO Hull Mountain 80.93 48 eP P 02 23 27.0 +0.9
comp=Z,21nm,1.1s,mb5.0
LON Longmire 80.96 44 eP P 02 23 26.8 +0.7
LON pmax pmax
comp=Z,25nm,1.3s,mb5.0
LON Longmire 80.96 44 eP P 02 23 26.8 +0.7
comp=Z,25nm,1.3s,mb5.0
N02C Big Bar 81.00 50 ⇓P P 02 23 26.5 0.0
baz=81
KCPM Cahto Peak 81.01 51 eP P 02 23 27.4 +0.9
E05A Randle 81.03 44 ⇓P P 02 23 26.4 -0.1
baz=81
KIPM Iron Peak 81.06 51 eP P 02 23 27.7 +0.9
H04A Detroit Lake 81.09 46 ⇓P P 02 23 26.4 -0.5
baz=81
I04A Tendick Farm, 81.10 47 ⇑P P 02 23 26.6 -0.4
baz=81
M02C Callahan 81.23 50 ⇓P P 02 23 27.4 -0.3
baz=81
P01C Double 8 Ranch 81.24 52 ⇑P P 02 23 27.5 -0.3
baz=81
YBH Yreka Blue Hor 81.27 49 eP P 02 23 29.1 +1.2
YBH pmax pmax
comp=Z,20nm,1.1s
YBH Yreka Blue Hor 81.27 49 ⇓P P 02 23 28.3 +0.4
baz=81
YBH Yreka Blue Hor 81.27 49 eP P 02 23 29.1 +1.2
comp=Z,20nm,1.1s,mb5.0
C06A Tall Timber Ra 81.34 43 ⇓P P 02 23 28.4 +0.3
baz=81
F05A White Salmon 81.36 45 ⇑P P 02 23 28.4 +0.1
baz=81
J04A Umpqua Nationa 81.42 48 ⇑P P 02 23 28.4 -0.2
baz=81
A07A Ashnola River, 81.45 42 ⇓P P 02 23 28.5 -0.2
baz=81,SNR=9.5
O02C Red Bluff 81.52 51 ⇑P P 02 23 28.8 -0.4
baz=82
D06A Cle Elum 81.52 44 ⇑P P 02 23 28.8 -0.3
baz=82
HOPS Hopland 81.53 52 ⇑P P 02 23 29.4 +0.1
baz=82
E06A Yakima 81.56 44 ⇑P P 02 23 29.3 0.0
baz=82
G05A Wamic 81.59 46 ⇑P P 02 23 29.0 -0.5
baz=82
WDC Whiskeytown Da 81.62 50 eP P 02 23 30.6 +0.8
WDC pmax pmax
comp=Z,55nm,1.6s,mb5.2
WDC Whiskeytown Da 81.62 50 ⇑P P 02 23 29.6 -0.1
baz=82
WDC Whiskeytown Da 81.62 50 eP P 02 23 30.6 +0.8
comp=Z,56nm,1.6s,mb5.2
YKW3 Yellowknife Ar 81.62 28 eP P 02 23 29.0 -0.3
YKA Yellowknife Ar 81.64 28 P P 02 23 28.8 -0.6
comp=Z,3.9nm,0.7s,mb4.5,baz=286,slow=5.5,SNR=19
LHEM Herd Peak 81.66 49 P P 02 23 30.7 +0.8
GASB Alder Springs 81.67 51 ⇑P P 02 23 29.9 -0.1
baz=82
B07A Winthrop 81.75 42 ⇑P P 02 23 30.4 +0.2
baz=82
ETW Entiat 81.78 43 eP P 02 23 30.9 +0.4
L04A Klamath Falls 81.79 49 ⇑P P 02 23 30.6 0.0
baz=82
M03C McCloud 81.80 50 ⇓P P 02 23 30.3 -0.4
baz=82

K04A Chilquin 81.82 48 ⇓P P 02 23 30.4 -0.4
baz=82
FARB Farallon Islan 81.84 53 ⇑P P 02 23 31.4 +0.5
baz=82
I05A Bend 81.84 47 ⇑P P 02 23 31.2 +0.4
baz=82
MCCM Marconi Confer 81.84 53 ⇑P P 02 23 31.6 +0.6
baz=82
F06A Goldendale 81.85 45 ⇓P P 02 23 31.1 +0.3
baz=82
M04C Macdoel 81.90 49 ⇑P P 02 23 31.5 +0.2
baz=82,SNR=5.3
C07A Waterville 81.94 43 ⇓P P 02 23 30.9 -0.4
baz=82
MNRC McLaughlin Nat 82.03 52 ⇑P P 02 23 32.2 +0.2
baz=82
J05A Fort Rock 82.04 47 ⇑P P 02 23 32.0 +0.1
baz=82,SNR=11
D07A Quincy 82.10 43 ⇑P P 02 23 31.9 -0.2
baz=82
O03C Acorn Hollow, 82.12 51 ⇓P P 02 23 32.1 -0.3
baz=82
CVS Carmenet Viney 82.13 53 ⇓P P 02 23 32.1 -0.4
baz=82
LASM Arnica Sink 82.13 49 P P 02 23 33.3 +0.9
A08A Turner Farm, O 82.19 42 ⇓P P 02 23 32.2 -0.4
baz=82
VIPM Ingram Point 82.22 46 P P 02 23 33.4 +0.6
B08A Coville Reser 82.28 42 ⇑P P 02 23 32.6 -0.5
baz=82,SNR=8.7
E07A Sunnyside 82.32 44 ⇓P P 02 23 33.4 +0.1
baz=82
H06A Lindquist Farm 82.37 46 ⇑P P 02 23 33.2 -0.4
baz=82,SNR=7.1
HATC Hat Creek Radi 82.38 50 ⇑P P 02 23 33.8 +0.1
baz=82
K05A Summer Lake 82.40 48 ⇑P P 02 23 33.8 0.0
baz=82,SNR=6.2
F07A Phinny Hill Vi 82.41 45 ⇑P P 02 23 33.5 -0.3
baz=82
Q03C Winters 82.41 52 ⇑P P 02 23 33.9 0.0
baz=82
SUTB Sutter Butte 82.46 52 ⇑P P 02 23 33.5 -0.7
baz=82
JRSC Jasper Ridge 82.49 53 ⇓P P 02 23 33.8 -0.6
baz=82
M05C Lookout 82.50 49 ⇑P P 02 23 34.8 +0.5
baz=82
RSW Rattlesnake Hi 82.53 44 eP P 02 23 34.8 +0.4
HAWA Hanford 82.57 44 eP P 02 23 36.6 +1.9
comp=Z,75nm,1.7s,mb5.5
L05A Lakeview 82.58 49 ⇓P P 02 23 34.9 +0.1
baz=82
C08A Higginbotham F 82.59 43 ⇑P P 02 23 34.2 -0.5
baz=82
BNLO Ben Lomond (Sa 82.60 54 ⇑P P 02 23 35.0 +0.1
baz=83
ORV Oroville 82.61 51 ⇑P P 02 23 34.6 -0.4
baz=83,SNR=9.1
A09A Danville 82.63 41 ⇓P P 02 23 34.7 -0.1
baz=83,SNR=5.1
I06A Prineville 82.63 47 ⇓P P 02 23 34.6 -0.4
baz=83
BDM Black Diamond 82.67 53 ⇓P P 02 23 34.9 -0.4
baz=83
OHCM Honcut 82.67 51 eP P 02 23 35.5 +0.2
G07A Ruggs Ranch, H 82.72 45 ⇓P P 02 23 34.9 -0.5
baz=83,SNR=6.7
O04C Chester 82.76 50 ⇓P P 02 23 35.8 +0.1
baz=83
J06A Christmas Vall 82.82 47 ⇓P P 02 23 35.8 -0.2
baz=83,SNR=9.2
WENL Wente Brothers 82.82 53 ⇓P P 02 23 35.4 -0.7
baz=83
D08A Wollman Farm, 82.83 43 ⇑P P 02 23 35.7 -0.3
baz=83
K06A Valley Falls 82.84 48 ⇑P P 02 23 35.7 -0.4
baz=83,SNR=8.4
Q04C Lincoln 82.86 52 ⇑P P 02 23 35.7 -0.6
baz=83
E08A Dider Farm, El 82.87 44 ⇓P P 02 23 35.9 -0.3
baz=83
OD2 Odessa Site #2 82.90 43 eP P 02 23 36.4 +0.1
H07A Lands Inn, Kim 82.94 46 ⇑P P 02 23 35.7 -0.9
baz=83
O05C Quincy 82.96 51 ⇑P P 02 23 36.3 -0.6
baz=83
ELFS Eagle Lake Fie 82.97 50 ⇓P P 02 23 36.5 -0.3
baz=83
MOD Modoc 83.00 49 ⇓P P 02 23 36.9 0.0
baz=83,SNR=5.8
MOD Modoc 83.00 49 eP P 02 23 37.7 +0.7
comp=Z,23nm,1.0s,mb5.2
M06C Likely Place G 83.03 49 ⇑P P 02 23 36.4 -0.7
baz=83
B09A Rice 83.03 42 ⇑P P 02 23 36.8 -0.1
baz=83
C09A Chrisman Ranch 83.09 43 ⇓P P 02 23 36.8 -0.5
baz=83
I07A Izee 83.10 46 ⇓P P 02 23 37.2 -0.2
baz=83,SNR=6.0
S04C Ingram Canyon, 83.18 53 ⇓P P 02 23 37.3 -0.7
baz=83
G08A Pilot Rock 83.20 45 ⇓P P 02 23 37.5 -0.4
baz=83,SNR=8.3
F08A Pendleton 83.22 45 ⇑P P 02 23 37.7 -0.3
baz=83
D09A Jones Farm, Ri 83.24 43 ⇓P P 02 23 37.9 -0.1
baz=83,SNR=6.4
HAST Hastings Reser 83.24 54 ⇓P P 02 23 37.6 -0.7
baz=83
A10A Northport 83.28 41 ⇑P P 02 23 38.1 -0.1
baz=83,SNR=5.8
R04C Big Horse Ranc 83.32 52 ⇑P P 02 23 37.6 -1.1
baz=83
P05C Yuba Gap, Truc 83.34 51 ⇓P P 02 23 38.7 -0.1
baz=83
LAVA Lava Cap Winer 83.36 52 ⇓P P 02 23 37.8 -1.1
baz=83,SNR=8.0
J07A Hines 83.39 47 ⇓P P 02 23 39.0 +0.1
baz=83,SNR=5.3
BEKR Beckwourth 83.41 51 ⇓P P 02 23 38.6 -0.4
baz=83
E09A Wood Farm, Sta 83.48 44 ⇑P P 02 23 38.9 -0.4
baz=83
LNOR Lincton Mounta 83.53 44 eP P 02 23 40.5 +0.9
V03C Hunter Liggett 83.57 55 ⇑P P 02 23 39.4 -0.6
baz=84
H08A Prairie City 83.58 46 ⇑P P 02 23 39.3 -0.5
baz=84
K07A Rock Creek Ran 83.59 48 ⇓P P 02 23 39.8 -0.1
baz=84,SNR=14
N06A Buffalo Meadow 83.60 50 ⇓P P 02 23 40.1 +0.1
baz=84,SNR=8.5
B10A Chitwood Farm, 83.66 42 ⇑P P 02 23 40.3 +0.1
baz=84
L07A Adell 83.68 48 ⇑P P 02 23 40.6 +0.2
baz=84,SNR=7.5
C10A Spilker Farm, 83.72 42 ⇓P P 02 23 40.6 +0.1
baz=84
O06A Flanigan 83.74 50 ⇓P P 02 23 40.7 -0.1
baz=84,SNR=7.4
NEW Newport 83.74 42 eP P 02 23 40.8 +0.2
NEW pmax pmax
comp=Z,78nm,1.9s
NEW Newport 83.74 42 eP P 02 23 40.8 +0.2
comp=Z,78nm,1.9s,mb5.5
CMB Columbia Colle 83.79 52 eP P 02 23 41.4 +0.3
CMB pmax pmax
comp=Z,24nm,1.1s,mb5.2
CMB Columbia Colle 83.79 52 ⇑P P 02 23 40.5 -0.6
baz=84,SNR=15
CMB Columbia Colle 83.79 52 eP P 02 23 41.4 +0.3
comp=Z,24nm,1.1s,mb5.2
I08A Drewsey 83.79 46 ⇑P P 02 23 40.0 -0.9
baz=84
P06A Stead Airport, 83.79 51 ⇓P P 02 23 40.6 -0.5
baz=84
F09A S2 Ranch, Elgi 83.83 45 ⇑P P 02 23 41.1 0.0
baz=84
SPITS Spitsbergen Ar 83.84 351 P P 02 23 40.0 -0.6
comp=Z,4.1nm,0.6s,mb4.8,baz=349,slow=4.0,SNR=8.2
U04C Hernandez Rese 83.85 54 ⇑P P 02 23 41.1 -0.3
baz=84
R05C Kirkwood Meado 83.88 52 ⇓P P 02 23 41.6 0.0
baz=84
D10A Wagner Farm, O 83.93 43 ⇑P P 02 23 41.3 -0.3
baz=84

M07A Soldier Meadow 83.94 49 ⇓P P 02 23 41.6 -0.2
baz=84,SNR=10
V04C Ramage Ranch, 83.95 55 ⇑P P 02 23 41.8 -0.1
baz=84
WCN Washoe City 83.98 51 ⇓P P 02 23 41.9 -0.2
baz=84
J08A Circle Bar Ran 83.99 47 ⇑P P 02 23 41.4 -0.6
baz=84,SNR=7.2
S05C Merced 83.99 53 ⇑P P 02 23 42.0 -0.1
baz=84
G09A Cove 84.02 45 ⇓P P 02 23 41.9 -0.2
baz=84
A11A Hall Mountain, 84.06 41 ⇓P P 02 23 42.2 0.0
baz=84
WVOR Wild Horse Val 84.09 48 eP P 02 23 42.9 +0.4
WVOR e*PP pP 02 23 56.1 -0.1
WVOR pmax pmax
comp=Z,32nm,1.3s,mb5.3
WVOR Wild Horse Val 84.09 48 eP P 02 23 42.9 +0.3
comp=Z,32nm,1.3s,mb5.3
WVOR epP pP 02 23 56.1 -0.1
K08A Mann Creek Ran 84.13 48 ⇑P P 02 23 42.1 -0.6
baz=84,SNR=12
PKD Parkfield 84.14 55 ⇑P P 02 23 42.9 0.0
baz=84
PAHR Pah Rah Range 84.17 51 eP P 02 23 43.2 +0.2
comp=Z,38nm,1.4s,mb5.3
E10A Myers Farm, Un 84.18 44 ⇓P P 02 23 42.8 -0.1
baz=84
B11A Sandpoint 84.18 42 ⇑P P 02 23 42.9 +0.1
baz=84
F10A Beach Ranch, E 84.22 44 ⇓P P 02 23 42.6 -0.6
baz=84
N07B Gerlach 84.23 50 ⇓P P 02 23 43.3 0.0
baz=84,SNR=10.0
S06C San Francisco 84.24 53 ⇓P P 02 23 43.2 -0.2
baz=84
H09A Durkee 84.24 46 ⇑P P 02 23 43.1 -0.2
baz=84
L08A Fields 84.36 48 ⇑P P 02 23 43.4 -0.5
baz=84,SNR=11
I09A Lost Marbles R 84.36 46 ⇓P P 02 23 43.7 -0.2
baz=84
R06C Coleville 84.39 52 ⇑P P 02 23 44.2 0.0
baz=84
O07A Toulon 84.44 50 ⇓P P 02 23 44.2 -0.2
baz=84,SNR=5.9
BMO Blue Mountains 84.45 45 eP P 02 23 44.2 -0.1
BMO pmax pmax
comp=Z,26nm,1.1s,mb5.3
BMO Blue Mountains 84.45 45 eP P 02 23 44.2 -0.1
comp=Z,26nm,1.1s,mb5.3
G10A Bishop Farm, J 84.47 45 ⇑P P 02 23 43.6 -0.8
baz=84,SNR=5.6
CASY Casey 84.48 194 eP P 02 23 43.8 0.0
J09A Fry Pan Ranch, 84.50 47 ⇓P P 02 23 44.8 +0.2
baz=84,SNR=5.7
M08A Happy Creek Ra 84.51 49 ⇑P P 02 23 45.1 +0.4
baz=84,SNR=9.0
A12A Yaak River Ran 84.51 41 ⇑P P 02 23 44.4 -0.2
baz=84
T06C Millerton Lake 84.55 53 ⇓P P 02 23 44.2 -0.7
baz=84,SNR=9.9
D11A Klaveano Farm, 84.55 43 ⇓P P 02 23 44.5 -0.3
baz=84
P07A Fallon 84.58 51 ⇑P P 02 23 45.0 -0.1
baz=84
V05C Boulder Hill, 84.66 55 ⇑P P 02 23 44.7 -0.9
baz=85
B12A Libby 84.68 41 ⇑P P 02 23 44.7 -0.7
baz=85
K09A Rome 84.68 47 ⇓P P 02 23 44.3 -1.2
baz=85,SNR=7.2
SMMC Simmler 84.71 55 ⇑P P 02 23 46.1 +0.3
baz=85
EDM Edmonton 84.75 36 eP P 02 23 46.3 +0.7
KCC Kaiser Creek 84.78 53 ⇓P P 02 23 45.6 -0.5
baz=85,SNR=6.7
R07C Lee Vining 84.81 52 ⇓P P 02 23 45.9 -0.4
baz=85
E11A Bogner Ranch, 84.81 44 ⇑P P 02 23 45.4 -0.7
baz=85
N08A GE Springer Mi 84.85 49 ⇑P P 02 23 46.1 -0.3
baz=85,SNR=12
L09A Wilkinson Ranc 84.89 48 ⇓P P 02 23 46.5 -0.1
baz=85
H10A Noah's Angus R 84.90 45 ⇓P P 02 23 46.2 -0.3
baz=85,SNR=8.1
O08A Rochester Mine 84.95 50 ⇑P P 02 23 47.2 +0.3
baz=85
PKM Peak Mountain 84.95 55 ⇑P P 02 23 46.7 -0.3
baz=85
F11A Grangeville 84.97 44 ⇑P P 02 23 46.5 -0.5
baz=85
I10A Payette 84.99 46 ⇑P P 02 23 47.3 +0.3
baz=85
G11A Walters Elk Ra 85.02 45 ⇑P P 02 23 46.3 -0.8
baz=85,SNR=10
MLAC Mammoth Lakes 85.08 53 ⇑P P 02 23 48.0 +0.4
baz=85
RCTC Rector, Farmer 85.08 54 ⇑P P 02 23 47.0 -0.6
baz=85
P08A Dixie Valley 85.15 50 ⇑P P 02 23 47.2 -0.7
baz=85
HELL Mitchell Peak 85.16 54 ⇑P P 02 23 47.3 -0.7
baz=85,SNR=8.6
J10A Berg Farm, Mel 85.18 47 ⇑P P 02 23 47.3 -0.7
baz=85
M09A Marrel Ranch, 85.19 49 ⇓P P 02 23 48.1 0.0
baz=85
D12A Red Ives Fores 85.20 43 ⇑P P 02 23 47.5 -0.6
baz=85
K10A MacKenzie Ranc 85.27 47 ⇑P P 02 23 48.0 -0.5
baz=85,SNR=14
N09A Rock Creek Ran 85.28 49 ⇑P P 02 23 48.2 -0.4
baz=85,SNR=12
NVAR Mina Array Bea 85.29 52 P P 02 23 47.4 -1.3
comp=Z,5.2nm,0.7s,mb4.8,baz=278,slow=4.3,SNR=39
A13A Flathead Natio 85.30 41 ⇑P P 02 23 48.0 -0.4
baz=85
H11A Donnelly 85.38 45 ⇓P P 02 23 48.4 -0.6
baz=85,SNR=8.3
B13A Whitefish 85.42 41 ⇓P P 02 23 48.6 -0.5
baz=85,SNR=6.0
R08A Mina 85.46 52 ⇑P P 02 23 49.0 -0.5
baz=85
Q08A Gabbs 85.47 51 ⇓P P 02 23 49.4 -0.1
baz=85
C13A Hot Springs 85.54 42 ⇑P P 02 23 49.0 -0.7
baz=86
WALA Waterton Lakes 85.58 41 eP P 02 23 50.9 +1.0
comp=Z,47nm,1.4s,mb5.5
BMN Battle Mountai 85.61 50 eP P 02 23 50.9 +0.7
BMN pmax pmax
comp=Z,20nm,1.1s,mb5.3
BMN Battle Mountai 85.61 50 eP P 02 23 50.9 +0.7
comp=Z,20nm,1.1s,mb5.2
APA Apatity 85.61 339⇑iP P 02 23 48.5 -1.1
APA iS S 02 34 14.0 -3.9
APA pmax pmax
comp=Z,54nm,1.2s,mb5.7
F12A Elk City 85.61 44 ⇑P P 02 23 48.9 -1.2
baz=86,SNR=8.9
I11A Placerville 85.62 46 ⇓P P 02 23 49.5 -0.7
baz=86
S08C White Mtn Res 85.62 53 ⇑P P 02 23 50.6 +0.2
baz=86,SNR=8.8
ARVC Arvin 85.69 55 ⇓P P 02 23 50.7 0.0
baz=86
TIN Tinemaha 85.69 53 ⇓P P 02 23 49.8 -0.9
baz=86
O09A Fish Creek Ran 85.70 50 ⇑P P 02 23 50.8 +0.1
baz=86,SNR=9.2
L10A Juniper Basin 85.73 48 ⇓P P 02 23 50.8 0.0
baz=86,SNR=7.7
BLG Laguna Peak 85.74 56 ⇑P P 02 23 51.0 0.0
baz=86
D13A Huson 85.78 43 ⇓P P 02 23 51.1 +0.2
baz=86,SNR=8.0
M10A I.L. Ranch, Tu 85.83 48 ⇑P P 02 23 51.0 -0.2
baz=86
ISA Isabella 85.84 54 ⇑P P 02 23 51.1 -0.4
baz=86
MFID Camas Ranch 85.84 46 ⇓P P 02 23 51.3 0.0
baz=86,SNR=11
K11A Parker Ranch, 85.87 47 ⇑P P 02 23 51.7 +0.3
baz=86,SNR=8.2
P09A Austin 85.89 50 ⇓P P 02 23 51.3 -0.4

baz=86
OSI Osito Adit 85.89 56 ⇑P P 02 23 51.5 -0.3
baz=86
KLMR Klimovskoe 85.91 332 eP P 02 23 49.9 -1.4
CWC Cottonwood Cre 85.95 54 ⇓P P 02 23 52.0 0.0
baz=86
Q09A Carvers 86.04 51 ⇓P P 02 23 51.8 -0.6
baz=86
C14A Swan Lake 86.05 42 ⇓P P 02 23 52.5 +0.3
baz=86
N10A Dunphy 86.06 49 ⇑P P 02 23 52.4 0.0
baz=86
E13A Victor 86.14 43 ⇓P P 02 23 52.3 -0.4
baz=86
O10A Cortez Mining, 86.18 50 ⇓P P 02 23 53.3 +0.2
baz=86
MSO Missoula 86.19 43 eP P 02 23 53.0 +0.1
TPH Tonopah 86.20 52 eP P 02 23 53.8 +0.6
TPH e*PP pP 02 24 06.8 -0.1
TPH pmax pmax
comp=Z,20nm,1.4s,mb5.2
TPH Tonopah 86.20 52 eP P 02 23 53.8 +0.6
comp=Z,20nm,1.4s,mb5.2
TPH epP pP 02 24 06.8 -0.1
H12A Diamond D Ranc 86.21 45 ⇑P P 02 23 52.7 -0.4
baz=86,SNR=6.3
L11A Cat Creek Ranc 86.22 48 ⇑P P 02 23 53.2 0.0
baz=86,SNR=12
F13A Darby 86.23 44 ⇓P P 02 23 52.8 -0.4
baz=86,SNR=20
R09A Tonopah 86.28 52 ⇓P P 02 23 53.5 0.0
baz=86,SNR=8.6
S09A Goldfield 86.29 52 ⇑P P 02 23 53.1 -0.5
baz=86,SNR=7.8
GRAC Grapevine Rang 86.36 53 ⇑P P 02 23 54.5 +0.5
baz=86
P10A Eureka 86.38 50 ⇓P P 02 23 53.3 -0.8
baz=86
M11A Holland Ranch, 86.39 48 ⇑P P 02 23 54.1 0.0
baz=86
J12A Stokes Ranch, 86.40 46 ⇓P P 02 23 54.2 +0.1
baz=86,SNR=13
D14A Greenough 86.41 42 ⇓P P 02 23 53.6 -0.4
baz=86
EDW2 Edwards Air Fo 86.41 55 ⇑P P 02 23 54.3 -0.1
baz=86,SNR=5.8
G13A Cobalt 86.49 44 ⇑P P 02 23 53.7 -0.7
baz=86,SNR=19
LRMC Laurel Mountai 86.50 54 ⇓P P 02 23 54.2 -0.5
baz=86
MPMC Manual Prospec 86.51 54 ⇑P P 02 23 55.0 +0.2
baz=86,SNR=12
MWC Mount Wilson 86.52 56 eP P 02 23 55.3 +0.4
MWC pmax pmax
comp=Z,62nm,1.6s,mb5.6
MWC Mount Wilson 86.52 56 eP P 02 23 55.3 +0.5
comp=Z,62nm,1.6s,mb5.6
KEV Kevo 86.57 342 ep P 02 23 53.2 -1.1
comp=Z,2.0nm,0.5s,mb4.6
KEV Kevo 86.57 342 eP P 02 23 53.2 -1.1
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
N11A Elko Archery C 86.60 49 ⇓P P 02 23 54.9 -0.1
baz=86
E14A Clinton 86.61 43 ⇓P P 02 23 54.8 -0.2
baz=86
H13A Challis 86.62 45 ⇑P P 02 23 54.4 -0.7
baz=87,SNR=10
CHMT Chamberlain Mo 86.62 43 eP P 02 23 54.6 -0.5
CHMT epP pP 02 24 08.1 -0.7
Q10A Clear Creek Ra 86.64 51 ⇓P P 02 23 55.3 0.0
baz=87
K12A Draper Farm, C 86.70 47 ⇑P P 02 23 55.6 0.0
baz=87,SNR=8.2
S10A Tonopah Range, 86.72 52 ⇓P P 02 23 56.0 +0.2
baz=87,SNR=12
L12A House Creek Ra 86.76 47 ⇑P P 02 23 55.7 -0.1
baz=87,SNR=8.3
HLID Hailey 86.79 46 ⇓P P 02 23 55.5 -0.5
baz=87,SNR=9.0
HLID Hailey 86.79 46 eP P 02 23 56.6 +0.6
comp=Z,11nm,1.0s,mb5.0
BFSC Mount Baldy St 86.84 56 ⇓P P 02 23 55.3 -1.2
baz=87
O11A Cowboy Ranch, 86.84 50 ⇑P P 02 23 56.1 -0.2
baz=87,SNR=6.5
R10A Warm Springs 86.85 51 ⇓P P 02 23 55.8 -0.5
baz=87
F14A Wisdom 86.86 44 ⇓P P 02 23 56.4 +0.1
baz=87
FURC Furnace Creek, 86.90 53 ⇑P P 02 23 56.3 -0.3
baz=87
I13A Wildhorse Cree 86.90 46 ⇑P P 02 23 56.3 -0.1
baz=87,SNR=10.0
P11A Circle Ranch, 86.92 50 ⇑P P 02 23 56.8 +0.1
baz=87
G14A Jackson 86.97 44 ⇑P P 02 23 56.5 -0.3
baz=87
ELK Elko 86.98 49 eP P 02 23 57.4 +0.4
ELK e*PP pP 02 24 10.6 0.0
ELK pmax pmax
comp=Z,29nm,1.0s
ELK Elko 86.98 49 eP P 02 23 57.4 +0.5
comp=Z,30nm,1.0s,mb5.5
ELK epP pP 02 24 10.6 0.0
J13A Cove Ranch, Pi 87.01 46 ⇓P P 02 23 57.4 +0.4
baz=87,SNR=6.2
M12A Wells 87.03 48 ⇑P P 02 23 57.2 0.0
baz=87,SNR=9.5
D15A Lincoln 87.06 42 ⇑P P 02 23 56.5 -0.8
baz=87
N12A Clover Valley, 87.10 49 ⇑P P 02 23 57.5 0.0
baz=87,SNR=7.7
ARCES ARCESS Array B 87.13 342 P P 02 23 55.9 -1.2
comp=Z,24nm,0.9s,mb5.4,baz=62,slow=4.4,SNR=50
ARE0 ARCESS Array S 87.13 342 eP P 02 23 56.2 -0.9
E15A Deer Lodge 87.17 43 ⇓P P 02 23 57.5 -0.3
baz=87,SNR=16
Q11A Duckwater 87.19 51 ⇓P P 02 23 58.0 0.0
baz=87,SNR=9.2
RRX Edison Barstow 87.20 55 ⇓P P 02 23 58.0 -0.2
baz=87
GSC Goldstone 87.25 54 ⇓P P 02 23 58.2 -0.2
baz=87
GSC Goldstone 87.25 54 eP P 02 23 59.0 +0.6
TPNV Topopah Spring 87.25 53 eP P 02 23 59.0 +0.7
TPNV pmax pmax
comp=Z,25nm,1.3s,mb5.3
TPNV Topopah Spring 87.25 53 ⇑P P 02 23 58.3 -0.1
baz=87,SNR=8.8
TPNV Topopah Spring 87.25 53 eP P 02 23 59.0 +0.7
comp=Z,25nm,1.3s,mb5.3
K13A Stover Farm, H 87.28 47 ⇓P P 02 23 58.2 -0.2
baz=87
U10A Ash Meadows, A 87.32 53 ⇓P P 02 23 58.9 +0.2
baz=87
MURC Murrieta 87.37 56 ⇑P P 02 23 58.5 -0.5
baz=87
R11A Troy Canyon, C 87.38 51 ⇓P P 02 23 58.4 -0.6
baz=87,SNR=18
F15A Butte 87.44 43 ⇓P P 02 23 58.4 -0.6
baz=87,SNR=18
S11A Rachel 87.44 52 ⇑P P 02 23 58.7 -0.6
baz=87
LRM Limekiln Ridge 87.47 43 eP P 02 23 59.6 +0.4
O12A Currie 87.47 49 ⇑P P 02 23 59.2 -0.2
baz=87,SNR=16
SHOC Shoshone 87.50 54 ⇑P P 02 23 59.2 -0.4
baz=88
DLMT Dillon 87.52 44 eP P 02 23 59.7 +0.2
comp=Z,48nm,1.8s,mb5.4
DLMT epP pP 02 24 15.0 +1.9
L13A Double Diamond 87.54 47 ⇓P P 02 23 59.3 -0.3
baz=88
M13A Montello 87.59 48 ⇓P P 02 23 60.0 +0.1
baz=88
109C Camp Elliot, M 87.64 57 ⇑P P 02 23 60.0 -0.3
baz=88
G15A Dillon 87.65 44 ⇑P P 02 23 59.8 -0.3
baz=88,SNR=7.5
N13A Wendover, West 87.70 49 ⇓P P 02 24 00.5 +0.1
baz=88
HEC Hector,Ludlow 87.75 55 ⇓P P 02 24 00.2 -0.6
baz=88
Q12A Willow Creek R 87.75 50 ⇓P P 02 24 00.8 +0.1
baz=88,SNR=11
LCCM Lewis and Clar 87.85 43 P P 02 24 01.4 +0.3

TUQ Turquoise Mtn. 87.90 54 ⇑P P 02 24 01.3 -0.2
baz=88,SNR=7.1
K14A Jones Ranch, D 87.95 47 ⇑P P 02 24 01.7 +0.1
baz=88,SNR=8.7
T11A Corn Creek, Al 87.96 52 ⇑P P 02 24 01.2 -0.6
baz=88
PFO Pinyon Flat Ob 87.97 56 eP P 02 24 01.3 -0.6
PFO pmax pmax
comp=Z,31nm,1.5s,mb5.3
PFO Pinyon Flat Ob 87.97 56 ⇓P P 02 24 01.6 -0.2
baz=88
PFO Pinyon Flat Ob 87.97 56 eP P 02 24 01.3 -0.5
comp=Z,31nm,1.5s,mb5.3
BAR Barrett 88.04 57 eP P 02 24 01.9 -0.3
comp=Z,27nm,1.3s,mb5.3
U11A Corn Creek 88.06 53 ⇑P P 02 24 02.5 +0.3
baz=88
O13A Hicks Ranch, I 88.08 49 ⇑P P 02 24 02.3 +0.1
baz=88
BOZ Bozeman (W) 88.08 43 eP P 02 24 02.4 +0.3
BOZ pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
BOZ Bozeman (W) 88.08 43 ⇑P P 02 24 02.6 +0.5
baz=88,SNR=15
BOZ Bozeman (W) 88.08 43 eP P 02 24 02.4 +0.3
comp=Z,7.4nm,0.7s,mb5.0
R12A Pony Springs, 88.12 51 ⇑P P 02 24 03.0 +0.5
baz=88,SNR=8.2
M14A Sheep Mountain 88.14 48 ⇑P P 02 24 02.5 +0.1
baz=88,SNR=5.0
S12A Delamar Landin 88.14 52 ⇑P P 02 24 02.8 +0.2
baz=88
V11A Goodsprings 88.18 54 ⇑P P 02 24 03.2 +0.4
baz=88
MONP Monument Peak 88.19 57 ⇓P P 02 24 02.8 -0.1
baz=88,SNR=5.4
SHPR Sheep Range 88.21 53 eP P 02 24 04.1 +1.2
BELC Belle Mtn. 88.23 56 ⇑P P 02 24 02.8 -0.3
baz=88
P13A Bates Ranch, G 88.24 50 ⇓P P 02 24 02.8 -0.2
baz=88,SNR=17
GMRC Granite Mounta 88.29 55 ⇑P P 02 24 03.0 -0.3
baz=88,SNR=6.2
VRHR Novokhopersk 88.31 322 eP P 02 24 01.8 -1.3
K15A Arbon 88.37 46 ⇓P P 02 24 03.4 -0.2
baz=88
Q13A Wheeler Ranch, 88.38 50 ⇓P P 02 24 03.8 0.0
baz=88
N14A Grayback Hills 88.44 48 ⇑P P 02 24 03.9 -0.1
baz=88,SNR=7.4
HVU Hansel Valley 88.47 47 eP P 02 24 05.3 +1.3
HVU pmax pmax
comp=Z,37nm,1.1s,mb5.5
HVU Hansel Valley 88.47 47 eP P 02 24 05.3 +1.3
comp=Z,38nm,1.1s,mb5.5
QLMT Earthquake Lak 88.47 44 eP P 02 24 05.2 +1.3
T12A Moapa 88.49 53 ⇑P P 02 24 04.2 -0.1
baz=88
DVTC Desert V Tower 88.51 57 ⇓P P 02 24 04.0 -0.5
baz=88
EGMT Eagleton 88.53 41 ⇑P P 02 24 04.0 -0.2
baz=88
EGMT Eagleton 88.53 41 eP P 02 24 05.3 +1.1
BGU Big Grassy Mou 88.54 48 eP P 02 24 04.6 +0.2
JOF Joensuu 88.56 336 ep P 02 24 02.5 -1.5
comp=Z,18nm,0.6s,mb5.6
LDFC Landfair 88.64 54 eP P 02 24 04.7 -0.3
R13A O'Grain Ranch, 88.64 51 ⇓P P 02 24 05.0 0.0
baz=89,SNR=8.6
V12A Nelson 88.67 54 ⇓P P 02 24 05.4 +0.3
baz=89,SNR=8.7
L15A Malad City 88.67 47 ⇓P P 02 24 05.1 0.0
baz=89,SNR=6.3
SWSC Sam W. Stewart 88.68 56 ⇑P P 02 24 04.7 -0.6
baz=89
U12A Valley of Fire 88.71 53 ⇑P P 02 24 05.5 +0.2
baz=89
BC3 Big Chuckw Mtn 88.76 56 ⇑P P 02 24 05.3 -0.4
baz=89
W12A Cal Nev Ari 88.77 54 ⇓P P 02 24 05.3 -0.3
baz=89
M15A Larsen Ranch, 88.80 48 ⇑P P 02 24 05.5 -0.1
baz=89
MOS Moscow 88.80 328 eP P 02 24 02.9 -2.4
MOS pmax pmax
comp=Z,47nm,1.2s,mb5.7
J16A Bone 88.83 46 ⇓P P 02 24 05.9 +0.2
baz=89
YMR Madison River 88.83 44 eP P 02 24 07.6 +1.9
comp=Z,9.4nm,0.5s,mb5.4
YMR epP pP 02 24 20.0 +0.6
SPUT South Promonto 88.84 48 eP P 02 24 06.8 +1.0
IRM Iron Mountain 88.87 55 ⇑P P 02 24 06.1 0.0
baz=89
S13A Holt Ranch, En 88.90 52 ⇑P P 02 24 06.3 +0.2
baz=89
P14A Drum Mountains 88.91 49 ⇓P P 02 24 05.6 -0.6
baz=89
DUG Dugway 88.91 49 eP P 02 24 06.5 +0.3
DUG e*PP pP 02 24 22.1 +2.2
DUG pmax pmax
comp=Z,35nm,1.0s,mb5.6
DUG Dugway 88.91 49 ⇑P P 02 24 06.5 +0.3
baz=89,SNR=19
DUG Dugway 88.91 49 eP P 02 24 06.5 +0.3
comp=Z,35nm,1.0s,mb5.6
DUG epP pP 02 24 22.1 +2.2
N15A Stansbury Isla 88.92 48 ⇓P P 02 24 06.3 +0.2
baz=89
Q14A Sevier Lake (B 88.93 50 ⇑P P 02 24 06.9 +0.7
baz=89,SNR=17
K16A Soda Springs 88.98 46 ⇓P P 02 24 07.1 +0.7
baz=89
YFT Old Faithful 88.99 44 eP P 02 24 08.7 +2.3
RRI2 Red Ridge 89.01 46 eP P 02 24 07.6 +1.1
comp=Z,32nm,1.2s,mb5.5
YNR Norris Junctio 89.01 44 eP P 02 24 08.9 +2.4
T13A Saint George 89.03 52 ⇑P P 02 24 07.2 +0.4
baz=89,SNR=8.7
IMW Indian Meadow 89.09 45 eP P 02 24 08.6 +1.6
comp=Z,29nm,1.2s,mb5.5
NEE2 Needles Airpor 89.12 54 ⇑P P 02 24 07.0 -0.2
baz=89
O15A The Old Anders 89.14 49 ⇓P P 02 24 07.8 +0.5
baz=89
U13A Pakoon Wash 89.16 53 ⇑P P 02 24 07.9 +0.5
baz=89,SNR=13
TPAW Teton Pass 89.22 45 eP P 02 24 08.8 +1.3
comp=Z,36nm,1.5s,mb5.5
TPAW epP pP 02 24 24.1 +2.8
LKWY Lake 89.25 44 eP P 02 24 08.7 +1.1
MOOW Moose Ponds 89.28 45 eP P 02 24 09.1 +1.3
comp=Z,17nm,1.1s,mb5.3
MOOW epP pP 02 24 23.7 +2.2
V13A Grand Canyon W 89.31 53 ⇓P P 02 24 08.9 +0.8
baz=89,SNR=11
R14A James Farms, M 89.32 51 ⇓P P 02 24 07.7 -0.5
baz=89
REDW Red Top Meadow 89.33 45 eP P 02 24 09.2 +1.2
comp=Z,74nm,1.8s,mb5.7
GCMT Greycliff 89.33 43 eP P 02 24 08.9 +0.9
L16A Fish Haven 89.35 47 ⇑P P 02 24 08.7 +0.5
baz=89
S14A Cedar City 89.37 51 ⇓P P 02 24 07.9 -0.5
baz=89
HWUT Hardware Ranch 89.38 47 eP P 02 24 09.0 +0.7
comp=Z,28nm,1.1s,mb5.5
HWUT epP pP 02 24 22.0 -0.1
LOHW Long Hollow 89.42 45 eP P 02 24 09.3 +0.9
comp=Z,19nm,1.4s,mb5.2
M16A Huntsville 89.43 48 ⇓P P 02 24 08.1 -0.5
baz=89
GLA Glamis 89.43 56 eP P 02 24 09.0 +0.2
GLA pmax pmax
comp=Z,18nm,1.0s,mb5.4
GLA Glamis 89.43 56 ⇑P P 02 24 08.8 0.0
baz=89
GLA Glamis 89.43 56 eP P 02 24 09.0 +0.2
comp=Z,18nm,1.0s,mb5.4
Y12C Blythe 89.48 55 ⇓P P 02 24 09.1 +0.1
baz=89
P15A Leamington 89.49 49 ⇑P P 02 24 09.2 +0.3
baz=89
NLU North Lily Min 89.53 49 eP P 02 24 10.1 +1.0
NLU epP pP 02 24 25.1 +2.3
Q15A Fillmore 89.59 50 ⇓P P 02 24 09.7 +0.3
baz=90

W13A Hualapai Mount 89.60 54 ⇑P P 02 24 09.8 +0.3
baz=90,SNR=8.0
OBN Obninsk 89.61 327 eP P 02 24 07.5 -1.6
OBN e 02 27 42.0
OBN pmax pmax
comp=Z,28nm,1.2s,mb5.5
OBN Obninsk 89.61 327 eP P 02 24 07.6 -1.5
PDMCI Parker Dam,Lak 89.63 55 ⇓P P 02 24 09.9 +0.2
baz=90
T14A Hurricane 89.64 52 ⇓P P 02 24 09.9 +0.3
baz=90
VRSR Storozhevoye 89.70 323 eP P 02 24 08.8 -0.8
N16A Rees Ranch, Co 89.70 48 ⇑P P 02 24 09.5 -0.4
baz=90
U14A Mt Trumbull 89.76 53 ⇑P P 02 24 10.2 0.0
baz=90,SNR=10.0
JLU Jordanelle 89.78 48 eP P 02 24 11.3 +1.0
JLU epP pP 02 24 26.1 +2.1
112A Yuma 89.78 57 ⇓P P 02 24 10.2 -0.3
baz=90
X13A Yucca 89.79 54 ⇓P P 02 24 10.2 -0.2
baz=90,SNR=10
RLMT Red Lodge 89.82 43 eP P 02 24 11.7 +1.4
comp=Z,32nm,1.2s,mb5.5
MPU Maple Canyon 89.83 49 eP P 02 24 12.1 +1.6
comp=Z,17nm,0.9s,mb5.4
O16A Springville 89.86 49 ⇑P P 02 24 10.4 -0.2
baz=90
GNI Garni 89.86 311 P P 02 24 10.4 -0.2
comp=Z,1.9nm,0.4s,mb4.7,baz=214,slow=18,SNR=3.5
GNI Garni 89.86 311 eP P 02 24 10.7 +0.1
MSU Marysvale 89.89 50 eP P 02 24 11.5 +0.7
R15A Junction 89.91 51 ⇓P P 02 24 11.6 +0.8
baz=90
P16A Fountain Green 89.94 49 ⇑P P 02 24 11.1 +0.1
baz=90
DAU Daniels Canyon 89.98 48 eP P 02 24 11.8 +0.6
DAU e*PP pP 02 24 25.3 +0.4
S15A Panguitch 90.01 51 ⇓P P 02 24 12.0 +0.6
baz=90
Y13A Salome 90.02 55 ⇓P P 02 24 11.6 +0.1
baz=90,SNR=6.5
V14A Boquillas Ranc 90.05 53 ⇑P P 02 24 12.0 +0.4
baz=90,SNR=16
KIV Kislovodsk 90.08 315 eP P 02 24 10.5 -1.0
KIV pmax pmax
comp=Z,39nm,2.6s,mb5.3
KIV Kislovodsk 90.08 315 eP P 02 24 10.7 -0.9
N17A Moffit Pass 90.11 48 ⇑P P 02 24 11.8 0.0
baz=90
T15A Red Dirt Ranch 90.19 52 ⇑P P 02 24 12.4 +0.1
baz=90
W14A Seligman 90.19 54 ⇑P P 02 24 12.2 -0.1
baz=90,SNR=10.0
TMUT Trail Mountain 90.37 49 eP P 02 24 14.3 +1.3
113A Mohawk Valley, 90.37 56 ⇑P P 02 24 13.3 +0.1
baz=90,SNR=6.3
BW06 Boulder Array 90.42 46 eP P 02 24 13.5 +0.3
comp=Z,21nm,1.8s,mb5.2
PDAR Pinedale Array 90.42 46 P P 02 24 12.7 -0.5
comp=Z,1.2nm,0.7s,mb4.4,baz=236,slow=3.2,SNR=11
U15A North Rim 90.44 52 ⇓P P 02 24 13.9 +0.5
baz=90,SNR=16
Q16A Castle Valley 90.51 50 ⇑P P 02 24 13.2 -0.5
baz=90
X14A Yava 90.57 54 ⇓P P 02 24 14.4 +0.4
baz=90,SNR=10
S16A Weppner Ranch, 90.57 51 ⇓P P 02 24 14.3 +0.4
baz=90
Y14A Wickenburg 90.64 55 ⇑P P 02 24 14.2 -0.1
baz=91
P17A Butcher Ranch, 90.65 49 ⇑P P 02 24 14.6 +0.2
baz=91
V15A Kaibab Nationa 90.72 53 ⇓P P 02 24 15.3 +0.6
baz=91,SNR=17
W15A Williams 90.84 54 ⇓P P 02 24 16.0 +0.7
baz=91,SNR=8.8
Z14A Wintersburg 90.85 55 ⇓P P 02 24 15.5 +0.1
baz=91
T16A Glen Canyon Da 90.87 52 ⇓P P 02 24 14.9 -0.5
baz=91
O18A Roosevelt 90.93 48 ⇓P P 02 24 16.2 +0.6
baz=91
SRU San Rafael 90.93 49 eP P 02 24 16.3 +0.7
SRU e*PP pP 02 24 29.8 +0.4
SRU pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
SRU San Rafael 90.93 49 ⇓P P 02 24 15.2 -0.4
baz=91
SRU San Rafael 90.93 49 eP P 02 24 16.3 +0.7
comp=Z,6.1nm,1.0s,mb4.9
SRU epP pP 02 24 29.8 +0.5
MIB Mutribah 90.93 301 eP P 02 24 14.6 -1.2
baz=301
MIB AMb AMB 02 24 16.7
comp=Z,52nm,0.9s,mb5.9,baz=301
N18A Larsen Ranch, 90.93 47 ⇑P P 02 24 15.5 -0.1
baz=91
KAF Kangasniemi 90.96 336 ep P 02 24 13.0 -2.3
comp=Z,12nm,0.6s,mb5.4,baz=56,slow=4.4
KAF Kangasniemi 90.96 336 eP P 02 24 13.0 -2.3
KAF pmax pmax
comp=Z,12nm,0.6s,mb5.4
P18A Preston Nutter 90.97 49 ⇑P P 02 24 15.6 -0.1
baz=91
R17A Hanksville Air 91.01 50 ⇓P P 02 24 16.0 0.0
baz=91,SNR=14
X15A Humboldt 91.08 54 ⇑P P 02 24 16.9 +0.5
baz=91,SNR=14
Y15A Casa Rosa Ranc 91.16 55 ⇑P P 02 24 17.3 +0.5
baz=91,SNR=9.2
NAY Al-Naaiem 91.17 300 eP P 02 24 16.6 -0.3
baz=300
NAY AMb AMB 02 24 17.3
comp=Z,42nm,0.9s,mb5.8,baz=300
S17A Black Ridge (B 91.20 51 ⇓P P 02 24 16.7 -0.2
baz=91,SNR=5.3
Q18A Rafter H Ranch 91.22 49 ⇓P P 02 24 16.6 -0.4
baz=91
RST Umm Al-Ruwaisa 91.30 301 eP P 02 24 16.7 -0.8
baz=301
RST AMb AMB 02 24 20.8
comp=Z,1.0nm,1.1s,mb4.1,baz=301
214A Organ Pipe Nat 91.38 57 ⇓P P 02 24 18.0 +0.1
baz=91
T17A Navajo Res., N 91.40 51 ⇓P P 02 24 17.6 -0.3
baz=91,SNR=8.2
WUAZ Wupatki 91.43 53 ⇓P P 02 24 18.6 +0.6
baz=91
WUAZ Wupatki 91.43 53 eP P 02 24 18.4 +0.3
comp=Z,14nm,0.9s,mb5.3
W16A Flagstaff 91.44 53 ⇑P P 02 24 18.8 +0.7
baz=91
Z15A Gila River Ind 91.50 55 ⇑P P 02 24 17.6 -0.8
baz=92
115A Sonoran Desert 91.63 56 ⇑P P 02 24 19.1 +0.1
baz=92
R18A Canyonlands Na 91.63 50 ⇑P P 02 24 18.5 -0.4
baz=92,SNR=9.6
U17A Shonto 91.64 52 ⇓P P 02 24 19.4 +0.5
baz=92
X16A Lo Mia Camp, P 91.72 54 ⇓P P 02 24 19.7 +0.3
baz=92
S18A Hurst Farm, Bl 91.78 51 ⇑P P 02 24 19.5 -0.2
baz=92,SNR=7.0
VNDA Vanda 91.85 177 P P 02 24 18.3 -0.7
comp=Z,1.5nm,1.0s,mb4.3,baz=315,slow=3.9,SNR=7.3
VNDA Vanda 91.85 177 eP P 02 24 19.2 +0.2
VNDA pmax pmax
comp=Z,20nm,1.6s
VNDA Vanda 91.85 177 eP P 02 24 19.2 +0.2
comp=Z,20nm,1.6s,mb5.2
Y16A Circle Bar Ran 91.86 55 ⇓P P 02 24 20.5 +0.4
baz=92,SNR=20
Q19A Hogan Spring (91.91 49 ⇑P P 02 24 19.9 -0.3
baz=92
T18A Mexican Hat 92.06 51 ⇑P P 02 24 20.7 -0.2
baz=92
Z16A Peralta Trail, 92.07 55 ⇓P P 02 24 20.2 -0.8
baz=92
W17A Winslow 92.08 53 ⇑P P 02 24 21.0 -0.1
baz=92
116A Eloy 92.09 56 ⇑P P 02 24 21.3 +0.2
baz=92
R19A Curley Farm, L 92.13 50 ⇑P P 02 24 21.5 +0.3
baz=92
X17A Forest Lakes 92.25 54 ⇓P P 02 24 23.0 +1.2

baz=92,SNR=9.8
PV10 Paradox Valley 92.27 50 *e*P **P 02 24 22.6 +0.8**
U18A Rough Rock, Ch 92.30 52 ⇓P **P 02 24 22.5 +0.4**
baz=92
S19A Harvey Farm, M 92.41 50 ⇑P **P 02 24 22.3 -0.2**
baz=92
Y17A Roosevelt 92.42 55 ⇓P **P 02 24 22.8 +0.2**
baz=92,SNR=8.4
RWWY Rawlins 92.43 46 *e*P **P 02 24 23.2 +0.8**
comp=Z,18nm,1.1s,mb5.3
216A Three Points, 92.46 56 ⇓P **P 02 24 23.1 +0.2**
baz=92
V18A Ganado 92.48 52 ⇑P **P 02 24 22.9 +0.1**
baz=92
SBA Scott Base 92.48 176 *e*P **P 02 24 26.1 +4.2**
SBA pmax pmax
comp=Z,31nm,1.6s,mb5.4
SBA Scott Base 92.48 176 *e*P **P 02 24 26.1 +4.2**
comp=Z,31nm,1.6s,mb5.4
PV01 Paradox Valley 92.70 50 *e*P **P 02 24 23.7 -0.1**
VSU Vasula 92.77 333 *e*P **P 02 24 22.5 -1.2**
T19A Beclabito 92.80 51 ⇑P **P 02 24 24.0 -0.3**
baz=93,SNR=7.8
W18A Petrified Fore 92.83 53 ⇓P **P 02 24 24.7 +0.2**
baz=93
Z17A San Carlos Hig 92.84 55 ⇑P **P 02 24 24.8 +0.2**
baz=93
X18A Snowflake 92.85 54 ⇓P **P 02 24 24.9 +0.3**
baz=93
117A Oracle 92.86 56 ⇓P **P 02 24 24.6 -0.1**
baz=93
TUC Tucson 92.91 56 *e*P **P 02 24 25.3 +0.4**
TUC pmax pmax
comp=Z,13nm,1.3s,mb5.2
TUC Tucson 92.91 56 *e*P **P 02 24 25.3 +0.4**
comp=Z,13nm,1.3s,mb5.2
Y18A Canyon Day Jun 93.03 54 ⇓P **P 02 24 26.4 +0.9**
baz=93,SNR=7.8
217A Green Valley 93.05 56 ⇓P **P 02 24 26.5 +0.9**
baz=93,SNR=10.0
MVCO Mesa Verde 93.07 51 ⇓P **P 02 24 25.2 -0.3**
baz=93
MVCO Mesa Verde 93.07 51 *e*P **P 02 24 26.4 +0.8**
comp=Z,27nm,1.4s,mb5.5
W19A Sanders 93.10 53 ⇓P **P 02 24 26.2 +0.4**
baz=93
V19A Window Rock 93.16 52 ⇓P **P 02 24 26.6 +0.5**
baz=93
Z18A Geronimo 93.26 55 ⇓P **P 02 24 26.7 +0.2**
baz=93
ANN Anapa 93.27 318 *e*P **P 02 24 23.1 -3.2**
ANN *e*S SKSac 02 34 54.7 -2.3
ANN pmax pmax
comp=Z,26nm,1.1s,mb5.6
X19A St. Johns 93.40 53 ⇑P **P 02 24 28.1 +0.9**
baz=93
118A Homack Ranch, 93.45 55 ⇑P **P 02 24 28.5 +1.0**
baz=93
SMCO Snowmass 93.50 48 *e*P **P 02 24 31.0 +3.5**
comp=Z,6.8nm,0.7s,mb5.2
Y19A Nutrioso 93.59 54 ⇑P **P 02 24 28.9 +0.9**
baz=94,SNR=13
218A Dragoon 93.61 56 ⇑P **P 02 24 28.6 +0.4**
baz=94
RSSD Black Hills 93.66 43 *e*P **P 02 24 28.2 +0.1**
RSSD pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
RSSD Black Hills 93.66 43 *e*P **P 02 24 28.2 0.0**
comp=Z,9.9nm,1.1s,mb5.2
Z19A T-Link Ranch, 93.80 54 ⇑P **P 02 24 29.6 +0.6**
baz=94
318A Bisbee 93.83 56 ⇑P **P 02 24 28.2 -1.0**
baz=94
119A Ashpeak Ranch, 93.94 55 ⇑P **P 02 24 30.1 +0.4**
baz=94,SNR=6.1
219A White Tail Can 94.23 56 ⇑P **P 02 24 30.9 -0.1**
baz=94
ISCO Idaho Springs 94.25 47 *e*P **P 02 24 32.1 +1.2**
ISCO pmax pmax
comp=Z,11nm,1.3s,mb5.1
ISCO Idaho Springs 94.25 47 *e*P **P 02 24 32.1 +1.1**
comp=Z,11nm,1.3s,mb5.1
319A Douglas 94.42 56 ⇓P **P 02 24 31.7 -0.3**
baz=94
MALT Malatya 95.10 311 *e*P **P 02 24 35.1 +0.2**
MALT pmax pmax
comp=Z,22nm,1.6s,mb5.3
MALT Malatya 95.10 311 *e*P **P 02 24 35.0 +0.2**
comp=Z,22nm,1.6s,mb5.3
SDCO Great Sand Dun 95.10 49 *e*P **P 02 24 35.0 +0.1**
comp=Z,7.7nm,1.1s,mb5.0
Y22C IRIS PASSCAL I 95.37 53 ⇓P **P 02 24 35.8 -0.4**
baz=95
ANMO Albuquerque 95.41 52 *e*P **P 02 24 37.4 +1.1**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ANMO Albuquerque 95.41 52 *e*P **P 02 24 37.4 +1.0**
comp=Z,9.2nm,1.3s,mb5.0
BNM Barren Site 95.57 53 *e*P **P 02 24 39.3 +2.2**
AKASG Malin Array Be 95.58 325 P **P 02 24 34.5 -2.2**
comp=Z,0.6nm,0.6s,mb4.2,baz=49,slow=3.8,SNR=5.9
ULM Lac du Bonnet 95.88 35 P **P 02 24 36.9 -1.3**
comp=Z,1.6nm,0.7s,mb4.6,baz=297,slow=6.8,SNR=2.7
ULM Lac du Bonnet 95.88 35 *e*P **P 02 24 38.2 0.0**
comp=Z,5.8nm,0.9s,mb5.0
NB2 NORSAR Subarra 97.18 340 P **P 02 24 42.2 -1.6**
comp=Z,7.4nm,1.0s,mb5.1,baz=44,slow=5.1
CLL Collm 103.41 332 *e*Sdif Sdif 02 37 00.0 +4.0
CLL *e*PPS 02 39 30.0
CLL *e*sSS 02 44 30.0
CLL *e*SSSS 02 51 26.0
KHC Kasperske Hory 104.63 330 *e*PP PP 02 29 39.0 +2.7
SNAA Sanae 119.59 191 *e*PKPdf PKPdf 02 30 04.2 +3.7
SNAA *e* 02 30 12.3
SNAA *e* 02 30 19.7
SNAA *e* 02 30 25.5
ESDC Sonseca Array 119.90 334 PP PP 02 31 22.0 -3.2
comp=Z,1.7nm,0.9s,baz=28,slow=7.4,SNR=6.2
LBTB Lobatse 123.73 249 *e*PKIKP PKPdf 02 30 10.0 +0.2
BOSA Boshof 123.99 245 PKP PKPdf 02 30 10.6 +0.3
comp=Z,6.2nm,1.1s,baz=40,slow=3.1,SNR=4.0
BOSA Boshof 123.99 245 *e*PKPdf PKPdf 02 30 11.3 +1.1
TOA0 Torodi Ar. Sit 135.96 306 *e*PKPdf PKPdf 02 30 34.4 +1.1
TORD Torodi Ar. Bea 135.96 306 PKhKP 02 30 22.7
comp=Z,0.5nm,0.8s,baz=20,slow=2.7,SNR=3.2
TORD PKP PKPdf 02 30 33.3 0.0
comp=Z,2.2nm,0.7s,baz=20,slow=1.6,SNR=15
TORD PP PP 02 33 10.7 -1.3
comp=Z,1.6nm,1.0s,baz=66,slow=8.3,SNR=3.8
TORD SKPbc SKPbc 02 34 04.4 +2.9
comp=Z,4.5nm,1.2s,baz=37,slow=2.3,SNR=4.7
TORD Torodi Ar. Bea 135.96 306 PKP 02 30 22.7
TORD PKP PKPdf 02 30 33.3 0.0
TORD PP PP 02 33 10.7 -1.3
TORD SKPbc SKPbc 02 34 04.4 +2.9
SDV Santo Domingo 136.57 60 *e*PKPdf PKPdf 02 30 35.9 +1.4
PLCA Paso Flores 138.15 137 PKP PKPdf 02 30 36.2 -0.4
comp=Z,1.2nm,0.7s,baz=32,slow=2.5,SNR=2.8
PLCA Paso Flores 138.15 137 *e*PKPdf PKPdf 02 30 36.6 0.0
CFAA Coronel Fontan 143.67 125 PKhKP 02 30 43.2
comp=Z,0.4nm,0.8s,baz=291,slow=8.8,SNR=5.3
DBIC Dimbokro 144.97 304 PKPbc PKPdf 02 30 49.2 -0.4
comp=Z,82nm,0.8s,baz=35,slow=3.9,SNR=89
DBIC Dimbokro 144.97 304 *e*PKPdf PKPdf 02 30 49.2 -0.4
DBIC *ep*PKPdf pPKPdf 02 31 01.9 -2.0
TRQA Tornquist 145.19 139 *e*PKPbc PKPbc 02 30 48.1 -0.8
LVC Limon Verde 145.31 109 PKPbc PKPbc 02 30 50.6 +0.8
comp=Z,4.7nm,0.7s,baz=136,slow=5.3,SNR=5.0
LVC Limon Verde 145.31 109 *e*PKPdf PKPdf 02 30 51.1 +1.2
LVC *ep*PKPdf pPKPdf 02 31 04.0 -0.1
LPAZ La Paz 146.43 98 PKPbc PKPbc 02 30 53.2 -0.1
comp=Z,5.2nm,0.7s,baz=270,slow=5.6,SNR=10
LPAZ La Paz 146.43 98 *e*PKPbc PKPbc 02 30 54.1 +0.8
SIV San Ignacio 153.21 98 PKPbc PKPbc 02 31 09.3 -0.8
comp=Z,2.1nm,0.7s,baz=232,slow=1.4,SNR=13
CPUP Villa Florida 154.50 122 *e*PKIKP PKPdf 02 31 01.5 -2.8

BJI ***17*** *02:16:23.1,595S×129.65E,h21km,mB5.6,mb5.4,Ms5.4, Msz5.2*
IDC ***17*** *02:16:27.3±0.3,533S×129.41E,h0km,mb5.4/26, mb1 5.3/28,mb1mx5.3/31,mbtmp5.4/28,ML5.5/2,MS5.4/17, Ms1 5.4/17,ms1mx5.0/38,Error ellipse: s-maj=16.5km s-min=10.1km az=77.0*
ISCJB ***17*** *02:16:30.0±0.2,531S±002×129.54E±003,h30km, mb5.7/128,MS5.3/52,Error ellipse: s-maj=3.9km s-min=3.2km az=160.2*
GCMT ***17*** *02:16:30.6±0.1,528S×129.46E,h17km,MW5.8/109, Moment Tensor Solution. s100,c192; s109,c253; Duration: 2.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.34±.07; $M_{\theta\theta}$-4.54±.07; $M_{\phi\phi}$4.20±.08; $M_{r\theta}$0.13±.17; $M_{\theta\phi}$5.78±.07; $M_{r\phi}$1.38±.21; Best double couple: $M_0$7.38200×10^{17} NP1:ϕ_s72.00000°,δ80.00000°, λ5.00000°. NP2:ϕ_s341.00000°,δ85.00000°,λ170.00000°. Principal axes: T 7.3170, Plg11.0000°, Azm296.0000°; N 0.1330, Plg79.0000°, Azm136.0000°; P -7.4480, Plg4.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***17*** *02:16:30.6±1.4,530S×129.47E,h22km±9km,mb5.9/61 Error ellipse: s-maj=5.1km s-min=3.6km az=59.0*
MOS ***17*** *02:16:32.4±0.9,495S×129.42E,h33km,mb6.0/47, MS5.4/12,Error ellipse: s-maj=13.0km s-min=7.0km az=112.2*
DJA ***17*** *02:16:32,531S×129.62E,h24km,mB6.5/11*
ISC 17 02:16:32.2±0.2,532S±002×12955E±003,h32km, h32km±.7km:pP-P,n516,σ1§24/353,mb5.7/127,MS5.3/52, 24C-19D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.05**	**342**	P	**Pn**	**02 17 01.7**	**-2.8**
	0.0nm,0.0s						
AAI	**Ambon**	**2.11**	**320**	P	**Pn**	**02 17 00.8**	**-4.4**
	0.0nm,0.0s						
LBMI	**Labuha**	**5.08**	**336**	P	**Pn**	**02 17 45.9**	**-0.2**
	0.0nm,0.0s						
BBSI	**Bau Bau**	**6.95**	**268**	P	**Pn**	**02 18 13.1**	**+1.2**
	0.0nm,0.0s						
KDI	**Kendari**	**7.04**	**281**	P	**Pn**	**02 18 11.4**	**-1.7**
	0.0nm,0.0s						
BATI	**Baumata**	**7.59**	**230**	P	**Pn**	**02 18 20.9**	**+0.3**
	0.0nm,0.0s						
BATI	**Baumata**	**7.59**	**230**	Pn	**Pn**	**02 18 20.5**	**-0.2**
	132nm,0.3s,baz=120,slow=2.1,SNR=94						
BATI				Sn	**Sn**	**02 19 43.8**	**-1.8**
	baz=126,slow=19,SNR=1.4						
BATI				LR	LR	02 21 32.1	
	comp=Z,42μm,21.2s,baz=212,slow=41						
KAKA	**Kakadu**	**7.88**	**159**	*e*P	**Pn**	**02 18 23.3**	**-1.3**
	470nm,0.6s						
MNI	**Manado**	**8.20**	**325**	P	**Pn**	**02 18 28.0**	**-1.0**
	0.0nm,0.0s						
KAPI	**Kappang**	**9.76**	**271**	P	**Pn**	**02 18 51.1**	**+0.6**
	SNR=17						
KAPI	**Kappang**	**9.76**	**271**	*e*Pn	**Pn**	**02 18 50.5**	**0.0**
PCI	**Palu**	**10.64**	**294**	P	**Pn**	**02 19 04.5**	**+2.0**
	0.0nm,0.0s						
JAY	**Jayapura**	**11.47**	**76**	P	**Pn**	**02 19 12.4**	**-1.5**
	0.0nm,0.0s						
DAV	**Davao City (W)**	**12.93**	**342**	Pn	**Pn**	**02 19 33.7**	**0.0**
	47nm,0.3s,baz=98,slow=12,SNR=2.7						
SMKI	**Samarinda**	**13.24**	**291**	P	**Pn**	**02 19 40.6**	**+2.6**
	0.0nm,0.0s						
FITZ	**Fitzroy Crossi**	**13.27**	**196**	*e*P	**Pn**	**02 19 33.1**	**-5.3**
	434nm,1.0s						
FITZ				*e*S	**Sn**	**02 21 45.9**	**-19**
FITZ	**Fitzroy Crossi**	**13.27**	**196**	Pn	**Pn**	**02 19 33.0**	**-5.5**
	11nm,0.3s,baz=27,slow=13,SNR=143						
FITZ				Sn	**Sn**	**02 21 56.5**	**-8.4**
	1.4nm,0.3s,baz=68,slow=19,SNR=3.7						
FITZ				LR	LR	02 25 41.2	
	comp=Z,7μm,18.4s,baz=23,slow=42						
BUKP	**Musuan**	**13.85**	**341**	*e*P	**Pn**	**02 19 45.0**	**-1.4**
KHKI	**Kahang-Kahang**	**14.17**	**257**	P	**Pn**	**02 19 48.8**	**-2.0**
	0.0nm,0.0s						
BBKI	**Banjar Baru**	**14.78**	**277**	P	**Pn**	**02 20 00.9**	**+1.8**
	0.0nm,0.0s						
WRAB	**Tennant Creek**	**15.26**	**163**	⇑*i*P	**Pn**	**02 20 00.0**	**-5.4**
WRAB	**Tennant Creek**	**15.26**	**163**	*e*Pn	**Pn**	**02 19 59.5**	**-5.9**
	692nm,1.4s						
WRA	**Warramunga Arr**	**15.27**	**163**	Pn	**Pn**	**02 20 00.3**	**-5.2**
	14nm,0.3s,baz=340,slow=14,SNR=49						
WRA				Sn	**Sn**	**02 22 44.7**	**-9.0**
	11nm,0.3s,baz=336,slow=21,SNR=5.8						
WB2	**Warramunga Arr**	**15.27**	**163**	*e*P	**Pn**	**02 19 59.4**	**-6.1**
WB2				*e*S	**Sn**	**02 22 37.0**	**-17**
SCPH	**Surigao**	**15.53**	**345**	⇑*e*P	**Pn**	**02 20 15.7**	**+6.7**
KMMI	**Kalianget**	**15.59**	**263**	P	**Pn**	**02 20 12.5**	**+2.8**
	0.0nm,0.0s						
PLKI	**Palangkaraya**	**15.87**	**281**	P	**Pn**	**02 20 13.1**	**-0.2**
	0.0nm,0.0s						
COEN	**Coen**	**15.93**	**124**	*e*Pn	**Pn**	**02 20 10.1**	**-4.0**
	487nm,1.0s						
COEN				*e*P		02 20 18.2	
TBP	**Tagbilaran**	**15.95**	**339**	*e*P	**Pn**	**02 20 19.4**	**+5.1**
MSLP	**Maasin**	**16.04**	**343**	*e*P	**Pn**	**02 20 16.0**	**+0.5**
LLP	**Lapu-Lapu**	**16.50**	**340**	*e*P	**Pn**	**02 20 24.6**	**+3.3**
KRKI	**Karangkates**	**17.21**	**260**	P	**Pn**	**02 20 33.0**	**+2.7**
	0.0nm,0.0s						
KKM	**Kota Kinabalu**	**17.45**	**310**	*e*P	**Pn**	**02 20 32.4**	**-0.9**
KDM	**Kudat**	**17.57**	**314**	⇓P	**Pn**	**02 20 38.2**	**+3.4**
PMG	**Port Moresby**	**17.93**	**104**	*c i*P	**Pn**	**02 20 38.7**	**-0.5**
PMG	**Port Moresby**	**17.93**	**104**	*e*Pn	**Pn**	**02 20 38.4**	**-0.8**
PBKI	**Pangkalan Bun**	**18.02**	**278**	P	**Pn**	**02 20 40.9**	**+0.5**
	0.0nm,0.0s						
RCP	**Roxas**	**18.08**	**338**	⇓*e*P	**Pn**	**02 20 43.3**	**+2.2**
CUYO	**Cuyo Island**	**18.17**	**332**	*e*P	**Pn**	**02 20 45.9**	**+3.8**
BATP	**Bataraza**	**18.27**	**320**	*e*P	**Pn**	**02 20 42.5**	**-0.8**
CNP	**Catarman**	**18.36**	**345**	*e*P	**Pn**	**02 20 46.0**	**+1.5**
MBWA	**Marble Bar**	**18.41**	**210**	*e*Pn	**Pn**	**02 20 41.9**	**-3.1**
BTM	**Bintulu**	**18.50**	**297**	⇓P	**Pn**	**02 20 48.6**	**+2.4**
ASAR	**Alice Springs**	**18.72**	**167**	P	**Pn**	**02 20 45.9**	**-2.9**
	7.6nm,0.3s,baz=332,slow=8.5,SNR=83						
ASAR				S	**Sn**	**02 24 11.8**	**-5.6**
	2.7nm,0.3s,baz=346,slow=27,SNR=4.1						
SBUM	**Sibu**	**18.95**	**294**	⇑P	**Pn**	**02 20 54.2**	**+2.5**
OTRP	**Odiongan**	**19.09**	**337**	*e*P	**Pn**	**02 21 00.6**	**+7.3**
ENPP	**El Nido**	**19.26**	**328**	*e*P	**Pn**	**02 20 55.9**	**+0.5**
PVCP	**Virac**	**19.54**	**344**	*e*P	**Pn**	**02 20 57.0**	**-1.6**
SJMP	**San Jose**	**19.55**	**335**	*e*P	**Pn**	**02 20 58.3**	**-0.5**
BUSP	**Coron**	**19.56**	**332**	*e*P	**Pn**	**02 20 60.0**	**+1.1**
BJII	**Banjamegara**	**19.82**	**263**	P	**Pn**	**02 21 03.1**	**+1.0**
	0.0nm,0.0s						
KSM	**Kuching**	**20.37**	**289**	⇓P	**P**	**02 21 07.6**	**+1.3**
KSM	**Kuching**	**20.37**	**289**	*e*P	**P**	**02 21 06.0**	**-0.4**
LUBP	**Lubang**	**21.06**	**334**	*e*P	**P**	**02 21 14.1**	**+0.4**
JCJI	**Jatiwangi**	**21.20**	**266**	P	**P**	**02 21 15.6**	**+0.3**
	0.0nm,0.0s						
LEM	**Lembang**	**21.86**	**265**	P	**P**	**02 21 22.0**	**-0.4**
	0.0nm,0.0s						
CTA	**Charters Tower**	**21.90**	**134**	*e*P	**P**	**02 21 24.0**	**+1.3**
	205nm,1.2s,mb5.4						
CTA				*e*S	**S**	**02 25 22.1**	**-0.9**
CTA	**Charters Tower**	**21.90**	**134**	P	**P**	**02 21 23.6**	**+0.8**
	133nm,1.0s,mb5.3,baz=312,slow=12,SNR=46						
CTA				LR	LR	02 30 36.9	
	comp=Z,10μm,18.6s,MS5.3,baz=315,slow=39						
CTA	**Charters Tower**	**21.90**	**134**	*e*P	**P**	**02 21 24.0**	**+1.3**
CTA				*e*S	**S**	**02 25 22.1**	**-0.9**
CTA				pmax	pmax		
	comp=Z,205nm,1.2s						
CTAO	**Charters Tower**	**21.90**	**134**	*e*P	**P**	**02 21 24.1**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,579nm,1.2s,mb5.9						
CTAO	**Charters Tower**	**21.90**	**134**	*e*P	**P**	**02 21 24.1**	**+1.4**
	comp=Z,579nm,1.2s,mb5.9						
TPI	**Tanjungpandan**	**21.99**	**276**	P	**P**	**02 21 25.8**	**+2.0**
	comp=Z,0.0nm,0.0s						
BALP	**Baler**	**22.36**	**339**	*e*P	**P**	**02 21 31.0**	**+3.4**
CBJI	**Citeko**	**22.61**	**266**	P	**P**	**02 21 29.2**	**-1.2**
	comp=Z,0.0nm,0.0s						
DBJI	**Dramaga**	**22.71**	**266**	P	**P**	**02 21 31.1**	**-0.4**
	comp=Z,0.0nm,0.0s						
SKJI	**Sukabumi**	**22.92**	**265**	P	**P**	**02 21 31.5**	**-2.2**
	comp=Z,0.0nm,0.0s						
BCPH	**Baguio City Da**	**23.31**	**338**	⇓*e*P	**P**	**02 21 28.7**	**-9.0**
SBJI	**Serang**	**23.32**	**267**	P	**P**	**02 21 36.6**	**-1.3**
	comp=Z,0.0nm,0.0s						
PPBI	**Pangkal Pinang**	**23.57**	**277**	P	**P**	**02 21 39.3**	**-1.0**
	comp=Z,0.0nm,0.0s						
BOLP	**Bolinao**	**23.57**	**336**	*e*P	**P**	**02 21 39.7**	**-0.5**
GUMO	**Guam**	**24.17**	**39**	P	**P**	**02 21 45.8**	**+0.1**
	comp=Z,209nm,0.9s,mb5.5,baz=173,slow=4.4,SNR=8.8						
GUMO	**Guam**	**24.17**	**39**	*e*P	**P**	**02 21 45.3**	**-0.4**
XMIS	**Christmas Isla**	**24.21**	**256**	*e*P	**P**	**02 21 45.1**	**-1.1**
ABRA	**Dolores**	**24.43**	**339**	*e*P	**P**	**02 21 55.3**	**+7.3**
KLI	**Kotabumi**	**24.60**	**270**	P	**P**	**02 21 48.3**	**-1.4**
	comp=Z,0.0nm,0.0s						
FORT	**Forrest**	**25.37**	**183**	*e*P	**P**	**02 21 56.5**	**0.0**
	comp=Z,1μm,1.6s,mb6.1						
FORT				*e*S	**S**	**02 26 25.9**	**+5.0**
DSRI	**Dabo**	**25.39**	**280**	P	**P**	**02 21 57.1**	**+0.2**
	comp=Z,0.0nm,0.0s						
TPRI	**Tanjung Pinang**	**25.75**	**283**	P	**P**	**02 22 01.0**	**+0.8**
	comp=Z,0.0nm,0.0s						
JMBI	**JAMBI**	**26.11**	**277**	P	**P**	**02 22 05.9**	**+2.4**
	comp=Z,0.0nm,0.0s						
KGM	**Kluang**	**27.20**	**285**	⇑P	**P**	**02 22 16.2**	**+2.9**
RGRI	**Rengat**	**27.62**	**279**	P	**P**	**02 22 18.4**	**+1.4**
	comp=Z,0.0nm,0.0s						
KLBR	**Kellerberrin**	**28.38**	**202**	*e*P	**P**	**02 22 23.1**	**-0.5**
	comp=Z,88nm,0.8s,mb5.4						
KTGM	**Kuala Trenggan**	**28.42**	**291**	⇓P	**P**	**02 22 24.7**	**+0.5**
EIDS	**Eidsvold**	**28.70**	**136**	*e*P	**P**	**02 22 30.4**	**+3.9**
STKA	**Stephens Creek**	**28.73**	**158**	*e*P	**P**	**02 22 27.0**	**+0.3**
	comp=Z,54nm,0.7s,mb5.4						
STKA				*e*S	**S**	**02 27 13.0**	**-1.0**
STKA	**Stephens Creek**	**28.73**	**158**	P	**P**	**02 22 27.1**	**+0.4**
	comp=Z,35nm,0.8s,mb5.2,baz=334,slow=8.5,SNR=26						
FRIM	**Kepong**	**29.16**	**286**	⇑P	**P**	**02 22 33.1**	**+2.3**
MUN	**Mundaring**	**29.32**	**204**	*e*P	**P**	**02 22 31.4**	**-0.5**
MUN				*e*S	**S**	**02 27 16.9**	**-6.4**
PPI	**Padang Panjang**	**29.50**	**278**	P	**P**	**02 22 32.0**	**-1.8**
	comp=Z,0.0nm,0.0s						
NWAO	**Narrogin (SRO)**	**29.78**	**201**	P	**P**	**02 22 36.7**	**+0.7**
	SNR=6.0						
NWAO	**Narrogin (SRO)**	**29.78**	**201**	P	**P**	**02 22 35.5**	**-0.5**
	comp=Z,65nm,1.0s,mb5.3,baz=23,slow=9.8,SNR=13						
NWAO				LR	LR	02 35 48.8	
	comp=Z,9μm,18.6s,MS5.4,baz=24,slow=39						
NWAO	**Narrogin (SRO)**	**29.78**	**201**	*e*P	**P**	**02 22 35.9**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,516nm,1.8s						
NWAO	**Narrogin (SRO)**	**29.78**	**201**	*e*P	**P**	**02 22 35.9**	**-0.1**
	comp=Z,516nm,1.8s,mb6.0						
IPM	**Ipoh**	**30.11**	**288**	⇓P	**P**	**02 22 41.3**	**+2.2**
HNR	**Honiara**	**30.41**	**100**	P	**P**	**02 22 39.9**	**-2.0**
	comp=Z,149nm,0.7s,mb5.9,baz=206,slow=0.2,SNR=8.8						
HNR	**Honiara**	**30.41**	**100**	P	**P**	**02 22 41.8**	**-0.1**
HNR				pmax	pmax		
	comp=Z,580nm,1.0s,mb6.3						
HNR	**Honiara**	**30.41**	**100**	*e*P	**P**	**02 22 39.6**	**-2.3**
	comp=Z,585nm,1.0s,mb6.3						
KULM	**Kulim**	**30.72**	**290**	⇓P	**P**	**02 22 46.5**	**+1.9**
YHNB	**Yeheng**	**30.85**	**345**	*e*P	**P**	**02 22 46.3**	**+0.8**
	comp=Z,44nm,0.8s,mb5.3						
QIZ	**Qiongzhong**	**31.02**	**322**	P	**P**	**02 22 46.4**	**-0.7**
QIZ				PP	PP	02 23 55.9	-1.6
QIZ				S	**S**	**02 27 46.6**	**-3.5**
QIZ				AMB	AMB		
	comp=Z,109nm,1.8s,mb5.4						
QIZ				LR	LR		
	comp=N,2μm,16.4s						
QIZ				LR	LR		
	comp=Z,3μm,16.8s,MS5.1						
QIZ	**Qiongzhong**	**31.02**	**322**	*e*P	**P**	**02 22 46.6**	**-0.5**
	comp=Z,319nm,1.3s,mb6.0						
PSI	**Prapat**	**31.64**	**284**	P	**P**	**02 22 50.5**	**-2.2**
	comp=Z,34nm,1.1s,mb5.1,baz=110,slow=4.7,SNR=16						
QZH	**Quanzhou**	**31.91**	**341**	P	**P**	**02 22 54.0**	**-0.9**
QZH				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.8						
JOW	**Kunigami**	**31.98**	**358**	P	**P**	**02 22 56.2**	**+0.7**
	comp=Z,45nm,0.8s,mb5.4,baz=225,slow=7.7,SNR=7.3						
JOW				LR	LR	02 34 31.8	
	comp=Z,8μm,21.5s,MS5.4,baz=182,slow=34						
GZH	**Guangzhou**	**32.37**	**331**	P	**P**	**02 23 01.8**	**+2.9**
ARMA	**Armidale**	**32.49**	**143**	*e*P	**P**	**02 23 01.7**	**+1.7**
ARMA				*e*S	**S**	**02 28 19.9**	**+6.9**
CBIJ	**Chichi jima**	**34.46**	**20**	P	**P**	**02 23 17.9**	**+0.7**
	comp=Z,28nm,0.7s,mb5.3,baz=298,slow=20,SNR=5.0						
CBIJ				LR	LR	02 35 12.7	
	comp=Z,6μm,20.0s,MS5.3,baz=192,slow=33						
CAN	**Canberra**	**34.84**	**152**	*e*P	**P**	**02 23 21.7**	**+1.4**
CNB	**Canberra Magne**	**35.01**	**151**	*e*P	**P**	**02 23 23.7**	**+1.9**
TOO	**Toolangi**	**35.25**	**158**	*e*P	**P**	**02 23 25.9**	**+2.1**
TOO				*e*S	**S**	**02 29 00.1**	**+4.6**
SSE	**Sheshan**	**37.08**	**348**	P	**P**	**02 23 42.3**	**+2.8**
SSE				AMB	AMB		
	comp=Z,39nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,353nm,6.8s						
CM31	**Chiang Mai Arr**	**38.32**	**309**	*e*P	**P**	**02 23 50.8**	**+0.6**
	comp=Z,310nm,1.2s,mb5.9						
CMAR	**Chiang Mai Arr**	**38.32**	**309**	P	**P**	**02 23 49.8**	**-0.4**
	comp=Z,36nm,0.8s,mb5.2,baz=136,slow=6.6,SNR=36						
CMAR				LR	LR	02 40 39.2	
	comp=Z,4μm,19.8s,MS5.2,baz=129,slow=38						
WHN	**Wuhan**	**38.51**	**339**	P	**P**	**02 23 51.8**	**+0.2**
WHN				AP	pP	02 24 01.0	-0.1
WHN				S	**S**	**02 29 44.8**	**-0.5**
WHN				AMB	AMB		
	comp=Z,85nm,1.0s,mb5.4						
WHN				LR	LR		
	comp=Z,4μm,16.1s,MS5.3						
CHTO	**Chiang Mai**	**38.53**	**309**	P	**P**	**02 23 52.0**	**+0.1**
	SNR=77						
CHTO	**Chiang Mai**	**38.53**	**309**	*e*P	**P**	**02 23 51.0**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,457nm,1.3s,mb6.0						
CHTO	**Chiang Mai**	**38.53**	**309**	*e*P	**P**	**02 23 51.0**	**-1.0**
	comp=Z,456nm,1.3s,mb6.0						
NJ2	**Nanjing**	**38.53**	**345**	*e*P	**P**	**02 23 52.8**	**+1.0**
NJ2				AP	pP	02 23 56.4	-4.9
NJ2				XP	sP	02 23 59.1	-6.1
NJ2				PP	PP	02 25 22.3	+1.9
NJ2				S	**S**	**02 29 46.5**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,430nm,4.5s						
NJ2				LR	LR		
	comp=N,780nm,22.5s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,18.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,19.3s,MS4.9						
GYA	**Guiyang**	**38.59**	**326**	⇑*i*P	**P**	**02 23 51.3**	**-1.1**
GYA				AP	pP	02 24 00.6	-1.3
GYA				PCP	PcP	02 26 05.4	+0

comp=Z,168nm,0.9s,mb5.7
MAJO Matsushiro 42.42 10 *e*P **P 02 24 23.5 -0.4**
comp=Z,168nm,0.9s,mb5.7
MAT Matsushiro 42.42 10 P **P 02 24 23.0 -0.9**
MAT S **S 02 30 43.1 -0.3**
MJAR Matsushiro Arr 42.42 10 P **P 02 24 23.1 -0.8**
comp=Z,21nm,0.8s,mb4.8,baz=185,slow=9.3,SNR=54
MJAR LR LR 02 37 59.4
comp=Z,3μm,21.0s,MS5.1,baz=185,slow=30
KS15 Wonju Array Si 42.56 358 *e*P **P 02 24 26.3 +1.3**
KSRS Korea Array 42.57 358 P **P 02 24 26.1 +1.0**
comp=Z,22nm,1.0s,mb4.8,baz=189,slow=7.5,SNR=28
KSRS LR LR 02 40 32.3
comp=Z,3μm,21.8s,MS5.1,baz=187,slow=34
INCN Inchon 42.66 357 P **P 02 24 27.1 +1.3**
SNR=18
INCN Inchon 42.66 357 *e*P **P 02 24 27.4 +1.6**
comp=Z,190nm,1.2s,mb5.7
CD2 Chengdu 43.65 327 P **P 02 24 33.1 -0.8**
CD2 AP pP 02 24 42.0 -1.5
CD2 XP sP 02 24 47.3 -0.1
CD2 PP PP 02 26 17.3 +1.3
CD2 S **S 02 31 01.1 -0.6**
CD2 XS sS 02 31 17.5 0.0
CD2 SCS ScS 02 34 27.5 -3.8
CD2 AMB AMB
comp=Z,120nm,0.8s,mb5.7
CD2 AMB AMB
comp=Z,560nm,5.4s
CD2 LR LR
comp=N,3μm,16.8s,MS5.4
CD2 LR LR
comp=E,3μm,18.0s,MS5.4
CD2 LR LR
comp=Z,4μm,21.0s,MS5.3
XAN Xi'an 43.73 335 P **P 02 24 33.1 -1.4**
XAN AP pP 02 24 42.3 -1.8
XAN XP sP 02 24 46.8 -1.2
XAN AMB AMB
comp=Z,44nm,1.2s,mb5.1
XAN AMB AMB
comp=Z,458nm,6.0s
XAN LR LR
comp=E,1μm,18.3s
XAN LR LR
comp=Z,2μm,18.3s,MS5.1
DL2 Dalian 44.60 351 P **P 02 24 43.6 +2.2**
DL2 S **S 02 31 18.3 +3.0**
DL2 SCS ScS 02 34 37.8 +0.8
DL2 AMB AMB
comp=Z,40nm,1.3s,mb5.1
DL2 AMB AMB
comp=Z,250nm,5.0s
DL2 LR LR
comp=N,1μm,17.9s,MS5.1
DL2 LR LR
comp=E,2μm,16.0s,MS5.1
DL2 LR LR
comp=Z,1μm,15.5s,MS5.0
TIY Taiyuan 45.68 341 P **P 02 24 48.4 -1.6**
TIY LR LR
comp=N,1μm,13.8s,MS5.2
TIY LR LR
comp=E,1μm,13.9s,MS5.2
TIY LR LR
comp=Z,1μm,18.6s,MS4.9
IMP Imphal 45.78 312 *e*P **P 02 24 52.0 +1.0**
IMP *e*x x 02 26 36.0
BJT Baijiatuau 46.76 346 *e*P **P 02 24 57.5 -1.0**
BJT pmax pmax
comp=Z,157nm,0.9s
BJT Baijiatuau 46.76 346 *e*P **P 02 24 57.5 -1.0**
comp=Z,157nm,0.9s,mb5.9
BJI Beijing 46.78 346 P **P 02 24 58.1 -0.5**
BJI S **S 02 31 50.5 +3.8**
BJI AMB AMB
comp=Z,45nm,1.0s,mb5.3
BJI AMB AMB
comp=Z,389nm,3.7s
BJI LR LR
comp=N,933nm,17.9s,MS5.0
BJI LR LR
comp=E,1μm,21.5s,MS5.0
BJI LR LR
comp=Z,2μm,25.8s,MS4.9
LZH Lanzhou 47.72 332 ⇑P **P 02 25 05.0 -1.0**
LZH AP pP 02 25 14.9 -0.8
LZH XP sP 02 25 19.0 -0.5
LZH PP PP 02 26 56.3 -1.7
LZH S **S 02 32 00.0 -0.2**
LZH XS sS 02 32 16.1 0.0
LZH AMB AMB
comp=Z,215nm,1.5s,mb6.0
LZH AMB AMB
comp=Z,563nm,5.8s
LZH LR LR
comp=E,3μm,16.7s
LZH LR LR
comp=Z,3μm,18.5s,MS5.3
SHL Shillong 47.74 312 ⇑*i*P **P 02 25 05.0 -1.4**
SHL *e*x x 02 35 01.0
VLA Vladivostok 48.25 2 *e*P **P 02 25 08.3 -1.7**
VLA *i* *PP pP 02 25 18.2 -1.5
VLA *e**SP sP 02 25 22.9 -0.7
VLA *e*PPP 02 27 49.6
VLA *i* S **S 02 32 10.9 +3.4**
VLA pmax pmax
comp=Z,44nm,0.7s,mb5.6
VLA MLR MLR
comp=Z,3μm,17.6s,MS5.3
HHC Hu-ho-hao-te 48.81 342 *e*P **P 02 25 13.8 -0.6**
HHC AP pP 02 25 23.6 -0.5
HHC XP sP 02 25 27.3 -0.6
HHC PP PP 02 27 07.1 -0.8
HHC XS sS 02 32 29.4 -2.0
HHC SCS ScS 02 34 59.3 -5.1
HHC AMB AMB
comp=Z,27nm,0.8s,mb5.3
HHC LR LR
comp=N,1μm,19.0s,MS5.2
HHC LR LR
comp=E,3μm,21.4s,MS5.2
HHC LR LR
comp=Z,2μm,20.2s,MS5.2
CN2 Changchun 49.03 356 ⇓P **P 02 25 15.5 -0.5**
CN2 *e*XP sP 02 25 30.5 +1.0
CN2 *e*S **S 02 32 18.3 -0.1**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,2μm,17.0s,MS5.3
CN2 LR LR
comp=E,1μm,17.0s,MS5.3
CN2 LR LR
comp=Z,2μm,19.0s,MS5.1
MDJ Mudanjiang 49.70 0 P **P 02 25 21.8 +0.7**
MDJ AP pP 02 25 30.9 +0.1
MDJ XP sP 02 25 35.0 +0.3
MDJ PCP PcP 02 26 42.6 +0.7
MDJ PP PP 02 27 15.9 0.0
MDJ SCP ScP 02 30 35.6 +0.3
MDJ PCS PcS 02 30 39.4 +0.9
MDJ S **S 02 32 32.3 +4.5**
MDJ SCS ScS 02 35 11.9 +1.6
MDJ SS SS 02 36 03.8 +3.1
MDJ AMB AMB
comp=Z,27nm,0.8s,mb5.3
MDJ AMB AMB
comp=Z,530nm,12.3s
MDJ LR LR
comp=N,2μm,17.8s
MDJ LR LR
comp=E,3μm,37.1s
MDJ LR LR
comp=Z,3μm,35.5s
MDJ Mudanjiang 49.70 0 *e*P **P 02 25 21.8 +0.7**
comp=Z,80nm,1.1s,mb5.7
MDJ LR LR
comp=Z,2μm,20.0s,MS5.2
PALK Pallekele 50.32 284 *e*P **P 02 25 26.4 0.0**
PALK pmax pmax
comp=Z,31nm,1.2s,mb5.2
PALK Pallekele 50.32 284 *e*P **P 02 25 26.4 +0.1**
comp=Z,31nm,1.2s,mb5.2
LSA Lhasa 50.68 316 P **P 02 25 28.4 -0.4**
LSA XP sP 02 25 44.5 +2.1
LSA S **S 02 32 44.5 +2.5**
LSA AMB AMB
comp=Z,40nm,1.0s,mb5.3
LSA AMB AMB
comp=Z,190nm,6.0s
LSA LR LR
comp=N,1μm,24.0s,MS5.2
LSA LR LR
comp=E,3μm,29.0s,MS5.2
LSA LR LR
comp=Z,3μm,32.0s,MS5.2
LSA Lhasa 50.68 316 *e*P **P 02 25 29.1 +0.3**
LSA pmax pmax
comp=Z,102nm,0.8s,mb5.8
LSA Lhasa 50.68 316 *e*P **P 02 25 29.1 +0.3**
comp=Z,102nm,0.8s,mb5.8
VIS Vishakhapatnam 51.04 298 *i* P **P 02 25 31.2 -0.5**
VIS *e*x x 02 25 41.5
comp=Z,170nm,1.4s
VIS *i* x x 02 32 43.8
YUK Yuzh-Kuril'sk 51.28 15 *e*P **P 02 25 33.0 0.0**
YUK *e* 02 32 50.7
YUK MLR MLR
comp=Z,3μm,20.0s,MS5.3
BOK Bokaro 51.47 306 *e*P **P 02 25 34.3 -0.6**
ODAN Odare 51.83 310 *e*P **P 02 25 36.2 -1.3**
comp=Z,536nm,0.9s,mb6.5
TAPN Taplejung 51.84 311 *e*P **P 02 25 36.4 -1.2**
comp=Z,678nm,1.0s,mb6.5
MDRS Chennai 52.27 291 *e*x x 02 25 40.0
GTA Gaotai 52.29 331 P **P 02 25 40.3 -0.4**
GTA AP pP 02 25 50.0 -0.4
GTA XP sP 02 25 53.6 -0.7
GTA S **S 02 33 02.1 -1.7**
GTA XS sS 02 33 19.3 -0.6
GTA AMB AMB
comp=Z,40nm,1.2s,mb5.2
GTA AMB AMB
comp=Z,587nm,6.9s
GTA LR LR
comp=N,2μm,18.6s,MS5.2
GTA LR LR
comp=E,1μm,18.3s,MS5.2
GTA LR LR
comp=Z,1μm,19.3s,MS5.0
RAMN Ramite 52.48 310 *e*P **P 02 25 41.4 -0.9**
comp=Z,1μm,0.8s,mb6.8
RPZ Rata Peaks 52.84 143 LR LR 02 47 55.2
comp=Z,8μm,21.0s,MS5.8,baz=290,slow=36
JIRN Jiri 53.15 310 *e*P **P 02 25 46.0 -1.3**
comp=Z,848nm,1.2s,mb6.5
YSS Yuzh-Sakhalins 53.34 11⇓*e*P **P 02 25 48.0 -0.3**
YSS *e* pP 02 25 56.7 -1.4
YSS *e*S **S 02 33 13.0 -4.9**
YSS pmax pmax
comp=Z,60nm,1.4s,mb5.3
YSS MLR MLR
comp=Z,1μm,17.0s,MS5.0
YSS MLR MLR
comp=N,2μm,16.0s,MS5.2
YSS MLR MLR
comp=E,1μm,18.0s,MS5.2
YSS Yuzh-Sakhalins 53.34 11 *e*P **P 02 25 49.1 +0.9**
comp=E,54nm,0.8s,mb5.5
GUN Gumba 53.52 311 *e*P **P 02 25 48.8 -1.2**
PKI Pulchoki 53.70 310 *e*P **P 02 25 49.8 -1.5**
comp=E,346nm,0.9s,mb6.3
PKI Pulchoki 53.70 310 *e*P **P 02 25 49.8 -1.5**
PKI pmax pmax
comp=Z,346nm,0.9s,mb6.3
BLSP Bilaspur 53.82 302 *e*P **P 02 25 51.5 -0.8**
BLSP AMb AMB 02 26 02.1
comp=Z,153nm,1.4s,mb5.7
KKN Kakani 53.91 310 *e*P **P 02 25 51.6 -1.2**
comp=Z,476nm,0.9s,mb6.4
KKN Kakani 53.91 310 *e*P **P 02 25 51.6 -1.2**
KKN pmax pmax
comp=Z,476nm,0.9s,mb6.4
DMN Daman 53.95 310 *e*P **P 02 25 51.8 -1.3**
comp=Z,787nm,1.1s,mb6.6
URZ Urewera 54.15 134 LR LR 02 48 54.8
comp=Z,4μm,19.4s,MS5.5,baz=357,slow=36
KLR Kul'dur 54.35 2 *e*P **P 02 25 51.4 -4.2**
KLR pmax pmax
comp=Z,80nm,1.6s,mb5.4
GKN Gorkha 54.51 310 *e*P **P 02 25 55.9 -1.3**
comp=Z,55nm,0.9s,mb5.6
RAO Raoul Island 54.97 122 LR LR 02 47 27.4
comp=Z,4μm,20.9s,MS5.4,baz=341,slow=34
HIA Hailar 55.02 352 *e*P **P 02 26 00.7 +0.2**
HYB Hyderabad 55.18 295 *e*P **P 02 26 02.5 +0.3**
HYB pmax pmax
comp=Z,212nm,1.2s,mb6.0
HYB Hyderabad 55.18 295 *i* P **P 02 26 02.5 +0.3**
comp=Z,212nm,1.2s,mb6.0
HYB Hyderabad 55.18 295 *e*P **P 02 26 02.5 +0.3**
comp=Z,212nm,1.2s,mb6.0
KOLN Koldanda 55.19 309 *e*P **P 02 26 01.0 -1.1**
comp=Z,444nm,0.9s,mb6.5
DANN Dangsing 55.35 310 *e*P **P 02 26 02.1 -1.2**
comp=Z,887nm,1.0s,mb6.7
SONM Songino Array 56.71 342 P **P 02 26 13.2 +0.6**
comp=Z,38nm,1.0s,mb5.4,baz=163,slow=7.4,SNR=32
AFI Afiamalu 58.35 103 P **P 02 26 27.0 +2.2**
comp=Z,61nm,0.9s,mb5.6,baz=273,slow=12,SNR=2.9
PTH Pithoragarh 58.65 309 *e*P **P 02 26 24.4 -2.2**
PTH *e*x x 02 28 41.4
CIT Chita 58.73 349 *e*P **P 02 26 27.8 +1.1**
KAD Karad 59.11 294 *e*P **P 02 26 27.8 -2.2**
KAD AMb AMB 02 26 41.0
comp=Z,113nm,1.3s,mb5.8
JOSI Joshimath 59.62 310 *e*P **P 02 26 32.9 -0.5**
JOSI AMb AMB 02 26 43.4
comp=Z,3μm,1.1s
POO Poona 59.78 295 *e*x x 02 26 40.7
POO AMb AMB 02 26 46.6
comp=Z,87nm,1.6s,mb5.5
ZAK Zakamensk 59.94 341 *e*P **P 02 26 35.1 0.0**
SONA Sohna 60.54 307 *e*P **P 02 26 37.4 -2.3**
SONA AMb AMB 02 26 47.6
comp=Z,182nm,0.8s,mb6.2
AYAN Aya Nagar 60.60 307 *e*P **P 02 26 37.9 -2.2**
NDI New Delhi 60.61 307 *e*x x 02 26 36.0
TLY Talaya 60.94 342 P **P 02 26 43.3 +1.3**
SNR=15
TLY Talaya 60.94 342 *e*P **P 02 26 42.8 +0.9**
TLY *e*S **S 02 34 51.3 -6.6**
TLY pmax pmax
comp=Z,67nm,1.1s,mb5.7
TLY Talaya 60.94 342 *e*P **P 02 26 42.0 +0.1**
KUDL Kundal 60.97 306 *e*x x 02 26 38.5
KUDL AMb AMB 02 26 50.0
comp=Z,133nm,0.6s,mb6.3
KLP Kalpa 61.07 310 *e*P **P 02 26 43.2 -0.1**
KLP AMb AMB 02 26 51.4
comp=Z,101nm,1.6s,mb5.7
IRK Irkutsk 61.24 343 *e*P **P 02 26 44.4 +0.4**
IRK pmax pmax
comp=Z,144nm,1.8s,mb5.8
SMLA Simla 61.71 310 *i* P **P 02 26 47.5 -0.1**
SMLA *e*x x 02 26 56.7
comp=Z,546nm,0.6s
SMLA *i* x x 02 35 05.7
WMQ Urumqi 61.75 327 P **P 02 26 49.1 +1.5**
WMQ AP pP 02 26 59.3 +1.8
WMQ XP sP 02 27 03.3 +2.0
WMQ PCP PcP 02 27 30.1 +1.5
WMQ PP PP 02 29 07.1 +3.3
WMQ SCP ScP 02 31 28.9 +0.7
WMQ S **S 02 35 07.8 -0.6**
WMQ SCS ScS 02 36 34.3 -2.6
WMQ AMB AMB
comp=Z,269nm,0.9s,mb6.4
WMQ AMB AMB
comp=Z,231nm,8.4s
WMQ LR LR
comp=N,2μm,19.6s,MS5.5
WMQ LR LR
comp=E,3μm,24.1s,MS5.5
WMQ LR LR
comp=Z,2μm,24.0s,MS5.2
MOY Mondy 61.79 340 *e*P **P 02 26 49.0 +1.3**
MOY pmax pmax
comp=Z,212nm,1.9s,mb6.0
AJM Ajmer 61.82 304 *e*P **P 02 26 47.1 -1.3**
AJM AMb AMB 02 26 59.8
comp=Z,159nm,1.9s,mb5.8
SDNR Sundarnagar 62.03 310 *e*P **P 02 26 49.4 -0.3**
CLNS Chul'man 62.06 357 *e*P **P 02 26 46.9 -2.5**
CLNS *e**PP pP 02 27 05.2 +5.9
CLNS *e* 02 27 25.1
CLNS *e* 02 29 02.9
CLNS *e*S **S 02 35 09.4 -2.4**
CLNS pmax pmax
comp=Z,37nm,1.0s,mb5.5
CLNS pmax pmax
comp=N,25nm,0.9s
CLNS pmax pmax
comp=E,30nm,1.2s
CLNS pmax pmax
comp=Z,14nm,1.4s,mb4.9
CLNS pmax pmax
comp=N,25nm,1.3s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS smax
comp=N,401nm,13.6s
CLNS smax
comp=E,877nm,12.0s
CLNS MLR MLR
comp=Z,632nm,16.0s,MS4.9
CLNS MLR MLR
comp=N,633nm,15.0s,MS5.0
CLNS MLR MLR
comp=E,530nm,15.0s,MS5.0
CASY Casey 62.29 189 *e*P **P 02 26 51.0 +0.2**
PETK Petropavlovsk- 62.88 19 P **P 02 26 55.4 +0.5**
comp=E,47nm,1.0s,mb5.6,baz=188,slow=3.0,SNR=28
PETK PKiKP PKiKP 02 33 41.8 -2.2
comp=E,4.2nm,1.0s,baz=268,slow=8.9,SNR=3.6
PETK LR LR 02 53 05.0
comp=E,1μm,19.3s,MS5.2,baz=206,slow=35
PETK PKP2ab 02 56 10.6
comp=E,1.6nm,0.3s,baz=297,slow=7.8,SNR=4.2
PET Petropavlovsk 63.11 19 *e*P **P 02 26 57.3 +0.8**
PET *i* S **S 02 35 28.8 +3.6**
PET pmax pmax
comp=Z,55nm,0.8s,mb5.7
PET pmax pmax
comp=Z,300nm,12.1s
PET MLR MLR
comp=Z,1μm,19.0s,MS5.1
PET Petropavlovsk 63.11 19 *e*P **P 02 26 56.8 +0.3**
comp=Z,399nm,1.5s,mb6.3
HVS Khovu-Aksy 64.08 336*d* *i*P **P 02 27 04.7 +1.8**
BOD Bodaibo 64.17 351 *e*P **P 02 27 03.1 -0.3**
BOD pmax pmax
comp=Z,56nm,1.0s,mb5.5
MIR Mirnyy 66.14 195⇑*i*P **P 02 27 17.0 +0.9**
MIR *i* pP 02 27 28.0 +1.9
MIR *i* 02 27 35.0
MIR *i* 02 27 47.0
MIR *e*S S 02 36 05.0 +2.8
MIR *e*PS 02 36 24.0
MIR *e*SS SS 02 40 20.0 +1.8
MIR pmax pmax
comp=Z,200nm,1.0s,mb6.1
MIR MLR MLR
comp=Z,6μm,17.0s,MS5.9
KSH Kashi 66.48 317 P **P 02 27 20.3 +1.5**
KSH AP pP 02 27 29.3 +0.5
KSH XP sP 02 27 33.8 +1.2
KSH PCP PcP 02 27 49.0 +0.8
KSH *e*PP PP 02 29 47.1 +1.6
KSH PPP 02 31 22.8
KSH SCP 02 31 48.3
KSH PCS 02 31 52.5
KSH S S 02 36 04.0 -3.3
KSH XS sS 02 36 19.9 -3.9
KSH SCS ScS 02 37 09.9 -3.5
KSH AMB AMB
comp=Z,204nm,0.6s,mb6.3
KSH LR LR
comp=N,2μm,11.1s,MS5.7
KSH LR LR
comp=E,2μm,12.5s,MS5.7
KSH LR LR
comp=Z,2μm,15.2s,MS5.5
MK31 Makanchi Array 66.58 327 *e*P **P 02 27 18.8 -0.4**
MK31 Makanchi Array 66.58 327 *e*P **P 02 27 18.5 -0.7**
MKAR Makanchi Array 66.58 327 P **P 02 27 18.6 -0.6**
comp=Z,48nm,0.7s,mb5.7,baz=112,slow=8.5,SNR=71
MKAR PKPPKP 02 55 51.4
comp=Z,0.3nm,0.2s,baz=193,slow=40,SNR=2.7
MKAR LR LR 02 57 03.4
comp=Z,2μm,21.7s,MS5.2,baz=120,slow=37
MKAR Makanchi Array 66.58 327 P **P 02 27 18.6 -0.6**
MKAR P'P' 02 55 51.4
MKAR LR LR 02 57 03.4
YAK Yakutsk 67.15 0 *e*P **P 02 27 22.2 -0.3**
YAK *e**PP pP 02 27 31.4 -1.1
YAK *e* 02 27 38.1
YAK *e*S S 02 36 14.5 0.0
YAK *e*SS SS 02 40 35.5 +1.2
YAK pmax pmax
comp=N,29nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,84nm,1.0s,mb5.7
YAK smax
comp=N,655nm,6.7s
YAK smax
comp=E,1μm,6.7s
YAK Yakutsk 67.15 0 *e*P **P 02 27 23.0 +0.5**
comp=E,287nm,0.8s,mb6.4
KRAR Krasnoyarsk 68.14 339 *e*P **P 02 27 29.1 +0.2**
KRAR pmax pmax
comp=Z,42nm,1.7s,mb5.2
FRU Bishkek 68.99 320 *e*P **P 02 27 35.0 +0.5**
FRU *e* 02 27 49.0
FRU *e* 02 37 24.0
FRU pmax pmax
comp=Z,280nm,2.4s,mb5.8
KBL Kabul 69.34 310 *e*P **P 02 27 35.9 -1.0**
KBL pmax pmax
comp=Z,86nm,0.9s,mb5.7
KBL Kabul 69.34 310 *e*P **P 02 27 35.9 -0.9**
comp=Z,86nm,0.9s,mb5.7
ZALV Zalesovo Beam 69.88 334 P **P 02 27 38.6 -1.1**
comp=Z,57nm,0.8s,mb5.5,baz=123,slow=5.5,SNR=64
ZALV PKPPKP 02 55 44.9
comp=Z,2.7nm,0.8s,baz=217,slow=6.9,SNR=7.0
ZAL Zalesovo 69.89 334 P **P 02 27 38.7 -1.1**
SEY Seymchan 70.24 11*c* *i*P **P 02 27 42.4 +0.6**
SEY Seymchan 70.24 11⇑*i*P **P 02 27 42.5 +0.7**
AMKA Amchitka 70.64 30 *e*P **P 02 27 43.4 -1.1**
KURK Kurchatov 70.86 329⇑P **P 02 27 46.8 +1.0**
SNR=110
KURK Kurchatov 70.86 329 *e*P **P 02 27 45.3 -0.5**
KURK Kurchatov 70.86 329 *e*P **P 02 27 44.9 -0.9**
comp=Z,424nm,0.9s,mb6.4
NVS Novosibirsk 71.17 334⇑*i*P **P 02 27 46.0 -1.6**
NVS *i* S S 02 36 58.4 -3.8
NVS pmax pmax
comp=Z,264nm,1.1s,mb6.1
NVS pmax pmax
comp=N,135nm,1.2s
NVS pmax pmax
comp=E,143nm,1.2s
NVS smax
comp=E,167nm,2.3s
NVS smax
comp=N,187nm,2.4s
KK31 Karatay Array 71.79 319 *i* P **P 02 27 50.7 -0.9**
ADK Adak 72.99 32 P **P 02 27 59.8 +1.3**
ADK pmax pmax
comp=Z,130nm,1.1s,mb5.8
ADK Adak 72.99 32 *e*P **P 02 27 59.4 +0.9**
comp=Z,128nm,1.1s,mb5.8
XMAS Kiritimati 73.28 86 *e*P **P 02 28 01.9 +0.7**
comp=Z,154nm,1.3s,mb5.8
VNDA Vanda 74.16 173 P **P 02 28 05.0 -0.1**
comp=Z,15nm,0.9s,mb4.9,baz=315,slow=7.4,SNR=16
VNDA LR LR 02 58 37.6
comp=Z,3μm,19.9s,MS5.6,baz=336,slow=34
VNDA Vanda 74.16 173 *e*P **P 02 28 05.4 +0.3**

VNDA pmax pmax
comp=Z,57nm,1.2s
VNDA MLR MLR
comp=Z,4µm,20.0s
VNDA Vanda 74.16 173 *e*P **P 02 28 05.3 +0.3**
comp=Z,57nm,1.2s,mb5.4
VNDA LR LR
comp=Z,4µm,20.0s,MS5.7
SBA Scott Base 75.05 172 *e*P **P 02 28 11.9 +1.7**
SBA pmax pmax
comp=Z,110nm,1.4s,mb5.6
SBA Scott Base 75.05 172 *e*P **P 02 28 11.9 +1.7**
comp=Z,110nm,1.4s,mb5.6
BIDO Bidbid 75.25 296 ⇓P **P 02 28 13.0 +0.7**
SNR=6.8
VOSK Vostochnaya 75.95 328 P **P 02 28 14.6 -1.1**
VOSK pmax pmax
comp=Z,159nm,0.9s,mb6.0
HOQ Hoqain 75.99 296 ⇑P **P 02 28 17.2 +0.6**
SNR=12
MAW Mawson 76.35 201 *e*P **P 02 28 18.3 +0.5**
comp=Z,65nm,1.0s,mb5.5
MAW *e*S S 02 38 01.0 +0.7
MAW Mawson 76.35 201 P **P 02 28 18.4 +0.6**
comp=Z,36nm,1.0s,mb5.2,baz=58,slow=8.0,SNR=23
MAW LR LR 03 01 16.5
comp=Z,2µm,18.0s,MS5.5,baz=145,slow=35
MAW Mawson 76.35 201 *e*P **P 02 28 18.3 +0.5**
MAW *e*S S 02 38 01.0 +0.7
MAW pmax pmax
comp=Z,65nm,1.0s
BVA0 Borovoye Array 76.41 328 *i* P **P 02 28 17.4 -0.9**
BVA0 pmax pmax
comp=Z,78nm,1.1s,mb5.5
BVAR Borovoye Array 76.41 328 P **P 02 28 17.9 -0.5**
comp=Z,49nm,0.9s,mb5.5,baz=126,slow=7.5,SNR=51
BRVK Borovoye 76.48 328 ⇑P **P 02 28 20.3 +1.6**
SNR=84
BRVK Borovoye 76.48 328 *e*P **P 02 28 18.3 -0.4**
BRVK Borovoye 76.48 328 *e*P **P 02 28 17.9 -0.8**
comp=Z,274nm,0.9s,mb6.2
BRVK LR LR
comp=Z,3µm,21.0s,MS5.5
TIXI Tiksi 76.81 360 *e*P **P 02 28 18.8 -1.5**
TIXI *e* pP 02 28 27.6 -2.8
TIXI *e* 02 28 34.8
TIXI *e*S S 02 38 01.0 -4.2
TIXI *e*SS SS 02 42 54.5 -7.4
TIXI pmax pmax
comp=Z,22nm,0.9s,mb5.1
TIXI MLR MLR
comp=Z,2µm,17.0s,MS5.4
TIXI Tiksi 76.81 360 *e*P **P 02 28 19.4 -0.8**
comp=Z,41nm,0.8s,mb5.4
HATD Hatta, Dubai 77.30 297 P **P 02 28 26.6 +2.6**
SNR=9.5
BILL Bilibino 77.59 13 *e*P **P 02 28 24.8 +0.1**
BILL pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BILL Bilibino 77.59 13 *e*P **P 02 28 24.9 +0.2**
UNV Unalaska Valle 79.34 33 *e*P **P 02 28 35.0 +0.4**
comp=Z,173nm,1.3s,mb5.8
TBI Tubuai 79.65 113 *e*SS SS 02 43 45.7 -0.8
comp=Z,1µm,31.8s
TBI *e*LR LR 02 53 18.3
comp=Z,3µm,30.0s
PPT Papeete 79.73 107 *e*PP PP 02 31 35.9 -3.1
comp=Z,304nm,23.8s
PPT Papeete 79.73 107 *e*LR LR 02 53 15.4
comp=Z,5µm,38.2s
AB31 Akbulak array 80.92 322 ⇑*e*P **P 02 28 42.4 -0.9**
ABPO Ambohimpanom 81.05 252 *e*P **P 02 28 47.0 +2.4**
ABPO pmax pmax
comp=Z,63nm,1.4s,mb5.3
ABPO Ambohimpanom 81.05 252 *e*P **P 02 28 47.0 +2.3**
comp=Z,63nm,1.4s,mb5.3
AKTK Aktyubinsk 82.47 322 P **P 02 28 51.4 0.0**
AKTO Aktyubinsk 82.47 322 P **P 02 28 51.4 0.0**
comp=Z,22nm,1.0s,mb5.0,baz=105,slow=6.7,SNR=24
SVE Sverdlovsk 83.10 329 ⇑*e*P **P 02 28 54.6 0.0**
SVE *e*S S 02 39 08.2 -3.7
SVE *e*SSS 02 48 05.7
SVE pmax pmax
comp=Z,131nm,1.0s,mb5.9
SDPT Sand Point 83.15 33 *e*P **P 02 28 55.1 +0.3**
comp=Z,145nm,0.5s,mb6.3
ARU Arti 84.05 328 P **P 02 28 58.5 -0.9**
comp=Z,659nm,1.4s,mb6.6,SNR=9.3
QSPA South Pole Qui 84.65 180 P **P 02 29 01.1 -1.0**
comp=Z,24nm,1.0s,mb5.3,baz=337,slow=2.5,SNR=30
QSPA South Pole Qui 84.65 180 P **P 02 29 01.1 -1.0**
SYO Syowa Base 85.06 201 ⇑*e*P **P 02 29 03.0 -1.4**
SYO Syowa Base 85.06 201 ⇑*e*P **P 02 29 12.4 +8.0**
UMR Umm Al-Rimmam 85.52 300 *e*P **P 02 29 08.8 +1.3**
baz=302
UMR AMb AMB 02 29 16.9
comp=Z,333nm,0.9s,mb6.6,baz=302
RDF Al-Radifah 85.57 299 *e*P **P 02 29 09.6 +1.9**
baz=301
RDF AMb AMB 02 29 18.0
comp=Z,261nm,1.6s,mb6.2,baz=301
MIB Mutribah 85.88 300 *e*P **P 02 29 09.7 +0.5**
baz=302
MIB AMb AMB 02 29 18.7
comp=Z,442nm,0.9s,mb6.7,baz=302
NAY Al-Naaiem 85.89 300 *e*P **P 02 29 10.6 +1.3**
baz=301
NAY AMb AMB 02 29 18.5
comp=Z,315nm,0.8s,mb6.6,baz=301
SOKR Solikamsk 85.93 331 *d i* P **P 02 29 07.7 -1.1**
SOKR S S 02 39 41.4 +1.4
SOKR pmax pmax
comp=Z,190nm,1.2s,mb6.2
RST Umm Al-Ruwaisa 86.13 300 *e*P **P 02 29 10.6 +0.1**
baz=302
RST AMb AMB 02 29 19.6
comp=Z,19nm,0.8s,mb5.4,baz=302
SVW2 Sparrevohn 87.37 28 *e*P **P 02 29 16.1 +0.3**
TTA Tatalina 87.69 26 *e*P **P 02 29 18.0 +0.7**
TTA pmax pmax
comp=Z,111nm,1.4s,mb5.9
TTA Tatalina 87.69 26 *e*P **P 02 29 18.0 +0.8**
comp=Z,111nm,1.4s,mb5.9
MAK Makhachkala 87.78 313 *e*P **P 02 29 17.7 -0.5**
MAK *e*S S 02 39 44.4 -14
MAK *i* 02 40 04.5
MAK pmax pmax
comp=Z,304nm,1.8s,mb6.2
MAK MLR MLR
comp=Z,2µm,18.0s,MS5.5
KDAK Kodiak Island 88.03 32 P **P 02 29 19.1 +0.1**
comp=Z,24nm,1.0s,mb5.4,baz=206,slow=2.3,SNR=12
KDAK Kodiak Island 88.03 32 *e*P **P 02 29 19.0 0.0**
KDAK pmax pmax
comp=Z,116nm,1.3s,mb6.0
KDAK Kodiak Island 88.03 32 *e*P **P 02 29 19.0 0.0**
comp=Z,116nm,1.3s,mb6.0
BHD Baghdad 88.85 303 *ex* x 02 29 20.0
DGRG David-gareji 89.12 312 P **P 02 29 25.5 +0.9**
DGRG S S 02 40 19.1 +7.7
PPLA Purkeypile 89.37 27 *e*P **P 02 29 24.9 -0.4**
comp=Z,49nm,1.3s,mb5.7
GNI Garni 89.43 310 P **P 02 29 27.3 +1.3**
comp=Z,2.1nm,0.3s,mb4.9,baz=117,slow=3.5,SNR=7.2
GNI Garni 89.43 310 *e*P **P 02 29 24.8 -1.3**
GNI Garni 89.43 310 *e*P **P 02 29 27.4 +1.4**
comp=Z,196nm,1.5s,mb6.2
IMA2 Indian Mountai 89.48 23 *e*P **P 02 29 25.1 -0.6**
TAOE Nuku Hiva Isla 89.49 99 *e*S S 02 40 09.5 -6.5
comp=Z,1µm,28.1s
TAOE *e*SS SS 02 46 00.9 -11
comp=Z,7µm,33.7s
TAOE *e*LQ 02 53 54.8
comp=Z,6µm,28.1s
TAOE *e*LR LR 02 58 01.5
comp=Z,8µm,32.9s
CHUM Lake Minchumin 89.54 26 *e*P **P 02 29 24.8 -1.2**
comp=Z,46nm,1.0s,mb5.8
MTA Mtatsminda 89.59 312 P **P 02 29 26.9 +0.1**
MTA S S 02 40 17.4 +1.7
TBLG Delisi 89.63 312 P **P 02 29 27.4 +0.4**
SLKM Skilak Lake 89.79 29 *e*P **P 02 29 27.4 +0.1**
MSL Mosul 90.26 306 *ex* x 02 29 33.5
MSL Mosul 90.26 306 *ex* x 02 40 31.5
PMR Palmer 90.51 28 *e*P **P 02 29 28.9 -1.7**
PMR pmax pmax
comp=Z,39nm,1.5s,mb5.5
PMR Palmer 90.51 28 *e*P **P 02 29 28.9 -1.7**
comp=Z,39nm,1.5s,mb5.5
ONI Oni 90.69 313 P **P 02 29 32.0 +0.1**
ONI S S 02 40 02.4 -23
MCK McKinley 90.98 26 *e*P **P 02 29 31.2 -1.5**
MCK pmax pmax
comp=Z,70nm,1.2s,mb5.9
MCK McKinley 90.98 26 *e*P **P 02 29 31.2 -1.5**
comp=Z,70nm,1.2s,mb5.9
KIV Kislovodsk 91.39 314 *e*P **P 02 29 33.8 -1.3**
KIV pmax pmax
comp=Z,54nm,2.3s,mb5.5
KIV Kislovodsk 91.39 314 *e*P **P 02 29 37.8 +2.7**
comp=Z,34nm,1.2s,mb5.5
COLA College 91.63 25 *e*P **P 02 29 35.1 -0.6**
COLA College 91.63 25 *e*P **P 02 29 35.0 -0.7**
comp=Z,11nm,0.8s,mb5.2
COLA LR LR
comp=Z,845nm,19.0s,MS5.2
KMBO Kilima Mbogo 92.18 269 *i* P **P 02 29 36.7 -2.8**
KMBO pmax pmax
comp=Z,39nm,0.5s
RKT Rikitea 92.96 113 *e*LR LR 02 59 34.0
comp=Z,3µm,38.5s
SOC Sochi 93.50 313 *e*P **P 02 29 39.5 -5.4**
SOC *e* 02 33 34.3
SOC *e*S S 02 40 11.5 -40
SOC pmax pmax
comp=Z,19nm,1.0s,mb5.5
MAIT Maitri 93.85 197 *e*P **P 02 29 47.9 +2.0**
MALT Malatya 94.14 308 *e*P **P 02 29 48.3 +0.4**
MALT pmax pmax
comp=Z,46nm,1.3s,mb5.8
MALT MLR MLR
comp=Z,1µm,21.0s,MS5.3
MALT Malatya 94.14 308 ⇑*i*P **P 02 29 50.3 +2.4**
MALT Malatya 94.14 308 *e*P **P 02 29 48.3 +0.3**
comp=Z,46nm,1.3s,mb5.8
MALT LR LR
comp=Z,1µm,21.0s,MS5.3
EGAK Eagle 94.47 25 *e*P **P 02 29 48.5 -0.3**
comp=Z,31nm,1.0s,mb5.7
KLMR Klimovskoe 94.62 331 *e*P **P 02 29 47.0 -2.6**
ASF Jabal al Asfar 95.04 302 P **P 02 29 53.3 +1.1**
comp=Z,6.3nm,0.9s,mb5.0,baz=28,slow=4.3,SNR=3.3
DAWY Dawson 95.21 26 *e*P **P 02 29 52.1 -0.1**
ANN Anapa 95.21 314 *e*P **P 02 29 54.3 +1.6**
ANN *e* 02 40 52.6
ANN pmax pmax
comp=Z,35nm,1.0s,mb5.7
MOS Moscow 95.44 325 *e*P **P 02 29 54.2 +0.7**
MOS *e* 02 33 47.6
MOS MLR MLR
comp=Z,1µm,20.0s,MS5.4
OBN Obninsk 96.03 325 *e*P **P 02 29 54.6 -1.6**
OBN *e**PP pP 02 30 03.5 -3.0
OBN pmax pmax
comp=Z,42nm,1.0s,mb5.8
OBN Obninsk 96.03 325 *e*P **P 02 29 56.2 0.0**
comp=Z,40nm,1.1s,mb5.8
HYT Haines Junctio 96.04 29 *e*P **P 02 29 57.2 +1.1**
MMAI Mount Meron Ar 96.34 303 P **P 02 30 01.0 +2.9**
comp=Z,4.1nm,0.8s,mb4.9,baz=100,slow=5.0,SNR=3.1
EIL Elat 96.59 299 P **P 02 29 59.8 +0.4**
comp=Z,4.2nm,0.8s,mb4.9,baz=100,slow=5.2,SNR=2.5
SNAA Sanae 97.19 194 *e*P **P 02 30 00.1 -1.0**
comp=Z,35nm,1.2s,mb5.7
APA Apatity 97.23 337 ⇑*i*P **P 02 30 03.5 +2.2**
APA *i* SS SS 02 47 56.0 -4.2
APA pmax pmax
comp=Z,43nm,1.3s,mb5.7
INK Inuvik 97.47 22 P **P 02 30 01.4 -1.1**
comp=Z,16nm,1.1s,mb5.4,baz=282,slow=5.1,SNR=12
INK Inuvik 97.47 22 P **P 02 30 01.8 -0.6**
INK Inuvik 97.47 22 *e*P **P 02 30 01.2 -1.2**
comp=Z,1µm,1.2s
SIM Simferopol' 97.57 315 *e*P **P 02 30 11.0 +7.6**
SIM *e*S S 02 41 24.0 -2.3
SIM pmax pmax
comp=Z,20nm,1.2s,mb5.5
SIM MLR MLR
comp=Z,1µm,20.0s,MS5.3
CSS Prodhromos 98.11 304 *e*P **P 02 30 07.5 +1.4**
comp=Z,22nm,1.1s,mb5.6
VNA1 Neumayer--Stat 99.16 193 *e*PKPdf **P 02 30 13.5 +3.5**
VNA1 *e* 02 30 20.1
VNA1 *e* pP 02 30 24.0 +3.6
VNA1 *e* 02 30 28.8
VNA1 *e* 02 30 36.2
LSZ Lusaka 99.51 254 *e*Pdif **P 02 30 12.6 -0.2**
ARCES ARCESS Array B 99.85 340 P Pdif 02 30 10.4 -3.0
comp=Z,8.1nm,0.9s,baz=84,slow=5.0,SNR=9.7
ARE0 ARCESS Array S 99.85 340 *e*Pdif Pdif 02 30 12.5 -0.9
LBTB Lobatse 100.32 244 *e*P Pdif 02 30 17.2 +1.7
LBTB Lobatse 100.32 244 *e*Pdif Pdif 02 30 17.2 +1.7
AKASG Malin Array Be 100.63 320 P Pdif 02 30 15.1 -1.8
comp=Z,0.2nm,0.2s,baz=71,slow=4.2,SNR=4.3
KIS Kishinev 101.19 317 *e*P Pdif 02 30 22.0 +2.7
KIS *e*S Sdif 02 41 52.0 -4.3
KIS *e*PS PS 02 43 28.0 -3.8
VRI Vrincioaia 102.72 316 ⇓*i*P Pdif 02 30 30.7 +4.5
MLR Muntele Rosu 103.31 315 ⇓*i*P Pdif 02 30 31.9 +3.1
BURAR Bucovina Array 103.56 318 ⇑*i*P Pdif 02 30 31.4 +1.5
SUW Suwalki 103.88 324 *e*PKP Pdif 02 30 39.3 +8.0
SUW Suwalki 103.88 324 *e*P Pdif 02 30 31.1 -0.2
SUW pmax pmax
comp=Z,53nm,1.0s
SUW Suwalki 103.88 324 *e*Pdif Pdif 02 30 31.1 -0.3
comp=Z,53nm,1.0s
SUW *e*PKP Pdif 02 30 39.3 +8.0
LVV L'vov 104.05 320 *e*P Pdif 02 30 34.3 +2.3
KWP Kalwaria 104.92 320 ⇓*i*P Pdif 02 30 44.5 +8.6
UZH Uzhgorod 105.36 319 *e*P Pdif 02 30 38.0 +0.1
UZH *e*SS Sdif 02 42 29.0 -2.1
UZH *e*PS PS 02 44 09.0 -6.7
UZH *e*SS SS 02 49 45.0 -8.9
YKA Yellowknife Ar 106.44 26 Pdiff Pdif 02 30 41.3 -1.4
comp=Z,0.6nm,0.8s,baz=287,slow=4.3,SNR=3.4
YKA PKiKP PKiKP 02 34 52.8 -0.6
comp=Z,1.8nm,0.8s,baz=306,slow=2.1,SNR=7.0
YKA PKKPbc PKKPbc 02 46 14.1 -2.0
comp=Z,1.1nm,0.8s,baz=102,slow=2.6,SNR=6.2
YKA Yellowknife Ar 106.44 26 Pdif Pdif 02 30 41.3 -1.4
YKA PKPdf PKiKP 02 34 52.8 -0.6
YKA PKKPbc PKKPbc 02 46 14.2 -2.0
OJC Ojcow 106.66 321 *e*Pdiff Pdif 02 30 52.3 +8.6
OJC *e*PP PP 02 35 21.0 +12
OJC *e*SKSac SKSac 02 41 32.6 +11
OJC *e*SP SP 02 44 35.9 +11
OJC L 03 49 03.2
comp=Z,4.4nm,23.3s
WDC Whiskeytown Da 107.03 49 *e*PKP PKiKP 02 34 55.1 -0.1
HFS Hagfors 107.28 332 Pdiff Pdif 02 30 45.1 -1.3
comp=Z,3.0nm,0.6s,baz=108,slow=4.8,SNR=9.0
OKC Ostrava-Krasne 107.78 321 *ex* Sdif 02 42 57.7 +6.4
NOA NORSAR Array B 108.08 333 Pdiff Pdif 02 30 48.4 -1.6
comp=Z,2.1nm,0.7s,baz=70,slow=4.5,SNR=6.2
NOA PP PP 02 35 01.6 -18
comp=Z,3.0nm,0.9s,baz=65,slow=8.0,SNR=4.9
NOA NORSAR Array B 108.08 333 Pdif Pdif 02 30 48.4 -1.6
NOA PP PP 02 35 01.6 -18
MORC Moravsky Berou 108.18 321 *e*PKP PKiKP 02 34 57.5 +0.5
NAO01 NORSAR Array S 108.31 333 *e*PKP PKiKP 02 34 57.1 +0.2
DPC Dobruska-Polom 108.80 322 *e*PP PP 02 35 17.5 -7.3
DPC Dobruska-Polom 108.80 322 *e*PP PP 02 35 17.5 -7.3
UPC Upice 108.95 322 *e*PP PP 02 35 27.1 +1.2
UPC Upice 108.95 322 *e*PP PP 02 35 27.1 +1.2
PMSA Palmer Station 109.37 174 *e*PKP PKiKP 02 34 59.9 +1.1
NEW Newport 109.39 41 *e*PKP PKiKP 02 35 00.6 +1.3
TREC Trest 109.59 321 *e*SDIF Sdif 02 43 09.1 +2.7
PVCC Panska Ves 109.83 322 *e*PP PP 02 35 34.0 +1.7
PRU Pruhonice 110.00 322 *e*PP PP 02 35 28.2 -5.3
PRU *e*SDIF Sdif 02 43 10.5 +0.7
PRU Pruhonice 110.00 322 *e*PP PP 02 35 28.2 -5.3
PRU *e* 02 43 10.5
CLL Collm 110.55 323 *ex* x 02 35 24.0
CLL *e*PP PP 02 35 37.0 -0.4
CLL *e*Sdif Sdif 02 43 19.0 +4.6
CLL *e*PS PS 02 45 07.0 -1.1
CLL *e*PPS 02 46 08.0
CLL *e*SSS 02 55 14.0
CLL *ex* x 02 56 54.0
CLL *e*SSSS 02 58 42.0
CLL *ex* x 02 59 48.0
NVAR Mina Array Bea 110.60 51 Pdiff Pdif 02 31 03.9 +2.7
comp=Z,0.2nm,0.6s,baz=202,slow=1.0,SNR=2.3
NVAR PKiKP PKiKP 02 35 03.3 +1.4
comp=Z,1.0nm,1.0s,baz=320,slow=2.4,SNR=3.6
KHC Kasperske Hory 110.84 321 *ex* x 02 35 02.0
KHC *e*PP PP 02 35 37.4 -2.2
KHC *e*SDIF Sdif 02 43 18.3 +1.5
GEC2 GERESS Array S 110.85 320 *e*PKIKP PKiKP 02 35 02.4 +0.3
GERES GERESS Array B 110.85 320 PKIKP PKiKP 02 35 00.3 -1.7
comp=Z,1.3nm,0.7s,baz=57,slow=1.6,SNR=8.1
GERES PKKPbc PKKPbc 02 46 02.4 +0.7
comp=Z,0.2nm,0.6s,baz=20,slow=27,SNR=2.3
MSO Missoula 111.84 41 *e*PKP PKiKP 02 35 04.2 +0.2
GRA1 Grafenberg Arr 112.14 322 *e*PKP PKiKP 02 35 05.2 +0.7
GRF Grafenberg Arr 112.14 322 *e*PKIKP PKiKP 02 35 05.2 +0.7
CHMT Chamberlain Mo 112.27 41 *e*PKP PKiKP 02 35 04.5 -0.4
HLID Hailey 112.39 45 *e*PKP PKiKP 02 35 06.4 +1.3
WTTA Wattenberg 112.64 319 ⇓*i*P PKiKP 02 35 05.4 -0.1
comp=Z,13nm,0.8s
WTTA Wattenberg 112.64 319 ⇓*i*PKiKP PKiKP 02 35 05.0 -0.5
comp=Z,13nm,0.8s
BAR Barrett 112.83 57 *e*PKP PKiKP 02 35 08.5 +2.1
MOTA Moosalm 112.96 320 ⇓*i*P PKiKP 02 35 02.4 -3.7
comp=Z,6.6nm,1.0s
MOTA Moosalm 112.96 320 ⇑*i*PKiKP PKiKP 02 35 06.4 +0.3
comp=Z,6.6nm,1.0s
BOZ Bozeman (W) 113.72 42 *e*PKIKP PKiKP 02 35 08.5 +0.9
DAVOX Davos/Dischmat 113.93 319 PKiKP PKiKP 02 35 07.2 -0.8
comp=Z,2.8nm,0.6s,baz=214,slow=7.3,SNR=8.5
DAVOS Davos 113.97 319 PKIKP PKiKP 02 35 07.2 -0.9
BGU Big Grassy Mou 114.05 47 *e*PKP PKiKP 02 35 09.7 +1.3
EGMT Eagleton 114.17 39 *e*PKP PKiKP 02 35 08.8 +0.4
DUG Dugway 114.39 48 *e*PKIKP PKiKP 02 35 08.8 -0.3
IMW Indian Meadow 114.72 44 *e*PKP PKiKP 02 35 10.9 +1.3
TPAW Teton Pass 114.83 44 *e*PKP PKiKP 02 35 09.3 -0.6
MOOW Moose Ponds 114.90 44 *e*PKP PKiKP 02 35 10.7 +0.8
HWUT Hardware Ranch 114.94 46 *e*PKP PKiKP 02 35 11.4 +1.4
REDW Red Top Meadow 114.94 44 *e*PKP PKiKP 02 35 11.2 +1.1
SNOW Snow King Moun 114.98 44 *e*PKP PKiKP 02 35 11.3 +1.2
GCMT Greycliff 114.98 42 *e*PKP PKiKP 02 35 10.6 +0.6
CDF Champ du Feu 115.02 322 *e*PKIKP PKiKP 02 35 09.1 -0.9
LOHW Long Hollow 115.04 44 *e*PKP PKiKP 02 35 10.5 +0.2
MSU Marysvale 115.28 50 *e*PKIKP PKPdf 02 35 11.6 +0.7
RLMT Red Lodge 115.47 42 *e*PKPdf PKPdf 02 35 12.7 +1.6
HINF Hinteralfeld 115.50 321 *e*PKIKP PKPdf 02 35 10.0 -1.0
HAU Haudompre 115.74 321 *e*PKIKP PKPdf 02 35 10.9 -0.5
comp=Z,29nm,1.1s
HAU *e*MLR MLR
comp=Z,1µm,18.8s,MS5.3
HAU Haudompre 115.74 321 *e*PKPdf PKPdf 02 35 10.9 -0.5
HAU LR LR
comp=Z,1µm,18.8s,MS5.6
GIVF Givet 115.83 324 *e*PKIKP PKPdf 02 35 11.4 -0.1
BW06 Boulder Array 116.02 45 *e*PKPdf PKPdf 02 35 12.3 +0.2
PDAR Pinedale Array 116.02 45 PKP PKPdf 02 35 11.3 -0.8
comp=Z,1.0nm,0.7s,baz=222,slow=2.0,SNR=9.3
PDAR PKKPbc PKKPbc 02 45 43.6 -0.4
comp=Z,1.5nm,1.0s,baz=115,slow=7.0,SNR=4.3
BAIF Baives 116.21 324 *e*PKIKP PKPdf 02 35 12.3 0.0
comp=Z,9.7nm,0.8s
LPG La Plagne 116.41 319 *e*PKIKP PKPdf 02 35 12.8 0.0
comp=Z,10nm,0.7s
LPL La Plagne 116.42 319 *e*PKIKP PKPdf 02 35 12.7 -0.1
comp=Z,23nm,1.0s
CABF La Chapelle 116.43 320 *e*PKIKP PKPdf 02 35 12.7 -0.1
comp=Z,12nm,0.5s
SBF Sospel 116.52 317 *e*PKIKP PKPdf 02 35 12.4 -0.7
BNI Bardonecchia 116.62 318 *e*PKIKP PKPdf 02 35 13.2 0.0
MBDF Montbardon 116.67 318 *e*PKIKP PKPdf 02 35 13.4 +0.1
comp=Z,12nm,0.7s
LAO LASA Array 116.89 40 *e*PKPdf PKPdf 02 35 15.2 +1.5
FRF La Foret Royal 117.16 317 *e*PKIKP PKPdf 02 35 13.7 -0.6
ORIF Oris-en-Rattie 117.19 318 *e*PKIKP PKPdf 02 35 13.9 -0.4
comp=Z,14nm,0.8s
ORIF *e*MLR MLR
comp=Z,685nm,22.8s,MS4.9
LMR La Mourre 117.33 316 *e*PKIKP PKPdf 02 35 14.2 -0.4
KEST Kesra 117.46 308 PKP PKPdf 02 35 15.7 +0.6
comp=Z,2.6nm,1.0s,baz=274,slow=7.0,SNR=6.0
KEST PP PP 02 36 24.6 -2.4
comp=Z,5.6nm,1.2s,baz=326,slow=7.4,SNR=4.4
EKA Eskdalemuir Ar 117.48 332 PKP PKPdf 02 35 13.2 -1.4
comp=Z,0.9nm,0.6s,baz=27,slow=2.1,SNR=4.8
EKA PP PP 02 36 27.6 +1.4
comp=Z,1.4nm,0.8s,baz=76,slow=6.6,SNR=2.7
LOR Lormes 117.58 321 *e*PKIKP PKPdf 02 35 14.6 -0.4
comp=Z,26nm,1.2s
LOR *e*MLR MLR
comp=Z,1µm,22.5s,MS5.1
LOR Lormes 117.58 321 *e*PKPdf PKPdf 02 35 14.6 -0.4
LOR LR LR
comp=Z,1µm,22.5s,MS5.4
PV10 Paradox Valley 117.70 49 *e*PKPdf PKPdf 02 35 15.6 0.0
SMRF Simiane la Rot 117.74 317 *e*PKIKP PKPdf 02 35 15.4 0.0
TUC Tucson 117.79 56 *e*PKIKP PKPdf 02 35 16.8 +0.9
SMF Signal de Mont 117.85 321 *e*PKIKP PKPdf 02 35 15.2 -0.3
SSF Saint Saulge 117.89 321 *e*PKIKP PKPdf 02 35 15.2 -0.4
comp=Z,23nm,1.0s
VIVF Saint-Julien-l 118.01 319 *e*PKIKP PKPdf 02 35 15.4 -0.5
comp=Z,20nm,1.0s
RWWY Rawlins 118.02 45 *e*PKPdf PKPdf 02 35 16.4 +0.3
AVF Avril sur Loir 118.09 321 *e*PKIKP PKPdf 02 35 15.3 -0.7
comp=Z,15nm,1.0s
PV01 Paradox Valley 118.12 49 *e*PKPdf PKPdf 02 35 17.4 +1.1
MVCO Mesa Verde 118.43 50 *e*PKPdf PKPdf 02 35 16.6 -0.4
BGF Bois d'Agland 118.51 321 *e*PKIKP PKPdf 02 35 16.7 -0.1
comp=Z,24nm,0.7s
LASF Ste Croix 118.85 318 *e*PKIKP PKPdf 02 35 17.1 -0.4
TCF Toulx Ste Croi 119.02 321 *e*PKIKP PKPdf 02 35 17.6 -0.2
comp=Z,28nm,1.0s
RSSD Black Hills 119.31 42 *e*PKIKP PKPdf 02 35 18.1 -0.3
LDF La Druitiere 119.40 324 *e*PKIKP PKPdf 02 35 18.0 -0.5
FLN La Foliniere 119.53 324 *e*PKIKP PKPdf 02 35 18.4 -0.3
FLN *e*MLR MLR
comp=Z,850nm,18.8s,MS5.1
FLN La Foliniere 119.53 324 *e*PKPdf PKPdf 02 35 18.4 -0.3
FLN LR LR
comp=Z,850nm,18.8s,MS5.4
CAF Calviac 119.69 320 *e*PKIKP PKPdf 02 35 19.2 +0.1
comp=Z,46nm,1.3s
ISCO Idaho Springs 119.79 47 *e*PKIKP PKPdf 02 35 20.6 +1.1
GRR Gorron 119.92 324 *e*PKIKP PKPdf 02 35 19.4 -0.1
MTLF Montolieu 120.23 318 *e*PKIKP PKPdf 02 35 19.8 -0.4
comp=Z,43nm,1.3s
LAZ Ladron 120.26 53 *e*PKPdf PKPdf 02 35 21.6 +1.1
MFF Saint Martin d 120.34 322 *e*PKIKP PKPdf 02 35 19.9 -0.4
comp=Z,21nm,0.8s
LENM Lemitar 120.45 53 *e*PKPdf PKPdf 02 35 22.8 +1.8
LFF La Frestale 120.53 320 *e*PKIKP PKPdf 02 35 20.1 -0.7
comp=Z,48nm,1.1s
SDCO Great Sand Dun 120.55 49 *e*PKPdf PKPdf 02 35 20.6 -0.4
ANMO Albuquerque 120.65 52 *i* PKIKP PKPdf 02 35 21.3 0.0
ANMO Albuquerque 120.65 52 *e*PKPdf PKPdf 02 35 22.2 +0.9
LPM Los Pinos Moun 120.69 53 *e*PKPdf PKPdf 02 35 22.3 +0.9
BNM Barren Site 120.73 53 *e*PKPdf PKPdf 02 35 22.7 +1.2
SGMF Saint Gilles 120.97 325 *e*PKIKP PKPdf 02 35 20.8 -0.7
ULM Lac du Bonnet 121.28 32 PKP PKPdf 02 35 21.4 -0.6
comp=Z,7.7nm,1.0s,baz=299,slow=3.7,SNR=5.4
ULM PKKPbc PKKPbc 02 45 24.2 -1.0
comp=Z,3.5nm,0.9s,baz=270,slow=7.1,SNR=2.8
ULM Lac du Bonnet 121.28 32 *e*PKPdf PKPdf 02 35 21.2 -0.9
ROSF Rostrenen 121.34 325 *e*PKIKP PKPdf 02 35 22.1 -0.1
QUIF Quistinic 121.50 325 *e*PKIKP PKPdf 02 35 21.9 -0.6
EPF Esparros 121.61 318 *e*PKIKP PKPdf 02 35 22.6 -0.3
comp=Z,20nm,1.0s
ETSF Etsaut 122.26 318 *e*PKIKP PKPdf 02 35 24.7 +0.5
comp=Z,29nm,0.9s
SJPF Ste Jean 122.61 319 *e*PKIKP PKPdf 02 35 25.1 +0.3
comp=Z,70nm,1.5s
TAM Tamanrasset 123.34 294 *e*PKIKP PKPdf 02 35 27.2 +0.4
CBKS Cedar Bluff 124.39 46 *e*PKIKP PKPdf 02 35 28.7 +0.3
AMTX Amarillo 124.40 51 *e*PKPdf PKPdf 02 35 28.8 +0.3
TXAR Lajitas Array 124.44 58 PKP PKPdf 02 35 28.5 -0.2
comp=Z,2.9nm,0.9s,baz=255,slow=1.8,SNR=14
ESDC Sonseca Array 125.99 316 PKP PKPdf 02 35 31.3 -0.1
comp=Z,5.4nm,1.2s,baz=54,slow=3.0,SNR=9.0
ESDC PP PP 02 37 22.9 -1.7
comp=Z,1.3nm,0.8s,baz=74,slow=10,SNR=3.8
WMOK Wichita Mounta 126.68 50 *e*PKIKP PKPdf 02 35 32.5 -0.4
JCT Junction City 127.33 55 *e*PKIKP PKPdf 02 35 34.5 +0.3
COWI Conover 127.37 33 *e*PKPdf PKPdf 02 35 33.3 -0.5
TOA0 Torodi Ar. Sit 128.03 282 *e*PKPdf PKPdf 02 35 36.1 +0.2
TORD Torodi Ar. Bea 128.03 282 PKP PKPdf 02 35 35.7 -0.3

comp=Z,5.3nm,0.9s,baz=71,slow=1.4,SNR=14
JFWS Jewell Farm 128.64 37 *e*PKIKP PKPdf 02 35 36.0 -0.4
SCHQ Schefferville 128.89 12 PKP PKPdf 02 35 36.2 -0.2
comp=Z,8.0nm,1.0s,baz=223,slow=4.8,SNR=4.0
SCHQ Schefferville 128.89 12 *e*PKPdf PKPdf 02 35 36.9 +0.4
EVO Evora 129.31 317 *e*PKIKP PKPdf 02 35 38.3 +0.5
comp=Z,125nm,1.7s
EVO *e*MLR MLR
comp=Z,1μm,21.2s,MS5.3
MDT Midelt 129.33 309 PKP PKPdf 02 35 38.5 +0.5
comp=Z,5.5nm,1.1s,baz=36,slow=5.2,SNR=4.7
PLCA Paso Flores 130.60 160 PKP PKPdf 02 35 41.6 +1.4
comp=Z,1.1nm,0.4s,baz=232,slow=6.5,SNR=3.6
PLCA Paso Flores 130.60 160 PKIKP PKPdf 02 35 41.6 +1.4
PLCA pmax pmax
comp=Z,1.0nm,0.4s
PLCA Paso Flores 130.60 160 *e*PKPdf PKPdf 02 35 41.1 +0.9
MIAR Mount Ida 130.68 48 *e*PKPdf PKPdf 02 35 40.9 +0.4
HKT Hockley 130.75 55 *e*PKIKP PKPdf 02 35 42.1 +1.3
FVM French Village 131.25 42 *e*PKIKP PKPdf 02 35 40.5 -1.0
OLIL Olney 132.37 40 *e*PKPdf PKPdf 02 35 45.4 +1.8
BLO Bloomington 133.12 39 *e*PKIKP PKPdf 02 35 46.9 +1.9
OXF Oxford 133.73 46 *e*PKIKP PKPdf 02 35 40.7 -5.6
OXF *e* 02 35 47.4
PLAL Pickwick Lake 134.44 45 *e*PKPdf PKPdf 02 35 46.5 -1.0
ACSO Alum Creek Sta 134.58 35 *e*PKPdf PKPdf 02 35 49.3 +1.6
DBIC Dimbokro 134.65 274 PKP PKPdf 02 35 50.3 +1.7
comp=Z,4.3nm,0.9s,baz=69,slow=8.6,SNR=2.5
DBIC Dimbokro 134.65 274 PKIKP PKPdf 02 35 50.3 +1.7
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 134.65 274 *e*PKPdf PKPdf 02 35 49.4 +0.8
LIC Lamto 134.81 273 *e*PKIKP PKPdf 02 35 48.5 -0.4
comp=Z,26nm,0.8s
LIC *e*MLR MLR
comp=Z,2μm,19.8s,MS5.4
LIC Lamto 134.81 273 *e*PKPdf PKPdf 02 35 48.5 -0.4
LIC LR LR
comp=Z,790nm,19.8s,MS5.4
LONY Lake Ozonia 135.51 25 *e*PKPdf PKPdf 02 35 49.8 +0.5
TZTN Tazewell 136.58 40 *e*PKPdf PKPdf 02 35 52.4 +0.8
TKL Tuckaleechee C 136.97 41 *e*PKIKP PKPdf 02 35 52.6 +0.3
BLA Blacksburg 138.08 37 *e*PKIKP PKPdf 02 35 54.2 -0.1
GOGA Godfrey 138.49 43 *e*PKIKP PKPdf 02 35 54.8 -0.3
CFAA Coronel Fontan 139.56 156 PKnKP 02 35 53.1
comp=Z,0.6nm,0.9s,baz=258,slow=6.4,SNR=3.8
CFAA PKP PKPdf 02 35 58.5 +1.3
comp=Z,1.4nm,0.9s,baz=246,slow=3.2,SNR=8.1
LCO Las Campanas 140.70 151 *e*PKPpre 02 35 54.4
LVC Limon Verde 146.89 148 PKPbc PKPbc 02 36 12.9 +0.7
comp=Z,45nm,1.0s,baz=204,slow=1.8,SNR=13
LVC Limon Verde 146.89 148 *e*PKPbc PKPbc 02 36 13.6 +1.4
CPUP Villa Florida 147.84 168 PKPbc PKPbc 02 36 14.5 -0.2
comp=Z,40nm,1.1s,baz=193,slow=2.3,SNR=11
CPUP Villa Florida 147.84 168 PKIKP PKPdf 02 36 14.5 +2.7
CPUP pmax pmax
comp=Z,40nm,1.1s
CPUP Villa Florida 147.84 168 *e*PKPbc PKPbc 02 36 14.3 -0.4
ATAH Atahualpa 149.55 113 PKP PKPdf 02 36 16.4 +1.5
comp=Z,12nm,0.8s,baz=250,slow=7.5,SNR=7.4
ATAH PKPbc PKPbc 02 36 20.6 +1.2
comp=Z,53nm,1.1s,baz=182,slow=4.0,SNR=7.4
ARE Arequipa 149.98 136 *e*PKIKP PKPdf 02 36 20.0 +4.5
BCIP Isla Barro Col 150.60 81 *e*PKPdf PKPdf 02 36 17.9 +1.3
BCIP *e*PKPbc PKPbc 02 36 21.9 -0.1
OTAV Otavalo 151.59 99 *e*PKPdf PKPdf 02 36 19.7 +1.6
LPAZ La Paz 152.31 141 PKP PKPdf 02 36 21.2 +2.2
comp=Z,3.6nm,1.1s,baz=19,slow=1.4,SNR=5.1
LPAZ La Paz 152.31 141 PKIKP PKPdf 02 36 21.2 +2.1
LPAZ pmax pmax
comp=Z,4.0nm,1.1s
LPAZ La Paz 152.31 141 *e*PKPdf PKPdf 02 36 20.1 +1.0
LPAZ *e*PKPbc PKPbc 02 36 27.5 +1.6
LPAZ *e*PKPab PKPab 02 36 37.1 +1.4
CAM3 Guarapari 152.34 200 *e*P PKPab 02 36 35.8 +0.2
CAM3 *i* 02 36 38.1
CAM3 *i* 02 36 44.6
CAM3 *i* 02 36 49.0
CAM3 *i* 02 36 58.3
CAM3 *i* 02 37 04.8
CAM3 *i* 02 37 16.1
ROSC El Rosal 156.21 90 PKP PKPdf 02 36 26.3 +1.7
comp=Z,2.5nm,0.5s,baz=115,slow=20,SNR=4.0
ROSC El Rosal 156.21 90 *e*PKPdf PKPdf 02 36 26.1 +1.5
SIV San Ignacio 156.36 154 PKP PKPdf 02 36 25.7 +1.0
comp=Z,1.6nm,0.9s,baz=196,slow=8.9,SNR=3.2
SIV PKPab PKPab 02 36 53.7 +0.9
comp=Z,11nm,1.0s,baz=310,slow=3.0,SNR=6.1
SDV Santo Domingo 159.66 79 *e*PKPdf PKPdf 02 36 28.8 -0.1
SDV *e*PKPab PKPab 02 37 08.7 +1.2

NEIC ***17*** *02:28:48.0, 3930N×1994E, h4km, ML2.7(THE), After THE.*
THE ***17*** *02:28:48.0, 3930N×1994E, h4km, ML2.7*
ATH ***17*** *02:28:48.0, 3936N×2035E, h75km±7km*
CSEM ***17*** *02:28:49.6±0.3, 3936N×2036E, h40km, ML2.7, Error ellipse: s-maj=10.1km s-min=7.6km az=48.0*
ISCJB ***17*** *02:28:51.5±0.8, 3932N±005×2027E±009, h24km±8km, Error ellipse: s-maj=11.5km s-min=8.5km az=170.0*
ISC 17 02:28:51.7±0.8,3931N±005×2028E±008,h20km±9km,n8, σ1§45/14,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**10**	*e*Pg	**Pb**	**02 28 56.1**	**-1.2**
IGT				*e*Sg	**Sb**	**02 29 01.1**	**0.0**
KEK	**Kerkira**	**0.55**	**317**	*e*P	**Pb**	**02 29 02.5**	**-0.2**
KEK				*e*S	**Sb**	**02 29 12.5**	**+2.3**
JAN	**Janina**	**0.56**	**52**	*e*P	**Pb**	**02 29 01.9**	**-1.0**
JAN				*e*S	**Sb**	**02 29 11.6**	**+1.2**
LKD	**Levkas**	**0.67**	**154**	*e*Pg	**Pb**	**02 29 02.8**	**-1.9**
LKD				*e*Sg	**Sb**	**02 29 15.1**	**+1.6**
VLS	**Valsamata**	**1.16**	**168**	*e*Pg	**Pn**	**02 29 10.7**	**-2.0**
VLS				*e*Sg	**Sn**	**02 29 29.7**	**+1.8**
VLS	**Valsamata**	**1.16**	**168**	*e*P	**Pn**	**02 29 10.5**	**-2.2**
EVR	**Evrytania**	**1.25**	**108**	*e*P	**Pn**	**02 29 10.1**	**-3.9**
THL	**Klokotos Trika**	**1.36**	**79**	*e*Pb	**Pn**	**02 29 16.1**	**+0.5**
THL				*e*Sb	**Sn**	**02 29 38.8**	**+5.8**

ISCJB ***17*** *02:40:18.8±1.2, 130S±0.1×762W±0.2, h91km±10km, mb3.7/3, Error ellipse: s-maj=33.4km s-min=8.3km az=137.1*
IDC ***17*** *02:40:18.9±2.0, 13.19S×7634W, h81km±13km, mb3.6/3, mb1 3.7/6, mb1mx3.5/20, mbtmp3.5/6, Error ellipse: s-maj=45.5km s-min=12.6km az=48.0*
ISC 17 02:40:19.7±1.3,131S±01×763W±02,h86km±10km,n7, σ0§23/10,mb3.7/3,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.24**	**335**	P	**Pn**	**02 40 41.7**	**-0.3**
	39nm,0.3s,baz=166,slow=11,SNR=35						
NNA				S	**Sn**	**02 40 58.5**	**-0.2**
	91nm,0.3s,baz=277,slow=18,SNR=14						
ATAH	**Atahualpa**	**6.41**	**341**	P	**Pn**	**02 41 52.0**	**+0.4**
	0.6nm,0.3s,baz=190,slow=6.1,SNR=3.6						
ATAH				S	**Sn**	**02 43 03.7**	**+0.3**
	1.1nm,0.3s,baz=268,slow=11,SNR=1.9						
LPAZ	**La Paz**	**8.51**	**113**	P	**Pn**	**02 42 20.2**	**0.0**
	0.4nm,0.3s,baz=311,slow=9.4,SNR=9.5						
LPAZ				S	**Sn**	**02 43 54.5**	**-0.2**
	baz=352,slow=21,SNR=2.1						
LVC	**Limon Verde**	**11.78**	**144**	P	**Pn**	**02 43 05.0**	**+0.3**
	0.2nm,0.3s,baz=350,slow=12,SNR=2.9						
TXAR	**Lajitas Array**	**49.78**	**328**	P	**P**	**02 49 03.7**	**-0.2**
	0.6nm,0.9s,mb3.5,baz=151,slow=5.7,SNR=3.7						
YKA	**Yellowknife Ar**	**81.06**	**343**	P	**P**	**02 52 24.7**	**-0.2**
	1.3nm,0.9s,mb3.8,baz=136,slow=5.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**81.58**	**74**	P	**P**	**02 52 28.8**	**+0.1**
	1.6nm,0.9s,mb3.9,baz=253,slow=4.6,SNR=6.4						

BJI ***17*** *02:43:25.8, 1046S×16057E, h15km, mB5.2, mb5.0*
IDC ***17*** *02:43:31.2±0.6, 977S×15981E, h0km, mb4.8/15, mb1 4.9/16, mb1mx4.9/17, mbtmp4.7/16, ML4.1/1, MS4.3/2, Ms1 4.3/2, ms1mx3.4/35, Error ellipse: s-maj=23.9km s-min=8.9km az=117.0*
ISCJB ***17*** *02:43:33.4±0.3, 983S±005×15967E±006, h21km, mb4.8/56, Error ellipse: s-maj=10.1km s-min=5.1km az=41.9*
NEIC ***17*** *02:43:34.0±0.9, 984S×15971E, h16km±5km, mb4.9/33, Error ellipse: s-maj=7.6km s-min=3.6km az=133.0*
NEIC Felt at Honiara.
MOS ***17*** *02:43:35.3±0.8, 980S×15959E, h33km, mb5.0/19, Error ellipse: s-maj=10.9km s-min=8.7km az=59.8*
DJA ***17*** *02:43:52, 1034S×15927E, h135km, mb5.0/21*
ISC 17 02:43:34.3±1.1,987S±005×15972E±006,h17km±6km, h23km±2.5km:pP-P,n122,σ0§81/115,mb4.8/56,2C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.49**	**28**	Pn	**Pg**	**02 43 43.3**	**-0.9**
	6μm,0.3s,baz=210,slow=2.1,SNR=1360						
HNR				Sn	**Sg**	**02 43 51.6**	**+1.3**
	12μm,0.3s,baz=290,slow=23,SNR=106						
HNR	**Honiara**	**0.49**	**28**	Pn	**Pg**	**02 43 43.3**	**-0.9**
HNR				Sn	**Sg**	**02 43 51.6**	**+1.3**
PMG	**Port Moresby**	**12.39**	**271**	*e*P	**Pn**	**02 46 30.1**	**0.0**
PMG				pmax	pmax		
	comp=Z,18nm,0.8s						
PMG	**Port Moresby**	**12.39**	**271**	*e*Pn	**Pn**	**02 46 30.1**	**0.0**
	comp=Z,18nm,0.8s						
CTA	**Charters Tower**	**16.49**	**230**	*e*P	**Pn**	**02 47 28.6**	**+3.6**
	comp=Z,46nm,1.0s						
CTA	**Charters Tower**	**16.49**	**230**	Pn	**Pn**	**02 47 24.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=62,slow=14,SNR=15						
CTA				LR	LR	02 52 38.8	
	comp=Z,1μm,20.6s,baz=10,slow=33						
CTA	**Charters Tower**	**16.49**	**230**	Pn	**Pn**	**02 47 24.9**	**-0.1**
CTA				*e*P		02 47 28.6	
CTA				LR	LR	02 52 38.8	
CTAO	**Charters Tower**	**16.49**	**230**	*e*P	**Pn**	**02 47 25.6**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,154nm,1.3s						
CTAO	**Charters Tower**	**16.49**	**230**	*e*P	**Pn**	**02 47 25.6**	**+0.5**
	comp=Z,154nm,1.3s						
ARMA	**Armidale**	**21.79**	**199**	*e*P	**P**	**02 48 26.6**	**+1.0**
WRAB	**Tennant Creek**	**26.44**	**245**	*e*P	**P**	**02 49 10.7**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,143nm,1.4s,mb5.3						
WRAB	**Tennant Creek**	**26.44**	**245**	*e*P	**P**	**02 49 10.7**	**+0.1**
	comp=Z,143nm,1.4s,mb5.3						
WB2	**Warramunga Arr**	**26.44**	**245**	*e*P	**P**	**02 49 10.7**	**+0.1**
WB2	**Warramunga Arr**	**26.44**	**245**	*e*P	**P**	**02 49 10.1**	**-0.5**
WRA	**Warramunga Arr**	**26.45**	**245**	P	**P**	**02 49 10.0**	**-0.7**
	comp=Z,61nm,0.9s,mb5.1,baz=72,slow=9.6,SNR=76						
KAKA	**Kakadu**	**26.89**	**261**	*e*P	**P**	**02 49 14.9**	**+0.2**
	comp=Z,47nm,1.3s,mb4.9						
CNB	**Canberra Magne**	**27.03**	**199**	*e*P	**P**	**02 49 12.0**	**-3.7**
GUMO	**Guam**	**27.57**	**327**	LR	LR	02 59 16.9	
	comp=Z,531nm,19.5s,baz=270,slow=34						
STKA	**Stephens Creek**	**27.59**	**215**	*e*P	**P**	**02 49 21.0**	**+0.2**
	comp=Z,14nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**27.59**	**215**	P	**P**	**02 49 21.0**	**+0.1**
	comp=Z,16nm,0.7s,mb4.7,baz=6.7,slow=12,SNR=13						
STKA	**Stephens Creek**	**27.59**	**215**	*e*P	**P**	**02 49 20.9**	**+0.1**
	comp=Z,16nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**28.20**	**238**	P	**P**	**02 49 25.9**	**-0.5**
	comp=Z,9.8nm,0.6s,mb4.6,baz=62,slow=10,SNR=84						
ASAR				PcP	PcP	02 52 40.9	+0.8
	comp=Z,2.3nm,0.5s,baz=88,slow=3.0,SNR=7.7						
TOO	**Toolangi**	**30.42**	**203**	*e*P	**P**	**02 49 46.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**34.02**	**252**	*e*P	**P**	**02 50 17.4**	**-0.3**
	comp=Z,30nm,0.8s,mb5.3						
FORT	**Forrest**	**36.04**	**230**	*e*P	**P**	**02 50 34.7**	**-0.3**
	comp=Z,32nm,1.0s,mb5.2						
FORT	**Forrest**	**36.04**	**230**	*e*P	**P**	**02 50 34.8**	**-0.3**
	comp=Z,5.7nm,0.9s,mb4.5						
KAPI	**Kappang**	**39.90**	**274**	*e*P	**P**	**02 51 07.6**	**-0.2**
	comp=Z,36nm,1.1s,mb5.0						
MBWA	**Marble Bar**	**40.02**	**249**	*e*P	**P**	**02 51 08.5**	**-0.2**
	comp=Z,48nm,1.0s,mb5.2						
KLBR	**Kellerberrin**	**44.43**	**235**	*e*P	**P**	**02 51 43.7**	**-0.9**
	comp=Z,21nm,1.0s,mb4.8						
MUN	**Mundaring**	**45.80**	**235**	*e*P	**P**	**02 51 54.4**	**-1.1**
KKM	**Kota Kinabalu**	**46.13**	**288**	*e*P	**P**	**02 51 58.7**	**+0.4**
MJAR	**Matsushiro Arr**	**50.41**	**337**	P	**P**	**02 52 29.9**	**-0.9**
	comp=Z,4.9nm,0.6s,mb4.7,baz=172,slow=8.8,SNR=18						
MAJO	**Matsushiro**	**50.41**	**337**	*e*P	**P**	**02 52 30.5**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**50.41**	**337**	*e*P	**P**	**02 52 30.5**	**-0.4**
	comp=Z,6.2nm,0.6s,mb4.8						
MAT	**Matsushiro**	**50.41**	**337**	P	**P**	**02 52 31.0**	**+0.1**
KSM	**Kuching**	**50.46**	**280**	*e*P	**P**	**02 52 31.6**	**-0.2**
KSRS	**Korea Array**	**55.71**	**330**	P	**P**	**02 53 10.6**	**+0.5**
	comp=Z,8.0nm,1.0s,mb4.7,baz=147,slow=7.5,SNR=24						
YSS	**Yuzh-Sakhalins**	**58.56**	**346**	*e*P	**P**	**02 53 29.9**	**-0.1**
YSS				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
WHN	**Wuhan**	**59.26**	**314**	P	**P**	**02 53 36.0**	**+0.8**
CN2	**Changchun**	**61.82**	**332**	⇑P	**P**	**02 53 53.3**	**+0.9**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.2						
PETK	**Petropavlovsk-**	**62.75**	**359**	P	**P**	**02 53 57.8**	**-0.7**
	comp=Z,8.9nm,0.7s,mb5.0,baz=162,slow=7.8,SNR=11						
KLR	**Kul'dur**	**63.77**	**340**	*e*P	**P**	**02 54 02.2**	**-3.1**
XAN	**Xi'an**	**65.02**	**315**	P	**P**	**02 54 14.1**	**+0.3**
XAN				AP	pP	02 54 21.3	+2.0
XAN				XP	sP	02 54 25.0	+3.7
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.9						
CASY	**Casey**	**65.40**	**200**	*e*P	**P**	**02 54 15.8**	**+0.1**
CASY	**Casey**	**65.40**	**200**	*e*P	**P**	**02 54 15.7**	**0.0**
	comp=Z,22nm,1.0s,mb5.1						
KMI	**Kunming**	**65.49**	**303**	P	**P**	**02 54 19.3**	**+2.3**
KMI				AMB	AMB		
	comp=Z,28nm,1.1s,mb5.2						
CMAR	**Chiang Mai Arr**	**66.23**	**295**	P	**P**	**02 54 22.1**	**+0.2**
	comp=Z,5.7nm,0.6s,mb4.8,baz=122,slow=5.0,SNR=21						
CHTO	**Chiang Mai**	**66.35**	**296**	*e*P	**P**	**02 54 23.4**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
CHTO	**Chiang Mai**	**66.35**	**296**	*e*P	**P**	**02 54 23.4**	**+0.8**
	comp=Z,7.9nm,0.9s,mb4.7						
VNDA	**Vanda**	**67.64**	**179**	P	**P**	**02 54 31.0**	**+1.1**
	comp=Z,11nm,0.8s,mb4.9,baz=341,slow=6.6,SNR=66						
VNDA	**Vanda**	**67.64**	**179**	*e*P	**P**	**02 54 30.3**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,14nm,0.9s						
VNDA	**Vanda**	**67.64**	**179**	*e*P	**P**	**02 54 30.3**	**+0.4**
	comp=Z,14nm,0.9s,mb5.0						
NIKO	**Nikolski**	**68.11**	**20**	*e*P	**P**	**02 54 31.6**	**-1.5**
	comp=Z,55nm,0.4s,mb5.9						
HIA	**Hailar**	**68.53**	**333**	*e*P	**P**	**02 54 36.6**	**+0.7**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HIA	**Hailar**	**68.53**	**333**	*e*P	**P**	**02 54 36.6**	**+0.7**
	2.8nm,0.3s,baz=243,slow=15,SNR=10						
UNV	**Unalaska Valle**	**69.63**	**21**	*e*P	**P**	**02 54 42.4**	**-0.2**
	comp=Z,15nm,0.8s,mb5.0						
LZH	**Lanzhou**	**69.64**	**314**	⇑P	**P**	**02 54 44.8**	**+1.7**
LZH				AP	pP	02 54 52.5	+3.9
LZH				XP	sP	02 54 56.0	+5.4
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,125nm,4.3s						
SEY	**Seymchan**	**72.80**	**356**	*e*P	**P**	**02 55 01.6**	**0.0**
GTA	**Gaotai**	**74.03**	**316**	P	**P**	**02 55 11.3**	**+1.9**
GTA				AP	pP	02 55 16.3	+1.4
GTA				XP	sP	02 55 19.5	+2.6
GTA				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9						
SONM	**Songino Array**	**74.29**	**326**	P	**P**	**02 55 11.6**	**+0.9**
	comp=Z,6.3nm,0.8s,mb4.6,baz=148,slow=6.1,SNR=12						
YAK	**Yakutsk**	**75.40**	**346**	*e*P	**P**	**02 55 15.9**	**-0.9**
YAK				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
YAK				pmax	pmax		
	comp=N,11nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK	**Yakutsk**	**75.40**	**346**	*e*P	**P**	**02 55 17.1**	**+0.3**
	comp=E,34nm,0.6s,mb5.5						
BOD	**Bodaibo**	**77.03**	**337**	*e*P	**P**	**02 55 25.9**	**-0.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
ZAK	**Zakamensk**	**77.41**	**327**	⇓*i*P	**P**	**02 55 28.6**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.2						
BILL	**Bilibino**	**77.85**	**3**	d*i*P	**P**	**02 55 30.5**	**-0.1**
BILL				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
TLY	**Talaya**	**77.93**	**328**	*e*P	**P**	**02 55 31.1**	**-0.2**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.5						
TLY	**Talaya**	**77.93**	**328**	*e*P	**P**	**02 55 31.8**	**+0.5**
	comp=Z,3.4nm,0.9s,mb4.3						
SVW2	**Sparrevohn**	**78.97**	**20**	*e*P	**P**	**02 55 37.4**	**+0.6**
TTA	**Tatalina**	**80.13**	**19**	*e*P	**P**	**02 55 43.6**	**+0.5**
TTA				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
TTA	**Tatalina**	**80.13**	**19**	*e*P	**P**	**02 55 43.6**	**+0.4**
	comp=Z,20nm,1.1s,mb5.0						
SLKM	**Skilak Lake**	**80.50**	**23**	*e*P	**P**	**02 55 45.2**	**0.0**
RC01	**Rabbit Creek A**	**81.06**	**22**	*e*P	**P**	**02 55 48.2**	**0.0**
	comp=Z,6.7nm,0.4s,mb4.9						
PMR	**Palmer**	**81.60**	**22**	*e*P	**P**	**02 55 51.2**	**+0.2**
PMR				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
PMR	**Palmer**	**81.60**	**22**	*e*P	**P**	**02 55 51.2**	**+0.2**
	comp=Z,12nm,0.8s,mb4.9						
KTH	**Kantishna Hill**	**82.23**	**20**	*e*P	**P**	**02 55 53.6**	**-0.7**
	comp=Z,3μm,0.8s						
TRF	**Thorofare Moun**	**82.39**	**20**	*e*P	**P**	**02 55 54.4**	**-0.7**
	comp=Z,12nm,0.7s,mb4.9						
MCK	**McKinley**	**83.03**	**20**	*e*P	**P**	**02 55 58.1**	**-0.4**
	comp=Z,11μm,0.7s						
IMA2	**Indian Mountai**	**83.07**	**17**	*e*P	**P**	**02 55 58.8**	**+0.2**
HVS	**Khovu-Aksy**	**83.10**	**325**	*e*P	**P**	**02 55 58.9**	**-0.2**
MAW	**Mawson**	**83.55**	**203**	*e*P	**P**	**02 56 02.1**	**+0.9**
	comp=Z,13nm,1.3s,mb4.9						
MAW	**Mawson**	**83.55**	**203**	P	**P**	**02 56 01.8**	**+0.5**
	comp=Z,17nm,1.1s,mb5.1,baz=91,slow=7.1,SNR=20						
MAW	**Mawson**	**83.55**	**203**	*e*P	**P**	**02 56 02.1**	**+0.9**
MAW				pmax	pmax		
	comp=Z,13nm,1.3s						
TIXI	**Tiksi**	**83.89**	**351**	*e*P	**P**	**02 56 03.3**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
COLA	**College**	**84.12**	**20**	*e*P	**P**	**02 56 02.1**	**-1.9**
COLA	**College**	**84.12**	**20**	*e*P	**P**	**02 56 03.4**	**-0.6**
	comp=Z,16nm,0.8s,mb5.2						
COLD	**Coldfoot**	**84.88**	**17**	*e*P	**P**	**02 56 08.1**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.5						
HYT	**Haines Junctio**	**85.85**	**26**	*e*P	**P**	**02 56 13.8**	**+1.0**
EGAK	**Eagle**	**86.40**	**22**	*e*P	**P**	**02 56 15.9**	**+0.5**
	comp=Z,4.4nm,0.8s,mb4.7						
MK31	**Makanchi Array**	**88.64**	**318**	*e*P	**P**	**02 56 26.7**	**0.0**
MKAR	**Makanchi Array**	**88.64**	**318**	P	**P**	**02 56 26.5**	**-0.1**
	comp=Z,6.1nm,0.7s,mb5.0,baz=98,slow=6.5,SNR=26						
MKAR	**Makanchi Array**	**88.64**	**318**	P	**P**	**02 56 26.5**	**-0.1**
ZALV	**Zalesovo Beam**	**89.17**	**325**	P	**P**	**02 56 27.1**	**-1.9**
	comp=Z,3.8nm,0.9s,mb4.7,baz=120,slow=5.8,SNR=6.4						
ZAL	**Zalesovo**	**89.18**	**325**	P	**P**	**02 56 27.1**	**-1.9**
NVAR	**Mina Array Bea**	**89.85**	**51**	P	**P**	**02 56 32.1**	**-0.4**
	comp=Z,1.2nm,0.8s,mb4.3,baz=238,slow=6.4,SNR=8.7						
WVOR	**Wild Horse Val**	**90.49**	**47**	*e*P	**P**	**02 56 34.6**	**-0.8**
WVOR				pmax	pmax		
	comp=Z,18nm,1.6s,mb5.2						
WVOR	**Wild Horse Val**	**90.49**	**47**	*e*P	**P**	**02 56 34.6**	**-0.8**
	comp=Z,18nm,1.6s,mb5.2						
TPNV	**Topopah Spring**	**91.14**	**53**	*e*P	**P**	**02 56 39.3**	**+0.7**
TPNV				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.8						
TPNV	**Topopah Spring**	**91.14**	**53**	*e*P	**P**	**02 56 39.2**	**+0.7**
	comp=Z,5.7nm,1.2s,mb4.8						
KURK	**Kurchatov**	**91.98**	**321**	*e*P	**P**	**02 56 41.0**	**-1.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb5.0						
ELK	**Elko**	**92.64**	**49**	*e*P	**P**	**02 56 46.6**	**+1.2**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ELK	**Elko**	**92.64**	**49**	*e*P	**P**	**02 56 46.6**	**+1.2**
	comp=Z,1.7nm,0.8s,mb4.5						
NEW	**Newport**	**92.77**	**42**	*e*P	**P**	**02 56 45.8**	**0.0**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NEW	**Newport**	**92.77**	**42**	*e*P	**P**	**02 56 45.8**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.6						
HLID	**Hailey**	**93.75**	**47**	*e*P	**P**	**02 56 51.6**	**+1.1**
	comp=Z,2.6nm,0.9s,mb4.7						
HWUT	**Hardware Ranch**	**95.52**	**49**	*e*P	**P**	**02 56 58.4**	**-0.2**
BOZ	**Bozeman (W)**	**96.03**	**45**	*e*P	**P**	**02 57 01.4**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.3						
BOZ	**Bozeman (W)**	**96.03**	**45**	*e*P	**P**	**02 57 01.4**	**+0.5**
	comp=Z,0.7nm,0.7s,mb4.2						
KBL	**Kabul**	**96.07**	**304**	*e*P	**P**	**02 57 01.0**	**-0.3**
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**02 57 01.9**	**-1.5**
	comp=Z,1.1nm,0.7s,mb4.4,baz=264,slow=4.4,SNR=7.5						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**02 57 01.9**	**-1.5**
BW06	**Boulder Array**	**97.15**	**48**	*e*P	**P**	**02 57 06.5**	**+0.5**
	comp=Z,1.4nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**97.15**	**48**	P	**P**	**02 57 05.3**	**-0.7**
	comp=Z,0.5nm,0.6s,mb4.1,baz=276,slow=5.2,SNR=4.9						
SNAA	**Sanae**	**97.81**	**185**	*e*P	**P**	**02 57 08.5**	**0.0**
SNAA				pmax

AKASG **Malin Array Be 74.74 322** P **P 03 03 17.3 -1.1**
comp=Z,0.2nm,0.4s,mb3.4,baz=74,slow=3.1,SNR=4.2
ARCES **ARCESS Array B 82.00 340** P **P 03 03 58.1 0.0**
comp=Z,1.8nm,0.9s,mb4.0,baz=90,slow=3.8,SNR=6.6
GERES **GERESS Array B 84.30 319** P **P 03 04 10.0 -0.5**
comp=Z,0.6nm,0.7s,mb3.9,baz=99,slow=4.3,SNR=5.4
TXAR **Lajitas Array 143.35 31** PKP PKPdf 03 11 14.2 +0.6
comp=Z,0.3nm,0.7s,baz=349,slow=1.8,SNR=3.2

IDC ***17*** *02:54:13.4±0.6, 1423S×7620W, h0km, mb4.4/17, mb1 4.5/21, mb1mx4.5/25, mbtmp4.4/21, ML4.6/4, MS4.4/8, Ms1 4.4/8, ms1mx4.2/42, Error ellipse: s-maj=21.8km s-min=11.8km az=71.0*
ISCJB ***17*** *02:54:14.4±2.2, 1425S±004×7612W±006, h15km±15km, mb4.9/66, MS4.7/5, Error ellipse: s-maj=11.2km s-min=5.1km az=146.6*
BJI ***17*** *02:54:16.0, 1413S×7622W, h20km, mB5.0, Ms5.4, Msz5.3*
NEIC ***17*** *02:54:17.1±2.1, 1421S×7609W, h20km±15km, mb5.0/50, Error ellipse: s-maj=8.9km s-min=4.2km az=58.0*
MOS ***17*** *02:54:17.0±0.9, 1421S×7621W, h33km, mb5.2/25, Error ellipse: s-maj=15.4km s-min=6.5km az=121.2*
ISC 17 02:54:18.2±2.3, 1424S±004×7604W±006, h26km±16km, h26km±1.5km:pP-P, n456, σ0°66/444, mb4.9/66, MS4.7/5, 140C-111D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.37**	**341**	Pn	**Pn**	**02 54 56.1**	**+0.7**
	11μm,0.5s,SNR=19						
NNA	**Nana**	**2.37**	**341**	Pn	**Pn**	**02 54 53.8**	**-1.7**
	222nm,0.3s,baz=172,slow=13,SNR=24						
NNA				Sn	**Sn**	**02 55 24.8**	**+1.1**
	399nm,0.3s,baz=224,slow=20,SNR=7.8						
ARE	**Arequipa**	**4.91**	**117**	*eP*	**Pn**	**02 55 31.0**	**+0.7**
ARE				*eS*	**Sn**	**02 56 42.0**	**+16**
ATAH	**Atahualpa**	**7.56**	**342**	Pn	**Pn**	**02 56 07.7**	**+1.0**
	8.6nm,0.3s,baz=158,slow=7.6,SNR=17						
ATAH				Sn	**Sn**	**02 57 38.0**	**+6.4**
	4.0nm,0.3s,baz=101,slow=14,SNR=3.9						
ATAH				LR	LR	02 59 01.7	
	comp=Z,4μm,20.4s,baz=176,slow=39						
LPAZ	**La Paz**	**7.90**	**106**	Pn	**Pn**	**02 56 17.3**	**+5.9**
	4.0nm,0.3s,baz=299,slow=9.6,SNR=68						
LPAZ				LR	LR	02 58 52.5	
	comp=Z,860nm,19.5s,baz=293,slow=35						
LVC	**Limon Verde**	**10.72**	**142**	Pn	**Pn**	**02 56 50.6**	**+0.5**
	5.4nm,0.3s,baz=304,slow=10,SNR=50						
LVC				Sn	**Sn**	**02 58 46.3**	**-3.1**
	4.8nm,0.3s,baz=69,slow=17,SNR=4.3						
LVC				Lg		02 59 45.8	
	1.1nm,0.3s,baz=92,slow=23,SNR=5.7						
LVC				LR	LR	03 01 20.3	
	comp=Z,3μm,18.9s,baz=317,slow=39						
LVC	**Limon Verde**	**10.72**	**142**	*eP*Pn	**Pn**	**02 56 51.7**	**+1.6**
SIV	**San Ignacio**	**14.56**	**99**	Pn	**Pn**	**02 57 41.9**	**-0.7**
	1.0nm,0.3s,baz=277,slow=15,SNR=19						
SIV				Sn	**Sn**	**03 00 42.1**	**+19**
	0.2nm,0.3s,baz=7.4,slow=22,SNR=2.5						
OTAV	**Otavalo**	**14.58**	**350**	*eP*	**Pn**	**02 57 48.5**	**+5.5**
CFAA	**Coronel Fontan**	**18.70**	**159**	P	**Pn**	**02 58 34.6**	**-0.5**
	0.2nm,0.3s,baz=333,slow=11,SNR=22						
CFAA				LR	LR	03 05 18.1	
	comp=Z,138nm,19.1s,baz=344,slow=35						
ROSC	**El Rosal**	**19.05**	**5**	P	**Pn**	**02 58 43.3**	**+3.9**
	0.6nm,0.3s,baz=89,slow=22,SNR=6.1						
ROSC				S	**Sn**	**03 02 24.3**	**+12**
	0.8nm,0.3s,baz=275,slow=23,SNR=2.1						
ROSC	**El Rosal**	**19.05**	**5**	*eP*	**Pn**	**02 58 43.9**	**+4.5**
CPUP	**Villa Florida**	**21.24**	**127**	P	**P**	**02 59 02.8**	**+0.4**
	21nm,1.0s,mb4.4,baz=288,slow=11,SNR=21						
CPUP				LR	LR	03 08 57.5	
	comp=Z,2μm,18.8s,MS4.5,baz=292,slow=41						
CPUP	**Villa Florida**	**21.24**	**127**	*eP*	**P**	**02 59 03.0**	**+0.7**
CPUP				pmax	pmax		
	comp=Z,91nm,1.0s						
CPUP	**Villa Florida**	**21.24**	**127**	*eP*	**P**	**02 59 03.0**	**+0.7**
	comp=Z,91nm,1.0s,mb5.1						
CPUP				LR	LR	03 08 57.5	
BCIP	**Isla Barro Col**	**23.56**	**351**	*eP*	**P**	**02 59 26.8**	**-0.1**
SDV	**Santo Domingo**	**23.60**	**13**	P	**P**	**02 59 27.1**	**-0.1**
	comp=Z,13nm,0.7s,mb4.5,baz=189,slow=12,SNR=12						
SDV	**Santo Domingo**	**23.60**	**13**	*eP*	**P**	**02 59 27.6**	**+0.4**
PCRV	**Puerto La Cruz**	**26.77**	**26**	P	**P**	**02 59 56.7**	**+0.6**
	comp=Z,7.2nm,0.7s,mb4.3,baz=27,slow=14,SNR=3.2						
PCRV				LR	LR	03 11 33.6	
	comp=Z,2μm,18.4s,MS4.7,baz=25,slow=39						
TRQA	**Tornquist**	**26.80**	**155**	*eP*	**P**	**02 59 55.8**	**-0.3**
PLCA	**Paso Flores**	**26.82**	**171**	P	**P**	**02 59 55.2**	**-1.1**
	comp=Z,14nm,1.2s,mb4.4,baz=348,slow=11,SNR=9.1						
PLCA				LR	LR	03 08 32.6	
	comp=Z,658nm,19.1s,MS4.2,baz=106,slow=32						
BDFB	**Brasilia**	**27.11**	**97**	P	**P**	**02 59 59.8**	**+0.6**
	comp=Z,2.8nm,0.7s,mb3.9,baz=256,slow=19,SNR=8.3						
BDFB				LR	LR	03 11 45.6	
	comp=Z,2μm,19.6s,MS4.7,baz=74,slow=39						
TEIG	**Tepich**	**36.30**	**340**	*eP*	**P**	**03 01 19.9**	**+0.1**
USHA	**Ushuaia**	**40.93**	**173**	P	**P**	**03 01 57.9**	**-0.4**
	comp=Z,16nm,1.0s,mb4.6,baz=305,slow=6.3,SNR=3.7						
KVTX	**Kingsville**	**46.63**	**333**	*eP*	**P**	**03 02 52.0**	**+7.6**
NHSC	**New Hope**	**47.25**	**355**	*eP*	**P**	**03 02 48.8**	**-0.3**
HKT	**Hockley**	**47.90**	**337**	*eP*	**P**	**03 02 54.0**	**-0.2**
HKT				pmax	pmax		
	comp=Z,32nm,1.5s,mb5.1						
HKT	**Hockley**	**47.90**	**337**	*eP*	**P**	**03 02 54.0**	**-0.3**
	comp=Z,32nm,1.5s,mb5.1						
GOGA	**Godfrey**	**47.91**	**352**	*eP*	**P**	**03 02 53.3**	**-1.0**
GOGA				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.2						
GOGA	**Godfrey**	**47.91**	**352**	*eP*	**P**	**03 02 53.3**	**-1.0**
	comp=Z,29nm,1.1s,mb5.2						
JCT	**Junction City**	**50.00**	**333**	*eP*	**P**	**03 03 10.0**	**-0.4**
JCT				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
JCT	**Junction City**	**50.00**	**333**	*eP*	**P**	**03 03 10.0**	**-0.3**
	comp=Z,18nm,1.1s,mb5.0						
CPCT	**Cooper Cave**	**50.07**	**351**	*eP*	**P**	**03 03 10.3**	**-0.5**
SWET	**Sewanee**	**50.07**	**349**	*eP*	**P**	**03 03 09.4**	**-1.4**
OXF	**Oxford**	**50.12**	**346**	*eP*	**P**	**03 03 09.4**	**-1.8**
OXF				pmax	pmax		
	comp=Z,48nm,1.1s,mb5.4						
OXF	**Oxford**	**50.12**	**346**	*eP*	**P**	**03 03 09.4**	**-1.8**
	comp=Z,48nm,1.1s,mb5.4						
TKL	**Tuckaleechee C**	**50.16**	**352**	*eP*	**P**	**03 03 10.1**	**-1.4**
TKL				*e*PP	pP	03 03 16.0	-3.6
PLAL	**Pickwick Lake**	**50.27**	**347**	*eP*	**P**	**03 03 10.0**	**-2.3**
TXAR	**Lajitas Array**	**50.88**	**329**	P	**P**	**03 03 16.5**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.2,baz=148,slow=9.2,SNR=22						
TZTN	**Tazewell**	**51.01**	**352**	*eP*	**P**	**03 03 18.6**	**+0.8**
	comp=Z,36nm,1.3s,mb5.1						
PMSA	**Palmer Station**	**51.14**	**173**	*eP*	**P**	**03 03 18.9**	**+0.4**
	comp=Z,19nm,1.1s,mb4.9						
UALR	**University of**	**51.15**	**343**	*eP*	**P**	**03 03 18.2**	**-0.7**
	comp=Z,33nm,1.2s,mb5.1						
MIAR	**Mount Ida**	**51.30**	**341**	*eP*	**P**	**03 03 19.5**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.1						
MIAR	**Mount Ida**	**51.30**	**341**	*eP*	**P**	**03 03 19.5**	**-0.6**
	comp=Z,34nm,1.4s,mb5.1						
BLA	**Blacksburg**	**51.34**	**356**	*eP*	**P**	**03 03 19.7**	**-0.6**
BLA				pmax	pmax		
	comp=Z,51nm,1.5s,mb5.2						
BLA	**Blacksburg**	**51.34**	**356**	*eP*	**P**	**03 03 19.7**	**-0.7**
	comp=Z,51nm,1.5s,mb5.2						
WCI	**Wyandotte Cave**	**53.07**	**350**	*eP*	**P**	**03 03 31.4**	**-1.8**
SIUC	**Southern Illin**	**53.14**	**347**	*eP*	**P**	**03 03 32.2**	**-1.5**
WMOK	**Wichita Mounta**	**53.29**	**337**	*eP*	**P**	**03 03 33.6**	**-1.2**
SDMD	**Soldier's Deli**	**53.38**	**359**	*eP*	**P**	**03 03 34.7**	**-0.7**
GDL2	**Guadalupe Moun**	**53.56**	**330**	*eP*	**P**	**03 03 37.0**	**+0.1**
FVM	**French Village**	**53.68**	**346**	*eP*	**P**	**03 03 36.2**	**-1.4**
OLIL	**Olney**	**53.89**	**348**	*eP*	**P**	**03 03 36.4**	**-2.8**
	comp=Z,50nm,1.0s,mb5.4						
MVL	**Millersville**	**53.96**	**360**	*eP*	**P**	**03 03 35.3**	**-4.4**
	comp=Z,33nm,1.3s,mb5.1						
BLO	**Bloomington**	**54.03**	**350**	*eP*	**P**	**03 03 39.6**	**-0.6**
BLO				pmax	pmax		
	comp=Z,58nm,1.4s,mb5.3						
BLO	**Bloomington**	**54.03**	**350**	*eP*	**P**	**03 03 39.6**	**-0.6**
	comp=Z,58nm,1.4s,mb5.3						
ACSO	**Alum Creek Sta**	**54.58**	**353**	*eP*	**P**	**03 03 42.7**	**-1.4**
	comp=Z,43nm,1.2s,mb5.4						
AMTX	**Amarillo**	**54.59**	**334**	*eP*	**P**	**03 03 43.2**	**-1.1**
	comp=Z,33nm,1.5s,mb5.2						
PAL	**Palisades**	**55.00**	**2**	*eP*	**P**	**03 03 54.1**	**+6.9**

PAL pmax pmax
comp=Z,28nm,1.1s,mb5.2
PAL Palisades 55.00 2 *eP* **P 03 03 54.1 +6.9**
comp=Z,28nm,1.1s,mb5.2
319A Douglas 55.46 325 ⇑P **P 03 03 50.5 -0.2**
baz=56
318A Bisbee 55.90 325 ⇑P **P 03 03 53.8 -0.1**
baz=56,SNR=14
219A White Tail Can 55.92 326 ⇑P **P 03 03 53.6 -0.4**
baz=56,SNR=8.1
BINY Binghamton 56.16 0 *eP* **P 03 03 55.6 +0.1**
BNM Barren Site 56.24 329 *eP* **P 03 03 56.4 +0.2**
218A Dragoon 56.34 325 ⇑P **P 03 03 57.1 +0.1**
baz=57
LPM Los Pinos Moun 56.38 330 *eP* **P 03 03 58.9 +1.7**
119A Ashpeak Ranch, 56.53 326 ⇓P **P 03 03 58.3 -0.1**
baz=57
217A Green Valley 56.62 324 ⇓P **P 03 03 59.0 0.0**
baz=57,SNR=8.7
LAZ Ladron 56.70 329 *eP* **P 03 03 59.6 +0.1**
118A Homack Ranch, 56.80 326 ⇑P **P 03 04 00.1 -0.1**
baz=57
ANMO Albuquerque 56.81 330 *eP* **P 03 04 00.2 -0.1**
ANMO pmax pmax
comp=Z,23nm,1.1s
ANMO Albuquerque 56.81 330 *eP* **P 03 04 00.2 -0.1**
comp=Z,23nm,1.1s,mb5.1
Z19A T-Link Ranch, 56.92 327 ⇓P **P 03 04 01.1 0.0**
baz=57
TUC Tucson 57.00 325 *eP* **P 03 04 01.3 -0.4**
TUC pmax pmax
comp=Z,15nm,1.1s,mb4.9
TUC Tucson 57.00 325 *eP* **P 03 04 01.3 -0.4**
comp=Z,14nm,1.1s,mb4.9
117A Oracle 57.17 325 ⇑P **P 03 04 02.5 -0.4**
baz=57,SNR=12
CBKS Cedar Bluff 57.24 338 *eP* **P 03 04 03.0 -0.3**
ACCN Adirondack Com 57.38 2 *eP* **P 03 04 04.7 +0.5**
comp=Z,48nm,1.3s,mb5.4
Y19A Nutrioso 57.43 327 ⇑P **P 03 04 04.9 +0.2**
baz=58,SNR=9.1
Z17A San Carlos Hig 57.57 326 ⇑P **P 03 04 05.8 +0.1**
baz=58
Y18A Canyon Day Jun 57.70 327 ⇑P **P 03 04 06.4 -0.2**
baz=58
116A Eloy 57.70 324 ⇑P **P 03 04 06.7 0.0**
baz=58
X19A St. Johns 57.81 328 ⇑P **P 03 04 07.8 +0.4**
baz=58
214A Organ Pipe Nat 57.89 323 ⇑P **P 03 04 08.0 0.0**
baz=58,SNR=9.4
NCB Newcomb 57.95 2 *eP* **P 03 04 07.8 -0.4**
Y17A Roosevelt 58.08 326 ⇑P **P 03 04 09.2 0.0**
baz=58,SNR=6.7
115A Sonoran Desert 58.10 324 ⇑P **P 03 04 09.3 -0.2**
baz=58
Z16A Peralta Trail, 58.13 325 ⇓P **P 03 04 09.5 -0.2**
baz=58
X18A Snowflake 58.23 327 ⇓P **P 03 04 10.8 +0.4**
baz=58
X17A Forest Lakes 58.54 326 ⇓P **P 03 04 12.8 +0.3**
baz=59,SNR=8.0
Y16A Circle Bar Ran 58.56 326 ⇑P **P 03 04 12.9 +0.2**
baz=59
W18A Petrified Fore 58.58 328 ⇑P **P 03 04 12.7 0.0**
baz=59
LONY Lake Ozonia 58.59 1 *eP* **P 03 04 12.2 -0.5**
comp=Z,20nm,1.2s,mb5.0
SDCO Great Sand Dun 58.65 333 *eP* **P 03 04 13.0 -0.1**
V19A Window Rock 58.69 329 ⇑P **P 03 04 13.9 +0.4**
baz=59
FRNY Flat Rock 58.84 2 *eP* **P 03 04 14.5 +0.2**
X16A Lo Mia Camp, P 58.94 326 ⇑P **P 03 04 15.2 -0.1**
baz=59,SNR=8.3
113A Mohawk Valley, 59.04 323 ⇑P **P 03 04 16.0 0.0**
baz=59
Y15A Casa Rosa Ranc 59.09 325 ⇑P **P 03 04 16.1 -0.2**
baz=59,SNR=9.2
V18A Ganado 59.14 328 ⇓P **P 03 04 16.1 -0.5**
baz=59
112A Yuma 59.35 322 ⇑P **P 03 04 17.5 -0.7**
baz=60
X15A Humboldt 59.43 325 ⇑P **P 03 04 18.8 +0.1**
baz=60,SNR=7.3
Y14A Wickenburg 59.45 325 ⇓P **P 03 04 19.1 +0.3**
baz=60
W16A Flagstaff 59.50 326 ⇑P **P 03 04 19.6 +0.4**
baz=60
T19A Beclabito 59.56 330 ⇓P **P 03 04 18.8 -0.7**
baz=60,SNR=6.6
MVCO Mesa Verde 59.60 330 ⇑P **P 03 04 19.6 -0.2**
baz=60
MVCO Mesa Verde 59.60 330 *eP* **P 03 04 20.1 +0.3**
U18A Rough Rock, Ch 59.66 329 ⇓P **P 03 04 19.3 -0.9**
baz=60
WUAZ Wupatki 59.74 327 ⇑P **P 03 04 20.8 0.0**
baz=60
WUAZ Wupatki 59.74 327 *eP* **P 03 04 21.8 +1.0**
X14A Yava 59.78 325 ⇑P **P 03 04 21.0 0.0**
baz=60,SNR=7.0
Y13A Salome 59.83 324 ⇓P **P 03 04 21.3 -0.1**
baz=60
GLA Glamis 59.86 323 ⇓P **P 03 04 21.2 -0.5**
baz=60
W15A Williams 59.96 326 ⇓P **P 03 04 22.2 -0.1**
baz=60
Y12C Blythe 60.18 323 ⇑P **P 03 04 24.0 +0.1**
baz=60
U17A Shonto 60.20 328 ⇓P **P 03 04 24.4 +0.5**
baz=60,SNR=5.1
T18A Mexican Hat 60.22 329 ⇑P **P 03 04 23.8 -0.2**
baz=60,SNR=6.2
S19A Harvey Farm, M 60.34 330 ⇓P **P 03 04 25.0 +0.2**
baz=61
DVTC Desert V Tower 60.35 321 ⇑P **P 03 04 25.4 +0.4**
baz=61
PV01 Paradox Valley 60.37 331 *eP* **P 03 04 25.3 +0.3**
V15A Kaibab Nationa 60.39 327 ⇓P **P 03 04 25.8 +0.5**
baz=61
X13A Yucca 60.40 324 ⇓P **P 03 04 25.4 +0.1**
baz=61,SNR=5.4
ISCO Idaho Springs 60.41 334 *eP* **P 03 04 25.7 +0.4**
W14A Seligman 60.43 325 ⇓P **P 03 04 25.9 +0.4**
baz=61
SMCO Snowmass 60.48 333 *eP* **P 03 04 26.1 +0.3**
T17A Navajo Res., N 60.58 328 ⇑P **P 03 04 26.8 +0.4**
baz=61,SNR=6.1
BC3 Big Chuckw Mtn 60.66 323 ⇓P **P 03 04 27.5 +0.4**
baz=61
ECSD EROS,Sioux Fal 60.68 343 *eP* **P 03 04 25.4 -1.7**
MONP Monument Peak 60.70 321 ⇓P **P 03 04 27.6 +0.2**
baz=61
BAR Barrett 60.71 321 *eP* **P 03 04 25.9 -1.5**
comp=Z,7.4nm,1.0s,mb4.8
S18A Hurst Farm, Bl 60.71 329 ⇓P **P 03 04 27.9 +0.5**
baz=61,SNR=6.6
V14A Boquillas Ranc 60.76 326 ⇓P **P 03 04 27.9 +0.1**
baz=61,SNR=8.0
W13A Hualapai Mount 60.80 325 ⇓P **P 03 04 28.5 +0.5**
baz=61,SNR=11
R19A Curley Farm, L 60.83 330 ⇓P **P 03 04 28.6 +0.4**
baz=61
IRM Iron Mountain 60.84 323 ⇓P **P 03 04 28.6 +0.2**
baz=61,SNR=6.9
U15A North Rim 60.91 327 ⇑P **P 03 04 29.5 +0.7**
baz=61
S17A Black Ridge (B 61.07 329 ⇑P **P 03 04 29.8 0.0**
baz=61
R18A Canyonlands Na 61.21 330 ⇑P **P 03 04 31.2 +0.4**
baz=61
PFO Pinyon Flat Ob 61.22 322 *eP* **P 03 04 30.5 -0.4**
PFO pmax pmax
comp=Z,20nm,1.1s,mb5.2
PFO Pinyon Flat Ob 61.22 322 ⇑P **P 03 04 30.9 0.0**
baz=61
PFO Pinyon Flat Ob 61.22 322 *eP* **P 03 04 30.5 -0.4**
comp=Z,20nm,1.1s,mb5.2
BELC Belle Mtn. 61.22 323 ⇑P **P 03 04 30.8 -0.1**
baz=61
Q19A Hogan Spring (61.35 331 ⇓P **P 03 04 32.2 +0.5**
baz=62
U14A Mt Trumbull 61.38 326 ⇑P **P 03 04 32.5 +0.5**
baz=62,SNR=6.4
V13A Grand Canyon W 61.40 325 ⇑P **P 03 04 32.8 +0.7**
baz=62,SNR=5.4
T15A Red Dirt Ranch 61.41 327 ⇑P **P 03 04 32.3 +0.2**
baz=62,SNR=6.1

S16A Weppner Ranch, 61.54 328 ⇓P **P 03 04 32.7 -0.3**
baz=62,SNR=5.8
GMRC Granite Mounta 61.58 323 ⇑P **P 03 04 33.1 -0.2**
baz=62
R17A Hanksville Air 61.63 329 ⇑P **P 03 04 33.9 +0.3**
baz=62,SNR=12
MURC Murrieta 61.66 321 ⇓P **P 03 04 34.1 +0.2**
baz=62
V12A Nelson 61.79 325 ⇑P **P 03 04 34.5 -0.3**
baz=62
U13A Pakoon Wash 61.80 326 ⇑P **P 03 04 34.6 -0.2**
baz=62
T14A Hurricane 61.81 327 ⇑P **P 03 04 35.3 +0.4**
baz=62,SNR=5.2
Q18A Rafter H Ranch 61.88 330 ⇑P **P 03 04 35.5 +0.2**
baz=62,SNR=5.7
HEC Hector,Ludlow 62.00 323 ⇑P **P 03 04 35.6 -0.6**
baz=62
SRU San Rafael 62.08 330 *eP* **P 03 04 35.5 -1.1**
SRU pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
SRU San Rafael 62.08 330 ⇓P **P 03 04 36.4 -0.2**
baz=62,SNR=5.5
SRU San Rafael 62.08 330 *eP* **P 03 04 35.5 -1.1**
comp=Z,8.7nm,1.2s,mb4.8
U12A Valley of Fire 62.13 325 ⇓P **P 03 04 37.3 +0.2**
baz=62
TUQ Turquoise Mtn. 62.19 324 ⇓P **P 03 04 37.0 -0.5**
baz=62
V11A Goodsprings 62.20 324 ⇓P **P 03 04 37.9 +0.4**
baz=62
T13A Saint George 62.22 326 ⇑P **P 03 04 38.1 +0.5**
baz=62
Q16A Castle Valley 62.24 330 ⇓P **P 03 04 38.1 +0.4**
baz=62
R15A Junction 62.26 328 ⇑P **P 03 04 38.2 +0.4**
baz=62
P18A Preston Nutter 62.35 331 ⇓P **P 03 04 37.8 -0.7**
baz=63
BFSC Mount Baldy St 62.38 322 ⇓P **P 03 04 38.4 -0.3**
baz=63
MSU Marysvale 62.44 329 *eP* **P 03 04 39.4 +0.4**
P17A Butcher Ranch, 62.47 330 ⇑P **P 03 04 39.3 +0.1**
baz=63
SHPR Sheep Range 62.53 325 *eP* **P 03 04 40.0 +0.4**
S13A Holt Ranch, En 62.61 327 ⇑P **P 03 04 40.9 +0.7**
baz=63,SNR=8.2
GSC Goldstone 62.61 323 ⇓P **P 03 04 39.9 -0.4**
baz=63
GSC Goldstone 62.61 323 *eP* **P 03 04 39.6 -0.7**
MWC Mount Wilson 62.61 321 *eP* **P 03 04 40.6 +0.3**
MWC pmax pmax
comp=Z,90nm,1.9s,mb5.6
MWC Mount Wilson 62.61 321 *eP* **P 03 04 40.6 +0.4**
comp=Z,90nm,1.9s,mb5.6
RWWY Rawlins 62.65 334 *eP* **P 03 04 40.8 +0.5**
SHOC Shoshone 62.73 324 ⇑P **P 03 04 40.2 -0.8**
baz=63
O18A Roosevelt 62.74 331 ⇑P **P 03 04 41.0 0.0**
baz=63
SNCC San Nicolas Is 62.86 320 ⇓P **P 03 04 41.7 -0.3**
baz=63
Q15A Fillmore 62.91 329 ⇑P **P 03 04 42.2 0.0**
baz=63
EDW2 Edwards Air Fo 63.02 322 ⇑P **P 03 04 42.3 -0.6**
baz=63
P16A Fountain Green 63.02 330 ⇓P **P 03 04 42.6 -0.3**
baz=63
T11A Corn Creek, Al 63.09 326 ⇓P **P 03 04 44.1 +0.6**
baz=63,SNR=6.7
R13A O'Grain Ranch, 63.11 327 ⇑P **P 03 04 43.1 -0.4**
baz=63
U10A Ash Meadows, A 63.12 324 ⇓P **P 03 04 43.2 -0.4**
baz=63
N18A Larsen Ranch, 63.15 332 ⇑P **P 03 04 43.9 +0.1**
baz=63
OSI Osito Adit 63.28 321 ⇑P **P 03 04 44.5 -0.2**
baz=64
P15A Leamington 63.30 329 ⇓P **P 03 04 44.5 -0.2**
baz=64
Q14A Sevier Lake (B 63.35 328 ⇑P **P 03 04 44.6 -0.5**
baz=64,SNR=12
O16A Springville 63.41 330 ⇓P **P 03 04 45.3 -0.2**
baz=64
RSSD Black Hills 63.45 338 *eP* **P 03 04 45.5 -0.1**
RSSD pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
RSSD Black Hills 63.45 338 *eP* **P 03 04 45.5 -0.1**
comp=Z,4.4nm,1.0s,mb4.5
DAU Daniels Canyon 63.45 331 *eP* **P 03 04 46.2 +0.5**
TPNV Topopah Spring 63.45 325 *eP* **P 03 04 46.2 +0.4**
TPNV pmax pmax
comp=Z,12nm,1.0s,mb5.0
TPNV Topopah Spring 63.45 325 ⇑P **P 03 04 46.0 +0.2**
baz=64
TPNV Topopah Spring 63.45 325 *eP* **P 03 04 46.2 +0.4**
comp=Z,12nm,1.0s,mb5.0
FURC Furnace Creek, 63.46 324 ⇓P **P 03 04 46.7 +0.8**
baz=64,SNR=5.2
NLU North Lily Min 63.49 330 *eP* **P 03 04 53.5 +7.5**
MPMC Manual Prospec 63.54 323 ⇓P **P 03 04 45.9 -0.5**
baz=64
R12A Pony Springs, 63.56 327 ⇑P **P 03 04 46.5 +0.1**
baz=64
N17A Moffit Pass 63.66 331 ⇑P **P 03 04 47.0 -0.1**
baz=64
S11A Rachel 63.67 326 ⇑P **P 03 04 47.0 -0.2**
baz=64
JLU Jordanelle 63.69 331 *eP* **P 03 04 48.1 +0.8**
P14A Drum Mountains 63.70 329 ⇑P **P 03 04 47.1 -0.4**
baz=64
Q13A Wheeler Ranch, 63.71 328 ⇑P **P 03 04 47.8 +0.3**
baz=64,SNR=5.4
ISA Isabella 63.84 322 ⇓P **P 03 04 48.0 -0.4**
baz=64
ISA Isabella 63.84 322 *eP* **P 03 04 51.7 +3.3**
N16A Rees Ranch, Co 63.90 331 ⇑P **P 03 04 48.8 +0.1**
baz=64
O15A The Old Anders 63.93 330 ⇑P **P 03 04 48.7 -0.2**
baz=64
DUG Dugway 64.04 329 ⇑P **P 03 04 49.5 -0.1**
baz=64
DUG Dugway 64.04 329 *eP* **P 03 04 49.7 +0.1**
P13A Bates Ranch, G 64.08 328 ⇓P **P 03 04 49.7 -0.3**
baz=64
R11A Troy Canyon, C 64.10 326 ⇑P **P 03 04 49.7 -0.3**
baz=64
Q12A Willow Creek R 64.20 327 ⇑P **P 03 04 50.8 +0.1**
baz=64,SNR=5.1
S10A Tonopah Range, 64.34 325 ⇑P **P 03 04 51.6 0.0**
baz=65,SNR=9.7
Q11A Duckwater 64.49 327 ⇑P **P 03 04 51.8 -0.8**
baz=65,SNR=7.7
PDAR Pinedale Array 64.54 333 P **P 03 04 51.9 -0.9**
comp=Z,0.5nm,0.7s,baz=132,slow=6.6,SNR=6.9
BW06 Boulder Array 64.54 333 *eP* **P 03 04 52.5 -0.3**
S09A Goldfield 64.55 325 ⇑P **P 03 04 53.0 0.0**
baz=65,SNR=6.6
BGU Big Grassy Mou 64.70 330 *eP* **P 03 04 53.3 -0.6**
AGMN Agassiz Refuge 64.71 345 *eP* **P 03 04 52.8 -1.0**
N14A Grayback Hills 64.72 330 ⇓P **P 03 04 53.6 -0.4**
baz=65
L16A Fish Haven 64.78 332 ⇓P **P 03 04 53.8 -0.6**
baz=65
TPH Tonopah 64.80 325 *eP* **P 03 04 54.9 +0.3**
TPH pmax pmax
comp=Z,12nm,0.9s,mb4.9
TPH Tonopah 64.80 325 *eP* **P 03 04 54.9 +0.3**
comp=Z,12nm,0.9s,mb4.9
R09A Tonopah 64.83 325 ⇑P **P 03 04 55.7 +0.9**
baz=65,SNR=8.6
M15A Larsen Ranch, 64.83 330 ⇑P **P 03 04 54.5 -0.3**
baz=65
V05C Boulder Hill, 64.83 322 ⇓P **P 03 04 53.2 -1.7**
baz=65
HELL Mitchell Peak 64.86 323 ⇑P **P 03 04 55.2 +0.1**
baz=65,SNR=5.6
Q10A Clear Creek Ra 64.88 326 ⇓P **P 03 04 55.2 0.0**
baz=65
S08C White Mtn Res 64.93 324 ⇑P **P 03 04 55.6 +0.1**
baz=65
MTUM Tungsten Hills 65.05 324 *eP* **P 03 04 56.6 +0.3**
O12A Currie 65.06 328 ⇑P **P 03 04 56.7 +0.4**
baz=65,SNR=6.0
L15A Malad City 65.22 331 ⇑P **P 03 04 57.1 -0.1**
baz=65
N13A Wendover, West 65.23 329 ⇑P **P 03 04 57.1 -0.2**

baz=66
HVU Hansel Valley 65.23 330 eP P 03 04 57.8 +0.4
M14A Sheep Mountain 65.30 330 ⇑P P 03 04 58.3 +0.6
baz=66
O11A Cowboy Ranch, 65.43 327 ⇓P P 03 04 59.4 +0.7
baz=66
KCC Kaiser Creek 65.47 323 ⇑P P 03 04 58.8 -0.2
baz=66
T06C Millerton Lake 65.48 323 ⇑P P 03 04 58.9 -0.2
baz=66
P10A Eureka 65.49 327 ⇓P P 03 04 59.5 +0.4
baz=66
K16A Soda Springs 65.50 332 ⇑P P 03 04 59.8 +0.8
baz=66
REDW Red Top Meadow 65.58 333 eP P 03 04 59.3 -0.3
L14A Malta 65.65 330 ⇓P P 03 05 01.3 +1.2
baz=66,SNR=5.3
ELK Elko 65.67 328 eP P 03 05 00.3 +0.1
ELK pmax pmax
comp=Z,10.0nm,1.1s
ELK Elko 65.67 328 eP P 03 05 00.2 0.0
comp=Z,10nm,1.1s,mb4.8
LOHW Long Hollow 65.67 333 eP P 03 04 59.9 -0.2
TPAW Teton Pass 65.73 333 eP P 03 05 06.9 +6.3
RRI2 Red Ridge 65.78 332 eP P 03 05 01.0 +0.1
K15A Arbon 65.81 331 ⇓P P 03 05 01.9 +0.7
baz=66
MOOW Moose Ponds 65.84 333 eP P 03 05 02.0 +0.7
J16A Bone 65.85 332 ⇓P P 03 05 01.5 +0.2
baz=66
N11A Elko Archery C 65.98 328 ⇓P P 03 05 02.6 +0.4
baz=66
O10A Cortez Mining, 65.99 327 ⇑P P 03 05 02.8 +0.4
baz=66
M12A Wells 66.00 329 ⇓P P 03 05 02.0 -0.3
baz=66
K14A Jones Ranch, D 66.01 331 ⇑P P 03 05 02.3 0.0
baz=66
L13A Double Diamond 66.03 330 ⇓P P 03 05 02.3 -0.2
baz=66
IMW Indian Meadow 66.05 333 eP P 03 05 02.3 -0.3
comp=Z,34nm,1.6s,mb5.1
S05C Merced 66.08 322 ⇓P P 03 05 03.3 +0.4
baz=66,SNR=6.7
S06C San Francisco 66.16 323 ⇑P P 03 05 03.8 +0.4
baz=66,SNR=5.7
RLMT Red Lodge 66.32 335 eP P 03 05 04.1 -0.2
comp=Z,8.8nm,1.0s,mb4.7
LKWY Lake 66.35 334 eP P 03 05 07.6 +3.1
LKWY pmax pmax
comp=Z,13nm,0.9s,mb5.0
LKWY Lake 66.35 334 eP P 03 05 07.6 +3.1
comp=Z,13nm,0.9s,mb5.0
R06C Coleville 66.37 324 ⇓P P 03 05 04.7 -0.1
baz=67
ULM Lac du Bonnet 66.54 346 P P 03 05 02.9 -2.7
comp=Z,4.9nm,0.9s,mb4.5,baz=128,slow=4.6,SNR=3.8
ULM Lac du Bonnet 66.54 346 P P 03 05 02.9 -2.7
CMB Columbia Colle 66.57 323 eP P 03 05 05.6 -0.5
CMB pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CMB Columbia Colle 66.57 323 ⇓P P 03 05 05.9 -0.2
baz=67
CMB Columbia Colle 66.57 323 eP P 03 05 05.6 -0.5
comp=Z,6.2nm,0.9s,mb4.6
L12A House Creek Ra 66.60 329 ⇓P P 03 05 06.1 -0.1
baz=67
R05C Kirkwood Meado 66.85 324 ⇑P P 03 05 08.5 +0.7
baz=67
M10A I.L. Ranch, Tu 66.91 328 ⇓P P 03 05 09.0 +0.9
baz=67
K12A Draper Farm, C 66.91 330 ⇑P P 03 05 07.8 -0.3
baz=67,SNR=6.6
L11A Cat Creek Ranc 66.98 329 ⇑P P 03 05 08.2 -0.4
baz=67,SNR=6.1
QLMT Earthquake Lak 67.00 333 eP P 03 05 16.2 +7.5
GCMT Greycliff 67.03 335 eP P 03 05 08.4 -0.4
R04C Big Horse Ranc 67.04 323 ⇑P P 03 05 09.8 +0.8
baz=67
WCN Washoe City 67.07 324 ⇑P P 03 05 08.6 -0.7
baz=67
J13A Cove Ranch, Pi 67.14 331 ⇓P P 03 05 08.3 -1.3
baz=67
PAHR Pah Rah Range 67.14 325 eP P 03 05 10.3 +0.7
O07A Toulon 67.18 326 ⇓P P 03 05 09.5 -0.4
baz=67,SNR=8.3
LAVA Lava Cap Winer 67.26 323 ⇑P P 03 05 10.0 -0.5
baz=68
L10A Juniper Basin 67.28 328 ⇑P P 03 05 10.2 -0.2
baz=68
M09A Marrel Ranch, 67.31 327 ⇓P P 03 05 10.0 -0.7
baz=68
HLID Hailey 67.37 331 ⇑P P 03 05 11.0 0.0
baz=68,SNR=9.5
HLID Hailey 67.37 331 eP P 03 05 11.3 +0.3
P06A Stead Airport, 67.41 325 ⇑P P 03 05 11.5 +0.1
baz=68
J12A Stokes Ranch, 67.47 330 ⇑P P 03 05 11.7 +0.1
baz=68
I13A Wildhorse Cree 67.50 331 ⇓P P 03 05 12.6 +0.7
baz=68,SNR=7.0
P05C Yuba Gap, Truc 67.56 324 ⇓P P 03 05 12.5 +0.2
baz=68
K11A Parker Ranch, 67.57 329 ⇓P P 03 05 12.1 -0.2
baz=68
MCMT McKenzie Canyo 67.62 333 eP P 03 05 12.7 +0.1
N07B Gerlach 67.66 326 ⇑P P 03 05 13.6 +0.6
baz=68
G15A Dillon 67.73 333 ⇓P P 03 05 14.9 +1.7
baz=68,SNR=5.2
BOZ Bozeman (W) 67.73 334 eP P 03 05 12.6 -0.7
BOZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BOZ Bozeman (W) 67.73 334 ⇓P P 03 05 13.2 0.0
baz=68
BOZ Bozeman (W) 67.73 334 eP P 03 05 12.6 -0.7
comp=Z,7.6nm,1.1s,mb4.6
BEKR Beckwourth 67.80 324 ⇑P P 03 05 14.3 +0.5
baz=68
M08A Happy Creek Ra 67.81 327 ⇑P P 03 05 14.7 +0.8
baz=68
DLMT Dillon 67.93 333 eP P 03 05 14.7 +0.2
comp=Z,14nm,1.1s,mb4.9
MFID Camas Ranch 67.94 330 ⇑P P 03 05 15.6 +0.9
baz=68,SNR=7.0
K10A MacKenzie Ranc 67.99 329 ⇓P P 03 05 15.2 +0.3
baz=68
H13A Challis 68.06 332 ⇑P P 03 05 15.8 +0.5
baz=68,SNR=6.7
OHCM Honcut 68.08 323 eP P 03 05 15.4 -0.2
N06A Buffalo Meadow 68.11 325 ⇑P P 03 05 15.6 -0.1
baz=68,SNR=12
LRM Limekiln Ridge 68.23 333 eP P 03 05 22.9 +6.6
ORV Oroville 68.24 324 ⇑P P 03 05 16.6 +0.1
baz=68,SNR=30
F15A Butte 68.26 333 ⇑P P 03 05 16.8 +0.2
baz=68
L08A Fields 68.32 327 ⇑P P 03 05 16.8 -0.3
baz=68
H12A Diamond D Ranc 68.33 331 ⇓P P 03 05 17.3 +0.2
baz=68
K09A Rome 68.37 328 ⇑P P 03 05 17.4 +0.1
baz=69,SNR=6.9
I11A Placerville 68.38 330 ⇓P P 03 05 17.0 -0.3
baz=69,SNR=5.9
G13A Cobalt 68.45 332 ⇓P P 03 05 17.9 +0.1
baz=69
WVOR Wild Horse Val 68.65 327 eP P 03 05 18.1 -1.0
WVOR pmax pmax
comp=Z,11nm,1.2s,mb4.7
WVOR Wild Horse Val 68.65 327 eP P 03 05 18.1 -1.0
comp=Z,11nm,1.2s,mb4.7
L07A Adell 68.73 327 ⇓P P 03 05 19.4 -0.2
baz=69
E15A Deer Lodge 68.78 334 ⇓P P 03 05 19.4 -0.4
baz=69
J09A Fry Pan Ranch, 68.85 329 ⇓P P 03 05 20.8 +0.5
baz=69,SNR=6.5
EGMT Eagleton 68.88 336 eP P 03 05 19.1 -1.3
comp=Z,7.9nm,0.9s,mb4.6
GASB Alder Springs 69.01 323 ⇓P P 03 05 21.7 +0.3
baz=69,SNR=6.2
F13A Darby 69.03 332 ⇑P P 03 05 21.7 +0.3
baz=69
HATC Hat Creek Radi 69.06 325 ⇑P P 03 05 21.8 +0.1
baz=69
K07A Rock Creek Ran 69.15 327 ⇓P P 03 05 22.3 +0.1
baz=69
MOD Modoc 69.16 326 ⇓P P 03 05 22.7 +0.4
baz=69
MOD Modoc 69.16 326 eP P 03 05 22.1 -0.2
comp=Z,28nm,1.3s,mb5.0
D15A Lincoln 69.22 334 ⇓P P 03 05 23.1 +0.6
baz=69
J08A Circle Bar Ran 69.22 328 ⇑P P 03 05 23.1 +0.5
baz=69
SCHQ Schefferville 69.25 6 P P 03 05 21.1 -1.5
comp=Z,3.9nm,0.8s,mb4.4,baz=222,slow=14,SNR=2.9
M05C Lookout 69.25 325 ⇑P P 03 05 23.5 +0.6
baz=70,SNR=5.7
P01C Double 8 Ranch 69.25 323 ⇑P P 03 05 23.2 +0.2
baz=70
VNA1 Neumayer--Stat 69.34 161 eP P 03 05 23.6 +0.6
VNA1 e 03 05 25.8
VNA1 e pP 03 05 33.3 +1.9
VNA1 e 03 05 40.3
O02C Red Bluff 69.39 323 ⇑P P 03 05 23.8 0.0
baz=70
CHMT Chamberlain Mo 69.43 334 eP P 03 05 29.3 +5.5
F12A Elk City 69.43 332 ⇑P P 03 05 23.8 0.0
baz=70
E13A Victor 69.47 333 ⇓P P 03 05 24.6 +0.5
baz=70,SNR=7.1
L05A Lakeview 69.55 326 ⇑P P 03 05 25.0 +0.3
baz=70
KIPM Iron Peak 69.56 323 eP P 03 05 24.9 +0.1
G11A Walters Elk Ra 69.63 331 ⇑P P 03 05 25.2 +0.1
baz=70,SNR=5.1
MSO Missoula 69.66 333 eP P 03 05 25.9 +0.6
comp=Z,18nm,1.4s,mb4.8
D14A Greenough 69.67 334 ⇓P P 03 05 26.1 +0.8
baz=70
I08A Drewsey 69.67 329 ⇓P P 03 05 25.9 +0.5
baz=70
M03C McCloud 69.74 325 ⇑P P 03 05 25.7 -0.2
baz=70,SNR=5.6
K06A Valley Falls 69.75 327 ⇑P P 03 05 25.6 -0.3
baz=70,SNR=8.3
M04C Macdoel 69.92 325 ⇓P P 03 05 27.1 +0.1
baz=70
F11A Grangeville 69.94 331 ⇑P P 03 05 27.1 +0.1
baz=70,SNR=6.3
G10A Bishop Farm, J 69.95 330 ⇑P P 03 05 27.3 +0.2
baz=70,SNR=5.7
J06A Christmas Vall 70.02 327 ⇓P P 03 05 27.4 -0.2
baz=70,SNR=7.6
K05A Summer Lake 70.05 326 ⇓P P 03 05 28.4 +0.6
baz=70
D13A Huson 70.09 333 ⇑P P 03 05 28.2 +0.3
baz=70
N02C Big Bar 70.11 324 ⇑P P 03 05 28.0 -0.2
baz=70,SNR=7.5
H08A Prairie City 70.15 329 ⇓P P 03 05 28.6 +0.3
baz=70,SNR=6.9
L04A Klamath Falls 70.21 325 ⇑P P 03 05 28.1 -0.6
baz=70
M02C Callahan 70.23 324 ⇑P P 03 05 28.6 -0.3
baz=70
G09A Cove 70.26 330 ⇑P P 03 05 29.3 +0.3
baz=70,SNR=6.0
I07A Izee 70.26 328 ⇓P P 03 05 28.9 -0.1
baz=70,SNR=5.3
C14A Swan Lake 70.30 334 ⇓P P 03 05 29.4 +0.2
baz=70
E11A Bogner Ranch, 70.31 332 ⇓P P 03 05 29.0 -0.3
baz=70
YBH Yreka Blue Hor 70.37 325 ⇑P P 03 05 29.6 -0.2
baz=71,SNR=7.5
D12A Red Ives Fores 70.45 333 ⇑P P 03 05 30.1 0.0
baz=71
F10A Beach Ranch, E 70.51 331 ⇓P P 03 05 30.6 +0.1
baz=71
JCC Jacoby Creek 70.53 323 ⇓P P 03 05 30.2 -0.5
baz=71
I06A Prineville 70.53 328 ⇑P P 03 05 31.1 +0.5
baz=71,SNR=7.0
C13A Hot Springs 70.59 333 ⇑P P 03 05 31.9 +0.9
baz=71
J05A Fort Rock 70.61 327 ⇓P P 03 05 31.2 0.0
baz=71
G08A Pilot Rock 70.85 329 ⇓P P 03 05 33.1 +0.5
baz=71,SNR=7.4
VIPM Ingram Point 71.13 328 P P 03 05 41.3 +7.0
H06A Lindquist Farm 71.14 328 ⇑P P 03 05 35.0 +0.6
baz=71,SNR=8.0
L02A Cave Junction 71.15 325 ⇓P P 03 05 34.6 +0.1
baz=71
G07A Ruggs Ranch, H 71.18 329 ⇑P P 03 05 34.9 +0.2
baz=71
M01C Crescent City 71.25 324 ⇓P P 03 05 35.5 +0.4
baz=72
SNAA Sanae 71.30 161 eP P 03 05 35.1 +0.1
SNAA e 03 05 37.0
SNAA e pP 03 05 44.2 +0.8
SNAA e 03 05 50.4
SNAA Sanae 71.30 161 eP P 03 05 34.8 -0.2
SNAA pmax pmax
comp=Z,19nm,1.1s
SNAA Sanae 71.30 161 eP P 03 05 34.8 -0.2
comp=Z,19nm,1.1s,mb4.9
D10A Wagner Farm, O 71.33 332 ⇓P P 03 05 36.4 +1.0
baz=72
WALA Waterton Lakes 71.38 335 eP P 03 05 35.4 -0.3
comp=Z,6.7nm,0.9s,mb4.6
A13A Flathead Natio 71.49 334 ⇑P P 03 05 36.4 +0.1
baz=72
K02A Glendale 71.49 325 ⇑P P 03 05 36.6 +0.1
baz=72,SNR=6.6
B12A Libby 71.63 333 ⇓P P 03 05 37.5 +0.3
baz=72
IRO Indian Ridge 71.64 327 P P 03 05 39.2 +1.8
HAWA Hanford 71.91 330 eP P 03 05 38.9 -0.1
comp=Z,17nm,1.3s,mb4.8
J02A Umpqua 71.93 326 ⇑P P 03 05 39.5 +0.3
baz=72,SNR=6.6
RSW Rattlesnake Hi 71.94 330 eP P 03 05 39.6 +0.4
B11A Sandpoint 71.95 333 ⇓P P 03 05 39.8 +0.6
baz=72
G05A Wamic 72.00 328 ⇓P P 03 05 40.2 +0.7
baz=72
A12A Yaak River Ran 72.01 334 ⇑P P 03 05 40.6 +1.0
baz=72
GBL Gable Mountain 72.03 330 P P 03 05 46.4 +6.7
H04A Detroit Lake 72.07 327 ⇓P P 03 05 40.0 0.0
baz=72
NEW Newport 72.15 333 eP P 03 05 40.0 -0.4
NEW pmax pmax
comp=Z,12nm,1.2s
NEW Newport 72.15 333 eP P 03 05 40.0 -0.4
comp=Z,12nm,1.2s,mb4.7
I03A Eugene 72.17 326 ⇑P P 03 05 41.1 +0.5
baz=72
OD2 Odessa Site #2 72.24 331 eP P 03 05 40.7 -0.2
A11A Hall Mountain, 72.34 333 ⇓P P 03 05 42.0 +0.5
baz=72
G04A Mulino 72.57 328 ⇑P P 03 05 43.4 +0.4
baz=73
H03A Soap Creek Ran 72.65 327 ⇑P P 03 05 43.9 +0.5
baz=73
B09A Rice 72.73 332 ⇑P P 03 05 44.3 +0.5
baz=73
E05A Randle 73.13 329 ⇑P P 03 05 46.7 +0.5
baz=73
ETW Entiat 73.16 330 eP P 03 05 48.4 +2.0
B08A Colville Reser 73.23 331 ⇓P P 03 05 47.8 +1.1
baz=73
LON Longmire 73.29 329 eP P 03 05 46.0 -1.2
LON pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
LON Longmire 73.29 329 eP P 03 05 46.0 -1.2
comp=Z,5.6nm,1.0s,mb4.5
LIC Lamto 73.30 79 ePKP1 P 03 05 49.7 +1.7
comp=Z,61nm,1.2s,mb5.4
A09A Danville 73.33 332 ⇓P P 03 05 48.2 +0.8
baz=74,SNR=5.3
TIC Toumodi 73.43 79 ePKP1 P 03 05 50.7 +1.9
comp=Z,74nm,1.2s,mb5.5
DBIC Dimbokro 73.59 79 P P 03 05 50.0 +0.3
comp=Z,5.6nm,0.7s,mb4.6,baz=316,slow=8.3,SNR=8.4
DBIC Dimbokro 73.59 79 eP P 03 05 49.8 +0.1
KIC Kosan Boka 73.61 79 ePKP1 P 03 05 50.0 +0.2
comp=Z,69nm,0.9s,mb5.6
A08A Turner Farm, O 73.63 332 ⇓P P 03 05 49.2 +0.1
baz=74
A07A Ashnola River, 74.21 331 ⇑P P 03 05 52.8 +0.3
baz=74
RPW Rockport 74.32 330 eP P 03 05 52.0 -1.2
JCW Jim Creek 74.34 330 eP P 03 05 52.5 -0.8
EDM Edmonton 74.43 338 eP P 03 05 52.3 -1.4
B05A Bryant 74.47 330 ⇓P P 03 05 54.2 +0.1
baz=75
NLWA Neilton Lookou 74.76 329 ⇓P P 03 05 56.0 +0.3
baz=75
NLWA Neilton Lookou 74.76 329 eP P 03 05 54.8 -1.0
comp=Z,17nm,1.0s,mb4.9
VDB Vedder Mountai 75.00 331 P P 03 06 03.4 +6.3
QSPA South Pole Qui 75.90 180 P P 03 06 02.1 +0.2
baz=145,slow=2.2
TOA0 Torodi Ar. Sit 81.64 74 eP P 03 06 35.1 +0.5
TOA0 epP pP 03 06 44.8 +1.7
TORD Torodi Ar. Bea 81.64 74 P P 03 06 34.6 0.0
comp=Z,34nm,1.1s,mb5.2,baz=267,slow=4.6,SNR=40
YKA Yellowknife Ar 82.21 343 P P 03 06 34.7 -1.8
comp=Z,2.0nm,1.0s,mb4.0,baz=134,slow=5.4,SNR=9.9
YKA Yellowknife Ar 82.21 343 P P 03 06 34.7 -1.8
MDT Midelt 82.63 54 P P 03 06 41.0 +1.6
comp=Z,3.2nm,1.1s,mb4.3,baz=219,slow=11,SNR=3.7
VNDA Vanda 82.73 191 P P 03 06 39.5 +0.2
comp=Z,1.8nm,1.0s,mb4.1,baz=131,slow=4.4,SNR=7.0
VNDA Vanda 82.73 191 eP P 03 06 39.2 0.0
VNDA pmax pmax
comp=Z,3.0nm,1.1s
VNDA Vanda 82.73 191 eP P 03 06 39.2 0.0
comp=Z,3.4nm,1.1s,mb4.3
SYO Syowa Base 85.59 161 ⇓eP P 03 06 51.2 -2.7
SYO Syowa Base 85.59 161 ⇓ePcP PcP 03 06 54.4 -2.4
SYO Syowa Base 85.59 161 ⇑epP pP 03 07 05.0 +2.6
ESDC Sonseca Array 85.71 47 P P 03 06 54.9 -0.1
comp=Z,0.7nm,0.7s,mb4.0,baz=258,slow=6.1,SNR=4.4
TAM Tamanrasset 87.87 66 eP P 03 07 07.6 +1.7
TAM e*PP pP 03 07 16.3 +1.9
TSUM Tsumeb 88.74 109 P P 03 07 10.8 +0.7
comp=Z,8.3nm,1.2s,mb4.9,baz=278,slow=11,SNR=3.2
TSUM Tsumeb 88.74 109 eP P 03 07 09.8 -0.3
comp=Z,9.0nm,1.2s,mb5.0
HYT Haines Junctio 89.21 335 eP P 03 07 11.9 +0.7
HYT epP pP 03 07 18.8 -1.0
DAWY Dawson 91.62 337 eP P 03 07 21.6 -0.9
DAWY epP pP 03 07 28.5 -2.5
INK Inuvik 91.90 342 eP P 03 07 22.6 -1.0
comp=Z,354nm,1.1s
INK epP pP 03 07 30.8 -1.4
EGAK Eagle 92.64 337 eP P 03 07 25.8 -1.4
comp=Z,12nm,1.2s,mb5.2
EGAK epP pP 03 07 32.9 -2.8
MAW Mawson 93.11 165 eP P 03 07 29.4 0.0
MAW pmax pmax
comp=Z,6.0nm,1.0s
MAW Mawson 93.11 165 eP P 03 07 29.4 0.0
comp=Z,6.5nm,1.0s,mb5.0
COLA College 95.27 336 eP P 03 07 38.0 -1.2
COLA e*PP pP 03 07 44.6 -3.2
COLA pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
COLA College 95.27 336 eP P 03 07 38.0 -1.2
comp=Z,7.9nm,1.0s,mb5.1
COLA epP pP 03 07 44.6 -3.2
KTH Kantishna Hill 96.05 334 eP P 03 07 42.1 -0.7
comp=Z,4.3nm,1.0s,mb4.8
KTH epP pP 03 07 47.8 -3.5
CLL Collm 100.38 40 ePP PP 03 12 09.0 -0.3
NVS Novosibirsk 136.39 17 ePKIKP PKPdf 03 13 36.1 -1.2
KURK Kurchatov 138.23 24 ePKIKP PKPdf 03 13 41.3 +0.4
MKAR Makanchi Array 142.82 25 PKP PKPdf 03 13 46.4 -2.9
comp=Z,0.2nm,0.3s,baz=303,slow=6.7,SNR=7.3
MKAR Makanchi Array 142.82 25 PKP PKPdf 03 13 46.4 -2.9
ZAK Zakamensk 143.96 1 ePKIKP PKPdf 03 13 48.5 -2.7
KSH Kashi 144.81 39 ePKP PKPdf 03 13 54.0 +1.0
KSH PKP2 PKPdf 03 13 57.0 +4.0
CN2 Changchun 145.28 332 ePKP PKPdf 03 13 53.1 -0.6
WMQ Urumqi 147.40 22 PKP PKPdf 03 13 56.8 -0.5
KSRS Korea Array 148.56 322 PKPbc PKPbc 03 14 02.3 -0.8
comp=Z,38nm,1.1s,baz=183,slow=3.1,SNR=4.3
HHC Hu-ho-hao-te 152.67 347 ePKP PKPdf 03 14 05.8 +0.1
HHC APKP 03 14 15.8
HHC PKS 03 17 40.3
HHC PP PP 03 17 55.8 +0.9
HHC SKS SKSdf 03 21 08.4 -2.9
HHC SS SS 03 37 19.9 -3.6
HHC PP PP
comp=Z,2μm,14.3s
NJ2 Nanjing 157.65 325 ePKP PKPdf 03 14 12.4 -0.3
LZH Lanzhou 158.25 0 ePKP PKPdf 03 14 14.0 +0.7
LZH PP PP 03 18 31.6 +5.7
LZH eSS SS 03 38 25.0 +1.4
LZH PP PP
comp=Z,137nm,8.6s
LZH LR LR
comp=E,176nm,18.5s
LZH LR LR
comp=Z,275nm,20.3s,MS5.1
CD2 Chengdu 163.41 1 ePKP PKPdf 03 14 15.8 -3.3
GYA Guiyang 167.59 349 PKP PKPdf 03 14 21.8 -0.9
GYA PKP2 PKPab 03 15 29.0 +0.7
GYA PKS 03 17 52.9
GYA PP PP 03 19 18.0 +2.6
GYA SKS SKSdf 03 21 18.0 -7.1
GYA SKKS SKKSac 03 25 58.0 -4.5
GYA SS SS 03 39 59.3 -1.2
GYA PP PP
comp=Z,120nm,7.9s
GYA LR LR
comp=N,240nm,25.3s
GYA LR LR
comp=E,180nm,24.7s
GYA LR LR
comp=Z,190nm,25.5s
KMI Kunming 169.12 6 PKP PKPdf 03 14 23.8 +0.1

NEIC 17 03:03:09.6,3910S×17493E,h221km,MG4.1(WEL),After WEL.,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.14	259	P	Pn	03 03 37.5	-0.8
TWVZ	Taurewa	0.40	86	P	Pn	03 03 38.5	-0.3
WPVZ	Whakapapa	0.49	103	P	Pn	03 03 39.1	+0.1
FWVZ	Far West T-bar	0.51	108	P	Pn	03 03 39.2	+0.1
WTVZ	West Tongariro	0.51	92	P	Pn	03 03 39.1	0.0
WNVZ	Wahianoa	0.57	114	P	Pn	03 03 39.2	-0.1
HIZ	Hauiti	0.59	354	P	Pn	03 03 38.6	-0.9
WAZ	Wanganui	0.66	176	P	Pn	03 03 40.0	+0.3
NEZ	North Egmont	0.67	255	P	Pn	03 03 39.9	+0.2
MOVZ	Moawhango	0.71	116	P	Pn	03 03 39.6	-0.3
PKE	Pukeiti	0.74	262	P	Pn	03 03 39.9	-0.2
NWEZ	Newall Road	0.84	258	P	Pn	03 03 40.5	-0.1
BKZ	Black Stump Fm	1.22	94	P	Pn	03 03 42.5	-0.4
TSZ	Takapari Road	1.25	141	P	Pn	03 03 43.4	+0.3
MRZ	Mangatainoka R	1.64	162	P	Pn	03 03 45.9	-0.4
KIW	Kapiti Island	1.76	181	P	Pn	03 03 46.9	-0.5
URZ	Urewera	1.90	65	P	Pn	03 03 46.9	-1.8
CAW	Cannon Point	2.01	177	P	Pn	03 03 49.2	-0.5
MTW	Mount Morrison	2.10	168	P	Pn	03 03 49.9	-0.7
MRW	Makara Radio	2.13	185	P	Pn	03 03 50.3	-0.6
KNZ	Kokohu	2.14	89	P	Pn	03 03 50.4	-0.6
MWZ	Matawai	2.17	70	P	Pn	03 03 50.0	-1.4
TCW	Tory Channel	2.17	193	P	Pn	03 03 50.8	-0.5
SNZO	South Karori	2.21	184	P	Pn	03 03 50.9	-0.8
BHW	Baring Head	2.31	181	P	Pn	03 03 51.8	-0.9
PAWZ	Paruwai Farm	2.31	171	P	Pn	03 03 52.0	-0.7
MSWZ	Moikau Station	2.33	174	P	Pn	03 03 52.1	-0.8
NNZ	Nelson	2.43	209	P	Pn	03 03 53.0	-1.0
BSWZ	Blackbirch Sta	2.73	197	P	Pn	03 03 56.6	-0.7
PUZ	Puketiti	2.80	70	P	Pn	03 03 56.3	-1.8
THZ	Tophouse	3.08	210	P	Pn	03 03 59.7	-1.4
KHZ	Kahutara	3.48	197	P	Pn	03 04 04.5	-1.3
DSZ	Denniston Nort	3.56	221	P	Pn	03 04 04.6	-2.2
LTZ	Lake Taylor	4.20	208	P	Pn	03 04 12.5	-1.9
MQZ	McQueen's Vall	4.91	200	P	Pn	03 04 20.3	-3.0
WVZ	Waitaha Valley	5.08	217	P	Pn	03 04 22.5	-2.9
RPZ	Rata Peaks	5.46	211	P	Pn	03 04 27.3	-2.8
FOZ	Fox Glacier	5.95	220	P	Pn	03 04 31.8	-4.7
LBZ	Lake Benmore	6.36	212	P	Pn	03 04 38.3	-3.4
ODZ	Otahua Downs	6.74	207	P	Pn	03 04 44.4	-2.1
JCZ	Jackson Bay	6.79	221	P	Pn	03 04 43.4	-3.7
WKZ	Wanaka	7.22	216	P	Pn	03 04 48.4	-4.3

TUZ Tuapeka 7.89 208 P Pn 03 04 59.4 -1.8

BJI ***17*** *03:04:00.7, 5.65S×129.86E, h36km, mB6.3, mb5.7, Ms6.1, Msz5.9*
IDC ***17*** *03:04:01.4±0.3, 5.23S×129.38E, h0km, mb5.6/31, mb1 5.5/31, mb1mx5.5/32, mbtmp5.6/31, MS6.0/20, Ms1 6.0/20, ms1mx5.8/27, Error ellipse: s-maj=13.5km s-min=8.4km az=57.0*
GCMT ***17*** *03:04:03.1±0.1, 5.24S×129.45E, h21km, MW6.4/113, Moment Tensor Solution. s110,c255; s113,c450; Duration: 4s0 Moment tensor: Scale 10^18^Nm; Mrr0.25±.03; Mθθ-3.55±.03; Mφφ3.30±.03; Mrθ0.38±.06; Mθφ4.27±.03; Mφr1.01±.07; Best double couple: M0:5.58400×10^18^ NP1:φs71.00000°, δ81.00000°, λ8.00000°. NP2:φs340.00000°, δ83.00000°, λ171.00000°. Principal axes: T 5.5670, Plg11.0000°, Azm296.0000°; N 0.0340, Plg79.0000°, Azm120.0000°; P -5.6000, Plg1.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***17*** *03:04:03.1±0.1, 5.26S×129.43E, h10km, mb6.2/82, MS6.1/191 Error ellipse: s-maj=5.8km s-min=4.2km az=55.0*
MOS ***17*** *03:04:04.4±0.8, 5.25S×129.42E, h33km, mb6.0/47, MS6.0/72, Error ellipse: s-maj=10.0km s-min=5.9km az=111.0*
ISCJB ***17*** *03:04:05.4±0.1, 5.28S±002×129.44E±002, h40km, mb6.0/145, MS6.0/243, Error ellipse: s-maj=3.3km s-min=2.9km az=162.0*
DJA ***17*** *03:04:07, 5.25S×129.69E, h60km, Mwp6.5/19*
ISC 17 03:04:07.3±0.1, 528S±002×12947E±002, h42km, h42km±1.8km:pP-P, n980, σ1§11/467, mb6.0/143, MS6.0/243, 99C-91D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi** 0.0nm,0.0s	**2.00**	**344**	P	**Pn**	**03 04 35.6**	**-3.0**
AAI	**Ambon** 0.0nm,0.0s	**2.03**	**321**	P	**Pn**	**03 04 35.0**	**-4.1**
LBMI	**Labuha** 0.0nm,0.0s	**5.01**	**337**	P	**Pn**	**03 05 20.0**	**-0.1**
BBSI	**Bau Bau** 0.0nm,0.0s	**6.87**	**268**	P	**Pn**	**03 05 45.2**	**-0.4**
KDI	**Kendari** 0.0nm,0.0s	**6.95**	**281**	P	**Pn**	**03 05 44.5**	**-2.2**
BATI	**Baumata** 0.0nm,0.0s	**7.55**	**229**	P	**Pn**	**03 05 54.6**	**-0.3**
BATI	**Baumata** 1μm,0.3s,baz=86,slow=1.9,SNR=292	**7.55**	**229**	Pn	**Pn**	**03 05 54.9**	**0.0**
BATI	baz=159,slow=21,SNR=1.9			Sn	**Sn**	**03 07 17.1**	**-2.1**
BATI	comp=Z,200μm,20.9s,baz=227,slow=41			LR	LR	03 09 09.4	
KAKA	**Kakadu** 1μm,0.6s	**7.94**	**159**	*e*P	**Pn**	**03 05 57.2**	**-3.1**
KAKA				*e*S	**Sn**	**03 07 25.0**	**-3.9**
MNI	**Manado** 0.0nm,0.0s	**8.12**	**325**	P	**Pn**	**03 06 00.9**	**-1.9**
KAPI	**Kappang** 3μm,0.8s,SNR=50	**9.68**	**271**	Pn	**Pn**	**03 06 24.9**	**+0.8**
KAPI	**Kappang** SNR=47	**9.68**	**271**	P	**Pn**	**03 06 24.1**	**-0.1**
KAPI	**Kappang**	**9.68**	**271**	Pn	**Pn**	**03 06 25.4**	**+1.3**
KAPI				Sn	**Sn**	**03 08 12.6**	**+1.0**
KAPI	**Kappang**	**9.68**	**271**	*e*Pn	**Pn**	**03 06 24.9**	**+0.7**
PCI	**Palu** 0.0nm,0.0s	**10.55**	**294**	P	**Pn**	**03 06 37.4**	**+1.3**
MMPI	**Merauke** 0.0nm,0.0s	**11.29**	**107**	P	**Pn**	**03 06 42.2**	**-4.0**
JAY	**Jayapura** 0.0nm,0.0s	**11.54**	**77**	P	**Pn**	**03 06 46.5**	**-3.1**
DAV	**Davao City (W)** SNR=24	**12.87**	**342**	P	**Pn**	**03 07 08.6**	**+0.9**
DAV	**Davao City (W)** 54nm,0.3s,baz=80,slow=8.9,SNR=7.4	**12.87**	**342**	Pn	**Pn**	**03 07 07.5**	**-0.3**
DAV	**Davao City (W)**	**12.87**	**342**	⇓*e*P	**Pn**	**03 07 07.1**	**-0.7**
SMKI	**Samarinda** 0.0nm,0.0s	**13.15**	**291**	P	**Pn**	**03 07 13.9**	**+2.3**
FITZ	**Fitzroy Crossi** 838nm,0.6s	**13.28**	**196**	*e*P	**Pn**	**03 07 07.2**	**-6.1**
FITZ	**Fitzroy Crossi** 29nm,0.3s,baz=27,slow=11,SNR=359	**13.28**	**196**	Pn	**Pn**	**03 07 07.3**	**-6.0**
FITZ	18nm,0.3s,baz=93,slow=18,SNR=3.9			Sn	**Sn**	**03 09 31.3**	**-8.4**
FITZ	comp=Z,26μm,18.8s,baz=24,slow=41			LR	LR	03 13 02.8	
KHKI	**Kahang-Kahang** 0.0nm,0.0s	**14.10**	**257**	P	**Pn**	**03 07 24.5**	**0.0**
IGBI	**Denpasar** 0.0nm,0.0s	**14.64**	**255**	P	**Pn**	**03 07 32.7**	**+0.9**
BBKI	**Banjar Baru** 0.0nm,0.0s	**14.70**	**276**	P	**Pn**	**03 07 34.6**	**+2.0**
TSM	**Tawau**	**14.99**	**309**	⇑P	**Pn**	**03 07 36.0**	**-0.4**
MYLDM	**Lahad Datu**	**15.10**	**313**	⇓P	**Pn**	**03 07 39.4**	**+1.5**
WRAB	**Tennant Creek**	**15.32**	**162**	*e*P	**Pn**	**03 07 33.9**	**-6.8**
WRAB	comp=Z,562nm,0.8s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,562nm,0.8s	**15.32**	**162**	*e*Pn	**Pn**	**03 07 33.9**	**-6.7**
WRA	**Warramunga Arr** comp=Z,27nm,0.3s,baz=341,slow=13,SNR=112	**15.32**	**162**	Pn	**Pn**	**03 07 34.1**	**-6.7**
WRA	comp=Z,29nm,0.3s,baz=336,slow=23,SNR=7.4			Sn	**Sn**	**03 10 19.4**	**-10**
WB2	**Warramunga Arr**	**15.33**	**162**	*e*P	**Pn**	**03 07 33.2**	**-7.6**
WB2				*e*S	**Sn**	**03 10 18.4**	**-11**
SCPH	**Surigao**	**15.48**	**345**	⇑*e*P	**Pn**	**03 07 41.5**	**-1.3**
KMMI	**Kalianget** comp=Z,0.0nm,0.0s	**15.51**	**263**	P	**Pn**	**03 07 45.3**	**+2.1**
PLKI	**Palangkaraya** comp=Z,0.0nm,0.0s	**15.78**	**281**	P	**Pn**	**03 07 47.8**	**+1.1**
TBP	**Tagbilaran**	**15.89**	**339**	*e*P	**Pn**	**03 07 52.4**	**+4.3**
COEN	**Coen** comp=Z,811nm,0.9s	**16.02**	**124**	*e*Pn	**Pn**	**03 07 44.8**	**-5.0**
COEN				*e*P		03 07 52.0	
SDKM	**Sandakan**	**16.37**	**311**	⇑P	**Pn**	**03 07 54.7**	**+0.5**
LLP	**Lapu-Lapu**	**16.44**	**341**	*e*P	**Pn**	**03 07 56.0**	**+1.0**
BWJI	**Bawean** comp=Z,0.0nm,0.0s	**16.74**	**267**	P	**Pn**	**03 08 00.1**	**+1.2**
OCLP	**Ormoc**	**16.93**	**343**	*e*P	**Pn**	**03 08 02.9**	**+1.7**
PLP	**Palo**	**16.94**	**345**	⇓*e*P	**Pn**	**03 08 00.7**	**-0.7**
KRKI	**Karangkates** comp=Z,0.0nm,0.0s	**17.14**	**259**	P	**Pn**	**03 08 06.6**	**+2.7**
GUIM	**Jordan**	**17.22**	**337**	*e*P	**Pn**	**03 08 06.4**	**+1.5**
KKM	**Kota Kinabalu**	**17.37**	**310**	⇑P	**Pn**	**03 08 07.1**	**+0.3**
KKM	**Kota Kinabalu**	**17.37**	**310**	⇑*i*P	**Pn**	**03 08 06.8**	**+0.1**
KDM	**Kudat**	**17.49**	**314**	⇓P	**Pn**	**03 08 09.8**	**+1.6**
SJI	**Sawahan** comp=Z,0.0nm,0.0s	**17.75**	**261**	P	**Pn**	**03 08 11.6**	**+0.1**
PMG	**Port Moresby**	**18.02**	**104**	*e*P	**Pn**	**03 08 13.0**	**-1.7**
PMG	**Port Moresby**	**18.02**	**104**	⇑*i*P	**Pn**	**03 08 11.5**	**-3.2**
RCP	**Roxas**	**18.02**	**338**	⇓*e*P	**Pn**	**03 08 18.3**	**+3.6**
CUYO	**Cuyo Island**	**18.10**	**332**	*e*P	**Pn**	**03 08 20.5**	**+4.8**
BATP	**Bataraza**	**18.19**	**320**	*e*P	**Pn**	**03 08 16.7**	**-0.2**
CNP	**Catarman**	**18.31**	**345**	*e*P	**Pn**	**03 08 19.4**	**+1.1**
PPR	**Puerto Princes**	**18.39**	**324**	⇓*e*P	**Pn**	**03 08 23.0**	**+3.7**
MBWA	**Marble Bar** SNR=31	**18.39**	**210**	P	**Pn**	**03 08 16.7**	**-2.5**
MBWA	**Marble Bar**	**18.39**	**210**	⇓*e*P	**Pn**	**03 08 15.2**	**-4.0**
BTM	**Bintulu**	**18.41**	**297**	⇑P	**Pn**	**03 08 21.7**	**+2.2**
STKI	**Sintang** comp=Z,0.0nm,0.0s	**18.73**	**286**	P	**Pn**	**03 08 23.8**	**+0.4**
ASAR	**Alice Springs** comp=Z,16nm,0.3s,baz=339,slow=8.0,SNR=300	**18.77**	**167**	P	**Pn**	**03 08 20.1**	**-3.7**
ASAR	comp=Z,9.9nm,0.3s,baz=143,slow=6.3,SNR=6.5			S	**S**	**03 11 46.7**	**-7.4**
SBUM	**Sibu**	**18.86**	**294**	⇓P	**Pn**	**03 08 26.3**	**+1.3**
OTRP	**Odiongan**	**19.03**	**337**	*e*P	**Pn**	**03 08 27.9**	**+1.0**
ENPP	**El Nido**	**19.19**	**329**	*e*P	**Pn**	**03 08 28.7**	**-0.2**
SJMP	**San Jose**	**19.48**	**335**	*e*P	**Pn**	**03 08 31.9**	**-0.4**
PVCP	**Virac**	**19.48**	**344**	*e*P	**Pn**	**03 08 32.8**	**+0.4**
BUSP	**Coron**	**19.49**	**332**	*e*P	**Pn**	**03 08 33.6**	**+1.2**
BJII	**Banjamegara** comp=Z,0.0nm,0.0s	**19.74**	**263**	P	**Pn**	**03 08 34.8**	**-0.7**
KSM	**Kuching**	**20.28**	**289**	⇑P	**P**	**03 08 41.0**	**+1.4**
KSM	**Kuching**	**20.28**	**289**	⇑*i*P	**P**	**03 08 39.9**	**+0.3**
CLJI	**Cilicap** comp=Z,0.0nm,0.0s	**20.46**	**262**	P	**P**	**03 08 43.1**	**+1.5**
LUBP	**Lubang**	**20.99**	**334**	*e*P	**P**	**03 08 48.4**	**+1.1**
JCJI	**Jatiwangi**	**21.12**	**266**	P	**P**	**03 08 48.4**	**-0.3**
	comp=Z,0.0nm,0.0s						
POLP	**Polilio Island**	**21.24**	**340**	*e*P	**P**	**03 08 49.4**	**-0.5**
LEM	**Lembang** comp=Z,0.0nm,0.0s	**21.78**	**265**	P	**P**	**03 08 55.3**	**-0.5**
TPI	**Tanjungpandan** comp=Z,0.0nm,0.0s	**21.90**	**276**	P	**P**	**03 08 56.4**	**-0.7**
CTA	**Charters Tower** comp=Z,1μm,2.0s,mb5.9	**21.98**	**134**	*e*P	**P**	**03 08 57.8**	**0.0**
CTA				*e*S	**S**	**03 13 01.5**	**+3.3**
CTA	**Charters Tower** comp=Z,289nm,1.0s,mb5.7,baz=312,slow=12,SNR=84	**21.98**	**134**	P	**P**	**03 08 57.7**	**-0.1**
CTA				S	**S**	**03 13 04.8**	**+6.5**
CTA	comp=Z,44nm,1.0s,baz=35,slow=15,SNR=3.9			LR	LR	03 17 43.0	
CTA	**Charters Tower** comp=Z,51μm,21.5s,MS5.9,baz=314,slow=37	**21.98**	**134**	*e*P	**P**	**03 08 57.8**	**0.0**
CTA				*e*S	**S**	**03 13 01.5**	**+3.3**
CTA	comp=Z,1μm,2.0s			pmax	pmax		
CTAO	**Charters Tower**	**21.98**	**134**	*e*P	**P**	**03 08 58.1**	**+0.3**
CTAO	**Charters Tower**	**21.98**	**134**	⇑*i*P	**P**	**03 08 57.9**	**0.0**
CTAO	comp=Z,48μm,21.0s,MS5.9			LR	LR		
BALP	**Baler**	**22.30**	**340**	*e*P	**P**	**03 09 01.6**	**+0.4**
CBJI	**Citeko** comp=Z,0.0nm,0.0s	**22.53**	**266**	P	**P**	**03 09 01.0**	**-2.7**
DBJI	**Dramaga** comp=Z,0.0nm,0.0s	**22.63**	**266**	P	**P**	**03 09 02.5**	**-2.3**
TNG	**Tangerang** comp=Z,0.0nm,0.0s	**22.72**	**267**	P	**P**	**03 09 03.4**	**-2.4**
SKJI	**Sukabumi** comp=Z,0.0nm,0.0s	**22.84**	**265**	P	**P**	**03 09 04.0**	**-3.1**
SCZP	**Santa Cruz**	**22.96**	**336**	*e*P	**P**	**03 09 04.1**	**-4.1**
SBJI	**Serang** comp=Z,0.0nm,0.0s	**23.24**	**267**	P	**P**	**03 09 09.0**	**-2.2**
BCPH	**Baguio City Da**	**23.25**	**338**	⇑*i*P	**P**	**03 09 11.6**	**+0.3**
PALP	**Palanan**	**23.27**	**343**	*e*P	**P**	**03 09 12.2**	**+0.7**
PPBI	**Pangkal Pinang** comp=Z,0.0nm,0.0s	**23.48**	**277**	P	**P**	**03 09 12.5**	**-1.1**
BOLP	**Bolinao**	**23.51**	**336**	*e*P	**P**	**03 09 12.1**	**-1.6**
XMIS	**Christmas Isla**	**24.14**	**256**	*e*P	**P**	**03 09 18.1**	**-1.5**
GUMO	**Guam** comp=Z,318nm,0.9s,mb5.7,baz=206,slow=4.9,SNR=21	**24.19**	**39**	P	**P**	**03 09 19.2**	**-0.9**
GUMO	**Guam**	**24.19**	**39**	*e*P	**P**	**03 09 19.0**	**-1.0**
GUMO	comp=Z,5μm,1.4s,mb6.7			pmax	pmax		
GUMO	comp=Z,37μm,19.0s,MS5.9			MLR	MLR		
GUMO	**Guam** comp=Z,5μm,1.4s,mb6.7	**24.19**	**39**	*e*P	**P**	**03 09 19.0**	**-1.1**
GUMO	comp=Z,37μm,19.0s,MS5.9			LR	LR		
ABRA	**Dolores**	**24.37**	**339**	*e*P	**P**	**03 09 20.1**	**-1.5**
KLI	**Kotabumi** comp=Z,0.0nm,0.0s	**24.52**	**270**	P	**P**	**03 09 20.4**	**-2.7**
DSRI	**Dabo** comp=Z,0.0nm,0.0s	**25.30**	**280**	P	**P**	**03 09 30.1**	**-0.1**
FORT	**Forrest** comp=Z,1μm,0.8s,mb6.5	**25.40**	**183**	*e*P	**P**	**03 09 30.5**	**-0.3**
FORT				*e*pP	pP	03 09 43.1	+0.9
FORT				*e*S	**S**	**03 13 54.8**	**+0.1**
TPRI	**Tanjung Pinang** comp=Z,0.0nm,0.0s	**25.66**	**283**	P	**P**	**03 09 33.7**	**+0.2**
MYKOM	**Kota Tinggi**	**26.54**	**285**	⇓P	**P**	**03 09 42.8**	**+1.4**
KSI	**Kapahiang** comp=Z,0.0nm,0.0s	**26.84**	**272**	P	**P**	**03 09 44.0**	**-0.1**
KGM	**Kluang**	**27.11**	**285**	⇓P	**P**	**03 09 47.7**	**+1.2**
RGRI	**Rengat** comp=Z,0.0nm,0.0s	**27.53**	**279**	P	**P**	**03 09 50.0**	**-0.3**
KRJI	**Kerinci** comp=Z,0.0nm,0.0s	**28.12**	**275**	P	**P**	**03 09 55.3**	**-0.3**
KTGM	**Kuala Trenggan**	**28.33**	**291**	⇑P	**P**	**03 09 58.3**	**+0.8**
KLBR	**Kellerberrin** comp=Z,174nm,0.7s,mb5.8	**28.38**	**201**	*e*P	**P**	**03 09 57.6**	**-0.1**
STKA	**Stephens Creek** comp=Z,91nm,0.7s,mb5.6	**28.79**	**158**	*e*P	**P**	**03 10 00.7**	**-0.6**
STKA				*e*pP	pP	03 10 12.8	0.0
STKA				*e*S	**S**	**03 14 47.9**	**-0.3**
STKA	**Stephens Creek** comp=Z,130nm,0.8s,mb5.7,baz=332,slow=8.6,SNR=136	**28.79**	**158**	P	**P**	**03 10 01.0**	**-0.3**
STKA	comp=Z,45μm,19.1s,MS6.1,baz=328,slow=39			LR	LR	03 22 57.6	
FRIM	**Kepong**	**29.07**	**286**	⇑P	**P**	**03 10 04.4**	**+0.4**
MUN	**Mundaring**	**29.32**	**203**	*e*P	**P**	**03 10 05.8**	**-0.2**
MUN				*e*		03 10 54.9	
MUN				*e*S	**S**	**03 14 57.8**	**+1.3**
PPI	**Padang Panjang** comp=Z,0.0nm,0.0s	**29.42**	**278**	P	**P**	**03 10 05.4**	**-1.7**
NWAO	**Narrogin (SRO)** SNR=8.9	**29.78**	**201**	P	**P**	**03 10 11.0**	**+0.9**
NWAO	**Narrogin (SRO)** comp=Z,123nm,0.8s,mb5.7,baz=27,slow=9.2,SNR=63	**29.78**	**201**	P	**P**	**03 10 10.2**	**+0.1**
NWAO	comp=Z,22μm,19.8s,MS5.8,baz=28,slow=39			LR	LR	03 23 15.9	
NWAO	**Narrogin (SRO)** comp=Z,179nm,0.9s,mb5.8	**29.78**	**201**	*e*P	**P**	**03 10 10.0**	**-0.1**
NWAO	comp=Z,18μm,19.0s,MS5.7			LR	LR		
IPM	**Ipoh**	**30.02**	**288**	⇑P	**P**	**03 10 13.4**	**+1.0**
NACB	**Ninganchiao**	**30.27**	**346**	*e*P	**P**	**03 10 11.8**	**-2.6**
HNR	**Honiara** comp=Z,406nm,0.8s,mb6.2,baz=261,slow=2.9,SNR=12	**30.50**	**100**	P	**P**	**03 10 15.9**	**-0.8**
HNR	comp=Z,27μm,21.5s,MS5.9,baz=183,slow=36			LR	LR	03 22 33.7	
HNR	**Honiara** comp=Z,830nm,1.0s,mb6.4	**30.50**	**100**	P	**P**	**03 10 16.0**	**-0.7**
HNR				pmax	pmax		
HNR	**Honiara** comp=Z,827nm,1.0s,mb6.4	**30.50**	**100**	*e*P	**P**	**03 10 15.6**	**-1.1**
HNR	comp=Z,28μm,22.0s,MS5.9			LR	LR		
KULM	**Kulim**	**30.63**	**290**	⇓P	**P**	**03 10 18.0**	**+0.2**
YHNB	**Yeheng** comp=Z,70nm,0.6s,mb5.7	**30.80**	**346**	*e*P	**P**	**03 10 17.5**	**-1.6**
YHNB	comp=Z,29μm,22.0s,MS5.9			LR	LR		
QIZ	**Qiongzhong**	**30.94**	**322**	P	**P**	**03 10 21.0**	**+0.5**
QIZ				S	**S**	**03 15 26.9**	**+4.7**
QIZ	comp=Z,97nm,1.3s,mb5.5			AMB	AMB		
QIZ	comp=Z,3μm,9.0s			AMB	AMB		
QIZ	comp=N,11μm,17.4s			LR	LR		
QIZ	comp=Z,15μm,21.0s,MS5.6			LR	LR		
QIZ	**Qiongzhong** comp=Z,402nm,1.3s,mb6.1	**30.94**	**322**	*e*P	**P**	**03 10 20.7**	**+0.2**
QIZ	comp=Z,15μm,20.0s,MS5.7			LR	LR		
TATO	**Taipei**	**31.06**	**346**	PFAKE		03 10 30.0	+8.5
TATO	comp=Z,30μm,22.0s,MS5.9			LR	LR		
HKC	**Hong Kong Obse**	**31.23**	**332**	⇑*i*P	**P**	**03 10 26.0**	**+3.0**
PSI	**Prapat** comp=Z,46nm,0.9s,mb5.3,baz=114,slow=5.4,SNR=33	**31.55**	**284**	P	**P**	**03 10 24.3**	**-1.7**
PSI	comp=Z,41μm,22.0s,MS6.1,baz=16,slow=38			LR	LR	03 23 53.5	
PSI	**Prapat**	**31.55**	**284**	P	**P**	**03 10 24.3**	**-1.7**
PSI				LR	LR	03 23 53.5	
QZH	**Quanzhou**	**31.85**	**341**	P	**P**	**03 10 28.1**	**-0.3**
QZH	comp=Z,130nm,0.7s,mb5.9			AMB	AMB		
QZH	comp=Z,5μm,6.6s			AMB	AMB		
QZH	comp=N,16μm,12.7s,MS6.1			LR	LR		
QZH	comp=E,21μm,14.4s,MS6.1			LR	LR		
QZH	comp=Z,19μm,22.5s			LR	LR		
JOW	**Kunigami** comp=Z,231nm,0.9s,mb6.0,baz=181,slow=8.7,SNR=17	**31.95**	**358**	P	**P**	**03 10 29.6**	**+0.3**
JOW	comp=Z,57μm,21.9s,MS6.2,baz=183,slow=34			LR	LR	03 22 07.9	
GZH	**Guangzhou**	**32.30**	**331**	P	**P**	**03 10 35.5**	**+3.1**
GZH				S	**S**	**03 15 48.8**	**+5.5**
GZH	comp=N,26μm,25.0s,MS6.0			LR	LR		
GZH	comp=E,27μm,26.0s,MS6.0			LR	LR		
ARMA	**Armidale**	**32.57**	**143**	*e*P	**P**	**03 10 35.2**	**+0.5**
ARMA				*e*S	**S**	**03 15 48.9**	**+1.4**
COCO	**West Island**	**32.95**	**256**	PFAKE		03 10 50.0	+12
COCO	comp=Z,6μm,19.0s,MS5.3			LR	LR		
CBIJ	**Chichi jima** comp=Z,36nm,0.4s,mb5.7,baz=276,slow=24,SNR=6.4	**34.46**	**20**	P	**P**	**03 10 49.5**	**-1.7**
CBIJ	comp=Z,30nm,0.7s,baz=288,slow=21,SNR=3.8			S	**S**	**03 16 11.2**	**-5.5**
CBIJ	comp=Z,26μm,20.8s,MS6.0,baz=45,slow=34			LR	LR	03 23 18.3	
RIV	**Riverview**	**34.82**	**147**	*e*P	**P**	**03 10 55.0**	**+0.7**
CAN	**Canberra**	**34.90**	**151**	*e*P	**P**	**03 10 55.5**	**+0.6**
CNB	**Canberra Magne**	**35.07**	**151**	*e*P	**P**	**03 10 57.0**	**+0.6**
CNB				*e*pP	pP	03 11 10.1	+2.1
CNB				*e*S	**S**	**03 16 26.9**	**+0.8**
TOO	**Toolangi**	**35.31**	**158**	*e*P	**P**	**03 10 59.4**	**+1.0**
TOO				*e*pP	pP	03 11 12.8	+2.8
TOO				*e*S	**S**	**03 16 32.0**	**+2.4**
BSI	**Banda Aceh** comp=Z,0.0nm,0.0s	**35.76**	**287**	P	**P**	**03 10 59.3**	**-3.3**
SSE	**Sheshan**	**37.03**	**348**	P	**P**	**03 11 13.3**	**+0.2**
SSE				S	**S**	**03 16 55.0**	**-1.0**
SSE	comp=Z,52nm,0.7s,mb5.5			AMB	AMB		
SSE	comp=Z,2μm,5.0s			AMB	AMB		
SSE	comp=N,4μm,23.3s,MS5.9			LR	LR		
SSE	comp=E,24μm,22.8s,MS5.9			LR	LR		
SSE	comp=Z,14μm,25.5s,MS5.7			LR	LR		
CM31	**Chiang Mai Arr** comp=Z,321nm,1.0s,mb6.0	**38.24**	**309**	*e*P	**P**	**03 11 24.6**	**+1.0**
CM31	comp=Z,22μm,19.0s,MS6.0			LR	LR		
CMAR	**Chiang Mai Arr** comp=Z,113nm,1.1s,mb5.5,baz=135,slow=7.1,SNR=132	**38.24**	**309**	P	**P**	**03 11 23.9**	**+0.4**
CMAR	comp=Z,1.5nm,0.3s,baz=148,slow=22,SNR=3.2			S	**S**	**03 17 16.2**	**+1.5**
CMAR	comp=Z,14μm,20.0s,MS5.8,baz=136,slow=38			LR	LR	03 28 14.6	
CMAR	**Chiang Mai Arr**	**38.24**	**309**	P	**P**	**03 11 24.0**	**+0.4**
CMAR				S	**S**	**03 17 16.3**	**+1.6**
CHTO	**Chiang Mai** SNR=142	**38.44**	**309**	P	**P**	**03 11 25.8**	**+0.6**
CHTO	**Chiang Mai**	**38.44**	**309**	⇑*i*P	**P**	**03 11 24.9**	**-0.3**
CHTO	comp=Z,19μm,21.0s,MS5.9			LR	LR		
WHN	**Wuhan**	**38.45**	**339**	⇓P	**P**	**03 11 25.4**	**+0.2**
WHN				AP	pP	03 11 34.6	-2.2
WHN				XP	sP	03 11 38.3	-3.6
WHN				PP	PP	03 12 58.1	+4.3
WHN				S	**S**	**03 17 17.6**	**0.0**
WHN	comp=Z,2μm,1.9s,mb6.4			AMB	AMB		
WHN	comp=Z,15μm,7.2s			AMB	AMB		
WHN	comp=N,39μm,24.0s			LR	LR		
WHN	comp=E,82μm,34.4s			LR	LR		
WHN	comp=Z,25μm,17.7s			LR	LR		
NJ2	**Nanjing**	**38.48**	**345**	*e*P	**P**	**03 11 25.8**	**+0.4**
NJ2				PP	PP	03 12 57.3	+3.2
NJ2	comp=Z,70nm,1.1s,mb5.3			AMB	AMB		
NJ2	comp=Z,2μm,4.6s			AMB	AMB		
NJ2	comp=N,4μm,23.4s			LR	LR		
NJ2	comp=E,15μm,31.6s			LR	LR		
NJ2	comp=Z,15μm,31.6s			LR	LR		
GYA	**Guiyang**	**38.52**	**326**	⇑*i*P	**P**	**03 11 26.6**	**+0.8**
GYA				PP	PP	03 13 02.9	+8.3
GYA				PPP		03 13 23.4	
GYA	comp=Z,130nm,0.7s,mb5.8			AMB	AMB		
GYA	comp=N,17μm,18.3s,MS6.0			LR	LR		
GYA	comp=E,10μm,14.7s,MS6.0			LR	LR		
GYA	comp=Z,18μm,16.5s,MS6.0			LR	LR		
JHJ	**Hachijo jima 2** comp=Z,191nm,0.7s,mb5.9,baz=237,slow=9.5,SNR=5.5	**39.43**	**14**	P	**P**	**03 11 33.1**	**-0.1**
JHJ	comp=Z,29μm,18.7s,MS6.1,baz=288,slow=36			LR	LR	03 27 25.7	
DZM	**Mont Dzumac**	**39.46**	**119**	*e*P	**P**	**03 11 33.8**	**0.0**
DZM	**Mont Dzumac**	**39.46**	**119**	*e*P	**P**	**03 11 33.7**	**-0.1**
KMI	**Kunming**	**39.86**	**320**	P	**P**	**03 11 38.6**	**+1.6**
KMI				PP	PP	03 13 13.5	+4.2
KMI	comp=Z,345nm,1.5s,mb5.9			AMB	AMB		
KMI	comp=Z,3μm,7.3s			AMB	AMB		
KMI	comp=N,14μm,18.8s,MS6.0			LR	LR		
KMI	comp=E,16μm,18.8s,MS6.0			LR	LR		
KMI	comp=Z,17μm,17.9s,MS5.9			LR	LR		
TAU	**Tasmania Unive** comp=Z,1μm,1.2s,mb6.4,SNR=5.2	**40.67**	**160**	P	**P**	**03 11 45.0**	**+1.5**
TAU	**Tasmania Unive**	**40.67**	**160**	*e*P	**P**	**03 11 45.1**	**+1.6**
TAU	comp=Z,457nm,1.3s,mb6.0			pmax	pmax		
TAU	comp=Z,53μm,20.0s,MS6.4			MLR	MLR		
TAU	**Tasmania Unive** comp=Z,457nm,1.3s,mb6.0	**40.67**	**160**	*e*P	**P**	**03 11 45.1**	**+1.6**
TAU	comp=Z,53μm,20.0s,MS6.4			LR	LR		
MAJO	**Matsushiro**	**42.40**	**10**	⇓*i*P	**P**	**03 11 56.5**	**-1.3**
MAJO	comp=Z,274nm,1.0s,mb5.8			pmax	pmax		
MAJO	comp=Z,19μm,20.0s,MS6.0			MLR	MLR		
MAJO	**Matsushiro** comp=Z,274nm,1.0s,mb5.8	**42.40**	**10**	⇓*i*P	**P**	**03 11 56.5**	**-1.3**
MAJO	comp=Z,19μm,20.0s,MS6.0			LR	LR		
MAT	**Matsushiro**	**42.40**	**10**	P	**P**	**03 11 56.4**	**-1.4**
MAT				S	**S**	**03 18 13.5**	**-2.9**
MJAR	**Matsushiro Arr** comp=Z,91nm,0.8s,mb5.5,baz=182,slow=9.5,SNR=112	**42.40**	**10**	P	**P**	**03 11 56.4**	**-1.3**
MJAR	comp=Z,16μm,21.6s,MS5.9,baz=190,slow=30			LR	LR	03 25 34.4	
KS15	**Wonju Array Si**	**42.53**	**358**	*e*P	**P**	**03 11 59.5**	**+0.8**
KSRS	**Korea Array** comp=Z,26nm,0.8s,mb5.0,baz=173,slow=11,SNR=56	**42.54**	**358**	P	**P**	**03 11 59.0**	**+0.2**
KSRS	comp=Z,22μm,21.6s,MS6.0,baz=190,slow=34			LR	LR	03 28 08.7	
INCN	**Inchon** comp=Z,384nm,1.3s,mb6.0	**42.63**	**357**	*e*P	**P**	**03 11 59.9**	**+0.3**
INCN	comp=Z,28μm,21.0s,MS6.1			LR	LR		
TIA	**Tai'an**	**42.87**	**345**	⇓P	**P**	**03 12 00.3**	**-1.2**
TIA				AP	pP	03 12 12.5	-0.8
TIA				XP	sP	03 12 19.0	+0.7
TIA				S	**S**	**03 18 19.0**	**-4.2**
TIA				XS	sS	03 18 44.0	+1.1
TIA	comp=N,2μm,12.0s,MS5.5			LR	LR		
TIA	comp=E,4μm,13.0s,MS5.5			LR	LR		
CD2	**Chengdu**	**43.58**	**327**	P	**P**	**03 12 07.1**	**-0.3**
CD2				AP	pP	03 12 13.8	-5.4
CD2				PP	PP	03 13 52.0	+2.6
CD2	comp=Z,160nm,1.0s,mb5.7			AMB	AMB		
CD2	comp=Z,3μm,7.1s			AM

comp=Z,134nm,1.1s,mb5.6
XAN AMB AMB
comp=Z,2μm,7.9s
XAN LR LR
comp=N,7μm,30.9s,MS5.8
XAN LR LR
comp=E,15μm,32.3s,MS5.8
XAN LR LR
comp=Z,14μm,25.6s
DL2 Dalian 44.56 351 P **P** **03 12 14.9 -0.2**
DL2 PCP PcP 03 14 00.3 +2.6
DL2 S **S** **03 18 46.8 -1.1**
DL2 SCS ScS 03 22 11.0 +1.4
DL2 AMB AMB
comp=Z,60nm,0.9s,mb5.4
DL2 AMB AMB
comp=Z,1μm,6.9s
DL2 LR LR
comp=N,6μm,19.4s,MS5.8
DL2 LR LR
comp=E,9μm,18.0s,MS5.8
DL2 LR LR
comp=Z,7μm,16.1s,MS5.7
TIY Taiyuan 45.62 341 *e*P **P** **03 12 23.3 -0.3**
TIY XP sP 03 12 36.8 -3.6
TIY PP PP 03 14 10.3 -0.8
TIY PPP 03 14 50.5
TIY S **S** **03 18 57.5 -5.8**
TIY AMB AMB
comp=Z,2μm,5.0s
TIY LR LR
comp=N,4μm,11.0s,MS5.8
TIY LR LR
comp=E,5μm,13.5s,MS5.8
TIY LR LR
comp=Z,19μm,39.0s
IMP Imphal 45.70 312 *e*P **P** **03 12 22.3 -2.1**
IMP *ex* x 03 14 06.2
BJT Baijiatuau 46.71 346 *e*P **P** **03 12 31.6 -0.5**
BJT pmax pmax
comp=Z,199nm,0.8s
BJT MLR MLR
comp=Z,11μm,19.0s
BJT Baijiatuau 46.71 346 *e*P **P** **03 12 31.6 -0.5**
comp=Z,199nm,0.8s,mb6.1
BJT LR LR
comp=Z,11μm,19.0s,MS5.8
BJI Beijing 46.73 346 P **P** **03 12 31.6 -0.6**
BJI PP PP 03 14 21.1 -1.6
BJI S **S** **03 19 16.3 -2.8**
BJI AMB AMB
comp=Z,141nm,1.4s,mb5.7
BJI LR LR
comp=N,7μm,27.1s,MS5.8
BJI LR LR
comp=E,13μm,24.1s,MS5.8
BJI LR LR
comp=Z,15μm,26.8s,MS5.8
SNY Shenyang 47.19 354 ⇓P **P** **03 12 35.6 -0.2**
SNY SP 03 12 49.4
SNY PP PP 03 14 29.5 +2.3
SNY S **S** **03 19 24.6 -1.0**
SNY AMB AMB
comp=Z,134nm,1.7s,mb5.6
SNY AMB AMB
comp=Z,3μm,6.7s
SNY LR LR
comp=N,15μm,21.6s
SNY LR LR
comp=Z,22μm,21.6s,MS6.1
LZH Lanzhou 47.65 332 ⇓P **P** **03 12 40.3 +0.8**
LZH AP pP 03 12 50.3 -1.1
LZH AMB AMB
comp=Z,356nm,1.3s,mb6.2
LZH AMB AMB
comp=Z,4μm,7.6s
LZH LR LR
comp=N,11μm,13.6s
LZH LR LR
comp=Z,27μm,20.3s
SHL Shillong 47.66 312 *i* P **P** **03 12 39.0 -0.8**
SHL *i x* x 03 22 32.0
VLA Vladivostok 48.23 2 *e*P **P** **03 12 43.2 -0.6**
VLA *i* *PP pP 03 12 51.9 -3.9
VLA *e**SP sP 03 12 57.3 -3.4
VLA *e* 03 14 40.0
VLA *e*S **S** **03 19 41.0 +0.7**
VLA *e**SS sS 03 19 56.8 -3.4
VLA pmax pmax
comp=Z,297nm,2.1s,mb6.0
VLA MLR MLR
comp=Z,18μm,18.0s,MS6.1
HHC Hu-ho-hao-te 48.76 342 *e*P **P** **03 12 48.3 +0.4**
HHC AMB AMB
comp=Z,99nm,1.1s,mb5.8
HHC LR LR
comp=N,8μm,25.0s,MS5.9
HHC LR LR
comp=E,13μm,28.5s,MS5.9
HHC LR LR
comp=Z,13μm,26.2s,MS5.8
CAL Calcutta 48.81 306 *ex* x 03 12 35.5
CAL *e*S **S** **03 19 50.7 +1.5**
CN2 Changchun 48.99 356 ⇓P **P** **03 12 48.9 -0.8**
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,12μm,19.0s,MS6.0
CN2 LR LR
comp=E,11μm,19.0s,MS6.0
CN2 LR LR
comp=Z,13μm,21.0s,MS5.9
BTO Baotou 49.03 340 *e*P **P** **03 12 49.0 -1.1**
FUNA Funafuti 49.45 97 *e*P **P** **03 12 53.7 0.0**
comp=Z,521nm,1.4s,mb6.4
FUNA LR LR
comp=Z,14μm,21.0s,MS5.9
MDJ Mudanjiang 49.67 0 P **P** **03 12 55.1 +0.3**
MDJ PCP PcP 03 14 16.5 +0.8
MDJ PP PP 03 14 50.3 +0.5
MDJ PCS PcS 03 18 13.3 +1.0
MDJ S **S** **03 20 06.0 +5.5**
MDJ AMB AMB
comp=Z,47nm,1.0s,mb5.5
MDJ AMB AMB
comp=Z,3μm,8.5s
MDJ LR LR
comp=N,8μm,33.9s
MDJ LR LR
comp=E,26μm,42.3s
MDJ LR LR
comp=Z,18μm,38.1s,MS5.8
MDJ Mudanjiang 49.67 0 *e*P **P** **03 12 55.0 +0.1**
comp=Z,83nm,0.9s,mb5.8
MDJ LR LR
comp=Z,11μm,20.0s,MS5.9
BWNR Bhubaneshwar 49.86 302 *e*P **P** **03 12 53.0 -3.7**
PALK Pallekele 50.23 284 *e*P **P** **03 12 59.4 -0.3**
PALK pmax pmax
comp=Z,19nm,0.8s,mb5.2
PALK MLR MLR
comp=Z,16μm,19.0s,MS6.0
PALK Pallekele 50.23 284 *e*P **P** **03 12 59.4 -0.3**
comp=Z,19nm,0.8s,mb5.2
PALK LR LR
comp=Z,16μm,19.0s,MS6.0
LSA Lhasa 50.60 316 P **P** **03 13 03.1 +0.9**
LSA AP pP 03 13 15.0 +0.8
LSA XP sP 03 13 20.5 +1.3
LSA SS SS 03 23 48.0 -0.9
LSA AMB AMB
comp=Z,40nm,0.9s,mb5.3
LSA AMB AMB
comp=Z,650nm,3.0s
LSA LR LR
comp=N,7μm,27.0s,MS5.9
LSA LR LR
comp=E,14μm,27.0s,MS5.9
LSA LR LR
comp=Z,19μm,33.0s
LSA Lhasa 50.60 316 ⇑*i*P **P** **03 13 03.1 +0.9**
LSA pmax pmax
comp=Z,933nm,1.6s,mb6.5
LSA MLR MLR
comp=Z,9μm,22.0s,MS5.8
LSA Lhasa 50.60 316 ⇑*i*P **P** **03 13 03.1 +0.9**
comp=Z,933nm,1.6s,mb6.5
LSA LR LR
comp=Z,9μm,22.0s,MS5.8
VIS Vishakhapatnam 50.95 298 *i* P **P** **03 13 04.6 -0.4**
VIS AMb AMB 03 13 18.7
comp=Z,222nm,0.9s,mb6.1
VIS *i x* x 03 20 19.0
YUK Yuzh-Kuril'sk 51.27 15 *e*P **P** **03 13 06.3 -0.6**
YUK *e* 03 14 14.9
YUK *e* 03 15 07.1
YUK *e*PPP 03 15 58.5
YUK *i* S **S** **03 20 22.9 +0.1**
YUK *e*SS SS 03 23 56.0 -3.0
YUK *e*SSS 03 25 39.0
YUK pmax pmax
comp=N,5μm,7.0s
YUK pmax pmax
comp=E,2μm,7.0s
YUK pmax pmax
comp=Z,8μm,7.0s
YUK pmax pmax
comp=Z,2μm,1.3s,mb6.8
YUK pmax pmax
comp=N,480μm,0.8s
YUK pmax pmax
comp=N,6μm,7.0s
YUK pmax pmax
comp=E,2μm,7.0s
YUK pmax pmax
comp=Z,5μm,7.0s
YUK smax
comp=N,9μm,18.0s
YUK smax
comp=E,7μm,12.0s
BOK Bokaro 51.39 306 *e*P **P** **03 13 07.2 -1.0**
BOK *i x* x 03 20 23.0
ODAN Odare 51.74 310 *e*P **P** **03 13 10.8 0.0**
comp=E,926nm,1.1s,mb6.6
TAPN Taplejung 51.76 311 *e*P **P** **03 13 10.7 -0.2**
MDRS Chennai 52.18 291 *e*P **P** **03 13 13.0 -1.2**
GTA Gaotai 52.22 331 ⇓P **P** **03 13 14.3 +0.2**
GTA PP PP 03 15 12.8 -0.2
GTA S **S** **03 20 35.1 -1.0**
GTA SCS ScS 03 23 01.5 +0.8
GTA SS SS 03 24 10.5 -3.7
GTA AMB AMB
comp=Z,156nm,1.8s,mb5.6
GTA AMB AMB
comp=Z,3μm,6.3s
GTA LR LR
comp=N,16μm,30.9s,MS6.0
GTA LR LR
comp=E,12μm,28.2s,MS6.0
GTA LR LR
comp=Z,13μm,28.2s,MS5.8
RAMN Ramite 52.39 310 *e*P **P** **03 13 15.9 +0.3**
comp=Z,2μm,1.1s,mb7.0
JIRN Jiri 53.07 310 *e*P **P** **03 13 20.7 +0.1**
comp=Z,1μm,1.2s,mb6.6
YSS Yuzh-Sakhalins 53.33 11κ *i*P **P** **03 13 21.4 -0.7**
YSS *e**SP sP 03 13 33.0 -6.2
YSS *e* 03 15 28.0
YSS *e*S **S** **03 20 44.0 -6.8**
YSS *e*PS 03 20 56.0
YSS *e*SS SS 03 24 28.0 -3.4
YSS *e*SSS 03 26 16.0
YSS pmax pmax
comp=Z,100nm,1.0s,mb5.7
YSS pmax pmax
comp=N,1μm,8.0s
YSS pmax pmax
comp=Z,3μm,8.0s
YSS MLR MLR
comp=N,8μm,18.0s,MS5.9
YSS MLR MLR
comp=E,6μm,18.0s,MS5.9
YSS MLR MLR
comp=Z,8μm,18.0s,MS5.8
YSS Yuzh-Sakhalins 53.33 11 *e*P **P** **03 13 22.0 -0.1**
comp=Z,129nm,1.0s,mb5.8
YSS LR LR
comp=Z,5μm,22.0s,MS5.5
GUN Gumba 53.44 311 *e*P **P** **03 13 23.5 +0.2**
comp=Z,1μm,1.0s,mb6.8
PKI Pulchoki 53.62 310 *e*P **P** **03 13 24.2 -0.5**
comp=Z,534nm,1.2s,mb6.4
PKI Pulchoki 53.62 310 *e*P **P** **03 13 24.2 -0.5**
PKI pmax pmax
comp=Z,534nm,1.2s,mb6.3
BLSP Bilaspur 53.74 302 *e*P **P** **03 13 24.5 -1.1**
KKN Kakani 53.83 310 *e*P **P** **03 13 25.9 -0.3**
comp=Z,2μm,1.6s,mb6.7
KKN Kakani 53.83 310 *e*P **P** **03 13 25.9 -0.3**
KKN pmax pmax
comp=Z,2μm,1.6s,mb6.7
DMN Daman 53.87 310 *e*P **P** **03 13 25.9 -0.6**
comp=Z,1μm,1.2s,mb6.7
SNZO South Karori 53.96 139 PFAKE 03 13 40.0 +13
SNZO LR LR
comp=Z,36μm,19.0s,MS6.5
KOD Kodaikanal 54.03 287 *e*P **P** **03 13 26.6 -1.3**
TRD Trivandrum 54.12 284 *e*P **P** **03 13 27.4 -1.2**
KLR Kul'dur 54.32 2 *e*P **P** **03 13 25.2 -4.2**
KLR *e*S **S** **03 21 00.0 -4.2**
KLR pmax pmax
comp=N,180nm,2.8s
KLR pmax pmax
comp=Z,900nm,2.8s,mb6.2
KLR pmax pmax
comp=Z,4μm,10.0s
KLR MLR MLR
comp=N,20μm,19.0s,MS6.2
KLR MLR MLR
comp=E,7μm,19.0s,MS6.2
GKN Gorkha 54.43 310 *e*P **P** **03 13 30.4 -0.2**
comp=E,110nm,0.9s,mb5.8
MCQ Macquarie Isla 54.55 159 *e*P **P** **03 13 32.6 +1.6**
MCQ Macquarie Isla 54.55 159 P **P** **03 13 31.9 +0.9**
HIA Hailar 54.98 352 *e*P **P** **03 13 34.9 +0.7**
comp=E,52nm,1.1s,mb5.5
HIA LR LR
comp=Z,16μm,19.0s,MS6.1
RAO Raoul Island 55.05 122 PFAKE 03 13 50.0 +15
RAO LR LR
comp=Z,18μm,21.0s,MS6.1
HYB Hyderabad 55.09 295 *e*P **P** **03 13 34.5 -1.1**
HYB *e*S **S** **03 21 12.0 -3.7**
HYB pmax pmax
comp=Z,364nm,1.2s,mb6.3
HYB Hyderabad 55.09 295 ⇑*i*P **P** **03 13 34.5 -1.1**
comp=Z,364nm,1.2s,mb6.3
HYB *e*S **S** **03 21 16.0 +0.3**
HYB Hyderabad 55.09 295 *e*P **P** **03 13 34.5 -1.1**
comp=Z,364nm,1.2s,mb6.3
HYB *e*S **S** **03 21 12.0 -3.7**
KOLN Koldanda 55.11 309 *e*P **P** **03 13 35.1 -0.4**
comp=Z,1μm,1.1s,mb6.8
DANN Dangsing 55.27 310 *e*P **P** **03 13 36.6 -0.1**
comp=Z,4μm,1.6s,mb7.1
NGP Nagpur 55.98 300 *i x* **P** **03 13 37.2 -4.7**
NGP *ex* x 03 13 52.8
comp=Z,285nm,1.8s
NGP *i x* x 03 21 18.0
SONM Songino Array 56.66 342 P **P** **03 13 46.7 +0.5**
comp=Z,78nm,1.0s,mb5.7,baz=164,slow=6.8,SNR=125
SONM LR LR 03 37 18.2
comp=Z,9μm,19.8s,MS5.9,baz=154,slow=35
SONM PKP2bc 03 43 53.6
comp=Z,0.9nm,0.7s,baz=2.9,slow=2.9,SNR=2.7
SONM Songino Array 56.66 342 P **P** **03 13 46.7 +0.5**
SONM LR LR 03 37 18.2
SONM ⇑*e* 03 43 53.6
LATR Latur 57.22 296 *e*P **P** **03 13 49.2 -1.5**
AKL Akola 57.59 298 *e*P **P** **03 13 51.7 -1.6**
AKL AMb AMB 03 14 07.2
comp=Z,414nm,1.1s,mb6.4
AFI Afiamalu 58.44 103 *e*P **P** **03 14 01.8 +2.4**
AFI pmax pmax
comp=Z,276nm,1.3s,mb6.1
AFI MLR MLR
comp=Z,7μm,19.0s,MS5.8
AFI Afiamalu 58.44 103 *e*P **P** **03 14 01.8 +2.4**
comp=Z,276nm,1.3s,mb6.1
AFI LR LR
comp=Z,7μm,19.0s,MS5.8
CIT Chita 58.68 349 *e*P **P** **03 14 01.0 +0.7**
CIT *e* 03 22 04.6
KAD Karad 59.02 294 *e*P **P** **03 14 01.7 -1.7**
POO Poona 59.69 295 *e*P **P** **03 14 06.5 -1.5**
ZAK Zakamensk 59.88 341 *e*P **P** **03 14 09.0 +0.3**
SKR Severo-Kuril's 60.29 19 *e*P **P** **03 14 14.0 +2.5**
SKR *e* 03 14 20.0
SKR *e*S **S** **03 22 20.0 -2.6**
SKR *e* 03 23 52.0
SKR pmax pmax
comp=E,2μm,6.0s
SKR pmax pmax
comp=Z,3μm,6.0s
SKR pmax pmax
comp=N,2μm,4.0s
SKR smax
comp=N,5μm,10.0s
SKR smax
comp=E,8μm,10.0s
SKR MLR MLR
comp=N,4μm,18.0s,MS5.8
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.8
SKR MLR MLR
comp=E,5μm,20.0s,MS5.8
NDI New Delhi 60.53 307 *ex* **P** **03 14 09.0 -4.6**
BOM Bombay 60.74 295 *e*P **P** **03 14 14.2 -1.0**
BOM *ex* x 03 14 15.3
comp=Z,550nm,2.9s
BOM *ex* x 03 22 29.4
TLY Talaya 60.89 342 P **P** **03 14 16.8 +1.3**
comp=Z,622nm,1.4s,mb6.5,SNR=32
TLY Talaya 60.89 342 P **P** **03 14 16.6 +1.1**
SNR=59
TLY Talaya 60.89 342*d* *i*P **P** **03 14 16.0 +0.5**
TLY *e*S **S** **03 22 29.8 -0.5**
TLY pmax pmax
comp=Z,166nm,1.3s,mb6.0
TLY Talaya 60.89 342⇓*e*P **P** **03 14 16.1 +0.6**
comp=Z,161nm,1.1s,mb6.1
TLY LR LR
comp=Z,9μm,21.0s,MS5.9
MIDW Midway 61.06 54 PFAKE 03 14 30.0 +13
MIDW LR LR
comp=Z,11μm,20.0s,MS6.0
IRK Irkutsk 61.19 343⇓*i*P **P** **03 14 17.7 +0.2**
IRK *e* 03 22 36.3
IRK pmax pmax
comp=Z,505nm,2.6s,mb6.2
SMLA Simla 61.63 310 *i* P **P** **03 14 21.1 +0.1**
SMLA *ex* x 03 14 25.7
comp=Z,534nm,0.4s
SMLA *i x* x 03 22 38.3
WMQ Urumqi 61.67 327 P **P** **03 14 23.0 +2.0**
WMQ AP pP 03 14 27.6 -5.7
WMQ PCP PcP 03 15 04.0 +1.9
WMQ PP PP 03 16 41.0 +3.7
WMQ S **S** **03 22 43.6 +3.0**
WMQ PS 03 23 01.0
WMQ SCS ScS 03 24 10.3 +1.0
WMQ SS SS 03 26 46.3 +3.4
WMQ AMB AMB
comp=Z,312nm,1.4s,mb6.2
WMQ AMB AMB
comp=Z,609nm,6.5s
WMQ LR LR
comp=N,13μm,19.0s
WMQ LR LR
comp=E,16μm,26.4s
WMQ LR LR
comp=Z,12μm,26.2s
AJM Ajmer 61.73 304 *e*P **P** **03 14 20.5 -1.2**
AJM AMb AMB 03 14 36.2
comp=Z,296nm,1.3s,mb6.2
MOY Mondy 61.73 340 *e*P **P** **03 14 22.1 +0.9**
MOY pmax pmax
comp=Z,628nm,3.2s
SDNR Sundarnagar 61.95 310 *e*P **P** **03 14 20.0 -3.1**
SDNR *ex* x 03 16 39.0
CLNS Chul'man 62.02 357 *e*P **P** **03 14 23.3 +0.2**
CLNS *e**PP pP 03 14 33.7 -1.7
CLNS *e* 03 15 05.0
CLNS *e* 03 16 39.0
CLNS *e*PPP 03 18 04.7
CLNS *e*S **S** **03 22 44.6 +0.2**
CLNS pmax pmax
comp=Z,73nm,1.3s,mb5.7
CLNS pmax pmax
comp=N,58nm,1.2s
CLNS pmax pmax
comp=E,25nm,1.2s
CLNS pmax pmax
comp=Z,23nm,1.3s,mb5.2
CLNS smax
comp=N,1μm,11.8s
CLNS smax
comp=E,3μm,11.8s
CLNS MLR MLR
comp=Z,5μm,21.0s,MS5.7
CLNS MLR MLR
comp=N,4μm,18.0s,MS5.8
CLNS MLR MLR
comp=E,2μm,15.0s,MS5.8
CASY Casey 62.31 189 *e*P **P** **03 14 24.7 -0.2**
CASY *e*pP pP 03 14 38.4 +1.2
CASY *e*S **S** **03 22 43.1 -4.8**
PETK Petropavlovsk- 62.87 19 P **P** **03 14 29.4 +0.6**
comp=E,59nm,0.8s,mb5.8,baz=190,slow=4.4,SNR=32
PETK LR LR 03 40 41.8
comp=E,6μm,20.5s,MS5.7,baz=208,slow=35
PETK Petropavlovsk- 62.87 19 P **P** **03 14 29.4 +0.6**
PETK LR LR 03 40 41.8
PET Petropavlovsk 63.11 19 *e*P **P** **03 14 32.3 +1.9**
PET *e* 03 15 09.3
PET *e* 03 16 54.6
PET *e*PPP 03 18 16.0
PET *e*S **S** **03 23 00.4 +2.1**
PET *e*SS SS 03 27 09.1 +4.1
PET pmax pmax
comp=Z,3μm,10.5s
PET pmax pmax
comp=Z,1μm,14.4s
PET MLR MLR
comp=Z,6μm,18.0s,MS5.8
PET Petropavlovsk 63.11 19 *e*P **P** **03 14 33.3 +2.9**
comp=Z,697nm,1.3s,mb6.6
PET LR LR
comp=Z,9μm,22.0s,MS5.9
DLH Dalhousie 63.17 310 *e*P **P** **03 14 28.0 -3.3**
DLH *ex* x 03 14 49.0
HVS Khovu-Aksy 64.02 336*c* *i*P **P** **03 14 39.1 +2.6**
BOD Bodaibo 64.13 351 *e*P **P** **03 14 36.9 -0.1**
BOD pmax pmax
comp=Z,150nm,1.4s,mb5.8
MIR Mirnyy 66.15 195⇓*i*P **P** **03 14 51.0 +0.9**
MIR *i* pP 03 15 03.0 +0.5
MIR *i* 03 15 17.0
MIR *i* 03 17 16.0
MIR *i*PPP 03 18 50.0
MIR *i*S S 03 23 38.0 +2.6
MIR *i*PS 03 24 00.0
MIR *i*SS SS 03 27 54.0 +2.4
MIR pmax pmax
comp=Z,400nm,2.0s,mb6.1
MIR MLR MLR
comp=Z,17μm,18.0s,MS6.3
KSH Kashi 66.40 317 P **P** **03 14 53.6 +1.4**
KSH AP pP 03 14 58.5 -6.1
KSH PCP PcP 03 15 23.1 +1.4
KSH PP PP 03 17 22.6 +3.7
KSH PPP 03 18 58.3
KSH SCP 03 19 14.4
KSH PCS 03 19 26.3
KSH S S 03 23 41.1 +1.7
KSH SCS ScS 03 24 46.3 +0.6
KSH SS SS 03 27 59.3 +2.5
KSH LR LR
comp=N,22μm,17.2s,MS6.6
KSH LR LR
comp=E,14μm,14.0s,MS6.6
KSH LR LR
comp=Z,18μm,19.3s
MK31 Makanchi Array 66.51 327 *i* P **P** **03 14 52.5 -0.2**

MK31 pmax pmax
comp=Z,245nm,0.8s,mb6.3
MK31 Makanchi Array 66.51 327 *e*P **P 03 14 52.5 -0.1**
MKAR Makanchi Array 66.51 327 P **P 03 14 52.8 +0.1**
comp=Z,70nm,0.5s,mb5.9,baz=125,slow=7.5,SNR=258
MKAR PKPPKP 03 43 26.6
comp=Z,0.2nm,0.3s,baz=212,slow=34,SNR=3.2
MKAR LR LR 03 45 01.9
comp=Z,8μm,20.6s,MS5.9,baz=120,slow=37
YAK Yakutsk 67.12 0 *e*P **P 03 14 56.2 0.0**
YAK *e* pP 03 15 09.2 +0.5
YAK *e* 03 17 28.2
YAK *e*S S 03 23 48.3 +1.2
YAK *e*SS SS 03 28 00.3 -6.7
YAK pmax pmax
comp=E,40nm,0.8s
YAK pmax pmax
comp=Z,74nm,0.8s,mb5.8
YAK pmax pmax
comp=N,30nm,0.9s
YAK pmax pmax
comp=Z,566nm,3.6s
YAK smax
comp=N,1μm,4.8s
YAK smax
comp=E,4μm,6.2s
YAK Yakutsk 67.12 0 *e*P **P 03 14 56.1 -0.2**
comp=E,630nm,0.8s,mb6.7
YAK LR LR
comp=Z,9μm,20.0s,MS6.0
AAA Alma-Ata 67.66 321 *c i*P **P 03 15 00.1 0.0**
AAA pmax pmax
comp=Z,2μm,4.8s
AAA MLR MLR
comp=Z,7μm,20.0s,MS5.9
KRAR Krasnoyarsk 68.08 339 *e*P **P 03 15 02.7 +0.3**
KRAR pmax pmax
comp=Z,277nm,2.4s,mb5.9
KRAR MLR MLR
comp=Z,5μm,22.0s,MS5.7
FRU Bishkek 68.91 320 *i*P **P 03 15 08.5 +0.6**
FRU *e* 03 19 24.0
FRU *e* 03 24 12.0
FRU pmax pmax
comp=Z,320nm,2.4s,mb5.8
SMY Shemya 69.00 27 *e*P **P 03 15 09.6 +1.3**
SMY pmax pmax
comp=Z,1μm,1.4s,mb6.6
SMY MLR MLR
comp=Z,6μm,21.0s,MS5.8
SMY Shemya 69.00 27 *e*P **P 03 15 09.6 +1.3**
comp=Z,1μm,1.4s,mb6.6
SMY LR LR
comp=Z,6μm,21.0s,MS5.8
KBL Kabul 69.26 310⇑ *i*P **P 03 15 10.0 -0.3**
KBL pmax pmax
comp=Z,233nm,1.1s,mb6.0
KBL Kabul 69.26 310⇑ *i*P **P 03 15 09.9 -0.3**
comp=Z,233nm,1.1s,mb6.0
ZALV Zalesovo Beam 69.82 334 P **P 03 15 12.7 -0.6**
comp=Z,137nm,0.9s,mb5.9,baz=131,slow=6.0,SNR=41
ZALV PKPPKP 03 43 18.9
comp=Z,1.0nm,0.4s,baz=335,slow=14,SNR=4.1
ZAL Zalesovo 69.82 334 P **P 03 15 12.7 -0.6**
SEY Seymchan 70.23 11 *i*P **P 03 15 16.3 +0.7**
SEY Seymchan 70.23 11 *i*P **P 03 15 16.3 +0.7**
AMKA Amchitka 70.65 31 *e*P **P 03 15 17.9 -0.6**
KURK Kurchatov 70.78 329 P **P 03 15 19.7 +0.4**
comp=Z,4μm,1.1s,mb7.2
KURK Kurchatov 70.78 329⇓ P **P 03 15 19.6 +0.3**
SNR=280
KURK Kurchatov 70.78 329 *e*P **P 03 15 18.9 -0.4**
KURK pmax pmax
comp=Z,991nm,1.2s,mb6.6
KURK MLR MLR
comp=Z,7μm,19.0s,MS5.9
KURK Kurchatov 70.78 329 *e*P **P 03 15 18.9 -0.4**
comp=Z,991nm,1.2s,mb6.6
KURK LR LR
comp=Z,7μm,19.0s,MS5.9
NVS Novosibirsk 71.10 334⇓ *i*P **P 03 15 20.1 -1.0**
NVS *i*S S 03 24 31.5 -3.0
NVS pmax pmax
comp=E,401nm,1.2s
NVS pmax pmax
comp=Z,672nm,1.2s,mb6.5
NVS pmax pmax
comp=N,504nm,1.6s
NVS smax
comp=E,680nm,2.1s
NVS smax
comp=N,537nm,2.2s
KK31 Karatay Array 71.71 319 *i*P **P 03 15 24.5 -0.5**
KK31 pmax pmax
comp=Z,196nm,1.2s,mb5.9
KK31 Karatay Array 71.71 319 *i*P **P 03 15 24.6 -0.4**
RER Riviere de l'E 72.94 250 *e*P **P 03 15 36.2 +3.3**
ADK Adak 73.00 32 *e*P **P 03 15 34.4 +1.9**
ADK pmax pmax
comp=Z,527nm,1.4s,mb6.3
ADK MLR MLR
comp=Z,7μm,21.0s,MS5.9
ADK Adak 73.00 32 *e*P **P 03 15 34.4 +1.9**
comp=Z,526nm,1.4s,mb6.3
ADK LR LR
comp=Z,7μm,21.0s,MS5.9
XMAS Kiritimati 73.37 86 *e*P **P 03 15 37.2 +1.7**
comp=Z,290nm,1.2s,mb6.1
XMAS LR LR
comp=Z,7μm,20.0s,MS6.0
MSEY Mahe Island 73.67 267 PFAKE 03 15 50.0 +13
MSEY LR LR
comp=Z,12μm,19.0s,MS6.2
VNDA Vanda 74.20 173 P **P 03 15 39.0 -0.2**
comp=Z,19nm,0.9s,mb5.0,baz=320,slow=6.3,SNR=55
VNDA LR LR 03 46 24.9
comp=Z,19μm,20.6s,MS6.4,baz=334,slow=34
VNDA Vanda 74.20 173 *e*P **P 03 15 39.0 -0.3**
comp=Z,3.6nm,1.8s
VNDA LR LR
comp=Z,19μm,20.0s
SBA Scott Base 75.09 172 *e*P **P 03 15 44.7 +0.3**
SBA pmax pmax
comp=Z,117nm,1.2s,mb5.7
SBA MLR MLR
comp=Z,9μm,19.0s,MS6.1
SBA Scott Base 75.09 172 *e*P **P 03 15 44.7 +0.3**
comp=Z,117nm,1.2s,mb5.7
SBA LR LR
comp=Z,9μm,19.0s,MS6.1
BIDO Bidbid 75.16 296⇑P **P 03 15 46.0 +0.3**
SNR=18
KIP Kipapa 75.79 66 *e*P **P 03 15 48.9 -0.5**
KIP pmax pmax
comp=Z,544nm,1.6s,mb6.2
KIP MLR MLR
comp=Z,7μm,20.0s,MS6.0
KIP Kipapa 75.79 66 *e*P **P 03 15 48.9 -0.5**
comp=Z,544nm,1.6s,mb6.2
KIP LR LR
comp=Z,7μm,20.0s,MS6.0
HOQ Hoqain 75.90 296⇓P **P 03 15 50.5 +0.4**
SNR=7.4
BVA0 Borovoye Array 76.34 328 *i*P **P 03 15 51.6 -0.2**
BVA0 pmax pmax
comp=Z,209nm,1.5s,mb5.8
BVAR Borovoye Array 76.34 328 P **P 03 15 51.9 +0.1**
comp=Z,155nm,0.9s,mb5.9,baz=126,slow=7.5,SNR=158
MAW Mawson 76.35 201 *e*P **P 03 15 52.1 +0.4**
comp=Z,62nm,0.9s,mb5.5
MAW *e*S S 03 25 29.9 -3.4
MAW Mawson 76.35 201 P **P 03 15 52.3 +0.6**
comp=Z,47nm,0.9s,mb5.4,baz=71,slow=6.7,SNR=72
MAW LR LR 03 48 54.0
comp=Z,7μm,19.9s,MS6.0,baz=68,slow=35
MAW Mawson 76.35 201 P **P 03 15 52.3 +0.6**
MAW pmax pmax
comp=Z,47nm,0.9s
MAW MLR MLR
comp=Z,7μm,19.9s
BRVK Borovoye 76.41 328 P **P 03 15 52.6 +0.4**
comp=Z,2μm,1.2s,mb7.0,SNR=62
BRVK Borovoye 76.41 328⇓P **P 03 15 52.4 +0.2**
SNR=199
BRVK Borovoye 76.41 328 *e*P **P 03 15 52.3 +0.1**
BRVK pmax pmax
comp=Z,662nm,1.3s,mb6.4
BRVK MLR MLR
comp=Z,6μm,21.0s,MS5.9
BRVK Borovoye 76.41 328 *e*P **P 03 15 52.3 +0.1**
comp=Z,662nm,1.3s,mb6.4
BRVK LR LR
comp=Z,6μm,21.0s,MS5.9
TIXI Tiksi 76.78 360 *d i*P **P 03 15 52.7 -1.3**
TIXI *e* pP 03 16 04.6 -2.0
TIXI *e* 03 18 49.4
TIXI *e*S S 03 25 34.5 -3.3
TIXI pmax pmax
comp=Z,56nm,0.8s,mb5.5
TIXI MLR MLR
comp=Z,9μm,16.0s,MS6.2
TIXI MLR MLR
comp=N,6μm,17.0s,MS6.0
TIXI MLR MLR
comp=E,1μm,18.0s,MS6.0
TIXI Tiksi 76.78 360 *e*P **P 03 15 53.0 -1.0**
comp=E,122nm,0.9s,mb5.8
TIXI LR LR
comp=Z,21μm,22.0s,MS6.4
HATD Hatta, Dubai 77.21 297⇓P **P 03 15 57.6 +0.1**
SNR=14
BILL Biiibino 77.58 13 *e*P **P 03 15 58.8 +0.3**
BILL pmax pmax
comp=Z,72nm,2.9s,mb5.1
NIKO Nikolski 77.71 33 *e*P **P 03 16 00.1 +0.5**
comp=Z,684nm,1.4s,mb6.4
POHA Pohakuloa 77.76 69 *e*P **P 03 16 02.6 +2.0**
comp=Z,244nm,1.1s,mb6.0
POHA LR LR
comp=Z,9μm,21.0s,MS6.0
UNV Unalaska Valle 79.36 33 *e*P **P 03 16 08.5 -0.2**
comp=Z,653nm,1.7s,mb6.3
TBI Tubuai 79.74 113 *e*S S 03 26 18.5 +7.0
comp=Z,8μm,28.2s
TBI Tubuai 79.74 113 *e*LQ 03 37 59.2
comp=Z,8μm,34.0s
TBI *e*LR LR 03 41 21.7
comp=Z,18μm,29.8s
PAE Paea 79.81 107 *e*P **P 03 16 18.7 +6.8**
comp=Z,580nm,1.3s,mb6.4
PAE Paea 79.81 107 *e*P **P 03 16 18.7 +6.8**
PAE pmax pmax
comp=Z,580nm,1.3s,mb6.3
PPT Papeete 79.82 107 *e*S S 03 26 21.3 +8.8
comp=Z,10μm,28.5s
PPT Papeete 79.82 107 *e*LQ 03 38 09.9
comp=Z,14μm,29.2s
PPT *e*LR LR 03 41 21.3
comp=Z,19μm,31.2s
PPT Papeete 79.82 107 *e*P **P 03 16 18.6 +6.7**
PPT *e*S S 03 26 21.3 +8.8
PPT pmax pmax
comp=Z,105nm,1.4s
PPT Papeete 79.82 107 *e*P **P 03 16 18.6 +6.7**
comp=Z,105nm,1.4s,mb5.6
PPT *e*S S 03 26 21.3 +8.8
PPT *e*LQ 03 38 09.9
AKUT Akutan 79.87 33 *e*P **P 03 16 13.3 +1.9**
comp=Z,897nm,0.9s,mb6.7
TIAR Tiarei 80.04 107 *e*P **P 03 16 19.8 +6.7**
comp=Z,2μm,1.6s,mb6.7
TVO Taravao 80.12 107 *e*P **P 03 16 20.2 +6.6**
comp=Z,1μm,1.3s,mb6.7
TVO Taravao 80.12 107 *e*P **P 03 16 20.2 +6.6**
TVO pmax pmax
comp=Z,1μm,1.3s,mb6.7
AB31 Akbulak array 80.84 322⇑ *e*P **P 03 16 16.5 -0.2**
ABPO Ambohimpanom 80.98 252 *e*P **P 03 16 19.5 +1.4**
ABPO pmax pmax
comp=Z,65nm,1.5s,mb5.3
ABPO MLR MLR
comp=Z,5μm,21.0s,MS5.8
ABPO Ambohimpanom 80.98 252 *e*P **P 03 16 19.5 +1.4**
comp=Z,65nm,1.5s,mb5.3
ABPO LR LR
comp=Z,5μm,21.0s,MS5.8
PMOR Pomariorio Ree 81.56 104 *e*P **P 03 16 27.7 +6.4**
comp=Z,490nm,1.7s,mb6.2
AKTK Aktyubinsk 82.40 322 P **P 03 16 25.3 +0.4**
AKTO Aktyubinsk 82.40 322 P **P 03 16 25.3 +0.4**
comp=Z,59nm,0.7s,mb5.6,baz=112,slow=7.0,SNR=65
SVE Sverdlovsk 83.03 329⇓ *e*P **P 03 16 28.5 +0.4**
SVE *e*S S 03 26 41.8 -2.4
SVE pmax pmax
comp=Z,324nm,1.4s,mb6.2
SVE MLR MLR
comp=Z,8μm,22.0s,MS6.0
SDPT Sand Point 83.17 33 *e*P **P 03 16 28.3 -0.5**
comp=Z,533nm,0.8s,mb6.6
ARU Arti 83.98 328 P **P 03 16 32.8 -0.1**
comp=Z,2μm,1.3s,mb7.0,SNR=27
SYO Syowa Base 85.06 201⇓ *e*P **P 03 16 36.4 -1.8**
SYO Syowa Base 85.06 201⇓ *e*P **P 03 16 41.0 +2.8**
UMR Umm Al-Rimmam 85.43 300 *e*P **P 03 16 40.5 -0.4**
baz=300
UMR AMb AMB 03 16 56.9
comp=Z,495nm,1.4s,mb6.5,baz=300
RDF Al-Radifah 85.48 299 *e*P **P 03 16 41.2 0.0**
baz=299
RDF AMb AMB 03 16 57.6
comp=Z,470nm,1.2s,mb6.5,baz=299
MIB Mutribah 85.80 300 *e*P **P 03 16 42.2 -0.5**
baz=300
MIB AMb AMB 03 16 59.2
comp=Z,596nm,1.0s,mb6.8,baz=300
NAY Al-Naaiem 85.80 300 *e*P **P 03 16 42.2 -0.6**
baz=300
NAY AMb AMB 03 16 58.5
comp=Z,337nm,1.1s,mb6.5,baz=300
SOKR Solikamsk 85.86 331 *d i*P **P 03 16 41.7 -0.6**
SOKR S S 03 27 08.6 -3.7
SOKR SS SS 03 32 44.2 -6.0
SOKR pmax pmax
comp=Z,310nm,1.0s,mb6.5
RST Umm Al-Ruwaisa 86.05 300 *e*P **P 03 16 43.4 -0.6**
baz=300
RST AMb AMB 03 16 59.5
comp=Z,21nm,1.3s,mb5.2,baz=300
SVW2 Sparrevohn 87.38 28 *e*P **P 03 16 50.5 +0.7**
OHAK Old Harbor 87.55 32 *e*P **P 03 16 50.8 +0.2**
comp=Z,311nm,0.9s,mb6.5
TTA Tatalina 87.69 26 *e*P **P 03 16 51.5 +0.3**
TTA pmax pmax
comp=Z,576nm,1.8s,mb6.5
TTA Tatalina 87.69 26 *e*P **P 03 16 51.5 +0.3**
comp=Z,576nm,1.8s,mb6.5
MAK Makhachkala 87.70 313 *e*P **P 03 16 52.1 +0.4**
MAK *i*S SKSac 03 27 17.5 +1.0
MAK *e*PPP 03 36 38.4
MAK pmax pmax
comp=Z,441nm,1.5s,mb6.5
KDAK Kodiak Island 88.04 32 P **P 03 16 53.5 +0.5**
comp=Z,21nm,0.8s,mb5.4,baz=300,slow=4.1
KDAK Kodiak Island 88.04 32 *e*P **P 03 16 53.4 +0.4**
KDAK pmax pmax
comp=Z,523nm,1.6s,mb6.5
KDAK MLR MLR
comp=Z,2μm,21.0s,MS5.5
KDAK Kodiak Island 88.04 32 *e*P **P 03 16 53.4 +0.4**
comp=Z,523nm,1.6s,mb6.5
KDAK LR LR
comp=Z,2μm,21.0s,MS5.5
BHD Baghdad 88.77 303 *e*x x 03 16 56.0
DGRG David-gareji 89.04 312 P **P 03 17 00.1 +2.0**
DGRG S SKSac 03 27 00.0 -25
GNI Garni 89.34 310 *e*P **P 03 17 00.6 +1.0**
GNI Garni 89.34 310⇑P **P 03 17 00.2 +0.7**
SNR=18
GNI Garni 89.34 310 P **P 03 17 01.0 +1.5**
comp=Z,4.0nm,0.5s,mb5.0,baz=194,slow=21,SNR=7.1
GNI Garni 89.34 310 *c i*P **P 03 16 59.5 0.0**
GNI pmax pmax
comp=Z,121nm,2.7s
GNI MLR MLR
comp=Z,5μm,28.0s
GNI Garni 89.34 310 *e*P **P 03 17 00.9 +1.3**
comp=Z,205nm,1.4s,mb6.3
GNI LR LR
comp=Z,3μm,21.0s,MS5.6
PPLA Purkeypile 89.38 27 *e*P **P 03 17 00.1 +0.9**
comp=Z,102nm,1.3s,mb6.0
IMA2 Indian Mountai 89.49 23 *e*P **P 03 16 59.2 -0.4**
MTA Mtatsminda 89.51 312 P **P 03 17 01.1 +0.9**
MTA S S 03 27 50.9 +3.0
CHUM Lake Minchumin 89.54 26 *e*P **P 03 16 60.0 +0.1**
comp=Z,101nm,1.0s,mb6.1
TBLG Delisi 89.55 312 P **P 03 17 00.8 +0.4**
TBLG S SKSac 03 27 00.0 -28
TAOE Nuku Hiva Isla 89.58 99 *e*S S 03 27 55.1 +5.4
comp=Z,29μm,26.7s
TAOE *e*SS SS 03 33 50.0 +3.4
comp=Z,13μm,29.3s
TAOE *e*LQ 03 42 07.9
comp=Z,64μm,35.7s
TAOE *e*LR LR 03 45 57.3
comp=Z,37μm,34.9s
SLKM Skilak Lake 89.80 29 *e*P **P 03 17 01.2 0.0**
HAKT HAKKARI 89.83 308 *i*P **P 03 17 02.6 +0.7**
CLDR Caldiran 89.85 309 *e*P **P 03 17 01.8 -0.1**
MSL Mosul 90.17 306 *e*x x 03 17 10.0
MSL Mosul 90.17 306 *e*x x 03 28 00.0
TVAN Van 90.18 309 *i*P **P 03 17 06.5 +3.0**
VANB Van 90.20 309 *e*P **P 03 17 03.1 -0.4**
TRF Thorofare Moun 90.34 26 *e*P **P 03 17 03.2 -0.5**
comp=Z,46nm,1.2s,mb5.7
PMR Palmer 90.52 28 PFAKE 03 17 20.0 +15
PMR LR LR
comp=Z,6μm,21.0s,MS6.0
ONI Oni 90.61 313 P **P 03 17 06.5 +1.1**
ONI S S 03 28 00.0 +1.9
AGRB Hanur-Agry 90.61 310 *e*P **P 03 17 03.8 -1.7**
KARS Kars 90.65 311 *e*P **P 03 17 05.8 +0.2**
SIRT Sirnak 90.82 307 *e*P **P 03 17 08.6 +2.1**
MCK McKinley 90.98 26 *e*P **P 03 17 05.6 -1.0**
MCK pmax pmax
comp=Z,126nm,1.3s,mb6.1
MCK McKinley 90.98 26 *e*P **P 03 17 05.6 -1.0**
comp=Z,126nm,1.3s,mb6.1
KIV Kislovodsk 91.31 314 P **P 03 17 09.5 +0.9**
comp=Z,181nm,1.1s,mb6.3,SNR=6.6
KIV Kislovodsk 91.31 314⇓P **P 03 17 08.3 -0.3**
SNR=12
KIV Kislovodsk 91.31 314 *e*P **P 03 17 08.3 -0.3**
KIV pmax pmax
comp=Z,23nm,0.9s,mb5.5
KIV Kislovodsk 91.31 314⇑ *i*P pP 03 17 19.7 -1.8
KIV Kislovodsk 91.31 314 *e*P **P 03 17 08.5 -0.1**
comp=Z,57nm,1.2s,mb5.8
KIV LR LR
comp=Z,3μm,20.0s,MS5.8
HOMI Horasan 91.50 310 *i*P **P 03 17 10.2 +0.6**
COLA College 91.64 25 *e*P **P 03 17 08.3 -1.3**
COLA pmax pmax
comp=Z,149nm,1.8s,mb6.0
COLA MLR MLR
comp=Z,5μm,21.0s,MS5.9
COLA College 91.64 25 *e*P **P 03 17 08.3 -1.3**
comp=Z,149nm,1.8s,mb6.0
COLA LR LR
comp=Z,5μm,21.0s,MS5.9
BTMT Batman 91.64 308 *e*P **P 03 17 10.6 +0.3**
BCA Borcka 91.84 311 *e*P **P 03 17 11.8 +0.7**
EZM Erzurum 91.90 310 *e*P **P 03 17 12.3 +0.8**
KMBO Kilima Mbogo 92.10 269 P **P 03 17 13.8 +0.8**
comp=Z,10nm,1.1s,mb5.1,baz=59,slow=6.7,SNR=11
KMBO LR LR 03 53 58.5
comp=Z,7μm,21.9s,MS6.1,baz=92,slow=33
KMBO Kilima Mbogo 92.10 269 *e*P **P 03 17 13.8 +0.8**
KMBO pmax pmax
comp=Z,17nm,0.9s
KMBO MLR MLR
comp=Z,7μm,22.0s
KMBO Kilima Mbogo 92.10 269 *e*P **P 03 17 13.8 +0.8**
comp=Z,17nm,0.9s,mb5.4
KMBO LR LR
comp=Z,7μm,22.0s,MS6.1
MARD Mardin 92.12 307 *i*P **P 03 17 12.9 +0.4**
KOPT Kop Dagi 92.57 310 *i*P **P 03 17 15.7 +1.2**
VRHR Novokhopersk 92.71 321 *e*P **P 03 17 14.1 -0.8**
VRHR *e*PP pP 03 17 26.5 -1.3
VRHR *e* 03 27 47.8
VRHR *e*S S 03 28 18.4 +1.7
VRHR *e*SS SS 03 34 31.5 +1.4
VRHR pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR MLR MLR
comp=Z,7μm,25.0s,MS6.0
VRHR MLR MLR
comp=N,1μm,16.0s
VRHR MLR MLR
comp=E,3μm,21.0s
RKT Rikitea 93.05 113 *e*SKSac SKSac 03 27 52.8 +4.4
comp=E,3μm,25.9s
RKT Rikitea 93.05 113 *e*PS PS 03 29 44.6 +6.2
comp=E,3μm,29.5s
RKT Rikitea 93.05 113 *e*LR LR 03 47 34.4
comp=E,14μm,38.0s
MACK Trabzon 93.19 311 *i*P **P 03 17 14.9 -2.5**
KTUT Trabzon 93.20 311 *e*P **P 03 17 17.0 -0.4**
PTK Pertek 93.34 309 *e*P **P 03 17 18.4 +0.3**
SVRC Sivrice-ELAZID 93.37 308 *e*P **P 03 17 20.7 +2.5**
GUMT Gumushane 93.38 310 *e*P **P 03 17 18.8 +0.6**
SOC Sochi 93.42 313 *e*P **P 03 17 16.1 -2.3**
SOC *e* 03 21 01.9
SOC pmax pmax
comp=Z,7.0nm,0.6s,mb5.3
ELZG Elazig 93.63 308 *i*P **P 03 17 20.4 +0.9**
URFA Urfa 93.69 307 *e*P **P 03 17 19.5 -0.2**
NVL N'lazarevskaya 93.83 197 *d i*P **P 03 17 21.1 +1.4**
NVL *e*S SKSac 03 27 51.3 +0.5
NVL *e* 03 29 43.8
NVL pmax pmax
comp=Z,40nm,1.8s,mb5.5
NVL MLR MLR
comp=E,12μm,21.0s
NVL MLR MLR
comp=Z,15μm,21.0s,MS6.4
NVL MLR MLR
comp=N,526nm,11.0s
MAIT Maitri 93.85 197 *e*P **P 03 17 19.7 -0.1**
ESPY Espiye-Giresun 93.98 311 *e*P **P 03 17 19.8 -1.2**
MALT Malatya 94.05 308 *e*P **P 03 17 22.1 +0.7**
MALT Malatya 94.05 308⇑ *i*P **P 03 17 22.0 +0.6**
MALT Malatya 94.05 308 *e*P **P 03 17 22.1 +0.7**
comp=N,54nm,1.3s,mb5.8
MALT LR LR
comp=Z,5μm,22.0s,MS5.9
VRSR Storozhevoye 94.25 321 *e*P **P 03 17 20.5 -1.5**
VRSR *e*PP pP 03 17 32.1 -2.8
VRSR *e* 03 27 56.7
VRSR *e*S S 03 28 32.8 +2.6
VRSR *e*SP SP 03 29 43.5 -1.4
VRSR *e*SS SS 03 34 56.7 +4.6
VRSR *e*SSS 03 38 33.7
VRSR pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=N,1.0nm,0.7s
VRSR pmax pmax
comp=E,5.0nm,0.9s
VRSR MLR MLR
comp=Z,720nm,20.0s,MS5.1
VRSR MLR MLR
comp=N,670nm,22.0s,MS5.4
VRSR MLR MLR
comp=E,1μm,20.0s,MS5.4
EGAK Eagle 94.47 25 *e*P **P 03 17 22.4 -0.4**
comp=E,83nm,1.3s,mb6.0
EGAK LR LR
comp=Z,5μm,21.0s,MS6.0
KLMR Klimovskoe 94.55 331 *e*P **P 03 17 20.5 -2.6**
KLMR pmax pmax
comp=Z,243nm,1.4s,mb6.4
ASF Jabal al Asfar 94.95 302 P **P 03 17 26.4 +0.7**
comp=Z,6.5nm,0.9s,mb5.0,baz=302,slow=2.1,SNR=14
ANN Anapa 95.13 314 *e*P **P 03 17 24.2 -2.0**
ANN *e* 03 21 14.3
ANN *e* 03 27 56.0
ANN *e*SS SS 03 35 08.5 +3.6
ANN pmax pmax
comp=Z,51nm,1.4s,mb5.8
DAWY Dawson 95.21 26 *e*P **P 03 17 26.4 +0.3**
MOS Moscow 95.37 325 *e*P **P 03 17 22.8 -4.2**
MOS *i* pP 03 17 37.4 -2.5

MOS e 03 21 13.1
MOS e 03 27 57.5
MOS eS S 03 28 34.4 -5.3
MOS ePS PS 03 30 01.7 -1.0
MOS eSS SS 03 34 57.0 -11
MOS MLR MLR
comp=Z,7μm,20.0s,MS6.1
YAYL Yayladag 95.79 306 *i* P **P 03 17 27.9 -1.5**
OBN Obninsk 95.96 325 *e*P **P 03 17 28.9 -0.8**
OBN *e**PP pP 03 17 39.7 -2.9
OBN *e* 03 28 03.2
OBN eSS SS 03 35 19.9 +3.8
OBN pmax pmax
comp=Z,48nm,1.5s,mb5.7
OBN Obninsk 95.96 325 *e*P **P 03 17 29.1 -0.6**
comp=Z,34nm,0.8s,mb5.8
OBN LR LR
comp=Z,5μm,20.0s,MS6.0
HYT Haines Junctio 96.06 29 *e*P **P 03 17 30.7 +0.7**
BHL Bhannes 96.08 303 *e*P **P 03 17 30.6 -0.2**
YURE YUREGIR 96.20 306 *i* P **P 03 17 32.1 +0.8**
MMAI Mount Meron Ar 96.25 303 P **P 03 17 32.5 +0.9**
comp=Z,3.8nm,0.6s,mb5.0,baz=46,slow=4.8,SNR=5.0
EIL Elat 96.50 299 P **P 03 17 32.6 -0.2**
comp=Z,3.6nm,0.8s,mb4.9,baz=178,slow=7.9,SNR=5.6
SKAG Skagway 97.17 31 *e*P **P 03 17 35.5 +0.4**
comp=Z,23nm,1.0s,mb5.6
APA Apatity 97.17 337⇑*i*P **P 03 17 34.2 -0.7**
APA *i* 03 28 10.0
APA *i* S S 03 28 59.0 +4.2
APA *i* PPS 03 31 02.0
PTCN Pitcairn Islan 97.18 116 PFAKE 03 17 50.0 +14
PTCN LR LR
comp=Z,5μm,19.0s,MS6.0
SNAA Sanae 97.20 194 *e*Pdiff **P 03 17 35.3 +0.2**
SNAA *e* 03 17 39.0
SNAA *e* pP 03 17 48.3 +0.3
SNAA Sanae 97.20 194 *e* PKKPdf 03 34 16.1 -2.1
SNAA *e* 03 34 25.6
SNAA *e* 03 35 11.0
SNAA *e* 03 35 17.5
SNAA Sanae 97.20 194 *e*P **P 03 17 35.4 +0.3**
SNAA pmax pmax
comp=Z,32nm,1.1s
SNAA Sanae 97.20 194 *e*P **P 03 17 35.4 +0.4**
comp=Z,32nm,1.1s,mb5.7
SIT Sitka 97.24 33 PFAKE 03 17 50.0 +15
SIT LR LR
comp=Z,5μm,20.0s,MS6.0
INK Inuvik 97.48 22 P **P 03 17 35.3 -1.0**
comp=Z,9.3nm,1.0s,mb5.2,baz=267,slow=6.5,SNR=5.9
INK Inuvik 97.48 22 P **P 03 17 35.3 -1.0**
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 97.48 22 *e*P **P 03 17 35.6 -0.7**
comp=Z,3μm,1.3s
JOF Joensuu 98.39 333 *e*p **P 03 17 38.3 -2.2**
comp=Z,28nm,0.8s,mb5.8
ANTO Ankara 98.48 309 *e*P **P 03 17 41.6 +0.1**
ANTO pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
ANTO MLR MLR
comp=Z,4μm,22.0s,MS5.8
ANTO Ankara 98.48 309⇑*i*P pP 03 17 52.8 -1.6
ANTO Ankara 98.48 309 *e*P **P 03 17 41.6 +0.1**
comp=Z,8.5nm,0.9s,mb5.3
ANTO LR LR
comp=Z,4μm,22.0s,MS5.8
WRAK Wrangell Islan 98.91 34 PFAKE 03 18 00.0 +17
WRAK LR LR
comp=Z,6μm,22.0s,MS6.1
SGKT Sivrigoynuk 99.04 310 *i* P **P 03 17 44.4 +0.4**
VNA1 Neumayer--Stat 99.17 193 *e*Pdiff **P 03 17 44.7 +0.8**
VNA1 *e* 03 17 48.5
VNA1 *e* pP 03 17 58.4 +1.6
VNA1 Neumayer--Stat 99.17 193 *e* PKKPdf 03 34 12.6 -2.0
VNA1 *e* 03 34 22.2
VNA1 *e* 03 35 04.3
VNA1 *e* 03 35 10.8
KEV Kevo 99.24 340 *e*p **P 03 17 47.4 +3.2**
comp=Z,10nm,0.8s,mb5.4
KEV Kevo 99.24 340 *e*P **P 03 17 42.4 -1.8**
KEV pmax pmax
comp=Z,52nm,1.2s,mb5.9
KEV MLR MLR
comp=Z,6μm,21.0s,MS6.1
KEV Kevo 99.24 340 *e*P **P 03 17 42.4 -1.7**
comp=Z,52nm,1.2s,mb5.9
KEV LR LR
comp=Z,6μm,21.0s,MS6.1
LSZ Lusaka 99.44 254 P **P 03 17 45.0 -1.2**
comp=Z,6.2nm,0.9s,mb5.1,baz=81,slow=9.7,SNR=3.7
LSZ Lusaka 99.44 254 P **P 03 17 45.0 -1.3**
LSZ pmax pmax
comp=Z,6.0nm,0.9s,mb5.1
LSZ Lusaka 99.44 254 *e*Pdif **P 03 17 49.0 +2.7**
comp=Z,19nm,1.0s,mb5.6
LSZ LR LR
comp=Z,8μm,21.0s,MS6.2
SPITS Spitsbergen Ar 99.79 349 P Pdif 03 17 45.4 -1.6
comp=Z,24nm,1.2s,baz=301,slow=4.1,SNR=3.8
ARCES ARCESS Array B 99.80 340 P Pdif 03 17 45.2 -1.8
comp=Z,24nm,0.9s,baz=76,slow=5.0,SNR=22
ARCES PKiKP PKiKP 03 22 15.8 +0.9
comp=Z,13nm,1.2s,baz=99,slow=5.6,SNR=4.7
ARCES LR LR 04 09 59.1
comp=Z,5μm,21.8s,MS6.0,baz=84,slow=40
ARCES ARCESS Array B 99.80 340 P Pdif 03 17 45.2 -1.8
ARE0 ARCESS Array S 99.80 340 *e*Pdif Pdif 03 17 45.6 -1.4
SPB4 Spitsbergen Ar 99.80 349 *e*Pdif Pdif 03 17 45.7 -1.3
BOSA Boshof 99.87 240 P Pdif 03 17 47.6 +0.3
comp=Z,6.8nm,1.1s,baz=41,slow=9.3,SNR=1.9
BOSA Boshof 99.87 240 P Pdif 03 17 47.6 +0.3
BOSA pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
BOSA Boshof 99.87 240 *e*Pdif Pdif 03 17 50.9 +3.6
DLBC Dease Lake 99.98 32 P Pdif 03 17 47.9 +0.1
baz=0.0,slow=1.0
LBTB Lobatse 100.26 244 *e*P Pdif 03 17 52.9 +3.8
LBTB MLR MLR
comp=Z,8μm,21.0s,MS6.2
ISP Isparta 100.29 307 PFAKE 03 18 00.0 +11
ISP LR LR
comp=Z,4μm,21.0s,MS5.9
KBS Kingsbay 100.30 350 *e*PP PP 03 21 58.1 +3.2
KBS AMS AMS 04 04 12.7
comp=Z,6μm,21.1s,MS6.1
KBS Kingsbay 100.30 350 PFAKE 03 18 00.0 +11
KBS LR LR
comp=Z,6μm,22.0s,MS6.0
BJO Bjornoya 100.42 345 AMS AMS 04 08 03.0
comp=Z,7μm,20.3s,MS6.1
AKASG Malin Array Be 100.56 320 P Pdif 03 17 48.7 -1.7
comp=Z,1.6nm,0.6s,baz=72,slow=4.0,SNR=11
AKBB Malin Array Si 100.56 320 *e*P Pdif 03 17 52.7 +2.3
KIEV Kiev 100.57 320 *e*P Pdif 03 17 52.2 +1.8
KIEV pmax pmax
comp=Z,12nm,1.0s
KIEV MLR MLR
comp=Z,3μm,21.0s,MS5.8
KIEV Kiev 100.57 320 *e*Pdif Pdif 03 17 52.1 +1.7
comp=Z,12nm,1.0s
KIEV LR LR
comp=Z,3μm,21.0s,MS5.8
KAF Kangasniemi 100.80 332 *e*p Pdif 03 17 48.0 -3.5
comp=Z,17nm,0.8s
KAF Kangasniemi 100.80 332 *e*P Pdif 03 17 48.0 -3.5
KAF pmax pmax
comp=Z,17nm,0.8s
MNK Minsk 101.04 324 *e*P Pdif 03 17 49.0 -3.5
MNK *e*S Sdif 03 29 20.0 -8.0
KIS Kishinev 101.11 317 *e*P 03 18 05.0
KIS *e* PP 03 22 05.0 +3.0
KIS *i* PS SP 03 30 52.0 -7.5
KIS MLR MLR
comp=Z,8μm,25.0s,MS6.1
TIRR Tirgusor 101.57 314⇓*i*P 03 18 05.9
PSN Preselentsi 101.79 313 *e*P PKiKP 03 22 14.4 -4.8
TRO Tromso 102.00 340 *i* PKiKP 03 22 16.1 -2.8
TRO *e*SKS 03 28 36.3
TRO *e*SS SS 03 36 44.9 +5.1
TRO AMS AMS 04 12 23.4
comp=Z,5μm,19.3s,MS6.1
PRD Provadia 102.39 313 *e*P PKiKP 03 22 14.3 -6.1
VRI Vrincioaia 102.64 316⇓*i*P Pdif 03 18 03.4 +3.7
PLOR Plostina 102.70 316⇓*i*P Pdif 03 18 04.6 +4.7
SUR Sutherland 102.75 235 PFAKE 03 18 10.0 +10
SUR LR LR
comp=Z,8μm,20.0s,MS6.2
JMB Yambol 103.05 312 *e*P PKiKP 03 22 19.6 -2.0
MLR Muntele Rosu 103.23 315⇑*i*P Pdif 03 18 03.7 +1.4
MLR Muntele Rosu 103.23 315⇑P Pdif 03 18 03.7 +1.4
BURAR Bucovina Array 103.49 318⇑*i*P Pdif 03 18 04.0 +0.6
SUW Suwalki 103.81 324 *e*P Pdif 03 18 04.2 -0.6
SUW pmax pmax
comp=Z,114nm,1.1s
SUW Suwalki 103.81 324 *e*Pdif Pdif 03 18 04.2 -0.6
comp=Z,114nm,1.1s
LVV L'vov 103.97 320 *e*P Pdif 03 18 06.5 +0.9
KDZ Kurdzhali 103.99 311 *e*P PKiKP 03 22 22.0 -1.3
RZN Rozhen 104.51 312 *e*P PKiKP 03 22 26.4 +2.1
PGB Panagyurishte 104.82 312 *e*P PKiKP 03 22 31.6 +6.8
KWP Kalwaria 104.84 320 *e*P Pdif 03 18 09.4 -0.1
KWP pmax pmax
comp=Z,55nm,1.3s
KWP MLR MLR
comp=Z,5μm,20.0s,MS6.1
KWP Kalwaria 104.84 320⇓*i*P Pdif 03 18 12.1 +2.6
KWP Kalwaria 104.84 320 *e*Pdif Pdif 03 18 09.3 -0.1
comp=Z,55nm,1.3s
KWP LR LR
comp=Z,5μm,20.0s,MS6.1
NLWA Neilton Lookou 105.14 42 PFAKE 03 22 40.0 +15
NLWA LR LR
comp=Z,3μm,21.0s,MS5.9
KOLS Kolonicke sedl 105.24 319 PDIF Pdif 03 18 13.8 +2.6
KOLS *e* 03 21 40.4
KOLS *e* 03 33 29.3
KOLS Kolonicke sedl 105.24 319 *e*Pdif Pdif 03 18 13.8 +2.6
KOLS *e* 03 21 40.4
KOLS *e* 03 33 29.3
MMB Musomiste 105.25 312 *e*P PP 03 22 36.0 +2.8
UZH Uzhgorod 105.28 319 *e*P Pdif 03 18 10.7 -0.7
UZH *e*S Sdif 03 30 02.0 -1.3
UZH *e*PS PS 03 31 33.0 -16
UZH *i* SS SS 03 37 15.0 -11
KEBM Edson Butte 105.44 47 *e*PKP PKiKP 03 22 27.0 +1.1
VTS Vitosha 105.52 313 *e*P PKiKP 03 22 30.5 +4.4
VTS Vitosha 105.52 313⇑*i*P Pdif 03 18 17.5 +5.0
VTS Vitosha 105.52 313⇑P Pdif 03 18 17.5 +5.1
KKB Krupnik 105.70 312 *e*P PP 03 22 39.0 +2.6
CRVS Cervenica-Dubn 105.77 319 *e*P Pdif 03 18 14.0 +0.4
CRVS *e* 03 22 35.3
CRVS Cervenica-Dubn 105.77 319 PDIF Pdif 03 18 14.0 +0.4
CRVS *e* 03 21 35.1
CRVS *e*PP PP 03 22 35.3 -1.4
CRVS *e* 03 33 26.0
CRVS Cervenica-Dubn 105.77 319 *e*Pdif Pdif 03 18 14.0 +0.4
CRVS *e* 03 21 35.1
CRVS *e*PP PP 03 22 35.3 -1.4
CRVS *e* 03 33 26.0
GNW Green Mountain 105.81 42 *e*Pdif Pdif 03 18 14.8 +1.1
comp=Z,11nm,1.1s
GNW *e*PKP PKiKP 03 22 28.6 +2.1
COR Corvallis 105.95 45 PFAKE 03 22 40.0 +13
COR LR LR
comp=Z,2μm,22.0s,MS5.6
JCW Jim Creek 106.29 41 *e*Pdif Pdif 03 18 17.3 +1.4
NSS Namsos 106.34 336 AMS AMS 04 13 28.9
comp=Z,7μm,21.6s,MS6.2
YKA Yellowknife Ar 106.45 26 Pdiff Pdif 03 18 16.9 +0.3
comp=Z,0.9nm,0.8s,baz=296,slow=4.6,SNR=3.4
YKA PKiKP PKiKP 03 22 27.6 +0.4
comp=Z,1.3nm,0.7s,baz=301,slow=1.8,SNR=7.4
HUMO Hull Mountain 106.48 47 PFAKE 03 22 40.0 +12
HUMO LR LR
comp=Z,6μm,22.0s,MS6.1
DAG Danmarks Havn 106.48 353 *e* PP 03 22 44.0 +2.9
KECS Kecovo 106.49 319 PDIF Pdif 03 18 08.7 -8.1
KECS *e* 03 21 33.1
KECS *e*PP PP 03 22 42.7 +0.7
KECS Kecovo 106.49 319 *e*P Pdif 03 18 08.7 -8.1
KECS *e* 03 21 33.1
KECS *e*PP PP 03 22 42.7 +0.7
OJC Ojcow 106.58 321 *e*Pdiff Pdif 03 18 21.7 +4.5
OJC *e*PP PP 03 22 48.2 +5.6
OJC *e*SKSac SKSac 03 28 59.8 +5.8
OJC *e*SP SP 03 32 03.0 +6.4
OJC *e*SS SS 03 37 55.8 +12
OJC L 04 16 47.1
comp=Z,3.3nm,22.7s
YBH Yreka Blue Hor 106.79 48 PFAKE 03 22 40.0 +12
YBH LR LR
comp=Z,7μm,21.0s,MS6.2
HOPS Hopland 106.87 51 PFAKE 03 22 40.0 +11
HOPS LR LR
comp=Z,8μm,21.0s,MS6.3
PSZ Piszkesteto 106.98 318 *e*PP PP 03 22 48.2 +2.6
PSZ Piszkesteto 106.98 318⇑*i*P Pdif 03 18 22.1 +3.1
PSZ Piszkesteto 106.98 318 *e*PKP Pdif 03 18 20.1 +1.1
comp=Z,16nm,1.4s
PSZ LR LR
comp=Z,4μm,19.0s,MS6.0
WDC Whiskeytown Da 107.07 49 *e*PKP PKiKP 03 22 29.0 -0.1
WDC *e*PP PP 03 22 46.9 +0.4
WDC LR LR
comp=Z,5μm,20.0s,MS6.1
MCCM Marconi Confer 107.12 52 PFAKE 03 22 40.0 +11
MCCM LR LR
comp=Z,6μm,19.0s,MS6.2
HFS Hagfors 107.21 332 Pdiff Pdif 03 18 19.1 -0.9
comp=Z,3.2nm,0.5s,baz=88,slow=4.6,SNR=13
BUD Budapest 107.64 318 *e*PP PP 03 22 53.5 +3.0
OKC Ostrava-Krasne 107.71 321 *e*PDIF 03 18 32.9
OKC *e*x x 03 22 43.5
OKC *e*SS SS 03 38 07.1 +8.2
OKC AMS AMS 04 09 20.0
comp=Z,3μm,22.2s
OKC Ostrava-Krasne 107.71 321 *e*Pdif 03 18 32.9
OKC *e* 03 22 43.5
OKC *e* 03 38 07.1
NB2 NORSAR Subarra108.02 333 P Pdif 03 18 22.0 -1.6
comp=Z,22nm,1.0s,baz=70,slow=4.4
NOA NORSAR Array B108.02 333 Pdiff Pdif 03 18 22.7 -0.9
comp=Z,5.4nm,0.8s,baz=70,slow=4.5,SNR=9.3
NOA PKiKP PKiKP 03 22 28.7 -1.5
comp=Z,2.5nm,0.8s,baz=72,slow=8.6,SNR=3.5
NOA NORSAR Array B108.02 333 Pdif Pdif 03 18 22.7 -0.9
NOA PKPdf PKiKP 03 22 28.7 -1.5
HAWA Hanford 108.24 43 PFAKE 03 22 40.0 +9.0
HAWA LR LR
comp=Z,5μm,20.0s,MS6.1
NAO01 NORSAR Array S 108.24 333 PFAKE 03 22 40.0 +9.4
NAO01 LR LR
comp=Z,9μm,22.0s,MS6.3
SAO San Andreas Ge 108.42 53 PFAKE 03 22 40.0 +8.3
SAO LR LR
comp=Z,5μm,20.0s,MS6.1
MOD Modoc 108.54 48 PFAKE 03 22 40.0 +8.3
MOD LR LR
comp=Z,6μm,21.0s,MS6.2
TSUM Tsumeb 108.71 248 PFAKE 03 22 50.0 +17
TSUM LR LR
comp=Z,5μm,19.0s,MS6.1
DPC Dobruska-Polom 108.72 322 *e*PDIF Pdif 03 18 39.9 +13
DPC *e*x x 03 22 38.7
DPC *e*PP PP 03 23 03.8 +5.6
DPC *e*SS SS 03 38 24.8 +12
DPC AMS AMS 04 10 20.0
comp=Z,8μm,28.1s
VRAC Vranov 108.81 320⇑*i*P Pdif 03 18 21.7 -5.4
UPC Upice 108.87 322 *e*PDIF 03 18 38.4
UPC *e*x x 03 22 45.6
MOL Molde 108.96 335 *e*SS SS 03 38 20.3 +5.4
MOL AMS AMS 04 16 29.0
comp=Z,9μm,20.1s,MS6.3
CMB Columbia Colle 109.08 52 PFAKE 03 22 50.0 +17
CMB LR LR
comp=Z,6μm,19.0s,MS6.2
JMIC Jan Mayen 109.20 347 *e* PP 03 23 05.1 +4.1
JMIC AMS AMS 04 17 34.0
comp=Z,3μm,18.9s,MS5.9
SOP Sopron 109.23 319 *e*PP PP 03 22 58.8 -3.2
KONO Kongsberg 109.31 332 AMS AMS 04 12 23.9
comp=Z,6μm,22.5s,MS6.1
PMSA Palmer Station 109.41 174 PFAKE 03 22 40.0 +7.3
PMSA LR LR
comp=Z,6μm,19.0s,MS6.2
NEW Newport 109.42 41 PFAKE 03 22 50.0 +17
NEW LR LR
comp=Z,5μm,19.0s,MS6.1
TREC Trest 109.52 321 *e*PP PP 03 23 04.7 +0.7
TREC AMS AMS 04 16 20.0
comp=Z,6μm,21.4s
WVOR Wild Horse Val 109.66 47 PFAKE 03 22 50.0 +16
WVOR LR LR
comp=Z,5μm,21.0s,MS6.1
PVCC Panska Ves 109.75 322 *e*SDIF Sdif 03 30 45.4 +4.7
PVCC AMS AMS 04 15 50.0
comp=Z,5μm,21.9s
PRU Pruhonice 109.92 321 *e*PDIF Pdif 03 18 41.6 +10
PRU *e*PP PP 03 23 11.8 +4.9
PRU *e*SS SS 03 38 38.5 +10
PRU AMS AMS 04 11 00.0
comp=Z,7μm,24.5s
BRG Berggiesshubel 110.04 323 *e*PDIF Pdif 03 18 37.3 +4.8
comp=Z,4.5nm,1.2s
BRG *e* 03 18 45.3
comp=Z,12nm,1.3s
BRG Berggiesshubel 110.04 323 *e*PKP PKiKP 03 22 35.1 +0.8
comp=Z,5.8nm,0.7s
BRG PP PP 03 23 12.0 +4.3
comp=Z,5.8nm,1.8s
BRG
comp=N,3μm,21.0s
BRG
comp=E,6μm,18.9s
BRG
comp=Z,7μm,19.6s
BRG Berggiesshubel 110.04 323 *e*Pdif Pdif 03 18 37.3 +4.8
BRG *e* 03 18 45.3
BRG *e*PKP PKiKP 03 22 35.1 +0.8
BRG PP PP 03 23 12.0 +4.3
BRG LR LR
comp=Z,4μm,19.6s,MS6.0
BMO Blue Mountains 110.10 44 PFAKE 03 22 50.0 +15
BMO LR LR
comp=Z,6μm,22.0s,MS6.1
SNCC San Nicolas Is 110.43 57 PFAKE 03 22 50.0 +14
SNCC LR LR
comp=Z,6μm,21.0s,MS6.1
CLL Collm 110.47 323 *e*P Pdif 03 18 39.0 +4.5
CLL *i* 03 23 12.1
CLL MLR MLR
comp=Z,6μm,23.8s,MS6.1
CLL Collm 110.47 323 *e*(Pdif) Pdif 03 18 39.0 +4.5
CLL *i* x x 03 22 11.7
CLL *e*x x 03 22 26.0
comp=Z,11nm,1.3s
CLL *e*x x 03 22 59.0
CLL *i* PP PP 03 23 12.1 +1.3
comp=Z,62nm,1.8s
CLL *e*Sdif Sdif 03 30 53.0 +6.3
CLL *e*x x 03 32 07.0
CLL *e*PS PS 03 32 41.0 -0.5
CLL *e*PPS 03 33 40.0
CLL *e*SS SS 03 38 56.0 +20
CLL *e*SSS 03 42 48.0
CLL *e*x x 03 44 42.0
CLL *e*SSSS 03 46 18.0
CLL *e*x x 03 47 17.0
CLL Collm 110.47 323 *e*Pdif Pdif 03 18 39.0 +4.5
CLL *e*PKPdf PKiKP 03 22 26.0 -9.1
CLL *e* 03 22 59.0
CLL *i* PP PP 03 23 12.1 +1.3
CLL *e*Sdif Sdif 03 30 53.0 +6.3
CLL LR LR
comp=Z,6μm,23.8s,MS6.1
NVAR Mina Array Bea 110.64 51 Pdiff Pdif 03 18 38.8 +3.6
comp=Z,0.1nm,0.5s,baz=153,slow=1.7,SNR=2.2
NVAR PKiKP PKiKP 03 22 35.2 -0.6
comp=Z,1.1nm,0.8s,baz=259,slow=6.2,SNR=3.9
KHC Kasperske Hory 110.77 321 *e*P 03 18 48.8
KHC *e* 03 23 11.7
KHC MLR MLR
comp=Z,7μm,22.2s,MS6.2
KHC Kasperske Hory 110.77 321 *e*PDIF 03 18 48.8
KHC *e*x x 03 18 52.0
KHC *e*x x 03 22 48.0
KHC *e*PP PP 03 23 11.7 -1.3
KHC *e*x x 03 30 35.7
KHC AMS AMS 04 11 30.0
comp=Z,7μm,22.2s
GERES GERESS Array B 110.77 320 Pdiff Pdif 03 18 38.9 +3.1
comp=Z,0.7nm,0.9s,baz=23,slow=12,SNR=3.9
GERES PKiKP PKiKP 03 22 35.4 -0.3
comp=Z,1.6nm,0.5s,baz=82,slow=2.1,SNR=11
TIP Timpagrande 110.88 310 PFAKE 03 22 50.0 +14
TIP LR LR
comp=Z,3μm,22.0s,MS5.9
BER Bergen 110.91 334 *e* SP 03 32 42.0 +2.9
BER *e*SS SS 03 38 44.0 +2.9
BER AMS AMS 04 11 12.1
comp=Z,4μm,20.2s,MS6.0
ISA Isabella 110.95 54 PFAKE 03 22 50.0 +14
ISA LR LR
comp=Z,10μm,20.0s,MS6.4
LJU Ljubljana 110.98 317 *e*SP SP 03 32 43.3 +2.6
BMN Battle Mountai 111.09 49 PFAKE 03 22 50.0 +13
BMN LR LR
comp=Z,5μm,20.0s,MS6.1
NKC Novy Kostel 111.14 322 AMS AMS 04 17 30.0
comp=Z,7μm,19.8s
WALA Waterton Lakes 111.25 39 *e*PKP PKiKP 03 22 31.4 -5.2
VOY Vojsko 111.41 318 *e* PKiKP 03 22 43.4 +6.4
VOY *e* 03 22 50.3
VOY *e*PP PP 03 23 18.7 +0.9
CUC Castrocucco 111.44 311 PFAKE 03 22 50.0 +13
CUC LR LR
comp=Z,5μm,22.0s,MS6.0
MWC Mount Wilson 111.51 55 PFAKE 03 22 50.0 +12
MWC LR LR
comp=Z,9μm,20.0s,MS6.3
MOX Moxa 111.51 323 *e*(P) 03 22 57.7
MOX *e* 03 23 10.4
MOX *e* 03 23 25.0
MOX
comp=Z,3μm,22.0s
TPH Tonopah 111.54 51 PFAKE 03 22 50.0 +12
TPH LR LR
comp=Z,6μm,22.0s,MS6.2
DAC Darwin (Calif) 111.56 53 PFAKE 03 22 50.0 +12
DAC LR LR
comp=Z,8μm,20.0s,MS6.3
ROBS Robic 111.61 318 *e*PP PP 03 23 25.1 +5.8
ROBS *e*SKSac SKSac 03 29 22.1 +6.6
ROBS *e*SP SP 03 32 48.6 +2.1
ROBS *e* 03 41 43.6
ROBS *e* 03 50 01.0
H12A Diamond D Ranc 111.87 44⇑P PKiKP 03 22 42.5 +4.6
baz=112
MSO Missoula 111.87 41 *e*PKP PKiKP 03 22 39.5 +1.6
MSO LR LR
comp=Z,3μm,22.0s,MS5.8
J12A Stokes Ranch, 112.02 45⇓P PKiKP 03 22 43.7 +5.4
baz=112
S10A Tonopah Range, 112.06 51⇓P PKiKP 03 22 43.6 +5.1
baz=112
GRA1 Grafenberg Arr 112.06 322 *e*PKP PKiKP 03 22 30.1 -8.0
GRA1 *e*PKKP PKKPbc 03 33 37.2 +5.6
GRF Grafenberg Arr 112.06 322 *e*PKP PKiKP 03 22 30.1 -8.0
GRF *e*PKKP PKKPbc 03 33 37.2 +5.6
D14A Greenough 112.09 41⇓P PKiKP 03 22 42.7 +4.4
baz=112
H13A Challis 112.28 44⇑P PKiKP 03 22 45.0 +6.3
baz=112,SNR=6.4
E14A Clinton 112.29 42⇓P PKiKP 03 22 44.3 +5.6
baz=112
CHMT Chamberlain Mo 112.30 41 *e*PKP PKiKP 03 22 40.2 +1.5
K12A Draper Farm, C 112.31 46⇑P PKiKP 03 22 44.7 +5.9
baz=112
O11A Cowboy Ranch, 112.33 49⇑P PKiKP 03 22 45.0 +6.0
baz=112
GSC Goldstone 112.36 54⇑P PKiKP 03 22 42.8 +3.7
baz=112
GSC Goldstone 112.36 54 PFAKE 03 22 50.0 +11
GSC LR LR
comp=Z,9μm,20.0s,MS6.4
HLID Hailey 112.43 45 *e*PKP PKiKP 03 22 37.3 -1.7
HLID LR LR
comp=Z,5μm,21.0s,MS6.1
ELK Elko 112.50 48 *e*PKIKP PKiKP 03 22 33.9 -5.4

ELK MLR MLR
comp=Z,5µm,20.0s
TPNV Topopah Spring 112.51 52 *e*P Pdif 03 18 47.7 +4.2
TPNV MLR MLR
comp=Z,4µm,21.0s,MS6.0
TPNV Topopah Spring 112.51 52 ⇓P PKiKP 03 22 44.9 +5.5
baz=112
U10A Ash Meadows, A 112.54 53 ⇑P PKiKP 03 22 45.5 +6.1
baz=112
I13A Wildhorse Cree 112.54 44 ⇓P PKiKP 03 22 45.9 +6.7
baz=112,SNR=6.2
WTTA Wattenberg 112.56 319 ⇑*i*P PKiKP 03 22 39.5 +0.4
comp=Z,62nm,1.2s
WATA Walderalm 112.58 319 ⇓*i*P PKiKP 03 22 41.0 +1.8
comp=Z,27nm,1.2s
M12A Wells 112.59 47 ⇓P PKiKP 03 22 45.1 +5.7
baz=112
Q11A Duckwater 112.60 50 ⇓P PKiKP 03 22 45.1 +5.6
baz=112
N12A Clover Valley, 112.63 48 ⇓P PKiKP 03 22 45.9 +6.4
baz=113
J13A Cove Ranch, Pi 112.64 45 ⇓P PKiKP 03 22 45.7 +6.3
baz=113
SHOC Shoshone 112.67 53 ⇓P PKiKP 03 22 45.6 +5.8
baz=113
AQU L'Aquila 112.69 314 PFAKE 03 22 50.0 +10
AQU LR LR
comp=Z,6µm,22.0s,MS6.1
D15A Lincoln 112.74 41 ⇓P PKiKP 03 22 45.6 +6.1
baz=113
R11A Troy Canyon, C 112.75 51 ⇑P PKiKP 03 22 46.1 +6.2
baz=113
S11A Rachel 112.77 51 ⇑P PKiKP 03 22 46.0 +6.1
baz=113
BAR Barrett 112.88 57 PFAKE 03 22 50.0 +10
BAR LR LR
comp=Z,6µm,20.0s,MS6.2
PFO Pinyon Flat Ob 112.92 56 PKiKP PKiKP 03 22 41.7 +1.4
comp=Z,0.7nm,0.3s,baz=246,slow=5.3,SNR=2.6
PFO Pinyon Flat Ob 112.92 56 ⇑P PKiKP 03 22 46.3 +6.0
baz=113
PFO Pinyon Flat Ob 112.92 56 *e*PKP PKiKP 03 22 41.8 +1.5
PFO LR LR
comp=Z,7µm,20.0s,MS6.2
TUQ Turquoise Mtn. 113.04 54 ⇓P PKiKP 03 22 46.1 +5.7
baz=113
F15A Butte 113.12 42 ⇑P PKiKP 03 22 46.1 +5.8
baz=113
L13A Double Diamond 113.13 46 ⇓P PKiKP 03 22 46.3 +5.8
baz=113
MCMT McKenzie Canyo 113.17 43 *e*PKP PKiKP 03 22 41.8 +1.4
BELC Belle Mtn. 113.23 55 ⇑P PKiKP 03 22 46.5 +5.6
baz=113
T11A Corn Creek, Al 113.26 52 ⇑P PKiKP 03 22 47.4 +6.6
baz=113
G15A Dillon 113.32 43 ⇑P PKiKP 03 22 47.0 +6.3
baz=113
DVTC Desert V Tower 113.36 57 ⇓P PKiKP 03 22 47.4 +6.2
baz=113
GMRC Granite Mounta 113.37 54 ⇓P PKiKP 03 22 47.3 +6.1
baz=113
K14A Jones Ranch, D 113.57 46 ⇓P PKiKP 03 22 45.5 +4.2
baz=114
DAVA Damuels 113.69 320 ⇑*i*P PKiKP 03 22 42.4 +1.1
comp=Z,36nm,1.0s
P13A Bates Ranch, G 113.71 49 ⇓P PKiKP 03 22 47.4 +5.8
baz=114
BC3 Big Chuckw Mtn 113.74 56 ⇑P PKiKP 03 22 48.0 +6.1
baz=114
BOZ Bozeman (W) 113.75 42 ⇓P PKiKP 03 22 47.2 +5.7
baz=114
BOZ Bozeman (W) 113.75 42 *e*PKP PKiKP 03 22 44.6 +3.1
BOZ LR LR
comp=Z,3µm,21.0s,MS5.8
LDFC Landfair 113.76 54 *e*PKP 03 22 53.5
DAVOX Davos/Dischmat 113.85 319 PKiKP PKiKP 03 22 41.3 -0.4
comp=Z,4.2nm,0.4s,baz=271,slow=4.0,SNR=11
DAVOS Davos 113.89 319 PKIKP PKiKP 03 22 41.3 -0.4
K15A Arbon 113.99 45 ⇑P PKiKP 03 22 48.4 +6.4
baz=114
HVU Hansel Valley 114.05 46 *e*PKIKP PKiKP 03 22 45.5 +3.3
EGMT Eagleton 114.20 39 ⇓P PKiKP 03 22 47.5 +5.3
baz=114
EGMT Eagleton 114.20 39 *e*PKPdf PKiKP 03 22 43.5 +1.2
EGMT LR LR
comp=Z,5µm,21.0s,MS6.1
S13A Holt Ranch, En 114.25 51 ⇓P PKiKP 03 22 48.3 +5.6
baz=114
L15A Malad City 114.28 46 ⇑P PKiKP 03 22 48.6 +6.0
baz=114
TUE Stuetta 114.30 319 *e*PKP PKiKP 03 22 43.6 +1.1
BFO Black Forest 114.31 321 *e*PKIKP PKiKP 03 22 41.0 -1.5
BFO MLR MLR
comp=Z,6µm,20.0s,MS6.2
VLC Villacollemand 114.32 316 PFAKE 03 22 50.0 +7.4
VLC LR LR
comp=Z,4µm,20.0s,MS6.0
T13A Saint George 114.33 52 ⇓P PKiKP 03 22 48.8 +5.9
baz=114
GLA Glamis 114.36 56 PFAKE 03 23 00.0 +17
GLA LR LR
comp=Z,5µm,20.0s,MS6.1
Q14A Sevier Lake (B 114.38 50 ⇑P PKiKP 03 22 49.4 +6.5
baz=114
DUG Dugway 114.43 48 *e*PKIKP PKiKP 03 22 45.6 +2.6
DUG MLR MLR
comp=Z,4µm,19.0s,MS6.1
Y12C Blythe 114.48 55 ⇑P PKiKP 03 22 49.4 +6.1
baz=114
YMR Madison River 114.50 43 PFAKE 03 23 00.0 +17
YMR LR LR
comp=Z,7µm,21.0s,MS6.3
V13A Grand Canyon W 114.52 53 ⇓P PKiKP 03 22 49.7 +6.4
baz=114
K16A Soda Springs 114.61 45 ⇓P PKiKP 03 22 50.3 +7.1
baz=114
RRI2 Red Ridge 114.65 44 *e*PKP PKiKP 03 22 44.4 +1.1
YFT Old Faithful 114.66 43 *e*PKP PKiKP 03 22 51.5 +8.2
RPN Rapa Nui 114.72 123 PFAKE 03 23 00.0 +16
RPN LR LR
comp=Z,5µm,20.0s,MS6.1
S14A Cedar City 114.74 51 ⇑P PKiKP 03 22 49.7 +6.1
baz=115
W13A Hualapai Mount 114.75 54 ⇑P PKiKP 03 22 49.6 +5.9
baz=115
IMW Indian Meadow 114.75 44 *e*PKP PKiKP 03 22 45.3 +1.8
TPAW Teton Pass 114.87 44 *e*PKP PKiKP 03 22 45.5 +1.7
X13A Yucca 114.89 54 ⇑P PKiKP 03 22 49.9 +5.9
baz=115
LKWY Lake 114.92 43 PFAKE 03 23 00.0 +16
LKWY LR LR
comp=Z,6µm,20.0s,MS6.2
MOOW Moose Ponds 114.93 44 *e*PKP PKiKP 03 22 47.1 +3.3
CDF Champ du Feu 114.94 322 *e*PKIKP PKiKP 03 22 42.9 -0.8
comp=Z,37nm,1.4s
T14A Hurricane 114.97 52 ⇓P PKiKP 03 22 50.0 +5.9
baz=115
HWUT Hardware Ranch 114.97 46 *e*PKP PKiKP 03 22 45.9 +1.9
HWUT LR LR
comp=Z,7µm,21.0s,MS6.2
REDW Red Top Meadow 114.97 44 *e*PKP PKiKP 03 22 45.5 +1.6
AHID Auburn Hatcher 114.98 45 PFAKE 03 23 00.0 +16
AHID LR LR
comp=Z,3µm,21.0s,MS5.9
M16A Huntsville 115.01 47 ⇑P PKiKP 03 22 49.6 +5.6
baz=115
GCMT Greycliff 115.01 42 *e*PKP PKiKP 03 22 46.3 +2.4
SNOW Snow King Moun 115.01 44 *e*PKP PKiKP 03 22 45.6 +1.6
U14A Mt Trumbull 115.03 52 ⇑P PKiKP 03 22 50.3 +6.0
baz=115
Y13A Salome 115.04 55 ⇑P PKiKP 03 22 50.1 +5.7
baz=115
NLU North Lily Min 115.04 48 *e*PKP PKiKP 03 22 47.4 +3.3
Q15A Fillmore 115.05 49 ⇑P PKiKP 03 22 50.5 +6.2
baz=115
LOHW Long Hollow 115.07 44 *e*PKP PKiKP 03 22 46.2 +2.1
ECH Echery 115.09 321 PKP PKiKP 03 22 48.4 +4.4
WLF Walferdange 115.14 323 PFAKE 03 23 00.0 +16
WLF LR LR
comp=Z,4µm,20.0s,MS6.0
V14A Boquillas Ranc 115.26 53 ⇓P PKiKP 03 22 51.2 +6.5
baz=115
113A Mohawk Valley, 115.28 56 ⇓P PKiKP 03 22 50.5 +5.7
baz=115
MVU Marysvale 115.30 50 PFAKE 03 23 00.0 +15
MVU LR LR
comp=Z,6µm,22.0s,MS6.1
MSU Marysvale 115.33 50 *e*PKIKP PKPdf 03 22 47.5 +2.7
JLU Jordanelle 115.33 47 *e*PKP PKPdf 03 22 46.1 +1.4
MPU Maple Canyon 115.35 48 PFAKE 03 23 00.0 +15
MPU LR LR
comp=Z,6µm,22.0s,MS6.2
W14A Seligman 115.36 54 ⇓P PKiKP 03 22 50.9 +6.0
baz=115
S15A Panguitch 115.39 51 ⇑P PKiKP 03 22 51.0 +6.1
baz=115
O16A Springville 115.40 48 ⇑P PKiKP 03 22 51.1 +6.3
baz=115
HINF Hinteralfeld 115.42 321 *e*PKIKP PKPdf 03 22 43.9 -0.7
RLMT Red Lodge 115.50 42 *e*PKP PKPdf 03 22 46.8 +1.9
RLMT LR LR
comp=Z,3µm,21.0s,MS5.9
T15A Red Dirt Ranch 115.52 51 ⇑P PKiKP 03 22 50.6 +5.4
baz=116
DAU Daniels Canyon 115.53 48 *e*PKIKP PKPdf 03 22 51.6 +6.5
HAU Haudompre 115.67 321 *e*PKIKP PKPdf 03 22 44.7 -0.4
comp=Z,52nm,1.1s
HAU *e*MLR MLR
comp=Z,6µm,22.8s,MS5.8
HAU Haudompre 115.67 321 *e*PKPdf PKPdf 03 22 44.7 -0.4
HAU LR LR
comp=Z,6µm,22.8s,MS6.1
X14A Yava 115.67 54 ⇑P PKPdf 03 22 51.8 +6.2
baz=116
N17A Moffit Pass 115.69 47 ⇑P PKiKP 03 22 51.4 +6.0
baz=116
Y14A Wickenburg 115.69 55 ⇑P PKPdf 03 22 51.2 +5.6
baz=116
U15A North Rim 115.73 52 ⇓P PKPdf 03 22 51.8 +6.2
baz=116
GIVF Givet 115.75 324 *e*PKIKP PKPdf 03 22 45.3 +0.1
comp=Z,69nm,1.3s
PGF Pioggiola 115.77 315 *e*PKIKP PKPdf 03 22 46.4 +0.9
comp=Z,76nm,1.2s
Z14A Wintersburg 115.85 56 ⇑P PKPdf 03 22 51.9 +5.9
baz=116
TMUT Trail Mountain 115.86 49 *e*PKP PKPdf 03 22 51.5 +5.8
V15A Kaibab Nationa 115.96 53 ⇓P PKPdf 03 22 52.2 +6.1
baz=116
S16A Weppner Ranch, 115.96 51 ⇓P PKPdf 03 22 52.4 +6.4
baz=116
Q16A Castle Valley 115.98 49 ⇓P PKPdf 03 22 52.5 +6.5
baz=116
W15A Williams 116.03 53 ⇓P PKPdf 03 22 52.9 +6.7
baz=116
BW06 Boulder Array 116.06 45 *e*PKPdf PKPdf 03 22 47.3 +1.3
BW06 LR LR
comp=Z,5µm,21.0s,MS6.1
PDAR Pinedale Array 116.06 45 PKP PKPdf 03 22 46.8 +0.7
comp=Z,3.8nm,0.9s,baz=211,slow=1.1,SNR=13
PDAR PKKPab PKKPab 03 33 24.0 +2.7
comp=Z,1.9nm,0.9s,baz=116,slow=3.4,SNR=7.0
BAIF Baives 116.13 324 *e*PKIKP PKPdf 03 22 46.0 +0.1
comp=Z,29nm,1.1s
P17A Butcher Ranch, 116.16 48 ⇑P PKPdf 03 22 52.4 +6.1
baz=116
X15A Humboldt 116.20 54 ⇓P PKPdf 03 22 52.7 +6.1
baz=116
T16A Glen Canyon Da 116.21 51 ⇑P PKPdf 03 22 52.8 +6.3
baz=116
214A Organ Pipe Nat 116.23 57 ⇑P PKPdf 03 22 53.0 +6.3
baz=116
Y15A Casa Rosa Ranc 116.23 55 ⇓P PKPdf 03 22 52.8 +6.2
baz=116
MEZF Maizieres J'vi 116.27 322 *e*PKIKP PKPdf 03 22 46.7 +0.4
SAOF Saorge 116.31 317 PKP pPKPdf 03 22 58.8 -1.0
LPG La Plagne 116.33 319 *e*PKIKP PKPdf 03 22 46.5 0.0
comp=Z,43nm,1.0s
LPL La Plagne 116.34 319 *e*PKIKP PKPdf 03 22 46.5 0.0
comp=Z,34nm,0.9s
CABF La Chapelle 116.36 320 *e*PKIKP PKPdf 03 22 46.4 -0.1
comp=Z,72nm,1.1s
AUTN L'Aution 116.40 317 PKP pPKPdf 03 23 00.3 +0.4
SRU San Rafael 116.42 49 ⇑P PKPdf 03 22 52.6 +5.7
baz=116
SRU San Rafael 116.42 49 *e*PKPdf PKPdf 03 22 48.1 +1.3
SBF Sospel 116.44 317 *e*PKIKP PKPdf 03 22 46.2 -0.5
comp=Z,44nm,0.8s
R17A Hanksville Air 116.46 50 ⇑P PKPdf 03 22 52.3 +5.3
baz=116,SNR=7.7
O18A Roosevelt 116.48 47 ⇑P PKPdf 03 22 53.2 +6.3
baz=116
TOUF Mont Tournerai 116.51 317 PKP PKPdf 03 22 56.6 +10
N18A Larsen Ranch, 116.52 47 ⇑P PKPdf 03 22 52.0 +5.0
baz=116
BNI Bardonecchia 116.54 318 *e*PKIKP PKPdf 03 22 50.0 +3.1
BNI MLR MLR
comp=Z,5µm,19.0s,MS6.2
115A Sonoran Desert 116.57 56 ⇑P PKPdf 03 22 53.4 +6.0
baz=116
MBDF Montbardon 116.59 318 *e*PKIKP PKPdf 03 22 47.0 0.0
comp=Z,31nm,0.8s
S17A Black Ridge (B 116.60 50 ⇓P PKPdf 03 22 53.0 +5.8
baz=116
W16A Flagstaff 116.63 53 ⇓P PKPdf 03 22 53.9 +6.5
baz=117
WUAZ Wupatki 116.66 53 ⇓P PKPdf 03 22 53.2 +5.7
baz=117,SNR=6.7
WUAZ Wupatki 116.66 53 *e*PKP PKPdf 03 22 49.5 +2.1
WUAZ LR LR
comp=Z,6µm,21.0s,MS6.2
Q18A Rafter H Ranch 116.72 49 ⇓P PKPdf 03 22 52.8 +5.3
baz=117,SNR=6.1
T17A Navajo Res., N 116.75 51 ⇓P PKPdf 03 22 53.0 +5.4
baz=117,SNR=5.8
X16A Lo Mia Camp, P 116.86 54 ⇑P PKPdf 03 22 53.7 +5.8
baz=117,SNR=7.7
LAO LASA Array 116.92 40 *e*PKPdf PKPdf 03 22 49.1 +1.6
LAO LR LR
comp=Z,5µm,21.0s,MS6.1
U17A Shonto 116.96 52 ⇑P PKPdf 03 22 54.2 +6.3
baz=117
116A Eloy 117.03 56 ⇑P PKPdf 03 22 54.6 +6.4
baz=117
FRF La Foret Royal 117.08 317 *e*PKIKP PKPdf 03 22 47.5 -0.5
comp=Z,55nm,1.1s
BORG Borgarnes 117.10 346 PFAKE 03 23 00.0 +13
BORG LR LR
comp=Z,3µm,20.0s,MS6.0
ORIF Oris-en-Rattie 117.11 318 *e*PKIKP PKPdf 03 22 47.6 -0.4
comp=Z,15nm,0.8s
ORIF *e*MLR MLR
comp=Z,4µm,20.8s,MS5.8
S18A Hurst Farm, Bl 117.20 50 ⇓P PKPdf 03 22 54.2 +5.8
baz=117,SNR=7.4
LMR La Mourre 117.25 316 *e*PKIKP PKPdf 03 22 48.1 -0.2
comp=Z,102nm,1.4s
216A Three Points, 117.35 57 ⇑P PKPdf 03 22 55.1 +6.3
baz=117
KEST Kesra 117.37 308 PKP PKPdf 03 22 49.8 +1.0
comp=Z,1.6nm,0.9s,baz=17,slow=14,SNR=2.5
X17A Forest Lakes 117.39 54 ⇓P PKPdf 03 22 54.3 +5.5
baz=117,SNR=5.6
Q19A Hogan Spring (117.41 49 ⇑P PKPdf 03 22 54.7 +6.0
baz=117
EKA Eskdalemuir Ar 117.41 332 PKP PKPdf 03 22 48.0 -0.2
comp=Z,1.9nm,0.7s,baz=39,slow=2.0,SNR=5.9
T18A Mexican Hat 117.44 51 ⇑P PKPdf 03 22 54.6 +5.8
baz=117,SNR=8.1
ESK Eskdalemuir 117.44 332 PFAKE 03 23 00.0 +12
ESK LR LR
comp=Z,5µm,21.0s,MS6.1
DGMT Dagmar 117.45 37 *e*PKPdf PKPdf 03 22 49.8 +1.3
DGMT LR LR
comp=Z,5µm,22.0s,MS6.1
Y17A Roosevelt 117.50 55 ⇓P PKPdf 03 22 54.8 +5.7
baz=117
LOR Lormes 117.51 321 *e*PKIKP PKPdf 03 22 48.4 -0.3
comp=Z,54nm,1.3s
LOR *e*MLR MLR
comp=Z,5µm,20.2s,MS5.9
LOR Lormes 117.51 321 *e*PKPdf PKPdf 03 22 48.4 -0.3
LOR LR LR
comp=Z,5µm,20.3s,MS6.2
SMRF Simiane la Rot 117.66 317 *e*PKIKP PKPdf 03 22 49.1 0.0
comp=Z,38nm,1.0s
PV10 Paradox Valley 117.74 49 *e*PKPdf PKPdf 03 22 51.6 +2.2
V18A Ganado 117.75 52 ⇓P PKPdf 03 22 55.6 +6.1
baz=118
SMF Signal de Mont 117.77 321 *e*PKIKP PKPdf 03 22 48.8 -0.4
comp=Z,47nm,1.1s
SSF Saint Saulge 117.81 321 *e*PKIKP PKPdf 03 22 49.1 -0.2
comp=Z,57nm,1.0s
117A Oracle 117.83 56 ⇓P PKPdf 03 22 55.5 +5.8
baz=118,SNR=6.4
TUC Tucson 117.84 56 *e*PKIKP PKPdf 03 22 51.0 +1.2
TUC MLR MLR
comp=Z,3µm,21.0s,MS5.9
SSB Saint Sauveur 117.86 319 *e*PKIKP PKPdf 03 22 52.8 +3.4
Z17A San Carlos Hig 117.89 55 ⇑P PKPdf 03 22 55.9 +6.0
baz=118
217A Green Valley 117.93 57 ⇑P PKPdf 03 22 56.0 +6.0
baz=118,SNR=7.0
VIVF Saint-Julien-l 117.93 319 *e*PKIKP PKPdf 03 22 49.3 -0.3
comp=Z,35nm,1.0s
AVF Avril sur Loir 118.02 321 *e*PKIKP PKPdf 03 22 49.1 -0.6
comp=Z,37nm,1.1s
X18A Snowflake 118.03 54 ⇑P PKPdf 03 22 56.1 +6.1
baz=118
RWWY Rawlins 118.06 45 *e*PKPdf PKPdf 03 22 51.0 +1.1
W18A Petrified Fore 118.06 53 ⇓P PKPdf 03 22 56.0 +5.8
baz=118,SNR=6.1
Y18A Canyon Day Jun 118.14 54 ⇑P PKPdf 03 22 56.1 +5.8
baz=118
PV01 Paradox Valley 118.16 49 *e*PKPdf PKPdf 03 22 51.6 +1.4
PLDF La Plantade 118.18 320 PKP PKPdf 03 22 53.0 +3.0
HYF Humbligny 118.26 322 *e*PKIKP PKPdf 03 22 50.2 +0.1
SFJD Kangerlussuaq 118.39 0 PFAKE 03 23 00.0 +10
SFJD LR LR
comp=Z,4µm,22.0s,MS6.0
BGF Bois d'Agland 118.43 321 *e*PKIKP PKPdf 03 22 50.4 -0.1
comp=Z,85nm,1.1s
118A Homack Ranch, 118.45 56 ⇑P PKPdf 03 22 56.8 +5.9
baz=118,SNR=6.6
V19A Window Rock 118.45 52 ⇓P PKPdf 03 22 56.8 +6.0
baz=118
MVCO Mesa Verde 118.48 50 ⇑P PKPdf 03 22 56.4 +5.5
baz=118
MVCO Mesa Verde 118.48 50 *e*PKPdf PKPdf 03 22 53.3 +2.5
MVCO LR LR
comp=Z,6µm,20.0s,MS6.2
218A Dragoon 118.53 56 ⇓P PKPdf 03 22 57.0 +5.9
baz=118
X19A St. Johns 118.58 54 ⇑P PKPdf 03 22 57.3 +6.2
baz=118
CMAH Djebel Manchou 118.65 309 P PKPdf 03 23 00.0 +8.8
318A Bisbee 118.69 57 ⇑P PKPdf 03 22 57.4 +6.0
baz=119,SNR=11
ABSA Djebel Ababsia 118.70 309 P PKPdf 03 22 58.0 +6.7
LBL Lubilhac 118.72 319 PKP PKPdf 03 22 52.3 +1.2
Y19A Nutrioso 118.72 54 ⇑P PKPdf 03 22 57.5 +6.0
baz=119,SNR=7.5
LASF Ste Croix 118.77 318 *e*PKIKP PKPdf 03 22 51.1 -0.1
comp=Z,78nm,1.2s
TCF Toulx Ste Croi 118.94 321 *e*PKIKP PKPdf 03 22 51.3 -0.2
comp=Z,57nm,1.1s
119A Ashpeak Ranch, 118.97 55 ⇑P PKPdf 03 22 57.9 +6.0
baz=119,SNR=5.3
219A White Tail Can 119.17 56 ⇑P PKPdf 03 22 58.1 +5.7
baz=119,SNR=7.3
CKFL Kef-Lekhel 119.25 309 P PKPdf 03 22 59.0 +6.6
319A Douglas 119.29 57 ⇓P PKPdf 03 22 58.7 +6.1
baz=119,SNR=9.3
LDF La Druitiere 119.32 324 *e*PKIKP PKPdf 03 22 51.7 -0.4
comp=Z,165nm,1.7s
RSSD Black Hills 119.34 42 *e*PKIKP PKPdf 03 22 52.2 -0.1
RSSD MLR MLR
comp=Z,692nm,19.0s,MS5.3
FLN La Foliniere 119.45 324 *e*PKIKP PKPdf 03 22 52.2 -0.2
comp=Z,87nm,1.4s
FLN *e*MLR MLR
comp=Z,8µm,20.5s,MS6.0
FLN La Foliniere 119.45 324 *e*PKPdf PKPdf 03 22 52.2 -0.2
FLN LR LR
comp=Z,8µm,20.5s,MS6.3
CASM Ain Smara 119.47 309 P PKPdf 03 22 58.0 +5.2
CTEI Djebel Teioual 119.59 309 P PKPdf 03 22 57.0 +4.0
CAF Calviac 119.61 320 *e*PKIKP PKPdf 03 22 53.0 +0.2
comp=Z,45nm,1.0s
RJF Les Rejaudoux 119.80 320 *e*PKIKP PKPdf 03 22 53.9 +0.8
comp=Z,41nm,1.2s
RJF *e*MLR MLR
comp=Z,5µm,19.0s,MS5.9
RJF Les Rejaudoux 119.80 320 *e*PKPdf PKPdf 03 22 53.9 +0.8
RJF LR LR
comp=Z,5µm,19.0s,MS6.2
ISCO Idaho Springs 119.83 47 *e*PKIKP PKPdf 03 22 57.0 +3.6
ISCO MLR MLR
comp=Z,5µm,20.0s,MS6.2
GRR Gorron 119.85 324 *e*PKIKP PKPdf 03 22 53.1 0.0
comp=Z,41nm,1.1s
DFRA Djebel Bou Aff 119.86 309 P pPKPdf 03 23 06.0 -0.8
DMUB Kingscourt 120.02 332 *e*P pPKPdf 03 23 06.0 -0.6
MTLF Montolieu 120.15 318 *e*PKIKP PKPdf 03 22 53.6 -0.3
comp=Z,53nm,1.1s
DLF Lyons Farm 120.21 331 *e*P pPKPdf 03 23 09.0 +2.0
MFF Saint Martin d 120.27 322 *e*PKIKP PKPdf 03 22 53.7 -0.3
comp=Z,80nm,1.0s
LAZ Ladron 120.31 53 *e*PKPdf PKPdf 03 22 57.5 +3.1
LFF La Frestale 120.45 320 *e*PKIKP PKPdf 03 22 54.6 +0.2
comp=Z,85nm,1.1s
LENM Lemitar 120.50 53 *e*PKPdf PKPdf 03 22 56.2 +1.3
DCN Croghan 120.53 332 *e*P pPKPdf 03 23 05.0 -2.6
SDCO Great Sand Dun 120.59 49 *e*PKPdf PKPdf 03 22 55.7 +0.8
SDCO LR LR
comp=Z,5µm,21.0s,MS6.1
ANMO Albuquerque 120.69 52 PKP PKPdf 03 22 56.8 +1.6
comp=Z,11nm,1.0s,baz=125,slow=3.9,SNR=9.6
ANMO Albuquerque 120.69 52 *i* PKIKP PKPdf 03 22 56.6 +1.4
ANMO Albuquerque 120.69 52 *e*PKPdf PKPdf 03 22 56.9 +1.7
ANMO LR LR
comp=Z,6µm,20.0s,MS6.2
LPM Los Pinos Moun 120.73 53 *e*PKPdf PKPdf 03 22 57.0 +1.8
BNM Barren Site 120.78 53 *e*PKPdf PKPdf 03 22 57.5 +2.1
SGMF Saint Gilles 120.90 325 *e*PKIKP PKPdf 03 22 54.6 -0.6
comp=Z,73nm,1.1s
ROSF Rostrenen 121.27 325 *e*PKIKP PKPdf 03 22 55.9 0.0
comp=Z,162nm,1.6s
ULM Lac du Bonnet 121.30 32 PKP PKPdf 03 22 56.7 +0.9
comp=Z,18nm,0.9s,baz=308,slow=3.2,SNR=11
ULM Lac du Bonnet 121.30 32 *e*PKPdf PKPdf 03 22 56.5 +0.7
ULM LR LR
comp=Z,6µm,22.0s,MS6.2
QUIF Quistinic 121.42 325 *e*PKIKP PKPdf 03 22 55.8 -0.4
comp=Z,184nm,1.5s
EPF Esparros 121.53 318 *e*PKIKP PKPdf 03 22 56.5 -0.1
comp=Z,72nm,1.3s
ABA Alger-Bouzarea 121.95 310 P PKPdf 03 23 04.0 +6.4
REYF Montagne du Re 122.00 318 PKP PKPdf 03 23 03.6 +6.1
ETSF Etsaut 122.19 318 *e*PKIKP PKPdf 03 22 58.5 +0.7
comp=Z,107nm,1.2s
EMHD Djebel Mahouad 122.21 310 P PKPdf 03 23 05.4 +7.3
AGMN Agassiz Refuge 122.38 34 *e*PKPdf PKPdf 03 22 58.9 +0.9
AGMN LR LR
comp=Z,6µm,22.0s,MS6.2
LARF Larrau 122.41 319 PKP PKPdf 03 23 03.5 +5.3
SJPF Ste Jean 122.53 319 *e*PKIKP PKPdf 03 22 58.9 +0.4
comp=Z,38nm,1.0s
EFI East Falkland 122.90 174 PFAKE 03 23 10.0 +11
EFI LR LR
comp=Z,5µm,19.0s,MS6.2
TAM Tamanrasset 123.25 294 *e*PKIKP PKPdf 03 23 03.2 +2.8
EBNR Beni Rached 123.27 310 P pPKPdf 03 23 12.0 -1.4
ECHA Ech Chlef 123.44 310 P PKPdf 03 23 10.0 +10
EANR 'Ain N'Sour 123.71 310 P PKPdf 03 23 08.7 +7.7
ETRT Tiaret 123.75 309 P PKPdf 03 23 08.2 +7.2
ECSD EROS,Sioux Fal 124.31 39 *e*PKPdf PKPdf 03 23 01.4 -0.5
ECSD LR LR
comp=Z,6µm,20.0s,MS6.2
CBKS Cedar Bluff 124.43 46 *e*PKIKP PKPdf 03 23 03.8 +1.5
CBKS MLR MLR
comp=Z,5µm,19.0s,MS6.2
AMTX Amarillo 124.45 51 *e*PKPdf PKPdf 03 23 04.1 +1.7
AMTX LR LR
comp=Z,7µm,21.0s,MS6.3
TXAR Lajitas Array 124.49 58 PKP PKPdf 03 23 03.4 +0.7
comp=Z,4.7nm,0.9s,baz=285,slow=0.9,SNR=12
CART Cartagena 124.68 313 *e*PKPdf PKPdf 03 23 02.4 -0.4
TRIS Tristan da Cun 124.81 217 PFAKE 03 23 20.0 +17
TRIS LR LR
comp=Z,6µm,21.0s,MS6.2
EYMN Ely 124.98 33 *e*PKPdf PKPdf 03 23 04.2 +1.2
EYMN LR LR
comp=Z,6µm,22.0s,MS6.2
ESDC Sonseca Array 125.91 316 PKP PKPdf 03 23 05.6 +0.5
comp=Z,0.3nm,0.4s,baz=56,slow=2.7,SNR=6.9
PAB San Pablo 126.23 316 *e*PKIKP PKPdf 03 23 09.6 +3.9
PAB MLR MLR
comp=Z,3µm,20.0s,MS5.9
KSU1 Kansas State U 126.51 44 *e*PKPdf PKPdf 03 23 11.6 +5.3

KSU1 LR LR
comp=Z,5μm,20.0s,MS6.2
WMOK Wichita Mounta 126.73 50 *e*PKIKP PKPdf 03 23 08.4 +1.6
WMOK MLR MLR
comp=Z,5μm,20.0s,MS6.2
MVO Moncorvo 127.25 319 *e*PP PP 03 25 08.3 +1.5
MVO Moncorvo 127.25 319 *e*SS SS 03 42 19.6 +6.7
MVO Moncorvo 127.25 319 *e*LR LR 04 10 06.1
comp=Z,4μm,20.0s
JCT Junction City 127.38 55 *e*PKIKP PKPdf 03 23 08.8 +0.6
JCT MLR MLR
comp=Z,7μm,22.0s,MS6.3
COWI Conover 127.39 33 *e*PKPdf PKPdf 03 23 10.0 +2.3
COWI LR LR
comp=Z,5μm,22.0s,MS6.1
SCIA State Center 127.39 40 *e*PKPdf PKPdf 03 23 10.7 +2.8
SCIA LR LR
comp=Z,4μm,20.0s,MS6.1
TOA0 Torodi Ar. Sit 127.94 282 *e*PKPdf PKPdf 03 23 10.6 +1.0
TORD Torodi Ar. Bea 127.94 282 PKP PKPdf 03 23 09.6 0.0
comp=Z,6.9nm,0.8s,baz=93,slow=1.4,SNR=18
MTE Manteigas 127.98 319 *e*PP PP 03 25 14.3 +2.7
MTE Manteigas 127.98 319 *e*SS SS 03 42 30.6 +8.7
MTE Manteigas 127.98 319 *e*LR LR 04 10 31.8
comp=Z,3μm,20.0s
MTE Manteigas 127.98 319 *e*PKPdf PKPdf 03 23 09.8 +0.8
MTE LR LR
comp=Z,3μm,20.0s,MS6.0
PVIS Viseu 128.04 319 *e*PKPdf PKPdf 03 23 11.4 +2.3
PCBR Castelo Branco 128.21 318 *e*PKPdf PKPdf 03 23 10.8 +1.3
PCBR Castelo Branco 128.21 318 *e*PP PP 03 25 18.0 +4.8
PMRV Marv??o 128.36 318 *e*PKPdf PKPdf 03 23 09.7 -0.1
PMRV Marv??o 128.36 318 *e*PP PP 03 25 18.6 +4.4
PMRV Marv??o 128.36 318 *e*SS SS 03 42 31.2 +4.4
PMRV Marv??o 128.36 318 *e*LR LR 04 10 43.4
comp=Z,3μm,18.0s
JFWS Jewell Farm 128.67 37 *e*PKIKP PKPdf 03 23 13.3 +3.1
JFWS MLR MLR
comp=Z,7μm,22.0s,MS6.3
PBAR Barrancos 128.73 316 *e*PKPdf PKPdf 03 23 15.9 +5.4
PBAR Barrancos 128.73 316 *e*PP PP 03 25 20.0 +3.3
PBAR Barrancos 128.73 316 *e*SS SS 03 42 42.9 +11
PESTR Estremoz 128.77 317 *e*PP PP 03 25 20.0 +3.1
PESTR Estremoz 128.77 317 *e*SS SS 03 42 40.0 +8.1
PESTR Estremoz 128.77 317 A 04 33 10.9
comp=Z,3μm,18.0s
SCHQ Schefferville 128.87 12 PKP PKPdf 03 23 11.1 +0.8
comp=Z,19nm,1.0s,baz=71,slow=2.1,SNR=6.5
SCHQ Schefferville 128.87 12 *e*PKPdf PKPdf 03 23 10.6 +0.4
SCHQ LR LR
comp=Z,6μm,21.0s,MS6.2
SFS San Fernando 128.93 314 PFAKE 03 23 20.0 +9.1
SFS LR LR
comp=Z,7μm,19.0s,MS6.3
EVO Evora 129.23 317 *e*PKIKP PKPdf 03 23 12.0 +0.6
comp=Z,85nm,1.2s
EVO *e*MLR MLR
comp=Z,5μm,21.5s,MS5.9
EVO Evora 129.23 317 *e*PP PP 03 25 23.9 +4.0
PVAQ Vaqueiros 129.57 315 *e*PP PP 03 25 26.9 +4.7
PBDV Barranco-do-Ve 129.80 315 *e*PP PP 03 25 27.5 +3.8
PBDV Barranco-do-Ve 129.80 315 *e*SS SS 03 42 38.2 -6.5
PBDV Barranco-do-Ve 129.80 315 *e*LR LR 04 13 10.9
comp=Z,3μm,20.0s
KVTX Kingsville 129.87 58 PFAKE 03 23 30.0 +17
KVTX LR LR
comp=Z,4μm,19.0s,MS6.2
PMAFR Mafra 129.87 318 *e*PP PP 03 25 21.3 -2.7
PMAFR Mafra 129.87 318 *e*SS SS 03 42 48.1 +2.7
PMAFR Mafra 129.87 318 *e*LR LR 04 11 11.6
comp=Z,3μm,20.0s
MORF Marmelete 130.27 316 *e*PP PP 03 25 32.2 +5.5
MORF Marmelete 130.27 316 *e*SS SS 03 43 01.0 +11
MORF Marmelete 130.27 316 *e*LR LR 04 17 56.6
comp=Z,5μm,20.0s
PFVI Vila Bisbo 130.48 316 *e*PP PP 03 25 31.4 +3.3
PFVI Vila Bisbo 130.48 316 *e*SS SS 03 42 55.1 +2.1
PFVI Vila Bisbo 130.48 316 *e*LR LR 04 13 37.6
comp=Z,4μm,20.0s
RTC Rabat Centre 130.49 311 PFAKE 03 23 30.0 +16
RTC LR LR
comp=Z,3μm,20.0s,MS5.9
GLMI Grayling 130.63 32 *e*PKPdf PKPdf 03 23 14.8 +0.9
GLMI LR LR
comp=Z,5μm,21.0s,MS6.2
PLCA Paso Flores 130.66 160 PKP PKPdf 03 23 15.3 +1.2
comp=Z,12nm,1.2s,baz=263,slow=6.1,SNR=8.4
PLCA SKPbc SKPbc 03 26 36.3 +1.7
comp=Z,7.1nm,1.1s,baz=151,slow=5.1,SNR=3.2
PLCA Paso Flores 130.66 160 PKIKP PKPdf 03 23 15.3 +1.2
PLCA pmax pmax
comp=Z,12nm,1.2s
PLCA pmax pmax
comp=N,7.0nm,1.1s
PLCA Paso Flores 130.66 160 *e*PKPdf PKPdf 03 23 17.0 +2.9
PLCA LR LR
comp=Z,5μm,19.0s,MS6.2
MIAR Mount Ida 130.72 48 *e*PKIKP PKPdf 03 23 14.6 +0.2
MIAR MLR MLR
comp=Z,10μm,22.0s,MS6.5
HKT Hockley 130.79 55 *e*PKIKP PKPdf 03 23 19.2 +4.5
HKT MLR MLR
comp=Z,2μm,21.0s,MS5.7
SHEL Horse Pasture 130.91 244 PFAKE 03 23 30.0 +15
SHEL LR LR
comp=Z,5μm,21.0s,MS6.2
NATX Nacogdoches 131.06 52 PFAKE 03 23 30.0 +15
NATX LR LR
comp=Z,4μm,21.0s,MS6.1
FVM French Village 131.28 42 *e*PKIKP PKPdf 03 23 16.0 +0.6
UALR University of 131.52 47 *e*PKPdf PKPdf 03 23 16.4 +0.4
SIUC Southern Illin 132.24 42 *e*PKPdf PKPdf 03 23 18.2 +1.0
OLIL Olney 132.40 40 *e*PKPdf PKPdf 03 23 18.1 +0.7
PARMO Parma 132.43 44 *e*PKPdf PKPdf 03 23 21.1 +3.5
GNAR Gosnell 132.61 44 *e*PKPdf PKPdf 03 23 19.0 +1.1
AAM Ann Arbor 132.85 34 PFAKE 03 23 30.0 +12
AAM LR LR
comp=Z,6μm,21.0s,MS6.3
USIN University of 133.12 41 *e*PKPdf PKPdf 03 23 21.4 +2.6
BLO Bloomington 133.15 39 *e*PKIKP PKPdf 03 23 21.2 +2.4
OXF Oxford 133.77 46 *e*PKIKP PKPdf 03 23 17.2 -3.0
OXF MLR MLR
comp=Z,5μm,21.0s,MS6.2
WCI Wyandotte Cave 133.85 40 *e*PKIKP PKPdf 03 23 22.7 +2.5
WCI MLR MLR
comp=Z,1μm,22.0s,MS5.5
VBMS Vicksburg 134.05 49 PFAKE 03 23 30.0 +9.3
VBMS LR LR
comp=Z,8μm,20.0s,MS6.4
PLAL Pickwick Lake 134.47 45 *e*PKPdf PKPdf 03 23 21.8 +0.3
PLAL LR LR
comp=Z,6μm,22.0s,MS6.3
DBIC Dimbokro 134.56 274 PKP PKPdf 03 23 22.9 +0.7
comp=Z,3.7nm,0.7s,baz=67,slow=6.3,SNR=4.7
DBIC Dimbokro 134.56 274 PKP PKPdf 03 23 22.9 +0.7
DBIC *e*PKPdf PKPdf 03 23 26.0 +3.8
DBIC LR LR
comp=Z,3μm,20.0s,MS6.0
ACSO Alum Creek Sta 134.60 35 *e*PKPdf PKPdf 03 23 23.2 +1.6
ACSO LR LR
comp=Z,4μm,21.0s,MS6.1
LIC Lamto 134.72 274 *e*PKIKP PKPdf 03 23 22.5 0.0
comp=Z,42nm,0.9s
LIC *e*MLR MLR
comp=Z,6μm,22.8s,MS5.9
LIC Lamto 134.72 274 *e*PKPdf PKPdf 03 23 22.5 0.0
LIC LR LR
comp=Z,3μm,22.8s,MS5.9
LONY Lake Ozonia 135.52 25 *e*PKPdf PKPdf 03 23 23.8 +0.7
LONY *e*PP PP 03 26 06.8 +7.3
LONY LR LR
comp=Z,5μm,21.0s,MS6.2
TRQA Tornquist 135.59 167 PFAKE 03 23 40.0 +17
TRQA LR LR
comp=Z,4μm,20.0s,MS6.1
FRNY Flat Rock 135.74 24 *e*PKPdf PKPdf 03 23 26.5 +3.0
SWET Sewanee 135.82 43 *e*PKPdf PKPdf 03 23 25.7 +1.7
NCB Newcomb 136.19 25 *e*PKPdf PKPdf 03 23 25.5 +1.1
NCB LR LR
comp=Z,5μm,22.0s,MS6.2
TZTN Tazewell 136.61 40 *e*PKPdf PKPdf 03 23 25.8 +0.4
TZTN LR LR
comp=Z,4μm,20.0s,MS6.2
CPCT Cooper Cave 136.63 42 *e*PKPdf PKPdf 03 23 28.4 +2.9
MCWV Mont Chateau 136.76 33 *e*PKPdf PKPdf 03 23 26.7 +1.1
MCWV LR LR
comp=Z,6μm,22.0s,MS6.3
BINY Binghamton 136.83 28 *e*PKPdf PKPdf 03 23 27.8 +2.2
BINY LR LR
comp=Z,5μm,21.0s,MS6.2
LBNH Lisbon 136.89 23 PFAKE 03 23 40.0 +14
LBNH LR LR
comp=Z,5μm,21.0s,MS6.2
ACCN Adirondack Com 136.91 25 *e*PKPdf PKPdf 03 23 24.1 -1.7
TKL Tuckaleechee C 137.00 41 PKP PKPdf 03 23 28.3 +2.2
comp=Z,8.5nm,0.8s,baz=162,slow=1.4,SNR=12
TKL Tuckaleechee C 137.00 41 *e*PKPdf PKPdf 03 23 27.2 +1.1
HNH Hanover 137.20 23 *e*PKPdf PKPdf 03 23 28.0 +1.7
BRAL Brewton 137.22 49 *e*PKPdf PKPdf 03 23 25.8 -0.9
BRAL LR LR
comp=Z,7μm,20.0s,MS6.4
BLA Blacksburg 138.10 37 *e*PKIKP PKPdf 03 23 24.3 -3.8
BLA MLR MLR
comp=Z,6μm,22.0s,MS6.3
MVL Millersville 138.35 30 *e*PKPdf PKPdf 03 23 24.2 -4.2
QUA2 Belchertown 138.36 25 *e*PKPdf PKPdf 03 23 28.7 +0.3
HRV Adam Dziewonsk 138.50 24 PFAKE 03 23 40.0 +11
HRV LR LR
comp=Z,4μm,21.0s,MS6.1
GOGA Godfrey 138.52 43 *e*PKIKP PKPdf 03 23 30.4 +1.4
GOGA MLR MLR
comp=Z,6μm,21.0s,MS6.3
SDMD Soldier's Deli 138.54 31 *e*PKPdf PKPdf 03 23 31.4 +2.5
WES Weston 138.69 23 *e*PKIKP PKPdf 03 23 27.9 -1.2
WES MLR MLR
comp=Z,3μm,22.0s,MS6.0
CFAA Coronel Fontan 139.62 156 PKhKP 03 23 24.1
comp=Z,0.8nm,0.7s,baz=244,slow=2.1,SNR=9.3
TEIG Tepich 140.44 64 PFAKE 03 23 50.0 +17
TEIG LR LR
comp=Z,4μm,22.0s,MS6.1
CMLA Cha da Macela 140.44 328 *e*PP PP 03 26 52.7 +22
CMLA Cha da Macela 140.44 328 *e*S SS 03 44 53.5 +2.0
CMLA Cha da Macela 140.44 328 *e*LQ 04 03 08.3
CMLA *e*LR LR 04 10 40.4
CMLA Cha da Macela 140.44 328 PFAKE 03 23 40.0 +7.6
CMLA LR LR
comp=Z,4μm,20.0s,MS6.1
PDA Ponta Delgada 140.53 328 *e*PP PP 03 26 47.0 +16
LCO Las Campanas 140.77 151 PFAKE 03 23 50.0 +17
LCO LR LR
comp=Z,4μm,20.0s,MS6.2
NHSC New Hope 140.91 41 *e*PKPdf PKPdf 03 23 42.0 +8.6
NHSC LR LR
comp=Z,5μm,22.0s,MS6.2
CNNC Cliffs of the 140.94 37 PFAKE 03 23 50.0 +17
CNNC LR LR
comp=Z,6μm,20.0s,MS6.3
ASCN Ascension 141.60 250 PFAKE 03 23 50.0 +15
ASCN LR LR
comp=Z,4μm,20.0s,MS6.2
TGUH Tegucigalpa,Un 142.80 74 *e*PKPdf PKPdf 03 23 34.9 -2.3
TGUH LR LR
comp=Z,4μm,21.0s,MS6.2
DWPF Disney 142.91 49 *e*PKPdf PKPdf 03 23 38.4 +1.3
DWPF LR LR
comp=Z,1μm,20.0s,MS5.7
BBTS Babate 145.29 288 PKPbc PKPbc 03 23 42.5 +1.2
baz=160,slow=3.0
JCR Jicaral 145.44 80 *e*P PKPdf 03 23 44.3 +2.4
CEN1 Los Morros 145.64 147 *e*P PKPdf 03 23 40.6 -1.4
CGA2 Cerro Gallo 2 146.06 80 *e*P PKPab 03 23 45.4 +0.9
PRS1 Purisical 146.21 80 *e*P PKPab 03 23 46.9 +1.9
LCR2 La Lucha 2 146.54 80 *e*P PKPab 03 23 46.9 +0.6
BUS Buena Vista 146.79 81 *e*P PKPab 03 23 49.6 +2.3
LVC Limon Verde 146.96 148 PKPbc PKPbc 03 23 47.4 +1.2
comp=Z,37nm,0.9s,baz=224,slow=1.6,SNR=15
LVC Limon Verde 146.96 148 *e*PKPbc PKPbc 03 23 47.4 +1.2
LVC LR LR
comp=Z,4μm,20.0s,MS6.2
ACR Cerro Adams 147.44 82 *e*P PKPdf 03 23 46.7 +1.5
CPUP Villa Florida 147.89 168 PKPbc PKPbc 03 23 48.8 +0.1
comp=Z,8.2nm,0.6s,baz=180,slow=2.4,SNR=22
CPUP Villa Florida 147.89 168 *e*PKPbc PKPbc 03 23 48.2 -0.4
CPUP LR LR
comp=Z,888nm,20.0s,MS5.5
NNA Nana 148.71 123 PKPbc PKPbc 03 23 52.3 +1.2
comp=Z,52nm,0.9s,baz=278,slow=7.4,SNR=5.1
NNA Nana 148.71 123 *e*PKPbc PKPbc 03 23 51.6 +0.5
NNA LR LR
comp=Z,6μm,22.0s,MS6.3
ATAH Atahualpa 149.63 113 PKPbc PKPbc 03 23 54.0 +0.5
comp=Z,59nm,1.1s,baz=227,slow=1.6,SNR=19
BBSR BB Station 149.97 24 *e*PKPbc PKPbc 03 23 58.7 +4.9
BBSR *e*PKPab PKPab 03 24 05.9 +6.5
BBSR LR LR
comp=Z,5μm,22.0s,MS6.3
ARE Arequipa 150.06 137 PKIKP PKPdf 03 23 50.0 +0.6
BCIP Isla Barro Col 150.68 81 *e*PKPbc PKPbc 03 23 55.6 -0.4
BCIP LR LR
comp=Z,7μm,22.0s,MS6.4
SPB Sao Paulo 151.14 186 *e*PKPbc PKPbc 03 23 57.1 +0.3
OTAV Otavalo 151.68 99 *e*PKPdf PKPdf 03 23 53.9 +1.9
OTAV LR LR
comp=Z,4μm,22.0s,MS6.2
CAM3 Guarapari 152.34 201 *e*P PKPdf 03 23 56.0 +3.2
CAM3 *i* 03 23 56.8
CAM3 *i* 03 23 60.0
CAM3 *i* 03 24 04.2
CAM3 *i* 03 24 10.2
CAM3 *i* 03 24 13.2
CAM3 *i* 03 24 18.8
LPAZ La Paz 152.39 141 PKPbc PKPbc 03 24 01.0 +1.2
comp=Z,4.2nm,0.5s,baz=114,slow=0.9,SNR=20
LPAZ PKPab PKPab 03 24 11.8 +2.0
comp=Z,24nm,0.7s,baz=169,slow=6.2,SNR=30
LPAZ La Paz 152.39 141 *e*PKPbc PKPbc 03 24 00.7 +0.8
LPAZ *e*PKPab PKPab 03 24 11.8 +2.0
LPAZ LR LR
comp=Z,3μm,21.0s,MS6.1
ROSC El Rosal 156.29 90 PKP PKPdf 03 23 59.9 +1.3
comp=Z,5.7nm,0.7s,baz=101,slow=21,SNR=8.0
ROSC El Rosal 156.29 90 *e*PKPdf PKPdf 03 24 01.4 +2.9
ROSC *e*PKPab PKPab 03 24 29.8 +3.1
SIV San Ignacio 156.43 154 PKP PKPdf 03 23 58.5 -0.1
comp=Z,1.7nm,0.8s,baz=182,slow=10,SNR=2.7
SIV PKPab PKPab 03 24 27.1 +0.2
comp=Z,20nm,0.8s,baz=200,slow=4.1,SNR=25
BDFB Brasilia 159.06 187 PKP PKPdf 03 24 01.5 -0.4
comp=Z,0.4nm,0.4s,baz=205,slow=26,SNR=3.0
BDFB Brasilia 159.06 187 PKP PKPdf 03 24 01.5 -0.4
BDFB LR LR
comp=Z,5μm,22.0s,MS6.3
SDV Santo Domingo 159.74 79 PKP PKPdf 03 24 03.7 +1.0
comp=Z,44nm,1.0s,baz=307,slow=2.1,SNR=17
SDV PKPab PKPab 03 24 43.0 +1.4
comp=Z,60nm,0.7s,baz=307,slow=4.2,SNR=17
SDV Santo Domingo 159.74 79 *e*PKPdf PKPdf 03 24 02.2 -0.5
SDV *e*PKPab PKPab 03 24 43.8 +2.1
SDV LR LR
comp=Z,2μm,20.0s,MS5.9
SJG San Juan 160.12 49 PKP PKPdf 03 24 05.1 +2.0
comp=Z,30nm,1.1s,baz=16,slow=2.0,SNR=3.7
SJG San Juan 160.12 49 *e*PKPdf PKPdf 03 24 05.3 +2.3
SJG LR LR
comp=Z,4μm,22.0s
HUMP Col San Antoni 160.32 48 *e*PKPdf PKPdf 03 24 04.5 +1.3
HUMP *e*PKPdif 03 24 16.5
CPD Cerro la Pandu 160.34 49 *e*PKIKP PKPdf 03 24 05.1 +1.8
GRGR Grenville 167.08 57 PFAKE 03 24 20.0 +10
GRGR LR LR
comp=Z,3μm,19.0s
BBGH Gun Hill 168.16 48 PFAKE 03 24 20.0 +10
BBGH LR LR
comp=Z,10μm,22.0s

ISCJB ***17*** *03:04:21.1±1.9, 1364S±008×771W±02, h38km±17km, mb3.9/9, Error ellipse: s-maj=29.4km s-min=8.8km az=156.6*
NEIC ***17*** *03:04:22.9±0.6, 1361S×7705W, h35km, mb3.9/3, Error ellipse: s-maj=19.8km s-min=8.3km az=63.0*
IDC ***17*** *03:04:24.4±2.3, 1350S×7685W, h47km±19km, mb3.7/7, mb1 3.9/10, mb1mx3.8/21, mbtmp3.7/10, ML3.8/4, MS3.8/1, Ms1 3.8/1, ms1mx3.2/36, Error ellipse: s-maj=36.5km s-min=12.5km az=68.0*
ISC 17 03:04:23.7±1.5, 1356S±008×770W±02, h41km±14km, n19, σ1°13/24, mb3.9/9, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.56**	**5**	P	**Pn**	**03 04 49.1**	**+0.1**
	84nm,0.3s,baz=171,slow=14,SNR=29						
NNA				S	**Sn**	**03 05 07.4**	**-0.7**
	1μm,0.3s,baz=243,slow=10,SNR=52						
ATAH	**Atahualpa**	**6.66**	**348**	P	**Pn**	**03 05 58.0**	**-1.1**
	2.9nm,0.3s,baz=122,slow=5.0,SNR=9.2						
ATAH				S	**Sn**	**03 07 19.5**	**+5.7**
	2.9nm,0.3s,baz=221,slow=5.5,SNR=2.3						
LPAZ	**La Paz**	**8.96**	**109**	P	**Pn**	**03 06 32.5**	**+1.8**
	0.3nm,0.3s,baz=288,slow=9.0,SNR=4.2						
LPAZ				S	**Sn**	**03 08 17.4**	**+7.0**
	0.1nm,0.3s,baz=285,slow=10,SNR=2.0						
LPAZ	**La Paz**	**8.96**	**109**	P	**Pn**	**03 06 32.5**	**+1.8**
LPAZ				S	**Sn**	**03 08 17.4**	**+7.0**
LVC	**Limon Verde**	**11.82**	**141**	P	**Pn**	**03 07 09.4**	**-0.3**
	0.8nm,0.3s,baz=312,slow=14,SNR=7.0						
LVC				S	**Sn**	**03 09 14.4**	**-6.0**
	0.6nm,0.3s,baz=98,slow=21,SNR=3.1						
LVC				LR	LR	03 12 06.1	
	comp=Z,382nm,18.4s,baz=228,slow=39						
OTAV	**Otavalo**	**13.78**	**354**	*e*Pn	**Pn**	**03 07 38.2**	**+1.6**
CFAA	**Coronel Fontan**	**19.67**	**157**	P	**Pn**	**03 08 48.4**	**-2.6**
	0.0nm,0.3s,baz=295,slow=7.0,SNR=3.9						
SDV	**Santo Domingo**	**23.17**	**16**	P	**P**	**03 09 25.4**	**-1.5**
	6.5nm,0.9s,mb4.0,baz=68,slow=5.4,SNR=3.6						
SDV	**Santo Domingo**	**23.17**	**16**	*e*P	**P**	**03 09 26.5**	**-0.4**
	1.3nm,0.4s,mb3.7						
TXAR	**Lajitas Array**	**49.83**	**329**	P	**P**	**03 13 13.5**	**+0.8**
	0.4nm,0.7s,mb3.6,baz=120,slow=7.4,SNR=4.8						
TXAR	**Lajitas Array**	**49.83**	**329**	P	**P**	**03 13 13.5**	**+0.8**
SDCO	**Great Sand Dun**	**57.63**	**333**	*e*P	**P**	**03 14 10.0**	**+0.2**
	0.7nm,0.7s,mb3.8						
PDAR	**Pinedale Array**	**63.52**	**334**	P	**P**	**03 14 50.8**	**+1.0**
	0.4nm,0.7s,mb3.5,baz=157,slow=4.9,SNR=2.9						
NVAR	**Mina Array Bea**	**64.57**	**325**	P	**P**	**03 14 58.0**	**+1.2**
	0.3nm,0.7s,mb3.5,baz=132,slow=5.0,SNR=3.2						
ULM	**Lac du Bonnet**	**65.67**	**347**	P	**P**	**03 15 03.1**	**-0.5**
	4.3nm,0.7s,mb4.6,baz=166,slow=5.1,SNR=5.1						
SNAA	**Sanae**	**72.24**	**161**	*e*Pdiff	**P**	**03 15 45.1**	**+0.9**
SNAA				*e*		03 15 49.0	
SNAA	**Sanae**	**72.24**	**161**	*e*P	**P**	**03 15 44.8**	**+0.6**
	2.5nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**81.30**	**343**	P	**P**	**03 16 33.4**	**-1.9**
	0.7nm,0.8s,mb3.6,baz=133,slow=3.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**82.33**	**75**	P	**P**	**03 16 41.6**	**-0.1**
	4.7nm,0.9s,mb4.4,baz=261,slow=5.1,SNR=16						

IDC 17 03:23:52.7±10.0, 515S×1049W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/21, mbtmp3.6/3, Error ellipse: s-maj=404.0km s-min=119.9km az=140.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**21.84**	**34**	P	P	03 28 47.0	0.0
	1.9nm,1.0s,baz=217,slow=11,SNR=4.5						
GERES	**GERESS Array B**	**57.78**	**19**	P	P	03 33 45.8	+0.2
	0.9nm,0.7s,baz=225,slow=2.6,SNR=5.0						
AKASG	**Malin Array Be**	**65.27**	**27**	P	P	03 34 36.2	0.0
	0.2nm,0.3s,baz=242,slow=2.0,SNR=2.2						

ISCJB ***17*** *03:25:40.6±3.3, 1462S±007×760W±0.1, h15km±23km, mb4.2/23, Error ellipse: s-maj=21.4km s-min=7.6km az=155.2*
MOS ***17*** *03:25:43.2±1.0, 1465S×76.13W, h33km, mb4.6/5, Error ellipse: s-maj=23.5km s-min=12.1km az=132.1*
NEIC ***17*** *03:25:45.3±0.3, 1466S×7589W, h35km, mb4.5/16, Error ellipse: s-maj=14.7km s-min=6.3km az=59.0*
IDC ***17*** *03:25:46.4±2.1, 1463S×7585W, h43km±20km, mb3.9/11, mb1 4.0/16, mb1mx3.9/25, mbtmp3.9/16, ML4.1/5, MS4.1/1, Ms1 4.1/1, ms1mx3.4/28, Error ellipse: s-maj=26.5km s-min=12.7km az=69.0*
ISC 17 03:25:46.3±1.1, 1466S±007×759W±01, h44km±10km, n48, σ0°98/51, mb4.2/22, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.83**	**340**	P	**Pn**	**03 26 30.2**	**+1.2**
	62nm,0.3s,baz=146,slow=9.4,SNR=19						
NNA				S	**Sn**	**03 26 56.5**	**-5.3**
	72nm,0.3s,baz=227,slow=19,SNR=7.3						
NNA				Lg		03 27 07.8	
	103nm,0.3s,baz=178,slow=12,SNR=8.1						
ARE	**Arequipa**	**4.57**	**114**	*e*P	**Pn**	**03 26 54.0**	**+1.2**
ARE				*e*S	**Sn**	**03 28 06.0**	**+21**
LPAZ	**La Paz**	**7.62**	**103**	P	**Pn**	**03 27 40.0**	**+5.3**
	5.0nm,0.3s,baz=286,slow=9.6,SNR=36						
ATAH	**Atahualpa**	**8.01**	**342**	P	**Pn**	**03 27 39.5**	**-0.7**
	0.5nm,0.3s,baz=117,slow=9.0,SNR=2.6						
ATAH				Lg		03 29 27.9	
	1.4nm,0.3s,baz=51,slow=16,SNR=4.1						
LVC	**Limon Verde**	**10.28**	**141**	P	**Pn**	**03 28 11.2**	**0.0**
	5.6nm,0.3s,baz=306,slow=8.6,SNR=27						
LVC				S	**Sn**	**03 30 03.5**	**-1.7**
	2.0nm,0.3s,baz=72,slow=20,SNR=5.6						
LVC				Lg		03 31 07.0	
	baz=287,slow=23,SNR=6.8						
LVC				LR	LR	03 32 05.0	
	comp=Z,943nm,19.1s,baz=214,slow=37						
LVC	**Limon Verde**	**10.28**	**141**	P	**Pn**	**03 28 11.2**	**0.0**
LVC				S	**Sn**	**03 30 03.5**	**-1.7**
LVC				Lg		03 31 07.0	
LVC				LR	LR	03 32 05.0	
SIV	**San Ignacio**	**14.32**	**97**	P	**Pn**	**03 29 04.7**	**-1.7**
	0.5nm,0.3s,baz=273,slow=16,SNR=6.7						
OTAV	**Otavalo**	**15.03**	**350**	*e*P	**Pn**	**03 29 17.8**	**+2.0**
	7.2nm,0.9s						
CFAA	**Coronel Fontan**	**18.25**	**159**	P	**Pn**	**03 29 55.6**	**-0.6**
	0.1nm,0.3s,baz=334,slow=12,SNR=5.1						
CPUP	**Villa Florida**	**20.84**	**127**	P	**P**	**03 30 25.6**	**+1.2**
	3.8nm,0.7s,baz=291,slow=10,SNR=5.3						
CPUP	**Villa Florida**	**20.84**	**127**	*e*P	**P**	**03 30 25.9**	**+1.5**
	19nm,0.7s						
SDV	**Santo Domingo**	**23.96**	**13**	P	**P**	**03 30 56.9**	**+0.2**
	11nm,0.6s,mb4.5,baz=208,slow=9.4,SNR=8.5						
SDV	**Santo Domingo**	**23.96**	**13**	*e*P	**P**	**03 30 57.3**	**+0.7**
	12nm,0.7s,mb4.4						
PLCA	**Paso Flores**	**26.38**	**171**	P	**P**	**03 31 18.2**	**-0.2**
	1.6nm,0.7s,mb3.7,baz=331,slow=11,SNR=6.7						
BDFB	**Brasilia**	**26.88**	**96**	P	**P**	**03 31 22.8**	**-0.4**
	1.9nm,0.7s,mb3.8,baz=125,slow=23,SNR=5.1						
TXAR	**Lajitas Array**	**51.33**	**329**	P	**P**	**03 34 44.6**	**-1.7**
	2.2nm,1.1s,mb4.0,baz=153,slow=8.4,SNR=3.5						
MIAR	**Mount Ida**	**51.75**	**341**	*e*P	**P**	**03 34 48.8**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
MIAR	**Mount Ida**	**51.75**	**341**	*e*P	**P**	**03 34 48.8**	**-0.6**
	comp=Z,2.7nm,0.7s,mb4.3						
WCI	**Wyandotte Cave**	**53.51**	**350**	*e*P	**P**	**03 35 01.2**	**-1.1**
WCI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
WCI	**Wyandotte Cave**	**53.51**	**350**	*e*P	**P**	**03 35 01.2**	**-1.1**
	comp=Z,5.6nm,0.8s,mb4.5						
CBKS	**Cedar Bluff**	**57.70**	**338**	*e*P	**P**	**03 35 32.2**	**-0.2**
CBKS				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
CBKS	**Cedar Bluff**	**57.70**	**338**	*e*P	**P**	**03 35 32.2**	**-0.2**
	comp=Z,8.3nm,0.7s,mb4.9						
LONY	**Lake Ozonia**	**59.01**	**1**	*e*P	**P**	**03 35 40.9**	**-0.5**
	comp=Z,4.1nm,0.7s,mb4.6						
SDCO	**Great Sand Dun**	**59.10**	**333**	*e*P	**P**	**03 35 42.3**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.1						
WUAZ	**Wupatki**	**60.19**	**327**	*e*P	**P**	**03 35 49.4**	**-0.3**
ISCO	**Idaho Springs**	**60.86**	**334**	*e*P	**P**	**03 35 54.5**	**+0.3**
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ISCO	**Idaho Springs**	**60.86**	**334**	*e*P	**P**	**03 35 54.5**	**+0.2**
	comp=Z,1.4nm,0.7s,mb4.2						
ECSD	**EROS,Sioux Fal**	**61.13**	**343**	*e*P	**P**	**03 35 54.9**	**-1.1**
	comp=Z,3.5nm,0.9s,mb4.5						
DUG	**Dugway**	**64.49**	**329**	*e*P	**P**	**03 36 18.9**	**+0.5**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
DUG	**Dugway**	**64.49**	**329**	*e*P	**P**	**03 36 18.9**	**+0.5**
	comp=Z,3.2nm,0.9s,mb4.3						
HWUT	**Hardware Ranch**	**64.98**	**331**	*e*P	**P**	**03 36 21.6**	**+0.1**
	comp=Z,4.1nm,0.8s,mb4.5						
AGMN	**Agassiz Refuge**	**65.16**	**345**	*e*P	**P**	**03 36 21.6**	**-1.0**
	comp=Z,4.7nm,0.7s,mb4.6						
RRI2	**Red Ridge**	**66.23**	**332**	*e*P	**P**	**03 36 29.1**	**-0.6**

comp=Z,3.7nm,0.7s,mb4.5
ULM Lac du Bonnet 66.99 346 P **P 03 36 33.2 -1.1**
comp=Z,5.8nm,0.9s,mb4.6,baz=158,slow=8.6,SNR=2.9
ULM Lac du Bonnet 66.99 346 *eP* **P 03 36 33.3 -1.0**
comp=Z,9.3nm,1.1s,mb4.7
HLID Hailey 67.83 331 *eP* **P 03 36 40.5 +0.8**
comp=Z,1.4nm,0.8s,mb4.0
SNAA Sanae 70.85 161 *e* **P 03 36 58.5 +0.4**
SNAA *e* 03 37 05.9
SNAA *e* pP 03 37 11.7 +0.7
SNAA *e* 03 37 17.3
SNAA Sanae 70.85 161 P **P 03 36 58.8 +0.7**
comp=Z,1.0nm,0.6s,mb3.9,baz=267,slow=5.6,SNR=12
EDM Edmonton 74.89 338 *eP* **P 03 37 22.0 -0.1**
QSPA South Pole Qui 75.49 180 P **P 03 37 26.6 +1.3**
comp=Z,2.4nm,0.8s,mb4.2,baz=145,slow=2.4,SNR=3.7
TORD Torodi Ar. Bea 81.58 74 P **P 03 38 01.1 +1.1**
comp=Z,6.7nm,0.8s,mb4.6,baz=268,slow=3.2,SNR=13
VNDA Vanda 82.36 191 P **P 03 38 04.0 +1.0**
comp=Z,0.3nm,0.6s,mb3.4,baz=70,slow=6.4,SNR=2.1
YKA Yellowknife Ar 82.66 343 P **P 03 38 04.2 -0.5**
comp=Z,0.9nm,0.9s,mb3.8,baz=129,slow=4.9,SNR=3.9
DLBC Dease Lake 85.18 335 P **P 03 38 18.3 +0.7**
baz=125,slow=1.1
DLBC Dease Lake 85.18 335 P **P 03 38 18.3 +0.7**
TAM Tamanrasset 87.88 66 *eP* **P 03 38 34.2 +2.6**
DAWY Dawson 92.08 337 *eP* **P 03 38 49.9 -0.5**
SONM Songino Array 146.87 357 PKPbc PKPbc 03 45 24.0 +0.2
comp=Z,1.9nm,0.8s,baz=314,slow=2.0,SNR=5.7

KRSC 17 03:31:02.2±1.4, 5000N×15684E, h5km±5km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.20**	**317**	*eP*	Pg	03 31 25.2	0.0
ALID				*i* S	Sg	03 31 42.0	+1.3
MIPR	**Malaya Ipel'ka**	**2.28**	**359**	*eP*	Pn	03 31 42.2	+1.8
RUS	**Russkaya**	**2.65**	**23**	*eP*	Pn	03 31 47.7	+2.1
RUS				*i* S	Sn	03 32 20.7	+2.6
AVH	**Avacha**	**3.48**	**19**	*eP*	Pn	03 32 00.5	+3.6
NLC	**Nalytchevo**	**3.54**	**25**	*eP*	Pn	03 31 59.0	+1.3
NLC				*i* S	Sn	03 32 41.1	+1.2
SPN	**Mys Shipunski**	**3.68**	**31**	*eP*	Pn	03 32 02.0	+2.3
SPN				*eS*	Sn	03 32 46.5	+3.0
GNL	**Ganaly**	**3.76**	**10**	*eP*	Pn	03 32 03.9	+3.1
MKZ	**Mys Kozlova**	**5.46**	**31**	*eP*	Pn	03 32 25.3	+1.2
MKZ				*i* S	Sn	03 33 26.9	-0.4
KBTR	**Krutoberegovo**	**7.18**	**28**	*eP*	Pn	03 32 49.0	+1.3

ATH 17 03:49:07.3, 3951N×2030E, h71km
ISCJB 17 03:49:08.7±0.8, 3930N±003×2014E±006, h10km, Error ellipse: s-maj=7.0km s-min=3.6km az=3.3
NEIC 17 03:49:08.2, 3931N×2009E, h0km, ML2.7(THE), After THE.
THE 17 03:49:09.1, 3928N×2014E, h0km, ML2.7
CSEM 17 03:49:09.1±0.2, 3932N×2014E, h10km, ML2.7, Error ellipse: s-maj=6.6km s-min=3.3km az=84.0
ISC 17 03:49:08.9±0.9, 3931N±003×2012E±007, h4km±6km, n13, σ1§02/26, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**36**	*eP*	**Pg**	**03 49 13.8**	**-0.6**
IGT				*eS*	**Sg**	**03 49 18.4**	**+0.4**
KEK	**Kerkira**	**0.47**	**329**	*eP*	**Pg**	**03 49 20.1**	**+2.0**
JAN	**Janina**	**0.67**	**58**	*eP*	**Pg**	**03 49 20.2**	**-1.5**
JAN				*eS*	**Sg**	**03 49 29.4**	**-0.9**
LKD	**Levkas**	**0.73**	**145**	*eP*	**Pg**	**03 49 21.8**	**-1.1**
LKD				*eS*	**Sg**	**03 49 32.7**	**+0.3**
LKD	**Levkas**	**0.73**	**145**	P	**Pg**	**03 49 22.2**	**-0.7**
LKD				*eS*	**Sg**	**03 49 32.7**	**+0.4**
LKD				S	**Sg**	**03 49 33.2**	**+0.9**
LKD	**Levkas**	**0.73**	**145**	P	**Pg**	**03 49 22.2**	**-0.7**
LKD				S	**Sg**	**03 49 33.2**	**+0.9**
VLS	**Valsamata**	**1.19**	**162**	*eP*	**Pn**	**03 49 30.8**	**-1.5**
VLS				*eS*	**Sg**	**03 49 47.8**	**+0.8**
VLS	**Valsamata**	**1.19**	**162**	*eP*	**Pg**	**03 49 31.6**	**-0.1**
VLS				*eS*	**Sg**	**03 49 47.8**	**+0.7**
KFL	**Anninata**	**1.31**	**156**	*eP*	**Pg**	**03 49 33.9**	**-0.1**
KFL				*eS*	**Sg**	**03 49 51.6**	**+0.7**
THL	**Klokotos Trika**	**1.49**	**79**	*eP*	**Pn**	**03 49 35.2**	**-1.2**
THL				*eS*	**Sg**	**03 49 57.5**	**+0.7**
AGG	**Agios Georgios**	**1.74**	**99**	*ePb*	**Pn**	**03 49 39.3**	**-0.6**
AGG				*eSb*	**Sb**	**03 50 03.7**	**0.0**
AGG	**Agios Georgios**	**1.74**	**99**	P	**Pn**	**03 49 39.4**	**-0.5**
AGG				S	**Sn**	**03 50 03.8**	**+1.3**
FNA	**Florina**	**1.76**	**33**	*ePb*	**Pb**	**03 49 41.0**	**-0.8**
FNA				*eSb*	**Sb**	**03 50 06.3**	**+2.1**

JMA 17 04:01:36.9±0.6, 3356N×14191E, h0km, M3.1
IDC 17 04:01:38.3±2.2, 3343N×14175E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=39.0km s-min=28.9km az=47.0
ISCJB 17 04:01:40.3±2.9, 3349N±006×1418E±01, h30km±24km, mb3.7/2, Error ellipse: s-maj=17.1km s-min=9.2km az=171.7
ISC 17 04:01:39.4±2.0, 3351N±005×1417E±01, h4km±11km, n11, σ0§80/15, mb3.7/2, Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.30**	**332**	S	**Sg**	**04 02 20.7**	**-0.5**
BSO2	**Boso 2**	**1.48**	**328**	S	**Sn**	**04 02 27.9**	**+1.5**
BSO3	**Boso 3**	**1.64**	**323**	P	**Pn**	**04 02 08.7**	**-0.2**
BSO3				S	**Sn**	**04 02 30.0**	**-0.3**
JHJ2	**Mitsune**	**1.64**	**257**	P	**Pn**	**04 02 10.1**	**+1.2**
JHJ	**Hachijo jima 2**	**1.66**	**257**	Pn	**Pn**	**04 02 08.5**	**-0.7**
	15nm,0.3s,baz=71,slow=23,SNR=8.1						
JHJ				Sn	**Sn**	**04 02 31.1**	**+0.1**
	21nm,0.3s,baz=78,slow=20,SNR=3.5						
BSO4	**Boso 4**	**1.87**	**323**	P	**Pn**	**04 02 12.5**	**+0.4**
BSO4				S	**Sn**	**04 02 36.7**	**+0.6**
JHU	**Hanno**	**3.08**	**320**	S	**Sn**	**04 03 04.8**	**-1.2**
MJAR	**Matsushiro Arr**	**4.18**	**317**	Pn	**Pn**	**04 02 43.8**	**-0.1**
	0.7nm,0.3s,baz=144,slow=12,SNR=5.5						
MAT	**Matsushiro**	**4.18**	**317**	P	**Pn**	**04 02 44.9**	**+1.1**
MAT				*eS*	**Sn**	**04 03 32.1**	**-1.0**
MKAR	**Makanchi Array**	**46.27**	**305**	P	**P**	**04 10 06.0**	**+0.2**
	0.4nm,0.3s,mb3.9,baz=89,slow=9.4,SNR=6.5						
WRA	**Warramunga Arr**	**53.61**	**189**	P	**P**	**04 11 00.7**	**-1.0**
	0.4nm,0.5s,mb3.6,baz=5.5,slow=7.5,SNR=7.4						

ISCJB 17 04:03:19.0±3.3, 1474S±006×763W±0.1, h0km±21km, mb4.4/32, Error ellipse: s-maj=17.7km s-min=7.3km az=155.8
IDC 17 04:03:20.9±0.7, 1475S×7620W, h0km, mb4.1/13, mb1 4.2/19, mb1mx4.1/23, mbtmp4.0/19, ML3.6/6, MS3.5/1, Ms1 3.5/1, ms1mx3.1/25, Error ellipse: s-maj=24.5km s-min=12.0km az=62.0
NEIC 17 04:03:23.1±3.5, 1472S×7620W, h14km±22km, mb4.5/23, Error ellipse: s-maj=15.0km s-min=6.2km az=60.0
MOS 17 04:03:24.4±0.9, 1474S×7641W, h33km, mb4.5/9, Error ellipse: s-maj=20.0km s-min=10.4km az=133.5
ISC 17 04:03:22.1±3.0, 1475S±006×7619W±009, h7km±18km, n69, σ0§98/67, mb4.3/32, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.82**	**347**	Pn	**Pn**	**04 04 09.1**	**+1.6**
	13nm,0.3s,baz=150,slow=14,SNR=2.3						
NNA				Sn	**Sn**	**04 04 43.7**	**+1.9**
	277nm,0.3s,baz=226,slow=22,SNR=10						
NNA				LR	LR	04 04 47.1	
	comp=Z,735nm,18.4s,baz=90,slow=31						
ARE	**Arequipa**	**4.84**	**111**	*eP*	**Pn**	**04 04 41.0**	**+5.6**
ARE				*eS*	Sn	04 05 53.0	+21
LPAZ	**La Paz**	**7.92**	**102**	Pn	**Pn**	**04 05 23.6**	**+5.8**
	1.9nm,0.3s,baz=296,slow=9.0,SNR=55						
ATAH	**Atahualpa**	**8.00**	**344**	Pn	**Pn**	**04 05 17.8**	**-1.0**
	1.1nm,0.3s,baz=158,slow=5.4,SNR=4.1						
ATAH				Sn	**Sn**	**04 06 49.3**	**-0.3**
	4.3nm,0.3s,baz=208,slow=20,SNR=2.2						
LVC	**Limon Verde**	**10.43**	**140**	Pn	**Pn**	**04 05 52.5**	**+0.4**
	0.9nm,0.3s,baz=304,slow=10,SNR=11						
LVC				Sn	**Sn**	**04 07 48.7**	**-0.5**
	1.1nm,0.3s,baz=62,slow=20,SNR=10						
LVC				Lg		04 08 49.5	
	baz=185,slow=17,SNR=4.0						
SIV	**San Ignacio**	**14.64**	**97**	Pn	**Pn**	**04 06 48.8**	**-0.9**
	0.2nm,0.3s,baz=272,slow=14,SNR=7.4						
OTAV	**Otavalo**	**15.06**	**351**	*ePn*	**Pn**	**04 06 56.0**	**+0.6**
	12nm,0.9s						
CFAA	**Coronel Fontan**	**18.29**	**158**	P	**Pn**	**04 07 36.5**	**+0.1**
	0.0nm,0.3s,baz=335,slow=12,SNR=10						
CFAA	**Coronel Fontan**	**18.29**	**158**	P	**Pn**	**04 07 36.5**	**+0.1**
ROSC	**El Rosal**	**19.57**	**6**	P	**Pn**	**04 07 51.0**	**-0.9**
	0.6nm,0.3s,baz=90,slow=20,SNR=2.2						
ROSC	**El Rosal**	**19.57**	**6**	*eP*	**Pn**	**04 07 51.0**	**-1.0**
CPUP	**Villa Florida**	**21.06**	**126**	P	**P**	**04 08 06.3**	**-0.6**
	12nm,1.1s,mb4.1,baz=290,slow=9.9,SNR=8.8						
CPUP	**Villa Florida**	**21.06**	**126**	*eP*	**P**	**04 08 09.1**	**+2.2**
CPUP				pmax	pmax		
	comp=Z,31nm,1.0s						
CPUP	**Villa Florida**	**21.06**	**126**	*eP*	**P**	**04 08 09.1**	**+2.2**
	comp=Z,31nm,1.0s,mb4.6						
SDV	**Santo Domingo**	**24.12**	**14**	P	**P**	**04 08 38.2**	**-0.5**
	comp=Z,12nm,0.7s,mb4.5,baz=216,slow=9.6,SNR=19						
SDV	**Santo Domingo**	**24.12**	**14**	*eP*	**P**	**04 08 39.0**	**+0.3**
	comp=Z,22nm,0.8s,mb4.6						
PLCA	**Paso Flores**	**26.35**	**170**	P	**P**	**04 08 58.5**	**-0.3**
	comp=Z,1.8nm,0.7s,mb3.7,baz=340,slow=13,SNR=4.9						
PLCA	**Paso Flores**	**26.35**	**170**	P	**P**	**04 08 58.5**	**-0.3**
BDFB	**Brasilia**	**27.20**	**96**	P	**P**	**04 09 07.3**	**+0.6**
	comp=Z,3.4nm,0.9s,mb3.9,baz=251,slow=16,SNR=6.0						
HKT	**Hockley**	**48.30**	**337**	*eP*	**P**	**04 12 04.1**	**-0.1**
HKT				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.7						
HKT	**Hockley**	**48.30**	**337**	*eP*	**P**	**04 12 04.1**	**-0.1**
	comp=Z,11nm,1.5s,mb4.7						
TXAR	**Lajitas Array**	**51.23**	**329**	P	**P**	**04 12 26.2**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=157,slow=9.5,SNR=5.2						
MIAR	**Mount Ida**	**51.73**	**342**	*eP*	**P**	**04 12 29.4**	**-0.7**
MIAR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MIAR	**Mount Ida**	**51.73**	**342**	*eP*	**P**	**04 12 29.4**	**-0.7**
	comp=Z,2.8nm,0.8s,mb4.2						
WCI	**Wyandotte Cave**	**53.54**	**350**	*eP*	**P**	**04 12 40.8**	**-2.7**
WMOK	**Wichita Mounta**	**53.69**	**337**	*eP*	**P**	**04 12 43.6**	**-1.0**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
WMOK	**Wichita Mounta**	**53.69**	**337**	*eP*	**P**	**04 12 43.6**	**-1.0**
	comp=Z,1.2nm,0.7s,mb3.9						
ACSO	**Alum Creek Sta**	**55.06**	**354**	*eP*	**P**	**04 12 53.6**	**-0.9**
	comp=Z,8.0nm,0.8s,mb4.8						
ANMO	**Albuquerque**	**57.17**	**330**	*eP*	**P**	**04 13 11.1**	**+1.4**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ANMO	**Albuquerque**	**57.17**	**330**	*eP*	**P**	**04 13 11.1**	**+1.4**
	comp=Z,3.0nm,1.0s,mb4.3						
SDCO	**Great Sand Dun**	**59.03**	**333**	*eP*	**P**	**04 13 25.1**	**+2.4**
	comp=Z,3.1nm,0.9s,mb4.3						
ISCO	**Idaho Springs**	**60.80**	**334**	*eP*	**P**	**04 13 35.9**	**+1.1**
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ISCO	**Idaho Springs**	**60.80**	**334**	*eP*	**P**	**04 13 35.9**	**+1.1**
	comp=Z,1.6nm,0.9s,mb4.2						
ECSD	**EROS,Sioux Fal**	**61.12**	**343**	*eP*	**P**	**04 13 36.3**	**-0.6**
	comp=Z,4.5nm,1.0s,mb4.5						
RSSD	**Black Hills**	**63.86**	**338**	*eP*	**P**	**04 13 55.1**	**-0.1**
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
RSSD	**Black Hills**	**63.86**	**338**	*eP*	**P**	**04 13 55.1**	**-0.1**
	comp=Z,1.1nm,0.5s,mb4.1						
JLU	**Jordanelle**	**64.05**	**331**	*eP*	**P**	**04 13 57.8**	**+1.2**
DUG	**Dugway**	**64.39**	**330**	*eP*	**P**	**04 13 59.2**	**+0.4**
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
DUG	**Dugway**	**64.39**	**330**	*eP*	**P**	**04 13 59.2**	**+0.3**
	comp=Z,4.3nm,0.9s,mb4.5						
HWUT	**Hardware Ranch**	**64.90**	**331**	*eP*	**P**	**04 14 02.9**	**+0.8**
	comp=Z,3.4nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**64.92**	**333**	P	**P**	**04 14 02.6**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=140,slow=5.8,SNR=4.2						
AGMN	**Agassiz Refuge**	**65.16**	**346**	*eP*	**P**	**04 14 03.1**	**-0.5**
	comp=Z,5.5nm,0.8s,mb4.6						
NVAR	**Mina Array Bea**	**65.98**	**325**	P	**P**	**04 14 08.9**	**-0.3**
	comp=Z,0.1nm,0.3s,mb3.3,baz=45,slow=30,SNR=2.6						
TPAW	**Teton Pass**	**66.11**	**333**	*eP*	**P**	**04 14 09.5**	**-0.4**
	comp=Z,1.6nm,0.7s,mb4.2						
RRI2	**Red Ridge**	**66.16**	**333**	*eP*	**P**	**04 14 09.4**	**-0.8**
	comp=Z,6.2nm,0.9s,mb4.6						
RLMT	**Red Lodge**	**66.72**	**335**	*eP*	**P**	**04 14 12.5**	**-1.2**
	comp=Z,4.5nm,1.0s,mb4.5						
ULM	**Lac du Bonnet**	**66.99**	**346**	P	**P**	**04 14 14.9**	**-0.5**
	comp=Z,2.4nm,0.5s,mb4.5,baz=169,slow=6.5,SNR=6.9						
ULM	**Lac du Bonnet**	**66.99**	**346**	*eP*	**P**	**04 14 14.8**	**-0.6**
	comp=Z,5.1nm,0.8s,mb4.6						
HLID	**Hailey**	**67.74**	**331**	*eP*	**P**	**04 14 17.9**	**-2.4**
	comp=Z,1.8nm,0.8s,mb4.2						
BOZ	**Bozeman (W)**	**68.12**	**334**	*eP*	**P**	**04 14 22.2**	**-0.4**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
BOZ	**Bozeman (W)**	**68.12**	**334**	*eP*	**P**	**04 14 22.2**	**-0.4**
	comp=Z,2.2nm,0.9s,mb4.2						
DLMT	**Dillon**	**68.31**	**333**	*eP*	**P**	**04 14 24.4**	**+0.6**
	comp=Z,5.5nm,1.3s,mb4.4						
SNAA	**Sanae**	**70.87**	**161**	*e*	**P**	**04 14 41.2**	**+1.9**
SNAA				*e*		04 14 47.9	
SNAA				*e*		04 15 04.7	
SNAA	**Sanae**	**70.87**	**161**	*eP*	**P**	**04 14 40.0**	**+0.7**
SNAA				pmax	pmax		
	comp=Z,39nm,2.3s						
SNAA	**Sanae**	**70.87**	**161**	*eP*	**P**	**04 14 40.0**	**+0.6**
	comp=Z,39nm,2.3s,mb4.9						
DBIC	**Dimbokro**	**73.84**	**78**	P	**P**	**04 14 58.9**	**+0.8**
	comp=Z,6.1nm,1.1s,mb4.5,baz=197,slow=11,SNR=2.8						
EDM	**Edmonton**	**74.84**	**338**	*eP*	**P**	**04 15 02.9**	**-0.1**
TOA0	**Torodi Ar. Sit**	**81.92**	**74**	*eP*	**P**	**04 15 43.9**	**+0.8**
TORD	**Torodi Ar. Bea**	**81.92**	**74**	P	**P**	**04 15 44.0**	**+0.9**
	comp=Z,9.2nm,0.9s,mb4.7,baz=259,slow=5.0,SNR=34						
TORD	**Torodi Ar. Bea**	**81.92**	**74**	P	**P**	**04 15 44.0**	**+0.9**
VNDA	**Vanda**	**82.21**	**191**	P	**P**	**04 15 43.9**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=277,slow=13,SNR=14						
YKA	**Yellowknife Ar**	**82.65**	**343**	P	**P**	**04 15 45.4**	**-0.3**
	comp=Z,1.5nm,1.0s,mb4.0,baz=136,slow=5.6,SNR=7.5						
YKA	**Yellowknife Ar**	**82.65**	**343**	P	**P**	**04 15 45.4**	**-0.4**
ESDC	**Sonseca Array**	**86.16**	**47**	P	**P**	**04 16 02.4**	**-1.7**
	comp=Z,0.6nm,0.6s,mb4.0,baz=265,slow=27,SNR=3.4						
ZALV	**Zalesovo Beam**	**138.14**	**17**	PKP	PKPdf	04 22 48.2	+0.5
	comp=Z,1.4nm,0.3s,baz=318,slow=4.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**138.14**	**17**	PKP	PKPdf	04 22 48.2	+0.5
ZAL	**Zalesovo**	**138.15**	**17**	PKIKP	PKPdf	04 22 48.2	+0.5
MKAR	**Makanchi Array**	**143.34**	**25**	PKP	PKPdf	04 22 58.5	+1.2
	comp=Z,0.2nm,0.2s,baz=331,slow=1.5,SNR=3.8						
SONM	**Songino Array**	**146.94**	**357**	PKPbc	PKPbc	04 23 06.6	+1.2
	comp=Z,1nm,1.4s,baz=303,slow=1.6,SNR=6.7						

JMA 17 04:06:30.4±0.5, 2854N×13825E, h34km, M4.2, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.77**	**112**	P	Pn	04 07 28.2	+2.1
CBIJ				S	Sn	04 08 11.3	+2.0
JHHJ	**Haha-jima-NKT**	**3.97**	**118**	P	Pn	04 07 30.8	+1.9
JHHJ				S	Sn	04 08 16.9	+2.6
BSO1	**Boso 1**	**6.52**	**20**	*eS*	Sn	04 09 15.5	-1.6
BSO3	**Boso 3**	**6.53**	**17**	*eS*	Sn	04 09 17.9	+0.5

ISCJB 17 04:13:14.4±3.3, 504N±01×1777W±0.1, h10km±22km, mb3.9/8, Error ellipse: s-maj=19.3km s-min=10.4km az=160.8
NEIC 17 04:13:16.8, 50.19N×17755W, h18km, ML3.3(AEIC), After AEIC.
IDC 17 04:13:16.2±1.8, 5071N×17783W, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.8/27, mbtmp3.9/10, ML3.7/2, Error ellipse: s-maj=50.3km s-min=20.4km az=176.0
ISC 17 04:13:16.1±3.7, 505N±01×1777W±01, h6km±25km, n18, σ1§06/19, mb3.9/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.57**	**23**	P	**Pn**	**04 13 44.1**	**-0.4**
ADK				S	**Sn**	**04 14 06.0**	**+0.8**
AMKA	**Amchitka**	**2.12**	**297**	P	**Pn**	**04 13 51.2**	**-0.8**
NIKO	**Nikolski**	**6.05**	**62**	P	**Pn**	**04 14 45.0**	**-1.0**
FX1	**Attu Island--F**	**6.19**	**297**	P	**Pn**	**04 14 49.3**	**+1.3**
PETK	**Petropavlovsk-**	**15.44**	**289**	Pn	**Pn**	**04 16 55.0**	**+0.7**
	0.2nm,0.3s,baz=94,slow=18,SNR=3.4						
KDAK	**Kodiak Island**	**16.38**	**54**	Pn	**Pn**	**04 17 06.8**	**+0.4**
	0.5nm,0.3s,baz=243,slow=6.7,SNR=8.9						
YKA	**Yellowknife Ar**	**35.37**	**46**	P	**P**	**04 20 13.2**	**+1.1**
	0.6nm,0.6s,mb3.7,baz=278,slow=7.3,SNR=5.0						
YKA	**Yellowknife Ar**	**35.37**	**46**	P	**P**	**04 20 13.2**	**+1.1**
KSRS	**Korea Array**	**40.37**	**273**	P	**P**	**04 20 54.7**	**+0.2**
	1.0nm,0.8s,mb3.6,baz=62,slow=6.6,SNR=3.6						
NVAR	**Mina Array Bea**	**42.98**	**83**	P	**P**	**04 21 17.2**	**+1.4**
	0.3nm,0.7s,mb3.2,baz=316,slow=6.3,SNR=2.7						
ARCES	**ARCESS Array B**	**59.13**	**351**	P	**P**	**04 23 15.1**	**-1.8**
	3.8nm,1.0s,mb4.4,baz=28,slow=8.7,SNR=5.3						
ARCES	**ARCESS Array B**	**59.13**	**351**	P	**P**	**04 23 15.1**	**-1.8**
BVAR	**Borovoye Array**	**62.06**	**321**	P	**P**	**04 23 37.2**	**+0.1**
	2.7nm,0.7s,mb4.5,baz=54,slow=6.0,SNR=7.6						
NOA	**NORSAR Array B**	**68.64**	**355**	P	**P**	**04 24 17.9**	**-1.6**
	0.4nm,0.8s,mb3.4,baz=32,slow=15,SNR=2.2						
AKTK	**Aktyubinsk**	**68.85**	**325**	P	**P**	**04 24 21.7**	**+0.6**
AKTO	**Aktyubinsk**	**68.85**	**325**	P	**P**	**04 24 21.7**	**+0.6**
	3.2nm,0.7s,mb4.3,baz=42,slow=6.6,SNR=12						
AKASG	**Malin Array Be**	**76.65**	**343**	P	**P**	**04 25 05.2**	**-2.1**
	0.4nm,0.4s,mb3.8,baz=18,slow=5.6,SNR=4.5						
AKASG	**Malin Array Be**	**76.65**	**343**	P	**P**	**04 25 05.2**	**-2.1**

NEIC 17 04:14:37.9±4.0, 601S×14894E, h62km±27km, mb4.1/3, Error ellipse: s-maj=43.5km s-min=25.0km az=166.0
IDC 17 04:14:51.3±20.0, 658S×14877E, h164km±166km, mb3.5/2, mb1 3.7/3, mb1mx3.3/16, mbtmp3.5/3, Error ellipse: s-maj=105.3km s-min=53.5km az=31.0
ISC 17 04:14:37.6±5.3, 59S±03×1487E±03, h61km±37km, n11, σ0§74/10, mb4.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**204**	*ePn*	**Pn**	**04 15 34.0**	**+0.3**
PMG				*eSn*	**Sn**	**04 16 17.3**	**+0.2**
WRAB	**Tennant Creek**	**19.73**	**224**	*eP*	**Pn**	**04 19 03.2**	**-1.1**
	3.7nm,0.4s						
WB2	**Warramunga Arr**	**19.73**	**224**	*eP*	**Pn**	**04 19 03.8**	**-0.6**
WRA	**Warramunga Arr**	**19.74**	**224**	P	**Pn**	**04 19 04.0**	**-0.5**
	1.3nm,0.3s,baz=52,slow=11,SNR=19						
ASAR	**Alice Springs**	**22.69**	**217**	P	**P**	**04 19 35.0**	**+0.9**
	1.3nm,0.5s,mb3.7,baz=56,slow=8.9,SNR=28						
FITZ	**Fitzroy Crossi**	**25.57**	**240**	*eP*	**P**	**04 20 02.3**	**+1.2**
	7.1nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**25.57**	**240**	P	**P**	**04 20 02.2**	**+1.1**
	2.0nm,0.4s,mb4.0,baz=63,slow=14,SNR=13						
FITZ	**Fitzroy Crossi**	**25.57**	**240**	*eP*	**P**	**04 20 02.4**	**+1.3**
	8.9nm,0.7s,mb4.4						
QSPA	**South Pole Qui**	**84.06**	**180**	*eP*	**P**	**04 27 00.8**	**-0.3**
	1.4nm,0.7s,mb4.2						
TORD	**Torodi Ar. Bea**	**146.71**	**285**	PKPbc	PKPbc	04 34 14.8	+1.1
	0.3nm,0.4s,baz=61,slow=3.1,SNR=10						
BDFB	**Brasilia**	**152.94**	**142**	PKPbc	PKPbc	04 34 29.0	0.0
	1.2nm,0.5s,baz=243,slow=4.5,SNR=9.9						

ISCJB 17 04:16:49.0±0.7, 4932N±003×670E±005, h0km, Error ellipse: s-maj=5.2km s-min=3.7km az=147.1
NEIC 17 04:16:50.3, 4938N×685E, h1km, ML2.5(LDG), After LDG.
LDG 17 04:16:50.3±0.1, 4938N×685E, h1km, Md2.5/1, Ml2.5/13, Error ellipse: s-maj=1.6km s-min=1.3km az=142.0, Suspected Mining induced.
ISC 17 04:16:48.8±0.7, 4938N±003×680E±005, h0km, n18, σ1§29/39, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.51**	**304**	*ePg*	**Pg**	**04 17 00.9**	**+2.3**
	SNR=1.7						
WLF				*eSg*	**Sg**	**04 17 05.7**	**+0.4**
	SNR=3.8						
CDF	**Champ du Feu**	**1.02**	**162**	*ePn*	**Pn**	**04 17 09.7**	**-0.6**
CDF				*eSg*	**Sg**	**04 17 22.6**	**+1.2**
	7.4nm,0.2s						
CDF	**Champ du Feu**	**1.02**	**162**	*ePg*	**Pg**	**04 17 09.3**	**+1.0**
CDF				*ePn*	**Pn**	**04 17 09.7**	**-0.6**
CDF				*eSg*	**Sg**	**04 17 22.6**	**+1.2**
RFYF	**Reffroy**	**1.15**	**230**	*ePg*	**Pg**	**04 17 13.0**	**+2.1**
RFYF				*eSg*	**Sg**	**04 17 28.3**	**+2.5**
	20nm,0.3s						
HAU	**Haudompre**	**1.41**	**192**	*ePg*	**Pg**	**04 17 16.3**	**+0.6**
HAU				*eSg*	**Sg**	**04 17 35.3**	**+1.4**
	7.8nm,0.3s						
MEZF	**Maizieres J'vi**	**1.45**

IDC 17 04:33:04.5±0.6, 5.13S×12982E, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.4/15, mbtmp4.4/13, ML5.1/2, Error ellipse: s-maj=27.8km s-min=13.4km az=76.0
BJI 17 04:33:05.2, 5.10S×12970E, h10km, mB4.9, mb4.6, Ms4.4, Msz4.5
NEIC 17 04:33:06.3±0.3, 5.11S×12973E, h10km, mb4.5/12, Error ellipse: s-maj=15.2km s-min=7.3km az=68.0
ISCJB 17 04:33:06.7±0.3, 5.29S±005×12977E±008, h33km, mb4.3/22, Error ellipse: s-maj=11.6km s-min=5.9km az=162.8
MOS 17 04:33:07.0±1.7, 525S×12973E, h33km, mb4.6/9, Error ellipse: s-maj=25.3km s-min=8.9km az=110.2
DJA 17 04:33:20, 594S×12894E, h171km, ML4.6/4

ISC 17 04:33:07.2±4.0, 530S±008×12980E±009, h22km±31km, n57, σ1§28/57, mb4.3/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.12**	**336**	P	**Sn**	**04 34 01.4**	**-5.7**
	0.0nm,0.0s						
BATI	**Baumata**	**7.79**	**231**	Pn	**Pn**	**04 35 00.2**	**+0.9**
	54nm,0.3s,baz=93,slow=2.9,SNR=27						
KAKA	**Kakadu**	**7.81**	**161**	*e*P	**Pn**	**04 35 02.1**	**+2.4**
	56nm,0.6s						
PCI	**Palu**	**10.86**	**293**	P	**Pn**	**04 35 43.1**	**+1.6**
	0.0nm,0.0s						
FITZ	**Fitzroy Crossi**	**13.36**	**197**	*e*P	**Pn**	**04 36 11.8**	**-3.8**
	9.0nm,0.6s						
FITZ				*e*S	**Sn**	**04 38 30.1**	**-13**
FITZ	**Fitzroy Crossi**	**13.36**	**197**	Pn	**Pn**	**04 36 12.6**	**-3.1**
	1.0nm,0.3s,baz=28,slow=11,SNR=22						
FITZ				Sn	**Sn**	**04 38 32.2**	**-11**
	0.6nm,0.3s,baz=92,slow=21,SNR=3.0						
WRAB	**Tennant Creek**	**15.21**	**163**	*e*P	**Pn**	**04 36 39.4**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,27nm,0.8s						
WRAB	**Tennant Creek**	**15.21**	**163**	*e*Pn	**Pn**	**04 36 39.4**	**-1.3**
	comp=Z,27nm,0.8s						
WRA	**Warramunga Arr**	**15.21**	**164**	Pn	**Pn**	**04 36 38.7**	**-2.1**
	comp=Z,2.1nm,0.3s,baz=347,slow=13,SNR=24						
WRA				Sn	**Sn**	**04 39 19.2**	**-10**
	comp=Z,0.5nm,0.3s,baz=334,slow=21,SNR=4.7						
WB2	**Warramunga Arr**	**15.22**	**163**	*e*P	**Pn**	**04 36 39.6**	**-1.2**
WB2				*e*S	**Sn**	**04 39 19.8**	**-9.0**
COEN	**Coen**	**15.74**	**124**	*e*P	**Pn**	**04 36 48.9**	**+1.2**
	comp=Z,22nm,0.8s						
MBWA	**Marble Bar**	**18.55**	**211**	*e*P	**Pn**	**04 37 24.9**	**+2.0**
	comp=Z,42nm,1.3s						
ASAR	**Alice Springs**	**18.69**	**168**	P	**Pn**	**04 37 25.2**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=343,slow=9.2,SNR=93						
ASAR				S	**Sn**	**04 40 44.0**	**-9.0**
	comp=Z,0.2nm,0.3s,baz=354,slow=27,SNR=3.5						
CTA	**Charters Tower**	**21.73**	**134**	*e*P	**P**	**04 38 01.8**	**+4.6**
	comp=Z,10nm,0.9s,mb4.2						
CTA	**Charters Tower**	**21.73**	**134**	P	**P**	**04 37 58.1**	**+0.9**
	comp=Z,6.3nm,0.8s,mb4.1,baz=339,slow=18,SNR=1.7						
CTA	**Charters Tower**	**21.73**	**134**	P	**P**	**04 37 58.1**	**+0.9**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CTAO	**Charters Tower**	**21.73**	**134**	*e*P	**P**	**04 38 01.7**	**+4.5**
CTAO				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.5						
CTAO	**Charters Tower**	**21.73**	**134**	*e*P	**P**	**04 38 01.7**	**+4.5**
	comp=Z,27nm,1.2s,mb4.5						
FORT	**Forrest**	**25.40**	**183**	*e*P	**P**	**04 38 35.0**	**+1.9**
	comp=Z,3.1nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**28.66**	**159**	*e*P	**P**	**04 39 05.2**	**+2.8**
	comp=Z,1.9nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**28.66**	**159**	P	**P**	**04 39 04.4**	**+1.9**
	comp=Z,5.0nm,0.6s,mb4.4,baz=337,slow=22,SNR=6.5						
STKA	**Stephens Creek**	**28.66**	**159**	*e*P	**P**	**04 39 04.5**	**+2.0**
CMAR	**Chiang Mai Arr**	**38.51**	**309**	P	**P**	**04 40 27.7**	**-0.4**
	comp=Z,1.8nm,0.4s,mb4.2,baz=130,slow=7.2,SNR=3.1						
CMAR	**Chiang Mai Arr**	**38.51**	**309**	P	**P**	**04 40 27.7**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CHTO	**Chiang Mai**	**38.71**	**309**	*e*P	**P**	**04 40 29.6**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**38.71**	**309**	*e*P	**P**	**04 40 29.6**	**-0.2**
	comp=Z,9.5nm,0.9s,mb4.5						
MAJO	**Matsushiro**	**42.36**	**10**	*e*P	**P**	**04 40 59.9**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
MAJO	**Matsushiro**	**42.36**	**10**	*e*P	**P**	**04 40 59.9**	**+0.1**
	comp=Z,6.3nm,0.6s,mb4.4						
MAT	**Matsushiro**	**42.36**	**10**	P	**P**	**04 41 00.2**	**+0.4**
MJAR	**Matsushiro Arr**	**42.36**	**10**	P	**P**	**04 40 58.7**	**-1.0**
	comp=Z,3.7nm,0.5s,mb4.2,baz=185,slow=9.6,SNR=12						
KSRS	**Korea Array**	**42.56**	**358**	P	**P**	**04 41 02.2**	**+0.8**
	comp=Z,2.2nm,0.9s,mb3.9,baz=182,slow=8.6,SNR=10.0						
KSRS	**Korea Array**	**42.56**	**358**	P	**P**	**04 41 02.2**	**+0.8**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
XAN	**Xi'an**	**43.82**	**335**	P	**P**	**04 41 10.6**	**-1.0**
XAN				AP	pP	04 41 17.8	-0.7
XAN				XP	sP	04 41 20.3	-0.9
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
XAN				AMB	AMB		
	comp=Z,220nm,11.2s						
GTA	**Gaotai**	**52.40**	**331**	*e*P	**P**	**04 42 18.1**	**+0.2**
GTA				AP	pP	04 42 22.3	-2.5
GTA				XP	sP	04 42 25.6	-1.9
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
SONM	**Songino Array**	**56.77**	**341**	P	**P**	**04 42 50.5**	**+1.0**
	comp=Z,3.9nm,1.0s,mb4.4,baz=163,slow=7.4,SNR=11						
ZAK	**Zakamensk**	**60.00**	**341**	*e*P	**P**	**04 43 06.3**	**-5.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
CASY	**Casey**	**62.34**	**189**	*e*P	**P**	**04 43 30.0**	**+2.3**
	comp=Z,1.7nm,0.7s,mb4.3						
PETK	**Petropavlovsk-**	**62.78**	**18**	P	**P**	**04 43 30.2**	**-0.5**
	comp=Z,3.5nm,0.7s,mb4.6,baz=193,slow=4.6,SNR=5.4						
BOD	**Bodaibo**	**64.19**	**351**	*e*P	**P**	**04 43 39.9**	**-0.1**
MK31	**Makanchi Array**	**66.70**	**327**	*e*P	**P**	**04 43 56.1**	**-0.4**
MKAR	**Makanchi Array**	**66.70**	**327**	P	**P**	**04 43 56.2**	**-0.2**
	comp=Z,2.5nm,0.5s,mb4.5,baz=124,slow=8.1,SNR=16						
ZALV	**Zalesovo Beam**	**69.98**	**334**	P	**P**	**04 44 16.2**	**-0.6**
	comp=Z,4.4nm,0.7s,mb4.5,baz=134,slow=8.5,SNR=9.7						
ZAL	**Zalesovo**	**69.98**	**334**	P	**P**	**04 44 16.2**	**-0.6**
KURK	**Kurchatov**	**70.97**	**328**	*e*P	**P**	**04 44 22.4**	**-0.5**
KURK				*e*		04 44 32.8	
KURK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
KURK	**Kurchatov**	**70.97**	**328**	*e*P	**P**	**04 44 22.4**	**-0.5**
	comp=Z,12nm,1.0s,mb4.8						
KURK				*e*		04 44 32.8	
NVS	**Novosibirsk**	**71.26**	**334**	*e*P	**P**	**04 44 23.1**	**-1.5**
VNDA	**Vanda**	**74.15**	**173**	P	**P**	**04 44 44.6**	**+3.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=296,slow=6.6,SNR=3.7						
MAW	**Mawson**	**76.45**	**201**	P	**P**	**04 44 58.2**	**+3.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=344,slow=7.7,SNR=2.4						
BRVK	**Borovoye**	**76.60**	**328**	*e*P	**P**	**04 44 55.8**	**-0.1**
BRVK				*e*		04 45 06.5	
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
BRVK	**Borovoye**	**76.60**	**328**	*e*P	**P**	**04 44 55.8**	**-0.1**
	comp=Z,6.7nm,1.3s,mb4.4						
BRVK				*e*		04 45 06.5	
QSPA	**South Pole Qui**	**84.67**	**180**	*e*P	**P**	**04 45 42.8**	**+4.0**
	comp=Z,2.4nm,0.8s,mb4.4						
DAWY	**Dawson**	**95.08**	**26**	*e*P	**P**	**04 46 29.6**	**+1.5**
ARCES	**ARCESS Array B**	**99.92**	**340**	P	Pdif	04 46 48.3	-1.9
	comp=Z,1.9nm,0.9s,baz=64,slow=6.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**128.27**	**282**	PKP	PKPdf	04 52 13.2	+0.2
	comp=Z,0.4nm,0.7s,baz=67,slow=2.9,SNR=3.5						
CPUP	**Villa Florida**	**147.81**	**168**	PKPbc	PKPbc	04 52 50.7	-0.5
	comp=Z,2.3nm,1.0s,baz=160,slow=15,SNR=1.9						
CPUP	**Villa Florida**	**147.81**	**168**	PKPbc	PKPbc	04 52 50.7	-0.5
LPAZ	**La Paz**	**152.17**	**141**	PKPbc	PKPbc	04 53 04.2	+2.2
	comp=Z,0.7nm,0.8s,baz=135,slow=1.4,SNR=2.1						
LPAZ				PKPab	PKPab	04 53 13.9	+2.3
	comp=Z,0.5nm,0.5s,baz=225,slow=4.3,SNR=2.9						

IDC 17 04:41:49.3±6.0, 468S×1144W, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.8/22, mbtmp4.1/6, ML2.5/1, Error ellipse: s-maj=276.4km s-min=27.0km az=139.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.05**	**30**	Pn	Pn	04 44 56.4	+0.4
	0.0nm,0.3s,baz=162,slow=7.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**22.00**	**36**	P	P	04 46 44.9	-0.3
	9.4nm,0.8s,baz=222,slow=11,SNR=23						
BDFB	**Brasilia**	**37.54**	**250**	P	P	04 49 05.6	0.0
	0.8nm,0.8s,baz=164,slow=19,SNR=2.3						
KEST	**Kesra**	**44.68**	**24**	P	P	04 50 03.9	-0.1
	2.4nm,0.8s,baz=186,slow=1.8,SNR=10						
GERES	**GERESS Array B**	**57.64**	**19**	P	P	04 51 41.3	+0.1
	4.3nm,0.8s,baz=190,slow=6.8,SNR=28						
AKASG	**Malin Array Be**	**65.27**	**27**	P	P	04 52 33.1	+0.3
	0.5nm,0.5s,baz=230,slow=8.2,SNR=7.6						

IDC 17 05:08:43.5±11.0, 422S×1134W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/23, mbtmp3.9/3, ML2.8/1, Error ellipse: s-maj=373.5km s-min=94.9km az=143.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.60**	**31**	Pn	Pn	05 11 44.4	+0.2
	0.1nm,0.3s,baz=230,slow=17,SNR=2.5						
TORD	**Torodi Ar. Bea**	**21.57**	**37**	P	P	05 13 34.7	-0.1
	2.9nm,0.7s,baz=225,slow=9.4,SNR=15						
GERES	**GERESS Array B**	**57.17**	**19**	P	P	05 18 32.3	+0.2
	1.1nm,0.8s,baz=195,slow=6.1,SNR=7.0						

ISCJB 17 05:13:00.9±3.1, 1437S±006×766W±0.1, h10km±20km, mb4.0/12, Error ellipse: s-maj=19.0km s-min=7.8km az=160.8
IDC 17 05:13:01.4±0.7, 1423S×7654W, h0km, mb3.9/9, mb1 4.0/14, mb1mx3.9/23, mbtmp3.9/14, ML3.4/5, Error ellipse: s-maj=27.7km s-min=12.6km az=69.0
NEIC 17 05:13:05.9±0.6, 1432S×7651W, h35km, mb4.4/5, Error ellipse: s-maj=19.0km s-min=8.5km az=68.0

ISC 17 05:13:02.0±3.7, 1435S±006×766W±01, h4km±24km, n32, σ1§07/34, mb4.0/12, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.36**	**354**	Pn	**Pn**	**05 13 40.9**	**-0.7**
	30nm,0.3s,baz=171,slow=14,SNR=15						
NNA				Sn	**Sn**	**05 14 04.4**	**-6.5**
	42nm,0.3s,baz=179,slow=19,SNR=7.0						
NNA				Lg		05 14 11.6	
	45nm,0.3s,baz=171,slow=12,SNR=7.5						
ARE	**Arequipa**	**5.35**	**114**	*e*P	**Pn**	**05 14 27.0**	**+4.3**
ARE				*e*S	**Sn**	**05 15 40.0**	**+15**
ATAH	**Atahualpa**	**7.51**	**346**	Pn	**Pn**	**05 14 53.7**	**+1.3**
	0.5nm,0.3s,baz=112,slow=18,SNR=2.3						
ATAH				Lg		05 16 40.2	
	1.3nm,0.3s,baz=41,slow=19,SNR=6.7						
LPAZ	**La Paz**	**8.39**	**104**	Pn	**Pn**	**05 15 07.7**	**+3.2**
	0.9nm,0.3s,baz=294,slow=7.9,SNR=34						
LPAZ	**La Paz**	**8.39**	**104**	*e*Pn	**Pn**	**05 15 07.5**	**+3.0**
LVC	**Limon Verde**	**10.98**	**140**	Pn	**Pn**	**05 15 40.3**	**+0.2**
	0.8nm,0.3s,baz=306,slow=11,SNR=6.6						
LVC				Sn	**Sn**	**05 17 34.0**	**-9.4**
	0.1nm,0.3s,baz=116,slow=3.6,SNR=2.2						
LVC				Lg		05 18 45.7	
	0.2nm,0.3s,baz=77,slow=22,SNR=5.0						
LVC	**Limon Verde**	**10.98**	**140**	*e*Pn	**Pn**	**05 15 39.7**	**-0.3**
	13nm,0.8s						
LVC				*e*Sn	**Sn**	**05 17 38.8**	**-4.6**
LVC				Lg		05 18 45.7	
OTAV	**Otavalo**	**14.61**	**353**	Pn	**Pn**	**05 16 33.6**	**+4.0**
	3.0nm,0.7s						
OTAV				*e*Sn	**Sn**	**05 19 13.0**	**+0.9**
SIV	**San Ignacio**	**15.07**	**98**	Pn	**Pn**	**05 16 35.0**	**-1.0**
	0.2nm,0.3s,baz=252,slow=20,SNR=5.8						
LCO	**Las Campanas**	**15.58**	**160**	P	**Pn**	**05 16 43.6**	**+1.0**
	24nm,1.1s						
CFAA	**Coronel Fontan**	**18.81**	**157**	P	**Pn**	**05 17 23.0**	**-0.1**
	0.0nm,0.3s,baz=333,slow=13,SNR=5.1						
ROSC	**El Rosal**	**19.21**	**7**	P	**Pn**	**05 17 26.0**	**-2.0**
	0.2nm,0.3s,baz=94,slow=19,SNR=2.2						
ROSC	**El Rosal**	**19.21**	**7**	Pn	**Pn**	**05 17 25.5**	**-2.5**
CPUP	**Villa Florida**	**21.61**	**126**	P	**P**	**05 17 52.9**	**-0.3**
	3.3nm,0.8s,mb3.8,baz=287,slow=12,SNR=6.3						
CPUP	**Villa Florida**	**21.61**	**126**	*e*P	**P**	**05 17 51.5**	**-1.7**
	28nm,1.1s,mb4.6						
SDV	**Santo Domingo**	**23.83**	**15**	P	**P**	**05 18 16.0**	**-0.4**
	2.6nm,0.4s,mb4.0,baz=206,slow=9.6,SNR=4.2						
PLCA	**Paso Flores**	**26.81**	**170**	P	**P**	**05 18 40.4**	**-2.9**
	5.4nm,1.3s,mb3.9						
AOPR	**Arecibo Observ**	**33.90**	**17**	P	**P**	**05 19 47.3**	**+1.1**
	14nm,0.9s,mb4.9						
TXAR	**Lajitas Array**	**50.69**	**329**	P	**P**	**05 22 01.8**	**-1.0**
	0.2nm,0.6s,mb3.2,baz=147,slow=7.4,SNR=3.7						
MIAR	**Mount Ida**	**51.23**	**342**	P	**P**	**05 22 06.7**	**-0.1**
	2.6nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	**64.39**	**334**	P	**P**	**05 23 40.0**	**+0.8**
	0.4nm,0.8s,mb3.5,baz=134,slow=5.2,SNR=2.9						
NVAR	**Mina Array Bea**	**65.43**	**325**	P	**P**	**05 23 45.2**	**-0.9**
	0.1nm,0.5s,mb3.1,baz=299,slow=20,SNR=2.6						
SNAA	**Sanae**	**71.38**	**161**	*e*	**P**	**05 24 23.4**	**+0.5**
SNAA				*e*		05 24 30.2	
DBIC	**Dimbokro**	**74.14**	**79**	P	**P**	**05 24 39.8**	**-0.5**
	4.9nm,0.7s,mb4.5,baz=230,slow=7.4,SNR=6.3						
QSPA	**South Pole Qui**	**75.80**	**180**	P	**P**	**05 24 50.0**	**+1.3**
	1.6nm,1.0s,mb3.9,baz=170,slow=1.3,SNR=3.4						
YKA	**Yellowknife Ar**	**82.16**	**343**	P	**P**	**05 25 23.6**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=146,slow=5.4,SNR=5.0						
YKA	**Yellowknife Ar**	**82.16**	**343**	P	**P**	**05 25 23.6**	**-0.1**
TOA0	**Torodi Ar. Sit**	**82.18**	**74**	*e*P	**P**	**05 25 24.7**	**-0.2**
TOA0				*e*		05 25 31.7	
TORD	**Torodi Ar. Bea**	**82.18**	**74**	P	**P**	**05 25 25.0**	**+0.1**
	6.6nm,0.7s,mb4.7,baz=261,slow=5.0,SNR=31						
SONM	**Songino Array**	**146.52**	**356**	PKPbc	PKPbc	05 32 44.3	-0.3
	1.0nm,0.8s,baz=326,slow=1.1,SNR=4.7						
KSRS	**Korea Array**	**148.31**	**321**	PKPbc	PKPbc	05 32 50.3	+0.3
	0.4nm,0.3s,baz=202,slow=29,SNR=4.0						
JOW	**Kunigami**	**153.67**	**302**	PKP	PKPdf	05 32 53.1	-2.1
	12nm,0.7s,baz=139,slow=27,SNR=7.8						

ISCJB 17 05:15:23.8±0.8, 18S±0.1×1213E±02, h10km, mb3.9/6, Error ellipse: s-maj=28.0km s-min=13.7km az=163.1
IDC 17 05:15:24.7±1.2, 138S×12209E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=153.8km s-min=21.5km az=64.0
NEIC 17 05:15:25.7±0.6, 180S×12127E, h10km, mb4.4/2, Error ellipse: s-maj=20.4km s-min=9.8km az=71.0

ISC 17 05:15:25.8±0.8, 18S±01×1213E±02, h10km, n8, σ0§36/7, mb3.9/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.52**	**205**	*e*Pn	**Pn**	**05 16 20.5**	**-0.1**
WRAB	**Tennant Creek**	**22.09**	**146**	*e*P	**P**	**05 20 21.1**	**-0.2**
	14nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**22.09**	**146**	P	**P**	**05 20 21.1**	**-0.2**
	3.0nm,0.9s,mb3.7,baz=327,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**24.94**	**152**	P	**P**	**05 20 50.0**	**+0.6**
	1.0nm,0.8s,mb3.4,baz=342,slow=12,SNR=8.5						
SONM	**Songino Array**	**51.12**	**347**	P	**P**	**05 24 28.4**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=160,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**59.26**	**330**	P	**P**	**05 25 28.0**	**+0.5**
	0.6nm,0.4s,mb3.9,baz=125,slow=7.2,SNR=3.2						
KURK	**Kurchatov**	**63.69**	**331**	*e*P	**P**	**05 25 57.1**	**-0.3**
	3.1nm,1.0s,mb4.3						
CFAA	**Coronel Fontan**	**145.57**	**166**	PKPbc	PKPbc	05 35 04.9	-0.2
	0.3nm,0.8s,baz=340,slow=12,SNR=4.1						

ISCJB 17 05:42:59.7±0.2, 4836N±001×659E±002, h6km±2km, Error ellipse: s-maj=2.0km s-min=1.7km az=167.9
NEIC 17 05:43:01.9, 4835N×667E, h10km, ML3.0(SZGRF), ML2.9(STR), ML3.5(LDG), After STR.
UCC 17 05:43:01.4±1.4, 4838N×670E, h0km, ML2.4
STR 17 05:43:01.9±0.1, 4835N×667E, h10km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
CSEM 17 05:43:02.4±0.0, 4834N×667E, h12km, ML3.5/22, Error ellipse: s-maj=0.7km s-min=0.5km az=160.0
BGR 17 05:43:02.5±0.3, 4835N×666E, h5km, ML2.6/3, Error ellipse: s-maj=4.4km s-min=3.3km az=66.0
LEDBW 17 05:43:02.5±0.3, 4834N±003×6660E±0009, h10km, ML2.7, Error ellipse: s-maj=8.0km s-min=4.0km az=4.0
LDG 17 05:43:02.6±0.1, 4833N×666E, h12km, Md3.4/3, Ml3.5/22, Error ellipse: s-maj=1.2km s-min=0.8km az=162.0
BNS 17 05:43:08.1±0.4, 4838N×699E, h10km, ML2.3
PRU 17 05:43:30.3, 4885N×795E, h10km

ISC 17 05:43:01.1±0.2, 4834N±001×663E±001, h15km±2km, n148, σ1§06/275, 7C-6D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.38**	**109**	Pg	**Pg**	**05 43 09.3**	**+0.6**
ECH				Sg	**Sg**	**05 43 13.8**	**0.0**
ECH	**Echery**	**0.38**	**109**	*e*Pg	**Pg**	**05 43 09.4**	**+0.7**
	SNR=55						
ECH				⇑*iP**	**Pg**	**05 43 09.4**	**+0.7**
ECH				*S**	**Sg**	**05 43 14.2**	**+0.3**
ECH	**Echery**	**0.38**	**109**	⇑*i*Pg	**Pg**	**05 43 09.4**	**+0.7**
ECH				Sg	**Sg**	**05 43 14.2**	**+0.3**
ECH	**Echery**	**0.38**	**109**	Pg	**Pg**	**05 43 09.4**	**+0.7**
	SNR=55						
ECH				*e*Sg	**Sg**	**05 43 13.9**	**+0.1**
ECH	**Echery**	**0.38**	**109**	*e*Pg	**Pg**	**05 43 09.2**	**+0.4**
ECH				*e*Sg	**Sg**	**05 43 13.9**	**0.0**
HAU	**Haudompre**	**0.38**	**209**	*e*Pg	**Pg**	**05 43 10.0**	**+1.1**
HAU				*e*Sg	**Sg**	**05 43 15.1**	**+1.0**
	354nm,0.3s						
HAU	**Haudompre**	**0.38**	**209**	*e*Pg	**Pg**	**05 43 10.0**	**+1.1**
HAU				*e*Sg	**Sg**	**05 43 15.1**	**+1.0**
	177nm,0.3s						
CDF	**Champ du Feu**	**0.44**	**80**	*e*Pg	**Pg**	**05 43 10.4**	**+0.5**
CDF				*e*Sg	**Sg**	**05 43 16.1**	**+0.3**
	82nm,0.2s						
CDF	**Champ du Feu**	**0.44**	**80**	*e*Pg	**Pg**	**05 43 10.4**	**+0.5**
CDF				*e*Sg	**Sg**	**05 43 16.1**	**+0.3**
	41nm,0.2s						
THEF	**They Montfort**	**0.44**	**255**	⇑*iP**	**Pg**	**05 43 11.2**	**+1.3**
THEF				*S**	**Sg**	**05 43 17.5**	**+1.6**
THEF	**They Montfort**	**0.44**	**255**	⇑*i*Pg	**Pg**	**05 43 11.2**	**+1.3**
THEF				Sg	**Sg**	**05 43 17.5**	**+1.6**
THEF	**They Montfort**	**0.44**	**255**	Pg	**Pg**	**05 43 11.1**	**+1.1**
THEF				Sg	**Sg**	**05 43 17.2**	**+1.3**
HINF	**Hinteralfeld**	**0.55**	**164**	*e*Pn	**Pg**	**05 43 13.7**	**+1.9**
HINF				*e*Sg	**Sg**	**05 43 19.4**	**+0.3**
	117nm,0.2s						
HINF	**Hinteralfeld**	**0.55**	**164**	*e*Pn	**Pg**	**05 43 13.7**	**+1.9**
HINF				*e*Sg	**Sg**	**05 43 19.4**	**+0.3**
	59nm,0.2s						
HINF	**Hinteralfeld**	**0.55**	**164**	*e*Pg	**Pg**	**05 43 12.6**	**+0.8**
HINF				*e*Pn	**Pg**	**05 43 13.7**	**+1.9**
HINF				*e*Sg	**Sg**	**05 43 19.4**	**+0.3**
MOF	**Molkenrain**	**0.59**	**145**	⇓*iP**	**Pb**	**05 43 13.5**	**+0.3**
MOF				PmP		05 43 14.8	
MOF	**Molkenrain**	**0.59**	**145**	Pg	**Pg**	**05 43 13.4**	**+0.6**
LIBD	**Limburg**	**0.68**	**106**	Pg	**Pg**	**05 43 15.2**	**+0.9**
RFYF	**Reffroy**	**0.82**	**291**	*e*Pn	**Pn**	**05 43 18.8**	**+0.7**
	baz=115						
RFYF	**Reffroy**	**0.82**	**291**	*e*Pg	**Pg**	**05 43 19.3**	**+2.3**
	baz=112						
RFYF				*e*Sn	**Sn**	**05 43 30.9**	**+0.9**
	549nm,0.2s						
RFYF	**Reffroy**	**0.82**	**291**	*e*Pg	**Pg**	**05 43 19.3**	**+2.3**
RFYF				*e*Sn	**Sn**	**05 43 30.9**	**+0.9**
	274nm,0.2s						
RFYF	**Reffroy**	**0.82**	**291**	*e*Pn	**Pn**	**05 43 18.8**	**+0.7**
RFYF				*e*Pg	**Pg**	**05 43 19.3**	**+2.3**
RFYF				*e*Sn	**Sn**	**05 43 30.9**	**+0.9**
FBB	**Freiburg im Br**	**0.89**	**112**	Pg	**Pg**	**05 43 19.0**	**+0.7**
FBB	**Freiburg im Br**	**0.89**	**112**	Px	Px	05 43 19.0	
KIZ	**Kirchzarten**	**0.94**	**113**	Pg	**Pg**	**05 43 19.9**	**+0.5**
LOMF	**Lomont**	**1.00**	**172**	⇑*i*Pg	**Pg**	**05 43 21.6**	**+1.2**
LOMF	**Lomont**	**1.00**	**172**	⇑*i*P	**Pg**	**05 43 21.6**	**+1.2**
LOMF	**Lomont**	**1.00**	**172**	Pg	**Pg**	**05 43 21.5**	**+1.1**
LANF	**Langenberg**	**1.01**	**50**	Pg	**Pg**	**05 43 20.7**	**+0.1**
LANF				Sg	**Sg**	**05 43 33.8**	**0.0**
LANF	**Langenberg**	**1.01**	**50**	Pn	**Pb**	**05 43 20.9**	**+0.6**
FELD	**Feldberg im Sc**	**1.03**	**116**	Pn	**Pn**	**05 43 21.3**	**+0.3**
FELD	**Feldberg im Sc**	**1.03**	**116**	Pg	**Pg**	**05 43 21.5**	**+0.5**
FELD				Sg	**Sg**	**05 43 34.3**	**-0.2**
BBS	**Basel-Blauen**	**1.06**	**146**	⇓*i*Pg	**Pg**	**05 43 22.4**	**+0.8**
BBS	**Basel-Blauen**	**1.06**	**146**	Pg	**Pg**	**05 43 22.3**	**+0.8**
BBS				Sg	**Sg**	**05 43 35.7**	**+0.4**
MEZF	**Maizieres J'vi**	**1.06**	**279**	*e*

HILG	**Hillesheim**	1.95	1	*e*Pg	Pg	05 43 39.4	+0.7
HILG				*e*Sg	Sg	05 44 03.3	-0.6
HILG	**Hillesheim**	1.95	1	Pg	Pg	05 43 39.3	+0.7
HILG				Sg	Sg	05 44 03.3	-0.7
OG01	**Vacheresse**	2.01	179	Pg	Pg	05 43 39.7	0.0
GIVF	**Givet**	2.12	327	*e*Pg	Pg	05 43 42.0	+0.2
GIVF				*e*Sg	Sg	05 44 08.5	-0.9
	comp=N,58nm,0.2s						
GIVF	**Givet**	2.12	327	*e*Pg	Pg	05 43 42.0	+0.2
GIVF				*e*Sg	Sg	05 44 08.5	-0.9
	comp=N,29nm,0.2s						
LOR	**Lormes**	2.15	241	*e*Pn	Pn	05 43 36.8	+0.4
	baz=64						
LOR	**Lormes**	2.15	241	*e*Pg	Pg	05 43 42.9	+0.5
	baz=63						
LOR				*e*Sg	Sg	05 44 09.8	-0.5
	comp=N,57nm,0.2s						
LOR	**Lormes**	2.15	241	*e*Pg	Pg	05 43 42.9	+0.5
LOR				*e*Sg	Sg	05 44 09.8	-0.5
	comp=N,28nm,0.2s						
LOR	**Lormes**	2.15	241	*e*Pn	Pn	05 43 36.8	+0.4
LOR				*e*Pg	Pg	05 43 42.9	+0.5
LOR				*e*Sg	Sg	05 44 09.8	-0.5
DOU	**Dourbes**	2.21	324	PN	Pn	05 43 39.6	+2.4
DOU				PG	Pg	05 43 43.9	+0.5
DOU				SN	Sn	05 44 03.5	-0.7
	comp=E,27nm,0.3s						
DOU				SG	Sg	05 44 11.1	-0.9
DOU	**Dourbes**	2.21	324	Pn	Pn	05 43 39.5	+2.3
BCLA	**Clavier**	2.25	338	⇑PN	Pn	05 43 38.8	+1.0
BCLA				PG	Pg	05 43 44.7	+0.4
BCLA				SN	Sn	05 44 05.9	+0.5
	comp=N,16nm,0.5s						
BCLA				SG	Sg	05 44 12.4	-1.1
MEM	**Membach**	2.31	350	PN	Pn	05 43 38.8	+0.2
MEM				PG	Pg	05 43 44.9	-0.4
MEM				SG	Sg	05 44 13.1	-2.2
MEM	**Membach**	2.31	350	Pn	Pn	05 43 38.7	+0.1
DREG	**Dreilaegerbach**	2.34	354	*e*Pg	Pg	05 43 45.2	-0.7
DREG	**Dreilaegerbach**	2.34	354	Pg	Pg	05 43 45.2	-0.8
BAIF	**Baives**	2.34	318	*e*Pg	Pg	05 43 46.0	0.0
BAIF				*e*Sg	Sg	05 44 15.9	-0.4
	comp=N,24nm,0.2s						
BAIF	**Baives**	2.34	318	*e*Pg	Pg	05 43 46.0	0.0
BAIF				*e*Sg	Sg	05 44 15.9	-0.4
	comp=N,12nm,0.2s						
HDH	**Heidenheim-Cha**	2.39	83	Sg	Sg	05 44 18.0	-0.1
SSF	**Saint Saulge**	2.47	240	*e*Pg	Pg	05 43 48.7	+0.3
SSF				*e*Sn	Sn	05 44 09.9	-0.7
SSF				*e*Sg	Sg	05 44 20.3	0.0
	comp=N,49nm,0.3s						
SSF	**Saint Saulge**	2.47	240	*e*Pg	Pg	05 43 48.7	+0.3
SSF				*e*Sn	Sn	05 44 09.9	-0.7
SSF				*e*Sg	Sg	05 44 20.3	0.0
	comp=N,25nm,0.3s						
SSF	**Saint Saulge**	2.47	240	*e*Pn	Pn	05 43 41.0	+0.3
SSF				*e*Pg	Pg	05 43 48.7	+0.3
SSF				*e*Sn	Sn	05 44 09.9	-0.7
SSF				*e*Sg	Sg	05 44 20.3	0.0
HGN	**Heimansgroeve**	2.47	350	⇓*i*Pg	Pg	05 43 48.2	-0.2
HGN				*e*Sg	Sg	05 44 19.4	-1.0
HGN	**Heimansgroeve**	2.47	350	*e*Pn	Pn	05 43 43.7	+2.9
	comp=N,1.4nm,0.1s						
HGN	**Heimansgroeve**	2.47	350	⇓*i*Pg	Pg	05 43 48.2	-0.2
HGN				*e*Sg	Sg	05 44 19.4	-1.1
SMF	**Signal de Mont**	2.54	229	*e*Pg	Pg	05 43 50.1	+0.3
SMF				*e*Sg	Sg	05 44 22.4	-0.3
	comp=N,99nm,0.3s						
SMF	**Signal de Mont**	2.54	229	*e*Pg	Pg	05 43 50.1	+0.3
SMF				*e*Sg	Sg	05 44 22.4	-0.3
	comp=N,49nm,0.3s						
SMF	**Signal de Mont**	2.54	229	*e*Pn	Pn	05 43 41.4	-0.3
SMF				*e*Pg	Pg	05 43 50.1	+0.3
SMF				*e*Sg	Sg	05 44 22.4	-0.3
AVF	**Avril sur Loir**	2.71	236	*e*Pg	Pg	05 43 53.4	+0.4
AVF				*e*Sg	Sg	05 44 26.9	-1.1
	comp=N,20nm,0.2s						
AVF	**Avril sur Loir**	2.71	236	*e*Pg	Pg	05 43 53.4	+0.4
AVF				*e*Sg	Sg	05 44 26.9	-1.1
	comp=N,10nm,0.2s						
AVF	**Avril sur Loir**	2.71	236	*e*Pn	Pn	05 43 44.1	+0.1
AVF				*e*Pg	Pg	05 43 53.4	+0.4
AVF				*e*Sg	Sg	05 44 26.9	-1.1
LPL	**La Plagne**	2.83	179	*e*Sn	Sn	05 44 19.8	+0.4
HYF	**Humbligny**	2.90	250	*e*Pn	Pn	05 43 47.7	+1.1
HYF				*e*Pg	Pg	05 43 57.5	+0.9
HYF				*e*Sn	Sn	05 44 21.9	+0.8
HYF				*e*Sg	Sg	05 44 33.1	-1.0
FUR	**Furstenfeldbru**	3.11	91	*e*Sg	Sg	05 44 40.4	-0.6
BGF	**Bois d'Agland**	3.12	237	*e*Pg	Pg	05 44 01.0	0.0
BGF				*e*Sg	Sg	05 44 39.0	-2.4
	comp=N,72nm,0.3s						
BGF	**Bois d'Agland**	3.12	237	*e*Pg	Pg	05 44 01.0	0.0
BGF				*e*Sg	Sg	05 44 39.0	-2.4
	comp=N,36nm,0.3s						
BGF	**Bois d'Agland**	3.12	237	*e*Pn	Pn	05 43 49.6	-0.2
BGF				*e*Pg	Pg	05 44 01.0	0.0
BGF				*e*Sg	Sg	05 44 39.0	-2.4
AGO	**Saint Agoulin**	3.31	227	Pn	Pn	05 43 52.5	+0.2
AGO				Pg	Pg	05 44 04.5	+0.1
GRA1	**Grafenberg Arr**	3.31	64	Sg	Sg	05 44 45.4	-2.0
	SNR=5.5						
GRF	**Grafenberg Arr**	3.31	64	*e*Sg	Sg	05 44 45.4	-2.0
	SNR=5.5						
ORIF	**Oris-en-Rattie**	3.46	189	*e*Pg	Pg	05 44 05.7	-1.7
ORIF				*e*Sg	Sg	05 44 49.6	-2.6
	comp=N,15nm,0.4s						
ORIF	**Oris-en-Rattie**	3.46	189	*e*Pg	Pg	05 44 05.7	-1.7
ORIF				*e*Sg	Sg	05 44 49.6	-2.6
	comp=N,7.6nm,0.4s						
PYM	**Petit Puy Mans**	3.58	225	Pn	Pn	05 43 56.5	+0.4
PYM				Pg	Pg	05 44 09.8	+0.1
TCF	**Toulx Ste Croi**	3.64	237	*e*Pg	Pg	05 44 10.0	-0.8
TCF				*e*Sg	Sg	05 44 56.2	-1.7
	comp=N,15nm,0.2s						
TCF	**Toulx Ste Croi**	3.64	237	*e*Pg	Pg	05 44 10.0	-0.8
TCF				*e*Sg	Sg	05 44 56.2	-1.7
	comp=N,7.4nm,0.2s						
TCF	**Toulx Ste Croi**	3.64	237	*e*Pn	Pn	05 43 56.7	-0.2
TCF				*e*Pg	Pg	05 44 10.0	-0.8
TCF				*e*Sg	Sg	05 44 56.2	-1.7
VIVF	**Saint-Julien-l**	3.74	202	*e*Pg	Pg	05 44 11.9	-0.8
VIVF				*e*Sg	Sg	05 44 57.5	-3.5
	comp=N,26nm,0.5s						
LBL	**Lubilhac**	3.88	218	Pn	Pn	05 44 00.4	+0.2
MOX	**Moxa**	3.99	53	(PG)	Pg	05 44 16.0	-1.4
MOX				(SN)	Sg	05 45 07.7	-1.3
MOX	**Moxa**	3.99	53	Pg	Pg	05 44 16.0	-1.4
MOX				Sg	Sg	05 45 08.3	-0.7
NKC	**Novy Kostel**	4.25	61	*e*PG	Pg	05 44 22.2	-0.3
NKC				*e*SG	Sg	05 45 14.8	-2.8
	comp=Z,26nm,0.7s						
LDF	**La Druitiere**	4.50	276	*e*Pg	Pg	05 44 26.4	-0.8
LDF				*e*Sn	Sn	05 44 58.7	-2.0
RJF	**Les Rejaudoux**	4.64	231	*e*Pg	Pg	05 44 28.8	-1.1
RJF				*e*Sg	Sg	05 45 27.6	-2.4
	comp=Z,9.6nm,0.2s						
RJF	**Les Rejaudoux**	4.64	231	*e*Pg	Pg	05 44 28.8	-1.1
RJF				*e*Sg	Sg	05 45 27.6	-2.4
	comp=Z,4.8nm,0.2s						
CAF	**Calviac**	4.64	224	*e*Sg	Sg	05 45 28.6	-1.4
	comp=Z,18nm,0.5s						
CAF	**Calviac**	4.64	224	*e*Sg	Sg	05 45 28.6	-1.4
	comp=Z,9.1nm,0.5s						
KHC	**Kasperske Hory**	4.67	78	*e*PG	Pg	05 44 28.5	-1.9
KHC				*e*SN	Sn	05 45 03.0	-1.8
KHC				*e*SG	Sg	05 45 28.0	-2.8
	comp=Z,6.1nm,0.8s						
LASF	**Ste Croix**	4.68	205	*e*Sg	Sg	05 45 30.1	-1.1
	comp=Z,18nm,0.6s						
LASF	**Ste Croix**	4.68	205	*e*Sg	Sg	05 45 30.1	-1.1
	comp=Z,8.9nm,0.6s						
GEC2	**GERESS Array S**	4.72	81	*e*Sn	Sn	05 45 05.5	-0.6
	SNR=4.0						
GEC2				*e*Sg	Sg	05 45 31.8	-0.7
GEC2	**GERESS Array S**	4.72	81	Sn	Sn	05 45 05.5	-0.7
	SNR=4.0						
GEC2				Sg	Sg	05 45 31.8	-0.8
FLN	**La Foliniere**	4.74	278	*e*Pn	Pn	05 44 13.1	+1.1
FLN				*e*Sn	Sn	05 45 04.1	-2.6
MFF	**Saint Martin d**	4.91	252	*e*Pg	Pg	05 44 33.7	-1.4
MFF				*e*Sn	Sn	05 45 07.3	-3.6
MFF				*e*Sg	Sg	05 45 35.1	-3.6
	comp=Z,9.8nm,0.4s						
MFF	**Saint Martin d**	4.91	252	*e*Pg	Pg	05 44 33.7	-1.4
MFF				*e*Sn	Sn	05 45 07.3	-3.6
MFF				*e*Sg	Sg	05 45 35.1	-3.6
	comp=Z,4.9nm,0.4s						
GRR	**Gorron**	4.99	273	*e*Pn	Pn	05 44 16.6	+1.2
GRR				*e*Pg	Pg	05 44 35.5	-1.1
GRR				*e*Sn	Sn	05 45 09.4	-3.4
CLL	**Collm**	5.08	52	*e*Sg	Sg	05 45 43.5	-0.7
CLL	**Collm**	5.08	52	*e*Sg	Sg	05 45 43.0	-1.2
LFF	**La Frestale**	5.29	232	*e*Sg	Sg	05 45 49.8	-1.1
	comp=Z,24nm,0.5s						
LFF	**La Frestale**	5.29	232	*e*Sg	Sg	05 45 49.8	-1.1
	comp=Z,12nm,0.5s						
PRU	**Pruhonice**	5.45	69	*e*SG	Sg	05 45 50.7	-5.1
	comp=Z,6.0nm,0.7s						
MTLF	**Montolieu**	5.87	213	*e*Sg	Sg	05 46 06.7	-2.8
	comp=Z,8.2nm,0.7s						
MTLF	**Montolieu**	5.87	213	*e*Sg	Sg	05 46 06.7	-2.8
	comp=Z,4.1nm,0.7s						
SGMF	**Saint Gilles**	6.13	273	*e*Pn	Pn	05 44 31.0	-0.1
SGMF				*e*Sn	Sn	05 45 34.9	-6.0
QUIF	**Quistinic**	6.57	270	*e*Pn	Pn	05 44 36.7	-0.4
QUIF				*e*Sn	Sn	05 45 45.2	-6.5
ROSF	**Rostrenen**	6.60	274	*e*Pn	Pn	05 44 38.1	+0.5
ROSF				*e*Sn	Sn	05 45 45.5	-7.0
DPC	**Dobruska-Polom**	6.65	69	*e*SG	Sg	05 46 29.3	-4.9
EPF	**Esparros**	6.90	222	*e*Sn	Sn	05 45 55.2	-4.6

IDC 17 05:58:54.5±4.4, 311S×1256W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/23, mbtmp4.0/4, Error ellipse: s-maj=100.4km s-min=36.3km az=77.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	21.47	41	P	P	06 03 43.5	-1.4
	2.2nm,0.9s,baz=223,slow=11,SNR=8.6						
BOSA	**Boshof**	44.01	129	P	P	06 07 03.0	-1.1
	2.4nm,0.8s,baz=294,slow=5.3,SNR=3.3						
KMBO	**Kilima Mbogo**	49.81	89	P	P	06 07 51.2	+1.5
	1.3nm,0.2s,baz=160,slow=12,SNR=5.1						
GERES	**GERESS Array B**	56.55	21	P	P	06 08 39.2	+0.4
	2.0nm,1.0s,baz=212,slow=4.6,SNR=5.4						

ISCJB 17 06:03:01.8±0.5, 3837N×003×2336E×006, h27km±7km, Error ellipse: s-maj=7.5km s-min=4.2km az=167.8
THE 17 06:03:01.6, 3840N×2336E, h11km, ML2.3
ATH 17 06:03:01.7, 3838N×2331E, h15km±6km, MD2.8/6, ML2.6
CSEM 17 06:03:02.0±0.1, 3840N×2336E, h5km, ML2.6, Error ellipse: s-maj=2.8km s-min=1.7km az=75.0

ISC 17 06:03:02.0±0.5, 3838N±003×2336E±005, h21km±12km, n13, σ0°83/23, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	0.39	314	*e*Pg	Pb	06 03 08.6	-1.6
LKR				*e*Sg	Sb	06 03 14.9	-0.9
LKR	**Lokris**	0.39	314	*e*Pg	Pb	06 03 08.6	-1.6
LKR				*e*Sb	Sb	06 03 14.8	-1.0
LTK	**Loutraki**	0.47	221	*e*Pg	Pb	06 03 11.0	-0.6
LTK				*e*Sg	Sb	06 03 18.4	+0.3
ATH	**Athens Observa**	0.50	145	*e*PN	Pb	06 03 11.9	-0.1
ATH				*e*SN	Sb	06 03 18.9	+0.1
PTL	**Penteli**	0.52	130	*e*PN	Pb	06 03 11.5	-0.9
NAIG	**Nisos Aigina**	0.63	171	*e*PN	Pb	06 03 14.0	-0.3
KVR	**Kavouri**	0.64	149	*e*PN	Pb	06 03 15.0	+0.5
DID	**Didima**	0.88	186	*e*Pg	Pb	06 03 18.0	-0.5
DID				*e*Sg	Sb	06 03 31.8	+2.0
AOS	**Alonnisos**	0.89	27	*e*Pg	Pb	06 03 18.1	-0.6
AOS				*e*Sg	Sb	06 03 30.3	+0.3
NEO	**Neokhori**	0.93	354	*e*PN	Pn	06 03 19.4	-0.4
NEO				*e*SN	Sb	06 03 32.6	+1.3
XOR	**Xorichti**	0.99	353	*e*Pg	Pb	06 03 20.3	-0.1
XOR				*e*Sg	Sb	06 03 34.1	+1.0
AGG	**Agios Georgios**	1.03	309	*e*Pg	Pn	06 03 20.6	-0.5
AGG				*e*Sg	Sb	06 03 35.1	+1.0
AGG	**Agios Georgios**	1.03	309	*e*Pg	Pn	06 03 20.6	-0.6
AGG				*e*Sg	Sb	06 03 35.2	+1.1

NIC 17 06:09:12.6±0.3, 3658N×31.17E, h46km, mb4.0, ML3.6, MW3.2
NEIC 17 06:09:12.6, 3658N×31.17E, h46km, MG3.6(NIC), After NIC.
CSEM 17 06:09:14.4±0.1, 3566N×3097E, h5km, Mw3.2, Error ellipse: s-maj=2.3km s-min=1.6km az=77.0
ISCJB 17 06:09:16.3±0.8, 3566N±003×3096E±004, h15km±6km, Error ellipse: s-maj=5.9km s-min=4.1km az=40.0
ISK 17 06:09:16.4, 3574N×3104E, h16km, ML3.4
DDA 17 06:09:18.0, 3577N×3119E, h5km±1km, Md3.3
HLW 17 06:09:19.5, 3562N×3084E, h33km, Mb3.5

ISC 17 06:09:17.5±0.7, 3570N±003×3099E±004, h16km±5km, n42, σ1°04/58, 1C-5D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	1.23	347	*e*PN	Pn	06 09 39.5	-0.4
AKAS	**Kas**	1.24	296	*i* P	Pg	06 09 43.8	+2.3
AKAS				*i* S	Sg	06 10 07.0	+9.3
ELL	**Elmali**	1.36	320	*e*PN	Pn	06 09 41.5	-0.3
PPCY	**Paphos**	1.38	126	P	Pg	06 09 43.7	-0.3
PPCY				S	Sg	06 10 03.1	+1.1
ALFC	**Alevga**	1.42	112	P	Pn	06 09 41.4	-1.2
	25nm,0.2s						
ALFC				S	Sn	06 10 04.3	+3.3
LEF	**Lefka**	1.66	110	*e*PN	Pn	06 09 44.3	-1.5
HDMB	**Hadim**	1.75	43	*e*PN	Pn	06 09 47.0	-0.1
HDMB				*e*SN	Sn	06 10 07.5	-1.5
BCK	**Bucak**	1.79	350	*e*PN	Pn	06 09 47.4	-0.3
SZAC	**Souni-Zanaja**	1.81	121	P	Pn	06 09 48.5	+0.5
SZAC				S	Sg	06 10 16.5	+0.5
ERMK	**Ermenek**	1.82	58	*i* P	Pn	06 09 48.9	+0.9
ERMK				*i* S	Sg	06 10 12.6	-3.5
MAMC	**Mammari**	1.90	106	P	Pn	06 09 47.5	-1.6
GOLH	**Golhisar**	1.92	323	*i* P	Pg	06 09 55.0	+0.7
GOLH				*i* S	Sg	06 10 31.2	+12
GOLH	**Golhisar**	1.92	323	*i* P	Pn	06 09 55.0	+5.6
CSS	**Prodhromos**	2.05	110	P	Pn	06 09 49.8	-1.5
	3.6nm,0.4s						
CSS				S	Sn	06 10 18.8	+2.3
CSS	**Prodhromos**	2.05	110	*e*PN	Pn	06 09 51.3	0.0
CSS	**Prodhromos**	2.05	110	*e*Pn	Pn	06 09 51.3	0.0
CSS				S	Sn	06 10 18.8	+2.3
LFK	**Lefkose**	2.12	101	*e*PN	Pn	06 09 52.0	-0.2
DALT	**Dalyan (Mudla)**	2.18	300	*e*PN	Pn	06 09 52.5	-0.6
IKL	**Isikli**	2.25	75	*e*PN	Pn	06 09 53.0	-1.1
TKTP	**Tekketepe**	2.40	347	*i* P	Pg	06 09 59.5	-4.0
TKTP				*i* S	Sg	06 10 31.4	-3.1
KONT	**Konya--Tatoy**	2.50	26	*e*PN	Pn	06 09 56.4	-1.0
EREN	**Erenkoy**	2.60	93	*e*PN	Pn	06 09 58.6	-0.2
YER	**Yerkesik**	2.61	304	*e*PN	Pn	06 09 59.7	+0.7
MEST	**Erdemli**	2.70	70	*i* P	Pn	06 10 01.3	+1.1
MEST				*i* S	Sn	06 10 34.5	+1.9
LADK	**Ladik-KONYA**	2.73	23	*e*PN	Pn	06 09 59.6	-0.9
KHAL	**Karahalli**	2.92	336	*i* P	Pn	06 10 08.4	+5.2
KHAL				*i* S	Sn	06 10 39.0	+1.0
KHAL	**Karahalli**	2.92	336	*i* S	Sn	06 10 39.0	+1.0
KDHN	**Kadinhani**	2.96	17	*i* P	Pn	06 10 05.0	+1.3
KDHN				*i* S	Sn	06 10 40.2	+1.4
MERS	**Mersin**	3.08	67	*e*PN	Pn	06 10 05.6	+0.1
KIZT	**Kizilcal**	3.25	12	*e*PN	Pn	06 10 07.7	-0.1
BODT	**Bodrum**	3.26	296	*e*PN	Pn	06 10 08.8	+0.9
KULA	**Kula-Manisa**	3.37	327	*e*PN	Pn	06 10 09.0	-0.4
KARA	**Karaisali**	3.63	63	*e*PN	Pn	06 10 12.8	-0.2
KOZT	**Kozan**	4.28	64	*e*PN	Pn	06 10 21.5	-0.4
COBT	**Iskenderun**	4.34	78	*i* P	Pn	06 10 22.5	-0.3
COBT				*i* S	Sn	06 11 08.4	-4.7
HMAT	**Matruh**	5.63	216	⇑P	Pn	06 10 39.4	-1.1
HMAT				S	Sn	06 11 37.7	-7.2
KOT	**Kottamia**	5.80	173	⇓P	Pn	06 10 42.8	-0.1
KOT				S	Sn	06 11 43.8	-5.3
HNAT	**Natroun**	6.06	183	⇓P	Pn	06 10 46.4	-0.1
HNAT	**Natroun**	6.06	183	P	Pn	06 10 46.3	-0.1
HSAF	**As Saff**	6.08	175	⇓P	Pn	06 10 46.5	-0.3
GLL	**Jalalah**	6.14	174	⇓P	Pn	06 10 47.3	-0.2
HNKL	**Nakhl**	6.28	156	⇓P	Pn	06 10 49.8	+0.3

IDC 17 06:18:01.3±0.5, 1419S×76.19W, h0km, mb4.7/18, mb1 4.8/22, mb1mx4.8/23, mbtmp4.7/22, ML4.2/5, MS5.0/28, Ms1 5.0/28, ms1mx5.0/30, Error ellipse: s-maj=19.8km s-min=9.8km az=70.0
ISCJB 17 06:18:03.1±0.1, 1416S±003×7614W±003, h20km, mb5.4/152, MS5.1/196, Error ellipse: s-maj=5.4km s-min=3.1km az=43.7
NEIC 17 06:18:04.7±0.2, 1418S×7609W, mb5.5/131, MS5.1/173, ML4.9(LIM), Error ellipse: s-maj=6.3km s-min=3.4km az=54.0
NEIC Felt [III] at Ica and [II] at Lima.
GCMT 17 06:18:04.7±0.2, 1425S×7651W, h24km, MW5.6/81, Moment Tensor Solution. s52,c79; s81,c134; Duration: 1s5 Moment tensor: Scale 1017Nm; Mrr1.97±.08; Mθθ-0.06±.04; Mφφ-1.90±.06; Mrθ0.35±.07; Mrφ0.69±.03; Mθr-2.02±.10; Best double couple: M=2.89900×1017 NP1:φs335.00000°, δ23.00000°, λ78.00000°. NP2: φs168.00000°, δ68.00000°, λ95.00000°. Principal axes: T 2.8330, Plg67.0000°, Azm87.0000°; N 0.1400, Plg5.0000°, Azm346.0000°; P -2.9650, Plg22.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.
BJI 17 06:18:04.7, 1420S×76.10W, h19km, mB5.5, Ms5.6, Msz5.3
MOS 17 06:18:05.1±1.2, 1416S×7624W, h33km, mb5.6/49, MS4.9/19, Error ellipse: s-maj=8.4km s-min=5.4km az=110.7

ISC 17 06:18:05.3±0.1, 1418S±003×7604W±003, h21km, h21km±.3km: pP-P, n887, σ0°72/729, mb5.4/152, MS5.1/196, 258C-173D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	2.31	340	Pn	Pn	06 18 40.0	-2.2
	13μm,0.4s,SNR=14						
NNA	**Nana**	2.31	340	Pg	Pn	06 18 42.3	+0.2
	159nm,0.3s,baz=171,slow=13,SNR=38						
NNA				Lg		06 19 12.6	
	1μm,0.3s,baz=280,slow=11,SNR=8.9						
NNA				LR	LR	06 19 23.0	
	comp=Z,6μm,20.4s,baz=184,slow=36						
NNA	**Nana**	2.31	340	*e*Pn	Pn	06 18 40.1	-2.1
NNA				*e*Sn	Sn	06 18 55.9	-14
ARE	**Arequipa**	4.95	118	⇑*i*P	Pn	06 19 19.5	+1.1
ARE				*i*		06 19 24.6	
ARE				*e*S	Sn	06 20 30.0	+15
ATAH	**Atahualpa**	7.50	342	Pn	Pn	06 19 51.6	-1.9
	5.5nm,0.3s,baz=196,slow=5.7,SNR=25						
ATAH				Sn	Sn	06 21 18.4	+0.4
	5.3nm,0.3s,baz=275,slow=21,SNR=2.1						
ATAH				LR	LR	06 22 51.4	
	comp=Z,9μm,20.6s,baz=49,slow=40						
LPAZ	**La Paz**	7.92	106	Pn	Pn	06 20 03.7	+4.4
	9.5nm,0.3s,baz=292,slow=11,SNR=103						
LPAZ				Sn	Sn	06 21 34.7	+6.4
	baz=276,slow=14,SNR=1.9						
LPAZ				LR	LR	06 23 51.8	
	comp=Z,7μm,18.7s,baz=288,slow=44						
LPAZ	**La Paz**	7.92	106	⇑*e*P	Pn	06 20 05.1	+5.8
LPAZ				pmax	pmax		
	comp=Z,11nm,0.3s						
LPAZ	**La Paz**	7.92	106	*e*P	Pn	06 20 05.4	+6.1
LPAZ				pmax	pmax		
	comp=Z,11nm,0.3s						
LPAZ	**La Paz**	7.92	106	⇑*e*Pn	Pn	06 20 05.1	+5.8
	comp=Z,11nm,0.3s						
CEN1	**Los Morros**	10.70	150	*e*P	Pn	06 20 36.7	-0.7
LVC	**Limon Verde**	10.78	142	Pn	Pn	06 20 39.9	+1.5
	comp=Z,14nm,0.3s,baz=305,slow=9.5,SNR=97						
LVC				Sn	Sn	06 22 38.3	-0.2
	comp=Z,8.2nm,0.3s,baz=81,slow=19,SNR=4.2						
LVC				Lg		06 23 34.8	
	comp=Z,3.2nm,0.3s,baz=210,slow=13,SNR=3.7						
LVC				LR	LR	06 25 09.2	
	comp=Z,12μm,18.6s,baz=316,slow=39						
LVC	**Limon Verde**	10.78	142	⇑*i*Pn	Pn	06 20 39.1	+0.6
	comp=Z,151nm,0.6s						
LVC				*e*Sn	Sn	06 22 35.6	-2.9
OTAV	**Otavalo**	14.52	350	*e*Pn	Pn	06 21 33.4	+3.7
OTAV				*e*Sn	Sn	06 24 17.8	+7.7
SIV	**San Ignacio**	14.57	99	Pn	Pn	06 21 31.4	+1.0
	comp=Z,0.8nm,0.3s,baz=278,slow=13,SNR=16						
SIV				Lg		06 25 40.4	
	comp=Z,0.3nm,0.3s,baz=243,slow=19,SNR=2.2						
LCO	**Las Campanas**	15.57	162	*e*Pn	Pn	06 21 41.8	-1.8
	comp=Z,206nm,1.3s						
TLL	**Tololo Astrono**	16.63	164	*e*P	Pn	06 21 57.5	+0.3
CFAA	**Coronel Fontan**	18.76	159	P	Pn	06 22 23.5	-0.1
	comp=Z,0.4nm,0.3s,baz=332,slow=11,SNR=33						
CFAA				S	Sn	06 25 40.6	-12
	comp=Z,0.0nm,0.3s,baz=206,slow=22,SNR=6.2						
CFAA				LR	LR	06 28 54.6	
	comp=Z,431nm,18.3s,baz=344,slow=35						
CFAA	**Coronel Fontan**	18.76	159	P	Pn	06 22 23.5	-0.1
CFAA				S	Sn	06 25 40.6	-12
CFAA				LR	LR	06 28 54.6	

AOPR Arecibo Observ 33.59 16⇑eP P 06 24 43.4 -0.8
comp=Z,67nm,1.3s,mb5.4
RPN Rapa Nui 33.60 242 PFAKE 06 25 00.0 +16
RPN LR LR
comp=Z,7μm,22.0s,MS5.3
CBYP Canovanas 33.77 18 eP P **06 24 46.4 +0.6**
CAM3 Guarapari 34.45 106 (P) P **06 24 58.1 +6.3**
CAM3 i pP 06 25 03.9 +5.7
CAM3 i 06 25 10.4
CAM3 i 06 25 15.7
CAM3 i 06 25 28.9
TEIG Tepich 36.24 340⇑iP P 06 25 07.0 0.0
TEIG epP pP 06 25 12.9 -0.5
TEIG LR LR
comp=Z,2μm,19.0s,MS5.0
EFI East Falkland 40.10 163 PFAKE 06 25 50.0 +11
EFI LR LR
comp=Z,2μm,22.0s,MS5.0
USHA Ushuaia 41.00 173 P P **06 25 45.7 -0.9**
comp=Z,15nm,0.9s,mb4.6,baz=340,slow=6.2,SNR=5.5
DWPF Disney 42.36 353 eP P **06 25 57.4 -0.7**
DWPF LR LR
comp=Z,1μm,22.0s,MS4.8
BRAL Brewton 46.16 347 PFAKE 06 26 40.0 +12
BRAL LR LR
comp=Z,875nm,19.0s,MS4.7
KVTX Kingsville 46.58 333⇓eP P 06 26 33.5 +1.7
comp=Z,374nm,1.2s,mb6.2
KVTX LR LR
comp=Z,1μm,20.0s,MS4.9
NHSC New Hope 47.18 355⇑eP P 06 26 35.4 -1.0
comp=Z,181nm,1.3s,mb5.8
NHSC epP pP 06 26 42.5 -0.4
NHSC LR LR
comp=Z,2μm,20.0s,MS5.1
COW Cow Castle Cre 47.50 355 P P **06 26 39.8 +0.8**
BBSR BB Station 47.54 13 PFAKE 06 26 50.0 +11
BBSR LR LR
comp=Z,1μm,20.0s,MS4.8
HKT Hockley 47.84 337 eP P **06 26 41.4 -0.2**
HKT pmax pmax
comp=Z,127nm,1.6s,mb5.7
HKT MLR MLR
comp=Z,916nm,19.0s,MS4.8
HKT Hockley 47.84 337 eP P **06 26 41.4 -0.3**
comp=Z,127nm,1.6s,mb5.7
HKT LR LR
comp=Z,916nm,19.0s,MS4.8
GOGA Godfrey 47.85 352 eP P **06 26 41.0 -0.6**
GOGA pmax pmax
comp=Z,84nm,1.3s,mb5.6
GOGA Godfrey 47.85 352⇑eP P 06 26 40.5 -1.2
comp=Z,84nm,1.3s,mb5.6
GOGA epP pP 06 26 46.5 -1.6
GOGA LR LR
comp=Z,1μm,21.0s,MS4.9
VBMS Vicksburg 48.17 343 eP P **06 26 43.2 -1.0**
VBMS epP pP 06 26 49.8 -0.9
VBMS LR LR
comp=Z,850nm,21.0s,MS4.7
JSC Jenkinsville 48.44 354 eP P **06 26 45.0 -1.2**
NATX Nacogdoches 49.04 339 eP P **06 26 50.1 -0.8**
comp=Z,265nm,1.7s,mb6.0
NATX LR LR
comp=Z,791nm,21.0s,MS4.7
CNNC Cliffs of the 49.17 358 eP P **06 26 51.5 -0.3**
comp=Z,75nm,1.0s,mb5.7
CNNC LR LR
comp=Z,2μm,20.0s,MS5.0
JCT Junction City 49.94 333 eP P **06 26 58.6 +0.8**
JCT pmax pmax
comp=Z,30nm,0.9s,mb5.3
JCT MLR MLR
comp=Z,625nm,19.0s,MS4.6
JCT Junction City 49.94 333 eP P **06 26 58.6 +0.8**
comp=Z,30nm,0.9s,mb5.3
JCT LR LR
comp=Z,625nm,19.0s,MS4.6
CPCT Cooper Cave 50.00 351⇑eP P 06 26 56.4 -1.8
CPCT epP pP 06 27 03.0 -1.8
SWET Sewanee 50.01 349⇑iP P 06 26 56.5 -1.7
SWET epP pP 06 27 02.9 -1.8
OXF Oxford 50.06 346⇑iP P 06 26 56.2 -2.4
OXF e*PP pP 06 27 02.6 -2.5
OXF pmax pmax
comp=Z,128nm,1.3s,mb5.8
OXF MLR MLR
comp=Z,866nm,22.0s,MS4.7
OXF Oxford 50.06 346⇑iP P 06 26 56.2 -2.3
comp=Z,128nm,1.3s,mb5.8
OXF epP pP 06 27 02.5 -2.6
OXF LR LR
comp=Z,866nm,22.0s,MS4.7
TKL Tuckaleechee C 50.10 352⇑iP P 06 26 57.4 -1.5
TKL e*PP pP 06 27 03.2 -2.2
PLAL Pickwick Lake 50.20 347⇑iP P 06 26 57.6 -2.1
comp=Z,63nm,1.2s,mb5.5
PLAL epP pP 06 27 03.5 -2.8
PLAL LR LR
comp=Z,769nm,20.0s,MS4.7
TXAR Lajitas Array 50.82 329 P P **06 27 04.5 +0.1**
comp=Z,7.4nm,1.0s,mb4.6,baz=146,slow=7.6,SNR=36
TXAR LR LR 06 47 21.4
comp=Z,2μm,18.2s,MS5.2,baz=265,slow=35
TZTN Tazewell 50.94 352⇑eP P 06 27 03.3 -1.9
comp=Z,55nm,1.1s,mb5.4
TZTN epP pP 06 27 09.7 -2.1
TZTN LR LR
comp=Z,2μm,19.0s,MS5.2
UALR University of 51.09 343⇑iP P 06 27 05.5 -0.9
comp=Z,83nm,1.3s,mb5.5
UALR epP pP 06 27 11.2 -1.7
PMSA Palmer Station 51.21 173 eP P **06 27 06.2 -0.7**
comp=Z,64nm,1.3s,mb5.4
PMSA LR LR
comp=Z,680nm,19.0s,MS4.7
MIAR Mount Ida 51.24 341 eP P **06 27 07.3 -0.2**
MIAR pmax pmax
comp=Z,60nm,1.3s,mb5.4
MIAR Mount Ida 51.24 341⇑iP P 06 27 06.6 -0.9
comp=Z,60nm,1.4s,mb5.3
MIAR epP pP 06 27 12.8 -1.3
MIAR LR LR
comp=Z,600nm,21.0s,MS4.6
BLA Blacksburg 51.28 356⇑iP P 06 27 06.9 -0.8
BLA e*PP pP 06 27 13.5 -0.8
BLA pmax pmax
comp=Z,58nm,1.1s,mb5.4
BLA MLR MLR
comp=Z,1μm,21.0s,MS5.0
BLA Blacksburg 51.28 356⇑iP P 06 27 06.9 -0.8
comp=Z,58nm,1.1s,mb5.4
BLA epP pP 06 27 13.5 -0.8
BLA LR LR
comp=Z,1μm,21.0s,MS5.0
ELN Prospectdale 51.32 355 eP P **06 27 07.5 -0.5**
ELN epP pP 06 27 14.2 -0.4
HBAR Harrisburg 51.36 345 eP P **06 27 08.6 +0.2**
HBAR epP pP 06 27 13.9 -1.1
HALT Halls 51.38 346 eP P **06 27 07.7 -0.8**
HALT epP pP 06 27 12.8 -2.3
URVA University of 51.49 358 eP P **06 27 08.9 -0.4**
URVA epP pP 06 27 15.4 -0.5
GNAR Gosnell 51.59 346 eP P **06 27 09.2 -1.0**
GNAR epP pP 06 27 14.6 -2.1
UTMT University of 51.68 347 eP P **06 27 15.0 +4.2**
comp=Z,135nm,1.1s,mb5.8
GLAT Glass 51.71 346 eP P **06 27 10.0 -0.9**
GLAT epP pP 06 27 15.6 -2.0
PTCN Pitcairn Islan 51.76 249 PFAKE 06 27 20.0 +8.3
PTCN LR LR
comp=Z,4μm,21.0s,MS5.4
PARMO Parma 52.19 346 eP P **06 27 13.0 -1.6**
PARMO epP pP 06 27 19.9 -1.3
USIN University of 53.00 348 eP P **06 27 19.2 -1.3**
comp=Z,133nm,1.1s,mb5.8
USIN epP pP 06 27 25.0 -2.1
WCI Wyandotte Cave 53.01 350 eP P **06 27 18.9 -1.7**
WCI MLR MLR
comp=Z,1μm,19.0s,MS4.9
SIUC Southern Illin 53.08 347 eP P **06 27 19.6 -1.5**
comp=Z,78nm,1.0s,mb5.6
SIUC epP pP 06 27 26.6 -1.1
WMOK Wichita Mounta 53.23 337 eP P **06 27 20.5 -1.8**
WMOK e*PP pP 06 27 26.9 -2.0
WMOK e 06 28 36.0
WMOK pmax pmax
comp=Z,60nm,1.4s,mb5.3
WMOK MLR MLR
comp=Z,557nm,22.0s,MS4.6
WMOK Wichita Mounta 53.23 337 eP P **06 27 20.5 -1.8**
comp=Z,60nm,1.4s,mb5.3
WMOK epP pP 06 27 26.9 -2.0
WMOK ePcP PcP 06 28 36.0 +5.9
WMOK LR LR
comp=Z,557nm,22.0s,MS4.6
SDMD Soldier's Deli 53.31 359 eP P **06 27 21.6 -1.2**
comp=Z,56nm,1.1s,mb5.4
SDMD epP pP 06 27 29.2 -0.2
GDL2 Guadalupe Moun 53.50 330 eP P **06 27 25.2 +0.9**
FVM French Village 53.61 346 eP P **06 27 24.0 -1.0**
FVM pmax pmax
comp=Z,130nm,1.7s,mb5.6
FVM French Village 53.61 346⇑eP P 06 27 23.5 -1.5
comp=Z,129nm,1.7s,mb5.6
FVM epP pP 06 27 29.6 -2.0
MCWV Mont Chateau 53.67 356 eP P **06 27 24.0 -1.5**
comp=Z,50nm,1.4s,mb5.2
MCWV LR LR
comp=Z,2μm,20.0s,MS5.1
OLIL Olney 53.83 348 eP P **06 27 24.6 -2.0**
comp=Z,213nm,1.4s,mb5.9
OLIL epP pP 06 27 30.9 -2.3
MVL Millersville 53.90 360 eP P **06 27 22.2 -4.8**
comp=Z,76nm,1.3s,mb5.5
MVL epP pP 06 27 29.0 -4.7
BLO Bloomington 53.97 350 eP P **06 27 26.0 -1.6**
BLO Bloomington 53.97 350⇑iP P 06 27 25.4 -2.2
SLM Saint Louis 54.19 346 P P **06 27 27.2 -2.0**
SLM e*PP pP 06 27 33.7 -2.2
ACSO Alum Creek Sta 54.51 353⇑iP P 06 27 29.9 -1.7
comp=Z,127nm,1.3s,mb5.8
ACSO epP pP 06 27 36.0 -2.2
ACSO LR LR
comp=Z,2μm,19.0s,MS5.2
AMTX Amarillo 54.53 334⇑eP P 06 27 30.6 -1.2
comp=Z,57nm,1.4s,mb5.4
AMTX epP pP 06 27 36.2 -2.2
AMTX LR LR
comp=Z,892nm,19.0s,MS4.8
PAL Palisades 54.94 2 eP P **06 27 33.8 -0.8**
PAL pmax pmax
comp=Z,37nm,1.0s,mb5.4
PAL Palisades 54.94 2 eP P **06 27 33.8 -0.8**
comp=Z,37nm,1.0s,mb5.4
319A Douglas 55.40 325⇓P P 06 27 38.7 +0.5
baz=56,SNR=35
ALLY Allegheny Colle 55.67 356 eP P **06 27 38.4 -1.5**
comp=Z,27nm,0.8s,mb5.3
318A Bisbee 55.85 325⇑P P 06 27 41.8 +0.4
baz=56,SNR=42
219A White Tail Can 55.87 326⇓P P 06 27 41.8 +0.3
baz=56,SNR=32
BRYW Bryant College 55.97 4 eP P **06 27 42.1 +0.1**
comp=Z,82nm,0.9s,mb5.8
BINY Binghamton 56.09 0⇑iP P 06 27 43.0 0.0
comp=Z,80nm,1.3s,mb5.6
BINY epP pP 06 27 49.0 -0.5
BINY LR LR
comp=Z,1μm,22.0s,MS4.9
BNM Barren Site 56.19 329 eP P **06 27 43.7 0.0**
BNM epP pP 06 27 49.9 -0.5
RKT Rikitea 56.23 252 eS S **06 35 30.7 -2.6**
comp=Z,3μm,26.0s
RKT eSS SS 06 39 19.1 -1.1
comp=Z,501nm,27.5s
RKT eLR LR 06 44 09.5
comp=Z,3μm,26.5s,baz=86
Y22C IRIS PASSCAL I 56.27 329⇑P P 06 27 44.5 +0.1
baz=56
218A Dragoon 56.28 325⇓P P 06 27 44.9 +0.4
baz=56,SNR=26
LPM Los Pinos Moun 56.32 330 eP P **06 27 44.9 +0.2**
LPM epP pP 06 27 49.9 -1.4
LENM Lemitar 56.37 329 eP P **06 27 45.0 0.0**
LENM epP pP 06 27 51.0 -0.7
KSU1 Kansas State U 56.38 341 PFAKE 06 28 00.0 +15
KSU1 LR LR
comp=Z,484nm,19.0s,MS4.6
WES Weston 56.45 4 PFAKE 06 28 00.0 +15
WES LR LR
comp=Z,978nm,19.0s,MS4.9
119A Ashpeak Ranch, 56.48 326⇑P P 06 27 46.0 +0.1
baz=57,SNR=16
HRV Adam Dziewonsk 56.55 4 eP P **06 27 45.8 -0.4**
HRV pmax pmax
comp=Z,41nm,1.1s,mb5.4
HRV MLR MLR
comp=Z,1μm,21.0s,MS4.9
HRV Adam Dziewonsk 56.55 4 eP P **06 27 45.8 -0.4**
comp=Z,41nm,1.1s,mb5.4
HRV LR LR
comp=Z,1μm,21.0s,MS4.9
217A Green Valley 56.56 324⇑P P 06 27 46.8 +0.3
baz=57,SNR=30
AAM Ann Arbor 56.63 353 PFAKE 06 28 00.0 +13
AAM LR LR
comp=Z,3μm,20.0s,MS5.3
LAZ Ladron 56.64 329 eP P **06 27 47.7 +0.7**
LAZ epP pP 06 27 53.0 -0.7
118A Homack Ranch, 56.74 326⇑P P 06 27 48.3 +0.6
baz=57,SNR=26
ANMO Albuquerque 56.75 330 eP P **06 27 48.3 +0.5**
ANMO pmax pmax
comp=Z,53nm,1.2s
ANMO Albuquerque 56.75 330⇑eP P 06 27 47.2 -0.5
comp=Z,52nm,1.2s,mb5.4
ANMO epP pP 06 27 52.9 -1.5
ANMO LR LR
comp=Z,1μm,19.0s,MS5.1
TUC Tucson 56.94 325 eP P **06 27 49.0 -0.2**
TUC pmax pmax
comp=Z,48nm,1.3s,mb5.4
TUC Tucson 56.94 325⇑eP P 06 27 48.9 -0.3
comp=Z,48nm,1.3s,mb5.4
TUC epP pP 06 27 54.0 -1.8
TUC LR LR
comp=Z,1μm,19.0s,MS5.1
216A Three Points, 57.09 324⇓P P 06 27 50.5 +0.2
baz=57,SNR=18
117A Oracle 57.12 325⇑P P 06 27 50.5 +0.1
baz=57,SNR=53
Z18A Geronimo 57.12 326⇑P P 06 27 50.5 +0.1
baz=57
CBKS Cedar Bluff 57.18 338 eP P **06 27 51.2 +0.5**
CBKS Cedar Bluff 57.18 338 eP P **06 27 50.5 -0.2**
CBKS epP pP 06 27 55.4 -2.0
CBKS LR LR
comp=Z,557nm,21.0s,MS4.6
ACCN Adirondack Com 57.32 2⇑iP P 06 27 52.0 +0.4
comp=Z,135nm,1.2s,mb5.8
ACCN epP pP 06 27 58.1 -0.1
Y19A Nutrioso 57.37 327⇓P P 06 27 52.3 +0.1
baz=58,SNR=34
Z17A San Carlos Hig 57.52 326⇓P P 06 27 52.8 -0.4
baz=58
Y18A Canyon Day Jun 57.65 327⇑P P 06 27 54.2 +0.1
baz=58,SNR=23
116A Eloy 57.65 324⇑P P 06 27 54.1 0.0
baz=58,SNR=19
HNH Hanover 57.70 3⇑iP P 06 27 54.9 +0.6
comp=Z,64nm,1.1s,mb5.6
X19A St. Johns 57.75 328⇓P P 06 27 55.0 +0.1
baz=58,SNR=6.3
214A Organ Pipe Nat 57.84 323⇓P P 06 27 55.4 -0.2
baz=58,SNR=22
NCB Newcomb 57.89 2⇑eP P 06 27 55.1 -0.5
comp=Z,74nm,1.3s,mb5.5
NCB epP pP 06 28 01.1 -1.1
NCB LR LR
comp=Z,686nm,19.0s,MS4.8
SCIA State Center 58.01 345 eP P **06 27 55.2 -1.3**
SCIA epP pP 06 28 00.9 -2.3
SCIA LR LR
comp=Z,648nm,20.0s,MS4.7
Y17A Roosevelt 58.02 326⇓P P 06 27 57.0 +0.2
baz=58,SNR=18
115A Sonoran Desert 58.05 324⇓P P 06 27 56.8 -0.1
baz=58,SNR=17
Z16A Peralta Trail, 58.07 325⇓P P 06 27 57.0 -0.1
baz=58
X18A Snowflake 58.18 327⇑P P 06 27 58.1 +0.3
baz=58,SNR=6.5
LBNH Lisbon 58.25 3 eP P **06 27 58.6 +0.4**
LBNH e pP 06 28 06.0 +1.2
LBNH pmax pmax
comp=Z,53nm,1.2s,mb5.5
LBNH Lisbon 58.25 3 eP P **06 27 57.9 -0.3**
comp=Z,53nm,1.3s,mb5.4
LBNH epP pP 06 28 05.3 +0.5
LBNH LR LR
comp=Z,1μm,22.0s,MS5.0
JFWS Jewell Farm 58.29 348 PFAKE 06 28 10.0 +12
JFWS LR LR
comp=Z,835nm,20.0s,MS4.8
W19A Sanders 58.34 328⇑P P 06 27 58.9 -0.1
baz=59,SNR=22
Z15A Gila River Ind 58.44 325⇑P P 06 27 59.3 -0.4
baz=59,SNR=10
X17A Forest Lakes 58.48 326⇑P P 06 28 00.8 +0.8
baz=59,SNR=22
Y16A Circle Bar Ran 58.51 326⇓P P 06 28 00.4 +0.3
baz=59,SNR=22
W18A Petrified Fore 58.52 328⇓P P 06 28 00.5 +0.3
baz=59,SNR=5.4
LONY Lake Ozonia 58.53 1⇑eP P 06 27 59.7 -0.4
comp=Z,60nm,1.1s,mb5.5
LONY LR LR
comp=Z,913nm,19.0s,MS4.9
SDCO Great Sand Dun 58.59 333⇑eP P 06 28 00.1 -0.5
comp=Z,56nm,1.2s,mb5.5
SDCO epP pP 06 28 06.0 -1.3
SDCO LR LR
comp=Z,984nm,21.0s,MS4.9
V19A Window Rock 58.63 329⇑P P 06 28 00.9 -0.1
baz=59,SNR=24
FRNY Flat Rock 58.77 2⇑eP P 06 28 01.8 +0.1
comp=Z,95nm,1.0s,mb5.8
X16A Lo Mia Camp, P 58.89 326⇓P P 06 28 03.1 +0.3
baz=59,SNR=31
Z14A Wintersburg 58.94 324⇓P P 06 28 03.2 0.0
baz=59
113A Mohawk Valley, 58.98 323⇑P P 06 28 03.4 -0.1
baz=59
W17A Winslow 59.00 327⇑P P 06 28 03.9 +0.3
baz=59
Y15A Casa Rosa Ranc 59.03 325⇑P P 06 28 04.2 +0.4
baz=59,SNR=24
V18A Ganado 59.08 328⇑P P 06 28 03.4 -0.7
baz=59
GLMI Grayling 59.23 353 PFAKE 06 28 20.0 +15
GLMI LR LR
comp=Z,3μm,19.0s,MS5.4
112A Yuma 59.30 322⇑P P 06 28 05.3 -0.4
baz=60
X15A Humboldt 59.38 325⇑P P 06 28 06.7 +0.5
baz=60,SNR=29
Y14A Wickenburg 59.40 324⇓P P 06 28 06.6 +0.3
baz=60,SNR=21
W16A Flagstaff 59.45 326⇑P P 06 28 07.1 +0.4
baz=60,SNR=25
PKME Peaks-Kenny Pk 59.47 6 eP P **06 28 04.5 -2.2**
comp=Z,48nm,1.3s,mb5.4
PKME LR LR
comp=Z,1μm,20.0s,MS5.0
T19A Beclabito 59.50 330⇓P P 06 28 07.0 0.0
baz=60,SNR=23
MVCO Mesa Verde 59.54 330⇓P P 06 28 07.0 -0.3
baz=60
MVCO Mesa Verde 59.54 330 eP P **06 28 07.8 +0.5**
comp=Z,40nm,1.2s,mb5.3
MVCO LR LR
comp=Z,1μm,19.0s,MS5.0
U18A Rough Rock, Ch 59.60 329⇑P P 06 28 07.3 -0.4
baz=60,SNR=17
WUAZ Wupatki 59.68 327⇓P P 06 28 09.0 +0.7
baz=60
WUAZ Wupatki 59.68 327⇑eP P 06 28 08.5 +0.2
comp=Z,102nm,1.3s,mb5.7
WUAZ epP pP 06 28 14.0 -1.0
WUAZ LR LR
comp=Z,2μm,19.0s,MS5.3
X14A Yava 59.72 325⇑P P 06 28 08.7 +0.2
baz=60,SNR=28
Y13A Salome 59.77 324⇓P P 06 28 09.1 +0.1
baz=60,SNR=15
GLA Glamis 59.81 323 eP P **06 28 10.6 +1.4**
GLA Glamis 59.81 323⇑P P 06 28 09.5 +0.2
baz=60
GLA Glamis 59.81 323 eP P **06 28 09.1 -0.1**
GLA LR LR
comp=Z,736nm,20.0s,MS4.8
W15A Williams 59.91 326⇑P P 06 28 10.4 +0.6
baz=60,SNR=16
Y12C Blythe 60.13 323⇑P P 06 28 11.5 +0.1
baz=60,SNR=11
U17A Shonto 60.14 328⇑P P 06 28 11.6 +0.2
baz=60
T18A Mexican Hat 60.16 329⇑P P 06 28 11.3 -0.3
baz=60,SNR=39
S19A Harvey Farm, M 60.28 330⇑P P 06 28 11.8 -0.5
baz=60,SNR=27
DVTC Desert V Tower 60.30 321⇑P P 06 28 13.2 +0.6
baz=60
PDMCI Parker Dam,Lak 60.30 324⇑P P 06 28 12.8 +0.2
baz=60
SWSC Sam W. Stewart 60.31 322⇑P P 06 28 13.1 +0.5
baz=60
PV01 Paradox Valley 60.31 331 eP P **06 28 12.9 +0.3**
PV01 epP pP 06 28 18.1 -1.1
V15A Kaibab Nationa 60.34 327⇓P P 06 28 12.8 +0.1
baz=61,SNR=21
X13A Yucca 60.34 324⇓P P 06 28 12.9 0.0
baz=61,SNR=20
ISCO Idaho Springs 60.35 334 eP P **06 28 13.0 +0.3**
ISCO Idaho Springs 60.35 334⇑eP P 06 28 12.4 -0.3
comp=Z,25nm,1.2s,mb5.1
ISCO epP pP 06 28 18.5 -1.0
ISCO LR LR
comp=Z,622nm,20.0s,MS4.8
W14A Seligman 60.38 325⇓P P 06 28 12.9 -0.2
baz=61,SNR=28
T17A Navajo Res., N 60.52 328⇓P P 06 28 14.1 +0.1
baz=61,SNR=31
BC3 Big Chuckw Mtn 60.60 323⇑P P 06 28 14.7 0.0
baz=61,SNR=19
ECSD EROS,Sioux Fal 60.62 343⇑eP P 06 28 12.7 -1.8
comp=Z,25nm,0.8s,mb5.4
ECSD epP pP 06 28 18.8 -2.4
ECSD LR LR
comp=Z,842nm,19.0s,MS4.9
S18A Hurst Farm, Bl 60.65 329⇑P P 06 28 14.4 -0.5
baz=61,SNR=32
BAR Barrett 60.66 321 ePg P **06 28 12.8 -2.3**
BAR LR LR
comp=Z,728nm,21.0s,MS4.8
V14A Boquillas Ranc 60.70 326⇑P P 06 28 15.2 0.0
baz=61,SNR=32
ASCN Ascension 60.72 91 PFAKE 06 28 30.0 +14
ASCN LR LR
comp=Z,5μm,20.0s,MS5.6
PV10 Paradox Valley 60.73 331 eP P **06 28 16.5 +1.1**
W13A Hualapai Mount 60.74 325⇑P P 06 28 15.5 -0.1
baz=61,SNR=25
R19A Curley Farm, L 60.77 330⇓P P 06 28 15.6 -0.1
baz=61
IRM Iron Mountain 60.78 323⇑P P 06 28 15.9 0.0
baz=61,SNR=21
U15A North Rim 60.86 327⇓P P 06 28 16.2 -0.1
baz=61,SNR=31
T16A Glen Canyon Da 60.87 328⇓P P 06 28 16.6 +0.2
baz=61
NEE2 Needles Airpor 60.91 324⇑P P 06 28 16.9 +0.2
baz=61
S17A Black Ridge (B 61.01 329⇑P P 06 28 17.3 0.0
baz=61,SNR=6.4
COWI Conover 61.15 350 PFAKE 06 28 30.0 +12
COWI LR LR
comp=Z,1μm,19.0s,MS5.1
R18A Canyonlands Na 61.15 330⇓P P 06 28 18.2 -0.1
baz=61
PFO Pinyon Flat Ob 61.17 322 LR LR 06 50 01.4
comp=Z,1μm,21.2s,MS4.9,baz=144,slow=31
PFO Pinyon Flat Ob 61.17 322⇑P P 06 28 19.2 +0.7
baz=61
PFO Pinyon Flat Ob 61.17 322 PFAKE 06 28 30.0 +12
PFO LR LR

comp=Z,1µm,22.0s,MS5.0
BELC Belle Mtn. 61.17 322 ⇑P P 06 28 18.9 +0.4
baz=61
Q19A Hogan Spring (61.30 331 ⇓P P 06 28 18.9 -0.3
baz=62,SNR=5.8
U14A Mt Trumbull 61.33 326 ⇑P P 06 28 20.0 +0.5
baz=62,SNR=32
V13A Grand Canyon W 61.35 325 ⇓P P 06 28 19.8 +0.2
baz=62,SNR=18
T15A Red Dirt Ranch 61.35 327 ⇑P P 06 28 19.8 +0.1
baz=62
LDFC Landfair 61.42 324 *eP* **P 06 28 20.9 +0.8**
comp=Z,29nm,1.1s,mb5.3
W12A Cal Nev Ari 61.44 324 ⇓P P 06 28 21.0 +0.7
baz=62
S16A Weppner Ranch, 61.48 328 ⇑P P 06 28 20.3 -0.2
baz=62,SNR=25
GMRC Granite Mounta 61.52 323 ⇑P P 06 28 20.9 +0.1
baz=62,SNR=12
PHWY Pilot Hill 61.54 335 *eP* **P 06 28 20.9 +0.1**
R17A Hanksville Air 61.57 329 ⇓P P 06 28 21.2 0.0
baz=62,SNR=34
MURC Murrieta 61.61 321 ⇑P P 06 28 21.5 0.0
baz=62
V12A Nelson 61.74 325 ⇓P P 06 28 22.2 0.0
baz=62,SNR=15
U13A Pakoon Wash 61.75 326 ⇓P P 06 28 22.5 +0.1
baz=62,SNR=18
T14A Hurricane 61.75 327 ⇓P P 06 28 22.5 +0.1
baz=62,SNR=28
Q18A Rafter H Ranch 61.83 330 ⇓P P 06 28 23.0 +0.2
baz=62,SNR=26
S15A Panguitch 61.84 328 ⇓P P 06 28 23.3 +0.4
baz=62
BBRC Big Bear Sol-O 61.90 322 ⇑P P 06 28 24.5 +1.0
baz=62
HEC Hector,Ludlow 61.95 323 ⇓P P 06 28 24.0 +0.3
baz=62,SNR=14
SCI San Clemente I 62.02 320 ⇑P P 06 28 24.6 +0.4
baz=62
SRU San Rafael 62.02 330 *eP* **P 06 28 21.7 -2.4**
SRU San Rafael 62.02 330 ⇑P P 06 28 23.9 -0.2
baz=62,SNR=20
SRU San Rafael 62.02 330 *eP* **P 06 28 21.2 -2.9**
comp=Z,50nm,1.3s,mb5.5
U12A Valley of Fire 62.08 325 ⇑P P 06 28 24.9 +0.4
baz=62
TUQ Turquoise Mtn. 62.14 324 ⇑P P 06 28 25.3 +0.3
baz=62
V11A Goodsprings 62.14 324 ⇓P P 06 28 26.0 +1.0
baz=62
T13A Saint George 62.16 326 ⇓P P 06 28 25.2 +0.1
baz=62,SNR=20
Q16A Castle Valley 62.19 330 ⇓P P 06 28 25.3 +0.1
baz=62,SNR=18
R15A Junction 62.20 328 ⇓P P 06 28 25.6 +0.3
baz=62
CCUT Cedar City 62.27 327⇑ *eP* **P 06 28 35.2 +9.4**
CCUT *epP* pP 06 28 41.4 +8.9
P18A Preston Nutter 62.29 331 ⇑P P 06 28 26.4 +0.5
baz=62
S14A Cedar City 62.32 327 ⇑P P 06 28 26.6 +0.4
baz=63
BFSC Mount Baldy St 62.33 322 ⇓P P 06 28 26.7 +0.4
baz=62,SNR=7.4
RRX Edison Barstow 62.38 323 ⇑P P 06 28 27.2 +0.7
baz=63
MSU Marysvale 62.38 329 *eP* **P 06 28 26.6 +0.1**
T12A Moapa 62.39 325 ⇓P P 06 28 26.9 +0.2
baz=63
MVU Marysvale 62.39 328 PFAKE 06 28 40.0 +13
MVU LR LR
comp=Z,2µm,19.0s,MS5.3
P17A Butcher Ranch, 62.41 330 ⇑P P 06 28 26.7 -0.1
baz=63
SHPR Sheep Range 62.47 325 *eP* **P 06 28 27.8 +0.6**
TMUT Trail Mountain 62.50 330 *eP* **P 06 28 28.2 +0.9**
U11A Corn Creek 62.54 325 ⇓P P 06 28 28.3 +0.6
baz=63
S13A Holt Ranch, En 62.55 327 ⇑P P 06 28 28.5 +0.8
baz=63,SNR=37
GSC Goldstone 62.55 323 ⇑P P 06 28 27.9 +0.1
baz=63,SNR=16
GSC Goldstone 62.55 323 *eP* **P 06 28 30.1 +2.3**
GSC LR LR
comp=Z,1µm,19.0s,MS5.1
MWC Mount Wilson 62.56 321 PFAKE 06 28 40.0 +12
MWC LR LR
comp=Z,597nm,19.0s,MS4.8
RWWY Rawlins 62.59 334 *eP* **P 06 28 28.1 +0.3**
comp=Z,127nm,1.4s,mb5.9
R14A James Farms, M 62.65 328 ⇑P P 06 28 29.1 +0.8
baz=63
SHOC Shoshone 62.67 324 ⇑P P 06 28 28.8 +0.2
baz=63
O18A Roosevelt 62.69 331 ⇑P P 06 28 28.8 +0.2
baz=63,SNR=19
DECC Green Verdugo 62.74 321 ⇑P P 06 28 29.4 +0.3
baz=63
SNCC San Nicolas Is 62.81 320 PFAKE 06 28 40.0 +10
SNCC LR LR
comp=Z,978nm,19.0s,MS5.0
Q15A Fillmore 62.85 329 ⇓P P 06 28 29.9 +0.2
baz=63,SNR=18
TAOE Nuku Hiva Isla 62.88 267 *eS* **S 06 36 57.7 -1.8**
comp=Z,4µm,25.8s
TAOE *eLQ* 06 44 33.1
comp=Z,4µm,27.1s
TAOE *eLR* LR 06 47 14.0
comp=Z,18µm,24.7s,baz=105
P16A Fountain Green 62.96 330 ⇑P P 06 28 30.6 +0.2
baz=63,SNR=6.0
EDW2 Edwards Air Fo 62.96 322 ⇓P P 06 28 31.0 +0.5
baz=63
T11A Corn Creek, Al 63.04 326 ⇑P P 06 28 31.6 +0.6
baz=63,SNR=21
R13A O'Grain Ranch, 63.05 327 ⇑P P 06 28 31.6 +0.5
baz=63,SNR=24
U10A Ash Meadows, A 63.07 324 ⇑P P 06 28 31.4 +0.2
baz=63
BLG Laguna Peak 63.09 321 ⇓P P 06 28 31.6 +0.2
baz=63
N18A Larsen Ranch, 63.09 332 ⇓P P 06 28 30.9 -0.4
baz=63,SNR=19
S12A Delamar Landin 63.10 326 ⇑P P 06 28 31.7 +0.3
baz=63,SNR=5.3
OSI Osito Adit 63.23 321 ⇑P P 06 28 32.0 -0.3
baz=63
P15A Leamington 63.24 329 ⇑P P 06 28 32.3 +0.1
baz=64
MPU Maple Canyon 63.26 330 *eP* **P 06 28 33.0 +0.6**
comp=Z,35nm,1.2s,mb5.4
Q14A Sevier Lake (B 63.30 328 ⇓P P 06 28 33.2 +0.6
baz=64,SNR=33
O16A Springville 63.35 330 ⇓P P 06 28 32.5 -0.4
baz=64,SNR=5.2
EYMN Ely 63.36 348 *eP* **P 06 28 27.4 -5.5**
comp=Z,28nm,1.2s,mb5.3
EYMN LR LR
comp=Z,1µm,20.0s,MS5.2
RSSD Black Hills 63.38 338 *eP* **P 06 28 33.3 +0.2**
RSSD pmax pmax
comp=Z,31nm,1.3s,mb5.3
RSSD MLR MLR
comp=Z,780nm,20.0s,MS4.9
RSSD Black Hills 63.38 338 *eP* **P 06 28 33.3 +0.2**
comp=Z,31nm,1.3s,mb5.3
RSSD LR LR
comp=Z,780nm,20.0s,MS4.9
DAU Daniels Canyon 63.39 330 *eP* **P 06 28 33.3 +0.1**
DAU *e* pP 06 28 39.7 -0.2
TPNV Topopah Spring 63.40 325 *eP* **P 06 28 34.6 +1.2**
TPNV pmax pmax
comp=Z,36nm,1.3s,mb5.3
TPNV MLR MLR
comp=Z,684nm,20.0s,MS4.8
TPNV Topopah Spring 63.40 325 ⇑P P 06 28 34.0 +0.6
baz=64
TPNV Topopah Spring 63.40 325 *eP* **P 06 28 34.6 +1.2**
comp=Z,36nm,1.3s,mb5.3
TPNV LR LR
comp=Z,684nm,20.0s,MS4.8
FURC Furnace Creek, 63.41 324 ⇓P P 06 28 33.3 -0.1
baz=64,SNR=14
NLU North Lily Min 63.43 330 *eP* **P 06 28 34.5 +1.0**
NLU *e* pP 06 28 39.2 -1.0
MPMC Manual Prospec 63.48 323 ⇑P P 06 28 33.7 -0.3
baz=64,SNR=18

R12A Pony Springs, 63.50 327 ⇓P P 06 28 34.4 +0.4
baz=64,SNR=32
N17A Moffit Pass 63.60 331 ⇓P P 06 28 34.8 +0.1
baz=64,SNR=29
S11A Rachel 63.62 326 ⇓P P 06 28 35.6 +0.8
baz=64
JLU Jordanelle 63.63 331 *eP* **P 06 28 35.6 +0.8**
JLU *epP* pP 06 28 40.9 -0.6
ARVC Arvin 63.63 322 ⇑P P 06 28 35.3 +0.3
baz=64
P14A Drum Mountains 63.65 329 ⇓P P 06 28 35.5 +0.6
baz=64,SNR=22
Q13A Wheeler Ranch, 63.66 328 ⇑P P 06 28 35.2 +0.2
baz=64,SNR=22
DAC Darwin (Calif) 63.69 323 PFAKE 06 28 50.0 +15
DAC LR LR
comp=Z,1µm,19.0s,MS5.2
ISA Isabella 63.79 322⇑ *eP* **P 06 28 36.2 +0.2**
ISA *e*PP* pP 06 28 41.9 -0.8
ISA pmax pmax
comp=Z,21nm,1.0s,mb5.1
ISA MLR MLR
comp=Z,775nm,20.0s,MS4.9
ISA Isabella 63.79 322 ⇓P P 06 28 36.2 +0.2
baz=64,SNR=11
ISA Isabella 63.79 322⇑ *eP* **P 06 28 36.2 +0.2**
comp=Z,21nm,1.0s,mb5.1
ISA *epP* pP 06 28 41.9 -0.8
ISA LR LR
comp=Z,775nm,20.0s,MS4.9
CTU Camp Tracy 63.84 330 P **P 06 28 37.2 +1.0**
N16A Rees Ranch, Co 63.85 331 ⇓P P 06 28 36.5 +0.2
baz=64,SNR=17
O15A The Old Anders 63.88 330 ⇓P P 06 28 37.0 +0.6
baz=64
DUG Dugway 63.98 329⇑ *eP* **P 06 28 37.2 +0.1**
DUG *e*PP* pP 06 28 43.2 -0.6
DUG pmax pmax
comp=Z,63nm,1.1s,mb5.6
DUG MLR MLR
comp=Z,1µm,19.0s,MS5.1
DUG Dugway 63.98 329 ⇑P P 06 28 37.5 +0.3
baz=64
DUG Dugway 63.98 329⇑ *eP* **P 06 28 37.2 +0.1**
comp=Z,63nm,1.1s,mb5.6
DUG *epP* pP 06 28 43.1 -0.7
DUG LR LR
comp=Z,1µm,19.0s,MS5.1
NOQ North Oquirrh 63.99 330 *eP* **P 06 28 43.9 +6.8**
P13A Bates Ranch, G 64.03 328 ⇑P P 06 28 37.9 +0.5
baz=64,SNR=28
R11A Troy Canyon, C 64.04 326 ⇑P P 06 28 38.1 +0.5
baz=64,SNR=23
GRAC Grapevine Rang 64.07 324 ⇑P P 06 28 37.9 +0.1
baz=64,SNR=11
PKM Peak Mountain 64.08 321 ⇓P P 06 28 38.2 +0.3
baz=64
CWC Cottonwood Cre 64.09 323 ⇓P P 06 28 38.0 +0.1
baz=64,SNR=12
Q12A Willow Creek R 64.14 327 ⇓P P 06 28 38.5 +0.3
baz=64,SNR=14
VES Vestal, Richgr 64.27 322 ⇑P P 06 28 39.6 +0.5
baz=64
M16A Huntsville 64.27 331 ⇑P P 06 28 38.9 -0.1
baz=64
S10A Tonopah Range, 64.29 325 ⇑P P 06 28 39.7 +0.5
baz=64,SNR=22
N15A Stansbury Isla 64.37 330 ⇓P P 06 28 39.4 -0.3
baz=65
R10A Warm Springs 64.39 326 ⇑P P 06 28 40.5 +0.7
baz=65
Q11A Duckwater 64.44 327 ⇓P P 06 28 40.7 +0.6
baz=65,SNR=32
HWUT Hardware Ranch 64.47 331 *eP* **P 06 28 39.7 -0.6**
comp=Z,66nm,1.3s,mb5.5
HWUT LR LR
comp=Z,2µm,20.0s,MS5.3
BW06 Boulder Array 64.48 333 *eP* **P 06 28 39.8 -0.5**
BW06 LR LR
comp=Z,1µm,21.0s,MS5.1
PDAR Pinedale Array 64.48 333 P **P 06 28 39.8 -0.6**
comp=Z,3.9nm,1.0s,mb4.4,baz=158,slow=4.3,SNR=22
PDAR LR LR 06 56 32.9
comp=Z,1µm,21.6s,MS5.0,baz=151,slow=36
S09A Goldfield 64.50 325 ⇑P P 06 28 40.6 0.0
baz=65,SNR=19
O13A Hicks Ranch, I 64.52 329 ⇑P P 06 28 41.2 +0.6
baz=65
TIN Tinemaha 64.60 324 ⇑P P 06 28 42.0 +0.8
baz=65
BGU Big Grassy Mou 64.64 330 *eP* **P 06 28 41.5 0.0**
AGMN Agassiz Refuge 64.65 345⇑ *eP* **P 06 28 39.9 -1.4**
comp=Z,31nm,0.8s,mb5.4
AGMN *epP* pP 06 28 46.2 -1.8
AGMN LR LR
comp=Z,796nm,22.0s,MS4.9
N14A Grayback Hills 64.66 330 ⇑P P 06 28 41.2 -0.4
baz=65,SNR=15
RCTC Rector, Farmer 64.68 322 ⇓P P 06 28 41.7 -0.1
baz=65
L16A Fish Haven 64.72 331 ⇑P P 06 28 41.9 -0.1
baz=65
TPH Tonopah 64.74 325 *eP* **P 06 28 42.1 -0.1**
TPH *e*PP* pP 06 28 47.7 -1.2
TPH pmax pmax
comp=Z,40nm,1.1s,mb5.4
TPH MLR MLR
comp=Z,1µm,22.0s,MS5.0
TPH Tonopah 64.74 325 *eP* **P 06 28 42.1 0.0**
comp=Z,40nm,1.1s,mb5.4
TPH *epP* pP 06 28 47.7 -1.1
TPH LR LR
comp=Z,1µm,22.0s,MS5.0
M15A Larsen Ranch, 64.77 330 ⇑P P 06 28 42.2 -0.1
baz=65
R09A Tonopah 64.78 325 ⇓P P 06 28 42.3 -0.1
baz=65,SNR=24
HELL Mitchell Peak 64.81 323 ⇑P P 06 28 42.7 +0.1
baz=65,SNR=14
PTRM Twissleman Ran 64.83 321 *eP* **P 06 28 48.9 +6.2**
Q10A Clear Creek Ra 64.83 326 ⇓P P 06 28 43.0 +0.3
baz=65,SNR=19
S08C White Mtn Res 64.87 324 ⇓P P 06 28 43.1 0.0
baz=65,SNR=17
MTUM Tungsten Hills 65.00 324 *eP* **P 06 28 44.8 +1.0**
P11A Circle Ranch, 65.01 327 ⇓P P 06 28 44.4 +0.6
baz=65
O12A Currie 65.01 328 ⇑P P 06 28 44.2 +0.4
baz=65,SNR=34
L15A Malad City 65.16 331 ⇓P P 06 28 44.1 -0.7
baz=65,SNR=20
AHID Auburn Hatcher 65.16 332 *eP* **P 06 28 45.1 +0.3**
comp=Z,40nm,1.3s,mb5.3
AHID *epP* pP 06 28 50.3 -1.2
AHID LR LR
comp=Z,2µm,21.0s,MS5.2
N13A Wendover, West 65.17 329 ⇑P P 06 28 44.9 0.0
baz=65
HVU Hansel Valley 65.17 330 *eP* **P 06 28 45.0 +0.1**
HVU *e*PP* pP 06 28 50.7 -0.9
HVU pmax pmax
comp=Z,45nm,1.1s,mb5.4
HVU Hansel Valley 65.17 330 *eP* **P 06 28 45.0 +0.1**
comp=Z,45nm,1.1s,mb5.4
HVU *epP* pP 06 28 50.7 -0.9
M14A Sheep Mountain 65.24 330 ⇓P P 06 28 45.0 -0.4
baz=66,SNR=28
Q09A Carvers 65.26 326 ⇑P P 06 28 46.2 +0.7
baz=66
MLAC Mammoth Lakes 65.35 324 ⇑P P 06 28 46.8 +0.7
baz=66
O11A Cowboy Ranch, 65.38 327 ⇑P P 06 28 46.7 +0.5
baz=66
KCC Kaiser Creek 65.42 323 ⇓P P 06 28 46.5 -0.1
baz=66,SNR=16
R08A Mina 65.43 325 ⇑P P 06 28 47.3 +0.7
baz=66
T06C Millerton Lake 65.43 323 ⇑P P 06 28 47.2 +0.5
baz=66
P10A Eureka 65.43 327 ⇓P P 06 28 47.1 +0.5
baz=66
K16A Soda Springs 65.44 332 ⇑P P 06 28 46.5 -0.1
baz=66,SNR=19
BBTS Babate 65.47 66 LR LR 06 57 36.2
comp=Z,2µm,18.3s,MS5.4,baz=110,slow=36
REDW Red Top Meadow 65.52 333 *eP* **P 06 28 47.5 +0.4**
comp=Z,142nm,1.8s,mb5.7

REDW *epP* pP 06 28 52.8 -1.1
SNOW Snow King Moun 65.56 333⇑ *eP* **P 06 28 46.8 -0.6**
comp=Z,42nm,1.3s,mb5.3
SNOW *epP* pP 06 28 52.9 -1.2
N12A Clover Valley, 65.59 328 ⇑P P 06 28 47.6 0.0
baz=66,SNR=5.6
L14A Malta 65.59 330 ⇓P P 06 28 47.0 -0.6
baz=66,SNR=20
NVAR Mina Array Bea 65.60 325 P **P 06 28 48.6 +0.9**
comp=Z,3.9nm,0.8s,mb4.5,baz=146,slow=6.7,SNR=20
ELK Elko 65.61 328⇑ *eP* **P 06 28 47.5 -0.3**
ELK *e*PP* pP 06 28 53.1 -1.4
ELK MLR MLR
comp=Z,3µm,19.0s
LOHW Long Hollow 65.61 333 *eP* **P 06 28 46.6 -1.1**
comp=Z,40nm,1.4s,mb5.3
LOHW *epP* pP 06 28 53.5 -0.9
U04C Hernandez Rese 65.64 321 ⇓P P 06 28 48.5 +0.5
baz=66
TPAW Teton Pass 65.67 333⇑ *eP* **P 06 28 47.5 -0.5**
comp=Z,85nm,1.8s,mb5.5
TPAW *epP* pP 06 28 53.5 -1.3
Q08A Gabbs 65.69 325 ⇑P P 06 28 48.1 -0.2
baz=66,SNR=12
RRI2 Red Ridge 65.72 332⇑ *iP* **P 06 28 48.0 -0.4**
comp=Z,62nm,1.1s,mb5.5
RRI2 *epP* pP 06 28 54.8 -0.3
P09A Austin 65.75 326 ⇑P P 06 28 49.2 +0.6
baz=66
K15A Arbon 65.76 331 ⇓P P 06 28 48.4 -0.2
baz=66
MOOW Moose Ponds 65.78 333 *eP* **P 06 28 48.0 -0.8**
comp=Z,37nm,1.4s,mb5.2
MOOW *epP* pP 06 28 53.8 -1.7
R07C Lee Vining 65.78 324 ⇓P P 06 28 49.6 +0.7
baz=66
J16A Bone 65.79 332 ⇑P P 06 28 49.2 +0.3
baz=66
DCID1 Drake Creek 65.86 333⇑ *eP* **P 06 28 48.7 -0.5**
DCID1 *epP* pP 06 28 55.4 -0.6
N11A Elko Archery C 65.92 328 ⇑P P 06 28 50.1 +0.4
baz=66
O10A Cortez Mining, 65.94 327 ⇓P P 06 28 50.6 +0.7
baz=66,SNR=22
M12A Wells 65.95 329 ⇓P P 06 28 49.3 -0.6
baz=66,SNR=11
K14A Jones Ranch, D 65.95 331 ⇑P P 06 28 49.1 -0.8
baz=66,SNR=27
L13A Double Diamond 65.97 330 ⇓P P 06 28 50.0 -0.1
baz=66,SNR=23
IMW Indian Meadow 65.99 333⇑ *eP* **P 06 28 49.7 -0.4**
comp=Z,58nm,1.3s,mb5.5
IMW *epP* pP 06 28 55.4 -1.4
S05C Merced 66.02 322 ⇑P P 06 28 50.2 -0.3
baz=66,SNR=7.5
FLWY Flagg Ranch 66.03 333⇑ *eP* **P 06 28 50.1 -0.2**
comp=Z,467nm,1.9s,mb6.2
FLWY *epP* pP 06 28 55.7 -1.4
S06C San Francisco 66.10 323 ⇑P P 06 28 51.0 0.0
baz=66,SNR=26
HAST Hastings Reser 66.12 321 ⇓P P 06 28 51.5 +0.4
baz=66
O09A Fish Creek Ran 66.22 327 ⇑P P 06 28 51.5 -0.1
baz=66,SNR=16
Q07A Schurz 66.23 325 ⇑P P 06 28 52.4 +0.6
baz=66
N10A Dunphy 66.25 327 ⇑P P 06 28 52.4 +0.5
baz=66
RLMT Red Lodge 66.26 335⇑ *eP* **P 06 28 50.9 -0.9**
comp=Z,55nm,1.4s,mb5.4
RLMT *epP* pP 06 28 57.2 -1.4
RLMT LR LR
comp=Z,989nm,20.0s,MS5.0
LKWY Lake 66.29 334 PFAKE 06 29 00.0 +8.0
LKWY LR LR
comp=Z,1µm,19.0s,MS5.1
SAO San Andreas Ge 66.31 321 PFAKE 06 29 00.0 +7.7
SAO LR LR
comp=Z,679nm,19.0s,MS4.9
R06C Coleville 66.31 324 ⇑P P 06 28 52.7 +0.4
baz=66,SNR=13
P08A Dixie Valley 66.36 326 ⇑P P 06 28 52.9 +0.3
baz=67
PACP Pacheco Peak 66.37 322 ⇑P P 06 28 52.9 +0.2
baz=67
LAO LASA Array 66.38 338 PFAKE 06 29 00.0 +7.5
LAO LR LR
comp=Z,885nm,21.0s,MS5.0
YFT Old Faithful 66.38 334 P **P 06 28 53.1 +0.5**
M11A Holland Ranch, 66.40 328 ⇑P P 06 28 52.6 -0.2
baz=67,SNR=20
BMN Battle Mountai 66.42 327 *eP* **P 06 28 53.4 +0.4**
BMN pmax pmax
comp=Z,18nm,1.1s,mb5.0
BMN MLR MLR
comp=Z,923nm,20.0s,MS5.0
BMN Battle Mountai 66.42 327 *eP* **P 06 28 53.4 +0.5**
comp=Z,18nm,1.1s,mb5.0
BMN LR LR
comp=Z,923nm,20.0s,MS5.0
K13A Stover Farm, H 66.47 330 ⇑P P 06 28 53.2 0.0
baz=67
ULM Lac du Bonnet 66.47 346 P **P 06 28 52.4 -0.7**
comp=Z,7.1nm,0.8s,mb4.8,baz=155,slow=7.1,SNR=9.0
ULM PcP PcP 06 29 20.9 -1.6
comp=Z,16nm,0.8s,baz=205,slow=6.2,SNR=4.0
ULM LR LR 07 00 04.9
comp=Z,825nm,20.3s,MS4.9,baz=301,slow=38
ULM Lac du Bonnet 66.47 346⇑ *eP* **P 06 28 51.1 -2.0**
comp=Z,34nm,0.9s,mb5.4
ULM LR LR
comp=Z,1µm,21.0s,MS5.0
CMB Columbia Colle 66.52 323⇑ *eP* **P 06 28 53.2 -0.5**
CMB *e*PP* pP 06 28 59.1 -1.3
CMB pmax pmax
comp=Z,22nm,1.1s,mb5.1
CMB MLR MLR
comp=Z,921nm,20.0s,MS5.0
CMB Columbia Colle 66.52 323 ⇓P P 06 28 53.3 -0.3
baz=67,SNR=13
CMB Columbia Colle 66.52 323⇑ *eP* **P 06 28 53.2 -0.4**
comp=Z,22nm,1.1s,mb5.1
CMB *epP* pP 06 28 59.1 -1.3
CMB LR LR
comp=Z,921nm,20.0s,MS5.0
YNR Norris Junctio 66.53 334 *eP* **P 06 28 53.0 -0.6**
L12A House Creek Ra 66.54 329 ⇑P P 06 28 53.9 +0.2
baz=67,SNR=5.9
YMR Madison River 66.61 334⇑ *eP* **P 06 28 54.3 +0.2**
comp=Z,91nm,1.5s,mb5.6
P07A Fallon 66.70 325 ⇑P P 06 28 55.6 +0.8
baz=67
S04C Ingram Canyon, 66.72 322 ⇑P P 06 28 56.1 +1.2
baz=67
R05C Kirkwood Meado 66.79 324 ⇑P P 06 28 55.8 +0.4
baz=67,SNR=21
O08A Rochester Mine 66.82 326 ⇑P P 06 28 55.9 +0.4
baz=67
M10A I.L. Ranch, Tu 66.85 328 ⇓P P 06 28 55.8 +0.1
baz=67,SNR=5.3
K12A Draper Farm, C 66.85 330 ⇑P P 06 28 55.8 +0.2
baz=67,SNR=42
N09A Rock Creek Ran 66.88 327 ⇓P P 06 28 55.5 -0.4
baz=67
L11A Cat Creek Ranc 66.92 329 ⇑P P 06 28 56.2 0.0
baz=67,SNR=34
QLMT Earthquake Lak 66.94 333 *eP* **P 06 28 57.7 +1.5**
QLMT *epP* pP 06 29 03.2 +0.3
GCMT Greycliff 66.97 335 *eP* **P 06 28 56.9 +0.6**
GCMT *epP* pP 06 29 01.8 -1.3
BNLO Ben Lomond (Sa 66.99 321 ⇑P P 06 28 56.7 0.0
baz=67
R04C Big Horse Ranc 66.99 323 ⇑P P 06 28 57.2 +0.6
baz=67
WCN Washoe City 67.02 324 ⇑P P 06 28 57.1 +0.3
baz=67,SNR=9.4
WENL Wente Brothers 67.06 322 ⇑P P 06 28 57.5 +0.4
baz=67
J13A Cove Ranch, Pi 67.08 331 ⇑P P 06 28 57.0 -0.1
baz=67,SNR=17
PAHR Pah Rah Range 67.09 325⇑ *iP* **P 06 28 57.4 +0.2**
comp=Z,67nm,1.2s,mb5.5
PAHR *epP* pP 06 29 03.5 -0.5
O07A Toulon 67.12 326 ⇓P P 06 28 57.4 0.0
baz=67,SNR=20
DGMT Dagmar 67.20 340 *eP* **P 06 28 58.1 +0.4**
comp=Z,68nm,1.2s,mb5.5

DGMT *ep*P pP 06 29 03.8 -0.7
DGMT LR LR
comp=Z,726nm,19.0s,MS4.9
JRSC Jasper Ridge 67.20 321 ⇓P P 06 28 58.9 +0.9
baz=67
LAVA Lava Cap Winer 67.21 323 ⇓P P 06 28 58.2 +0.2
baz=67
L10A Juniper Basin 67.22 328 ⇑P P 06 28 57.8 -0.2
baz=68,SNR=31
M09A Marrel Ranch, 67.25 327 ⇓P P 06 28 58.0 -0.2
baz=68,SNR=6.8
HLID Hailey 67.31 331 ⇑P P 06 28 58.7 +0.1
baz=68,SNR=25
HLID Hailey 67.31 331 *e*P **P 06 28 58.6 0.0**
comp=Z,90nm,2.0s,mb5.5
HLID *ep*P pP 06 29 04.6 -0.7
HLID LR LR
comp=Z,840nm,20.0s,MS5.0
BDM Black Diamond 67.34 322 ⇑P P 06 28 59.4 +0.6
baz=68
P06A Stead Airport, 67.36 325 ⇓P P 06 28 59.5 +0.6
baz=68
J12A Stokes Ranch, 67.41 330 ⇑P P 06 28 59.5 +0.3
baz=68
I13A Wildhorse Cree 67.44 331 ⇑P P 06 28 59.5 +0.1
baz=68,SNR=28
P05C Yuba Gap, Truc 67.50 324 ⇑P P 06 29 00.1 +0.2
baz=68,SNR=22
K11A Parker Ranch, 67.51 329 ⇓P P 06 29 00.0 +0.2
baz=68,SNR=18
MCMT McKenzie Canyo 67.56 333 *e*P **P 06 29 00.2 +0.1**
MCMT *ep*P pP 06 29 06.5 -0.4
SHEL Horse Pasture 67.60 102 PFAKE 06 29 10.0 +9.0
SHEL LR LR
comp=Z,3μm,21.0s,MS5.5
N07B Gerlach 67.61 326 ⇓P P 06 29 00.2 -0.2
baz=68,SNR=21
Q04C Lincoln 67.64 323 ⇓P P 06 29 01.1 +0.3
baz=68
O06A Flanigan 67.65 325 ⇑P P 06 29 01.0 +0.2
baz=68
G15A Dillon 67.67 333 ⇑P P 06 29 00.5 -0.3
baz=68,SNR=28
BOZ Bozeman (W) 67.67 334 *e*P **P 06 29 00.6 -0.2**
BOZ Bozeman (W) 67.67 334 ⇑P P 06 29 00.7 -0.1
baz=68
BOZ Bozeman (W) 67.67 334 *e*P **P 06 29 00.1 -0.7**
comp=Z,28nm,1.2s,mb5.2
BOZ *ep*P pP 06 29 06.3 -1.2
BOZ LR LR
comp=Z,832nm,20.0s,MS5.0
BEKR Beckwourth 67.74 324 ⇓P P 06 29 01.6 +0.2
baz=68,SNR=20
M08A Happy Creek Ra 67.76 327 ⇓P P 06 29 01.6 +0.1
baz=68
L09A Wilkinson Ranc 67.79 328 ⇑P P 06 29 01.7 0.0
baz=68,SNR=22
FARB Farallon Islan 67.86 321 ⇑P P 06 29 02.2 0.0
baz=68
DLMT Dillon 67.87 333 *e*P **P 06 29 01.6 -0.5**
comp=Z,50nm,1.3s,mb5.4
Q03C Winters 67.87 323 ⇑P P 06 29 02.7 +0.4
baz=68
MFID Camas Ranch 67.89 330 ⇓P P 06 29 02.0 -0.2
baz=68,SNR=34
K10A MacKenzie Ranc 67.93 329 ⇓P P 06 29 02.4 -0.1
baz=68,SNR=27
CVS Carmenet Viney 67.95 322 ⇓P P 06 29 02.5 -0.2
baz=68
H13A Challis 68.00 332 ⇑P P 06 29 02.4 -0.5
baz=68,SNR=20
OHCM Honcut 68.03 323 *e*P **P 06 29 03.4 +0.2**
OHCM *ep*P pP 06 29 08.9 -1.1
N06A Buffalo Meadow 68.06 325 ⇓P P 06 29 03.5 +0.1
baz=68,SNR=25
MCCM Marconi Confer 68.07 322 ⇑P P 06 29 03.8 +0.3
baz=68
MCCM Marconi Confer 68.07 322 PFAKE 06 29 10.0 +6.5
MCCM LR LR
comp=Z,909nm,19.0s,MS5.0
O05C Quincy 68.12 324 ⇑P P 06 29 04.1 +0.4
baz=68
SUTB Sutter Butte 68.13 323 ⇑P P 06 29 03.4 -0.4
baz=68,SNR=5.5
M07A Soldier Meadow 68.14 326 ⇓P P 06 29 04.0 +0.1
baz=68,SNR=13
NSHM Saint Helena R 68.15 322 *e*P **P 06 29 04.7 +0.7**
NSHM *ep*P pP 06 29 09.5 -1.2
G14A Jackson 68.16 332 ⇓P P 06 29 03.5 -0.4
baz=68
LRM Limekiln Ridge 68.17 333 *e*P **P 06 29 04.4 +0.5**
ORV Oroville 68.18 324 ⇓P P 06 29 04.1 0.0
baz=68,SNR=64
F15A Butte 68.20 333 ⇓P P 06 29 03.9 -0.2
baz=68,SNR=15
L08A Fields 68.27 327 ⇑P P 06 29 04.5 -0.1
baz=68,SNR=14
H12A Diamond D Ranc 68.27 331 ⇓P P 06 29 04.7 +0.1
baz=68,SNR=20
MNRC McLaughlin Nat 68.29 323 ⇓P P 06 29 04.7 -0.2
baz=68
K09A Rome 68.31 328 ⇓P P 06 29 04.9 0.0
baz=68,SNR=31
I11A Placerville 68.32 330 ⇑P P 06 29 04.6 -0.3
baz=69,SNR=25
J10A Berg Farm, Mel 68.36 329 ⇑P P 06 29 04.8 -0.3
baz=69
G13A Cobalt 68.39 332 ⇓P P 06 29 05.5 +0.1
baz=69,SNR=27
O04C Chester 68.46 324 ⇓P P 06 29 06.1 +0.2
baz=69,SNR=16
ELFS Eagle Lake Fie 68.46 325 ⇓P P 06 29 06.0 +0.1
baz=69
WVOR Wild Horse Val 68.59 327 PFAKE 06 29 20.0 +13
WVOR LR LR
comp=Z,966nm,19.0s,MS5.0
L07A Adell 68.67 327 ⇑P P 06 29 07.4 +0.3
baz=69,SNR=13
E15A Deer Lodge 68.72 334 ⇓P P 06 29 07.5 +0.1
baz=69,SNR=14
M06C Likely Place G 68.72 325 ⇓P P 06 29 08.1 +0.6
baz=69
K08A Mann Creek Ran 68.72 328 ⇑P P 06 29 07.9 +0.4
baz=69
HOPS Hopland 68.73 322 PFAKE 06 29 20.0 +12
HOPS LR LR
comp=Z,706nm,20.0s,MS4.9
J09A Fry Pan Ranch, 68.79 329 ⇓P P 06 29 07.7 -0.2
baz=69,SNR=15
EGMT Eagleton 68.82 336 ⇑P P 06 29 07.5 -0.4
baz=69
EGMT Eagleton 68.82 336 *e*P **P 06 29 08.2 +0.2**
comp=Z,29nm,1.1s,mb5.1
EGMT *ep*P pP 06 29 13.7 -1.1
EGMT LR LR
comp=Z,1μm,19.0s,MS5.1
I10A Payette 68.86 330 ⇓P P 06 29 07.7 -0.5
baz=69
H11A Donnelly 68.93 331 ⇑P P 06 29 08.7 0.0
baz=69,SNR=14
GASB Alder Springs 68.95 323 ⇓P P 06 29 09.1 +0.1
baz=69,SNR=21
LBCM Butte Creek Ri 68.96 325 P P 06 29 09.2 +0.2
F13A Darby 68.97 332 ⇑P P 06 29 08.9 0.0
baz=69,SNR=29
HATC Hat Creek Radi 69.01 325 ⇑P P 06 29 09.1 -0.1
baz=69
E14A Clinton 69.08 333 ⇑P P 06 29 09.5 -0.1
baz=69,SNR=21
K07A Rock Creek Ran 69.09 327 ⇑P P 06 29 09.3 -0.4
baz=69
MOD Modoc 69.11 326 ⇓P P 06 29 10.6 +0.8
baz=69,SNR=22
MOD Modoc 69.11 326 *e*P **P 06 29 10.0 +0.2**
MOD *ep*P pP 06 29 16.2 -0.5
MOD LR LR
comp=Z,1μm,19.0s,MS5.1
D15A Lincoln 69.15 334 ⇑P P 06 29 10.2 +0.2
baz=69
J08A Circle Bar Ran 69.17 328 ⇓P P 06 29 09.9 -0.3
baz=69
SCHQ Schefferville 69.18 6 P P 06 29 08.5 -1.5
comp=Z,6.9nm,1.0s,mb4.6,baz=195,slow=6.7,SNR=4.6
SCHQ LR LR 07 01 07.5
comp=Z,899nm,20.8s,MS5.0,baz=201,slow=37
M05C Lookout 69.20 325 ⇑P P 06 29 10.6 +0.1
baz=69,SNR=28

P01C Double 8 Ranch 69.20 323 ⇑P P 06 29 10.7 +0.2
baz=69
H10A Noah's Angus R 69.20 330 ⇓P P 06 29 09.6 -0.8
baz=69
I09A Lost Marbles R 69.24 329 ⇓P P 06 29 10.1 -0.5
baz=70
O02C Red Bluff 69.34 323 ⇓P P 06 29 11.7 +0.4
baz=70
CHMT Chamberlain Mo 69.37 334 *e*P **P 06 29 11.1 -0.3**
CHMT *ep*P pP 06 29 17.2 -0.9
F12A Elk City 69.37 332 ⇓P P 06 29 11.1 -0.2
baz=70,SNR=22
VNA1 Neumayer--Stat 69.41 161 *e*P **P 06 29 11.9 +0.6**
VNA1 *e* 06 29 20.7
VNA1 *e* 06 29 34.0
VNA1 *e* 06 29 43.9
E13A Victor 69.41 333 ⇓P P 06 29 11.8 +0.1
baz=70,SNR=20
WDC Whiskeytown Da 69.46 324 *e*P **P 06 29 12.2 +0.1**
WDC pmax pmax
comp=Z,51nm,1.9s,mb5.1
WDC Whiskeytown Da 69.46 324 ⇓P P 06 29 11.7 -0.4
baz=70
WDC Whiskeytown Da 69.46 324 *e*P **P 06 29 08.4 -3.7**
comp=Z,51nm,1.9s,mb5.1
WDC LR LR
comp=Z,455nm,22.0s,MS4.7
KCPM Cahto Peak 69.48 323 *e*P **P 06 29 12.4 +0.2**
KCPM *ep*P pP 06 29 18.8 -0.2
L05A Lakeview 69.49 326 ⇓P P 06 29 12.3 0.0
baz=70,SNR=16
TBI Tubuai 69.49 250 *e*S S 06 38 18.1 -1.6
comp=Z,2μm,31.2s
TBI Tubuai 69.49 250 *e*LR LR 06 50 18.9
comp=Z,3μm,26.0s,baz=89
KIPM Iron Peak 69.50 323 *e*P **P 06 29 13.3 +0.9**
KIPM *ep*P pP 06 29 18.9 -0.3
G11A Walters Elk Ra 69.57 331 ⇑P P 06 29 12.4 -0.3
baz=70,SNR=29
MSO Missoula 69.60 333 *e*P **P 06 29 12.6 -0.2**
comp=Z,41nm,1.3s,mb5.2
MSO *ep*P pP 06 29 18.7 -0.9
MSO LR LR
comp=Z,609nm,20.0s,MS4.8
D14A Greenough 69.61 334 ⇓P P 06 29 12.5 -0.3
baz=70,SNR=18
J07A Hines 69.61 328 ⇑P P 06 29 12.9 -0.1
baz=70
I08A Drewsey 69.61 329 ⇓P P 06 29 12.9 0.0
baz=70,SNR=23
BMO Blue Mountains 69.66 330 *e*P **P 06 29 13.9 +0.7**
BMO LR LR
comp=Z,2μm,19.0s,MS5.3
M03C McCloud 69.68 325 ⇑P P 06 29 12.7 -0.7
baz=70,SNR=5.7
K06A Valley Falls 69.70 327 ⇓P P 06 29 13.9 +0.4
baz=70
H09A Durkee 69.70 330 ⇓P P 06 29 13.0 -0.5
baz=70
M04C Macdoel 69.87 325 ⇑P P 06 29 14.6 0.0
baz=70,SNR=15
F11A Grangeville 69.88 331 ⇑P P 06 29 13.8 -0.7
baz=70,SNR=24
G10A Bishop Farm, J 69.90 330 ⇓P P 06 29 14.0 -0.6
baz=70,SNR=32
O01C Eel River Cons 69.91 323 ⇓P P 06 29 14.6 -0.3
baz=70
J06A Christmas Vall 69.96 327 ⇑P P 06 29 14.8 -0.3
baz=70,SNR=36
K05A Sumner Lake 69.99 326 ⇑P P 06 29 15.5 +0.2
baz=70,SNR=15
D13A Huson 70.03 333 ⇑P P 06 29 15.2 -0.2
baz=70
N02C Big Bar 70.06 324 ⇓P P 06 29 15.7 -0.1
baz=70,SNR=24
H08A Prairie City 70.09 329 ⇓P P 06 29 16.0 +0.1
baz=70,SNR=36
CMLA Cha da Macela 70.10 41 PFAKE 06 29 30.0 +14
CMLA LR LR
comp=Z,2μm,21.0s,MS5.3
L04A Klamath Falls 70.16 325 ⇓P P 06 29 16.0 -0.3
baz=70,SNR=5.4
M02C Callahan 70.17 324 ⇓P P 06 29 16.9 +0.4
baz=70,SNR=6.5
G09A Cove 70.20 330 ⇓P P 06 29 16.3 -0.3
baz=70,SNR=38
I07A Izee 70.20 328 ⇑P P 06 29 16.8 +0.2
baz=70,SNR=24
C14A Swan Lake 70.24 334 ⇑P P 06 29 17.0 +0.3
baz=70
E11A Bogner Ranch, 70.26 332 ⇓P P 06 29 16.4 -0.5
baz=70,SNR=20
YBH Yreka Blue Hor 70.32 325 *e*P **P 06 29 17.1 -0.2**
YBH Yreka Blue Hor 70.32 325 ⇑P P 06 29 17.4 0.0
baz=70,SNR=17
YBH Yreka Blue Hor 70.32 325 *e*P **P 06 29 16.7 -0.7**
YBH *ep*P pP 06 29 22.2 -1.9
YBH LR LR
comp=Z,816nm,20.0s,MS5.0
KHMM Horse Mountain 70.34 323 *e*P **P 06 29 18.6 +1.1**
K04A Chilquin 70.37 326 ⇑P P 06 29 17.8 +0.2
baz=71
D12A Red Ives Fores 70.39 333 ⇓P P 06 29 17.7 0.0
baz=71
PPT Papeete 70.41 256 *e*S S 06 38 28.7 -1.9
comp=Z,3μm,28.5s
PPT Papeete 70.41 256 *e*LR LR 06 50 36.6
comp=Z,2μm,27.0s,baz=103
PPT Papeete 70.41 256 LR LR 06 55 08.0
comp=Z,644nm,18.4s,MS4.9,baz=108,slow=32
F10A Beach Ranch, E 70.45 331 ⇓P P 06 29 18.4 +0.4
baz=71
I06A Prineville 70.47 328 ⇑P P 06 29 18.8 +0.6
baz=71
JCC Jacoby Creek 70.47 323 ⇓P P 06 29 18.8 +0.5
baz=71
C13A Hot Springs 70.53 333 ⇓P P 06 29 18.5 +0.1
baz=71,SNR=20
J05A Fort Rock 70.56 327 ⇓P P 06 29 18.7 -0.1
baz=71,SNR=18
F09A S2 Ranch, Elgi 70.58 330 ⇑P P 06 29 19.0 +0.1
baz=71,SNR=19
H07A Lands Inn, Kim 70.59 329 ⇑P P 06 29 18.9 0.0
baz=71
G08A Pilot Rock 70.79 329 ⇓P P 06 29 19.7 -0.4
baz=71,SNR=17
D11A Klaveano Farm, 70.83 332 ⇓P P 06 29 20.1 -0.2
baz=71
KRMB Red Mountain 70.86 324 *e*P **P 06 29 20.7 0.0**
KRMB *ep*P pP 06 29 26.9 -0.5
LNOR Lincton Mounta 70.88 330 *e*P **P 06 29 20.7 0.0**
LNOR *e**PP pP 06 29 26.0 -1.4
J04A Umpqua Nationa 70.99 326 ⇑P P 06 29 21.5 +0.1
baz=71
B13A Whitefish 71.02 334 ⇑P P 06 29 21.3 -0.2
baz=71,SNR=5.4
HUMO Hull Mountain 71.03 325 *e*P **P 06 29 21.5 -0.2**
comp=Z,6.9nm,0.9s,mb4.6
HUMO *ep*P pP 06 29 28.7 +0.2
HUMO *e*PcP PcP 06 29 41.9 0.0
HUMO LR LR
comp=Z,845nm,19.0s,MS5.0
F08A Pendleton 71.06 330 ⇑P P 06 29 22.2 +0.4
baz=71
H06A Lindquist Farm 71.09 328 ⇓P P 06 29 22.2 +0.2
baz=71,SNR=18
G07A Ruggs Ranch, H 71.12 329 ⇓P P 06 29 22.4 +0.2
baz=71,SNR=19
I05A Bend 71.17 327 ⇓P P 06 29 22.7 +0.2
baz=71
D10A Wagner Farm, O 71.27 332 ⇓P P 06 29 22.4 -0.6
baz=72,SNR=5.0
WALA Waterton Lakes 71.31 335 *e*P **P 06 29 22.6 -0.6**
WALA *ep*P pP 06 29 29.4 -0.6
SNAA Sanae 71.36 161 *e*P **P 06 29 22.9 -0.4**
SNAA *e* 06 29 32.1
SNAA *e* 06 29 38.5
SNAA Sanae 71.36 161 *c i*P **P 06 29 22.9 -0.4**
SNAA Sanae 71.36 161 *e*P **P 06 29 22.9 -0.3**
comp=Z,28nm,0.9s,mb5.2
SNAA *ep*P pP 06 29 31.2 +1.1
A13A Flathead Natio 71.43 334 ⇑P P 06 29 24.2 +0.3
baz=72
K02A Glendale 71.44 325 ⇓P P 06 29 24.2 0.0
baz=72
KBO Bosley Butte 71.49 324 *e*P **P 06 29 31.7 +7.3**
I04A Tendick Farm, 71.53 326 ⇑P P 06 29 24.1 -0.5
baz=72

B12A Libby 71.57 333 ⇓P P 06 29 25.1 +0.3
baz=72,SNR=5.2
E08A Dider Farm, El 71.70 330 ⇑P P 06 29 24.9 -0.7
baz=72
D09A Jones Farm, Ri 71.75 331 ⇓P P 06 29 26.0 0.0
baz=72,SNR=5.4
C10A Spilker Farm, 71.85 332 ⇓P P 06 29 26.3 -0.2
baz=72
HAWA Hanford 71.86 330 *e*P **P 06 29 27.1 +0.6**
comp=Z,36nm,1.1s,mb5.2
HAWA *ep*P pP 06 29 33.0 -0.4
HAWA LR LR
comp=Z,2μm,19.0s,MS5.3
RSW Rattlesnake Hi 71.89 330 *e*P **P 06 29 27.7 +0.9**
RSW *ep*P pP 06 29 33.7 +0.1
B11A Sandpoint 71.89 333 ⇑P P 06 29 26.6 -0.1
baz=72,SNR=16
G05A Wamic 71.94 328 ⇓P P 06 29 27.7 +0.6
baz=72,SNR=5.4
A12A Yaak River Ran 71.95 334 ⇑P P 06 29 27.0 0.0
baz=72,SNR=13
KEBM Edson Butte 71.97 325 P P 06 29 29.8 +2.4
KEBM *ep*P pP 06 29 34.2 0.0
H04A Detroit Lake 72.01 327 ⇓P P 06 29 27.1 -0.4
baz=72
F06A Goldendale 72.03 329 ⇓P P 06 29 28.0 +0.4
baz=72
D08A Wollman Farm, 72.04 331 ⇑P P 06 29 27.8 +0.2
baz=72
NEW Newport 72.09 333 *e*P **P 06 29 27.5 -0.4**
NEW *e**PP pP 06 29 33.2 -1.5
NEW pmax pmax
comp=Z,26nm,1.2s
NEW MLR MLR
comp=Z,1μm,20.0s
NEW Newport 72.09 333 *e*P **P 06 29 27.4 -0.5**
comp=Z,26nm,1.2s,mb5.0
NEW *ep*P pP 06 29 33.2 -1.5
NEW LR LR
comp=Z,1μm,20.0s,MS5.1
I03A Eugene 72.11 326 ⇑P P 06 29 28.1 0.0
baz=72
E07A Sunnyside 72.13 330 ⇓P P 06 29 28.3 +0.1
baz=72
B10A Chitwood Farm, 72.17 332 ⇓P P 06 29 27.8 -0.6
baz=72
HOOD Mount Hood Mea 72.17 328 *e*P **P 06 29 29.6 +1.1**
comp=Z,54nm,1.2s,mb5.3
HOOD *ep*P pP 06 29 35.2 -0.1
OD2 Odessa Site #2 72.18 331 P P 06 29 28.7 +0.2
C09A Chrisman Ranch 72.28 332 ⇓P P 06 29 29.1 0.0
baz=72
A11A Hall Mountain, 72.28 333 ⇑P P 06 29 29.3 +0.3
baz=72,SNR=15
I02A Mapleton 72.43 326 ⇑P P 06 29 29.9 -0.2
baz=73
G04A Mulino 72.52 328 ⇑P P 06 29 30.3 -0.3
baz=73
COR Corvallis 72.53 327 P P 06 29 32.0 +1.3
COR pmax pmax
comp=Z,141nm,1.4s,mb5.7
COR MLR MLR
comp=Z,878nm,20.0s,MS5.0
COR Corvallis 72.53 327 P P 06 29 32.0 +1.4
comp=Z,141nm,1.4s,mb5.7
COR LR LR
comp=Z,878nm,20.0s,MS5.0
C08A Higginbotham F 72.62 331 ⇓P P 06 29 31.0 -0.1
baz=73
D07A Quincy 72.64 330 ⇓P P 06 29 31.5 +0.3
baz=73
B09A Rice 72.67 332 ⇑P P 06 29 31.1 -0.3
baz=73
E06A Yakima 72.67 329 ⇓P P 06 29 31.8 +0.4
baz=73
EBG Ellensburg 72.73 330 P P 06 29 33.5 +1.7
A10A Northport 72.82 333 ⇑P P 06 29 31.7 -0.6
baz=73
C07A Waterville 73.03 331 ⇓P P 06 29 33.8 +0.3
baz=73,SNR=5.8
D06A Cle Elum 73.06 330 ⇑P P 06 29 33.9 +0.1
baz=73
E05A Randle 73.07 329 ⇓P P 06 29 33.5 -0.4
baz=73
ETW Entiat 73.10 330 *e*P **P 06 29 33.9 -0.1**
ETW *ep*P pP 06 29 40.2 -0.5
B08A Colville Reser 73.17 331 ⇓P P 06 29 33.9 -0.4
baz=73,SNR=5.8
LON Longmire 73.23 329 *e*P **P 06 29 33.3 -1.4**
LON pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LON Longmire 73.23 329 *e*P **P 06 29 33.3 -1.4**
comp=Z,5.6nm,0.8s,mb4.5
A09A Danville 73.27 332 ⇓P P 06 29 34.6 -0.3
baz=74
LIC Lamto 73.29 79 ⇑ *i*P **P 06 29 36.0 +0.1**
comp=Z,85nm,1.3s,mb5.2,baz=274
LIC *e*MLR MLR
comp=Z,6μm,21.5s,MS5.5
LIC Lamto 73.29 79 *e*P **P 06 29 35.0 -0.9**
comp=Z,152nm,1.7s,mb5.7
LIC Lamto 73.29 79 ⇑ *i*P **P 06 29 36.0 +0.1**
comp=Z,43nm,1.3s,mb5.2
LIC LR LR
comp=Z,3μm,21.5s,MS5.5
TIC Toumodi 73.42 79 *e*P **P 06 29 35.3 -1.3**
comp=Z,482nm,1.8s,mb6.1
A08A Turner Farm, O 73.57 332 ⇑P P 06 29 36.6 -0.1
baz=74,SNR=13
DBIC Dimbokro 73.58 79 P P 06 29 38.0 +0.5
comp=Z,17nm,0.6s,mb5.1,baz=234,slow=5.6,SNR=18
DBIC LR LR 06 59 45.1
comp=Z,3μm,21.9s,MS5.5,baz=220,slow=34
DBIC Dimbokro 73.58 79 *e*P **P 06 29 37.8 +0.2**
DBIC pmax pmax
comp=Z,46nm,1.1s
DBIC MLR MLR
comp=Z,3μm,22.0s
DBIC Dimbokro 73.58 79 *e*P **P 06 29 37.8 +0.2**
comp=Z,46nm,1.1s,mb5.3
DBIC LR LR
comp=Z,3μm,22.0s,MS5.5
KIC Kosan Boka 73.60 79 *e*P **P 06 29 38.1 +0.4**
comp=Z,138nm,0.7s,mb6.0
B07A Winthrop 73.61 331 ⇓P P 06 29 36.6 -0.3
baz=74
D05A Enumclaw 73.62 329 ⇓P P 06 29 36.8 -0.2
baz=74
BMW Boistfort Moun 73.76 328 *e*P **P 06 29 38.2 +0.3**
BMW *e**PP pP 06 29 43.8 -0.9
C05A Tolt Reservoir 73.82 330 ⇑P P 06 29 37.4 -0.8
baz=74
A07A Ashnola River, 74.15 331 ⇑P P 06 29 40.3 +0.2
baz=74,SNR=18
RPW Rockport 74.26 330 *e*P **P 06 29 39.6 -1.1**
RPW *ep*P pP 06 29 46.4 -1.2
JCW Jim Creek 74.28 330 *e*P **P 06 29 39.3 -1.6**
JCW *ep*P pP 06 29 46.8 -0.9
GNW Green Mountain 74.29 329 *e*P **P 06 29 41.0 +0.1**
GNW *ep*P pP 06 29 46.7 -1.1
B06A Marblemount 74.29 331 ⇓P P 06 29 40.5 -0.4
baz=74
EDM Edmonton 74.37 338 *e*P **P 06 29 39.6 -1.7**
EDM *e**PP pP 06 29 45.9 -2.2
B05A Bryant 74.41 330 ⇓P P 06 29 40.9 -0.7
baz=75,SNR=13
C04A Brinnon 74.47 329 ⇑P P 06 29 42.3 +0.3
baz=75
A06A Chilliwack 74.70 331 ⇓P P 06 29 43.0 -0.3
baz=75
NLWA Neilton Lookou 74.70 329 ⇓P P 06 29 44.2 +0.9
baz=75
NLWA Neilton Lookou 74.70 329 *e*P **P 06 29 44.3 +1.0**
comp=Z,65nm,1.2s,mb5.4
NLWA *ep*P pP 06 29 50.4 +0.3
NLWA LR LR
comp=Z,2μm,20.0s,MS5.3
A05A Maple Falls 74.91 331 ⇓P P 06 29 44.5 -0.1
baz=75,SNR=14
B04A Port Angeles 74.96 329 ⇑P P 06 29 45.0 +0.2
baz=75
A04A Legoe Bay, Lum 75.02 330 ⇑P P 06 29 45.5 +0.3
baz=75
PGC Sidney 75.33 330 *e*P **P 06 29 48.0 +1.1**
comp=Z,116nm,1.3s,mb5.7
PGC *ep*P pP 06 29 53.3 -0.5

MAIT Maitri 75.99 160 *e*P **P 06 29 49.2 -1.3**
NVL N'lazarevskaya 76.02 160*c i*P **P 06 29 51.3 +0.6**
NVL *i* S S 06 39 34.9 +2.4
NVL *e*SS SS 06 44 34.5 +10
NVL pmax pmax
comp=Z,74nm,1.7s,mb5.3
PFVI Vila Bisbo 81.15 48 *e*S S 06 40 29.5 +1.1
PFVI Vila Bisbo 81.15 48 *e*LR LR 06 59 08.1
comp=Z,946nm,22.0s
RTC Rabat Centre 81.32 52 PFAKE 06 30 30.0 +10
RTC LR LR
comp=Z,2μm,22.0s,MS5.5
MORF Marmelete 81.35 48 *e*S S 06 40 30.7 +0.2
MORF Marmelete 81.35 48 *e*LR LR 06 59 35.1
comp=Z,937nm,18.0s
PMAFR Mafra 81.60 46 *e*S S 06 40 37.5 +4.5
PMAFR Mafra 81.60 46 *e*LR LR 06 58 42.3
comp=Z,3μm,20.0s
TOA0 Torodi Ar. Sit 81.62 74 *e*P **P 06 30 23.2 +0.7**
TORD Torodi Ar. Bea 81.62 74 P **P 06 30 23.2 +0.8**
comp=Z,52nm,0.7s,mb5.6,baz=289,slow=3.3,SNR=143
TORD LR LR 07 05 40.0
comp=Z,2μm,20.4s,MS5.4,baz=185,slow=35
SBA Scott Base 81.72 191 *e*P **P 06 30 21.5 -0.4**
SBA *e**PP pP 06 30 29.0 +0.3
SBA pmax pmax
comp=Z,12nm,1.4s,mb4.6
SBA MLR MLR
comp=Z,736nm,21.0s,MS5.0
SBA Scott Base 81.72 191 *e*P **P 06 30 21.5 -0.4**
comp=Z,12nm,1.4s,mb4.7
SBA *e*pP pP 06 30 29.0 +0.3
SBA LR LR
comp=Z,736nm,21.0s,MS5.0
PBDV Barranco-do-Ve 81.84 48 *e*P **P 06 30 25.1 +2.0**
comp=Z,76nm,1.6s,mb5.4
PBDV Barranco-do-Ve 81.84 48 *e*S S 06 40 39.2 +3.6
PBDV Barranco-do-Ve 81.84 48 *e*LR LR 06 59 52.2
comp=Z,993nm,22.0s
PVAQ Vaqueiros 82.06 48 *e*S S 06 40 38.5 +0.6
PVAQ Vaqueiros 82.06 48 *e*LR LR 06 59 30.8
comp=Z,976nm,22.0s
YKA Yellowknife Ar 82.15 343 P **P 06 30 22.8 -1.3**
comp=Z,3.9nm,1.0s,mb4.3,baz=137,slow=5.1,SNR=17
YKA LR LR 07 09 22.0
comp=Z,571nm,18.7s,MS5.0,baz=225,slow=38
XMAS Kiritimati 82.17 274 PFAKE 06 30 40.0 +15
XMAS LR LR
comp=Z,3μm,20.0s,MS5.6
PBEJ Beja 82.22 48 *e*P **P 06 30 26.7 +1.6**
comp=Z,64nm,1.2s,mb5.4
EGRO El Granado 82.29 48 P **P 06 30 26.3 +0.8**
comp=Z,317nm,2.8s,mb5.8
EVO Evora 82.32 47⇑*i*P **P 06 30 27.0 +1.4**
comp=Z,122nm,1.4s,mb5.3
EVO *e*MLR MLR
comp=Z,3μm,22.5s,MS5.2
EVO Evora 82.32 47 *e*P **P 06 30 27.2 +1.6**
comp=Z,81nm,1.8s,mb5.3
PESTR Estremoz 82.76 47 *e*P **P 06 30 29.5 +1.6**
comp=Z,90nm,1.8s,mb5.5
PESTR Estremoz 82.76 47 *e*S S 06 40 47.4 +2.5
PESTR Estremoz 82.76 47 *e*LR LR 06 59 03.5
comp=Z,2μm,20.0s
SFS San Fernando 82.79 50 PFAKE 06 30 40.0 +12
SFS LR LR
comp=Z,1μm,19.0s,MS5.2
VNDA Vanda 82.80 191 P **P 06 30 27.6 +0.1**
comp=Z,2.6nm,0.9s,mb4.2,baz=129,slow=5.9,SNR=8.9
VNDA LR LR 07 00 21.3
comp=Z,683nm,18.8s,MS5.0,baz=123,slow=31
VNDA Vanda 82.80 191 *e*P **P 06 30 27.1 -0.4**
VNDA *e**PP pP 06 30 35.9 +1.5
VNDA pmax pmax
comp=Z,16nm,1.3s
VNDA MLR MLR
comp=Z,832nm,19.0s
VNDA Vanda 82.80 191 *e*P **P 06 30 27.1 -0.3**
comp=Z,16nm,1.3s,mb4.9
VNDA *e*pP pP 06 30 35.9 +1.6
VNDA LR LR
comp=Z,832nm,19.0s,MS5.1
PBAR Barrancos 82.87 48 *e*P **P 06 30 30.2 +1.7**
comp=Z,55nm,1.5s,mb5.4
PBAR Barrancos 82.87 48 *e*S S 06 40 47.5 +1.4
PBAR Barrancos 82.87 48 *e*LR LR 06 59 23.1
comp=Z,1μm,20.0s
EMIN Mina Concepcio 82.97 48 P **P 06 30 29.2 +0.2**
comp=Z,304nm,2.2s,mb5.9
SFJD Kangerlussuaq 83.08 10 PFAKE 06 30 40.0 +11
SFJD LR LR
comp=Z,569nm,21.0s,MS4.9
EBAD Badajoz 83.13 47 P **P 06 30 29.3 -0.5**
comp=Z,65nm,1.5s,mb5.4
PMRV Marv??o 83.14 47 *e*S S 06 40 50.2 +1.5
PMRV Marv??o 83.14 47 *e*LR LR 06 59 20.4
comp=Z,2μm,20.0s
ESPR Espera 83.21 49 P **P 06 30 31.6 +1.3**
comp=Z,226nm,2.1s,mb5.8
PCBR Castelo Branco 83.25 46 *e*P **P 06 30 31.4 +1.0**
comp=Z,60nm,1.6s,mb5.4
PVIS Viseu 83.32 45 *e*P **P 06 30 31.5 +0.7**
comp=Z,77nm,1.6s,mb5.5
EJIF Jimena Fronter 83.33 50 P **P 06 30 32.9 +2.0**
EJIF pmax pmax
comp=Z,129nm,1.5s,mb5.7
EJIF Jimena Fronter 83.33 50 P **P 06 30 32.9 +2.0**
comp=Z,128nm,1.5s,mb5.7
MTE Manteigas 83.43 46 *e*P **P 06 30 32.4 +1.1**
comp=Z,61nm,1.6s,mb5.4
MTE Manteigas 83.43 46 *e*S S 06 40 55.9 +4.2
MTE Manteigas 83.43 46 *e*LR LR 06 59 36.0
comp=Z,2μm,22.0s
MTE Manteigas 83.43 46 PFAKE 06 30 40.0 +8.7
MTE LR LR
comp=Z,2μm,20.0s,MS5.5
ELOB Lobios 83.70 44 P **P 06 30 30.5 -2.2**
comp=Z,350nm,3.3s
STS Santiago 83.81 43 P **P 06 30 33.3 +0.1**
STS pmax pmax
comp=Z,78nm,1.4s,mb5.7
STS Santiago 83.81 43 P **P 06 30 33.3 +0.1**
comp=Z,78nm,1.4s,mb5.6
EMIJ Mijas 83.89 50 P **P 06 30 34.0 +0.3**
comp=Z,186nm,2.8s,mb5.7
MVO Moncorvo 84.11 45 *e*P **P 06 30 35.7 +0.9**
comp=Z,47nm,1.8s,mb5.3
MVO Moncorvo 84.11 45 *e*S S 06 40 57.2 -1.2
MVO Moncorvo 84.11 45 *e*LR LR 06 59 52.4
comp=Z,1μm,22.0s
WRAK Wrangell Islan 84.45 332 PFAKE 06 30 50.0 +14
WRAK LR LR
comp=Z,956nm,20.0s,MS5.2
ERUA La Rua 84.54 44 P **P 06 30 39.0 +2.1**
ERUA pmax pmax
comp=Z,24nm,1.9s,mb5.0
ERUA La Rua 84.54 44 P **P 06 30 39.0 +2.1**
comp=Z,24nm,1.9s,mb5.0
ELOJ Sierra Loja 84.57 50 P **P 06 30 39.1 +1.9**
ELOJ pmax pmax
comp=Z,322nm,2.4s,mb6.0
ELOJ Sierra Loja 84.57 50 P **P 06 30 39.1 +1.9**
comp=Z,322nm,2.4s,mb6.0
ELUQ Luque 84.65 49 P **P 06 30 38.9 +1.3**
ELUQ pmax pmax
comp=Z,112nm,1.6s,mb5.8
ELUQ Luque 84.65 49 P **P 06 30 38.9 +1.3**
comp=Z,112nm,1.6s,mb5.8
EADA Adamuz 84.65 49 P **P 06 30 36.9 -0.7**
comp=Z,318nm,3.8s
ERON Agron 84.78 50 P **P 06 30 39.4 +1.1**
comp=Z,14nm,0.8s,mb5.1
POHA Pohakuloa 85.13 292 PFAKE 06 30 50.0 +10
POHA LR LR
comp=Z,1μm,20.0s,MS5.2
PAB San Pablo 85.34 47 PFAKE 06 30 50.0 +9.0
PAB LR LR
comp=Z,2μm,20.0s,MS5.4
EQES Quesada 85.62 49 P **P 06 30 42.0 -0.4**
comp=Z,314nm,3.5s
SYO Syowa Base 85.65 161⇓*e*P **P 06 30 40.0 -2.1**
SYO Syowa Base 85.65 161⇓*e*sP sP 06 30 51.4 -0.1
ESDC Sonseca Array 85.67 47 P **P 06 30 43.0 +0.3**
comp=Z,1.4nm,0.5s,mb4.4,baz=255,slow=5.7,SNR=11
ESDC LR LR 07 05 50.6
comp=Z,1μm,20.1s,MS5.3,baz=255,slow=34

ESDC Sonseca Array 85.67 47 P **P 06 30 42.5 -0.2**
comp=Z,9.0nm,1.0s,mb5.0
GUD Guadarrama 85.90 46 P **P 06 30 42.0 -1.8**
GUD pmax pmax
comp=Z,26nm,1.6s,mb5.2
GUD Guadarrama 85.90 46 P **P 06 30 42.0 -1.7**
comp=Z,26nm,1.6s,mb5.2
EHUE Huescar 85.97 50 P **P 06 30 44.3 +0.1**
EHUE pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
EHUE Huescar 85.97 50 P **P 06 30 44.3 0.0**
comp=Z,8.2nm,1.0s,mb4.9
EVIA Vianos 86.34 49 P **P 06 30 47.1 +1.1**
EVIA pmax pmax
comp=Z,12nm,1.0s,mb5.1
EVIA Vianos 86.34 49 P **P 06 30 47.1 +1.1**
comp=Z,12nm,1.0s,mb5.1
ETOB Tobarra 87.04 49 P **P 06 30 50.2 +0.8**
comp=Z,234nm,2.3s,mb6.0
ETOR Torete 87.44 47 P **P 06 30 52.2 +0.9**
ETOR pmax pmax
comp=Z,21nm,2.1s,mb5.0
ETOR Torete 87.44 47 P **P 06 30 52.2 +0.8**
comp=Z,21nm,2.1s,mb5.0
KIP Kipapa 87.83 293 PFAKE 06 31 00.0 +6.4
KIP LR LR
comp=Z,972nm,19.0s,MS5.2
TAM Tamanrasset 87.85 66 *e*P **P 06 30 55.3 +1.6**
SUR Sutherland 88.18 123 PFAKE 06 31 10.0 +15
SUR LR LR
comp=Z,1μm,19.0s,MS5.4
TSUM Tsumeb 88.76 109 *e*P **P 06 30 57.5 -0.7**
comp=Z,47nm,1.6s,mb5.6
TSUM LR LR
comp=Z,994nm,19.0s,MS5.2
BORG Borgarnes 88.83 21 *e*P **P 06 30 57.0 -0.3**
BORG pmax pmax
comp=Z,54nm,1.3s
BORG Borgarnes 88.83 21 *e*P **P 06 30 57.0 -0.3**
comp=Z,54nm,1.3s,mb5.7
SJPF Ste Jean 88.84 45 *e*P **P 06 30 58.1 +0.2**
comp=Z,137nm,1.7s,mb5.7
SJPF Ste Jean 88.84 45 *e*P **P 06 30 58.1 +0.2**
SJPF pmax pmax
comp=Z,69nm,1.7s,mb5.7
SJPF Ste Jean 88.84 45 *e*P **P 06 30 58.1 +0.2**
comp=Z,68nm,1.7s,mb5.7
HYT Haines Junctio 89.15 335 *e*P **P 06 30 58.1 -0.8**
HYT *e*pP pP 06 31 05.7 -0.2
SUMG Summit 90.03 11 *e*P **P 06 31 02.9 +0.1**
comp=Z,10nm,1.1s,mb5.1
SUMG *e*pP pP 06 31 10.1 +0.3
RJF Les Rejaudoux 91.43 44 *e*P **P 06 31 09.5 -0.5**
RJF *e*MLR MLR
comp=Z,1μm,19.2s,MS5.0
RJF Les Rejaudoux 91.43 44 *e*P **P 06 31 09.5 -0.5**
RJF LR LR
comp=Z,1μm,19.3s,MS5.3
DAWY Dawson 91.56 337 *e*P **P 06 31 08.4 -1.7**
CAF Calviac 91.68 44 *e*P **P 06 31 10.8 -0.3**
INK Inuvik 91.84 342 P **P 06 31 09.8 -1.5**
comp=Z,12nm,1.2s,mb5.1,baz=123,slow=4.1,SNR=11
INK Inuvik 91.84 342 *e*P **P 06 31 09.1 -2.2**
comp=Z,816nm,1.2s,mb6.9
INK *e*pP pP 06 31 16.9 -1.3
AFI Afiamalu 92.06 255 LR LR 07 04 55.3
comp=Z,888nm,18.3s,MS5.2,baz=93,slow=31
ESK Eskdalemuir 92.07 33 PFAKE 06 31 20.0 +7.3
ESK LR LR
comp=Z,891nm,22.0s,MS5.2
EGAK Eagle 92.58 337 *e*P **P 06 31 13.2 -1.6**
comp=Z,15nm,1.2s,mb5.3
EGAK *e*pP pP 06 31 19.9 -1.8
EGAK LR LR
comp=Z,908nm,19.0s,MS5.2
BGF Bois d'Agland 92.70 43 *e*P **P 06 31 15.4 -0.4**
BOSA Boshof 92.93 120 P **P 06 31 16.6 -0.8**
comp=Z,2.2nm,0.6s,mb4.8,baz=221,slow=12,SNR=4.5
BOSA LR LR 07 10 06.6
comp=Z,2μm,20.0s,MS5.5,baz=263,slow=34
AVF Avril sur Loir 93.11 43 *e*P **P 06 31 17.0 -0.7**
MAW Mawson 93.17 165 P **P 06 31 17.1 -0.6**
comp=Z,3.2nm,0.6s,mb5.0,baz=203,slow=4.9,SNR=12
MAW LR LR 07 09 33.9
comp=Z,1μm,21.3s,MS5.3,baz=228,slow=33
RAO Raoul Island 93.22 239 LR LR 07 02 36.3
comp=Z,1μm,21.8s,MS5.2,baz=113,slow=29
SSF Saint Saulge 93.29 42 *e*P **P 06 31 17.7 -0.8**
comp=Z,22nm,1.3s,mb5.2
SSF Saint Saulge 93.29 42 *e*P **P 06 31 17.7 -0.8**
SSF pmax pmax
comp=Z,11nm,1.3s,mb5.1
SSF Saint Saulge 93.29 42 *e*P **P 06 31 17.7 -0.8**
comp=Z,11nm,1.3s,mb5.1
SMF Signal de Mont 93.38 43 *e*P **P 06 31 18.4 -0.5**
comp=Z,119nm,1.8s,mb5.7
SMF Signal de Mont 93.38 43 *e*P **P 06 31 18.4 -0.5**
SMF pmax pmax
comp=Z,60nm,1.8s,mb5.7
SMF Signal de Mont 93.38 43 *e*P **P 06 31 18.4 -0.5**
comp=Z,60nm,1.8s,mb5.7
VIVF Saint-Julien-l 93.43 45 *e*P **P 06 31 19.4 +0.2**
comp=Z,78nm,1.7s,mb5.6
VIVF Saint-Julien-l 93.43 45 *e*P **P 06 31 19.4 +0.2**
VIVF pmax pmax
comp=Z,39nm,1.7s,mb5.6
VIVF Saint-Julien-l 93.43 45 *e*P **P 06 31 19.4 +0.2**
comp=Z,39nm,1.7s,mb5.6
LOR Lormes 93.58 42 *e*P **P 06 31 19.0 -0.8**
LOR *e*MLR MLR
comp=Z,647nm,20.5s,MS4.8
LOR Lormes 93.58 42 *e*P **P 06 31 19.0 -0.8**
LOR LR LR
comp=Z,650nm,20.5s,MS5.1
URZ Urewera 94.08 229 LR LR 07 04 14.9
comp=Z,1μm,20.3s,MS5.3,baz=302,slow=30
ORIF Oris-en-Rattie 94.27 45 *e*P **P 06 31 23.4 +0.3**
comp=Z,38nm,1.3s,mb5.3
ORIF *e*MLR MLR
comp=Z,2μm,19.8s,MS5.2
ORIF Oris-en-Rattie 94.27 45 *e*P **P 06 31 23.4 +0.3**
ORIF pmax pmax
comp=Z,19nm,1.3s,mb5.4
ORIF Oris-en-Rattie 94.27 45 *e*P **P 06 31 23.4 +0.3**
comp=Z,19nm,1.3s,mb5.4
LBTB Lobatse 94.31 117 PFAKE 06 31 30.0 +6.2
LBTB LR LR
comp=Z,1μm,20.0s,MS5.4
FRF La Foret Royal 94.44 46 *e*P **P 06 31 23.3 -0.6**
KEST Kesra 94.48 54 P **P 06 31 23.8 -0.5**
comp=Z,1.2nm,0.7s,mb4.4,baz=83,slow=4.9,SNR=2.1
KEST LR LR 07 14 00.7
comp=Z,466nm,21.5s,MS4.9,baz=5.6,slow=36
BAIF Baives 94.60 40 *e*P **P 06 31 30.1 +5.6**
SNZO South Karori 94.64 226 PFAKE 06 31 40.0 +15
SNZO LR LR
comp=Z,3μm,20.0s,MS5.7
MBDF Montbardon 94.83 45 *e*P **P 06 31 26.1 +0.5**
BNI Bardonecchia 94.85 45 PFAKE 06 31 40.0 +14
BNI LR LR
comp=Z,1μm,19.0s,MS5.3
GIVF Givet 94.99 40 *e*P **P 06 31 26.1 -0.2**
LPL La Plagne 95.01 44 *e*P **P 06 31 27.1 +0.7**
LPG La Plagne 95.02 44 *e*P **P 06 31 27.2 +0.7**
COLA College 95.21 336 P **P 06 31 26.0 -0.9**
COLA pmax pmax
comp=Z,11nm,1.0s,mb5.2
COLA College 95.21 336 *e*P **P 06 31 23.3 -3.6**
comp=Z,11nm,0.9s,mb5.3
COLA LR LR
comp=Z,546nm,19.0s,MS5.0
HAU Haudompre 95.40 42 *e*P **P 06 31 27.5 -0.7**
HAU *e*MLR MLR
comp=Z,588nm,20.2s,MS4.8
HAU Haudompre 95.40 42 *e*P **P 06 31 27.5 -0.7**
HAU LR LR
comp=Z,590nm,20.3s,MS5.0
HINF Hinteralfeld 95.68 42 *e*P **P 06 31 28.8 -0.6**
WLF Walferdange 95.70 40 PFAKE 06 31 40.0 +10
WLF LR LR
comp=Z,765nm,20.0s,MS5.2
ECH Echery 95.98 42 *e*P **P 06 31 28.0 -2.8**
KTH Kantishna Hill 95.99 334 *e*P **P 06 31 28.6 -1.8**
comp=Z,2μm,0.6s
RPZ Rata Peaks 96.09 222 LR LR 07 05 39.1
comp=Z,1μm,20.1s,MS5.4,baz=47,slow=30

CDF Champ du Feu 96.10 42 *e*P **P 06 31 30.9 -0.5**
comp=Z,78nm,1.7s,mb5.6
CDF Champ du Feu 96.10 42 *e*P **P 06 31 30.9 -0.5**
CDF pmax pmax
comp=Z,39nm,1.7s,mb5.6
CDF Champ du Feu 96.10 42 *e*P **P 06 31 30.9 -0.5**
comp=Z,39nm,1.7s,mb5.6
PPLA Purkeypile 96.31 333 *e*pP pP 06 31 30.2 -8.7
comp=Z,15nm,1.2s
BFO Black Forest 96.76 42 PFAKE 06 31 50.0 +16
BFO LR LR
comp=Z,470nm,19.0s,MS5.0
VLC Villacollemand 97.21 46 PFAKE 06 31 50.0 +14
VLC LR LR
comp=Z,1μm,22.0s,MS5.3
WTTA Wattenberg 98.71 44⇑*i*P **P 06 31 44.1 +1.0**
comp=Z,32nm,1.4s,mb5.7
WTTA Wattenberg 98.71 44⇑*i*P **P 06 31 44.1 +0.9**
WTTA pmax pmax
comp=Z,32nm,1.4s,mb5.7
AQU L'Aquila 99.00 49 PFAKE 06 32 00.0 +15
AQU LR LR
comp=Z,847nm,21.0s,MS5.2
LSZ Lusaka 99.58 108 PFAKE 06 32 00.0 +12
LSZ LR LR
comp=Z,3μm,21.0s,MS5.8
CASY Casey 99.63 183 PFAKE 06 32 00.0 +13
CASY LR LR
comp=Z,1μm,20.0s,MS5.3
CLL Collm 100.33 40 *e*PP PP 06 35 54.0 -2.8
CLL *e*SKSac SKSac 06 42 27.0 -0.9
CLL *e*Sdif Sdif 06 43 38.0 +13
CLL *e*PS PS 06 45 02.0 +5.0
CLL *e*PPS 06 45 46.0
CLL *e*SS SS 06 50 39.0 +19
CLL *e*SSS 06 54 23.0
CLL *e*x x 06 55 47.0
GERES GERESS Array B 100.36 42 P Pdif 06 31 51.3 +0.8
comp=Z,1.1nm,0.8s,baz=264,slow=3.6,SNR=4.5
TIP Timpagrande 100.95 52 PFAKE 06 32 00.0 +6.9
TIP LR LR
comp=Z,1μm,22.0s,MS5.3
FUNA Funafuti 102.04 258 PFAKE 06 32 10.0 +12
FUNA LR LR
comp=Z,10μm,20.0s,MS6.3
KBS Kingsbay 103.43 11 PFAKE 06 32 10.0 +5.9
KBS LR LR
comp=Z,572nm,21.0s,MS5.1
PSZ Piszkesteto 104.33 44 PFAKE 06 32 20.0 +12
PSZ LR LR
comp=Z,672nm,21.0s,MS5.2
KWP Kalwaria 106.31 42 PFAKE 06 36 40.0 +12
KWP LR LR
comp=Z,1μm,20.0s,MS5.4
MIDW Midway 106.41 296 PFAKE 06 36 40.0 +11
MIDW LR LR
comp=Z,999nm,20.0s,MS5.4
SANT Santorini 107.44 56 PFAKE 06 36 40.0 +9.2
SANT LR LR
comp=Z,165nm,19.0s,MS4.6
KEV Kevo 107.72 21 PFAKE 06 36 40.0 +10
KEV LR LR
comp=Z,603nm,22.0s,MS5.1
KIEV Kiev 110.49 41 PFAKE 06 36 50.0 +14
KIEV LR LR
comp=Z,947nm,22.0s,MS5.3
LVZ Lovozero 110.79 22 PFAKE 06 36 50.0 +14
LVZ LR LR
comp=Z,441nm,19.0s,MS5.1
ISP Isparta 111.56 55 PFAKE 06 36 50.0 +12
ISP LR LR
comp=Z,384nm,20.0s,MS5.0
KMBO Kilima Mbogo 112.26 97 PFAKE 06 36 50.0 +9.4
KMBO LR LR
comp=Z,1μm,19.0s,MS5.4
BILL Bilibino 113.27 339 PFAKE 06 36 50.0 +9.2
BILL LR LR
comp=Z,335nm,20.0s,MS4.9
ANTO Ankara 113.35 53 PFAKE 06 36 50.0 +8.2
ANTO LR LR
comp=Z,368nm,21.0s,MS5.0
OBN Obninsk 114.42 36 *e*PKIKP PKiKP 06 36 39.4 -4.0
OBN *e* 06 37 38.1
OBN *e* 06 43 21.9
OBN *e*SS SS 06 53 36.4 +5.4
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN Obninsk 114.42 36 PFAKE 06 36 50.0 +6.6
OBN LR LR
comp=Z,755nm,22.0s,MS5.2
ABPO Ambohimpanom 115.12 119 PFAKE 06 37 00.0 +14
ABPO LR LR
comp=Z,1μm,19.0s,MS5.6
MALT Malatya 117.80 54 PFAKE 06 37 00.0 +10
MALT LR LR
comp=Z,459nm,21.0s,MS5.1
HNR Honiara 119.71 250 PFAKE 06 37 10.0 +15
HNR LR LR
comp=Z,692nm,22.0s,MS5.2
KIV Kislovodsk 120.33 47 *e*PKIKP PKPdf 06 36 53.7 -1.4
KIV *e*PS PS 06 48 06.6 -5.6
KIV *e*SS SS 06 54 43.2 -5.4
KIV pmax pmax
comp=Z,4.0nm,0.7s
KIV Kislovodsk 120.33 47 PFAKE 06 37 10.0 +15
KIV LR LR
comp=Z,372nm,22.0s,MS5.0
TIXI Tiksi 120.63 351 PFAKE 06 37 10.0 +15
TIXI LR LR
comp=Z,411nm,19.0s,MS5.1
PET Petropavlovsk 122.18 324 PFAKE 06 37 10.0 +12
PET LR LR
comp=Z,319nm,20.0s,MS5.0
GNI Garni 122.47 51 PFAKE 06 37 10.0 +11
GNI LR LR
comp=Z,333nm,22.0s,MS5.0
CTAO Charters Tower 126.24 232 PFAKE 06 37 20.0 +13
CTAO LR LR
comp=Z,987nm,19.0s,MS5.5
AKTK Aktyubinsk 128.20 36 PKP PKPdf 06 37 10.1 0.0
AKTO Aktyubinsk 128.20 36 PKP PKPdf 06 37 10.1 0.0
comp=Z,2.3nm,0.8s,baz=13,slow=0.8,SNR=8.1
MSEY Mahe Island 128.40 108 PFAKE 06 37 20.0 +8.5
MSEY LR LR
comp=Z,922nm,21.0s,MS5.4
YAK Yakutsk 128.80 345 *e*PKIKP PKPdf 06 37 16.4 +5.6
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK Yakutsk 128.80 345 PFAKE 06 37 20.0 +9.2
YAK LR LR
comp=Z,404nm,21.0s,MS5.1
AB31 Akbulak array 129.86 36 *i* PKIKP PKPdf 06 37 13.6 +0.4
AB31 pmax pmax
comp=Z,3.0nm,0.6s
PMG Port Moresby 131.16 244 PFAKE 06 37 30.0 +13
PMG LR LR
comp=Z,474nm,19.0s,MS5.2
NWAO Narrogin (SRO) 131.47 195 PFAKE 06 37 30.0 +13
NWAO LR LR
comp=Z,355nm,19.0s,MS5.1
ASAR Alice Springs 132.33 218 PKP PKPdf 06 37 17.0 -1.7
comp=Z,2.1nm,1.0s,baz=154,slow=4.0,SNR=8.9
BRVK Borovoye 132.94 27 PFAKE 06 37 30.0 +11
BRVK LR LR
comp=Z,714nm,20.0s,MS5.4
BVAR Borovoye Array 133.01 27 PKP PKPdf 06 37 19.6 +0.6
comp=Z,0.5nm,0.5s,baz=169,slow=1.5,SNR=5.0
YSS Yuzh-Sakhalins 134.04 323 PFAKE 06 37 30.0 +8.8
YSS LR LR
comp=Z,152nm,20.0s,MS4.7
WRAB Tennant Creek 134.80 222 PFAKE 06 37 30.0 +6.5
WRAB LR LR
comp=Z,834nm,20.0s,MS5.5
WRA Warramunga Arr 134.80 222 PKP PKPdf 06 37 22.3 -1.2
comp=Z,7.5nm,0.9s,baz=142,slow=1.5,SNR=8.3
BOD Bodaibo 135.78 352 *e*PKIKP PKPdf 06 37 23.1 -1.0
NVS Novosibirsk 136.33 17 *e*PKIKP PKPdf 06 37 24.3 -0.9
NVS *e* 06 40 09.6
NVS pmax pmax
comp=Z,29nm,1.9s
ZALV Zalesovo Beam 137.56 17 PKP PKPdf 06 37 27.6 0.0

comp=Z,3.3nm,0.7s,baz=222,slow=1.9,SNR=7.5
ZAL Zalesovo 137.56 17 PKIKP PKPdf 06 37 27.6 +0.1
KURK Kurchatov 138.17 24 *e*PKIKP PKPdf 06 37 28.8 +0.1
KURK MLR MLR
comp=Z,453nm,20.0s,MS5.2
KLR Kul'dur 138.27 333 *e*PKIKP PKPdf 06 37 24.2 -4.8
MBWA Marble Bar 141.62 204 PFAKE 06 37 50.0 +14
MBWA LR LR
comp=Z,789nm,20.0s,MS5.5
DGAR Diego Garcia 142.09 122 PFAKE 06 37 50.0 +13
DGAR LR LR
comp=Z,2μm,19.0s,MS5.8
MJAR Matsushiro Arr 142.18 312 PKhKP 06 37 32.0
comp=Z,3.7nm,0.9s,baz=318,slow=0.3,SNR=6.7
MAJO Matsushiro 142.18 312 PFAKE 06 37 50.0 +14
MAJO LR LR
comp=Z,1μm,21.0s,MS5.6
MAT Matsushiro 142.18 312 *e*PKP PKPdf 06 37 34.3 -2.2
HVS Khovu-Aksy 142.22 11 *i* PKIKP PKPdf 06 37 38.1 +2.0
TLY Talaya 142.59 0 *e*PKIKP PKPdf 06 37 33.5 -3.2
TLY *i* 06 37 40.9
TLY *e*SS SS 06 59 14.9 -3.2
TLY pmax pmax
comp=Z,12nm,2.1s
TLY MLR MLR
comp=Z,349nm,23.0s,MS5.1
TLY Talaya 142.59 0 PFAKE 06 37 50.0 +13
TLY LR LR
comp=Z,290nm,21.0s,MS5.0
MDJ Mudanjiang 142.64 329 PFAKE 06 37 50.0 +13
MDJ LR LR
comp=Z,549nm,22.0s,MS5.3
HIA Hailar 142.68 343 PFAKE 06 37 50.0 +13
HIA LR LR
comp=Z,641nm,19.0s,MS5.4
MK31 Makanchi Array 142.77 25 *e*PKIKP PKPdf 06 37 33.0 -4.2
MKAR Makanchi Array 142.77 25 PKhKP 06 37 31.3
comp=Z,0.4nm,0.8s,baz=184,slow=34,SNR=6.5
MKAR PKP PKPdf 06 37 36.3 -0.9
comp=Z,0.8nm,0.7s,baz=0.0,slow=3.8,SNR=7.1
ZAK Zakamensk 143.89 1 ↑*i* PKIKP PKPdf 06 37 36.4 -2.6
ZAK *e* 06 40 50.3
ZAK pmax pmax
comp=Z,14nm,1.6s
KSH Kashi 144.76 39 *i* PKP PKPdf 06 37 41.8 +0.9
KSH PKP2 PKPdf 06 37 46.5 +5.6
KSH PKS 06 41 15.1
KSH PPP 06 44 28.4
KSH SKS SKSdf 06 44 45.3 -3.9
KSH PP PP
comp=Z,806nm,3.8s
KSH LR LR
comp=N,509nm,5.6s
KSH LR LR
comp=E,529nm,4.8s
KSH LR LR
comp=Z,350nm,4.7s
CN2 Changchun 145.22 332 *e*PKP PKPdf 06 37 38.6 -3.0
CN2 PP PP
comp=Z,1μm,10.0s
CN2 LR LR
comp=N,200nm,20.0s,MS5.1
CN2 LR LR
comp=E,300nm,20.0s,MS5.1
CN2 LR LR
comp=Z,400nm,21.0s,MS5.2
SONM Songino Array 146.38 357 PKPbc PKPbc 06 37 44.6 -0.1
comp=Z,8.4nm,0.6s,baz=336,slow=2.4,SNR=37
WMQ Urumqi 147.34 22 PKP PKPdf 06 37 47.3 +2.1
WMQ PP PP 06 41 18.0 +5.7
WMQ PPP 06 44 36.0
WMQ SKS SKSdf 06 44 50.5 -2.2
WMQ SKKS SKKSac 06 48 02.9 -0.9
WMQ SS SS 07 00 13.0 0.0
WMQ PP PP
comp=Z,192nm,10.7s
WMQ LR LR
comp=N,494nm,24.6s,MS5.3
WMQ LR LR
comp=E,345nm,20.7s,MS5.3
WMQ LR LR
comp=Z,473nm,22.2s,MS5.2
KSRS Korea Array 148.51 322 PKPbc PKPbc 06 37 47.3 -3.6
comp=Z,11nm,1.1s,baz=46,slow=1.9,SNR=18
INCN Inchon 149.25 323 PFAKE 06 38 00.0 +12
INCN LR LR
comp=Z,441nm,20.0s,MS5.2
POO Poona 150.81 77 ⇓*i* P PKPdf 06 37 55.0 +3.5
comp=Z,20nm,1.0s
KAD Karad 151.19 80 *e*P PKPdf 06 37 57.3 +5.2
BJT Baijiatuan 152.12 340 PFAKE 06 38 00.0 +7.1
BJT LR LR
comp=Z,730nm,20.0s,MS5.5
HHC Hu-ho-hao-te 152.61 347 *e*PKP PKPdf 06 37 49.9 -3.7
HHC PKS 06 41 22.6
HHC PP PP 06 41 42.8 +0.3
HHC SKS SKSdf 06 44 51.9 -7.8
HHC PP PP
comp=Z,173nm,10.7s
HHC LR LR
comp=N,351nm,20.2s,MS5.3
HHC LR LR
comp=E,361nm,20.2s,MS5.3
HHC LR LR
comp=Z,271nm,21.4s,MS5.0
GTA Gaotai 154.60 7 PKP PKPdf 06 37 56.8 +0.3
GTA PKS 06 41 31.3
GTA PP PP
comp=Z,91nm,7.7s
GTA LR LR
comp=N,202nm,18.4s,MS5.2
GTA LR LR
comp=E,257nm,17.8s,MS5.2
GTA LR LR
comp=Z,135nm,17.0s,MS4.8
KAPI Kappang 155.32 220 PFAKE 06 38 10.0 +12
KAPI LR LR
comp=Z,501nm,19.0s,MS5.4
PALK Pallekele 156.16 104 PFAKE 06 38 10.0 +11
PALK LR LR
comp=Z,877nm,21.0s,MS5.6
NJ2 Nanjing 157.59 325 *e*PKP PKPdf 06 37 56.4 -4.2
DAV Davao City (W) 157.62 254 PFAKE 06 38 10.0 +8.8
DAV LR LR
comp=Z,975nm,20.0s,MS5.6
LZH Lanzhou 158.18 0 PKP PKPdf 06 38 02.3 +1.1
LZH PP PP
comp=Z,148nm,5.0s
LZH LR LR
comp=E,356nm,13.6s
LZH LR LR
comp=Z,502nm,18.3s,MS5.4
XAN Xi'an 159.72 348 PKP PKPdf 06 38 03.0 -0.1
XAN APKP 06 38 09.4
XAN XPKP 06 38 13.3
XAN PP PP
comp=Z,229nm,7.9s
LSA Lhasa 160.54 35 PKP PKPdf 06 38 05.3 +1.1
LSA Lhasa 160.54 35 PFAKE 06 38 20.0 +16
LSA LR LR
comp=Z,571nm,22.0s
CD2 Chengdu 163.34 1 *e*PKP PKPdf 06 38 08.0 +1.0
CD2 PKP2 PKPab 06 39 00.1 +2.6
CD2 PP PP 06 42 45.6 +4.4
CD2 SKS SKSdf 06 45 07.5 -3.2
CD2 SKKS SKKSac 06 49 28.5 -1.1
CD2 SS SS 07 03 04.6 -0.9
CD2 PP PP
comp=Z,430nm,10.2s
CD2 LR LR
comp=N,350nm,18.2s
CD2 LR LR
comp=E,410nm,16.8s
CD2 LR LR
comp=Z,260nm,16.4s
KKM Kota Kinabalu 165.48 237 PFAKE 06 38 20.0 +11
KKM LR LR
comp=Z,260nm,21.0s
GYA Guiyang 167.52 349 PKP PKPdf 06 38 11.1 +0.5
GYA XPKP 06 38 18.6
GYA PKP2 PKPab 06 39 15.3 -0.7
GYA SKS SKSdf 06 45 09.6 -4.0
GYA PP PP
comp=Z,330nm,7.5s
GYA LR LR
comp=N,1μm,25.3s
GYA LR LR
comp=E,1μm,22.7s
GYA LR LR
comp=Z,1μm,25.5s
KMI Kunming 169.05 6 PKP PKPdf 06 38 10.9 -0.8
KMI APKP 06 38 17.1
KMI XPKP 06 38 19.3
KMI PP PP 06 43 10.8 +0.1
KMI PPP 06 47 16.5
KMI SS SS 07 04 02.3 -1.2
KMI SSS 07 10 42.0
KMI PP PP
comp=Z,258nm,6.4s
KMI LR LR
comp=N,368nm,21.4s
KMI LR LR
comp=E,384nm,19.5s
KMI LR LR
comp=Z,790nm,22.9s
QIZ Qiongzhong 172.58 311 PFAKE 06 38 20.0 +6.3
QIZ LR LR
comp=Z,479nm,20.0s
CHTO Chiang Mai 173.34 46 PFAKE 06 38 20.0 +6.0
CHTO LR LR
comp=Z,637nm,21.0s
CM31 Chiang Mai Arr 173.57 48 PFAKE 06 38 20.0 +5.9
CM31 LR LR
comp=Z,631nm,19.0s
CMAR Chiang Mai Arr 173.57 48 PKP PKPdf 06 38 13.0 -1.1
comp=Z,1.5nm,0.3s,baz=287,slow=0.9,SNR=6.3
CMAR PKPab PKPab 06 39 43.1 -0.1
comp=Z,1.0nm,0.4s,baz=300,slow=6.1,SNR=3.0

CSEM 17 06:20:22.7, 3528N×2536E, h19km, MD3.0/3, After ATH
ATH 17 06:20:23.0, 3538N×2538E, h14km±9km, MD3.0/3
NEIC 17 06:19:52.0, 3760N×2506E, h10km, ML3.2(ATH), After ATH., Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**1.42**	**85**	P	Pn	06 20 17.2	-0.6
VAM	**Vamos**	**2.30**	**198**	*e*PB	Pb	06 20 41.4	+7.9
VAM				*e*SB	Sb	06 20 54.7	-7.2
IDI	**Anoyia**	**2.31**	**183**	P	Pn	06 20 33.0	+2.9
NPS	**Neapolis**	**2.38**	**169**	*e*PG	Pn	06 20 27.5	-3.5
NPS				*e*SG	Pg	06 20 31.0	-6.5
ZKR	**Zakros**	**2.65**	**159**	P	Pn	06 20 36.7	+1.9
KARP	**Karpathos**	**2.66**	**140**	*e*PB	Pg	06 20 50.6	+7.7
VLS	**Valsamata**	**3.58**	**281**	P	Pn	06 20 47.8	+0.2

NEIC 17 06:22:59.3, 5568N×15995W, h6km, ML3.6(AEIC), After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.45**	**222**	P	Pg	06 23 09.0	+1.0
SDPT				S	Sg	06 23 15.9	+2.1
CHGN	**Chignik**	**1.06**	**54**	P	Pg	06 23 19.3	-0.4
CHGN				S	Sg	06 23 33.3	-0.1
FALS	**False Pass**	**2.15**	**249**	P	Pn	06 23 36.0	+0.4
FALS				S	Sn	06 24 01.8	-0.7
OHAK	**Old Harbor**	**4.01**	**65**	P	Pn	06 24 02.1	+1.0
KDAK	**Kodiak Island**	**4.57**	**60**	P	Pn	06 24 10.3	+1.5
NIKO	**Nikolski**	**5.87**	**246**	*e*Pn	Pn	06 24 28.6	+1.8
RC01	**Rabbit Creek A**	**7.62**	**41**	*e*Pn	Pn	06 24 52.4	+1.8
PPLA	**Purkeypile**	**8.25**	**26**	*e*Pn	Pn	06 25 04.0	+4.7

14nm,1.7s

IDC 17 06:38:57.0±1.0, 5040N×17769W, h0km, mb4.1/19, mb1 4.2/19, mb1mx4.1/28, mbtmp4.1/19, Error ellipse: s-maj=31.0km s-min=13.3km az=0.0
ISCJB 17 06:39:00.5±0.8, 505N±0.1×17761W±0.07, h33km, mb4.1/22, Error ellipse: s-maj=18.3km s-min=6.5km az=173.0
NEIC 17 06:39:01.0, 5038N×17759W, h10km, mb4.0/7, ML3.8(AEIC), After AEIC.
ISC 17 06:38:59.3±3.3, 504N±01×17764W±008, h13km±20km, n44, σ0§84/41, mb4.1/22, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**2.17**	**298**	P	**Pn**	**06 39 34.5**	**-0.5**
NIKO	**Nikolski**	**6.04**	**61**	P	**Pn**	**06 40 28.1**	**-0.1**
FX1	**Attu Island--F**	**6.24**	**297**	P	**Pn**	**06 40 32.1**	**+1.2**
OKCD	**Okmok Cone D**	**6.63**	**59**	P	**Pn**	**06 40 36.5**	**+0.2**
AKGG	**Akutan Green G**	**8.09**	**57**	P	**Pn**	**06 40 56.3**	**+0.1**
PETK	**Petropavlovsk-**	**15.48**	**290**	Pn	**Pn**	**06 42 31.1**	**-6.0**
	0.3nm,0.3s,baz=336,slow=36,SNR=3.5						
KDAK	**Kodiak Island**	**16.38**	**54**	Pn	**Pn**	**06 42 44.0**	**-4.6**
	2.0nm,0.3s,baz=182,slow=1.3,SNR=20						
KDAK				Sn	**Sn**	**06 45 50.8**	**+0.7**
	0.8nm,0.3s,baz=166,slow=23,SNR=9.0						
SLKM	**Skilak Lake**	**18.41**	**46**	*e*P	**Pn**	**06 43 12.5**	**-1.3**
PPLA	**Purkeypile**	**18.61**	**38**	*e*P	**Pn**	**06 43 17.4**	**+1.2**
	9.9nm,0.8s						
CHUM	**Lake Minchumin**	**19.08**	**35**	*e*P	**Pn**	**06 43 21.5**	**-0.4**
	5.4nm,0.7s						
KTH	**Kantishna Hill**	**19.43**	**37**	*e*P	**Pn**	**06 43 25.1**	**-1.1**
	13nm,0.8s						
MCK	**McKinley**	**20.30**	**38**	*e*P	**P**	**06 43 33.7**	**-0.7**
	5.0nm,0.7s						
BMRM	**Bremner River**	**21.18**	**47**	*e*P	**P**	**06 43 45.3**	**+1.3**
COLA	**College**	**21.25**	**36**	*e*P	**P**	**06 43 46.5**	**+1.8**
	2.7nm,0.7s,mb3.7						
EGAK	**Eagle**	**23.83**	**39**	*e*P	**P**	**06 44 10.4**	**-1.3**
	4.1nm,0.7s,mb4.0						
VIB	**Van Inlet**	**27.67**	**66**	T		07 12 28.3	
	SNR=36						
DIB	**Dawson Inlet,**	**27.72**	**67**	T		07 12 26.4	
INK	**Inuvik**	**27.86**	**34**	P	**P**	**06 44 47.4**	**-0.6**
	0.8nm,0.3s,mb3.8,baz=239,slow=8.7,SNR=12						
INK	**Inuvik**	**27.86**	**34**	*e*P	**P**	**06 44 44.8**	**-3.3**
DLBC	**Dease Lake**	**28.30**	**55**	P	**P**	**06 44 52.1**	**-0.1**
	baz=292,slow=1.0						
YKA	**Yellowknife Ar**	**35.38**	**46**	P	**P**	**06 45 54.6**	**+0.4**
	1.5nm,0.7s,mb4.0,baz=274,slow=7.9,SNR=12						
YBH	**Yreka Blue Hor**	**38.30**	**81**	P	**P**	**06 46 20.5**	**+1.3**
	0.6nm,0.6s,mb3.5,baz=0.0,slow=5.1,SNR=2.6						
NEW	**Newport**	**38.55**	**69**	*e*P	**P**	**06 46 19.2**	**-2.0**
	4.0nm,0.8s,mb4.2						
EDM	**Edmonton**	**38.66**	**60**	*e*P	**P**	**06 46 22.6**	**+0.5**
KSRS	**Korea Array**	**40.40**	**273**	P	**P**	**06 46 37.5**	**+0.7**
	1.0nm,0.5s,mb3.8,baz=56,slow=8.4,SNR=5.8						
NVAR	**Mina Array Bea**	**42.95**	**83**	P	**P**	**06 46 58.4**	**+0.7**
	0.7nm,0.8s,mb3.5,baz=282,slow=7.0,SNR=3.6						
PDAR	**Pinedale Array**	**45.91**	**72**	P	**P**	**06 47 21.5**	**+0.2**
	0.7nm,0.5s,mb3.8,baz=317,slow=3.8,SNR=8.2						
SONM	**Songino Array**	**47.75**	**298**	P	**P**	**06 47 36.0**	**+0.5**
	0.8nm,0.6s,mb3.9,baz=52,slow=10,SNR=5.2						
ULM	**Lac du Bonnet**	**49.61**	**57**	P	**P**	**06 47 49.9**	**0.0**
	1.6nm,0.6s,mb4.2,baz=299,slow=8.5,SNR=4.0						
SPITS	**Spitsbergen Ar**	**51.40**	**356**	P	**P**	**06 48 02.7**	**-0.3**
	3.2nm,0.6s,mb4.5,baz=123,slow=7.2,SNR=3.1						
TXAR	**Lajitas Array**	**58.08**	**81**	P	**P**	**06 48 51.9**	**-0.2**
	0.4nm,0.6s,mb3.6,baz=297,slow=4.2,SNR=7.1						
ARCES	**ARCESS Array B**	**59.18**	**351**	P	**P**	**06 48 58.6**	**-0.5**
	0.8nm,0.4s,mb4.1,baz=23,slow=8.3,SNR=15						
SCHQ	**Schefferville**	**60.32**	**38**	P	**P**	**06 49 06.1**	**-1.1**
	4.8nm,0.9s,mb4.5,baz=33,slow=7.2,SNR=3.8						
SCHQ	**Schefferville**	**60.32**	**38**	P	**P**	**06 49 06.1**	**-1.1**
MKAR	**Makanchi Array**	**61.22**	**309**	P	**P**	**06 49 13.2**	**-0.3**
	1.6nm,0.8s,mb4.2,baz=56,slow=6.8,SNR=11						
BVAR	**Borovoye Array**	**62.11**	**321**	P	**P**	**06 49 19.7**	**+0.3**
	2.3nm,0.4s,mb4.7,baz=50,slow=8.0,SNR=10						
NOA	**NORSAR Array B**	**68.68**	**355**	P	**P**	**06 50 01.7**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=350,slow=5.0,SNR=2.7						
AKTK	**Aktyubinsk**	**68.91**	**326**	P	**P**	**06 50 03.6**	**+0.2**
AKTO	**Aktyubinsk**	**68.91**	**326**	P	**P**	**06 50 03.6**	**+0.2**
	7.6nm,0.7s,mb4.7,baz=49,slow=7.0,SNR=36						
CMAR	**Chiang Mai Arr**	**71.85**	**277**	P	**P**	**06 50 20.5**	**-1.3**
	0.9nm,0.3s,mb4.2,baz=13,slow=32,SNR=3.1						
AKASG	**Malin Array Be**	**76.70**	**343**	P	**P**	**06 50 49.8**	**+0.1**
	5.9nm,0.7s,mb4.7,baz=17,slow=5.6,SNR=15						
GERES	**GERESS Array B**	**80.65**	**352**	P	**P**	**06 51 11.9**	**+0.5**
	1.2nm,0.6s,mb4.0,baz=22,slow=4.9,SNR=5.4						
LBTB	**Lobatse**	**148.94**	**316**	PKPbc	PKPbc	06 58 46.2	-0.4
	1.3nm,0.4s,baz=280,slow=4.2,SNR=3.7						
BOSA	**Boshof**	**152.18**	**313**	PKPbc	PKPbc	06 58 52.5	-1.8
	3.0nm,0.8s,baz=303,slow=11,SNR=4.7						

IDC 17 06:40:15.6±4.8, 599S×1062W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/22, mbtmp4.0/4, ML2.8/1, MS4.2/8, Ms1 4.2/8, ms1mx3.9/35, Error ellipse: s-maj=111.7km s-min=33.3km az=74.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.83**	**25**	Pn	Pn	06 43 32.8	-0.3
	0.1nm,0.3s,baz=180,slow=18,SNR=2.1						
DBIC				LR	LR	06 47 21.3	
	comp=Z,294nm,21.7s,baz=178,slow=31						
TORD	**Torodi Ar. Bea**	**22.61**	**33**	P	P	06 45 18.2	+0.1
	3.8nm,0.8s,baz=227,slow=12,SNR=8.3						
TORD				LR	LR	06 52 36.2	
	comp=Z,371nm,21.6s,baz=250,slow=33						
TSUM	**Tsumeb**	**30.43**	**118**	P	P	06 46 30.2	+0.1
	2.5nm,1.0s,baz=236,slow=15,SNR=3.1						
TSUM				LR	LR	06 57 33.5	
	comp=Z,212nm,19.7s,baz=312,slow=34						
BDFB	**Brasilia**	**37.90**	**252**	LR	LR	06 59 41.7	
	comp=Z,292nm,19.3s,baz=134,slow=31						
GERES	**GERESS Array B**	**58.61**	**19**	P	P	06 50 14.4	+0.2
	1.6nm,0.8s,baz=198,slow=6.1,SNR=8.0						
SJG	**San Juan**	**59.77**	**295**	LR	LR	07 08 53.5	
	comp=Z,224nm,19.7s,baz=94,slow=29						
AKASG	**Malin Array Be**	**66.07**	**26**	LR	LR	07 20 37.3	
	comp=Z,742nm,21.7s,baz=285,slow=37						
ATAH	**Atahualpa**	**67.29**	**265**	LR	LR	07 17 40.9	
	comp=Z,238nm,19.2s,baz=161,slow=33						
MKAR	**Makanchi Array**	**96.32**	**44**	LR	LR	07 42 49.7	
	comp=Z,332nm,21.8s,baz=321,slow=39						

CSEM 17 06:54:25.6±0.1, 3994N×3315E, h5km, MD2.8, Error ellipse: s-maj=1.7km s-min=1.5km az=7.0
ISCJB 17 06:54:26.7±0.6, 3991N±002×3314E±003, h4km±5km, Error ellipse: s-maj=4.4km s-min=4.0km az=11.2
ISK 17 06:54:26.4, 3988N×3312E, h15km, MD2.8
DDA 17 06:54:26.8, 3993N×3311E, h7km±3km, Md3.2
ISC 17 06:54:27.3±0.5, 3991N±002×3314E±003, h7km±5km, n17, σ1§02/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.27**	**261**	PG	**Pg**	**06 54 31.9**	**-0.6**
ANTO				SG	**Sg**	**06 54 36.6**	**+0.6**
ELDT	**Eldivan**	**0.62**	**21**	*i* P	**Pg**	**06 54 38.6**	**-0.7**
ELDT				*i* S	**Sg**	**06 54 48.2**	**+0.8**
KAMT	**Kaman**	**0.70**	**140**	*e*PG	**Pg**	**06 54 40.1**	**-0.6**
KAMT				*e*SG	**Sg**	**06 54 50.3**	**+0.4**
CANT	**Cankiri**	**0.79**	**28**	*e*PG	**Pg**	**06 54 42.9**	**+0.4**
CDAG	**Cicekdag**	**0.99**	**106**	*i* P	**Pg**	**06 54 45.3**	**-1.2**
CDAG				*i* S	**Sg**	**06 54 59.2**	**-0.2**
SGKT	**Sivrigoynuk**	**1.06**	**309**	*i* P	**Pg**	**06 54 46.9**	**-0.8**
SGKT				*i* S	**Sg**	**06 55 02.1**	**+0.7**
CORM	**Corum**	**1.18**	**76**	*e*PN	**Pn**	**06 54 49.3**	**-0.9**
ILGA	**Ilgaz**	**1.22**	**21**	*i* P	**Pg**	**06 54 49.3**	**-1.5**
ILGA				*i* S	**Sg**	**06 55 06.6**	**-0.1**
TOS	**Tosya**	**1.31**	**31**	*e*PN	**Pn**	**06 54 51.0**	**-1.2**
SAFT	**Safranbolu**	**1.37**	**346**	*e*PN	**Pn**	**06 54 52.8**	**-0.2**
KIZT	**Kizilcal**	**1.42**	**224**	*e*PN	**Pn**	**06 54 51.7**	**-1.8**
CTKT	**Corum**	**1.45**	**60**	*i* P	**Pn**	**06 54 54.1**	**0.0**
CTKT				*i* S	**Sg**	**06 55 16.4**	**+2.3**
KDHN	**Kadinhani**	**1.60**	**210**	*i* P	**Pn**	**06 54 57.3**	**+1.3**
KDHN				*i* S	**Sg**	**06 55 19.6**	**+0.9**
KDHN	**Kadinhani**	**1.60**	**210**	*i* P	**Pn**	**06 54 57.3**	**+1.3**
KDHN				*i* S	**Sg**	**06 55 19.5**	**+0.9**
BALT	**Daday**	**1.63**	**7**	*i* P	**Pn**	**06 54 57.9**	**+1.4**
BALT				*i* S	**Sg**	**06 55 20.5**	**+0.7**
YOZ	**Yozgat**	**1.71**	**98**	*e*PN	**Pn**	**06 54 56.1**	**-1.4**
AVNT	**Avonos**	**1.75**	**130**	*i* P	**Pn**	**06 54 58.3**	**+0.2**
AVNT				*i* S	**Sn**	**06 55 22.5**	**+1.9**

ISCJB 17 07:00:03.5±2.4, 979S±006×15956E±006, h1km±14km, mb4.7/46, MS4.6/12, Error ellipse: s-maj=12.1km s-min=7.2km az=37.8
IDC 17 07:00:04.5±0.5, 974S×15969E, h0km, mb4.5/18, mb1 4.6/18, mb1mx4.6/19, mbtmp4.5/18, MS4.2/5, Ms1 4.2/5, ms1mx3.8/28, Error ellipse: s-maj=19.7km s-min=9.7km az=126.0
NEIC 17 07:00:06.4±0.3, 969S×15942E, h10km, mb4.9/19, Error ellipse: s-maj=11.7km s-min=7.0km az=134.0
NEIC Felt at Honiara.
BJI 17 07:00:07.6, 963S×15911E, h10km, mB5.0, mb4.8, Ms5.0, Msz4.8
MOS 17 07:00:08.1±1.1, 978S×15967E, h33km, mb5.1/15, Error ellipse: s-maj=13.7km s-min=10.0km az=70.5
ISC 17 07:00:07.6±1.2, 982S±005×15956E±008, h16km±8km, h17km±1.2km:pP-P, n95, σ1§13/92, mb4.7/46, MS4.6/12, 2C-5D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.54**	**45**	Pn	**Pg**	**07 00 17.7**	**-0.6**
	18μm,0.3s,baz=218,slow=2.5,SNR=1441						
HNR				Sn	**Sg**	**07 00 25.1**	**-0.5**
	22μm,0.3s,baz=40,slow=5.2,SNR=64						
HNR	**Honiara**	**0.54**	**45**	*e*Pn	**Pg**	**07 00 17.7**	**-0.7**
HNR				*e*Sn	**Sg**	**07 00 27.0**	**+1.3**
PMG	**Port Moresby**	**12.24**	**271**	⇓*e*P	**Pn**	**07 03 11.4**	**+10**
CTA	**Charters Tower**	**16.40**	**230**	*e*P	**Pn**	**07 04 02.9**	**+5.6**
	18nm,0.9s						
CTA	**Charters Tower**	**16.40**	**230**	Pn	**Pn**	**07 04 01.3**	**+3.9**
	0.4nm,0.3s,baz=60,slow=14,SNR=8.5						
CTA				LR	LR	07 09 45.1	
	comp=Z,608nm,18.3s,baz=44,slow=35						
CTA	**Charters Tower**	**16.40**	**230**	*e*P	**Pn**	**07 04 02.9**	**+5.6**
CTA				pmax	pmax		
	comp=Z,18nm,0.9s						
CTAO	**Charters Tower**	**16.40**	**230**	*e*P	**Pn**	**07 04 00.9**	**+3.6**
CTAO				pmax	pmax		
	comp=Z,95nm,1.4s						
CTAO	**Charters Tower**	**16.40**	**230**	*e*P	**Pn**	**07 04 00.9**	**+3.6**
	comp=Z,96nm,1.4s						
EIDS	**Eidsvold**	**17.43**	**206**	*e*Pn	**Pn**	**07 04 06.4**	**-3.9**
EIDS				*e*P		07 04 15.2	
ARMA	**Armidale**	**21.79**	**199**	*e*P	**P**	**07 05 00.8**	**+1.9**
WRAB	**Tennant Creek**	**26.32**	**245**	P	**P**	**07 05 42.7**	**-0.2**
	comp=Z,174nm,0.8s,mb5.6,SNR=7.8						
WRAB	**Tennant Creek**	**26.32**	**245**	*e*P	**P**	**07 05 42.4**	**-0.5**
WRAB				*e*		07 05 54.4	
WRAB				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**26.32**	**245**	*e*P	**P**	**07 05 42.4**	**-0.6**
	comp=Z,23nm,0.9s,mb4.7						
WRAB				*e*		07 05 54.4	
WB2	**Warramunga Arr**	**26.32**	**245**	*e*P	**P**	**07 05 42.6**	**-0.4**
WRA	**Warramunga Arr**	**26.33**	**245**	P	**P**	**07 05 43.5**	**+0.4**
	comp=Z,25nm,0.9s,mb4.7,baz=71,slow=10,SNR=49						
WRA				PcP	PcP	07 09 09.3	+0.2
	comp=Z,3.4nm,0.8s,baz=69,slow=2.5,SNR=7.6						
KAKA	**Kakadu**	**26.75**	**261**	*e*P	**P**	**07 05 44.7**	**-2.1**
	comp=Z,73nm,1.1s,mb5.1						
CNB	**Canberra Magne**	**27.03**	**199**	*e*P	**P**	**07 05 50.0**	**+0.9**
STKA	**Stephens Creek**	**27.55**	**215**	*e*P	**P**	**07 05 53.6**	**-0.2**
	comp=Z,7.4nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**27.55**	**215**	P	**P**	**07 05 53.7**	**-0.2**
	comp=Z,9.9nm,0.5s,mb4.7,baz=38,slow=11,SNR=16						
ASAR	**Alice Springs**	**28.09**	**237**	P	**P**	**07 05 57.8**	**-1.1**
	comp=Z,4.5nm,0.5s,mb4.3,baz=63,slow=10,SNR=68						
ASAR				PcP	PcP	07 09 13.3	+0.1
	comp=Z,2.2nm,0.6s,baz=81,slow=3.0,SNR=8.1						
FITZ	**Fitzroy Crossi**	**33.88**	**252**	*e*P	**P**	**07 06 49.2**	**-0.8**
	comp=Z,17nm,0.7s,mb5.1						
TAU	**Tasmania Unive**	**34.66**	**196**	*e*P	**P**	**07 06 57.2**	**+0.9**
TAU				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.3						
TAU	**Tasmania Unive**	**34.66**	**196**	*e*P	**P**	**07 06 57.2**	**+0.9**
	comp=Z,37nm,1.0s,mb5.3						
FORT	**Forrest**	**35.95**	**230**	*e*P	**P**	**07 07 07.8**	**+0.1**
	comp=Z,14nm,1.1s,mb4.8						
MBWA	**Marble Bar**	**39.89**	**249**	P	**P**	**07 07 36.6**	**-4.5**
	comp=Z,20nm,1.0s,mb4.8						
NWAO	**Narrogin (SRO)**	**45.21**	**233**	P	**P**	**07 08 23.7**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,16nm,1.1s						
NWAO	**Narrogin (SRO)**	**45.21**	**233**	P	**P**	**07 08 23.7**	**-0.6**
	comp=Z,16nm,1.1s,mb4.8						
KSM	**Kuching**	**50.30**	**280**	P	**P**	**07 09 01.4**	**-2.7**
MJAR	**Matsushiro Arr**	**50.30**	**338**	P	**P**	**07 09 02.1**	**-1.4**
	comp=Z,1.4nm,0.5s,mb4.3,baz=169,slow=7.8,SNR=3.7						
KSRS	**Korea Array**	**55.59**	**330**	P	**P**	**07 09 42.3**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.2,baz=144,slow=7.5,SNR=11						

QIZ	**Qiongzhong**	**56.78**	**300**	P	**P**	**07 09 55.5**	**+4.1**
	comp=Z,36nm,1.6s,mb5.2						
NJ2	**Nanjing**	**56.98**	**319**	*e*P	**P**	**07 09 53.4**	**+0.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
YSS	**Yuzh-Sakhalins**	**58.48**	**347**‖	*e*P	**P**	**07 10 04.5**	**+1.7**
YSS				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
PETK	**Petropavlovsk-**	**62.70**	**359**	P	**P**	**07 10 31.3**	**-0.2**
	comp=Z,2.3nm,0.4s,mb4.6,baz=178,slow=8.1,SNR=2.9						
GYA	**Guiyang**	**62.75**	**306**	P	**P**	**07 10 33.8**	**+1.3**
GYA				AP	pP	07 10 38.6	+1.1
GYA				XP	sP	07 10 41.8	+2.4
GYA				PCP	PcP	07 11 12.0	+1.0
GYA				PP	PP	07 12 54.3	+3.6
GYA				S	**S**	**07 18 59.8**	**-1.3**
GYA				SKS		07 20 21.6	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,6.6s						
GYA				LR	LR		
	comp=N,520nm,18.1s,MS4.9						
GYA				LR	LR		
	comp=E,490nm,19.2s,MS4.9						
GYA				LR	LR		
	comp=Z,470nm,18.8s,MS4.7						
KLR	**Kul'dur**	**63.67**	**340**	*e*P	**P**	**07 10 37.8**	**-0.3**
BJI	**Beijing**	**63.81**	**324**	P	**P**	**07 10 39.4**	**+0.2**
BJI				PP	PP	07 12 59.6	-0.2
BJI				S	**S**	**07 19 14.9**	**+1.0**
BJI				SS	SS	07 23 21.8	-0.6
BJI				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.7						
BJI				AMB	AMB		
	comp=Z,78nm,4.5s						
BJI				LR	LR		
	comp=N,185nm,25.1s,MS4.4						
BJI				LR	LR		
	comp=E,275nm,22.2s,MS4.4						
BJI				LR	LR		
	comp=Z,155nm,33.0s						
XAN	**Xi'an**	**64.88**	**315**	P	**P**	**07 10 46.3**	**0.0**
XAN				AP	pP	07 10 53.9	+2.5
KMI	**Kunming**	**65.33**	**303**	P	**P**	**07 10 49.5**	**0.0**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
KMI				LR	LR		
	comp=Z,722nm,24.4s,MS4.8						
CMAR	**Chiang Mai Arr**	**66.07**	**295**	P	**P**	**07 10 55.5**	**+1.2**
	comp=Z,4.1nm,0.7s,mb4.5,baz=122,slow=5.0,SNR=11						
CHTO	**Chiang Mai**	**66.19**	**296**	*e*P	**P**	**07 10 55.2**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
CHTO	**Chiang Mai**	**66.19**	**296**	*e*P	**P**	**07 10 55.2**	**+0.1**
	comp=Z,9.8nm,1.2s,mb4.7						
HHC	**Hu-ho-hao-te**	**67.05**	**322**	*e*P	**P**	**07 11 01.5**	**+1.3**
HHC				XP	sP	07 11 08.5	+1.4
HHC				PP	PP	07 13 30.1	+1.9
HHC				S	S	07 19 53.0	-0.5
HHC				XS	sS	07 20 01.3	-0.6
HHC				PS		07 20 18.0	
HHC				SS	SS	07 24 12.9	+0.1
HHC				AMB	AMB		
	comp=Z,15nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,123nm,5.3s						
HHC				LR	LR		
	comp=N,406nm,19.0s,MS4.8						
HHC				LR	LR		
	comp=E,376nm,20.2s,MS4.8						
HHC				LR	LR		
	comp=Z,619nm,20.2s,MS4.8						
CD2	**Chengdu**	**67.08**	**309**	*e*P	**P**	**07 11 01.1**	**+0.5**
CD2				AP	pP	07 11 05.8	+0.1
CD2				XP	sP	07 11 08.5	+1.0
CD2				PP	PP	07 13 30.5	+1.9
CD2				S	S	07 19 52.8	-1.4
CD2				XS	sS	07 20 00.8	-1.8
CD2				SCS	ScS	07 20 55.0	-3.0
CD2				SS	SS	07 24 13.0	-0.6
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=N,160nm,14.6s,MS4.6						
CD2				LR	LR		
	comp=E,210nm,16.4s,MS4.6						
CD2				LR	LR		
	comp=Z,180nm,14.8s,MS4.4						
VNDA	**Vanda**	**67.69**	**179**	P	**P**	**07 11 04.2**	**+0.5**
	comp=Z,9.5nm,0.8s,mb4.8,baz=341,slow=6.8,SNR=63						
VNDA				LR	LR	07 35 35.1	
	comp=Z,284nm,18.2s,MS4.5,baz=56,slow=31						
VNDA	**Vanda**	**67.69**	**179**	*e*P	**P**	**07 11 03.7**	**0.0**
VNDA				pmax	pmax		
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**67.69**	**179**	*e*P	**P**	**07 11 03.7**	**0.0**
	comp=Z,11nm,0.9s,mb4.9						
SBA	**Scott Base**	**68.11**	**178**	*e*P	**P**	**07 11 07.3**	**+0.9**
SBA				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
SBA	**Scott Base**	**68.11**	**178**	*e*P	**P**	**07 11 07.3**	**+1.0**
	comp=Z,11nm,1.2s,mb4.8						
HIA	**Hailar**	**68.42**	**333**⇑	*e*P	**P**	**07 11 10.1**	**+1.5**
LZH	**Lanzhou**	**69.50**	**314**	*e*P	**P**	**07 11 17.0**	**+1.4**
LZH				AP	pP	07 11 21.8	+1.1
LZH				XP	sP	07 11 24.3	+1.7
LZH				PP	PP	07 13 53.5	+4.0
LZH				*e*S	S	07 20 22.0	-0.8
LZH				XS	sS	07 20 36.3	+5.1
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,127nm,6.8s						
LZH				LR	LR		
	comp=E,295nm,15.6s						
LZH				LR	LR		
	comp=Z,467nm,18.5s,MS4.8						
SEY	**Seymchan**	**72.75**	**357**⇑	*e*P	**P**	**07 11 35.2**	**+0.5**
GTA	**Gaotai**	**73.89**	**316**	*e*P	**P**	**07 11 43.4**	**+1.4**
GTA				AP	pP	07 11 47.6	+0.5
GTA				XP	sP	07 11 50.9	+1.9
GTA				PP	PP	07 14 31.8	+4.7
GTA				S	S	07 21 15.5	+2.1
GTA				XS	sS	07 21 22.8	+1.0
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,104nm,5.4s						
GTA				LR	LR		
	comp=N,397nm,21.3s,MS4.9						
GTA				LR	LR		
	comp=E,497nm,20.5s,MS4.9						
GTA				LR	LR		
	comp=Z,573nm,20.8s,MS4.8						
SONM	**Songino Array**	**74.17**	**326**	P	**P**	**07 11 43.6**	**+0.2**
	comp=Z,2.6nm,0.7s,mb4.3,baz=139,slow=5.6,SNR=15						
YAK	**Yakutsk**	**75.32**	**346**	*e*P	**P**	**07 11 54.3**	**+4.5**
YAK				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
BOD	**Bodaibo**	**76.93**	**337**	*e*P	**P**	**07 12 02.4**	**+3.4**
ZAK	**Zakamensk**	**77.29**	**327**	*e*P	**P**	**07 12 01.2**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
TLY	**Talaya**	**77.80**	**328**	*e*P	**P**	**07 12 10.8**	**+6.7**
TLY				*e*		07 12 26.8	
TLY				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
BILL	**Bilibino**	**77.81**	**3**	*e*P	**P**	**07 12 04.3**	**+0.5**
BILL				*e*	pP	07 12 10.0	+1.1
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
QSPA	**South Pole Qui**	**80.17**	**180**	P	**P**	**07 12 17.2**	**+0.6**
	comp=Z,5.1nm,1.0s,mb4.4,baz=90,slow=0.7,SNR=16						
MDRS	**Chennai**	**81.95**	**285**	*ex*	x	07 12 50.0	
HVS	**Khovu-Aksy**	**82.97**	**325**‖	*e*P	**P**	**07 12 33.6**	**+1.7**
HVS				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
MCK	**McKinley**	**83.04**	**21**	*e*P	**P**	**07 12 30.0**	**-2.0**
MCK				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.4						
MCK	**McKinley**	**83.04**	**21**	*e*P	**P**	**07 12 30.0**	**-2.0**
	comp=Z,44nm,1.0s,mb5.4						
MAW	**Mawson**	**83.54**	**203**	*e*P	**P**	**07 12 35.0**	**+0.4**
	comp=Z,5.8nm,0.9s,mb4.7						
MAW	**Mawson**	**83.54**	**203**	P	**P**	**07 12 35.2**	**+0.6**
	comp=Z,5.5nm,0.8s,mb4.7,baz=90,slow=7.2,SNR=13						
MAW	**Mawson**	**83.54**	**203**	*e*P	**P**	**07 12 35.0**	**+0.4**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WMQ	**Urumqi**	**83.97**	**316**	*e*P	**P**	**07 12 37.1**	**-0.1**
WMQ				AP	pP	07 12 41.8	-0.6
WMQ				XP	sP	07 12 44.1	-0.1
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.8						
WMQ				LR	LR		
	comp=N,494nm,22.0s,MS4.9						
WMQ				LR	LR		
	comp=E,347nm,20.8s,MS4.9						
WMQ				LR	LR		
	comp=Z,472nm,22.0s,MS4.8						
COLA	**College**	**84.12**	**20***d*	*i*P	**P**	**07 12 35.7**	**-1.8**
EGAK	**Eagle**	**86.41**	**22**	*e*P	**P**	**07 12 48.0**	**-0.9**
	comp=Z,5.4nm,0.8s,mb4.8						
DAWY	**Dawson**	**86.70**	**23**	*e*P	**P**	**07 12 50.6**	**+0.3**
DAWY				*e*		07 13 07.8	
YBH	**Yreka Blue Hor**	**87.45**	**47**	LR	LR	07 44 34.6	
	comp=Z,94nm,19.0s,MS4.2,baz=186,slow=31						
MK31	**Makanchi Array**	**88.51**	**318**	*e*P	**P**	**07 12 58.5**	**-0.9**
MK31				*e*	pP	07 13 03.2	-1.4
MKAR	**Makanchi Array**	**88.51**	**318**	P	**P**	**07 12 59.0**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.7,baz=98,slow=6.2,SNR=7.3						
MKAR	**Makanchi Array**	**88.51**	**318**	P	**P**	**07 12 59.0**	**-0.5**
ZALV	**Zalesovo Beam**	**89.05**	**325**	P	**P**	**07 13 00.4**	**-1.4**
	comp=Z,0.6nm,0.4s,mb4.3,baz=111,slow=8.1,SNR=3.3						
ZAL	**Zalesovo**	**89.06**	**325**	P	**P**	**07 13 00.4**	**-1.5**
NVAR	**Mina Array Bea**	**89.94**	**51**	P	**P**	**07 13 06.7**	**+0.2**
	comp=Z,1.4nm,0.9s,mb4.3,baz=235,slow=7.3,SNR=7.3						
SYO	**Syowa Base**	**91.11**	**198**‖	*e*P	**P**	**07 13 09.2**	**-2.1**
KURK	**Kurchatov**	**91.84**	**321**	*i*P	**P**	**07 13 16.5**	**+1.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**91.84**	**321**	*e*P	**P**	**07 13 17.9**	**+2.9**
	comp=Z,2.4nm,0.9s,mb4.5						
HLID	**Hailey**	**93.83**	**47**	*e*P	**P**	**07 13 26.3**	**+2.0**
YKA	**Yellowknife Ar**	**96.71**	**28**	P	**P**	**07 13 35.9**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.9,baz=266,slow=4.8,SNR=4.5						
YKA				LR	LR	07 49 49.6	
	comp=Z,85nm,20.0s,MS4.2,baz=355,slow=31						
YKA	**Yellowknife Ar**	**96.71**	**28**	P	**P**	**07 13 35.9**	**-1.1**
YKA				LR	LR	07 49 49.6	
PDAR	**Pinedale Array**	**97.23**	**48**	P	**P**	**07 13 38.4**	**-1.4**
	comp=Z,0.5nm,0.9s,mb3.9,baz=295,slow=4.9,SNR=2.4						
BVAR	**Borovoye Array**	**97.27**	**322**	P	**P**	**07 13 38.1**	**-1.7**
	comp=Z,0.8nm,0.5s,mb4.4,baz=109,slow=3.6,SNR=4.4						
SNAA	**Sanae**	**97.84**	**186**	P	**P**	**07 13 40.9**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.9,baz=26,slow=5.3,SNR=6.6						
SNAA	**Sanae**	**97.84**	**186**	*e*P	**P**	**07 13 41.0**	**-1.1**
SNAA				pmax	pmax		
	comp=Z,14nm,1.8s						
SNAA	**Sanae**	**97.84**	**186**	*e*P	**P**	**07 13 41.0**	**-1.0**
	comp=Z,14nm,1.8s,mb5.2						
PMSA	**Palmer Station**	**98.78**	**163**	LR	LR	07 56 26.1	
	comp=Z,116nm,18.8s,MS4.4,baz=269,slow=34						
SMCO	**Snowmass**	**98.80**	**52**	*e*P	**P**	**07 13 41.1**	**-5.9**
SMCO				*e*pP	pP	07 14 06.0	+14
KIV	**Kislovodsk**	**116.04**	**314**	*e*PKIKP	PKPdf	07 18 47.9	-2.2
KIV				*e*		07 19 56.7	
KIV				*e*PS	PS	07 29 41.6	+5.1
KIV				*e*SS	SS	07 36 10.4	+14
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
OBN	**Obninsk**	**116.55**	**327**	*e*PKIKP	PKPdf	07 18 47.9	-2.9
OBN				*e*SS	SS	07 36 12.1	+10
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG	**Malin Array Be**	**122.44**	**325**	PKP	PKPdf	07 19 01.3	-0.9
	comp=Z,0.3nm,0.4s,baz=52,slow=2.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**158.06**	**281**	PKP	PKPdf	07 20 05.7	+0.8
	comp=Z,0.6nm,1.0s,baz=114,slow=3.6,SNR=2.5						

*IDC **17** 07:02:54.9±0.9, 1908N×121.16E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.8/23, mbtmp3.8/11, ML3.6/2, MS4.2/1, Ms1 4.2/1, ms1mx2.6/40, Error ellipse: s-maj=35.8km s-min=17.7km az=68.0*

*ISCJB **17** 07:02:59.8±0.4, 1934N×004×12100E×009, h33km, mb3.7/9, Error ellipse: s-maj=12.6km s-min=5.1km az=179.3*

*NEIC **17** 07:02:59.8±5.3, 1911N×12123E, h33km±39km, Error ellipse: s-maj=25.6km s-min=10.6km az=62.0*

*MAN **17** 07:03:04, 1891N×12101E, h15km, mb4.4, ML3.2, MS3.1*

ISC 17 07:03:01.3±0.4, 1927N×004×12103E×009, h35km, n23, σ1$25/25, mb3.7/9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.40**	**136**	*e*P	**Pn**	**07 03 24.6**	**+0.2**
SIPP	**Brgy, Tapao**	**1.44**	**202**⇑	*e*P	**Pn**	**07 03 24.1**	**-0.8**
SIPP				*i* S	**Sn**	**07 03 41.1**	**-1.6**
ABRA	**Dolores**	**1.64**	**191**	*e*P	**Pn**	**07 03 26.7**	**-0.9**
CAUP	**Cauayan**	**2.43**	**162**	*e*P	**Pn**	**07 03 39.6**	**+1.1**
PALP	**Palanan**	**2.56**	**149**	*e*P	**Pn**	**07 03 42.2**	**+1.9**
BOLP	**Bolinao**	**3.06**	**201**	*e*P	**Pn**	**07 03 51.6**	**+4.3**
BALP	**Baler**	**3.54**	**171**	*e*P	**Pn**	**07 03 56.3**	**+2.4**
NACB	**Ninganchiao**	**4.91**	**6**	Pn	**Pn**	**07 04 12.8**	**+0.1**
YHNB	**Yeheng**	**5.39**	**3**	*e*Pn	**Pn**	**07 04 20.3**	**+1.1**
	29nm,0.4s						
YHNB				*e*Sn	**Sn**	**07 05 18.5**	**-1.5**
JOW	**Kunigami**	**10.06**	**40**	Pn	**Pn**	**07 05 22.1**	**-1.2**
	0.9nm,0.3s,baz=319,slow=23,SNR=2.2						
QIZ	**Qiongzhong**	**10.58**	**271**	*e*Pn	**Pn**	**07 05 26.4**	**-4.1**
KSRS	**Korea Array**	**19.10**	**17**	P	**Pn**	**07 07 20.6**	**-1.4**
	0.3nm,0.3s,baz=196,slow=10,SNR=5.4						
SONM	**Songino Array**	**30.89**	**341**	P	**P**	**07 09 15.2**	**+0.8**
	0.6nm,0.6s,mb3.6,baz=163,slow=7.7,SNR=4.3						
WRA	**Warramunga Arr**	**41.09**	**161**	P	**P**	**07 10 38.4**	**-3.5**
	0.7nm,0.6s,mb3.5,baz=343,slow=9.1,SNR=3.1						
MK31	**Makanchi Array**	**41.88**	**320**	*e*P	**P**	**07 10 49.1**	**+1.0**
MKAR	**Makanchi Array**	**41.88**	**320**	P	**P**	**07 10 49.0**	**+0.9**
	1.4nm,0.7s,mb3.7,baz=117,slow=9.2,SNR=16						
ZALV	**Zalesovo Beam**	**44.35**	**330**	P	**P**	**07 11 08.4**	**+0.4**
	1.6nm,0.6s,mb3.9,baz=119,slow=7.7,SNR=5.9						
ASAR	**Alice Springs**	**44.48**	**163**	P	**P**	**07 11 07.2**	**-2.1**
	0.3nm,0.4s,mb3.3,baz=348,slow=7.0,SNR=6.4						
BVAR	**Borovoye Array**	**51.45**	**323**	P	**P**	**07 12 04.5**	**+1.5**
	0.5nm,0.5s,mb3.7,baz=96,slow=12,SNR=3.6						
AKTK	**Aktyubinsk**	**58.25**	**318**	P	**P**	**07 12 52.8**	**+0.6**
AKTO	**Aktyubinsk**	**58.25**	**318**	P	**P**	**07 12 52.8**	**+0.6**
	0.9nm,0.6s,mb4.0,baz=110,slow=12,SNR=4.0						
AKASG	**Malin Array Be**	**76.46**	**319**	P	**P**	**07 14 46.3**	**-1.2**
	0.1nm,0.2s,mb3.3,baz=65,slow=4.9,SNR=1.6						
YKA	**Yellowknife Ar**	**87.54**	**23**	P	**P**	**07 15 44.8**	**-0.6**
	0.7nm,0.8s,mb3.9,baz=312,slow=4.9,SNR=3.4						

IDC 17 07:07:44.8±2.1, 359S×1183W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/23, mbtmp3.8/4, Error ellipse: s-maj=140.5km s-min=28.0km az=106.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**21.37**	**39**	P	P	07 12 34.3	+0.3
	5.3nm,1.1s,baz=222,slow=9.6,SNR=16						
GERES	**GERESS Array B**	**56.75**	**20**	P	P	07 17 30.9	+0.5
	1.8nm,0.8s,baz=190,slow=6.8,SNR=11						
AKASG	**Malin Array Be**	**64.49**	**28**	P	P	07 18 22.6	-0.6
	0.2nm,0.3s,baz=229,slow=7.0,SNR=4.5						
SNAA	**Sanae**	**68.23**	**177**	P	P	07 18 47.1	+0.2
	0.9nm,1.0s,baz=7.1,slow=7.2,SNR=4.9						

*ISCJB **17** 07:38:26.8±0.1, 5320N×002×15766E×003, h173km, mb4.5/112, Error ellipse: s-maj=3.4km s-min=2.1km az=151.7*

*KRSC **17** 07:38:27.1±0.4, 5313N×15806E, h182km±41km, ML4.7*

*MOS **17** 07:38:27.1±1.0, 5327N×15765E, h176km, mb4.6/34, Error ellipse: s-maj=8.8km s-min=5.9km az=77.1*

*BJI **17** 07:38:27.1, 5329N×15802E, h201km, mB4.8, mb4.7*

*IDC **17** 07:38:28.1±0.2, 5331N×15761E, h172km±2km, mb4.1/31, mb1 4.2/32, mb1mx4.2/33, mbtmp4.1/32, Error ellipse: s-maj=10.6km s-min=7.2km az=146.0*

*NEIC **17** 07:38:28.2±0.1, 5331N×15757E, mb4.6/60, Error ellipse: s-maj=4.9km s-min=2.5km az=163.0*

ISC 17 07:38:28.8±0.1, 5325N±002×15758E±003, h175km, h175km±1.0km: pP-P, n587, σ0$69/609, mb4.5/112, 163C-154D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**0.16**	**154**	P	**Pn**	**07 38 51.7**	**-0.3**
	285nm,0.3s,baz=102,slow=2.1,SNR=6688						
PETK				S	**Sn**	**07 39 09.4**	**-0.4**
	80nm,0.3s,baz=128,slow=30,SNR=15						
PETK	**Petropavlovsk-**	**0.16**	**154**	P	**Pn**	**07 38 51.7**	**-0.4**
PETK				S	**Sn**	**07 39 09.4**	**-0.4**
GNL	**Ganaly**	**0.49**	**26**	*e*P	**Pn**	**07 38 53.2**	**+0.3**
GNL				*i* S	**Sn**	**07 39 12.5**	**+0.9**
INSR	**Institute**	**0.64**	**106**	*e*P	**Pn**	**07 38 52.9**	**-0.7**
INSR				*i* S	**Sn**	**07 39 11.6**	**-1.1**
PET	**Petropavlovsk**	**0.68**	**109**‖	*i*PN	**Pn**	**07 38 52.0**	**-1.9**
PET				*i* S	**Sn**	**07 39 11.5**	**-1.6**
PET				pmax	pmax		
	comp=Z,7μm,0.6s						
PET				pmax	pmax		
	comp=Z,9μm,1.4s						
PET				smax			
	comp=N,1μm,1.7s						
PET				smax			
	comp=N,9μm,1.0s						
PET				smax			
	comp=N,8μm,0.8s						
PET				smax			
	comp=E,7μm,0.5s						
PET	**Petropavlovsk**	**0.68**	**109**	*i* P	**Pn**	**07 38 52.5**	**-1.4**
PET				*i* S	**Sn**	**07 39 11.7**	**-1.4**
PET	**Petropavlovsk**	**0.68**	**109**‖	*i*Pn	**Pn**	**07 38 52.4**	**-1.5**
PET				*e*Sn	**Sn**	**07 39 11.2**	**-1.9**
AVH	**Avacha**	**0.69**	**88**	*e*P	**Pn**	**07 38 53.1**	**-0.8**
GRL	**Gorelyy**	**0.76**	**157**	*e*P	**Pn**	**07 38 53.9**	**-0.5**
RUS	**Russkaya**	**0.99**	**145**	*i* P	**Pn**	**07 38 53.9**	**-2.0**
RUS				*i* S	**Sn**	**07 39 14.0**	**-2.7**
NLC	**Nalytchevo**	**1.06**	**94**	*e*P	**Pn**	**07 38 54.1**	**-2.3**
NLC				*i* S	**Sn**	**07 39 14.0**	**-3.7**
MIPR	**Malaya Ipel'ka**	**1.10**	**208**	*i* P	**Pn**	**07 38 56.9**	**+0.2**
MIPR				*i* S	**Sn**	**07 39 18.5**	**+0.3**
KII	**Karymskiy**	**1.36**	**54**	*i* P	**Pn**	**07 38 58.3**	**-0.6**
KII				*i* S	**Sn**	**07 39 21.2**	**-1.1**
SPN	**Mys Shipunski**	**1.48**	**95**	*e*P	**Pn**	**07 38 57.0**	**-3.0**
SPN				*i* S	**Sn**	**07 39 18.2**	**-5.9**
TUMR	**Tumrok**	**2.53**	**35**	*i* P	**Pn**	**07 39 12.0**	**+0.6**
TUMR				*i* S	**Sn**	**07 39 45.4**	**+0.8**
ALID	**Alaid**	**2.69**	**209**	*e*P	**Pn**	**07 39 13.9**	**+0.4**
SKR	**Severo-Kuril's**	**2.73**	**200**	*e*PN	**Pn**	**07 39 12.0**	**-1.9**
SKR				*e*S	**Sn**	**07 39 46.1**	**-2.7**
SKR				pmax	pmax		
	comp=N,90nm,0.7s						
SKR				pmax	pmax		
	comp=Z,220nm,0.7s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				smax			
	comp=N,920nm,0.3s						
SKR				smax			
	comp=E,460nm,0.3s						
SKR				smax			
	comp=N,2μm,4.0s						
SKR				smax			
	comp=E,2μm,4.0s						
MKZ	**Mys Kozlova**	**2.78**	**60**	*e*P	**Pn**	**07 39 12.0**	**-2.4**
MKZ				*i* S	**Sn**	**07 39 43.7**	**-6.2**
KMNR	**Kamenistaya**	**2.95**	**31**	*e*P	**Pn**	**07 39 17.2**	**+0.7**
KMNR				*i* S	**Sn**	**07 39 53.4**	**-0.2**
KOZ	**Kozyrevsk**	**3.11**	**24**	*i* P	**Pn**	**07 39 19.1**	**+0.7**
KOZ				*i* S	**Sn**	**07 39 56.4**	**-0.8**
KPT	**Kopyto**	**3.12**	**28**	*i* P	**Pn**	**07 39 18.9**	**+0.3**
KPT				*i* S	**Sn**	**07 39 56.6**	**-0.8**
KOZR	**Kozyr**	**3.12**	**25**	PN	**Pn**	**07 39 19.1**	**+0.5**
KOZR				S	**Sn**	**07 39 56.4**	**-1.1**
KIRR	**Kirishev**	**3.15**	**30**	*e*P	**Pn**	**07 39 19.4**	**+0.5**
KIRR				*i* S	**Sn**	**07 39 57.4**	**-0.6**
SRDR	**Sredinnyy**	**3.31**	**21**	*e*P	**Pn**	**07 39 21.8**	**+0.9**
SRDR				*i* S	**Sn**	**07 40 02.2**	**+0.6**
ZLN	**Zelenaya**	**3.34**	**33**	*e*P	**Pn**	**07 39 22.2**	**+0.9**
ZLN				*i* S	**Sn**	**07 40 02.4**	**+0.1**
CIRR	**Tsirk**	**3.41**	**31**	*e*P	**Pn**	**07 39 22.8**	**+0.7**
KRSR	**Krestovskiy**	**3.44**	**29**	*e*P	**Pn**	**07 39 22.5**	**0.0**
KLY	**Klyuchi**	**3.55**	**29**	*e*P	**Pn**	**07 39 25.1**	**+1.3**
KLY				*i* S	**Sn**	**07 40 07.7**	**+0.9**
BDR	**Baidarnaya**	**3.93**	**31**	*e*P	**Pn**	**07 39 29.7**	**+1.0**
BDR				*i* S	**Sn**	**07 40 15.6**	**+0.1**
SRKR	**Sorokina**	**3.99**	**30**	*e*P	**Pn**	**07 39 30.0**	**+0.6**
SMKR	**Semkarok**	**4.02**	**32**	*e*P	**Pn**	**07 39 30.1**	**+0.2**
SMKR				*i* S	**Sn**	**07 40 16.1**	**-1.5**
KBTR	**Krutoberegovo**	**4.24**	**44**	*e*P	**Pn**	**07 39 30.9**	**-1.8**
KBTR				*i* S	**Sn**	**07 40 17.9**	**-4.8**
SEY	**Seymchan**	**10.09**	**346**⇑	*e*PN	**Pn**	**07 40 52.3**	**+3.1**
YSS	**Yuzh-Sakhalins**	**11.41**	**242**‖	*e*PN	**Pn**	**07 41 08.1**	**+1.5**
YSS	**Yuzh-Sakhalins**	**11.41**	**242**	*e*Pn	**Pn**	**07 41 05.5**	**-1.0**
	comp=E,21nm,0.9s						
ASAJ	**Asahikawa**	**13.45**	**233**	P	**Pn**	**07 41 34.2**	**+1.6**
	comp=E,8.5nm,0.3s,baz=56,slow=7.7,SNR=26						
ASAJ	**Asahikawa**	**13.45**	**233**	P	**Pn**	**07 41 34.3**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
BILL	**Bilibino**	**15.41**	**12**	*e*P	**Pn**	**07 41 58.2**	**+1.5**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KLR	**Kul'dur**	**16.63**	**266**	*e*P	**Pn**	**07 42 10.0**	**-1.7**
KLR				pmax	pmax		

comp=Z,4.8nm,0.7s,mb4.3
BPAW Bear Paw Mtn. 28.04 47 *e*P **P 07 44 02.0 -1.1**
comp=Z,9.5nm,1.2s,mb4.4
BPAW *e*pP pP 07 44 36.8 -2.3
KDAK Kodiak Island 28.04 61 P **P 07 44 00.6 -2.6**
comp=Z,18nm,0.4s,mb5.2,baz=292,slow=5.1,SNR=61
KDAK Kodiak Island 28.04 61 *e*P **P 07 44 00.6 -2.6**
KDAK pmax pmax
comp=Z,14nm,0.4s,mb5.0
KDAK Kodiak Island 28.04 61 *e*P **P 07 44 00.6 -2.6**
comp=Z,14nm,0.4s,mb5.0
KTH Kantishna Hill 28.09 48 *e*P **P 07 44 02.8 -0.7**
comp=Z,17nm,1.2s,mb4.7
MCK McKinley 28.96 48 *e*P **P 07 44 10.1 -1.2**
MCK pmax pmax
comp=Z,15nm,0.9s,mb4.7
MCK McKinley 28.96 48 *e*P **P 07 44 10.1 -1.2**
comp=Z,15nm,0.9s,mb4.7
SEW Seward 29.18 55 *e*P **P 07 44 10.3 -2.9**
COLA College 29.36 45*c i*P **P 07 44 14.1 -0.7**
COLA College 29.36 45 *e*P **P 07 44 13.9 -0.9**
comp=Z,10nm,0.9s,mb4.6
BJI Beijing 30.89 262 P **P 07 44 29.0 +0.5**
BJI AMB AMB
comp=Z,6.0nm,0.9s,mb4.3
BMRM Bremner River 31.36 52 *e*P **P 07 44 31.3 -1.1**
RAGM Ragged Mountai 31.45 54 *e*P **P 07 44 32.6 -0.7**
EGAK Eagle 32.22 45 *e*P **P 07 44 38.3 -1.6**
EGAK *e*pP pP 07 45 14.6 -1.7
SONM Songino Array 32.39 281 P **P 07 44 42.4 +0.9**
comp=Z,2.9nm,0.5s,mb4.3,baz=62,slow=7.6,SNR=22
SONM PcP PcP 07 47 24.6 0.0
comp=Z,2.8nm,0.6s,baz=75,slow=2.3,SNR=12
SONM ScP ScP 07 50 52.2 +0.8
comp=Z,0.7nm,0.5s,baz=78,slow=1.2,SNR=3.9
SONM Songino Array 32.39 281 P **P 07 44 42.4 +0.8**
SONM 07 47 24.6
ZAK Zakamensk 33.02 287 *e*P **P 07 44 47.4 +0.4**
DAWY Dawson 33.10 46 *e*P **P 07 44 46.9 -0.6**
HHC Hu-ho-hao-te 33.14 267 *e*P **P 07 44 48.8 +0.7**
HHC PP PP 07 46 04.6 -2.0
HHC S **S 07 49 52.9 -1.3**
HHC PCS PcS 07 51 13.8 +1.4
HHC SS SS 07 52 06.1 -18
HHC AMB AMB
comp=Z,21nm,0.5s,mb5.1
INK Inuvik 34.67 38 P **P 07 45 00.9 -0.1**
comp=Z,3.8nm,0.7s,mb4.2,baz=297,slow=7.5,SNR=23
INK Inuvik 34.67 38 *e*P **P 07 45 00.7 -0.3**
comp=Z,184nm,0.8s,mb5.8
HYT Haines Junctio 34.75 51 *e*P **P 07 45 02.1 +0.3**
NJ2 Nanjing 34.90 248 *e*P **P 07 45 04.4 +1.0**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.0
HVS Khovu-Aksy 38.06 293⇓*e*P **P 07 45 32.7 +2.8**
HVS pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
WHN Wuhan 38.57 251 ⇓P **P 07 45 34.8 +0.4**
WHN AMB AMB
comp=Z,36nm,0.6s,mb5.2
LZH Lanzhou 40.83 267 ⇓P **P 07 45 53.6 +0.6**
LZH AP pP 07 46 31.8 +1.1
LZH PP PP 07 47 33.4 +2.7
LZH AMB AMB
comp=Z,21nm,1.1s,mb4.7
LZH AMB AMB
comp=Z,56nm,5.3s
GTA Gaotai 41.09 274 P **P 07 45 55.9 +0.8**
GTA AP pP 07 46 34.3 +1.5
GTA PP PP 07 47 36.8 +3.4
GTA S **S 07 51 57.4 +3.0**
GTA SS SS 07 55 02.0 -1.8
GTA AMB AMB
comp=Z,39nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,391nm,6.5s
GTA LR LR
comp=N,255nm,20.5s
GTA LR LR
comp=E,297nm,20.2s
GTA LR LR
comp=Z,294nm,19.2s
ZALV Zalesovo Beam 41.41 301 P **P 07 45 55.9 -1.6**
comp=Z,2.1nm,0.5s,mb4.0,baz=44,slow=6.7,SNR=4.6
ZALV PcP PcP 07 47 51.3 -0.6
comp=Z,2.4nm,0.4s,baz=67,slow=3.9,SNR=4.3
ZAL Zalesovo 41.43 301 P **P 07 45 55.9 -1.7**
ZAL 07 47 51.3
NVS Novosibirsk 41.77 303 *e*P **P 07 45 58.7 -1.7**
NVS pmax pmax
comp=Z,34nm,1.0s,mb4.9
NVS pmax pmax
comp=E,20nm,0.9s
YKA Yellowknife Ar 44.06 42 P **P 07 46 18.3 -0.3**
comp=E,2.1nm,0.3s,mb4.2,baz=302,slow=7.3,SNR=42
YKA pP pP 07 46 56.3 -0.6
comp=E,0.8nm,0.7s,baz=298,slow=7.5,SNR=2.0
YKA Yellowknife Ar 44.06 42 P **P 07 46 18.3 -0.3**
YKA pP pP 07 46 56.3 -0.6
CD2 Chengdu 44.49 262 *e*P **P 07 46 22.4 -0.1**
CD2 PP PP 07 48 09.6 -0.1
CD2 S **S 07 52 43.0 -1.2**
CD2 SS SS 07 55 59.3 -8.8
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,180nm,14.2s
CD2 LR LR
comp=Z,130nm,15.2s
WMQ Urumqi 45.49 288 P **P 07 46 31.5 +1.3**
WMQ AP pP 07 47 10.3 +1.7
WMQ PP PP 07 48 20.8 +0.8
WMQ AMB AMB
comp=Z,18nm,0.7s,mb4.8
GYA Guiyang 46.07 255 P **P 07 46 36.3 +1.4**
GYA AP pP 07 47 15.3 +1.8
GYA PCP PcP 07 48 09.0 +0.8
GYA PP PP 07 48 25.0 -0.8
GYA PCS PcS 07 52 03.8 +0.8
GYA S **S 07 53 06.9 0.0**
GYA SCS ScS 07 56 10.3 -1.4
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
GYA AMB AMB
comp=Z,70nm,5.0s
KURK Kurchatov 46.36 300 *e*P **P 07 46 36.2 -0.7**
KURK *e**PP pP 07 47 17.8 +2.3
KURK *e* 07 48 07.7
KURK pmax pmax
comp=Z,28nm,0.8s,mb4.9
KURK Kurchatov 46.36 300 *e*P **P 07 46 36.2 -0.7**
comp=Z,28nm,0.8s,mb5.0
KURK *e*pP pP 07 47 17.8 +2.3
KURK *e*PcP PcP 07 48 07.7 -1.1
MK31 Makanchi Array 46.72 294 *e*P **P 07 46 39.0 -0.8**
MKAR Makanchi Array 46.72 294 P **P 07 46 39.2 -0.6**
comp=Z,2.0nm,0.4s,mb4.1,baz=57,slow=6.6,SNR=24
MKAR PcP PcP 07 48 09.5 -0.7
comp=Z,0.3nm,0.3s,baz=61,slow=3.9,SNR=3.1
MKAR ScP ScP 07 51 46.5 -0.4
comp=Z,0.3nm,0.2s,baz=39,slow=3.3,SNR=3.8
MKAR Makanchi Array 46.72 294 P **P 07 46 39.2 -0.6**
MKAR 07 48 09.5
SPITS Spitsbergen Ar 46.72 350 P **P 07 46 39.1 -0.3**
comp=Z,6.8nm,0.4s,mb4.6,baz=54,slow=9.9,SNR=39
PGC Sidney 47.58 62 *e*P **P 07 46 45.5 -0.9**
comp=Z,11nm,0.6s,mb4.7
B04A Port Angeles 47.91 63 ⇑P **P 07 46 48.6 -0.4**
baz=48
A04A Legoe Bay, Lum 47.93 61 ⇑P **P 07 46 48.8 -0.3**
baz=48
NLWA Neilton Lookou 48.12 63 ⇓P **P 07 46 50.7 +0.1**
baz=48
A06A Chilliwack 48.35 60 ⇑P **P 07 46 51.4 -0.9**
baz=48
C04A Brinnon 48.40 63 ⇑P **P 07 46 52.2 -0.5**
baz=48
B05A Bryant 48.53 62 ⇑P **P 07 46 53.3 -0.4**
baz=48
B06A Marblemount 48.70 61 ⇑P **P 07 46 54.3 -0.7**
baz=48
RPW Rockport 48.73 61 P **P 07 46 54.6 -0.5**
E03A Lebam 48.81 64 ⇑P **P 07 46 55.6 -0.2**
baz=49
A07A Ashnola River, 48.95 60 ⇑P **P 07 46 56.5 -0.4**
baz=49
VOSK Vostochnaya 49.00 306 P **P 07 46 56.0 -1.1**
VOSK pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
BVA0 Borovoye Array 49.10 307 *i*P **P 07 46 57.1 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
BVAR Borovoye Array 49.10 307 P **P 07 46 57.6 -0.3**
comp=Z,22nm,0.4s,mb5.1,baz=60,slow=7.6,SNR=110
BVAR PcP PcP 07 48 17.8 -0.8
comp=Z,3.4nm,0.5s,baz=67,slow=3.9,SNR=7.5
C05A Tolt Reservoir 49.10 62 ⇑P **P 07 46 57.2 -0.8**
baz=49
BRVK Borovoye 49.13 307 *e*P **P 07 46 57.3 -0.8**
D05A Enumclaw 49.26 63 ⇓P **P 07 46 59.1 -0.1**
baz=49
B07A Winthrop 49.45 60 ⇓P **P 07 47 00.1 -0.5**
baz=49
A08A Turner Farm, O 49.58 59 ⇓P **P 07 47 01.2 -0.5**
baz=49
F04A Amboy 49.81 64 ⇓P **P 07 47 03.0 -0.4**
baz=50
D06A Cle Elum 49.86 62 ⇓P **P 07 47 03.3 -0.4**
baz=50
EDM Edmonton 49.87 52 *e*P **P 07 47 03.4 -0.3**
B08A Colville Reser 49.92 60 ⇑P **P 07 47 03.6 -0.6**
baz=50,SNR=9.0
A09A Danville 49.92 59 ⇓P **P 07 47 03.9 -0.3**
baz=50,SNR=6.5
C07A Waterville 49.96 61 ⇓P **P 07 47 03.6 -0.9**
baz=50
TBM Table Mountain 50.01 62 P **P 07 47 04.7 -0.2**
QIZ Qiongzhong 50.11 246 *e*P **P 07 47 06.7 +0.7**
comp=Z,31nm,1.4s,mb4.8
EBG Ellensburg 50.19 62 P **P 07 47 06.0 -0.2**
G04A Mulino 50.24 65 ⇓P **P 07 47 06.3 -0.4**
baz=50
D07A Quincy 50.32 61 ⇓P **P 07 47 06.5 -0.7**
baz=50
F05A White Salmon 50.36 64 ⇑P **P 07 47 07.1 -0.5**
baz=50
C08A Higginbotham F 50.43 60 ⇓P **P 07 47 07.3 -0.8**
baz=50
A10A Northport 50.45 58 ⇑P **P 07 47 07.6 -0.5**
baz=50
B09A Rice 50.49 59 ⇑P **P 07 47 07.8 -0.7**
baz=50
VFP Flag Point 50.72 64 P **P 07 47 10.3 +0.1**
H04A Detroit Lake 50.74 65 ⇑P **P 07 47 09.9 -0.4**
baz=50
J02A Umpqua 50.82 67 ⇓P **P 07 47 11.3 +0.2**
baz=51
C09A Chrisman Ranch 50.83 60 ⇓P **P 07 47 10.5 -0.5**
baz=51
G05A Wamic 50.85 64 ⇑P **P 07 47 11.0 -0.2**
baz=51
OD2 Odessa Site #2 50.86 61 P **P 07 47 10.5 -0.7**
D08A Wollman Farm, 50.96 61 ⇑P **P 07 47 11.2 -0.9**
baz=51
B10A Chitwood Farm, 51.05 59 ⇓P **P 07 47 12.4 -0.3**
baz=51
HAWA Hanford 51.06 62 *e*P **P 07 47 12.6 -0.2**
A11A Hall Mountain, 51.07 58 ⇑P **P 07 47 12.8 0.0**
baz=51
NEW Newport 51.12 59 *e*P **P 07 47 12.1 -1.1**
NEW pmax pmax
comp=Z,3.0nm,0.7s
NEW Newport 51.12 59 *e*P **P 07 47 12.1 -1.1**
comp=Z,3.1nm,0.7s,mb4.0
I04A Tendick Farm, 51.19 66 ⇑P **P 07 47 13.6 -0.1**
baz=51
E08A Dider Farm, El 51.25 62 ⇓P **P 07 47 13.5 -0.7**
baz=51
D09A Jones Farm, Ri 51.28 61 ⇑P **P 07 47 13.6 -0.8**
baz=51
C10A Spilker Farm, 51.31 59 ⇓P **P 07 47 14.3 -0.3**
baz=51
B11A Sandpoint 51.40 58 ⇑P **P 07 47 15.0 -0.3**
baz=51
A12A Yaak River Ran 51.45 57 ⇑P **P 07 47 15.5 -0.1**
baz=51
L02A Cave Junction 51.60 69 ⇑P **P 07 47 17.1 +0.3**
baz=51
HUMO Hull Mountain 51.66 68 ⇑P **P 07 47 17.4 +0.1**
baz=52
HUMO Hull Mountain 51.66 68 *e*P **P 07 47 17.4 +0.1**
comp=Z,10.0nm,1.2s,mb4.3
H06A Lindquist Farm 51.71 64 ⇑P **P 07 47 17.1 -0.5**
baz=52
J04A Umpqua Nationa 51.72 67 ⇑P **P 07 47 18.1 +0.4**
baz=52,SNR=6.8
E09A Wood Farm, Sta 51.72 61 ⇑P **P 07 47 17.0 -0.7**
baz=52
G07A Ruggs Ranch, H 51.72 63 ⇑P **P 07 47 17.2 -0.5**
baz=52
D10A Wagner Farm, O 51.82 60 ⇑P **P 07 47 17.4 -1.0**
baz=52,SNR=6.9
A13A Flathead Natio 52.07 57 ⇑P **P 07 47 20.0 -0.2**
baz=52
G08A Pilot Rock 52.09 63 ⇓P **P 07 47 19.8 -0.5**
baz=52
J05A Fort Rock 52.17 66 ⇓P **P 07 47 21.5 +0.5**
baz=52,SNR=9.7
H07A Lands Inn, Kim 52.22 64 ⇑P **P 07 47 21.1 -0.3**
baz=52
WALA Waterton Lakes 52.24 56 *e*P **P 07 47 20.9 -0.5**
comp=Z,9.2nm,0.6s,mb4.6
WALA *e*pP pP 07 47 59.5 -1.4
JCC Jacoby Creek 52.25 70 ⇑P **P 07 47 22.1 +0.5**
baz=52
E10A Myers Farm, Un 52.28 61 ⇓P **P 07 47 21.1 -0.7**
baz=52
I06A Prineville 52.29 65 ⇓P **P 07 47 22.0 0.0**
baz=52
D11A Klaveano Farm, 52.32 60 ⇓P **P 07 47 21.0 -1.0**
baz=52,SNR=7.1
F09A S2 Ranch, Elgi 52.37 62 ⇓P **P 07 47 22.4 -0.1**
baz=52
KHMM Horse Mountain 52.38 70 *e*P **P 07 47 23.9 +1.4**
YBH Yreka Blue Hor 52.38 68 P **P 07 47 23.4 +0.8**
comp=Z,4.1nm,0.6s,mb4.3,baz=348,slow=4.0,SNR=28
YBH Yreka Blue Hor 52.38 68 P **P 07 47 23.4 +0.8**
YBH pmax pmax
comp=Z,4.0nm,0.6s
YBH Yreka Blue Hor 52.38 68 ⇓P **P 07 47 23.3 +0.7**
baz=52,SNR=7.9
YBH Yreka Blue Hor 52.38 68 *e*P **P 07 47 23.3 +0.7**
B13A Whitefish 52.41 57 ⇑P **P 07 47 22.5 -0.2**
baz=52
M02C Callahan 52.52 69 ⇓P **P 07 47 24.4 +0.7**
baz=52,SNR=5.4
F10A Beach Ranch, E 52.55 61 ⇓P **P 07 47 23.8 0.0**
baz=52
I07A Izee 52.59 64 ⇑P **P 07 47 24.1 0.0**
baz=52
N02C Big Bar 52.65 70 ⇑P **P 07 47 25.0 +0.4**
baz=52,SNR=6.9
ARCES ARCESS Array B 52.66 341 P **P 07 47 23.2 -1.0**
comp=Z,0.7nm,0.4s,mb3.7,baz=25,slow=8.8,SNR=6.8
ARCES PcP PcP 07 48 30.9 -0.7
comp=Z,2.4nm,0.5s,baz=37,slow=3.8,SNR=21
ARCES ARCESS Array B 52.66 341 P **P 07 47 23.2 -1.0**
ARCES PcP PcP 07 48 30.9 -0.7
G09A Cove 52.72 62 ⇑P **P 07 47 24.7 -0.3**
baz=52
K05A Summer Lake 52.73 66 ⇓P **P 07 47 25.9 +0.8**
baz=52
H08A Prairie City 52.75 63 ⇓P **P 07 47 25.1 -0.1**
baz=52,SNR=5.6
J06A Christmas Vall 52.78 65 ⇓P **P 07 47 25.8 +0.2**
baz=53,SNR=7.7
C13A Hot Springs 52.81 58 ⇑P **P 07 47 25.6 -0.1**
baz=53
O01C Eel River Cons 52.82 71 ⇓P **P 07 47 26.8 +1.0**
baz=53
M04C Macdoel 52.83 68 ⇓P **P 07 47 26.4 +0.5**
baz=53,SNR=7.0
E11A Bogner Ranch, 52.84 60 ⇓P **P 07 47 25.4 -0.4**
baz=53
LSA Lhasa 52.91 271 *e*P **P 07 47 27.7 +1.0**
LSA pmax pmax
comp=Z,15nm,0.8s,mb4.8
LSA Lhasa 52.91 271 *e*P **P 07 47 27.7 +1.0**
comp=Z,15nm,0.8s,mb4.8
M03C McCloud 53.01 68 ⇓P **P 07 47 27.8 +0.5**
baz=53
K06A Valley Falls 53.03 66 ⇑P **P 07 47 27.8 +0.5**
baz=53,SNR=12
G10A Bishop Farm, J 53.06 62 ⇑P **P 07 47 27.3 -0.2**
baz=53,SNR=10
J07A Hines 53.16 65 ⇓P **P 07 47 28.3 0.0**
baz=53
C14A Swan Lake 53.17 57 ⇑P **P 07 47 28.0 -0.3**
baz=53
F11A Grangeville 53.17 61 ⇓P **P 07 47 27.7 -0.6**
baz=53,SNR=6.0
H09A Durkee 53.19 63 ⇓P **P 07 47 28.6 +0.1**
baz=53,SNR=5.5
I08A Drewsey 53.20 64 ⇑P **P 07 47 28.7 +0.1**
baz=53,SNR=10
L05A Lakeview 53.21 67 ⇓P **P 07 47 29.5 +0.8**
baz=53,SNR=7.5
WDC Whiskeytown Da 53.24 69 ⇑P **P 07 47 29.2 +0.2**
baz=53
D13A Huson 53.25 58 ⇑P **P 07 47 28.3 -0.6**
baz=53
O02C Red Bluff 53.38 70 ⇑P **P 07 47 30.6 +0.7**
baz=53,SNR=5.8
G11A Walters Elk Ra 53.44 61 ⇑P **P 07 47 29.9 -0.4**
baz=53,SNR=7.4
M05C Lookout 53.50 68 ⇓P **P 07 47 31.3 +0.5**
baz=53,SNR=12
P01C Double 8 Ranch 53.55 71 ⇓P **P 07 47 31.3 +0.1**
baz=53
MOD Modoc 53.60 67 ⇑P **P 07 47 31.8 +0.2**
baz=53,SNR=19
MOD Modoc 53.60 67 *e*P **P 07 47 31.6 0.0**
comp=Z,17nm,0.8s,mb4.8
J08A Circle Bar Ran 53.62 64 ⇓P **P 07 47 31.7 +0.1**
baz=53
K07A Rock Creek Ran 53.65 65 ⇓P **P 07 47 32.1 +0.2**
baz=53
HATC Hat Creek Radi 53.69 68 ⇓P **P 07 47 32.6 +0.4**
baz=54,SNR=6.5
MSO Missoula 53.70 58 *e*P **P 07 47 31.1 -1.0**
comp=Z,7.9nm,1.2s,mb4.3
H10A Noah's Angus R 53.73 62 ⇑P **P 07 47 32.1 -0.3**
baz=54
F12A Elk City 53.73 60 ⇓P **P 07 47 32.3 -0.1**
baz=54,SNR=12
D14A Greenough 53.75 58 ⇑P **P 07 47 32.1 -0.4**
baz=54,SNR=16
GASB Alder Springs 53.77 70 ⇓P **P 07 47 33.7 +0.9**
baz=54,SNR=6.3
E13A Victor 53.83 59 ⇓P **P 07 47 32.7 -0.4**
baz=54,SNR=6.3
SUMG Summit 53.97 6 *e*P **P 07 47 33.7 -0.1**
comp=Z,6.9nm,0.9s,mb4.4
M06C Likely Place G 53.98 67 ⇓P **P 07 47 34.6 +0.4**
baz=54
CHMT Chamberlain Mo 53.99 58 *e*P **P 07 47 33.5 -0.7**
J09A Fry Pan Ranch, 54.02 64 ⇑P **P 07 47 34.8 +0.3**
baz=54,SNR=8.0
H11A Donnelly 54.04 62 ⇑P **P 07 47 34.4 -0.3**
baz=54,SNR=17
K08A Mann Creek Ran 54.04 65 ⇓P **P 07 47 35.0 +0.3**
baz=54,SNR=6.1
L07A Adell 54.05 66 ⇓P **P 07 47 35.3 +0.5**
baz=54,SNR=6.2
WVOR Wild Horse Val 54.16 65 *e*P **P 07 47 35.6 +0.1**
WVOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
WVOR Wild Horse Val 54.16 65 *e*P **P 07 47 35.6 +0.1**
comp=Z,7.3nm,0.8s,mb4.5
F13A Darby 54.19 60 ⇑P **P 07 47 35.1 -0.7**
baz=54,SNR=5.6
E14A Clinton 54.20 59 ⇑P **P 07 47 35.4 -0.4**
baz=54,SNR=8.6
O04C Chester 54.24 69 ⇑P **P 07 47 36.7 +0.6**
baz=54,SNR=12
D15A Lincoln 54.27 57 ⇑P **P 07 47 36.1 -0.2**
baz=54
MNRC McLaughlin Nat 54.46 71 ⇑P **P 07 47 38.3 +0.6**
baz=54
K09A Rome 54.47 64 ⇑P **P 07 47 38.0 +0.2**
baz=54,SNR=8.6
L08A Fields 54.48 65 ⇓P **P 07 47 38.2 +0.3**
baz=54,SNR=13
ORV Oroville 54.53 70 ⇓P **P 07 47 37.6 -0.6**
baz=54,SNR=10
M07A Soldier Meadow 54.57 66 ⇓P **P 07 47 39.2 +0.6**
baz=54,SNR=48
O05C Quincy 54.58 69 ⇑P **P 07 47 38.8 +0.2**
baz=54,SNR=6.0
SUTB Sutter Butte 54.59 70 ⇑P **P 07 47 38.0 -0.7**
baz=54
I11A Placerville 54.60 62 ⇑P **P 07 47 38.3 -0.4**
baz=54,SNR=8.8
E15A Deer Lodge 54.63 58 ⇑P **P 07 47 38.4 -0.4**
baz=54,SNR=9.3
N06A Buffalo Meadow 54.64 67 ⇓P **P 07 47 39.4 +0.4**
baz=54,SNR=16
F14A Wisdom 54.67 59 ⇓P **P 07 47 39.0 -0.2**
baz=54
OHCM Honcut 54.69 70 *e*P **P 07 47 38.8 -0.6**
G13A Cobalt 54.71 60 ⇓P **P 07 47 38.8 -0.6**
baz=54,SNR=9.0
K10A MacKenzie Ranc 54.88 64 ⇑P **P 07 47 41.1 +0.3**
baz=55,SNR=12
BEKR Beckwourth 54.95 69 ⇓P **P 07 47 41.4 +0.1**
baz=55,SNR=14
L09A Wilkinson Ranc 54.97 65 ⇑P **P 07 47 41.9 +0.5**
baz=55,SNR=6.3
M08A Happy Creek Ra 54.97 66 ⇓P **P 07 47 42.2 +0.8**
baz=55,SNR=12
MFID Camas Ranch 55.01 63 ⇓P **P 07 47 41.5 -0.1**
baz=55
O06A Flanigan 55.05 68 ⇑P **P 07 47 42.2 +0.2**
baz=55,SNR=6.6
H13A Challis 55.06 61 ⇑P **P 07 47 41.6 -0.3**
baz=55,SNR=13
N07B Gerlach 55.10 67 ⇓P **P 07 47 42.7 +0.4**
baz=55,SNR=13
F15A Butte 55.10 58 ⇑P **P 07 47 42.0 -0.3**
baz=55
LRM Limekiln Ridge 55.14 58 *e*P **P 07 47 42.9 +0.4**
P05C Yuba Gap, Truc 55.20 69 ⇑P **P 07 47 43.0 -0.1**
baz=55
K11A Parker Ranch, 55.34 63 ⇓P **P 07 47 44.3 +0.3**
baz=55,SNR=6.0
P06A Stead Airport, 55.34 68 ⇓P **P 07 47 44.6 +0.5**
baz=55
DLMT Dillon 55.38 59 *e*P **P 07 47 44.5 +0.3**
comp=Z,8.7nm,1.2s,mb4.4
BDM Black Diamond 55.42 71 ⇓P **P 07 47 44.8 +0.1**
baz=55
M09A Marrel Ranch, 55.49 65 ⇓P **P 07 47 45.7 +0.6**
baz=55,SNR=7.4
LAVA Lava Cap Winer 55.51 70 ⇓P **P 07 47 45.1 -0.2**
baz=55
J12A Stokes Ranch, 55.51 62 ⇓P **P 07 47 45.5 +0.3**
baz=55,SNR=17
G15A Dillon 55.56 59 ⇑P **P 07 47 45.4 -0.2**
baz=55,SNR=11
I13A Wildhorse Cree 55.57 61 ⇓P **P 07 47 45.8 +0.1**
baz=55
O07A Toulon 55.58 67 ⇑P **P 07 47 46.3 +0.6**
baz=55,SNR=8.4
L10A Juniper Basin 55.58 64 ⇓P **P 07 47 46.2 +0.5**
baz=55,SNR=15
MCMT McKenzie Canyo 55.61 60 *e*P **P 07 47 45.5 -0.5**
HLID Hailey 55.66 62 ⇑P **P 07 47 46.4 +0.1**
baz=55,SNR=7.1
HLID Hailey 55.66 62 *e*P **P 07 47 46.2 -0.1**
BOZ Bozeman (W) 55.68 58 ⇑P **P 07 47 46.5 +0.2**
baz=55,SNR=12
BOZ Bozeman (W) 55.68 58 *e*P **P 07 47 46.4 0.0**
BOZ *e*pP pP 07 48 25.8 -0.5
WCN Washoe City 55.68 69 ⇑P **P 07 47 46.8 +0.3**
baz=56
N09A Rock Creek Ran 55.85 66 ⇑P **P 07 47 48.2 +0.5**
baz=56,SNR=7.9
O08A Rochester Mine 55.89 67 ⇑P **P 07 47 48.6 +0.7**
baz=56,SNR=8.0
J13A Cove Ranch, Pi 55.90 62 ⇑P **P 07 47 48.3 +0.3**
baz=56,SNR=9.1
L11A Cat Creek Ranc 55.90 64 ⇑P **P 07 47 48.7 +0.7**
baz=56,SNR=22
R05C Kirkwood Meado 55.92 69 ⇓P **P 07 47 48.5 +0.3**
baz=56,SNR=6.0
M10A I.L. Ranch, Tu 55.92 65 ⇓P **P 07 47 48.8 +0.6**
baz=56,SNR=8.7
K12A Draper Farm, C 56.04 63 ⇓P **P 07 47 49.4 +0.4**
baz=56,SNR=20

CMB Columbia Colle 56.20 70 eP P 07 47 50.7 +0.4
CMB pmax pmax
comp=Z,15nm,1.6s,mb4.6
CMB Columbia Colle 56.20 70 ⇓P P 07 47 50.2 0.0
baz=56
CMB Columbia Colle 56.20 70 eP P 07 47 50.7 +0.4
comp=Z,16nm,1.6s,mb4.6
L12A House Creek Ra 56.31 63 ⇓P P 07 47 51.5 +0.6
baz=56,SNR=13
QLMT Earthquake Lak 56.34 59 eP P 07 47 51.2 +0.1
M11A Holland Ranch, 56.39 64 ⇑P P 07 47 52.5 +1.0
baz=56,SNR=5.2
R06C Coleville 56.39 69 ⇓P P 07 47 52.2 +0.6
baz=56,SNR=7.5
CHTO Chiang Mai 56.47 256 eP P 07 47 51.9 -0.4
CHTO pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
CHTO Chiang Mai 56.47 256 eP P 07 47 51.9 -0.4
comp=Z,8.2nm,0.6s,mb4.7
N10A Dunphy 56.50 65 ⇓P P 07 47 52.8 +0.6
baz=56
O09A Fish Creek Ran 56.50 66 ⇑P P 07 47 52.9 +0.6
baz=56,SNR=5.4
AB31 Akbulak array 56.53 309 i P P 07 47 51.6 -0.8
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
GCMT Greycliff 56.57 57 eP P 07 47 53.3 +0.6
AKTO Aktyubinsk 56.59 311 i P P 07 47 51.0 -1.8
S06C San Francisco 56.62 70 ⇑P P 07 47 53.2 0.0
baz=56,SNR=9.7
TAPN Taplejung 56.69 272 eP P 07 47 53.7 -0.1
comp=Z,35nm,0.7s,mb5.3
HAST Hastings Reser 56.69 72 ⇑P P 07 47 53.5 -0.3
baz=56
CMAR Chiang Mai Arr 56.75 256 P P 07 47 54.6 +0.3
comp=Z,5.4nm,0.6s,mb4.5,baz=28,slow=7.0,SNR=20
CMAR PcP PcP 07 48 48.2 +0.1
comp=Z,1.2nm,0.3s,baz=18,slow=3.1,SNR=4.1
CMAR Chiang Mai Arr 56.75 256 i P P 07 47 56.2 +1.9
CMAR pmax pmax
comp=Z,5.0nm,0.6s
N11A Elko Archery C 56.85 65 ⇑P P 07 47 55.3 +0.5
baz=57
M12A Wells 56.88 64 ⇓P P 07 47 55.6 +0.7
baz=57,SNR=6.0
YFT Old Faithful 56.91 59 eP P 07 47 57.3 +2.2
R07C Lee Vining 56.92 69 ⇓P P 07 47 56.0 +0.7
baz=57
L13A Double Diamond 56.93 63 ⇓P P 07 47 56.1 +0.8
baz=57,SNR=20
P09A Austin 56.96 67 ⇑P P 07 47 56.3 +0.7
baz=57
Q08A Gabbs 57.01 68 ⇓P P 07 47 56.3 +0.4
baz=57,SNR=18
K14A Jones Ranch, D 57.02 62 ⇓P P 07 47 56.8 +0.9
baz=57,SNR=17
NVAR Mina Array Bea 57.10 69 P P 07 47 55.3 -1.3
comp=Z,5.8nm,0.6s,mb4.6,baz=305,slow=6.6,SNR=55
NVAR pP pP 07 48 36.2 -0.4
comp=Z,1.6nm,0.8s,baz=289,slow=7.5,SNR=3.0
NVAR PcP PcP 07 48 47.2 -2.1
comp=Z,1.3nm,0.9s,baz=297,slow=7.0,SNR=2.7
NVAR Mina Array Bea 57.10 69 P P 07 47 55.3 -1.3
NVAR pP pP 07 48 36.2 -0.4
NVAR PcP PcP 07 48 47.2 -2.1
N12A Clover Valley, 57.20 64 ⇑P P 07 47 57.9 +0.7
baz=57
FLWY Flagg Ranch 57.24 59 eP P 07 47 59.0 +1.5
comp=Z,7.8nm,0.8s,mb4.6
RLMT Red Lodge 57.24 57 eP P 07 47 57.9 +0.5
ODAN Odare 57.24 272 eP P 07 47 57.6 -0.1
IMW Indian Meadow 57.24 59 eP P 07 47 58.1 +0.6
comp=Z,17nm,1.2s,mb4.7
K15A Arbon 57.26 61 ⇑P P 07 47 58.8 +1.2
baz=57
P10A Eureka 57.29 66 ⇓P P 07 47 58.5 +0.6
baz=57
KCC Kaiser Creek 57.31 70 ⇓P P 07 47 58.5 +0.4
baz=57,SNR=7.2
T06C Millerton Lake 57.31 71 ⇑P P 07 47 58.1 +0.1
baz=57
M13A Montello 57.32 63 ⇑P P 07 47 58.5 +0.5
baz=57,SNR=9.9
J16A Bone 57.33 60 ⇑P P 07 47 58.8 +0.7
baz=57
L14A Malta 57.34 62 ⇓P P 07 47 59.0 +0.8
baz=57,SNR=11
DGMT Dagmar 57.36 51 eP P 07 47 57.9 -0.3
O11A Cowboy Ranch, 57.37 65 ⇑P P 07 47 58.8 +0.4
baz=57
JIRN Jiri 57.37 273 eP P 07 47 58.1 -0.5
GUN Gumba 57.38 274 eP P 07 47 58.4 -0.2
RRI2 Red Ridge 57.43 60 eP P 07 47 58.5 -0.3
comp=Z,6.0nm,0.8s,mb4.5
Q09A Carvers 57.44 67 ⇓P P 07 47 59.6 +0.6
baz=57
TPAW Teton Pass 57.52 60 eP P 07 48 00.3 +0.9
comp=Z,15nm,1.4s,mb4.6
TPAW epP pP 07 48 40.7 +1.2
LOHW Long Hollow 57.62 59 eP P 07 48 00.7 +0.7
comp=Z,6.9nm,0.9s,mb4.5
SNOW Snow King Moun 57.64 59 eP P 07 48 01.1 +0.8
comp=Z,6.0nm,0.8s,mb4.5
RAMN Ramite 57.65 273 eP P 07 48 00.1 -0.4
comp=Z,43nm,0.4s,mb5.7
N13A Wendover, West 57.65 64 ⇓P P 07 48 00.9 +0.5
baz=57
K16A Soda Springs 57.65 61 ⇓P P 07 48 01.4 +1.0
baz=57,SNR=9.8
REDW Red Top Meadow 57.66 60 eP P 07 48 01.5 +1.1
comp=Z,8.2nm,0.9s,mb4.6
P11A Circle Ranch, 57.72 66 ⇑P P 07 48 01.5 +0.6
baz=58
O12A Currie 57.77 65 ⇓P P 07 48 01.8 +0.5
baz=58,SNR=12
L15A Malad City 57.81 62 ⇓P P 07 48 02.0 +0.5
baz=58,SNR=11
KKN Kakani 57.82 274 eP P 07 48 01.7 -0.1
comp=Z,24nm,0.4s,mb5.4
S08C White Mtn Res 57.83 69 ⇓P P 07 48 02.3 +0.6
baz=58
Q10A Clear Creek Ra 57.88 67 ⇑P P 07 48 02.3 +0.3
baz=58,SNR=7.4
PKI Pulchoki 57.91 274 eP P 07 48 03.0 +0.7
comp=Z,8.5nm,0.3s,mb5.0
R09A Tonopah 57.92 68 ⇑P P 07 48 02.4 +0.1
baz=58,SNR=18
HELL Mitchell Peak 57.93 70 ⇑P P 07 48 02.1 -0.3
baz=58,SNR=12
TPH Tonopah 57.95 68 eP P 07 48 02.5 0.0
TPH pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
TPH Tonopah 57.95 68 eP P 07 48 02.5 0.0
comp=Z,9.4nm,0.8s,mb4.7
DMN Daman 58.06 274 eP P 07 48 03.4 0.0
comp=Z,14nm,0.6s,mb5.0
RCTC Rector, Farmer 58.07 71 ⇑P P 07 48 03.6 +0.2
baz=58
TIN Tinemaha 58.11 70 ⇑P P 07 48 04.0 +0.4
baz=58
M15A Larsen Ranch, 58.16 62 ⇓P P 07 48 04.3 +0.4
baz=58
S09A Goldfield 58.20 68 ⇑P P 07 48 04.3 +0.1
baz=58,SNR=7.9
Q11A Duckwater 58.28 66 ⇓P P 07 48 04.9 +0.2
baz=58
L16A Fish Haven 58.31 61 ⇑P P 07 48 05.2 +0.3
baz=58
R10A Warm Springs 58.31 67 ⇓P P 07 48 05.3 +0.3
baz=58
DANN Dangsing 58.32 276 eP P 07 48 05.3 +0.1
S10A Tonopah Range, 58.41 68 ⇑P P 07 48 05.6 -0.1
baz=58,SNR=6.2
HWUT Hardware Ranch 58.53 62 eP P 07 48 06.7 +0.3
comp=Z,7.4nm,0.6s,mb4.7
HWUT epP pP 07 48 46.6 -0.2
N15A Stansbury Isla 58.53 63 ⇑P P 07 48 06.8 +0.3
baz=58
Q12A Willow Creek R 58.59 66 ⇑P P 07 48 07.2 +0.2
baz=58
CWC Cottonwood Cre 58.63 70 ⇑P P 07 48 07.3 0.0
baz=58
GRAC Grapevine Rang 58.63 69 ⇑P P 07 48 07.6 +0.3
baz=58,SNR=6.2
R11A Troy Canyon, C 58.67 67 ⇓P P 07 48 07.6 +0.1
baz=58,SNR=9.0
M16A Huntsville 58.70 62 ⇓P P 07 48 07.9 +0.3
baz=58,SNR=7.7
P13A Bates Ranch, G 58.74 65 ⇓P P 07 48 08.1 +0.2
baz=58,SNR=5.6
BW06 Boulder Array 58.75 59 eP P 07 48 08.4 +0.4
PDAR Pinedale Array 58.76 59 P P 07 48 08.3 +0.3
comp=Z,11nm,0.6s,mb4.8,baz=327,slow=2.3,SNR=105
PDAR pP pP 07 48 48.2 -0.1
comp=Z,2.6nm,0.7s,baz=340,slow=3.6,SNR=4.0
KOLN Koldanda 58.84 276 eP P 07 48 08.1 -0.7
DUG Dugway 58.87 63 eP P 07 48 09.3 +0.5
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
DUG Dugway 58.87 63 ⇑P P 07 48 09.2 +0.4
baz=59,SNR=7.8
DUG Dugway 58.87 63 eP P 07 48 09.2 +0.4
comp=Z,5.8nm,1.0s,mb4.4
ISA Isabella 58.96 71 ⇓P P 07 48 08.6 -0.9
baz=59
ISA Isabella 58.96 71 eP P 07 48 09.0 -0.6
O15A The Old Anders 58.99 63 ⇓P P 07 48 10.0 +0.3
baz=59
S11A Rachel 59.08 67 ⇑P P 07 48 10.6 +0.3
baz=59,SNR=9.4
Q13A Wheeler Ranch, 59.10 65 ⇓P P 07 48 10.8 +0.4
baz=59,SNR=5.4
N16A Rees Ranch, Co 59.11 62 ⇑P P 07 48 10.9 +0.5
baz=59
SBC Santa Barbara 59.13 73 ⇓P P 07 48 10.9 +0.2
baz=59
P14A Drum Mountains 59.16 64 ⇓P P 07 48 11.2 +0.4
baz=59,SNR=5.5
MPMC Manual Prospec 59.24 70 ⇓P P 07 48 11.6 +0.2
baz=59,SNR=6.1
FURC Furnace Creek, 59.30 69 ⇓P P 07 48 12.0 +0.2
baz=59,SNR=11
TPNV Topopah Spring 59.30 68 eP P 07 48 11.9 +0.1
TPNV pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
TPNV Topopah Spring 59.30 68 ⇑P P 07 48 12.0 +0.2
baz=59,SNR=12
TPNV Topopah Spring 59.30 68 eP P 07 48 11.8 0.0
comp=Z,7.3nm,0.8s,mb4.6
JLU Jordanelle 59.31 62 eP P 07 48 11.9 +0.1
N17A Moffit Pass 59.39 62 ⇑P P 07 48 12.6 +0.2
baz=59
NLU North Lily Min 59.44 63 eP P 07 48 13.6 +0.9
Q14A Sevier Lake (B 59.48 65 ⇑P P 07 48 13.4 +0.4
baz=59,SNR=7.7
BSC Santa Cruz Isl 59.50 73 ⇑P P 07 48 13.9 +0.7
baz=59
LRMC Laurel Mountai 59.54 71 ⇓P P 07 48 13.2 -0.3
baz=59
DAU Daniels Canyon 59.55 62 eP P 07 48 14.2 +0.8
O16A Springville 59.56 63 ⇓P P 07 48 14.0 +0.5
baz=59
S12A Delamar Landin 59.60 67 ⇑P P 07 48 14.5 +0.6
baz=59,SNR=14
MPU Maple Canyon 59.63 63 eP P 07 48 15.0 +1.0
U10A Ash Meadows, A 59.63 69 ⇓P P 07 48 14.5 +0.3
baz=59
T11A Corn Creek, Al 59.66 67 ⇓P P 07 48 14.4 +0.1
baz=59,SNR=13
R13A O'Grain Ranch, 59.68 66 ⇓P P 07 48 14.6 +0.2
baz=60
BLG Laguna Peak 59.74 73 ⇑P P 07 48 14.8 -0.1
baz=60
EDW2 Edwards Air Fo 59.80 71 ⇓P P 07 48 15.1 -0.1
baz=60,SNR=5.6
ULM Lac du Bonnet 59.80 45 P P 07 48 14.3 -0.7
comp=Z,1.6nm,0.3s,mb4.3,baz=315,slow=7.5,SNR=7.1
ULM pP pP 07 48 54.8 -0.7
comp=Z,4.1nm,0.9s,baz=300,slow=3.9,SNR=2.5
P16A Fountain Green 59.91 63 ⇑P P 07 48 16.5 +0.6
baz=60
N18A Larsen Ranch, 59.98 61 ⇑P P 07 48 16.4 0.0
baz=60
SHOC Shoshone 60.03 69 ⇓P P 07 48 17.1 +0.2
baz=60
GSC Goldstone 60.17 70 eP P 07 48 17.7 -0.1
GSC pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
GSC Goldstone 60.17 70 ⇓P P 07 48 17.9 +0.1
baz=60
GSC Goldstone 60.17 70 eP P 07 48 17.7 -0.1
comp=Z,6.0nm,0.8s,mb4.5
S13A Holt Ranch, En 60.17 66 ⇑P P 07 48 18.1 +0.3
baz=60
O18A Roosevelt 60.31 62 ⇓P P 07 48 19.5 +0.8
baz=60,SNR=6.8
T12A Moapa 60.31 68 ⇑P P 07 48 19.0 +0.3
baz=60
TMUT Trail Mountain 60.37 63 eP P 07 48 18.5 -0.6
MSU Marysvale 60.42 64 eP P 07 48 20.0 +0.6
S14A Cedar City 60.42 66 ⇓P P 07 48 19.6 +0.2
baz=60,SNR=6.0
BFSC Mount Baldy St 60.45 72 ⇓P P 07 48 19.6 -0.2
baz=60
CCUT Cedar City 60.46 66 eP P 07 48 29.0 +9.3
T13A Saint George 60.55 67 ⇓P P 07 48 20.9 +0.6
baz=60,SNR=8.8
V11A Goodsprings 60.55 69 ⇑P P 07 48 20.6 +0.2
baz=60
RSSD Black Hills 60.56 55 eP P 07 48 20.2 -0.1
RSSD e*PP pP 07 48 59.7 -1.2
RSSD pmax pmax
comp=Z,18nm,0.7s,mb5.0
RSSD Black Hills 60.56 55 eP P 07 48 20.2 -0.1
comp=Z,18nm,0.7s,mb5.0
RSSD epP pP 07 48 59.7 -1.2
TUQ Turquoise Mtn. 60.57 69 ⇑P P 07 48 20.5 0.0
baz=60,SNR=5.5
P18A Preston Nutter 60.65 62 ⇑P P 07 48 21.5 +0.5
baz=60,SNR=7.1
Q16A Castle Valley 60.67 63 ⇑P P 07 48 21.5 +0.4
baz=60
HEC Hector,Ludlow 60.78 70 ⇑P P 07 48 21.8 -0.1
baz=61
BBRC Big Bear Sol-O 60.85 71 ⇑P P 07 48 22.5 +0.1
baz=61
SRU San Rafael 60.87 63 ⇑P P 07 48 22.9 +0.4
baz=61,SNR=9.5
SRU San Rafael 60.87 63 eP P 07 48 22.6 +0.1
SRU epP pP 07 49 02.5 -0.6
U13A Pakoon Wash 60.95 67 ⇓P P 07 48 23.5 +0.5
baz=61,SNR=8.8
V12A Nelson 60.96 68 ⇑P P 07 48 23.2 +0.1
baz=61,SNR=6.1
T14A Hurricane 60.97 66 ⇓P P 07 48 23.3 +0.1
baz=61
Q18A Rafter H Ranch 61.09 63 ⇑P P 07 48 24.0 +0.1
baz=61
MURC Murrieta 61.18 72 ⇓P P 07 48 24.3 -0.4
baz=61,SNR=5.1
GMRC Granite Mounta 61.19 70 ⇑P P 07 48 24.7 0.0
baz=61,SNR=6.0
W12A Cal Nev Ari 61.26 69 ⇑P P 07 48 25.2 0.0
baz=61
R17A Hanksville Air 61.28 64 ⇓P P 07 48 25.1 -0.1
baz=61,SNR=10
LDFC Landfair 61.28 69 eP P 07 48 24.8 -0.5
comp=Z,14nm,0.8s,mb4.8
S16A Weppner Ranch, 61.30 65 ⇓P P 07 48 25.8 +0.4
baz=61,SNR=12
V13A Grand Canyon W 61.35 68 ⇑P P 07 48 26.0 +0.3
baz=61,SNR=11
U14A Mt Trumbull 61.38 67 ⇓P P 07 48 26.4 +0.4
baz=61,SNR=8.5
T15A Red Dirt Ranch 61.39 66 ⇑P P 07 48 26.3 +0.3
baz=61,SNR=10
OBN Obninsk 61.55 326 eP P 07 48 26.4 -0.4
OBN e*PP pP 07 49 06.9 -0.6
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
BELC Belle Mtn. 61.57 71 ⇑P P 07 48 26.6 -0.6
baz=61
PFO Pinyon Flat Ob 61.60 71 ⇑P P 07 48 26.9 -0.5
baz=61
Q19A Hogan Spring (61.66 62 ⇓P P 07 48 27.3 -0.4
baz=61,SNR=20
R18A Canyonlands Na 61.74 63 ⇓P P 07 48 28.0 -0.3
baz=62,SNR=22
109C Camp Elliot, M 61.75 72 ⇑P P 07 48 28.2 -0.2
baz=62
S17A Black Ridge (B 61.80 64 ⇑P P 07 48 28.8 0.0
baz=62,SNR=17
U15A North Rim 61.87 66 ⇓P P 07 48 29.6 +0.4
baz=62,SNR=5.2
T16A Glen Canyon Da 61.89 65 ⇑P P 07 48 28.6 -0.7
baz=62
IRM Iron Mountain 61.93 70 ⇓P P 07 48 29.7 0.0
baz=62,SNR=5.8
W13A Hualapai Mount 61.95 68 ⇑P P 07 48 29.9 +0.1
baz=62,SNR=5.1
V14A Boquillas Ranc 62.00 67 ⇓P P 07 48 30.6 +0.6
baz=62,SNR=14
BC3 Big Chuckw Mtn 62.13 70 ⇓P P 07 48 30.6 -0.4
baz=62
MONP Monument Peak 62.14 72 ⇑P P 07 48 31.0 -0.1
baz=62
R19A Curley Farm, L 62.15 63 ⇑P P 07 48 30.9 -0.1
baz=62
S18A Hurst Farm, Bl 62.19 64 ⇑P P 07 48 31.3 0.0
baz=62,SNR=18
PV10 Paradox Valley 62.20 62 eP P 07 48 31.9 +0.5
PV10 epP pP 07 49 13.1 +0.9
T17A Navajo Res., N 62.26 65 ⇓P P 07 48 31.3 -0.5
baz=62
W14A Seligman 62.32 68 ⇑P P 07 48 32.7 +0.4
baz=62,SNR=11
X13A Yucca 62.36 69 ⇓P P 07 48 32.3 -0.2
baz=62,SNR=7.0
KBL Kabul 62.37 291 P P 07 48 30.3 -2.3
V15A Kaibab Nationa 62.38 67 ⇓P P 07 48 33.2 +0.6
baz=62,SNR=9.0
PDMCI Parker Dam,Lak 62.40 69 ⇑P P 07 48 32.4 -0.4
baz=62
SWSC Sam W. Stewart 62.46 71 ⇑P P 07 48 33.0 -0.2
baz=62
DVTC Desert V Tower 62.49 72 ⇓P P 07 48 33.2 -0.2
baz=62
Y12C Blythe 62.59 70 ⇓P P 07 48 33.9 -0.1
baz=62
S19A Harvey Farm, M 62.61 63 ⇑P P 07 48 34.1 -0.1
baz=62,SNR=7.8
PV01 Paradox Valley 62.63 62 eP P 07 48 34.0 -0.3
U17A Shonto 62.63 65 ⇓P P 07 48 34.4 +0.1
baz=62,SNR=5.7
T18A Mexican Hat 62.66 64 ⇑P P 07 48 34.0 -0.4
baz=62,SNR=14
W15A Williams 62.80 67 ⇓P P 07 48 35.9 +0.5
baz=63
GLA Glamis 62.93 70 eP P 07 48 36.7 +0.4
GLA pmax pmax
comp=Z,11nm,0.9s,mb4.7
GLA Glamis 62.93 70 ⇓P P 07 48 36.3 0.0
baz=63
GLA Glamis 62.93 70 eP P 07 48 36.7 +0.4
comp=Z,11nm,0.9s,mb4.7
Y13A Salome 62.93 69 ⇑P P 07 48 36.1 -0.1
baz=63
ISCO Idaho Springs 62.95 59 eP P 07 48 36.5 +0.2
ISCO e*PP pP 07 49 17.2 0.0
ISCO pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
ISCO Idaho Springs 62.95 59 eP P 07 48 36.5 +0.2
comp=Z,8.2nm,1.3s,mb4.4
ISCO epP pP 07 49 17.2 0.0
NB2 NORSAR Subarra 62.95 342 P P 07 48 35.1 -0.9
comp=Z,2.6nm,0.7s,mb4.2,baz=22,slow=6.9
NOA NORSAR Array B 62.95 342 P P 07 48 34.6 -1.4
comp=Z,3.5nm,0.7s,mb4.3,baz=22,slow=6.6,SNR=11
X14A Yava 62.97 68 ⇓P P 07 48 37.0 +0.4
baz=63,SNR=6.7
WUAZ Wupatki 63.04 66 ⇓P P 07 48 37.3 +0.3
baz=63,SNR=6.9
WUAZ Wupatki 63.04 66 eP P 07 48 37.2 +0.2
comp=Z,9.6nm,1.0s,mb4.6
U18A Rough Rock, Ch 63.20 65 ⇓P P 07 48 38.0 0.0
baz=63,SNR=6.0
HFS Hagfors 63.32 341 P P 07 48 37.4 -1.0
comp=Z,1.5nm,0.4s,mb4.2,baz=33,slow=5.8,SNR=15
HFS PcP PcP 07 49 12.7 -1.2
comp=Z,1.9nm,0.6s,baz=26,slow=7.1,SNR=4.0
X15A Humboldt 63.32 68 ⇓P P 07 48 39.4 +0.6
baz=63,SNR=8.1
T19A Beclabito 63.35 64 ⇓P P 07 48 39.1 +0.1
baz=63
MVCO Mesa Verde 63.35 63 ⇑P P 07 48 39.1 +0.1
baz=63
MVCO Mesa Verde 63.35 63 eP P 07 48 39.5 +0.5
Y15A Casa Rosa Ranc 63.66 68 ⇓P P 07 48 41.4 +0.3
baz=63,SNR=8.4
V18A Ganado 63.69 65 ⇑P P 07 48 41.5 +0.3
baz=64,SNR=8.4
X16A Lo Mia Camp, P 63.81 67 ⇑P P 07 48 42.7 +0.6
baz=64,SNR=12
V19A Window Rock 64.17 65 ⇑P P 07 48 44.8 +0.4
baz=64
Y16A Circle Bar Ran 64.19 68 ⇓P P 07 48 44.9 +0.3
baz=64
X17A Forest Lakes 64.23 67 ⇑P P 07 48 45.5 +0.7
baz=64,SNR=6.6
ECSD EROS,Sioux Fal 64.41 51 eP P 07 48 44.6 -1.1
comp=Z,7.3nm,0.8s,mb4.6
SDCO Great Sand Dun 64.54 61 eP P 07 48 46.4 -0.3
comp=Z,1.4nm,0.7s,mb3.9
SDCO epP pP 07 49 26.2 -1.6
X18A Snowflake 64.55 66 ⇓P P 07 48 47.5 +0.6
baz=64,SNR=6.2
Z16A Peralta Trail, 64.62 68 ⇑P P 07 48 47.5 +0.1
baz=64
115A Sonoran Desert 64.65 69 ⇑P P 07 48 47.9 +0.3
baz=64,SNR=9.9
KSM Kuching 64.66 234 eP P 07 48 48.4 +0.6
Y17A Roosevelt 64.68 67 ⇑P P 07 48 48.2 +0.5
baz=64,SNR=7.8
214A Organ Pipe Nat 64.88 70 ⇓P P 07 48 48.9 -0.1
baz=65,SNR=5.4
X19A St. Johns 64.99 66 ⇓P P 07 48 50.2 +0.5
baz=65,SNR=7.5
116A Eloy 65.05 69 ⇑P P 07 48 50.1 0.0
baz=65
Y18A Canyon Day Jun 65.07 67 ⇑P P 07 48 50.6 +0.4
baz=65,SNR=8.0
Z17A San Carlos Hig 65.19 67 ⇓P P 07 48 51.5 +0.5
baz=65
Y19A Nutrioso 65.36 66 ⇑P P 07 48 52.9 +0.8
baz=65,SNR=6.6
117A Oracle 65.58 68 ⇓P P 07 48 53.6 +0.1
baz=65,SNR=6.4
Z18A Geronimo 65.59 67 ⇑P P 07 48 53.9 +0.3
baz=65
216A Three Points, 65.61 69 ⇑P P 07 48 53.6 -0.1
baz=65,SNR=5.9
TUC Tucson 65.75 68 eP P 07 48 54.3 -0.3
TUC pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
TUC Tucson 65.75 68 eP P 07 48 54.3 -0.3
comp=Z,4.6nm,1.2s,mb4.2
Z19A T-Link Ranch, 65.86 66 ⇑P P 07 48 55.7 +0.5
baz=66
118A Homack Ranch, 65.96 67 ⇑P P 07 48 56.3 +0.3
baz=66,SNR=9.4
ANMO Albuquerque 66.13 63 ⇑eP P 07 48 57.3 +0.3
ANMO Albuquerque 66.13 63 eP P 07 48 57.1 +0.1
comp=Z,4.2nm,1.1s,mb4.2
ANMO epP pP 07 49 38.5 +0.2
LAZ Ladron 66.18 64 eP P 07 48 57.9 +0.5
LAZ epP pP 07 49 39.5 +0.9
SCHQ Schefferville 66.19 26 P P 07 48 56.1 -0.9
comp=Z,3.4nm,0.5s,mb4.5,baz=284,slow=16,SNR=13
119A Ashpeak Ranch, 66.23 67 ⇑P P 07 48 58.0 +0.3
baz=66
218A Dragoon 66.42 68 ⇓P P 07 48 59.2 +0.3
baz=66,SNR=5.6
BNM Barren Site 66.65 64 eP P 07 49 00.5 +0.2
219A White Tail Can 66.83 67 ⇓P P 07 49 01.7 +0.2
baz=67,SNR=7.5
318A Bisbee 66.85 68 ⇓P P 07 49 01.8 +0.2
baz=67,SNR=9.3
319A Douglas 67.29 68 ⇓P P 07 49 04.7 +0.3
baz=67,SNR=5.4
AKASG Malin Array Be 67.68 327 P P 07 49 04.8 -1.7
comp=Z,0.4nm,0.3s,mb3.6,baz=33,slow=5.4,SNR=4.5
AKASG Malin Array Be 67.68 327 i P P 07 49 06.5 0.0
KIV Kislovodsk 68.28 315 eP P 07 49 10.4 +0.1
KIV pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
WMOK Wichita Mounta 70.32 58 eP P 07 49 22.6 -0.5
EKA Eskdalemuir Ar 70.62 348 P P 07 49 24.0 -0.5
comp=Z,2.7nm,0.6s,mb4.2,baz=18,slow=5.4,SNR=11
TXAR Lajitas Array 71.95 65 P P 07 49 33.0 0.0
comp=Z,5.3nm,0.4s,mb4.7,baz=297,slow=5.2,SNR=199
TXAR pP pP 07 50 14.6 -0.3

comp=Z,1.3nm,0.6s,baz=309,slow=4.8,SNR=2.8
TXAR Lajitas Array 71.95 65 P **P 07 49 33.0 0.0**
TXAR pP pP 07 50 14.6 -0.3
GERES GERESS Array B 73.78 336 P **P 07 49 42.7 -0.6**
comp=Z,0.4nm,0.3s,mb3.6,baz=32,slow=7.8,SNR=5.6
KBA Koelnbreinsper 75.51 336⇑ *iP* **P 07 49 54.1 +0.8**
comp=Z,9.4nm,0.9s,mb4.4
KBA Koelnbreinsper 75.51 336⇑ *iP* **P 07 49 52.3 -1.1**
comp=Z,9.4nm,0.9s,mb4.4
KBA Koelnbreinsper 75.51 336⇑ *iP* **P 07 49 54.1 +0.8**
KBA pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
KBA Koelnbreinsper 75.51 336⇑ *iP* **P 07 49 54.1 +0.8**
comp=Z,9.4nm,0.9s,mb4.4
WRAB Tennant Creek 75.60 203 *eP* **P 07 49 53.5 -0.6**
WRAB pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
WRAB Tennant Creek 75.60 203 *eP* **P 07 49 53.5 -0.6**
comp=Z,6.2nm,0.7s,mb4.3
WB2 Warramunga Arr 75.61 203 *eP* **P 07 49 53.7 -0.4**
WRA Warramunga Arr 75.62 203 P **P 07 49 53.8 -0.3**
comp=Z,4.7nm,0.5s,mb4.3,baz=25,slow=6.2,SNR=25
WRA pP pP 07 50 36.7 +0.2
comp=Z,2.2nm,0.7s,baz=17,slow=6.0,SNR=4.8
FITZ Fitzroy Crossi 76.22 211 *eP* **P 07 49 58.2 +0.6**
comp=Z,5.7nm,0.6s,mb4.4
PALK Pallekele 76.36 264 *eP* **P 07 49 56.9 -1.7**
PALK pmax pmax
comp=Z,19nm,1.0s,mb4.7
PALK Pallekele 76.36 264 *eP* **P 07 49 56.9 -1.8**
comp=Z,18nm,1.0s,mb4.7
FLN La Foliniere 76.67 345 *eP* **P 07 49 59.1 -0.8**
LDF La Druitiere 76.78 345 *eP* **P 07 50 00.2 -0.3**
GRR Gorron 77.10 345 *eP* **P 07 50 01.6 -0.6**
LOR Lormes 77.39 342 *eP* **P 07 50 03.1 -0.8**
comp=Z,4.3nm,0.5s,mb4.1
LOR Lormes 77.39 342 *eP* **P 07 50 03.1 -0.8**
LOR pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
LOR Lormes 77.39 342 *eP* **P 07 50 03.1 -0.8**
comp=Z,2.2nm,0.5s,mb4.0
AVF Avril sur Loir 77.94 342 *eP* **P 07 50 06.4 -0.6**
comp=Z,5.2nm,0.6s,mb4.0
AVF Avril sur Loir 77.94 342 *eP* **P 07 50 06.4 -0.6**
AVF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
AVF Avril sur Loir 77.94 342 *eP* **P 07 50 06.4 -0.6**
comp=Z,2.6nm,0.6s,mb4.0
LPG La Plagne 78.51 340 *eP* **P 07 50 10.6 +0.5**
TCF Toulx Ste Croi 78.63 343 *eP* **P 07 50 10.4 -0.4**
MFF Saint Martin d 78.73 345 *eP* **P 07 50 11.0 -0.3**
ORIF Oris-en-Rattie 79.25 340 *eP* **P 07 50 13.9 -0.2**
comp=Z,6.4nm,0.7s,mb4.1
ORIF Oris-en-Rattie 79.25 340 *eP* **P 07 50 13.9 -0.2**
ORIF pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
ORIF Oris-en-Rattie 79.25 340 *eP* **P 07 50 13.9 -0.2**
comp=Z,3.2nm,0.7s,mb4.1
ASAR Alice Springs 79.31 202 P **P 07 50 14.9 +0.4**
comp=Z,4.0nm,0.6s,mb4.2,baz=17,slow=5.5,SNR=57
ASAR pP pP 07 50 56.4 -0.9
comp=Z,1.8nm,0.8s,baz=30,slow=3.1,SNR=3.8
SBF Sospel 79.92 339 *eP* **P 07 50 16.7 -1.1**
CAF Calviac 79.98 343 *eP* **P 07 50 18.3 +0.2**
comp=Z,12nm,0.8s,mb4.3
CAF Calviac 79.98 343 *eP* **P 07 50 18.3 +0.2**
CAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
CAF Calviac 79.98 343 *eP* **P 07 50 18.3 +0.2**
comp=Z,5.8nm,0.8s,mb4.3
MMAI Mount Meron Ar 80.53 314 P **P 07 50 20.9 -0.3**
comp=Z,2.7nm,0.4s,mb4.2,baz=111,slow=4.6,SNR=5.8
ASF Jabal al Asfar 80.59 312 P **P 07 50 21.3 -0.3**
comp=Z,1.6nm,0.8s,mb3.7,baz=151,slow=6.7,SNR=3.9
MBWA Marble Bar 81.02 215 *eP* **P 07 50 23.1 -0.6**
comp=Z,34nm,1.3s,mb4.8
EPF Esparros 82.12 343 *eP* **P 07 50 29.9 +0.5**
comp=Z,11nm,0.8s,mb4.2
EPF Esparros 82.12 343 *eP* **P 07 50 29.9 +0.5**
EPF pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
EPF Esparros 82.12 343 *eP* **P 07 50 29.9 +0.5**
comp=Z,5.3nm,0.8s,mb4.2
SJPF Ste Jean 82.30 345 *eP* **P 07 50 30.9 +0.6**
comp=Z,18nm,0.8s,mb4.5
SJPF Ste Jean 82.30 345 *eP* **P 07 50 30.9 +0.6**
SJPF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
SJPF Ste Jean 82.30 345 *eP* **P 07 50 30.9 +0.6**
comp=Z,9.3nm,0.8s,mb4.5
ETSF Etsaut 82.40 344 *eP* **P 07 50 31.3 +0.4**
comp=Z,22nm,0.9s,mb4.5
ETSF Etsaut 82.40 344 *eP* **P 07 50 31.3 +0.4**
ETSF pmax pmax
comp=Z,11nm,0.9s,mb4.5
ETSF Etsaut 82.40 344 *eP* **P 07 50 31.3 +0.4**
comp=Z,11nm,0.9s,mb4.5
EIL Elat 83.59 312 P **P 07 50 36.4 -0.8**
comp=Z,4.6nm,0.9s,mb4.2,baz=358,slow=8.1,SNR=4.4
MVO Moncorvo 85.03 348 *eP* **P 07 50 44.5 +0.3**
comp=Z,21nm,1.6s,mb4.6
PVIS Viseu 85.57 349 *eP* **P 07 50 47.6 +0.7**
comp=Z,36nm,1.8s,mb4.8
STKA Stephens Creek 85.91 194 P **P 07 50 47.9 -0.5**
comp=Z,1.9nm,0.8s,mb3.9,baz=107,slow=3.6,SNR=2.6
ESDC Sonseca Array 86.08 346 P **P 07 50 48.5 -0.9**
comp=Z,1.7nm,0.6s,mb4.0,baz=359,slow=4.8,SNR=9.0
PCBR Castelo Branco 86.39 349 *eP* **P 07 50 51.3 +0.3**
comp=Z,20nm,1.7s,mb4.6
KEST Kesra 87.19 335 P **P 07 50 54.6 -0.3**
comp=Z,1.2nm,0.7s,mb3.9,baz=353,slow=5.1,SNR=3.2
FORT Forrest 87.53 205 *eP* **P 07 50 55.9 -0.4**
comp=Z,12nm,0.6s,mb4.9
TORD Torodi Ar. Bea 110.71 335 PKiKP PKiKP 07 56 39.6 -1.1
comp=Z,0.5nm,0.4s,baz=15,slow=2.1,SNR=9.5
DBIC Dimbokro 118.48 340 PKP PKPdf 07 56 54.6 -1.1
comp=Z,2.0nm,0.4s,baz=90,slow=3.0,SNR=6.2
VNDA Vanda 130.53 179 PKP PKPdf 07 57 16.7 0.0
comp=Z,0.4nm,0.7s,baz=312,slow=1.8,SNR=3.8
VNDA SKPbc SKPbc 08 00 21.7 -1.9
comp=Z,0.5nm,0.7s,baz=330,slow=4.6,SNR=5.8
VNDA Vanda 130.53 179 PKP PKPdf 07 57 16.7 0.0
VNDA SKPbc SKPbc 08 00 21.7 -1.9
SIV San Ignacio 132.08 54 SKPbc SKPbc 08 00 29.4 -1.7
comp=Z,0.8nm,0.6s,baz=284,slow=5.7,SNR=4.2
MAW Mawson 139.22 216 PKP PKPdf 07 57 32.9 -0.2
comp=Z,1.1nm,0.5s,baz=1.6,slow=4.6,SNR=4.4
QSPA South Pole Qui 142.99 180 PKiKP 07 57 35.0
comp=Z,1.1nm,0.4s,baz=125,slow=1.4,SNR=23
QSPA SKPbc SKPbc 08 00 59.2 -1.7
comp=Z,3.2nm,0.9s,baz=268,slow=2.2,SNR=6.0
PLCA Paso Flores 145.52 89 PKPbc PKPbc 07 57 45.3 -0.3
comp=Z,3.0nm,0.9s,baz=283,slow=4.2,SNR=11
PLCA pPKPbc pPKPbc 07 58 29.3 -1.4
comp=Z,2.6nm,0.8s,baz=355,slow=3.4,SNR=3.5
PLCA Paso Flores 145.52 89 PKPbc PKPbc 07 57 45.3 -0.3
PLCA pPKPbc pPKPbc 07 58 29.3 -1.4
SNAA Sanae 159.62 198 *e*PKPdf PKPab 07 58 43.4 -0.9
SNAA *e* 07 58 49.9

ISK ***17*** *07:40:53.4, 4002N×3743E, h2km, MD3.3*
CSEM ***17*** *07:40:54.3±0.1, 3998N×3745E, h5km, MD3.3, Error ellipse: s-maj=4.0km s-min=2.1km az=174.0*
ISCJB ***17*** *07:40:55.2±0.5, 4004N±004×3736E±004, h10km, Error ellipse: s-maj=6.1km s-min=3.6km az=158.7*
DDA ***17*** *07:40:56.0, 4000N×3753E, h8km, Md3.0*
ISC 17 07:40:55.2±0.8**, 4004N**±004×**3742E**±005**, h5**km±7km**, n17,**
σ1⁹00/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVSK	**Karacayir**	**0.35**	**249**	PG	**Pg**	**07 41 01.1**	**-0.9**
SVSK				*e*SG	**Sg**	**07 41 07.0**	**+0.4**
GRSN	**GIRESUNGRSN**	**1.09**	**36**	*i* P	**Pg**	**07 41 15.4**	**-0.7**
GRSN				*i* S	**Sg**	**07 41 33.1**	**+2.8**
SARI	**SarD1z-Kayseri**	**1.47**	**203**	*e*PN	**Pg**	**07 41 26.5**	**+3.0**
PINB	**Pinarbasi**	**1.58**	**210**	*i* P	**Pg**	**07 41 24.2**	**-1.2**
PINB				*i* S	**Sg**	**07 41 47.5**	**+1.7**
PINB	**Pinarbasi**	**1.58**	**210**	*i* P	**Pg**	**07 41 24.2**	**-1.2**
PINB				*i* S	**Sg**	**07 41 47.5**	**+1.6**
GUMT	**Gumushane**	**1.63**	**75**	*e*PN	**Pn**	**07 41 24.4**	**-0.1**
GUMT				*e*SN	**Sn**	**07 41 46.4**	**+0.5**
YOZ	**Yozgat**	**1.67**	**257**	*e*PN	**Pn**	**07 41 24.9**	**-0.1**
BNN	**Bunyan**	**1.70**	**226**	*e*PN	**Pn**	**07 41 25.2**	**-0.4**
EZC	**Erzincan**	**1.86**	**98**	*e*PN	**Pn**	**07 41 21.9**	**-5.9**
EZC				*e*SN	**Sn**	**07 41 43.5**	**-8.2**
MYA	**Malataya**	**1.88**	**155**	*e*PN	**Pn**	**07 41 27.0**	**-1.1**
MALT	**Malatya**	**1.90**	**155**	*e*PN	**Pn**	**07 41 27.7**	**-0.5**
PTK	**Pertek**	**1.91**	**126**	*e*PN	**Pn**	**07 41 27.9**	**-0.5**
CTKT	**Corum**	**2.09**	**287**	*i* P	**Pg**	**07 41 33.5**	**-1.9**
CTKT				*i* S	**Sg**	**07 42 02.4**	**-0.1**
CORM	**Corum**	**2.15**	**275**	*e*PN	**Pn**	**07 41 31.3**	**-0.3**
AVNT	**Avonos**	**2.35**	**238**	*i* P	**Pn**	**07 41 35.3**	**+0.8**
AVNT				*i* S	**Sg**	**07 42 10.9**	**+0.1**
CDAG	**Cicekdag**	**2.39**	**261**	*i* P	**Pn**	**07 41 35.6**	**+0.7**
CDAG				*i* S	**Sg**	**07 42 12.2**	**+0.3**
KAMT	**Kaman**	**2.94**	**258**	*e*PN	**Pn**	**07 41 43.5**	**+1.0**

KRSC 17 08:02:11.9±0.2**, 5418N**×**16126E, h59**km±61km**, ML4.0,**
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.47**	**36**	*i* P	Pn	08 02 23.8	+0.4
MKZ				*i* S	Sn	08 02 31.9	+0.2
KII	**Karymskiy**	**1.08**	**263**	P	Pn	08 02 32.7	+1.9
KII				*i* S	Sn	08 02 47.4	+2.5
TUMR	**Tumrok**	**1.28**	**330**	*e*P	Pn	08 02 34.8	+1.2
TUMR				*i* S	Sn	08 02 51.0	+1.2
SPN	**Mys Shipunski**	**1.31**	**215**	*e*P	Pn	08 02 35.0	+1.0
SPN				*i* S	Sn	08 02 51.2	+0.7
NLC	**Nalytchevo**	**1.52**	**229**	*e*P	Pn	08 02 38.3	+1.5
NLC				*i* S	Sn	08 02 57.5	+1.9
KMNR	**Kamenistaya**	**1.69**	**340**	*e*P	Pn	08 02 41.1	+2.1
KMNR				*i* S	Sn	08 03 03.1	+3.6
AVH	**Avacha**	**1.76**	**240**	*e*P	Pn	08 02 42.6	+2.6
AVH				*i* S	Sn	08 03 04.7	+3.5
KIRR	**Kirishev**	**1.85**	**344**	*e*P	Pn	08 02 43.6	+2.3
KIRR				*i* S	Sn	08 03 07.0	+3.4
ZLN	**Zelenaya**	**1.86**	**352**	*e*P	Pn	08 02 43.5	+2.1
ZLN				*i* S	Sn	08 03 06.4	+2.7
KPT	**Kopyto**	**1.89**	**342**	*e*P	Pn	08 02 43.6	+1.9
KPT				*i* S	Sn	08 03 07.6	+3.2
PET	**Petropavlovsk**	**1.94**	**234**	*e*P	Pn	08 02 44.8	+2.4
PET				*i* S	Sn	08 03 08.0	+2.4
CIRR	**Tsirk**	**1.96**	**352**	*e*P	Pn	08 02 44.8	+2.1
CIRR				*i* S	Sn	08 03 09.0	+2.8
GNL	**Ganaly**	**2.02**	**257**	*e*P	Pn	08 02 46.0	+2.4
KOZ	**Kozyrevsk**	**2.04**	**338**	*e*P	Pn	08 02 45.7	+1.8
KOZ				*i* S	Sn	08 03 10.6	+2.4
KRSR	**Krestovskiy**	**2.08**	**349**	*e*P	Pn	08 02 46.1	+1.7
KRSR				*i* S	Sn	08 03 10.5	+1.4
KLY	**Klyuchi**	**2.17**	**351**	*e*P	Pn	08 02 47.1	+1.6
KLY				*i* S	Sn	08 03 12.1	+0.9
KBTR	**Krutoberegovo**	**2.22**	**23**	*e*P	Pn	08 02 47.8	+1.5
KBTR				*i* S	Sn	08 03 14.1	+1.6
BDR	**Baidarnaya**	**2.39**	**359**	*e*P	Pn	08 02 50.7	+2.1
BDR				*i* S	Sn	08 03 19.1	+2.3
RUS	**Russkaya**	**2.40**	**224**	*e*P	Pn	08 02 50.9	+2.1
RUS				*i* S	Sn	08 03 19.0	+2.0
SMKR	**Semkarok**	**2.41**	**3**	*e*P	Pn	08 02 50.9	+2.0
SMKR				*i* S	Sn	08 03 20.0	+2.8
SRKR	**Sorokina**	**2.48**	**359**	*e*P	Pn	08 02 51.8	+2.0
SRKR				*i* S	Sn	08 03 21.5	+2.6
GRL	**Gorelyy**	**2.51**	**231**	*e*P	Pn	08 02 52.8	+2.6
GRL				*i* S	Sn	08 03 22.3	+2.7

TAP 17 08:07:14.8, 2464N×**12115E, h6**km**, ML3.7, 6C-5D,**
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSTT	**Nanjuang**	**0.14**	**266⇓**	*i* P	Pg	08 07 18.6	+1.0
NSTT				S	Sg	08 07 21.1	+1.7
NSK	**Sanguang**	**0.19**	**79⇓**	*i* P	Pg	08 07 19.4	+0.9
NSK				S	Sg	08 07 22.3	+1.1
HSN	**Hsinchu**	**0.23**	**315⇑**	*i* P	Pg	08 07 21.1	+1.8
HSN				S	Sg	08 07 25.8	+3.5
NNS	**Nan Shan**	**0.28**	**134⇑**	*i* P	Pg	08 07 21.7	+1.4
NNS				S	Sg	08 07 25.5	+1.5
NCU	**National Centr**	**0.33**	**6**	P	Pg	08 07 23.4	+2.2
NCU				S	Sg	08 07 29.5	+4.0
TWT	**Tachien**	**0.39**	**177⇑**	*i* P	Pg	08 07 23.4	+1.1
TWT				S	Sg	08 07 28.1	+0.8
NSY	**Sanyi**	**0.42**	**238**	*i* P	Pg	08 07 24.8	+2.0
NSY				S	Sg	08 07 31.8	+3.5
TWQ1	**Liyutan**	**0.45**	**230⇓**	*i* P	Pg	08 07 25.3	+1.9
TWQ1				S	Sg	08 07 31.9	+2.6
TWE	**Neicheng**	**0.48**	**80⇓**	*i* P	Pg	08 07 25.1	+1.1
TWE				S	Sg	08 07 31.1	+0.8
WHF	**Hehuan Shan**	**0.50**	**168**	P	Pg	08 07 26.2	+1.7
WHF				S	Sg	08 07 33.0	+2.0
TWS1	**Kuangyinshan**	**0.52**	**28**	*e*P	Pg	08 07 27.0	+2.2
TWA	**Mucha**	**0.52**	**49⇓**	*i* P	Pg	08 07 26.3	+1.5
TWA				S	Sg	08 07 34.3	+2.7
TAP1	**Taipei**	**0.52**	**40**	P	Pg	08 07 26.2	+1.3
TAP1				S	Sg	08 07 34.5	+2.8
ENA	**Nanau**	**0.58**	**111**	P	Pg	08 07 27.1	+1.2
ENA				S	Sg	08 07 34.7	+1.2
TWC	**Suao**	**0.64**	**93**	P	Pg	08 07 27.7	+0.7
TWC				S	Sg	08 07 36.5	+1.2
TCU	**Taichung**	**0.65**	**221**	*e*P	Pg	08 07 29.2	+1.8
TCU				S	Sg	08 07 39.0	+3.1
TWD	**Chiawan**	**0.69**	**144⇑**	*i* P	Pg	08 07 29.3	+1.3
TWD				S	Sg	08 07 38.2	+1.2
NWF	**Wu-fen Shan**	**0.72**	**53**	P	Pg	08 07 29.7	+1.1
NWF				S	Sg	08 07 39.9	+2.0
TWY	**Chenhua**	**0.75**	**33**	*e*P	Pg	08 07 31.1	+1.9
TWY				S	Sg	08 07 42.6	+3.5
TYC	**Yuchr**	**0.78**	**200**	*e*P	Pg	08 07 30.5	+0.8
TYC				S	Sg	08 07 42.6	+2.7
SMLT	**Sun Moon Lake**	**0.79**	**197**	P	Pg	08 07 30.9	+1.0
SMLT				S	Sg	08 07 43.0	+2.8
TWB1	**Santiao Chiao**	**0.84**	**64**	*e*P	Pg	08 07 32.0	+1.0
TWB1				S	Sg	08 07 44.1	+2.1
ESL	**Shilin**	**0.86**	**162**	⇑P	Pg	08 07 32.2	+0.8
ESL				S	Sg	08 07 43.3	+0.8
WNT	**Mingjian**	**0.87**	**209**	*e*P	Pg	08 07 33.1	+1.7
WNT				S	Sg	08 07 46.2	+3.5
WGK	**Gukeng**	**1.09**	**210**	*e*P	Pg	08 07 37.3	+1.6
WGK				S	Sg	08 07 53.3	+3.4
WTCT	**Ta-ch'eng**	**1.11**	**226**	*e*P	Pg	08 07 37.0	+0.9
WTCT				S	Sg	08 07 53.0	+2.6
CHN5	**Tsauling**	**1.12**	**203**	P	Pg	08 07 38.0	+1.6
CHN5				S	Sg	08 07 53.2	+2.3
EHY	**Hungye**	**1.14**	**172**	P	Pg	08 07 37.0	+0.3
EHY				S	Sg	08 07 52.8	+1.3
YUS	**Yu-Shan**	**1.16**	**189**	P	Pg	08 07 37.1	0.0
YUS				S	Sg	08 07 53.4	+1.3
ALS	**Alishan**	**1.17**	**196**	*e*P	Pg	08 07 38.1	+0.9
ALS				S	Sg	08 07 55.0	+2.7
CHN2	**Minshiung**	**1.26**	**209**	*e*P	Pg	08 07 40.3	+1.3
CHN2				S	Sg	08 07 57.2	+1.8
TWF1	**Yuli**	**1.29**	**174⇑**	*i* P	Pn	08 07 39.6	+0.3
TWF1				S	Sg	08 07 57.4	+1.2
PCYT	**Pengchaiyu**	**1.29**	**40**	*e*P	Pn	08 07 39.8	+0.4
PCYT				S	Sg	08 07 57.2	+0.8
WSF	**Szhu**	**1.31**	**221**	*e*P	Pn	08 07 40.3	+0.7
WSF				S	Sg	08 07 58.3	+1.4
CHY	**Chiayi**	**1.32**	**210**	*e*P	Pn	08 07 41.3	+1.2
CHY				S	Sb	08 07 58.4	+1.3
CHN4	**Tsaushan**	**1.38**	**202**	*e*P	Pn	08 07 42.1	+1.4
CHN4				S	Sb	08 08 00.8	+1.8
ELDTW	**Lidau**	**1.45**	**185**	*e*P	Pn	08 07 41.8	+0.2
ELDTW				S	Sb	08 08 02.3	+1.4
WTP	**Ta-pu**	**1.47**	**200**	*e*P	Pn	08 07 43.5	+1.6
WTP				S	Sn	08 08 03.1	+1.6
TWK	**Hsinying**	**1.50**	**204**	*e*P	Pn	08 07 43.4	+1.2
TWK				S	Sn	08 08 04.8	+2.7
STYT	**Tauyuan**	**1.51**	**194**	*e*P	Pn	08 07 43.6	+1.2
STYT				S	Sn	08 08 04.0	+1.5
CHN8	**Yiju**	**1.55**	**214**	*e*P	Pn	08 07 42.4	-0.5
CHN8				S	Sn	08 08 04.7	+1.3
CHN1	**Nanshi**	**1.56**	**202**	*e*P	Pn	08 07 44.4	+1.3
CHN1				S	Sn	08 08 06.3	+2.7
SGST	**Jiashian**	**1.64**	**199**	*e*P	Pn	08 07 46.1	+2.0
SGST				S	Sn	08 08 08.3	+2.8
SCLT	**Jiali**	**1.70**	**211**	*e*P	Pn	08 07 46.5	+1.4
SCLT				S	Sn	08 08 10.2	+3.1
PNG	**Penghu**	**1.81**	**234**	*e*P	Pn	08 07 47.4	+0.9
PNG				S	Sn	08 08 10.9	+1.2
TWG	**Pinlang**	**1.81**	**182**	*e*P	Pn	08 07 49.0	+2.4
TWG				S	Sn	08 08 13.9	+4.0
TWM1	**Shoushan**	**1.93**	**200**	*e*P	Pn	08 07 50.9	+2.8
SSD	**Sandimen**	**1.94**	**194**	*e*P	Pn	08 07 50.3	+1.9
SSD				S	Sn	08 08 16.7	+3.6
EAST	**Anshuo**	**2.26**	**187**	*e*P	Pn	08 07 56.0	+3.2
EAST				S	Sn	08 08 25.6	+4.5
SCZT	**Fangliau**	**2.31**	**192**	*e*P	Pn	08 07 54.9	+1.5
SCZT				S	Sn	08 08 26.4	+4.2
KNM	**Kinmen**	**2.48**	**265**	*e*P	Pn	08 07 58.3	+2.5
KNM				S	Sn	08 08 31.7	+5.2

NEIC ***17*** *08:17:43.2, 4099N×2394E, h45km, MD3.1(ATH), After ATH.*
CSEM ***17*** *08:17:43.8±0.1, 4094N×2404E, h20km, ML2.7, Error ellipse: s-maj=3.0km s-min=2.3km az=155.0*
ATH ***17*** *08:17:43.2, 4099N×2394E, h45km±17km, MD3.1/3*
ISCJB ***17*** *08:17:44.2±0.6, 4090N±004×2404E±006, h21km±17km, Error ellipse: s-maj=8.8km s-min=5.8km az=34.8*
THE ***17*** *08:17:45.4, 4084N×2398E, h16km, ML2.7*
ISC 17 08:17:43.8±0.6**, 4088N**±004×**2408E**±008**, h11**km±19km**, n9,**
σ0⁹26/16, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.50**	**341**	*e*P	**Pg**	**08 17 53.4**	**-0.1**
NVR				*e*S	**Sg**	**08 18 00.1**	**+0.1**
OUR	**Ouranopolis**	**0.55**	**188**	*e*Pg	**Pg**	**08 17 55.2**	**+0.7**
SOH	**Sokhos**	**0.55**	**264**	*e*Pg	**Pg**	**08 17 54.4**	**-0.1**
SOH				*e*Sg	**Sg**	**08 18 02.0**	**+0.3**
SOH	**Sokhos**	**0.55**	**264**	*e*Pg	**Pg**	**08 17 54.3**	**-0.2**
SOH				*e*Sg	**Sg**	**08 18 02.0**	**+0.3**
PLG	**Polygyros**	**0.70**	**224**	*e*Pg	**Pg**	**08 17 57.4**	**+0.2**
PLG				*e*Sg	**Sg**	**08 18 06.3**	**-0.1**
HORT	**Hortiatis**	**0.79**	**249**	*e*Pg	**Pg**	**08 17 58.8**	**-0.3**
HORT				*e*Sg	**Sg**	**08 18 09.3**	**-0.1**
PAIG	**Paliouri**	**1.00**	**198**	*e*Pg	**Pg**	**08 18 02.7**	**-0.3**
PAIG				*e*Sg	**Sg**	**08 18 16.0**	**+0.1**
RDO	**Rodhopi**	**1.14**	**76**	*e*P	**Pb**	**08 18 05.4**	**0.0**
RDO				*e*S	**Sb**	**08 18 20.3**	**+0.1**
LOS	**Limnos**	**1.22**	**141**	*e*Pg	**Pg**	**08 18 06.8**	**-0.4**

ISCJB ***17*** *08:24:29.7±3.7, 1443S±008×765W±0.1, h24km±27km, mb4.0/7, MS4.0/3, Error ellipse: s-maj=26.3km s-min=8.1km az=153.1*
NEIC ***17*** *08:24:33.8±1.5, 1432S×7638W, h38km±14km, mb4.2/4, Error ellipse: s-maj=24.1km s-min=9.2km az=57.0*
IDC ***17*** *08:24:34.3±4.9, 1422S×76.19W, h34km±35km, mb3.7/4, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, ML4.0/4, MS4.0/3, Ms1 3.9/3, ms1mx3.1/30, Error ellipse: s-maj=44.7km s-min=19.8km az=53.0*
ISC 17 08:24:33.4±1.5**, 1438S**±009×**764W**±02**, h36**km±14km**, n25,**
σ0⁹94/25, mb4.0/7, MS4.0/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.41**	**350**	Pn	**Pn**	**08 25 10.5**	**+0.1**
	32nm,0.3s,baz=175,slow=13,SNR=9.4						
NNA				Sn	**Sn**	**08 25 38.7**	**0.0**
	98nm,0.3s,baz=187,slow=11,SNR=8.2						
NNA	**Nana**	**2.41**	**350**	*e*Pn	**Pn**	**08 25 09.7**	**-0.7**
NNA				Sn	**Sn**	**08 25 38.7**	**0.0**
ARE	**Arequipa**	**5.19**	**114**	*e*P	**Pn**	**08 25 50.0**	**+1.4**
ARE				*e*S	**Sn**	**08 27 00.0**	**+13**
ATAH	**Atahualpa**	**7.58**	**345**	Pn	**Pn**	**08 26 20.7**	**-0.8**
	0.5nm,0.3s,baz=315,slow=23,SNR=3.5						
ATAH				Sn	**Sn**	**08 27 41.0**	**-5.3**
	1.1nm,0.3s,baz=350,slow=20,SNR=2.0						
LPAZ	**La Paz**	**8.22**	**104**	Pn	**Pn**	**08 26 32.6**	**+2.3**
	0.5nm,0.3s,baz=306,slow=8.1,SNR=17						
LPAZ	**La Paz**	**8.22**	**104**	*e*Pn	**Pn**	**08 26 32.4**	**+2.1**
LVC	**Limon Verde**	**10.86**	**140**	Pn	**Pn**	**08 27 06.3**	**0.0**
	0.7nm,0.3s,baz=348,slow=8.1,SNR=2.9						
LVC				Sn	**Sn**	**08 29 05.3**	**-1.3**
	0.4nm,0.3s,baz=67,slow=20,SNR=4.1						
LVC	**Limon Verde**	**10.86**	**140**	Pn	**Pn**	**08 27 06.3**	**0.0**
	1.2nm,0.4s						
LVC				Sn	**Sn**	**08 29 05.3**	**-1.3**
SIV	**San Ignacio**	**14.91**	**98**	Pn	**Pn**	**08 28 00.8**	**-0.9**
	0.2nm,0.3s,baz=284,slow=16,SNR=5.1						
SDV	**Santo Domingo**	**23.82**	**14**	P	**P**	**08 29 42.4**	**-0.8**
	2.5nm,0.6s,mb3.8,baz=292,slow=10,SNR=4.9						
SDV	**Santo Domingo**	**23.82**	**14**	*e*P	**P**	**08 29 42.1**	**-1.2**
	3.3nm,0.6s,mb3.9						
TRQA	**Tornquist**	**26.84**	**154**	P	**P**	**08 30 09.7**	**-0.9**
	12nm,1.4s,mb4.2						
BDFB	**Brasilia**	**27.46**	**96**	LR	LR	08 41 25.9	
	comp=Z,56nm,21.3s,MS3.1,baz=154,slow=37						
TEIG	**Tepich**	**36.31**	**341**	P	**P**	**08 31 33.2**	**-0.6**
	11nm,1.0s,mb4.7						
TXAR	**Lajitas Array**	**50.80**	**329**	P	**P**	**08 33 30.7**	**+0.3**
	0.3nm,0.6s,mb3.4,baz=152,slow=8.5,SNR=4.3						
TXAR	**Lajitas Array**	**50.80**	**329**	P	**P**	**08 33 30.7**	**+0.3**
SDCO	**Great Sand Dun**	**58.60**	**333**	P	**P**	**08 34 27.6**	**+0.8**
	1.2nm,1.0s,mb3.9						
NVAR	**Mina Array Bea**	**65.55**	**325**	P	**P**	**08 35 14.6**	**+1.1**
	0.3nm,0.5s,mb3.6,baz=122,slow=7.9,SNR=4.8						
SNAA	**Sanae**	**71.30**	**161**	*e*	**P**	**08 35 49.6**	**+0.7**
SNAA				*e*		08 35 52.1	
TORD	**Torodi Ar. Bea**	**82.04**	**74**	P	**P**	**08 36 50.3**	**-0.3**
	3.5nm,0.6s,mb4.5,

ZLN	**Zelenaya**	**2.14 290**	*e*P	Pn	08 48 17.1	+2.9
ZLN			*e*S	Sn	08 48 43.9	+4.4
BDR	**Baidarnaya**	**2.17 306**	*e*P	Pn	08 48 16.1	+1.4
BDR			*e*S	Sn	08 48 40.9	+0.6
CIRR	**Tsirk**	**2.20 292**	*e*P	Pn	08 48 19.1	+4.0
CIRR			*e*S	Sn	08 48 46.5	+5.5
SRKR	**Sorokina**	**2.24 308**	*e*P	Pn	08 48 17.4	+1.8
SRKR			*e*S	Sn	08 48 43.5	+1.5
BZMR	**Bezymyannaya**	**2.29 287**	*e*P	Pn	08 48 19.8	+3.5
BZMR			*e*S	Sn	08 48 49.1	+5.9
KLY	**Klyuchi**	**2.32 297**	*e*S	Sn	08 48 43.9	-0.1
KRSR	**Krestovskiy**	**2.33 294**	*e*P	Pn	08 48 19.7	+2.8
KRSR			*e*S	Sn	08 48 47.7	+3.5
KIRR	**Kirishev**	**2.37 287**	*e*P	Pn	08 48 20.7	+3.3
KIRR			*e*S	Sn	08 48 49.7	+4.4
KMNR	**Kamenistaya**	**2.39 282**	*e*P	Pn	08 48 21.0	+3.3
KMNR			*e*S	Sn	08 48 50.7	+4.9
TUMR	**Tumrok**	**2.42 271**	*e*P	Pn	08 48 21.1	+3.0
TUMR			*e*S	Sn	08 48 50.7	+4.3
KPT	**Kopyto**	**2.44 287**	*e*P	Pn	08 48 21.2	+2.8
KPT			*e*S	Sn	08 48 50.6	+3.7
KOZ	**Kozyrevsk**	**2.65 288**	*e*P	Pn	08 48 24.9	+3.6
SRDR	**Sredinnyy**	**2.81 293**	*e*P	Pn	08 48 27.1	+3.7
SRDR			*e*S	Sn	08 49 01.4	+5.4
SPN	**Mys Shipunski**	**3.40 231**	*e*P	Pn	08 48 33.1	+1.6
SPN			*e*S	Sn	08 49 10.3	-0.2
NLC	**Nalytchevo**	**3.66 236**	*e*P	Pn	08 48 37.3	+2.2
NLC			*e*S	Sn	08 49 17.5	+0.5
AVH	**Avacha**	**3.90 240**	*e*P	Pn	08 48 41.8	+3.4
PET	**Petropavlovsk**	**4.08 238**	*e*P	Pn	08 48 43.3	+2.4
PET			*e*S	Sn	08 49 28.7	+1.3
GNL	**Ganaly**	**4.09 249**	*e*P	Pn	08 48 44.7	+3.6
RUS	**Russkaya**	**4.52 233**	*e*P	Pn	08 48 49.1	+2.1
RUS			*e*S	Sn	08 49 39.1	+0.8

CSEM ***17*** *09:05:20.9±0.3, 3969N×2567E, h20km, MD3.2, Error ellipse: s-maj=6.3km s-min=3.4km az=70.0*
ISCJB ***17*** *09:05:21.3±1.8, 3970N±005×256E±0.1, h23km±10km, Error ellipse: s-maj=19.1km s-min=7.9km az=164.3*
ATH ***17*** *09:05:21.3, 3987N×2634E, h51km±12km, MD3.2/3*
ISK ***17*** *09:05:21.2, 3969N×2569E, h17km, ML2.6*
ISC 17 09:05:22.0±1.1, 3972N±005×2565E±007, h20km±5km, n9, σ0°72/14, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.51**	**22**	*e*PG	**Pg**	**09 05 32.4**	**+0.1**
GADA				*e*SG	**Sg**	**09 05 39.8**	**+0.5**
EZN	**Ezine**	**0.53**	**78**	*e*PG	**Pg**	**09 05 31.8**	**-0.9**
EZN				*e*SG	**Sg**	**09 05 39.8**	**-0.1**
PRK	**Paraskevi**	**0.67**	**134**	*e*P	**Pb**	**09 05 34.7**	**-0.3**
PRK				*e*S	**Sb**	**09 05 44.7**	**+0.8**
ENEZ	**Enez**	**1.09**	**20**	*e*PN	**Pn**	**09 05 42.7**	**+0.6**
ENEZ				*e*SN	**Sn**	**09 05 58.0**	**+1.4**
RDO	**Rodhopi**	**1.43**	**357**	*e*P	**Pn**	**09 05 46.1**	**-0.7**
RDO				*e*S	**Sn**	**09 06 03.6**	**-1.4**
RKY	**Sarkoy-Tekirda**	**1.52**	**50**	*e*PN	**Pn**	**09 05 47.9**	**-0.2**
MFT	**Murefte**	**1.64**	**49**	*e*PN	**Pn**	**09 05 49.9**	**+0.1**
BALB	**Balikesir**	**1.72**	**92**	*e*PN	**Pn**	**09 05 50.4**	**-0.4**
PLG	**Polygyros**	**1.82**	**292**	*e*P	**Pg**	**09 05 57.5**	**+0.6**

NEIC ***17*** *09:09:02.9, 3479S×7177W, h38km, MD3.6(GUC), After GUC.*
GUC 17 09:09:02.9±1.0, 3479S×7177W, h38km±3km, MD3.6, ML3.1, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.50**	**116**	⇓*i*P	Pn	09 09 14.0	+0.5
NICH				*i* S	Sn	09 09 21.6	+0.6
TALC	**Talca**	**0.62**	**169**	⇑*i*P	Pn	09 09 15.4	+0.1
TALC				*i* S	Sn	09 09 24.4	+0.4
TALC				AML	AML	09 09 24.9	
	comp=E,5μm,0.1s						
TALC	**Talca**	**0.62**	**169**	⇑*i*P	Pn	09 09 15.4	+0.1
TALC				*i* S	Sn	09 09 24.4	+0.4
SFDO	**San Fernando**	**0.65**	**75**	⇑*i*P	Pn	09 09 16.2	+0.6
SFDO				*i* S	Sn	09 09 25.6	+1.0
LNV	**Longovilo**	**0.88**	**20**	⇓*i*P	Pn	09 09 19.1	+0.4
LNV				*i* S	Sn	09 09 31.4	+1.1
CNCO	**Chanco**	**1.13**	**213**	⇑*i*P	Pn	09 09 22.9	+0.7
CNCO				*i* S	Sn	09 09 37.8	+1.2
CACH	**El Canelo**	**1.18**	**56**	⇑*i*P	Pn	09 09 23.8	+0.9
CACH				*i* S	Sn	09 09 40.0	+2.3
CICH	**Cipreses**	**1.21**	**68**	⇓*i*P	Pn	09 09 24.4	+1.1
CICH				*i* S	Sn	09 09 40.1	+1.7
CHCH	**Chadas Angostu**	**1.26**	**48**	⇑*i*P	Pn	09 09 25.3	+1.4
CHCH				*i* S	Sn	09 09 41.9	+2.2
TACH	**Talagante**	**1.32**	**32**	*e*P	Pn	09 09 26.2	+1.4
TACH				*i* S	Sn	09 09 43.2	+1.9
RCDM	**Rinconada Maip**	**1.52**	**32**	*e*P	Pn	09 09 28.6	+1.0
RCDM				*i* S	Sn	09 09 48.0	+1.9
RCDM				AML	AML	09 09 51.5	
	comp=E,340nm,0.1s						
RCDM	**Rinconada Maip**	**1.52**	**32**	*e*P	Pn	09 09 28.6	+1.0
RCDM				*i* S	Sn	09 09 48.0	+1.9
ANTU	**Antumapu**	**1.54**	**38**	*e*P	Pn	09 09 29.4	+1.1
ANTU				*i* S	Sn	09 09 49.3	+2.7
ANTU				AML	AML	09 09 53.0	
	comp=N,275nm,0.2s						
ANTU	**Antumapu**	**1.54**	**38**	*e*P	Pn	09 09 29.4	+1.5
ANTU				*i* S	Sn	09 09 49.3	+2.7
PCH	**Pirque**	**1.56**	**42**	*e*P	Pn	09 09 29.6	+1.4
PCH				*i* S	Sn	09 09 49.8	+2.7
COCH	**Cobquecura**	**1.58**	**211**	*e*P	Pn	09 09 28.7	+0.4
COCH				*i* S	Sn	09 09 49.6	+2.1
LMEL	**Las Melosas**	**1.60**	**55**	*e*P	Pn	09 09 29.7	+1.0
LMEL				*i* S	Sn	09 09 51.1	+3.0
LMEL				AML	AML	09 09 53.9	
	comp=N,402nm,0.2s						
LMEL	**Las Melosas**	**1.60**	**55**	*e*P	Pn	09 09 29.7	+1.0
LMEL				*i* S	Sn	09 09 51.1	+3.0
DSCH	**Colegio Aleman**	**1.71**	**36**	*e*P	Pn	09 09 32.0	+1.9
PEL	**Peldehue**	**1.87**	**29**	*e*P	Pn	09 09 34.1	+1.7
PEL				*e*S	Sn	09 09 57.5	+2.8
PEL				AML	AML	09 10 02.7	
	comp=N,190nm,0.2s						
FCH	**Farellones**	**1.91**	**41**	*e*P	Pn	09 09 34.8	+2.0
FCH				*i* S	Sn	09 09 58.9	+3.3
FCH				AML	AML	09 10 02.3	
	comp=N,215nm,0.6s						
JACH	**Jahuel**	**2.32**	**25**	⇓*i*P	Pn	09 09 39.0	+0.5
JACH				*i* S	Sn	09 10 06.6	+0.8

IDC 17 09:13:07.2±11.0, 366S×1173W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/22, mbtmp3.9/3, MS3.5/6, Ms1 3.4/6, ms1mx3.2/25, Error ellipse: s-maj=372.3km s-min=106.8km az=152.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.34**	**34**	LR	LR	09 19 59.5	
	comp=Z,112nm,19.7s,baz=157,slow=33						
TORD	**Torodi Ar. Bea**	**21.36**	**38**	P	P	09 17 56.4	0.0
	3.5nm,0.8s,baz=226,slow=10,SNR=18						
TORD				LR	LR	09 25 04.4	
	comp=Z,64nm,20.9s,baz=200,slow=34						
TSUM	**Tsumeb**	**32.53**	**121**	LR	LR	09 30 02.5	
	comp=Z,111nm,21.8s,baz=132,slow=31						
BDFB	**Brasilia**	**37.63**	**249**	LR	LR	09 32 19.6	
	comp=Z,52nm,18.2s,baz=181,slow=31						
BOSA	**Boshof**	**43.02**	**129**	LR	LR	09 36 22.0	
	comp=Z,71nm,18.0s,baz=320,slow=32						
KMBO	**Kilima Mbogo**	**48.99**	**88**	LR	LR	09 40 12.0	
	comp=Z,90nm,19.9s,baz=290,slow=33						
GERES	**GERESS Array B**	**56.78**	**20**	P	P	09 22 53.3	+0.2
	1.5nm,0.6s,baz=190,slow=6.8,SNR=15						
AKASG	**Malin Array Be**	**64.51**	**27**	P	P	09 23 45.8	0.0
	0.3nm,0.3s,baz=231,slow=5.9,SNR=4.1						

IDC 17 09:18:38.2±25.0, 524N×12653E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=425.7km s-min=111.0km az=150.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.21**	**182**	P	P	09 23 46.7	-0.4
	0.8nm,0.4s,baz=353,slow=11,SNR=8.3						
WRA	**Warramunga Arr**	**26.18**	**163**	P	P	09 24 14.6	0.0
	0.2nm,0.3s,baz=343,slow=9.6,SNR=6.3						
ASAR	**Alice Springs**	**29.62**	**166**	P	P	09 24 45.4	0.0
	0.3nm,0.4s,baz=349,slow=6.9,SNR=7.6						
STKA	**Stephens Creek**	**39.61**	**160**	P	P	09 26 12.0	+0.4
	1.0nm,0.5s,baz=326,slow=11,SNR=4.0						

DDA ***17*** *09:33:45.6, 3750N×2828E, h6km±4km, Md2.8*
ISCJB ***17*** *09:33:47.7±0.8, 3723N±006×28.18E±007, h12km±9km, Error ellipse: s-maj=12.9km s-min=4.3km az=39.4*
CSEM ***17*** *09:33:47.0±0.2, 3723N×28.17E, h0km±2km, MD2.6, Error ellipse: s-maj=7.5km s-min=2.2km az=27.0*
ISK ***17*** *09:33:47.2, 37.19N×2813E, h5km, MD2.6*
ISC 17 09:33:48.6±0.8, 3721N±006×2816E±006, h5km±12km, n9, σ1°27/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**128**	*e*PG	**Pg**	**09 33 50.3**	**-0.7**
YER				*e*SG	**Sg**	**09 33 53.0**	**+0.3**
MLSB	**Milas**	**0.32**	**286**	*e*PG	**Pg**	**09 33 53.5**	**-1.3**
MLSB				*e*SG	**Sg**	**09 34 00.7**	**+1.7**
TURN	**Turunc**	**0.49**	**134**	*i* P	**Pg**	**09 33 55.9**	**-2.0**
TURN				*i* S	**Sg**	**09 34 03.7**	**-0.6**
AYDN	**Tasoluk**	**0.50**	**333**	*i* P	**Pg**	**09 33 57.5**	**-0.7**
AYDN				*i* S	**Sg**	**09 34 05.4**	**+0.6**
DALT	**Dalyan (Mudla)**	**0.58**	**139**	*e*PG	**Pg**	**09 33 59.5**	**-0.2**
DALT				*e*SG	**Sg**	**09 34 09.6**	**+2.3**
BDRM	**Kayabasi**	**0.59**	**256**	*i* P	**Pg**	**09 34 00.0**	**+0.1**
BDRM				*i* S	**Sg**	**09 34 13.1**	**+5.5**
BODT	**Bodrum**	**0.70**	**258**	*e*PG	**Pg**	**09 34 01.4**	**-0.5**
AKAS	**Kas**	**1.51**	**130**	*i* P	**Pg**	**09 34 17.1**	**-0.5**
AKAS				*i* S	**Sg**	**09 34 39.7**	**+2.5**
KHAL	**Karahalli**	**1.56**	**42**	*i* P	**Pn**	**09 34 10.3**	**-6.7**
KHAL				*i* S	**Sn**	**09 34 40.0**	**+2.4**

IDC 17 09:35:18.1±4.4, 1254S×7557W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.6/19, mbtmp3.6/3, ML3.6/1, MS2.7/1, Ms1 2.8/1, ms1mx2.5/27, Error ellipse: s-maj=208.4km s-min=31.8km az=32.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.11**	**118**	Pn	Pn	09 37 17.8	+0.6
	0.3nm,0.3s,baz=297,slow=9.0,SNR=9.6						
LPAZ				LR	LR	09 41 10.1	
	comp=Z,52nm,21.0s,baz=83,slow=43						
NVAR	**Mina Array Bea**	**64.55**	**324**	P	P	09 45 57.4	+0.3
	0.1nm,0.4s,baz=130,slow=8.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**80.73**	**74**	P	P	09 47 34.0	+0.1
	1.7nm,1.0s,baz=249,slow=4.3,SNR=6.1						

IDC ***17*** *09:46:47.1±0.7, 2261S×17161E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.5/19, mbtmp4.4/16, ML3.8/1, MS3.8/15, Ms1 3.8/15, ms1mx3.6/28, Error ellipse: s-maj=22.5km s-min=18.3km az=128.0*
BJI ***17*** *09:46:51.2, 2271S×17190E, h44km, mB5.0, mb4.7, Ms5.0, Msz4.5*
ISCJB ***17*** *09:46:52.5±1.9, 2281S±006×17143E±005, h43km±16km, mb4.7/40, MS4.0/14, Error ellipse: s-maj=10.5km s-min=8.1km az=163.7*
NEIC ***17*** *09:46:52.8±0.3, 2275S×17154E, h35km, mb4.8/26, Error ellipse: s-maj=10.6km s-min=7.4km az=157.0*
MOS ***17*** *09:46:53.2±2.4, 2300S×17124E, h33km, mb4.8/11, Error ellipse: s-maj=14.1km s-min=11.3km az=12.8*
ISC 17 09:46:54.0±1.6, 2279S±006×17147E±005, h43km±14km, n275, σ0°65/238, mb4.7/40, MS4.0/14, 95C-79D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.70**	**278**	*e*Pn	**Pn**	**09 48 02.6**	**+0.2**
DZM				*e*Sn	**Sn**	**09 48 54.9**	**-0.9**
RAO	**Raoul Island**	**11.51**	**126**	LR	LR	09 52 58.5	
	comp=Z,420nm,18.6s,baz=31,slow=32						
URZ	**Urewera**	**16.16**	**164**	Pn	**Pn**	**09 50 38.6**	**+0.6**
	0.4nm,0.3s,baz=351,slow=13,SNR=4.2						
URZ				LR	LR	09 55 17.9	
	comp=Z,478nm,18.8s,baz=13,slow=31						
HNR	**Honiara**	**17.27**	**318**	LR	LR	09 56 24.8	
	comp=Z,88nm,19.8s,baz=179,slow=34						
HNR	**Honiara**	**17.27**	**318**	P	**Pn**	**09 50 55.6**	**+3.5**
HNR				pmax	pmax		
	comp=Z,40nm,0.8s						
HNR	**Honiara**	**17.27**	**318**	Pn	**Pn**	**09 50 55.6**	**+3.5**
	comp=Z,40nm,0.8s						
AFI	**Afiamalu**	**18.18**	**64**	LR	LR	09 56 23.4	
	comp=Z,238nm,18.7s,baz=133,slow=32						
EIDS	**Eidsvold**	**18.79**	**258**	*e*Pn	**Pn**	**09 51 13.3**	**+2.6**
	comp=Z,65nm,0.8s						
ARMA	**Armidale**	**19.28**	**243**	*e*P	**Pn**	**09 51 14.7**	**-1.8**
	comp=Z,0.6nm,1.1s						
RPZ	**Rata Peaks**	**20.88**	**181**	LR	LR	09 58 45.0	
	comp=Z,167nm,20.1s,MS3.4,baz=12,slow=34						
CAN	**Canberra**	**23.21**	**232**	P	**P**	**09 51 56.8**	**-0.5**
CTA	**Charters Tower**	**23.62**	**272**	*e*P	**P**	**09 52 02.1**	**+0.8**
	comp=Z,11nm,1.1s,mb4.2						
CTA	**Charters Tower**	**23.62**	**272**	P	**P**	**09 52 00.8**	**-0.5**
	comp=Z,2.6nm,0.5s,mb3.9,baz=83,slow=13,SNR=4.4						
CTA				LR	LR	09 59 40.8	
	comp=Z,132nm,21.5s,MS3.4,baz=329,slow=33						
CTA	**Charters Tower**	**23.62**	**272**	*e*P	**P**	**09 52 02.1**	**+0.8**
CTA				pmax	pmax		
	comp=Z,11nm,1.1s						
CTAO	**Charters Tower**	**23.62**	**272**	*e*P	**P**	**09 52 01.8**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,32nm,1.4s,mb4.6						
CTAO	**Charters Tower**	**23.62**	**272**	*e*P	**P**	**09 52 01.8**	**+0.5**
	comp=Z,32nm,1.4s,mb4.6						
PMG	**Port Moresby**	**26.82**	**296**	*e*P	**P**	**09 52 29.7**	**-0.8**
PMG				pmax	pmax		
	comp=Z,25nm,0.9s						
PMG	**Port Moresby**	**26.82**	**296**	*e*P	**P**	**09 52 29.7**	**-0.8**
	comp=Z,26nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**27.97**	**245**	*e*P	**P**	**09 52 41.8**	**+1.2**
	comp=Z,4.3nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**27.97**	**245**	P	**P**	**09 52 40.8**	**+0.2**
	comp=Z,1.7nm,0.8s,mb3.7,baz=104,slow=8.3,SNR=3.9						
STKA				LR	LR	10 02 28.8	
	comp=Z,259nm,21.1s,MS3.8,baz=38,slow=33						
STKA	**Stephens Creek**	**27.97**	**245**	*e*P	**P**	**09 52 40.2**	**-0.3**
	comp=Z,32nm,1.5s,mb4.7						
COEN	**Coen**	**28.21**	**283**	*e*P	**P**	**09 52 44.2**	**+1.4**
	comp=Z,5.2nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**34.47**	**261**	P	**P**	**09 53 38.2**	**+0.3**
	comp=Z,3.2nm,0.6s,mb4.5,baz=97,slow=8.8,SNR=22						
WB2	**Warramunga Arr**	**34.63**	**268**	*e*P	**P**	**09 53 38.5**	**-0.8**
WB2	**Warramunga Arr**	**34.63**	**268**	*e*P	**P**	**09 53 38.6**	**-0.7**
WRAB	**Tennant Creek**	**34.63**	**268**	*e*P	**P**	**09 53 39.0**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
WRAB	**Tennant Creek**	**34.63**	**268**	*e*P	**P**	**09 53 39.0**	**-0.3**
	comp=Z,14nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**34.64**	**268**	P	**P**	**09 53 38.8**	**-0.6**
	comp=Z,1.7nm,0.5s,mb4.2,baz=97,slow=8.6,SNR=47						
WRA				LR	LR	10 08 04.6	
	comp=Z,182nm,19.6s,MS3.8,baz=135,slow=37						
PPT	**Papeete**	**36.86**	**89**	*e*LR	LR	10 04 23.9	
	comp=Z,94nm,22.8s						
PPT	**Papeete**	**36.86**	**89**	LR	LR	10 04 49.9	
	comp=Z,102nm,18.6s,MS3.6,baz=258,slow=30						
KAKA	**Kakadu**	**38.39**	**278**	*e*P	**P**	**09 54 11.1**	**-0.4**
	comp=Z,16nm,0.6s,mb4.9						
KAKA	**Kakadu**	**38.39**	**278**	*e*P	**P**	**09 54 11.0**	**-0.4**
FORT	**Forrest**	**39.37**	**249**	*e*P	**P**	**09 54 19.7**	**+0.3**
	comp=Z,8.6nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**43.07**	**268**	⇑*i*P	**P**	**09 54 50.8**	**+0.8**
	comp=Z,22nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**43.07**	**268**	P	**P**	**09 54 51.0**	**+1.0**
	comp=Z,15nm,0.8s,mb4.8,baz=129,slow=11,SNR=20						
BATI	**Baumata**	**47.32**	**277**	LR	LR	10 13 04.4	
	comp=Z,238nm,18.2s,MS4.2,baz=121,slow=33						
MBWA	**Marble Bar**	**47.81**	**262**	*e*P	**P**	**09 55 28.4**	**+0.9**
	comp=Z,22nm,1.0s,mb5.2						
KLBR	**Kellerberrin**	**48.18**	**247**	*e*P	**P**	**09 55 30.2**	**0.0**
	comp=Z,38nm,1.2s,mb5.3						
NWAO	**Narrogin (SRO)**	**48.55**	**246**	P	**P**	**09 55 32.9**	**-0.2**
	comp=Z,14nm,1.0s,mb5.0,baz=83,slow=7.4,SNR=7.7						
NWAO				LR	LR	10 14 56.2	
	comp=Z,204nm,19.5s,MS4.1,baz=191,slow=35						
NWAO	**Narrogin (SRO)**	**48.55**	**246**	*e*P	**P**	**09 55 31.8**	**-1.3**
NWAO				pmax	pmax		
	comp=Z,13nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.55**	**246**	*e*P	**P**	**09 55 31.8**	**-1.3**
	comp=Z,13nm,1.0s,mb4.9						
MUN	**Mundaring**	**49.47**	**247**	*e*P	**P**	**09 55 37.3**	**-2.8**
VNDA	**Vanda**	**54.98**	**183**	P	**P**	**09 56 21.2**	**+0.8**
	comp=Z,0.7nm,0.9s,mb3.7,baz=49,slow=6.8,SNR=3.4						
VNDA				LR	LR	10 16 20.1	
	comp=Z,81nm,18.3s,MS3.8,baz=306,slow=32						
VNDA	**Vanda**	**54.98**	**183**	*e*P	**P**	**09 56 20.6**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
VNDA	**Vanda**	**54.98**	**183**	*e*P	**P**	**09 56 20.6**	**+0.2**
	comp=Z,1.8nm,1.1s,mb4.0						
SBA	**Scott Base**	**55.17**	**181**	*e*P	**P**	**09 56 22.8**	**+1.1**
SBA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
SBA	**Scott Base**	**55.17**	**181**	*e*P	**P**	**09 56 22.8**	**+1.1**
	comp=Z,9.2nm,0.9s,mb4.8						
CASY	**Casey**	**57.75**	**205**	*e*P	**P**	**09 56 39.5**	**-0.7**
	comp=Z,2.4nm,1.2s,mb4.1						
MJAR	**Matsushiro Arr**	**66.85**	**331**	P	**P**	**09 57 40.0**	**-1.5**
	comp=Z,1.9nm,0.8s,mb4.2,baz=157,slow=7.3,SNR=7.0						
MJAR				LR	LR	10 23 05.7	
	comp=Z,50nm,18.9s,MS3.8,baz=275,slow=33						
MAT	**Matsushiro**	**66.85**	**331**	P	**P**	**09 57 40.2**	**-1.2**
QSPA	**South Pole Qui**	**67.28**	**180**	*e*P	**P**	**09 57 42.9**	**-0.8**
	comp=Z,9.3nm,0.9s,mb4.8						
KSRS	**Kores Array**	**72.59**	**325**	P	**P**	**09 58 15.9**	**-0.9**
	comp=Z,1.9nm,1.0s,mb4.0,baz=147,slow=6.1,SNR=7.9						
KS15	**Wonju Array Si**	**72.61**	**325**	*e*P	**P**	**09 58 22.8**	**+6.0**
NJ2	**Nanjing**	**74.19**	**315**	*e*P	**P**	**09 58 28.4**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
MAW	**Mawson**	**75.94**	**202**	P	**P**	**09 58 36.9**	**+1.0**
	comp=Z,3.0nm,0.8s,mb4.3,baz=120,slow=12,SNR=3.7						
MAW				LR	LR	10 30 23.5	
	comp=Z,74nm,19.2s,MS4.0,baz=73,slow=34						
MAW	**Mawson**	**75.94**	**202**	*e*P	**P**	**09 58 36.8**	**+0.9**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAW	**Mawson**	**75.94**	**202**	*e*P	**P**	**09 58 36.8**	**+0.9**
	comp=Z,4.4nm,0.8s,mb4.4						
PETK	**Petropavlovsk-**	**76.52**	**352**	P	**P**	**09 58 38.4**	**-0.7**
	comp=Z,2.5nm,0.8s,mb4.2,baz=159,slow=5.2,SNR=4.6						
CN2	**Changchun**	**78.56**	**328**	*e*P	**P**	**09 58 54.3**	**+3.5**
GYA	**Guiyang**	**79.54**	**304**	P	**P**	**09 58 58.0**	**+1.4**
GYA				PP	PP	10 02 02.8	+5.0
GYA				S	S	10 08 52.4	-2.9
GYA				SKS		10 09 02.8	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,5.9s						
BJI	**Beijing**	**80.99**	**320**	P	**P**	**09 59 04.3**	**+0.2**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.7						
CMAR	**Chiang Mai Arr**	**81.84**	**294**	P	**P**	**09 59 10.3**	**+1.2**
	comp=Z,4.2nm,0.7s,mb4.5,baz=142,slow=3.8,SNR=19						
CHTO	**Chiang Mai**	**82.01**	**294**	*e*P	**P**	**09 59 11.4**	**+1.5**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CHTO	**Chiang Mai**	**82.01**	**294**	*e*P	**P**	**09 59 11.4**	**+1.5**
	comp=Z,3.7nm,0.8s,mb4.4						
CD2	**Chengdu**	**84.03**	**307**	*e*P	**P**	**09 59 17.3**	**-2.8**
CD2				SS	SS	10 15 07.9	-3.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,20nm,6.8s						
CD2				LR	LR		
	comp=N,160nm,16.4s,MS4.7						
CD2				LR	LR		
	comp=E,180nm,14.6s,MS4.7						
CD2				LR	LR		
	comp=Z,150nm,18.2s,MS4.4						
HHC	**Hu-ho-hao-te**	**84.25**	**319**	*e*P	**P**	**09 59 23.6**	**+2.6**
HHC				PP	PP	10 02 42.0	+5.6
HHC				S	S	10 09 44.3	+1.1
HHC				PS		10 10 49.5	
HHC				SS	SS	10 15 19.5	+5.4
HHC				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.6						
HHC				LR	LR		
	comp=N,268nm,16.0s,MS4.8						
HHC				LR	LR		
	comp=E,211nm,14.9s,MS4.8						
HHC				LR	LR		
	comp=Z,185nm,17.2s,MS4.5						
OHAK	**Old Harbor**	**85.02**	**18**	*e*P	**P**	**09 59 24.0**	**-0.5**
	comp=Z,4.4nm,0.8s,mb4.6						
SNAA	**Sanae**	**85.71**	**182**	*e*P	**P**	**09 59 26.9**	**-1.1**
SNAA				*e*		09 59 29.7	
SNAA	**Sanae**	**85.71**	**182**	*e*P	**P**	**09 59 26.8**	**-1.2**
LZH	**Lanzhou**	**86.63**	**311**	*e*P	**P**	**09 59 34.4**	**+1.4**
LZH				PP	PP	10 03 01.1	+5.3
LZH				AMB	AMB		
	comp=Z,20nm,

HUMO	Hull Mountain	88.74	42	eP	P	09 59 43.5	+0.5
	comp=Z,10.0nm,1.2s,mb5.0						
R06C	Coleville	88.88	47	⇑P	P	09 59 43.6	-0.1
	baz=89						
MTUM	Tungsten Hills	88.90	48	eP	P	09 59 44.8	+1.0
R07C	Lee Vining	88.93	48	⇑P	P	09 59 44.1	+0.2
	baz=89						
BEKR	Beckwourth	88.95	46	⇑P	P	09 59 43.9	-0.1
	baz=89						
M04C	Macdoel	89.00	43	⇓P	P	09 59 44.6	+0.5
	baz=89						
MPMC	Manual Prospec	89.01	50	⇓P	P	09 59 44.9	+0.5
	baz=89						
WCN	Washoe City	89.07	46	⇓P	P	09 59 45.1	+0.6
	baz=89						
BELC	Belle Mtn.	89.10	52	⇑P	P	09 59 44.8	-0.1
	baz=89						
P06A	Stead Airport,	89.16	46	⇑P	P	09 59 45.5	+0.5
	baz=89						
M05C	Lookout	89.22	44	⇑P	P	09 59 45.5	+0.3
	baz=90						
S08C	White Mtn Res	89.24	49	⇑P	P	09 59 45.5	+0.1
	baz=90,SNR=5.9						
O06A	Flanigan	89.46	46	⇑P	P	09 59 46.5	+0.1
	baz=90,SNR=5.3						
PAHR	Pah Rah Range	89.52	46	eP	P	09 59 47.0	+0.3
	comp=Z,7.1nm,0.9s,mb5.0						
GRAC	Grapevine Rang	89.55	49	⇓P	P	09 59 47.2	+0.3
	baz=90						
M06C	Likely Place G	89.57	44	⇑P	P	09 59 47.3	+0.4
	baz=90						
J04A	Umpqua Nationa	89.61	42	⇓P	P	09 59 47.2	+0.3
	baz=90						
NVAR	Mina Array Bea	89.61	48	P	P	09 59 44.9	-2.2
	comp=Z,4.1nm,0.8s,mb4.8,baz=224,slow=7.6,SNR=37						
FURC	Furnace Creek,	89.65	50	⇓P	P	09 59 47.2	-0.2
	baz=90						
GMRC	Granite Mounta	89.71	52	⇑P	P	09 59 47.3	-0.4
	baz=90						
I04A	Tendick Farm,	89.72	41	⇓P	P	09 59 46.8	-0.7
	baz=90						
N06A	Buffalo Meadow	89.75	45	⇑P	P	09 59 47.9	+0.1
	baz=90,SNR=5.5						
L05A	Lakeview	89.78	44	⇓P	P	09 59 47.9	+0.1
	baz=90						
IRM	Iron Mountain	89.79	53	⇑P	P	09 59 48.0	-0.1
	baz=90						
S09A	Goldfield	90.00	49	⇑P	P	09 59 48.7	-0.3
	baz=90						
U10A	Ash Meadows, A	90.00	50	⇓P	P	09 59 49.3	+0.3
	baz=90						
MOD	Modoc	90.04	44	⇑P	P	09 59 49.0	-0.1
	baz=90,SNR=6.9						
MOD	Modoc	90.04	44	eP	P	09 59 49.1	0.0
Y12C	Blythe	90.06	53	⇑P	P	09 59 49.4	0.0
	baz=90						
Q08A	Gabbs	90.07	47	⇑P	P	09 59 49.2	-0.1
	baz=90,SNR=11						
O07A	Toulon	90.08	46	⇓P	P	09 59 49.4	+0.1
	baz=90,SNR=12						
K05A	Summer Lake	90.09	43	⇑P	P	09 59 49.2	0.0
	baz=90						
J05A	Fort Rock	90.17	42	⇓P	P	09 59 49.7	+0.1
	baz=90,SNR=8.4						
113A	Mohawk Valley,	90.18	54	⇓P	P	09 59 49.6	-0.3
	baz=90						
TPNV	Topopah Spring	90.31	50	⇑P	P	09 59 50.2	-0.2
	baz=90						
TPNV	Topopah Spring	90.31	50	eP	P	09 59 49.0	-1.5
H04A	Detroit Lake	90.33	41	⇑P	P	09 59 50.0	-0.3
	baz=91						
N07B	Gerlach	90.33	45	⇑P	P	09 59 50.8	+0.4
	baz=91						
R09A	Tonopah	90.36	48	⇓P	P	09 59 50.4	-0.3
	baz=91,SNR=5.7						
V11A	Goodsprings	90.37	51	⇓P	P	09 59 50.4	-0.4
	baz=91						
M07A	Soldier Meadow	90.51	45	⇑P	P	09 59 51.6	+0.4
	baz=91,SNR=7.5						
214A	Organ Pipe Nat	90.53	55	⇑P	P	09 59 51.1	-0.5
	baz=91						
K06A	Valley Falls	90.53	43	⇑P	P	09 59 51.4	+0.1
	baz=91,SNR=6.2						
S10A	Tonopah Range,	90.54	49	⇑P	P	09 59 51.3	-0.2
	baz=91,SNR=9.9						
PDMCI	Parker Dam,Lak	90.60	53	⇓P	P	09 59 51.9	0.0
	baz=91						
Y13A	Salome	90.61	53	⇑P	P	09 59 51.9	0.0
	baz=91						
I05A	Bend	90.61	42	⇑P	P	09 59 52.0	+0.4
	baz=91						
O08A	Rochester Mine	90.63	46	⇑P	P	09 59 52.2	+0.3
	baz=91						
L07A	Adell	90.72	44	⇓P	P	09 59 52.4	+0.2
	baz=91						
V12A	Nelson	90.74	51	⇓P	P	09 59 52.7	+0.2
	baz=91						
J06A	Christmas Vall	90.83	43	⇓P	P	09 59 52.5	-0.2
	baz=91						
F04A	Amboy	90.86	40	⇑P	P	09 59 52.5	-0.3
	baz=91						
X13A	Yucca	90.96	53	⇑P	P	09 59 53.0	-0.5
	baz=91						
M08A	Happy Creek Ra	91.05	45	⇑P	P	09 59 54.3	+0.5
	baz=91						
Q10A	Clear Creek Ra	91.10	48	⇓P	P	09 59 54.2	+0.1
	baz=91						
K07A	Rock Creek Ran	91.12	44	⇓P	P	09 59 54.0	-0.1
	baz=91,SNR=8.9						
I06A	Prineville	91.15	42	⇓P	P	09 59 54.3	+0.1
	baz=91,SNR=5.3						
T11A	Corn Creek, Al	91.18	50	⇑P	P	09 59 54.2	-0.2
	baz=91						
O09A	Fish Creek Ran	91.21	47	⇓P	P	09 59 54.7	+0.2
	baz=92						
U12A	Valley of Fire	91.29	51	⇓P	P	09 59 55.0	0.0
	baz=92						
SONM	Songino Array	91.29	322	P	P	09 59 54.3	-0.4
	comp=Z,3.7nm,1.0s,mb4.7,baz=133,slow=4.7,SNR=17						
SONM	Songino Array	91.29	322	P	P	09 59 54.3	-0.4
N09A	Rock Creek Ran	91.32	46	⇑P	P	09 59 55.0	-0.1
	baz=92						
J07A	Hines	91.42	43	⇑P	P	09 59 55.6	+0.2
	baz=92						
V13A	Grand Canyon W	91.42	52	⇓P	P	09 59 55.7	+0.1
	baz=92						
P10A	Eureka	91.44	47	⇑P	P	09 59 56.0	+0.4
	baz=92						
R11A	Troy Canyon, C	91.44	49	⇓P	P	09 59 55.6	-0.1
	baz=92						
L08A	Fields	91.44	44	⇑P	P	09 59 55.3	-0.2
	baz=92,SNR=7.2						
H06A	Lindquist Farm	91.48	41	⇑P	P	09 59 55.4	-0.2
	baz=92						
C04A	Brinnon	91.50	38	⇓P	P	09 59 55.6	-0.1
	baz=92						
E05A	Randle	91.58	39	⇑P	P	09 59 55.8	-0.3
	baz=92						
X14A	Yava	91.60	53	⇓P	P	09 59 56.5	0.0
	baz=92						
S12A	Delamar Landin	91.61	50	⇑P	P	09 59 57.1	+0.6
	baz=92,SNR=5.6						
K08A	Mann Creek Ran	91.62	44	⇓P	P	09 59 56.4	0.0
	baz=92,SNR=9.0						
Q11A	Duckwater	91.63	48	⇑P	P	09 59 56.7	+0.2
	baz=92						
M09A	Marrel Ranch,	91.65	45	⇓P	P	09 59 56.8	+0.2
	baz=92						
I07A	Izee	91.66	42	⇓P	P	09 59 56.5	0.0
	baz=92						
U13A	Pakoon Wash	91.69	51	⇓P	P	09 59 56.9	+0.1
	baz=92						
O10A	Cortez Mining,	91.73	47	⇑P	P	09 59 57.1	+0.1
	baz=92						
Y15A	Casa Rosa Ranc	91.78	54	⇑P	P	09 59 57.3	0.0
	baz=92						
W14A	Seligman	91.79	52	⇓P	P	09 59 57.4	0.0
	baz=92						
L09A	Wilkinson Ranc	91.80	45	⇓P	P	09 59 57.1	-0.1
	baz=92,SNR=5.4						
H07A	Lands Inn, Kim	91.88	42	⇓P	P	09 59 56.9	-0.6
	baz=92,SNR=5.6						
J08A	Circle Bar Ran	91.94	43	⇓P	P	09 59 57.9	0.0
	baz=92,SNR=5.3						
V14A	Boquillas Ranc	91.96	52	⇓P	P	09 59 57.8	-0.3
	baz=92						
T13A	Saint George	92.01	51	⇑P	P	09 59 58.7	+0.3
	baz=92						
X15A	Humboldt	92.09	53	⇓P	P	09 59 59.5	+0.7
	baz=92						
K09A	Rome	92.09	44	⇑P	P	09 59 58.3	-0.2
	baz=92,SNR=8.1						
R12A	Pony Springs,	92.11	49	⇑P	P	09 59 59.2	+0.4
	baz=92						
I08A	Drewsey	92.16	43	⇓P	P	09 59 58.6	-0.2
	baz=92						
G07A	Ruggs Ranch, H	92.16	41	⇑P	P	09 59 58.4	-0.4
	baz=92						
O11A	Cowboy Ranch,	92.23	47	⇓P	P	09 59 59.4	+0.1
	baz=92						
U14A	Mt Trumbull	92.26	51	⇑P	P	09 59 59.5	+0.1
	baz=92						
Q12A	Willow Creek R	92.28	48	⇑P	P	09 59 59.6	+0.1
	baz=92						
S13A	Holt Ranch, En	92.29	50	⇓P	P	09 59 59.7	+0.1
	baz=92						
M10A	I.L. Ranch, Tu	92.30	46	⇑P	P	10 00 00.3	+0.8
	baz=92						
117A	Oracle	92.38	56	⇑P	P	10 00 00.1	0.0
	baz=93						
Y16A	Circle Bar Ran	92.39	54	⇓P	P	10 00 00.1	-0.1
	baz=93						
J09A	Fry Pan Ranch,	92.39	44	⇑P	P	09 59 59.8	-0.1
	baz=93,SNR=5.3						
318A	Bisbee	92.47	57	⇓P	P	10 00 00.5	-0.1
	baz=93						
R13A	O'Grain Ranch,	92.49	49	⇑P	P	10 00 00.9	+0.4
	baz=93						
N11A	Elko Archery C	92.50	47	⇑P	P	10 00 01.0	+0.5
	baz=93						
G08A	Pilot Rock	92.60	41	⇓P	P	10 00 00.7	-0.1
	baz=93,SNR=5.1						
L10A	Juniper Basin	92.61	45	⇓P	P	10 00 01.0	+0.1
	baz=93,SNR=5.8						
T14A	Huicane	92.61	51	⇓P	P	10 00 01.2	+0.1
	baz=93						
X16A	Lo Mia Camp, P	92.65	54	⇑P	P	10 00 01.9	+0.6
	baz=93						
K10A	MacKenzie Ranc	92.68	44	⇑P	P	10 00 01.3	0.0
	baz=93						
V15A	Kaibab Nationa	92.72	52	⇓P	P	10 00 02.3	+0.6
	baz=93						
Y17A	Roosevelt	92.78	55	⇑P	P	10 00 02.3	+0.3
	baz=93						
U15A	North Rim	92.90	52	⇑P	P	10 00 02.9	+0.4
	baz=93						
O12A	Currie	92.91	47	⇑P	P	10 00 02.1	-0.3
	baz=93						
319A	Douglas	93.00	57	⇑P	P	10 00 03.4	+0.4
	baz=93						
118A	Homack Ranch,	93.00	56	⇓P	P	10 00 03.3	+0.3
	baz=93						
X17A	Forest Lakes	93.09	54	⇑P	P	10 00 03.7	+0.3
	baz=93						
L11A	Cat Creek Ranc	93.12	45	⇑P	P	10 00 03.0	-0.3
	baz=93						
K11A	Parker Ranch,	93.22	45	⇑P	P	10 00 04.6	+0.8
	baz=94						
Q14A	Sevier Lake (B	93.34	49	⇑P	P	10 00 04.2	-0.2
	baz=94						
Y18A	Canyon Day Jun	93.43	55	⇑P	P	10 00 05.1	+0.1
	baz=94						
D08A	Wollman Farm,	93.51	40	⇓P	P	10 00 04.7	-0.2
	baz=94						
119A	Ashpeak Ranch,	93.56	56	⇑P	P	10 00 04.5	-1.0
	baz=94						
L12A	House Creek Ra	93.59	46	⇑P	P	10 00 05.8	+0.3
	baz=94						
H10A	Noah's Angus R	93.63	43	⇓P	P	10 00 04.9	-0.7
	baz=94						
MFID	Camas Ranch	93.66	44	⇑P	P	10 00 05.7	0.0
	baz=94						
G10A	Bishop Farm, J	93.73	42	⇑P	P	10 00 04.7	-1.3
	baz=94						
M13A	Montello	93.80	47	⇓P	P	10 00 06.5	0.0
	baz=94						
F10A	Beach Ranch, E	94.00	41	⇑P	P	10 00 06.2	-1.1
	baz=94						
H11A	Donnelly	94.14	43	⇓P	P	10 00 07.6	-0.4
	baz=94						
T17A	Navajo Res., N	94.23	52	⇓P	P	10 00 08.7	+0.1
	baz=94						
G11A	Walters Elk Ra	94.31	42	⇑P	P	10 00 08.6	-0.1
	baz=95						
ZAK	Zakamensk	94.38	323	eP	P	10 00 07.8	-1.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.4						
M14A	Sheep Mountain	94.41	47	⇓P	P	10 00 08.9	-0.4
	baz=95						
S17A	Black Ridge (B	94.50	51	⇓P	P	10 00 09.2	-0.6
	baz=95						
EGAK	Eagle	94.60	18	eP	P	10 00 09.5	-0.1
HLID	Hailey	94.64	45	⇑P	P	10 00 10.9	+0.7
	baz=95						
HLID	Hailey	94.64	45	eP	P	10 00 10.8	+0.5
	comp=Z,12nm,2.1s,mb5.0						
J13A	Cove Ranch, Pi	94.72	45	⇑P	P	10 00 10.5	-0.1
	baz=95						
H12A	Diamond D Ranc	94.81	44	⇓P	P	10 00 10.7	-0.3
	baz=95						
T18A	Mexican Hat	94.96	52	⇑P	P	10 00 12.0	+0.1
	baz=95						
SRU	San Rafael	95.32	50	⇓P	P	10 00 13.7	+0.2
	baz=96						
G13A	Cobalt	95.45	43	⇑P	P	10 00 13.9	-0.1
	baz=96						
R18A	Canyonlands Na	95.47	51	⇑P	P	10 00 13.6	-0.6
	baz=96						
TXAR	Lajitas Array	96.64	61	LR	LR	10 35 02.6	
	comp=Z,73nm,18.9s,MS4.2,baz=5.0,slow=30						
PDAR	Pinedale Array	97.50	47	P	P	10 00 22.3	-1.1
	comp=Z,0.1nm,0.4s,mb3.7,baz=66,slow=26,SNR=2.3						
SMCO	Snowmass	97.87	51	eP	P	10 00 21.1	-4.0
SMCO				epP	pP	10 00 41.1	+3.0
RWWY	Rawlins	98.68	49	eP	P	10 00 26.7	-1.9
	comp=Z,5.9nm,0.8s,mb5.2						
WMQ	Urumqi	101.14	313	eP	Pdif	10 00 40.4	+0.8
BVAR	Borovoye Array	114.46	319	PKP	PKiKP	10 05 27.6	-1.3
	comp=Z,1.2nm,0.7s,baz=108,slow=4.7,SNR=5.0						
VRI	Vrincioaia	143.33	318	⇓iP	PKPdf	10 06 21.2	-2.3
VRI	Vrincioaia	143.33	318	⇓P	PKPdf	10 06 21.2	-2.3
PLOR	Plostina	143.38	318	⇑iP	PKPdf	10 06 20.9	-2.7
MLR	Muntele Rosu	143.99	317	⇓iP	PKPdf	10 06 22.8	-1.9
MLR	Muntele Rosu	143.99	317	⇓P	PKPdf	10 06 22.8	-1.9
KECS	Kecovo	145.53	325	iPKP	PKPdf	10 06 27.5	+0.2
GZR	Gura Zlata	145.98	319	⇓iP	PKPdf	10 06 28.7	+0.6
GZR	Gura Zlata	145.98	319	⇓P	PKPdf	10 06 28.7	+0.5
KSP	Ksiaz	145.98	332	ePKIKP	PKPdf	10 06 28.5	+0.5
MORC	Moravsky Berou	146.16	329	ePKIKP	PKPdf	10 06 29.0	+0.7
KOLL	Kolacno	146.55	327	ePKP	PKPbc	10 06 30.9	+0.4
BZS	Buzias	146.56	320	⇑iP	PKPbc	10 06 31.5	+0.9
BZS	Buzias	146.56	320	⇑P	PKPbc	10 06 31.5	+0.8
VTS	Vitosha	147.06	314	⇑iP	PKPbc	10 06 31.8	-0.4
VTS	Vitosha	147.06	314	⇑P	PKPbc	10 06 31.8	-0.4
PKSM	Moragy	147.91	323	⇑iP	PKPbc	10 06 33.9	-0.5
CONA	Conrad Observa	148.24	328	⇑iP	PKPbc	10 06 35.3	+0.1
	comp=Z,12nm,1.3s						
GERES	GERESS Array B	148.59	331	PKPbc	PKPbc	10 06 35.7	-0.4
	comp=Z,2.6nm,0.8s,baz=42,slow=2.2,SNR=18						
GRA1	Grafenberg Arr	148.97	335	ePKP	PKPbc	10 06 37.0	0.0
GRF	Grafenberg Arr	148.97	335	ePKP	PKPbc	10 06 37.0	0.0
TIR	Tirane	149.85	315	ePKHKP	PKPbc	10 06 39.5	0.0
MYKA	Terra Mystica	150.23	328	⇑iP	PKPbc	10 06 39.0	-1.3
	comp=Z,4.2nm,0.5s						
ABTA	Abfaltersbach	150.68	330	⇑iP	PKPbc	10 06 40.1	-1.2
	comp=Z,5.6nm,0.6s						
WTTA	Wattenberg	150.69	331	⇑iP	PKPbc	10 06 40.5	-0.8
	comp=Z,11nm,1.0s						
MOTA	Moosalm	150.86	332	⇓iP	PKPbc	10 06 41.3	-0.4
	comp=Z,4.3nm,0.5s						
TIP	Timpagrande	152.98	313	ePKPdf	PKPdf	10 06 38.9	-0.5
TIP				ePKPbc	PKPbc	10 06 46.5	-0.3
TIP				ePKPab	PKPab	10 06 60.0	+1.8
TORD	Torodi Ar. Bea	166.35	227	PKP	PKPdf	10 06 54.8	-0.5
	comp=Z,3.3nm,0.9s,baz=42,slow=0.9,SNR=12						
TORD				PKPab	PKPab	10 07 57.2	+0.4
	comp=Z,1.2nm,0.9s,baz=122,slow=3.7,SNR=4.0						
TORD	Torodi Ar. Bea	166.35	227	PKP	PKPdf	10 06 54.8	-0.5
TORD				PKPab	PKPab	10 07 57.2	+0.4

KRSC 17 09:49:46.1±0.5, 5533N×16437E, h36km±36km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.24	316	eP	Pn	09 50 05.8	-1.1
KBTR				iS	Sn	09 50 20.4	-2.0
MKZ	Mys Kozlova	1.71	244	eP	Pn	09 50 14.7	+1.4
MKZ				iS	Sn	09 50 35.4	+1.5
SMKR	Semkarok	2.06	309	eP	Pn	09 50 20.2	+2.1
SMKR				iS	Sn	09 50 44.7	+2.2
ZLN	Zelenaya	2.13	290	eP	Pn	09 50 22.1	+2.9
ZLN				iS	Sn	09 50 49.1	+4.7
BDR	Baidarnaya	2.17	306	eP	Pn	09 50 22.3	+2.7
BDR				iS	Sn	09 50 48.2	+3.0
CIRR	Tsirk	2.19	293	eP	Pn	09 50 23.5	+3.5
CIRR				iS	Sn	09 50 51.4	+5.5
SRKR	Sorokina	2.23	308	eP	Pn	09 50 22.6	+2.1
SRKR				iS	Sn	09 50 49.4	+2.5
KLY	Klyuchi	2.32	297	eP	Pn	09 50 21.9	+0.2
KLY				iS	Sn	09 50 47.4	-1.5
KRSR	Krestovskiy	2.33	294	eP	Pn	09 50 24.9	+3.1
KRSR				iS	Sn	09 50 52.4	+3.3
KIRR	Kirishev	2.37	287	eP	Pn	09 50 25.0	+2.6
KIRR				iS	Sn	09 50 54.1	+4.0
KMNR	Kamenistaya	2.39	282	eP	Pn	09 50 26.0	+3.4
KMNR				iS	Sn	09 50 55.7	+5.1
TUMR	Tumrok	2.42	271	eP	Pn	09 50 26.2	+3.2
TUMR				iS	Sn	09 50 55.3	+4.0
KPT	Kopyto	2.44	287	eP	Pn	09 50 26.6	+3.3
KPT				iS	Sn	09 50 55.3	+3.5
KOZ	Kozyrevsk	2.65	288	eP	Pn	09 50 30.2	+4.0
SRDR	Sredinnyy	2.81	293	eP	Pn	09 50 31.9	+3.5
SRDR				iS	Sn	09 51 04.7	+3.8
SPN	Mys Shipunski	3.39	231	eP	Pn	09 50 38.2	+1.7
SPN				iS	Sn	09 51 15.7	+0.3
NLC	Nalytchevo	3.66	236	eP	Pn	09 50 42.4	+2.3
NLC				iS	Sn	09 51 23.1	+1.2
AVH	Avacha	3.90	240	eP	Pn	09 50 47.0	+3.7
AVH				iS	Sn	09 51 30.8	+3.0
PET	Petropavlovsk	4.08	238	eP	Pn	09 50 49.0	+3.2
PET				iS	Sn	09 51 34.0	+1.7
GNL	Ganaly	4.09	249	eP	Pn	09 50 50.2	+4.2
RUS	Russkaya	4.52	232	eP	Pn	09 50 54.4	+2.5
RUS				iS	Sn	09 51 44.1	+0.9

*ATH **17** 09:51:28.9, 4098N×2401E, h46km±15km, MD3.2/3*
*ISCJB **17** 09:51:29.7±0.7, 4090N±004×2407E±006, h23km±18km, Error ellipse: s-maj=7.9km s-min=5.7km az=26.3*
*CSEM **17** 09:51:29.4±0.1, 4094N×2405E, h25km, ML2.4, Error ellipse: s-maj=3.4km s-min=2.6km az=137.0*
*NEIC **17** 09:51:31.1, 4084N×2398E, h16km, MD3.2(ATH), ML2.4(THE), After THE.*
*THE **17** 09:51:31.1, 4084N×2398E, h15km, ML2.4*

ISC 17 09:51:29.7±0.7, 4090N±004×2406E±008, h24km±14km, n8, σ0.31/16, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	Nevrokopi	0.48	342	eP	Pb	09 51 39.4	-0.1
NVR				eS	Sb	09 51 46.5	+0.4
SOH	Sokhos	0.54	262	ePg	Pb	09 51 40.1	-0.5
SOH				eSg	Sb	09 51 47.7	-0.3
OUR	Ouranopolis	0.56	186	ePg	Pb	09 51 41.0	0.0
OUR				eSg	Sb	09 51 48.6	0.0
PLG	Polygyros	0.70	222	ePg	Pb	09 51 43.2	-0.1
PLG				eSg	Sb	09 51 52.0	-0.4
PLG	Polygyros	0.70	222	eP	Pb	09 51 43.4	+0.1
PLG				eSg	Sb	09 51 52.0	-0.5
HORT	Hortiatis	0.79	248	ePg	Pb	09 51 44.6	-0.1
HORT				eSg	Sb	09 51 55.5	+0.5
PAIG	Paliouri	1.01	197	ePg	Pn	09 51 48.5	+0.2
PAIG				eSg	Sb	09 52 01.8	+0.4
RDO	Rodhopi	1.14	77	eP	Pn	09 51 50.4	+0.2
RDO				eS	Sn	09 52 04.7	-0.4

IDC 17 10:03:04.6±1.0, 971S×15961E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=55.2km s-min=11.3km az=140.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.43	51	Pn	Pg	10 03 18.4	+5.7
	2μm,0.3s,baz=241,slow=2.2,SNR=273						
HNR				Sn	Sg	10 03 25.9	+7.6
	4μm,0.3s,baz=68,slow=5.4,SNR=94						
WRA	Warramunga Arr	26.43	244	P	P	10 08 43.7	+0.5
	1.5nm,0.7s,baz=73,slow=9.5,SNR=11						
ASAR	Alice Springs	28.20	237	P	P	10 08 58.4	-0.8
	0.5nm,0.5s,baz=63,slow=10,SNR=13						
VNDA	Vanda	67.80	179	P	P	10 14 04.1	+0.2
	1.1nm,1.0s,baz=350,slow=6.8,SNR=6.1						

*ISCJB **17** 10:07:21.4±2.6, 1369S±005×7705W±007, h8km±17km, mb3.9/9, MS3.6/3, Error ellipse: s-maj=12.9km s-min=7.1km az=153.0*
*MOS **17** 10:07:25.7±1.1, 1372S×7699W, h33km, mb4.8/2, Error ellipse: s-maj=42.0km s-min=18.5km az=38.2*
*IDC **17** 10:07:26.3±5.7, 1360S×7672W, h30km±41km, mb3.6/7, mb1 3.9/11, mb1mx3.8/21, mbtmp3.7/11, ML4.1/4, MS3.3/8, Ms1 3.3/8, ms1mx3.2/20, Error ellipse: s-maj=38.8km s-min=13.2km az=70.0*
*NEIC **17** 10:07:27.1±0.6, 1364S×7690W, h35km, mb4.6/2, ML4.3(LIM), Error ellipse: s-maj=17.3km s-min=8.7km az=60.0*
NEIC Felt [III] at Pisco.

ISC 17 10:07:23.9±3.4, 1367S±005×7702W±009, h12km±22km, n32, σ1.39/30, mb3.9/9, MS3.6/3, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.68	6	Pn	Pn	10 07 51.8	-1.4
	56nm,0.3s,baz=226,slow=14,SNR=4.7						
NNA				Sn	Sn	10 08 12.6	-2.1
	1μm,0.3s,baz=248,slow=7.8,SNR=34						
ARE	Arequipa	6.02	118	eP	Pn	10 08 55.0	+2.1
ARE				eS	Sn	10 10 08.0	+6.1
ATAH	Atahualpa	6.76	348	Pn	Pn	10 09 02.9	-0.2
	1.7nm,0.3s,baz=193,slow=2.9,SNR=7.1						
ATAH				Lg		10 10 49.6	
	6.3nm,0.3s,baz=287,slow=24,SNR=4.8						
ATAH				LR	LR	10 11 35.0	
	comp=Z,322nm,18.9s,baz=173,slow=38						
LPAZ	La Paz	8.98	108	Pn	Pn	10 09 35.0	+1.5
	2.8nm,0.3s,baz=300,slow=11,SNR=52						
LPAZ				Sn	Sn	10 11 18.3	+3.6
	0.1nm,0.3s,baz=

TXAR Lajitas Array 49.89 329 P **P 10 16 19.3 +1.8**
0.5nm,1.0s,mb3.5,baz=153,slow=8.4,SNR=3.3
TXAR Lajitas Array 49.89 329 P **P 10 16 19.3 +1.8**
PDAR Pinedale Array 63.60 334 P **P 10 17 55.8 +1.1**
0.4nm,0.7s,mb3.6,baz=195,slow=5.6,SNR=3.4
NVAR Mina Array Bea 64.63 325 P **P 10 18 01.1 -0.5**
0.2nm,0.5s,mb3.4,baz=298,slow=42,SNR=3.1
LKWY Lake 65.42 334 P **P 10 18 08.1 +1.6**
LKWY pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
LKWY Lake 65.42 334 P **P 10 18 08.1 +1.6**
comp=Z,10nm,0.7s,mb5.0
VNA1 Neumayer--Stat 70.20 161 *e* **P 10 18 36.9 +0.6**
VNA2 Neumayer--Watz 70.55 161 *e* **P 10 18 38.1 -0.4**
VNA2 *e* pP 10 18 40.7 -1.6
VNA2 *e* 10 18 47.8
SNAA Sanae 72.15 161 *e* **P 10 18 47.6 -0.5**
SNAA *e* pP 10 18 49.7 -2.3
SNAA *e* 10 18 56.6
DBIC Dimbokro 74.42 79 LR LR 10 47 33.4
comp=Z,75nm,21.0s,MS4.0,baz=28,slow=32
QSPA South Pole Qui 76.47 180 P **P 10 19 14.1 +0.9**
comp=Z,2.0nm,0.8s,mb4.1,baz=130,slow=1.9,SNR=10.0
YKA Yellowknife Ar 81.39 343 P **P 10 19 39.1 -1.2**
comp=Z,0.8nm,0.8s,mb3.7,baz=197,slow=37,SNR=2.5
TORD Torodi Ar. Bea 82.41 75 P **P 10 19 44.8 -1.9**
comp=Z,1.8nm,0.9s,mb4.0,baz=259,slow=4.0,SNR=6.1
TORD LR LR 10 56 41.1
comp=Z,57nm,20.4s,MS3.9,baz=140,slow=36
ASAR Alice Springs 132.13 219 PKP PKPdf 10 26 38.1 -0.5
comp=Z,0.2nm,0.7s,baz=111,slow=2.4,SNR=2.6
WRA Warramunga Arr 154.53 223 PKP PKPdf 10 26 42.8 -0.3
comp=Z,0.6nm,0.9s,baz=121,slow=1.9,SNR=2.6
ZAK Zakamensk 143.39 360 *e*PKHKP 10 26 34.7
ZAK pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 145.82 356 PKPbc PKPbc 10 27 09.4 +6.3
comp=Z,2.1nm,0.8s,baz=337,slow=3.8,SNR=7.6
KSRS Korea Array 147.52 321 PKPbc PKPbc 10 27 14.9 +6.5
comp=Z,0.9nm,0.7s,baz=40,slow=2.1,SNR=6.3

*NEIC **17** 10:13:58.8±1.3,2139S×17888W,h505km±16km,mb4.3/17, Error ellipse: s-maj=12.7km s-min=8.6km az=177.0*
*ISCJB **17** 10:14:04.3±2.4,215S±01×179.10W±009,h582km±30km, mb4.1/27, Error ellipse: s-maj=16.7km s-min=12.8km az=172.0*
*IDC **17** 10:14:07.1±2.7,2153S×17906W,h601km±33km,mb3.5/14, mb1 3.8/15,mb1mx3.7/19,mbtmp3.5/15, Error ellipse: s-maj=17.1km s-min=13.1km az=165.0*
ISC 17 10:13:58.6±1.7,214S±01×17890W±008,h499km±20km, n44,σ0°75/41,mb4.1/27,4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.87**	**174**	P	**P**	**10 15 52.8**	**-0.8**
	1μm,0.9s						
URZ	**Urewera**	**17.15**	**191**	P	**P**	**10 17 31.4**	**+0.4**
	1.1nm,0.3s,baz=130,slow=20,SNR=6.6						
ARMA	**Armidale**	**27.92**	**245**	*eP*	**P**	**10 19 10.1**	**+2.2**
CNB	**Canberra Magne**	**31.03**	**237**	*eP*	**P**	**10 19 36.1**	**+1.3**
CTA	**Charters Tower**	**32.57**	**266**	⇓*iP*	**P**	**10 19 49.5**	**+1.2**
	11nm,0.5s,mb4.5						
CTA	**Charters Tower**	**32.57**	**266**	P	**P**	**10 19 49.5**	**+1.3**
	16nm,0.5s,mb4.7,baz=95,slow=10,SNR=43						
CTAO	**Charters Tower**	**32.57**	**266**	*eP*	**P**	**10 19 48.8**	**+0.5**
	16nm,0.6s,mb4.6						
PMG	**Port Moresby**	**34.74**	**285**	P	**P**	**10 20 06.9**	**+0.3**
	13nm,0.8s,mb4.4						
TAU	**Tasmania Unive**	**35.40**	**225**	*eP*	**P**	**10 20 08.1**	**-3.6**
	47nm,1.3s,mb4.8						
STKA	**Stephens Creek**	**36.64**	**245**	⇓*iP*	**P**	**10 20 23.3**	**+1.0**
	5.5nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**36.64**	**245**	P	**P**	**10 20 23.3**	**+1.1**
	5.4nm,0.4s,mb4.3,baz=90,slow=9.3,SNR=10						
STKA	**Stephens Creek**	**36.64**	**245**	*eP*	**P**	**10 20 22.8**	**+0.5**
	6.0nm,0.4s,mb4.4						
ASAR	**Alice Springs**	**43.50**	**258**	P	**P**	**10 21 17.6**	**+0.2**
	10nm,0.6s,mb4.5,baz=92,slow=8.5,SNR=189						
ASAR				S	**S**	**10 27 03.5**	**-6.1**
	1.3nm,0.8s,baz=97,slow=16,SNR=6.5						
WB2	**Warramunga Arr**	**43.64**	**263**	⇓*iP*	**P**	**10 21 18.1**	**-0.5**
WRAB	**Tennant Creek**	**43.64**	**263**	*eP*	**P**	**10 21 18.0**	**-0.6**
	28nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**43.65**	**263**	P	**P**	**10 21 18.2**	**-0.4**
	6.8nm,0.3s,mb4.5,baz=96,slow=7.5,SNR=319						
KAKA	**Kakadu**	**47.16**	**272**	*eP*	**P**	**10 21 45.1**	**-0.6**
	16nm,0.5s,mb4.7						
FORT	**Forrest**	**48.17**	**247**	*eP*	**P**	**10 21 52.3**	**-0.7**
	10nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.08**	**263**	*eP*	**P**	**10 22 22.0**	**+0.1**
	3.6nm,0.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.08**	**263**	P	**P**	**10 22 22.3**	**+0.3**
	2.0nm,0.3s,mb3.9,baz=106,slow=8.4,SNR=24						
MBWA	**Marble Bar**	**56.84**	**258**	*eP*	**P**	**10 22 54.2**	**-1.2**
KLBR	**Kellerberrin**	**56.91**	**246**	⇓*iP*	**P**	**10 22 54.7**	**-1.1**
	4.0nm,0.3s,mb4.2						
SBA	**Scott Base**	**56.92**	**184**	*eP*	**P**	**10 22 55.7**	**+0.6**
	2.3nm,0.9s,mb3.5						
VNDA	**Vanda**	**56.95**	**185**	P	**P**	**10 22 55.3**	**0.0**
	0.5nm,0.5s,mb3.1,baz=360,slow=6.3,SNR=9.6						
MUN	**Mundaring**	**58.18**	**245**	*eP*	**P**	**10 23 03.9**	**-0.6**
QSPA	**South Pole Qui**	**68.67**	**180**	*eP*	**P**	**10 24 10.6**	**-0.3**
	9.1nm,1.3s,mb4.2						
MJAR	**Matsushiro Arr**	**70.44**	**324**	P	**P**	**10 24 21.9**	**-0.3**
	2.1nm,0.5s,mb3.9,baz=158,slow=5.7,SNR=9.3						
PETK	**Petropavlovsk-**	**76.92**	**346**	P	**P**	**10 24 58.8**	**0.0**
	1.9nm,0.7s,mb3.8,baz=125,slow=7.4,SNR=4.2						
KSRS	**Korea Array**	**77.00**	**319**	P	**P**	**10 24 59.9**	**+0.4**
	0.4nm,0.4s,mb3.8,baz=134,slow=7.0,SNR=3.3						
NVAR	**Mina Array Bea**	**82.25**	**44**	P	**P**	**10 25 28.1**	**+0.8**
	1.6nm,0.5s,mb3.8,baz=223,slow=8.2,SNR=16						
HLID	**Hailey**	**87.56**	**41**	*eP*	**P**	**10 25 53.3**	**+0.3**
	2.5nm,1.3s,mb3.8						
SRU	**San Rafael**	**87.75**	**46**	*eP*	**P**	**10 25 53.6**	**-0.4**
	1.2nm,1.0s,mb3.6						
TXAR	**Lajitas Array**	**88.25**	**58**	P	**P**	**10 25 57.3**	**+0.8**
	2.0nm,0.8s,mb3.9,baz=217,slow=5.7,SNR=20						
ANMO	**Albuquerque**	**88.62**	**52**	*eP*	**P**	**10 25 58.4**	**+0.2**
	1.3nm,1.0s,mb3.7						
PLCA	**Paso Flores**	**89.27**	**134**	P	**P**	**10 26 01.3**	**+0.1**
	1.4nm,0.7s,mb3.9,baz=307,slow=23,SNR=3.3						
PLCA	**Paso Flores**	**89.27**	**134**	P	**P**	**10 26 01.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P	**P**	**10 26 03.3**	**+0.1**
	4.0nm,1.0s,mb4.2,baz=140,slow=2.7,SNR=9.7						
REDW	**Red Top Meadow**	**89.66**	**43**	*eP*	**P**	**10 26 01.4**	**-1.3**
	3.8nm,1.1s,mb4.1						
SNOW	**Snow King Moun**	**89.78**	**43**	*eP*	**P**	**10 26 03.4**	**+0.1**
	2.0nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**90.19**	**44**	P	**P**	**10 26 05.2**	**-0.1**
	1.3nm,0.7s,mb3.9,baz=225,slow=2.5,SNR=13						
ARCES	**ARCESS Array B**	**129.64**	**349**	PKP	PKPdf	10 32 07.7	-2.1
	3.8nm,1.1s,baz=325,slow=1.5,SNR=5.4						
AKASG	**Malin Array Be**	**143.38**	**330**	PKP	PKPdf	10 32 31.8	-3.9
	1.1nm,0.3s,baz=42,slow=4.2,SNR=19						
GERES	**GERESS Array B**	**150.82**	**343**	PKPbc	PKPbc	10 32 52.4	-1.7
	0.3nm,0.3s,baz=1.9,slow=4.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**171.78**	**184**	PKPab	PKPab	10 34 32.8	-2.8
	0.3nm,0.8s,baz=160,slow=4.6,SNR=3.6						

NNC 17 10:37:43.5±4.6,5385N×8613E,h0km,mb3.6,mpv3.2, 2C-5D,Error ellipse: s-maj=40.9km s-min=19.2km az=68.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.58**	**239**	⇓Pn	Pn	10 39 05.1	-2.6
	8.2nm,2.1s						
KURK				⇓Lg		10 40 38.9	
	6.9nm,0.7s						
KURBB	**Kurchatov Arra**	**5.68**	**238**	⇓Pn	Pn	10 39 09.7	+0.7
	0.6nm,0.6s,baz=55,slow=13						
KURBB				⇓Lg		10 40 41.7	
	1.7nm,0.7s,baz=53,slow=36						
MK31	**Makanchi Array**	**7.48**	**201**	⇓Pn	Pn	10 39 36.7	+2.9
	2.0nm,0.6s,baz=26,slow=14,SNR=14						
MK31				⇑Sn	Sn	10 41 06.2	+7.0
	2.2nm,0.8s,baz=27,slow=20						
MK31				⇑Lg		10 41 39.8	
	2.2nm,0.7s,baz=26,slow=35						

*ISCJB **17** 11:05:03.0±1.8,6778N±005×1600W±0.1,h19km±14km, mb4.0/7,Error ellipse: s-maj=9.7km s-min=6.6km az=33.1*

*IDC **17** 11:05:03.5±1.0,6824N×15955W,h0km,mb3.9/6, mb1 4.2/8,mb1mx3.8/26,mbtmp3.9/8,ML3.7/2,MS2.5/1, Ms1 2.5/1,ms1mx2.2/30,Error ellipse: s-maj=41.4km s-min=16.0km az=44.0*
*NEIC **17** 11:05:03.9,6764N×160.19W,h10km,mb4.5/1, ML3.8(AEIC),After AEIC.*
ISC 17 11:05:04.9±1.8,6779N±005×1600W±01,h16km±12km,n36, σ0°98/44,mb4.0/7,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMA2	**Indian Mountai**	**3.03**	**122**	P	**Pn**	**11 05 52.4**	**+0.3**
IMA2				S	**Sn**	**11 06 27.7**	**-0.1**
IM3	**Indian Mountai**	**3.06**	**123**	P	**Pn**	**11 05 52.3**	**-0.2**
COLD	**Coldfoot**	**3.81**	**94**	P	**Pn**	**11 06 04.1**	**+1.3**
TNA	**Tin City**	**3.87**	**238**	P	**Pn**	**11 06 05.8**	**+2.2**
TNA				S	**Sn**	**11 06 51.5**	**+2.9**
CHUM	**Lake Minchumin**	**5.03**	**138**	P	**Pn**	**11 06 19.0**	**-0.6**
CHUM				S	**Sn**	**11 07 17.6**	**+0.4**
TTA	**Tatalina**	**5.16**	**159**	*e*Pn	**Pn**	**11 06 19.8**	**-1.5**
	48nm,0.9s						
TT01	**Tatalina**	**5.18**	**159**	P	**Pn**	**11 06 19.6**	**-2.0**
BPAW	**Bear Paw Mtn.**	**5.22**	**131**	P	**Pn**	**11 06 21.9**	**-0.3**
BPAW				S	**Sn**	**11 07 21.6**	**-0.3**
KTH	**Kantishna Hill**	**5.67**	**134**	P	**Pn**	**11 06 28.0**	**-0.3**
KTH				S	**Sn**	**11 07 33.4**	**+0.5**
COLA	**College**	**5.70**	**115**	P	**Pn**	**11 06 28.8**	**+0.1**
COLA				S	**Sn**	**11 07 34.1**	**+0.5**
BM3	**Burnt Mountain**	**5.89**	**86**	P	**Pn**	**11 06 33.2**	**+1.8**
PPLA	**Purkeypile**	**5.90**	**143**	P	**Pn**	**11 06 31.1**	**-0.4**
TRF	**Thorofare Moun**	**5.92**	**133**	P	**Pn**	**11 06 32.0**	**+0.2**
IL1	**Eielson Array**	**6.09**	**114**	P	**Pn**	**11 06 34.3**	**+0.2**
ILB	**Eielson Array**	**6.09**	**114**	P	**Pn**	**11 06 34.7**	**+0.6**
MCK	**McKinley**	**6.10**	**127**	P	**Pn**	**11 06 34.3**	**0.0**
SVW2	**Sparrevohn**	**6.98**	**162**	P	**Pn**	**11 06 44.8**	**-1.5**
PMR	**Palmer**	**7.76**	**138**	*e*Pn	**Pn**	**11 06 56.6**	**-0.4**
	16nm,0.8s						
EGAK	**Eagle**	**8.16**	**103**	*e*Pn	**Pn**	**11 07 02.7**	**+0.3**
	8.0nm,0.7s						
MENT	**Mentasta**	**8.34**	**118**	*eP*	**Pn**	**11 07 04.9**	**-0.1**
BCA3	**Beaver Creek A**	**8.92**	**113**	P	**Pn**	**11 07 12.6**	**-0.3**
BMRM	**Bremner River**	**9.53**	**129**	*e*Pn	**Pn**	**11 07 17.8**	**-3.4**
INK	**Inuvik**	**9.89**	**75**	Pn	**Pn**	**11 07 27.4**	**+1.3**
	0.8nm,0.3s,baz=294,slow=13,SNR=37						
INK				Sn	**Sn**	**11 09 15.5**	**-1.1**
	0.5nm,0.3s,baz=140,slow=32,SNR=4.3						
INK				LR	LR	11 12 24.2	
	comp=Z,26nm,19.6s,baz=299,slow=46						
INK	**Inuvik**	**9.89**	**75**	Pn	**Pn**	**11 07 27.4**	**+1.3**
INK				Sn	**Sn**	**11 09 15.5**	**-1.1**
INK				LR	LR	11 12 24.2	
RAGM	**Ragged Mountai**	**9.97**	**131**	*e*Pn	**Pn**	**11 07 31.9**	**+4.6**
KDAK	**Kodiak Island**	**10.59**	**158**	Pn	**Pn**	**11 07 36.8**	**+1.1**
	0.7nm,0.3s,baz=5.8,slow=9.4,SNR=9.9						
YKA	**Yellowknife Ar**	**19.41**	**84**	P	**Pn**	**11 09 29.8**	**-1.3**
	0.2nm,0.3s,baz=305,slow=11,SNR=9.0						
YKA	**Yellowknife Ar**	**19.41**	**84**	P	**Pn**	**11 09 29.8**	**-1.3**
PDAR	**Pinedale Array**	**36.48**	**107**	P	**P**	**11 12 10.2**	**+1.4**
	1.3nm,0.7s,mb4.0,baz=339,slow=8.2,SNR=12						
NVAR	**Mina Array Bea**	**37.30**	**120**	P	**P**	**11 12 17.2**	**+1.4**
	1.0nm,0.7s,mb3.8,baz=324,slow=7.4,SNR=12						
TXAR	**Lajitas Array**	**50.59**	**110**	P	**P**	**11 14 03.0**	**+0.4**
	1.6nm,0.7s,mb4.0,baz=334,slow=5.8,SNR=22						
PLAL	**Pickwick Lake**	**51.34**	**91**	*eP*	**P**	**11 14 07.7**	**-0.3**
	4.4nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**53.80**	**325**	P	**P**	**11 14 25.0**	**-1.1**
	0.5nm,0.4s,mb3.8,baz=46,slow=8.5,SNR=3.9						
MKAR	**Makanchi Array**	**56.60**	**313**	P	**P**	**11 14 46.0**	**-0.3**
	0.3nm,0.3s,mb3.8,baz=33,slow=8.6,SNR=2.4						
AKTK	**Aktyubinsk**	**58.70**	**333**	P	**P**	**11 15 00.4**	**-0.7**
AKTO	**Aktyubinsk**	**58.70**	**333**	P	**P**	**11 15 00.4**	**-0.7**
	2.1nm,0.8s,mb4.2,baz=36,slow=6.6,SNR=8.9						

*CSEM **17** 11:12:21.2±1.1,3745N×2505W,h5km,ML3.2,Error ellipse: s-maj=8.9km s-min=2.3km az=67.0,After PDA*
PDA 17 11:12:21.2±1.1,3745N×2505W,h5km,MD3.6,ML3.2, Error ellipse: s-maj=8.9km s-min=2.3km az=67.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**181**	*eP*	Pg	11 12 29.1	-0.7
PSMN				*e*S	Sg	11 12 35.0	-0.6
CMLA	**Cha da Macela**	**0.49**	**310**	*eP*	Pg	11 12 29.5	-1.1
CMLA				*e*S	Sg	11 12 36.4	-0.6
CMLA				A		11 12 40.5	
	1μm,0.5s						
CMLA	**Cha da Macela**	**0.49**	**310**	*eP*	Pg	11 12 29.5	-1.1
CMLA				*e*S	Sg	11 12 36.4	-0.6
PDA	**Ponta Delgada**	**0.57**	**301**	*eP*	Pg	11 12 30.9	-1.2
PDA				*e*S	Sg	11 12 38.6	-0.9
PSCM	**Serra do Cume**	**2.05**	**308**	*eP*	Pn	11 12 51.8	-4.6
PSCM				*e*S	Sn	11 13 14.8	-7.5
PSCM				A		11 13 18.4	
	41nm,0.3s						
PSCM	**Serra do Cume**	**2.05**	**308**	*eP*	Pn	11 12 51.8	-4.6
PSCM				*e*S	Sn	11 13 14.8	-7.5
ADH	**Angra Heroismo**	**2.10**	**306**	*e*S	Sn	11 13 15.7	-7.8
PMAN	**Manadas**	**2.67**	**297**	*eP*	Pn	11 13 00.3	-4.6
PMAN				*e*S	Sn	11 13 29.3	-8.3
PMAN				A		11 13 33.6	
	42nm,0.2s						
PMAN	**Manadas**	**2.67**	**297**	*eP*	Pn	11 13 00.3	-4.6
PMAN				*e*S	Sn	11 13 29.3	-8.3
PGRA	**Graciosa**	**2.79**	**305**	*eP*	Pn	11 13 01.8	-4.7
PGRA				*e*S	Sn	11 13 31.7	-8.9
PGRA				A		11 13 35.7	
	32nm,0.3s						
PGRA	**Graciosa**	**2.79**	**305**	*eP*	Pn	11 13 01.8	-4.7
PGRA				*e*S	Sn	11 13 31.7	-8.9
ROSA	**Rosais**	**2.82**	**298**	*eP*	Pn	11 13 02.9	-4.0
ROSA				*e*S	Sn	11 13 32.6	-8.6
SRBC	**Serra Branca**	**2.84**	**305**	*eP*	Pn	11 13 02.5	-4.6
SRBC				*e*S	Sn	11 13 33.6	-8.1
PICO	**Pico**	**2.87**	**292**	*eP*	Pn	11 13 02.9	-4.6
PICO				*e*S	Sn	11 13 34.3	-8.1
CALA	**Caldeira**	**3.10**	**292**	*eP*	Pn	11 13 06.5	-4.2
CALA				*e*S	Sn	11 13 39.8	-8.3

*DDA **17** 11:15:21.9,3614N×2818E,h7km±6km,Md3.0*
*ISK **17** 11:15:21.9,3611N×2789E,h15km,MD3.1*
*ATH **17** 11:15:21.6,3632N×2766E,h24km±1km,MD3.2/3*
*ISCJB **17** 11:15:23.4±0.7,3602N±004×2796E±005,h37km±12km, Error ellipse: s-maj=8.6km s-min=6.0km az=136.8*
*CSEM **17** 11:15:23.4±0.1,3610N×2796E,h40km,MD3.0,Error ellipse: s-maj=3.3km s-min=2.3km az=133.0*
ISC 17 11:15:21.7±0.7,3607N±004×2801E±005,h17km±5km,n13, σ1°36/24,2C-2D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.18**	**33**	*e*PB	**Pg**	**11 15 30.4**	**+4.1**
ARG				*e*SB	**Sg**	**11 15 36.1**	**+6.7**
KARP	**Karpathos**	**0.86**	**233**	*e*PN	**Pg**	**11 15 38.8**	**+0.4**
KARP				*e*SN	**Sg**	**11 15 50.6**	**+0.8**
DALT	**Dalyan (Mudla)**	**0.87**	**36**	*e*PG	**Pg**	**11 15 39.6**	**+1.0**
DALT				*e*SG	**Sg**	**11 15 52.5**	**+2.4**
TURN	**Turunc**	**0.94**	**31**	⇓*iP*	**Pb**	**11 15 37.6**	**-1.8**
TURN				*i* S	**Sb**	**11 15 49.2**	**-2.4**
YER	**Yerkesik**	**1.09**	**12**	*e*PG	**Pg**	**11 15 43.3**	**+0.5**
YER				*e*SG	**Sg**	**11 15 58.0**	**+0.9**
BDRM	**Kayabasi**	**1.10**	**336**	⇑*iP*	**Pb**	**11 15 41.9**	**-0.3**
BDRM				*i* S	**Sb**	**11 15 56.9**	**+0.7**
BODT	**Bodrum**	**1.14**	**331**	*e*PG	**Pg**	**11 15 42.4**	**-1.4**
BODT				*e*SG	**Sg**	**11 15 57.8**	**-1.0**
AKAS	**Kas**	**1.30**	**82**	⇑*iP*	**Pn**	**11 15 44.5**	**-0.6**
AKAS				*i* S	**Sn**	**11 15 59.5**	**-2.5**
AYDN	**Tasoluk**	**1.60**	**356**	*i* P	**Pn**	**11 15 49.6**	**+0.5**
AYDN				*i* S	**Sn**	**11 16 10.5**	**+1.2**
ELL	**Elmali**	**1.68**	**65**	*e*PN	**Pn**	**11 15 52.1**	**+1.9**
GOLH	**Golhisar**	**1.71**	**46**	⇓*iP*	**Pn**	**11 15 51.6**	**+1.0**
GOLH				*i* S	**Sn**	**11 16 14.5**	**+2.4**
DNZL	**Cakiroluk**	**1.82**	**27**	*i* P	**Pg**	**11 15 55.1**	**-1.6**
DNZL				*i* S	**Sg**	**11 16 19.3**	**-1.1**
NPS	**Neapolis**	**2.11**	**248**	*e*PN	**Pn**	**11 15 55.0**	**-1.1**

*NEIC **17** 11:22:03.9±1.3,8.12S×16079E,h10km,mb4.2/4,Error ellipse: s-maj=43.0km s-min=22.3km az=143.0*

*ISCJB **17** 11:22:17.8±1.6,997S±008×1602E±02,h33km,mb3.8/5, MS3.4/2,Error ellipse: s-maj=35.4km s-min=10.2km az=171.0*
*IDC **17** 11:22:17.7±1.0,968S×15970E,h0km,mb4.0/3,mb1 4.3/3, mb1mx3.8/16,mbtmp4.0/3,MS3.3/3,Ms1 3.3/3, ms1mx2.9/22,Error ellipse: s-maj=54.6km s-min=10.5km az=136.0*
ISC 17 11:22:19.1±1.8,99S±01×1603E±03,h35km,n11,σ0°38/10, mb3.8/5,MS3.4/2,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.53**	**325**	Pn	**Pn**	**11 22 30.4**	**+0.2**
	2μm,0.3s,baz=212,slow=1.7,SNR=538						
HNR				Sn	**Sn**	**11 22 37.6**	**-0.2**
	3μm,0.3s,baz=252,slow=1.3,SNR=64						
HNR	**Honiara**	**0.53**	**325**	Pn	**Pn**	**11 22 30.4**	**+0.2**
HNR				Sn	**Sn**	**11 22 37.6**	**-0.2**
CTA	**Charters Tower**	**16.90**	**231**	LR	LR	11 31 24.3	
	comp=Z,74nm,20.6s,baz=257,slow=33						
WRAB	**Tennant Creek**	**26.92**	**245**	*eP*	**P**	**11 27 57.2**	**0.0**
	3.5nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**26.93**	**245**	P	**P**	**11 27 57.8**	**+0.4**
	2.2nm,0.6s,mb3.9,baz=73,slow=9.7,SNR=21						
STKA	**Stephens Creek**	**27.90**	**216**	LR	LR	11 38 24.1	
	comp=Z,57nm,19.5s,MS3.2,baz=209,slow=35						
ASAR	**Alice Springs**	**28.64**	**238**	P	**P**	**11 28 12.3**	**-0.3**
	0.7nm,0.4s,mb3.8,baz=62,slow=10,SNR=25						
VNDA	**Vanda**	**67.64**	**180**	P	**P**	**11 33 17.4**	**+5.3**
	1.0nm,0.8s,mb3.9,baz=354,slow=4.6,SNR=4.1						
VNDA	**Vanda**	**67.64**	**180**	*eP*	**P**	**11 33 11.1**	**-1.0**
	2.3nm,1.1s,mb4.1						
QSPA	**South Pole Qui**	**80.13**	**180**	P	**P**	**11 34 25.4**	**+0.4**
	0.4nm,0.6s,mb3.5						
MAW	**Mawson**	**83.76**	**202**	LR	LR	12 09 41.5	
	comp=Z,30nm,18.2s,MS3.7,baz=191,slow=34						

IDC 17 11:25:27.7±1.3,959S×15957E,h0km,mb3.7/3,mb1 4.0/3, mb1mx3.6/16,mbtmp3.7/3,Error ellipse: s-maj=66.0km s-min=11.6km az=152.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.40**	**67**	Pn	Pg	11 25 41.1	+5.7
	531nm,0.3s,baz=222,slow=2.7,SNR=20						
HNR				Sn	Sg	11 25 48.8	+8.2
	3μm,0.3s,baz=243,slow=14,SNR=69						
WRA	**Warramunga Arr**	**26.44**	**244**	P	P	11 31 06.8	+0.3
	1.3nm,0.7s,baz=72,slow=9.7,SNR=9.3						
ASAR	**Alice Springs**	**28.23**	**237**	P	P	11 31 21.8	-0.8
	0.6nm,0.9s,baz=64,slow=10,SNR=4.7						
VNDA	**Vanda**	**67.92**	**179**	P	P	11 36 27.9	+0.2
	0.6nm,0.7s,baz=355,slow=5.3,SNR=4.3						

*CSEM **17** 11:42:40.3±0.1,3964N×2944E,h5km,MD2.9,Error ellipse: s-maj=2.0km s-min=1.5km az=91.0*
*DDA **17** 11:42:40.8,3973N×2949E,h7km±3km,Md2.9*
*ISK **17** 11:42:40.4,3963N×2943E,h7km,MD2.8*
*ISCJB **17** 11:42:41.4±0.4,3967N±002×2946E±004,h10km,Error ellipse: s-maj=4.3km s-min=3.4km az=171.8*
ISC 17 11:42:41.7±0.5,3967N±002×2947E±004,h7km±5km,n25, σ0°95/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.54**	**332**	*i* P	**Pg**	**11 42 51.8**	**-0.3**
ULDT				*i* S	**Sg**	**11 43 00.2**	**+1.0**
GDZ	**Gediz**	**0.58**	**179**	*i* P	**Pg**	**11 42 52.7**	**-0.1**
GDZ				*i* S	**Sg**	**11 43 01.2**	**+0.9**
DST	**Dursunbey**	**0.65**	**265**	*e*PG	**Pg**	**11 42 52.6**	**-1.6**
DST				*e*SG	**Sg**	**11 43 02.2**	**-0.5**
ALT	**Altintas**	**0.79**	**140**	*e*PG	**Pg**	**11 42 55.9**	**-1.0**
ADVT	**Abdulvahap**	**0.80**	**15**	*e*PG	**Pg**	**11 42 56.8**	**-0.2**
ADVT				*e*SG	**Sg**	**11 43 08.6**	**+1.2**
GEMT	**Gemlik**	**0.80**	**345**	*e*PG	**Pg**	**11 42 56.8**	**-0.3**
DEMI	**Demirci**	**0.85**	**223**	*i* P	**Pg**	**11 42 57.6**	**-0.5**
DEMI				*i* S	**Sg**	**11 43 13.3**	**+4.2**
GPA	**Golpazari**	**0.90**	**46**	*e*PG	**Pg**	**11 42 58.6**	**-0.4**
YLV	**Yalova**	**0.90**	**356**	*e*PG	**Pg**	**11 42 58.9**	**-0.2**
KCT	**Karacabey**	**1.04**	**305**	*e*PG	**Pg**	**11 43 00.5**	**-1.3**
ESKT	**Eskisehir**	**1.08**	**97**	*i* P	**Pg**	**11 43 04.0**	**+1.6**
ESKT				*i* S	**Sg**	**11 43 21.8**	**+5.3**
SEYT	**Eskypehyr**	**1.08**	**97**	*i* P	**Pg**	**11 43 04.0**	**+1.6**
BTOK	**Tokmak**	**1.11**	**275**	*i* P	**Pg**	**11 43 02.8**	**-0.3**
BTOK				*i* S	**Sg**	**11 43 19.5**	**+2.1**
**H

SNAA e pP 12 19 19.6 -4.8
TORD Torodi Ar. Bea 82.74 75 P **P 12 20 07.8 -1.4**
1.0nm,0.7s,mb4.0,baz=256,slow=5.0,SNR=5.4
VNDA Vanda 83.14 191 P **P 12 20 11.9 +1.8**
0.8nm,0.8s,mb3.8,baz=154,slow=2.9,SNR=4.5
KSRS Korea Array 147.20 321 PKPbc PKPbc 12 27 27.9 -0.2
0.7nm,0.7s,baz=35,slow=4.6,SNR=4.4

*IDC **17** 12:08:15.6±1.2,2423N×125.16E,h0km,mb3.8/3,*
mb1 3.8/5,mb1mx3.6/21,mbtmp3.7/5,ML2.8/2,MS3.6/1,
Ms1 3.6/1,ms1mx2.3/46,Error ellipse: s-maj=30.2km
s-min=19.1km az=114.0
*ISCJB **17** 12:08:19.5±0.7,2425N±005×12537E±004,h33km,*
mb3.8/3,Error ellipse: s-maj=7.9km s-min=4.9km
az=153.5
*JMA **17** 12:08:19.3±0.2,2424N×12524E,h0km,M3.7*
*NEIC **17** 12:08:20.5±0.9,2425N×125.19E,h35km,mb3.6/1,Error*
ellipse: s-maj=24.4km s-min=13.1km az=116.0
ISC 17 12:08:21.2±0.7,2433N±005×12530E±005,h35km,n15,
σ1§18/22,mb3.8/3,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.44**	**12**	P	**Pn**	**12 08 30.4**	**-0.6**
JOGS				S	**Sn**	**12 08 38.3**	**+0.5**
JMJ	**Miyako jima 2**	**0.49**	**359**	P	**Pn**	**12 08 30.8**	**-0.8**
JMJ				S	**Sn**	**12 08 39.0**	**+0.1**
JTJ	**Tarama**	**0.63**	**300**	P	**Pn**	**12 08 32.0**	**-1.6**
JTJ				S	**Sn**	**12 08 40.9**	**-1.6**
JIJ	**Ishigaki jima**	**1.06**	**272**	P	**Pn**	**12 08 38.8**	**-0.7**
JIJ				*e*S	**Sn**	**12 08 52.7**	**-0.3**
JKRS	**Kuro-shima**	**1.19**	**266**	P	**Pn**	**12 08 40.6**	**-0.6**
JKRS				*e*S	**Sn**	**12 08 55.3**	**-0.8**
HATJ	**Hateruma jima**	**1.40**	**259**	*e*S	**Sn**	**12 09 02.9**	**+1.6**
IRIF	**Iriomote-Funau**	**1.44**	**271**	P	**Pn**	**12 08 45.8**	**+1.1**
IRIF				*e*S	**Sn**	**12 09 04.6**	**+2.3**
YOJ	**Yonaguni jima**	**2.10**	**274**	P	**Pn**	**12 08 55.5**	**+1.8**
YOJ				*e*S	**Sn**	**12 09 22.7**	**+4.1**
JOW	**Kunigami**	**3.66**	**46**	Pn	**Pn**	**12 09 16.6**	**+1.3**
	1.1nm,0.3s,baz=226,slow=24,SNR=5.6						
JOW				Lg		12 10 16.2	
	3.7nm,0.3s,baz=120,slow=22,SNR=2.7						
KSRS	**Korea Array**	**13.28**	**9**	Pn	**Pn**	**12 11 34.2**	**+7.1**
	0.2nm,0.3s,baz=175,slow=40,SNR=2.6						
MAJO	**Matsushiro**	**16.47**	**39**	Pn	**Pn**	**12 12 09.3**	**-0.2**
	1.6nm,0.3s						
MJAR	**Matsushiro Arr**	**16.47**	**39**	Pn	**Pn**	**12 12 11.4**	**+1.8**
	0.1nm,0.3s,baz=230,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**40.89**	**314**	P	**P**	**12 15 59.1**	**-0.7**
	1.1nm,0.5s,mb3.8,baz=98,slow=11,SNR=6.4						
WRA	**Warramunga Arr**	**44.87**	**168**	P	**P**	**12 16 30.5**	**-1.7**
	1.2nm,0.5s,mb4.0,baz=348,slow=8.8,SNR=14						
ASAR	**Alice Springs**	**48.43**	**169**	P	**P**	**12 16 59.9**	**-0.2**
	0.4nm,0.5s,mb3.7,baz=358,slow=8.0,SNR=16						

*IDC **17** 12:13:05.8±0.9,1449S×7627W,h0km,mb4.0/5,mb1 4.2/8,*
mb1mx4.0/20,mbtmp4.1/8,ML4.1/4,MS3.7/3,Ms1 3.7/3,
ms1mx3.2/29,Error ellipse: s-maj=36.5km s-min=14.1km
az=71.0
*ISCJB **17** 12:13:10.6±1.6,1456S±009×763W±0.1,h55km±16km,*
mb4.0/6,MS3.6/2,Error ellipse: s-maj=22.7km
s-min=9.6km az=146.2
*MOS **17** 12:13:10.4±1.3,1461S×7636W,h33km,mb4.6/1,Error*
ellipse: s-maj=42.5km s-min=19.9km az=28.8
*NEIC **17** 12:13:10.6±0.5,1445S×7639W,h35km,mb4.6/1,*
ML4.2(LIM),Error ellipse: s-maj=17.8km s-min=8.3km
az=58.0
NEIC Felt [II] at Ica.
ISC 17 12:13:12.5±1.4,1456S±009×763W±01,h55km±14km,n23,
σ1§14/25,mb4.0/6,MS3.6/2,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.61**	**349**	Pn	**Pn**	**12 13 50.6**	**-1.6**
	75nm,0.3s,baz=161,slow=15,SNR=11						
NNA				Lg		12 14 27.2	
	141nm,0.3s,baz=104,slow=22,SNR=6.2						
NNA	**Nana**	**2.61**	**349**	*e*Pn	**Pn**	**12 13 47.2**	**-5.1**
NNA				*e*Sn	**Sn**	**12 14 15.1**	**-7.7**
ARE	**Arequipa**	**5.02**	**113**	*e*P	**Pn**	**12 14 25.0**	**-0.3**
ARE				*e*S	**Sn**	**12 15 38.0**	**+16**
ATAH	**Atahualpa**	**7.78**	**345**	Pn	**Pn**	**12 15 05.0**	**+1.7**
	2.3nm,0.3s,baz=203,slow=2.7,SNR=8.4						
ATAH				Sn	**Sn**	**12 16 46.4**	**+16**
	3.7nm,0.3s,baz=339,slow=15,SNR=6.6						
LPAZ	**La Paz**	**8.08**	**103**	Pn	**Pn**	**12 15 09.3**	**+2.0**
	3.1nm,0.3s,baz=285,slow=8.5,SNR=29						
LPAZ				Sn	**Sn**	**12 16 53.4**	**+16**
	0.2nm,0.3s,baz=215,slow=14,SNR=3.8						
LPAZ	**La Paz**	**8.08**	**103**	*e*P	**Pn**	**12 15 08.8**	**+1.6**
LPAZ				*e*		12 16 37.3	
LPAZ				pmax	pmax		
	comp=Z,16nm,0.5s						
LPAZ	**La Paz**	**8.08**	**103**	*e*Pn	**Pn**	**12 15 08.8**	**+1.5**
	comp=Z,16nm,0.5s						
LPAZ				*e*Sn	**Sn**	**12 16 37.2**	**+0.1**
LVC	**Limon Verde**	**10.65**	**140**	Pn	**Pn**	**12 15 41.4**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=307,slow=9.2,SNR=14						
LVC				Sn	**Sn**	**12 17 56.6**	**+16**
	comp=Z,2.5nm,0.3s,baz=90,slow=12,SNR=3.0						
LVC				Lg		12 18 38.9	
	comp=Z,1.7nm,0.3s,baz=130,slow=17,SNR=6.9						
LVC				LR	LR	12 20 08.2	
	comp=Z,466nm,18.4s,baz=322,slow=40						
LVC	**Limon Verde**	**10.65**	**140**	*e*Pn	**Pn**	**12 15 41.0**	**-1.4**
	comp=Z,11nm,0.2s						
LVC				*e*Sn	**Sn**	**12 17 38.6**	**-1.6**
SIV	**San Ignacio**	**14.78**	**98**	Pn	**Pn**	**12 16 33.9**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=353,slow=18,SNR=3.6						
SIV				Sn	**Sn**	**12 19 40.3**	**+19**
	comp=Z,0.2nm,0.3s,baz=207,slow=16,SNR=3.5						
SIV				Lg		12 21 03.4	
	comp=Z,0.1nm,0.3s,baz=47,slow=22,SNR=3.1						
CFAA	**Coronel Fontan**	**18.51**	**158**	P	**Pn**	**12 17 25.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=332,slow=11,SNR=4.0						
SDV	**Santo Domingo**	**23.96**	**14**	P	**P**	**12 18 21.1**	**-0.8**
	comp=Z,4.5nm,0.5s,mb4.2,baz=223,slow=9.7,SNR=6.5						
PLCA	**Paso Flores**	**26.56**	**170**	P	**P**	**12 18 46.0**	**+0.7**
	comp=Z,1.6nm,0.8s,mb3.6,baz=340,slow=7.9,SNR=3.6						
PCRV	**Puerto La Cruz**	**27.17**	**26**	LR	LR	12 28 34.3	
	comp=Z,264nm,19.2s,MS3.8,baz=324,slow=34						
PLAL	**Pickwick Lake**	**50.52**	**347**	*e*P	**P**	**12 22 03.2**	**-2.0**
	comp=Z,4.5nm,0.6s,mb4.6						
TXAR	**Lajitas Array**	**51.01**	**329**	P	**P**	**12 22 09.6**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.7,baz=148,slow=9.2,SNR=9.4						
PDAR	**Pinedale Array**	**64.70**	**333**	P	**P**	**12 23 44.7**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.5,baz=125,slow=5.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**81.98**	**74**	P	**P**	**12 25 28.1**	**+0.9**
	comp=Z,4.0nm,0.5s,mb4.6,baz=264,slow=5.2,SNR=63						
DAVOX	**Davos/Dischmat**	**97.89**	**44**	LR	LR	13 04 31.3	
	comp=Z,16nm,21.5s,MS3.5,baz=78,slow=32						
ASAR	**Alice Springs**	**131.87**	**218**	PKP	PKPdf	12 32 21.2	+0.8
	comp=Z,0.2nm,0.9s,baz=232,slow=38,SNR=3.1						
WRA	**Warramunga Arr**	**134.34**	**222**	PKP	PKPdf	12 32 26.6	+1.4
	comp=Z,0.4nm,0.7s,baz=130,slow=1.7,SNR=4.7						
MKAR	**Makanchi Array**	**143.22**	**25**	PKP	PKPdf	12 32 41.8	+1.2
	comp=Z,0.2nm,0.3s,baz=345,slow=4.9,SNR=2.8						
SONM	**Songino Array**	**146.75**	**357**	PKPbc	PKPbc	12 32 49.6	+1.3
	comp=Z,1.2nm,0.5s,baz=328,slow=2.5,SNR=13						

*NEIC **17** 12:25:50.7,3269S×7170W,h3km,ML2.9(GUC),After*
GUC.
GUC 17 12:25:50.7±0.8,3269S×7170W,h3km±3km,MD3.8,ML2.9,
7C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.64**	**116**	*e*P	Pg	12 26 04.4	+1.5
ROCH				*i* S	Sg	12 26 13.6	+2.4
CHNG	**Los Chungos**	**0.82**	**12**	⇓*i*P	Pg	12 26 07.2	+0.7
CHNG				*i* S	Sg	12 26 18.8	+1.6
JACH	**Jahuel**	**0.93**	**90**	*e*P	Pg	12 26 08.9	+0.4
JACH				*i* S	Sg	12 26 22.6	+2.0
PEL	**Peldehue**	**0.96**	**118**	⇓*i*P	Pg	12 26 09.3	+0.2
PEL				*i* S	Sg	12 26 23.4	+1.8
PEL				AML	AML	12 26 24.2	
	comp=E,1μm,0.2s						
RCDM	**Rinconada Maip**	**1.09**	**137**	⇑*i*P	Pg	12 26 11.0	-0.6
RCDM				*i* S	Sg	12 26 26.6	+0.8
RCDM				AML	AML	12 26 27.6	
	comp=E,443nm,0.1s						
RCDM	**Rinconada Maip**	**1.09**	**137**	⇑*i*P	Pg	12 26 11.0	-0.6
RCDM				*i* S	Sg	12 26 26.6	+0.8
TACH	**Talagante**	**1.15**	**147**	⇑*i*P	Pg	12 26 11.9	-0.8
TACH				*i* S	Sg	12 26 26.3	-1.3
SAN	**Santiago**	**1.15**	**131**	*e*P	Pg	12 26 11.8	-1.0
SAN				*i* S	Sg	12 26 28.7	+0.9
SAN				AML	AML	12 26 32.2	
	comp=E,339nm,0.8s						
SAN	**Santiago**	**1.15**	**131**	*e*P	Pg	12 26 11.8	-1.0
SAN				*i* S	Sg	12 26 28.7	+0.9
ANTU	**Antumapu**	**1.25**	**135**	⇑*i*P	Pg	12 26 14.2	-0.4
ANTU				*i* S	Sg	12 26 31.6	+0.8
ANTU				AML	AML	12 26 34.3	
	comp=E,400nm,0.5s						
ANTU	**Antumapu**	**1.25**	**135**	⇑*i*P	Pg	12 26 14.2	-0.4
ANTU				*i* S	Sg	12 26 31.6	+0.8
FCH	**Farellones**	**1.34**	**119**	⇓*i*P	Pn	12 26 15.6	-0.7
FCH				*i* S	Sg	12 26 33.0	-0.8
FCH				AML	AML	12 26 34.4	
	comp=N,303nm,0.2s						
PCH	**Pirque**	**1.36**	**133**	⇑*i*P	Pn	12 26 15.7	-0.8
PCH				*i* S	Sg	12 26 34.8	+0.5
CHCH	**Chadas Angostu**	**1.51**	**145**	*e*P	Pn	12 26 18.1	-0.6
CHCH				*i* S	Sn	12 26 38.6	-0.4
LMEL	**Las Melosas**	**1.70**	**133**	*e*P	Pn	12 26 21.1	-0.2
LMEL				*i* S	Sn	12 26 44.1	+0.5
LMEL				AML	AML	12 26 46.5	
	comp=N,340nm,0.2s						
LMEL	**Las Melosas**	**1.70**	**133**	*e*P	Pn	12 26 21.1	-0.2
LMEL				*i* S	Sn	12 26 44.1	+0.5
CICH	**Cipreses**	**1.94**	**147**	⇑*i*P	Pn	12 26 24.4	-0.2
CICH				*i* S	Sn	12 26 51.1	+1.6

*ISCJB **17** 12:37:07.8±0.5,361S±010×113W±0.1,h10km,mb4.2/16,*
MS3.9/10,Error ellipse: s-maj=21.4km s-min=10.4km
az=29.0
*IDC **17** 12:37:10.2±0.9,3.18S×1158W,h0km,mb4.1/15,*
mb1 4.3/15,mb1mx4.1/29,mbtmp4.1/15,MS3.9/11,
Ms1 3.9/11,ms1mx3.7/35,Error ellipse: s-maj=31.6km
s-min=19.0km az=138.0
*NEIC **17** 12:37:11.6±0.6,3.17S×1161W,h10km,mb4.7/2,Error*
ellipse: s-maj=20.3km s-min=11.4km az=141.0
ISC 17 12:37:09.7±0.5,359S±010×114W±01,h10km,
(h8km±.2km:pP-P),n34,σ0§88/27,mb4.2/16,MS3.9/10,
North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**18.83**	**344**	LR	LR	12 47 38.0	
	comp=Z,316nm,19.8s,baz=332,slow=34						
TOA0	**Torodi Ar. Sit**	**21.11**	**38**	*e*P	**P**	**12 41 54.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**21.11**	**38**	P	**P**	**12 41 55.3**	**+0.5**
	7.8nm,0.9s,mb4.0,baz=224,slow=10.0,SNR=16						
TORD				LR	LR	12 49 25.3	
	comp=Z,409nm,21.2s,MS3.8,baz=240,slow=35						
BDFB	**Brasilia**	**37.94**	**249**	LR	LR	12 58 29.6	
	comp=Z,103nm,18.4s,MS3.7,baz=280,slow=34						
BOSA	**Boshof**	**42.82**	**129**	P	**P**	**12 45 13.8**	**+5.8**
	2.2nm,0.8s,mb4.0,baz=306,slow=4.9,SNR=4.3						
ESDC	**Sonseca Array**	**43.59**	**8**	P	**P**	**12 45 13.8**	**-0.3**
	0.1nm,0.3s,baz=198,slow=7.8,SNR=4.4						
KEST	**Kesra**	**43.68**	**25**	P	**P**	**12 45 16.3**	**+1.4**
	2.7nm,0.8s,mb4.0,baz=130,slow=3.9,SNR=5.9						
KMBO	**Kilima Mbogo**	**48.68**	**88**	LR	LR	13 05 04.7	
	comp=Z,521nm,20.0s,MS4.5,baz=267,slow=34						
SIV	**San Ignacio**	**50.33**	**252**	P	**P**	**12 46 08.5**	**+1.4**
	0.3nm,0.3s,mb3.8,baz=92,slow=12,SNR=4.7						
DAVOX	**Davos/Dischmat**	**53.56**	**18**	P	**P**	**12 46 30.0**	**-0.7**
	4.7nm,0.9s,mb4.4,baz=198,slow=8.3,SNR=6.1						
BFO	**Black Forest**	**54.51**	**16**	*e*P	**P**	**12 46 44.0**	**+6.4**
EIL	**Elat**	**55.33**	**50**	P	**P**	**12 46 43.1**	**-0.9**
	1.5nm,0.4s,mb4.4,baz=172,slow=11,SNR=4.8						
EIL				LR	LR	13 11 23.3	
	comp=Z,87nm,18.5s,MS3.9,baz=287,slow=37						
WET	**Wettzell**	**56.60**	**19**	*e*P	**P**	**12 46 52.6**	**-0.1**
GEC2	**GERESS Array S**	**56.61**	**20**	*e*P	**P**	**12 46 52.6**	**-0.2**
GERES	**GERESS Array B**	**56.61**	**20**	P	**P**	**12 46 52.9**	**+0.1**
	4.9nm,0.9s,mb4.5,baz=190,slow=6.8,SNR=20						
GERES				LR	LR	13 11 22.6	
	comp=Z,104nm,21.2s,MS3.9,baz=244,slow=36						
LPAZ	**La Paz**	**57.09**	**253**	P	**P**	**12 47 00.4**	**+3.6**
	1.7nm,1.1s,mb4.0,baz=331,slow=4.4,SNR=4.3						
MMAI	**Mount Meron Ar**	**57.31**	**47**	LR	LR	13 13 48.3	
	comp=Z,88nm,18.0s,MS3.9,baz=300,slow=38						
ASF	**Jabal al Asfar**	**57.99**	**48**	P	**P**	**12 47 05.3**	**+2.5**
	1.1nm,0.2s,mb4.5,baz=136,slow=1.6,SNR=5.0						
ASF				LR	LR	13 11 55.3	
	comp=Z,93nm,19.3s,MS3.9,baz=262,slow=36						
VRAC	**Vranov**	**58.01**	**21**	P	**P**	**12 47 02.0**	**-0.6**
	3.0nm,0.5s,mb4.6,baz=168,slow=8.6,SNR=3.3						
KIEV	**Kiev**	**64.29**	**27**	*e*P	**P**	**12 47 44.0**	**-1.2**
	15nm,1.3s,mb4.9						
AKASG	**Malin Array Be**	**64.30**	**27**	P	**P**	**12 47 44.6**	**-0.7**
	1.0nm,0.6s,mb4.1,baz=229,slow=7.5,SNR=8.1						
NOA	**NORSAR Array B**	**66.79**	**12**	LR	LR	13 15 08.9	
	comp=Z,58nm,18.3s,MS3.8,baz=180,slow=34						
VNA1	**Neumayer--Stat**	**67.00**	**179**	*e*	**P**	**12 48 02.4**	**0.0**
VNA1				*e*	pP	12 48 04.9	-0.7
VNA1				*e*		12 48 10.6	
GNI	**Garni**	**67.28**	**44**	LR	LR	13 20 05.5	
	comp=Z,46nm,22.0s,MS3.7,baz=299,slow=38						
VNA2	**Neumayer--Watz**	**67.29**	**179**	*e*	**P**	**12 48 04.1**	**-0.2**
VNA2				*e*	pP	12 48 06.4	-1.1
VNA2				*e*		12 48 11.2	
VNA3	**Neumayer Olymp**	**67.57**	**179**	*e*	**P**	**12 48 05.4**	**-0.6**
VNA3				*e*	pP	12 48 07.9	-1.4
VNA3				*e*		12 48 12.6	
SNAA	**Sanae**	**68.21**	**177**	*e*	**P**	**12 48 09.8**	**-0.2**
SNAA				*e*	pP	12 48 12.3	-1.0
SNAA				*e*		12 48 17.9	
JMIC	**Jan Mayen**	**74.46**	**1**	LR	LR	13 16 25.5	
	comp=Z,54nm,21.6s,MS3.8,baz=276,slow=32						
TEIG	**Tepich**	**78.95**	**291**	*e*P	**P**	**12 49 13.1**	**-1.1**
	2.9nm,0.7s,mb4.3						
AKTK	**Aktyubinsk**	**79.84**	**37**	P	**P**	**12 49 19.2**	**+0.8**
AKTO	**Aktyubinsk**	**79.84**	**37**	P	**P**	**12 49 19.2**	**+0.8**
	2.2nm,0.9s,mb4.1,baz=238,slow=9.8,SNR=4.8						
BVAR	**Borovoye Array**	**87.91**	**37**	P	**P**	**12 49 59.5**	**-0.1**
	1.0nm,0.7s,mb4.1,baz=228,slow=1.8,SNR=5.5						
TXAR	**Lajitas Array**	**93.70**	**299**	P	**P**	**12 50 27.0**	**-0.2**
	0.7nm,0.9s,mb4.1,baz=114,slow=6.2,SNR=5.0						
TXAR	**Lajitas Array**	**93.70**	**299**	P	**P**	**12 50 27.0**	**-0.2**

*ISCJB **17** 12:47:00.0±0.8,5146N±004×16.18E±004,h0km,Error*
ellipse: s-maj=6.6km s-min=3.2km az=12.3
*WAR **17** 12:47:03.0,5145N×1618E,ML2.5,Mining Induced*
*PRU **17** 12:47:03.8,5138N×1614E,h0km*
ISC 17 12:47:01.9±0.8,5145N±005×1616E±004,h0km,n14,
σ0§94/29,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**172**	*e*Pg	**Pg**	**12 47 14.2**	**+0.6**
KSP				*e*Sg	**Sg**	**12 47 21.2**	**-0.2**
UPC	**Upice**	**0.94**	**186**	*e*PG	**Pg**	**12 47 20.3**	**+0.3**
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	**Pg**	**12 47 23.2**	**+0.2**
DPC				*e*SG	**Sg**	**12 47 37.4**	**+0.1**
	comp=Z,29nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**228**	*e*PG	**Pg**	**12 47 28.4**	**+0.4**
PVCC				*e*SG	**Sg**	**12 47 46.7**	**+1.1**
	comp=Z,95nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**249**	PN	**Pn**	**12 47 29.8**	**-0.4**
BRG				PG	**Pg**	**12 47 31.0**	**+0.2**
BRG				SG	**Sg**	**12 47 51.2**	**+0.8**
	comp=Z,42nm,0.4s						
PRU	**Pruhonice**	**1.78**	**216**	*e*PN	**Pn**	**12 47 34.1**	**+0.1**
PRU				*e*PG	**Pg**	**12 47 35.4**	**-0.7**
PRU				*e*SG	**Sg**	**12 47 59.0**	**-0.2**
	comp=Z,34nm,0.4s						
CLL	**Collm**	**1.98**	**267**	*e*Pg	**Pg**	**12 47 39.0**	**-0.9**
CLL				*i* Sg	**Sg**	**12 48 05.8**	**+0.2**
	comp=Z,13nm,0.3s						
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*SG	**Sg**	**12 48 05.6**	**-2.1**
TREC	**Trest**	**2.19**	**192**	*e*PN	**Pn**	**12 47 40.9**	**+1.3**
TREC				*e*PG	**Pg**	**12 47 43.1**	**-0.9**
OJC	**Ojcow**	**2.61**	**117**	*e*Pg	**Pg**	**12 47 51.3**	**-0.7**
OJC				*e*Sg	**Sg**	**12 48 25.4**	**-0.5**
NKC	**Novy Kostel**	**2.65**	**244**	*e*PN	**Pn**	**12 47 46.1**	**+0.3**
NKC				*e*PG	**Pg**	**12 47 52.1**	**-0.5**
NKC				*e*SG	**Sg**	**12 48 27.3**	**+0.4**
	comp=Z,28nm,0.4s						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	**Pn**	**12 47 49.0**	**+0.4**
KHC				*e*PG	**Pg**	**12 47 54.8**	**-1.7**
KHC				*e*SG	**Sg**	**12 48 31.9**	**-1.4**
	comp=Z,8.9nm,0.4s						
MODS	**Modra-Piesok**	**3.16**	**166**	*e*SG	**Sg**	**12 48 46.3**	**+2.9**
STHS	**Stebnicka Huta**	**3.83**	**120**	*e*PG	**Pg**	**12 48 16.1**	**+0.7**
STHS				*e*SG	**Sg**	**12 49 08.0**	**+3.0**

*ISCJB **17** 12:58:23.6±0.3,4948N±002×660E±002,h23km±3km,*
Error ellipse: s-maj=2.9km s-min=2.4km az=144.3
*CSEM **17** 12:58:23.8±0.1,4946N×663E,h12km,ML3.2/20,Error*
ellipse: s-maj=0.9km s-min=0.8km az=159.0
*NEIC **17** 12:58:23.7,4947N×663E,h11km,ML2.8(STR),*
ML3.2(LDG),After LDG.
*BGR **17** 12:58:23.8±0.4,4942N×661E,h10km,ML2.4/3,Error*
ellipse: s-maj=7.8km s-min=4.4km az=47.0
*LDG **17** 12:58:23.7±0.1,4947N×662E,h11km,Md3.0/3,Ml3.2/22,*
Error ellipse: s-maj=1.3km s-min=1.1km az=118.0
*STR **17** 12:58:23.2±0.4,4942N×660E,h1km,Ml2.8,Error ellipse:*
s-maj=0.0km s-min=0.0km az=0.0
*LEDBW **17** 12:58:24.0±0.6,4949N×002×664E±004,h18km±4km,*
ML2.6,Error ellipse: s-maj=15.2km s-min=6.2km az=75.0
*UCC **17** 12:58:24.5±0.5,4951N×661E,h20km±1km,ML2.0*
*BNS **17** 12:58:25.7±0.3,4954N×667E,h14km±6km,ML2.3*
ISC 17 12:58:22.7±0.2,4946N±001×660E±002,h17km±1km,n124,
σ0§97/240,7C-4D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUP	**Duppenweiler**	**0.13**	**110**	⇑*e*P*	**Pg**	**12 58 27.7**	**+1.2**
DUP				*i* S*	**Sg**	**12 58 30.6**	**+1.5**
DUP	**Duppenweiler**	**0.13**	**110**	⇑*e*Pg	**Pg**	**12 58 27.7**	**+1.2**
DUP				*i* Sg	**Sg**	**12 58 30.6**	**+1.4**
RIVT	**Riveris**	**0.28**	**23**	⇓*i*P*	**Pg**	**12 58 29.4**	**+0.7**
RIVT				*i* S*	**Sg**	**12 58 32.7**	**-0.1**
WLF	**Walferdange**	**0.36**	**306**	*e*Pg	**Pg**	**12 58 31.4**	**+1.2**
	SNR=7.3						
WLF				*e*Sg	**Sg**	**12 58 36.0**	**+0.8**
	SNR=12						
WLF	**Walferdange**	**0.36**	**306**	⇑P	**Pg**	**12 58 31.4**	**+1.2**
WLF				S	**Sg**	**12 58 36.0**	**+0.8**
	comp=N,54nm,0.2s						
WLF	**Walferdange**	**0.36**	**306**	*e*P	**Pg**	**12 58 31.2**	**+1.1**
WLF				*e*S	**Sg**	**12 58 35.9**	**+0.7**
RUP	**Ruppelstein**	**0.39**	**50**	⇑*i*P*	**Pg**	**12 58 31.5**	**+0.8**
RUP				PmP		12 58 32.6	
RUP				SmS		12 58 38.5	
RUP	**Ruppelstein**	**0.39**	**50**	⇑*i*Pg	**Pg**	**12 58 31.5**	**+0.8**
RUP	**Ruppelstein**	**0.39**	**50**	PmP		12 58 32.6	
RUP				SmS		12 58 38.5	
RUP	**Ruppelstein**	**0.39**	**50**	Pg	**Pg**	**12 58 31.3**	**+0.6**
RUP				Sg	**Sg**	**12 58 36.0**	**-0.1**
FSH	**Hochheid**	**0.70**	**28**	⇓*e*P*	**Pb**	**12 58 36.8**	**+0.4**
FSH	**Hochheid**	**0.70**	**28**	⇓*e*Pg	**Pg**	**12 58 36.8**	**+0.4**
BLI	**Bleialf**	**0.80**	**346**	⇓*e*P*	**Pb**	**12 58 38.7**	**+0.6**
BLI				SmS		12 58 51.4	
PEB	**Petersbachel**	**0.83**	**118**	⇑*i*Pg	**Pg**	**12 58 39.1**	**+0.3**
PEB				Sg	**Sg**	**12 58 49.5**	**-0.3**
PEB				SmS		12 58 52.3	
PEB	**Petersbachel**	**0.83**	**118**	⇑*i*P	**Pb**	**12 58 39.1**	**+0.6**
PEB				S	**Sb**	**12 58 49.5**	**+0.1**
PEB				Sx	Sx	12 58 52.3	
HILG	**Hillesheim**	**0.84**	**4**	⇑*e*Pg	**Pg**	**12 58 39.6**	**+0.6**
HILG				*e*Sg	**Sg**	**12 58 49.8**	**-0.3**
	comp=N,140nm,0.4s						
IMS	**Imsbach**	**0.86**	**80**	P*	**Pb**	**12 58 39.9**	**+0.8**
IMS				S*	**Sb**	**12 58 51.5**	**+1.3**
BGG	**Burgeitz**	**0.89**	**32**	⇑*e*Pg	**Pg**	**12 58 40.0**	**0.0**
BGG				*e*Sg	**Sg**	**12 58 50.8**	**-0.9**
	comp=N,85nm,0.3s						
LANF	**Langenberg**	**0.92**	**121**	Pg	**Pg**	**12 58 41.2**	**+0.6**
LANF				Sg	**Sg**	**12 58 52.7**	**0.0**
LANF	**Langenberg**	**0.92**	**121**	⇑P	**Pb**	**12 58 41.4**	**+1.2**
KTD	**Kalmit**	**0.98**	**97**	Pg	**Pg**	**12 58 42.2**	**+0.5**
KTD	**Kalmit**	**0.98**	**97**	Pg	**Pg**	**12 58 42.1**	**+0.5**
KTD				Sg	**Sg**	**12 58 54.5**	**0.0**
RFYF	**Reffroy**	**1.11**	**222**	*e*Pg	**Pg**	**12 58 45.5**	**+1.4**
	baz=47						
RFYF				*e*Sn	**Sn**	**12 58 58.2**	**0.

comp=N,29nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 1.40 227 *e*Pn **Pn 12 58 48.1 +0.8**
MEZF *e*Pg **Pg 12 58 50.1 +0.6**
MEZF *e*Sn **Sn 12 59 05.1 -0.1**
MEZF *e*Sg **Sg 12 59 08.8 +1.1**
TOD Tromm 1.45 83 Sg **Sg 12 59 07.7 -1.6**
TOD Tromm 1.45 83 Pg **Pg 12 58 50.3 -0.2**
DOU Dourbes 1.45 297 P **Pn 12 58 48.7 +0.7**
DOU S **Sn 12 59 06.2 -0.3**
comp=N,25nm,0.4s
DOU Dourbes 1.45 297 P **Pn 12 58 48.6 +0.6**
DOU S **Sn 12 59 06.2 -0.4**
comp=N,25nm,0.4s
HAU Haudompre 1.46 187 *e*P **Pn 12 58 50.5 +2.4**
HAU Haudompre 1.46 187 *e*Pg **Pg 12 58 51.4 +0.6**
HAU *e*Sn **Sn 12 59 05.2 -1.6**
comp=N,73nm,0.2s,SNR=1.0
HAU *e*Sg **Sg 12 59 09.2 -0.6**
comp=N,95nm,0.3s
HAU Haudompre 1.46 187 *e*P **Pn 12 58 50.5 +2.4**
HAU Haudompre 1.46 187 *e*Pg **Pg 12 58 51.4 +0.6**
HAU *e*Sn **Sn 12 59 05.2 -1.6**
comp=N,36nm,0.2s,SNR=1.0
HAU *e*Sg **Sg 12 59 09.2 -0.6**
comp=N,48nm,0.3s
HAU Haudompre 1.46 187 *e*Pn **Pn 12 58 48.8 +0.7**
HAU *e*P 12 58 50.5
HAU *e*Pg **Pg 12 58 51.4 +0.6**
HAU *e*Sn **Sn 12 59 05.2 -1.6**
HAU *e*Sg **Sg 12 59 09.2 -0.6**
BIW Bindweide 1.51 32 Pn **Pn 12 58 49.7 +0.9**
BIW Pg **Pg 12 58 51.5 -0.2**
BIW Bindweide 1.51 32 P **Pn 12 58 51.5 +2.7**
HOBG Hohbusch 1.60 17 *e*Pg **Pg 12 58 50.0 -3.4**
BFO Black Forest 1.60 134 *e*Pg **Pg 12 58 50.6 -2.9**
SNR=11
BFO *e*Sg **Sg 12 59 09.0 -5.4**
BFO Black Forest 1.60 134 *e*Pg **Pg 12 58 50.7 -2.8**
BFO *e*Sg **Sg 12 59 09.0 -5.3**
SFTF Sexfontaines 1.62 220 *e*Pg **Pg 12 58 54.7 +0.9**
baz=36
SFTF *e*Sn **Sn 12 59 10.3 -0.5**
SFTF *e*Sg **Sg 12 59 16.0 +1.1**
comp=N,20nm,0.2s,baz=38
SFTF Sexfontaines 1.62 220 *e*Pg **Pg 12 58 54.7 +0.9**
SFTF *e*Sn **Sn 12 59 10.3 -0.5**
SFTF *e*Sg **Sg 12 59 16.0 +1.1**
comp=N,9.9nm,0.2s
SFTF Sexfontaines 1.62 220 *e*Pn **Pn 12 58 50.6 +0.2**
SFTF *e*Pg **Pg 12 58 54.7 +0.9**
SFTF *e*Sn **Sn 12 59 10.3 -0.5**
SFTF *e*Sg **Sg 12 59 16.0 +1.1**
MOF Molkenrain 1.64 167 Pg **Pg 12 58 52.7 -1.5**
MOF Molkenrain 1.64 167 P **Pn 12 58 54.2 +3.5**
MOF Molkenrain 1.64 167 P **Pn 12 58 57.1 +6.4**
LBG Lerchenberg 1.65 118 P **Pn 12 58 51.7 +1.0**
LBG Sn **Sn 12 59 09.9 -1.6**
LBG Lerchenberg 1.65 118 Px Px 12 58 51.7
LBG Sn **Sn 12 59 09.9 -1.6**
HINF Hinterlalfeld 1.65 174 *e*P **Pn 12 58 53.2 +2.5**
SNR=1.0
HINF Hinterlalfeld 1.65 174 *e*Pg **Pg 12 58 54.7 +0.4**
HINF *e*Sn **Sn 12 59 11.0 -0.5**
comp=N,40nm,0.2s,SNR=1.0
HINF *e*Sg **Sg 12 59 14.7 -1.1**
comp=N,39nm,0.2s
HINF Hinterlalfeld 1.65 174 *e*P **Pn 12 58 53.2 +2.5**
SNR=1.0
HINF Hinterlalfeld 1.65 174 *e*Pg **Pg 12 58 54.7 +0.4**
HINF *e*Sn **Sn 12 59 11.0 -0.5**
comp=N,20nm,0.2s,SNR=1.0
HINF *e*Sg **Sg 12 59 14.7 -1.1**
comp=N,20nm,0.2s
HINF Hinterlalfeld 1.65 174 *e*Pn **Pn 12 58 51.1 +0.4**
HINF *e*P 12 58 53.2
HINF *e*Pg **Pg 12 58 54.7 +0.4**
HINF *e*Sn **Sn 12 59 11.0 -0.5**
HINF *e*Sg **Sg 12 59 14.7 -1.1**
BAIF Baives 1.66 292 *e*Pg **Pg 12 58 54.8 +0.2**
SNR=1.0
BAIF *e*Sn **Sn 12 59 11.5 -0.4**
comp=N,35nm,0.4s,SNR=1.0
BAIF *e*Sg **Sg 12 59 16.9 +0.6**
comp=N,27nm,0.3s
BAIF Baives 1.66 292 *e*Pg **Pg 12 58 54.8 +0.2**
SNR=1.0
BAIF *e*Sn **Sn 12 59 11.5 -0.4**
comp=N,18nm,0.4s,SNR=1.0
BAIF *e*Sg **Sg 12 59 16.9 +0.6**
comp=N,14nm,0.3s
BAIF Baives 1.66 292 *e*Pn **Pn 12 58 51.5 +0.5**
BAIF *e*Pg **Pg 12 58 54.8 +0.2**
BAIF *e*Sn **Sn 12 59 11.5 -0.4**
BAIF *e*Sg **Sg 12 59 16.9 +0.6**
KIZ Kirchzarten 1.74 149 Pg **Pg 12 58 57.9 +1.9**
KIZ Kirchzarten 1.74 149 Px Px 12 58 57.9
FELD Feldberg im Sc 1.83 149 P **Pn 12 58 53.8 +0.5**
FELD Feldberg im Sc 1.83 149 Pg **Pg 12 58 57.7 -0.2**
STU Stuttgart 1.84 111 *e*Sg **Sg 12 59 15.9 -5.9**
SIND Sindeldorf 1.97 92 Pg **Pg 12 59 00.5 +0.1**
SIND Sindeldorf 1.97 92 Px Px 12 59 00.5
BUCH Bad Urach 2.08 118 P **Pn 12 58 57.6 +1.0**
BUCH Bad Urach 2.08 118 Px Px 12 58 57.6
LOMF Lomont 2.11 176 Pg **Pg 12 59 02.8 -0.4**
LOMF Lomont 2.11 176 Sg **Sg 12 59 29.9 -0.7**
GUT Gutenstein 2.17 129⇑ *e*P **Pn 12 58 58.8 +0.9**
GUT Gutenstein 2.17 129⇑ *e*Pn **Pn 12 58 58.8 +0.9**
SISB Singen-Schiene 2.37 138 Sg **Sg 12 59 38.5 -0.2**
HDH Heidenheim-Cha 2.53 109 Sg **Sg 12 59 42.7 -1.2**
UBBA Unterbreizbach 2.58 57 *e*Sg **Sg 12 59 41.9 -3.6**
SNR=5.1
LOR Lormes 2.85 221 *e*Pn **Pn 12 59 07.3 0.0**
baz=49
LOR Lormes 2.85 221 *e*Pg **Pg 12 59 17.2 -0.1**
baz=44
LOR *e*Sn **Sn 12 59 40.4 -0.7**
LOR *e*Sg **Sg 12 59 53.5 -0.7**
comp=N,19nm,0.3s,baz=39,SNR=1.0
LOR Lormes 2.85 221 *e*Pg **Pg 12 59 17.2 -0.1**
LOR *e*Sn **Sn 12 59 40.4 -0.7**
LOR *e*Sg **Sg 12 59 53.5 -0.7**
comp=N,9.4nm,0.3s,SNR=1.0
LOR Lormes 2.85 221 *e*Pn **Pn 12 59 07.3 0.0**
LOR *e*Pg **Pg 12 59 17.2 -0.1**
LOR *e*Sn **Sn 12 59 40.4 -0.7**
LOR *e*Sg **Sg 12 59 53.5 -0.7**
CABF La Chapelle 2.87 187 *e*Pg **Pg 12 59 16.9 -0.7**
SNR=1.0
CABF *e*Sg **Sg 12 59 53.7 -1.0**
comp=N,20nm,0.5s,SNR=1.0
CABF La Chapelle 2.87 187 *e*Pg **Pg 12 59 16.9 -0.7**
SNR=1.0
CABF *e*Sg **Sg 12 59 53.7 -1.0**
comp=N,9.9nm,0.5s,SNR=1.0
CABF La Chapelle 2.87 187 *e*Pn **Pn 12 59 07.9 +0.4**
CABF *e*Pg **Pg 12 59 16.9 -0.7**
CABF *e*Sg **Sg 12 59 53.7 -1.0**
UBR Ueberruh 2.93 126 P **Pn 12 59 09.9 +1.5**
SSF Saint Saulge 3.16 222 *e*Pg **Pg 12 59 24.6 +1.4**
SSF *e*Sn **Sn 12 59 47.7 -1.1**
SSF *e*Sg **Sg 13 00 03.4 -0.8**
comp=N,29nm,0.6s
SSF Saint Saulge 3.16 222 *e*Pg **Pg 12 59 24.6 +1.4**
SSF *e*Sn **Sn 12 59 47.7 -1.1**
SSF *e*Sg **Sg 13 00 03.4 -0.8**
comp=N,15nm,0.6s
SSF Saint Saulge 3.16 222 *e*Pn **Pn 12 59 11.4 -0.2**
SSF *e*Pg **Pg 12 59 24.6 +1.4**
SSF *e*Sn **Sn 12 59 47.7 -1.1**
SSF *e*Sg **Sg 13 00 03.4 -0.8**
SMF Signal de Mont 3.37 214 *e*Pn **Pn 12 59 14.5 +0.2**
SNR=1.0
SMF *e*Sn **Sn 12 59 52.7 -1.1**
SNR=1.0
SMF *e*Sg **Sg 13 00 09.7 -1.0**
comp=N,14nm,0.3s,SNR=1.0
SMF Signal de Mont 3.37 214 *e*Pn **Pn 12 59 14.5 +0.2**
SNR=1.0
SMF *e*Sn **Sn 12 59 52.7 -1.1**
SNR=1.0
SMF *e*Sg **Sg 13 00 09.7 -1.0**
comp=N,6.8nm,0.3s,SNR=1.0
CLZ Clausthal 3.39 44 *e*Pg **Pg 12 59 25.1 -2.5**
CLZ *e*Sg **Sg 13 00 08.2 -3.2**

HYF Humbligny 3.43 232 *e*Sg **Sg 13 00 11.9 -0.8**
comp=N,79nm,0.4s
HYF Humbligny 3.43 232 *e*Sg **Sg 13 00 11.9 -0.8**
comp=N,40nm,0.4s
AVF Avril sur Loir 3.44 220 *e*Pn **Pn 12 59 15.5 +0.1**
SNR=1.0
AVF *e*Sn **Sn 12 59 54.6 -1.1**
AVF *e*Sg **Sg 13 00 12.4 -0.7**
comp=N,8.7nm,0.4s,SNR=1.0
AVF Avril sur Loir 3.44 220 *e*Pn **Pn 12 59 15.5 +0.1**
SNR=1.0
AVF *e*Sn **Sn 12 59 54.6 -1.1**
AVF *e*Sg **Sg 13 00 12.4 -0.7**
comp=N,4.3nm,0.4s,SNR=1.0
BGF Bois d'Agland 3.84 222 *e*Pg **Pg 12 59 35.4 -0.8**
BGF *e*Sn **Sn 13 00 03.2 -2.3**
SNR=1.0
BGF *e*Sg **Sg 13 00 24.8 -1.1**
comp=N,36nm,0.4s,SNR=1.0
BGF Bois d'Agland 3.84 222 *e*Pg **Pg 12 59 35.4 -0.8**
BGF *e*Sn **Sn 13 00 03.2 -2.3**
SNR=1.0
BGF *e*Sg **Sg 13 00 24.8 -1.1**
comp=N,18nm,0.4s,SNR=1.0
BGF Bois d'Agland 3.84 222 *e*Pn **Pn 12 59 22.0 +1.1**
BGF *e*Pg **Pg 12 59 35.4 -0.8**
BGF *e*Sn **Sn 13 00 03.2 -2.3**
BGF *e*Sg **Sg 13 00 24.8 -1.1**
TCF Toulx Ste Croi 4.33 225 *e*Pg **Pg 12 59 44.2 -1.4**
TCF *e*Sg **Sg 13 00 40.4 -1.2**
comp=N,6.8nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 4.33 225 *e*Pg **Pg 12 59 44.2 -1.4**
TCF *e*Sg **Sg 13 00 40.4 -1.2**
comp=N,3.4nm,0.4s,SNR=1.0
LDF La Druitiere 4.51 262 *e*Pn **Pn 12 59 31.6 +1.6**
SNR=1.0
FLN La Foliniere 4.70 264 *e*Pn **Pn 12 59 34.1 +1.4**
SNR=1.0
GRR Gorron 5.03 261 *e*Pn **Pn 12 59 37.7 +0.5**
GRR *e*Sn **Sn 13 00 29.8 -5.1**
comp=N,1.8nm,0.2s
CAF Calviac 5.48 216 *e*Pg **Pg 13 00 02.7 -4.9**
SNR=1.0
SGMF Saint Gilles 6.16 262 *e*Pn **Pn 12 59 52.4 -0.3**

NEIC ***17*** *13:00:13.8±0.6, 1386S×7602W, h35km, mb4.4/3, Error ellipse: s-maj=20.8km s-min=8.8km az=49.0*
ISCJB ***17*** *13:00:14.6±1.4, 138S±0.1×759W±0.1, h58km±12km, mb4.1/10, Error ellipse: s-maj=27.4km s-min=9.0km az=143.6*
IDC ***17*** *13:00:16.3±1.8, 1377S×7581W, h55km±14km, mb3.7/7, mb1 4.0/11, mb1mx3.8/22, mbtmp3.8/11, Error ellipse: s-maj=35.7km s-min=11.3km az=56.0*
ISC 17 13:00:15.9±1.0, 1380S±009×759W±01, h52km±10km, n24, σ0:88/26, mb4.1/10, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.03**	**332**	P		P	**Pn**	**13 00 48.2**	**+0.5**
	98nm,0.3s,baz=154,slow=12,SNR=20								
NNA				S			**Sn**	**13 01 13.1**	**+1.2**
	266nm,0.3s,baz=216,slow=17,SNR=17								
NNA	**Nana**	**2.03**	**332**	*i* Pn			**Pn**	**13 00 47.0**	**-0.7**
NNA						*e*Sn	**Sn**	**13 01 08.1**	**-3.8**
ARE	**Arequipa**	**4.99**	**123**	*e*P			**Pn**	**13 01 36.0**	**+7.7**
ARE						*e*S	**Sn**	**13 02 34.0**	**+9.3**
ATAH	**Atahualpa**	**7.19**	**340**	P			**Pn**	**13 01 57.6**	**-0.8**
	1.0nm,0.3s,baz=149,slow=5.9,SNR=4.1								
ATAH				S			**Sn**	**13 03 18.7**	**-0.1**
	0.6nm,0.3s,baz=218,slow=19,SNR=2.3								
LPAZ	**La Paz**	**7.88**	**109**	P			**Pn**	**13 02 14.2**	**+6.4**
	0.3nm,0.3s,baz=293,slow=15,SNR=6.7								
LPAZ	**La Paz**	**7.88**	**109**	*e*Pn			**Pn**	**13 02 10.6**	**+2.7**
	2.0nm,0.4s								
LVC	**Limon Verde**	**10.98**	**144**	P			**Pn**	**13 02 52.5**	**+2.2**
	0.5nm,0.3s,baz=331,slow=11,SNR=4.1								
LVC				S			**Sn**	**13 04 50.8**	**-0.9**
	0.4nm,0.3s,baz=315,slow=16,SNR=4.6								
LVC	**Limon Verde**	**10.98**	**144**	*e*Pn			**Pn**	**13 02 48.0**	**-2.3**
	4.4nm,0.8s								
SIV	**San Ignacio**	**14.47**	**101**	P			**Pn**	**13 03 38.0**	**+0.2**
	0.1nm,0.3s,baz=298,slow=18,SNR=2.9								
SDV	**Santo Domingo**	**23.12**	**13**	P			**P**	**13 05 17.2**	**-0.5**
	3.3nm,0.5s,mb4.0,baz=230,slow=6.4,SNR=5.3								
PLCA	**Paso Flores**	**27.24**	**171**	P			**P**	**13 05 55.0**	**+0.1**
	1.0nm,0.7s,mb3.5,baz=345,slow=12,SNR=2.8								
TXAR	**Lajitas Array**	**50.58**	**328**	P			**P**	**13 09 09.8**	**+0.3**
	1.8nm,0.6s,mb4.2,baz=149,slow=8.9,SNR=27								
TXAR	**Lajitas Array**	**50.58**	**328**	P			**P**	**13 09 09.8**	**+0.3**
MIAR	**Mount Ida**	**50.93**	**341**	*e*Pn			**P**	**13 09 11.6**	**-0.4**
	2.2nm,0.4s,mb4.4								
PDAR	**Pinedale Array**	**64.22**	**333**	P			**P**	**13 10 45.2**	**0.0**
	0.7nm,0.7s,mb3.8,baz=134,slow=6.4,SNR=5.5								
NVAR	**Mina Array Bea**	**65.39**	**324**	P			**P**	**13 10 54.3**	**+1.3**
	0.6nm,0.7s,mb3.7,baz=141,slow=7.9,SNR=6.2								
RRI2	**Red Ridge**	**65.46**	**332**	*e*P			**P**	**13 10 53.3**	**-0.1**
	5.4nm,1.0s,mb4.5								
HLID	**Hailey**	**67.07**	**331**	*e*P			**P**	**13 11 04.0**	**+0.4**
	1.6nm,0.9s,mb4.0								
TORD	**Torodi Ar. Bea**	**81.36**	**74**	P			**P**	**13 12 27.5**	**0.0**
	3.5nm,0.9s,mb4.3,baz=257,slow=5.0,SNR=9.9								
TORD	**Torodi Ar. Bea**	**81.36**	**74**	P			**P**	**13 12 27.5**	**0.0**
YKA	**Yellowknife Ar**	**81.83**	**343**	P			**P**	**13 12 28.0**	**-1.0**
	1.8nm,0.8s,mb4.0,baz=137,slow=5.8,SNR=6.4								
ZALV	**Zalesovo Beam**	**137.15**	**17**	PKP			PKPdf	13 19 32.3	-0.7
	0.7nm,0.4s,baz=319,slow=5.7,SNR=3.9								
SONM	**Songino Array**	**146.01**	**357**	PKPbc			PKPbc	13 19 50.3	+0.4
	2.7nm,0.8s,baz=331,slow=1.9,SNR=15								
KSRS	**Korea Array**	**148.31**	**322**	PKPbc			PKPbc	13 19 56.8	+0.1
	1.3nm,1.0s,baz=357,slow=2.4,SNR=6.6								

ISCJB ***17*** *13:05:14.9±1.6, 1473S±009×764W±0.1, h54km±14km, mb4.0/9, Error ellipse: s-maj=26.5km s-min=7.4km az=149.5*
NEIC ***17*** *13:05:15.7±0.5, 1457S×7637W, h35km, mb4.5/2, Error ellipse: s-maj=16.9km s-min=7.8km az=54.0*
IDC ***17*** *13:05:19.8±2.6, 1452S×76.13W, h67km±19km, mb3.8/7, mb1 4.0/11, mb1mx3.9/20, mbtmp3.9/11, MS3.0/4, Ms1 3.1/4, ms1mx2.9/36, Error ellipse: s-maj=35.5km s-min=13.7km az=51.0*
ISC 17 13:05:17.2±1.3, 1470S±009×764W±01, h58km±11km, n26, σ0:96/26, mb4.0/9, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.74**	**350**	P		P	**Pn**	**13 05 59.1**	**+0.3**
	58nm,0.3s,baz=154,slow=14,SNR=13								
NNA				S			**Sn**	**13 06 31.4**	**+0.7**
	182nm,0.3s,baz=184,slow=16,SNR=16								
NNA				LR		LR	LR	13 07 22.7	
	comp=Z,220nm,19.9s,baz=142,slow=47								
NNA	**Nana**	**2.74**	**350**	*e*Pn			**Pn**	**13 05 54.6**	**-4.2**
NNA				*e*Sn			**Sn**	**13 06 30.9**	**+0.1**
ATAH	**Atahualpa**	**7.91**	**345**	P			**Pn**	**13 07 08.1**	**-1.6**
	0.7nm,0.3s,baz=46,slow=2.0,SNR=3.4								
ATAH				S			**Sn**	**13 08 38.5**	**+0.7**
	1.0nm,0.3s,baz=225,slow=12,SNR=1.7								
LPAZ	**La Paz**	**8.08**	**102**	P			**Pn**	**13 07 13.8**	**+1.9**
	2.5nm,0.3s,baz=290,slow=8.0,SNR=41								
LPAZ				LR		LR	LR	13 10 44.4	
	comp=Z,294nm,19.9s,baz=299,slow=41								
LPAZ	**La Paz**	**8.08**	**102**	*e*Pn			**Pn**	**13 07 13.7**	**+1.7**
	13nm,0.6s								
LVC	**Limon Verde**	**10.56**	**139**	P			**Pn**	**13 07 45.6**	**-0.3**
	1.3nm,0.3s,baz=306,slow=8.7,SNR=10								
LVC				S			**Sn**	**13 09 41.0**	**-1.7**
	2.1nm,0.3s,baz=104,slow=21,SNR=11								
LVC				LR		LR		13 11 12.1	
	comp=Z,178nm,18.7s,baz=326,slow=33								
LVC	**Limon Verde**	**10.56**	**139**	*e*Pn			**Pn**	**13 07 45.7**	**-0.2**
	14nm,0.9s								
LVC				*e*Sn			**Sn**	**13 09 38.1**	**-4.6**
SIV	**San Ignacio**	**14.79**	**97**	P			**Pn**	**13 08 42.6**	**-0.6**
	0.2nm,0.3s,baz=268,slow=18,SNR=2.9								
OTAV	**Otavalo**	**14.99**	**352**	*e*Pn			**Pn**	**13 08 45.4**	**-0.3**
	2.2nm,0.6s								
CFAA	**Coronel Fontan**	**18.39**	**158**	P			**Pn**	**13 09 29.1**	**+0.9**
	0.0nm,0.3s,baz=310,slow=9.1,SNR=3.5								
CFAA				LR			LR	13 15 54.9	
	comp=Z,11nm,19.3s,baz=206,slow=34								
SDV	**Santo Domingo**	**24.11**	**14**	P			**P**	**13 10 26.2**	**-1.5**
	9.4nm,0.7s,mb4.3,baz=206,slow=7.6,SNR=8.7								
SDV	**Santo Domingo**	**24.11**	**14**	*e*P			**P**	**13 10 26.8**	**-0.9**

12nm,0.9s,mb4.3
TEIG Tepich 36.64 341 *e*P **P 13 12 18.1 -0.2**
5.3nm,0.6s,mb4.5
TXAR Lajitas Array 51.11 329 P **P 13 14 15.2 +1.0**
0.5nm,0.6s,mb3.6,baz=151,slow=9.0,SNR=6.8
PDAR Pinedale Array 64.81 334 P **P 13 15 51.2 +1.2**
0.2nm,0.4s,mb3.5,baz=148,slow=8.6,SNR=2.8
NVAR Mina Array Bea 65.85 325 P **P 13 15 55.7 -1.0**
0.2nm,0.6s,mb3.3,baz=108,slow=5.8,SNR=2.7
NVAR Mina Array Bea 65.85 325 P **P 13 15 55.7 -1.1**
ULM Lac du Bonnet 66.91 347 P **P 13 16 02.4 -0.9**
1.9nm,0.5s,mb4.3,baz=153,slow=5.6,SNR=4.5
DBIC Dimbokro 73.98 79 P **P 13 16 46.8 -0.5**
3.0nm,0.8s,mb4.3,baz=204,slow=6.5,SNR=3.7
TORD Torodi Ar. Bea 82.05 74 P **P 13 17 33.0 +1.0**
5.0nm,0.7s,mb4.6,baz=260,slow=5.0,SNR=23
YKA Yellowknife Ar 82.56 343 P **P 13 17 33.9 +0.3**
0.5nm,0.6s,mb3.8,baz=149,slow=5.5,SNR=3.1
ASAR Alice Springs 131.74 218 PKP PKPdf 13 24 26.7 +2.1
0.3nm,1.0s,baz=107,slow=1.5,SNR=3.3
WRA Warramunga Arr 134.21 222 PKP PKPdf 13 24 31.7 +2.3
0.4nm,0.7s,baz=135,slow=2.1,SNR=3.7
ZALV Zalesovo Beam 138.14 17 PKP PKPdf 13 24 37.4 +1.8
0.4nm,0.3s,baz=282,slow=2.7,SNR=2.9
SONM Songino Array 146.89 357 PKPbc PKPbc 13 24 54.0 +0.8
1.5nm,0.7s,baz=319,slow=1.6,SNR=9.7
KSRS Korea Array 148.73 321 PKPbc PKPbc 13 25 01.1 +2.6
0.3nm,0.4s,baz=54,slow=2.1,SNR=3.1

IDC ***17*** *13:07:45.9±1.1, 2421N×12523E, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.6/22, mbtmp3.6/7, ML3.0/3, MS2.8/1, Ms1 2.8/1, ms1mx1.9/44, Error ellipse: s-maj=37.3km s-min=20.4km az=82.0*
ISCJB ***17*** *13:07:48.2±1.4, 2415N±006×12534E±005, h19km±11km, mb3.6/4, Error ellipse: s-maj=12.0km s-min=5.5km az=147.3*
JMA ***17*** *13:07:49.6±0.2, 2424N×12525E, h10km, M3.7*
NEIC ***17*** *13:07:50.9±0.9, 2421N×12530E, h35km, MG3.7(JMA), Error ellipse: s-maj=21.4km s-min=15.1km az=106.0*
ISC 17 13:07:47.9±1.2, 2415N±006×12530E±004, h7km±6km, n16, σ0:87/24, mb3.6/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.61**	**9**	P		P	**Pg**	**13 08 00.2**	**+0.4**
JOGS				S		S	**Sg**	**13 08 08.1**	**+0.3**
JMJ	**Miyako jima 2**	**0.66**	**359**	P		P	**Pg**	**13 08 00.6**	**-0.1**
JMJ				S		S	**Sg**	**13 08 08.8**	**-0.5**
JTJ	**Tarama**	**0.73**	**312**	P		P	**Pg**	**13 08 02.1**	**+0.1**
JTJ				S		S	**Sg**	**13 08 10.2**	**-1.3**
JIJ	**Ishigaki jima**	**1.08**	**282**	P		P	**Pg**	**13 08 08.4**	**-0.2**
JIJ				*e*S		S	**Sg**	**13 08 22.7**	**+0.1**
JKRS	**Kuro-shima**	**1.18**	**274**	P		P	**Pg**	**13 08 11.2**	**+0.6**
JKRS				*e*S		S	**Sg**	**13 08 26.3**	**+0.3**
IRIF	**Iriomote-Funau**	**1.45**	**278**	P		P	**Pn**	**13 08 15.2**	**+0.7**
IRIF				*e*S		S	**Sn**	**13 08 34.2**	**+0.4**
YOJ	**Yonaguni jima**	**2.11**	**279**	P		P	**Pn**	**13 08 25.3**	**+1.6**
YOJ				*e*S		S	**Sn**	**13 08 49.8**	**-0.5**
JKE	**Kume jima 2**	**2.55**	**32**	P		P	**Pn**	**13 08 31.1**	**+1.4**
JKE				*e*S		S	**Sn**	**13 09 02.1**	**+1.0**
JOW	**Kunigami**	**3.79**	**45**	Pn		Pn	**Pn**	**13 08 45.4**	**-1.4**
	0.9nm,0.3s,baz=190,slow=17,SNR=4.6								
KSRS	**Korea Array**	**13.45**	**9**	Pn		Pn	**Pn**	**13 10 55.2**	**-4.0**
	0.1nm,0.3s,baz=185,slow=11,SNR=5.5								
KSRS				LR		LR		13 16 32.9	
	comp=Z,41nm,19.3s,baz=195,slow=39								
MJAR	**Matsushiro Arr**	**16.61**	**39**	Pn		Pn	**Pn**	**13 11 41.3**	**0.0**
	0.2nm,0.3s,baz=232,slow=11,SNR=5.1								
SONM	**Songino Array**	**28.00**	**332**	P			**P**	**13 13 39.4**	**0.0**
	0.2nm,0.3s,mb3.2,baz=146,slow=10,SNR=2.4								
MKAR	**Makanchi Array**	**41.01**	**314**	P			**P**	**13 15 29.0**	**-2.7**
	0.8nm,0.5s,mb3.6,baz=104,slow=8.4,SNR=4.7								
MKAR	**Makanchi Array**	**41.01**	**314**	P			**P**	**13 15 29.0**	**-2.7**
WRA	**Warramunga Arr**	**44.70**	**168**	P			**P**	**13 16 01.0**	**-0.8**
	1.0nm,0.6s,mb3.8,baz=348,slow=8.8,SNR=8.6								
ASAR	**Alice Springs**	**48.26**	**169**	P			**P**	**13 16 29.4**	**-0.3**
	0.6nm,0.8s,mb3.7,baz=359,slow=7.4,SNR=10								

IDC ***17*** *13:18:06.8±1.4, 1359S×7666W, h4km±7km, mb5.3/21, mb1 5.4/25, mb1mx5.3/26, mbtmp5.2/25, ML5.0/4, MS5.5/30, Ms1 5.5/30, ms1mx5.4/37, Error ellipse: s-maj=15.3km s-min=6.1km az=72.0*
ISCJB ***17*** *13:18:08.0±0.1, 1358S±003×7672W±003, h21km, mb5.6/178, MS5.6/225, Error ellipse: s-maj=4.5km s-min=2.5km az=135.5*
MOS ***17*** *13:18:10.4±1.1, 1352S×7667W, h33km, mb5.8/63, MS5.5/67, Error ellipse: s-maj=9.5km s-min=6.8km az=92.9*
IGIL ***17*** *13:18:12.5, 1351S×7647W, h32km, MS5.8*
BJI ***17*** *13:18:13.2, 1360S×7660W, h48km, mB6.0, Ms5.9, Msz5.8*
GCMT ***17*** *13:18:13.2±0.1, 1378S×7706W, h26km, MW5.9/92, Moment Tensor Solution. s88,c170; s92,c233; Duration: 2±1 Moment tensor: Scale 10^{17}Nm; M_{rr}3.71±.08; $M_{\theta\theta}$0.91±.06; $M_{\phi\phi}$-4.62±.08; $M_{r\theta}$-5.10±.17; $M_{\theta\phi}$-4.42±.06; $M_{r\phi}$0.22±.17; Best double couple: $M_0$7.95200×10^{17} NP1:ϕ_s355.00000°, δ47.00000°, λ29.00000°. NP2:ϕ_s245.00000°, δ70.00000°, λ133.00000°. Principal axes: T 8.2820, Plg47.0000°, Azm200.0000°; N -0.6630, Plg40.0000°, Azm46.0000°; P -7.6220, Plg14.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***17*** *13:18:13.2±0.7, 1361S×7660W, h48km±6km, mb5.6/142, MS5.6/188 Error ellipse: s-maj=5.5km s-min=3.2km az=56.0*
NEIC Felt [V] at Lima and [IV] at San Vicente de Canete. Felt at Chaclacayo.
DJA ***17*** *13:18:25, 1506S×7641W, h70km, mb5.5/8*
ISC 17 13:18:10.2±0.1, 1358S±002×7662W±003, h22km, h22km±.6km: pP-P, n1122, σ0:78/900, mb5.6/178, MS5.6/225, 231C-215D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.60**	**352**	Pn		Pn	**Pn**	**13 18 35.0**	**-2.2**
	194μm,0.4s								
NNA	**Nana**	**1.60**	**352**	Pg		Pn	**Pn**	**13 18 35.2**	**-2.0**
	4μm,0.3s,baz=170,slow=13,SNR=578								
NNA				Lg				13 18 56.2	
	20μm,0.3s,baz=248,slow=13,SNR=37								
NNA				LR		LR	LR	13 19 27.5	
	comp=Z,246μm,18.2s,baz=201,slow=50								
NNA	**Nana**	**1.60**	**352**	*e*Pn		Pn	**Pn**	**13 18 34.8**	**-2.4**
NNA				*e*Sn		Sn	**Sn**	**13 18 55.5**	**-1.7**
ARE	**Arequipa**	**5.72**	**121**	*e*P		Pn	**Pn**	**13 19 35.0**	**+1.1**
ARE				*e*S		Sn	**Sn**	**13 20 44.0**	**+5.1**
ATAH	**Atahualpa**	**6.77**	**345**	Pn		Pn	**Pn**	**13 19 47.5**	**-0.8**
	16nm,0.3s,baz=153,slow=9.3,SNR=41								
ATAH				Sn		Sn	**Sn**	**13 21 08.5**	**+3.7**
	68nm,0.3s,baz=127,slow=15,SNR=1.6								
ATAH				Lg				13 21 35.9	
	56nm,0.3s,baz=154,slow=18,SNR=4.2								
ATA

2.0nm,0.3s,baz=215,slow=7.8,SNR=21
ROSC S **Sn** **13 25 59.1 +8.5**
3.0nm,0.3s,baz=279,slow=19,SNR=2.1
ROSC LR LR 13 30 09.6
comp=Z,23µm,20.1s,baz=193,slow=39
CFAA Coronel Fontan 19.52 158 P **Pn** **13 22 36.7 -0.8**
1.0nm,0.3s,baz=333,slow=12,SNR=76
CFAA S **Sn** **13 26 15.8 -0.1**
baz=356,slow=14,SNR=1.4
CFAA LR LR 13 29 05.3
comp=Z,3µm,18.6s,baz=336,slow=34
CFAA Coronel Fontan 19.52 158 P **Pn** **13 22 36.7 -0.8**
CFAA S **Sn** **13 26 15.8 -0.1**
CFAA LR LR 13 29 05.3
PEL Peldehue 20.21 165⇓ *eP* **P** **13 22 43.1 -0.5**
FCH Farellones 20.48 165⇑ *eP* **P** **13 22 47.6 +1.0**
LMEL Las Melosas 21.00 165⇑ *eP* **P** **13 22 53.1 +0.9**
BCIP Isla Barro Col 22.82 352 *eP* **P** **13 23 13.7 +1.8**
462nm,1.1s,mb5.8
BCIP LR LR
comp=Z,18µm,20.0s,MS5.5
SDV Santo Domingo 23.10 15 P **P** **13 23 14.4 -0.3**
comp=Z,66nm,0.8s,mb5.1,baz=233,slow=8.9,SNR=47
SDV PP 13 23 36.7
comp=Z,85nm,0.8s,baz=233,slow=19,SNR=5.9
SDV S **S** **13 27 28.0 +3.2**
comp=Z,14nm,0.8s,baz=246,slow=20,SNR=2.1
SDV Santo Domingo 23.10 15 *eP* **P** **13 23 14.5 -0.3**
comp=Z,402nm,1.2s,mb5.7
SDV LR LR
comp=Z,3µm,19.0s,MS4.8
CCHI Chillan 23.28 171⇑ *eP* **P** **13 23 15.7 -0.8**
PCRV Puerto La Cruz 26.43 27 P **P** **13 23 49.0 +3.4**
comp=Z,36nm,0.6s,mb5.1,baz=191,slow=3.4,SNR=10
PCRV LR LR 13 33 21.3
comp=Z,6µm,20.3s,MS5.1,baz=238,slow=34
PCRV Puerto La Cruz 26.43 27 P **P** **13 23 49.0 +3.4**
PCRV LR LR 13 33 21.3
LPA La Plata 27.13 145 *eP* **P** **13 23 51.0 -0.7**
LPA La Plata 27.13 145 *eP* **P** **13 23 54.0 +2.3**
LPA *eS* **S** **13 28 29.0 0.0**
LPA *eS* sS 13 28 41.0 +1.2
LPA *eSP* 13 28 43.0
PLCA Paso Flores 27.56 170 P **P** **13 23 54.9 -0.7**
comp=Z,180nm,1.0s,mb5.7,baz=346,slow=10.0,SNR=102
PLCA LR LR 13 32 25.9
comp=Z,11µm,21.2s,MS5.4,baz=338,slow=31
PLCA Paso Flores 27.56 170 P **P** **13 23 54.9 -0.7**
PLCA LR LR 13 32 25.9
TRQA Tornquist 27.63 155⇑ *eP* **P** **13 23 54.8 -1.4**
comp=Z,277nm,1.5s,mb5.7
TRQA LR LR
comp=Z,17µm,20.0s,MS5.6
BDFB Brasilia 27.74 98 P **P** **13 23 56.6 -0.9**
comp=Z,8.1nm,0.9s,mb4.3,baz=245,slow=15,SNR=11
BDFB LR LR 13 35 27.7
comp=Z,7µm,20.0s,MS5.3,baz=96,slow=38
SPB Sao Paulo 29.34 114 *eP* **P** **13 24 13.4 +1.7**
TGUH Tegucigalpa,Un 29.42 339 *eP* **P** **13 24 14.3 +2.0**
comp=Z,142nm,0.9s,mb5.7
TGUH LR LR
comp=Z,10µm,21.0s,MS5.4
GRGR Grenville 29.54 31 *eP* **P** **13 24 11.8 -1.6**
comp=Z,531nm,1.0s,mb6.2
GRGR LR LR
comp=Z,17µm,21.0s,MS5.6
BBGH Gun Hill 31.48 33 PFAKE 13 24 40.0 +9.5
BBGH LR LR
comp=Z,20µm,19.0s,MS5.8
FDF Fort de France 32.03 29 P **P** **13 24 35.7 +0.3**
MPR Mayaguez 32.95 17 *eP* **P** **13 24 42.6 -0.7**
SJG San Juan 33.14 18 P **P** **13 24 43.8 -1.3**
comp=Z,38nm,0.5s,mb5.6,baz=5.6,slow=21,SNR=5.5
SJG LR LR 13 38 50.5
comp=Z,3µm,19.9s,MS5.0,baz=225,slow=38
SJG San Juan 33.14 18 *eP* **P** **13 24 45.1 0.0**
SJG LR LR
comp=Z,11µm,19.0s,MS5.6
CPD Cerro la Pandu 33.14 19 *eP* **P** **13 24 44.5 -0.6**
AOPR Arecibo Observ 33.18 17 *eP* **P** **13 24 44.2 -1.2**
comp=Z,105nm,1.0s,mb5.7
HUMP Col San Antoni 33.26 19 *eP* **P** **13 24 46.1 -0.1**
MTP Monte Pirata 33.32 19 *eP* **P** **13 24 46.0 -0.6**
RCC Rio Carpintero 33.38 2 *eP* **P** **13 24 44.8 -2.3**
RCC *eS* **S** **13 30 08.2 +1.1**
comp=N,10µm,19.5s
RCC *e*
comp=E,8µm,21.5s
RPN Rapa Nui 33.39 241 PFAKE 13 25 00.0 +13
RPN LR LR
comp=Z,9µm,20.0s,MS5.5
LMGC Las Mercedes 33.44 359 *eP* **P** **13 24 49.8 +2.2**
LMGC *eS* **S** **13 30 13.5 +5.5**
comp=N,5µm,17.7s
LMGC *e*
comp=E,5µm,19.9s
MASC Masc 33.63 4 *eP* **P** **13 24 50.2 +0.9**
MASC *eS* **S** **13 30 16.2 +5.3**
comp=N,3µm,4.4s
MASC *e*
comp=E,2µm,5.4s
CAM3 Guarapari 35.15 107⇑ *iP* **P** **13 25 02.5 -0.1**
CAM3 *i* 13 25 06.1
CAM3 *i* pP 13 25 08.6 -0.7
CAM3 *i* pP 13 25 10.3 +1.0
CAM3 *i* 13 25 14.6
CAM3 *i* 13 25 18.3
CAM3 *i* 13 25 36.9
CAM3 *i* 13 25 59.2
CMIG Matias Romero 35.42 329 P **P** **13 25 05.2 +0.3**
comp=E,27nm,0.7s,mb5.3,baz=146,slow=6.3,SNR=22
CMIG S **S** **13 30 40.0 +1.3**
comp=E,1.4nm,0.8s,baz=198,slow=20,SNR=1.9
CMIG LR LR 13 36 55.2
comp=E,9µm,22.0s,MS5.5,baz=124,slow=32
TEIG Tepich 35.50 341 P **P** **13 25 05.5 0.0**
comp=E,76nm,1.0s,mb5.6,baz=165,slow=6.4,SNR=20
TEIG S **S** **13 30 42.4 +2.5**
comp=E,7.9nm,0.3s,baz=83,slow=17,SNR=2.1
TEIG LR LR 13 39 55.0
comp=E,10µm,18.7s,MS5.6,baz=159,slow=37
TEIG Tepich 35.50 341 PFAKE 13 25 20.0 +14
TEIG LR LR
comp=Z,9µm,19.0s,MS5.6
MGV Manicaragua 35.62 355 *eP* **P** **13 25 07.3 +0.8**
MGV *eS* **S** **13 30 37.2 -4.5**
comp=N,1µm,6.0s
MGV *e*
comp=E,2µm,9.6s
SOR Soroa 36.69 350 *eP* **P** **13 25 15.1 -0.5**
SOR *eS* S 13 30 27.3 -31
comp=N,2µm,5.5s
SOR *e*
comp=E,2µm,6.5s
EFI East Falkland 40.83 162 *c iP* **P** **13 25 49.6 -0.5**
EFI East Falkland 40.83 162 *eP* **P** **13 25 48.9 -1.2**
comp=E,354nm,1.4s,mb5.8
EFI LR LR
comp=Z,13µm,19.0s,MS5.8
USHA Ushuaia 41.65 173 P **P** **13 25 56.0 -0.7**
comp=Z,209nm,1.1s,mb5.7,baz=316,slow=5.0,SNR=28
DWPF Disney 41.71 354 PFAKE 13 26 10.0 +12
DWPF LR LR
comp=Z,6µm,20.0s,MS5.5
BRAL Brewton 45.46 347 PFAKE 13 26 40.0 +12
BRAL LR LR
comp=Z,2µm,19.0s,MS5.1
KVTX Kingsville 45.80 333 *eP* **P** **13 26 32.8 +2.3**
KVTX LR LR
comp=Z,5µm,20.0s,MS5.4
NHSC New Hope 46.55 356 *eP* **P** **13 26 35.5 -0.7**
comp=Z,199nm,1.2s,mb5.9
NHSC LR LR
comp=Z,6µm,21.0s,MS5.5
HKT Hockley 47.08 337 *eP* **P** **13 26 40.1 -0.4**
HKT pmax pmax
comp=Z,109nm,1.5s,mb5.6
HKT MLR MLR
comp=Z,4µm,20.0s,MS5.4
HKT Hockley 47.08 337 *eP* **P** **13 26 40.1 -0.4**
comp=Z,109nm,1.5s,mb5.6
HKT LR LR
comp=Z,4µm,20.0s,MS5.4
BBSR BB Station 47.09 14 *eP* **P** **13 26 41.1 +0.5**
BBSR LR LR
comp=Z,6µm,21.0s,MS5.6
GOGA Godfrey 47.18 352 *eP* **P** **13 26 40.6 -0.7**
GOGA MLR MLR
comp=Z,8µm,20.0s,MS5.7
VBMS Vicksburg 47.45 344 *eP* **P** **13 26 35.2 -8.1**
VBMS LR LR
comp=Z,3µm,21.0s,MS5.2
JSC Jenkinsville 47.80 355 *eP* **P** **13 26 45.3 -0.7**
NATX Nacogdoches 48.29 339 *eP* **P** **13 26 50.1 +0.3**
NATX LR LR
comp=Z,4µm,22.0s,MS5.3
CNNC Cliffs of the 48.57 359 PFAKE 13 27 00.0 +8.1
CNNC LR LR
comp=Z,7µm,20.0s,MS5.7
JCT Junction City 49.16 333 *eP* **P** **13 26 57.0 +0.4**
JCT MLR MLR
comp=Z,3µm,21.0s,MS5.2
SWET Sewanee 49.33 350 *eP* **P** **13 26 56.4 -1.4**
CPCT Cooper Cave 49.33 351 *eP* **P** **13 26 56.9 -0.9**
OXF Oxford 49.35 346 *eP* **P** **13 26 57.0 -1.0**
OXF pmax pmax
comp=Z,100nm,1.2s,mb5.7
OXF MLR MLR
comp=Z,3µm,22.0s,MS5.2
OXF Oxford 49.35 346 *eP* **P** **13 26 57.0 -1.0**
comp=Z,100nm,1.2s,mb5.7
OXF LR LR
comp=Z,3µm,22.0s,MS5.2
TKL Tuckaleechee C 49.44 352 *eP* **P** **13 26 56.5 -2.1**
PLAL Pickwick Lake 49.51 348 *eP* **P** **13 26 57.5 -1.6**
PLAL LR LR
comp=Z,3µm,21.0s,MS5.2
TXAR Lajitas Array 50.02 329 P **P** **13 27 03.6 +0.4**
comp=Z,20nm,1.0s,mb5.1,baz=149,slow=5.3,SNR=87
TXAR S **S** **13 34 16.6 +3.4**
comp=Z,0.2nm,0.4s,baz=142,slow=21,SNR=1.4
TXAR LR LR 13 45 58.5
comp=Z,4µm,20.0s,MS5.4,baz=265,slow=33
TXAR PKP2bc 13 58 07.1
comp=Z,0.2nm,0.6s,baz=57,slow=4.6,SNR=3.4
TXAR Lajitas Array 50.02 329 P **P** **13 27 03.6 +0.4**
TXAR S **S** **13 34 16.6 +3.5**
TXAR Lajitas Array 50.02 329 P **P** **13 27 03.6 +0.4**
TXAR S **S** **13 34 16.6 +3.4**
TXAR LR LR 13 45 58.5
TXAR ⇑*e* 13 58 07.1
TZTN Tazewell 50.28 353 *eP* **P** **13 27 03.9 -1.1**
comp=Z,57nm,0.8s,mb5.7
TZTN LR LR
comp=Z,9µm,20.0s,MS5.8
UALR University of 50.36 343 *eP* **P** **13 27 04.7 -1.0**
comp=Z,74nm,1.0s,mb5.7
MIAR Mount Ida 50.50 342 *eP* **P** **13 27 06.4 -0.3**
MIAR pmax pmax
comp=Z,54nm,1.0s,mb5.4
MIAR MLR MLR
comp=Z,2µm,20.0s,MS5.1
MIAR Mount Ida 50.50 342 *eP* **P** **13 27 06.4 -0.3**
comp=Z,54nm,1.0s,mb5.4
MIAR LR LR
comp=Z,2µm,20.0s,MS5.1
BLA Blacksburg 50.65 356 *eP* **P** **13 27 06.2 -1.6**
BLA pmax pmax
comp=Z,172nm,1.4s,mb5.8
BLA MLR MLR
comp=Z,6µm,21.0s,MS5.6
BLA Blacksburg 50.65 356 *eP* **P** **13 27 06.2 -1.6**
comp=Z,172nm,1.4s,mb5.8
BLA LR LR
comp=Z,6µm,21.0s,MS5.6
ELN Prospectdale 50.69 356 *eP* **P** **13 27 07.0 -1.0**
GNAR Gosnell 50.88 346 *eP* **P** **13 27 08.7 -0.9**
URVA University of 50.89 359 *eP* **P** **13 27 10.4 +0.9**
GLAT Glass 51.01 347 *eP* **P** **13 27 08.5 -1.9**
PARMO Parma 51.49 346 *eP* **P** **13 27 12.9 -1.2**
PMSA Palmer Station 51.86 173 *eP* **P** **13 27 16.3 -0.2**
comp=Z,390nm,1.5s,mb6.1
PMSA LR LR
comp=Z,3µm,21.0s,MS5.3
USIN University of 52.31 349 *eP* **P** **13 27 17.9 -2.3**
WCI Wyandotte Cave 52.33 350 *eP* **P** **13 27 18.7 -1.6**
WCI MLR MLR
comp=Z,4µm,21.0s,MS5.4
SIUC Southern Illin 52.38 347 *eP* **P** **13 27 19.4 -1.3**
WMOK Wichita Mounta 52.46 337 *eP* **P** **13 27 20.0 -1.4**
WMOK MLR MLR
comp=Z,2µm,20.0s,MS5.0
GDL2 Guadalupe Moun 52.71 330 *eP* **P** **13 27 24.1 +0.8**
SDMD Soldier's Deli 52.72 360 *eP* **P** **13 27 23.1 -0.1**
comp=Z,106nm,0.9s,mb5.8
FVM French Village 52.90 346 *eP* **P** **13 27 23.3 -1.3**
FVM pmax pmax
comp=Z,73nm,1.1s,mb5.5
FVM French Village 52.90 346 *eP* **P** **13 27 23.3 -1.3**
comp=Z,73nm,1.1s,mb5.5
MCWV Mont Chateau 53.05 357 *eP* **P** **13 27 26.3 +0.7**
comp=Z,56nm,1.0s,mb5.5
MCWV LR LR
comp=Z,7µm,20.0s,MS5.7
OLIL Olney 53.14 349 *eP* **P** **13 27 25.0 -1.3**
comp=Z,225nm,1.0s,mb6.0
BLO Bloomington 53.29 350 *eP* **P** **13 27 25.5 -1.9**
MVL Millersville 53.30 0 *eP* **P** **13 27 22.4 -5.1**
SLM Saint Louis 53.48 347 *eP* **P** **13 27 28.6 -0.3**
SLM pmax pmax
comp=Z,104nm,1.1s,mb5.7
SLM Saint Louis 53.48 347 *eP* **P** **13 27 28.6 -0.2**
comp=Z,104nm,1.1s,mb5.7
AMTX Amarillo 53.75 334 *eP* **P** **13 27 30.1 -0.8**
comp=Z,90nm,1.5s,mb5.5
AMTX LR LR
comp=Z,3µm,21.0s,MS5.3
ACSO Alum Creek Sta 53.86 354 *eP* **P** **13 27 29.9 -1.7**
ACSO LR LR
comp=Z,6µm,19.0s,MS5.7
BRNJ Basking Ridge 54.02 2 *eP* **P** **13 27 32.0 -0.8**
comp=Z,110nm,1.2s,mb5.7
CPNY Central Park 54.15 2 *eP* **P** **13 27 33.0 -0.7**
comp=Z,22nm,0.6s,mb5.3
PAL Palisades 54.37 3 *eP* **P** **13 27 35.0 -0.3**
PAL pmax pmax
comp=Z,66nm,1.0s,mb5.5
PAL Palisades 54.37 3 *eP* **P** **13 27 35.0 -0.2**
comp=Z,66nm,1.0s,mb5.5
319A Douglas 54.60 326 ⇑P **P** **13 27 37.2 0.0**
baz=55,SNR=50
318A Bisbee 55.04 325 ⇓P **P** **13 27 40.4 0.0**
baz=55,SNR=76
ALLY Alegheny Colle 55.05 357 *eP* **P** **13 27 39.0 -1.2**
comp=Z,112nm,0.9s,mb5.9
219A White Tail Can 55.06 326 ⇓P **P** **13 27 40.8 +0.3**
baz=55,SNR=46
BNM Barren Site 55.40 330 *eP* **P** **13 27 43.1 +0.3**
BRYW Bryant College 55.42 5 *eP* **P** **13 27 44.5 +1.7**
218A Dragoon 55.48 325 ⇑P **P** **13 27 43.5 0.0**
baz=56,SNR=19
Y22C IRIS PASSCAL I 55.48 329 ⇑P **P** **13 27 43.9 +0.4**
baz=56
BINY Binghamton 55.50 1 PFAKE 13 28 00.0 +17
BINY LR LR
comp=Z,5µm,20.0s,MS5.6
LPM Los Pinos Moun 55.53 330 *eP* **P** **13 27 44.5 +0.7**
KSU1 Kansas State U 55.63 341 *eP* **P** **13 27 44.6 +0.1**
KSU1 LR LR
comp=Z,2µm,20.0s,MS5.3
119A Ashpeak Ranch, 55.68 327 ⇑P **P** **13 27 44.8 -0.2**
baz=56,SNR=24
QUA2 Belchertown 55.72 4 *eP* **P** **13 27 45.8 +0.8**
comp=Z,112nm,1.1s,mb5.8
217A Green Valley 55.76 325 ⇑P **P** **13 27 45.4 -0.1**
baz=56,SNR=70
LAZ Ladron 55.85 330 *eP* **P** **13 27 46.8 +0.7**
RKT Rikitea 55.89 251 *e*PP PP 13 29 51.1 -0.5
comp=Z,292nm,28.8s
RKT *eS* **S** **13 35 33.2 -0.3**
comp=Z,5µm,26.0s
RKT *e*SS SS 13 39 21.3 +1.8
comp=Z,1µm,29.2s
RKT *e*LQ 13 41 49.2
comp=Z,5µm,34.2s
RKT *e*LR LR 13 44 00.2
comp=Z,5µm,23.8s,baz=83
RKT Rikitea 55.89 251 *eP* **P** **13 27 47.6 +0.8**
RKT *e* 13 29 51.1
RKT *eS* **S** **13 35 33.2 -0.3**
RKT *e*SS SS 13 39 21.3 +1.8
RKT pmax pmax
comp=Z,157nm,1.3s,mb5.9
RKT Rikitea 55.89 251 *eP* **P** **13 27 47.6 +0.8**
comp=Z,157nm,1.3s,mb5.9
RKT *e*PP PP 13 29 51.1 -0.5
RKT *eS* **S** **13 35 33.2 -0.3**
RKT *e*SS SS 13 39 21.3 +1.8
RKT *e*LQ 13 41 49.2
WES Weston 55.90 5 *eP* **P** **13 27 47.7 +1.4**
WES MLR MLR
comp=Z,2µm,20.0s,MS5.3
118A Homack Ranch, 55.94 326 ⇑P **P** **13 27 46.6 -0.2**
baz=56,SNR=50
ANMO Albuquerque 55.96 330 *eP* **P** **13 27 46.7 -0.2**
ANMO pmax pmax
comp=Z,65nm,1.1s
ANMO MLR MLR
comp=Z,4µm,21.0s
ANMO Albuquerque 55.96 330 *eP* **P** **13 27 46.7 -0.2**
comp=Z,65nm,1.1s,mb5.6
ANMO LR LR
comp=Z,4µm,21.0s,MS5.4
AAM Ann Arbor 55.98 354 *eP* **P** **13 27 46.7 -0.2**
AAM pmax pmax
comp=Z,142nm,1.3s,mb5.8
AAM MLR MLR
comp=Z,7µm,19.0s,MS5.8
AAM Ann Arbor 55.98 354 *eP* **P** **13 27 46.7 -0.2**
comp=Z,142nm,1.3s,mb5.8
AAM LR LR
comp=Z,7µm,19.0s,MS5.8
HRV Adam Dziewonsk 56.00 5 *eP* **P** **13 27 47.5 +0.5**
HRV pmax pmax
comp=Z,96nm,1.2s,mb5.7
HRV MLR MLR
comp=Z,5µm,21.0s,MS5.5
HRV Adam Dziewonsk 56.00 5 *eP* **P** **13 27 47.5 +0.5**
comp=Z,96nm,1.2s,mb5.7
HRV LR LR
comp=Z,5µm,21.0s,MS5.5
Z19A T-Link Ranch, 56.06 327 ⇓P **P** **13 27 47.8 +0.1**
baz=56,SNR=10
TUC Tucson 56.14 325 *eP* **P** **13 27 48.7 +0.4**
TUC pmax pmax
comp=Z,261nm,2.2s,mb5.9
TUC MLR MLR
comp=Z,7µm,20.0s,MS5.8
TUC Tucson 56.14 325 *eP* **P** **13 27 48.7 +0.4**
comp=Z,261nm,2.2s,mb5.9
TUC LR LR
comp=Z,7µm,20.0s,MS5.8
216A Three Points, 56.29 324 ⇓P **P** **13 27 49.2 -0.2**
baz=56,SNR=22
117A Oracle 56.31 325 ⇓P **P** **13 27 49.3 -0.2**
baz=56,SNR=84
Z18A Geronimo 56.32 326 ⇑P **P** **13 27 49.2 -0.3**
baz=56
CBKS Cedar Bluff 56.43 338 *eP* **P** **13 27 49.7 -0.5**
CBKS MLR MLR
comp=Z,3µm,22.0s,MS5.4
Y19A Nutrioso 56.57 328 ⇓P **P** **13 27 51.5 +0.2**
baz=57,SNR=70
Z17A San Carlos Hig 56.71 326 ⇑P **P** **13 27 52.0 -0.3**
baz=57
ACCN Adirondack Com 56.75 3 *eP* **P** **13 27 52.7 +0.3**
116A Eloy 56.84 325 ⇑P **P** **13 27 53.0 -0.3**
baz=57,SNR=21
Y18A Canyon Day Jun 56.85 327 ⇑P **P** **13 27 52.6 -0.6**
baz=57,SNR=17
X19A St. Johns 56.96 328 ⇓P **P** **13 27 54.0 -0.1**
baz=57,SNR=20
214A Organ Pipe Nat 57.03 323 ⇑P **P** **13 27 54.4 -0.2**
baz=57,SNR=50
HNH Hanover 57.14 4 *eP* **P** **13 27 55.8 +0.6**
Y17A Roosevelt 57.22 326 ⇓P **P** **13 27 55.5 -0.4**
baz=57,SNR=27
115A Sonoran Desert 57.24 324 ⇓P **P** **13 27 55.7 -0.4**
baz=57,SNR=24
Z16A Peralta Trail, 57.27 325 ⇓P **P** **13 27 55.9 -0.3**
baz=57,SNR=11
SCIA State Center 57.29 345 *eP* **P** **13 27 56.2 -0.1**
comp=Z,86nm,1.0s,mb5.7
SCIA LR LR
comp=Z,2µm,22.0s,MS5.2
NCB Newcomb 57.31 2 *eP* **P** **13 27 56.0 -0.3**
comp=Z,120nm,1.3s,mb5.8
NCB LR LR
comp=Z,3µm,20.0s,MS5.5
X18A Snowflake 57.38 327 ⇓P **P** **13 27 57.3 +0.3**
baz=58,SNR=21
W19A Sanders 57.54 328 ⇑P **P** **13 27 58.1 0.0**
baz=58
JFWS Jewell Farm 57.59 348 *eP* **P** **13 27 57.5 -0.8**
JFWS MLR MLR
comp=Z,3µm,20.0s,MS5.4
Z15A Gila River Ind 57.64 325 ⇓P **P** **13 27 58.9 0.0**
baz=58
X17A Forest Lakes 57.69 327 ⇓P **P** **13 27 59.5 +0.4**
baz=58,SNR=33
LBNH Lisbon 57.70 4 *eP* **P** **13 27 59.0 -0.1**
LBNH pmax pmax
comp=Z,112nm,1.1s,mb5.8
LBNH MLR MLR
comp=Z,6µm,22.0s,MS5.7
LBNH Lisbon 57.70 4 *eP* **P** **13 27 59.0 0.0**
comp=Z,112nm,1.1s,mb5.8
LBNH LR LR
comp=Z,6µm,22.0s,MS5.7
Y16A Circle Bar Ran 57.70 326 ⇓P **P** **13 27 59.4 +0.1**
baz=58,SNR=46
W18A Petrified Fore 57.72 328 ⇓P **P** **13 27 59.5 +0.1**
baz=58,SNR=33
SDCO Great Sand Dun 57.81 333 *eP* **P** **13 28 00.3 +0.3**
comp=Z,57nm,1.1s,mb5.5
SDCO LR LR
comp=Z,3µm,19.0s,MS5.4
V19A Window Rock 57.84 329 ⇓P **P** **13 28 00.1 -0.1**
baz=58,SNR=14
LONY Lake Ozonia 57.95 2 *eP* **P** **13 28 00.5 -0.3**
comp=Z,111nm,1.3s,mb5.7
LONY LR LR
comp=Z,3µm,22.0s,MS5.4
X16A Lo Mia Camp, P 58.09 326 ⇑P **P** **13 28 02.0 0.0**
baz=58,SNR=48
Z14A Wintersburg 58.14 324 ⇑P **P** **13 28 02.2 -0.2**
baz=58
113A Mohawk Valley, 58.18 323 ⇓P **P** **13 28 02.4 -0.2**
baz=58,SNR=12
FRNY Flat Rock 58.20 3 *eP* **P** **13 28 02.2 -0.3**
W17A Winslow 58.20 327 ⇓P **P** **13 28 02.8 0.0**
baz=58
Y15A Casa Rosa Ranc 58.23 325 ⇓P **P** **13 28 02.8 -0.2**
baz=58,SNR=34
V18A Ganado 58.28 328 ⇑P **P** **13 28 02.8 -0.5**
baz=58
112A Yuma 58.49 322 ⇑P **P** **13 28 04.6 -0.3**
baz=59
X15A Humboldt 58.57 326 ⇑P **P** **13 28 05.6 +0.2**
baz=59,SNR=46
GLMI Grayling 58.58 353 *eP* **P** **13 28 04.7 -0.5**
GLMI LR LR
comp=Z,7µm,21.0s,MS5.8
EMMW East Machias 58.61 8 *eP* **P** **13 28 06.5 +1.2**
W16A Flagstaff 58.65 327 ⇑P **P** **13 28 06.4 +0.5**
baz=59,SNR=31
T19A Beclabito 58.71 330 ⇓P **P** **13 28 05.6 -0.7**
baz=59,SNR=40
MVCO Mesa Verde 58.76 330 ⇑P **P** **13 28 06.3 -0.3**
baz=59,SNR=19
MVCO Mesa Verde 58.76 330 *eP* **P** **13 28 07.0 +0.4**
comp=Z,63nm,1.0s,mb5.6
MVCO LR LR
comp=Z,2µm,21.0s,MS5.3
U18A Rough Rock, Ch 58.80 329 ⇑P **P** **13 28 06.7 -0.2**
baz=59,SNR=15
WUAZ Wupatki 58.88 327 ⇑P **P** **13 28 07.9 +0.4**
baz=59,SNR=43
WUAZ Wupatki 58.88 327 *eP* **P** **13 28 08.6 +1.0**
WUAZ LR LR
comp=Z,5µm,21.0s,MS5.7
X14A Yava 58.92 325 ⇑P **P** **13 28 07.6 -0.2**
baz=59,SNR=56
PKME Peaks-Kenny Pk 58.94 6 *eP* **P** **13 28 07.8 +0.1**
comp=Z,79nm,1.0s,mb5.7
PKME LR LR
comp=Z,6µm,21.0s,MS5.7
Y13A Salome 58.97 324 ⇓P **P** **13 28 08.1 0.0**
baz=59,SNR=6.4

GLA **Glamis** 59.00 323 *e*P P 13 28 09.3 +0.9
GLA pmax pmax
comp=Z,77nm,1.4s,mb5.5
GLA MLR MLR
comp=Z,3µm,20.0s,MS5.4
GLA **Glamis** 59.00 323 ⇑P P 13 28 08.2 -0.2
baz=59,SNR=17
GLA **Glamis** 59.00 323 *e*P P 13 28 09.3 +0.9
comp=Z,77nm,1.4s,mb5.5
GLA LR LR
comp=Z,3µm,20.0s,MS5.4
W15A **Williams** 59.11 326 ⇓P P 13 28 09.6 +0.5
baz=59,SNR=19
Y12C **Blythe** 59.32 323 ⇓P P 13 28 11.0 +0.4
baz=60,SNR=24
U17A **Shonto** 59.34 328 ⇓P P 13 28 10.6 -0.1
baz=60,SNR=8.7
T18A **Mexican Hat** 59.37 329 ⇓P P 13 28 10.4 -0.5
baz=60,SNR=95
DVTC **Desert V Tower** 59.49 321 ⇓P P 13 28 10.2 -1.6
baz=60,SNR=7.9
S19A **Harvey Farm, M** 59.49 330 ⇑P P 13 28 11.4 -0.3
baz=60,SNR=79
SWSC **Sam W. Stewart** 59.50 322 ⇑P P 13 28 11.8 0.0
baz=60
PV01 **Paradox Valley** 59.53 331 *e*P P 13 28 12.5 +0.6
V15A **Kaibab Nationa** 59.54 327 ⇓P P 13 28 12.4 +0.4
baz=60,SNR=31
X13A **Yucca** 59.54 325 ⇑P P 13 28 11.7 -0.4
baz=60,SNR=49
ISCO **Idaho Springs** 59.57 334 *e*P P 13 28 12.5 +0.3
ISCO pmax pmax
comp=Z,98nm,1.7s,mb5.6
ISCO MLR MLR
comp=Z,4µm,22.0s,MS5.5
ISCO **Idaho Springs** 59.57 334 *e*P P 13 28 12.5 +0.3
comp=Z,98nm,1.7s,mb5.6
ISCO LR LR
comp=Z,4µm,22.0s,MS5.5
W14A **Seligman** 59.58 326 ⇓P P 13 28 12.8 +0.4
baz=60,SNR=55
T17A **Navajo Res., N** 59.72 329 ⇑P P 13 28 13.9 +0.6
baz=60,SNR=75
BC3 **Big Chuckw Mtn** 59.80 323 ⇓P P 13 28 13.7 -0.2
baz=60,SNR=33
MONP **Monument Peak** 59.84 321 ⇓P P 13 28 14.3 +0.1
baz=60,SNR=6.2
BAR **Barrett** 59.85 321 *e*P P 13 28 15.2 +1.0
BAR LR LR
comp=Z,2µm,20.0s,MS5.3
S18A **Hurst Farm, Bl** 59.86 330 ⇑P P 13 28 14.2 -0.1
baz=60,SNR=68
ECSD **EROS,Sioux Fal** 59.89 343 *e*P P 13 28 13.1 -1.3
comp=Z,88nm,1.0s,mb5.7
ECSD LR LR
comp=Z,2µm,22.0s,MS5.2
V14A **Boquillas Ranc** 59.90 326 ⇓P P 13 28 15.0 +0.5
baz=60,SNR=68
W13A **Hualapai Mount** 59.94 325 ⇓P P 13 28 15.5 +0.6
baz=60,SNR=61
PV10 **Paradox Valley** 59.94 331 *e*P P 13 28 14.1 -0.7
R19A **Curley Farm, L** 59.98 331 ⇑P P 13 28 14.4 -0.6
baz=60,SNR=8.0
U15A **North Rim** 60.06 327 ⇓P P 13 28 16.3 +0.7
baz=60,SNR=54
T16A **Glen Canyon Da** 60.07 328 ⇑P P 13 28 15.7 0.0
baz=60,SNR=11
NEE2 **Needles Airpor** 60.11 324 ⇓P P 13 28 15.7 -0.3
baz=60
S17A **Black Ridge (B** 60.22 329 ⇑P P 13 28 16.8 +0.1
baz=60,SNR=24
109C **Camp Elliot, M** 60.26 321 ⇑P P 13 28 16.5 -0.6
baz=60
R18A **Canyonlands Na** 60.36 330 ⇓P P 13 28 17.0 -0.7
baz=60,SNR=30
PFO **Pinyon Flat Ob** 60.36 322 LR LR 13 50 03.8
comp=Z,2µm,20.5s,MS5.3,baz=134,slow=32
PFO **Pinyon Flat Ob** 60.36 322 *e*P P 13 28 18.7 +0.9
PFO pmax pmax
comp=Z,108nm,1.5s,mb5.7
PFO MLR MLR
comp=Z,2µm,21.0s,MS5.3
PFO **Pinyon Flat Ob** 60.36 322 ⇑P P 13 28 18.3 +0.5
baz=60,SNR=20
PFO **Pinyon Flat Ob** 60.36 322 *e*P P 13 28 18.7 +1.0
comp=Z,108nm,1.5s,mb5.7
PFO LR LR
comp=Z,2µm,21.0s,MS5.3
BELC **Belle Mtn.** 60.36 323 ⇓P P 13 28 18.0 +0.3
baz=60,SNR=38
COWI **Conover** 60.47 350 *e*P P 13 28 17.7 -0.5
COWI LR LR
comp=Z,6µm,19.0s,MS5.7
Q19A **Hogan Spring (** 60.51 331 ⇑P P 13 28 18.2 -0.5
baz=61,SNR=34
U14A **Mt Trumbull** 60.52 326 ⇓P P 13 28 19.3 +0.5
baz=61,SNR=47
V13A **Grand Canyon W** 60.54 326 ⇑P P 13 28 19.1 +0.2
baz=61,SNR=41
T15A **Red Dirt Ranch** 60.55 328 ⇑P P 13 28 18.8 -0.2
baz=61,SNR=17
LDFC **Landfair** 60.61 324 *e*P P 13 28 20.5 +1.0
W12A **Cal Nev Ari** 60.64 324 ⇑P P 13 28 19.2 -0.4
baz=61
S16A **Weppner Ranch,** 60.68 329 ⇓P P 13 28 19.4 -0.5
baz=61,SNR=35
GMRC **Granite Mounta** 60.72 324 ⇓P P 13 28 20.0 -0.2
baz=61,SNR=33
PHWY **Pilot Hill** 60.77 335 *e*P P 13 28 20.7 +0.3
R17A **Hanksville Air** 60.78 330 ⇓P P 13 28 20.7 +0.2
baz=61,SNR=68
MURC **Murrieta** 60.80 322 ⇑P P 13 28 20.3 -0.5
baz=61,SNR=11
V12A **Nelson** 60.93 325 ⇓P P 13 28 21.5 -0.1
baz=61,SNR=10.0
U13A **Pakoon Wash** 60.95 326 ⇓P P 13 28 22.2 +0.5
baz=61,SNR=22
T14A **Hurricane** 60.95 327 ⇑P P 13 28 21.8 0.0
baz=61,SNR=21
Q18A **Rafter H Ranch** 61.04 331 ⇑P P 13 28 21.8 -0.5
baz=61,SNR=54
S15A **Panguitch** 61.04 328 ⇑P P 13 28 23.1 +0.8
baz=61
BBRC **Big Bear Sol-O** 61.09 322 ⇑P P 13 28 23.3 +0.6
baz=61,SNR=11
HEC **Hector,Ludlow** 61.14 323 ⇑P P 13 28 23.4 +0.3
baz=61,SNR=43
SRU **San Rafael** 61.23 330 ⇓P P 13 28 23.2 -0.4
baz=61,SNR=35
SRU **San Rafael** 61.23 330 *e*P P 13 28 23.9 +0.4
U12A **Valley of Fire** 61.27 326 ⇓P P 13 28 24.0 +0.1
baz=61,SNR=15
ASCN **Ascension** 61.29 92 PFAKE 13 28 40.0 +15
ASCN LR LR
comp=Z,7µm,19.0s,MS5.8
TUQ **Turquoise Mtn.** 61.33 324 ⇑P P 13 28 24.3 0.0
baz=62,SNR=23
V11A **Goodsprings** 61.34 325 ⇑P P 13 28 24.8 +0.4
baz=62
T13A **Saint George** 61.36 326 ⇓P P 13 28 25.2 +0.7
baz=62,SNR=14
Q16A **Castle Valley** 61.40 330 ⇓P P 13 28 24.6 -0.1
baz=62,SNR=20
R15A **Junction** 61.40 328 ⇓P P 13 28 24.5 -0.3
baz=62,SNR=10.0
CIS **Catalina Islan** 61.41 321 ⇑P P 13 28 24.7 -0.2
baz=62
CCUT **Cedar City** 61.47 327 *e*P P 13 28 35.0 +10
TRIS **Tristan da Cun** 61.49 125 PFAKE 13 28 40.0 +14
TRIS LR LR
comp=Z,4µm,19.0s,MS5.5
P18A **Preston Nutter** 61.51 331 ⇓P P 13 28 25.4 0.0
baz=62,SNR=30
BFSC **Mount Baldy St** 61.52 322 ⇑P P 13 28 25.1 -0.5
baz=62,SNR=30
S14A **Cedar City** 61.52 328 ⇓P P 13 28 25.9 +0.3
baz=62
FMP **Fort Macarthur** 61.54 321 ⇓P P 13 28 26.0 +0.2
baz=62
RRX **Edison Barstow** 61.57 323 ⇑P P 13 28 25.7 -0.3
baz=62
MSU **Marysvale** 61.58 329 *e*P P 13 28 26.0 0.0
T12A **Moapa** 61.58 326 ⇓P P 13 28 26.1 +0.1
baz=62,SNR=5.3
MVU **Marysvale** 61.59 329 PFAKE 13 28 40.0 +14
MVU LR LR
comp=Z,5µm,19.0s,MS5.7
P17A **Butcher Ranch,** 61.62 330 ⇓P P 13 28 25.4 -0.8
baz=62,SNR=27
SHPR **Sheep Range** 61.67 325 *e*P P 13 28 27.1 +0.5
TMUT **Trail Mountain** 61.71 330 *e*P P 13 28 27.8 +1.0
U11A **Corn Creek** 61.73 325 ⇑P P 13 28 27.1 0.0
baz=62
GSC **Goldstone** 61.75 323 ⇓P P 13 28 27.6 +0.4
baz=62,SNR=23
GSC **Goldstone** 61.75 323 *e*P P 13 28 28.1 +1.0
GSC LR LR
comp=Z,4µm,20.0s,MS5.5
MWC **Mount Wilson** 61.75 321 *e*P P 13 28 28.7 +1.5
MWC pmax pmax
comp=Z,95nm,1.1s,mb5.8
MWC MLR MLR
comp=Z,2µm,20.0s,MS5.3
MWC **Mount Wilson** 61.75 321 *e*P P 13 28 28.7 +1.5
comp=Z,95nm,1.1s,mb5.8
MWC LR LR
comp=Z,2µm,20.0s,MS5.3
S13A **Holt Ranch, En** 61.75 327 ⇓P P 13 28 28.0 +0.9
baz=62,SNR=75
RWWY **Rawlins** 61.81 334 *e*P P 13 28 27.6 +0.2
comp=Z,114nm,1.3s,mb5.8
R14A **James Farms, M** 61.85 328 ⇓P P 13 28 27.7 0.0
baz=62
SHOC **Shoshone** 61.87 324 ⇑P P 13 28 28.1 +0.2
baz=62,SNR=7.3
O18A **Roosevelt** 61.90 331 ⇑P P 13 28 28.3 +0.3
baz=62,SNR=12
DECC **Green Verdugo** 61.93 321 ⇑P P 13 28 28.4 0.0
baz=62
SNCC **San Nicolas Is** 62.00 320 PFAKE 13 28 40.0 +11
SNCC LR LR
comp=Z,2µm,19.0s,MS5.3
Q15A **Fillmore** 62.06 329 ⇑P P 13 28 29.2 0.0
baz=62,SNR=18
EDW2 **Edwards Air Fo** 62.16 322 ⇓P P 13 28 29.8 -0.1
baz=62,SNR=26
P16A **Fountain Green** 62.17 330 ⇑P P 13 28 29.8 0.0
baz=62
T11A **Corn Creek, Al** 62.24 326 ⇓P P 13 28 30.6 +0.2
baz=62,SNR=54
R13A **O'Grain Ranch,** 62.26 327 ⇓P P 13 28 31.4 +0.9
baz=62,SNR=16
U10A **Ash Meadows, A** 62.26 324 ⇓P P 13 28 31.1 +0.5
baz=62,SNR=18
BLG **Laguna Peak** 62.28 321 ⇑P P 13 28 30.7 -0.1
baz=62,SNR=5.9
S12A **Delamar Landin** 62.30 326 ⇓P P 13 28 31.3 +0.5
baz=62
N18A **Larsen Ranch,** 62.31 332 ⇓P P 13 28 30.3 -0.5
baz=62,SNR=34
TAOE **Nuku Hiva Isla** 62.36 267 *e*S S 13 36 58.6 +1.0
comp=Z,26µm,26.4s
TAOE *e*LQ 13 44 26.6
comp=Z,40µm,26.8s
TAOE *e*LR LR 13 46 45.1
comp=Z,24µm,24.4s,baz=106
LRMC **Laurel Mountai** 62.39 323 ⇑P P 13 28 31.1 -0.4
baz=62,SNR=7.8
OSI **Osito Adit** 62.42 321 ⇓P P 13 28 32.1 +0.4
baz=62
P15A **Leamington** 62.45 329 ⇑P P 13 28 31.7 -0.1
baz=63,SNR=8.2
MPU **Maple Canyon** 62.47 330 *e*P P 13 28 32.3 +0.4
MPU LR LR
comp=Z,5µm,19.0s,MS5.7
Q14A **Sevier Lake (B** 62.50 328 ⇓P P 13 28 32.6 +0.5
baz=63,SNR=88
O16A **Springville** 62.56 330 ⇓P P 13 28 32.5 0.0
baz=63,SNR=5.9
BSC **Santa Cruz Isl** 62.56 320 ⇑P P 13 28 32.9 +0.3
baz=63
TPNV **Topopah Spring** 62.59 325 ⇑P P 13 28 33.2 +0.4
baz=63,SNR=46
TPNV **Topopah Spring** 62.59 325 *e*P P 13 28 33.9 +1.1
TPNV LR LR
comp=Z,2µm,19.0s,MS5.3
FURC **Furnace Creek,** 62.60 324 ⇑P P 13 28 32.5 -0.4
baz=63,SNR=21
DAU **Daniels Canyon** 62.60 331 *e*P P 13 28 33.1 +0.3
RSSD **Black Hills** 62.63 338 *e*P P 13 28 32.1 -0.7
RSSD pmax pmax
comp=Z,56nm,1.2s,mb5.6
RSSD MLR MLR
comp=Z,2µm,20.0s,MS5.4
RSSD **Black Hills** 62.63 338 *e*P P 13 28 32.1 -0.8
comp=Z,56nm,1.2s,mb5.6
RSSD LR LR
comp=Z,2µm,20.0s,MS5.4
NLU **North Lily Min** 62.64 330 *e*P P 13 28 34.9 +1.8
EYMN **Ely** 62.67 349 *e*P P 13 28 31.7 -1.3
comp=Z,67nm,1.0s,mb5.7
EYMN LR LR
comp=Z,3µm,20.0s,MS5.4
MPMC **Manual Prospec** 62.68 323 ⇓P P 13 28 32.9 -0.4
baz=63,SNR=36
R12A **Pony Springs,** 62.70 327 ⇑P P 13 28 34.3 +0.8
baz=63,SNR=71
S11A **Rachel** 62.82 326 ⇑P P 13 28 35.0 +0.7
baz=63,SNR=12
N17A **Moffit Pass** 62.82 331 ⇑P P 13 28 34.6 +0.4
baz=63
ARVC **Arvin** 62.83 322 ⇑P P 13 28 34.5 +0.1
baz=63
JLU **Jordanelle** 62.84 331 *e*P P 13 28 35.2 +0.9
P14A **Drum Mountains** 62.85 329 ⇓P P 13 28 35.0 +0.5
baz=63,SNR=64
Q13A **Wheeler Ranch,** 62.86 328 ⇑P P 13 28 34.7 +0.2
baz=63,SNR=38
DAC **Darwin (Calif)** 62.89 323 PFAKE 13 28 50.0 +15
DAC LR LR
comp=Z,3µm,19.0s,MS5.5
SBC **Santa Barbara** 62.91 321 ⇑P P 13 28 34.6 -0.3
baz=63
ISA **Isabella** 62.98 322 ⇑P P 13 28 36.0 +0.6
baz=63,SNR=18
ISA **Isabella** 62.98 322 *e*P P 13 28 36.3 +0.9
ISA LR LR
comp=Z,2µm,20.0s,MS5.3
CTU **Camp Tracy** 63.05 331 *e*P P 13 28 37.3 +1.5
N16A **Rees Ranch, Co** 63.06 331 ⇓P P 13 28 35.9 +0.1
baz=63,SNR=19
O15A **The Old Anders** 63.08 330 ⇑P P 13 28 36.7 +0.7
baz=63
DUG **Dugway** 63.19 330 *e*P P 13 28 36.8 +0.1
DUG pmax pmax
comp=Z,92nm,1.0s,mb5.9
DUG MLR MLR
comp=Z,4µm,19.0s,MS5.6
DUG **Dugway** 63.19 330 ⇑P P 13 28 37.1 +0.4
baz=63,SNR=83
DUG **Dugway** 63.19 330 *e*P P 13 28 36.8 +0.2
comp=Z,92nm,1.0s,mb5.9
DUG LR LR
comp=Z,4µm,19.0s,MS5.6
NOQ **North Oquirrh** 63.20 330 *e*P P 13 28 38.2 +1.4
P13A **Bates Ranch, G** 63.23 328 ⇑P P 13 28 37.6 +0.6
baz=63,SNR=59
R11A **Troy Canyon, C** 63.24 326 ⇑P P 13 28 38.0 +1.0
baz=63,SNR=50
GRAC **Grapevine Rang** 63.26 324 ⇑P P 13 28 37.7 +0.5
baz=63,SNR=12
PKM **Peak Mountain** 63.27 321 ⇓P P 13 28 37.0 -0.4
baz=63,SNR=7.8
CWC **Cottonwood Cre** 63.28 323 ⇓P P 13 28 37.9 +0.6
baz=63,SNR=8.8
Q12A **Willow Creek R** 63.34 327 ⇓P P 13 28 37.5 -0.2
baz=64,SNR=28
VES **Vestal, Richgr** 63.46 322 ⇓P P 13 28 38.6 0.0
baz=64,SNR=11
M16A **Huntsville** 63.48 331 ⇑P P 13 28 38.4 -0.2
baz=64,SNR=13
S10A **Tonopah Range,** 63.48 325 ⇓P P 13 28 39.2 +0.6
baz=64,SNR=81
N15A **Stansbury Isla** 63.58 330 ⇑P P 13 28 38.6 -0.6
baz=64,SNR=7.3
R10A **Warm Springs** 63.59 326 ⇓P P 13 28 40.1 +0.7
baz=64,SNR=34
Q11A **Duckwater** 63.64 327 ⇑P P 13 28 40.1 +0.4
baz=64,SNR=100
SMMC **Simmler** 63.66 321 ⇓P P 13 28 39.7 -0.2
baz=64,SNR=17
HWUT **Hardware Ranch** 63.68 331 *e*P P 13 28 39.8 -0.1
comp=Z,108nm,1.0s,mb5.8
HWUT LR LR
comp=Z,5µm,19.0s,MS5.7
S09A **Goldfield** 63.69 325 ⇑P P 13 28 40.1 0.0
baz=64,SNR=42
BW06 **Boulder Array** 63.70 333 *e*P P 13 28 39.6 -0.4
BW06 LR LR
comp=Z,3µm,21.0s,MS5.5
PDAR **Pinedale Array** 63.70 333 P P 13 28 39.0 -0.9
comp=Z,17nm,0.9s,mb5.1,baz=132,slow=6.2,SNR=79
PDAR S S 13 37 09.8 -3.5
comp=Z,0.3nm,0.6s,baz=180,slow=1.5,SNR=2.1
PDAR LR LR 13 56 28.8
comp=Z,3µm,20.7s,MS5.4,baz=144,slow=36
PDAR PKP2bc 13 57 38.9
comp=Z,0.7nm,0.8s,baz=64,slow=5.1,SNR=4.6
PDAR **Pinedale Array** 63.70 333 P P 13 28 39.0 -0.9
PDAR S S 13 37 09.8 -3.5
PDAR LR LR 13 56 28.8
PDAR ⇑*e* 13 57 38.9
O13A **Hicks Ranch, I** 63.72 329 ⇓P P 13 28 40.7 +0.5
baz=64
TIN **Tinemaha** 63.79 324 ⇓P P 13 28 41.2 +0.5
baz=64,SNR=9.2
BGU **Big Grassy Mou** 63.85 330 *e*P P 13 28 41.0 -0.1
SPUT **South Promonto** 63.87 331 *e*P P 13 28 42.4 +1.2
N14A **Grayback Hills** 63.87 330 ⇑P P 13 28 40.8 -0.4
baz=64,SNR=21
RCTC **Rector, Farmer** 63.87 322 ⇓P P 13 28 40.7 -0.6
baz=64
AGMN **Agassiz Refuge** 63.94 346 *e*P P 13 28 40.3 -1.1
AGMN LR LR
comp=Z,2µm,19.0s,MS5.4
TPH **Tonopah** 63.94 325 *e*P P 13 28 43.2 +1.5
TPH pmax pmax
comp=Z,85nm,1.1s,mb5.7
TPH MLR MLR
comp=Z,2µm,19.0s,MS5.4
TPH **Tonopah** 63.94 325 *e*P P 13 28 43.2 +1.5
comp=Z,85nm,1.1s,mb5.7
TPH LR LR
comp=Z,2µm,19.0s,MS5.4
L16A **Fish Haven** 63.94 332 ⇑P P 13 28 40.5 -1.1
baz=64,SNR=18
V05C **Boulder Hill,** 63.97 322 ⇓P P 13 28 40.8 -1.1
baz=64
R09A **Tonopah** 63.97 325 ⇓P P 13 28 42.1 +0.2
baz=64,SNR=54
M15A **Larsen Ranch,** 63.98 331 ⇑P P 13 28 41.3 -0.6
baz=64,SNR=18
HELL **Mitchell Peak** 64.00 323 ⇑P P 13 28 41.9 -0.2
baz=64,SNR=32
PTRM **Twisleman Ran** 64.02 321 *e*P P 13 28 43.6 +1.4
Q10A **Clear Creek Ra** 64.02 326 ⇑P P 13 28 42.7 +0.5
baz=64,SNR=9.6
S08C **White Mtn Res** 64.07 324 ⇑P P 13 28 43.0 +0.5
baz=64,SNR=38
P11A **Circle Ranch,** 64.21 327 ⇓P P 13 28 43.8 +0.4
baz=64,SNR=11
O12A **Currie** 64.21 328 ⇑P P 13 28 43.3 -0.1
baz=64,SNR=89
L15A **Malad City** 64.38 331 ⇓P P 13 28 43.9 -0.6
baz=65,SNR=36
N13A **Wendover, West** 64.38 329 ⇓P P 13 28 44.4 -0.1
baz=65,SNR=19
AHID **Auburn Hatcher** 64.38 332 *e*P P 13 28 45.4 +0.9
AHID LR LR
comp=Z,4µm,21.0s,MS5.5
HVU **Hansel Valley** 64.39 331 *e*P P 13 28 45.2 +0.7
V04C **Ramage Ranch,** 64.41 321 ⇓P P 13 28 44.5 -0.3
baz=64
PKD **Parkfield** 64.41 321 ⇓P P 13 28 44.9 +0.1
baz=64
U05C **Westside ANR,** 64.42 322 ⇓P P 13 28 44.8 0.0
baz=64
M14A **Sheep Mountain** 64.45 330 ⇓P P 13 28 44.4 -0.5
baz=65,SNR=61
Q09A **Carvers** 64.46 326 ⇓P P 13 28 45.5 +0.5
baz=65,SNR=14
MLAC **Mammoth Lakes** 64.54 324 ⇓P P 13 28 46.1 +0.5
baz=65,SNR=16
O11A **Cowboy Ranch,** 64.58 328 ⇑P P 13 28 46.3 +0.5
baz=65,SNR=25
KCC **Kaiser Creek** 64.61 323 ⇓P P 13 28 45.9 -0.2
baz=65,SNR=28
T06C **Millerton Lake** 64.62 323 ⇑P P 13 28 45.1 -1.1
baz=65,SNR=11
R08A **Mina** 64.63 325 ⇑P P 13 28 46.5 +0.3
baz=65,SNR=13
P10A **Eureka** 64.63 327 ⇓P P 13 28 47.0 +0.8
baz=65,SNR=19
K16A **Soda Springs** 64.65 332 ⇓P P 13 28 45.5 -0.8
baz=65,SNR=16
M13A **Montello** 64.74 330 ⇑P P 13 28 46.2 -0.7
baz=65,SNR=17
REDW **Red Top Meadow** 64.74 333 *e*P P 13 28 46.9 0.0
comp=Z,126nm,1.4s,mb5.8
SNOW **Snow King Moun** 64.78 333 *e*P P 13 28 48.6 +1.5
NVAR **Mina Array Bea** 64.79 325 P P 13 28 47.2 -0.1
comp=Z,18nm,1.0s,mb5.1,baz=134,slow=5.2,SNR=56
NVAR S S 13 37 28.4 +1.4
comp=Z,0.2nm,0.5s,baz=154,slow=21,SNR=2.9
NVAR PKP2bc 13 57 42.5
comp=Z,3.0nm,1.1s,baz=208,slow=2.9,SNR=3.8
NVAR **Mina Array Bea** 64.79 325 P P 13 28 47.2 -0.1
NVAR S S 13 37 28.4 +1.4
NVAR ⇑*e* 13 57 42.5
N12A **Clover Valley,** 64.80 329 ⇓P P 13 28 46.9 -0.4
baz=65,SNR=11
L14A **Malta** 64.80 331 ⇓P P 13 28 46.4 -0.9
baz=65,SNR=40
ELK **Elko** 64.82 328 *e*P P 13 28 47.4 0.0
ELK MLR MLR
comp=Z,4µm,22.0s
U04C **Hernandez Rese** 64.83 322 ⇓P P 13 28 47.4 -0.2
baz=65,SNR=15
LOHW **Long Hollow** 64.83 333 *e*P P 13 28 47.5 +0.1
V03C **Hunter Liggett** 64.88 321 ⇓P P 13 28 48.0 +0.1
baz=65,SNR=6.9
Q08A **Gabbs** 64.89 325 ⇓P P 13 28 47.8 -0.1
baz=65,SNR=29
TPAW **Teton Pass** 64.89 333 *e*P P 13 28 48.6 +0.8
RRI2 **Red Ridge** 64.94 333 *e*P P 13 28 48.1 0.0
comp=Z,107nm,1.0s,mb5.8
P09A **Austin** 64.94 326 ⇓P P 13 28 48.9 +0.6
baz=65
K15A **Arbon** 64.97 331 ⇑P P 13 28 48.0 -0.3
baz=65
R07C **Lee Vining** 64.98 324 ⇑P P 13 28 49.2 +0.7
baz=65,SNR=27
MOOW **Moose Ponds** 65.00 333 *e*P P 13 28 47.9 -0.7
J16A **Bone** 65.01 332 ⇑P P 13 28 48.7 +0.1
baz=65
DCID1 **Drake Creek** 65.08 333 *e*P P 13 28 50.5 +1.5
N11A **Elko Archery C** 65.12 328 ⇓P P 13 28 49.9 +0.5
baz=65
O10A **Cortez Mining,** 65.14 327 ⇑P P 13 28 50.0 +0.6
baz=65,SNR=40
M12A **Wells** 65.15 329 ⇓P P 13 28 49.1 -0.5
baz=65,SNR=17
K14A **Jones Ranch, D** 65.17 331 ⇑P P 13 28 48.9 -0.7
baz=65,SNR=30
L13A **Double Diamond** 65.18 330 ⇑P P 13 28 49.6 -0.2
baz=65,SNR=26
IMW **Indian Meadow** 65.21 333 *e*P P 13 28 50.1 +0.2
comp=Z,62nm,1.1s,mb5.5
S05C **Merced** 65.22 323 ⇑P P 13 28 50.2 +0.2
baz=65,SNR=12
FLWY **Flagg Ranch** 65.25 334 *e*P P 13 28 50.6 +0.5
comp=Z,122nm,1.0s,mb5.9
S06C **San Francisco** 65.30 323 ⇑P P 13 28 50.5 -0.1
baz=65,SNR=46
HAST **Hastings Reser** 65.32 321 ⇑P P 13 28 51.0 +0.3
baz=65,SNR=9.0
O09A **Fish Creek Ran** 65.42 327 ⇓P P 13 28 51.2 -0.1
baz=66,SNR=25
Q07A **Schurz** 65.43 325 ⇑P P 13 28 51.8 +0.4
baz=66
N10A **Dunphy** 65.45 328 ⇑P P 13 28 51.2 -0.3
baz=66,SNR=14
RLMT **Red Lodge** 65.49 335 *e*P P 13 28 50.9 -0.8
comp=Z,60nm,1.1s,mb5.5
RLMT LR LR
comp=Z,4µm,19.0s,MS5.6
SAO **San Andreas Ge** 65.50 322 *e*P P 13 28 55.8 +3.9
SAO MLR MLR
comp=Z,2µm,19.0s,MS5.3
R06C **Coleville** 65.51 324 ⇓P P 13 28 52.4 +0.5
baz=66,SNR=20
LKWY **Lake** 65.51 334 *e*P P 13 28 54.3 +2.5
LKWY MLR MLR

comp=Z,3µm,19.0s,MS5.5
P08A Dixie Valley 65.56 326 ⇓P P 13 28 52.4 +0.2
baz=66
PACP Pacheco Peak 65.56 322 ⇓P P 13 28 52.8 +0.5
baz=66,SNR=15
M11A Holland Ranch, 65.61 329 ⇑P P 13 28 52.5 0.0
baz=66,SNR=42
YFT Old Faithful 65.61 334 *eP* **P 13 28 55.1 +2.7**
BMN Battle Mountai 65.62 327 *eP* **P 13 28 54.2 +1.6**
BMN MLR MLR
comp=Z,4µm,20.0s,MS5.6
LAO LASA Array 65.62 338 *eP* **P 13 28 53.3 +0.9**
comp=Z,80nm,1.1s,mb5.7
LAO LR LR
comp=Z,2µm,20.0s,MS5.3
K13A Stover Farm, H 65.68 330 ⇑P P 13 28 52.6 -0.3
baz=66,SNR=11
CMB Columbia Colle 65.71 323 ⇓P P 13 28 53.1 -0.2
baz=66,SNR=20
CMB Columbia Colle 65.71 323 *eP* **P 13 28 54.2 +1.0**
CMB LR LR
comp=Z,2µm,19.0s,MS5.3
L12A House Creek Ra 65.75 330 ⇓P P 13 28 53.4 +0.1
baz=66,SNR=21
BBTS Babate 65.75 67 P **P 13 28 54.5 +0.5**
comp=Z,16nm,0.4s,mb5.4,baz=262,slow=1.3,SNR=5.4
ULM Lac du Bonnet 65.77 347 P **P 13 28 51.8 -1.6**
comp=Z,136nm,0.9s,mb6.0,baz=160,slow=6.1,SNR=72
ULM Lac du Bonnet 65.77 347 P **P 13 28 51.8 -1.6**
ULM LR LR
comp=Z,3µm,20.0s,MS5.5
YMR Madison River 65.83 334 *eP* **P 13 28 53.8 0.0**
comp=Z,96nm,1.3s,mb5.7
YMR LR LR
comp=Z,2µm,21.0s,MS5.4
P07A Fallon 65.89 325 ⇓P P 13 28 54.8 +0.4
baz=66
S04C Ingram Canyon, 65.92 322 ⇓P P 13 28 54.4 -0.1
baz=66,SNR=6.2
R05C Kirkwood Meado 65.99 324 ⇑P P 13 28 55.7 +0.7
baz=66,SNR=34
O08A Rochester Mine 66.02 326 ⇑P P 13 28 54.8 -0.4
baz=66
M10A I.L. Ranch, Tu 66.05 328 ⇑P P 13 28 55.5 +0.1
baz=66
K12A Draper Farm, C 66.06 330 ⇑P P 13 28 55.8 +0.5
baz=66,SNR=36
N09A Rock Creek Ran 66.08 327 ⇓P P 13 28 55.1 -0.5
baz=66
L11A Cat Creek Ranc 66.13 329 ⇓P P 13 28 55.9 0.0
baz=66,SNR=69
QLMT Earthquake Lak 66.16 334 *eP* **P 13 28 57.2 +1.2**
BNLO Ben Lomond (Sa 66.18 321 ⇑P P 13 28 56.1 -0.2
baz=66
R04C Big Horse Ranc 66.18 323 ⇑P P 13 28 56.9 +0.7
baz=66,SNR=12
GCMT Greycliff 66.20 335 *eP* **P 13 28 55.5 -0.7**
WCN Washoe City 66.21 325 ⇑P P 13 28 56.8 +0.4
baz=66,SNR=24
WENL Wente Brothers 66.25 322 ⇓P P 13 28 57.2 +0.5
baz=66
PAHR Pah Rah Range 66.28 325 *eP* **P 13 28 58.0 +1.2**
comp=Z,104nm,1.0s,mb5.8
J13A Cove Ranch, Pi 66.29 331 ⇓P P 13 28 57.1 +0.3
baz=66,SNR=33
O07A Toulon 66.32 326 ⇑P P 13 28 56.9 -0.2
baz=66,SNR=79
JRSC Jasper Ridge 66.39 322 ⇓P P 13 28 57.4 -0.3
baz=66
LAVA Lava Cap Winer 66.40 324 ⇓P P 13 28 57.5 -0.2
baz=66,SNR=11
L10A Juniper Basin 66.42 329 ⇓P P 13 28 57.9 +0.1
baz=67,SNR=50
M09A Marrel Ranch, 66.45 328 ⇑P P 13 28 57.7 -0.2
baz=67,SNR=18
DGMT Dagmar 66.46 340 *eP* **P 13 28 58.0 +0.2**
DGMT LR LR
comp=Z,1µm,22.0s,MS5.1
HLID Hailey 66.53 331 ⇓P P 13 28 58.5 +0.1
baz=67,SNR=47
HLID Hailey 66.53 331 *eP* **P 13 28 58.5 +0.1**
comp=Z,171nm,1.9s,mb5.8
HLID LR LR
comp=Z,3µm,21.0s,MS5.4
BDM Black Diamond 66.53 322 ⇑P P 13 28 59.1 +0.6
baz=67,SNR=6.8
P06A Stead Airport, 66.55 325 ⇓P P 13 28 59.3 +0.7
baz=67
J12A Stokes Ranch, 66.62 330 ⇑P P 13 28 58.9 0.0
baz=67,SNR=36
I13A Wildhorse Cree 66.66 331 ⇓P P 13 28 59.6 +0.4
baz=67,SNR=89
P05C Yuba Gap, Truc 66.70 324 ⇓P P 13 28 59.8 +0.2
baz=67,SNR=30
K11A Parker Ranch, 66.72 329 ⇑P P 13 28 59.3 -0.3
baz=67,SNR=21
MCMT McKenzie Canyo 66.78 333 P **P 13 29 00.2 +0.2**
N07B Gerlach 66.81 326 ⇑P P 13 28 59.9 -0.3
baz=67,SNR=28
Q04C Lincoln 66.83 323 ⇑P P 13 29 00.7 +0.3
baz=67,SNR=12
O06A Flanigan 66.85 325 ⇓P P 13 29 00.5 +0.1
baz=67,SNR=24
G15A Dillon 66.89 333 ⇓P P 13 29 00.5 -0.1
baz=67,SNR=34
BOZ Bozeman (W) 66.90 334 ⇓P P 13 29 00.2 -0.4
baz=67
BOZ Bozeman (W) 66.90 334 *eP* **P 13 29 00.1 -0.6**
BOZ LR LR
comp=Z,2µm,19.0s,MS5.4
BEKR Beckwourth 66.94 325 ⇑P P 13 29 01.3 +0.3
baz=67,SNR=7.1
M08A Happy Creek Ra 66.96 327 ⇑P P 13 29 00.8 -0.3
baz=67,SNR=13
L09A Wilkinson Ranc 67.00 328 ⇑P P 13 29 01.2 -0.2
baz=67
FARB Farallon Islan 67.05 321 ⇑P P 13 29 02.0 +0.2
baz=67
Q03C Winters 67.07 323 ⇑P P 13 29 02.4 +0.5
baz=67
DLMT Dillon 67.09 333 *eP* **P 13 29 02.1 +0.2**
comp=Z,75nm,1.1s,mb5.6
MFID Camas Ranch 67.09 330 ⇑P P 13 29 01.8 -0.2
baz=67,SNR=60
K10A MacKenzie Ranc 67.14 329 ⇓P P 13 29 02.2 -0.1
baz=67,SNR=55
CVS Carmenet Viney 67.14 322 ⇑P P 13 29 02.3 -0.1
baz=67,SNR=7.9
H13A Challis 67.22 332 ⇑P P 13 29 02.9 +0.2
baz=67,SNR=53
OHCM Honcut 67.22 324 *eP* **P 13 29 03.7 +0.8**
N06A Buffalo Meadow 67.25 326 ⇑P P 13 29 03.1 +0.1
baz=67,SNR=104
MCCM Marconi Confer 67.26 322 ⇓P P 13 29 03.1 0.0
baz=67
MCCM Marconi Confer 67.26 322 PFAKE 13 29 20.0 +17
MCCM LR LR
comp=Z,2µm,20.0s,MS5.3
O05C Quincy 67.32 324 ⇓P P 13 29 04.1 +0.6
baz=68,SNR=5.4
SUTB Sutter Butte 67.33 323 ⇑P P 13 29 03.2 -0.3
baz=68,SNR=6.5
M07A Soldier Meadow 67.34 327 ⇑P P 13 29 03.6 0.0
baz=68,SNR=22
NSHM Saint Helena R 67.34 322 *eP* **P 13 29 04.6 +0.9**
ORV Oroville 67.38 324 ⇓P P 13 29 04.3 +0.5
baz=68,SNR=107
G14A Jackson 67.38 333 ⇓P P 13 29 03.5 -0.3
baz=68,SNR=7.6
LRM Limekiln Ridge 67.39 334 *eP* **P 13 29 04.1 +0.3**
F15A Butte 67.42 334 ⇓P P 13 29 03.8 -0.2
baz=68,SNR=20
L08A Fields 67.47 328 ⇓P P 13 29 04.1 -0.3
baz=68,SNR=36
MNRC McLaughlin Nat 67.48 323 ⇓P P 13 29 04.3 -0.2
baz=68,SNR=9.9
H12A Diamond D Ranc 67.48 331 ⇓P P 13 29 04.2 -0.2
baz=68,SNR=52
K09A Rome 67.52 328 ⇓P P 13 29 04.9 +0.2
baz=68,SNR=101
I11A Placerville 67.53 330 ⇑P P 13 29 04.2 -0.5
baz=68,SNR=21
J10A Berg Farm, Mel 67.56 329 ⇑P P 13 29 04.4 -0.6
baz=68,SNR=11
G13A Cobalt 67.61 332 ⇓P P 13 29 05.0 -0.2
baz=68,SNR=50
O04C Chester 67.66 325 ⇓P P 13 29 05.5 -0.1
baz=68,SNR=18
ELFS Eagle Lake Fie 67.66 325 ⇓P P 13 29 05.9 +0.3
baz=68,SNR=8.2
F14A Wisdom 67.78 333 ⇑P P 13 29 06.3 0.0
baz=68,SNR=14
WVOR Wild Horse Val 67.80 328 *eP* **P 13 29 06.7 +0.3**
WVOR pmax pmax
comp=Z,422nm,2.4s,mb6.0
WVOR MLR MLR
comp=Z,3µm,21.0s,MS5.5
WVOR Wild Horse Val 67.80 328 *eP* **P 13 29 06.7 +0.3**
comp=Z,422nm,2.4s,mb6.0
WVOR LR LR
comp=Z,3µm,21.0s,MS5.5
HRY Holter Researc 67.83 335 *eP* **P 13 29 03.7 -2.9**
HRY *e*pP pP 13 29 21.9 +8.3
L07A Adell 67.87 327 ⇓P P 13 29 07.1 +0.1
baz=68,SNR=26
M06C Likely Place G 67.92 326 ⇓P P 13 29 07.6 +0.3
baz=68,SNR=13
HOPS Hopland 67.93 322 ⇑P P 13 29 08.1 +0.8
baz=68
HOPS Hopland 67.93 322 *eP* **P 13 29 14.3 +7.0**
comp=Z,105nm,1.4s,mb5.7
HOPS LR LR
comp=Z,2µm,21.0s,MS5.4
K08A Mann Creek Ran 67.93 328 ⇑P P 13 29 06.8 -0.4
baz=68,SNR=22
E15A Deer Lodge 67.94 334 ⇑P P 13 29 06.9 -0.3
baz=68,SNR=24
O03C Acorn Hollow, 67.98 324 ⇑P P 13 29 06.9 -0.8
baz=68
J09A Fry Pan Ranch, 68.00 329 ⇓P P 13 29 07.4 -0.2
baz=68,SNR=28
EGMT Eagleton 68.06 337 ⇓P P 13 29 07.0 -0.9
baz=68,SNR=34
EGMT Eagleton 68.06 337 *eP* **P 13 29 08.4 +0.5**
comp=Z,79nm,1.0s,mb5.7
EGMT LR LR
comp=Z,2µm,20.0s,MS5.4
I10A Payette 68.07 330 ⇑P P 13 29 07.8 -0.3
baz=68
H11A Donnelly 68.14 331 ⇓P P 13 29 08.3 -0.3
baz=68
GASB Alder Springs 68.15 323 ⇓P P 13 29 08.5 -0.2
baz=68,SNR=33
F13A Darby 68.19 333 ⇑P P 13 29 08.6 -0.3
baz=68,SNR=55
HATC Hat Creek Radi 68.20 325 ⇓P P 13 29 08.4 -0.6
baz=68,SNR=17
SHEL Horse Pasture 68.27 102 PFAKE 13 29 20.0 +10
SHEL LR LR
comp=Z,5µm,21.0s,MS5.8
K07A Rock Creek Ran 68.30 327 ⇓P P 13 29 09.6 +0.1
baz=68,SNR=20
E14A Clinton 68.31 333 ⇓P P 13 29 09.7 +0.1
baz=68,SNR=25
MOD Modoc 68.31 326 ⇓P P 13 29 09.6 0.0
baz=68,SNR=50
MOD Modoc 68.31 326 *eP* **P 13 29 09.7 +0.1**
MOD LR LR
comp=Z,2µm,19.0s,MS5.2
J08A Circle Bar Ran 68.37 328 ⇑P P 13 29 09.5 -0.5
baz=68,SNR=14
D15A Lincoln 68.38 334 ⇓P P 13 29 09.6 -0.4
baz=69,SNR=14
P01C Double 8 Ranch 68.39 323 ⇓P P 13 29 10.6 +0.4
baz=68,SNR=19
M05C Lookout 68.39 325 ⇓P P 13 29 10.4 +0.2
baz=68,SNR=30
H10A Noah's Angus R 68.41 330 ⇑P P 13 29 09.1 -1.2
baz=69,SNR=9.8
I09A Lost Marbles R 68.44 329 ⇓P P 13 29 10.1 -0.3
baz=69
O02C Red Bluff 68.53 324 ⇑P P 13 29 10.7 -0.4
baz=69,SNR=11
F12A Elk City 68.58 332 ⇓P P 13 29 11.2 -0.1
baz=69,SNR=30
CHMT Chamberlain Mo 68.59 334 *eP* **P 13 29 11.2 -0.1**
E13A Victor 68.63 333 ⇑P P 13 29 11.4 -0.1
baz=69,SNR=38
SCHQ Schefferville 68.65 6 P **P 13 29 10.8 -0.7**
comp=Z,34nm,0.8s,mb5.3,baz=198,slow=5.5,SNR=26
SCHQ S S 13 38 09.4 -3.5
comp=Z,2.4nm,0.8s,baz=255,slow=18,SNR=2.2
SCHQ LR LR 13 59 57.3
comp=Z,4µm,21.5s,MS5.6,baz=199,slow=37
WDC Whiskeytown Da 68.66 324 ⇓P P 13 29 09.9 -2.0
baz=69,SNR=9.1
WDC Whiskeytown Da 68.66 324 *eP* **P 13 29 10.7 -1.2**
WDC LR LR
comp=Z,1µm,19.0s,MS5.2
KCPM Cahto Peak 68.68 323 *eP* **P 13 29 13.9 +1.9**
L05A Lakeview 68.69 326 ⇑P P 13 29 12.3 +0.2
baz=69,SNR=17
KIPM Iron Peak 68.69 323 *eP* **P 13 29 13.6 +1.5**
G11A Walters Elk Ra 68.78 331 ⇓P P 13 29 11.8 -0.7
baz=69,SNR=59
J07A Hines 68.81 328 ⇓P P 13 29 12.6 -0.2
baz=69,SNR=15
I08A Drewsey 68.81 329 ⇓P P 13 29 12.5 -0.2
baz=69,SNR=24
MSO Missoula 68.82 333 *eP* **P 13 29 13.4 +0.7**
MSO LR LR
comp=Z,2µm,19.0s,MS5.3
D14A Greenough 68.83 334 ⇓P P 13 29 12.6 -0.2
baz=69,SNR=25
BMO Blue Mountains 68.87 330 *eP* **P 13 29 12.8 -0.4**
BMO LR LR
comp=Z,4µm,20.0s,MS5.6
M03C McCloud 68.88 325 ⇓P P 13 29 12.9 -0.3
baz=69
K06A Valley Falls 68.90 327 ⇑P P 13 29 13.7 +0.4
baz=69,SNR=96
H09A Durkee 68.91 330 ⇓P P 13 29 12.8 -0.6
baz=69,SNR=20
M04C Macdoel 69.06 325 ⇓P P 13 29 14.2 -0.2
baz=69,SNR=15
F11A Grangeville 69.10 332 ⇑P P 13 29 14.0 -0.5
baz=69,SNR=72
G10A Bishop Farm, J 69.11 331 ⇓P P 13 29 14.9 +0.3
baz=69,SNR=54
O01C Eel River Cons 69.11 323 ⇓P P 13 29 15.4 +0.7
baz=69
J06A Chstmas Vall 69.16 327 ⇓P P 13 29 14.8 -0.2
baz=69,SNR=109
TBI Tubuai 69.17 250 *eP*P PP 13 31 44.1 -4.4
comp=Z,222nm,26.8s
TBI *e*S S 13 38 22.0 +1.4
comp=Z,5µm,28.8s
TBI *e*LQ 13 47 17.2
comp=Z,4µm,28.2s
TBI *e*LR LR 13 50 06.8
comp=Z,5µm,24.8s,baz=87
K05A Summer Lake 69.19 327 ⇓P P 13 29 15.8 +0.6
baz=69,SNR=35
D13A Huson 69.25 333 ⇑P P 13 29 15.4 0.0
baz=70,SNR=31
N02C Big Bar 69.25 324 ⇑P P 13 29 15.7 +0.1
baz=69,SNR=95
H08A Prairie City 69.30 329 ⇑P P 13 29 15.6 -0.2
baz=70,SNR=36
L04A Klamath Falls 69.36 326 ⇓P P 13 29 16.1 -0.1
baz=70,SNR=16
M02C Callahan 69.37 325 ⇑P P 13 29 15.4 -0.9
baz=70,SNR=28
I07A Izee 69.41 328 ⇓P P 13 29 16.7 +0.2
baz=70,SNR=63
G09A Cove 69.41 330 ⇓P P 13 29 16.4 0.0
baz=70,SNR=66
C14A Swan Lake 69.47 334 ⇓P P 13 29 16.7 -0.1
baz=70
E11A Bogner Ranch, 69.47 332 ⇓P P 13 29 16.2 -0.6
baz=70,SNR=41
YBH Yreka Blue Hor 69.51 325 LR LR 13 58 04.4
comp=Z,3µm,20.3s,MS5.6,baz=142,slow=34
YBH Yreka Blue Hor 69.51 325 ⇓P P 13 29 15.5 -1.7
baz=70,SNR=36
YBH Yreka Blue Hor 69.51 325 *eP* **P 13 29 16.1 -1.0**
YBH LR LR
comp=Z,3µm,20.0s,MS5.5
KHMM Horse Mountain 69.53 324 *eP* **P 13 29 19.0 +1.7**
K04A Chilquin 69.56 326 ⇑P P 13 29 17.7 +0.2
baz=70
D12A Red Ives Fores 69.61 333 ⇓P P 13 29 17.5 -0.2
baz=70
F10A Beach Ranch, E 69.66 331 ⇑P P 13 29 17.9 -0.1
baz=70,SNR=43
JCC Jacoby Creek 69.67 323 ⇑P P 13 29 18.6 +0.4
baz=70,SNR=11
I06A Prineville 69.67 328 ⇓P P 13 29 18.3 +0.2
baz=70,SNR=30
C13A Hot Springs 69.75 334 ⇓P P 13 29 18.8 +0.3
baz=70,SNR=62
J05A Fort Rock 69.76 327 ⇑P P 13 29 18.5 -0.1
baz=70,SNR=30
F09A S2 Ranch, Elgi 69.79 330 ⇓P P 13 29 18.1 -0.7
baz=70,SNR=28
H07A Lands Inn, Kim 69.80 329 ⇓P P 13 29 18.4 -0.5
baz=70,SNR=12
VNA3 Neumayer Olymp 69.88 162 *eP* **P 13 29 19.0 0.0**
VNA3 *e* 13 29 20.2
VNA3 *e* 13 29 30.1
VNA3 *e* 13 29 32.7
VNA3 *e* 13 29 39.8
VNA3 *e* 13 31 55.1
E10A Myers Farm, Un 69.98 331 ⇓P P 13 29 19.2 -0.7
baz=70,SNR=13
G08A Pilot Rock 70.00 330 ⇑P P 13 29 19.7 -0.3
baz=70,SNR=36
PPT Papeete 70.01 256 *e*PP PP 13 31 57.1 +1.2
comp=Z,240nm,25.2s
PPT *e*S S 13 38 29.5 -1.1
comp=Z,6µm,27.8s
PPT *e*LQ 13 46 49.1
comp=Z,4µm,30.0s
PPT *e*LR LR 13 50 27.6
comp=Z,3µm,24.5s,baz=89
PPT Papeete 70.01 256 LR LR 13 53 43.1
comp=Z,2µm,18.4s,MS5.4,baz=91,slow=30
CMLA Cha da Macela 70.02 41 PFAKE 13 29 30.0 +10
CMLA LR LR
comp=Z,4µm,21.0s,MS5.6
D11A Klaveano Farm, 70.05 332 ⇑P P 13 29 19.0 -1.3
baz=70,SNR=11
KRMB Red Mountain 70.05 324 *eP* **P 13 29 21.5 +1.0**
LNOR Lincton Mounta 70.09 330 *eP* **P 13 29 20.5 -0.1**
VNA1 Neumayer--Stat 70.15 161 *eP* **P 13 29 21.1 +0.4**
VNA1 *e* 13 29 22.1
VNA1 *e* 13 29 30.9
VNA1 *e* 13 29 33.3
VNA1 *e* 13 29 43.3
J04A Umpqua Nationa 70.19 326 ⇓P P 13 29 21.6 +0.2
baz=70,SNR=13
HUMO Hull Mountain 70.23 325 ⇓P P 13 29 20.9 -0.7
baz=70
HUMO Hull Mountain 70.23 325 *eP* **P 13 29 26.6 +5.0**
HUMO LR LR
comp=Z,2µm,21.0s,MS5.3
B13A Whitefish 70.24 334 ⇓P P 13 29 21.3 -0.2
baz=70,SNR=11
F08A Pendleton 70.27 330 ⇓P P 13 29 20.8 -0.9
baz=70,SNR=8.2
H06A Lindquist Farm 70.29 328 ⇓P P 13 29 22.4 +0.5
baz=70,SNR=41
L02A Cave Junction 70.29 325 ⇓P P 13 29 21.5 -0.5
baz=70,SNR=13
G07A Ruggs Ranch, H 70.33 329 ⇓P P 13 29 22.1 0.0
baz=70,SNR=23
I05A Bend 70.38 328 ⇓P P 13 29 22.3 -0.1
baz=70,SNR=7.9
M01C Crescent City 70.39 324 ⇓P P 13 29 22.5 0.0
baz=70
D10A Wagner Farm, O 70.48 332 ⇓P P 13 29 22.9 -0.1
baz=71,SNR=25
E09A Wood Farm, Sta 70.49 331 ⇓P P 13 29 21.9 -1.1
baz=71,SNR=14
VNA2 Neumayer--Watz 70.50 161 *eP* **P 13 29 22.6 -0.2**
VNA2 *e* 13 29 23.8
VNA2 *e* 13 29 32.6
VNA2 *e* 13 29 35.0
VNA2 *e* 13 29 44.2
VNA2 *e* 13 32 00.5
WALA Waterton Lakes 70.54 335 *eP* **P 13 29 23.1 -0.2**
K02A Glendale 70.63 325 ⇓P P 13 29 23.4 -0.6
baz=71,SNR=27
A13A Flathead Natio 70.65 335 ⇓P P 13 29 24.2 +0.2
baz=71
KBO Bosley Butte 70.68 324 *eP* **P 13 29 26.6 +2.3**
I04A Tendick Farm, 70.73 327 ⇑P P 13 29 23.6 -1.0
baz=71,SNR=16
B12A Libby 70.80 334 ⇓P P 13 29 25.1 +0.2
baz=71,SNR=15
E08A Dider Farm, El 70.91 330 ⇑P P 13 29 24.8 -0.8
baz=71,SNR=14
D09A Jones Farm, Ri 70.97 331 ⇑P P 13 29 25.7 -0.3
baz=71,SNR=18
C10A Spilker Farm, 71.06 332 ⇑P P 13 29 26.6 0.0
baz=71,SNR=6.9
HAWA Hanford 71.07 330 *eP* **P 13 29 27.1 +0.6**
HAWA LR LR
comp=Z,4µm,20.0s,MS5.7
J02A Umpqua 71.07 326 ⇑P P 13 29 27.0 +0.3
baz=71,SNR=17
B11A Sandpoint 71.11 333 ⇓P P 13 29 26.7 0.0
baz=71,SNR=15
G05A Wamic 71.14 328 ⇑P P 13 29 27.0 0.0
baz=71,SNR=21
KEBM Edson Butte 71.17 325 *eP* **P 13 29 29.5 +2.2**
A12A Yaak River Ran 71.18 334 ⇑P P 13 29 27.4 +0.3
baz=71,SNR=22
H04A Detroit Lake 71.21 327 ⇑P P 13 29 26.7 -0.8
baz=71,SNR=19
F06A Goldendale 71.24 329 ⇓P P 13 29 27.8 +0.1
baz=71,SNR=8.6
D08A Wollman Farm, 71.25 331 ⇓P P 13 29 27.6 0.0
baz=71,SNR=7.1
NEW Newport 71.31 333 *eP* **P 13 29 28.1 +0.1**
NEW MLR MLR
comp=Z,2µm,19.0s
I03A Eugene 71.31 326 ⇑P P 13 29 28.0 -0.2
baz=72,SNR=15
E07A Sunnyside 71.34 330 ⇑P P 13 29 28.4 +0.2
baz=72,SNR=9.2
HOOD Mount Hood Mea 71.37 328 *eP* **P 13 29 30.4 +2.0**
B10A Chitwood Farm, 71.38 333 ⇓P P 13 29 28.3 -0.2
baz=72
OD2 Odessa Site #2 71.39 331 *eP* **P 13 29 28.5 0.0**
C09A Chrisman Ranch 71.49 332 ⇓P P 13 29 29.5 +0.4
baz=72
A11A Hall Mountain, 71.50 334 ⇓P P 13 29 29.2 +0.1
baz=72,SNR=44
I02A Mapleton 71.63 326 ⇓P P 13 29 30.5 +0.4
baz=72
F05A White Salmon 71.66 329 ⇑P P 13 29 30.3 +0.1
baz=72,SNR=8.9
G04A Mulino 71.72 328 ⇑P P 13 29 30.6 0.0
baz=72
COR Corvallis 71.74 327 *eP* **P 13 29 31.6 +0.9**
COR MLR MLR
comp=Z,3µm,21.0s,MS5.5
H03A Soap Creek Ran 71.79 327 ⇑P P 13 29 31.1 +0.1
baz=72,SNR=12
C08A Higginbotham F 71.84 331 ⇓P P 13 29 30.9 -0.3
baz=72,SNR=11
D07A Quincy 71.85 330 ⇓P P 13 29 31.1 -0.2
baz=72,SNR=17
E06A Yakima 71.88 329 ⇑P P 13 29 31.9 +0.4
baz=72,SNR=6.7
B09A Rice 71.89 332 ⇓P P 13 29 31.4 -0.1
baz=72,SNR=33
EBG Ellensburg 71.94 330 P **P 13 29 33.5 +1.7**
A10A Northport 72.04 333 ⇓P P 13 29 31.5 -0.9
baz=72,SNR=7.8
SNAA Sanae 72.10 161 *eP* **P 13 29 32.2 -0.3**
SNAA *e* 13 29 33.2
SNAA *e* 13 29 41.6
SNAA *e* 13 29 45.1
SNAA *e* 13 29 50.8
SNAA *e* 13 32 14.2
SNAA Sanae 72.10 161 *eP* **P 13 29 32.2 -0.3**
SNAA pmax pmax
comp=Z,317nm,1.4s
SNAA Sanae 72.10 161 *eP* **P 13 29 32.2 -0.3**
comp=Z,317nm,1.4s,mb6.0
F04A Amboy 72.18 328 ⇑P P 13 29 33.1 -0.2
baz=72,SNR=17
G03A Yamhill 72.21 327 ⇓P P 13 29 33.4 -0.1
baz=72
C07A Waterville 72.25 331 ⇑P P 13 29 33.8 +0.2
baz=72,SNR=24
D06A Cle Elum 72.27 330 ⇑P P 13 29 33.8 0.0
baz=72,SNR=12
E05A Randle 72.28 329 ⇓P P 13 29 33.5 -0.4
baz=72,SNR=14

ETW Entiat 72.31 331 *e*P **P 13 29 34.6 +0.6**
B08A Colville Reser 72.38 332 ⇓P **P 13 29 34.2 -0.3**
baz=73,SNR=24
LON Longmire 72.44 329 *e*P **P 13 29 34.7 -0.1**
LON pmax pmax
comp=Z,17nm,0.8s,mb5.0
LON Longmire 72.44 329 *e*P **P 13 29 34.7 -0.1**
comp=Z,17nm,0.8s,mb5.0
A09A Danville 72.49 332 ⇑P **P 13 29 34.7 -0.3**
baz=73,SNR=27
F03A Seaside 72.77 328 ⇓P **P 13 29 37.2 +0.4**
baz=73
E04A Onalaska 72.78 329 ⇑P **P 13 29 37.3 +0.5**
baz=73
A08A Turner Farm, O 72.79 332 ⇑P **P 13 29 37.2 +0.4**
baz=73,SNR=35
C06A Tall Timber Ra 72.81 331 ⇓P **P 13 29 36.8 -0.2**
baz=73
B07A Winthrop 72.82 331 ⇓P **P 13 29 36.8 -0.3**
baz=73,SNR=22
D05A Enumclaw 72.83 329 ⇑P **P 13 29 37.1 0.0**
baz=73,SNR=15
BMW Boistfort Moun 72.96 328 *e*P **P 13 29 39.1 +1.2**
C05A Tolt Reservoir 73.03 330 ⇑P **P 13 29 37.1 -1.2**
baz=73,SNR=11
D04A Dobbs Creek Ra 73.18 329 ⇓P **P 13 29 39.3 +0.1**
baz=73
E03A Lebam 73.18 328 ⇑P **P 13 29 39.2 -0.1**
baz=73
A07A Ashnola River, 73.36 332 ⇑P **P 13 29 40.5 +0.2**
baz=74,SNR=43
RPW Rockport 73.47 331 *e*P **P 13 29 40.5 -0.4**
FCC Fort Churchill 73.49 351 *e*P **P 13 29 41.1 +0.4**
FCC pmax pmax
comp=Z,80nm,1.1s,mb5.6
FCC Fort Churchill 73.49 351 *e*P **P 13 29 41.1 +0.4**
comp=Z,80nm,1.1s,mb5.6
JCW Jim Creek 73.49 330 *e*P **P 13 29 39.8 -1.3**
GNW Green Mountain 73.50 329 *e*P **P 13 29 41.2 +0.1**
comp=Z,192nm,2.0s,mb5.7
B06A Marblemount 73.51 331 ⇑P **P 13 29 40.2 -0.9**
baz=74,SNR=13
EDM Edmonton 73.61 338 *e*P **P 13 29 40.4 -1.2**
B05A Bryant 73.62 330 ⇓P **P 13 29 41.2 -0.6**
baz=74,SNR=17
D03A Wishkah Elem. 73.67 329 ⇑P **P 13 29 42.8 +0.7**
baz=74
C04A Brinnon 73.67 329 ⇑P **P 13 29 42.1 0.0**
baz=74,SNR=9.7
LIC Lamto 73.73 79⇑*i*P **P 13 29 42.6 -0.6**
comp=Z,130nm,1.0s,mb5.5,baz=267
LIC *e*MLR MLR
comp=Z,5μm,18.0s,MS5.6
LIC Lamto 73.73 79 *e*P **P 13 29 42.5 -0.7**
comp=Z,168nm,1.0s,mb5.9
LIC Lamto 73.73 79⇑*i*P **P 13 29 42.6 -0.6**
comp=Z,65nm,1.0s,mb5.5
LIC LR LR
comp=Z,3μm,18.0s,MS5.6
TIC Toumodi 73.85 79 *e*P **P 13 29 42.3 -1.6**
comp=Z,53nm,0.2s,mb6.1
TIC Toumodi 73.85 79 *e*P **P 13 29 42.3 -1.6**
TIC pmax pmax
comp=Z,53nm,0.2s,mb6.1
PMPS Porto Santo 73.85 49 *e*P **P 13 29 44.0 +0.5**
comp=Z,514nm,1.9s,mb6.1
NLWA Neilton Lookou 73.90 329 ⇑P **P 13 29 44.7 +1.2**
baz=74,SNR=15
NLWA Neilton Lookou 73.90 329 *e*P **P 13 29 44.3 +0.9**
comp=Z,92nm,0.9s,mb5.7
NLWA LR LR
comp=Z,4μm,22.0s,MS5.6
A06A Chilliwack 73.91 331 ⇑P **P 13 29 43.4 -0.1**
baz=74,SNR=12
DBIC Dimbokro 74.01 79 P **P 13 29 44.1 -0.8**
comp=Z,22nm,0.8s,mb5.2,baz=233,slow=4.9,SNR=20
DBIC LR LR 14 00 47.2
comp=Z,6μm,18.1s,MS5.9,baz=235,slow=35
KIC Kosan Boka 74.04 79 *e*P **P 13 29 44.6 -0.4**
comp=Z,403nm,0.8s,mb6.4
A05A Maple Falls 74.13 331 ⇑P **P 13 29 44.8 +0.1**
baz=74,SNR=22
B04A Port Angeles 74.17 329 ⇓P **P 13 29 45.7 +0.7**
baz=74,SNR=14
A04A Legoe Bay, Lum 74.23 330 ⇑P **P 13 29 45.7 +0.4**
baz=74,SNR=13
PGC Sidney 74.54 330 *e*P **P 13 29 47.8 +0.6**
comp=Z,116nm,0.9s,mb5.8
MAIT Maitri 76.74 160 *e*P **P 13 29 58.7 -0.8**
NVL N'lazarevskaya 76.77 160*c i*P **P 13 29 59.0 -0.7**
NVL *e**PP pP 13 30 07.0 +0.2
NVL 13 32 53.3
NVL *e*S S 13 39 48.1 +2.7
NVL pmax pmax
comp=Z,171nm,1.6s,mb5.7
RAR Rarotonga 78.93 251 LR LR 13 56 57.7
comp=Z,4μm,18.2s,MS5.8,baz=289,slow=30
PFVI Vila Bisbo 81.17 48 *e*P **P 13 30 25.8 +1.5**
comp=Z,132nm,1.6s,mb5.6
PFVI *e*pP pP 13 30 31.8 +0.3
PFVI Vila Bisbo 81.17 48 *e*S S 13 40 35.3 +2.0
PFVI Vila Bisbo 81.17 48 *e*LQ 13 54 50.9
PFVI *e*LR LR 13 58 46.0
comp=Z,4μm,20.0s
MORF Marmelete 81.37 48 *e*P **P 13 30 26.3 +0.9**
comp=Z,156nm,3.1s
MORF *e*pP pP 13 30 32.8 +0.3
MORF Marmelete 81.37 48 *e*S S 13 40 42.3 +6.9
MORF Marmelete 81.37 48 *e*LQ 13 55 02.3
MORF *e*LR LR 13 59 05.5
comp=Z,4μm,20.0s
RTC Rabat Centre 81.39 52 PFAKE 13 30 40.0 +14
RTC LR LR
comp=Z,3μm,19.0s,MS5.7
PTEO Sao Teotonio 81.41 48 *e*P **P 13 30 27.9 +2.3**
comp=Z,212nm,1.8s,mb5.8
YKA Yellowknife Ar 81.42 343 P **P 13 30 23.7 -1.4**
comp=Z,28nm,0.9s,mb5.2,baz=138,slow=5.4,SNR=69
YKA S S 13 40 34.0 -0.8
comp=Z,0.6nm,0.8s,baz=167,slow=36,SNR=2.6
YKA LR LR 14 10 26.4
comp=Z,1μm,20.0s,MS5.3,baz=160,slow=39
YKA Yellowknife Ar 81.42 343 P **P 13 30 23.7 -1.4**
YKA S S 13 40 34.1 -0.7
YKA Yellowknife Ar 81.42 343 P **P 13 30 23.7 -1.4**
YKA S S 13 40 34.0 -0.8
YKA LR LR 14 10 26.4
YKW3 Yellowknife Ar 81.48 343 *e*P **P 13 30 24.1 -1.2**
XMAS Kiritimati 81.57 274 PFAKE 13 30 40.0 +13
XMAS LR LR
comp=Z,3μm,20.0s,MS5.7
LIS Lisbon 81.59 47 *e*P **P 13 30 26.7 +0.1**
LIS *e*S S 13 40 36.2 -1.5
LIS *e*S S 13 40 36.4 -1.3
LIS AMS AMS 14 03 31.1
comp=Z,5μm,23.6s,MS5.8
LIS Lisbon 81.59 47 *e*S S 13 40 36.2 -1.4
LIS A 14 03 31.1
comp=Z,5μm,23.6s
PMAFR Mafra 81.60 47 *e*P **P 13 30 27.7 +1.1**
comp=Z,196nm,1.4s,mb5.8
PMAFR *e*pP pP 13 30 34.1 +0.4
PMAFR Mafra 81.60 47 *e*S S 13 40 43.0 +5.3
PMAFR Mafra 81.60 47 *e*LR LR 13 58 43.3
comp=Z,4μm,18.0s
PBDV Barranco-do-Ve 81.87 49 *e*P **P 13 30 29.5 +1.5**
comp=Z,133nm,1.4s,mb5.7
PBDV *e*pP pP 13 30 35.9 +0.7
PBDV Barranco-do-Ve 81.87 49 *e*S S 13 40 47.0 +6.5
PBDV Barranco-do-Ve 81.87 49 *e*LQ 13 54 26.5
PBDV *e*LR LR 13 57 07.1
comp=Z,4μm,20.0s
TOA0 Torodi Ar. Sit 82.00 74 *e*P **P 13 30 29.1 -0.1**
TORD Torodi Ar. Bea 82.00 74 P **P 13 30 29.1 -0.1**
comp=Z,36nm,0.8s,mb5.3,baz=268,slow=4.7,SNR=95
TORD S S 13 40 36.4 -6.3
comp=Z,0.8nm,1.1s,baz=264,slow=11,SNR=2.9
TORD LR LR 14 05 56.8
comp=Z,6μm,18.6s,MS6.0,baz=250,slow=35
PVAQ Vaqueiros 82.09 49 *e*P **P 13 30 30.6 +1.4**
comp=Z,84nm,2.6s,mb5.2
PVAQ Vaqueiros 82.09 49 *e*S S 13 40 45.7 +2.9
PVAQ Vaqueiros 82.09 49 *e*LQ 13 55 20.6
PVAQ *e*LR LR 13 57 09.6
comp=Z,4μm,20.0s
SBA Scott Base 82.20 191⇑*i*P **P 13 30 29.8 +0.7**
SBA pmax pmax
comp=Z,327nm,1.8s,mb6.0
SBA MLR MLR
comp=Z,4μm,21.0s,MS5.8
SBA Scott Base 82.20 191⇑*i*P **P 13 30 29.8 +0.7**
comp=Z,327nm,1.8s,mb6.0
SBA LR LR
comp=Z,4μm,21.0s,MS5.8
PBEJ Beja 82.23 48 *e*P **P 13 30 31.6 +1.7**
comp=Z,100nm,1.7s,mb5.5
EGRO El Granado 82.31 49 P **P 13 30 31.8 +1.4**
comp=Z,44nm,0.8s,mb5.4
EVO Evora 82.33 47⇑*i*P **P 13 30 30.9 +0.5**
comp=Z,147nm,1.0s,mb5.6
EVO *e*MLR MLR
comp=Z,6μm,20.8s,MS5.6
EVO Evora 82.33 47 *e*P **P 13 30 31.4 +1.0**
comp=Z,99nm,1.9s,mb5.4
EVO *e*pP pP 13 30 37.6 0.0
PTOM Tomar 82.49 46 *e*P **P 13 30 32.0 +0.8**
comp=Z,156nm,1.0s,mb5.9
PTOM *e*pP pP 13 30 38.4 0.0
SFJD Kangerlussuaq 82.59 10⇑*i*P **P 13 30 29.5 -1.6**
SFJD *i*S S 13 40 40.3 -6.4
SFJD pmax pmax
comp=Z,41nm,1.1s,mb5.4
SFJD MLR MLR
comp=Z,3μm,22.0s,MS5.7
SFJD Kangerlussuaq 82.59 10⇑*i*P **P 13 30 29.5 -1.6**
comp=Z,41nm,1.1s,mb5.4
SFJD *i*S S 13 40 40.3 -6.4
SFJD
comp=Z,3μm,22.0s
MDT Midelt 82.69 54 LR LR 14 07 44.9
comp=Z,4μm,18.1s,MS5.8,baz=263,slow=36
PESTR Estremoz 82.77 47 *e*P **P 13 30 33.4 +0.7**
comp=Z,87nm,3.2s
PESTR Estremoz 82.77 47 *e*S S 13 40 56.6 +6.9
PESTR Estremoz 82.77 47 *e*LQ 13 55 35.2
PESTR *e*LR LR 13 59 33.4
comp=Z,4μm,18.0s
SFS San Fernando 82.83 50 PFAKE 13 30 40.0 +6.9
SFS LR LR
comp=Z,3μm,21.0s,MS5.7
PBAR Barrancos 82.89 48 *e*P **P 13 30 34.1 +0.8**
comp=Z,64nm,3.0s
PBAR *e*pP pP 13 30 40.4 -0.1
PBAR Barrancos 82.89 48 *e*S S 13 40 52.2 +1.3
PBAR Barrancos 82.89 48 *e*LQ 13 55 53.3
PBAR *e*LR LR 13 59 34.4
comp=Z,4μm,20.0s
EMIN Mina Concepcio 82.99 49 P **P 13 30 35.0 +1.1**
comp=Z,28nm,0.8s,mb5.3
PMRV Marv??o 83.13 47 *e*P **P 13 30 34.7 +0.1**
comp=Z,45nm,1.5s,mb5.3
PMRV *e*pP pP 13 30 41.0 -0.8
PMRV Marv??o 83.13 47 *e*S S 13 40 54.4 +1.0
PMRV Marv??o 83.13 47 *e*LQ 13 56 55.7
PMRV *e*LR LR 13 58 26.8
comp=Z,4μm,20.0s
EBAD Badajoz 83.14 48 P **P 13 30 35.4 +0.8**
comp=Z,29nm,0.9s,mb5.3
PCBR Castelo Branco 83.24 46 *e*P **P 13 30 35.4 +0.3**
comp=Z,83nm,2.7s,mb5.3
PCBR *e*pP pP 13 30 42.7 +0.4
ESPR Espera 83.25 50 P **P 13 30 36.5 +1.2**
comp=Z,16nm,0.8s,mb5.1
VNDA Vanda 83.27 191 P **P 13 30 35.2 +0.5**
comp=Z,21nm,1.0s,mb5.1,baz=127,slow=3.8,SNR=76
VNDA S S 13 40 53.9 +0.2
comp=Z,2.6nm,0.3s,baz=144,slow=18,SNR=22
VNDA LR LR 13 59 47.3
comp=Z,5μm,21.6s,MS5.9,baz=129,slow=30
VNDA Vanda 83.27 191 P **P 13 30 35.2 +0.5**
VNDA S S 13 40 53.9 +0.2
PVIS Viseu 83.30 45 *e*P **P 13 30 36.0 +0.6**
comp=Z,110nm,1.1s,mb5.8
PVIS *e*pP pP 13 30 42.3 -0.3
MTE Manteigas 83.42 46 *e*P **P 13 30 36.4 +0.4**
comp=Z,95nm,1.1s,mb5.7
MTE *e*pP pP 13 30 42.6 -0.6
MTE Manteigas 83.42 46 *e*S S 13 40 59.3 +3.1
MTE Manteigas 83.42 46 *e*LR LR 13 59 34.7
comp=Z,3μm,20.0s
MTE Manteigas 83.42 46 *e*P **P 13 30 36.5 +0.5**
comp=Z,79nm,1.1s,mb5.7
MTE LR LR
comp=Z,4μm,20.0s,MS5.8
CRAG Craig 83.47 331 *e*P **P 13 30 36.1 +0.2**
EMAZ Mazaricos 83.50 43 P **P 13 30 38.0 +1.6**
comp=Z,18nm,0.9s,mb5.1
PCAB Cabril 83.62 45 *e*P **P 13 30 38.0 +1.0**
comp=Z,73nm,2.5s,mb5.4
PCAB *e*pP pP 13 30 44.3 +0.1
ELOB Lobios 83.66 44 P **P 13 30 38.1 +0.8**
comp=Z,14nm,0.9s,mb5.1
WRAK Wrangell Islan 83.67 332⇑*e*P **P 13 30 36.4 -0.6**
comp=Z,59nm,1.3s,mb5.5
WRAK LR LR
comp=Z,2μm,19.0s,MS5.6
STS Santiago 83.76 43 P **P 13 30 39.5 +1.8**
STS pmax pmax
comp=Z,42nm,1.1s,mb5.5
STS Santiago 83.76 43 P **P 13 30 39.5 +1.8**
comp=Z,42nm,1.1s,mb5.5
DLBC Dease Lake 83.89 335 *e*P **P 13 30 38.1 +0.1**
EMIJ Mijas 83.94 50 P **P 13 30 39.3 +0.5**
comp=Z,35nm,0.9s,mb5.5
ECAB El Cabril 84.03 49 P **P 13 30 40.3 +1.1**
comp=Z,5.3nm,0.6s,mb4.8
MVO Moncorvo 84.08 45 *e*P **P 13 30 39.8 +0.4**
comp=Z,69nm,1.4s,mb5.6
MVO *e*pP pP 13 30 46.3 -0.3
MVO Moncorvo 84.08 45 *e*S S 13 41 01.8 -1.1
MVO Moncorvo 84.08 45 *e*LQ 13 56 52.4
MVO *e*LR LR 14 00 07.8
comp=Z,4μm,20.0s
POHA Pohakuloa 84.40 292 PFAKE 13 30 50.0 +8.5
POHA LR LR
comp=Z,2μm,20.0s,MS5.6
ECAL Calabor 84.59 45 P **P 13 30 44.5 +2.5**
comp=Z,17nm,0.7s,mb5.3
ELOJ Sierra Loja 84.62 50 P **P 13 30 44.0 +1.8**
ELOJ pmax pmax
comp=Z,42nm,1.0s,mb5.5
ELOJ Sierra Loja 84.62 50 P **P 13 30 44.0 +1.8**
comp=Z,42nm,1.0s,mb5.5
EADA Adamuz 84.68 49 P **P 13 30 43.0 +0.4**
ELUQ Luque 84.68 50 P **P 13 30 44.1 +1.6**
ELUQ pmax pmax
comp=Z,4.0nm,0.3s,mb5.0
ELUQ Luque 84.68 50 P **P 13 30 44.1 +1.6**
comp=Z,4.1nm,0.3s,mb5.0
EPON Pontenova 84.87 43 P **P 13 30 43.8 +0.4**
comp=Z,12nm,0.8s,mb5.1
ECOG Cogollos-Vega 85.10 50 P **P 13 30 46.4 +1.7**
ECOG pmax pmax
comp=Z,13nm,0.6s,mb5.2
ECOG Cogollos-Vega 85.10 50 P **P 13 30 46.4 +1.7**
comp=Z,13nm,0.6s,mb5.2
PAB San Pablo 85.35 48⇑*e*P **P 13 30 45.1 -0.8**
PAB pmax pmax
comp=Z,25nm,1.0s,mb5.3
PAB MLR MLR
comp=Z,6μm,21.0s,MS5.9
PAB San Pablo 85.35 48⇑*e*P **P 13 30 45.1 -0.8**
comp=Z,24nm,1.0s,mb5.3
PAB LR LR
comp=Z,6μm,21.0s,MS5.9
SIT Sitka 85.38 332 PFAKE 13 31 00.0 +14
SIT LR LR
comp=Z,3μm,22.0s,MS5.7
EBER Berja 85.47 51 P **P 13 30 46.6 +0.1**
comp=Z,41nm,0.8s,mb5.6
EQES Quesada 85.66 50 P **P 13 30 48.6 +1.2**
comp=Z,18nm,0.8s,mb5.4
ESDC Sonseca Array 85.68 48 P **P 13 30 47.9 +0.4**
comp=Z,9.1nm,0.8s,mb5.0,baz=253,slow=4.8,SNR=24
ESDC LR LR 14 05 31.8
comp=Z,4μm,20.9s,MS5.8,baz=245,slow=33
GUD Guadarrama 85.89 47 P **P 13 30 49.2 +0.7**
GUD pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
GUD Guadarrama 85.89 47 P **P 13 30 49.2 +0.7**
comp=Z,7.2nm,0.8s,mb5.0
EHUE Huescar 86.01 50 P **P 13 30 49.5 +0.3**
EARI Arriondas 86.16 44 P **P 13 30 51.2 +1.4**
EVIA Vianos 86.37 49 P **P 13 30 51.6 +0.7**
EVIA pmax pmax
comp=Z,34nm,0.8s,mb5.6
EVIA Vianos 86.37 49 P **P 13 30 51.6 +0.7**
comp=Z,34nm,0.8s,mb5.6
SKAG Skagway 86.72 334 *e*P **P 13 30 58.2 +6.1**
ETOB Tobarra 87.07 49 P **P 13 30 54.5 +0.2**
comp=Z,42nm,1.0s,mb5.6
KIP Kipapa 87.09 293 PFAKE 13 31 10.0 +15
KIP LR LR
comp=Z,2μm,19.0s,MS5.5
ELAN Lanestosa 87.34 44 P **P 13 30 56.3 +0.7**
ETOR Torete 87.45 47 P **P 13 30 56.9 +0.8**
ETOR pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
ETOR Torete 87.45 47 P **P 13 30 56.9 +0.8**
comp=Z,9.6nm,1.0s,mb5.0
TAM Tamanrasset 88.12 66 *e*P **P 13 31 00.6 +0.9**
ETRT Tiaret 88.18 53 P **P 13 31 02.4 +2.6**
EANR 'Ain N'Sour 88.20 52 P **P 13 31 01.0 +1.2**
HYT Haines Junctio 88.37 335 *e*P **P 13 31 00.5 +0.5**
BORG Borgarnes 88.47 21 *e*P **P 13 31 03.9 +3.5**
BORG MLR MLR
comp=Z,1μm,19.0s
EBNR Beni Rached 88.63 52 P **P 13 31 03.6 +1.7**
SJPF Ste Jean 88.81 45⇑*i*P **P 13 31 02.3 -0.3**
comp=Z,68nm,1.2s,mb5.5
SJPF Ste Jean 88.81 45⇑*i*P **P 13 31 02.3 -0.3**
SJPF pmax pmax
comp=Z,34nm,1.2s,mb5.5
SJPF Ste Jean 88.81 45⇑*i*P **P 13 31 02.3 -0.3**
comp=Z,34nm,1.2s,mb5.5
RES Resolute Bay 88.83 355 *e*P **P 13 31 03.0 +1.0**
SUR Sutherland 88.97 123 *e*P **P 13 31 09.8 +6.1**
comp=Z,276nm,2.6s,mb6.1
SUR LR LR
comp=Z,4μm,19.0s,MS5.8
ERTA Horta de San J 89.20 48 P **P 13 31 04.9 +0.5**
comp=Z,20nm,0.8s,mb5.5
ETSF Etsaut 89.20 46⇑*i*P **P 13 31 04.1 -0.3**
comp=Z,26nm,1.1s,mb5.2
ETSF Etsaut 89.20 46⇑*i*P **P 13 31 04.1 -0.3**
ETSF pmax pmax
comp=Z,13nm,1.0s,mb5.2
ETSF Etsaut 89.20 46⇑*i*P **P 13 31 04.1 -0.3**
comp=Z,13nm,1.0s,mb5.2
QUIF Quistinic 89.22 40 *e*P **P 13 31 03.8 -0.5**
comp=Z,173nm,1.8s,mb5.8
QUIF Quistinic 89.22 40 *e*P **P 13 31 03.8 -0.5**
QUIF pmax pmax
comp=Z,86nm,1.8s,mb5.8
QUIF Quistinic 89.22 40 *e*P **P 13 31 03.8 -0.5**
comp=Z,86nm,1.8s,mb5.8
ROSF Rostrenen 89.30 40 *e*P **P 13 31 04.3 -0.4**
comp=Z,106nm,1.5s,mb5.6
ROSF Rostrenen 89.30 40 *e*P **P 13 31 04.3 -0.4**
ROSF pmax pmax
comp=Z,53nm,1.5s,mb5.7
ROSF Rostrenen 89.30 40 *e*P **P 13 31 04.3 -0.4**
comp=Z,53nm,1.5s,mb5.7
DMUB Kingscourt 89.34 34 *e*P **P 13 31 13.0 +8.2**
TSUM Tsumeb 89.48 110 *e*P **P 13 31 04.7 -1.6**
comp=Z,35nm,1.1s,mb5.6
TSUM LR LR
comp=Z,2μm,20.0s,MS5.6
SUMG Summit 89.55 11 *e*P **P 13 31 05.5 +0.1**
EBIE Bielsa 89.62 46 P **P 13 31 06.5 +0.1**
comp=Z,16nm,0.8s,mb5.4
EMHD Djebel Mahouad 89.70 53 P **P 13 31 07.2 +0.3**
EPF Esparros 89.87 46⇑*i*P **P 13 31 07.4 -0.1**
comp=Z,38nm,1.0s,mb5.4
EPF Esparros 89.87 46⇑*i*P **P 13 31 07.4 -0.1**
EPF pmax pmax
comp=Z,19nm,1.0s,mb5.4
EPF Esparros 89.87 46⇑*i*P **P 13 31 07.4 -0.1**
comp=Z,19nm,1.0s,mb5.4
MFF Saint Martin d 90.70 42 *e*P **P 13 31 10.4 -0.9**
comp=Z,33nm,1.0s,mb5.3
MFF Saint Martin d 90.70 42 *e*P **P 13 31 10.4 -0.9**
MFF pmax pmax
comp=Z,16nm,1.0s,mb5.3
MFF Saint Martin d 90.70 42 *e*P **P 13 31 10.4 -0.9**
comp=Z,16nm,1.0s,mb5.3
LFF La Frestale 90.75 44 *e*P **P 13 31 10.8 -0.8**
comp=Z,57nm,0.9s,mb5.6
LFF La Frestale 90.75 44 *e*P **P 13 31 10.8 -0.8**
LFF pmax pmax
comp=Z,28nm,0.9s,mb5.6
LFF La Frestale 90.75 44 *e*P **P 13 31 10.8 -0.8**
comp=Z,28nm,0.9s,mb5.6
DAWY Dawson 90.80 337 *e*P **P 13 31 10.4 -1.0**
GRR Gorron 90.83 40 *e*P **P 13 31 11.6 -0.3**
comp=Z,28nm,0.9s,mb5.3
GRR Gorron 90.83 40 *e*P **P 13 31 11.6 -0.3**
GRR pmax pmax
comp=Z,14nm,0.9s,mb5.3
GRR Gorron 90.83 40 *e*P **P 13 31 11.6 -0.3**
comp=Z,14nm,0.9s,mb5.3
INK Inuvik 91.10 342 *e*P **P 13 31 11.6 -1.1**
FLN La Foliniere 91.19 40 *e*P **P 13 31 12.6 -0.9**
comp=Z,150nm,1.6s,mb5.8
FLN *e*MLR MLR
comp=Z,2μm,20.0s,MS5.3
FLN La Foliniere 91.19 40 *e*P **P 13 31 12.6 -0.9**
FLN pmax pmax
comp=Z,75nm,1.6s,mb5.8
FLN MLR MLR
comp=Z,2μm,20.0s,MS5.6
FLN La Foliniere 91.19 40 *e*P **P 13 31 12.6 -0.9**
comp=Z,75nm,1.6s,mb5.8
FLN LR LR
comp=Z,2μm,20.0s,MS5.6
RAGM Ragged Mountai 91.27 333 *e*P **P 13 31 13.9 +0.3**
MTLF Montolieu 91.27 46 *e*P **P 13 31 13.0 -1.0**
comp=Z,27nm,0.9s,mb5.3
MTLF Montolieu 91.27 46 *e*P **P 13 31 13.0 -1.0**
MTLF pmax pmax
comp=Z,13nm,0.9s,mb5.3
MTLF Montolieu 91.27 46 *e*P **P 13 31 13.0 -1.0**
comp=Z,13nm,0.9s,mb5.3
LDF La Druitiere 91.36 40 *e*P **P 13 31 13.3 -1.0**
comp=Z,38nm,1.0s,mb5.4
LDF La Druitiere 91.36 40 *e*P **P 13 31 13.3 -1.0**
LDF pmax pmax
comp=Z,19nm,1.0s,mb5.4
LDF La Druitiere 91.36 40 *e*P **P 13 31 13.3 -1.0**
comp=Z,19nm,1.0s,mb5.4
RJF Les Rejaudoux 91.39 44 *e*P **P 13 31 13.5 -1.0**
comp=Z,89nm,1.4s,mb5.6
RJF *e*MLR MLR
comp=Z,4μm,20.5s,MS5.5
RJF Les Rejaudoux 91.39 44 *e*P **P 13 31 13.5 -1.0**
RJF pmax pmax
comp=Z,44nm,1.4s,mb5.6
RJF MLR MLR
comp=Z,4μm,20.5s,MS5.8
RJF Les Rejaudoux 91.39 44 *e*P **P 13 31 13.5 -1.0**
comp=Z,44nm,1.4s,mb5.6
RJF LR LR
comp=Z,4μm,20.5s,MS5.8
BMRM Bremner River 91.48 333 *e*P **P 13 31 14.2 -0.4**
CAF Calviac 91.64 44⇑*i*P **P 13 31 14.8 -0.9**
comp=Z,37nm,1.0s,mb5.3
CAF Calviac 91.64 44⇑*i*P **P 13 31 14.8 -0.9**
CAF pmax pmax
comp=Z,18nm,1.0s,mb5.4
CAF Calviac 91.64 44⇑*i*P **P 13 31 14.8 -0.9**
comp=Z,18nm,1.0s,mb5.4
AFI Afiamalu 91.67 255 LR LR 14 03 39.8
comp=Z,2μm,19.0s,MS5.6,baz=96,slow=30
AFI Afiamalu 91.67 255 PFAKE 13 31 30.0 +13
AFI LR LR
comp=Z,3μm,22.0s,MS5.7
EYAK Cordova Ski Ar 91.82 332 *e*P **P 13 31 15.1 -1.1**
comp=Z,55nm,1.1s,mb5.8
EGAK Eagle 91.82 337 *e*P **P 13 31 14.9 -1.2**
comp=Z,51nm,1.0s,mb5.8
EGAK LR LR
comp=Z,2μm,19.0s,MS5.7
ESK Eskdalemuir 91.88 33 PFAKE 13 31 30.0 +13
ESK LR LR
comp=Z,3μm,21.0s,MS5.7
DIV Divide 92.07 333 *e*P **P 13 31 16.3 -1.0**
TCF Toulx Ste Croi 92.15 43 *e*P **P 13 31 16.8 -1.2**
comp=Z,30nm,1.1s,mb5.2

TCF Toulx Ste Croi 92.15 43 *eP* **P 13 31 16.8 -1.2**
TCF pmax pmax
comp=Z,15nm,1.1s,mb5.2
TCF Toulx Ste Croi 92.15 43 *eP* **P 13 31 16.8 -1.2**
comp=Z,15nm,1.1s,mb5.2
LASF Ste Croix 92.62 45 *eP* **P 13 31 19.6 -0.7**
comp=Z,61nm,1.2s,mb5.6
BGF Bois d'Agland 92.65 43 *eP* **P 13 31 19.3 -1.0**
comp=Z,32nm,0.8s,mb5.5
BGF Bois d'Agland 92.65 43 *eP* **P 13 31 19.3 -1.0**
BGF pmax pmax
comp=Z,16nm,0.8s,mb5.5
BGF Bois d'Agland 92.65 43 *eP* **P 13 31 19.3 -1.0**
comp=Z,16nm,0.8s,mb5.5
AVF Avril sur Loir 93.05 43 *eP* **P 13 31 20.9 -1.3**
comp=Z,18nm,1.0s,mb5.1
AVF Avril sur Loir 93.05 43 *eP* **P 13 31 20.9 -1.3**
AVF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
AVF Avril sur Loir 93.05 43 *eP* **P 13 31 20.9 -1.3**
comp=Z,8.9nm,1.0s,mb5.2
SSF Saint Saulge 93.22 42 *eP* **P 13 31 21.5 -1.5**
SMF Signal de Mont 93.33 43 *eP* **P 13 31 22.3 -1.2**
comp=Z,87nm,1.6s,mb5.7
SMF Signal de Mont 93.33 43 *eP* **P 13 31 22.3 -1.2**
SMF pmax pmax
comp=Z,44nm,1.6s,mb5.6
SMF Signal de Mont 93.33 43 *eP* **P 13 31 22.3 -1.2**
comp=Z,44nm,1.6s,mb5.6
SEW Seward 93.33 331 *eP* **P 13 31 22.1 -1.1**
VIVF Saint-Julien-l 93.40 45 *eP* **P 13 31 23.5 -0.3**
comp=Z,52nm,1.2s,mb5.5
VIVF Saint-Julien-l 93.40 45 *eP* **P 13 31 23.5 -0.3**
VIVF pmax pmax
comp=Z,26nm,1.2s,mb5.5
VIVF Saint-Julien-l 93.40 45 *eP* **P 13 31 23.5 -0.3**
comp=Z,26nm,1.2s,mb5.5
SSB Saint Sauveur 93.42 44 *eP* **P 13 31 23.6 -0.3**
BOSA Boshof 93.71 120 P **P 13 31 25.3 -0.5**
comp=Z,9.7nm,0.9s,mb5.2,baz=257,slow=4.3,SNR=9.0
BOSA LR LR 14 12 28.4
comp=Z,5μm,18.0s,MS6.1,baz=238,slow=35
PMR Palmer 93.74 333 *eP* **P 13 31 28.0 +3.0**
PMR pmax pmax
comp=Z,81nm,2.1s,mb5.8
PMR MLR MLR
comp=Z,2μm,20.0s,MS5.5
PMR Palmer 93.74 333 *eP* **P 13 31 28.0 +3.0**
comp=Z,80nm,2.1s,mb5.8
PMR LR LR
comp=Z,2μm,20.0s,MS5.5
RC01 Rabbit Creek A 93.83 332 *eP* **P 13 31 23.3 -2.1**
comp=Z,23nm,0.9s,mb5.6
SLKM Skilak Lake 93.84 332 *eP* **P 13 31 23.6 -1.9**
MAW Mawson 93.89 166 P **P 13 31 25.1 -0.6**
comp=Z,10nm,0.7s,mb5.3,baz=230,slow=5.3,SNR=25
MAW LR LR 14 10 34.6
comp=Z,5μm,20.8s,MS5.9,baz=228,slow=34
MAW Mawson 93.89 166 *eP* **P 13 31 24.8 -0.9**
MAW pmax pmax
comp=Z,11nm,1.1s
MAW MLR MLR
comp=Z,8μm,22.0s
MAW Mawson 93.89 166 *eP* **P 13 31 24.8 -0.9**
comp=Z,11nm,1.1s,mb5.2
MAW LR LR
comp=Z,8μm,22.0s,MS6.1
URZ Urewera 94.05 229 LR LR 14 04 59.5
comp=Z,4μm,20.3s,MS5.8,baz=6.1,slow=30
KDAK Kodiak Island 94.06 329 PFAKE 13 31 40.0 +13
KDAK LR LR
comp=Z,343nm,19.0s,MS4.8
OHAK Old Harbor 94.24 328 *eP* **P 13 31 27.0 -0.4**
comp=Z,69nm,1.1s,mb6.0
ORIF Oris-en-Rattie 94.24 45 *eP* **P 13 31 27.6 -0.1**
comp=Z,90nm,1.4s,mb5.7
ORIF *e*MLR MLR
comp=Z,3μm,19.2s,MS5.5
ORIF Oris-en-Rattie 94.24 45 *eP* **P 13 31 27.6 -0.1**
ORIF pmax pmax
comp=Z,45nm,1.4s,mb5.7
ORIF Oris-en-Rattie 94.24 45 *eP* **P 13 31 27.6 -0.1**
comp=Z,45nm,1.4s,mb5.7
COLA College 94.44 336ç *iP* **P 13 31 26.3 -1.9**
COLA College 94.44 336⇑ *iP* **P 13 31 26.4 -1.8**
COLA LR LR
comp=Z,2μm,22.0s,MS5.4
MCK McKinley 94.45 335 *eP* **P 13 31 26.4 -1.8**
MCK pmax pmax
comp=Z,10μm,0.6s
MCK McKinley 94.45 335 *eP* **P 13 31 26.4 -1.8**
comp=Z,10μm,0.6s
KEST Kesra 94.59 55 P **P 13 31 29.8 +0.2**
comp=Z,2.8nm,0.9s,mb4.7,baz=291,slow=5.3,SNR=7.1
KEST LR LR 14 15 32.9
comp=Z,1μm,19.1s,MS5.4,baz=0.8,slow=36
SNZO South Karori 94.66 226 PFAKE 13 31 40.0 +10
SNZO LR LR
comp=Z,7μm,19.0s,MS6.2
DOU Dourbes 94.75 40 P **P 13 31 29.0 -0.9**
BNI Bardonecchia 94.83 45 PFAKE 13 31 40.0 +10
BNI LR LR
comp=Z,3μm,19.0s,MS5.8
TRF Thorofare Moun 94.91 334 *eP* **P 13 31 29.7 -0.6**
comp=Z,22nm,0.7s,mb5.7
LPL La Plagne 94.97 45 *eP* **P 13 31 31.3 +0.2**
comp=Z,33nm,0.9s,mb5.5
LPL La Plagne 94.97 45 *eP* **P 13 31 31.3 +0.2**
LPL pmax pmax
comp=Z,17nm,0.9s,mb5.5
LPL La Plagne 94.97 45 *eP* **P 13 31 31.3 +0.2**
comp=Z,17nm,0.9s,mb5.5
LPG La Plagne 94.98 45 *eP* **P 13 31 31.5 +0.4**
comp=Z,92nm,1.3s,mb5.8
LPG La Plagne 94.98 45 *eP* **P 13 31 31.5 +0.4**
LPG pmax pmax
comp=Z,46nm,1.3s,mb5.8
LPG La Plagne 94.98 45 *eP* **P 13 31 31.5 +0.4**
comp=Z,46nm,1.3s,mb5.8
LBTB Lobatse 95.08 117 PFAKE 13 31 40.0 +7.9
LBTB LR LR
comp=Z,4μm,20.0s,MS5.9
KTH Kantishna Hill 95.21 334 *eP* **P 13 31 29.2 -2.5**
comp=Z,28nm,1.0s,mb5.7
RSP Reno Superiore 95.25 45 P **P 13 31 33.6 +1.3**
BCLA Clavier 95.27 39 P **P 13 31 31.3 -1.0**
comp=Z,28nm,2.3s,mb5.3
PPLA Purkeypile 95.53 334 *eP* **P 13 31 31.5 -1.7**
comp=Z,39nm,1.1s,mb5.8
DRV Dumont d'Urvil 95.56 194 P **P 13 31 33.0 -0.4**
DRV Dumont d'Urvil 95.56 194 PP PP 13 35 23.0 -0.8
DRV S SKSac 13 42 13.0 +5.0
DRV R 14 04 00.0
WLF Walferdange 95.61 40 P **P 13 31 34.0 +0.2**
comp=Z,29nm,2.7s,mb5.2
WLF Walferdange 95.61 40 PFAKE 13 31 40.0 +6.1
WLF LR LR
comp=Z,3μm,20.0s,MS5.7
JMIC Jan Mayen 95.83 18 *e*SKS SKSac 13 42 05.0 -4.0
JMIC AMS AMS 14 12 18.8
comp=Z,840nm,23.0s,MS5.2
CHUM Lake Minchumin 95.91 334 *eP* **P 13 31 33.2 -1.7**
comp=Z,18nm,1.0s,mb5.5
ECH Echery 95.91 42 *eP* **P 13 31 34.2 -1.1**
RPZ Rata Peaks 96.15 222 LR LR 14 07 21.2
comp=Z,6μm,18.3s,MS6.1,baz=301,slow=31
COLD Coldfoot 96.20 338 *eP* **P 13 31 35.3 -0.8**
comp=Z,13nm,0.8s,mb5.4
DAG Danmarks Havn 96.22 11⇓ *iP* **P 13 31 36.0 -0.1**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
DAG Danmarks Havn 96.22 11⇓ *iP* **P 13 31 36.0 -0.1**
comp=Z,3.7nm,0.8s,mb4.9
SVW2 Sparrevohn 96.52 331 *eP* **P 13 31 36.5 -1.2**
BFO Black Forest 96.70 42 *eP* **P 13 31 38.8 0.0**
BFO MLR MLR
comp=Z,2μm,19.0s,MS5.5
BUG Bochum--Univer 96.73 39 *e*Pdiff **P 13 31 39.4 +0.5**
TUE Stuetta 96.97 44 *eP* **P 13 31 39.6 -0.5**
comp=Z,16nm,0.9s,mb5.5
IMA2 Indian Mountai 97.14 336 *eP* **P 13 31 39.0 -1.4**
VLC Villacollemand 97.20 46 PFAKE 13 31 50.0 +8.8
VLC LR LR
comp=Z,2μm,22.0s,MS5.6
TTA Tatalina 97.22 333 *eP* **P 13 31 39.3 -1.5**
TTA pmax pmax
comp=Z,12nm,0.9s,mb5.3
TTA Tatalina 97.22 333 *eP* **P 13 31 39.3 -1.5**
comp=Z,12nm,0.9s,mb5.3
DAVA Damuels 97.50 43⇑ *iP* **P 13 31 42.4 0.0**
comp=Z,17nm,1.1s,mb5.4
DAVA Damuels 97.50 43⇑ *iPcP* PcP 13 31 42.4 -0.1
comp=Z,17nm,1.1s
BER Bergen 97.75 30 *e*SKS SKSac 13 42 15.9 -3.4
BER AMS AMS 14 13 07.6
comp=Z,4μm,21.3s,MS5.9
FETA Feichten 98.01 44⇑ *iP* **P 13 31 44.6 -0.2**
comp=Z,18nm,1.0s,mb5.5
FETA Feichten 98.01 44⇑ *iPcP* PcP 13 31 44.6 -0.2
comp=Z,18nm,1.0s
UBBA Unterbreizbach 98.28 40 *e*Pdiff **P 13 31 45.1 -0.8**
MOTA Moosalm 98.32 43⇑ *iP* **P 13 31 46.0 -0.2**
comp=Z,22nm,1.0s,mb5.6,SNR=10
MOTA Moosalm 98.32 43⇑ *iP* **P 13 31 46.0 -0.2**
MOTA pmax pmax
comp=Z,22nm,1.0s,mb5.6
CTI Castel Tesino 98.45 45 P **P 13 31 46.7 -0.1**
CERT Cerreto 98.64 49 P **P 13 31 47.7 -0.1**
WTTA Wattenberg 98.67 44 *i P* **P 13 31 47.8 +0.1**
comp=Z,32nm,0.9s,mb5.8,SNR=10
WTTA Wattenberg 98.67 44 *i P* **P 13 31 47.8 +0.1**
WTTA pmax pmax
comp=Z,32nm,0.9s,mb5.8
FIAM Fiamignano 98.80 49 P **P 13 31 50.1 +1.6**
GRA1 Grafenberg Arr 98.84 41 *e*Pdif **P 13 31 51.7 +3.3**
GRA1 *e*PP PP 13 35 47.1 -3.1
GRA1 *e*SKSac SKSac 13 42 29.0 +3.7
GRA1 *e*SS SS 13 49 52.9 -11
GRA1 LR LR
comp=Z,2μm,20.7s,MS5.5
GRF Grafenberg Arr 98.84 41 *eP* **P 13 31 51.7 +3.3**
GRF *e* 13 35 47.1
GRF *e* 13 42 29.0
GRF MLR MLR
comp=Z,2μm,20.7s,MS5.5
GRF Grafenberg Arr 98.84 41 *eP* **P 13 31 51.7 +3.3**
GRF *e* 13 35 47.1
GRF *e* 13 42 29.0
GRF MLR MLR
comp=Z,2μm,20.7s,MS5.5
GRF Grafenberg Arr 98.84 41 *e*Pdiff **P 13 31 51.7 +3.3**
GRF *e*PP PP 13 35 47.1 -3.1
GRF *e*SKSac SKSac 13 42 29.0 +3.7
GRF *e*SS SS 13 49 52.9 -11
GRF *e*L 14 16 18.3
comp=Z,2μm,20.7s
AQU L'Aquila 99.02 49 PFAKE 13 32 00.0 +11
AQU LR LR
comp=Z,2μm,21.0s,MS5.5
ABTA Abfaltersbach 99.16 44⇑ *iP* **P 13 31 49.9 0.0**
comp=Z,41nm,1.1s,mb5.9,SNR=10
TERO Teramo 99.22 48 P **P 13 31 49.5 -0.8**
MOL Molde 99.27 28 AMS AMS 14 15 33.9
comp=Z,2μm,26.5s,MS5.5
MANZ Manzenberg 99.45 41 *e*PDIF **P 13 31 50.9 -0.3**
ROTZ Rotzenmuhle 99.48 41 *e*Pdiff **P 13 31 51.1 -0.2**
KONO Kongsberg 99.69 31 *e*SKS SKSac 13 42 31.3 +2.2
KONO *e* 13 44 55.0
KONO AMS AMS 14 14 08.4
comp=Z,2μm,25.3s,MS5.6
NKC Novy Kostel 99.71 41 *e*PDIF Pdif 13 31 49.8 -2.5
WET Wettzell 99.81 42 *e*Pdiff Pdif 13 31 52.7 -0.1
CASY Casey 100.19 183 *eP* Pdif 13 31 55.0 +0.5
CASY LR LR
comp=Z,3μm,19.0s,MS5.9
CLL Collm 100.23 40 *eP* Pdif 13 32 01.0 +6.4
CLL *e* 13 36 05.0
CLL MLR MLR
comp=Z,2μm,20.3s,MS5.5
CLL Collm 100.23 40 *e*(pPdif) Pdif 13 32 01.0 +6.4
CLL LmV 13 16 00.0
comp=Z,2μm,20.3s
CLL *e*PP PP 13 36 05.0 +4.2
CLL *e*SKSac SKSac 13 42 38.0 +5.9
CLL *e*PS PS 13 44 58.0 -2.7
CLL *e*PPS 13 45 59.0
CLL *ex* x 13 46 41.0
CLL *ex* x 13 49 30.0
CLL *e*SS SS 13 50 27.0 +3.3
CLL Collm 100.23 40 *e*Pdif Pdif 13 32 01.0 +6.4
CLL *e*PP PP 13 36 05.0 +4.2
CLL *e*SKS 13 42 38.0
CLL LR LR
comp=Z,2μm,20.3s,MS5.5
KHC Kasperske Hory 100.26 42 *e*PDIF Pdif 13 31 54.8 0.0
KHC *e*pP 13 32 01.5
KHC *e*SKS 13 42 35.4
KHC *e*PS PS 13 44 59.3 -1.8
KHC AMS AMS 14 19 30.0
comp=Z,2μm,17.4s
KHC Kasperske Hory 100.26 42 *e*Pdif Pdif 13 31 54.8 0.0
KHC *e* 13 32 01.5
KHC *e*SKS SKSac 13 42 35.4 +3.0
KHC *e* 13 44 59.3
KHC LR LR
comp=Z,2μm,17.4s,MS5.7
LSZ Lusaka 100.29 108 PFAKE 13 32 10.0 +15
LSZ LR LR
comp=Z,4μm,21.0s,MS5.9
GEC2 GERESS Array S 100.30 42 *e*Pdiff Pdif 13 31 56.6 +1.7
GERES GERESS Array B 100.30 42 P Pdif 13 31 55.7 +0.8
comp=Z,2.4nm,1.0s,baz=248,slow=3.6,SNR=10
MOA Molln 100.52 43⇓ *iP* Pdif 13 31 54.8 -1.1
comp=Z,21nm,1.3s
NAO01 NORSAR Array S 100.53 30 PFAKE 13 32 10.0 +14
NAO01 LR LR
comp=Z,3μm,19.0s,MS5.9
BRG Berggiesshubel 100.75 40 *eP* Pdif 13 31 59.0 +2.0
BRG SP SP 13 44 59.0 -4.0
BRG SS SS 13 50 31.0 0.0
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG MLR MLR
comp=Z,1μm,20.0s,MS5.4
BRG Berggiesshubel 100.75 40 *e*Pdiff Pdif 13 31 58.8 +1.8
BRG Berggiesshubel 100.75 40 *eP* Pdif 13 31 59.0 +2.1
comp=Z,6.2nm,1.2s
BRG SKS 13 42 40.0
BRG SP SP 13 44 59.0 -4.0
BRG *e* 13 48 12.3
comp=Z,5.2nm,1.1s
BRG SS SS 13 50 31.0 0.0
BRG
comp=N,656nm,16.3s
BRG
comp=E,2μm,19.7s
BRG
comp=Z,2μm,20.0s
BRG Berggiesshubel 100.75 40 *eP* Pdif 13 31 59.0 +2.1
comp=Z,3.7nm,1.2s
BRG SKS 13 42 40.0
BRG SP SP 13 44 59.0 -4.0
BRG *e* 13 48 12.3
BRG SS SS 13 50 31.0 0.0
BRG LR LR
comp=Z,1μm,20.0s,MS5.4
PRU Pruhonice 101.00 41 *e*PDIF Pdif 13 32 04.7 +6.6
PRU *e*SKS 13 42 36.7
PRU *e*PS PS 13 45 06.2 -2.8
PRU AMS AMS 14 17 10.0
comp=Z,2μm,20.4s
TIP Timpagrande 101.03 52 PFAKE 13 32 10.0 +12
TIP LR LR
comp=Z,2μm,21.0s,MS5.5
PVCC Panska Ves 101.10 41 AMS AMS 14 19 20.0
comp=Z,2μm,18.5s
TREC Trest 101.52 42 *e*PDIF Pdif 13 32 00.6 +0.2
TREC *e*SKS 13 42 41.8
TREC *e*PS PS 13 45 11.1 -3.5
TREC AMS AMS 14 17 40.0
comp=Z,2μm,18.0s
NSS Namsos 101.54 26 AMS AMS 14 15 07.8
comp=Z,2μm,21.1s,MS5.5
FUNA Funafuti 101.62 258 PFAKE 13 32 10.0 +9.2
FUNA LR LR
comp=Z,4μm,20.0s,MS6.0
UPC Upice 102.01 41 *e*Pdif Pdif 13 32 04.6 +2.1
DPC Dobruska-Polom 102.19 41 *e*PDIF Pdif 13 32 00.9 -2.4
DPC *e*SKS 13 42 44.2
DPC AMS AMS 14 18 10.0
comp=Z,2μm,19.3s
KBS Kingsbay 102.96 11 *e*PP PP 13 36 20.2 -0.5
KBS AMS AMS 14 19 11.7
comp=Z,3μm,24.3s,MS5.8
KBS Kingsbay 102.96 11 PFAKE 13 32 20.0 +13
KBS LR LR
comp=Z,4μm,22.0s,MS5.8
OKC Ostrava-Krasne 103.30 42 *e*SKS SKSac 13 42 51.3 +4.4
OKC *e*PS PS 13 45 30.0 -3.4
OKC AMS AMS 14 18 50.0
comp=Z,1μm,17.9s
PSZ Piszkesteto 104.29 44 PFAKE 13 32 20.0 +7.3
PSZ LR LR
comp=Z,1μm,20.0s,MS5.4
TRO Tromso 104.56 21 *e*SKS SKSac 13 42 51.9 +0.1
TRO *e* 13 45 45.0
TRO *e*SS SS 13 51 21.3 -1.4
TRO AMS AMS 14 19 07.7
comp=Z,971nm,24.5s,MS5.2
MIDW Midway 105.66 296 PFAKE 13 36 40.0 +7.5
MIDW LR LR
comp=Z,2μm,20.0s,MS5.7
KWP Kalwaria 106.24 42 *eP* Pdif 13 32 19.3 -2.1
KWP pmax pmax
comp=Z,9.0nm,0.6s
KWP MLR MLR
comp=Z,2μm,21.0s,MS5.5
KWP Kalwaria 106.24 42 *eP* Pdif 13 32 19.3 -2.0
comp=Z,9.0nm,0.6s
KWP LR LR
comp=Z,2μm,21.0s,MS5.5
ARCES ARCESS Array B 106.87 21 PKKPbc PKKPbc 13 47 51.5 -2.9
comp=Z,2.5nm,0.9s,baz=99,slow=4.1,SNR=13
KEV Kevo 107.37 21 PFAKE 13 36 50.0 +16
KEV LR LR
comp=Z,2μm,22.0s,MS5.6
SANT Santorini 107.57 56 PFAKE 13 36 50.0 +14
SANT LR LR
comp=Z,1μm,21.0s,MS5.4
KIEV Kiev 110.41 41 PFAKE 13 36 50.0 +9.3
KIEV LR LR
comp=Z,2μm,20.0s,MS5.7
AKASG Malin Array Be 110.42 41 PKiKP PKiKP 13 36 41.6 +0.9
comp=Z,0.3nm,0.2s,baz=259,slow=3.5,SNR=2.7
LVZ Lovozero 110.45 22 PFAKE 13 36 50.0 +10
LVZ LR LR
comp=Z,1μm,21.0s,MS5.5
TAU Tasmania Unive 110.87 213 PFAKE 13 36 50.0 +8.1
TAU LR LR
comp=Z,2μm,21.0s,MS5.7
ISP Isparta 111.67 55 PFAKE 13 36 50.0 +6.5
ISP LR LR
comp=Z,916nm,19.0s,MS5.4
SMY Shemya 112.37 322 PFAKE 13 37 00.0 +16
SMY LR LR
comp=Z,962nm,21.0s,MS5.4
BILL Bilibino 112.51 339 *eP* Pdif 13 32 46.5 -2.8
BILL *e* 13 43 23.5
BILL *e*SS SS 13 53 10.1 +0.4
BILL pmax pmax
comp=Z,7.0nm,1.1s
BILL Bilibino 112.51 339 PFAKE 13 37 00.0 +16
BILL LR LR
comp=Z,2μm,20.0s,MS5.7
KMBO Kilima Mbogo 112.88 97 PFAKE 13 37 00.0 +13
KMBO LR LR
comp=Z,2μm,20.0s,MS5.7
ANTO Ankara 113.43 52 PFAKE 13 37 00.0 +13
ANTO LR LR
comp=Z,867nm,20.0s,MS5.3
CSS Prodhromos 113.93 58 PFAKE 13 37 00.0 +12
CSS LR LR
comp=Z,333nm,19.0s,MS5.0
OBN Obninsk 114.26 35 PFAKE 13 37 00.0 +12
OBN LR LR
comp=Z,3μm,22.0s,MS5.8
ABPO Ambohimpanom 115.90 119 PFAKE 13 37 00.0 +7.9
ABPO LR LR
comp=Z,3μm,20.0s,MS6.0
ANN Anapa 116.49 47 *i* PKIKP PKPdf 13 36 49.5 -3.0
ANN *e* 13 43 39.8
ANN pmax pmax
comp=Z,26nm,1.0s
MALT Malatya 117.90 54 *e*PKIKP PKPdf 13 36 49.6 -5.8
MALT MLR MLR
comp=Z,636nm,21.0s,MS5.2
SOC Sochi 118.28 48 *i* PKIKP PKPdf 13 36 50.8 -5.2
SOC *e*SSS 13 58 49.7
HNR Honiara 119.39 251 PFAKE 13 37 10.0 +11
HNR LR LR
comp=Z,1μm,21.0s,MS5.5
SEY Seymchan 119.96 337⇓ *i* PKIKP PKPdf 13 36 57.8 -0.8
SEY Seymchan 119.96 337⇓ *e*PKP PKPdf 13 36 57.9 -0.7
TIXI Tiksi 119.96 351 PFAKE 13 37 10.0 +12
TIXI LR LR
comp=Z,2μm,22.0s,MS5.7
KIV Kislovodsk 120.34 47 *e*PKIKP PKPdf 13 36 58.7 -1.2
KIV *e* 13 38 23.3
KIV *e*SS SS 13 54 50.6 -2.7
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV Kislovodsk 120.34 47 PFAKE 13 37 10.0 +10
KIV LR LR
comp=Z,700nm,20.0s,MS5.3
PET Petropavlovsk 121.37 324 PFAKE 13 37 10.0 +8.4
PET LR LR
comp=Z,725nm,19.0s,MS5.3
STKA Stephens Creek 121.83 218 *e*PKP PKPdf 13 37 02.5 -0.8
comp=Z,6.3nm,0.9s
STKA Stephens Creek 121.83 218 PKP PKPdf 13 37 02.4 -0.9
comp=Z,5.3nm,0.7s,baz=78,slow=4.4,SNR=12
PETK Petropavlovsk- 121.88 325 PKP PKPdf 13 37 01.2 -1.4
comp=Z,2.8nm,0.7s,baz=97,slow=6.0,SNR=3.7
PETK Petropavlovsk- 121.88 325 PKP PKPdf 13 37 01.2 -1.4
GNI Garni 122.53 51 *i* PKIKP PKPdf 13 37 01.9 -2.4
GNI MLR MLR
comp=Z,700nm,19.0s
GNI Garni 122.53 51 *i* PKP PKPdf 13 37 01.0 -3.3
GNI LR LR
comp=Z,825nm,22.0s,MS5.3
MAK Makhachkala 123.98 47 *e*PKIKP PKPdf 13 37 06.3 -0.6
MAK *i* 13 44 05.3
MAK MLR MLR
comp=Z,1μm,21.0s,MS5.6
CTA Charters Tower 126.17 232 *e*PKP PKPdf 13 37 10.1 -1.8
comp=Z,15nm,0.8s
CTA Charters Tower 126.17 232 PKP PKPdf 13 37 11.0 -0.9
comp=Z,13nm,0.8s,baz=174,slow=2.0,SNR=13
CTA Charters Tower 126.17 232 PKIKP PKPdf 13 37 11.0 -0.9
CTA pmax pmax
comp=Z,13nm,0.8s
CTAO Charters Tower 126.17 232 PFAKE 13 37 20.0 +8.1
CTAO LR LR
comp=Z,2μm,19.0s,MS5.9
AKTK Aktyubinsk 128.04 35 *i* PKP PKPdf 13 37 13.3 -1.2
AKTO Aktyubinsk 128.04 35 *i* PKIKP PKPdf 13 37 13.3 -1.2
YAK Yakutsk 128.08 345 *i* PKIKP PKPdf 13 37 11.2 -3.0
YAK MLR MLR
comp=Z,800nm,21.0s,MS5.4
MSEY Mahe Island 129.11 108 PFAKE 13 37 30.0 +12
MSEY LR LR
comp=Z,2μm,20.0s,MS5.8
AB31 Akbulak array 129.71 36 *i* PKIKP PKPdf 13 37 17.1 -0.6
FORT Forrest 129.92 208 *e*PKP PKPdf 13 37 17.6 -1.2
comp=Z,21nm,0.9s
PMG Port Moresby 130.91 245 PFAKE 13 37 30.0 +8.9
PMG LR LR
comp=Z,2μm,19.0s,MS5.8
NWAO Narrogin (SRO) 131.90 196 PKP PKPdf 13 37 22.7 +0.2
comp=Z,8.6nm,1.0s,baz=338,slow=1.1,SNR=5.9
NWAO Narrogin (SRO) 131.90 196 PKP PKPdf 13 37 22.7 +0.2
NWAO LR LR
comp=Z,1μm,19.0s,MS5.7
ASAR Alice Springs 132.45 219 PKP PKPdf 13 37 22.6 -1.1
comp=Z,7.3nm,0.8s,baz=120,slow=2.1,SNR=48
BRVK Borovoye 132.67 27 *e*PKPdf PKPdf 13 37 22.8 -0.4
BRVK *i* PKP PKPdf 13 37 23.2 0.0
BRVK LR LR
comp=Z,2μm,22.0s,MS5.8
KLBR Kellerberrin 133.02 197 *e*PKP PKPdf 13 37 23.4 -1.2
comp=Z,36nm,1.0s
YSS Yuzh-Sakhalins 133.23 323 *i* PKIKP PKPdf 13 37 23.0 -1.4
YSS *e*PPP 13 42 45.0
YSS *e*PPS 13 51 43.0
YSS *e*SS SS 13 57 34.0 +0.5

YSS				eSSS		14 02 36.0		
CLNS	**Chul'man**	**133.80**	**344**	ePKIKP	PKPdf	13 37 29.7	+4.5	
CLNS				pmax	pmax			
comp=Z,11nm,1.3s								
CLNS				pmax	pmax			
comp=N,9.0nm,1.0s								
CLNS				pmax	pmax			
comp=E,9.0nm,1.2s								
WB2	**Warramunga Arr**	**134.85**	**223**	ePKP	PKPdf	13 37 27.3	-1.0	
WRA	**Warramunga Arr**	**134.86**	**223**	PKP	PKPdf	13 37 27.4	-0.9	
comp=E,21nm,0.8s,baz=133,slow=1.6,SNR=46								
WRA				PP	PP	13 40 00.0	-1.6	
comp=E,12nm,1.3s,baz=129,slow=5.4,SNR=8.0								
WRAB	**Tennant Creek**	**134.86**	**223**	ePKIKP	PKPdf	13 37 27.2	-1.1	
WRAB				MLR	MLR			
comp=Z,3μm,19.0s,MS6.0								
WRAB	**Tennant Creek**	**134.86**	**223c**	iPKIKP	PKPdf	13 37 28.2	-0.1	
BOD	**Bodaibo**	**135.12**	**352**	ePKIKP	PKPdf	13 37 24.4	-3.2	
BOD				pmax	pmax			
comp=Z,60nm,2.6s								
NVS	**Novosibirsk**	**135.92**	**17**	ePKIKP	PKPdf	13 37 28.0	-1.2	
NVS				e		13 40 06.3		
NVS				pmax	pmax			
comp=N,9.0nm,2.0s								
NVS				pmax	pmax			
comp=Z,29nm,2.0s								
NVS				pmax	pmax			
comp=E,16nm,1.8s								
ZALV	**Zalesovo Beam**	**137.15**	**16**	PKP	PKPdf	13 37 31.4	-0.1	
comp=E,23nm,1.0s,baz=229,slow=1.4,SNR=9.5								
ZAL	**Zalesovo**	**137.15**	**16**	PKIKP	PKPdf	13 37 31.4	-0.1	
KLR	**Kul'dur**	**137.49**	**333**	ePKIKP	PKPdf	13 37 26.0	-6.3	
KURK	**Kurchatov**	**137.85**	**23⇑**	iPKIKP	PKPdf	13 37 32.7	-0.2	
KURK				MLR	MLR			
comp=Z,2μm,22.0s,MS5.8								
GUMO	**Guam**	**139.71**	**275**	PFAKE		13 37 50.0	+13	
GUMO				LR	LR			
comp=Z,2μm,19.0s,MS5.9								
MJAR	**Matsushiro Arr**	**141.37**	**313**	PKhKP		13 37 32.4		
comp=Z,12nm,0.9s,baz=91,slow=1.7,SNR=30								
MAJO	**Matsushiro**	**141.37**	**313**	PKHKP		13 37 31.7		
MAJO	**Matsushiro**	**141.37**	**313**	ePKPdf		13 37 31.4		
MAJO				LR	LR			
comp=Z,1μm,21.0s,MS5.7								
MAT	**Matsushiro**	**141.37**	**313**	PKP		13 37 32.2		
IRK	**Irkutsk**	**141.43**	**359**	ePKIKP	PKPdf	13 37 34.7	-4.7	
IRK				pmax	pmax			
comp=Z,73nm,4.0s								
FITZ	**Fitzroy Crossi**	**141.62**	**215**	ePKP		13 37 33.8		
comp=Z,24nm,0.8s								
FITZ	**Fitzroy Crossi**	**141.62**	**215**	PKhKP		13 37 34.0		
comp=Z,11nm,0.8s,baz=143,slow=9.9,SNR=18								
VLA	**Vladivostok**	**141.68**	**326**	ePKIKP	PKPdf	13 37 38.2	-1.9	
VLA				e		13 37 48.0		
VLA				e		13 40 43.8		
VLA						13 44 46.0		
VLA				pmax	pmax			
comp=Z,49nm,1.8s								
FRU	**Bishkek**	**141.73**	**35**	ePKHKP		13 37 35.0		
FRU				e		13 40 48.0		
FRU				pmax	pmax			
comp=Z,220nm,3.0s								
FRU				MLR	MLR			
comp=Z,1μm,20.0s,MS5.7								
HVS	**Khovu-Aksy**	**141.73**	**10**	iPKIKP	PKPdf	13 37 38.7	-1.3	
HVS				MLR	MLR			
comp=Z,15μm,28.0s,MS6.6								
MDJ	**Mudanjiang**	**141.85**	**329**	PKP	PKPdf	13 37 40.0	-0.4	
MDJ				PP	PP	13 40 46.5	+1.9	
MDJ				PKS		13 41 15.9		
MDJ				SKS	SKSdf	13 44 47.3	-1.9	
MDJ				SS	SS	13 59 11.8	-3.5	
MDJ				PP	PP			
comp=Z,485nm,8.3s								
MDJ				LR	LR			
comp=N,887nm,27.9s,MS5.4								
MDJ				LR	LR			
comp=E,551nm,29.8s,MS5.4								
MDJ				LR	LR			
comp=Z,1μm,24.2s								
MDJ	**Mudanjiang**	**141.85**	**329**	PFAKE		13 37 50.0	+10	
MDJ				LR	LR			
comp=Z,1μm,22.0s,MS5.6								
MBWA	**Marble Bar**	**141.93**	**205**	ePKPdf	PKPdf	13 37 35.5	-5.8	
MBWA				LR	LR			
comp=Z,2μm,20.0s,MS5.9								
HIA	**Hailar**	**141.95**	**343**	PFAKE		13 37 50.0	+10	
HIA				LR	LR			
comp=Z,3μm,21.0s,MS6.0								
MOY	**Mondy**	**141.97**	**2**	ePKIKP	PKPdf	13 37 38.8	-1.6	
MOY				e		13 40 44.2		
MOY				pmax	pmax			
comp=Z,80nm,3.2s								
TLY	**Talaya**	**142.00**	**360⇑**	iPKIKP	PKPdf	13 37 40.4	0.0	
TLY				MLR	MLR			
comp=Z,863nm,20.0s,MS5.5								
MK31	**Makanchi Array**	**142.46**	**24**	ePKPdf	PKPdf	13 37 37.6	-3.8	
MK31				i PKP	PKPdf	13 37 38.2	-3.2	
MKAR	**Makanchi Array**	**142.46**	**24**	PKP	PKPdf	13 37 38.5	-2.9	
comp=Z,6.4nm,0.8s,baz=290,slow=3.3,SNR=16								
KBL	**Kabul**	**142.61**	**50**	ePKIKP	PKPdf	13 37 41.3	-0.8	
DGAR	**Diego Garcia**	**142.88**	**122**	PFAKE		13 37 50.0	+6.8	
DGAR				LR	LR			
comp=Z,2μm,20.0s,MS6.0								
ZAK	**Zakamensk**	**143.30**	**0⇑**	iPKIKP	PKPdf	13 37 38.4	-4.4	
CN2	**Changchun**	**144.44**	**332**	ePKP	PKPdf	13 37 40.9	-4.1	
CN2				ePP	PP	13 41 00.6	+0.6	
CN2				eSS	SS	13 59 41.6	-3.4	
CN2				PP	PP			
comp=Z,900nm,8.0s								
CN2				LR	LR			
comp=N,2μm,20.0s,MS6.1								
CN2				LR	LR			
comp=E,3μm,20.0s,MS6.1								
CN2				LR	LR			
comp=Z,3μm,22.0s,MS6.0								
KSH	**Kashi**	**144.65**	**38**	i PKP	PKPdf	13 37 45.3	-0.2	
KSH				APKP		13 37 55.9		
KSH				XPKP		13 37 59.6		
KSH				PP	PP	13 41 05.5	+3.8	
KSH				PKS		13 41 19.5		
KSH				PPP		13 44 19.1		
KSH				SKS	SKSdf	13 44 49.5	-4.2	
KSH				SKKS	SKKSac	13 47 50.3	-3.2	
KSH				SS	SS	13 59 47.9	-0.2	
KSH				PP	PP			
comp=Z,3μm,4.8s								
KSH				LR	LR			
comp=N,428nm,5.3s								
KSH				LR	LR			
comp=E,570nm,5.2s								
KSH				LR	LR			
comp=Z,957nm,6.7s								
SONM	**Songino Array**	**145.76**	**356**	PKPbc	PKPbc	13 37 47.2	-0.3	
comp=Z,58nm,1.0s,baz=334,slow=2.4,SNR=88								
BHJ	**Bhuj**	**146.66**	**68**	eP	PKPdf	13 37 48.4	-1.1	
WMQ	**Urumqi**	**147.00**	**21**	PKP	PKPdf	13 37 48.0	-1.4	
WMQ				APKP		13 37 58.6		
WMQ				PP	PP	13 41 18.4	+3.4	
WMQ				PPP		13 44 36.3		
WMQ				SKS	SKSdf	13 44 51.3	-5.6	
WMQ				SKKS	SKKSac	13 48 03.3	-3.2	
WMQ				SS	SS	14 00 12.3	-1.4	
WMQ				PP	PP			
comp=Z,181nm,8.2s								
WMQ				LR	LR			
comp=N,1μm,23.0s,MS5.8								
WMQ				LR	LR			
comp=E,1μm,22.0s,MS5.8								
WMQ				LR	LR			
comp=Z,1μm,22.5s,MS5.7								
KSRS	**Korea Array**	**147.70**	**322**	PKPbc	PKPdf	13 37 50.8	+0.1	
comp=Z,25nm,1.0s,baz=57,slow=1.1,SNR=38								
KSRS	**Korea Array**	**147.70**	**322**	PKIKP	PKPdf	13 37 50.8	+0.1	
KSRS				pmax	pmax			
comp=Z,25nm,1.0s								
INCN	**Inchon**	**148.44**	**323**	ePKPdf	PKPdf	13 37 52.1	+0.1	
INCN				LR	LR			
comp=Z,1μm,20.0s,MS5.6								
DLH	**Dalhousie**	**148.65**	**48**	ex	PKPbc	13 37 57.0	+0.8	
BATI	**Baumata**	**148.96**	**221**	PKPbc	PKPbc	13 37 57.6	+0.1	
comp=Z,58nm,0.7s,baz=193,slow=4.5,SNR=12								
DL2	**Dalian**	**150.06**	**331**	PKP	PKPdf	13 37 55.0	+0.5	
DL2				PKP2	PKPab	13 38 03.5	-1.7	
DL2				PP	PP	13 41 34.9	+1.8	
DL2				PPP		13 44 58.3		
DL2				SS	SS	14 00 47.6	-1.0	
DL2				PP	PP			
comp=Z,400nm,7.2s								
DL2				LR	LR			
comp=N,590nm,22.4s,MS5.4								
DL2				LR	LR			
comp=E,340nm,20.2s,MS5.4								
DL2				LR	LR			
comp=Z,620nm,22.3s,MS5.4								
AJM	**Ajmer**	**150.19**	**60**	ex	PKPdf	13 37 55.4	+0.3	
SMLA	**Simla**	**150.24**	**50**	i P	PKPdf	13 37 52.1	-2.9	
POO	**Poona**	**151.21**	**76**	eP	PKPdf	13 37 54.4	-2.4	
BJI	**Beijing**	**151.35**	**339**	PKP	PKPdf	13 37 56.8	+0.3	
BJI				SKKS	SKKSac	13 48 27.5	-3.2	
BJI				SS	SS	14 01 00.1	-2.3	
BJI				PP	PP			
comp=Z,593nm,6.3s								
BJI				LR	LR			
comp=N,757nm,18.6s,MS5.8								
BJI				LR	LR			
comp=E,1μm,19.4s,MS5.8								
BJI				LR	LR			
comp=Z,2μm,22.6s,MS5.8								
BJT	**Baijiatuau**	**151.37**	**339**	PFAKE		13 38 10.0	+14	
BJT				LR	LR			
comp=Z,2μm,21.0s,MS5.9								
NDI	**New Delhi**	**151.43**	**54**	eP	PKPdf	13 37 55.0	-1.9	
KAD	**Karad**	**151.62**	**79**	ex	PKPdf	13 37 57.9	+0.3	
HHC	**Hu-ho-hao-te**	**151.91**	**347**	ePKP	PKPdf	13 37 55.8	-1.5	
HHC				APKP		13 38 05.8		
HHC				PKS		13 41 29.1		
HHC				SKS	SKSdf	13 44 57.3	-6.3	
HHC				SKKS	SKKSac	13 48 30.3	-3.4	
HHC				SS	SS	14 01 01.8	-6.5	
HHC				PP	PP			
comp=Z,850nm,10.7s								
HHC				LR	LR			
comp=N,1μm,22.6s,MS5.8								
HHC				LR	LR			
comp=E,813nm,20.2s,MS5.8								
HHC				LR	LR			
comp=Z,2μm,21.4s,MS5.9								
BTO	**Baotou**	**152.46**	**349**	ePKP	PKPdf	13 38 01.8	+3.7	
COCO	**West Island**	**153.59**	**165**	PFAKE		13 38 10.0	+9.5	
COCO				LR	LR			
comp=Z,879nm,21.0s,MS5.5								
TRD	**Trivandrum**	**153.59**	**98**	eP	PKPdf	13 37 59.3	-1.2	
GTA	**Gaotai**	**154.08**	**6**	PKP	PKPdf	13 38 00.4	-0.1	
GTA				APKP		13 38 10.0		
GTA				XPKP		13 38 14.9		
GTA				PKS		13 41 35.1		
GTA				PP	PP	13 42 01.8	+6.3	
GTA				SKS	SKSdf	13 45 01.4	-4.8	
GTA				SKKS	SKKSac	13 48 45.5	0.0	
GTA				SS	SS	14 01 35.9	+4.0	
GTA				PP	PP			
comp=Z,647nm,6.2s								
GTA				LR	LR			
comp=N,721nm,20.2s,MS5.6								
GTA				LR	LR			
comp=E,696nm,21.1s,MS5.6								
GTA				LR	LR			
comp=Z,2μm,22.6s,MS5.8								
TIA	**Tai'an**	**154.31**	**334**	ePKP	PKPdf	13 38 00.5	-0.4	
TIY	**Taiyuan**	**154.65**	**343**	PKP	PKPdf	13 37 58.8	-2.6	
TIY				LR	LR			
comp=N,2μm,20.3s,MS6.0								
TIY				LR	LR			
comp=E,1μm,16.9s,MS6.0								
TIY				LR	LR			
comp=Z,613nm,15.1s,MS5.5								
KAPI	**Kappang**	**155.40**	**222**	ePKPdf	PKPdf	13 38 01.2	-1.9	
KAPI				LR	LR			
comp=Z,2μm,19.0s,MS6.0								
HYB	**Hyderabad**	**155.78**	**78**	i P	PKPdf	13 38 02.0	-1.4	
HYB	**Hyderabad**	**155.78**	**78**	eP	PKPdf	13 38 02.0	-1.4	
SSE	**Sheshan**	**156.08**	**320**	PKP	PKPdf	13 38 01.5	-2.0	
SSE				PP	PP	13 42 06.4	-1.3	
SSE				PP	PP			
comp=Z,548nm,5.5s								
SSE				LR	LR			
comp=N,392nm,22.0s,MS5.5								
SSE				LR	LR			
comp=E,747nm,22.0s,MS5.5								
SSE				LR	LR			
comp=Z,911nm,22.6s,MS5.5								
DANN	**Dangsing**	**156.56**	**48**	eP	PKPdf	13 38 03.9	-0.3	
KOLN	**Koldanda**	**156.77**	**50**	eP	PKPdf	13 38 02.6	-1.9	
NJ2	**Nanjing**	**156.79**	**325**	ePKP	PKPdf	13 38 03.3	-1.1	
NJ2				APKP		13 38 13.3		
NJ2				PKP2	PKPab	13 38 34.3	+0.5	
NJ2				PKS		13 41 35.3		
NJ2				PP	PP	13 42 13.4	+2.0	
NJ2				PP	PP			
comp=Z,8μm,10.7s								
NJ2				LR	LR			
comp=N,10μm,32.4s,MS6.7								
NJ2				LR	LR			
comp=E,17μm,31.7s,MS6.7								
NJ2				LR	LR			
comp=Z,18μm,32.6s,MS6.7								
PALK	**Pallekele**	**156.84**	**103**	PFAKE		13 38 20.0	+15	
PALK				LR	LR			
comp=Z,2μm,20.0s,MS5.9								
DAV	**Davao City (W)**	**157.24**	**256**	PFAKE		13 38 20.0	+15	
DAV				LR	LR			
comp=Z,2μm,20.0s,MS5.9								
GKN	**Gorkha**	**157.40**	**48**	eP	PKPdf	13 38 04.8	-0.5	
MDRS	**Chennai**	**157.48**	**89**	ex	PKPdf	13 38 01.0	-4.7	
LZH	**Lanzhou**	**157.59**	**359**	⇓PKP	PKPdf	13 38 06.3	+1.0	
LZH				APKP		13 38 17.3		
LZH				XPKP		13 38 20.8		
LZH				PP	PP	13 42 17.0	+2.0	
LZH				SKKS	SKKSac	13 49 03.5	-0.8	
LZH				SS	SS	14 02 10.3	+0.6	
LZH				PP	PP			
comp=Z,1μm,4.8s								
LZH				LR	LR			
comp=E,2μm,18.3s								
LZH				LR	LR			
comp=Z,2μm,20.5s,MS6.0								
DMN	**Daman**	**157.96**	**48**	eP	PKPdf	13 38 06.1	+0.1	
KKN	**Kakani**	**157.98**	**47**	eP	PKPdf	13 38 05.8	-0.2	
BLSP	**Bilaspur**	**158.08**	**64**	eP	PKPdf	13 38 02.0	-4.2	
PKI	**Pulchoki**	**158.20**	**48**	eP	PKPdf	13 38 05.2	-1.1	
GUN	**Gumba**	**158.33**	**46**	eP	PKPdf	13 38 05.8	-0.6	
JIRN	**Jiri**	**158.70**	**46**	eP	PKPdf	13 38 06.3	-0.6	
XAN	**Xi'an**	**159.02**	**347**	PKP	PKPdf	13 38 04.9	-2.2	
XAN				APKP		13 38 18.3		
XAN				SKKS	SKKSac	13 49 04.8	-7.1	
XAN				PP	PP			
comp=Z,554nm,7.9s								
XAN				LR	LR			
comp=N,533nm,22.3s,MS5.6								
XAN				LR	LR			
comp=E,758nm,21.2s,MS5.6								
XAN				LR	LR			
comp=Z,2μm,23.4s,MS5.8								
RAMN	**Ramite**	**159.42**	**47**	eP	PKPdf	13 38 07.4	-0.3	
comp=Z,141nm,1.1s								
TAPN	**Taplejung**	**159.95**	**45**	eP	PKPdf	13 38 07.9	-0.4	
comp=Z,88nm,1.3s								
ODAN	**Odare**	**160.04**	**46**	eP	PKPdf	13 38 07.4	-1.1	
comp=Z,67nm,1.2s								
VIS	**Vishakhapatnam**	**160.26**	**75**	eP	PKPdf	13 38 09.0	+0.1	
LSA	**Lhasa**	**160.37**	**33**	PKP	PKPdf	13 38 09.6	+0.9	
LSA				XPKP		13 38 24.0		
LSA				PP	PP	13 42 28.9	-1.9	
LSA				PP	PP			
comp=Z,590nm,7.0s								
LSA				LR	LR			
comp=N,280nm,30.0s								
LSA				LR	LR			
comp=E,490nm,28.0s								
LSA				LR	LR			
comp=Z,280nm,28.0s								
LSA	**Lhasa**	**160.37**	**33**	ePKPdf	PKPdf	13 38 09.7	+1.0	
LSA				LR	LR			
comp=Z,2μm,22.0s								
BOK	**Bokaro**	**160.58**	**56**	eP	PKPdf	13 38 07.8	-1.4	
ENH	**Enshi**	**162.46**	**342**	PFAKE		13 38 20.0	+9.1	
ENH				LR	LR			
comp=Z,4.0nm,19.0s								
CD2	**Chengdu**	**162.75**	**359**	PKP	PKPdf	13 38 10.3	-0.9	
CD2				APKP		13 38 21.0		
CD2				XPKP		13 38 25.3		
CD2				PKP2	PKPab	13 38 58.9	-0.8	
CD2				PP	PP	13 42 45.4	+2.6	
CD2				SKS	SKSdf	13 45 10.8	-4.1	
CD2				SKKS	SKKSac	13 49 28.5	-2.8	
CD2				SS	SS	14 03 03.3	-0.7	
CD2				PP	PP			
comp=Z,1μm,7.2s								
CD2				LR	LR			
comp=N,860nm,15.6s								
CD2				LR	LR			
comp=E,1μm,14.2s								
CD2				LR	LR			
comp=Z,2μm,19.2s								
SHL	**Shillong**	**163.90**	**41**	eP	PKPdf	13 38 13.0	+0.6	
SHL				ex	x	13 39 06.0		
KKM	**Kota Kinabalu**	**165.31**	**241**	ePKPdf	PKPdf	13 38 13.2	-0.8	
KKM				LR	LR			
comp=Z,1μm,21.0s								
KSM	**Kuching**	**166.16**	**210**	ePKPdf	PKPdf	13 38 13.8	-1.0	
GYA	**Guiyang**	**166.83**	**347**	PKP	PKPdf	13 38 14.3	-0.5	
GYA				XPKP		13 38 28.6		
GYA				PKP2	PKPab	13 39 22.8	+5.1	
GYA				PKS		13 41 45.9		
GYA				PPP		13 47 05.6		
GYA				SKKS	SKKSac	13 49 51.3	-0.7	
GYA				SS	SS	14 03 45.8	-0.2	
GYA				SSS		14 10 17.9		
GYA				PP	PP			
comp=Z,800nm,7.5s								
GYA				LR	LR			
comp=N,4μm,25.4s								
GYA				LR	LR			
comp=E,3μm,22.8s								
GYA				LR	LR			
comp=Z,4μm,25.0s								
KMI	**Kunming**	**168.50**	**3**	PKP	PKPdf	13 38 14.5	-1.6	
KMI				PKP2	PKPab	13 39 22.8	-2.3	
KMI				PKS		13 41 45.8		
KMI				PP	PP	13 43 12.0	-0.7	
KMI				SKS	SKSdf	13 45 07.4	-11	
KMI				PPP		13 47 12.0		
KMI				SKKS	SKKSac	13 49 55.3	-5.0	
KMI				SSS		14 10 29.8		
KMI				PP	PP			
comp=Z,1μm,6.7s								
KMI				LR	LR			
comp=N,1μm,20.1s								
KMI				LR	LR			
comp=E,1μm,20.1s								
KMI				LR	LR			
comp=Z,1μm,20.1s								
QIZ	**Qiongzhong**	**171.77**	**312**	PKP	PKPdf	13 38 17.0	-1.1	
QIZ				PKP2	PKPab	13 39 40.6	+0.6	
QIZ				PP	PP			
comp=Z,629nm,7.4s								
QIZ				LR	LR			
comp=E,795nm,19.9s								
QIZ				LR	LR			
comp=Z,2μm,20.6s								
QIZ	**Qiongzhong**	**171.77**	**312**	PFAKE		13 38 30.0	+12	
QIZ				LR	LR			
comp=Z,2μm,21.0s								
CHTO	**Chiang Mai**	**173.27**	**39**	ePKIKP	PKPdf	13 38 15.7	-3.0	
CHTO				MLR	MLR			
comp=Z,2μm,22.0s								
CM31	**Chiang Mai Arr**	**173.54**	**41**	PFAKE		13 38 30.0	+11	
CM31				LR	LR			
comp=Z,2μm,21.0s								
CMAR	**Chiang Mai Arr**	**173.54**	**41**	PKP	PKPdf	13 38 18.1	-0.7	
comp=Z,8.2nm,0.9s,baz=280,slow=2.0,SNR=31								
CMAR				PKPab	PKPab	13 39 49.4	+1.6	
comp=Z,5.5nm,0.9s,baz=320,slow=6.3,SNR=8.6								
CMAR				PP	PP	13 43 38.9	0.0	
comp=Z,1.6nm,1.0s,baz=328,slow=5.1,SNR=4.4								

IDC 17 13:31:17.6±2.7, 1748S×17787W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=291.0km s-min=31.8km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.21**	**259**	P	P	13 39 37.0	+0.1
0.7nm,0.5s,baz=95,slow=8.2,SNR=15							
ASAR	**Alice Springs**	**45.40**	**254**	P	P	13 39 39.0	+0.7
3.1nm,0.6s,baz=88,slow=8.7,SNR=22							
FITZ	**Fitzroy Crossi**	**53.60**	**260**	P	P	13 40 39.8	-1.2
2.7nm,0.8s,baz=60,slow=8.1,SNR=2.8							
TXAR	**Lajitas Array**	**85.34**	**57**	P	P	13 43 57.2	+0.2
0.4nm,0.7s,baz=236,slow=6.4,SNR=4.6							

*TIR **17** 13:46:45.1±0.4, 3928N×2020E, h16km±4km*
*ISCJB **17** 13:46:45.5±0.6, 3926N±002×20.16E±005, h10km, Error ellipse: s-maj=5.5km s-min=3.0km az=179.9*
*THE **17** 13:46:46.6, 3925N×2025E, h0km, ML3.1*
*NEIC **17** 13:46:46.9, 3923N×2025E, h20km, MD3.3(ATH), ML3.1(THE), After ATH.*
*CSEM **17** 13:46:46.1±0.2, 3929N×2015E, h5km, ML3.1, Error ellipse: s-maj=4.0km s-min=1.6km az=96.0*
*ATH **17** 13:46:46.9, 3923N×2025E, h20km±2km, MD3.3/5*

ISC 17 13:46:46.5±0.7, 3926N±002×2022E±005, h3km±5km, n20, σ0:92/36, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.29**	**18**	ePg	**Pg**	**13 46 51.4**	**-0.7**
IGT				eSg	**Sg**	**13 46 55.9**	**0.0**
IGT	**Igoumenitsa**	**0.29**	**18**	i PG	**Pg**	**13 46 51.4**	**-0.7**
IGT				i SG	**Sg**	**13 46 55.9**	**0.0**
KEK	**Kerkira**	**0.56**	**325**	ePN	**Pg**	**13 46 58.0**	**+0.8**
KEK				eSN	**Sg**	**13 47 07.7**	**+3.2**
JAN	**Janina**	**0.63**	**50**	ePB	**Pg**	**13 46 58.3**	**-0.3**
LKD	**Levkas**	**0.64**	**148**	ePg	**Pg**	**13 46 58.0**	**-0.8**
LKD				eSg	**Sg**	**13 47 08.4**	**+1.3**
MEV	**Metsovon**	**0.94**	**56**	ePg	**Pg**	**13 47 03.5**	**-1.0**
MEV				eSg	**Sg**	**13 47 17.1**	**+0.3**
MEV	**Metsovon**	**0.94**	**56**	i PG	**Pg**	**13 47 03.5**	**-1.1**
MEV				i SG	**Sg**	**13 47 17.1**	**+0.3**
VLS	**Valsamata**	**1.11**	**165**	ePg	**Pg**	**13 47 07.6**	**-0.2**
VLS				eSg	**Sg**	**13 47 23.5**	**+1.2**
VLS	**Valsamata**	**1.11**	**165**	ePn	**Pn**	**13 47 08.0**	**-0.9**
VLS				eSn	**Sn**	**13 47 23.3**	**-1.5**
VLS				eSg	**Sg**	**13 47 23.5**	**+1.2**
KFL	**Anninata**	**1.23**	**159**	ePg	**Pg**	**13 47 10.0**	**0.0**
KFL				eSg	**Sg**	**13 47 26.7**	**+0.8**
THL	**Klokotos Trika**	**1.43**	**77**	ePg	**Pg**	**13 47 13.5**	**-0.3**
THL				eSg	**Sg**	**13 47 32.8**	**+0.5**
THL	**Klokotos Trika**	**1.43**	**77**	ePN	**Pn**	**13 47 13.6**	**+0.4**
THL				eSN	**Sn**	**13 47 33.1**	**+0.6**
KZN	**Kozani**	**1.59**	**48**	ePN	**Pn**	**13 47 16.4**	**+0.9**
KZN				eSN	**Sn**	**13 47 37.4**	**+0.8**
AGG	**Agios Georgios**	**1.66**	**97**	ePb	**Pb**	**13 47 16.0**	**-1.7**
AGG				eSb	**Sb**	**13 47 39.1**	**+0.2**
FNA	**Florina**	**1.77**	**30**	ePb	**Pb**	**13 47 18.6**	**-0.9**
FNA				eSb	**Sb**	**13 47 43.2**	**+1.1**
FNA	**Florina**	**1.77**	**30**	i PG	**Pg**	**13 47 18.6**	**-1.7**
FNA				i SG	**Sg**	**13 47 43.2**	**-0.1**
BIA	**Bitola**	**1.96**	**25**	ePn	**Pn**	**13 47 19.7**	**-0.8**
BIA	**Bitola**	**1.96**	**25**	ePn	**Pn**	**13 47 19.6**	**-0.9**
KRUS	**Krusevo**	**2.25**	**20**	i Pn	**Pn**	**13 47 25.4**	**+0.8**
KRUS	**Krusevo**	**2.25**	**

IDC 17 14:04:25.4±11.0, 404S×1167W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/22, mbtmp3.8/3, Error ellipse: s-maj=375.9km s-min=107.8km az=150.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**21.62**	**38**	P	P	14 09 17.4	0.0
	4.0nm,0.6s,baz=223,slow=10,SNR=12						
GERES	**GERESS Array B**	**57.11**	**20**	P	P	14 14 13.8	+0.2
	2.0nm,0.8s,baz=195,slow=7.1,SNR=12						
AKASG	**Malin Array Be**	**64.81**	**27**	P	P	14 15 05.9	-0.1
	0.2nm,0.3s,baz=226,slow=6.4,SNR=4.4						

ISCJB 17 14:05:58.4±5.4, 978S±009×15950E±009, h9km±34km, mb4.1/13, Error ellipse: s-maj=19.7km s-min=10.0km az=137.0
IDC 17 14:05:58.6±0.8, 980S×15963E, h0km, mb3.9/9, mb1 4.1/9, mb1mx4.0/16, mbtmp3.9/9, Error ellipse: s-maj=26.4km s-min=10.9km az=131.0
NEIC 17 14:06:00.7±0.5, 980S×15943E, h10km, mb4.5/4, Error ellipse: s-maj=13.6km s-min=8.3km az=131.0
ISC 17 14:05:59.8±2.9, 981S±010×1594E±01, h2km±21km, n15, σ0§62/16, mb4.1/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.66**	**55**	Pn	**Pg**	14 06 12.6	+0.1
	7μm,0.3s,baz=237,slow=2.4,SNR=1698						
HNR				Sn	**Sg**	14 06 21.1	0.0
	4μm,0.3s,baz=283,slow=19,SNR=51						
WRAB	**Tennant Creek**	**26.18**	**245**	*e*P	**P**	14 11 36.1	+0.3
	7.5nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**26.19**	**245**	P	**P**	14 11 36.3	+0.3
	4.9nm,0.6s,mb4.2,baz=72,slow=10,SNR=41						
GUMO	**Guam**	**27.36**	**328**	P	**P**	14 11 45.3	-1.2
	51nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**27.46**	**214**	P	**P**	14 11 46.7	-0.6
	1.0nm,0.5s,mb3.6,baz=51,slow=14,SNR=4.5						
STKA	**Stephens Creek**	**27.46**	**214**	*e*P	**P**	14 11 46.7	-0.6
ASAR	**Alice Springs**	**27.96**	**237**	P	**P**	14 11 51.4	-0.5
	0.7nm,0.4s,mb3.6,baz=67,slow=10,SNR=34						
MJAR	**Matsushiro Arr**	**50.23**	**338**	P	**P**	14 14 56.3	-1.0
	0.4nm,0.3s,mb3.9,baz=175,slow=8.7,SNR=4.3						
KSRS	**Korea Array**	**55.50**	**330**	P	**P**	14 15 37.0	+0.7
	0.7nm,0.5s,mb3.9,baz=146,slow=7.1,SNR=5.3						
PETK	**Petropavlovsk-**	**62.69**	**359**	P	**P**	14 16 25.7	-0.1
	0.6nm,0.7s,mb3.8,baz=157,slow=8.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**65.92**	**295**	P	**P**	14 16 48.7	+1.0
	0.2nm,0.3s,mb3.6,baz=130,slow=5.1,SNR=2.8						
VNDA	**Vanda**	**67.70**	**179**	P	**P**	14 16 58.4	+0.3
	3.0nm,0.7s,mb4.5,baz=340,slow=6.9,SNR=24						
SBA	**Scott Base**	**68.13**	**178**	*e*P	**P**	14 17 00.8	+0.1
	4.7nm,1.3s,mb4.4						
SONM	**Songino Array**	**74.07**	**326**	P	**P**	14 17 38.1	+0.9
	0.7nm,0.6s,mb3.8,baz=141,slow=4.8,SNR=5.1						
QSPA	**South Pole Qui**	**80.18**	**180**	*e*P	**P**	14 18 10.6	-0.5
	3.2nm,1.0s,mb4.2						

NNC 17 14:35:45.3±1.1, 4495N×8066E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=15.8km s-min=6.4km az=137.0
ISCJB 17 14:35:47.4±0.7, 4507N±008×8034E±007, h10km, Error ellipse: s-maj=11.3km s-min=7.2km az=12.3
BJI 17 14:35:52.7, 4477N×8100E, h15km, ML3.4
ISC 17 14:35:49.7±0.7, 4506N±008×8036E±008, h10km, n10, σ1§02/13, 7C-11D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.19**	**37**	⇓Pn	**Pn**	14 36 25.3	-0.9
	30nm,0.3s,baz=211,slow=11,SNR=466						
MK31				⇓Lg		14 36 53.0	
	364nm,0.6s,baz=209,slow=30,SNR=33						
KNDC	**Almaty**	**3.06**	**234**	⇑Pn	**Pn**	14 36 38.2	0.0
	34nm,0.3s						
KNDC				⇓Lg		14 37 25.2	
	970nm,0.7s						
WMQ	**Urumqi**	**5.39**	**101**	*e*P	**Pn**	14 37 10.3	+0.1
WMQ				S	**Sn**	14 38 12.3	0.0
WMQ				Smax			
	comp=N,50nm,0.8s						
WMQ				Smax			
	comp=E,27nm,0.8s						
KURBB	**Kurchatov Arra**	**5.70**	**348**	⇑Pn	**Pn**	14 37 14.4	0.0
	comp=E,2.1nm,0.7s						
KURBB				⇓Lg		14 38 52.0	
	comp=E,7.4nm,0.5s						
KURK	**Kurchatov**	**5.78**	**349**	⇓Pn	**Pn**	14 37 16.7	+1.3
	comp=E,7.0nm,0.6s						
KURK				⇓Lg		14 38 53.1	
	comp=E,100nm,1.1s						
KK31	**Karatay Array**	**7.36**	**258**	⇓Pn	**Pn**	14 37 37.9	+0.7
	comp=E,0.5nm,0.3s,baz=73,slow=13,SNR=11						
KK31				⇓Lg		14 39 41.9	
	comp=E,17nm,0.6s,baz=64,slow=26,SNR=11						
VOSK	**Vostochnaya**	**9.84**	**325**	⇑Pn	**Pn**	14 38 11.7	+0.5
	comp=E,1.2nm,0.7s						
VOSK				⇑Lg		14 41 02.8	
	comp=E,2.1nm,0.6s						
BVA0	**Borovoye Array**	**10.31**	**324**	⇑Pn	**Pn**	14 38 17.5	-0.1
	comp=E,0.2nm,0.6s,baz=0.0,slow=0.1,SNR=6.4						
BVA0				⇑Lg		14 41 18.0	
	comp=E,3.5nm,0.8s,baz=124,slow=20,SNR=6.5						
AB31	**Akbulak array**	**14.50**	**294**	⇓Pn	**Pn**	14 39 11.6	-3.3
	comp=E,0.4nm,0.3s,baz=108,slow=6.7,SNR=16						
AB31				⇑Sn	**Sn**	14 42 01.6	+6.0
	comp=E,0.3nm,0.4s						
AKTO	**Aktyubinsk**	**15.94**	**298**	⇓Pn	**Pn**	14 39 31.1	-2.8
	comp=E,1.3nm,1.6s						
AKTO				⇓Sn	**Sn**	14 42 35.8	+5.3
	comp=E,2.0nm,2.3s						

KRSC 17 15:08:45.3±0.2, 5533N×16444E, h37km±37km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.27**	**315**	*e*P	Pn	15 09 05.0	-1.5
KBTR				*i* S	Sn	15 09 19.4	-2.9
MKZ	**Mys Kozlova**	**1.75**	**245**	*e*P	Pn	15 09 14.3	+1.3
MKZ				*i* S	Sn	15 09 34.8	+0.8
SMKR	**Semkarok**	**2.09**	**308**	*e*P	Pn	15 09 18.7	+1.0
SMKR				*i* S	Sn	15 09 44.0	+1.5
ZLN	**Zelenaya**	**2.17**	**290**	*e*P	Pn	15 09 21.8	+2.9
ZLN				*i* S	Sn	15 09 48.9	+4.4
CIRR	**Tsirk**	**2.23**	**292**	P	Pn	15 09 23.2	+3.5
CIRR				*i* S	Sn	15 09 50.4	+4.4
SRKR	**Sorokina**	**2.27**	**307**	*e*P	Pn	15 09 22.1	+1.9
SRKR				*i* S	Sn	15 09 49.3	+2.4
BZMR	**Bezymyannaya**	**2.32**	**287**	*e*P	Pn	15 09 25.1	+4.2
BZMR				*i* S	Sn	15 09 53.1	+4.9
KLY	**Klyuchi**	**2.35**	**296**	*e*P	Pn	15 09 22.7	+1.3
KLY				*i* S	Sn	15 09 49.7	+0.7
KRSR	**Krestovskiy**	**2.36**	**294**	*e*P	Pn	15 09 24.2	+2.7
KRSR				*i* S	Sn	15 09 52.1	+2.9
KIRR	**Kirishev**	**2.41**	**287**	*e*P	Pn	15 09 25.3	+3.2
KIRR				*i* S	Sn	15 09 54.2	+3.9
TUMR	**Tumrok**	**2.46**	**271**	*e*P	Pn	15 09 26.6	+3.8
TUMR				*i* S	Sn	15 09 56.2	+4.7
KPT	**Kopyto**	**2.47**	**287**	*e*P	Pn	15 09 25.9	+2.9
KPT				*i* S	Sn	15 09 54.8	+2.8
KOZ	**Kozyrevsk**	**2.69**	**288**	*e*P	Pn	15 09 29.6	+3.7
KOZ				*i* S	Sn	15 10 02.1	+4.9
SRDR	**Sredinnyy**	**2.84**	**292**	*e*P	Pn	15 09 31.7	+3.6
SRDR				*i* S	Sn	15 10 06.0	+5.0
SPN	**Mys Shipunski**	**3.42**	**231**	*e*P	Pn	15 09 37.5	+1.4
SPN				*i* S	Sn	15 10 15.1	-0.3
NLC	**Nalytchevo**	**3.69**	**236**	*e*P	Pn	15 09 42.0	+2.3
NLC				*i* S	Sn	15 10 22.7	+0.8
PET	**Petropavlovsk**	**4.11**	**238**	*e*P	Pn	15 09 48.4	+2.9
PET				*i* S	Sn	15 10 33.4	+1.1
RUS	**Russkaya**	**4.55**	**233**	*e*P	Pn	15 09 53.8	+2.2

NEIC 17 15:09:34.2±0.5, 4832N×15472E, h10km, mb3.5/1, Error ellipse: s-maj=14.7km s-min=7.1km az=128.0
ISCJB 17 15:09:35.9±1.1, 4838N±008×1549E±01, h34km±9km, mb3.8/15, Error ellipse: s-maj=19.5km s-min=6.2km az=39.8
MOS 17 15:09:36.4±1.2, 4838N×15481E, h41km, mb3.9/4, Error ellipse: s-maj=18.2km s-min=9.0km az=63.7
IDC 17 15:09:40.5±3.0, 4840N×15478E, h58km±27km, mb3.6/15, mb1 3.8/17, mb1mx3.7/24, mbtmp3.6/17, ML3.9/2, Error ellipse: s-maj=20.8km s-min=13.3km az=128.0
ISC 17 15:09:38.6±1.0, 4845N±008×1548E±01, h40km±8km, n34, σ1§18/37, mb3.8/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.39**	**20**	*e*PN	**Pn**	15 10 14.0	-1.2
SKR				*i* S	**Sn**	15 10 40.9	-2.3
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				pmax	pmax		
	comp=N,60nm,0.3s						
SKR				pmax	pmax		
	comp=E,40nm,0.3s						
SKR				smax			
	comp=N,520nm,0.5s						
SKR				smax			
	comp=E,240nm,0.5s						
PETK	**Petropavlovsk-**	**5.01**	**20**	P	**Pn**	15 10 52.9	+1.8
	comp=E,3.0nm,0.3s,baz=182,slow=14,SNR=17						
PET	**Petropavlovsk**	**5.19**	**26**	*e*PN	**Pn**	15 10 54.2	+0.7
PET				pmax	pmax		
	comp=Z,29nm,0.7s						
PET	**Petropavlovsk**	**5.19**	**26**	*e*Pn	**Pn**	15 10 54.2	+0.6
	comp=Z,29nm,0.7s						
KUR	**Kuril'sk**	**5.76**	**239**	PN	**Pn**	15 11 00.5	-0.9
KUR				*e*S	**Sn**	15 12 07.0	+0.9
KUR				pmax	pmax		
	comp=N,40nm,0.6s						
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=N,60nm,0.8s						
KUR				smax			
	comp=E,150nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**7.62**	**238**	*e*PN	**Pn**	15 11 27.5	+0.5
ASAJ	**Asahikawa**	**9.51**	**247**	P	**Pn**	15 11 55.3	+2.5
	comp=E,1.9nm,0.3s,baz=67,slow=11,SNR=20						
ASAJ	**Asahikawa**	**9.51**	**247**	PN	**Pn**	15 11 55.3	+2.5
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAJO	**Matsushiro**	**17.04**	**232**	*e*P	**Pn**	15 13 30.9	-2.7
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAJO	**Matsushiro**	**17.04**	**232**	*e*Pn	**Pn**	15 13 30.9	-2.7
	comp=Z,4.1nm,0.9s						
MJAR	**Matsushiro Arr**	**17.04**	**232**	P	**Pn**	15 13 30.9	-2.7
	comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=6.1						
BILL	**Bilibino**	**20.48**	**12**	*e*P	**P**	15 14 22.7	+10
BILL				*e*S	**S**	15 17 58.1	-1.1
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KSRS	**Korea Array**	**22.43**	**251**	P	**P**	15 14 34.4	+0.6
	comp=Z,2.7nm,0.7s,mb3.8,baz=47,slow=9.5,SNR=10						
KSRS	**Korea Array**	**22.43**	**251**	*e*P	**P**	15 14 34.3	+0.6
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
SONM	**Songino Array**	**31.90**	**287**	P	**P**	15 15 59.3	-0.5
	comp=Z,0.2nm,0.3s,mb3.4,baz=30,slow=36,SNR=4.2						
MK31	**Makanchi Array**	**47.21**	**297**	*e*P	**P**	15 18 06.1	-0.9
MKAR	**Makanchi Array**	**47.21**	**297**	P	**P**	15 18 07.2	+0.1
	comp=Z,0.5nm,0.4s,mb3.8,baz=65,slow=8.6,SNR=5.7						
MKAR	**Makanchi Array**	**47.21**	**297**	*e*P	**P**	15 18 07.1	+0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**48.87**	**38**	P	**P**	15 18 20.1	+0.4
	comp=Z,0.6nm,0.8s,mb3.7,baz=221,slow=7.7,SNR=3.5						
CMAR	**Chiang Mai Arr**	**53.90**	**257**	P	**P**	15 18 59.1	+1.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=36,slow=7.4,SNR=5.0						
CMAR	**Chiang Mai Arr**	**53.90**	**257**	*e*P	**P**	15 18 59.1	+1.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**56.63**	**341**	P	**P**	15 19 16.7	-0.1
	comp=Z,1.1nm,0.7s,mb4.0,baz=18,slow=9.6,SNR=3.1						
PDAR	**Pinedale Array**	**62.82**	**55**	P	**P**	15 20 00.8	+1.0
	comp=Z,0.4nm,0.6s,mb3.7,baz=289,slow=4.5,SNR=3.5						
NOA	**NORSAR Array B**	**66.99**	**342**	P	**P**	15 20 26.8	+0.1
	comp=Z,1.3nm,0.8s,mb4.0,baz=39,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**70.50**	**200**	P	**P**	15 20 47.7	-1.2
	comp=Z,1.3nm,0.8s,mb3.9,baz=15,slow=6.5,SNR=8.6						
WRA	**Warramunga Arr**	**70.50**	**200**	*e*P	**P**	15 20 46.8	-2.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**70.78**	**327**	P	**P**	15 20 49.3	-1.0
	comp=Z,0.5nm,0.3s,mb3.9,baz=36,slow=4.6,SNR=7.3						
FITZ	**Fitzroy Crossi**	**71.19**	**209**	P	**P**	15 20 52.3	-0.8
	comp=Z,2.2nm,0.9s,mb4.1,baz=24,slow=12,SNR=3.9						
SCHQ	**Schefferville**	**71.29**	**24**	P	**P**	15 20 54.1	+0.8
	comp=Z,2.0nm,0.7s,mb4.2,baz=223,slow=18,SNR=2.6						
ASAR	**Alice Springs**	**74.19**	**200**	P	**P**	15 21 10.5	-0.3
	comp=Z,0.5nm,0.6s,mb3.6,baz=22,slow=5.5,SNR=12						
TXAR	**Lajitas Array**	**75.66**	**62**	P	**P**	15 21 20.2	+0.8
	comp=Z,0.9nm,0.6s,mb3.9,baz=296,slow=4.0,SNR=12						
TXAR	**Lajitas Array**	**75.66**	**62**	*e*P	**P**	15 21 20.2	+0.7
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KHC	**Kasperske Hory**	**77.20**	**335**	*e*P	**P**	15 21 29.0	+1.1
GERES	**GERESS Array B**	**77.43**	**335**	P	**P**	15 21 30.2	+1.1
	comp=Z,0.8nm,0.5s,mb3.9,baz=36,slow=5.9,SNR=11						

IDC 17 15:31:19.9±0.6, 1354S×7690W, h0km, mb4.3/13, mb1 4.3/18, mb1mx4.2/24, mbtmp4.2/18, ML3.7/5, MS3.9/7, Ms1 3.9/7, ms1mx3.5/30, Error ellipse: s-maj=22.0km s-min=10.2km az=82.0
ISCJB 17 15:31:23.5±0.3, 1350S±005×7688W±006, h33km, mb4.4/24, MS4.1/4, Error ellipse: s-maj=9.5km s-min=5.1km az=149.4
MOS 17 15:31:24.7±2.0, 1349S×7703W, h33km, mb4.7/4, Error ellipse: s-maj=22.1km s-min=11.3km az=132.8
NEIC 17 15:31:25.7±0.3, 1345S×7685W, h35km, mb4.7/13, ML4.4(LIM), Error ellipse: s-maj=13.9km s-min=7.0km az=62.0
NEIC Felt [III] at San Vicente de Canete and [II] at Lima.
ISC 17 15:31:25.8±0.3, 1349S±005×7685W±007, h35km, n71, σ1§06/69, mb4.4/24, MS4.1/4, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.49**	**0**	Pg	**Pn**	15 31 48.1	-1.9
	693nm,0.3s,baz=185,slow=12,SNR=201						
NNA				Lg		15 32 10.0	
	6μm,0.3s,baz=196,slow=12,SNR=40						
NNA	**Nana**	**1.49**	**0**	⇑*i*Pn	**Pn**	15 31 48.0	-2.0
NNA				*e*Sn	**Sn**	15 32 08.4	+0.1
ARE	**Arequipa**	**5.96**	**120**	*e*P	**Pn**	15 33 00.0	+8.4
ARE				*e*S	**Sn**	15 34 16.0	+17
ATAH	**Atahualpa**	**6.62**	**347**	Pn	**Pn**	15 32 59.8	-0.9
	10nm,0.3s,baz=151,slow=5.3,SNR=23						
ATAH				Sn	**Sn**	15 34 11.0	-3.9
	6.9nm,0.3s,baz=198,slow=7.8,SNR=2.1						
ATAH				Lg		15 34 31.8	
	35nm,0.3s,baz=46,slow=22,SNR=6.7						
ATAH				LR	LR	15 35 07.8	
	comp=Z,258nm,21.6s,baz=221,slow=35						
LPAZ	**La Paz**	**8.87**	**109**	Pn	**Pn**	15 33 35.5	+3.8
	2.5nm,0.3s,baz=298,slow=11,SNR=27						
LPAZ				Sn	**Sn**	15 35 13.0	+2.6
	baz=327,slow=13,SNR=1.4						
LPAZ	**La Paz**	**8.87**	**109**	*e*P	**Pn**	15 33 35.2	+3.6
LPAZ				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LPAZ	**La Paz**	**8.87**	**109**	*e*Pn	**Pn**	15 33 35.2	+3.6
	comp=Z,10nm,0.5s						
LVC	**Limon Verde**	**11.80**	**141**	Pn	**Pn**	15 34 08.2	-3.5
	comp=Z,0.2nm,0.3s,baz=282,slow=15,SNR=2.6						
LVC				Sn	**Sn**	15 36 20.8	-1.4
	comp=Z,0.3nm,0.3s,baz=77,slow=20,SNR=2.8						
LVC				Lg		15 37 20.1	
	comp=Z,0.3nm,0.3s,baz=148,slow=21,SNR=6.3						
LVC	**Limon Verde**	**11.80**	**141**	*e*Pn	**Pn**	15 34 11.2	-0.5
OTAV	**Otavalo**	**13.73**	**353**	*e*Pn	**Pn**	15 34 42.8	+4.8
	comp=Z,24nm,0.8s						
OTAV				*e*Sn	**Sn**	15 37 18.7	+9.3
SIV	**San Ignacio**	**15.46**	**101**	Pn	**Pn**	15 35 01.1	-0.2
	comp=Z,0.1nm,0.3s,baz=279,slow=16,SNR=3.4						
ROSC	**El Rosal**	**18.39**	**8**	P	**Pn**	15 35 36.3	-1.8
	comp=Z,1.3nm,0.3s,baz=98,slow=19,SNR=2.1						
ROSC				LR	LR	15 44 01.1	
	comp=Z,1μm,18.3s,baz=13,slow=41						
CFAA	**Coronel Fontan**	**19.69**	**158**	P	**Pn**	15 35 51.6	-2.1
	comp=Z,0.1nm,0.3s,baz=339,slow=8.4,SNR=8.2						
CFAA				LR	LR	15 42 14.8	
	comp=Z,34nm,19.0s,baz=331,slow=33						
SDV	**Santo Domingo**	**23.07**	**16**	P	**P**	15 36 28.1	-0.3
	comp=Z,9.6nm,0.6s,mb4.4,baz=198,slow=13,SNR=11						
SDV	**Santo Domingo**	**23.07**	**16**	*e*P	**P**	15 36 28.3	-0.1
	comp=Z,12nm,0.6s,mb4.5						
PCRV	**Puerto La Cruz**	**26.45**	**28**	P	**P**	15 36 59.5	-0.1
	comp=Z,8.4nm,0.6s,mb4.4,baz=171,slow=3.8,SNR=2.9						
PCRV				LR	LR	15 48 21.5	
	comp=Z,944nm,19.5s,MS4.3,baz=231,slow=38						
PLCA	**Paso Flores**	**27.70**	**170**	P	**P**	15 37 09.3	-1.4
	comp=Z,2.8nm,0.8s,mb3.9,baz=342,slow=9.3,SNR=5.6						
PLCA				LR	LR	15 45 33.2	
	comp=Z,148nm,20.8s,MS3.5,baz=238,slow=31						
PLCA	**Paso Flores**	**27.70**	**170**	*e*P	**P**	15 37 13.0	+2.3
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PLCA	**Paso Flores**	**27.70**	**170**	*e*P	**P**	15 37 13.0	+2.3
	comp=Z,3.2nm,0.7s,mb4.1						
BDFB	**Brasilia**	**27.98**	**98**	P	**P**	15 37 12.8	-0.7
	comp=Z,1.0nm,0.6s,mb3.6,baz=162,slow=23,SNR=4.0						
TEIG	**Tepich**	**35.34**	**341**	*e*P	**P**	15 38 19.1	+1.2
	comp=Z,45nm,1.3s,mb5.2						
USHA	**Ushuaia**	**41.78**	**173**	P	**P**	15 39 10.5	-1.2
	comp=Z,11nm,1.1s,mb4.4,baz=102,slow=14,SNR=3.5						
GOGA	**Godfrey**	**47.06**	**352**	*e*P	**P**	15 39 58.3	+4.2
GOGA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
GOGA	**Godfrey**	**47.06**	**352**	*e*P	**P**	15 39 58.3	+4.2
	comp=Z,8.1nm,0.8s,mb4.7						
PLAL	**Pickwick Lake**	**49.36**	**348**	*e*P	**P**	15 40 12.0	+0.2
	comp=Z,12nm,0.8s,mb5.0						
TXAR	**Lajitas Array**	**49.83**	**329**	P	**P**	15 40 15.6	+0.1
	comp=Z,1.0nm,0.6s,mb4.0,baz=147,slow=8.8,SNR=8.4						
ANMO	**Albuquerque**	**55.77**	**331**	*e*P	**P**	15 40 59.7	+0.4
SDCO	**Great Sand Dun**	**57.62**	**333**	*e*P	**P**	15 41 12.4	0.0
WUAZ	**Wupatki**	**58.68**	**327**	*e*P	**P**	15 41 18.9	-1.0
	comp=Z,7.3nm,1.0s,mb4.7						
PV01	**Paradox Valley**	**59.33**	**331**	*e*P	**P**	15 41 24.6	+0.2
TPNV	**Topopah Spring**	**62.39**	**325**	*e*P	**P**	15 41 44.9	-0.2
DUG	**Dugway**	**62.99**	**330**	*e*P	**P**	15 41 49.6	+0.5
DUG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
DUG	**Dugway**	**62.99**	**330**	*e*P	**P**	15 41 49.6	+0.5
	comp=Z,6.2nm,0.9s,mb4.7						
HWUT	**Hardware Ranch**	**63.49**	**331**	*e*P	**P**	15 41 52.1	-0.3
	comp=Z,5.1nm,0.7s,mb4.8						
PDAR	**Pinedale Array**	**63.51**	**334**	P	**P**	15 41 52.4	-0.1
	comp=Z,0.4nm,0.6s,mb3.6,baz=126,slow=10.0,SNR=3.4						
MTUM	**Tungsten Hills**	**63.98**	**324**	*e*P	**P**	15 41 56.1	+0.4
HVU	**Hansel Valley**	**64.19**	**331**	*e*P	**P**	15 42 01.7	+4.7
NVAR	**Mina Array Bea**	**64.58**	**325**	P	**P**	15 42 00.3	+0.7
	comp=Z,1.3nm,0.7s,mb4.1,baz=134,slow=6.6,SNR=11						
NVAR	**Mina Array Bea**	**64.58**	**325**	P	**P**	15 42 00.3	+0.7
RRI2	**Red Ridge**	**64.75**	**333**	*e*P	**P**	15 42 00.5	-0.1
FLWY	**Flagg Ranch**	**65.06**	**334**	*e*P	**P**	15 42 02.9	+0.2
RLMT	**Red Lodge**	**65.31**	**335**	*e*P	**P**	15 42 04.9	+0.8
	comp=Z,5.6nm,0.6s,mb4.8						
ULM	**Lac du Bonnet**	**65.62**	**347**	P	**P**	15 42 04.6	-1.5
	comp=Z,6.5nm,0.9s,mb4.7,baz=146,slow=8.1,SNR=3.6						
PAHR	**Pah Rah Range**	**66.08**	**325**	*e*P	**P**	15 42 10.9	+1.6
	comp=Z,8.2nm,0.8s,mb4.8						
HLID	**Hailey**	**66.33**	**331**	*e*P	**P**	15 42 10.9	+0.1
	comp=Z,1.4nm,0.8s,mb4.0						
BOZ	**Bozeman (W)**	**66.71**	**334**	*e*P	**P**	15 42 21.2	+8.0
DLMT	**Dillon**	**66.90**	**333**	*e*P	**P**	15 42 22.9	+8.4
	comp=Z,6.3nm,1.1s,mb4.6						
MOD	**Modoc**	**68.10**	**326**	*e*P	**P**	15 42 25.4	+3.3
PPT	**Papeete**	**69.82**	**256**	LR	LR	16 06 52.0	
	comp=Z,225nm,19.5s,MS4.4,baz=140,slow=31						
VNA1	**Neumayer--Stat**	**70.31**	**161**	*e*	**P**	15 42 36.2	+0.8
VNA1				*e*		15 42 41.4	
VNA1				*e*	pP	15 42 44.9	-1.4
VNA2	**Neumayer--Watz**	**70.67**	**161**	*e*	**P**	15 42 37.7	+0.2
VNA2				*e*		15 42 43.2	
VNA2				*e*	pP	15 42 47.5	-0.9
OD2	**Odessa Site #2**	**71.20**	**331**	*e*P	**P**	15 42 45.7	+4.6
SNAA	**Sanae**	**72.27**	**161**	*e*	**P**	15 42 47.1	-0.1
SNAA				*e*		15 42 52.6	
SNAA	**Sanae**	**72.27**	**161**	*e*P	**P**	15 42 46.8	-0.4
SNAA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SNAA	**Sanae**	**72.27**	**161**	*e*P	**P**	15 42 46.8	-0.3
	comp=Z,4.6nm,0.9s,mb4.4						
EDM	**Edmonton**	**73.44**	**338**	*e*P	**P**	15 42 56.9	+2.6
DBIC	**Dimbokro**	**74.22**	**79**	P	**P**	15 42 59.9	+0.2
	comp=Z,5.8nm,1.0s,mb4.5,baz=195,slow=12,SNR=3.1

CLL			*e*Sg	**Sg**	**15 47 07.0 +0.1**
	comp=Z,15nm,0.7s				
OKC	**Ostrava-Krasne**	**2.09 140**	*e*SG	**Sg**	**15 47 09.9 -2.2**
	comp=Z,17nm,0.6s				
TREC	**Trest**	**2.19 190**	*e*PG	**Pg**	**15 46 46.4 -0.6**
NKC	**Novy Kostel**	**2.60 243**	*e*PN	**Pn**	**15 46 48.0 -0.3**
NKC			*e*PG	**Pg**	**15 46 54.6 -0.2**
NKC			*e*SG	**Sg**	**15 47 29.4 +0.9**
	comp=Z,12nm,0.3s				
OJC	**Ojcow**	**2.67 116**	*e*Pg	**Pg**	**15 46 55.9 -0.3**
OJC			*e*Sg	**Sg**	**15 47 30.6 -0.1**
KHC	**Kasperske Hory**	**2.82 215**	*e*PN	**Pn**	**15 46 51.1 -0.2**
KHC			*e*PG	**Pg**	**15 46 57.2 -1.9**
KHC			*ex*	x	15 47 26.0
KHC			*e*SG	**Sg**	**15 47 33.9 -1.7**
MOX	**Moxa**	**2.92 256**	(PG)	**Pg**	**15 47 02.1 +1.0**
MOX			*e*SG	**Sg**	**15 47 40.7 +1.8**
MODS	**Modra-Piesok**	**3.18 165**	*e*SG	**Sg**	**15 47 49.1 +2.0**
STHS	**Stebnicka Huta**	**3.89 120**	*e*PG	**Pg**	**15 47 19.4 -0.1**
STHS			*e*SG	**Sg**	**15 48 11.5 +1.7**

IDC 17 16:01:44.5±1.8, 919S×13022E, h0km, mb4.0/3, mb1 3.7/5, mb1mx3.5/16, mbtmp3.7/5, ML2.8/2, Error ellipse: s-maj=162.5km s-min=29.7km az=69.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.40**	**160**	Pn	Pn	16 04 28.5	-0.3
	0.1nm,0.3s,baz=334,slow=14,SNR=5.0						
ASAR	**Alice Springs**	**14.82**	**167**	Pn	Pn	16 05 15.8	+0.5
	0.1nm,0.3s,baz=356,slow=11,SNR=9.9						
MKAR	**Makanchi Array**	**70.17**	**327**	P	P	16 12 59.0	0.0
	0.6nm,0.5s,baz=126,slow=7.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**73.64**	**334**	P	P	16 13 19.4	-0.2
	0.9nm,0.4s,baz=125,slow=5.4,SNR=5.0						
BVAR	**Borovoye Array**	**80.03**	**328**	P	P	16 13 56.4	+0.6
	0.6nm,0.5s,baz=116,slow=3.4,SNR=4.8						

*IDC **17** 16:02:03.6±1.3, 691S×12905E, h0km, mb3.9/2, mb1 4.0/5, mb1mx3.7/16, mbtmp3.9/5, ML4.0/4, Error ellipse: s-maj=42.9km s-min=22.9km az=100.0*
*NEIC **17** 16:02:06.8±0.6, 697S×12856E, h35km, mb3.9/3, Error ellipse: s-maj=22.6km s-min=9.1km az=76.0*
*ISCJB **17** 16:02:17.0±1.6, 75S±0.1×12854E±009, h169km±18km, mb3.9/4, Error ellipse: s-maj=19.5km s-min=10.7km az=37.4.*

ISC 17 16:02:17.2±2.1, 75S±02×12852E±008, h149km±25km, n13, σ1§29/16, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.49**	**241**	Pn	**Pn**	**16 03 38.9**	**+1.8**
	53nm,0.3s,baz=104,slow=2.5,SNR=51						
BATI				Sn	**Sn**	**16 04 37.4**	**-2.1**
	31nm,0.3s,baz=330,slow=22,SNR=10						
KAKA	**Kakadu**	**6.45**	**143**	*e*Pn	**Pn**	**16 03 51.5**	**+1.6**
	127nm,0.6s						
KAKA				*e*Sn	**Sn**	**16 05 01.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**10.88**	**195**	Pn	**Pn**	**16 04 49.3**	**+0.3**
	0.3nm,0.3s,baz=42,slow=13,SNR=15						
FITZ				Sn	Sx	16 06 42.3	
	1.3nm,0.3s,baz=144,slow=22,SNR=6.9						
FITZ	**Fitzroy Crossi**	**10.88**	**195**	*e*Pn	**Pn**	**16 04 48.6**	**-0.4**
	54nm,1.6s						
FITZ				*e*Sn	Sx	16 06 39.4	
WRAB	**Tennant Creek**	**13.57**	**156**	*e*Pn	**Pn**	**16 05 23.3**	**-0.5**
	16nm,0.8s						
WRAB				*e*Sn	Sx	16 07 46.6	
WRA	**Warramunga Arr**	**13.58**	**156**	Pn	**Pn**	**16 05 23.1**	**-0.8**
	0.4nm,0.3s,baz=338,slow=13,SNR=18						
WRA				Sn	Sx	16 07 45.8	
	1.5nm,0.3s,baz=334,slow=22,SNR=6.9						
WB2	**Warramunga Arr**	**13.58**	**156**	*e*Pn	**Pn**	**16 05 23.1**	**-0.8**
WB2				*e*Sn	Sx	16 07 44.7	
MBWA	**Marble Bar**	**16.00**	**211**	*e*Pn	**Pn**	**16 05 55.8**	**+1.8**
	0.9nm,0.4s						
ASAR	**Alice Springs**	**16.87**	**163**	P	**Pn**	**16 06 06.3**	**+1.8**
	0.4nm,0.3s,baz=340,slow=11,SNR=20						
ASAR				S	**S**	**16 09 04.6**	**-7.6**
	0.3nm,0.3s,baz=349,slow=32,SNR=4.1						
STKA	**Stephens Creek**	**27.13**	**155**	*e*P	**P**	**16 07 52.4**	**+6.0**
	3.1nm,0.8s,mb4.0						
SONM	**Songino Array**	**58.48**	**343**	P	**P**	**16 11 57.4**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=160,slow=8.9,SNR=4.0						
PETK	**Petropavlovsk-**	**65.28**	**19**	P	**P**	**16 12 43.0**	**+0.2**
	2.4nm,0.6s,mb4.2,baz=174,slow=4.4,SNR=11						
KURK	**Kurchatov**	**72.20**	**329**	*e*P	**P**	**16 13 24.3**	**-1.5**
	4.6nm,1.0s,mb4.2						

IDC 17 16:17:26.8±5.1, 3121S×13881E, h0km, mb1 3.4/2, mb1mx3.2/14, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=97.5km s-min=17.8km az=32.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.47**	**106**	Pg	Pg	16 18 10.9	-3.3
	0.8nm,0.3s,baz=290,slow=13,SNR=17						
STKA				Lg		16 18 46.5	
	6.0nm,0.3s,baz=14,slow=20,SNR=12						
ASAR	**Alice Springs**	**8.68**	**329**	Pn	Pn	16 19 33.5	-0.3
	0.1nm,0.3s,baz=148,slow=13,SNR=2.3						
ASAR				Sn	Sn	16 21 09.5	-2.9
	0.2nm,0.3s,baz=154,slow=23,SNR=4.7						
WRA	**Warramunga Arr**	**11.92**	**339**	Pn	Pn	16 20 18.9	+0.8
	0.1nm,0.3s,baz=154,slow=13,SNR=3.3						
WRA				Sn	Sn	16 22 27.2	-4.7
	0.1nm,0.3s,baz=153,slow=26,SNR=2.8						

*ISCJB **17** 16:20:33.1±1.6, 51S±03×106W±04, h10km, mb4.1/9, Error ellipse: s-maj=70.8km s-min=10.8km az=42.1*
*IDC **17** 16:20:34.7±1.8, 489S×1079W, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/22, mbtmp4.0/8, ML3.5/1, Error ellipse: s-maj=81.3km s-min=19.2km az=136.0*
*NEIC **17** 16:20:35.7±0.8, 494S×1081W, h10km, mb4.8/2, Error ellipse: s-maj=35.5km s-min=9.1km az=129.0*

ISC 17 16:20:35.6±7.8, 51S±04×106W±04, h14km±46km, n16, σ0§90/14, mb4.1/9, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**12.56**	**26**	*e*P	**Pn**	**16 23 34.4**	**+0.3**
	45nm,1.3s						
KIC	**Kosan Boka**	**12.81**	**27**	*e*P	**Pn**	**16 23 37.1**	**-0.4**
	61nm,0.9s						
TIC	**Toumodi**	**12.94**	**26**	*e*P	**Pn**	**16 23 39.6**	**+0.3**
	20nm,0.2s						
DBIC	**Dimbokro**	**13.04**	**26**	Pn	**Pn**	**16 23 39.6**	**-0.9**
	0.3nm,0.3s,baz=181,slow=10,SNR=4.0						
TOA0	**Torodi Ar. Sit**	**21.87**	**34**	*e*P	**P**	**16 25 28.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**21.87**	**34**	P	**P**	**16 25 29.1**	**+0.8**
	9.4nm,0.8s,mb4.3,baz=222,slow=10,SNR=34						
BDFB	**Brasilia**	**38.19**	**251**	P	**P**	**16 27 57.1**	**+1.9**
	0.4nm,0.4s,mb3.5,baz=197,slow=19,SNR=1.8						
KEST	**Kesra**	**44.74**	**23**	P	**P**	**16 28 49.1**	**+0.4**
	0.9nm,0.6s,mb3.8,baz=82,slow=7.3,SNR=4.3						
TRQA	**Tornquist**	**56.96**	**227**	P	**P**	**16 30 19.7**	**-1.1**
	1.4nm,0.6s,mb4.2						
LPAZ	**La Paz**	**57.43**	**254**	P	**P**	**16 30 24.4**	**-0.1**
	0.2nm,0.3s,mb3.6,baz=94,slow=13,SNR=1.6						
GERES	**GERESS Array B**	**57.78**	**19**	P	**P**	**16 30 26.5**	**+0.2**
	1.1nm,0.6s,mb4.1,baz=190,slow=6.8,SNR=13						
NOA	**NORSAR Array B**	**68.12**	**11**	P	**P**	**16 31 35.9**	**+1.1**
	0.8nm,0.7s,mb3.9,baz=227,slow=16,SNR=2.5						
ARCES	**ARCESS Array B**	**78.45**	**12**	P	**P**	**16 32 35.3**	**-0.4**
	2.2nm,0.9s,mb4.1,baz=190,slow=4.4,SNR=6.1						
SCIA	**State Center**	**87.89**	**312**	*e*P	**P**	**16 33 23.1**	**-2.0**
	11nm,0.5s,mb5.3						
ASAR	**Alice Springs**	**135.09**	**131**	PKP	PKPdf	16 39 57.5	+2.0
	0.3nm,0.7s,baz=216,slow=2.4,SNR=6.0						
WRA	**Warramunga Arr**	**137.48**	**127**	PKP	PKPdf	16 40 01.6	+1.6
	0.4nm,0.9s,baz=142,slow=48,SNR=2.7						

*IDC **17** 16:26:33.1±1.3, 340S×1241W, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/24, mbtmp4.1/9, MS3.8/1, Ms1 3.8/1, ms1mx3.5/8, Error ellipse: s-maj=42.3km s-min=22.0km az=89.0*
*ISCJB **17** 16:26:37.4±0.9, 31S±01×116W±02, h10km, mb4.5/19, Error ellipse: s-maj=23.3km s-min=17.9km az=13.2*
*NEIC **17** 16:26:40.3±0.8, 302S×1158W, h10km, mb4.8/11, Error ellipse: s-maj=19.3km s-min=15.7km az=120.0*

ISC 17 16:26:40.6±0.9, 30S±01×116W±01, h10km, n39, σ0§97/38, mb4.5/19, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**11.72**	**35**	Pn	**Pn**	**16 29 27.1**	**-0.9**
	0.2nm,0.3s,baz=175,slow=22,SNR=1.9						
TOA0	**Torodi Ar. Sit**	**20.76**	**39**	*e*P	**P**	**16 31 21.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**20.76**	**39**	P	**P**	**16 31 23.2**	**+1.4**
	7.9nm,0.9s,baz=224,slow=11,SNR=15						
LSZ	**Lusaka**	**41.02**	**110**	P	**P**	**16 34 24.8**	**+0.4**
	1.2nm,0.6s,mb3.7,baz=294,slow=12,SNR=3.4						
KEST	**Kesra**	**43.22**	**25**	P	**P**	**16 34 43.4**	**+1.2**
	2.0nm,0.8s,mb3.9,baz=266,slow=2.3,SNR=7.4						
KMBO	**Kilima Mbogo**	**48.82**	**89**	P	**P**	**16 35 25.9**	**-0.8**
	0.3nm,0.3s,mb3.9,baz=220,slow=22,SNR=3.2						
LMR	**La Mourre**	**48.92**	**17**	*e*P	**P**	**16 35 28.0**	**+1.1**
	38nm,1.1s,mb5.0						
LMR	**La Mourre**	**48.92**	**17**	*e*P	**P**	**16 35 28.0**	**+1.1**
	19nm,1.1s,mb5.0						
CAF	**Calviac**	**49.25**	**13**	*e*P	**P**	**16 35 29.0**	**-0.4**
	10nm,1.0s,mb4.5						
CAF	**Calviac**	**49.25**	**13**	*e*P	**P**	**16 35 29.0**	**-0.4**
	5.2nm,1.0s,mb4.5						
SBF	**Sospel**	**49.68**	**18**	*e*P	**P**	**16 35 32.9**	**+0.2**
	130nm,1.3s,mb5.5						
SBF	**Sospel**	**49.68**	**18**	*e*P	**P**	**16 35 32.9**	**+0.2**
	65nm,1.3s,mb5.5						
MFF	**Saint Martin d**	**50.42**	**10**	*e*P	**P**	**16 35 38.6**	**+0.4**
	38nm,1.4s,mb4.9						
MFF	**Saint Martin d**	**50.42**	**10**	*e*P	**P**	**16 35 38.6**	**+0.4**
	19nm,1.4s,mb4.9						
TCF	**Toulx Ste Croi**	**50.58**	**12**	*e*P	**P**	**16 35 39.4**	**0.0**
	25nm,1.3s,mb4.7						
TCF	**Toulx Ste Croi**	**50.58**	**12**	*e*P	**P**	**16 35 39.4**	**0.0**
	12nm,1.3s,mb4.7						
LPG	**La Plagne**	**50.97**	**17**	*e*P	**P**	**16 35 43.4**	**+1.0**
	40nm,1.4s,mb4.9						
LPG	**La Plagne**	**50.97**	**17**	*e*P	**P**	**16 35 43.4**	**+1.0**
	20nm,1.4s,mb4.9						
LPL	**La Plagne**	**50.98**	**17**	*e*P	**P**	**16 35 43.3**	**+0.8**
CABF	**La Chapelle**	**51.81**	**15**	*e*P	**P**	**16 35 48.3**	**-0.4**
LDF	**La Druitiere**	**52.35**	**10**	*e*P	**P**	**16 35 52.9**	**+0.2**
	34nm,1.3s,mb4.8						
LDF	**La Druitiere**	**52.35**	**10**	*e*P	**P**	**16 35 52.9**	**+0.2**
	17nm,1.3s,mb4.8						
BFO	**Black Forest**	**53.99**	**16**	*e*P	**P**	**16 36 04.3**	**-0.5**
	5.9nm,1.0s,mb4.5						
BAIF	**Baives**	**54.58**	**12**	*e*P	**P**	**16 36 08.8**	**-0.2**
	21nm,1.0s,mb4.8						
BAIF	**Baives**	**54.58**	**12**	*e*P	**P**	**16 36 08.8**	**-0.2**
	10nm,1.0s,mb4.8						
GIVF	**Givet**	**54.75**	**13**	*e*P	**P**	**16 36 09.2**	**-1.1**
GEC2	**GERESS Array S**	**56.12**	**20**	*e*P	**P**	**16 36 20.2**	**+0.1**
GERES	**GERESS Array B**	**56.12**	**20**	P	**P**	**16 36 20.6**	**+0.5**
	4.1nm,0.8s,mb4.5,baz=191,slow=6.4,SNR=32						
BRG	**Berggiesshubel**	**57.94**	**19**	*e*(P)	**P**	**16 36 30.9**	**-2.2**
	3.3nm,0.9s,mb4.3						
LVC	**Limon Verde**	**58.81**	**245**	*e*P	**P**	**16 36 40.0**	**+0.3**
	38nm,2.0s,mb5.1						
CRVS	**Cervenica-Dubn**	**59.11**	**25**	*e*P	**P**	**16 36 42.9**	**+1.6**
AKASG	**Malin Array Be**	**63.86**	**28**	P	**P**	**16 37 12.5**	**-0.8**
	0.5nm,0.3s,mb4.0,baz=230,slow=7.5,SNR=7.2						
NOA	**NORSAR Array B**	**66.26**	**12**	P	**P**	**16 37 24.9**	**-3.8**
	0.9nm,0.8s,mb3.9,baz=162,slow=9.8,SNR=2.4						
VNA1	**Neumayer--Stat**	**67.58**	**179**	*e*	**P**	**16 37 31.2**	**-5.8**
VNA1				*e*		16 37 37.9	
VNA1				*e*		16 38 35.3	
VNA1				*e*		16 38 42.6	
VNA1				*e*		16 38 47.2	
VNA2	**Neumayer--Watz**	**67.88**	**179**	*e*	**P**	**16 37 31.8**	**-7.1**
VNA2				*e*		16 37 38.2	
VNA2				*e*		16 38 36.5	
VNA2				*e*		16 38 44.0	
VNA2				*e*		16 38 48.0	
SNAA	**Sanae**	**68.80**	**177**	*e*	**P**	**16 37 37.8**	**-6.8**
SNAA				*e*		16 37 44.8	
SNAA				*e*		16 38 41.3	
SNAA				*e*		16 38 48.4	
SNAA				*e*		16 38 53.2	
SNAA	**Sanae**	**68.80**	**177**	P	**P**	**16 37 36.5**	**-8.1**
	1.8nm,1.1s,mb3.9,baz=358,slow=6.8,SNR=7.2						
ARCES	**ARCESS Array B**	**76.62**	**13**	P	**P**	**16 38 28.1**	**-3.0**
	2.0nm,0.8s,mb4.1,baz=290,slow=7.1,SNR=4.2						
ASAR	**Alice Springs**	**137.19**	**130**	PKP	PKPdf	16 46 00.5	-4.6
	0.6nm,0.9s,baz=220,slow=1.9,SNR=4.6						

NEIC 17 16:26:45.3, 3915S×17567E, h89km, ML3.7(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGZ	**Ngauruhoe**	**0.06**	**243**	P	Pn	16 26 58.1	+0.3
WTVZ	**West Tongariro**	**0.07**	**298**	P	Pn	16 26 57.8	0.0
WPVZ	**Whakapapa**	**0.11**	**240**	P	Pn	16 26 58.0	+0.1
FWVZ	**Far West T-bar**	**0.14**	**221**	P	Pn	16 26 58.2	+0.2
FWVZ				S	Sn	16 27 07.6	+0.3
WNVZ	**Wahianoa**	**0.19**	**197**	P	Pn	16 26 58.2	+0.1
TWVZ	**Taurewa**	**0.20**	**293**	P	Pn	16 26 58.0	-0.1
RITZ	**Rihia Road**	**0.23**	**41**	P	Pn	16 26 58.4	+0.2
MOVZ	**Moawhango**	**0.27**	**166**	P	Pn	16 26 58.3	-0.1
MOVZ				S	Sn	16 27 07.6	-0.6
BKZ	**Black Stump Fm**	**0.64**	**92**	P	Pn	16 27 01.3	+0.2
VRZ	**Vera Road**	**0.71**	**272**	P	Pn	16 27 01.4	-0.4
WAZ	**Wanganui**	**0.81**	**221**	P	Pn	16 27 03.0	+0.2
HIZ	**Hauiti**	**0.90**	**315**	P	Pn	16 27 03.4	-0.4
TSZ	**Takapari Road**	**0.94**	**166**	P	Pn	16 27 04.6	+0.4
RAEZ	**Rainy Point**	**1.00**	**262**	P	Pn	16 27 05.2	+0.3
NEZ	**North Egmont**	**1.23**	**264**	P	Pn	16 27 08.1	+0.5
PKE	**Pukeiti**	**1.31**	**267**	P	Pn	16 27 08.5	-0.1
NWEZ	**Newall Road**	**1.41**	**264**	P	Pn	16 27 09.4	-0.4
URZ	**Urewera**	**1.44**	**52**	P	Pn	16 27 09.9	-0.2
MRZ	**Mangatainoka R**	**1.51**	**183**	P	Pn	16 27 10.6	-0.5
MWZ	**Matawai**	**1.67**	**61**	P	Pn	16 27 13.0	-0.1
KIW	**Kapiti Island**	**1.81**	**199**	P	Pn	16 27 14.1	-0.8
CAW	**Cannon Point**	**2.01**	**193**	P	Pn	16 27 16.5	-1.1
MTW	**Mount Morrison**	**2.01**	**184**	P	Pn	16 27 16.4	-1.2
MRW	**Makara Radio**	**2.21**	**199**	P	Pn	16 27 18.7	-1.4
PAWZ	**Paruwai Farm**	**2.24**	**185**	P	Pn	16 27 19.1	-1.5
WEL	**Wellington**	**2.24**	**198**	P	Pn	16 27 19.1	-1.5
SNZO	**South Karori**	**2.28**	**199**	P	Pn	16 27 19.5	-1.6
MSWZ	**Moikau Station**	**2.29**	**188**	P	Pn	16 27 19.6	-1.6
PUZ	**Puketiti**	**2.29**	**63**	P	Pn	16 27 20.7	-0.6
BHW	**Baring Head**	**2.34**	**195**	P	Pn	16 27 19.6	-2.3
NNZ	**Nelson**	**2.71**	**220**	P	Pn	16 27 25.2	-1.7
BSWZ	**Blackbirch Sta**	**2.91**	**208**	P	Pn	16 27 27.3	-2.2
THZ	**Tophouse**	**3.36**	**218**	P	Pn	16 27 33.5	-2.0
KHZ	**Kahutara**	**3.64**	**206**	P	Pn	16 27 36.7	-2.7
DSZ	**Denniston Nort**	**3.93**	**227**	P	Pn	16 27 41.9	-1.4
LTZ	**Lake Taylor**	**4.45**	**214**	P	Pn	16 27 46.8	-3.5

*ISCJB **17** 16:27:39.0±0.4, 351S±007×12.12W±009, h10km, mb4.4/25, MS4.0/5, Error ellipse: s-maj=14.3km s-min=8.1km az=32.5*
*IDC **17** 16:27:39.4±0.8, 345S×1222W, h0km, mb4.2/11, mb1 4.2/12, mb1mx4.1/26, mbtmp4.2/12, ML3.5/1, MS4.0/5, Ms1 4.1/5, ms1mx3.8/11, Error ellipse: s-maj=28.1km s-min=16.4km az=129.0*
*GCMT **17** 16:27:40.9±0.3, 345S×1226W, h12km, MW5.0/65, Moment Tensor Solution. s21,c22; s65,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.37±.11; $M_{\theta\theta}$-0.14±.10; $M_{\phi\phi}$3.51±.10; $M_{r\theta}$0.55±.50; $M_{\theta\phi}$-0.05±.10; $M_{r\phi}$1.28±.34; Best double couple: $M_0$3.71300×10^{16} NP1:ϕ_s350.00000°, δ36.00000°, λ-105.00000°. NP2: ϕ_s188.00000°, δ56.00000°, λ-80.00000°. Principal axes: T 3.7410, Plg10.0000°, Azm271.0000°; N -0.0530, Plg9.0000°, Azm2.0000°; P -3.6860, Plg77.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 16:27:40.9±0.4, 355S×12.10W, h10km, mb4.5/15, MS4.2/1 Error ellipse: s-maj=13.1km s-min=7.3km az=123.0*

ISC 17 16:27:41.1±0.4, 353S±007×1211W±009, h10km, n48, σ1§09/45, mb4.4/25, MS4.0/5, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**11.99**	**36**	*e*P	**Pn**	**16 30 34.7**	**+2.4**
	84nm,1.4s						
KIC	**Kosan Boka**	**12.27**	**37**	*e*P	**Pn**	**16 30 35.9**	**-0.2**
	125nm,1.5s						
TIC	**Toumodi**	**12.34**	**35**	*e*P	**Pn**	**16 30 33.8**	**-3.2**
	11nm,0.2s						
DBIC	**Dimbokro**	**12.45**	**36**	Pn	**Pn**	**16 30 37.5**	**-1.0**
	0.3nm,0.3s,baz=204,slow=17,SNR=3.6						
DBIC				LR	LR	16 34 32.4	
	comp=Z,915nm,20.8s,baz=189,slow=33						
BBTS	**Babate**	**18.60**	**346**	LR	LR	16 38 00.6	
	comp=Z,342nm,19.9s,baz=186,slow=34						
TOA0	**Torodi Ar. Sit**	**21.50**	**39**	*e*P	**P**	**16 32 28.8**	**-1.6**
TORD	**Torodi Ar. Bea**	**21.50**	**39**	P	**P**	**16 32 29.2**	**-1.1**
	10.0nm,0.8s,mb4.3,baz=222,slow=11,SNR=16						
TORD				LR	LR	16 39 48.0	
	comp=Z,440nm,21.6s,MS3.8,baz=255,slow=34						
TSUM	**Tsumeb**	**32.92**	**121**	P	**P**	**16 34 16.1**	**+0.1**
	3.0nm,0.7s,mb4.3						
BDFB	**Brasilia**	**37.32**	**249**	P	**P**	**16 34 53.6**	**-0.3**
	2.3nm,0.9s,mb4.0,baz=9.9,slow=23,SNR=3.3						
LSZ	**Lusaka**	**41.35**	**109**	P	**P**	**16 35 29.0**	**+1.4**
	3.8nm,1.0s,mb4.0,baz=234,slow=5.2,SNR=4.2						
BOSA	**Boshof**	**43.40**	**129**	*e*P	**P**	**16 35 43.0**	**-1.1**
	3.9nm,0.7s,mb4.2						
KEST	**Kesra**	**43.92**	**25**	P	**P**	**16 35 48.9**	**+0.7**
	3.4nm,0.8s,mb4.1,baz=170,slow=2.7,SNR=8.9						
KMBO	**Kilima Mbogo**	**49.37**	**88**	P	**P**	**16 36 33.5**	**+2.2**
	0.9nm,0.7s,mb3.9,baz=59,slow=24,SNR=3.0						
KMBO	**Kilima Mbogo**	**49.37**	**88**	*e*P	**P**	**16 36 35.3**	**+3.9**
	13nm,1.8s,mb4.7						
SIV	**San Ignacio**	**49.68**	**252**	P	**P**	**16 36 34.3**	**+0.6**
	1.7nm,1.1s,mb4.0,baz=86,slow=4.5,SNR=4.0						
ORIF	**Oris-en-Rattie**	**50.84**	**16**	*e*P	**P**	**16 36 43.6**	**+1.7**
	8.1nm,0.7s,mb4.4						
ORIF				*e*MLR	MLR		
	comp=Z,197nm,17.5s,MS3.9						
ORIF	**Oris-en-Rattie**	**50.84**	**16**	*e*P	**P**	**16 36 43.6**	**+1.7**
	comp=Z,4.1nm,0.7s,mb4.5						
MBDF	**Montbardon**	**50.92**	**17**	*e*P	**P**	**16 36 43.8**	**+1.2**
	comp=Z,13nm,0.9s,mb4.6						
MBDF	**Montbardon**	**50.92**	**17**	*e*P	**P**	**16 36 43.8**	**+1.2**
	comp=Z,6.6nm,0.9s,mb4.6						
TCF	**Toulx Ste Croi**	**51.20**	**13**	*e*P	**P**	**16 36 45.0**	**+0.4**
	comp=Z,9.8nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**51.20**	**13**	*e*P	**P**	**16 36 45.0**	**+0.4**
	comp=Z,4.9nm,0.8s,mb4.5						
LPG	**La Plagne**	**51.62**	**17**	*e*P	**P**	**16 36 48.9**	**+1.1**
	comp=Z,18nm,1.1s,mb4.6						
LPG	**La Plagne**	**51.62**	**17**	*e*P	**P**	**16 36 48.9**	**+1.1**
	comp=Z,8.9nm,1.1s,mb4.6						
LPL	**La Plagne**	**51.63**	**17**	*e*P	**P**	**16 36 48.9**	**+1.0**
SMF	**Signal de Mont**	**51.91**	**14**	*e*P	**P**	**16 36 49.8**	**-0.1**
AVF	**Avril sur Loir**	**51.93**	**13**	*e*P	**P**	**16 36 50.0**	**-0.1**
	comp=Z,6.2nm,0.9s,mb4.2						
AVF	**Avril sur Loir**	**51.93**	**13**	*e*P	**P**	**16 36 50.0**	**-0.1**
	comp=Z,3.1nm,0.9s,mb4.2						
SSF	**Saint Saulge**	**52.22**	**13**	*e*P	**P**	**16 36 52.3**	**0.0**
	comp=Z,12nm,0.9s,mb4.6						
SSF	**Saint Saulge**	**52.22**	**13**	*e*P	**P**	**16 36 52.3**	**0.0**
	comp=Z,6.2nm,0.9s,mb4.5						
CABF	**La Chapelle**	**52.45**	**16**	*e*P	**P**	**16 36 53.8**	**-0.2**
	comp=Z,24nm,1.1s,mb4.7						
CABF	**La Chapelle**	**52.45**	**16**	*e*P	**P**	**16 36 53.8**	**-0.2**
	comp=Z,12nm,1.1s,mb4.7						
LOR	**Lormes**	**52.50**	**14**	*e*P	**P**	**16 36 54.1**	**-0.2**
	comp=Z,7.4nm,0.8s,mb4.4						
LOR				*e*MLR	MLR		
	comp=Z,208nm,21.2s,MS3.8						
LOR	**Lormes**	**52.50**	**14**	*e*P	**P**	**16 36 54.1**	**-0.2**
	comp=Z,3.7nm,0.8s,mb4.4						
LOR				LR	LR		
	comp=Z,210nm,21.3s,MS4.2						
BAIF	**Baives**	**55.20**	**13**	*e*P	**P**	**16 37 14.2**	**+0.2**
	comp=Z,18nm,0.8s,mb4.9						
BAIF	**Baives**	**55.20**	**13**	*e*P	**P**	**16 37 14.2**	**+0.2**
	comp=Z,9.1nm,0.8s,mb4.9						
GIVF	**Givet**	**55.38**	**13**	*e*P	**P**	**16 37 14.7**	**-0.6**
GEC2	**GERESS Array S**	**56.79**	**20**	*e*P	**P**	**16 37 24.5**	**-0.9**
GERES	**GERESS Array B**	**56.79**	**20**	P	**P**	**16 37 25.9**	**+0.5**
	comp=Z,5.4nm,0.6s,mb4.7,baz=193,slow=7.1,SNR=22						
TRQA	**Tornquist**	**56.95**	**226**	*e*P	**P**	**16 37 26.9**	**0.0**
	comp=Z,7.5nm,1.2s,mb4.

ECH	**Echery**	**1.17 168**	Pg		**Pg**	**16 37 21.1**	**+1.4**
ECH			Sg		**Sg**	**16 37 36.3**	**+1.5**
ECH	**Echery**	**1.17 168**	*e*Pg		**Pg**	**16 37 20.5**	**+0.8**
	SNR=15						
ECH	**Echery**	**1.17 168**	Pg		**Pg**	**16 37 20.5**	**+0.8**
	SNR=15						
ECH			Sg		**Sg**	**16 37 36.3**	**+1.5**
KOE	**Koeppel**	**1.23 29**	*e*Pg		**Pg**	**16 37 20.8**	**-0.1**
STB	**Steinbach**	**1.24 2**	*e*Pg		**Pg**	**16 37 21.2**	**+0.2**
STB			*e*Sg		**Sg**	**16 37 38.0**	**+0.9**
	27nm,0.5s						
THEF	**They Montfort**	**1.25 205**	Pg		**Pg**	**16 37 22.6**	**+1.4**
THEF			Sg		**Sg**	**16 37 38.6**	**+1.2**
THEF	**They Montfort**	**1.25 205**	*e*Pg		**Pg**	**16 37 22.5**	**+1.3**
	SNR=12						
THEF	**They Montfort**	**1.25 205**	Pg		**Pg**	**16 37 22.5**	**+1.3**
	SNR=12						
THEF			Sg		**Sg**	**16 37 38.6**	**+1.2**
KLL	**Kalltalsperre**	**1.33 347**	*e*Pg		**Pg**	**16 37 22.3**	**-0.4**
TOD	**Tromm**	**1.34 79**	*e*Pg		**Pg**	**16 37 23.1**	**+0.1**
	SNR=12						
TOD	**Tromm**	**1.34 79**	Pg		**Pg**	**16 37 22.9**	**-0.1**
MEM	**Membach**	**1.35 339**	P		**Pg**	**16 37 23.5**	**+0.3**
HAU	**Haudompre**	**1.38 192**	*e*Pg		**Pg**	**16 37 24.8**	**+1.0**
	SNR=1.0						
HAU			*e*Sg		**Sg**	**16 37 43.5**	**+1.8**
	94nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**1.38 192**	*e*Pg		**Pg**	**16 37 24.8**	**+1.0**
	SNR=1.0						
HAU			*e*Sg		**Sg**	**16 37 43.5**	**+1.8**
	47nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.43 234**	*e*Pg		**Pg**	**16 37 25.8**	**+1.2**
	baz=52,SNR=1.0						
MEZF			*e*Sg		**Sg**	**16 37 44.9**	**+1.8**
	40nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.43 234**	*e*Pg		**Pg**	**16 37 25.8**	**+1.2**
	SNR=1.0						
MEZF			*e*Sg		**Sg**	**16 37 44.9**	**+1.8**
	20nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.43 234**	*e*Pn		**Pn**	**16 37 23.3**	**-1.1**
MEZF			*e*Pg		**Pg**	**16 37 25.8**	**+1.2**
MEZF			*e*Sg		**Sg**	**16 37 44.9**	**+1.8**
BCLA	**Clavier**	**1.43 319**	P		**Pn**	**16 37 25.6**	**+1.1**
BFO	**Black Forest**	**1.45 135**	*e*Pg		**Pg**	**16 37 24.6**	**-0.5**
	SNR=11						
BFO			*e*Sg		**Sg**	**16 37 42.8**	**-1.0**
	SNR=4.0						
BFO	**Black Forest**	**1.45 135**	*e*Pg		**Pg**	**16 37 24.6**	**-0.5**
BFO			*e*Sg		**Sg**	**16 37 42.8**	**-1.0**
GIVF	**Givet**	**1.48 301**	*e*Pg		**Pg**	**16 37 25.5**	**-0.1**
	SNR=1.0						
GIVF			*e*Sn		**Sn**	**16 37 42.4**	**-2.7**
	SNR=1.0						
GIVF			*e*Sg		**Sg**	**16 37 45.0**	**+0.3**
	42nm,0.4s,SNR=1.0						
GIVF	**Givet**	**1.48 301**	*e*Pg		**Pg**	**16 37 25.5**	**-0.1**
	SNR=1.0						
GIVF			*e*Sn		**Sn**	**16 37 42.4**	**-2.7**
	SNR=1.0						
GIVF			*e*Sg		**Sg**	**16 37 45.0**	**+0.3**
	21nm,0.4s,SNR=1.0						
HGN	**Heimansgroeve**	**1.51 339**	*e*Pg		**Pg**	**16 37 27.2**	**+0.9**
	8.8nm,0.3s						
HGN			*e*Sg		**Sg**	**16 37 45.0**	**-0.9**
MOF	**Molkenrain**	**1.52 171**	Pg		**Pg**	**16 37 27.6**	**+1.1**
MOF			Sg		**Sg**	**16 37 47.5**	**+1.3**
MOF	**Molkenrain**	**1.52 171**	*e*Pg		**Pg**	**16 37 27.6**	**+1.1**
	SNR=15						
HINF	**Hinteralfeld**	**1.54 178**	*e*Pg		**Pg**	**16 37 27.5**	**+0.6**
	SNR=1.0						
HINF			*e*Sn		**Sn**	**16 37 42.9**	**-3.8**
	SNR=1.0						
HINF			*e*Sg		**Sg**	**16 37 48.0**	**+1.2**
	137nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**1.54 178**	*e*Pg		**Pg**	**16 37 27.5**	**+0.6**
	SNR=1.0						
HINF			*e*Sn		**Sn**	**16 37 42.9**	**-3.8**
	SNR=1.0						
HINF			*e*Sg		**Sg**	**16 37 48.0**	**+1.2**
	68nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**1.54 178**	*e*Pn		**Pn**	**16 37 25.7**	**-0.3**
HINF			*e*Pg		**Pg**	**16 37 27.5**	**+0.6**
HINF			*e*Sn		**Sn**	**16 37 42.9**	**-3.8**
HINF			*e*Sg		**Sg**	**16 37 48.0**	**+1.2**
DOU	**Dourbes**	**1.60 298**	P		**Pn**	**16 37 27.4**	**+0.6**
DOU	**Dourbes**	**1.60 298**	P		**Pn**	**16 37 27.4**	**+0.6**
SFTF	**Sexfontaines**	**1.63 226**	*e*Pg		**Pg**	**16 37 29.1**	**+0.5**
	baz=44						
SFTF			*e*Sn		**Sn**	**16 37 47.7**	**-1.2**
SFTF			*e*Sg		**Sg**	**16 37 50.7**	**+1.0**
	35nm,0.3s						
SFTF	**Sexfontaines**	**1.63 226**	*e*Pg		**Pg**	**16 37 29.1**	**+0.5**
SFTF			*e*Sn		**Sn**	**16 37 47.7**	**-1.2**
SFTF			*e*Sg		**Sg**	**16 37 50.7**	**+1.0**
	18nm,0.3s						
FELD	**Feldberg im Sc**	**1.69 151**	*e*Pg		**Pg**	**16 37 30.6**	**+0.9**
	SNR=7.2						
FELD	**Feldberg im Sc**	**1.69 151**	Pg		**Pg**	**16 37 30.2**	**+0.5**
BAIF	**Baives**	**1.81 294**	*e*Pg		**Pg**	**16 37 33.0**	**+0.9**
	SNR=1.0						
BAIF			*e*Sg		**Sg**	**16 37 54.5**	**-1.1**
	33nm,0.5s,SNR=1.0						
BAIF	**Baives**	**1.81 294**	*e*Pg		**Pg**	**16 37 33.0**	**+0.9**
	SNR=1.0						
BAIF			*e*Sg		**Sg**	**16 37 54.5**	**-1.1**
	17nm,0.5s,SNR=1.0						
BAIF	**Baives**	**1.81 294**	*e*Pn		**Pn**	**16 37 30.3**	**+0.5**
BAIF			*e*Pg		**Pg**	**16 37 33.0**	**+0.9**
BAIF			*e*Sg		**Sg**	**16 37 54.5**	**-1.1**
SPAK	**Spaichingen-Ko**	**1.83 133**	*e*Pg		**Pg**	**16 37 32.9**	**+0.6**
	SNR=3.4						
SPAK	**Spaichingen-Ko**	**1.83 133**	Pg		**Pg**	**16 37 32.7**	**+0.4**
CABF	**La Chapelle**	**2.79 190**	*e*Pn		**Pn**	**16 37 43.0**	**-0.1**
CABF			*e*Sg		**Sg**	**16 38 28.6**	**+1.8**
	23nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**2.79 190**	*e*Pn		**Pn**	**16 37 43.0**	**-0.1**
CABF			*e*Sg		**Sg**	**16 38 28.6**	**+1.8**
	12nm,0.5s,SNR=1.0						
LOR	**Lormes**	**2.86 224**	*e*Pn		**Pn**	**16 37 43.5**	**-0.6**
	baz=49,SNR=1.0						
LOR			*e*Sn		**Sn**	**16 38 16.6**	**-2.6**
	SNR=1.0						
LOR			*e*Sg		**Sg**	**16 38 29.2**	**+0.1**
	13nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.86 224**	*e*Pn		**Pn**	**16 37 43.5**	**-0.6**
	SNR=1.0						
LOR			*e*Sn		**Sn**	**16 38 16.6**	**-2.6**
	SNR=1.0						
LOR			*e*Sg		**Sg**	**16 38 29.2**	**+0.1**
	6.7nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.17 225**	*e*Pn		**Pn**	**16 37 47.7**	**-0.8**
	SNR=1.0						
SSF			*e*Sn		**Sn**	**16 38 25.9**	**-1.1**
	SNR=1.0						
SSF			*e*Sg		**Sg**	**16 38 38.9**	**-0.4**
	11nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.17 225**	*e*Pn		**Pn**	**16 37 47.7**	**-0.8**
	SNR=1.0						
SSF			*e*Sn		**Sn**	**16 38 25.9**	**-1.1**
	SNR=1.0						
SSF			*e*Sg		**Sg**	**16 38 38.9**	**-0.4**
	5.7nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.36 217**	*e*Pn		**Pn**	**16 37 49.5**	**-1.5**
	SNR=1.0						
SMF			*e*Sn		**Sn**	**16 38 30.0**	**-1.5**
SMF			*e*Sg		**Sg**	**16 38 42.6**	**-2.5**
	21nm,0.6s						
SMF	**Signal de Mont**	**3.36 217**	*e*Pn		**Pn**	**16 37 49.5**	**-1.5**
	SNR=1.0						
SMF			*e*Sn		**Sn**	**16 38 30.0**	**-1.5**
SMF			*e*Sg		**Sg**	**16 38 42.6**	**-2.5**
	11nm,0.6s						
AVF	**Avril sur Loir**	**3.45 223**	*e*Pn		**Pn**	**16 37 51.7**	**-0.5**
	SNR=1.0						
AVF			*e*Sn		**Sn**	**16 38 31.4**	**-2.3**
NKC	**Novy Kostel**	**3.77 74**	*e*PG		**Pg**	**16 38 07.3**	**-2.3**
NKC			*e*SG		**Sg**	**16 38 56.6**	**-1.9**
	comp=Z,12nm,0.6s						
NRDL	**Niedersach Rie**	**3.78 33**	*e*Pg		**Pg**	**16 38 09.0**	**-0.7**
BGF	**Bois d'Agland**	**3.85 225**	*e*Pn		**Pn**	**16 37 57.1**	**-0.7**
BGF			*e*Sn		**Sn**	**16 38 42.2**	**-1.5**
	SNR=1.0						
BGF			*e*Sg		**Sg**	**16 39 02.3**	**+1.3**
	comp=Z,33nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.85 225**	*e*Pn		**Pn**	**16 37 57.1**	**-0.7**
BGF			*e*Sn		**Sn**	**16 38 42.2**	**-1.5**
	SNR=1.0						
BGF			*e*Sg		**Sg**	**16 39 02.3**	**+1.3**
	comp=Z,16nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.35 227**	*e*Sg		**Sg**	**16 39 16.2**	**-0.8**
CLL	**Collm**	**4.44 62**	*e*Sg		**Sg**	**16 39 20.0**	**+0.2**
KHC	**Kasperske Hory**	**4.46 90**	*e*Pn		**Pn**	**16 38 05.8**	**-0.3**
KHC			*e*Sn		**Sn**	**16 38 56.2**	**-2.4**
KHC	**Kasperske Hory**	**4.46 90**	*e*PN		**Pn**	**16 38 05.8**	**-0.3**
KHC			*e*SN		**Sn**	**16 38 56.2**	**-2.4**
KHC			*e*SG		**Sg**	**16 39 18.7**	**-1.7**
ORIF	**Oris-en-Rattie**	**4.48 188**	*e*Sg		**Sg**	**16 39 20.6**	**-0.7**
	comp=Z,7.0nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.48 188**	*e*Sg		**Sg**	**16 39 20.6**	**-0.7**
	comp=Z,3.5nm,0.5s						
GEC2	**GERESS Array S**	**4.57 94**	*e*Pn		**Pn**	**16 38 08.3**	**+0.6**
	SNR=7.2						
GEC2	**GERESS Array S**	**4.57 94**	*e*Pn		**Pn**	**16 38 08.3**	**+0.6**
LDF	**La Druitiere**	**4.61 263**	*e*Pg		**Pg**	**16 38 24.4**	**-1.3**
VIVF	**Saint-Julien-l**	**4.73 199**	*e*Sg		**Sg**	**16 39 27.8**	**-1.3**
	comp=Z,10nm,0.6s						
VIVF	**Saint-Julien-l**	**4.73 199**	*e*Sg		**Sg**	**16 39 27.8**	**-1.3**
	comp=Z,5.2nm,0.6s						
FLN	**La Foliniere**	**4.81 266**	*e*Pn		**Pn**	**16 38 10.8**	**-0.2**
FLN			*e*Sn		**Sn**	**16 39 02.8**	**-4.6**
FLN			*e*Sg		**Sg**	**16 39 30.5**	**-1.4**
	comp=Z,6.6nm,0.4s						
FLN	**La Foliniere**	**4.81 266**	*e*Pn		**Pn**	**16 38 10.8**	**-0.2**
FLN			*e*Sg		**Sg**	**16 39 30.5**	**-1.4**
	comp=Z,3.3nm,0.4s						
PRU	**Pruhonice**	**5.08 80**	*e*SG		**Sg**	**16 39 39.4**	**-0.9**
GRR	**Gorron**	**5.13 262**	*e*Sn		**Sn**	**16 39 09.6**	**-5.7**
CAF	**Calviac**	**5.48 218**	*e*Sg		**Sg**	**16 39 50.6**	**-2.6**
	comp=Z,3.3nm,0.4s						
CAF	**Calviac**	**5.48 218**	*e*Sg		**Sg**	**16 39 50.6**	**-2.6**
	comp=Z,1.6nm,0.4s						

IDC ***17*** *16:45:14.5±0.5,32.14S×178.74W,h0km,mb4.4/15, mb1 4.6/17,mb1mx4.6/21,mbtmp4.5/17,ML4.7/2,MS3.8/8, Ms1 3.7/8,ms1mx3.5/22,Error ellipse: s-maj=19.5km s-min=15.9km az=108.0*

ISCJB ***17*** *16:45:18.9±0.3,32.47S±0.05×178.92W±0.08,h33km, mb4.8/32,MS4.2/11,Error ellipse: s-maj=10.5km s-min=5.2km az=25.0*

MOS ***17*** *16:45:19.2±1.5,32.26S×178.86W,h33km,mb5.2/8,Error ellipse: s-maj=16.8km s-min=15.9km az=116.7*

NEIC ***17*** *16:45:20.1±0.4,32.51S×178.81W,h35km,mb5.0/14,Error ellipse: s-maj=13.9km s-min=8.9km az=133.0*

BJI ***17*** *16:45:20.8,32.97S×178.24W,h57km,mB5.4,mb5.1,Ms5.1, Msz4.9*

ISC 17 16:45:20.9±0.3,3243S±0.05×17886W±0.08,h35km, (h37km±1.4km:pP-P),n103,σ1§32/83,mb4.8/32,MS4.2/11, 4C-3D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.27**	**15**	Pn	**Pn**	**16 46 01.2**	**-8.5**
	187nm,0.3s,baz=290,slow=23,SNR=3.3						
RAO				LR	LR	16 46 32.1	
	comp=Z,444nm,21.2s,baz=312,slow=26						
RAO				Sn	**Sn**	**16 46 33.2**	**-14**
	143nm,0.3s,baz=262,slow=23,SNR=2.1						
PUZ	**Puketiti**	**6.10**	**202**	P	**Pn**	**16 46 47.1**	**-1.4**
MWZ	**Matawai**	**6.59**	**206**	P	**Pn**	**16 46 54.9**	**-0.3**
MWZ				S	**Sn**	**16 48 10.9**	**+1.9**
WCZ	**Waipu Caves**	**6.63**	**236**	P	**Pn**	**16 47 01.6**	**+5.8**
URZ	**Urewera**	**6.68**	**208**	Pn	**Pn**	**16 46 56.4**	**-0.1**
	7.8nm,0.3s,baz=279,slow=20,SNR=39						
URZ				Sn	**Sn**	**16 48 11.7**	**+0.3**
	23nm,0.3s,baz=266,slow=21,SNR=10						
URZ	**Urewera**	**6.68**	**208**	P	**Pn**	**16 46 55.3**	**-1.2**
OUZ	**Omahuta**	**6.87**	**244**	P	**Pn**	**16 47 05.5**	**+6.5**
KNZ	**Kokohu**	**7.15**	**202**	*e*P	**Pn**	**16 47 00.8**	**-2.1**
FWVZ	**Far West T-bar**	**8.18**	**212**	*e*P	**Pn**	**16 47 18.1**	**+1.1**
SNZO	**South Karori**	**10.25**	**208**	*e*Pn	**Pn**	**16 47 43.9**	**-1.5**
SNZO				*e*Sn	**Sn**	**16 49 32.0**	**-7.0**
NNZ	**Nelson**	**10.75**	**213**	*e*P	**Pn**	**16 47 48.1**	**-4.1**
THZ	**Tophouse**	**11.40**	**213**	*e*P	**Pn**	**16 47 56.4**	**-4.7**
KHZ	**Kahutara**	**11.65**	**209**	*e*P	**Pn**	**16 47 58.8**	**-5.7**
RPZ	**Rata Peaks**	**13.77**	**212**	Pn	**Pn**	**16 48 27.4**	**-6.1**
	0.8nm,0.3s,baz=45,slow=22,SNR=7.8						
RPZ				Sn	**Sn**	**16 50 53.1**	**-12**
	2.7nm,0.3s,baz=352,slow=24,SNR=8.8						
EIDS	**Eidsvold**	**27.18**	**277**	*e*P	**P**	**16 51 05.2**	**+4.0**
TBI	**Tubuai**	**27.44**	**78**	*e*LR	LR	16 58 02.9	
	366nm,27.0s,baz=254						
HNR	**Honiara**	**30.14**	**315**	LR	LR	17 00 05.1	
	comp=Z,106nm,18.5s,MS3.5,baz=176,slow=30						
HNR	**Honiara**	**30.14**	**315**	*e*P	**P**	**16 51 26.6**	**-0.9**
HNR				pmax	pmax		
	comp=Z,226nm,0.8s,mb6.0						
HNR	**Honiara**	**30.14**	**315**	*e*P	**P**	**16 51 26.6**	**-0.9**
	comp=Z,226nm,0.8s,mb6.0						
PPT	**Papeete**	**30.26**	**68**	*e*LR	LR	16 59 03.9	
	comp=Z,409nm,28.5s,baz=242						
PPT	**Papeete**	**30.26**	**68**	LR	LR	16 59 42.9	
	comp=Z,208nm,19.7s,MS3.8,baz=313,slow=29						
STKA	**Stephens Creek**	**33.36**	**260**	*e*P	**P**	**16 51 57.6**	**+1.9**
	comp=Z,2.0nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**33.36**	**260**	P	**P**	**16 51 57.1**	**+1.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=82,slow=9.4,SNR=6.2						
STKA				LR	LR	17 04 10.5	
	comp=Z,234nm,19.4s,MS3.9,baz=292,slow=34						
STKA	**Stephens Creek**	**33.36**	**260**	*e*P	**P**	**16 51 56.4**	**+0.6**
	comp=Z,7.2nm,1.1s,mb4.5						
CTA	**Charters Tower**	**33.47**	**283**	*e*P	**P**	**16 51 59.0**	**+2.2**
	comp=Z,12nm,0.6s,mb5.0						
CTA	**Charters Tower**	**33.47**	**283**	P	**P**	**16 51 59.1**	**+2.4**
	comp=Z,13nm,0.6s,mb5.1,baz=109,slow=11,SNR=32						
CTA	**Charters Tower**	**33.47**	**283**	*e*P	**P**	**16 51 59.0**	**+2.2**
CTA				pmax	pmax		
	comp=Z,12nm,0.6s						
CTAO	**Charters Tower**	**33.47**	**283**	*e*P	**P**	**16 51 59.4**	**+2.6**
CTAO				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
CTAO	**Charters Tower**	**33.47**	**283**	*e*P	**P**	**16 51 59.4**	**+2.6**
	comp=Z,12nm,0.7s,mb5.0						
RKT	**Rikitea**	**39.69**	**88**	*e*LR	LR	17 03 42.0	
	comp=Z,383nm,26.0s						
XMAS	**Kiritimati**	**39.84**	**35**	P	**P**	**16 52 50.4**	**-0.7**
	comp=Z,156nm,1.3s,mb5.6						
ASAR	**Alice Springs**	**42.31**	**270**	P	**P**	**16 53 11.4**	**0.0**
	comp=Z,11nm,0.6s,mb4.6,baz=106,slow=8.0,SNR=217						
TAOE	**Nuku Hiva Isla**	**42.80**	**65**	*e*LR	LR	17 05 01.9	
	comp=Z,1μm,29.6s						
WB2	**Warramunga Arr**	**43.48**	**275**	⇑*i*P	**P**	**16 53 20.5**	**-0.4**
WB2	**Warramunga Arr**	**43.48**	**275**	*e*P	**P**	**16 53 20.6**	**-0.3**
WRAB	**Tennant Creek**	**43.48**	**275**	P	**P**	**16 53 20.0**	**-0.9**
	comp=Z,248nm,0.7s,mb6.0,SNR=27						
WRAB	**Tennant Creek**	**43.48**	**275**	*e*P	**P**	**16 53 20.7**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**43.48**	**275**	*e*P	**P**	**16 53 20.7**	**-0.2**
	comp=Z,26nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**43.49**	**275**	P	**P**	**16 53 20.6**	**-0.3**
	comp=Z,17nm,0.5s,mb5.1,baz=116,slow=6.5,SNR=367						
WRA				LR	LR	17 12 16.3	
	comp=Z,217nm,20.7s,MS4.0,baz=130,slow=37						
WRA	**Warramunga Arr**	**43.49**	**275**	P	**P**	**16 53 20.6**	**-0.3**
WRA				LR	LR	17 12 16.3	
FORT	**Forrest**	**44.85**	**257**	*e*P	**P**	**16 53 31.0**	**-0.8**
	comp=Z,21nm,0.8s,mb5.0						
SBA	**Scott Base**	**45.96**	**184**	*e*P	**P**	**16 53 43.8**	**+3.9**
VNDA	**Vanda**	**46.01**	**186**	P	**P**	**16 53 42.9**	**+2.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=13,slow=7.6,SNR=10						
VNDA	**Vanda**	**46.01**	**186**	P	**P**	**16 53 42.9**	**+2.6**
KAKA	**Kakadu**	**48.60**	**282**	*e*P	**P**	**16 54 00.5**	**-0.8**
	comp=Z,39nm,1.2s,mb5.3						
FITZ	**Fitzroy Crossi**	**51.66**	**272**	⇓*i*P	**P**	**16 54 23.9**	**-0.5**
	comp=Z,10nm,1.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**51.66**	**272**	P	**P**	**16 54 24.1**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.4,baz=135,slow=10.0,SNR=16						
KLBR	**Kellerberrin**	**53.02**	**253**	*e*P	**P**	**16 54 32.4**	**-2.0**
	comp=Z,10nm,0.8s,mb4.8						
QSPA	**South Pole Qui**	**57.69**	**180**	P	**P**	**16 55 09.4**	**+2.1**
	comp=Z,14nm,0.7s,mb5.1,baz=27,slow=1.5,SNR=118						
MAW	**Mawson**	**70.16**	**201**	P	**P**	**16 56 28.8**	**-0.6**
	comp=Z,5.2nm,0.9s,mb4.5,baz=134,slow=9.8,SNR=8.4						
MAW				LR	LR	17 24 47.7	
	comp=Z,76nm,21.6s,MS3.9,baz=241,slow=34						
MAW	**Mawson**	**70.16**	**201**	*e*P	**P**	**16 56 28.8**	**-0.6**
MAW				pmax	pmax		
	comp=Z,20nm,1.4s						
MAW	**Mawson**	**70.16**	**201**	*e*P	**P**	**16 56 28.8**	**-0.6**
	comp=Z,20nm,1.4s,mb4.8						
SYO	**Syowa Base**	**74.98**	**193**	⇑*i*P	**P**	**16 56 56.2**	**-1.8**
SYO	**Syowa Base**	**74.98**	**193**	⇑*e*pP	pP	16 57 04.8	-4.1
SNAA	**Sanae**	**76.15**	**179**	*e*P	**P**	**16 57 04.7**	**0.0**
SNAA				*e*	pP	16 57 09.8	
SNAA				*e*	pP	16 57 14.8	-0.8
SNAA	**Sanae**	**76.15**	**179**	⇓*e*P	**P**	**16 57 04.9**	**+0.2**
SNAA	**Sanae**	**76.15**	**179**	*e*P	**P**	**16 57 04.7**	**0.0**
VNA2	**Neumayer--Watz**	**76.76**	**177**	*e*P	**P**	**16 57 08.4**	**+0.2**
VNA2				*e*		16 57 13.8	
VNA2				*e*		16 57 27.7	
VNA1	**Neumayer--Stat**	**76.99**	**177**	*e*P	**P**	**16 57 10.4**	**+0.9**
VNA1				*e*		16 57 15.6	
VNA1				*e*	pP	16 57 22.0	+1.6
MJAR	**Matsushiro Arr**	**79.50**	**326**	P	**P**	**16 57 21.3**	**-2.4**
	comp=Z,1.5nm,1.0s,mb3.9,baz=167,slow=4.3,SNR=4.1						
MJAR	**Matsushiro Arr**	**79.50**	**326**	P	**P**	**16 57 21.3**	**-2.4**
PLCA	**Paso Flores**	**81.66**	**133**	P	**P**	**16 57 34.5**	**-1.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=200,slow=8.0,SNR=4.7						
KSRS	**Korea Array**	**85.42**	**320**	P	**P**	**16 57 53.5**	**-1.0**
	comp=Z,0.6nm,0.7s,mb3.8,baz=140,slow=6.4,SNR=3.7						
KSRS				LR	LR	17 33 54.0	
	comp=Z,36nm,18.0s,MS3.8,baz=200,slow=34						
NJ2	**Nanjing**	**87.01**	**311**	*e*P	**P**	**16 58 05.4**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.6						
PETK	**Petropavlovsk-**	**87.59**	**346**	P	**P**	**16 58 03.0**	**-1.8**
	comp=Z,1.4nm,0.6s,mb4.3,baz=104,slow=6.1,SNR=4.0						
ISA	**Isabella**	**88.25**	**45**	*e*P	**P**	**16 58 08.9**	**+0.5**
ISA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
ISA	**Isabella**	**88.25**	**45**	*e*P	**P**	**16 58 08.9**	**+0.5**
	comp=Z,9.1nm,1.0s,mb5.0						
CMB	**Columbia Colle**	**88.75**	**42**	*e*P	**P**	**16 58 10.8**	**+0.1**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
CMB	**Columbia Colle**	**88.75**	**42**	*e*P	**P**	**16 58 10.8**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.9						
GLA	**Glamis**	**88.78**	**49**	*e*P	**P**	**16 58 12.1**	**+1.1**
GLA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.1						
GLA	**Glamis**	**88.78**	**49**	*e*P	**P**	**16 58 12.1**	**+1.1**
	comp=Z,7.6nm,0.8s,mb5.1						
GSC	**Goldstone**	**89.02**	**46**	*e*P	**P**	**16 58 12.7**	**+0.7**
GSC				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
GSC	**Goldstone**	**89.02**	**46**	*e*P	**P**	**16 58 12.7**	**+0.7**
	comp=Z,10.0nm,1.1s,mb5.1						
LDFC	**Landfair**	**89.92**	**47**	*e*P	**P**	**16 58 17.6**	**+1.3**
YBH	**Yreka Blue Hor**	**90.08**	**38**	P	**P**	**16 58 16.4**	**-0.4**
	comp=Z,0.5nm,0.3s,mb4.4,baz=233,slow=3.6,SNR=4.2						
NVAR	**Mina Array Bea**	**90.22**	**43**	P	**P**	**16 58 16.8**	**-0.8**
	comp=Z,4.0nm,0.9s,mb4.7,baz=218,slow=8.3,SNR=18						
TPH	**Tonopah**	**90.61**	**44**	*e*P	**P**	**16 58 19.5**	**+0.1**
CN2	**Changchun**	**91.32**	**323**	*e*P	**P**	**16 58 26.8**	**+4.3**
GYA	**Guiyang**	**91.93**	**300**	*e*P	**P**	**16 58 28.4**	**+2.6**
GYA				AP	pP	16 58 40.6	+3.6
GYA				PP	PP	17 02 11.8	+6.0
GYA				SKS		17 08 57.0	
GYA				S	S	17 09 26.4	+1.4
GYA				PS	PS	17 10 46.0	+6.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,5.9s						
GYA				LR	LR		
	comp=N,560nm,20.1s,MS5.1						
GYA				LR	LR		
	comp=E,530nm,21.2s,MS5.1						
GYA				LR	LR		
	comp=Z,510nm,20.8s,MS5.0						
ELK	**Elko**	**93.53**	**43**	P	**P**	**16 58 31.8**	**-1.0**
	comp=Z,1.1nm,0.8s,mb4.3,baz=233,slow=6.8,SNR=5.2						
BJI	**Beijing**	**93.86**	**316**	P	**P**	**16 58 36.4**	**+2.

ISCJB 17 16:49:49.2±0.8, 3954N±003×3848E±004, h2km±6km, Error ellipse: s-maj=5.1km s-min=4.4km az=150.6
DDA 17 16:49:49.0, 3950N×3830E, h7km±4km, Md2.9
ISC 17 16:49:50.3±0.7, 3954N±003×3850E±004, h10km±6km, n13, σ0°99/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.80**	**223**	*e*PN	**Sg**	**16 50 13.3**	**-2.7**
PTK	**Pertek**	**0.95**	**133**	*e*PG	**Pg**	**16 50 07.4**	**-1.2**
PTK				*e*SG	**Sg**	**16 50 21.9**	**+1.0**
ELZG	**Elazig**	**1.11**	**160**	*i* P	**Pb**	**16 50 10.6**	**-0.9**
ELZG				*i* S	**Sg**	**16 50 26.5**	**+0.5**
GUMT	**Gumushane**	**1.19**	**39**	*e*PN	**Pn**	**16 50 12.3**	**-0.7**
GUMT				*e*SN	**Sn**	**16 50 28.6**	**-0.6**
SVSK	**Karacayir**	**1.22**	**289**	*e*PN	**Pn**	**16 50 12.4**	**-0.9**
SVSK				*e*SN	**Sn**	**16 50 29.5**	**-0.3**
MALT	**Malatya**	**1.23**	**183**	*e*PN	**Pn**	**16 50 12.9**	**-0.6**
MALT				*e*SN	**Sn**	**16 50 30.5**	**+0.4**
RSDY	**Resadiye-TOKAT**	**1.24**	**314**	*e*PN	**Pn**	**16 50 12.7**	**-1.0**
RSDY				*e*SN	**Sn**	**16 50 31.0**	**+0.5**
SVRC	**Sivrice-ELAZID**	**1.32**	**151**	*e*PN	**Pn**	**16 50 14.4**	**-0.4**
SVRC				*e*SN	**Sn**	**16 50 33.6**	**+1.2**
ESPY	**Espiye-Giresun**	**1.39**	**7**	*e*PN	**Pn**	**16 50 15.3**	**-0.4**
GRSN	**GIRESUNGRSN**	**1.39**	**353**	*i* P	**Pn**	**16 50 16.9**	**+1.2**
GRSN				*i* S	**Sb**	**16 50 35.4**	**+1.2**
KOPT	**Kop Dagi**	**1.61**	**72**	*i* P	**Pg**	**16 50 21.3**	**+0.1**
KOPT				*i* S	**Sg**	**16 50 48.0**	**+5.8**
SARI	**SarD1z-Kayseri**	**1.64**	**239**	*e*PN	**Pg**	**16 50 24.2**	**+2.4**
PINB	**Pinarbasi**	**1.84**	**243**	*i* P	**Pg**	**16 50 25.5**	**-0.1**
PINB				*i* S	**Sg**	**16 50 50.5**	**+1.0**

IDC 17 17:22:37.6±4.8, 1200S×7645W, h0km, mb4.5/1, mb1 4.4/2, mb1mx3.7/19, mbtmp4.3/2, ML3.8/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/24, Error ellipse: s-maj=181.7km s-min=43.4km az=38.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.13**	**119**	Pn	Pn	17 24 51.1	+0.4
	0.5nm,0.3s,baz=302,slow=13,SNR=22						
LPAZ				Sn	Sn	17 26 36.3	+2.1
	baz=16,slow=24,SNR=2.8						
LPAZ				LR	LR	17 28 46.4	
	comp=Z,254nm,20.5s,baz=190,slow=40						
TORD	**Torodi Ar. Bea**	**81.43**	**75**	P	P	17 34 57.4	+0.2
	3.7nm,0.9s,baz=262,slow=5.1,SNR=13						
BOSA	**Boshof**	**94.37**	**120**	LR	LR	18 16 04.3	
	comp=Z,70nm,18.2s,baz=333,slow=34						
SONM	**Songino Array**	**144.20**	**357**	PKP	PKPdf	17 42 14.9	-0.7
	1.1nm,0.8s,baz=331,slow=3.7,SNR=6.1						

IDC 17 17:33:57.3±3.4, 5563N×16452E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.6/24, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=90.5km s-min=56.3km az=170.0
KRSC 17 17:34:00.2±0.6, 5534N×16443E, h37km±36km, ML4.1
MOS 17 17:34:04.3±2.0, 5533N×16392E, h51km, mb4.3/2, Error ellipse: s-maj=20.5km s-min=11.7km az=59.4
ISC 17 17:34:02.3±1.5, 5528N±004×1644E±01, h28km±17km, n33, σ1°26/56, mb3.8/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.30**	**317**	*e*P	**Pn**	**17 34 20.5**	**-4.0**
KBTR				*i* S	**Sn**	**17 34 35.4**	**-5.5**
MKZ	**Mys Kozlova**	**1.71**	**246**	*e*P	**Pn**	**17 34 29.1**	**-1.1**
MKZ				*i* S	**Sn**	**17 34 50.0**	**-1.1**
SMKR	**Semkarok**	**2.12**	**309**	*e*P	**Pn**	**17 34 33.6**	**-2.1**
SMKR				*i* S	**Sn**	**17 34 57.9**	**-3.1**
ZLN	**Zelenaya**	**2.18**	**291**	*e*P	**Pn**	**17 34 36.9**	**+0.3**
ZLN				*i* S	**Sn**	**17 35 03.2**	**+0.6**
BDR	**Baidarnaya**	**2.22**	**307**	*e*P	**Pn**	**17 34 35.5**	**-1.7**
BDR				*i* S	**Sn**	**17 35 01.3**	**-2.4**
CIRR	**Tsirk**	**2.24**	**294**	*e*P	**Pn**	**17 34 37.6**	**+0.2**
CIRR				*i* S	**Sn**	**17 35 05.6**	**+1.5**
SRKR	**Sorokina**	**2.29**	**308**	*e*P	**Pn**	**17 34 36.7**	**-1.4**
SRKR				*i* S	**Sn**	**17 35 03.0**	**-2.3**
BZMR	**Bezymyannaya**	**2.33**	**288**	*e*P	**Pn**	**17 34 39.2**	**+0.6**
BZMR				*i* S	**Sn**	**17 35 07.6**	**+1.4**
KLY	**Klyuchi**	**2.37**	**298**	*e*P	**Pn**	**17 34 37.0**	**-2.2**
KLY				*i* S	**Sn**	**17 35 04.5**	**-2.7**
KRSR	**Krestovskiy**	**2.38**	**295**	*e*P	**Pn**	**17 34 38.7**	**-0.6**
KRSR				*i* S	**Sn**	**17 35 07.0**	**-0.4**
KIRR	**Kirishev**	**2.41**	**288**	*e*P	**Pn**	**17 34 40.3**	**+0.5**
KIRR				*i* S	**Sn**	**17 35 09.0**	**+0.7**
KMNR	**Kamenistaya**	**2.43**	**283**	*e*P	**Pn**	**17 34 40.7**	**+0.7**
KMNR				*i* S	**Sn**	**17 35 10.6**	**+1.9**
TUMR	**Tumrok**	**2.45**	**272**	*e*P	**Pn**	**17 34 40.3**	**+0.1**
TUMR				*i* S	**Sn**	**17 35 08.8**	**-0.3**
KPT	**Kopyto**	**2.48**	**288**	*e*P	**Pn**	**17 34 41.0**	**+0.3**
KPT				*i* S	**Sn**	**17 35 11.1**	**+1.1**
KOZR	**Kozyr**	**2.68**	**289**	PN	**Pn**	**17 34 44.6**	**+1.1**
KOZR				S	**Sn**	**17 35 16.4**	**+1.4**
KOZ	**Kozyrevsk**	**2.69**	**289**	*e*P	**Pn**	**17 34 44.6**	**+1.0**
KOZ				*i* S	**Sn**	**17 35 16.4**	**+1.2**
SRDR	**Sredinnyy**	**2.85**	**293**	*e*P	**Pn**	**17 34 46.4**	**+0.6**
SRDR				*i* S	**Sn**	**17 35 20.0**	**+0.8**
SPN	**Mys Shipunski**	**3.38**	**232**	*e*P	**Pn**	**17 34 52.0**	**-1.1**
SPN				*i* S	**Sn**	**17 35 30.1**	**-2.1**
NLC	**Nalytchevo**	**3.65**	**237**	*e*P	**Pn**	**17 34 57.0**	**+0.2**
NLC				*i* S	**Sn**	**17 35 38.1**	**-0.7**
AVH	**Avacha**	**3.89**	**241**	*e*P	**Pn**	**17 35 01.4**	**+1.3**
AVH				*i* S	**Sn**	**17 35 45.3**	**+0.5**
PET	**Petropavlovsk**	**4.07**	**239**	*e*PN	**Pn**	**17 35 03.3**	**+0.7**
PET				*e*S	**Sn**	**17 35 48.1**	**-1.2**
PET				pmax	pmax		
	comp=Z,38nm,0.5s						
PET				smax			
	comp=N,102nm,0.9s						
PET				smax			
	comp=E,102nm,0.9s						
PET	**Petropavlovsk**	**4.07**	**239**	*e*P	**Pn**	**17 35 03.2**	**+0.6**
PET				*i* S	**Sn**	**17 35 48.5**	**-0.8**
GNL	**Ganaly**	**4.10**	**250**	*e*P	**Pn**	**17 35 04.3**	**+1.4**
PETK	**Petropavlovsk-**	**4.51**	**244**	Pn	**Pn**	**17 35 09.7**	**+1.2**
	comp=E,3.0nm,0.3s,baz=75,slow=18,SNR=40						
RUS	**Russkaya**	**4.51**	**233**	*e*P	**Pn**	**17 35 08.7**	**+0.1**
RUS				*i* S	**Sn**	**17 35 58.4**	**-1.6**
MIPR	**Malaya Ipel'ka**	**5.45**	**240**	*e*P	**Pn**	**17 35 23.1**	**+1.6**
SKR	**Severo-Kuril's**	**6.80**	**231**	*e*PN	**Pn**	**17 35 38.5**	**-1.6**
ASAJ	**Asahikawa**	**17.92**	**241**	P	**Pn**	**17 38 08.4**	**-0.7**
	comp=E,0.3nm,0.3s,baz=70,slow=12,SNR=3.5						
MJAR	**Matsushiro Arr**	**25.89**	**235**	P	**P**	**17 39 34.0**	**+2.5**
	comp=E,0.4nm,0.5s,mb3.2,baz=50,slow=7.8,SNR=3.6						
CMAR	**Chiang Mai Arr**	**61.09**	**261**	P	**P**	**17 44 13.7**	**+0.1**
	comp=E,1.0nm,0.6s,mb4.1,baz=20,slow=6.4,SNR=6.0						
CMAR	**Chiang Mai Arr**	**61.09**	**261**	P	**P**	**17 44 13.7**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**82.84**	**208**	P	**P**	**17 46 24.9**	**+1.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=21,slow=4.9,SNR=16						
ASAR	**Alice Springs**	**82.84**	**208**	P	**P**	**17 46 24.9**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 17 18:13:00.5±1.1, 4011N×2962W, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/26, mbtmp3.6/9, MS3.5/14, Ms1 3.5/14, ms1mx3.3/37, Error ellipse: s-maj=32.5km s-min=20.4km az=0.0
CSEM 17 18:13:01.9±0.1, 3994N×2948W, h25km, ML3.3, Error ellipse: s-maj=5.5km s-min=2.3km az=58.0
NEIC 17 18:13:02.6±0.8, 4023N×2952W, h10km, mb4.2/2, Error ellipse: s-maj=23.7km s-min=14.4km az=189.0
ISCJB 17 18:13:03.2±1.4, 3997N±007×2939W±0.10, h33km±14km, mb3.8/10, MS3.5/13, Error ellipse: s-maj=13.3km s-min=11.6km az=139.6
PDA 17 18:13:04.4±0.8, 4009N×2938W, h5km, MD3.8, ML3.3, Error ellipse: s-maj=7.0km s-min=4.1km az=80.0
ISC 17 18:13:04.2±2.2, 3993N±005×2933W±009, h27km±17km, n40, σ0°83/39, mb3.8/10, MS3.5/13, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**1.34**	**131**	*i* P	**Pn**	**18 13 27.2**	**+0.2**
SRBC				*e*S	**Sn**	**18 13 43.3**	**-0.6**
PGRA	**Graciosa**	**1.38**	**130**	*i* P	**Pn**	**18 13 27.2**	**-0.3**
PGRA				*e*S	**Sn**	**18 13 44.6**	**-0.2**
PGRA				A		18 13 45.8	
	147nm,0.3s						
CALA	**Caldeira**	**1.43**	**160**	*e*P	**Pn**	**18 13 28.9**	**+0.6**
CALA				*e*S	**Sn**	**18 13 46.5**	**+0.3**
ROSA	**Rosais**	**1.47**	**145**	*i* P	**Pn**	**18 13 28.9**	**0.0**
HOR	**Horta**	**1.50**	**159**	*e*S	**Sn**	**18 13 47.8**	**-0.1**
PICO	**Pico**	**1.59**	**154**	*e*P	**Pn**	**18 13 30.6**	**+0.1**
PICO				*e*S	**Sn**	**18 13 50.4**	**+0.3**
PMAN	**Manadas**	**1.61**	**143**	*e*P	**Pn**	**18 13 30.7**	**-0.1**
PMAN				*e*S	**Sn**	**18 13 50.8**	**+0.1**
PMAN				A		18 13 51.8	
	59nm,0.1s						
PMAN	**Manadas**	**1.61**	**143**	*e*P	**Pn**	**18 13 30.7**	**-0.1**
PMAN				*e*S	**Sn**	**18 13 50.8**	**+0.1**
PPNO	**Prainha do Nor**	**1.67**	**150**	*e*P	**Pn**	**18 13 31.5**	**-0.1**
PPNO				*e*S	**Sn**	**18 13 52.4**	**+0.2**
PPNO				A		18 13 55.8	
	121nm,0.4s						
PPNO	**Prainha do Nor**	**1.67**	**150**	*e*P	**Pn**	**18 13 31.5**	**-0.1**
PPNO				*e*S	**Sn**	**18 13 52.4**	**+0.2**
ADH	**Angra Heroismo**	**2.06**	**127**	*e*P	**Pn**	**18 13 36.7**	**-0.3**
CMLA	**Cha da Macela**	**3.67**	**125**	*e*P	**Pn**	**18 13 58.7**	**-0.4**
CMLA				*e*S	**Sn**	**18 14 40.2**	**-1.3**
CMLA				A		18 14 40.9	
	15nm,0.4s						
PSMN	**Pico do Norte,**	**4.44**	**130**	*e*P	**Pn**	**18 14 10.1**	**+0.4**
ESDC	**Sonseca Array**	**19.48**	**83**	P	**Pn**	**18 17 31.0**	**+0.8**
	baz=289,slow=20,SNR=2.2						
ESDC				LR	LR	18 23 40.2	
	comp=Z,130nm,18.9s,baz=270,slow=32						
MDT	**Midelt**	**21.09**	**102**	LR	LR	18 24 08.4	
	comp=Z,72nm,20.5s,MS3.0,baz=309,slow=31						
EKA	**Eskdalemuir Ar**	**23.22**	**40**	P	**P**	**18 18 07.6**	**-1.3**
	1.1nm,0.7s,mb3.4,baz=169,slow=28,SNR=2.9						
SCHQ	**Schefferville**	**29.03**	**313**	LR	LR	18 28 12.2	
	comp=Z,118nm,19.5s,MS3.5,baz=79,slow=32						
DAVOX	**Davos/Dischmat**	**29.09**	**63**	LR	LR	18 30 41.7	
	comp=Z,52nm,19.7s,MS3.1,baz=262,slow=36						
KEST	**Kesra**	**30.67**	**85**	LR	LR	18 30 53.0	
	comp=Z,43nm,19.1s,MS3.1,baz=167,slow=35						
GERES	**GERESS Array B**	**31.65**	**59**	LR	LR	18 32 46.6	
	comp=Z,36nm,18.5s,MS3.1,baz=250,slow=37						
NOA	**NORSAR Array B**	**32.56**	**36**	LR	LR	18 30 56.8	
	comp=Z,24nm,21.4s,MS2.9,baz=315,slow=33						
TOA0	**Torodi Ar. Sit**	**38.15**	**126**	P	**P**	**18 20 26.9**	**+5.7**
TORD	**Torodi Ar. Bea**	**38.15**	**126**	P	**P**	**18 20 23.9**	**+2.7**
	0.2nm,0.5s,mb3.1,baz=216,slow=44,SNR=2.9						
TORD				LR	LR	18 36 30.3	
	comp=Z,80nm,19.5s,MS3.5,baz=345,slow=37						
ARCES	**ARCESS Array B**	**41.05**	**26**	P	**P**	**18 20 45.2**	**+0.5**
	2.2nm,0.9s,mb3.8,baz=249,slow=20,SNR=3.2						
ARCES	**ARCESS Array B**	**41.05**	**26**	P	**P**	**18 20 45.2**	**+0.5**
AKASG	**Malin Array Be**	**41.54**	**55**	P	**P**	**18 20 50.5**	**+1.4**
	0.5nm,0.5s,mb3.5,baz=273,slow=8.9,SNR=6.3						
ULM	**Lac du Bonnet**	**46.64**	**306**	LR	LR	18 39 54.2	
	comp=Z,129nm,18.7s,MS3.9,baz=23,slow=35						
MALT	**Malatya**	**51.41**	**69**	P	**P**	**18 22 05.1**	**-1.6**
MALT	**Malatya**	**51.41**	**69**	P	**P**	**18 22 05.1**	**-1.5**
	3.0nm,1.0s,mb4.2						
YKA	**Yellowknife Ar**	**53.45**	**325**	LR	LR	18 42 42.0	
	comp=Z,33nm,18.8s,MS3.4,baz=160,slow=34						
PDAR	**Pinedale Array**	**58.09**	**301**	P	**P**	**18 22 53.3**	**-1.6**
	0.9nm,0.8s,mb3.8,baz=63,slow=7.0,SNR=5.2						
PDAR				LR	LR	18 48 39.8	
	comp=Z,77nm,18.1s,MS3.9,baz=72,slow=37						
ANMO	**Albuquerque**	**59.65**	**292**	LR	LR	18 45 40.4	
	comp=Z,66nm,21.4s,MS3.7,baz=159,slow=33						
BNM	**Barren Site**	**60.17**	**291**	P	**P**	**18 23 09.4**	**-0.1**
BNM	**Barren Site**	**60.17**	**291**	P	**P**	**18 23 09.4**	**0.0**
TXAR	**Lajitas Array**	**60.47**	**285**	P	**P**	**18 23 10.6**	**-1.0**
	1.5nm,0.6s,mb4.2,baz=73,slow=7.0,SNR=17						
TXAR				LR	LR	18 49 47.2	
	comp=Z,44nm,20.2s,MS3.6,baz=125,slow=37						
HLID	**Hailey**	**60.87**	**304**	P	**P**	**18 23 14.2**	**+0.1**
HLID	**Hailey**	**60.87**	**304**	P	**P**	**18 23 14.2**	**+0.1**
	2.3nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**74.35**	**42**	P	**P**	**18 24 39.9**	**+0.8**
	1.6nm,1.1s,mb3.9,baz=331,slow=7.2,SNR=4.1						
SONM	**Songino Array**	**84.18**	**28**	P	**P**	**18 25 34.1**	**+1.3**
	0.3nm,0.5s,mb3.7,baz=112,slow=3.2,SNR=3.9						
BOSA	**Boshof**	**85.00**	**134**	LR	LR	19 04 03.8	
	comp=Z,65nm,18.1s,MS4.1,baz=154,slow=36						

IDC 17 18:39:19.9±0.9, 862S×15740E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.8/17, mbtmp3.8/9, ML4.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/26, Error ellipse: s-maj=23.1km s-min=21.5km az=120.0
NEIC 17 18:39:20.3±0.6, 877S×15765E, h10km, mb4.2/2, Error ellipse: s-maj=15.8km s-min=13.7km az=166.0
ISCJB 17 18:39:23.3±0.6, 86S±01×15736E±007, h33km, mb3.8/10, Error ellipse: s-maj=15.9km s-min=9.0km az=13.4
ISC 17 18:39:25.3±0.6, 86S±01×15737E±007, h35km, n15, σ0°81/16, mb3.8/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.66**	**107**	Pn	**Pn**	**18 40 04.7**	**-1.1**
	53nm,0.3s,baz=255,slow=5.8,SNR=10.0						
HNR				Sn	**Sn**	**18 40 37.1**	**+0.3**
	107nm,0.3s,baz=268,slow=21,SNR=11						
HNR	**Honiara**	**2.66**	**107**	*e*Pn	**Pn**	**18 39 59.3**	**-6.5**
HNR				Sn	**Sn**	**18 40 37.1**	**+0.2**
HNR				*e*Sn	**Sn**	**18 40 37.7**	**+0.9**
CTA	**Charters Tower**	**15.66**	**222**	LR	LR	18 48 05.8	
	comp=Z,58nm,19.7s,baz=238,slow=34						
WRAB	**Tennant Creek**	**24.94**	**241**	P	**P**	**18 44 45.5**	**0.0**
	6.9nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**24.95**	**241**	P	**P**	**18 44 46.2**	**+0.6**
	1.6nm,0.6s,mb3.8,baz=66,slow=9.4,SNR=17						
ASAR	**Alice Springs**	**26.98**	**234**	P	**P**	**18 45 03.4**	**-0.6**
	0.5nm,0.9s,mb3.0,baz=64,slow=10,SNR=4.4						
ASAR				PcP	PcP	18 48 23.5	-1.7
	0.3nm,0.8s,baz=78,slow=4.3,SNR=3.6						
STKA	**Stephens Creek**	**27.38**	**210**	P	**P**	**18 45 07.9**	**+0.5**
	1.8nm,0.6s,mb3.8,baz=42,slow=12,SNR=6.1						
KSRS	**Korea Array**	**53.50**	**331**	P	**P**	**18 48 41.1**	**-1.2**
	0.3nm,0.3s,mb3.6,baz=152,slow=8.5,SNR=4.4						
PETK	**Petropavlovsk-**	**61.51**	**0**	P	**P**	**18 49 38.9**	**+0.4**
	0.6nm,0.5s,mb4.0,baz=141,slow=4.0,SNR=2.8						
CMAR	**Chiang Mai Arr**	**63.61**	**295**	P	**P**	**18 49 54.1**	**+0.9**
	0.9nm,1.0s,mb3.8,baz=95,slow=4.1,SNR=4.1						
CASY	**Casey**	**65.79**	**199**	P	**P**	**18 50 03.3**	**-3.3**
SONM	**Songino Array**	**71.99**	**327**	P	**P**	**18 50 45.3**	**-0.1**
	0.6nm,0.6s,mb3.7,baz=123,slow=5.5,SNR=3.9						
KDAK	**Kodiak Island**	**77.63**	**25**	LR	LR	19 25 19.0	
	comp=Z,35nm,18.7s,baz=104,slow=36						
MKAR	**Makanchi Array**	**86.19**	**318**	P	**P**	**18 52 03.8**	**+0.8**
	0.3nm,0.6s,mb3.7,baz=82,slow=8.5,SNR=2.4						
KURK	**Kurchatov**	**89.57**	**321**	P	**P**	**18 52 18.7**	**-0.4**
	0.8nm,0.7s,mb4.2						

ISCJB 17 18:54:00.7±0.5, 3489N±004×4616E±005, h10km, Error ellipse: s-maj=6.6km s-min=5.3km az=147.8
CSEM 17 18:54:00.8±0.1, 3495N×4612E, h16km, ML3.7, Error ellipse: s-maj=2.6km s-min=1.9km az=160.0
KISR 17 18:54:01.5, 3474N×4624E, h12km, ML3.3
THR 17 18:54:01.3±0.6, 3511N×4612E, h14km±11km, ML3.7
ISC 17 18:54:02.4±2.1, 3493N±007×4617E±010, h8km±18km, n25, σ1°15/29, 1C-1D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNGE	**Sanandaj**	**0.98**	**80**	*e*Pg	**Pg**	**18 54 19.9**	**-1.3**
SNGE				*e*Sg	**Sg**	**18 54 34.2**	**+0.3**
SNGE				AML	AML	18 54 39.9	
	comp=N,2μm,0.7s						
SNGE	**Sanandaj**	**0.98**	**80**	*e*Pg	**Pg**	**18 54 20.0**	**-1.2**
	SNR=90						
SNGE				*e*Sg	**Sg**	**18 54 34.2**	**+0.2**
	SNR=90						
BHD	**Baghdad**	**2.22**	**222**	*ex*	x	18 54 35.0	
BHD				*ex*	x	18 55 03.2	
BHD				*ex*	x	18 55 09.7	
MSL	**Mosul**	**2.85**	**299**	*i* x	x	18 54 52.5	
MSL				*i* x	x	18 55 23.0	
HKR	**Hakkari**	**3.29**	**324**	*e*PN	**Pn**	**18 54 54.3**	**+0.1**
SHGR	**Shooshtar-Gavs**	**3.57**	**141**	*e*Pn	**Pn**	**18 55 00.6**	**+2.6**
SHGR				AML	AML	18 55 49.2	
	comp=N,177nm,0.8s						
SIRT	**Sirnak**	**3.96**	**311**	*e*PN	**Pn**	**18 55 04.3**	**+0.9**
GRMI	**Germi**	**4.11**	**19**	*e*Pn	**Pn**	**18 55 03.8**	**-1.6**
GHVR	**GHOM**	**4.25**	**95**	*e*Sg	**Sg**	**18 56 13.6**	**-5.2**
GHVR				AML	AML	18 56 23.4	
	comp=E,54nm,0.7s						
VANB	**Van**	**4.28**	**329**	*e*PN	**Pn**	**18 55 15.1**	**+7.3**
BTMT	**Batman**	**4.98**	**312**	*e*PN	**Pn**	**18 55 18.0**	**+0.6**
MIB	**Mutribah**	**5.21**	**169**	*e*P	**Pn**	**18 55 20.7**	**+0.2**
AGRB	**Hanur-Agry**	**5.28**	**332**	*e*PN	**Pn**	**18 55 27.3**	**+5.8**
GNI	**Garni**	**5.33**	**348**	*e*PN	**Pn**	**18 55 32.0**	**+10**
UMR	**Umm Al-Rimmam**	**5.52**	**166**	*e*P	**Pn**	**18 55 25.1**	**+0.3**
UMR				*e*S	**Sn**	**18 56 27.2**	**-1.3**
	comp=E,26nm,0.5s						
UMR	**Umm Al-Rimmam**	**5.52**	**166**	*e*P	**Pn**	**18 55 25.1**	**+0.2**
	baz=166						
UMR				*e*S	**Sn**	**18 56 27.2**	**-1.3**
	baz=166						
UMR				AML	AML	18 56 29.1	
	comp=Z,26nm,0.5s,baz=166						
NAY	**Al-Naaiem**	**5.74**	**171**	*e*P	**Pn**	**18 55 27.6**	**-0.2**
NAY	**Al-Naaiem**	**5.74**	**171**	*e*P	**Pn**	**18 55 27.6**	**-0.2**
	baz=171						
NAY				AML	AML	18 56 31.2	
	comp=Z,8.0nm,0.9s,baz=171						
NASN	**Na'in**	**5.92**	**109**	*e*Pn	**Pn**	**18 55 32.1**	**+1.8**
RDF	**Al-Radifah**	**6.10**	**169**	*e*P	**Pn**	**18 55 33.2**	**+0.4**
RDF				*e*S	**Sn**	**18 56 42.2**	**-0.6**
RDF	**Al-Radifah**	**6.10**	**169**	*e*P	**Pn**	**18 55 33.2**	**+0.4**
	baz=169						
RDF				*e*S	**Sn**	**18 56 42.2**	**-0.6**
	baz=169						
RDF				AML	AML	18 56 42.3	
	comp=Z,13nm,0.3s,baz=169						
URFA	**Urfa**	**6.45**	**295**	*e*PN	**Pn**	**18 55 35.2**	**-2.3**
MALT	**Malatya**	**7.08**	**301**	*e*PN	**Pn**	**18 55 47.0**	**+0.7**
BURAR	**Bucovina Array**	**20.14**	**315** ⇑	*i*P	**P**	**18 58 32.6**	**-4.1**
DRGR		**21.25**	**311** ⇓	*i*P	**P**	**18 58 44.2**	**-4.5**

MOS 17 19:14:41.8±1.0, 1332S×7719W, h33km, mb4.8/11, Error ellipse: s-maj=19.2km s-min=9.9km az=121.9
ISCJB 17 19:14:42.2±1.4, 1341S±006×7725W±008, h38km±12km, mb4.8/34, MS3.6/2, Error ellipse: s-maj=14.9km s-min=6.1km az=147.6
IDC 17 19:14:43.6±3.8, 1338S×7727W, h33km±28km, mb4.3/13, mb1 4.4/18, mb1mx4.3/24, mbtmp4.3/18, ML4.1/5, MS3.6/6, Ms1 3.6/6, ms1mx3.4/25, Error ellipse: s-maj=22.4km s-min=11.9km az=69.0
NEIC 17 19:14:44.7±1.1, 1335S×7716W, h43km±9km, mb4.8/26, Error ellipse: s-maj=11.1km s-min=5.5km az=60.0
BJI 17 19:14:47.7, 1340S×7720W, h42km
ISC 17 19:14:44.6±1.2, 1337S±005×7720W±008, h40km±10km, n98, σ0°91/98, mb4.8/34, MS3.6/2, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.42**	**14**	Pn	**Pn**	**19 15 06.5**	**-1.5**
	258nm,0.3s,baz=198,slow=13,SNR=102						
NNA				Sn	**Sn**	**19 15 25.8**	**+0.3**
	451nm,0.3s,baz=177,slow=16,SNR=20						
NNA				LR	LR	19 15 27.2	
	comp=Z,2μm,18.5s,baz=23,slow=30						
NNA	**Nana**	**1.42**	**14**	*e*Pn	**Pn**	**19 15 06.3**	**-1.7**
NNA				*e*Sn	**Sn**	**19 15 27.3**	**+1.9**
ARE	**Arequipa**	**6.32**	**120**	*e*P	**Pn**	**19 16 23.0**	**+7.8**
ARE				*e*S	**Sn**	**19 17 27.0**	**+0.8**
ATAH	**Atahualpa**	**6.44**	**349**	Pn	**Pn**	**19 16 16.3**	**-0.7**
	11nm,0.3s,baz=166,slow=6.6,SNR=97						
ATAH				Sn	**Sn**	**19 17 25.4**	**-3.8**
	baz=73,slow=9.6,SNR=2.1						
LPAZ	**La Paz**	**9.24**	**109**	Pn	**Pn**	**19 16 57.5**	**+2.1**
	0.4nm,0.3s,baz=283,slow=14,SNR=2.5						
LPAZ				Sn	**Sn**	**19 18 55.4**	**+17**
	baz=188,slow=23,SNR=1.8						
LPAZ				LR	LR	19 21 17.7	
	comp=Z,457nm,19.4s,baz=342,slow=42						
LPAZ	**La Paz**	**9.24**	**109**	Pn	**Pn**	**19 16 57.5**	**+2.1**
LPAZ				*e*Pn	**Pn**	**19 16 58.5**	**+3.1**
LPAZ				Sn	**Sn**	**19 18 55.4**	**+17**
LPAZ				LR	LR	19 21 17.7	
LVC	**Limon Verde**	**12.10**	**141**	Pn	**Pn**	**19 17 33.9**	**-0.6**
	1.3nm,0.3s,baz=304,slow=9.9,SNR=7.7						
LVC				LR	LR	19 22 40.1	
	comp=Z,503nm,18.1s,baz=323,slow=39						
LVC	**Limon Verde**	**12.10**	**141**	*e*Pn	**Pn**	**19 17 33.4**	**-1.2**
LVC		

h34km±1.7km:**pP-P,n203,**σ1§**20/210,mb4.7/77,MS4.5/32,**
7C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.13**	**350**	⇓P	**Pb**	**19 14 48.7**	**-2.8**
JCN				S	**Sb**	**19 14 53.5**	**-2.2**
KTR	**Katsuura**	**0.16**	**153**	⇑P	**Pb**	**19 14 48.8**	**-3.0**
BSO4	**Boso 4**	**0.31**	**163**	⇑P	**Pb**	**19 14 51.6**	**-1.9**
BSO3	**Boso 3**	**0.54**	**155**	⇓P	**Pn**	**19 14 54.8**	**-1.9**
CHOJ	**Chosi**	**0.66**	**51**	⇓P	**Pn**	**19 14 54.2**	**-4.1**
CHOJ				S	**Sn**	**19 15 02.2**	**-5.3**
JIM2	**Oshima 3**	**0.87**	**229**	P	**Pn**	**19 15 00.2**	**-1.0**
JIM2				S	**Sn**	**19 15 13.6**	**+1.0**
BSO1	**Boso 1**	**0.89**	**136**	⇓P	**Pn**	**19 14 58.3**	**-3.1**
JOD2	**Odawara 2**	**0.93**	**269**	⇑P	**Pn**	**19 15 01.5**	**-0.6**
JOD2				S	**Sn**	**19 15 15.4**	**+1.2**
JYT	**Yasato**	**0.94**	**358**	⇓P	**Pn**	**19 14 59.1**	**-3.0**
JYT				S	**Sn**	**19 15 12.7**	**-1.6**
JAG	**Ashikaga**	**1.29**	**331**	P	**Pn**	**19 15 05.8**	**-1.3**
MJAR	**Matsushiro Arr**	**2.06**	**308**	Pn	**Pn**	**19 15 17.2**	**-0.4**
	44nm,0.3s,baz=111,slow=11,SNR=78						
MAJO	**Matsushiro**	**2.06**	**308**	*e*P	**Pn**	**19 15 18.2**	**+0.6**
MAT	**Matsushiro**	**2.06**	**308**	P	**Pn**	**19 15 17.6**	**0.0**
MAT				*e*S	**Sn**	**19 15 47.1**	**+5.0**
JHJ	**Hachijo jima 2**	**2.20**	**190**	Pn	**Pn**	**19 15 18.0**	**-1.5**
	4μm,0.3s,baz=47,slow=2.6,SNR=638						
JHJ				Sn	**Sn**	**19 15 44.0**	**-1.5**
	2μm,0.3s,baz=60,slow=21,SNR=16						
JHJ				LR	LR	19 15 51.5	
	comp=Z,870nm,20.2s,baz=92,slow=33						
CBIJ	**Chichi jima**	**8.34**	**168**	Pn	**Pn**	**19 16 41.8**	**-2.1**
	224nm,0.3s,baz=291,slow=20,SNR=30						
CBIJ				Sn	**Sn**	**19 18 11.7**	**-5.1**
	22nm,0.3s,baz=264,slow=21,SNR=2.7						
CBIJ				LR	LR	19 20 09.8	
	comp=Z,1μm,18.8s,baz=110,slow=40						
ASAJ	**Asahikawa**	**9.00**	**11**	Pn	**Pn**	**19 16 49.1**	**-3.7**
	2.5nm,0.3s,baz=209,slow=12,SNR=22						
ASAJ				LR	LR	19 21 20.6	
	comp=Z,817nm,19.9s,baz=188,slow=44						
YUK	**Yuzh-Kuril'sk**	**9.75**	**25**	P	**Pn**	**19 16 58.7**	**-4.4**
YUK				MLR	MLR		
	comp=Z,3μm,18.0s						
YUK				MLR	MLR		
	comp=N,3μm,17.0s						
YUK				MLR	MLR		
	comp=E,2μm,17.0s						
VLA	**Vladivostok**	**10.14**	**323**	*e*P	**Pn**	**19 17 10.8**	**+2.3**
VLA				pmax	pmax		
	comp=Z,93nm,1.7s						
VLA				MLR	MLR		
	comp=Z,2μm,19.0s						
KSRS	**Korea Array**	**10.15**	**286**	Pn	**Pn**	**19 17 11.8**	**+3.0**
	comp=Z,0.4nm,0.3s,baz=102,slow=14,SNR=11						
KSRS				LR	LR	19 21 00.3	
	comp=Z,3μm,19.9s,baz=91,slow=37						
KUR	**Kuril'sk**	**11.51**	**28**	P	**Pn**	**19 17 21.0**	**-6.2**
YSS	**Yuzh-Sakhalins**	**11.81**	**8**	*e*P	**Pn**	**19 17 28.0**	**-3.2**
YSS				*e*S	**Sn**	**19 19 36.0**	**-5.7**
YSS				MLR	MLR		
	comp=N,3μm,15.0s						
YSS				MLR	MLR		
	comp=E,2μm,15.0s						
YSS				MLR	MLR		
	comp=Z,3μm,15.0s						
YSS	**Yuzh-Sakhalins**	**11.81**	**8**	*e*Pn	**Pn**	**19 17 27.9**	**-3.4**
	comp=Z,8.3nm,0.4s						
MDJ	**Mudanjiang**	**12.37**	**322**	P	**Pn**	**19 17 37.5**	**-1.5**
MDJ				S	**Sn**	**19 19 50.1**	**-5.5**
MDJ				PCP	PcP	19 23 20.3	+1.7
MDJ				PCS	PcS	19 26 55.1	+2.5
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,223nm,11.0s						
MDJ				LR	LR		
	comp=N,1μm,14.2s						
MDJ				LR	LR		
	comp=E,1μm,14.2s						
MDJ				LR	LR		
	comp=Z,2μm,16.1s						
MDJ	**Mudanjiang**	**12.37**	**322**	*e*Pn	**Pn**	**19 17 43.5**	**+4.5**
	comp=Z,62nm,1.6s						
JOW	**Kunigami**	**13.26**	**234**	Pn	**Pn**	**19 17 52.2**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=183,slow=8.6,SNR=2.8						
CN2	**Changchun**	**14.21**	**311**	*e*P	**Pn**	**19 18 04.6**	**+0.6**
CN2				*e*XP	sP	19 18 20.6	-3.7
CN2				*e*S	**Sn**	**19 20 39.4**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,14.0s						
CN2				LR	LR		
	comp=E,1μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,16.0s						
KLR	**Kul'dur**	**15.26**	**338**	*e*P	**Pn**	**19 18 20.0**	**+1.9**
KLR				MLR	MLR		
	comp=E,2μm,14.0s						
KLR				MLR	MLR		
	comp=Z,2μm,14.0s						
DL2	**Dalian**	**15.27**	**289**	⇑*i*P	**Pn**	**19 18 19.0**	**+0.6**
DL2				S	**Sn**	**19 21 06.3**	**-0.1**
DL2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
DL2				AMB	AMB		
	comp=Z,160nm,7.5s						
DL2				LR	LR		
	comp=N,290nm,15.2s						
DL2				LR	LR		
	comp=E,1μm,16.5s						
DL2				LR	LR		
	comp=Z,1μm,16.0s						
NJ2	**Nanjing**	**18.08**	**266**	*e*P	**Pn**	**19 18 55.3**	**+1.5**
NJ2				AP	pP	19 19 04.8	+1.8
NJ2				XP	sP	19 19 10.0	+2.7
NJ2				S	**Sn**	**19 22 10.0**	**-4.5**
NJ2				XS	sS	19 22 32.0	-1.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,350nm,5.2s						
NJ2				LR	LR		
	comp=N,300nm,12.5s						
NJ2				LR	LR		
	comp=E,830nm,11.4s						
NJ2				LR	LR		
	comp=Z,830nm,11.4s						
BJT	**Baijiatuau**	**19.61**	**291**	P	**Pn**	**19 19 14.4**	**+2.2**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.4s						
BJT	**Baijiatuau**	**19.61**	**291**	P	**Pn**	**19 19 14.3**	**+2.2**
	comp=Z,9.0nm,0.4s						
HIA	**Hailar**	**20.52**	**319**	P	**P**	**19 19 16.7**	**-3.8**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HIA	**Hailar**	**20.52**	**319**	Pn	**P**	**19 19 16.7**	**-3.8**
	comp=Z,7.4nm,0.7s						
PETK	**Petropavlovsk-**	**21.67**	**29**	P	**P**	**19 19 31.2**	**-1.7**
	comp=Z,4.4nm,0.7s,mb4.0,baz=188,slow=9.0,SNR=5.4						
PETK				LR	LR	19 28 42.8	
	comp=Z,363nm,18.3s,MS3.8,baz=218,slow=39						
PET	**Petropavlovsk**	**22.00**	**31**	*e*P	**P**	**19 19 36.0**	**-0.4**
PET				*e*S	**S**	**19 23 24.6**	**-13**
PET				pmax	pmax		
	comp=Z,300nm,16.4s						
PET				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.6						
PET				MLR	MLR		
	comp=Z,700nm,21.0s,MS4.0						
GUMO	**Guam**	**22.01**	**168**	P	**P**	**19 19 41.6**	**+4.8**
GUMO				pmax	pmax		
	comp=Z,258nm,1.3s,mb5.5						
GUMO	**Guam**	**22.01**	**168**	P	**P**	**19 19 41.6**	**+4.8**
	comp=Z,258nm,1.3s,mb5.5						
HHC	**Hu-ho-hao-te**	**23.18**	**292**	*e*P	**P**	**19 19 47.3**	**-1.8**
HHC				AP		19 19 57.8	
HHC				XP	sP	19 20 03.8	+1.2
HHC				PP		19 20 18.6	
HHC				S	**S**	**19 23 50.9**	**-7.3**
HHC				XS	sS	19 24 09.3	-4.9
HHC				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.4						
HHC				AMB	AMB		
	comp=Z,105nm,6.8s						
HHC				LR	LR		
	comp=N,430nm,13.1s,MS4.4						
HHC				LR	LR		
	comp=E,799nm,14.3s,MS4.4						
HHC				LR	LR		
	comp=Z,845nm,14.9s,MS4.3						
CLNS	**Chul'man**	**23.92**	**339**	*e*P	**P**	**19 19 55.3**	**-0.6**
CLNS				*e*		19 20 13.2	
CLNS				*e*		19 23 42.9	
CLNS				*e*S	**S**	**19 24 04.3**	**-5.6**
CLNS				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.4						
CLNS				pmax	pmax		
	comp=N,23nm,1.6s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.5s						
CLNS				smax			
	comp=N,252nm,12.3s						
CLNS				smax			
	comp=E,38nm,13.2s						
CLNS				MLR	MLR		
	comp=Z,899nm,16.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,581nm,13.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,140nm,13.0s,MS4.2						
XAN	**Xi'an**	**25.73**	**276**	P	**P**	**19 20 15.3**	**+2.7**
XAN				AP	pP	19 20 23.3	+0.9
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.1						
XAN				AMB	AMB		
	comp=Z,118nm,7.4s						
XAN				LR	LR		
	comp=E,642nm,15.0s						
XAN				LR	LR		
	comp=Z,1μm,20.3s						
YAK	**Yakutsk**	**27.58**	**349**	*e*P	**P**	**19 20 27.5**	**-1.5**
YAK				*e**PP	pP	19 20 38.3	-0.5
YAK				*e*		19 21 20.0	
YAK				*e*S	**S**	**19 25 09.4**	**+1.6**
YAK				*e**SS	sS	19 25 26.8	+2.7
YAK				*e*SS		19 26 27.9	
YAK				pmax	pmax		
	comp=Z,19nm,1.8s,mb4.4						
YAK				pmax	pmax		
	comp=N,19nm,1.7s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.9s						
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
YAK				pmax	pmax		
	comp=N,21nm,1.2s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.2s						
YAK				smax			
	comp=N,127nm,5.2s						
YAK				smax			
	comp=E,51nm,3.2s						
YAK				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.4						
YAK				MLR	MLR		
	comp=N,993nm,19.0s,MS4.5						
YAK				MLR	MLR		
	comp=E,690nm,21.0s,MS4.5						
YAK	**Yakutsk**	**27.58**	**349**	*e*P	**P**	**19 20 27.0**	**-2.0**
	comp=E,30nm,0.9s,mb4.9						
SONM	**Songino Array**	**28.01**	**307**	P	**P**	**19 20 32.0**	**-1.0**
	comp=E,1.4nm,0.5s,mb3.9,baz=109,slow=9.2,SNR=16						
SONM				LR	LR	19 32 22.3	
	comp=E,1μm,18.5s,MS4.6,baz=102,slow=38						
BOD	**Bodaibo**	**28.53**	**330**	*e*P	sP	19 20 51.8	+0.3
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.3						
SEY	**Seymchan**	**28.68**	**12**	⇑*e*P	**P**	**19 20 39.1**	**+0.3**
GYA	**Guiyang**	**30.01**	**262**	⇑*i*P	**P**	**19 20 50.3**	**-0.7**
GYA				AP	pP	19 21 02.3	+1.5
GYA				XP	sP	19 21 07.8	+2.8
GYA				PP	PP	19 21 50.9	-8.1
GYA				S	**S**	**19 25 43.6**	**-3.2**
GYA				SCP	ScP	19 27 31.0	-1.1
GYA				SCS	ScS	19 31 25.4	-2.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,120nm,5.8s						
GYA				LR	LR		
	comp=N,630nm,14.6s,MS4.7						
GYA				LR	LR		
	comp=E,900nm,11.4s,MS4.7						
GYA				LR	LR		
	comp=Z,1μm,15.5s,MS4.7						
ZAK	**Zakamensk**	**30.64**	**311**	*e*P	**P**	**19 20 57.0**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.6						
CD2	**Chengdu**	**30.75**	**272**	*e*P	**P**	**19 20 58.6**	**+1.1**
CD2				AP	pP	19 21 10.3	+3.0
CD2				XP	sP	19 21 15.6	+4.1
CD2				PP	PP	19 22 00.3	-6.8
CD2				S	**S**	**19 25 56.3**	**-2.0**
CD2				XS	sS	19 26 16.4	+1.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,210nm,12.8s,MS4.2						
CD2				LR	LR		
	comp=E,260nm,14.2s,MS4.2						
CD2				LR	LR		
	comp=Z,160nm,15.2s,MS3.8						
GTA	**Gaotai**	**32.20**	**290**	*e*P	**P**	**19 21 14.3**	**+4.2**
GTA				AP	pP	19 21 25.3	+5.3
GTA				XP	sP	19 21 32.1	+7.9
GTA				PP	PP	19 22 22.0	-1.1
GTA				S	**S**	**19 26 25.9**	**+5.1**
GTA				XS	sS	19 26 44.8	+7.7
GTA				SS	SS	19 28 13.3	-26
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.0						
GTA				AMB	AMB		
	comp=Z,282nm,6.9s						
GTA				LR	LR		
	comp=N,464nm,17.8s,MS4.5						
GTA				LR	LR		
	comp=E,716nm,18.9s,MS4.5						
GTA				LR	LR		
	comp=Z,956nm,19.8s,MS4.5						
KMI	**Kunming**	**33.77**	**263**	P	**P**	**19 21 23.6**	**-0.4**
KMI				AP	pP	19 21 35.0	+1.1
KMI				XP	sP	19 21 40.0	+1.9
KMI				PP	PP	19 22 39.0	-1.7
KMI				PPP		19 22 56.8	
KMI				S	**S**	**19 26 42.4**	**-3.1**
KMI				XS	sS	19 27 05.0	+3.1
KMI				SS	SS	19 28 54.8	-17
KMI				SSS		19 29 21.3	
KMI				LR	LR		
	comp=N,376nm,5.5s						
KMI				LR	LR		
	comp=E,431nm,5.1s						
KMI				LR	LR		
	comp=Z,812nm,16.1s,MS4.5						
HVS	**Khovu-Aksy**	**36.75**	**310**	⇓*e*P	**P**	**19 21 52.3**	**+3.0**
HVS				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.0						
HVS				MLR	MLR		
	comp=Z,18μm,20.0s,MS5.9						
CMAR	**Chiang Mai Arr**	**40.14**	**256**	P	**P**	**19 22 17.1**	**-1.1**
	comp=Z,1.3nm,0.9s,mb3.6,baz=55,slow=5.6,SNR=8.2						
CMAR				LR	LR	19 41 41.3	
	comp=Z,314nm,18.8s,MS4.2,baz=253,slow=40						
CMAR	**Chiang Mai Arr**	**40.14**	**256**	*i* P	**P**	**19 22 20.3**	**+2.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WMQ	**Urumqi**	**40.80**	**298**	P	**P**	**19 22 23.9**	**+0.6**
WMQ				AP	pP	19 22 36.0	+2.6
WMQ				XP	sP	19 22 41.4	+3.9
WMQ				PP	PP	19 24 01.8	+4.2
WMQ				PCP	PcP	19 24 26.0	+2.1
WMQ				SCP	ScP	19 28 10.4	-0.5
WMQ				PCS	PcS	19 28 15.5	+0.8
WMQ				S	**S**	**19 28 30.1**	**-1.8**
WMQ				SS	SS	19 31 26.3	-7.1

NIED ***17*** *19:14:00,3540N×140.40E,h20km,Mw4.9 Best double couple: M0=2.45000×10^16 NP1:*ϕ_s*=46.00000°,*δ*=81.00000°,*λ*=80.00000°. NP2:*ϕ_s*=275.00000°,*δ*=13.00000°,*λ*=138.00000°.*

IDC ***17*** *19:14:39.9±0.5,3530N×14020E,h0km,mb4.3/19, mb1 4.5/23,mb1mx4.5/28,mbtmp4.4/23,ML4.8/4,MS4.2/20, Ms1 4.2/20,ms1mx3.9/40,Error ellipse: s-maj=15.3km s-min=12.4km az=94.0*

MOS ***17*** *19:14:43.6±1.2,3529N×14029E,h33km,mb5.0/34, MS4.3/11,Error ellipse: s-maj=10.4km s-min=5.8km az=115.8*

JMA ***17*** *19:14:43.5±0.1,3535N×14036E,h23km±2km,M4.8 Broadband fault plane solution: P waves. NP1:*ϕ_s*=258.00000°,*δ*25.00000°,*λ*88.00000°. NP2:*ϕ_s*=81.00000°,*δ*65.00000°,*λ*91.00000°. Principal axes: T Plg70.0000°, Azm353.0000°; N Plg1.0000°, Azm260.0000°; P Plg20.0000°, Azm170.0000°;*

ISCJB ***17*** *19:14:43.4±0.2,3529N±002×14025E±003,h32km, mb4.7/77,MS4.5/32 Error ellipse: s-maj=3.5km s-min=3.3km az=8.9*

BJI ***17*** *19:14:43.1,3541N×14047E,h41km,mB4.9,mb4.6,Ms4.6, Msz4.4*

GCMT ***17*** *19:14:44.5±0.3,3524N×14041E,h32km±1km,MW5.0/58, Moment Tensor Solution. s39,c56; s58,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.90±.18; Mθθ-3.00±.11; Mφφ0.09±.11; Mrθ2.21±.16; Mθφ-0.97±.07; Mφr1.06±.17; Best double couple: M0=3.94700×10^16 NP1:*ϕ_s*=262.00000°,*δ*26.00000°,*λ*103.00000°. NP2:*ϕ_s*=68.00000°,*δ*64.00000°,*λ*84.00000°. Principal axes: T 3.7770, Plg70.0000°, Azm325.0000°; N 0.3370, Plg6.0000°, Azm70.0000°; P -4.1170, Plg19.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***17*** *19:14:44.5±0.2,3536N×140.18E,mb4.9/45,MS4.7/2, MW4.9(NIED) Error ellipse: s-maj=6.7km s-min=5.5km az=123.0*

NEIC Felt [II] at Tokyo, Yokohama and Zushi. Also felt at Asaka, Ichihara, Kawasaki, Kokubunji, Misato, Narita, Tanashi and Yokosuka. Recorded [5L JMA] in Chiba; [2 JMA] in Ibaraki, Kanagawa, Saitama and Tokyo; [1 JMA] in Gumma, Nagano, Saitama and Tochigi Prefectures.

SZGRF ***17*** *19:14:45.0,3501N×141.12E,h30km,mb5.2,Near east coast of eastern Honshu, Japan*

ISC 17 19:14:45.4±0.2,3529N±003×14023E±003,h34km,

WMQ SCS ScS 19 32 23.4 -2.3
WMQ AMB AMB
comp=Z,17nm,1.4s,mb4.5
WMQ AMB AMB
comp=Z,35nm,8.5s
WMQ LR LR
comp=N,242nm,19.0s,MS4.3
WMQ LR LR
comp=E,369nm,21.4s,MS4.3
WMQ LR LR
comp=Z,381nm,19.0s,MS4.3
LSA Lhasa 41.43 277 *e*P **P 19 22 29.6 +0.8**
LSA pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
LSA Lhasa 41.43 277 *e*P **P 19 22 29.6 +0.8**
comp=Z,5.3nm,0.9s,mb4.2
ZALV Zalesovo Beam 42.40 314 P **P 19 22 35.4 -1.0**
comp=Z,6.1nm,0.6s,mb4.4,baz=106,slow=7.1,SNR=16
ZALV LR LR 19 40 59.4
comp=Z,205nm,18.4s,MS4.0,baz=276,slow=37
ZALV Zalesovo Beam 42.40 314 P **P 19 22 35.4 -1.0**
ZALV LR LR 19 40 59.4
ZAL Zalesovo 42.41 314 P **P 19 22 35.4 -1.0**
NVS Novosibirsk 43.37 315 *e*P **P 19 22 42.6 -1.6**
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,22nm,1.2s
NVS pmax pmax
comp=Z,22nm,1.2s,mb4.8
KSM Kuching 43.66 226 P **P 19 22 47.8 +0.9**
MK31 Makanchi Array 44.25 303 *e*P **P 19 22 51.5 +0.1**
MKAR Makanchi Array 44.25 303 P **P 19 22 50.9 -0.5**
comp=Z,5.8nm,0.5s,mb4.6,baz=86,slow=9.8,SNR=49
MKAR LR LR 19 42 06.6
comp=Z,717nm,20.2s,MS4.6,baz=263,slow=37
MKAR Makanchi Array 44.25 303 *i* P **P 19 22 51.7 +0.3**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
MKAR Makanchi Array 44.25 303 P **P 19 22 50.9 -0.5**
MKAR LR LR 19 42 06.6
KURK Kurchatov 46.27 309 *e*P **P 19 23 06.6 -0.7**
KURK pmax pmax
comp=Z,31nm,0.8s,mb5.3
KURK Kurchatov 46.27 309 *e*P **P 19 23 06.6 -0.8**
comp=Z,31nm,0.8s,mb5.3
HNR Honiara 48.23 153 LR LR 19 41 55.6
comp=Z,146nm,18.5s,MS4.0,baz=89,slow=34
KAKA Kakadu 48.30 190 *e*P **P 19 23 25.4 +1.9**
comp=Z,9.9nm,0.5s,mb5.1
KDAK Kodiak Island 49.04 41 P **P 19 23 28.6 -0.1**
comp=Z,8.1nm,0.6s,mb4.9,baz=246,slow=7.0,SNR=13
KDAK Kodiak Island 49.04 41 *e*P **P 19 23 28.3 -0.4**
KDAK pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
KDAK Kodiak Island 49.04 41 *e*P **P 19 23 28.3 -0.4**
comp=Z,9.3nm,0.7s,mb4.9
PPLA Purkeypile 49.15 34 *e*P **P 19 23 30.7 +1.3**
comp=Z,99nm,1.5s,mb5.6
KTH Kantishna Hill 49.73 33 *e*P **P 19 23 35.3 +1.5**
comp=Z,2μm,0.6s
SEW Seward 50.52 38 *e*P **P 19 23 37.6 -2.4**
MCK McKinley 50.61 33 P **P 19 23 40.0 -0.6**
MCK pmax pmax
comp=Z,22nm,1.5s,mb4.9
MCK McKinley 50.61 33 P **P 19 23 40.0 -0.6**
comp=Z,22nm,1.5s,mb4.9
BVAR Borovoye Array 51.05 313 P **P 19 23 44.1 +0.1**
comp=Z,2.0nm,0.5s,mb4.3,baz=76,slow=8.1,SNR=12
BRVK Borovoye 51.11 313 *e*P **P 19 23 44.0 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRVK Borovoye 51.11 313 *e*P **P 19 23 44.0 -0.4**
comp=Z,5.5nm,0.8s,mb4.5
DIV Divide 52.24 36 *e*P **P 19 23 53.0 +0.2**
comp=Z,20nm,1.1s,mb5.0
BMRM Bremner River 52.83 36 *e*P **P 19 23 57.6 +0.4**
FITZ Fitzroy Crossi 54.87 197 *e*P **P 19 24 13.3 +0.8**
comp=Z,6.9nm,0.6s,mb4.9
FITZ Fitzroy Crossi 54.87 197 LR LR 19 48 47.4
comp=Z,73nm,18.7s,MS3.8,baz=166,slow=37
WRAB Tennant Creek 55.20 187 *e*P **P 19 24 14.5 -0.3**
WRAB pmax pmax
comp=Z,33nm,1.0s,mb5.3
WRAB Tennant Creek 55.20 187 *e*P **P 19 24 14.5 -0.3**
comp=Z,33nm,1.0s,mb5.3
WB2 Warramunga Arr 55.21 187 *e*P **P 19 24 14.3 -0.6**
WRA Warramunga Arr 55.21 187 P **P 19 24 13.6 -1.3**
comp=Z,7.4nm,0.7s,mb4.8,baz=3.6,slow=7.6,SNR=51
CTAO Charters Tower 55.37 173 *e*P **P 19 24 16.2 +0.2**
CTAO pmax pmax
comp=Z,14nm,1.1s,mb4.9
CTAO Charters Tower 55.37 173 *e*P **P 19 24 16.2 +0.1**
comp=Z,14nm,1.1s,mb4.9
SVE Sverdlovsk 55.83 319⇑*e*P **P 19 24 19.4 +0.4**
SVE *e* 19 26 28.6
SVE pmax pmax
comp=Z,13nm,0.7s,mb5.1
SVE MLR MLR
comp=Z,734nm,17.0s,MS4.8
HYT Haines Junctio 56.27 36 *e*P **P 19 24 20.4 +1.9**
INK Inuvik 56.37 26 P **P 19 24 22.3 -0.4**
comp=Z,2.8nm,0.7s,mb4.4,baz=318,slow=7.4,SNR=5.3
INK Inuvik 56.37 26 *e*P **P 19 24 22.3 -0.4**
comp=Z,144nm,0.8s,mb6.1
KBL Kabul 57.15 292 *e*P **P 19 24 28.0 -0.8**
KBL pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
KBL Kabul 57.15 292 *e*P **P 19 24 28.0 -0.8**
comp=Z,7.4nm,0.9s,mb4.7
ASAR Alice Springs 58.94 187 P **P 19 24 41.7 +0.5**
comp=Z,2.5nm,0.4s,mb4.6,baz=4.1,slow=6.1,SNR=49
MBWA Marble Bar 59.41 202 *e*P **P 19 24 45.9 +1.4**
comp=Z,11nm,0.5s,mb5.1
DLBC Dease Lake 60.59 37 P **P 19 24 53.0 +0.8**
baz=284,slow=4.2
RES Resolute Bay 64.52 14 P **P 19 25 17.8 -0.5**
comp=Z,222nm,0.6s
KLMR Klimovskoe 64.72 328 P **P 19 25 21.5 +1.8**
ARCES ARCESS Array B 65.29 339 P **P 19 25 22.7 -0.6**
comp=Z,1.7nm,0.7s,mb4.2,baz=39,slow=7.8,SNR=6.6
ARCES LR LR 19 59 08.9
comp=Z,460nm,18.2s,MS4.7,baz=332,slow=41
ARCES ARCESS Array B 65.29 339 P **P 19 25 22.7 -0.6**
ARCES LR LR 19 59 08.9
YKA Yellowknife Ar 65.80 29 P **P 19 25 26.4 -0.3**
comp=Z,1.9nm,0.7s,mb4.3,baz=302,slow=6.4,SNR=5.6
YKA LR LR 20 00 15.7
comp=Z,46nm,18.6s,MS3.7,baz=165,slow=42
YKA Yellowknife Ar 65.80 29 *i* P **P 19 25 27.2 +0.5**
YKA pmax pmax
comp=Z,2.0nm,0.7s
FORT Forrest 66.71 191 *e*P **P 19 25 33.4 +0.6**
comp=Z,19nm,0.6s,mb5.3
STKA Stephens Creek 66.83 179 *e*P **P 19 25 33.0 -0.5**
comp=Z,4.0nm,0.9s,mb4.5
STKA Stephens Creek 66.83 179 P **P 19 25 33.9 +0.3**
comp=Z,1.2nm,0.5s,mb4.2,baz=318,slow=12,SNR=6.2
STKA LR LR 19 55 53.5
comp=Z,135nm,20.0s,MS4.2,baz=24,slow=37
MOS Moscow 68.08 323 *e*P **P 19 25 39.4 -1.9**
MOS *e* 19 28 09.7
MOS MLR MLR
comp=Z,800nm,18.0s,MS5.0
OBN Obninsk 68.92 323 *i* P **P 19 25 47.0 +0.4**
OBN *e* 19 26 11.8
OBN 19 28 15.6
OBN *e*SS SS 19 39 14.8 +1.6
OBN pmax pmax
comp=Z,21nm,1.4s,mb4.9
OBN MLR MLR
comp=Z,600nm,15.0s,MS5.0
KLBR Kellerberrin 69.80 200 *e*P **P 19 25 51.7 -0.5**
comp=Z,17μm,13.7s
ETW Entiat 70.57 45 P **P 19 25 58.1 +1.2**
MUN Mundaring 70.61 202 *e*P **P 19 25 58.3 +1.1**
NWAO Narrogin (SRO) 71.20 200 P **P 19 26 02.8 +2.1**
NWAO pmax pmax
comp=Z,12nm,1.0s
NWAO Narrogin (SRO) 71.20 200 P **P 19 26 02.8 +2.1**
comp=Z,12nm,1.0s,mb4.8
EDM Edmonton 71.31 38 *e*P **P 19 26 10.1 +8.9**
KIV Kislovodsk 71.32 311⇑*e*P **P 19 26 02.5 +1.0**
KIV pmax pmax
comp=Z,17nm,1.4s,mb4.8
KIV MLR MLR
comp=Z,300nm,18.0s,MS4.6
KIV Kislovodsk 71.32 311 *e*P **P 19 25 59.2 -2.3**
comp=Z,24nm,1.0s,mb5.1
OD2 Odessa Site #2 71.62 45 *e*P **P 19 25 58.9 -4.3**
AKASG Malin Array Be 75.08 322 P **P 19 26 23.2 -0.3**
comp=Z,2.9nm,0.5s,mb4.4,baz=49,slow=6.0,SNR=14
AKASG LR LR 20 02 22.5
comp=Z,879nm,18.2s,MS5.1,baz=55,slow=38
NB2 NORSAR Subarra 75.42 337 P **P 19 26 24.6 -0.7**
comp=Z,4.8nm,0.7s,mb4.5,baz=40,slow=6.2
NOA NORSAR Array B 75.42 337 P **P 19 26 25.5 +0.2**
comp=Z,2.6nm,0.8s,mb4.2,baz=40,slow=5.8,SNR=8.0
NOA LR LR 20 02 48.4
comp=Z,354nm,19.4s,MS4.7,baz=50,slow=38
NOA NORSAR Array B 75.42 337 P **P 19 26 25.5 +0.2**
NOA LR LR 20 02 48.4
UMR Umm Al-Rimmam 75.47 296 *e*P **P 19 26 25.4 -0.7**
baz=296
UMR AMb AMB 19 26 26.9
comp=Z,15nm,0.6s,mb5.1,baz=296
MIB Mutribah 75.61 296 *e*P **P 19 26 26.1 -0.9**
baz=296
MIB AMb AMB 19 26 27.9
comp=Z,20nm,1.0s,mb5.0,baz=296
RDF Al-Radifah 75.92 295 *e*P **P 19 26 27.7 -1.1**
baz=296
RDF AMb AMB 19 26 30.4
comp=Z,33nm,0.6s,mb5.4,baz=296
NAY Al-Naaiem 75.98 296 *e*P **P 19 26 28.1 -1.0**
baz=296
NAY AMb AMB 19 26 30.0
comp=Z,12nm,0.8s,mb4.9,baz=296
DLMT Dillon 76.26 44 *e*P **P 19 26 30.8 +0.4**
comp=Z,34nm,1.3s,mb5.1
DLMT *e* pP 19 26 42.1 +1.0
NVAR Mina Array Bea 76.81 52 P **P 19 26 34.5 +0.8**
comp=Z,1.8nm,0.7s,mb4.1,baz=288,slow=5.8,SNR=9.3
MALT Malatya 77.09 308 P **P 19 26 32.2 -3.0**
MALT pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MALT Malatya 77.09 308 P **P 19 26 32.2 -3.0**
comp=Z,8.5nm,1.1s,mb4.6
ELK Elko 77.41 49 *e*P **P 19 26 38.8 +1.8**
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK Elko 77.41 49 *e*P **P 19 26 38.8 +1.7**
comp=Z,8.8nm,1.1s,mb4.6
IMW Indian Meadow 78.08 44 *e*P **P 19 26 41.5 +0.8**
comp=Z,13nm,1.1s,mb4.8
IMW *e* pP 19 26 52.8 +1.4
FLWY Flagg Ranch 78.11 44 *e*P **P 19 26 40.6 -0.2**
comp=Z,20nm,1.2s,mb4.9
RRI2 Red Ridge 78.20 45 *e*P **P 19 26 42.9 +1.5**
comp=Z,4.6nm,0.9s,mb4.4
MOOW Moose Ponds 78.29 44 *e*P **P 19 26 41.6 -0.2**
comp=Z,18nm,1.5s,mb4.8
KWP Kalwaria 78.98 324 *e*P **P 19 26 45.7 +0.2**
KWP pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KWP Kalwaria 78.98 324 *e*P **P 19 26 45.7 +0.2**
comp=Z,8.2nm,0.7s,mb4.8
HWUT Hardware Ranch 79.12 47 *e*P **P 19 26 47.8 +1.4**
comp=Z,21nm,1.3s,mb4.9
HWUT *e* pP 19 26 57.8 +0.6
DUG Dugway 79.23 48 *e*P **P 19 26 48.5 +1.5**
DUG *e* pP 19 26 57.4 -0.4
DUG pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
DUG Dugway 79.23 48 *e*P **P 19 26 48.5 +1.4**
comp=Z,9.8nm,1.0s,mb4.7
DUG *e* pP 19 26 57.4 -0.4
PDAR Pinedale Array 79.58 45 P **P 19 26 49.4 +0.5**
comp=Z,3.0nm,0.6s,mb4.4,baz=280,slow=1.9,SNR=20
STHS Stebnicka Huta 79.83 325 *e*P **P 19 26 49.8 -0.3**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
STHS Stebnicka Huta 79.83 325 *e*P **P 19 26 49.8 -0.3**
comp=Z,3.2nm,0.9s,mb4.2
OJC Ojcow 79.94 326 *e*P **P 19 26 50.5 -0.2**
CRVS Cervenica-Dubn 80.07 324 *e*P **P 19 26 52.9 +1.4**
NIE Niedzica 80.26 325 *e*P **P 19 26 53.3 +0.8**
MSU Marysvale 80.64 49 *e*P **P 19 26 53.6 -1.1**
MSU *e* pP 19 27 06.0 +0.5
PFO Pinyon Flat Ob 80.82 55 *e*P **P 19 26 56.5 +0.7**
PFO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PFO Pinyon Flat Ob 80.82 55 *e*P **P 19 26 56.5 +0.8**
comp=Z,10nm,1.0s,mb4.7
SRU San Rafael 81.28 48 *e*P **P 19 26 58.3 +0.1**
SRU pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SRU San Rafael 81.28 48 *e*P **P 19 26 58.3 +0.2**
comp=Z,10.0nm,1.1s,mb4.7
MORC Moravsky Berou 81.29 326 *e*P **P 19 26 55.7 -2.2**
MORC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MORC Moravsky Berou 81.29 326 *e*P **P 19 26 55.7 -2.3**
comp=Z,4.9nm,0.9s,mb4.4
DPC Dobruska-Polom 81.42 327 *e*P **P 19 26 58.9 +0.3**
DPC *e*pP pP 19 27 07.9 -1.5
PSZ Piszkesteto 81.51 324 P **P 19 26 57.5 -1.7**
PSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
PSZ Piszkesteto 81.51 324 P **P 19 26 57.5 -1.6**
comp=Z,6.9nm,1.0s,mb4.5
BRG Berggiesshubel 82.06 329 *e*P **P 19 27 02.0 0.0**
BRG *e* pP 19 27 10.5 -2.3
BRG pmax pmax
comp=Z,8.0nm,1.6s,mb4.4
BRG Berggiesshubel 82.06 329 *e*P **P 19 27 02.0 0.0**
comp=Z,14nm,1.6s,mb4.6
BRG *e* pP 19 27 10.5 -2.3
comp=Z,9.4nm,1.3s
CLL Collm 82.12 330 *i* P **P 19 27 03.0 +0.7**
CLL *i* *PP pP 19 27 11.2 -1.9
CLL *e*S S 19 37 22.0 +7.5
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CLL MLR MLR
comp=Z,400nm,16.3s,MS4.9
CLL Collm 82.12 330 *i* P **P 19 27 03.0 +0.7**
comp=Z,8.0nm,1.0s,mb4.6
CLL *i* pP pP 19 27 11.2 -1.9
comp=Z,9.0nm,0.9s
CLL *e*(sP) sP 19 27 17.0 -0.1
CLL *e*S S 19 37 22.0 +7.5
CLL *e*PPS 19 38 34.0
CLL *e*(SS) 19 43 12.0
CLL LmH 20 06 00.0
comp=N,200nm,18.6s
CLL LmH 20 06 00.0
comp=E,300nm,20.3s
CLL Collm 82.12 330 *i* P **P 19 27 03.0 +0.7**
comp=E,8.0nm,1.0s,mb4.6
CLL *i* pP pP 19 27 11.2 -1.9
CLL *e*S S 19 37 22.0 +7.5
CLL LR LR
comp=Z,400nm,16.3s,MS4.9
GLA Glamis 82.24 55 P **P 19 27 04.3 +1.0**
GLA pmax pmax
comp=Z,17nm,1.1s,mb4.9
GLA Glamis 82.24 55 P **P 19 27 04.3 +1.0**
comp=Z,17nm,1.1s,mb4.9
MODS Modra-Piesok 82.42 326 *e*P **P 19 27 04.6 +0.7**
MODS *e*PP PP 19 30 08.1 -4.3
PRU Pruhonice 82.46 328 *e*P **P 19 27 04.7 +0.6**
PRU *e*pP pP 19 27 13.7 -1.2
PV10 Paradox Valley 82.65 48 *e*P **P 19 27 06.9 +1.5**
WUAZ Wupatki 82.99 51 *e*P **P 19 27 08.6 +1.4**
comp=Z,8.7nm,0.9s,mb4.8
PV01 Paradox Valley 83.09 48 *e*P **P 19 27 08.6 +1.0**
KHC Kasperske Hory 83.52 328 *e*P **P 19 27 09.8 +0.2**
KHC *e*pP pP 19 27 18.0 -2.4
GERES GERESS Array B 83.68 328 P **P 19 27 10.2 -0.2**
comp=Z,0.7nm,0.6s,mb4.0,baz=30,slow=6.2,SNR=9.1
GERES LR LR 20 08 35.4
comp=Z,333nm,18.1s,MS4.8,baz=227,slow=39
GRA1 Grafenberg Arr 84.09 330 *e*P **P 19 27 12.5 0.0**
comp=Z,20nm,1.2s,mb5.1
GRA1 *e*pP pP 19 27 21.2 -2.2
GRA1 LR LR
comp=Z,300nm,18.6s,MS4.7
GRF Grafenberg Arr 84.09 330 *e*P **P 19 27 12.5 0.0**
GRF *e**PP pP 19 27 21.2 -2.2
GRF pmax pmax
comp=Z,20nm,1.2s,mb5.1
GRF MLR MLR
comp=Z,300nm,18.6s,MS4.7
GRF Grafenberg Arr 84.09 330 *e*P **P 19 27 12.5 0.0**
GRF *e**PP pP 19 27 21.2 -2.2
GRF pmax pmax
comp=Z,20nm,1.2s,mb5.1
GRF MLR MLR
comp=Z,300nm,18.6s,MS4.7
GRF Grafenberg Arr 84.09 330 *e*P **P 19 27 12.5 0.0**
comp=Z,20nm,1.2s,mb5.1
GRF *e*pP pP 19 27 21.2 -2.2
GRF *e*L 20 12 11.6
comp=Z,329nm,18.6s
PMOR Pomariorio Ree 84.38 113 *e*T 20 59 41.4
comp=Z,22nm,0.2s
PPT Papeete 84.73 116 *e*LR LR 19 53 41.7
comp=Z,319nm,29.8s
PPT Papeete 84.73 116 LR LR 20 02 01.3
comp=Z,12.1nm,19.0s,MS4.3,baz=308,slow=34
SDCO Great Sand Dun 85.18 46 *e*P **P 19 27 17.8 -0.4**
comp=Z,9.0nm,1.3s,mb4.7
MEH Mehetia 86.04 115 *e*T 21 02 01.7
comp=Z,4μm,0.3s
ANMO Albuquerque 86.44 49 *i* P **P 19 27 25.7 +1.1**
BAIF Baives 86.54 333 *e*P **P 19 27 25.0 +0.2**
TAOE Nuku Hiva Isla 86.69 103 *e*LR LR 19 55 06.5
comp=Z,1μm,29.8s
CDF Champ du Feu 86.70 331 *e*P **P 19 27 25.4 -0.2**
comp=Z,8.0nm,0.9s,mb4.7
CDF Champ du Feu 86.70 331 *e*P **P 19 27 25.4 -0.2**
CDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
CDF Champ du Feu 86.70 331 *e*P **P 19 27 25.4 -0.2**
comp=Z,4.0nm,0.9s,mb4.7
SCHQ Schefferville 87.27 15 LR LR 20 08 19.8
comp=Z,128nm,19.2s,MS4.3,baz=301,slow=37
TBI Tubuai 88.47 120 *e*LR LR 19 55 34.3
comp=Z,213nm,26.2s
TBI Tubuai 88.47 120 *e*T 21 05 08.8
comp=Z,13nm,0.3s
CABF La Chapelle 88.63 330 *e*P **P 19 27 36.2 +1.3**
LOR Lormes 88.97 332 *e*P **P 19 27 37.9 +1.4**
LPL La Plagne 89.25 329 *e*P **P 19 27 36.6 -1.2**
SSF Saint Saulge 89.28 332 *e*P **P 19 27 39.2 +1.3**
SMF Signal de Mont 89.50 332 *e*P **P 19 27 38.5 -0.4**
AVF Avril sur Loir 89.56 332 *e*P **P 19 27 38.8 -0.4**
comp=Z,12nm,1.1s,mb4.8
AVF Avril sur Loir 89.56 332 *e*P **P 19 27 38.8 -0.4**
AVF pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
AVF Avril sur Loir 89.56 332 *e*P **P 19 27 38.8 -0.4**
comp=Z,6.3nm,1.1s,mb4.9
TXAR Lajitas Array 91.95 52 P **P 19 27 50.6 -0.1**
comp=Z,0.3nm,0.4s,mb4.0,baz=309,slow=2.2,SNR=8.4
KEST Kesra 95.81 322 LR LR 20 16 14.8
comp=Z,104nm,19.5s,MS4.3,baz=309,slow=39
RKT Rikitea 98.99 112 *e*LR LR 20 00 23.1
comp=Z,232nm,31.0s
TORD Torodi Ar. Bea 117.85 313 PKP PKPdf 19 33 27.7 -1.1
comp=Z,0.6nm,0.8s,baz=32,slow=0.9,SNR=4.1
LPAZ La Paz 148.39 61 PKPbc PKPbc 19 34 28.5 -0.2
comp=Z,1.8nm,0.6s,baz=267,slow=1.8,SNR=8.3

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*SZGRF **17** 19:35:21.4, 927S×1360W, h22km, mb4.8, Ascension Island region*
*IDC **17** 19:35:49.4±2.7, 490S×1160W, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.0/23, mbtmp4.3/7, ML3.1/1, MS3.9/15, Ms1 3.9/15, ms1mx3.7/29, Error ellipse: s-maj=66.7km s-min=52.2km az=112.0*
*ISCJB **17** 19:35:53.0±0.9, 44S±0.1×116W±.02, h10km, mb4.6/23, MS4.0/14, Error ellipse: s-maj=30.0km s-min=17.8km az=12.6*
*NEIC **17** 19:35:54.9±0.7, 450S×1150W, h10km, mb4.6/16, MS4.2/1, Error ellipse: s-maj=25.0km s-min=13.1km az=103.0*
ISC 17 19:35:55.4±0.9, 44S±01×117W±.02, h10km, (h21km±.3km:pP-P), n73, o0990/58, mb4.6/23, MS4.0/14, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.94**	**32**	Pn	**Pn**	**19 39 00.6**	**+1.1**
	0.1nm,0.3s,baz=218,slow=11,SNR=3.5						
DBIC				LR	LR	19 42 51.7	
	comp=Z,367nm,21.0s,baz=191,slow=32						
DBIC	**Dimbokro**	**12.94**	**32**	P	**Pn**	**19 38 59.1**	**-0.3**
	27nm,1.3s						
DBIC				Pn	**Pn**	**19 39 00.6**	**+1.1**
DBIC				LR	LR	19 42 51.7	
BBTS	**Babate**	**19.55**	**346**	P	**Pn**	**19 40 24.4**	**-0.3**
	16nm,0.8s,baz=153,slow=5.3,SNR=4.2						
BBTS				LR	LR	19 46 09.1	
	comp=Z,208nm,21.9s,baz=323,slow=31						
BBTS	**Babate**	**19.55**	**346**	P	**Pn**	**19 40 24.4**	**-0.3**
BBTS				LR	LR	19 46 09.1	
TOAO	**Torodi Ar. Sit**	**21.91**	**37**	*e*P	**P**	**19 40 48.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**21.91**	**37**	P	**P**	**19 40 48.3**	**-0.8**
	7.7nm,0.8s,mb4.2,baz=230,slow=9.0,SNR=38						
TORD				LR	LR	19 48 18.1	
	comp=Z,180nm,19.8s,MS3.5,baz=280,slow=34						
TSUM	**Tsumeb**	**32.10**	**120**	LR	LR	19 53 05.0	
	comp=Z,285nm,20.5s,MS3.9,baz=284,slow=33						
BDFB	**Brasilia**	**37.42**	**250**	LR	LR	19 55 48.6	
	comp=Z,99nm,20.9s,MS3.6,baz=83,slow=32						
BOSA	**Boshof**	**42.50**	**129**	LR	LR	20 00 02.5	
	comp=Z,128nm,19.2s,MS3.8,baz=310,slow=34						
KEST	**Kesra**	**44.53**	**25**	P	**P**	**19 44 05.9**	**-1.4**
	2.9nm,0.8s,mb4.2,baz=166,slow=2.6,SNR=9.9						
ETSF	**Etsaut**	**48.15**	**11**	*e*P	**P**	**19 44 34.4**	**-1.3**
	24nm,1.4s,mb4.7						
ETSF	**Etsaut**	**48.15**	**11**	*e*P	**P**	**19 44 34.4**	**-1.3**
	12nm,1.4s,mb4.7						
KMBO	**Kilima Mbogo**	**48.96**	**88**	LR	LR	20 04 16.7	
	comp=Z,329nm,19.5s,MS4.3,baz=72,slow=35						
CAF	**Calviac**	**50.63**	**13**	*e*P	**P**	**19 44 55.2**	**+0.6**
	10nm,1.1s,mb4.4						
CAF	**Calviac**	**50.63**	**13**	*e*P	**P**	**19 44 55.2**	**+0.6**
	5.1nm,1.1s,mb4.4						
RJF	**Les Rejaudoux**	**50.87**	**12**	*e*P	**P**	**19 44 55.9**	**-0.5**
	13nm,1.0s,mb4.5						
RJF	**Les Rejaudoux**	**50.87**	**12**	*e*P	**P**	**19 44 55.9**	**-0.5**
	6.3nm,1.0s,mb4.5						
VIVF	**Saint-Julien-l**	**51.18**	**15**	*e*P	**P**	**19 45 00.0**	**+1.2**
	8.4nm,0.8s,mb4.4						
VIVF	**Saint-Julien-l**	**51.18**	**15**	*e*P	**P**	**19 45 00.0**	**+1.2**
	4.2nm,0.8s,mb4.4						
MBDF	**Montbardon**	**51.63**	**17**	*e*P	**P**	**19 45 03.3**	**+1.2**
	19nm,1.0s,mb4.7						
MBDF	**Montbardon**	**51.63**	**17**	*e*P	**P**	**19 45 03.3**	**+1.2**
	9.6nm,1.0s,mb4.7						
TCF	**Toulx Ste Croi**	**51.96**	**12**	*e*P	**P**	**19 45 04.6**	**+0.1**
	43nm,1.4s,mb4.9						
TCF	**Toulx Ste Croi**	**51.96**	**12**	*e*P	**P**	**19 45 04.6**	**+0.1**
	22nm,1.4s,mb4.9						
LPG	**La Plagne**	**52.33**	**16**	*e*P	**P**	**19 45 08.5**	**+1.1**
	22nm,0.9s,mb4.8						
LPG	**La Plagne**	**52.33**	**16**	*e*P	**P**	**19 45 08.5**	**+1.1**
	11nm,0.9s,mb4.8						
LPL	**La Plagne**	**52.34**	**16**	*e*P	**P**	**19 45 08.5**	**+1.1**
	23nm,1.1s,mb4.7						
LPL	**La Plagne**	**52.34**	**16**	*e*P	**P**	**19 45 08.5**	**+1.1**
	11nm,1.1s,mb4.7						
AVF	**Avril sur Loir**	**52.68**	**13**	*e*P	**P**	**19 45 09.6**	**-0.3**
SSF	**Saint Saulge**	**52.97**	**13**	*e*P	**P**	**19 45 11.9**	**-0.2**
	11nm,1.0s,mb4.4						
SSF	**Saint Saulge**	**52.97**	**13**	*e*P	**P**	**19 45 11.9**	**-0.2**
	5.4nm,1.0s,mb4.4						
CABF	**La Chapelle**	**53.18**	**15**	*e*P	**P**	**19 45 13.6**	**0.0**
LOR	**Lormes**	**53.25**	**13**	*e*P	**P**	**19 45 13.7**	**-0.4**
HAU	**Haudompre**	**54.54**	**15**	*e*P	**P**	**19 45 23.1**	**-0.4**
CDF	**Champ du Feu**	**55.15**	**15**	*e*P	**P**	**19 45 27.4**	**-0.6**
BAIF	**Baives**	**55.96**	**12**	*e*P	**P**	**19 45 32.9**	**-0.8**
	13nm,0.8s,mb4.7						
BAIF	**Baives**	**55.96**	**12**	*e*P	**P**	**19 45 32.9**	**-0.8**
	6.7nm,0.8s,mb4.7						
FUR	**Furstenfeldbru**	**56.08**	**18**	*e*P	**P**	**19 45 35.3**	**+0.6**
	comp=Z,19nm,0.9s,mb5.1						
FUR				*e*pP	pP	19 45 41.6	+3.7
	comp=Z,19nm,0.9s						
GIVF	**Givet**	**56.13**	**13**	*e*P	**P**	**19 45 34.1**	**-0.9**
LPAZ	**La Paz**	**56.62**	**253**	LR	LR	20 09 01.1	
	comp=Z,108nm,18.0s,MS4.0,baz=85,slow=35						
GRA1	**Grafenberg Arr**	**57.42**	**17**	*e*P	**P**	**19 45 44.5**	**+0.4**
	comp=Z,9.0nm,1.1s,mb4.7						
GRA1				*e*pP	pP	19 45 50.6	+3.3

GRF	**Grafenberg Arr**	**57.42**	**17**	*eP*	**P**	**19 45 44.5**	**+0.4**
	comp=Z,9.0nm,1.1s,mb4.7						
GRF				*e*pP	pP	19 45 50.6	+3.3
	comp=Z,9.0nm,1.1s						
WET	**Wettzell**	**57.45**	**19**	*eP*	**P**	**19 45 44.2**	**-0.2**
	comp=Z,8.0nm,1.2s,mb4.6						
GEC2	**GERESS Array S**	**57.46**	**20**	*eP*	**P**	**19 45 44.9**	**+0.5**
	comp=Z,11nm,1.0s,mb4.8						
GEC2				*e*pP	pP	19 45 51.3	+3.6
GERES	**GERESS Array B**	**57.46**	**20**	P	**P**	**19 45 43.9**	**-0.6**
	comp=Z,4.8nm,0.8s,mb4.6,baz=190,slow=6.8,SNR=45						
KHC	**Kasperske Hory**	**57.67**	**19**	*eP*	**P**	**19 45 46.4**	**+0.5**
KHC				*ex*	x	19 45 53.5	
KHC				AMS	AMS	20 08 30.0	
	comp=Z,500nm,14.3s						
ROTZ	**Rotzenmuhle**	**57.78**	**18**	*eP*	**P**	**19 45 47.1**	**+0.4**
	comp=Z,30nm,2.1s,mb5.0						
MANZ	**Manzenberg**	**57.95**	**18**	*eP*	**P**	**19 45 47.5**	**-0.3**
	comp=Z,6.0nm,1.0s,mb4.6						
NKC	**Novy Kostel**	**58.27**	**18**	*eP*	**P**	**19 45 50.9**	**+0.8**
TREC	**Trest**	**58.46**	**21**	AMS	AMS	20 08 10.0	
	comp=Z,500nm,14.6s						
PRU	**Pruhonice**	**58.73**	**19**	AMS	AMS	20 08 20.0	
	comp=Z,600nm,15.7s						
PVCC	**Panska Ves**	**59.20**	**19**	*eP*	**P**	**19 45 57.0**	**+0.4**
PVCC				AMS	AMS	20 08 20.0	
	comp=Z,400nm,18.5s						
BRG	**Berggiesshubel**	**59.30**	**19**	*eP*	**P**	**19 45 56.7**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.5						
BRG	**Berggiesshubel**	**59.30**	**19**	*eP*	**P**	**19 45 57.1**	**-0.1**
	comp=Z,5.0nm,1.1s,mb4.5						
BRG				*e*		19 46 05.7	
	comp=Z,4.5nm,0.9s						
BRG							
	comp=N,2μm,16.4s						
BRG							
	comp=E,289nm,20.1s						
BRG							
	comp=Z,314nm,19.5s						
BRG	**Berggiesshubel**	**59.30**	**19**	*eP*	**P**	**19 45 57.1**	**-0.1**
	comp=Z,3.0nm,1.1s,mb4.2						
BRG				*e*		19 46 05.7	
BRG				LR	LR		
	comp=Z,190nm,19.5s,MS4.2						
DPC	**Dobruska-Polom**	**59.64**	**20**	*eP*	**P**	**19 46 00.3**	**+0.7**
DPC				AMS	AMS	20 07 50.0	
	comp=Z,500nm,10.3s						
UPC	**Upice**	**59.67**	**20**	*eP*	**P**	**19 46 00.3**	**+0.5**
OKC	**Ostrava-Krasne**	**59.87**	**22**	*eP*	**P**	**19 46 02.3**	**+1.1**
OKC				AMS	AMS	20 06 50.0	
	comp=Z,500nm,16.1s						
CRVS	**Cervenica-Dubn**	**60.42**	**24**	*eP*	**P**	**19 46 07.3**	**+2.3**
CRVS	**Cervenica-Dubn**	**60.42**	**24**	*e*	**P**	**19 46 07.3**	**+2.3**
KOLS	**Kolonicke sedl**	**60.78**	**25**	*eP*	**P**	**19 46 13.0**	**+5.5**
MALT	**Malatya**	**62.87**	**43**	P	**P**	**19 46 26.1**	**+4.3**
	comp=Z,3.1nm,1.0s,mb4.4						
ROSC	**El Rosal**	**63.27**	**278**	LR	LR	20 10 37.0	
	comp=Z,163nm,19.4s,MS4.2,baz=83,slow=33						
PLCA	**Paso Flores**	**63.82**	**226**	LR	LR	20 09 50.1	
	comp=Z,63nm,19.2s,MS3.8,baz=272,slow=32						
AKASG	**Malin Array Be**	**65.14**	**27**	P	**P**	**19 46 34.5**	**-1.9**
	comp=Z,2.2nm,0.8s,mb4.2,baz=230,slow=6.8,SNR=14						
SNAA	**Sanae**	**67.41**	**177**	P	**P**	**19 46 50.6**	**0.0**
	comp=Z,6.9nm,1.1s,mb4.6						
ARCES	**ARCESS Array B**	**78.00**	**13**	P	**P**	**19 47 51.3**	**-2.3**
	comp=Z,2.1nm,0.7s,mb4.2,baz=226,slow=3.2,SNR=5.1						
MAW	**Mawson**	**80.07**	**158**	LR	LR	20 19 21.5	
	comp=Z,75nm,18.3s,MS4.1,baz=50,slow=33						
CMIG	**Matias Romero**	**84.82**	**288**	LR	LR	20 26 54.0	
	comp=Z,82nm,19.7s,MS4.1,baz=198,slow=36						
TXAR	**Lajitas Array**	**93.88**	**299**	LR	LR	20 23 42.9	
	comp=Z,72nm,21.6s,MS4.1,baz=205,slow=30						
MKAR	**Makanchi Array**	**95.90**	**44**	LR	LR	20 39 18.1	
	comp=Z,53nm,18.1s,MS4.1,baz=357,slow=40						
PDAR	**Pinedale Array**	**98.77**	**312**	LR	LR	20 31 24.2	
	comp=Z,66nm,19.2s,MS4.2,baz=305,slow=34						
ASAR	**Alice Springs**	**136.35**	**131**	PKP	PKPdf	19 55 13.7	-4.6
	comp=Z,0.6nm,0.8s,baz=211,slow=2.4,SNR=4.1						
WRA	**Warramunga Arr**	**138.75**	**127**	PKP	PKPdf	19 55 21.0	-1.7
	comp=Z,0.6nm,0.8s,baz=246,slow=2.8,SNR=3.3						

JMA 17 19:36:03.4±0.1, 2491N×12567E, h47km±1km, M3.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.28**	**238**	P	Pn	19 36 12.0	-0.1
JOGS				S	Sn	19 36 18.3	+0.1
JMJ	**Miyako jima 2**	**0.35**	**255**	P	Pn	19 36 12.7	-0.1
JMJ				S	Sn	19 36 19.5	0.0
JTJ	**Tarama**	**0.92**	**253**	P	Pn	19 36 20.2	+0.2
JTJ				S	Sn	19 36 32.2	+0.1
JIJ	**Ishigaki jima**	**1.49**	**249**	P	Pn	19 36 28.2	+0.4
JIJ				S	Sn	19 36 47.4	+1.3
JKRS	**Kuro-shima**	**1.65**	**246**	P	Pn	19 36 31.9	+1.9
JKRS				S	Sn	19 36 52.5	+2.5
JKE	**Kume jima 2**	**1.73**	**35**	P	Pn	19 36 32.2	+1.1
IRIF	**Iriomote-Funau**	**1.86**	**252**	P	Pn	19 36 33.8	+1.1
IRIF				*e*S	Sn	19 36 57.4	+2.4
JAGN	**Aguni-jima**	**2.19**	**40**	P	Pn	19 36 39.7	+2.4
JAGN				*e*S	Sn	19 37 05.7	+2.4
JOW	**Kunigami**	**3.03**	**50**	P	Pn	19 36 50.8	+2.0
JTK	**Tokunoshima**	**4.11**	**45**	P	Pn	19 37 03.8	+0.2
JAM	**Amami Oshima**	**4.96**	**44**	P	Pn	19 37 15.5	+0.2

*IDC **17** 19:39:38.5±8.1, 533N×9442E, h71km±56km, mb3.4/5, mb1 3.5/7, mb1mx3.3/23, mbtmp3.4/7, ML3.6/2, Error ellipse: s-maj=125.1km s-min=18.7km az=63.0*
*NEIC **17** 19:39:39.0±4.5, 528N×9445E, h76km±32km, mb4.1/3, Error ellipse: s-maj=69.6km s-min=12.3km az=65.0*
*ISCJB **17** 19:39:42.0±3.9, 55N±02×949E±03, h103km±31km, mb3.8/8, Error ellipse: s-maj=59.1km s-min=12.9km az=154.4*
ISC 17 19:39:42.9±3.7, 55N±02×949E±03, h96km±30km, n13, σ1§01/15, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.83**	**123**	P	**Pn**	**19 40 53.2**	**-0.1**
	0.7nm,0.3s,baz=331,slow=13,SNR=4.8						
PSI				S	**Sn**	**19 41 47.5**	**-0.7**
	0.9nm,0.3s,baz=141,slow=20,SNR=2.6						
PSI	**Prapat**	**4.83**	**123**	P	**Pn**	**19 40 53.2**	**-0.1**
PSI				S	**Sn**	**19 41 47.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**13.50**	**17**	P	**Pn**	**19 42 52.0**	**+1.5**
	0.2nm,0.3s,baz=210,slow=14,SNR=7.0						
KSM	**Kuching**	**15.91**	**104**	P	**Pn**	**19 43 29.2**	**+7.9**
LSA	**Lhasa**	**24.35**	**352**	*eP*	**P**	**19 44 53.2**	**+1.4**
	1.9nm,0.5s,mb3.7						
MKAR	**Makanchi Array**	**42.57**	**347**	P	**P**	**19 47 28.0**	**-1.1**
	0.7nm,0.4s,mb3.8,baz=170,slow=8.6,SNR=6.6						
MKAR	**Makanchi Array**	**42.57**	**347**	P	**P**	**19 47 28.0**	**-1.1**
SONM	**Songino Array**	**43.34**	**11**	P	**P**	**19 47 34.8**	**-0.5**
	0.2nm,0.4s,mb3.2,baz=188,slow=8.6,SNR=3.8						
WRA	**Warramunga Arr**	**46.30**	**124**	P	**P**	**19 48 00.0**	**+0.7**
	0.4nm,0.4s,mb3.5,baz=305,slow=9.6,SNR=9.4						
KURK	**Kurchatov**	**47.10**	**346**	*eP*	**P**	**19 48 04.2**	**-0.8**
	1.6nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**47.84**	**129**	P	**P**	**19 48 11.4**	**+0.2**
	0.4nm,0.7s,mb3.4,baz=302,slow=7.8,SNR=7.6						
ZALV	**Zalesovo Beam**	**49.02**	**352**	P	**P**	**19 48 18.0**	**-1.7**
	0.7nm,0.2s,mb4.2,baz=181,slow=7.2,SNR=3.7						
SBA	**Scott Base**	**91.55**	**168**	*eP*	**P**	**19 52 39.4**	**+1.1**
	3.1nm,1.1s,mb4.5						

*NIED **17** 19:52:00, 3530N×14030E, h20km, Mw3.7 Best double couple: M0 3.88000×10^14 NP1:φ=82.00000°, δ81.00000°, λ101.00000°. NP2:φ=209.00000°, δ14.00000°, λ38.00000°.*
*ISCJB **17** 19:52:33.2±0.6, 3526N±004×14039E±008, h38km±6km, mb3.4/3, Error ellipse: s-maj=10.7km s-min=6.5km az=170.9*
*JMA **17** 19:52:34.1±0.1, 3534N×14035E, h20km±2km, M4.0 Broadband fault plane solution: P waves. NP1: φ=220.00000°, δ25.00000°, λ57.00000°. NP2:φ=76.00000°, δ69.00000°, λ104.00000°. Principal axes: T Plg63.0000°, Azm8.0000°; N Plg13.0000°, Azm251.0000°; P Plg23.0000°, Azm155.0000°;*
JMA Felt III J1.
*IDC **17** 19:52:36.1±2.2, 3513N×14026E, h49km±17km, mb3.2/3, mb1 3.5/6, mb1mx3.3/24, mbtmp3.4/6, ML3.3/1 Error ellipse: s-maj=44.5km s-min=11.9km az=84.0*
ISC 17 19:52:33.5±0.7, 3528N±004×14040E±008, h33km±4km, n16, σ0§96/21, mb3.4/3, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.15**	**209**	↑P	**Pb**	**19 52 39.0**	**-0.6**
KTR				S	**Sb**	**19 52 43.1**	**-0.7**
JCN	**Nagara**	**0.22**	**311**	↓P	**Pb**	**19 52 39.2**	**-1.1**
BSO4	**Boso 4**	**0.29**	**191**	↑P	**Pb**	**19 52 41.9**	**+0.7**
BSO3	**Boso 3**	**0.48**	**169**	↓P	**Pb**	**19 52 45.0**	**+1.2**
TATJ	**Tateyama 2**	**0.49**	**240**	P	**Pb**	**19 52 44.9**	**+1.0**
BSO1	**Boso 1**	**0.78**	**143**	↓P	**Pn**	**19 52 48.6**	**+0.4**
JYT	**Yasato**	**0.96**	**350**	P	**Pn**	**19 52 50.0**	**-0.7**
JYT				S	**Sn**	**19 53 02.2**	**-1.1**
JIM2	**Oshima 3**	**0.97**	**235**	P	**Pn**	**19 52 50.1**	**-0.7**
JOD2	**Odawara 2**	**1.08**	**270**	P	**Pn**	**19 52 51.7**	**-0.5**
JOD2				S	**Sn**	**19 53 05.8**	**-0.2**
MJAR	**Matsushiro Arr**	**2.18**	**306**	P	**Pn**	**19 53 08.8**	**+1.3**
	3.0nm,0.3s,baz=140,slow=11,SNR=31						
MAT	**Matsushiro**	**2.19**	**306**	P	**Pn**	**19 53 09.2**	**+1.7**
MAT				*e*S	**Sn**	**19 53 38.0**	**+4.6**
JHJ	**Hachijo jima 2**	**2.21**	**194**	P	**Pn**	**19 53 08.2**	**+0.3**
	421nm,0.3s,baz=76,slow=5.7,SNR=322						
JHJ				S	**Sn**	**19 53 32.9**	**-1.2**
	57nm,0.3s,baz=59,slow=23,SNR=8.5						
ASAJ	**Asahikawa**	**8.99**	**10**	P	**Pn**	**19 54 45.1**	**+4.3**
	0.4nm,0.3s,baz=228,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**44.38**	**303**	P	**P**	**20 00 42.1**	**+1.5**
	0.2nm,0.5s,mb3.1,baz=91,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**55.22**	**187**	P	**P**	**20 02 03.2**	**0.0**
	0.9nm,0.6s,mb4.0,baz=1.7,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**58.94**	**187**	P	**P**	**20 02 28.2**	**-1.3**
	0.2nm,0.8s,mb3.2,baz=26,slow=9.6,SNR=4.1						

*ISCJB **17** 20:16:41.3±0.6, 3985N±003×2060E±004, h14km±4km, Error ellipse: s-maj=6.2km s-min=4.0km az=142.7*
*NEIC **17** 20:16:41.8, 3978N×2064E, h21km, MD3.2(ATH), ML2.8(THE), After ATH.*
*ATH **17** 20:16:41.8, 3978N×2064E, h21km±2km, MD3.2/5*
*CSEM **17** 20:16:42.6±0.1, 3982N×2063E, h12km, MD3.2, Error ellipse: s-maj=3.3km s-min=2.1km az=148.0*
*THE **17** 20:16:42.5, 3983N×2064E, h0km, ML2.8*
ISC 17 20:16:42.3±0.6, 3983N±003×2063E±004, h15km±4km, n15, σ1§10/30, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.24**	**136**	*e*PB	**Pg**	**20 16 47.3**	**-0.4**
JAN				*e*SB	**Sg**	**20 16 50.8**	**-0.5**
IGT	**Igoumenitsa**	**0.38**	**217**	*e*Pg	**Pg**	**20 16 49.2**	**-0.8**
IGT				*e*Sg	**Sg**	**20 16 55.6**	**+0.5**
IGT	**Igoumenitsa**	**0.38**	**217**	*i* PG	**Pg**	**20 16 49.2**	**-0.8**
IGT				*i* SG	**Sg**	**20 16 55.6**	**+0.5**
MEV	**Metsovon**	**0.46**	**96**	*e*Pg	**Pg**	**20 16 51.2**	**-0.4**
MEV				*e*Sg	**Sg**	**20 16 58.3**	**+0.5**
MEV	**Metsovon**	**0.46**	**96**	*i* PG	**Pg**	**20 16 51.2**	**-0.4**
MEV				*i* SG	**Sg**	**20 16 58.3**	**+0.5**
KEK	**Kerkira**	**0.65**	**260**	*e*PN	**Pn**	**20 16 54.6**	**-2.4**
KEK				*e*SN	**Sg**	**20 17 04.3**	**+0.6**
KZN	**Kozani**	**0.99**	**61**	*e*PB	**Pb**	**20 17 00.5**	**-0.8**
KZN				*e*SN	**Sn**	**20 17 16.6**	**+1.1**
THL	**Klokotos Trika**	**1.10**	**104**	*e*Pg	**Pg**	**20 17 01.7**	**-1.9**
THL				*e*Sg	**Sg**	**20 17 19.3**	**+1.4**
THL	**Klokotos Trika**	**1.10**	**104**	*e*PB	**Pb**	**20 17 01.6**	**-1.5**
THL				*e*SN	**Sn**	**20 17 17.4**	**-0.7**
THL	**Klokotos Trika**	**1.10**	**104**	*e*Pg	**Pg**	**20 17 01.7**	**-1.9**
THL				*e*Sn	**Sn**	**20 17 17.4**	**-0.7**
THL				*e*Sg	**Sg**	**20 17 19.3**	**+1.3**
FNA	**Florina**	**1.11**	**31**	*e*Pg	**Pg**	**20 17 03.8**	**+0.1**
FNA				*e*Sg	**Sg**	**20 17 19.7**	**+1.5**
LKD	**Levkas**	**1.12**	**179**	*e*Pg	**Pg**	**20 17 03.7**	**-0.3**
LKD				*e*Sg	**Sg**	**20 17 20.4**	**+1.7**
LIT	**Litokhoron**	**1.45**	**79**	*e*Pg	**Pg**	**20 17 08.8**	**-1.5**
LIT				*e*Sg	**Sg**	**20 17 29.9**	**+0.7**
KRUS	**Krusevo**	**1.60**	**17**	*i* Pn	**Pn**	**20 17 13.8**	**+3.7**
VLS	**Valsamata**	**1.65**	**181**	*e*PN	**Pn**	**20 17 11.5**	**+0.7**
VLS				*e*SN	**Sn**	**20 17 32.8**	**+1.0**

IDC 17 20:31:06.3±3.4, 130S×13657E, h0km, mb3.7/1, mb1 4.0/2, mb1mx3.4/16, mbtmp3.7/2, ML3.4/1, Error ellipse: s-maj=126.1km s-min=46.7km az=110.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.66**	**187**	P	Pn	20 35 26.0	-0.1
	0.1nm,0.3s,baz=8.2,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**22.39**	**186**	P	P	20 36 06.4	0.0
	2.2nm,0.6s,baz=15,slow=11,SNR=48						
LPAZ	**La Paz**	**150.00**	**127**	PKPbc	PKPbc	20 51 00.3	+0.4
	0.9nm,0.5s,baz=250,slow=15,SNR=5.1						

*ISCJB **17** 20:53:31.9±0.9, 1726S±006×6988W±006, h55km±8km, mb4.2/16, MS3.8/8, Error ellipse: s-maj=9.7km s-min=8.7km az=27.2*
*NEIC **17** 20:53:32.1±1.1, 1723S×6986W, h44km±11km, mb4.2/8, Error ellipse: s-maj=13.3km s-min=11.7km az=72.0*
*IDC **17** 20:53:34.8±2.2, 1731S×6970W, h66km±20km, mb3.8/9, mb1 4.1/12, mb1mx3.9/21, mbtmp3.9/12, MS3.7/10, Ms1 3.6/10, ms1mx3.4/34, Error ellipse: s-maj=22.6km s-min=14.0km az=106.0*
ISC 17 20:53:32.9±0.8, 1726S±006×6989W±005, h49km±8km, n42, σ1§43/33, mb4.2/16, MS3.8/8, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.73**	**297**	*e*P	**Pn**	**20 53 57.0**	**-3.5**
ARE				*e*S	**Sn**	**20 54 20.0**	**-1.4**
LPAZ	**La Paz**	**1.94**	**60**	P	**Pn**	**20 54 04.5**	**+1.2**
	84nm,0.3s,baz=236,slow=16,SNR=66						
LPAZ				S	**Sn**	**20 54 27.4**	**+0.9**
	39nm,0.3s,baz=73,slow=23,SNR=4.2						
LPAZ				LR	LR	20 54 34.3	
	comp=Z,640nm,19.1s,baz=249,slow=33						
LPAZ	**La Paz**	**1.94**	**60**	P	**Pn**	**20 54 04.5**	**+1.2**
LPAZ				S	**Sn**	**20 54 27.4**	**+0.9**
LPAZ				LR	LR	20 54 34.3	
LVC	**Limon Verde**	**5.41**	**170**	P	**Pn**	**20 54 52.3**	**+1.3**
	3.1nm,0.3s,baz=308,slow=7.2,SNR=19						
LVC				LR	LR	20 57 06.2	
	comp=Z,936nm,19.2s,baz=347,slow=40						
LVC	**Limon Verde**	**5.41**	**170**	*e*Pn	**Pn**	**20 54 51.7**	**+0.7**
LVC				LR	LR	20 57 06.2	
SIV	**San Ignacio**	**8.54**	**83**	P	**Pn**	**20 55 33.0**	**-1.1**
	3.4nm,0.3s,baz=258,slow=12,SNR=24						
CFAA	**Coronel Fontan**	**14.36**	**174**	P	**Pn**	**20 56 54.2**	**+0.8**
	0.1nm,0.3s,baz=345,slow=12,SNR=8.1						
CFAA				LR	LR	21 02 42.0	
	comp=Z,25nm,18.7s,baz=335,slow=38						
OTAV	**Otavalo**	**19.32**	**333**	*e*P	**Pn**	**20 57 59.4**	**+3.7**
	23nm,1.6s						
BDFB	**Brasilia**	**21.04**	**89**	P	**P**	**20 58 12.0**	**-0.9**
	2.0nm,0.7s,mb3.6,baz=255,slow=21,SNR=3.4						
BDFB				LR	LR	21 06 48.0	
	comp=Z,90nm,19.8s,MS3.2,baz=80,slow=38						
TRQA	**Tornquist**	**21.85**	**163**	*e*P	**P**	**20 58 20.2**	**-1.2**
	51nm,1.4s,mb4.8						
PLCA	**Paso Flores**	**23.40**	**181**	P	**P**	**20 58 36.7**	**-0.8**
	20nm,0.9s,mb4.5,baz=0.8,slow=12,SNR=33						
PLCA	**Paso Flores**	**23.40**	**181**	P	**P**	**20 58 36.7**	**-0.8**
SDV	**Santo Domingo**	**25.99**	**358**	LR	LR	21 10 10.6	
	comp=Z,146nm,19.6s,MS3.5,baz=175,slow=38						
PCRV	**Puerto La Cruz**	**27.75**	**11**	LR	LR	21 10 46.8	
	comp=Z,162nm,20.3s,MS3.6,baz=177,slow=37						
TXAR	**Lajitas Array**	**56.65**	**324**	P	**P**	**21 03 10.7**	**-0.6**
	0.5nm,0.6s,mb3.7,baz=144,slow=8.1,SNR=7.5						
TXAR				LR	LR	21 27 01.6	
	comp=Z,20nm,18.6s,MS3.2,baz=5.0,slow=35						
ANMO	**Albuquerque**	**62.47**	**326**	P	**P**	**21 03 52.5**	**+1.2**
	1.1nm,0.6s,mb4.2						
SDCO	**Great Sand Dun**	**64.15**	**329**	*e*P	**P**	**21 04 02.9**	**+0.6**
	1.7nm,0.7s,mb4.2						
VNA1	**Neumayer-Stat**	**64.57**	**161**	*e*	**P**	**21 04 07.6**	**+2.9**
SNAA	**Sanae**	**66.57**	**161**	*e*	**P**	**21 04 19.8**	**+2.2**
SNAA	**Sanae**	**66.57**	**161**	*e*P	**P**	**21 04 19.2**	**+1.7**
	2.0nm,0.8s,mb4.2						
DBIC	**Dimbokro**	**68.49**	**75**	LR	LR	21 32 08.4	
	comp=Z,134nm,21.1s,MS4.2,baz=320,slow=34						
DBIC	**Dimbokro**	**68.49**	**75**	P	**P**	**21 04 28.1**	**-2.6**
	11nm,1.1s,mb4.8						
PDAR	**Pinedale Array**	**69.99**	**330**	P	**P**	**21 04 42.2**	**+2.9**
	0.7nm,0.5s,mb3.8,baz=115,slow=8.0,SNR=8.6						
ULM	**Lac du Bonnet**	**71.01**	**343**	P	**P**	**21 04 44.6**	**-0.7**
	3.2nm,0.5s,mb4.5,baz=156,slow=6.1,SNR=5.9						
NVAR	**Mina Array Bea**	**71.60**	**322**	P	**P**	**21 04 51.4**	**+2.2**
	0.6nm,0.7s,mb3.6,baz=155,slow=6.8,SNR=4.2						
HLID	**Hailey**	**72.98**	**328**	P	**P**	**21 04 59.3**	**+2.0**
	1.8nm,0.9s,mb4.0						
YBH	**Yreka Blue Hor**	**76.31**	**322**	LR	LR	21 40 18.7	
	comp=Z,56nm,20.4s,MS3.9,baz=267,slow=37						
TOA0	**Torodi Ar. Sit**	**76.85**	**72**	*e*P	**P**	**21 05 18.4**	**-1.9**
TORD	**Torodi Ar. Bea**	**76.85**	**72**	P	**P**	**21 05 18.6**	**-1.7**
	2.6nm,0.8s,mb4.2,baz=257,slow=4.3,SNR=11						
TORD				LR	LR	21 37 58.1	
	comp=Z,185nm,19.3s,MS4.4,baz=190,slow=35						
SBA	**Scott Base**	**79.81**	**190**	*e*P	**P**	**21 05 34.0**	**-1.6**
VNDA	**Vanda**	**80.85**	**190**	P	**P**	**21 05 42.1**	**+0.9**
TSUM	**Tsumeb**	**82.17**	**108**	P	**P**	**21 05 48.2**	**-1.0**
	1.8nm,0.8s,mb4.0						
BOSA	**Boshof**	**86.26**	**119**	LR	LR	21 39 35.3	
	comp=Z,78nm,20.3s,MS4.1,baz=308,slow=32						
YKA	**Yellowknife Ar**	**86.90**	**341**	P	**P**	**21 06 11.8**	**-0.2**
	2.0nm,0.8s,mb4.4,baz=129,slow=4.7,SNR=6.3						
MAW	**Mawson**	**88.64**	**164**	P	**P**	**21 06 20.2**	**-0.2**
	2.3nm,1.0s,mb4.5,baz=253,slow=3.7,SNR=5.0						
ASAR	**Alice Springs**	**133.16**	**210**	PKP	PKPdf	21 12 44.1	+0.1
	0.3nm,0.6s,baz=122,slow=2.2,SNR=4.3						
WRA	**Warramunga Arr**	**136.04**	**214**	PKP	PKPdf	21 12 50.7	+1.3
	1.0nm,0.8s,baz=144,slow=1.8,SNR=11						
ZALV	**Zalesovo Beam**	**138.46**	**22**	PKP	PKPdf	21 12 50.9	-2.0
	0.8nm,0.4s,baz=255,slow=2.9,SNR=6.2						
MKAR	**Makanchi Array**	**142.64**	**32**	PKhKP		21 12 56.5	
	0.2nm,0.2s,baz=310,slow=1.6,SNR=2.5						
MJAR	**Matsushiro Arr**	**148.61**	**313**	PKPbc	PKPbc	21 13 15.4	+0.6
	1.8nm,0.7s,baz=69,slow=2.1,SNR=8.2						
MAT	**Matsushiro**	**148.61**	**313**	P	PKPdf	21 13 15.7	+4.5
SONM	**Songino Array**	**149.35**	**5**	PKPbc	PKPbc	21 13 17.3	+0.9
	1.1nm,0.5s,baz=307,slow=1.4,SNR=8.5						

*CSEM **17** 20:55:51.6, 3636N×635E, h0km, ML3.6, After ALG*
CRAAG 17 20:55:51.6, 3636N×635E, Ml3.6, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASM	**Ain Smara**	**0.15**	**132**	P	Pg	20 55 55.0	+0.5
CKFL	**Kef-Lekhel**	**0.30**	**82**	P	Pg	20 56 00.0	+2.7
CTEI	**Djebel Teioual**	**0.30**	**172**	P	Pg	20 55 59.0	+1.7
DFRA	**Djebel Bou Aff**	**0.42**	**296**	P	Pg	20 55 59.0	-0.8
CAEH	**'Ain El Ouahch**	**0.58**	**44**	P	Pg	20 56 05.0	+2.3
CKHR	**Kef el Ahmar**	**0.76**	**243**	P	Pg	20 56 10.0	+3.8
SET	**Setif**	**0.79**	**258**	P	Pg	20 56 09.0	+2.3
CMAH	**Djebel Manchou**	**0.90**	**73**	P	Pg	20 56 12.0	+3.2
ABSA	**Djebel Ababsia**	**0.91**	**95**	P	Pg	20 56 14.0	+4.9

*ISK **17** 21:00:53.9, 4047N×27.15E, h9km, MD2.7*
*CSEM **17** 21:00:54.2±0.1, 4053N×27.13E, h20km, MD2.2, Error ellipse: s-maj=2.9km s-min=2.4km az=63.0*
*ISCJB **17** 21:00:55.8±0.5, 4053N±003×2733E±004, h7km±6km, Error ellipse: s-maj=5.9km s-min=4.1km az=152.0*
*DDA **17** 21:00:56.1, 4054N×2730E, h7km±3km, Md2.2*
ISC 17 21:00:56.0±0.5, 4055N±003×2729E±005, h14km±4km, n15, σ0§65/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKY	**Sarkoy-Tekirda**	**0.16**	**328**	*e*PG	**Pg**	**21 00 58.8**	**-1.1**
RKY				*e*SG	**Sg**	**21 01 02.4**	**-0.3**
SART	**Tekirdag**	**0.16**	**329**	*i* P	**Pg**	**21 01 00.5**	**+0.6**
SART				*i* S	**Sg**	**21 01 03.1**	**+0.4**
MFT	**Murefte**	**0.24**	**358**	*e*PG	**Pg**	**21 01 00.9**	**-0.3**
MFT				*e*SG	**Sg**	**21 01 05.7**	**+1.0**
EDC	**Edincik**	**0.48**	**115**	*e*PG	**Pg**	**21 01 05.2**	**-0.3**
BALY	**Balya**	**0.85**	**163**	*i* P	**Pg**	**21 01 12.8**	**+0.4**
BALY				*i* S	**Sg**	**21 01 24.1**	**+0.6**
KCT	**Karacabey**	**0.86**	**109**	*e*PG	**Pg**	**21 01 12.4**	**-0.3**
ENEZ	**Enez**	**0.89**	**282**	*e*PG	**Pg**	**21 01 09.7**	**-3.4**
CTT	**Catalca**	**1.05**	**55**	*e*PN	**Pn**	**21 01 16.1**	**-0.2**
ELBA	**Catalca**	**1.05**	**55**	*i

mb3.9/6, Error ellipse: s-maj=27.0km s-min=8.6km az=150.6
*IDC **17** 21:28:39.2±2.0, 1395S×7640W, h54km±16km, mb3.9/6, mb1 4.0/11, mb1mx3.8/21, mbtmp3.8/11, ML4.0/5, MS2.6/1, Ms1 2.6/1, ms1mx2.2/34, Error ellipse: s-maj=34.4km s-min=11.0km az=63.0*

ISC 17 21:28:38.8±1.2, 1397S±009×766W±01, h57km±12km, n22, σ1°08/18, mb4.0/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.99**	**352**	P	**Pn**	**21 29 10.3**	**+0.2**
	23nm,0.3s,baz=163,slow=12,SNR=21						
NNA				S	**Sn**	**21 29 35.2**	**+1.2**
	287nm,0.3s,baz=228,slow=13,SNR=12						
ARE	**Arequipa**	**5.48**	**117**	*e*P	**Pn**	**21 29 59.0**	**+1.2**
ARE				*e*S	**Sn**	**21 31 05.0**	**+5.5**
ATAH	**Atahualpa**	**7.16**	**345**	P	**Pn**	**21 30 18.4**	**-2.5**
	2.3nm,0.3s,baz=150,slow=1.8,SNR=8.2						
LPAZ	**La Paz**	**8.45**	**107**	P	**Pn**	**21 30 37.7**	**-0.9**
	1.0nm,0.3s,baz=293,slow=12,SNR=18						
LVC	**Limon Verde**	**11.24**	**141**	P	**Pn**	**21 31 16.1**	**-0.6**
	1.5nm,0.3s,baz=308,slow=7.8,SNR=10						
SIV	**San Ignacio**	**15.09**	**100**	P	**Pn**	**21 32 08.7**	**+0.1**
	0.4nm,0.3s,baz=292,slow=8.2,SNR=7.0						
ROSC	**El Rosal**	**18.84**	**7**	LR	LR	21 39 49.0	
	comp=Z,20nm,20.7s,baz=212,slow=36						
CFAA	**Coronel Fontan**	**19.14**	**158**	P	**Pn**	**21 32 58.9**	**+0.2**
	0.0nm,0.3s,baz=320,slow=11,SNR=8.4						
PLCA	**Paso Flores**	**27.17**	**170**	P	**P**	**21 34 16.8**	**-0.1**
	1.2nm,0.6s,mb3.6,baz=343,slow=13,SNR=3.5						
TXAR	**Lajitas Array**	**50.39**	**329**	P	**P**	**21 37 32.5**	**+2.1**
	1.0nm,0.6s,mb4.0,baz=150,slow=8.6,SNR=9.1						
RWWY	**Rawlins**	**62.19**	**334**	*e*Pg	**P**	**21 38 52.2**	**-2.1**
ULM	**Lac du Bonnet**	**66.16**	**347**	P	**P**	**21 39 20.1**	**0.0**
	1.8nm,0.4s,mb4.4,baz=197,slow=8.2,SNR=4.6						
SNAA	**Sanae**	**71.72**	**161**	*e*	**P**	**21 39 55.7**	**+1.3**
SNAA				*e*		21 39 57.6	
SNAA				*e*	pP	21 40 06.8	-3.4
DBIC	**Dimbokro**	**74.03**	**79**	P	**P**	**21 40 08.7**	**-0.4**
	2.2nm,0.6s,mb4.3,baz=228,slow=5.8,SNR=3.1						
YKA	**Yellowknife Ar**	**81.81**	**343**	P	**P**	**21 40 50.8**	**-0.4**
	0.4nm,0.4s,mb3.8,baz=139,slow=3.8,SNR=4.1						
YKA	**Yellowknife Ar**	**81.81**	**343**	P	**P**	**21 40 50.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**82.05**	**74**	P	**P**	**21 40 53.6**	**+0.1**
	1.9nm,0.7s,mb4.2,baz=247,slow=3.6,SNR=9.0						
CTAO	**Charters Tower**	**125.98**	**232**	*e*PKPdf	PKPdf	21 47 36.4	+1.0
WRA	**Warramunga Arr**	**134.62**	**223**	PKP	PKPdf	21 47 52.9	+1.2
	0.8nm,0.9s,baz=132,slow=2.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**137.50**	**16**	PKP	PKPdf	21 47 56.8	+0.8
	0.5nm,0.3s,baz=318,slow=2.0,SNR=3.8						
SONM	**Songino Array**	**146.15**	**356**	PKPbc	PKPbc	21 48 13.4	+0.7
	0.8nm,0.6s,baz=335,slow=2.8,SNR=7.0						
KSRS	**Korea Array**	**148.04**	**321**	PKPbc	PKPbc	21 48 19.3	+1.0
	1.0nm,0.9s,baz=45,slow=3.7,SNR=5.0						

*ISCJB **17** 21:38:02.8±1.5, 1463S×006×767W±0.1, h37km±13km, mb4.5/28, MS4.1/19, Error ellipse: s-maj=19.2km s-min=6.9km az=154.9*
*MOS **17** 21:38:02.4±1.6, 1474S×7680W, h33km, mb4.7/8, Error ellipse: s-maj=23.8km s-min=14.1km az=134.7*
*BJI **17** 21:38:03.8, 1455S×7756W, h36km, mB4.8, Ms5.1, Msz4.9*
*NEIC **17** 21:38:04.9±0.3, 1467S×7668W, mb4.7/21, Error ellipse: s-maj=13.3km s-min=6.7km az=55.0*
NEIC Felt [III] at Lima and Pisco.
*IDC **17** 21:38:05.8±1.9, 1444S×7643W, h48km±16km, mb3.7/8, mb1 3.9/13, mb1mx3.8/22, mbtmp3.7/13, ML3.9/4, MS3.9/22, Ms1 3.9/22, ms1mx3.8/33, Error ellipse: s-maj=30.2km s-min=12.6km az=63.0*

ISC 17 21:38:04.7±1.2, 1460S±006×767W±01, h36km±11km, h41km±1.3km: pP-P, n91, σ1°27/64, mb4.5/28, MS4.1/19, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.60**	**356**	P	**Pn**	**21 38 43.1**	**-1.2**
	39nm,0.3s,baz=186,slow=14,SNR=15						
NNA				S	**Sn**	**21 39 13.7**	**-1.1**
	181nm,0.3s,baz=180,slow=14,SNR=16						
NNA				LR	LR	21 40 02.7	
	comp=Z,987nm,18.1s,baz=174,slow=47						
NNA	**Nana**	**2.60**	**356**	*e*Pn	**Pn**	**21 38 43.8**	**-0.6**
ARE	**Arequipa**	**5.32**	**111**	*e*P	**Pn**	**21 39 24.0**	**+2.3**
ARE				*e*S	**Sn**	**21 40 33.0**	**+11**
ATAH	**Atahualpa**	**7.74**	**347**	P	**Pn**	**21 39 52.5**	**-2.5**
	1.9nm,0.3s,baz=192,slow=13,SNR=7.3						
LPAZ	**La Paz**	**8.40**	**103**	LR	LR	21 43 42.9	
	comp=Z,1μm,21.0s,baz=292,slow=41						
LPAZ	**La Paz**	**8.40**	**103**	*e*P	**Pn**	**21 40 05.0**	**+1.0**
LVC	**Limon Verde**	**10.84**	**138**	P	**Pn**	**21 40 38.3**	**+0.9**
	0.6nm,0.3s,baz=300,slow=14,SNR=4.5						
LVC				LR	LR	21 44 22.4	
	comp=Z,478nm,18.8s,baz=323,slow=35						
LVC	**Limon Verde**	**10.84**	**138**	*e*Pn	**Pn**	**21 40 37.6**	**+0.2**
OTAV	**Otavalo**	**14.85**	**353**	*e*Pn	**Pn**	**21 41 35.0**	**+2.8**
SIV	**San Ignacio**	**15.11**	**97**	P	**Pn**	**21 41 33.7**	**-1.9**
	baz=273,slow=16						
CFAA	**Coronel Fontan**	**18.60**	**157**	P	**Pn**	**21 42 19.3**	**-0.2**
	0.0nm,0.3s,baz=335,slow=9.8,SNR=6.1						
CFAA				LR	LR	21 48 13.6	
	comp=Z,29nm,20.0s,baz=193,slow=33						
CFAA	**Coronel Fontan**	**18.60**	**157**	P	**Pn**	**21 42 19.3**	**-0.2**
CFAA				LR	LR	21 48 13.6	
ROSC	**El Rosal**	**19.47**	**7**	LR	LR	21 50 48.8	
	comp=Z,423nm,18.3s,baz=196,slow=40						
ROSC	**El Rosal**	**19.47**	**7**	*e*P	**Pn**	**21 42 30.6**	**+0.5**
SDV	**Santo Domingo**	**24.09**	**15**	P	**P**	**21 43 13.6**	**-3.4**
	2.7nm,0.4s,mb4.0,baz=202,slow=12,SNR=7.6						
SDV	**Santo Domingo**	**24.09**	**15**	*e*P	**P**	**21 43 14.9**	**-2.2**
	10nm,0.8s,mb4.3						
PLCA	**Paso Flores**	**26.58**	**170**	P	**P**	**21 43 40.7**	**+1.3**
	1.7nm,0.9s,mb3.6,baz=350,slow=8.9,SNR=3.0						
PLCA	**Paso Flores**	**26.58**	**170**	*e*P	**P**	**21 43 37.8**	**-1.6**
PLCA				pmax	pmax		
	comp=Z,11nm,1.6s						
PLCA	**Paso Flores**	**26.58**	**170**	*e*P	**P**	**21 43 37.8**	**-1.6**
	comp=Z,11nm,1.6s,mb4.1						
PCRV	**Puerto La Cruz**	**27.35**	**27**	LR	LR	21 55 32.6	
	comp=Z,515nm,20.1s,MS4.1,baz=30,slow=39						
BDFB	**Brasilia**	**27.67**	**96**	LR	LR	21 55 27.5	
	comp=Z,442nm,18.1s,MS4.1,baz=56,slow=38						
CMIG	**Matias Romero**	**36.26**	**330**	LR	LR	21 57 46.3	
	comp=Z,144nm,20.4s,MS3.7,baz=346,slow=33						
TEIG	**Tepich**	**36.44**	**341**	P	**P**	**21 45 10.1**	**+3.8**
	comp=Z,10nm,0.7s,mb4.9,baz=144,slow=5.9,SNR=6.9						
TEIG				LR	LR	21 59 43.5	
	comp=Z,154nm,20.7s,MS3.8,baz=164,slow=36						
BBSR	**BB Station**	**48.09**	**14**	*e*P	**P**	**21 46 42.5**	**+1.5**
	comp=Z,157nm,2.4s,mb5.6						
LRAL	**Lakeview Retre**	**48.38**	**348**	*e*P	**P**	**21 46 48.5**	**+5.3**
SWET	**Sewanee**	**50.32**	**350**	*e*P	**P**	**21 47 01.2**	**+3.3**
TKL	**Tuckaleechee C**	**50.43**	**352**	P	**P**	**21 47 02.2**	**+3.4**
	comp=Z,7.4nm,1.1s,mb4.6,baz=182,slow=6.5,SNR=4.7						
PMSA	**Palmer Station**	**50.86**	**173**	*e*P	**P**	**21 46 59.7**	**-2.0**
	comp=Z,23nm,1.6s,mb4.9						
TXAR	**Lajitas Array**	**50.87**	**329**	P	**P**	**21 47 02.6**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=158,slow=11,SNR=8.4						
TXAR				LR	LR	22 07 16.5	
	comp=Z,102nm,18.1s,MS3.9,baz=180,slow=34						
MIAR	**Mount Ida**	**51.45**	**342**	*e*P	**P**	**21 47 05.7**	**-0.8**
MIAR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MIAR	**Mount Ida**	**51.45**	**342**	*e*P	**P**	**21 47 05.7**	**-0.8**
	comp=Z,3.2nm,0.8s,mb4.3						
WCI	**Wyandotte Cave**	**53.32**	**351**	*e*P	**P**	**21 47 23.8**	**+3.5**
WCI				*e**PP	pP	21 47 35.9	+5.0
WCI				pmax	pmax		
	comp=Z,34nm,1.5s,mb5.1						
WCI	**Wyandotte Cave**	**53.32**	**351**	*e*P	**P**	**21 47 23.8**	**+3.5**
	comp=Z,34nm,1.5s,mb5.0						
WCI				*e*pP	pP	21 47 35.9	+5.0
RKT	**Rikitea**	**55.53**	**252**	*e*LR	LR	22 03 57.6	
	comp=Z,245nm,31.5s						
RKT	**Rikitea**	**55.53**	**252**	*e*T		22 47 42.7	
	comp=Z,2.8nm,0.2s						
ANMO	**Albuquerque**	**56.82**	**331**	P	**P**	**21 47 45.2**	**-0.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=144,slow=7.5,SNR=4.8						
ANMO	**Albuquerque**	**56.82**	**331**	*e*P	**P**	**21 47 46.0**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,12nm,1.8s						
ANMO	**Albuquerque**	**56.82**	**331**	*e*P	**P**	**21 47 46.0**	**+0.3**
	comp=Z,12nm,1.8s,mb4.6						
ACCN	**Adirondack Com**	**57.76**	**3**	*e*P	**P**	**21 47 56.7**	**+4.6**
	comp=Z,18nm,1.1s,mb5.0						
SDCO	**Great Sand Dun**	**58.70**	**333**	*e*P	**P**	**21 47 59.3**	**+0.6**
FRNY	**Flat Rock**	**59.22**	**3**	*e*P	**P**	**21 48 01.3**	**-0.9**
	comp=Z,14nm,1.0s,mb5.0						
WUAZ	**Wupatki**	**59.71**	**327**	*e*P	**P**	**21 48 05.9**	**0.0**
	comp=Z,7.2nm,1.1s,mb4.6						
TAOE	**Nuku Hiva Isla**	**62.26**	**268**	*e*LR	LR	22 06 54.7	
	comp=Z,880nm,26.1s						
ISA	**Isabella**	**63.75**	**323**	*e*P	**P**	**21 48 33.3**	**+0.2**
ISA				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.6						
ISA	**Isabella**	**63.75**	**323**	*e*P	**P**	**21 48 33.3**	**+0.2**
	comp=Z,11nm,1.6s,mb4.6						
DUG	**Dugway**	**64.04**	**330**	*e*P	**P**	**21 48 35.5**	**+0.7**
DUG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
DUG	**Dugway**	**64.04**	**330**	*e*P	**P**	**21 48 35.5**	**+0.6**
	comp=Z,5.4nm,0.8s,mb4.6						
HWUT	**Hardware Ranch**	**64.55**	**332**	*e*P	**P**	**21 48 38.2**	**0.0**
PDAR	**Pinedale Array**	**64.59**	**334**	P	**P**	**21 48 37.0**	**-1.4**
	comp=Z,0.8nm,0.9s,mb3.7,baz=122,slow=9.5,SNR=4.3						
NVAR	**Mina Array Bea**	**65.59**	**325**	P	**P**	**21 48 46.2**	**+1.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=166,slow=6.5,SNR=4.3						
NVAR	**Mina Array Bea**	**65.59**	**325**	P	**P**	**21 48 46.2**	**+1.1**
ELK	**Elko**	**65.66**	**329**	LR	LR	22 16 15.7	
	comp=Z,204nm,19.3s,MS4.3,baz=209,slow=35						
ELK	**Elko**	**65.66**	**329**	*e*P	**P**	**21 48 46.2**	**+0.8**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ELK	**Elko**	**65.66**	**329**	*e*P	**P**	**21 48 46.2**	**+0.8**
	comp=Z,3.4nm,0.9s,mb4.4						
RRI2	**Red Ridge**	**65.82**	**333**	*e*P	**P**	**21 48 46.8**	**+0.4**
	comp=Z,5.1nm,0.8s,mb4.6						
FLWY	**Flagg Ranch**	**66.14**	**334**	*e*P	**P**	**21 48 49.0**	**+0.6**
	comp=Z,6.6nm,0.8s,mb4.7						
ULM	**Lac du Bonnet**	**66.74**	**347**	P	**P**	**21 48 54.6**	**+2.4**
	comp=Z,6.0nm,1.2s,mb4.5,baz=252,slow=3.5,SNR=3.7						
ULM				LR	LR	22 19 42.2	
	comp=Z,79nm,18.8s,MS4.0,baz=36,slow=38						
HLID	**Hailey**	**67.39**	**331**	*e*P	**P**	**21 48 56.7**	**+0.3**
	comp=Z,1.3nm,0.6s,mb4.1						
TBI	**Tubuai**	**68.78**	**250**	*e*LR	LR	22 09 56.6	
	comp=Z,199nm,28.4s						
PPT	**Papeete**	**69.72**	**256**	*e*LR	LR	22 10 27.9	
	comp=Z,120nm,27.2s						
PPT	**Papeete**	**69.72**	**256**	LR	LR	22 11 16.1	
	comp=Z,11nm,22.0s,MS3.1,baz=221,slow=28						
YBH	**Yreka Blue Hor**	**70.32**	**325**	P	**P**	**21 49 13.7**	**-0.9**
	comp=Z,0.6nm,0.3s,mb3.9,baz=174,slow=10,SNR=3.5						
YBH				LR	LR	22 16 45.5	
	comp=Z,61nm,20.3s,MS3.8,baz=172,slow=33						
SNAA	**Sanae**	**71.16**	**161**	*e*P	**P**	**21 49 20.9**	**+1.5**
SNAA				*e*		21 49 22.7	
SNAA				*e*	pP	21 49 32.2	+1.8
SNAA				*e*		21 49 37.4	
SNAA	**Sanae**	**71.16**	**161**	*e*P	**P**	**21 49 20.9**	**+1.5**
SNAA				pmax	pmax		
	comp=Z,12nm,1.4s						
SNAA	**Sanae**	**71.16**	**161**	*e*P	**P**	**21 49 20.9**	**+1.5**
	comp=Z,12nm,1.4s,mb4.6						
DBIC	**Dimbokro**	**74.26**	**79**	P	**P**	**21 49 36.9**	**-2.0**
	comp=Z,6.1nm,0.9s,mb4.5,baz=258,slow=8.5,SNR=4.4						
DBIC				LR	LR	22 21 58.1	
	comp=Z,141nm,19.5s,MS4.3,baz=190,slow=36						
DBIC	**Dimbokro**	**74.26**	**79**	*e*P	**P**	**21 49 37.5**	**-1.3**
DBIC				pmax	pmax		
	comp=Z,16nm,1.3s						
DBIC	**Dimbokro**	**74.26**	**79**	*e*P	**P**	**21 49 37.5**	**-1.3**
	comp=Z,16nm,1.3s,mb4.8						
PGC	**Sidney**	**75.40**	**330**	*e*P	**P**	**21 49 43.8**	**-0.8**
	comp=Z,17nm,0.8s,mb5.0						
PGC				*e*pP	pP	21 49 55.4	-0.3
SBA	**Scott Base**	**81.20**	**191**	*e*P	**P**	**21 50 14.9**	**-1.5**
SBA				pmax	pmax		
	comp=Z,55nm,2.4s,mb5.1						
SBA	**Scott Base**	**81.20**	**191**	*e*P	**P**	**21 50 14.9**	**-1.4**
	comp=Z,55nm,2.4s,mb5.1						
VNDA	**Vanda**	**82.27**	**191**	LR	LR	22 18 37.6	
	comp=Z,59nm,20.8s,MS3.9,baz=309,slow=30						
TOA0	**Torodi Ar. Sit**	**82.32**	**74**	*e*P	**P**	**21 50 23.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**82.32**	**74**	P	**P**	**21 50 22.4**	**-0.9**
	comp=Z,13nm,0.8s,mb4.9,baz=258,slow=5.0,SNR=57						
TORD				LR	LR	22 24 29.9	
	comp=Z,108nm,20.4s,MS4.2,baz=165,slow=34						
MDT	**Midelt**	**83.33**	**54**	LR	LR	22 22 43.1	
	comp=Z,103nm,21.2s,MS4.2,baz=172,slow=32						
ESDC	**Sonseca Array**	**86.39**	**48**	LR	LR	22 23 53.5	
	comp=Z,99nm,20.6s,MS4.2,baz=245,slow=32						
RAGM	**Ragged Mountai**	**92.14**	**333**	*e*P	**P**	**21 51 09.9**	**-0.2**
RAGM				*e*pP	pP	21 51 22.1	+0.6
MAW	**Mawson**	**92.92**	**166**	LR	LR	22 28 44.6	
	comp=Z,69nm,20.4s,MS4.1,baz=68,slow=33						
BOSA	**Boshof**	**93.24**	**120**	LR	LR	22 29 10.3	
	comp=Z,103nm,19.8s,MS4.3,baz=67,slow=33						
RPZ	**Rata Peaks**	**95.37**	**222**	LR	LR	22 27 02.2	
	comp=Z,157nm,19.1s,MS4.5,baz=75,slow=31						
WB2	**Warramunga Arr**	**134.08**	**222**	*e*PKPdf	PKPdf	21 57 18.7	-0.6
WRA	**Warramunga Arr**	**134.09**	**222**	PKP	PKPdf	21 57 20.0	+0.7
	comp=Z,0.6nm,0.8s,baz=266,slow=3.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**138.13**	**16**	PKP	PKPdf	21 57 24.3	-1.5
	comp=Z,0.4nm,0.3s,baz=336,slow=3.3,SNR=3.9						
CN2	**Changchun**	**145.31**	**331**	*e*PKP	PKPdf	21 57 38.8	-0.1
SONM	**Songino Array**	**146.77**	**356**	PKPbc	PKPbc	21 57 42.1	-0.8
	comp=Z,2.2nm,0.9s,baz=358,slow=3.0,SNR=12						
WMQ	**Urumqi**	**147.96**	**22**	*e*PKP	PKPdf	21 57 42.9	-0.5
KSRS	**Korea Array**	**148.46**	**321**	PKPbc	PKPbc	21 57 47.0	-0.9
	comp=Z,0.4nm,0.4s,baz=33,slow=1.8,SNR=6.7						
HHC	**Hu-ho-hao-te**	**152.88**	**346**	*e*PKP	PKPdf	21 57 50.4	-0.7
HHC				APKP		21 58 00.8	
HHC				XPKP		21 58 04.3	
HHC				PKS		22 01 24.1	
HHC				PP	PP	22 01 44.3	+2.9
HHC				SKS	SKSdf	22 04 52.3	-3.4
HHC				SS	SS	22 21 10.3	+0.1
HHC				LR	LR		
	comp=N,191nm,17.8s,MS5.0						
HHC				LR	LR		
	comp=E,135nm,19.0s,MS5.0						
HHC				LR	LR		
	comp=Z,171nm,22.6s,MS4.8						
LZH	**Lanzhou**	**158.60**	**359**	*e*PKP	PKPdf	21 57 59.3	+0.4
LZH				APKP		21 58 04.1	
LZH				XPKP		21 58 13.8	
LZH				LR	LR		
	comp=E,119nm,18.5s						
LZH				LR	LR		
	comp=Z,176nm,20.3s,MS4.9						
CD2	**Chengdu**	**163.76**	**359**	*e*PKP	PKPdf	21 58 02.9	-1.7
CD2				APKP		21 58 12.0	
CD2				XPKP		21 58 16.3	
CD2				PKP2	PKPab	21 58 57.6	+1.0
CD2				PP	PP	22 02 44.5	+3.8
CD2				SKS	SKSdf	22 05 02.3	-4.3
CD2				SKKS	SKKSac	22 09 26.6	-0.8
CD2				SS	SS	22 23 07.5	+1.8
CD2				PP	PP		
	comp=Z,90nm,10.8s						
CD2				LR	LR		
	comp=N,160nm,18.8s						
CD2				LR	LR		
	comp=Z,210nm,16.8s						
GYA	**Guiyang**	**167.80**	**346**	*e*PKP	PKPdf	21 58 07.8	-0.2
GYA				APKP		21 58 19.4	
GYA				XPKP		21 58 25.6	
GYA				PKP2	PKPab	21 59 15.0	+0.5
GYA				PKS		22 01 37.9	
GYA				PP	PP	22 03 05.8	+4.0
GYA				SKS	SKSdf	22 05 04.4	-5.0
GYA				SKKS	SKKSac	22 09 46.8	-1.0
GYA				LR	LR		
	comp=N,180nm,24.6s						
GYA				LR	LR		
	comp=E,140nm,22.4s						
GYA				LR	LR		
	comp=Z,140nm,25.5s						

MAN 17 21:51:27, 730N×12548E, h0km, mb4.7, ML3.6, MS3.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.48**	**233**	*e*P	Pg	21 51 36.7	+0.4
KCP				*e*S	Sg	21 51 40.0	-2.7
BUKP	**Musuan**	**0.71**	**324**	*e*P	Pg	21 51 41.2	+0.7
MATI	**Mati**	**0.85**	**115**	*e*P	Pg	21 51 43.8	+0.5
CTBH	**Cotabato--PC H**	**1.23**	**266**	*e*P	Pg	21 51 50.2	-0.4
CTBH				*i* S	Sg	21 52 02.7	-3.8
GSPH	**General Santos**	**1.32**	**204**	*e*P	Pg	21 51 50.3	-2.0
GSPH				*e*S	Sg	21 52 03.7	-5.7
PAGZ	**Pagadian**	**2.15**	**285**	*e*P	Pn	21 52 06.9	+2.8

*ISCJB **17** 21:55:32.4±0.4, 3865N±001×2524E±001, h6km±3km, mb3.7/6, Error ellipse: s-maj=2.3km s-min=1.9km az=6.1*
*DDA **17** 21:55:32.4, 3859N×2538E, h8km±4km, Md3.4*
*ISK **17** 21:55:32.1, 3866N×2517E, h14km, ML3.9*
*CSEM **17** 21:55:33.8±0.0, 3868N×2532E, h15km, ML4.2, Error ellipse: s-maj=1.0km s-min=0.9km az=149.0*
*IDC **17** 21:55:33.5±1.0, 3849N×2547E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.7/27, mbtmp3.8/10, ML3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/37, Error ellipse: s-maj=19.7km s-min=18.6km az=163.0*
*MOS **17** 21:55:34.6±0.7, 3868N×2524E, h26km, mb4.1/3, Error ellipse: s-maj=7.9km s-min=4.9km az=101.1*
*THE **17** 21:55:34.6, 3865N×2526E, h12km, ML4.2*
*ATH **17** 21:55:34.2, 3868N×2523E, h39km±2km, MD4.0/26, ML4.2*
*NEIC **17** 21:55:34.3, 3868N×2523E, h39km, MG4.2(ATH), After ATH.*

ISC 17 21:55:33.6±0.4, 3864N±001×2524E±002, h9km±3km, n168, σ1°02/209, mb3.7/6, 5C-8D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.69**	**111**	*e*Pg	**Pg**	**21 55 47.7**	**+0.9**
CHOS				*e*Sg	**Sg**	**21 55 57.9**	**+2.1**
CHOS	**Chios island**	**0.69**	**111**	*e*Pg	**Pg**	**21 55 47.7**	**+0.9**
CHOS				*e*Sg	**Sg**	**21 55 57.8**	**+2.0**
PRK	**Paraskevi**	**1.01**	**53**	*e*Pg	**Pg**	**21 55 52.8**	**-0.2**
PRK				*e*Sg	**Sg**	**21 56 07.7**	**+1.6**
PRK	**Paraskevi**	**1.01**	**53**	*e*Pn	**Pn**	**21 55 52.7**	**-1.2**
PRK				*e*Sn	**Sn**	**21 56 07.4**	**-0.9**
AOS	**Alonnisos**	**1.19**	**297**	*e*Pg	**Pg**	**21 55 55.9**	**-0.4**
AOS				*e*Sg	**Sg**	**21 56 12.9**	**+1.1**
PTL	**Penteli**	**1.23**	**242**	*e*PN	**Pn**	**21 55 56.5**	**-0.5**
LOS	**Limnos**	**1.30**	**355**	*e*Pg	**Pg**	**21 55 57.4**	**-1.2**
AYVA	**Ayvalik**	**1.32**	**59**	*i* P	**Pn**	**21 55 57.0**	**-1.1**
AYVA				*i* S	**Sb**	**21 56 16.1**	**+0.6**
BOZC	**Bozcaada**	**1.36**	**27**	*i* P	**Pn**	**21 55 57.1**	**-1.6**
BOZC				*i* S	**Sb**	**21 56 15.0**	**-1.8**
ATH	**Athens Observa**	**1.37**	**241**	*e*PB	**Pb**	**21 55 58.6**	**-0.8**
ATH				*e*SN	**Sn**	**21 56 16.6**	**-0.5**
KVR	**Kavouri**	**1.41**	**236**	*e*PB	**Pb**	**21 55 59.0**	**-1.1**
BLCB	**Balcova**	**1.44**	**99**	PN	**Pn**	**21 55 59.1**	**-0.7**
BLCB				*e*SN	**Sn**	**21 56 19.3**	**+0.5**
BLCB	**Balcova**	**1.44**	**99**	*e*Pg	**Pn**	**21 55 59.4**	**-0.4**
BLCB				*e*Sg	**Sg**	**21 56 18.6**	**-1.2**
BLCB	**Balcova**	**1.44**	**99**	*e*Pg	**Pn**	**21 55 59.4**	**-0.4**
BLCB				*e*Sn	**Sn**	**21 56 19.3**	**+0.5**
EZN	**Ezine**	**1.46**	**35**	PN	**Pn**	**21 55 59.0**	**-1.1**
SMG	**Samos**	**1.56**	**126**	*e*PN	**Pn**	**21 56 01.2**	**-0.3**
SMG				*e*SN	**Sn**	**21 56 22.1**	**+0.2**
APE	**Apeiranthos**	**1.58**	**172**	*e*Pg	**Pg**	**21 56 00.9**	**-3.0**
APE				*e*Sg	**Sg**	**21 56 22.6**	**-1.8**
APE	**Apeiranthos**	**1.58**	**172**	⇑*i* P	**Pn**	**21 56 00.7**	**-1.1**
APE	**Apeiranthos**	**1.58**	**172**	*e*Pg	**Pn**	**21 56 00.9**	**-0.9**
APE	**Apeiranthos**	**1.58**	**172**	*e*Pb	**Pn**	**21 56 03.0**	**+1.2**
APE				*e*Sn	**Sn**	**21 56 22.4**	**0.0**
APE				*e*Sg	**Sg**	**21 56 22.6**	**-1.8**
IZM	**Izmir**	**1.60**	**98**	PN	**Pn**	**21 56 01.8**	**-0.3**
KDAG	**Bornova**	**1.61**	**98**	*i* P	**Pn**	**21 56 01.8**	**-0.3**
KDAG				*i* S	**Sn**	**21 56 21.1**	**-2.0**
NAIG	**Nisos Aigina**	**1.63**	**238**	*e*PN	**Pn**	**21 56 02.0**	**-0.5**
GADA	**Gvkgeada**	**1.64**	**18**	PN	**Pn**	**21 56 01.2**	**-1.3**
GADA				*e*SN	**Sn**	**21 56 22.1**	**-1.6**
NEO	**Neokhori**	**1.71**	**294**	*e*PN	**Pn**	**21 56 02.9**	**-0.6**
NEO				*e*SN	**Sn**	**21 56 24.1**	**-1.4**
LKR	**Lokris**	**1.75**	**271**	*e*Pb	**Pb**	**21 56 04.0**	**-1.9**
LKR	**Lokris**	**1.75**	**271**	*e*Pn	**Pn**	**21 56 03.8**	**-0.4**
LKR	**Lokris**	**

VAM	Vamos	3.33	195	*e*PN	Pn	21 56 25.9	+0.1
ARG	Arkhangelos	3.33	136	*e*PN	Pn	21 56 26.0	+0.1
GDZ	Gediz	3.34	81	*i* P	Pn	21 56 26.7	+0.7
KHAL	Karahalli	3.35	93	*i* P	Pn	21 56 26.6	+0.5
IDI	Anoyia	3.35	185	Pn	Pn	21 56 25.6	-0.6
	5.6nm,0.3s,baz=355,slow=12,SNR=37						
ULDT	Uludag	3.37	62	*e*P	Pn	21 56 27.9	+1.4
ULDT				*i* S	Sg	21 57 16.8	-5.1
VAY	Valandovo	3.38	323	*i* Pn	Pn	21 56 26.4	-0.1
VAY	Valandovo	3.38	323	*i* Pn	Pn	21 56 26.3	-0.2
NPS	Neapolis	3.38	175	*e*Pn	Pn	21 56 27.1	+0.6
KARN	Karanos	3.40	199	*e*Pn	Pn	21 56 27.3	+0.5
KARP	Karpathos	3.44	153	*e*PN	Pn	21 56 27.6	+0.2
SLVT	Silivri	3.45	40	*e*PN	Pn	21 56 27.6	+0.1
LAST	Lasithi	3.47	177	*e*Pn	Pn	21 56 27.9	+0.1
PLD	Plovdiv	3.49	353	*e*Pn	Pn	21 56 28.5	+0.5
GEMT	Gemlik	3.54	58	*e*PN	Pn	21 56 29.1	+0.3
JAN	Janina	3.56	288	*e*PN	Pn	21 56 29.6	+0.6
LKD	Levkas	3.59	273	*e*Pn	Pn	21 56 32.8	+3.3
ZKR	Zakros	3.60	167	*e*Pn	Pn	21 56 29.9	+0.3
FNA	Florina	3.67	307	*e*Pn	Pn	21 56 31.4	+0.9
VLS	Valsamata	3.68	264	*e*PN	Pn	21 56 31.3	+0.6
GOLH	Golhisar	3.69	111	*i* P	Pn	21 56 32.5	+1.7
GOLH				*i* S	Sn	21 57 17.7	+3.3
BGKT	Bogazkoy	3.72	46	*e*PN	Pn	21 56 31.5	+0.3
YLV	Yalova	3.73	58	*e*PN	Pn	21 56 31.3	0.0
ISK	Istanbul-Kandi	3.81	49	*e*PN	Pn	21 56 32.7	+0.3
ALT	Altintas	3.83	82	*e*PN	Pn	21 56 32.8	+0.1
GVD	Gavdhos	3.90	194	*e*PN	Pn	21 56 35.5	+1.8
ADVT	Abdulvahap	3.92	61	*e*PN	Pn	21 56 33.9	+0.1
IGT	Igoumenitsa	3.92	285	*e*Pn	Pn	21 56 34.9	+0.9
IGT				*e*Sn	Sn	21 57 21.6	+1.5
KLYT	Kilyos	3.92	47	*e*PN	Pn	21 56 34.2	+0.2
JMB	Yambol	3.96	15	*e*Pn	Pn	21 56 34.2	-0.3
KRUS	Krusevo	4.10	313	*i* Pn	Pn	21 56 38.1	+1.7
SHUT	Suhut-Afyon	4.16	89	*e*PN	Pn	21 56 37.4	+0.1
SILT	Sile	4.22	52	*e*PN	Pn	21 56 38.7	+0.7
ISP	Isparta	4.22	99	⇓*i*P	Pn	21 56 39.1	+1.0
VTS	Vitosha	4.24	339	⇑*i*P	Pn	21 56 39.2	+0.8
VTS	Vitosha	4.24	339	⇑P	Pn	21 56 39.2	+0.8
KEK	Kerkira	4.36	286	*e*PN	Pn	21 56 41.0	+1.0
SKO	Skopje	4.42	320	*i* Pn	Pn	21 56 38.7	-2.1
BARS	Barje	4.92	329	*i* Pn	Pn	21 56 47.8	+0.1
MDU	Mudurnu	4.97	67	*e*PN	Pn	21 56 49.7	+1.3
ANTO	Ankara	5.99	76	*e*PN	Pn	21 57 04.3	+1.9
GRUS	Gruza	6.26	328	*e*Pn	Pn	21 57 05.6	-0.4
TIRR	Tirgusor	6.29	21	⇓*i*P	Pn	21 57 05.5	-0.9
TIRR	Tirgusor	6.29	21	⇓P	Pn	21 57 05.5	-0.9
SAFT	Safranbolu	6.29	63	*e*PN	Pn	21 57 08.4	+2.0
SAFT	Safranbolu	6.29	63	*e*Pn	Pn	21 57 08.4	+1.9
TIP	Timpagrande	6.64	277	P	Pn	21 57 13.0	+1.7
TIP	Timpagrande	6.64	277	P	Pn	21 57 13.0	+1.7
	6.0nm,0.6s						
DIVS	Divibare	6.73	326	*i* Pn	Pn	21 57 13.0	+0.4
MLR	Muntele Rosu	6.87	4	⇑*i*P	Pn	21 57 15.0	+0.6
GZR	Gura Zlata	7.00	346	⇓*i*P	Pn	21 57 15.8	-0.4
PLOR	Plostina	7.29	8	⇑*i*P	Pn	21 57 22.2	+2.0
VRI	Vrincioaia	7.31	8	⇓*i*P	Pn	21 57 21.5	+1.0
BZS	Buzias	7.48	340	⇓*i*P	Pn	21 57 22.0	-0.8
BZS	Buzias	7.48	340	P	Pn	21 57 22.5	-0.3
MGR	Morigerati	7.65	284	Pn	Pn	21 57 17.5	-7.7
VAE	Valguarnera	8.62	266	Pn	Pn	21 57 44.5	+6.1
	1.0nm,0.3s,baz=110,slow=12,SNR=2.2						
SEV	Sevastopol'	8.64	44	*e*P	Pn	21 57 35.9	-2.9
SGG	Gregorio Mates	8.77	292	Pn	Pn	21 57 43.8	+3.2
BURAR	Bucovina Array	8.97	360	⇓*i*P	Pn	21 57 44.3	+1.0
BURAR	Bucovina Array	8.97	360	⇓P	Pn	21 57 44.3	+1.0
ALU	Alushta	9.14	46	*e*P	Pn	21 57 48.5	+3.0
SUDU	Sudak	9.60	46	*e*P	Pn	21 57 56.0	+4.1
MMAI	Mount Meron Ar	9.97	121	Pn	Pn	21 57 55.6	-1.4
	1.1nm,0.3s,baz=308,slow=12,SNR=13						
KOLS	Kolonicke sedl	10.51	349	*e*P	Pn	21 58 13.6	+9.2
ASF	Jabal al Asfar	11.49	121	LR	LR	22 03 30.6	
	comp=Z,37nm,18.8s,baz=129,slow=42						
GERES	GERESS Array B	13.16	325	Pn	Pn	21 58 45.1	+4.5
	0.1nm,0.3s,baz=138,slow=14,SNR=3.1						
ESDC	Sonseca Array	22.63	282	P	P	22 00 36.9	+2.2
	1.4nm,0.7s,mb3.5,baz=75,slow=10,SNR=8.5						
EKA	Eskdalemuir Ar	25.32	321	P	P	22 01 04.1	+3.8
	2.0nm,0.9s,mb3.6,baz=108,slow=8.3,SNR=3.5						
EKA	Eskdalemuir Ar	25.32	321	P	P	22 01 04.1	+3.7
EKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	ARCESS Array B	30.96	0	P	P	22 01 54.2	+3.6
	comp=Z,2.0nm,0.8s,mb4.0,baz=182,slow=8.6,SNR=2.7						
ARCES	ARCESS Array B	30.96	0	P	P	22 01 54.2	+3.6
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TORD	Torodi Ar. Bea	32.87	226	P	P	22 02 09.2	+1.4
	comp=Z,1.9nm,0.6s,mb4.2,baz=33,slow=9.0,SNR=12						
MKAR	Makanchi Array	41.89	60	P	P	22 03 24.4	+0.3
	comp=Z,0.8nm,0.6s,mb3.5,baz=277,slow=6.8,SNR=5.3						
MKAR	Makanchi Array	41.89	60	P	P	22 03 24.4	+0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	Zalesovo	42.60	49	P	P	22 03 30.3	+0.5
ZALV	Zalesovo Beam	42.61	49	P	P	22 03 30.3	+0.4
	comp=Z,0.3nm,0.4s,mb3.4,baz=260,slow=7.2,SNR=2.2						

NEIC ***17*** *22:05:37.4±0.8, 1449S×7634W, h35km, mb4.6/3, ML4.1(LIM), Error ellipse: s-maj=26.1km s-min=9.6km az=47.0*
NEIC Felt [II] at Ica.
ISCJB ***17*** *22:05:38.2±1.5, 145S±0.1×762W±0.1, h64km±12km, mb4.2/13, Error ellipse: s-maj=27.8km s-min=7.9km az=145.8*
IDC ***17*** *22:05:40.7±2.5, 1435S×7605W, h64km±17km, mb3.9/9, mb1 4.0/13, mb1mx3.8/24, mbtmp3.9/13, MS3.7/11, Ms1 3.7/11, ms1mx3.4/32, Error ellipse: s-maj=37.9km s-min=12.8km az=50.0*

ISC 17 22:05:40.4±1.2, 144S±01×762W±01, h65km±10km, n36, σ0.75/29, mb4.2/13, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.50	345	P	Pn	22 06 17.6	-1.2
	49nm,0.3s,baz=164,slow=11,SNR=11						
NNA				S	Sn	22 06 49.0	+0.8
	105nm,0.3s,baz=214,slow=13,SNR=7.0						
NNA				LR	LR	22 07 24.3	
	comp=Z,1μm,18.0s,baz=123,slow=42						
ARE	Arequipa	4.96	115	*e*P	Pn	22 06 53.0	+0.6
ARE				*e*S	Sn	22 07 57.0	+8.6
ATAH	Atahualpa	7.69	343	P	Pn	22 07 28.6	-1.2
	1.9nm,0.3s,baz=173,slow=10,SNR=6.3						
LPAZ	La Paz	7.99	104	P	Pn	22 07 34.7	+0.8
	4.0nm,0.3s,baz=283,slow=7.6,SNR=69						
LPAZ				LR	LR	22 11 17.0	
	comp=Z,392nm,18.0s,baz=285,slow=43						
LPAZ	La Paz	7.99	104	P	Pn	22 07 34.7	+0.8
LPAZ				LR	LR	22 11 17.0	
LVC	Limon Verde	10.67	141	P	Pn	22 08 10.3	-0.2
	1.4nm,0.3s,baz=301,slow=12,SNR=9.8						
LVC				LR	LR	22 12 42.6	
	comp=Z,460nm,19.6s,baz=330,slow=40						
SIV	San Ignacio	14.67	98	P	Pn	22 08 59.5	-5.0
	0.3nm,0.3s,baz=272,slow=13,SNR=5.0						
OTAV	Otavalo	14.74	351	*e*Pn	Pn	22 09 06.0	+0.6
	7.4nm,1.0s						
CFAA	Coronel Fontan	18.59	158	LR	LR	22 16 17.9	
	comp=Z,17nm,18.0s,baz=338,slow=34						
ROSC	El Rosal	19.24	6	LR	LR	22 17 17.7	
	comp=Z,112nm,19.9s,baz=193,slow=36						
SDV	Santo Domingo	23.80	14	P	P	22 10 47.6	+0.1
	6.6nm,0.8s,mb4.1,baz=191,slow=7.6,SNR=9.4						
PCRV	Puerto La Cruz	26.99	26	LR	LR	22 22 56.7	
	comp=Z,382nm,19.0s,baz=199,slow=38						
BDFB	Brasilia	27.23	96	P	P	22 11 16.8	-1.7
	1.4nm,1.0s,mb3.5,baz=249,slow=17,SNR=3.5						
BDFB				LR	LR	22 23 08.8	
	comp=Z,206nm,18.5s,baz=84,slow=39						
CMIG	Matias Romero	36.35	329	P	P	22 12 39.6	+1.2
	1.5nm,0.8s,mb4.0,baz=318,slow=9.4,SNR=3.7						
CMIG				LR	LR	22 25 36.2	
	comp=Z,91nm,21.8s,baz=334,slow=33						
TXAR	Lajitas Array	50.95	329	P	P	22 14 35.5	-0.1
	1.0nm,0.7s,mb3.8,baz=153,slow=9.5,SNR=11						
TXAR	Lajitas Array	50.95	329	P	P	22 14 35.5	-0.1
ANMO	Albuquerque	56.89	330	P	P	22 15 18.1	-0.7
	0.9nm,0.7s,mb3.9,baz=172,slow=20,SNR=3.9						
SDCO	Great Sand Dun	58.75	333	*e*P	P	22 15 32.5	+0.8
	2.3nm,1.0s,mb4.2						
DUG	Dugway	64.12	329	*e*P	P	22 16 08.1	+0.2
	3.9nm,0.8s,mb4.5						
PDAR	Pinedale Array	64.63	333	LR	LR	22 45 15.4	
	comp=Z,39nm,18.7s,baz=341,slow=37						
ELK	Elko	65.75	328	P	P	22 16 23.6	+5.1
	6.0nm,0.4s,mb5.0,baz=281,slow=13,SNR=26						
ELK	Elko	65.75	328	P	P	22 16 23.6	+5.1
ULM	Lac du Bonnet	66.68	346	P	P	22 16 24.8	+0.5
	2.0nm,0.8s,mb4.2,baz=182,slow=6.0,SNR=3.3						
ULM	Lac du Bonnet	66.68	346	P	P	22 16 24.8	+0.5
MOD	Modoc	69.23	326	*e*P	P	22 16 36.0	-4.5
	10.0nm,0.7s,mb4.8						
SCHQ	Schefferville	69.43	6	P	P	22 16 40.6	-0.8
	3.9nm,0.9s,mb4.3,baz=225,slow=7.1,SNR=2.3						
SCHQ				LR	LR	22 44 36.6	
	comp=Z,82nm,19.8s,baz=90,slow=34						
VNA2	Neumayer--Watz	69.58	161	*e*	P	22 16 42.3	+0.1
VNA2				*e*		22 16 45.0	
VNA2				*e*	pP	22 16 54.6	-5.0
SNAA	Sanae	71.18	161	*e*	P	22 16 52.0	0.0
SNAA				*e*		22 16 54.4	
SNAA				*e*	pP	22 17 04.8	-4.6
DBIC	Dimbokro	73.76	79	LR	LR	22 47 45.7	
	comp=Z,156nm,21.1s,baz=198,slow=34						
TOA0	Torodi Ar. Sit	81.82	74	*e*P	P	22 17 53.4	+0.2
TORD	Torodi Ar. Bea	81.82	74	P	P	22 17 53.0	-0.1
	4.6nm,0.7s,mb4.5,baz=268,slow=4.4,SNR=29						
YKA	Yellowknife Ar	82.34	343	P	P	22 17 54.6	-0.1
	1.4nm,0.8s,mb4.0,baz=148,slow=6.0,SNR=4.2						
WRA	Warramunga Arr	134.53	222	PKP	PKPdf	22 24 52.4	+0.1
	1.4nm,1.1s,baz=137,slow=1.9,SNR=3.1						
ZALV	Zalesovo Beam	137.83	17	PKP	PKPdf	22 24 58.5	+1.1
	0.8nm,0.7s,baz=333,slow=1.6,SNR=4.1						
SONM	Songino Array	146.62	357	PKPbc	PKPbc	22 25 15.4	+0.6
	1.3nm,0.6s,baz=337,slow=1.9,SNR=9.7						
KSRS	Korea Array	148.61	321	PKPbc	PKPbc	22 25 21.6	+1.1
	0.4nm,0.3s,baz=342,slow=0.4,SNR=3.6						

TEH ***17*** *22:44:58.3, 3269N×4793E, h9km, ML3.8*
CSEM ***17*** *22:46:12.8±0.1, 2866N×4759E, h10km, mb4.1/10, Ms3.3, Error ellipse: s-maj=3.2km s-min=1.5km az=28.0*
BJI ***17*** *22:46:13.5, 2870N×4760E, h10km, mB4.6, mb4.5, Ms4.6, Msz4.4*
MOS ***17*** *22:46:13.4±0.9, 2868N×4755E, h10km, mb4.3/9, Error ellipse: s-maj=12.1km s-min=6.3km az=120.5*
ISCJB ***17*** *22:46:14.1±0.7, 2870N±003×4764E±003, h16km±5km, mb4.1/26, MS3.6/17, Error ellipse: s-maj=5.6km s-min=3.7km az=38.0*
KISR ***17*** *22:46:15.2, 2883N×4766E, h8km, ML3.9, MW4.3*
IDC ***17*** *22:46:15.0±1.8, 2888N×4750E, h0km, mb4.0/15, mb1 4.1/17, mb1mx3.9/32, mbtmp4.0/17, ML3.6/2, MS3.6/18, Ms1 3.6/18, ms1mx3.4/37, Error ellipse: s-maj=37.7km s-min=16.0km az=167.0*
NEIC ***17*** *22:46:15.6±0.7, 2875N×4757E, h10km, mb4.0/13, Error ellipse: s-maj=15.1km s-min=6.2km az=178.0*
NEIC Felt [V] at Al Jahra; [IV] at Al Farwaniyah, Al Fuhayhil and Ash Shuwaykh; [III] at Al Mahbulah and As Salimiyah; [II] at Hawalli, Kuwait. Also felt at Ad Da'iyah, Ad Dasmah, Al Ahmadi, Al Fintas, Al Jabiriyah, Al Wafrah, Ar Rawdah, As Sabahiyah, Az Zawr, Bayan, Jalib ash Shuyukh, Janub as Surrah, Kuwait and Salwa, Kuwait. Also felt at Al Khafji, Saudi Arabia.

ISC 17 22:46:15.4±0.6, 2876N±003×4762E±003, h9km±3km, n148, σ0.95/164, mb4.1/26, MS3.6/17, 12C-13D, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDF	Al-Radifah	0.18	341	*e*P	Pg	22 46 19.1	-0.1
RDF	Al-Radifah	0.18	341	*e*P	Pg	22 46 19.2	0.0
	baz=313						
RDF				AMPG		22 46 19.7	
	comp=Z,6593μm,0.1s,baz=313						
KBD	Kabd	0.42	9	*e*P	Pg	22 46 23.1	-0.7
	baz=199						
KBD				*e*S	Sg	22 46 28.6	-0.8
	baz=199						
KBD	Kabd	0.42	9	*e*P	Pg	22 46 23.0	-0.7
	baz=5.0						
KBD				AMPG		22 46 23.7	
	comp=Z,224nm,0.3s,baz=5.0						
KBD				*e*S	Sg	22 46 28.6	-0.7
	baz=5.0						
NAY	Al-Naaiem	0.59	326	*e*P	Pg	22 46 27.2	+0.3
NAY				*e*S	Sg	22 46 36.0	+1.3
NAY	Al-Naaiem	0.59	326	*e*P	Pg	22 46 27.2	+0.3
	baz=219						
NAY	Al-Naaiem	0.59	326	*e*P	Pg	22 46 27.2	+0.3
	baz=319						
NAY				AMPG		22 46 27.9	
	comp=Z,400μm,0.4s,baz=319						
NAY				*e*S	Sg	22 46 36.0	+1.4
	baz=319						
NAY				AML	AML	22 46 40.0	
	comp=Z,2μm,0.4s,baz=319						
UMR	Umm Al-Rimmam	0.80	6	*e*P	Pg	22 46 29.9	-0.9
UMR				*e*S	Sg	22 46 40.3	-0.9
	comp=Z,6μm,0.4s						
UMR	Umm Al-Rimmam	0.80	6	*e*P	Pg	22 46 29.9	-0.9
	baz=208						
UMR				*e*S	Sg	22 46 40.3	-0.9
	baz=208						
UMR				AML	AML	22 46 48.1	
	comp=Z,6μm,0.4s,baz=208						
UMR	Umm Al-Rimmam	0.80	6	*e*P	Pg	22 46 30.4	-0.4
	baz=4.0						
UMR				AMPG		22 46 31.0	
	comp=Z,76μm,0.4s,baz=4.0						
UMR				*e*S	Sg	22 46 41.5	+0.2
	baz=4.0						
UMR				AML	AML	22 46 42.6	
	comp=Z,7μm,0.4s,baz=4.0						
RST	Umm Al-Ruwaisa	0.92	324	*e*P	Pg	22 46 33.0	-0.1
RST	Umm Al-Ruwaisa	0.92	324	*e*P	Pg	22 46 32.9	-0.2
	baz=319						
RST				AMPG		22 46 33.2	
	comp=Z,882nm,0.4s,baz=319						
MIB	Mutribah	1.07	347	*e*P	Pg	22 46 35.5	-0.6
MIB				*e*S	Sg	22 46 49.7	-0.3
	comp=Z,6μm,0.4s						
MIB	Mutribah	1.07	347	*e*P	Pg	22 46 35.5	-0.6
	baz=242						
MIB				*e*S	Sg	22 46 49.7	-0.3
	baz=242						
MIB				AML	AML	22 46 54.7	
	comp=Z,6μm,0.4s,baz=242						
MIB	Mutribah	1.07	347	*e*P	Pg	22 46 35.7	-0.4
	baz=344						
MIB				AMPG		22 46 36.5	
	comp=Z,166μm,0.5s,baz=344						
MIB				*e*S	Sg	22 46 51.0	+1.0
	baz=344						
MIB				AML	AML	22 46 54.5	
	comp=Z,6μm,0.5s,baz=344						
GHIR	Ghir-Karzin	4.75	94	*e*P	Pn	22 47 26.1	-1.1
IGAR	Gharneh	5.27	45	*e*Pn	Sn	22 48 32.1	-3.1
IGAR				*e*Sn	Sg	22 49 23.9	+19
BHD	Baghdad	5.29	329	*ex*	x	22 47 13.3	
BHD				*ex*	x	22 48 01.9	
IKOM	Komasi	5.40	359	*e*Pn	Sn	22 48 38.6	+0.1
IKOM				*e*Sn	Sg	22 49 11.7	+2.8
IKOM	Komasi	5.40	359	Pn	Sn	22 48 38.5	0.0
IKOM				Sn	Sg	22 49 10.6	+1.7
IGHG	Ghaleghazi	5.63	351	*e*Pn	Sn	22 48 44.5	+0.4
IGHG				*e*Sn	Sg	22 49 21.2	+5.0
IGHG	Ghaleghazi	5.63	351	Pn	Sn	22 48 44.6	+0.5
IGHG				Sn	Sg	22 49 21.7	+5.5
IKLH	Kolahrood	5.68	36	*e*Pn	Sn	22 48 46.8	+1.5
IKLH	Kolahrood	5.68	36	Pn	Sn	22 48 46.0	+0.7
IZEF	Zefreh	5.78	43	Pn	Sn	22 48 50.8	+2.9
IVIS	Veis	5.79	354	*e*Pn	Sn	22 48 45.8	-2.3
ILIN	Lien	6.17	355	*e*Pn	Sn	22 48 50.6	-6.8
ILIN	Lien	6.17	355	Pn	Sn	22 48 50.7	-6.7
ICHK	Chekchek	6.81	58	*e*Pn	Sn	22 49 12.3	-0.9
IBAF	Bafgh	7.44	66	*e*Pn	Sn	22 49 25.1	-3.6
IBAF	Bafgh	7.44	66	Pn	Sn	22 49 25.0	-3.7
ASUD	Al Ashush, Dub	8.03	119	P	Pn	22 48 13.6	+1.3
	SNR=27						
KRBR	Kerman	8.07	79	*e*Pn	Pn	22 48 13.0	+0.1
NAZ	Nazwa, Dubai	8.10	116	P	Pn	22 48 14.1	+0.8
	SNR=22						
FAQ	Al Faqa, Dubai	8.17	117	P	Pn	22 48 15.0	+0.8
	SNR=20						
BANOM	Banah	8.22	108	⇑P	Pn	22 48 13.9	-1.0
	SNR=180						
BANOM				⇑S	Sn	22 49 41.6	-6.4
MSL	Mosul	8.43	334	*ex*	x	22 48 06.5	
MSL				*ex*	x	22 49 36.5	
HATD	Hatta, Dubai	8.55	115	⇑P	Pn	22 48 19.8	+0.3
	SNR=23						
HATD				⇓S	Sn	22 49 52.6	-3.5
HATD	Hatta, Dubai	8.55	115	P	Pn	22 48 19.8	+0.3
	SNR=23						
ASHO	Ashiyiah	8.57	116	⇓P	Pn	22 48 20.0	+0.3
	SNR=80						
ASHO				⇑S	Sn	22 49 51.6	-4.8
ASF	Jabal al Asfar	9.86	293	Pn	Pn	22 48 28.5	-8.9
	comp=Z,0.8nm,0.3s,baz=106,slow=0.5,SNR=13						
ASF				Sn	Sn	22 50 23.4	-4.8
	comp=Z,1.1nm,0.3s,baz=14,slow=15,SNR=4.0						
ASF				Lg		22 51 33.4	
	comp=Z,1.8nm,0.3s,baz=170,slow=23,SNR=5.8						
ASF				LR	LR	22 52 59.0	
	comp=Z,279nm,18.8s,baz=343,slow=42						
ASF	Jabal al Asfar	9.86	293	P	Pn	22 48 28.5	-8.8
ASF						22 50 23.4	
HOQ	Hoqain	10.11	118	⇑P	Pn	22 48 41.0	+0.1
	SNR=18						
BSY	Bisya	10.51	123	⇑P	Pn	22 48 46.9	+0.7
BSYO	Bisya	10.54	122	P	Pn	22 48 46.9	+0.1
SMDO	Samad	10.97	119	⇓P	Pn	22 48 52.5	-0.1
	SNR=10.0						
EIL	Elat	11.11	278	Pn	Pn	22 48 54.0	-0.5
	comp=Z,0.2nm,0.3s,baz=90,slow=19,SNR=4.3						
EIL				Sn	Sn	22 50 52.9	-5.9
	comp=Z,0.8nm,0.3s,baz=78,slow=6.0,SNR=2.3						
EIL				Lg		22 52 17.1	
	comp=Z,1.3nm,0.3s,baz=38,slow=23,SNR=3.9						
EIL				LR	LR	22 52 53.0	
	comp=Z,62nm,20.3s,baz=97,slow=36						
EIL	Elat	11.11	278	Pn	Pn	22 48 54.0	-0.5
EIL				Sn	Sn	22 50 52.8	-6.0
EIL	Elat	11.11	278	Pn	Pn	22 48 54.0	-0.5
EIL				Sn	Sn	22 50 52.9	-5.9
EIL				Lg		22 52 17.1	
EIL				LR	LR	22 52 53.0	
MMAI	Mount Meron Ar	11.32	295	Pn	Pn	22 48 57.3	0.0
	comp=Z,0.8nm,0.3s,baz=101,slow=17,SNR=5.6						
MMAI				Sn	Sn	22 51 00.5	-3.5
	comp=Z,2.2nm,0.3s,baz=104,slow=18,SNR=4.5						
MMAI				Lg		22 52 20.4	
	comp=Z,2.2nm,0.3s,baz=116,slow=39,SNR=3.2						
MMAI				LR	LR	22 53 55.7	
	comp=Z,382nm,18.2s,baz=115,slow=41						
JMDO	Jabal Madar	11.40	122	⇓P	Pn	22 48 57.5	-1.0
GNI	Garni	11.61	349	Pn	Pn	22 48 55.9	-5.4
	comp=Z,0.2nm,0.3s,baz=270,slow=1.0,SNR=2.0						
GNI				LR	LR	22 53 59.7	
	comp=Z,234nm,20.1s,baz=160,slow=40						
WBK	Wadi Bani Khal	11.92	118	⇓P	Pn	22 49 05.8	+0.1
	SNR=32						
MALT	Malatya	12.22	324	*e*P	Pn	22 49 09.7	0.0
MALT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MALT	Malatya	12.22	324	*e*P	Pn	22 49 09.7	0.0
	comp=Z,4.0nm,0.6s						
MALT	Malatya	12.22	324	*e*Pn	Pn	22 49 09.7	0.0
	comp=Z,4.4nm,0.6s						
KIV	Kislovodsk	15.68	347	P	Pn	22 49 56.5	+0.1
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KIV	Kislovodsk	15.68	347	P	Pn	22 49 56.5	+0.1
	comp=Z,9.2nm,0.9s						
KIV	Kislovodsk	15.68	347	P	Pn	22 49 56.5	0.0
	comp=Z,9.2nm,0.9s						
KBL	Kabul	19.12	67	*e*P	Pn	22 50 39.5	0.0
KBL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBL	Kabul	19.12	67	*e*P	Pn	22 50 39.5	0.0
	comp=Z,2.5nm,0.7s						
KBL	Kabul	19.12	67	*e*P	Pn	22 50 39.5	0.0
	comp=Z,2.5nm,0.7s						
IDI	Anoyia	20.32	294	P	P	22 50 52.2	+0.4
	comp=Z,9.1nm,0.7s,baz=110,slow=15,SNR=6.7						
TIRR	Tirgusor	21.90	321	⇓*i*P	P	22 51 08.5	-0.3
TIRR	Tirgusor	21.90	321	*e*P	P	22 51 06.0	-2.7
	comp=Z,9.9nm,0.7s,mb4.3						
AKTK	Aktyubinsk	23.04	17	P	P	22 51 20.6	-0.2
AKTK	Aktyubinsk	23.04	17	P	P	22 51 20.6	-0.3
AKTO	Aktyubinsk	23.04	17	P	P	22 51 20.6	-0.3
	comp=Z,0.8nm,0.3s,mb3.6,baz=204,slow=12,SNR=4.4						
KIS	Kishinev	23.39	326	*e*P	P	22 51 27.0	+2.5
KIS				*e*S	S	22 55 40.0	+2.7
KIS				*e*		23 02 30.0	
VRI	Vrincioa

comp=Z,3.2nm,0.6s,mb4.0
HINF Hinteralfeld 36.70 313 *e*P **P 22 53 22.2 -0.5**
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
HINF Hinteralfeld 36.70 313 *e*P **P 22 53 22.2 -0.5**
comp=Z,1.6nm,0.6s,mb4.0
CABF La Chapelle 36.89 310 *e*P **P 22 53 24.2 -0.1**
ZAL Zalesovo 36.91 37 P **P 22 53 24.8 +0.5**
ZALV Zalesovo Beam 36.92 37 P **P 22 53 24.8 +0.3**
comp=Z,2.5nm,0.4s,mb4.4,baz=257,slow=10,SNR=6.8
ZALV LR LR 23 12 03.6
comp=Z,48nm,20.0s,MS3.3,baz=246,slow=42
SMF Signal de Mont 38.40 310 *e*P **P 22 53 36.4 -0.7**
comp=Z,2.9nm,0.5s,mb3.9
SMF Signal de Mont 38.40 310 *e*P **P 22 53 36.4 -0.7**
SMF pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
SMF Signal de Mont 38.40 310 *e*P **P 22 53 36.4 -0.7**
comp=Z,1.5nm,0.5s,mb3.9
LOR Lormes 38.52 311 *e*P **P 22 53 37.4 -0.7**
comp=Z,5.4nm,0.7s,mb4.1
LOR *e*MLR MLR
comp=Z,82nm,21.8s,MS3.2
LOR Lormes 38.52 311 *e*P **P 22 53 37.4 -0.7**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
LOR MLR MLR
comp=Z,80nm,21.8s,MS3.5
LOR Lormes 38.52 311 *e*P **P 22 53 37.4 -0.7**
comp=Z,2.7nm,0.7s,mb4.1
LOR LR LR
comp=Z,80nm,21.8s,MS3.5
SSF Saint Saulge 38.72 310 *e*P **P 22 53 39.3 -0.4**
comp=Z,4.0nm,0.6s,mb4.0
SSF Saint Saulge 38.72 310 *e*P **P 22 53 39.3 -0.4**
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
SSF Saint Saulge 38.72 310 *e*P **P 22 53 39.3 -0.4**
comp=Z,2.0nm,0.6s,mb4.0
AVF Avril sur Loir 38.76 310 *e*P **P 22 53 39.2 -0.9**
comp=Z,3.9nm,0.7s,mb3.9
AVF Avril sur Loir 38.76 310 *e*P **P 22 53 39.2 -0.9**
AVF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
AVF Avril sur Loir 38.76 310 *e*P **P 22 53 39.2 -0.9**
comp=Z,2.0nm,0.7s,mb4.0
HFS Hagfors 38.83 334 P **P 22 53 40.1 -0.4**
comp=Z,5.6nm,0.5s,mb4.6,baz=131,slow=9.0,SNR=23
HFS LR LR 23 11 08.5
comp=Z,88nm,19.3s,MS3.6,baz=350,slow=39
MTLF Montolieu 39.00 304 *e*P **P 22 53 42.4 +0.2**
comp=Z,4.3nm,0.7s,mb4.0
MTLF Montolieu 39.00 304 *e*P **P 22 53 42.4 +0.2**
MTLF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
MTLF Montolieu 39.00 304 *e*P **P 22 53 42.4 +0.2**
comp=Z,2.2nm,0.7s,mb4.0
BGF Bois d'Agland 39.06 310 *e*P **P 22 53 41.6 -1.0**
TCF Toulx Ste Croi 39.44 309 *e*P **P 22 53 44.9 -0.9**
EPF Esparros 40.34 304 *e*P **P 22 53 52.6 -0.7**
NOA NORSAR Array B 40.36 334 P **P 22 53 51.8 -1.4**
comp=Z,1.2nm,0.7s,mb3.7,baz=126,slow=8.4,SNR=3.8
NOA LR LR 23 14 00.6
comp=Z,47nm,20.9s,MS3.3,baz=135,slow=41
ARCES ARCESS Array B 42.77 349 LR LR 23 14 13.2
comp=Z,107nm,20.1s,MS3.7,baz=117,slow=39
ESDC Sonseca Array 43.50 299 P **P 22 54 19.1 0.0**
comp=Z,0.3nm,0.5s,mb3.3,baz=90,slow=9.0,SNR=3.8
TORD Torodi Ar. Bea 45.32 260 P **P 22 54 34.3 +0.3**
comp=Z,0.6nm,0.5s,mb3.7,baz=59,slow=8.4,SNR=14
TORD LR LR 23 15 43.7
comp=Z,88nm,20.4s,MS3.7,baz=25,slow=39
ZAK Zakamensk 46.79 46 *e*P **P 22 54 44.9 -0.3**
CD2 Chengdu 48.31 73 *e*P **P 22 54 56.8 -0.5**
SONM Songino Array 48.68 50 P **P 22 55 00.5 +0.6**
comp=Z,0.5nm,0.5s,mb3.8,baz=256,slow=15,SNR=4.7
SONM LR LR 23 18 53.9
comp=Z,103nm,18.0s,MS3.9,baz=75,slow=40
SPITS Spitsbergen Ar 51.46 352 P **P 22 55 21.6 +1.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=290,slow=15,SNR=3.1
SPITS Spitsbergen Ar 51.46 352 P **P 22 55 21.6 +1.0**
HHC Hu-ho-hao-te 52.82 59 *e*P **P 22 55 30.4 -0.8**
HHC PP PP 22 57 30.8 +0.3
HHC PS 23 03 08.5
HHC SCS ScS 23 05 15.8 -5.5
HHC AMB AMB
comp=Z,9.0nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,94nm,7.1s
HHC LR LR
comp=N,220nm,19.0s,MS4.3
HHC LR LR
comp=E,167nm,19.0s,MS4.3
HHC LR LR
comp=Z,165nm,17.8s,MS4.1
BOD Bodaibo 53.66 37 *e*P **P 22 55 37.2 0.0**
DBIC Dimbokro 54.09 257 LR LR 23 20 36.1
comp=Z,108nm,18.8s,MS3.9,baz=237,slow=38
KSRS Korea Array 65.95 59 LR LR 23 29 15.6
comp=Z,46nm,18.1s,MS3.7,baz=290,slow=39
PETK Petropavlovsk- 78.46 35 LR LR 23 38 19.2
comp=Z,30nm,18.6s,MS3.7,baz=91,slow=40
MAW Mawson 96.74 174 LR LR 23 35 13.5
comp=Z,40nm,19.8s,MS3.9,baz=230,slow=30

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*ISCJB **17** 22:46:14.6±1.1,3253N±006×4791E±008,h10km, Error ellipse: s-maj=11.9km s-min=5.9km az=137.6*
*NEIC **17** 22:47:55.0,3160N×4840E,h3km,MN4.2(TEH),After TEH.*
ISC 17 22:46:15.8±1.1,3258N±007×4788E±008,h10km,n22, σ0°77/24,1C-2D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.91**	**121**	*e*Pg	**Pg**	**22 46 33.0**	**-0.4**
SHGR				AML	AML	22 46 51.9	
	comp=E,2μm,0.4s						
SHGR				AML	AML	22 46 56.8	
	comp=N,2μm,0.5s						
IKOM	**Komasi**	**1.62**	**349**	*e*Pn	**Pn**	**22 46 43.5**	**-1.0**
IKOM				*e*		22 46 46.7	
IKOM				*e*Sg	**Sn**	**22 47 04.5**	**-1.0**
IGHG	**Ghaleghazi**	**2.06**	**328**	*e*Pn	**Pn**	**22 46 51.5**	**+1.0**
IGHG				*e*		22 47 43.5	
IVIS	**Veis**	**2.13**	**336**	*e*Pn	**Pn**	**22 46 51.3**	**-0.1**
IVIS				*e*		22 47 26.7	
ILIN	**Lien**	**2.46**	**342**	*e*Pn	**Pn**	**22 46 56.3**	**+0.3**
ILIN				*e*		22 46 59.8	
IPIR	**Pirpir**	**2.55**	**87⇓**	*e*Pn	**Pn**	**22 46 58.2**	**+1.0**
IPIR	**Pirpir**	**2.55**	**87**	*e*Pn	**Pn**	**22 46 58.0**	**+0.8**
IPIR				*e*		22 47 53.2	
SNGE	**Sanandaj**	**2.55**	**350**	*e*Pn	**Pn**	**22 46 58.0**	**+0.8**
SNGE	**Sanandaj**	**2.55**	**350**	*e*Pn	**Pn**	**22 46 58.0**	**+0.8**
	SNR=52						
ASAO	**Ashtian**	**2.66**	**42**	*e*Pn	**Pn**	**22 46 58.5**	**-0.3**
ASAO				*e*Sg	**Sn**	**22 47 32.6**	**+1.5**
ASAO				AML	AML	22 47 42.8	
	comp=N,280nm,0.6s						
ASAO				AML	AML	22 47 43.0	
	comp=E,277nm,0.8s						
IKLH	**Kolahrood**	**3.20**	**76**	*e*Pn	**Pn**	**22 47 06.6**	**+0.4**
IKLH				*e*		22 48 14.7	
IRAZ	**Razeghan**	**3.30**	**31⇓**	*e*Pn	**Pn**	**22 47 08.0**	**+0.5**
IRAZ				*e*		22 47 10.2	
IZEF	**Zefreh**	**3.77**	**84⇑**	*e*Pn	**Pn**	**22 47 13.7**	**-0.2**
IZEF	**Zefreh**	**3.77**	**84**	*e*Pn	**Pn**	**22 47 14.2**	**+0.3**
IZEF				*e*		22 48 09.7	
IAFJ	**Afjeh**	**4.56**	**43**	*e*Pn	**Pn**	**22 47 23.9**	**-1.0**
DAMV	**Damavand**	**4.56**	**47**	*e*Pn	**Pn**	**22 47 24.2**	**-0.7**
IDMV	**Damavand**	**4.57**	**48**	*e*Pn	**Pn**	**22 47 24.4**	**-0.6**
IDMV				*e*		22 48 51.1	
IFIR	**Firoozkooh**	**5.07**	**52**	*e*Pn	**Pn**	**22 47 31.1**	**-0.8**
IPAR	**Pars**	**5.20**	**120**	Pn	**Sg**	**22 49 02.2**	**-0.6**
ISRB	**Sarab**	**5.24**	**358**	*e*	**Sg**	**22 49 13.1**	**+9.0**
ISHM	**Shahmirzad**	**5.52**	**53**	*e*Pn	**Pn**	**22 47 37.9**	**-0.2**
KRBR	**Kerman**	**8.03**	**106**	*e*Pn	**Pn**	**22 48 13.8**	**+1.3**

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*ISCJB **17** 23:03:11.9±1.5,2874N±007×4771E±007,h6km±7km, Error ellipse: s-maj=13.2km s-min=8.6km az=39.7*
*KISR **17** 23:03:13.0,2884N×4765E,h7km,MC2.8,ML3.1*
*CSEM **17** 23:03:15.8±0.3,2912N×4789E,h2km,ML4.0,Error ellipse: s-maj=9.7km s-min=3.1km az=33.0*
*THR **17** 23:03:16.3±0.9,2907N×4783E,h15km,ML4.0*
ISC 17 23:03:13.7±1.8,2878N±008×4764E±008,h2km±13km,n20, σ0°78/29,Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDF	**Al-Radifah**	**0.17**	**330**	*e*P	**Pg**	**23 03 16.8**	**-0.1**
	baz=312						
RDF	**Al-Radifah**	**0.17**	**330**	*e*P	**Pg**	**23 03 16.6**	**-0.2**
	baz=314						
KBD	**Kabd**	**0.40**	**6**	*e*P	**Pg**	**23 03 20.8**	**-0.5**
	baz=7.0						
KBD				*e*S	**Sg**	**23 03 26.6**	**+0.2**
	baz=7.0						
KBD				AML	AML	23 03 29.1	
	comp=Z,51nm,0.2s,baz=7.0						
KBD	**Kabd**	**0.40**	**6**	*e*P	**Pg**	**23 03 20.9**	**-0.4**
	baz=7.0						
KBD				*e*S	**Sg**	**23 03 26.4**	**0.0**
	baz=7.0						
NAY	**Al-Naaiem**	**0.58**	**323**	*e*P	**Pg**	**23 03 24.6**	**-0.3**
	baz=318						
NAY	**Al-Naaiem**	**0.58**	**323**	*e*P	**Pg**	**23 03 24.5**	**-0.3**
	baz=319						
UMR	**Umm Al-Rimmam**	**0.77**	**5**	*e*P	**Pg**	**23 03 28.2**	**-0.2**
	baz=5.0						
UMR				*e*S	**Sg**	**23 03 38.8**	**+0.3**
	baz=5.0						
UMR				AML	AML	23 03 41.6	
	comp=Z,2μm,0.4s,baz=5.0						
UMR	**Umm Al-Rimmam**	**0.77**	**5**	*e*P	**Pg**	**23 03 27.9**	**-0.5**
	baz=5.0						
UMR				*e*S	**Sg**	**23 03 39.0**	**+0.5**
	baz=5.0						
UMR				AML	AML	23 03 45.9	
	comp=Z,4μm,0.3s,baz=5.0						
RST	**Umm Al-Ruwaisa**	**0.91**	**322**	*e*P	**Pg**	**23 03 30.7**	**-0.5**
	baz=319						
RST				*e*S	**Sg**	**23 03 44.5**	**+1.5**
	baz=319						
RST	**Umm Al-Ruwaisa**	**0.91**	**322**	*e*P	**Pg**	**23 03 30.4**	**-0.7**
	baz=319						
RST				*e*S	**Sg**	**23 03 44.6**	**+1.6**
	baz=319						
RST				AML	AML	23 03 57.3	
	comp=Z,42nm,0.5s,baz=319						
MIB	**Mutribah**	**1.05**	**345**	*e*P	**Pg**	**23 03 33.2**	**-0.7**
MIB				*e*S	**Sg**	**23 03 48.0**	**+0.5**
	comp=Z,803nm,0.4s						
MIB	**Mutribah**	**1.05**	**345**	*e*P	**Pg**	**23 03 33.2**	**-0.6**
	baz=344						
MIB				*e*S	**Sg**	**23 03 48.0**	**+0.5**
	baz=344						
MIB				AML	AML	23 03 51.5	
	comp=Z,803nm,0.4s,baz=344						
MIB	**Mutribah**	**1.05**	**345**	*e*P	**Pg**	**23 03 33.4**	**-0.5**
	baz=344						
MIB				*e*S	**Sg**	**23 03 48.1**	**+0.6**
	baz=344						
MIB				AML	AML	23 03 53.2	
	comp=Z,1μm,0.4s,baz=344						
GHIR	**Ghir-Karzin**	**4.73**	**95**	*e*Pn	**Pn**	**23 04 27.7**	**+1.8**
NASN	**Na'in**	**5.98**	**47**	*e*Pn	**Pn**	**23 04 42.4**	**-0.7**
ASAO	**Ashtian**	**6.10**	**19**	*e*Pn	**Pn**	**23 04 44.9**	**+0.1**
ASAO				AML	AML	23 05 57.0	
	comp=E,27nm,0.4s						
ASAO				AML	AML	23 06 01.0	
	comp=N,40nm,0.8s						
SNGE	**Sanandaj**	**6.30**	**358**	*e*Pn	**Pn**	**23 04 47.0**	**-0.4**
SNGE				AML	AML	23 06 03.2	
	comp=N,79nm,0.5s						
SNGE				AML	AML	23 06 14.4	
	comp=E,57nm,0.6s						
SNGE	**Sanandaj**	**6.30**	**358**	*e*Pn	**Pn**	**23 04 47.0**	**-0.5**
	SNR=47						
CHTH	**Charan**	**7.69**	**22**	*e*Pn	**Pn**	**23 05 05.4**	**-1.3**
KRBR	**Kerman**	**8.04**	**79**	*e*Pn	**Pn**	**23 05 12.1**	**+0.6**

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*IDC **17** 23:05:53.7±1.7,1700S×70.18W,h0km,mb3.7/2,mb1 3.9/6, mb1mx3.7/21,mbtmp3.8/6,ML3.6/4,MS3.5/2,Ms1 3.5/2, ms1mx2.7/24,Error ellipse: s-maj=28.5km s-min=22.7km az=127.0*
*ISCJB **17** 23:05:59.5±1.1,1703S±006×7017W±007,h60km±15km, mb3.9/3,MS3.5/2,Error ellipse: s-maj=11.5km s-min=9.4km az=148.2*
*NEIC **17** 23:05:59.1±1.0,1701S×7013W,h44km±14km,mb4.4/1, Error ellipse: s-maj=14.3km s-min=12.5km az=214.0*
ISC 17 23:06:00.8±0.9,1706S±008×7010W±007,h57km±14km, n10,σ1°31/12,mb3.9/3,MS3.5/2,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.04**	**68**	Pn	**Pn**	**23 06 32.4**	**-0.4**
	6.9nm,0.3s,baz=256,slow=12,SNR=13						
LPAZ				Sn	**Sn**	**23 06 58.6**	**+1.5**
	3.6nm,0.3s,baz=250,slow=21,SNR=3.5						
LVC	**Limon Verde**	**5.64**	**169**	Pn	**Pn**	**23 07 21.9**	**-0.1**
	1.7nm,0.3s,baz=2.1,slow=11,SNR=16						
LVC				Sn	**Sn**	**23 08 29.3**	**+3.8**
	1.1nm,0.3s,baz=0.0,slow=20,SNR=3.4						
LVC	**Limon Verde**	**5.64**	**169**	Pn	**Pn**	**23 07 21.9**	**-0.1**
LVC				Sn	**Sn**	**23 08 29.3**	**+3.8**
NNA	**Nana**	**8.24**	**307**	Pn	**Pn**	**23 07 55.1**	**-2.6**
	0.2nm,0.3s,baz=115,slow=17,SNR=1.5						
NNA				Sn	**Sn**	**23 09 31.0**	**+1.5**
	53nm,0.3s,baz=226,slow=10,SNR=21						
SIV	**San Ignacio**	**8.72**	**84**	Pn	**Pn**	**23 08 02.1**	**-2.2**
	0.7nm,0.3s,baz=263,slow=14,SNR=12						
PLCA	**Paso Flores**	**23.60**	**181**	P	**P**	**23 11 06.0**	**-0.4**
	1.8nm,0.8s,mb3.5,baz=356,slow=9.9,SNR=4.7						
PCRV	**Puerto La Cruz**	**27.59**	**12**	LR	LR	23 23 06.8	
	comp=Z,42nm,19.6s,MS3.0,baz=74,slow=38						
RWWY	**Rawlins**	**67.78**	**331**	*e*P	**P**	**23 16 53.2**	**+0.7**
	2.8nm,0.7s,mb4.4						
PDAR	**Pinedale Array**	**69.72**	**330**	LR	LR	23 51 17.0	
	comp=Z,69nm,18.9s,MS3.9,baz=246,slow=39						
TORD	**Torodi Ar. Bea**	**76.98**	**72**	P	**P**	**23 17 47.9**	**-0.1**
	0.8nm,0.8s,mb3.7,baz=260,slow=4.8,SNR=3.7						

IDC 17 23:08:44.3±60.0,1271S×16868E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/16,mbtmp3.8/3,Error ellipse: s-maj=1026.0km s-min=125.6km az=64.0,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.35**	**228**	P	P	23 15 06.5	-0.1
	0.9nm,0.5s,baz=44,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**33.69**	**253**	P	P	23 15 27.4	+0.1
	0.4nm,0.4s,baz=84,slow=8.6,SNR=4.6						
ASAR	**Alice Springs**	**34.70**	**247**	P	P	23 15 36.1	0.0
	0.7nm,0.5s,baz=75,slow=9.9,SNR=14						

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*BJI **17** 23:17:32.6,7685×12990E,h147km,mB5.0,mb4.7*
*MOS **17** 23:17:34.7±1.0,6835×12954E,h113km,mb5.0/10,Error ellipse: s-maj=14.7km s-min=7.3km az=116.2*
*IDC **17** 23:17:35.3±3.0,6855×12966E,h104km±27km,mb4.3/13, mb1 4.5/16,mb1mx4.4/20,mbtmp4.4/16,MS3.4/3, Ms1 3.3/3,ms1mx3.0/18,Error ellipse: s-maj=19.6km s-min=11.5km az=68.0*
*NEIC **17** 23:17:39.5±0.8,6915×12969E,h148km±7km,mb4.8/20, Error ellipse: s-maj=9.6km s-min=5.5km az=51.0*
*DJA **17** 23:17:40,7085×13000E,h119km,ML5.2/5*
*ISCJB **17** 23:17:40.3±0.6,7015±004×12979E±005,h175km±5km, mb4.7/53,Error ellipse: s-maj=8.3km s-min=5.0km az=151.3*
ISC 17 23:17:41.0±0.5,7025±003×12981E±005,h165km±5km, h165km±3.4km:pP-P,n156,σ1°25/133,mb4.7/53,8C-12D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.68**	**334**	P	**Pn**	**23 18 36.7**	**-0.9**
	0.0nm,0.0s						
MSAI	**Masohi**	**3.75**	**347**	P	**Pn**	**23 18 38.9**	**+0.4**
	0.0nm,0.0s						
KAKA	**Kakadu**	**6.22**	**156⇓**	*i*P	**Pn**	**23 19 11.2**	**+0.4**
	300nm,0.6s						
KAKA				*e*S	**Sn**	**23 20 18.6**	**-2.7**
LBMI	**Labuha**	**6.74**	**340**	P	**Pn**	**23 19 16.8**	**-0.9**
	1μm,0.9s						
BATI	**Baumata**	**6.85**	**242**	P	**Pn**	**23 19 19.8**	**+0.7**
	371nm,0.7s						
BATI	**Baumata**	**6.85**	**242**	P	**Pn**	**23 19 18.9**	**-0.1**
	62nm,0.3s,baz=125,slow=3.4,SNR=39						
BATI				S	**Sn**	**23 20 29.1**	**-7.1**
	60nm,0.3s,baz=252,slow=1.2,SNR=3.8						
BATI				LR	LR	23 21 59.5	
	comp=Z,428nm,18.2s,baz=92,slow=39						
KDI	**Kendari**	**7.77**	**293**	P	**Pn**	**23 19 33.0**	**+1.7**
	68nm,0.9s						
MNI	**Manado**	**9.76**	**329**	P	**Pn**	**23 19 58.3**	**+0.7**
	157nm,0.8s						
KAPI	**Kappang**	**10.20**	**281**	*e*Pn	**Pn**	**23 20 01.5**	**-1.9**
PCI	**Palu**	**11.65**	**301**	P	**Pn**	**23 20 26.5**	**+4.1**
	292nm,1.0s						
FITZ	**Fitzroy Crossi**	**11.74**	**200⇓**	*i*P	**Pn**	**23 20 21.4**	**-2.1**
	37nm,0.3s						
FITZ				*e*S	**Sn**	**23 22 24.5**	**-9.1**
FITZ	**Fitzroy Crossi**	**11.74**	**200**	P	**Pn**	**23 20 21.5**	**-1.9**
	7.2nm,0.3s,baz=30,slow=12,SNR=56						
FITZ				S	**Sn**	**23 22 27.5**	**-6.1**
	5.9nm,0.3s,baz=93,slow=23,SNR=7.3						
FITZ				LR	LR	23 25 57.3	
	comp=Z,73nm,18.8s,baz=16,slow=42						
WRAB	**Tennant Creek**	**13.57**	**161**	*e*P	**Pn**	**23 20 45.6**	**-1.3**
WRA	**Warramunga Arr**	**13.58**	**162**	P	**Pn**	**23 20 45.7**	**-1.3**
	6.1nm,0.3s,baz=341,slow=12,SNR=66						
WRA				S	**Sn**	**23 23 08.0**	**-10**
	7.7nm,0.3s,baz=338,slow=22,SNR=7.5						
WB2	**Warramunga Arr**	**13.58**	**161⇓**	*i*P	**Pn**	**23 20 44.7**	**-2.3**
WB2				*e*S	**Sn**	**23 23 04.7**	**-13**
SMKI	**Samarinda**	**14.16**	**297**	P	**Pn**	**23 20 57.1**	**+2.7**
	241nm,1.0s						
COEN	**Coen**	**14.84**	**119**	*e*Pn	**Pn**	**23 21 03.7**	**+0.9**
	22nm,0.9s						
BBKI	**Banjar Baru**	**15.31**	**283**	P	**Pn**	**23 21 10.3**	**+1.6**
	616nm,1.1s						
TSM	**Tawau**	**16.38**	**313**	⇓P	**Pn**	**23 21 21.4**	**-0.3**
PLKI	**Palangkaraya**	**16.51**	**286**	P	**Pn**	**23 21 23.6**	**+0.4**
	629nm,1.0s						
MYLDM	**Lahad Datu**	**16.56**	**317**	⇑P	**Pn**	**23 21 25.9**	**+2.0**
ASAR	**Alice Springs**	**17.01**	**167**	P	**Pn**	**23 21 30.8**	**+1.6**
	8.9nm,0.3s,baz=350,slow=11,SNR=488						
ASAR				S	**S**	**23 24 37.2**	**-0.1**
	3.4nm,0.3s,baz=358,slow=28,SNR=6.7						
MBWA	**Marble Bar**	**17.10**	**214**	*e*Pn	**Pn**	**23 21 29.7**	**-0.6**
	34nm,0.8s						
PMG	**Port Moresby**	**17.34**	**99⇓**	*e*P	**Pn**	**23 21 36.4**	**+3.2**
PMG	**Port Moresby**	**17.34**	**99**	*e*P	**Pn**	**23 21 34.1**	**+0.9**
	39nm,0.9s						
SDKM	**Sandakan**	**17.79**	**315**	⇑P	**Pn**	**23 21 38.9**	**+0.3**
SJI	**Sawahan**	**17.90**	**267**	P	**Pn**	**23 21 39.1**	**-0.8**
	88nm,1.0s						
PBKI	**Pangkalan Bun**	**18.57**	**282**	P	**P**	**23 21 46.6**	**+1.1**
	628nm,1.0s						
KKM	**Kota Kinabalu**	**18.77**	**313**	⇓P	**P**	**23 21 47.3**	**-0.3**
KKM	**Kota Kinabalu**	**18.77**	**313**	*e*P	**P**	**23 21 47.0**	**-0.7**
KDM	**Kudat**	**18.95**	**317**	⇓P	**P**	**23 21 53.0**	**+3.4**
BTM	**Bintulu**	**19.54**	**301**	⇓P	**P**	**23 21 58.2**	**+2.2**
STKI	**Sintang**	**19.59**	**290**	P	**P**	**23 21 57.1**	**+0.5**
	98nm,1.0s						
SBUM	**Sibu**	**19.91**	**298**	⇑P	**P**	**23 22 01.4**	**+1.4**
CTA	**Charters Tower**	**20.57**	**131**	*e*P	**P**	**23 22 08.9**	**+1.9**
	5.4nm,0.8s						
CTA				*e*S	**S**	**23 26 01.9**	**+14**
CTA	**Charters Tower**	**20.57**	**131**	P	**P**	**23 22 09.3**	**+2.3**
	3.8nm,0.6s,baz=313,slow=14,SNR=5.2						
KSM	**Kuching**	**21.21**	**293**	⇑P	**P**	**23 22 14.6**	**+0.8**
KSM	**Kuching**	**21.21**	**293**	*e*P	**P**	**23 22 12.6**	**-1.3**
LEM	**Lembang**	**22.03**	**269**	P	**P**	**23 22 23.8**	**+1.3**
	105nm,0.8s,mb5.3						
CBJI	**Citeko**	**22.80**	**270**	P	**P**	**23 22 27.8**	**-2.0**
	350nm,0.9s,mb5.8						
SKJI	**Sukabumi**	**23.07**	**269**	P	**P**	**23 22 32.0**	**-0.2**
	230nm,0.7s,mb5.7						
FORT	**Forrest**	**23.69**	**184**	*e*P	**P**	**23 22 39.6**	**+2.0**
	99nm,0.6s,mb5.5						
FORT				*e*S	sS	23 27 04.6	-34
KLBR	**Kellerberrin**	**26.91**	**203**	*e*P	**P**	**23 23 06.9**	**+0.2**
	9.4nm,0.5s,mb4.7						
KLBR				*e*S	sS	23 28 20.4	-12
STKA	**Stephens Creek**	**27.07**	**158⇓**	*i*P	**P**	**23 23 10.3**	**+2.2**
	12nm,0.9s,mb4.5						
STKA				*e*S	sS	23 28 28.1	-6.6
STKA	**Stephens Creek**	**27.07**	**158**	P	**P**	**23 23 10.4**	**+2.3**
	12nm,0.5s,mb4.7,baz=330,slow=9.0,SNR=32						
MUN	**Mundaring**	**27.88**	**205**	*e*P	**P**	**23 23 16.8**	**+1.4**
MUN				*e*S	sS	23 28 45.1	-2.5
NWAO	**Narrogin (SRO)**	**28.30**	**203**	P	**P**	**23 23 20.8**	**+1.7**
	5.9nm,0.5s,mb4.6,baz=58,slow=14,SNR=11						
NWAO	**Narrogin (SRO)**	**28.30**	**203**	P	**P**	**23 23 20.8**	**+1.7**
PPI	**Padang Panjang**	**30.05**	**281**	P	**P**	**23 23 35.0**	**+0.2**
	38nm,1.2s,mb5.0						
IPM	**Ipoh**	**30.91**	**291**	⇑P	**P**	**23 23 43.5**	**+1.1**
KULM	**Kulim**	**31.56**	**292**	⇑P	**P**	**23 23 49.0**	**+1.0**
PSI	**Prapat**	**32.33**	**287**	P	**P**	**23 23 52.6**	**-2.2**
	6.5nm,0.7s,mb4.5,baz=74,slow=4.7,SNR=8.4						
PSI				PcP	PcP	23 26 38.5	-0.4
	5.6nm,0.9s,baz=61,slow=1.0,SNR=3.9						
CNB	**Canberra Magne**	**33.40**	**150**	*e*P	**P**	**23 24 08.5**	**+4.6**
TOO	**Toolangi**	**33.59**	**157**	*e*P	**P**	**23 24 09.5**	**+4.1**
CMAR	**Chiang Mai Arr**	**39.60**	**310**	P	**P**	**23 24 55.8**	**-0.8**
	8.0nm,0.6s,mb4.5,baz=135,slow=7.0,SNR=38						
CMAR				PcP	PcP	23 27 02.2	+1.8
	2.1nm,0.6s,baz=147,slow=2.9,SNR=6.7						
CHTO	**Chiang Mai**	**39.81**	**311**	*e*P	**P**	**23 24 57.2**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.7						
CHTO	**Chiang Mai**	**39.81**	**311**	*e*P	**P**	**23 24 57.2**	**-1.0**
	comp=Z,14nm,0.7s,mb4.7						
GYA	**Guiyang**	**40.15**	**327**	P	**P**	**23 25 00.8**	**-0.1**
GYA				AP	pP	23 25 38.6	+1.8
GYA				PP	PP	23 26 42.8	+5.9
GYA				PCP	PcP	23 27 05.0	+2.9
GYA				SCP	ScP	23 30 38.4	+2.6
GYA				PCS	PcS	23 30 54.0	+1.2
GYA				S	**S**	**23 30 58.3**	**+3.1**
GYA				SCS	ScS	23 34 50.8	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA				AMB	AMB		
	comp=Z,60nm,4.9s						
WHN	**Wuhan**	**40.18**	**339**	P	**P**	**23 25 00.8**	**-0.3**
NJ2	**Nanjing**	**40.23**	**346**	*e*P	**P**	**23 25 03.4**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
MJAR	**Matsushiro Arr**	**44.04**	**10**	P	**P**	**23 25 30.9**	**-1.4**
	comp=Z,1.0nm,0.3s,mb3.9,baz=186,slow=9.6,SNR=4.0						
CD2	**Chengdu**	**45.22**	**328**	*e*P	**P**	**23 25 43.3**	**+1.6**
CD2				AP	pP	23 26 18.9	+0.6
CD2				XP	sP	23 26 36.9	0.0
CD2				PP	PP	23 27 31.6	+0.6
CD

comp=Z,292nm,16.1s
RPZ Rata Peaks 51.34 142 P **P 23 26 31.9 +3.5**
comp=Z,8.9nm,0.6s,mb4.5,baz=258,slow=5.5,SNR=5.7
LSA Lhasa 52.08 316 P **P 23 26 34.3 +0.2**
LSA Lhasa 52.08 316 *e*P **P 23 26 33.8 -0.3**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
LSA Lhasa 52.08 316 *e*P **P 23 26 33.8 -0.4**
comp=Z,6.3nm,0.6s,mb4.4
ODAN Odare 53.12 311 *e*P **P 23 26 40.4 -1.5**
comp=Z,19nm,0.4s,mb5.2
TAPN Taplejung 53.16 312 *e*P **P 23 26 41.4 -0.7**
comp=Z,19nm,0.4s,mb5.2
GTA Gaotai 53.90 331 *e*P **P 23 26 46.8 -0.4**
GTA AP pP 23 27 22.9 -2.2
GTA XP sP 23 27 41.3 -2.0
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.5
JIRN Jiri 54.45 311 *e*P **P 23 26 50.6 -0.9**
comp=Z,18nm,0.4s,mb5.2
GUN Gumba 54.82 311 *e*P **P 23 26 53.3 -0.8**
comp=Z,61nm,0.7s,mb5.5
PKI Pulchoki 54.99 311 *e*P **P 23 26 54.3 -1.1**
comp=Z,17nm,0.5s,mb5.0
PKI Pulchoki 54.99 311 *e*P **P 23 26 54.3 -1.1**
PKI pmax pmax
comp=Z,17nm,0.5s,mb5.0
KKN Kakani 55.20 311 *e*P **P 23 26 55.5 -1.4**
comp=Z,14nm,0.5s,mb5.0
KKN Kakani 55.20 311 *e*P **P 23 26 55.5 -1.4**
KKN pmax pmax
comp=Z,14nm,0.5s,mb5.0
DMN Daman 55.24 311 *e*P **P 23 26 56.2 -1.0**
comp=Z,8.4nm,0.4s,mb4.8
GKN Gorkha 55.80 311 *e*P **P 23 27 00.4 -0.7**
KOLN Koldanda 56.47 310 *e*P **P 23 27 04.3 -1.6**
comp=Z,28nm,0.5s,mb5.3
DANN Dangsing 56.64 311 *e*P **P 23 27 06.3 -0.8**
SONM Songino Array 58.40 342 P **P 23 27 19.4 +0.4**
comp=Z,3.5nm,0.4s,mb4.6,baz=154,slow=7.0,SNR=18
ZAK Zakamensk 61.62 341 *e*P **P 23 27 31.7 -9.2**
TLY Talaya 62.63 342 *e*P **P 23 27 47.5 -0.1**
TLY pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
TLY Talaya 62.63 342 *e*P **P 23 27 47.5 -0.1**
comp=Z,3.0nm,0.4s,mb4.5
WMQ Urumqi 63.30 327 *e*P **P 23 27 53.3 +1.1**
WMQ AP pP 23 28 30.8 -0.4
WMQ XP sP 23 28 48.8 -0.3
WMQ AMB AMB
comp=Z,13nm,0.6s,mb4.9
PETK Petropavlovsk- 64.40 18 P **P 23 27 58.8 -0.4**
comp=Z,2.0nm,0.8s,mb4.0,baz=222,slow=2.0,SNR=3.7
HVS Khovu-Aksy 65.73 336*d i*P **P 23 28 10.6 +2.8**
BOD Bodaibo 65.89 351 *e*P **P 23 28 07.3 -1.3**
MK31 Makanchi Array 68.14 327 P **P 23 28 23.0 -0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
MKAR Makanchi Array 68.14 327 P **P 23 28 23.0 -0.1**
comp=Z,18nm,0.5s,mb5.1,baz=114,slow=8.3,SNR=106
YAK Yakutsk 68.84 360⇓*e*P **P 23 28 27.2 +0.1**
YAK pmax pmax
comp=Z,21nm,0.7s,mb5.0
KBL Kabul 70.63 310 *e*P **P 23 28 39.0 +0.3**
KBL pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
KBL Kabul 70.63 310 *e*P **P 23 28 39.0 +0.4**
comp=Z,4.6nm,0.6s,mb4.4
ZALV Zalesovo Beam 71.52 334 P **P 23 28 42.7 -0.9**
comp=Z,13nm,0.7s,mb4.8,baz=132,slow=7.2,SNR=43
ZALV Zalesovo Beam 71.52 334 P **P 23 28 42.7 -0.9**
ZAL Zalesovo 71.52 334 P **P 23 28 42.7 -0.9**
SEY Seymchan 71.86 11⇓*e*P **P 23 28 46.7 +1.3**
KURK Kurchatov 72.43 329*c i*P **P 23 28 48.9 -0.2**
KURK pmax pmax
comp=Z,21nm,1.1s,mb4.8
KURK Kurchatov 72.43 329 *e*P **P 23 28 48.8 -0.3**
NVS Novosibirsk 72.80 334 *e*P **P 23 28 49.3 -1.9**
NVS *e* pP 23 29 33.2 +2.0
NVS *e*S S 23 37 58.4 -5.0
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS pmax pmax
comp=Z,16nm,1.0s,mb4.7
NVS smax
comp=N,8.0nm,1.7s
NVS smax
comp=E,16nm,1.7s
KK31 Karatay Array 73.23 319 P **P 23 28 53.8 -0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
MAW Mawson 74.86 201 P **P 23 29 04.9 +1.9**
comp=Z,2.9nm,0.6s,mb4.1,baz=80,slow=8.2,SNR=6.5
MAW LR LR 23 58 31.3
comp=Z,32nm,21.8s,baz=306,slow=33
MAW Mawson 74.86 201 *e*P **P 23 29 04.9 +1.9**
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 74.86 201 *e*P **P 23 29 04.9 +1.9**
comp=Z,3.2nm,0.7s,mb4.1
VOSK Vostochnaya 77.52 328 P **P 23 29 16.4 -1.8**
VOSK pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
BVA0 Borovoye Array 77.98 328 *i*P **P 23 29 20.2 -0.5**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb3.8
BRVK Borovoye 78.05 328 *e*P **P 23 29 20.7 -0.4**
BRVK pmax pmax
comp=Z,14nm,0.8s,mb4.6
BRVK Borovoye 78.05 328 *e*P **P 23 29 20.7 -0.5**
comp=Z,14nm,0.8s,mb4.6
BILL Bilibino 79.18 13 *e*P **P 23 29 28.7 +1.7**
BILL pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
OPO Ambohidratompo 80.83 252 P **P 23 29 37.8 +0.9**
comp=Z,3.4nm,0.7s,mb4.1,baz=129,slow=9.3,SNR=4.7
AB31 Akbulak array 82.40 322 P **P 23 29 43.8 -0.7**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
SYO Syowa Base 83.57 201⇑*e*P **P 23 29 50.6 +0.4**
AKTO Aktyubinsk 83.97 322 P **P 23 29 51.5 -1.0**
SVE Sverdlovsk 84.69 329 *e*P **P 23 29 55.7 -0.3**
SVE pmax pmax
comp=Z,31nm,1.0s,mb5.0
RDF Al-Radifah 86.63 300 *e*P **P 23 30 05.2 -1.0**
baz=300
RDF AMb AMB 23 30 07.2
comp=Z,35nm,1.1s,mb5.1,baz=300
NAY Al-Naaiem 86.95 300 *e*P **P 23 30 07.0 -0.8**
baz=300
MIB Mutribah 86.96 300 *e*P **P 23 30 07.1 -0.7**
baz=300
MIB AMb AMB 23 30 08.1
comp=Z,38nm,0.8s,mb5.3,baz=300
RST Umm Al-Ruwaisa 87.20 300 *e*P **P 23 30 07.8 -1.2**
baz=300
RST AMb AMB 23 30 09.4
comp=Z,2.0nm,0.7s,mb4.1,baz=300
CHUM Lake Minchumin 90.95 26 *e*P **P 23 30 25.6 -0.1**
comp=Z,5.8nm,0.4s,mb5.0
SOC Sochi 94.85 313 *e*P **P 23 30 54.0 +10**
SOC *e* SKSac 23 41 12.9 +8.8
SOC *e*PS SP 23 43 01.7 +0.6
CLL Collm 112.05 323 *e*PKiKP PKiKP 23 35 57.0 +0.4
LOHW Long Hollow 116.07 45 *e*PKPdf PKPdf 23 36 06.6 +2.1
HINF Hinteralfeld 116.97 321 *e*PKIKP PKPdf 23 36 05.8 -0.3
PDAR Pinedale Array 117.04 45 PKP PKPdf 23 36 08.0 +1.5
comp=Z,1.0nm,0.6s,baz=276,slow=1.3,SNR=9.0
LPG La Plagne 117.85 318 *e*PKIKP PKPdf 23 36 08.4 +0.5
comp=Z,2.0nm,0.6s
LPL La Plagne 117.85 318 *e*PKIKP PKPdf 23 36 08.2 +0.3
comp=Z,4.1nm,0.6s
CABF La Chapelle 117.89 320 *e*PKIKP PKPdf 23 36 08.3 +0.4
comp=Z,4.7nm,0.5s
MBDF Montbardon 118.09 317 *e*PKIKP PKPdf 23 36 08.8 +0.4
PV01 Paradox Valley 119.02 50 *e*PKPdf PKPdf 23 36 12.0 +1.6
LOR Lormes 119.06 321 *e*PKIKP PKPdf 23 36 10.2 0.0
SSF Saint Saulge 119.36 321 *e*PKIKP PKPdf 23 36 11.0 +0.2
comp=Z,3.3nm,0.6s
AVF Avril sur Loir 119.57 321 *e*PKIKP PKPdf 23 36 11.0 -0.2
BGF Bois d'Agland 119.98 320 *e*PKIKP PKPdf 23 36 12.3 +0.3
comp=Z,3.2nm,0.4s
RSSD Black Hills 120.40 42 *e*PKIKP PKPdf 23 36 12.7 -0.2
TCF Toulx Ste Croi 120.49 320 *e*PKIKP PKPdf 23 36 13.2 +0.2
comp=Z,4.6nm,0.7s
LDF La Druitiere 120.91 324 *e*PKIKP PKPdf 23 36 13.9 +0.2
CAF Calviac 121.14 319 *e*PKIKP PKPdf 23 36 14.1 -0.1
comp=Z,4.8nm,0.8s
MFF Saint Martin d 121.83 322 *e*PKIKP PKPdf 23 36 15.6 +0.1
comp=Z,5.4nm,0.7s
SGMF Saint Gilles 122.50 324 *e*PKIKP PKPdf 23 36 16.7 -0.1
ULM Lac du Bonnet 122.57 33 PKP PKPdf 23 36 17.0 +0.2
comp=Z,2.2nm,0.6s,baz=205,slow=1.4,SNR=7.0
QUIF Quistinic 123.02 324 *e*PKIKP PKPdf 23 36 17.2 -0.6
TXAR Lajitas Array 125.10 59 PKP PKPdf 23 36 24.2 +1.9
comp=Z,0.3nm,0.3s,baz=199,slow=3.4,SNR=11
EYMN Ely 126.25 33 *e*PKPdf PKPdf 23 36 25.1 +1.2
JCT Junction City 128.07 57 *e*PKIKP PKPdf 23 36 29.8 +1.8
TORD Torodi Ar. Bea 128.62 281 PKP PKPdf 23 36 30.1 +0.7
comp=Z,2.5nm,0.7s,baz=92,slow=1.6,SNR=21
PLCA Paso Flores 128.92 160 PKP PKPdf 23 36 31.2 +1.8
comp=Z,1.2nm,0.7s,baz=202,slow=5.4,SNR=5.0
MIAR Mount Ida 131.61 49 *e*SKPbc SKPbc 23 39 46.4 +1.5
FVM French Village 132.32 44 *e*SKPbc SKPbc 23 39 48.8 +1.5
DBIC Dimbokro 135.00 272 PKP PKPdf 23 36 42.5 +1.0
comp=Z,5.1nm,1.0s,baz=183,slow=5.8,SNR=4.3
TKL Tuckaleechee C 138.07 42 *e*PKIKP PKPdf 23 36 47.9 +1.3
LHS Liberty Hill 140.73 42 *e*SKPbc SKPbc 23 40 18.8 +6.1
BBTS Babate 146.11 286 PKPbc PKPbc 23 37 03.8 +1.1
comp=Z,20nm,0.5s,baz=107,slow=1.0,SNR=8.2
NNA Nana 147.46 125 *e*PKPdf PKPdf 23 37 03.4 -0.3
LPAZ La Paz 150.82 143 PKPbc PKPbc 23 37 17.9 +3.1
comp=Z,1.6nm,0.5s,baz=30,slow=4.5,SNR=7.2

BJI 17 23:24:28.0, 2246N×11562E, h15km, ML4.2, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZH	**Guangzhou**	**2.19**	**287**	PG	Pg	23 25 05.1	-5.0
GZH				Smax			
	comp=N,1μm,0.7s						
GZH				Smax			
	comp=E,953nm,0.7s						
QZH	**Quanzhou**	**3.68**	**47**	*e*P	Pn	23 25 26.1	+1.8
QZH				S	Sn	23 26 05.9	-1.6
QZH				Smax			
	comp=N,490nm,0.6s						
QZH				Smax			
	comp=E,710nm,1.0s						

*ISCJB **17** 23:27:24.2±5.0, 290S±010×36.1E±02, h11km±33km, mb4.2/10, MS3.1/2, Error ellipse: s-maj=29.2km s-min=9.0km az=29.8*
*IDC **17** 23:27:25.1±1.0, 279S×3612E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.8/22, mbtmp4.0/7, ML4.1/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/26, Error ellipse: s-maj=31.6km s-min=17.4km az=126.0*
*NEIC **17** 23:27:26.5±0.5, 277S×3607E, h10km, mb4.3/1, Error ellipse: s-maj=20.6km s-min=8.7km az=124.0*
ISC 17 23:27:24.1±5.7, **286S**±010×**361E**±02, **h0**km±36km, **n22,** σ1§**24**/22, **mb4.3**/11, **MS3.1**/2, **Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**2.08**	**34**	Pn	**Pn**	**23 28 00.2**	**-0.1**
	118nm,0.3s,baz=215,slow=19,SNR=117						
KMBO				Sn	**Sn**	**23 28 25.5**	**-1.4**
	898nm,0.3s,baz=243,slow=9.0,SNR=36						
KMBO	**Kilima Mbogo**	**2.08**	**34**	Pn	**Pn**	**23 28 00.2**	**-0.1**
KMBO				Sn	**Sn**	**23 28 25.5**	**-1.4**
KMBO	**Kilima Mbogo**	**2.08**	**34**	*e*P	**Pn**	**23 28 00.3**	**+0.1**
LSZ	**Lusaka**	**14.59**	**212**	Pn	**Pn**	**23 30 53.9**	**+2.0**
	0.4nm,0.3s,baz=36,slow=14,SNR=3.5						
LSZ	**Lusaka**	**14.59**	**212**	*e*P	**Pn**	**23 30 50.2**	**-1.7**
LSZ				AMb	AMB	23 31 30.7	
	comp=Z,109nm,1.9s						
MSNA	**Messina**	**20.24**	**196**	*e*P	**P**	**23 32 02.2**	**+1.1**
MSNA				AMb	AMB	23 32 17.5	
	comp=Z,20nm,1.7s						
MOPA	**Mopani**	**21.03**	**192**	*e*P	**P**	**23 32 08.1**	**-1.5**
MOPA				AMb	AMB	23 33 13.2	
	comp=Z,16nm,1.5s,mb4.1						
SLR	**Silverton**	**23.95**	**198**	*e*P	**P**	**23 32 39.0**	**-1.2**
SLR				AMb	AMB	23 32 42.7	
	comp=Z,16nm,1.7s,mb4.3						
LBTB	**Lobatse**	**24.23**	**204**	P	**P**	**23 32 44.4**	**+1.6**
	comp=Z,0.9nm,0.4s,mb3.6,baz=40,slow=7.9,SNR=3.3						
LBTB				LR	LR	23 41 25.1	
	comp=Z,49nm,18.8s,MS3.0,baz=45,slow=35						
LBTB	**Lobatse**	**24.23**	**204**	*e*P	**P**	**23 32 41.5**	**-1.3**
LBTB				AMb	AMB	23 33 02.2	
	comp=Z,16nm,1.9s,mb4.2						
TSUM	**Tsumeb**	**24.32**	**227**	*e*P	**P**	**23 32 41.8**	**-1.7**
TSUM				AMb	AMB	23 33 13.4	
	comp=Z,84nm,1.8s,mb5.0						
KSR	**Koster**	**24.51**	**200**	*e*P	**P**	**23 32 44.1**	**-1.2**
KSR				AMb	AMB	23 33 04.3	
	comp=Z,15nm,1.3s,mb4.6						
PRYS	**Parys**	**25.35**	**198**	*e*P	**P**	**23 32 53.0**	**+0.1**
PRYS				AMb	AMB	23 33 38.7	
	comp=Z,20nm,1.7s,mb4.6						
BOSA	**Boshof**	**27.61**	**201**	P	**P**	**23 33 14.9**	**+1.5**
	comp=Z,3.7nm,0.7s,mb4.3,baz=32,slow=9.4,SNR=8.2						
BOSA	**Boshof**	**27.61**	**201**	*e*P	**P**	**23 33 14.1**	**+0.8**
BOSA				AMb	AMB	23 33 20.6	
	comp=Z,19nm,1.8s,mb4.6						
TORD	**Torodi Ar. Bea**	**37.66**	**296**	P	**P**	**23 34 42.5**	**+1.1**
	comp=Z,0.5nm,0.9s,mb3.2,baz=106,slow=9.1,SNR=2.4						
AKTO	**Aktyubinsk**	**56.33**	**17**	LR	LR	00 05 26.1	
	comp=Z,22nm,18.9s,MS3.3,baz=124,slow=40						
MKAR	**Makanchi Array**	**63.97**	**33**	P	**P**	**23 37 59.5**	**+0.3**
	comp=Z,1.1nm,0.9s,mb4.1,baz=224,slow=8.0,SNR=4.2						
MKAR	**Makanchi Array**	**63.97**	**33**	P	**P**	**23 37 59.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**65.36**	**68**	P	**P**	**23 38 10.1**	**+1.2**
	comp=Z,1.0nm,0.3s,mb4.5,baz=256,slow=7.3,SNR=7.9						
KAKA	**Kakadu**	**95.56**	**103**	*e*P	**P**	**23 40 53.7**	**+1.6**
	comp=Z,1.1nm,0.9s,mb4.4						
BPAW	**Bear Paw Mtn.**	**118.68**	**4**	*e*PKPdf	PKPdf	23 46 14.6	+0.7

*BUC **17** 23:32:10.8±2.5, 4472N×2766E, h4km±38km, MD2.7/2, Error ellipse: s-maj=19.7km s-min=15.2km az=91.0*
*ISCJB **17** 23:32:12.1±0.7, 4470N±005×2772E±006, h10km, Error ellipse: s-maj=8.9km s-min=4.8km az=36.1*
ISC 17 23:32:12.0±1.1, **4470N**±007×**2768E**±007, **h7**km±12km, **n7,** σ0§**53**/10, **1C-2D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIRR	**Tirgusor**	**0.58**	**115⇓**	*i*P	**Pg**	**23 32 22.9**	**-0.3**
TIRR				*i*S	**Sg**	**23 32 31.1**	**+0.4**
PSN	**Preselentsi**	**1.08**	**160**	*i*P	**Pg**	**23 32 33.0**	**+0.2**
BUC1	**Bucharest**	**1.23**	**254**	*i*S	**Sg**	**23 32 51.7**	**0.0**
VRI	**Vrincioaia**	**1.34**	**330⇓**	*i*P	**Pn**	**23 32 36.0**	**-1.2**
VRI				*i*S	**Sb**	**23 32 55.5**	**+0.6**
MLR	**Muntele Rosu**	**1.46**	**303⇑**	*i*P	**Pn**	**23 32 38.4**	**-0.4**
MLR				*i*S	**Sn**	**23 32 58.8**	**+0.7**
PRD	**Provadia**	**1.52**	**188**	*i*P	**Pn**	**23 32 39.9**	**+0.3**
SZH	**Strazhica**	**1.91**	**222**	*i*P	**Pn**	**23 32 44.6**	**-0.4**

MAN 17 23:42:26, 691N×12514E, h11km, mb4.4, ML3.3, MS3.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.11**	**335⇑**	*i*P	Pg	23 42 30.2	+1.4
KCP				*i*S	Sg	23 42 33.0	+2.1
CTBH	**Cotabato--PC H**	**0.94**	**289**	*i*P	Pg	23 42 43.9	-0.2
CTBH				*i*S	Sg	23 42 56.3	0.0
BUKP	**Musuan**	**0.97**	**356**	*e*P	Pg	23 42 45.1	+0.5
MATI	**Mati**	**1.11**	**88**	*e*P	Pb	23 42 47.2	0.0
MATI				*e*S	Sb	23 43 03.6	+1.8
PAGZ	**Pagadian**	**1.97**	**298**	*e*P	Pn	23 43 00.5	+1.1

KRSC 17 23:57:38.1±0.7, **5496N**×**16413E, h37**km±36km, **ML3.7, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.45**	**255**	*e*P	Pn	23 58 03.0	+1.3
MKZ				*i*S	Sn	23 58 20.9	+1.4
KBTR	**Krutoberegovo**	**1.46**	**330**	*e*P	Pn	23 58 01.2	-0.6
KBTR				*i*S	Sn	23 58 18.3	-1.4
ZLN	**Zelenaya**	**2.17**	**301**	*e*P	Pn	23 58 14.1	+2.5
ZLN				*i*S	Sn	23 58 40.9	+3.7
SMKR	**Semkarok**	**2.21**	**318**	*e*P	Pn	23 58 13.8	+1.5
CIRR	**Tsirk**	**2.24**	**302**	*e*P	Pn	23 58 15.6	+2.9
CIRR				*i*S	Sn	23 58 42.8	+3.7
BZMR	**Bezymyannaya**	**2.29**	**297**	*e*P	Pn	23 58 16.6	+3.3
BZMR				*i*S	Sn	23 58 45.0	+4.7
BDR	**Baidarnaya**	**2.31**	**316**	*e*P	Pn	23 58 16.1	+2.6
TUMR	**Tumrok**	**2.31**	**280**	*e*P	Pn	23 58 16.6	+3.0
TUMR				*i*S	Sn	23 58 44.4	+3.7
KMNR	**Kamenistaya**	**2.36**	**291**	*e*P	Pn	23 58 17.3	+3.0
KMNR				*i*S	Sn	23 58 46.2	+4.2
KIRR	**Kirishev**	**2.38**	**296**	*e*P	Pn	23 58 17.9	+3.4
KIRR				*i*S	Sn	23 58 47.7	+5.4
SRKR	**Sorokina**	**2.38**	**317**	*e*P	Pn	23 58 17.2	+2.6
SRKR				*i*S	Sn	23 58 45.5	+3.0
KRSR	**Krestovskiy**	**2.38**	**303**	*e*P	Pn	23 58 16.5	+1.9
KRSR				*i*S	Sn	23 58 44.4	+1.9
KLY	**Klyuchi**	**2.39**	**306**	*e*P	Pn	23 58 15.2	+0.5
KLY				*i*S	Sn	23 58 42.9	+0.1
KPT	**Kopyto**	**2.44**	**296**	*e*P	Pn	23 58 18.5	+3.1
KPT				*i*S	Sn	23 58 47.6	+3.6
KOZ	**Kozyrevsk**	**2.66**	**296**	*e*P	Pn	23 58 22.0	+3.6
KOZ				*i*S	Sn	23 58 54.3	+5.0
SRDR	**Sredinnyy**	**2.85**	**300**	*e*P	Pn	23 58 24.5	+3.6
SRDR				*i*S	Sn	23 58 58.6	+4.7
SPN	**Mys Shipunski**	**3.06**	**234**	*e*P	Pn	23 58 25.4	+1.6
SPN				*i*S	Sn	23 58 59.1	0.0
NLC	**Nalytchevo**	**3.34**	**240**	*e*P	Pn	23 58 30.3	+2.6
NLC				*i*S	Sn	23 59 07.2	+1.1
PET	**Petropavlovsk**	**3.77**	**241**	*e*P	Pn	23 58 36.9	+3.3
PET				*i*S	Sn	23 59 18.5	+1.8
GNL	**Ganaly**	**3.84**	**253**	*e*P	Pn	23 59 38.2	+3.6
RUS	**Russkaya**	**4.19**	**235**	*e*P	Pn	23 58 41.6	+2.2
RUS				*i*S	Sn	23 59 27.3	+0.3

*ISCJB **18** 00:05:08.4±0.8, 3478N±005×2462E±003, h10km±5km, mb3.4/2, Error ellipse: s-maj=8.3km s-min=4.7km az=179.5*
*NEIC **18** 00:05:10.3, 3491N×2461E, h5km, ML3.6(ATH), After ATH.*
*CSEM **18** 00:05:10.0±0.2, 3485N×2461E, h2km, MD3.6*
*THE **18** 00:05:10.2, 3486N×2462E, h1km*
*ATH **18** 00:05:10.7, 3491N×2462E, h5km, MD3.6/6*
*IDC **18** 00:05:10.7±1.6, 3474N×2434E, h0km, mb3.6/2, mb1 3.5/4, mb1mx3.3/24, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=46.2km s-min=25.9km az=128.0*
ISC 18 00:05:09.8±0.8, **3485N**±005×**2462E**±003, **h13**km±5km, **n22,** σ0§**87**/33, **mb3.4**/2, **2D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.23**	**43**	*e*Pg	**Pg**	**00 05 14.9**	**+0.2**
SIVA				*e*Sg	**Sg**	**00 05 18.7**	**+0.6**
SIVA	**Sivas**	**0.23**	**43**	*e*Pg	**Pg**	**00 05 14.9**	**+0.1**
SIVA				*e*Sg	**Sg**	**00 05 18.7**	**+0.5**
GVD	**Gavdhos**	**0.43**	**269**	*e*PG	**Pg**	**00 05 19.0**	**+0.6**
GVD	**Gavdhos**	**0.43**	**269**	*e*Pg	**Pg**	**00 05 18.5**	**+0.1**
VAM	**Vamos**	**0.65**	**329⇓***i*PB		**Pb**	**00 05 22.5**	**-0.6**
VAM				*e*SB	**Sb**	**00 05 31.2**	**-0.9**
VAM	**Vamos**	**0.65**	**329⇓***i*Pg		**Pg**	**00 05 21.5**	**-1.0**
VAM				*e*Sb	**Sb**	**00 05 31.2**	**-0.9**
LAST	**Lasithi**	**0.77**	**66**	*e*Pg	**Pg**	**00 05 24.4**	**-0.4**
LAST				*e*Sg	**Sg**	**00 05 36.0**	**+1.0**
KARN	**Karanos**	**0.80**	**314**	*e*Pg	**Pg**	**00 05 24.8**	**-0.4**
KARN				*e*Sg	**Sg**	**00 05 37.0**	**+1.3**
NPS	**Neapolis**	**0.92**	**63**	*e*PG	**Pg**	**00 05 27.6**	**+0.1**
NPS				*e*SB	**Sb**	**00 05 39.1**	**-0.5**
ZKR	**Zakros**	**1.34**	**78**	*e*Pg	**Pg**	**00 05 34.5**	**-1.1**
ZKR				*e*Sg	**Sg**	**00 05 54.0**	**+1.0**
THR6	**Thira Island,**	**1.63**	**23**	*e*Pb	**Pb**	**00 05 39.2**	**-0.6**
SANT	**Santorini**	**1.67**	**24**	*e*Pb	**Pb**	**00 05 39.4**	**-1.0**
SANT				*e*Sb	**Sb**	**00 06 02.2**	**+0.9**
THR1	**Thera Island**	**1.67**	**24**	*e*Pb	**Pb**	**00 05 39.6**	**-0.8**
THR1				*e*Sb	**Sb**	**00 06 01.0**	**-0.3**
THR3	**Thira Island,**	**1.68**	**22**	*e*Pb	**Pb**	**00 05 39.7**	**-0.9**
THR3				*e*Sb	**Sb**	**00 06 02.1**	**+0.3**
KYTH	**Kithira**	**1.92**	**318**	*e*PN	**Pn**	**00 05 46.0**	**+3.8**
KARP	**Karpathos**	**2.20**	**71**	*e*PG	**Pg**	**00 05 50.9**	**-1.1**
VLI	**Velai**	**2.31**	**324**	*e*PN	**Pn**	**00 05 51.6**	**+4.0**
APE	**Apeiranthos**	**2.34**	**18**	*e*Pn	**Pn**	**00 05 48.7**	**+0.8**
GERES	**GERESS Array B**	**16.15**	**333**	Pn	**Pn**	**00 09 01.5**	**+5.1**
	0.1nm,0.3s,baz=150,slow=14,SNR=4.7						
AKASG	**Malin Array Be**	**16.20**	**11**	Pn	**Pn**	**00 08 58.9**	**+1.9**
	0.3nm,0.3s,baz=200,slow=10,SNR=3.4						
TORD	**Torodi Ar. Bea**	**29.95**	**229**	P	**P**	**00 11 18.4**	**+0.6**
	0.3nm,0.5s,mb3.3,baz=36,slow=8.8,SNR=9.0						
MKAR	**Makanchi Array**	**44.32**	**56**	P	**P**	**00 13 24.6**	**+5.3**
	0.3nm,0.2s,mb3.6,baz=280,slow=7.2,SNR=2.7						

*ISCJB **18** 00:09:52.3±0.4, 5534S±008×289W±0.1, h10km, mb4.4/17, MS4.0/12, Error ellipse: s-maj=11.7km s-min=9.7km az=20.6*
*IDC **18** 00:09:52.4±0.6, 5534S×2902W, h0km, mb4.5/14, mb1 4.5/15, mb1mx4.4/20, mbtmp4.5/15, ML4.3/1, MS4.0/14, Ms1 3.9/14, ms1mx3.9/26, Error ellipse: s-maj=18.5km s-min=14.9km az=35.0*
*NEIC **18** 00:09:53.9±0.3, 5530S×2891W, h10km, mb4.8/4, Error ellipse: s-maj=10.5km s-min=8.6km az=197.0*
ISC 18 00:09:54.2±0.4, **5535S**±008×**289W**±01, **h10**km, **n41,** σ0§**94**/26, **mb4.4**/16, **MS4.0**/12, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**17.66**	**270**	*e*Pn	**Pn**	**00 14 01.1**	**+1.2**
	71nm,0.9s						
VNA1	**Neumayer--Stat**	**17.81**	**157**	*e*	**Pn**	**00 14 10.1**	**+8.4**
VNA1				*e*		00 14 15.4	
VNA1				*e*		00 14 18.4	
PMSA	**Palmer Station**	**19.64**	**227**	P	**Pn**	**00 14 24.9**	**+1.1**
	1.3nm,0.3s,baz=66,slow=9.1,SNR=27						
PMSA				LR	LR	00 20 34.7	
	comp=Z,412nm,20.5s,baz=74,slow=33						
SNAA	**Sanae**	**19.78**	**156**	*e*	**Pn**	**00 14 24.4**	**-1.1**
SNAA				*e*		00 14 29.5	
SNAA				*e*		00 14 32.7	
SNAA	**Sanae**	**19.78**	**156**	P	**Pn**	**00 14 24.8**	**-0.7**
	0.8nm,0.3s,baz=303,slow=11,SNR=73						
SNAA				LR	LR	00 20 27.3	
	comp=Z,101nm,18.1s,baz=117,slow=32						
USHA	**Ushuaia**	**22.42**	**255**	P	**P**	**00 14 51.9**	**-0.7**
	32nm,0.8s,mb4.8,baz=79,slow=8.7,SNR=16						
USHA				LR	LR	00 21 23.9	
	comp=Z,429nm,18.6s,MS3.9,baz=80,slow=31						
TRQA	**Tornquist**	**28.15**	**294**	*e*P	**P**	**00 15 45.8**	**-0.5**
	15nm,1.1s,mb4.5						
PLCA	**Paso Flores**	**30.91**	**281**	P	**P**	**00 16 08.4**	**-2.4**
	1.1nm,0.8s,mb3.8,baz=138,slow=6.4,SNR=3.9						
PLCA				LR	LR	00 28 40.1	
	comp=Z,138nm,18.2s,MS3.6,baz=127,slow=36						
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**00 16 46.8**	**+1.6**
	3.0nm,0.6s,mb4.4,baz=191,slow=3.1,SNR=22						
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**00 16 46.8**	**+1.6**
CFAA	**Coronel Fontan**	**36.38**	**294**

DBIC Dimbokro 64.96 27 P **P 00 20 33.4 -0.5**
1.8nm,0.6s,mb4.3,baz=160,slow=15,SNR=3.4
DBIC LR LR 00 42 42.9
comp=Z,70nm,20.7s,MS3.8,baz=126,slow=30
DBIC Dimbokro 64.96 27 P **P 00 20 33.4 -0.5**
DBIC LR LR 00 42 42.9
OTAV Otavalo 68.45 305 *eP* **P 00 20 57.1 +0.8**
12nm,1.4s,mb4.7
SDV Santo Domingo 72.83 317 *eP* **P 00 21 22.4 -0.5**
9.0nm,0.9s,mb4.7
TOA0 Torodi Ar. Sit 72.95 31 *eP* **P 00 21 23.6 +0.2**
TORD Torodi Ar. Bea 72.95 31 P **P 00 21 23.6 +0.1**
8.9nm,0.8s,mb4.7,baz=199,slow=6.2,SNR=37
TORD LR LR 00 46 23.9
comp=Z,270nm,20.0s,MS4.5,baz=200,slow=30
TAM Tamanrasset 83.19 32 *eP* **P 00 22 20.7 +0.5**
PPT Papeete 91.81 235 LR LR 00 56 17.1
comp=Z,114nm,21.6s,MS4.3,baz=135,slow=30
STKA Stephens Creek 92.74 172 P **P 00 23 04.8 -1.5**
3.0nm,0.9s,mb4.7,baz=312,slow=3.7,SNR=4.8
STKA LR LR 01 06 56.6
comp=Z,170nm,18.2s,MS4.5,baz=26,slow=37
KEST Kesra 96.45 30 LR LR 01 01 34.1
comp=Z,105nm,21.8s,MS4.3,baz=197,slow=32
ASAR Alice Springs 99.94 164 P Pdif 00 23 37.4 -1.9
0.8nm,0.8s,baz=180,slow=3.8,SNR=5.6
PDAR Pinedale Array 119.14 304 PKP PKPdf 00 28 41.6 -0.7
0.4nm,0.5s,baz=161,slow=3.9,SNR=4.3
HWUT Hardware Ranch 119.22 302 *eP* PKPdf 00 28 41.6 -0.9
MSO Missoula 124.25 304 *e*PKPdf PKPdf 00 28 52.2 +0.2
BMO Blue Mountains 124.44 300 *e*PKPdf PKPdf 00 28 51.9 -0.5
CMAR Chiang Mai Arr 126.23 112 PKP PKPdf 00 28 56.9 +0.2
0.4nm,0.3s,baz=202,slow=4.6,SNR=2.9
ARCES ARCESS Array B 130.66 22 PKP PKPdf 00 29 03.0 -0.5
2.0nm,0.8s,baz=190,slow=0.7,SNR=4.6
YKA Yellowknife Ar 135.00 319 PKP PKPdf 00 29 11.4 -0.5
1.8nm,0.9s,baz=128,slow=2.1,SNR=4.4
YKA Yellowknife Ar 135.00 319 PKP PKPdf 00 29 11.4 -0.5
ZALV Zalesovo Beam 142.94 64 PKhKP 00 29 23.2
0.8nm,0.5s,baz=241,slow=1.7,SNR=3.9
SONM Songino Array 151.66 87 PKPbc PKPbc 00 29 47.8 +0.2
3.3nm,0.5s,baz=220,slow=3.6,SNR=21

IDC 18 00:24:25.1±1.5,271S×3607E,h0km,mb3.8/3,mb1 3.9/4, mb1mx3.5/22,mbtmp3.8/4,ML3.6/1,Error ellipse: s-maj=124.3km s-min=12.8km az=123.0,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.97**	**37**	Pg	Pg	00 25 02.0	-0.9
	175nm,0.3s,baz=220,slow=19,SNR=234						
KMBO				Lg		00 25 26.5	
	1μm,0.3s,baz=68,slow=23,SNR=32						
LSZ	**Lusaka**	**14.71**	**211**	Pn	Pn	00 27 54.0	-0.5
	0.3nm,0.3s,baz=25,slow=15,SNR=3.7						
LSZ				Sn	Sn	00 30 28.1	-10
	0.3nm,0.3s,baz=165,slow=18,SNR=2.6						
LSZ				Lg		00 32 05.2	
	1.1nm,0.3s,baz=117,slow=9.2,SNR=8.3						
LBTB	**Lobatse**	**24.36**	**204**	P	P	00 29 43.9	-1.1
	1.2nm,0.7s,baz=14,slow=12,SNR=2.4						
BOSA	**Boshof**	**27.74**	**201**	P	P	00 30 16.8	+1.2
	2.5nm,0.8s,baz=21,slow=9.0,SNR=6.4						
MKAR	**Makanchi Array**	**63.85**	**34**	P	P	00 34 59.8	+0.4
	0.3nm,0.4s,baz=216,slow=7.1,SNR=3.5						

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*IDC **18** 00:52:17.6±1.1,1366S×7693W,h0km,mb3.8/8, mb1 3.9/12,mb1mx3.8/21,mbtmp3.8/12,ML3.6/4,MS3.3/5, Ms1 3.3/5,ms1mx2.9/23,Error ellipse: s-maj=33.6km s-min=15.0km az=59.0*
*ISCJB **18** 00:52:20.1±0.7,1374S±006×770W±0.1,h33km,mb3.8/9, MS3.2/2,Error ellipse: s-maj=17.6km s-min=6.0km az=157.5*
*NEIC **18** 00:52:22.6±0.7,1363S×7689W,h35km,mb4.3/2,Error ellipse: s-maj=18.7km s-min=7.3km az=58.0*

ISC 18 00:52:22.3±0.7,1372S±006×769W±01,h35km,n24, σ1§05/25,mb3.8/9,MS3.2/2,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.72**	**2**	Pn	**Pn**	**00 52 48.8**	**-1.0**
	254nm,0.3s,baz=179,slow=13,SNR=108						
NNA				Sn	**Sn**	**00 53 09.4**	**-1.2**
	993nm,0.3s,baz=200,slow=18,SNR=37						
NNA				LR	LR	00 53 10.8	
	comp=Z,510nm,18.8s,baz=141,slow=32						
NNA	**Nana**	**1.72**	**2**	Pn	**Pn**	**00 52 48.8**	**-1.0**
NNA				Sn	**Sn**	**00 53 09.4**	**-1.2**
NNA				LR	LR	00 53 10.8	
ATAH	**Atahualpa**	**6.83**	**347**	Pn	**Pn**	**00 54 00.7**	**+0.5**
	2.2nm,0.3s,baz=162,slow=6.7,SNR=13						
ATAH				Sn	**Sn**	**00 55 19.4**	**+2.6**
	1.4nm,0.3s,baz=180,slow=20,SNR=1.8						
LPAZ	**La Paz**	**8.85**	**108**	Pn	**Pn**	**00 54 30.1**	**+2.4**
	0.3nm,0.3s,baz=272,slow=10,SNR=6.9						
LPAZ				LR	LR	00 58 12.7	
	comp=Z,146nm,19.9s,baz=264,slow=40						
LVC	**Limon Verde**	**11.65**	**141**	Pn	**Pn**	**00 55 06.6**	**+0.4**
	0.3nm,0.3s,baz=312,slow=10,SNR=5.8						
LVC				Sn	**Sn**	**00 57 13.4**	**-1.6**
	0.7nm,0.3s,baz=238,slow=18,SNR=2.7						
LVC				LR	LR	00 59 51.9	
	comp=Z,121nm,19.9s,baz=300,slow=39						
OTAV	**Otavalo**	**13.95**	**354**	*e*Pn	**Pn**	**00 55 35.8**	**-1.9**
	7.3nm,0.9s						
OTAV				*ep*Pn		00 55 44.5	
SIV	**San Ignacio**	**15.46**	**100**	Pn	**Pn**	**00 55 58.6**	**+0.7**
	0.1nm,0.3s,baz=278,slow=14,SNR=4.2						
ROSC	**El Rosal**	**18.63**	**8**	LR	LR	01 04 47.9	
	comp=Z,162nm,21.2s,baz=215,slow=40						
CFAA	**Coronel Fontan**	**19.50**	**157**	P	**Pn**	**00 56 48.2**	**+0.3**
	0.0nm,0.3s,baz=338,slow=10,SNR=9.0						
CFAA	**Coronel Fontan**	**19.50**	**157**	P	**Pn**	**00 56 48.2**	**+0.3**
CPUP	**Villa Florida**	**22.22**	**127**	P	**P**	**00 57 14.8**	**-1.1**
	0.5nm,0.4s,mb3.3,baz=317,slow=11,SNR=3.1						
CPUP				LR	LR	01 07 36.3	
	comp=Z,107nm,18.3s,MS3.3,baz=79,slow=41						
CPUP	**Villa Florida**	**22.22**	**127**	P	**P**	**00 57 14.8**	**-1.1**
CPUP				LR	LR	01 07 36.3	
SDV	**Santo Domingo**	**23.30**	**16**	P	**P**	**00 57 27.5**	**+0.1**
	1.1nm,0.4s,mb3.6,baz=208,slow=17,SNR=2.5						
SDV	**Santo Domingo**	**23.30**	**16**	*e*P	**P**	**00 57 27.1**	**-0.3**
	6.1nm,0.7s,mb4.1						
BDFB	**Brasilia**	**28.00**	**98**	LR	LR	01 09 49.5	
	comp=Z,59nm,21.4s,MS3.1,baz=255,slow=38						
TXAR	**Lajitas Array**	**50.00**	**329**	P	**P**	**01 01 13.3**	**0.0**
	0.2nm,0.5s,mb3.4,baz=138,slow=7.7,SNR=3.4						
PDAR	**Pinedale Array**	**63.70**	**334**	P	**P**	**01 02 50.2**	**0.0**
	0.2nm,0.5s,mb3.4,baz=154,slow=6.5,SNR=2.6						
ULM	**Lac du Bonnet**	**65.84**	**347**	P	**P**	**01 03 04.1**	**+0.1**
	1.4nm,0.6s,mb4.2,baz=154,slow=11,SNR=4.0						
DBIC	**Dimbokro**	**74.31**	**79**	P	**P**	**01 03 56.9**	**+0.1**
	1.9nm,0.6s,mb4.2,baz=174,slow=9.2,SNR=3.1						
YKA	**Yellowknife Ar**	**81.47**	**343**	P	**P**	**01 04 35.9**	**+0.4**
	0.5nm,0.8s,mb3.5,baz=147,slow=5.6,SNR=3.5						
YKA	**Yellowknife Ar**	**81.47**	**343**	P	**P**	**01 04 35.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**82.30**	**74**	P	**P**	**01 04 41.9**	**+0.9**
	2.0nm,0.7s,mb4.2,baz=269,slow=4.3,SNR=21						
TSUM	**Tsumeb**	**89.70**	**110**	*e*P	**P**	**01 05 17.2**	**-0.3**
	1.7nm,0.9s,mb4.4						
SONM	**Songino Array**	**145.88**	**356**	PKPbc	PKPbc	01 11 59.6	+1.6
	0.4nm,0.5s,baz=343,slow=4.6,SNR=3.8						

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*ISCJB **18** 00:56:16.4±0.6,2295N±004×94.12E±004,h104km±4km, mb4.3/55,Error ellipse: s-maj=7.1km s-min=5.1km az=24.2*
*BJI **18** 00:56:17.0,2310N×9448E,h108km,mB4.5,mb4.2*
*LDG **18** 00:56:17.6±0.1,2298N×9396E,h108km,Mb4.2/21,Error ellipse: s-maj=8.0km s-min=5.1km az=26.0*
*NEIC **18** 00:56:18.6±0.2,2300N×9459E,mb4.3/27,Error ellipse: s-maj=6.4km s-min=3.6km az=50.0*
*IDC **18** 00:56:18.6±0.6,2301N×9459E,h120km±5km,mb4.0/29, mb1 4.1/30,mb1mx4.0/36,mbtmp4.0/30,Error ellipse: s-maj=13.9km s-min=9.3km az=50.0*

ISC 18 00:56:16.9±0.5,2293N±004×9420E±004,h95km±4km, h122km±1.4km:pP-P,n122,σ1§14/140,mb4.3/55,2C-2D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.86**	**352**	*e*P	**Pn**	**00 56 48.0**	**+0.5**
IMP				*e*S	**Sn**	**00 57 10.0**	**-0.8**
SHL	**Shillong**	**3.37**	**322**	⇑*i*P	**Pn**	**00 57 11.0**	**+3.5**
SHL				*i* S	**Sn**	**00 57 47.5**	**+0.8**
CAL	**Calcutta**	**5.44**	**267**	*ex*	**Sn**	**00 58 39.9**	**+3.1**
CAL	**Calcutta**	**5.44**	**267**	*ex*	**Sn**	**00 58 39.9**	**+3.1**
CHTO	**Chiang Mai**	**6.03**	**132**	*e*Pn	**Pn**	**00 57 42.4**	**-1.3**
	13nm,0.6s						
CMAR	**Chiang Mai Arr**	**6.28**	**134**	P	**Pn**	**00 57 45.4**	**-1.6**
	1.0nm,0.3s,baz=314,slow=12,SNR=13						
GTK	**Gangtok**	**6.70**	**312**	*ex*	**Pn**	**00 57 50.0**	**-2.6**
GTK				*ex*	x	00 58 47.0	
LSA	**Lhasa**	**7.28**	**339**	P	**Pn**	**00 58 02.5**	**+2.0**
LSA	**Lhasa**	**7.28**	**339**	*e*Pn	**Pn**	**00 58 02.4**	**+1.9**
	24nm,0.3s						
LSA				*e*Sn	**Sn**	**00 59 21.1**	**-0.5**
ODAN	**Odare**	**7.32**	**304**	*e*Pn	**Pn**	**00 58 02.3**	**+1.2**
ODAN				*e*Sn	**Sn**	**00 59 22.3**	**-0.3**
	516nm,0.3s						
TAPN	**Taplejung**	**7.35**	**308**	*e*Pn	**Pn**	**00 58 03.0**	**+1.5**
TAPN				*e*Sn	**Sn**	**00 59 24.1**	**+0.8**
	304nm,0.3s						
BOK	**Bokaro**	**7.69**	**278**	*e*P	**Pn**	**00 58 08.1**	**+1.9**
BOK				AMb	AMB	00 58 10.6	
	comp=Z,43nm,0.6s						
BOK				*e*S	**Sn**	**00 59 29.1**	**-2.6**
RAMN	**Ramite**	**7.98**	**302**	*e*Pn	**Pn**	**00 58 10.9**	**+0.8**
RAMN				*e*Sn	**Sn**	**00 59 36.5**	**-2.1**
	comp=Z,349nm,0.4s						
KMI	**Kunming**	**8.10**	**73**	P	**Pn**	**00 58 12.6**	**+0.8**
KMI				AMB	AMB		
	comp=Z,37nm,0.9s						
BWNR	**Bhubaneshwar**	**8.24**	**253**	*e*P	**Pn**	**00 58 12.0**	**-1.7**
BWNR				*e*S	**Sn**	**00 59 41.0**	**-4.1**
JIRN	**Jiri**	**8.65**	**305**	*e*Pn	**Pn**	**00 58 20.8**	**+1.6**
JIRN				*e*Sn	**Sn**	**00 59 53.5**	**-1.4**
	comp=Z,531nm,0.4s						
GUN	**Gumba**	**9.01**	**305**	*e*Pn	**Pn**	**00 58 25.6**	**+1.5**
GUN				*e*Sn	**Sn**	**01 00 02.5**	**-1.3**
	comp=Z,786nm,0.7s						
PKI	**Pulchoki**	**9.20**	**302**	*e*Pn	**Pn**	**00 58 27.8**	**+1.0**
PKI				*e*Sn	**Sn**	**01 00 07.0**	**-1.5**
	comp=Z,130nm,0.4s						
KKN	**Kakani**	**9.41**	**303**	*e*Pn	**Pn**	**00 58 30.3**	**+0.8**
KKN				*e*Sn	**Sn**	**01 00 12.3**	**-1.2**
DMN	**Daman**	**9.46**	**301**	*e*Pn	**Pn**	**00 58 31.1**	**+0.9**
DMN				*e*Sn	**Sn**	**01 00 12.5**	**-2.3**
	comp=Z,157nm,0.5s						
GKN	**Gorkha**	**10.01**	**302**	*e*Pn	**Pn**	**00 58 38.3**	**+0.6**
GKN				*e*Sn	**Sn**	**01 00 25.1**	**-3.1**
KOLN	**Koldanda**	**10.73**	**299**	*e*Pn	**Pn**	**00 58 47.9**	**+0.4**
KOLN				*e*Sn	**Sn**	**01 00 41.7**	**-4.0**
	comp=Z,160nm,0.4s						
DANN	**Dangsing**	**10.86**	**302**	*e*Pn	**Pn**	**00 58 49.7**	**+0.5**
DANN				*e*Sn	**Sn**	**01 00 45.2**	**-3.6**
	comp=Z,178nm,0.4s						
VIS	**Vishakhapatnam**	**11.44**	**245**	*e*P	**Pn**	**00 58 57.5**	**+0.3**
VIS				AMb	AMB	00 58 60.0	
	comp=Z,22nm,0.6s						
VIS				*e*S	**Sn**	**01 00 56.7**	**-6.4**
HYB	**Hyderabad**	**15.68**	**252**	*i* P	**Pn**	**00 59 58.0**	**+5.5**
HYB	**Hyderabad**	**15.68**	**252**	*e*P	**Pn**	**00 59 58.0**	**+5.5**
NDI	**New Delhi**	**16.33**	**294**	*e*P	**Pn**	**01 00 03.0**	**+2.5**
XAN	**Xi'an**	**17.01**	**46**	P	**Pn**	**01 00 05.3**	**-3.5**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s						
XAN				AMB	AMB		
	comp=Z,126nm,4.1s						
LATR	**Latur**	**17.11**	**258**	*e*P	**Pn**	**01 00 11.8**	**+1.7**
LATR				AMb	AMB	01 00 15.8	
	comp=Z,16nm,0.9s						
SMLA	**Simla**	**17.22**	**302**	*e*P	**Pn**	**01 00 11.8**	**+0.4**
SMLA				*i* x	**S**	**01 03 14.2**	**-10**
AJM	**Ajmer**	**18.12**	**285**	*e*P	**Pn**	**01 00 20.1**	**-2.2**
AJM				AMb	AMB	01 00 28.1	
	comp=Z,17nm,0.4s						
AJM				*ex*	**S**	**01 03 34.2**	**-10**
POO	**Poona**	**19.53**	**261**	*e*P	**Pn**	**01 00 36.2**	**-2.9**
POO				AMb	AMB	01 00 41.4	
	comp=Z,38nm,1.1s						
POO				*ex*	**S**	**01 04 04.2**	**-8.3**
KOD	**Kodaikanal**	**20.38**	**234**	*e*P	**P**	**01 00 45.9**	**-0.3**
KOD				AMb	AMB	01 00 54.7	
	comp=Z,25nm,0.9s						
PSI	**Prapat**	**20.52**	**166**	P	**P**	**01 00 48.6**	**+0.9**
	comp=Z,3.2nm,0.5s,baz=347,slow=11,SNR=4.6						
KBL	**Kabul**	**24.84**	**303**	*e*P	**P**	**01 01 32.9**	**+2.5**
	comp=Z,18nm,0.5s,mb4.8						
MK31	**Makanchi Array**	**25.68**	**341**	*e*P	**P**	**01 01 38.5**	**+0.7**
MK31				*ep*P	pP	01 02 04.8	+5.8
MKAR	**Makanchi Array**	**25.68**	**341**	P	**P**	**01 01 38.6**	**+0.8**
	comp=Z,10nm,0.7s,mb4.4,baz=145,slow=10,SNR=46						
MKAR				pP	pP	01 02 04.3	+5.3
	comp=Z,6.4nm,0.6s,baz=142,slow=9.9,SNR=7.1						
SONM	**Songino Array**	**26.70**	**18**	P	**P**	**01 01 45.2**	**-1.8**
	comp=Z,0.6nm,0.7s,mb3.2,baz=195,slow=8.8,SNR=3.2						
SONM				ScP	ScP	01 08 35.8	-3.9
	comp=Z,0.8nm,0.6s,baz=193,slow=2.0,SNR=5.9						
KURK	**Kurchatov**	**30.28**	**340**	*e*P	**P**	**01 02 18.9**	**+0.1**
	comp=Z,4.8nm,0.6s,mb4.3						
JOW	**Kunigami**	**31.10**	**76**	P	**P**	**01 02 22.5**	**-3.8**
	comp=Z,11nm,0.7s,mb4.7,baz=125,slow=24,SNR=5.3						
ZALV	**Zalesovo Beam**	**31.78**	**349**	P	**P**	**01 02 31.8**	**-0.1**
	comp=Z,1.9nm,0.3s,mb4.3,baz=174,slow=8.3,SNR=8.0						
ZALV				pP	pP	01 02 56.1	+2.7
	comp=Z,1.0nm,0.4s,baz=170,slow=7.3,SNR=2.6						
BVAR	**Borovoye Array**	**35.10**	**335**	P	**P**	**01 03 00.7**	**0.0**
	comp=Z,2.4nm,0.4s,mb4.3,baz=141,slow=11,SNR=18						
BVAR				pP	pP	01 03 28.1	+5.5
	comp=Z,1.4nm,0.6s,baz=143,slow=11,SNR=3.7						
BRVK	**Borovoye**	**35.16**	**335**	*e*P	**P**	**01 03 01.6**	**+0.3**
	comp=Z,2.4nm,0.5s,mb4.3						
AKTK	**Aktyubinsk**	**39.32**	**323**	P	**P**	**01 03 36.9**	**+0.4**
AKTO	**Aktyubinsk**	**39.32**	**323**	P	**P**	**01 03 36.9**	**+0.4**
	comp=Z,5.2nm,0.6s,mb4.5,baz=118,slow=8.0,SNR=20						
MJAR	**Matsushiro Arr**	**40.21**	**60**	P	**P**	**01 03 40.1**	**-4.0**
	comp=Z,2.5nm,0.8s,mb4.1,baz=273,slow=10,SNR=7.4						
MJAR				pP	pP	01 04 07.7	+1.4
	comp=Z,0.9nm,0.3s,baz=32,slow=41,SNR=2.2						
ARU	**Arti**	**42.41**	**331**	*e*P	**P**	**01 04 02.1**	**+0.3**
	comp=Z,7.7nm,0.3s,mb4.9						
BHD	**Baghdad**	**44.78**	**295**	*ex*	x	01 04 45.5	
BHD				*ex*	x	01 07 56.5	
MALT	**Malatya**	**49.68**	**301**	*e*P	**P**	**01 05 00.4**	**+1.3**
	comp=Z,3.1nm,0.7s,mb4.3						
ASF	**Jabal al Asfar**	**51.13**	**294**	P	**P**	**01 05 12.8**	**+2.6**
	comp=Z,4.1nm,0.6s,mb4.6,baz=319,slow=6.3,SNR=11						
MMAI	**Mount Meron Ar**	**52.31**	**295**	P	**P**	**01 05 21.5**	**+2.5**
	comp=Z,2.5nm,0.7s,mb4.3,baz=68,slow=15,SNR=4.3						
AKASG	**Malin Array Be**	**56.84**	**317**	P	**P**	**01 05 50.5**	**-1.0**
	comp=Z,2.5nm,0.4s,mb4.6,baz=81,slow=6.0,SNR=20						
AKASG				pP	pP	01 06 20.0	+5.1
	comp=Z,0.8nm,0.4s,baz=83,slow=6.1,SNR=2.4						
JOF	**Joensuu**	**57.54**	**331**	*ep*	**P**	**01 05 55.8**	**-0.3**
	comp=Z,2.0nm,0.3s,mb4.6						
WRA	**Warramunga Arr**	**57.88**	**134**	P	**P**	**01 05 57.0**	**-2.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=323,slow=7.5,SNR=5.4						
VRI	**Vrincioaia**	**58.41**	**311**	⇑*i*P	**P**	**01 06 03.9**	**+1.4**
PLOR	**Plostina**	**58.46**	**311**	⇓*i*P	**P**	**01 06 04.3**	**+1.4**
MLR	**Muntele Rosu**	**58.97**	**310**	P	**P**	**01 06 07.6**	**+1.2**
	comp=Z,6.8nm,0.5s,mb4.9,baz=2.1,slow=3.7,SNR=20						
MLR	**Muntele Rosu**	**58.97**	**310**	⇓*i*P	**P**	**01 06 07.6**	**+1.2**
KAF	**Kangasniemi**	**59.67**	**330**	*ep*	**P**	**01 06 10.2**	**-0.7**
	comp=Z,1.0nm,0.4s,mb4.2,baz=98,slow=7.0						
ASAR	**Alice Springs**	**60.28**	**138**	P	**P**	**01 06 14.2**	**-1.4**
	comp=Z,1.0nm,0.4s,mb4.2,baz=322,slow=6.7,SNR=24						
IDI	**Anoyia**	**60.71**	**299**	P	**P**	**01 06 18.7**	**+0.2**
	comp=Z,2.8nm,0.4s,mb4.6,baz=148,slow=16,SNR=8.2						
KWP	**Kalwaria**	**61.02**	**315**	*e*P	**P**	**01 06 20.2**	**-0.1**
	comp=Z,11nm,0.4s,mb5.2						
ARCES	**ARCESS Array B**	**61.29**	**338**	P	**P**	**01 06 21.5**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.2,baz=106,slow=6.8,SNR=22						
ARCES	**ARCESS Array B**	**61.29**	**338**	P	**P**	**01 06 21.5**	**-0.3**
VRAC	**Vranov**	**65.02**	**315**	P	**P**	**01 06 47.3**	**+0.5**
	comp=Z,2.2nm,0.5s,mb4.2,baz=50,slow=6.3,SNR=3.7						
HFS	**Hagfors**	**65.70**	**327**	P	**P**	**01 06 50.4**	**-0.6**
	comp=Z,5.7nm,0.5s,mb4.7,baz=93,slow=5.9,SNR=41						
HFS				pP	pP	01 07 20.7	+5.6
	comp=Z,2.5nm,0.5s,baz=116,slow=6.8,SNR=2.6						
NB2	**NORSAR Subarra**	**66.85**	**328**	P	**P**	**01 06 57.2**	**-1.1**
	comp=Z,1.8nm,0.5s,mb4.2,baz=84,slow=6.5						
NOA	**NORSAR Array B**	**66.85**	**328**	P	**P**	**01 06 57.5**	**-0.8**
	comp=Z,2.4nm,0.6s,mb4.2,baz=85,slow=6.6,SNR=11						
NOA				pP	pP	01 07 27.1	+4.7
	comp=Z,1.1nm,0.6s,baz=84,slow=6.6,SNR=2.9						
GERES	**GERESS Array B**	**66.96**	**315**	P	**P**	**01 06 59.5**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.2,baz=72,slow=6.0,SNR=24						
GERES				pP	pP	01 07 29.4	+6.1
	comp=Z,0.9nm,0.6s,baz=76,slow=6.1,SNR=4.9						
DAVOX	**Davos/Dischmat**	**69.88**	**313**	P	**P**	**01 07 17.2**	**-0.2**
	comp=Z,1.9nm,0.5s,mb4.2,baz=66,slow=6.3,SNR=7.6						
STKA	**Stephens Creek**	**70.89**	**138**	P	**P**	**01 07 21.9**	**-1.8**
	comp=Z,0.9nm,0.6s,mb3.8,baz=326,slow=3.6,SNR=3.2						
CDF	**Champ du Feu**	**71.23**	**315**	*e*P	**P**	**01 07 25.5**	**-0.2**
	comp=Z,6.3nm,0.8s,mb4.2						
CDF	**Champ du Feu**	**71.23**	**315**	*e*P	**P**	**01 07 25.5**	**-0.2**
	comp=Z,3.2nm,0.8s,mb4.2						
HAU	**Haudompre**	**71.93**	**315**	*e*P	**P**	**01 07 29.7**	**-0.2**
LPG	**La Plagne**	**72.29**	**312**	*e*P	**P**	**01 07 32.2**	**+0.1**
	comp=Z,9.6nm,0.7s,mb4.4						
LPG	**La Plagne**	**72.29**	**312**	*e*P	**P**	**01 07 32.2**	**+0.1**
	comp=Z,4.8nm,0.7s,mb4.4						
LPL	**La Plagne**	**72.30**	**312**	*e*P	**P**	**01 07 32.3**	**+0.2**
	comp=Z,7.0nm,0.5s,mb4.5						
LPL	**La Plagne**	**72.30**	**312**	*e*P	**P**	**01 07 32.3**	**+0.2**
	comp=Z,3.5nm,0.5s,mb4.5						
CABF	**La Chapelle**	**72.45**	**314**	*e*P	**P**	**01 07 33.1**	**+0.1**
	comp=Z,5.0nm,0.7s,mb4.2						
CABF	**La Chapelle**	**72.45**	**314**	*e*P	**P**	**01 07 33.1**	**+0.1**
	comp=Z,2.5nm,0.7s,mb4.2						
MBDF	**Montbardon**	**72.48**	**312**	*e*P	**P**	**01 07 34.5**	**+1.3**
	comp=Z,5.5nm,0.7s,mb4.2						
MBDF	**Montbardon**	**72.48**	**312**	*e*P	**P**	**01 07 34.5**	**+1.3**
	comp=Z,2.8nm,0.7s,mb4.2						
MEZF	**Maizieres J'vi**	**72.64**	**316**	*e*P	**P**	**01 07 33.7**	**-0.4**
	comp=Z,7.4nm,0.5s,mb4.4						
MEZF	**Maizieres J'vi**	**72.64**	**316**	*e*P	**P**	**01 07 33.7**	**-0.4**
	comp=Z,7.4nm,0.5s,mb4.8						
ORIF	**Oris-en-Rattie**	**73.04**	**312**	*e*P	**P**	**01 07 37.0**	**+0.5**
	comp=Z,3.3nm,0.6s,mb4.0						
ORIF	**Oris-en-Rattie**	**73.04**	**312**	*e*P	**P**	**01 07 37.0**	**+0.5**
	comp=Z,1.6nm,0.6s,mb4.0						
SMRF	**Simiane la Rot**	**73.50**	**311**	*e*P	**P**	**01 07 38.9**	**-0.4**
VIVF	**Saint-Julien-l**	**73.88**	**312**	*e*P	**P**	**01 07 40.9**	**-0.6**
SMF	**Signal de Mont**	**73.93**	**314**	*e*P	**P**	**01 07 41.0**	**-0.7**
	comp=Z,5.9nm,0.5s,mb4.2						
SMF	**Signal de Mont**	**73.93**	**314**	*e*P	**P**	**01 07 41.0**	**-0.7**
	comp=Z,3.0nm,0.5s,mb4.3						
SSF	**Saint Saulge**	**74.04**	**315**	*e*P	**P**	**01 07 41.7**	**-0.6**
	comp=Z,2.1nm,0.5s,mb3.8						
SSF	**Saint Saulge**	**74.04**	**315**	*e*P	**P**	**01 07 41.7**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.8						
AVF	**Avril sur Loir**	**74.22**	**314**	*e*P	**P**	**01 07 42.6**	**-0.8**
	comp=Z,1.9nm,0.4s,mb3.9						
AVF	**Avril sur Loir**	**74.22**	**314**	*e*P	**P**	**01 07 42.6**	**-0.8**
	comp=Z,0.9nm,0.4s,mb3.9						
LASF	**Ste Croix**	**74.66**	**312**	*e*P	**P**	**01 07 45.9**	**-0.1**
LSZ	**Lusaka**	**74.92**	**246**	P	**P**	**01 07 48.9**	**+1.0**
	comp=Z,7.9nm,0.6s,mb4.7,baz=60,slow=7.7,SNR=23						
TCF	**Toulx Ste Croi**	**75.12**	**314**	*e*P	**P**	**01 07 48.9**	**+0.3**
	comp=Z,6.3nm,0.8s,mb4.1						
TCF	**Toulx Ste Croi**	**75.12**	**314**	*e*P	**P**	**01 07 48.9**	**+0.3**
	comp=Z,3.2nm,0.8s,mb4.1						
EKA	**Eskdalemuir Ar**	**75.50**	**324**	P	**P**	**01 07 50.2**	**-0.4**
	comp=Z,0.9nm,0.6s,mb3.7,baz=72,slow=5.5,SNR=4.8						
CAF	**Calviac**	**75.63**	**313**	*e*P	**P**	**01 07 51.4**	**-0.2**
	comp=Z,1.8nm,0.5s,mb3.8						
CAF	**Calviac**	**75.63**	**313**	*e*P	**P**	**01 07 51.4**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.8						
RJF	**Les Rejaudoux**	**75.88**	**313**	*e*P	**P**	**01 07 53.1**	**+0.1**
	comp=Z,3.9nm,0.6s,mb4.0						
**RJ

KMBO pmax pmax
comp=Z,7.0nm,1.3s
KMBO Kilima Mbogo 18.71 221 *eP* **Pn 01 04 40.9 +0.8**
comp=Z,6.6nm,1.3s
KMBO Kilima Mbogo 18.71 221 *eP* **Pn 01 04 40.9 +0.8**
comp=Z,6.6nm,1.3s
KMBO LR LR 01 11 32.4
EIL Elat 21.22 323 P **P 01 05 08.3 +1.3**
comp=Z,9.1nm,0.8s,mb4.2,baz=111,slow=4.1,SNR=7.1
EIL Elat 21.22 323 P **P 01 05 08.3 +1.3**
ASF Jabal al Asfar 22.14 331 P **P 01 05 18.5 +1.7**
comp=Z,17nm,0.8s,mb4.5,baz=19,slow=4.2,SNR=22
ASF LR LR 01 13 41.6
comp=Z,380nm,19.5s,MS3.8,baz=258,slow=36
ASF Jabal al Asfar 22.14 331 P **P 01 05 18.5 +1.7**
ASF LR LR 01 13 41.6
MMAI Mount Meron Ar 23.55 329 P **P 01 05 33.9 +2.2**
comp=Z,7.7nm,0.9s,mb4.1,baz=131,slow=10,SNR=9.0
MMAI LR LR 01 14 39.9
comp=Z,301nm,19.1s,MS3.8,baz=150,slow=36
MSL Mosul 23.70 347 *ex* x 01 05 40.0
MSL *ex* x 01 09 11.0
MALT Malatya 26.88 340 *eP* **P 01 06 03.8 +1.9**
MALT pmax pmax
comp=Z,12nm,0.9s,mb4.4
MALT Malatya 26.88 340 ⇓*iP* **P 01 06 04.2 +2.3**
MALT Malatya 26.88 340 *eP* **P 01 06 03.8 +1.9**
comp=Z,12nm,0.9s,mb4.4
MALT Malatya 26.88 340 *eP* **P 01 06 03.8 +1.8**
comp=Z,12nm,0.9s,mb4.4
GNI Garni 27.17 352 P **P 01 06 06.4 +2.0**
comp=Z,14nm,0.8s,mb4.6,baz=301,slow=3.5,SNR=8.1
GNI LR LR 01 18 40.8
comp=Z,539nm,18.0s,MS4.2,baz=301,slow=41
GNI Garni 27.17 352 *eP* **P 01 06 06.2 +1.7**
GNI pmax pmax
comp=Z,20nm,0.8s
GNI Garni 27.17 352 *eP* **P 01 06 06.2 +1.7**
comp=Z,20nm,0.8s,mb4.7
GNI Garni 27.17 352 *eP* **P 01 06 06.2 +1.7**
comp=Z,20nm,0.8s,mb4.7
GNI LR LR 01 18 40.8
KBL Kabul 27.66 37 *eP* **P 01 06 10.8 +1.8**
KBL pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
KBL Kabul 27.66 37 *eP* **P 01 06 10.8 +1.8**
comp=Z,6.1nm,0.8s,mb4.3
KBL Kabul 27.66 37 *eP* **P 01 06 10.8 +1.7**
comp=Z,6.1nm,0.8s,mb4.3
ANTO Ankara 30.37 334 ⇑*iP* **P 01 06 34.8 +1.8**
ANTO Ankara 30.37 334 ⇑P **P 01 06 34.8 +1.8**
KIV Kislovodsk 31.20 350 ⇑*eP* **P 01 06 41.1 +0.8**
KIV pmax pmax
comp=Z,18nm,1.2s,mb4.8
KIV MLR MLR
comp=Z,400nm,25.0s,MS4.0
KIV Kislovodsk 31.20 350 *eP* **P 01 06 41.1 +0.8**
comp=Z,400nm,25.0s
KIV Kislovodsk 31.20 350 *eP* **P 01 06 39.0 -1.2**
comp=Z,6.5nm,0.7s,mb4.6
IDI Anoyia 31.25 319 P **P 01 06 42.6 +1.8**
comp=Z,5.7nm,0.7s,mb4.5,baz=115,slow=14,SNR=3.4
IDI LR LR 01 19 49.5
comp=Z,116nm,22.0s,MS3.5,baz=119,slow=37
SIM Simferopol' 34.25 340 *eP* **P 01 07 07.2 +0.2**
SIM *eS* **S 01 12 34.0 +0.2**
SIM pmax pmax
comp=Z,22nm,0.9s,mb5.1
SIM Simferopol' 34.25 340 *eP* **P 01 07 07.2 +0.2**
comp=Z,22nm,0.9s,mb5.1
KOLN Koldanda 34.94 60 *eP* **P 01 07 12.9 -0.3**
comp=Z,77nm,1.0s,mb5.6
DANN Dangsing 35.25 59 *eP* **P 01 07 15.5 -0.4**
comp=Z,53nm,0.9s,mb5.5
LSZ Lusaka 35.28 217 P **P 01 07 18.3 +2.1**
comp=Z,1.8nm,0.9s,mb4.0,baz=53,slow=5.1,SNR=3.0
GKN Gorkha 35.89 60 *eP* **P 01 07 20.5 -0.8**
TIRR Tirgusor 35.99 334 ⇑*iP* **P 01 07 22.5 +0.5**
TIRR Tirgusor 35.99 334 ⇑P **P 01 07 22.5 +0.6**
DMN Daman 36.17 61 *eP* **P 01 07 23.4 -0.4**
comp=Z,36nm,0.9s,mb5.3
KKN Kakani 36.37 61 *eP* **P 01 07 24.9 -0.6**
comp=Z,26nm,0.6s,mb5.4
KKN Kakani 36.37 61 *eP* **P 01 07 24.9 -0.6**
KKN pmax pmax
comp=Z,27nm,0.6s,mb5.3
PKI Pulchoki 36.42 61 *eP* **P 01 07 25.2 -0.7**
comp=Z,40nm,1.0s,mb5.3
PKI Pulchoki 36.42 61 *eP* **P 01 07 25.2 -0.7**
PKI pmax pmax
comp=Z,40nm,1.0s,mb5.3
GUN Gumba 36.91 61 *eP* **P 01 07 29.5 -0.6**
STIP Stip 37.02 325 *eP* **P 01 07 32.0 +1.2**
STIP Stip 37.02 325 *eP* **P 01 07 31.9 +1.1**
BIA Bitola 37.06 324 *iP* **P 01 07 31.3 +0.1**
BIA Bitola 37.06 324 *iP* **P 01 07 31.2 0.0**
VTS Vitosha 37.08 327 ⇓*iP* **P 01 07 32.6 +1.3**
RAMN Ramite 37.29 63 *eP* **P 01 07 33.0 -0.3**
comp=Z,32nm,0.5s,mb5.4
KRUS Krusevo 37.33 324 *iP* **P 01 07 33.5 0.0**
KRUS Krusevo 37.33 324 *iP* **P 01 07 33.4 -0.1**
AKTK Aktyubinsk 37.78 9 P **P 01 07 36.6 -0.5**
AKTO Aktyubinsk 37.78 9 P **P 01 07 36.6 -0.5**
comp=Z,2.4nm,0.6s,mb4.1,baz=203,slow=12,SNR=7.5
VRI Vrincioaia 37.83 334 ⇓*iP* **P 01 07 39.5 +1.9**
VRI Vrincioaia 37.83 334 P **P 01 07 39.3 +1.7**
PLOR Plostina 37.86 334 ⇑*iP* **P 01 07 39.6 +1.8**
MLR Muntele Rosu 37.88 333 P **P 01 07 39.7 +1.7**
comp=Z,5.1nm,0.7s,mb4.4,baz=291,slow=1.4,SNR=8.5
MLR Muntele Rosu 37.88 333 ⇑*iP* **P 01 07 39.9 +1.9**
MLR Muntele Rosu 37.88 333 P **P 01 07 41.6 +3.5**
KIS Kishinev 37.90 337 *eP* **P 01 07 38.0 -0.2**
KIS MLR MLR
comp=Z,200nm,15.0s,MS4.0
KIS MLR MLR
comp=Z,300nm,16.0s
KIS Kishinev 37.90 337 *eP* **P 01 07 38.0 -0.2**
comp=Z,300nm,16.0s
ODAN Odare 37.95 63 *eP* **P 01 07 37.9 -1.0**
comp=Z,13nm,0.5s,mb4.9
TAPN Taplejung 38.34 62 *eP* **P 01 07 40.7 -1.5**
comp=Z,24nm,0.7s,mb5.1
GZR Gura Zlata 39.29 330 ⇑*iP* **P 01 07 51.4 +1.5**
BURAR Bucovina Array 39.85 334 ⇓*iP* **P 01 07 56.4 +1.9**
BURAR Bucovina Array 39.85 334 ⇓P **P 01 07 56.4 +1.9**
BZS Buzias 40.02 329 ⇓*iP* **P 01 07 56.4 +0.4**
DRGR 40.34 331 ⇑*iP* **P 01 08 00.0 +1.4**
DRGR 40.34 331 ⇑P **P 01 08 00.0 +1.4**
AKASG Malin Array Be 40.88 340 P **P 01 08 02.9 -0.1**
comp=Z,6.8nm,0.7s,mb4.4,baz=151,slow=7.5,SNR=40
AKBB Malin Array Si 40.88 340 *eP* **P 01 08 03.0 0.0**
AKBB Malin Array Si 40.88 340 *eP* **P 01 08 03.0 0.0**
KIEV Kiev 40.88 340 *eP* **P 01 08 02.7 -0.3**
KIEV pmax pmax
comp=Z,19nm,1.0s,mb4.7
KIEV Kiev 40.88 340 *eP* **P 01 08 02.7 -0.3**
comp=Z,19nm,1.0s,mb4.7
KIEV Kiev 40.88 340 *eP* **P 01 08 02.7 -0.3**
comp=Z,19nm,1.0s,mb4.7
PKSM Moragy 41.94 328 ⇑*eP* **P 01 08 12.7 +0.9**
KOLS Kolonicke sedl 42.13 333 *eP* **P 01 08 16.1 +2.8**
CRVS Cervenica-Dubn 42.46 333 *eP* **P 01 08 17.0 +1.0**
KWP Kalwaria 42.47 334 *eP* **P 01 08 16.3 +0.3**
KWP pmax pmax
comp=Z,13nm,1.0s,mb4.5
KWP Kalwaria 42.47 334 *eP* **P 01 08 16.3 +0.3**
comp=Z,12nm,1.0s,mb4.5
KWP Kalwaria 42.47 334 *eP* **P 01 08 16.3 +0.3**
comp=Z,12nm,1.0s,mb4.5
KEST Kesra 42.48 309 P **P 01 08 17.9 +1.6**
comp=Z,1.7nm,0.8s,mb3.7,baz=131,slow=8.0,SNR=5.8
KEST LR LR 01 25 47.4
comp=Z,65nm,19.9s,MS3.5,baz=249,slow=36
PSZ Piszkesteto 42.48 331 *eP* **P 01 08 16.5 +0.3**
PSZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
PSZ Piszkesteto 42.48 331 ⇓*eP* **P 01 08 17.2 +1.0**
PSZ Piszkesteto 42.48 331 *eP* **P 01 08 16.5 +0.3**
comp=Z,7.9nm,0.9s,mb4.3
PSZ Piszkesteto 42.48 331 *eP* **P 01 08 16.5 +0.3**
comp=Z,7.9nm,0.9s,mb4.3
KECS Kecovo 42.60 332 *eP* **P 01 08 16.8 -0.3**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
KECS Kecovo 42.60 332 *eP* **P 01 08 16.8 -0.3**
comp=Z,2.7nm,0.9s,mb4.0
AQU L'Aquila 42.64 320 *eP* **P 01 08 16.5 -1.0**
AQU pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
AQU L'Aquila 42.64 320 *eP* **P 01 08 16.5 -1.0**
comp=Z,3.6nm,0.6s,mb4.3
AQU L'Aquila 42.64 320 *eP* **P 01 08 16.5 -1.1**
comp=Z,3.6nm,0.6s,mb4.3
TAM Tamanrasset 42.76 289 *eP* **P 01 08 18.9 +0.1**
TAM Tamanrasset 42.76 289 *eP* **P 01 08 18.9 +0.1**
PKSG 42.86 329 ⇓*eP* **P 01 08 20.6 +1.4**
STHS Stebnicka Huta 42.94 333 *iP* **P 01 08 21.0 +1.1**
STHS *e* 01 10 13.4
STHS pmax pmax
comp=Z,14nm,0.9s,mb4.7
STHS Stebnicka Huta 42.94 333 *iP* **P 01 08 21.0 +1.1**
comp=Z,14nm,0.9s,mb4.7
STHS *e* 01 10 13.4
OBN Obninsk 43.02 349 ⇓*iP* **P 01 08 20.6 +0.2**
OBN *iS* **S 01 14 43.8 -2.1**
OBN pmax pmax
comp=Z,36nm,1.9s,mb4.8
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.8
OBN Obninsk 43.02 349 *iP* **P 01 08 20.6 +0.2**
comp=Z,36nm,1.9s,mb4.8
BVAR Borovoye Array 43.08 18 P **P 01 08 20.2 -0.7**
comp=Z,1.5nm,0.7s,mb3.8,baz=201,slow=7.9,SNR=8.4
MK31 Makanchi Array 43.34 33 *eP* **P 01 08 22.7 -0.4**
MK31 Makanchi Array 43.34 33 *eP* **P 01 08 22.7 -0.4**
MKAR Makanchi Array 43.34 33 P **P 01 08 22.5 -0.6**
comp=Z,1.3nm,0.7s,mb3.7,baz=224,slow=9.7,SNR=7.7
MKAR LR LR 01 28 31.2
comp=Z,100nm,18.5s,MS3.8,baz=232,slow=39
MKAR Makanchi Array 43.34 33 ⇑*eP* **P 01 08 22.7 -0.4**
KOLL Kolacno 43.66 330 *eP* **P 01 08 25.8 +0.1**
SOP Sopron 43.98 328 ⇓*eP* **P 01 08 27.7 -0.6**
ZST Bratislava 44.04 329 *eP* **P 01 08 29.3 +0.5**
ZST pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
ZST Bratislava 44.04 329 *eP* **P 01 08 29.3 +0.5**
comp=Z,5.2nm,0.8s,mb4.3
MODS Modra-Piesok 44.07 329 *eP* **P 01 08 29.0 0.0**
SOKA Soboth 44.16 326 ⇓*iP* **P 01 08 30.7 +0.9**
comp=Z,7.0nm,0.9s,mb4.4
OJC Ojcow 44.17 333 *eP* **P 01 08 29.8 +0.1**
ARSA Arzberg 44.25 327 ⇑*iP* **P 01 08 31.4 +1.0**
comp=Z,6.4nm,0.9s,mb4.3
KURK Kurchatov 44.28 26 ⇓*eP* **P 01 08 30.0 -0.6**
KURK pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
KURK MLR MLR
comp=Z,200nm,18.0s,MS4.1
KURK Kurchatov 44.28 26 *eP* **P 01 08 30.0 -0.6**
comp=Z,200nm,18.0s
SVE Sverdlovsk 44.37 9 *eP* **P 01 08 29.8 -1.5**
SVE pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
SVE Sverdlovsk 44.37 9 *eP* **P 01 08 29.8 -1.5**
comp=Z,8.0nm,1.0s,mb4.4
CONA Conrad Observa 44.50 328 ⇑*iP* **P 01 08 33.3 +0.9**
comp=Z,13nm,1.1s,mb4.7
CSNA Conrad Observa 44.50 328 ⇑*iP* **P 01 08 33.4 +0.9**
comp=Z,12nm,1.1s,mb4.6
LBTB Lobatse 44.56 212 P **P 01 08 34.2 +1.0**
comp=Z,4.8nm,0.8s,mb4.4,baz=50,slow=12,SNR=5.8
LBTB LR LR 01 26 06.6
comp=Z,115nm,21.2s,MS3.8,baz=230,slow=35
OKC Ostrava-Krasne 44.65 331 *eP* **P 01 08 34.1 +0.5**
OKC *e*pP pP 01 08 40.3 +3.6
MORC Moravsky Berou 44.89 331 *eP* **P 01 08 35.6 +0.1**
MORC pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
MORC Moravsky Berou 44.89 331 ⇓P **P 01 08 36.1 +0.6**
MORC Moravsky Berou 44.89 331 ⇓*iP* **P 01 08 36.1 +0.6**
MORC Moravsky Berou 44.89 331 *eP* **P 01 08 35.6 +0.1**
comp=Z,4.9nm,0.8s,mb4.4
MYKA Terra Mystica 44.90 325 ⇑*iP* **P 01 08 36.7 +1.0**
comp=Z,14nm,0.9s,mb4.8
VRAC Vranov 45.03 330 P **P 01 08 37.0 +0.4**
comp=Z,6.1nm,0.9s,mb4.4,baz=147,slow=6.8,SNR=6.0
VRAC Vranov 45.03 330 ⇓*iP* **P 01 08 37.3 +0.6**
VRAC Vranov 45.03 330 ⇓P **P 01 08 37.3 +0.7**
MOA Molln 45.29 327 ⇓*iP* **P 01 08 39.4 +0.7**
comp=Z,12nm,1.0s,mb4.7
PGF Pioggiola 45.56 318 *eP* **P 01 08 38.8 -2.2**
TREC Trest 45.57 329 *eP* **P 01 08 41.1 +0.2**
TREC *ex* x 01 08 44.2
SUW Suwalki 45.70 339 *eP* **P 01 08 42.0 +0.1**
SUW pmax pmax
comp=Z,28nm,0.8s,mb5.2
SUW Suwalki 45.70 339 *eP* **P 01 08 42.0 +0.1**
comp=Z,28nm,0.8s,mb5.2
DPC Dobruska-Polom 45.86 331 *eP* **P 01 08 43.7 +0.5**
DPC *ex* x 01 08 47.3
UPC Upice 46.11 331 *eP* **P 01 08 45.6 +0.4**
UPC *ex* x 01 08 48.3
GERES GERESS Array B 46.20 328 P **P 01 08 45.7 -0.2**
comp=Z,2.0nm,0.6s,mb4.2,baz=136,slow=7.7,SNR=16
GERES LR LR 01 29 40.4
comp=Z,97nm,18.8s,MS3.8,baz=124,slow=38
WTTA Wattenberg 46.38 325 ⇓*iP* **P 01 08 47.6 +0.2**
comp=Z,12nm,1.2s,mb4.7
WTTA Wattenberg 46.38 325 ⇓*iP* **P 01 08 47.6 +0.2**
WTTA pmax pmax
comp=Z,12nm,1.2s,mb4.7
KHC Kasperske Hory 46.44 328 *eP* **P 01 08 47.3 -0.5**
TOA0 Torodi Ar. Sit 46.49 276 *eP* **P 01 08 49.1 +0.5**
TORD Torodi Ar. Bea 46.49 276 P **P 01 08 49.3 +0.6**
comp=Z,1.2nm,0.7s,mb3.9,baz=92,slow=7.5,SNR=9.4
PRU Pruhonice 46.49 329 *eP* **P 01 08 48.5 +0.3**
MOTA Moosalm 46.73 325 ⇑*iP* **P 01 08 49.9 -0.2**
comp=Z,9.2nm,0.8s,mb4.8
MOTA Moosalm 46.73 325 ⇑*iP* **P 01 08 49.9 -0.2**
MOTA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PVCC Panska Ves 46.82 330 *eP* **P 01 08 50.6 -0.2**
PVCC *e*pP pP 01 08 56.5 +2.6
DAVOX Davos/Dischmat 47.12 323 P **P 01 08 53.9 +0.7**
comp=Z,5.9nm,0.9s,mb4.5,baz=166,slow=7.1,SNR=7.2
SBF Sospel 47.18 319 *eP* **P 01 08 52.7 -1.0**
comp=Z,75nm,1.0s,mb5.3
SBF Sospel 47.18 319 *eP* **P 01 08 52.7 -1.0**
SBF pmax pmax
comp=Z,37nm,1.0s,mb5.3
SBF Sospel 47.18 319 *eP* **P 01 08 52.7 -1.0**
comp=Z,37nm,1.0s,mb5.3
DAVOS Davos 47.21 323 P **P 01 08 53.9 +0.1**
BRG Berggiesshubel 47.35 330 *eP* **P 01 08 54.6 -0.3**
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BRG Berggiesshubel 47.35 330 *eP* **P 01 08 54.6 -0.3**
comp=Z,7.0nm,0.9s,mb4.6
LMR La Mourre 47.55 318 *eP* **P 01 08 55.3 -1.3**
FRF La Foret Royal 47.56 318 *eP* **P 01 08 56.5 -0.1**
BOSA Boshof 47.72 209 P **P 01 08 59.6 +1.5**
comp=Z,3.5nm,0.9s,mb4.4,baz=53,slow=8.8,SNR=4.8
CMAR Chiang Mai Arr 47.75 77 P **P 01 08 57.5 -0.9**
comp=Z,6.1nm,0.8s,mb4.7,baz=276,slow=9.0,SNR=31
CMAR LR LR 01 29 52.2
comp=Z,48nm,18.5s,MS3.5,baz=48,slow=37
CMAR Chiang Mai Arr 47.75 77 P **P 01 08 57.5 -1.0**
MBDF Montbardon 48.00 319 *eP* **P 01 09 00.1 0.0**
GRA1 Grafenberg Arr 48.01 327 *eP* **P 01 08 56.9 -3.1**
comp=Z,29nm,1.7s,mb5.0
GRF Grafenberg Arr 48.01 327 *eP* **P 01 08 56.9 -3.1**
GRF pmax pmax
comp=Z,29nm,1.7s,mb5.0
GRF Grafenberg Arr 48.01 327 *eP* **P 01 08 56.9 -3.1**
GRF pmax pmax
comp=Z,29nm,1.7s,mb5.0
GRF Grafenberg Arr 48.01 327 *eP* **P 01 08 56.9 -3.1**
comp=Z,29nm,1.7s,mb5.0
CLL Collm 48.08 330 *iP* **P 01 08 59.7 -0.9**
CLL *e* 01 09 07.0
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CLL Collm 48.08 330 *iP* **P 01 08 59.7 -0.9**
comp=Z,7.0nm,0.9s,mb4.7
CLL *e*(sP) sP 01 09 07.0 +2.0
CLL *eS* **S 01 16 08.0 +9.0**
CLL *ex* x 01 16 56.0
CLL Collm 48.08 330 *iP* **P 01 08 59.7 -0.9**
comp=Z,7.0nm,0.9s,mb4.7
CLL *e* 01 09 07.0
KLMR Klimovskoe 48.13 353 *eP* **P 01 08 59.8 -1.0**
KLMR pmax pmax
comp=Z,35nm,1.4s,mb5.2
LPG La Plagne 48.37 320 *eP* **P 01 09 02.2 -0.7**
comp=Z,35nm,1.3s,mb4.9
LPG La Plagne 48.37 320 *eP* **P 01 09 02.2 -0.7**
LPG pmax pmax
comp=Z,17nm,1.3s,mb4.9
LPG La Plagne 48.37 320 *eP* **P 01 09 02.2 -0.7**
comp=Z,18nm,1.3s,mb4.9
LPL La Plagne 48.39 320 *eP* **P 01 09 02.8 -0.3**
comp=Z,14nm,0.8s,mb4.7
LPL La Plagne 48.39 320 *eP* **P 01 09 02.8 -0.3**
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
LPL La Plagne 48.39 320 *eP* **P 01 09 02.8 -0.3**
comp=Z,6.8nm,0.8s,mb4.7
SMRF Simiane la Rot 48.44 318 *eP* **P 01 09 02.7 -0.7**
comp=Z,29nm,1.1s,mb4.9
SMRF Simiane la Rot 48.44 318 *eP* **P 01 09 02.7 -0.7**
comp=Z,15nm,1.1s,mb4.9
ORIF Oris-en-Rattie 48.65 319 *eP* **P 01 09 04.4 -0.7**
comp=Z,29nm,1.4s,mb4.8
ORIF *e*MLR MLR
comp=Z,150nm,22.2s,MS3.6
ORIF Oris-en-Rattie 48.65 319 *eP* **P 01 09 04.4 -0.7**
ORIF pmax pmax
comp=Z,15nm,1.4s,mb4.8
ORIF Oris-en-Rattie 48.65 319 *eP* **P 01 09 04.4 -0.7**
comp=Z,15nm,1.4s,mb4.8
BFO Black Forest 48.84 324 *eP* **P 01 09 06.5 +0.1**
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BFO Black Forest 48.84 324 *eP* **P 01 09 06.5 +0.1**
comp=Z,5.9nm,0.9s,mb4.6
BFO Black Forest 48.84 324 *eP* **P 01 09 06.5 +0.1**
comp=Z,5.9nm,0.9s,mb4.6
NVS Novosibirsk 49.19 25 *eP* **P 01 09 07.1 -1.9**
NVS pmax pmax
comp=E,3.0nm,1.2s
NVS pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
ZAL Zalesovo 49.24 27 P **P 01 09 07.7 -1.7**
ZALV Zalesovo Beam 49.26 27 P **P 01 09 07.7 -1.8**
comp=Z,1.9nm,0.6s,mb4.3,baz=223,slow=8.1,SNR=5.6
CABF La Chapelle 49.30 321 *eP* **P 01 09 09.5 -0.5**
VIVF Saint-Julien-l 49.40 319 *eP* **P 01 09 10.1 -0.7**
HINF Hinteralfeld 49.42 323 *eP* **P 01 09 10.1 -0.9**
comp=Z,13nm,1.0s,mb4.6
HINF Hinteralfeld 49.42 323 *eP* **P 01 09 10.1 -0.9**
HINF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
HINF Hinteralfeld 49.42 323 *eP* **P 01 09 10.1 -0.9**
comp=Z,6.4nm,1.0s,mb4.6
CDF Champ du Feu 49.48 324 *eP* **P 01 09 10.7 -0.7**
comp=Z,8.6nm,0.9s,mb4.5
CDF Champ du Feu 49.48 324 *eP* **P 01 09 10.7 -0.7**
CDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CDF Champ du Feu 49.48 324 *eP* **P 01 09 10.7 -0.7**
comp=Z,4.3nm,0.9s,mb4.5
LASF Ste Croix 49.60 317 *eP* **P 01 09 11.1 -1.3**
comp=Z,48nm,1.6s,mb5.0
LASF Ste Croix 49.60 317 *eP* **P 01 09 11.1 -1.3**
comp=Z,24nm,1.6s,mb5.0
HAU Haudompre 49.81 323 *eP* **P 01 09 13.1 -0.8**
HAU *e*MLR MLR
comp=Z,76nm,21.0s,MS3.4
HAU Haudompre 49.81 323 *eP* **P 01 09 13.1 -0.8**
HAU LR LR
comp=Z,80nm,21.0s,MS3.7
MTLF Montolieu 50.42 316 *eP* **P 01 09 17.3 -1.3**
SMF Signal de Mont 50.70 320 *eP* **P 01 09 19.8 -0.8**
comp=Z,34nm,1.6s,mb4.7
SMF Signal de Mont 50.70 320 *eP* **P 01 09 19.8 -0.8**
SMF pmax pmax
comp=Z,17nm,1.6s,mb4.7
SMF Signal de Mont 50.70 320 *eP* **P 01 09 19.8 -0.8**
comp=Z,17nm,1.6s,mb4.7
WLF Walferdange 50.75 325 *eP* **P 01 09 20.9 -0.1**
WLF pmax pmax
comp=Z,13nm,0.9s,mb4.9
WLF Walferdange 50.75 325 *eP* **P 01 09 20.9 -0.1**
comp=Z,13nm,0.9s,mb4.8
WLF Walferdange 50.75 325 *eP* **P 01 09 20.9 -0.1**
comp=Z,13nm,0.9s,mb4.8
MEZF Maizieres J'vi 50.81 323 *eP* **P 01 09 21.2 -0.3**
comp=Z,24nm,0.9s,mb4.8
MEZF Maizieres J'vi 50.81 323 *eP* **P 01 09 21.2 -0.3**
comp=Z,12nm,0.9s,mb4.8
LOR Lormes 50.96 321 *eP* **P 01 09 21.7 -0.9**
comp=Z,22nm,1.3s,mb4.6
LOR *e*MLR MLR
comp=Z,84nm,20.0s,MS3.5
LOR Lormes 50.96 321 *eP* **P 01 09 21.7 -0.9**
LOR pmax pmax
comp=Z,11nm,1.3s,mb4.6
LOR MLR MLR
comp=Z,80nm,20.0s,MS3.7
LOR Lormes 50.96 321 *eP* **P 01 09 21.7 -0.9**
comp=Z,11nm,1.3s,mb4.6
LOR LR LR
comp=Z,80nm,20.0s,MS3.7
AVF Avril sur Loir 51.06 320 *eP* **P 01 09 22.2 -1.2**
comp=Z,6.2nm,0.9s,mb4.2
AVF Avril sur Loir 51.06 320 *eP* **P 01 09 22.2 -1.2**
AVF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
AVF Avril sur Loir 51.06 320 *eP* **P 01 09 22.2 -1.2**
comp=Z,3.1nm,0.9s,mb4.2
SSF Saint Saulge 51.08 321 *eP* **P 01 09 22.6 -0.9**
comp=Z,19nm,1.1s,mb4.6
SSF Saint Saulge 51.08 321 *eP* **P 01 09 22.6 -0.9**
SSF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SSF Saint Saulge 51.08 321 *eP* **P 01 09 22.6 -0.9**
comp=Z,9.6nm,1.1s,mb4.6
CAF Calviac 51.12 318 *eP* **P 01 09 23.3 -0.6**
comp=Z,17nm,1.3s,mb4.5
CAF Calviac 51.12 318 *eP* **P 01 09 23.3 -0.6**
CAF pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
CAF Calviac 51.12 318 *eP* **P 01 09 23.3 -0.6**
comp=Z,8.6nm,1.3s,mb4.5
BGF Bois d'Agland 51.28 320 *eP* **P 01 09 24.5 -0.5**
comp=Z,16nm,1.0s,mb4.6
BGF Bois d'Agland 51.28 320 *eP* **P 01 09 24.5 -0.5**
BGF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BGF Bois d'Agland 51.28 320 *eP* **P 01 09 24.5 -0.5**
comp=Z,7.8nm,1.0s,mb4.6
TCF Toulx Ste Croi 51.57 319 *eP* **P 01 09 26.4 -0.8**
comp=Z,66nm,1.8s,mb5.0
TCF Toulx Ste Croi 51.57 319 *eP* **P 01 09 26.4 -0.8**
TCF pmax pmax
comp=Z,33nm,1.8s,mb5.0
TCF Toulx Ste Croi 51.57 319 *eP* **P 01 09 26.4 -0.8**
comp=Z,33nm,1.8s,mb5.0
EPF Esparros 51.59 315 *eP* **P 01 09 26.4 -1.0**
RJF Les Rejaudoux 51.62 318 *eP* **P 01 09 27.6 0.0**
RJF *e*MLR MLR
comp=Z,135nm,19.8s,MS3.7
RJF Les Rejaudoux 51.62 318 *eP* **P 01 09 27.6 0.0**
RJF LR LR
comp=Z,130nm,19.8s,MS4.0
GIVF Givet 51.72 325 *eP* **P 01 09 28.1 -0.1**
LFF La Frestale 51.99 317 *eP* **P 01 09 30.3 -0.1**
comp=Z,20nm,0.9s,mb4.7
LFF La Frestale 51.99 317 *eP* **P 01 09 30.3 -0.1**
LFF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LFF La Frestale 51.99 317 *eP* **P 01 09 30.3 -0.1**
comp=Z,9.9nm,0.9s,mb4.7
BAIF Baives 52.04 324 *eP* **P 01 09 30.1 -0.6**
ETSF Etsaut 52.17 314 *eP* **P 01 09 31.9 +0.2**
SJPF Ste Jean 52.70 315 *eP* **P 01 09 36.0 +0.3**
comp=Z,17nm,0.9s,mb4.7
SJPF Ste Jean 52.70 315 *eP* **P 01 09 36.0 +0.3**
SJPF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SJPF Ste Jean 52.70 315 *eP* **P 01 09 36.0 +0.3**
comp=Z,8.6nm,0.9s,mb4.7
SUR Sutherland 52.98 211 LR LR 01 32 07.0
comp=Z,164nm,18.4s,MS4.1,baz=77,slow=36
MFF Saint Martin d 53.19 319 *eP* **P 01 09 39.2 0.0**
comp=Z,46nm,1.6s,mb4.9
MFF Saint Martin d 53.19 319 *eP* **P 01 09 39.2 0.0**

MFF pmax pmax
comp=Z,23nm,1.6s,mb4.9
MFF Saint Martin d 53.19 319 *eP* **P 01 09 39.2 0.0**
comp=Z,23nm,1.6s,mb4.9
ESDC Sonseca Array 53.72 310 P **P 01 09 44.0 +0.8**
comp=Z,2.9nm,0.8s,mb4.3,baz=94,slow=6.9,SNR=14
HFS Hagfors 53.72 339 P **P 01 09 42.3 -0.5**
comp=Z,10nm,0.8s,mb4.8,baz=138,slow=9.1,SNR=9.8
LDF La Druitiere 53.95 321 *eP* **P 01 09 43.7 -1.0**
comp=Z,36nm,1.1s,mb4.9
LDF La Druitiere 53.95 321 *eP* **P 01 09 43.7 -1.0**
LDF pmax pmax
comp=Z,18nm,1.1s,mb4.9
LDF La Druitiere 53.95 321 *eP* **P 01 09 43.7 -1.0**
comp=Z,18nm,1.1s,mb4.9
FLN La Foliniere 54.23 321 *eP* **P 01 09 45.6 -1.2**
comp=Z,64nm,1.3s,mb5.1
FLN *e*MLR MLR
comp=Z,95nm,18.2s,MS3.6
FLN La Foliniere 54.23 321 *eP* **P 01 09 45.6 -1.2**
FLN pmax pmax
comp=Z,32nm,1.3s,mb5.1
FLN MLR MLR
comp=Z,90nm,18.3s,MS3.9
FLN La Foliniere 54.23 321 *eP* **P 01 09 45.6 -1.2**
comp=Z,32nm,1.3s,mb5.1
FLN LR LR
comp=Z,90nm,18.3s,MS3.9
NAO01 NORSAR Array S 55.22 338 *eP* **P 01 09 51.7 -2.1**
comp=Z,4.8nm,0.7s,mb4.6
NAO01 NORSAR Array S 55.22 338 *eP* **P 01 09 51.7 -2.1**
comp=Z,4.8nm,0.7s,mb4.6
NB2 NORSAR Subarra 55.23 338 P **P 01 09 53.0 -0.9**
comp=Z,2.0nm,0.7s,mb4.3,baz=132,slow=7.4
NOA NORSAR Array B 55.23 338 P **P 01 09 53.2 -0.6**
comp=Z,3.8nm,0.8s,mb4.5,baz=131,slow=7.2,SNR=8.3
NOA LR LR 01 36 24.6
comp=Z,87nm,19.0s,MS3.9,baz=135,slow=39
NOA NORSAR Array B 55.23 338 P **P 01 09 53.2 -0.6**
NOA LR LR 01 36 24.6
QUIF Quistinic 55.58 320 *eP* **P 01 09 56.3 -0.3**
SONM Songino Array 58.27 42 P **P 01 10 15.4 -0.2**
comp=Z,0.4nm,0.5s,mb3.7,baz=264,slow=5.2,SNR=5.4
SONM LR LR 01 36 11.4
comp=Z,65nm,18.4s,MS3.8,baz=260,slow=37
ARCES ARCESS Array B 58.31 350 P **P 01 10 15.2 -0.4**
comp=Z,6.2nm,0.8s,mb4.7,baz=148,slow=5.7,SNR=13
ARCES LR LR 01 37 56.4
comp=Z,102nm,18.4s,MS4.0,baz=18,slow=39
ARCES ARCESS Array B 58.31 350 P **P 01 10 15.1 -0.5**
EKA Eskdalemuir Ar 58.42 328 P **P 01 10 15.9 -0.6**
comp=Z,1.5nm,0.6s,mb4.2,baz=117,slow=7.2,SNR=7.9
EKA Eskdalemuir Ar 58.42 328 P **P 01 10 15.9 -0.7**
BOD Bodaibo 65.42 32 *eP* **P 01 11 11.6 +8.0**
BOD pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
SPITS Spitsbergen Ar 67.03 353 P **P 01 11 13.1 -0.6**
comp=Z,8.7nm,0.7s,mb4.9,baz=331,slow=9.9,SNR=9.9
MAW Mawson 81.17 175 LR LR 01 38 49.3
comp=Z,68nm,20.8s,MS4.0,baz=248,slow=28
WRA Warramunga Arr 89.69 110 P **P 01 13 19.7 -0.1**
comp=Z,3.2nm,0.8s,mb4.7,baz=300,slow=3.7,SNR=16
ASAR Alice Springs 90.20 114 P **P 01 13 24.2 +2.1**
comp=Z,1.0nm,0.6s,mb4.3,baz=290,slow=4.2,SNR=19
ASAR Alice Springs 90.20 114 P **P 01 13 24.2 +2.1**
NVAR Mina Array Bea 127.39 348 PKP PKPdf 01 19 28.3 +1.9
comp=Z,0.3nm,0.6s,baz=31,slow=2.1,SNR=3.0
NVAR Mina Array Bea 127.39 348 PKIKP PKPdf 01 19 28.2 +1.8
TXAR Lajitas Array 130.41 329 PKP PKPdf 01 19 32.2 -0.2
comp=Z,0.2nm,0.9s,baz=70,slow=1.3,SNR=3.2

*ISCJB **18** 01:04:22.1±1.0, 1453S×008×767W±02, h33km, mb3.8/3, Error ellipse: s-maj=23.5km s-min=7.9km az=157.7*
*NEIC **18** 01:04:24.8±0.9, 1434S×7626W, h35km, mb3.8/1, Error ellipse: s-maj=23.8km s-min=10.8km az=58.0*
*IDC **18** 01:04:24.8±3.9, 1449S×7657W, h39km±28km, mb3.7/2, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, ML3.9/3, Error ellipse: s-maj=65.4km s-min=19.3km az=53.0*
ISC 18 01:04:24.5±1.0, 1449S±008×766W±02, h35km, n10, σ0§84/14, mb3.8/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.50**	**354**	Pn	**Pn**	**Pn**	**01 05 01.9**	**-0.8**
	16nm,0.3s,baz=182,slow=13,SNR=9.9							
NNA				Sn		**Sn**	**01 05 32.2**	**+0.1**
	76nm,0.3s,baz=217,slow=13,SNR=16							
ARE	**Arequipa**	**5.29**	**112**	*e*P		**Pn**	**01 05 48.0**	**+6.9**
ARE				*e*S		**Sn**	**01 06 47.0**	**+6.1**
ATAH	**Atahualpa**	**7.65**	**346**	Pn		**Pn**	**01 06 13.4**	**-0.2**
	1.0nm,0.3s,baz=155,slow=13,SNR=6.6							
LPAZ	**La Paz**	**8.35**	**103**	Pn		**Pn**	**01 06 24.8**	**+1.7**
	0.3nm,0.3s,baz=283,slow=9.5,SNR=13							
LVC	**Limon Verde**	**10.87**	**139**	Pn		**Pn**	**01 06 57.6**	**-0.1**
	0.5nm,0.3s,baz=311,slow=12,SNR=4.6							
LVC				Sn		**Sn**	**01 08 56.9**	**-1.2**
	0.3nm,0.3s,baz=61,slow=19,SNR=3.3							
LVC	**Limon Verde**	**10.87**	**139**	Pn		**Pn**	**01 06 57.6**	**-0.1**
LVC				Sn		**Sn**	**01 08 56.9**	**-1.2**
SIV	**San Ignacio**	**15.05**	**98**	Pn		**Pn**	**01 07 50.5**	**-4.2**
	0.1nm,0.3s,baz=279,slow=19,SNR=2.0							
PLCA	**Paso Flores**	**26.67**	**170**	*e*P		**P**	**01 10 01.1**	**+1.0**
	2.5nm,1.0s,mb3.7							
TXAR	**Lajitas Array**	**50.81**	**329**	P		**P**	**01 13 21.8**	**+0.1**
	0.6nm,1.1s,mb3.5,baz=151,slow=8.2,SNR=3.2							
TORD	**Torodi Ar. Bea**	**82.22**	**74**	P		**P**	**01 16 42.4**	**-0.4**
	2.4nm,0.7s,mb4.2,baz=263,slow=4.7,SNR=33							

*IDC **18** 01:07:21.6±1.0, 1357S×7670W, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.9/21, mbtmp3.9/11, ML3.8/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/23, Error ellipse: s-maj=33.8km s-min=14.5km az=69.0*
*ISCJB **18** 01:07:22.6±2.8, 1368S±006×7690W±008, h24km±21km, mb4.0/12, MS3.6/3, Error ellipse: s-maj=15.2km s-min=7.0km az=148.9*
*NEIC **18** 01:07:24.2±3.5, 1359S×7676W, h19km±22km, mb4.3/8, Error ellipse: s-maj=15.7km s-min=5.7km az=67.0*
ISC 18 01:07:23.8±3.1, 1362S±006×7691W±008, h16km±20km, n28, σ1§01/30, mb4.0/12, MS3.6/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.62**	**2**	Pn		**Pn**	**01 07 51.7**	**-0.1**
	66nm,0.3s,baz=172,slow=14,SNR=13							
NNA				Sn		**Sn**	**01 08 12.6**	**+0.2**
	259nm,0.3s,baz=222,slow=11,SNR=6.2							
ARE	**Arequipa**	**5.95**	**119**	*e*P		**Pn**	**01 08 57.0**	**+5.8**
ARE				*e*S		**Sn**	**01 10 10.0**	**+11**
ATAH	**Atahualpa**	**6.74**	**347**	Pn		**Pn**	**01 09 03.4**	**+1.3**
	0.6nm,0.3s,baz=117,slow=12,SNR=2.8							
ATAH				Sn		**Sn**	**01 10 16.9**	**-1.8**
	1.5nm,0.3s,baz=160,slow=19,SNR=2.1							
ATAH				LR		LR	01 11 46.2	
	comp=Z,178nm,20.5s,baz=54,slow=40							
LPAZ	**La Paz**	**8.88**	**108**	Pn		**Pn**	**01 09 34.1**	**+2.5**
	0.2nm,0.3s,baz=318,slow=14,SNR=3.4							
LPAZ				Sn		**Sn**	**01 11 12.6**	**+1.1**
	0.3nm,0.3s,baz=288,slow=19,SNR=1.7							
LPAZ				LR		LR	01 13 31.4	
	comp=Z,282nm,21.0s,baz=288,slow=42							
LPAZ	**La Paz**	**8.88**	**108**	Pn		**Pn**	**01 09 34.1**	**+2.5**
LPAZ				Sn		**Sn**	**01 11 12.6**	**+1.1**
LPAZ				LR		LR	01 13 31.4	
LVC	**Limon Verde**	**11.73**	**141**	Pn		**Pn**	**01 10 09.4**	**-1.2**
	1.3nm,0.3s,baz=274,slow=5.6,SNR=6.7							
LVC				LR		LR	01 14 08.8	
	comp=Z,242nm,18.3s,baz=311,slow=35							
OTAV	**Otavalo**	**13.85**	**354**	*e*Pn		**Pn**	**01 10 39.4**	**-0.2**
SIV	**San Ignacio**	**15.49**	**101**	Pn		**Pn**	**01 11 01.1**	**-0.6**
	0.2nm,0.3s,baz=272,slow=16,SNR=7.9							
ROSC	**El Rosal**	**18.53**	**8**	LR		LR	01 19 42.0	
	comp=Z,246nm,18.5s,baz=196,slow=40							
CFAA	**Coronel Fontan**	**19.59**	**157**	P		**Pn**	**01 11 52.1**	**-0.6**
	0.0nm,0.3s,baz=330,slow=7.7,SNR=5.1							
CFAA				LR		LR	01 17 56.5	
	comp=Z,9.8nm,20.6s,baz=350,slow=32							
CPUP	**Villa Florida**	**22.29**	**128**	P		**P**	**01 12 17.9**	**-2.6**
	1.5nm,0.7s,mb3.5,baz=301,slow=6.3,SNR=3.8							
CPUP				LR		LR	01 22 46.7	
	comp=Z,151nm,19.7s,MS3.4,baz=296,slow=42							
CPUP	**Villa Florida**	**22.29**	**128**	*e*P		**P**	**01 12 18.9**	**-1.6**
	19nm,1.1s,mb4.4							
CPUP				LR		LR	01 22 46.7	
SDV	**Santo Domingo**	**23.21**	**16**	P		**P**	**01 12 29.9**	**-0.4**
	3.4nm,0.8s,mb3.8,baz=270,slow=3.0,SNR=4.5							
SDV	**Santo Domingo**	**23.21**	**16**	*e*P		**P**	**01 12 30.1**	**-0.2**
	4.3nm,0.8s,mb3.9							
PCRV	**Puerto La Cruz**	**26.59**	**28**	P		**P**	**01 13 00.6**	**-0.9**
	10.0nm,0.9s,mb4.3,baz=26,slow=5.6,SNR=3.5							
PCRV				LR		LR	01 24 21.3	
	comp=Z,345nm,18.2s,MS3.9,baz=205,slow=38							
PLCA	**Paso Flores**	**27.58**	**170**	P		**P**	**01 13 10.7**	**+0.6**
	0.7nm,0.7s,mb3.4,baz=13,slow=12,SNR=3.8							
PLCA	**Paso Flores**	**27.58**	**170**	*e*P		**P**	**01 13 10.0**	**-0.1**
	1.6nm,0.8s,mb3.7							
BDFB	**Brasilia**	**28.02**	**98**	LR		LR	01 25 20.8	
	comp=Z,94nm,18.0s,MS3.4,baz=94,slow=39							
TXAR	**Lajitas Array**	**49.91**	**329**	P		**P**	**01 16 18.3**	**+1.5**
	0.2nm,0.8s,mb3.2,baz=144,slow=11,SNR=2.6							
SDCO	**Great Sand Dun**	**57.72**	**333**	*e*P		**P**	**01 17 14.7**	**+0.8**
	2.3nm,1.1s,mb4.1							
ECSD	**EROS,Sioux Fal**	**59.85**	**344**	*e*P		**P**	**01 17 28.1**	**-0.4**
	2.4nm,0.9s,mb4.2							
DUG	**Dugway**	**63.08**	**330**	*e*P		**P**	**01 17 51.2**	**+0.7**
	1.7nm,0.8s,mb4.2							
HWUT	**Hardware Ranch**	**63.58**	**332**	*e*P		**P**	**01 17 54.1**	**+0.4**
	2.7nm,0.8s,mb4.3							
PDAR	**Pinedale Array**	**63.61**	**334**	P		**P**	**01 17 54.6**	**+0.7**
	0.3nm,0.9s,mb3.3,baz=175,slow=12,SNR=2.9							
ULM	**Lac du Bonnet**	**65.74**	**347**	P		**P**	**01 18 07.0**	**-0.6**
	3.4nm,0.8s,mb4.4,baz=179,slow=6.0,SNR=3.7							
ULM	**Lac du Bonnet**	**65.74**	**347**	*e*P		**P**	**01 18 07.3**	**-0.3**
	3.9nm,0.8s,mb4.5							
TORD	**Torodi Ar. Bea**	**82.28**	**75**	P		**P**	**01 19 44.4**	**-0.8**
	4.7nm,1.0s,mb4.4,baz=261,slow=5.1,SNR=13							
SONM	**Songino Array**	**145.78**	**356**	PKPbc		PKPbc	01 27 02.4	+0.2
	1.2nm,0.9s,baz=333,slow=1.8,SNR=9.3							

IDC 18 01:11:51.2±1.7, 1355S×7721W, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML3.5/3, Error ellipse: s-maj=37.9km s-min=20.9km az=54.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.60**	**13**	Pn		Pn	01 12 19.9	-0.8
	149nm,0.3s,baz=183,slow=14,SNR=18							
NNA				Sn		Sn	01 12 43.9	+1.8
	478nm,0.3s,baz=170,slow=9.3,SNR=13							
ATAH	**Atahualpa**	**6.61**	**350**	Pn		Pn	01 13 29.2	-0.5
	3.8nm,0.3s,baz=108,slow=6.1,SNR=9.1							
ATAH				Sn		Sn	01 14 40.1	-5.8
	3.6nm,0.3s,baz=37,slow=17,SNR=3.3							
LPAZ	**La Paz**	**9.19**	**108**	Pn		Pn	01 14 05.8	+0.8
	0.1nm,0.3s,baz=253,slow=11,SNR=1.7							
SIV	**San Ignacio**	**15.79**	**101**	Pn		Pn	01 15 35.0	-0.1
	0.2nm,0.3s,baz=221,slow=19,SNR=2.6							
BDFB	**Brasilia**	**28.32**	**98**	P		P	01 17 48.3	+1.4
	1.4nm,0.8s,baz=238,slow=19,SNR=2.2							
TXAR	**Lajitas Array**	**49.70**	**329**	P		P	01 20 46.2	+1.0
	0.3nm,0.9s,baz=142,slow=8.0,SNR=2.4							
TORD	**Torodi Ar. Bea**	**82.55**	**75**	P		P	01 24 15.9	-0.8
	0.8nm,0.8s,baz=265,slow=4.7,SNR=3.4							
SONM	**Songino Array**	**145.69**	**356**	PKPbc		PKPbc	01 31 30.2	-1.8
	0.7nm,0.2s,baz=346,slow=3.0,SNR=7.0							

IDC 18 01:16:30.3±7.4, 452S×1134W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.8/4, MS3.8/12, Ms1 3.7/12, ms1mx3.5/26, Error ellipse: s-maj=347.2km s-min=28.7km az=140.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.86**	**30**	LR		LR	01 23 28.8	
	comp=Z,282nm,18.2s,baz=235,slow=32							
TORD	**Torodi Ar. Bea**	**21.81**	**36**	P		P	01 21 23.9	-0.3
	2.3nm,0.6s,baz=226,slow=10,SNR=20							
TORD				LR		LR	01 28 34.2	
	comp=Z,199nm,20.6s,baz=150,slow=33							
BDFB	**Brasilia**	**37.69**	**250**	P		P	01 23 47.8	0.0
	1.0nm,0.6s,baz=87,slow=17,SNR=3.1							
BDFB				LR		LR	01 35 34.7	
	comp=Z,67nm,20.7s,baz=6.3,slow=30							
BOSA	**Boshof**	**42.19**	**129**	LR		LR	01 40 36.7	
	comp=Z,89nm,19.6s,baz=171,slow=34							
KEST	**Kesra**	**44.49**	**24**	LR		LR	01 44 13.8	
	comp=Z,50nm,19.3s,baz=256,slow=37							
KMBO	**Kilima Mbogo**	**48.64**	**88**	LR		LR	01 44 42.2	
	comp=Z,147nm,18.9s,baz=79,slow=35							
CPUP	**Villa Florida**	**48.99**	**239**	LR		LR	01 42 41.6	
	comp=Z,86nm,20.2s,baz=255,slow=32							
LPAZ	**La Paz**	**56.89**	**254**	LR		LR	01 47 10.9	
	comp=Z,86nm,19.4s,baz=207,slow=32							
GERES	**GERESS Array B**	**57.45**	**19**	P		P	01 26 21.2	+0.3
	1.3nm,0.7s,baz=193,slow=6.7,SNR=18							
GERES				LR		LR	01 51 28.0	
	comp=Z,56nm,20.0s,baz=356,slow=36							
ROSC	**El Rosal**	**63.60**	**278**	LR		LR	01 50 59.4	
	comp=Z,74nm,19.9s,baz=190,slow=32							
AKASG	**Malin Array Be**	**65.09**	**27**	P		P	01 27 12.7	+0.1
	0.4nm,0.5s,baz=226,slow=7.3,SNR=5.0							
ULM	**Lac du Bonnet**	**89.94**	**320**	LR		LR	02 05 25.9	
	comp=Z,104nm,19.0s,baz=24,slow=33							
PDAR	**Pinedale Array**	**99.08**	**312**	LR		LR	02 08 19.4	
	comp=Z,51nm,18.2s,baz=351,slow=31							

DJA 18 01:25:17, 802S×10862E, h39km, ML4.0/11, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**0.49**	**53**	P		Pn	01 25 28.5	+0.9
	0.0nm,0.0s							
BJII	**Banjamegara**	**1.28**	**58**	P		Pn	01 25 38.8	+0.4
	0.0nm,0.0s							
LEM	**Lembang**	**1.55**	**320**	P		Pn	01 25 43.1	+1.0
	0.0nm,0.0s							
JCJI	**Jatiwangi**	**1.56**	**347**	P		Pn	01 25 40.9	-1.3
	0.0nm,0.0s							
SKJI	**Sukabumi**	**2.28**	**296**	P		Pn	01 25 51.0	-1.2
	0.0nm,0.0s							
DBJI	**Dramaga**	**2.36**	**308**	P		Pn	01 25 53.1	-0.1
	0.0nm,0.0s							
CBJI	**Citeko**	**2.37**	**312**	P		Pn	01 25 49.5	-3.9
	0.0nm,0.0s							
SJI	**Sawahan**	**3.13**	**85**	P		Pn	01 26 04.2	+0.3
	0.0nm,0.0s							

MAN 18 01:48:37, 694N×12512E, h11km, mb4.3, ML3.2, MS3.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.07**	**336⇑**	*e*P		Pg	01 48 40.4	+1.0
KCP				*e*S		Sg	01 48 43.1	+2.0
DMPH	**Davao City--Mi**	**0.41**	**70⇑**	*e*P		Pg	01 48 46.4	+1.3
BUKP	**Musuan**	**0.93**	**357**	*e*P		Pg	01 48 55.1	+0.1
BUKP				*e*S		Sg	01 49 10.1	+2.9
MATI	**Mati**	**1.13**	**90**	*e*P		Pb	01 48 43.1	-15
PAGZ	**Pagadian**	**1.94**	**298**	*e*P		Pn	01 49 10.6	+0.6

*IDC **18** 02:02:11.9±2.1, 3611N×7110E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/23, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=48.7km s-min=28.8km az=150.0*
*ISCJB **18** 02:02:21.3±0.6, 3647N±004×7116E±009, h82km±10km, mb3.8/5, Error ellipse: s-maj=11.6km s-min=6.2km az=10.7*
*NEIC **18** 02:02:23.3±1.1, 3643N×7098E, h80km±11km, mb3.6/1, Error ellipse: s-maj=22.8km s-min=9.5km az=126.0*
*NNC **18** 02:02:25.9±4.5, 3692N×6998E, h0km, mb3.7, mpv3.9, Error ellipse: s-maj=40.8km s-min=31.5km az=117.0*
ISC 18 02:02:22.8±0.5, 3644N±004×7113E±009, h80km±9km, n26, σ1§33/31, mb3.8/5, 4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.55**	**223**	*e*Pn		**Pn**	**02 03 01.5**	**-0.6**
KBL				*e*Sn		**Sn**	**02 03 34.0**	**+1.8**
CEP	**Cherat**	**2.69**	**166**	⇓P		**Pn**	**02 03 04.1**	**+0.1**
CEP				S		**Sn**	**02 03 43.0**	**+7.4**
CHCP	**Chirah Chowk**	**3.28**	**147**	P		**Pn**	**02 03 12.0**	**0.0**
THW	**Thamme Wali**	**3.67**	**172**	⇓P		**Pn**	**02 03 17.0**	**-0.3**
SARP	**Sargodha**	**4.69**	**164**	P		**Pn**	**02 03 30.1**	**-1.0**
DLH	**Dalhousie**	**5.58**	**133**	*e*P		**Pn**	**02 03 41.0**	**-2.2**
AML	**Almayashu**	**6.02**	**19**	*e*Pn		**Pn**	**02 03 50.9**	**+1.7**
	12nm,0.4s							
AML				*e*Sn		**Sn**	**02 04 55.8**	**-0.8**
EKS2	**Erkin-Say**	**6.54**	**17**	*e*Pn		**Pn**	**02 03 57.7**	**+1.4**
	4.3nm,0.6s							
KK31	**Karatay Array**	**6.67**	**356**	P		**Pn**	**02 03 58.7**	**+0.6**
	3.2nm,0.3s,baz=173,slow=12,SNR=87							
KK31				S		**Sn**	**02 05 11.2**	**-1.3**
	6.3nm,0.4s,baz=184,slow=23,SNR=9.8							
TKM2	**Tokmak 2**	**7.33**	**27**	*e*Pn		**Pn**	**02 04 08.9**	**+1.8**
AB31	**Akbulak array**	**15.19**	**331**	P		**Pn**	**02 05 50.1**	**-2.5**
	0.4nm,0.3s,baz=52,slow=13,SNR=35							
AB31				⇓S		S	02 08 29.8	-22
	0.5nm,0.4s,baz=163,slow=19,SNR=5.5							
KURK	**Kurchatov**	**15.25**	**18**	*e*P		**Pn**	**02 05 55.7**	**+2.2**
	5.0nm,1.2s							
BVAR	**Borovoye Array**	**16.59**	**358**	Pn		**Pn**	**02 06 09.1**	**-1.1**
	0.2nm,0.3s,baz=164,slow=12,SNR=3.0							
AKTK	**Aktyubinsk**	**16.88**	**330**	P		**Pn**	**02 06 13.6**	**-0.3**
AKTO	**Aktyubinsk**	**16.88**	**330**	⇓P		**Pn**	**02 06 11.5**	**-2.3**
	1.2nm,1.9s							
AKTO				S		**S**	**02 09 11.8**	**-15**
AKTO	**Aktyubinsk**	**16.88**	**330**	P		**Pn**	**02 06 13.6**	**-0.3**
	0.2nm,0.3s,baz=134,slow=13,SNR=4.1							
ZALV	**Zalesovo Beam**	**19.93**	**24**	P		**Pn**	**02 06 47.7**	**-2.6**
	1.1nm,0.3s,baz=212,slow=9.6,SNR=8.4							
ZALV	**Zalesovo Beam**	**19.93**	**24**	P		**Pn**	**02 06 47.7**	**-2.6**
AKASG	**Malin Array Be**	**33.06**	**309**	P		**P**	**02 08 51.1**	**+0.6**
	0.2nm,0.3s,mb3.5,baz=76,slow=6.8,SNR=5.4							
ARCES	**ARCESS Array B**	**41.24**	**338**	P		**P**	**02 09 59.8**	**+0.4**
	2.9nm,0.9s,mb4.1,baz=81,slow=9.1,SNR=4.6							
NB2	**NORSAR Subarra**	**44.49**	**323**	P		**P**	**02 10 26.8**	**+1.0**
	comp=Z,0.5nm,0.3s,mb3.7,baz=100,slow=7.9							
NOA	**NORSAR Array B**	**44.49**	**323**	P		**P**	**02 10 27.0**	**+1.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=97,slow=7.8,SNR=3.3							
PETK	**Petropavlovsk-**	**59.94**	**44**	P		**P**	**02 12 21.9**	**+1.6**
	comp=Z,1.1nm,0.6s,mb4.1,baz=7.5,slow=12,SNR=3.6							
PETK	**Petropavlovsk-**	**59.94**	**44**	P		**P**	**02 12 21.9**	**+1.6**
TORD	**Torodi Ar. Bea**	**65.82**	**269**	P		**P**	**02 12 59.0**	**-1.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=52,slow=5.6,SNR=31							
TORD	**Torodi Ar. Bea**	**65.82**	**269**	P		**P**	**02 12 59.0**	**-1.0**

*IDC **18** 02:07:20.7±3.9, 622S×15024E, h28km±27km, mb4.2/6, mb1 4.5/6, mb1mx4.1/14, mbtmp4.2/6, MS3.6/9, Ms1 3.6/9, ms1mx3.4/26, Error ellipse: s-maj=29.8km s-min=17.7km az=117.0*
*ISCJB **18** 02:07:22.6±2.6, 62S±0.1×1503E±0.1, h67km±19km, mb4.2/12, Error ellipse: s-maj=24.3km s-min=17.2km az=15.9*
*NEIC **18** 02:07:25.3±2.3, 627S×15032E, h77km±17km, mb4.6/9, Error ellipse: s-maj=18.8km s-min=12.5km az=69.0*
ISC 18 02:07:27.0±2.4, 63S±01×1502E±01, h86km±17km, n31, σ0§73/25, mb4.2/12, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.33**	**224**	*e*Pn		**Pn**	**02 08 29.8**	**-0.7**
PMG				*e*Sn		**Sn**	**02 09 21.0**	**+1.3**
HNR	**Honiara**	**10.12**	**109**	LR		LR	02 12 54.7	
	comp=Z,260nm,20.8s,baz=354,slow=33							
CTA	**Charters Tower**	**14.24**	**195**	*e*P		**Pn**	**02 10 51.2**	**+6.6**
	17nm,0.9s							
CTA	**Charters Tower**	**14.24**	**195**	Pn		**Pn**	**02 10 50.2**	**+5.6**
	0.5nm,0.3s,baz=20,slow=12,SNR=11							
CTA				LR		LR	02 15 24.7	
	comp=Z,149nm,18.9s,baz=45,slow=34							
CTAO	**Charters Tower**	**14.24**	**195**	*e*Pn		**Pn**	**02 10 43.4**	**-1.2**
CTAO				*e*P			02 10 50.5	
KAKA	**Kakadu**	**18.65**	**249**	*e*P		**Pn**	**02 11 37.5**	**-2.0**
	36nm,0.6s							
GUMO	**Guam**	**20.46**	**345**	LR		LR	02 18 20.4	
	comp=Z,81nm,18.9s,baz=269,slow=32							
WRAB	**Tennant Creek**	**20.53**	**227**	*e*P		**P**	**02 11 58.6**	**0.0**
	14nm,0.6s							
WB2	**Warramunga Arr**	**20.53**	**227**	*e*P		**P**	**02 11 58.8**	**+0.2**
WRA	**Warramunga Arr**	**20.54**	**227**	P		**P**	**02 11 59.2**	**+0.5**
	8.1nm,0.6s,baz=49,slow=10,SNR=30							
WRA				S		**S**	**02 15 43.2**	**-0.7**
	4.3nm,1.1s,baz=54,slow=23,SNR=4.8							
ASAR	**Alice Springs**	**23.33**	**221**	P		**P**	**02 12 28.8**	**+1.0**
	5.0nm,0.4s,mb4.2,baz=57,slow=9.1,SNR=160							
ASAR				S		**S**	**02 16 43.5**	**+9.5**
	4.1nm,1.2s,baz=40,slow=22,SNR=7.9							
ARMA	**Armidale**	**24.03**	**177**	*e*P		**P**	**02 12 34.4**	**+0.3**
	0.5nm,0.7s,mb3.0							
STKA	**Stephens Creek**	**26.69**	**197⇑**	*i*P		**P**	**02 12 58.0**	**-0.1**
	13nm,1.0s,mb4.4							
STKA	**Stephens Creek**	**26.69**	**197**	P		**P**	**02 12 58.0**	**-0.1**
	16nm,0.9s,mb4.5,baz=359,slow=9.5,SNR=20							
STKA				LR		LR	02 23 25.4	
	comp=Z,138nm,19.7s,baz=21,slow=36							
FITZ	**Fitzroy Crossi**	**26.69**	**242**	*e*P		**P**	**02 12 58.1**	**-0.2**
	10nm,0.4s,mb4.7							
FITZ	**Fitzroy Crossi**	**26.69**	**242**	P		**P**	**02 12 57.7**	**-0.7**
	5.7nm,0.4s,mb4.4,baz=57,slow

MS4.0/11, Error ellipse: s-maj=12.3km s-min=4.4km az=146.4
SZGRF ***18*** *02:28:33.4, 4065N±2995W, h33km, mb4.8, Azores Islands region*
ISC 18 02:28:29.4±1.4, 3971N±003×2966W±003, h21km±10km, h15km±.6km: pP-P, n468, σ1°15/476, mb4.6/134, MS4.2/13, 8C-15D, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.35**	**146**	*e*P	**Pn**	**02 28 53.6**	**+0.6**
CALA				*e*S	**Sn**	**02 29 11.8**	**+1.5**
SRBC	**Serra Branca**	**1.42**	**118**	*e*P	**Pn**	**02 28 52.6**	**-1.4**
SRBC				*e*S	**Sn**	**02 29 10.4**	**-1.7**
HOR	**Horta**	**1.43**	**146**	*e*P	**Pn**	**02 28 54.5**	**+0.4**
HOR				*e*S	**Sn**	**02 29 12.9**	**+0.7**
ROSA	**Rosais**	**1.48**	**131**	*e*P	**Pn**	**02 28 54.3**	**-0.5**
PICO	**Pico**	**1.54**	**141**	*e*P	**Pn**	**02 28 55.5**	**-0.2**
PICO				*e*S	**Sn**	**02 29 16.1**	**+1.1**
PMAN	**Manadas**	**1.63**	**131**	*e*P	**Pn**	**02 28 56.0**	**-0.8**
PMAN				*e*S	**Sn**	**02 29 16.7**	**-0.4**
PMAN				A		02 29 17.9	
	114nm,0.2s						
PMAN	**Manadas**	**1.63**	**131**	*e*P	**Pn**	**02 28 56.0**	**-0.8**
PMAN				*e*S	**Sn**	**02 29 16.7**	**-0.4**
ADH	**Angra Heroismo**	**2.16**	**118**	*e*P	**Pn**	**02 29 02.4**	**-1.8**
ADH				*e*S	**Sn**	**02 29 27.9**	**-2.4**
PSCM	**Serra do Cume**	**2.22**	**116**	*i* P	**Pn**	**02 29 03.0**	**-2.0**
PSCM				*e*S	**Sn**	**02 29 29.5**	**-2.2**
PSCM				A		02 29 31.4	
	19nm,0.3s						
PSET	**Sete Cidades**	**3.61**	**120**	*e*P	**Pn**	**02 29 23.2**	**-0.9**
PSET				*e*S	**Sn**	**02 30 03.4**	**-2.6**
PSET				A		02 30 05.8	
	12nm,0.3s						
PDA	**Ponta Delgada**	**3.69**	**121**	*e*P	**Pn**	**02 29 23.9**	**-1.3**
PDA				*e*S	**Sn**	**02 30 05.0**	**-3.0**
PDA				*e*LR	LR	02 30 11.0	
PDA				*e*LQ		02 30 22.0	
CMLA	**Cha da Macela**	**3.77**	**120**	*e*P	**Pn**	**02 29 25.5**	**-0.8**
CMLA				*e*S	**Sn**	**02 30 07.5**	**-2.6**
CMLA				A		02 30 09.9	
	20nm,0.3s						
CMLA	**Cha da Macela**	**3.77**	**120**	*e*Pn	**Pn**	**02 29 25.3**	**-1.0**
CMLA	**Cha da Macela**	**3.77**	**120**	*e*P	**Pn**	**02 29 25.5**	**-0.8**
CMLA	**Cha da Macela**	**3.77**	**120**	*e*Pn	**Pn**	**02 29 25.3**	**-1.0**
PSMN	**Pico do Norte,**	**4.51**	**125**	*e*P	**Pn**	**02 29 35.8**	**-0.7**
EMAZ	**Mazaricos**	**15.87**	**72**	P	**Pn**	**02 32 11.3**	**-0.1**
	2.6nm,2.1s						
EMAZ	**Mazaricos**	**15.87**	**72**	P	**Pn**	**02 32 11.3**	**-0.1**
	2.6nm,2.1s						
STS	**Santiago**	**16.17**	**72**	P	**Pn**	**02 32 15.1**	**-0.2**
STS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STS	**Santiago**	**16.17**	**72**	P	**Pn**	**02 32 15.1**	**-0.2**
	comp=Z,0.8nm,0.7s						
STS	**Santiago**	**16.17**	**72**	P	**Pn**	**02 32 15.1**	**-0.2**
	comp=Z,0.8nm,0.7s						
ELOB	**Lobios**	**16.50**	**76**	P	**Pn**	**02 32 17.5**	**-2.0**
	comp=Z,5.8nm,0.8s						
ELOB	**Lobios**	**16.50**	**76**	P	**Pn**	**02 32 17.5**	**-2.0**
	comp=Z,5.8nm,0.8s						
PTEO	**Sao Teotonio**	**16.50**	**91**	*e*P	**Pn**	**02 32 20.1**	**+0.5**
	comp=Z,73nm,1.5s						
EVOP	**Sao Brissos**	**16.75**	**87**	*e*P	**Pn**	**02 32 21.8**	**-1.0**
	comp=Z,39nm,1.3s						
EVO	**Evora**	**16.84**	**87**	*e*P	**Pn**	**02 32 21.8**	**-2.0**
	comp=Z,78nm,1.3s						
EVO				*e*MLR	MLR		
	comp=Z,958nm,19.2s						
EVO	**Evora**	**16.84**	**87**	*e*P	**Pn**	**02 32 23.7**	**-0.1**
	comp=Z,44nm,1.6s						
MTE	**Manteigas**	**16.95**	**81**	*e*P	**Pn**	**02 32 25.2**	**+0.1**
	comp=Z,40nm,1.7s						
PCBR	**Castelo Branco**	**17.05**	**82**	*e*P	**Pn**	**02 32 27.8**	**+1.3**
	comp=Z,59nm,1.6s						
PBEJ	**Beja**	**17.05**	**89**	*e*P	**Pn**	**02 32 26.4**	**-0.1**
	comp=Z,28nm,1.4s						
PESTR	**Estremoz**	**17.11**	**86**	*e*P	**Pn**	**02 32 27.6**	**+0.4**
	comp=Z,39nm,1.5s						
PMRV	**Marv??o**	**17.17**	**84**	*e*P	**Pn**	**02 32 29.4**	**+1.4**
	comp=Z,32nm,1.3s						
PBDV	**Barranco-do-Ve**	**17.19**	**91**	*e*P	**Pn**	**02 32 29.7**	**+1.5**
	comp=Z,86nm,1.7s						
EPON	**Pontenova**	**17.23**	**71**	P	**Pn**	**02 32 27.7**	**-1.0**
	comp=Z,13nm,1.0s						
EPON	**Pontenova**	**17.23**	**71**	P	**Pn**	**02 32 27.7**	**-1.0**
	comp=Z,13nm,1.0s						
PVAQ	**Vaqueiros**	**17.31**	**91**	*e*P	**Pn**	**02 32 29.6**	**-0.2**
	comp=Z,38nm,1.5s						
EGRO	**El Granado**	**17.46**	**90**	P	**Pn**	**02 32 32.3**	**+0.7**
	comp=Z,11nm,0.6s						
EGRO	**El Granado**	**17.46**	**90**	P	**Pn**	**02 32 32.3**	**+0.7**
	comp=Z,11nm,0.6s						
EBAD	**Badajoz**	**17.57**	**86**	P	**Pn**	**02 32 32.5**	**-0.4**
	comp=Z,0.8nm,1.9s						
EBAD	**Badajoz**	**17.57**	**86**	P	**Pn**	**02 32 32.5**	**-0.4**
	comp=Z,0.8nm,1.9s						
PBAR	**Barrancos**	**17.66**	**88**	*e*P	**Pn**	**02 32 34.7**	**+0.6**
	comp=Z,37nm,1.5s						
EMIN	**Mina Concepcio**	**18.03**	**89**	P	**Pn**	**02 32 39.0**	**+0.4**
	comp=Z,4.5nm,0.7s						
EMIN	**Mina Concepcio**	**18.03**	**89**	P	**Pn**	**02 32 39.0**	**+0.3**
	comp=Z,4.5nm,0.7s						
EARI	**Arriondas**	**18.64**	**71**	P	**Pn**	**02 32 48.5**	**+2.5**
	comp=Z,82nm,1.8s						
ESPR	**Espera**	**18.89**	**91**	P	**Pn**	**02 32 49.8**	**+0.7**
	comp=Z,10nm,0.8s						
ESPR	**Espera**	**18.89**	**91**	P	**Pn**	**02 32 49.8**	**+0.7**
	comp=Z,10nm,0.8s						
ECAB	**El Cabril**	**18.93**	**87**	P	**Pn**	**02 32 51.6**	**+2.0**
	comp=Z,4.9nm,0.6s						
ECAB	**El Cabril**	**18.93**	**87**	P	**Pn**	**02 32 51.6**	**+2.0**
	comp=Z,4.9nm,0.6s						
EJIF	**Jimena Fronter**	**19.30**	**92**	P	**Pn**	**02 32 53.9**	**-0.2**
EJIF				pmax	pmax		
	comp=Z,13nm,1.0s						
EJIF	**Jimena Fronter**	**19.30**	**92**	P	**Pn**	**02 32 53.9**	**-0.2**
	comp=Z,13nm,1.0s						
EJIF	**Jimena Fronter**	**19.30**	**92**	P	**Pn**	**02 32 53.9**	**-0.2**
	comp=Z,13nm,1.0s						
PAB	**San Pablo**	**19.48**	**82**	*e*P	**Pn**	**02 32 56.4**	**+0.2**
PAB				pmax	pmax		
	comp=Z,21nm,1.2s						
PAB	**San Pablo**	**19.48**	**82**	*e*P	**Pn**	**02 32 56.4**	**+0.2**
	comp=Z,21nm,1.2s						
PAB	**San Pablo**	**19.48**	**82**	*e*P	**Pn**	**02 32 56.4**	**+0.2**
	comp=Z,21nm,1.2s						
GUD	**Guadarrama**	**19.50**	**79**	P	**Pn**	**02 32 56.8**	**+0.4**
GUD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GUD	**Guadarrama**	**19.50**	**79**	P	**Pn**	**02 32 56.8**	**+0.4**
	comp=Z,7.7nm,1.0s						
ESDC	**Sonseca Array**	**19.76**	**82**	P	**Pn**	**02 32 57.2**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=273,slow=11,SNR=10						
ESDC	**Sonseca Array**	**19.76**	**82**	P	**Pn**	**02 32 58.2**	**-1.3**
	comp=Z,2.8nm,0.7s						
ESDC	**Sonseca Array**	**19.76**	**82**	P	**Pn**	**02 32 58.2**	**-1.3**
	comp=Z,2.8nm,0.7s						
EMIJ	**Mijas**	**19.81**	**91**	P	**Pn**	**02 33 01.5**	**+1.4**
	comp=Z,11nm,0.9s						
EMIJ	**Mijas**	**19.81**	**91**	P	**Pn**	**02 33 01.5**	**+1.4**
	comp=Z,11nm,0.9s						
ELAN	**Lanestosa**	**19.94**	**71**	P	**Pn**	**02 32 59.5**	**-2.1**
	comp=Z,9.5nm,0.8s						
ELAN	**Lanestosa**	**19.94**	**71**	P	**Pn**	**02 32 59.5**	**-2.0**
	comp=Z,9.5nm,0.8s						
ELUQ	**Luque**	**19.94**	**88**	P	**Pn**	**02 33 00.8**	**-0.8**
ELUQ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ELUQ	**Luque**	**19.94**	**88**	P	**Pn**	**02 33 00.8**	**-0.8**
	comp=Z,5.2nm,0.9s						
ELUQ	**Luque**	**19.94**	**88**	P	**Pn**	**02 33 00.8**	**-0.8**
	comp=Z,5.2nm,0.9s						
ELOJ	**Sierra Loja**	**20.13**	**89**	P	**P**	**02 33 04.0**	**+2.0**
ELOJ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ELOJ	**Sierra Loja**	**20.13**	**89**	P	**P**	**02 33 04.0**	**+2.0**
	comp=Z,9.1nm,0.9s						
ELOJ	**Sierra Loja**	**20.13**	**89**	P	**P**	**02 33 04.0**	**+2.0**
	comp=Z,9.1nm,0.9s						
EBAN	**Banos Encina**	**20.17**	**86**	P	**P**	**02 33 06.9**	**+4.5**
EBAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EBAN	**Banos Encina**	**20.17**	**86**	P	**P**	**02 33 06.9**	**+4.5**
	comp=Z,10nm,1.0s						
ECOG	**Cogollos-Vega**	**20.55**	**88**	P	**P**	**02 33 08.8**	**+2.3**
ECOG				pmax	pmax		
	comp=Z,13nm,1.4s						
ECOG	**Cogollos-Vega**	**20.55**	**88**	P	**P**	**02 33 08.8**	**+2.3**
	comp=Z,13nm,1.4s						
ECOG	**Cogollos-Vega**	**20.55**	**88**	P	**P**	**02 33 08.8**	**+2.3**
	comp=Z,13nm,1.4s						
IFR	**Ifrane**	**20.61**	**100**	P	**P**	**02 33 13.6**	**+6.4**
QUIF	**Quistinic**	**20.73**	**58**	*e*P	**P**	**02 33 06.9**	**-1.5**
	comp=Z,84nm,1.3s						
QUIF	**Quistinic**	**20.73**	**58**	*e*P	**P**	**02 33 06.9**	**-1.5**
QUIF				pmax	pmax		
	comp=Z,42nm,1.3s						
QUIF	**Quistinic**	**20.73**	**58**	*e*P	**P**	**02 33 06.9**	**-1.5**
	comp=Z,42nm,1.3s						
ROSF	**Rostrenen**	**20.76**	**57**	*e*P	**P**	**02 33 10.7**	**+2.0**
	comp=Z,54nm,1.2s						
ROSF	**Rostrenen**	**20.76**	**57**	*e*P	**P**	**02 33 10.7**	**+2.0**
ROSF				pmax	pmax		
	comp=Z,27nm,1.2s						
ROSF	**Rostrenen**	**20.76**	**57**	*e*P	**P**	**02 33 10.7**	**+2.0**
	comp=Z,27nm,1.2s						
EQES	**Quesada**	**20.80**	**87**	P	**P**	**02 33 13.1**	**+3.9**
	comp=Z,10.0nm,1.0s						
EVIA	**Vianos**	**21.06**	**84**	P	**P**	**02 33 12.0**	**0.0**
EVIA				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.3						
EVIA	**Vianos**	**21.06**	**84**	P	**P**	**02 33 12.0**	**0.0**
	comp=Z,16nm,1.0s,mb4.3						
EVIA	**Vianos**	**21.06**	**84**	P	**P**	**02 33 12.0**	**0.0**
	comp=Z,16nm,1.0s,mb4.3						
ETOR	**Torete**	**21.07**	**78**	P	**P**	**02 33 12.2**	**+0.1**
ETOR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1						
ETOR	**Torete**	**21.07**	**78**	P	**P**	**02 33 12.2**	**+0.1**
	comp=Z,7.7nm,0.8s,mb4.1						
ETOR	**Torete**	**21.07**	**78**	P	**P**	**02 33 12.2**	**+0.1**
	comp=Z,7.7nm,0.8s,mb4.1						
EHUE	**Huescar**	**21.16**	**86**	P	**P**	**02 33 13.5**	**+0.3**
EHUE				pmax	pmax		
	comp=Z,31nm,1.2s,mb4.5						
EHUE	**Huescar**	**21.16**	**86**	P	**P**	**02 33 13.5**	**+0.3**
	comp=Z,31nm,1.2s,mb4.5						
EHUE	**Huescar**	**21.16**	**86**	P	**P**	**02 33 13.5**	**+0.3**
	comp=Z,31nm,1.2s,mb4.5						
SGMF	**Saint Gilles**	**21.20**	**57**	*e*P	**P**	**02 33 12.8**	**-0.7**
	comp=Z,128nm,1.4s,mb4.8						
SGMF	**Saint Gilles**	**21.20**	**57**	*e*P	**P**	**02 33 12.8**	**-0.7**
SGMF				pmax	pmax		
	comp=Z,64nm,1.4s,mb4.8						
SGMF	**Saint Gilles**	**21.20**	**57**	*e*P	**P**	**02 33 12.8**	**-0.7**
	comp=Z,64nm,1.4s,mb4.8						
MDT	**Midelt**	**21.29**	**101**	P	**P**	**02 33 16.6**	**+2.0**
	comp=Z,14nm,1.2s,mb4.2,baz=314,slow=13,SNR=6.2						
SJPF	**Ste Jean**	**21.55**	**72**	*e*P	**P**	**02 33 19.5**	**+2.2**
	comp=Z,72nm,1.5s,mb4.6						
SJPF	**Ste Jean**	**21.55**	**72**	*e*P	**P**	**02 33 19.5**	**+2.2**
SJPF				pmax	pmax		
	comp=Z,36nm,1.5s,mb4.6						
SJPF	**Ste Jean**	**21.55**	**72**	*e*P	**P**	**02 33 19.5**	**+2.2**
	comp=Z,36nm,1.5s,mb4.6						
ETOB	**Tobarra**	**21.79**	**84**	P	**P**	**02 33 20.1**	**+0.2**
	comp=Z,21nm,1.1s,mb4.5						
ETOB	**Tobarra**	**21.79**	**84**	P	**P**	**02 33 20.1**	**+0.2**
	comp=Z,21nm,1.1s,mb4.5						
ETSF	**Etsaut**	**22.04**	**72**	*e*P	**P**	**02 33 24.1**	**+1.5**
	comp=Z,15nm,1.1s,mb4.0						
ETSF	**Etsaut**	**22.04**	**72**	*e*P	**P**	**02 33 24.1**	**+1.5**
ETSF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1						
ETSF	**Etsaut**	**22.04**	**72**	*e*P	**P**	**02 33 24.1**	**+1.5**
	comp=Z,7.6nm,1.1s,mb4.0						
ESAC	**San Caprasio**	**22.17**	**75**	P	**P**	**02 33 27.4**	**+3.4**
	comp=Z,5.6nm,0.5s,mb4.2						
GRR	**Gorron**	**22.34**	**58**	*e*P	**P**	**02 33 28.3**	**+2.6**
	comp=Z,57nm,1.2s,mb4.6						
GRR	**Gorron**	**22.34**	**58**	*e*P	**P**	**02 33 28.3**	**+2.6**
GRR				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.6						
GRR	**Gorron**	**22.34**	**58**	*e*P	**P**	**02 33 28.3**	**+2.6**
	comp=Z,28nm,1.2s,mb4.6						
MFF	**Saint Martin d**	**22.52**	**62**	*e*P	**P**	**02 33 27.2**	**-0.4**
	comp=Z,89nm,1.4s,mb4.7						
MFF	**Saint Martin d**	**22.52**	**62**	*e*P	**P**	**02 33 27.2**	**-0.4**
MFF				pmax	pmax		
	comp=Z,45nm,1.4s,mb4.7						
MFF	**Saint Martin d**	**22.52**	**62**	*e*P	**P**	**02 33 27.2**	**-0.4**
	comp=Z,45nm,1.4s,mb4.7						
FLN	**La Foliniere**	**22.66**	**57**	*e*P	**P**	**02 33 31.4**	**+2.3**
	comp=Z,118nm,1.4s,mb4.8						
FLN				*e*MLR	MLR		
	comp=Z,566nm,21.5s,MS3.7						
FLN	**La Foliniere**	**22.66**	**57**	*e*P	**P**	**02 33 31.4**	**+2.3**
FLN				pmax	pmax		
	comp=Z,59nm,1.4s,mb4.8						
FLN				MLR	MLR		
	comp=Z,570nm,21.5s,MS4.0						
FLN	**La Foliniere**	**22.66**	**57**	*e*P	**P**	**02 33 31.4**	**+2.3**
	comp=Z,59nm,1.4s,mb4.8						
FLN				LR	LR		
	comp=Z,570nm,21.5s,MS4.0						
EPF	**Esparros**	**22.70**	**72**	*e*P	**P**	**02 33 29.7**	**+0.1**
	comp=Z,49nm,1.3s,mb4.5						
EPF	**Esparros**	**22.70**	**72**	*e*P	**P**	**02 33 29.7**	**+0.1**
EPF				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.5						
EPF	**Esparros**	**22.70**	**72**	*e*P	**P**	**02 33 29.7**	**+0.1**
	comp=Z,24nm,1.3s,mb4.5						
LDF	**La Druitiere**	**22.86**	**57**	*e*P	**P**	**02 33 31.8**	**+0.6**
	comp=Z,103nm,1.6s,mb4.7						
LDF	**La Druitiere**	**22.86**	**57**	*e*P	**P**	**02 33 31.8**	**+0.6**
LDF				pmax	pmax		
	comp=Z,52nm,1.6s,mb4.7						
LDF	**La Druitiere**	**22.86**	**57**	*e*P	**P**	**02 33 31.8**	**+0.6**
	comp=Z,52nm,1.6s,mb4.7						
LFF	**La Frestale**	**23.00**	**67**	*e*P	**P**	**02 33 30.2**	**-2.5**
	comp=Z,77nm,1.4s,mb4.7						
LFF	**La Frestale**	**23.00**	**67**	*e*P	**P**	**02 33 30.2**	**-2.5**
LFF				pmax	pmax		
	comp=Z,38nm,1.4s,mb4.6						
LFF	**La Frestale**	**23.00**	**67**	*e*P	**P**	**02 33 30.2**	**-2.5**
	comp=Z,38nm,1.4s,mb4.7						
ESK	**Eskdalemuir**	**23.52**	**40**	*e*P	**P**	**02 33 36.9**	**-1.1**
ESK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.4						
ESK	**Eskdalemuir**	**23.52**	**40**	*e*P	**P**	**02 33 36.9**	**-1.1**
	comp=Z,17nm,1.1s,mb4.4						
ESK	**Eskdalemuir**	**23.52**	**40**	*e*P	**P**	**02 33 36.9**	**-1.2**
	comp=Z,17nm,1.1s,mb4.4						
EKA	**Eskdalemuir Ar**	**23.55**	**40**	P	**P**	**02 33 37.3**	**-1.0**
	comp=Z,6.0nm,0.8s,mb4.0,baz=236,slow=9.4,SNR=14						
RJF	**Les Rejaudoux**	**23.56**	**66**	*e*P	**P**	**02 33 38.3**	**-0.2**
	comp=Z,45nm,1.4s,mb4.4						
RJF				*e*MLR	MLR		
	comp=Z,462nm,21.2s,MS3.6						
RJF	**Les Rejaudoux**	**23.56**	**66**	*e*P	**P**	**02 33 38.3**	**-0.2**
RJF				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.4						
RJF				MLR	MLR		
	comp=Z,460nm,21.3s,MS3.9						
RJF	**Les Rejaudoux**	**23.56**	**66**	*e*P	**P**	**02 33 38.3**	**-0.2**
	comp=Z,23nm,1.4s,mb4.4						
RJF				LR	LR		
	comp=Z,460nm,21.3s,MS3.9						
CAF	**Calviac**	**23.94**	**67**	*e*P	**P**	**02 33 40.8**	**-1.1**
	comp=Z,47nm,1.4s,mb4.4						
CAF	**Calviac**	**23.94**	**67**	*e*P	**P**	**02 33 40.8**	**-1.1**
CAF				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.4						
CAF	**Calviac**	**23.94**	**67**	*e*P	**P**	**02 33 40.8**	**-1.1**
	comp=Z,23nm,1.4s,mb4.4						
MTLF	**Montolieu**	**24.06**	**71**	*e*P	**P**	**02 33 43.4**	**+0.3**
	comp=Z,79nm,1.8s,mb4.5						
MTLF	**Montolieu**	**24.06**	**71**	*e*P	**P**	**02 33 43.4**	**+0.3**
MTLF				pmax	pmax		
	comp=Z,39nm,1.8s,mb4.5						
MTLF	**Montolieu**	**24.06**	**71**	*e*P	**P**	**02 33 43.4**	**+0.3**
	comp=Z,39nm,1.8s,mb4.5						
TCF	**Toulx Ste Croi**	**24.11**	**64**	*e*P	**P**	**02 33 41.9**	**-1.6**
	comp=Z,50nm,1.3s,mb4.5						
TCF	**Toulx Ste Croi**	**24.11**	**64**	*e*P	**P**	**02 33 41.9**	**-1.6**
TCF				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.5						
TCF	**Toulx Ste Croi**	**24.11**	**64**	*e*P	**P**	**02 33 41.9**	**-1.6**
	comp=Z,25nm,1.3s,mb4.5						
BGF	**Bois d'Agland**	**24.57**	**63**	*e*P	**P**	**02 33 47.3**	**-0.4**
	comp=Z,68nm,1.2s,mb4.7						
BGF	**Bois d'Agland**	**24.57**	**63**	*e*P	**P**	**02 33 47.3**	**-0.4**
BGF				pmax	pmax		
	comp=Z,34nm,1.2s,mb4.8						
BGF	**Bois d'Agland**	**24.57**	**63**	*e*P	**P**	**02 33 47.3**	**-0.4**
	comp=Z,34nm,1.2s,mb4.7						
AVF	**Avril sur Loir**	**24.93**	**63**	*e*P	**P**	**02 33 50.4**	**-0.6**
	comp=Z,66nm,1.7s,mb4.6						
AVF	**Avril sur Loir**	**24.93**	**63**	*e*P	**P**	**02 33 50.4**	**-0.6**
AVF				pmax	pmax		
	comp=Z,33nm,1.7s,mb4.6						
AVF	**Avril sur Loir**	**24.93**	**63**	*e*P	**P**	**02 33 50.4**	**-0.6**
	comp=Z,33nm,1.7s,mb4.6						
SSF	**Saint Saulge**	**25.06**	**62**	*e*P	**P**	**02 33 50.7**	**-1.4**
	comp=Z,52nm,1.4s,mb4.6						
SSF	**Saint Saulge**	**25.06**	**62**	*e*P	**P**	**02 33 50.7**	**-1.4**
SSF				pmax	pmax		
	comp=Z,26nm,1.4s,mb4.6						
SSF	**Saint Saulge**	**25.06**	**62**	*e*P	**P**	**02 33 50.7**	**-1.4**
	comp=Z,26nm,1.4s,mb4.6						
LASF	**Ste Croix**	**25.22**	**69**	*e*P	**P**	**02 33 55.5**	**+1.8**
	comp=Z,55nm,1.3s,mb4.6						
LASF	**Ste Croix**	**25.22**	**69**	*e*P	**P**	**02 33 55.5**	**+1.8**
	comp=Z,28nm,1.3s,mb4.6						
SMF	**Signal de Mont**	**25.26**	**63**	*e*P	**P**	**02 33 53.9**	**0.0**
	comp=Z,74nm,1.4s,mb4.7						
SMF	**Signal de Mont**	**25.26**	**63**	*e*P	**P**	**02 33 53.9**	**0.0**
SMF				pmax	pmax		
	comp=Z,37nm,1.4s,mb4.7						
SMF	**Signal de Mont**	**25.26**	**63**	*e*P	**P**	**02 33 53.9**	**0.0**
	comp=Z,37nm,1.4s,mb4.7						
LOR	**Lormes**	**25.32**	**62**	*e*P	**P**	**02 33 53.1**	**-1.4**
	comp=Z,25nm,1.2s,mb4.3						
LOR				*e*MLR	MLR		
	comp=Z,361nm,20.8s,MS3.6						
LOR	**Lormes**	**25.32**	**62**	*e*P	**P**	**02 33 53.1**	**-1.4**
LOR				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3						
LOR				MLR	MLR		
	comp=Z,360nm,20.8s,MS3.9						
LOR	**Lormes**	**25.32**	**62**	*e*P	**P**	**02 33 53.1**	**-1.4**
	comp=Z,13nm,1.2s,mb4.3						
LOR				LR	LR		
	comp=Z,360nm,20.8s,MS3.9						
VIVF	**Saint-Julien-l**	**25.79**	**67**	*e*P	**P**	**02 33 59.9**	**+1.1**
	comp=Z,98nm,1.5s,mb4.8						
VIVF	**Saint-Julien-l**	**25.79**	**67**	*e*P	**P**	**02 33 59.9**	**+1.1**
VIVF				pmax	pmax		
	comp=Z,49nm,1.5s,mb4.8						
VIVF	**Saint-Julien-l**	**25.79**	**67**	*e*P	**P**	**02 33 59.9**	**+1.1**
	comp=Z,49nm,1.5s,mb4.8						
BAIF	**Baives**	**25.93**	**55**	*e*P	**P**	**02 34 00.9**	**+0.9**
	comp=Z,51nm,1.2s,mb4.6						
BAIF	**Baives**	**25.93**	**55**	*e*P	**P**	**02 34 00.9**	**+0.9**
BAIF				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.6						
BAIF	**Baives**	**25.93**	**55**	*e*P	**P**	**02 34 00.9**	**+0.9**
	comp=Z,25nm,1.2s,mb4.6						
UCC	**Uccle**	**26.16**	**54**	P	**P**	**02 33 58.7**	**-3.4**
	comp=Z,24nm,1.6s,mb4.5						
DOU	**Dourbes**	**26.18**	**55**	P	**P**	**02 34 04.5**	**+2.3**
MEZF	**Maizieres J'vi**	**26.24**	**59**	*e*P	**P**	**02 34 03.8**	**+1.0**
	comp=Z,66nm,1.2s,mb4.8						
MEZF	**Maizieres J'vi**	**26.24**	**59**	*e*P	**P**	**02 34 03.8**	**+1.0**
	comp=Z,33nm,1.2s,mb4.8						
GIVF	**Givet**	**26.32**	**55**	*e*P	**P**	**02 34 04.1**	**+0.5**
	comp=Z,42nm,1.1s,mb4.6						
GIVF	**Givet**	**26.32**	**55**	*e*P	**P**	**02 34 04.1**	**+0.5**
GIVF				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.6						
GIVF	**Givet**	**26.32**	**55**	*e*P	**P**	**02 34 04.1**	**+0.5**
	comp=Z,21nm,1.1s,mb4.6						
SMRF	**Simiane la Rot**	**26.47**	**69**	*e*P	**P**	**02 34 04.9**	**0.0**
	comp=Z,134nm,1.7s,mb4.9						
SMRF	**Simiane la Rot**	**26.47**	**69**	*e*P	**P**	**02 34 04.9**	**0.0**
	comp=Z,67nm,1.7s,mb4.9						
ORIF	**Oris-en-Rattie**	**26.65**	**67**	*e*P	**P**	**02 34 08.5**	**+1.9**
	comp=Z,76nm,1.6s,mb4.7						
ORIF				*e*MLR	MLR		
	comp=Z,361nm,23.0s,MS3.6						
ORIF	**Oris-en-Rattie**	**26.65**	**67**	*e*P	**P**	**02 34 08.5**	**+1.9**
ORIF				pmax	pmax		
	comp=Z,38nm,1.6s,mb4.7						
ORIF	**Oris-en-Rattie**	**26.65**	**67**	*e*P	**P**	**02 34 08.5**	**+1.9**
	comp=Z,38nm,1.6s,mb4.7						
BCLA	**Clavier**	**26.68**	**55**	P	**P**	**02 34 07.0**	**+0.2**
CABF	**La Chapelle**	**26.80**	**63**	*e*P	**P**	**02 34 08.3**	**+0.4**
	comp=Z,38nm,1.1s,mb4.5						
CABF	**La Ch

KHC Kasperske Hory 31.90 58 *eP* **P 02 34 54.1 +0.9**
KHC *ex* x 02 35 01.5
KHC AMS AMS 02 52 30.0
comp=Z,400nm,22.6s
GERES GERESS Array B 31.98 59 P **P 02 34 52.7 -1.2**
comp=Z,0.1nm,0.3s,baz=192,slow=9.0,SNR=4.2
BRG Berggiesshubel 32.20 55 *eP* **P 02 34 59.4 +3.7**
BRG pmax pmax
comp=Z,7.0nm,1.6s,mb4.2
BRG Berggiesshubel 32.20 55 *eP* **P 02 34 59.4 +3.7**
comp=Z,12nm,1.6s,mb4.5
AQU L'Aquila 32.34 71⇓*iP* **P 02 34 59.0 +1.9**
AQU L'Aquila 32.34 71 P **P 02 34 59.0 +1.9**
MOA Molln 32.38 61 P **P 02 34 59.3 +2.0**
PRU Pruhonice 32.54 57 *eP* **P 02 34 59.2 +0.4**
comp=Z,400nm,12.8s
PRU Pruhonice 32.54 57 *eP* **P 02 34 59.2 +0.4**
PRU *epP* pP 02 35 04.1 -1.0
PRU AMS AMS 02 55 10.0
comp=Z,400nm,12.8s
PVCC Panska Ves 32.58 56 *eP* **P 02 34 59.7 +0.6**
comp=Z,700nm,15.7s
PVCC Panska Ves 32.58 56 *eP* **P 02 34 59.7 +0.6**
PVCC AMS AMS 02 55 10.0
comp=Z,700nm,15.7s
OBKA Obir 32.64 63 P **P 02 35 02.1 +2.4**
NB2 NORSAR Subarra 32.88 36 P **P 02 35 00.7 -0.9**
comp=Z,7.5nm,1.2s,mb4.5,baz=249,slow=9.3
NOA NORSAR Array B 32.88 36 P **P 02 35 01.9 +0.3**
comp=Z,2.5nm,0.9s,mb4.2,baz=250,slow=9.6,SNR=3.8
TREC Trest 33.15 58 *eP* **P 02 35 04.7 +0.6**
TREC AMS AMS 02 53 10.0
comp=Z,300nm,14.8s
UPC Upice 33.50 56 *epP* pP 02 35 11.9 -1.6
DPC Dobruska-Polom 33.69 56 *eP* **P 02 35 09.4 +0.6**
DPC *ex* x 02 35 17.1
DPC AMS AMS 02 55 40.0
comp=Z,600nm,19.5s
KRUC Moravsky 33.76 58 P **P 02 35 12.4 +3.0**
MODS Modra-Piesok 34.37 60 *eP* **P 02 35 14.2 -0.5**
GKP Gorka Klasztor 34.37 51 *eP* **P 02 35 15.8 +1.1**
CUC Castrocucco 34.62 75 *eP* **P 02 35 17.8 +0.8**
comp=Z,33nm,1.3s,mb5.1
OKC Ostrava-Krasne 34.88 57 AMS AMS 02 53 20.0
comp=Z,300nm,20.2s
PKSM Moragy 35.49 63⇓*iP* **P 02 35 23.3 -1.1**
PKSM Moragy 35.49 63 P **P 02 35 24.2 -0.2**
TIP Timpagrande 35.54 76 *eP* **P 02 35 24.3 -0.6**
comp=Z,9.0nm,1.0s,mb4.7
OJC Ojcow 35.93 56 *eP* **P 02 35 27.1 -1.0**
PSZ Piszkesteto 36.15 60 *eP* **P 02 35 30.0 0.0**
PSZ pmax pmax
comp=Z,13nm,1.4s,mb4.7
PSZ Piszkesteto 36.15 60⇓*eP* **P 02 35 31.2 +1.2**
PSZ Piszkesteto 36.15 60⇓*iP* **P 02 35 30.7 +0.7**
PSZ Piszkesteto 36.15 60 *eP* **P 02 35 30.0 0.0**
comp=Z,13nm,1.4s,mb4.7
KECS Kecovo 36.49 59 *eP* **P 02 35 32.8 -0.1**
KECS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
KECS Kecovo 36.49 59 *eP* **P 02 35 32.8 -0.1**
comp=Z,2.7nm,1.1s,mb4.1
STHS Stebnicka Huta 36.91 58 *eP* **P 02 35 42.5 +6.0**
STHS *e* 02 35 51.1
STHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
STHS Stebnicka Huta 36.91 58 *eP* **P 02 35 42.5 +6.0**
comp=Z,3.1nm,1.0s,mb4.1
STHS *e* 02 35 51.1
CRVS Cervenica-Dubn 37.09 58 *eP* **P 02 35 39.8 +1.7**
KOLS Kolonicke sedl 37.62 58 *eP* **P 02 35 41.6 -1.0**
BZS Buzias 37.63 64⇓*iP* **P 02 35 42.5 -0.2**
BZS Buzias 37.63 64 P **P 02 35 43.4 +0.7**
KWP Kalwaria 37.84 57⇓*iP* **P 02 35 47.1 +2.7**
KWP Kalwaria 37.84 57 ⇓P **P 02 35 47.1 +2.7**
SUW Suwalki 37.94 50 *eP* **P 02 35 44.0 -1.2**
TOA0 Torodi Ar. Sit 38.23 125 *eP* **P 02 35 51.0 +3.0**
TOA0 Torodi Ar. Sit 38.23 125 *eP* **P 02 35 51.0 +3.1**
TORD Torodi Ar. Bea 38.23 125 P **P 02 35 50.2 +2.2**
comp=Z,3.0nm,1.0s,mb4.0,baz=323,slow=6.0,SNR=11
TORD Torodi Ar. Bea 38.23 125 P **P 02 35 50.2 +2.2**
GZR Gura Zlata 38.47 64⇓*iP* **P 02 35 49.8 0.0**
BURAR Bucovina Array 39.75 60⇓*iP* **P 02 36 01.5 +1.1**
VSU Vasula 40.03 43 *i P* **P 02 36 01.0 -1.5**
KAF Kangasniemi 40.13 37 *ep* **P 02 36 01.8 -1.5**
comp=Z,12nm,0.8s,mb4.7
KAF Kangasniemi 40.13 37 *eP* **P 02 36 01.8 -1.5**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.7
MLR Muntele Rosu 40.64 63⇑*iP* **P 02 36 08.1 +0.3**
VRI Vrincioaia 41.10 62⇑*iP* **P 02 36 12.7 +1.1**
VRI Vrincioaia 41.10 62 P **P 02 36 13.5 +1.9**
ARCES ARCESS Array B 41.35 26 P **P 02 36 11.4 -1.9**
comp=Z,4.7nm,0.9s,mb4.1,baz=266,slow=9.7,SNR=5.9
KIEV Kiev 41.87 55 *eP* **P 02 36 17.7 -0.1**
KIEV pmax pmax
comp=Z,12nm,0.9s,mb4.5
KIEV Kiev 41.87 55 *eP* **P 02 36 17.7 -0.1**
comp=Z,12nm,0.9s,mb4.5
AKASG Malin Array Be 41.88 55 P **P 02 36 17.8 -0.1**
comp=Z,7.5nm,0.7s,mb4.4,baz=274,slow=8.2,SNR=20
AKBB Malin Array Si 41.88 55 *eP* **P 02 36 17.6 -0.3**
AKBB Malin Array Si 41.88 55 *eP* **P 02 36 17.6 -0.3**
JOF Joensuu 42.52 36 *ep* **P 02 36 21.2 -1.7**
comp=Z,13nm,0.8s,mb4.7
TIRR Tirgusor 42.58 64 *eP* **P 02 36 21.4 -2.3**
TIRR pmax pmax
comp=Z,13nm,1.0s,mb4.6
TIRR Tirgusor 42.58 64⇑*iP* **P 02 36 23.4 -0.3**
TIRR Tirgusor 42.58 64 *eP* **P 02 36 21.4 -2.3**
comp=Z,13nm,1.0s,mb4.6
TIRR Tirgusor 42.58 64 *eP* **P 02 36 21.4 -2.4**
comp=Z,13nm,1.0s,mb4.6
OBN Obninsk 45.62 47⇑*eP* **P 02 36 46.9 -1.0**
OBN *e* 02 38 32.6
OBN *eS* **S 02 43 33.0 +3.9**
OBN pmax pmax
comp=Z,46nm,1.8s,mb5.1
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.1
OBN Obninsk 45.62 47⇑*eP* **P 02 36 46.0 -1.9**
PLAL Pickwick Lake 45.98 283 *eP* **P 02 36 51.1 0.0**
comp=Z,6.2nm,0.9s,mb4.5
PLAL Pickwick Lake 45.98 283 *eP* **P 02 36 51.1 +0.1**
comp=Z,6.2nm,0.9s,mb4.5
KLMR Klimovskoe 46.44 39 *eP* **P 02 36 53.8 -0.5**
KLMR pmax pmax
comp=Z,18nm,1.0s,mb5.0
AGMN Agassiz Refuge 47.04 303 *eP* **P 02 36 58.3 -0.9**
comp=Z,6.9nm,0.8s,mb4.6
AGMN Agassiz Refuge 47.04 303 *eP* **P 02 36 58.3 -0.9**
comp=Z,6.9nm,0.8s,mb4.6
OXF Oxford 47.17 283 *eP* **P 02 37 01.0 +0.6**
OXF pmax pmax
comp=Z,42nm,1.0s,mb5.3
OXF Oxford 47.17 283 *eP* **P 02 37 01.0 +0.6**
comp=Z,42nm,1.0s,mb5.3
OXF Oxford 47.17 283 *eP* **P 02 37 01.0 +0.6**
comp=Z,42nm,1.0s,mb5.3
ECSD EROS,Sioux Fal 48.91 298 *eP* **P 02 37 13.9 +0.2**
comp=Z,13nm,1.1s,mb4.9
ECSD EROS,Sioux Fal 48.91 298 *eP* **P 02 37 13.9 +0.2**
comp=Z,13nm,1.1s,mb4.9
FFC Flin Flon 49.14 313 *eP* **P 02 37 14.5 -0.8**
FFC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FFC Flin Flon 49.14 313 *eP* **P 02 37 14.5 -0.8**
comp=Z,10nm,0.9s,mb4.9
MIAR Mount Ida 50.27 285 *eP* **P 02 37 23.6 -0.6**
MIAR pmax pmax
comp=Z,15nm,1.1s,mb4.9
MIAR Mount Ida 50.27 285 *eP* **P 02 37 23.6 -0.6**
comp=Z,15nm,1.1s,mb4.9
MIAR Mount Ida 50.27 285 *eP* **P 02 37 23.6 -0.6**
comp=Z,15nm,1.1s,mb4.9
MALT Malatya 51.73 68 *eP* **P 02 37 35.5 +0.3**
MALT pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MALT Malatya 51.73 68⇓*iP* **P 02 37 35.6 +0.4**
MALT Malatya 51.73 68 *eP* **P 02 37 35.5 +0.3**
comp=Z,10nm,1.2s,mb4.6
MALT Malatya 51.73 68 *eP* **P 02 37 35.5 +0.4**
comp=Z,10nm,1.2s,mb4.6
KIV Kislovodsk 52.48 60⇓*eP* **P 02 37 43.9 +3.3**
KIV *i* S **S 02 45 13.3 +7.5**
KIV pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
KIV MLR MLR
comp=Z,100nm,20.0s,MS3.9
YKA Yellowknife Ar 53.48 325 P **P 02 37 45.6 -2.1**
comp=Z,3.0nm,1.1s,mb4.1,baz=70,slow=7.1,SNR=6.2
YKA PcP PcP 02 38 53.1 -1.3
comp=Z,1.6nm,0.8s,baz=66,slow=4.1,SNR=5.8
YKA Yellowknife Ar 53.48 325 PcP PcP 02 38 53.2 -1.2
WMOK Wichita Mounta 54.03 288 *eP* **P 02 37 51.1 -1.1**
WMOK pmax pmax
comp=Z,11nm,1.1s,mb4.7
WMOK Wichita Mounta 54.03 288 *eP* **P 02 37 51.1 -1.1**
comp=Z,11nm,1.1s,mb4.7
WMOK Wichita Mounta 54.03 288 *eP* **P 02 37 51.1 -1.1**
comp=Z,11nm,1.1s,mb4.7
HKT Hockley 54.09 281 *eP* **P 02 37 53.3 +0.6**
HKT pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
HKT Hockley 54.09 281 *eP* **P 02 37 53.2 +0.5**
comp=Z,10nm,1.3s,mb4.6
HKT Hockley 54.09 281 *eP* **P 02 37 53.2 +0.6**
comp=Z,10nm,1.3s,mb4.6
GNI Garni 55.41 64⇓*eP* **P 02 38 08.0 +5.9**
GNI pmax pmax
comp=Z,100nm,3.0s
EGMT Eagleton 55.90 307 *eP* **P 02 38 04.3 -1.2**
comp=Z,16nm,1.0s,mb5.0
EGMT Eagleton 55.90 307 *eP* **P 02 38 04.3 -1.2**
comp=Z,16nm,1.0s,mb5.0
EDM Edmonton 55.98 314 *eP* **P 02 38 05.2 -0.8**
EDM Edmonton 55.98 314 *eP* **P 02 38 05.2 -0.8**
AMTX Amarillo 56.08 290 *eP* **P 02 38 07.3 +0.3**
comp=Z,29nm,0.9s,mb5.3
AMTX Amarillo 56.08 290 *eP* **P 02 38 07.3 +0.3**
comp=Z,29nm,0.9s,mb5.3
ISCO Idaho Springs 56.64 297 *eP* **P 02 38 11.2 +0.3**
ISCO pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
ISCO Idaho Springs 56.64 297 *eP* **P 02 38 11.2 +0.3**
comp=Z,7.2nm,1.2s,mb4.6
ISCO Idaho Springs 56.64 297 *eP* **P 02 38 11.2 +0.3**
comp=Z,7.2nm,1.2s,mb4.6
GCMT Greycliff 56.75 305 *eP* **P 02 38 10.9 -0.7**
GCMT Greycliff 56.75 305 *eP* **P 02 38 10.8 -0.8**
RLMT Red Lodge 56.78 304 *eP* **P 02 38 11.8 0.0**
comp=Z,19nm,1.4s,mb4.9
RLMT Red Lodge 56.78 304 *eP* **P 02 38 11.8 0.0**
comp=Z,19nm,1.4s,mb4.9
JCT Junction City 56.81 284 *eP* **P 02 38 12.0 -0.3**
JCT pmax pmax
comp=Z,19nm,0.9s,mb5.1
JCT Junction City 56.81 284 *eP* **P 02 38 12.0 -0.3**
comp=Z,19nm,0.9s,mb5.1
JCT Junction City 56.81 284 *eP* **P 02 38 12.0 -0.3**
comp=Z,19nm,0.9s,mb5.1
ARU Arti 57.15 41 *d iP* **P 02 38 13.9 -0.4**
ARU *e* 02 40 18.6
ARU *eS* **S 02 46 08.5 +0.3**
ARU *eSS* SS 02 49 56.6 0.0
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ARU Arti 57.15 41 *eP* **P 02 38 13.1 -1.2**
comp=Z,19nm,1.1s,mb5.0
ARU Arti 57.15 41 *eP* **P 02 38 13.1 -1.2**
comp=Z,19nm,1.1s,mb5.0
SDCO Great Sand Dun 57.49 294 *eP* **P 02 38 17.2 +0.2**
comp=Z,4.3nm,1.0s,mb4.4
SDCO Great Sand Dun 57.49 294 *eP* **P 02 38 17.2 +0.2**
comp=Z,4.3nm,1.0s,mb4.4
BDFB Brasilia 57.66 201 P **P 02 38 20.9 +2.7**
comp=Z,2.5nm,0.9s,mb4.2,baz=312,slow=22,SNR=6.2
HRY Holter Researc 57.72 306 *eP* **P 02 38 17.5 -1.0**
HRY Holter Researc 57.72 306 *eP* **P 02 38 17.4 -1.0**
PDAR Pinedale Array 57.98 301 P **P 02 38 18.6 -1.7**
comp=Z,4.4nm,0.9s,mb4.5,baz=69,slow=8.1,SNR=12
PDAR Pinedale Array 57.98 301 P **P 02 38 18.6 -1.8**
BW06 Boulder Array 57.99 301 *eP* **P 02 38 19.1 -1.3**
comp=Z,12nm,1.0s,mb4.9
BW06 Boulder Array 57.99 301 *eP* **P 02 38 19.1 -1.3**
comp=Z,12nm,1.0s,mb4.9
WALA Waterton Lakes 57.99 309 *eP* **P 02 38 19.1 -1.2**
comp=Z,11nm,1.0s,mb4.9
WALA Waterton Lakes 57.99 309 *eP* **P 02 38 19.1 -1.2**
comp=Z,11nm,1.0s,mb4.9
SVE Sverdlovsk 58.04 40 *eP* **P 02 38 20.2 -0.3**
SVE pmax pmax
comp=Z,11nm,0.9s,mb4.9
BOZ Bozeman (W) 58.06 305 *eP* **P 02 38 20.3 -0.5**
BOZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BOZ Bozeman (W) 58.06 305 *eP* **P 02 38 20.3 -0.5**
comp=Z,7.9nm,1.1s,mb4.7
BOZ Bozeman (W) 58.06 305 *eP* **P 02 38 20.3 -0.5**
comp=Z,7.9nm,1.1s,mb4.7
LOHW Long Hollow 58.30 303 *eP* **P 02 38 21.9 -0.6**
comp=Z,6.5nm,1.0s,mb4.6
LOHW Long Hollow 58.30 303 *eP* **P 02 38 21.9 -0.6**
comp=Z,6.5nm,1.0s,mb4.6
MOOW Moose Ponds 58.33 303 *eP* **P 02 38 22.5 -0.2**
comp=Z,16nm,1.4s,mb4.9
MOOW Moose Ponds 58.33 303 *eP* **P 02 38 22.5 -0.2**
comp=Z,16nm,1.4s,mb4.9
IMW Indian Meadow 58.38 303 *eP* **P 02 38 22.8 -0.3**
comp=Z,14nm,1.0s,mb4.9
SNOW Snow King Moun 58.46 302 *eP* **P 02 38 23.5 -0.2**
comp=Z,19nm,1.0s,mb5.1
SNOW Snow King Moun 58.46 302 *eP* **P 02 38 23.5 -0.2**
comp=Z,19nm,1.0s,mb5.1
CHMT Chamberlain Mo 58.52 307 *eP* **P 02 38 24.0 0.0**
CHMT Chamberlain Mo 58.52 307 *eP* **P 02 38 24.0 0.0**
REDW Red Top Meadow 58.57 302 *eP* **P 02 38 23.8 -0.6**
comp=Z,14nm,1.1s,mb4.9
REDW Red Top Meadow 58.57 302 *eP* **P 02 38 23.8 -0.7**
comp=Z,14nm,1.1s,mb4.9
TPAW Teton Pass 58.58 303 *eP* **P 02 38 24.1 -0.4**
comp=Z,14nm,1.0s,mb5.0
TPAW Teton Pass 58.58 303 *eP* **P 02 38 24.1 -0.4**
comp=Z,14nm,1.0s,mb5.0
DLMT Dillon 58.79 305 *eP* **P 02 38 25.9 -0.1**
comp=Z,14nm,1.3s,mb4.8
DLMT Dillon 58.79 305 *eP* **P 02 38 25.9 -0.1**
comp=Z,14nm,1.3s,mb4.8
RRI2 Red Ridge 58.88 303 *eP* **P 02 38 26.2 -0.4**
comp=Z,10nm,0.8s,mb4.9
MSO Missoula 58.98 307 *eP* **P 02 38 26.7 -0.5**
comp=Z,14nm,1.4s,mb4.8
MSO Missoula 58.98 307 *eP* **P 02 38 26.7 -0.5**
comp=Z,14nm,1.4s,mb4.8
OTAV Otavalo 59.28 241 *eP* **P 02 38 32.8 +3.1**
comp=Z,5.9nm,1.2s,mb4.5
OTAV Otavalo 59.28 241 *eP* **P 02 38 32.8 +3.1**
comp=Z,5.9nm,1.2s,mb4.5
AKTK Aktyubinsk 59.39 48 P **P 02 38 29.7 -0.3**
AKTK Aktyubinsk 59.39 48 P **P 02 38 29.7 -0.3**
AKTO Aktyubinsk 59.39 48 P **P 02 38 29.7 -0.3**
comp=Z,7.8nm,0.9s,mb4.7,baz=282,slow=7.9
PV01 Paradox Valley 59.45 296 *eP* **P 02 38 30.2 -0.4**
PV01 Paradox Valley 59.45 296 *eP* **P 02 38 30.2 -0.5**
ANMO Albuquerque 59.50 292⇓*eP* **P 02 38 31.3 +0.3**
ANMO Albuquerque 59.50 292 *eP* **P 02 38 32.0 +1.0**
comp=Z,6.1nm,1.0s,mb4.6
ANMO Albuquerque 59.50 292 *eP* **P 02 38 32.0 +1.0**
comp=Z,6.1nm,1.0s,mb4.6
PV10 Paradox Valley 59.66 296 *eP* **P 02 38 32.9 +0.8**
HWUT Hardware Ranch 59.84 301 *eP* **P 02 38 32.8 -0.5**
comp=Z,19nm,1.0s,mb5.1
HWUT Hardware Ranch 59.84 301 *eP* **P 02 38 32.8 -0.5**
comp=Z,19nm,1.0s,mb5.1
MVCO Mesa Verde 59.84 295 *eP* **P 02 38 34.6 +1.2**
comp=Z,16nm,1.2s,mb4.9
MVCO Mesa Verde 59.84 295 *eP* **P 02 38 34.6 +1.2**
comp=Z,16nm,1.2s,mb4.9
LPM Los Pinos Moun 59.94 291 *eP* **P 02 38 34.9 +0.9**
LPM Los Pinos Moun 59.94 291 *eP* **P 02 38 34.9 +0.9**
BNM Barren Site 60.01 291 *eP* **P 02 38 35.5 +0.9**
DAU Daniels Canyon 60.20 299 *eP* **P 02 38 36.0 +0.2**
NEW Newport 60.25 310 *eP* **P 02 38 35.1 -0.9**
NEW pmax pmax
comp=Z,15nm,1.0s
NEW Newport 60.25 310 *eP* **P 02 38 35.1 -0.9**
comp=Z,15nm,1.0s,mb5.0
NEW Newport 60.25 310 *eP* **P 02 38 35.1 -0.9**
comp=Z,15nm,1.0s,mb5.0
LAZ Ladron 60.26 292 *eP* **P 02 38 37.1 +0.9**
LAZ Ladron 60.26 292 *eP* **P 02 38 37.1 +0.9**
TXAR Lajitas Array 60.28 285 P **P 02 38 36.7 +0.2**
comp=Z,11nm,0.8s,mb4.9,baz=72,slow=7.3,SNR=71
TXAR Lajitas Array 60.28 285 P **P 02 38 36.7 +0.2**
SRU San Rafael 60.33 298 *eP* **P 02 38 36.2 -0.4**
SRU pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
SRU San Rafael 60.33 298 *eP* **P 02 38 36.2 -0.4**
comp=Z,4.6nm,1.0s,mb4.5
SRU San Rafael 60.33 298 *eP* **P 02 38 36.2 -0.4**
comp=Z,4.6nm,1.0s,mb4.5
TMUT Trail Mountain 60.70 298 *eP* **P 02 38 39.3 +0.1**
TMUT Trail Mountain 60.70 298 *eP* **P 02 38 39.3 +0.1**
HLID Hailey 60.78 304 *eP* **P 02 38 39.8 +0.2**
comp=Z,5.9nm,1.0s,mb4.7
HLID Hailey 60.78 304 *eP* **P 02 38 39.8 +0.2**
comp=Z,5.9nm,1.0s,mb4.7
BGU Big Grassy Mou 61.14 301 *eP* **P 02 38 42.2 +0.1**
BGU Big Grassy Mou 61.14 301 *eP* **P 02 38 42.2 +0.1**
DUG Dugway 61.35 300 *eP* **P 02 38 43.4 -0.2**
DUG pmax pmax
comp=Z,12nm,1.0s,mb5.0
DUG Dugway 61.35 300 *eP* **P 02 38 43.4 -0.2**
comp=Z,12nm,1.0s,mb5.0
DUG Dugway 61.35 300 *eP* **P 02 38 43.4 -0.2**
comp=Z,12nm,1.0s,mb5.0
MSU Marysvale 61.74 298 *eP* **P 02 38 46.9 +0.6**
BMO Blue Mountains 61.98 306 *eP* **P 02 38 46.3 -1.4**
comp=Z,7.2nm,1.1s,mb4.7
BMO Blue Mountains 61.98 306 *eP* **P 02 38 46.3 -1.4**
comp=Z,7.2nm,1.1s,mb4.7
LNOR Lincton Mounta 62.09 308 *eP* **P 02 38 47.0 -1.4**
LNOR Lincton Mounta 62.09 308 *eP* **P 02 38 47.0 -1.4**
ETW Entiat 62.46 310 *eP* **P 02 38 51.1 +0.2**
ETW Entiat 62.46 310 *eP* **P 02 38 51.1 +0.2**
ELK Elko 62.69 302 *eP* **P 02 38 52.8 +0.3**
ELK pmax pmax
comp=Z,10.0nm,1.0s
ELK Elko 62.69 302 *eP* **P 02 38 52.8 +0.3**
comp=Z,9.9nm,1.0s,mb4.9
ELK Elko 62.69 302 *eP* **P 02 38 52.8 +0.2**
comp=Z,9.9nm,1.0s,mb4.9
WUAZ Wupatki 62.70 295 *eP* **P 02 38 53.8 +1.1**
comp=Z,17nm,1.1s,mb5.1
WUAZ Wupatki 62.70 295 *eP* **P 02 38 53.8 +1.0**
comp=Z,17nm,1.1s,mb5.1
TUC Tucson 63.94 291 *eP* **P 02 39 02.0 +1.0**
TUC pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
TUC Tucson 63.94 291 *eP* **P 02 39 02.0 +1.0**
comp=Z,6.9nm,0.9s,mb4.7
TUC Tucson 63.94 291 *eP* **P 02 39 02.0 +1.0**
comp=Z,7.0nm,0.9s,mb4.7
WVOR Wild Horse Val 64.03 305 *eP* **P 02 39 01.6 +0.2**
WVOR pmax pmax
comp=Z,13nm,1.1s,mb4.9
WVOR Wild Horse Val 64.03 305 *eP* **P 02 39 01.5 +0.1**
comp=Z,13nm,1.1s,mb4.9
WVOR Wild Horse Val 64.03 305 *eP* **P 02 39 01.6 +0.2**
comp=Z,13nm,1.1s,mb4.9
BRVK Borovoye 64.73 41 *eP* **P 02 39 05.1 -0.7**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BRVK Borovoye 64.73 41 *eP* **P 02 39 05.1 -0.7**
comp=Z,3.2nm,0.8s,mb4.4
BRVK Borovoye 64.73 41 *eP* **P 02 39 05.1 -0.7**
comp=Z,3.2nm,0.8s,mb4.4
MOD Modoc 65.36 305 *eP* **P 02 39 10.6 +0.5**
comp=Z,12nm,1.0s,mb4.9
MOD Modoc 65.36 305 *eP* **P 02 39 10.6 +0.5**
comp=Z,12nm,1.0s,mb4.9
TPH Tonopah 65.38 300 *eP* **P 02 39 10.1 -0.2**
TPH pmax pmax
comp=Z,18nm,1.1s,mb5.0
TPH Tonopah 65.38 300 *eP* **P 02 39 10.1 -0.2**
comp=Z,18nm,1.1s,mb5.0
TPH Tonopah 65.38 300 *eP* **P 02 39 10.1 -0.2**
comp=Z,18nm,1.1s,mb5.0
NVAR Mina Array Bea 65.91 301 P **P 02 39 13.3 -0.4**
comp=Z,1.6nm,0.8s,mb4.1,baz=64,slow=3.4,SNR=7.8
NVAR Mina Array Bea 65.91 301 P **P 02 39 13.3 -0.4**
IMA2 Indian Mountai 66.12 338 *eP* **P 02 39 13.4 -1.2**
IMA2 Indian Mountai 66.12 338 *eP* **P 02 39 13.4 -1.1**
LPAZ La Paz 66.25 221 *eP* **P 02 39 19.3 +3.3**
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 66.25 221 *eP* **P 02 39 19.2 +3.2**
comp=Z,2.5nm,0.8s,mb4.3
LPAZ La Paz 66.25 221 *eP* **P 02 39 19.2 +3.2**
comp=Z,2.6nm,0.8s,mb4.3
GLA Glamis 66.42 294 *eP* **P 02 39 18.3 +1.2**
GLA pmax pmax
comp=Z,19nm,1.0s,mb5.1
GLA Glamis 66.42 294 *eP* **P 02 39 18.3 +1.2**
comp=Z,19nm,1.0s,mb5.1
GLA Glamis 66.42 294 *eP* **P 02 39 18.3 +1.2**
comp=Z,19nm,1.0s,mb5.1
GSC Goldstone 66.58 297 *eP* **P 02 39 19.0 +0.9**
GSC pmax pmax
comp=Z,17nm,1.3s,mb4.9
GSC Goldstone 66.58 297 *eP* **P 02 39 19.0 +0.9**
comp=Z,17nm,1.3s,mb4.9
GSC Goldstone 66.58 297 *eP* **P 02 39 19.0 +1.0**
comp=Z,17nm,1.3s,mb4.9
PFO Pinyon Flat Ob 67.26 295 *eP* **P 02 39 23.4 +1.0**
comp=Z,12nm,1.0s,mb4.9
PFO Pinyon Flat Ob 67.26 295 *eP* **P 02 39 23.4 +0.9**
comp=Z,12nm,1.0s,mb4.9
CMB Columbia Colle 67.50 301 *eP* **P 02 39 24.3 +0.4**
comp=Z,11nm,1.1s,mb4.8
OHCM Honcut 67.50 303 *eP* **P 02 39 23.1 -0.8**
OHCM Honcut 67.50 303 *eP* **P 02 39 23.1 -0.8**
BAR Barrett 67.92 295 *eP* **P 02 39 26.9 +0.3**
comp=Z,11nm,1.1s,mb4.8
NVS Novosibirsk 69.79 35 *eP* **P 02 39 36.7 -1.1**
NVS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,0.7s
KURK Kurchatov 70.28 40 *eP* **P 02 39 40.2 -0.8**
comp=E,4.2nm,0.9s,mb4.4
KURK Kurchatov 70.28 40 *eP* **P 02 39 40.2 -0.7**
comp=E,4.2nm,0.9s,mb4.4
CPUP Villa Florida 70.58 206 P **P 02 39 44.3 +1.3**
comp=E,0.3nm,0.4s,mb3.6,baz=26,slow=13,SNR=3.1
ZALV Zalesovo Beam 71.08 35 P **P 02 39 44.5 -1.2**
comp=E,1.7nm,0.3s,mb4.4,baz=296,slow=7.9,SNR=5.7
ZALV Zalesovo Beam 71.08 35 P **P 02 39 44.5 -1.2**
BILL Bilibino 71.91 354⇑*eP* **P 02 39 45.0 -5.5**
BILL *eS* S 02 48 59.3 -11
BILL pmax pmax
comp=Z,12nm,1.3s,mb4.7
EKS2 Erkin-Say 72.70 49 *eP* **P 02 39 56.1 +0.4**
comp=Z,10nm,1.1s,mb4.7
EKS2 Erkin-Say 72.70 49 *eP* **P 02 39 56.1 +0.4**
comp=Z,10nm,1.1s,mb4.7
MK31 Makanchi Array 74.68 41 *eP* **P 02 40 06.6 -0.6**
MK31 Makanchi Array 74.68 41 *eP* **P 02 40 06.5 -0.7**
MKAR Makanchi Array 74.68 41 P **P 02 40 06.3 -0.9**
comp=Z,3.9nm,1.0s,mb4.3,baz=318,slow=5.2,SNR=9.7
MKAR Makanchi Array 74.68 41 *i P* **P 02 40 06.4 -0.8**
MKAR pmax pmax
comp=Z,4.0nm,1.0s
HVS Khovu-Aksy 76.89 33⇑*eP* **P 02 40 21.5 +1.7**
HVS pmax pmax
comp=Z,19nm,0.8s,mb5.1
YAK Yakutsk 77.24 10 *eP* **P 02 40 20.1 -1.4**
YAK pmax pmax
comp=Z,18nm,0.9s,mb5.0
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK Yakutsk 77.24 10⇓*eP* **P 02 40 21.2 -0.3**
SEY Seymchan 77.69 359⇑*eP* **P 02 40 24.2 +0.2**
BOD Bodaibo 78.17 19 *eP* **P 02 40 25.2 -1.6**
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.7
MOY Mondy 79.35 29 *eP* **P 02 40 34.1 +0.7**
MOY pmax pmax
comp=Z,22nm,2.1s,mb4.7
WMQ Urumqi 79.49 41 *eP* **P 02 40 34.6 +0.3**
ZAK Zakamensk 81.24 28 *eP* **P 02 40 43.3 -0.3**
ZAK pmax pmax
comp=Z,3.0nm,1.8s,mb3.9
SONM Songino Array 84.49 28 P **P 02 41 00.5 0.0**
comp=Z,1.8nm,0.9s,mb4.2,baz=319,slow=4.9,SNR=10

PLCA Paso Flores 88.31 210 P P 02 41 21.6 +2.6
comp=Z,0.9nm,0.7s,mb4.1,baz=28,slow=6.4,SNR=3.1
GTA Gaotai 88.72 37 *e*P **P 02 41 21.1 -0.2**
GTA AP pP 02 41 25.4 -2.9
GTA XP sP 02 41 28.9 -1.8
GTA AMB AMB
comp=Z,5.0nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,72nm,6.6s
GTA LR LR
comp=N,311nm,13.2s,MS5.0
GTA LR LR
comp=E,162nm,12.7s,MS5.0
GTA LR LR
comp=Z,495nm,12.3s,MS5.1
HHC Hu-ho-hao-te 92.39 28 *e*P **P 02 41 36.6 -1.8**
HHC PP PP 02 45 18.3 0.0
HHC AMB AMB
comp=Z,100nm,7.1s
HHC LR LR
comp=N,345nm,19.0s,MS4.8
HHC LR LR
comp=E,192nm,23.8s,MS4.8
HHC LR LR
comp=Z,276nm,22.6s,MS4.7
LZH Lanzhou 93.27 36 *e*P **P 02 41 41.3 -1.3**
LZH AP pP 02 41 46.0 -3.5
LZH *e*PP PP 02 45 25.8 +0.3
LZH AMB AMB
comp=Z,17nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,97nm,8.3s
LZH LR LR
comp=N,267nm,17.6s
LZH LR LR
comp=Z,342nm,19.8s,MS4.8
CN2 Changchun 93.89 18 *e*P **P 02 41 42.5 -2.8**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.3
BJI Beijing 94.72 26 P **P 02 41 44.3 -4.9**
BJI AMB AMB
comp=Z,6.0nm,0.6s,mb5.2
CD2 Chengdu 97.50 39 *e*P **P 02 42 00.9 -1.0**
CD2 AP pP 02 42 05.3 -3.6
CD2 XP sP 02 42 07.9 -3.5
CD2 AMB AMB
comp=Z,30nm,8.2s
KMI Kunming 101.70 43 P Pdif 02 42 19.8 -0.8
GYA Guiyang 102.60 39 P Pdif 02 42 24.0 -0.6
GYA AMB AMB
comp=Z,10.0nm,0.9s
GYA AMB AMB
comp=Z,90nm,5.4s
GYA LR LR
comp=N,480nm,22.6s,MS5.1
GYA LR LR
comp=E,460nm,21.4s,MS5.1
GYA LR LR
comp=Z,450nm,24.5s,MS4.9
NJ2 Nanjing 102.86 27 *e*P Pdif 02 42 25.4 -0.3
WRA Warramunga Arr 155.97 40 PKPab PKPab 02 48 48.7 -0.7
comp=Z,2.5nm,0.9s,baz=342,slow=4.2,SNR=6.6
ASAR Alice Springs 158.81 46 PKPab PKPab 02 49 02.5 +0.9
comp=Z,1.8nm,0.9s,baz=340,slow=4.2,SNR=6.3

*CSEM **18** 02:32:25.4±0.1,3978N×2970W,h10km,mb4.7/65,Ms3.7, Error ellipse: s-maj=2.6km s-min=1.5km az=8.0*
*IDC **18** 02:32:26.3±0.6,4013N×2976W,h0km,mb4.0/16, mb1 4.1/17,mb1mx4.0/27,mbtmp4.0/17,ML4.0/1,MS4.0/1, Ms1 4.0/1,ms1mx3.2/49,Error ellipse: s-maj=18.4km s-min=14.9km az=175.0*
*ISCJB **18** 02:32:26.8±1.3,3976N±004×2969W±003,h18km±10km, mb4.5/101,MS4.3/9,Error ellipse: s-maj=6.6km s-min=4.4km az=4.0*
*BJI **18** 02:32:27.3,4000N×2970W,h20km,mB5.3,mb5.2,Ms5.3, Msz4.8*
*PDA **18** 02:32:28.9±0.8,3998N×2956W,h0km,MD3.8,ML3.4, Error ellipse: s-maj=5.6km s-min=3.9km az=68.0*
*NEIC **18** 02:32:28.4±0.2,4003N×2971W,h10km,mb4.7/69,Error ellipse: s-maj=8.9km s-min=3.2km az=177.0*
*MOS **18** 02:32:29.9±0.9,4001N×2974W,h33km,mb4.9/46,Error ellipse: s-maj=21.2km s-min=6.7km az=143.9*
ISC 18 02:32:29.8±1.7,3969N±003×2963W±003,h27km±12km, n293,σ1$09/302,mb4.5/101,MS4.3/9,6C-14D,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.32**	**147**	*e*P	**Pn**	**02 32 53.2**	**+0.8**
CALA				*e*S	**Sn**	**02 33 10.7**	**+1.6**
SRBC	**Serra Branca**	**1.39**	**117**	*e*P	**Pn**	**02 32 52.1**	**-1.3**
SRBC				*e*S	**Sn**	**02 33 10.1**	**-0.8**
HOR	**Horta**	**1.39**	**146**	*e*P	**Pn**	**02 32 54.2**	**+0.7**
HOR				*e*S	**Sn**	**02 33 12.5**	**+1.5**
ROSA	**Rosais**	**1.45**	**131**	*e*P	**Pn**	**02 32 53.7**	**-0.5**
ROSA				*e*S	**Sn**	**02 33 12.7**	**+0.5**
PICO	**Pico**	**1.51**	**141**	*e*P	**Pn**	**02 32 55.5**	**+0.5**
PICO				*e*S	**Sn**	**02 33 15.0**	**+1.2**
PMAN	**Manadas**	**1.59**	**131**	*e*P	**Pn**	**02 32 55.5**	**-0.7**
PMAN				*e*S	**Sn**	**02 33 16.1**	**+0.2**
PMAN				A		02 33 16.8	
	134nm,0.1s						
PMAN	**Manadas**	**1.59**	**131**	*e*P	**Pn**	**02 32 55.5**	**-0.7**
PMAN				*e*S	**Sn**	**02 33 16.1**	**+0.2**
ADH	**Angra Heroismo**	**2.13**	**118**	*e*P	**Pn**	**02 33 01.9**	**-1.6**
ADH				*e*S	**Sn**	**02 33 27.7**	**-1.3**
PSCM	**Serra do Cume**	**2.19**	**116**	*e*P	**Pn**	**02 33 02.7**	**-1.6**
PSCM				*e*S	**Sn**	**02 33 29.0**	**-1.5**
PSCM				A		02 33 30.4	
	19nm,0.3s						
PSET	**Sete Cidades**	**3.58**	**120**	*e*P	**Pn**	**02 33 22.9**	**-0.6**
PSET				*e*S	**Sn**	**02 34 03.0**	**-1.8**
PSET				A		02 34 04.7	
	5.6nm,0.3s						
PDA	**Ponta Delgada**	**3.66**	**121**	*e*P	**Pn**	**02 33 23.9**	**-0.7**
PDA				*e*S	**Sn**	**02 34 05.0**	**-1.8**
PDA				*e*LQ		02 34 16.0	
PDA				*e*LR	LR	02 34 22.0	
CMLA	**Cha da Macela**	**3.74**	**120**	*e*P	**Pn**	**02 33 25.2**	**-0.5**
CMLA				*e*S	**Sn**	**02 34 06.6**	**-2.2**
CMLA				A		02 34 10.1	
	25nm,0.4s						
CMLA	**Cha da Macela**	**3.74**	**120**	*e*Pn	**Pn**	**02 33 25.4**	**-0.3**
PSMN	**Pico do Norte,**	**4.48**	**125**	*e*P	**Pn**	**02 33 35.4**	**-0.4**
PTEO	**Sao Teotonio**	**16.48**	**91**	*e*P	**Pn**	**02 36 18.3**	**-0.7**
	106nm,1.5s						
PVIS	**Viseu**	**16.64**	**79**	*e*P	**Pn**	**02 36 19.1**	**-1.9**
	39nm,1.4s						
EVOP	**Sao Brissos**	**16.73**	**87**	*e*P	**Pn**	**02 36 24.0**	**+1.8**
	51nm,1.7s						
EVO	**Evora**	**16.82**	**87**	*e*P	**Pn**	**02 36 24.0**	**+0.8**
	102nm,1.7s						
EVO				*e*MLR	MLR		
	comp=Z,834nm,18.2s						
EVO	**Evora**	**16.82**	**87**	*e*P	**Pn**	**02 36 23.8**	**+0.6**
	comp=Z,24nm,1.6s						
PBEJ	**Beja**	**17.03**	**89**	*e*P	**Pn**	**02 36 27.0**	**+1.1**
	comp=Z,32nm,1.8s						
PBDV	**Barranco-do-Ve**	**17.16**	**91**	*e*P	**Pn**	**02 36 28.8**	**+1.2**
	comp=Z,81nm,1.7s						
PVAQ	**Vaqueiros**	**17.29**	**91**	*e*P	**Pn**	**02 36 30.1**	**+0.9**
	comp=Z,33nm,1.9s						
PBAR	**Barrancos**	**17.64**	**88**	*e*P	**Pn**	**02 36 34.4**	**+0.9**
	comp=Z,25nm,2.0s						
PAB	**San Pablo**	**19.46**	**82**	*e*P	**Pn**	**02 36 55.2**	**-0.5**
	comp=Z,17nm,1.1s						
PAB	**San Pablo**	**19.46**	**82**	*e*P	**Pn**	**02 36 55.2**	**-0.4**
	comp=Z,17nm,1.1s						
ESDC	**Sonseca Array**	**19.74**	**82**	P	**Pn**	**02 36 57.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=283,slow=11,SNR=5.4						
QUIF	**Quistinic**	**20.72**	**58**	*e*P	**P**	**02 37 08.5**	**+0.6**
ROSF	**Rostrenen**	**20.75**	**57**	*e*P	**P**	**02 37 08.7**	**+0.4**
	comp=Z,71nm,1.3s						
ROSF	**Rostrenen**	**20.75**	**57**	*e*P	**P**	**02 37 08.7**	**+0.4**
	comp=Z,36nm,1.3s						
MDT	**Midelt**	**21.27**	**101**	P	**P**	**02 37 16.0**	**+2.1**
	comp=Z,6.5nm,1.1s,mb3.9,baz=292,slow=10,SNR=3.8						
SJPF	**Ste Jean**	**21.53**	**72**	*e*P	**P**	**02 37 17.7**	**+0.9**
	comp=Z,35nm,1.3s,mb4.3						
SJPF	**Ste Jean**	**21.53**	**72**	*e*P	**P**	**02 37 17.7**	**+0.9**
	comp=Z,17nm,1.3s,mb4.3						
GRR	**Gorron**	**22.33**	**58**	*e*P	**P**	**02 37 25.0**	**-0.2**
	comp=Z,121nm,1.5s,mb4.8						
GRR	**Gorron**	**22.33**	**58**	*e*P	**P**	**02 37 25.0**	**-0.2**
	comp=Z,61nm,1.5s,mb4.8						
MFF	**Saint Martin d**	**22.51**	**62**	*e*P	**P**	**02 37 26.8**	**-0.3**
	comp=Z,54nm,1.3s,mb4.5						
MFF	**Saint Martin d**	**22.51**	**62**	*e*P	**P**	**02 37 26.8**	**-0.3**
	comp=Z,27nm,1.3s,mb4.5						
EPF	**Esparros**	**22.68**	**72**	*e*P	**P**	**02 37 29.6**	**+0.6**
	comp=Z,36nm,1.3s,mb4.3						
EPF	**Esparros**	**22.68**	**72**	*e*P	**P**	**02 37 29.6**	**+0.6**
	comp=Z,18nm,1.3s,mb4.3						
LFF	**La Frestale**	**22.98**	**67**	*e*P	**P**	**02 37 30.1**	**-2.1**
	comp=Z,56nm,1.3s,mb4.5						
LFF	**La Frestale**	**22.98**	**67**	*e*P	**P**	**02 37 30.1**	**-2.1**
	comp=Z,28nm,1.3s,mb4.5						
RJF	**Les Rejaudoux**	**23.55**	**66**	*e*P	**P**	**02 37 37.4**	**-0.6**
	comp=Z,86nm,1.9s,mb4.6						
RJF				*e*MLR	MLR		
	comp=Z,452nm,21.2s,MS3.6						
RJF	**Les Rejaudoux**	**23.55**	**66**	*e*P	**P**	**02 37 37.4**	**-0.6**
	comp=Z,43nm,1.9s,mb4.5						
RJF				LR	LR		
	comp=Z,450nm,21.3s,MS3.9						
EKA	**Eskdalemuir Ar**	**23.55**	**40**	P	**P**	**02 37 37.2**	**-0.7**
	comp=Z,12nm,1.1s,mb4.2,baz=246,slow=7.8,SNR=7.8						
CAF	**Calviac**	**23.92**	**67**	*e*P	**P**	**02 37 39.2**	**-2.2**
	comp=Z,15nm,1.0s,mb4.1						
CAF	**Calviac**	**23.92**	**67**	*e*P	**P**	**02 37 39.2**	**-2.2**
	comp=Z,7.4nm,1.0s,mb4.1						
MTLF	**Montolieu**	**24.04**	**71**	*e*P	**P**	**02 37 43.5**	**+1.0**
	comp=Z,31nm,1.4s,mb4.2						
MTLF	**Montolieu**	**24.04**	**71**	*e*P	**P**	**02 37 43.5**	**+1.0**
MTLF				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.3						
MTLF	**Montolieu**	**24.04**	**71**	*e*P	**P**	**02 37 43.5**	**+1.0**
	comp=Z,16nm,1.4s,mb4.2						
TCF	**Toulx Ste Croi**	**24.09**	**64**	*e*P	**P**	**02 37 43.1**	**+0.2**
	comp=Z,100nm,1.7s,mb4.7						
TCF	**Toulx Ste Croi**	**24.09**	**64**	*e*P	**P**	**02 37 43.1**	**+0.2**
	comp=Z,50nm,1.7s,mb4.7						
BGF	**Bois d'Agland**	**24.55**	**63**	*e*P	**P**	**02 37 46.4**	**-0.7**
	comp=Z,43nm,1.1s,mb4.6						
BGF	**Bois d'Agland**	**24.55**	**63**	*e*P	**P**	**02 37 46.4**	**-0.7**
BGF				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.6						
BGF	**Bois d'Agland**	**24.55**	**63**	*e*P	**P**	**02 37 46.4**	**-0.7**
	comp=Z,22nm,1.1s,mb4.6						
AVF	**Avril sur Loir**	**24.92**	**63**	*e*P	**P**	**02 37 49.0**	**-1.4**
	comp=Z,25nm,1.3s,mb4.3						
AVF	**Avril sur Loir**	**24.92**	**63**	*e*P	**P**	**02 37 49.0**	**-1.4**
AVF				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.3						
AVF	**Avril sur Loir**	**24.92**	**63**	*e*P	**P**	**02 37 49.0**	**-1.4**
	comp=Z,12nm,1.3s,mb4.3						
SSF	**Saint Saulge**	**25.05**	**62**	*e*P	**P**	**02 37 52.3**	**+0.7**
	comp=Z,18nm,1.1s,mb4.2						
SSF	**Saint Saulge**	**25.05**	**62**	*e*P	**P**	**02 37 52.3**	**+0.7**
SSF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
SSF	**Saint Saulge**	**25.05**	**62**	*e*P	**P**	**02 37 52.3**	**+0.7**
	comp=Z,9.2nm,1.1s,mb4.2						
LASF	**Ste Croix**	**25.21**	**69**	*e*P	**P**	**02 37 52.8**	**-0.3**
SMF	**Signal de Mont**	**25.25**	**63**	*e*P	**P**	**02 37 53.5**	**+0.1**
	comp=Z,20nm,1.1s,mb4.3						
SMF	**Signal de Mont**	**25.25**	**63**	*e*P	**P**	**02 37 53.5**	**+0.1**
SMF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
SMF	**Signal de Mont**	**25.25**	**63**	*e*P	**P**	**02 37 53.5**	**+0.1**
	comp=Z,10nm,1.1s,mb4.3						
LOR	**Lormes**	**25.31**	**62**	*e*P	**P**	**02 37 54.2**	**+0.3**
	comp=Z,19nm,1.1s,mb4.2						
LOR				*e*MLR	MLR		
	comp=Z,483nm,19.8s,MS3.7						
LOR	**Lormes**	**25.31**	**62**	*e*P	**P**	**02 37 54.2**	**+0.3**
LOR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
LOR				MLR	MLR		
	comp=Z,480nm,19.8s,MS4.0						
LOR	**Lormes**	**25.31**	**62**	*e*P	**P**	**02 37 54.2**	**+0.3**
	comp=Z,9.4nm,1.1s,mb4.2						
LOR				LR	LR		
	comp=Z,480nm,19.8s,MS4.0						
VIVF	**Saint-Julien-l**	**25.78**	**67**	*e*P	**P**	**02 37 58.5**	**+0.3**
	comp=Z,77nm,1.5s,mb4.7						
VIVF	**Saint-Julien-l**	**25.78**	**67**	*e*P	**P**	**02 37 58.5**	**+0.3**
VIVF				pmax	pmax		
	comp=Z,39nm,1.5s,mb4.7						
VIVF	**Saint-Julien-l**	**25.78**	**67**	*e*P	**P**	**02 37 58.5**	**+0.3**
	comp=Z,39nm,1.5s,mb4.7						
BAIF	**Baives**	**25.92**	**55**	*e*P	**P**	**02 37 58.8**	**-0.6**
	comp=Z,104nm,1.4s,mb4.9						
BAIF	**Baives**	**25.92**	**55**	*e*P	**P**	**02 37 58.8**	**-0.6**
BAIF				pmax	pmax		
	comp=Z,52nm,1.4s,mb4.9						
BAIF	**Baives**	**25.92**	**55**	*e*P	**P**	**02 37 58.8**	**-0.6**
	comp=Z,52nm,1.4s,mb4.9						
UCC	**Uccle**	**26.16**	**54**	P	**P**	**02 38 03.8**	**+2.2**
DOU	**Dourbes**	**26.17**	**55**	P	**P**	**02 38 02.8**	**+1.1**
	comp=Z,13nm,2.1s,mb4.1						
MEZF	**Maizieres J'vi**	**26.23**	**59**	*e*P	**P**	**02 38 01.9**	**-0.4**
	comp=Z,75nm,1.2s,mb4.8						
MEZF	**Maizieres J'vi**	**26.23**	**59**	*e*P	**P**	**02 38 01.9**	**-0.4**
	comp=Z,37nm,1.2s,mb4.8						
GIVF	**Givet**	**26.32**	**55**	*e*P	**P**	**02 38 03.2**	**+0.2**
	comp=Z,33nm,1.0s,mb4.5						
GIVF	**Givet**	**26.32**	**55**	*e*P	**P**	**02 38 03.2**	**+0.2**
GIVF				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.5						
GIVF	**Givet**	**26.32**	**55**	*e*P	**P**	**02 38 03.2**	**+0.2**
	comp=Z,16nm,1.0s,mb4.5						
ORIF	**Oris-en-Rattie**	**26.63**	**67**	*e*P	**P**	**02 38 07.1**	**+1.1**
	comp=Z,68nm,1.6s,mb4.6						
ORIF				*e*MLR	MLR		
	comp=Z,406nm,22.0s,MS3.6						
ORIF	**Oris-en-Rattie**	**26.63**	**67**	*e*P	**P**	**02 38 07.1**	**+1.1**
ORIF				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.6						
ORIF	**Oris-en-Rattie**	**26.63**	**67**	*e*P	**P**	**02 38 07.1**	**+1.1**
	comp=Z,34nm,1.6s,mb4.6						
BCLA	**Clavier**	**26.67**	**55**	P	**P**	**02 38 08.6**	**+2.4**
CABF	**La Chapelle**	**26.79**	**63**	*e*P	**P**	**02 38 07.7**	**+0.3**
	comp=Z,24nm,1.1s,mb4.3						
CABF	**La Chapelle**	**26.79**	**63**	*e*P	**P**	**02 38 07.7**	**+0.3**
CABF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
CABF	**La Chapelle**	**26.79**	**63**	*e*P	**P**	**02 38 07.7**	**+0.3**
	comp=Z,12nm,1.1s,mb4.3						
CDF	**Champ du Feu**	**27.70**	**59**	*e*P	**P**	**02 38 16.3**	**+0.8**
	comp=Z,24nm,1.1s,mb4.4						
CDF	**Champ du Feu**	**27.70**	**59**	*e*P	**P**	**02 38 16.3**	**+0.8**
CDF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.4						
CDF	**Champ du Feu**	**27.70**	**59**	*e*P	**P**	**02 38 16.3**	**+0.8**
	comp=Z,12nm,1.1s,mb4.4						
DAVOS	**Davos**	**29.34**	**63**	P	**P**	**02 38 33.4**	**+3.3**
DAVOX	**Davos/Dischmat**	**29.40**	**63**	P	**P**	**02 38 33.3**	**+2.7**
	comp=Z,3.0nm,1.1s,mb4.0,baz=77,slow=3.4,SNR=3.5						
DAVOX	**Davos/Dischmat**	**29.40**	**63**	P	**P**	**02 38 33.3**	**+2.6**
NKC	**Novy Kostel**	**31.20**	**56**	*e*P	**P**	**02 38 46.8**	**+0.3**
KHC	**Kasperske Hory**	**31.89**	**58**	*e*P	**P**	**02 38 53.3**	**+0.7**
KHC	**Kasperske Hory**	**31.89**	**58**	*e*P	**P**	**02 38 56.4**	**+3.8**
GERES	**GERESS Array B**	**31.97**	**59**	P	**P**	**02 38 52.4**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.3,baz=265,slow=11,SNR=4.1						
BRG	**Berggiesshubel**	**32.19**	**55**	*e*P	**P**	**02 38 57.8**	**+2.6**
BRG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BRG	**Berggiesshubel**	**32.19**	**55**	*e*P	**P**	**02 38 57.8**	**+2.6**
	comp=Z,1.5nm,0.9s,mb3.8						
AQU	**L'Aquila**	**32.32**	**71**	*e*P	**P**	**02 38 53.8**	**-2.7**
AQU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
AQU	**L'Aquila**	**32.32**	**71**	*e*P	**P**	**02 38 53.8**	**-2.7**
	comp=Z,11nm,1.0s,mb4.7						
PRU	**Pruhonice**	**32.53**	**57**	*e*P	**P**	**02 38 58.5**	**+0.3**
PVCC	**Panska Ves**	**32.57**	**56**	*e*P	**P**	**02 39 06.0**	**+7.5**
NOA	**NORSAR Array B**	**32.89**	**36**	P	**P**	**02 38 59.6**	**-1.6**
	comp=Z,1.2nm,0.9s,mb3.8,baz=248,slow=9.3,SNR=3.0						
TREC	**Trest**	**33.14**	**58**	*e*P	**P**	**02 39 07.1**	**+3.5**
UPC	**Upice**	**33.49**	**56**	*e*P	**P**	**02 39 06.8**	**+0.2**
DPC	**Dobruska-Polom**	**33.69**	**56**	*e*P	**P**	**02 39 10.3**	**+2.0**
VRAC	**Vranov**	**33.87**	**58**	LR	LR	02 50 41.5	
	comp=Z,221nm,18.6s,MS3.9,baz=177,slow=32						
MODS	**Modra-Piesok**	**34.36**	**60**	*e*P	**P**	**02 39 18.1**	**+4.0**
MORC	**Moravsky Berou**	**34.48**	**57**	*e*P	**P**	**02 39 15.3**	**+0.1**
MORC				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
MORC	**Moravsky Berou**	**34.48**	**57**	*e*P	**P**	**02 39 15.3**	**+0.1**
	comp=Z,1.3nm,0.8s,mb3.9						
PKSM	**Moragy**	**35.48**	**63**	⇓*i*P	**P**	**02 39 22.5**	**-1.3**
PKSM	**Moragy**	**35.48**	**63**	⇓P	**P**	**02 39 22.5**	**-1.3**
BUD	**Budapest**	**35.59**	**61**	⇓*e*P	**P**	**02 39 29.0**	**+4.2**
OJC	**Ojcow**	**35.92**	**56**	*e*P	**P**	**02 39 27.8**	**+0.3**
PSZ	**Pászkesteto**	**36.14**	**60**	*e*P	**P**	**02 39 29.2**	**-0.3**
PSZ				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
PSZ	**Piszkesteto**	**36.14**	**60**	⇓*e*P	**P**	**02 39 30.2**	**+0.7**
PSZ	**Piszkesteto**	**36.14**	**60**	*e*P	**P**	**02 39 29.2**	**-0.3**
	comp=Z,13nm,1.4s,mb4.7						
PSZ	**Piszkesteto**	**36.14**	**60**	*e*P	**P**	**02 39 29.2**	**-0.3**
	comp=Z,13nm,1.4s,mb4.7						
KECS	**Kecovo**	**36.48**	**59**	*e*P	**P**	**02 39 36.0**	**+3.6**
STHS	**Stebnicka Huta**	**36.90**	**58**	*e*P	**P**	**02 39 41.3**	**+5.4**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
STHS	**Stebnicka Huta**	**36.90**	**58**	*e*P	**P**	**02 39 41.3**	**+5.4**
	comp=Z,2.9nm,1.0s,mb4.1						
CRVS	**Cervenica-Dubn**	**37.09**	**58**	*e*P	**P**	**02 39 38.6**	**+1.1**
KOLS	**Kolonicke sedl**	**37.62**	**58**	*e*P	**P**	**02 39 43.6**	**+1.6**
BZS	**Buzias**	**37.62**	**64**	⇓*i*P	**P**	**02 39 46.6**	**+4.5**
BZS	**Buzias**	**37.62**	**64**	⇓P	**P**	**02 39 46.6**	**+4.6**
KWP	**Kalwaria**	**37.83**	**57**	⇑*i*P	**P**	**02 39 47.7**	**+3.9**
KWP	**Kalwaria**	**37.83**	**57**	⇑P	**P**	**02 39 47.7**	**+3.9**
TOA0	**Torodi Ar. Sit**	**38.20**	**125**	*e*P	**P**	**02 39 50.3**	**+3.0**
TOA0	**Torodi Ar. Sit**	**38.20**	**125**	*e*P	**P**	**02 39 50.4**	**+3.1**
TORD	**Torodi Ar. Bea**	**38.20**	**125**	P	**P**	**02 39 49.7**	**+2.4**
	comp=Z,2.9nm,1.1s,mb3.9,baz=317,slow=5.6,SNR=12						
DBIC	**Dimbokro**	**39.70**	**139**	P	**P**	**02 40 03.5**	**+3.6**
	comp=Z,8.9nm,1.0s,mb4.4,baz=318,slow=8.4,SNR=4.4						
DBIC	**Dimbokro**	**39.70**	**139**	*e*P	**P**	**02 40 03.7**	**+3.8**
DBIC				pmax	pmax		
	comp=Z,11nm,1.0s						
DBIC	**Dimbokro**	**39.70**	**139**	*e*P	**P**	**02 40 03.7**	**+3.9**
	comp=Z,11nm,1.0s,mb4.6						
BURAR	**Bucovina Array**	**39.74**	**60**	⇑*i*P	**P**	**02 40 01.5**	**+1.7**
BURAR	**Bucovina Array**	**39.74**	**60**	⇑P	**P**	**02 40 01.6**	**+1.7**
KAF	**Kangasniemi**	**40.13**	**37**	*e*p	**P**	**02 40 06.1**	**+3.2**
	comp=Z,6.1nm,0.7s,mb4.4						
KAF	**Kangasniemi**	**40.13**	**37**	*e*P	**P**	**02 40 06.1**	**+3.2**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
MLR	**Muntele Rosu**	**40.63**	**63**	⇑*i*P	**P**	**02 40 07.5**	**+0.3**
MLR	**Muntele Rosu**	**40.63**	**63**	⇑P	**P**	**02 40 07.5**	**+0.3**
VRI	**Vrincioaia**	**41.08**	**62**	⇓*i*P	**P**	**02 40 12.1**	**+1.1**
VRI	**Vrincioaia**	**41.08**	**62**	⇓P	**P**	**02 40 12.1**	**+1.1**
AKASG	**Malin Array Be**	**41.87**	**55**	P	**P**	**02 40 16.9**	**-0.4**
	comp=Z,3.4nm,0.8s,mb4.0,baz=274,slow=8.0,SNR=9.2						
AKASG	**Malin Array Be**	**41.87**	**55**	P	**P**	**02 40 16.9**	**-0.4**
AKBB	**Malin Array Si**	**41.87**	**55**	*e*P	**P**	**02 40 16.8**	**-0.6**
AKBB	**Malin Array Si**	**41.87**	**55**	*e*P	**P**	**02 40 16.8**	**-0.5**
JOF	**Joensuu**	**42.52**	**36**	*e*p	**P**	**02 40 25.5**	**+3.0**
	comp=Z,10nm,0.7s,mb4.7						
TIRR	**Tirgusor**	**42.57**	**64**	⇓*i*P	**P**	**02 40 22.6**	**-0.6**
TIRR	**Tirgusor**	**42.57**	**64**	*e*P	**P**	**02 40 22.1**	**-1.1**
	comp=Z,15nm,1.2s,mb4.6						
OBN	**Obninsk**	**45.61**	**47**	⇓*e*P	**P**	**02 40 47.3**	**-0.1**
OBN				*e*S	**S**	**02 47 36.6**	**+8.6**
OBN				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.2						
OBN	**Obninsk**	**45.61**	**47**	*e*P	**P**	**02 40 47.3**	**-0.1**
	comp=Z,20nm,0.9s,mb5.0						
MOS	**Moscow**	**46.11**	**46**	*e*P	**P**	**02 40 50.9**	**-0.4**
KLMR	**Klimovskoe**	**46.44**	**39**	P	**P**	**02 40 49.3**	**-4.5**
KLMR				pmax	pmax		
	comp=Z,33nm,1.8s,mb5.0						
AGMN	**Agassiz Refuge**	**47.07**	**303**	*e*P	**P**	**02 40 58.2**	**-0.7**
	comp=Z,4.4nm,0.8s,mb4.4						
AGMN	**Agassiz Refuge**	**47.07**	**303**	*e*P	**P**	**02 40 58.2**	**-0.8**
	comp=Z,4.4nm,0.8s,mb4.4						
ECSD	**EROS,Sioux Fal**	**48.94**	**298**	*e*P	**P**	**02 41 17.9**	**+4.5**
	comp=Z,17nm,1.4s,mb4.9						
FFC	**Flin Flon**	**49.17**	**313**	*e*P	**P**	**02 41 14.5**	**-0.6**
FFC				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
FFC	**Flin Flon**	**49.17**	**313**	*e*P	**P**	**02 41 14.5**	**-0.6**
	comp=Z,7.7nm,1.0s,mb4.7						
FFC	**Flin Flon**	**49.17**	**313**	*e*P	**P**	**02 41 14.5**	**-0.6**
	comp=Z,7.7nm,1.0s,mb4.7						
MIAR	**Mount Ida**	**50.30**	**285**	*e*P	**P**	**02 41 23.7**	**-0.3**
MIAR				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
MIAR	**Mount Ida**	**50.30**	**285**	*e*P	**P**	**02 41 23.7**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8						
MIAR	**Mount Ida**	**50.30**	**285**	*e*P	**P**	**02 41 23.7**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8						
MALT	**Malatya**	**51.72**	**68**	*e*P	**P**	**02 41 34.9**	**+0.3**
MALT				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
MALT	**Malatya**	**51.72**	**68**	*e*P	**P**	**02 41 34.9**	**+0.3**
	comp=Z,7.2nm,1.1s,mb4.5						
KIV	**Kislovodsk**	**

WALA	Waterton Lakes	58.02	309	eP		P	02 42 19.2	-0.8
	comp=Z,13nm,1.0s,mb4.9							
SVE	Sverdlovsk	58.04	40	eP		P	02 42 20.0	0.0
SVE					pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9							
SVE	Sverdlovsk	58.04	40	eP		P	02 42 20.0	0.0
	comp=Z,12nm,1.0s,mb4.9							
BOZ	Bozeman (W)	58.09	305	eP		P	02 42 20.1	-0.4
BOZ					pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3							
BOZ	Bozeman (W)	58.09	305	eP		P	02 42 20.1	-0.4
	comp=Z,3.4nm,0.9s,mb4.4							
BOZ	Bozeman (W)	58.09	305	eP		P	02 42 20.1	-0.5
	comp=Z,3.4nm,0.9s,mb4.4							
LOHW	Long Hollow	58.33	303	eP		P	02 42 21.5	-0.7
	comp=Z,17nm,1.4s,mb4.9							
MOOW	Moose Ponds	58.36	303	eP		P	02 42 22.2	-0.3
	comp=Z,11nm,1.3s,mb4.7							
SNOW	Snow King Moun	58.49	302	eP		P	02 42 23.5	+0.1
	comp=Z,14nm,1.1s,mb4.9							
SNOW	Snow King Moun	58.49	302	eP		P	02 42 23.5	+0.1
	comp=Z,14nm,1.1s,mb4.9							
REDW	Red Top Meadow	58.60	302	eP		P	02 42 23.3	-0.9
	comp=Z,24nm,1.4s,mb5.0							
REDW	Red Top Meadow	58.60	302	eP		P	02 42 23.3	-0.9
	comp=Z,24nm,1.4s,mb5.0							
TPAW	Teton Pass	58.61	303	eP		P	02 42 23.9	-0.3
	comp=Z,11nm,0.6s,mb5.0							
TPAW	Teton Pass	58.61	303	eP		P	02 42 23.9	-0.3
	comp=Z,11nm,0.6s,mb5.0							
RRI2	Red Ridge	58.91	303	eP		P	02 42 26.0	-0.3
	comp=Z,23nm,1.3s,mb5.0							
RRI2	Red Ridge	58.91	303	eP		P	02 42 26.1	-0.3
	comp=Z,23nm,1.3s,mb5.0							
MSO	Missoula	59.01	307	eP		P	02 42 24.3	-2.6
	comp=Z,8.6nm,1.3s,mb4.6							
AKTK	Aktyubinsk	59.38	48	P		P	02 42 28.7	-0.8
AKTO	Aktyubinsk	59.38	48	P		P	02 42 28.7	-0.8
	comp=Z,5.6nm,0.8s,mb4.6,baz=311,slow=6.2,SNR=7.6							
ANMO	Albuquerque	59.53	292	i P		P	02 42 31.1	+0.4
ANMO	Albuquerque	59.53	292	eP		P	02 42 31.7	+1.0
	comp=Z,4.4nm,0.9s,mb4.5							
PV10	Paradox Valley	59.69	297	eP		P	02 42 32.3	+0.5
HWUT	Hardware Ranch	59.87	301	eP		P	02 42 32.6	-0.4
	comp=Z,15nm,0.9s,mb5.0							
HWUT	Hardware Ranch	59.87	301	eP		P	02 42 32.6	-0.4
	comp=Z,15nm,0.9s,mb5.0							
LPM	Los Pinos Moun	59.97	291	eP		P	02 42 34.4	+0.6
BNM	Barren Site	60.04	291	eP		P	02 42 35.0	+0.7
BNM	Barren Site	60.04	291	eP		P	02 42 35.0	+0.7
NEW	Newport	60.28	310	eP		P	02 42 34.7	-1.0
NEW					pmax	pmax		
	comp=Z,15nm,1.2s							
NEW	Newport	60.28	310	eP		P	02 42 34.7	-1.0
	comp=Z,15nm,1.2s,mb4.9							
NEW	Newport	60.28	310	eP		P	02 42 34.7	-1.0
	comp=Z,15nm,1.2s,mb4.9							
TXAR	Lajitas Array	60.31	285	P		P	02 42 36.6	+0.4
	comp=Z,8.6nm,0.9s,mb4.8,baz=72,slow=7.2,SNR=37							
HLID	Hailey	60.81	304	eP		P	02 42 39.5	+0.1
	comp=Z,8.5nm,1.4s,mb4.7							
HLID	Hailey	60.81	304	eP		P	02 42 39.5	+0.2
	comp=Z,8.5nm,1.4s,mb4.7							
BGU	Big Grassy Mou	61.17	301	eP		P	02 42 41.1	-0.8
BGU	Big Grassy Mou	61.17	301	eP		P	02 42 41.1	-0.8
DUG	Dugway	61.38	300	eP		P	02 42 43.4	+0.1
DUG					pmax	pmax		
	comp=Z,15nm,1.0s,mb5.1							
DUG	Dugway	61.38	300	eP		P	02 42 43.4	+0.1
	comp=Z,15nm,1.0s,mb5.1							
DUG	Dugway	61.38	300	eP		P	02 42 43.4	+0.1
	comp=Z,15nm,1.0s,mb5.1							
ELK	Elko	62.72	302	eP		P	02 42 52.5	+0.2
ELK					pmax	pmax		
	comp=Z,9.0nm,0.9s							
ELK	Elko	62.72	302	eP		P	02 42 52.5	+0.2
	comp=Z,9.0nm,0.9s,mb4.9							
ELK	Elko	62.72	302	eP		P	02 42 52.5	+0.2
	comp=Z,9.0nm,0.9s,mb4.9							
TUC	Tucson	63.98	291	eP		P	02 43 01.9	+1.2
TUC					pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6							
TUC	Tucson	63.98	291	eP		P	02 43 01.9	+1.2
	comp=Z,6.1nm,0.9s,mb4.6							
TUC	Tucson	63.98	291	eP		P	02 43 01.9	+1.2
	comp=Z,6.1nm,0.9s,mb4.6							
WVOR	Wild Horse Val	64.06	305	eP		P	02 43 00.8	-0.3
WVOR	Wild Horse Val	64.06	305	eP		P	02 43 00.8	-0.3
BRVK	Borovoye	64.73	41	eP		P	02 43 05.0	-0.3
BRVK					pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3							
BRVK	Borovoye	64.73	41	eP		P	02 43 05.0	-0.3
	comp=Z,2.2nm,0.7s,mb4.3							
BRVK	Borovoye	64.73	41	eP		P	02 43 05.0	-0.3
	comp=Z,2.2nm,0.7s,mb4.3							
TPH	Tonopah	65.41	300	eP		P	02 43 10.4	+0.4
TPH					pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0							
TPH	Tonopah	65.41	300	eP		P	02 43 10.4	+0.4
	comp=Z,17nm,1.1s,mb5.0							
TPH	Tonopah	65.41	300	eP		P	02 43 10.4	+0.4
	comp=Z,17nm,1.1s,mb5.0							
NVAR	Mina Array Bea	65.94	301	P		P	02 43 11.8	-1.6
	comp=Z,0.4nm,0.6s,mb3.6,baz=90,slow=5.5,SNR=4.2							
NVAR	Mina Array Bea	65.94	301	P		P	02 43 11.8	-1.6
IMA2	Indian Mountai	66.15	338	eP		P	02 43 13.1	-1.1
IMA2	Indian Mountai	66.15	338	eP		P	02 43 13.1	-1.2
GLA	Glamis	66.45	294	eP		P	02 43 17.4	+0.6
GLA					pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6							
GLA	Glamis	66.45	294	eP		P	02 43 17.4	+0.6
	comp=Z,5.7nm,0.9s,mb4.6							
GLA	Glamis	66.45	294	eP		P	02 43 17.4	+0.6
	comp=Z,5.7nm,0.9s,mb4.6							
GSC	Goldstone	66.61	297	eP		P	02 43 18.3	+0.5
GSC					pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8							
GSC	Goldstone	66.61	297	eP		P	02 43 18.3	+0.5
	comp=Z,9.0nm,1.0s,mb4.8							
GSC	Goldstone	66.61	297	eP		P	02 43 18.3	+0.6
	comp=Z,9.0nm,1.0s,mb4.8							
PFO	Pinyon Flat Ob	67.29	295	eP		P	02 43 22.0	-0.1
PFO					pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8							
PFO	Pinyon Flat Ob	67.29	295	eP		P	02 43 22.0	-0.1
	comp=Z,9.1nm,1.0s,mb4.8							
PFO	Pinyon Flat Ob	67.29	295	eP		P	02 43 22.0	-0.1
	comp=Z,9.1nm,1.0s,mb4.8							
CMB	Columbia Colle	67.53	301	eP		P	02 43 23.0	-0.6
CMB					pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7							
CMB	Columbia Colle	67.53	301	eP		P	02 43 23.0	-0.6
	comp=Z,8.6nm,1.2s,mb4.7							
CMB	Columbia Colle	67.53	301	eP		P	02 43 23.0	-0.5
	comp=Z,8.6nm,1.2s,mb4.7							
OHCM	Honcut	67.53	303	eP		P	02 43 23.7	+0.2
OHCM	Honcut	67.53	303	eP		P	02 43 23.7	+0.1
NVS	Novosibirsk	69.79	35	eP		P	02 43 36.2	-1.1
NVS					pmax	pmax		
	comp=N,6.0nm,1.3s							
NVS					pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7							
KURK	Kurchatov	70.28	40	eP		P	02 43 39.6	-0.8
KURK					pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4							
KURK	Kurchatov	70.28	40	eP		P	02 43 39.6	-0.8
	comp=Z,7.0nm,1.3s,mb4.4							
KURK	Kurchatov	70.28	40	eP		P	02 43 37.8	-2.7
	comp=Z,6.9nm,1.0s,mb4.5							
CPUP	Villa Florida	70.58	206	P		P	02 43 47.1	+4.7
	comp=Z,0.3nm,0.5s,mb3.5,baz=214,slow=7.6,SNR=3.4							
ZAL	Zalesovo	71.08	35	P		P	02 43 44.8	-0.4
ZALV	Zalesovo Beam	71.08	35	P		P	02 43 44.8	-0.4
	comp=Z,0.4nm,0.3s,mb3.8,baz=316,slow=6.2,SNR=3.9							
EKS2	Erkin-Say	72.69	49	eP		P	02 43 56.0	+0.9
	comp=Z,9.0nm,1.1s,mb4.6							
EKS2	Erkin-Say	72.69	49	eP		P	02 43 56.0	+0.9
	comp=Z,9.0nm,1.1s,mb4.6							
MKAR	Makanchi Array	74.68	41	P		P	02 44 05.3	-1.4
	comp=Z,1.3nm,0.6s,mb4.0,baz=324,slow=4.9,SNR=6.5							
HVS	Khovu-Aksy	76.89	33	eP		P	02 44 21.6	+2.4
HVS					pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0							
YAK	Yakutsk	77.26	10	eP		P	02 44 21.5	+0.4
YAK					pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8							
YAK	Yakutsk	77.26	10	eP		P	02 44 21.5	+0.4
	comp=Z,10.0nm,0.8s,mb4.8							
BOD	Bodaibo	78.19	19	eP		P	02 44 31.9	+5.6
BOD					pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
MOY	Mondy	79.35	29	eP		P	02 44 33.2	+0.3
MOY					pmax	pmax		
	comp=Z,16nm,1.8s,mb4.7							
MOY	Mondy	79.35	29	eP		P	02 44 33.2	+0.3
	comp=Z,16nm,1.8s,mb4.7							
WMQ	Urumqi	79.49	41	eP		P	02 44 33.6	-0.2
ZAK	Zakamensk	81.24	28	eP		P	02 44 43.2	+0.1
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0							
ZAK	Zakamensk	81.24	28	eP		P	02 44 43.2	+0.1
	comp=Z,3.0nm,1.7s,mb4.0							
SONM	Songino Array	84.50	28	P		P	02 44 59.8	-0.2
	comp=Z,1.2nm,0.8s,mb4.1,baz=325,slow=5.0,SNR=10							
GTA	Gaotai	88.72	37	eP		P	02 45 20.9	+0.1
GTA				AP		pP	02 45 25.1	-4.5
GTA				XP		sP	02 45 28.3	-4.4
GTA				PP		PP	02 48 52.3	+3.4
GTA				AMB		AMB		
	comp=Z,4.0nm,1.3s,mb4.6							
GTA				AMB		AMB		
	comp=Z,81nm,7.5s							
GTA				LR		LR		
	comp=N,471nm,14.9s,MS5.1							
GTA				LR		LR		
	comp=E,185nm,15.5s,MS5.1							
GTA				LR		LR		
	comp=Z,307nm,17.1s,MS4.8							
HHC	Hu-ho-hao-te	92.39	28	eP		P	02 45 35.4	-2.5
HHC				PP		PP	02 49 17.8	-0.1
HHC				AMB		AMB		
	comp=Z,15nm,0.6s,mb5.5							
HHC				AMB		AMB		
	comp=Z,177nm,8.1s							
HHC				LR		LR		
	comp=N,190nm,21.4s,MS4.8							
HHC				LR		LR		
	comp=E,257nm,20.2s,MS4.8							
HHC				LR		LR		
	comp=Z,280nm,20.2s,MS4.7							
LZH	Lanzhou	93.27	36	eP		P	02 45 38.5	-3.5
LZH				ePP		PP	02 49 23.1	-1.9
LZH				AMB		AMB		
	comp=Z,16nm,1.5s,mb5.2							
LZH				AMB		AMB		
	comp=Z,93nm,9.4s							
LZH				LR		LR		
	comp=E,203nm,18.0s							
LZH				LR		LR		
	comp=Z,331nm,19.7s,MS4.8							
CN2	Changchun	93.90	18	eP		P	02 45 44.0	-0.8
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb5.4							
CD2	Chengdu	97.50	39	eP		P	02 46 00.1	-1.3
CD2				AP		pP	02 46 05.1	-5.1
CD2				XP		sP	02 46 08.1	-5.2
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb5.2							
CD2				AMB		AMB		
	comp=Z,20nm,6.8s							
GYA	Guiyang	102.60	39	P		Pdif	02 46 24.3	+0.3
GYA				PP		PP	02 50 38.0	+1.3
GYA				AMB		AMB		
	comp=Z,90nm,5.2s							
GYA				LR		LR		
	comp=N,460nm,22.9s,MS5.1							
GYA				LR		LR		
	comp=E,450nm,21.6s,MS5.1							
GYA				LR		LR		
	comp=Z,440nm,24.7s,MS4.9							
NJ2	Nanjing	102.87	27	eP		Pdif	02 46 25.4	+0.2
CASY	Casey	145.22	153	ePKPbc		PKPbc	02 52 05.8	+2.3

ISCJB ***18*** *02:37:02.7±1.4,3979N±003×2971W±003,h10km±8km, mb4.7/137,MS4.1/19,Error ellipse: s-maj=4.6km s-min=3.2km az=25.8*

CSEM ***18*** *02:37:02.4±0.1,3988N×2976W,h10km,mb4.8/93,Ms3.9, Error ellipse: s-maj=2.8km s-min=1.4km az=6.0*

BJI ***18*** *02:37:02.3,4000N×2980W,h10km,mB5.2,mb5.1,Ms5.3, Msz4.9*

IDC ***18*** *02:37:03.7±0.4,4010N×2972W,h0km,mb4.2/31, mb1 4.3/32,mb1mx4.3/37,mbtmp4.2/32,ML4.6/1,MS4.1/12, Ms1 4.1/12,ms1mx3.9/41,Error ellipse: s-maj=13.7km s-min=10.1km az=162.0*

PDA ***18*** *02:37:05.1±1.1,3999N×2962W,h0km,MD3.9,ML3.7, Error ellipse: s-maj=8.3km s-min=5.7km az=66.0*

NEIC ***18*** *02:37:05.4±0.2,4003N×2975W,h10km,mb4.8/91,Error ellipse: s-maj=7.5km s-min=3.1km az=176.0*

MOS ***18*** *02:37:06.7±1.3,4009N×2985W,h33km,mb5.0/70, MS4.0/4,Error ellipse: s-maj=10.9km s-min=4.0km az=144.4*

SZGRF ***18*** *02:37:08.1,4014N×2995W,h33km,mb4.9,Azores Islands region*

ISC 18 02:37:05.7±1.4,3974N±003×2966W±003,h18km±9km, h14km±1.0km:pP-P,n488,σ1§31/496,mb4.7/137,MS4.1/19, 8C-13D,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	1.38	147	eP	Pn	02 37 29.8	-0.2
CALA				eS	Sn	02 37 47.7	0.0
SRBC	Serra Branca	1.44	119	eP	Pn	02 37 28.8	-2.0
SRBC				eS	Sn	02 37 46.9	-2.3
HOR	Horta	1.45	146	eP	Pn	02 37 30.9	-0.1
HOR				i P		02 37 32.9	
HOR				eS	Sn	02 37 49.4	-0.2
ROSA	Rosais	1.50	132	eP	Pn	02 37 30.6	-1.1
ROSA				eS	Sn	02 37 50.0	-0.8
PICO	Pico	1.57	142	eP	Pn	02 37 32.2	-0.4
PICO				eS	Sn	02 37 51.8	-0.6
PMAN	Manadas	1.65	132	eP	Pn	02 37 32.8	-0.9
PMAN				eS	Sn	02 37 52.7	-1.7
PMAN				A		02 37 54.0	
	145nm,0.1s						
PMAN	Manadas	1.65	132	eP	Pn	02 37 32.8	-0.9
PMAN				eS	Sn	02 37 52.7	-1.7
ADH	Angra Heroismo	2.17	119	eP	Pn	02 37 38.9	-2.0
ADH				eS	Sn	02 38 05.2	-2.2
PSCM	Serra do Cume	2.23	117	i P	Pn	02 37 39.1	-2.6
PSCM				eS	Sn	02 38 06.5	-2.3
PSCM				A		02 38 08.0	
	23nm,0.3s						
PSET	Sete Cidades	3.62	121	eP	Pn	02 37 59.4	-1.5
PSET				eS	Sn	02 38 40.5	-2.7
PSET				A		02 38 42.9	
	8.0nm,0.3s						
PSET	Sete Cidades	3.62	121	eP	Pn	02 37 59.4	-1.5
PSET				eS	Sn	02 38 40.5	-2.7
PDA	Ponta Delgada	3.71	121	eP	Pn	02 38 01.0	-1.0
PDA				eS	Sn	02 38 42.2	-3.0
PDA				eLR	LR	02 38 54.0	
PDA				eLQ		02 38 56.0	
PDA	Ponta Delgada	3.71	121	eP	Pn	02 38 01.0	-1.0
PDA				eS	Sn	02 38 42.2	-3.0
CMLA	Cha da Macela	3.79	120	eP	Pn	02 38 01.9	-1.2
CMLA				eS	Sn	02 38 44.0	-3.2
CMLA				A		02 38 48.1	
	114nm,0.4s						
CMLA	Cha da Macela	3.79	120	eP	Pn	02 38 01.9	-1.2
CMLA				eS	Sn	02 38 44.0	-3.2
CMLA	Cha da Macela	3.79	120	ePn	Pn	02 38 02.0	-1.1
PSMN	Pico do Norte,	4.53	126	eP	Pn	02 38 12.0	-1.3
EMAZ	Mazaricos	15.86	72	P	Pn	02 40 52.9	+5.1
	0.1nm,0.0s,SNR=5.5						
STS	Santiago	16.16	72	P	Pn	02 40 55.4	+3.6
	0.4nm,0.1s,SNR=7.9						
ELOB	Lobios	16.49	76	P	Pn	02 40 52.9	-3.0
	0.3nm,0.1s,SNR=5.9						
PTEO	Sao Teotonio	16.50	91	eP	Pn	02 40 55.8	-0.4
	92nm,1.8s						
EVOP	Sao Brissos	16.75	87	eP	Pn	02 40 58.3	-1.0
	25nm,1.1s						
EVO	Evora	16.84	87	eP	Pn	02 40 58.3	-2.1
	50nm,1.1s						
EVO				eMLR	MLR		
	comp=Z,2μm,19.2s						
EVO	Evora	16.84	87	eP	Pn	02 41 00.7	+0.3
	comp=Z,41nm,1.6s						
MTE	Manteigas	16.94	81	eP	Pn	02 41 01.3	-0.4
	comp=Z,46nm,1.4s						
PMRV	Marv??o	17.17	84	eP	Pn	02 41 05.4	+0.9
	comp=Z,44nm,1.9s						
PBDV	Barranco-do-Ve	17.19	91	eP	Pn	02 41 05.7	+0.9
	comp=Z,62nm,1.8s						
EPON	Pontenova	17.22	71	P	Pn	02 41 07.1	+2.0
	comp=Z,0.0nm,0.0s,SNR=7.9						
EPON	Pontenova	17.22	71	P	Pn	02 41 07.1	+2.0
EGRO	El Granado	17.46	90	P	Pn	02 41 04.2	-4.0
	comp=Z,0.0nm,0.0s,SNR=8.2						
ECAL	Calabor	17.48	75	P	Pn	02 41 05.3	-3.0
	comp=Z,0.0nm,0.0s,SNR=7.9						
EBAD	Badajoz	17.57	86	P	Pn	02 41 02.1	-7.4
	comp=Z,0.0nm,0.0s,SNR=7.9						
PBAR	Barrancos	17.66	88	eP	Pn	02 41 10.5	-0.1
	comp=Z,38nm,1.9s						
EMIN	Mina Concepcio	18.03	89	P	Pn	02 41 12.3	-2.9
	comp=Z,0.0nm,0.0s,SNR=5.8						
ESPR	Espera	18.89	91	P	Pn	02 41 25.3	-0.3
	comp=Z,0.4nm,0.1s,SNR=7.9						
ESPR	Espera	18.89	91	P	Pn	02 41 25.4	-0.3
EJIF	Jimena Fronter	19.30	92	P	Pn	02 41 39.1	+8.3
	comp=Z,0.1nm,0.1s,SNR=7.9						
EJIF	Jimena Fronter	19.30	92	P	Pn	02 41 38.6	+7.9
PAB	San Pablo	19.48	82	eP	Pn	02 41 29.5	-3.3
PAB				pmax	pmax		
	comp=Z,16nm,1.1s						
PAB	San Pablo	19.48	82	eP	Pn	02 41 29.5	-3.3
	comp=Z,16nm,1.1s						
GUD	Guadarrama	19.49	79	P	Pn	02 41 31.2	-1.7
	comp=Z,0.1nm,0.1s,SNR=6.0						
ECEU	Ceuta	19.55	94	P	Pn	02 41 39.3	+5.7
	comp=Z,0.1nm,0.0s,SNR=7.9						
ESDC	Sonseca Array	19.75	82	P	Pn	02 41 36.4	+0.4
	comp=Z,0.3nm,0.3s,baz=289,slow=10.0,SNR=10						
ESDC				LR	LR	02 47 41.9	
	comp=Z,925nm,19.6s,baz=280,slow=32						
ESDC	Sonseca Array	19.75	82	P	Pn	02 41 32.8	-3.2
	comp=Z,0.2nm,0.1s,baz=190,slow=10,SNR=9.0						
ESDC	Sonseca Array	19.75	82	P	Pn	02 41 35.6	-0.4
ESDC	Sonseca Array	19.75	82	P	Pn	02 41 35.6	-0.5
EMIJ	Mijas	19.81	91	P	Pn	02 41 37.5	+0.8
	comp=Z,0.0nm,0.1s,SNR=7.9						
ELAN	Lanestosa	19.92	71	P	Pn	02 41 43.2	+5.1
	comp=Z,0.0nm,0.0s,SNR=7.9						
ELUQ	Luque	19.93	88	P	Pn	02 41 38.0	-0.2
	comp=Z,0.1nm,0.0s,SNR=4.5						
ELUQ	Luque	19.93	88	P	Pn	02 41 42.7	+4.5
ELOJ	Sierra Loja	20.13	89	P	P	02 41 40.1	+1.5
	comp=Z,0.1nm,0.1s,SNR=9.5						
ELOJ	Sierra Loja	20.13	89	P	P	02 41 41.9	+3.3
EBAN	Banos Encina	20.16	86	P	P	02 41 43.4	+4.4
	comp=Z,0.1nm,0.0s,SNR=6.7						
TZC	Tazercounte	20.20	105	i P	P	02 41 42.0	+2.6
DCN	Croghan	20.43	41	eP	P	02 41 41.6	-0.1
ECOG	Cogollos-Vega	20.55	89	P	P	02 41 45.2	+2.0
	comp=Z,0.1nm,0.1s,SNR=4.6						
EQUE	Quentar	20.66	89	P	P	02 41 46.3	+1.9
	comp=Z,0.0nm,0.0s,SNR=6.8						
EGUA	Guajares	20.66	90	P	P	02 41 47.7	+3.3
	comp=Z,0.1nm,0.1s,SNR=7.9						
QUIF	Quistinic	20.71	58	eP	P	02 41 43.8	-1.0
	comp=Z,137nm,1.6s						
QUIF	Quistinic	20.71	58	eP	P	02 41 43.8	-1.0
QUIF				pmax	pmax		
	comp=Z,69nm,1.6s						
QUIF	Quistinic	20.71	58	eP	P	02 41 43.8	-1.0
	comp=Z,69nm,1.6s						
ROSF	Rostrenen	20.74	57	eP	P	02 41 47.3	+2.1
	comp=Z,219nm,1.9s						
ROSF	Rostrenen	20.74	57	eP	P	02 41 47.3	+2.1
ROSF				pmax	pmax		
	comp=Z,110nm,1.9s						
ROSF	Rostrenen	20.74	57	eP	P	02 41 47.3	+2.1
	comp=Z,110nm,1.9s						
EQES	Quesada	20.80	87	P	P	02 41 47.3	+1.5
	comp=Z,0.0nm,0.0s,SNR=6.2						
EQES	Quesada	20.80	87	P	P	02 41 47.3	+1.4
CZD	Col de Zad	20.88	101	i P	P	02 41 52.0	+5.2
DMUB	Kingscourt	20.92	40	eP	P	02 41 45.4	-1.6
EVIA	Vianos	21.05	84	P	P	02 41 50.2	+1.6
	comp=Z,0.1nm,0.1s,SNR=5.6						
ETOR	Torete	21.06	78	P	P	02 41 53.0	+4.4
	comp=Z,0.6nm,0.0s,mb4.6,SNR=6.2						
ETOR	Torete	21.06	78	P	P	02 41 53.7	+5.1
TZK	Tazeka	21.10	97	i P	P	02 41 50.0	+0.8
EHUE	Huescar	21.16	87	P	P	02 41 50.9	+1.1
	comp=Z,0.1nm,0.1s,SNR=7.9						
SGMF	Saint Gilles	21.19	57	eP	P	02 41 49.8	-0.2
	comp=Z,144nm,1.6s,mb4.8						
SGMF	Saint Gilles	21.19	57	eP	P	02 41 49.8	-0.2
SGMF				pmax	pmax		
	comp=Z,72nm,1.6s,mb4.8						
SGMF	Saint Gilles	21.19	57	eP	P	02 41 49.8	-0.2
	comp=Z,72nm,1.6s,mb4.8						
MDT	Midelt	21.30	101	P	P	02 41 53.1	+1.7
	comp=Z,12nm,1.2s,mb4.1,baz=313,slow=13,SNR=5.7						
MDT				PcP	PcP	02 45 58.6	+3.1
	comp=Z,2.1nm,0.8s,baz=282,slow=5.8,SNR=3.6						
MDT				LR	LR	02 48 31.1	
	comp=Z,597nm,19.2s,MS4.0,baz=229,slow=32						
IUSE	Utxeti	21.31	72	P	P	02 42 00.4	+9.1
	comp=Z,0.1nm,0.0s,mb3.8,SNR=5.0						
ELIZ	Elizondo	21.32	72	P	P	02 41 59.8	+8.4
	comp=Z,18nm,2.1s,mb4.0,SNR=7.9						
EORO	Oroz-Betelu	21.48	72	P	P	02 41 57.4	+4.2
	comp=Z,6.4nm,0.9s,mb3.9,SNR=4.9						
SJPF	Ste Jean	21.54	72	eP	P	02 41 56.4	+2.6
	comp=Z,80nm,1.4s,mb4.7						
SJPF	Ste Jean	21.54	72	eP	P	02 41 56.4	+2.6
SJPF				pmax	pmax	

LFF La Frestale 22.98 67 *eP* **P 02 42 07.4 -1.8**
comp=Z,26nm,1.1s,mb4.6
ESK Eskdalemuir 23.50 40 *eP* **P 02 42 12.7 -1.7**
ESK pmax pmax
comp=Z,37nm,1.2s,mb4.7
ESK Eskdalemuir 23.50 40 *eP* **P 02 42 12.7 -1.7**
comp=Z,37nm,1.2s,mb4.7
ESK Eskdalemuir 23.50 40 *eP* **P 02 42 12.7 -1.7**
comp=Z,37nm,1.2s,mb4.7
EKA Eskdalemuir Ar 23.53 40 P **P 02 42 13.2 -1.6**
comp=Z,8.9nm,0.9s,mb4.2,baz=238,slow=8.8,SNR=13
EKA Eskdalemuir Ar 23.53 40 P **P 02 42 13.1 -1.6**
RJF Les Rejaudoux 23.55 66 *eP* **P 02 42 14.9 -0.1**
comp=Z,68nm,1.5s,mb4.5
RJF Les Rejaudoux 23.55 66 *eP* **P 02 42 14.9 -0.1**
RJF pmax pmax
comp=Z,34nm,1.5s,mb4.6
RJF Les Rejaudoux 23.55 66 *eP* **P 02 42 14.9 -0.1**
comp=Z,34nm,1.5s,mb4.5
CAF Calviac 23.92 67 *eP* **P 02 42 17.5 -1.0**
comp=Z,18nm,0.9s,mb4.2
CAF Calviac 23.92 67 *eP* **P 02 42 17.5 -1.0**
CAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
CAF Calviac 23.92 67 *eP* **P 02 42 17.5 -1.0**
comp=Z,8.8nm,0.9s,mb4.2
MTLF Montolieu 24.05 71 *eP* **P 02 42 20.5 +0.9**
comp=Z,85nm,1.8s,mb4.6
MTLF Montolieu 24.05 71 *eP* **P 02 42 20.5 +0.9**
MTLF pmax pmax
comp=Z,42nm,1.8s,mb4.6
MTLF Montolieu 24.05 71 *eP* **P 02 42 20.5 +0.9**
comp=Z,42nm,1.8s,mb4.6
TCF Toulx Ste Croi 24.09 64 *eP* **P 02 42 19.1 -0.9**
comp=Z,76nm,1.4s,mb4.6
TCF Toulx Ste Croi 24.09 64 *eP* **P 02 42 19.1 -0.9**
TCF pmax pmax
comp=Z,38nm,1.4s,mb4.6
TCF Toulx Ste Croi 24.09 64 *eP* **P 02 42 19.1 -0.9**
comp=Z,38nm,1.4s,mb4.6
HYF Humbligny 24.47 61 *eP* **P 02 42 23.5 0.0**
BGF Bois d'Agland 24.55 63 *eP* **P 02 42 24.1 -0.1**
comp=Z,46nm,0.9s,mb4.7
BGF Bois d'Agland 24.55 63 *eP* **P 02 42 24.1 -0.1**
BGF pmax pmax
comp=Z,23nm,0.9s,mb4.7
BGF Bois d'Agland 24.55 63 *eP* **P 02 42 24.1 -0.1**
comp=Z,23nm,0.9s,mb4.7
AVF Avril sur Loir 24.92 63 *eP* **P 02 42 27.2 -0.3**
comp=Z,103nm,1.8s,mb4.8
AVF Avril sur Loir 24.92 63 *eP* **P 02 42 27.2 -0.3**
AVF pmax pmax
comp=Z,51nm,1.8s,mb4.8
AVF Avril sur Loir 24.92 63 *eP* **P 02 42 27.2 -0.3**
comp=Z,51nm,1.8s,mb4.8
SSF Saint Saulge 25.04 62 *eP* **P 02 42 28.2 -0.5**
comp=Z,81nm,1.6s,mb4.7
SSF Saint Saulge 25.04 62 *eP* **P 02 42 28.2 -0.5**
SSF pmax pmax
comp=Z,40nm,1.6s,mb4.7
SSF Saint Saulge 25.04 62 *eP* **P 02 42 28.2 -0.5**
comp=Z,40nm,1.6s,mb4.7
LASF Ste Croix 25.21 69 *eP* **P 02 42 32.2 +2.0**
comp=Z,74nm,1.6s,mb4.7
LASF Ste Croix 25.21 69 *eP* **P 02 42 32.2 +2.0**
comp=Z,37nm,1.6s,mb4.7
SMF Signal de Mont 25.24 63 *eP* **P 02 42 30.4 -0.1**
comp=Z,114nm,1.6s,mb4.8
SMF Signal de Mont 25.24 63 *eP* **P 02 42 30.4 -0.1**
SMF pmax pmax
comp=Z,57nm,1.6s,mb4.8
SMF Signal de Mont 25.24 63 *eP* **P 02 42 30.4 -0.1**
comp=Z,57nm,1.6s,mb4.8
LOR Lormes 25.30 62 *eP* **P 02 42 29.5 -1.5**
comp=Z,84nm,1.7s,mb4.7
LOR *e*MLR MLR
comp=Z,466nm,19.8s,MS3.7
LOR Lormes 25.30 62 *eP* **P 02 42 29.5 -1.5**
LOR pmax pmax
comp=Z,42nm,1.7s,mb4.7
LOR MLR MLR
comp=Z,470nm,19.8s,MS4.0
LOR Lormes 25.30 62 *eP* **P 02 42 29.5 -1.5**
comp=Z,42nm,1.7s,mb4.7
LOR LR LR
comp=Z,470nm,19.8s,MS4.0
BORG Borgarnes 25.51 8 LR LR 02 49 27.7
comp=Z,380nm,21.5s,MS3.9,baz=29,slow=30
BORG Borgarnes 25.51 8 *eP* **P 02 42 30.4 -2.3**
BORG pmax pmax
comp=Z,33nm,1.5s
BORG Borgarnes 25.51 8 *eP* **P 02 42 30.4 -2.3**
comp=Z,33nm,1.5s,mb4.6
BORG Borgarnes 25.51 8 *eP* **P 02 42 30.4 -2.4**
comp=Z,33nm,1.5s,mb4.6
VIVF Saint-Julien-I 25.78 67 *eP* **P 02 42 37.7 +2.4**
comp=Z,109nm,1.5s,mb4.9
VIVF Saint-Julien-I 25.78 67 *eP* **P 02 42 37.7 +2.4**
VIVF pmax pmax
comp=Z,55nm,1.5s,mb4.9
VIVF Saint-Julien-I 25.78 67 *eP* **P 02 42 37.7 +2.4**
comp=Z,55nm,1.5s,mb4.9
BAIF Baives 25.91 55 *eP* **P 02 42 38.5 +2.1**
comp=Z,61nm,1.2s,mb4.7
BAIF Baives 25.91 55 *eP* **P 02 42 38.5 +2.1**
BAIF pmax pmax
comp=Z,30nm,1.2s,mb4.7
BAIF Baives 25.91 55 *eP* **P 02 42 38.5 +2.1**
comp=Z,30nm,1.2s,mb4.7
UCC Uccle 26.14 54 P **P 02 42 38.4 -0.1**
comp=Z,40nm,2.1s,mb4.6
DOU Dourbes 26.16 55 P **P 02 42 37.7 -1.0**
DOU Dourbes 26.16 55 P **P 02 42 37.6 -1.1**
MEZF Maizieres J'vi 26.22 59 *eP* **P 02 42 40.4 +1.1**
comp=Z,188nm,1.6s,mb5.1
MEZF Maizieres J'vi 26.22 59 *eP* **P 02 42 40.4 +1.1**
comp=Z,94nm,1.6s,mb5.1
GIVF Givet 26.30 55 *eP* **P 02 42 40.7 +0.7**
SMRF Simiane la Rot 26.45 69 *eP* **P 02 42 41.8 +0.3**
comp=Z,92nm,1.6s,mb4.8
SMRF Simiane la Rot 26.45 69 *eP* **P 02 42 41.8 +0.3**
comp=Z,46nm,1.6s,mb4.8
ORIF Oris-en-Rattie 26.63 67 *eP* **P 02 42 44.4 +1.3**
comp=Z,57nm,1.4s,mb4.6
ORIF Oris-en-Rattie 26.63 67 *eP* **P 02 42 44.4 +1.3**
ORIF pmax pmax
comp=Z,29nm,1.4s,mb4.6
ORIF Oris-en-Rattie 26.63 67 *eP* **P 02 42 44.4 +1.3**
comp=Z,28nm,1.4s,mb4.6
BCLA Clavier 26.66 55 P **P 02 42 43.7 +0.4**
comp=Z,19nm,1.4s,mb4.4
BCLA Clavier 26.66 55 P **P 02 42 43.6 +0.3**
comp=Z,19nm,1.4s,mb4.4
CABF La Chapelle 26.79 63 *eP* **P 02 42 43.9 -0.5**
comp=Z,59nm,1.2s,mb4.7
CABF La Chapelle 26.79 63 *eP* **P 02 42 43.9 -0.5**
CABF pmax pmax
comp=Z,29nm,1.2s,mb4.7
CABF La Chapelle 26.79 63 *eP* **P 02 42 43.9 -0.5**
comp=Z,29nm,1.2s,mb4.7
HAU Haudompre 27.04 60 *eP* **P 02 42 48.1 +1.4**
WLF Walferdange 27.09 57 P **P 02 42 47.3 +0.2**
comp=Z,20nm,2.0s,mb4.3
WLF Walferdange 27.09 57 *eP* **P 02 42 45.0 -2.1**
WLF pmax pmax
comp=Z,14nm,1.1s,mb4.4
WLF Walferdange 27.09 57 *eP* **P 02 42 45.0 -2.1**
comp=Z,14nm,1.1s,mb4.4
WLF Walferdange 27.09 57 *eP* **P 02 42 45.0 -2.1**
comp=Z,14nm,1.1s,mb4.4
MEM Membach 27.14 55 P **P 02 42 46.1 -1.5**
comp=Z,12nm,1.8s,mb4.1
MEM Membach 27.14 55 P **P 02 42 46.0 -1.5**
comp=Z,12nm,1.8s,mb4.1
BNI Bardonecchia 27.20 67 *eP* **P 02 42 44.9 -3.3**
BNI pmax pmax
comp=Z,58nm,1.7s,mb4.8
BNI Bardonecchia 27.20 67 *eP* **P 02 42 44.9 -3.3**
comp=Z,58nm,1.7s,mb4.8
LPL La Plagne 27.23 66 *eP* **P 02 42 49.6 +1.2**
LPG La Plagne 27.24 66 *eP* **P 02 42 49.5 +1.0**
comp=Z,96nm,1.7s,mb4.8
LPG La Plagne 27.24 66 *eP* **P 02 42 49.5 +1.0**
LPG pmax pmax
comp=Z,48nm,1.7s,mb4.8
LPG La Plagne 27.24 66 *eP* **P 02 42 49.5 +1.0**
comp=Z,48nm,1.7s,mb4.8

HINF Hinteralfeld 27.36 61 *eP* **P 02 42 50.6 +1.0**
comp=Z,48nm,1.5s,mb4.5
HINF Hinteralfeld 27.36 61 *eP* **P 02 42 50.6 +1.0**
HINF pmax pmax
comp=Z,24nm,1.5s,mb4.5
HINF Hinteralfeld 27.36 61 *eP* **P 02 42 50.6 +1.0**
comp=Z,24nm,1.5s,mb4.5
BBTS Babate 27.51 152 LR LR 02 50 49.7
comp=Z,472nm,21.1s,MS4.0,baz=146,slow=30
ECH Echery 27.59 60 P **P 02 42 55.8 +4.1**
CDF Champ du Feu 27.69 59 *eP* **P 02 42 53.8 +1.3**
comp=Z,55nm,1.3s,mb4.7
CDF Champ du Feu 27.69 59 *eP* **P 02 42 53.8 +1.3**
CDF pmax pmax
comp=Z,27nm,1.3s,mb4.7
CDF Champ du Feu 27.69 59 *eP* **P 02 42 53.8 +1.3**
comp=Z,27nm,1.3s,mb4.7
SBF Sospel 27.80 69 *eP* **P 02 42 55.1 +1.5**
comp=Z,115nm,1.2s,mb5.1
SBF Sospel 27.80 69 *eP* **P 02 42 55.1 +1.5**
SBF pmax pmax
comp=Z,57nm,1.2s,mb5.1
SBF Sospel 27.80 69 *eP* **P 02 42 55.1 +1.5**
comp=Z,57nm,1.2s,mb5.1
SCHQ Schefferville 28.98 314 LR LR 02 52 26.0
comp=Z,660nm,19.3s,MS4.3,baz=126,slow=32
DAVOS Davos 29.34 63 P **P 02 43 09.3 +2.1**
DAVOX Davos/Dischmat 29.40 63 P **P 02 43 09.3 +1.5**
comp=Z,2.4nm,0.8s,mb4.0,baz=328,slow=18,SNR=3.2
DAVOX LR LR 02 52 47.8
comp=Z,350nm,19.4s,MS4.0,baz=273,slow=32
SFJD Kangerlussuaq 29.71 344 LR LR 02 52 53.4
comp=Z,143nm,21.0s,MS3.6,baz=132,slow=32
BSEG Bad Segeberg 30.35 49 P **P 02 43 17.1 +1.0**
GRA1 Grafenberg Arr 30.36 57 *eP* **P 02 43 16.3 0.0**
comp=Z,25nm,1.4s,mb4.8
GRF Grafenberg Arr 30.36 57 *eP* **P 02 43 16.3 0.0**
GRF pmax pmax
comp=Z,25nm,1.4s,mb4.8
GRF Grafenberg Arr 30.36 57 *eP* **P 02 43 16.3 0.0**
GRF pmax pmax
comp=Z,25nm,1.4s,mb4.8
GRF Grafenberg Arr 30.36 57 *eP* **P 02 43 16.3 0.0**
comp=Z,25nm,1.4s,mb4.8
MOX Moxa 30.68 55 *eP* **P 02 43 19.8 +0.7**
comp=Z,23nm,1.7s,mb4.7
MOX Moxa 30.68 55 *eP* **P 02 43 19.8 +0.7**
MOX pmax pmax
comp=Z,23nm,1.7s,mb4.7
KEST Kesra 30.94 85 P **P 02 43 23.8 +2.3**
comp=Z,1.8nm,1.0s,mb3.9,baz=218,slow=6.5,SNR=3.8
KEST LR LR 02 54 43.3
comp=Z,197nm,19.1s,MS3.8,baz=230,slow=34
NKC Novy Kostel 31.19 56 *eP* **P 02 43 24.2 +0.7**
CLL Collm 31.61 54 *eP* **P 02 43 27.0 -0.2**
CLL pmax pmax
comp=Z,10.0nm,1.5s,mb4.4
CLL MLR MLR
comp=Z,400nm,20.6s,MS4.1
CLL Collm 31.61 54 *eP* **P 02 43 27.0 -0.2**
comp=Z,10.0nm,1.5s,mb4.4
CLL *e*(pP) pP 02 43 31.0 -1.7
CLL Lm 02 48 00.0
comp=Z,300nm,21.1s
KBA Koelnbreinsper 31.76 62 P **P 02 43 31.2 +2.6**
KHC Kasperske Hory 31.88 58⇓*eP* **P 02 43 31.4 +1.7**
KHC Kasperske Hory 31.88 58 *eP* **P 02 43 30.6 +0.9**
KHC *e*pP pP 02 43 33.5 -1.7
GERES GERESS Array B 31.96 59 P **P 02 43 28.5 -1.9**
comp=Z,0.1nm,0.3s,baz=229,slow=5.1,SNR=3.3
GERES LR LR 02 54 31.5
comp=Z,210nm,18.8s,MS3.9,baz=256,slow=33
BRG Berggiesshubel 32.17 55 *eP* **P 02 43 32.2 0.0**
BRG pmax pmax
comp=Z,7.0nm,1.5s,mb4.3
BRG Berggiesshubel 32.17 55 *eP* **P 02 43 32.2 0.0**
comp=Z,7.2nm,1.5s,mb4.3
PRU Pruhonice 32.52 57 *eP* **P 02 43 36.5 +1.2**
NB2 NORSAR Subarra 32.86 36 P **P 02 43 37.0 -1.0**
comp=Z,1.6nm,0.8s,mb4.0,baz=249,slow=10
NOA NORSAR Array B 32.86 36 P **P 02 43 36.4 -1.7**
comp=Z,1.9nm,0.9s,mb4.0,baz=249,slow=9.7,SNR=2.6
NOA LR LR 02 54 38.4
comp=Z,167nm,20.2s,MS3.7,baz=245,slow=32
TREC Trest 33.13 58 *eP* **P 02 43 41.6 +1.0**
UPC Upice 33.48 56 *eP* **P 02 43 44.5 +0.9**
DPC Dobruska-Polom 33.67 56 *eP* **P 02 43 45.6 +0.3**
VRAC Vranov 33.86 58 P **P 02 43 46.6 -0.3**
comp=Z,1.8nm,0.7s,mb4.1,baz=241,slow=6.7,SNR=3.9
VAE Valguarnera 34.26 79 P **P 02 43 50.9 +0.4**
comp=Z,7.5nm,0.9s,mb4.6,baz=344,slow=7.4,SNR=2.1
VAE Valguarnera 34.26 79 P **P 02 43 50.9 +0.4**
MODS Modra-Piesok 34.35 60 *eP* **P 02 43 52.0 +0.8**
GKP Gorka Klasztor 34.35 51 P **P 02 43 53.4 +2.3**
MORC Moravsky Berou 34.47 57 *eP* **P 02 43 50.4 -1.8**
MORC pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MORC Moravsky Berou 34.47 57 *eP* **P 02 43 50.4 -1.8**
comp=Z,3.7nm,0.9s,mb4.3
MORC Moravsky Berou 34.47 57 *eP* **P 02 43 50.4 -1.8**
comp=Z,3.7nm,0.9s,mb4.3
CUC Castrocucco 34.61 75 P **P 02 43 57.7 +4.1**
PKSM Moragy 35.47 63⇑*iP* **P 02 43 59.8 -1.1**
PKSM Moragy 35.47 63⇑P **P 02 43 59.8 -1.1**
OJC Ojcow 35.91 56 *eP* **P 02 44 05.7 +1.1**
PSZ Piszkesteto 36.13 60 *eP* **P 02 44 05.1 -1.4**
PSZ pmax pmax
comp=Z,33nm,1.8s,mb5.0
PSZ Piszkesteto 36.13 60 *eP* **P 02 44 05.1 -1.4**
comp=Z,33nm,1.8s,mb5.0
PSZ Piszkesteto 36.13 60 *eP* **P 02 44 05.1 -1.4**
comp=Z,33nm,1.8s,mb5.0
NIE Niedzica 36.28 58 *eP* **P 02 44 09.9 +2.1**
KECS Kecovo 36.47 59 *eP* **P 02 44 10.9 +1.5**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 36.47 59 *eP* **P 02 44 10.9 +1.5**
comp=Z,2.3nm,0.9s,mb4.1
STHS Stebnicka Huta 36.89 58 *eP* **P 02 44 12.0 -1.0**
STHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
STHS Stebnicka Huta 36.89 58 *eP* **P 02 44 12.0 -1.0**
comp=Z,4.6nm,1.1s,mb4.2
CRVS Cervenica-Dubn 37.08 58 *eP* **P 02 44 15.0 +0.4**
DAG Danmarks Havn 37.44 4⇓*iP* **P 02 44 16.0 -1.4**
DAG pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
DAG Danmarks Havn 37.44 4⇓*iP* **P 02 44 16.0 -1.4**
comp=Z,8.2nm,0.7s,mb4.7
KOLS Kolonicke sedl 37.61 58 *eP* **P 02 44 20.2 +1.1**
BZS Buzias 37.62 64⇑*iP* **P 02 44 20.3 +1.1**
BZS Buzias 37.62 64 P **P 02 44 20.6 +1.4**
BZS Buzias 37.62 64 P **P 02 44 20.6 +1.5**
UZH Uzhgorod 37.65 59 *eP* **P 02 44 21.0 +1.5**
KWP Kalwaria 37.82 57⇓*iP* **P 02 44 23.1 +2.2**
KWP Kalwaria 37.82 57⇓P **P 02 44 23.1 +2.2**
TOA0 Torodi Ar. Sit 38.25 125 *eP* **P 02 44 25.8 +1.0**
TOA0 Torodi Ar. Sit 38.25 125 *eP* **P 02 44 25.8 +0.9**
TORD Torodi Ar. Bea 38.25 125 P **P 02 44 26.2 +1.4**
comp=Z,3.9nm,1.0s,mb4.1,baz=324,slow=7.3,SNR=12
GZR Gura Zlata 38.46 64 P **P 02 44 27.8 +1.5**
GZR Gura Zlata 38.46 64 P **P 02 44 27.8 +1.5**
BURAR Bucovina Array 39.73 60⇓*iP* **P 02 44 38.9 +2.0**
BURAR Bucovina Array 39.73 60⇓P **P 02 44 38.9 +2.0**
DBIC Dimbokro 39.76 139 P **P 02 44 40.2 +2.7**
comp=Z,6.8nm,0.8s,mb4.4,baz=326,slow=8.5,SNR=6.6
DBIC Dimbokro 39.76 139 *eP* **P 02 44 40.2 +2.7**
DBIC pmax pmax
comp=Z,22nm,1.1s
DBIC Dimbokro 39.76 139 *eP* **P 02 44 40.2 +2.7**
comp=Z,22nm,1.1s,mb4.8
DBIC Dimbokro 39.76 139 *eP* **P 02 44 40.2 +2.8**
comp=Z,22nm,1.1s,mb4.8
SOH Sokhos 39.94 71 P **P 02 44 40.9 +2.2**
KAF Kangasniemi 40.10 37 *ep* **P 02 44 38.1 -1.7**
comp=Z,15nm,0.9s,mb4.7
KAF Kangasniemi 40.10 37 *eP* **P 02 44 38.1 -1.7**
KAF pmax pmax
comp=Z,15nm,0.9s,mb4.7
MLR Muntele Rosu 40.62 63⇑*iP* **P 02 44 46.0 +1.7**
MLR Muntele Rosu 40.62 63 P **P 02 44 46.1 +1.8**
MLR Muntele Rosu 40.62 63 P **P 02 44 46.1 +1.7**
MNK Minsk 40.63 49 *eP* **P 02 44 41.0 -3.3**
ZIMR 40.64 66⇓*iP* **P 02 44 45.5 +1.0**
ZIMR 40.64 66 P **P 02 44 45.5 +1.0**

BUC1 Bucharest 40.94 65 P **P 02 44 45.2 -1.7**
BUC1 Bucharest 40.94 65 P **P 02 44 45.2 -1.7**
PLOR Plostina 41.03 62 P **P 02 44 49.0 +1.3**
VRI Vrincioaia 41.08 62⇑*iP* **P 02 44 49.1 +1.0**
ARCES ARCESS Array B 41.32 26 P **P 02 44 47.5 -2.3**
comp=Z,5.1nm,0.9s,mb4.1,baz=218,slow=7.7,SNR=7.5
AKASG Malin Array Be 41.85 55 P **P 02 44 52.6 -1.7**
comp=Z,3.3nm,0.7s,mb4.1,baz=274,slow=8.1,SNR=18
AKASG LR LR 03 01 45.0
comp=Z,267nm,18.6s,MS4.2,baz=270,slow=36
AKBB Malin Array Si 41.85 55 *eP* **P 02 44 52.8 -1.6**
AKBB Malin Array Si 41.85 55 *eP* **P 02 44 52.8 -1.6**
JOF Joensuu 42.49 36 *ep* **P 02 44 57.7 -1.7**
comp=Z,15nm,0.8s,mb4.7
TIRR Tirgusor 42.57 64⇓*iP* **P 02 44 59.9 -0.4**
TIRR Tirgusor 42.57 64 *eP* **P 02 44 58.3 -2.0**
comp=Z,9.8nm,0.8s,mb4.6
IDI Anoyia 42.94 78 LR LR 03 01 50.5
comp=Z,211nm,21.7s,MS4.0,baz=136,slow=35
OBN Obninsk 45.59 47⇓*eP* **P 02 45 23.1 -1.3**
OBN *i* 02 47 06.2
OBN *e*S **S 02 52 02.8 -2.9**
OBN pmax pmax
comp=Z,48nm,1.5s,mb5.2
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.2
OBN Obninsk 45.59 47 *eP* **P 02 45 23.2 -1.2**
comp=Z,89nm,1.4s,mb5.5
OBN *e*S **S 02 52 02.8 -2.9**
OBN Obninsk 45.59 47 *eP* **P 02 45 23.2 -1.1**
comp=Z,89nm,1.4s,mb5.5
MOS Moscow 46.09 46 *eP* **P 02 45 26.3 -2.0**
KLMR Klimovskoe 46.41 39 *eP* **P 02 45 29.7 -1.1**
ANN Anapa 48.63 61 *eP* **P 02 45 56.7 +8.4**
ANN pmax pmax
comp=Z,104nm,6.1s
ECSD EROS,Sioux Fal 48.90 298 *eP* **P 02 45 50.1 -0.2**
comp=Z,16nm,1.1s,mb5.0
FFC Flin Flon 49.12 313 *eP* **P 02 45 49.7 -2.1**
FFC pmax pmax
comp=Z,11nm,0.9s,mb4.9
FFC Flin Flon 49.12 313 *eP* **P 02 45 49.7 -2.1**
comp=Z,11nm,0.9s,mb4.9
FFC Flin Flon 49.12 313 *eP* **P 02 45 49.7 -2.1**
comp=Z,11nm,0.9s,mb4.9
MIAR Mount Ida 50.26 285 *eP* **P 02 46 01.1 +0.3**
MIAR pmax pmax
comp=Z,39nm,1.5s,mb5.2
MIAR Mount Ida 50.26 285 *eP* **P 02 46 01.1 +0.3**
comp=Z,39nm,1.5s,mb5.2
MIAR Mount Ida 50.26 285 *eP* **P 02 46 01.1 +0.3**
comp=Z,39nm,1.5s,mb5.2
MALT Malatya 51.72 68 *eP* **P 02 46 10.6 -1.2**
MALT pmax pmax
comp=Z,14nm,1.3s,mb4.7
MALT Malatya 51.72 68 *eP* **P 02 46 10.6 -1.2**
comp=Z,14nm,1.3s,mb4.7
MALT Malatya 51.72 68 *eP* **P 02 46 10.6 -1.2**
comp=Z,14nm,1.3s,mb4.7
NATX Nacogdoches 52.33 283 *eP* **P 02 46 17.2 +0.8**
comp=Z,9.5nm,0.6s,mb4.9
KIV Kislovodsk 52.46 60⇓*eP* **P 02 46 18.3 +1.1**
KIV *i* S **S 02 53 44.5 +2.0**
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KIV MLR MLR
comp=Z,100nm,21.0s,MS3.8
KIV Kislovodsk 52.46 60 *eP* **P 02 46 18.3 +1.1**
comp=Z,9.0nm,0.8s,mb4.8
YKA Yellowknife Ar 53.45 325 P **P 02 46 22.6 -1.6**
comp=Z,2.4nm,1.0s,mb4.1,baz=69,slow=7.0,SNR=5.9
YKA PcP PcP 02 47 29.9 -1.1
comp=Z,1.5nm,0.9s,baz=71,slow=4.1,SNR=5.3
YKA Yellowknife Ar 53.45 325 PcP PcP 02 47 29.9 -1.2
YKA Yellowknife Ar 53.45 325 P **P 02 46 22.6 -1.5**
YKA PcP PcP 02 47 29.9 -1.1
WMOK Wichita Mounta 54.02 288 *eP* **P 02 46 27.4 -1.4**
WMOK pmax pmax
comp=Z,12nm,1.1s,mb4.7
WMOK Wichita Mounta 54.02 288 *eP* **P 02 46 27.4 -1.4**
comp=Z,12nm,1.1s,mb4.7
WMOK Wichita Mounta 54.02 288 *eP* **P 02 46 27.4 -1.4**
comp=Z,12nm,1.1s,mb4.7
HKT Hockley 54.08 281 *eP* **P 02 46 30.2 +0.9**
HKT pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
HKT Hockley 54.08 281 *eP* **P 02 46 30.2 +0.9**
comp=Z,3.9nm,0.9s,mb4.3
HKT Hockley 54.08 281 *eP* **P 02 46 30.2 +0.9**
comp=Z,3.9nm,0.9s,mb4.3
GNI Garni 55.40 64 *i* P **P 02 46 38.2 -0.5**
GNI pmax pmax
comp=Z,57nm,2.2s
GNI Garni 55.40 64 *i* P **P 02 46 38.2 -0.5**
comp=Z,57nm,2.2s,mb5.2
EDM Edmonton 55.96 314 *eP* **P 02 46 42.0 -0.5**
EDM Edmonton 55.96 314 *eP* **P 02 46 42.0 -0.6**
MAK Makhachkala 56.07 60 *eP* **P 02 46 46.8 +3.3**
MAK MLR MLR
comp=Z,322nm,8.0s
GCMT Greycliff 56.73 304 *eP* **P 02 46 47.7 -0.5**
GCMT Greycliff 56.73 304 *eP* **P 02 46 47.6 -0.5**
RLMT Red Lodge 56.76 304 *eP* **P 02 46 48.2 -0.2**
comp=Z,15nm,1.4s,mb4.8
RLMT Red Lodge 56.76 304 *eP* **P 02 46 48.1 -0.2**
comp=Z,15nm,1.4s,mb4.8
JCT Junction City 56.81 284 *eP* **P 02 46 48.4 -0.5**
JCT pmax pmax
comp=Z,22nm,1.2s,mb5.1
JCT Junction City 56.81 284 *eP* **P 02 46 48.4 -0.5**
comp=Z,22nm,1.2s,mb5.1
JCT Junction City 56.81 284 *eP* **P 02 46 48.4 -0.5**
comp=Z,22nm,1.2s,mb5.1
ARU Arti 57.13 41 *d iP* **P 02 46 49.6 -1.2**
ARU *e*SS **S 02 54 45.1 +0.3**
ARU *e*SS SS 02 58 32.7 -0.4
ARU pmax pmax
comp=Z,24nm,1.7s,mb5.0
ARU Arti 57.13 41 *i* P **P 02 46 49.6 -1.2**
comp=Z,24nm,1.7s,mb5.0
ARU Arti 57.13 41 *eP* **P 02 46 49.3 -1.5**
comp=Z,16nm,0.9s,mb5.1
SDCO Great Sand Dun 57.48 294 *eP* **P 02 46 53.9 +0.3**
comp=Z,4.0nm,1.0s,mb4.4
SDCO Great Sand Dun 57.48 294 *eP* **P 02 46 53.9 +0.3**
comp=Z,4.0nm,1.0s,mb4.4
BDFB Brasilia 57.69 201 P **P 02 46 58.1 +2.9**
comp=Z,2.3nm,0.8s,mb4.2,baz=0.1,slow=18,SNR=7.2
HRY Holter Researc 57.70 306 *eP* **P 02 46 54.7 -0.3**
HRY Holter Researc 57.70 306 *eP* **P 02 46 54.7 -0.3**
WALA Waterton Lakes 57.97 309 *eP* **P 02 46 55.9 -0.9**
comp=Z,12nm,0.9s,mb4.9
WALA Waterton Lakes 57.97 309 *eP* **P 02 46 55.9 -0.9**
comp=Z,12nm,0.9s,mb4.9
BW06 Boulder Array 57.97 301 *eP* **P 02 46 55.9 -1.0**
comp=Z,12nm,1.0s,mb4.9
BW06 Boulder Array 57.97 301 *eP* **P 02 46 55.9 -1.0**
comp=Z,12nm,1.0s,mb4.9
PDAR Pinedale Array 57.97 301 P **P 02 46 55.8 -1.1**
comp=Z,5.4nm,1.0s,mb4.5,baz=69,slow=8.1,SNR=14
SVE Sverdlovsk 58.01 40 *eP* **P 02 46 56.2 -0.8**
SVE pmax pmax
comp=Z,20nm,1.4s,mb5.0
SVE Sverdlovsk 58.01 40 *eP* **P 02 46 56.2 -0.8**
comp=Z,20nm,1.4s,mb5.0
BOZ Bozeman (W) 58.04 305 *eP* **P 02 46 56.7 -0.7**
BOZ pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
BOZ Bozeman (W) 58.04 305 *eP* **P 02 46 56.7 -0.7**
comp=Z,8.4nm,1.2s,mb4.7
BOZ Bozeman (W) 58.04 305 *eP* **P 02 46 56.7 -0.7**
comp=Z,8.4nm,1.2s,mb4.7
YFT Old Faithful 58.05 303 *eP* **P 02 46 56.9 -0.6**
YFT Old Faithful 58.05 303 *eP* **P 02 46 56.9 -0.6**
LOHW Long Hollow 58.28 303 *eP* **P 02 46 58.4 -0.7**
comp=Z,12nm,1.1s,mb4.8
LOHW Long Hollow 58.28 303 *eP* **P 02 46 58.4 -0.7**
comp=Z,12nm,1.1s,mb4.8
MOOW Moose Ponds 58.31 303 *eP* **P 02 46 59.0 -0.3**
comp=Z,11nm,1.1s,mb4.8
MOOW Moose Ponds 58.31 303 *eP* **P 02 46 59.0 -0.3**
comp=Z,11nm,1.1s,mb4.8
SNOW Snow King Moun 58.44 302 *eP* **P 02 47 00.2 0.0**
comp=Z,23nm,1.0s,mb5.2
SNOW Snow King Moun 58.44 302 *eP* **P 02 47 00.2 -0.1**
comp=Z,23nm,1.0s,mb5.2

CHMT Chamberlain Mo 58.49 307 *eP* **P 02 47 00.7 +0.2**
CHMT Chamberlain Mo 58.49 307 *eP* **P 02 47 00.7 +0.1**
REDW Red Top Meadow 58.55 302 *eP* **P 02 47 00.3 -0.7**
comp=Z,24nm,1.3s,mb5.1
REDW Red Top Meadow 58.55 302 *eP* **P 02 47 00.3 -0.7**
comp=Z,24nm,1.3s,mb5.1
TPAW Teton Pass 58.56 303 *eP* **P 02 47 00.6 -0.4**
comp=Z,17nm,1.1s,mb5.0
TPAW Teton Pass 58.56 303 *eP* **P 02 47 00.6 -0.5**
comp=Z,17nm,1.1s,mb5.0
MSO Missoula 58.96 307 *eP* **P 02 47 03.5 -0.3**
comp=Z,16nm,1.4s,mb4.9
MSO Missoula 58.96 307 *eP* **P 02 47 03.5 -0.2**
comp=Z,17nm,1.4s,mb4.9
OTAV Otavalo 59.30 241 *eP* **P 02 47 08.6 +2.1**
comp=Z,7.3nm,1.2s,mb4.6
OTAV Otavalo 59.30 241 *eP* **P 02 47 08.6 +2.0**
comp=Z,7.3nm,1.2s,mb4.6
AKTK Aktyubinsk 59.37 48 P **P 02 47 06.4 -0.1**
AKTK Aktyubinsk 59.37 48 P **P 02 47 06.3 -0.2**
AKTO Aktyubinsk 59.37 48 P **P 02 47 06.3 -0.2**
comp=Z,8.8nm,0.9s,mb4.8,baz=295,slow=7.4,SNR=22
ANMO Albuquerque 59.49 292 P **P 02 47 07.3 -0.3**
comp=Z,2.1nm,1.0s,mb4.1,baz=68,slow=8.8,SNR=5.1
ANMO Albuquerque 59.49 292‖ *eP* **P 02 47 08.2 +0.6**
ANMO Albuquerque 59.49 292 *eP* **P 02 47 08.1 +0.5**
comp=Z,6.2nm,1.0s,mb4.6
ANMO Albuquerque 59.49 292 *eP* **P 02 47 08.1 +0.4**
comp=Z,6.2nm,1.0s,mb4.6
HWUT Hardware Ranch 59.83 301 *eP* **P 02 47 09.3 -0.5**
comp=Z,21nm,0.9s,mb5.2
HWUT Hardware Ranch 59.83 301 *eP* **P 02 47 09.3 -0.6**
comp=Z,21nm,0.9s,mb5.2
MVCO Mesa Verde 59.83 295 *eP* **P 02 47 10.9 +1.0**
comp=Z,23nm,1.3s,mb5.1
MVCO Mesa Verde 59.83 295 *eP* **P 02 47 10.9 +1.0**
comp=Z,23nm,1.3s,mb5.1
LPM Los Pinos Moun 59.92 291 *eP* **P 02 47 11.0 +0.4**
LPM Los Pinos Moun 59.92 291 *eP* **P 02 47 11.0 +0.4**
BNM Barren Site 60.00 291 *eP* **P 02 47 12.1 +0.9**
BNM Barren Site 60.00 291 *eP* **P 02 47 12.1 +0.9**
DAU Daniels Canyon 60.18 299 *eP* **P 02 47 12.5 +0.2**
DAU Daniels Canyon 60.18 299 *eP* **P 02 47 12.5 +0.2**
JLU Jordanelle 60.22 300 *eP* **P 02 47 13.0 +0.4**
JLU Jordanelle 60.22 300 *eP* **P 02 47 13.0 +0.4**
NEW Newport 60.23 310 *eP* **P 02 47 11.7 -0.8**
NEW pmax pmax
comp=Z,17nm,1.1s
NEW Newport 60.23 310 *eP* **P 02 47 11.7 -0.8**
comp=Z,17nm,1.1s,mb5.0
NEW Newport 60.23 310 *eP* **P 02 47 11.7 -0.8**
comp=Z,17nm,1.1s,mb5.0
LAZ Ladron 60.24 292 *eP* **P 02 47 14.2 +1.4**
LAZ Ladron 60.24 292 *eP* **P 02 47 14.2 +1.4**
LENM Lemitar 60.24 291 *eP* **P 02 47 12.7 -0.1**
LENM Lemitar 60.24 291 *eP* **P 02 47 12.7 -0.1**
TXAR Lajitas Array 60.27 285 P **P 02 47 13.1 0.0**
comp=Z,8.9nm,0.9s,mb4.8,baz=76,slow=7.0,SNR=37
TMUT Trail Mountain 60.69 298 *eP* **P 02 47 16.2 +0.4**
TMUT Trail Mountain 60.69 298 *eP* **P 02 47 16.2 +0.4**
HLID Hailey 60.76 304 *eP* **P 02 47 16.2 0.0**
comp=Z,7.4nm,1.0s,mb4.8
HLID Hailey 60.76 304 *eP* **P 02 47 16.2 0.0**
comp=Z,7.4nm,1.0s,mb4.8
DUG Dugway 61.33 300 *eP* **P 02 47 20.1 0.0**
DUG pmax pmax
comp=Z,16nm,1.0s,mb5.1
DUG Dugway 61.33 300 *eP* **P 02 47 20.1 0.0**
comp=Z,16nm,1.0s,mb5.1
DUG Dugway 61.33 300 *eP* **P 02 47 20.1 -0.1**
comp=Z,16nm,1.0s,mb5.1
MSU Marysvale 61.73 298 *eP* **P 02 47 23.4 +0.5**
MSU Marysvale 61.73 298 *eP* **P 02 47 23.4 +0.6**
LNOR Lincton Mounta 62.06 308 *eP* **P 02 47 23.6 -1.4**
LNOR Lincton Mounta 62.06 308 *eP* **P 02 47 23.6 -1.4**
ELK Elko 62.67 301 P **P 02 47 29.2 +0.1**
comp=Z,6.7nm,0.8s,mb4.8,baz=57,slow=6.7,SNR=15
ELK Elko 62.67 301 *eP* **P 02 47 29.3 +0.2**
ELK pmax pmax
comp=Z,13nm,1.0s
ELK Elko 62.67 301 *eP* **P 02 47 29.2 +0.1**
comp=Z,13nm,1.0s,mb5.0
ELK Elko 62.67 301 *eP* **P 02 47 29.2 +0.1**
comp=Z,13nm,1.0s,mb5.0
WUAZ Wupatki 62.68 295 *eP* **P 02 47 30.3 +1.0**
comp=Z,18nm,1.0s,mb5.2
WUAZ Wupatki 62.68 295 *eP* **P 02 47 30.3 +1.0**
comp=Z,18nm,1.0s,mb5.2
SIV San Ignacio 62.71 214 P **P 02 47 33.7 +4.2**
comp=Z,2.4nm,1.1s,mb4.2,baz=36,slow=8.7,SNR=3.8
DAWY Dawson 62.78 332 *eP* **P 02 47 29.5 0.0**
DAWY Dawson 62.78 332 *eP* **P 02 47 29.5 0.0**
TUC Tucson 63.93 291 *eP* **P 02 47 38.6 +1.0**
TUC pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TUC Tucson 63.93 291 *eP* **P 02 47 38.6 +1.0**
comp=Z,8.1nm,0.9s,mb4.8
TUC Tucson 63.93 291 *eP* **P 02 47 38.6 +1.0**
comp=Z,8.1nm,0.9s,mb4.8
WVOR Wild Horse Val 64.01 305 *eP* **P 02 47 38.0 0.0**
WVOR pmax pmax
comp=Z,13nm,1.0s,mb4.9
WVOR Wild Horse Val 64.01 305 *eP* **P 02 47 38.0 0.0**
comp=Z,13nm,1.0s,mb4.9
WVOR Wild Horse Val 64.01 305 *eP* **P 02 47 38.0 0.0**
comp=Z,13nm,1.0s,mb4.9
BRVK Borovoye 64.70 41 *eP* **P 02 47 39.3 -3.0**
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BRVK Borovoye 64.70 41 *eP* **P 02 47 39.3 -3.0**
comp=Z,8.3nm,1.0s,mb4.7
COLA College 65.15 335 *eP* **P 02 47 46.1 +1.1**
NVAR Mina Array Bea 65.89 301 P **P 02 47 49.8 -0.5**
comp=Z,1.9nm,0.9s,mb4.1,baz=58,slow=4.7,SNR=5.9
IMA2 Indian Mountai 66.08 338 *eP* **P 02 47 49.8 -1.3**
IMA2 Indian Mountai 66.08 338 *eP* **P 02 47 49.8 -1.2**
MCK McKinley 66.27 335 *eP* **P 02 47 51.5 -0.8**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MCK McKinley 66.27 335 *eP* **P 02 47 51.5 -0.8**
comp=Z,4.5nm,0.9s,mb4.5
MCK McKinley 66.27 335 *eP* **P 02 47 51.5 -0.7**
comp=Z,4.5nm,0.9s,mb4.5
LPAZ La Paz 66.28 221 P **P 02 47 56.0 +3.1**
comp=Z,2.4nm,1.1s,mb4.1,baz=30,slow=20,SNR=3.9
LPAZ La Paz 66.28 221 *eP* **P 02 47 55.0 +2.1**
LPAZ pmax pmax
comp=Z,23nm,1.8s
LPAZ La Paz 66.28 221 *eP* **P 02 47 55.0 +2.1**
comp=Z,23nm,1.8s,mb4.9
LPAZ La Paz 66.28 221 *eP* **P 02 47 55.0 +2.1**
comp=Z,23nm,1.8s,mb4.9
YBH Yreka Blue Hor 66.95 306 P **P 02 47 56.2 -0.8**
comp=Z,2.3nm,0.9s,mb4.2,baz=63,slow=4.8,SNR=4.9
PFO Pinyon Flat Ob 67.25 295 P **P 02 47 59.6 +0.6**
comp=Z,1.11nm,0.9s,mb4.9,baz=53,slow=4.3,SNR=8.2
PFO Pinyon Flat Ob 67.25 295 *eP* **P 02 47 59.9 +0.9**
PFO pmax pmax
comp=Z,13nm,0.9s,mb5.0
PFO Pinyon Flat Ob 67.25 295 *eP* **P 02 47 59.9 +0.9**
comp=Z,13nm,0.9s,mb5.0
PFO Pinyon Flat Ob 67.25 295 *eP* **P 02 47 59.9 +0.9**
comp=Z,13nm,0.9s,mb5.0
CMB Columbia Colle 67.48 301 *eP* **P 02 48 02.3 +1.8**
CMB pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CMB Columbia Colle 67.48 301 *eP* **P 02 48 02.3 +1.8**
comp=Z,7.3nm,1.0s,mb4.7
CMB Columbia Colle 67.48 301 *eP* **P 02 48 02.3 +1.8**
comp=Z,7.3nm,1.0s,mb4.7
OHCM Honcut 67.48 303 *eP* **P 02 48 00.1 -0.3**
OHCM Honcut 67.48 303 *eP* **P 02 48 00.1 -0.4**
ISA Isabella 67.51 298 *eP* **P 02 48 00.9 +0.3**
ISA Isabella 67.51 298 *eP* **P 02 48 00.9 +0.3**
NVS Novosibirsk 69.76 35 *eP* **P 02 48 11.6 -2.8**
NVS pmax pmax
comp=Z,24nm,1.5s,mb4.9
NVS Novosibirsk 69.76 35 *eP* **P 02 48 11.6 -2.8**
comp=Z,24nm,1.5s,mb4.9
KURK Kurchatov 70.26 40‖ *eP* **P 02 48 16.0 -1.5**
KURK pmax pmax
comp=Z,9.0nm,1.8s,mb4.4
KURK Kurchatov 70.26 40 *eP* **P 02 48 16.1 -1.4**
comp=Z,14nm,1.4s,mb4.7
KURK Kurchatov 70.26 40 *eP* **P 02 48 16.1 -1.4**
comp=Z,14nm,1.4s,mb4.7
CPUP Villa Florida 70.62 206 P **P 02 48 20.8 +0.9**
comp=Z,1.1nm,0.7s,mb3.9,baz=33,slow=6.0,SNR=2.8
CPUP Villa Florida 70.62 206 P **P 02 48 20.8 +0.9**
ZAL Zalesovo 71.05 35 P **P 02 48 21.4 -0.8**
ZALV Zalesovo Beam 71.05 35 P **P 02 48 21.4 -0.8**
comp=Z,4.7nm,0.9s,mb4.4,baz=311,slow=7.7,SNR=12
ZALV Zalesovo Beam 71.05 35 P **P 02 48 21.4 -0.8**
EKS2 Erkin-Say 72.67 49 *eP* **P 02 48 32.9 +0.7**
comp=Z,19nm,1.3s,mb4.9
EKS2 Erkin-Say 72.67 49 *eP* **P 02 48 32.9 +0.7**
comp=Z,19nm,1.3s,mb4.9
AML Almayashu 72.95 49 *eP* **P 02 48 32.4 -1.5**
comp=Z,16nm,1.2s,mb4.8
AML Almayashu 72.95 49 *eP* **P 02 48 32.4 -1.5**
comp=Z,16nm,1.2s,mb4.8
KMBO Kilima Mbogo 73.15 106 *i* P **P 02 48 40.5 +5.1**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
TKM2 Tokmak 2 73.56 48 *eP* **P 02 48 37.6 +0.2**
TKM2 pmax pmax
comp=Z,14nm,1.3s,mb4.7
TKM2 Tokmak 2 73.56 48 *eP* **P 02 48 37.6 +0.2**
comp=Z,14nm,1.3s,mb4.7
TKM2 Tokmak 2 73.56 48 *eP* **P 02 48 37.6 +0.2**
comp=Z,14nm,1.3s,mb4.7
MK31 Makanchi Array 74.65 41 *eP* **P 02 48 42.6 -1.2**
MK31 Makanchi Array 74.65 41 *eP* **P 02 48 42.6 -1.2**
MKAR Makanchi Array 74.65 41 P **P 02 48 43.2 -0.6**
comp=Z,4.2nm,0.9s,mb4.4,baz=316,slow=6.8,SNR=11
KBL Kabul 74.75 58 *eP* **P 02 48 44.2 -0.3**
KBL Kabul 74.75 58 *eP* **P 02 48 44.2 -0.3**
HVS Khovu-Aksy 76.86 33‖ *eP* **P 02 48 57.8 +1.5**
HVS pmax pmax
comp=Z,25nm,1.0s,mb5.1
YAK Yakutsk 77.21 10 *eP* **P 02 48 57.0 -1.0**
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
YAK Yakutsk 77.21 10 *eP* **P 02 48 57.0 -1.0**
comp=Z,10.0nm,0.7s,mb4.8
SEY Seymchan 77.66 359‖ *eP* **P 02 49 00.0 -0.6**
BOD Bodaibo 78.14 19 *eP* **P 02 49 01.7 -1.6**
BOD pmax pmax
comp=Z,16nm,1.1s,mb4.9
BOD Bodaibo 78.14 19 *eP* **P 02 49 01.7 -1.6**
comp=Z,16nm,1.1s,mb4.9
MOY Mondy 79.32 29 *eP* **P 02 49 09.5 -0.4**
MOY pmax pmax
comp=Z,36nm,2.3s,mb4.9
MOY Mondy 79.32 29 *eP* **P 02 49 09.5 -0.4**
comp=Z,36nm,2.3s,mb4.9
WMQ Urumqi 79.46 41 *eP* **P 02 49 10.6 -0.3**
CFAA Coronel Fontan 79.50 213 P **P 02 49 13.8 +2.8**
comp=Z,0.3nm,0.5s,mb3.5,baz=73,slow=4.3,SNR=3.6
TLY Talaya 80.27 27 *eP* **P 02 49 13.6 -1.5**
TLY pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
TLY Talaya 80.27 27 *eP* **P 02 49 13.6 -1.5**
comp=Z,7.0nm,1.1s,mb4.5
ZAK Zakamensk 81.20 28 *eP* **P 02 49 18.6 -1.5**
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
ZAK Zakamensk 81.20 28 *eP* **P 02 49 18.6 -1.5**
comp=Z,4.0nm,1.3s,mb4.2
TRQA Tornquist 82.91 205 *eP* **P 02 49 30.8 +1.9**
comp=Z,15nm,1.4s,mb4.8
SONM Songino Array 84.46 28 P **P 02 49 37.0 -0.1**
comp=Z,2.3nm,0.9s,mb4.3,baz=319,slow=6.0,SNR=10
PETK Petropavlovsk- 87.31 356 P **P 02 49 51.3 +0.2**
comp=Z,2.3nm,0.5s,mb4.7,baz=90,slow=7.6,SNR=5.7
PLCA Paso Flores 88.34 210 P **P 02 49 58.9 +3.0**
comp=Z,1.0nm,0.7s,mb4.2,baz=66,slow=7.3,SNR=3.6
GTA Gaotai 88.69 37 *eP* **P 02 49 57.6 -0.3**
GTA AP pP 02 50 02.0 -1.9
GTA XP sP 02 50 05.0 -1.0
GTA PP PP 02 53 24.9 -0.9
GTA SKS 03 00 24.3
GTA S S 03 00 42.3 -1.5
GTA XS sS 03 00 52.5 -1.2
GTA SS SS 03 06 32.1 -1.7
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,111nm,6.3s
GTA LR LR
comp=N,463nm,15.0s,MS5.1
GTA LR LR
comp=E,185nm,15.0s,MS5.1
GTA LR LR
comp=Z,260nm,15.6s,MS4.8
KLR Kul'dur 89.90 12 *eP* **P 02 49 57.4 -6.0**
HHC Hu-ho-hao-te 92.36 28 *eP* **P 02 50 12.8 -2.2**
HHC PP PP 02 53 54.8 0.0
HHC SKS 03 00 43.8
HHC S S 03 01 11.1 -6.4
HHC PS PS 03 02 26.1 -3.4
HHC AMB AMB
comp=Z,16nm,0.6s,mb5.5
HHC AMB AMB
comp=Z,129nm,7.3s
HHC LR LR
comp=N,349nm,20.2s,MS4.9
HHC LR LR
comp=E,282nm,22.6s,MS4.9
HHC LR LR
comp=Z,258nm,22.6s,MS4.6
LZH Lanzhou 93.24 36 *eP* **P 02 50 18.0 -1.1**
LZH AP pP 02 50 22.8 -2.3
LZH *e*PP PP 02 54 02.5 +0.6
LZH SKS 03 00 50.1
LZH *e*S S 03 01 20.3 -5.2
LZH AMB AMB
comp=Z,15nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,91nm,8.9s
LZH LR LR
comp=E,248nm,18.1s
LZH LR LR
comp=Z,375nm,19.6s,MS4.8
CN2 Changchun 93.85 18 *eP* **P 02 50 17.3 -4.5**
CN2 *e*S S 03 01 21.3 -9.3
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
BJI Beijing 94.69 26 P **P 02 50 21.3 -4.4**
BJI AMB AMB
comp=Z,6.0nm,1.6s,mb4.8
CD2 Chengdu 97.47 39 *eP* **P 02 50 36.9 -1.6**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
CD2 AMB AMB
comp=Z,30nm,7.2s
KSRS Korea Array 100.47 18 P Pdif 02 50 50.7 -1.1
comp=Z,0.5nm,0.5s,baz=247,slow=38,SNR=2.7
GYA Guiyang 102.58 39 P Pdif 02 50 59.8 -1.4
GYA PP PP 02 55 14.4 +0.7
GYA SKS 03 01 38.3
GYA S Sdif 03 02 38.5 -6.5
GYA PS PS 03 04 17.0 -3.8
GYA AMB AMB
comp=Z,10.0nm,0.9s
GYA AMB AMB
comp=Z,90nm,5.8s
GYA LR LR
comp=N,490nm,22.2s,MS5.1
GYA LR LR
comp=E,440nm,21.7s,MS5.1
GYA LR LR
comp=Z,460nm,24.4s,MS4.9
NJ2 Nanjing 102.83 27 *eP* Pdif 02 51 01.4 -0.9
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
WRA Warrumunga Arr 155.95 40 PKPab PKPab 02 57 26.6 +0.6
comp=Z,2.2nm,0.9s,baz=342,slow=3.9,SNR=7.4
ASAR Alice Springs 158.78 46 PKPab PKPab 02 57 37.5 -0.7
comp=Z,1.4nm,0.9s,baz=341,slow=4.0,SNR=6.4

IDC 18 02:39:59.2±4.7, 1237S×7623W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, ML3.4/1, MS3.0/2, Ms1 3.1/2, ms1mx2.7/27, Error ellipse: s-maj=198.8km s-min=36.9km az=36.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**8.76**	**117**	Pn	Pn	02 42 08.3	+1.1
	0.2nm,0.3s,baz=303,slow=9.9,SNR=6.6						
LPAZ				Sn	Sn	02 44 03.2	+16
	baz=198,slow=21,SNR=3.6						
LPAZ				LR	LR	02 46 14.8	
	comp=Z,88nm,19.9s,baz=143,slow=43						
LVC	**Limon Verde**	**12.34**	**147**	LR	LR	02 48 24.0	
	comp=Z,87nm,18.5s,baz=303,slow=41						
YKA	**Yellowknife Ar**	**80.38**	**343**	P	P	02 52 12.4	+0.3
	0.8nm,0.9s,baz=65,slow=20,SNR=3.2						
TORD	**Torodi Ar. Bea**	**81.32**	**74**	P	P	02 52 18.1	-0.1
	1.2nm,0.9s,baz=257,slow=3.9,SNR=9.3						
SONM	**Songino Array**	**144.58**	**357**	PKP	PKPdf	02 59 37.0	-0.9
	0.6nm,0.7s,baz=347,slow=3.5,SNR=3.9						

IDC 18 02:40:11.2±3.3, 484S×15443E, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.9/17, mbtmp4.2/4, ML3.8/1, Error ellipse: s-maj=111.6km s-min=45.0km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**17.12**	**207**	P	Pn	02 44 12.8	+0.7
	0.2nm,0.3s,baz=48,slow=15,SNR=2.8						
KAKA	**Kakadu**	**23.08**	**249**	*e*P	P	02 45 22.5	+3.8
	8.2nm,0.4s						
WB2	**Warramunga Arr**	**24.65**	**231**	*e*P	P	02 45 34.2	+0.5
WRA	**Warramunga Arr**	**24.66**	**231**	P	P	02 45 34.5	+0.7
	11nm,0.6s,baz=54,slow=9.6,SNR=33						
ASAR	**Alice Springs**	**27.24**	**225**	P	P	02 45 56.0	-1.1
	0.8nm,0.4s,baz=58,slow=9.2,SNR=19						
FITZ	**Fitzroy Crossi**	**31.07**	**243**	P	P	02 46 32.0	+0.7
	2.3nm,0.5s,baz=84,slow=10,SNR=6.1						
TORD	**Torodi Ar. Bea**	**151.86**	**289**	PKPbc	PKPbc	03 00 08.9	-0.2
	0.1nm,0.4s,baz=57,slow=2.2,SNR=6.5						

*IDC **18** 02:43:44.2±0.8, 1636S×17280W, h0km, mb4.2/9, mb1 4.5/10, mb1mx4.3/21, mbtmp4.3/10, ML3.0/1, MS3.5/3, Ms1 3.5/3, ms1mx3.3/27, Error ellipse: s-maj=43.6km s-min=15.2km az=135.0*

*ISCJB **18** 02:43:47.7±0.6, 1633S±01×1729W±02, h33km, mb4.2/10, Error ellipse: s-maj=25.2km s-min=7.6km az=34.2*

*NEIC **18** 02:43:49.3±4.3, 1634S×17286W, h35km±30km, mb4.2/1, Error ellipse: s-maj=26.4km s-min=8.6km az=139.0*

ISC 18 02:43:49.6±0.7, 1633S±01×1729W±02, h35km, n14, σ0=42/15, mb4.2/10, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.62**	**24**	Pn	**Pn**	**02 44 29.1**	**-0.3**
	181nm,0.3s,baz=216,slow=2.1,SNR=253						
AFI				Sn	**Sn**	**02 44 59.9**	**-0.2**
	226nm,0.3s,baz=63,slow=24,SNR=12						
AFI				LR	LR	02 45 24.6	
	comp=Z,540nm,18.7s,baz=83,slow=38						
RAR	**Rarotonga**	**13.34**	**113**	Pn	**Pn**	**02 46 45.3**	**-11**
	3.4nm,0.3s,baz=280,slow=9.2,SNR=11						
RAR				LR	LR	02 50 21.1	
	comp=Z,335nm,19.4s,baz=266,slow=30						
PPT	**Papeete**	**22.33**	**97**	LR	LR	02 54 51.6	
	comp=Z,150nm,21.5s,baz=334,slow=30						
URZ	**Urewera**	**23.57**	**200**	P	**P**	**02 48 56.4**	**-0.6**
	14nm,0.5s,mb4.6,baz=351,slow=3.2,SNR=13						
URZ				S	**S**	**02 53 03.7**	**-5.0**
	8.4nm,0.8s,baz=38,slow=18,SNR=2.6						
STKA	**Stephens Creek**	**44.02**	**241**	P	**P**	**02 51 54.6**	**+0.7**
	2.7nm,0.5s,mb4.2,baz=72,slow=8.9,SNR=6.4						
WB2	**Warramunga Arr**	**50.11**	**257**	*e*P	**P**	**02 52 41.2**	**-0.5**
WRAB	**Tennant Creek**	**50.11**	**257**	*e*P	**P**	**02 52 41.6**	**-0.1**
	1.1nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**50.12**	**257**	P	**P**	**02 52 41.7**	**-0.1**
	1.0nm,0.4s,mb4.2,baz=96,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**50.30**	**253**	P	**P**	**02 52 43.3**	**+0.2**
	17nm,0.5s,mb5.3,baz=87,slow=8.8,SNR=246						
YBH	**Yreka Blue Hor**	**74.03**	**37**	P	**P**	**02 55 22.7**	**+0.9**
	1.2nm,0.9s,mb5.8,baz=211,slow=4.9,SNR=5.2						
NVAR	**Mina Array Bea**	**74.68**	**42**	P	**P**	**02 55 25.9**	**+0.2**
	1.4nm,0.9s,mb3.9,baz=226,slow=9.6,SNR=6.5						
ELK	**Elko**	**77.94**	**41**	P	**P**	**02 55 44.3**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=224,slow=4.1,SNR=4.7						
TXAR	**Lajitas Array**	**80.71**	**56**	P	**P**	**02 55 59.1**	**-0.4**
	1.3nm,1.1s,mb3.8,baz=215,slow=6.1,SNR=4.5						
PDAR	**Pinedale Array**	**82.61**	**42**	P	**P**	**02 56 09.2**	**0.0**
	0.8nm,0.7s,mb3.9,baz=211,slow=1.7,SNR=6.8						

*IDC **18** 02:49:57.9±0.6, 1395S×7640W, h0km, mb4.1/14, mb1 4.3/18, mb1mx4.2/25, mbtmp4.1/18, ML3.7/2, Error ellipse: s-maj=26.4km s-min=9.7km az=68.0*

*ISCJB **18** 02:50:01.7±1.3, 1398S±007×765W±0.1, h42km±12km, mb4.2/18, Error ellipse: s-maj=21.2km s-min=6.8km az=150.9*

*NEIC **18** 02:50:03.6±1.1, 1388S×7636W, h39km±9km, mb4.4/6, Error ellipse: s-maj=15.2km s-min=5.8km az=65.0*

ISC 18 02:50:03.7±1.1, 1390S±007×764W±01, h40km±10km, n41, σ0=96/41, mb4.2/18, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.95**	**348**	Pn	**Pn**	**02 50 34.0**	**-0.4**
	52nm,0.3s,baz=186,slow=11,SNR=25						
NNA				Sn	**Sn**	**02 51 04.1**	**+6.5**
	136nm,0.3s,baz=236,slow=14,SNR=14						
ARE	**Arequipa**	**5.39**	**119**	*e*P	**Pn**	**02 51 22.0**	**+0.4**
ARE				*e*S	**Sn**	**02 52 33.0**	**+11**
ATAH	**Atahualpa**	**7.13**	**344**	Pn	**Pn**	**02 51 45.7**	**+0.2**
	1.8nm,0.3s,baz=300,slow=5.2,SNR=6.3						
ATAH				Sn	**Sn**	**02 53 09.8**	**+4.4**
	2.0nm,0.3s,baz=261,slow=16,SNR=1.7						
LPAZ	**La Paz**	**8.34**	**108**	Pn	**Pn**	**02 52 04.8**	**+2.7**
	2.4nm,0.3s,baz=296,slow=9.6,SNR=62						
LVC	**Limon Verde**	**11.21**	**142**	Pn	**Pn**	**02 52 41.2**	**-0.3**
	6.3nm,0.3s,baz=314,slow=10,SNR=58						
SIV	**San Ignacio**	**14.97**	**100**	Pn	**Pn**	**02 53 32.4**	**-0.2**
	0.6nm,0.5s,baz=292,slow=13,SNR=7.6						
ROSC	**El Rosal**	**18.75**	**6**	Pn	**Pn**	**02 54 19.3**	**-0.8**
	0.3nm,0.3s,baz=86,slow=19,SNR=2.8						
CFAA	**Coronel Fontan**	**19.15**	**158**	P	**Pn**	**02 54 23.7**	**-1.1**
	0.1nm,0.3s,baz=334,slow=11,SNR=24						
CFAA				S	**S**	**02 57 59.7**	**+1.0**
	0.2nm,0.3s,baz=324,slow=7.4,SNR=3.7						
CFAA	**Coronel Fontan**	**19.15**	**158**	P	**Pn**	**02 54 23.7**	**-1.1**
CFAA				S	**S**	**02 57 59.7**	**+1.0**
CPUP	**Villa Florida**	**21.73**	**128**	P	**P**	**02 54 50.7**	**-1.0**
	4.2nm,0.7s,mb4.0,baz=295,slow=11,SNR=13						
CPUP	**Villa Florida**	**21.73**	**128**	P	**P**	**02 54 50.7**	**-1.1**
SDV	**Santo Domingo**	**23.36**	**15**	P	**P**	**02 55 08.6**	**-0.3**
	1.5nm,0.4s,mb3.8,baz=179,slow=8.6,SNR=3.7						
SDV	**Santo Domingo**	**23.36**	**15**	*e*P	**P**	**02 55 09.2**	**+0.2**
	9.1nm,0.9s,mb4.2						
PLCA	**Paso Flores**	**27.22**	**170**	P	**P**	**02 55 41.5**	**-2.3**
	2.6nm,0.7s,mb3.9,baz=341,slow=12,SNR=9.9						
PLCA	**Paso Flores**	**27.22**	**170**	*e*P	**P**	**02 55 43.4**	**-0.3**
	2.6nm,0.7s,mb3.9						
USHA	**Ushuaia**	**41.31**	**173**	P	**P**	**02 57 45.3**	**+0.1**
	6.5nm,0.8s,mb4.3,baz=315,slow=8.4,SNR=3.6						
SWET	**Sewanee**	**49.68**	**350**	*e*P	**P**	**02 58 51.1**	**-0.4**
TXAR	**Lajitas Array**	**50.40**	**329**	P	**P**	**02 58 58.9**	**+1.7**
	1.7nm,0.7s,mb4.2,baz=147,slow=9.1,SNR=15						
MIAR	**Mount Ida**	**50.87**	**342**	*e*P	**P**	**02 59 01.5**	**+0.9**
	6.7nm,1.1s,mb4.5						
WCI	**Wyandotte Cave**	**52.68**	**350**	*e*P	**P**	**02 59 11.3**	**-2.8**
	3.4nm,0.5s,mb4.5						
SDCO	**Great Sand Dun**	**58.19**	**333**	*e*P	**P**	**02 59 54.8**	**+1.1**
	4.3nm,1.2s,mb4.3						
PFO	**Pinyon Flat Ob**	**60.73**	**322**	P	**P**	**03 00 10.5**	**-0.9**
	1.5nm,0.4s,mb4.5,baz=284,slow=16,SNR=4.7						
PFO	**Pinyon Flat Ob**	**60.73**	**322**	P	**P**	**03 00 10.5**	**-0.9**
PDAR	**Pinedale Array**	**64.07**	**333**	P	**P**	**03 00 34.0**	**+0.5**
	0.4nm,0.6s,mb3.6,baz=188,slow=6.0,SNR=4.3						
AGMN	**Agassiz Refuge**	**64.30**	**346**	*e*P	**P**	**03 00 34.1**	**-0.7**
	2.2nm,0.6s,mb4.4						
NVAR	**Mina Array Bea**	**65.17**	**325**	P	**P**	**03 00 42.7**	**+1.9**
	0.9nm,0.9s,mb3.8,baz=134,slow=5.1,SNR=3.0						
NVAR	**Mina Array Bea**	**65.17**	**325**	P	**P**	**03 00 42.7**	**+1.9**
ULM	**Lac du Bonnet**	**66.12**	**346**	P	**P**	**03 00 46.3**	**-0.4**
	5.6nm,1.0s,mb4.5,baz=116,slow=11,SNR=3.9						
SNAA	**Sanae**	**71.74**	**161**	*e*	**P**	**03 01 21.7**	**+0.4**
SNAA				*e*		03 01 41.8	
SNAA	**Sanae**	**71.74**	**161**	P	**P**	**03 01 20.7**	**-0.7**
	1.2nm,0.5s,mb4.1,baz=283,slow=6.7,SNR=41						
DBIC	**Dimbokro**	**73.88**	**79**	P	**P**	**03 01 34.4**	**-0.7**
	2.3nm,0.7s,mb4.2,baz=249,slow=7.9,SNR=4.1						
DBIC	**Dimbokro**	**73.88**	**79**	P	**P**	**03 01 34.4**	**-0.7**
EDM	**Edmonton**	**73.98**	**338**	*e*P	**P**	**03

0.8nm,0.5s,mb3.9,baz=147,slow=5.8,SNR=6.7
TORD Torodi Ar. Bea 81.90 74 P **P 03 02 19.7 +0.1**
2.6nm,0.7s,mb4.3,baz=256,slow=3.2,SNR=29
TSUM Tsumeb 89.19 109 P **P 03 02 56.3 +0.5**
0.8nm,0.6s,mb4.2,baz=238,slow=9.2,SNR=5.2
GERES GERESS Array B 100.40 42 P Pdif 03 03 48.2 +1.9
0.9nm,0.8s,baz=42,slow=2.2,SNR=5.6
ASAR Alice Springs 132.32 219 PKP PKPdf 03 09 14.7 +0.3
0.4nm,0.8s,baz=128,slow=2.9,SNR=4.5
ZALV Zalesovo Beam 137.40 16 PKP PKPdf 03 09 23.3 +0.5
0.9nm,0.4s,baz=259,slow=1.5,SNR=3.9
SONM Songino Array 146.09 357 PKPbc PKPbc 03 09 40.2 +0.8
1.6nm,0.7s,baz=327,slow=2.8,SNR=11
KSRS Korea Array 148.07 322 PKPbc PKPbc 03 09 45.9 +0.5
0.6nm,0.3s,baz=51,slow=2.0,SNR=4.7

ISCJB ***18*** *02:52:29.8±1.2, 1380S±003×7639W±003, h4km±7km, mb6.0/315, MS5.7/237, Error ellipse: s-maj=5.6km s-min=3.1km az=137.0*
IDC ***18*** *02:52:30.5±0.4, 1393S×7651W, h0km, mb5.5/31, mb1 5.5/36, mb1mx5.5/37, mbtmp5.5/36, ML5.0/4, MS5.7/21, Ms1 5.7/21, ms1mx5.6/26, Error ellipse: s-maj=13.2km s-min=6.7km az=73.0*
MOS ***18*** *02:52:34.5±0.9, 1354S×7596W, h33km, mb6.2/115, MS5.6/73, Error ellipse: s-maj=15.2km s-min=5.3km az=50.2*
GCMT ***18*** *02:52:35.4±0.1, 1392S×7657W, h34km, MW6.0/101, Moment Tensor Solution. s101,c216; s99,c301; Duration: 2s5 Moment tensor: Scale 1018Nm; Mrr0.76±.01; Mθθ-0.16±.01; Mφφ-0.60±.01; Mrθ0.46±.01; Mθφ0.44±.01; Mφr-0.94±.02; Best double couple: M0 1.32700×1018 NP1:φs323.00000°, δ19.00000°, λ81.00000°. NP2:φs153.00000°, δ71.00000°, λ93.00000°. Principal axes: T 1.2760, Plg64.0000°, Azm68.0000°; N 0.1020, Plg3.0000°, Azm332.0000°; P -1.3780, Plg26.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***18*** *02:52:35.4±0.1, 1381S×7629W, h30km, mb6.0/278, ME5.9, MS5.7/202 Error ellipse: s-maj=3.7km s-min=2.2km az=47.0, Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [IV] at Lima and [III] at San Vicente de Canete. Also felt at Chaclacayo, Cusco and Matucana.
BJI ***18*** *02:52:35.4, 1380S×7630W, h30km, mB6.0, Ms6.0, Msz5.9*
IGIL ***18*** *02:52:35.9, 1377S×7619W, h35km, MS6.0*
BGS ***18*** *02:52:43.5, 1203S×7462W, h15km, mb5.9*
DJA ***18*** *02:52:46, 1592S×7449W, h10km, mb5.9/6*
ORF ***18*** *02:53:06.8, 930S×7121W, h30km, mb5.7*
ISC 18 02:52:36.1±1.1, 1381S±002×**7630W**±003, **h33**km±7km, **h31**km±1.4km:**pP-P, n1074, c0s87**/762, **mb6.0**/315, **MS5.7**/237, **394C-26D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.89**	**344**	Pn		**Pn**		**02 53 05.4**	**-0.6**
93µm,0.9s,SNR=52									
NNA	**Nana**	**1.89**	**344**	Pn		**Pn**		**02 53 06.0**	**0.0**
1µm,0.3s,baz=168,slow=13,SNR=24									
NNA					Sn		**Sn**	**02 53 30.3**	**+1.6**
5µm,0.3s,baz=182,slow=20,SNR=14									
NNA					LR		LR	02 53 57.2	
comp=Z,200µm,18.5s,baz=130,slow=44									
NNA	**Nana**	**1.89**	**344**	*e*Pn		**Pn**		**02 53 05.9**	**-0.2**
NNA				*e*Sn		**Sn**		**02 53 29.0**	**+0.3**
ARE	**Arequipa**	**5.34**	**120**	*e*P		**Pn**		**02 53 55.0**	**+1.5**
ARE				*e*S		**Sn**		**02 55 00.0**	**+6.2**
ATAH	**Atahualpa**	**7.07**	**343**	Pn		**Pn**		**02 54 16.6**	**-0.8**
35nm,0.3s,baz=167,slow=5.7,SNR=32									
ATAH					Sn		**Sn**	**02 55 36.3**	**-0.3**
39nm,0.3s,baz=135,slow=15,SNR=2.3									
ATAH					LR		LR	02 57 10.6	
comp=Z,33µm,21.1s,baz=24,slow=40									
LPAZ	**La Paz**	**8.27**	**108**	Pn		**Pn**		**02 54 36.5**	**+2.9**
11nm,0.3s,baz=291,slow=12,SNR=60									
LPAZ					Sn		**Sn**	**02 56 11.4**	**+5.4**
baz=186,slow=24,SNR=1.5									
LPAZ					LR		LR	02 57 56.6	
comp=Z,17µm,20.7s,baz=135,slow=39									
LPAZ	**La Paz**	**8.27**	**108**	P		**Pn**		**02 54 36.6**	**+2.9**
LPAZ								02 56 11.4	
LPAZ					pmax		pmax		
comp=Z,11nm,0.3s									
LPAZ					MLR		MLR		
comp=Z,17µm,20.7s									
LPAZ	**La Paz**	**8.27**	**108**	*e*Pn		**Pn**		**02 54 38.5**	**+4.8**
CEN1	**Los Morros**	**11.14**	**150⇑**	*e*P		**Pn**		**02 55 11.8**	**-1.3**
LVC	**Limon Verde**	**11.22**	**142**	Pn		**Pn**		**02 55 11.0**	**-3.1**
comp=Z,3.8nm,0.3s,baz=342,slow=7.2,SNR=3.8									
LVC					Sn		**Sn**	**02 57 18.2**	**-0.2**
comp=Z,15nm,0.3s,baz=83,slow=19,SNR=5.2									
LVC					LR		LR	02 59 07.8	
comp=Z,36µm,21.2s,baz=308,slow=35									
LVC	**Limon Verde**	**11.22**	**142**	*e*Pn		**Pn**		**02 55 14.5**	**+0.3**
comp=Z,248nm,0.8s									
LVC				*e*Sn		**Sn**		**02 57 18.4**	**0.0**
OTAV	**Otavalo**	**14.12**	**351**	*e*Pn		**Pn**		**02 55 56.5**	**+2.7**
comp=Z,628nm,1.3s									
OTAV				*e*Sn		**Sn**		**02 58 23.9**	**-5.6**
SIV	**San Ignacio**	**14.88**	**100**	Pn		**Pn**		**02 56 01.7**	**-2.5**
comp=Z,0.4nm,0.3s,baz=276,slow=13,SNR=61									
SIV					Sn		**Sn**	**02 58 48.6**	**+0.7**
comp=Z,0.7nm,0.3s,baz=239,slow=12,SNR=4.4									
SIV					LR		LR	03 02 18.4	
comp=Z,395nm,21.4s,baz=187,slow=39									
LCO	**Las Campanas**	**15.99**	**162**	*e*Pn		**Pn**		**02 56 18.4**	**-0.3**
comp=Z,254nm,1.1s									
TLL	**Tololo Astrono**	**17.05**	**164**	*e*P		**Pn**		**02 56 32.5**	**+0.5**
ROSC	**El Rosal**	**18.65**	**6**	P		**Pn**		**02 56 52.2**	**+0.4**
comp=Z,3.0nm,0.3s,baz=189,slow=2.8,SNR=38									
ROSC					S		**Sn**	**03 00 24.9**	**+5.5**
comp=Z,1.1nm,0.3s,baz=263,slow=21,SNR=2.3									
ROSC					LR		LR	03 05 00.2	
comp=Z,40µm,20.8s,baz=191,slow=40									
ROSC	**El Rosal**	**18.65**	**6**	*e*P		**Pn**		**02 56 54.2**	**+2.5**
CFAA	**Coronel Fontan**	**19.19**	**159**	P		**Pn**		**02 56 57.2**	**-1.0**
comp=Z,0.5nm,0.3s,baz=335,slow=10.0,SNR=63									
CFAA					S		**Sn**	**03 00 34.6**	**+2.2**
baz=354,slow=17,SNR=2.1									
CFAA					LR		LR	03 03 08.3	
comp=Z,2µm,20.0s,baz=336,slow=33									
CFAA	**Coronel Fontan**	**19.19**	**159**	P		**Pn**		**02 56 57.2**	**-1.0**
CFAA					S		**Sn**	**03 00 34.6**	**+2.2**
CFAA					LR		LR	03 03 08.3	
PEL	**Peldehue**	**19.91**	**166**	*e*P		**Pn**		**02 57 04.1**	**-2.7**
FCH	**Farellones**	**20.18**	**165⇑**	*e*P		**P**		**02 57 08.9**	**+0.9**
LMEL	**Las Melosas**	**20.70**	**166⇑**	*e*P		**P**		**02 57 14.3**	**+0.8**
CPUP	**Villa Florida**	**21.70**	**128**	P		**P**		**02 57 24.0**	**-0.4**
comp=Z,173nm,1.0s,mb5.5,baz=289,slow=14									
CPUP					S		**S**	**03 01 34.2**	**+11**
comp=Z,5.3nm,0.7s,baz=21,slow=16,SNR=2.0									
CPUP					LR		LR	03 07 53.3	
comp=Z,35µm,18.4s,MS5.8,baz=294,slow=42									
CPUP	**Villa Florida**	**21.70**	**128**	P		**P**		**02 57 24.0**	**-0.4**
CPUP					S		**S**	**03 01 34.2**	**+11**
CPUP					LR		LR	03 07 53.3	
CCHI	**Chillan**	**23.01**	**171⇑**	*e*P		**P**		**02 57 38.2**	**0.0**
BCIP	**Isla Barro Col**	**23.09**	**351**	*e*P		**P**		**02 57 40.3**	**+1.0**
comp=Z,1µm,1.5s,mb6.2									
BCIP					LR		LR		
comp=Z,13µm,19.0s,MS5.4									
SDV	**Santo Domingo**	**23.24**	**14**	P		**P**		**02 57 40.5**	**-0.3**
comp=Z,115nm,0.7s,mb5.4,baz=211,slow=8.5,SNR=101									
SDV					S		**S**	**03 02 00.7**	**+10**
comp=Z,43nm,0.8s,baz=24,slow=20,SNR=1.9									
SDV					LR		LR	03 07 45.5	
comp=Z,26µm,18.5s,MS5.7,baz=345,slow=39									
SDV	**Santo Domingo**	**23.24**	**14**	*e*P		**P**		**02 57 40.3**	**-0.4**
comp=Z,582nm,1.1s,mb5.9									
SDV					LR		LR		
comp=Z,10µm,19.0s,MS5.3									
PCRV	**Puerto La Cruz**	**26.49**	**26**	P		**P**		**02 58 11.3**	**+0.8**
comp=Z,106nm,1.0s,mb5.3,baz=202,slow=3.3,SNR=33									
PCRV					S		**S**	**03 02 53.9**	**+11**
comp=Z,12nm,0.9s,baz=157,slow=21,SNR=2.0									
PCRV					LR		LR	03 09 43.3	
comp=Z,67µm,18.8s,MS6.2,baz=205,slow=39									
LPA	**La Plata**	**26.76**	**145**	*e*P		**P**		**02 58 12.0**	**-0.9**
LPA	**La Plata**	**26.76**	**145**	*e*P		**P**		**02 58 16.0**	**+3.1**
LPA					*e*P		sP	02 58 30.0	+3.5
LPA					*e*PCP		PcP	03 01 32.0	-3.5
LPA					*e*S		**S**	**03 02 47.0**	**+0.4**
LPA					*e*SP			03 02 59.0	
LPA					*e*sS		sS	03 03 09.0	+6.5
PLCA	**Paso Flores**	**27.29**	**170**	P		**P**		**02 58 16.8**	**-0.8**
comp=Z,26nm,0.7s,mb4.9,baz=342,slow=10,SNR=69									
PLCA					S		**S**	**03 02 53.6**	**-1.2**
comp=Z,3.1nm,0.8s,baz=252,slow=19,SNR=1.5									
PLCA					LR		LR	03 06 59.6	
comp=Z,11µm,19.9s,MS5.4,baz=334,slow=32									
PLCA	**Paso Flores**	**27.29**	**170**	P		**P**		**02 58 16.8**	**-0.7**
PLCA					S		**S**	**03 02 53.6**	**-1.2**
PLCA					pmax		pmax		
comp=Z,26nm,0.7s									
PLCA					smax				
comp=N,3.0nm,0.8s									
PLCA	**Paso Flores**	**27.29**	**170**	*e*P		**P**		**02 58 16.6**	**-0.9**
comp=N,111nm,1.1s,mb5.3									
PLCA					LR		LR		
comp=Z,12µm,22.0s,MS5.4									
TRQA	**Tornquist**	**27.29**	**155**	*e*P		**P**		**02 58 16.2**	**-1.4**
comp=Z,77nm,1.3s,mb5.1									
TRQA					LR		LR		
comp=Z,10µm,21.0s,MS5.4									
BDFB	**Brasilia**	**27.41**	**97**	P		**P**		**02 58 16.7**	**-2.2**
comp=Z,17nm,1.1s,mb4.5,baz=260,slow=18,SNR=27									
BDFB					S		**S**	**03 03 10.5**	**+13**
comp=Z,12nm,1.1s,baz=179,slow=24,SNR=2.0									
BDFB					LR		LR	03 10 20.2	
comp=Z,21µm,20.5s,MS5.7,baz=75,slow=39									
TPP	**Pointe-a-Pierr**	**28.13**	**32**	*e*		**P**		**02 58 32.0**	**+6.7**
TRN	**Trinidad (W)**	**28.44**	**32**	*e*		**P**		**02 58 27.5**	**-0.5**
TRN	**Trinidad (W)**	**28.44**	**32**	*e*		**P**		**02 58 33.0**	**+5.0**
TBH	**Brigand Hill**	**28.48**	**33**	*e*		pP		02 58 38.7	+0.7
SPB	**Sao Paulo**	**28.97**	**114**	*e*P		**P**		**02 58 31.9**	**-0.8**
TPR	**Prospect**	**29.22**	**33**	*e*		**P**		**02 58 34.4**	**-0.6**
GRGR	**Grenville**	**29.58**	**30**	*e*P		**P**		**02 58 37.4**	**-0.7**
comp=Z,818nm,0.9s,mb6.5									
GRGR					LR		LR		
comp=Z,13µm,20.0s,MS5.5									
TGUH	**Tegucigalpa,Un**	**29.74**	**338**	*e*P		**P**		**02 58 40.7**	**+1.1**
comp=Z,458nm,1.5s,mb6.0									
TGUH					LR		LR		
comp=Z,7µm,20.0s,MS5.3									
PCJ	**Portland Cotta**	**31.36**	**358**	*i*P		**P**		**02 58 55.8**	**+1.9**
BBGH	**Gun Hill**	**31.50**	**32**	*e*P		**P**		**02 58 55.6**	**+0.6**
comp=Z,1µm,1.3s,mb6.6									
BBGH					LR		LR		
comp=Z,40µm,22.0s,MS6.0									
HOJ	**Hope**	**31.61**	**359**	*i*P		**P**		**02 58 58.3**	**+2.2**
GWJ	**Greenwich**	**31.68**	**359**	*i*P		**P**		**02 58 58.5**	**+1.8**
STH	**Stony Hill**	**31.69**	**359**	*i*P		**P**		**02 58 58.4**	**+1.7**
SJG	**San Juan**	**33.26**	**18**	P		**P**		**02 59 09.8**	**-0.7**
SJG					pmax		pmax		
comp=Z,220nm,1.1s									
SJG	**San Juan**	**33.26**	**18**	*e*P		**P**		**02 59 09.7**	**-0.7**
comp=Z,219nm,1.1s,mb6.0									
SJG					LR		LR		
comp=Z,16µm,20.0s,MS5.7									
AOPR	**Arecibo Observ**	**33.31**	**17**	*e*P		**P**		**02 59 10.0**	**-1.0**
comp=Z,281nm,1.2s,mb6.1									
HUMP	**Col San Antoni**	**33.38**	**18**	*e*P		**P**		**02 59 11.4**	**-0.2**
comp=Z,189nm,1.2s,mb5.9									
RPN	**Rapa Nui**	**33.55**	**242**	PFAKE				02 59 20.0	+6.9
RPN					LR		LR		
comp=Z,12µm,20.0s,MS5.6									
LMGC	**Las Mercedes**	**33.67**	**359**	*e*P		**P**		**02 59 15.6**	**+1.6**
LMGC					*e*S		**S**	**03 04 37.1**	**+2.2**
comp=N,6µm,23.0s									
LMGC					*e*				
comp=E,6µm,20.1s									
CCIG	**Comitan**	**33.75**	**332**	*i*P		**P**		**02 59 14.7**	**-0.1**
MASC	**Masc**	**33.83**	**3**	*e*P		**P**		**02 59 16.9**	**+1.5**
MASC					*e*S		**S**	**03 04 46.6**	**+9.1**
comp=N,2µm,8.2s									
MASC					*e*				
comp=E,3µm,9.0s									
SCX	**San Cristobal**	**34.37**	**331**	*i*P		**P**		**02 59 22.4**	**+2.2**
CAM3	**Guarapari**	**34.79**	**106⇑**	*i*P		**P**		**02 59 23.4**	**-0.5**
CAM3				*i*		pP		02 59 30.5	-3.2
CAM3				*i*				02 59 36.7	
CAM3				*i*				02 59 39.0	
CAM3				*i*				02 59 42.0	
CAM3				*i*				02 59 45.1	
CAM3				*i*				02 59 49.0	
HUIG	**Huatulco**	**35.32**	**326**	*i*P		**P**		**02 59 29.7**	**+1.3**
CMIG	**Matias Romero**	**35.77**	**329**	P		**P**		**02 59 32.9**	**+0.6**
comp=E,22nm,0.7s,mb5.2,baz=140,slow=6.3,SNR=36									
CMIG					S		**S**	**03 05 10.2**	**+2.7**
comp=E,4.5nm,1.1s,baz=217,slow=13,SNR=2.0									
CMIG	**Matias Romero**	**35.77**	**329**	*i*P		**P**		**02 59 32.9**	**+0.6**
TEIG	**Tepich**	**35.81**	**341**	P		**P**		**02 59 32.9**	**+0.4**
comp=E,148nm,0.7s,mb6.0,baz=168,slow=5.8,SNR=112									
TEIG					S		**S**	**03 05 05.3**	**-2.7**
comp=E,5.9nm,0.9s,baz=51,slow=15,SNR=1.5									
TEIG	**Tepich**	**35.81**	**341⇑**	*i*P		**P**		**02 59 32.8**	**+0.2**
comp=E,1µm,1.4s,mb6.6									
TEIG					LR		LR		
comp=Z,8µm,19.0s,MS5.5									
MGV	**Manicaragua**	**35.88**	**354**	*e*P		**P**		**02 59 32.5**	**-0.6**
MGV					*e*S		S	03 04 42.3	-27
comp=N,204nm,6.9s									
MGV					*e*				
comp=E,380nm,4.6s									
VHO	**Vista Hermosa**	**36.73**	**326**	*i*P		**P**		**02 59 42.7**	**+2.3**
OXX	**Oaxaca**	**36.73**	**326**	*e*P		**P**		**02 59 43.5**	**+3.1**
PNIG	**Pinotepa**	**36.96**	**324**	*i*P		**P**		**02 59 43.6**	**+1.2**
SOR	**Soroa**	**36.96**	**350**	*e*P		**P**		**02 59 41.9**	**-0.5**
SOR					*e*S		Sx	03 04 45.5	
comp=N,3µm,3.8s									
SOR					*e*				
comp=E,4µm,6.2s									
CAIG	**El Cayaco**	**38.73**	**322**	*i*P		**P**		**02 59 49.6**	**-7.8**
PPM	**Popocatepetl**	**39.38**	**326**	*i*P		**P**		**03 00 06.0**	**+3.2**
ZIIG	**Zihuatanejo**	**39.89**	**321**	*i*P		**P**		**03 00 08.5**	**+1.4**
PBVM	**Pinon**	**39.94**	**325**	*i*P		**P**		**03 00 10.2**	**+2.8**
EFI	**East Falkland**	**40.52**	**163**	P		**P**		**03 00 12.7**	**+0.8**
EFI					pmax		pmax		
comp=Z,190nm,1.2s,mb5.6									
EFI	**East Falkland**	**40.52**	**163**	*e*P		**P**		**03 00 11.9**	**0.0**
comp=Z,192nm,1.2s,mb5.6									
EFI					LR		LR		
comp=Z,13µm,20.0s,MS5.8									
MOIG	**Morelia**	**41.32**	**323**	*i*P		**P**		**03 00 19.3**	**+0.4**
USHA	**Ushuaia**	**41.39**	**173**	P		**P**		**03 00 19.1**	**+0.2**
comp=Z,71nm,1.1s,mb5.2,baz=323,slow=5.6,SNR=24									
DWPF	**Disney**	**41.97**	**353⇑**	*i*P		**P**		**03 00 23.2**	**-0.8**
comp=Z,344nm,1.6s,mb5.7									
DWPF					LR		LR		
comp=Z,3µm,20.0s,MS5.2									
BRAL	**Brewton**	**45.75**	**347⇑**	*i*P		**P**		**03 00 55.0**	**+0.7**
comp=Z,775nm,1.5s,mb6.4									
BRAL					LR		LR		
comp=Z,4µm,22.0s,MS5.3									
KVTX	**Kingsville**	**46.14**	**333⇑**	*i*P		**P**		**03 00 59.0**	**+1.5**
comp=Z,3µm,0.8s,mb7.3									
KVTX					LR		LR		
comp=Z,4µm,19.0s,MS5.4									
NHSC	**New Hope**	**46.80**	**356⇑**	*i*P		**P**		**03 01 02.2**	**-0.4**
comp=Z,988nm,1.4s,mb6.5									
NHSC					LR		LR		
comp=Z,9µm,22.0s,MS5.7									
COW	**Cow Castle Cre**	**47.11**	**355**	*e*P		**P**		**03 01 05.1**	**+0.1**
BBSR	**BB Station**	**47.24**	**13⇑**	*i*P		**P**		**03 01 05.5**	**-0.6**
comp=Z,239nm,1.4s,mb5.9									
BBSR					LR		LR		
comp=Z,6µm,20.0s,MS5.5									
HKT	**Hockley**	**47.41**	**337⇑**	*i*P		**P**		**03 01 07.6**	**+0.2**
HKT					pmax		pmax		
comp=Z,416nm,1.7s,mb6.1									
HKT					MLR		MLR		
comp=Z,2µm,20.0s,MS5.2									
HKT	**Hockley**	**47.41**	**337⇑**	*i*P		**P**		**03 01 07.6**	**+0.2**
comp=Z,416nm,1.7s,mb6.1									
HKT					LR		LR		
comp=Z,2µm,20.0s,MS5.2									
GOGA	**Godfrey**	**47.45**	**352⇑**	*i*P		**P**		**03 01 06.5**	**-1.1**
GOGA					pmax		pmax		
comp=Z,476nm,1.5s,mb6.2									
GOGA					MLR		MLR		
comp=Z,5µm,21.0s,MS5.5									
GOGA	**Godfrey**	**47.45**	**352⇑**	*i*P		**P**		**03 01 06.5**	**-1.2**
comp=Z,476nm,1.5s,mb6.2									
GOGA					LR		LR		
comp=Z,5µm,21.0s,MS5.5									
LRAL	**Lakeview Retre**	**47.69**	**348⇑**	*i*P		**P**		**03 01 08.2**	**-1.3**
comp=Z,489nm,1.5s,mb6.3									
LRAL					LR		LR		
comp=Z,5µm,21.0s,MS5.4									
VBMS	**Vicksburg**	**47.75**	**344**	*e*P		**P**		**03 01 10.3**	**+0.3**
comp=Z,481nm,1.5s,mb6.3									
VBMS					LR		LR		
comp=Z,3µm,20.0s,MS5.3									
JSC	**Jenkinsville**	**48.05**	**354**	*e*P		**P**		**03 01 12.6**	**+0.3**
NATX	**Nacogdoches**	**48.61**	**339**	*e*P		**P**		**03 01 17.0**	**+0.3**
comp=Z,875nm,1.8s,mb6.5									
NATX					LR		LR		
comp=Z,4µm,21.0s,MS5.4									
CNNC	**Cliffs of the**	**48.80**	**358⇑**	*i*P		**P**		**03 01 17.5**	**-0.6**
comp=Z,534nm,1.4s,mb6.4									
CNNC					LR		LR		
comp=Z,5µm,20.0s,MS5.5									
JCT	**Junction City**	**49.51**	**333**	P		**P**		**03 01 23.5**	**0.0**
JCT					pmax		pmax		
comp=Z,46nm,0.9s,mb5.5									
JCT	**Junction City**	**49.51**	**333⇑**	*i*P		**P**		**03 01 23.3**	**-0.2**
comp=Z,46nm,0.9s,mb5.5									
JCT					LR		LR		
comp=Z,2µm,19.0s,MS5.2									
CPCT	**Cooper Cave**	**49.60**	**351⇑**	*i*P		**P**		**03 01 23.2**	**-1.0**
SWET	**Sewanee**	**49.60**	**350⇑**	*i*P		**P**		**03 01 22.8**	**-1.4**
OXF	**Oxford**	**49.64**	**346**	P		**P**		**03 01 23.4**	**-1.1**
OXF					pmax		pmax		
comp=Z,700nm,1.4s,mb6.5									
OXF	**Oxford**	**49.64**	**346⇑**	*i*P		**P**		**03 01 22.7**	**-1.8**
comp=Z,700nm,1.4s,mb6.5									
OXF					LR		LR		
comp=Z,2µm,21.0s,MS5.0									
TKL	**Tuckaleechee C**	**49.70**	**352**	P		**P**		**03 01 23.6**	**-1.3**
TKL	**Tuckaleechee C**	**49.70**	**352⇑**	*i*P		**P**		**03 01 23.4**	**-1.5**
PLAL	**Pickwick Lake**	**49.79**	**347⇑**	*i*P		**P**		**03 01 23.8**	**-1.9**
comp=Z,267nm,1.3s,mb6.1									
PLAL					LR		LR		
comp=Z,3µm,20.0s,MS5.2									
LPIG	**La Paz**	**50.24**	**318**	P		**P**		**03 01 28.6**	**-0.7**
comp=Z,9.7nm,0.3s,mb5.3,baz=189,slow=1.2,SNR=9.0									
LPIG	**La Paz**	**50.24**	**318**	*i*P		**P**		**03 01 29.4**	**+0.2**
MET	**Memphis--Engin**	**50.35**	**345**	*e*P		**P**		**03 01 29.4**	**-0.4**
TXAR	**Lajitas Array**	**50.38**	**329**	P		**P**		**03 01 30.1**	**-0.1**
comp=Z,39nm,0.8s,mb5.5,baz=148,slow=9.2,SNR=118									
TXAR					LR		LR	03 21 33.4	
comp=Z,7µm,18.1s,MS5.7,baz=105,slow=35									
TZTN	**Tazewell**	**50.55**	**352⇑**	*i*P		**P**		**03 01 30.1**	**-1.2**
comp=Z,513nm,1.5s,mb6.2									
TZTN					LR		LR		
comp=Z,8µm,20.0s,MS5.7									
UALR	**University of**	**50.66**	**343⇑**	*i*P		**P**		**03 01 31.6**	**-0.6**
comp=Z,540nm,1.4s,mb6.3									
MIAR	**Mount Ida**	**50.81**	**342⇑**	*i*P		**P**		**03 01 33.1**	**-0.3**
MIAR					pmax		pmax		
comp=Z,463nm,1.5s,mb6.2									
MIAR					MLR		MLR		
comp=Z,2µm,22.0s,MS5.2									
MIAR	**Mount Ida**	**50.81**	**342⇑**	*i*P		**P**		**03 01 33.1**	**-0.3**
comp=Z,462nm,1.5s,mb6.2									
MIAR					LR		LR		
comp=Z,2µm,22.0s,MS5.2									
BLA	**Blacksburg**	**50.89**	**356⇑**	*i*P		**P**		**03 01 33.5**	**-0.4**
BLA					pmax		pmax		
comp=Z,664nm,1.5s,mb6.3									
BLA					MLR		MLR		
comp=Z,6µm,22.0s,MS5.5									
BLA	**Blacksburg**	**50.89**	**356⇑**	*i*P		**P**		**03 01 33.5**	**-0.4**
comp=Z,664nm,1.5s,mb6.3									
BLA					LR		LR		
comp=Z,6µm,22.0s,MS5.5									
ELN	**Prospectdale**	**50.94**	**355**	*e*P		**P**		**03 01 34.1**	**-0.2**
HBAR	**Harrisburg**	**50.94**	**345⇑**	*i*P		**P**		**03 01 33.2**	**-1.1**
HALT	**Halls**	**50.96**	**346⇑**	*i*P		**P**		**03 01 32.5**	**-1.9**
URVA	**University of**	**51.12**	**359⇑**	*i*P		**P**		**03 01 35.2**	**-0.4**
GNAR	**Gosnell**	**51.18**	**346⇑**	*i*P		**P**		**03 01 35.0**	**-1.1**
comp=Z,9µm,1.5s,mb7.5									
UTMT	**University of**	**51.27**	**347**	*e*P		**P**		**03 01 35.0**	**-1.8**
comp=Z,910nm,1.4s,mb6.5									
GLAT	**Glass**	**51.30**	**347⇑**	*i*P		**P**		**03 01 35.4**	**-1.5**
PVMO	**Portageville**	**51.53**	**346**	*e*P		**P**		**03 01 38.4**	**-0.4**
comp=Z,1µm,1.3s,mb6.7									
PMSA	**Palmer Station**	**51.60**	**173**	P		**P**		**03 01 39.2**	**+0.3**
comp=Z,28nm,0.7s,mb5.3,baz=3.3,slow=6.1,SNR=36									

QUA2 Belchertown 55.92 4⇑iP P 03 02 10.6 -0.2
comp=Z,849nm,1.4s,mb6.6
LENM Lemitar 55.93 329 eP P 03 02 12.0 +1.0
KSU1 Kansas State U 55.95 341⇑iP P 03 02 09.8 -1.2
comp=Z,282nm,1.5s,mb6.1
KSU1 LR LR
comp=Z,2μm,19.0s,MS5.2
WES Weston 56.10 4 P P 03 02 12.2 +0.2
WES pmax pmax
comp=Z,580nm,1.3s,mb6.5
WES Weston 56.10 4⇑iP P 03 02 12.0 0.0
comp=Z,581nm,1.3s,mb6.5
RKT Rikitea 56.11 251 eS S 03 09 58.8 -0.9
comp=Z,14μm,26.5s
RKT eSS SS 03 13 46.8 +0.4
comp=Z,3μm,27.5s
RKT eLQ 03 16 14.8
comp=Z,1μm,28.2s
RKT eLR LR 03 18 34.4
comp=Z,15μm,25.5s,baz=83
LAZ Ladron 56.20 329 eP P 03 02 13.7 +0.8
HRV Adam Dziewonsk 56.20 4⇑iP P 03 02 13.0 +0.2
HRV pmax pmax
comp=Z,317nm,1.2s,mb6.2
HRV MLR MLR
comp=Z,6μm,22.0s,MS5.6
HRV Adam Dziewonsk 56.20 4⇑iP P 03 02 12.9 +0.2
comp=Z,318nm,1.2s,mb6.2
HRV LR LR
comp=Z,6μm,22.0s,MS5.6
AAM Ann Arbor 56.24 353 P P 03 02 11.7 -1.3
AAM pmax pmax
comp=Z,420nm,1.5s,mb6.2
AAM Ann Arbor 56.24 353⇑iP P 03 02 11.4 -1.7
comp=Z,416nm,1.5s,mb6.2
AAM LR LR
comp=Z,8μm,22.0s,MS5.8
ANMO Albuquerque 56.31 330 P P 03 02 14.0 +0.3
ANMO pmax pmax
comp=Z,190nm,1.3s
ANMO Albuquerque 56.31 330⇑iP P 03 02 13.9 +0.2
comp=Z,186nm,1.3s,mb6.0
ANMO LR LR
comp=Z,3μm,20.0s,MS5.4
TUC Tucson 56.50 325 P P 03 02 15.4 +0.3
TUC pmax pmax
comp=Z,180nm,1.4s,mb5.9
TUC Tucson 56.50 325⇑iP P 03 02 15.2 +0.1
comp=Z,182nm,1.4s,mb5.9
TUC LR LR
comp=Z,6μm,20.0s,MS5.7
CBKS Cedar Bluff 56.75 338 P P 03 02 16.3 -0.5
CBKS pmax pmax
comp=Z,600nm,1.4s,mb6.4
CBKS Cedar Bluff 56.75 338⇑iP P 03 02 16.1 -0.7
comp=Z,604nm,1.4s,mb6.4
CBKS LR LR
comp=Z,2μm,20.0s,MS5.2
ACCN Adirondack Com 56.96 2⇑iP P 03 02 18.4 +0.2
comp=Z,1μm,1.4s,mb6.7
FFD Franklin Falls 57.16 4⇑iP P 03 02 19.9 +0.4
comp=Z,270nm,1.1s,mb6.2
HNH Hanover 57.35 3⇑iP P 03 02 21.5 +0.7
comp=Z,1μm,1.4s,mb6.7
NCB Newcomb 57.53 2 PFAKE 03 02 30.0 +7.9
NCB LR LR
comp=Z,5μm,22.0s,MS5.5
SCIA State Center 57.59 345⇑iP P 03 02 21.5 -1.1
comp=Z,599nm,1.5s,mb6.4
SCIA LR LR
comp=Z,3μm,21.0s,MS5.3
JFWS Jewell Farm 57.88 348 P P 03 02 23.0 -1.6
JFWS pmax pmax
comp=Z,350nm,1.6s,mb6.1
JFWS Jewell Farm 57.88 348⇑iP P 03 02 22.9 -1.7
comp=Z,351nm,1.6s,mb6.1
JFWS LR LR
comp=Z,4μm,20.0s,MS5.5
LBNH Lisbon 57.91 4 P P 03 02 25.4 +0.6
LBNH pmax pmax
comp=Z,420nm,1.3s,mb6.3
LBNH Lisbon 57.91 4⇑iP P 03 02 25.2 +0.4
comp=Z,344nm,1.2s,mb6.3
LBNH LR LR
comp=Z,8μm,22.0s,MS5.8
SDCO Great Sand Dun 58.15 333⇑iP P 03 02 26.9 +0.2
comp=Z,317nm,1.5s,mb6.1
SDCO LR LR
comp=Z,3μm,19.0s,MS5.4
LONY Lake Ozonia 58.17 1⇑iP P 03 02 26.3 -0.3
comp=Z,597nm,1.4s,mb6.4
LONY LR LR
comp=Z,3μm,19.0s,MS5.5
SADO Sadowa 58.35 358 P P 03 02 25.4 -2.5
FRNY Flat Rock 58.41 2⇑iP P 03 02 28.4 +0.1
comp=Z,852nm,1.1s,mb6.7
GLMI Grayling 58.84 353⇑iP P 03 02 29.3 -2.0
comp=Z,511nm,1.4s,mb6.4
GLMI LR LR
comp=Z,9μm,19.0s,MS5.9
MVCO Mesa Verde 59.10 330 PFAKE 03 02 50.0 +17
MVCO LR LR
comp=Z,3μm,19.0s,MS5.4
PKME Peaks-Kenny Pk 59.13 6 PFAKE 03 02 50.0 +17
PKME LR LR
comp=Z,6μm,22.0s,MS5.7
WUAZ Wupatki 59.24 327⇑iP P 03 02 35.1 +0.8
comp=Z,268nm,1.3s,mb6.1
WUAZ LR LR
comp=Z,8μm,19.0s,MS5.8
GLA Glamis 59.37 323 P P 03 02 36.3 +1.1
GLA pmax pmax
comp=Z,180nm,1.4s,mb5.9
GLA Glamis 59.37 323⇑iP P 03 02 35.5 +0.3
comp=Z,178nm,1.5s,mb5.9
GLA LR LR
comp=Z,4μm,21.0s,MS5.5
PV01 Paradox Valley 59.88 331 eP P 03 02 39.2 +0.6
ISCO Idaho Springs 59.91 334 P P 03 02 38.9 +0.1
ISCO pmax pmax
comp=Z,130nm,1.4s,mb5.8
ISCO Idaho Springs 59.91 334⇑iP P 03 02 38.7 -0.1
comp=Z,134nm,1.4s,mb5.8
ISCO LR LR
comp=Z,4μm,22.0s,MS5.5
ECSD EROS,Sioux Fal 60.20 343⇑iP P 03 02 39.3 -1.4
comp=Z,439nm,1.4s,mb6.3
ECSD LR LR
comp=Z,2μm,20.0s,MS5.3
BAR Barrett 60.22 321⇑iP P 03 02 41.3 +0.2
comp=Z,169nm,1.5s,mb5.8
BAR LR LR
comp=Z,2μm,20.0s,MS5.3
PV10 Paradox Valley 60.29 331 eP P 03 02 41.7 +0.2
PFO Pinyon Flat Ob 60.73 322 P P 03 02 44.4 -0.1
comp=Z,59nm,1.0s,mb5.7,baz=133,slow=6.2,SNR=59
PFO Pinyon Flat Ob 60.73 322⇑iP P 03 02 45.4 +0.9
PFO pmax pmax
comp=Z,196nm,1.4s,mb6.0
PFO MLR MLR
comp=Z,4μm,19.0s,MS5.6
PFO Pinyon Flat Ob 60.73 322⇑iP P 03 02 45.4 +0.9
comp=Z,196nm,1.4s,mb6.0
PFO LR LR
comp=Z,4μm,19.0s,MS5.6
COWI Conover 60.74 350⇑iP P 03 02 42.9 -1.4
comp=Z,342nm,1.7s,mb6.2
COWI LR LR
comp=Z,5μm,20.0s,MS5.6
ASCN Ascension 60.97 91 eP P 03 02 45.6 -1.1
comp=Z,394nm,1.4s,mb6.3
ASCN LR LR
comp=Z,12μm,19.0s,MS6.0
LDFC Landfair 60.98 324 eP P 03 02 47.1 +0.9
comp=Z,224nm,1.2s,mb6.2
PHWY Pilot Hill 61.10 335⇑iP P 03 02 46.8 -0.1
TRIS Tristan da Cun 61.10 125 PFAKE 03 03 00.0 +13
TRIS LR LR
comp=Z,6μm,19.0s,MS5.8
SRU San Rafael 61.58 330 P P 03 02 50.5 +0.3
SRU pmax pmax
comp=Z,170nm,1.5s,mb6.0
SRU San Rafael 61.58 330⇑iP P 03 02 50.2 -0.1
comp=Z,173nm,1.5s,mb6.0
MSU Marysvale 61.94 329 eP P 03 02 54.3 +1.7
MVU Marysvale 61.95 329 PFAKE 03 03 10.0 +17
MVU LR LR
comp=Z,8μm,20.0s,MS5.9
TMUT Trail Mountain 62.06 330⇑iP P 03 02 53.7 +0.2
GSC Goldstone 62.12 323 eP P 03 02 54.6 +0.7
GSC pmax pmax
comp=Z,370nm,1.8s,mb6.2
GSC Goldstone 62.12 323⇓iP P 03 02 54.5 +0.7
comp=Z,373nm,1.8s,mb6.2
GSC LR LR
comp=Z,4μm,19.0s,MS5.6
MWC Mount Wilson 62.12 321 P P 03 02 54.7 +0.8
MWC pmax pmax
comp=Z,250nm,1.3s,mb6.2
MWC Mount Wilson 62.12 321⇑iP P 03 02 54.6 +0.7
comp=Z,247nm,1.3s,mb6.2
MWC LR LR
comp=Z,2μm,19.0s,MS5.3
RWWY Rawlins 62.15 334⇑iP P 03 02 54.0 0.0
comp=Z,619nm,1.5s,mb6.5
SNCC San Nicolas Is 62.37 320 PFAKE 03 03 10.0 +14
SNCC LR LR
comp=Z,2μm,20.0s,MS5.3
TAOE Nuku Hiva Isla 62.65 267 eS S 03 11 25.3 +0.8
comp=Z,42μm,26.9s
TAOE eLQ 03 18 58.0
comp=Z,31μm,29.3s
TAOE eLR LR 03 21 36.7
comp=Z,80μm,24.8s,baz=106
OSI Osito Adit 62.79 321⇑iP P 03 02 58.7 +0.3
comp=Z,239nm,1.5s,mb6.1
MPU Maple Canyon 62.82 330⇑iP P 03 02 58.6 +0.1
comp=Z,89nm,1.1s,mb5.8
MPU LR LR
comp=Z,3μm,19.0s,MS5.5
DAU Daniels Canyon 62.95 331 eP P 03 03 00.1 +0.8
EYMN Ely 62.95 349⇑iP P 03 02 57.8 -1.4
comp=Z,299nm,1.5s,mb6.2
EYMN LR LR
comp=Z,6μm,20.0s,MS5.7
RSSD Black Hills 62.95 338⇑iP P 03 02 59.2 -0.1
RSSD pmax pmax
comp=Z,208nm,1.5s,mb6.0
RSSD MLR MLR
comp=Z,3μm,21.0s,MS5.4
RSSD Black Hills 62.95 338⇑iP P 03 02 59.2 -0.1
comp=Z,208nm,1.5s,mb6.0
RSSD LR LR
comp=Z,3μm,21.0s,MS5.4
TPNV Topopah Spring 62.96 325⇑iP P 03 03 00.4 +0.9
TPNV pmax pmax
comp=Z,130nm,1.2s,mb5.9
TPNV MLR MLR
comp=Z,4μm,19.0s,MS5.6
TPNV Topopah Spring 62.96 325⇑iP P 03 03 00.4 +0.9
comp=Z,130nm,1.2s,mb5.9
TPNV LR LR
comp=Z,4μm,19.0s,MS5.6
NLU North Lily Min 62.99 330⇑iP P 03 02 59.9 +0.2
JLU Jordanelle 63.19 331⇑iP P 03 03 01.3 +0.3
DAC Darwin (Calif) 63.25 323 PFAKE 03 03 10.0 +8.5
DAC LR LR
comp=Z,4μm,22.0s,MS5.6
ISA Isabella 63.35 322 P P 03 03 02.8 +0.7
ISA pmax pmax
comp=Z,170nm,1.5s,mb6.0
ISA Isabella 63.35 322⇑iP P 03 03 02.6 +0.6
comp=Z,172nm,1.5s,mb6.0
ISA LR LR
comp=Z,2μm,19.0s,MS5.4
CTU Camp Tracy 63.40 330 eP P 03 03 02.3 -0.1
comp=Z,71nm,1.0s,mb5.8
DUG Dugway 63.54 329⇑iP P 03 03 03.8 +0.5
DUG pmax pmax
comp=Z,445nm,1.5s,mb6.3
DUG MLR MLR
comp=Z,4μm,19.0s,MS5.6
DUG Dugway 63.54 329⇑iP P 03 03 03.8 +0.5
comp=Z,445nm,1.5s,mb6.3
DUG LR LR
comp=Z,4μm,19.0s,MS5.6
NOQ North Oquirrh 63.55 330⇑iP P 03 03 03.3 0.0
comp=Z,141nm,1.2s,mb5.9
HWUT Hardware Ranch 64.03 331⇑iP P 03 03 06.2 -0.2
comp=Z,166nm,1.0s,mb6.0
HWUT LR LR
comp=Z,6μm,20.0s,MS5.8
BW06 Boulder Array 64.04 333⇑iP P 03 03 05.7 -0.8
comp=Z,86nm,1.3s,mb5.6
BW06 LR LR
comp=Z,5μm,21.0s,MS5.7
PDAR Pinedale Array 64.04 333 P P 03 03 05.8 -0.7
comp=Z,15nm,0.9s,mb5.0,baz=138,slow=7.8,SNR=99
PDAR LR LR 03 30 43.8
comp=Z,4μm,20.8s,MS5.6,baz=151,slow=36
PDAR PKP2bc 03 32 03.8
comp=Z,1.7nm,1.1s,baz=5.7,slow=3.0,SNR=6.4
PDAR Pinedale Array 64.04 333 P P 03 03 05.8 -0.7
PDAR LR LR 03 30 43.8
PDAR ⇑e 03 32 03.8
BGU Big Grassy Mou 64.20 330⇑iP P 03 03 07.7 +0.1
SPUT South Promonto 64.22 330⇑iP P 03 03 07.9 +0.2
AGMN Agassiz Refuge 64.23 346⇑iP P 03 03 06.8 -0.8
comp=Z,174nm,0.9s,mb6.1
AGMN LR LR
comp=Z,4μm,22.0s,MS5.5
TPH Tonopah 64.30 325 P P 03 03 09.2 +0.9
TPH pmax pmax
comp=Z,250nm,1.4s,mb6.0
TPH Tonopah 64.30 325⇑iP P 03 03 08.9 +0.6
comp=Z,250nm,1.4s,mb6.0
TPH LR LR
comp=Z,4μm,20.0s,MS5.6
MTUM Tungsten Hills 64.56 324 eP P 03 03 10.9 +0.9
AHID Auburn Hatcher 64.72 332⇑iP P 03 03 10.7 -0.3
comp=Z,243nm,1.6s,mb6.0
AHID LR LR
comp=Z,5μm,21.0s,MS5.7
HVU Hansel Valley 64.73 331 P P 03 03 11.5 +0.4
HVU pmax pmax
comp=Z,88nm,0.9s,mb5.8
HVU Hansel Valley 64.73 331⇑iP P 03 03 10.8 -0.3
comp=Z,88nm,0.9s,mb5.8
REDW Red Top Meadow 65.09 333⇑iP P 03 03 13.3 -0.1
comp=Z,419nm,1.7s,mb6.2
SNOW Snow King Moun 65.12 333⇑iP P 03 03 13.5 0.0
comp=Z,236nm,1.5s,mb6.0
NVAR Mina Array Bea 65.16 325 P P 03 03 14.6 +0.7
comp=Z,22nm,0.8s,mb5.2,baz=143,slow=6.8,SNR=80
NVAR PKPPKP 03 31 56.5
comp=Z,0.2nm,0.5s,baz=227,slow=5.9,SNR=3.6
ELK Elko 65.17 328 P P 03 03 13.4 -0.5
comp=Z,24nm,0.8s,mb5.3,baz=123,slow=4.2,SNR=67
ELK Elko 65.17 328⇑iP P 03 03 14.2 +0.3
ELK pmax pmax
comp=Z,100nm,1.2s
ELK MLR MLR
comp=Z,9μm,19.0s
ELK Elko 65.17 328⇑iP P 03 03 14.2 +0.2
comp=Z,100nm,1.2s,mb5.7
ELK LR LR
comp=Z,9μm,19.0s,MS6.0
LOHW Long Hollow 65.18 333⇑iP P 03 03 13.7 -0.2
comp=Z,200nm,1.6s,mb5.9
TPAW Teton Pass 65.23 333⇑iP P 03 03 14.2 -0.1
comp=Z,93nm,1.1s,mb5.7
RRI2 Red Ridge 65.28 333⇑iP P 03 03 14.9 +0.3
comp=Z,677nm,1.5s,mb6.5
MOOW Moose Ponds 65.35 333⇑iP P 03 03 14.7 -0.3
comp=Z,153nm,1.5s,mb5.8
DCID1 Drake Creek 65.42 333⇑iP P 03 03 15.8 +0.3
IMW Indian Meadow 65.55 333⇑iP P 03 03 16.4 +0.1
comp=Z,240nm,1.4s,mb6.0
BBTS Babate 65.56 67 P P 03 03 16.9 0.0
comp=Z,103nm,1.0s,mb5.8,baz=295,slow=0.6,SNR=11
FLWY Flagg Ranch 65.59 333⇑iP P 03 03 17.0 +0.4
comp=Z,687nm,1.5s,mb6.5
RLMT Red Lodge 65.83 335⇑iP P 03 03 17.9 -0.2
comp=Z,207nm,1.4s,mb6.0
RLMT LR LR
comp=Z,3μm,19.0s,MS5.6
LKWY Lake 65.85 334 P P 03 03 20.4 +2.2
LKWY pmax pmax
comp=Z,160nm,1.2s,mb5.9
LKWY Lake 65.85 334⇑iP P 03 03 19.3 +1.1
comp=Z,156nm,1.3s,mb5.9
LKWY LR LR
comp=Z,4μm,19.0s,MS5.7
SAO San Andreas Ge 65.87 321 P P 03 03 20.1 +1.6
SAO pmax pmax
comp=Z,82nm,1.3s,mb5.6
SAO San Andreas Ge 65.87 321⇑iP P 03 03 18.8 +0.2
comp=Z,82nm,1.3s,mb5.6
SAO LR LR
comp=Z,2μm,20.0s,MS5.3
YFT Old Faithful 65.94 334⇑iP P 03 03 20.4 +1.6
LAO LASA Array 65.95 338 eP P 03 03 18.4 -0.4
comp=Z,241nm,1.4s,mb6.0
LAO LR LR
comp=Z,3μm,22.0s,MS5.4
BMN Battle Mountai 65.98 327⇑iP P 03 03 18.8 -0.4
BMN pmax pmax
comp=Z,87nm,1.2s,mb5.7
BMN MLR MLR
comp=Z,4μm,20.0s,MS5.6
BMN Battle Mountai 65.98 327⇑iP P 03 03 18.8 -0.4
comp=Z,87nm,1.2s,mb5.7
BMN LR LR
comp=Z,4μm,20.0s,MS5.6
ULM Lac du Bonnet 66.06 346 P P 03 03 18.4 -1.1
comp=Z,154nm,1.0s,mb6.0,baz=160,slow=6.2,SNR=116
ULM PKP2bc 03 32 02.6
comp=Z,3.6nm,0.9s,baz=310,slow=1.1,SNR=3.4
ULM LR LR 03 34 24.1
comp=Z,3μm,20.7s,MS5.5,baz=151,slow=38
ULM Lac du Bonnet 66.06 346⇑iP P 03 03 18.3 -1.2
comp=Z,684nm,1.5s,mb6.5
ULM LR LR
comp=Z,4μm,20.0s,MS5.6
CMB Columbia Colle 66.08 323 P P 03 03 20.2 +0.3
CMB pmax pmax
comp=Z,120nm,1.3s,mb5.8
CMB Columbia Colle 66.08 323⇑iP P 03 03 19.8 0.0
comp=Z,118nm,1.3s,mb5.8
CMB LR LR
comp=Z,3μm,19.0s,MS5.4
YNR Norris Junctio 66.09 334⇑iP P 03 03 20.5 +0.8
YMR Madison River 66.17 334⇑iP P 03 03 21.3 +1.0
comp=Z,12nm,0.4s,mb5.3
YMR LR LR
comp=Z,4μm,20.0s,MS5.6
QLMT Earthquake Lak 66.50 333 eP P 03 03 24.0 +1.5
GCMT Greycliff 66.53 335 eP P 03 03 22.7 +0.1
PAHR Pah Rah Range 66.65 325⇑iP P 03 03 24.4 +1.0
comp=Z,373nm,1.4s,mb6.2
DGMT Dagmar 66.77 340⇑iP P 03 03 24.0 -0.1
comp=Z,226nm,1.1s,mb6.1
DGMT LR LR
comp=Z,2μm,20.0s,MS5.3
HLID Hailey 66.88 331⇑iP P 03 03 25.2 +0.3
comp=Z,185nm,1.4s,mb5.9
HLID LR LR
comp=Z,3μm,21.0s,MS5.5
MCMT McKenzie Canyo 67.13 333 eP P 03 03 27.6 +1.2
BOZ Bozeman (W) 67.24 334⇑iP P 03 03 26.9 -0.2
BOZ pmax pmax
comp=Z,125nm,1.4s,mb5.8
BOZ MLR MLR
comp=Z,3μm,20.0s,MS5.5
BOZ Bozeman (W) 67.24 334⇑iP P 03 03 26.9 -0.2
comp=Z,125nm,1.4s,mb5.8
BOZ LR LR
comp=Z,3μm,20.0s,MS5.5
DLMT Dillon 67.43 333⇑iP P 03 03 28.6 +0.2
comp=Z,235nm,1.4s,mb6.0
OHCM Honcut 67.59 323 eP P 03 03 30.2 +0.8
MCCM Marconi Confer 67.63 322 PFAKE 03 03 40.0 +10
MCCM LR LR
comp=Z,2μm,21.0s,MS5.3
NSHM Saint Helena R 67.71 322 eP P 03 03 31.5 +1.2
SHEL Horse Pasture 67.92 102 PFAKE 03 03 40.0 +8.0
SHEL LR LR
comp=Z,10μm,22.0s,MS6.0
WVOR Wild Horse Val 68.15 328⇑iP P 03 03 32.6 -0.3
WVOR pmax pmax
comp=Z,171nm,1.6s,mb5.8
WVOR MLR MLR
comp=Z,3μm,20.0s,MS5.5
WVOR Wild Horse Val 68.15 328⇑iP P 03 03 32.6 -0.3
comp=Z,171nm,1.6s,mb5.8
WVOR LR LR
comp=Z,3μm,20.0s,MS5.5
HRY Holter Researc 68.17 334 eP P 03 03 33.7 +0.8
HOPS Hopland 68.29 322 eP P 03 03 34.7 +0.8
comp=Z,270nm,1.4s,mb6.1
HOPS LR LR
comp=Z,3μm,20.0s,MS5.6
EGMT Eagleton 68.39 337⇑iP P 03 03 34.0 -0.3
comp=Z,212nm,1.5s,mb6.0
EGMT LR LR
comp=Z,3μm,20.0s,MS5.5
CALA Caldeira 68.52 38 eS S 03 12 34.4 -0.9
PICO Pico 68.64 39 eS S 03 12 38.1 +1.4
MOD Modoc 68.67 326⇓iP P 03 03 36.6 +0.5
comp=Z,345nm,1.4s,mb6.1
MOD LR LR
comp=Z,3μm,22.0s,MS5.4
SCHQ Schefferville 68.84 6 P P 03 03 36.3 -0.6
comp=Z,49nm,1.1s,mb5.4,baz=183,slow=5.7,SNR=20
SCHQ LR LR 03 35 28.4
comp=Z,4μm,20.7s,MS5.6,baz=186,slow=37
SCHQ Schefferville 68.84 6⇑iP P 03 03 36.2 -0.7
comp=Z,56nm,0.9s,mb5.5
SCHQ LR LR
comp=Z,5μm,21.0s,MS5.7
PMAN Manadas 68.92 39 eS S 03 12 38.5 -1.6
PMAN A 03 12 38.8
comp=Z,14nm,0.1s
CHMT Chamberlain Mo 68.93 334 eP P 03 03 38.0 +0.3
WDC Whiskeytown Da 69.02 324⇑iP P 03 03 36.7 -1.7
WDC pmax pmax
comp=Z,62nm,1.3s,mb5.4
WDC MLR MLR
comp=Z,2μm,20.0s,MS5.2
WDC Whiskeytown Da 69.02 324⇑iP P 03 03 36.7 -1.7
comp=Z,62nm,1.3s,mb5.4
WDC LR LR
comp=Z,2μm,20.0s,MS5.2
KCPM Cahto Peak 69.04 323 eP P 03 03 39.5 +1.0
KIPM Iron Peak 69.06 323 eP P 03 03 40.3 +1.6
MSO Missoula 69.16 333⇑iP P 03 03 39.5 +0.4
comp=Z,153nm,1.3s,mb5.8
MSO LR LR
comp=Z,2μm,20.0s,MS5.3
BMO Blue Mountains 69.22 330⇑iP P 03 03 39.1 -0.5
comp=Z,123nm,1.4s,mb5.6
BMO LR LR
comp=Z,4μm,20.0s,MS5.7
VNA1 Neumayer--Stat 69.83 161 eP P 03 03 43.5 +0.5
VNA1 e 03 03 46.4
VNA1 e pP 03 03 53.1 -0.3
YBH Yreka Blue Hor 69.88 325 P P 03 03 42.8 -0.8
comp=Z,26nm,1.0s,mb5.1,baz=135,slow=4.3,SNR=40
YBH Yreka Blue Hor 69.88 325⇑iP P 03 03 42.9 -0.8
YBH pmax pmax
comp=Z,65nm,1.1s
YBH MLR MLR
comp=Z,3μm,19.0s
YBH Yreka Blue Hor 69.88 325⇑iP P 03 03 42.9 -0.8
comp=Z,65nm,1.1s,mb5.5
YBH LR LR
comp=Z,3μm,19.0s,MS5.5
CHIE El Hierro 69.98 53 P P 03 03 45.0 +0.4
comp=Z,306nm,1.8s,mb5.9
CMLA Cha da Macela 69.98 41 PFAKE 03 04 00.0 +16
CMLA LR LR
comp=Z,4μm,20.0s,MS5.7
PPT Papeete 70.26 256 eS S 03 12 57.3 +0.7
comp=Z,3μm,24.5s
PPT eLQ 03 22 10.3
comp=Z,3μm,26.8s
PPT eLR LR 03 25 11.4
comp=Z,9μm,27.0s,baz=98
PPT Papeete 70.26 256 LR LR 03 28 20.2
comp=Z,3μm,18.1s,MS5.6,baz=94,slow=31
KRMB Red Mountain 70.42 324 eP P 03 03 47.9 +0.9
LNOR Lincton Mounta 70.44 330 P P 03 03 47.3 +0.3
LNOR Lincton Mounta 70.44 330 eP P 03 03 47.2 +0.2
HUMO Hull Mountain 70.59 325 eP P 03 03 46.9 -1.2
comp=Z,36nm,1.1s,mb5.2
HUMO LR LR
comp=Z,2μm,20.0s,MS5.4
EGOM La Gomera 70.77 53 P P 03 03 50.1 +0.7
comp=Z,51nm,0.8s,mb5.5
WALA Waterton Lakes 70.88 335⇑iP P 03 03 49.8 +0.2
comp=Z,173nm,1.4s,mb5.8

KBO Bosley Butte 71.05 324 *eP* **P 03 03 51.5 +0.7**
HAWA Hanford 71.42 330⇑*iP* **P 03 03 53.2 +0.2**
comp=Z,166nm,1.4s,mb5.8
HAWA LR LR
comp=Z,7μm,19.0s,MS5.9
RSW Rattlesnake Hi 71.45 330 *eP* **P 03 03 54.0 +0.9**
KEBM Edson Butte 71.53 325 *eP* **P 03 03 54.6 +0.9**
NEW Newport 71.66 333⇑*iP* **P 03 03 54.1 -0.2**
NEW pmax pmax
comp=Z,127nm,1.3s
NEW MLR MLR
comp=Z,4μm,20.0s
NEW Newport 71.66 333⇑*iP* **P 03 03 54.1 -0.3**
comp=Z,127nm,1.3s,mb5.7
NEW LR LR
comp=Z,4μm,20.0s,MS5.6
FFC Flin Flon 71.66 345 P **P 03 03 53.9 -0.3**
comp=Z,362nm,1.5s,mb6.1,SNR=14
FFC Flin Flon 71.66 345⇑*iP* **P 03 03 53.2 -1.0**
FFC pmax pmax
comp=Z,184nm,1.6s,mb5.8
FFC MLR MLR
comp=Z,4μm,20.0s,MS5.6
FFC Flin Flon 71.66 345⇑*iP* **P 03 03 53.2 -0.9**
comp=Z,184nm,1.6s,mb5.8
FFC LR LR
comp=Z,4μm,20.0s,MS5.6
HOOD Mount Hood Mea 71.73 328 *eP* **P 03 03 55.7 +0.8**
comp=Z,175nm,1.2s,mb5.9
OD2 Odessa Site #2 71.74 331 *eP* **P 03 03 55.1 +0.3**
SNAA Sanae 71.79 161 *eP* **P 03 03 54.5 -0.4**
SNAA *e* 03 03 57.5
SNAA *e* pP 03 04 04.3 -1.0
SNAA Sanae 71.79 161 P **P 03 03 54.7 -0.2**
comp=Z,38nm,0.8s,mb5.4,baz=285,slow=5.2,SNR=175
SNAA Sanae 71.79 161 P **P 03 03 54.7 -0.2**
SNAA pmax pmax
comp=Z,38nm,0.8s
SNAA Sanae 71.79 161⇑*iP* **P 03 03 54.5 -0.3**
comp=Z,225nm,1.1s,mb6.0
EOSO Osorio 72.03 54 P **P 03 03 58.7 +1.7**
comp=Z,90nm,1.1s,mb5.6
COR Corvallis 72.09 327⇑*iP* **P 03 03 57.7 +0.7**
COR pmax pmax
comp=Z,531nm,1.4s,mb6.3
COR MLR MLR
comp=Z,2μm,19.0s,MS5.5
COR Corvallis 72.09 327⇑*iP* **P 03 03 57.7 +0.7**
comp=Z,531nm,1.4s,mb6.3
COR LR LR
comp=Z,2μm,19.0s,MS5.5
ETW Entiat 72.66 330 *eP* **P 03 04 01.4 +1.0**
HEBO Mount Hebo 72.75 327⇑*iP* **P 03 04 01.8 +0.8**
comp=Z,277nm,1.3s,mb6.0
BMW Boistfort Moun 73.32 328 *eP* **P 03 04 05.4 +1.1**
CFTV Fuerteventura 73.34 54 P **P 03 04 05.0 +0.2**
comp=Z,47nm,1.1s,mb5.3
LIC Lamto 73.47 79⇑*iP* **P 03 04 05.4 -0.5**
comp=Z,816nm,1.3s,mb6.2,baz=263
LIC *e*MLR MLR
comp=Z,17μm,22.5s,MS6.0
LIC Lamto 73.47 79 *eP* **P 03 04 05.4 -0.5**
comp=Z,830nm,1.3s,mb6.5
LIC Lamto 73.47 79⇑*iP* **P 03 04 05.4 -0.5**
comp=Z,408nm,1.3s,mb6.2
LIC LR LR
comp=Z,8μm,22.5s,MS6.0
TIC Toumodi 73.59 79 *eP* **P 03 04 06.2 -0.4**
comp=Z,2μm,1.4s,mb6.8
TIC Toumodi 73.59 79 *eP* **P 03 04 06.2 -0.4**
TIC pmax pmax
comp=Z,2μm,1.4s,mb6.8
DBIC Dimbokro 73.75 79 P **P 03 04 07.3 -0.3**
comp=Z,139nm,0.9s,mb5.9,baz=230,slow=5.8,SNR=84
DBIC LR LR 03 34 01.8
comp=Z,7μm,22.0s,MS5.9,baz=228,slow=34
DBIC Dimbokro 73.75 79⇑*iP* **P 03 04 07.2 -0.4**
DBIC pmax pmax
comp=Z,387nm,1.2s
DBIC MLR MLR
comp=Z,9μm,22.0s
DBIC Dimbokro 73.75 79⇑*iP* **P 03 04 07.2 -0.3**
comp=Z,387nm,1.2s,mb6.2
DBIC LR LR
comp=Z,9μm,22.0s,MS6.0
FCC Fort Churchill 73.76 350⇑*iP* **P 03 04 05.8 -0.8**
FCC pmax pmax
comp=Z,368nm,1.4s,mb6.1
FCC Fort Churchill 73.76 350⇑*iP* **P 03 04 05.8 -0.8**
comp=Z,368nm,1.4s,mb6.1
KIC Kosan Boka 73.78 79 *eP* **P 03 04 07.4 -0.3**
comp=Z,2μm,1.1s,mb6.9
RPW Rockport 73.82 331 *eP* **P 03 04 07.1 -0.1**
JCW Jim Creek 73.84 330 *eP* **P 03 04 06.5 -0.8**
GNW Green Mountain 73.85 329⇑*iP* **P 03 04 07.3 -0.1**
comp=Z,148nm,1.3s,mb5.8
EDM Edmonton 73.94 338⇑*iP* **P 03 04 06.7 -1.1**
EFAM Famara 74.09 54 P **P 03 04 09.5 +0.3**
comp=Z,99nm,2.9s,mb5.2
NLWA Neilton Lookou 74.26 329⇑*iP* **P 03 04 10.4 +0.7**
comp=Z,295nm,1.3s,mb6.1
NLWA LR LR
comp=Z,6μm,20.0s,MS5.9
PGC Sidney 74.89 330⇑*iP* **P 03 04 14.1 +0.6**
comp=Z,512nm,1.4s,mb6.3
MAIT Maitri 76.42 160 *eP* **P 03 04 21.3 -0.6**
NVL N'lazarevskaya 76.45 160*c iP* **P 03 04 22.3 +0.2**
NVL *e**PP pP 03 04 31.8 -0.8
NVL *i* S S 03 14 07.2 +2.2
NVL pmax pmax
comp=Z,182nm,1.5s,mb5.8
BBB Bella Bella 79.46 331 P **P 03 04 39.5 +0.5**
comp=Z,25nm,1.0s,mb5.1,baz=155,slow=4.7,SNR=15
PFVI Vila Bisbo 81.09 48 *eP* **P 03 04 49.7 +1.6**
comp=Z,396nm,1.8s,mb6.0
PFVI Vila Bisbo 81.09 48 *e*S S 03 15 06.1 +11
PFVI Vila Bisbo 81.09 48 *e*LR LR 03 33 51.6
comp=Z,5μm,18.0s
RTC Rabat Centre 81.29 52 PFAKE 03 05 00.0 +11
RTC LR LR
comp=Z,7μm,22.0s,MS6.0
MORF Marmelete 81.29 48 *e*S S 03 15 06.9 +9.3
MORF Marmelete 81.29 48 *e*LR LR 03 33 56.0
comp=Z,5μm,18.0s
PTEO Sao Teotonio 81.33 48 *eP* **P 03 04 51.2 +1.8**
comp=Z,652nm,1.6s,mb6.3
LIS Lisbon 81.52 47 *eP* **P 03 04 49.2 -1.2**
LIS *e*S S 03 14 58.5 -1.5
LIS *e*S S 03 14 58.9 -1.1
LIS AMS AMS 03 37 34.5
comp=Z,8μm,21.2s,MS6.0
LIS Lisbon 81.52 47 *e*S S 03 14 58.5 -1.5
LIS Á 03 37 34.5
comp=Z,8μm,21.2s
PMAFR Mafra 81.53 47 *eP* **P 03 04 50.3 -0.1**
comp=Z,483nm,1.5s,mb6.2
PMAFR Mafra 81.53 47 *e*S S 03 15 03.5 +3.4
PMAFR Mafra 81.53 47 *e*LR LR 03 33 34.5
comp=Z,8μm,20.0s
YKA Yellowknife Ar 81.73 343 P **P 03 04 49.9 -1.0**
comp=Z,35nm,1.0s,mb5.2,baz=138,slow=5.1,SNR=108
YKA LR LR 03 43 01.5
comp=Z,2μm,20.4s,MS5.5,baz=165,slow=37
TOA0 Torodi Ar. Sit 81.76 74⇑*iP* **P 03 04 52.1 -0.1**
TORD Torodi Ar. Bea 81.76 74 P **P 03 04 52.1 -0.1**
comp=Z,342nm,1.1s,mb6.2,baz=261,slow=4.8,SNR=428
TORD PKPPKP 03 31 30.4
comp=Z,0.9nm,1.0s,baz=357,slow=1.6,SNR=3.7
TORD LR LR 03 40 30.0
comp=Z,6μm,18.9s,MS5.9,baz=240,slow=35
PBDV Barranco-do-Ve 81.78 49 *eP* **P 03 04 53.4 +1.6**
comp=Z,422nm,1.5s,mb6.2
PBDV Barranco-do-Ve 81.78 49 *e*S S 03 15 13.8 +11
PBDV Barranco-do-Ve 81.78 49 *e*LR LR 03 34 13.6
comp=Z,4μm,16.0s
XMAS Kiritimati 81.89 274 PFAKE 03 05 00.0 +7.1
XMAS LR LR
comp=Z,7μm,20.0s,MS6.0
PVAQ Vaqueiros 82.01 48 *eP* **P 03 04 54.1 +1.1**
comp=Z,305nm,1.7s,mb6.0
PVAQ Vaqueiros 82.01 48 *e*S S 03 15 13.2 +8.2
PVAQ Vaqueiros 82.01 48 *e*LR LR 03 34 18.0
comp=Z,4μm,18.0s
SBA Scott Base 82.04 191 *eP* **P 03 04 53.0 +0.5**
SBA pmax pmax
comp=Z,180nm,1.6s,mb5.8
SBA MLR MLR
comp=Z,3μm,20.0s,MS5.7
SBA Scott Base 82.04 191 *eP* **P 03 04 53.0 +0.5**
comp=Z,180nm,1.6s,mb5.8
SBA LR LR
comp=Z,3μm,20.0s,MS5.7
ALMR Almeirim 82.11 47 *eP* **P 03 04 53.1 -0.4**
PBEJ Beja 82.15 48 *eP* **P 03 04 55.1 +1.4**
comp=Z,442nm,1.5s,mb6.2
EGRO El Granado 82.23 48 P **P 03 04 55.7 +1.6**
comp=Z,224nm,1.2s,mb6.0
EVO Evora 82.25 47⇑*iP* **P 03 04 55.1 +0.9**
comp=Z,897nm,1.4s,mb6.2
EVO *e*MLR MLR
comp=Z,10μm,21.2s,MS5.8
EVO Evora 82.25 47 *i P* **P 03 04 55.2 +1.0**
comp=Z,339nm,1.7s,mb6.0
PTOM Tomar 82.42 46 *eP* **P 03 04 55.9 +0.8**
comp=Z,571nm,1.6s,mb6.2
MDT Midelt 82.58 54 P **P 03 04 57.6 +1.5**
comp=Z,101nm,1.2s,mb5.7,baz=254,slow=5.8,SNR=63
PESTR Estremoz 82.69 47 *eP* **P 03 04 57.1 +0.6**
comp=Z,447nm,1.6s,mb6.2
PESTR Estremoz 82.69 47 *e*S S 03 15 15.8 +3.8
PESTR Estremoz 82.69 47 *e*LQ 03 32 30.5
PESTR *e*LR LR 03 34 25.8
comp=Z,6μm,20.0s
SFS San Fernando 82.74 50⇑*iP* **P 03 04 58.7 +1.9**
SFS pmax pmax
comp=Z,673nm,1.4s,mb6.5
SFS MLR MLR
comp=Z,4μm,19.0s,MS5.8
SFS San Fernando 82.74 50⇑*iP* **P 03 04 58.7 +1.9**
comp=Z,673nm,1.4s,mb6.5
SFS LR LR
comp=Z,4μm,19.0s,MS5.8
SFJD Kangerlussuaq 82.76 10 P **P 03 04 54.3 -2.0**
comp=Z,39nm,0.9s,mb5.4,baz=188,slow=6.2,SNR=16
SFJD Kangerlussuaq 82.76 10⇑*iP* **P 03 04 55.0 -1.2**
SFJD *i* pP 03 05 05.3 -1.5
SFJD *i* S S 03 15 08.7 -2.8
SFJD pmax pmax
comp=Z,636nm,1.3s,mb6.5
SFJD MLR MLR
comp=Z,2μm,20.0s,MS5.5
SFJD Kangerlussuaq 82.76 10⇑*iP* **P 03 04 55.0 -1.2**
comp=Z,636nm,1.3s,mb6.5
SFJD *i* pP 03 05 05.3 -1.5
SFJD *i* S S 03 15 08.7 -2.8
SFJD *i* 03 20 54.1
SFJD
comp=Z,2μm,20.0s
PBAR Barrancos 82.81 48 *i* P **P 03 04 57.4 +0.3**
comp=Z,319nm,1.6s,mb6.1
PBAR Barrancos 82.81 48 *e*S S 03 15 15.0 +1.8
PBAR Barrancos 82.81 48 *e*LQ 03 32 11.3
PBAR *e*LR LR 03 34 33.7
comp=Z,5μm,22.0s
EMIN Mina Concepcio 82.91 48 P **P 03 04 59.0 +1.3**
comp=Z,478nm,1.4s,mb6.3
EBAD Badajoz 83.06 47 P **P 03 04 59.6 +1.2**
comp=Z,69nm,1.0s,mb5.6
PMRV Marv??o 83.06 47 *i P* **P 03 04 58.4 0.0**
comp=Z,167nm,1.6s,mb5.8
PMRV Marv??o 83.06 47 *e*S S 03 15 18.6 +2.8
PMRV Marv??o 83.06 47 *e*LR LR 03 33 57.6
comp=Z,7μm,20.0s
ESPR Espera 83.16 50 P **P 03 05 00.8 +1.8**
comp=Z,269nm,1.3s,mb6.1
PCBR Castelo Branco 83.17 46 *eP* **P 03 04 59.5 +0.5**
comp=Z,301nm,1.6s,mb6.1
PVIS Viseu 83.24 45 *eP* **P 03 04 59.9 +0.6**
comp=Z,459nm,1.5s,mb6.3
EJIF Jimena Fronter 83.28 50 P **P 03 05 01.1 +1.4**
EJIF pmax pmax
comp=Z,826nm,1.6s,mb6.5
EJIF Jimena Fronter 83.28 50 P **P 03 05 01.1 +1.4**
comp=Z,826nm,1.6s,mb6.5
MTE Manteigas 83.35 46 *i P* **P 03 05 00.3 +0.4**
comp=Z,271nm,1.4s,mb6.1
MTE Manteigas 83.35 46 *e*S S 03 15 23.4 +4.7
MTE Manteigas 83.35 46 *e*LQ 03 31 53.6
MTE *e*LR LR 03 34 19.9
comp=Z,5μm,20.0s
MTE Manteigas 83.35 46⇑*iP* **P 03 05 00.2 +0.3**
comp=Z,208nm,1.3s,mb6.0
MTE LR LR
comp=Z,5μm,20.0s,MS5.9
EMAZ Mazaricos 83.45 43 P **P 03 05 00.8 +0.5**
comp=Z,53nm,1.0s,mb5.5
PCAB Cabril 83.56 44 *eP* **P 03 05 01.3 +0.3**
comp=Z,326nm,1.6s,mb6.2
ELOB Lobios 83.61 44 P **P 03 05 01.9 +0.7**
comp=Z,45nm,1.1s,mb5.5
STS Santiago 83.71 43 P **P 03 05 01.9 +0.2**
STS pmax pmax
comp=Z,70nm,1.1s,mb5.7
STS Santiago 83.71 43 P **P 03 05 01.9 +0.2**
comp=Z,70nm,1.1s,mb5.7
EMIJ Mijas 83.85 50 P **P 03 05 03.6 +1.0**
comp=Z,84nm,1.0s,mb5.8
ECAB El Cabril 83.94 49 P **P 03 05 04.5 +1.6**
comp=Z,59nm,1.1s,mb5.6
WRAK Wrangell Islan 84.01 332⇑*iP* **P 03 05 02.5 -0.4**
comp=Z,103nm,1.4s,mb5.8
WRAK LR LR
comp=Z,3μm,20.0s,MS5.7
MVO Moncorvo 84.02 45 *i P* **P 03 05 03.8 +0.5**
comp=Z,306nm,1.6s,mb6.2
MVO Moncorvo 84.02 45 *e*S S 03 15 28.0 +2.6
MVO Moncorvo 84.02 45 *e*LR LR 03 34 36.9
comp=Z,4μm,20.0s
ERUA La Rua 84.45 44 P **P 03 05 05.6 +0.2**
ERUA pmax pmax
comp=Z,167nm,1.5s,mb6.0
ERUA La Rua 84.45 44 P **P 03 05 05.6 +0.1**
comp=Z,167nm,1.5s,mb6.0
ELOJ Sierra Loja 84.53 50 P **P 03 05 07.4 +1.4**
ELOJ pmax pmax
comp=Z,312nm,1.2s,mb6.3
ELOJ Sierra Loja 84.53 50 P **P 03 05 07.4 +1.5**
comp=Z,312nm,1.2s,mb6.3
ECAL Calabor 84.54 45 P **P 03 05 06.4 +0.5**
comp=Z,50nm,1.1s,mb5.6
EADA Adamuz 84.59 49 P **P 03 05 06.9 +0.6**
comp=Z,77nm,1.2s,mb5.7
ELUQ Luque 84.59 49 P **P 03 05 07.6 +1.3**
ELUQ pmax pmax
comp=Z,91nm,1.0s,mb5.9
ELUQ Luque 84.59 49 P **P 03 05 07.6 +1.3**
comp=Z,91nm,1.0s,mb5.9
ERON Agron 84.74 50 P **P 03 05 08.2 +1.2**
comp=Z,37nm,1.2s,mb5.4
POHA Pohakuloa 84.77 292 PFAKE 03 05 20.0 +12
POHA LR LR
comp=Z,4μm,20.0s,MS5.8
EPON Pontenova 84.83 43 P **P 03 05 07.7 +0.4**
comp=Z,33nm,1.1s,mb5.4
ECOG Cogollos-Vega 85.01 50 P **P 03 05 09.1 +0.7**
ECOG pmax pmax
comp=Z,15nm,0.6s,mb5.3
ECOG Cogollos-Vega 85.01 50 P **P 03 05 09.1 +0.7**
comp=Z,15nm,0.6s,mb5.3
EBAN Banos Encina 85.17 49 P **P 03 05 10.5 +1.3**
EBAN pmax pmax
comp=Z,97nm,1.4s,mb5.7
EBAN Banos Encina 85.17 49 P **P 03 05 10.5 +1.3**
comp=Z,97nm,1.4s,mb5.7
PAB San Pablo 85.28 48⇑*iP* **P 03 05 10.1 +0.4**
PAB pmax pmax
comp=Z,118nm,1.5s,mb5.8
PAB MLR MLR
comp=Z,6μm,21.0s,MS6.0
PAB San Pablo 85.28 48⇑*iP* **P 03 05 10.1 +0.4**
comp=Z,118nm,1.5s,mb5.8
PAB LR LR
comp=Z,6μm,21.0s,MS6.0
EBER Berja 85.38 50 P **P 03 05 10.7 +0.5**
comp=Z,82nm,1.0s,mb5.8
EQES Quesada 85.57 50 P **P 03 05 11.4 +0.3**
comp=Z,48nm,1.1s,mb5.6
ESDC Sonseca Array 85.60 48 P **P 03 05 11.8 +0.5**
comp=Z,9.5nm,0.8s,mb5.1,baz=260,slow=4.6,SNR=50
ESDC LR LR 03 43 32.8
comp=Z,4μm,18.3s,MS5.9,baz=260,slow=36
SIT Sitka 85.73 332⇑*iP* **P 03 05 11.0 -0.5**
SIT pmax pmax
comp=Z,708nm,2.6s,mb6.4
SIT MLR MLR
comp=Z,4μm,20.0s,MS5.8
SIT Sitka 85.73 332⇑*iP* **P 03 05 10.9 -0.5**
comp=Z,708nm,2.6s,mb6.4
SIT LR LR
comp=Z,4μm,20.0s,MS5.8
GUD Guadarrama 85.83 47 P **P 03 05 12.8 +0.4**
GUD pmax pmax
comp=Z,17nm,1.0s,mb5.2
GUD Guadarrama 85.83 47 P **P 03 05 12.8 +0.5**
comp=Z,16nm,1.0s,mb5.2
EHUE Huescar 85.92 50 P **P 03 05 12.6 -0.3**
EHUE pmax pmax
comp=Z,454nm,2.7s,mb6.2
EHUE Huescar 85.92 50 P **P 03 05 12.6 -0.4**
comp=Z,454nm,2.7s,mb6.2
SYO Syowa Base 86.08 161⇓*eP* **P 03 05 11.0 -2.2**
SYO Syowa Base 86.08 161⇓*iP* **P 03 05 15.4 +2.2**
SYO Syowa Base 86.08 161⇓*iP* **P 03 05 21.0 +7.8**
EARI Arriondas 86.11 44 P **P 03 05 13.7 -0.1**
comp=Z,12nm,1.0s,mb5.1
EVIA Vianos 86.28 49 P **P 03 05 15.4 +0.7**
EVIA pmax pmax
comp=Z,77nm,1.0s,mb5.9
EVIA Vianos 86.28 49 P **P 03 05 15.4 +0.7**
comp=Z,77nm,1.0s,mb5.9
EMUR La Murta 86.94 50 P **P 03 05 17.7 -0.2**
comp=Z,37nm,1.0s,mb5.6
ETOB Tobarra 86.98 49 P **P 03 05 18.6 +0.5**
comp=Z,84nm,1.0s,mb5.9
SKAG Skagway 87.06 334 *eP* **P 03 05 16.9 -1.1**
comp=Z,75nm,0.8s,mb6.0
ELAN Lanestosa 87.29 44 P **P 03 05 19.0 -0.5**
comp=Z,57nm,1.2s,mb5.7
ETOR Torete 87.38 47 P **P 03 05 20.4 +0.4**
ETOR pmax pmax
comp=Z,34nm,1.1s,mb5.5
ETOR Torete 87.38 47 P **P 03 05 20.4 +0.4**
comp=Z,34nm,1.1s,mb5.5
KIP Kipapa 87.46 293 PFAKE 03 05 30.0 +9.2
KIP LR LR
comp=Z,3μm,20.0s,MS5.7
TAM Tamanrasset 87.92 66⇑*iP* **P 03 05 24.0 +1.0**
EBEN Beniarda 87.98 49 P **P 03 05 23.2 +0.2**
comp=Z,91nm,1.1s,mb5.9
ETRT Tiaret 88.07 53 P **P 03 05 24.5 +1.1**
EANR `Ain N'Sour 88.09 52 P **P 03 05 24.0 +0.5**
EMOS Mosqueruela 88.35 48 P **P 03 05 25.1 +0.5**
comp=Z,176nm,1.4s,mb6.1
ECHA Ech Chlef 88.36 52 P **P 03 05 25.0 +0.2**
EBNR Beni Rached 88.53 52 P **P 03 05 27.0 +1.4**
ELIZ Elizondo 88.56 45 P **P 03 05 25.9 +0.3**
ELIZ pmax pmax
comp=Z,57nm,1.5s,mb5.7
ELIZ Elizondo 88.56 45 P **P 03 05 25.9 +0.3**
comp=Z,57nm,1.5s,mb5.7
BORG Borgarnes 88.57 21 P **P 03 05 27.1 +2.1**
comp=Z,108nm,1.0s,mb6.1,baz=224,slow=3.1,SNR=36
BORG Borgarnes 88.57 21⇑*iP* **P 03 05 25.8 +0.7**
BORG pmax pmax
comp=Z,481nm,1.5s
BORG MLR MLR
comp=Z,3μm,20.0s
BORG Borgarnes 88.57 21⇑*iP* **P 03 05 25.8 +0.7**
comp=Z,481nm,1.5s,mb6.6
BORG LR LR
comp=Z,3μm,20.0s,MS5.8
SUR Sutherland 88.59 123 *eP* **P 03 05 25.9 -0.2**
comp=Z,68nm,1.4s,mb5.8
SUR LR LR
comp=Z,9μm,21.0s,MS6.2
EALK Alkurruntz 88.60 45 P **P 03 05 26.3 +0.6**
comp=Z,107nm,1.4s,mb6.0
HYT Haines Junctio 88.71 335 *eP* **P 03 05 27.4 +1.5**
SJPF Ste Jean 88.75 45⇑*iP* **P 03 05 26.6 +0.1**
comp=Z,306nm,1.5s,mb6.1
SJPF Ste Jean 88.75 45⇑*iP* **P 03 05 26.6 +0.1**
SJPF pmax pmax
comp=Z,153nm,1.5s,mb6.1
SJPF Ste Jean 88.75 45⇑*iP* **P 03 05 26.6 +0.1**
comp=Z,153nm,1.5s,mb6.1
OSSF Osses 88.78 45⇑*eP* **P 03 05 26.1 -0.5**
ESAC San Caprasio 88.81 47 P **P 03 05 27.3 +0.5**
comp=Z,39nm,1.0s,mb5.7
LARF Larrau 88.89 45⇑*eP* **P 03 05 27.4 +0.3**
DCN Croghan 88.93 34 *eP* **P 03 05 24.7 -2.3**
RES Resolute Bay 89.08 355⇑*iP* **P 03 05 26.6 -0.7**
comp=Z,3μm,1.3s,mb7.5
ATE Arette 89.11 45⇑*eP* **P 03 05 28.1 0.0**
TSUM Tsumeb 89.12 109 P **P 03 05 29.4 +0.6**
comp=Z,65nm,1.2s,mb5.8,baz=238,slow=4.6,SNR=45
TSUM Tsumeb 89.12 109⇑*iP* **P 03 05 28.3 -0.5**
comp=Z,112nm,1.3s,mb6.0
TSUM LR LR
comp=Z,4μm,21.0s,MS5.8
ERTA Horta de San J 89.12 47 P **P 03 05 28.8 +0.5**
comp=Z,51nm,1.1s,mb5.8
ETSF Etsaut 89.14 45⇑*iP* **P 03 05 28.5 +0.2**
comp=Z,178nm,1.7s,mb5.8
ETSF Etsaut 89.14 45⇑*iP* **P 03 05 28.5 +0.2**
ETSF pmax pmax
comp=Z,89nm,1.7s,mb5.8
ETSF Etsaut 89.14 45⇑*iP* **P 03 05 28.5 +0.2**
comp=Z,89nm,1.7s,mb5.8
QUIF Quistinic 89.19 40⇑*iP* **P 03 05 27.9 -0.5**
comp=Z,101nm,1.3s,mb5.7
QUIF Quistinic 89.19 40⇑*iP* **P 03 05 27.9 -0.5**
QUIF pmax pmax
comp=Z,50nm,1.3s,mb5.7
QUIF Quistinic 89.19 40⇑*iP* **P 03 05 27.9 -0.5**
comp=Z,50nm,1.3s,mb5.7
EIBI Ibiza 89.24 50 P **P 03 05 29.4 +0.5**
comp=Z,64nm,1.1s,mb5.9
ROSF Rostrenen 89.28 40⇑*iP* **P 03 05 28.4 -0.4**
comp=Z,271nm,1.5s,mb6.1
ROSF Rostrenen 89.28 40⇑*iP* **P 03 05 28.4 -0.4**
ROSF pmax pmax
comp=Z,135nm,1.5s,mb6.0
ROSF Rostrenen 89.28 40⇑*iP* **P 03 05 28.4 -0.4**
comp=Z,135nm,1.5s,mb6.1
REYF Montagne du Re 89.31 45⇑*eP* **P 03 05 29.3 +0.2**
DMUB Kingscourt 89.36 34 *eP* **P 03 05 26.0 -3.0**
VIEF Viey 89.54 46⇑*eP* **P 03 05 30.2 0.0**
EBIE Bielsa 89.56 46 P **P 03 05 30.8 +0.6**
comp=Z,35nm,1.0s,mb5.6
EMHD Djebel Mahouad 89.59 53 P **P 03 05 32.0 +1.4**
LABF Labassere 89.63 45⇑*eP* **P 03 05 30.7 +0.1**
SGMF Saint Gilles 89.69 40⇑*iP* **P 03 05 29.9 -0.8**
comp=Z,377nm,1.9s,mb6.1
SGMF Saint Gilles 89.69 40⇑*iP* **P 03 05 29.9 -0.8**
SGMF pmax pmax
comp=Z,188nm,1.9s,mb6.1
SGMF Saint Gilles 89.69 40⇑*iP* **P 03 05 29.9 -0.8**
comp=Z,188nm,1.9s,mb6.1
SUMG Summit 89.72 11⇑*iP* **P 03 05 30.8 +0.5**
comp=Z,129nm,1.3s,mb6.1
RESF Ens 89.73 46⇑*eP* **P 03 05 31.3 +0.2**
EPOB Poblet 89.79 47 P **P 03 05 30.9 -0.4**
comp=Z,43nm,1.3s,mb5.6
EPF Esparros 89.81 46⇑*iP* **P 03 05 31.4 0.0**
comp=Z,274nm,1.5s,mb6.1
EPF Esparros 89.81 46⇑*iP* **P 03 05 31.4 0.0**
EPF pmax pmax
comp=Z,137nm,1.5s,mb6.1
EPF Esparros 89.81 46⇑*iP* **P 03 05 31.4 0.0**
comp=Z,137nm,1.5s,mb6.1
ABA Alger-Bouzarea 89.83 52 P **P 03 05 35.0 +3.3**
MELF Melles 90.05 46⇑*eP* **P 03 05 32.9 +0.4**
MLS Moulis 90.31 46⇑*eP* **P 03 05 33.7 -0.1**
SALF Salau 90.31 46⇑*eP* **P 03 05 34.3 +0.5**
ETOS Mallorca 90.55 49 P **P 03 05 34.9 -0.1**
comp=Z,43nm,1.0s,mb5.7
MFF Saint Martin d 90.66 42⇑*iP* **P 03 05 34.7 -0.6**
comp=Z,269nm,1.5s,mb6.0
MFF Saint Martin d 90.66 42⇑*iP* **P 03 05 34.7 -0.6**
MFF pmax pmax
comp=Z,135nm,1.5s,mb6.0
MFF Saint Martin d 90.66 42⇑*iP* **P 03 05 34.7 -0.6**
comp=Z,134nm,1.5s,mb6.0
WIM Isle of Man 90.67 34 *eP* **P 03 05 34.5 -0.6**
LFF La Frestale 90.70 44⇑*iP* **P 03 05 35.0 -0.5**
comp=Z,312nm,1.3s,mb6.2
LFF La Frestale 90.70 44⇑*iP* **P 03 05 35.0 -0.5**
LFF pmax pmax
comp=Z,156nm,1.3s,mb6.2

LFF La Frestale 90.70 44⇑iP P 03 05 35.0 -0.5
comp=Z,156nm,1.3s,mb6.2
VALF Valcebollere 90.78 47⇑eP P 03 05 36.1 +0.1
MCH1 Michaelchurch 90.79 36 eP P 03 05 35.1 -0.6
MCH1 AMb AMB 03 05 38.3
comp=Z,130nm,1.6s,mb6.0
GRR Gorron 90.80 40⇑iP P 03 05 35.1 -0.8
comp=Z,237nm,1.6s,mb6.0
GRR Gorron 90.80 40⇑iP P 03 05 35.1 -0.8
GRR pmax pmax
comp=Z,118nm,1.6s,mb6.0
GRR Gorron 90.80 40⇑iP P 03 05 35.1 -0.8
comp=Z,118nm,1.6s,mb6.0
CARF Carcanieres 90.94 46⇑eP P 03 05 36.6 -0.1
AKF Akfadou 90.96 53 P P 03 05 39.0 +2.0
SBD1 Bryn Du 90.98 35 eP P 03 05 35.7 -1.0
HLM1 Long Mynd 91.05 36⇑eP P 03 05 36.3 -0.6
DAWY Dawson 91.13 337⇑iP P 03 05 36.3 -0.8
FLN La Foliniere 91.16 40⇑iP P 03 05 37.0 -0.6
comp=Z,209nm,1.7s,mb5.9
FLN eMLR MLR
comp=Z,4µm,21.5s,MS5.5
FLN La Foliniere 91.16 40⇑iP P 03 05 37.0 -0.6
FLN pmax pmax
comp=Z,105nm,1.7s,mb5.9
FLN MLR MLR
comp=Z,4µm,21.5s,MS5.8
FLN La Foliniere 91.16 40⇑iP P 03 05 37.0 -0.6
comp=Z,105nm,1.7s,mb5.9
FLN LR LR
comp=Z,4µm,21.5s,MS5.8
MTLF Montolieu 91.21 46⇑iP P 03 05 37.3 -0.6
comp=Z,166nm,1.5s,mb5.8
MTLF Montolieu 91.21 46⇑iP P 03 05 37.3 -0.6
MTLF pmax pmax
comp=Z,83nm,1.5s,mb5.8
MTLF Montolieu 91.21 46⇑iP P 03 05 37.3 -0.6
comp=Z,83nm,1.5s,mb5.8
FILF Fillols 91.21 46⇑eP P 03 05 37.6 -0.4
LDF La Druitiere 91.33 40⇑iP P 03 05 37.7 -0.7
comp=Z,243nm,1.6s,mb6.0
LDF La Druitiere 91.33 40⇑iP P 03 05 37.7 -0.7
LDF pmax pmax
comp=Z,121nm,1.6s,mb6.0
LDF La Druitiere 91.33 40⇑iP P 03 05 37.7 -0.7
comp=Z,121nm,1.6s,mb6.0
RJF Les Rejaudoux 91.34 44⇑iP P 03 05 37.8 -0.7
comp=Z,302nm,1.4s,mb6.1
RJF eMLR MLR
comp=Z,5µm,20.2s,MS5.6
RJF Les Rejaudoux 91.34 44⇑iP P 03 05 37.8 -0.7
RJF pmax pmax
comp=Z,151nm,1.4s,mb6.1
RJF MLR MLR
comp=Z,5µm,20.3s,MS5.9
RJF Les Rejaudoux 91.34 44⇑iP P 03 05 37.8 -0.7
comp=Z,151nm,1.4s,mb6.1
RJF LR LR
comp=Z,5µm,20.3s,MS5.9
EJON La Jonquera 91.41 47 P P 03 05 39.0 +0.1
comp=Z,24nm,1.1s,mb5.4
PGBU Glenifferbraes 91.41 32 eP P 03 05 38.2 -0.4
KPL Plockton 91.42 31 eP P 03 05 37.7 -0.8
KPL AMb AMB 03 05 40.8
comp=Z,250nm,1.6s,mb6.3
SJAF Saint Jean de 91.42 47⇑eP P 03 05 38.4 -0.5
SET Setif 91.49 53 P P 03 05 40.0 +0.6
CAF Calviac 91.59 44⇑iP P 03 05 39.1 -0.6
comp=Z,197nm,1.4s,mb6.0
CAF Calviac 91.59 44⇑iP P 03 05 39.1 -0.6
CAF pmax pmax
comp=Z,99nm,1.4s,mb6.0
CAF Calviac 91.59 44⇑iP P 03 05 39.1 -0.6
comp=Z,98nm,1.4s,mb6.0
KWE Weaver Farm 91.82 36⇑eP P 03 05 39.4 -1.1
BMRM Bremner River 91.83 333⇑iP P 03 05 39.3 -1.0
ECK Cauldkaine Hil 91.89 33 eP P 03 05 40.1 -0.7
ESK Eskdalemuir 91.90 33 eP P 03 05 40.2 -0.6
ESK pmax pmax
comp=Z,42nm,1.4s,mb5.6
ESK MLR MLR
comp=Z,3µm,21.0s,MS5.7
ESK Eskdalemuir 91.90 33 eP P 03 05 40.2 -0.6
comp=Z,42nm,1.4s,mb5.6
ESK LR LR
comp=Z,3µm,21.0s,MS5.7
DFRA Djebel Bou Aff 91.95 53 P P 03 05 44.0 +2.4
LHO Holmfirth 92.00 35⇑eP P 03 05 40.8 -0.6
CWF Charnwood Fore 92.02 36 eP P 03 05 40.8 -0.6
CWF AMb AMB 03 05 44.5
comp=Z,78nm,1.8s,mb5.7
KBI1 Birley Grange 92.08 35 eP P 03 05 40.8 -0.9
MDO Dochfour 92.10 31⇑eP P 03 05 41.2 -0.5
TCF Toulx Ste Croi 92.10 43⇑iP P 03 05 41.2 -0.8
comp=Z,118nm,1.4s,mb5.7
TCF Toulx Ste Croi 92.10 43⇑iP P 03 05 41.2 -0.8
TCF pmax pmax
comp=Z,59nm,1.4s,mb5.7
TCF Toulx Ste Croi 92.10 43⇑iP P 03 05 41.2 -0.8
comp=Z,59nm,1.4s,mb5.7
EGAK Eagle 92.15 337⇑iP P 03 05 40.6 -1.2
comp=Z,115nm,1.3s,mb6.0
EGAK LR LR
comp=Z,4µm,21.0s,MS5.8
EYAK Cordova Ski Ar 92.16 332 eP P 03 05 41.4 -0.6
CTEI Djebel Teioual 92.24 54 P P 03 05 45.0 +2.1
XAL Allendale 92.26 34⇑eP P 03 05 41.4 -1.1
HPK Haverah Park 92.27 35 eP P 03 05 42.2 -0.3
HPK AMb AMB 03 05 45.0
comp=Z,167nm,1.6s,mb6.1
CASM Ain Smara 92.35 53 P P 03 05 45.0 +1.6
MVH1 Achvaich 92.37 31⇑eP P 03 05 42.3 -0.6
DIV Divide 92.41 333⇑iP P 03 05 41.7 -1.4
comp=Z,51nm,1.0s,mb5.8
ESY Stoneypath 92.43 33 eP P 03 05 42.7 -0.6
PYM Petit Puy Mans 92.47 44 eP P 03 05 43.1 -0.6
LBL Lubilhac 92.48 44⇑eP P 03 05 44.2 +0.4
LASF Ste Croix 92.56 45⇑iP P 03 05 44.1 -0.1
comp=Z,164nm,1.5s,mb5.9
CKFL Kef-Lekhel 92.57 53 P P 03 05 46.0 +1.6
BGF Bois d'Agland 92.60 43⇑iP P 03 05 43.6 -0.7
comp=Z,294nm,1.5s,mb6.2
BGF Bois d'Agland 92.60 43⇑iP P 03 05 43.6 -0.7
BGF pmax pmax
comp=Z,147nm,1.5s,mb6.2
BGF Bois d'Agland 92.60 43⇑iP P 03 05 43.6 -0.7
comp=Z,147nm,1.5s,mb6.2
AGO Saint Agoulin 92.64 43 eP P 03 05 44.0 -0.5
HYF Humbligny 92.68 42⇑iP P 03 05 44.2 -0.4
MCD Coleburn Disti 92.71 31⇑eP P 03 05 44.0 -0.5
COLF Collangettes 92.86 44⇑eP P 03 05 45.7 +0.2
MLA1 Latheron 92.92 30 eP P 03 05 45.6 +0.1
PLDF La Plantade 92.94 43⇑eP P 03 05 45.6 -0.3
AVF Avril sur Loir 93.00 43⇑iP P 03 05 45.2 -1.0
comp=Z,148nm,1.5s,mb5.9
AVF Avril sur Loir 93.00 43⇑iP P 03 05 45.2 -1.0
AVF pmax pmax
comp=Z,74nm,1.5s,mb5.9
AVF Avril sur Loir 93.00 43⇑iP P 03 05 45.2 -1.0
comp=Z,74nm,1.5s,mb5.9
CMAH Djebel Manchou 93.17 53 P P 03 05 47.0 -0.2
SSF Saint Saulge 93.18 42⇑iP P 03 05 45.9 -1.1
comp=Z,144nm,1.5s,mb5.9
SSF Saint Saulge 93.18 42⇑iP P 03 05 45.9 -1.1
SSF pmax pmax
comp=Z,72nm,1.5s,mb5.9
SSF Saint Saulge 93.18 42⇑iP P 03 05 45.9 -1.1
comp=Z,72nm,1.5s,mb5.9
RAO Raoul Island 93.19 239 PFAKE 03 06 00.0 +12
RAO LR LR
comp=Z,5µm,22.0s,MS5.9
SMF Signal de Mont 93.28 43⇑iP P 03 05 46.8 -0.6
comp=Z,313nm,1.5s,mb6.2
SMF Signal de Mont 93.28 43⇑iP P 03 05 46.8 -0.6
SMF pmax pmax
comp=Z,156nm,1.5s,mb6.2
SMF Signal de Mont 93.28 43⇑iP P 03 05 46.8 -0.6
comp=Z,156nm,1.5s,mb6.2
BOSA Boshof 93.33 120 P P 03 05 48.2 0.0
comp=Z,43nm,1.2s,mb5.7,baz=270,slow=5.5,SNR=15
BOSA LR LR 03 46 09.8
comp=Z,6µm,19.9s,MS6.0,baz=262,slow=34
BOSA Boshof 93.33 120 P P 03 05 48.2 0.0
BOSA pmax pmax
comp=Z,43nm,1.2s,mb5.8
BOSA MLR MLR
comp=Z,6µm,19.9s,MS6.0
BOSA Boshof 93.33 120 eP P 03 05 47.5 -0.6
comp=Z,109nm,1.5s,mb6.1
BOSA LR LR
comp=Z,6µm,20.0s,MS6.0
VIVF Saint-Julien-I 93.34 45⇑iP P 03 05 47.8 0.0
comp=Z,212nm,1.5s,mb6.1
VIVF Saint-Julien-I 93.34 45⇑iP P 03 05 47.8 0.0
VIVF pmax pmax
comp=Z,106nm,1.5s,mb6.0
VIVF Saint-Julien-I 93.34 45⇑iP P 03 05 47.8 0.0
comp=Z,106nm,1.5s,mb6.0
SSB Saint Sauveur 93.37 44⇑eP P 03 05 48.0 +0.1
SSB Saint Sauveur 93.37 44⇑iP P 03 05 47.8 0.0
LOR Lormes 93.47 42⇑iP P 03 05 47.4 -0.9
comp=Z,181nm,1.6s,mb6.0
LOR eMLR MLR
comp=Z,3µm,20.2s,MS5.5
LOR Lormes 93.47 42⇑iP P 03 05 47.4 -0.9
LOR pmax pmax
comp=Z,91nm,1.6s,mb6.0
LOR MLR MLR
comp=Z,3µm,20.3s,MS5.8
LOR Lormes 93.47 42⇑iP P 03 05 47.4 -0.9
comp=Z,91nm,1.6s,mb6.0
LOR LR LR
comp=Z,3µm,20.3s,MS5.8
MAW Mawson 93.59 165 eS S 03 16 20.9 -34
MAW Mawson 93.59 165 P P 03 05 48.4 -0.2
comp=Z,28nm,1.2s,mb5.6,baz=204,slow=5.3,SNR=25
MAW LR LR 03 44 58.0
comp=Z,8µm,21.7s,MS6.2,baz=228,slow=34
MAW Mawson 93.59 165 eP P 03 05 47.9 -0.7
comp=Z,39nm,1.1s,mb5.8
MAW eS S 03 16 20.9 -34
MAW LR LR
comp=Z,14µm,22.0s,MS6.4
SEW Seward 93.68 331⇑iP P 03 05 47.4 -1.5
OCF Saint Nazaire 93.70 45⇑eP P 03 05 49.5 +0.1
OG26 St.-Nazaire-De 93.70 45⇑eP P 03 05 49.5 +0.1
SMRF Simiane la Rot 93.72 46⇑iP P 03 05 49.9 +0.4
comp=Z,209nm,1.5s,mb6.0
SMRF Simiane la Rot 93.72 46⇑iP P 03 05 49.9 +0.4
comp=Z,209nm,1.5s,mb6.3
PMR Palmer 94.08 333 PFAKE 03 06 00.0 +9.2
PMR LR LR
comp=Z,4µm,22.0s,MS5.8
RC01 Rabbit Creek A 94.17 332 eP P 03 05 50.6 -0.6
comp=Z,65nm,1.3s,mb5.9
ORIF Oris-en-Rattie 94.18 45⇑iP P 03 05 52.0 +0.4
comp=Z,269nm,1.6s,mb6.1
ORIF eMLR MLR
comp=Z,4µm,19.8s,MS5.6
ORIF Oris-en-Rattie 94.18 45⇑iP P 03 05 52.0 +0.4
ORIF pmax pmax
comp=Z,134nm,1.6s,mb6.1
ORIF Oris-en-Rattie 94.18 45⇑iP P 03 05 52.0 +0.4
comp=Z,134nm,1.6s,mb6.1
SLKM Skilak Lake 94.19 332 eP P 03 05 50.9 -0.4
OG05 Jujurieux 94.19 44⇑eP P 03 05 51.3 -0.4
LMR La Mourre 94.21 47⇑iP P 03 05 51.4 -0.4
comp=Z,360nm,1.6s,mb6.2
LMR La Mourre 94.21 47⇑iP P 03 05 51.4 -0.4
LMR pmax pmax
comp=Z,180nm,1.6s,mb6.2
LMR La Mourre 94.21 47⇑iP P 03 05 51.4 -0.4
comp=Z,180nm,1.6s,mb6.2
FRF La Foret Royal 94.36 46⇑iP P 03 05 52.2 -0.3
comp=Z,215nm,1.4s,mb6.1
FRF La Foret Royal 94.36 46⇑iP P 03 05 52.2 -0.3
FRF pmax pmax
comp=Z,108nm,1.4s,mb6.1
FRF La Foret Royal 94.36 46⇑iP P 03 05 52.2 -0.3
comp=Z,108nm,1.4s,mb6.1
KDAK Kodiak Island 94.41 329 PFAKE 03 06 00.0 +7.6
KDAK LR LR
comp=Z,393nm,20.0s,MS4.9
KEST Kesra 94.47 54 P P 03 05 52.9 -0.3
comp=Z,12nm,1.1s,mb5.2,baz=248,slow=1.0,SNR=12
BAIF Baives 94.48 40⇑iP P 03 05 52.2 -0.6
comp=Z,136nm,1.8s,mb5.8
BAIF Baives 94.48 40⇑iP P 03 05 52.2 -0.6
BAIF pmax pmax
comp=Z,68nm,1.8s,mb5.8
BAIF Baives 94.48 40⇑iP P 03 05 52.2 -0.6
comp=Z,68nm,1.8s,mb5.8
CALN Calern 94.58 46⇑eP P 03 05 53.6 +0.1
MEZF Maizieres J'vi 94.58 41⇑iP P 03 05 53.0 -0.4
comp=Z,336nm,1.9s,mb6.2
MEZF Maizieres J'vi 94.58 41⇑iP P 03 05 53.0 -0.4
comp=Z,336nm,1.9s,mb6.5
LBTB Lobatse 94.70 117⇑iP P 03 05 54.3 -0.3
LBTB pmax pmax
comp=Z,66nm,1.5s,mb5.8
LBTB MLR MLR
comp=Z,3µm,20.0s,MS5.8
LBTB Lobatse 94.70 117⇑iP P 03 05 54.2 -0.3
comp=Z,66nm,1.5s,mb5.8
LBTB LR LR
comp=Z,3µm,20.0s,MS5.8
SNZO South Karori 94.72 226 PFAKE 03 06 10.0 +16
SNZO LR LR
comp=Z,12µm,20.0s,MS6.4
DOU Dourbes 94.73 40 P P 03 05 53.4 -0.6
comp=Z,36nm,2.6s,mb5.3
MBDF Montbardon 94.75 45⇑iP P 03 05 54.5 +0.3
comp=Z,198nm,1.7s,mb6.0
MBDF Montbardon 94.75 45⇑iP P 03 05 54.5 +0.3
MBDF pmax pmax
comp=Z,99nm,1.7s,mb6.0
MBDF Montbardon 94.75 45⇑iP P 03 05 54.5 +0.3
comp=Z,99nm,1.7s,mb6.0
CABF La Chapelle 94.76 43⇑iP P 03 05 53.9 -0.4
comp=Z,268nm,1.9s,mb6.0
CABF La Chapelle 94.76 43⇑iP P 03 05 53.9 -0.4
CABF pmax pmax
comp=Z,134nm,1.9s,mb6.0
CABF La Chapelle 94.76 43⇑iP P 03 05 53.9 -0.4
comp=Z,134nm,1.9s,mb6.0
BNI Bardonecchia 94.77 45 eP P 03 05 54.5 +0.2
BNI pmax pmax
comp=Z,56nm,1.5s,mb5.8
BNI MLR MLR
comp=Z,3µm,19.0s,MS5.8
BNI Bardonecchia 94.77 45 eP P 03 05 54.5 +0.2
comp=Z,56nm,1.5s,mb5.8
BNI LR LR
comp=Z,3µm,19.0s,MS5.8
UCC Uccle 94.77 39 P P 03 05 53.2 -1.0
COLA College 94.77 336⇑cP P 03 05 52.7 -1.2
COLA College 94.77 336⇑iP P 03 05 52.5 -1.4
comp=Z,67nm,1.1s,mb6.0
COLA LR LR
comp=Z,3µm,19.0s,MS5.7
MVIF Mont Vial 94.80 46⇑eP P 03 05 54.8 +0.3
RRL Rocca Remolon 94.81 45 P P 03 05 54.8 +0.3
GIVF Givet 94.87 40⇑iP P 03 05 54.1 -0.5
comp=Z,400nm,1.8s,mb6.2
GIVF Givet 94.87 40⇑iP P 03 05 54.1 -0.5
GIVF pmax pmax
comp=Z,200nm,1.8s,mb6.2
GIVF Givet 94.87 40⇑iP P 03 05 54.1 -0.5
comp=Z,200nm,1.8s,mb6.2
RSL Roselend 94.89 44⇑eP P 03 05 55.2 +0.3
TOUF Mont Tournerai 94.90 46 eP P 03 05 55.3 +0.4
REVF Revere 94.92 46 eP P 03 05 54.9 -0.1
LPL La Plagne 94.92 44⇑iP P 03 05 55.6 +0.6
comp=Z,141nm,1.3s,mb6.0
LPL La Plagne 94.92 44⇑iP P 03 05 55.6 +0.6
LPL pmax pmax
comp=Z,71nm,1.3s,mb5.9
LPL La Plagne 94.92 44⇑iP P 03 05 55.6 +0.6
comp=Z,71nm,1.3s,mb5.9
LPG La Plagne 94.93 44⇑iP P 03 05 55.8 +0.8
comp=Z,233nm,1.3s,mb6.1
LPG La Plagne 94.93 44⇑iP P 03 05 55.8 +0.8
LPG pmax pmax
comp=Z,117nm,1.3s,mb6.2
LPG La Plagne 94.93 44⇑iP P 03 05 55.8 +0.8
comp=Z,116nm,1.3s,mb6.2
LUCF Luceram 94.94 46 eP P 03 05 55.3 +0.2
SBF Sospel 94.99 46⇑iP P 03 05 55.1 -0.3
comp=Z,245nm,1.4s,mb6.2
SBF Sospel 94.99 46⇑iP P 03 05 55.1 -0.3
SBF pmax pmax
comp=Z,123nm,1.4s,mb6.1
SBF Sospel 94.99 46⇑iP P 03 05 55.1 -0.3
comp=Z,123nm,1.4s,mb6.1
STV Sant Anna di V 95.01 46 P P 03 05 54.9 -0.5
AUTN L'Aution 95.02 46⇑eP P 03 05 55.3 -0.2
THEF They Montfort 95.11 42⇑eP P 03 05 55.3 -0.5
BHB Bricherasio 95.12 45 P P 03 05 55.3 -0.6
NEGI Seborga 95.18 46 P P 03 05 55.6 -0.6
RSP Reno Superiore 95.19 45 P P 03 05 56.3 +0.1
LSD Lago del Serru 95.19 45 P P 03 05 56.8 +0.5
TRF Thorofare Moun 95.25 334 eP P 03 05 55.2 -0.8
comp=Z,26nm,1.1s,mb5.6
BCLA Clavier 95.25 39 P P 03 05 56.4 0.0
comp=Z,33nm,2.5s,mb5.3
HAU Haudompre 95.29 42⇑iP P 03 05 56.0 -0.6
comp=Z,161nm,1.6s,mb5.9
HAU eMLR MLR
comp=Z,3µm,20.0s,MS5.4
HAU Haudompre 95.29 42⇑iP P 03 05 56.0 -0.6
HAU pmax pmax
comp=Z,80nm,1.6s,mb5.9
HAU MLR MLR
comp=Z,3µm,20.0s,MS5.7
HAU Haudompre 95.29 42⇑iP P 03 05 56.0 -0.6
comp=Z,80nm,1.6s,mb5.9
HAU LR LR
comp=Z,3µm,20.0s,MS5.7
ROB Robourent 95.40 46 P P 03 05 56.6 -0.6
DRV Dumont d'Urvil 95.41 194 P P 03 06 01.0 +4.1
DRV Dumont d'Urvil 95.41 194 PP PP 03 09 54.0 +7.0
DRV SKS 03 16 30.0
DRV SS SS 03 23 44.0 +6.8
DRV L 03 32 00.0
DRV R 03 39 00.0
DRV R 08 27 00.0
LOMF Lomont 95.44 43⇑eP P 03 05 57.0 -0.3
KTH Kantishna Hill 95.55 334⇑iP P 03 05 55.9 -1.5
comp=Z,51nm,1.1s,mb5.9
HINF Hinteralfeld 95.57 42⇑iP P 03 05 57.2 -0.7
comp=Z,189nm,1.6s,mb6.0
HINF Hinteralfeld 95.57 42⇑iP P 03 05 57.2 -0.7
HINF pmax pmax
comp=Z,95nm,1.6s,mb6.0
HINF Hinteralfeld 95.57 42⇑iP P 03 05 57.2 -0.7
comp=Z,95nm,1.6s,mb6.0
BEBN Eben Emael 95.58 39 P P 03 05 57.5 -0.3
WLF Walferdange 95.59 40 P P 03 05 58.3 +0.4
comp=Z,55nm,2.0s,mb5.6
WLF Walferdange 95.59 40 eP P 03 05 58.1 +0.2
WLF pmax pmax
comp=Z,81nm,1.7s,mb5.9
WLF MLR MLR
comp=Z,4µm,20.0s,MS5.9
WLF Walferdange 95.59 40 eP P 03 05 57.8 -0.1
WLF ePP PP 03 09 50.6 +1.1
WLF eSKSac SKSac 03 16 47.0 +16
WLF Walferdange 95.59 40 eP P 03 05 58.1 +0.2
comp=Z,81nm,1.7s,mb5.9
WLF LR LR
comp=Z,4µm,20.0s,MS5.9
FIN Finale Ligure 95.62 46 P P 03 05 57.3 -0.9
HGN Heimansgroeve 95.73 39⇑iP P 03 05 58.1 -0.5
comp=Z,36nm,1.4s,mb5.6
HGN Heimansgroeve 95.73 39 ePP PP 03 09 59.4 +8.8
MEM Membach 95.73 39 P P 03 05 58.7 +0.1
comp=Z,15nm,1.6s,mb5.2
MOF Molkenrain 95.77 42⇑eP P 03 05 58.1 -0.7
PGF Pioggiola 95.79 48⇑iP P 03 05 58.9 -0.2
comp=Z,252nm,1.5s,mb6.1
PGF Pioggiola 95.79 48⇑iP P 03 05 58.9 -0.2
PGF pmax pmax
comp=Z,126nm,1.5s,mb6.1
PGF Pioggiola 95.79 48⇑iP P 03 05 58.9 -0.2
comp=Z,126nm,1.5s,mb6.1
ORO Oropa 95.80 45 P P 03 05 59.0 0.0
ORO pmax pmax
comp=Z,44nm,1.4s,mb5.7
ORO Oropa 95.80 45 P P 03 05 59.0 0.0
comp=Z,44nm,1.4s,mb5.7
CORF Corte 95.85 48 eP P 03 05 59.2 -0.1
ECH Echery 95.87 42⇑eP P 03 05 58.8 -0.5
ECH Echery 95.87 42 eP P 03 05 58.5 -0.8
PPLA Purkeypile 95.88 333⇑iP P 03 05 57.7 -1.3
comp=Z,110nm,1.2s,mb6.2
BBS Basel-Blauen 95.92 43⇑eP P 03 05 59.0 -0.5
PCP Piancastagn 95.93 46 P P 03 05 59.2 -0.4
JMIC Jan Mayen 95.95 18 AMS AMS 03 50 20.4
comp=Z,1µm,18.6s,MS5.5
CDF Champ du Feu 95.99 42⇑iP P 03 05 59.2 -0.6
comp=Z,164nm,1.6s,mb5.9
CDF Champ du Feu 95.99 42⇑iP P 03 05 59.2 -0.6
CDF pmax pmax
comp=Z,82nm,1.6s,mb5.9
CDF Champ du Feu 95.99 42⇑iP P 03 05 59.2 -0.6
comp=Z,82nm,1.6s,mb5.9
LIBD Limburg 96.14 42 eP P 03 06 00.2 -0.3
RUP Ruppelstein 96.17 40⇑eP P 03 06 00.3 -0.3
CHUM Lake Minchumin 96.25 334⇑iP P 03 05 58.8 -1.9
comp=Z,50nm,1.3s,mb5.8
FELD Feldberg im Sc 96.34 42⇑eP P 03 06 00.9 -0.5
LANF Langenberg 96.47 41⇑eP P 03 06 01.4 -0.6
COLD Coldfoot 96.52 338⇑iP P 03 06 01.4 -0.4
comp=Z,21nm,1.0s,mb5.5
WTSB Winterswijk 96.55 38⇑iP P 03 06 01.4 -0.8
comp=Z,69nm,1.8s,mb5.8
BFO Black Forest 96.66 42 eP P 03 06 02.3 -0.5
BFO e 03 09 58.7
BFO MLR MLR
comp=Z,2µm,21.0s,MS5.5
BFO Black Forest 96.66 42 eP P 03 06 02.3 -0.5
BFO ePP PP 03 09 58.7 +0.8
BFO eSKSac SKSac 03 16 55.1 +18
BFO Black Forest 96.66 42 eP P 03 06 02.3 -0.5
BFO ePP PP 03 09 58.7 +0.8
BFO eSKSac SKSac 03 16 55.1 +18
BFO LR LR
comp=Z,2µm,21.0s,MS5.5
BUG Bochum--Univer 96.71 39 eP P 03 06 02.8 -0.2
BUG ePP PP 03 09 59.3 +1.1
BUG eSKSac SKSac 03 16 57.2 +20
SVW2 Sparrevohn 96.87 331 eP P 03 06 01.3 -2.1
SPAK Spaichingen-Ko 96.90 42⇑eP P 03 06 03.5 -0.5
TUE Stuetta 96.92 44⇑iP P 03 06 04.0 0.0
comp=Z,104nm,1.5s,mb6.0
TUE LR LR
comp=Z,6µm,20.0s,MS6.0
VLC Villacollemand 97.14 46 PFAKE 03 06 20.0 +15
VLC LR LR
comp=Z,3µm,22.0s,MS5.7
MAIM Mastiano 97.16 47 P P 03 06 04.1 -1.1
IBBN Ibbenburen 97.20 38 eP P 03 06 05.2 0.0
IBBN ePP PP 03 10 02.7 +0.7
TOD Tromm 97.25 41⇑eP P 03 06 04.4 -1.1
DAVOS Davos 97.30 44 P P 03 06 05.7 -0.1
STU Stuttgart 97.32 42 eP P 03 06 06.0 +0.2
STU pmax pmax
comp=Z,35nm,1.1s,mb5.7
STU Stuttgart 97.32 42 eP P 03 06 05.8 0.0
STU ePP PP 03 10 03.3 +0.4
STU eSKSac SKSac 03 16 57.2 +17
STU Stuttgart 97.32 42 eP P 03 06 06.0 +0.1
comp=Z,36nm,1.1s,mb5.7
GSCL Gusciola 97.32 46 P P 03 06 06.6 +0.7
DAVOX Davos/Dischmat 97.34 44 P P 03 06 05.7 -0.3
comp=Z,31nm,0.9s,mb5.7,baz=242,slow=4.6,SNR=46
DAVA Damuels 97.45 43⇑iP P 03 06 06.5 0.0
comp=Z,169nm,1.7s,mb6.2,SNR=17
DAVA Damuels 97.45 43⇑iPcP PcP 03 06 06.5 0.0
comp=Z,169nm,1.7s,SNR=17
IMA2 Indian Mountai 97.47 336 eP P 03 06 03.4 -2.7
ERC Erice 97.50 53 P P 03 06 07.5 +0.6
TTA Tatalina 97.56 333 eP P 03 06 06.0 -0.6
TTA pmax pmax
comp=Z,14nm,1.4s,mb5.3
TTA Tatalina 97.56 333 eP P 03 06 06.0 -0.5
comp=Z,14nm,1.4s,mb5.3
BRMO Bormio 97.61 44 P P 03 06 07.4 +0.2
MABI Malga Biessina 97.62 45 P P 03 06 07.7 +0.5
comp=Z,202nm,2.8s,mb6.2
FNVD Fontana Vidola 97.66 47 P P 03 06 07.6 +0.1
FETA Feichten 97.96 44⇑iP P 03 06 08.8 0.0
comp=Z,211nm,1.8s,mb6.4,SNR=38
FETA Feichten 97.96 44⇑iPcP PcP 03 06 08.8 0.0
comp=Z,211nm,1.8s,SNR=38
RETA Reutte 98.08 43⇑iP P 03 06 09.3 +0.1

comp=Z,148nm,1.7s,mb6.2,SNR=19
RETA Reutte 98.08 43 ⇑*i*PcP PcP 03 06 09.3 +0.1
comp=Z,148nm,1.7s,SNR=19
UBBA Unterbreizbach 98.25 40 *e*P **P** **03 06 10.7 +0.7**
UBBA *e*PP PP 03 10 10.4 +0.3
MOTA Moosalm 98.28 43 ⇑*i*P **P** **03 06 10.2 0.0**
comp=Z,78nm,1.2s,mb6.1,SNR=24
MOTA Moosalm 98.28 43 ⇑*i*P **P** **03 06 10.2 0.0**
MOTA pmax pmax
comp=Z,78nm,1.2s,mb6.1
RDP Rocca di Papa 98.33 49 P **P** **03 06 11.3 +0.7**
CTI Castel Tesino 98.39 45 P **P** **03 06 10.8 +0.1**
FUR Furstenfeldbru 98.55 43 *e*P **P** **03 06 11.6 +0.2**
FUR *e* 03 10 12.0
FUR Furstenfeldbru 98.55 43 *e*P **P** **03 06 11.6 +0.2**
FUR *e*PP PP 03 10 12.0 -0.4
FUR *e*SKSac SKSac 03 17 04.3 +17
CERT Cerreto 98.56 49 P **P** **03 06 11.7 +0.1**
WATA Walderalm 98.59 43 ⇓*i*P **P** **03 06 11.6 0.0**
comp=Z,93nm,1.4s,mb6.1,SNR=19
WATA Walderalm 98.59 43 ⇓*i*P **P** **03 06 11.6 0.0**
WATA pmax pmax
comp=Z,93nm,1.4s,mb6.1
GIB Gibilmanna 98.61 53 P **P** **03 06 11.4 -0.5**
WTTA Wattenberg 98.61 44 ⇑*i*P **P** **03 06 12.0 +0.3**
comp=Z,351nm,1.7s,mb6.6,SNR=38
NRDL Niedersach Rie 98.65 38 *e*P **P** **03 06 12.3 +0.6**
NRDL *e*PP PP 03 10 13.6 +0.6
NRDL *e*SKSac SKSac 03 17 01.3 +14
CLZ Clausthal 98.69 39 *e*P **P** **03 06 12.3 +0.4**
CLZ *e* 03 10 13.3
CLZ Clausthal 98.69 39 *e*P **P** **03 06 12.3 +0.4**
CLZ *e*PP PP 03 10 13.3 0.0
CLZ *e*SKSac SKSac 03 17 03.3 +16
SNTG Esanatoglia 98.77 48 P **P** **03 06 12.6 +0.1**
GRA1 Grafenberg Arr 98.80 41 *e*P **P** **03 06 13.0 +0.5**
GRA1 *e*PP PP 03 10 12.2 -2.1
GRA1 *e*SKSac SKSac 03 17 05.3 +17
GRA1 LR LR
comp=Z,2μm,21.5s,MS5.6
GRF Grafenberg Arr 98.80 41 *e*P **P** **03 06 13.0 +0.5**
GRF *e* 03 10 12.2
GRF MLR MLR
comp=Z,2μm,21.5s,MS5.6
GRF Grafenberg Arr 98.80 41 *e*P **P** **03 06 13.0 +0.5**
GRF *e* 03 10 12.2
GRF MLR MLR
comp=Z,2μm,21.5s,MS5.6
GRF Grafenberg Arr 98.80 41 *e*P **P** **03 06 13.0 +0.5**
GRF *e*PP PP 03 10 12.2 -2.1
GRF *e*SKSac SKSac 03 17 05.3 +17
GRF *e*L 03 47 21.2
comp=Z,2μm,21.5s
VAE Valguarnera 98.82 54 LR LR 03 52 13.1
comp=Z,6μm,19.4s,MS6.1,baz=277,slow=36
AQU L'Aquila 98.94 49 ⇓*i*P **P** **03 06 13.5 +0.2**
AQU L'Aquila 98.94 49 *e*P **P** **03 06 13.4 +0.1**
comp=Z,85nm,1.5s,mb6.1
AQU LR LR
comp=Z,3μm,21.0s,MS5.7
BSEG Bad Segeberg 99.05 37 *e*P **P** **03 06 13.7 +0.2**
BSEG *e* 03 10 15.6
BSEG Bad Segeberg 99.05 37 *e*P **P** **03 06 13.7 +0.2**
BSEG *e*PP PP 03 10 15.6 -0.5
BSEG *e*SKSac SKSac 03 17 05.3 +16
ABTA Abfaltersbach 99.11 44 ⇑*i*P **P** **03 06 13.9 0.0**
comp=Z,207nm,1.5s,mb6.4,SNR=41
RFI Roccamonfina 99.18 50 P **P** **03 06 16.1 +1.7**
MOX Moxa 99.23 40 *e*P **P** **03 06 14.7 +0.4**
comp=Z,61nm,2.0s,mb5.8
MOX
comp=Z,2μm,19.0s
MOX Moxa 99.23 40 *e*P **P** **03 06 14.7 +0.4**
MOX pmax pmax
comp=Z,61nm,2.0s,mb5.8
MOX MLR MLR
comp=Z,2μm,19.0s,MS5.7
MOX Moxa 99.23 40 *e*P **P** **03 06 14.4 +0.1**
MOX *e*PP PP 03 10 16.2 -1.3
MANZ Manzenberg 99.42 41 *e*P **P** **03 06 15.6 +0.4**
MANZ *e*PP PP 03 10 17.6 -1.4
MANZ *e*SKSac SKSac 03 17 07.4 +16
MIDA Miranda 99.44 49 P **P** **03 06 16.0 +0.5**
ROTZ Rotzenmuhle 99.45 41 *e*P **P** **03 06 15.9 +0.6**
ROTZ *e*PP PP 03 10 18.2 -1.0
ROTZ *e*SKSac SKSac 03 17 06.4 +15
PTCC Patocco-Chiusa 99.62 45 P Pdif 03 06 16.4 +0.3
NKC Novy Kostel 99.68 41 *e*PDIF Pdif 03 06 17.6 +1.2
NKC *e*PP PP 03 10 19.5 -1.4
NKC *e*x x 03 19 57.8
NKC AMS AMS 03 47 10.0
comp=Z,4μm,21.8s
NKC Novy Kostel 99.68 41 *e*Pdif Pdif 03 06 17.6 +1.2
NKC *e*PP PP 03 10 19.5 -1.4
NKC *e*SP SP 03 19 57.8 +43
KBA Koelnbreinsper 99.73 44 ⇑*i*P Pdif 03 06 16.7 +0.1
comp=Z,164nm,1.9s,SNR=9.7
KBA Koelnbreinsper 99.73 44 ⇑*i*P Pdif 03 06 16.7 +0.1
KBA pmax pmax
comp=Z,164nm,1.9s,mb6.1
KONO Kongsberg 99.73 31 *e*PP PP 03 10 19.6 -1.5
KONO *e*SKS 03 16 58.1
KONO *e* 03 18 43.8
KONO AMS AMS 03 48 12.4
comp=Z,3μm,21.6s,MS5.8
WET Wettzell 99.77 42 *e*P Pdif 03 06 17.2 +0.4
WET *e*PP PP 03 10 21.1 -0.6
CSSN Cassano Irpino 99.88 50 P Pdif 03 06 17.6 +0.3
VOY Vojsko 99.93 45 *e*Pdiff Pdif 03 06 17.7 +0.2
VOY *e* 03 06 28.2
VOY *e* 03 06 39.0
LSZ Lusaka 99.93 108 PFAKE 03 06 30.0 +13
LSZ LR LR
comp=Z,6μm,20.0s,MS6.1
SKDS Skadanscina 99.93 46 *e*Pdiff Pdif 03 06 17.3 -0.2
CASY Casey 99.98 183 *e*Pdif Pdif 03 06 17.6 -0.1
CASY LR LR
comp=Z,3μm,19.0s,MS5.9
CLL Collm 100.20 40 ⇑*i*P Pdif 03 06 18.8 +0.1
CLL *e* 03 06 29.0
CLL *i* 03 10 23.5
CLL *e*S Sdif 03 17 54.0 +2.2
CLL pmax pmax
comp=Z,25nm,1.5s
CLL MLR MLR
comp=Z,3μm,23.0s,MS5.7
CLL Collm 100.20 40 *e*P Pdif 03 06 19.0 +0.3
CLL *e*PP PP 03 10 23.8 -1.1
CLL Collm 100.20 40 ⇑*i*Pdif Pdif 03 06 18.8 +0.1
comp=Z,25nm,1.5s
CLL *e*pPdif 03 06 28.0
CLL *e*sPdif 03 06 31.0
CLL *e*x x 03 09 53.0
CLL *i* PP PP 03 10 23.5 -1.4
comp=Z,41nm,1.8s
CLL *e*sPP 03 10 38.0
CLL *e*(PPP) 03 12 42.0
CLL *e*SKSac SKSac 03 17 01.0 +6.1
CLL *e*SKKSac SKKSac 03 17 21.0 -7.7
CLL *e*Sdif Sdif 03 17 54.0 +2.2
CLL *e*PS PS 03 19 21.0 -3.9
CLL *e*PPS 03 20 02.0
CLL *e*x x 03 20 44.0
CLL *e*SS SS 03 24 43.0 -3.6
CLL *e*x x 03 25 17.0
CLL *e*(PSPS) 03 27 16.0
CLL *e*SSS 03 28 40.0
CLL Collm 100.20 40 ⇑*i*Pdif Pdif 03 06 18.8 +0.1
comp=Z,25nm,1.5s
CLL *e* 03 06 29.0
CLL *i* PP PP 03 10 23.5 -1.4
CLL *e*SKS 03 17 01.0
CLL *e*Sdif Sdif 03 17 54.0 +2.2
CLL LR LR
comp=Z,3μm,23.0s,MS5.7
KHC Kasperske Hory 100.22 42 *e*P Pdif 03 06 18.8 0.0
KHC *e* 03 10 18.8
KHC MLR MLR
comp=Z,3μm,19.4s,MS5.8
KHC Kasperske Hory 100.22 42 *e*PDIF Pdif 03 06 18.8 0.0
KHC *e*x x 03 07 00.0
KHC *e*PP PP 03 10 18.8 -6.3
KHC *e*x x 03 10 35.0
KHC *e*x x 03 19 49.6
KHC *e*x x 03 25 27.1
KHC AMS AMS 03 49 30.0
comp=Z,3μm,19.4s
GEC2 GERESS Array S 100.26 42 *e*P Pdif 03 06 19.2 +0.2
GEC2 *e* 03 10 24.9
GEC2 GERESS Array S 100.26 42 *e*P Pdif 03 06 19.2 +0.2
GEC2 *e*PP PP 03 10 24.9 -0.5
GEC2 *e*SKSac SKSac 03 17 06.4 +11
GERES GERESS Array B 100.26 42 P Pdif 03 06 18.6 -0.4
comp=Z,6.9nm,1.0s,baz=249,slow=3.7,SNR=30
GERES PP PP 03 10 24.1 -1.3
comp=Z,4.6nm,1.1s,baz=250,slow=6.4,SNR=4.7
FG4 Candela 100.29 50 P Pdif 03 06 19.2 +0.1
CUC Castrocucco 100.33 51 *e*Pdif Pdif 03 06 18.9 -0.3
comp=Z,40nm,1.3s
CUC LR LR
comp=Z,3μm,21.0s,MS5.8
LJU Ljubljana 100.36 45 *i* Pdiff Pdif 03 06 19.7 +0.3
LJU *e*PP PP 03 10 24.1 -2.2
MOA Molln 100.47 43 *i* P Pdif 03 06 19.9 0.0
comp=Z,183nm,1.7s,SNR=34
COP Copenhagen 100.56 35 *i* P Pdif 03 06 20.1 -0.2
COP *i* 03 10 39.2
COP *i* S SKSac 03 17 14.9 +18
COP *i* 03 18 04.7
COP *e* 03 19 27.5
COP
comp=Z,1μm,20.0s
NAO01 NORSAR Array S 100.57 30 PFAKE 03 06 30.0 +10
NAO01 LR LR
comp=Z,5μm,22.0s,MS6.0
BRG Berggiesshubel 100.72 40 *e*P Pdif 03 06 21.2 +0.2
BRG 03 10 22.0
BRG SP SP 03 19 28.0 +2.1
BRG SS SS 03 24 41.0 -13
BRG pmax pmax
comp=Z,27nm,1.6s
BRG MLR MLR
comp=Z,2μm,21.5s,MS5.6
BRG Berggiesshubel 100.72 40 *e*P Pdif 03 06 21.0 0.0
BRG *e*PP PP 03 10 27.8 -1.0
BRG *e*SKSac SKSac 03 17 07.4 +10
BRG Berggiesshubel 100.72 40 *e*P Pdif 03 06 21.2 +0.1
comp=Z,45nm,1.6s
BRG *e* 03 09 49.3
comp=Z,15nm,1.6s
BRG PP PP 03 10 22.0 -6.8
BRG *e* 03 10 40.3
comp=Z,43nm,1.8s
BRG SKS 03 17 03.0
BRG S Sdif 03 18 08.0 +12
BRG SP SP 03 19 28.0 +2.1
BRG *e* 03 22 45.0
comp=Z,5.3nm,1.2s
BRG SS SS 03 24 41.0 -13
BRG PKPPKP 03 31 00.5
comp=Z,9.9nm,1.6s
BRG
comp=N,256nm,19.2s
BRG
comp=E,2μm,22.5s
BRG
comp=Z,4μm,21.5s
BRG Berggiesshubel 100.72 40 *e*P Pdif 03 06 21.2 +0.1
comp=Z,27nm,1.6s
BRG *e* 03 09 49.3
BRG PP PP 03 10 22.0 -6.8
BRG *e* 03 10 40.3
BRG SKS 03 17 03.0
BRG S Sdif 03 18 08.0 +12
BRG SP SP 03 19 28.0 +2.1
BRG *e* 03 22 45.0
BRG SS SS 03 24 41.0 -13
BRG P'P' 03 31 00.5
BRG LR LR
comp=Z,2μm,21.5s,MS5.6
NB2 NORSAR Subarra100.76 30 P Pdif 03 06 22.2 +1.0
comp=Z,73nm,1.4s,baz=264,slow=4.6
NOA NORSAR Array B100.76 30 P Pdif 03 06 20.8 -0.4
comp=Z,18nm,1.2s,baz=261,slow=4.7,SNR=6.1
NOA NORSAR Array B100.76 30 P Pdif 03 06 20.8 -0.4
BOJS Bojanci 100.78 46 *i* Pdiff Pdif 03 06 21.7 +0.4
BOJS *e* 03 09 14.7
BOJS *e*PP PP 03 10 26.9 -2.6
BOJS *e*SKSac SKSac 03 17 00.3 +2.3
BOJS *e* 03 17 17.4
BOJS *e*SP SP 03 19 46.2 +19
BOJS *e* 03 25 16.9
SOKA Soboth 100.81 44 ⇓*i*P Pdif 03 06 21.1 -0.3
comp=Z,256nm,4.3s
ORI Oriolo Calabro 100.82 51 P Pdif 03 06 21.7 +0.2
PERS Pernice 100.86 45 *i* Pdiff Pdif 03 06 21.2 -0.4
PERS *e*PP PP 03 10 36.0 +6.0
PRA Prague 100.92 41 PP PP 03 10 27.0 -3.3
PRA *e*x x 03 10 40.0
TIP Timpagrande 100.92 52 *e*Pdif Pdif 03 06 21.1 -0.8
comp=Z,27nm,1.4s
TIP LR LR
comp=Z,2μm,20.0s,MS5.7
PRU Pruhonice 100.97 41 *e*P Pdif 03 06 22.9 +0.8
PRU *e* 03 10 27.8
PRU *e*SP SP 03 20 15.5 +47
PRU MLR MLR
comp=Z,2μm,25.3s,MS5.5
PRU Pruhonice 100.97 41 *e*PDIF Pdif 03 06 22.9 +0.8
PRU *e*x x 03 07 05.4
PRU *e*PP PP 03 10 27.8 -3.0
PRU *e*x x 03 20 15.5
PRU *e*x x 03 25 18.6
PRU AMS AMS 03 46 20.0
comp=Z,2μm,25.3s
PVCC Panska Ves 101.07 41 *e*PDIF Pdif 03 06 23.7 +1.1
PVCC *e*PP PP 03 10 28.6 -2.9
PVCC *e*x x 03 20 16.4
PVCC *e*SS SS 03 24 48.8 -10
PVCC AMS AMS 03 48 20.0
comp=Z,4μm,22.0s
ARSA Arzberg 101.22 44 ⇑*i*P Pdif 03 06 22.9 -0.3
comp=Z,334nm,4.0s,SNR=11
TREC Trest 101.48 42 *e*P Pdif 03 06 25.1 +0.7
TREC *e* 03 10 29.0
TREC *e*SP SP 03 20 15.0 +41
TREC MLR MLR
comp=Z,3μm,18.1s,MS5.9
TREC Trest 101.48 42 *e*PDIF Pdif 03 06 25.1 +0.7
TREC *e*PP PP 03 10 29.0 -5.6
TREC *e*x x 03 20 15.0
TREC *e*x x 03 25 35.0
TREC AMS AMS 03 51 40.0
comp=Z,3μm,18.1s
CSNA Conrad Observa 101.54 43 ⇑*i*P Pdif 03 06 24.9 +0.3
comp=Z,160nm,2.3s
CONA Conrad Observa 101.55 43 ⇑*i*P Pdif 03 06 25.0 +0.3
comp=Z,170nm,2.3s,SNR=16
NSS Namsos 101.60 26 AMS AMS 03 51 48.7
comp=Z,3μm,20.0s,MS5.8
FUNA Funafuti 101.87 258 PFAKE 03 06 40.0 +14
FUNA LR LR
comp=Z,9μm,19.0s,MS6.3
UPC Upice 101.98 41 *e*PDIF Pdif 03 06 27.8 +1.2
DPC Dobruska-Polom 102.16 41 *e*PDIF Pdif 03 06 28.4 +1.0
DPC *e*x x 03 07 09.4
DPC *e*PP PP 03 10 38.4 -1.3
DPC *e*x x 03 20 24.9
DPC *e*x x 03 25 23.6
DPC AMS AMS 03 49 30.0
comp=Z,3μm,20.5s
KSP Ksiaz 102.20 40 *e*P Pdif 03 06 28.2 +0.7
KSP *e*PP PP 03 10 50.1 +10
KSP LMZ 03 49 28.8
comp=Z,7μm,22.7s
KSP Ksiaz 102.20 40 ⇑*e*P Pdif 03 06 28.1 +0.5
VRAC Vranov 102.20 42 ⇑*i*P Pdif 03 06 27.8 +0.2
VRAC Vranov 102.20 42 ⇑P Pdif 03 06 27.8 +0.2
ZST Bratislava 102.41 43 *e*P Pdif 03 06 29.3 +0.8
ZST *e* 03 10 36.2
ZST *e* 03 20 22.8
ZST pmax pmax
comp=Z,53nm,1.6s
ZST Bratislava 102.41 43 PDIF Pdif 03 06 29.2 +0.7
ZST *e*PP PP 03 10 36.2 -5.4
ZST *e* 03 20 22.8
ZST Bratislava 102.41 43 *e*P Pdif 03 06 29.3 +0.8
comp=Z,52nm,1.6s
ZST *e*PP PP 03 10 36.2 -5.4
ZST *e* 03 20 22.8
MODS Modra-Piesok 102.54 43 PDIF Pdif 03 06 29.7 +0.6
MODS *e*PP PP 03 10 38.6 -4.0
MODS Modra-Piesok 102.54 43 *e*P Pdif 03 06 29.7 +0.6
MODS *e*PP PP 03 10 38.6 -4.0
MORC Moravsky Berou 102.87 42 *e*P Pdif 03 06 31.5 +0.9
MORC pmax pmax
comp=Z,60nm,1.5s
MORC Moravsky Berou 102.87 42 ⇑*i*P Pdif 03 06 31.5 +0.9
MORC Moravsky Berou 102.87 42 *e*Pdif Pdif 03 06 31.5 +0.9
comp=Z,60nm,1.5s
KBS Kingsbay 103.12 11 *e*PP PP 03 10 43.9 -2.2
KBS *e*SKS 03 17 06.7
KBS *e* 03 25 24.3
KBS AMS AMS 03 53 14.5
comp=Z,3μm,21.7s,MS5.8
KBS Kingsbay 103.12 11 PFAKE 03 06 40.0 +8.3
KBS LR LR
comp=Z,3μm,21.0s,MS5.8
PKSM Moragy 103.22 45 ⇑*i*P Pdif 03 06 32.7 +0.6
PKSM Moragy 103.22 45 ⇑P Pdif 03 06 32.7 +0.5
OKC Ostrava-Krasne 103.27 42 *e*PDIF Pdif 03 06 33.6 +1.3
OKC *e*x x 03 07 15.5
OKC *e*PP PP 03 10 39.0 -9.0
OKC *e*x x 03 20 48.8
OKC AMS AMS 03 49 10.0
comp=Z,2μm,22.2s
OKC Ostrava-Krasne 103.27 42 *e*Pdif Pdif 03 06 33.6 +1.3
OKC *e* 03 07 15.5
OKC *e*PP PP 03 10 39.0 -9.0
OKC *e*SP SP 03 20 48.8 +56
PSZ Piszkesteto 104.24 44 PFAKE 03 06 50.0 +13
PSZ LR LR
comp=Z,2μm,20.0s,MS5.7
OHR Ohrid 104.24 51 *i* P Pdif 03 06 37.1 +0.4
OHR *i* PP PP 03 10 00.4 -55
OJC Ojcow 104.36 41 *i* P Pdif 03 06 38.1 +0.9
OJC *e*PP PP 03 10 54.6 -1.5
OJC *e*SKS 03 17 23.3
OJC *e*SP SP 03 20 15.0 +11
OJC *e*SS SS 03 25 50.9 +6.8
OJC L 03 50 28.8
comp=Z,3.4nm,22.9s
OJC Ojcow 104.36 41 ⇑*i*P Pdif 03 06 38.1 +0.9
OJC *e* 03 10 54.6
OJC *e*SS SS 03 25 50.9 +6.8
OJC MLR MLR
comp=Z,3μm,22.9s,MS5.8
KRUS Krusevo 104.61 50 *i* P Pdif 03 06 39.2 +0.9
BIA Bitola 104.63 51 *e*P Pdif 03 06 38.1 -0.3
NIE Niedzica 104.63 42 *e*P Pdif 03 06 40.0 +1.6
TRO Tromso 104.66 21 *i* SP 03 20 02.1 -4.4
TRO AMS AMS 03 49 55.0
comp=Z,854nm,22.8s,MS5.2
KECS Kecovo 104.68 43 *e*P Pdif 03 06 39.8 +1.2
KECS *e* 03 10 56.0
KECS pmax pmax
comp=Z,7.0nm,1.4s
KECS Kecovo 104.68 43 PDIF Pdif 03 06 39.8 +1.2
KECS *e*PP PP 03 10 56.0 -2.6
KECS Kecovo 104.68 43 *e*P Pdif 03 06 39.8 +1.2
comp=Z,6.8nm,1.4s
KECS *e*PP PP 03 10 56.0 -2.6
BJO Bjornoya 104.68 16 *e*SS SS 03 25 43.6 -3.7
BJO AMS AMS 03 55 00.7
comp=Z,2μm,19.9s,MS5.5
SKO Skopje 104.81 50 *i* P Pdif 03 06 40.1 +0.9
BZS Buzias 105.24 46 ⇓*i*P Pdif 03 06 42.3 +1.2
BZS Buzias 105.24 46 ⇓*i*P PKiKP 03 10 56.8 +1.5
BZS Buzias 105.24 46 ⇓P Pdif 03 06 42.3 +1.2
STHS Stebnicka Huta 105.24 42 *e*P Pdif 03 06 43.4 +2.3
STHS *e* 03 11 00.1
STHS pmax pmax
comp=Z,6.0nm,1.6s
STHS Stebnicka Huta 105.24 42 PDIF Pdif 03 06 43.4 +2.3
STHS *e*PP PP 03 11 00.1 -2.6
STHS Stebnicka Huta 105.24 42 *e*P Pdif 03 06 43.4 +2.3
comp=Z,5.9nm,1.6s
STHS *e*PP PP 03 11 00.1 -2.6
STIP Stip 105.34 50 *e*P Pdif 03 06 41.6 +0.1
CRVS Cervenica-Dubn 105.35 43 PDIF Pdif 03 06 42.6 +1.0
CRVS *e*PP PP 03 10 59.1 -4.4
CRVS Cervenica-Dubn 105.35 43 *e*P Pdif 03 06 42.6 +1.0
CRVS *e*PP PP 03 10 59.1 -4.4
VAY Valandovo 105.59 51 *i* P Pdif 03 06 38.0 -4.7
KOLS Kolonicke sedl 105.89 43 *e*PP PP 03 11 07.0 -0.5
MIDW Midway 106.03 296 PFAKE 03 11 10.0 +13
MIDW LR LR
comp=Z,3μm,20.0s,MS5.9
VTS Vitosha 106.17 49 P PKiKP 03 11 07.0 +10
KWP Kalwaria 106.20 42 ⇓*i*P PKiKP 03 11 02.4 +5.4
KWP Kalwaria 106.20 42 PFAKE 03 11 10.0 +13
KWP LR LR
comp=Z,2μm,21.0s,MS5.7
MMB Musomiste 106.48 50 P PP 03 11 09.8 -2.3
ARCES ARCESS Array B 106.97 21 PP PP 03 11 10.4 -4.5
comp=Z,2.5nm,0.8s,baz=300,slow=5.5,SNR=4.4
LVV L'vov 107.07 42 *e*P Pdif 03 06 48.3 -0.9
ADK Adak 107.14 320 PFAKE 03 11 10.0 +11
ADK LR LR
comp=Z,2μm,21.0s,MS5.6
RZN Rozhen 107.23 50 P PP 03 11 14.2 -3.4
PLD Plovdiv 107.24 50 P PP 03 11 15.5 -2.2
SANT Santorini 107.44 56 PFAKE 03 11 10.0 +10
SANT LR LR
comp=Z,2μm,20.0s,MS5.6
KEV Kevo 107.47 21 PFAKE 03 11 10.0 +11
KEV LR LR
comp=Z,2μm,22.0s,MS5.5
BURAR Bucovina Array 107.81 44 ⇓*i*P Pdif 03 06 53.6 +1.1
BURAR Bucovina Array 107.81 44 ⇓P Pdif 03 06 53.6 +1.1
MLR Muntele Rosu 108.27 46 ⇓*i*P Pdif 03 06 55.2 +0.6
MLR Muntele Rosu 108.27 46 ⇑*i*P PP 03 11 22.1 -3.0
MLR Muntele Rosu 108.27 46 ⇓P Pdif 03 06 55.2 +0.6
VRI Vrincioaia 108.82 46 ⇑*i*P PP 03 11 25.5 -3.6
TIRR Tirgusor 110.01 47 ⇑*i*P PKiKP 03 11 04.2 -0.1
TIRR Tirgusor 110.01 47 *e*PKP PKiKP 03 11 04.0 -0.3
KIEV Kiev 110.38 41 *e*PKP PKiKP 03 11 03.4 -1.3
KIEV LR LR
comp=Z,3μm,22.0s,MS5.9
AKASG Malin Array Be 110.39 41 PKiKP PKiKP 03 11 04.2 -0.6
comp=Z,0.5nm,0.3s,baz=261,slow=2.4,SNR=7.3
AKASG PP PP 03 11 37.9 -2.4
comp=Z,2.7nm,0.8s,baz=264,slow=7.5,SNR=7.2
LVZ Lovozero 110.55 22 PFAKE 03 11 20.0 +15
LVZ LR LR
comp=Z,1μm,20.0s,MS5.5
TAU Tasmania Unive 110.84 213 PFAKE 03 11 20.0 +14
TAU LR LR
comp=Z,5μm,20.0s,MS6.1
ISP Isparta 111.55 55 PFAKE 03 11 20.0 +13
ISP LR LR
comp=Z,2μm,20.0s,MS5.6
KMBO Kilima Mbogo 112.55 97 PP PP 03 11 55.5 -1.2
comp=Z,1.6nm,0.7s,baz=232,slow=15,SNR=5.3
KMBO Kilima Mbogo 112.55 97 PFAKE 03 11 20.0 +10
KMBO LR LR
comp=Z,3μm,21.0s,MS5.9
SMY Shemya 112.74 322 PFAKE 03 11 20.0 +11
SMY LR LR
comp=Z,2μm,22.0s,MS5.6
BILL Bilibino 112.84 339 PFAKE 03 11 20.0 +11
BILL LR LR
comp=Z,1μm,20.0s,MS5.6
ANTO Ankara 113.33 52 *e*PKP PKiKP 03 11 10.5 -0.2
ANTO LR LR
comp=Z,2μm,21.0s,MS5.6
CSS Prodhromos 113.79 58 *e*PKP PKiKP 03 11 12.1 +0.4
SIM Simferopol' 114.05 47 *i* PKIKP PKiKP 03 11 10.6 -1.3
SIM *e* 03 12 00.0
SIM *e*S SP 03 21 37.0 -2.8
SIM pmax pmax
comp=Z,9.0nm,1.4s
SIM MLR MLR
comp=Z,3μm,23.0s,MS5.8
OBN Obninsk 114.27 36 ⇓*i*PKIKP PKiKP 03 11 11.4 -0.6
OBN *i* 03 12 12.6
OBN *e* 03 18 18.5
OBN *e*SS SS 03 27 57.7 +0.8
OBN pmax pmax

comp=Z,51nm,1.8s
OBN MLR MLR
comp=Z,2μm,19.0s,MS5.8
OBN Obninsk 114.27 36↓ *e*PKP PKiKP 03 11 11.5 -0.5
OBN LR LR
comp=Z,4μm,29.0s,MS5.8
KLMR Klimovskoe 114.45 29 P Pdif 03 07 19.9 -2.2
KLMR *e* 03 11 10.5
KLMR *e* 03 12 03.2
KLMR *e* 03 18 11.8
KLMR *e*SP SP 03 21 35.4 -6.9
KLMR *e*PS PS 03 21 37.0 -10
KLMR *e*SS SS 03 27 59.6 +0.7
MOS Moscow 114.73 35 *e*PKIKP PKiKP 03 11 03.0 -10
MOS *e* 03 12 07.1
MOS *e*PPP 03 14 35.8
MOS MLR MLR
comp=Z,3μm,20.0s,MS5.9
ABPO Ambohimpanom 115.52 119 PFAKE 03 11 30.0 +14
ABPO LR LR
comp=Z,4μm,20.0s,MS6.0
ANN Anapa 116.42 47 *i* PKIKP PKPdf 03 11 15.1 -1.4
ANN *i* 03 12 18.6
ANN *i* 03 18 01.8
ANN *e* 03 18 20.8
ANN *i* SP SP 03 21 58.4 -2.9
ANN *e*SS SS 03 28 11.1 -15
ANN pmax pmax
comp=Z,46nm,1.4s
ANN MLR MLR
comp=Z,2μm,21.0s,MS5.6
VRSR Storozhevoye 116.57 39 *e*PKIKP PKPdf 03 11 15.8 -0.8
VRSR *e* 03 12 17.9
VRSR *e* 03 18 01.6
VRSR *e*SS SS 03 28 44.8 +17
VRSR pmax pmax
comp=N,2.0nm,1.3s
VRSR pmax pmax
comp=Z,5.0nm,1.3s
VRSR pmax pmax
comp=E,2.0nm,1.2s
VRSR MLR MLR
comp=Z,260nm,21.0s,MS4.8
VRSR MLR MLR
comp=N,160nm,19.0s,MS4.8
VRSR MLR MLR
comp=E,170nm,20.0s,MS4.8
MALT Malatya 117.78 54↑ *i*P PKPdf 03 11 19.4 +0.1
MALT Malatya 117.78 54 *e*PKPdf PKPdf 03 11 19.7 +0.4
MALT LR LR
comp=Z,2μm,20.0s,MS5.7
HNR Honiara 119.60 251 PFAKE 03 11 30.0 +6.5
HNR LR LR
comp=Z,2μm,22.0s,MS5.8
TIXI Tiksi 120.23 351 PFAKE 03 11 30.0 +7.0
TIXI LR LR
comp=Z,1μm,19.0s,MS5.6
KIV Kislovodsk 120.27 47*c* *i*PKIKP PKPdf 03 11 23.4 -0.5
KIV MLR MLR
comp=Z,1μm,22.0s,MS5.4
KIV Kislovodsk 120.27 47 *e*PKPdf PKPdf 03 11 23.4 -0.5
KIV LR LR
comp=Z,1μm,22.0s,MS5.4
SEY Seymchan 120.29 337↑ *i*PKIKP PKPdf 03 11 23.2 -0.2
SEY Seymchan 120.29 337↑ *e*PKP PKPdf 03 11 23.3 -0.1
ONI Oni 121.06 48 P PKPdf 03 11 25.5 0.0
ONI S PP 03 12 51.0 -4.4
MSL Mosul 121.66 56 *ex* x 03 11 34.0
PET Petropavlovsk 121.74 324 PFAKE 03 11 40.0 +14
PET LR LR
comp=Z,826nm,20.0s,MS5.4
STKA Stephens Creek 121.84 218 *e*PKP PKPdf 03 11 27.8 +0.4
STKA *ep*PKP pPKPdf 03 11 36.5 -1.9
STKA Stephens Creek 121.84 218 PKP PKPdf 03 11 27.4 0.0
comp=Z,3.5nm,0.9s,baz=307,slow=8.1,SNR=6.1
STKA PKKPbc PKKPbc 03 21 25.4 -0.8
comp=Z,3.5nm,1.1s,baz=307,slow=7.4,SNR=4.8
STKA Stephens Creek 121.84 218 *e*PKPdf PKPdf 03 11 27.3 -0.1
STKA *e*PKP PKPdf 03 11 27.8 +0.4
STKA *ep*PKP pPKPdf 03 11 36.5 -1.9
MTA Mtatsminda 122.20 49 P PKPdf 03 11 28.1 +0.3
MTA S PP 03 13 11.6 +8.5
PETK Petropavlovsk- 122.24 325 PKP PKPdf 03 11 25.7 -1.7
comp=Z,4.5nm,0.8s,baz=104,slow=5.4,SNR=4.5
PETK Petropavlovsk- 122.24 325 PKP PKPdf 03 11 25.7 -1.7
GNI Garni 122.43 51 *e*PKIKP PKPdf 03 11 29.3 +1.1
GNI MLR MLR
comp=Z,1μm,21.0s
DGRG David-gareji 122.67 49 P PKPdf 03 11 28.6 0.0
DGRG S PP 03 13 11.0 +4.6
SOKR Solikamsk 122.82 26↑ *i*PKIKP PKPdf 03 11 28.9 +0.6
SOKR 03 13 09.2
SOKR 03 18 26.2
SOKR PS PS 03 23 00.1 -2.6
SOKR SS SS 03 29 39.6 -7.3
SOKR pmax pmax
comp=Z,30nm,1.5s
BHD Baghdad 123.01 59 *ex* x 03 11 28.0
BHD *ex* x 03 13 02.5
BHD *ex* x 03 15 55.0
BHD *ex* x 03 18 23.0
MAK Makhachkala 123.90 47 *e*PKIKP PKPdf 03 11 41.0 +10
MAK *e* 03 18 39.7
MAK *i* PS PS 03 22 56.4 -17
MAK *e*SS SS 03 29 59.1 -2.9
MAK *e*SSS 03 34 36.9
MAK pmax pmax
comp=Z,138nm,1.2s
MAK MLR MLR
comp=Z,3μm,22.0s,MS5.8
ARU Arti 125.30 29 *i* PKIKP PKPdf 03 11 32.1 -1.1
ARU 03 13 19.1
ARU 03 18 32.5
ARU SP SP 03 23 16.6 -2.9
ARU PS PS 03 23 23.4 -1.3
ARU Arti 125.30 29 *e*PKPdf PKPdf 03 11 32.5 -0.7
ARU LR LR
comp=Z,3μm,22.0s,MS5.8
SVE Sverdlovsk 126.04 28 *i* PKPdf 03 11 34.5 -0.1
SVE *e* 03 13 23.9
SVE *e*SS SS 03 30 17.7 -10
SVE pmax pmax
comp=Z,26nm,1.5s
SVE MLR MLR
comp=Z,3μm,22.0s,MS5.9
CTA Charters Tower 126.28 232 *e*PKP PKPdf 03 11 36.3 +0.1
comp=Z,10nm,1.2s
CTA *ep*PKP pPKPdf 03 11 46.0 -1.2
CTAO Charters Tower 126.28 232 *e*PKIKP PKPdf 03 11 36.2 0.0
CTAO MLR MLR
comp=Z,4μm,20.0s,MS6.1
YAK Yakutsk 128.38 345 *i* PKIKP PKPdf 03 11 37.0 -1.9
YAK *e* 03 13 40.3
YAK *e*PPP 03 16 23.7
YAK *e*SP SP 03 23 50.8 +5.0
YAK pmax pmax
comp=Z,49nm,1.3s
YAK pmax pmax
comp=Z,455nm,4.8s
YAK Yakutsk 128.38 345 *e*PKPdf PKPdf 03 11 38.5 -0.4
YAK LR LR
comp=Z,1μm,20.0s,MS5.7
MSEY Mahe Island 128.75 108 PFAKE 03 11 50.0 +8.9
MSEY LR LR
comp=Z,3μm,21.0s,MS6.0
FORT Forrest 129.86 208 *e*PKP PKPdf 03 11 42.1 -0.7
comp=Z,5.9nm,0.7s
FORT *ep*PKP pPKPdf 03 11 51.7 -2.1
PMG Port Moresby 131.10 244 *e*PKIKP PKPdf 03 11 45.8 +0.3
PMG MLR MLR
comp=Z,2μm,21.0s
NWAO Narrogin (SRO) 131.76 195 PFAKE 03 12 00.0 +14
NWAO LR LR
comp=Z,1μm,20.0s,MS5.6
COEN Coen 132.16 236 *e*PKPdf PKPdf 03 11 47.8 +0.3
ASAR Alice Springs 132.47 219 PKhKP 03 11 35.1
comp=Z,0.3nm,0.6s,baz=113,slow=2.6,SNR=4.3
ASAR PKP PKPdf 03 11 46.1 -1.8
comp=Z,15nm,1.2s,baz=146,slow=4.1,SNR=29
BRVK Borovoye 132.73 27 *e*PKPdf PKPdf 03 11 47.4 0.0
BRVK LR LR
comp=Z,4μm,21.0s,MS6.0
KLBR Kellerberrin 132.89 196 *e*PKP PKPdf 03 11 48.0 -0.5
comp=Z,63nm,1.5s
KLBR *e* 03 11 57.7
YUK Yuzh-Kuril'sk 133.13 318 *e*PKIKP PKPdf 03 11 47.0 -1.5
YSS Yuzh-Sakhalins 133.60 323*j* *i*PKIKP PKPdf 03 11 49.0 -0.3
YSS *e* 03 11 58.2
YSS *e* 03 14 19.0
YSS *e*SS SS 03 31 59.0 -2.1
YSS Yuzh-Sakhalins 133.60 323 *e*PKPdf PKPdf 03 11 49.4 +0.2
YSS LR LR
comp=Z,443nm,19.0s,MS5.2
CLNS Chul'man 134.10 344 *i* PKIKP PKPdf 03 11 49.6 -0.3
CLNS *e* 03 14 17.7
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS pmax pmax
comp=Z,48nm,1.7s
CLNS pmax pmax
comp=Z,35nm,1.3s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,16nm,1.2s
CLNS MLR MLR
comp=Z,1μm,25.0s,MS5.6
CLNS MLR MLR
comp=N,994nm,23.0s,MS5.7
CLNS MLR MLR
comp=E,1μm,23.0s,MS5.7
WB2 Warramunga Arr 134.90 223 *e*PKP PKPdf 03 11 52.4 -0.1
WB2 *ep*PKP pPKPdf 03 12 02.0 -1.5
WB2 *e*PKS 03 15 31.7
WRAB Tennant Creek 134.91 223↓ *i*PKIKP PKPdf 03 11 52.4 -0.2
WRAB Tennant Creek 134.91 223 *e*PKPdf PKPdf 03 11 52.6 0.0
WRAB LR LR
comp=Z,4μm,20.0s,MS6.1
WRA Warramunga Arr 134.91 223 PKP PKPdf 03 11 51.8 -0.7
comp=Z,8.7nm,0.8s,baz=133,slow=1.6,SNR=18
WRA PP PP 03 14 33.6 +7.5
comp=Z,2.4nm,1.1s,baz=129,slow=5.1,SNR=5.0
ASAJ Asahikawa 135.16 320 PKP PKPdf 03 11 51.2 -1.1
comp=Z,14nm,0.9s,baz=243,slow=8.7,SNR=9.0
ASAJ Asahikawa 135.16 320 PKIKP PKPdf 03 11 51.2 -1.1
ASAJ pmax pmax
comp=Z,14nm,0.9s
BOD Bodaibo 135.39 352 *e* PKPdf 03 11 50.8 -1.5
BOD pmax pmax
comp=Z,19nm,1.8s
NVS Novosibirsk 136.05 17 *e*PKIKP PKPdf 03 11 52.5 -1.1
NVS *e* 03 14 28.9
NVS pmax pmax
comp=N,17nm,1.6s
NVS pmax pmax
comp=E,39nm,1.6s
NVS pmax pmax
comp=Z,87nm,1.6s
ZALV Zalesovo Beam 137.28 16 PKhKP 03 11 44.9
comp=Z,1.8nm,0.5s,baz=296,slow=4.8,SNR=7.1
ZALV PKP PKPdf 03 11 54.8 -1.1
comp=Z,43nm,1.1s,baz=298,slow=3.2,SNR=35
ZALV Zalesovo Beam 137.28 16 PKP 03 11 44.9
ZALV PKP PKPdf 03 11 54.8 -1.1
ZAL Zalesovo 137.28 16 PKHKP 03 11 44.9
ZAL 03 11 54.8
KLR Kul'dur 137.83 333 *e*PKIKP PKPdf 03 11 52.0 -5.1
KLR *e* 03 12 01.8
KLR pmax pmax
comp=Z,120nm,2.2s
KURK Kurchatov 137.94 24 *e*PKPdf PKPdf 03 11 56.8 -0.4
KURK LR LR
comp=Z,2μm,22.0s,MS5.9
GUMO Guam 140.04 275 PFAKE 03 12 10.0 +7.9
GUMO LR LR
comp=Z,2μm,20.0s,MS6.0
KAKA Kakadu 141.20 228 *e*PKP PKPdf 03 12 03.3 -0.9
comp=Z,45nm,1.7s
KAKA *ep*PKP pPKPdf 03 12 12.3 -2.9
EKS2 Erkin-Say 141.37 36 *e*PKPpre 03 11 58.9
EKS2 LR LR
comp=Z,2μm,21.0s,MS5.7
FITZ Fitzroy Crossi 141.61 215 *e*PKP PKPdf 03 11 56.4 -8.5
comp=Z,52nm,0.9s
FITZ Fitzroy Crossi 141.61 215 *e*PKP PKPdf 03 11 56.4 -8.5
FITZ *e*PKPdf PKPdf 03 12 03.8 -1.1
AML Almayashu 141.65 37 *e*PKPdf PKPdf 03 11 59.2 -5.0
AML LR LR
comp=Z,2μm,21.0s,MS5.8
IRK Irkutsk 141.66 359 *e*PKHKP 03 11 56.4
IRK pmax pmax
comp=Z,95nm,2.0s
FRU Bishkek 141.74 35 *e*PKHKP 03 11 58.0
FRU *e* 03 15 02.0
FRU pmax pmax
comp=Z,180nm,2.1s
FRU MLR MLR
comp=E,2μm,22.0s
FRU MLR MLR
comp=Z,3μm,22.0s,MS6.0
MJAR Matsushiro Arr 141.75 313 PKhKP 03 11 58.1
comp=Z,5.3nm,0.8s,baz=95,slow=2.0,SNR=20
MJAR PKP PKPdf 03 12 05.7 +1.0
comp=Z,24nm,0.9s,baz=84,slow=1.9,SNR=10
MAJO Matsushiro 141.75 313 PFAKE 03 12 20.0 +15
MAJO LR LR
comp=Z,3μm,21.0s,MS6.1
MAT Matsushiro 141.75 313 PKP PKPdf 03 11 58.2 -6.4
MBWA Marble Bar 141.85 205 *e*PKPdf PKPdf 03 12 04.3 -1.0
MBWA LR LR
comp=Z,3μm,20.0s,MS6.0
HVS Khovu-Aksy 141.90 10↑ *i*PKIKP PKPdf 03 12 00.9 -3.5
VLA Vladivostok 142.04 326 PKIKP PKPdf 03 12 04.0 -0.9
VLA pmax pmax
comp=Z,63nm,1.7s
MOY Mondy 142.18 3 *e*PKIKP PKPdf 03 12 01.4 -3.5
MOY *e* 03 15 09.5
MOY pmax pmax
comp=Z,108nm,2.1s
MDJ Mudanjiang 142.20 329 PKP PKPdf 03 12 04.6 -0.6
MDJ APKP 03 12 14.9
MDJ XPKP 03 12 18.3
MDJ PP PP 03 15 11.3 +0.4
MDJ PKS 03 15 40.5
MDJ SKS SKSdf 03 19 12.3 -0.3
MDJ SS SS 03 33 42.4 -0.2
MDJ LR LR
comp=N,1μm,19.4s
MDJ LR LR
comp=Z,2μm,19.4s,MS5.8
MDJ Mudanjiang 142.20 329 *e*PKPdf PKPdf 03 12 05.1 0.0
MDJ LR LR
comp=Z,2μm,21.0s,MS5.8
TKM2 Tokmak 2 142.22 34 *e*PKIKP PKPdf 03 12 00.4 -4.8
TKM2 MLR MLR
comp=Z,3μm,22.0s,MS6.0
TLY Talaya 142.23 0 *e*PKHKP 03 11 58.6
TLY *e* 03 15 06.5
TLY *e*SS SS 03 33 36.0 -5.7
TLY pmax pmax
comp=Z,20nm,1.5s
TLY MLR MLR
comp=Z,2μm,23.0s,MS5.7
TLY Talaya 142.23 0↓ *e*PKP PKPdf 03 12 00.8 -4.2
TLY *e*PKPdf PKPdf 03 12 04.6 -0.4
TLY LR LR
comp=Z,1μm,21.0s,MS5.7
HIA Hailar 142.26 343 *e*PKHKP 03 11 58.8
HIA MLR MLR
comp=Z,3μm,22.0s
DGAR Diego Garcia 142.49 122 PFAKE 03 12 20.0 +13
DGAR LR LR
comp=Z,3μm,20.0s,MS6.1
KBL Kabul 142.51 50 *e*PKIKP PKPdf 03 12 01.1 -4.9
MK31 Makanchi Array 142.54 24 *e*PKIKP PKPdf 03 12 01.3 -4.4
MKAR Makanchi Array 142.54 24 PKhKP 03 12 01.6
comp=Z,8.2nm,1.0s,baz=324,slow=3.5,SNR=31
MKAR PKP PKPdf 03 12 07.7 +2.0
comp=Z,5.8nm,0.7s,baz=338,slow=2.2,SNR=14
MKAR PP PP 03 15 09.3 -3.4
comp=Z,1.8nm,0.7s,baz=343,slow=9.3,SNR=2.2
MKAR Makanchi Array 142.54 24 PKP PKPdf 03 12 01.6 -4.1
MKAR PKP PKPdf 03 12 07.7 +2.0
MKAR PP PP 03 15 09.3 -3.4
ZAK Zakamensk 143.53 0↑ *i*PKIKP PKPdf 03 12 04.2 -3.1
ZAK pmax pmax
comp=Z,27nm,1.6s
KSH Kashi 144.63 38 *i* PKP PKPdf 03 12 09.8 +0.2
KSH APKP 03 12 21.3
KSH XPKP 03 12 23.8
KSH PP PP 03 15 30.8 +4.9
KSH PKS 03 15 43.4
KSH PPP 03 18 45.6
KSH SKS SKSdf 03 19 13.0 -3.6
KSH SKKS SKKSac 03 22 15.4 -1.0
KSH SS SS 03 34 13.8 +2.7
KSH PP PP
comp=Z,3μm,3.5s
KSH LR LR
comp=N,5μm,18.1s,MS6.4
KSH LR LR
comp=E,2μm,13.8s,MS6.4
KSH LR LR
comp=Z,6μm,25.0s
CN2 Changchun 144.78 332 *e*PKP PKPdf 03 12 06.5 -3.2
CN2 *e*APKP 03 12 17.1
CN2 *e*XPKP 03 12 20.9
CN2 *e*PP PP 03 15 26.3 0.0
CN2 *e*PPP 03 18 40.9
CN2 SS SS 03 34 10.6 -1.4
CN2 PP PP
comp=Z,2μm,10.0s
CN2 LR LR
comp=N,800nm,19.0s,MS5.8
CN2 LR LR
comp=E,1μm,19.0s,MS5.8
CN2 LR LR
comp=Z,2μm,19.0s,MS5.8
SONM Songino Array 146.00 357 PKPbc PKPbc 03 12 12.3 -0.2
comp=Z,68nm,0.9s,baz=336,slow=1.5,SNR=192
SONM PP PP 03 15 31.6 -1.5
comp=Z,31nm,1.3s,baz=350,slow=6.0,SNR=3.8
BHJ Bhuj 146.45 69 *e*P PKPdf 03 12 14.4 +1.3
WMQ Urumqi 147.09 22 PKP PKPdf 03 12 13.5 -0.1
WMQ APKP 03 12 24.3
WMQ XPKP 03 12 27.9
WMQ PP PP 03 15 44.3 +4.5
WMQ PPP 03 19 02.3
WMQ SKS SKSdf 03 19 16.8 -3.2
WMQ SKKS SKKSac 03 22 29.3 -0.7
WMQ SS SS 03 34 39.3 +1.3
WMQ PP PP
comp=Z,658nm,10.9s
WMQ LR LR
comp=N,2μm,23.0s,MS5.9
WMQ LR LR
comp=E,1μm,22.5s,MS5.9
WMQ LR LR
comp=Z,2μm,21.4s,MS5.9
KSRS Korea Array 148.07 322 PKPbc PKPbc 03 12 16.1 -2.6
comp=Z,96nm,1.2s,baz=58,slow=1.5,SNR=28
KSRS Korea Array 148.07 322 PKIKP PKPdf 03 12 16.1 +0.6
KSRS pmax pmax
comp=Z,96nm,1.2s
INCN Inchon 148.81 323 *e*PKPbc PKPbc 03 12 19.1 -1.5
INCN LR LR
comp=Z,2μm,20.0s,MS5.8
SDNR Sundarnagar 149.82 50 *e*P PKPdf 03 12 17.4 -1.1
AJM Ajmer 150.03 61 *e*P PKPdf 03 12 20.1 +1.1
SMLA Simla 150.15 50 *i* P PKPdf 03 12 20.0 +1.0
POO Poona 150.97 77 *e*P PKPdf 03 12 21.2 +0.6
DDI Dehra Dun 151.21 51 *e*P PKPdf 03 12 19.8 -0.9
DDI *ex* x 03 16 01.0
NDI New Delhi 151.31 55 *e*P PKPdf 03 12 19.0 -1.9
NDI *e*P 03 12 19.5
NDI *ex* x 03 12 25.0
NDI *ex* x 03 16 03.5
KAD Karad 151.37 79 *e*P PKPdf 03 12 21.8 +0.5
BJI Beijing 151.67 340 PKP PKPdf 03 12 21.1 0.0
BJI SKKS SKKSac 03 22 59.0 +3.6
BJI PP PP
comp=Z,774nm,4.5s
BJI LR LR
comp=N,1μm,24.8s,MS5.7
BJI LR LR
comp=E,978nm,23.5s,MS5.7
BJI LR LR
comp=Z,2μm,25.7s,MS5.8
BJT Baijiatuau 151.69 340 *e*PKIKP PKPdf 03 12 20.5 -0.6
BJT *e* 03 12 26.5
BJT *e* 03 12 36.4
BJT MLR MLR
comp=Z,2μm,19.0s
HHC Hu-ho-hao-te 152.20 347 *e*PKP PKPdf 03 12 21.5 -0.3
HHC APKP 03 12 32.4
HHC XPKP 03 12 36.0
HHC PKS 03 15 54.6
HHC PP PP 03 16 08.6 -0.6
HHC SKS SKSdf 03 19 23.9 -2.9
HHC SKKS SKKSac 03 22 56.8 -1.4
HHC SS SS 03 35 35.8 +1.2
HHC PP PP
comp=Z,856nm,10.7s
HHC LR LR
comp=N,1μm,25.0s,MS5.8
HHC LR LR
comp=E,1μm,21.4s,MS5.8
HHC LR LR
comp=Z,2μm,23.8s,MS5.8
BTO Baotou 152.74 349 *e*PKP PKPdf 03 12 22.3 -0.4
PTH Pithoragarh 153.22 50 *e*P PKPdf 03 12 24.0 +0.3
PTH *ex* x 03 16 27.0
TRD Trivandrum 153.25 99 *e*P PKPdf 03 12 24.7 +0.5
COCO West Island 153.29 165 PFAKE 03 12 40.0 +16
COCO LR LR
comp=Z,914nm,20.0s,MS5.6
LATR Latur 153.54 76 *e*P PKPdf 03 12 22.0 -2.4
AKL Akola 153.63 71 *ex* PKPbc 03 12 32.8 +0.5
AKL *ex* x 03 31 44.1
KOD Kodaikanal 154.10 95 *e*P PKPdf 03 12 24.9 -0.5
GTA Gaotai 154.27 7 PKP PKPdf 03 12 25.3 +0.4
GTA APKP 03 12 35.5
GTA XPKP 03 12 40.1
GTA PKS 03 15 58.3
GTA PP PP 03 16 26.5 +5.7
GTA SKS SKSdf 03 19 25.9 -3.4
GTA SKKS SKKSac 03 23 11.8 +2.3
GTA SS SS 03 35 57.1 0.0
GTA PP PP
comp=Z,851nm,11.6s
GTA LR LR
comp=N,981nm,29.1s,MS5.5
GTA LR LR
comp=E,465nm,27.4s,MS5.5
GTA LR LR
comp=Z,2μm,26.0s,MS5.9
TIA Tai'an 154.65 334 PKP PKPdf 03 12 25.0 -0.5
NGP Nagpur 155.40 69 *e*P PKPdf 03 12 25.3 -1.6
KAPI Kappang 155.44 221 PFAKE 03 12 40.0 +13
KAPI LR LR
comp=Z,2μm,19.0s,MS6.0
HYB Hyderabad 155.52 78 *i* PKP PKPdf 03 12 27.0 -0.2
HYB *e*PKPAB PKPab 03 12 53.0 -0.1
HYB *e* 03 16 28.0
HYB Hyderabad 155.52 78 *e*P PKPdf 03 12 27.0 -0.2
HYB *e* 03 12 53.0
SSE Sheshan 156.46 320 PKP PKPdf 03 12 28.5 +0.4
SSE LR LR
comp=N,397nm,31.4s,MS5.1
SSE LR LR
comp=E,309nm,31.8s,MS5.1
SSE LR LR
comp=Z,278nm,24.7s
DANN Dangsing 156.48 49 *e*P PKPdf 03 12 27.9 -0.3
comp=Z,522nm,1.5s
PALK Pallekele 156.49 104 *e*PKIKP PKPdf 03 12 28.5 -0.1
PALK MLR MLR
comp=Z,3μm,19.0s,MS6.1
KOLN Koldanda 156.68 50 *e*P PKPdf 03 12 27.6 -0.9
comp=Z,175nm,1.7s
NJ2 Nanjing 157.15 325 *e*PKP PKPdf 03 12 28.3 -0.7
NJ2 APKP 03 12 38.3
NJ2 XPKP 03 12 42.1
NJ2 PKP2 PKPab 03 13 01.3 +1.7
NJ2 PKS 03 16 01.3
NJ2 PP PP 03 16 38.4 +0.8
NJ2 PP PP
comp=Z,1μm,9.7s
NJ2 LR LR
comp=N,5μm,30.4s,MS6.4

NJ2 LR LR
comp=E,7μm,30.5s,MS6.4
NJ2 LR LR
comp=Z,11μm,29.7s,MS6.5
MDRS Chennai 157.17 89 *e*P PKPdf 03 12 28.0 -1.5
MDRS *ex* x 03 13 10.0
GKN Gorkha 157.32 49 *e*P PKPdf 03 12 29.7 +0.4
DAV Davao City (W) 157.48 255 PFAKE 03 12 40.0 +10
DAV LR LR
comp=Z,2μm,21.0s,MS5.9
LZH Lanzhou 157.82 360 ⇑PKP PKPdf 03 12 30.3 +0.6
LZH APKP 03 12 41.3
LZH XPKP 03 12 45.0
LZH PP PP 03 16 42.6 +2.2
LZH SKS SKSdf 03 19 30.9 -2.3
LZH SKKS SKKSac 03 23 29.5 +1.0
LZH SS SS 03 36 37.6 +2.4
LZH PP PP
comp=Z,998nm,8.6s
LZH LR LR
comp=E,1μm,18.5s
LZH LR LR
comp=Z,2μm,20.2s,MS5.9
DMN Daman 157.88 49 *e*P PKPdf 03 12 29.3 -0.7
comp=Z,157nm,1.4s
KKN Kakani 157.91 48 *e*P PKPdf 03 12 29.3 -0.7
PKI Pulchoki 158.12 48 *e*P PKPdf 03 12 29.5 -0.8
GUN Gumba 158.26 47 *e*P PKPdf 03 12 30.4 -0.1
XAN Xi'an 159.31 348 PKP PKPdf 03 12 31.3 -0.2
XAN APKP 03 12 41.8
XAN PKS 03 16 04.6
XAN PP PP
comp=Z,516nm,7.8s
XAN LR LR
comp=E,881nm,23.1s
XAN LR LR
comp=Z,2μm,23.1s,MS5.9
RAMN Ramite 159.35 48 *e*P PKPdf 03 12 31.6 -0.2
comp=Z,412nm,1.4s
TAPN Taplejung 159.89 45 *e*P PKPdf 03 12 32.9 +0.5
comp=Z,211nm,1.5s
ODAN Odare 159.97 47 *e*P PKPdf 03 12 31.8 -0.7
comp=Z,156nm,1.4s
VIS Vishakhapatnam 160.01 76 *e*P PKPdf 03 12 33.3 +0.6
LSA Lhasa 160.38 34 PKP PKPdf 03 12 33.8 +0.9
LSA APKP 03 12 43.5
LSA XPKP 03 12 47.3
LSA SKKS SKKSac 03 23 42.0 -0.3
LSA LR LR
comp=N,260nm,32.0s
LSA LR LR
comp=E,790nm,30.0s
LSA LR LR
comp=Z,640nm,30.0s
LSA Lhasa 160.38 34 *e*PKPdf PKPdf 03 12 33.8 +0.9
LSA LR LR
comp=Z,3μm,22.0s
BOK Bokaro 160.45 57 *e*P PKPdf 03 12 32.1 -1.0
WHN Wuhan 160.67 331 PKP PKPdf 03 12 32.8 -0.4
WHN PP PP 03 16 56.0 -0.5
WHN LR LR
comp=N,4μm,22.4s
WHN LR LR
comp=E,3μm,20.6s
WHN LR LR
comp=Z,5μm,18.2s
CD2 Chengdu 162.98 360 PKP PKPdf 03 12 33.8 -1.7
CD2 APKP 03 12 45.6
CD2 XPKP 03 12 51.8
CD2 PKP2 PKPab 03 13 25.4 +0.6
CD2 PKS 03 16 08.0
CD2 PP PP 03 17 09.3 +1.0
CD2 SKS SKSdf 03 19 33.9 -4.1
CD2 SKKS SKKSac 03 23 54.0 -1.4
CD2 SS SS 03 37 29.0 -0.5
CD2 PP PP
comp=Z,1μm,10.8s
CD2 LR LR
comp=N,2μm,17.4s
CD2 LR LR
comp=E,2μm,19.2s
CD2 LR LR
comp=Z,3μm,23.4s
CAL Calcutta 163.02 57 *e*P PKPdf 03 12 36.5 +0.7
CAL *i* x x 03 17 12.0
CAL *ex* x 03 24 02.7
SHL Shillong 163.87 42 *i* PKP1 PKPdf 03 12 35.5 -1.0
SHL *ex* x 03 17 18.0
KKM Kota Kinabalu 165.47 239 *e*PKPdf PKPdf 03 12 37.3 -1.0
KKM LR LR
comp=Z,1μm,20.0s
IMP Imphal 165.72 39 *e*P PKPdf 03 12 38.0 -0.1
IMP *ex* x 03 13 38.0
KSM Kuching 166.11 209 *e*PKPdf PKPdf 03 12 38.6 -0.2
GYA Guiyang 167.11 348 *i* PKP PKPdf 03 12 39.4 +0.2
GYA XPKP 03 12 53.0
GYA PKP2 PKPab 03 13 42.8 -0.3
GYA PKS 03 16 09.4
GYA PP PP 03 17 31.0 +1.1
GYA PPP 03 21 31.6
GYA SS SS 03 38 10.5 -1.4
GYA PP PP
comp=Z,560nm,5.4s
GYA LR LR
comp=N,1μm,20.5s
GYA LR LR
comp=E,1μm,20.0s
GYA LR LR
comp=Z,1μm,20.3s
KMI Kunming 168.71 4 PKP PKPdf 03 12 40.3 0.0
KMI APKP 03 12 50.6
KMI XPKP 03 12 54.3
KMI PKP2 PKPab 03 13 49.6 -0.6
KMI PP PP 03 17 36.9 -1.1
KMI PPP 03 21 36.8
KMI PP PP
comp=Z,1μm,8.4s
KMI LR LR
comp=N,2μm,22.0s
KMI LR LR
comp=E,1μm,19.5s
KMI LR LR
comp=Z,2μm,20.2s
QIZ Qiongzhong 172.15 312 PKP PKPdf 03 12 43.1 +0.7
QIZ PP PP
comp=Z,1μm,6.7s
QIZ LR LR
comp=E,1μm,23.2s
QIZ LR LR
comp=Z,2μm,22.5s
QIZ Qiongzhong 172.15 312 PFAKE 03 12 50.0 +7.6
QIZ LR LR
comp=Z,2μm,22.0s
CHTO Chiang Mai 173.25 42 *e*PKPdf PKPdf 03 12 42.1 -0.7
CHTO LR LR
comp=Z,2μm,21.0s
CM31 Chiang Mai Arr 173.50 44 PFAKE 03 12 50.0 +7.1
CM31 LR LR
comp=Z,2μm,21.0s
CMAR Chiang Mai Arr 173.50 44 PKP PKPdf 03 12 42.1 -0.8
comp=Z,8.2nm,0.9s,baz=289,slow=1.6,SNR=33
CMAR PKPab PKPab 03 14 11.2 -0.6
comp=Z,51nm,1.2s,baz=306,slow=5.5,SNR=21
CMAR PP PP 03 18 03.2 +0.2
comp=Z,1.7nm,0.3s,baz=316,slow=3.9,SNR=5.7

NEIC ***18*** *03:32:35.2±0.4, 1405S×7591W, h35km, mb4.1/9, Error ellipse: s-maj=18.0km s-min=7.0km az=55.0*
ISCJB ***18*** *03:32:36.2±1.1, 1418S±007×7601W±010, h69km±11km, mb3.8/15, Error ellipse: s-maj=19.2km s-min=5.5km az=142.9*
IDC ***18*** *03:32:37.6±1.5, 1405S×7584W, h60km±14km, mb3.5/7, mb1 3.8/12, mb1mx3.7/22, mbtmp3.6/12, MS3.6/1, Ms1 3.6/1, ms1mx3.4/22, Error ellipse: s-maj=33.6km s-min=9.4km az=56.0*
ISC 18 03:32:38.4±0.9, 1411S±008×759W±01, h67km±9km, n28, σ0991/32, mb3.8/15, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.30**	**336**	P	**Pn**	**03 33 12.3**	**-1.9**
	97nm,0.3s,baz=136,slow=14,SNR=21						
NNA				S	**Sn**	**03 33 40.6**	**-0.8**
	227nm,0.3s,baz=228,slow=12,SNR=15						
ATAH	**Atahualpa**	**7.48**	**341**	P	**Pn**	**03 34 26.3**	**+1.4**
	4.7nm,0.3s,baz=164,slow=10.0,SNR=10						
ATAH				S	**Sn**	**03 35 49.3**	**+1.0**
	3.6nm,0.3s,baz=59,slow=7.5,SNR=4.9						
LPAZ	**La Paz**	**7.80**	**107**	P	**Pn**	**03 34 30.4**	**+1.1**
	1.2nm,0.3s,baz=274,slow=9.1,SNR=15						
LPAZ				S	**Sn**	**03 36 00.8**	**+4.7**
	0.2nm,0.3s,baz=218,slow=11,SNR=1.9						
LVC	**Limon Verde**	**10.74**	**143**	P	**Pn**	**03 35 07.7**	**-1.8**
	2.3nm,0.3s,baz=346,slow=7.3,SNR=12						
LVC				S	**Sn**	**03 37 09.3**	**+1.2**
	1.6nm,0.3s,baz=69,slow=18,SNR=6.4						
LVC	**Limon Verde**	**10.74**	**143**	P	**Pn**	**03 35 07.7**	**-1.8**
LVC				S	**Sn**	**03 37 09.3**	**+1.2**
SIV	**San Ignacio**	**14.44**	**99**	P	**Pn**	**03 35 58.8**	**-0.5**
	0.3nm,0.3s,baz=264,slow=20,SNR=3.5						
OTAV	**Otavalo**	**14.48**	**350**	*e*P	**Pn**	**03 36 03.2**	**+3.4**
	4.3nm,0.7s						
CFAA	**Coronel Fontan**	**18.78**	**159**	P	**Pn**	**03 36 53.4**	**+0.1**
	0.0nm,0.3s,baz=334,slow=12,SNR=8.7						
CFAA				LR	LR	03 43 12.8	
	comp=Z,165nm,18.1s,baz=144,slow=34						
CFAA	**Coronel Fontan**	**18.78**	**159**	P	**Pn**	**03 36 53.4**	**+0.1**
CFAA				LR	LR	03 43 12.8	
CPUP	**Villa Florida**	**21.21**	**128**	P	**P**	**03 37 18.6**	**-0.1**
	0.8nm,0.6s,mb3.2,baz=282,slow=12,SNR=3.7						
SDV	**Santo Domingo**	**23.43**	**13**	P	**P**	**03 37 41.4**	**-0.4**
	2.9nm,0.6s,mb3.8,baz=173,slow=8.1,SNR=3.6						
SDV	**Santo Domingo**	**23.43**	**13**	*e*P	**P**	**03 37 40.9**	**-0.9**
	3.0nm,0.6s,mb3.8						
PLCA	**Paso Flores**	**26.93**	**171**	P	**P**	**03 38 13.4**	**+0.1**
	1.3nm,0.7s,mb3.6,baz=334,slow=9.8,SNR=4.5						
TXAR	**Lajitas Array**	**50.84**	**328**	P	**P**	**03 41 32.4**	**0.0**
	0.9nm,0.6s,mb4.0,baz=152,slow=8.9,SNR=14						
WMOK	**Wichita Mounta**	**53.22**	**336**	*e*P	**P**	**03 41 50.4**	**+0.4**
	1.4nm,0.9s,mb4.0						
ANMO	**Albuquerque**	**56.76**	**330**	*e*P	**P**	**03 42 15.5**	**0.0**
	0.9nm,0.7s,mb3.9						
SDCO	**Great Sand Dun**	**58.60**	**333**	*e*P	**P**	**03 42 28.7**	**+0.3**
	1.7nm,0.8s,mb4.1						
ECSD	**EROS,Sioux Fal**	**60.60**	**343**	*e*P	**P**	**03 42 40.7**	**-1.3**
	1.2nm,0.5s,mb4.2						
TPNV	**Topopah Spring**	**63.43**	**325**	*e*P	**P**	**03 43 01.3**	**+0.1**
	1.3nm,0.8s,mb3.9						
DUG	**Dugway**	**63.99**	**329**	*e*P	**P**	**03 43 04.8**	**0.0**
	2.7nm,0.3s,mb4.1						
PDAR	**Pinedale Array**	**64.48**	**333**	P	**P**	**03 43 08.4**	**+0.5**
	0.3nm,0.4s,mb3.5,baz=123,slow=6.7,SNR=4.2						
NVAR	**Mina Array Bea**	**65.62**	**324**	P	**P**	**03 43 15.8**	**+0.3**
	0.3nm,0.5s,mb3.4,baz=131,slow=8.1,SNR=3.7						
NVAR	**Mina Array Bea**	**65.62**	**324**	P	**P**	**03 43 15.8**	**+0.3**
ELK	**Elko**	**65.63**	**328**	*e*P	**P**	**03 43 15.9**	**+0.5**
	1.1nm,0.7s,mb3.8						
RRI2	**Red Ridge**	**65.73**	**332**	*e*P	**P**	**03 43 15.9**	**0.0**
	2.5nm,0.8s,mb4.1						
TORD	**Torodi Ar. Bea**	**81.47**	**74**	P	**P**	**03 44 47.7**	**-1.3**
	1.0nm,0.6s,mb3.8,baz=266,slow=4.6,SNR=8.6						
TORD	**Torodi Ar. Bea**	**81.47**	**74**	P	**P**	**03 44 47.7**	**-1.3**
SONM	**Songino Array**	**146.32**	**357**	PKPbc	PKPbc	03 52 12.2	+0.7
	0.5nm,0.7s,baz=357,slow=3.6,SNR=4.5						

ISCJB ***18*** *03:46:14.8±0.2, 3985N±003×2968W±004, h10km, mb4.3/58, MS4.6/3, Error ellipse: s-maj=5.5km s-min=2.8km az=39.2*
CSEM ***18*** *03:46:14.3±0.1, 3984N×2970W, h10km, mb4.5/40, Error ellipse: s-maj=2.8km s-min=1.6km az=24.0*
BJI ***18*** *03:46:14.9, 4083N×3003W, h10km, mB4.9, mb4.8, Ms4.9, Msz5.0*
IDC ***18*** *03:46:16.0±0.7, 4005N×2960W, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/27, mbtmp4.0/14, ML4.9/1, MS4.2/1, Ms1 4.2/1, ms1mx3.4/37, Error ellipse: s-maj=21.0km s-min=12.9km az=171.0*
NEIC ***18*** *03:46:17.1±0.3, 3995N×2969W, h10km, mb4.5/39, Error ellipse: s-maj=11.3km s-min=4.1km az=182.0*
PDA ***18*** *03:46:18.1±0.8, 4002N×2959W, h0km, MD3.9, ML3.7, Error ellipse: s-maj=7.0km s-min=4.3km az=72.0*
MOS ***18*** *03:46:19.2±0.9, 4009N×2973W, h33km, mb4.6/28, Error ellipse: s-maj=12.5km s-min=7.4km az=148.8*
ISC 18 03:46:16.6±0.2, 3980N±003×2961W±004, h10km, (h16km±.2km:pP-P), n176, σ1908/181, mb4.3/58, MS4.6/3, 3C-1D, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.41**	**150**	*e*P	**Pn**	**03 46 43.1**	**+0.9**
CALA				*e*S	**Sn**	**03 47 01.2**	**+0.4**
SRBC	**Serra Branca**	**1.44**	**122**	*i* P	**Pn**	**03 46 41.9**	**-0.7**
SRBC				*e*S	**Sn**	**03 47 00.3**	**-1.2**
HOR	**Horta**	**1.48**	**149**	*e*P	**Pn**	**03 46 44.2**	**+0.9**
HOR				*e*S	**Sn**	**03 47 02.7**	**0.0**
ROSA	**Rosais**	**1.52**	**135**	*e*P	**Pn**	**03 46 43.7**	**0.0**
ROSA				*e*S	**Sn**	**03 47 03.2**	**-0.3**
PICO	**Pico**	**1.59**	**144**	*e*P	**Pn**	**03 46 45.1**	**+0.3**
PICO				*e*S	**Sn**	**03 47 05.7**	**+0.3**
PMAN	**Manadas**	**1.66**	**134**	*e*P	**Pn**	**03 46 45.2**	**-0.5**
PMAN				*e*S	**Sn**	**03 47 06.1**	**-0.9**
PMAN				A		03 47 09.0	
	102nm,0.2s						
PMAN	**Manadas**	**1.66**	**134**	*e*P	**Pn**	**03 46 45.2**	**-0.5**
PMAN				*e*S	**Sn**	**03 47 06.1**	**-0.9**
ADH	**Angra Heroismo**	**2.17**	**121**	*e*P	**Pn**	**03 46 52.2**	**-0.5**
ADH				*e*S	**Sn**	**03 47 18.0**	**-1.6**
PDA	**Ponta Delgada**	**3.70**	**122**	*e*P	**Pn**	**03 47 13.7**	**-0.1**
CMLA	**Cha da Macela**	**3.79**	**121**	*e*P	**Pn**	**03 47 14.9**	**0.0**
CMLA				*e*S	**Sn**	**03 47 57.2**	**-2.3**
CMLA				A		03 48 00.9	
	28nm,0.2s						
CMLA	**Cha da Macela**	**3.79**	**121**	*e*P	**Pn**	**03 47 15.3**	**+0.4**
CMLA	**Cha da Macela**	**3.79**	**121**	*e*Pn	**Pn**	**03 47 15.3**	**+0.4**
PSMN	**Pico do Norte,**	**4.53**	**127**	*e*P	**Pn**	**03 47 25.1**	**-0.1**
EVOP	**Sao Brissos**	**16.71**	**87**	*e*P	**Pn**	**03 50 10.6**	**-0.1**
	45nm,1.5s						
EVO	**Evora**	**16.80**	**87**	*e*P	**Pn**	**03 50 10.6**	**-1.2**
	90nm,1.5s						
ESDC	**Sonseca Array**	**19.71**	**82**	P	**Pn**	**03 50 46.1**	**-1.3**
	0.8nm,0.3s,baz=287,slow=10,SNR=8.3						
SGMF	**Saint Gilles**	**21.12**	**58**	*e*P	**P**	**03 51 01.8**	**+0.5**
	89nm,1.4s,mb4.6						
SGMF	**Saint Gilles**	**21.12**	**58**	*e*P	**P**	**03 51 01.8**	**+0.5**
SGMF				pmax	pmax		
	comp=Z,45nm,1.4s,mb4.6						
SGMF	**Saint Gilles**	**21.12**	**58**	*e*P	**P**	**03 51 01.8**	**+0.5**
	comp=Z,44nm,1.4s,mb4.6						
MDT	**Midelt**	**21.27**	**101**	P	**P**	**03 51 05.1**	**+2.1**
	comp=Z,8.0nm,1.1s,mb3.9,baz=316,slow=12,SNR=3.6						
SJPF	**Ste Jean**	**21.49**	**72**	*e*P	**P**	**03 51 07.0**	**+1.8**
	comp=Z,52nm,1.6s,mb4.3						
SJPF	**Ste Jean**	**21.49**	**72**	*e*P	**P**	**03 51 07.0**	**+1.8**
SJPF				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.3						
SJPF	**Ste Jean**	**21.49**	**72**	*e*P	**P**	**03 51 07.0**	**+1.8**
	comp=Z,26nm,1.6s,mb4.3						
MFF	**Saint Martin d**	**22.44**	**63**	*e*P	**P**	**03 51 15.5**	**+0.1**
	comp=Z,42nm,1.3s,mb4.4						
MFF	**Saint Martin d**	**22.44**	**63**	*e*P	**P**	**03 51 15.5**	**+0.1**
MFF				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.4						
MFF	**Saint Martin d**	**22.44**	**63**	*e*P	**P**	**03 51 15.5**	**+0.1**
	comp=Z,21nm,1.3s,mb4.4						
LFF	**La Frestale**	**22.93**	**67**	*e*P	**P**	**03 51 19.9**	**-0.7**
EKA	**Eskdalemuir Ar**	**23.46**	**40**	P	**P**	**03 51 25.4**	**-0.6**
	comp=Z,2.0nm,0.8s,mb3.6,baz=238,slow=7.8,SNR=4.0						
CAF	**Calviac**	**23.87**	**67**	*e*P	**P**	**03 51 29.5**	**-0.5**
	comp=Z,18nm,1.2s,mb4.1						
CAF	**Calviac**	**23.87**	**67**	*e*P	**P**	**03 51 29.5**	**-0.5**
CAF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.1						
CAF	**Calviac**	**23.87**	**67**	*e*P	**P**	**03 51 29.5**	**-0.5**
	comp=Z,8.8nm,1.2s,mb4.1						
MTLF	**Montolieu**	**23.99**	**71**	*e*P	**P**	**03 51 32.2**	**+1.0**
TCF	**Toulx Ste Croi**	**24.03**	**64**	*e*P	**P**	**03 51 31.2**	**-0.3**
	comp=Z,29nm,1.4s,mb4.2						
TCF	**Toulx Ste Croi**	**24.03**	**64**	*e*P	**P**	**03 51 31.2**	**-0.3**
TCF				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.2						
TCF	**Toulx Ste Croi**	**24.03**	**64**	*e*P	**P**	**03 51 31.2**	**-0.3**
	comp=Z,15nm,1.4s,mb4.2						
BGF	**Bois d'Agland**	**24.49**	**63**	*e*P	**P**	**03 51 35.5**	**-0.2**
	comp=Z,37nm,1.2s,mb4.4						
BGF	**Bois d'Agland**	**24.49**	**63**	*e*P	**P**	**03 51 35.5**	**-0.2**
BGF				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.4						
BGF	**Bois d'Agland**	**24.49**	**63**	*e*P	**P**	**03 51 35.5**	**-0.2**
	comp=Z,19nm,1.2s,mb4.4						
AVF	**Avril sur Loir**	**24.86**	**63**	*e*P	**P**	**03 51 39.7**	**+0.7**
	comp=Z,63nm,1.7s,mb4.6						
AVF	**Avril sur Loir**	**24.86**	**63**	*e*P	**P**	**03 51 39.7**	**+0.7**
AVF				pmax	pmax		
	comp=Z,32nm,1.7s,mb4.6						
AVF	**Avril sur Loir**	**24.86**	**63**	*e*P	**P**	**03 51 39.7**	**+0.7**
	comp=Z,32nm,1.7s,mb4.6						
SSF	**Saint Saulge**	**24.98**	**62**	*e*P	**P**	**03 51 40.1**	**-0.1**
	comp=Z,16nm,1.2s,mb4.1						
SSF	**Saint Saulge**	**24.98**	**62**	*e*P	**P**	**03 51 40.1**	**-0.1**
SSF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.1						
SSF	**Saint Saulge**	**24.98**	**62**	*e*P	**P**	**03 51 40.1**	**-0.1**
	comp=Z,8.2nm,1.2s,mb4.1						
LASF	**Ste Croix**	**25.16**	**69**	*e*P	**P**	**03 51 45.0**	**+3.2**
	comp=Z,27nm,1.2s,mb4.3						
SMF	**Signal de Mont**	**25.18**	**63**	*e*P	**P**	**03 51 42.7**	**+0.7**
	comp=Z,39nm,1.4s,mb4.5						
SMF	**Signal de Mont**	**25.18**	**63**	*e*P	**P**	**03 51 42.7**	**+0.7**
SMF				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.5						
SMF	**Signal de Mont**	**25.18**	**63**	*e*P	**P**	**03 51 42.7**	**+0.7**
	comp=Z,20nm,1.4s,mb4.5						
LOR	**Lormes**	**25.24**	**62**	*e*P	**P**	**03 51 42.7**	**+0.2**
VIVF	**Saint-Julien-I**	**25.72**	**67**	*e*P	**P**	**03 51 50.0**	**+3.1**
	comp=Z,39nm,1.5s,mb4.4						
VIVF	**Saint-Julien-I**	**25.72**	**67**	*e*P	**P**	**03 51 50.0**	**+3.1**
VIVF				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.4						
VIVF	**Saint-Julien-I**	**25.72**	**67**	*e*P	**P**	**03 51 50.0**	**+3.1**
	comp=Z,20nm,1.5s,mb4.4						
BAIF	**Baives**	**25.84**	**55**	*e*P	**P**	**03 51 51.6**	**+3.7**
MEZF	**Maizieres J'vi**	**26.16**	**59**	*e*P	**P**	**03 51 52.8**	**+2.0**
GIVF	**Givet**	**26.24**	**55**	*e*P	**P**	**03 51 53.3**	**+1.8**
ORIF	**Oris-en-Rattie**	**26.58**	**67**	*e*P	**P**	**03 51 57.2**	**+2.5**
	comp=Z,25nm,1.1s,mb4.3						
ORIF	**Oris-en-Rattie**	**26.58**	**67**	*e*P	**P**	**03 51 57.2**	**+2.5**
ORIF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
ORIF	**Oris-en-Rattie**	**26.58**	**67**	*e*P	**P**	**03 51 57.2**	**+2.5**
	comp=Z,12nm,1.1s,mb4.3						
CABF	**La Chapelle**	**26.73**	**63**	*e*P	**P**	**03 51 56.0**	**0.0**
HAU	**Haudompre**	**26.98**	**60**	*e*P	**P**	**03 52 00.3**	**+2.1**
HINF	**Hinteralfeld**	**27.30**	**61**	*e*P	**P**	**03 52 02.3**	**+1.1**
CDF	**Champ du Feu**	**27.63**	**60**	*e*P	**P**	**03 52 04.8**	**+0.8**
SBF	**Sospel**	**27.75**	**69**	*e*P	**P**	**03 52 07.2**	**+2.0**
PKSM	**Moragy**	**35.41**	**63**	⇑*i*P	**P**	**03 53 12.3**	**-0.2**
SJG	**San Juan**	**38.22**	**246**	LR	LR	04 03 58.7	
	comp=Z,335nm,21.1s,MS4.1,baz=273,slow=28						
TOA0	**Torodi Ar. Sit**	**38.25**	**125**	*e*P	**P**	**03 53 39.1**	**+2.2**
TOA0	**Torodi Ar. Sit**	**38.25**	**125**	*e*P	**P**	**03 53 39.1**	**+2.2**
TORD	**Torodi Ar. Bea**	**38.25**	**125**	P	**P**	**03 53 38.0**	**+1.1**
	comp=Z,1.3nm,0.8s,mb3.7,baz=316,slow=6.2,SNR=6.6						
BURAR	**Bucovina Array**	**39.67**	**60**	⇑*i*P	**P**	**03 53 49.7**	**+1.2**
DBIC	**Dimbokro**	**39.78**	**139**	P	**P**	**03 53 52.5**	**+2.8**
	comp=Z,5.3nm,1.1s,mb4.2,baz=352,slow=16,SNR=4.1						
MLR	**Muntele Rosu**	**40.56**	**63**	⇑*i*P	**P**	**03 53 56.1**	**+0.1**
ARCES	**ARCESS Array B**	**41.25**	**26**	P	**P**	**03 54 00.2**	**-1.1**
	comp=Z,7.5nm,1.1s,mb4.2,baz=305,slow=14,SNR=3.6						
KIEV	**Kiev**	**41.78**	**55**	*e*P	**P**	**03 54 05.0**	**-0.9**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
KIEV	**Kiev**	**41.78**	**55**	*e*P	**P**	**03 54 05.0**	**-0.9**
	comp=Z,4.3nm,0.9s,mb4.1						
KIEV	**Kiev**	**41.78**	**55**	*e*P	**P**	**03 54 05.0**	**-0.9**
	comp=Z,4.3nm,0.9s,mb4.1						
AKASG	**Malin Array Be**	**41.79**	**55**	P	**P**	**03 54 04.9**	**-1.1**
	comp=Z,2.5nm,0.8s,mb3.9,baz=274,slow=8.3,SNR=9.4						
AKBB	**Malin Array Si**	**41.79**	**55**	*e*P	**P**	**03 54 01.1**	**-4.9**
TIRR	**Tirgusor**	**42.51**	**64**	*e*P	**P**	**03 54 10.2**	**-1.7**
TIRR				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
TIRR	**Tirgusor**	**42.51**	**64**	⇓*i*P	**P**	**03 54 11.2**	**-0.7**
TIRR	**Tirgusor**	**42.51**	**64**	*e*P	**P**	**03 54 10.2**	**-1.7**
	comp=Z,6.0nm,1.0s,mb4.3						
TIRR	**Tirgusor**	**42.51**	**64**	*e*P	**P**	**03 54 10.2**	**-1.8**
	comp=Z,6.4nm,1.0s,mb4.3						
PLAL	**Pickwick Lake**	**45.99**	**283**	*e*P	**P**	**03 54 41.0**	**+1.0**
	comp=Z,2.7nm,0.8s,mb4.2						
PLAL	**Pickwick Lake**	**45.99**	**283**	*e*P	**P**	**03 54 41.0**	**+1.0**
	comp=Z,2.7nm,0.8s,mb4.2						
AGMN	**Agassiz Refuge**	**47.02**	**303**	*e*P	**P**	**03 54 47.3**	**-0.5**
	comp=Z,3.6nm,0.8s,mb4.3						
YKA	**Yellowknife Ar**	**53.42**	**325**	P	**P**	**03 55 35.5**	**-0.7**
	comp=Z,0.8nm,0.9s,mb3.6,baz=69,slow=7.3,SNR=3.4						
YKA				PcP	PcP	03 56 43.1	0.0
	comp=Z,0.4nm,0.7s,baz=64,slow=4.8,SNR=3.6						
YKA	**Yellowknife Ar**	**53.42**	**325**	PcP	PcP	03 56 43.2	0.0
WMOK	**Wichita Mounta**	**54.04**	**288**	*e*P	**P**	**03 55 40.5**	**-0.6**
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
WMOK	**Wichita Mounta**	**54.04**	**288**	*e*P	**P**	**03 55 40.5**	**-0.6**
	comp=Z,5.7nm,1.1s,mb4.4						
WMOK	**Wichita Mounta**	**54.04**	**288**	*e*P	**P**	**03 55 40.5**	**-0.6**
	comp=Z,5.7nm,1.1s,mb4.4						
AMTX	**Amarillo**	**56.09**	**290**	*e*P	**P**	**03 55 56.1**	**+0.2**
	comp=Z,10.0nm,1.0s,mb4.8						
AMTX	**Amarillo**	**56.09**	**290**	*e*P	**P**	**03 55 56.1**	**+0.2**
	comp=Z,10.0nm,1.0s,mb4.8						
GCMT	**Greycliff**	**56.73**	**304**	*e*P	**P**	**03 56 00.0**	**-0.3**
GCMT	**Greycliff**	**56.73**	**304**	*e*P	**P**	**03 56 00.0**	**-0.3**
JCT	**Junction City**	**56.83**	**284**	*e*P	**P**	**03 56 01.4**	**+0.2**
JCT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
JCT	**Junction City**	**56.83**	**284**	*e*P	**P**	**03 56 01.4**	**+0.2**
	comp=Z,4.1nm,0.9s,mb4.5						
JCT	**Junction City**	**56.83**	**284**	*e*P	**P**	**03 56 01.4**	**+0.2**
	comp=Z,4.1nm,0.9s,mb4.5						
SDCO	**Great Sand Dun**	**57.49**	**294**	*e*P	**P**	**03 56 06.2**	**+0.4**
	comp=Z,2.1nm,1.0s,mb4.1						
SDCO	**Great Sand Dun**	**57.49**	**294**	*e*P	**P**	**03 56 06.2**	**+0.5**
	comp=Z,2.1nm,1.0s,mb4.1						
WALA	**Waterton Lakes**	**57.96**	**309**	*e*P	**P**	**03 56 08.1**	**-0.8**
	comp=Z,11nm,1.3s,mb4.7						
WALA	**Waterton Lakes**	**57.96**	**309**	*e*P	**P**	**03 56 08.1**	**-0.9**
	comp=Z,11nm,1.3s,mb4.7						
BW06	**Boulder Array**	**57.97**	**301**	*e*P	**P**	**03 56 08.0**	**-1.1**
	comp=Z,5.0nm,1.1s,mb4.5						
BW06	**Boulder Array**	**57.97**	**301**	*e*P	**P**	**03 56 08.0**	**-1.1**
	comp=Z,5.0nm,1.1s,mb4.5						
PDAR	**Pinedale Array**	**57.97**	**301**	P	**P**	**03 56 08.2**	**-0.8**
	comp=Z,2.2nm,0.9s,mb4.2,baz=69,slow=8.3,SNR=12						
PDAR	**Pinedale Array**	**57.97**	**301**	P	**P**	**03 56 08.2**	**-0.9**
BOZ	**Bozeman (W)**	**58.03**	**305**	*e*P	**P**	**03 56 09.2**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BOZ	**Bozeman (W)**	**58.03**	**305**	*e*P	**P**	**03 56 09.2**	**-0.3**
	comp=Z,2.4nm,1.1s,mb4.1						
BOZ	**Bozeman (W)**	**58.03**	**305**	*e*P	**P**	**03 56 09.2**	**

NEW	**Newport**	**60.22 310**	*e*P	**P**	**03 56 23.4**	**-1.2**
NEW			pmax	pmax		
comp=Z,5.0nm,1.0s						
NEW	**Newport**	**60.22 310**	*e*P	**P**	**03 56 23.4**	**-1.2**
comp=Z,5.4nm,1.0s,mb4.5						
NEW	**Newport**	**60.22 310**	*e*P	**P**	**03 56 23.4**	**-1.2**
comp=Z,5.5nm,1.0s,mb4.5						
LAZ	**Ladron**	**60.26 292**	*e*P	**P**	**03 56 26.5**	**+1.4**
LAZ	**Ladron**	**60.26 292**	*e*P	**P**	**03 56 26.6**	**+1.5**
TXAR	**Lajitas Array**	**60.30 285**	P	**P**	**03 56 25.6**	**+0.1**
comp=Z,4.8nm,0.8s,mb4.6,baz=69,slow=7.3,SNR=30						
TXAR	**Lajitas Array**	**60.30 285**	P	**P**	**03 56 25.5**	**+0.1**
SRU	**San Rafael**	**60.32 298**	*e*P	**P**	**03 56 25.3**	**-0.1**
SRU			pmax	pmax		
comp=Z,2.0nm,1.0s,mb4.1						
SRU	**San Rafael**	**60.32 298**	*e*P	**P**	**03 56 25.3**	**-0.1**
comp=Z,2.0nm,1.0s,mb4.1						
HLID	**Hailey**	**60.76 304**	*e*P	**P**	**03 56 28.3**	**0.0**
comp=Z,3.0nm,1.2s,mb4.3						
DUG	**Dugway**	**61.33 300**	*e*P	**P**	**03 56 32.1**	**-0.2**
DUG			pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.8						
DUG	**Dugway**	**61.33 300**	*e*P	**P**	**03 56 32.1**	**-0.2**
comp=Z,7.6nm,1.1s,mb4.7						
DUG	**Dugway**	**61.33 300**	*e*P	**P**	**03 56 32.1**	**-0.2**
comp=Z,7.6nm,1.1s,mb4.7						
MSU	**Marysvale**	**61.73 298**	*e*P	**P**	**03 56 35.8**	**+0.7**
MSU	**Marysvale**	**61.73 298**	*e*P	**P**	**03 56 35.8**	**+0.7**
ELK	**Elko**	**62.67 301**	*e*P	**P**	**03 56 41.4**	**+0.1**
ELK			pmax	pmax		
comp=Z,6.0nm,1.0s						
ELK	**Elko**	**62.67 301**	*e*P	**P**	**03 56 41.4**	**+0.1**
comp=Z,6.1nm,1.0s,mb4.7						
ELK	**Elko**	**62.67 301**	*e*P	**P**	**03 56 41.4**	**+0.2**
comp=Z,6.1nm,1.0s,mb4.7						
TUC	**Tucson**	**63.95 291**	*e*P	**P**	**03 56 50.8**	**+0.9**
TUC			pmax	pmax		
comp=Z,5.0nm,1.2s,mb4.4						
TUC	**Tucson**	**63.95 291**	*e*P	**P**	**03 56 50.8**	**+0.9**
comp=Z,5.0nm,1.2s,mb4.4						
TUC	**Tucson**	**63.95 291**	*e*P	**P**	**03 56 50.8**	**+1.0**
comp=Z,5.0nm,1.2s,mb4.4						
WVOR	**Wild Horse Val**	**64.00 305**	*e*P	**P**	**03 56 49.1**	**-1.0**
WVOR			pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.6						
WVOR	**Wild Horse Val**	**64.00 305**	*e*P	**P**	**03 56 49.1**	**-1.0**
comp=Z,6.9nm,1.1s,mb4.6						
TPH	**Tonopah**	**65.36 300**	*e*P	**P**	**03 56 59.5**	**+0.5**
TPH			pmax	pmax		
comp=Z,12nm,1.2s,mb4.8						
TPH	**Tonopah**	**65.36 300**	*e*P	**P**	**03 56 59.5**	**+0.5**
comp=Z,12nm,1.2s,mb4.8						
TPH	**Tonopah**	**65.36 300**	*e*P	**P**	**03 56 59.5**	**+0.5**
comp=Z,12nm,1.2s,mb4.8						
NVAR	**Mina Array Bea**	**65.89 301**	P	**P**	**03 57 04.3**	**+1.8**
comp=Z,0.9nm,0.9s,mb3.8,baz=67,slow=5.0,SNR=5.4						
GSC	**Goldstone**	**66.57 297**	*e*P	**P**	**03 57 07.2**	**+0.3**
GSC			pmax	pmax		
comp=Z,9.0nm,1.2s,mb4.7						
GSC	**Goldstone**	**66.57 297**	*e*P	**P**	**03 57 07.2**	**+0.3**
comp=Z,8.9nm,1.2s,mb4.7						
GSC	**Goldstone**	**66.57 297**	*e*P	**P**	**03 57 07.2**	**+0.4**
comp=Z,8.9nm,1.2s,mb4.7						
PFO	**Pinyon Flat Ob**	**67.25 295**	*e*P	**P**	**03 57 12.4**	**+1.2**
PFO			pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6						
PFO	**Pinyon Flat Ob**	**67.25 295**	*e*P	**P**	**03 57 12.4**	**+1.2**
comp=Z,5.4nm,0.8s,mb4.6						
PFO	**Pinyon Flat Ob**	**67.25 295**	*e*P	**P**	**03 57 12.4**	**+1.1**
comp=Z,5.4nm,0.8s,mb4.6						
OHCM	**Honcut**	**67.48 303**	*e*P	**P**	**03 57 12.8**	**+0.2**
OHCM	**Honcut**	**67.48 303**	*e*P	**P**	**03 57 12.8**	**+0.2**
NVS	**Novosibirsk**	**69.69 35**	*e*P	**P**	**03 57 25.2**	**-0.9**
NVS			pmax	pmax		
comp=N,6.0nm,1.5s						
NVS			pmax	pmax		
comp=Z,13nm,1.5s,mb4.6						
ZAL	**Zalesovo**	**70.98 35**	P	**P**	**03 57 34.2**	**+0.2**
ZALV	**Zalesovo Beam**	**70.98 35**	P	**P**	**03 57 34.2**	**+0.2**
comp=Z,0.4nm,0.3s,mb3.9,baz=302,slow=8.2,SNR=3.0						
MKAR	**Makanchi Array**	**74.58 41**	P	**P**	**03 57 56.1**	**+0.6**
comp=Z,0.5nm,0.4s,mb3.8,baz=305,slow=4.3,SNR=5.8						
BOD	**Bodaibo**	**78.07 19**	*e*P	**P**	**03 58 13.1**	**-2.0**
BOD			pmax	pmax		
comp=Z,6.0nm,1.2s,mb4.4						
BOD	**Bodaibo**	**78.07 19**	*e*P	**P**	**03 58 13.1**	**-2.0**
comp=Z,6.0nm,1.2s,mb4.4						
WMQ	**Urumqi**	**79.39 41**	*e*P	**P**	**03 58 21.0**	**-1.7**
WMQ			AP	pP	03 58 25.8	-0.2
WMQ			XP	sP	03 58 28.0	+0.8
WMQ			AMB	AMB		
comp=Z,8.0nm,1.0s,mb4.6						
ZAK	**Zakamensk**	**81.14 28**	*e*P	**P**	**03 58 29.1**	**-2.8**
ZAK			pmax	pmax		
comp=Z,3.0nm,1.6s,mb4.0						
ZAK	**Zakamensk**	**81.14 28**	*e*P	**P**	**03 58 29.1**	**-2.8**
comp=Z,3.0nm,1.6s,mb4.0						
SONM	**Songino Array**	**84.39 28**	P	**P**	**03 58 49.4**	**+0.5**
comp=Z,0.6nm,0.5s,mb4.0,baz=288,slow=3.1,SNR=7.2						
HHC	**Hu-ho-hao-te**	**92.29 28**	*e*P	**P**	**03 59 23.0**	**-3.8**
HHC			XP	sP	03 59 29.0	-2.4
HHC			PP	PP	04 03 03.0	-3.4
HHC			SKS		04 09 52.3	
HHC			S	S	04 10 20.8	-9.1
HHC			PS	PS	04 11 36.8	-3.9
HHC			SS	SS	04 16 28.8	-10
HHC			LR	LR		
comp=Z,675nm,23.8s,MS5.0						
LZH	**Lanzhou**	**93.17 36**	*e*P	**P**	**03 59 29.3**	**-1.7**
LZH			AP	pP	03 59 34.0	-0.4
LZH			XP	sP	03 59 36.5	+0.9
LZH			*e*PP	PP	04 03 13.6	+0.1
LZH			AMB	AMB		
comp=Z,16nm,1.5s,mb5.2						
LZH			AMB	AMB		
comp=Z,59nm,6.6s						
LZH			LR	LR		
comp=N,209nm,17.8s						
LZH			LR	LR		
comp=Z,297nm,19.7s,MS4.8						
CN2	**Changchun**	**93.79 18**	*e*P	**P**	**03 59 32.1**	**-1.6**
CD2	**Chengdu**	**97.40 39**	*e*P	**P**	**03 59 47.6**	**-2.8**
CD2			AP	pP	03 59 52.6	-1.2
CD2			XP	sP	03 59 56.0	+1.0
CD2			AMB	AMB		
comp=Z,20nm,8.4s						
GYA	**Guiyang**	**102.51 39**	P	Pdif	04 00 12.0	-1.1
ASAR	**Alice Springs**	**158.72 46**	PKPab	PKPab	04 06 50.6	+0.5
comp=Z,0.6nm,1.0s,baz=328,slow=4.4,SNR=3.6						

IDC 18 03:48:03.2±3.2, 987S×15993E, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/15, mbtmp4.0/6, Error ellipse: s-maj=89.6km s-min=12.3km az=109.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.43**	**2**	Pn	Pg	03 48 16.5	+4.9
4μm,0.3s,baz=226,slow=2.3,SNR=949							
HNR				Sn	Sg	03 48 24.3	+7.2
25μm,0.3s,baz=71,slow=2.0,SNR=119							
WRA	**Warramunga Arr**	**26.64**	**245**	P	P	03 53 42.9	-1.0
1.5nm,0.6s,baz=72,slow=9.6,SNR=4.7							
STKA	**Stephens Creek**	**27.72**	**215**	P	P	03 53 52.9	-0.5
1.1nm,0.5s,baz=16,slow=11,SNR=3.4							
ASAR	**Alice Springs**	**28.38**	**238**	P	P	03 53 57.6	-1.8
0.5nm,0.5s,baz=62,slow=10,SNR=8.2							
KSRS	**Korea Array**	**55.81**	**329**	P	P	03 57 42.6	+0.3
0.6nm,0.6s,baz=152,slow=8.1,SNR=5.1							
CMAR	**Chiang Mai Arr**	**66.42**	**295**	P	P	03 58 56.8	+2.0
1.6nm,0.4s,baz=98,slow=5.9,SNR=4.6							
SONM	**Songino Array**	**74.41**	**326**	P	P	03 59 45.2	+2.2
1.2nm,0.8s,baz=134,slow=5.8,SNR=7.3							

IDC 18 04:03:21.7±4.9, 1723S×6996W, h50km±35km, mb3.4/2, mb1 3.6/4, mb1mx3.3/18, mbtmp3.5/4, ML4.1/2, Error ellipse: s-maj=62.0km s-min=12.4km az=118.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.99**	**62**	P	Pn	04 03 53.6	+0.7
5.8nm,0.3s,baz=239,slow=13,SNR=152							
LPAZ				S	Sn	04 04 18.2	+1.5
8.8nm,0.3s,baz=246,slow=18,SNR=5.9							
LVC	**Limon Verde**	**5.44**	**170**	P	Pn	04 04 41.0	+0.7
0.6nm,0.3s,baz=341,slow=11,SNR=6.1							
LVC				S	Sn	04 05 43.2	+1.5
1.4nm,0.3s,baz=339,slow=17,SNR=2.5							
SIV	**San Ignacio**	**8.61**	**83**	P	Pn	04 05 22.2	-1.6
1.2nm,0.3s,baz=266,slow=11,SNR=15							
PLCA	**Paso Flores**	**23.43**	**181**	P	P	04 08 26.1	-0.4
2.1nm,0.9s,baz=342,slow=8.8,SNR=3.8							
TORD	**Torodi Ar. Bea**	**76.91**	**72**	P	P	04 15 09.7	+0.3
0.6nm,0.8s,baz=257,slow=5.6,SNR=5.2							

*CSEM **18** 04:21:59.7±0.7, 4008N×2956W, h0km, ML2.4, Error ellipse: s-maj=10.3km s-min=5.2km az=69.0, After PDA*
PDA 18 04:21:59.7±0.7, 4008N×2956W, h0km, MD3.6, ML2.4, Error ellipse: s-maj=10.3km s-min=5.2km az=69.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
SRBC	**Serra Branca**	**1.57**	**131**	*e*P	Pn	04 22 23.6	-5.2
SRBC				*e*S	Sn	04 22 42.3	-7.4
CALA	**Caldeira**	**1.63**	**156**	*e*P	Pn	04 22 25.3	-4.4
CALA				*e*S	Sn	04 22 43.6	-7.8
ROSA	**Rosais**	**1.70**	**143**	*e*P	Pn	04 22 25.5	-5.0
ROSA				*e*S	Sn	04 22 45.0	-7.9
PICO	**Pico**	**1.80**	**150**	*e*S	Sn	04 22 48.1	-7.4
PMAN	**Manadas**	**1.84**	**141**	*e*P	Pn	04 22 27.9	-4.6
PMAN				*e*S	Sn	04 22 48.9	-7.5
PMAN				A		04 22 49.7	
18nm,0.2s							
PMAN	**Manadas**	**1.84**	**141**	*e*P	Pn	04 22 27.9	-4.6
PMAN				*e*S	Sn	04 22 48.9	-7.5

*ISCJB **18** 04:33:58.0±0.2, 3980N±004×2975W±004, h10km, mb4.3/46, MS3.9/6, Error ellipse: s-maj=6.5km s-min=2.8km az=37.6*
*IDC **18** 04:33:58.5±0.8, 4005N×2990W, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/27, mbtmp3.9/12, ML4.1/1, MS4.1/4, Ms1 4.1/4, ms1mx3.5/37, Error ellipse: s-maj=25.5km s-min=12.7km az=160.0*
*CSEM **18** 04:33:58.1±0.1, 3991N×2965W, h15km, mb4.5/27, Ms3.6, Error ellipse: s-maj=5.3km s-min=1.7km az=42.0*
*PDA **18** 04:34:00.3±1.1, 4000N×2975W, h0km, MD3.8, ML3.2, Error ellipse: s-maj=9.0km s-min=6.0km az=63.0*
*NEIC **18** 04:34:01.1±0.5, 4015N×2984W, h10km, mb4.5/35, Error ellipse: s-maj=17.6km s-min=5.7km az=179.0*
*MOS **18** 04:34:01.7±1.7, 3977N×2985W, h33km, mb4.7/21, Error ellipse: s-maj=12.6km s-min=7.8km az=151.8*
ISC 18 04:33:59.7±0.2, 3975N±004×2969W±004, h10km, n147, σ1§22/156, mb4.3/46, MS3.9/6, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.39**	**146**	*e*P	**Pn**	**04 34 25.6**	**+0.4**
CALA				*e*S	**Sn**	**04 34 44.7**	**+1.1**
SRBC	**Serra Branca**	**1.46**	**119**	*e*P	**Pn**	**04 34 25.4**	**-0.7**
SRBC				*e*S	**Sn**	**04 34 44.0**	**-1.3**
HOR	**Horta**	**1.47**	**146**	*e*P	**Pn**	**04 34 26.4**	**+0.1**
HOR				*e*S	**Sn**	**04 34 45.7**	**+0.2**
ROSA	**Rosais**	**1.52**	**132**	*e*P	**Pn**	**04 34 26.9**	**-0.1**
ROSA				*e*S	**Sn**	**04 34 46.7**	**-0.1**
PICO	**Pico**	**1.58**	**141**	*e*P	**Pn**	**04 34 28.9**	**+1.1**
PICO				*e*S	**Sn**	**04 34 48.7**	**+0.3**
PMAN	**Manadas**	**1.67**	**131**	*e*P	**Pn**	**04 34 28.9**	**-0.1**
PMAN				*e*S	**Sn**	**04 34 50.1**	**-0.3**
PMAN				A		04 34 51.6	
85nm,0.2s							
PMAN	**Manadas**	**1.67**	**131**	*e*P	**Pn**	**04 34 28.9**	**-0.1**
PMAN				*e*S	**Sn**	**04 34 50.1**	**-0.3**
ADH	**Angra Heroismo**	**2.19**	**119**	*e*P	**Pn**	**04 34 35.5**	**-0.7**
ADH				*e*S	**Sn**	**04 35 02.3**	**-1.1**
PSCM	**Serra do Cume**	**2.25**	**117**	*e*P	**Pn**	**04 34 36.0**	**-1.0**
PSCM				*e*S	**Sn**	**04 35 04.0**	**-0.8**
PSCM				A		04 35 07.8	
19nm,0.3s							
PSCM	**Serra do Cume**	**2.25**	**117**	*e*P	**Pn**	**04 34 36.0**	**-1.0**
PSCM				*e*S	**Sn**	**04 35 04.0**	**-0.8**
PSET	**Sete Cidades**	**3.65**	**121**	*e*P	**Pn**	**04 34 56.2**	**0.0**
PSET				*e*S	**Sn**	**04 35 37.4**	**-1.8**
PSET				A		04 35 40.9	
6.0nm,0.4s							
PDA	**Ponta Delgada**	**3.73**	**121**	*e*P	**Pn**	**04 34 59.5**	**+2.2**
PDA				*e*P		04 35 43.2	
CMLA	**Cha da Macela**	**3.81**	**120**	*e*P	**Pn**	**04 34 57.8**	**-0.6**
CMLA				*e*S	**Sn**	**04 35 41.7**	**-1.5**
CMLA				A		04 35 45.1	
19nm,0.5s							
CMLA	**Cha da Macela**	**3.81**	**120**	*e*P	**Pn**	**04 34 58.9**	**+0.5**
CMLA	**Cha da Macela**	**3.81**	**120**	*e*Pn	**Pn**	**04 34 58.9**	**+0.4**
PSMN	**Pico do Norte,**	**4.55**	**126**	*e*P	**Pn**	**04 35 08.0**	**-0.6**
EVOP	**Sao Brissos**	**16.77**	**87**	*e*P	**Pn**	**04 37 55.9**	**+1.3**
EVO	**Evora**	**16.86**	**87**	*e*P	**Pn**	**04 37 55.9**	**+0.2**
EVO				*e*MLR	MLR		
comp=Z,705nm,19.2s							
PAB	**San Pablo**	**19.50**	**82**	*e*P	**Pn**	**04 38 28.9**	**+0.8**
PAB				pmax	pmax		
comp=Z,11nm,1.3s							
PAB	**San Pablo**	**19.50**	**82**	*e*P	**Pn**	**04 38 28.9**	**+0.8**
comp=Z,11nm,1.3s							
PAB	**San Pablo**	**19.50**	**82**	*e*P	**Pn**	**04 38 28.9**	**+0.8**
comp=Z,11nm,1.3s							
ESDC	**Sonseca Array**	**19.77**	**82**	P	**Pn**	**04 38 30.9**	**-0.5**
comp=Z,0.1nm,0.3s,baz=267,slow=10,SNR=6.4							
ESDC				LR	LR	04 45 07.8	
comp=Z,343nm,18.3s,baz=280,slow=34							
SJPF	**Ste Jean**	**21.56**	**72**	*e*P	**P**	**04 38 54.7**	**+5.5**
comp=Z,34nm,1.3s,mb4.3							
SJPF	**Ste Jean**	**21.56**	**72**	*e*P	**P**	**04 38 54.7**	**+5.5**
SJPF				pmax	pmax		
comp=Z,17nm,1.3s,mb4.3							
SJPF	**Ste Jean**	**21.56**	**72**	*e*P	**P**	**04 38 54.7**	**+5.5**
comp=Z,17nm,1.3s,mb4.3							
MFF	**Saint Martin d**	**22.52**	**63**	*e*P	**P**	**04 39 01.4**	**+2.0**
EPF	**Esparros**	**22.71**	**72**	*e*P	**P**	**04 39 04.4**	**+3.0**
EKA	**Eskdalemuir Ar**	**23.54**	**40**	P	**P**	**04 39 08.8**	**-1.3**
comp=Z,7.0nm,1.2s,mb4.0,baz=251,slow=7.8,SNR=5.2							
TCF	**Toulx Ste Croi**	**24.11**	**64**	*e*P	**P**	**04 39 16.8**	**+1.4**
BGF	**Bois d'Agland**	**24.57**	**63**	*e*P	**P**	**04 39 21.4**	**+1.8**
comp=Z,26nm,1.0s,mb4.4							
BGF	**Bois d'Agland**	**24.57**	**63**	*e*P	**P**	**04 39 21.4**	**+1.8**
BGF				pmax	pmax		
comp=Z,13nm,1.0s,mb4.4							
BGF	**Bois d'Agland**	**24.57**	**63**	*e*P	**P**	**04 39 21.4**	**+1.8**
comp=Z,13nm,1.0s,mb4.4							
AVF	**Avril sur Loir**	**24.93**	**63**	*e*P	**P**	**04 39 24.8**	**+1.9**
comp=Z,50nm,1.7s,mb4.5							
AVF	**Avril sur Loir**	**24.93**	**63**	*e*P	**P**	**04 39 24.8**	**+1.9**
AVF				pmax	pmax		
comp=Z,25nm,1.7s,mb4.5							
AVF	**Avril sur Loir**	**24.93**	**63**	*e*P	**P**	**04 39 24.8**	**+1.9**
comp=Z,25nm,1.7s,mb4.5							
SSF	**Saint Saulge**	**25.06**	**62**	*e*P	**P**	**04 39 25.6**	**+1.6**
comp=Z,48nm,1.6s,mb4.5							
SSF	**Saint Saulge**	**25.06**	**62**	*e*P	**P**	**04 39 25.6**	**+1.6**
SSF				pmax	pmax		
comp=Z,24nm,1.6s,mb4.5							
SSF	**Saint Saulge**	**25.06**	**62**	*e*P	**P**	**04 39 25.6**	**+1.6**
comp=Z,24nm,1.6s,mb4.5							
SMF	**Signal de Mont**	**25.26**	**63**	*e*P	**P**	**04 39 28.0**	**+2.1**
comp=Z,52nm,1.5s,mb4.5							
SMF	**Signal de Mont**	**25.26**	**63**	*e*P	**P**	**04 39 28.0**	**+2.1**
SMF				pmax	pmax		
comp=Z,26nm,1.5s,mb4.5							
SMF	**Signal de Mont**	**25.26**	**63**	*e*P	**P**	**04 39 28.0**	**+2.1**
comp=Z,26nm,1.5s,mb4.5							
LOR	**Lormes**	**25.32**	**62**	*e*P	**P**	**04 39 27.1**	**+0.7**
LOR				*e*MLR	MLR		
comp=Z,399nm,22.0s,MS3.6							
LOR	**Lormes**	**25.32**	**62**	*e*P	**P**	**04 39 27.1**	**+0.7**
LOR				LR	LR		
comp=Z,400nm,22.0s,MS3.9							
VIVF	**Saint-Julien-l**	**25.79**	**67**	*e*P	**P**	**04 39 35.3**	**+4.6**
comp=Z,31nm,1.3s,mb4.4							
VIVF	**Saint-Julien-l**	**25.79**	**67**	*e*P	**P**	**04 39 35.3**	**+4.6**
VIVF				pmax	pmax		
comp=Z,16nm,1.3s,mb4.4							
VIVF	**Saint-Julien-l**	**25.79**	**67**	*e*P	**P**	**04 39 35.3**	**+4.6**
comp=Z,16nm,1.3s,mb4.4							
BAIF	**Baives**	**25.92**	**55**	*e*P	**P**	**04 39 36.5**	**+4.7**
comp=Z,39nm,1.4s,mb4.4							
BAIF	**Baives**	**25.92**	**55**	*e*P	**P**	**04 39 36.5**	**+4.7**
BAIF				pmax	pmax		
comp=Z,20nm,1.4s,mb4.5							
BAIF	**Baives**	**25.92**	**55**	*e*P	**P**	**04 39 36.5**	**+4.7**
comp=Z,20nm,1.4s,mb4.5							
ORIF	**Oris-en-Rattie**	**26.65**	**67**	*e*P	**P**	**04 39 41.3**	**+2.8**
ORIF				*e*MLR	MLR		
comp=Z,302nm,20.2s,MS3.5							
HAU	**Haudompre**	**27.05**	**60**	*e*P	**P**	**04 39 45.9**	**+3.8**
HAU				*e*MLR	MLR		
comp=Z,322nm,21.8s,MS3.5							
HAU	**Haudompre**	**27.05**	**60**	*e*P	**P**	**04 39 45.9**	**+3.8**
HAU				LR	LR		
comp=Z,320nm,21.8s,MS3.8							
HINF	**Hinteralfeld**	**27.38**	**61**	*e*P	**P**	**04 39 48.3**	**+3.3**
SCHQ	**Schefferville**	**28.96**	**314**	LR	LR	04 49 41.1	
comp=Z,440nm,18.3s,MS4.1,baz=294,slow=33							
NOA	**NORSAR Array B**	**32.86**	**36**	P	**P**	**04 40 32.5**	**-0.9**
comp=Z,1.1nm,0.8s,mb3.8,baz=243,slow=7.7,SNR=2.4							
MORC	**Moravsky Berou**	**34.48**	**57**	*e*P	**P**	**04 40 46.0**	**-1.6**
MORC				pmax	pmax		
comp=Z,2.0nm,1.0s,mb4.0							
MORC	**Moravsky Berou**	**34.48**	**57**	*e*P	**P**	**04 40 46.0**	**-1.6**
comp=Z,2.2nm,1.0s,mb4.0							
MORC	**Moravsky Berou**	**34.48**	**57**	*e*P	**P**	**04 40 46.0**	**-1.6**
comp=Z,2.2nm,1.0s,mb4.0							
TOA0	**Torodi Ar. Sit**	**38.27**	**125**	*e*P	**P**	**04 41 23.7**	**+3.4**
TORD	**Torodi Ar. Bea**	**38.27**	**125**	P	**P**	**04 41 23.4**	**+3.2**
comp=Z,1.5nm,1.0s,mb3.7,baz=324,slow=5.8,SNR=6.1							
KIEV	**Kiev**	**41.86**	**55**	*e*P	**P**	**04 41 49.4**	**-0.3**
KIEV				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.2							
KIEV	**Kiev**	**41.86**	**55**	*e*P	**P**	**04 41 49.4**	**-0.3**
comp=Z,5.6nm,0.9s,mb4.2							
AKASG	**Malin Array Be**	**41.87**	**55**	P	**P**	**04 41 49.5**	**-0.3**
comp=Z,0.9nm,0.3s,mb3.8,baz=273,slow=8.7,SNR=7.4							
AKBB	**Malin Array Si**	**41.87**	**55**	*e*P	**P**	**04 41 47.7**	**-2.1**
TIRR	**Tirgusor**	**42.58**	**64**	*e*P	**P**	**04 41 53.9**	**-1.8**
TIRR				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.1							
TIRR	**Tirgusor**	**42.58**	**64**	*e*P	**P**	**04 41 53.9**	**-1.8**
comp=Z,2.8nm,0.8s,mb4.0							
TIRR	**Tirgusor**	**42.58**	**64**	*e*P	**P**	**04 41 53.9**	**-1.8**
comp=Z,2.8nm,0.8s,mb4.0							
SPITS	**Spitsbergen Ar**	**42.82**	**13**	LR	LR	04 56 30.0	
comp=Z,270nm,20.2s,MS4.1,baz=335,slow=32							
ECSD	**EROS,Sioux Fal**	**48.87**	**298**	*e*P	**P**	**04 42 45.3**	**-0.1**
comp=Z,2.7nm,0.8s,mb4.3							
ECSD	**EROS,Sioux Fal**	**48.87**	**298**	*e*P	**P**	**04 42 45.3**	**-0.2**
comp=Z,2.7nm,0.8s,mb4.3							
MIAR	**Mount Ida**	**50.24**	**285**	*e*P	**P**	**04 42 56.9**	**+0.9**
MIAR				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.3							
MIAR	**Mount Ida**	**50.24**	**285**	*e*P	**P**	**04 42 56.9**	**+0.9**
comp=Z,3.2nm,1.0s,mb4.3							
MIAR	**Mount Ida**	**50.24**	**285**	*e*P	**P**	**04 42 56.9**	**+1.0**
comp=Z,3.2nm,1.0s,mb4.3							
YKA	**Yellowknife Ar**	**53.43**	**325**	P	**P**	**04 43 15.4**	**-3.9**
comp=Z,0.4nm,0.8s,mb3.4,baz=70,slow=7.4,SNR=2.4							
WMOK	**Wichita Mounta**	**54.00**	**288**	*e*P	**P**	**04 43 23.9**	**-0.1**
WMOK				pmax	pmax		
comp=Z,7.0nm,1.3s,mb4.4							
WMOK	**Wichita Mounta**	**54.00**	**288**	*e*P	**P**	**04 43 23.9**	**-0.1**
comp=Z,7.3nm,1.3s,mb4.5							
WMOK	**Wichita Mounta**	**54.00**	**288**	*e*P	**P**	**04 43 23.9**	**-0.1**
comp=Z,7.3nm,1.3s,mb4.5							
EDM	**Edmonton**	**55.94**	**314**	*e*P	**P**	**04 43 35.8**	**-1.9**
EDM	**Edmonton**	**55.94**	**314**	*e*P	**P**	**04 43 35.8**	**-2.0**
RLMT	**Red Lodge**	**56.74**	**304**	*e*P	**P**	**04 43 40.8**	**-2.7**
comp=Z,9.0nm,1.4s,mb4.6							
JCT	**Junction City**	**56.78**	**284**	*e*P	**P**	**04 43 43.9**	**-0.2**
JCT				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
JCT	**Junction City**	**56.78**	**284**	*e*P	**P**	**04 43 43.9**	**-0.2**
comp=Z,6.4nm,1.0s,mb4.6							
JCT	**Junction City**	**56.78**	**284**	*e*P	**P**	**04 43 43.9**	**-0.2**
comp=Z,6.4nm,1.0s,mb4.6							
SDCO	**Great Sand Dun**	**57.45**	**294**	*e*P	**P**	**04 43 48.7**	**0.0**
comp=Z,1.2nm,1.0s,mb3.9							
SDCO	**Great Sand Dun**	**57.45**	**294**	*e*P	**P**	**04 43 48.7**	**0.0**
comp=Z,1.3nm,1.0s,mb3.9							
PDAR	**Pinedale Array**	**57.95**	**301**	P	**P**	**04 43 51.9**	**-0.2**
comp=Z,0.4nm,0.8s,mb3.5,baz=203,slow=26,SNR=10							
BW06	**Boulder Array**	**57.95**	**301**	*e*P	**P**	**04 43 51.4**	**-0.7**
comp=Z,4.6nm,1.2s,mb4.4							
BW06	**Boulder Array**	**57.95**	**301**	*e*P	**P**	**04 43 51.4**	**-0.8**
comp=Z,4.6nm,1.2s,mb4.4							
WALA	**Waterton Lakes**	**57.95**	**309**	*e*P	**P**	**04 43 51.2**	**-0.

comp=Z,5.3nm,0.9s,mb4.7
DAWY Dawson 62.76 332 *e*P **P 04 44 22.5 -2.2**
DAWY Dawson 62.76 332 *e*P **P 04 44 22.5 -2.2**
TUC Tucson 63.91 291 *e*P **P 04 44 34.3 +1.5**
TUC pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
TUC Tucson 63.91 291 *e*P **P 04 44 34.3 +1.5**
comp=Z,5.8nm,1.3s,mb4.5
WVOR Wild Horse Val 63.99 305 *e*P **P 04 44 34.1 +0.9**
WVOR pmax pmax
comp=Z,16nm,1.6s,mb4.8
WVOR Wild Horse Val 63.99 305 *e*P **P 04 44 34.1 +0.9**
comp=Z,16nm,1.6s,mb4.8
WVOR Wild Horse Val 63.99 305 *e*P **P 04 44 34.1 +0.9**
comp=Z,16nm,1.6s,mb4.8
BVAR Borovoye Array 64.78 41 P **P 04 44 37.5 -0.6**
comp=Z,0.5nm,0.5s,mb3.8,baz=336,slow=3.2,SNR=3.5
NVAR Mina Array Bea 65.87 301 P **P 04 44 43.3 -2.2**
comp=Z,0.6nm,0.9s,mb3.6,baz=88,slow=2.8,SNR=3.5
NVAR Mina Array Bea 65.87 301 P **P 04 44 43.3 -2.2**
PFO Pinyon Flat Ob 67.22 295 *e*P **P 04 44 55.5 +1.3**
PFO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
PFO Pinyon Flat Ob 67.22 295 *e*P **P 04 44 55.5 +1.3**
comp=Z,3.4nm,0.9s,mb4.4
PFO Pinyon Flat Ob 67.22 295 *e*P **P 04 44 55.5 +1.3**
comp=Z,3.4nm,0.9s,mb4.4
BOD Bodaibo 78.14 19 *e*P **P 04 45 57.5 -1.2**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BOD Bodaibo 78.14 19 *e*P **P 04 45 57.5 -1.2**
comp=Z,5.0nm,1.1s,mb4.4
SONM Songino Array 84.47 28 P **P 04 46 32.5 0.0**
comp=Z,1.0nm,0.8s,mb4.0,baz=308,slow=4.1,SNR=5.8

NIED ***18*** *04:36:00,3540N×14040E,h23km,Mw4.5 Best double couple: M0 6.46000×10^15 NP1:φs54.00000°,δ80.00000°, λ90.00000°. NP2:φs234.00000°,δ10.00000°,λ90.00000°.*
MOS ***18*** *04:36:36.5±1.0,3527N×140.17E,h33km,mb4.9/24, Error ellipse: s-maj=12.2km s-min=6.3km az=111.2*
ISCJB ***18*** *04:36:37.1±0.3,3528N±003×14024E±004,h34km±3km, mb4.5/70, MS4.3/5, Error ellipse: s-maj=5.7km s-min=5.0km az=144.3*
JMA ***18*** *04:36:37.3±0.1,3536N×140.35E,h24km±2km, M4.5 Broadband fault plane solution: P waves. NP1: φs267.00000°,δ33.00000°,λ90.00000°. NP2:φs87.00000°, δ57.00000°,λ90.00000°. Principal axes: T Plg78.0000°, Azm357.0000°; N Plg0.0000°, Azm87.0000°; P Plg12.0000°, Azm177.0000°;*
JMA Felt IV J1.
IDC ***18*** *04:36:37.9±4.9,3527N×140.22E,h30km±35km, mb4.2/23, mb1 4.4/26, mb1mx4.3/31, mbtmp4.3/26, ML4.8/3, MS3.8/2, Ms1 3.8/2, ms1mx3.4/35 Error ellipse: s-maj=17.1km s-min=10.7km az=83.0*
BJI ***18*** *04:36:37.5,3554N×140.59E,h57km, mB4.9, mb4.4, Ms4.4, Msz4.1*
NEIC ***18*** *04:36:38.9±0.8,3530N×140.18E,h35km±7km, mb4.6/30, MW4.5(NIED), Error ellipse: s-maj=5.5km s-min=4.7km az=141.0*
NEIC Felt [II] at Tokyo. Felt at Tomisato, Yokohama, Yokosuka and Zushi. Recorded [4 JMA] in Chiba; [2 JMA] in Kanagawa and Tokyo; [1 JMA] in Ibaraki, Saitama and Shizuoka Prefectures.

ISC 18 04:36:37.8±0.4,3526N±003×14023E±004,h28km±2km, h33km±4.0km:pP-P,n141,σ0.92/151,mb4.5/70,MS4.3/5, 7C-8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.13**	**147**	↑P	**Pb**	**04 36 42.8**	**-0.2**
KTR				S	**Sb**	**04 36 46.8**	**+0.3**
JCN	**Nagara**	**0.16**	**352**	↓P	**Pb**	**04 36 42.6**	**-0.7**
JCN				S	**Sb**	**04 36 47.2**	**+0.1**
BSO4	**Boso 4**	**0.28**	**161**	↑P	**Pb**	**04 36 45.6**	**+0.8**
BSO3	**Boso 3**	**0.51**	**153**	↓P	**Pb**	**04 36 48.8**	**+0.5**
JIM2	**Oshima 3**	**0.85**	**231**	↓P	**Pn**	**04 36 53.7**	**-0.2**
BSO1	**Boso 1**	**0.86**	**134**	↓P	**Pn**	**04 36 52.2**	**-1.9**
JOD2	**Odawara 2**	**0.93**	**271**	↑P	**Pn**	**04 36 55.2**	**+0.1**
JOD2				S	**Sb**	**04 37 08.4**	**+1.0**
JYT	**Yasato**	**0.97**	**358**	↓P	**Pn**	**04 36 52.8**	**-2.8**
MJAR	**Matsushiro Arr**	**2.08**	**309**	Pn	**Pn**	**04 37 11.0**	**+0.2**
	48nm,0.3s,baz=125,slow=13,SNR=116						
MJAR				Sn	**Sn**	**04 37 39.8**	**+3.9**
	83nm,0.3s,baz=150,slow=15,SNR=7.3						
MJAR	**Matsushiro Arr**	**2.08**	**309**	Pn	**Pn**	**04 37 11.0**	**+0.1**
MJAR				Sn	**Sn**	**04 37 39.8**	**+3.9**
MAJO	**Matsushiro**	**2.08**	**309**	*e*P	**Pn**	**04 37 11.3**	**+0.4**
MAT	**Matsushiro**	**2.08**	**309**	P	**Pn**	**04 37 11.2**	**+0.3**
MAT				S	**Sn**	**04 37 40.0**	**+4.1**
JHJ	**Hachijo jima 2**	**2.16**	**190**	Pn	**Pn**	**04 37 11.8**	**-0.3**
	2μm,0.3s,baz=69,slow=3.9,SNR=333						
JHJ				Sn	**Sn**	**04 37 37.6**	**-0.2**
	769nm,0.3s,baz=68,slow=22,SNR=10						
JHJ				LR	LR	04 38 05.2	
	comp=Z,1μm,19.1s,baz=155,slow=40						
CBIJ	**Chichi jima**	**8.31**	**168**	Pn	**Pn**	**04 38 35.0**	**-1.5**
	56nm,0.3s,baz=319,slow=12,SNR=8.9						
CBIJ				Sn	**Sn**	**04 40 07.3**	**-2.0**
	26nm,0.3s,baz=297,slow=23,SNR=6.1						
ASAJ	**Asahikawa**	**9.03**	**11**	Pn	**Pn**	**04 38 41.8**	**-4.6**
	2.9nm,0.3s,baz=223,slow=14,SNR=16						
ASAJ	**Asahikawa**	**9.03**	**11**	P	**Pn**	**04 38 41.8**	**-4.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KSRS	**Korea Array**	**10.16**	**286**	Pn	**Pn**	**04 39 06.8**	**+5.0**
	comp=Z,0.4nm,0.3s,baz=99,slow=13,SNR=14						
KSRS				LR	LR	04 43 02.3	
	comp=Z,1μm,19.1s,baz=250,slow=38						
VLA	**Vladivostok**	**10.17**	**323**	P	**Pn**	**04 39 01.0**	**-0.9**
VLA				pmax	pmax		
	comp=Z,27nm,1.4s						
YSS	**Yuzh-Sakhalins**	**11.84**	**8**	*e*P	**Pn**	**04 39 23.6**	**-1.1**
YSS				MLR	MLR		
	comp=Z,1μm,17.0s						
YSS	**Yuzh-Sakhalins**	**11.84**	**8**	*e*Pn	**Pn**	**04 39 23.8**	**-0.9**
	comp=Z,14nm,0.5s						
CN2	**Changchun**	**14.23**	**311**	*e*P	**Pn**	**04 40 00.8**	**+3.4**
DL2	**Dalian**	**15.29**	**289**	P	**Pn**	**04 40 14.0**	**+2.4**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KLR	**Kul'dur**	**15.29**	**339**	*e*P	**Pn**	**04 40 06.7**	**-4.9**
NJ2	**Nanjing**	**18.08**	**266**	*e*P	**Pn**	**04 40 49.5**	**+2.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
BJI	**Beijing**	**19.61**	**291**	P	**Pn**	**04 41 10.8**	**+5.4**
BJI				AMB	AMB		
	comp=Z,515nm,6.0s						
HIA	**Hailar**	**20.55**	**319**	↑*e*P	**P**	**04 41 11.4**	**-2.6**
PETK	**Petropavlovsk-**	**21.70**	**29**	P	**P**	**04 41 26.1**	**-0.3**
	comp=Z,4.6nm,0.7s,mb4.0,baz=212,slow=4.9,SNR=4.5						
HHC	**Hu-ho-hao-te**	**23.20**	**292**	*e*P	**P**	**04 41 41.0**	**-1.4**
HHC				PP		04 42 10.6	
HHC				S	**S**	**04 45 44.8**	**-7.4**
HHC				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.5						
HHC				LR	LR		
	comp=N,611nm,17.8s,MS4.2						
HHC				LR	LR		
	comp=E,617nm,17.8s,MS4.2						
HHC				LR	LR		
	comp=Z,616nm,19.0s,MS4.1						
CLNS	**Chul'man**	**23.96**	**339**	*e*P	**P**	**04 41 49.0**	**-0.5**
CLNS				*e**PP		04 41 55.2	
CLNS				*e*		04 42 01.6	
CLNS				*e*PPP		04 42 23.9	
CLNS				*e*S	**S**	**04 46 06.3**	**+2.1**
CLNS				*e*SS		04 46 58.2	
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.6						
CLNS				pmax	pmax		
	comp=N,18nm,1.0s						
CLNS				smax			
	comp=N,79nm,11.6s						
CLNS				smax			
	comp=E,139nm,14.6s						
CLNS				MLR	MLR		
	comp=Z,540nm,18.0s,MS4.1						
CLNS				MLR	MLR		
	comp=N,273nm,18.0s,MS3.8						
CLNS				MLR	MLR		
	comp=E,204nm,20.0s,MS3.8						
XAN	**Xi'an**	**25.73**	**276**	P	**P**	**04 42 11.4**	**+5.5**
XAN				AP	pP	04 42 18.0	+4.0
XAN				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
XAN				AMB	AMB		
	comp=Z,489nm,11.5s						
YAK	**Yakutsk**	**27.61**	**349**	*e*P	**P**	**04 42 21.9**	**-0.6**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.6						
YAK				pmax	pmax		
	comp=N,15nm,1.5s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.4s						
SONM	**Songino Array**	**28.04**	**307**	P	**P**	**04 42 25.4**	**-1.0**
	comp=E,1.5nm,0.5s,mb3.9,baz=116,slow=8.8,SNR=12						
BOD	**Bodaibo**	**28.56**	**330**	*e*P	**P**	**04 42 29.8**	**-1.2**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
SEY	**Seymchan**	**28.72**	**12**	↓*e*P	**P**	**04 42 33.1**	**+0.7**
LZH	**Lanzhou**	**29.46**	**282**	*e*P	**P**	**04 42 39.5**	**+0.2**
LZH				AP	pP	04 42 51.3	+3.9
LZH				*e*PP	PP	04 43 35.6	-10
LZH				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,85nm,4.8s						
LZH				LR	LR		
	comp=E,805nm,13.0s						
LZH				LR	LR		
	comp=Z,1μm,17.2s,MS4.6						
GYA	**Guiyang**	**30.00**	**262**	P	**P**	**04 42 46.0**	**+1.8**
GYA				PP	PP	04 43 44.8	-7.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,4.6s						
GYA				LR	LR		
	comp=N,470nm,15.2s,MS4.4						
GYA				LR	LR		
	comp=E,480nm,16.7s,MS4.4						
GYA				LR	LR		
	comp=Z,470nm,17.4s,MS4.2						
ZAK	**Zakamensk**	**30.66**	**311**	*e*P	**P**	**04 42 49.0**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.6						
CD2	**Chengdu**	**30.75**	**272**	*e*P	**P**	**04 42 50.6**	**-0.2**
CD2				AP	pP	04 43 02.5	+3.6
CD2				PP	PP	04 43 52.0	-8.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,4.8s						
BILL	**Bilibino**	**36.00**	**16**	↑*e*P	**P**	**04 43 35.7**	**-0.3**
BILL				*e*S	**S**	**04 49 16.9**	**+4.2**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
HVS	**Khovu-Aksy**	**36.77**	**310**	↑*e*P	**P**	**04 43 46.3**	**+3.5**
WMQ	**Urumqi**	**40.81**	**298**	P	**P**	**04 44 17.0**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.3						
ZALV	**Zalesovo Beam**	**42.43**	**314**	P	**P**	**04 44 29.7**	**-0.2**
	comp=Z,5.5nm,0.6s,mb4.4,baz=107,slow=7.9,SNR=11						
ZALV	**Zalesovo Beam**	**42.43**	**314**	P	**P**	**04 44 29.7**	**-0.2**
ZAL	**Zalesovo**	**42.44**	**314**	P	**P**	**04 44 29.7**	**-0.2**
NVS	**Novosibirsk**	**43.40**	**315**	*e*P	**P**	**04 44 36.2**	**-1.5**
NVS				pmax	pmax		
	comp=N,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,16nm,1.0s						
NVS				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
MK31	**Makanchi Array**	**44.27**	**303**	*e*P	**P**	**04 44 44.7**	**-0.1**
MKAR	**Makanchi Array**	**44.27**	**303**	P	**P**	**04 44 45.0**	**+0.1**
	comp=Z,3.8nm,0.5s,mb4.4,baz=86,slow=9.9,SNR=32						
KURK	**Kurchatov**	**46.29**	**309**	*e*P	**P**	**04 45 00.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.3						
KURK	**Kurchatov**	**46.29**	**309**	*e*P	**P**	**04 45 00.2**	**-0.6**
	comp=Z,31nm,0.8s,mb5.3						
COEN	**Coen**	**49.02**	**176**	*e*P	**P**	**04 45 23.5**	**+1.3**
	comp=Z,6.4nm,0.8s,mb4.7						
KDAK	**Kodiak Island**	**49.06**	**41**	P	**P**	**04 45 20.9**	**-1.3**
	comp=Z,6.9nm,0.7s,mb4.8,baz=265,slow=5.7,SNR=8.0						
KDAK	**Kodiak Island**	**49.06**	**41**	P	**P**	**04 45 20.9**	**-1.3**
TKM2	**Tokmak 2**	**49.65**	**299**	*e*P	**P**	**04 45 27.4**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
TKM2	**Tokmak 2**	**49.65**	**299**	*e*P	**P**	**04 45 27.4**	**+0.5**
	comp=Z,9.2nm,0.7s,mb4.9						
VOSK	**Vostochnaya**	**50.77**	**313**	P	**P**	**04 45 33.4**	**-1.8**
VOSK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**51.07**	**313**	P	**P**	**04 45 37.3**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.1,baz=82,slow=8.7,SNR=5.9						
COLA	**College**	**51.09**	**31**	*i* P	**P**	**04 45 40.7**	**+3.2**
AML	**Almayashu**	**51.21**	**299**	*e*P	**P**	**04 45 39.4**	**+0.7**
	comp=Z,17nm,0.6s,mb5.2						
DIV	**Divide**	**52.27**	**36**	*e*P	**P**	**04 45 46.8**	**+0.5**
	comp=Z,7.5nm,0.8s,mb4.7						
BMRM	**Bremner River**	**52.85**	**36**	*e*P	**P**	**04 45 51.2**	**+0.5**
KK31	**Karatay Array**	**53.20**	**301**	*i* P	**P**	**04 45 53.5**	**0.0**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**54.84**	**197**	P	**P**	**04 46 06.4**	**+0.8**
	comp=Z,5.0nm,0.7s,mb4.6,baz=1.7,slow=14,SNR=5.3						
WRAB	**Tennant Creek**	**55.17**	**187**	*e*P	**P**	**04 46 07.9**	**0.0**
WRAB				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**55.17**	**187**	*e*P	**P**	**04 46 07.9**	**0.0**
	comp=Z,26nm,0.8s,mb5.3						
WB2	**Warramunga Arr**	**55.18**	**187**	*e*P	**P**	**04 46 07.1**	**-0.9**
WRA	**Warramunga Arr**	**55.18**	**187**	P	**P**	**04 46 07.4**	**-0.6**
	comp=Z,14nm,0.6s,mb5.1,baz=4.2,slow=7.2,SNR=36						
HYT	**Haines Junctio**	**56.30**	**36**	*e*P	**P**	**04 46 17.1**	**+1.5**
ARU	**Arti**	**57.06**	**319**	*d i* P	**P**	**04 46 20.8**	**-0.3**
ARU				*e*		04 48 22.3	
ARU				*e*S	**S**	**04 54 14.4**	**+0.5**
ARU				*e*SS	SS	04 57 54.6	-7.7
ARU				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.9						
ARU	**Arti**	**57.06**	**319**	*e*P	**P**	**04 46 20.7**	**-0.5**
	comp=Z,7.4nm,0.6s,mb4.9						
ASAR	**Alice Springs**	**58.91**	**187**	P	**P**	**04 46 34.3**	**0.0**
	comp=Z,2.5nm,0.5s,mb4.5,baz=12,slow=7.4,SNR=40						
AKTK	**Aktyubinsk**	**59.16**	**312**	P	**P**	**04 46 35.6**	**-0.3**
AKTO	**Aktyubinsk**	**59.16**	**312**	P	**P**	**04 46 35.6**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.3,baz=71,slow=12,SNR=4.1						
MBWA	**Marble Bar**	**59.38**	**202**	*e*P	**P**	**04 46 39.1**	**+1.5**
	comp=Z,11nm,0.6s,mb5.1						
SPITS	**Spitsbergen Ar**	**62.08**	**349**	P	**P**	**04 46 55.1**	**-0.3**
	comp=Z,21nm,1.2s,mb5.1,baz=357,slow=6.7,SNR=3.4						
RES	**Resolute Bay**	**64.56**	**14**	*e*P	**P**	**04 47 11.9**	**+0.1**
	comp=Z,243nm,0.8s						
KLMR	**Klimovskoe**	**64.75**	**328**	P	**P**	**04 47 11.7**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,32nm,2.2s,mb5.0						
ARCES	**ARCESS Array B**	**65.32**	**339**	P	**P**	**04 47 15.6**	**-1.3**
	comp=Z,3.8nm,0.8s,mb4.5,baz=54,slow=7.6,SNR=7.5						
YKA	**Yellowknife Ar**	**65.82**	**29**	P	**P**	**04 47 19.4**	**-0.8**
	comp=Z,1.4nm,0.8s,mb4.1,baz=304,slow=6.7,SNR=6.3						
YKA	**Yellowknife Ar**	**65.82**	**29**	*i* P	**P**	**04 47 21.8**	**+1.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STKA	**Stephens Creek**	**66.79**	**179**	P	**P**	**04 47 27.5**	**+0.8**
	comp=Z,2.7nm,0.6s,mb4.4,baz=347,slow=5.8,SNR=4.1						
STKA	**Stephens Creek**	**66.79**	**179**	*e*P	**P**	**04 47 26.9**	**+0.2**
MOS	**Moscow**	**68.11**	**323**	*e*P	**P**	**04 47 33.5**	**-1.3**
MOS				*e*		04 50 03.0	
OBN	**Obninsk**	**68.94**	**323**	↑*e*P	**P**	**04 47 39.4**	**-0.7**
OBN				*e*S	S	04 56 43.5	+0.9
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
OBN				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.6						
JCW	**Jim Creek**	**69.37**	**45**	*e*P	**P**	**04 47 43.8**	**+0.9**
ETW	**Entiat**	**70.59**	**45**	*e*P	**P**	**04 47 50.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**71.17**	**200**	P	**P**	**04 47 52.9**	**-1.0**
	comp=Z,7.7nm,0.7s,mb4.8,baz=270,slow=1.2,SNR=3.5						
KIV	**Kislovodsk**	**71.34**	**311**	↓*e*P	**P**	**04 47 55.8**	**+0.8**
KIV				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
NEW	**Newport**	**72.07**	**43**	*e*P	**P**	**04 47 59.2**	**-0.1**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NEW	**Newport**	**72.07**	**43**	*e*P	**P**	**04 47 59.1**	**-0.2**
	comp=Z,5.0nm,0.9s,mb4.4						
WVOR	**Wild Horse Val**	**74.38**	**49**	*e*P	**P**	**04 48 13.4**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
WVOR	**Wild Horse Val**	**74.38**	**49**	*e*P	**P**	**04 48 13.4**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.1						
AKASG	**Malin Array Be**	**75.11**	**322**	P	**P**	**04 48 16.3**	**-0.8**
	comp=Z,1.1nm,0.3s,mb4.2,baz=47,slow=5.8,SNR=18						
KIEV	**Kiev**	**75.12**	**322**	*e*P	**P**	**04 48 16.1**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KIEV	**Kiev**	**75.12**	**322**	*e*P	**P**	**04 48 16.1**	**-1.0**
	comp=Z,8.1nm,1.0s,mb4.6						
NB2	**NORSAR Subarra**	**75.45**	**337**	P	**P**	**04 48 18.2**	**-0.6**
	comp=Z,5.5nm,0.7s,mb4.6,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.45**	**337**	P	**P**	**04 48 18.5**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.3,baz=40,slow=5.7,SNR=8.3						
NOA	**NORSAR Array B**	**75.45**	**337**	P	**P**	**04 48 18.5**	**-0.3**
CMB	**Columbia Colle**	**75.69**	**54**	*e*P	**P**	**04 48 20.8**	**+0.1**
CMB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CMB	**Columbia Colle**	**75.69**	**54**	*e*P	**P**	**04 48 20.8**	**+0.2**
	comp=Z,2.4nm,0.6s,mb4.3						
FFC	**Flin Flon**	**75.72**	**32**	*e*P	**P**	**04 48 19.9**	**-0.6**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
FFC	**Flin Flon**	**75.72**	**32**	*e*P	**P**	**04 48 19.9**	**-0.6**
	comp=Z,3.7nm,0.7s,mb4.4						
HRY	**Holter Researc**	**75.91**	**42**	*e*P	**P**	**04 48 22.0**	**+0.2**
EGMT	**Eagleton**	**76.24**	**40**	*e*P	**P**	**04 48 23.6**	**-0.1**
	comp=Z,58nm,1.7s,mb5.2						
DLMT	**Dillon**	**76.28**	**44**	*e*P	**P**	**04 48 24.5**	**+0.6**
	comp=Z,20nm,1.4s,mb4.9						
HLID	**Hailey**	**76.29**	**46**	*e*P	**P**	**04 48 24.5**	**+0.5**
	comp=Z,2.1nm,1.0s,mb4.0						
NVAR	**Mina Array Bea**	**76.83**	**52**	P	**P**	**04 48 28.1**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=288,slow=6.0,SNR=14						
MALT	**Malatya**	**77.11**	**308**	*e*P	**P**	**04 48 29.6**	**+0.9**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
MALT	**Malatya**	**77.11**	**308**	*e*P	**P**	**04 48 29.6**	**+0.9**
	comp=Z,5.8nm,1.0s,mb4.5						
ELK	**Elko**	**77.43**	**49**	*e*P	**P**	**04 48 31.3**	**+0.8**
ELK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ELK	**Elko**	**77.43**	**49**	*e*P	**P**	**04 48 31.3**	**+0.8**
	comp=Z,3.5nm,1.0s,mb4.2						
MOOW	**Moose Ponds**	**78.31**	**44**	*e*P	**P**	**04 48 35.9**	**+0.6**
	comp=Z,9.7nm,1.5s,mb4.5						
TPAW	**Teton Pass**	**78.35**	**45**	*e*P	**P**	**04 48 36.8**	**+1.3**
	comp=Z,2.5nm,0.6s,mb4.3						
LOHW	**Long Hollow**	**78.47**	**44**	*e*P	**P**	**04 48 37.2**	**+1.0**
	comp=Z,2.2nm,0.9s,mb4.1						
HWUT	**Hardware Ranch**	**79.14**	**47**	*e*P	**P**	**04 48 40.0**	**+0.1**
	comp=Z,42nm,2.1s,mb5.0						
DUG	**Dugway**	**79.25**	**48**	*e*P	**P**	**04 48 41.1**	**+0.6**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
DUG	**Dugway**	**79.25**	**48**	*e*P	**P**	**04 48 41.1**	**+0.5**
	comp=Z,3.1nm,0.8s,mb4.3						
BW06	**Boulder Array**	**79.60**	**45**	*e*P	**P**	**04 48 42.5**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**79.60**	**45**	P	**P**	**04 48 42.7**	**+0.3**
	comp=Z,2.1nm,0.6s,mb4.3,baz=275,slow=1.9,SNR=27						
OJC	**Ojcow**	**79.97**	**326**	*e*P	**P**	**04 48 44.6**	**+0.3**
PFO	**Pinyon Flat Ob**	**80.83**	**55**	*e*P	**P**	**04 48 48.7**	**-0.5**
PFO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
PFO	**Pinyon Flat Ob**	**80.83**	**55**	*e*P	**P**	**04 48 48.7**	**-0.5**
	comp=Z,8.1nm,1.0s,mb4.6						
BAR	**Barrett**	**81.24**	**56**	*e*P	**P**	**04 48 51.5**	**+0.1**
	comp=Z,5.2nm,0.8s,mb4.5						
MORC	**Moravsky Berou**	**81.32**	**326**	*e*P	**P**	**04 48 51.3**	**-0.2**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MORC	**Moravsky Berou**	**81.32**	**326**	*e*P	**P**	**04 48 51.3**	**-0.1**
	comp=Z,2.8nm,0.8s,mb4.2						
PSZ	**Piszkesteto**	**81.54**	**324**	*e*P	**P**	**04 48 52.5**	**-0.2**
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
PSZ	**Piszkesteto**	**81.54**	**324**	*e*P	**P**	**04 48 52.5**	**-0.2**
	comp=Z,3.7nm,0.7s,mb4.4						
CLL	**Collm**	**82.15**	**330**	*e*P	**P**	**04 48 56.0**	**+0.2**
CLL				*i* (pP)	pP	04 49 04.1	-0.6
CLL				*i* PP	PP	04 52 03.5	+0.1
CLL	**Collm**	**82.15**	**330**	*e*P	**P**	**04 48 56.0**	**+0.2**
CLL				*i* pP	pP	04 49 04.1	-0.6
PV10	**Paradox Valley**	**82.67**	**48**	*e*P	**P**	**04 49 00.3**	**+1.4**
PV01	**Paradox Valley**	**83.11**	**48**	*e*P	**P**	**04 49 01.8**	**+0.7**
KHC	**Kasperske Hory**	**83.55**	**328**	*e*P	**P**	**04 49 02.5**	**-0.6**
KHC				*e*pP	pP	04 49 11.5	-0.5
GERES	**GERESS Array B**	**83.71**	**328**	P	**P**	**04 49 03.3**	**-0.6**
	comp=Z,0.7nm,0.7s,mb3.9,baz=28,slow=6.0,SNR=7.1						
EKA	**Eskdalemuir Ar**	**84.48**	**340**	P	**P**	**04 49 07.8**	**+0.1**
	comp=Z,1.7nm,1.0s,mb4.1,baz=24,slow=5.4,SNR=2.9						
EKA	**Eskdalemuir Ar**	**84.48**	**340**	P	**P**	**04 49 07.8**	**+0.1**
SDCO	**Great Sand Dun**	**85.20**	**46**	*e*P	**P**	**04 49 12.2**	**+0.5**
	comp=Z,1.6nm,0.8s,mb4.2						
ANMO	**Albuquerque**	**86.47**	**49**	*e*P	**P**	**04 49 19.2**	**+1.1**

0.0nm,0.0s
IPM Ipoh 5.00 62 ⇓P **Pn 04 39 38.1 +1.4**
KULM Kulim 5.13 52 ⇓P **Pn 04 39 39.2 +0.7**
FRIM Kepong 5.13 77 ⇓P **Pn 04 39 40.7 +2.2**
KRJI Kerinci 6.38 131 P **Pn 04 39 59.0 +3.3**
0.0nm,0.0s
KGM Kluang 6.70 91 ⇓P **Pn 04 40 01.5 +1.4**
KTGM Kuala Trenggan 7.26 64 ⇑P **Pn 04 40 08.1 +0.3**
TPRI Tanjung Pinang 8.00 98 P **Pn 04 40 18.6 +0.7**
0.0nm,0.0s
KSI Kapahiang 8.26 134 P **Pn 04 40 23.0 +1.5**
0.0nm,0.0s
PPBI Pangkal Pinang 10.42 114 P **Pn 04 40 51.9 +0.8**
0.0nm,0.0s
TPI Tanjungpandan 12.04 114 P **Pn 04 41 13.7 +0.3**
0.0nm,0.0s
KSM Kuching 13.70 92 ⇓P **Pn 04 41 37.8 +1.8**
KSM Kuching 13.70 92 *e*Pn **Pn 04 41 37.5 +1.5**
STKI Sintang 15.00 98 P **Pn 04 41 54.5 +0.8**
0.0nm,0.0s
CM31 Chiang Mai Arr 16.43 8 *e*Pn **Pn 04 42 14.5 +2.3**
CMAR Chiang Mai Arr 16.43 8 Pn **Pn 04 42 11.4 -0.8**
1.8nm,0.3s,baz=197,slow=12,SNR=40
CMAR LR LR 04 48 56.5
comp=Z,987nm,20.4s,baz=200,slow=39
BTM Bintulu 16.49 86 ⇓P **Pn 04 42 14.1 +1.1**
PALK Pallekele 16.67 289 *e*P **Pn 04 42 17.2 +1.9**
PALK pmax pmax
comp=Z,37nm,1.0s
PALK Pallekele 16.67 289 *e*P **Pn 04 42 17.2 +1.9**
comp=Z,37nm,1.0s
CHTO Chiang Mai 16.78 8 *e*P **Pn 04 42 15.6 -1.0**
CHTO pmax pmax
comp=Z,11nm,0.6s
CHTO Chiang Mai 16.78 8 *e*Pn **Pn 04 42 15.6 -0.9**
comp=Z,11nm,0.6s
BBKI Banjar Baru 19.04 107 P **Pn 04 42 43.1 -1.4**
comp=Z,0.0nm,0.0s
KKM Kota Kinabalu 19.94 78 ⇑P **Pn 04 42 53.9 -1.4**
KKM Kota Kinabalu 19.94 78 *e*P **Pn 04 42 53.5 -1.8**
VIS Vishakhapatnam 20.28 321 *e*P **P 04 42 57.5 +0.4**
VIS AMb AMB 04 43 03.9
comp=Z,87nm,1.1s
VIS *i* x x 04 46 31.4
TRD Trivandrum 20.57 289 *e*P **P 04 43 00.1 -0.2**
KOD Kodaikanal 20.67 294 *e*P **P 04 43 02.7 +1.3**
KDM Kudat 20.71 76 ⇑P **P 04 43 01.9 0.0**
SMKI Samarinda 20.75 97 P **P 04 43 04.2 +1.9**
comp=Z,0.0nm,0.0s
SDKM Sandakan 20.83 80 ⇓P **P 04 43 03.8 +0.6**
QIZ Qiongzhong 21.24 37 *e*P **P 04 43 06.6 -1.0**
comp=Z,321nm,2.1s,mb5.3
TSM Tawau 21.34 84 ⇑P **P 04 43 08.7 0.0**
MYLDM Lahad Datu 22.05 81 ⇓P **P 04 43 17.7 +1.3**
IMP Imphal 22.71 354 *e*P **P 04 43 25.0 +1.8**
HYB Hyderabad 23.38 312 *i* P **P 04 43 32.0 +1.6**
HYB Hyderabad 23.38 312 *e*P **P 04 43 32.0 +1.6**
PCI Palu 23.41 97 P **P 04 43 29.8 -0.9**
comp=Z,0.0nm,0.0s
KMI Kunming 23.65 14 P **P 04 43 33.0 +0.2**
KMI PP 04 44 06.9
KMI PPP 04 44 17.4
KMI S **S 04 47 44.6 -1.3**
KMI SSS 04 48 51.9
KMI AMB AMB
comp=Z,49nm,1.1s,mb4.8
KMI AMB AMB
comp=Z,146nm,3.1s
KMI LR LR
comp=N,795nm,15.8s,MS4.4
KMI LR LR
comp=E,554nm,14.0s,MS4.4
KMI LR LR
comp=Z,1μm,14.3s,MS4.4
SHL Shillong 23.78 349 *i* P **P 04 43 31.0 -3.0**
SHL *i* S **S 04 47 43.0 -5.0**
BOK Bokaro 23.95 335 *e*P **P 04 43 35.1 -0.4**
BOK AMb AMB 04 43 49.2
comp=Z,119nm,1.5s,mb5.1
KAPI Kappang 24.17 107 *e*P **P 04 43 36.2 -1.5**
comp=Z,34nm,1.0s,mb4.7
LATR Latur 25.49 311 *ex* x 04 43 53.8
LATR AMb AMB 04 43 58.2
comp=Z,36nm,1.3s,mb4.7
NGP Nagpur 25.53 319 *e*P **P 04 43 48.4 -1.6**
NGP AMb AMB 04 44 00.8
comp=Z,38nm,1.2s,mb4.8
GYA Guiyang 26.08 21 ⇑*i*P **P 04 43 54.0 -0.9**
GYA PP 04 44 38.8
GYA PCP PcP 04 47 23.9 +1.5
GYA S **S 04 48 24.5 -0.3**
GYA AMB AMB
comp=Z,50nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,120nm,4.6s
GYA LR LR
comp=N,570nm,18.2s,MS4.3
GYA LR LR
comp=E,480nm,17.7s,MS4.3
GYA LR LR
comp=Z,570nm,18.4s,MS4.1
GOA Goa 26.12 302 *e*P **P 04 43 56.2 +0.9**
GOA AMb AMB 04 44 14.1
comp=Z,44nm,0.9s,mb5.0
ODAN Odare 26.17 341 *e*P **P 04 43 56.1 +0.4**
comp=Z,149nm,0.6s,mb5.7
RAMN Ramite 26.52 340 *e*P **P 04 44 00.2 +1.3**
comp=Z,113nm,0.6s,mb5.6
TAPN Taplejung 26.52 342 *e*P **P 04 44 00.0 +1.1**
comp=Z,177nm,0.8s,mb5.6
AKL Akola 26.60 315 *e*P **P 04 44 00.8 +1.1**
AKL AMb AMB 04 44 14.6
comp=Z,48nm,1.8s,mb4.7
JIRN Jiri 27.31 340 *e*P **P 04 44 07.5 +1.5**
comp=Z,11nm,0.3s,mb4.9
PKI Pulchoki 27.51 338 *e*P **P 04 44 08.0 +0.2**
comp=Z,31nm,0.6s,mb5.1
PKI Pulchoki 27.51 338 *e*P **P 04 44 08.0 +0.2**
PKI pmax pmax
comp=Z,31nm,0.6s,mb5.1
GUN Gumba 27.65 339 *e*P **P 04 44 09.8 +0.7**
comp=Z,165nm,0.7s,mb5.8
DMN Daman 27.66 338 *e*P **P 04 44 10.2 +1.0**
comp=Z,46nm,0.9s,mb5.1
KKN Kakani 27.76 338 *e*P **P 04 44 10.8 +0.8**
comp=Z,89nm,0.8s,mb5.4
KKN Kakani 27.76 338 *e*P **P 04 44 10.8 +0.8**
KKN pmax pmax
comp=Z,89nm,0.8s,mb5.5
LSA Lhasa 27.95 350 *e*P **P 04 44 12.3 +0.6**
comp=Z,40nm,0.8s,mb5.1
GKN Gorkha 28.20 337 *e*P **P 04 44 14.8 +0.9**
comp=Z,74nm,1.1s,mb5.2
KOLN Koldanda 28.41 335 *e*P **P 04 44 16.3 +0.5**
comp=Z,117nm,0.6s,mb5.7
DANN Dangsing 28.85 336 *e*P **P 04 44 20.0 +0.2**
comp=Z,119nm,0.8s,mb5.7
CD2 Chengdu 29.45 13 P **P 04 44 24.0 -1.0**
CD2 PP PP 04 45 20.5 -11
CD2 S **S 04 49 16.5 -1.3**
CD2 AMB AMB
comp=Z,70nm,0.7s,mb5.5
CD2 AMB AMB
comp=Z,160nm,4.8s
CD2 LR LR
comp=N,770nm,18.0s,MS4.6
CD2 LR LR
comp=E,1μm,15.6s,MS4.6
CD2 LR LR
comp=Z,1μm,13.2s,MS4.8
AJM Ajmer 32.14 321 *e*P **P 04 44 50.1 +1.2**
AJM AMb AMB 04 44 59.0
comp=Z,30nm,1.6s,mb4.9
NDI New Delhi 32.27 327 *e*P **P 04 44 49.5 -0.5**
MBWA Marble Bar 32.34 137 *e*P **P 04 44 50.4 -0.3**
comp=Z,10nm,0.8s,mb4.7
WHN Wuhan 32.91 29 ⇓P **P 04 44 55.3 -0.3**
WHN *e*S **S 04 50 16.3 +4.3**
WHN LR LR
comp=N,1μm,17.6s
WHN LR LR
comp=E,2μm,26.0s
WHN LR LR
comp=Z,2μm,13.6s,MS5.0
DDI Dehra Dun 33.14 330 *e*P **P 04 44 57.0 -0.5**
XAN Xi'an 33.80 19 P **P 04 45 01.8 -1.5**
XAN AMB AMB
comp=Z,71nm,0.8s,mb5.7
XAN AMB AMB
comp=Z,519nm,13.1s
SMLA Simla 34.23 330 *e*P **P 04 45 07.1 0.0**
SMLA AMb AMB 04 45 22.6
comp=Z,48nm,2.1s,mb5.1
LZH Lanzhou 34.48 10 *e*P **P 04 45 13.3 +4.1**
LZH AP pP 04 45 20.8 +3.9
LZH *e*PP PP 04 46 30.5 +2.9
LZH AMB AMB
comp=Z,25nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,76nm,5.4s
LZH LR LR
comp=N,563nm,13.6s
LZH LR LR
comp=Z,879nm,17.5s,MS4.5
FITZ Fitzroy Crossi 34.92 126 *e*P **P 04 45 11.3 -1.9**
comp=Z,21nm,0.8s,mb5.1
FITZ Fitzroy Crossi 34.92 126 P **P 04 45 11.5 -1.7**
comp=Z,12nm,0.8s,mb4.9,baz=292,slow=4.6,SNR=14
NJ2 Nanjing 36.43 33 *e*P **P 04 45 26.4 +0.4**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
GTA Gaotai 37.26 4 P **P 04 45 32.6 -0.3**
GTA PP PP 04 47 02.8 +4.6
GTA S **S 04 51 20.8 +2.2**
GTA AMB AMB
comp=Z,60nm,1.0s,mb5.4
GTA AMB AMB
comp=Z,401nm,6.3s
GTA LR LR
comp=N,288nm,19.5s,MS4.3
GTA LR LR
comp=E,363nm,18.6s,MS4.3
GTA LR LR
comp=Z,493nm,18.7s,MS4.3
JOW Kunigami 39.08 48 P **P 04 45 48.3 -0.1**
comp=Z,37nm,0.7s,mb5.2,baz=247,slow=7.9,SNR=11
HHC Hu-ho-hao-te 40.88 17 *e*P **P 04 46 04.1 +0.9**
HHC PP PP 04 47 41.6 +3.8
HHC PCS PcS 04 51 53.8 -0.6
HHC S **S 04 52 15.1 +1.9**
HHC SS SS 04 55 13.5 -1.8
HHC AMB AMB
comp=Z,47nm,0.9s,mb5.1
HHC LR LR
comp=N,765nm,15.5s,MS4.8
HHC LR LR
comp=E,883nm,17.8s,MS4.8
HHC LR LR
comp=Z,369nm,16.7s,MS4.3
BJT Baijiatuau 41.72 23 *e*P **P 04 46 10.1 0.0**
BJT *e**PP pP 04 46 18.8 +0.8
BJT pmax pmax
comp=Z,67nm,1.1s
BJT Baijiatuau 41.72 23 *e*P **P 04 46 10.1 0.0**
comp=Z,67nm,1.1s,mb5.2
BJT *e*pP pP 04 46 18.8 +0.8
BJI Beijing 41.74 23 P **P 04 46 10.4 +0.1**
BJI AMB AMB
comp=Z,54nm,1.2s,mb5.0
WMQ Urumqi 42.30 350 P **P 04 46 15.3 +0.5**
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.1
WRA Warramunga Arr 43.00 122 P **P 04 46 20.0 -0.9**
comp=Z,22nm,0.7s,mb5.0,baz=301,slow=9.0,SNR=29
WRAB Tennant Creek 43.01 122 *e*P **P 04 46 19.6 -1.3**
WRAB pmax pmax
comp=Z,24nm,0.8s,mb5.0
WRAB Tennant Creek 43.01 122 *e*P **P 04 46 19.6 -1.3**
comp=Z,24nm,0.8s,mb5.0
DL2 Dalian 43.18 29 P **P 04 46 22.3 +0.3**
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
ULHL Ulahol 43.95 338 P **P 04 46 29.0 +0.8**
SNR=5.1
FORT Forrest 44.33 140 *e*P **P 04 46 32.1 +0.7**
comp=Z,22nm,0.6s,mb5.0
ASAR Alice Springs 44.40 127 P **P 04 46 31.2 -0.8**
comp=Z,7.3nm,1.0s,mb4.3,baz=294,slow=6.0,SNR=29
ASAR PcP PcP 04 48 15.2 -0.5
comp=Z,2.2nm,0.8s,baz=308,slow=3.5,SNR=3.8
ASAR ScP ScP 04 52 05.8 -0.6
comp=Z,1.5nm,1.1s,baz=291,slow=2.0,SNR=5.3
ASAR Alice Springs 44.40 127 PcP PcP 04 48 15.2 -0.5
ASAR ScP ScP 04 52 05.8 -0.6
TKM2 Tokmak 2 44.78 338 *e*P **P 04 46 35.1 +0.3**
TKM2 pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
TKM2 Tokmak 2 44.78 338 P **P 04 46 35.7 +0.9**
SNR=6.7
TKM2 Tokmak 2 44.78 338 *e*P **P 04 46 35.1 +0.3**
comp=Z,3.0nm,0.4s,mb4.5
KBK Karagaybulak 44.80 337 P **P 04 46 36.4 +1.5**
SNR=9.3
AML Almayashu 44.85 336 *e*P **P 04 46 36.5 +1.1**
comp=Z,30nm,0.8s,mb5.2
FRU Bishkek 45.08 337 *e*P **P 04 46 38.0 +0.9**
CHMS Chumysh 45.16 337 P **P 04 46 38.4 +0.5**
SNR=6.2
EKS2 Erkin-Say 45.26 336 P **P 04 46 39.9 +1.2**
SNR=11
EKS2 Erkin-Say 45.26 336 *e*P **P 04 46 38.5 -0.2**
comp=Z,14nm,0.7s,mb4.9
KSRS Korea Array 45.46 35 P **P 04 46 39.7 -0.6**
comp=Z,17nm,0.8s,mb5.0,baz=226,slow=9.2,SNR=88
KSRS LR LR 05 06 09.9
comp=Z,534nm,18.9s,MS4.5,baz=216,slow=37
USP Ospenovka 45.49 337 P **P 04 46 41.2 +0.8**
SNR=20
RER Riviere de l'E 46.18 238 *e*P **P 04 46 46.5 +0.3**
MK31 Makanchi Array 46.24 346 *e*P **P 04 46 46.1 -0.2**
MKAR Makanchi Array 46.24 346 P **P 04 46 46.4 +0.1**
comp=Z,37nm,0.7s,mb5.4,baz=159,slow=7.9,SNR=83
SONM Songino Array 46.35 9 P **P 04 46 47.7 +0.6**
comp=Z,16nm,0.6s,mb5.1,baz=189,slow=9.3,SNR=82
SNY Shenyang 46.39 28 ⇓P **P 04 46 47.1 -0.4**
SNY AMB AMB
comp=Z,35nm,0.8s,mb5.3
ZAK Zakamensk 48.45 6 ⇑*i*P **P 04 47 03.6 +0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.8s,mb4.5
CN2 Changchun 48.79 28 *e*P **P 04 47 05.6 -0.5**
CN2 *e*S **S 04 54 06.6 -1.0**
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,14.0s,MS4.8
CN2 LR LR
comp=E,500nm,14.0s,MS4.8
CN2 LR LR
comp=Z,800nm,15.0s,MS4.8
COEN Coen 48.82 111 *e*P **P 04 47 04.9 -2.0**
comp=Z,7.9nm,0.9s,mb4.7
HVS Khovu-Aksy 48.93 358 *e*P **P 04 47 07.3 +0.2**
HVS pmax pmax
comp=Z,22nm,1.3s,mb5.0
TLY Talaya 49.77 6 *e*P **P 04 47 14.1 +0.6**
TLY pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
TLY MLR MLR
comp=Z,577nm,17.0s,MS4.7
TLY Talaya 49.77 6 *e*P **P 04 47 14.3 +0.8**
comp=Z,6.8nm,0.6s,mb4.8
IRK Irkutsk 50.39 6 ⇑*i*P **P 04 47 18.2 0.0**
IRK pmax pmax
comp=Z,50nm,2.4s,mb5.1
KURK Kurchatov 50.79 345 *e*P **P 04 47 21.2 0.0**
HIA Hailar 50.99 19 *e*P **P 04 47 22.5 -0.3**
HIA pmax pmax
comp=Z,17nm,0.8s
HIA Hailar 50.99 19 *e*P **P 04 47 22.5 -0.3**
comp=Z,17nm,0.8s,mb5.0
MDJ Mudanjiang 51.39 30 P **P 04 47 25.8 0.0**
MDJ AMB AMB
comp=Z,16nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,379nm,8.9s
MJAR Matsushiro Arr 51.44 43 P **P 04 47 26.2 -0.2**
comp=Z,6.1nm,0.7s,mb4.7,baz=231,slow=7.7,SNR=14
VLA Vladivostok 51.54 33 *e*P **P 04 47 24.7 -2.3**
VLA *e**PP pP 04 47 33.7 -1.3
VLA pmax pmax
comp=Z,21nm,0.6s,mb5.2
PMG Port Moresby 51.63 104 ⇑*e*P **P 04 47 28.3 +0.1**
PMG Port Moresby 51.63 104 *e*P **P 04 47 27.0 -1.2**
comp=Z,30nm,0.7s,mb5.3
PMG *e*pP pP 04 47 34.6 -1.6
ZAL Zalesovo 52.59 351 P **P 04 47 34.6 0.0**
ZALV Zalesovo Beam 52.59 351 P **P 04 47 34.6 0.0**
comp=Z,71nm,0.8s,mb5.7,baz=175,slow=7.4,SNR=64
OPO Ambohidratompo 52.76 245 P **P 04 47 36.5 0.0**
comp=Z,4.9nm,0.9s,mb4.4,baz=79,slow=16,SNR=3.5
NVS Novosibirsk 53.70 350 ⇑*i*P **P 04 47 41.5 -1.3**
NVS *e*S **S 04 55 12.6 -2.6**
NVS pmax pmax
comp=N,27nm,1.0s
NVS pmax pmax
comp=E,18nm,1.0s
NVS pmax pmax
comp=Z,37nm,1.0s,mb5.3
NVS smax
comp=N,6.0nm,1.4s
NVS smax
comp=E,14nm,1.4s
KRAR Krasnoyarsk 53.84 357 *e*P **P 04 47 43.1 -0.7**
KRAR pmax pmax
comp=Z,49nm,0.8s,mb5.5
STKA Stephens Creek 54.38 132 P **P 04 47 47.5 -0.8**
comp=Z,10nm,1.0s,mb4.7,baz=305,slow=8.3,SNR=6.2
STKA Stephens Creek 54.38 132 P **P 04 47 47.5 -0.8**
BVAR Borovoye Array 55.22 341 P **P 04 47 53.3 -0.6**
comp=Z,14nm,0.7s,mb5.1,baz=144,slow=8.5,SNR=35
BRVK Borovoye 55.28 341 *e*P **P 04 47 53.4 -0.9**
BRVK pmax pmax
comp=Z,17nm,0.8s,mb5.1
BRVK Borovoye 55.28 341 *e*P **P 04 47 53.4 -0.9**
comp=Z,17nm,0.8s,mb5.1
KLR Kul'dur 55.73 27 *e*P **P 04 47 53.6 -4.0**
KLR pmax pmax
comp=E,50nm,1.8s
KLR pmax pmax
comp=Z,70nm,1.8s,mb5.4
BOD Bodaibo 57.25 11 *e*P **P 04 48 08.2 -0.1**
BOD pmax pmax
comp=Z,16nm,1.1s,mb5.0
AKTK Aktyubinsk 58.17 332 P **P 04 48 14.0 -0.9**
AKTO Aktyubinsk 58.17 332 P **P 04 48 14.0 -1.0**
comp=Z,10nm,0.8s,mb4.9,baz=128,slow=9.4,SNR=4.9
ASAJ Asahikawa 58.31 37 P **P 04 48 15.8 -0.3**
comp=Z,7.3nm,0.7s,mb4.8,baz=81,slow=31,SNR=5.5
KMBO Kilima Mbogo 59.44 267 P **P 04 48 25.1 +0.7**
comp=Z,1.5nm,0.7s,mb4.1,baz=53,slow=14,SNR=4.4
KMBO Kilima Mbogo 59.44 267 *e*P **P 04 48 24.6 +0.2**
KMBO *e**PP pP 04 48 32.2 -0.3
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 59.44 267 *e*P **P 04 48 24.6 +0.2**
comp=Z,5.0nm,0.8s,mb4.6
KMBO *e*pP pP 04 48 32.2 -0.3
YSS Yuzh-Sakhalins 59.95 35 ⇑*e*P **P 04 48 27.0 -0.3**
YSS pmax pmax
comp=Z,29nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 59.95 35 *e*P **P 04 48 27.0 -0.3**
comp=Z,28nm,0.9s,mb5.3
SVE Sverdlovsk 61.65 338 *e*P **P 04 48 38.3 -0.4**
SVE pmax pmax
comp=Z,31nm,0.8s,mb5.5
ARU Arti 62.14 337 *c i*P **P 04 48 40.9 -1.1**
ARU *e*S **S 04 57 05.7 +0.1**
ARU *e*SS SS 05 01 02.2 -6.6
ARU pmax pmax
comp=Z,24nm,1.7s,mb5.0
ARU Arti 62.14 337 *e*P **P 04 48 41.1 -0.8**
comp=Z,15nm,0.8s,mb5.2
KIV Kislovodsk 63.25 319 ⇓*e*P **P 04 48 49.4 -0.3**
KIV pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
YAK Yakutsk 64.74 17 *e*P **P 04 48 58.0 -1.1**
YAK pmax pmax
comp=Z,87nm,0.9s,mb5.8
YAK pmax pmax
comp=N,27nm,1.5s
YAK pmax pmax
comp=E,31nm,1.9s
YAK Yakutsk 64.74 17 *e*P **P 04 48 57.2 -1.9**
comp=E,93nm,0.9s,mb5.8
LSZ Lusaka 69.81 253 *e*P **P 04 49 32.7 +0.6**
LSZ *e**PP pP 04 49 39.5 -0.8
LSZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
LSZ Lusaka 69.81 253 *e*P **P 04 49 32.7 +0.6**
comp=Z,7.5nm,1.1s,mb4.5
LSZ *e*pP pP 04 49 39.5 -0.9
MOS Moscow 71.27 329 *e*P **P 04 49 37.9 -2.4**
MOS *e*S S 04 58 51.0 -5.1
MOS pmax pmax
comp=Z,32nm,0.6s,mb5.4
OBN Obninsk 71.56 328 ⇑*e*P **P 04 49 40.2 -1.8**
OBN *e*S S 04 58 58.8 -0.6
OBN pmax pmax
comp=Z,21nm,1.4s,mb4.9
KLMR Klimovskoe 72.70 335 *e*P **P 04 49 47.7 -1.0**
KLMR pmax pmax
comp=Z,39nm,1.4s,mb5.1
TIRR Tirgusor 73.08 316 ⇓*i*P **P 04 49 50.5 -0.8**
TIRR Tirgusor 73.08 316 *e*P **P 04 49 50.3 -1.0**
comp=Z,7.4nm,0.8s,mb4.7
TIRR *e*pP pP 04 49 58.0 -1.6
SEY Seymchan 73.18 23 ⇑*e*P **P 04 49 51.0 -0.5**
MAW Mawson 73.44 193 P **P 04 49 53.5 +0.5**
comp=Z,0.9nm,0.6s,mb3.9,baz=43,slow=7.1,SNR=3.8
MAW Mawson 73.44 193 P **P 04 49 53.5 +0.5**
LBTB Lobatse 73.76 243 *e*P **P 04 49 55.9 +0.2**
LBTB *e**PP pP 04 50 03.0 -1.0
LBTB pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LBTB Lobatse 73.76 243 *e*P **P 04 49 55.9 +0.2**
comp=Z,10nm,0.8s,mb4.8
LBTB *e*pP pP 04 50 03.0 -1.0
IDI Anoyia 73.91 306 P **P 04 49 56.3 -0.1**
comp=Z,6.0nm,0.7s,mb4.6,baz=81,slow=8.4,SNR=3.8
AKASG Malin Array Be 74.20 322 P **P 04 49 56.6 -1.1**
comp=Z,4.8nm,0.7s,mb4.5,baz=92,slow=4.8,SNR=17
AKASG PP PP 04 52 41.4 -2.2
comp=Z,0.3nm,0.3s,baz=80,slow=6.6,SNR=7.2
KIEV Kiev 74.21 322 *e*P **P 04 49 56.3 -1.5**
KIEV *e**PP pP 04 50 03.4 -2.7
KIEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KIEV Kiev 74.21 322 *e*P **P 04 49 56.3 -1.5**
comp=Z,5.2nm,0.6s,mb4.6
KIEV *e*pP pP 04 50 03.4 -2.7
VRI Vrincioaia 74.57 317 ⇓*i*P **P 04 50 00.4 +0.4**
VRI Vrincioaia 74.57 317 ⇓P **P 04 50 00.4 +0.3**
MLR Muntele Rosu 75.02 317 ⇓*i*P **P 04 50 03.0 +0.3**
MLR Muntele Rosu 75.02 317 ⇓P **P 04 50 03.0 +0.3**
BURAR Bucovina Array 75.97 319 ⇑*i*P **P 04 50 08.5 +0.4**
BURAR Bucovina Array 75.97 319 ⇑P **P 04 50 08.5 +0.4**
JOF Joensuu 77.09 335 *ep* **P 04 50 13.2 -0.9**
comp=Z,6.0nm,0.9s,mb4.5
LVV L'vov 77.21 321 *e*P **P 04 50 14.1 -0.9**
DRGR 77.48 317 ⇑*i*P **P 04 50 15.5 -1.1**
DRGR 77.48 317 ⇑P **P 04 50 15.5 -1.1**
BZS Buzias 78.03 316 ⇑*i*P **P 04 50 16.3 -3.4**
APA Apatity 78.09 340 ⇑*i*P **P 04 50 22.0 +2.4**
APA pmax pmax
comp=Z,13nm,0.7s,mb5.0
UZH Uzhgorod 78.09 319 *e*P **P 04 50 10.0 -10**
KOLS Kolonicke sedl 78.16 320 *e*P **P 04 50 21.0 +0.6**
KOLS *e* 04 48 28.0
SUW Suwalki 78.61 325 *e*P **P 04 50 21.7 -1.0**
SUW pmax pmax
comp=Z,38nm,1.0s,mb5.3
SUW Suwalki 78.61 325 *e*P **P 04 50 21.7 -1.0**
comp=Z,38nm,1.0s,mb5.3
CRVS Cervenica-Dubn 78.68 319 *e*P **P 04 50 24.2 +1.0**
STHS Stebnicka Huta 78.91 320 *e*P **P 04 50 25.2 +0.7**
STHS *e* pP 04 50 34.2 +1.4
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 78.91 320 *e*P **P 04 50 25.2 +0.7**
comp=Z,6.0nm,0.9s,mb4.5
STHS *e* pP 04 50 34.2 +1.4
KAF Kangasniemi 79.03 333 *ep* **P 04 50 24.4 -0.4**
comp=Z,8.7nm,0.6s,mb4.9
KAF Kangasniemi 79.03 333 *e*P **P 04 50 24.4 -0.4**

KAF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KECS Kecovo 79.25 319 *eP* **P 04 50 26.2 -0.2**
KECS *e* pP 04 50 33.7 -1.0
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 79.25 319 *eP* **P 04 50 26.2 -0.2**
KECS *e* 04 48 36.8
KECS *ep*P pP 04 50 33.7 -1.0
KECS Kecovo 79.25 319 *eP* **P 04 50 26.2 -0.2**
comp=Z,2.4nm,0.8s,mb4.2
KECS *e* pP 04 50 33.7 -1.0
PSZ Piszkesteto 79.56 318 *eP* **P 04 50 27.8 -0.2**
PSZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
PSZ Piszkesteto 79.56 318[1] *eP* **P 04 50 27.9 -0.1**
PSZ Piszkesteto 79.56 318 *eP* **P 04 50 27.8 -0.3**
comp=Z,7.6nm,0.9s,mb4.6
OJC Ojcow 79.97 321 *eP* **P 04 50 29.9 -0.3**
TSUM Tsumeb 80.33 250 *eP* **P 04 50 33.2 +0.4**
comp=Z,10nm,0.9s,mb4.8
BILL Bilibino 80.55 21 *eP* **P 04 50 31.4 -1.6**
BILL pmax pmax
comp=Z,12nm,1.5s,mb4.6
SYO Syowa Base 80.66 198[1] *eP* **P 04 50 32.5 -1.0**
SYO Syowa Base 80.66 198[1] *e*PcP PcP 04 50 39.6 -0.7
MORC Moravsky Berou 81.35 320 ||*iP* **P 04 50 37.6 0.0**
MORC Moravsky Berou 81.35 320 *eP* **P 04 50 37.1 -0.5**
comp=Z,2.4nm,0.7s,mb4.2
MORC *ep*P pP 04 50 44.7 -1.3
MODS Modra-Piesok 81.36 318 *eP* **P 04 50 39.1 +1.4**
ZST Bratislava 81.45 318 *eP* **P 04 50 38.2 0.0**
ZST *e* pP 04 50 45.7 -0.9
ZST pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ZST Bratislava 81.45 318 *eP* **P 04 50 38.2 0.0**
comp=Z,9.5nm,0.7s,mb4.8
ZST *e* pP 04 50 45.7 -0.9
ARCES ARCESS Array B 81.50 340 P **P 04 50 38.0 0.0**
comp=Z,4.4nm,0.6s,mb4.6,baz=99,slow=4.9,SNR=37
DPC Dobruska-Polom 82.20 320 *eP* **P 04 50 42.8 +0.7**
DPC *ep*P pP 04 50 50.1 -0.4
PRU Pruhonice 83.30 320 *eP* **P 04 50 48.0 +0.2**
AQU L'Aquila 83.58 312 *eP* **P 04 50 49.7 +0.3**
AQU pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
AQU L'Aquila 83.58 312 *eP* **P 04 50 49.7 +0.3**
comp=Z,9.6nm,0.8s,mb5.0
BRG Berggiesshubel 83.75 321 *eP* **P 04 50 58.9 +8.8**
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.5
BRG Berggiesshubel 83.75 321 *eP* **P 04 50 58.9 +8.8**
comp=Z,9.2nm,1.4s,mb4.7
GEC2 GERESS Array S 83.76 319 *eP* **P 04 50 49.9 -0.3**
GEC2 *e**PP pP 04 50 57.6 -1.0
GERES GERESS Array B 83.76 319 P **P 04 50 50.4 +0.2**
comp=Z,3.8nm,0.8s,mb4.6,baz=94,slow=5.4,SNR=25
KHC Kasperske Hory 83.86 319 *eP* **P 04 50 50.5 -0.2**
KHC *ep*P pP 04 51 00.3 +1.2
CLL Collm 84.38 321 *eP* **P 04 50 53.0 -0.3**
GRA1 Grafenberg Arr 85.43 320 *eP* **P 04 50 58.8 +0.2**
comp=Z,10.0nm,0.9s,mb5.0
GRA1 *ep*P pP 04 51 05.3 -1.7
GRF Grafenberg Arr 85.43 320 *eP* **P 04 50 58.8 +0.2**
GRF *e**PP pP 04 51 05.3 -1.7
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
GRF Grafenberg Arr 85.43 320 *eP* **P 04 50 58.8 +0.2**
GRF *e**PP pP 04 51 05.3 -1.7
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
GRF Grafenberg Arr 85.43 320 *eP* **P 04 50 58.8 +0.2**
comp=Z,10.0nm,0.9s,mb5.0
GRF *ep*P pP 04 51 05.3 -1.7
NB2 NORSAR Subarra 85.95 331 P **P 04 51 00.0 -0.9**
comp=Z,6.8nm,1.0s,mb4.8,baz=92,slow=5.9
NOA NORSAR Array B 85.95 331 P **P 04 51 00.6 -0.4**
comp=Z,2.4nm,0.8s,mb4.5,baz=94,slow=5.1,SNR=5.8
SPITS Spitsbergen Ar 85.97 348 P **P 04 51 00.0 -0.7**
comp=Z,8.4nm,0.8s,mb5.0,baz=333,slow=10,SNR=6.1
NAO01 NORSAR Array S 86.10 331 *eP* **P 04 51 00.5 -1.2**
comp=Z,6.9nm,0.9s,mb4.9
DAVOX Davos/Dischmat 86.25 317 P **P 04 51 02.9 +0.1**
comp=Z,6.2nm,0.6s,mb5.0,baz=105,slow=5.5,SNR=16
DAVOS Davos 86.31 317 P **P 04 51 02.9 -0.1**
KEST Kesra 86.57 305 P **P 04 51 03.8 -0.8**
comp=Z,1.5nm,0.9s,mb4.2,baz=305,slow=3.4,SNR=3.5
CDF Champ du Feu 88.01 318 *eP* **P 04 51 10.5 -0.8**
LPG La Plagne 88.43 315 *eP* **P 04 51 13.3 0.0**
comp=Z,11nm,0.9s,mb4.8
LPG La Plagne 88.43 315 *eP* **P 04 51 13.3 0.0**
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
LPG La Plagne 88.43 315 *eP* **P 04 51 13.3 0.0**
comp=Z,5.5nm,0.9s,mb4.8
MBDF Montbardon 88.43 315 *eP* **P 04 51 13.9 +0.6**
LPL La Plagne 88.44 315 *eP* **P 04 51 13.4 0.0**
comp=Z,14nm,0.9s,mb4.9
LPL La Plagne 88.44 315 *eP* **P 04 51 13.4 0.0**
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
LPL La Plagne 88.44 315 *eP* **P 04 51 13.4 0.0**
comp=Z,6.8nm,0.9s,mb4.9
HAU Haudompre 88.64 318 *eP* **P 04 51 13.6 -0.7**
comp=Z,8.2nm,0.7s,mb4.9
HAU Haudompre 88.64 318 *eP* **P 04 51 13.6 -0.7**
HAU pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
HAU Haudompre 88.64 318 *eP* **P 04 51 13.6 -0.7**
comp=Z,4.1nm,0.7s,mb4.9
CABF La Chapelle 88.86 316 *eP* **P 04 51 16.0 +0.7**
comp=Z,65nm,1.5s,mb5.4
CABF La Chapelle 88.86 316 *eP* **P 04 51 16.0 +0.7**
CABF pmax pmax
comp=Z,33nm,1.5s,mb5.4
CABF La Chapelle 88.86 316 *eP* **P 04 51 16.0 +0.7**
comp=Z,33nm,1.5s,mb5.4
ORIF Oris-en-Rattie 89.06 315 *eP* **P 04 51 16.3 0.0**
MEZF Maizieres J'vi 89.49 318 *eP* **P 04 51 18.9 +0.7**
GIVF Givet 89.56 320 *eP* **P 04 51 18.4 -0.1**
VIVF Saint-Julien-l 89.92 315 *eP* **P 04 51 20.4 +0.1**
BAIF Baives 89.96 320 *eP* **P 04 51 20.7 +0.3**
comp=Z,21nm,0.9s,mb5.2
BAIF Baives 89.96 320 *eP* **P 04 51 20.7 +0.3**
BAIF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
BAIF Baives 89.96 320 *eP* **P 04 51 20.7 +0.3**
comp=Z,10nm,0.9s,mb5.2
TAM Tamanrasset 90.20 293 *eP* **P 04 51 23.7 +1.5**
LOR Lormes 90.35 317 *eP* **P 04 51 22.3 0.0**
SMF Signal de Mont 90.40 317 *eP* **P 04 51 22.2 -0.3**
LASF Ste Croix 90.55 314 *eP* **P 04 51 23.4 +0.1**
SSF Saint Saulge 90.61 317 *eP* **P 04 51 23.5 0.0**
AVF Avril sur Loir 90.73 317 *eP* **P 04 51 24.0 -0.1**
BGF Bois d'Agland 91.09 316 *eP* **P 04 51 26.1 +0.3**
MTLF Montolieu 91.78 313 *eP* **P 04 51 29.2 +0.2**
QSPA South Pole Qui 92.03 180 LR LR 05 30 40.8
comp=Z,457nm,18.7s,MS5.0,baz=340,slow=34
EKA Eskdalemuir Ar 93.85 326 P **P 04 51 38.0 -0.3**
comp=Z,2.2nm,0.8s,mb4.7,baz=91,slow=5.8,SNR=7.2
TORD Torodi Ar. Bea 94.32 283 P **P 04 51 41.4 +0.1**
comp=Z,1.1nm,1.1s,mb4.2,baz=256,slow=6.0,SNR=4.1
EVO Evora 100.10 310 *eP* Pdif 04 52 07.9 +1.3
comp=Z,61nm,1.5s
FFC Flin Flon 121.33 13 *e*PKIKP PKPdf 04 57 12.6 -1.5
DLMT Dillon 126.11 25 *e*PKPdf PKPdf 04 57 23.0 -0.5
HLID Hailey 126.70 28 *e*PKPdf PKPdf 04 57 24.8 +0.1
ULM Lac du Bonnet 126.77 10 PKP PKPdf 04 57 23.8 -0.9
comp=Z,3.3nm,0.7s,baz=122,slow=6.1,SNR=6.0
ULM Lac du Bonnet 126.77 10 *e*PKPdf PKPdf 04 57 23.5 -1.2
TPAW Teton Pass 128.31 25 *e*PKPdf PKPdf 04 57 28.1 +0.3
LOHW Long Hollow 128.36 25 *e*PKPdf PKPdf 04 57 27.1 -0.8
NVAR Mina Array Bea 128.40 35 PKP PKPdf 04 57 28.6 +0.5
comp=Z,1.1nm,0.8s,baz=242,slow=1.5,SNR=6.7
PDAR Pinedale Array 129.49 25 PKP PKPdf 04 57 29.1 -1.0
comp=Z,0.6nm,0.6s,baz=98,slow=0.5,SNR=5.5
HWUT Hardware Ranch 129.54 27 *e*PKPdf PKPdf 04 57 28.8 -1.5
DUG Dugway 130.05 29 *e*PKIKP PKPdf 04 57 32.0 +0.8
ANMO Albuquerque 137.27 28 *e*PKIKP PKPdf 04 57 44.8 -0.2
TXAR Lajitas Array 143.21 30 PKhKP 04 57 52.5
comp=Z,2.2nm,1.0s,baz=222,slow=1.2,SNR=8.9
TXAR PKP PKPdf 04 57 55.9 +0.1
comp=Z,2.2nm,1.0s,baz=315,slow=0.6,SNR=13
JCT Junction City 144.03 25 *e*PKIKP PKPdf 04 57 55.0 -2.3
NATX Nacogdoches 144.68 17 *e*PKPdf PKPdf 04 57 57.2 -1.2
LRAL Lakeview Retre 144.90 5 *e*PKPdf PKPdf 04 57 56.7 -2.0
CPUP Villa Florida 145.25 224 PKPbc PKPbc 04 57 59.4 +0.2
comp=Z,3.9nm,0.7s,baz=103,slow=2.7,SNR=11
CPUP Villa Florida 145.25 224 *e*PKPbc PKPbc 04 57 59.2 0.0
HKT Hockley 145.99 20 *e*PKP2 PKPab 04 58 00.9 -1.0
CFAA Coronel Fontan 147.35 204 PKPbc PKPbc 04 58 05.2 -0.1
comp=Z,0.5nm,0.6s,baz=223,slow=0.6,SNR=6.9
LCO Las Campanas 150.63 203 *e*PKPdf PKPdf 04 58 07.7 -0.6
OTAV Otavalo 174.55 295 *e*PKPdf PKPdf 04 58 31.8 -0.2

JMA 18 04:46:35.3±0.2, 3536N×14037E, h21km±2km, M2.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.15**	**293**	P	Pb	04 46 40.4	+0.5
JCN				S	Sb	04 46 44.7	+1.7
KTR	**Katsuura**	**0.22**	**192**	P	Pb	04 46 40.5	-0.3
KTR				S	Sb	04 46 44.6	+0.2
BSO4	**Boso 4**	**0.37**	**184**	P	Pb	04 46 43.4	+0.2
BSO4				S	Sb	04 46 51.4	+2.9
BSO3	**Boso 3**	**0.57**	**168**	P	Pb	04 46 46.5	-0.1
MAT	**Matsushiro**	**2.12**	**305**	P	Pn	04 47 09.2	-0.2
MAT				S	Sn	04 47 38.4	+3.3

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*ISCJB **18** 04:55:31.2±0.7, 2036S±005×687W±0.1, h137km±9km, mb3.8/4, Error ellipse: s-maj=16.0km s-min=8.2km az=16.3*
*IDC **18** 04:55:31.7±0.8, 2033S×6877W, h122km±10km, mb3.7/4, mb1 3.8/7, mb1mx3.4/19, mbtmp3.6/7, Error ellipse: s-maj=21.8km s-min=8.6km az=100.0*
*NEIC **18** 04:55:31.9±0.9, 2035S×6872W, h127km±10km, mb3.6/1, Error ellipse: s-maj=19.8km s-min=11.2km az=95.0*
ISC 18 04:55:32.4±0.7, 2036S±005×687W±01, h130km±9km, n10, σ0§67/14, mb3.8/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.25**	**185**	P	**Pn**	**04 56 09.4**	**-0.1**
LVC	15nm,0.3s,baz=11,slow=9.9,SNR=73			S	**Sn**	**04 56 38.1**	**+0.1**
LVC	**Limon Verde**	**2.25**	**185**	P	**Pn**	**04 56 09.4**	**-0.1**
LVC	58nm,0.3s,baz=129,slow=19,SNR=37			S	**Sn**	**04 56 38.1**	**+0.1**
LPAZ	**La Paz**	**4.08**	**8**	P	**Pn**	**04 56 33.9**	**+0.6**
LPAZ	3.8nm,0.3s,baz=193,slow=3.8,SNR=20			S	**Sn**	**04 57 20.7**	**+0.2**
SIV	**San Ignacio**	**8.44**	**60**	P	**Pn**	**04 57 31.1**	**-0.8**
SIV	2.1nm,0.3s,baz=251,slow=12,SNR=24			S	**Sn**	**04 59 05.4**	**-0.2**
TRQA	**Tornquist**	**18.57**	**163**	*eP*	**P**	**04 59 39.1**	**-0.1**
TEIG	3.9nm,1.2s **Tepich**	**44.66**	**333**	P	**P**	**05 03 31.5**	**-0.8**
TXAR	14nm,1.2s,mb4.5,baz=153,slow=9.0,SNR=2.7 **Lajitas Array**	**59.81**	**325**	P	**P**	**05 05 23.0**	**-1.1**
TORD	0.5nm,1.0s,mb3.3,baz=119,slow=7.3,SNR=3.8 **Torodi Ar. Bea**	**76.78**	**70**	P	**P**	**05 07 11.2**	**+1.1**
TORD	0.6nm,0.5s,mb3.5,baz=254,slow=5.4,SNR=15			pP	pP	05 07 40.3	-2.3
YKA	1.1nm,0.8s,baz=240,slow=4.9,SNR=5.5 **Yellowknife Ar**	**90.18**	**341**	P	**P**	**05 08 18.4**	**+1.0**
YKA	1.4nm,0.8s,mb3.9,baz=130,slow=4.1,SNR=6.5 **Yellowknife Ar**	**90.18**	**341**	P	**P**	**05 08 18.4**	**+1.0**

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*NEIC **18** 05:04:32.0±1.1, 6.18S×14882E, h10km, mb4.8/1, Error ellipse: s-maj=33.6km s-min=12.1km az=104.0*
*ISCJB **18** 05:04:35.3±2.9, 62S±0.1×1486E±03, h46km±27km, mb4.0/6, Error ellipse: s-maj=48.2km s-min=18.9km az=20.2*
*IDC **18** 05:04:39.8±8.8, 622S×14868E, h74km±78km, mb3.7/6, mb1 3.8/7, mb1mx3.7/15, mbtmp3.7/7, ML4.3/1, MS4.2/1, Ms1 4.2/1, ms1mx3.2/19, Error ellipse: s-maj=49.6km s-min=21.4km az=95.0*
ISC 18 05:04:37.0±2.6, 62S±02×1485E±02, h40km±27km, n14, σ0§94/14, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.46**	**202**	*e*Pn	**Pn**	**05 05 29.7**	**+1.3**
PMG				*e*Sn	**Sn**	**05 06 13.5**	**+5.3**
COEN	**Coen**	**9.33**	**214**	*e*Pn	**Pn**	**05 06 49.3**	**+0.2**
COEN				*e*Sn	**Sn**	**05 08 32.1**	**-0.7**
CTAO	**Charters Tower**	**13.99**	**189**	*e*Pn	**Pn**	**05 07 49.8**	**-3.0**
WB2	238nm,1.5s **Warramunga Arr**	**19.39**	**224**	*eP*	**Pn**	**05 09 00.1**	**-0.9**
WRA	**Warramunga Arr**	**19.39**	**224**	P	**Pn**	**05 09 00.6**	**-0.5**
ASAR	0.9nm,0.3s,baz=49,slow=11,SNR=17 **Alice Springs**	**22.34**	**217**	P	**P**	**05 09 32.2**	**+0.7**
FITZ	2.9nm,0.5s,mb4.0,baz=61,slow=9.8,SNR=55 **Fitzroy Crossi**	**25.25**	**240**	*eP*	**P**	**05 10 01.1**	**+1.6**
FITZ	15nm,0.7s,mb4.6 **Fitzroy Crossi**	**25.25**	**240**	P	**P**	**05 10 01.2**	**+1.6**
STKA	4.4nm,0.5s,mb4.2,baz=80,slow=8.0,SNR=16 **Stephens Creek**	**26.36**	**193**	P	**P**	**05 10 09.5**	**0.0**
KSRS	1.2nm,0.7s,mb3.6,baz=346,slow=11,SNR=2.6 **Korea Array**	**47.46**	**338**	P	**P**	**05 13 07.5**	**-0.5**
PETK	0.6nm,0.4s,mb3.8,baz=144,slow=9.1,SNR=4.5 **Petropavlovsk-**	**59.58**	**6**	P	**P**	**05 14 36.4**	**-0.1**
SONM	1.8nm,0.5s,mb4.3,baz=160,slow=4.6,SNR=8.9 **Songino Array**	**65.29**	**330**	P	**P**	**05 15 14.5**	**-0.2**
TORD	0.4nm,0.8s,mb3.5,baz=130,slow=5.8,SNR=3.5 **Torodi Ar. Bea**	**146.57**	**284**	PKPbc	PKPbc	05 24 13.8	-1.4
BDFB	0.7nm,0.5s,baz=86,slow=2.9,SNR=21 **Brasilia**	**152.85**	**143**	PKPbc	PKPbc	05 24 28.6	-2.3
	0.4nm,0.4s,baz=106,slow=26,SNR=3.8						

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*ISCJB **18** 05:20:18.5±0.5, 5834S±007×234W±02, h10km, mb4.3/13, Error ellipse: s-maj=12.7km s-min=9.6km az=145.0*
*IDC **18** 05:20:18.8±0.5, 5827S×2341W, h0km, mb4.3/13, mb1 4.3/14, mb1mx4.2/20, mbtmp4.3/14, ML4.1/1, Error ellipse: s-maj=18.6km s-min=15.8km az=42.0*
*NEIC **18** 05:20:20.1±0.3, 5832S×2336W, h10km, mb4.8/2, Error ellipse: s-maj=11.0km s-min=9.4km az=222.0*
ISC 18 05:20:20.4±0.5, 5834S±007×234W±02, h10km, n37, σ0§91/24, mb4.3/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.90**	**159**	*e*	**Pn**	**05 23 36.8**	**-0.3**
VNA1				*e*		05 23 40.7	
SNAA	**Sanae**	**15.81**	**156**	*e*	**Pn**	**05 24 01.1**	**-1.5**
SNAA				*e*		05 24 05.8	
SNAA				*e*S	**Sn**	**05 26 42.6**	**-15**
SNAA	**Sanae**	**15.81**	**156**	Pn	**Pn**	**05 24 01.2**	**-1.4**
SNAA	0.8nm,0.3s,baz=324,slow=15,SNR=80			Sn	**Sn**	**05 26 42.9**	**-15**
PMSA	0.1nm,0.3s,baz=345,slow=17,SNR=4.1 **Palmer Station**	**20.10**	**234**	P	**P**	**05 24 55.4**	**+1.6**
EFI	7.1nm,0.7s,baz=66,slow=7.7,SNR=9.7 **East Falkland**	**20.79**	**274**	*eP*	**P**	**05 25 00.7**	**-0.6**
USHA	65nm,1.1s **Ushuaia**	**24.69**	**259**	P	**P**	**05 25 41.2**	**+0.1**
QSPA	12nm,0.9s,mb4.4,baz=76,slow=9.3,SNR=7.7 **South Pole Qui**	**31.91**	**180**	P	**P**	**05 26 46.3**	**+1.0**
QSPA	3.3nm,0.7s,mb4.3,baz=210,slow=4.5,SNR=15			PcP	PcP	05 29 36.0	+0.8
QSPA	2.3nm,0.8s,baz=166,slow=2.2,SNR=3.0 **South Pole Qui**	**31.91**	**180**	P	**P**	**05 26 46.3**	**+1.0**
QSPA				PcP	PcP	05 29 36.0	+0.8
PLCA	**Paso Flores**	**34.43**	**280**	P	**P**	**05 27 06.1**	**-1.6**
PLCA	3.5nm,0.8s,mb4.3,baz=132,slow=7.4,SNR=8.7			PcP	PcP	05 29 43.1	+0.3
MAW	1.4nm,0.8s,baz=209,slow=5.2,SNR=3.1 **Mawson**	**37.07**	**141**	P	**P**	**05 27 30.6**	**+0.6**
MAW	1.2nm,0.3s,mb4.1,baz=261,slow=8.7,SNR=6.0			PcP	PcP	05 29 50.7	+0.5
CPUP	0.9nm,0.7s,baz=256,slow=4.2,SNR=2.6 **Villa Florida**	**39.87**	**309**	P	**P**	**05 27 53.1**	**-0.8**
CFAA	1.6nm,0.6s,mb3.9,baz=151,slow=6.9,SNR=5.1 **Coronel Fontan**	**40.34**	**292**	PcP	PcP	05 30 00.9	-0.1
BDFB	0.3nm,0.5s,baz=233,slow=15,SNR=2.7 **Brasilia**	**46.40**	**326**	P	**P**	**05 28 47.9**	**+1.0**
LBTB	1.3nm,0.6s,mb4.0,baz=144,slow=14,SNR=5.9 **Lobatse**	**47.83**	**67**	P	**P**	**05 28 58.4**	**+0.4**
LPAZ	1.7nm,0.7s,mb4.2,baz=76,slow=9.9,SNR=2.7 **La Paz**	**53.37**	**303**	P	**P**	**05 29 39.9**	**0.0**
	1.6nm,0.6s,mb4.2,baz=90,slow=2.2,SNR=9.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**66.50**	**20**	P	**P**	**05 31 09.0**	**-1.0**
	4.8nm,0.8s,mb4.6,baz=174,slow=6.8,SNR=3.9						
TOA0	**Torodi Ar. Sit**	**74.13**	**25**	*eP*	**P**	**05 31 56.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**74.13**	**25**	P	**P**	**05 31 56.4**	**-0.3**
	2.8nm,0.5s,mb4.5,baz=201,slow=6.3,SNR=75						
SDV	**Santo Domingo**	**77.08**	**312**	*eP*	**P**	**05 32 14.1**	**+0.4**
	6.1nm,0.9s,mb4.5						
TAM	**Tamanrasset**	**84.32**	**27**	*eP*	**P**	**05 32 53.9**	**+1.8**
STKA	**Stephens Creek**	**89.26**	**167**	P	**P**	**05 33 16.7**	**+0.3**
	1.8nm,0.6s,mb4.6,baz=200,slow=5.5,SNR=4.1						
STKA	**Stephens Creek**	**89.26**	**167**	P	**P**	**05 33 16.7**	**+0.3**
ASAR	**Alice Springs**	**96.15**	**159**	P	**P**	**05 33 47.5**	**-0.7**
	0.8nm,0.8s,mb4.2,baz=172,slow=2.5,SNR=7.2						
CMAR	**Chiang Mai Arr**	**122.35**	**108**	PKP	PKPdf	05 39 15.1	-0.3
	1.1nm,0.6s,baz=232,slow=4.1,SNR=5.4						
PDAR	**Pinedale Array**	**123.28**	**298**	PKP	PKPdf	05 39 16.2	-0.2
	0.5nm,0.7s,baz=96,slow=4.5,SNR=3.0						
NVAR	**Mina Array Bea**	**124.15**	**289**	PKP	PKPdf	05 39 19.7	+1.5
	0.3nm,0.7s,baz=116,slow=2.1,SNR=3.5						
NVAR	**Mina Array Bea**	**124.15**	**289**	PKP	PKPdf	05 39 19.7	+1.4
ARCES	**ARCESS Array B**	**132.32**	**21**	PKP	PKPdf	05 39 32.9	0.0
	1.9nm,0.6s,baz=174,slow=2.4,SNR=10						
YKA	**Yellowknife Ar**	**139.25**	**315**	PKP	PKPdf	05 39 43.4	-2.4
	1.8nm,0.9s,baz=120,slow=1.6,SNR=7.5						
YKA				PP	PP	05 42 39.5	-1.1
	0.6nm,0.8s,baz=119,slow=6.8,SNR=4.4						
YKA	**Yellowknife Ar**	**139.25**	**315**	PKP	PKPdf	05 39 43.4	-2.4
YKA				PP	PP	05 42 39.5	-1.1
ZALV	**Zalesovo Beam**	**141.51**	**64**	PKP	PKPdf	05 39 48.3	-1.9
	0.7nm,0.5s,baz=198,slow=4.1,SNR=4.0						
HYT	**Haines Junctio**	**147.80**	**303**	*e*PKPbc	PKPbc	05 40 05.5	+1.6
SONM	**Songino Array**	**148.78**	**87**	PKPbc	PKPbc	05 40 06.6	-0.3
	5.0nm,0.9s,baz=222,slow=2.5,SNR=22						
DAWY	**Dawson**	**149.85**	**308**	*e*PKPdf	PKPdf	05 40 03.5	-0.6
DAWY				*e*PKPbc	PKPbc	05 40 08.6	-0.3
DAWY				*e*PKPab	PKPab	05 40 15.1	+0.5
EGAK	**Eagle**	**150.80**	**309**	*e*PKPdf	PKPdf	05 40 04.5	-1.1
EGAK				*e*PKPbc	PKPbc	05 40 10.8	-0.4
EGAK				*e*PKPab	PKPab	05 40 19.0	+0.4
KSRS	**Korea Array**	**151.97**	**126**	PKPbc	PKPbc	05 40 14.6	-0.3
	1.4nm,0.5s,baz=187,slow=1.8,SNR=8.7						
COLA	**College**	**153.59**	**308**	*e*PKPab	PKPab	05 40 29.9	-0.4

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*ISCJB **18** 06:02:06.4±1.7, 1340S±0.10×768W±02, h40km±14km, mb3.7/6, Error ellipse: s-maj=29.4km s-min=8.9km az=151.5*
*NEIC **18** 06:02:07.9±0.8, 1336S×7679W, h35km, Error ellipse: s-maj=21.9km s-min=8.2km az=60.0*
*IDC **18** 06:02:07.8±4.1, 1329S×7676W, h34km±30km, mb3.7/6, mb1 3.8/10, mb1mx3.6/21, mbtmp3.7/10, ML4.1/3, Error ellipse: s-maj=39.8km s-min=14.7km az=62.0*
ISC 18 06:02:07.5±1.6, 1336S±008×768W±02, h37km±14km, n16, σ1§13/23, mb3.7/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.36**	**358**	Pn	**Pn**	**06 02 29.6**	**-0.5**
NNA	108nm,0.3s,baz=172,slow=12,SNR=61			Sn	**Sn**	**06 02 46.4**	**-0.5**
NNA	**Nana**	**1.36**	**358**	Pn	**Pn**	**06 02 29.6**	**-0.5**
NNA	156nm,0.3s,baz=147,slow=14,SNR=19			Sn	**Sn**	**06 02 46.4**	**-0.5**
NNA				*e*Sn	**Sn**	**06 02 46.8**	**-0.1**
ATAH	**Atahualpa**	**6.51**	**346**	Pn	**Pn**	**06 03 43.9**	**+3.0**
ATAH	3.5nm,0.3s,baz=129,slow=6.7,SNR=15			Sn	**Sn**	**06 04 47.9**	**-6.0**
LPAZ	**La Paz**	**8.88**	**110**	Pn	**Pn**	**06 04 15.5**	**+2.1**
LPAZ	0.5nm,0.3s,baz=299,slow=12,SNR=21			Sn	**Sn**	**06 06 02.7**	**+10**
LVC	baz=292,slow=15,SNR=1.6 **Limon Verde**	**11.88**	**142**	Pn	**Pn**	**06 04 54.8**	**+0.4**
LVC	0.5nm,0.3s,baz=313,slow=14,SNR=5.4			Sn	**Sn**	**06 07 03.5**	**-2.2**
LVC	0.3nm,0.3s,baz=0.1,slow=12,SNR=2.5 **Limon Verde**	**11.88**	**142**	Pn	**Pn**	**06 04 54.8**	**+0.4**
LVC				Sn	**Sn**	**06 07 03.5**	**-2.2**
OTAV	**Otavalo**	**13.60**	**353**	*e*Pn	**Pn**	**06 05 21.4**	**+3.4**
OTAV	9.6nm,1.3s			*e*Sn	**Sn**	**06 07 44.6**	**-3.5**
SIV	**San Ignacio**	**15.45**	**102**	Pn	**Pn**	**06 05 42.6**	**-0.2**
	0.2nm,0.3s,baz=270,slow=15,SNR=5.7						
CFAA	**Coronel Fontan**	**19.80**	**158**	P	**Pn**	**06 06 35.9**	**-0.6**
	0.0nm,0.3s,baz=330,slow=8.6,SNR=5.4						
CPUP	**Villa Florida**	**22.37**	**128**	P	**P**	**06 07 02.7**	**+0.1**
	1.5nm,0.8s,mb3.5,baz=295,slow=4.5,SNR=3.0						
SDV	**Santo Domingo**	**22.93**	**16**	P	**P**	**06 07 08.5**	**0.0**
	4.7nm,0.7s,mb4.0,baz=260,slow=5.8,SNR=6.1						
TXAR	**Lajitas Array**	**49.74**	**329**	P	**P**	**06 10 56.8**	**+0.4**
	0.1nm,0.6s,mb3.0,baz=130,slow=9.7,SNR=2.5						
DBIC	**Dimbokro**	**74.15**	**79**	P	**P**	**06 13 41.0**	**+0.1**
	1.0nm,0.5s,mb4.0,baz=225,slow=2.9,SNR=4.0						
YKA	**Yellowknife Ar**	**81.15**	**343**	P	**P**	**06 14 18.8**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=145,slow=6.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**82.12**	**75**	P	**P**	**06 14 25.4**	**+0.4**
	3.6nm,0.8s,mb4.3,baz=260,slow=5.2,SNR=15						
SONM	**Songino Array**	**145.52**	**356**	PKPbc	PKPbc	06 21 43.0	+1.1
	1.0nm,0.7s,baz=328,slow=2.8,SNR=7.4						

PRE 18 06:07:16.9±0.9, 2109S×3270E, h5km, ML4.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.70**	**206**	*eP*	Pn	06 08 02.0	+1.0
MOPA				*e*S	Sn	06 08 34.6	+0.5
MOPA				AML	AML	06 08 50.9	
	comp=Z,2μm,0.4s						
MSNA	**Messina**	**2.79**	**243**	*eP*	Pn	06 08 03.2	+1.0
MSNA				*e*S	Sn	06 08 37.6	+1.4
MSNA				AML	AML	06 09 01.4	
	comp=Z,329nm,0.3s						
POGA	**Pongola**	**6.33**	**189**	*eP*	Pn	06 08 51.1	+0.1
POGA				*e*S	Sn	06 10 00.2	-3.4
POGA				AML	AML	06 10 51.0	
	comp=Z,58nm,0.6s						
PRYS	**Parys**	**7.59**	**219**	*eP*	Pn	06 09 09.0	+0.8
PRYS				*e*S	Sn	06 10 31.5	-3.1
PRYS				AML	AML	06 10 55.7	
	comp=Z,15nm,0.7s						
**L

PAGZ	**Pagadian**	**1.92 297**	*e*P	Pn	06 22 06.5	+1.2
IPIL	**Ipil**	**2.65 288**	*e*P	Pn	06 22 16.4	+1.1

ISCJB ***18*** *06:21:29.4±3.3, 143.2S×006×7690W±0.10, h2km±21km, mb4.3/19, MS3.7/5, Error ellipse: s-maj=17.0km s-min=7.8km az=152.9*
IDC ***18*** *06:21:31.7±0.7, 141.5S×7667W, h0km, mb4.0/11, mb1 4.2/15, mb1mx4.1/21, mbtmp4.0/15, ML3.8/3, MS3.7/8, Ms1 3.7/8, ms1mx3.4/21, Error ellipse: s-maj=27.5km s-min=13.7km az=58.0*
MOS ***18*** *06:21:35.4±1.6, 1422S×7681W, h33km, mb4.7/2, Error ellipse: s-maj=26.2km s-min=12.9km az=31.3*
NEIC ***18*** *06:21:36.6±0.5, 141.8S×7674W, h35km, mb5.0/9, Error ellipse: s-maj=16.0km s-min=7.5km az=52.0*
ISC 18 06:21:38.2±1.3, 1431S±007×768W±01, h51km±11km**, n51,** σ1⁹**12/43, mb4.3/19, MS3.7/5, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.31**	**358**	Pn	**Pn**	**06 22 08.0**	**-5.8**
	34nm,0.3s,baz=181,slow=13,SNR=24						
NNA				Sn	**Sn**	**06 22 41.4**	**+0.5**
	99nm,0.3s,baz=252,slow=13,SNR=7.7						
ARE	**Arequipa**	**5.52**	**114**	*e*P	**Pn**	**06 23 02.0**	**+4.1**
ARE				*e*S	**Sn**	**06 24 17.0**	**+17**
ATAH	**Atahualpa**	**7.43**	**347**	Pn	**Pn**	**06 23 19.8**	**-4.3**
	1.2nm,0.3s,baz=159,slow=6.7,SNR=7.5						
ATAH				LR	LR	06 25 56.3	
	comp=Z,555nm,19.6s,baz=19,slow=37						
LPAZ	**La Paz**	**8.56**	**104**	Pn	**Pn**	**06 23 41.2**	**+1.6**
	0.4nm,0.3s,baz=283,slow=12,SNR=22						
LPAZ				LR	LR	06 26 46.6	
	comp=Z,141nm,20.5s,baz=276,slow=37						
LPAZ	**La Paz**	**8.56**	**104**	Pn	**Pn**	**06 23 41.2**	**+1.6**
LPAZ				LR	LR	06 26 46.6	
LVC	**Limon Verde**	**11.12**	**139**	Pn	**Pn**	**06 24 13.4**	**-1.2**
	1.0nm,0.3s,baz=306,slow=12,SNR=10						
LVC				Sn	**Sn**	**06 26 13.0**	**-4.5**
	0.3nm,0.3s,baz=231,slow=22,SNR=2.9						
OTAV	**Otavalo**	**14.55**	**353**	Pn	**Pn**	**06 25 00.6**	**-0.6**
	32nm,1.4s						
SIV	**San Ignacio**	**15.25**	**98**	Pn	**Pn**	**06 25 08.1**	**-2.1**
	0.2nm,0.3s,baz=268,slow=14,SNR=8.8						
CFAA	**Coronel Fontan**	**18.91**	**157**	P	**Pn**	**06 25 56.1**	**+0.4**
	0.0nm,0.3s,baz=328,slow=15,SNR=6.7						
ROSC	**El Rosal**	**19.19**	**7**	P	**Pn**	**06 26 00.8**	**+1.7**
	0.1nm,0.3s,baz=120,slow=23,SNR=4.2						
ROSC				LR	LR	06 34 18.2	
	comp=Z,382nm,18.8s,baz=22,slow=40						
ROSC	**El Rosal**	**19.19**	**7**	P	**Pn**	**06 26 00.8**	**+1.7**
ROSC				LR	LR	06 34 18.2	
CPUP	**Villa Florida**	**21.77**	**126**	P	**P**	**06 26 25.9**	**+0.2**
	3.3nm,0.9s,mb3.8,baz=288,slow=13,SNR=3.2						
CPUP	**Villa Florida**	**21.77**	**126**	P	**P**	**06 26 25.9**	**+0.2**
SDV	**Santo Domingo**	**23.83**	**15**	P	**P**	**06 26 45.4**	**-1.3**
	1.7nm,0.3s,mb4.0,baz=220,slow=8.3,SNR=5.3						
PLCA	**Paso Flores**	**26.88**	**170**	P	**P**	**06 27 14.3**	**+0.2**
	0.6nm,0.5s,mb3.4,baz=347,slow=13,SNR=2.5						
PCRV	**Puerto La Cruz**	**27.14**	**27**	LR	LR	06 36 57.0	
	comp=Z,165nm,20.9s,MS3.6,baz=24,slow=34						
BDFB	**Brasilia**	**27.80**	**96**	P	**P**	**06 27 22.1**	**-0.6**
	1.5nm,0.9s,mb3.6,baz=278,slow=25,SNR=2.7						
BDFB				LR	LR	06 38 30.5	
	comp=Z,68nm,20.1s,MS3.2,baz=79,slow=37						
TXAR	**Lajitas Array**	**50.56**	**329**	P	**P**	**06 30 31.8**	**0.0**
	0.7nm,0.8s,mb3.6,baz=144,slow=8.4,SNR=7.5						
TXAR				LR	LR	06 51 23.3	
	comp=Z,71nm,19.0s,MS3.7,baz=5.0,slow=36						
TXAR	**Lajitas Array**	**50.56**	**329**	P	**P**	**06 30 31.8**	**0.0**
TXAR				LR	LR	06 51 23.3	
LAZ	**Ladron**	**56.40**	**330**	*e*P	**P**	**06 31 15.4**	**+1.0**
ANMO	**Albuquerque**	**56.51**	**331**	*e*P	**P**	**06 31 15.7**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,14nm,1.7s						
ANMO	**Albuquerque**	**56.51**	**331**	*e*P	**P**	**06 31 15.7**	**+0.4**
	comp=Z,14nm,1.7s,mb4.7						
SDCO	**Great Sand Dun**	**58.39**	**333**	*e*P	**P**	**06 31 26.3**	**-2.1**
	comp=Z,5.2nm,1.3s,mb4.4						
WUAZ	**Wupatki**	**59.41**	**327**	*e*P	**P**	**06 31 37.3**	**+1.8**
	comp=Z,8.7nm,1.4s,mb4.6						
PDAR	**Pinedale Array**	**64.28**	**334**	P	**P**	**06 32 08.6**	**+0.5**
	comp=Z,0.6nm,1.0s,mb3.6,baz=121,slow=5.5,SNR=4.0						
AGMN	**Agassiz Refuge**	**64.60**	**346**	*e*P	**P**	**06 32 09.3**	**-0.7**
	comp=Z,26nm,1.6s,mb5.0						
NVAR	**Mina Array Bea**	**65.30**	**325**	P	**P**	**06 32 16.3**	**+1.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=140,slow=7.8,SNR=4.5						
ULM	**Lac du Bonnet**	**66.44**	**347**	P	**P**	**06 32 20.8**	**-1.1**
	comp=Z,5.2nm,0.9s,mb4.5,baz=139,slow=8.0,SNR=5.8						
SNAA	**Sanae**	**71.47**	**161**	*e*	**P**	**06 32 53.7**	**+0.8**
SNAA				*e*		06 32 57.7	
SNAA				*e*		06 33 01.5	
NEW	**Newport**	**71.89**	**333**	*e*P	**P**	**06 33 00.6**	**+4.9**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NEW	**Newport**	**71.89**	**333**	*e*P	**P**	**06 33 00.6**	**+4.9**
	comp=Z,2.7nm,0.9s,mb4.2						
LIC	**Lamto**	**74.01**	**79**	*e*P	**P**	**06 33 08.6**	**-0.5**
	comp=Z,48nm,1.3s,mb5.3						
TIC	**Toumodi**	**74.14**	**79**	*e*P	**P**	**06 33 11.6**	**+1.8**
	comp=Z,59nm,1.1s,mb5.4						
EDM	**Edmonton**	**74.22**	**338**	*e*P	**P**	**06 33 08.2**	**-1.2**
DBIC	**Dimbokro**	**74.30**	**79**	P	**P**	**06 33 10.5**	**-0.3**
	comp=Z,6.4nm,0.9s,mb4.5,baz=134,slow=3.1,SNR=3.8						
DBIC				LR	LR	07 05 29.6	
	comp=Z,98nm,18.2s,MS4.1,baz=60,slow=36						
KIC	**Kosan Boka**	**74.32**	**79**	*e*P	**P**	**06 33 11.5**	**+0.6**
	comp=Z,164nm,1.5s						
YKA	**Yellowknife Ar**	**82.07**	**343**	P	**P**	**06 33 52.0**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=134,slow=5.3,SNR=7.8						
YKA	**Yellowknife Ar**	**82.07**	**343**	P	**P**	**06 33 52.0**	**-0.6**
TOA0	**Torodi Ar. Sit**	**82.34**	**74**	*e*P	**P**	**06 33 55.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**82.34**	**74**	P	**P**	**06 33 55.6**	**+0.5**
	comp=Z,11nm,1.0s,mb4.7,baz=259,slow=4.2,SNR=21						
ESDC	**Sonseca Array**	**86.27**	**48**	LR	LR	07 10 28.1	
	comp=Z,50nm,20.1s,MS3.9,baz=160,slow=34						
RC01	**Rabbit Creek A**	**94.39**	**332**	*e*P	**P**	**06 34 49.6**	**-2.5**
	comp=Z,11nm,1.0s,mb5.2						
ASAR	**Alice Springs**	**131.79**	**219**	PKP	PKPdf	06 40 47.7	+1.3
	comp=Z,0.4nm,0.8s,baz=152,slow=4.2,SNR=3.1						
ASAR	**Alice Springs**	**131.79**	**219**	PKP	PKPdf	06 40 47.7	+1.3
WRA	**Warramunga Arr**	**134.23**	**223**	PKP	PKPdf	06 40 52.1	+1.0
	comp=Z,0.3nm,0.4s,baz=143,slow=1.3,SNR=5.5						
WRA	**Warramunga Arr**	**134.23**	**223**	PKP	PKPdf	06 40 52.1	+1.0
ZALV	**Zalesovo Beam**	**137.88**	**16**	PKP	PKPdf	06 40 57.6	+0.8
	comp=Z,1.5nm,0.7s,baz=306,slow=3.4,SNR=4.4						
ZAL	**Zalesovo**	**137.88**	**16**	PKIKP	PKPdf	06 40 57.6	+0.8
ZAK	**Zakamensk**	**144.02**	**360**	*e*PKHKP		06 40 59.7	
ZAK				*e*	PKPdf	06 41 05.4	-2.6
SONM	**Songino Array**	**146.47**	**356**	PKPbc	PKPbc	06 41 14.5	+0.8
	baz=326,slow=1.8,SNR=3.6						
KSRS	**Korea Array**	**148.17**	**321**	PKPbc	PKPbc	06 41 20.6	+1.8
	comp=Z,0.5nm,0.3s,baz=58,slow=3.0,SNR=4.9						

NEIC ***18*** *06:48:05.1, 16.17N×9797W, h10km, MD3.8(MEX), After MEX.*
MEX 18 06:48:05.1±0.7, 1618N×9797W, h9km±6km**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.26**	**323**	*i*P	Pg	06 48 09.9	-0.4
PNIG				*i*S	Sg	06 48 13.8	-0.1
VHO	**Vista Hermosa**	**1.48**	**53**	*i*P	Pn	06 48 28.6	-3.3
VHO				*i*S	Sn	06 48 46.1	-5.3
OXX	**Oaxaca**	**1.49**	**53**	*e*P	Pn	06 48 29.5	-2.6
OXX				*i*S	Sn	06 48 47.8	-3.9
OXX	**Oaxaca**	**1.49**	**53**	*i*P	Pn	06 48 30.0	-2.1
UTMO	**Huajuapan**	**1.65**	**5**	*i*P	Pn	06 48 31.3	-2.9
UTMO				*i*S	Sn	06 48 52.1	-3.5
HUIG	**Huatulco**	**1.83**	**103**	*i*P	Pn	06 48 33.7	-3.1
HUIG				*i*S	Sn	06 48 54.7	-5.4
HUIG	**Huatulco**	**1.83**	**103**	*i*P	Pn	06 48 33.7	-3.1
HUIG				*i*S	Sn	06 48 51.8	-8.4
ACX	**Acapulco**	**1.99**	**290**	*i*P	Pn	06 48 36.0	-3.0
ACX				*i*S	Sn	06 48 58.5	-5.5
ACX	**Acapulco**	**1.99**	**290**	*i*P	Pn	06 48 38.0	-1.0
TPIG	**Tehuac#an**	**2.30**	**14**	*i*P	Pn	06 48 41.4	-1.8
TPIG				*i*S	Sn	06 49 07.4	-4.3
MEIG	**Mezcala**	**2.35**	**318**	*e*P	Pn	06 48 41.2	-2.7
MEIG				*i*S	Sn	06 49 07.0	-5.9
CAIG	**El Cayaco**	**2.37**	**292**	*i*P	Pn	06 48 42.2	-2.0
CAIG				*i*S	Sn	06 49 09.5	-3.9
CAIG	**El Cayaco**	**2.37**	**292**	*i*P	Pn	06 48 45.6	+1.4
CAIG				*i*S	Sn	06 49 16.0	+2.6
PPM	**Popocatepetl**	**2.94**	**348**	*i*P	Pn	06 48 49.6	-2.4
PPM				*e*P		06 48 55.0	
PPM				*i*S	Sn	06 49 27.1	-0.4
PPM	**Popocatepetl**	**2.94**	**348**	*e*P	Pn	06 48 55.0	+3.0
PPM				*i*S	Sn	06 49 27.1	-0.4

MAN ***18*** *07:28:27, 576N×12447E, h49km, mb4.9, ML3.8, MS3.8*
MAN INTENSITY I - GENERAL SANTOS CITY.
ISCJB ***18*** *07:28:29.6±0.5, 588N±004×12456E±004, h95km±4km, mb4.3/25, Error ellipse: s-maj=7.3km s-min=6.1km az=135.4*
BJI ***18*** *07:28:31.0, 559N×12480E, h127km, mB5.0, mb4.7*
NEIC ***18*** *07:28:31.7±0.9, 586N×12465E, h100km±9km, mb4.6/6, Error ellipse: s-maj=10.5km s-min=7.5km az=66.0*
DJA ***18*** *07:28:32, 585N×12469E, h79km, ML5.2/3*
IDC ***18*** *07:28:32.1±1.3, 588N×12468E, h103km±12km, mb4.0/17, mb1 4.1/18, mb1mx4.1/23, mbtmp4.1/18, MS3.3/4, Ms1 3.3/4, ms1mx2.9/33, Error ellipse: s-maj=18.6km s-min=9.7km az=77.0*
ISC 18 07:28:30.7±0.5, 588N±004**×12457E**±004**, h87**km±4km**, n52,** σ1⁹**09/58, mb4.3/25, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.43**	**62**	*e*P	**Pn**	**07 28 44.7**	**+0.1**
GSPH				*e*S	**Sn**	**07 28 56.5**	**+1.5**
CTBH	**Cotabato--PC H**	**1.37**	**347**⇑	*e*P	**Pn**	**07 28 53.9**	**-0.7**
CTBH				*i*S	**Sn**	**07 29 12.2**	**-0.5**
DMPH	**Davao City--Mi**	**1.52**	**38**⇓	*i*P	**Pn**	**07 28 57.1**	**+0.6**
DMPH				*i*S	**Sn**	**07 29 23.6**	**+7.6**
DAV	**Davao City (W)**	**1.55**	**40**	P	**Pn**	**07 28 58.0**	**+1.1**
	323nm,0.3s,baz=145,slow=1.2,SNR=37						
DAV				S	**Sn**	**07 29 18.2**	**+1.4**
	462nm,0.3s,baz=270,slow=18,SNR=8.6						
MATI	**Mati**	**1.98**	**58**	*e*P	**Pn**	**07 29 01.8**	**-0.8**
MATI				*e*S	**Sn**	**07 29 26.4**	**-0.5**
BUKP	**Musuan**	**2.04**	**14**	*e*P	**Pn**	**07 29 03.0**	**-0.4**
BUKP				*e*S	**Sn**	**07 29 28.8**	**+0.5**
PAGZ	**Pagadian**	**2.28**	**329**	*e*P	**Pn**	**07 29 05.0**	**-1.4**
PAGZ				*e*S	**Sn**	**07 29 33.1**	**-0.7**
IPIL	**Ipil**	**2.74**	**314**⇓	*e*P	**Pn**	**07 29 11.5**	**-1.2**
IPIL				*e*S	**Sn**	**07 29 42.2**	**-2.7**
BIPH	**Bislig**	**2.90**	**38**⇑	*i*P	**Pn**	**07 29 12.2**	**-2.6**
BIPH				*i*S	**Sn**	**07 29 48.8**	**+0.1**
TBP	**Tagbilaran**	**3.85**	**350**	*e*P	**Pn**	**07 29 31.3**	**+3.7**
CUYO	**Cuyo Island**	**6.05**	**325**	*e*P	**Pn**	**07 29 57.4**	**-0.3**
BATP	**Bataraza**	**7.31**	**294**	*e*P	**Pn**	**07 30 18.9**	**+4.2**
ENPP	**El Nido**	**7.33**	**316**	*e*P	**Pn**	**07 30 14.9**	**-0.2**
KKM	**Kota Kinabalu**	**8.31**	**272**	*e*Pn	**Pn**	**07 30 30.0**	**+1.6**
BATI	**Baumata**	**16.01**	**183**	P	**Pn**	**07 32 11.1**	**+0.3**
	6.7nm,0.3s,baz=279,slow=23,SNR=2.9						
KAKA	**Kakadu**	**20.06**	**157**	*e*P	**P**	**07 32 56.0**	**-1.1**
	28nm,0.9s						
JOW	**Kunigami**	**21.13**	**9**	P	**P**	**07 33 10.6**	**+2.1**
	26nm,0.8s,mb4.6,baz=254,slow=20,SNR=4.6						
FITZ	**Fitzroy Crossi**	**23.86**	**177**	*e*P	**P**	**07 33 36.2**	**+0.1**
	5.1nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.86**	**177**	P	**P**	**07 33 35.5**	**-0.5**
	3.2nm,0.7s,mb3.8,baz=15,slow=11,SNR=10						
PSI	**Prapat**	**25.75**	**264**	P	**P**	**07 33 54.5**	**+1.1**
	2.2nm,0.5s,mb3.9,baz=139,slow=9.9,SNR=3.9						
PSI				LR	LR	07 47 18.1	
	comp=Z,70nm,18.1s,baz=85,slow=44						
CBIJ	**Chichi jima**	**26.95**	**37**	LR	LR	07 43 43.5	
	comp=Z,82nm,20.6s,baz=258,slow=34						
WRA	**Warramunga Arr**	**27.41**	**160**	P	**P**	**07 34 07.1**	**-1.0**
	2.8nm,0.5s,mb4.1,baz=334,slow=10,SNR=22						
WB2	**Warramunga Arr**	**27.41**	**160**	*e*P	**P**	**07 34 07.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**27.94**	**299**	P	**P**	**07 34 14.6**	**+1.6**
	1.0nm,0.3s,mb3.8,baz=116,slow=7.5,SNR=5.6						
ASAR	**Alice Springs**	**30.75**	**163**	P	**P**	**07 34 37.9**	**+0.1**
	0.5nm,0.5s,mb3.5,baz=344,slow=7.3,SNR=17						
ASAR				PcP	PcP	07 37 32.7	-0.9
	0.7nm,0.5s,baz=1.3,slow=3.0,SNR=4.0						
XAN	**Xi'an**	**31.55**	**335**	P	**P**	**07 34 46.1**	**+1.4**
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
XAN				AMB	AMB		
	comp=Z,160nm,5.5s						
KSRS	**Korea Array**	**31.57**	**5**	P	**P**	**07 34 44.8**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.0,baz=182,slow=9.7,SNR=13						
KSRS				LR	LR	07 47 14.0	
	comp=Z,42nm,18.7s,baz=19,slow=36						
MAJO	**Matsushiro**	**32.97**	**20**	*e*P	**P**	**07 34 56.7**	**-0.4**
	comp=Z,5.4nm,0.6s,mb4.5						
MAT	**Matsushiro**	**32.97**	**20**	P	**P**	**07 34 56.6**	**-0.6**
MJAR	**Matsushiro Arr**	**32.97**	**20**	P	**P**	**07 34 56.5**	**-0.7**
	comp=Z,11nm,0.8s,mb4.7,baz=193,slow=9.3,SNR=32						
HNR	**Honiara**	**38.40**	**113**	P	**P**	**07 35 42.8**	**-1.2**
	comp=Z,134nm,0.6s,baz=261,slow=13,SNR=2.8						
HNR				LR	LR	07 48 57.8	
	comp=Z,50nm,21.4s,baz=179,slow=32						
GTA	**Gaotai**	**40.16**	**330**	*e*P	**P**	**07 35 59.8**	**+1.6**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.2						
STKA	**Stephens Creek**	**40.91**	**158**	*e*P	**P**	**07 36 05.4**	**+0.9**
	comp=Z,3.1nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**40.91**	**158**	P	**P**	**07 36 05.2**	**+0.7**
	comp=Z,4.3nm,0.6s,mb4.5,baz=331,slow=9.1,SNR=13						
SONM	**Songino Array**	**44.60**	**343**	P	**P**	**07 36 35.3**	**+1.2**
	comp=Z,3.4nm,0.9s,mb4.1,baz=162,slow=8.2,SNR=14						
PETK	**Petropavlovsk-**	**54.30**	**24**	P	**P**	**07 37 47.9**	**+0.1**
	comp=Z,7.1nm,0.8s,mb4.8,baz=189,slow=5.2,SNR=11						
MK31	**Makanchi Array**	**54.57**	**325**	*e*P	**P**	**07 37 51.1**	**+1.2**
MKAR	**Makanchi Array**	**54.57**	**325**	P	**P**	**07 37 51.2**	**+1.3**
	comp=Z,3.3nm,0.5s,mb4.6,baz=118,slow=8.6,SNR=39						
MKAR				PcP	PcP	07 38 51.2	-0.8
	comp=Z,2.0nm,0.7s,baz=116,slow=5.5,SNR=4.8						
MKAR	**Makanchi Array**	**54.57**	**325**	P	**P**	**07 37 51.2**	**+1.3**
MKAR				PcP	PcP	07 38 51.2	-0.8
AML	**Almayashu**	**57.65**	**317**	*e*P	**P**	**07 38 12.5**	**+0.5**
	comp=Z,7.3nm,0.6s,mb4.9						
ZALV	**Zalesovo Beam**	**57.71**	**333**	P	**P**	**07 38 11.0**	**-1.1**
	comp=Z,1.1nm,0.3s,mb4.3,baz=134,slow=6.9,SNR=4.1						
EKS2	**Erkin-Say**	**57.81**	**318**	*e*P	**P**	**07 38 14.9**	**+1.9**
	comp=Z,54nm,0.6s						
KURK	**Kurchatov**	**58.78**	**328**	*e*P	**P**	**07 38 19.9**	**+0.3**
	comp=Z,5.6nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**64.35**	**327**	P	**P**	**07 38 57.4**	**+0.4**
	comp=Z,5.1nm,0.8s,mb4.4,baz=134,slow=8.5,SNR=25						
BRVK	**Borovoye**	**64.42**	**327**	*e*P	**P**	**07 38 58.1**	**+0.6**
	comp=Z,9.0nm,0.9s,mb4.6						
JOF	**Joensuu**	**86.29**	**333**	*e*p	**P**	**07 41 01.7**	**-0.9**
	comp=Z,1.2nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**87.69**	**340**	P	**P**	**07 41 07.9**	**-1.4**
	comp=Z,1.9nm,0.8s,mb4.2,baz=60,slow=7.2,SNR=7.0						
KAF	**Kangasniemi**	**88.70**	**332**	*e*p	**P**	**07 41 13.3**	**-0.8**
	comp=Z,1.0nm,0.4s,mb4.2,baz=73,slow=4.2						
AKASG	**Malin Array Be**	**88.87**	**321**	P	**P**	**07 41 13.6**	**-1.6**
	comp=Z,1.5nm,0.6s,mb4.2,baz=75,slow=4.6,SNR=5.9						
NOA	**NORSAR Array B**	**95.91**	**333**	P	**P**	**07 41 45.6**	**-1.9**
	comp=Z,0.6nm,0.7s,mb4.1,baz=68,slow=4.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**120.19**	**289**	PKP	PKPdf	07 47 11.6	-0.9
	comp=Z,0.8nm,0.7s,baz=23,slow=2.1,SNR=5.1						
PLCA	**Paso Flores**	**142.75**	**161**	PKP	PKPdf	07 47 51.3	-2.9
	comp=Z,1.0nm,0.8s,baz=110,slow=1.1,SNR=3.2						

SOF ***18*** *07:37:34.4, 4065N×2716E, h2km, MD3.3*
DDA ***18*** *07:37:35.3, 4066N×2727E, h21km±2km, Md3.6*
ISCJB ***18*** *07:37:35.2±0.3, 4063N±002×2720E±002, h8km±2km, Error ellipse: s-maj=2.9km s-min=2.4km az=30.4*
ISK ***18*** *07:37:35.3, 4063N×2726E, h12km, ML3.6*
ATH ***18*** *07:37:36.5, 4062N×2718E, h28km±8km, MD3.9/7*
CSEM ***18*** *07:37:36.4±0.0, 4066N×2730E, h20km, MD3.6, Error ellipse: s-maj=1.2km s-min=0.9km az=178.0*
THE ***18*** *07:37:39.9, 4057N×2701E, h18km, ML4.0*
NEIC ***18*** *07:37:39.9, 4057N×2701E, h19km, MD3.9(ATH), ML3.6(ISK), ML4.0(THE), After THE.*
ISC 18 07:37:35.8±0.3, 4064N±002**×2721E**±002**, h7**km±2km**, n97,** σ0⁹**93/133, 6C-5D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKY	**Sarkoy-Tekirda**	**0.06**	**331**	PG	**Pg**	**07 37 38.1**	**+0.6**
RKY				SG	**Sg**	**07 37 39.8**	**+1.1**
MFT	**Murefte**	**0.16**	**19**	PG	**Pg**	**07 37 39.5**	**+0.5**
MFT				SG	**Sg**	**07 37 42.1**	**+0.9**
TKR	**Tekirdag**	**0.43**	**35**	*e*PG	**Pg**	**07 37 44.0**	**-0.1**
TKR				*e*SG	**Sg**	**07 37 50.3**	**+0.5**
LPK	**Lapseki**	**0.44**	**233**	*e*PG	**Pg**	**07 37 45.1**	**+0.9**
EDC	**Edincik**	**0.57**	**120**	*e*PG	**Pg**	**07 37 46.4**	**-0.5**
BNT	**Bandirma**	**0.61**	**117**	*e*PG	**Pg**	**07 37 46.7**	**-0.8**
CRLT	**Corlu**	**0.63**	**39**	*e*PG	**Pg**	**07 37 47.8**	**-0.2**
ENEZ	**Enez**	**0.81**	**277**	*e*PG	**Pg**	**07 37 52.0**	**+0.6**
ALN	**Alexandroupoli**	**0.92**	**287**	*e*Pg	**Pg**	**07 37 54.5**	**+1.0**
ALN				*e*Sg	**Sg**	**07 38 06.1**	**+0.5**
KCT	**Karacabey**	**0.95**	**113**	*e*PG	**Pg**	**07 37 53.2**	**-0.8**
BALY	**Balya**	**0.95**	**161**	*i*P	**Pg**	**07 37 53.8**	**-0.2**
BALY				*i*S	**Sg**	**07 38 06.8**	**+0.4**
SLVT	**Silivri**	**0.96**	**52**	*e*PG	**Pg**	**07 37 54.1**	**-0.1**
CTT	**Catalca**	**1.05**	**61**	*e*PG	**Pg**	**07 37 54.7**	**-1.3**
ELBA	**Catalca**	**1.05**	**61**	*i*P	**Pg**	**07 37 55.5**	**-0.5**
ELBA				*i*S	**Sg**	**07 38 09.5**	**-0.2**
ELBA	**Catalca**	**1.05**	**61**	*i*P	**Pg**	**07 37 55.5**	**-0.5**
ELBA				*i*S	**Sg**	**07 38 09.5**	**-0.2**
EZN	**Ezine**	**1.06**	**220**	*e*PG	**Pg**	**07 37 56.2**	**+0.1**
BTOK	**Tokmak**	**1.08**	**144**	*i*P	**Pg**	**07 37 56.0**	**-0.5**
BTOK				*i*S	**Sg**	**07 38 12.1**	**+1.6**
GADA	**Gvkgeada**	**1.10**	**246**	*e*PN	**Pn**	**07 37 57.2**	**-0.4**
BALB	**Balikesir**	**1.12**	**153**	*e*PN	**Pn**	**07 37 56.7**	**-1.1**
BOZC	**Bozcaada**	**1.19**	**228**	*i*P	**Pg**	**07 37 58.1**	**-0.6**
BOZC				*i*S	**Sg**	**07 38 16.4**	**+2.3**
BGKT	**Bogazkoy**	**1.30**	**65**	*e*PN	**Pn**	**07 37 59.2**	**-1.2**
RDO	**Rodhopi**	**1.37**	**292**	*e*PN	**Pn**	**07 38 01.6**	**+0.3**
RDO				*e*SN	**Sn**	**07 38 19.5**	**-0.1**
AYVA	**Ayvalik**	**1.39**	**197**	*i*P	**Pn**	**07 38 01.9**	**+0.3**
AYVA				*i*S	**Sb**	**07 38 22.2**	**+2.3**
DURS	**Dursunbey**	**1.42**	**137**	*i*P	**Pn**	**07 38 02.0**	**0.0**
DURS				*i*S	**Sb**	**07 38 21.3**	**+0.5**
ISK	**Istanbul-Kandi**	**1.46**	**72**	*e*PN	**Pn**	**07 38 01.5**	**-1.1**
DST	**Dursunbey**	**1.50**	**133**	*e*PN	**Pn**	**07 38 02.3**	**-0.7**
KLYT	**Kilyos**	**1.52**	**66**	*e*PN	**Pn**	**07 38 02.6**	**-0.7**
GEMT	**Gemlik**	**1.52**	**97**	*e*PN	**Pn**	**07 38 02.6**	**-0.7**
ULDT	**Uludag**	**1.55**	**108**	*i*P	**Pn**	**07 38 03.5**	**-0.2**
ULDT				*i*S	**Sn**	**07 38 23.7**	**-0.4**
ULDT	**Uludag**	**1.55**	**108**	*i*P	**Pn**	**07 38 03.5**	**-0.3**
ULDT				*i*S	**Sn**	**07 38 23.7**	**-0.4**
PRK	**Paraskevi**	**1.57**	**208**	*e*Pg	**Pg**	**07 38 04.1**	**-1.8**
PRK				*e*Sg	**Sg**	**07 38 22.4**	**-3.7**
PRK	**Paraskevi**	**1.57**	**208**	*e*Pn	**Pn**	**07 38 04.5**	**+0.5**
PRK				*e*Sg	**Sg**	**07 38 22.5**	**-3.7**
PRK				*e*Sn	**Sn**	**07 38 24.9**	**+0.3**
YLV	**Yalova**	**1.65**	**92**	*e*PN	**Pn**	**07 38 04.3**	**-0.8**
KDZ	**Kurdzhali**	**1.69**	**307**	Pg	**Pg**	**07 38 08.5**	**+0.3**
LOS	**Limnos**	**1.78**	**247**	*e*Pg	**Pg**	**07 38 06.8**	**-3.1**
LOS				*e*Sg	**Sg**	**07 38 27.1**	**-5.8**
AKHS	**Akhisar**	**1.82**	**165**	*i*P	**Pn**	**07 38 07.3**	**-

Felt [IV] at Nairobi, Kenya; also felt at Narok.
BJI ***18*** *07:44:03.2, 202S×3625E, h10km, mB5.4, mb5.1, Ms5.4, Msz5.1*
DJA ***18*** *07:44:08, 295S×3592E, h41km, mb5.2/16*
SZGRF ***18*** *07:44:17.9, 055S×36.12E, h33km, mb5.4, Kenya*
ISC 18 07:44:02.7±1.1,**290S**±002×**3617E**±004,**h17**km±7km,
h14km±1.3km:**pP-P,n465,**σ1§**28**/451,**mb5.0**/138,**MS4.8**/41,
20C-17D,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**2.07**	**32**	⇑P	**Pn**	**07 44 33.6**	**-3.1**
	SNR=2017						
KMBO	**Kilima Mbogo**	**2.07**	**32**	Pn	**Pn**	**07 44 33.5**	**-3.2**
	1μm,0.3s,baz=207,slow=13,SNR=3013						
KMBO				Pg	**Pg**	**07 44 36.1**	**-6.4**
	1μm,0.3s,baz=220,slow=19,SNR=256						
KMBO				Lg		07 44 57.6	
	5μm,0.3s,baz=284,slow=20,SNR=22						
KMBO				LR	LR	07 45 16.6	
	comp=Z,12μm,20.8s,baz=216,slow=40						
KMBO	**Kilima Mbogo**	**2.07**	**32**	*e*Pn	**Pn**	**07 44 33.6**	**-3.1**
KMBO				*e*Sn	**Sn**	**07 44 58.2**	**-3.9**
KMBO	**Kilima Mbogo**	**2.07**	**32**	*e*P	**Pn**	**07 44 33.9**	**-2.8**
LSZ	**Lusaka**	**14.60**	**212**	⇓P	**Pn**	**07 47 25.1**	**-3.4**
	SNR=16						
LSZ	**Lusaka**	**14.60**	**212**	Pn	**Pn**	**07 47 25.3**	**-3.2**
	5.9nm,0.3s,baz=34,slow=13,SNR=32						
LSZ				Sn	**Sn**	**07 50 01.1**	**-8.9**
	8.3nm,0.3s,baz=166,slow=21,SNR=3.4						
LSZ				Lg		07 51 33.3	
	26nm,0.3s,baz=347,slow=24,SNR=6.1						
LSZ				LR	LR	07 52 17.4	
	comp=Z,2μm,19.8s,baz=40,slow=34						
LSZ	**Lusaka**	**14.60**	**212**	P	**Pn**	**07 47 25.6**	**-2.9**
LSZ				pmax	pmax		
	comp=Z,113nm,1.4s						
LSZ	**Lusaka**	**14.60**	**212**	Pn	**Pn**	**07 47 25.6**	**-2.9**
	comp=Z,113nm,1.4s						
LSZ				Sn	**Sn**	**07 50 04.4**	**-5.7**
LSZ	**Lusaka**	**14.60**	**212**	*e*P	**Pn**	**07 47 24.8**	**-3.7**
LSZ				AMb	AMB	07 47 46.0	
	comp=Z,2μm,1.8s						
OPO	**Ambohidratompo**	**18.94**	**146**	P	**Pn**	**07 48 23.7**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=322,slow=10,SNR=14						
OPO				S	**Sn**	**07 51 56.0**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=205,slow=14,SNR=4.0						
SLAT	**Slait**	**18.95**	**350**	*i* P	**Pn**	**07 48 24.2**	**+0.4**
SLAT				AMb	AMB	07 48 30.4	
	comp=Z,156nm,1.7s						
SLAT				*i* S	**Sn**	**07 51 57.5**	**+1.7**
ABPO	**Ambohimpanom**	**19.33**	**147**	Pn	**Pn**	**07 48 31.6**	**+3.3**
	comp=Z,410nm,1.0s,SNR=7.2						
ABPO	**Ambohimpanom**	**19.33**	**147**	*e*P	**Pn**	**07 48 30.5**	**+2.2**
ABPO				pmax	pmax		
	comp=Z,557nm,1.9s						
ABPO	**Ambohimpanom**	**19.33**	**147**	*e*P	**Pn**	**07 48 30.5**	**+2.2**
	comp=Z,557nm,1.9s						
ABPO				S	**Sn**	**07 52 22.1**	**+17**
MSEY	**Mahe Island**	**19.35**	**96**	P	**Pn**	**07 48 26.8**	**-1.9**
MSEY				pmax	pmax		
	comp=Z,143nm,1.9s						
MSEY	**Mahe Island**	**19.35**	**96**	P	**Pn**	**07 48 26.8**	**-1.8**
	comp=Z,143nm,1.9s						
MSNA	**Messina**	**20.23**	**197**	*e*P	**P**	**07 48 38.5**	**+1.5**
MSNA				AMb	AMB	07 48 43.7	
	comp=Z,166nm,1.3s						
MOPA	**Mopani**	**21.00**	**192**	*e*P	**P**	**07 48 44.9**	**-0.6**
MOPA				AMb	AMB	07 48 53.3	
	comp=Z,195nm,1.9s,mb5.1						
SLR	**Silverton**	**23.93**	**198**	*e*P	**P**	**07 49 15.6**	**-0.4**
SLR				AMb	AMB	07 49 29.9	
	comp=Z,239nm,1.7s,mb5.3						
LBTB	**Lobatse**	**24.23**	**204**	P	**P**	**07 49 18.6**	**-0.1**
	comp=Z,38nm,0.7s,mb4.9,baz=34,slow=9.7,SNR=69						
LBTB				S	**S**	**07 53 48.5**	**+12**
	comp=Z,14nm,0.7s,baz=18,slow=12,SNR=2.1						
LBTB				Lg		07 56 29.6	
	comp=Z,56nm,0.8s,baz=280,slow=16,SNR=2.8						
LBTB	**Lobatse**	**24.23**	**204**	*e*P	**P**	**07 49 18.6**	**-0.1**
	comp=Z,2.4nm,1.5s,mb3.4						
LBTB				*e*S	**S**	**07 53 45.6**	**+8.9**
LBTB	**Lobatse**	**24.23**	**204**	*e*P	**P**	**07 49 18.4**	**-0.4**
LBTB				AMb	AMB	07 49 24.6	
	comp=Z,169nm,2.1s,mb5.1						
TSUM	**Tsumeb**	**24.34**	**227**	P	**P**	**07 49 20.0**	**+0.1**
	comp=Z,15nm,0.8s,mb4.5,baz=22,slow=8.7,SNR=31						
TSUM				S	**S**	**07 53 49.8**	**+11**
	comp=Z,19nm,0.7s,baz=335,slow=14,SNR=2.5						
TSUM				Lg		07 56 45.9	
	comp=Z,50nm,0.9s,baz=332,slow=20,SNR=3.2						
TSUM				LR	LR	07 59 38.3	
	comp=Z,5μm,18.3s,MS5.0,baz=321,slow=38						
TSUM	**Tsumeb**	**24.34**	**227**	*e*P	**P**	**07 49 19.9**	**+0.1**
	comp=Z,151nm,2.0s,mb5.1						
TSUM				S	**S**	**07 53 48.8**	**+10**
TSUM	**Tsumeb**	**24.34**	**227**	*e*P	**P**	**07 49 20.2**	**+0.3**
TSUM				AMb	AMB	07 49 49.8	
	comp=Z,1μm,1.4s,mb6.1						
ERPM	**east rand prop**	**24.42**	**197**	*e*P	**P**	**07 49 19.5**	**-1.0**
KSR	**Koster**	**24.50**	**200**	*e*P	**P**	**07 49 22.4**	**+1.3**
KSR				AMb	AMB	07 49 28.9	
	comp=Z,229nm,1.4s,mb5.4						
POGA	**Pongola**	**24.71**	**190**	*e*P	**P**	**07 49 23.2**	**+0.1**
POGA				AMb	AMB	07 49 37.4	
	comp=Z,135nm,1.7s,mb5.2						
PRYS	**Parys**	**25.33**	**199**	*e*P	**P**	**07 49 28.3**	**-0.5**
PRYS				AMb	AMB	07 49 31.7	
	comp=Z,151nm,1.1s,mb5.4						
ABTO	**Aybut**	**26.28**	**39**	⇓P	**P**	**07 49 39.5**	**+2.1**
	SNR=5.1						
BOSA	**Boshof**	**27.60**	**201**	P	**P**	**07 49 49.2**	**0.0**
	comp=Z,80nm,0.7s,mb5.5,baz=23,slow=8.6,SNR=150						
BOSA				Lg		07 58 16.9	
	comp=Z,70nm,1.0s,baz=270,slow=4.9,SNR=3.6						
BOSA				LR	LR	08 00 46.1	
	comp=Z,4μm,22.0s,MS5.0,baz=24,slow=36						
BOSA	**Boshof**	**27.60**	**201**	*e*P	**P**	**07 49 49.4**	**+0.2**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
BOSA	**Boshof**	**27.60**	**201**	*e*P	**P**	**07 49 49.4**	**+0.2**
	comp=Z,2.2nm,0.7s,mb3.9						
BOSA	**Boshof**	**27.60**	**201**	*e*P	**P**	**07 49 49.2**	**0.0**
BOSA				AMb	AMB	07 49 51.5	
	comp=Z,141nm,1.8s,mb5.3						
UPI	**Upington**	**29.04**	**208**	*e*P	**P**	**07 50 02.2**	**+0.1**
UPI				AMb	AMB	07 50 04.8	
	comp=Z,50nm,1.5s,mb5.0						
GRM	**Grahamstown**	**31.57**	**196**	*e*P	**P**	**07 50 23.2**	**-1.2**
GRM				AMb	AMB	07 50 51.7	
	comp=Z,62nm,1.6s,mb5.2						
KOMG	**Komaggas**	**32.09**	**212**	*e*P	**P**	**07 50 27.4**	**-1.6**
CVNA	**Calvinia**	**32.36**	**207**	*e*P	**P**	**07 50 30.6**	**-0.8**
CVNA				AMb	AMB	07 50 35.6	
	comp=Z,70nm,1.5s,mb5.3						
SUR	**Sutherland**	**32.68**	**205**	P	**P**	**07 50 35.1**	**+1.0**
	comp=Z,449nm,0.8s,mb6.5,SNR=14						
SUR	**Sutherland**	**32.68**	**205**	*e*P	**P**	**07 50 35.0**	**+0.9**
	comp=Z,75nm,0.9s,mb5.6						
SUR	**Sutherland**	**32.68**	**205**	*e*P	**P**	**07 50 35.0**	**+0.9**
SUR				AMb	AMB	07 50 37.0	
	comp=Z,117nm,1.6s,mb5.5						
BSY	**Bisya**	**32.73**	**38**	⇑P	**P**	**07 50 34.3**	**-0.4**
	SNR=13						
JMDO	**Jabal Madar**	**33.02**	**39**	⇓P	**P**	**07 50 36.0**	**-1.2**
	SNR=7.0						
HOQ	**Hoqain**	**33.42**	**37**	P	**P**	**07 50 40.6**	**-0.2**
	SNR=9.9						
SMDO	**Samad**	**33.49**	**38**	⇑P	**P**	**07 50 41.0**	**-0.3**
	SNR=15						
WBK	**Wadi Bani Khal**	**33.74**	**40**	⇑P	**P**	**07 50 43.9**	**+0.3**
	SNR=6.4						
BIDO	**Bidbid**	**33.88**	**38**	⇑P	**P**	**07 50 44.4**	**-0.3**
	SNR=16						
CER	**Ceres**	**34.17**	**206**	*e*P	**P**	**07 50 45.9**	**-1.3**
CER				AMb	AMB	07 50 48.7	
	comp=Z,31nm,1.6s,mb5.0						
ELIM	**Elim**	**35.04**	**204**	*e*P	**P**	**07 50 53.4**	**-1.3**
BHD	**Baghdad**	**36.81**	**12**	*ex*	x	07 51 09.5	
BHD				*ex*	x	07 56 51.5	
TOA0	**Torodi Ar. Sit**	**37.75**	**296**	*e*P	**P**	**07 51 16.6**	**-1.5**
TOA0				PP	PP	07 52 47.2	+2.7
TORD	**Torodi Ar. Bea**	**37.75**	**296**	P	**P**	**07 51 15.6**	**-2.5**
	comp=Z,6.6nm,0.8s,mb4.4,baz=108,slow=8.3,SNR=26						
TORD				PP	PP	07 52 44.1	-0.3
	comp=Z,10.0nm,1.0s,baz=108,slow=10,SNR=6.1						
TORD				PcP	PcP	07 53 34.3	-0.8
	comp=Z,4.0nm,0.7s,baz=106,slow=4.3,SNR=3.8						
TORD				LR	LR	08 06 42.3	
	comp=Z,1μm,21.1s,MS4.7,baz=95,slow=36						
CSS	**Prodhromos**	**37.76**	**356**	*e*P	**P**	**07 51 18.7**	**+0.8**
LAST	**Lasithi**	**39.17**	**346**	*e*P	**P**	**07 51 31.8**	**+2.1**
SIVA	**Sivas**	**39.20**	**345**	*e*P	**P**	**07 51 29.6**	**-0.3**
TAM	**Tamanrasset**	**39.33**	**312**	P	**P**	**07 51 32.8**	**+1.6**
IDI	**Anoyia**	**39.44**	**345**	P	**P**	**07 51 32.0**	**+0.1**
	comp=Z,12nm,0.8s,mb4.7,baz=182,slow=12,SNR=4.3						
MSL	**Mosul**	**39.52**	**9**	*ex*	x	07 51 43.0	
MSL				*ex*	x	07 57 58.0	
VAM	**Vamos**	**39.73**	**345**	*e*P	**P**	**07 51 35.0**	**+0.6**
KARN	**Karanos**	**39.80**	**344**	*e*P	**P**	**07 51 36.5**	**+1.6**
KYTH	**Kithira**	**40.87**	**344**	*e*P	**P**	**07 51 46.5**	**+2.7**
ISP	**Isparta**	**40.88**	**353**	*e*P	**P**	**07 51 44.8**	**+1.0**
APE	**Apeiranthos**	**40.98**	**347**	⇓*i*P	**P**	**07 51 46.9**	**+2.2**
MALT	**Malatya**	**41.06**	**3**	⇑*i*P	**P**	**07 51 47.4**	**+2.0**
MALT	**Malatya**	**41.06**	**3**	*e*P	**P**	**07 51 47.5**	**+2.1**
	comp=Z,22nm,1.5s,mb4.6						
VLI	**Velíai**	**41.30**	**344**	*e*P	**P**	**07 51 49.5**	**+2.1**
SMG	**Samos**	**41.33**	**349**	*e*P	**P**	**07 51 47.5**	**0.0**
KIC	**Kosan Boka**	**41.87**	**283**	*e*P	**P**	**07 51 49.7**	**-2.7**
	comp=Z,120nm,1.3s,mb5.3						
BLCB	**Balcova**	**41.94**	**349**	*e*P	**P**	**07 51 54.9**	**+2.4**
DID	**Didima**	**41.96**	**345**	*e*P	**P**	**07 51 51.1**	**-1.7**
ITM	**Ithomi**	**42.02**	**343**	*e*P	**P**	**07 51 54.0**	**+0.7**
DBIC	**Dimbokro**	**42.05**	**283**	P	**P**	**07 51 51.5**	**-2.3**
	comp=Z,11nm,0.8s,mb4.5,baz=96,slow=8.4,SNR=10						
DBIC				PP	PP	07 53 25.7	-5.7
	comp=Z,11nm,0.9s,baz=103,slow=9.5,SNR=4.7						
DBIC				LR	LR	08 07 48.3	
	comp=Z,1μm,18.3s,MS4.8,baz=84,slow=34						
DBIC	**Dimbokro**	**42.05**	**283**	P	**P**	**07 51 51.5**	**-2.3**
DBIC				PP	PP	07 53 25.7	-5.7
DBIC				LR	LR	08 07 48.3	
VLX	**Vlachokerasia**	**42.07**	**344**	*e*P	**P**	**07 51 56.1**	**+2.5**
LIC	**Lamto**	**42.12**	**283**	*e*P	**P**	**07 51 52.3**	**-2.2**
	comp=Z,29nm,0.9s,mb4.6						
LIC				*e*MLR	MLR		
	comp=Z,1μm,22.2s,MS4.5						
LIC	**Lamto**	**42.12**	**283**	*e*P	**P**	**07 51 52.4**	**-2.1**
	comp=Z,41nm,0.9s,mb5.0						
LIC	**Lamto**	**42.12**	**283**	*e*P	**P**	**07 51 52.3**	**-2.2**
	comp=Z,14nm,0.9s,mb4.6						
LIC				LR	LR		
	comp=Z,640nm,22.3s,MS4.5						
TIC	**Toumodi**	**42.20**	**283**	*e*P	**P**	**07 51 53.2**	**-1.9**
	comp=Z,287nm,1.3s,mb5.7						
ATH	**Athens Observa**	**42.28**	**345**	*e*P	**P**	**07 51 56.5**	**+1.2**
LTK	**Loutraki**	**42.52**	**345**	*e*P	**P**	**07 51 57.2**	**-0.1**
ANTO	**Ankara**	**42.68**	**356**	*e*P	**P**	**07 52 00.0**	**+1.5**
ANTO				*e*		07 53 50.6	
ANTO				pmax	pmax		
	comp=Z,32nm,2.1s,mb4.7						
ANTO	**Ankara**	**42.68**	**356**	*e*P	**P**	**07 52 00.0**	**+1.5**
	comp=Z,32nm,2.1s,mb4.7						
ANTO				*e*PcP	PcP	07 53 50.6	+0.3
PRK	**Paraskevi**	**42.92**	**349**	*e*P	**P**	**07 52 00.1**	**-0.4**
PRK	**Paraskevi**	**42.92**	**349**	*e*P	**P**	**07 51 59.5**	**-1.0**
RLS	**Riolos of Patr**	**42.97**	**343**	*e*P	**P**	**07 51 59.0**	**-2.0**
LKR	**Lokris**	**43.10**	**345**	*e*P	**P**	**07 52 01.6**	**-0.4**
LKR	**Lokris**	**43.10**	**345**	*e*P	**P**	**07 51 58.5**	**-3.5**
VLS	**Valsamata**	**43.35**	**342**	*e*P	**P**	**07 52 05.7**	**+1.7**
VLS	**Valsamata**	**43.35**	**342**	*e*P	**P**	**07 52 03.0**	**-1.0**
GNI	**Garni**	**43.56**	**10**	*e*P	**P**	**07 52 05.1**	**-0.6**
GNI				pmax	pmax		
	comp=Z,29nm,2.5s						
AGG	**Agios Georgios**	**43.63**	**344**	*e*P	**P**	**07 52 06.5**	**+0.2**
NEO	**Neokhori**	**43.66**	**345**	*e*P	**P**	**07 52 06.0**	**-0.5**
PAIG	**Paliouri**	**44.14**	**346**	*e*P	**P**	**07 52 10.7**	**+0.3**
THL	**Klokotos Trika**	**44.22**	**344**	*e*P	**P**	**07 52 12.0**	**+1.0**
THL	**Klokotos Trika**	**44.22**	**344**	*e*P	**P**	**07 52 07.0**	**-4.0**
ALN	**Alexandroupoli**	**44.56**	**349**	*e*P	**P**	**07 52 14.3**	**+0.6**
LIT	**Litokhoron**	**44.60**	**345**	*e*P	**P**	**07 52 12.8**	**-1.2**
PLG	**Polygyros**	**44.62**	**346**	*e*P	**P**	**07 52 14.7**	**+0.6**
PLG	**Polygyros**	**44.62**	**346**	*e*P	**P**	**07 52 12.0**	**-2.2**
JAN	**Janina**	**44.63**	**343**	*e*P	**P**	**07 52 16.0**	**+1.7**
RDO	**Rodhopi**	**44.90**	**349**	*e*P	**P**	**07 52 14.5**	**-1.9**
HORT	**Hortiatis**	**44.91**	**346**	*e*P	**P**	**07 52 18.1**	**+1.6**
VAE	**Valguarnera**	**44.97**	**335**	P	**P**	**07 52 18.3**	**+1.3**
	comp=Z,8.0nm,0.7s,mb4.7,baz=310,slow=11,SNR=2.2						
VAE	**Valguarnera**	**44.97**	**335**	P	**P**	**07 52 18.3**	**+1.3**
THE	**Thessaloniki**	**44.98**	**346**	*e*P	**P**	**07 52 18.1**	**+1.0**
KZN	**Kozani**	**44.98**	**344**	*e*P	**P**	**07 52 17.0**	**-0.1**
KEK	**Kerkira**	**45.00**	**342**	*e*P	**P**	**07 52 16.0**	**-1.2**
CEL	**Celeste**	**45.05**	**337**	*e*P	**P**	**07 52 17.9**	**+0.2**
	comp=Z,28nm,0.9s,mb5.1						
SOH	**Sokhos**	**45.06**	**346**	*e*P	**P**	**07 52 18.8**	**+1.1**
KDZ	**Kurdzhali**	**45.41**	**349**	*e*P	**P**	**07 52 20.3**	**-0.2**
GRG	**Griva**	**45.43**	**345**	*e*P	**P**	**07 52 20.5**	**-0.1**
NVR	**Nevrokopi**	**45.45**	**347**	*e*P	**P**	**07 52 20.0**	**-0.8**
FNA	**Florina**	**45.53**	**344**	*e*P	**P**	**07 52 20.7**	**-0.8**
RZN	**Rozhen**	**45.59**	**348**	*e*P	**P**	**07 52 22.8**	**+0.9**
MMB	**Musomiste**	**45.71**	**347**	*e*P	**P**	**07 52 21.3**	**-1.5**
VAY	**Valandovo**	**45.73**	**346**	*e*P	**P**	**07 52 24.1**	**+1.2**
VAY	**Valandovo**	**45.73**	**346**	*i* P	**P**	**07 52 21.9**	**-1.1**
BIA	**Bitola**	**45.77**	**344**	*e*P	**P**	**07 52 24.5**	**+1.2**
KEST	**Kesra**	**45.90**	**329**	P	**P**	**07 52 24.8**	**+0.3**
	comp=Z,2.9nm,1.0s,mb4.2,baz=270,slow=2.8,SNR=4.8						
KEST				LR	LR	08 12 33.8	
	comp=Z,883nm,19.1s,MS4.7,baz=266,slow=37						
PLD	**Plovdiv**	**45.99**	**348**	*e*P	**P**	**07 52 26.8**	**+1.7**
OHR	**Ohrid**	**46.00**	**344**	*i* P	**P**	**07 52 24.1**	**-1.0**
KRUS	**Krusevo**	**46.11**	**344**	*i* P	**P**	**07 52 27.6**	**+1.5**
KRUS				*i* PP	PP	07 54 01.6	-13
STIP	**Stip**	**46.17**	**345**	*e*P	**P**	**07 52 28.5**	**+2.0**
SOC	**Sochi**	**46.38**	**4**	*e*P	**P**	**07 52 20.8**	**-7.3**
SOC				MLR	MLR		
	comp=Z,242nm,10.0s,MS4.5						
TIR	**Tirane**	**46.48**	**343**	*e*P	**P**	**07 52 30.8**	**+1.9**
PRD	**Provadia**	**46.57**	**351**	*e*P	**P**	**07 52 29.5**	**-0.1**
CUC	**Castrocucco**	**46.59**	**338**	*e*P	**P**	**07 52 29.7**	**-0.1**
	comp=Z,50nm,1.4s,mb5.2						
SKO	**Skopje**	**46.63**	**345**	*e*P	**P**	**07 52 32.1**	**+2.0**
SKO	**Skopje**	**46.63**	**345**	*i* P	**P**	**07 52 29.5**	**-0.5**
SKO				*i* PP	PP	07 54 03.9	-16
MAK	**Makhachkala**	**46.79**	**11**	*e*P	**P**	**07 52 27.9**	**-3.4**
MAK				*i*		07 54 21.2	
MAK				*i* PPP		07 55 04.1	
MAK				*e*S	**S**	**07 59 13.1**	**-7.7**
MAK				*i*		08 02 23.9	
MAK				pmax	pmax		
	comp=Z,53nm,0.4s,mb5.8						
MAK				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.2						
KIV	**Kislovodsk**	**47.01**	**6**	⇑*e*P	**P**	**07 52 32.8**	**-0.2**
KIV				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.8						
ANN	**Anapa**	**47.51**	**1**	*e*P	**P**	**07 52 34.6**	**-2.3**
ANN				*e*		07 54 28.5	
ANN				*e*PPP		07 55 12.6	
ANN				*e*S	**S**	**07 59 24.9**	**-6.0**
ANN				*e*SSS		08 04 06.8	
ANN				pmax	pmax		
	comp=Z,161nm,7.1s						
ANN				MLR	MLR		
	comp=Z,726nm,12.0s,MS4.9						
TIRR	**Tirgusor**	**47.66**	**352**	P	**P**	**07 52 38.7**	**+0.6**
TIRR	**Tirgusor**	**47.66**	**352**	⇓*i*P	**P**	**07 52 45.6**	**+7.5**
TIRR	**Tirgusor**	**47.66**	**352**	*e*P	**P**	**07 52 38.4**	**+0.3**
	comp=Z,34nm,1.8s,mb5.1						
TIRR				*e*PcP	PcP	07 54 07.8	+0.3
SIM	**Simferopol'**	**47.68**	**358**	*e*P	**P**	**07 52 34.6**	**-3.6**
SIM				*e*S	**S**	**07 59 33.0**	**-0.3**
SIM				pmax	pmax		
	comp=Z,100nm,14.5s						
SIM				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.4						
KBL	**Kabul**	**48.39**	**37**	*e*P	**P**	**07 52 45.5**	**+1.6**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
KBL	**Kabul**	**48.39**	**37**	*e*P	**P**	**07 52 45.5**	**+1.6**
	comp=Z,3.3nm,0.5s,mb4.6						
DIVS	**Divibare**	**48.99**	**345**	*e*P	**P**	**07 52 47.5**	**-0.9**
MLR	**Muntele Rosu**	**49.03**	**350**	⇑*i*P	**P**	**07 52 50.0**	**+1.3**
MLR	**Muntele Rosu**	**49.03**	**350**	P	**P**	**07 52 50.9**	**+2.2**
VRI	**Vrincioaia**	**49.28**	**351**	P	**P**	**07 52 52.1**	**+1.6**
GZR	**Gura Zlata**	**49.54**	**348**	P	**P**	**07 52 52.3**	**-0.2**
BZS	**Buzias**	**50.01**	**347**	P	**P**	**07 52 57.6**	**+1.5**
KIS	**Kishinev**	**50.11**	**353**	*e*P	**P**	**07 52 57.0**	**+0.2**
DRGR		**50.89**	**348**	⇓*i*P	**P**	**07 53 04.0**	**+1.3**
DRGR		**50.89**	**348**	P	**P**	**07 53 03.6**	**+0.8**
BURAR	**Bucovina Array**	**51.22**	**351**	⇑*i*P	**P**	**07 53 06.8**	**+1.6**
BURAR	**Bucovina Array**	**51.22**	**351**	⇑P	**P**	**07 53 06.8**	**+1.6**
PKSM	**Moragy**	**51.31**	**344**	⇑*i*P	**P**	**07 53 06.4**	**+0.5**
PKSM	**Moragy**	**51.31**	**344**	⇑P	**P**	**07 53 06.4**	**+0.5**
PGF	**Pioggiola**	**51.49**	**334**	*e*P	**P**	**07 53 06.2**	**-1.1**
BUD	**Budapest**	**52.39**	**345**	⇓*e*P	**P**	**07 53 15.6**	**+1.7**
JAVS	**Javornik**	**52.39**	**341**	*i* P	**P**	**07 53 15.9**	**+1.9**
PSZ	**Piszkesteto**	**52.58**	**346**	⇓*e*P	**P**	**07 53 16.8**	**+1.5**
PSZ	**Piszkesteto**	**52.58**	**346**	⇑*i*P	**P**	**07 53 14.3**	**-1.0**
PSZ	**Piszkesteto**	**52.58**	**346**	*e*P	**P**	**07 53 14.2**	**-1.1**
	comp=Z,48nm,1.2s,mb5.3						
PERS	**Pernice**	**52.71**	**342**	*i* P	**P**	**07 53 18.1**	**+1.7**
UZH	**Uzhgorod**	**52.73**	**348**	*e*P	**P**	**07 53 17.5**	**+1.1**
KECS	**Kecovo**	**52.97**	**347**	*e*P	**P**	**07 53 17.8**	**-0.4**
KECS				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
KECS	**Kecovo**	**52.97**	**347**	*e*P	**P**	**07 53 17.8**	**-0.4**
	comp=Z,4.4nm,1.1s,mb4.3						
KOLS	**Kolonicke sedl**	**53.02**	**349**	*e*P	**P**	**07 53 19.5**	**+0.9**
CRVS	**Cervenica-Dubn**	**53.16**	**348**	*e*P	**P**	**07 53 21.0**	**+1.4**
SOP	**Sopron**	**53.23**	**344**	⇓*e*P	**P**	**07 53 19.6**	**-0.5**
FRF	**La Foret Royal**	**53.33**	**333**	*e*P	**P**	**07 53 19.6**	**-1.4**
ZST	**Bratislava**	**53.55**	**344**	*e*P	**P**	**07 53 23.2**	**+0.7**
ZST				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ZST	**Bratislava**	**53.55**	**344**	*e*P	**P**	**07 53 23.2**	**+0.7**
	comp=Z,6.0nm,0.7s,mb4.6						
KWP	**Kalwaria**	**53.61**	**349**	*e*P	**P**	**07 53 23.1**	**+0.2**
KWP	**Kalwaria**	**53.61**	**349**	*e*P	**P**	**07 53 23.1**	**+0.2**
MODS	**Modra-Piesok**	**53.66**	**344**	*e*P	**P**	**07 53 23.7**	**+0.4**
STHS	**Stebnicka Huta**	**53.69**	**348**	*e*P	**P**	**07 53 22.8**	**-0.7**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
STHS	**Stebnicka Huta**	**53.69**	**348**	*e*P	**P**	**07 53 22.8**	**-0.7**
	comp=Z,5.3nm,1.1s,mb4.4						
KIEV	**Kiev**	**53.72**	**355**	*e*P	**P**	**07 53 22.7**	**-1.0**
KIEV				pmax	pmax		
	comp=Z,63nm,1.7s,mb5.3						
KIEV	**Kiev**	**53.72**	**355**	*e*P	**P**	**07 53 22.7**	**-1.0**
	comp=Z,63nm,1.7s,mb5.3						
AKASG	**Malin Array Be**	**53.73**	**355**	P	**P**	**07 53 21.6**	**-2.1**
	comp=Z,4.3nm,0.8s,mb4.4,baz=184,slow=6.6,SNR=41						
AKASG				LR	LR	08 16 56.8	
	comp=Z,256nm,19.9s,MS4.3,baz=100,slow=37						
AKBB	**Malin Array Si**	**53.73**	**355**	*e*P	**P**	**07 53 23.8**	**+0.1**
EBER	**Berja**	**53.73**	**321**	P	**P**	**07 53 25.1**	**+1.1**
	comp=Z,324nm,2.5s,mb5.8						
NIE	**Niedzica**	**53.89**	**347**	*e*P	**P**	**07 53 26.6**	**+1.6**
SMRF	**Simiane la Rot**	**54.14**	**333**	*e*P	**P**	**07 53 25.1**	**-1.8**
	comp=Z,104nm,1.6s,mb5.2						
SMRF	**Simiane la Rot**	**54.14**	**333**	*e*P	**P**	**07 53 25.1**	**-1.8**
	comp=Z,104nm,1.6s,mb5.5						
MBDF	**Montbardon**	**54.20**	**334**	*e*P	**P**	**07 53 25.8**	**-1.5**
	comp=Z,49nm,1.2s,mb5.0						
MBDF	**Montbardon**	**54.20**	**334**	*e*P	**P**	**07 53 25.8**	**-1.5**
MBDF				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
MBDF	**Montbardon**	**54.20**	**334**	*e*P	**P**	**07 53 25.8**	**-1.5**
	comp=Z,24nm,1.2s,mb5.0						
EQES	**Quesada**	**54.41**	**322**	P	**P**	**07 53 30.9**

DPC eS S 08 01 23.1 -0.9
DPC MLR MLR
comp=Z,300nm,15.0s,MS4.5
DPC Dobruska-Polom 55.72 345 eP P 07 53 39.1 +0.9
DPC ePCP PcP 07 54 40.0 +2.6
DPC eS S 08 01 23.1 -0.9
DPC eSS SS 08 05 18.1 +8.4
DPC AMS AMS 08 23 20.0
comp=Z,300nm,15.0s
ETOR Torete 55.76 325 P P 07 53 38.5 -0.2
ETOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ETOR Torete 55.76 325 P P 07 53 38.5 -0.2
comp=Z,5.4nm,0.9s,mb4.6
EBIE Bielsa 55.84 328 P P 07 53 40.4 +1.2
comp=Z,5.7nm,0.9s,mb4.6
PRU Pruhonice 55.89 343 eP P 07 53 40.3 +0.9
PRU e 07 54 39.9
PRU eS S 08 01 22.3 -3.9
PRU MLR MLR
comp=Z,500nm,16.1s,MS4.7
PRU Pruhonice 55.89 343 eP P 07 53 40.3 +0.9
PRU ePCP PcP 07 54 39.9 +1.9
PRU eS S 08 01 22.3 -3.9
PRU eSS SS 08 05 17.4 +5.1
PRU AMS AMS 08 21 40.0
comp=Z,500nm,16.1s
UPC Upice 55.95 345 eP P 07 53 40.1 +0.3
UPC ePCP PcP 07 54 40.8 +2.5
EPF Esparros 55.98 329 eP P 07 53 40.0 -0.2
CABF La Chapelle 55.99 335 eP P 07 53 38.8 -1.4
comp=Z,86nm,1.6s,mb5.2
CABF La Chapelle 55.99 335 eP P 07 53 38.8 -1.4
CABF pmax pmax
comp=Z,43nm,1.6s,mb5.2
CABF La Chapelle 55.99 335 eP P 07 53 38.8 -1.4
comp=Z,43nm,1.6s,mb5.2
ECAB El Cabril 56.04 321 P P 07 53 42.3 +1.5
comp=Z,15nm,1.1s,mb4.9
BBS Basel-Blauen 56.11 337 eP P 07 53 40.8 -0.2
ESDC Sonseca Array 56.13 323 P P 07 53 40.1 -1.3
comp=Z,7.9nm,0.9s,mb4.8,baz=133,slow=6.6,SNR=20
ESDC LR LR 08 19 32.5
comp=Z,986nm,18.0s,MS4.9,baz=120,slow=38
ESDC Sonseca Array 56.13 323 P P 07 53 40.6 -0.7
comp=Z,9.7nm,1.0s,mb4.8
SPAK Spaichingen-Ko 56.15 338 eP P 07 53 41.5 +0.2
AML Almayashu 56.25 33 eP P 07 53 41.3 -0.9
comp=Z,54nm,1.5s,mb5.4
FELD Feldberg im Sc 56.25 338 eP P 07 53 42.1 0.0
LOMF Lomont 56.28 336 eP P 07 53 43.2 +0.9
ETSF Etsaut 56.35 328 eP P 07 53 41.5 -1.4
comp=Z,26nm,0.9s,mb5.0
ETSF Etsaut 56.35 328 eP P 07 53 41.5 -1.4
ETSF pmax pmax
comp=Z,13nm,0.9s,mb5.0
ETSF Etsaut 56.35 328 eP P 07 53 41.5 -1.4
comp=Z,13nm,0.9s,mb5.0
PVCC Panska Ves 56.36 344 eS S 08 01 27.7 -4.8
PVCC AMS AMS 08 24 10.0
comp=Z,400nm,16.0s
ROTZ Rotzenmuhle 56.39 342 eP P 07 53 41.5 -1.5
CAF Calviac 56.49 331 eP P 07 53 43.7 -0.1
comp=Z,36nm,1.3s,mb4.9
CAF Calviac 56.49 331 eP P 07 53 43.7 -0.1
CAF pmax pmax
comp=Z,18nm,1.3s,mb4.9
CAF Calviac 56.49 331 eP P 07 53 43.7 -0.1
comp=Z,18nm,1.3s,mb5.0
BFO Black Forest 56.51 338 eP P 07 53 42.5 -1.4
BFO pmax pmax
comp=Z,195nm,2.6s,mb5.7
BFO Black Forest 56.51 338 eP P 07 53 42.5 -1.4
comp=Z,195nm,2.6s,mb5.7
PLDF La Plantade 56.56 333 eP P 07 53 48.4 +4.1
STU Stuttgart 56.56 339 eP P 07 53 43.1 -1.1
comp=Z,188nm,2.4s,mb5.7
MOF Molkenrain 56.57 337 eP P 07 53 45.6 +1.3
MANZ Manzenberg 56.62 342 eP P 07 53 43.1 -1.5
GRA1 Grafenberg Arr 56.65 341 eP P 07 53 43.4 -1.4
comp=Z,126nm,2.2s,mb5.6
GRA1 ePcP PcP 07 54 41.4 +0.4
GRF Grafenberg Arr 56.65 341 eP P 07 53 43.4 -1.4
GRF e 07 54 41.4
GRF pmax pmax
comp=Z,126nm,2.2s,mb5.6
GRF Grafenberg Arr 56.65 341 eP P 07 53 43.4 -1.4
GRF e 07 54 41.4
GRF pmax pmax
comp=Z,126nm,2.2s,mb5.6
GRF Grafenberg Arr 56.65 341 eP P 07 53 43.4 -1.4
comp=Z,126nm,2.2s,mb5.6
GRF ePcP PcP 07 54 41.4 +0.4
HINF Hinteralfeld 56.65 337 eP P 07 53 43.7 -1.2
EMIN Mina Concepcio 56.66 320 P P 07 53 46.8 +1.6
comp=Z,21nm,1.0s,mb5.1
EKS2 Erkin-Say 56.66 33 eP P 07 53 45.6 +0.6
comp=Z,21nm,1.6s,mb4.9
PYM Petit Puy Mans 56.67 333 eP P 07 53 47.7 +2.6
NKC Novy Kostel 56.73 342 eP P 07 53 46.1 +0.7
NKC ePCP PcP 07 54 43.7 +2.4
BRG Berggiesshubel 56.85 343 eP P 07 53 46.6 +0.3
BRG S S 08 01 33.0 -5.9
BRG SS SS 08 05 28.0 +0.6
BRG pmax pmax
comp=Z,21nm,2.0s,mb4.8
BRG Berggiesshubel 56.85 343 eP P 07 53 44.8 -1.5
BRG Berggiesshubel 56.85 343 eP P 07 53 46.6 +0.3
comp=Z,35nm,2.0s,mb5.0
BRG S S 08 01 33.0 -5.9
BRG SS SS 08 05 28.0 +0.6
SJPF Ste Jean 56.85 328 eP P 07 53 44.9 -1.5
GUD Guadarrama 56.85 324 P P 07 53 46.1 -0.4
GUD pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
GUD Guadarrama 56.85 324 P P 07 53 46.1 -0.4
comp=Z,10nm,0.8s,mb4.9
ECH Echery 56.86 337 eP P 07 53 46.0 -0.4
ECH Echery 56.86 337 eP P 07 53 46.9 +0.5
CDF Champ du Feu 56.97 337 eP P 07 53 45.9 -1.3
SMF Signal de Mont 56.98 334 eP P 07 53 46.2 -1.1
comp=Z,62nm,1.3s,mb5.2
SMF Signal de Mont 56.98 334 eP P 07 53 46.2 -1.1
SMF pmax pmax
comp=Z,31nm,1.3s,mb5.2
SMF Signal de Mont 56.98 334 eP P 07 53 46.2 -1.1
comp=Z,31nm,1.3s,mb5.2
HAU Haudompre 57.00 337 eP P 07 53 46.3 -1.1
HAU eMLR MLR
comp=Z,495nm,21.8s,MS4.3
HAU Haudompre 57.00 337 eP P 07 53 46.3 -1.1
HAU LR LR
comp=Z,500nm,21.8s,MS4.6
RJF Les Rejaudoux 57.03 331 eP P 07 53 47.4 -0.3
comp=Z,132nm,1.6s,mb5.4
RJF eMLR MLR
comp=Z,1µm,19.2s,MS4.7
RJF Les Rejaudoux 57.03 331 eP P 07 53 47.4 -0.3
RJF pmax pmax
comp=Z,66nm,1.6s,mb5.4
RJF MLR MLR
comp=Z,1µm,19.3s,MS5.0
RJF Les Rejaudoux 57.03 331 eP P 07 53 47.4 -0.3
comp=Z,66nm,1.6s,mb5.4
RJF LR LR
comp=Z,1µm,19.3s,MS5.0
EALK Alkurruntz 57.08 328 P P 07 53 48.1 +0.1
comp=Z,175nm,2.0s,mb5.7
PVAQ Vaqueiros 57.13 319 eS S 08 01 46.8 +3.7
PVAQ Vaqueiros 57.13 319 eLR LR 08 16 06.0
comp=Z,581nm,18.0s
PBAR Barrancos 57.13 320 eS S 08 01 43.2 +0.1
PBAR Barrancos 57.13 320 eLR LR 08 15 44.6
comp=Z,932nm,18.0s
LFF La Frestale 57.14 331 eP P 07 53 46.9 -1.6
PBDV Barranco-do-Ve 57.18 319 eS S 08 01 50.1 +6.3
PBDV Barranco-do-Ve 57.18 319 eLR LR 08 16 01.6
comp=Z,857nm,16.0s
LANF Langenberg 57.24 338 eP P 07 53 50.6 +1.6
AVF Avril sur Loir 57.31 334 eP P 07 53 48.6 -1.0
comp=Z,90nm,1.4s,mb5.3
AVF Avril sur Loir 57.31 334 eP P 07 53 48.6 -1.0
AVF pmax pmax
comp=Z,45nm,1.4s,mb5.3
AVF Avril sur Loir 57.31 334 eP P 07 53 48.6 -1.0
comp=Z,45nm,1.4s,mb5.3
THEF They Montfort 57.33 336 eP P 07 53 49.9 +0.2
MOX Moxa 57.35 342 eP P 07 53 51.0 +1.2
comp=Z,64nm,2.0s,mb5.3
MOX e 07 54 46.3
MOX
comp=Z,600nm,20.0s
MOX Moxa 57.35 342 eP P 07 53 51.0 +1.2
MOX e 07 54 46.3
MOX pmax pmax
comp=Z,64nm,2.0s,mb5.3
MOX MLR MLR
comp=Z,600nm,20.0s,MS4.7
MOX Moxa 57.35 342 eP P 07 53 48.8 -1.0
comp=Z,96nm,2.1s,mb5.5
MOX ePcP PcP 07 54 44.3 +0.6
BGF Bois d'Agland 57.35 333 eP P 07 53 49.2 -0.7
comp=Z,59nm,1.4s,mb5.1
BGF Bois d'Agland 57.35 333 eP P 07 53 49.2 -0.7
BGF pmax pmax
comp=Z,30nm,1.4s,mb5.1
BGF Bois d'Agland 57.35 333 eP P 07 53 49.2 -0.7
comp=Z,30nm,1.4s,mb5.1
TOD Tromm 57.40 339 eP P 07 53 50.6 +0.4
TCF Toulx Ste Croi 57.44 333 eP P 07 53 50.5 0.0
comp=Z,124nm,1.5s,mb5.4
TCF Toulx Ste Croi 57.44 333 eP P 07 53 50.5 0.0
TCF pmax pmax
comp=Z,62nm,1.5s,mb5.4
TCF Toulx Ste Croi 57.44 333 eP P 07 53 50.5 0.0
comp=Z,62nm,1.5s,mb5.4
SSF Saint Saulge 57.45 334 eP P 07 53 49.4 -1.2
comp=Z,38nm,1.4s,mb4.9
SSF Saint Saulge 57.45 334 eP P 07 53 49.4 -1.2
SSF pmax pmax
comp=Z,19nm,1.4s,mb4.9
SSF Saint Saulge 57.45 334 eP P 07 53 49.4 -1.2
comp=Z,19nm,1.4s,mb4.9
EBAD Badajoz 57.45 321 P P 07 53 52.3 +1.5
comp=Z,8.6nm,0.9s,mb4.8
LOR Lormes 57.45 334 eP P 07 53 49.7 -0.9
comp=Z,54nm,1.3s,mb5.1
LOR eMLR MLR
comp=Z,670nm,20.8s,MS4.4
LOR Lormes 57.45 334 eP P 07 53 49.7 -0.9
LOR pmax pmax
comp=Z,27nm,1.3s,mb5.1
LOR MLR MLR
comp=Z,670nm,20.8s,MS4.7
LOR Lormes 57.45 334 eP P 07 53 49.7 -0.9
comp=Z,27nm,1.3s,mb5.1
LOR LR LR
comp=Z,670nm,20.8s,MS4.7
CLL Collm 57.51 343 i P P 07 53 50.8 -0.1
CLL i 07 54 44.0
CLL eS S 08 01 46.0 -1.6
CLL pmax pmax
comp=Z,31nm,1.7s,mb5.1
CLL MLR MLR
comp=Z,500nm,18.4s,MS4.7
CLL Collm 57.51 343 eP P 07 53 49.6 -1.3
comp=Z,32nm,1.7s,mb5.1
CLL ePcP PcP 07 54 45.1 +0.8
CLL Collm 57.51 343 i P P 07 53 50.8 -0.1
comp=Z,31nm,1.7s,mb5.1
CLL i PcP PcP 07 54 44.0 -0.3
comp=Z,76nm,2.5s
CLL ePP PP 07 55 57.0 -1.7
CLL ePPP 07 57 20.0
CLL eS S 08 01 46.0 -1.6
comp=N,300nm,35.5s
CLL eS S 08 01 46.0 -1.6
comp=E,100nm,27.2s
CLL eSS SS 08 05 43.0 +5.2
CLL LmH 08 21 00.0
comp=N,600nm,18.7s
CLL LmH 08 21 00.0
comp=E,200nm,21.6s
CLL LmH 08 21 00.0
comp=Z,400nm,19.9s
CLL LmV 08 24 00.0
comp=Z,500nm,18.4s
CLL Collm 57.51 343 i P P 07 53 50.8 -0.1
comp=Z,31nm,1.7s,mb5.1
CLL i PcP PcP 07 54 44.0 -0.3
CLL eS S 08 01 46.0 -1.6
CLL LR LR
comp=Z,500nm,18.4s,MS4.7
MORF Marmelete 57.69 318 eLR LR 08 17 34.1
comp=Z,643nm,18.0s
PFVI Vila Bisbo 57.71 318 eS S 08 01 53.4 +2.6
PFVI Vila Bisbo 57.71 318 eLR LR 08 17 48.7
comp=Z,719nm,18.0s
SUW Suwalki 57.74 351 eP P 07 53 52.7 +0.3
SUW Suwalki 57.74 351 eP P 07 53 52.7 +0.2
OBN Obninsk 57.82 0⇓ eP P 07 53 53.7 +0.7
OBN i S S 08 01 51.5 0.0
OBN pmax pmax
comp=Z,15nm,1.1s,mb4.9
OBN Obninsk 57.82 0 eP P 07 53 53.7 +0.7
comp=Z,28nm,1.6s,mb5.0
PESTR Estremoz 57.88 320 eP P 07 53 53.7 -0.1
comp=Z,38nm,1.2s,mb5.3
PESTR eS S 08 01 51.9 -1.1
PESTR Estremoz 57.88 320 eLR LR 08 16 50.9
comp=Z,839nm,16.0s
MEZF Maizieres J'vi 57.92 336 eP P 07 53 53.5 -0.4
comp=Z,101nm,1.4s,mb5.4
MEZF Maizieres J'vi 57.92 336 eP P 07 53 53.5 -0.4
comp=Z,101nm,1.4s,mb5.7
EVO Evora 57.96 320 eP P 07 53 53.9 -0.5
comp=Z,35nm,1.0s,mb5.0
EVO eMLR MLR
comp=Z,890nm,17.5s,MS4.6
EVO Evora 57.96 320 eP P 07 53 55.0 +0.6
comp=Z,26nm,1.9s,mb4.9
UBBA Unterbreizbach 58.02 341 eP P 07 53 53.1 -1.4
UBBA ePcP PcP 07 54 46.6 +0.3
PMRV Marv??o 58.08 321 eP P 07 53 55.4 +0.2
comp=Z,23nm,1.0s,mb5.2
PMRV eS S 08 01 58.8 +3.2
PMRV Marv??o 58.08 321 eLR LR 08 17 04.6
comp=Z,867nm,18.0s
RUP Ruppelstein 58.11 338 eP P 07 53 55.1 -0.1
ELAN Lanestosa 58.12 327 P P 07 53 56.3 +0.8
comp=Z,12nm,1.1s,mb4.8
PCBR Castelo Branco 58.38 321 eP P 07 53 57.9 +0.7
comp=Z,22nm,1.3s,mb5.0
WLF Walferdange 58.42 338 P P 07 53 57.7 +0.3
comp=Z,27nm,2.3s,mb4.9
WLF Walferdange 58.42 338 eP P 07 53 56.4 -0.9
WLF ePcP PcP 07 54 48.6 +0.6
MOS Moscow 58.45 1 eP P 07 53 56.4 -1.1
MTE Manteigas 58.75 322 eS S 08 02 07.3 +3.1
MTE Manteigas 58.75 322 eLR LR 08 17 05.5
comp=Z,2µm,18.0s
MFF Saint Martin d 58.77 331 eP P 07 53 59.3 -0.6
comp=Z,49nm,1.3s,mb5.1
MFF Saint Martin d 58.77 331 eP P 07 53 59.3 -0.6
MFF pmax pmax
comp=Z,25nm,1.3s,mb5.1
MFF Saint Martin d 58.77 331 eP P 07 53 59.3 -0.6
comp=Z,25nm,1.3s,mb5.1
CLZ Clausthal 58.77 342 eP P 07 53 58.5 -1.3
CLZ pmax pmax
comp=Z,62nm,2.2s,mb5.2
CLZ Clausthal 58.77 342 eP P 07 53 58.5 -1.3
comp=Z,62nm,2.2s,mb5.2
MVO Moncorvo 58.89 323 eP P 07 54 02.8 +2.0
comp=Z,23nm,1.2s,mb5.1
MVO eS S 08 02 12.0 +6.0
MVO Moncorvo 58.89 323 eLR LR 08 16 49.8
comp=Z,1µm,16.0s
PMAFR Mafra 59.02 320 eS S 08 02 07.8 0.0
PMAFR Mafra 59.02 320 eLR LR 08 17 26.0
comp=Z,725nm,18.0s
MEM Membach 59.24 338 P P 07 54 03.8 +0.8
comp=Z,27nm,2.7s,mb4.8
GIVF Givet 59.28 337 eP P 07 54 02.4 -0.9
BCLA Clavier 59.35 338 P P 07 54 04.7 +0.9
comp=Z,41nm,2.2s,mb5.1
DOU Dourbes 59.37 337 P P 07 54 03.2 -0.7
comp=Z,19nm,3.0s
HGN Heimansgroeve 59.40 338 eP P 07 54 04.0 -0.1
comp=Z,44nm,2.5s,mb5.0
HGN Heimansgroeve 59.40 338 eS S 08 02 09.6 -2.7
HGN Heimansgroeve 59.40 338 eSS SS 08 06 15.8 +8.3
NRDL Niedersach Rie 59.42 342 eP P 07 54 03.3 -0.9
BUG Bochum--Univer 59.47 339 eP P 07 54 04.7 +0.1
BAIF Baives 59.49 337 eP P 07 54 03.6 -1.2
BEBN Eben Emael 59.52 338 P P 07 54 05.3 +0.3
UCC Uccle 60.02 337 P P 07 54 10.0 +1.7
comp=Z,35nm,2.0s,mb5.0
WTSB Winterswijk 60.07 340 eP P 07 54 08.5 -0.2
comp=Z,92nm,2.0s,mb5.5
LDF La Druitiere 60.21 333 eP P 07 54 08.6 -1.2
comp=Z,295nm,1.9s,mb5.7
LDF La Druitiere 60.21 333 eP P 07 54 08.6 -1.2
LDF pmax pmax
comp=Z,147nm,1.9s,mb5.7
LDF La Druitiere 60.21 333 eP P 07 54 08.6 -1.2
comp=Z,147nm,1.9s,mb5.7
BSEG Bad Segeberg 60.60 343 eP P 07 54 12.3 0.0
SHL Shillong 60.89 59 eP P 07 54 14.0 -0.8
LSA Lhasa 61.72 54 P P 07 54 20.0 -0.4
LSA S S 08 02 45.3 +2.6
LSA LR LR
comp=N,420nm,17.0s,MS5.1
LSA LR LR
comp=E,1µm,17.0s,MS5.1
LSA LR LR
comp=Z,1µm,17.0s,MS5.1
ARU Arti 61.89 14 d i P P 07 54 18.9 -2.1
ARU e 07 54 58.5
ARU e 07 56 37.8
ARU eS S 08 02 41.4 -2.5
ARU eSS SS 08 06 47.2 +0.8
ARU pmax pmax
comp=Z,81nm,1.7s,mb5.6
ARU MLR MLR
comp=Z,1µm,18.0s,MS5.0
ARU Arti 61.89 14 eP P 07 54 21.2 +0.2
comp=Z,114nm,1.8s,mb5.7
BRVK Borovoye 62.68 22 P P 07 54 26.7 +0.4
SNR=9.9
BRVK Borovoye 62.68 22 eP P 07 54 26.4 +0.1
BRVK pmax pmax
comp=Z,61nm,2.3s,mb5.3
BRVK Borovoye 62.68 22 eP P 07 54 26.4 +0.1
comp=Z,61nm,2.3s,mb5.3
BVAR Borovoye Array 62.69 22 P P 07 54 23.5 -3.0
comp=Z,2.5nm,0.8s,mb4.4,baz=212,slow=5.3,SNR=12
SVE Sverdlovsk 62.76 15⇑ eP P 07 54 24.9 -1.9
SVE e 07 56 40.7
SVE eS S 08 02 53.5 -1.4
SVE pmax pmax
comp=Z,51nm,1.5s,mb5.4
PSI Prapat 62.98 85 P P 07 54 28.4 -0.8
comp=Z,9.7nm,0.7s,mb5.1,baz=336,slow=4.9,SNR=11
KLMR Klimovskoe 63.63 2 eP P 07 54 31.0 -1.5
KLMR pmax pmax
comp=Z,80nm,2.0s,mb5.4
MK31 Makanchi Array 63.96 33 eP P 07 54 33.1 -1.8
MKAR Makanchi Array 63.96 33 P P 07 54 33.0 -1.9
comp=Z,6.5nm,0.7s,mb4.8,baz=230,slow=6.7,SNR=22
KURK Kurchatov 64.56 28⇑ P P 07 54 37.3 -1.5
SNR=14
KURK Kurchatov 64.56 28 eP P 07 54 37.2 -1.6
KURK pmax pmax
comp=Z,31nm,1.2s,mb5.2
KURK Kurchatov 64.56 28 eP P 07 54 37.2 -1.6
comp=Z,31nm,1.2s,mb5.2
CMAR Chiang Mai Arr 65.30 68 P P 07 54 42.9 -1.4
comp=Z,8.7nm,1.0s,mb4.8,baz=256,slow=7.6,SNR=15
CHTO Chiang Mai 65.38 68⇓ P P 07 54 43.8 -0.9
SNR=6.0
CHTO Chiang Mai 65.38 68 eP P 07 54 43.9 -0.9
CHTO pmax pmax
comp=Z,36nm,1.4s,mb5.2
CHTO Chiang Mai 65.38 68 eP P 07 54 43.9 -0.9
comp=Z,36nm,1.4s,mb5.2
WMQ Urumqi 65.48 39 P P 07 54 47.5 +2.6
WMQ AP pP 07 54 52.1 +1.6
WMQ XP sP 07 54 54.5 +2.0
WMQ PCP PcP 07 55 18.9 +2.2
WMQ SCP 07 59 20.1
WMQ AMB AMB
comp=Z,39nm,1.3s,mb5.3
WMQ AMB AMB
comp=Z,33nm,7.0s
WMQ LR LR
comp=N,653nm,19.5s,MS5.0
WMQ LR LR
comp=E,801nm,21.8s,MS5.0
WMQ LR LR
comp=Z,777nm,19.4s,MS4.9
KONO Kongsberg 65.78 346⇑ eP P 07 54 42.0 -4.5
SYO Syowa Base 66.03 179⇑ eP P 07 54 48.4 +0.3
SYO Syowa Base 66.03 179⇓ ePP pP 07 54 50.4 -3.2
EKA Eskdalemuir Ar 66.41 337 P P 07 54 49.5 -1.2
comp=Z,3.5nm,0.9s,mb4.4,baz=138,slow=6.3,SNR=5.2
NOA NORSAR Array B 66.62 347 P P 07 54 50.8 -1.2
comp=Z,4.5nm,0.9s,mb4.5,baz=152,slow=6.1,SNR=5.9
NOA LR LR 08 24 28.2
comp=Z,156nm,19.3s,MS4.2,baz=25,slow=36
MAW Mawson 67.14 169⇓ i P P 07 54 56.1 +0.9
comp=Z,16nm,0.8s,mb5.1
MAW Mawson 67.14 169 LR LR 08 19 36.5
comp=Z,791nm,21.2s,MS4.9,baz=49,slow=32
MAW Mawson 67.14 169⇓ i P P 07 54 56.1 +0.9
MAW pmax pmax
comp=Z,17nm,0.8s
ZAL Zalesovo 69.53 28 P P 07 55 07.8 -2.6
ZALV Zalesovo Beam 69.55 28 P P 07 55 07.8 -2.7
comp=Z,8.6nm,1.0s,mb4.6,baz=254,slow=5.4,SNR=19
NVL N'lazarevskaya 69.57 188 c i P P 07 55 14.2 +3.9
NVL pmax pmax
comp=Z,38nm,2.0s,mb5.0
MAIT Maitri 69.59 188 eP P 07 55 11.7 +1.2
KMI Kunming 70.20 62 P P 07 55 17.8 +2.7
KMI AP pP 07 55 21.3 +0.6
KMI PPP 07 59 35.8
KMI AMB AMB
comp=Z,15nm,1.9s,mb4.6
KMI LR LR
comp=N,1µm,14.6s,MS5.5
KMI LR LR
comp=E,1µm,16.6s,MS5.5
KMI LR LR
comp=Z,2µm,17.2s,MS5.3
APA Apatity 70.34 359⇑ i P PcP 07 55 31.0 -5.6
APA pmax pmax
comp=Z,11nm,0.8s,mb4.8
APA MLR MLR
comp=Z,600nm,17.0s,MS4.9
CD2 Chengdu 72.45 56 eP P 07 55 31.4 +2.8
CD2 AP pP 07 55 36.5 +2.3
CD2 XP sP 07 55 40.0 +3.8
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,60nm,7.2s
CD2 LR LR
comp=N,2µm,19.2s
CD2 LR LR
comp=Z,2µm,12.0s
HVS Khovu-Aksy 72.62 34 eP P 07 55 30.0 +0.8
HVS pmax pmax
comp=Z,27nm,1.3s,mb5.0
ARCES ARCESS Array B 72.66 356 P P 07 55 26.4 -2.7
comp=Z,3.7nm,0.8s,mb4.3,baz=157,slow=4.6,SNR=19
SNAA Sanae 72.94 192 eP P 07 55 32.4 +1.7
SNAA e 07 55 34.9
SNAA e 07 55 43.2
SNAA Sanae 72.94 192 eP P 07 55 33.1 +2.4
SNAA pmax pmax
comp=Z,38nm,1.8s
SNAA Sanae 72.94 192 eP P 07 55 33.1 +2.3
comp=Z,38nm,1.8s,mb5.0
VNA1 Neumayer--Stat 73.43 194 eP P 07 55 36.5 +2.9
VNA1 e 07 55 38.2
VNA1 e 07 55 46.1
LZH Lanzhou 73.87 51 eP P 07 55 39.5 +2.6
LZH AP pP 07 55 44.3 +1.8
LZH XP sP 07 55 46.6 +2.1
LZH ePP PP 07 58 27.0 +5.1
LZH AMB AMB
comp=Z,27nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,157nm,7.8s
LZH LR LR

comp=E,597nm,16.5s
LZH LR LR
GYA Guiyang 73.94 62 P **P** **07 55 36.5 -1.0**
GYA AP pP 07 55 40.3 -2.8
GYA XP sP 07 55 43.3 -1.8
GYA PP PP 07 58 28.4 +5.7
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,560nm,19.1s,MS5.0
GYA LR LR
comp=E,540nm,20.2s,MS5.0
GYA LR LR
comp=Z,510nm,21.8s,MS4.8
QIZ Qiongzhong 75.56 70 P **P** **07 55 49.4 +2.4**
QIZ S S 08 05 28.3 +0.6
QIZ LR LR
comp=E,919nm,16.9s
QIZ LR LR
comp=Z,729nm,17.5s,MS5.0
MOY Mondy 76.98 35 *e*P **P** **07 55 54.4 0.0**
MOY pmax pmax
comp=Z,78nm,2.1s,mb5.3
ZAK Zakamensk 77.88 37 *e*P **P** **07 56 00.6 +1.1**
ZAK pmax pmax
comp=Z,9.0nm,1.9s,mb4.4
TLY Talaya 78.53 36 *e*P **P** **07 56 04.0 +0.9**
TLY *e*S S 08 05 55.7 -3.1
TLY pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
TLY MLR MLR
comp=Z,753nm,19.0s,MS5.0
TLY Talaya 78.53 36 *e*P **P** **07 56 04.7 +1.7**
comp=Z,20nm,1.6s,mb4.8
SONM Songino Array 79.02 40 P **P** **07 56 05.2 -0.7**
comp=Z,3.9nm,0.9s,mb4.3,baz=241,slow=3.9,SNR=20
SONM PP PP 07 58 54.3 -11
comp=Z,0.8nm,0.8s,baz=279,slow=3.5,SNR=2.1
SONM LR LR 08 33 27.9
comp=Z,469nm,18.5s,MS4.8,baz=360,slow=38
IRK Irkutsk 79.08 36 *i* P **P** **07 56 05.3 -0.8**
IRK *e* 08 01 01.9
IRK pmax pmax
comp=Z,97nm,2.2s,mb5.3
HHC Hu-ho-hao-te 80.89 48 *e*P **P** **07 56 17.3 +1.2**
HHC XP sP 07 56 23.6 -0.2
HHC PP PP 07 59 23.3 +2.5
HHC AMB AMB
comp=Z,59nm,1.6s,mb5.3
HHC AMB AMB
comp=Z,415nm,3.7s
HHC LR LR
comp=N,338nm,20.2s,MS4.8
HHC LR LR
comp=E,354nm,21.4s,MS4.8
HHC LR LR
comp=Z,528nm,19.0s,MS4.9
CASY Casey 81.09 157 *e*P **P** **07 56 18.5 +1.8**
BDFB Brasília 83.63 255 P **P** **07 56 32.8 +1.8**
comp=Z,2.2nm,0.9s,mb4.3,baz=122,slow=22,SNR=6.8
BDFB LR LR 08 30 05.6
comp=Z,199nm,21.1s,MS4.5,baz=266,slow=33
BJI Beijing 84.21 49 P **P** **07 56 32.5 -1.0**
BJI AMB AMB
comp=Z,9.0nm,1.5s,mb4.7
BJI AMB AMB
comp=Z,295nm,4.4s
NJ2 Nanjing 85.33 58 *e*P **P** **07 56 41.4 +2.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.2
BOD Bodaibo 85.98 32 *e*P **P** **07 56 40.9 -1.0**
BOD pmax pmax
comp=Z,23nm,2.1s,mb5.0
FITZ Fitzroy Crossi 88.61 108 P **P** **07 56 55.7 +0.2**
comp=Z,2.9nm,0.9s,mb4.6,baz=234,slow=8.7,SNR=3.4
FITZ LR LR 08 29 55.9
comp=Z,402nm,21.5s,MS4.8,baz=304,slow=31
CN2 Changchun 91.47 46 *e*P **P** **07 57 10.9 +2.6**
CPUP Villa Florida 91.86 244 P **P** **07 57 12.1 +1.6**
comp=Z,5.2nm,1.0s,mb4.8,baz=73,slow=4.8,SNR=6.8
CPUP LR LR 08 37 27.0
comp=Z,261nm,18.9s,MS4.7,baz=240,slow=35
MDJ Mudanjiang 94.46 46 P **P** **07 57 23.1 +1.0**
MDJ AMB AMB
comp=Z,11nm,1.2s,mb5.2
MDJ AMB AMB
comp=Z,69nm,5.3s
KLR Kul'dur 95.84 41 *e*P **P** **07 57 19.5 -8.8**
ASAR Alice Springs 95.92 114 P **P** **07 57 28.4 -0.8**
comp=Z,1.3nm,0.8s,mb4.4,baz=257,slow=4.6,SNR=9.6
USHA Ushuaia 96.01 214 LR LR 08 32 44.9
comp=Z,205nm,21.6s,MS4.6,baz=80,slow=30
VLA Vladivostok 96.16 47 *e**PP pP 07 57 41.6 +6.0
VLA pmax pmax
comp=Z,60nm,1.4s,mb5.8
WRA Warramunga Arr 96.69 110 P **P** **07 57 32.0 -0.9**
comp=Z,2.5nm,0.6s,mb4.8,baz=268,slow=2.8,SNR=28
WRA LR LR 08 35 17.5
comp=Z,312nm,20.1s,MS4.8,baz=355,slow=32
MIAR Mount Ida 123.74 310 *e*PKIKP PKPdf 08 03 01.9 +1.7
WMOK Wichita Mounta 127.56 313 *e*PKIKP PKPdf 08 03 08.4 +0.9
RLMT Red Lodge 128.16 329 *e*PKPdf PKPdf 08 03 10.6 +2.3
BOZ Bozeman (W) 128.95 331 *e*PKIKP PKPdf 08 03 10.8 +1.0
LKWY Lake 129.12 329 *e*PKPdf PKPdf 08 03 13.7 +3.6
YMR Madison River 129.33 330 *e*PKPdf PKPdf 08 03 13.2 +2.7
ISCO Idaho Springs 129.54 322 *e*PKIKP PKPdf 08 03 13.2 +2.1
DLMT Dillon 129.62 332 *e*PKPdf PKPdf 08 03 13.3 +2.2
IMW Indian Meadow 129.87 329 *e*PKPdf PKPdf 08 03 14.3 +2.7
MOOW Moose Ponds 129.88 329 *e*PKPdf PKPdf 08 03 12.7 +1.1
PDAR Pinedale Array 129.93 327 PKP PKPdf 08 03 10.8 -0.9
comp=Z,1.4nm,1.0s,baz=90,slow=3.1,SNR=10
TPAW Teton Pass 130.16 329 *e*PKPdf PKPdf 08 03 13.4 +1.2
JCT Junction City 130.19 308 *e*PKIKP PKPdf 08 03 12.6 0.0
RRI2 Red Ridge 130.45 329 *e*PKPdf PKPdf 08 03 12.8 +0.1
SDCO Great Sand Dun 130.67 320 *e*PKPdf PKPdf 08 03 14.7 +1.4
HWUT Hardware Ranch 131.81 328 *e*PKPdf PKPdf 08 03 16.6 +1.3
PV01 Paradox Valley 132.38 322 *e*PKPdf PKPdf 08 03 19.4 +2.9
JLU Jordanelle 132.44 326 *e*PKPdf PKPdf 08 03 19.1 +2.5
PV10 Paradox Valley 132.51 323 *e*PKPdf PKPdf 08 03 19.0 +2.2
SRU San Rafael 132.92 324 *e*PKIKP PKPdf 08 03 19.5 +2.0
BNM Barren Site 133.46 316 *e*PKPdf PKPdf 08 03 19.9 +1.2
LAZ Ladron 133.67 317 *e*PKPdf PKPdf 08 03 20.9 +1.8
TXAR Lajitas Array 133.71 309 PKP PKPdf 08 03 18.6 -0.7
comp=Z,0.5nm,0.7s,baz=96,slow=2.5,SNR=8.2
MSU Marysvale 134.28 325 *e*PKIKP PKPdf 08 03 22.8 +2.7
WUAZ Wupatki 135.77 321 *e*PKPdf PKPdf 08 03 23.5 +0.6
YBH Yreka Blue Hor 136.94 337 PKP PKPdf 08 03 26.0 +1.0
comp=Z,1.3nm,0.8s,baz=144,slow=7.1,SNR=4.2
TUC Tucson 137.37 317 *e*PKIKP PKPdf 08 03 28.6 +2.6
NVAR Mina Array Bea 137.65 330 PKhKP 08 03 16.0
comp=Z,0.9nm,0.8s,baz=50,slow=1.3,SNR=6.5
NVAR PKP PKPdf 08 03 27.4 +1.0
comp=Z,0.9nm,0.7s,baz=80,slow=1.1,SNR=5.7
NVAR Mina Array Bea 137.65 330 PKP PKPdf 08 03 27.4 +1.0

*ISCJB **18** 07:47:03.4±0.8, 2984N±003×36.19E±005, h0km, Error ellipse: s-maj=6.7km s-min=4.4km az=6.3*
*GII **18** 07:47:04.2±0.7, 2986N×3612E, h0km, ML2.3/4, EXPLOSION*
*SGS **18** 07:47:04.8, 2997N×3624E, h15km*
*CSEM **18** 07:47:04.8, 2997N×3624E, h15km, ML2.8, After SNSN*

ISC 18 07:47:03.4±0.9, 2983N±003×3623E±005, h0km, n17, σ0968/27, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.06**	**282**	Pg	**Pg**	**07 47 23.1**	**-0.7**
HRFI				Sg	**Sg**	**07 47 37.9**	**+0.5**
EIL	**Elat**	**1.12**	**262**	Pg	**Pg**	**07 47 25.1**	**+0.2**
HQLS		**1.15**	**243**	P	**Pg**	**07 47 25.2**	**-0.2**
HQLS				S	**Sg**	**07 47 41.2**	**+0.9**
MBRI	**Mt Berech**	**1.15**	**269**	Pg	**Pg**	**07 47 25.1**	**-0.3**
ZFRI	**Zfri**	**1.17**	**309**	Pg	**Pg**	**07 47 24.8**	**-1.0**
ZFRI				Sg	**Sg**	**07 47 41.5**	**+0.5**
PRNI	**Paran**	**1.19**	**297**	Pg	**Pg**	**07 47 25.2**	**-1.0**
PRNI				Sg	**Sg**	**07 47 41.5**	**-0.1**
JLOS		**1.27**	**211**	P	**Pg**	**07 47 28.1**	**+0.4**
JLOS		**1.27**	**211**	P	**Pg**	**07 47 28.1**	**+0.4**
JLOS				S	**Sg**	**07 47 44.9**	**+0.8**
KRMI	**Paran Flat**	**1.34**	**283**	Pg	**Pg**	**07 47 28.2**	**-0.9**
KRMI				Sg	**Sg**	**07 47 46.8**	**+0.3**
RMNI	**Mount Ramon**	**1.49**	**301**	Pn	**Pn**	**07 47 30.5**	**-0.9**
MZDA	**Masada**	**1.66**	**333**	Pn	**Pn**	**07 47 33.2**	**-0.5**
MZDA				Sn	**Sn**	**07 47 55.9**	**+0.2**
RTMI	**Retamim**	**1.81**	**313**	Pn	**Pn**	**07 47 35.6**	**-0.2**
YTIR	**Yattir**	**1.81**	**328**	Pn	**Pn**	**07 47 35.7**	**-0.1**
DSI	**Dead Sea**	**1.89**	**337**	Pn	**Pn**	**07 47 37.4**	**+0.5**
DSI				Sn	**Sn**	**07 48 02.8**	**+1.4**
KZIT	**Kziot**	**1.92**	**305**	Pn	**Pn**	**07 47 36.6**	**-0.8**
KZIT				Sn	**Sn**	**07 48 01.7**	**-0.5**
RSHS		**1.97**	**220**	P	**Pn**	**07 47 37.5**	**-0.5**
HMDT	**Nahal Hemdat**	**2.49**	**346**	Pn	**Pn**	**07 47 46.4**	**+1.1**
HMDT				Sn	**Sn**	**07 48 17.3**	**+0.9**

IDC 18 07:50:36.1±51.0, 1395S×16950W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/17, mbtmp4.0/3, Error ellipse: s-maj=1027.0km s-min=196.4km az=79.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**48.02**	**240**	P	P	07 59 17.1	-0.2
	1.5nm,0.7s,baz=96,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**53.86**	**255**	P	P	08 00 00.5	-0.9
	0.4nm,0.4s,baz=94,slow=6.6,SNR=8.2						
ASAR	**Alice Springs**	**54.15**	**251**	P	P	08 00 04.3	+0.8
	2.4nm,0.5s,baz=87,slow=8.0,SNR=50						

*NIED **18** 07:55:00, 3540N×14040E, h26km, Mw5.1 Best double couple: M0=5.72000×10^16 NP1:φs=71.00000°, δ71.00000°, λ95.00000°. NP2:φs=236.00000°, δ20.00000°, λ76.00000°.*
*IDC **18** 07:55:04.5±0.4, 3533N×14018E, h0km, mb4.6/27, mb1 4.8/30, mb1mx4.7/33, mbtmp4.7/30, ML5.0/3, MS4.6/14, Ms1 4.7/14, ms1mx4.3/35, Error ellipse: s-maj=13.5km s-min=9.9km az=85.0*
*ISCJB **18** 07:55:08.4±0.1, 3525N±002×14020E±002, h32km, mb4.9/155, MS4.8/183, Error ellipse: s-maj=3.0km s-min=2.5km az=1.2*
*SZGRF **18** 07:55:08.4, 35.11N×141.12E, h30km, mb5.6, MS5.2, Near east coast of eastern Honshu, Japan*
*MOS **18** 07:55:08.6±1.0, 3529N×140.15E, h33km, mb5.2/73, MS4.5/33, Error ellipse: s-maj=8.0km s-min=4.6km az=109.8*
*BJI **18** 07:55:08.7, 3532N×14052E, h54km, mB5.0, mb4.6, Ms4.9, Msz4.8*
*JMA **18** 07:55:08.8±0.1, 3534N×14035E, h20km±2km, M5.2 Broadband fault plane solution: P waves. NP1: φs=269.00000°, δ34.00000°, λ91.00000°. NP2:φs=89.00000°, δ56.00000°, λ90.00000°. Principal axes: T Plg79.0000°, Azm357.0000°; N Plg0.0000°, Azm89.0000°; P Plg11.0000°, Azm179.0000°;*
JMA Felt IV J1.
*NEIC **18** 07:55:10.1±0.1, 3525N×14009E, mb5.1/102, MS4.8/156, MW5.1(NIED) Error ellipse: s-maj=4.1km s-min=3.2km az=180.0*
NEIC Felt [III] at Tokyo, Yokosuka and Zushi; [II] at Yokohama. Also felt at Akishima, Asaka, Chiba, Funabashi, Ichihara, Kawasaki, Narita, Ohara and Yamato. Recorded [4 JMA] in Chiba; [2 JMA] in Ibaraki, Kanagawa, Saitama, Tochigi and Tokyo; [1 JMA] in Gumma, Nagano, Niigata, Shizuoka and Yamanashi Prefectures.
*GCMT **18** 07:55:10.1±0.2, 3526N×14042E, h31km, MW5.2/70, Moment Tensor Solution. s49,c79; s70,c115; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.62±.03; Mθθ-0.60±.02; Mφφ-0.01±.02; Mrθ0.58±.03; Mrφ-0.20±.01; Mθφ0.14±.03; Best double couple: M0:0.87500×10^17 NP1:φs=249.00000°, δ24.00000°, λ84.00000°. NP2: φs=75.00000°, δ66.00000°, λ93.00000°. Principal axes: T 0.8510, Plg69.0000°, Azm350.0000°; N 0.0470, Plg2.0000°, Azm254.0000°; P -0.8990, Plg21.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 07:55:10.2±0.1, 3522N±002×14017E±002, h34km, h34km±.7km: pP-P, n536, σ1903/453, mb4.9/155, MS4.8/183, 29C-19D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.14**	**119**	⇑P	**Pb**	**07 55 13.5**	**-2.8**
KTR				*e*S	**Sb**	**07 55 17.6**	**-2.9**
JCN	**Nagara**	**0.20**	**8**	⇓P	**Pb**	**07 55 13.7**	**-3.2**
BSO4	**Boso 4**	**0.27**	**148**	⇑P	**Pb**	**07 55 16.5**	**-1.1**
TATJ	**Tateyama 2**	**0.29**	**231**	⇓P	**Pb**	**07 55 19.3**	**+1.4**
BSO3	**Boso 3**	**0.50**	**146**	⇓P	**Pb**	**07 55 19.6**	**-1.2**
TOK	**Tokyo**	**0.57**	**325**	⇓P	**Pn**	**07 55 20.3**	**-1.7**
JIM2	**Oshima 3**	**0.78**	**231**	⇓P	**Pn**	**07 55 24.8**	**0.0**
JIM2				*e*S	**Sn**	**07 55 37.2**	**+1.8**
BSO1	**Boso 1**	**0.87**	**130**	⇓P	**Pn**	**07 55 23.2**	**-2.9**
JOD2	**Odawara 2**	**0.88**	**273**	⇑P	**Pn**	**07 55 26.3**	**+0.1**
JOD2				*e*S	**Sn**	**07 55 39.9**	**+2.0**
JYT	**Yasato**	**1.01**	**1**	⇓P	**Pn**	**07 55 24.5**	**-3.5**
JYT				*e*S	**Sn**	**07 55 37.6**	**-3.4**
JYN	**Shimob**	**1.35**	**282**	⇑P	**Pn**	**07 55 32.9**	**+0.2**
SHZ3	**Shizuoka 3**	**1.61**	**265**	⇑P	**Pn**	**07 55 37.7**	**+1.5**
JNY	**Yasuok**	**1.89**	**275**	⇑P	**Pn**	**07 55 42.0**	**+1.9**
MJAR	**Matsushiro Arr**	**2.07**	**310**	Pn	**Pn**	**07 55 41.0**	**-1.5**
	68nm,0.3s,baz=104,slow=12,SNR=224						
MJAR				Sn	**Sn**	**07 56 12.4**	**+5.4**
	119nm,0.3s,baz=161,slow=19,SNR=6.9						
MAJO	**Matsushiro**	**2.07**	**310**	*e*P	**Pn**	**07 55 43.6**	**+1.1**
MAT	**Matsushiro**	**2.07**	**310**	P	**Pn**	**07 55 42.6**	**+0.1**
MAT				S	**Sn**	**07 56 11.3**	**+4.2**
JHJ	**Hachijo jima 2**	**2.12**	**189**	Pn	**Pn**	**07 55 42.7**	**-0.5**
	2μm,0.3s,baz=69,slow=1.0,SNR=515						
JHJ				Sn	**Sn**	**07 56 07.3**	**-1.0**
	2μm,0.3s,baz=63,slow=23,SNR=29						
JHJ				LR	LR	07 56 16.1	
	comp=Z,3μm,20.5s,baz=109,slow=32						
JHJ2	**Mitsune**	**2.12**	**188**	P	**Pn**	**07 55 42.7**	**-0.5**
JGF	**Kuroka**	**2.33**	**280**	⇑P	**Pn**	**07 55 48.2**	**+2.1**
JAO	**Obara**	**2.38**	**272**	P	**Pn**	**07 55 48.6**	**+1.8**
JMM	**Marumori**	**2.69**	**11**	⇓P	**Pn**	**07 55 48.5**	**-2.6**
JAW	**Awa shima**	**3.32**	**347**	P	**Pn**	**07 55 59.3**	**-0.4**
CBIJ	**Chichi jima**	**8.28**	**167**	Pn	**Pn**	**07 57 07.2**	**-0.6**
	174nm,0.3s,baz=296,slow=22,SNR=16						
CBIJ				Sn	**Sn**	**07 58 37.9**	**-2.3**
	27nm,0.3s,baz=296,slow=22,SNR=3.2						
CBIJ				LR	LR	08 00 33.9	
	comp=Z,3μm,18.7s,baz=355,slow=39						
ASAJ	**Asahikawa**	**9.08**	**11**	Pn	**Pn**	**07 57 14.3**	**-4.5**
	4.0nm,0.3s,baz=212,slow=13,SNR=14						
ASAJ				Sn	**Sn**	**07 58 54.4**	**-5.4**
	0.8nm,0.3s,baz=348,slow=33,SNR=1.6						
ASAJ	**Asahikawa**	**9.08**	**11**	P	**Pn**	**07 57 14.3**	**-4.5**
ASAJ						07 58 54.4	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
KSRS	**Korea Array**	**10.13**	**286**	Pn	**Pn**	**07 57 36.5**	**+3.4**
	comp=N,0.4nm,0.3s,baz=102,slow=13,SNR=28						
KSRS				LR	LR	08 01 34.8	
	comp=N,6μm,19.2s,baz=92,slow=38						
KS15	**Wonju Array Si**	**10.15**	**286**	*e*Pn	**Pn**	**07 57 40.6**	**+7.1**
VLA	**Vladivostok**	**10.17**	**323**	*e*P	**Pn**	**07 57 34.4**	**+0.7**
VLA				pmax	pmax		
	comp=Z,60nm,1.4s						
VLA				MLR	MLR		
	comp=Z,4μm,15.0s						
YSS	**Yuzh-Sakhalins**	**11.89**	**9**	*e*P	**Pn**	**07 57 56.2**	**-1.0**
YSS				*e*S	**Sn**	**08 00 05.0**	**-3.5**
YSS				MLR	MLR		
	comp=Z,6μm,15.0s						
YSS				MLR	MLR		
	comp=N,6μm,16.0s						
YSS				MLR	MLR		
	comp=E,5μm,16.0s						
YSS	**Yuzh-Sakhalins**	**11.89**	**9**	*e*Pn	**Pn**	**07 57 57.5**	**+0.4**
MDJ	**Mudanjiang**	**12.40**	**322**	P	**Pn**	**07 58 04.8**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,14nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,541nm,9.8s						
MDJ				LR	LR		
	comp=N,2μm,17.1s						
MDJ				LR	LR		
	comp=E,3μm,14.7s						
MDJ				LR	LR		
	comp=Z,5μm,15.4s						
MDJ	**Mudanjiang**	**12.40**	**322**	Pn	**Pn**	**07 58 02.6**	**-1.6**
	comp=Z,92nm,1.3s						
CN2	**Changchun**	**14.22**	**311**	*e*P	**Pn**	**07 58 31.8**	**+2.8**
CN2				*e*AP		07 58 39.3	
CN2				*e*XP	sP	07 58 44.0	-5.1
CN2				*e*S	**Sn**	**08 01 09.8**	**+4.4**
CN2				LR	LR		
	comp=N,2μm,14.0s						
CN2				LR	LR		
	comp=E,3μm,14.0s						
CN2				LR	LR		
	comp=Z,4μm,16.0s						
SNY	**Shenyang**	**14.56**	**302**	⇓P	**Pn**	**07 58 36.0**	**+2.4**
SNY				S	**Sn**	**08 01 21.4**	**+7.7**
SNY				AMB	AMB		
	comp=Z,17nm,1.5s						
SNY				LR	LR		
	comp=N,3μm,12.6s						
SNY				LR	LR		
	comp=E,3μm,17.7s						
SNY				LR	LR		
	comp=Z,4μm,16.5s						
DL2	**Dalian**	**15.25**	**289**	⇑*i*P	**Pn**	**07 58 43.6**	**+0.7**
DL2				S	**Sn**	**08 01 34.1**	**+3.4**
DL2				AMB	AMB		
	comp=Z,30nm,1.2s						
DL2				AMB	AMB		
	comp=Z,290nm,7.6s						
DL2				LR	LR		
	comp=N,580nm,12.7s						
DL2				LR	LR		
	comp=E,2μm,16.7s						
DL2				LR	LR		
	comp=Z,3μm,16.3s						
KLR	**Kul'dur**	**15.31**	**339**	*e*P	**Pn**	**07 58 34.3**	**-9.3**
KLR				MLR	MLR		
	comp=E,3μm,14.5s						
KLR				MLR	MLR		
	comp=Z,4μm,14.5s						
SSE	**Sheshan**	**16.41**	**261**	P	**Pn**	**07 58 57.8**	**-0.2**
SSE				S	**Sn**	**08 01 57.8**	**-1.2**
SSE				AMB	AMB		
	comp=Z,17nm,0.8s						
SSE				AMB	AMB		
	comp=Z,348nm,4.7s						
SSE				LR	LR		
	comp=N,2μm,22.0s						
SSE				LR	LR		
	comp=E,905nm,22.6s						
SSE				LR	LR		
	comp=Z,2μm,16.1s						
NJ2	**Nanjing**	**18.02**	**266**	*e*P	**Pn**	**07 59 20.8**	**+2.8**
NJ2				AP	pP	07 59 27.8	+0.7
NJ2				PP		07 59 35.3	
NJ2				S	**Sn**	**08 02 36.5**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,200nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,520nm,6.0s						
NJ2				LR	LR		
	comp=N,650nm,16.6s						
NJ2				LR	LR		
	comp=E,2μm,16.1s						
NJ2				LR	LR		
	comp=Z,2μm,16.0s						
TIA	**Tai'an**	**18.73**	**280**	*e*P	**Pn**	**07 59 28.5**	**+1.9**
BJI	**Beijing**	**19.58**	**291**	P	**Pn**	**07 59 35.1**	**-1.6**
BJI				S	**Sn**	**08 03 09.4**	**-6.1**
BJI				AMB	AMB		
	comp=Z,11nm,1.3s						
BJI				AMB	AMB		
	comp=Z,405nm,5.6s						
BJI				LR	LR		
	comp=N,1μm,15.5s						
BJI				LR	LR		
	comp=E,2μm,17.3s						
BJI				LR	LR		
	comp=Z,2μm,24.8s						
HIA	**Hailar**	**20.54**	**319**	*e*P	**P**	**07 59 41.8**	**-3.8**
HIA				pmax	pmax		
	comp=Z,17nm,0.9s						
HIA				MLR	MLR		
	comp=Z,4μm,19.0s						
HIA	**Hailar**	**20.54**	**319**	*e*P	**P**	**07 59 41.8**	**-3.8**
	comp=Z,17nm,0.9s						
HIA				LR	LR		
	comp=Z,4μm,19.0s,MS4.8						
PETK	**Petropavlovsk-**	**21.76**	**29**	P	**P**	**07 59 56.9**	**-1.8**
	comp=Z,25nm,1.0s,mb4.6,baz=206,slow=6.4,SNR=16						
PETK				LR	LR	08 09 08.1	
	comp=Z,892nm,18.3s,MS4.2,baz=219,slow=39						
PETK	**Petropavlovsk-**	**21.76**	**29**	P	**P**	**07 59 56.9**	**-1.8**
PETK				LR	LR	08 09 08.1	
GUMO	**Guam**	**21.95**	**168**	P	**P**	**08 00 02.9**	**+2.0**
	comp=Z,40nm,0.5s,mb5.1,baz=195,slow=20,SNR=5.9						
GUMO	**Guam**	**21.95**	**168**	P	**P**	**08 00 02.9**	**+1.9**
GUMO				pmax	pmax		
	comp=Z,40nm,0.5s,mb5.1						
GUMO	**Guam**	**21.95**	**168**	*e*P	**P**	**08 00 02.2**	**+1.3**
	comp=Z,399nm,1.4s,mb5.7						
PET	**Petropavlovsk**	**22.09**	**31**	⇑*i*P	**P**	**07 59 59.5**	**-2.7**
PET				*i* S	**S**	**08 03 59.6**	**-4.1**
PET				pmax	pmax		
	comp=Z,102nm,1.2s,mb5.1						
PET				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.4						
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
PET	**Petropavlovsk**	**22.09**	**31**	PFAKE		08 00 10.0	+7.8
PET				LR	LR		
	comp=Z,2μm,22.0s,MS4.4						
HHC	**Hu-ho-hao-te**	**23.16**	**293**	*e*P	**P**	**08 00 13.5**	**-0.2**
HHC				AP		08 00 23.3	
HHC				PP		08 00 44.0	
HHC				S	**S**	**08 04 17.5**	**-5.3**
HHC				SS		08 05 02.8	
HHC				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.5						
HHC				AMB	AMB		
	comp=Z,189nm,6.5s						
HHC				LR	LR		
	comp=N,907nm,16.0s,MS4.7						
HHC				LR	LR		
	comp=E,2μm,14.3s,MS4.7						
HHC				LR	LR		
	comp=Z,2μm,16.0s,MS4.6						
CLNS	**Chul'man**	**23.98**	**339**	*e*P	**P**	**08 00 20.8**	**-0.4**
CLNS				*e**PP		08 00 26.5	
CLNS				*e*		08 00 34.0	
CLNS				*e*PPP		08 00 50.4	
CLNS				*e*		08 04 03.0	
CLNS				*e*S	**S**	**08 04 29.5**	**-6.1**
CLNS				pmax	pmax		
	comp=Z,152nm,1.6s,mb5.2						
CLNS				pmax	pmax		
	comp=N,152nm,1.7s						
CLNS				pmax	pmax		
	comp=E,31nm,1.4s						
CLNS				smax			
	comp=N,659nm,12.5s						
CLNS				smax			
	comp=E,119nm,11.2s						
CLNS				MLR	MLR		
	comp=Z,2μm,16.0s,MS4.7						
CLNS				MLR	MLR		
	comp=N,1μm,15.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,345nm,15.0s,MS4.6						
XAN	**Xi'an**	**25.69**	**276**	P	**P**	**08 00 38.3**	**+1.2**
XAN				AP	pP	08 00 45.9	-0.8
XAN				PPP		08 01 37.0	
XAN				S	**S**	**08 05 01.5**	**-2.0**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.1						
XAN				AMB	AMB		
	comp=Z,127nm,5.4s						
XAN				LR	LR		
	comp=E,2μm,13.0s						
XAN				LR	LR		
	comp=Z,2μm,18.5s						
YAK	**Yakutsk**	**27.64**	**349**	*c* *i*P	**P**	**08 00 52.6**	**-1.8**
YAK				*e**PP	pP	08 01 00.0	-4.1
YAK				*e*		08 01 39.9	

YAK			*e*PPP		08 01 50.3	
YAK			*e*S	**S**	**08 05 36.6**	**+2.9**
YAK			*e**SS	sS	08 05 56.9	+7.1
YAK			pmax	pmax		
	comp=Z,57nm,1.4s,mb5.0					
YAK			pmax	pmax		
	comp=N,88nm,2.1s					
YAK			pmax	pmax		
	comp=E,27nm,2.2s					
YAK			pmax	pmax		
	comp=Z,34nm,1.5s,mb4.8					
YAK			smax			
	comp=N,1µm,8.9s					
YAK			MLR	MLR		
	comp=Z,3µm,17.0s,MS4.9					
YAK			MLR	MLR		
	comp=N,2µm,16.0s,MS4.8					
YAK			MLR	MLR		
	comp=E,848nm,18.0s,MS4.8					
YAK	**Yakutsk**	**27.64 349**	PFAKE		08 01 10.0	+16
YAK			LR	LR		
	comp=Z,3µm,19.0s,MS4.8					
SONM	**Songino Array**	**28.02 307**	P	**P**	**08 00 56.1**	**-1.8**
	comp=Z,3.6nm,0.8s,mb4.0,baz=103,slow=8.6,SNR=10.0					
SONM			LR	LR	08 12 47.4	
	comp=Z,3µm,18.5s,MS5.0,baz=102,slow=38					
BOD	**Bodaibo**	**28.57 330**	*e*P	**P**	**08 01 00.0**	**-2.7**
BOD			pmax	pmax		
	comp=Z,19nm,1.9s,mb4.5					
SEY	**Seymchan**	**28.77 12⇑**	*e*P	**P**	**08 01 04.3**	**-0.1**
LZH	**Lanzhou**	**29.42 282**	*e*P	**P**	**08 01 13.1**	**+2.6**
LZH			AP	pP	08 01 22.8	+2.5
LZH			XP	sP	08 01 26.8	+2.4
LZH			*e*PP	PP	08 02 08.6	-8.6
LZH			*e*S	**S**	**08 06 02.3**	**0.0**
LZH			*e*SS	SS	08 07 34.0	-34
LZH			AMB	AMB		
	comp=Z,29nm,1.1s,mb4.9					
LZH			AMB	AMB		
	comp=Z,97nm,4.6s					
LZH			LR	LR		
	comp=N,1µm,13.3s					
LZH			LR	LR		
	comp=Z,1µm,17.5s,MS4.6					
SMY	**Shemya**	**29.67 43**	PFAKE		08 01 20.0	+7.5
SMY			LR	LR		
	comp=Z,746nm,22.0s,MS4.3					
GYA	**Guiyang**	**29.95 262**	P	**P**	**08 01 13.3**	**-2.0**
GYA			PP	PP	08 02 15.4	-7.7
GYA			PCP	PcP	08 04 20.3	+3.0
GYA			S	**S**	**08 06 05.0**	**-5.7**
GYA			SCS	ScS	08 11 51.6	-0.7
GYA			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6					
GYA			AMB	AMB		
	comp=Z,120nm,4.8s					
GYA			LR	LR		
	comp=N,1µm,15.5s,MS4.9					
GYA			LR	LR		
	comp=E,2µm,15.0s,MS4.9					
GYA			LR	LR		
	comp=Z,2µm,17.9s,MS4.8					
ZAK	**Zakamensk**	**30.65 311**	*e*P	**P**	**08 01 17.9**	**-3.3**
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.1					
CD2	**Chengdu**	**30.70 272**	*e*P	**P**	**08 01 22.8**	**+0.9**
CD2			AP	pP	08 01 32.3	+0.6
CD2			XP	sP	08 01 37.3	+1.6
CD2			PP	PP	08 02 24.1	-7.4
CD2			S	**S**	**08 06 22.8**	**+0.3**
CD2			SS	SS	08 08 06.3	-28
CD2			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7					
CD2			AMB	AMB		
	comp=Z,20nm,5.8s					
CD2			LR	LR		
	comp=N,2µm,19.2s,MS5.0					
CD2			LR	LR		
	comp=E,1µm,14.4s,MS5.0					
CD2			LR	LR		
	comp=Z,2µm,14.4s,MS5.0					
TLY	**Talaya**	**30.80 314**	*e*P	**P**	**08 01 25.1**	**+2.6**
TLY			*e*		08 02 27.9	
TLY			*e*S	**S**	**08 06 29.3**	**+5.7**
TLY			*e*SSS		08 08 21.2	
TLY			pmax	pmax		
	comp=Z,11nm,1.2s,mb4.6					
TLY			MLR	MLR		
	comp=Z,2µm,16.0s,MS4.9					
TLY	**Talaya**	**30.80 314**	PFAKE		08 01 30.0	+7.5
TLY			LR	LR		
	comp=Z,2µm,20.0s,MS4.7					
MATI	**Mati**	**30.91 208**	*e*P	**P**	**08 01 22.9**	**-0.9**
DAV	**Davao City (W)**	**31.06 209**	LR	LR	08 11 51.3	
	comp=Z,620nm,21.9s,MS4.2,baz=62,slow=32					
DAV	**Davao City (W)**	**31.06 209**	PFAKE		08 01 40.0	+15
DAV			LR	LR		
	comp=Z,920nm,19.0s,MS4.5					
QIZ	**Qiongzhong**	**31.27 247**	PFAKE		08 01 40.0	+13
QIZ			LR	LR		
	comp=Z,566nm,19.0s,MS4.3					
GTA	**Gaotai**	**32.18 290**	*e*P	**P**	**08 01 34.1**	**-0.7**
GTA			PP	PP	08 02 45.6	-2.1
GTA			S	**S**	**08 06 43.6**	**-1.7**
GTA			AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.9					
GTA			AMB	AMB		
	comp=Z,167nm,7.1s					
GTA			LR	LR		
	comp=N,814nm,18.5s,MS4.8					
GTA			LR	LR		
	comp=E,2µm,19.0s,MS4.8					
GTA			LR	LR		
	comp=Z,2µm,19.3s,MS4.8					
KMI	**Kunming**	**33.71 263**	P	**P**	**08 01 48.4**	**0.0**
KMI			S	**S**	**08 07 08.6**	**-0.9**
KMI			AMB	AMB		
	comp=Z,9.0nm,1.7s,mb4.4					
BILL	**Bilibino**	**36.05 16**	*e*P	**P**	**08 02 07.0**	**-1.0**
BILL			pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8					
BILL			MLR	MLR		
	comp=Z,2µm,21.0s,MS4.7					
BILL	**Bilibino**	**36.05 16**	PFAKE		08 02 20.0	+12
BILL			LR	LR		
	comp=Z,719nm,21.0s,MS4.4					
HVS	**Khovu-Aksy**	**36.76 310**	*i* P	**P**	**08 02 13.8**	**-0.5**
HVS			pmax	pmax		
	comp=Z,40nm,1.3s,mb5.1					
TIXI	**Tiksi**	**36.98 354**	*e*P	**P**	**08 02 16.0**	**+0.1**
TIXI			pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8					
TIXI	**Tiksi**	**36.98 354**	PFAKE		08 02 30.0	+14
TIXI			LR	LR		
	comp=Z,1µm,19.0s,MS4.7					
KRAR	**Krasnoyarsk**	**38.10 318**	*e*P	**P**	**08 02 25.0**	**-0.6**
KRAR			pmax	pmax		
	comp=Z,14nm,1.3s,mb4.5					
CHTO	**Chiang Mai**	**39.88 257**	PFAKE		08 02 50.0	+9.1
CHTO			LR	LR		
	comp=Z,832nm,21.0s,MS4.6					
CM31	**Chiang Mai Arr**	**40.07 256**	PFAKE		08 02 50.0	+7.5
CM31			LR	LR		
	comp=Z,447nm,19.0s,MS4.3					
CMAR	**Chiang Mai Arr**	**40.07 256**	P	**P**	**08 02 43.0**	**+0.5**
	comp=Z,1.1nm,0.3s,mb4.0,baz=44,slow=6.1,SNR=5.1					
CMAR			PcP	PcP	08 04 44.5	-2.4
	comp=Z,1.1nm,0.3s,baz=72,slow=2.9,SNR=3.8					
WMQ	**Urumqi**	**40.79 299**	P	**P**	**08 02 49.0**	**+0.9**
WMQ			AP	pP	08 02 58.8	+0.7
WMQ			XP	sP	08 03 02.8	+0.7
WMQ			PP	PP	08 04 26.8	+4.5
WMQ			PCP	PcP	08 04 51.3	+2.5
WMQ			*e*S	**S**	**08 08 57.0**	**+0.4**
WMQ			SS	SS	08 11 51.8	-6.3
WMQ			SCS	ScS	08 12 49.9	-0.6
WMQ			AMB	AMB		
	comp=Z,59nm,1.3s,mb5.1					
WMQ			AMB	AMB		
	comp=Z,75nm,11.0s					
WMQ			LR	LR		
	comp=N,654nm,19.4s,MS4.7					
WMQ			LR	LR		
	comp=E,802nm,21.2s,MS4.7					
WMQ			LR	LR		
	comp=Z,778nm,19.6s,MS4.6					
LSA	**Lhasa**	**41.39 277**	PFAKE		08 03 00.0	+6.7
LSA			LR	LR		
	comp=Z,842nm,19.0s,MS4.6					
SHL	**Shillong**	**42.39 271**	*e*P	**P**	**08 03 03.0**	**+1.5**
ZALV	**Zalesovo Beam**	**42.42 314**	P	**P**	**08 02 59.8**	**-1.5**
	comp=Z,13nm,0.6s,mb4.7,baz=93,slow=6.5,SNR=36					
ZALV			PcP	PcP	08 04 54.0	+0.1
	comp=Z,3.1nm,0.7s,baz=122,slow=1.9,SNR=3.7					
ZALV			LR	LR	08 21 24.7	
	comp=Z,490nm,18.4s,MS4.4,baz=335,slow=37					
ZAL	**Zalesovo**	**42.43 314**	P	**P**	**08 02 59.8**	**-1.6**
ZAL					08 04 54.0	
NVS	**Novosibirsk**	**43.39 315**	*e*P	**P**	**08 03 06.0**	**-3.2**
NVS			*e*S	**S**	**08 09 30.8**	**-3.9**
NVS			pmax	pmax		
	comp=N,18nm,1.4s					
NVS			pmax	pmax		
	comp=E,71nm,1.4s					
NVS			pmax	pmax		
	comp=Z,71nm,1.4s,mb5.2					
NVS			smax			
	comp=N,12nm,1.9s					
NVS			smax			
	comp=E,16nm,1.4s					
MK31	**Makanchi Array**	**44.25 304**	*e*P	**P**	**08 03 16.3**	**+0.1**
MK31			*e**PP	pP	08 03 25.5	-0.7
MKAR	**Makanchi Array**	**44.25 304**	P	**P**	**08 03 15.8**	**-0.4**
	comp=E,5.5nm,0.6s,mb4.5,baz=88,slow=9.8,SNR=32					
MKAR	**Makanchi Array**	**44.25 304**	*i* P	**P**	**08 03 16.2**	**0.0**
MKAR			pmax	pmax		
	comp=Z,6.0nm,0.6s					
KAPI	**Kappang**	**44.39 210**	PFAKE		08 03 30.0	+12
KAPI			LR	LR		
	comp=Z,376nm,21.0s,MS4.3					
PMG	**Port Moresby**	**44.87 170**	PFAKE		08 03 30.0	+8.6
PMG			LR	LR		
	comp=Z,299nm,19.0s,MS4.2					
KURK	**Kurchatov**	**46.28 309**	P	**P**	**08 03 31.6**	**-0.6**
	comp=Z,582nm,0.8s,SNR=18					
KURK	**Kurchatov**	**46.28 309**	*e*P	**P**	**08 03 32.1**	**-0.1**
KURK			pmax	pmax		
	comp=Z,333nm,1.8s,mb6.0					
KURK			MLR	MLR		
	comp=Z,2µm,21.0s,MS5.0					
KURK	**Kurchatov**	**46.28 309**	*e*P	**P**	**08 03 32.1**	**-0.2**
	comp=Z,333nm,1.8s,mb6.0					
KURK			LR	LR		
	comp=Z,2µm,21.0s,MS5.0					
SVW2	**Sparrevohn**	**47.58 36**	*e*P	**P**	**08 03 42.2**	**0.0**
BATI	**Baumata**	**47.80 202**	P	**P**	**08 03 44.4**	**0.0**
	comp=Z,27nm,0.4s,mb5.6,baz=34,slow=3.6,SNR=2.6					
HNR	**Honiara**	**48.18 153**	P	**P**	**08 03 48.3**	**+0.9**
	comp=Z,89nm,0.7s,mb5.9,baz=60,slow=2.3,SNR=2.3					
HNR			LR	LR	08 22 21.1	
	comp=Z,274nm,21.1s,MS4.2,baz=356,slow=34					
KAKA	**Kakadu**	**48.22 190**	*e*P	**P**	**08 03 49.2**	**+1.6**
IMA2	**Indian Mountai**	**48.76 30**	*e*P	**P**	**08 03 51.1**	**-0.2**
KDAK	**Kodiak Island**	**49.13 41**	P	**P**	**08 03 52.3**	**-1.9**
	comp=Z,7.0nm,0.7s,mb4.8,baz=266,slow=6.2,SNR=6.0					
CHUM	**Lake Minchumin**	**49.20 33**	*e*P	**P**	**08 03 55.5**	**+0.8**
	comp=Z,38nm,1.4s,mb5.2					
CHUM			*e*sP	sP	08 04 09.8	+0.9
PPLA	**Purkeypile**	**49.24 34**	*e*P	**P**	**08 03 55.3**	**+0.3**
	comp=Z,16nm,0.5s,mb5.3					
TKM2	**Tokmak 2**	**49.62 299**	*e*P	**P**	**08 03 59.2**	**+1.0**
TKM2			*e**PP	pP	08 04 09.2	+0.8
TKM2			pmax	pmax		
	comp=Z,48nm,1.0s,mb5.5					
TKM2			MLR	MLR		
	comp=Z,1µm,19.0s,MS5.0					
TKM2	**Tokmak 2**	**49.62 299**	P	**P**	**08 03 59.3**	**+1.1**
SNR=32						
TKM2	**Tokmak 2**	**49.62 299**	*e*P	**P**	**08 03 59.2**	**+1.0**
	comp=Z,48nm,1.0s,mb5.5					
TKM2			*e*pP	pP	08 04 09.2	+0.8
TKM2			LR	LR		
	comp=Z,1µm,19.0s,MS5.0					
KTH	**Kantishna Hill**	**49.82 33**	*e*P	**P**	**08 03 59.6**	**+0.2**
	comp=Z,36nm,1.3s,mb5.2					
KTH			*e*pP	pP	08 04 10.7	+1.2
KTH			*e*sP	sP	08 04 14.5	+1.0
KBK	**Karagaybulak**	**50.15 299**	P	**P**	**08 04 03.1**	**+0.9**
SNR=8.5						
KSH	**Kashi**	**50.24 295**	*e*P	**P**	**08 04 04.4**	**+1.4**
KSH			AP	pP	08 04 14.5	+1.4
KSH			XP	sP	08 04 22.9	+5.8
KSH			PCP	PcP	08 05 24.9	+3.2
KSH			PP	PP	08 06 00.3	+2.0
KSH			PPP		08 06 56.8	
KSH			PCS	PcS	08 09 19.9	+1.2
KSH			S	**S**	**08 11 11.1**	**-1.9**
KSH			SCS	ScS	08 13 50.1	-1.4
KSH			SS	SS	08 14 41.3	-5.1
KSH			AMB	AMB		
	comp=Z,460nm,3.0s					
KSH			LR	LR		
	comp=N,3µm,11.1s,MS5.7					
KSH			LR	LR		
	comp=E,4µm,13.3s,MS5.7					
KSH			LR	LR		
	comp=Z,1µm,11.9s,MS5.2					
USP	**Ospenovka**	**50.32 300**	P	**P**	**08 04 03.8**	**+0.2**
SNR=16						
FRU	**Bishkek**	**50.34 300**	*e*P	**P**	**08 04 04.0**	**+0.3**
FRU			pmax	pmax		
	comp=Z,100nm,1.9s,mb5.5					
RC01	**Rabbit Creek A**	**50.42 36**	*e*P	**P**	**08 04 03.1**	**-0.9**
	comp=Z,33nm,1.2s,mb5.2					
RC01			*e*pP	pP	08 04 14.8	+0.7
RC01			*e*sP	sP	08 04 23.0	+4.9
AAK	**Ala-Archa**	**50.48 299**	P	**P**	**08 04 05.3**	**+0.5**
SNR=6.4						
SEW	**Seward**	**50.61 38**	*e*P	**P**	**08 04 05.3**	**-0.1**
PMR	**Palmer**	**50.69 36**	*e*P	**P**	**08 04 04.9**	**-1.1**
PMR			pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9					
PMR			MLR	MLR		
	comp=Z,200nm,17.0s,MS4.2					
PMR	**Palmer**	**50.69 36**	*e*P	**P**	**08 04 04.9**	**-1.1**
	comp=Z,16nm,1.0s,mb4.9					
PMR			LR	LR		
	comp=Z,200nm,17.0s,MS4.2					
MCK	**McKinley**	**50.70 33**	*e*P	**P**	**08 04 05.7**	**-0.4**
MCK			pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0					
MCK	**McKinley**	**50.70 33**	*e*P	**P**	**08 04 05.7**	**-0.4**
	comp=Z,26nm,1.2s,mb5.0					
EKS2	**Erkin-Say**	**50.98 300**	P	**P**	**08 04 08.9**	**+0.4**
SNR=8.8						
EKS2	**Erkin-Say**	**50.98 300**	*e*P	**P**	**08 04 08.5**	**0.0**
	comp=Z,23nm,1.3s,mb4.9					
EKS2			*e*pP	pP	08 04 18.0	-0.7
EKS2			LR	LR		
	comp=Z,1µm,20.0s,MS4.9					
BVA0	**Borovoye Array**	**51.06 313**	*i* P	**P**	**08 04 08.2**	**-0.7**
BVA0			pmax	pmax		
	comp=Z,12nm,1.6s,mb4.6					
BVAR	**Borovoye Array**	**51.06 313**	P	**P**	**08 04 08.6**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.3,baz=79,slow=7.7,SNR=15					
BRVK	**Borovoye**	**51.12 313**	*e*P	**P**	**08 04 09.5**	**+0.1**
BRVK			pmax	pmax		
	comp=Z,50nm,1.8s,mb5.1					
BRVK			MLR	MLR		
	comp=Z,659nm,22.0s,MS4.6					
BRVK	**Borovoye**	**51.12 313**	*e*P	**P**	**08 04 09.5**	**+0.1**
	comp=Z,50nm,1.8s,mb5.2					
BRVK			LR	LR		
	comp=Z,659nm,22.0s,MS4.6					
COLA	**College**	**51.15 31**	*e*P	**P**	**08 04 10.5**	**+1.1**
COLA	**College**	**51.15 31**	*e*P	**P**	**08 04 10.0**	**+0.5**
	comp=Z,7.8nm,0.8s,mb4.7					
COLA			LR	LR		
	comp=Z,278nm,20.0s,MS4.3					
AML	**Almayashu**	**51.18 299**	P	**P**	**08 04 10.8**	**+0.7**
SNR=9.6						
AML	**Almayashu**	**51.18 299**	*e*P	**P**	**08 04 11.3**	**+1.2**
	comp=Z,29nm,0.7s,mb5.3					
AML			LR	LR		
	comp=Z,980nm,22.0s,MS4.8					
DIV	**Divide**	**52.33 36**	*e*P	**P**	**08 04 18.7**	**+0.4**
	comp=Z,70nm,1.5s,mb5.4					
BMRM	**Bremner River**	**52.92 36**	*e*P	**P**	**08 04 22.4**	**-0.2**
RAGM	**Ragged Mountai**	**52.96 37**	*e*P	**P**	**08 04 23.1**	**+0.2**
RAGM			*e*pP	pP	08 04 33.5	+0.4
NDI	**New Delhi**	**53.04 282**	*e*P	**P**	**08 04 22.5**	**-1.5**
MENT	**Mentasta**	**53.10 34**	*e*P	**P**	**08 04 23.7**	**-0.3**
KK31	**Karatay Array**	**53.17 301**	*i* P	**P**	**08 04 24.7**	**-0.1**
KK31			pmax	pmax		
	comp=Z,44nm,1.1s,mb5.3					
EGAK	**Eagle**	**54.01 31**	*e*P	**P**	**08 04 30.9**	**+0.2**
	comp=Z,30nm,1.7s,mb4.9					
EGAK			LR	LR		
	comp=Z,288nm,20.0s,MS4.3					
FITZ	**Fitzroy Crossi**	**54.79 197**	*e*P	**P**	**08 04 36.7**	**0.0**
	comp=Z,4.8nm,0.4s,mb4.9					
FITZ	**Fitzroy Crossi**	**54.79 197**	P	**P**	**08 04 36.9**	**+0.1**
	comp=Z,3.1nm,0.4s,mb4.7,baz=357,slow=4.6,SNR=17					
WRAB	**Tennant Creek**	**55.12 187**	P	**P**	**08 04 38.6**	**-0.5**
	comp=Z,229nm,0.6s,SNR=20					
WRAB	**Tennant Creek**	**55.12 187**	*e*P	**P**	**08 04 38.8**	**-0.3**
WRAB			pmax	pmax		
	comp=Z,51nm,1.3s,mb5.4					
WRAB			MLR	MLR		
	comp=Z,486nm,20.0s,MS4.6					
WRAB	**Tennant Creek**	**55.12 187**	*e*P	**P**	**08 04 38.8**	**-0.3**
	comp=Z,51nm,1.3s,mb5.4					
WRAB			LR	LR		
	comp=Z,486nm,20.0s,MS4.6					
WB2	**Warramunga Arr**	**55.13 187⇑**	*i* P	**P**	**08 04 38.7**	**-0.5**
WRA	**Warramunga Arr**	**55.13 187**	P	**P**	**08 04 38.5**	**-0.7**
	comp=Z,16nm,0.7s,mb5.2,baz=3.1,slow=7.7,SNR=105					
CTA	**Charters Tower**	**55.30 173**	*e*P	**P**	**08 04 40.0**	**-0.4**
	comp=Z,8.0nm,1.9s,mb4.4					
CTA	**Charters Tower**	**55.30 173**	P	**P**	**08 04 40.0**	**-0.4**
	comp=Z,3.9nm,0.8s,mb4.5,baz=333,slow=7.5,SNR=5.4					
CTA			LR	LR	08 26 18.5	
	comp=Z,352nm,21.9s,MS4.4,baz=303,slow=34					
CTAO	**Charters Tower**	**55.30 173**	PFAKE		08 04 50.0	+10
CTAO			LR	LR		
	comp=Z,370nm,19.0s,MS4.5					
SVE	**Sverdlovsk**	**55.85 319⇑**	*e*P	**P**	**08 04 44.3**	**+0.3**
SVE			*e*		08 06 46.1	
SVE			*e*S	**S**	**08 12 38.5**	**+10**
SVE			*e*SSS		08 18 17.4	
SVE			pmax	pmax		
	comp=Z,41nm,1.4s,mb5.3					
SVE			MLR	MLR		
	comp=Z,2µm,17.0s,MS5.2					
HYT	**Haines Junctio**	**56.36 36**	*e*P	**P**	**08 04 49.2**	**+1.6**
FUNA	**Funafuti**	**57.01 132**	PFAKE		08 05 10.0	+17
FUNA			LR	LR		
	comp=Z,6µm,19.0s,MS5.7					
ARU	**Arti**	**57.06 319**	P	**P**	**08 04 51.7**	**-0.9**
	comp=Z,156nm,0.8s,mb6.1,SNR=5.7					
ARU	**Arti**	**57.06 319**	*e i*P	**P**	**08 04 52.0**	**-0.6**
ARU			*e*		08 05 42.8	
ARU			*e*S	**S**	**08 12 45.7**	**+0.9**
ARU			pmax	pmax		
	comp=Z,57nm,1.7s,mb5.3					
ARU			MLR	MLR		
	comp=Z,2µm,17.0s,MS5.2					
ARU	**Arti**	**57.06 319**	*e*P	**P**	**08 04 51.7**	**-0.9**
	comp=Z,114nm,1.8s,mb5.6					
ARU			LR	LR		
	comp=Z,1µm,20.0s,MS4.9					
KBL	**Kabul**	**57.13 292**	*e*P	**P**	**08 04 53.6**	**+0.1**
KBL			pmax	pmax		
	comp=Z,35nm,1.3s,mb5.2					
KBL	**Kabul**	**57.13 292**	*e*P	**P**	**08 04 53.6**	**+0.1**
	comp=Z,35nm,1.3s,mb5.2					
SKAG	**Skagway**	**57.75 37**	*e*P	**P**	**08 04 57.9**	**+0.5**
	comp=Z,30nm,1.4s,mb5.1					
SKAG			LR	LR		
	comp=Z,200nm,17.0s,MS4.3					
AB31	**Akbulak array**	**58.35 311**	*i* P	**P**	**08 05 01.1**	**-0.7**
AB31			pmax	pmax		
	comp=Z,64nm,1.3s,mb5.5					
SIT	**Sitka**	**58.42 40**	PFAKE		08 05 10.0	+7.8
SIT			LR	LR		
	comp=Z,411nm,19.0s,MS4.6					
ASAR	**Alice Springs**	**58.86 187**	P	**P**	**08 05 05.8**	**+0.2**
	comp=Z,3.6nm,0.5s,mb4.7,baz=20,slow=11,SNR=35					
ASAR	**Alice Springs**	**58.86 187**	P	**P**	**08 05 05.8**	**+0.3**
ASAR			pmax	pmax		
	comp=Z,4.0nm,0.5s					
AKTK	**Aktyubinsk**	**59.15 312**	P	**P**	**08 05 05.5**	**-1.8**
AKTO	**Aktyubinsk**	**59.15 312**	P	**P**	**08 05 05.5**	**-1.8**
	comp=Z,9.2nm,1.1s,mb4.7,baz=64,slow=11,SNR=14					
AKTO	**Aktyubinsk**	**59.15 312**	P	**P**	**08 05 05.5**	**-1.8**
AKTO			pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7					
MBWA	**Marble Bar**	**59.33 202**	*e*P	**P**	**08 05 08.0**	**-0.8**
	comp=Z,7.2nm,0.5s,mb5.0					
MBWA			LR	LR		
	comp=Z,429nm,21.0s,MS4.5					
WRAK	**Wrangell Islan**	**60.18 40**	*e*P	**P**	**08 05 15.1**	**+0.7**
	comp=Z,17nm,1.5s,mb4.9					
WRAK			*e*pP	pP	08 05 26.2	+1.5
WRAK			LR	LR		
	comp=Z,263nm,20.0s,MS4.4					
PALK	**Pallekele**	**60.99 258**	PFAKE		08 05 30.0	+9.5
PALK			LR	LR		
	comp=Z,387nm,19.0s,MS4.6					
EIDS	**Eidsvold**	**61.14 169**	*e*P	**P**	**08 05 21.0**	**-0.1**
KBS	**Kingsbay**	**62.27 350⇑**	*e*P	**P**	**08 05 29.4**	**+1.2**
KBS	**Kingsbay**	**62.27 350**	PFAKE		08 05 40.0	+12
KBS			LR	LR		
	comp=Z,530nm,21.0s,MS4.7					
LVZ	**Lovozero**	**63.35 336**	PFAKE		08 05 50.0	+14
LVZ			LR	LR		
	comp=Z,1µm,19.0s,MS5.1					
KLMR	**Klimovskoe**	**64.75 328**	*e*P	**P**	**08 05 42.9**	**-1.9**
KLMR			pmax	pmax		
	comp=Z,59nm,1.8s,mb5.3					
KEV	**Kevo**	**64.78 339**	PFAKE		08 06 00.0	+15
KEV			LR	LR		
	comp=Z,1µm,19.0s,MS5.1					
ARCES	**ARCESS Array B**	**65.34 339**	P	**P**	**08 05 47.3**	**-1.2**
	comp=Z,4.1nm,0.8s,mb4.5,baz=52,slow=4.8,SNR=5.5					
ARCES			LR	LR	08 36 44.6	
	comp=Z,1µm,20.7s,MS5.1,baz=59,slow=38					
YKW3	**Yellowknife Ar**	**65.85 29**	*e*P	**P**	**08 05 50.2**	**-1.7**
YKA	**Yellowknife Ar**	**65.88 29**	P	**P**	**08 05 50.5**	**-1.6**
	comp=Z,5.0nm,1.0s,mb4.5,baz=300,slow=6.7,SNR=8.6					
YKA	**Yellowknife Ar**	**65.88 29**	P	**P**	**08 05 50.5**	**-1.6**
FORT	**Forrest**	**66.63 191**	*e*P	**P**	**08 05 57.2**	**+0.1**
	comp=Z,30nm,0.6s,mb5.5					
STKA	**Stephens Creek**	**66.75 179**	*e*P	**P**	**08 05 57.6**	**-0.3**
	comp=Z,5.6nm,0.7s,mb4.7					
STKA	**Stephens Creek**	**66.75 179**	P	**P**	**08 05 57.0**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.4,baz=313,slow=6.6,SNR=10					
JOF	**Joensuu**	**67.09 332**	*e*p	**P**	**08 05 58.9**	**-0.9**
	comp=Z,12nm,0.8s,mb5.0					
MOS	**Moscow**	**68.11 323**	*e*P	**P**	**08 06 04.8**	**-1.5**
MOS			*e*		08 06 28.8	
MOS			*e*S	S	08 15 00.9	-2.6
MOS			*e*		08 15 25.6	
MOS			pmax	pmax		
	comp=Z,62nm,0.8s,mb5.7					
MOS			MLR	MLR		
	comp=Z,2µm,16.0s,MS5.3					
NLWA	**Neilton Lookou**	**68.69 46**	*e*P	**P**	**08 06 11.0**	**+0.8**
	comp=Z,37nm,1.5s,mb5.1					
NLWA			*e*pP	pP	08 06 20.9	+0.2
NLWA			LR	LR		
	comp=Z,274nm,19.0s,MS4.5					
OBN	**Obninsk**	**68.94 323⇓**	*e*P	**P**	**08 06 11.2**	**-0.4**
OBN			*e*		08 08 42.6	
OBN			pmax	pmax		
	comp=Z,54nm,1.5s,mb5.3					
OBN			MLR	MLR		
	comp=Z,1µm,14.0s,MS5.3					
OBN	**Obninsk**	**68.94 323**	PFAKE		08 06 20.0	+8.4
OBN			LR	LR		
	comp=Z,1µm,21.0s,MS5.1					
CMW	**Cultus Mountai**	**69.21 45**	P	**P**	**08 06 13.7**	**+0.3**
GNW	**Green Mountain**	**69.22 46**	*e*P	**P**	**08 06 14.4**	**+1.0**
	comp=Z,22nm,1.

comp=E,5.0nm,0.7s
VRSR MLR MLR
comp=N,10.0nm,13.0s,MS4.2
VRSR MLR MLR
comp=Z,100nm,13.0s,MS4.2
VRSR MLR MLR
comp=E,120nm,18.0s,MS4.2
KLBR Kellerberrin 69.71 200 *e*P **P 08 06 15.0 -1.5**
comp=E,24nm,0.9s,mb5.1
HTW Haystack Looko 69.72 45 P **P 08 06 16.9 +0.3**
TDL Tradedollar La 70.19 47 P **P 08 06 19.7 +0.3**
MTMW Mount Mitchell 70.36 47 P **P 08 06 21.3 +0.8**
COR Corvallis 70.42 49 PFAKE 08 06 30.0 +9.1
COR LR LR
comp=Z,200nm,19.0s,MS4.4
KEBM Edson Butte 70.64 51 *e*P **P 08 06 23.2 +1.0**
KEBM *e*pP pP 08 06 33.3 +0.6
ETW Entiat 70.66 45 P **P 08 06 22.2 -0.1**
HOOD Mount Hood Mea 71.06 48 *e*P **P 08 06 25.4 +0.7**
comp=Z,44nm,1.5s,mb5.2
HOOD *e*pP pP 08 06 35.8 +0.5
HOOD *e*PcP PcP 08 06 44.7 -0.1
KIV Kislovodsk 71.33 311⇑*e*P **P 08 06 26.4 0.0**
KIV pmax pmax
comp=Z,60nm,1.5s,mb5.3
KIV MLR MLR
comp=Z,800nm,21.0s,MS5.0
KIV Kislovodsk 71.33 311⇑*i*P **P 08 06 26.6 +0.2**
KIV Kislovodsk 71.33 311 *e*P **P 08 06 26.8 +0.3**
comp=Z,73nm,1.4s,mb5.4
KIV LR LR
comp=Z,741nm,19.0s,MS5.0
EDM Edmonton 71.40 37 *e*P **P 08 06 26.5 -0.1**
EDM *e**PP pP 08 06 37.2 0.0
ONI Oni 71.56 309 P **P 08 06 28.2 +0.4**
CROR Criterion Ridg 71.63 48 P **P 08 06 28.2 -0.1**
HUMO Hull Mountain 71.65 51 PFAKE 08 06 40.0 +12
HUMO LR LR
comp=Z,216nm,20.0s,MS4.4
OD2 Odessa Site #2 71.71 45 *e*P **P 08 06 28.4 -0.2**
OD2 *e*PcP PcP 08 06 47.5 -0.1
HAWA Hanford 71.76 46 *e*P **P 08 06 29.2 +0.3**
HAWA LR LR
comp=Z,223nm,20.0s,MS4.4
GNI Garni 71.98 307 *e*P **P 08 06 31.6 +1.2**
GNI pmax pmax
comp=Z,16nm,1.3s
GNI Garni 71.98 307 PFAKE 08 06 40.0 +10
GNI LR LR
comp=Z,1μm,19.0s,MS5.1
VIPM Ingram Point 72.11 48 P **P 08 06 31.6 +0.5**
NEW Newport 72.14 43 *e*P **P 08 06 31.4 +0.2**
NEW pmax pmax
comp=Z,22nm,1.3s
NEW MLR MLR
comp=Z,228nm,20.0s
NEW Newport 72.14 43 *e*P **P 08 06 31.4 +0.2**
comp=Z,22nm,1.3s,mb4.9
NEW LR LR
comp=Z,228nm,20.0s,MS4.4
YBH Yreka Blue Hor 72.26 51 P **P 08 06 30.9 -1.1**
comp=Z,3.1nm,0.8s,mb4.3,baz=169,slow=10,SNR=5.4
YBH Yreka Blue Hor 72.26 51 *e*P **P 08 06 32.5 +0.5**
YBH pmax pmax
comp=Z,40nm,2.0s
YBH MLR MLR
comp=Z,160nm,20.0s
YBH Yreka Blue Hor 72.26 51 *e*P **P 08 06 32.5 +0.4**
comp=Z,40nm,2.0s,mb5.0
YBH LR LR
comp=Z,160nm,20.0s,MS4.3
SUMG Summit 72.50 360 *e*P **P 08 06 34.3 +1.4**
comp=Z,4.5nm,0.8s,mb4.5
SUMG *e*pP pP 08 06 44.1 +0.7
LNOR Lincton Mounta 72.77 46 *e*P **P 08 06 35.5 +0.5**
WDC Whiskeytown Da 72.97 52 *e*P **P 08 06 36.7 +0.4**
WDC pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
WDC MLR MLR
comp=Z,157nm,20.0s,MS4.3
WDC Whiskeytown Da 72.97 52 *e*P **P 08 06 36.7 +0.4**
comp=Z,5.1nm,0.8s,mb4.5
WDC LR LR
comp=Z,157nm,20.0s,MS4.3
HOPS Hopland 73.46 54 PFAKE 08 06 50.0 +11
HOPS LR LR
comp=Z,294nm,19.0s,MS4.6
WALA Waterton Lakes 73.46 41 *e*P **P 08 06 39.4 +0.3**
comp=Z,19nm,1.3s,mb4.9
MOD Modoc 73.69 50 *e*P **P 08 06 43.0 +2.5**
comp=Z,1.3nm,0.4s,mb4.2
MOD LR LR
comp=Z,208nm,19.0s,MS4.4
BMO Blue Mountains 73.91 46 *e*P **P 08 06 42.2 +0.5**
comp=Z,27nm,1.6s,mb4.9
BMO LR LR
comp=Z,164nm,20.0s,MS4.3
ANN Anapa 74.06 314 *e*P **P 08 06 41.9 -0.7**
ANN pmax pmax
comp=Z,46nm,1.1s,mb5.3
ANN MLR MLR
comp=Z,540nm,20.0s,MS4.8
OHCM Honcut 74.32 53 *e*P **P 08 06 44.1 -0.2**
WVOR Wild Horse Val 74.44 49 *e*P **P 08 06 45.3 +0.4**
WVOR pmax pmax
comp=Z,20nm,1.5s,mb4.8
WVOR MLR MLR
comp=Z,233nm,20.0s,MS4.5
WVOR Wild Horse Val 74.44 49 *e*P **P 08 06 45.3 +0.4**
comp=Z,20nm,1.5s,mb4.8
WVOR LR LR
comp=Z,233nm,20.0s,MS4.5
MSO Missoula 74.73 43 *e*P **P 08 06 46.3 -0.1**
MSO LR LR
comp=Z,125nm,19.0s,MS4.2
CHMT Chamberlain Mo 75.06 43 *e*P **P 08 06 48.2 -0.2**
CHMT *e*pP pP 08 06 58.0 -0.9
AKASG Malin Array Be 75.11 322 P **P 08 06 47.5 -1.1**
comp=Z,6.0nm,0.7s,mb4.6,baz=46,slow=5.8,SNR=40
AKASG LR LR 08 42 47.6
comp=Z,2μm,18.3s,MS5.5,baz=50,slow=38
AKASG Malin Array Be 75.11 322 *i* P **P 08 06 47.7 -0.9**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 75.11 322 *e*P **P 08 06 47.7 -0.9**
MSL Mosul 75.12 304 *ex* x 08 06 48.5
MSL *ex* x 08 16 25.0
KIEV Kiev 75.12 322 *e*P **P 08 06 47.6 -1.1**
KIEV pmax pmax
comp=Z,28nm,1.1s,mb5.1
KIEV MLR MLR
comp=Z,2μm,19.0s,MS5.4
KIEV Kiev 75.12 322 *e*P **P 08 06 47.6 -1.1**
comp=Z,28nm,1.1s,mb5.1
KIEV LR LR
comp=Z,2μm,19.0s,MS5.4
NB2 NORSAR Subarra 75.47 337 P **P 08 06 49.5 -0.9**
comp=Z,28nm,1.1s,mb5.1,baz=41,slow=5.9
NOA NORSAR Array B 75.47 337 P **P 08 06 49.2 -1.2**
comp=Z,9.9nm,1.0s,mb4.7,baz=40,slow=5.8,SNR=13
NOA LR LR 08 43 03.9
comp=Z,855nm,18.5s,MS5.1,baz=10.0,slow=38
NOA NORSAR Array B 75.47 337 P **P 08 06 49.2 -1.2**
NOA LR LR 08 43 03.9
PAHR Pah Rah Range 75.48 52 *e*P **P 08 06 51.4 +0.5**
comp=Z,52nm,2.0s,mb5.1
SAO San Andreas Ge 75.75 55 PFAKE 08 07 00.0 +7.5
SAO LR LR
comp=Z,229nm,21.0s,MS4.5
CMB Columbia Colle 75.75 53 *e*P **P 08 06 52.2 -0.3**
CMB pmax pmax
comp=Z,34nm,2.0s,mb4.9
CMB MLR MLR
comp=Z,171nm,20.0s,MS4.3
CMB Columbia Colle 75.75 53 *e*P **P 08 06 52.2 -0.3**
comp=Z,34nm,2.0s,mb4.9
CMB LR LR
comp=Z,171nm,20.0s,MS4.3
FFC Flin Flon 75.78 32 *e*P **P 08 06 51.5 -0.8**
FFC pmax pmax
comp=Z,27nm,1.5s,mb5.0
FFC MLR MLR
comp=Z,265nm,20.0s,MS4.5
FFC Flin Flon 75.78 32 *e*P **P 08 06 51.5 -0.8**
comp=Z,27nm,1.5s,mb5.0
FFC LR LR
comp=Z,265nm,20.0s,MS4.5
SUW Suwalki 75.87 327 *e*P **P 08 06 52.8 -0.1**
SUW LMZ 08 44 30.0
comp=Z,1μm,15.5s
SUW Suwalki 75.87 327 *e*P **P 08 06 52.8 -0.1**
HRY Holter Researc 75.97 42 *e*P **P 08 06 54.1 +0.5**
HRY *e*pP pP 08 07 05.5 +1.3
LRM Limekiln Ridge 76.16 43 *e*P **P 08 06 55.0 +0.3**
EGMT Eagleton 76.30 40 *e*P **P 08 06 55.6 +0.1**
comp=Z,45nm,1.3s,mb5.2
EGMT *e*pP pP 08 07 07.3 +1.2
EGMT LR LR
comp=Z,226nm,19.0s,MS4.5
DLMT Dillon 76.34 44 *e*P **P 08 06 56.4 +0.6**
comp=Z,33nm,1.1s,mb5.2
HLID Hailey 76.35 46 *e*P **P 08 06 56.1 +0.3**
comp=Z,23nm,1.8s,mb4.8
HLID LR LR
comp=Z,167nm,20.0s,MS4.3
BMN Battle Mountai 76.44 50 *e*P **P 08 06 57.5 +1.1**
BMN *e**PP pP 08 07 08.8 +1.8
BMN pmax pmax
comp=Z,29nm,1.6s,mb5.0
BMN MLR MLR
comp=Z,208nm,19.0s,MS4.5
BMN Battle Mountai 76.44 50 *e*P **P 08 06 57.5 +1.1**
comp=Z,29nm,1.6s,mb5.0
BMN *e*pP pP 08 07 08.8 +1.8
BMN LR LR
comp=Z,208nm,19.0s,MS4.5
BOZ Bozeman (W) 76.72 43 *e*P **P 08 06 58.1 +0.2**
BOZ pmax pmax
comp=Z,24nm,1.4s,mb4.9
BOZ MLR MLR
comp=Z,210nm,21.0s,MS4.4
BOZ Bozeman (W) 76.72 43 *e*P **P 08 06 58.1 +0.2**
comp=Z,24nm,1.4s,mb4.9
BOZ LR LR
comp=Z,210nm,21.0s,MS4.4
NVAR Mina Array Bea 76.89 52 P **P 08 06 58.8 -0.2**
comp=Z,3.3nm,0.7s,mb4.4,baz=284,slow=4.7,SNR=16
MALT Malatya 77.09 308 *e*P **P 08 07 01.3 +1.2**
MALT pmax pmax
comp=Z,21nm,1.2s,mb4.9
MALT MLR MLR
comp=Z,1μm,19.0s,MS5.3
MALT Malatya 77.09 308⇓*i*P **P 08 07 01.2 +1.1**
MALT Malatya 77.09 308 *e*P **P 08 07 01.3 +1.2**
comp=Z,21nm,1.2s,mb4.9
MALT LR LR
comp=Z,1μm,19.0s,MS5.3
QLMT Earthquake Lak 77.33 44 *e*P **P 08 07 02.2 +1.0**
ELK Elko 77.50 49 *e*P **P 08 07 02.4 +0.1**
ELK pmax pmax
comp=Z,23nm,1.8s
ELK MLR MLR
comp=Z,241nm,22.0s
ELK Elko 77.50 49 *e*P **P 08 07 02.4 +0.1**
comp=Z,23nm,1.8s,mb4.8
ELK LR LR
comp=Z,241nm,22.0s,MS4.5
KIS Kishinev 77.61 319 *e*P **P 08 07 00.0 -2.9**
KIS *e* 08 17 16.0
KIS MLR MLR
comp=Z,2μm,15.0s,MS5.6
KIS MLR MLR
comp=N,1μm,16.0s,MS5.3
KIS MLR MLR
comp=E,700nm,16.0s,MS5.3
KIS MLR MLR
comp=Z,3μm,16.0s
YMR Madison River 77.69 44 *e*P **P 08 07 05.0 +1.7**
comp=Z,34nm,1.6s,mb5.0
YMR *e*PcP PcP 08 07 13.3 0.0
GCMT Greycliff 77.72 42 *e*P **P 08 07 04.1 +0.6**
SFJD Kangerlussuaq 77.78 4 PFAKE 08 07 10.0 +6.6
SFJD LR LR
comp=Z,693nm,22.0s,MS4.9
TPH Tonopah 77.79 52 *e*P **P 08 07 04.7 +0.7**
TPH pmax pmax
comp=Z,13nm,1.1s,mb4.8
TPH MLR MLR
comp=Z,215nm,20.0s,MS4.5
TPH Tonopah 77.79 52 *e*P **P 08 07 04.7 +0.7**
comp=Z,13nm,1.1s,mb4.8
TPH LR LR
comp=Z,215nm,20.0s,MS4.5
YFT Old Faithful 77.89 44 *e*P **P 08 07 06.0 +1.5**
CTKT Corum 78.05 311 *i* P **P 08 07 05.6 +0.2**
LKWY Lake 78.07 44 PFAKE 08 07 20.0 +15
LKWY LR LR
comp=Z,368nm,19.0s,MS4.7
IMW Indian Meadow 78.17 44 *e*P **P 08 07 07.1 +1.0**
comp=Z,14nm,1.0s,mb4.9
FLWY Flagg Ranch 78.20 44 *e*P **P 08 07 07.8 +1.7**
comp=Z,54nm,1.7s,mb5.2
GZT Gaziantep 78.20 307 *i* P **P 08 07 07.1 +0.8**
DCID1 Drake Creek 78.22 45 *e*P **P 08 07 06.8 +0.5**
LVV L'vov 78.24 324 *e*P **P 08 07 06.1 -0.2**
LVV MLR MLR
comp=N,800nm,16.0s,MS5.2
LVV MLR MLR
comp=E,300nm,16.0s,MS5.2
LVV MLR MLR
comp=Z,800nm,16.0s,MS5.1
ISA Isabella 78.35 55 PFAKE 08 07 20.0 +13
ISA LR LR
comp=Z,164nm,20.0s,MS4.4
RLMT Red Lodge 78.36 43 *e*P **P 08 07 07.8 +0.8**
comp=Z,26nm,1.6s,mb4.9
RLMT LR LR
comp=Z,290nm,21.0s,MS4.6
BALT Daday 78.36 313 *i* P **P 08 07 08.1 +1.0**
MOOW Moose Ponds 78.38 44 *e*P **P 08 07 07.9 +0.8**
comp=Z,38nm,1.9s,mb5.0
HVU Hansel Valley 78.38 47 *e*P **P 08 07 07.0 -0.2**
HVU pmax pmax
comp=Z,13nm,1.1s,mb4.8
HVU Hansel Valley 78.38 47 *e*P **P 08 07 07.0 -0.3**
comp=Z,13nm,1.1s,mb4.8
TPAW Teton Pass 78.42 45 *e*P **P 08 07 08.7 +1.3**
comp=Z,13nm,1.0s,mb4.8
LOHW Long Hollow 78.54 44 *e*P **P 08 07 09.1 +1.1**
comp=Z,10.0nm,1.4s,mb4.5
SNOW Snow King Moun 78.54 45 *e*P **P 08 07 09.3 +1.2**
comp=Z,23nm,1.5s,mb4.9
REDW Red Top Meadow 78.55 45 *e*P **P 08 07 09.2 +1.1**
comp=Z,24nm,1.4s,mb4.9
DAC Darwin (Calif) 78.58 54 PFAKE 08 07 20.0 +12
DAC LR LR
comp=Z,216nm,19.0s,MS4.5
AHID Auburn Hatcher 78.77 45 PFAKE 08 07 20.0 +11
AHID LR LR
comp=Z,227nm,21.0s,MS4.5
SPUT South Promonto 78.86 47 *e*P **P 08 07 10.8 +0.9**
SPUT *e*pP pP 08 07 21.4 +0.9
DGMT Dagmar 78.89 38 *e*P **P 08 07 10.4 +0.5**
DGMT LR LR
comp=Z,319nm,21.0s,MS4.6
KWP Kalwaria 79.01 324 *e*P **P 08 07 10.9 +0.4**
KWP LMZ 08 45 34.4
comp=Z,2μm,16.3s
KWP Kalwaria 79.01 324⇑P **P 08 07 11.0 +0.5**
KWP Kalwaria 79.01 324⇑*i*P **P 08 07 13.8 +3.3**
LAO LASA Array 79.01 40 *e*P **P 08 07 11.1 +0.5**
comp=Z,24nm,1.3s,mb5.0
LAO LR LR
comp=Z,336nm,20.0s,MS4.7
TPNV Topopah Spring 79.08 52 *e*P **P 08 07 11.7 +0.6**
TPNV pmax pmax
comp=Z,15nm,1.1s,mb4.8
TPNV MLR MLR
comp=Z,182nm,20.0s,MS4.4
TPNV Topopah Spring 79.08 52 *e*P **P 08 07 11.7 +0.6**
comp=Z,15nm,1.1s,mb4.8
TPNV LR LR
comp=Z,182nm,20.0s,MS4.4
AVNT Avonos 79.10 310 *i* P **P 08 07 10.1 -1.2**
BURAR Bucovina Array 79.10 321⇑*i*P **P 08 07 11.4 +0.3**
BURAR Bucovina Array 79.10 321⇓P **P 08 07 11.3 +0.3**
HWUT Hardware Ranch 79.21 46 *e*P **P 08 07 12.4 +0.6**
comp=Z,25nm,1.2s,mb5.0
HWUT LR LR
comp=Z,205nm,19.0s,MS4.5
DUG Dugway 79.31 48 *e*P **P 08 07 12.9 +0.5**
DUG *e**PP pP 08 07 24.0 +1.0
DUG pmax pmax
comp=Z,30nm,1.7s,mb5.0
DUG MLR MLR
comp=Z,212nm,20.0s,MS4.5
DUG Dugway 79.31 48 *e*P **P 08 07 12.9 +0.5**
comp=Z,30nm,1.7s,mb5.0
DUG *e*pP pP 08 07 24.0 +1.0
DUG LR LR
comp=Z,212nm,20.0s,MS4.5
TIRR Tirgusor 79.43 317 *e*P **P 08 07 12.8 -0.1**
TIRR *e* 08 10 13.4
TIRR pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
TIRR Tirgusor 79.43 317⇓*i*P **P 08 07 12.4 -0.5**
TIRR Tirgusor 79.43 317 *e*P **P 08 07 12.8 -0.2**
comp=Z,9.7nm,1.3s,mb4.6
TIRR *e*PP PP 08 10 13.4 +0.6
VRI Vrincioaia 79.45 319⇓*i*P **P 08 07 14.1 +1.1**
VRI Vrincioaia 79.45 319 P **P 08 07 14.3 +1.3**
MWC Mount Wilson 79.46 56 *e*P **P 08 07 13.6 +0.3**
MWC pmax pmax
comp=Z,28nm,1.4s,mb5.0
MWC MLR MLR
comp=Z,304nm,20.0s,MS4.6
MWC Mount Wilson 79.46 56 *e*P **P 08 07 13.6 +0.3**
comp=Z,28nm,1.4s,mb5.0
MWC LR LR
comp=Z,304nm,20.0s,MS4.6
BW06 Boulder Array 79.66 45 *e*P **P 08 07 14.0 -0.2**
BW06 LR LR
comp=Z,296nm,22.0s,MS4.6
PDAR Pinedale Array 79.66 45 P **P 08 07 13.9 -0.3**
comp=Z,2.2nm,0.6s,mb4.3,baz=277,slow=1.9,SNR=17
GSC Goldstone 79.67 54 *e*P **P 08 07 14.8 +0.4**
GSC *e**PP pP 08 07 26.0 +0.9
GSC pmax pmax
comp=Z,18nm,1.5s,mb4.8
GSC MLR MLR
comp=Z,181nm,19.0s,MS4.4
GSC Goldstone 79.67 54 *e*P **P 08 07 14.8 +0.3**
comp=Z,18nm,1.5s,mb4.8
GSC *e*pP pP 08 07 26.0 +0.9
GSC LR LR
comp=Z,181nm,19.0s,MS4.4
KOLS Kolonicke sedl 79.69 324 *e*P **P 08 07 14.1 -0.2**
ANTO Ankara 79.72 312 PFAKE 08 07 30.0 +15
ANTO LR LR
comp=Z,333nm,19.0s,MS4.7
STHS Stebnicka Huta 79.86 324 *e*P **P 08 07 15.8 +0.7**
STHS pmax pmax
comp=Z,11nm,1.1s,mb4.7
STHS Stebnicka Huta 79.86 324 *e*P **P 08 07 15.8 +0.7**
comp=Z,11nm,1.1s,mb4.7
UZH Uzhgorod 79.89 323 *e*P **P 08 07 17.0 +1.7**
UZH *e* pP 08 07 25.7 -0.3
UZH *e*S S 08 17 17.0 +0.8
UZH *e*PS 08 18 07.5
UZH MLR MLR
comp=E,700nm,16.0s
UZH MLR MLR
comp=Z,300nm,16.0s,MS4.7
JLU Jordanelle 79.89 47 *e*P **P 08 07 16.7 +1.2**
NLU North Lily Min 79.91 48 *e*P **P 08 07 16.7 +1.1**
OJC Ojcow 79.98 326 *e*P **P 08 07 15.8 0.0**
OJC *e*PcP PcP 08 07 23.6 +0.4
SHPR Sheep Range 80.04 52 *e*P **P 08 07 16.9 +0.5**
CRVS Cervenica-Dubn 80.10 324 *e*P **P 08 07 17.3 +0.8**
MLR Muntele Rosu 80.11 319⇑*i*P **P 08 07 16.7 +0.1**
MLR Muntele Rosu 80.11 319⇓P **P 08 07 17.9 +1.3**
DAU Daniels Canyon 80.12 47 *e*P **P 08 07 18.1 +1.3**
DAU *e**PP pP 08 07 28.6 +1.2
MPU Maple Canyon 80.14 48 *e*P **P 08 07 17.9 +1.0**
comp=Z,23nm,1.3s,mb5.0
MPU LR LR
comp=Z,762nm,20.0s,MS5.0
NIE Niedzica 80.29 325 *e*P **P 08 07 18.6 +1.1**
MVU Marysvale 80.71 49 PFAKE 08 07 30.0 +10
MVU LR LR
comp=Z,205nm,19.0s,MS4.5
MSU Marysvale 80.73 49 *e*P **P 08 07 21.4 +1.4**
TMUT Trail Mountain 80.84 48 *e*P **P 08 07 21.5 +0.9**
TMUT *e*pP pP 08 07 32.5 +1.2
KECS Kecovo 80.86 324 *e*P **P 08 07 20.6 0.0**
KECS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KECS Kecovo 80.86 324 *e*P **P 08 07 20.6 0.0**
comp=Z,6.0nm,1.2s,mb4.4
PFO Pinyon Flat Ob 80.90 55 P **P 08 07 21.0 -0.1**
comp=Z,84nm,1.0s,mb5.6,SNR=6.3
PFO Pinyon Flat Ob 80.90 55 P **P 08 07 20.6 -0.5**
comp=Z,16nm,1.1s,mb4.8,baz=318,slow=2.3,SNR=8.7
PFO Pinyon Flat Ob 80.90 55 *e*P **P 08 07 21.2 +0.1**
PFO pmax pmax
comp=Z,15nm,1.0s,mb4.9
PFO MLR MLR
comp=Z,292nm,20.0s,MS4.6
PFO Pinyon Flat Ob 80.90 55 *e*P **P 08 07 21.2 +0.1**
comp=Z,15nm,1.0s,mb4.9
PFO LR LR
comp=Z,292nm,20.0s,MS4.6
LDFC Landfair 80.92 53 *e*P **P 08 07 21.7 +0.5**
comp=Z,46nm,1.7s,mb5.1
OKC Ostrava-Krasne 81.00 326 *e*P **P 08 07 21.7 +0.4**
OKC AMS AMS 08 47 10.0
comp=Z,1μm,14.1s
KSP Ksiaz 81.11 328 *e*P **P 08 07 21.8 0.0**
KSP LMZ 08 46 48.1
comp=Z,1μm,19.2s
KSP Ksiaz 81.11 328 *e*P **P 08 07 21.5 -0.3**
BAR Barrett 81.30 56 *e*P **P 08 07 23.5 +0.3**
comp=Z,13nm,0.8s,mb4.9
BAR LR LR
comp=Z,231nm,19.0s,MS4.6
MORC Moravsky Berou 81.32 326 P **P 08 07 23.5 +0.5**
MORC Moravsky Berou 81.32 326⇑*i*P **P 08 07 22.8 -0.2**
MORC Moravsky Berou 81.32 326 *e*P **P 08 07 23.4 +0.4**
comp=Z,21nm,1.3s,mb4.9
MORC *e*sP sP 08 07 37.7 +0.2
SRU San Rafael 81.37 48 *e*P **P 08 07 23.5 0.0**
SRU *e**PP pP 08 07 34.8 +0.7
SRU pmax pmax
comp=Z,17nm,1.5s,mb4.8
SRU San Rafael 81.37 48 *e*P **P 08 07 23.5 0.0**
comp=Z,17nm,1.5s,mb4.8
SRU *e*pP pP 08 07 34.8 +0.6
DPC Dobruska-Polom 81.45 327 *e*P **P 08 07 24.1 +0.4**
DPC *e*pP pP 08 07 32.0 -2.3
DPC AMS AMS 08 48 00.0
comp=Z,1μm,13.6s
UPC Upice 81.47 328 *e*P **P 08 07 24.3 +0.5**
UPC *e*pP pP 08 07 33.5 -0.9
PSZ Piszkesteto 81.54 324⇓P **P 08 07 25.1 +0.9**
PSZ Piszkesteto 81.54 324⇑*i*P **P 08 07 25.0 +0.8**
PSZ Piszkesteto 81.54 324 *e*P **P 08 07 24.5 +0.3**
comp=Z,25nm,1.2s,mb5.0
PSZ LR LR
comp=Z,832nm,20.0s,MS5.1
ULM Lac du Bonnet 81.58 33 P **P 08 07 23.3 -1.0**
comp=Z,5.7nm,1.1s,mb4.4,baz=299,slow=7.1,SNR=4.3
ULM Lac du Bonnet 81.58 33 P **P 08 07 23.3 -1.0**
ULM LR LR
comp=Z,474nm,21.0s,MS4.8
RWWY Rawlins 81.69 44 *e*P **P 08 07 25.5 +0.3**
comp=Z,19nm,1.1s,mb4.9
RSSD Black Hills 81.86 41 *e*P **P 08 07 25.8 -0.1**
RSSD pmax pmax
comp=Z,14nm,1.6s,mb4.6
RSSD MLR MLR
comp=Z,346nm,20.0s,MS4.7
RSSD Black Hills 81.86 41 *e*P **P 08 07 25.8 -0.2**
comp=Z,14nm,1.6s,mb4.7
RSSD LR LR
comp=Z,346nm,20.0s,MS4.7
PVCC Panska Ves 82.08 328 *e*P **P 08 07 27.8 +0.8**
PVCC AMS AMS 08 48 40.0
comp=Z,800nm,17.0s
VRAC Vranov 82.09 327⇓*i*P **P 08 07 27.1 +0.1**
VRAC Vranov 82.09 327 P **P 08 07 27.7 +0.7**
BRG Berggiesshubel 82.09 329 *e*P **P 08 07 26.9 -0.1**
BRG *e* pP 08 07 35.9 -1.8
BRG pmax pmax
comp=Z,12nm,1.5s,mb4.6
BRG Berggiesshubel 82.09 329 *e*P **P 08 07 26.9 -0.1**
comp=Z,19nm,1.5s,mb4.8
BRG *e* pP 08 07 35.9 -1.8

comp=Z,17nm,1.3s
CLL Collm 82.16 330⇑ *i*P **P 08 07 26.6 -0.8**
CLL *i* *PP pP 08 07 35.2 -2.8
CLL pmax pmax
comp=Z,23nm,1.3s,mb5.0
CLL MLR MLR
comp=Z,800nm,17.5s,MS5.1
CLL Collm 82.16 330⇑ *i*P **P 08 07 26.6 -0.8**
comp=Z,23nm,1.3s,mb5.0
CLL *i* pP pP 08 07 35.2 -2.8
comp=Z,15nm,1.1s
CLL *es*P sP 08 07 42.0 +0.1
CLL *e*PP PP 08 10 35.0 -0.1
CLL *ep*PP 08 10 43.0
CLL Collm 82.16 330⇑ *i*P **P 08 07 26.6 -0.8**
comp=Z,23nm,1.3s,mb5.0
CLL *i* pP pP 08 07 35.2 -2.8
CLL LR LR
comp=Z,800nm,17.5s,MS5.1
BZS Buzias 82.28 322 P **P 08 07 27.8 -0.3**
GLA Glamis 82.33 55 *e*P **P 08 07 28.9 +0.3**
GLA *e**PP pP 08 07 39.9 +0.6
GLA pmax pmax
comp=Z,18nm,0.9s,mb5.0
GLA MLR MLR
comp=Z,248nm,19.0s,MS4.6
GLA Glamis 82.33 55 *e*P **P 08 07 28.9 +0.3**
comp=Z,18nm,0.9s,mb5.0
GLA *e*pP pP 08 07 39.9 +0.6
GLA LR LR
comp=Z,248nm,19.0s,MS4.6
ISP Isparta 82.38 311 PFAKE 08 07 40.0 +11
ISP LR LR
comp=Z,293nm,21.0s,MS4.6
MODS Modra-Piesok 82.45 326 *e*P **P 08 07 29.0 0.0**
PRU Pruhonice 82.50 328 *e*P **P 08 07 29.1 -0.1**
PRU *ep*P pP 08 07 38.8 -1.0
PRU AMS AMS 08 48 40.0
comp=Z,1μm,14.1s
TREC Trest 82.59 327 *e*P **P 08 07 30.2 +0.5**
TREC *ep*P pP 08 07 39.1 -1.2
TREC AMS AMS 08 48 40.0
comp=Z,1μm,14.3s
ZST Bratislava 82.66 326 *e*P **P 08 07 30.6 +0.6**
PV10 Paradox Valley 82.74 48 *e*P **P 08 07 31.7 +1.1**
KDZ Kurdzhali 82.92 317 P **P 08 07 32.0 +0.4**
PHWY Pilot Hill 82.94 44 *e*P **P 08 07 31.4 -0.2**
AGMN Agassiz Refuge 83.00 34 PFAKE 08 07 40.0 +8.2
AGMN LR LR
comp=Z,447nm,19.0s,MS4.9
WUAZ Wupatki 83.08 51 *e*P **P 08 07 33.3 +0.8**
comp=Z,24nm,1.3s,mb5.1
WUAZ *e*pP pP 08 07 44.5 +1.3
WUAZ LR LR
comp=Z,187nm,20.0s,MS4.5
PV01 Paradox Valley 83.17 48 *e*P **P 08 07 33.6 +0.7**
PV01 *e*pP pP 08 07 45.3 +1.7
NKC Novy Kostel 83.20 329 *e*P **P 08 07 33.1 +0.3**
NKC *e*pP pP 08 07 41.2 -2.3
MOX Moxa 83.23 330 *e*(P) **P 08 07 32.8 -0.2**
RZN Rozhen 83.29 317 P **P 08 07 33.5 +0.1**
PKSM Moragy 83.35 323⇑P **P 08 07 33.3 -0.4**
PKSM Moragy 83.35 323⇑*i*P **P 08 07 32.0 -1.7**
PKSM Moragy 83.35 323 P **P 08 07 33.2 -0.5**
SMCO Snowmass 83.46 46 *ep*P pP 08 07 45.8 +0.8
VTS Vitosha 83.51 319 P **P 08 07 34.3 -0.3**
VTS Vitosha 83.51 319⇑*i*P **P 08 07 35.6 +1.0**
VTS Vitosha 83.51 319⇓P **P 08 07 35.3 +0.7**
KHC Kasperske Hory 83.55 328 *e*P **P 08 07 34.9 +0.3**
KHC *ep*P pP 08 07 43.0 -2.3
KHC AMS AMS 08 48 50.0
comp=Z,1μm,14.8s
GERES GERESS Array B 83.71 328 P **P 08 07 34.4 -1.1**
comp=Z,2.1nm,0.9s,mb4.3,baz=48,slow=4.0,SNR=14
GERES LR LR 08 52 00.8
comp=Z,602nm,18.2s,MS5.0,baz=9.9,slow=41
MVCO Mesa Verde 83.81 48 *e*P **P 08 07 36.6 +0.4**
comp=Z,14nm,1.1s,mb5.0
MVCO LR LR
comp=Z,240nm,19.0s,MS4.6
ISCO Idaho Springs 83.84 45 *e*P **P 08 07 37.2 +0.9**
ISCO *e**PP pP 08 07 48.5 +1.5
ISCO pmax pmax
comp=Z,24nm,1.8s,mb5.0
ISCO MLR MLR
comp=Z,369nm,20.0s,MS4.8
ISCO Idaho Springs 83.84 45 *e*P **P 08 07 37.2 +0.9**
comp=Z,24nm,1.8s,mb5.0
ISCO *e*pP pP 08 07 48.5 +1.4
ISCO LR LR
comp=Z,369nm,20.0s,MS4.8
KKB Krupnik 84.07 318 P **P 08 07 37.3 -0.2**
AYDN Tasoluk 84.10 312 *i*P **P 08 07 38.6 +0.9**
GRA1 Grafenberg Arr 84.13 329 *e*P **P 08 07 37.5 -0.1**
comp=Z,53nm,1.4s,mb5.5
GRA1 *e*pP pP 08 07 45.5 -2.8
GRA1 LR LR
comp=Z,900nm,18.2s,MS5.2
GRF Grafenberg Arr 84.13 329 *e*P **P 08 07 37.5 -0.1**
GRF *e**PP pP 08 07 45.5 -2.8
GRF pmax pmax
comp=Z,53nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,900nm,18.2s,MS5.2
GRF Grafenberg Arr 84.13 329 *e*P **P 08 07 37.5 -0.1**
GRF *e**PP pP 08 07 45.5 -2.8
GRF pmax pmax
comp=Z,53nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,900nm,18.2s,MS5.2
GRF Grafenberg Arr 84.13 329 *e*P **P 08 07 37.5 -0.1**
comp=Z,53nm,1.4s,mb5.5
GRF *e*pP pP 08 07 45.5 -2.8
GRF *e*L 08 52 36.7
comp=Z,920nm,18.2s
PMOR Pomariorio Ree 84.40 113 *e*T 09 40 17.2
comp=Z,17nm,0.2s
ESK Eskdalemuir 84.53 340 PFAKE 08 07 50.0 +11
ESK LR LR
comp=Z,334nm,19.0s,MS4.7
PERS Pernice 84.72 325 *i*P **P 08 07 40.3 -0.4**
PERS *i* pP 08 07 49.4 -1.9
PPT Papeete 84.74 116 *e*LR LR 08 34 05.5
comp=Z,495nm,26.8s
PPT Papeete 84.74 116 *e*T 09 40 44.5
comp=Z,10nm,0.3s
TIAR Tiarei 84.91 115 *e*T 09 40 56.5
comp=Z,96nm,0.3s
EYMN Ely 85.21 32 PFAKE 08 07 50.0 +6.9
EYMN LR LR
comp=Z,466nm,19.0s,MS4.9
SDCO Great Sand Dun 85.27 46 *e*P **P 08 07 44.5 +0.9**
comp=Z,14nm,1.3s,mb5.0
SDCO LR LR
comp=Z,334nm,19.0s,MS4.8
BEBN Eben Emael 85.44 333 P **P 08 07 44.2 0.0**
TUC Tucson 85.47 53 *e*P **P 08 07 44.9 +0.2**
TUC *e**PP pP 08 07 56.0 +0.6
TUC pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
TUC MLR MLR
comp=Z,255nm,19.0s,MS4.6
TUC Tucson 85.47 53 *e*P **P 08 07 44.9 +0.3**
comp=Z,10nm,1.4s,mb4.8
TUC *e*pP pP 08 07 56.0 +0.6
TUC LR LR
comp=Z,255nm,19.0s,MS4.6
VISS Visnje 85.47 325 *i*P **P 08 07 52.0 +7.6**
MEM Membach 85.47 333 P **P 08 07 43.4 -0.9**
BOJS Bojanci 85.49 325 *i*P **P 08 07 52.5 +8.0**
JAVS Javornik 85.76 326 *e*P **P 08 07 45.0 -0.9**
BCLA Clavier 85.89 333 P **P 08 07 45.2 -1.1**
UCC Uccle 85.92 334 P **P 08 07 46.3 -0.3**
ECSD EROS,Sioux Fal 85.97 37 *e*P **P 08 07 46.2 -0.7**
comp=Z,7.7nm,1.0s,mb4.9
ECSD LR LR
comp=Z,458nm,20.0s,MS4.9
MEH Mehetia 86.05 115 *e*T 09 42 22.4
comp=Z,4μm,0.3s
WLF Walferdange 86.18 332 P **P 08 07 48.1 +0.3**
comp=Z,25nm,2.0s,mb5.1
WLF Walferdange 86.18 332 PFAKE 08 08 00.0 +12
WLF LR LR
comp=Z,850nm,19.0s,MS5.2
GIVF Givet 86.32 333 *e*P **P 08 07 47.3 -1.2**

BFO Black Forest 86.38 330 PFAKE 08 08 00.0 +11
BFO LR LR
comp=Z,387nm,19.0s,MS4.8
SANT Santorini 86.40 313 PFAKE 08 08 00.0 +11
SANT LR LR
comp=Z,236nm,21.0s,MS4.6
DOU Dourbes 86.41 333 P **P 08 07 48.6 -0.4**
comp=Z,8.3nm,1.6s,mb4.7
LAZ Ladron 86.47 50 *e*P **P 08 07 50.7 +1.1**
LAZ *ep*P pP 08 08 01.8 +1.5
LAZ *es*P sP 08 08 08.1 +3.9
ANMO Albuquerque 86.53 49⇑*e*P **P 08 07 50.7 +0.8**
ANMO Albuquerque 86.53 49 *e*P **P 08 07 50.5 +0.7**
comp=Z,9.2nm,1.4s,mb4.8
ANMO LR LR
comp=Z,331nm,21.0s,MS4.7
BAIF Baives 86.58 333 *e*P **P 08 07 48.6 -1.2**
comp=Z,22nm,1.1s,mb5.0
BAIF Baives 86.58 333 *e*P **P 08 07 48.6 -1.2**
BAIF pmax pmax
comp=Z,11nm,1.1s,mb5.0
BAIF Baives 86.58 333 *e*P **P 08 07 48.6 -1.2**
comp=Z,11nm,1.1s,mb5.0
CDF Champ du Feu 86.74 331 *e*P **P 08 07 49.4 -1.2**
comp=Z,40nm,1.3s,mb5.2
CDF Champ du Feu 86.74 331 *e*P **P 08 07 49.4 -1.2**
CDF pmax pmax
comp=Z,20nm,1.3s,mb5.2
CDF Champ du Feu 86.74 331 *e*P **P 08 07 49.4 -1.2**
comp=Z,20nm,1.3s,mb5.2
ECH Echery 86.95 331 *e*P **P 08 07 51.1 -0.5**
BNM Barren Site 86.95 50 *e*P **P 08 07 52.5 +0.5**
SCHQ Schefferville 87.36 15 P **P 08 07 53.0 -0.5**
comp=Z,4.5nm,0.8s,mb4.7,baz=344,slow=7.4,SNR=3.6
SCHQ Schefferville 87.36 15 P **P 08 07 53.0 -0.5**
SCHQ LR LR
comp=Z,674nm,19.0s,MS5.1
HINF Hinteralfeld 87.39 331 *e*P **P 08 07 52.2 -1.6**
HAU Haudompre 87.44 331 *e*P **P 08 07 52.5 -1.5**
HAU *e*MLR MLR
comp=Z,790nm,18.2s,MS4.9
HAU Haudompre 87.44 331 *e*P **P 08 07 52.5 -1.5**
HAU LR LR
comp=Z,790nm,18.3s,MS5.2
MEZF Mazieres J'vi 87.54 332 *e*P **P 08 07 52.4 -2.1**
COWI Conover 87.66 32 PFAKE 08 08 10.0 +15
COWI LR LR
comp=Z,648nm,20.0s,MS5.0
CBKS Cedar Bluff 87.85 43 PFAKE 08 08 10.0 +14
CBKS LR LR
comp=Z,422nm,19.0s,MS4.9
MSEY Mahe Island 88.33 263 PFAKE 08 08 10.0 +11
MSEY LR LR
comp=Z,260nm,19.0s,MS4.7
AQU L'Aquila 88.73 324 PFAKE 08 08 10.0 +10
AQU LR LR
comp=Z,1μm,21.0s,MS5.3
VLC Villacollemand 88.77 326 PFAKE 08 08 10.0 +10
VLC LR LR
comp=Z,608nm,20.0s,MS5.0
SCIA State Center 89.00 37 PFAKE 08 08 10.0 +8.4
SCIA LR LR
comp=Z,495nm,19.0s,MS5.0
LOR Lormes 89.02 332 *e*P **P 08 08 00.2 -1.3**
comp=Z,83nm,1.7s,mb5.5
LOR *e*MLR MLR
comp=Z,732nm,19.0s,MS4.8
LOR Lormes 89.02 332 *e*P **P 08 08 00.2 -1.3**
LOR pmax pmax
comp=Z,42nm,1.7s,mb5.5
LOR MLR MLR
comp=Z,730nm,19.0s,MS5.1
LOR Lormes 89.02 332 *e*P **P 08 08 00.2 -1.3**
comp=Z,42nm,1.7s,mb5.5
LOR LR LR
comp=Z,730nm,19.0s,MS5.1
LPL La Plagne 89.29 329 *e*P **P 08 08 01.8 -1.0**
LPG La Plagne 89.30 329 *e*P **P 08 08 02.7 -0.2**
comp=Z,22nm,1.2s,mb5.1
LPG La Plagne 89.30 329 *e*P **P 08 08 02.7 -0.2**
LPG pmax pmax
comp=Z,11nm,1.2s,mb5.1
LPG La Plagne 89.30 329 *e*P **P 08 08 02.7 -0.2**
comp=Z,11nm,1.2s,mb5.1
SSF Saint Saulge 89.32 332 *e*P **P 08 08 01.7 -1.3**
comp=Z,24nm,1.3s,mb5.0
SSF Saint Saulge 89.32 332 *e*P **P 08 08 01.7 -1.3**
SSF pmax pmax
comp=Z,12nm,1.3s,mb5.1
SSF Saint Saulge 89.32 332 *e*P **P 08 08 01.7 -1.3**
comp=Z,12nm,1.3s,mb5.1
KSU1 Kansas State U 89.34 41 PFAKE 08 08 10.0 +6.8
KSU1 LR LR
comp=Z,437nm,19.0s,MS4.9
TIP Timpagrande 89.38 320 PFAKE 08 08 10.0 +6.6
TIP LR LR
comp=Z,623nm,22.0s,MS5.0
AMTX Amarillo 89.47 46 PFAKE 08 08 20.0 +16
AMTX LR LR
comp=Z,344nm,22.0s,MS4.7
SMF Signal de Mont 89.54 332 *e*P **P 08 08 02.7 -1.3**
comp=Z,86nm,1.8s,mb5.5
SMF Signal de Mont 89.54 332 *e*P **P 08 08 02.7 -1.3**
SMF pmax pmax
comp=Z,43nm,1.8s,mb5.5
SMF Signal de Mont 89.54 332 *e*P **P 08 08 02.7 -1.3**
comp=Z,43nm,1.8s,mb5.5
AVF Avril sur Loir 89.61 332 *e*P **P 08 08 03.1 -1.2**
comp=Z,58nm,1.5s,mb5.4
AVF Avril sur Loir 89.61 332 *e*P **P 08 08 03.1 -1.2**
AVF pmax pmax
comp=Z,29nm,1.5s,mb5.4
AVF Avril sur Loir 89.61 332 *e*P **P 08 08 03.1 -1.2**
comp=Z,29nm,1.5s,mb5.4
JFWS Jewell Farm 89.65 34 PFAKE 08 08 20.0 +15
JFWS LR LR
comp=Z,420nm,20.0s,MS4.9
BNI Bardonecchia 89.69 329 PFAKE 08 08 20.0 +15
BNI LR LR
comp=Z,780nm,21.0s,MS5.1
GLMI Grayling 90.59 30 PFAKE 08 08 20.0 +11
GLMI LR LR
comp=Z,783nm,20.0s,MS5.1
VIVF Saint-Julien-l 90.68 330 *e*P **P 08 08 08.0 -1.3**
SMRF Simiane la Rot 91.02 329 *e*P **P 08 08 09.7 -1.2**
comp=Z,24nm,1.4s,mb5.5
SMRF Simiane la Rot 91.02 329 *e*P **P 08 08 09.7 -1.2**
comp=Z,64nm,1.4s,mb5.8
MFF Saint Martin d 91.07 334 *e*P **P 08 08 09.0 -2.1**
WMOK Wichita Mounta 91.27 45 *e*P **P 08 08 12.7 +0.4**
WMOK *e**PP pP 08 08 23.5 +0.4
WMOK pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
WMOK MLR MLR
comp=Z,370nm,19.0s,MS4.8
WMOK Wichita Mounta 91.27 45 *e*P **P 08 08 12.7 +0.4**
comp=Z,7.5nm,1.2s,mb4.9
WMOK *ep*P pP 08 08 23.5 +0.4
WMOK LR LR
comp=Z,370nm,19.0s,MS4.8
RJF Les Rejaudoux 91.55 332 *e*P **P 08 08 12.5 -0.9**
comp=Z,31nm,1.2s,mb5.2
RJF *e*MLR MLR
comp=Z,820nm,22.2s,MS4.8
RJF Les Rejaudoux 91.55 332 *e*P **P 08 08 12.5 -0.9**
RJF pmax pmax
comp=Z,16nm,1.2s,mb5.2
RJF MLR MLR
comp=Z,820nm,22.3s,MS5.1
RJF Les Rejaudoux 91.55 332 *e*P **P 08 08 12.5 -0.9**
comp=Z,16nm,1.2s,mb5.2
RJF LR LR
comp=Z,820nm,22.3s,MS5.1
CAF Calviac 91.66 332 *e*P **P 08 08 13.3 -0.6**
comp=Z,38nm,1.4s,mb5.2
CAF Calviac 91.66 332 *e*P **P 08 08 13.3 -0.6**
CAF pmax pmax
comp=Z,19nm,1.4s,mb5.2
CAF Calviac 91.66 332 *e*P **P 08 08 13.3 -0.6**
comp=Z,19nm,1.4s,mb5.2
TXAR Lajitas Array 92.03 52 P **P 08 08 15.1 -0.9**
comp=Z,2.5nm,1.0s,mb4.5,baz=280,slow=2.3,SNR=12
LFF La Frestale 92.15 332 *e*P **P 08 08 15.5 -0.7**
AAM Ann Arbor 93.06 31 PFAKE 08 08 30.0 +10
AAM LR LR
comp=Z,399nm,19.0s,MS4.9

JCT Junction City 93.67 48 PFAKE 08 08 30.0 +6.5
JCT LR LR
comp=Z,429nm,22.0s,MS4.9
MIAR Mount Ida 94.34 42 PFAKE 08 08 40.0 +14
MIAR LR LR
comp=Z,533nm,19.0s,MS5.0
LONY Lake Ozonia 94.51 24 PFAKE 08 08 40.0 +13
LONY LR LR
comp=Z,632nm,21.0s,MS5.1
ACSO Alum Creek Sta 95.05 32 PFAKE 08 08 40.0 +10
ACSO LR LR
comp=Z,516nm,20.0s,MS5.0
WCI Wyandotte Cave 95.19 35 PFAKE 08 08 40.0 +10
WCI LR LR
comp=Z,352nm,21.0s,MS4.8
NCB Newcomb 95.20 24 PFAKE 08 08 40.0 +10
NCB LR LR
comp=Z,538nm,20.0s,MS5.0
PKME Peaks-Kenny Pk 95.57 20 PFAKE 08 08 40.0 +8.2
PKME LR LR
comp=Z,620nm,19.0s,MS5.1
LBNH Lisbon 95.71 23 PFAKE 08 08 40.0 +7.5
LBNH LR LR
comp=Z,575nm,20.0s,MS5.0
NATX Nacogdoches 95.80 44 PFAKE 08 08 40.0 +6.8
NATX LR LR
comp=Z,531nm,20.0s,MS5.0
KEST Kesra 95.84 322 LR LR 08 56 40.1
comp=Z,275nm,19.4s,MS4.7,baz=344,slow=39
BINY Binghamton 96.15 26 PFAKE 08 08 50.0 +15
BINY LR LR
comp=Z,599nm,20.0s,MS5.1
HKT Hockley 96.44 46 PFAKE 08 08 50.0 +14
HKT LR LR
comp=Z,335nm,19.0s,MS4.8
OXF Oxford 96.58 39 PFAKE 08 08 50.0 +13
OXF LR LR
comp=Z,307nm,21.0s,MS4.8
MCWV Mont Chateau 96.85 30 PFAKE 08 08 50.0 +12
MCWV LR LR
comp=Z,700nm,19.0s,MS5.2
PLAL Pickwick Lake 96.90 38 PFAKE 08 08 50.0 +12
PLAL LR LR
comp=Z,525nm,22.0s,MS5.0
KVTX Kingsville 96.92 49 PFAKE 08 08 50.0 +12
KVTX LR LR
comp=Z,410nm,20.0s,MS4.9
HRV Adam Dziewonsk 97.39 23 PFAKE 08 08 50.0 +10
HRV LR LR
comp=Z,531nm,20.0s,MS5.0
WES Weston 97.57 23 PFAKE 08 08 50.0 +9.0
WES LR LR
comp=Z,717nm,22.0s,MS5.1
VBMS Vicksburg 97.77 41 PFAKE 08 08 50.0 +7.9
VBMS LR LR
comp=Z,450nm,19.0s,MS5.0
TZTN Tazewell 97.83 34 PFAKE 08 08 50.0 +7.7
TZTN LR LR
comp=Z,471nm,19.0s,MS5.0
BLA Blacksburg 98.67 32 PFAKE 08 09 00.0 +14
BLA LR LR
comp=Z,429nm,22.0s,MS4.9
PAB San Pablo 98.71 333 PFAKE 08 09 00.0 +14
PAB LR LR
comp=Z,581nm,21.0s,MS5.0
LRAL Lakeview Retre 98.98 39 PFAKE 08 09 00.0 +12
LRAL LR LR
comp=Z,471nm,21.0s,MS5.0
RKT Rikitea 99.01 112 *e*LR LR 08 41 01.3
comp=Z,488nm,32.5s,baz=315
MTE Manteigas 99.09 336 PFAKE 08 09 00.0 +12
MTE LR LR
comp=Z,469nm,22.0s,MS4.9
GOGA Godfrey 100.43 36 PFAKE 08 09 10.0 +16
GOGA LR LR
comp=Z,458nm,19.0s,MS5.0
BRAL Brewton 100.55 40 PFAKE 08 09 10.0 +16
BRAL LR LR
comp=Z,505nm,21.0s,MS5.0
EVO Evora 100.92 335 *e*P Pdif 08 08 54.7 -1.3
EVO *e*MLR MLR
comp=Z,563nm,22.5s,MS4.7
KMBO Kilima Mbogo 101.20 277 PFAKE 08 09 10.0 +13
KMBO LR LR
comp=Z,198nm,20.0s,MS4.6
CNNC Cliffs of the 101.42 31 PFAKE 08 09 10.0 +12
CNNC LR LR
comp=Z,531nm,21.0s,MS5.0
SFS San Fernando 102.11 333 PFAKE 08 09 10.0 +8.8
SFS LR LR
comp=Z,1μm,19.0s,MS5.4
NHSC New Hope 102.22 34 PFAKE 08 09 10.0 +8.3
NHSC LR LR
comp=Z,552nm,20.0s,MS5.1
DWPF Disney 105.77 38 PFAKE 08 13 40.0 +9.5
DWPF LR LR
comp=Z,342nm,21.0s,MS4.9
TEIG Tepich 108.23 48 PFAKE 08 13 50.0 +15
TEIG LR LR
comp=Z,356nm,20.0s,MS4.9
BBSR BB Station 108.83 22 PFAKE 08 13 50.0 +14
BBSR LR LR
comp=Z,326nm,19.0s,MS4.9
TGUH Tegucigalpa,Un 113.51 51 PFAKE 08 14 00.0 +15
TGUH LR LR
comp=Z,337nm,21.0s,MS4.9
MAW Mawson 117.47 205 PFAKE 08 14 00.0 +8.8
MAW LR LR
comp=Z,291nm,22.0s,MS4.9
TORD Torodi Ar. Bea 117.86 313 PKP PKPdf 08 13 53.6 -0.1
comp=Z,0.5nm,0.8s,baz=350,slow=3.2,SNR=3.3
BCIP Isla Barro Col 121.90 48 PFAKE 08 14 10.0 +8.5
BCIP LR LR
comp=Z,148nm,19.0s,MS4.7
SYO Syowa Base 126.13 206⇓*e*Pdiff Pdif 08 10 52.5 +4.5
DBIC Dimbokro 126.88 315 PFAKE 08 14 20.0 +8.9
DBIC LR LR
comp=Z,399nm,22.0s,MS5.0
SDV Santo Domingo 127.37 40 PFAKE 08 14 20.0 +8.0
SDV LR LR
comp=Z,87nm,19.0s,MS4.5
OTAV Otavalo 129.60 54 PFAKE 08 14 30.0 +14
OTAV LR LR
comp=Z,319nm,19.0s,MS5.0
PMSA Palmer Station 147.00 161 PKPbc PKPbc 08 14 48.3 0.0
comp=Z,1.3nm,0.6s,baz=188,slow=7.1,SNR=3.1
LPAZ La Paz 148.47 61 PKPbc PKPbc 08 14 53.9 +0.1
comp=Z,2.4nm,0.8s,baz=333,slow=3.6,SNR=10
LPAZ La Paz 148.47 61 PKP2 PKPab 08 14 53.9 -3.2
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 148.47 61 PFAKE 08 15 00.0 +10
LPAZ LR LR
comp=Z,205nm,19.0s,MS4.9
LVC Limon Verde 151.73 71 PKPbc PKPbc 08 15 01.5 0.0
comp=Z,5.8nm,0.9s,baz=345,slow=1.6,SNR=4.3
USHA Ushuaia 152.15 144 PKPbc PKPbc 08 15 02.1 +0.7
comp=Z,4.9nm,0.9s,baz=207,slow=2.3,SNR=5.5
SIV San Ignacio 153.02 50 PKPbc PKPbc 08 15 04.3 -0.3
comp=Z,1.1nm,0.6s,baz=270,slow=4.9,SNR=6.6
SIV PKPab PKPab 08 15 15.2 -0.7
comp=Z,2.9nm,0.6s,baz=306,slow=4.2,SNR=11
PLCA Paso Flores 155.24 112 PFAKE 08 15 10.0 +10
PLCA LR LR
comp=Z,150nm,20.0s,MS4.8
CFAA Coronel Fontan 156.05 89 PKPab PKPab 08 15 28.6 0.0
comp=Z,0.3nm,0.7s,baz=260,slow=8.2,SNR=4.9
BDFB Brasilia 159.17 23 PFAKE 08 15 20.0 +15
BDFB LR LR
comp=Z,273nm,20.0s,MS5.1
TRQA Tornquist 162.01 106 PFAKE 08 15 20.0 +12
TRQA LR LR
comp=Z,301nm,20.0s

IDC 18 07:56:25.0±11.0, 495S×15058E, h175km±105km, mb3.4/4, mb1 3.5/4, mb1mx3.2/14, mbtmp3.4/4, MS3.9/1, Ms1 3.9/1, ms1mx2.5/18, Error ellipse: s-maj=84.6km s-min=33.4km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.27**	**343**	LR	LR	08 06 19.7	
	comp=Z,297nm,18.4s,baz=15,slow=31						
WRA	**Warramunga Arr**	**21.72**	**225**	P	P	08 01 02.5	-0.1
	1.5nm,0.6s,baz=50,slow=10,SNR=8.4						

ASAR **Alice Springs 24.59 219** P P 08 01 29.8 +0.8
1.6nm,0.7s,baz=56,slow=9.1,SNR=13
SONM **Songino Array 65.29 329** P P 08 06 49.5 +1.5
0.7nm,0.7s,baz=128,slow=4.5,SNR=3.5
ZALV **Zalesovo Beam 80.06 327** P P 08 08 14.4 -0.5
0.8nm,0.4s,baz=114,slow=3.5,SNR=3.1
TORD **Torodi Ar. Bea 148.24 287** PKPbc PKPbc 08 15 48.8 -2.6
0.7nm,0.7s,baz=89,slow=2.3,SNR=4.3

MAN 18 08:01:02, 1013N×12615E, h7km, mb4.6, ML3.4, MS3.4, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.74**	**242**	⇓*e*P	Pg	08 01 16.8	+0.7
SCPH				*e*S	Sg	08 01 27.7	+2.0
MSLP	**Maasin**	**1.27**	**270**	*e*P	Pn	08 01 25.4	-0.8
MSLP				*e*S	Sb	08 01 43.7	+1.0
BUTP	**Butuan**	**1.27**	**204**	*e*P	Pn	08 01 25.1	-1.1
PLP	**Palo**	**1.54**	**312**	⇓*e*P	Pn	08 01 30.4	+0.6
PLP				*i*S	Sn	08 01 51.4	+1.2
BESP	**Borongan**	**1.61**	**335**	*e*P	Pn	08 01 31.0	+0.1
BESP				*e*S	Sn	08 01 53.0	+1.0
TBP	**Tagbilaran**	**2.29**	**259**	*e*P	Pn	08 01 43.7	+3.4
TBP				*e*S	Sn	08 02 12.8	+4.0
BUKP	**Musuan**	**2.48**	**206**	*e*P	Pn	08 01 44.5	+1.6
CNP	**Cataran**	**2.77**	**329**	*e*P	Pn	08 01 46.7	-0.2
CNP				*e*S	Sn	08 02 19.8	-0.8

NIED ***18*** *08:06:00, 3540N×14030E, h35km, Mw4.4 Best double couple: M0=4.42000×10^15 NP1:φ=56.00000°, δ=75.00000°, λ=97.00000°. NP2:φ=211.00000°, δ=16.00000°, λ=66.00000°.*
IDC ***18*** *08:06:53.9±0.6, 3537N×140.17E, h0km, mb4.1/18, mb1 4.2/20, mb1mx4.1/27, mbtmp4.1/20, ML4.0/2, MS4.1/3, Ms1 4.1/3, ms1mx3.2/34, Error ellipse: s-maj=18.8km s-min=12.7km az=92.0*
MOS ***18*** *08:06:55.6±1.1, 3538N×14052E, h33km, mb4.6/3, Error ellipse: s-maj=17.9km s-min=9.5km az=123.5*
JMA ***18*** *08:06:57.6±0.1, 3543N×140.32E, h29km±2km, M4.3*
JMA Felt III J1.
ISCJB ***18*** *08:06:57.7±0.4, 3534N±004×140.26E±006, h38km±3km, mb4.1/22, Error ellipse: s-maj=9.5km s-min=5.1km az=146.3*
NEIC ***18*** *08:07:01.5±1.6, 3529N×139.99E, h53km±13km, mb4.6/2, MW4.4(NIED), Error ellipse: s-maj=13.1km s-min=12.5km az=114.0*
NEIC Recorded [3 JMA] in Chiba and [1 JMA] in Ibaraki, Kanagawa and Tokyo Prefectures.

ISC 18 08:06:58.3±0.4, 3535N±004×14027E±006, h30km±3km, n52, σ1º00/56, mb4.1/22, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.09**	**323**	⇑P	**Pb**	**08 07 03.1**	**-0.5**
JCN				*e*S	**Sb**	**08 07 07.4**	**+0.2**
KTR	**Katsuura**	**0.20**	**169**	P	**Pb**	**08 07 04.3**	**-0.2**
KTR				*e*S	**Sb**	**08 07 09.2**	**+0.5**
BSO4	**Boso 4**	**0.36**	**171**	⇑P	**Pb**	**08 07 07.2**	**+0.7**
BSO3	**Boso 3**	**0.58**	**160**	⇓P	**Pb**	**08 07 09.9**	**0.0**
BSO2	**Boso 2**	**0.71**	**146**	*e*S	**Sb**	**08 07 21.5**	**-0.2**
BSO1	**Boso 1**	**0.90**	**140**	⇓P	**Pn**	**08 07 13.4**	**-1.5**
BSO1				*e*S	**Sn**	**08 07 26.7**	**-0.2**
JIM2	**Oshima 3**	**0.93**	**228**	⇓P	**Pn**	**08 07 14.8**	**-0.5**
JOD2	**Odawara 2**	**0.97**	**266**	⇓P	**Pn**	**08 07 15.7**	**-0.1**
JAG	**Ashikaga**	**1.27**	**329**	P	**Pn**	**08 07 18.7**	**-1.2**
JRY	**Ryogami san**	**1.30**	**301**	P	**Pn**	**08 07 20.0**	**-0.4**
MJAR	**Matsushiro Arr**	**2.06**	**306**	Pn	**Pn**	**08 07 31.6**	**+0.8**
	20nm,0.3s,baz=130,slow=14,SNR=145						
MAJO	**Matsushiro**	**2.06**	**306**	*e*P	**Pn**	**08 07 31.5**	**+0.7**
MAT	**Matsushiro**	**2.06**	**306**	P	**Pn**	**08 07 31.5**	**+0.7**
MAT				S	**Sn**	**08 07 59.9**	**+4.5**
JHJ	**Hachijo jima 2**	**2.26**	**190**	Pn	**Pn**	**08 07 32.1**	**-1.4**
	339nm,0.3s,baz=263,slow=21,SNR=11						
JHJ				Sn	**Sn**	**08 08 00.8**	**+0.5**
	238nm,0.3s,baz=100,slow=23,SNR=8.8						
ASAJ	**Asahikawa**	**8.94**	**11**	Pn	**Pn**	**08 09 02.4**	**-2.9**
	0.9nm,0.3s,baz=186,slow=8.9,SNR=7.2						
ASAJ				Sn	**Sn**	**08 10 38.8**	**-6.2**
	0.2nm,0.3s,baz=28,slow=30,SNR=1.7						
ASAJ				LR	LR	08 12 46.1	
	comp=Z,344nm,18.6s,baz=329,slow=39						
KSRS	**Korea Array**	**10.17**	**286**	Pn	**Pn**	**08 09 25.5**	**+3.3**
	0.3nm,0.3s,baz=97,slow=14,SNR=10						
KSRS				LR	LR	08 13 11.7	
	comp=Z,495nm,18.3s,baz=80,slow=37						
PETK	**Petropavlovsk-**	**21.61**	**29**	P	**P**	**08 11 43.9**	**-1.7**
	5.4nm,0.9s,mb4.0,baz=207,slow=9.8,SNR=5.6						
SONM	**Songino Array**	**28.01**	**307**	P	**P**	**08 12 45.0**	**-1.4**
	1.7nm,0.7s,mb3.8,baz=113,slow=7.2,SNR=10						
BOD	**Bodaibo**	**28.50**	**330**	*e*P	**P**	**08 12 50.2**	**-0.4**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.8						
ZALV	**Zalesovo Beam**	**42.39**	**314**	P	**P**	**08 14 49.7**	**0.0**
	comp=Z,7.3nm,0.7s,mb4.4,baz=88,slow=6.2,SNR=23						
ZALV	**Zalesovo Beam**	**42.39**	**314**	P	**P**	**08 14 49.7**	**0.0**
ZAL	**Zalesovo**	**42.40**	**314**	P	**P**	**08 14 49.7**	**-0.1**
NVS	**Novosibirsk**	**43.36**	**315**	*e*P	**P**	**08 14 55.9**	**-1.6**
MK31	**Makanchi Array**	**44.25**	**303**	*e*P	**P**	**08 15 05.3**	**+0.5**
MKAR	**Makanchi Array**	**44.25**	**303**	P	**P**	**08 15 05.2**	**+0.4**
	comp=Z,2.7nm,0.5s,mb4.2,baz=89,slow=10,SNR=20						
KURK	**Kurchatov**	**46.26**	**309**	*e*P	**P**	**08 15 20.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.2						
KURK	**Kurchatov**	**46.26**	**309**	*e*P	**P**	**08 15 20.3**	**-0.4**
	comp=Z,22nm,0.7s,mb5.2						
KDAK	**Kodiak Island**	**48.98**	**41**	P	**P**	**08 15 43.2**	**+1.6**
	comp=Z,4.9nm,0.7s,mb4.7,baz=334,slow=8.2,SNR=4.2						
KDAK	**Kodiak Island**	**48.98**	**41**	P	**P**	**08 15 43.2**	**+1.6**
BVAR	**Borovoye Array**	**51.04**	**313**	P	**P**	**08 15 57.4**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=80,slow=8.5,SNR=5.9						
AML	**Almayashu**	**51.20**	**299**	*e*P	**P**	**08 16 02.4**	**+3.6**
	comp=Z,6.1nm,0.6s,mb4.7						
BMRM	**Bremner River**	**52.76**	**36**	*e*P	**P**	**08 16 13.4**	**+3.3**
FITZ	**Fitzroy Crossi**	**54.94**	**197**	P	**P**	**08 16 27.4**	**+1.0**
	comp=Z,4.2nm,1.0s,mb4.4,baz=101,slow=5.2,SNR=3.2						
WRA	**Warramunga Arr**	**55.27**	**187**	P	**P**	**08 16 27.8**	**-1.0**
	comp=Z,1.3nm,0.4s,mb4.3,baz=23,slow=7.3,SNR=34						
HYT	**Haines Junctio**	**56.21**	**36**	*e*P	**P**	**08 16 39.0**	**+3.9**
ASAR	**Alice Springs**	**59.00**	**187**	P	**P**	**08 16 55.1**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.9,baz=0.7,slow=5.7,SNR=10						
AKTK	**Aktyubinsk**	**59.12**	**312**	P	**P**	**08 16 55.8**	**+0.1**
AKTO	**Aktyubinsk**	**59.12**	**312**	P	**P**	**08 16 55.8**	**+0.1**
	comp=Z,1.1nm,0.6s,mb4.1,baz=68,slow=11,SNR=3.0						
ARCES	**ARCESS Array B**	**65.25**	**339**	P	**P**	**08 17 36.9**	**+0.4**
	comp=Z,3.0nm,1.1s,mb4.2,baz=45,slow=10,SNR=2.6						
YKA	**Yellowknife Ar**	**65.73**	**29**	P	**P**	**08 17 40.2**	**+0.5**
	comp=Z,0.9nm,0.9s,mb3.8,baz=282,slow=25,SNR=3.4						
AKASG	**Malin Array Be**	**75.06**	**322**	P	**P**	**08 18 35.8**	**-1.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=48,slow=6.0,SNR=4.7						
NB2	**NORSAR Subarra**	**75.38**	**337**	P	**P**	**08 18 39.0**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=43,slow=5.9						
NOA	**NORSAR Array B**	**75.38**	**337**	P	**P**	**08 18 38.0**	**-0.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=40,slow=5.7,SNR=5.5						
DLMT	**Dillon**	**76.19**	**44**	*e*P	**P**	**08 18 46.6**	**+3.0**
	comp=Z,4.8nm,1.0s,mb4.4						
NVAR	**Mina Array Bea**	**76.75**	**52**	P	**P**	**08 18 48.2**	**+1.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=286,slow=5.6,SNR=8.1						
NVAR	**Mina Array Bea**	**76.75**	**52**	P	**P**	**08 18 48.2**	**+1.4**
PDAR	**Pinedale Array**	**79.51**	**45**	P	**P**	**08 19 02.1**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=280,slow=2.9,SNR=6.3						
URZ	**Urewera**	**80.80**	**151**	LR	LR	08 50 48.8	
	comp=Z,489nm,19.1s,baz=218,slow=33						
ULM	**Lac du Bonnet**	**81.42**	**33**	P	**P**	**08 19 13.8**	**+1.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=24,slow=20,SNR=2.8						
ULM	**Lac du Bonnet**	**81.42**	**33**	P	**P**	**08 19 13.8**	**+1.7**
GERES	**GERESS Array B**	**83.65**	**328**	P	**P**	**08 19 23.4**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.6,baz=350,slow=37,SNR=2.9						
PMSA	**Palmer Station**	**147.10**	**161**	PKPbc	PKPbc	08 26 39.7	+2.4
	comp=Z,1.6nm,0.5s,baz=258,slow=13,SNR=5.6						

MOS ***18*** *08:12:21.7±0.8, 592S×7727W, h33km, mb4.7/19, Error ellipse: s-maj=27.2km s-min=8.0km az=116.3*
ISCJB ***18*** *08:12:22.3±0.8, 585S±003×7720W±005, h37km±8km, mb4.6/54, MS4.3/6, Error ellipse: s-maj=8.4km s-min=4.5km az=164.2*
NEIC ***18*** *08:12:22.1±0.2, 586S×7721W, mb4.7/45, ML4.6(LIM), Error ellipse: s-maj=10.6km s-min=5.0km az=67.0*

NEIC Felt [III] at Jumbilla and [II] at Moyobamba and Rioja.
BJI ***18*** *08:12:22.0, 590S×7720W, h20km, mB5.1, Ms5.1, Msz4.8*
IDC ***18*** *08:12:23.3±2.6, 586S×7734W, h35km±22km, mb4.2/13, mb1 4.4/18, mb1mx4.2/28, mbtmp4.3/18, ML5.0/5, MS4.1/6, Ms1 4.1/6, ms1mx3.6/32, Error ellipse: s-maj=14.3km s-min=10.1km az=69.0*

ISC 18 08:12:24.6±0.7, 587S±003×7721W±004, h39km±6km, h16km±3.2km: pP-P, n145, σ1º09/128, mb4.6/54, MS4.3/6, 1C, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.63**	**226**	Pn	**Pn**	**08 12 49.5**	**-1.4**
	386nm,0.3s,baz=28,slow=12,SNR=1723						
ATAH				Sn	**Sn**	**08 13 11.0**	**+0.4**
	967nm,0.3s,baz=48,slow=18,SNR=18						
NNA	**Nana**	**6.09**	**177**	Pn	**Pn**	**08 13 52.0**	**-0.2**
	52nm,0.3s,baz=344,slow=10,SNR=38						
NNA				Sn	**Sn**	**08 15 00.5**	**-0.2**
	15nm,0.3s,baz=244,slow=22,SNR=2.6						
NNA				LR	LR	08 16 21.0	
	comp=Z,2μm,18.4s,baz=338,slow=39						
NNA	**Nana**	**6.09**	**177**	*e*Pn	**Pn**	**08 13 52.2**	**-0.1**
NNA				*e*Sn	**Sn**	**08 15 01.5**	**+0.8**
OTAV	**Otavalo**	**6.19**	**348**	*e*Pn	**Pn**	**08 13 54.1**	**+0.5**
OTAV				*e*Sn	**Sn**	**08 15 04.6**	**+1.5**
ROSC	**El Rosal**	**11.03**	**15**	Pn	**Pn**	**08 15 00.8**	**+0.8**
	2.9nm,0.3s,baz=126,slow=7.4,SNR=10						
ROSC	**El Rosal**	**11.03**	**15**	*e*Pn	**Pn**	**08 14 59.7**	**-0.3**
LPAZ	**La Paz**	**13.65**	**140**	Pn	**Pn**	**08 15 34.4**	**-1.4**
	1.7nm,0.3s,baz=298,slow=6.9,SNR=12						
LPAZ				Sn	**Sn**	**08 18 09.1**	**+2.8**
	0.7nm,0.3s,baz=151,slow=25,SNR=2.8						
LPAZ	**La Paz**	**13.65**	**140**	P	**Pn**	**08 15 34.4**	**-1.4**
LPAZ						08 18 09.1	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ				smax			
	comp=N,1.0nm,0.3s						
LPAZ	**La Paz**	**13.65**	**140**	*e*Pn	**Pn**	**08 15 34.1**	**-1.7**
LPAZ				*e*Sn	**Sn**	**08 18 08.6**	**+2.3**
SDV	**Santo Domingo**	**16.06**	**24**	Pn	**Pn**	**08 16 05.8**	**-1.9**
	comp=N,3.6nm,0.3s,baz=249,slow=10,SNR=14						
SDV				Sn	**Sn**	**08 19 03.3**	**-1.5**
	comp=N,0.9nm,0.3s,baz=51,slow=19,SNR=2.2						
SDV	**Santo Domingo**	**16.06**	**24**	*e*Pn	**Pn**	**08 16 05.7**	**-2.0**
	comp=N,16nm,0.6s						
SDV				*e*Sn	**Sn**	**08 18 58.9**	**-5.9**
LVC	**Limon Verde**	**18.48**	**155**	P	**Pn**	**08 16 38.2**	**+0.5**
	comp=N,1.7nm,0.3s,baz=314,slow=7.1,SNR=23						
LVC				LR	LR	08 25 06.6	
	comp=N,377nm,19.0s,baz=316,slow=41						
LVC	**Limon Verde**	**18.48**	**155**	*e*P	**Pn**	**08 16 38.5**	**+0.7**
	comp=N,14nm,0.6s						
SIV	**San Ignacio**	**18.75**	**124**	P	**Pn**	**08 16 40.0**	**-1.2**
	comp=N,2.2nm,0.3s,baz=304,slow=12,SNR=26						
SIV				S	**S**	**08 20 11.5**	**+0.1**
	comp=N,0.9nm,0.3s,baz=355,slow=23,SNR=3.5						
PCRV	**Puerto La Cruz**	**20.27**	**38**	P	**P**	**08 16 57.9**	**+0.8**
	comp=N,42nm,0.6s,baz=181,slow=3.4,SNR=26						
PCRV				LR	LR	08 25 40.0	
	comp=N,363nm,21.4s,MS3.7,baz=224,slow=39						
LCO	**Las Campanas**	**23.83**	**166**	*e*P	**P**	**08 17 34.8**	**+0.6**
	comp=N,10.0nm,0.6s,mb4.4						
SJG	**San Juan**	**26.21**	**24**	P	**P**	**08 17 55.9**	**-0.1**
	comp=N,27nm,0.7s,mb4.9,baz=201,slow=7.6,SNR=6.6						
CFAA	**Coronel Fontan**	**26.95**	**163**	P	**P**	**08 18 02.9**	**+0.4**
	comp=N,1.5nm,0.8s,mb3.6,baz=337,slow=8.8,SNR=26						
CFAA	**Coronel Fontan**	**26.95**	**163**	P	**P**	**08 18 02.9**	**+0.4**
CPUP	**Villa Florida**	**27.82**	**139**	P	**P**	**08 18 10.9**	**+0.5**
	comp=N,3.7nm,0.6s,mb4.2,baz=307,slow=9.0,SNR=12						
TEIG	**Tepich**	**28.12**	**338**	P	**P**	**08 18 11.8**	**-1.3**
	comp=N,3.2nm,0.5s,mb4.2,baz=320,slow=15,SNR=3.9						
TEIG	**Tepich**	**28.12**	**338**	P	**P**	**08 18 11.8**	**-1.3**
CMIG	**Matias Romero**	**28.73**	**323**	LR	LR	08 27 36.7	
	comp=N,204nm,21.0s,MS3.7,baz=360,slow=32						
TRQA	**Tornquist**	**34.91**	**159**	*e*P	**P**	**08 19 11.8**	**-0.8**
	comp=N,16nm,1.4s,mb4.8						
TRQA				*e*pP	pP	08 19 18.2	-5.3
PLCA	**Paso Flores**	**35.22**	**171**	P	**P**	**08 19 14.2**	**-1.0**
	comp=N,5.7nm,0.6s,mb4.7,baz=344,slow=9.8,SNR=23						
PLCA				PcP	PcP	08 21 45.1	-0.6
	comp=N,1.1nm,0.7s,baz=340,slow=8.3,SNR=4.1						
PLCA	**Paso Flores**	**35.22**	**171**	*e*P	**P**	**08 19 14.9**	**-0.4**
PLCA				*e**PP	pP	08 19 20.8	-5.4
PLCA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PLCA	**Paso Flores**	**35.22**	**171**	*e*P	**P**	**08 19 14.8**	**-0.4**
	comp=Z,9.9nm,1.0s,mb4.7						
PLCA				*e*pP	pP	08 19 20.8	-5.4
LRAL	**Lakeview Retre**	**39.79**	**347**	*e*P	**P**	**08 19 50.6**	**-3.4**
	comp=Z,43nm,0.9s,mb5.2						
LRAL				*e*pP	pP	08 19 57.8	-7.2
CPCT	**Cooper Cave**	**41.67**	**351**	*e*P	**P**	**08 20 10.8**	**+1.4**
SWET	**Sewanee**	**41.68**	**349**	*e*P	**P**	**08 20 08.0**	**-1.6**
TKL	**Tuckaleechee C**	**41.76**	**352**	*e*P	**P**	**08 20 10.9**	**+0.7**
PLAL	**Pickwick Lake**	**41.90**	**347**	*e*P	**P**	**08 20 08.8**	**-2.6**
	comp=Z,9.3nm,1.2s,mb4.3						
TZTN	**Tazewell**	**42.60**	**352**	*e*P	**P**	**08 20 17.5**	**+0.4**
	comp=Z,5.4nm,0.6s,mb4.5						
ELN	**Prospectdale**	**43.00**	**356**	*e*P	**P**	**08 20 21.5**	**+1.3**
MIAR	**Mount Ida**	**43.06**	**340**	*e*P	**P**	**08 20 20.2**	**-0.7**
	comp=Z,3.8nm,0.8s,mb4.2						
SIUC	**Southern Illin**	**44.78**	**346**	*e*P	**P**	**08 20 37.6**	**+3.0**
WMOK	**Wichita Mounta**	**45.23**	**335**	*e*P	**P**	**08 20 37.9**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
WMOK	**Wichita Mounta**	**45.23**	**335**	*e*P	**P**	**08 20 37.9**	**-0.2**
	comp=Z,6.3nm,0.8s,mb4.5						
FVM	**French Village**	**45.33**	**345**	*e*P	**P**	**08 20 39.1**	**+0.2**
FVM				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
FVM	**French Village**	**45.33**	**345**	*e*P	**P**	**08 20 39.1**	**+0.2**
	comp=Z,8.1nm,1.0s,mb4.5						
AMTX	**Amarillo**	**46.64**	**332**	*e*P	**P**	**08 20 51.2**	**+1.9**
	comp=Z,8.6nm,0.6s,mb4.9						
BINY	**Binghamton**	**47.85**	**1**	*e*P	**P**	**08 20 58.6**	**0.0**
	comp=Z,16nm,0.8s,mb5.1						
WES	**Weston**	**48.32**	**6**	*e*P	**P**	**08 20 57.4**	**-4.8**
EFI	**East Falkland**	**48.34**	**164**	*e*P	**P**	**08 21 02.4**	**+0.1**
ANMO	**Albuquerque**	**49.07**	**328**	*e*P	**P**	**08 21 07.8**	**-0.4**
ANMO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ANMO	**Albuquerque**	**49.07**	**328**	*e*P	**P**	**08 21 07.8**	**-0.4**
	comp=Z,5.2nm,0.8s,mb4.6						
CBKS	**Cedar Bluff**	**49.12**	**337**	*e*P	**P**	**08 21 10.4**	**+2.0**
USHA	**Ushuaia**	**49.33**	**173**	P	**P**	**08 21 09.5**	**-0.3**
	comp=Z,15nm,0.8s,mb5.1,baz=319,slow=5.7,SNR=11						
TUC	**Tucson**	**49.62**	**322**	P	**P**	**08 21 11.3**	**-1.1**
TUC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
TUC	**Tucson**	**49.62**	**322**	P	**P**	**08 21 11.3**	**-1.1**
	comp=Z,1.4nm,0.7s,mb4.1						
SCIA	**State Center**	**49.74**	**344**	*e*P	**P**	**08 21 12.7**	**-0.4**
	comp=Z,8.9nm,0.6s,mb5.0						
FRNY	**Flat Rock**	**50.58**	**3**	*e*P	**P**	**08 21 19.2**	**-0.1**
	comp=Z,9.3nm,0.8s,mb4.8						
SDCO	**Great Sand Dun**	**50.76**	**331**	*e*P	**P**	**08 21 20.4**	**-0.6**
	comp=Z,7.5nm,0.9s,mb4.6						
SDCO				*e*pP	pP	08 21 26.1	-6.1
WUAZ	**Wupatki**	**52.21**	**325**	*e*P	**P**	**08 21 34.2**	**+2.3**
	comp=Z,12nm,0.9s,mb4.8						
ECSD	**EROS,Sioux Fal**	**52.40**	**342**	*e*P	**P**	**08 21 31.5**	**-1.5**
	comp=Z,8.2nm,0.9s,mb4.7						
PV01	**Paradox Valley**	**52.59**	**329**	*e*P	**P**	**08 21 34.1**	**-0.5**
PV01				*e*pP	pP	08 21 39.6	-6.3
PV10	**Paradox Valley**	**53.02**	**329**	*e*P	**P**	**08 21 41.1**	**+3.3**
SRU	**San Rafael**	**54.34**	**328**	*e*P	**P**	**08 21 47.1**	**-0.3**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SRU	**San Rafael**	**54.34**	**328**	*e*P	**P**	**08 21 47.1**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.1						
RWWY	**Rawlins**	**54.69**	**333**	*e*P	**P**	**08 21 52.3**	**+2.4**
	comp=Z,8.8nm,0.9s,mb4.8						
CCUT	**Cedar City**	**54.77**	**325**	*e*P	**P**	**08 21 58.7**	**+8.1**
MSU	**Marysvale**	**54.79**	**327**	*e*P	**P**	**08 21 51.1**	**+0.4**
MSU				*e**PP	pP	08 21 56.2	-5.9
SHPR	**Sheep Range**	**55.12**	**323**	*e*P	**P**	**08 21 57.5**	**+4.4**
RSSD	**Black Hills**	**55.32**	**337**	*e*P	**P**	**08 21 56.1**	**+1.7**
RSSD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
RSSD	**Black Hills**	**55.32**	**337**	*e*P	**P**	**08 21 56.1**	**+1.7**
	comp=Z,5.7nm,1.0s,mb4.6						
GSC	**Goldstone**	**55.35**	**321**	*e*P	**P**	**08 21 54.5**	**-0.3**
GSC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
GSC	**Goldstone**	**55.35**	**321**	*e*P	**P**	**08 21 54.5**	**-0.3**
	comp=Z,6.4nm,0.9s,mb4.7						
DAU	**Daniels Canyon**	**55.68**	**329**	*e*P	**P**	**08 21 57.5**	**+0.4**
JLU	**Jordanelle**	**55.92**	**329**	*e*P	**P**	**08 22 04.3**	**+5.5**
TPNV	**Topopah Spring**	**56.07**	**323**	*e*P	**P**	**08 22 01.3**	**+1.4**
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
TPNV	**Topopah Spring**	**56.07**	**323**	*e*P	**P**	**08 22 01.2**	**+1.3**
	comp=Z,2.0nm,0.7s,mb4.3						
DUG	**Dugway**	**56.34**	**328**	*e*P	**P**	**08 22 02.7**	**+0.9**
DUG				pmax	pmax		
	comp=Z,20nm,1.8s,mb4.8						
DUG	**Dugway**	**56.34**	**328**	*e*P	**P**	**08 22 02.7**	**+0.9**
	comp=Z,20nm,1.8s,mb4.8						
AGMN	**Agassiz Refuge**	**56.37**	**345**	*e*P	**P**	**08 22 00.3**	**-1.5**
	comp=Z,6.2nm,0.6s,mb4.8						
BW06	**Boulder Array**	**56.62**	**332**	*e*P	**P**	**08 22 08.4**	**+4.7**
PDAR	**Pinedale Array**	**56.62**	**332**	P	**P**	**08 22 02.2**	**-1.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=128,slow=6.2,SNR=9.2						
PDAR				PcP	PcP	08 22 58.6	-1.2
	comp=Z,0.6nm,0.6s,baz=124,slow=8.8,SNR=3.0						
HWUT	**Hardware Ranch**	**56.72**	**330**	*e*P	**P**	**08 22 05.3**	**+0.8**
	comp=Z,4.4nm,0.9s,mb4.5						
LOHW	**Long Hollow**	**57.76**	**332**	*e*P	**P**	**08 22 11.4**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.3						
TPAW	**Teton Pass**	**57.83**	**331**	*e*P	**P**	**08 22 12.9**	**+0.6**
	comp=Z,3.5nm,0.9s,mb4.4						
MOOW	**Moose Ponds**	**57.93**	**332**	*e*P	**P**	**08 22 12.9**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.1						
ELK	**Elko**	**58.04**	**327**	*e*P	**P**	**08 22 14.7**	**+0.9**
ELK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ELK	**Elko**	**58.04**	**327**	*e*P	**P**	**08 22 14.7**	**+0.9**
	comp=Z,3.8nm,0.9s,mb4.4						
IMW	**Indian Meadow**	**58.13**	**332**	*e*P	**P**	**08 22 15.6**	**+1.2**
	comp=Z,5.5nm,0.8s,mb4.6						
FLWY	**Flagg Ranch**	**58.16**	**332**	*e*P	**P**	**08 22 15.1**	**+0.5**
	comp=Z,13nm,1.3s,mb4.8						
ULM	**Lac du Bonnet**	**58.18**	**346**	P	**P**	**08 22 13.1**	**-1.6**
	comp=Z,4.6nm,0.6s,mb4.7,baz=159,slow=7.6,SNR=7.3						
ULM				LR	LR	08 47 00.4	
	comp=Z,225nm,21.7s,MS4.2,baz=12,slow=36						
ULM	**Lac du Bonnet**	**58.18**	**346**	*e*P	**P**	**08 22 12.6**	**-2.1**
	comp=Z,7.7nm,0.9s,mb4.7						
NVAR	**Mina Array Bea**	**58.27**	**323**	P	**P**	**08 22 14.2**	**-1.2**
	comp=Z,3.0nm,0.9s,mb4.3,baz=123,slow=6.7,SNR=9.0						
GCMT	**Greycliff**	**59.02**	**334**	*e*P	**P**	**08 22 20.4**	**-0.1**
QLMT	**Earthquake Lak**	**59.07**	**332**	P	**P**	**08 22 20.5**	**-0.4**
HLID	**Hailey**	**59.58**	**329**	*e*P	**P**	**08 22 26.3**	**+1.8**
	comp=Z,3.9nm,0.9s,mb4.4						
BOZ	**Bozeman (W)**	**59.78**	**333**	*e*P	**P**	**08 22 25.5**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BOZ	**Bozeman (W)**	**59.78**	**333**	*e*P	**P**	**08 22 25.5**	**-0.3**
	comp=Z,5.2nm,0.8s,mb4.6						
DLMT	**Dillon**	**60.02**	**332**	*e*P	**P**	**08 22 26.8**	**-0.6**
	comp=Z,11nm,1.4s,mb4.7						
LRM	**Limekiln Ridge**	**60.29**	**332**	*e*P	**

LZH	**Lanzhou**	**149.91**	**358**	*e*PKP	PKPdf	08 32 04.3	-2.1
LZH				APKP		08 32 15.0	
LZH				XPKP		08 32 18.8	
LZH				LR	LR		
	comp=E,107nm,18.2s						
LZH				LR	LR		
	comp=Z,154nm,20.5s,MS4.8						
XAN	**Xi'an**	**151.40**	**349**	PKP	PKPbc	08 32 13.8	-1.1
XAN				PP	PP		
	comp=Z,150nm,6.5s						
CD2	**Chengdu**	**155.07**	**358**	*e*PKP	PKPdf	08 32 09.8	-4.4
GYA	**Guiyang**	**159.19**	**350**	*e*PKP	PKPdf	08 32 19.6	+0.1
GYA				XPKP		08 32 27.9	
GYA				PKP2	PKPab	08 32 57.6	+1.2
GYA				PKS		08 35 50.4	
GYA				PP	PP	08 36 39.0	+3.1
GYA				PP	PP		
	comp=Z,70nm,7.9s						

IDC ***18*** *08:29:33.5±1.2, 898N×8281W, h0km, mb3.8/5, mb1 4.1/8, mb1mx3.8/23, mbtmp3.9/8, ML3.5/3, Error ellipse: s-maj=47.5km s-min=22.8km az=60.0*
ISCJB ***18*** *08:29:34.5±0.9, 890N±006×8273W±004, h21km±7km, mb3.9/8, Error ellipse: s-maj=9.9km s-min=5.7km az=22.7*
CASC ***18*** *08:29:36.3±2.3, 898N×8287W, h3km±12km, MD4.2, ML3.2, mb4.4(NEIC)*
NEIC ***18*** *08:29:38.7±1.2, 896N×8279W, h37km±11km, mb4.4/3, Error ellipse: s-maj=20.3km s-min=9.3km az=211.0*

ISC 18 08:29:35.3±0.8, 893N±005×8280W±003, h9km±5km, n41, σ1§00/45, mb3.9/8, 5C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.46**	**233**	⇓*i*P	**Pg**	**08 29 44.4**	**+0.2**
BAR1		**0.59**	**302**	⇓*i*P	**Pg**	**08 29 46.3**	**-0.5**
LIO	**Limon**	**1.09**	**348**	⇑*e*P	**Pg**	**08 29 55.9**	**-0.4**
LIO				*e*S	**Sg**	**08 30 09.7**	**-0.9**
BUS	**Buena Vista**	**1.13**	**303**	⇑*e*P	**Pb**	**08 29 55.7**	**-1.4**
QCR	**Quepos**	**1.44**	**290**	⇑*e*P	**Pn**	**08 29 59.8**	**-1.7**
LCR2	**La Lucha 2**	**1.44**	**304**	*e*P	**Pn**	**08 30 00.5**	**-1.0**
SJS	**Escuela Geolog**	**1.59**	**309**	⇓*e*P	**Pn**	**08 30 03.4**	**-0.2**
SJS				*e*S	**Sn**	**08 30 24.2**	**-0.1**
PRS1	**Puriscal**	**1.82**	**305**	⇑*e*P	**Pn**	**08 30 06.1**	**-0.7**
CGA2	**Cerro Gallo 2**	**1.97**	**303**	*e*P	**Pn**	**08 30 08.5**	**-0.3**
CGA2				*e*S	**Sn**	**08 30 33.0**	**-0.6**
CAO	**Cobano**	**2.40**	**289**	⇑*e*P	**Pn**	**08 30 13.3**	**-1.4**
JCR	**Jicaral**	**2.46**	**292**	*e*P	**Pn**	**08 30 16.6**	**+1.0**
2RIO	**Dos Rios de Up**	**2.88**	**304**	*e*P	**Pn**	**08 30 27.3**	**+5.9**
CUI		**2.91**	**307**	*e*P	**Pn**	**08 30 22.8**	**+1.0**
CUI				*e*S	**Sn**	**08 30 58.5**	**+1.7**
BCIP	**Isla Barro Col**	**2.93**	**85**	*e*Pn	**Pn**	**08 30 22.6**	**+0.5**
BCIP				*e*Sg	**Sg**	**08 31 11.2**	**+1.6**
MADN	**Villa Maderas**	**3.65**	**313**	*e*P	**Pn**	**08 30 32.2**	**+0.3**
MADN				*e*S	**Sn**	**08 31 16.5**	**+1.3**
CONN	**Concepcion**	**3.82**	**313**	*e*P	**Pn**	**08 30 35.2**	**+0.9**
MGAN	**Managua**	**4.66**	**314**	*e*P	**Pn**	**08 30 45.4**	**-0.4**
TISN	**Laguna Tiscapa**	**4.67**	**313**	*e*P	**Pn**	**08 30 47.0**	**+1.0**
HUEN		**4.74**	**316**	*e*P	**Pn**	**08 30 47.6**	**+0.6**
COPN	**Copaltepe**	**4.93**	**311**	*e*P	**Pn**	**08 30 50.7**	**+1.1**
LEON	**Leon**	**5.31**	**311**	*e*P	**Pn**	**08 30 55.4**	**+0.6**
TEL3	**Telica 3**	**5.38**	**313**	*e*P	**Pn**	**08 30 56.8**	**+1.1**
TGUH	**Tegucigalpa,Un**	**6.72**	**320**	*e*P	**Pn**	**08 31 16.1**	**+1.9**
TGUH	**Tegucigalpa,Un**	**6.72**	**320**	*e*Pn	**Pn**	**08 31 15.8**	**+1.7**
LAPE	**La Pedrera**	**11.19**	**96**	*e*P	Px	08 30 26.2	
SDV	**Santo Domingo**	**12.02**	**89**	Pn	**Pn**	**08 32 27.6**	**+0.7**
	0.2nm,0.3s,baz=311,slow=9.3,SNR=3.1						
SDV				Sn	**Sn**	**08 34 39.4**	**-1.8**
	0.4nm,0.3s,baz=17,slow=14,SNR=2.3						
TEIG	**Tepich**	**12.42**	**335**	Pn	**Pn**	**08 32 33.0**	**+0.7**
	0.3nm,0.3s,baz=151,slow=19,SNR=3.6						
CMIG	**Matias Romero**	**14.29**	**306**	Pn	**Pn**	**08 32 57.2**	**-0.8**
	0.4nm,0.3s,baz=108,slow=12,SNR=6.3						
CMIG	**Matias Romero**	**14.29**	**306**	Pn	**Pn**	**08 32 57.2**	**-0.8**
LRAL	**Lakeview Retre**	**24.30**	**351**	*e*P	**P**	**08 34 52.8**	**-0.3**
	8.1nm,0.7s,mb4.3						
GOGA	**Godfrey**	**24.37**	**359**	*e*P	**P**	**08 34 53.4**	**-0.3**
	12nm,0.9s,mb4.3						
SWET	**Sewanee**	**26.32**	**354**	*e*P	**P**	**08 35 10.9**	**-0.5**
WCI	**Wyandotte Cave**	**29.34**	**354**	*e*P	**P**	**08 35 37.7**	**-0.7**
	13nm,1.2s,mb4.5						
PDAR	**Pinedale Array**	**41.06**	**330**	P	**P**	**08 37 16.9**	**-2.2**
	0.7nm,0.9s,mb3.3,baz=124,slow=9.6,SNR=5.5						
ULM	**Lac du Bonnet**	**42.60**	**348**	P	**P**	**08 37 29.9**	**-1.8**
	3.8nm,0.7s,mb4.2,baz=178,slow=7.9,SNR=7.7						
NVAR	**Mina Array Bea**	**43.35**	**318**	P	**P**	**08 37 39.0**	**+1.1**
	0.1nm,0.3s,mb3.0,baz=127,slow=6.2,SNR=3.0						
PLCA	**Paso Flores**	**50.69**	**168**	P	**P**	**08 38 35.1**	**0.0**
	1.0nm,0.8s,mb3.8,baz=352,slow=9.2,SNR=5.3						
YKA	**Yellowknife Ar**	**58.23**	**343**	P	**P**	**08 39 29.8**	**+0.1**
	0.9nm,0.7s,mb3.9,baz=138,slow=7.1,SNR=3.8						
YKA	**Yellowknife Ar**	**58.23**	**343**	P	**P**	**08 39 29.8**	**+0.1**
ASAR	**Alice Springs**	**141.99**	**243**	PKhKP		08 49 02.8	
	0.4nm,0.9s,baz=108,slow=5.0,SNR=3.4						
ASAR				PKP	PKPdf	08 49 08.7	+0.1
	0.2nm,0.8s,baz=116,slow=1.8,SNR=5.4						
WRA	**Warramunga Arr**	**142.49**	**249**	PKhKP		08 49 04.9	
	0.6nm,0.9s,baz=100,slow=7.0,SNR=3.3						
WRA				PKP	PKPdf	08 49 09.3	-0.3
	0.7nm,0.8s,baz=84,slow=2.1,SNR=4.1						

IDC 18 08:34:59.6±2.0, 086N×12505E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=188.6km s-min=26.7km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.59**	**157**	P	P	08 40 00.3	-1.5
	0.8nm,0.6s,baz=334,slow=12,SNR=8.3						
ASAR	**Alice Springs**	**25.85**	**161**	P	P	08 40 34.4	+1.4
	0.3nm,0.3s,baz=348,slow=11,SNR=10						
MKAR	**Makanchi Array**	**58.99**	**327**	P	P	08 45 00.8	-0.2
	0.6nm,0.4s,baz=150,slow=7.3,SNR=3.9						

ISCJB ***18*** *08:41:00.5±0.5, 2414S±004×6690W±006, h184km±6km, mb3.8/10, Error ellipse: s-maj=9.1km s-min=6.6km az=173.4*
IDC ***18*** *08:41:01.8±0.9, 2400S×6686W, h180km±8km, mb3.7/10, mb1 3.9/18, mb1mx3.9/23, mbtmp3.8/18, MS2.9/1, Ms1 2.9/1, ms1mx2.4/24, Error ellipse: s-maj=15.0km s-min=11.0km az=44.0*
NEIC ***18*** *08:41:02.0, 2432S×6725W, h210km, mb4.4/2, After GUC.*
GUC ***18*** *08:41:02.0±0.7, 2432S×6725W, h210km, ML4.7*

ISC 18 08:41:01.4±0.5, 2415S±004×6688W±006, h176km±6km, n33, σ1§22/41, mb3.8/10, 2C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.41**	**309**	P	**Pn**	**08 41 44.4**	**+1.5**
	61nm,0.3s,baz=129,slow=6.7,SNR=725						
LVC				LR	LR	08 42 13.6	
	comp=Z,236nm,19.2s,baz=270,slow=31						
LVC				S	**Sn**	**08 42 15.0**	**0.0**
	60nm,0.3s,baz=7.5,slow=21,SNR=22						
CEN1	**Los Morros**	**3.13**	**283**	⇓*i*P	**Pn**	**08 41 53.4**	**+1.9**
CEN1				*i*S	**Sn**	**08 42 31.4**	**+1.0**
CEN1				AML	AML	08 42 35.3	
	comp=E,557nm,0.2s						
CPN1	**Cerro Paranal**	**3.25**	**261**	*e*P	**Pn**	**08 41 53.8**	**+0.9**
CPN1				*i*S	**Sn**	**08 42 32.1**	**-0.8**
CPN1				AML	AML	08 42 35.4	
	comp=E,1μm,0.5s						
ANCH	**Antofagasta**	**3.26**	**278**	⇑*i*P	**Pn**	**08 41 52.9**	**-0.1**
ANCH				*i*S	**Sn**	**08 42 32.7**	**-0.6**
ANCH				AML	AML	08 42 35.0	
	comp=N,2μm,0.1s						
ANCH	**Antofagasta**	**3.26**	**278**	⇑*i*P	**Pn**	**08 41 52.9**	**-0.1**
ANCH				*i*S	**Sn**	**08 42 32.7**	**-0.6**
CDCH	**Caldera**	**4.60**	**230**	*e*P	**Pn**	**08 42 09.5**	**-0.6**
CDCH				*i*S	**Sn**	**08 43 01.2**	**-2.7**
LCO	**Las Campanas**	**5.92**	**214**	*e*Pn	**Pn**	**08 42 27.3**	**0.0**
	comp=N,64nm,0.8s						
LCO				*e*S	**Sn**	**08 43 27.4**	**-7.5**
TLL	**Tololo Astrono**	**6.94**	**209**	*e*P	**Pn**	**08 42 42.0**	**+1.4**
CFAA	**Coronel Fontan**	**7.52**	**189**	P	**Pn**	**08 42 49.0**	**+0.7**
	comp=N,1.1nm,0.3s,baz=355,slow=12,SNR=168						
CFAA				S	**Sn**	**08 44 10.6**	**-2.2**
	comp=N,1.1nm,0.3s,baz=256,slow=17,SNR=12						
CFAA	**Coronel Fontan**	**7.52**	**189**	P	**Pn**	**08 42 49.0**	**+0.7**
CFAA				S	**Sn**	**08 44 10.6**	**-2.2**
LPAZ	**La Paz**	**7.91**	**351**	P	**Pn**	**08 42 53.8**	**+0.2**
	comp=N,11nm,0.3s,baz=151,slow=9.3,SNR=233						
LPAZ				S	**Sn**	**08 44 18.1**	**-4.3**
	baz=5.3,slow=18,SNR=1.9						
CPUP	**Villa Florida**	**8.92**	**106**	P	**Pn**	**08 43 07.7**	**+1.0**
	comp=N,0.8nm,0.3s,baz=266,slow=12,SNR=7.8						
SIV	**San Ignacio**	**9.78**	**35**	P	**Pn**	**08 43 16.9**	**-1.3**
	comp=N,5.2nm,0.3s,baz=250,slow=11,SNR=97						
TRQA	**Tornquist**	**14.48**	**164**	*e*Pn	**Pn**	**08 44 15.2**	**-2.9**
	comp=N,5.0nm,0.7s						
NNA	**Nana**	**15.35**	**320**	P	**Pn**	**08 44 27.8**	**-1.3**
	comp=N,9.6nm,0.3s,baz=182,slow=13,SNR=11						
PLCA	**Paso Flores**	**16.82**	**190**	P	**Pn**	**08 44 48.4**	**+1.8**
	comp=N,0.3nm,0.3s,baz=9.8,slow=14,SNR=12						
SPB	**Sao Paulo**	**17.80**	**92**	P	**Pn**	**08 44 56.7**	**-1.8**
BDFB	**Brasilia**	**19.64**	**68**	P	**P**	**08 45 17.3**	**+0.6**
	comp=N,2.2nm,0.3s,baz=234,slow=17,SNR=83						
VNA1	**Neumayer--Stat**	**57.17**	**160**	*e*	**P**	**08 50 32.0**	**+2.6**
VNA1				*e*		08 50 34.4	
SNAA	**Sanae**	**59.17**	**161**	*e*	**P**	**08 50 45.1**	**+1.8**
SNAA				*e*		08 50 47.8	
TKL	**Tuckaleechee C**	**61.59**	**344**	P	**P**	**08 50 58.9**	**-1.2**
	comp=N,2.2nm,0.5s,mb4.2,baz=175,slow=11,SNR=6.3						
TKL	**Tuckaleechee C**	**61.59**	**344**	P	**P**	**08 50 58.9**	**-1.2**
TXAR	**Lajitas Array**	**63.86**	**324**	P	**P**	**08 51 14.9**	**-0.3**
	comp=N,0.3nm,0.5s,mb3.4,baz=150,slow=6.7,SNR=9.4						
DBIC	**Dimbokro**	**67.75**	**71**	P	**P**	**08 51 39.7**	**-0.7**
	comp=N,1.8nm,0.6s,mb4.0,baz=214,slow=7.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P	**P**	**08 52 31.9**	**-0.6**
	comp=N,0.9nm,0.3s,mb3.9,baz=268,slow=6.8,SNR=32						
PDAR	**Pinedale Array**	**77.33**	**329**	P	**P**	**08 52 35.9**	**-0.5**
	comp=N,0.5nm,0.6s,mb3.4,baz=121,slow=8.3,SNR=7.4						
ULM	**Lac du Bonnet**	**78.40**	**341**	P	**P**	**08 52 41.0**	**-1.1**
	comp=N,1.8nm,0.4s,mb4.1,baz=158,slow=7.6,SNR=7.4						
NVAR	**Mina Array Bea**	**78.72**	**321**	P	**P**	**08 52 45.2**	**+1.1**
	comp=N,0.2nm,0.3s,mb3.3,baz=145,slow=5.5,SNR=5.2						
BOSA	**Boshof**	**80.57**	**117**	P	**P**	**08 52 55.0**	**+0.5**
	comp=N,2.3nm,0.6s,mb4.0,baz=186,slow=2.6,SNR=7.8						
MAW	**Mawson**	**81.26**	**163**	P	**P**	**08 52 58.6**	**+1.2**
	comp=N,1.2nm,0.5s,mb3.8,baz=219,slow=4.4,SNR=6.2						
YKA	**Yellowknife Ar**	**94.30**	**340**	P	**P**	**08 53 59.6**	**-0.6**
	comp=N,0.8nm,0.5s,mb4.1,baz=136,slow=4.6,SNR=12						
ASAR	**Alice Springs**	**128.36**	**205**	PKP	PKPdf	08 59 46.8	-0.9
	comp=N,0.6nm,0.9s,baz=145,slow=5.1,SNR=3.6						
WRA	**Warramunga Arr**	**131.54**	**207**	PKP	PKPdf	08 59 54.4	+0.6
	comp=N,0.3nm,0.7s,baz=160,slow=1.4,SNR=3.9						

MAN 18 08:42:16, 695N×12515E, h16km, mb4.3, ML3.2, MS3.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.09**	**317**	⇑*e*P	Pg	08 42 20.9	+1.6
KCP				*e*S	Sg	08 42 23.6	+2.2
DMPH	**Davao City--Mi**	**0.38**	**69**	⇑*i*P	Pg	08 42 24.8	+0.9
DMPH				*i*S	Sg	08 42 32.1	+3.0
BUKP	**Musuan**	**0.93**	**355**	*e*P	Pb	08 42 33.6	-0.2
BUKP				*e*S	Sb	08 42 48.3	+2.4
MATI	**Mati**	**1.10**	**90**	*e*P	Pb	08 42 36.3	-0.4
PAGZ	**Pagadian**	**1.97**	**297**	*e*P	Pn	08 42 49.1	+0.4

ISCJB ***18*** *08:46:18.7±2.8, 50S±02×1512E±02, h195km±23km, mb4.6/8, Error ellipse: s-maj=41.7km s-min=25.1km az=32.0*
NEIC ***18*** *08:46:20.1±1.7, 503S×15108E, h190km±14km, mb4.6/8, Error ellipse: s-maj=23.5km s-min=13.8km az=120.0*
IDC ***18*** *08:46:23.1±18.0, 518S×15122E, h219km±159km, mb3.8/3, mb1 3.9/4, mb1mx3.4/15, mbtmp3.8/4, Error ellipse: s-maj=92.3km s-min=65.7km az=14.0*

ISC 18 08:46:20.3±2.7, 50S±02×1511E±02, h190km±22km, n17, σ0§40/15, mb4.6/8, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.82**	**222**	*e*P	**Pn**	**08 47 44.9**	**-0.2**
	62nm,0.8s						
CTA	**Charters Tower**	**15.67**	**197**	*e*P	**Pn**	**08 49 51.2**	**0.0**
	5.3nm,0.8s						
CTA	**Charters Tower**	**15.67**	**197**	P	**Pn**	**08 49 52.1**	**+0.9**
	0.3nm,0.3s,baz=22,slow=12,SNR=6.2						
KAKA	**Kakadu**	**19.91**	**246**	*e*P	**P**	**08 50 37.8**	**+0.2**
	15nm,0.6s						
WRAB	**Tennant Creek**	**22.00**	**226**	*e*P	**P**	**08 50 59.1**	**-0.4**
	11nm,0.4s,mb4.6						
WB2	**Warramunga Arr**	**22.01**	**226**	⇑*i*P	**P**	**08 50 59.6**	**+0.1**
WRA	**Warramunga Arr**	**22.02**	**226**	P	**P**	**08 50 59.8**	**+0.2**
	9.2nm,0.3s,mb4.6,baz=52,slow=9.0,SNR=132						
ASAR	**Alice Springs**	**24.84**	**220**	P	**P**	**08 51 25.9**	**+0.7**
	4.9nm,0.3s,mb4.5,baz=57,slow=9.1,SNR=181						
FITZ	**Fitzroy Crossi**	**28.04**	**240**	*e*P	**P**	**08 51 54.0**	**-0.1**
	5.9nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**28.14**	**197**	*e*P	**P**	**08 51 54.4**	**-0.3**
	2.1nm,1.4s,mb3.7						
STKA	**Stephens Creek**	**28.14**	**197**	P	**P**	**08 51 54.0**	**-0.8**
	0.8nm,0.4s,mb3.8,baz=39,slow=12,SNR=4.4						
FORT	**Forrest**	**33.53**	**218**	*e*P	**P**	**08 52 42.0**	**-0.1**
	9.8nm,0.5s,mb4.8						
KLBR	**Kellerberrin**	**40.90**	**226**	*e*P	**P**	**08 53 43.4**	**-0.6**
	26nm,1.1s,mb4.8						
MUN	**Mundaring**	**42.22**	**226**	*e*P	**P**	**08 53 55.1**	**+0.4**
ADK	**Adak**	**63.02**	**22**	*e*P	**P**	**08 56 26.9**	**+0.1**
	56nm,0.4s,mb5.8						
TORD	**Torodi Ar. Bea**	**148.74**	**287**	PKPbc	PKPbc	09 05 45.5	-0.7
	0.8nm,0.6s,baz=85,slow=1.5,SNR=8.9						
TORD	**Torodi Ar. Bea**	**148.74**	**287**	PKPbc	PKPbc	09 05 45.5	-0.7

MEX 18 09:01:06.4±0.5, 1429N×9126W, h59km±84km, MD3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.15**	**302**	*i*P	Pn	09 01 25.3	-1.1
THIG				*i*S	Sn	09 01 39.2	-2.1
CCIG	**Comitan**	**2.16**	**337**	*i*P	Pn	09 01 38.4	-1.6
CCIG				*e*S	Sn	09 02 04.3	-1.3
TGIG		**3.06**	**324**	*i*P	Pn	09 01 51.2	-1.2
TGIG				*i*S	Sn	09 02 26.3	-1.4

MAN 18 09:10:25, 1101N×12407E, h1km, mb3.7, ML2.5, MS2.0, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.54**	**86**	*e*P	Pg	09 10 35.5	+0.3
LLP	**Lapu-Lapu**	**0.70**	**188**	*e*P	Pg	09 10 38.6	+0.2
LLP				*e*S	Sg	09 10 49.0	+1.5
PLP	**Palo**	**0.91**	**80**	⇑*e*P	Pg	09 10 43.0	+0.5
PLP				*i*S	Sg	09 10 57.0	+2.7
MSLP	**Maasin**	**1.17**	**138**	*e*P	Pg	09 10 47.7	+0.2
MSLP				*e*S	Sg	09 11 06.7	+3.9
TBP	**Tagbilaran**	**1.33**	**189**	*e*P	Pg	09 10 52.6	+2.1
TBP				*e*S	Sg	09 11 11.4	+3.6
RCP	**Roxas**	**1.40**	**293**	⇓*e*P	Pn	09 10 44.0	-7.7
RCP				*e*S	Sg	09 11 15.1	+4.9
BESP	**Borongan**	**1.47**	**66**	*e*P	Pn	09 11 11.1	+19
GUIM	**Jordan**	**1.50**	**255**	*e*P	Pn	09 10 53.1	0.0
GUIM				*e*S	Sb	09 11 14.5	+1.3
OTRP	**Odiongan**	**2.41**	**304**	*e*P	Pn	09 11 06.3	+0.8

DDA ***18*** *09:11:12.3, 3731N×3460E, h7km±2km, Md2.8*
CSEM ***18*** *09:11:12.3±0.1, 3725N×3483E, h10km, MD2.7, Error ellipse: s-maj=1.6km s-min=1.4km az=128.0*
ISK ***18*** *09:11:12.5, 3728N×3495E, h21km, MD2.7*
ISCJB ***18*** *09:11:13.6±0.6, 3725N±003×3485E±006, h7km±9km, Error ellipse: s-maj=7.7km s-min=5.4km az=25.0*

ISC 18 09:11:13.8±0.6, 3726N±004×3491E±007, h16km±6km, n10, σ1§14/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARA	**Karaisali**	**0.12**	**90**	PG	**Pg**	**09 11 16.9**	**-0.4**
KARA				SG	**Sg**	**09 11 19.8**	**+0.1**
MERS	**Mersin**	**0.50**	**218**	*e*PG	**Pg**	**09 11 23.3**	**-0.4**
MERS				*e*SG	**Sg**	**09 11 32.3**	**+1.8**
CEYT	**Ceyhan**	**0.72**	**110**	*e*PG	**Pg**	**09 11 26.9**	**-1.0**
YURE	**YUREGIR**	**0.73**	**127**	*i*P	**Pg**	**09 11 30.4**	**+2.5**
YURE				*i*S	**Sg**	**09 11 44.7**	**+7.1**
NIG	**Nigde**	**0.88**	**345**	*e*PG	**Pg**	**09 11 29.7**	**-1.2**
NIG				*e*SG	**Sg**	**09 11 42.6**	**+0.2**
MEST	**Erdemli**	**0.91**	**222**	*i*P	**Pb**	**09 11 30.8**	**-0.4**
MEST				*i*S	**Sb**	**09 11 43.4**	**+0.4**
IKL	**Isikli**	**1.42**	**224**	*e*PN	**Pn**	**09 11 38.0**	**-0.9**
AVNT	**Avonos**	**1.52**	**358**	*i*P	**Pn**	**09 11 42.3**	**+2.0**
AVNT				*i*S	**Sn**	**09 12 04.0**	**+4.2**
EREN	**Erenkoy**	**1.83**	**199**	*e*PN	**Pn**	**09 11 43.0**	**-1.6**
HDMB	**Hadim**	**1.96**	**262**	*e*PN	**Pn**	**09 11 46.0**	**-0.4**

IDC ***18*** *09:38:23.6±6.8, 1756S×17770W, h382km±70km, mb3.5/7, mb1 3.8/7, mb1mx3.5/16, mbtmp3.5/7, Error ellipse: s-maj=71.1km s-min=20.8km az=155.0*
NEIC ***18*** *09:38:31.4±6.3, 1771S×17779W, h466km±71km, mb4.3/9, Error ellipse: s-maj=37.3km s-min=26.6km az=153.0*
ISCJB ***18*** *09:38:33.3±0.8, 177S±02×1779W±02, h500km, mb4.2/12, Error ellipse: s-maj=33.6km s-min=13.3km az=149.2*

ISC 18 09:38:34.4±0.8, 177S±02×1779W±02, h500km, n30, σ1§12/29, mb4.2/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	**30.49**	**240**	*e*P	**P**	**09 44 07.2**	**+1.2**
ARMA	**Armidale**	**30.49**	**240**	*e*P	**P**	**09 44 06.0**	**+0.1**
	0.3nm,0.9s						
CNB	**Canberra Magne**	**33.97**	**232**	*e*P	**P**	**09 44 36.6**	**+1.1**
CTA	**Charters Tower**	**33.99**	**260**	*e*P	**P**	**09 44 35.8**	**-0.2**
	4.3nm,0.8s,mb3.9						
CTA	**Charters Tower**	**33.99**	**260**	P	**P**	**09 44 34.6**	**-1.4**
	5.1nm,0.6s,mb4.1,baz=108,slow=12,SNR=8.5						
CTAO	**Charters Tower**	**33.99**	**260**	*e*P	**P**	**09 44 33.4**	**-2.5**
	2.4nm,0.5s,mb3.9						
CAN	**Canberra**	**34.24**	**233**	*e*P	**P**	**09 44 37.9**	**0.0**
PMG	**Port Moresby**	**34.94**	**279**	*e*P	**P**	**09 44 45.7**	**+1.8**
	7.8nm,0.6s,mb4.3						
COEN	**Coen**	**37.62**	**270**	*e*P	**P**	**09 45 07.0**	**+0.8**
	1.7nm,0.5s,mb3.7						
TOO	**Toolangi**	**37.70**	**231**	*e*P	**P**	**09 45 07.8**	**+1.2**
STKA	**Stephens Creek**	**39.19**	**241**	*e*P	**P**	**09 45 19.4**	**+0.7**
	9.9nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**39.19**	**241**	P	**P**	**09 45 19.0**	**+0.3**
	12nm,0.5s,mb4.6,baz=92,slow=9.6,SNR=73						
STKA	**Stephens Creek**	**39.19**	**241**	*e*P	**P**	**09 45 19.2**	**+0.5**
	12nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**45.17**	**259**	*e*P	**P**	**09 46 05.1**	**-1.0**
WB2	**Warramunga Arr**	**45.17**	**259**	*e*P	**P**	**09 46 05.3**	**-0.8**
WRA	**Warramunga Arr**	**45.18**	**259**	P	**P**	**09 46 05.2**	**-1.0**
	5.5nm,0.5s,mb4.3,baz=96,slow=7.2,SNR=170						
WRA				PcP	PcP	09 47 36.6	+0.5
	1.1nm,0.5s,baz=92,slow=3.5,SNR=4.7						
ASAR	**Alice Springs**	**45.35**	**254**	P	**P**	**09 46 07.2**	**-0.2**
	44nm,0.6s,mb5.1,baz=88,slow=8.7,SNR=741						
ASAR				PcP	PcP	09 47 37.0	+0.3
	1.5nm,0.6s,baz=106,slow=4.1,SNR=4.6						
KAKA	**Kakadu**	**48.10**	**269**	*e*P	**P**	**09 46 27.0**	**-1.5**
	14nm,0.5s,mb4.6						
KAKA	**Kakadu**	**48.10**	**269**	*e*P	**P**	**09 46 27.4**	**-1.0**
	130nm,0.5s						
FORT	**Forrest**	**50.56**	**244**	*e*P	**P**	**09 46 45.5**	**-0.9**
	14nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.57**	**260**	*e*P	**P**	**09 47 08.2**	**-0.1**
	19nm,2.0s,mb4.1						
FITZ	**Fitzroy Crossi**	**53.57**	**260**	P	**P**	**09 47 08.0**	**-0.4**
	1.3nm,0.3s,mb3.8,baz=5.2,slow=11,SNR=10						
KLBR	**Kellerberrin**	**59.39**	**243**	*e*P	**P**	**09 47 47.0**	**-1.3**
	7.8nm,0.5s,mb4.3						
MUN	**Mundaring**	**60.68**	**243**	*e*P	**P**	**09 47 56.4**	**-0.5**
NVAR	**Mina Array Bea**	**78.91**	**44**	P	**P**	**09 49 43.7**	**-1.8**
	0.1nm,0.4s,baz=208,slow=11,SNR=2.5						
NVAR	**Mina Array Bea**	**78.91**	**44**	P	**P**	**09 49 43.7**	**-1.8**
TXAR	**Lajitas Array**	**85.44**	**57**	P	**P**	**09 50 19.0**	**0.0**
	0.2nm,0.9s,baz=304,slow=2.1,SNR=2.2						
PDAR	**Pinedale Array**	**86.84**	**43**	P	**P**	**09 50 26.8**	**+1.5**
	0.3nm,0.7s,mb3.1,baz=69,slow=38,SNR=2.7						
CMAR	**Chiang Mai Arr**	**89.30**	**290**	P	**P**	**09 50 39.6**	**+2.2**

PGB	**Panagyurishte**	**1.29 50**	Pg	**Pg**	**10 32 28.1**	**-1.2**
BARS	**Barje**	**1.33 325**	*e*Pg	**Pg**	**10 32 29.4**	**-0.8**
BARS			*e*Sg	**Sg**	**10 32 46.9**	**-0.5**
BIA	**Bitola**	**1.34 239**	*e*Pg	**Pg**	**10 32 29.7**	**-0.7**
BIA			*e*Sg	**Sg**	**10 32 48.6**	**+0.9**
BIA	**Bitola**	**1.34 239**	*i* Pg	**Pg**	**10 32 30.0**	**-0.3**
BIA			*i* Sg	**Sg**	**10 32 48.2**	**+0.5**
BIA			*e*Lg		10 32 49.1	
	comp=E,49nm,0.4s					
BIA			*e*Lg		10 32 49.3	
	comp=N,49nm,0.5s					
BIA	**Bitola**	**1.34 239**	*i* Pg	**Pg**	**10 32 30.0**	**-0.4**
BIA			*i* Sg	**Sg**	**10 32 48.2**	**+0.5**
RZN	**Rozhen**	**1.41 91**	Pg	**Pg**	**10 32 30.9**	**-0.7**
PLG	**Polygyros**	**1.43 161**	*e*Pg	**Pg**	**10 32 31.1**	**-0.8**
PLG			*e*Sg	**Sg**	**10 32 49.9**	**-0.6**
PLG	**Polygyros**	**1.43 161**	*e*PN	**Pn**	**10 32 30.7**	**-0.3**
PLG			*e*SN	**Sn**	**10 32 47.9**	**-2.1**
PLG	**Polygyros**	**1.43 161**	*e*Pg	**Pg**	**10 32 31.1**	**-0.9**
PLG			*e*Sn	**Sn**	**10 32 47.9**	**-2.1**
PLG			*e*Sg	**Sg**	**10 32 49.9**	**-0.5**
PLD	**Plovdiv**	**1.44 74**	*e*Pg	**Pg**	**10 32 31.7**	**-0.6**
PLD			*e*Sg	**Sg**	**10 32 52.5**	**+1.6**
PLD	**Plovdiv**	**1.44 74**	*e*Pg	**Pg**	**10 32 31.7**	**-0.6**
PLD			*e*Sg	**Sg**	**10 32 52.5**	**+1.5**
FNA	**Florina**	**1.45 230**	*e*Pg	**Pg**	**10 32 31.8**	**-0.6**
ZAPS	**Zavoj**	**1.56 354**	*e*Pg	**Pg**	**10 32 33.5**	**-1.0**
ZAPS			*e*Sg	**Sn**	**10 32 51.1**	**-2.2**
OUR	**Ouranopolis**	**1.64 148**	*e*Pg	**Pn**	**10 32 33.9**	**0.0**
LIT	**Litokhoron**	**1.64 189**	*e*Pg	**Pn**	**10 32 34.4**	**+0.4**
LIT			*e*Sg	**Sg**	**10 32 57.1**	**-0.3**
PAIG	**Paliouri**	**1.91 160**	*e*Pb	**Pn**	**10 32 37.4**	**-0.2**
KDZ	**Kurdzhali**	**1.93 91**	Pg	**Pn**	**10 32 39.9**	**+1.9**
RDO	**Rodhopi**	**2.11 105**	*e*PB	**Pn**	**10 32 40.6**	**+0.2**
RDO			*e*SN	**Sn**	**10 33 07.3**	**+0.4**
BOLS	**Boljevac**	**2.20 343**	*e*Pn	**Pn**	**10 32 40.4**	**-1.3**
BOLS			*e*Sg	**Sn**	**10 33 10.9**	**+1.7**
THL	**Klokotos Trika**	**2.25 197**	*e*Pn	**Pn**	**10 32 42.4**	**+0.1**
THL	**Klokotos Trika**	**2.25 197**	*e*Pn	**Pn**	**10 32 42.3**	**0.0**
XOR	**Xorichti**	**2.37 173**	*e*Pn	**Pn**	**10 32 43.8**	**-0.2**
NEO	**Neokhori**	**2.43 173**	*e*PN	**Pn**	**10 32 44.4**	**-0.5**
ALN	**Alexandroupoli**	**2.55 108**	*e*Pn	**Pn**	**10 32 46.9**	**+0.4**
AOS	**Alonnisos**	**2.67 162**	*e*Pn	**Pn**	**10 32 47.7**	**-0.4**
AGG	**Agios Georgios**	**2.73 188**	*e*Pn	**Pn**	**10 32 49.1**	**+0.2**
DIVS	**Divibare**	**3.16 320**	*e*Pn	**Pn**	**10 32 54.1**	**-0.8**
GZR	**Gura Zlata**	**3.67 359**	S	**Sn**	**10 33 43.8**	**-1.5**
BZS	**Buzias**	**3.99 348**	*e*Pn	**Pn**	**10 33 04.0**	**-2.3**
BZS			*e*Sg	**Sg**	**10 34 08.0**	**-4.8**
BZS	**Buzias**	**3.99 348**	⇓*i*P	**Pn**	**10 33 06.7**	**+0.4**
BZS	**Buzias**	**3.99 348**	⇓P	**Pn**	**10 33 06.7**	**+0.4**
BZS			S	**Sn**	**10 33 50.6**	**-2.7**
BZS			*e*Sg	**Sg**	**10 34 08.0**	**-4.8**
BZS	**Buzias**	**3.99 348**	⇓P	**Pn**	**10 33 06.7**	**+0.4**
BZS			S	**Sn**	**10 33 50.6**	**-2.7**
DID	**Didima**	**4.22 176**	*e*Pn	**Pn**	**10 33 10.0**	**+0.5**
MLR	**Muntele Rosu**	**4.39 30**	⇑*i*P	**Pn**	**10 33 13.9**	**+2.2**
MLR			S	**Sn**	**10 34 04.2**	**+1.1**
MLR	**Muntele Rosu**	**4.39 30**	⇑P	**Pn**	**10 33 13.9**	**+2.1**
MLR			S	**Sn**	**10 34 04.2**	**+1.1**
TIRR	**Tirgusor**	**4.91 54**	⇓*i*P	**Pb**	**10 33 32.5**	**+1.5**
TIRR	**Tirgusor**	**4.91 54**	S	**Sn**	**10 34 23.5**	**+7.5**
VRI	**Vrincioaia**	**5.01 33**	⇑*i*P	**Pn**	**10 33 21.4**	**+1.2**
VRI	**Vrincioaia**	**5.01 33**	⇑P	**Pn**	**10 33 21.4**	**+1.2**
VRI			S	**Sn**	**10 34 19.8**	**+1.5**
VRI	**Vrincioaia**	**5.01 33**	⇑P	**Pn**	**10 33 21.4**	**+1.2**
VRI			S	**Sn**	**10 34 19.8**	**+1.4**

IDC 18 10:32:55.3±78.0, **2006S**×**17788E**, **h0**km, **mb3.5**/3, **mb1 3.7**/3, **mb1mx3.5**/15, **mbtmp3.5**/3, **MS4.0**/12, **Ms1 3.9**/12, **ms1mx3.7**/22, **Error ellipse: s-maj=1381.0km s-min=147.8km az=81.0**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**20.29 299**		LR	LR	10 43 34.7	
	comp=Z,116nm,19.6s,baz=175,slow=32						
RPZ	**Rata Peaks**	**24.27 192**		LR	LR	10 47 16.6	
	comp=Z,334nm,18.3s,baz=182,slow=36						
CTA	**Charters Tower**	**29.69 264**		LR	LR	10 49 38.3	
	comp=Z,549nm,18.4s,baz=93,slow=34						
STKA	**Stephens Creek**	**34.53 243**		P	P	10 39 45.5	0.0
	0.3nm,0.3s,baz=114,slow=12,SNR=1.9						
STKA				LR	LR	10 51 01.5	
	comp=Z,252nm,20.6s,baz=38,slow=32						
WRA	**Warramunga Arr**	**40.83 262**		P	P	10 40 39.2	+0.2
	0.5nm,0.7s,baz=96,slow=8.5,SNR=6.3						
WRA				LR	LR	10 56 39.9	
	comp=Z,458nm,18.1s,baz=95,slow=35						
ASAR	**Alice Springs**	**40.86 257**		P	P	10 40 38.8	-0.4
	0.3nm,0.8s,baz=91,slow=8.4,SNR=4.7						
NWAO	**Narrogin (SRO)**	**55.11 243**		LR	LR	11 04 56.2	
	comp=Z,128nm,18.7s,baz=62,slow=35						
ASAJ	**Asahikawa**	**71.57 334**		LR	LR	11 11 34.5	
	comp=Z,54nm,19.1s,baz=54,slow=32						
PETK	**Petropavlovsk-**	**74.94 348**		LR	LR	11 17 04.2	
	comp=Z,36nm,18.1s,baz=326,slow=35						
MAW	**Mawson**	**80.64 201**		LR	LR	11 18 45.7	
	comp=Z,89nm,18.3s,baz=243,slow=34						
KDAK	**Kodiak Island**	**81.36 15**		LR	LR	11 15 35.7	
	comp=Z,72nm,21.3s,baz=290,slow=32						
TXAR	**Lajitas Array**	**90.10 59**		LR	LR	11 21 40.9	
	comp=Z,101nm,18.4s,baz=185,slow=32						
YKA	**Yellowknife Ar**	**97.76 26**		LR	LR	11 29 57.2	
	comp=Z,48nm,18.9s,baz=55,slow=35						

IDC ***18*** *10:57:25.7*±*1.2, 909S*×*10837E, h0*km*, mb4.0/6, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, ML3.3/1, Error ellipse: s-maj=64.1km s-min=18.0km az=51.0*
ISCJB ***18*** *10:57:28.7*±*0.6, 890S*±*009*×*10861E*±*006, h33*km*, mb3.9/6, Error ellipse: s-maj=12.6km s-min=8.7km az=162.4*
NEIC ***18*** *10:57:30.3*±*0.5, 893S*×*10862E, h30*km*, mb4.6/1, Error ellipse: s-maj=13.7km s-min=10.5km az=51.0*
DJA ***18*** *10:57:31, 910S*×*10865E, h33*km*, ML4.3/5*
ISC 18 10:57:31.0±0.6, **894S**±008×**10860E**±007, **h35**km, **n14**, σ1§**04**/12, **mb3.9**/6, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**3.28 242**		*e*Pn	**Pn**	**10 58 19.4**	**-0.6**
XMIS				Sn	**Sn**	**10 58 57.7**	**-0.1**
KSM	**Kuching**	**10.48 9**		*e*Pn	**Pn**	**10 59 57.1**	**-1.9**
FITZ	**Fitzroy Crossi**	**18.89 121**		P	**Pn**	**11 01 47.8**	**-1.7**
	0.1nm,0.3s,baz=276,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**27.18 117**		P	**P**	**11 03 11.9**	**+0.4**
	3.5nm,0.9s,mb3.9,baz=288,slow=12,SNR=10						
WB2	**Warramunga Arr**	**27.19 117**		*e*P	**P**	**11 03 12.1**	**+0.6**
WB2				*ep*P	pP	11 03 20.4	-1.2
ASAR	**Alice Springs**	**28.29 124**		P	**P**	**11 03 22.1**	**+0.7**
	1.2nm,0.9s,mb3.5,baz=302,slow=8.8,SNR=10						
ASAR				PcP	PcP	11 06 35.2	+1.1
	0.3nm,0.7s,baz=298,slow=1.6,SNR=4.6						
STKA	**Stephens Creek**	**38.17 131**		P	**P**	**11 04 49.0**	**+1.6**
	5.7nm,0.5s,mb4.6,baz=333,slow=10,SNR=18						
STKA	**Stephens Creek**	**38.17 131**		*e*P	**P**	**11 04 45.7**	**-1.6**
	7.1nm,0.7s,mb4.5						
SONM	**Songino Array**	**56.56 358**		P	**P**	**11 07 10.8**	**+0.9**
	0.9nm,0.6s,mb4.0,baz=179,slow=7.0,SNR=6.4						
MKAR	**Makanchi Array**	**60.24 339**		P	**P**	**11 07 36.8**	**+1.1**
	0.4nm,0.4s,mb3.8,baz=141,slow=8.4,SNR=4.3						
BVAR	**Borovoye Array**	**69.76 337**		P	**P**	**11 08 37.7**	**+0.3**
	0.9nm,0.6s,mb3.9,baz=146,slow=10,SNR=4.6						
PDAR	**Pinedale Array**	**132.58 38**		PKP	PKPdf	11 16 42.9	+0.7
	0.4nm,0.9s,baz=54,slow=4.6,SNR=3.6						
LVC	**Limon Verde**	**148.55 184**		PKPbc	PKPbc	11 17 13.7	-1.4
LVC	**Limon Verde**	**148.55 184**		*e*PKPdf	PKPdf	11 17 12.1	+0.6
LVC				PKPbc	PKPbc	11 17 13.7	-1.4

IDC ***18*** *11:02:41.9*±*1.1, 3641N*×*7148E, h0*km*, mb3.7/4, mb1 3.8/8, mb1mx3.6/26, mbtmp3.7/8, ML3.7/3, Error ellipse: s-maj=24.3km s-min=23.8km az=48.0*
ISCJB ***18*** *11:02:55.2*±*0.4, 3688N*±*003*×*7165E*±*006, h138*km*,* ±*8km, mb3.7/5, Error ellipse: s-maj=7.7km s-min=4.6km az=169.7*
MOS ***18*** *11:02:55.8*±*1.0, 3698N*×*7139E, h135*km*, mb4.9/1, Error ellipse: s-maj=28.1km s-min=14.1km az=77.0*
NEIC ***18*** *11:02:57.0*±*1.0, 3695N*×*7135E, h128*km*,* ±*10km, mb4.9/1, Error ellipse: s-maj=16.7km s-min=10.1km az=120.0*

NNC ***18*** *11:03:04.7*±*2.3, 3746N*×*6994E, h49*km*,* ±*48km, mb3.7, mpv4.4, Error ellipse: s-maj=25.3km s-min=18.0km az=81.0*
ISC 18 11:02:56.4±0.4, **3688N**±003×**7166E**±006, **h127**km,±7km, **n37**, σ1§**48**/49, **mb3.8**/5, **3C-3D**, **Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.06 176**		⇑P	**Pn**	**11 03 44.8**	**+1.1**
CEP				S	**Sn**	**11 04 22.0**	**+1.9**
KBL	**Kabul**	**3.16 223**		*e*Pn	**Pn**	**11 03 44.7**	**-0.3**
KBL				*e*Sn	**Sn**	**11 04 22.1**	**-0.4**
CHCP	**Chirah Chowk**	**3.47 157**		P	**Pn**	**11 03 51.9**	**+2.8**
THW	**Thamme Wali**	**4.08 179**		P	**Pn**	**11 03 57.7**	**+0.6**
AML	**Almayashu**	**5.47 16**		P	**Pn**	**11 04 16.9**	**+1.2**
	SNR=15						
AML	**Almayashu**	**5.47 16**		*e*Pn	**Pn**	**11 04 16.8**	**+1.1**
	52nm,0.2s						
AML				*e*Sn	**Sn**	**11 05 17.3**	**-0.3**
THN	**Thein Dam**	**5.55 142**		*e*P	**Pn**	**11 04 17.5**	**+0.6**
THN				*e*S	**Sn**	**11 05 19.1**	**-0.5**
DLH	**Dalhousie**	**5.60 139**		*e*S	**Sn**	**11 05 21.0**	**+0.4**
EKS2	**Erkin-Say**	**6.00 15**		P	**Pn**	**11 04 24.1**	**+1.3**
	SNR=15						
EKS2	**Erkin-Say**	**6.00 15**		*e*Pn	**Pn**	**11 04 24.0**	**+1.2**
	9.0nm,0.5s						
EKS2				*e*Sn	**Sn**	**11 05 27.5**	**-2.7**
AAK	**Ala-Archa**	**6.14 20**		P	**Pn**	**11 04 26.5**	**+1.7**
	SNR=16						
KK31	**Karatay Array**	**6.28 352**		⇑P	**Pn**	**11 04 25.8**	**-0.7**
	17nm,0.4s,baz=180,slow=13,SNR=325						
KK31				⇓S	**Sn**	**11 05 30.7**	**-6.2**
	3.6nm,0.5s,baz=181,slow=22,SNR=4.4						
CHMS	**Chumysh**	**6.55 20**		P	**Pn**	**11 04 31.6**	**+1.3**
	SNR=8.2						
USP	**Ospenovka**	**6.74 18**		P	**Pn**	**11 04 33.4**	**+0.6**
	SNR=6.2						
TKM2	**Tokmak 2**	**6.75 25**		*e*PN	**Pn**	**11 04 34.4**	**+1.5**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TKM2	**Tokmak 2**	**6.75 25**		P	**Pn**	**11 04 34.6**	**+1.7**
	SNR=11						
TKM2	**Tokmak 2**	**6.75 25**		*e*Pn	**Pn**	**11 04 34.4**	**+1.5**
	comp=Z,6.1nm,0.6s						
SDNR	**Sundarnagar**	**6.94 139**		*e*P	**Pn**	**11 04 35.0**	**-0.6**
SDNR				*e*S	**Sn**	**11 05 50.0**	**-3.1**
SMLA	**Simla**	**7.34 140**		⇑*i*P	**Pn**	**11 04 41.5**	**+0.6**
SMLA				*i* S	**Sn**	**11 05 59.0**	**-3.7**
SMLA				*i* S	**Sn**	**11 05 59.4**	**-3.3**
SMLA				*ex*	x	11 06 04.5	
	comp=N,492nm,0.3s						
SMLA				*ex*	x	11 06 05.6	
	comp=E,420nm,0.3s						
KLP	**Kalpa**	**7.63 132**		*e*S	**Sn**	**11 06 07.4**	**-2.3**
JOSI	**Joshimath**	**9.11 132**		*e*S	**Sn**	**11 06 43.1**	**-2.5**
KUDL	**Kundal**	**9.62 154**		*e*P	**Pn**	**11 05 07.8**	**-3.9**
KUDL				*e*S	**Sn**	**11 06 49.9**	**-8.0**
SONA	**Sohna**	**9.74 150**		*e*S	**Sn**	**11 06 54.0**	**-7.0**
MKAR	**Makanchi Array**	**12.67 35**		Pn	**Pn**	**11 05 50.0**	**-1.9**
	comp=E,0.2nm,0.3s,baz=116,slow=39,SNR=2.9						
AB31	**Akbulak array**	**15.02 329**		P	**Pn**	**11 06 18.5**	**-3.4**
	comp=E,0.9nm,0.4s,baz=147,slow=11,SNR=35						
AB31				S	**S**	**11 08 50.0**	**-26**
	comp=E,1.8nm,0.6s,baz=144,slow=15,SNR=11						
BVA0	**Borovoye Array**	**16.17 357**		P	**Pn**	**11 06 40.3**	**+4.2**
	comp=E,0.2nm,0.6s,baz=166,slow=9.7,SNR=5.0						
BVAR	**Borovoye Array**	**16.17 357**		Pn	**Pn**	**11 06 33.6**	**-2.5**
	comp=E,0.2nm,0.3s,baz=226,slow=39,SNR=3.1						
AKTK	**Aktyubinsk**	**16.72 328**		P	**Pn**	**11 06 42.1**	**-0.8**
AKTO	**Aktyubinsk**	**16.72 328**		⇓P	**Pn**	**11 06 41.2**	**-1.7**
	comp=E,1.0nm,1.1s						
AKTO				⇓S	**S**	**11 09 31.0**	**-18**
	comp=E,0.7nm,1.4s						
AKTO	**Aktyubinsk**	**16.72 328**		P	**Pn**	**11 06 42.1**	**-0.8**
	comp=E,0.6nm,0.3s,baz=138,slow=11,SNR=13						
ZAL	**Zalesovo**	**19.33 24**		P	**P**	**11 07 13.1**	**+1.5**
ZALV	**Zalesovo Beam**	**19.35 24**		P	**P**	**11 07 13.1**	**+1.3**
	comp=E,0.5nm,0.3s,baz=222,slow=12,SNR=5.0						
GNI	**Garni**	**21.29 287**		P	**P**	**11 07 29.7**	**-3.0**
	comp=E,3.4nm,0.3s,mb4.1,baz=193,slow=18,SNR=2.8						
TORD	**Torodi Ar. Bea**	**66.26 269**		P	**P**	**11 13 31.0**	**-0.2**
	comp=E,0.4nm,0.6s,mb3.5,baz=48,slow=3.8,SNR=3.6						
KTH	**Kantishna Hill**	**74.34 18**		*e*P	**P**	**11 14 21.8**	**+2.2**
	comp=E,10nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**81.74 122**		P	**P**	**11 15 02.5**	**+1.4**
	comp=E,0.6nm,0.9s,mb3.4,baz=326,slow=5.0,SNR=7.6						
ASAR	**Alice Springs**	**84.04 125**		P	**P**	**11 15 13.8**	**+0.9**
	comp=E,0.3nm,0.7s,mb3.2,baz=297,slow=3.4,SNR=5.4						

NEIC ***18*** *11:20:18.7*±*4.9, 1482S*×*7633W, h1*km*,* ±*31km, mb4.5/1, Error ellipse: s-maj=21.5km s-min=9.2km az=65.0*
IDC ***18*** *11:20:18.8*±*0.9, 1483S*×*7605W, h0*km*, mb3.9/10, mb1 4.0/15, mb1mx4.0/22, mbtmp3.9/15, ML3.8/2, MS3.6/6, Ms1 3.6/6, ms1mx3.2/24, Error ellipse: s-maj=29.2km s-min=11.8km az=61.0*
ISCJB ***18*** *11:20:21.7*±*0.6, 1488S*±*007*×*763W*±*0.1, h33*km*, mb3.9/11, MS3.6/3, Error ellipse: s-maj=17.0km s-min=6.3km az=153.3*
ISC 18 11:20:24.1±0.6, **1488S**±006×**762W**±01, **h35**km, **n29**, σ1§**23**/35, **mb3.9**/11, **MS3.6**/3, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.94 348**		Pn	**Pn**	**11 20 59.5**	**-8.8**
	3.2nm,0.3s,baz=178,slow=12,SNR=4.1						
NNA				Pg	**Pn**	**11 21 11.6**	**+3.3**
	30nm,0.3s,baz=156,slow=11,SNR=14						
NNA				Sn	**Sn**	**11 21 40.1**	**-2.3**
	68nm,0.3s,baz=103,slow=20,SNR=7.3						
NNA				Lg		11 21 52.5	
	118nm,0.3s,baz=221,slow=9.5,SNR=6.9						
NNA	**Nana**	**2.94 348**		*e*Pn	**Pn**	**11 21 04.5**	**-3.8**
NNA				*e*Sn	**Sn**	**11 21 43.4**	**+1.0**
NNA				Lg		11 21 52.5	
ARE	**Arequipa**	**4.83 110**		*e*P	**Pn**	**11 21 35.0**	**+0.7**
ARE				*e*S	**Sn**	**11 22 44.0**	**+15**
LPAZ	**La Paz**	**7.93 101**		Pn	**Pn**	**11 22 19.3**	**+2.4**
	3.5nm,0.3s,baz=296,slow=9.4,SNR=43						
LPAZ				LR	LR	11 25 47.4	
	comp=Z,229nm,20.9s,baz=73,slow=42						
LPAZ	**La Paz**	**7.93 101**		*e*Pn	**Pn**	**11 22 18.4**	**+1.5**
LPAZ				LR	LR	11 25 47.4	
ATAH	**Atahualpa**	**8.11 345**		Pn	**Pn**	**11 22 18.4**	**-1.0**
	0.8nm,0.3s,baz=110,slow=5.6,SNR=3.8						
ATAH				Sn	**Sn**	**11 23 49.1**	**-1.0**
	2.9nm,0.3s,baz=133,slow=18,SNR=2.0						
ATAH				LR	LR	11 26 00.4	
	comp=Z,372nm,19.8s,baz=287,slow=43						
LVC	**Limon Verde**	**10.35 139**		Pn	**Pn**	**11 22 49.7**	**-0.4**
	4.5nm,0.3s,baz=306,slow=10,SNR=25						
LVC				Sn	**Sn**	**11 24 42.7**	**-2.2**
	2.3nm,0.3s,baz=82,slow=18,SNR=6.4						
LVC				Lg		11 25 46.2	
	baz=197,slow=19,SNR=2.5						
LVC				LR	LR	11 27 02.7	
	comp=Z,230nm,18.6s,baz=310,slow=39						
LVC	**Limon Verde**	**10.35 139**		Pn	**Pn**	**11 22 49.7**	**-0.4**
LVC				Sn	**Sn**	**11 24 42.7**	**-2.2**
LVC				Lg		11 25 46.2	
LVC				LR	LR	11 27 02.7	
SIV	**San Ignacio**	**14.65 96**		Pn	**Pn**	**11 23 43.3**	**-5.7**
	0.4nm,0.3s,baz=281,slow=13,SNR=5.2						
OTAV	**Otavalo**	**15.18 351**		*e*Pn	**Pn**	**11 24 00.3**	**+4.3**
OTAV				*e*Sn	**Sn**	**11 26 52.7**	**+10**
CFAA	**Coronel Fontan**	**18.18 158**		P	**Pn**	**11 24 33.1**	**-0.6**
	0.0nm,0.3s,baz=334,slow=15,SNR=2.4						
ROSC	**El Rosal**	**19.70 6**		P	**Pn**	**11 24 48.3**	**-3.8**
	0.1nm,0.3s,baz=270,slow=20,SNR=2.9						
CPUP	**Villa Florida**	**21.01 126**		P	**P**	**11 25 04.0**	**-0.7**
	1.9nm,0.6s,mb3.6,baz=292,slow=6.1,SNR=6.0						
CPUP				LR	LR	11 33 05.9	
	comp=Z,91nm,19.9s,MS3.1,baz=142,slow=37						
CPUP	**Villa Florida**	**21.01 126**		*e*P	**P**	**11 25 04.9**	**+0.2**
CPUP				LR	LR	11 33 05.9	
SDV	**Santo Domingo**	**24.25 14**		P	**P**	**11 25 38.3**	**+0.3**
	10nm,0.8s,mb4.3,baz=182,slow=10,SNR=10						
PLCA	**Paso Flores**	**26.23 170**		P	**P**	**11 25 55.2**	**-0.5**
	1.1nm,0.8s,mb3.4,baz=342,slow=12,SNR=3.3						
BDFB	**Brasilia**	**27.22 95**		P	**P**	**11 26 01.8**	**-3.2**
	1.4nm,0.4s,mb3.8,baz=243,slow=26,SNR=2.2						
BDFB				LR	LR	11 38 11.7	
	comp=Z,123nm,18.7s,MS3.5,baz=268,slow=40						
TXAR	**Lajitas Array**	**51.32 329**		P	**P**	**11 29 26.1**	**+1.1**
	1.2nm,0.9s,mb3.8,baz=148,slow=8.7,SNR=5.5						
PDAR	**Pinedale Array**	**65.02 333**		P	**P**	**11 31 00.1**	**-0.5**
	0.4nm,0.9s,mb3.5,baz=113,slow=10,SNR=3.7						
NVAR	**Mina Array Bea**	**66.06 325**		P	**P**	**11 31 09.2**	**+1.7**
	0.1nm,0.5s,mb3.1,baz=132,slow=48,SNR=2.6						
ULM	**Lac du Bonnet**	**67.11 346**		P	**P**	**11 31 13.2**	**-0.7**
	2.1nm,0.8s,mb4.2,baz=180,slow=6.8,SNR=4.8						
SNAA	**Sanae**	**70.76 161**		*e*	**P**	**11 31 37.9**	**+1.5**
SNAA				*e*		11 31 45.1	
SNAA				*e*	pP	11 31 47.6	+0.4
SNAA	**Sanae**	**70.76 161**		*e*P	**P**	**11 31 38.2**	**+1.8**
	3.9nm,1.0s,mb4.3						
DBIC	**Dimbokro**	**73.90 78**		P	**P**	**11 31 55.3**	**-0.8**
	1.9nm,0.6s,mb4.2,baz=287,slow=14,SNR=2.9						
TOA0	**Torodi Ar. Sit**	**81.99 74**		*e*P	**P**	**11 32 41.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**81.99 74**		P	**P**	**11 32 41.9**	**+0.9**
	4.9nm,0.6s,mb4.6,baz=259,slow=4.4,SNR=27						
TORD				LR	LR	12 06 13.3	
	comp=Z,109nm,19.5s,MS4.2,baz=185,slow=34						
TORD	**Torodi Ar. Bea**	**81.99 74**		P	**P**	**11 32 41.9**	**+0.9**
TORD				LR	LR	12 06 13.3	
ZALV	**Zalesovo Beam**	**138.28 17**		PKP	PKPdf	11 39 45.3	-0.2
	0.6nm,0.3s,baz=252,slow=3.0,SNR=4.7						
SONM	**Songino Array**	**147.07 357**		PKPbc	PKPbc	11 40 01.1	-2.1
	1.6nm,0.8s,baz=334,slow=2.8,SNR=7.4						

IDC ***18*** *11:32:47.5*±*0.6, 507S*×*1295E, h0*km*, mb4.1/10, mb1 4.3/12, mb1mx4.3/16, mbtmp4.2/12, ML4.5/2, MS3.4/8, Ms1 3.4/8, ms1mx3.2/22, Error ellipse: s-maj=28.0km s-min=14.1km az=75.0*
ISCJB ***18*** *11:32:50.0*±*1.7, 521S*±*006*×*12955E*±*008, h35*km*,* ±*17km, mb4.2/12, MS3.3/6, Error ellipse: s-maj=14.0km s-min=8.5km az=150.5*
DJA ***18*** *11:32:50, 515S*×*1294 4E, h0*km*, ML4.7/4*
NEIC ***18*** *11:32:52.7*±*0.5, 511S*×*1295 1E, h35*km*, mb4.6/6, Error ellipse: s-maj=13.8km s-min=8.6km az=49.0*
ISC 18 11:32:55.0±1.2, **541S**±006×**12951E**±008, **h75**km,±14km, **n37**, σ1§**22**/42, **mb4.1**/12, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.50 230**		Pn	**Pn**	**11 34 42.3**	**+0.6**
	12nm,0.3s,baz=156,slow=1.2,SNR=10.0						
BATI				LR	LR	11 37 54.9	
	comp=Z,348nm,20.9s,baz=141,slow=40						
KAKA	**Kakadu**	**7.81 158**		*e*P	**Pn**	**11 34 46.4**	**+0.4**
	19nm,0.6s						
KAKA	**Kakadu**	**7.81 158**		*e*Pn	**Pn**	**11 34 46.5**	**+0.6**
	206nm,0.6s						
KAKA				*e*Sn	**Sn**	**11 36 22.4**	**+10**
KAPI	**Kappang**	**9.73 272**		Pn	**Pn**	**11 35 11.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**13.17 196**		*e*P	**Pn**	**11 35 56.5**	**-2.5**
	6.9nm,0.3s						
FITZ				*e*S	**Sn**	**11 38 19.0**	**-4.7**
FITZ	**Fitzroy Crossi**	**13.17 196**		Pn	**Pn**	**11 35 56.0**	**-2.9**
	1.1nm,0.3s,baz=23,slow=15,SNR=14						
FITZ				LR	LR	11 41 08.1	
	comp=Z,78nm,19.4s,baz=234,slow=37						
FITZ	**Fitzroy Crossi**	**13.17 196**		*e*Pn	**Pn**	**11 35 56.8**	**-2.2**
	7.3nm,0.4s						
FITZ				*e*S	**Sn**	**11 38 19.0**	**-4.7**
FITZ				*e*Sn	**Sn**	**11 38 19.9**	**-3.8**
WRA	**Warramunga Arr**	**15.19 162**		Pn	**Pn**	**11 36 24.1**	**-1.3**
	0.5nm,0.3s,baz=350,slow=13,SNR=32						
WRA				Sn	**Sn**	**11 39 05.0**	**-7.8**
	0.2nm,0.3s,baz=339,slow=23,SNR=3.0						
WB2	**Warramunga Arr**	**15.20 162**		*e*P	**Pn**	**11 36 23.4**	**-2.0**
WB2				*e*

TSZ	**Takapari Road**	**7.86 197**	*e*P	**Pn**	**12 25 59.6**	**-0.1**
MRZ	**Mangatainoka R**	**8.52 198**	*e*P	**Pn**	**12 26 06.9**	**-0.5**
CAW	**Cannon Point**	**9.08 199**	*e*P	**Pn**	**12 26 13.1**	**-0.7**
NNZ	**Nelson**	**9.72 206**	*e*P	**Pn**	**12 26 21.3**	**-0.1**
THZ	**Tophouse**	**10.37 206**	*e*P	**Pn**	**12 26 29.3**	**+0.3**
KHZ	**Kahutara**	**10.73 202**	*e*P	**Pn**	**12 26 33.8**	**+0.6**
LTZ	**Lake Taylor**	**11.49 206**	*e*P	**Pn**	**12 26 42.4**	**+0.3**
HNR	**Honiara**	**28.98 318**	P	**P**	**12 29 32.6**	**-0.6**
	33nm,0.4s,mb4.9					
STKA	**Stephens Creek**	**31.53 261**	P	**P**	**12 29 54.9**	**-0.5**
	0.8nm,0.5s,mb3.2,baz=120,slow=14,SNR=3.1					
ASAR	**Alice Springs**	**40.48 271**	P	**P**	**12 31 10.9**	**+0.5**
	0.4nm,0.4s,mb3.0,baz=105,slow=7.9,SNR=8.3					
WRA	**Warramunga Arr**	**41.68 276**	P	**P**	**12 31 20.0**	**-0.1**
	1.3nm,0.3s,mb3.5,baz=114,slow=8.1,SNR=30					

MAN 18 12:25:30,995N×12607E,h14km,mb4.1,ML2.9,MS2.6, 2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.59 254**		⇓*e*P	Pg	12 25 41.9	+0.3
SCPH				*e*S	Sg	12 25 51.6	+2.2
BUTP	**Butuan**	**1.06 204**		*e*P	Pb	12 25 49.2	-1.0
MSLP	**Maasin**	**1.20 279**		*e*P	Pn	12 25 51.8	-0.6
MSLP				*e*S	Sb	12 26 09.2	+1.2
PLP	**Palo**	**1.61 319**		⇓*e*P	Pn	12 25 57.1	-1.0
PLP				*e*S	Sn	12 26 18.4	-0.3
BESP	**Borongan**	**1.76 340**		*e*P	Pn	12 26 00.5	+0.5
BESP				*e*S	Sn	12 26 23.3	+1.1
TBP	**Tagbilaran**	**2.19 264**		*e*P	Pn	12 26 08.3	+2.3
TBP				*e*S	Sn	12 26 33.5	+0.7
BUKP	**Musuan**	**2.28 206**		*e*P	Pn	12 26 08.4	+1.2
CNP	**Cataman**	**2.90 332**		*e*P	Pn	12 26 14.9	-0.8
PAGZ	**Pagadian**	**3.37 232**		*e*P	Pn	12 26 23.0	+0.7
GUIM	**Jordan**	**3.49 281**		*e*P	Pn	12 26 24.6	+0.8

IDC ***18*** *12:32:13.7±0.4,2210S×17471E,h0km,mb4.7/23, mb1 4.8/26,mb1mx4.8/27,mbtmp4.7/26,ML3.6/1,MS5.2/25, Ms1 5.2/25,ms1mx5.1/32,Error ellipse: s-maj=14.2km s-min=13.6km az=107.0*

GCMT ***18*** *12:32:16.3±0.1,2220S×17477E,h18km,MW5.7/107, Moment Tensor Solution. s93,c185; s107,c286; Duration: 1§8 Moment tensor: Scale 10^17^Nm; M_{rr}1.36±.04; $M_{\theta\theta}$-4.15±.04; $M_{\phi\phi}$2.79±.04; $M_{r\theta}$2.00±.13; $M_{\theta\phi}$1.05±.04; $M_{\phi r}$-2.09±.14; Best double couple: M_o=4.72700×10^17^ NP1:ϕ_s236.00000°,δ48.00000°, λ14.00000°. NP2:ϕ_s137.00000°,δ80.00000°,λ137.00000°. Principal axes: T 4.2970, Plg37.0000°, Azm87.0000°; N 0.8600, Plg46.0000°, Azm306.0000°; P -5.1570, Plg20.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***18*** *12:32:16.3±0.1,2205S×17462E,h10km,mb5.4/71, MS5.5/134 Error ellipse: s-maj=6.2km s-min=3.9km az=133.0*

BJI ***18*** *12:32:16.2,2149S×17542E,h16km,mB5.6,mb5.1,Ms5.3, Msz5.0*

ISCJB ***18*** *12:32:18.1±0.1,2211S±003×17460E±004,h30km, mb5.2/103,MS5.4/166,Error ellipse: s-maj=5.0km s-min=3.9km az=21.4*

MOS ***18*** *12:32:18.7±0.9,2196S×17450E,h33km,mb5.6/33, MS5.5/12,Error ellipse: s-maj=10.9km s-min=8.4km az=136.5*

SZGRF ***18*** *12:32:19.8,2180S×17526E,h33km,mb5.4,South of Fiji Islands*

ORF ***18*** *12:32:32.1,1850S×170.11E,h30km,mb5.8*

DJA ***18*** *12:33:10,19.11S×17243E,h234km,mb5.0/10*

ISC 18 12:32:20.0±0.1,2209S±003×17463E±004,h32km, h32km±1.0km:pP-P,n518,σ0§95/261,mb5.2/103,MS5.4/166, 23C-4D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**9.79 138**		Pn	**Pn**	**12 34 32.5**	**-6.1**
	71nm,0.3s,baz=67,slow=24,SNR=2.0						
RAO				Sn	**Sn**	**12 36 30.1**	**+2.6**
	98nm,0.3s,baz=136,slow=22,SNR=2.2						
RAO	**Raoul Island**	**9.79 138**		Pn	**Pn**	**12 34 32.5**	**-6.1**
RAO				Sn	**Sn**	**12 36 30.1**	**+2.6**
AFI	**Afiamalu**	**15.27**	**60**	Pn	**Pn**	**12 35 49.3**	**-4.0**
	2.4nm,0.3s,baz=226,slow=23,SNR=3.8						
AFI				Sn	**Sn**	**12 38 38.3**	**-3.2**
	1.3nm,0.3s,baz=336,slow=22,SNR=2.1						
AFI				LR	LR	12 40 32.5	
	comp=Z,13μm,19.7s,baz=233,slow=33						
AFI	**Afiamalu**	**15.27**	**60**	P	**Pn**	**12 35 49.3**	**-4.0**
AFI						12 38 38.3	
PUZ	**Puketiti**	**16.23 170**		*e*P	**Pn**	**12 36 07.5**	**+1.9**
URZ	**Urewera**	**16.25 173**		Pn	**Pn**	**12 36 03.1**	**-2.8**
	0.2nm,0.3s,baz=150,slow=12,SNR=3.1						
URZ				Sn	**Sn**	**12 39 06.2**	**+0.9**
	0.1nm,0.3s,baz=340,slow=15,SNR=1.9						
URZ				LR	LR	12 40 51.9	
	comp=Z,10μm,18.6s,baz=15,slow=32						
URZ	**Urewera**	**16.25 173**		*e*P	**Pn**	**12 36 09.2**	**+3.3**
URZ				Sn	**Sn**	**12 39 06.2**	**+0.9**
URZ				LR	LR	12 40 51.9	
HNR	**Honiara**	**18.91 309**		P	**Pn**	**12 36 36.0**	**-2.9**
	4.9nm,0.3s,baz=100,slow=17,SNR=1.6						
HNR				LR	LR	12 42 38.5	
	comp=Z,3μm,21.7s,baz=175,slow=33						
HNR	**Honiara**	**18.91 309**		P	**Pn**	**12 36 36.0**	**-2.9**
HNR				*e*Pn	**Pn**	**12 36 41.8**	**+2.9**
HNR				*e*Sn	**Sn**	**12 40 18.9**	**+9.2**
HNR				LR	LR	12 42 38.5	
NNZ	**Nelson**	**19.10 183**		*e*P	**Pn**	**12 36 40.2**	**-0.8**
SNZO	**South Karori**	**19.16 180**		*e*Pn	**Pn**	**12 36 40.6**	**-1.2**
	361nm,1.2s						
THZ	**Tophouse**	**19.67 184**		P	**Pn**	**12 36 46.9**	**-0.9**
KHZ	**Kahutara**	**20.29 182**		*e*P	**P**	**12 36 51.6**	**-1.4**
LTZ	**Lake Taylor**	**20.73 185**		*e*P	**P**	**12 36 57.3**	**-0.4**
RPZ	**Rata Peaks**	**21.77 187**		P	**P**	**12 37 08.6**	**-0.3**
	96nm,0.9s,mb5.2,baz=6.9,slow=1.9,SNR=17						
RPZ				LR	LR	12 44 48.3	
	comp=Z,15μm,18.6s,MS5.4,baz=288,slow=35						
ARMA	**Armidale**	**22.21 243**		*e*P	**P**	**12 37 15.0**	**+1.2**
JCZ	**Jackson Bay**	**22.46 191**		*e*P	**P**	**12 37 18.1**	**+1.8**
RIV	**Riverview**	**23.75 235**		*e*P	**P**	**12 37 29.9**	**+0.4**
MLZ	**Mavora Lakes**	**23.79 191**		*e*P	**P**	**12 37 30.5**	**+0.7**
RAR	**Rarotonga**	**23.80**	**93**	P	**P**	**12 37 27.4**	**-2.8**
	69nm,1.0s,mb5.0,baz=230,slow=6.0,SNR=4.7						
RAR				LR	LR	12 44 47.7	
	comp=Z,3μm,19.7s,MS4.8,baz=268,slow=32						
TUZ	**Tuapeka**	**24.15 189**		*e*P	**P**	**12 37 33.9**	**+0.8**
WHZ	**Wether Hill Ro**	**24.36 191**		*e*P	**P**	**12 37 35.0**	**0.0**
CNB	**Canberra Magne**	**25.70 234**		*e*P	**P**	**12 37 47.8**	**+0.5**
CAN	**Canberra**	**25.97 234**		*e*P	**P**	**12 37 50.1**	**+0.3**
CTA	**Charters Tower**	**26.54 269**		*e*P	**P**	**12 37 58.4**	**+3.3**
	5.4nm,0.8s,mb4.1						
CTA	**Charters Tower**	**26.54 269**		P	**P**	**12 37 54.8**	**-0.3**
	6.1nm,0.8s,mb4.2,baz=118,slow=7.2,SNR=5.5						
CTA				LR	LR	12 45 25.3	
	comp=Z,2μm,21.2s,MS4.7,baz=95,slow=30						
CTA	**Charters Tower**	**26.54 269**		P	**P**	**12 37 54.8**	**-0.3**
CTA				*e*P		12 37 58.4	
CTA				LR	LR	12 45 25.3	
CTAO	**Charters Tower**	**26.54 269**		*e*P	**P**	**12 37 53.6**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,93nm,1.9s,mb5.0						
CTAO				MLR	MLR		
	comp=Z,18μm,19.0s,MS5.6						
CTAO	**Charters Tower**	**26.54 269**		*e*P	**P**	**12 37 53.6**	**-1.4**
	comp=Z,93nm,1.9s,mb5.0						
CTAO				LR	LR		
	comp=Z,18μm,19.0s,MS5.6						
PMG	**Port Moresby**	**29.23 291**		*e*P	**P**	**12 38 19.5**	**+0.3**
PMG				pmax	pmax		
	comp=Z,139nm,1.9s						
PMG	**Port Moresby**	**29.23 291**		*e*P	**P**	**12 38 19.5**	**+0.3**
	comp=Z,139nm,1.9s,mb5.4						
TOO	**Toolangi**	**29.46 232**		*e*P	**P**	**12 38 21.0**	**0.0**
STKA	**Stephens Creek**	**30.91 245**		*e*P	**P**	**12 38 33.6**	**-0.3**
	comp=Z,6.5nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**30.91 245**		P	**P**	**12 38 33.3**	**-0.6**
	comp=Z,4.1nm,0.7s,mb4.4,baz=81,slow=7.4,SNR=8.6						
STKA				LR	LR	12 49 41.9	
	comp=Z,9μm,20.4s,MS5.4,baz=73,slow=34						
PPT	**Papeete**	**33.92**	**89**	*e*S	**S**	**12 44 25.1**	**+1.9**
	comp=Z,943nm,24.2s						
PPT				*e*LQ		12 46 23.7	
	comp=Z,4μm,30.5s						
PPT				*e*LR	LR	12 48 00.5	
	comp=Z,14μm,27.2s,baz=255						
PPT	**Papeete**	**33.92**	**89**	LR	LR	12 49 15.9	
	comp=Z,4μm,19.8s,MS5.1,baz=263,slow=30						
ASAR	**Alice Springs**	**37.47 260**		P	**P**	**12 39 30.1**	**-0.8**
	comp=Z,14nm,0.9s,mb4.8,baz=94,slow=9.0,SNR=83						
WB2	**Warramunga Arr**	**37.59 266**		*e*P	**P**	**12 39 28.2**	**-3.7**
WB2				*e*PP	PP	12 41 03.7	+5.7
WB2	**Warramunga Arr**	**37.59 266**		*e*P	**P**	**12 39 32.1**	**+0.3**
WB2				*e*PP	PP	12 41 03.7	+5.7
WRAB	**Tennant Creek**	**37.59 266**		*e*P	**P**	**12 39 31.7**	**-0.2**
WRA	**Warramunga Arr**	**37.60 266**		P	**P**	**12 39 30.1**	**-1.9**
	comp=Z,3.5nm,0.8s,mb4.2,baz=101,slow=8.0,SNR=14						
WRA				LR	LR	12 55 22.8	
	comp=Z,15μm,18.4s,MS5.8,baz=100,slow=37						
KAKA	**Kakadu**	**41.21 276**		*e*P	**P**	**12 40 04.8**	**+2.6**
	comp=Z,16nm,1.0s,mb4.6						
FORT	**Forrest**	**42.34 248**		*e*P	**P**	**12 40 10.8**	**-0.5**
	comp=Z,51nm,0.7s,mb5.3						
GUMO	**Guam**	**45.93 318**		LR	LR	12 57 08.2	
	comp=Z,1μm,19.7s,MS4.9,baz=133,slow=32						
GUMO	**Guam**	**45.93 318**		PFAKE		12 40 50.0	+10
GUMO				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**46.03 266**		⇑*i*P	**P**	**12 40 41.4**	**+0.5**
	comp=Z,27nm,0.9s,mb5.2						
FITZ				*e*PP	PP	12 42 31.6	+2.4
FITZ				*e*S	**S**	**12 47 31.0**	**+6.6**
FITZ	**Fitzroy Crossi**	**46.03 266**		P	**P**	**12 40 41.5**	**+0.6**
	comp=Z,6.0nm,0.9s,mb4.5,baz=91,slow=11,SNR=5.2						
RKT	**Rikitea**	**46.34 101**		*e*S	**S**	**12 47 33.6**	**+4.8**
	comp=Z,1μm,27.5s						
RKT				*e*LQ		12 51 26.1	
	comp=Z,2μm,30.2s						
RKT				*e*LR	LR	12 53 42.9	
	comp=Z,5μm,29.0s,baz=257						
DRV	**Dumont d'Urvil**	**49.68 197**		P	**P**	**12 41 09.0**	**+0.5**
DRV	**Dumont d'Urvil**	**49.68 197**		PP	PP	12 43 10.0	+7.0
DRV				S	**S**	**12 48 22.0**	**+7.1**
DRV				R		12 55 00.0	
MIDW	**Midway**	**50.61**	**9**	PFAKE		12 41 30.0	+14
MIDW				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
MBWA	**Marble Bar**	**50.81 260**		*e*P	**P**	**12 41 17.0**	**-0.8**
	comp=Z,34nm,1.0s,mb5.2						
MBWA				LR	LR		
	comp=Z,4μm,19.0s,MS5.5						
KIP	**Kipapa**	**50.82**	**34**	PFAKE		12 41 30.0	+12
KIP				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
KLBR	**Kellerberrin**	**51.14 247**		*e*P	**P**	**12 41 18.6**	**-1.5**
	comp=Z,31nm,0.8s,mb5.3						
HKL	**Haleakala**	**51.16**	**36**	*e*P	**P**	**12 41 24.2**	**+4.0**
HKL				*e*pP	pP	12 41 28.0	-1.8
NWAO	**Narrogin (SRO)**	**51.50 245**		PFAKE		12 41 30.0	+7.2
NWAO				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
MUN	**Mundaring**	**52.43 246**		*e*P	**P**	**12 41 29.5**	**-0.2**
KAPI	**Kappang**	**55.67 279**		PFAKE		12 42 10.0	+16
KAPI				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
SBA	**Scott Base**	**55.94 182**		*e*P	**P**	**12 41 54.4**	**-0.2**
SBA				pmax	pmax		
	comp=Z,106nm,1.5s,mb5.7						
SBA	**Scott Base**	**55.94 182**		*e*P	**P**	**12 41 54.4**	**-0.2**
	comp=Z,106nm,1.5s,mb5.7						
DAV	**Davao City (W)**	**56.12 295**		PFAKE		12 42 10.0	+13
DAV				LR	LR		
	comp=Z,863nm,21.0s,MS4.8						
CASY	**Casey**	**59.61 205**		*e*P	**P**	**12 42 19.0**	**-1.5**
CASY				LR	LR		
	comp=Z,3μm,21.0s,MS5.5						
KKM	**Kota Kinabalu**	**63.65 289**		*e*P	**P**	**12 42 49.7**	**+1.1**
KKM				*e*pP	pP	12 42 58.1	-0.2
KKM				LR	LR		
	comp=Z,875nm,20.0s,MS4.9						
JHJ	**Hachijo jima 2**	**64.19 328**		LR	LR	13 07 32.5	
	comp=Z,480nm,20.5s,MS4.7,baz=327,slow=33						
JOW	**Kunigami**	**66.17 315**		P	**P**	**12 43 01.6**	**-3.0**
	comp=Z,34nm,0.9s,mb5.4,baz=294,slow=19,SNR=2.1						
MIR	**Mirnyy**	**66.62 206**		*e*i*P*	**P**	**12 43 10.0**	**+3.0**
MIR				*i*		12 43 33.0	
MIR				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.9						
MIR				pmax	pmax		
	comp=Z,2μm,3.0s						
MIR				MLR	MLR		
	comp=Z,6μm,17.0s,MS5.9						
KSM	**Kuching**	**66.91 282**		*e*P	**P**	**12 43 09.6**	**-0.2**
MJAR	**Matsushiro Arr**	**67.71 329**		P	**P**	**12 43 13.2**	**-1.1**
	comp=Z,3.5nm,0.9s,mb4.4,baz=163,slow=5.9,SNR=14						
MJAR				LR	LR	13 07 00.9	
	comp=Z,553nm,21.2s,MS4.8,baz=165,slow=31						
MAJO	**Matsushiro**	**67.71 329**		*e*P	**P**	**12 43 14.1**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,120nm,2.3s,mb5.5						
MAJO				MLR	MLR		
	comp=Z,922nm,22.0s,MS5.0						
MAJO	**Matsushiro**	**67.71 329**		*e*P	**P**	**12 43 14.1**	**-0.2**
	comp=Z,120nm,2.3s,mb5.5						
MAJO				LR	LR		
	comp=Z,922nm,22.0s,MS5.0						
MAT	**Matsushiro**	**67.71 329**		P	**P**	**12 43 14.3**	**0.0**
MAT				S	S	12 52 12.0	+2.3
QSPA	**South Pole Qui**	**67.98 180**		P	**P**	**12 43 14.1**	**-1.3**
	comp=Z,11nm,0.8s,mb4.9,baz=31,slow=2.4,SNR=21						
QSPA				LR	LR	13 09 48.9	
	comp=Z,2μm,18.5s,MS5.3,baz=240,slow=33						
ASAJ	**Asahikawa**	**72.13 336**		P	**P**	**12 43 41.3**	**+0.1**
	comp=Z,3.4nm,0.7s,mb4.4,baz=206,slow=8.9,SNR=4.5						
SSE	**Sheshan**	**73.64 314**		P	**P**	**12 43 52.6**	**+2.1**
SSE				S	S	12 53 25.4	+6.4
SSE				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,278nm,4.6s						
SSE				LR	LR		
	comp=N,817nm,31.5s,MS4.9						
SSE				LR	LR		
	comp=E,657nm,32.3s,MS4.9						
SSE				LR	LR		
	comp=Z,486nm,27.2s						
KSRS	**Korea Array**	**73.76 323**		P	**P**	**12 43 50.6**	**-0.5**
	comp=Z,3.8nm,0.9s,mb4.3,baz=136,slow=5.9,SNR=18						
KS15	**Wonju Array Si**	**73.77 323**		*e*P	**P**	**12 43 56.5**	**+5.4**
ADK	**Adak**	**74.05**	**6**	PFAKE		12 44 00.0	+7.6
ADK				LR	LR		
	comp=Z,1μm,21.0s,MS5.1						
SKR	**Severo-Kuril's**	**74.28 348**		*e*P	**P**	**12 43 52.0**	**-1.8**
SKR				*e*	pP	12 44 02.0	-1.7
SKR				*e*S	S	12 53 32.0	+6.7
SKR				*e*		12 53 56.0	
SKR				*e*PS		12 54 14.0	
SKR				pmax	pmax		
	comp=N,3μm,8.0s						
SKR				pmax	pmax		
	comp=Z,3μm,8.0s						
SKR				smax			
	comp=N,3μm,14.0s						
SKR				smax			
	comp=E,5μm,14.0s						
SKR				MLR	MLR		
	comp=N,2μm,20.0s,MS5.5						
SKR				MLR	MLR		
	comp=E,2μm,20.0s,MS5.5						
SKR				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.5						
COCO	**West Island**	**74.33 263**		PFAKE		12 44 10.0	+15
COCO				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
YSS	**Yuzh-Sakhalins**	**74.51 338**		*o*e*P*	**P**	**12 43 56.0**	**+0.8**
YSS				*e*	pP	12 44 06.1	+1.0
YSS				*e*'SP	sP	12 44 11.2	+2.4
YSS				*e*S	S	12 53 34.0	+5.9
YSS				*e*PS		12 54 04.0	
YSS				*e*SS	SS	12 58 08.0	-7.8
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**74.51 338**		*e*P	**P**	**12 43 55.6**	**+0.4**
	comp=Z,37nm,1.0s,mb5.3						
INCN	**Inchon**	**74.51 322**		PFAKE		12 44 10.0	+15
INCN				LR	LR		
	comp=Z,790nm,19.0s,MS5.0						
QIZ	**Qiongzhong**	**75.37 298**		P	**P**	**12 44 04.0**	**+3.2**
QIZ				PP	PP	12 46 51.5	+1.3
QIZ				S	S	12 53 41.8	+3.0
QIZ				SS	SS	12 58 32.6	+2.7
QIZ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,97nm,4.1s						
QIZ				LR	LR		
	comp=N,444nm,19.0s						
QIZ				LR	LR		
	comp=Z,710nm,27.3s						
NJ2	**Nanjing**	**75.79 314**		*e*P	**P**	**12 44 05.8**	**+2.8**
NJ2				AP	pP	12 44 15.8	+2.9
NJ2				XP	sP	12 44 19.3	+2.7
NJ2				PP	PP	12 46 57.3	+3.8
NJ2				S	S	12 53 44.5	+1.5
NJ2				XS	sS	12 54 01.0	+1.6
NJ2				AMB	AMB		
	comp=Z,850nm,6.8s						
NJ2				LR	LR		
	comp=N,370nm,25.4s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,26.2s,MS5.2						
NJ2				LR	LR		
	comp=Z,2μm,23.5s,MS5.3						
PET	**Petropavlovsk**	**76.08 350**		*e*P	**P**	**12 44 03.6**	**-0.5**
PET				*e*	pP	12 44 14.9	+0.9
PET				*e*S	S	12 53 47.0	+1.8
PET				*e*PS		12 54 26.1	
PET				*e*PPS		12 54 40.0	
PET				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
PET	**Petropavlovsk**	**76.08 350**		⇑*i*P	**P**	**12 44 03.9**	**-0.2**
PETK	**Petropavlovsk-**	**76.31 350**		P	**P**	**12 44 05.7**	**+0.3**
	comp=Z,17nm,0.8s,mb5.0,baz=143,slow=7.2,SNR=22						
PETK				LR	LR	13 13 44.4	
	comp=Z,700nm,19.4s,MS5.0,baz=157,slow=33						
MAW	**Mawson**	**77.67 201**		P	**P**	**12 44 11.1**	**-1.9**
	comp=Z,10nm,1.1s,mb4.7,baz=115,slow=6.3,SNR=10						
MAW				LR	LR	13 16 36.9	
	comp=Z,2μm,18.4s,MS5.5,baz=89,slow=34						
MAW	**Mawson**	**77.67 201**		*e*P	**P**	**12 44 12.4**	**-0.6**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MAW				MLR	MLR		
	comp=Z,2μm,20.0s						
MAW	**Mawson**	**77.67 201**		*e*P	**P**	**12 44 12.4**	**-0.6**
	comp=Z,7.0nm,1.0s,mb4.5						
MAW				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
WHN	**Wuhan**	**78.02 310**		⇑P	**P**	**12 44 16.3**	**+0.7**
WHN				S	S	12 54 11.1	+3.7
WHN				LR	LR		
	comp=N,2μm,28.7s,MS5.4						
WHN				LR	LR		
	comp=E,1μm,24.0s,MS5.4						
WHN				LR	LR		
	comp=Z,3μm,28.8s,MS5.4						
MDJ	**Mudanjiang**	**78.09 329**		PFAKE		12 44 30.0	+14
MDJ				LR	LR		
	comp=Z,476nm,20.0s,MS4.8						
DL2	**Dalian**	**78.37 320**		⇑*i*P	**P**	**12 44 17.4**	**+0.1**
DL2				S	S	12 54 12.5	+1.7
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
DL2				AMB	AMB		
	comp=Z,180nm,5.2s						
DL2				LR	LR		
	comp=N,240nm,18.6s,MS4.8						
DL2				LR	LR		
	comp=E,300nm,19.7s,MS4.8						
DL2				LR	LR		
	comp=Z,300nm,16.9s,MS4.7						
SNY	**Shenyang**	**79.21 324**		⇑P	**P**	**12 44 20.8**	**-1.0**
SNY				S	S	12 54 23.8	+4.2
SNY				AMB	AMB		
	comp=Z,222nm,7.2s						
SNY				LR	LR		
	comp=N,216nm,24.6s,MS4.6						
SNY				LR	LR		
	comp=E,298nm,24.9s,MS4.6						
SNY				LR	LR		
	comp=Z,448nm,22.5s,MS4.8						
CN2	**Changchun**	**79.57 326**		⇑P	**P**	**12 44 24.0**	**+0.2**
CN2				*e*AP	pP	12 44 34.4	+0.7
CN2				*e*XP	sP	12 44 38.3	+0.9
CN2				PP	PP	12 47 27.6	+2.6
CN2				*e*S	S	12 54 24.6	+1.2
CN2				SS	SS	12 59 37.0	+4.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,400nm,6.0s						
CN2				LR	LR		
	comp=N,600nm,21.0s,MS5.1						
CN2				LR	LR		
	comp=E,800nm,21.0s,MS5.1						
CN2				LR	LR		
	comp=Z,600nm,21.0s,MS4.9						
KLR	**Kul'dur**	**80.61 333**		*e*P	**P**	**12 44 25.8**	**-3.4**
KLR				*e*S	S	12 54 34.0	-0.1
KLR				smax			
	comp=N,3μm,13.0s						
KLR				smax			
	comp=E,2μm,13.0s						
GYA	**Guiyang**	**81.60 303**		P	**P**	**12 44 37.1**	**+2.1**
GYA				AP	pP	12 44 48.1	+3.1
GYA				PP	PP	12 47 46.8	+4.7
GYA				PPP		12 49 39.6	
GYA				S	S	12 54 48.3	+3.0
GYA				XS	sS	12 54 59.6	-2.3
GYA				PS		12 55 40.8	
GYA				SS	SS	13 00 08.3	+5.0
GYA				AMB	AMB		
	comp=Z,100nm,1.4s,mb5.5						
GYA				AMB	AMB		
	comp=Z,400nm,6.8s						
GYA				LR	LR		
	comp=N,1μm,18.2s,MS5.4						
GYA				LR	LR		
	comp=E,960nm,17.0s,MS5.4						
GYA				LR	LR		
	comp=Z,1μm,18.7s,MS5.2						
BJT	**Baijiatuau**	**82.36 319**		PFAKE		12 44 50.0	+11
BJT				LR	LR		
	comp=Z,705nm,21.0s,MS5.0						
BJI	**Beijing**	**82.36 319**		P	**P**	**12 44 39.4**	**+0.6**
BJI				PP	PP	12 47 50.8	+2.6
BJI				S	S	12 54 56.8	+4.2
BJI				SS	SS	13 00 17.6	+3.3
BJI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
BJI				AMB	AMB		
	comp=Z,402nm,5.3s						
BJI				LR	LR		
	comp=N,509nm,24.9s,MS4.9						
BJI				LR	LR		

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SAO  San Andreas Ge  84.00  46  eP          P        12 44 47.6 +0.4
     comp=Z,60nm,1.2s,mb5.6
KMI  Kunming         84.06 300  P           P        12 44 51.8 +3.9
KMI                             AP          pP       12 45 01.5 +3.6
KMI                             XP          sP       12 45 04.8 +3.2
KMI                             PP          PP       12 48 06.5 +4.1
KMI                             PPP                  12 50 02.4
KMI                             SKS                  12 55 09.0
KMI                             S           S        12 55 12.9 +2.4
KMI                             XS          sS       12 55 28.3 +1.2
KMI                             PS                   12 56 10.8
KMI                             SS          SS       13 00 44.8 +4.8
KMI                             AMB         AMB
     comp=Z,18nm,2.0s,mb4.8
KMI                             LR          LR
     comp=N,439nm,24.1s,MS4.9
KMI                             LR          LR
     comp=E,506nm,25.0s,MS4.9
KMI                             LR          LR
     comp=Z,695nm,27.7s,MS4.9
KDAK Kodiak Island   84.15  17  P           P        12 44 44.6 -2.9
     comp=Z,26nm,1.0s,mb5.3,baz=198,slow=3.5,SNR=4.8
KDAK Kodiak Island   84.15  17  P           P        12 44 44.6 -2.9
KDAK                            LR          LR
     comp=Z,432nm,21.0s,MS4.8
HOPS Hopland         84.16  44  eP          P        12 44 48.5 +0.4
     comp=Z,71nm,1.1s,mb5.7
HOPS                            LR          LR
     comp=Z,4µm,19.0s,MS5.8
NSHM Saint Helena R  84.20  45  eP          P        12 44 48.3 +0.1
NSHM                            epP         pP       12 44 58.7 +0.4
NSHM                            esP         sP       12 45 01.8 -0.2
KCPM Cahto Peak      84.23  43  eP          P        12 44 48.3 -0.1
KCPM                            epP         pP       12 44 57.6 -0.8
PTRM Twissleman Ran  84.24  48  eP          P        12 44 49.1 +0.6
PTRM                            epP         pP       12 44 57.9 -0.6
PTRM                            esP         sP       12 45 03.6 +1.4
CM31 Chiang Mai Arr  84.27 292  PFAKE                12 45 00.0 +11
CM31                            LR          LR
     comp=Z,885nm,20.0s,MS5.1
CMAR Chiang Mai Arr  84.27 292  P           P        12 44 47.0 -2.1
     comp=Z,0.6nm,0.6s,mb3.9,baz=86,slow=5.5,SNR=2.8
KIPM Iron Peak       84.36  43  eP          P        12 44 49.3 +0.2
CHTO Chiang Mai      84.42 293  eP          P        12 44 50.5 +0.7
CHTO                            pmax        pmax
     comp=Z,151nm,2.4s,mb5.7
CHTO                            MLR         MLR
     comp=Z,975nm,20.0s,MS5.2
CHTO Chiang Mai      84.42 293  eP          P        12 44 50.5 +0.7
     comp=Z,151nm,2.4s,mb5.7
CHTO                            LR          LR
     comp=Z,975nm,20.0s,MS5.2
OSI  Osito Adit      84.73  50  eP          P        12 44 50.4 -0.7
     comp=Z,16nm,0.8s,mb5.2
KHMM Horse Mountain  84.81  42  eP          P        12 44 52.6 +1.3
MWC  Mount Wilson    85.00  50  eP          P        12 44 52.5 +0.1
MWC                             pmax        pmax
     comp=Z,25nm,1.0s,mb5.3
MWC                             MLR         MLR
     comp=Z,2µm,20.0s,MS5.5
MWC  Mount Wilson    85.00  50  eP          P        12 44 52.5 +0.1
     comp=Z,25nm,1.0s,mb5.3
MWC                             LR          LR
     comp=Z,2µm,20.0s,MS5.5
KRMB Red Mountain    85.08  41  eP          P        12 44 53.1 +0.5
KRMB                            epP         pP       12 45 02.2 -0.5
BAR  Barrett         85.22  52  eP          P        12 44 53.2 -0.3
     comp=Z,42nm,1.9s,mb5.2
BAR                             LR          LR
     comp=Z,2µm,20.0s,MS5.5
CMB  Columbia Colle  85.39  46  eP          P        12 44 53.3 -1.0
CMB                             pmax        pmax
     comp=Z,37nm,1.1s,mb5.4
CMB  Columbia Colle  85.39  46  eP          P        12 44 53.9 -0.3
     comp=Z,37nm,1.0s,mb5.5
CMB                             LR          LR
     comp=Z,2µm,21.0s,MS5.5
WDC  Whiskeytown Da  85.39  43  eP          P        12 44 54.5 +0.3
WDC                             pmax        pmax
     comp=Z,31nm,1.1s,mb5.3
WDC  Whiskeytown Da  85.39  43  eP          P        12 44 54.5 +0.3
     comp=Z,31nm,1.1s,mb5.3
ISA  Isabella        85.45  49  eP          P        12 44 54.6  0.0
ISA                             pmax        pmax
     comp=Z,44nm,1.0s,mb5.5
ISA                             MLR         MLR
     comp=Z,2µm,19.0s,MS5.6
ISA  Isabella        85.45  49  eP          P        12 44 54.6  0.0
     comp=Z,44nm,1.0s,mb5.5
ISA                             LR          LR
     comp=Z,2µm,19.0s,MS5.6
HHC  Hu-ho-hao-te    85.70 317  eP          P        12 44 56.6 +0.9
HHC                             AP          pP       12 45 06.8 +1.0
HHC                             XP          sP       12 45 10.3 +0.9
HHC                             PP          PP       12 48 18.3 +2.9
HHC                             SKS                  12 55 18.1
HHC                             S           S        12 55 27.5 +1.5
HHC                             XS          sS       12 55 41.9 -0.8
HHC                             PS                   12 56 29.5
HHC                             SS          SS       13 01 09.6 +6.0
HHC                             AMB         AMB
     comp=Z,16nm,1.0s,mb5.2
HHC                             LR          LR
     comp=N,438nm,19.0s,MS5.0
HHC                             LR          LR
     comp=E,450nm,19.0s,MS5.0
HHC                             LR          LR
     comp=Z,653nm,19.0s,MS5.0
PFO  Pinyon Flat Ob  85.84  51  P           P        12 44 56.9 +0.3
     comp=Z,54nm,1.0s,mb5.7,SNR=5.2
PFO  Pinyon Flat Ob  85.84  51  LR          LR       13 16 04.8
     comp=Z,2µm,19.4s,MS5.6,baz=303,slow=31
PFO  Pinyon Flat Ob  85.84  51  eP          P        12 44 56.7 +0.1
PFO                             pmax        pmax
     comp=Z,36nm,1.8s,mb5.3
PFO  Pinyon Flat Ob  85.84  51  eP          P        12 44 56.7 +0.1
     comp=Z,36nm,1.8s,mb5.3
YBH  Yreka Blue Hor  85.94  42  P           P        12 44 56.5 -0.4
     comp=Z,12nm,1.0s,mb5.1,baz=176,slow=1.8,SNR=22
YBH                             LR          LR       13 15 38.4
     comp=Z,4µm,20.4s,MS5.8,baz=336,slow=30
YBH  Yreka Blue Hor  85.94  42  eP          P        12 44 57.1 +0.2
YBH                             pmax        pmax
     comp=Z,36nm,1.7s
YBH  Yreka Blue Hor  85.94  42  eP          P        12 44 57.1 +0.2
     comp=Z,36nm,1.7s,mb5.3
CD2  Chengdu         85.98 306  P           P        12 45 00.3 +2.9
CD2                             AP          pP       12 45 09.9 +2.4
CD2                             XP          sP       12 45 13.9 +2.8
CD2                             PP          PP       12 48 22.8 +4.9
CD2                             SKS                  12 55 20.4
CD2                             S           S        12 55 31.5 +2.2
CD2                             XS          sS       12 55 48.8 +2.8
CD2                             PS                   12 56 36.0
CD2                             SS          SS       13 01 14.8 +6.6
CD2                             AMB         AMB
     comp=Z,50nm,1.2s,mb5.6
CD2                             AMB         AMB
     comp=Z,210nm,8.2s
CD2                             LR          LR
     comp=N,600nm,13.2s,MS5.3
CD2                             LR          LR
     comp=E,550nm,14.4s,MS5.3
CD2                             LR          LR
     comp=Z,720nm,15.6s,MS5.2
HIA  Hailar          86.17 328⇑ iP           P        12 44 57.5 -0.3
HIA                             MLR         MLR
     comp=Z,490nm,19.0s
LPIG La Paz          86.18  62  LR          LR       13 17 03.8
     comp=Z,2µm,18.1s,MS5.5,baz=71,slow=31
MTUM Tungsten Hills  86.26  47  eP          P        12 44 59.1 +0.6
HUMO Hull Mountain   86.28  41  eP          P        12 44 58.9 +0.3
     comp=Z,28nm,1.0s,mb5.5
HUMO                            LR          LR
     comp=Z,3µm,20.0s,MS5.7
LBCM Butte Creek Ri  86.29  43  P           P        12 44 58.4 -0.3
DAC  Darwin (Calif)  86.38  49  PFAKE                12 45 10.0 +11
DAC                             LR          LR
     comp=Z,3µm,19.0s,MS5.7
GSC  Goldstone       86.44  50  eP          P        12 44 59.6 +0.1
GSC                             pmax        pmax
     comp=Z,27nm,1.1s,mb5.4
GSC                             MLR         MLR
     comp=Z,2µm,19.0s,MS5.6
GSC  Goldstone       86.44  50  eP          P        12 44 59.6 +0.1
     comp=Z,27nm,1.1s,mb5.4
GSC                             LR          LR
     comp=Z,2µm,19.0s,MS5.6
SNAA Sanae           86.47 181  eP          P        12 44 58.0 -1.1
SNAA                            e                    12 45 00.7
SNAA                            e                    12 45 03.7
SNAA Sanae           86.47 181  eP          P        12 44 59.3 +0.2
SNAA                            pmax        pmax
     comp=Z,60nm,2.1s
SNAA Sanae           86.47 181  eP          P        12 44 59.3 +0.1
     comp=Z,60nm,2.1s,mb5.5
BUOR Burton Butte    86.53  42  P           P        12 45 00.3 +0.5
BTO  Baotou          86.54 316  eP          P        12 45 00.8 +0.9
SEY  Seymchan        86.55 350  eP          P        12 44 59.3 -0.1
SEY  Seymchan        86.55 350  eP          P        12 44 59.4  0.0
MAIT Maitri          86.61 186  eP          P        12 44 58.8 -1.0
GLA  Glamis          86.76  52  eP          P        12 45 02.0 +0.8
GLA                             pmax        pmax
     comp=Z,42nm,1.1s,mb5.6
GLA                             MLR         MLR
     comp=Z,2µm,20.0s,MS5.5
GLA  Glamis          86.76  52  eP          P        12 45 02.0 +0.8
     comp=Z,42nm,1.1s,mb5.6
GLA                             LR          LR
     comp=Z,2µm,20.0s,MS5.5
VNA3 Neumayer Olymp  86.87 179  eP          P        12 44 59.7 -1.4
VNA3                            e                    12 45 02.4
VNA3                            e                    12 45 05.5
VNA3                            e                    12 45 38.3
PAHR Pah Rah Range   86.95  45  eP          P        12 45 02.5 +0.6
     comp=Z,37nm,1.1s,mb5.5
NVAR Mina Array Bea  87.00  46  P           P        12 45 01.6 -0.5
     comp=Z,12nm,1.0s,mb5.1,baz=226,slow=7.7,SNR=39
MPOR Mary's Peak     87.01  39  P           P        12 45 02.8 +0.7
SLKM Skilak Lake     87.12  17  eP          P        12 45 00.5 -1.7
COR  Corvallis       87.20  39  PFAKE                12 45 10.0 +7.0
COR                             LR          LR
     comp=Z,3µm,21.0s,MS5.6
VNA2 Neumayer--Watz  87.22 179  eP          P        12 45 02.2 -0.6
VNA2                            e                    12 45 04.6
VNA2                            e                    12 45 07.6
VNA2                            e                    12 45 42.9
IRO  Indian Ridge    87.49  40  P           P        12 45 04.6 +0.2
VNA1 Neumayer--Stat  87.49 179  eP          P        12 45 03.4 -0.7
VNA1                            e                    12 45 05.8
VNA1                            e                    12 45 08.4
VNA1                            e                    12 45 44.4
MOD  Modoc           87.53  43  eP          P        12 45 04.2 -0.5
     comp=Z,78nm,2.1s,mb5.6
MOD                             LR          LR
     comp=Z,4µm,20.0s,MS5.8
LDFC Landfair        87.53  51  eP          P        12 45 05.4 +0.5
     comp=Z,100nm,1.9s,mb5.7
TPH  Tonopah         87.54  47  eP          P        12 45 05.3 +0.5
TPH                             pmax        pmax
     comp=Z,88nm,2.1s,mb5.6
TPH  Tonopah         87.54  47  eP          P        12 45 05.3 +0.4
     comp=Z,88nm,2.1s,mb5.6
SHPR Sheep Range     88.19  49  eP          P        12 45 07.9  0.0
PMR  Palmer          88.32  16  eP          P        12 45 06.8 -1.1
PMR                             pmax        pmax
     comp=Z,24nm,1.6s,mb5.2
PMR  Palmer          88.32  16  eP          P        12 45 06.8 -1.1
     comp=Z,24nm,1.6s,mb5.2
BMW  Boistfort Moun  88.32  38  P           P        12 45 08.8 +0.5
BMW                             e           pP       12 45 16.4 -2.0
BMW  Boistfort Moun  88.32  38  eP          P        12 45 08.3  0.0
EYAK Cordova Ski Ar  88.40  18  eP          P        12 45 07.4 -0.9
     comp=Z,29nm,1.1s,mb5.4
LZH  Lanzhou         88.40 310 ⇓P           P        12 45 13.5 +4.5
LZH                             PP          PP       12 48 44.6 +7.3
LZH                             SKS                  12 55 37.3
LZH                             S           S        12 55 58.0 +5.6
LZH                             SS          SS       13 01 51.6 +8.3
LZH                             AMB         AMB
     comp=Z,59nm,1.5s,mb5.6
LZH                             AMB         AMB
     comp=Z,317nm,8.3s
LZH                             LR          LR
     comp=E,631nm,18.0s
LZH                             LR          LR
     comp=Z,997nm,19.7s,MS5.2
NLWA Neilton Lookou  88.49  37  eP          P        12 45 09.8 +0.7
     comp=Z,66nm,1.8s,mb5.6
NLWA                            LR          LR
     comp=Z,3µm,20.0s,MS5.7
HOOD Mount Hood Mea  88.58  39  eP          P        12 45 10.6 +1.0
HOOD                            epP         pP       12 45 17.4 -2.3
RAGM Ragged Mountai  88.58  19  eP          P        12 45 08.6 -0.6
RAGM                            epP         pP       12 45 16.7 -2.6
RAGM                            esP         sP       12 45 24.6 +1.7
VFP  Flag Point      88.69  39  P           P        12 45 10.4 +0.3
ERK  Elk Rock        88.73  38  P           P        12 45 10.8 +0.6
BMN  Battle Mountai  88.74  45  eP          P        12 45 10.8 +0.4
BMN                             pmax        pmax
     comp=Z,36nm,1.1s,mb5.6
BMN                             MLR         MLR
     comp=Z,2µm,20.0s,MS5.5
BMN  Battle Mountai  88.74  45  eP          P        12 45 10.8 +0.3
     comp=Z,36nm,1.1s,mb5.6
BMN                             LR          LR
     comp=Z,2µm,20.0s,MS5.5
DIV  Divide          88.86  18  eP          P        12 45 09.7 -0.8
     comp=Z,14nm,0.9s,mb5.3
WVOR Wild Horse Val  88.86  43  eP          P        12 45 11.6 +0.6
WVOR                            e*PP        pP       12 45 19.6 -1.5
WVOR                            pmax        pmax
     comp=Z,95nm,1.7s,mb5.8
WVOR Wild Horse Val  88.86  43  eP          P        12 45 11.6 +0.7
     comp=Z,95nm,1.7s,mb5.8
WVOR                            epP         pP       12 45 19.6 -1.5
BMRM Bremner River   89.07  19  eP          P        12 45 10.7 -0.8
CRAG Craig           89.08  27  eP          P        12 45 12.3 +0.6
GNW  Green Mountain  89.17  37  eP          P        12 45 12.6 +0.3
     comp=Z,20nm,1.1s,mb5.4
BBB  Bella Bella     89.19  31  LR          LR       13 16 21.8
     comp=Z,2µm,22.0s,MS5.5,baz=254,slow=30
TUC  Tucson          89.43  55  eP          P        12 45 14.7 +0.8
TUC                             e*PP        pP       12 45 22.9 -1.1
TUC                             e*SP        sP       12 45 28.5 +0.9
TUC                             pmax        pmax
     comp=Z,15nm,1.4s,mb5.1
TUC  Tucson          89.43  55  eP          P        12 45 14.7 +0.7
     comp=Z,15nm,1.4s,mb5.1
TUC                             epP         pP       12 45 22.9 -1.1
TUC                             esP         sP       12 45 28.4 +0.8
PGC  Sidney          89.45  36  eP          P        12 45 13.8 +0.2
     comp=Z,82nm,1.2s,mb5.9
KTH  Kantishna Hill  89.53  15  eP          P        12 45 11.4 -2.2
     comp=Z,5.2nm,0.8s,mb4.9
GSM  Grass Mountain  89.55  38  P           P        12 45 14.2 +0.2
CCUT Cedar City      89.95  49  P           P        12 45 16.1 -0.1
BPAW Bear Paw Mtn.   89.99  14  eP          P        12 45 15.5 -0.2
     comp=Z,21nm,1.0s,mb5.4
BPAW                            epP         pP       12 45 26.4 +0.6
JCW  Jim Creek       90.02  37  eP          P        12 45 16.4 +0.2
WRAK Wrangell Islan  90.05  26  eP          P        12 45 15.4 -0.7
     comp=Z,20nm,0.9s,mb5.5
BILL Bilibino        90.08 357 c iP          P        12 45 16.1 +0.1
BILL                            pmax        pmax
     comp=Z,25nm,1.3s,mb5.4
BILL Bilibino        90.08 357⇑ iP           P        12 45 16.2 +0.2
BILL                            LR          LR
     comp=Z,954nm,20.0s,MS5.2
EBG  Ellensburg      90.08  38  P           P        12 45 16.0 -0.5
MCK  McKinley        90.16  15  eP          P        12 45 15.0 -1.5
MCK                             pmax        pmax
     comp=Z,11nm,1.0s,mb5.1
MCK  McKinley        90.16  15  eP          P        12 45 14.9 -1.6
     comp=Z,11nm,1.0s,mb5.2
ELK  Elko            90.20  46  LR          LR       13 17 53.5
     comp=Z,2µm,20.5s,MS5.5,baz=210,slow=30
ELK  Elko            90.20  46  P           P        12 45 17.4 +0.1
ELK                             pmax        pmax
     comp=Z,28nm,1.0s
ELK  Elko            90.20  46  eP          P        12 45 17.6 +0.3
     comp=Z,28nm,1.0s,mb5.5
ELK                             LR          LR
     comp=Z,2µm,20.0s,MS5.5
PRW  Prosser         90.22  39  P           P        12 45 17.7 +0.5
RSW  Rattlesnake Hi  90.37  39  eP          P        12 45 18.3 +0.3
RPW  Rockport        90.39  37  eP          P        12 45 17.4 -0.6
HAWA Hanford         90.41  39  eP          P        12 45 18.3 +0.2
     comp=Z,26nm,1.0s,mb5.5
HAWA                            LR          LR
     comp=Z,3µm,20.0s,MS5.7
WUAZ Wupatki         90.44  52  eP          P        12 45 19.3 +0.8
     comp=Z,21nm,1.1s,mb5.4
ETW  Entiat          90.60  38  eP          P        12 45 19.1 +0.2
ETW                             epP         pP       12 45 30.1 +1.1
WTV  Waterville      90.86  38  P           P        12 45 19.6 -0.6
LNOR Lincton Mounta  90.87  40  eP          P        12 45 19.6 -0.7
BMO  Blue Mountains  90.94  41  eP          P        12 45 20.3 -0.3
     comp=Z,44nm,2.0s,mb5.4
BMO                             LR          LR
     comp=Z,3µm,20.0s,MS5.7
SKAG Skagway         90.99  23  eP          P        12 45 20.0 -0.5
     comp=Z,20nm,1.0s,mb5.4
YAK  Yakutsk         91.16 341  eP          P        12 45 19.8 -1.4
YAK                             e*PP        pP       12 45 33.0 +1.7
YAK                             e                    12 48 58.4
YAK                             eS          SKSac    12 55 49.3 -1.3
YAK                             e                    12 56 18.6
YAK                             eSS         SS       13 02 23.4 +1.1
YAK                             eSSS                 13 05 57.7
YAK                             pmax        pmax
     comp=Z,11nm,0.8s,mb5.2
YAK                             pmax        pmax
     comp=Z,365nm,7.9s
YAK                             MLR         MLR
     comp=Z,598nm,21.0s,MS5.0
YAK                             MLR         MLR
     comp=N,389nm,18.0s
YAK  Yakutsk         91.16 341  eP          P        12 45 21.4 +0.2
     comp=N,15nm,0.9s,mb5.3
MVU  Marysvale       91.20  49  PFAKE                12 45 30.0 +8.0
MVU                             LR          LR
     comp=Z,3µm,19.0s,MS5.7
HYT  Haines Junctio  91.21  21  eP          P        12 45 21.8 +0.3
MSU  Marysvale       91.23  49  eP          P        12 45 22.7 +0.6
COLA College         91.38  15  P           P        12 45 20.0 -2.2
COLA                            pmax        pmax
     comp=Z,34nm,1.0s,mb5.6
COLA College         91.38  15  eP          P        12 45 20.5 -1.7
     comp=Z,34nm,1.0s,mb5.6
COLA                            LR          LR
     comp=Z,2µm,20.0s,MS5.4
OD2  Odessa Site #2  91.41  39  eP          P        12 45 22.5 -0.3
DUG  Dugway          91.57  47  eP          P        12 45 23.5 -0.2
DUG                             pmax        pmax
     comp=Z,15nm,1.3s,mb5.2
DUG                             MLR         MLR
     comp=Z,1µm,19.0s,MS5.3
DUG  Dugway          91.57  47  eP          P        12 45 23.5 -0.1
     comp=Z,16nm,1.3s,mb5.2
DUG                             LR          LR
     comp=Z,1µm,19.0s,MS5.3
BGU  Big Grassy Mou  91.76  46  eP          P        12 45 24.7 +0.2
NLU  North Lily Min  91.96  47  eP          P        12 45 26.2 +0.7
HLID Hailey          92.11  43  eP          P        12 45 26.1 +0.1
     comp=Z,9.6nm,1.2s,mb5.0
HLID                            LR          LR
     comp=Z,2µm,20.0s,MS5.6
TMUT Trail Mountain  92.26  48  eP          P        12 45 28.1 +1.2
TMUT                            epP         pP       12 45 36.3 -0.7
MPU  Maple Canyon    92.29  48  eP          P        12 45 27.8 +0.8
MPU                             LR          LR
     comp=Z,4µm,19.0s,MS5.8
HVU  Hansel Valley   92.33  46  eP          P        12 45 27.7 +0.6
HVU                             pmax        pmax
     comp=Z,41nm,1.8s,mb5.5
HVU  Hansel Valley   92.33  46  eP          P        12 45 27.6 +0.5
     comp=Z,41nm,1.8s,mb5.5
SONM Songino Array   92.56 321  P           P        12 45 26.8 -1.3
     comp=Z,1.5nm,1.0s,mb4.4,baz=141,slow=5.7,SNR=6.6
SONM                            LR          LR       13 24 47.7
     comp=Z,598nm,20.4s,MS5.0,baz=115,slow=34
SRU  San Rafael      92.65  49  eP          P        12 45 29.2 +0.5
SRU                             pmax        pmax
     comp=Z,22nm,1.0s,mb5.5
SRU  San Rafael      92.65  49  eP          P        12 45 29.2 +0.5
     comp=Z,22nm,1.0s,mb5.5
JLU  Jordanelle      92.68  47  eP          P        12 45 29.4 +0.6
DAU  Daniels Canyon  92.73  47  eP          P        12 45 29.5 +0.5
GTA  Gaotai          92.77 312  eP          P        12 45 30.5 +1.3
GTA                             AP          pP       12 45 40.8 +1.4
GTA                             XP          sP       12 45 45.3 +2.3
GTA                             PP          PP       12 49 20.1 +8.2
GTA                             SKS                  12 56 00.9
GTA                             S           S        12 56 36.3 +4.0
GTA                             AMB         AMB
     comp=Z,7.0nm,1.0s,mb5.0
GTA                             AMB         AMB
     comp=Z,173nm,5.9s
GTA                             LR          LR
     comp=N,191nm,20.8s,MS5.0
GTA                             LR          LR
     comp=E,473nm,21.7s,MS5.0
GTA                             LR          LR
     comp=Z,613nm,20.0s,MS5.0
NEW  Newport         92.78  38  PFAKE                12 45 40.0 +11
NEW                             LR          LR
     comp=Z,1µm,19.0s,MS5.4
COLD Coldfoot        92.82  13  eP          P        12 45 28.4 -0.4
     comp=Z,17nm,1.0s,mb5.4
DAWY Dawson          93.00  18  eP          P        12 45 28.8 -0.9
PLCA Paso Flores     93.02 136  P           P        12 45 27.9 -2.7
     comp=Z,0.5nm,0.4s,mb4.3,baz=300,slow=16,SNR=1.9
EGAK Eagle           93.04  17  eP          P        12 45 29.0 -0.9
     comp=Z,19nm,1.0s,mb5.5
EGAK                            LR          LR
     comp=Z,1µm,20.0s,MS5.4
HWUT Hardware Ranch  93.06  46  eP          P        12 45 30.1 -0.4
     comp=Z,7.9nm,1.2s,mb5.0
HWUT                            LR          LR
     comp=Z,2µm,20.0s,MS5.5
LAZ  Ladron          93.09  54  eP          P        12 45 31.1 +0.3
LAZ                             epP         pP       12 45 39.4 -1.5
MVCO Mesa Verde      93.26  51  eP          P        12 45 31.2 -0.3
     comp=Z,9.7nm,1.3s,mb5.1
MVCO                            LR          LR
     comp=Z,2µm,19.0s,MS5.6
EFI  East Falkland   93.29 150  PFAKE                12 45 40.0 +8.4
EFI                             LR          LR
     comp=Z,717nm,19.0s,MS5.2
BNM  Barren Site     93.37  55  eP          P        12 45 32.4 +0.2
PV10 Paradox Valley  93.38  50  eP          P        12 45 32.0 -0.1
LPM  Los Pinos Moun  93.43  54  eP          P        12 45 32.8 +0.4
PV01 Paradox Valley  93.61  50  eP          P        12 45 33.1  0.0
TXAR Lajitas Array   93.75  60  P           P        12 45 33.7 -0.3
     comp=Z,3.6nm,0.9s,mb4.8,baz=221,slow=4.1,SNR=25
TXAR                            LR          LR       13 20 03.4
     comp=Z,2µm,19.9s,MS5.5,baz=295,slow=31
TXAR Lajitas Array   93.75  60  P           P        12 45 33.7 -0.3
TXAR                            LR          LR       13 20 03.4
ANMO Albuquerque     93.82  54 ⇑iP           P        12 45 34.1 -0.1
     comp=Z,2µm,18.6s,MS5.6,baz=80,slow=31
ANMO Albuquerque     93.82  54  eP          P        12 45 34.3 +0.1
     comp=Z,12nm,1.2s,mb5.2
ANMO                            LR          LR
     comp=Z,2µm,19.0s,MS5.6
AHID Auburn Hatcher  93.89  45  PFAKE                12 45 50.0 +16
AHID                            LR          LR
     comp=Z,1µm,20.0s,MS5.3
MSO  Missoula        93.96  41  PFAKE                12 45 50.0 +15
MSO                             LR          LR
     comp=Z,2µm,20.0s,MS5.6
DLMT Dillon          94.10  42  eP          P        12 45 35.0 -0.2
     comp=Z,15nm,1.3s,mb5.2
DLMT                            ePP         PP       12 49 28.1 +5.9
DCID1 Drake Creek    94.20  45  eP          P        12 45 39.2 +3.4
TPAW Teton Pass      94.31  45  eP          P        12 45 36.5 +0.3
     comp=Z,50nm,2.3s,mb5.5
REDW Red Top Meadow  94.31  45  eP          P        12 45 36.6 +0.4
     comp=Z,18nm,1.2s,mb5.4
LRM  Limekiln Ridge  94.40  42  eP          P        12 45 36.6  0.0
IMW  Indian Meadow   94.50  44  eP          P        12 45 37.4 +0.3
     comp=Z,15nm,1.5s,mb5.2
MOOW Moose Ponds     94.56  45  eP          P        12 45 37.5 +0.1
     comp=Z,17nm,2.0s,mb5.1
LOHW Long Hollow     94.59  45  eP          P        12 45 37.4 -0.1
     comp=Z,73nm,2.8s,mb5.6
QLMT Earthquake Lak  94.60  43  eP          P        12 45 38.3 +0.8
FLWY Flagg Ranch     94.73  44  eP          P        12 45 38.5 +0.3
     comp=Z,15nm,1.1s,mb5.3
BOZ  Bozeman (W)     94.84  43  eP          P        12 45 38.6  0.0
BOZ                             e                    12 49 24.9
BOZ                             pmax        pmax
     comp=Z,44nm,2.5s,mb5.5
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BOZ				MLR	MLR			
	comp=Z,3µm,20.0s,MS5.8							
BOZ	**Bozeman (W)**	**94.84**	**43**	*e*P	**P**	**12 45 38.6**	**0.0**	
	comp=Z,44nm,2.5s,mb5.5							
BOZ				*e*PP	PP	12 49 24.9	-3.0	
BOZ				LR	LR			
	comp=Z,3µm,20.0s,MS5.8							
BW06	**Boulder Array**	**94.91**	**46**	PFAKE		12 45 50.0	+11	
BW06				LR	LR			
	comp=Z,2µm,19.0s,MS5.5							
PDAR	**Pinedale Array**	**94.91**	**46**	P	**P**	**12 45 38.4**	**-0.6**	
	comp=Z,1.6nm,0.9s,mb4.5,baz=238,slow=2.8,SNR=10							
PDAR				LR	LR	13 20 54.9		
	comp=Z,1µm,20.0s,MS5.4,baz=251,slow=31							
LKWY	**Lake**	**95.14**	**44**	PFAKE		12 45 50.0	+10	
LKWY				LR	LR			
	comp=Z,2µm,20.0s,MS5.5							
HRY	**Holter Researc**	**95.19**	**42**	*e*P	**P**	**12 45 40.1**	**0.0**	
LSA	**Lhasa**	**95.32**	**300**	PFAKE		12 45 50.0	+8.8	
LSA				LR	LR			
	comp=Z,742nm,20.0s,MS5.2							
ZAK	**Zakamensk**	**95.59**	**322**	*e*P	**P**	**12 45 41.3**	**-0.6**	
ZAK				pmax	pmax			
	comp=Z,2.0nm,2.2s,mb4.2							
TLY	**Talaya**	**96.00**	**324**	*e*P	**P**	**12 45 45.2**	**+1.5**	
TLY				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.9							
TLY	**Talaya**	**96.00**	**324**	*e*P	**P**	**12 45 45.3**	**+1.6**	
RLMT	**Red Lodge**	**96.10**	**44**	*e*P	**P**	**12 45 44.0**	**-0.4**	
	comp=Z,4.9nm,1.0s,mb4.9							
ISCO	**Idaho Springs**	**96.39**	**50**	PFAKE		12 46 00.0	+14	
ISCO				LR	LR			
	comp=Z,1µm,20.0s,MS5.3							
CMIG	**Matias Romero**	**96.70**	**74**	LR	LR	13 19 04.9		
	comp=Z,1µm,21.3s,MS5.4,baz=277,slow=29							
EGMT	**Eagleton**	**97.03**	**41**	PFAKE		12 46 00.0	+11	
EGMT				LR	LR			
	comp=Z,2µm,21.0s,MS5.6							
JCT	**Junction City**	**97.28**	**60**	PFAKE		12 46 00.0	+10	
JCT				LR	LR			
	comp=Z,1µm,20.0s,MS5.4							
AMTX	**Amarillo**	**97.41**	**55**	PFAKE		12 46 00.0	+9.4	
AMTX				LR	LR			
	comp=Z,3µm,19.0s,MS5.8							
KVTX	**Kingsville**	**97.80**	**64**	PFAKE		12 46 00.0	+7.5	
KVTX				LR	LR			
	comp=Z,703nm,20.0s,MS5.2							
DGAR	**Diego Garcia**	**98.41**	**259**	PFAKE		12 46 10.0	+14	
DGAR				LR	LR			
	comp=Z,4µm,20.0s,MS5.9							
LAO	**LASA Array**	**98.68**	**43**	PFAKE		12 46 10.0	+14	
LAO				LR	LR			
	comp=Z,2µm,20.0s,MS5.7							
LCO	**Las Campanas**	**99.13**	**126**	PFAKE		12 46 10.0	+11	
LCO				LR	LR			
	comp=Z,850nm,22.0s,MS5.2							
CBKS	**Cedar Bluff**	**100.27**	**52**	PFAKE		12 46 10.0	+6.9	
CBKS				LR	LR			
	comp=Z,1µm,19.0s,MS5.4							
HKT	**Hockley**	**100.32**	**62**	PFAKE		12 46 10.0	+6.6	
HKT				LR	LR			
	comp=Z,1µm,19.0s,MS5.5							
DGMT	**Dagmar**	**100.62**	**42**	PFAKE		12 46 20.0	+15	
DGMT				LR	LR			
	comp=Z,3µm,20.0s,MS5.8							
NATX	**Nacogdoches**	**101.86**	**61**	PFAKE		12 46 20.0	+10	
NATX				LR	LR			
	comp=Z,2µm,20.0s,MS5.5							
NNA	**Nana**	**102.19**	**108**	PFAKE		12 46 20.0	+8.3	
NNA				LR	LR			
	comp=Z,1µm,19.0s,MS5.4							
KSU1	**Kansas State U**	**102.66**	**53**	PFAKE		12 46 30.0	+16	
KSU1				LR	LR			
	comp=Z,2µm,19.0s,MS5.6							
WMQ	**Urumqi**	**102.84**	**312**	P	Pdif	12 46 16.5	+2.0	
WMQ				AP		12 46 27.3		
WMQ				XP		12 46 31.0		
WMQ				PP	PP	12 50 34.0	+4.9	
WMQ				PPP		12 52 46.0		
WMQ				SKS		12 56 52.3		
WMQ				S	Sdif	12 57 56.6	-1.4	
WMQ				PS	PS	12 59 40.0	+2.8	
WMQ				AMB	AMB			
	comp=Z,12nm,6.7s							
WMQ				LR	LR			
	comp=N,799nm,24.2s,MS5.2							
WMQ				LR	LR			
	comp=E,419nm,24.3s,MS5.2							
WMQ				LR	LR			
	comp=Z,507nm,23.2s,MS5.0							
MIAR	**Mount Ida**	**103.59**	**58**	PFAKE		12 46 30.0	+12	
MIAR				LR	LR			
	comp=Z,2µm,20.0s,MS5.6							
LVC	**Limon Verde**	**103.82**	**122**	PFAKE		12 46 30.0	+11	
LVC				LR	LR			
	comp=Z,1µm,21.0s,MS5.4							
FFC	**Flin Flon**	**104.04**	**36**	PFAKE		12 46 30.0	+10	
FFC				LR	LR			
	comp=Z,2µm,20.0s,MS5.7							
ECSD	**EROS,Sioux Fal**	**104.06**	**48**	PFAKE		12 46 30.0	+10	
ECSD				LR	LR			
	comp=Z,1µm,19.0s,MS5.4							
OTAV	**Otavalo**	**105.75**	**96**	PFAKE		12 50 50.0	+8.8	
OTAV				LR	LR			
	comp=Z,416nm,19.0s,MS5.0							
AGMN	**Agassiz Refuge**	**105.84**	**44**	PFAKE		12 50 50.0	+10	
AGMN				LR	LR			
	comp=Z,2µm,21.0s,MS5.7							
MKAR	**Makanchi Array**	**107.32**	**314**	Pdiff	Pdif	12 46 34.4	-0.1	
	comp=Z,0.3nm,0.5s,baz=278,slow=37,SNR=2.3							
LPAZ	**La Paz**	**107.66**	**116**	PFAKE		12 51 00.0	+15	
LPAZ				LR	LR			
	comp=Z,502nm,21.0s,MS5.0							
BCIP	**Isla Barro Col**	**107.72**	**87**	PFAKE		12 51 00.0	+15	
BCIP				LR	LR			
	comp=Z,483nm,19.0s,MS5.1							
BRAL	**Brewton**	**107.86**	**63**	PFAKE		12 51 00.0	+15	
BRAL				LR	LR			
	comp=Z,807nm,19.0s,MS5.3							
JFWS	**Jewell Farm**	**108.33**	**50**	PFAKE		12 51 00.0	+15	
JFWS				LR	LR			
	comp=Z,2µm,20.0s,MS5.7							
LRAL	**Lakeview Retre**	**108.44**	**61**	PFAKE		12 51 00.0	+14	
LRAL				LR	LR			
	comp=Z,1µm,19.0s,MS5.5							
EYMN	**Ely**	**108.60**	**45**	PFAKE		12 51 00.0	+15	
EYMN				LR	LR			
	comp=Z,2µm,20.0s,MS5.6							
COWI	**Conover**	**109.79**	**47**	PFAKE		12 51 00.0	+12	
COWI				LR	LR			
	comp=Z,2µm,19.0s,MS5.7							
KURK	**Kurchatov**	**110.51**	**318**	PFAKE		12 51 00.0	+11	
KURK				LR	LR			
	comp=Z,539nm,20.0s,MS5.1							
GOGA	**Godfrey**	**111.40**	**62**	PFAKE		12 51 00.0	+8.8	
GOGA				LR	LR			
	comp=Z,1µm,19.0s,MS5.6							
DWPF	**Disney**	**111.87**	**67**	PFAKE		12 51 00.0	+7.8	
DWPF				LR	LR			
	comp=Z,537nm,19.0s,MS5.2							
AML	**Almayashu**	**112.39**	**308**	PFAKE		12 51 00.0	+7.2	
AML				LR	LR			
	comp=Z,722nm,20.0s,MS5.3							
EKS2	**Erkin-Say**	**112.42**	**308**	PFAKE		12 51 00.0	+7.2	
EKS2				LR	LR			
	comp=Z,617nm,20.0s,MS5.2							
GLMI	**Grayling**	**112.69**	**49**	PFAKE		12 51 00.0	+6.7	
GLMI				LR	LR			
	comp=Z,1µm,20.0s,MS5.5							
AAM	**Ann Arbor**	**112.98**	**52**	PFAKE		12 51 10.0	+16	
AAM				LR	LR			
	comp=Z,2µm,19.0s,MS5.7							
ACSO	**Alum Creek Sta**	**113.13**	**54**	PFAKE		12 51 10.0	+16	
ACSO				LR	LR			
	comp=Z,3µm,19.0s,MS6.0							
NHSC	**New Hope**	**114.03**	**62**	PFAKE		12 51 10.0	+14	
NHSC				LR	LR			
	comp=Z,1µm,19.0s,MS5.5							
ABPO	**Ambohimpanom**	**114.33**	**236**	PFAKE		12 51 10.0	+13	
ABPO				LR	LR			
	comp=Z,2µm,20.0s,MS5.7							
BLA	**Blacksburg**	**114.59**	**58**	PFAKE		12 51 10.0	+13	
BLA				LR	LR			
	comp=Z,2µm,20.0s,MS5.7							
MSEY	**Mahe Island**	**114.84**	**254**	PFAKE		12 51 10.0	+12	
MSEY				LR	LR			
	comp=Z,2µm,20.0s,MS5.8							
MCWV	**Mont Chateau**	**115.42**	**55**	PFAKE		12 51 10.0	+11	
MCWV				LR	LR			
	comp=Z,3µm,20.0s,MS5.9							
BVAR	**Borovoye Array**	**115.84**	**319**	PKiKP	PKiKP	12 50 56.8	-2.3	
	comp=Z,1.4nm,0.7s,baz=90,slow=3.0,SNR=8.1							
BRVK	**Borovoye**	**115.91**	**319**	*e*PKP	PKPdf	12 50 56.9	-2.3	
BRVK				LR	LR			
	comp=Z,493nm,21.0s,MS5.1							
CNNC	**Cliffs of the**	**116.28**	**61**	PFAKE		12 51 10.0	+10	
CNNC				LR	LR			
	comp=Z,1µm,19.0s,MS5.5							
BINY	**Binghamton**	**118.62**	**53**	PFAKE		12 51 20.0	+15	
BINY				LR	LR			
	comp=Z,2µm,20.0s,MS5.8							
LONY	**Lake Ozonia**	**119.79**	**50**	PFAKE		12 51 20.0	+13	
LONY				LR	LR			
	comp=Z,2µm,19.0s,MS5.8							
NCB	**Newcomb**	**120.02**	**51**	PFAKE		12 51 20.0	+13	
NCB				LR	LR			
	comp=Z,2µm,20.0s,MS5.7							
BOSA	**Boshof**	**121.57**	**212**	PFAKE		12 51 20.0	+9.0	
BOSA				LR	LR			
	comp=Z,1µm,20.0s,MS5.6							
LBNH	**Lisbon**	**121.68**	**51**	PFAKE		12 51 20.0	+9.4	
LBNH				LR	LR			
	comp=Z,2µm,19.0s,MS5.8							
HRV	**Adam Dziewonsk**	**121.91**	**53**	PFAKE		12 51 20.0	+8.9	
HRV				LR	LR			
	comp=Z,2µm,22.0s,MS5.8							
KBS	**Kingsbay**	**122.55**	**356**	PFAKE		12 51 20.0	+8.7	
KBS				LR	LR			
	comp=Z,475nm,19.0s,MS5.2							
SPITS	**Spitsbergen Ar**	**122.92**	**355**	PKP	PKPdf	12 51 10.1	-2.0	
	comp=Z,7.8nm,0.9s,baz=338,slow=17,SNR=3.5							
AKTK	**Aktyubinsk**	**123.59**	**317**	PKP	PKPdf	12 51 12.5	-1.5	
AKTO	**Aktyubinsk**	**123.59**	**317**	PKP	PKPdf	12 51 12.5	-1.5	
	comp=Z,5.0nm,0.9s,baz=18,slow=0.8,SNR=15							
SCHQ	**Schefferville**	**124.15**	**38**	PKP	PKPdf	12 51 12.4	-2.6	
	comp=Z,6.8nm,1.1s,baz=67,slow=7.4,SNR=3.7							
LBTB	**Lobatse**	**124.36**	**214**	PFAKE		12 51 30.0	+14	
LBTB				LR	LR			
	comp=Z,829nm,22.0s,MS5.3							
GRGR	**Grenville**	**125.56**	**91**	PFAKE		12 51 30.0	+11	
GRGR				LR	LR			
	comp=Z,643nm,21.0s,MS5.3							
BBSR	**BB Station**	**126.84**	**65**	PFAKE		12 51 30.0	+9.1	
BBSR				LR	LR			
	comp=Z,712nm,19.0s,MS5.4							
LVZ	**Lovozero**	**127.95**	**342**	PFAKE		12 51 30.0	+8.1	
LVZ				LR	LR			
	comp=Z,508nm,21.0s,MS5.2							
KEV	**Kevo**	**128.55**	**346**	PFAKE		12 51 30.0	+7.0	
KEV				LR	LR			
	comp=Z,986nm,20.0s,MS5.5							
ARCES	**ARCESS Array B**	**129.05**	**347**	PKP	PKPdf	12 51 22.3	-1.7	
	comp=Z,4.8nm,0.9s,baz=343,slow=1.3,SNR=6.6							
ARCES	**ARCESS Array B**	**129.05**	**347**	PKP	PKPdf	12 51 22.3	-1.7	
LSZ	**Lusaka**	**130.39**	**224**	PFAKE		12 51 40.0	+12	
LSZ				LR	LR			
	comp=Z,1µm,19.0s,MS5.7							
KMBO	**Kilima Mbogo**	**132.46**	**247**	PKP	PKPdf	12 51 32.8	+0.6	
	comp=Z,1.9nm,0.8s,baz=245,slow=24,SNR=3.2							
KMBO	**Kilima Mbogo**	**132.46**	**247**	PKP	PKPdf	12 51 32.8	+0.6	
KMBO				LR	LR			
	comp=Z,915nm,21.0s,MS5.5							
GNI	**Garni**	**134.11**	**305**	PFAKE		12 51 50.0	+16	
GNI				LR	LR			
	comp=Z,482nm,21.0s,MS5.2							
KIV	**Kislovodsk**	**134.94**	**311**	PFAKE		12 51 50.0	+14	
KIV				LR	LR			
	comp=Z,349nm,19.0s,MS5.1							
MARD	**Mardin**	**137.56**	**302**	*i* P	PKPdf	12 51 41.3	+0.4	
MALT	**Malatya**	**139.25**	**303**	*e*PKPdf	PKPdf	12 51 43.2	-0.8	
MALT				LR	LR			
	comp=Z,835nm,19.0s,MS5.5							
NB2	**NORSAR Subarra**	**139.40**	**348**	PKP	PKPdf	12 51 37.3	-6.2	
	comp=Z,3.6nm,1.1s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**139.40**	**348**	PKP	PKPdf	12 51 41.9	-1.6	
	comp=Z,2.4nm,1.0s,baz=31,slow=2.1,SNR=4.0							
AKASG	**Malin Array Be**	**140.72**	**325**	PKP	PKPdf	12 51 42.7	-3.6	
	comp=Z,0.3nm,0.3s,baz=62,slow=2.4,SNR=4.6							
AKASG	**Malin Array Be**	**140.72**	**325**	PKP	PKPdf	12 51 42.7	-3.6	
KIEV	**Kiev**	**140.74**	**325**	PFAKE		12 52 00.0	+14	
KIEV				LR	LR			
	comp=Z,583nm,21.0s,MS5.3							
ANDN	**Andirin**	**141.00**	**303**	*i* P	PKPdf	12 51 45.5	-1.7	
YURE	**YUREGIR**	**141.70**	**302**	*i* P	PKPdf	12 51 46.4	-2.1	
CDAG	**Cicekdag**	**142.03**	**307**	*i* P	PKPdf	12 51 42.9	-6.1	
ILGA	**Ilgaz**	**142.10**	**309**	*i* P	PKPdf	12 51 43.4	-5.7	
ELDT	**Eldivan**	**142.48**	**308**	*i* P	PKPdf	12 51 45.1	-4.7	
ANTO	**Ankara**	**143.13**	**308**	PFAKE		12 52 00.0	+9.1	
ANTO				LR	LR			
	comp=Z,440nm,21.0s,MS5.2							
SGKT	**Sivrigoynuk**	**143.45**	**309**	*i* P	PKPdf	12 51 48.1	-3.3	
CSS	**Prodhromos**	**143.88**	**299**	PFAKE		12 52 00.0	+7.6	
CSS				LR	LR			
	comp=Z,208nm,20.0s,MS4.9							
COP	**Copenhagen**	**143.93**	**343**	⇑*i*P	PKPdf	12 51 47.9	-3.9	
COP				*e*		12 55 07.3		
COP				*i*		13 09 09.5		
COP								
	comp=Z,320nm,22.0s							
KDHN	**Kadinhani**	**144.02**	**306**	*i* P	PKPdf	12 51 48.7	-3.9	
HENT	**Hendek**	**144.19**	**310**	*i* P	PKPdf	12 51 50.3	-2.5	
KWP	**Kalwaria**	**144.71**	**328**	*e*PKP	PKPdf	12 51 51.2	-2.1	
KWP	**Kalwaria**	**144.71**	**328**	*e*PKP	PKPdf	12 51 51.2	-2.1	
KWP				LR	LR			
	comp=Z,684nm,20.0s,MS5.4							
BOLV	**Bolvadin**	**144.84**	**306**	*i* P	PKPdf	12 51 52.1	-1.9	
KOLS	**Kolonicke sedl**	**145.38**	**327**	*e*PKP	PKPdf	12 51 54.2	-0.3	
ISP	**Isparta**	**145.43**	**305**	PFAKE		12 52 10.0	+15	
ISP				LR	LR			
	comp=Z,670nm,19.0s,MS5.4							
TKTP	**Tekketepe**	**145.51**	**306**	*i* P	PKPdf	12 51 53.6	-1.5	
STHS	**Stebnicka Huta**	**145.56**	**329**	*e*PKP	PKPdf	12 51 54.8	0.0	
STHS				*e*		12 52 02.8		
PRD	**Provadia**	**145.62**	**315**	P	PKPdf	12 51 54.8	-0.3	
OJC	**Ojcow**	**145.67**	**331**	*e*PKP	PKPdf	12 51 54.4	-0.6	
OJC				*e*SS	SS	13 14 08.1	+1.5	
OJC				L		13 54 28.7		
	comp=Z,0.7nm,22.4s							
CRVS	**Cervenica-Dubn**	**145.80**	**328**	*e*PKP	PKPdf	12 51 54.9	-0.3	
CRVS				*e*		12 52 06.4		
ELBA	**Catalca**	**145.81**	**312**	*i* P	PKPdf	12 51 56.2	+0.7	
GDZ	**Gediz**	**145.81**	**308**	*i* P	PKPdf	12 51 55.2	-0.3	
NIE	**Niedzica**	**146.00**	**330**	*e*PKP	PKPdf	12 51 56.1	+0.5	
KHAL	**Karahalli**	**146.03**	**306**	*i* P	PKPdf	12 51 56.3	+0.3	
BSEG	**Bad Segeberg**	**146.05**	**343**	*e*PKPbc	PKPbc	12 51 56.0	-0.4	
GOLH	**Golhisar**	**146.32**	**305**	*i* P	PKPdf	12 51 58.1	+1.6	
DURS	**Dursunbey**	**146.36**	**309**	*i* P	PKPdf	12 51 56.6	+0.1	
DEMI	**Demirci**	**146.38**	**308**	*i* P	PKPdf	12 51 56.9	+0.3	
RAC	**Raciborz**	**146.48**	**332**	*e*PKP	PKPdf	12 51 57.8	+1.4	
SZH	**Strazhica**	**146.54**	**317**	P	PKPdf	12 51 57.1	+0.4	
KECS	**Kecovo**	**146.56**	**328**	*e*PKP	PKPdf	12 51 57.9	+1.4	
AKAS	**Kas**	**146.56**	**303**	*i* P	PKPdf	12 51 57.1	+0.1	
DNZL	**Cakiroluk**	**146.58**	**306**	*i* P	PKPdf	12 51 57.5	+0.6	
OKC	**Ostrava-Krasne**	**146.68**	**332**	*e*PKP	PKPdf	12 51 57.5	+0.8	
OKC				*e*SS	SS	13 14 19.5	+1.5	
OKC				*ex*	x	13 19 58.4		
OKC				AMS	AMS	13 55 10.0		
	comp=Z,600nm,23.1s							
OKC	**Ostrava-Krasne**	**146.68**	**332**	*e*PKP	PKPdf	12 51 57.5	+0.8	
OKC				*e*SS	SS	13 14 19.5	+1.5	
KSP	**Ksiaz**	**146.69**	**335**	*e*PKP	PKPdf	12 51 57.7	+1.0	
KSP	**Ksiaz**	**146.69**	**335**	*e*PKP	PKPdf	12 51 57.6	+0.9	
KSP				*ep*PKP	pPKPdf	12 52 06.0	-1.1	
KSP				*e*SS	SS	13 14 21.0	+3.1	
ESK	**Eskdalemuir**	**146.78**	**358**	PFAKE		12 52 10.0	+13	
ESK				LR	LR			
	comp=Z,898nm,19.0s,MS5.6							
BALY	**Balya**	**146.93**	**310**	*i* P	PKPdf	12 51 58.5	+1.0	
DPC	**Dobruska-Polom**	**147.06**	**334**	*e*PKP	PKPdf	12 51 59.4	+2.1	
DPC				*ep*PKP	pPKPdf	12 52 07.4	-0.3	
DPC				*e*SS	SS	13 14 28.9	+6.8	
DPC				*ex*	x	13 19 59.4		
DPC				AMS	AMS	14 00 50.0		
	comp=Z,500nm,19.1s							
DPC	**Dobruska-Polom**	**147.06**	**334**	*e*PKP	PKPdf	12 51 59.4	+2.1	
DPC				*e*		12 52 07.4		
DPC				*e*SS	SS	13 14 28.9	+6.8	
DPC				LR	LR			
	comp=Z,500nm,19.1s,MS5.3							
UPC	**Upice**	**147.06**	**335**	*e*PKP	PKPdf	12 51 59.4	+2.1	
UPC				*ep*PKP	pPKPdf	12 52 05.0	-2.7	
AKHS	**Akhisar**	**147.10**	**308**	*i* P	PKPdf	12 51 59.2	+1.5	
TURN	**Turunc**	**147.16**	**304**	*i* P	PKPdf	12 52 03.0	+5.0	
PSZ	**Piszkesteto**	**147.24**	**328**	⇑*e*PKP	PKPdf	12 51 59.1	+1.4	
NRDL	**Niedersach Rie**	**147.40**	**342**	*e*PKPbc	PKPbc	12 51 59.3	-1.0	
AYDN	**Tasoluk**	**147.47**	**306**	*i* P	PKPdf	12 52 03.6	+5.2	
KOLL	**Kolacno**	**147.49**	**330**	*e*PKP	PKPdf	12 52 00.6	+2.5	
CLL	**Collm**	**147.52**	**338**	*e*PKPbc	PKPbc	12 51 59.6	-1.1	
CLL	**Collm**	**147.52**	**338**	*i* PKPbc	PKPbc	12 52 00.0	-0.7	
	comp=Z,26nm,1.2s							
CLL				*i* PKiKP	PKiKP	12 52 01.9	-0.9	
	comp=Z,27nm,1.1s							
CLL				*i* pPKiKP		12 52 09.0		
CLL				*ex*	x	12 54 12.0		
CLL				*e*PP	PP	12 55 29.0	+2.5	
CLL				*ex*	x	13 10 13.0		
CLL				*e*SS	SS	13 14 25.0	-2.1	
CLL				*e*PSPS		13 15 32.0		
CLL				*e*SSS		13 20 06.0		
CLL				*ex*	x	13 21 38.0		
CLL				*e*SSSS		13 24 36.0		
CLL				LmV		14 12 00.0		
	comp=Z,800nm,18.4s							
CLL	**Collm**	**147.52**	**338**	*i* PKP	PKPdf	12 52 00.0	+1.9	
CLL				*i* PKP	PKPdf	12 52 01.9	+3.8	
CLL				*i* pPKP	pPKPdf	12 52 09.0	+0.5	
CLL				LR	LR			
	comp=Z,800nm,18.4s,MS5.5							
BRG	**Berggiesshubel**	**147.55**	**337**	*e*PKP	PKPdf	12 52 00.2	+2.1	
	comp=Z,34nm,1.4s							
PVCC	**Panska Ves**	**147.60**	**336**	*e*PKP	PKPdf	12 52 00.7	+2.5	
PVCC				*ep*PKP	pPKPdf	12 52 06.2	-2.4	
PVCC				*e*SS	SS	13 14 40.2	+12	
PVCC				*ex*	x	13 20 09.9		
PVCC				AMS	AMS	13 56 40.0		
	comp=Z,700nm,19.0s							
PVCC	**Panska Ves**	**147.60**	**336**	*e*PKP	PKPdf	12 52 00.7	+2.5	
PVCC				*e*		12 52 06.2		
PVCC				*e*SS	SS	13 14 40.2	+12	
PVCC				LR	LR			
	comp=Z,700nm,19.0s,MS5.5							
ARG	**Arkhangelos**	**147.72**	**303**	*e*P	PKPdf	12 52 01.5	+2.6	
RDO	**Rodhopi**	**147.79**	**313**	*e*P	PKPdf	12 51 58.0	-0.8	
CLZ	**Clausthal**	**147.90**	**342**	*e*PKPbc	PKPbc	12 52 00.9	-0.8	
BUD	**Budapest**	**147.96**	**328**	⇓*e*PKP	PKPdf	12 52 02.0	+3.1	
BOZC	**Bozcaada**	**147.99**	**311**	*i* P	PKPdf	12 52 02.8	+3.5	
PRA	**Prague**	**148.02**	**336**	PKP	PKPdf	12 52 00.0	+1.1	
PRU	**Pruhonice**	**148.05**	**335**	*e*PKP	PKPdf	12 52 02.0	+3.0	
PRU				*ep*PKP	pPKPdf	12 52 10.8	+1.4	
PRU				*e*SS	SS	13 14 35.8	+2.6	
PRU				*ex*	x	13 20 15.2		
PRU				AMS	AMS	13 56 10.0		
	comp=Z,900nm,27.2s							
PRU	**Pruhonice**	**148.05**	**335**	*e*PKP	PKPdf	12 52 02.0	+3.0	
PRU				*e*		12 52 10.8		
PRU				*e*SS	SS	13 14 35.8	+2.6	
PRU				LR	LR			
	comp=Z,900nm,27.2s,MS5.4							
PRK	**Paraskevi**	**148.08**	**310**	*e*P	PKPdf	12 52 03.0	+3.6	
MODS	**Modra-Piesok**	**148.15**	**331**	*e*PKP	PKPdf	12 52 02.8	+3.6	
IBBN	**Ibbenburen**	**148.18**	**345**	*e*PKPbc	PKPbc	12 52 01.8	-0.6	
TREC	**Trest**	**148.22**	**334**	*e*PKP	PKPdf	12 52 02.1	+2.8	
TREC				*ep*PKP	pPKPdf	12 52 09.1	-0.6	
TREC				AMS	AMS	13 57 40.0		
	comp=Z,600nm,20.4s							
DMUB	**Kingscourt**	**148.22**	**2**	*e*P	PKPdf	12 52 00.4	+1.3	
SMG	**Samos**	**148.23**	**307**	*e*P	PKPdf	12 52 01.0	+1.3	
ZST	**Bratislava**	**148.36**	**331**	*e*PKP	PKPdf	12 52 02.1	+2.6	
MOX	**Moxa**	**148.55**	**339**	*e*PKP	PKPdf	12 52 02.8	+3.0	
MOX				*e*		12 52 11.5		
	comp=Z,76nm,2.0s							
MOX								
	comp=Z,500nm,19.0s							
MOX	**Moxa**	**148.55**	**339**	*e*PKPbc	PKPbc	12 52 02.4	-1.0	
VTS	**Vitosha**	**148.61**	**317**	P	PKPdf	12 52 03.0	+2.9	
NKC	**Novy Kostel**	**148.62**	**338**	*e*PKP	PKPdf	12 52 03.3	+3.4	
NKC				*ep*PKP	pPKPdf	12 52 11.2	+0.9	
NKC				*e*SS	SS	13 14 43.8	+4.3	
NKC				*ex*	x	13 20 27.1		
NKC				AMS	AMS	13 54 40.0		
	comp=Z,700nm,20.5s							
NKC	**Novy Kostel**	**148.62**	**338**	*e*PKP	PKPdf	12 52 03.3	+3.4	
NKC				*e*		12 52 11.2		
NKC				*e*SS	SS	13 14 43.8	+4.3	
KAP	**Karpathos**	**148.65**	**303**	*e*P	PKPdf	12 52 02.0	+1.6	
WTSB	**Winterswijk**	**148.73**	**345**	*i* PKP	PKPdf	12 52 03.0	+2.9	
	comp=Z,74nm,2.9s							
DCN	**Croghan**	**148.77**	**2**	*e*P	PKPdf	12 52 01.9	+1.9	
MMB	**Musomiste**	**148.78**

BAIF	Baives	151.09	347	*e*PKP1	PKPbc	12 52 08.2	-1.4
	comp=Z,40nm,1.2s						
LJU	Ljubljana	151.13	331	*i* PKPdf	PKPbc	12 52 08.8	-1.1
LANF	Langenberg	151.20	342	PKP	PKPbc	12 52 09.8	-0.1
BOJS	Bojanci	151.20	329	*e*PKPdf	PKPbc	12 52 08.7	-1.4
BOJS				*e*PKPbc	PKPab	12 52 18.1	+0.1
ABTA	Abfaltersbach	151.46	334⇑	*i*P	PKPbc	12 52 06.8	-3.8
	comp=Z,12nm,1.1s						
ABTA	Abfaltersbach	151.46	334⇑	*i*pPKPdf	PKPbc	12 52 06.8	-3.8
	comp=Z,12nm,1.1s						
JAVS	Javornik	151.46	331	*i* PKPdf	PKPbc	12 52 09.1	-1.6
MOTA	Moosalm	151.52	336⇑	*i*P	PKPbc	12 52 08.8	-1.9
	comp=Z,20nm,1.3s						
BFO	Black Forest	151.62	341	*e*PKPbc	PKPbc	12 52 10.1	-0.8
BFO				LR	LR		
	comp=Z,871nm,19.0s,MS5.6						
JAN	Janina	151.64	314	*e*P	PKPbc	12 52 13.0	+1.7
SPAK	Spaichingen-Ko	151.68	340	PKP	PKPdf	12 52 08.3	+3.5
CDF	Champ du Feu	151.86	342	*e*PKP1	PKPbc	12 52 09.7	-1.8
	comp=Z,52nm,1.1s						
RLS	Riolos of Patr	151.99	311	*e*P	PKPdf	12 52 08.5	+2.9
ITM	Ithomi	152.04	309	*e*P	PKPbc	12 52 10.5	-1.8
ECH	Echery	152.07	342	PKP	PKPdf	12 52 08.9	+3.5
FELD	Feldberg im Sc	152.12	341	PKP	PKPbc	12 52 11.1	-1.0
KEK	Kerkira	152.31	315	*e*P	PKPdf	12 52 07.5	+1.5
MEZF	Maizieres J'vi	152.37	345	*e*PKP1	PKPbc	12 52 11.3	-1.3
	comp=Z,58nm,1.1s						
THEF	They Montfort	152.38	344	PKP	PKPbc	12 52 10.0	-2.7
MOF	Molkenrain	152.41	342	PKP	PKPbc	12 52 11.8	-0.9
HAU	Haudompre	152.49	343	*e*PKP1	PKPbc	12 52 11.0	-1.9
HINF	Hinteralfeld	152.52	342	*e*PKP1	PKPbc	12 52 11.0	-2.0
VLS	Valsamata	152.55	312	*e*P	PKPbc	12 52 12.0	-1.4
LOMF	Lomont	152.95	342	PKP	PKPbc	12 52 13.3	-0.7
SSF	Saint Saulge	154.08	346	*e*PKP1	PKPbc	12 52 15.5	-0.9
	comp=Z,7.4nm,0.8s						
AVF	Avril sur Loir	154.37	346	*e*PKP1	PKPbc	12 52 15.8	-1.2
AQU	L'Aquila	154.41	326	PFAKE		12 52 20.0	+11
AQU				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
BNI	Bardonecchia	155.05	339	PFAKE		12 52 20.0	+10
BNI				LR	LR		
	comp=Z,935nm,20.0s,MS5.6						
CMLA	Cha da Macela	156.64	44	PFAKE		12 52 20.0	+7.9
CMLA				LR	LR		
	comp=Z,1μm,19.0s,MS5.8						
MTE	Manteigas	161.66	5	PFAKE		12 52 30.0	+12
MTE				LR	LR		
	comp=Z,1μm,19.0s						
ESDC	Sonseca Array	162.43	356	PKPab	PKPab	12 53 04.9	-1.4
	comp=Z,4.3nm,0.9s,baz=0.5,slow=4.3,SNR=13						
DBIC	Dimbokro	164.66	182	PFAKE		12 52 30.0	+8.4
DBIC				LR	LR		
	comp=Z,1μm,20.0s						
TORD	Torodi Ar. Bea	168.85	218	PKP	PKPdf	12 52 22.0	-2.6
	comp=Z,1.3nm,0.8s,baz=340,slow=0.7,SNR=7.0						
TORD				PKPab	PKPab	12 53 34.1	-1.0
	comp=Z,3.0nm,0.9s,baz=124,slow=4.0,SNR=6.3						
TORD	Torodi Ar. Bea	168.85	218	PKP	PKPdf	12 52 22.0	-2.6
TORD				PKPab	PKPab	12 53 34.1	-1.0

MEX 18 12:35:12.1±0.5, 1678N×9964W, h7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.28	289	*i* P	Pg	12 35 17.5	-0.1
ACX				*i* S	Sg	12 35 21.0	-0.3
CAIG	El Cayaco	0.66	294	*i* P	Pg	12 35 23.7	-1.0
CAIG				*i* S	Sg	12 35 32.7	-0.6
PNIG	Pinotepa	1.50	105	*i* P	Pn	12 35 35.5	-3.9
PNIG				*i* S	Sn	12 35 54.7	-4.6

ISCJB ***18*** *12:39:58.3±2.0, 189S±05×1789W±02, h535km±21km, mb3.7/8, Error ellipse: s-maj=83.4km s-min=16.5km az=157.3*
NEIC ***18*** *12:39:59.2±1.6, 1898S×17878W, h540km±15km, Error ellipse: s-maj=65.8km s-min=13.3km az=157.0*
IDC ***18*** *12:39:59.5±2.4, 1897S×17880W, h541km±27km, mb3.1/7, mb1 3.4/8, mb1mx3.2/19, mbtmp3.2/8, Error ellipse: s-maj=59.7km s-min=14.2km az=157.0*

ISC 18 12:39:59.2±1.9, 189S±05×1788W±02, h535km±19km, n15, σ0=83/10, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.40	55	P	P	12 42 00.5	-0.2
	4.5nm,0.3s,baz=34,slow=23,SNR=4.8						
CTA	Charters Tower	32.91	262	P	P	12 45 50.9	+1.3
	4.7nm,1.0s,mb4.0,baz=22,slow=19,SNR=2.5						
WRA	Warramunga Arr	44.08	261	P	P	12 47 19.5	-0.6
	0.8nm,0.3s,mb3.7,baz=97,slow=7.3,SNR=42						
ASAR	Alice Springs	44.15	255	P	P	12 47 20.1	-0.5
	1.4nm,0.5s,mb3.8,baz=90,slow=8.4,SNR=33						
JOW	Kunigami	68.58	310	P	P	12 50 08.2	-0.5
	5.4nm,0.2s,mb4.7,baz=149,slow=29,SNR=7.6						
YBH	Yreka Blue Hor	79.56	39	P	P	12 51 12.1	+1.5
	0.9nm,0.5s,mb3.4,baz=340,slow=1.4,SNR=4.2						
NVAR	Mina Array Bea	80.43	44	P	P	12 51 15.8	+0.6
	0.8nm,0.8s,mb3.1,baz=229,slow=8.2,SNR=5.4						
TXAR	Lajitas Array	86.87	58	P	P	12 51 46.2	-1.1
	0.4nm,0.6s,mb3.2,baz=216,slow=6.6,SNR=5.4						
DLBC	Dease Lake	86.92	23	P	P	12 51 46.2	-0.7
PDAR	Pinedale Array	88.36	44	P	P	12 51 54.3	+0.3
	0.5nm,0.5s,mb3.5,baz=186,slow=3.3,SNR=3.7						
ARCES	ARCESS Array B	127.25	350	PKP	PKPdf	12 58 01.2	-1.0
	2.1nm,0.9s,baz=12,slow=2.9,SNR=4.0						
ARCES	ARCESS Array B	127.25	350	PKP	PKPdf	12 58 01.2	-1.0
AKASG	Malin Array Be	141.28	331	PKhKP		12 58 24.6	
	1.5nm,0.5s,baz=44,slow=3.7,SNR=5.3						
AKASG				PKP	PKPdf	12 58 28.2	-0.7
	0.5nm,0.3s,baz=42,slow=4.3,SNR=5.4						
CLL	Collm	146.37	347	*e*PKPbc	PKPbc	12 58 41.0	+1.0
GERES	GERESS Array B	148.49	344	PKPbc	PKPbc	12 58 44.8	-0.7
	0.2nm,0.3s,baz=35,slow=2.4,SNR=3.7						

MOS ***18*** *12:48:07.1±1.0, 2899S×17742W, h33km, mb5.6/39, MS5.2/6, Error ellipse: s-maj=11.7km s-min=8.2km az=136.7*
ISCJB ***18*** *12:48:07.6±0.2, 2930S±005×17748W±005, h46km, mb5.4/96, MS5.0/16, Error ellipse: s-maj=8.0km s-min=4.6km az=143.6*
BJI ***18*** *12:48:07.5, 2867S×17677W, h49km, mB5.5, mb5.2, Ms5.3, Msz5.0*
SZGRF ***18*** *12:48:09.8, 2766S×17838W, h33km, Kermadec Islands region*
BGS ***18*** *12:48:09.1±2.0, 2919S×17742W, h10km, mb5.4(NEIC)*
IDC ***18*** *12:48:09.1±0.4, 2900S×17736W, h44km±3km, mb5.0/17, mb1 5.1/17, mb1mx5.1/18, mbtmp5.0/17, MS4.5/5, Ms1 4.5/5, ms1mx4.2/23, Error ellipse: s-maj=14.3km s-min=11.9km az=169.0*
NEIC ***18*** *12:48:09.2±0.1, 2919S×17742W, mb5.4/72, Error ellipse: s-maj=7.9km s-min=3.6km az=154.0*
GCMT ***18*** *12:48:09.2±0.5, 2911S×17699W, h42km±1km, MW5.1/52, Moment Tensor Solution. s21,c30; s52,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.04±.50; $M_{\theta\theta}$0.58±.32; $M_{\phi\phi}$-5.62±.28; $M_{r\theta}$-0.12±.25; $M_{\theta\phi}$-2.17±.21; $M_{\phi r}$2.11±.19; Best double couple: $M_0$6.07200×10^{16} NP1:ϕ_s208.00000°, δ35.00000°, λ106.00000°. NP2: ϕ_s8.00000°, δ55.00000°, λ78.00000°. Principal axes: T 5.5030, Plg76.0000°, Azm241.0000°; N 1.1340, Plg10.0000°, Azm15.0000°; P -6.6410, Plg10.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 12:48:09.5±0.2, 2922S±005×17745W±005, h48km, h48km±.3km: pP-P, n504, σ0=81/245, mb5.4/96, MS5.0/16, 47C-14D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.41	265	P	Pn	12 48 21.0	+1.4
	18μm,0.3s,baz=233,slow=22,SNR=382						
RAO				S	Sn	12 48 38.8	+12
	22μm,0.3s,baz=73,slow=16,SNR=11						
RAO	Raoul Island	0.41	265	*i* Pn	Pn	12 48 21.1	+1.4
PUZ	Puketiti	9.53	201	P	Pn	12 50 17.2	-6.9
PUZ				S	Sn	12 52 03.3	-6.5
OUZ	Omahuta	9.66	229	P	Pn	12 50 32.6	+6.7
MWZ	Matawai	10.01	203	P	Pn	12 50 24.1	-6.5
MWZ				S	Sn	12 52 15.0	-6.5
URZ	Urewera	10.09	205	P	Pn	12 50 26.2	-5.6
	2.2nm,0.3s,baz=348,slow=19,SNR=26						
URZ				S	Sn	12 52 19.8	-3.7
	38nm,0.3s,baz=163,slow=8.7,SNR=14						
URZ	Urewera	10.09	205	*e*P	Pn	12 50 25.9	-5.9
BKZ	Black Stump Fm	11.12	205	*e*P	Pn	12 50 38.6	-7.2
TSZ	Takapari Road	12.10	205	*e*P	Pn	12 50 54.0	-5.2
KIW	Kapiti Island	13.19	206	*e*P	Pn	12 51 06.1	-8.0
THZ	Tophouse	14.77	209	*e*P	Pn	12 51 28.5	-6.8
DSZ	Denniston Nort	15.25	212	*e*P	Pn	12 51 34.5	-7.1
AFI	Afiamalu	16.11	20	P	Pn	12 51 42.5	-10
	2.6nm,0.3s,baz=218,slow=16,SNR=3.0						
AFI				S	S	12 54 26.0	-36
	3.6nm,0.3s,baz=81,slow=21,SNR=3.0						
WVZ	Waitaha Valley	16.78	211	*e*P	Pn	12 51 56.4	-4.6
RPZ	Rata Peaks	17.15	209	P	Pn	12 52 00.6	-5.1
	14nm,0.3s,baz=7.5,slow=2.5,SNR=74						
RPZ				S	S	12 55 00.5	-22
	1.7nm,0.3s,baz=154,slow=9.6,SNR=9.4						
RPZ	Rata Peaks	17.15	209	*e*P	Pn	12 52 00.2	-5.4
FOZ	Fox Glacier	17.64	212	*e*P	Pn	12 52 04.2	-7.5
RAR	Rarotonga	17.85	68	P	Pn	12 52 05.9	-8.6
	3.5nm,0.3s,baz=311,slow=11,SNR=8.0						
RAR				S	S	12 55 05.8	-32
	1.4nm,0.3s,baz=79,slow=21,SNR=2.7						
RAR				LR	LR	12 56 56.4	
	comp=Z,2μm,18.6s,baz=246,slow=30						
ODZ	Otahua Downs	18.40	208	*e*P	Pn	12 52 14.5	-6.5
JCZ	Jackson Bay	18.47	213	*e*P	Pn	12 52 15.9	-5.9
JCZ				S	S	12 55 28.5	-21
ARMA	Armidale	26.82	260	*e*P	P	12 53 48.8	+3.5
RIV	Riverview	27.10	252	*e*P	P	12 53 51.8	+4.0
PAE	Paea	27.96	72	*e*T		13 23 03.5	
	1μm,0.3s						
PPT	Papeete	28.01	72	*e*LQ		12 59 24.0	
	1μm,24.8s						
PPT				*e*LR	LR	13 00 56.9	
	2μm,25.2s,baz=237						
PPT	Papeete	28.01	72	*e*T		13 23 07.3	
	36nm,0.4s						
PPT	Papeete	28.01	72	LR	LR	13 01 22.2	
	comp=Z,948nm,21.8s,MS4.3,baz=206,slow=28						
PPT	Papeete	28.01	72	*e*P	P	12 53 55.9	-0.2
PPT				pmax	pmax		
	comp=Z,109nm,0.4s						
PPT	Papeete	28.01	72	*e*P	P	12 53 55.9	-0.3
	comp=Z,109nm,0.4s,mb5.8						
TVO	Taravao	28.18	72	*e*T		13 23 16.4	
	comp=Z,124nm,0.3s						
TIAR	Tiarei	28.21	72	*e*T		13 23 21.7	
	comp=Z,114nm,0.3s						
CNB	Canberra Magne	28.63	249	*e*P	P	12 54 04.7	+3.2
HNR	Honiara	28.92	308	P	P	12 54 05.0	+0.8
	comp=Z,56nm,0.4s,mb5.6,baz=239,slow=4.4,SNR=4.7						
HNR	Honiara	28.92	308	P	P	12 54 05.0	+0.8
CAN	Canberra	28.93	249	*e*P	P	12 54 06.0	+1.9
CAN				*e**PP	pP	12 54 16.4	-0.3
CAN				*e**SP	sP	12 54 21.6	-0.8
PMOR	Pomariorio Ree	30.71	69	*e*T		13 26 28.2	
	comp=Z,8.9nm,0.4s						
TAU	Tasmania Unive	31.35	235	*e*P	P	12 54 26.3	+0.9
TOO	Toolangi	31.88	245	*e*P	P	12 54 31.5	+1.3
CTA	Charters Tower	34.11	277	*e*P	P	12 54 50.7	+0.9
	comp=Z,38nm,0.7s,mb5.4						
CTA	Charters Tower	34.11	277	P	P	12 54 51.2	+1.5
	comp=Z,48nm,0.7s,mb5.6,baz=97,slow=10,SNR=60						
CTA	Charters Tower	34.11	277	P	P	12 54 51.3	+1.5
CTA				pmax	pmax		
	comp=Z,48nm,0.7s						
CTAO	Charters Tower	34.11	277	*e*P	P	12 54 50.9	+1.1
CTAO				pmax	pmax		
	comp=Z,59nm,0.8s,mb5.6						
CTAO	Charters Tower	34.11	277	*e*P	P	12 54 50.9	+1.1
	comp=Z,59nm,0.8s,mb5.6						
STKA	Stephens Creek	35.23	255	*e*P	P	12 55 00.7	+1.3
	comp=Z,34nm,0.8s,mb5.3						
STKA	Stephens Creek	35.23	255	P	P	12 55 00.7	+1.3
	comp=Z,31nm,0.6s,mb5.4,baz=93,slow=9.0,SNR=30						
STKA				LR	LR	13 07 38.7	
	comp=Z,935nm,18.7s,MS4.6,baz=22,slow=33						
RKT	Rikitea	38.45	91	*e*LR	LR	13 05 53.2	
	comp=Z,1μm,25.2s						
RKT	Rikitea	38.45	91	*e*T		13 36 14.5	
	comp=Z,5.9nm,0.4s						
ASAR	Alice Springs	43.67	265	P	P	12 56 09.4	-0.4
	comp=Z,19nm,0.6s,mb5.0,baz=100,slow=6.9,SNR=254						
ASAR				PcP	PcP	12 57 58.2	+1.8
	comp=Z,3.3nm,0.5s,baz=112,slow=4.3,SNR=5.2						
ASAR				ScP	ScP	13 01 46.4	+2.4
	comp=Z,0.9nm,1.0s,baz=95,slow=4.6,SNR=3.0						
ASAR	Alice Springs	43.67	265	P	P	12 56 09.4	-0.4
ASAR						12 57 58.2	
WB2	Warramunga Arr	44.54	271	*e*P	P	12 56 16.2	-0.6
WB2				*e*S	S	13 02 48.8	-0.3
WRAB	Tennant Creek	44.54	271	P	P	12 56 17.3	+0.5
	comp=Z,255nm,0.9s,mb6.0,SNR=19						
WRAB	Tennant Creek	44.54	271	*e*P	P	12 56 16.8	0.0
WRAB				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.3						
WRAB	Tennant Creek	44.54	271	*e*P	P	12 56 16.8	0.0
	comp=Z,41nm,0.9s,mb5.3						
WRA	Warramunga Arr	44.55	271	P	P	12 56 16.7	-0.1
	comp=Z,24nm,0.5s,mb5.2,baz=109,slow=7.5,SNR=137						
WRA				pP	pP	12 56 30.0	+0.1
	comp=Z,16nm,0.6s,baz=108,slow=7.7,SNR=6.8						
WRA				PcP	PcP	12 58 00.3	+0.9
	comp=Z,12nm,1.0s,baz=103,slow=3.4,SNR=4.9						
FORT	Forrest	46.83	254	*e*P	P	12 56 33.7	-1.0
	comp=Z,46nm,0.7s,mb5.5						
FORT				*e*PCP	PcP	12 58 06.2	-1.0
KAKA	Kakadu	49.22	279	*e*P	P	12 56 52.6	-0.8
	comp=Z,24nm,0.8s,mb5.3						
SBA	Scott Base	49.25	184⇑	*i*P	P	12 56 56.4	+3.6
SBA				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.5						
SBA	Scott Base	49.25	184⇑	*i*P	P	12 56 56.4	+3.6
	comp=Z,54nm,1.0s,mb5.5						
FITZ	Fitzroy Crossi	52.85	269⇑	*i*P	P	12 57 20.2	-0.5
	comp=Z,44nm,0.9s,mb5.4						
KLBR	Kellerberrin	55.20	250	*e*P	P	12 57 35.9	-1.7
	comp=Z,70nm,1.0s,mb5.6						
NWAO	Narrogin (SRO)	55.27	248	LR	LR	13 21 42.6	
	comp=Z,328nm,19.8s,MS4.4,baz=20,slow=36						
GUMO	Guam	55.99	314	P	P	12 57 40.9	-2.5
	comp=Z,45nm,0.5s,mb5.8,baz=60,slow=17,SNR=4.8						
MUN	Mundaring	56.36	249	*e*P	P	12 57 44.4	-1.5
CASY	Casey	56.41	208⇑	*i*P	P	12 57 45.6	-0.1
MBWA	Marble Bar	56.84	263	*e*P	P	12 57 48.3	-1.2
	comp=Z,82nm,1.1s,mb5.7						
MBWA				*e*pP	pP	12 58 02.8	-0.1
QSPA	South Pole Qui	60.89	180	P	P	12 58 19.0	+2.4
	comp=Z,110nm,0.8s,mb6.0,baz=34,slow=1.7,SNR=269						
QSPA	South Pole Qui	60.89	180	P	P	12 58 19.0	+2.4
PMSA	Palmer Station	73.14	156	*e*P	P	12 59 35.0	+0.4
	comp=Z,16nm,1.2s,mb4.8						
MAW	Mawson	73.58	200⇑	*i*P	P	12 59 38.3	+1.1
	comp=Z,27nm,0.8s,mb5.2						
MAW	Mawson	73.58	200	P	P	12 59 38.4	+1.2
	comp=Z,38nm,0.9s,mb5.3,baz=131,slow=8.7,SNR=74						
MAW	Mawson	73.58	200⇑	*i*P	P	12 59 38.3	+1.1
MAW				pmax	pmax		
	comp=Z,27nm,0.8s						
KSM	Kuching	75.28	280	*e*P	P	12 59 47.6	-0.3
MJAR	Matsushiro Arr	77.55	325	P	P	12 59 59.2	-1.0
	comp=Z,14nm,0.8s,mb4.9,baz=160,slow=5.5,SNR=53						
MJAR	Matsushiro Arr	77.55	325	P	P	12 59 59.2	-1.0
MAJO	Matsushiro	77.55	325	*e*P	P	12 59 59.8	-0.4
MAJO				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.2						
MAJO	Matsushiro	77.55	325	*e*P	P	12 59 59.8	-0.5
	comp=Z,33nm,1.1s,mb5.2						
MAT	Matsushiro	77.55	325	P	P	12 59 59.3	-0.9
SYO	Syowa Base	78.37	193‖	*e*P	P	13 00 03.5	-0.9
SYO	Syowa Base	78.37	193‖	*e*PcP	PcP	13 00 15.3	+1.7
SNAA	Sanae	79.32	178	*e*P	P	13 00 09.8	+0.2
SNAA				*e*		13 00 18.3	
SNAA				*e*	pP	13 00 23.8	+0.2
SNAA				*e*		13 00 28.7	
SNAA	Sanae	79.32	178⇑	*e*P	P	13 00 10.0	+0.4
SNAA	Sanae	79.32	178⇑	*i*P	P	13 00 09.7	+0.1
	comp=Z,61nm,1.0s,mb5.5						
SNAA				*e*pP	pP	13 00 20.1	-3.5
SNAA				*e*sP	sP	13 00 23.9	-5.1
VNA3	Neumayer Olymp	79.45	176	*e*P	P	13 00 10.6	+0.3
VNA3				*e*		13 00 17.5	
VNA3				*e*	pP	13 00 24.5	+0.2
VNA3				*e*		13 00 29.9	
VNA2	Neumayer--Watz	79.89	177	*e*P	P	13 00 13.5	+0.8
VNA2				*e*		13 00 20.3	
VNA2				*e*	pP	13 00 27.3	+0.6
VNA2				*e*		13 00 32.4	
MAIT	Maitri	80.08	183	*e*P	P	13 00 13.6	-0.1
NVL	N'lazarevskaya	80.08	183	*e*P	P	13 00 13.8	+0.1
NVL				*e**PP	pP	13 00 20.6	-7.1
NVL				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.2						
VNA1	Neumayer--Stat	80.12	176	*e*P	P	13 00 15.0	+1.1
VNA1				*e*		13 00 22.8	
VNA1				*e*	pP	13 00 28.9	+1.0
VNA1				*e*		13 00 34.6	
PLCA	Paso Flores	82.96	133	P	P	13 00 30.3	+0.8
	comp=Z,12nm,0.8s,mb5.0,baz=223,slow=5.9,SNR=34						
PLCA				pP	pP	13 00 43.9	+0.3
	comp=Z,25nm,0.9s,baz=219,slow=6.4,SNR=18						
PLCA	Paso Flores	82.96	133	*e*P	P	13 00 30.4	+0.9
PLCA				*e**PP	pP	13 00 43.8	+0.2
PLCA				pmax	pmax		
	comp=Z,35nm,1.0s						
PLCA	Paso Flores	82.96	133	*e*P	P	13 00 30.4	+0.9
	comp=Z,35nm,1.0s,mb5.3						
PLCA				*e*pP	pP	13 00 43.8	+0.3
LPIG	La Paz	83.50	58	LR	LR	13 30 55.3	
	comp=Z,198nm,18.3s,MS4.5,baz=164,slow=31						
KSRS	Korea Array	83.76	319	P	P	13 00 34.1	+0.7
	comp=Z,7.2nm,0.8s,mb4.8,baz=141,slow=5.9,SNR=32						
KSRS				pP	pP	13 00 46.0	-1.5
	comp=Z,2.3nm,0.8s,baz=148,slow=6.6,SNR=3.1						
KSRS	Korea Array	83.76	319	P	P	13 00 34.1	+0.7
KSRS				*PP	pP	13 00 46.1	-1.4
KSRS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
KS15	Wonju Array Si	83.78	319	*e*P	P	13 00 34.1	+0.6
YSS	Yuzh-Sakhalins	83.89	334⇑	*e*P	P	13 00 33.4	-0.5
YSS				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.6						
YSS	Yuzh-Sakhalins	83.89	334	*e*P	P	13 00 34.2	+0.3
	comp=Z,45nm,0.8s,mb5.7						
YSS				*e*PcP	PcP	13 00 38.4	+0.6
PTRM	Twissleman Ran	84.06	44	*e*P	P	13 00 35.8	+0.8
OSI	Osito Adit	84.28	45	*e*P	P	13 00 36.2	+0.1
	comp=Z,35nm,1.0s,mb5.4						
BAR	Barrett	84.32	48	*e*P	P	13 00 35.9	-0.5
BAR				*e*pP	pP	13 00 51.2	+0.7
MWC	Mount Wilson	84.43	46	*e*P	P	13 00 36.9	0.0
MWC				*e**PP	pP	13 00 50.6	-0.4
MWC				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.3						
MWC	Mount Wilson	84.43	46	*e*P	P	13 00 36.9	-0.1
	comp=Z,28nm,1.1s,mb5.3						
MWC				*e*pP	pP	13 00 50.6	-0.4
NSHM	Saint Helena R	84.62	40	*e*P	P	13 00 37.8	0.0
HOPS	Hopland	84.69	40	*e*P	P	13 00 38.1	-0.1
	comp=Z,28nm,0.9s,mb5.4						
PETK	Petropavlovsk-	84.79	345	P	P	13 00 37.2	-1.1
	comp=Z,22nm,0.8s,mb5.3,baz=114,slow=6.9,SNR=48						
PETK				pP	pP	13 00 50.6	-1.7
	comp=Z,11nm,0.7s,baz=143,slow=5.0,SNR=5.1						
PETK	Petropavlovsk-	84.79	345	P	P	13 00 37.2	-1.1
PETK				pP	pP	13 00 50.6	-1.7
QIZ	Qiongzhong	84.93	295	P	P	13 00 40.3	+0.5
KIPM	Iron Peak	85.04	39	*e*P	P	13 00 40.4	+0.5
KIPM				*e*pP	pP	13 00 53.8	-0.1
PFO	Pinyon Flat Ob	85.05	47	P	P	13 00 39.9	-0.2
	comp=Z,88nm,1.0s,mb5.8,SNR=5.7						
PFO	Pinyon Flat Ob	85.05	47	*e*P	P	13 00 39.8	-0.3
PFO				*e**PP	pP	13 00 53.9	-0.3
PFO				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.2						
PFO	Pinyon Flat Ob	85.05	47	*e*P	P	13 00 39.8	-0.3
	comp=Z,23nm,1.1s,mb5.2						
PFO				*e*pP	pP	13 00 53.9	-0.3
ISA	Isabella	85.12	44⇑	*i*P	P	13 00 40.2	-0.2
ISA				*e**PP	pP	13 00 53.8	-0.7
ISA				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.5						
ISA	Isabella	85.12	44⇑	*i*P	P	13 00 40.2	-0.1
	comp=Z,34nm,0.9s,mb5.5						
ISA				*e*pP	pP	13 00 53.8	-0.6
CMB	Columbia Colle	85.56	42⇑	*i*P	P	13 00 41.9	-0.6
CMB				*e**PP	pP	13 00 55.4	-1.2
CMB				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.6						
CMB	Columbia Colle	85.56	42⇑	*i*P	P	13 00 41.9	-0.6
	comp=Z,31nm,0.8s,mb5.6						
CMB				*e*pP	pP	13 00 55.4	-1.2
KHMM	Horse Mountain	85.66	38	*e*P	P	13 00 43.7	+0.8
KHMM				*e*pP	pP	13 00 57.2	+0.2
VLA	Vladivostok	85.69	325	*e*P	P	13 00 45.7	+2.7
VL

MDJ XP sP 13 01 13.3 -0.1
MDJ S S 13 11 37.1 +3.9
MDJ AMB AMB
comp=Z,19nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,71nm,5.0s
MDJ LR LR
comp=N,267nm,14.2s,MS4.9
MDJ LR LR
comp=E,214nm,13.3s,MS4.9
MDJ LR LR
comp=Z,494nm,15.0s,MS5.0
TUC Tucson 88.00 51 *e*P **P 13 00 55.3 +0.8**
TUC *e**PP pP 13 01 09.6 +0.9
TUC pmax pmax
comp=Z,19nm,1.0s,mb5.3
TUC Tucson 88.00 51 *e*P **P 13 00 55.3 +0.8**
TUC *e*pP pP 13 01 09.6 +0.9
WHN Wuhan 88.02 307 P **P 13 00 56.0 +1.3**
MOD Modoc 88.23 39 *e*P **P 13 00 54.8 -0.5**
comp=Z,17nm,0.9s,mb5.3
MOD *e*pP pP 13 01 08.9 -0.7
DL2 Dalian 88.41 317 P **P 13 00 57.8 +1.5**
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.1
IRO Indian Ridge 88.63 36 P **P 13 00 56.7 -0.5**
BMN Battle Mountai 88.99 42 *e*P **P 13 00 58.6 -0.4**
BMN *e**PP pP 13 01 12.7 -0.5
BMN pmax pmax
comp=Z,20nm,1.0s,mb5.4
BMN Battle Mountai 88.99 42 *e*P **P 13 00 58.6 -0.3**
comp=Z,20nm,1.0s,mb5.4
BMN *e*pP pP 13 01 12.7 -0.5
CN2 Changchun 89.49 323 ⇑P **P 13 01 00.9 -0.4**
CN2 *e*AP pP 13 01 14.4 -1.1
CN2 *e*XP sP 13 01 19.5 -1.3
CN2 *e*S S 13 11 47.9 -0.1
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.5
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,300nm,15.0s,MS5.0
CN2 LR LR
comp=E,300nm,15.0s,MS5.0
CN2 LR LR
comp=Z,300nm,17.0s,MS4.8
WVOR Wild Horse Val 89.50 39 *e*P **P 13 01 00.7 -0.6**
WVOR *e**PP pP 13 01 15.4 -0.1
WVOR pmax pmax
comp=Z,22nm,1.3s,mb5.3
WVOR Wild Horse Val 89.50 39 *e*P **P 13 01 00.7 -0.6**
comp=Z,22nm,1.3s,mb5.3
WVOR *e*pP pP 13 01 15.4 -0.1
WUAZ Wupatki 89.52 48 *e*P **P 13 01 02.1 +0.5**
comp=Z,51nm,1.0s,mb5.8
WUAZ *e*pP pP 13 01 16.6 +0.8
TIA Tai'an 89.52 313 *e*P **P 13 01 01.8 +0.2**
VIPM Ingram Point 89.83 37 P **P 13 01 02.5 -0.3**
HOOD Mount Hood Mea 89.85 36 *e*P **P 13 01 02.8 -0.1**
comp=Z,26nm,1.1s,mb5.5
BMW Boistfort Moun 89.87 34 *e*P **P 13 01 03.5 +0.6**
BMW *e**PP pP 13 01 17.1 -0.1
TRQA Tornquist 89.92 135 *e*P **P 13 01 04.2 +0.5**
comp=Z,39nm,1.4s,mb5.5
TRQA *e*pP pP 13 01 17.9 +0.1
LVP Lakeview Peak 89.99 35 P **P 13 01 03.4 -0.1**
NLWA Neilton Lookou 90.21 33 *e*P **P 13 01 05.0 +0.5**
comp=Z,28nm,1.0s,mb5.5
NLWA *e*pP pP 13 01 18.7 0.0
KLR Kul'dur 90.26 329 *e*P **P 13 01 00.0 -4.7**
TDL Tradedollar La 90.28 35 P **P 13 01 05.0 +0.2**
ELK Elko 90.34 42 *e*P **P 13 01 05.0 -0.3**
ELK *e**PP pP 13 01 18.8 -0.7
ELK pmax pmax
comp=Z,23nm,1.6s
ELK Elko 90.34 42 *e*P **P 13 01 05.0 -0.3**
comp=Z,23nm,1.6s,mb5.3
ELK *e*pP pP 13 01 18.8 -0.8
HDW Hoodsport 90.78 33 P **P 13 01 07.4 +0.2**
MSU Marysvale 90.81 45 *e*P **P 13 01 08.2 +0.6**
MSU *e**PP pP 13 01 22.3 +0.5
GNW Green Mountain 90.83 34 *e*P **P 13 01 07.2 -0.2**
comp=Z,48nm,1.3s,mb5.7
GNW *e*pP pP 13 01 20.8 -0.8
PGC Sidney 91.30 32 *e*P **P 13 01 09.5 0.0**
comp=Z,72nm,1.3s,mb5.8
PGC *e*pP pP 13 01 23.5 -0.3
TXAR Lajitas Array 91.34 57 P **P 13 01 09.4 -0.8**
comp=Z,4.2nm,0.9s,mb4.8,baz=211,slow=7.2,SNR=34
TXAR pP pP 13 01 23.1 -1.4
comp=Z,4.8nm,1.0s,baz=177,slow=4.6,SNR=11
GYA Guiyang 91.38 300 ⇓*i*P **P 13 01 13.3 +2.8**
GYA AP pP 13 01 26.8 +2.1
GYA XP sP 13 01 32.3 +2.2
GYA PP PP 13 04 53.4 +4.5
GYA SKS 13 11 39.1
GYA S S 13 12 06.3 +0.1
GYA XS sS 13 12 29.4 -0.7
GYA PS PS 13 13 25.0 +3.9
GYA AMB AMB
comp=Z,20nm,1.3s,mb5.3
GYA AMB AMB
comp=Z,140nm,5.1s
GYA LR LR
comp=N,500nm,19.6s,MS5.1
GYA LR LR
comp=E,490nm,18.0s,MS5.1
GYA LR LR
comp=Z,470nm,19.4s,MS4.9
DUG Dugway 91.45 44 *e*P **P 13 01 10.3 -0.2**
DUG pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
DUG Dugway 91.45 44 *e*P **P 13 01 10.3 -0.2**
comp=Z,6.6nm,1.0s,mb4.9
RSW Rattlesnake Hi 91.64 36 *e*P **P 13 01 11.3 +0.1**
RSW *e*pP pP 13 01 25.0 -0.4
HAWA Hanford 91.67 36 *e*P **P 13 01 11.3 0.0**
comp=Z,47nm,1.2s,mb5.7
HAWA *e*pP pP 13 01 25.1 -0.4
LAZ Ladron 91.69 51 *e*P **P 13 01 12.2 +0.4**
LAZ *e*pP pP 13 01 26.5 +0.5
JCW Jim Creek 91.70 33 *e*P **P 13 01 11.3 -0.1**
JCW *e*pP pP 13 01 25.0 -0.6
BGU Big Grassy Mou 91.77 43 *e*P **P 13 01 11.7 -0.3**
BMO Blue Mountains 91.82 38 *e*P **P 13 01 11.4 -0.7**
BMO pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
BMO Blue Mountains 91.82 38 *e*P **P 13 01 11.4 -0.7**
comp=Z,9.9nm,0.8s,mb5.2
TMUT Trail Mountain 91.89 45 *e*P **P 13 01 13.2 +0.6**
TMUT *e*pP pP 13 01 27.4 +0.6
BNM Barren Site 91.90 52 *e*P **P 13 01 13.2 +0.5**
BNM *e*pP pP 13 01 26.7 -0.2
LNOR Lincton Mounta 91.97 37 *e*P **P 13 01 12.2 -0.5**
LNOR *e**PP pP 13 01 26.1 -0.8
LPM Los Pinos Moun 91.99 51 *e*P **P 13 01 13.5 +0.4**
LPM *e*pP pP 13 01 27.1 -0.3
MPU Maple Canyon 92.06 45 ⇓*i*P **P 13 01 13.7 +0.4**
comp=Z,19nm,0.9s,mb5.4
MPU *e*pP pP 13 01 27.3 -0.2
MPU *e*sP sP 13 01 32.2 -0.7
RPW Rockport 92.08 33 *e*P **P 13 01 12.6 -0.6**
ETW Entiat 92.08 35 *e*P **P 13 01 13.0 -0.2**
ETW *e*pP pP 13 01 26.7 -0.7
ETW *e*sP sP 13 01 31.0 -1.8
NOQ North Oquirrh 92.15 44 *e*P **P 13 01 13.7 0.0**
comp=Z,22nm,1.0s,mb5.5
NOQ *e*pP pP 13 01 27.8 -0.1
SRU San Rafael 92.21 46 *e*P **P 13 01 14.2 +0.2**
SRU *e**PP pP 13 01 27.1 -1.1
SRU pmax pmax
comp=Z,24nm,1.3s,mb5.4
SRU San Rafael 92.21 46 *e*P **P 13 01 14.2 +0.1**
comp=Z,24nm,1.3s,mb5.4
SRU *e*pP pP 13 01 27.1 -1.1
SPUT South Promonto 92.35 43 *e*P **P 13 01 14.8 +0.1**
SPUT *e*pP pP 13 01 28.9 +0.1
MVCO Mesa Verde 92.39 48 *e*P **P 13 01 14.9 0.0**
comp=Z,8.1nm,0.9s,mb5.0
GDL2 Guadalupe Moun 92.40 54 *e*P **P 13 01 12.1 -2.9**
BJI Beijing 92.42 315 P **P 13 01 14.6 -0.4**
BJI AMB AMB
comp=Z,11nm,1.1s,mb5.1
BJI AMB AMB
comp=Z,122nm,3.6s
HVU Hansel Valley 92.44 43 *e*P **P 13 01 14.9 -0.1**
HVU *e**PP pP 13 01 28.4 -0.8
HVU pmax pmax
comp=Z,40nm,1.0s,mb5.7
HVU Hansel Valley 92.44 43 *e*P **P 13 01 14.9 -0.1**
comp=Z,40nm,1.0s,mb5.7
HVU *e*pP pP 13 01 28.4 -0.8
ANMO Albuquerque 92.46 51 ⇑*e*P **P 13 01 15.4 +0.1**
ANMO Albuquerque 92.46 51 *e*P **P 13 01 15.1 -0.2**
comp=Z,11nm,0.8s,mb5.2
ANMO *e*pP pP 13 01 28.8 -0.7
CRAG Craig 92.47 23 *e*P **P 13 01 15.0 +0.3**
JLU Jordanelle 92.52 44 *e*P **P 13 01 15.5 +0.1**
DAU Daniels Canyon 92.53 44 *e*P **P 13 01 15.8 +0.3**
HLID Hailey 92.59 40 *e*P **P 13 01 15.6 -0.1**
comp=Z,18nm,0.9s,mb5.5
HLID *e*pP pP 13 01 29.2 -0.7
PV10 Paradox Valley 92.72 47 *e*P **P 13 01 15.7 -0.7**
OD2 Odessa Site #2 92.75 36 *e*P **P 13 01 16.0 -0.3**
OD2 *e*pP pP 13 01 29.6 -0.9
PV01 Paradox Valley 92.88 47 *e*P **P 13 01 16.9 -0.2**
PV01 *e*pP pP 13 01 30.9 -0.4
HWUT Hardware Ranch 93.06 43 *e*P **P 13 01 17.2 -0.7**
comp=Z,9.5nm,0.8s,mb5.3
PMR Palmer 93.35 13 *e*P **P 13 01 16.8 -1.9**
PMR pmax pmax
comp=Z,15nm,1.2s,mb5.3
PMR Palmer 93.35 13 *e*P **P 13 01 16.8 -2.0**
comp=Z,15nm,1.2s,mb5.3
CMAR Chiang Mai Arr 93.47 289 P **P 13 01 21.2 +0.9**
comp=Z,2.4nm,0.9s,mb4.6,baz=122,slow=2.7,SNR=9.0
CMAR pP pP 13 01 34.0 -0.5
comp=Z,2.3nm,0.8s,baz=117,slow=3.3,SNR=5.1
CMAR PKKP PKKPbc 13 18 26.9 +0.9
comp=Z,1.4nm,0.6s,baz=286,slow=4.6,SNR=7.1
CMAR Chiang Mai Arr 93.47 289 *i* P **P 13 01 24.7 +4.4**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
WRAK Wrangell Islan 93.49 23 *e*P **P 13 01 19.6 +0.2**
comp=Z,16nm,0.8s,mb5.5
WRAK *e*pP pP 13 01 33.2 -0.5
DIV Divide 93.64 15 *e*P **P 13 01 19.9 -0.1**
comp=Z,14nm,1.2s,mb5.3
KMI Kunming 93.72 297 P **P 13 01 19.9 -1.4**
KMI AMB AMB
comp=Z,7.0nm,1.3s,mb4.9
KMI LR LR
comp=N,727nm,21.4s,MS5.4
KMI LR LR
comp=E,942nm,17.2s,MS5.4
KMI LR LR
comp=Z,715nm,19.3s,MS5.1
BMRM Bremner River 93.76 15 *e*P **P 13 01 19.6 -1.0**
BMRM *e*pP pP 13 01 33.6 -1.2
XAN Xi'an 93.78 307 P **P 13 01 19.0 -2.4**
XAN AMB AMB
comp=Z,5.0nm,1.0s,mb4.9
AHID Auburn Hatcher 94.03 43 ⇓*i*P **P 13 01 22.6 +0.2**
comp=Z,30nm,0.9s,mb5.7
MCMT McKenzie Canyo 94.26 40 *e*P **P 13 01 23.5 +0.1**
MCMT *e*pP pP 13 01 37.5 0.0
DCID1 Drake Creek 94.47 42 *e*P **P 13 01 24.7 +0.3**
SMCO Snowmass 94.50 47 *e*P **P 13 01 26.1 +1.6**
REDW Red Top Meadow 94.53 42 *e*P **P 13 01 24.5 -0.1**
comp=Z,41nm,1.0s,mb5.8
REDW *e*pP pP 13 01 38.4 -0.4
TPAW Teton Pass 94.55 42 *e*P **P 13 01 24.5 -0.1**
comp=Z,15nm,0.8s,mb5.5
TPAW *e*pP pP 13 01 38.7 -0.2
SNOW Snow King Moun 94.64 42 *e*P **P 13 01 25.5 +0.4**
comp=Z,59nm,0.8s,mb6.1
SNOW *e*pP pP 13 01 39.2 -0.2
SDCO Great Sand Dun 94.66 49 *e*P **P 13 01 25.2 -0.1**
comp=Z,6.0nm,1.2s,mb4.9
SDCO *e*pP pP 13 01 39.5 -0.1
DLMT Dillon 94.73 40 *e*P **P 13 01 25.0 -0.4**
comp=Z,13nm,0.9s,mb5.3
DLMT *e*pP pP 13 01 39.2 -0.5
IMW Indian Meadow 94.80 42 *e*P **P 13 01 25.8 0.0**
IMW *e*pP pP 13 01 39.7 -0.3
IMW *e*PP PP 13 05 32.6 +17
MOOW Moose Ponds 94.82 42 *e*P **P 13 01 25.4 -0.5**
comp=Z,28nm,1.7s,mb5.4
MOOW *e*pP pP 13 01 40.1 -0.1
LOHW Long Hollow 94.82 42 *e*P **P 13 01 25.5 -0.4**
comp=Z,13nm,0.8s,mb5.4
LOHW *e*pP pP 13 01 39.1 -1.0
SEY Seymchan 94.94 347 ⇑*e*P **P 13 01 25.1 -0.9**
BW06 Boulder Array 94.94 43 *e*P **P 13 01 25.5 -1.0**
PDAR Pinedale Array 94.95 43 P **P 13 01 25.6 -1.0**
comp=Z,7.4nm,0.8s,mb5.2,baz=205,slow=3.1,SNR=54
PDAR pP pP 13 01 39.5 -1.3
comp=Z,4.6nm,0.8s,baz=204,slow=3.3,SNR=10
SKAG Skagway 94.95 20 *e*P **P 13 01 26.5 +0.4**
FLWY Flagg Ranch 95.04 42 *e*P **P 13 01 27.1 +0.1**
comp=Z,47nm,0.9s,mb5.9
FLWY *e*pP pP 13 01 41.1 -0.1
FLWY *e*sP sP 13 01 45.7 -0.8
FLWY *e*PP PP 13 05 22.0 +4.7
FLWY *e*PKPdf PKiKP 13 06 10.1 +1.8
QLMT Earthquake Lak 95.07 41 *e*P **P 13 01 27.8 +0.8**
QLMT *e*pP pP 13 01 41.5 +0.2
LRM Limekiln Ridge 95.09 40 *e*P **P 13 01 26.9 -0.2**
LRM *e*pP pP 13 01 40.0 -1.3
YFT Old Faithful 95.18 41 *e*P **P 13 01 29.1 +1.5**
CHMT Chamberlain Mo 95.32 38 *e*P **P 13 01 27.2 -0.9**
MCK McKinley 95.34 12 *e*P **P 13 01 27.1 -0.7**
BOZ Bozeman (W) 95.44 40 *e*P **P 13 01 28.5 -0.2**
BOZ *e**PP pP 13 01 42.2 -0.8
BOZ pmax pmax
comp=Z,11nm,1.0s,mb5.2
BOZ Bozeman (W) 95.44 40 *e*P **P 13 01 28.5 -0.2**
comp=Z,11nm,1.0s,mb5.2
BOZ *e*pP pP 13 01 42.2 -0.7
LKWY Lake 95.50 41 *e*P **P 13 01 30.6 +1.6**
LKWY pmax pmax
comp=Z,12nm,0.9s,mb5.3
LKWY Lake 95.50 41 *e*P **P 13 01 30.6 +1.6**
comp=Z,12nm,0.9s,mb5.3
HHC Hu-ho-hao-te 95.76 314 *e*P **P 13 01 31.8 +1.5**
HHC AP pP 13 01 45.1 +0.6
HHC XP sP 13 01 49.9 0.0
HHC PP PP 13 05 26.3 +3.4
HHC SKS 13 12 02.3
HHC S S 13 12 44.0 -0.1
HHC XS sS 13 13 05.3 -2.9
HHC PS PS 13 14 14.3 +5.3
HHC SS SS 13 19 17.4 +2.2
HHC AMB AMB
comp=Z,21nm,0.6s,mb5.7
HHC AMB AMB
comp=Z,162nm,10.1s
HHC LR LR
comp=N,402nm,21.4s,MS5.0
HHC LR LR
comp=E,350nm,21.4s,MS5.0
HHC LR LR
comp=Z,332nm,21.4s,MS4.8
RWWY Rawlins 95.76 45 *e*P **P 13 01 29.7 -0.6**
comp=Z,11nm,0.8s,mb5.3
RWWY *e*pP pP 13 01 43.9 -0.6
CD2 Chengdu 95.87 302 P **P 13 01 31.6 +0.6**
CD2 AP pP 13 01 45.8 +0.5
CD2 XP sP 13 01 51.0 +0.4
CD2 PP PP 13 05 27.4 +3.4
CD2 SKS 13 12 03.3
CD2 S S 13 12 44.0 -1.5
CD2 PS PS 13 14 14.3 +3.8
CD2 SS SS 13 19 19.5 +2.4
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.7
CD2 AMB AMB
comp=Z,80nm,9.8s
CD2 LR LR
comp=N,260nm,14.2s,MS5.1
CD2 LR LR
comp=E,380nm,16.2s,MS5.1
CD2 LR LR
comp=Z,280nm,15.8s,MS4.8
HRY Holter Researc 95.97 39 *e*P **P 13 01 30.9 -0.1**
WALA Waterton Lakes 96.28 36 *e*P **P 13 01 33.1 +0.7**
RLMT Red Lodge 96.48 41 *e*P **P 13 01 33.5 +0.1**
comp=Z,9.1nm,1.0s,mb5.2
RLMT *e*pP pP 13 01 47.3 -0.4
COLA College 96.58 12 ⇓*i*P **P 13 01 31.8 -1.6**
DAWY Dawson 97.67 16 *e*P **P 13 01 37.8 -0.5**
BILL Bilibino 97.72 354 *e*P **P 13 01 39.3 +0.8**
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.9
BILL Bilibino 97.72 354 *e*P **P 13 01 39.4 +0.9**
EGAK Eagle 97.86 15 *e*P **P 13 01 38.9 -0.3**
comp=Z,13nm,1.6s,mb5.2
LPAZ La Paz 98.19 114 P **P 13 01 42.5 +0.6**
comp=Z,1.5nm,0.8s,mb4.6,baz=232,slow=6.0,SNR=6.5
RSSD Black Hills 99.04 44 *e*P **P 13 01 44.7 -0.3**
RSSD *e**PP pP 13 01 58.3 -1.0
RSSD pmax pmax
comp=Z,21nm,0.9s,mb5.7
RSSD Black Hills 99.04 44 *e*P **P 13 01 44.7 -0.3**
comp=Z,21nm,0.9s,mb5.7
RSSD *e*pP pP 13 01 58.3 -0.9
SONM Songino Array 102.59 318 Pdiff Pdif 13 02 01.0 +0.1
comp=Z,0.3nm,0.4s,baz=126,slow=9.3,SNR=2.7
WMQ Urumqi 112.87 308 *e*PKP PKiKP 13 06 40.6 -0.3
WMQ LR LR
comp=N,342nm,20.3s,MS5.1
WMQ LR LR
comp=E,403nm,21.0s,MS5.1
WMQ LR LR
comp=Z,391nm,24.0s,MS4.9
MK31 Makanchi Array 117.38 310 *e*PKIKP PKPdf 13 06 48.5 -0.9
MKAR Makanchi Array 117.38 310 PKP PKPdf 13 06 48.1 -1.3
comp=Z,7.9nm,0.7s,baz=88,slow=1.0,SNR=54
MKAR PKKPbc PKKPbc 13 17 13.3 -0.2
comp=Z,1.2nm,0.6s,baz=280,slow=3.6,SNR=7.7
MKAR Makanchi Array 117.38 310 PKP PKPdf 13 06 48.1 -1.3
MKAR PKKPbc PKKPbc 13 17 13.3 -0.2
ZALV Zalesovo Beam 117.47 319 PKP PKPdf 13 06 47.8 -1.6
comp=Z,4.3nm,0.6s,baz=151,slow=3.4,SNR=20
ZALV pPKP pPKPdf 13 07 03.9 -0.1
comp=Z,2.0nm,0.7s,baz=163,slow=5.7,SNR=3.0
ZALV Zalesovo Beam 117.47 319 PKP PKPdf 13 06 47.8 -1.6
ZALV pPKP pPKPdf 13 07 03.9 -0.1
ZAL Zalesovo 117.47 319 PKIKP PKPdf 13 06 47.8 -1.6
ZAL 13 07 03.9
BOSA Boshof 118.54 203 PKP PKPdf 13 06 52.6 +0.2
comp=Z,6.9nm,1.0s,baz=15,slow=1.6,SNR=8.3
NVS Novosibirsk 118.55 319 *e*PKIKP PKPdf 13 06 49.1 -2.3
NVS pmax pmax
comp=Z,18nm,0.9s
NVS pmax pmax
comp=N,4.0nm,0.7s
ULHL Ulahol 120.50 304 P PKPdf 13 06 55.6 0.0
SNR=13
KURK Kurchatov 120.57 314 *e*PKIKP PKPdf 13 06 54.3 -1.2
TKM2 Tokmak 2 121.11 305 P PKPdf 13 06 56.1 -0.7
SNR=15
KZA Kyzart 121.18 304 P PKPdf 13 06 57.3 +0.4
SNR=20
KBK Karagaybulak 121.53 304 P PKPdf 13 06 56.8 -0.7
SNR=6.1
LBTB Lobatse 121.71 205 *e*PKIKP PKPdf 13 06 58.0 -0.6
CHMS Chumysh 121.74 305 P PKPdf 13 06 57.4 -0.6
SNR=12
AAK Ala-Archa 121.85 304 P PKPdf 13 06 58.2 0.0
SNR=6.5
USP Ospenovka 121.97 305 P PKPdf 13 06 57.8 -0.6
SNR=9.5
AML Almayashu 122.33 304 P PKPdf 13 06 59.4 +0.2
SNR=13
EKS2 Erkin-Say 122.37 304 P PKPdf 13 06 59.0 -0.2
SNR=14
KBL Kabul 124.19 294 *e*PKIKP PKPdf 13 07 03.4 +0.5
KBL *e* 13 07 17.5
SCHQ Schefferville 125.04 41 PKP PKPdf 13 07 02.5 -1.4
comp=N,4.1nm,0.8s,baz=29,slow=2.5,SNR=4.2
SCHQ Schefferville 125.04 41 PKP PKPdf 13 07 02.5 -1.4
BRVK Borovoye 125.95 316 *e*PKIKP PKPdf 13 07 05.1 -0.6
LSZ Lusaka 129.31 213 *e*PKIKP PKPdf 13 07 14.4 +1.1
TSUM Tsumeb 129.73 199 *e*PKPdf PKPdf 13 07 14.4 +0.3
TSUM *e*PP PP 13 09 24.1 +0.4
SVE Sverdlovsk 131.28 322 *e*PKIKP PKPdf 13 07 13.8 -1.9
SVE pmax pmax
comp=Z,14nm,0.7s
ARU Arti 132.47 321 *i* PKIKP PKPdf 13 07 17.1 -0.9
ARU 13 09 38.0
ARU Arti 132.47 321 *e*PKPdf PKPdf 13 07 17.5 -0.5
KMBO Kilima Mbogo 135.16 234 PKP PKPdf 13 07 25.9 +1.5
comp=Z,5.5nm,0.9s,baz=42,slow=4.4,SNR=9.7
KMBO Kilima Mbogo 135.16 234 PKIKP PKPdf 13 07 26.0 +1.5
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 135.16 234 *e*PKPdf PKPdf 13 07 25.5 +1.1
KEV Kevo 137.07 348 *ep* PKPdf 13 07 24.2 -2.0
comp=Z,0.9nm,0.3s
KEV Kevo 137.07 348 *e*PKIKP PKPdf 13 07 24.2 -2.0
KEV pmax pmax
comp=Z,1.0nm,0.3s
APA Apatity 137.43 343 ⇓*i*PKIKP PKPdf 13 07 28.5 +1.5
APA pmax pmax
comp=Z,16nm,0.5s
ARCES ARCESS Array B 137.53 348 PKhKP 13 07 17.8
comp=Z,3.2nm,0.7s,baz=36,slow=4.5,SNR=17
ARCES PKP PKPdf 13 07 27.9 +0.8
comp=Z,14nm,0.7s,baz=11,slow=1.2,SNR=19
ARCES ARCESS Array B 137.53 348 PKHKP 13 07 17.8
ARCES 13 07 27.9
ARCES pmax pmax
comp=Z,14nm,0.7s
ARCES ARCESS Array B 137.53 348 PKIKP PKPdf 13 07 27.9 +0.8
JOF Joensuu 141.49 339 *ep* PKPdf 13 07 28.1 -6.4
comp=Z,3.6nm,0.4s
JOF Joensuu 141.49 339 *e*PKHKP 13 07 28.1
JOF pmax pmax
comp=Z,4.0nm,0.4s
KAF Kangasniemi 143.59 341 *ep* PKPdf 13 07 34.0 -4.2
comp=Z,3.7nm,0.3s
KAF Kangasniemi 143.59 341 *e*PKHKP 13 07 34.0
KAF pmax pmax
comp=Z,4.0nm,0.3s
VRHR Novokhopersk 143.59 318 *e*PKIKP PKPdf 13 07 35.7 -2.9
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
NSS Namsos 144.17 353 *e*P PKPdf 13 07 35.0 -4.2
OBN Obninsk 144.46 326 ⇑*i*PKIKP PKPdf 13 07 37.3 -2.7
OBN pmax pmax
comp=Z,72nm,0.8s
OBN MLR MLR
comp=Z,400nm,18.0s,MS5.2
OBN Obninsk 144.46 326 *e*PKPdf PKPdf 13 07 37.7 -2.2
ONI Oni 144.63 303 P PKPdf 13 07 39.6 -1.0
CLDR Caldiran 144.64 297 *e*P PKPdf 13 07 39.9 -0.9
HAKT HAKKARI 144.87 295 *i* P PKPdf 13 07 39.8 -1.5
KIV Kislovodsk 144.94 306 ⇑*i*PKIKP PKPdf 13 07 40.1 -1.1
KIV Kislovodsk 144.94 306 *e*PKPdf PKPdf 13 07 40.2 -0.9
VRSR Storozhevoye 144.96 319 *e*PKIKP PKPdf 13 07 39.2 -1.7
VRSR pmax pmax
comp=Z,10.0nm,0.7s
VRSR pmax pmax
comp=N,1.0nm,0.6s
VRSR pmax pmax
comp=E,9.0nm,0.7s
TVAN Van 145.07 296 *i* P PKPbc 13 07 40.3 -0.8
AGRB Hanur-Agry 145.32 298 *e*P PKPbc 13 07 42.0 +0.1
HOMI Horasan 146.11 299 *i* P PKPdf 13 07 44.1 +0.8
VSU Vasula 146.33 337 ⇑*i*PKP2 PKPab 13 07 43.4 -1.8
MOL Molde 146.48 356 *e*P PKPdf 13 07 43.5 +0.4
ERZM Erzurum 146.54 299 *i* P PKPbc 13 07 46.8 +1.2
EZM Erzurum 146.54 299 *e*P PKPbc 13 07 46.8 +1.2
BTMT Batman 146.59 296 *e*P PKPdf 13 07 43.5 -0.7
BNGL BINGOL 146.80 297 *i* P PKPbc 13 07 47.2 +0.9
DOMB Dombas 146.89 354 *e*P PKPdf 13 07 44.6 +0.7
DOMB AMb AMB 13 07 46.5
comp=Z,50nm,1.5s
MARD Mardin 147.21 294 *i* P PKPbc 13 07 47.1 -0.4
NB2 NORSAR Subarra147.65 352 PKP PKPbc 13 07 46.8 -1.2
comp=Z,67nm,0.8s,baz=14,slow=2.9
NB2 NORSAR Subarra147.65 352 PKP PKPbc 13 07 46.8 -1.2
baz=14,slow=2.9
NOA NORSAR Array B147.65 352 PKPbc PKPbc 13 07 46.7 -1.3
comp=Z,45nm,0.8s,baz=14,slow=4.5,SNR=126
NOA NORSAR Array B147.65 352 PKIKP PKPbc 13 07 46.7 -1.3

NOA pmax pmax
comp=Z,45nm,0.8s
NAO01 NORSAR Array S 147.88 352 *e*PKPbc PKPbc 13 07 47.5 -1.1
GUMT Gumushane 147.90 300 *e*P PKPbc 13 07 50.5 +1.1
SUE Sulen 148.12 358 *e*P PKPbc 13 07 48.3 -1.0
SUE AMb AMB 13 07 50.0
comp=Z,80nm,1.2s
PTK Pertek 148.17 297 *e*P PKPbc 13 07 51.1 +1.0
SVRC Sivrice-ELAZID 148.29 297 *e*P PKPbc 13 07 51.0 +0.6
ANN Anapa 148.38 309*c i*PKP2 PKPbc 13 07 49.6 -0.9
ANN *e*PPP 13 14 37.5
ANN *e*SS SS 13 30 24.4 -0.2
ANN pmax pmax
comp=Z,133nm,1.1s
ANN MLR MLR
comp=Z,260nm,18.0s,MS5.1
ANN Anapa 148.38 309 *e*PKP PKPbc 13 07 49.1 -1.4
ASK Askoy 148.68 357 *e*P PKPbc 13 07 49.0 -1.7
ASK AMb AMB 13 07 54.3
comp=Z,175nm,2.0s
RUND Rundenannen 148.75 357 *e*P PKPbc 13 07 52.3 +1.4
URFA Urfa 148.75 295 *e*P PKPbc 13 07 52.6 +0.9
MNK Minsk 148.81 331 *e*PKIKP PKPbc 13 07 49.0 -2.2
EGD Espegrend 148.89 357 *e*P PKPbc 13 07 49.7 -1.6
LRW Lerwick 148.98 4 *e*P PKPbc 13 07 52.2 +0.7
MALT Malatya 148.99 297 *e*P PKPbc 13 07 51.7 -0.6
MALT Malatya 148.99 297 *e*PKPdf PKPdf 13 07 48.0 -0.1
MALT *e*PKPbc PKPbc 13 07 52.6 +0.3
MYA Malataya 148.99 297 *e*P PKPbc 13 07 53.1 +0.9
KONO Kongsberg 149.19 353⇑*i*P PKPbc 13 07 51.0 -1.0
KONO Kongsberg 149.19 353⇑*e*PKP PKPdf 13 07 47.3 -0.5
DARE Darende-Malaty 149.39 298 *e*P PKPbc 13 07 54.8 +1.6
RSDY Resadiye-TOKAT 149.53 301 *e*P PKPbc 13 07 54.2 +0.7
GZT Gaziantep 149.76 295 *i*P PKPbc 13 07 54.7 +0.5
SVSK Karacayir 149.86 300 *e*P PKPbc 13 07 55.2 +0.9
GAZ Gaziantep 150.06 294 *e*P PKPbc 13 07 55.2 +0.4
KMRS Kahramanmaras 150.27 295 *e*P PKPbc 13 07 55.6 +0.2
SARI SarD1z-Kayseri 150.29 298 *e*P PKPbc 13 07 56.5 +1.1
KVT Kavak 150.34 303 *e*P PKPbc 13 07 55.5 +0.1
PINB Pinarbasi 150.51 298 *i*P PKPbc 13 07 56.4 +0.5
SIM Simferopol' 150.56 311 *e*PKIKP PKPbc 13 07 54.6 -1.2
SIM pmax pmax
comp=Z,73nm,0.8s
MLA1 Latheron 150.63 6⇑*e*P PKPbc 13 07 54.6 -1.0
AKASG Malin Array Be 150.63 324 PKP PKPdf 13 07 49.2 -1.1
comp=Z,1.1nm,0.6s,baz=44,slow=1.5,SNR=9.3
AKASG PKPbc PKPbc 13 07 53.7 -2.1
comp=Z,16nm,0.3s,baz=47,slow=3.5,SNR=170
AKASG Malin Array Be 150.63 324 PKP PKPdf 13 07 49.2 -1.1
AKASG PKPbc PKPbc 13 07 53.7 -2.1
AKBB Malin Array Si 150.63 324 *e*PKIKP PKPbc 13 07 55.0 -0.8
KIEV Kiev 150.65 324 *e*PKIKP PKPbc 13 07 55.0 -0.8
ANDN Andirin 150.70 295 *i*P PKPbc 13 07 56.8 +0.4
SNART Snartemo 150.71 355⇑*i*P PKPbc 13 07 55.0 -0.7
BNN Bunyan 150.92 298 *e*P PKPbc 13 07 57.0 +0.1
HTY Hatay 151.00 293 *e*P PKPbc 13 07 57.3 +0.1
SUW Suwalki 151.03 335 *i*PKPc PKPbc 13 07 55.8 -0.8
SUW Suwalki 151.03 335⇑*i*PKP PKPbc 13 07 55.8 -0.8
YAYL Yayladag 151.03 292 *i*P PKPbc 13 07 57.4 +0.1
KOZT Kozan 151.12 295 *e*P PKPbc 13 07 59.2 +1.8
KAC Achnashellach 151.20 9⇑*e*P PKPbc 13 07 56.1 -0.8
KPL Plockton 151.30 9⇑*e*P PKPbc 13 07 56.0 -1.1
RCY Rachaya 151.34 287 *e*P PKPbc 13 07 59.1 +1.0
YURE YUREGIR 151.35 294 *i*P PKPbc 13 07 58.6 +0.6
MCD Coleburn Disti 151.35 7⇑*e*P PKPbc 13 07 55.9 -1.4
MDO Dochfour 151.37 8⇑*e*P PKPbc 13 07 56.2 -1.1
CTKT Corum 151.37 302 *i*P PKPbc 13 07 57.7 -0.1
KSB Sheil Bridge 151.46 9⇑*e*P PKPbc 13 07 56.3 -1.2
BHL Bhannes 151.48 288 *e*P PKPbc 13 07 58.8 +0.5
CORM Corum 151.59 301 *e*P PKPbc 13 07 58.8 +0.4
BZK Bozkurt 151.60 305 *e*P PKPbc 13 07 58.1 -0.3
MME1 Meikle Cairn 151.65 6⇑*e*P PKPbc 13 07 56.4 -1.6
KAR1 Arisaig 151.68 10⇑*e*P PKPbc 13 07 56.9 -1.2
AVNT Avonos 151.69 298 *i*P PKPbc 13 07 57.6 -1.1
KARA Karaisali 151.76 295 *e*P PKPbc 13 07 58.2 -0.7
TOS Tosya 151.84 303 *e*P PKPbc 13 07 59.1 +0.2
CDAG Cicekdag 151.90 300 *i*P PKPbc 13 07 58.6 -0.5
NIG Nigde 151.99 297 *e*P PKPbc 13 07 58.0 -1.3
ILGA Ilgaz 152.06 303 *i*P PKPbc 13 07 59.8 +0.3
BALT Daday 152.17 304 *i*P PKPbc 13 07 59.5 -0.1
MERS Mersin 152.23 294 *e*P PKPbc 13 07 59.5 -0.4
CANT Cankiri 152.24 302 *e*P PKPbc 13 07 59.8 -0.1
KAMT Kaman 152.46 300 *e*P PKPbc 13 08 00.0 -0.4
MEST Erdemli 152.56 294 *i*P PKPbc 13 08 01.1 +0.4
EAB Aberfoyle 152.60 8⇑*e*P PKPbc 13 07 59.0 -1.2
EBH Black Hill 152.64 7⇑*e*P PKPbc 13 07 59.2 -1.0
EREN Erenkoy 152.64 292 *e*P PKPbc 13 08 00.7 -0.2
SAFT Safranbolu 152.75 304 *e*P PKPbc 13 08 00.7 -0.3
PGBU Glenifferbraes 152.95 9 *e*P PKPbc 13 07 59.5 -1.4
IKL Isikli 152.97 293 *e*P PKPbc 13 08 00.9 -0.7
ANTO Ankara 153.03 301 *e*P PKPbc 13 08 01.7 0.0
ANTO Ankara 153.03 301 *e*PKPbc PKPbc 13 08 01.8 +0.2
EAU Auchinoon 153.04 7 *e*P PKPbc 13 07 59.2 -1.9
ESY Stoneypath 153.06 6⇑*e*P PKPbc 13 07 59.7 -1.4
EBL Broad Law 153.16 7⇑*e*P PKPbc 13 08 00.1 -1.2
LFK Lefkose 153.18 291 *e*P PKPbc 13 08 01.9 -0.2
SGKT Sivrigoynuk 153.40 303 *i*P PKPbc 13 08 02.1 -0.3
XSO Sourhope Farm 153.51 6 *e*P PKPbc 13 07 59.8 -2.3
GKP Gorka Klasztor 153.66 340 *e*PKP PKPbc 13 08 02.0 -0.5
LVV L'vov 153.75 328 *e*PKIKP PKPbc 13 08 02.7 -0.2
HDMB Hadim 153.83 295 *e*P PKPbc 13 08 02.9 -0.6
KDHN Kadinhani 153.85 299 *i*P PKPbc 13 08 02.4 -1.0
KIZT Kizilcal 153.95 299 *e*P PKPbc 13 08 03.3 -0.4
XAL Allendale 154.14 6 *e*P PKPbc 13 08 01.3 -2.3
HENT Hendek 154.17 304 *i*P PKPbc 13 08 03.5 -0.5
KWP Kalwaria 154.49 329 *e*PKP PKPab 13 08 18.5 -0.5
BSEG Bad Segeberg 154.66 349 *e*PKP2 PKPab 13 08 18.6 -0.9
BSEG Bad Segeberg 154.66 349 *e*PKPbc PKPbc 13 08 03.9 -0.8
BSEG *e*PKPab PKPab 13 08 18.6 -0.9
KOLS Kolonicke sedl 155.19 328 *e*PKP PKPdf 13 07 56.8 -0.2
KOLS *e* 13 08 20.2
KOLS Kolonicke sedl 155.19 328 *e*PKP PKPdf 13 07 56.8 -0.2
KOLS *e* 13 08 20.3
ISP Isparta 155.23 298 *e*PKIKP PKPdf 13 08 05.6 +8.2
ISP *e* 13 08 22.9
OJC Ojcow 155.29 333 *e*PKP PKPdf 13 08 05.7 +8.6
STHS Stebnicka Huta 155.30 330 *e*PKP PKPdf 13 07 57.1 -0.1
STHS *e* 13 08 21.9
UZH Uzhgorod 155.40 327 *e*PKIKP PKPdf 13 08 05.7 +8.4
UZH *e* 13 08 15.0
CRVS Cervenica-Dubn 155.59 329 *e*PKP PKPdf 13 07 57.5 -0.1
CRVS *e* 13 08 23.0
NIE Niedzica 155.70 331 *e*PKP PKPdf 13 08 07.3 +10
LIC Lamto 156.04 161 *e*PKIKP PKPdf 13 07 58.5 -0.8
comp=Z,21nm,1.0s
LIC Lamto 156.04 161 *e*PKIKP PKPdf 13 07 59.0 -0.3
comp=Z,48nm,1.3s
KSP Ksiaz 156.05 338 *e*PKP PKPab 13 08 25.3 -0.3
KSP Ksiaz 156.05 338 *e*PKP2 PKPab 13 08 24.4 -1.2
KSP Ksiaz 156.05 338 *e*PKPdf PKPdf 13 07 58.1 0.0
KSP *e*PKPab PKPab 13 08 24.4 -1.2
NRDL Niedersach Rie 156.08 349 *e*PKPbc PKPdf 13 08 07.1 +9.0
NRDL *e*PKPab PKPab 13 08 23.5 -2.2
OKC Ostrava-Krasne 156.24 334 *e*PKPAB PKPab 13 08 26.2 -0.3
KIC Kosan Boka 156.25 162 *e*PKIKP PKPdf 13 07 59.5 -0.1
comp=Z,99nm,1.3s
KECS Kecovo 156.33 329 *e*PKP PKPdf 13 07 58.8 +0.2
KECS *e* 13 08 25.9
UPC Upice 156.43 338 *e*PKPAB PKPab 13 08 27.0 -0.3
TIC Toumodi 156.44 161 *e*PKIKP PKPdf 13 07 59.6 -0.2
comp=Z,116nm,0.2s
DPC Dobruska-Polom 156.46 338 *e*PKIKP PKPdf 13 07 58.6 -0.1
DPC *e* 13 08 08.9
DPC Dobruska-Polom 156.46 338 *e*PKPDF PKPdf 13 07 58.6 -0.1
DPC *e*pPKP pPKPdf 13 08 08.9 -4.5
DPC *e*PKPAB PKPab 13 08 27.3 -0.1
DBIC Dimbokro 156.51 161 PKP PKPdf 13 07 58.6 -1.2
comp=Z,6.4nm,1.0s,baz=80,slow=2.0,SNR=3.7
DBIC pPKP pPKPdf 13 08 13.0 -1.7
comp=Z,8.4nm,0.8s,baz=171,slow=4.4,SNR=4.4
DBIC PKPab PKPab 13 08 28.3 -0.2
comp=Z,9.5nm,0.9s,baz=178,slow=7.0,SNR=6.9
DBIC Dimbokro 156.51 161 PKIKP PKPdf 13 07 58.7 -1.2
DBIC 13 08 13.0
MORC Moravsky Berou 156.52 335 *e*PKIKP PKPdf 13 07 58.4 -0.4
MORC *e* 13 08 08.9
MORC Moravsky Berou 156.52 335 *e*PKPdf PKPdf 13 07 58.4 -0.4
MORC *e*PKPdif 13 08 08.9
MORC *e*PKPab PKPab 13 08 26.9 -0.7
CLL Collm 156.58 343⇑*i*PKIKP PKPdf 13 08 08.2 +9.4
CLL pmax pmax
comp=Z,16nm,0.9s
CLL MLR MLR
comp=Z,800nm,18.4s,MS5.6
CLL Collm 156.58 343 *e*PKPbc PKPdf 13 08 07.7 +8.9
CLL *e*PKPab PKPab 13 08 26.3 -1.6
CLL Collm 156.58 343⇑*i*PKPdif PKPdf 13 08 08.2 +9.4
comp=Z,16nm,0.9s
CLL *i* PKPdif2 13 08 11.1
comp=Z,15nm,0.9s
CLL ⇓*i*PKPab PKPab 13 08 26.7 -1.2
comp=Z,25nm,0.9s
CLL *i* PKPab(2) 13 08 30.5
IBBN Ibbenburen 156.61 352 *e*PKPab PKPab 13 08 27.3 -0.6
CLZ Clausthal 156.66 348 *e*PKP2 PKPab 13 08 26.8 -1.4
CLZ Clausthal 156.66 348 *e*PKPbc PKPdf 13 08 08.6 +10
CLZ *e*PKPab PKPab 13 08 26.8 -1.4
BRG Berggiesshubel 156.73 342 *e*PKIKP PKPdf 13 07 58.1 -0.9
BRG *i* 13 08 09.0
BRG MLR MLR
comp=Z,330nm,23.4s,MS5.1
BRG Berggiesshubel 156.73 342 *e*PKPbc PKPdf 13 08 08.6 +10
BRG *e*PKPab PKPab 13 08 27.3 -1.2
BRG Berggiesshubel 156.73 342 *e*PKP PKPdf 13 07 58.1 -0.9
comp=Z,12nm,1.5s
BRG *i* 13 08 09.0
comp=Z,8.3nm,0.8s
BRG *i* 13 08 27.7
comp=Z,26nm,1.0s
BRG
comp=N,463nm,25.7s
BRG
comp=E,190nm,15.4s
BRG
comp=Z,549nm,23.4s
BRG Berggiesshubel 156.73 342 *e*PKP PKPdf 13 07 58.1 -0.9
BRG *i* 13 08 09.0
BRG *i* 13 08 27.7
BRG LR LR
comp=Z,330nm,23.4s,MS5.1
PVCC Panska Ves 156.86 340 *e*PKPAB PKPab 13 08 28.6 -0.5
PSZ Piszkesteto 157.02 329⇓*e*PKP PKPdf 13 07 58.7 -0.8
PRU Pruhonice 157.35 340 *e*PKPAB PKPab 13 08 30.8 -0.4
TREC Trest 157.65 337 *e*PKPAB PKPab 13 08 32.1 -0.4
NKC Novy Kostel 157.71 343 *e*PKPAB PKPab 13 08 32.0 -0.8
BUD Budapest 157.73 330⇑*e*PKP PKPab 13 08 32.6 -0.4
MODS Modra-Piesok 157.76 333 *e*PKP PKPdf 13 08 00.7 +0.3
MODS *e* 13 08 31.7
ZST Bratislava 157.98 333 *e*PKP PKPab 13 08 33.5 -0.5
MANZ Manzenberg 158.02 343 *e*PKPab PKPab 13 08 32.5 -1.6
ROTZ Rotzenmuhle 158.20 343 *e*PKPab PKPab 13 08 33.9 -1.0
KHC Kasperske Hory 158.40 340 *e*PKPDF PKPdf 13 08 00.4 -0.7
KHC *e*pPKP pPKPdf 13 08 12.8 -3.1
KHC *e*PKPAB PKPab 13 08 35.4 -0.4
GRF Grafenberg Arr 158.51 345 *e*PKP2 PKPab 13 08 35.1 -1.1
GRF MLR MLR
comp=Z,700nm,20.3s,MS5.5
WET Wettzell 158.59 341 *e*PKPab PKPab 13 08 35.3 -1.3
SOP Sopron 158.61 333⇓*e*PKP PKPab 13 08 36.5 -0.2
GERES GERESS Array B 158.61 339 PKP PKPdf 13 07 59.8 -1.6
comp=Z,0.9nm,0.7s,baz=98,slow=2.7,SNR=5.3
GERES pPKP pPKPdf 13 08 12.9 -3.3
comp=Z,1.9nm,0.7s,baz=11,slow=2.7,SNR=4.4
GERES PKPab PKPab 13 08 36.0 -0.8
comp=Z,3.9nm,0.8s,baz=44,slow=4.1,SNR=11
CONA Conrad Observa 158.67 335⇑*i*P PKPab 13 08 36.4 -0.6
comp=Z,20nm,1.0s
STU Stuttgart 159.82 347 *e*PKPab PKPab 13 08 40.7 -1.2
FUR Furstenfeldbru 159.91 343 *e*PKPab PKPab 13 08 40.8 -1.6
BFO Black Forest 160.40 348 *e*PKP2 PKPab 13 08 43.0 -1.5
BFO MLR MLR
comp=Z,871nm,19.0s
WATA Walderalm 160.60 341⇓*i*P PKPab 13 08 44.8 -0.6
comp=Z,15nm,0.9s
WTTA Wattenberg 160.64 341⇓*i*P PKPab 13 08 45.2 -0.4
comp=Z,26nm,0.8s
MOTA Moosalm 160.72 342⇓*i*P PKPab 13 08 45.2 -0.7
comp=Z,21nm,1.1s,SNR=6.0
ABTA Abfaltersbach 160.85 339⇑*i*P PKPab 13 08 45.0 -1.5
comp=Z,16nm,0.8s,SNR=7.0
LOR Lormes 161.95 357⇑*i*PKIKP PKPdf 13 08 04.5 -0.6
TUE Stuetta 161.97 345 *e*PKPdf PKPdf 13 08 04.2 -1.0
SSF Saint Saulge 162.17 358⇑*i*PKIKP PKPdf 13 08 05.5 +0.1
comp=Z,8.4nm,0.9s
CABF La Chapelle 162.41 352⇑*i*PKIKP PKPdf 13 08 05.4 -0.2
comp=Z,26nm,1.1s
LPL La Plagne 163.40 350 *e*PKIKP PKPdf 13 08 06.3 -0.3
RJF Les Rejaudoux 163.92 3⇑*i*PKIKP PKPdf 13 08 06.8 -0.3
comp=Z,16nm,1.0s
TOA0 Torodi Ar. Sit 163.99 177 *e*PKPdf PKPdf 13 08 08.0 -0.1
TOA0 *e*pPKPdf pPKPdf 13 08 22.1 -0.8
TORD Torodi Ar. Bea 163.99 177 PKP PKPdf 13 08 06.5 -1.6
comp=Z,6.3nm,1.0s,baz=314,slow=1.1,SNR=18
TORD pPKP pPKPdf 13 08 21.7 -1.2
comp=Z,6.3nm,1.0s,baz=357,slow=1.4,SNR=7.4
TORD PKPab PKPab 13 09 01.1 +0.2
comp=Z,13nm,0.8s,baz=172,slow=3.3,SNR=8.1
TORD pPKPab pPKPab 13 09 15.1 -0.2
comp=Z,11nm,0.8s,baz=179,slow=3.0,SNR=5.3
TORD Torodi Ar. Bea 163.99 177 PKP PKPdf 13 08 06.5 -1.6
TORD pPKP pPKPdf 13 08 21.7 -1.2
TORD PKPab PKPab 13 09 01.1 +0.2
TORD pPKPab pPKPab 13 09 15.1 -0.2
ORIF Oris-en-Rattie 164.10 351 *e*PKIKP PKPdf 13 08 06.6 -0.7
comp=Z,14nm,1.0s
MBDF Montbardon 164.16 349⇑*i*PKIKP PKPdf 13 08 06.8 -0.6
comp=Z,43nm,1.5s
VIVF Saint-Julien-l 164.30 354 *e*PKIKP PKPdf 13 08 07.2 -0.3
CAF Calviac 164.31 1 *e*PKIKP PKPdf 13 08 07.2 -0.3
comp=Z,45nm,1.6s
SMRF Simiane la Rot 165.07 352 *e*PKIKP PKPdf 13 08 07.8 -0.4
LASF Ste Croix 165.13 356 *e*PKIKP PKPdf 13 08 07.6 -0.6
comp=Z,22nm,1.3s
FRF La Foret Royal 165.31 348 *e*PKIKP PKPdf 13 08 08.3 -1.1
MVO Moncorvo 165.75 31 *e*PKPdf PKPdf 13 08 09.4 +0.6
MVO Moncorvo 165.75 31 *e*LR LR 13 54 12.9
comp=Z,1μm,20.0s
SJPF Ste Jean 165.80 11 *e*PKIKP PKPdf 13 08 08.9 +0.1
MTE Manteigas 166.11 34 *e*PKPdf PKPdf 13 08 09.6 +0.4
MTE Manteigas 166.11 34 *e*LR LR 13 59 57.0
comp=Z,1μm,18.0s
ETSF Etsaut 166.12 10 *e*PKIKP PKPdf 13 08 09.2 +0.1
comp=Z,4.2nm,0.7s
PMAFR Mafra 166.21 42 *e*LR LR 13 53 47.9
comp=Z,1μm,20.0s
PCBR Castelo Branco 166.57 35 *e*PKPdf PKPdf 13 08 09.6 +0.1
PMRV Marv??o 166.92 36 *e*LR LR 13 57 07.3
comp=Z,1μm,20.0s
PESTR Estremoz 167.23 38 *e*PKPab PKPab 13 09 13.3 -1.5
PESTR Estremoz 167.23 38 *e*LR LR 13 50 53.5
comp=Z,1μm,18.0s
PFVI Vila Bisbo 167.63 47 *e*LR LR 13 53 12.8
comp=Z,1μm,20.0s
MORF Marmelete 167.64 46 *e*LR LR 13 54 37.7
comp=Z,1μm,20.0s
PBAR Barrancos 168.02 39 *e*PKPdf PKPdf 13 08 11.6 +0.9
PBAR Barrancos 168.02 39 *e*PKPab PKPab 13 09 17.3 -1.1
PBAR Barrancos 168.02 39 *e*LR LR 13 53 52.7
comp=Z,1μm,18.0s
PBDV Barranco-do-Ve 168.13 45 *e*LR LR 13 55 21.1
comp=Z,2μm,20.0s
PVAQ Vaqueiros 168.16 44 *e*LR LR 13 55 15.6
comp=Z,1μm,20.0s
ESDC Sonseca Array 168.27 26 PKP PKPdf 13 08 11.4 +0.7
comp=Z,2.7nm,1.0s,baz=340,slow=2.2,SNR=12
ESDC pPKP pPKPdf 13 08 24.8 -0.7
comp=Z,1.3nm,0.7s,baz=2.7,slow=2.4,SNR=3.9
ESDC PKPab PKPab 13 09 18.1 -1.2
comp=Z,3.2nm,0.8s,baz=320,slow=3.7,SNR=12
ESDC pPKPab pPKPab 13 09 31.3 -2.3
comp=Z,2.4nm,0.8s,baz=328,slow=4.5,SNR=4.1
KEST Kesra 171.33 320 PKP PKPdf 13 08 12.8 +0.1
comp=Z,2.2nm,0.8s,baz=252,slow=6.4,SNR=2.6
KEST PKPab PKPab 13 09 32.6 -0.5
comp=Z,3.2nm,0.9s,baz=301,slow=4.5,SNR=4.2
TAM Tamanrasset 173.07 203 *e*PKIKP PKPdf 13 08 14.5 +0.6
TAM *e* 13 08 29.6

*IDC **18** 13:03:39.7±1.4,3233S×17851W,h0km,mb4.4/5, mb1 4.5/5,mb1mx4.1/18,mbtmp4.4/5,MS3.9/1,Ms1 3.9/1, ms1mx3.0/21,Error ellipse: s-maj=46.4km s-min=28.8km az=31.0*
*ISCJB **18** 13:03:49.2±2.1,3323S×0.10×179.4W±02,h45km±17km, mb4.3/8,Error ellipse: s-maj=24.8km s-min=16.0km az=7.4*
*NEIC **18** 13:04:05.2±0.9,3414S×17988W,h156km±10km,mb4.3/7, Error ellipse: s-maj=19.6km s-min=9.7km az=104.0*
ISC 18 13:03:49.7±2.0,331S±01×1793W±02,h37km±16km,n33, σ0§89/31,mb4.3/8,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.02**	**17**	LR	LR	13 05 22.5	
	comp=Z,2μm,19.7s,baz=51,slow=33						
RAO	**Raoul Island**	**4.02**	**17**	*e*Pn	**Sn**	**13 05 20.8**	**-14**
	3μm,0.3s						
PUZ	**Puketiti**	**5.34**	**201**	P	**Pn**	**13 05 07.2**	**+0.3**
MWZ	**Matawai**	**5.83**	**206**	*e*P	**Pn**	**13 05 14.9**	**+1.4**
MWZ				S	**Sn**	**13 06 26.4**	**+7.3**
URZ	**Urewera**	**5.92**	**209**	Pn	**Pn**	**13 05 17.3**	**+2.5**
	11nm,0.3s,baz=320,slow=1.5,SNR=39						
URZ				Sn	**Sn**	**13 06 30.2**	**+8.8**
	11nm,0.3s,baz=149,slow=21,SNR=7.9						
URZ	**Urewera**	**5.92**	**209**	*e*P	**Pn**	**13 05 15.6**	**+0.8**
OUZ	**Omahuta**	**6.28**	**248**	P	**Pn**	**13 05 27.0**	**+7.3**
KNZ	**Kokohu**	**6.39**	**202**	*e*P	**Pn**	**13 05 20.8**	**-0.5**
BKZ	**Black Stump Fm**	**6.95**	**208**	*e*P	**Pn**	**13 05 28.6**	**-0.3**
TSZ	**Takapari Road**	**7.92**	**208**	*e*P	**Pn**	**13 05 43.4**	**+1.1**
MRZ	**Mangatainoka R**	**8.59**	**207**	*e*P	**Pn**	**13 05 50.1**	**-1.3**
MRZ				S	**Sn**	**13 07 27.3**	**+0.3**
CAW	**Cannon Point**	**9.17**	**208**	*e*P	**Pn**	**13 05 58.5**	**-0.9**
THZ	**Tophouse**	**10.64**	**213**	*e*P	**Pn**	**13 06 19.0**	**-0.5**
THZ				S	**Sn**	**13 08 17.1**	**-0.2**
KHZ	**Kahutara**	**10.89**	**209**	*e*P	**Pn**	**13 06 22.9**	**0.0**
LTZ	**Lake Taylor**	**11.73**	**212**	*e*P	**Pn**	**13 06 33.9**	**-0.5**
RPZ	**Rata Peaks**	**13.01**	**213**	Pn	**Pn**	**13 06 48.1**	**-3.8**
	0.3nm,0.3s,baz=342,slow=19,SNR=2.1						
RPZ				Sn	**Sn**	**13 09 09.4**	**-5.9**
	0.3nm,0.3s,baz=307,slow=11,SNR=5.6						
CTA	**Charters Tower**	**33.28**	**284**	P	**P**	**13 10 23.5**	**-0.3**
	3.7nm,0.5s,mb4.5,baz=146,slow=9.9,SNR=9.5						
CTAO	**Charters Tower**	**33.28**	**284**	*e*P	**P**	**13 10 25.7**	**+1.9**
	3.4nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**41.96**	**271**	P	**P**	**13 11 37.9**	**+0.8**
	5.0nm,0.7s,mb4.2,baz=111,slow=7.6,SNR=51						
WB2	**Warramunga Arr**	**43.19**	**276**	*e*P	**P**	**13 11 46.9**	**-0.2**
WRAB	**Tennant Creek**	**43.20**	**276**	*e*P	**P**	**13 11 46.9**	**-0.3**
	5.6nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**43.20**	**276**	P	**P**	**13 11 47.0**	**-0.3**
	5.6nm,0.7s,mb4.4,baz=113,slow=8.0,SNR=51						
FITZ	**Fitzroy Crossi**	**51.34**	**273**	P	**P**	**13 12 50.2**	**-0.4**
	1.9nm,0.7s,mb4.1,baz=122,slow=19,SNR=3.2						
CASY	**Casey**	**52.25**	**209**	*e*P	**P**	**13 12 56.8**	**+0.1**
	1.4nm,0.6s,mb4.1						
QSPA	**South Pole Qui**	**57.01**	**180**	P	**P**	**13 13 32.5**	**+1.5**
	4.0nm,0.7s,mb4.6,baz=31,slow=3.5,SNR=4.3						
QSPA	**South Pole Qui**	**57.01**	**180**	*e*P	**P**	**13 13 32.7**	**+1.7**
	5.2nm,0.8s,mb4.6						
SNAA	**Sanae**	**75.48**	**179**	*e*P	**P**	**13 15 27.9**	**-1.5**
	1.2nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	**140.98**	**346**	PKhKP		13 23 06.4	
	2.2nm,1.0s,baz=69,slow=1.3,SNR=5.4						
NB2	**NORSAR Subarra**	**151.24**	**349**	PKP	PKPdf	13 23 34.2	+1.9
	comp=Z,1.6nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.24**	**349**	PKPbc	PKPdf	13 23 33.9	+1.6
	comp=Z,1.5nm,0.8s,baz=22,slow=4.7,SNR=9.5						
AKASG	**Malin Array Be**	**152.70**	**319**	PKPbc	PKPdf	13 23 36.2	+1.4
	comp=Z,0.8nm,0.4s,baz=55,slow=2.6,SNR=4.2						
AKASG	**Malin Array Be**	**152.70**	**319**	PKPbc	PKPdf	13 23 36.2	+1.4
TORD	**Torodi Ar. Bea**	**160.11**	**183**	PKPab	PKPab	13 24 23.7	-1.6
	comp=Z,0.8nm,0.7s,baz=186,slow=2.7,SNR=4.6						

*IDC **18** 13:16:29.5±0.8,3798N×11329W,h0km,mb1 3.6/7, mb1mx3.4/27,mbtmp3.3/7,ML3.5/7,Error ellipse: s-maj=7.7km s-min=7.0km az=62.0*
*ISCJB **18** 13:16:30.9±0.3,3802N±003×11328W±004,h10km,Error ellipse: s-maj=4.8km s-min=4.0km az=35.4*
*NEIC **18** 13:16:31.0,3807N×11331W,h7km,ML3.9(SLC), MW4.1(SLM),After SLC.*
NEIC Felt at Cedar City.
ISC 18 13:16:33.2±1.5,3803N±003×11331W±005,h14km±12km, n57,σ1§47/65,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHPR	**Sheep Range**	**2.12**	**225**	*e*Pn	**Pn**	**13 17 07.9**	**-0.3**
NLU	**North Lily Min**	**2.15**	**26**	*e*Pn	**Pn**	**13 17 08.4**	**-0.3**
MPU	**Maple Canyon**	**2.37**	**33**	*e*Pn	**Pn**	**13 17 11.2**	**-0.6**
NOQ	**North Oquirrh**	**2.78**	**19**	*e*Pb	**Pn**	**13 17 19.9**	**+2.6**
DAU	**Daniels Canyon**	**2.86**	**33**	*e*Pb	**Pn**	**13 17 22.4**	**+3.9**
BGU	**Big Grassy Mou**	**2.90**	**4**	*e*Pn	**Pn**	**13 17 16.0**	**-2.9**
BGU				*e*Sn	**Sn**	**13 17 55.7**	**+2.1**
CTU	**Camp Tracy**	**2.92**	**24**	*e*Pn	**Pn**	**13 17 19.9**	**+0.7**
JLU	**Jordanelle**	**2.94**	**29**	*e*Pb	**Pb**	**13 17 23.3**	**-2.2**
TPH	**Tonopah**	**3.09**	**272**	*e*Pn	**Pn**	**13 17 20.2**	**-1.3**
ELK	**Elko**	**3.09**	**332**	Pn	**Pn**	**13 17 20.1**	**-1.6**
	4.2nm,0.3s,baz=149,slow=11,SNR=56						
ELK				Pg	**Pg**	**13 17 26.8**	**-5.7**
	19nm,0.3s,baz=155,slow=11,SNR=79						
ELK				Sn	**Sn**	**13 17 58.7**	**+0.3**
	20nm,0.3s,baz=190,slow=15,SNR=3.7						
ELK				Lg		13 18 07.3	
	79nm,0.3s,baz=49,slow=20,SNR=29						
ELK	**Elko**	**3.09**	**332**	*e*Pn	**Pn**	**13 17 20.3**	**-1.4**
LDFC	**Landfair**	**3.28**	**207**	*e*Pn	**Pn**	**13 17 26.2**	**+2.0**
SPUT	**South Promonto**	**3.34**	**11**	*e*Pn	**Pn**	**13 17 23.8**	**-1.3**
HVU	**Hansel Valley**	**3.77**	**6**	*e*Pn	**Pn**	**13 17 29.4**	**-1.5**
HWUT	**Hardware Ranch**	**3.82**	**20**	*e*Pn	**Pn**	**13 17 31.3**	**-0.3**
BMN	**Battle Mountai**	**3.87**	**310**	*e*Pn	**Pn**	**13 17 32.8**	**+0.5**
GSC	**Goldstone**	**3.91**	**227**	*e*Pn	**Pn**	**13 17 33.9**	**+1.0**
NVAR	**Mina Array Bea**	**3.95**	**277**	Pn	**Pn**	**13 17 31.9**	**-1.5**
	2.5nm,0.3s,baz=102,slow=13,SNR=25						
NVAR				Pg	**Pg**	**13 17 40.9**	**-8.0**
	8.8nm,0.3s,baz=100,slow=16,SNR=32						
NVAR				Sn	**Sn**	**13 18 18.1**	**-1.5**
	19nm,0.3s,baz=64,slow=17,SNR=4.8						
NVAR				Lg		13 18 35.3	
	41nm,0.3s,baz=103,slow=29,SNR=7.5						
MTUM	**Tungsten Hills**	**4.22**	**262**	*e*Pn	**Pn**	**13 17 37.0**	**-0.2**
ISA	**Isabella**	**4.77**	**242**	*e*Pn	**Pn**	**13 17 47.3**	**+2.6**
PAHR	**Pah Rah Range**	**5.03**	**291**	*e*Pn	**Pn**	**13 17 50.0**	**+1.8**
SMCO	**Snowmass**	**5.09**	**75**	*e*Pn	**Pn**	**13 17 46.0**	**-3.2**
SMCO				*e*Pg	**Pg**	**13 18 11.0**	**+0.3**
PFO	**Pinyon Flat Ob**	**5.10**	**211**	Pn	**Pn**	**13 17 47.4**	**-1.8**
	0.3nm,0.3s,baz=25

LRM	**Limekiln Ridge**	**7.81**	**4**	*e*Pb	**Pb**	**13 18 52.8**	**+4.4**
YBH	**Yreka Blue Hor**	**8.12**	**300**	Pn	**Pn**	**13 18 30.5**	**-0.1**
	0.2nm,0.3s,baz=151,slow=13,SNR=2.1						
YBH				Lg		13 20 42.4	
	0.1nm,0.3s,baz=354,slow=20,SNR=2.1						
RSSD	**Black Hills**	**9.27**	**46**	*e*Pn	**Pn**	**13 18 45.2**	**-1.2**
TXAR	**Lajitas Array**	**11.81**	**134**	Pn	**Pn**	**13 19 22.8**	**+1.4**
	0.0nm,0.3s,baz=322,slow=10,SNR=3.7						
TXAR				Lg		13 22 39.5	
	0.1nm,0.3s,baz=332,slow=36,SNR=3.1						
TXAR	**Lajitas Array**	**11.81**	**134**	Pn	**Pn**	**13 19 22.8**	**+1.4**
TXAR				Lg		13 22 39.5	
LHS	**Liberty Hill**	**26.38**	**88**	*e*P	**P**	**13 22 07.7**	**-1.4**
HKL	**Haleakala**	**40.81**	**257**	*e*P	**P**	**13 24 10.9**	**-3.5**

*ISCJB **18** 13:47:22.3±0.6, 3925N±002×2021E±003, h8km±4km, Error ellipse: s-maj=4.3km s-min=3.5km az=173.2*
*TIR **18** 13:47:22.1±3.1, 3938N×2065E, h6km±444km*
*THE **18** 13:47:22.9, 3928N×2023E, h2km, ML3.6*
*CSEM **18** 13:47:23.0±0.1, 3929N×2017E, h8km, ML3.6, Error ellipse: s-maj=2.7km s-min=2.3km az=130.0*
*NEIC **18** 13:47:23.3, 3924N×2033E, h16km, MD3.6(ATH), ML3.6(THE), After ATH.*
*ATH **18** 13:47:23.3, 3924N×2033E, h16km±1km, MD3.6/11*
ISC 18 13:47:23.3±0.5, 3925N±002×2025E±003, h7km±3km, n41, σ1§22/63, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.29**	**12**	*e*Pg	**Pg**	**13 47 27.8**	**-1.2**
IGT				*e*Sg	**Sg**	13 47 32.6	-0.3
IGT	**Igoumenitsa**	**0.29**	**12**	*i* PG	**Pg**	13 47 27.8	-1.2
IGT				*i* SG	**Sg**	13 47 32.6	-0.4
KEK	**Kerkira**	**0.58**	**323**	*e*PB	**Pb**	13 47 34.7	-1.1
KEK				*e*SN	**Sg**	13 47 44.6	+2.4
JAN	**Janina**	**0.62**	**48**	*e*PN	**Pg**	13 47 33.9	-1.3
JAN				*e*SN	**Sg**	13 47 42.6	-0.7
LKD	**Levkas**	**0.62**	**150**	*e*Pg	**Pg**	13 47 34.1	-1.1
LKD				*e*Sg	**Sg**	13 47 45.0	+1.8
LKD	**Levkas**	**0.62**	**150**	*e*Pg	**Pg**	13 47 34.1	-1.1
LKD				*e*Sg	**Sg**	13 47 45.0	+1.7
SRN	**Sarande**	**0.66**	**343**	*e*PG	**Pg**	13 47 39.0	+3.0
MEV	**Metsovon**	**0.93**	**54**	*e*Pg	**Pg**	13 47 39.5	-1.6
VLS	**Valsamata**	**1.10**	**166**	*e*Pg	**Pg**	13 47 44.0	-0.3
VLS				*e*Sg	**Sg**	13 48 01.1	+2.5
VLS	**Valsamata**	**1.10**	**166**	*e*PN	**Pn**	13 47 44.5	-0.5
VLS				*e*SN	**Sn**	13 47 59.2	-1.2
VLS	**Valsamata**	**1.10**	**166**	*e*Pn	**Pn**	13 47 44.5	-0.5
VLS				*e*Sn	**Sn**	13 47 59.2	-1.2
VLS				*e*Sg	**Sg**	13 48 01.1	+2.5
KFL	**Anninata**	**1.21**	**160**	*e*Pg	**Pg**	13 47 45.5	-1.0
KFL				*e*Sg	**Sg**	13 48 04.8	+2.7
THL	**Klokotos Trika**	**1.40**	**76**	*e*Pg	**Pg**	13 47 48.0	-2.1
THL				*e*Sg	**Sg**	13 48 09.2	+0.8
THL	**Klokotos Trika**	**1.40**	**76**	*e*PN	**Pn**	13 47 48.3	-0.9
THL				*e*SN	**Sn**	13 48 06.5	-1.4
THL	**Klokotos Trika**	**1.40**	**76**	*e*Pn	**Pn**	13 47 48.3	-0.9
THL				*e*Sn	**Sn**	13 48 06.5	-1.4
THL				*e*Sg	**Sg**	13 48 09.2	+0.9
RLS	**Riolos of Patr**	**1.52**	**141**	*e*PN	**Pn**	13 47 51.6	+0.8
RLS				*e*SN	**Sn**	13 48 10.8	0.0
KZN	**Kozani**	**1.58**	**47**	*e*PN	**Pn**	13 47 52.7	+1.1
KZN				*e*SN	**Sn**	13 48 13.6	+1.3
AGG	**Agios Georgios**	**1.63**	**97**	*e*Pb	**Pb**	13 47 52.3	-1.4
AGG				*e*Sb	**Sb**	13 48 14.8	+0.4
FNA	**Florina**	**1.76**	**29**	*e*Sb	**Sb**	13 48 18.4	+0.2
LKR	**Lokris**	**2.22**	**105**	*e*Pn	**Pn**	13 48 00.9	+0.4
LKR	**Lokris**	**2.22**	**105**	*e*PN	**Pn**	13 48 01.1	+0.6
KRUS	**Krusevo**	**2.25**	**19**	*i* Pn	**Pn**	13 48 01.9	+1.0
XOR	**Xorichti**	**2.28**	**86**	*e*Pn	**Pn**	13 48 01.8	+0.4
QSH	**Qafa e Shtames**	**2.29**	**353**	*e*PN	**Pn**	13 48 03.5	+2.1
NEO	**Neokhori**	**2.31**	**88**	*e*PN	**Pn**	13 48 02.9	+1.3
ITM	**Ithomi**	**2.45**	**147**	*e*PB	**Pb**	13 48 04.3	-3.3
LTK	**Loutraki**	**2.45**	**119**	*e*Pn	**Pn**	13 48 03.3	-0.4
HORT	**Hortiatis**	**2.57**	**57**	*e*Pn	**Pn**	13 48 05.3	0.0
PLG	**Polygyros**	**2.71**	**64**	*e*Pn	**Pn**	13 48 07.2	0.0
PLG				*e*Sn	**Sn**	13 48 40.8	+0.7
PLG	**Polygyros**	**2.71**	**64**	*e*Pn	**Pn**	13 48 07.3	+0.2
PLG				*e*Sn	**Sn**	13 48 39.2	-0.9
TIP	**Timpagrande**	**2.71**	**270**	*e*Pn	**Pn**	13 48 06.4	-0.8
TIP	**Timpagrande**	**2.71**	**270**	*e*Pn	**Pn**	13 48 06.4	-0.8
PAIG	**Paliouri**	**2.73**	**74**	*e*Pn	**Pn**	13 48 07.4	-0.2
PUK	**Puka**	**2.81**	**355**	*e*PN	**Pn**	13 48 08.7	+0.2
SOH	**Sokhos**	**2.85**	**56**	*e*Sn	**Sn**	13 48 44.2	+0.4
OUR	**Ouranopolis**	**3.07**	**68**	*e*Pn	**Pn**	13 48 12.5	+0.3
SG1	**Sgolgore (BA)**	**3.17**	**301**	*e*Pn	**Pn**	13 48 13.3	-0.2
VLI	**Veliai**	**3.30**	**139**	*e*PN	**Pn**	13 48 16.1	+0.9
CEL	**Celeste**	**3.55**	**255**	*e*Pn	**Pn**	13 48 17.2	-1.5
CEL				*e*Sn	**Sn**	13 48 58.0	-2.8
CEL	**Celeste**	**3.55**	**255**	*e*Pn	**Pn**	13 48 17.2	-1.4
CEL				*e*Sn	**Sn**	13 48 58.0	-2.9
RGNG	**Rignano Grg**	**4.31**	**306**	Pn	**Pn**	**13 48 30.9**	**+1.8**

*ROM **18** 14:04:07.9±0.2, 3828N×1517E, h11km±2km, Ml4.0/41, Error ellipse: s-maj=1.7km s-min=1.6km az=154.0*
*CSEM **18** 14:04:07.6±0.1, 3822N×1517E, h12km, ML5.0/10, Error ellipse: s-maj=1.1km s-min=1.1km az=117.0*
*PDG **18** 14:04:07.5±0.6, 3826N×1516E, h15km±1km, ML3.9/10, Error ellipse: s-maj=1.4km s-min=1.4km az=90.0*
*NEIC **18** 14:04:08.0, 3822N×1517E, h8km, ML4.1(ROM), After ROM.*
NEIC Felt [IV] at Barcellona Pozzo di Gotto, Gioisa Marea, Milazzo and Patti; [III] at Messina, Reggio de Calabria and Rometta. Also felt at Brolo, Spadafora and Taormina.
*ISCJB **18** 14:04:08.3±0.2, 3829N±001×15.18E±002, h23km±2km, mb3.7/8, Error ellipse: s-maj=2.9km s-min=2.3km az=33.2*
*IDC **18** 14:04:12.6±1.5, 3808N×1507E, h41km±19km, mb3.5/8, mb1 3.6/15, mb1mx3.5/33, mbtmp3.6/15, ML3.7/7, MS3.9/1, Ms1 3.9/1, ms1mx3.1/38, Error ellipse: s-maj=17.9km s-min=12.8km az=123.0*
ISC 18 14:04:08.5±0.2, 3825N±001×1516E±002, h14km±2km, n120, σ1§04/153, mb3.7/8, 21C-14D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VPL	**Vulcano Piano**	**0.19**	**313**	⇑*e*Pg	**Pg**	**14 04 13.0**	**+0.2**
VPL				Sg	**Sg**	**14 04 16.8**	**+1.0**
	231μm,0.9s						
LLI	**Lipari**	**0.26**	**319**	⇑*e*Pg	**Pg**	**14 04 14.5**	**+0.6**
LLI				Sg	**Sg**	**14 04 17.9**	**+0.3**
	167μm,0.9s						
MSRU	**Castanea**	**0.27**	**87**	⇑*e*Pg	**Pg**	**14 04 14.2**	**0.0**
MSRU				Sg	**Sg**	**14 04 18.9**	**+0.8**
	71μm,0.6s						
MSI	**Messina ING**	**0.31**	**98**	⇑*i*Pg	**Pg**	**14 04 14.7**	**-0.2**
MMME	**Mongiuffi-Meli**	**0.32**	**167**	⇓*i*Pg	**Pg**	**14 04 16.2**	**+1.1**
MMME				Sg	**Sg**	**14 04 19.2**	**-0.3**
SCLL	**Scilla**	**0.43**	**89**	⇑*e*Pg	**Pg**	**14 04 16.7**	**-0.4**
MNO	**Monte Soro**	**0.49**	**229**	⇑*i*Pg	**Pg**	**14 04 17.6**	**-0.4**
MTTG	**Motta San Giov**	**0.49**	**120**	⇑*e*Pg	**Pg**	**14 04 17.5**	**-0.6**
MTTG				Sg	**Sg**	**14 04 26.2**	**+1.6**
	16μm,0.5s						
IFIL	**Filicudi I Eol**	**0.56**	**304**	⇑*e*Pg	**Pg**	**14 04 19.1**	**-0.4**
IFIL				Sg	**Sg**	**14 04 28.2**	**+1.2**
	80μm,0.3s						
ESLN	**Serra La Nave**	**0.58**	**195**	Pg	**Pg**	**14 04 20.1**	**+0.4**
	15μm,1.1s						
CEL	**Celeste**	**0.58**	**89**	*e*P	**Pg**	**14 04 18.8**	**-1.0**
CEL				*e*S	**Sg**	**14 04 27.1**	**-0.3**
JOPP	**Joppolo**	**0.67**	**58**	Pg	**Pg**	**14 04 21.6**	**+0.1**
JOPP				Sg	**Sg**	**14 04 31.3**	**+0.9**
	9μm,0.6s						
ACL	**Alicudi**	**0.69**	**294**	Pg	**Pg**	**14 04 21.1**	**-0.9**
	21μm,0.3s						
GALF	**Gagliano Caste**	**0.71**	**221**	Pg	**Pg**	**14 04 22.0**	**-0.4**
	24μm,0.8s						
SOI	**Samo**	**0.73**	**104**	⇑*e*Pg	**Pg**	**14 04 21.5**	**-1.1**
SOI				Sg	**Sg**	**14 04 32.4**	**+0.3**
	5μm,0.8s						
MPAZ	**Palizzi**	**0.73**	**114**	⇑*e*Pg	**Pg**	**14 04 21.6**	**-1.0**
	9μm,0.7s						
ECNV	**Catenanuova**	**0.74**	**209**	⇓*e*Pg	**Pg**	**14 04 24.1**	**+1.2**
	25μm,1.0s						
GIB	**Gibilmanna**	**0.93**	**254**	⇑*e*Pg	**Pg**	**14 04 24.7**	**-1.8**
GIB				Sg	**Sg**	**14 04 39.6**	**+0.9**
	9μm,0.7s						
HAGA	**Augusta**	**0.96**	**180**	Pg	**Pg**	**14 04 25.9**	**-1.2**
HAGA				Sg	**Sg**	**14 04 39.9**	**+0.2**
	8μm,1.1s						
VAE	**Valguarnera**	**0.97**	**218**	P	**Pg**	**14 04 28.0**	**+0.7**
	54nm,0.3s,baz=319,slow=1.7,SNR=105						
VAE				S	**Sg**	**14 04 45.5**	**+5.6**
	111nm,0.3s,baz=70,slow=8.0,SNR=27						
AGST	**Augusta-Monte**	**0.99**	**177**	Pg	**Pg**	**14 04 26.4**	**-1.2**
AGST				Sg	**Sg**	**14 04 40.6**	**0.0**
	6μm,0.6s						
PLAC	**Placanica**	**1.02**	**78**	⇑*e*Pg	**Pg**	**14 04 27.4**	**-0.8**
PLAC				Sg	**Sg**	**14 04 42.0**	**+0.4**
	5μm,1.1s						
SSY	**Sortino**	**1.10**	**184**	Pg	**Pg**	**14 04 28.1**	**-1.5**
SSY				Sg	**Sg**	**14 04 44.6**	**+0.7**
	7μm,0.5s						
HVZN	**Vizzini**	**1.13**	**198**	⇓*i*Pg	**Pg**	**14 04 28.5**	**-1.7**
HVZN				Sg	**Sg**	**14 04 46.1**	**+1.2**
	7μm,0.5s						
GRI	**Girifalco**	**1.14**	**60**	Pg	**Pn**	**14 04 28.5**	**-1.5**
	8μm,0.9s						
RAFF	**Raffo Rosso**	**1.21**	**212**	⇓*i*Pg	**Pn**	**14 04 30.8**	**-0.1**
RAFF				Sg	**Sn**	**14 04 48.8**	**+1.8**
	3μm,0.7s						
HAVL	**Avola**	**1.29**	**181**	⇓*e*Pg	**Pn**	**14 04 30.9**	**-1.1**
HAVL				Sg	**Sn**	**14 04 49.9**	**+0.8**
	4μm,0.7s						
CARO	**Carolei**	**1.30**	**39**	Pg	**Pn**	**14 04 30.5**	**-1.7**
	7μm,0.8s						
HMDC	**Modica**	**1.32**	**193**	⇓*e*Pg	**Pn**	**14 04 31.5**	**-1.0**
HMDC				Sg	**Sn**	**14 04 50.4**	**+0.4**
	7μm,0.8s						
SERS	**Sersale**	**1.43**	**56**	Pg	**Pn**	**14 04 33.1**	**-0.9**
	2μm,0.9s						
CORL	**Corleone**	**1.51**	**257**	Pg	**Pn**	**14 04 34.4**	**-0.7**
	2μm,0.8s						
USI	**Ustica**	**1.62**	**287**	Pg	**Pn**	**14 04 34.1**	**-2.5**
	632nm,0.3s						
CUC	**Castrocucco**	**1.81**	**16**	⇓*e*Pg	**Pn**	**14 04 38.2**	**-1.0**
	1μm,0.7s						
CUC	**Castrocucco**	**1.81**	**16**	*e*P	**Pn**	**14 04 37.8**	**-1.4**
CUC	**Castrocucco**	**1.81**	**16**	⇓*e*Pg	**Pn**	**14 04 38.2**	**-1.0**
	1μm,0.7s						
CUC	**Castrocucco**	**1.81**	**16**	*e*P	**Pn**	**14 04 37.8**	**-1.4**
BULG	**Bulgheria - Ca**	**1.83**	**5**	Pg	**Pn**	**14 04 38.3**	**-1.2**
	522nm,0.6s						
SIRI	**Monte Sirino -**	**2.00**	**16**	Pg	**Pn**	**14 04 40.9**	**-1.0**
	587nm,0.6s						
ERC	**Erice**	**2.04**	**265**	Pg	**Pn**	**14 04 41.3**	**-1.1**
	3μm,1.0s						
CMPR	**Campora**	**2.07**	**3**	Pg	**Pn**	**14 04 41.5**	**-1.2**
	233nm,0.8s						
SCHR	**S. Chirico Rap**	**2.07**	**20**	Pg	**Pn**	**14 04 42.1**	**-0.7**
	220nm,0.8s						
MCEL	**Monticello**	**2.13**	**13**	Pg	**Pn**	**14 04 42.8**	**-0.8**
	479nm,0.8s						
CDRU	**Civita di Ruta**	**2.24**	**3**	Pg	**Pn**	**14 04 44.1**	**-1.0**
	211nm,1.0s						
SGO	**Sicignano**	**2.31**	**3**	Pg	**Pn**	**14 04 45.7**	**-0.4**
	98nm,0.4s						
CRAC	**Craco**	**2.33**	**25**	Pg	**Pn**	**14 04 48.7**	**+2.3**
	752nm,0.8s						
PTRP	**Pietrapertosa**	**2.37**	**17**	Pg	**Pn**	**14 04 49.2**	**+2.3**
MCRV	**Calabrutti - M**	**2.53**	**0**	Pg	**Pn**	**14 04 48.6**	**-0.5**
	519nm,1.0s						
MIGL	**Miglionico**	**2.55**	**22**	Pg	**Pn**	**14 04 49.9**	**+0.5**
	2μm,1.2s						
CSSN	**Cassano Irpino**	**2.61**	**358**	Pg	**Pn**	**14 04 50.8**	**+0.6**
	43nm,0.5s						
PALZ	**Palazzo San Ge**	**2.76**	**13**	Pg	**Pn**	**14 04 52.8**	**+0.5**
	821nm,1.2s						
CAFE	**Carife**	**2.77**	**1**	Pg	**Pn**	**14 04 54.4**	**+1.9**
SG1	**Sgolgore (BA)**	**2.84**	**24**	*e*Pn	**Pn**	**14 04 53.5**	**+0.1**
AMUR	**Altamura**	**2.88**	**22**	Pg	**Pn**	**14 04 53.6**	**-0.3**
	155nm,0.8s						
PTS	**Pantelleria**	**2.90**	**241**	Pg	**Pn**	**14 04 55.0**	**+0.8**
	53nm,0.2s						
MRVN	**Minervino Murg**	**2.92**	**16**	Pg	**Pn**	**14 04 54.3**	**-0.1**
	88nm,0.8s						
NOCI	**Noci**	**2.93**	**30**	Pg	**Pn**	**14 04 53.8**	**-0.8**
	267nm,1.0s						
CDT	**Castel del Mon**	**2.96**	**17**	*e*Pn	**Pn**	**14 04 54.9**	**0.0**
PE1	**Pezze di Greco**	**3.09**	**34**	*e*Pn	**Pn**	**14 04 56.0**	**-0.8**
BAI	**Bari**	**3.15**	**24**	*e*Pn	**Pn**	**14 04 57.0**	**-0.6**
SCTE	**Santa Cesarea**	**3.15**	**54**	Pg	**Pn**	**14 04 56.6**	**-1.0**
	549nm,1.3s						
RGNG	**Rignano Grg**	**3.44**	**5**	Pg	**Pn**	**14 05 01.9**	**+0.4**
MS1	**Monte Sant'Ang**	**3.50**	**10**	*e*Pn	**Pn**	**14 05 01.6**	**-0.9**
SGRT	**San Giovanni R**	**3.53**	**7**	Pg	**Pn**	**14 05 02.7**	**-0.1**
KEK	**Kerkira**	**3.90**	**67**	*e*P	**Pn**	**14 05 07.5**	**-0.4**
KEK	**Kerkira**	**3.90**	**67**	Pg	**Pn**	**14 05 07.8**	**-0.1**
	268nm,0.8s						
VLS	**Valsamata**	**4.28**	**89**	*e*P	**Pn**	**14 05 11.7**	**-1.4**
AQU	**L'Aquila**	**4.31**	**342**	*e*Pn	**Pn**	**14 05 17.6**	**+4.0**
AQU	**L'Aquila**	**4.31**	**342**	*e*Pn	**Pn**	**14 05 17.6**	**+4.0**
JAN	**Janina**	**4.65**	**71**	*e*P	**Pn**	**14 05 17.5**	**-0.8**
ULC	**Ulcinj**	**4.86**	**39**	⇑*i*Pn	**Pn**	**14 05 22.2**	**+1.1**
ULC				*e*Sn	**Sn**	**14 05 16.8**	**-0.2**
HCY	**Herceg Novi**	**4.91**	**30**	⇓*i*Pn	**Pn**	**14 05 21.9**	**+0.1**
HCY				*e*Sn	**Sn**	**14 05 18.9**	**+0.6**
BUM	**Brajici-Budva**	**4.95**	**34**	⇓*i*Pn	**Pn**	**14 05 23.0**	**+0.6**
BUM				*e*Sn	**Sn**	**14 06 20.2**	**+0.7**
PDG	**Podgorica**	**5.22**	**36**	⇑*i*Pn	**Pn**	**14 05 25.8**	**-0.2**
PDG				*e*Sn	**Sn**	**14 06 25.7**	**-0.3**
TTG	**Podgorica**	**5.22**	**36**	⇑*i*Pn	**Pn**	**14 05 25.8**	**-0.2**
TTG				*e*Sn	**Sn**	**14 06 25.7**	**-0.3**
KEST	**Kesra**	**5.29**	**243**	P	**Pn**	**14 05 28.3**	**+1.3**
	0.3nm,0.3s,baz=335,slow=2.4,SNR=11						
KEST				S	**Sn**	**14 06 24.2**	**-3.6**
	0.3nm,0.3s,baz=352,slow=9.9,SNR=2.3						
BRY	**Bratogost**	**5.31**	**28**	⇑*i*Pn	**Pn**	**14 05 26.9**	**-0.4**
BRY				*e*Sn	**Sn**	**14 06 28.0**	**-0.3**
NKY	**Niksic**	**5.41**	**31**	⇓*i*Pn	**Pn**	**14 05 29.0**	**+0.3**
NKY				*e*Sn	**Sn**	**14 06 30.6**	**-0.2**
ITM	**Ithomi**	**5.47**	**99**	*e*P	**Pn**	**14 05 31.4**	**+1.9**
THL	**Klokotos Trika**	**5.50**	**74**	*e*P	**Pn**	**14 05 29.7**	**-0.3**
KZN	**Kozani**	**5.52**	**66**	*e*P	**Pn**	**14 05 31.2**	**+1.0**
KRUS	**Krusevo**	**5.63**	**54**	*i* Pn	**Pn**	**14 05 32.0**	**+0.4**
PVY	**Plav**	**5.68**	**39**	⇑*i*Pn	**Pn**	**14 05 33.4**	**+1.0**
PVY				*e*Sn	**Sn**	**14 06 37.3**	**-0.2**
UPM	**Unac-Piva**	**5.71**	**29**	⇑*i*Pn	**Pn**	**14 05 34.0**	**+1.2**
UPM				*e*Sn	**Sn**	**14 06 38.3**	**+0.3**
BEY	**Berane**	**5.86**	**37**	⇑*i*Pn	**Pn**	**14 05 35.1**	**+0.3**
BEY				*e*Sn	**Sn**	**14 06 41.4**	**-0.3**
IVA	**Berane**	**5.86**	**37**	⇑*i*Pn	**Pn**	**14 05 35.1**	**+0.3**
IVA				*e*Sn	**Sn**	**14 06 41.4**	**-0.3**
PLE	**Pljevlja**	**6.00**	**31**	⇓*i*Pn	**Pn**	**14 05 37.1**	**+0.3**
PLE				*e*Sn	**Sn**	**14 06 45.1**	**-0.3**
LKR	**Lokris**	**6.17**	**84**	*e*P	**Pn**	**14 05 38.4**	**-0.7**
VLI	**Veliai**	**6.37**	**102**	*e*P	**Pn**	**14 05 47.2**	**+5.3**
PLG	**Polygyros**	**6.76**	**69**	*e*P	**Pn**	**14 05 47.1**	**-0.2**
BARS	**Barje**	**6.82**	**46**	*e*Pn	**Pn**	**14 05 48.6**	**+0.6**
DIVS	**Divibare**	**6.88**	**30**	*e*Pn	**Pn**	**14 05 48.7**	**-0.2**
IDI	**Anoyia**	**8.35**	**108**	P	**Pn**	**14 06 12.1**	**+3.1**
	0.4nm,0.3s,baz=305,slow=19,SNR=4.9						
IDI				S	**Sn**	**14 07 40.9**	**-2.1**
	3.5nm,0.3s,baz=51,slow=20,SNR=12						
BZS	**Buzias**	**8.79**	**31**	⇑*i*P	**Pn**	**14 06 15.6**	**+0.6**
MBDF	**Montbardon**	**9.02**	**318**	*e*P	**Pn**	**14 06 15.5**	**-2.8**
	25nm,1.1s						
MBDF	**Montbardon**	**9.02**	**318**	*e*P	**Pn**	**14 06 15.5**	**-2.8**
	13nm,1.1s						
DAVOX	**Davos/Dischmat**	**9.37**	**337**	P	**Pn**	**14 06 28.4**	**+5.4**
	0.3nm,0.3s,baz=156,slow=22,SNR=3.8						
DAVOX				LR	LR	14 10 59.4	
	comp=Z,690nm,18.1s,baz=266,slow=43						
LPG	**La Plagne**	**9.57**	**322**	*e*P	**Pn**	**14 06 24.0**	**-1.8**
	30nm,1.2s						
LPG	**La Plagne**	**9.57**	**322**	*e*P	**Pn**	**14 06 24.0**	**-1.8**
	15nm,1.2s						
LPL	**La Plagne**	**9.60**	**322**	*e*P	**Pn**	**14 06 24.6**	**-1.5**
	30nm,1.2s						
LPL	**La Plagne**	**9.60**	**322**	*e*P	**Pn**	**14 06 24.6**	**-1.5**
	15nm,1.2s						
ORIF	**Oris-en-Rattie**	**9.62**	**317**	*e*P	**Pn**	**14 06 23.2**	**-3.3**
GERES	**GERESS Array B**	**10.64**	**355**	P	**Pn**	**14 06 46.0**	**+5.6**
	0.1nm,0.3s,baz=166,slow=12,SNR=6.7						
CABF	**La Chapelle**	**10.71**	**324**	*e*P	**Pn**	**14 06 40.3**	**-1.0**
	20nm,1.0s						
CABF	**La Chapelle**	**10.71**	**324**	*e*P	**Pn**	**14 06 40.3**	**-1.0**
	9.9nm,1.0s						
MLR	**Muntele Rosu**	**10.81**	**45**	⇓*i*P	**Pn**	**14 06 48.3**	**+5.6**
KHC	**Kasperske Hory**	**10.94**	**355**	*e*P	**Pn**	**14 06 46.5**	**+2.1**
KHC				*ex*	x	14 07 02.5	
VRI	**Vrincioaia**	**11.47**	**45**	⇓*i*P	**Pn**	**14 06 53.6**	**+1.8**
ESDC	**Sonseca Array**	**14.95**	**281**	P	**Pn**	**14 07 39.5**	**+0.3**
	0.3nm,0.3s,baz=88,slow=11,SNR=4.3						
AKASG	**Malin Array Be**	**15.95**	**34**	P	**Pn**	**14 07 54.4**	**+2.1**
	0.8nm,0.3s,baz=228,slow=11,SNR=6.2						
AKASG	**Malin Array Be**	**15.95**	**34**	P	**Pn**	**14 07 54.4**	**+2.1**
EIL	**Elat**	**18.49**	**112**	P	**Pn**	**14 08 25.7**	**+1.5**
	0.3nm,0.3s,baz=38,slow=11,SNR=5.4						
EKA	**Eskdalemuir Ar**	**21.09**	**330**	P	**P**	**14 08 54.5**	**+2.4**
	1.4nm,0.8s,mb3.3,baz=136,slow=9.9,SNR=3.8						
EKA	**Eskdalemuir Ar**	**21.09**	**330**	P	**P**	**14 08 54.5**	**+2.3**
HFS	**Hagfors**	**21.92**	**358**	P	**P**	**14 09 05.3**	**+4.2**
	2.1nm,0.7s,mb3.7,baz=174,slow=14,SNR=3.2						
NOA	**NORSAR Array B**	**22.95**	**355**	P	**P**	**14 09 14.7**	**+2.7**
	1.2nm,0.8s,mb3.4,baz=168,slow=7.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**27.72**	**209**	P	**P**	**14 09 57.0**	**+0.5**
	1.7nm,1.1s,mb3.6,baz=18,slow=5.1,SNR=6.0						
BVAR	**Borovoye Array**	**40.31**	**50**	P	**P**	**14 11 45.8**	**+0.7**
	0.4nm,0.5s,mb3.4,baz=217,slow=1.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**48.77**	**47**	P	**P**	**14 12 54.6**	**+2.0**
	0.6nm,0.4s,mb4.0,baz=289,slow=9.2,SNR=4.0						
MKAR	**Makanchi Array**	**48.84**	**57**	P	**P**	**14 12 53.5**	**+0.2**
	0.9nm,0.6s,mb4.0,baz=282,slow=6.8,SNR=7.4						
BOSA	**Boshof**	**67.18**	**170**	P	**P**	**14 15 01.9**	**0.0**
	2.9nm,0.9s,mb4.3,baz=144,slow=4.4,SNR=4.7						

*ISCJB **18** 14:15:59.6±0.6, 3537N±004×14037E±009, h36km±5km, mb3.9/11, Error ellipse: s-maj=13.1km s-min=6.3km az=162.0*
*NEIC **18** 14:16:00.7, 3541N×14031E, h26km, mb4.5/2, MW3.9(NIED), After JMA.*
NEIC Recorded [3 JMA] in Chiba Prefecture.
*JMA **18** 14:16:00.6±0.1, 3541N×14031E, h26km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φ±256.00000°, δ32.00000°, λ75.00000°. NP2:φ±94.00000°, δ59.00000°, λ99.00000°. Principal axes: T Plg74.0000°, Azm27.0000°; N Plg8.0000°, Azm269.0000°; P Plg14.0000°, Azm177.0000°;*
JMA Felt III J1.
*NIED **18** 14:16:00, 3540N×14030E, h20km, Mw4.0 Best double couple: M0 1.01000×10^15 NP1:φ±69.00000°, δ73.00000°, λ93.00000°. NP2:φ±240.00000°, δ17.00000°, λ82.00000°.*
*IDC **18** 14:16:01.2±4.8, 3531N×14021E, h31km±36km, mb3.6/8, mb1 3.8/12, mb1mx3.7/24, mbtmp3.8/12, ML4.0/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/35, Error ellipse: s-maj=29.9km s-min=13.5km az=75.0*
ISC 18 14:16:00.6±0.6, 3536N±004×14031E±009, h29km±3km, n27, σ0§83/32, mb3.9/11, 3C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.11**	**305**	⇑P	**Pb**	**14 16 05.8**	**0.0**
JCN				*e*S	**Sb**	**14 16 08.4**	**-1.0**
KTR	**Katsuura**	**0.21**	**179**	⇑P	**Pb**	**14 16 06.8**	**+0.1**
KTR				S	**Sb**	**14 16 11.3**	**+0.4**
BSO4	**Boso 4**	**0.36**	**177**	⇑P	**Pb**	**14 16 09.7**	**+0.9**
BSO3	**Boso 3**	**0.57**	**164**	⇓P	**Pb**	**14 16 12.6**	**+0.4**
JYT	**Yasato**	**0.88**	**354**	⇓P	**Pn**	**14 16 15.5**	**-1.5**
BSO1	**Boso 1**

3.0nm,0.9s,mb4.2,baz=267,slow=4.5,SNR=10
SFJD Kangerlussuaq 85.86 7 LR LR 15 06 21.1
comp=Z,80nm,18.3s,baz=325,slow=34
YKA Yellowknife Ar 87.74 341 P **P 14 30 48.1 +2.1**
1.8nm,0.8s,mb4.3,baz=143,slow=4.3,SNR=4.6
ZALV Zalesovo Beam 138.93 23 PKP PKPdf 14 37 25.1 +1.5
0.7nm,0.6s,baz=316,slow=4.1,SNR=3.5
SONM Songino Array 150.02 6 PKPbc PKPbc 14 37 48.1 +0.1
0.9nm,0.8s,baz=313,slow=2.3,SNR=4.6

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*ROM **18** 14:21:11.8±0.1,3825N×1517E,h17km±2km,Md2.8/20, Ml3.2/26,Error ellipse: s-maj=1.5km s-min=1.3km az=42.0*
*CSEM **18** 14:21:11.8±0.1,3825N×1517E,h17km±2km,MD2.8/20, ML3.5/2,Error ellipse: s-maj=1.5km s-min=1.3km az=42.0, After ROM*
*ISCJB **18** 14:21:12.1±0.3,3826N±002×1517E±003,h18km±4km, Error ellipse: s-maj=3.9km s-min=3.7km az=139.0*
ISC 18 14:21:11.9±0.3,3825N±002×1518E±003,h18km±2km,n36, σ0§84/47,9C-2D,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MILZ	**Milazzo**	**0.05**	**65**	⇓*i*Pg	**Pg**	**14 21 14.8**	**-0.3**
MILZ				Sg	**Sg**	**14 21 16.8**	**-0.5**
VPL	**Vulcano Piano**	**0.20**	**310**	⇑*i*Pg	**Pg**	**14 21 17.0**	**+0.2**
VPL				Sg	**Sg**	**14 21 20.6**	**+0.5**
	10μm,0.5s						
MSRU	**Castanea**	**0.26**	**87**	⇑*i*Pg	**Pg**	**14 21 18.1**	**+0.3**
MSRU				Sg	**Sg**	**14 21 22.8**	**+1.0**
	4μm,0.6s						
LLI	**Lipari**	**0.26**	**317**	Pg	**Pg**	**14 21 18.5**	**+0.7**
LLI				Sg	**Sg**	**14 21 22.3**	**+0.4**
	11μm,0.8s						
MSI	**Messina ING**	**0.30**	**99**	⇑*i*Pg	**Pg**	**14 21 18.6**	**+0.2**
MMME	**Mongiuffi-Meli**	**0.32**	**169**	⇑*i*Pg	**Pg**	**14 21 18.1**	**-0.7**
MMME				Sg	**Sg**	**14 21 22.7**	**-0.7**
SCLL	**Scilla**	**0.42**	**89**	Pg	**Pg**	**14 21 20.6**	**0.0**
	373nm,0.6s						
MTTG	**Motta San Giov**	**0.48**	**121**	⇑*i*Pg	**Pg**	**14 21 21.4**	**-0.2**
MTTG				Sg	**Sg**	**14 21 29.7**	**+1.7**
	1μm,0.6s						
MNO	**Monte Soro**	**0.50**	**230**	Pg	**Pg**	**14 21 21.6**	**-0.3**
IFIL	**Filicudi I Eol**	**0.57**	**303**	Pg	**Pg**	**14 21 23.0**	**-0.3**
IFIL				Sg	**Sg**	**14 21 32.4**	**+1.4**
	8μm,0.2s						
ESLN	**Serra La Nave**	**0.58**	**196**	Pg	**Pg**	**14 21 24.1**	**+0.7**
	1μm,0.8s						
JOPP	**Joppolo**	**0.66**	**57**	Pg	**Pg**	**14 21 25.4**	**+0.5**
JOPP				Sg	**Sg**	**14 21 35.2**	**+1.5**
	614nm,0.4s						
ACL	**Alicudi**	**0.70**	**294**	Pg	**Pg**	**14 21 25.1**	**-0.6**
	3μm,0.4s						
SOI	**Samo**	**0.71**	**104**	⇑*i*Pg	**Pg**	**14 21 25.2**	**-0.7**
	373nm,0.6s						
MPAZ	**Palizzi**	**0.72**	**114**	⇑*i*Pg	**Pg**	**14 21 25.4**	**-0.6**
	681nm,0.4s						
GALF	**Gagliano Caste**	**0.72**	**222**	Pg	**Pg**	**14 21 26.1**	**0.0**
	3μm,0.6s						
ECNV	**Catenanuova**	**0.75**	**209**	Pg	**Pg**	**14 21 28.3**	**+1.7**
	2μm,0.9s						
GIB	**Gibilmanna**	**0.94**	**254**	Pg	**Pg**	**14 21 29.1**	**-1.2**
	899nm,0.5s						
HAGA	**Augusta**	**0.96**	**181**	Pg	**Pg**	**14 21 29.6**	**-1.1**
	601nm,0.4s						
AGST	**Augusta-Monte**	**0.99**	**178**	Pg	**Pg**	**14 21 30.8**	**-0.4**
AGST				Sg	**Sg**	**14 21 44.3**	**0.0**
PLAC	**Placanica**	**1.01**	**78**	Pg	**Pg**	**14 21 30.9**	**-0.6**
	124nm,0.6s						
SSY	**Sortino**	**1.10**	**184**	Pg	**Pg**	**14 21 31.9**	**-1.3**
	802nm,0.4s						
GRI	**Girifalco**	**1.13**	**59**	Pg	**Pg**	**14 21 32.8**	**-1.0**
	329nm,0.7s						
HVZN	**Vizzini**	**1.13**	**199**	Pg	**Pg**	**14 21 32.8**	**-1.0**
	814nm,0.6s						
RAFF	**Raffo Rosso**	**1.21**	**212**	⇓*i*Pg	**Pn**	**14 21 34.5**	**+0.5**
	306nm,0.5s						
HAVL	**Avola**	**1.29**	**182**	⇑*i*Pg	**Pn**	**14 21 35.2**	**+0.2**
HAVL				Sg	**Sn**	**14 21 53.4**	**+1.6**
	542nm,0.3s						
CARO	**Carolei**	**1.29**	**39**	Pg	**Pn**	**14 21 34.5**	**-0.6**
	321nm,0.5s						
HMDC	**Modica**	**1.33**	**194**	⇑*i*Pg	**Pn**	**14 21 35.7**	**+0.1**
HMDC				Sg	**Sn**	**14 21 54.2**	**+1.4**
	867nm,0.7s						
SERS	**Sersale**	**1.42**	**56**	Pg	**Pn**	**14 21 37.6**	**+0.8**
	156nm,1.1s						
CORL	**Corleone**	**1.52**	**257**	Pg	**Pn**	**14 21 38.5**	**+0.3**
	212nm,0.6s						
USI	**Ustica**	**1.63**	**287**	Pg	**Pn**	**14 21 38.1**	**-1.6**
CUC	**Castrocucco**	**1.81**	**16**	Pg	**Pn**	**14 21 42.5**	**+0.3**
	40nm,0.6s						
BULG	**Bulgheria - Ca**	**1.83**	**5**	Pg	**Pn**	**14 21 42.3**	**-0.2**
SIRI	**Monte Sirino -**	**2.00**	**15**	Pg	**Pn**	**14 21 45.1**	**+0.3**
	43nm,0.5s						
PLOR	**Plostina**	**11.41**	**45**	S	**Sn**	**14 26 00.6**	**-0.3**
VRI	**Vrincioaia**	**11.46**	**45**	S	**Sn**	**14 26 00.4**	**-1.7**

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*NEIC **18** 14:27:20.1±0.6,1795S×6944W,h35km,mb4.1/5,Error ellipse: s-maj=14.7km s-min=10.3km az=71.0*
*ISCJB **18** 14:27:21.9±0.8,1793S±005×6935W±007,h75km±9km, mb3.9/11,Error ellipse: s-maj=11.8km s-min=7.9km az=163.2*
*IDC **18** 14:27:24.2±1.6,1795S×6925W,h74km±17km,mb3.6/7, mb1 3.9/9,mb1mx3.7/19,mbtmp3.7/9,MS3.5/4,Ms1 3.5/4, ms1mx3.2/23,Error ellipse: s-maj=28.8km s-min=9.0km az=101.0*
ISC 18 14:27:22.7±0.8,1797S±006×6935W±007,h65km±9km,n23, σ1§09/26,mb3.9/11,1C-1D,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.03**	**35**	P	**Pn**	**14 27 54.8**	**+0.1**
	63nm,0.3s,baz=218,slow=13,SNR=298						
LPAZ				S	**Sn**	**14 28 21.3**	**+2.2**
	1.0nm,0.3s,baz=70,slow=20,SNR=1.9						
LPAZ				LR	LR	14 28 44.3	
	comp=Z,563nm,18.3s,baz=229,slow=41						
LPAZ	**La Paz**	**2.03**	**35**	⇓*i*Pn	**Pn**	**14 27 54.9**	**+0.2**
LPAZ				*e*Sn	**Sn**	**14 28 23.1**	**+4.0**
ARE	**Arequipa**	**2.54**	**306**	⇑*i*P	**Pn**	**14 27 58.4**	**-3.2**
ARE				*i* S	**Sn**	**14 28 31.4**	**0.0**
LVC	**Limon Verde**	**4.64**	**175**	P	**Pn**	**14 28 30.4**	**+0.1**
	5.9nm,0.3s,baz=327,slow=8.6,SNR=28						
LVC				S	**Sn**	**14 29 27.1**	**+4.2**
	baz=250,slow=18,SNR=1.7						
LVC				LR	LR	14 30 27.5	
	comp=Z,1μm,18.2s,baz=348,slow=39						
LVC	**Limon Verde**	**4.64**	**175**	*e*Pn	**Pn**	**14 28 29.6**	**-0.7**
LVC				*e*Sn	**Sn**	**14 29 26.9**	**+4.0**
SIV	**San Ignacio**	**8.16**	**77**	P	**Pn**	**14 29 17.6**	**-0.8**
	1.1nm,0.3s,baz=271,slow=14,SNR=12						
SIV				S	**Sn**	**14 31 03.7**	**+15**
	0.7nm,0.3s,baz=243,slow=6.6,SNR=2.1						
SIV				LR	LR	14 32 58.2	
	comp=Z,303nm,19.0s,baz=82,slow=41						
CFAA	**Coronel Fontan**	**13.62**	**176**	LR	LR	14 35 42.7	
	comp=Z,28nm,18.6s,baz=360,slow=37						
OTAV	**Otavalo**	**20.18**	**333**	*e*P	**P**	**14 31 51.6**	**-0.5**
	8.4nm,1.3s						
TRQA	**Tornquist**	**21.03**	**164**	*e*P	**P**	**14 31 59.3**	**-1.8**
	8.3nm,1.0s,mb4.0						
PLCA	**Paso Flores**	**22.71**	**182**	P	**P**	**14 32 19.9**	**+1.0**
	2.6nm,0.9s,mb3.6,baz=4.4,slow=14,SNR=5.1						
SDV	**Santo Domingo**	**26.71**	**357**	*e*P	**P**	**14 32 54.9**	**-1.1**
	1.9nm,0.4s,mb4.0						
PCRV	**Puerto La Cruz**	**28.35**	**10**	LR	LR	14 46 23.5	
	comp=Z,297nm,19.3s,baz=86,slow=40						
TEIG	**Tepich**	**42.26**	**333**	*e*P	**P**	**14 35 10.0**	**+0.3**
	6.0nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**57.52**	**324**	P	**P**	**14 37 06.2**	**+0.8**
	0.6nm,0.8s,mb3.7,baz=152,slow=5.7,SNR=5.3						
ECSD	**EROS,Sioux Fal**	**66.29**	**339**	*e*P	**P**	**14 38 03.2**	**-0.8**
	7.4nm,1.2s,mb4.4						
PDAR	**Pinedale Array**	**70.86**	**330**	P	**P**	**14 38 34.8**	**+2.3**
	0.1nm,0.4s,mb3.0,baz=146,slow=8.8,SNR=2.1						
ULM	**Lac du Bonnet**	**71.84**	**342**	P	**P**	**14 38 37.5**	**-0.8**
	2.6nm,0.7s,mb4.2,baz=161,slow=5.9,SNR=3.7						
ULM	**Lac du Bonnet**	**71.84**	**342**	P	**P**	**14 38 37.5**	**-0.8**
NVAR	**Mina Array Bea**	**72.47**	**322**	P	**P**	**14 38 43.1**	**+0.8**
	0.4nm,0.6s,mb3.4,baz=157,slow=5.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.59**	**71**	P	**P**	**14 39 06.0**	**-0.6**
	3.2nm,0.9s,mb4.0,baz=271,slow=4.5,SNR=8.0						
YKA	**Yellowknife Ar**	**87.73**	**341**	P	**P**	**14 40 04.4**	**+0.5**
	2.2nm,0.9s,mb4.2,baz=136,slow=5.2,SNR=6.7						
YKA	**Yellowknife Ar**	**87.73**	**341**	P	**P**	**14 40 04.4**	**+0.5**
SONM	**Songino Array**	**150.01**	**6**	PKPbc	PKPbc	14 47 08.3	+2.6
	1.3nm,0.9s,baz=9.0,slow=1.2,SNR=4.6						

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*SOF **18** 14:29:23.2,4004N×2391E,h20km,MD2.7*
*ISCJB **18** 14:29:25.9±0.6,3998N±002×2436E±004,h17km±8km, Error ellipse: s-maj=5.1km s-min=4.1km az=12.1*
*CSEM **18** 14:29:26.6±0.1,3997N×2432E,h25km,ML3.1,Error ellipse: s-maj=1.7km s-min=1.3km az=63.0*
*NEIC **18** 14:29:26.2,4002N×2427E,h43km,MD3.4(ATH),After ATH.*
*THE **18** 14:29:26.3,3998N×2430E,h6km,ML3.1*
*ATH **18** 14:29:26.2,4002N×2427E,h43km±3km,MD3.4/8,ML3.5*
ISC 18 14:29:26.0±0.5,4000N±002×2430E±003,h19km±4km,n34, σ0§83/51,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.42**	**324**	*e*Pg	**Pg**	**14 29 34.9**	**+0.2**
OUR				*e*Sg	**Sg**	**14 29 41.2**	**+0.7**
PAIG	**Paliouri**	**0.48**	**262**	*e*Pg	**Pg**	**14 29 36.4**	**+0.5**
PAIG				*e*Sg	**Sg**	**14 29 42.5**	**+0.1**
PAIG	**Paliouri**	**0.48**	**262**	*e*Pg	**Pg**	**14 29 36.3**	**+0.5**
PAIG				*e*Sg	**Sg**	**14 29 42.5**	**+0.1**
PLG	**Polygyros**	**0.76**	**300**	*e*Pg	**Pg**	**14 29 40.9**	**0.0**
PLG				*e*Sg	**Sg**	**14 29 51.5**	**+0.5**
PLG	**Polygyros**	**0.76**	**300**	*e*P	**Pb**	**14 29 41.2**	**+0.6**
PLG				*e*S	**Sb**	**14 29 50.5**	**0.0**
PLG	**Polygyros**	**0.76**	**300**	*e*P	**Pb**	**14 29 41.2**	**+0.6**
PLG				*e*S	**Sb**	**14 29 50.5**	**0.0**
PLG				*e*Sg	**Sg**	**14 29 51.5**	**+0.6**
AOS	**Alonnisos**	**0.89**	**202**	*e*Pg	**Pg**	**14 29 42.8**	**-0.5**
XOR	**Xorichti**	**1.06**	**234**	*e*Pg	**Pg**	**14 29 46.1**	**-0.5**
XOR				*e*Sg	**Sg**	**14 30 00.7**	**+0.1**
NEO	**Neokhori**	**1.08**	**231**	*e*P	**Pb**	**14 29 46.3**	**+0.2**
NEO				*e*S	**Sb**	**14 30 00.3**	**+0.5**
SOH	**Sokhos**	**1.10**	**319**	*e*Pg	**Pg**	**14 29 46.9**	**-0.4**
SOH				*e*Sg	**Sg**	**14 30 02.6**	**+0.9**
HORT	**Hortiatis**	**1.10**	**304**	*e*Pg	**Pg**	**14 29 47.1**	**-0.2**
HORT				*e*Sg	**Sg**	**14 30 02.0**	**+0.3**
THE	**Thessaloniki**	**1.20**	**302**	*e*Pg	**Pg**	**14 29 49.2**	**-0.1**
THE	**Thessaloniki**	**1.20**	**302**	*e*Pg	**Pg**	**14 29 49.2**	**-0.1**
LIT	**Litokhoron**	**1.39**	**275**	*e*Pg	**Pg**	**14 29 51.7**	**-1.3**
LIT				*e*Sg	**Sg**	**14 30 11.3**	**+0.1**
NVR	**Nevrokopi**	**1.39**	**346**	*e*P	**Pn**	**14 29 50.0**	**-0.4**
NVR				*e*S	**Sn**	**14 30 06.8**	**-1.5**
RDO	**Rodhopi**	**1.49**	**39**	*e*P	**Pn**	**14 29 51.3**	**-0.4**
RDO				*e*S	**Sn**	**14 30 11.1**	**+0.5**
ALN	**Alexandroupoli**	**1.61**	**55**	*e*Sg	**Sg**	**14 30 18.9**	**+0.9**
MMB	**Musomiste**	**1.65**	**345**	Pg	**Pg**	**14 29 54.0**	**-3.8**
LKR	**Lokris**	**1.68**	**217**	*e*P	**Pn**	**14 29 54.8**	**+0.4**
PRK	**Paraskevi**	**1.70**	**116**	*e*P	**Pn**	**14 29 55.4**	**+0.8**
PRK				*e*S	**Sn**	**14 30 15.9**	**+0.1**
PRK	**Paraskevi**	**1.70**	**116**	*e*Pb	**Pb**	**14 29 55.3**	**-1.3**
PRK				*e*S	**Sn**	**14 30 15.9**	**+0.1**
AGG	**Agios Georgios**	**1.81**	**238**	*e*Pb	**Pb**	**14 29 56.8**	**-1.7**
AGG				*e*Sb	**Sb**	**14 30 20.9**	**+0.2**
THL	**Klokotos Trika**	**1.81**	**257**	*e*Pb	**Pb**	**14 29 57.3**	**-1.3**
THL	**Klokotos Trika**	**1.81**	**257**	*e*P	**Pn**	**14 29 56.8**	**+0.6**
THL	**Klokotos Trika**	**1.81**	**257**	*e*Pb	**Pb**	**14 29 57.3**	**-1.3**
KDZ	**Kurdzhali**	**1.86**	**27**	P	**Pn**	**14 29 56.3**	**-0.5**
VAY	**Valandovo**	**1.87**	**316**	*e*Pn	**Pn**	**14 30 00.7**	**+3.8**
PTL	**Penteli**	**1.97**	**190**	*e*P	**Pn**	**14 29 59.0**	**+0.6**
ATH	**Athens Observa**	**2.07**	**193**	*e*P	**Pn**	**14 30 00.0**	**+0.2**
KKB	**Krupnik**	**2.08**	**334**	Pg	**Pg**	**14 30 00.9**	**-5.2**
CHOS	**Chios island**	**2.11**	**139**	*e*Pn	**Pn**	**14 30 00.9**	**+0.6**
DID	**Didima**	**2.62**	**199**	*e*Pn	**Pn**	**14 30 07.5**	**+0.2**
VTS	**Vitosha**	**2.72**	**343**	*e*Pg	**Pg**	**14 30 16.0**	**-2.2**
BARS	**Barje**	**3.38**	**327**	*e*Pn	**Pn**	**14 30 20.6**	**+2.8**

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*CSEM **18** 14:49:44.2±1.1,3893N×2882W,h10km,ML3.2,Error ellipse: s-maj=6.9km s-min=4.3km az=107.0,After PDA*
PDA 18 14:49:44.2±1.1,3893N×2882W,h10km,MD3.9,ML3.2, Error ellipse: s-maj=6.9km s-min=4.3km az=107.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.36**	**164**	*i* P	Pg	14 49 50.3	-0.9
CALA				*e*S	Sg	14 49 55.3	-0.7
CALA	**Caldeira**	**0.36**	**164**	*e*S	Sg	14 49 55.3	-0.7
HOR	**Horta**	**0.43**	**159**	*i* P	Pg	14 49 51.1	-1.4
HOR				*i* S	Sg	14 49 57.0	-1.2
HOR	**Horta**	**0.43**	**159**	*i* S	Sg	14 49 57.0	-1.2
ROSA	**Rosais**	**0.50**	**114**	*e*P	Pg	14 49 52.8	-1.1
ROSA				*i* S	Sg	14 49 59.0	-1.5
PICO	**Pico**	**0.53**	**144**	*e*P	Pg	14 49 53.2	-1.2
PICO				*i* S	Sg	14 50 00.2	-1.1
SRBC	**Serra Branca**	**0.62**	**79**	*e*P	Pg	14 49 54.8	-1.4
PMAN	**Manadas**	**0.64**	**117**	*e*P	Pg	14 49 54.5	-2.2
PMAN				*e*S	Sg	14 50 02.8	-2.3
PMAN				A		14 50 10.5	
	7μm,0.4s						
PMAN	**Manadas**	**0.64**	**117**	*e*P	Pg	14 49 54.5	-2.2
PMAN				*e*S	Sg	14 50 02.8	-2.3
ADH	**Angra Heroismo**	**1.27**	**102**	*e*P	Pn	14 50 03.3	-4.7
ADH				*e*S	Sb	14 50 17.8	-6.8
PSCM	**Serra do Cume**	**1.35**	**99**	*e*P	Pn	14 50 04.2	-4.9
PSCM				*e*S	Sb	14 50 19.3	-7.6
PSCM				A		14 50 21.4	
	36nm,0.2s						
PSCM	**Serra do Cume**	**1.35**	**99**	*e*P	Pn	14 50 04.2	-4.9
PSCM				*e*S	Sb	14 50 19.3	-7.6
CMLA	**Cha da Macela**	**2.84**	**113**	*e*P	Pn	14 50 26.6	-3.0
CMLA				*e*S	Sn	14 50 55.6	-8.3
CMLA				A		14 50 56.2	
	40nm,0.3s						
CMLA	**Cha da Macela**	**2.84**	**113**	*e*P	Pn	14 50 26.6	-3.0
CMLA				*e*S	Sn	14 50 55.6	-8.3
PSMN	**Pico do Norte,**	**3.54**	**122**	*e*P	Pn	14 50 35.5	-3.6
PSMN				*e*S	Sn	14 51 12.3	-8.7

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*NEIC **18** 14:52:28.0±1.2,941S×12285E,h80km±14km,mb4.0/3, Error ellipse: s-maj=20.4km s-min=10.0km az=61.0*
*ISCJB **18** 14:52:29.0±0.8,967S±008×12274E±009,h130km±7km, mb4.0/7,Error ellipse: s-maj=17.1km s-min=9.1km az=143.2*
*IDC **18** 14:52:29.9±2.4,935S×12266E,h93km±22km,mb3.7/6, mb1 3.7/7,mb1mx3.6/14,mbtmp3.7/7,Error ellipse: s-maj=52.8km s-min=19.8km az=71.0*
ISC 18 14:52:30.2±0.8,979S±006×12271E±009,h126km±8km, n26,σ1§20/33,mb4.0/7,Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.02**	**114**	P	**Pn**	**14 52 53.0**	**+0.1**
	71nm,0.3s,baz=338,slow=4.8,SNR=30						
BATI				S	**Sn**	**14 53 11.2**	**+1.0**
	132nm,0.3s,baz=32,slow=13,SNR=8.9						
KAPI	**Kappang**	**5.58**	**328**	*e*Pn	**Pn**	**14 53 47.4**	**-3.8**
	39nm,1.0s						
FITZ	**Fitzroy Crossi**	**8.73**	**161**	*e*P	**Pn**	**14 54 35.0**	**+1.3**
	7.0nm,0.6s						
FITZ				*e*S	**Sn**	**14 56 07.9**	**-2.5**
FITZ	**Fitzroy Crossi**	**8.73**	**161**	P	**Pn**	**14 54 33.7**	**0.0**
	0.4nm,0.3s,baz=347,slow=21,SNR=12						
FITZ				S	**Sn**	**14 56 09.3**	**-1.1**
	2.5nm,0.3s,baz=189,slow=19,SNR=7.1						
KAKA	**Kakadu**	**9.97**	**108**	*e*P	**Pn**	**14 54 50.8**	**+0.5**
	14nm,0.7s						
KAKA				*e*S	**Sn**	**14 56 32.8**	**-7.7**
KAKA	**Kakadu**	**9.97**	**108**	*e*Pn	**Pn**	**14 54 49.7**	**-0.7**
KAKA				*e*Sn	**Sn**	**14 56 40.9**	**+0.5**
MBWA	**Marble Bar**	**11.66**	**194**	*e*Pn	**Pn**	**14 55 14.9**	**+2.2**
MBWA				*e*Sn	**Sn**	**14 57 19.3**	**-2.0**
WRA	**Warramunga Arr**	**15.09**	**133**	P	**Pn**	**14 55 54.8**	**-2.2**
	0.4nm,0.3s,baz=303,slow=14,SNR=22						
WRA				S	**Sn**	**14 58 36.2**	**-8.0**
	1.0nm,0.3s,baz=313,slow=23,SNR=7.6						
WRAB	**Tennant Creek**	**15.09**	**133**	*e*Pn	**Pn**	**14 55 57.5**	**+0.5**
	4.5nm,0.7s						
WRAB				*e*Sn	**Sn**	**14 58 39.0**	**-5.2**
WB2	**Warramunga Arr**	**15.10**	**133**	*e*P	**Pn**	**14 55 57.9**	**+0.8**
WB2				*e*S	**Sn**	**14 58 34.0**	**-10**
KKM	**Kota Kinabalu**	**17.01**	**337**	*e*Pn	**Pn**	**14 56 15.7**	**-4.9**
ASAR	**Alice Springs**	**17.45**	**144**	P	**Pn**	**14 56 30.2**	**+4.3**
	0.3nm,0.3s,baz=318,slow=11,SNR=23						
ASAR				S	**S**	**14 59 39.1**	**-1.2**
	0.4nm,0.3s,baz=318,slow=22,SNR=7.3						
KLBR	**Kellerberrin**	**22.17**	**191**	*e*P	**P**	**14 57 23.3**	**+7.2**
	37nm,1.4s,mb4.5						
STKA	**Stephens Creek**	**28.09**	**144**	*e*P	**P**	**14 58 17.3**	**+7.2**
	2.2nm,1.0s,mb3.6						
STKA	**Stephens Creek**	**28.09**	**144**	P	**P**	**14 58 16.3**	**+6.2**
	2.8nm,0.8s,mb3.8,baz=324,slow=9.2,SNR=6.8						
STKA	**Stephens Creek**	**28.09**	**144**	*e*P	**P**	**14 58 15.6**	**+5.4**
	2.6nm,0.8s,mb3.8						
KSRS	**Korea Array**	**47.25**	**6**	P	**P**	**15 00 52.1**	**+1.5**
	0.3nm,0.2s,mb3.6,baz=128,slow=4.6,SNR=4.9						
MJAR	**Matsushiro Arr**	**48.34**	**17**	P	**P**	**15 00 57.8**	**-1.3**
	0.6nm,0.4s,mb3.8,baz=192,slow=9.5,SNR=6.4						
SONM	**Songino Array**	**59.17**	**347**	P	**P**	**15 02 18.0**	**+0.2**
	1.1nm,0.6s,mb4.1,baz=166,slow=8.5,SNR=5.7						
MK31	**Makanchi Array**	**66.87**	**331**	*e*P	**P**	**15 03 09.2**	**+0.5**
MKAR	**Makanchi Array**	**66.87**	**331**	P	**P**	**15 03 09.4**	**+0.7**
	1.9nm,0.6s,mb4.1,baz=137,slow=7.4,SNR=22						
ZALV	**Zalesovo Beam**	**71.13**	**337**	P	**P**	**15 03 34.7**	**-0.2**
	1.5nm,0.5s,mb4.1,baz=137,slow=6.2,SNR=7.4						
ZALV	**Zalesovo Beam**	**71.13**	**337**	P	**P**	**15 03 34.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**122.20**	**279**	PKP	PKPdf	15 11 15.8	+4.5
	0.5nm,0.5s,baz=45,slow=2.1,SNR=5.5						
CPUP	**Villa Florida**	**144.09**	**180**	PKP	PKPdf	15 11 56.7	+4.8
	0.4nm,0.3s,baz=156,slow=3.6,SNR=3.2						
CPUP	**Villa Florida**	**144.09**	**180**	PKP	PKPdf	15 11 56.7	+4.8

PRE 18 15:07:31.2±1.0,2107S×3355E,h5km,ML3.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.15**	**219**	*e*P	Pn	15 08 21.3	-0.2
MOPA				*e*S	Sn	15 08 59.1	-0.4
MOPA				AML	AML	15 09 16.7	
	comp=Z,336nm,0.3s						
MSNA	**Messina**	**3.52**	**248**	*e*P	Pn	15 08 27.8	+1.2
MSNA				*e*S	Sn	15 09 09.3	+0.7
MSNA				AML	AML	15 09 23.6	
	comp=Z,51nm,0.6s						
POGA	**Pongola**	**6.52**	**195**	*e*P	Pn	15 09 08.7	+0.9
POGA				*e*S	Sn	15 10 18.9	-3.8
POGA				AML	AML	15 10 51.8	
	comp=Z,7.2nm,0.5s						

GUC 18 15:21:18.9±0.4,2446S×6763W,h200km,ML3.7,2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**2.53**	**266**	⇓*i*P	Pn	15 22 05.4	+2.3
CPN1				*i* S	Sn	15 22 40.7	+3.2
CEN1	**Los Morros**	**2.58**	**294**	⇓*i*P	Pn	15 22 05.6	+1.9
CEN1				*e*S	Sn	15 22 41.1	+2.6
CEN1				AML	AML	15 22 42.8	
	comp=N,85nm,0.2s						
ANCH	**Antofagasta**	**2.65**	**286**	*e*P	Pn	15 22 06.0	+1.4
ANCH				*i* S	Sn	15 22 41.5	+1.5
ANCH				AML	AML	15 22 43.8	
	comp=N,257nm,0.0s						
CDCH	**Caldera**	**3.88**	**227**	*e*S	Sn	15 23 08.8	+2.2
CDCH				AML	AML	15 23 15.6	
	comp=N,40nm,0.4s						

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*DJA **18** 16:14:08,021S×12506E,h0km,ML3.6/1*
IDC 18 16:14:02.5±1.6,003S×12494E,h0km,mb3.7/3,mb1 3.9/4, mb1mx3.6/17,mbtmp3.7/4,ML3.4/1,Error ellipse: s-maj=124.2km s-min=22.3km az=66.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.97**	**178**	P	Pn	16 18 15.6	+1.6
	0.1nm,0.3s,baz=11,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**21.83**	**156**	P	P	16 18 56.8	+0.1
	0.8nm,0.5s,baz=332,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**25.06**	**160**	P	P	16 19 28.2	-0.5
	0.6nm,0.4s,baz=344,slow=11,SNR=41						
MKAR	**Makanchi Array**	**59.67**	**327**	P	P	16 24 08.7	+0.1
	1.0nm,0.5s,baz=125,slow=8.1,SNR=16						

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*PDA **18** 16:20:38.1±0.8,4053N×2980W,h0km,MD4.1,ML3.4, Error ellipse: s-maj=9.3km s-min=4.8km az=73.0*
*CSEM **18** 16:20:42.1±0.1,3973N×2971W,h2km,mb4.7/7,Mw5.0, Error ellipse: s-maj=7.6km s-min=2.2km az=31.0*
*IDC **18** 16:20:44.0±1.1,3976N×2991W,h0km,mb3.8/8,mb1 3.9/9, mb1mx3.7/26,mbtmp3.7/9,ML4.4/1,MS4.1/30,Ms1 4.

comp=Z,225nm,19.3s,MS3.9,baz=274,slow=33
NOA NORSAR Array B 33.07 36 LR LR 16 38 35.8
comp=Z,156nm,20.9s,MS3.7,baz=250,slow=32
JMIC Jan Mayen 33.35 12 LR LR 16 37 35.6
comp=Z,201nm,18.2s,MS3.9,baz=264,slow=30
VAE Valguarnera 34.39 79 LR LR 16 40 42.3
comp=Z,960nm,18.5s,MS4.6,baz=114,slow=35
SJG San Juan 37.99 246 LR LR 16 40 01.6
comp=Z,222nm,21.6s,MS3.9,baz=90,slow=30
TORD Torodi Ar. Bea 38.22 125 P **P 16 28 06.7 +1.2**
0.7nm,1.1s,mb3.3,baz=360,slow=5.7,SNR=3.7
TORD LR LR 16 43 26.1
comp=Z,355nm,19.2s,MS4.2,baz=335,slow=36
TORD Torodi Ar. Bea 38.22 125 P **P 16 28 06.7 +1.2**
TORD LR LR 16 43 26.1
DBIC Dimbokro 39.69 139 LR LR 16 43 12.2
comp=Z,166nm,18.8s,MS3.9,baz=308,slow=34
ARCES ARCESS Array B 41.53 26 LR LR 16 45 15.3
comp=Z,96nm,18.4s,MS3.7,baz=109,slow=36
AKASG Malin Array Be 42.05 54 P **P 16 28 37.0 +0.1**
0.3nm,0.4s,mb3.3,baz=278,slow=8.2,SNR=4.9
AKASG LR LR 16 45 31.7
comp=Z,310nm,19.6s,MS4.2,baz=255,slow=35
TKL Tuckaleechee C 42.41 282 LR LR 16 45 39.4
comp=Z,272nm,19.0s,MS4.2,baz=56,slow=35
PCRV Puerto La Cruz 42.61 236 LR LR 16 43 07.1
comp=Z,218nm,20.7s,MS4.0,baz=198,slow=32
ULM Lac du Bonnet 46.57 306 LR LR 16 47 43.5
comp=Z,427nm,19.5s,MS4.4,baz=207,slow=35
ROSC El Rosal 52.96 241 LR LR 16 49 47.7
comp=Z,205nm,19.1s,MS4.2,baz=203,slow=33
YKA Yellowknife Ar 53.55 325 LR LR 16 50 34.3
comp=Z,76nm,19.6s,MS3.8,baz=85,slow=34
EGMT Eagleton 55.91 307 *eP* **P 16 30 24.7 +1.5**
36nm,1.9s,mb5.1
EGMT Eagleton 55.91 307 *eP* **P 16 30 24.7 +1.5**
36nm,1.9s,mb5.1
GCMT Greycliff 56.76 305 *eP* **P 16 30 27.5 -1.8**
GCMT Greycliff 56.76 305 *eP* **P 16 30 27.5 -1.8**
BDFB Brasilia 57.48 201 LR LR 16 51 34.6
comp=Z,102nm,18.7s,MS4.0,baz=186,slow=32
PDAR Pinedale Array 57.98 301 P **P 16 30 36.5 -1.4**
2.4nm,0.9s,mb4.2,baz=74,slow=6.5,SNR=11
PDAR LR LR 16 55 36.1
comp=Z,449nm,18.3s,MS4.6,baz=85,slow=36
PDAR Pinedale Array 57.98 301 P **P 16 30 36.5 -1.5**
WALA Waterton Lakes 58.01 310 *eP* **P 16 30 37.4 -0.7**
22nm,1.6s,mb5.0
WALA Waterton Lakes 58.01 310 *eP* **P 16 30 37.4 -0.7**
22nm,1.6s,mb5.0
IMW Indian Meadow 58.38 303 *eP* **P 16 30 41.0 +0.2**
2.3nm,0.6s,mb4.4
IMW Indian Meadow 58.38 303 *eP* **P 16 30 41.0 +0.2**
2.3nm,0.6s,mb4.4
CHMT Chamberlain Mo 58.53 307 *eP* **P 16 30 45.8 +4.0**
REDW Red Top Meadow 58.56 302 *eP* **P 16 30 42.7 +0.6**
7.4nm,1.2s,mb4.6
REDW Red Top Meadow 58.56 302 *eP* **P 16 30 42.7 +0.7**
7.4nm,1.2s,mb4.6
TPAW Teton Pass 58.57 303 *eP* **P 16 30 44.6 +2.5**
4.8nm,1.2s,mb4.4
TPAW Teton Pass 58.57 303 *eP* **P 16 30 44.6 +2.5**
4.8nm,1.2s,mb4.4
HWUT Hardware Ranch 59.83 301 *eP* **P 16 30 50.6 -0.3**
9.4nm,1.2s,mb4.7
HWUT Hardware Ranch 59.83 301 *eP* **P 16 30 50.6 -0.3**
9.4nm,1.2s,mb4.7
BNM Barren Site 59.97 291 *eP* **P 16 30 52.7 +0.7**
BNM Barren Site 59.97 291 *eP* **P 16 30 52.7 +0.7**
DAU Daniels Canyon 60.19 300 *eP* **P 16 30 51.2 -2.1**
LAZ Ladron 60.22 292 *eP* **P 16 30 54.5 +0.9**
LAZ Ladron 60.22 292 *eP* **P 16 30 54.5 +0.8**
TXAR Lajitas Array 60.23 285 P **P 16 30 53.9 +0.2**
1.6nm,0.8s,mb4.1,baz=71,slow=7.5,SNR=17
TXAR LR LR 16 55 12.8
comp=Z,182nm,20.0s,MS4.2,baz=0.0,slow=34
DUG Dugway 61.34 300 *eP* **P 16 31 00.9 -0.3**
6.3nm,1.1s,mb4.7
DUG Dugway 61.34 300 *eP* **P 16 31 00.9 -0.2**
6.3nm,1.1s,mb4.7
MSU Marysvale 61.73 298 *eP* **P 16 31 04.6 +0.8**
MSU Marysvale 61.73 298 *eP* **P 16 31 04.6 +0.7**
BVAR Borovoye Array 64.98 41 P **P 16 31 24.3 -0.8**
0.5nm,0.6s,mb3.7,baz=236,slow=39,SNR=2.2
LPAZ La Paz 66.07 221 LR LR 16 59 40.6
comp=Z,70nm,18.1s,MS3.9,baz=225,slow=35
CPUP Villa Florida 70.40 206 LR LR 16 58 15.1
comp=Z,52nm,18.6s,MS3.8,baz=131,slow=32
ZALV Zalesovo Beam 71.26 35 P **P 16 32 04.1 -0.4**
0.8nm,0.5s,mb3.9,baz=292,slow=7.8,SNR=3.5
ZALV LR LR 17 02 43.0
comp=Z,70nm,20.9s,MS3.9,baz=58,slow=35
KMBO Kilima Mbogo 73.19 106 LR LR 17 06 20.9
comp=Z,159nm,18.5s,MS4.3,baz=93,slow=37
MKAR Makanchi Array 74.86 41 P **P 16 32 27.4 +1.5**
0.2nm,0.3s,mb3.5,baz=328,slow=4.3,SNR=4.7
MKAR Makanchi Array 74.86 41 P **P 16 32 27.4 +1.5**
SONM Songino Array 84.67 28 P **P 16 33 17.2 -1.9**
0.2nm,0.5s,mb3.5,baz=35,slow=5.3,SNR=3.3
BOSA Boshof 84.99 134 LR LR 17 08 35.9
comp=Z,250nm,18.9s,MS4.6,baz=320,slow=34
PLCA Paso Flores 88.12 210 LR LR 17 15 00.0
comp=Z,53nm,18.7s,MS4.0,baz=249,slow=37

*ISCJB **18** 16:23:48.5±0.9,3994N±008×295W±0.1,h10km,mb3.8/3, Error ellipse: s-maj=17.6km s-min=6.6km az=142.0*
*CSEM **18** 16:23:51.5±0.8,4014N×2937W,h0km,ML2.9,Error ellipse: s-maj=10.1km s-min=5.9km az=77.0,After PDA*
*PDA **18** 16:23:51.5±0.8,4014N×2937W,h0km,MD3.6,ML2.9, Error ellipse: s-maj=10.1km s-min=5.9km az=77.0*
*IDC **18** 16:23:52.5±1.3,4076N×3000W,h0km,mb3.8/3,mb1 3.9/4, mb1mx3.5/26,mbtmp3.6/4,ML4.4/1,Error ellipse: s-maj=38.4km s-min=25.2km az=154.0*
ISC 18 16:23:51.0±3.4,3992N±010×294W±01,h18km±22km,n11, σ0§88/14,mb3.8/3,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBC	**Serra Branca**	**1.37**	**130**	*eP*	**Pn**	**16 24 14.6**	**-0.6**
SRBC				*eS*	**Sn**	**16 24 32.9**	**+0.1**
CALA	**Caldeira**	**1.44**	**158**	*eP*	**Sn**	**16 24 33.7**	**-1.0**
ROSA	**Rosais**	**1.49**	**143**	*eP*	**Pn**	**16 24 16.9**	**0.0**
HOR	**Horta**	**1.51**	**157**	*eS*	**Sn**	**16 24 37.3**	**+0.8**
PICO	**Pico**	**1.60**	**152**	*eP*	**Pn**	**16 24 19.4**	**+0.9**
PICO				*eS*	**Sn**	**16 24 39.5**	**+0.8**
PMAN	**Manadas**	**1.64**	**142**	*eS*	**Sn**	**16 24 39.5**	**0.0**
PMAN				A		16 24 40.6	
	26nm,0.1s						
ADH	**Angra Heroismo**	**2.10**	**127**	*eP*	**Pn**	**16 24 24.9**	**-0.3**
ADH				*eS*	**Sn**	**16 24 49.8**	**-1.0**
ESDC	**Sonseca Array**	**19.52**	**83**	P	**Pn**	**16 28 25.4**	**+6.8**
	0.2nm,0.3s,baz=291,slow=9.3,SNR=4.5						
PDAR	**Pinedale Array**	**58.05**	**301**	P	**P**	**16 33 42.1**	**-0.8**
	1.2nm,0.9s,mb3.9,baz=70,slow=4.9,SNR=6.1						
TXAR	**Lajitas Array**	**60.43**	**285**	P	**P**	**16 33 59.1**	**-0.5**
	0.9nm,0.8s,mb3.9,baz=78,slow=5.6,SNR=8.1						
MKAR	**Makanchi Array**	**74.38**	**42**	P	**P**	**16 35 30.3**	**+2.8**
	0.6nm,0.9s,mb3.5,baz=297,slow=6.3,SNR=3.3						

*IDC **18** 16:26:07.3±3.1, 1651S×16753E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/17, mbtmp4.1/7, MS3.3/3, Ms1 3.3/3, ms1mx3.0/20, Error ellipse: s-maj=83.6km s-min=26.2km az=122.0*
*ISCJB **18** 16:26:10.6±1.0, 1679S±006×1675E±02, h33km, mb4.4/13, MS3.3/2, Error ellipse: s-maj=21.8km s-min=8.0km az=175.4*
*NEIC **18** 16:26:11.5±1.1, 1668S×16768E, h35km, mb4.4/9, Error ellipse: s-maj=21.9km s-min=14.7km az=92.0*
ISC 18 16:26:12.1±1.0,1673S±007×1676E±02,h35km,n23, σ1§01/23,mb4.4/13,MS3.3/2,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.42**	**191**	*eP*	**Pn**	**16 27 31.7**	**+1.3**
DZM				*eS*	**Sn**	**16 28 29.6**	**-1.9**
DZM	**Mont Dzumac**	**5.42**	**191**	*eP*n	**Pn**	**16 27 31.3**	**+0.9**
DZM				*eS*n	**Sn**	**16 28 30.5**	**-1.1**
HNR	**Honiara**	**10.39**	**313**	LR	LR	16 31 53.8	
	comp=Z,77nm,19.9s,baz=177,slow=34						
CTA	**Charters Tower**	**20.50**	**257**	*eP*	**P**	**16 30 49.2**	**+1.8**
	8.0nm,1.2s						
CTA	**Charters Tower**	**20.50**	**257**	P	**P**	**16 30 49.0**	**+1.6**
	3.6nm,0.6s,baz=91,slow=17,SNR=6.1						
CTA				LR	LR	16 37 13.1	
	comp=Z,113nm,21.2s,MS3.2,baz=300,slow=32						
CTAO	**Charters Tower**	**20.50**	**257**	*eP*	**P**	**16 30 48.6**	**+1.2**
	13nm,1.1s						
STKA	**Stephens Creek**	**27.97**	**233**	*eP*	**P**	**16 32 00.9**	**+1.3**
	7.4nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**27.97**	**233**	P	**P**	**16 32 00.9**	**+1.4**
	13nm,0.8s,mb4.6,baz=59,slow=7.8,SNR=29						
STKA				LR	LR	16 41 30.6	
	comp=Z,106nm,19.7s,MS3.4,baz=25,slow=33						
TAU	**Tasmania Unive**	**31.29**	**209**	P	**P**	**16 32 26.9**	**-1.9**
	68nm,1.5s,mb5.3						
WRAB	**Tennant Creek**	**31.67**	**259**	*eP*	**P**	**16 32 31.6**	**-0.9**
	1.1nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**31.68**	**259**	P	**P**	**16 32 31.9**	**-0.7**
	1.5nm,0.7s,mb3.9,baz=89,slow=8.9,SNR=13						
ASAR	**Alice Springs**	**32.29**	**252**	P	**P**	**16 32 38.0**	**+0.2**
	18nm,0.7s,mb5.0,baz=79,slow=8.8,SNR=275						
FORT	**Forrest**	**38.57**	**241**	*eP*	**P**	**16 33 32.3**	**+0.5**
	10nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**39.98**	**262**	*eP*	**P**	**16 33 44.0**	**+0.3**
	7.7nm,0.8s,mb4.5						
MBWA	**Marble Bar**	**45.34**	**257**	P	**P**	**16 34 26.1**	**-1.1**
	3.6nm,0.9s,mb4.2						
NWAO	**Narrogin (SRO)**	**48.01**	**241**	P	**P**	**16 34 48.6**	**+0.7**
	156nm,2.1s,mb5.7						
MJAR	**Matsushiro Arr**	**59.81**	**333**	P	**P**	**16 36 12.9**	**-1.1**
	0.5nm,0.9s,mb3.6,baz=108,slow=14,SNR=4.1						
CASY	**Casey**	**61.80**	**203**	*eP*	**P**	**16 36 27.8**	**+0.7**
	4.0nm,0.9s,mb4.5						
KSRS	**Korea Array**	**65.56**	**326**	P	**P**	**16 36 51.0**	**-1.2**
	0.5nm,0.7s,mb3.7,baz=144,slow=7.1,SNR=4.7						
SONM	**Songino Array**	**84.28**	**324**	P	**P**	**16 38 40.8**	**+0.6**
	0.3nm,0.5s,mb3.7,baz=128,slow=2.4,SNR=3.5						
VNA3	**Neumayer Olymp**	**92.23**	**181**	*e*	**P**	**16 39 18.4**	**+0.4**
VNA3				*e*	pP	16 39 26.5	-2.6
VNA2	**Neumayer--Watz**	**92.50**	**182**	*e*	**P**	**16 39 20.0**	**+0.8**
VNA2				*e*	pP	16 39 28.0	-2.4
DAVOX	**Davos/Dischmat**	**144.80**	**333**	PKP	PKPdf	16 45 45.2	-0.1
	1.9nm,0.6s,baz=5.2,slow=11,SNR=7.6						

*ISCJB **18** 16:49:57.9±0.4,3831N±003×2164E±003,h14km±6km, Error ellipse: s-maj=5.6km s-min=3.6km az=5.4*
*NEIC **18** 16:49:58.9,3821N×2161E,h28km,MD3.0(ATH), ML2.7(THE),After ATH.*
*ATH **18** 16:49:58.9,3821N×2161E,h28km±1km,MD3.0/3*
*CSEM **18** 16:49:58.9±0.1,3830N×2163E,h12km,ML2.7,Error ellipse: s-maj=3.6km s-min=2.5km az=176.0*
*THE **18** 16:49:58.8,3830N×2162E,h0km,ML2.7*
ISC 18 16:49:59.7±0.5,3829N±004×2159E±003,h22km±6km,n14, σ1§02/27,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.25**	**202**	*eP*B	**Pb**	**16 50 04.7**	**-1.0**
RLS				*eS*B	**Sb**	**16 50 09.3**	**-0.5**
KFL	**Anninata**	**0.66**	**254**	*eP*g	**Pb**	**16 50 11.6**	**-0.8**
KFL				*eS*g	**Sb**	**16 50 22.6**	**+1.6**
KFL	**Anninata**	**0.66**	**254**	*eP*g	**Pb**	**16 50 11.6**	**-0.8**
KFL				*eS*g	**Sb**	**16 50 22.6**	**+1.5**
VLS	**Valsamata**	**0.79**	**262**	*eP*g	**Pb**	**16 50 13.7**	**-1.1**
VLS				*eS*g	**Sb**	**16 50 26.3**	**+1.3**
VLS	**Valsamata**	**0.79**	**262**	*eP*n	**Pn**	**16 50 14.6**	**-0.9**
VLS				*eS*g	**Sb**	**16 50 26.3**	**+1.2**
VLS				*eS*n	**Sn**	**16 50 27.3**	**+0.6**
LKD	**Levkas**	**0.84**	**300**	*eP*g	**Pb**	**16 50 14.7**	**-0.9**
LKD				*eS*g	**Sb**	**16 50 28.1**	**+1.5**
LKD	**Levkas**	**0.84**	**300**	*eP*g	**Pb**	**16 50 14.7**	**-0.9**
LKD				*eS*g	**Sb**	**16 50 28.0**	**+1.5**
AGG	**Agios Georgios**	**0.93**	**38**	*eP*g	**Pb**	**16 50 16.2**	**-0.9**
AGG				*eS*g	**Sb**	**16 50 29.5**	**+0.4**
VLX	**Vlachokerasia**	**1.11**	**145**	*eP*g	**Pn**	**16 50 18.9**	**-1.0**
VLX				*eS*g	**Sb**	**16 50 35.7**	**+1.5**
LTK	**Loutraki**	**1.12**	**103**	*eP*g	**Pn**	**16 50 19.4**	**-0.6**
LTK				*eS*g	**Sb**	**16 50 35.7**	**+1.3**
ITM	**Ithomi**	**1.14**	**166**	*eP*N	**Pn**	**16 50 19.3**	**-1.0**
LKR	**Lokris**	**1.17**	**72**	*eP*g	**Pn**	**16 50 19.9**	**-0.7**
LKR				*eS*g	**Sn**	**16 50 36.3**	**+0.5**
THL	**Klokotos Trika**	**1.31**	**15**	*eP*g	**Pn**	**16 50 22.7**	**0.0**
DID	**Didima**	**1.52**	**120**	*eP*g	**Pn**	**16 50 26.0**	**+0.5**
DID				*eS*g	**Sn**	**16 50 48.0**	**+3.3**

IDC 18 16:52:17.5±28.0,2991S×17558W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.8/16,mbtmp3.9/4,Error ellipse: s-maj=509.6km s-min=148.6km az=88.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.80**	**277**	P	P	16 59 18.6	-0.1
	11nm,1.3s,baz=90,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**36.63**	**256**	P	P	16 59 25.8	+0.1
	0.8nm,0.5s,baz=102,slow=14,SNR=4.2						
ASAR	**Alice Springs**	**45.23**	**265**	P	P	17 00 36.7	0.0
	0.3nm,0.4s,baz=108,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**46.18**	**270**	P	P	17 00 44.2	-0.1
	0.7nm,0.4s,baz=110,slow=8.0,SNR=12						

MAN 18 17:02:00,1106N×12411E,h10km,mb4.4,ML3.3,MS3.1, 3C-1D,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.49**	**91**	*eP*	Pg	17 02 09.5	-0.1
OCLP				*eS*	Sg	17 02 17.2	+1.1
LLP	**Lapu-Lapu**	**0.75**	**191⇑**	*eP*	Pg	17 02 13.2	-1.2
LLP				*eS*	Sg	17 02 23.8	-0.5
PLP	**Palo**	**0.86**	**83⇓**	*eP*	Pg	17 02 17.1	+0.4
PLP				*i* S	Sg	17 02 30.8	+2.9
MSLP	**Maasin**	**1.18**	**141**	*eP*	Pb	17 02 22.0	-0.4
MSLP				*eS*	Sb	17 02 39.6	+1.8
TBP	**Tagbilaran**	**1.38**	**190**	*eP*	Pn	17 02 25.1	-0.2
TBP				*eS*	Sb	17 02 44.4	+0.8
BESP	**Borongan**	**1.41**	**67**	*eP*	Pn	17 02 24.7	-1.1
BESP				*eS*	Sn	17 02 44.9	+0.5
RCP	**Roxas**	**1.43**	**291⇑**	*eP*	Pn	17 02 28.8	+2.8
RCP				*eS*	Sn	17 02 48.6	+3.8
CNP	**Catarman**	**1.54**	**21**	*eP*	Pn	17 02 27.5	-0.1
GUIM	**Jordan**	**1.55**	**254**	*eP*	Pn	17 02 26.9	-0.8
GUIM				*eS*	Sn	17 02 48.2	+0.3
KALP	**Kalibo**	**1.84**	**290**	*eP*	Sn	17 02 58.0	+2.9
SCPH	**Surigao**	**1.86**	**133⇑**	*eP*	Pn	17 02 31.7	-0.2
OTRP	**Odiongan**	**2.42**	**303**	*eP*	Pn	17 02 40.0	+0.4
CUYO	**Cuyo Island**	**3.04**	**266**	*eP*	Pn	17 02 46.3	-1.9
SJMP	**San Jose**	**3.24**	**296**	*eP*	Pn	17 02 52.8	+1.8
PAGZ	**Pagadian**	**3.27**	**193**	*eP*	Pn	17 02 52.1	+0.8
BUKP	**Musuan**	**3.29**	**163**	*eP*	Pn	17 02 57.7	+6.0
IPIL	**Ipil**	**3.58**	**205**	*eP*	Pn	17 02 56.5	+0.8
BUSP	**Coron**	**3.94**	**284**	*eP*	Pn	17 03 01.1	+0.4

*IDC **18** 17:02:53.8±0.7,5224N×16946W,h0km,mb4.0/18, mb1 4.3/19,mb1mx4.2/24,mbtmp4.1/19,ML5.1/1,MS3.4/5, Ms1 3.4/5,ms1mx2.9/40,Error ellipse: s-maj=23.7km s-min=12.7km az=174.0*
*ISCJB **18** 17:02:54.9±1.5,5216N±007×16939W±007,h18km±9km, mb4.2/41,MS3.4/5,Error ellipse: s-maj=12.8km s-min=5.6km az=160.4*
*BJI **18** 17:02:54.8,5220N×16930W,h34km,mB4.9,mb4.6*
*NEIC **18** 17:02:58.8±1.8,5218N×16933W,h34km±11km,mb4.4/25, ML3.8(AEIC),Error ellipse: s-maj=11.8km s-min=5.4km az=166.0*
ISC 18 17:02:57.0±1.5,5217N±008×16936W±006,h21km±9km, n96,σ1§04/99,mb4.2/41,MS3.4/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.86**	**21**	P	**Pb**	**17 03 11.7**	**-1.5**
NIKO				S	**Sb**	**17 03 20.8**	**-3.4**
OKCD	**Okmok Cone D**	**1.47**	**30**	P	**Pn**	**17 03 21.9**	**-0.4**
OKCD				S	**Sn**	**17 03 41.7**	**+0.8**
AKLV	**Akutan Long Va**	**2.86**	**44**	P	**Pn**	**17 03 42.5**	**+1.2**
AKGG	**Akutan Green G**	**2.87**	**44**	P	**Pn**	**17 03 42.5**	**+1.0**
ADK	**Adak**	**4.53**	**269**	P	**Pn**	**17 04 06.2**	**+1.8**
ADK				*eS*n	**Sn**	**17 04 56.0**	**-0.3**
ADK				S	**Sn**	**17 04 57.8**	**+1.5**
SPIA	**Saint Paul Isl**	**5.04**	**354**	P	**Pn**	**17 04 13.7**	**+2.3**
SDPT	**Sand Point**	**6.15**	**55**	P	**Pn**	**17 04 27.5**	**+1.0**
AMKA	**Amchitka**	**7.08**	**268**	*e*Pn	**Pn**	**17 04 41.1**	**+1.8**
OHAK	**Old Harbor**	**10.58**	**55**	*e*Pn	**Pn**	**17 05 25.6**	**-1.6**
KDAK	**Kodiak Island**	**11.14**	**53**	Pn	**Pn**	**17 05 32.5**	**-2.4**
	1.1nm,0.3s,baz=328,slow=23,SNR=6.1						
SVW2	**Sparrevohn**	**11.70**	**35**	*e*Pn	**Pn**	**17 05 45.7**	**+3.2**
TNA	**Tin City**	**13.45**	**3**	*e*Pn	**Pn**	**17 06 09.1**	**+2.7**
RC01	**Rabbit Creek A**	**13.96**	**43**	*e*Pn	**Pn**	**17 06 11.8**	**-1.5**
PPLA	**Purkeypile**	**14.10**	**34**	*e*Pn	**Pn**	**17 06 14.9**	**-0.3**
	38nm,1.3s						
KTH	**Kantishna Hill**	**14.97**	**33**	*e*Pn	**Pn**	**17 06 28.3**	**+1.3**
	3.9nm,0.5s						
DIV	**Divide**	**15.68**	**46**	*e*Pn	**Pn**	**17 06 33.3**	**-3.1**
	3.3nm,0.4s						
DIV				*e*		17 06 44.7	
EGAK	**Eagle**	**19.19**	**38**	*e*P	**Pn**	**17 07 17.4**	**-2.6**
	4.1nm,0.6s						
PET	**Petropavlovsk**	**19.37**	**285**	*e*P	**Pn**	**17 07 21.5**	**-0.7**
	12nm,0.6s						
PETK	**Petropavlovsk-**	**19.92**	**286**	P	**Pn**	**17 07 27.8**	**-1.0**
	5.1nm,0.3s,baz=84,slow=14,SNR=246						
SIT	**Sitka**	**20.16**	**63**	*e*P	**P**	**17 07 28.8**	**-0.9**
	5.5nm,0.7s						
SKAG	**Skagway**	**20.28**	**56**	*e*P	**P**	**17 07 31.2**	**+0.3**
	8.6nm,0.4s						
CRAG	**Craig**	**21.49**	**67**	*e*P	**P**	**17 07 43.5**	**-0.5**
	16nm,1.2s,mb4.2						
DLBC	**Dease Lake**	**22.98**	**59**	P	**P**	**17 08 01.9**	**+2.0**
	baz=342,slow=10						
YKA	**Yellowknife Ar**	**30.37**	**49**	P	**P**	**17 09 06.2**	**-0.7**
	1.4nm,0.6s,mb3.9,baz=272,slow=8.1,SNR=5.5						
YKA				LR	LR	17 22 27.1	
	comp=Z,32nm,19.1s,MS3.0,baz=240,slow=39						
YKA	**Yellowknife Ar**	**30.37**	**49**	P	**P**	**17 09 06.2**	**-0.7**
YKA				LR	LR	17 22 27.1	
YAK	**Yakutsk**	**33.31**	**311**	*e*P	**P**	**17 09 31.6**	**-1.1**
EGMT	**Eagleton**	**37.52**	**72**	*e*P	**P**	**17 10 09.5**	**+0.4**
	5.4nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**37.66**	**91**	P	**P**	**17 10 12.7**	**+2.4**
	0.2nm,0.5s,mb3.1,baz=336,slow=4.2,SNR=3.0						
MAJO	**Matsushiro**	**39.70**	**268**	P	**P**	**17 10 26.0**	**-1.5**
	5.8nm,0.9s,mb4.3						
MJAR	**Matsushiro Arr**	**39.70**	**268**	P	**P**	**17 10 25.9**	**-1.6**
	0.7nm,0.5s,mb3.6,baz=36,slow=6.4,SNR=9.0						
PDAR	**Pinedale Array**	**40.44**	**79**	P	**P**	**17 10 33.6**	**+0.1**
	1.5nm,0.6s,mb3.9,baz=313,slow=3.9,SNR=14						
CBIJ	**Chichi jima**	**43.86**	**254**	LR	LR	17 26 38.4	
	comp=Z,67nm,20.3s,MS3.5,baz=356,slow=32						
KSRS	**Korea Array**	**45.43**	**277**	P	**P**	**17 11 15.2**	**+1.1**
	2.0nm,0.6s,mb4.1,baz=56,slow=7.9,SNR=16						
SONM	**Songino Array**	**51.41**	**301**	P	**P**	**17 12 00.2**	**+0.2**
	1.3nm,0.6s,mb4.1,baz=44,slow=6.3,SNR=13						
SONM				PcP	PcP	17 13 14.2	-0.1
	0.7nm,0.6s,baz=52,slow=3.0,SNR=4.3						
TXAR	**Lajitas Array**	**52.74**	**89**	P	**P**	**17 12 10.5**	**+0.3**
	0.6nm,0.5s,mb3.8,baz=304,slow=5.4,SNR=13						
TXAR	**Lajitas Array**	**52.74**	**89**	P	**P**	**17 12 10.5**	**+0.3**
SCHQ	**Schefferville**	**55.58**	**43**	P	**P**	**17 12 30.2**	**-0.3**
	4.4nm,0.8s,mb4.5,baz=306,slow=8.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**57.57**	**318**	P	**P**	**17 12 43.9**	**-0.8**
	1.6nm,0.5s,mb4.3,baz=76,slow=4.8,SNR=6.0						
ZALV				LR	LR	17 38 46.5	
	comp=Z,38nm,18.4s,MS3.5,baz=60,slow=38						
KEV	**Kevo**	**57.80**	**353**	*e*p	**P**	**17 12 45.6**	**-0.4**
	0.8nm,0.4s,mb4.1						
ARCES	**ARCESS Array B**	**58.12**	**354**	P	**P**	**17 12 47.4**	**-0.9**
	1.6nm,0.7s,mb4.2,baz=12,slow=6.2,SNR=18						
ARCES				LR	LR	17 36 18.1	
	comp=Z,49nm,19.6s,MS3.6,baz=256,slow=34						
GTA	**Gaotai**	**60.58**	**297**	*e*P	**P**	**17 13 05.6**	**-0.1**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**62.53**	**318**	*e*P	**P**	**17 13 17.5**	**-1.1**
	comp=Z,3.6nm,0.6s,mb4.7						
BRVK	**Borovoye**	**63.88**	**325**	*e*P	**P**	**17 13 25.7**	**-1.9**
MKAR	**Makanchi Array**	**63.95**	**313**	P	**P**	**17 13 27.6**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.1,baz=46,slow=7.1,SNR=11						
JOF	**Joensuu**	**64.10**	**350**	*e*p	**P**	**17 13 27.8**	**-1.1**
	comp=Z,1.1nm,0.4s,mb4.2						
JOF	**Joensuu**	**64.10**	**350**	*e*p	**P**	**17 13 27.8**	**-1.1**
	comp=Z,1.1nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**65.39**	**352**	*e*p	**P**	**17 13 36.2**	**-1.1**
	comp=Z,1.6nm,0.4s,mb4.4,baz=7.5,slow=6.1						
KAF	**Kangasniemi**	**65.39**	**352**	*e*p	**P**	**17 13 36.2**	**-1.1**
	comp=Z,1.6nm,0.4s,mb4.4,baz=14,slow=6.3						
NB2	**NORSAR Subarra**	**67.14**	**360**	P	**P**	**17 13 48.0**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.5,baz=0.8,slow=6.5						
NOA	**NORSAR Array B**	**67.14**	**360**	P	**P**	**17 13 48.2**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.5,baz=0.5,slow=6.3,SNR=14						
NOA				LR	LR	17 43 13.1	
	comp=Z,22nm,19.5s,MS3.4,baz=30,slow=36						
EKS2	**Erkin-Say**	**70.93**	**316**	*e*P	**P**	**17 14 12.7**	**+0.3**
	comp=Z,2.5nm,0.6s,mb4.3						
LSA	**Lhasa**	**72.54**	**296**	P	**P**	**17 14 24.0**	**+1.7**
LSA	**Lhasa**	**72.54**	**296**	*e*P	**P**	**17 14 23.9**	**+1.6**
	comp=Z,6.5nm,0.6s,mb4.7						
AKASG	**Malin Array Be**	**76.30**	**348**	P	**P**	**17 14

ASAR Alice Springs 90.27 230 P P 17 15 56.0 0.0
comp=Z,0.3nm,0.6s,mb3.8,baz=24,slow=5.1,SNR=10

TAP 18 17:07:38.3, 2482N×12226E, h11km, ML3.7, Taiwan region

*NIED **18** 17:17:00, 40.40N×14.230E, h50km, Mw4.2 Best double couple: M0=2.01000×10^15 NP1:φ=23.00000°, δ=69.00000°, λ=86.00000°. NP2:φ=214.00000°, δ=21.00000°, λ=100.00000°.*
*MOS **18** 17:17:46.8±1.0, 40.31N×14.202E, h35km, mb4.7/19, Error ellipse: s-maj=12.9km s-min=7.0km az=107.6*
*ISCJB **18** 17:17:48.9±0.5, 40.38N±0.004×14.224E±0.006, h55km±4km, mb4.3/36, MS3.4/2, Error ellipse: s-maj=7.7km s-min=5.4km az=23.9*
*JMA **18** 17:17:49.5±0.1, 40.37N×14.228E, h41km±1km, M4.2*
JMA Felt II J1.
*BJI **18** 17:17:51.8, 40.36N×14.228E, h95km, mB4.6, mb4.7*
*NEIC **18** 17:17:52.0±0.9, 40.39N×14.204E, h65km±8km, mb4.5/16, MW4.1(NIED), Error ellipse: s-maj=10.0km s-min=7.2km az=106.0*
NEIC Recorded [2 JMA] in Aomori and Iwate Prefectures. Recorded [1 JMA] in southwestern Hokkaido.
*IDC **18** 17:17:55.3±2.9, 40.33N×14.201E, h96km±26km, mb3.8/13, mb1 3.9/16, mb1mx3.8/23, mbtmp3.7/16, MS3.2/4, Ms1 3.2/4, ms1mx3.0/31, Error ellipse: s-maj=17.5km s-min=15.2km az=81.0*
ISC 18 17:17:50.0±0.5, 4041N±0.003×14222E±0.006, h48km±4km, h70km±.3km:pP-P, n106, σ1§01/111, mb4.3/36, MS3.4/2, 3C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.54**	**267**	⇓P	**Pn**	**17 18 01.4**	**-0.1**
JANG				S	**Sn**	**17 18 09.7**	**-0.1**
JTH	**Tanohata**	**0.54**	**210**	⇑P	**Pn**	**17 18 00.7**	**-0.9**
JTH				*e*S	**Sn**	**17 18 08.6**	**-1.2**
JKZ	**Kuzumaki**	**0.80**	**239**	⇓P	**Pn**	**17 18 05.0**	**+0.1**
JKZ				S	**Sn**	**17 18 15.8**	**0.0**
JTM	**Tenmabayashi**	**0.95**	**294**	⇓P	**Pn**	**17 18 07.0**	**0.0**
JTM				*e*S	**Sn**	**17 18 19.8**	**+0.3**
JOM	**Ohasama**	**1.17**	**218**	⇓P	**Pn**	**17 18 09.9**	**-0.1**
JOM				*e*S	**Sn**	**17 18 24.9**	**+0.1**
JAH	**Hinai**	**1.23**	**260**	⇓P	**Pn**	**17 18 11.1**	**+0.4**
JAH				S	**Sn**	**17 18 26.7**	**+0.5**
JOT	**Ohata**	**1.32**	**318**	⇓P	**Pn**	**17 18 11.7**	**-0.3**
ASAJ	**Asahikawa**	**3.72**	**4**	P	**Pn**	**17 18 45.9**	**+1.0**
	11nm,0.3s,baz=208,slow=12,SNR=92						
ASAJ				S	**Sn**	**17 19 34.7**	**+7.3**
	15nm,0.3s,baz=323,slow=20,SNR=7.3						
ASAJ	**Asahikawa**	**3.72**	**4**	P	**Pn**	**17 18 45.9**	**+1.0**
ASAJ				S	**Sn**	**17 19 34.7**	**+7.3**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ				smax			
	comp=N,15nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.53**	**36**	*e*P	**Pn**	**17 18 55.4**	**-0.5**
YUK				*e*S	**Sn**	**17 19 42.1**	**-5.1**
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,180nm,0.3s						
YUK				pmax	pmax		
	comp=N,110μm,0.5s						
YUK				pmax	pmax		
	comp=E,190nm,0.8s						
YUK				smax			
	comp=E,390nm,0.4s						
YUK				smax			
	comp=N,120nm,0.5s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
MAJO	**Matsushiro**	**4.98**	**220**	*e*P	**Pn**	**17 19 03.4**	**+1.3**
MAT	**Matsushiro**	**4.98**	**220**	P	**Pn**	**17 19 04.2**	**+2.1**
MAT				*e*S	**Sn**	**17 19 59.2**	**+0.8**
MJAR	**Matsushiro Arr**	**4.98**	**220**	P	**Pn**	**17 19 04.5**	**+2.3**
	comp=E,4.1nm,0.3s,baz=32,slow=13,SNR=93						
MJAR	**Matsushiro Arr**	**4.98**	**220**	P	**Pn**	**17 19 04.5**	**+2.3**
KUR	**Kuril'sk**	**6.37**	**39**	P	**Pn**	**17 19 19.0**	**-2.1**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.56**	**3**	*e*P	**Pn**	**17 19 24.2**	**+0.4**
YSS	**Yuzh-Sakhalins**	**6.56**	**3**	*e*Pn	**Pn**	**17 19 24.5**	**+0.8**
	comp=Z,14nm,0.7s						
JHJ	**Hachijo jima 2**	**7.53**	**196**	P	**Pn**	**17 19 36.0**	**-1.2**
	comp=Z,9.0nm,0.3s,baz=66,slow=19,SNR=4.6						
JHJ				S	**Sn**	**17 20 56.8**	**-4.4**
	comp=Z,7.5nm,0.3s,baz=75,slow=20,SNR=2.2						
VLA	**Vladivostok**	**8.18**	**293**	*e*P	**Pn**	**17 19 50.3**	**+4.3**
VLA				pmax	pmax		
	comp=Z,59nm,2.2s						
MDJ	**Mudanjiang**	**10.23**	**298**	P	**Pn**	**17 20 19.5**	**+5.5**
MDJ				AMB	AMB		
	comp=Z,17nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,65nm,5.2s						
MDJ	**Mudanjiang**	**10.23**	**298**	*e*Pn	**Pn**	**17 20 18.7**	**+4.7**
	comp=Z,16nm,1.0s						
KSRS	**Korea Array**	**11.52**	**260**	P	**Pn**	**17 20 35.2**	**+3.5**
	comp=Z,0.2nm,0.3s,baz=73,slow=13,SNR=11						
KSRS				S	**Sn**	**17 22 42.0**	**+3.2**
	baz=26,slow=19,SNR=2.3						
KSRS				LR	LR	17 24 42.6	
	comp=Z,109nm,18.2s,baz=162,slow=36						
KLR	**Kul'dur**	**11.53**	**323**	*e*P	**Pn**	**17 20 30.7**	**-1.1**
PETK	**Petropavlovsk-**	**16.50**	**35**	P	**Pn**	**17 21 43.9**	**+5.9**
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=3.8						
PETK				LR	LR	17 27 31.8	
	comp=Z,49nm,20.9s,baz=229,slow=35						
BJI	**Beijing**	**19.87**	**277**	P	**Pn**	**17 22 15.8**	**-3.2**
BJI				AMB	AMB		
	comp=Z,16nm,0.8s						
BJT	**Baijiatuau**	**19.88**	**277**	P	**Pn**	**17 22 15.0**	**-4.1**
BJT				pmax	pmax		
	comp=Z,16nm,0.8s						
BJT	**Baijiatuau**	**19.88**	**277**	P	**Pn**	**17 22 15.0**	**-4.1**
	comp=Z,16nm,0.8s						
YAK	**Yakutsk**	**22.95**	**345**	*e*P	**P**	**17 22 46.3**	**-3.6**
YAK				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.6						
YAK				pmax	pmax		
	comp=N,9.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.7s						
YAK	**Yakutsk**	**22.95**	**345**	*e*P	**P**	**17 22 46.3**	**-3.6**
	comp=E,18nm,0.8s,mb4.5						
SEY	**Seymchan**	**23.37**	**12**	⇑*e*P	**P**	**17 22 54.4**	**+0.3**
BOD	**Bodaibo**	**25.11**	**323**	*e*P	**P**	**17 23 08.7**	**-1.3**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3						
SONM	**Songino Array**	**26.58**	**298**	P	**P**	**17 23 23.3**	**-0.1**
	comp=Z,1.6nm,0.5s,mb3.8,baz=92,slow=8.5,SNR=15						
ZAK	**Zakamensk**	**28.81**	**303**	*e*P	**P**	**17 23 40.8**	**-2.5**
ZAK				*e*		17 24 34.1	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.9						
BILL	**Bilibino**	**30.62**	**18**	*e*P	**P**	**17 24 00.2**	**+1.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.3						
TIXI	**Tiksi**	**32.03**	**352**	*e*P	**P**	**17 24 13.1**	**+1.6**
TIXI				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.7						
GTA	**Gaotai**	**32.32**	**282**	*e*P	**P**	**17 24 14.0**	**-0.4**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.0						
ZAA0	**Zalesovo Array**	**40.18**	**309**	*e*P	**P**	**17 25 20.6**	**-0.7**
ZALV	**Zalesovo Beam**	**40.18**	**309**	P	**P**	**17 25 20.8**	**-0.5**
	comp=Z,5.1nm,0.4s,mb4.6,baz=91,slow=8.9,SNR=21						
ZALV				PcP	PcP	17 27 24.0	-0.6
	comp=Z,1.4nm,0.5s,baz=103,slow=4.3,SNR=4.5						
ZAL	**Zalesovo**	**40.20**	**309**	P	**P**	**17 25 20.8**	**-0.6**
ZAL						17 27 24.0	
NVS	**Novosibirsk**	**41.04**	**311**	*e*P	**P**	**17 25 27.3**	**-1.0**
LSA	**Lhasa**	**42.63**	**272**	*e*P	**P**	**17 25 44.0**	**+2.3**
LSA	**Lhasa**	**42.63**	**272**	*e*P	**P**	**17 25 43.5**	**+1.8**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
LSA	**Lhasa**	**42.63**	**272**	*e*P	**P**	**17 25 43.5**	**+1.8**
	comp=Z,3.0nm,0.5s,mb4.3						
CHTO	**Chiang Mai**	**42.81**	**253**	*e*P	**P**	**17 25 42.9**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
CHTO	**Chiang Mai**	**42.81**	**253**	*e*P	**P**	**17 25 42.9**	**-0.4**
	comp=Z,3.9nm,0.9s,mb4.1						
MK31	**Makanchi Array**	**42.94**	**299**	P	**P**	**17 25 43.6**	**-0.4**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**42.94**	**299**	P	**P**	**17 25 43.6**	**-0.3**
	comp=Z,5.5nm,0.7s,mb4.4,baz=84,slow=10,SNR=31						
CMAR	**Chiang Mai Arr**	**43.04**	**252**	P	**P**	**17 25 44.6**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.7,baz=42,slow=7.2,SNR=8.8						
KURK	**Kurchatov**	**44.42**	**306**	*e*P	**P**	**17 25 55.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
KURK	**Kurchatov**	**44.42**	**306**	*e*P	**P**	**17 25 55.2**	**-0.6**
	comp=Z,11nm,0.8s,mb4.7						
TKM2	**Tokmak 2**	**48.65**	**296**	*e*P	**P**	**17 26 29.1**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
TKM2	**Tokmak 2**	**48.65**	**296**	*e*P	**P**	**17 26 29.1**	**+0.1**
	comp=Z,6.3nm,0.6s,mb4.8						
BVA0	**Borovoye Array**	**48.82**	**310**	*i* P	**P**	**17 26 30.1**	**-0.1**
BRVK	**Borovoye**	**48.88**	**310**	*e*P	**P**	**17 26 29.3**	**-1.3**
EKS2	**Erkin-Say**	**49.99**	**296**	*e*P	**P**	**17 26 38.9**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.3						
HYT	**Haines Junctio**	**51.24**	**38**	*e*P	**P**	**17 26 50.9**	**+2.5**
SVE	**Sverdlovsk**	**53.07**	**317**	*e*P	**P**	**17 27 02.7**	**+0.6**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
AB31	**Akbulak array**	**56.29**	**309**	*i* P	**P**	**17 27 24.9**	**-0.6**
KBL	**Kabul**	**56.85**	**289**	P	**P**	**17 27 28.5**	**-1.2**
KBL				pmax	pmax		
	comp=Z,13nm,0.4s,mb5.3						
KBL	**Kabul**	**56.85**	**289**	P	**P**	**17 27 28.5**	**-1.2**
	comp=Z,13nm,0.4s,mb5.3						
BBB	**Bella Bella**	**59.24**	**46**	LR	LR	17 49 23.9	
	comp=Z,36nm,20.4s,MS3.5,baz=223,slow=32						
WRAB	**Tennant Creek**	**60.47**	**189**	P	**P**	**17 27 53.4**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
WRAB	**Tennant Creek**	**60.47**	**189**	P	**P**	**17 27 53.4**	**-1.5**
	comp=Z,6.9nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**60.48**	**189**	P	**P**	**17 27 53.8**	**-1.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=7.8,slow=7.7,SNR=8.0						
ARCES	**ARCESS Array B**	**61.08**	**339**	P	**P**	**17 27 58.4**	**-0.1**
	comp=Z,2.7nm,0.8s,mb4.5,baz=56,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**64.21**	**188**	P	**P**	**17 28 19.4**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.8,baz=1.2,slow=5.0,SNR=18						
MBWA	**Marble Bar**	**64.73**	**203**	P	**P**	**17 28 21.8**	**-1.4**
KIV	**Kislovodsk**	**69.19**	**310**	⇑*e*P	**P**	**17 28 52.6**	**+1.1**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**69.19**	**310**	P	**P**	**17 28 52.5**	**+1.0**
	comp=Z,5.7nm,0.8s,mb4.5						
NB2	**NORSAR Subarra**	**71.33**	**337**	P	**P**	**17 29 03.9**	**-0.3**
	comp=Z,2.5nm,0.6s,mb4.3,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**71.33**	**337**	P	**P**	**17 29 04.0**	**-0.2**
	comp=Z,2.9nm,0.6s,mb4.4,baz=39,slow=6.0,SNR=13						
NOA				LR	LR	18 03 06.1	
	comp=Z,16nm,21.7s,MS3.2,baz=310,slow=38						
AKASG	**Malin Array Be**	**72.03**	**322**	P	**P**	**17 29 08.1**	**-0.5**
	comp=Z,3.5nm,0.5s,mb4.5,baz=44,slow=5.9,SNR=27						
NVAR	**Mina Array Bea**	**72.49**	**54**	P	**P**	**17 29 13.5**	**+1.9**
	comp=Z,0.3nm,0.7s,mb3.3,baz=285,slow=7.4,SNR=2.4						
PDAR	**Pinedale Array**	**74.87**	**46**	P	**P**	**17 29 26.2**	**+0.7**
	comp=Z,0.4nm,0.3s,mb3.8,baz=318,slow=1.2,SNR=5.4						
OJC	**Ojcow**	**76.60**	**326**	*e*P	**P**	**17 29 35.7**	**+0.5**
MORC	**Moravsky Berou**	**77.88**	**327**	*e*P	**P**	**17 29 41.6**	**-0.8**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MORC	**Moravsky Berou**	**77.88**	**327**	*e*P	**P**	**17 29 41.5**	**-0.9**
	comp=Z,2.7nm,0.9s,mb4.2						
PSZ	**Piszkesteto**	**78.28**	**325**	*e*P	**P**	**17 29 45.2**	**+0.5**
PSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
PSZ	**Piszkesteto**	**78.28**	**325**	*e*P	**P**	**17 29 45.2**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.3						
BRG	**Berggiesshubel**	**78.47**	**329**	*e*P	**P**	**17 29 49.2**	**+3.5**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BRG	**Berggiesshubel**	**78.47**	**329**	*e*P	**P**	**17 29 49.2**	**+3.6**
	comp=Z,2.5nm,0.9s,mb4.1						
CLL	**Collm**	**78.49**	**330**	*e*P	**P**	**17 29 46.0**	**+0.3**
PRU	**Pruhonice**	**78.94**	**329**	*e*P	**P**	**17 29 48.9**	**+0.7**
KHC	**Kasperske Hory**	**80.00**	**329**	*e*P	**P**	**17 29 54.6**	**+0.6**
GERES	**GERESS Array B**	**80.18**	**328**	P	**P**	**17 29 54.9**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=45,slow=7.7,SNR=7.8						
GERES	**GERESS Array B**	**80.18**	**328**	P	**P**	**17 29 54.9**	**-0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BAIF	**Baives**	**82.66**	**334**	*e*P	**P**	**17 30 08.5**	**+0.4**
	comp=Z,5.4nm,0.7s,mb4.4						
BAIF	**Baives**	**82.66**	**334**	*e*P	**P**	**17 30 08.5**	**+0.4**
BAIF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
BAIF	**Baives**	**82.66**	**334**	*e*P	**P**	**17 30 08.5**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.4						
SSF	**Saint Saulge**	**85.47**	**333**	*e*P	**P**	**17 30 23.3**	**+0.8**
LPL	**La Plagne**	**85.63**	**330**	*e*pP	pP	17 30 42.6	+5.4
LPL	**La Plagne**	**85.63**	**330**	*e*P	**P**	**17 30 23.6**	**+0.3**
	comp=Z,6.3nm,0.7s,mb4.7						
LPL	**La Plagne**	**85.63**	**330**	*e*P	**P**	**17 30 23.6**	**+0.3**
LPL				*e**PP	pP	17 30 42.6	+5.4
LPL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
LPL	**La Plagne**	**85.63**	**330**	*e*P	**P**	**17 30 23.6**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.7						
LPL				*e*pP	pP	17 30 42.6	+5.4
LPG	**La Plagne**	**85.64**	**330**	*e*pP	pP	17 30 42.8	+5.5
LPG	**La Plagne**	**85.64**	**330**	*e*P	**P**	**17 30 23.9**	**+0.6**
	comp=Z,3.1nm,0.4s,mb4.6						
LPG	**La Plagne**	**85.64**	**330**	*e*P	**P**	**17 30 23.9**	**+0.6**
LPG				*e**PP	pP	17 30 42.8	+5.5
LPG				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.7						
LPG	**La Plagne**	**85.64**	**330**	*e*P	**P**	**17 30 23.9**	**+0.6**
	comp=Z,1.5nm,0.4s,mb4.6						
LPG				*e*pP	pP	17 30 42.8	+5.5
AVF	**Avril sur Loir**	**85.76**	**333**	*e*pP	pP	17 30 43.0	+5.1
AVF	**Avril sur Loir**	**85.76**	**333**	*e*P	**P**	**17 30 23.9**	**0.0**
	comp=Z,24nm,1.2s,mb5.0						
AVF	**Avril sur Loir**	**85.76**	**333**	*e*P	**P**	**17 30 23.9**	**0.0**
AVF				*e**PP	pP	17 30 43.0	+5.1
AVF				pmax	pmax		
	comp=Z,12nm,1.2s,mb5.0						
AVF	**Avril sur Loir**	**85.76**	**333**	*e*P	**P**	**17 30 23.9**	**0.0**
	comp=Z,12nm,1.2s,mb5.0						
AVF				*e*pP	pP	17 30 43.0	+5.1
TXAR	**Lajitas Array**	**87.58**	**53**	P	**P**	**17 30 34.0**	**+0.8**
	comp=Z,0.2nm,0.7s,mb3.4,baz=321,slow=1.8,SNR=4.6						
SNAA	**Sanae**	**144.15**	**198**	*e*PKPdf	PKPdf	17 37 16.5	-2.6
VNA2	**Neumayer--Wat**	**145.72**	**197**	*e*PKPdf	PKPdf	17 37 23.3	+1.4
VNA3	**Neumayer Olymp**	**145.98**	**196**	*e*PKPdf	PKPdf	17 37 22.4	+0.1

*ATH **18** 17:21:33.8, 3655N×2871E, h23km±3km, MD3.3/4*
*DDA **18** 17:21:34.0, 3655N×2872E, h7km±2km, Md3.1*
*NEIC **18** 17:21:33.8, 3655N×2871E, h23km, MD3.3(ATH), After ATH.*
*CSEM **18** 17:21:34.6±0.1, 3655N×2873E, h17km±1km, MD2.9, Error ellipse: s-maj=2.6km s-min=2.3km az=16.0*
*ISCJB **18** 17:21:34.8±0.6, 3647N±004×2867E±004, h22km±7km, Error ellipse: s-maj=7.2km s-min=4.8km az=29.2*
*ISK **18** 17:21:34.5, 3653N×2867E, h19km, MD2.9*
ISC 18 17:21:35.0±0.6, 3651N±003×2870E±003, h17km±4km, n15, σ1§02/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.27**	**348**	*e*PG	**Pg**	**17 21 40.7**	**-0.2**
DALT				*e*SG	**Sg**	**17 21 45.1**	**+0.1**
TURN	**Turunc**	**0.38**	**348**	*i* P	**Pg**	**17 21 44.1**	**+1.3**
TURN				*i* S	**Sg**	**17 21 52.3**	**+4.3**
ARG	**Arkhangelos**	**0.55**	**238**	*e*PN	**Pg**	**17 21 45.4**	**-0.5**
ARG				*e*SN	**Sg**	**17 21 54.1**	**+0.9**
YER	**Yerkesik**	**0.71**	**332**	*e*PG	**Pg**	**17 21 48.4**	**-0.5**
YER				*e*SG	**Sg**	**17 21 58.3**	**-0.2**
AKAS	**Kas**	**0.78**	**110**	*i* P	**Pb**	**17 21 49.0**	**-0.9**
AKAS				*i* S	**Sb**	**17 22 01.9**	**+1.7**
KSL	**Kastellorizon**	**0.79**	**116**	*e*PN	**Pn**	**17 21 49.5**	**-1.8**
ELL	**Elmali**	**1.00**	**76**	*e*PG	**Pg**	**17 21 54.3**	**0.0**
ELL				*e*SG	**Sg**	**17 22 08.5**	**+1.1**
GOLH	**Golhisar**	**1.00**	**43**	*i* P	**Pb**	**17 21 52.5**	**-1.4**
GOLH				*i* S	**Sb**	**17 22 08.0**	**+1.2**
MLSB	**Milas**	**1.08**	**317**	*e*PG	**Pg**	**17 21 55.0**	**-0.9**
BDRM	**Kayabasi**	**1.16**	**299**	*i* P	**Pn**	**17 21 56.0**	**-0.3**
BDRM				*i* S	**Sb**	**17 22 12.9**	**+1.8**
DNZL	**Cakiroluk**	**1.21**	**13**	*i* P	**Pn**	**17 21 56.2**	**-0.9**
DNZL				*i* S	**Sb**	**17 22 12.3**	**-0.5**
BODT	**Bodrum**	**1.25**	**297**	*e*PN	**Pn**	**17 21 56.8**	**-0.8**
AYDN	**Tasoluk**	**1.33**	**330**	*i* P	**Pn**	**17 21 59.0**	**+0.3**
AYDN				*i* S	**Sn**	**17 22 16.1**	**+0.2**
KARP	**Karpathos**	**1.57**	**233**	*e*PN	**Pn**	**17 22 02.7**	**+0.7**
SMG	**Samos**	**1.92**	**309**	*e*PB	**Pb**	**17 22 06.4**	**-3.0**
SMG				*e*SN	**Sn**	**17 22 31.4**	**+1.0**

IDC 18 17:33:12.2±3.5, 1195S×16658E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=101.3km s-min=40.5km az=123.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.95**	**251**	P	P	17 39 40.0	0.0
	0.3nm,0.6s,baz=83,slow=8.6,SNR=4.9						
ASAR	**Alice Springs**	**33.13**	**245**	P	P	17 39 50.4	+0.1
	0.3nm,0.6s,baz=69,slow=10,SNR=5.9						
ASAR				PcP	PcP	17 42 33.8	+0.1
	0.2nm,0.6s,baz=83,slow=2.9,SNR=5.5						
CMAR	**Chiang Mai Arr**	**73.22**	**294**	P	P	17 44 45.8	+0.2
	0.9nm,0.7s,baz=126,slow=5.6,SNR=7.6						
SONM	**Songino Array**	**79.87**	**324**	P	P	17 45 24.3	+1.6
	0.5nm,0.8s,baz=123,slow=5.5,SNR=3.8						
MKAR	**Makanchi Array**	**94.74**	**317**	P	P	17 46 33.7	-1.8
	0.6nm,0.4s,baz=88,slow=5.8,SNR=9.5						

*IDC **18** 17:54:49.6±1.2, 2370N×12684E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/20, mbtmp3.6/6, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/25, Error ellipse: s-maj=51.9km s-min=19.6km az=73.0*
*ISCJB **18** 17:54:52.0±0.7, 2383N±005×12678E±004, h33km, mb3.3/6, Error ellipse: s-maj=7.5km s-min=4.3km az=156.9*
*JMA **18** 17:54:53.5±0.3, 2392N×12667E, h96km, M3.3*
*NEIC **18** 17:54:54.0±0.9, 2377N×12689E, h35km, Error ellipse: s-maj=18.3km s-min=15.3km az=109.0*
ISC 18 17:54:53.7±0.7, 2386N±005×12675E±004, h35km, n23, σ1§00/32, mb3.3/6, 1C-1D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.52**	**307**	*e*S	**Sn**	**17 55 38.1**	**+1.2**
JMJ	**Miyako jima 2**	**1.63**	**306**	*e*S	**Sn**	**17 55 40.5**	**+0.7**
JTJ	**Tarama**	**2.02**	**293**	P	**Pn**	**17 55 25.9**	**+0.6**
JTJ				*e*S	**Sn**	**17 55 48.5**	**-0.9**
JIJ	**Ishigaki jima**	**2.43**	**283**	P	**Pn**	**17 55 31.0**	**0.0**
JIJ				*e*S	**Sn**	**17 55 57.1**	**-2.4**
JJT2	**Tamagusuku 2**	**2.45**	**22**	P	**Pn**	**17 55 31.7**	**+0.5**
JKE	**Kume jima 2**	**2.46**	**1**	P	**Pn**	**17 55 31.9**	**+0.5**
JKE				*e*S	**Sn**	**17 56 00.9**	**+0.7**
JKRS	**Kuro-shima**	**2.53**	**279**	P	**Pn**	**17 55 32.4**	**+0.1**
JKRS				*e*S	**Sn**	**17 56 01.3**	**-0.6**
JAGN	**Aguni-jima**	**2.76**	**9**	P	**Pn**	**17 55 36.2**	**+0.7**
IRIF	**Iriomote-Funau**	**2.80**	**280**	P	**Pn**	**17 55 35.6**	**-0.4**
IRIF				*e*S	**Sn**	**17 56 07.5**	**-1.0**
JOW	**Kunigami**	**3.27**	**25**	P	**Pn**	**17 55 42.8**	**+0.3**
JOW	**Kunigami**	**3.27**	**25**	Pn	**Pn**	**17 55 42.9**	**+0.4**
	11nm,0.3s,baz=185,slow=14,SNR=40						
JOW				Sn	**Sn**	**17 56 18.9**	**-1.3**
	1.0nm,0.3s,baz=72,slow=20,SNR=3.1						
JIH	**Iheya**	**3.35**	**19**	P	**Pn**	**17 55 44.1**	**+0.5**
JIH				*e*S	**Sn**	**17 56 21.9**	**-0.3**
JTK	**Tokunoshima**	**4.39**	**26**	P	**Pn**	**17 55 57.9**	**0.0**
JTK				*e*S	**Sn**	**17 56 46.5**	**-1.3**
YHNB	**Yeheng**	**4.97**	**280**	P	**Pn**	**17 56 06.5**	**+0.7**
JAM	**Amami Oshima**	**5.21**	**29**	P	**Pn**	**17 56 08.9**	**-0.3**
JAM				*e*S	**Sn**	**17 57 04.5**	**-3.6**
MAJO	**Matsushiro**	**16.05**	**35**	Pn	**Pn**	**17 58 35.9**	**-0.8**
KSM	**Kuching**	**27.36**	**218**	P	**P**	**18 00 42.4**	**+6.6**
SONM	**Songino Array**	**28.89**	**331**	P	**P**	**18 00 52.8**	**+3.7**
	0.3nm,0.5s,mb3.3,baz=134,slow=8.3,SNR=3.6						
SONM				LR	LR	18 13 14.2	
	comp=Z,45nm,18.4s,baz=251,slow=38						
MKAR	**Makanchi Array**	**42.16**	**314**	P	**P**	**18 02 45.4**	**+2.5**
	0.3nm,0.5s,mb3.1,baz=95,slow=8.7,SNR=6.5						
MK09	**Makanchi Array**	**42.17**	**314**	⇓Pn	**P**	**18 02 49.8**	**+6.9**
	0.3nm,0.7s,mb3.0,baz=29,slow=14						
MK09				⇓Lg		18 03 35.3	
	0.6nm,0.6s,ba

PPT *e*LR LR 18 13 23.7
comp=Z,1μm,27.8s,baz=253
PPT Papeete 33.84 89 LR LR 18 16 01.7
comp=Z,69nm,19.4s,MS3.4,baz=297,slow=33
ASAR Alice Springs 37.53 260 P **P 18 04 56.5 -0.1**
comp=Z,6.6nm,1.0s,mb4.3,baz=95,slow=9.0,SNR=37
WRAB Tennant Creek 37.66 266 P **P 18 04 56.2 -1.6**
WRAB pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
WRAB Tennant Creek 37.66 266 P **P 18 04 56.2 -1.6**
comp=Z,5.8nm,1.0s,mb4.3
WRA Warramunga Arr 37.67 266 P **P 18 04 56.9 -1.0**
comp=Z,1.8nm,0.8s,mb3.9,baz=104,slow=8.5,SNR=5.9
WRA LR LR 18 20 49.5
comp=Z,1μm,18.6s,MS4.7,baz=105,slow=37
TAOE Nuku Hiva Isla 45.29 80 *e*S **S 18 12 40.0 -0.4**
comp=Z,352nm,26.1s
TAOE *e*LR LR 18 18 41.5
comp=Z,3μm,25.9s,baz=245
FITZ Fitzroy Crossi 46.10 266 P **P 18 06 06.5 -0.4**
comp=Z,1.9nm,0.8s,mb4.1,baz=204,slow=8.7,SNR=2.1
MBWA Marble Bar 50.87 260 *e*P **P 18 06 43.5 0.0**
comp=Z,13nm,1.0s,mb4.8
KLBR Kellerberrin 51.17 247 *e*P **P 18 06 45.2 -0.5**
comp=Z,24nm,0.9s,mb5.1
NWAO Narrogin (SRO) 51.52 245 P **P 18 06 52.8 +4.5**
NWAO pmax pmax
comp=Z,51nm,1.5s
NWAO Narrogin (SRO) 51.52 245 P **P 18 06 52.8 +4.5**
comp=Z,52nm,1.5s,mb5.2
MUN Mundaring 52.45 246 *e*P **P 18 07 00.6 +5.3**
SBA Scott Base 55.83 182 *e*P **P 18 07 20.7 +1.5**
SBA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SBA Scott Base 55.83 182 *e*P **P 18 07 20.7 +1.5**
comp=Z,9.7nm,0.9s,mb4.8
CASY Casey 59.54 205 *e*P **P 18 07 43.5 -2.0**
comp=Z,11nm,0.9s,mb4.9
KSM Kuching 67.01 282 P **P 18 08 35.1 -0.7**
MJAR Matsushiro Arr 67.85 329 P **P 18 08 40.3 -0.2**
comp=Z,1.5nm,1.0s,mb4.0,baz=166,slow=6.8,SNR=6.0
KSRS Korea Array 73.90 323 P **P 18 09 17.3 0.0**
comp=Z,0.7nm,0.7s,mb3.7,baz=142,slow=6.4,SNR=5.4
NJ2 Nanjing 75.93 314 *e*P **P 18 09 29.3 +0.1**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
PETK Petropavlovsk- 76.44 350 P **P 18 09 32.2 +0.6**
comp=Z,6.6nm,0.8s,mb4.6,baz=132,slow=8.1,SNR=8.4
MAW Mawson 77.59 201 P **P 18 09 37.8 -0.3**
comp=Z,5.1nm,1.1s,mb4.3,baz=103,slow=7.4,SNR=5.7
MAW LR LR 18 42 03.6
comp=Z,178nm,18.3s,MS4.4,baz=253,slow=34
CN2 Changchun 79.71 326 *e*P **P 18 09 51.3 +1.3**
CN2 *e*S S 18 19 53.3 +1.7
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
KLR Kul'dur 80.75 333 *e*P **P 18 09 51.2 -4.2**
GYA Guiyang 81.72 303⇑ *i*P **P 18 10 02.6 +1.4**
GYA PP PP 18 13 11.4 +2.9
GYA S S 18 20 14.6 +1.1
GYA SKS 18 20 19.4
GYA PS 18 21 04.8
GYA SS SS 18 25 36.0 +4.2
GYA AMB AMB
comp=Z,20nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,120nm,5.7s
GYA LR LR
comp=N,480nm,20.6s,MS5.0
GYA LR LR
comp=E,470nm,21.0s,MS5.0
GYA LR LR
comp=Z,440nm,24.4s,MS4.7
PMSA Palmer Station 82.32 158 P **P 18 10 02.6 -1.1**
comp=Z,15nm,1.0s,mb4.9
BJI Beijing 82.50 319 P **P 18 10 04.5 -0.5**
BJI PP PP 18 13 13.8 -0.8
BJI S S 18 20 23.1 +2.2
BJI AMB AMB
comp=Z,6.0nm,0.6s,mb4.8
BJI LR LR
comp=N,215nm,17.8s
BJI LR LR
comp=E,128nm,11.1s
BJI LR LR
comp=Z,195nm,38.4s
SYO Syowa Base 83.46 195⇓ *e*P **P 18 10 07.0 -2.6**
HOPS Hopland 84.19 44 *e*P **P 18 10 14.0 +0.4**
comp=Z,35nm,1.2s,mb5.4
KMI Kunming 84.19 300 P **P 18 10 16.3 +2.3**
KMI AP pP 18 10 18.6 -1.3
KMI XP sP 18 10 19.8 -2.2
KMI PP PP 18 13 30.8 +2.0
KMI S S 18 20 40.3 +1.7
KMI SS SS 18 26 13.3 +4.8
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb4.8
KMI LR LR
comp=Z,65nm,28.1s,MS3.9
CMAR Chiang Mai Arr 84.38 292 P **P 18 10 16.8 +1.7**
comp=Z,1.3nm,0.8s,mb4.1,baz=137,slow=4.1,SNR=8.0
CHTO Chiang Mai 84.54 293 *e*P **P 18 10 17.3 +1.4**
CHTO pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
CHTO Chiang Mai 84.54 293 *e*P **P 18 10 17.2 +1.4**
comp=Z,4.6nm,0.9s,mb4.6
CMB Columbia Colle 85.41 46 *e*P **P 18 10 19.2 -0.7**
CMB pmax pmax
comp=Z,18nm,1.1s,mb5.1
CMB Columbia Colle 85.41 46 *e*P **P 18 10 19.2 -0.7**
comp=Z,18nm,1.1s,mb5.1
WDC Whiskeytown Da 85.42 43 *e*P **P 18 10 19.7 -0.1**
WDC pmax pmax
comp=Z,19nm,1.3s,mb5.1
WDC Whiskeytown Da 85.42 43 *e*P **P 18 10 19.6 -0.2**
comp=Z,19nm,1.3s,mb5.1
ISA Isabella 85.46 49 *e*P **P 18 10 20.7 +0.5**
ISA pmax pmax
comp=Z,24nm,1.1s,mb5.2
ISA Isabella 85.46 49 *e*P **P 18 10 20.7 +0.5**
comp=Z,24nm,1.1s,mb5.2
HHC Hu-ho-hao-te 85.83 317 *e*P **P 18 10 21.3 -0.6**
HHC XP sP 18 10 27.0 -2.9
HHC AMB AMB
comp=Z,9.0nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,83nm,7.2s
YBH Yreka Blue Hor 85.96 42 *e*P **P 18 10 22.8 +0.3**
YBH pmax pmax
comp=Z,14nm,1.3s
YBH Yreka Blue Hor 85.96 42 *e*P **P 18 10 22.8 +0.2**
comp=Z,14nm,1.3s,mb5.0
CD2 Chengdu 86.12 305 *e*P **P 18 10 23.6 +0.1**
CD2 AP pP 18 10 28.4 -1.0
CD2 XP sP 18 10 31.0 -0.5
CD2 PP PP 18 13 46.1 +1.8
CD2 SKS 18 20 46.3
CD2 S S 18 20 56.3 -1.2
CD2 XS sS 18 21 04.4 -2.8
CD2 SS SS 18 26 38.8 +2.1
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.4
CD2 AMB AMB
comp=Z,40nm,5.8s
CD2 LR LR
comp=N,210nm,16.2s,MS4.9
CD2 LR LR
comp=E,260nm,13.8s,MS4.9
CD2 LR LR
comp=Z,180nm,14.8s,MS4.6
LHEM Herd Peak 86.21 42 P **P 18 10 24.8 +1.1**
MTUM Tungsten Hills 86.28 47 *e*P **P 18 10 24.2 0.0**
HUMO Hull Mountain 86.31 41 *e*P **P 18 10 24.9 +0.8**
comp=Z,15nm,1.1s,mb5.1
SNAA Sanae 86.36 181 *e*P **P 18 10 23.2 -0.9**
SNAA *e* 18 10 26.5
SNAA *e* pP 18 10 29.6 -0.4
SNAA *e* 18 10 33.5
GSC Goldstone 86.45 50 *e*P **P 18 10 24.6 -0.5**
GSC pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
GSC Goldstone 86.45 50 *e*P **P 18 10 24.6 -0.4**
comp=Z,10nm,1.1s,mb5.0
SEY Seymchan 86.67 350⇓ *i*P **P 18 10 25.8 +0.3**

VNA3 Neumayer Olymp 86.75 179 *e*P **P 18 10 25.1 -0.9**
VNA3 *e* 18 10 27.9
VNA3 *e* pP 18 10 29.3 -2.6
VNA3 *e* pP 18 10 31.2 -0.7
VNA3 *e* 18 10 38.0
VNA3 *e* 18 10 45.5
GLA Glamis 86.76 52 *e*P **P 18 10 27.4 +0.7**
GLA pmax pmax
comp=Z,22nm,1.3s,mb5.2
GLA Glamis 86.76 52 *e*P **P 18 10 27.4 +0.7**
comp=Z,22nm,1.3s,mb5.2
NVAR Mina Array Bea 87.01 46 P **P 18 10 28.1 +0.4**
comp=Z,3.6nm,0.9s,mb4.6,baz=228,slow=7.9,SNR=18
VNA2 Neumayer--Watz 87.11 179 *e*P **P 18 10 28.4 +0.6**
VNA2 *e* 18 10 30.5
VNA2 *e* pP 18 10 32.3 -1.4
VNA2 *e* pP 18 10 33.8 +0.1
VNA2 *e* 18 10 39.1
VNA2 *e* 18 10 48.0
LDFC Landfair 87.54 51 *e*P **P 18 10 31.0 +0.6**
comp=Z,14nm,0.9s,mb5.2
MOD Modoc 87.56 43 *e*P **P 18 10 30.3 +0.1**
comp=Z,4.4nm,0.8s,mb4.7
TPH Tonopah 87.56 47 *e*P **P 18 10 30.3 -0.1**
TPH pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
TPH Tonopah 87.56 47 *e*P **P 18 10 30.3 -0.1**
comp=Z,9.4nm,1.1s,mb4.9
PMR Palmer 88.40 16 *e*P **P 18 10 31.2 -2.6**
LZH Lanzhou 88.53 310 *e*P **P 18 10 35.0 -0.1**
LZH AP pP 18 10 39.8 -1.2
LZH XP sP 18 10 42.3 -0.8
LZH *e*PP PP 18 14 06.3 +2.6
LZH SKS 18 21 02.0
LZH *e*S S 18 21 19.3 -1.2
LZH *e*SS SS 18 27 14.9 +3.0
LZH AMB AMB
comp=Z,18nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,107nm,7.9s
LZH LR LR
comp=E,312nm,17.5s
LZH LR LR
comp=Z,465nm,19.0s,MS4.9
FL2 Flat Top 2 88.70 38 P **P 18 10 36.7 +1.1**
BMN Battle Mountai 88.76 45 *e*P **P 18 10 36.3 +0.3**
BMN pmax pmax
comp=Z,15nm,1.1s,mb5.2
BMN Battle Mountai 88.76 45 *e*P **P 18 10 36.3 +0.3**
comp=Z,15nm,1.1s,mb5.2
WVOR Wild Horse Val 88.89 43 *e*P **P 18 10 36.5 -0.1**
WVOR pmax pmax
comp=Z,15nm,1.3s,mb5.2
WVOR Wild Horse Val 88.89 43 *e*P **P 18 10 36.5 -0.1**
comp=Z,14nm,1.3s,mb5.2
TWW Teanaway 90.07 38 P **P 18 10 43.3 +1.3**
BILL Billibino 90.19 357 *e*P **P 18 10 40.2 -1.9**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.9
ELK Elko 90.22 46 *e*P **P 18 10 42.7 -0.2**
ELK pmax pmax
comp=Z,14nm,1.1s
ELK Elko 90.22 46 *e*P **P 18 10 42.7 -0.2**
comp=Z,14nm,1.1s,mb5.2
MCK McKinley 90.25 15 P **P 18 10 40.8 -1.6**
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
MCK McKinley 90.25 15 P **P 18 10 40.8 -1.6**
comp=Z,4.7nm,0.8s,mb4.9
RSW Rattlesnake Hi 90.41 39 P **P 18 10 44.7 +1.1**
HAWA Hanford 90.44 39 *e*P **P 18 10 44.3 +0.5**
comp=Z,21nm,1.2s,mb5.3
ETW Entiat 90.64 38 *e*P **P 18 10 44.6 0.0**
MSU Marysvale 91.24 49 *e*P **P 18 10 49.0 +1.3**
YAK Yakutsk 91.30 341 *e*P **P 18 10 46.2 -1.1**
YAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
YAK Yakutsk 91.30 341 P **P 18 10 47.1 -0.2**
COLA College 91.47 15 *e*P **P 18 10 45.8 -2.3**
COLA College 91.47 15 *e*P **P 18 10 45.9 -2.2**
comp=Z,11nm,0.9s,mb5.2
DUG Dugway 91.59 47 *e*P **P 18 10 49.8 +0.6**
DUG pmax pmax
comp=Z,3.0nm,1.1s,mb4.5
DUG Dugway 91.59 47 *e*P **P 18 10 49.8 +0.5**
comp=Z,3.0nm,1.1s,mb4.5
SRU San Rafael 92.66 49 *e*P **P 18 10 54.8 +0.5**
SRU pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
SRU San Rafael 92.66 49 *e*P **P 18 10 54.8 +0.5**
comp=Z,6.4nm,1.0s,mb5.0
NEW Newport 92.82 38 P **P 18 10 54.2 -0.5**
PLCA Paso Flores 92.89 136 P **P 18 10 58.5 +3.1**
comp=Z,1.5nm,1.0s,mb4.4,baz=338,slow=19,SNR=2.3
EGAK Eagle 93.12 17 *e*P **P 18 10 54.7 -1.0**
comp=Z,8.9nm,1.1s,mb5.1
TXAR Lajitas Array 93.73 60 P **P 18 10 59.4 0.0**
comp=Z,1.1nm,0.9s,mb4.3,baz=224,slow=5.2,SNR=9.0
TXAR Lajitas Array 93.73 60 P **P 18 10 59.4 0.0**
ANMO Albuquerque 93.82 54 *e*P **P 18 11 00.0 +0.3**
PDAR Pinedale Array 94.93 46 P **P 18 11 04.1 -0.5**
comp=Z,0.4nm,0.5s,mb4.1,baz=166,slow=2.4,SNR=4.1
WMQ Urumqi 102.97 312 *e*P Pdif 18 11 40.0 -0.7
WMQ PP PP 18 15 57.0 +1.5
WMQ PPP 18 18 09.3
WMQ LR LR
comp=N,91nm,26.6s
WMQ LR LR
comp=E,76nm,18.3s
WMQ LR LR
comp=Z,81nm,26.0s,MS4.1
ARCES ARCESS Array B 129.18 347 PKP PKPdf 18 16 48.9 -0.9
comp=Z,3.3nm,0.9s,baz=4.8,slow=1.5,SNR=9.4
AKASG Malin Array Be 140.86 325 PKP PKPdf 18 17 12.9 +0.9
comp=Z,0.1nm,0.3s,baz=64,slow=2.7,SNR=4.9
KOLS Kolonicke sedl 145.52 327 *e*PKP PKPdf 18 17 20.7 +0.4
KOLS *e* 18 17 32.7
STHS Stebnicka Huta 145.70 329 *e*PKP PKPdf 18 17 20.3 -0.3
STHS *e* 18 17 36.1
UZH Uzhgorod 145.70 327 *e*PKIKP PKPbc 18 17 22.0 +1.0
UZH *e* 18 17 35.0
CRVS Cervenica-Dubn 145.94 328 *e*PKP PKPbc 18 17 22.7 +1.0
CRVS *e* 18 17 39.0
KECS Kecovo 146.70 328 *e*PKP PKPdf 18 17 23.2 +0.8
KECS *e* 18 17 41.3
KSP Ksiaz 146.82 335 *e*PKIKP PKPbc 18 17 24.1 -0.2
DPC Dobruska-Polom 147.19 334 *e*PKP PKPbc 18 17 25.8 +0.4
UPC Upice 147.20 335 *e*PKP PKPbc 18 17 25.7 +0.3
UPC *e*x x 18 17 46.0
KOLL Kolacno 147.62 330 *e*PKP PKPbc 18 17 27.7 +1.1
CLL Collm 147.66 338 *i*PKPbc PKPbc 18 17 26.3 -0.3
comp=Z,9.0nm,1.0s
CLL *i*PKiKP PKiKP 18 17 28.7 +0.1
comp=Z,18nm,1.3s
CLL *i*x x 18 17 40.5
CLL Collm 147.66 338 *i*PKP PKPdf 18 17 26.3 +2.4
CLL *i*PKP PKPdf 18 17 28.7 +4.8
CLL *i* 18 17 40.5
BRG Berggiesshubel 147.69 337 *e*PKP PKPbc 18 17 26.0 -0.7
comp=Z,11nm,1.2s
PVCC Panska Ves 147.74 336 *e*PKP PKPbc 18 17 27.1 +0.3
PVCC *e*x x 18 17 41.4
PRU Pruhonice 148.18 335 *e*PKP PKPbc 18 17 27.8 -0.2
PRU *e*x x 18 17 41.2
MODS Modra-Piesok 148.28 331 *e*PKP PKPbc 18 17 29.3 +0.9
TREC Trest 148.36 334 *e*PKP PKPbc 18 17 29.1 +0.6
TREC *e*x x 18 17 41.7
NKC Novy Kostel 148.75 338 *e*PKP PKPbc 18 17 30.0 +0.5
NKC *e*x x 18 17 42.5
KHC Kasperske Hory 149.25 335 *e*PKP PKPbc 18 17 31.0 +0.2
KHC *e*x x 18 17 46.1
GERES GERESS Array B 149.43 335 PKPbc PKPbc 18 17 30.6 -0.7
comp=Z,3.7nm,1.1s,baz=48,slow=2.0,SNR=16
GRA1 Grafenberg Arr 149.63 339 *e*PKP PKPbc 18 17 32.1 +0.4
GRF Grafenberg Arr 149.63 339 *e*PKP2 PKPbc 18 17 32.1 +0.4
MEM Membach 150.30 345 PKPbc PKPbc 18 17 33.3 -0.1
PERS Pernice 150.56 331 *e*PKPdf PKPab 18 17 39.1 -1.7
KRUS Krusevo 150.63 317 *i* PKPbc 18 17 33.7 -0.8
BCLA Clavier 150.64 346 PKPbc PKPbc 18 17 33.4 -0.7
GIVF Givet 151.04 347 *e*PKP1 PKPbc 18 17 34.8 -0.3
comp=Z,27nm,1.0s
DOU Dourbes 151.10 347 PKPbc PKPbc 18 17 34.8 -0.4
DOU PKPab PKPab 18 17 40.6 -2.2
WLF Walferdange 151.15 345 PKPbc PKPbc 18 17 35.0 -0.4

BAIF Baives 151.21 347 *e*PKP1 PKPbc 18 17 35.4 -0.1
VISS Visnje 151.31 330 *i*PKPdf PKPab 18 17 39.5 -4.4
BOJS Bojanci 151.34 329 *i*PKPdf PKPab 18 17 40.7 -3.3
CDF Champ du Feu 151.99 342 *e*PKP1 PKPbc 18 17 36.9 -0.4
comp=Z,11nm,1.0s
ECH Echery 152.20 342 *e*PKIKP PKPbc 18 17 37.1 -0.7
ECH *e* 18 17 47.7
HAU Haudompre 152.62 343 *e*PKP1 PKPbc 18 17 39.2 +0.4
HINF Hinteralfeld 152.65 342 *e*PKP1 PKPbc 18 17 38.2 -0.6
ROSF Rostrenen 153.88 357 *e*PKP1 PKPbc 18 17 40.2 -1.3
LOR Lormes 153.93 346 *e*PKP1 PKPbc 18 17 40.9 -0.8
comp=Z,25nm,1.4s
SSF Saint Saulge 154.21 346 *e*PKP1 PKPbc 18 17 42.0 -0.3
ESDC Sonseca Array 162.55 357 PKPab PKPab 18 18 32.5 +0.3
comp=Z,0.2nm,0.3s,baz=351,slow=5.4,SNR=4.9
TORD Torodi Ar. Bea 168.81 218 PKP PKPdf 18 17 48.9 -1.3
comp=Z,0.9nm,1.0s,baz=310,slow=1.1,SNR=2.3
TORD PKPab PKPab 18 18 59.5 -1.1
comp=Z,1.4nm,1.0s,baz=137,slow=3.7,SNR=4.3

BJI ***18*** *18:00:32.6, 233N×6565E, h10km, mB4.9, mb4.8*
ISCJB ***18*** *18:00:38.3±0.3, 295N±006×6632E±005, h10km, mb4.5/48, MS4.0/7, Error ellipse: s-maj=8.6km s-min=7.5km az=165.6*
MOS ***18*** *18:00:38.2±1.2, 296N×6629E, h10km, mb5.0/21, Error ellipse: s-maj=9.7km s-min=7.1km az=90.7*
IDC ***18*** *18:00:38.8±0.5, 295N×6635E, h0km, mb4.2/20, mb1 4.2/20, mb1mx4.2/25, mbtmp4.2/20, MS4.0/6, Ms1 4.0/6, ms1mx3.6/25, Error ellipse: s-maj=16.2km s-min=13.9km az=145.0*
NEIC ***18*** *18:00:40.5±0.3, 290N×6632E, h10km, mb4.7/14, Error ellipse: s-maj=8.6km s-min=7.5km az=159.0*
ISC 18 18:00:40.4±0.3, 294N±006×6632E±005, h10km, n96, σ1§07/90, mb4.5/48, MS4.0/7, 6C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.95**	**73**	P	P	**Pn**		**18 04 12.4**	**+0.4**
PALK				pmax	pmax				
comp=Z,9.0nm,0.8s									
PALK	**Pallekele**	**14.95**	**73**	P		**Pn**		**18 04 12.4**	**+0.4**
comp=Z,9.1nm,0.8s									
KMBO	**Kilima Mbogo**	**29.34**	**262**	LR		LR		18 17 48.3	
comp=Z,154nm,18.5s,MS3.7,baz=93,slow=35									
KBL	**Kabul**	**31.54**	**4**	*e*P		**P**		**18 07 06.9**	**+4.0**
KBL				pmax	pmax				
comp=Z,25nm,1.4s,mb4.8									
KBL	**Kabul**	**31.54**	**4**	*e*P		**P**		**18 07 06.9**	**+4.0**
comp=Z,25nm,1.4s,mb4.9									
CMAR	**Chiang Mai Arr**	**35.47**	**62**	P		**P**		**18 07 37.1**	**-0.2**
comp=Z,1.6nm,1.1s,mb3.9,baz=244,slow=7.9,SNR=7.6									
CMAR				LR		LR		18 21 19.9	
comp=Z,177nm,18.3s,MS3.9,baz=260,slow=35									
CMAR	**Chiang Mai Arr**	**35.47**	**62**⇑	*e*P		**P**		**18 07 39.0**	**+1.7**
LSA	**Lhasa**	**35.54**	**39**	P		**P**		**18 07 40.6**	**+2.8**
LSA				AMB		AMB			
comp=Z,20nm,0.9s,mb5.0									
LSA	**Lhasa**	**35.54**	**39**	*e*P		**P**		**18 07 40.4**	**+2.6**
LSA				pmax	pmax				
comp=Z,9.0nm,0.9s,mb4.7									
LSA	**Lhasa**	**35.54**	**39**	*e*P		**P**		**18 07 40.4**	**+2.6**
comp=Z,9.2nm,0.9s,mb4.7									
CHTO	**Chiang Mai**	**35.60**	**61**	*e*P		**P**		**18 07 40.0**	**+1.5**
CHTO				*e*				18 07 46.4	
CHTO				pmax	pmax				
comp=Z,22nm,1.5s,mb4.9									
CHTO	**Chiang Mai**	**35.60**	**61**	*e*P		**P**		**18 07 40.0**	**+1.5**
comp=Z,22nm,1.5s,mb4.9									
CHTO				*e*				18 07 46.4	
EKS2	**Erkin-Say**	**40.10**	**9**	*e*P		**P**		**18 08 18.5**	**+2.3**
comp=Z,18nm,1.3s,mb4.6									
TKM2	**Tokmak 2**	**40.66**	**10**	*e*P		**P**		**18 08 21.9**	**+1.1**
TKM2				pmax	pmax				
comp=Z,5.0nm,1.2s,mb4.0									
TKM2	**Tokmak 2**	**40.66**	**10**	*e*P		**P**		**18 08 21.9**	**+1.1**
comp=Z,5.3nm,1.2s,mb4.0									
MMAI	**Mount Meron Ar**	**41.62**	**319**	P		**P**		**18 08 30.1**	**+1.1**
comp=Z,3.2nm,0.8s,mb4.0,baz=22,slow=4.7,SNR=4.4									
LSZ	**Lusaka**	**41.86**	**243**	P		**P**		**18 08 30.5**	**-0.5**
comp=Z,3.9nm,0.9s,mb4.0,baz=66,slow=9.6,SNR=4.1									
GNI	**Garni**	**41.87**	**335**	P		**P**		**18 08 30.0**	**-0.8**
comp=Z,3.1nm,0.6s,mb4.2,baz=162,slow=20,SNR=1.9									
GNI	**Garni**	**41.87**	**335**⇑	*e*P		**P**		**18 08 31.7**	**+0.9**
GNI				pmax	pmax				
comp=Z,40nm,1.6s									
MALT	**Malatya**	**43.46**	**328**	*e*P		**P**		**18 08 46.0**	**+2.2**
MALT				pmax	pmax				
comp=Z,10.0nm,1.4s,mb4.3									
MALT	**Malatya**	**43.46**	**328**	*e*P		**P**		**18 08 46.0**	**+2.2**
comp=Z,9.6nm,1.4s,mb4.3									
MKAR	**Makanchi Array**	**45.83**	**15**	P		**P**		**18 09 02.3**	**-0.2**
comp=Z,1.3nm,1.0s,mb3.8,baz=213,slow=11,SNR=6.0									
MKAR	**Makanchi Array**	**45.83**	**15**⇑	*e*P		**P**		**18 09 03.2**	**+0.6**
KIV	**Kislovodsk**	**45.89**	**336**⇑	*e*P		**P**		**18 09 03.4**	**+0.3**
KIV				pmax	pmax				
comp=Z,21nm,1.6s,mb4.8									
KIV	**Kislovodsk**	**45.89**	**336**	*e*P		**P**		**18 09 04.6**	**+1.6**
comp=Z,22nm,1.3s,mb4.9									
KIV				*e*				18 09 12.1	
GTA	**Gaotai**	**47.35**	**36**	*e*P		**P**		**18 09 16.3**	**+1.7**
GTA				AP	pP			18 09 20.1	+2.3
GTA				XP	sP			18 09 23.3	+4.3
GTA				AMB	AMB				
comp=Z,6.0nm,1.0s,mb4.5									
LBTB	**Lobatse**	**48.30**	**232**	P		**P**		**18 09 22.2**	**0.0**
comp=Z,2.9nm,0.8s,mb4.3,baz=55,slow=9.6,SNR=4.3									
KURK	**Kurchatov**	**48.72**	**10**	*e*P		**P**		**18 09 25.4**	**+0.4**
KURK				pmax	pmax				
comp=Z,8.0nm,1.3s,mb4.6									
KURK	**Kurchatov**	**48.72**	**10**	*e*P		**P**		**18 09 25.4**	**+0.3**
comp=Z,7.9nm,1.3s,mb4.6									
ANN	**Anapa**	**48.83**	**333**	*e*P		**P**		**18 09 25.9**	**0.0**
ANN				pmax	pmax				
comp=Z,150nm,1.6s									
BRVK	**Borovoye**	**50.06**	**3**	*e*P		**P**		**18 09 35.3**	**+0.1**
BRVK				pmax	pmax				
comp=Z,6.0nm,1.0s,mb4.6									
BRVK	**Borovoye**	**50.06**	**3**	*e*P		**P**		**18 09 35.3**	**+0.1**
comp=Z,5.8nm,1.0s,mb4.6									
XAN	**Xi'an**	**50.29**	**47**	P		**P**		**18 09 37.0**	**-0.3**
XAN				AP	pP			18 09 48.5	+8.0
XAN				AMB	AMB				
comp=Z,20nm,1.2s,mb5.0									
BOSA	**Boshof**	**50.38**	**229**	P		**P**		**18 09 38.2**	**+0.2**
comp=Z,6.5nm,1.1s,mb4.6,baz=58,slow=10,SNR=5.0									
BOSA				LR		LR		18 29 07.8	
comp=Z,209nm,18.7s,MS4.2,baz=98,slow=34									
VRHR	**Novokhopersk**	**52.28**	**341**	*e*P		**P**		**18 09 52.3**	**+0.4**
VRHR				pmax	pmax				
comp=Z,8.0nm,0.5s,mb4.9									
VRHR				pmax	pmax				
comp=N,10.0nm,1.2s									
VRHR				pmax	pmax				
comp=E,30nm,1.4s									
TSUM	**Tsumeb**	**52.72**	**243**	*e*P		**P**		**18 09 56.9**	**+1.2**
WHN	**Wuhan**	**52.99**	**53**	P		**P**		**18 09 58.3**	**+0.7**
ZAL	**Zalesovo**	**53.04**	**14**	P		**P**		**18 09 57.6**	**+0.1**
ZAA0	**Zalesovo Array**	**53.06**	**14**	*e*P		**P**		**18 09 57.4**	**-0.3**
ZALV	**Zalesovo Beam**	**53.06**	**14**	P		**P**		**18 09 57.5**	**-0.1**
comp=E,2.6nm,0.7s,mb4.3,baz=199,slow=8.8,SNR=14									
ZALV				LR		LR		18 32 16.3	
comp=E,109nm,20.2s,MS3.9,baz=88,slow=36									
VRSR	**Storozhevoye**	**53.22**	**339**	*e*P		**P**		**18 09 58.9**	**0.0**
VRSR				pmax	pmax				
comp=Z,5.0nm,1.3s,mb4.3									
VRSR				pmax	pmax				
comp=N,3.0nm,1.0s									
VRSR				pmax	pmax				
comp=E,4.0nm,0.9s									
HVS	**Khovu-Aksy**	**53.25**	**21**	*e*P		**P**		**18 09 59.1**	**0.0**
HVS				pmax	pmax				
comp=Z,10.0nm,1.1s,mb4.7									
NVS	**Novosibirsk**	**53.54**	**12**	*e*P		**P**		**18 09 59.0**	**-2.1**
NVS				pmax	pmax				
comp=N,11nm,1.7s									
NVS				pmax	pmax				
comp=E,5.0nm,1.7s									
NVS				pmax	pmax				
comp=Z,16nm,1.7s,mb4.7									
SVE	**Sverdlovsk**	**53.92**	**356**	*i*P		**P**		**18 10 03.4**	**-0.5**
SVE				pmax	pmax				
comp=Z,18nm,1.6s,mb4.8									
SUR	**Sutherland**	**55.60**	**227**	P		**P**		**18 10 18.1**	**+1.6**

comp=Z,13nm,1.1s,mb4.9,baz=108,slow=4.4,SNR=4.6
SUR Sutherland 55.60 227 *eP* **P 18 10 17.9 +1.4**
comp=Z,16nm,1.1s,mb5.0
SONM Songino Array 56.45 31 P **P 18 10 23.7 +1.3**
comp=Z,6.1nm,1.1s,mb4.5,baz=228,slow=6.1,SNR=28
SONM LR LR 18 34 33.6
comp=Z,248nm,21.1s,MS4.3,baz=46,slow=36
ZAK Zakamensk 56.63 27 *eP* **P 18 10 23.1 -0.5**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
AKASG Malin Array Be 56.91 333 P **P 18 10 24.4 -1.2**
comp=Z,0.1nm,0.2s,baz=136,slow=6.1,SNR=11
AKASG PP PP 18 12 32.4 +0.2
comp=Z,0.3nm,0.4s,baz=139,slow=8.3,SNR=5.9
AKASG Malin Array Be 56.91 333 *i P* **P 18 10 25.1 -0.5**
KRAR Krasnoyarsk 57.05 17 *eP* **P 18 10 25.5 -0.9**
KRAR pmax pmax
comp=Z,11nm,1.3s,mb4.7
OBN Obninsk 57.32 340⇑ *eP* **P 18 10 27.4 -1.0**
OBN *eS* **S 18 18 22.8 -1.9**
OBN pmax pmax
comp=Z,12nm,1.4s,mb4.7
MOS Moscow 57.48 341 *eP* **P 18 10 28.3 -1.2**
MOS pmax pmax
comp=Z,88nm,1.4s,mb5.6
TLY Talaya 57.70 27 *eP* **P 18 10 32.5 +1.4**
TLY pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
TLY Talaya 57.70 27 *eP* **P 18 10 32.5 +1.4**
comp=Z,9.0nm,1.4s,mb4.6
KOLS Kolonicke sedl 59.22 328 *eP* **P 18 10 40.4 -1.4**
KOLS *e* 18 22 46.3
CRVS Cervenica-Dubn 59.64 327 *eP* **P 18 10 45.3 +0.6**
KECS Kecovo 59.93 327 *eP* **P 18 10 47.8 +1.1**
KECS *e* 18 22 43.8
STHS Stebnicka Huta 60.05 328 *eP* **P 18 10 47.5 0.0**
STHS *e* 18 22 48.1
KLMR Klimovskoe 61.26 345 *eP* **P 18 10 54.2 -1.3**
KLMR pmax pmax
comp=Z,41nm,1.2s,mb5.4
MODS Modra-Piesok 61.67 325 *eP* **P 18 10 58.8 +0.2**
TAM Tamanrasset 62.01 294 *eP* **P 18 11 02.2 +0.8**
TREC Trest 63.16 325 *eP* **P 18 11 07.9 -0.6**
DPC Dobruska-Polom 63.23 327 *eP* **P 18 11 09.1 +0.2**
KHC Kasperske Hory 64.18 324 *eP* **P 18 11 14.0 -1.2**
TORD Torodi Ar. Bea 64.63 283 P **P 18 11 19.1 +0.3**
comp=Z,2.3nm,1.2s,mb4.1,baz=91,slow=5.4,SNR=6.7
TORD LR LR 18 38 30.7
comp=Z,82nm,18.7s,MS4.0,baz=140,slow=35
HIA Hailar 64.63 36 *eP* **P 18 11 19.0 +0.8**
HIA pmax pmax
comp=Z,20nm,1.3s
HIA Hailar 64.63 36 *eP* **P 18 11 19.0 +0.8**
comp=Z,20nm,1.3s,mb5.0
NKC Novy Kostel 65.34 325 *eP* **P 18 11 22.7 -0.1**
CLL Collm 65.53 326 *eP* **P 18 11 24.0 0.0**
CLL pmax pmax
comp=Z,22nm,1.8s,mb4.9
CLL Collm 65.53 326 *eP* **P 18 11 24.0 0.0**
comp=Z,22nm,1.8s,mb4.9
KSRS Korea Array 65.87 50 P **P 18 11 26.9 +0.4**
comp=Z,1.2nm,0.9s,mb3.9,baz=261,slow=9.1,SNR=7.0
BOD Bodaibo 66.24 26 *eP* **P 18 11 25.8 -2.6**
BOD pmax pmax
comp=Z,3.0nm,1.6s,mb4.1
MAW Mawson 70.43 181 P **P 18 11 55.4 +0.9**
comp=Z,1.3nm,0.8s,mb3.9,baz=324,slow=8.7,SNR=2.8
WRA Warramunga Arr 70.47 112 P **P 18 11 54.9 -0.7**
comp=Z,8.3nm,1.0s,mb4.6,baz=290,slow=5.6,SNR=20
WRAB Tennant Creek 70.47 112 *eP* **P 18 11 55.4 -0.3**
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WRAB Tennant Creek 70.47 112 *eP* **P 18 11 55.4 -0.3**
comp=Z,5.5nm,0.8s,mb4.5
WB2 Warramunga Arr 70.48 112 *eP* **P 18 11 55.9 +0.2**
ASAR Alice Springs 70.80 116 P **P 18 11 56.7 -1.0**
comp=Z,1.6nm,0.8s,mb4.0,baz=299,slow=6.1,SNR=15
CLNS Chul'man 70.80 30 *eP* **P 18 11 54.8 -2.2**
CLNS pmax pmax
comp=Z,16nm,1.3s,mb4.8
CLNS pmax pmax
comp=N,3.0nm,0.8s
CLNS MLR MLR
comp=Z,151nm,15.0s,MS4.4
CLNS MLR MLR
comp=N,46nm,14.0s
DBIC Dimbokro 70.98 276 P **P 18 11 58.7 -0.2**
comp=N,7.4nm,1.1s,mb4.5,baz=101,slow=5.2,SNR=3.0
DBIC Dimbokro 70.98 276 P **P 18 11 58.7 -0.2**
NB2 NORSAR Subarra 71.18 335 P **P 18 11 57.8 -1.4**
comp=Z,12nm,1.4s,mb4.6,baz=120,slow=6.2
NOA NORSAR Array B 71.18 335 P **P 18 11 59.3 +0.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=113,slow=6.6,SNR=3.5
ESDC Sonseca Array 72.99 311 P **P 18 12 10.1 -0.5**
comp=Z,1.4nm,0.9s,mb3.9,baz=83,slow=5.0,SNR=6.9
MJAR Matsushiro Arr 73.72 53 P **P 18 12 14.1 -0.8**
comp=Z,1.0nm,0.9s,mb3.7,baz=267,slow=4.3,SNR=5.4
STKA Stephens Creek 79.10 123 P **P 18 12 42.8 -2.7**
comp=Z,2.4nm,0.8s,mb4.2,baz=309,slow=11,SNR=4.5
PMG Port Moresby 81.45 100 *eP* **P 18 12 54.6 -4.0**
SEY Seymchan 85.60 27 *eP* **P 18 13 16.3 -2.5**
BILL Bilibino 91.01 22 *eP* **P 18 13 43.8 -0.8**
BILL pmax pmax
comp=Z,17nm,1.7s,mb5.1
PDAR Pinedale Array 134.35 356 PKP PKPdf 18 20 00.8 +1.8
comp=Z,0.5nm,0.8s,baz=40,slow=2.5,SNR=3.5
NVAR Mina Array Bea 138.61 5 PKP PKPdf 18 20 09.4 +2.4
comp=Z,0.2nm,0.3s,baz=320,slow=3.9,SNR=4.1
ANMO Albuquerque 141.70 350⇑ *i* PKIKP PKPdf 18 20 10.5 -2.3
OTAV Otavalo 144.65 275 *e* PKPdf PKPdf 18 20 19.5 +0.9
TUC Tucson 144.83 356 *e* PKIKP PKPdf 18 20 18.7 +0.3
TXAR Lajitas Array 146.50 344 PKPbc PKPbc 18 20 23.5 +0.8
comp=Z,5.2nm,0.9s,baz=50,slow=2.0,SNR=28

NIED ***18*** *18:14:00, 43.70N×146.70E, h65km, Mw3.6 Best double couple: M₀:2.59000×10¹⁴ NP1:φ=215.00000°, δ=53.00000°, λ=112.00000°. NP2:φ=1.00000°, δ=42.00000°, λ=63.00000°.*
MOS ***18*** *18:14:26.8±1.9, 43.62N×147.13E, h39km, mb4.6/1, Error ellipse: s-maj=91.6km s-min=43.9km az=121.2*
ISCJB ***18*** *18:14:28.3±0.9, 43.79N±0.06×146.89E±0.09, h62km±11km, mb4.6/1, Error ellipse: s-maj=13.4km s-min=6.3km az=44.9*
SKHL ***18*** *18:14:30.0±1.6, 43.91N×146.81E, h48km±15km, mb6.4/1*
JMA ***18*** *18:14:31.0±0.1, 43.68N×146.74E, h62km±2km, M4.1*
ISC 18 18:14:29.2±0.9,**4377N**±0.06×**14692E**±0.08,**h40**km±18km, **n18**,σ1=**0**9/29,**mb4.6**/1,**3C-7D**,**Kuril Islands**
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
YUK Yuzh-Kuril'sk 0.81 289⇑ *i* PN **Pn 18 14 44.9 +0.8**
YUK *i* S **Sn 18 14 54.9 0.0**
YUK pmax pmax
comp=N,620nm,0.3s
YUK pmax pmax
comp=E,940nm,0.4s
YUK smax
comp=E,10μm,0.5s
YUK smax
comp=N,17μm,0.3s
YUK smax
comp=N,14μm,1.0s
YUK smax
comp=E,15nm,0.8s
YUK Yuzh-Kuril'sk 0.81 289⇑ *i* P **Pn 18 14 44.9 +0.8**
YUK AMB AMB 18 14 49.4
comp=E,620nm,0.3s
YUK AMB AMB 18 14 49.4
comp=E,940nm,0.3s
YUK *i* S **Sn 18 14 54.9 0.0**
YUK A 18 14 55.8
comp=E,17μm,0.4s
YUK A 18 14 55.8
comp=E,10μm,0.4s
YUK A 18 14 56.0
comp=E,14μm,1.0s
YUK A 18 14 56.0
comp=E,15μm,1.0s
NEM2 Nemuro 2 0.95 245⇑ P **Pn 18 14 46.6 +0.6**
NEM2 *e* S **Sn 18 14 58.2 -0.1**
JRA Rausu 1.31 278 ‖P **Pn 18 14 51.9 +0.9**
JRA *e* S **Sn 18 15 07.4 +0.1**
KUR Kuril'sk 1.61 24 *e* P **Pn 18 14 53.9 -1.1**
KUR AMB AMB 18 14 54.5
comp=E,80nm,0.5s
KUR AMB AMB 18 14 54.5
comp=E,110nm,0.5s
KUR AMB AMB 18 14 54.5
comp=E,300nm,0.5s
KUR *e* S **Sn 18 15 13.0 -1.5**
JNK Nakash 1.61 264 ‖P **Pn 18 14 55.4 +0.4**
JNK *e* S **Sn 18 15 13.8 -0.8**
JAK Akkeshi 1.80 245 ‖P **Pn 18 14 57.8 +0.1**
JAK *e* S **Sn 18 15 17.5 -1.8**
JTKR Abashiri--Toko 2.19 276 ‖P **Pn 18 15 03.9 +0.9**
JAR Ashorobuto 2.34 259 ‖P **Pn 18 15 06.0 +0.9**
JAR *e* S **Sn 18 15 32.5 -0.1**
JOB Onbets 2.42 250 ‖P **Pn 18 15 06.8 +0.7**
JOB *e* S **Sn 18 15 33.6 -0.8**
JMP Maruseppu 2.59 276 ‖P **Pn 18 15 09.6 +1.1**
JCH Churui 2.85 247 P **Pn 18 15 12.0 -0.1**
JCH *e* S **Sn 18 15 43.1 -2.0**
JKK2 Kamakawa 2 3.02 273 P **Pn 18 15 15.9 +1.4**
YSS Yuzh-Sakhalins 4.33 319 *e* PN **Pn 18 15 34.1 +1.7**
YSS Yuzh-Sakhalins 4.33 319 *e* P **Pn 18 15 34.9 +2.5**
YSS *e* S **Sn 18 16 20.0 -1.6**
YSS A 18 16 23.6
comp=E,50nm,0.9s
MAT Matsushiro 9.83 226 P **Pn 18 16 47.3 -0.5**
TIXI Tiksi 29.30 348 *e* P **P 18 20 30.5 +3.1**
TIXI pmax pmax
comp=Z,17nm,1.3s,mb4.6
COLA College 41.15 36 *e* P **P 18 22 07.9 -1.2**

IDC ***18*** *18:30:34.9±2.5, 505S×144.14E, h78km±22km, mb4.7/17, mb1 4.8/20, mb1mx4.8/21, mbtmp4.7/20, MS4.2/17, Ms1 4.1/17, ms1mx4.0/23, Error ellipse: s-maj=11.7km s-min=9.5km az=113.0*
MOS ***18*** *18:30:35.1±0.9, 498S×144.01E, h87km, mb5.2/25, MS4.5/6, Error ellipse: s-maj=9.9km s-min=5.8km az=101.7*
BJI ***18*** *18:30:35.2, 5.17S×144.59E, h123km, mB5.1, mb5.0*
ISCJB ***18*** *18:30:36.2±0.2, 509S±003×144.06E±0.03, h105km, mb5.1/91, Error ellipse: s-maj=4.8km s-min=3.8km az=0.0*
GCMT ***18*** *18:30:37.5±0.1, 504S×144.01E, h111km±1km, MW5.3/98, Moment Tensor Solution. s76,c125; s98,c183; Duration: 1s0 Moment tensor: Scale 10¹⁷Nm; Mrr=0.75±.01; Mθθ0.01±.01; Mφφ0.73±.02; Mrθ-0.19±.01; Mθφ0.28±.02; Mφr0.49±.01; Best double couple: M₀:0.95200×10¹⁷ NP1:φ=38.00000°, δ=35.00000°, λ=-56.00000°. NP2:φ=179.00000°, δ=62.00000°, λ=-111.00000°. Principal axes: T 0.9370, Plg14.0000°, Azm284.0000°; N 0.0300, Plg19.0000°, Azm189.0000°; P -0.9680, Plg66.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA ***18*** *18:30:37, 499S×144.16E, h50km, ML5.3/3*
NEIC ***18*** *18:30:37.5±0.1, 507S×144.05E, mb5.3/61, Error ellipse: s-maj=4.2km s-min=3.1km az=98.0*
ISC 18 18:30:38.0±0.2,**511S**±003×**14410E**±003,**h107**km, **h107**km±1.4km:**pP-P**,**n337**,σ0=**94**/228,**mb5.1**/89,**17C-17D**, **New Guinea**
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PMG Port Moresby 5.24 145 *eP* **Pn 18 31 54.0 -0.1**
COEN Coen 8.84 186⇑ *e* Pn **Pn 18 32 43.8 +0.8**
44nm,0.4s
KAKA Kakadu 13.77 236 *eP* **Pn 18 33 46.2 -2.5**
132nm,0.4s
CTA Charters Tower 15.04 172 *eP* **Pn 18 34 09.9 +4.9**
33nm,0.4s
CTA *eS* **S 18 37 03.3 +2.0**
CTA Charters Tower 15.04 172 P **Pn 18 34 06.6 +1.7**
9.0nm,0.3s,baz=360,slow=14,SNR=37
CTA Charters Tower 15.04 172 P **Pn 18 34 06.6 +1.7**
CTA *eS* **S 18 37 03.3 +2.0**
CTAO Charters Tower 15.04 172 *eP* **Pn 18 34 06.3 +1.3**
CTAO pmax pmax
comp=Z,153nm,1.3s
CTAO Charters Tower 15.04 172 *e* Pn **Pn 18 34 06.3 +1.3**
comp=Z,153nm,1.3s
HNR Honiara 16.30 106 P **Pn 18 34 20.7 0.0**
comp=Z,29nm,0.3s,baz=336,slow=0.9,SNR=5.4
HNR S **S 18 37 26.5 -0.6**
comp=Z,7.0nm,0.3s,baz=287,slow=20,SNR=3.1
HNR Honiara 16.30 106 *eP* **Pn 18 34 20.5 -0.2**
HNR pmax pmax
comp=Z,493nm,1.1s
HNR Honiara 16.30 106 *e* Pn **Pn 18 34 20.5 -0.2**
comp=Z,493nm,1.1s
WRAB Tennant Creek 17.53 212 P **Pn 18 34 34.0 -1.7**
comp=Z,629nm,1.1s,SNR=54
WRAB Tennant Creek 17.53 212 *c i* P **Pn 18 34 34.1 -1.6**
WRAB Tennant Creek 17.53 212 *eP* **Pn 18 34 33.7 -1.9**
comp=Z,136nm,1.1s
WB2 Warramunga Arr 17.54 212⇑ *i* P **Pn 18 34 34.4 -1.4**
WB2 *eS* **S 18 37 49.2 -2.2**
WRA Warramunga Arr 17.54 212 P **Pn 18 34 34.6 -1.3**
comp=Z,4.4nm,0.3s,baz=22,slow=11,SNR=55
WRA S **S 18 37 44.6 -7.0**
comp=Z,1.3nm,0.3s,baz=26,slow=22,SNR=5.8
WRA LR LR 18 42 19.3
comp=Z,2μm,19.9s,baz=30,slow=40
WRA Warramunga Arr 17.54 212 P **Pn 18 34 34.6 -1.2**
WRA S **S 18 37 44.6 -7.0**
GUMO Guam 18.59 2 P **P 18 34 46.0 -0.9**
comp=Z,17nm,0.3s,baz=170,slow=16,SNR=9.3
GUMO LR LR 18 41 19.9
comp=Z,342nm,19.4s,baz=183,slow=35
BATI Baumata 20.87 255 P **P 18 35 11.4 -0.3**
comp=Z,206nm,0.8s,baz=230,slow=1.5,SNR=28
BATI S **S 18 39 01.7 +3.1**
comp=Z,62nm,1.0s,baz=72,slow=20,SNR=3.8
ASAR Alice Springs 20.91 207 P **P 18 35 11.7 -0.2**
comp=Z,10nm,0.5s,baz=38,slow=8.2,SNR=113
EIDS Eidsvold 21.23 162 *eP* **P 18 35 14.0 -1.4**
DAV Davao City (W) 22.08 303 P **P 18 35 24.6 0.0**
comp=Z,104nm,0.3s,mb5.6,baz=212,slow=19,SNR=2.5
FITZ Fitzroy Crossi 22.18 233 *eP* **P 18 35 24.0 -1.6**
comp=Z,18nm,0.4s,mb4.7
FITZ *eS* **S 18 39 30.6 +7.7**
FITZ Fitzroy Crossi 22.18 233 P **P 18 35 24.7 -0.9**
comp=Z,10nm,0.4s,mb4.5,baz=44,slow=12,SNR=51
FITZ S **S 18 39 27.5 +4.5**
comp=Z,26nm,1.0s,baz=82,slow=18,SNR=4.0
FITZ LR LR 18 45 05.7
comp=Z,1μm,20.1s,baz=55,slow=39
BUKP Musuan 22.95 304 *eP* **P 18 35 32.2 -1.2**
KAPI Kappang 24.25 269 P **P 18 35 44.6 -0.7**
comp=Z,272nm,1.1s,mb5.5,SNR=10
KAPI Kappang 24.25 269 *eP* **P 18 35 44.7 -0.6**
comp=Z,225nm,1.5s,mb5.3
PAGZ Pagadian 24.34 302 *eP* **P 18 35 46.5 +0.4**
BESP Borongan 24.90 312 *eP* **P 18 35 51.1 -0.1**
CNP Cataman 26.06 312 *eP* **P 18 36 01.0 -0.7**
ARMA Armidale 26.16 165 *eP* **P 18 36 03.6 +1.2**
STKA Stephens Creek 26.74 185 *eP* **P 18 36 07.5 0.0**
comp=Z,6.5nm,0.4s,mb4.5
STKA Stephens Creek 26.74 185 P **P 18 36 07.7 +0.2**
comp=Z,6.9nm,0.4s,mb4.5,baz=346,slow=9.4,SNR=24
STKA LR LR 18 46 15.5
comp=Z,384nm,20.7s,baz=5.7,slow=35
RCP Roxas 26.93 308‖ *eP* **P 18 36 13.2 +3.7**
PVCP Virac 27.15 313 *eP* **P 18 36 10.8 -0.6**
MYLDM Lahad Datu 27.53 291 ‖P **P 18 36 16.1 +1.2**
TSM Tawau 27.81 289 ‖P **P 18 36 17.5 +0.1**
CUYO Cuyo Island 27.91 305 *eP* **P 18 36 17.4 -0.9**
MBWA Marble Bar 28.52 234 *eP* **P 18 36 22.1 -1.5**
SJMP San Jose 28.74 308 *eP* **P 18 36 25.9 +0.3**
SDKM Sandakan 28.90 291 ‖P **P 18 36 27.6 +0.4**
FORT Forrest 29.66 209 *eP* **P 18 36 33.1 -0.5**
comp=Z,26nm,0.6s,mb5.0
FORT *e* 18 36 40.8
KKM Kota Kinabalu 29.96 291 ‖P **P 18 36 37.0 +0.5**
KKM Kota Kinabalu 29.96 291 *eP* **P 18 36 34.4 -2.0**
CNB Canberra Magne 30.45 171 *eP* **P 18 36 41.4 +0.9**
BTM Bintulu 32.06 284⇑ P **P 18 36 56.3 +1.3**
TOO Toolangi 32.34 178 *eP* **P 18 36 58.0 +0.9**
SBUM Sibu 32.72 283 ‖P **P 18 37 01.6 +0.9**
KSM Kuching 34.38 280 ‖P **P 18 37 15.6 +0.5**
KSM Kuching 34.38 280 *eP* **P 18 37 14.4 -0.7**
KSM *e* pP pP 18 37 37.7 -1.4
KLBR Kellerberrin 36.11 220 *eP* **P 18 37 28.5 -1.3**
comp=Z,7.9nm,0.6s,mb4.8
KLBR *i* 18 39 53.8
NWAO Narrogin (SRO) 37.33 219 P **P 18 37 39.7 -0.4**
baz=54,slow=9.9
NWAO LR LR 18 54 59.8
comp=Z,583nm,18.8s,baz=29,slow=39
NWAO Narrogin (SRO) 37.33 219 *eP* **P 18 37 40.5 +0.4**
NWAO pmax pmax
comp=Z,24nm,1.1s
NWAO Narrogin (SRO) 37.33 219 *eP* **P 18 37 40.5 +0.4**
comp=Z,24nm,1.1s,mb5.0
MUN Mundaring 37.36 221 *eP* **P 18 37 40.2 -0.2**
TAU Tasmania Unive 37.76 176 *eP* **P 18 37 44.4 +0.9**
TAU pmax pmax
comp=Z,32nm,1.1s,mb5.1
TAU Tasmania Unive 37.76 176 *eP* **P 18 37 44.4 +0.9**
comp=Z,32nm,1.1s,mb5.1
MYKOM Kota Tinggi 40.78 279 ‖P **P 18 38 09.6 +0.5**
KGM Kluang 41.34 279⇑ P **P 18 38 14.3 +0.6**
QIZ Qiongzhong 41.39 306 P **P 18 38 13.4 -0.6**
QIZ S **S 18 44 17.1 -4.0**
QIZ SS SS 18 47 25.8 -3.6
QIZ AMB AMB
comp=Z,11nm,1.1s,mb4.6
QIZ AMB AMB
comp=Z,168nm,3.3s
QIZ Qiongzhong 41.39 306 *eP* **P 18 38 13.2 -0.7**
comp=Z,33nm,1.3s,mb5.0
MJAR Matsushiro Arr 41.79 353 P **P 18 38 14.9 -2.0**
comp=Z,5.1nm,0.9s,mb4.2,baz=179,slow=9.0,SNR=24
MJAR PcP PcP 18 40 10.9 -0.4
comp=Z,7.2nm,0.8s,baz=164,slow=3.0,SNR=9.8
MJAR LR LR 18 53 06.6
comp=Z,115nm,18.2s,baz=210,slow=32
MJAR Matsushiro Arr 41.79 353 P **P 18 38 15.0 -2.0**
MJAR 18 40 10.9
MAJO Matsushiro 41.79 353 *eP* **P 18 38 14.2 -2.8**
MAJO pmax pmax
comp=Z,51nm,1.4s,mb5.1
MAJO Matsushiro 41.79 353 *eP* **P 18 38 14.2 -2.8**
comp=Z,51nm,1.4s,mb5.1
MAT Matsushiro 41.79 353 P **P 18 38 14.9 -2.1**
MAT S **S 18 44 27.0 +0.4**
KTGM Kuala Trenggan 42.20 284 ‖P **P 18 38 20.8 +0.1**
FRIM Kepong 43.23 280⇑ P **P 18 38 29.2 +0.2**
IPM Ipoh 44.06 282 ‖P **P 18 38 35.7 0.0**
NJ2 Nanjing 44.08 329 *eP* **P 18 38 36.5 +1.0**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
AFI Afiamalu 44.33 105 LR LR 18 54 40.5
comp=Z,280nm,20.3s,baz=161,slow=33
KULM Kulim 44.60 283⇑ P **P 18 38 40.0 +0.1**
URZ Urewera 44.60 142 P **P 18 38 40.9 +1.3**
comp=Z,6.2nm,0.5s,mb4.6,baz=52,slow=3.8,SNR=8.7
URZ LR LR 18 56 14.8
comp=Z,309nm,18.7s,baz=124,slow=34
KSRS Korea Array 44.94 342 P **P 18 38 42.2 0.0**
comp=Z,32nm,1.2s,mb4.9,baz=159,slow=9.0,SNR=66
KSRS PcP PcP 18 40 22.9 +0.9
comp=Z,6.4nm,0.9s,baz=170,slow=4.3,SNR=8.2
KSRS LR LR 18 54 26.2
comp=Z,294nm,20.8s,baz=150,slow=32
RPZ Rata Peaks 45.20 152 P **P 18 38 44.4 +0.1**
comp=Z,36nm,0.7s,mb5.2,baz=252,slow=2.6,SNR=35
RPZ LR LR 18 57 12.9
comp=Z,247nm,18.2s,baz=238,slow=35
RPZ Rata Peaks 45.20 152 P **P 18 38 44.4 +0.1**
RPZ LR LR 18 57 12.9
INCN Inchon 45.39 340 *eP* **P 18 38 45.6 -0.2**
comp=Z,23nm,0.6s,mb5.1
WHN Wuhan 45.46 323 P **P 18 38 47.0 +0.5**
GYA Guiyang 47.94 313⇑ *i* P **P 18 39 08.1 +2.2**
GYA AP pP 18 39 34.5 +3.4
GYA XP sP 18 39 45.8 +2.7
GYA PCP PcP 18 40 33.6 +0.8
GYA PP PP 18 40 58.8 -0.2
GYA SCP ScP 18 44 17.4 -0.2
GYA PCS PcS 18 44 28.9 +0.2
GYA S **S 18 46 00.3 +4.6**
GYA SCS ScS 18 48 46.9 -2.0
GYA SS SS 18 49 20.5 -5.6
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.9
GYA AMB AMB
comp=Z,130nm,4.5s
TIA Tai'an 48.24 331 *eP* **P 18 39 07.6 -0.5**
VLA Vladivostok 49.26 348 *eP* **P 18 39 14.7 -1.0**
VLA pmax pmax
comp=Z,28nm,1.2s,mb5.1
KMI Kunming 50.17 309 P **P 18 39 24.8 +1.8**
KMI AP pP 18 39 49.0 +0.7
KMI XP sP 18 40 01.9 +1.6
KMI PP PP 18 41 21.3 +2.0
KMI AMB AMB
comp=Z,18nm,1.4s,mb4.8
KMI LR LR
comp=Z,291nm,28.3s
CMAR Chiang Mai Arr 50.28 299 P **P 18 39 25.4 +1.4**
comp=Z,14nm,0.4s,mb5.2,baz=120,slow=6.0,SNR=159
SNY Shenyang 50.32 340 ‖P **P 18 39 23.6 -0.2**
SNY S **S 18 46 24.3 -4.2**
SNY AMB AMB
comp=Z,26nm,0.6s,mb5.3
SNY LR LR
comp=N,205nm,15.0s
SNY LR LR
comp=E,183nm,15.9s
SNY LR LR
comp=Z,253nm,16.5s
CHTO Chiang Mai 50.42 299 *eP* **P 18 39 25.6 +0.6**
CHTO pmax pmax
comp=Z,12nm,0.7s,mb4.9
CHTO Chiang Mai 50.42 299 *eP* **P 18 39 25.6 +0.6**
comp=Z,12nm,0.7s,mb4.9
XAN Xi'an 51.18 322 P **P 18 39 30.0 -0.4**
XAN AMB AMB
comp=Z,37nm,1.2s,mb5.3
MDJ Mudanjiang 51.18 347 P **P 18 39 30.3 +0.1**
MDJ SCP ScP 18 44 30.5 -0.5
MDJ PCS PcS 18 44 41.8 0.0
MDJ S **S 18 46 37.5 -2.8**
MDJ AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,95nm,5.0s
MDJ LR LR
comp=N,189nm,20.1s
MDJ LR LR
comp=E,149nm,12.7s
MDJ LR LR
comp=Z,279nm,17.0s
CN2 Changchun 51.51 343⇑ P **P 18 39 32.9 +0.2**
CN2 *e* AP pP 18 39 59.1 +1.0
CN2 *e* XP sP 18 40 11.9 +1.9
CN2 *e* S **S 18 46 44.5 -0.3**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=Z,200nm,17.0s
BJI Beijing 51.75 333 P **P 18 39 34.0 -0.5**
BJI PP PP 18 41 39.3 +5.9
BJI S **S 18 46 46.8 -1.5**
BJI AMB AMB
comp=Z,21nm,1.2s,mb5.0
BJI LR LR
comp=N,304nm,16.2s
BJI LR LR
comp=E,229nm,19.8s
BJI LR LR
comp=Z,290nm,24.0s
YSS Yuzh-Sakhalins 51.84 359 *eP* **P 18 39 34.2 -0.9**
YSS pmax pmax
comp=Z,78nm,1.6s,mb5.5
YSS Yuzh-Sakhalins 51.84 359 *eP* **P 18 39 34.2 -0.9**
comp=Z,78nm,1.6s,mb5.5
CD2 Chengdu 52.60 316 P **P 18 39 41.5 +0.5**
CD2 AP pP 18 40 06.6 +0.1
CD2 PCP PcP 18 40 49.8 0.0
CD2 PP PP 18 41 43.8 +2.6

CD2 PCS PcS 18 44 46.9 -1.6
CD2 S **S** **18 47 01.0 +0.8**
CD2 SCS ScS 18 49 18.3 -2.3
CD2 SS SS 18 50 39.8 -0.3
CD2 AMB AMB
comp=Z,50nm,0.6s,mb5.7
CD2 AMB AMB
comp=Z,160nm,5.8s
HHC Hu-ho-hao-te 54.59 330 *e*P **P** **18 39 56.3 +1.0**
HHC AP pP 18 40 21.4 +0.4
HHC PP PP 18 42 01.3 +2.4
HHC S **S** **18 47 28.3 +1.6**
HHC PS 18 47 54.5
HHC SCS ScS 18 49 32.0 -2.3
HHC AMB AMB
comp=Z,27nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,132nm,4.3s
HHC LR LR
comp=N,213nm,22.6s
HHC LR LR
comp=E,219nm,21.4s
HHC LR LR
comp=Z,220nm,23.8s
KLR Kul'dur 55.17 350 *e*P **P** **18 39 54.7 -4.7**
KLR pmax pmax
comp=E,30nm,1.6s
KLR pmax pmax
comp=Z,50nm,1.6s,mb5.3
LZH Lanzhou 55.67 321 P **P** **18 40 02.5 -0.7**
LZH PP PP 18 42 09.6 +0.9
LZH S **S** **18 47 40.0 -1.4**
LZH SS SS 18 51 26.5 -1.9
LZH AMB AMB
comp=Z,71nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,206nm,6.8s
LZH LR LR
comp=E,667nm,15.2s
LZH LR LR
comp=Z,873nm,17.8s
HIA Hailar 58.15 341 *d i*P **P** **18 40 20.7 +0.2**
HIA Hailar 58.15 341 *e*P **P** **18 40 20.3 -0.2**
comp=Z,15nm,0.6s,mb5.2
SHL Shillong 59.11 304 *e*P **P** **18 40 29.0 +1.4**
PETK Petropavlovsk- 59.12 10 P **P** **18 40 27.2 +0.1**
comp=Z,32nm,0.9s,mb5.3,baz=163,slow=7.0,SNR=30
PETK LR LR 19 01 43.0
comp=Z,86nm,19.6s,baz=218,slow=32
PET Petropavlovsk 59.21 10⇑ *e*P **P** **18 40 26.9 -0.8**
PET pmax pmax
comp=Z,54nm,1.6s,mb5.3
GTA Gaotai 60.23 321 P **P** **18 40 35.8 +0.8**
GTA AP pP 18 41 02.9 +1.8
GTA XP sP 18 41 14.3 +1.5
GTA S **S** **18 48 41.1 +0.4**
GTA SS SS 18 52 42.3 +2.4
GTA AMB AMB
comp=Z,15nm,1.2s,mb4.9
GTA AMB AMB
comp=Z,83nm,5.7s
GTA LR LR
comp=N,146nm,13.7s
GTA LR LR
comp=E,98nm,12.2s
GTA LR LR
comp=Z,112nm,14.9s
LSA Lhasa 61.40 308 *e*P **P** **18 40 44.7 +1.5**
LSA pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
LSA Lhasa 61.40 308 *e*P **P** **18 40 44.7 +1.5**
comp=Z,9.5nm,0.5s,mb5.1
SONM Songino Array 62.24 332 P **P** **18 40 49.0 +0.6**
comp=Z,5.2nm,0.5s,mb4.8,baz=158,slow=7.4,SNR=55
SONM LR LR 19 05 59.7
comp=Z,194nm,19.7s,baz=136,slow=34
SONM PKP2bc 19 10 04.0
comp=Z,4.0nm,1.1s,baz=288,slow=1.7,SNR=17
SONM Songino Array 62.24 332 P **P** **18 40 49.0 +0.6**
SONM LR LR 19 05 59.7
SONM ⇑*e* 19 10 04.0
TAPN Taplejung 63.25 304 *e*P **P** **18 40 56.6 +1.1**
comp=Z,54nm,0.4s,mb5.8
ODAN Odare 63.34 303 *e*P **P** **18 40 57.0 +0.9**
comp=Z,41nm,0.4s,mb5.7
CLNS Chul'man 63.69 348 *d i*P **P** **18 40 58.3 +0.5**
CLNS *e**PP pP 18 41 22.9 -1.3
CLNS *e* 18 41 36.4
CLNS *e**SS sS 18 49 50.4 -19
CLNS *e* 18 50 45.4
CLNS pmax pmax
comp=Z,46nm,1.6s,mb5.1
CLNS pmax pmax
comp=N,21nm,1.5s
CLNS pmax pmax
comp=E,9.0nm,1.0s
RAMN Ramite 64.03 303 *e*P **P** **18 41 01.6 +1.0**
comp=E,50nm,0.4s,mb5.7
JIRN Jiri 64.62 304 *e*P **P** **18 41 05.8 +1.3**
comp=E,29nm,0.4s,mb5.4
GUN Gumba 64.97 304 *e*P **P** **18 41 07.8 +1.1**
comp=E,71nm,0.4s,mb5.8
PKI Pulchoki 65.24 303 *e*P **P** **18 41 09.1 +0.6**
comp=E,17nm,0.6s,mb5.1
PKI Pulchoki 65.24 303 *e*P **P** **18 41 09.1 +0.6**
PKI pmax pmax
comp=Z,17nm,0.6s,mb5.0
CASY Casey 65.38 194 *e*P **P** **18 41 07.8 -0.8**
comp=Z,9.1nm,0.9s,mb4.6
KKN Kakani 65.42 304 *e*P **P** **18 41 10.4 +0.7**
comp=Z,54nm,0.8s,mb5.4
KKN Kakani 65.42 304 *e*P **P** **18 41 10.4 +0.7**
KKN pmax pmax
comp=Z,54nm,0.8s,mb5.4
ZAK Zakamensk 65.50 333⇑ *i*P **P** **18 41 09.4 -0.3**
ZAK *e* pP 18 41 35.5 -0.7
ZAK pmax pmax
comp=Z,30nm,1.3s,mb5.0
DMN Daman 65.50 303 *e*P **P** **18 41 11.1 +0.9**
comp=Z,44nm,0.5s,mb5.6
PPT Papeete 65.92 107 *e*S S 18 50 05.4 +13
comp=Z,531nm,24.2s
PPT Papeete 65.92 107 *e*LR LR 19 01 20.9
comp=Z,285nm,27.0s
PPT Papeete 65.92 107 LR LR 19 05 42.3
comp=Z,230nm,18.6s,baz=170,slow=32
GKN Gorkha 66.03 304 *e*P **P** **18 41 14.2 +0.6**
comp=Z,19nm,1.0s,mb4.9
TLY Talaya 66.25 334 *e*P **P** **18 41 14.6 +0.1**
TLY *e*S S 18 49 53.0 -2.2
TLY *e*SS SS 18 54 12.5 -1.0
TLY pmax pmax
comp=Z,20nm,1.1s,mb4.9
TLY MLR MLR
comp=Z,118nm,20.0s
TLY Talaya 66.25 334 *e*P **P** **18 41 14.4 -0.1**
comp=Z,19nm,1.2s,mb4.8
KOLN Koldanda 66.81 303 *e*P **P** **18 41 19.0 +0.4**
comp=Z,40nm,0.8s,mb5.3
DANN Dangsing 66.87 304 *e*P **P** **18 41 19.6 +0.6**
comp=Z,34nm,0.5s,mb5.5
BOD Bodaibo 67.26 343 *e*P **P** **18 41 20.0 -0.8**
BOD pmax pmax
comp=Z,22nm,1.3s,mb4.8
YAK Yakutsk 67.86 353 *e*P **P** **18 41 23.7 -0.8**
YAK pmax pmax
comp=Z,21nm,1.5s,mb4.8
YAK pmax pmax
comp=N,19nm,2.0s
YAK Yakutsk 67.86 353 *e*P **P** **18 41 24.0 -0.5**
comp=N,5.8nm,0.5s,mb4.7
SEY Seymchan 68.14 4⇑ *e*P **P** **18 41 26.0 -0.2**
HYB Hyderabad 68.44 291 *i*P **P** **18 41 29.0 0.0**
HYB *e* pP 18 41 54.0 -1.7
HYB Hyderabad 68.44 291 *e*P **P** **18 41 28.5 -0.5**
WMQ Urumqi 70.24 320 P **P** **18 41 39.8 +0.2**
WMQ PCP PcP 18 42 01.0 +0.3
WMQ AP pP 18 42 07.5 +1.1
WMQ XP sP 18 42 19.9 +1.9
WMQ PP PP 18 44 18.5 +2.0
WMQ S S 18 50 41.0 -2.0
WMQ SCS ScS 18 51 28.3 -4.3
WMQ SS SS 18 55 14.8 -0.7
WMQ AMB AMB
comp=Z,26nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,28nm,8.0s
WMQ LR LR
comp=N,95nm,23.6s
WMQ LR LR
comp=E,82nm,26.0s
WMQ LR LR
comp=Z,79nm,24.0s
HVS Khovu-Aksy 70.64 329 *e*P **P** **18 41 41.8 -0.1**
HVS pmax pmax
comp=Z,176nm,1.3s,mb5.7
SBA Scott Base 73.67 175 *e*P **P** **18 42 00.8 +1.3**
SBA pmax pmax
comp=Z,27nm,1.8s,mb4.7
SBA Scott Base 73.67 175 *e*P **P** **18 42 00.8 +1.3**
comp=Z,27nm,1.8s,mb4.7
KRAR Krasnoyarsk 73.90 333 *e*P **P** **18 42 01.5 +0.3**
KRAR pmax pmax
comp=Z,11nm,1.3s,mb4.4
BILL Bilibino 74.63 8 *e*P **P** **18 42 03.7 -1.4**
BILL pmax pmax
comp=Z,15nm,1.3s,mb4.6
BILL Bilibino 74.63 8 *e*P **P** **18 42 04.1 -1.1**
comp=Z,26nm,1.2s,mb4.8
MK31 Makanchi Array 74.98 321 P **P** **18 42 07.7 +0.1**
MK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
MKAR Makanchi Array 74.98 321 P **P** **18 42 07.9 +0.3**
comp=Z,6.5nm,0.5s,mb4.6,baz=95,slow=8.9,SNR=150
ZAA0 Zalesovo Array 76.73 329 *e*P **P** **18 42 16.2 -1.2**
ZALV Zalesovo Beam 76.73 329 P **P** **18 42 16.1 -1.2**
comp=Z,5.0nm,0.5s,mb4.5,baz=111,slow=6.6,SNR=28
ZALV PKKPbc PKKPbc 19 01 27.7 -2.0
comp=Z,0.2nm,0.3s,baz=298,slow=3.2,SNR=3.6
ZALV LR LR 19 15 32.3
comp=Z,111nm,20.8s,baz=226,slow=35
ZAL Zalesovo 76.74 329 P **P** **18 42 16.2 -1.2**
KZA Kyzart 77.96 315 P **P** **18 42 26.3 +1.8**
SNR=20
NVS Novosibirsk 77.97 329⇓ *i*P **P** **18 42 23.3 -1.0**
NVS *e*S S 18 52 05.9 -3.1
NVS pmax pmax
comp=N,28nm,1.5s
NVS pmax pmax
comp=E,45nm,1.5s
NVS pmax pmax
comp=Z,66nm,1.5s,mb5.1
NVS smax
comp=N,40nm,2.4s
NVS smax
comp=E,28nm,2.0s
TKM2 Tokmak 2 77.98 316 P **P** **18 42 25.3 +0.7**
SNR=15
CHMS Chumysh 78.59 316 P **P** **18 42 28.2 +0.2**
SNR=6.8
KURK Kurchatov 78.78 324 P **P** **18 42 28.8 0.0**
comp=E,106nm,1.4s,mb5.5,SNR=9.1
KURK Kurchatov 78.78 324⇑ *e*P **P** **18 42 28.6 -0.2**
KURK pmax pmax
comp=Z,48nm,1.6s,mb5.1
KURK Kurchatov 78.78 324 *e*P **P** **18 42 28.3 -0.5**
comp=Z,57nm,1.4s,mb5.2
USP Ospenovka 78.85 316 P **P** **18 42 29.9 +0.5**
SNR=13
AML Almayashu 79.08 314 P **P** **18 42 31.9 +1.2**
SNR=13
EKS2 Erkin-Say 79.18 315 P **P** **18 42 32.1 +0.9**
SNR=15
OHAK Old Harbor 79.92 29 *e*P **P** **18 42 34.9 0.0**
comp=Z,55nm,0.8s,mb5.4
SVW2 Sparrevohn 80.66 25 *e*P **P** **18 42 39.1 +0.3**
KBL Kabul 80.66 306 *e*P **P** **18 42 38.5 -0.9**
KBL pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
KBL Kabul 80.66 306 *e*P **P** **18 42 38.5 -0.9**
comp=Z,5.2nm,0.5s,mb4.6
TTA Tatalina 81.37 24 *e*P **P** **18 42 42.7 +0.2**
KK31 Karatay Array 81.60 315 *i*P **P** **18 42 43.9 -0.3**
KK31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
MAW Mawson 81.96 202 *e*P **P** **18 42 44.6 -1.0**
comp=Z,2.2nm,0.6s,mb4.2
MAW Mawson 81.96 202 P **P** **18 42 45.4 -0.2**
comp=Z,2.8nm,0.6s,mb4.3,baz=96,slow=7.7,SNR=15
MAW LR LR 19 14 56.4
comp=Z,126nm,21.9s,baz=334,slow=32
MAW Mawson 81.96 202 *e*P **P** **18 42 44.6 -1.0**
MAW pmax pmax
comp=Z,2.0nm,0.6s
PPLA Purkeypile 82.91 24 *e*P **P** **18 42 49.3 -1.2**
comp=Z,91nm,1.5s,mb5.4
SEW Seward 82.94 28 *e*P **P** **18 42 48.4 -2.4**
RC01 Rabbit Creek A 83.20 27 *e*P **P** **18 42 51.1 -1.0**
comp=Z,72nm,0.9s,mb5.5
CHUM Lake Minchumin 83.29 24 *e*P **P** **18 42 52.8 +0.3**
comp=Z,122nm,0.9s,mb5.7
CHUM *e*pP pP 18 43 20.1 +0.1
PMR Palmer 83.67 26 *e*P **P** **18 42 53.5 -1.0**
PMR pmax pmax
comp=Z,51nm,1.0s,mb5.3
PMR Palmer 83.67 26 *e*P **P** **18 42 53.5 -1.0**
comp=Z,51nm,1.0s,mb5.3
KTH Kantishna Hill 83.71 24 *e*P **P** **18 42 53.5 -1.1**
comp=Z,90nm,1.2s,mb5.5
KTH *e*pP pP 18 43 19.7 -2.6
IMA2 Indian Mountai 83.76 21 *e*P **P** **18 42 54.8 0.0**
TRF Thorofare Moun 83.92 24 *e*P **P** **18 42 54.8 -0.9**
comp=Z,2μm,0.6s
TRF *e*pP pP 18 43 25.8 +2.4
VOSK Vostochnaya 83.92 324 P **P** **18 42 55.0 -1.0**
BVA0 Borovoye Array 84.35 324 *i*P **P** **18 42 57.6 -0.5**
BVA0 pmax pmax
comp=Z,19nm,1.5s,mb4.7
BRVK Borovoye 84.42 324 P **P** **18 42 58.5 0.0**
comp=Z,152nm,1.1s,mb5.7,SNR=16
BRVK Borovoye 84.42 324 *e*P **P** **18 42 58.6 +0.1**
BRVK *e**PP pP 18 43 23.5 -2.6
BRVK *e**SP sP 18 43 36.0 -1.5
BRVK pmax pmax
comp=Z,84nm,1.6s,mb5.3
BRVK Borovoye 84.42 324 *e*P **P** **18 42 58.6 +0.1**
comp=Z,84nm,1.6s,mb5.3
BRVK *e*pP pP 18 43 23.4 -2.7
BRVK *e*sP sP 18 43 36.0 -1.6
MCK McKinley 84.59 24 *e*P **P** **18 42 58.2 -0.9**
MCK *e**PP pP 18 43 25.5 -1.3
MCK pmax pmax
comp=Z,73nm,0.9s,mb5.6
MCK McKinley 84.59 24 *e*P **P** **18 42 58.2 -0.9**
comp=Z,73nm,0.9s,mb5.6
MCK *e*pP pP 18 43 25.5 -1.3
QSPA South Pole Qui 84.86 180 LR LR 19 22 16.1
comp=Z,146nm,21.1s,baz=16,slow=36
DIV Divide 85.01 27 *e*P **P** **18 43 01.2 0.0**
comp=Z,72nm,1.0s,mb5.6
DIV *e*pP pP 18 43 28.7 -0.3
RAGM Ragged Mountai 85.27 28 *e*P **P** **18 43 02.5 -0.1**
COLA College 85.47 23 *d i*P **P** **18 43 02.2 -1.3**
COLA College 85.47 23 *e*P **P** **18 43 02.1 -1.3**
comp=Z,32nm,0.9s,mb5.3
BMRM Bremner River 85.49 28 *e*P **P** **18 43 03.6 -0.1**
BMRM *e*pP pP 18 43 31.4 0.0
COLD Coldfoot 85.52 21 *e*P **P** **18 43 04.0 +0.3**
comp=Z,34nm,1.1s,mb5.2
COLD *e*pP pP 18 43 32.4 +1.0
MENT Mentasta 86.52 26 *e*P **P** **18 43 08.6 -0.1**
EGAK Eagle 88.14 24 *e*P **P** **18 43 16.3 -0.1**
comp=Z,47nm,1.3s,mb5.3
EGAK *e*pP pP 18 43 45.4 +1.1
DAWY Dawson 88.69 25 *e*P **P** **18 43 19.3 +0.2**
HYT Haines Junctio 88.79 29 *e*P **P** **18 43 20.8 +1.2**
HYT *e*pP pP 18 43 47.1 -0.4
SKAG Skagway 89.58 30 *e*P **P** **18 43 23.6 +0.3**
comp=Z,52nm,1.2s,mb5.5
AB31 Akbulak array 90.02 319 *i*P **P** **18 43 24.1 -1.5**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
SYO Syowa Base 90.43 200⇓ *e*P **P** **18 43 25.6 -1.5**
WRAK Wrangell Islan 90.65 34 *e*P **P** **18 43 29.1 +0.7**
comp=Z,12nm,0.8s,mb5.1
OSD Olympics--Snow 95.23 43 P **P** **18 43 51.0 +1.4**
HUMO Hull Mountain 95.59 48 *e*P **P** **18 43 52.2 +0.7**
comp=Z,15nm,1.0s,mb5.4
HUMO *e*pP pP 18 44 20.3 +0.8
HDW Hoodsport 95.66 43 P **P** **18 43 52.8 +1.1**
NSHM Saint Helena R 95.73 52 P **P** **18 43 50.6 -1.6**
GNW Green Mountain 95.81 43 *e*P **P** **18 43 52.5 +0.2**
comp=Z,39nm,1.4s,mb5.6
JCW Jim Creek 96.42 42 P **P** **18 43 56.0 +0.9**
ETW Entiat 97.50 43 *e*P **P** **18 44 00.1 +0.1**
MOD Modoc 97.55 49 *e*P **P** **18 44 00.1 -0.2**
comp=Z,4.0nm,0.9s,mb5.0
MDW Midway 97.91 44 P **P** **18 44 02.7 +0.9**
RSW Rattlesnake Hi 98.03 44 *e*P **P** **18 44 02.8 +0.5**
HAWA Hanford 98.07 44 *e*P **P** **18 44 02.9 +0.4**
comp=Z,25nm,1.1s,mb5.7
GBL Gable Mountain 98.11 44 P **P** **18 44 03.5 +0.8**
H2OWA Water 98.14 44 P **P** **18 44 03.8 +0.9**
WVOR Wild Horse Val 98.78 48 *e*P **P** **18 44 06.0 +0.1**
WVOR pmax pmax
comp=Z,10.0nm,0.9s,mb5.3
WVOR Wild Horse Val 98.78 48 *e*P **P** **18 44 06.0 +0.2**
comp=Z,9.6nm,0.9s,mb5.3
LNOR Lincton Mounta 98.95 45 *e*P **P** **18 44 06.9 +0.4**
NVAR Mina Array Bea 99.10 52 P **P** **18 44 08.2 +0.8**
comp=Z,2.7nm,0.9s,mb4.8,baz=266,slow=6.0,SNR=12
NVAR PP PP 18 48 09.1 -2.0
comp=Z,0.2nm,0.3s,baz=251,slow=9.2,SNR=4.8
NVAR Mina Array Bea 99.10 52 P **P** **18 44 08.2 +0.9**
NVAR PP PP 18 48 09.1 -2.0
NEW Newport 99.64 42 *e*P Pdif 18 44 09.6 +0.2
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 99.64 42 *e*Pdif Pdif 18 44 09.6 +0.2
comp=Z,3.6nm,0.9s
YKA Yellowknife Ar 99.72 28 P Pdif 18 44 08.6 -1.1
comp=Z,2.6nm,1.0s,baz=295,slow=5.5,SNR=4.5
YKA LR LR 19 29 30.4
comp=Z,36nm,18.6s,baz=95,slow=36
YKA Yellowknife Ar 99.72 28⇑ *e*P Pdif 18 44 09.3 -0.5
WALA Waterton Lakes 101.70 41 *e*Pdif Pdif 18 44 19.3 +0.8
comp=Z,11nm,1.1s
HLID Hailey 101.83 47 *e*Pdif Pdif 18 44 20.2 +1.1
comp=Z,7.9nm,1.3s
BOZ Bozeman (W) 103.61 44 *e*P Pdif 18 44 28.1 +1.1
BOZ pmax pmax
comp=Z,2.0nm,0.9s
BOZ Bozeman (W) 103.61 44 *e*Pdif Pdif 18 44 28.1 +1.1
comp=Z,1.9nm,0.9s
QLMT Earthquake Lak 103.84 45 *e*Pdif Pdif 18 44 28.8 +0.7
MOOW Moose Ponds 104.46 46 *e*Pdif Pdif 18 44 30.4 -0.4
comp=Z,1.9nm,1.0s
ARCES ARCESS Array B 104.50 341 Pdiff Pdif 18 44 28.9 -2.1
comp=Z,3.5nm,0.9s,baz=61,slow=7.3,SNR=5.9
ARCES PKiKP PKiKP 18 48 44.8 -1.4
comp=Z,1.4nm,0.9s,baz=69,slow=4.9,SNR=4.2
PDAR Pinedale Array 105.44 47 Pdiff Pdif 18 44 35.9 +0.7
comp=Z,1.7nm,0.9s,baz=251,slow=2.7,SNR=8.7
PDAR PKiKP PKiKP 18 48 49.5 +0.9
comp=Z,0.3nm,0.4s,baz=204,slow=2.0,SNR=3.5
AKASG Malin Array Be 109.55 322 PKiKP PKiKP 18 48 55.3 -0.8
comp=Z,1.0nm,0.7s,baz=63,slow=1.8,SNR=4.9
AKASG PKKPbc PKKPbc 19 00 00.5 -2.3
comp=Z,0.1nm,0.3s,baz=262,slow=3.1,SNR=4.2
TXAR Lajitas Array 111.85 61 PKiKP PKiKP 18 49 00.4 -0.7
comp=Z,1.7nm,1.1s,baz=183,slow=1.2,SNR=8.3
TXAR PKKPbc PKKPbc 18 59 55.8 +1.3
comp=Z,0.4nm,0.7s,baz=113,slow=6.9,SNR=4.1
TXAR PKKPab PKKPab 19 00 04.3 +1.0
comp=Z,0.6nm,0.6s,baz=125,slow=7.8,SNR=7.9
ULM Lac du Bonnet 112.82 37 PKiKP PKiKP 18 49 01.0 -1.3
comp=Z,1.8nm,0.4s,baz=264,slow=1.9,SNR=5.9
NOA NORSAR Array B 114.02 337 PKiKP PKiKP 18 49 02.7 -1.5
comp=Z,0.5nm,0.7s,baz=75,slow=1.8,SNR=3.3
NOA NORSAR Array B 114.02 337 PKPdf PKiKP 18 49 02.7 -1.5
KOLS Kolonicke sedl 114.38 322 *e*PKP PKiKP 18 49 05.6 +0.3
CRVS Cervenica-Dubn 114.89 322 *e*PKP PKiKP 18 49 06.5 +0.2
CRVS Cervenica-Dubn 114.89 322 *e*PKP PKiKP 18 49 06.6 +0.3
OJC Ojcow 115.36 324 *e*PKP PKPdf 18 49 07.1 -0.1
NIE Niedzica 115.38 323 *e*PKP PKPdf 18 49 08.4 +1.2
OKC Ostrava-Krasne 116.49 324 *e*PKPdf PKPdf 18 49 10.4 +1.1
OKC AMS AMS 19 40 40.0
comp=Z,100nm,21.3s
MORC Moravsky Berou 116.86 324 *e*PKIKP PKPdf 18 49 10.6 +0.5
DPC Dobruska-Polom 117.31 325 *e*PKPdf PKPdf 18 49 11.5 +0.6
DPC AMS AMS 19 41 00.0
comp=Z,200nm,17.3s
UPC Upice 117.41 326 *e*PKIKP PKPdf 18 49 17.2 +6.1
ZST Bratislava 117.82 323 *e*PKP PKPdf 18 49 11.8 -0.2
PVCC Panska Ves 118.21 326 *e*PKPdf PKPdf 18 49 13.2 +0.6
PVCC AMS AMS 19 41 10.0
comp=Z,200nm,18.4s
TREC Trest 118.28 324 *e*PKPdf PKPdf 18 49 13.3 +0.5
TREC AMS AMS 19 41 20.0
comp=Z,200nm,17.5s
BRG Berggiesshubel 118.38 327 *e*PKP PKPdf 18 49 13.1 +0.2
comp=Z,7.2nm,1.0s
BRG *e* 18 49 42.1
comp=Z,6.8nm,1.3s
BRG *e* 18 50 31.1
comp=Z,17nm,1.9s
PRU Pruhonice 118.48 326 *e*PKPdf PKPdf 18 49 13.3 +0.1
PRU AMS AMS 19 41 10.0
comp=Z,200nm,28.8s
BSEG Bad Segeberg 118.61 331 *e*PKIKP PKPdf 18 49 13.6 +0.3
CLL Collm 118.67 327 *i*PKPdf PKPdf 18 49 13.1 -0.4
comp=Z,7.0nm,1.0s
CLL *e*pPKPdf pPKPdf 18 49 42.0 -0.6
CLL *e*SKSP 19 00 18.0
CLL *e*(PPS) 19 01 28.0
CLL *e*(SSS) 19 10 48.0
CLL *e*SSSS 19 14 31.0
CLL LmV 19 38 00.0
comp=Z,100nm,19.6s
CLL Collm 118.67 327 *i*PKP PKPdf 18 49 13.1 -0.4
CLL *e*pPKP pPKPdf 18 49 42.0 -0.6
CLL LR LR
comp=Z,100nm,19.6s
MIAR Mount Ida 119.32 53 *e*PKIKP PKPdf 18 49 14.8 -0.5
KHC Kasperske Hory 119.45 325 *e*PKPdf PKPdf 18 49 15.3 +0.2
KHC *e*pPKP pPKPdf 18 49 43.5 -0.7
KHC AMS AMS 19 42 30.0
comp=Z,300nm,6.5s
KHC Kasperske Hory 119.45 325 *e*PKP PKPdf 18 49 15.3 +0.2
KHC *e* 18 49 43.5
GEC2 GERESS Array S 119.52 325 *e*PKIKP PKPdf 18 49 15.1 -0.1
GERES GERESS Array B 119.52 325 PKP PKPdf 18 49 15.3 +0.1
comp=Z,3.4nm,0.7s,baz=75,slow=1.2,SNR=34
GERES PKKPbc PKKPbc 18 59 27.0 -1.6
comp=Z,0.5nm,0.8s,baz=224,slow=3.7,SNR=5.2
NKC Novy Kostel 119.53 327 *e*PKPdf PKPdf 18 49 15.7 +0.5
NKC AMS AMS 19 42 20.0
CLZ Clausthal 119.77 329 *e*PKIKP PKPdf 18 49 16.1 +0.5
WET Wettzell 119.84 325 *e*PKIKP PKPdf 18 49 16.1 +0.3
GRA1 Grafenberg Arr 120.49 326 *e*PKPdf PKPdf 18 49 17.7 +0.7
GRF Grafenberg Arr 120.49 326 *e*PKIKP PKPdf 18 49 17.7 +0.7
FVM French Village 120.73 48 *e*PKIKP PKPdf 18 49 16.1 -1.8
WTTA Wattenberg 121.51 324⇑ *i*P PKPdf 18 49 19.3 +0.2
comp=Z,19nm,1.0s
MOTA Moosalm 121.78 324⇓ *i*P PKPdf 18 49 19.4 -0.2
comp=Z,17nm,1.0s
TSUM Tsumeb 122.09 244 PKP PKPdf 18 49 21.7 +0.7
comp=Z,2.1nm,0.8s,baz=142,slow=7.1,SNR=6.7
FETA Feichten 122.17 324⇑ *i*P PKPdf 18 49 20.8 +0.4
comp=Z,10.0nm,1.0s
OLIL Olney 122.18 47 *e*PKPdf PKPdf 18 49 20.1 -0.6
MEM Membach 122.71 330 PKP PKPdf 18 49 21.6 +0.3
BFO Black Forest 122.83 326 *e*PKIKP PKPdf 18 49 21.7 +0.1
BCLA Clavier 123.18 330 PKP PKPdf 18 49 22.4 +0.1
WLF Walferdange 123.21 329 PKP PKPdf 18 49 23.7 +1.5
TUE Stuetta 123.27 324 *e*PKPdf PKPdf 18 49 22.0 -0.5
TUE *e*pPKPdf pPKPdf 18 49 51.4 -0.2
CDF Champ du Feu 123.36 327 *e*PKIKP PKPdf 18 49 21.9 -0.7
GIVF Givet 123.62 330 *e*PKIKP PKPdf 18 49 23.0 -0.1
WCI Wyandotte Cave 123.69 47 *e*PKIKP PKPdf 18 49 23.0 -0.6
HINF Hinteralfeld 123.93 327 *e*PKIKP PKPdf 18 49 23.0 -0.7
comp=Z,25nm,1.0s
BAIF Baives 123.96 330 *e*PKIKP PKPdf 18 49 23.5 -0.2
comp=Z,14nm,1.0s
HAU Haudompre 124.10 327 *e*PKIKP PKPdf 18 49 23.5 -0.5
comp=Z,36nm,0.9s
PLCA Paso Flores 124.42 148 PKP PKPdf 18 49 26.0 +1.0
comp=Z,8.9nm,0.7s,baz=230,slow=2.7,SNR=29
PLCA Paso Flores 124.42 148 *e*PKPdf PKPdf 18 49 25.8 +0.8
MEZF Maizieres J'vi 124.49 328 *e*PKIKP PKPdf 18 49 24.7 -0.1
SCHQ Schefferville 124.50 21 PKP PKPdf 18 49 24.4 -0.2
comp=Z,9.7nm,0.8s,baz=18,slow=4.0,SNR=11
LRAL Lakeview Retre 124.99 53 *e*PKPdf PKPdf 18 49 25.3 -0.9
CABF La Chapelle 125.06 326 *e*PKIKP PKPdf 18 49 26.0 +0.1
comp=Z,69nm,1.3s
LPG La Plagne 125.31 324 *e*PKIKP PKPdf 18 49 26.5 +0.1

comp=Z,10nm,0.8s
LPL La Plagne 125.31 324 *e*PKIKP PKPdf 18 49 26.4 0.0
comp=Z,17nm,0.9s
PGF Pioggiola 125.51 320 *e*PKIKP PKPdf 18 49 26.5 -0.4
comp=Z,33nm,1.0s
MBDF Montbardon 125.73 323 *e*PKIKP PKPdf 18 49 27.5 +0.2
comp=Z,7.9nm,0.8s
SBF Sospel 125.81 322 *e*PKIKP PKPdf 18 49 26.8 -0.6
LOR Lormes 125.89 327 *e*PKIKP PKPdf 18 49 27.0 -0.5
comp=Z,66nm,1.7s
ORIF Oris-en-Rattie 126.15 324 *e*PKIKP PKPdf 18 49 27.7 -0.4
comp=Z,18nm,1.0s
SSF Saint Saulge 126.20 327 *e*PKIKP PKPdf 18 49 27.8 -0.3
comp=Z,22nm,1.0s
SMF Signal de Mont 126.28 327 *e*PKIKP PKPdf 18 49 27.9 -0.4
comp=Z,62nm,1.3s
FRF La Foret Royal 126.45 322 *e*PKIKP PKPdf 18 49 28.1 -0.6
comp=Z,57nm,1.4s
AVF Avril sur Loir 126.45 327 *e*PKIKP PKPdf 18 49 28.1 -0.5
HYF Humbligny 126.53 328 *e*PKIKP PKPdf 18 49 28.9 +0.2
LMR La Mourre 126.66 322 *e*PKIKP PKPdf 18 49 28.5 -0.6
comp=Z,104nm,1.5s
SMRF Simiane la Rot 126.86 323 *e*PKIKP PKPdf 18 49 29.5 0.0
comp=Z,20nm,1.0s
BGF Bois d'Agland 126.87 327 *e*PKIKP PKPdf 18 49 29.2 -0.2
VIVF Saint-Julien-l 126.89 325 *e*PKIKP PKPdf 18 49 29.2 -0.3
comp=Z,22nm,1.2s
LDF La Druitiere 127.05 331 *e*PKIKP PKPdf 18 49 30.3 +0.6
FLN La Foliniere 127.11 331 *e*PKIKP PKPdf 18 49 30.3 +0.5
TCF Toulx Ste Croi 127.38 327 *e*PKIKP PKPdf 18 49 30.2 -0.2
comp=Z,42nm,1.1s
GRR Gorron 127.55 331 *e*PKIKP PKPdf 18 49 31.4 +0.8
GOGA Godfrey 127.64 51 *e*PKIKP PKPdf 18 49 30.5 -0.8
LASF Ste Croix 127.82 324 *e*PKIKP PKPdf 18 49 31.3 0.0
CAF Calviac 128.32 326 *e*PKIKP PKPdf 18 49 32.4 +0.2
comp=Z,51nm,1.5s
RJF Les Rejaudoux 128.38 327 *e*PKIKP PKPdf 18 49 32.1 -0.2
comp=Z,52nm,1.5s
MFF Saint Martin d 128.41 329 *e*PKIKP PKPdf 18 49 32.0 -0.3
comp=Z,25nm,1.2s
SGMF Saint Gilles 128.45 332 *e*PKIKP PKPdf 18 49 33.1 +0.7
KEST Kesra 128.46 312 PKP PKPdf 18 49 34.0 +1.2
comp=Z,2.4nm,1.0s,baz=27,slow=1.0,SNR=5.0
LFF La Frestale 129.04 327 *e*PKIKP PKPdf 18 49 33.5 -0.1
comp=Z,148nm,1.6s
MTLF Montolieu 129.21 324 *e*PKIKP PKPdf 18 49 33.3 -0.7
comp=Z,30nm,1.5s
ETSF Etsaut 131.07 326 *e*PKIKP PKPdf 18 49 38.4 +0.9
SJPF Ste Jean 131.30 326 *e*PKIKP PKPdf 18 49 38.0 +0.1
comp=Z,10nm,1.0s
ESDC Sonseca Array 135.12 325 PKP PKPdf 18 49 45.9 +0.7
comp=Z,0.4nm,0.6s,baz=334,slow=2.5,SNR=3.6
MVO Moncorvo 135.77 328 *e*PKPdf PKPdf 18 49 48.9 +2.5
MTE Manteigas 136.59 328 *e*PKPdf PKPdf 18 49 50.1 +2.2
PCBR Castelo Branco 136.96 328 *e*PKPdf PKPdf 18 49 49.4 +0.8
PBAR Barrancos 137.90 325 *e*PKPdf PKPdf 18 49 52.9 +2.5
MORF Marmelete 139.41 326 *e*PKPdf PKPdf 18 49 56.7 +3.5
LPAZ La Paz 141.69 124 PKhKP 18 49 53.8
comp=Z,8.2nm,0.8s,baz=248,slow=2.4,SNR=37
LPAZ La Paz 141.69 124 *e*PKPdf PKPdf 18 49 53.4 -4.5
ROSC El Rosal 141.72 89 PKhKP 18 49 54.2
comp=Z,8.7nm,0.3s,baz=97,slow=20,SNR=8.1
ROSC El Rosal 141.72 89 *e*PKPpre 18 49 53.8
TORD Torodi Ar. Bea 142.07 285 PKhKP 18 49 52.4
comp=Z,2.2nm,0.7s,baz=70,slow=3.2,SNR=21
TORD PKP PKPdf 18 49 58.4 -0.2
comp=Z,6.7nm,0.8s,baz=78,slow=2.7,SNR=18
CPUP Villa Florida 142.48 147 PKhKP 18 49 54.7
comp=Z,11nm,0.8s,baz=196,slow=4.5,SNR=8.0
CPUP PKP PKPdf 18 49 59.1 0.0
comp=Z,11nm,0.8s,baz=233,slow=2.3,SNR=19
CPUP Villa Florida 142.48 147 *e*PKPpre 18 49 54.7
CPUP PKP PKPdf 18 49 59.1 0.0
SDV Santo Domingo 145.34 82 *e*PKPdf PKPdf 18 50 04.4 0.0
SDV *ep*PKPdf pPKPdf 18 50 32.6 -0.9
AOPR Arecibo Observ 147.13 64 *e*PKPdf PKPdf 18 50 07.2 -0.1
PMAR Madeira 147.30 329 *e*PKPab PKPab 18 50 10.7 -0.9
SJG San Juan 147.75 64 *e*PKP2 PKPbc 18 50 10.6 -0.7
HUMP Col San Antoni 148.00 64 *e*PKPbc PKPbc 18 50 11.6 -0.3
KIC Kosan Boka 148.97 274 *e*PKIKP PKPbc 18 50 14.8 +0.2
comp=Z,352nm,1.2s
DBIC Dimbokro 149.08 274 PKPbc PKPbc 18 50 15.2 +0.3
comp=Z,19nm,0.7s,baz=92,slow=3.0,SNR=22
DBIC Dimbokro 149.08 274 *e*PKPbc PKPbc 18 50 14.6 -0.3
DBIC *ep*PKPbc pPKPbc 18 50 42.5 -1.4
TIC Toumodi 149.24 274 *e*PKIKP PKPbc 18 50 15.4 +0.1
comp=Z,352nm,1.3s
LIC Lamto 149.25 274 *e*PKIKP PKPbc 18 50 15.0 -0.3
comp=Z,91nm,0.9s
LIC Lamto 149.25 274 *e*PKIKP PKPbc 18 50 15.3 0.0
comp=Z,234nm,1.3s
SPB Sao Paulo 149.34 159 *e*PKPbc PKPbc 18 50 15.6 +0.3
BDFB Brasilia 156.15 150 PKP PKPdf 18 50 21.6 +0.7
comp=Z,3.6nm,0.9s,baz=165,slow=6.9,SNR=7.3
BDFB PKPbc PKPdf 18 50 31.2 +10
comp=Z,5.7nm,0.9s,baz=194,slow=3.8,SNR=11
BDFB PKPab PKPab 18 50 48.6 -0.3
comp=Z,5.8nm,1.0s,baz=281,slow=5.2,SNR=4.8

*IDC **18** 18:40:38.8±1.8, 978S×1598.0E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/15, mbtmp3.8/6, MS3.8/1, Ms1 3.8/1, ms1mx2.9/24, Error ellipse: s-maj=61.1km s-min=11.2km az=125.0*
*ISCJB **18** 18:40:41.3±3.0, 99S±03×1598E±05, h32km±9km, mb3.8/6, Error ellipse: s-maj=96.3km s-min=12.4km az=28.4*
*NEIC **18** 18:40:41.0±1.6, 984S×1599.2E, h10km, Error ellipse: s-maj=50.2km s-min=10.4km az=135.0*
ISC 18 18:40:40.9±4.3, 98S±04×1595E±05, h5km±43km, n8, σ0=48/12, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.56**	**50**	Pn		**Pg**	**18 40 51.6**	**+0.1**
	2μm,0.3s,baz=249,slow=2.2,SNR=602							
HNR				Sn		**Sg**	**18 40 58.8**	**0.0**
	4μm,0.3s,baz=79,slow=19,SNR=108							
HNR	**Honiara**	**0.56**	**50**	*e*Pg		**Pg**	**18 40 51.2**	**-0.4**
HNR				Pn		**Pg**	**18 40 51.6**	**+0.1**
HNR				Sn		**Sg**	**18 40 58.8**	**0.0**
HNR				*e*Sg		**Sg**	**18 40 59.0**	**+0.3**
WRA	**Warramunga Arr**	**26.31**	**245**	P		**P**	**18 46 18.2**	**+0.4**
	2.7nm,0.8s,mb3.8,baz=71,slow=10,SNR=4.9							
WRA				PcP		PcP	18 49 43.1	-1.0
	0.8nm,0.9s,baz=76,slow=2.6,SNR=5.0							
ASAR	**Alice Springs**	**28.07**	**237**	P		**P**	**18 46 33.0**	**-0.6**
	0.7nm,0.5s,mb3.5,baz=63,slow=10,SNR=5.4							
ASAR				PcP		PcP	18 49 48.0	-0.4
	0.2nm,0.5s,baz=82,slow=3.2,SNR=4.4							
MJAR	**Matsushiro Arr**	**50.26**	**338**	P		**P**	**18 49 37.4**	**-0.8**
	0.4nm,0.5s,mb4.3,baz=167,slow=9.4,SNR=4.7							
PETK	**Petropavlovsk-**	**62.67**	**359**	P		**P**	**18 51 06.4**	**0.0**
	1.9nm,0.8s,mb4.3,baz=167,slow=6.1,SNR=6.0							
CMAR	**Chiang Mai Arr**	**66.01**	**295**	P		**P**	**18 51 29.8**	**+0.7**
	0.3nm,0.5s,mb3.6,baz=123,slow=4.4,SNR=3.5							
MKAR	**Makanchi Array**	**88.45**	**318**	P		**P**	**18 53 34.4**	**+0.1**
	0.2nm,0.6s,mb3.6,baz=104,slow=4.7,SNR=2.7							

*MOS **18** 18:50:00.5±1.3, 5275N×1073.4E, h12km, mb4.2/1, Error ellipse: s-maj=28.5km s-min=18.0km az=140.2*
BYKL 18 18:50:00.1±0.2, 5277N×10738E, h13km±3km, 5C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZRHB	**Zarechye**	**0.26**	**213**	⇑*i*Pg		Pg	18 50 05.3	-0.2
ZRHB				*i*Sg		Sg	18 50 09.8	+0.7
ZRHB				*e*			18 50 11.6	
ZRHB				Pmax				
	321nm,0.2s							
ZRHB				max				
	9μm,0.4s							
TRG	**Tyrgan**	**0.63**	**269**	*e*Pg		Pg	18 50 11.6	-0.7
TRG				*e*Sg		Sg	18 50 20.8	+0.2
TRG				Pmax				
	57nm,0.2s							
TRG				Smax				
	501nm,0.1s							
FFNB	**Fofonovo**	**0.82**	**208**	*e*Pg		Pg	18 50 15.3	-0.6
FFNB				*e*Sg		Sg	18 50 25.5	-1.1
FFNB				Pmax				
	164nm,0.1s							
FFNB				Smax				
	3μm,0.3s							
KAB	**Kabansk**	**0.85**	**212**	*e*PG		Pg	18 50 17.7	+1.2
KAB				*e*			18 50 27.1	
KAB				pmax		pmax		
	comp=Z,393nm,0.4s							
KAB				smax				
	comp=N,2μm,0.6s							
KAB	**Kabansk**	**0.85**	**212**	*e*Pg		Pg	18 50 16.0	-0.5
KAB				*e*Sg		Sg	18 50 27.1	-0.4
KAB				Pmax				
	comp=N,384nm,0.3s							
KAB				Smax				
	comp=N,1μm,0.6s							
STDB	**Stepnoy Dvoret**	**0.86**	**226**	*e*Pg		Pg	18 50 17.3	+0.5
STDB				*e*Sg		Sg	18 50 28.8	+0.7
STDB				Pmax				
	comp=N,207nm,0.2s							
STDB				Smax				
	comp=N,2μm,0.4s							
OGRR	**Ongureny**	**0.88**	**8**	⇑*i*Pg		Pg	18 50 16.4	-0.8
OGRR				*e*Sg		Sg	18 50 28.2	-0.6
OGRR				Pmax				
	comp=N,19nm,0.2s							
OGRR				Smax				
	comp=N,169nm,0.3s							
UUDB	**Ulan-Yde**	**0.92**	**169**	⇑*i*Pg		Pg	18 50 16.7	-1.2
UUDB				*e*Sg		Sg	18 50 28.0	-1.9
UUDB				*e*			18 50 34.7	
UUDB				Pmax				
	comp=N,124nm,0.4s							
UUDB				max				
	comp=N,517nm,0.6s							
HRMR	**Khuramsha**	**1.17**	**193**	⇑*i*Pg		Pg	18 50 21.3	-1.4
HRMR				*e*Pb		Pb	18 50 23.6	+1.4
HRMR				*e*Sg		Sg	18 50 37.1	-0.8
HRMR				*e*Sb		Sb	18 50 40.5	+3.2
HRMR				max				
	comp=N,403nm,0.5s							
HRMR				max				
	comp=N,3μm,0.4s							
LSTR	**Listvyanka**	**1.81**	**241**	⇑*i*PN		Pn	18 50 31.3	+0.4
LSTR				*e*			18 50 32.3	
LSTR				*e*S		Sn	18 50 55.0	+1.4
LSTR				*e*			18 50 56.2	
LSTR				pmax		pmax		
	comp=Z,32nm,0.3s							
LSTR				smax				
	comp=N,273nm,0.5s							
LSTR	**Listvyanka**	**1.81**	**241**	*e*Pn		Pn	18 50 31.1	+0.2
LSTR				*e*Pg		Pg	18 50 32.3	-2.4
LSTR				*e*Sg		Sg	18 50 55.3	-2.8
LSTR				Pmax				
	comp=N,51nm,0.7s							
LSTR				Smax				
	comp=N,273nm,0.4s							
SYVR	**Suvo**	**1.81**	**59**	*e*Pn		Pn	18 50 31.3	+0.4
SYVR				*e*Pg		Pg	18 50 32.6	-2.2
SYVR				*e*Sn		Sn	18 50 55.8	+2.1
SYVR				*e*Sg		Sg	18 50 57.1	-1.1
SYVR				Pmax				
	comp=N,144nm,0.6s							
SYVR				Smax				
	comp=N,139nm,0.3s							
IRK	**Irkutsk**	**1.97**	**256**	*e*PN		Pn	18 50 35.3	+2.2
IRK				*e*			18 51 00.5	
IRK				pmax		pmax		
	comp=Z,83nm,0.4s							
IRK				smax				
	comp=N,890nm,0.5s							
IRK	**Irkutsk**	**1.97**	**256**	*e*Pg		Pg	18 50 35.8	-2.1
IRK				*e*Sg		Sg	18 51 01.8	-1.6
IRK				Pmax				
	comp=N,90nm,0.5s							
IRK				Smax				
	comp=N,883nm,0.5s							
TLY	**Talaya**	**2.54**	**246**	*e*Pn		Pn	18 50 41.5	+0.5
TLY				*e*Pg		Pg	18 50 45.3	-3.5
TLY				*e*Sg		Sg	18 51 17.6	-4.2
TLY				Pmax				
	comp=N,12nm,0.3s							
TLY				Smax				
	comp=N,78nm,0.6s							
YLYR	**Ulyunkhan**	**3.08**	**45**	*e*Pn		Pn	18 50 49.1	+0.8
YLYR				*e*Pg		Pg	18 50 55.1	-3.9
YLYR				*e*Sn		Sn	18 51 26.3	+1.3
YLYR				*e*Sg		Sg	18 51 35.3	-3.6
YLYR				Pmax				
	comp=N,18nm,0.7s							
YLYR				Smax				
	comp=N,72nm,1.5s							
ARS	**Arshan**	**3.16**	**256**	*e*PN		Pn	18 50 57.3	+7.9
ARS				*e*			18 51 36.3	
ARS				pmax		pmax		
	comp=Z,30nm,0.3s							
ARS				smax				
	comp=E,195nm,0.5s							
ARS	**Arshan**	**3.16**	**256**	*e*Pn		Pn	18 50 50.7	+1.3
ARS				*e*Pg		Pg	18 50 56.0	-4.5
ARS				*e*Sg		Sg	18 51 36.7	-4.7
ARS				Pmax				
	comp=E,49nm,0.6s							
ARS				Smax				
	comp=E,196nm,0.4s							
NIZ	**Nizh Angarsk**	**3.27**	**22**	*e*Pn		Pn	18 50 51.4	+0.5
NIZ				*e*Pg		Pg	18 50 58.3	-4.3
NIZ				*e*Sn		Sn	18 51 30.7	+1.1
NIZ				*e*Sg		Sg	18 51 40.4	-4.5
NIZ				Pmax				
	comp=E,23nm,0.8s							
NIZ				Smax				
	comp=E,50nm,0.7s							
ZAK	**Zakamensk**	**3.50**	**229**	*e*Pn		Pn	18 50 55.5	+1.3
ZAK				*e*Pg		Pg	18 51 03.1	-4.0
ZAK				*e*Sg		Sg	18 51 47.3	-5.1
ZAK				Pmax				
	comp=E,9.0nm,0.5s							
ZAK				Smax				
	comp=E,38nm,0.6s							
KMO	**Kumora**	**3.84**	**34**	*e*Pn		Pn	18 50 59.8	+1.0
KMO				*e*Pg		Pg	18 51 09.1	-4.5
KMO				*e*Sg		Sg	18 51 59.0	-4.3
KMO				Pmax				
	comp=E,31nm,1.1s							
KMO				Smax				
	comp=E,69nm,0.9s							
CIT	**Chita**	**3.85**	**99**	*e*PN		Pg	18 51 08.6	-5.3
CIT				*e*			18 51 58.2	
CIT				pmax		pmax		
	comp=Z,36nm,1.1s							
CIT				smax				
	comp=N,140nm,1.4s							
CIT	**Chita**	**3.85**	**99**	*e*Pn		Pn	18 51 00.0	+1.0
CIT				*e*Pg		Pg	18 51 08.9	-5.0
CIT				*e*Sn		Sn	18 51 41.4	-2.7
CIT				*e*Sg		Sg	18 51 59.6	-4.2
CIT				Pmax				
	comp=N,42nm,0.8s							
CIT				Smax				
	comp=N,159nm,0.5s							
MOY	**Mondy**	**4.08**	**257**	*e*Pn		Pn	18 51 03.8	+1.7
MOY				*e*Pg		Pg	18 51 12.7	-5.5
MOY				*e*			18 51 52.4	
MOY				*e*Sg		Sg	18 52 05.6	-5.4
MOY				Pmax				
	comp=N,37nm,1.1s							
MOY				Smax				
	comp=N,69nm,1.5s							
KPC	**Khapcheranga**	**4.39**	**132**	*e*PN		Pn	18 51 06.7	+0.3
KPC				*e*			18 51 19.5	
KPC				*e*			18 52 16.8	
KPC				pmax		pmax		
	comp=Z,44nm,0.4s							
KPC				smax				
	comp=N,113nm,0.5s							
KPC	**Khapcheranga**	**4.39**	**132**	*e*Pn		Pn	18 51 06.4	0.0
KPC				*e*Pg		Pg	18 51 18.1	-6.1
KPC				*e*Sn		Sn	18 51 56.2	-1.1
KPC				*e*Sg		Sg	18 52 13.6	-7.4
KPC				Pmax				
	comp=N,43nm,0.6s							
KPC				Smax				
	comp=N,114nm,1.4s							
UKT	**Uakit**	**4.57**	**51**	*e*PN		Pg	18 51 23.5	-4.1
UKT				*e*			18 52 21.3	
UKT				pmax		pmax		
	comp=Z,15nm,0.6s							
UKT				smax				
	comp=N,38nm,0.9s							
UKT	**Uakit**	**4.57**	**51**	*e*Pn		Pn	18 51 10.0	+1.1
UKT				*e*Pg		Pg	18 51 22.8	-4.8
UKT				*e*			18 51 26.8	
UKT				*e*Sg		Sg	18 52 23.3	-3.5
UKT				max				
	comp=N,16nm,0.6s							
UKT				Smax				
	comp=N,39nm,1.3s							
ORL	**Orlik**	**4.62**	**270**	*e*PN		Pn	18 51 11.6	+2.1
ORL				*e*			18 51 24.2	
ORL				*e*			18 52 23.6	
ORL				pmax		pmax		
	comp=Z,11nm,0.5s							
ORL				smax				
	comp=N,64nm,1.7s							
ORL	**Orlik**	**4.62**	**270**	*e*Pn		Pn	18 51 11.8	+2.3
ORL				*e*Pg		Pg	18 51 22.6	-5.8
ORL				*e*			18 52 07.4	
ORL				*e*Sg		Sg	18 52 21.3	-6.9
ORL				Pmax				
	comp=N,8.0nm,0.6s							
ORL				Smax				
	comp=N,61nm,1.5s							
BOD	**Bodaibo**	**6.32**	**34**	*e*Sg		Sg	18 53 15.5	-7.1
BOD				Smax				
	comp=N,14nm,2.0s							
TUP	**Tupik**	**7.67**	**73**	*e*PN		Pn	18 51 53.3	+2.0
TUP				*e*			18 52 18.2	
TUP				*e*			18 53 56.2	
TUP				pmax		pmax		
	comp=Z,2.0nm,0.4s							
TUP				smax				
	comp=N,50nm,1.2s							

*ISCJB **18** 19:07:49.6±0.6, 2975S±005×1789W±0.1, h195km±5km, mb3.9/21, Error ellipse: s-maj=15.4km s-min=5.9km az=23.9*
*NEIC **18** 19:07:50.5±0.8, 2999S×1785.4W, h213km±9km, mb4.1/8, Error ellipse: s-maj=17.1km s-min=9.3km az=119.0*
*IDC **18** 19:07:51.6±0.5, 2943S×1787.6W, h202km±4km, mb3.8/14, mb1 3.9/14, mb1mx3.9/18, mbtmp3.8/14, Error ellipse: s-maj=16.1km s-min=14.3km az=167.0*
ISC 18 19:07:50.6±0.5, 2979S±005×1789W±01, h193km±5km, n59, σ1°32/49, mb3.9/21, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.98**	**57**	P		**Pn**	**19 08 21.1**	**+1.5**
	686nm,0.3s,baz=134,slow=2.4,SNR=18							
RAO				S		**Sn**	**19 08 42.5**	**+0.6**
	279nm,0.3s,baz=71,slow=23,SNR=6.8							
RAO	**Raoul Island**	**0.98**	**57**	P		**Pn**	**19 08 21.1**	**+1.5**
RAO				*e*Sn		**Sn**	**19 08 42.3**	**+0.4**
MWZ	**Matawai**	**9.03**	**198**	*e*P		**Pn**	**19 09 55.7**	**-1.5**
MWZ				S		**Sn**	**19 11 38.1**	**-0.2**
URZ	**Urewera**	**9.08**	**201**	P		**Pn**	**19 09 57.9**	**0.0**
	1.0nm,0.3s,baz=65,slow=14,SNR=8.2							
URZ				S		**Sn**	**19 11 39.6**	**+0.1**
	4.4nm,0.3s,baz=2.7,slow=23,SNR=12							
URZ	**Urewera**	**9.08**	**201**	*e*P		**Pn**	**19 09 56.8**	**-1.1**
BKZ	**Black Stump Fm**	**10.11**	**201**	*e*P		**Pn**	**19 10 11.2**	**0.0**
BKZ				S		**Sn**	**19 12 04.7**	**+0.9**
TSZ	**Takapari Road**	**11.09**	**201**	*e*P		**Pn**	**19 10 23.6**	**-0.3**
MRZ	**Mangatainoka R**	**11.75**	**201**	*e*P		**Pn**	**19 10 29.7**	**-2.7**
MRZ				*e*S		**Sn**	**19 12 34.5**	**-8.7**
KIW	**Kapiti Island**	**12.15**	**203**	*e*P		**Pn**	**19 10 36.5**	**-1.0**
CAW	**Cannon Point**	**12.32**	**202**	*e*P		**Pn**	**19 10 35.4**	**-4.2**
THZ	**Tophouse**	**13.68**	**207**	*e*P		**Pn**	**19 10 54.3**	**-2.4**
THZ				S		**Sn**	**19 13 24.1**	**-5.0**
KHZ	**Kahutara**	**14.01**	**204**	*e*P		**Pn**	**19 10 59.5**	**-1.2**
KHZ				S		**Sn**	**19 13 29.6**	**-7.4**
CTA	**Charters Tower**	**32.97**	**279**	P		**P**	**19 14 08.2**	**+1.0**
	2.6nm,0.6s,mb3.9,baz=58,slow=13,SNR=4.4							
CTAO	**Charters Tower**	**32.97**	**279**	P		**P**	**19 14 08.6**	**+1.3**
	4.1nm,0.7s,mb4.1							
STKA	**Stephens Creek**	**33.89**	**256**	P		**P**	**19 14 16.4**	**+1.2**
	0.9nm,0.4s,mb3.7,baz=65,slow=9.8,SNR=5.2							
ASAR	**Alice Springs**	**42.40**	**267**	P		**P**	**19 15 27.0**	**+0.7**
	0.7nm,0.5s,mb3.4,baz=101,slow=7.5,SNR=16							
ASAR				PcP		PcP	19 17 15.1	-0.8
	0.5nm,0.5s,baz=108,slow=4.9,SNR=4.7							
WRAB	**Tennant Creek**	**43.33**	**272**	*e*P		**P**	**19 15 33.9**	**+0.2**
	4.8nm,0.7s,mb4.0							
WRA	**Warramunga Arr**	**43.33**	**272**	P		**P**	**19 15 34.2**	**+0.4**
	2.5nm,0.4s,mb4.0,baz=109,slow=7.9,SNR=28							
SBA	**Scott Base**	**48.59**	**184**	*e*P		**P**	**19 16 19.5**	**+5.5**
	3.8nm,0.9s,mb3.7							
FITZ	**Fitzroy Crossi**	**51.62**	**270**	P		**P**	**19 16 38.7**	**+1.1**
	4.2nm,1.1s,mb3.8,baz=153,slow=16,SNR=2.7							
CASY	**Casey**	**55.33**	**208**	*e*P		**P**	**19 17 05.5**	**+1.7**
	2.0nm,0.6s,mb3.8							
QSPA	**South Pole Qui**	**60.31**	**180**	P		**P**	**19 17 42.0**	**+3.7**
	3.8nm,0.6s,mb4.2,baz=24,slow=1.6,SNR=38							
QSPA	**South Pole Qui**	**60.31**	**180**	P		**P**	**19 17 42.0**	**+3.7**
MJAR	**Matsushiro Arr**	**77.32**	**326**	P		**P**	**19 19 21.7**	**-2.0**
	2.6nm,0.9s,mb3.9,baz=158,slow=5.4,SNR=13							
MAJO	**Matsushiro**	**77.32**	**326**	P		**P**	**19 19 20.6**	**-3.1**
	4.1nm,0.9s,mb4.1							
SNAA	**Sanae**	**78.78**	**179**	*e*		**P**	**19 19 32.9**	**+1.6**
SNAA				*e*			19 19 34.6	
SNAA				*e*			19 19 37.4	
SNAA	**Sanae**	**78.78**	**179**	*e*P		**P**	**19 19 32.6**	**+1.3**
	2.2nm,0.8s,mb3.8							
VNA3	**Neumayer Olymp**	**78.96**	**176**	*e*		**P**	**19 19 33.9**	**+1.6**
VNA3				*e*			19 19 36.3	
VNA3				*e*			19 19 39.1	
VNA2	**Neumayer--Watz**	**79.38**	**177**	*e*		**P**	**19 19 36.4**	**+1.8**
VNA2				*e*			19 19 39.0	
VNA2				*e*			19 19 41.9	
VNA1	**Neumayer--Stat**	**79.62**	**177**	*e*		**P**	**19 19 38.1**	**+2.2**
VNA1				*e*			19 19 40.6	
VNA1				*e*			19 19 43.4	
ASAJ	**Asahikawa**	**81.56**	**333**	P		**P**	**19 19 46.5**	**+0.1**
	4.9nm,0.7s,mb4.2,baz=210,slow=8.1,SNR=6.7							
KSRS	**Korea Array**	**83.40**	**320**	P		**P**	**19 19 56.5**	**+0.4**
	2.0nm,0.6s,mb4.0,baz=141,slow=5.7,SNR=14							
PLCA	**Paso Flores**	**83.47**	**133**	P		**P**	**19 19 57.7**	**+1.1**
	1.2nm,0.8s,mb3.7,baz=40,slow=17,SNR=2.9							
PLCA	**Paso Flores**	**83.47**	**133**	P		**P**	**19 19 57.7**	**+1.1**
YSS	**Yuzh-Sakhalins**	**83.88**	**335**	P		**P**	**19 19 58.0**	**-0.3**
	22nm,0.9s,mb4.9							
PETK	**Petropavlovsk-**	**85.04**	**346**	P		**P**	**19 20 02.7**	**-1.2**
	6.0nm,0.5s,mb4.6,baz=110,slow=8.3,SNR=24							
CMB	**Columbia Colle**	**86.81**	**42**	P		**P**	**19 20 11.4**	**-1.6**
	2.5nm,0.7s,mb4.0							
NVAR	**Mina Array Bea**	**88.30**	**43**	P		**P**	**19 20 19.0**	**-1.1**
	2.0nm,0.7s,mb4.1,baz=222,slow=8.0,SNR=13							
NVAR	**Mina Array Bea**	**88.30**	**43**	P		**P**	**19 20 19.0**	**-1.1**
TXAR	**Lajitas Array**	**92.69**	**58**	P		**P**	**19 20 39.7**	**-1.0**
	0.2nm,0.6s,mb3.3,baz=187,slow=5.0,SNR=3.9							
PDAR	**Pinedale Array**	**96.21**	**44**	P		**P**	**19 20 53.7**	**-2.8**
	0.3nm,0.7s,mb3.6,baz=207,slow=5.5,SNR=2.9							
MKAR	**Makanchi Array**	**116.81**	**310**	PKP		PKPdf	19 26 09.8	-1.9
	0.5nm,0.4s,baz=222,slow=0.9,SNR=4.7							
ARCES	**ARCESS Array B**	**137.84**	**348**	PKhKP			19 26

comp=Z,6.0nm,0.8s
BRG Berggiesshubel 156.86 339 *e*P PKPab 19 27 51.8 -1.4
comp=Z,6.2nm,1.1s
KHC Kasperske Hory 158.49 337 *e*PKPab PKPab 19 27 59.4 -0.9
GERES GERESS Array B 158.69 337 PKPab PKPab 19 28 00.1 -1.1
comp=Z,1.2nm,0.7s,baz=32,slow=5.2,SNR=13
TORD Torodi Ar. Bea 163.43 182 PKPab PKPab 19 28 23.2 +0.6
comp=Z,2.4nm,0.6s,baz=180,slow=3.0,SNR=25

ISCJB ***18*** *19:10:11.4±0.7,294S±0.1×1788W±0.1,h205km±7km, mb3.7/11,Error ellipse: s-maj=22.9km s-min=17.5km az=44.3*
NEIC ***18*** *19:10:12.8±0.9,2935S×17869W,h209km±8km,mb3.6/1, Error ellipse: s-maj=18.2km s-min=14.9km az=201.0*
IDC ***18*** *19:10:12.1±0.5,2939S×17870W,h203km±5km,mb3.6/10, mb1 3.7/10,mb1mx3.6/16,mbtmp3.6/10,Error ellipse: s-maj=19.6km s-min=16.8km az=177.0*
ISC 18 19:10:12.5±0.7,294S±01×1788W±01,h203km±7km,n23, σ0979/20,mb3.7/11,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.74**	**77**	P	**Pn**	**19 10 41.5**	**+0.4**
	339nm,0.3s,baz=85,slow=9.0,SNR=6.4						
RAO				S	**Sn**	**19 11 02.7**	**-0.4**
	569nm,0.3s,baz=97,slow=21,SNR=5.4						
RAO	**Raoul Island**	**0.74**	**77**	P	**Pn**	**19 10 41.5**	**+0.4**
RAO				S	**Sn**	**19 11 02.7**	**-0.4**
CTA	**Charters Tower**	**33.01**	**278**	P	**P**	**19 16 30.2**	**+1.6**
	2.5nm,0.4s,mb4.1,baz=70,slow=12,SNR=6.1						
CTAO	**Charters Tower**	**33.01**	**278**	*e*P	**P**	**19 16 29.9**	**+1.2**
STKA	**Stephens Creek**	**34.08**	**256**	P	**P**	**19 16 37.3**	**-0.4**
	0.7nm,0.3s,mb3.6,baz=80,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**42.52**	**266**	P	**P**	**19 17 47.1**	**-1.0**
	0.3nm,0.4s,mb3.0,baz=105,slow=7.7,SNR=3.7						
WRA	**Warramunga Arr**	**43.42**	**272**	P	**P**	**19 17 55.3**	**-0.2**
	0.8nm,0.4s,mb3.5,baz=109,slow=7.9,SNR=3.6						
SBA	**Scott Base**	**48.96**	**184**	P	**P**	**19 18 39.3**	**+1.6**
QSPA	**South Pole Qui**	**60.68**	**180**	P	**P**	**19 20 02.6**	**+0.9**
	2.1nm,0.5s,mb4.0,baz=72,slow=1.1,SNR=7.4						
MJAR	**Matsushiro Arr**	**77.07**	**326**	P	**P**	**19 21 42.4**	**-0.8**
	0.6nm,0.5s,mb3.5,baz=168,slow=5.1,SNR=4.5						
SNAA	**Sanae**	**79.14**	**179**	P	**P**	**19 21 52.9**	**-1.2**
	1.1nm,0.8s,mb3.5						
VNA3	**Neumayer Olymp**	**79.32**	**176**	*e*	**P**	**19 21 54.2**	**-0.8**
VNA3				*e*		19 21 56.5	
VNA2	**Neumayer--Watz**	**79.75**	**177**	*e*	**P**	**19 21 56.9**	**-0.4**
VNA2				*e*		19 21 59.3	
VNA1	**Neumayer--Stat**	**79.98**	**177**	*e*	**P**	**19 21 58.4**	**-0.2**
VNA1				*e*		19 22 01.2	
KSRS	**Korea Array**	**83.19**	**320**	P	**P**	**19 22 16.6**	**+0.9**
	0.5nm,0.7s,mb3.4,baz=142,slow=6.5,SNR=4.3						
PLCA	**Paso Flores**	**83.65**	**133**	P	**P**	**19 22 18.4**	**+0.1**
	1.4nm,0.9s,mb3.7,baz=235,slow=5.0,SNR=3.5						
PETK	**Petropavlovsk-**	**84.71**	**346**	P	**P**	**19 22 23.1**	**0.0**
	2.0nm,0.5s,mb4.1,baz=102,slow=8.3,SNR=8.1						
NVAR	**Mina Array Bea**	**87.97**	**43**	P	**P**	**19 22 39.5**	**+0.2**
	1.0nm,0.6s,mb3.8,baz=217,slow=6.7,SNR=6.8						
NOA	**NORSAR Array B**	**147.69**	**351**	PKPbc	PKPbc	19 29 31.1	-1.3
	0.9nm,0.7s,baz=15,slow=4.3,SNR=3.1						
AKASG	**Malin Array Be**	**150.13**	**323**	PKPbc	PKPbc	19 29 37.4	-1.3
	2.7nm,0.6s,baz=45,slow=2.8,SNR=8.8						
AKASG				PKPab	PKPab	19 29 44.7	-0.8
	1.3nm,0.6s,baz=47,slow=3.9,SNR=5.0						
AKASG	**Malin Array Be**	**150.13**	**323**	PKPbc	PKPbc	19 29 37.4	-1.3
AKASG				PKPab	PKPab	19 29 44.7	-0.8
GERES	**GERESS Array B**	**158.39**	**337**	PKPab	PKPab	19 30 19.1	-1.6
	0.1nm,0.3s,baz=46,slow=3.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**163.80**	**182**	PKPab	PKPab	19 30 43.5	-1.5
	1.0nm,0.6s,baz=177,slow=3.2,SNR=9.2						

MAN 18 19:20:53,959N×12478E,h80km,mb3.8,ML2.6,MS2.2, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.55**	**8**	*e*P	Pn	19 21 09.5	+2.4
SCPH	**Surigao**	**0.73**	**75↑**	*e*P	Pn	19 21 11.4	+2.4
SCPH				*e*S	Sn	19 21 20.4	-0.4
BUKP	**Musuan**	**1.72**	**171**	*e*P	Pn	19 21 22.9	+1.7
BESP	**Borongan**	**2.10**	**18**	*e*P	Pn	19 21 27.9	+1.6

ISCJB ***18*** *19:28:19.1±0.5,6077S±009×270W±02,h10km,mb4.3/16, Error ellipse: s-maj=15.4km s-min=8.6km az=43.0*
IDC ***18*** *19:28:20.8±0.8,6043S×2681W,h0km,mb4.2/8,mb1 4.3/8, mb1mx4.1/16,mbtmp4.2/8,MS3.4/2,Ms1 3.4/2, ms1mx3.1/26,Error ellipse: s-maj=27.7km s-min=18.0km az=37.0*
NEIC ***18*** *19:28:25.6±0.5,6042S×2691W,h35km,mb4.4/10,Error ellipse: s-maj=16.6km s-min=10.0km az=197.0*
ISC 18 19:28:21.2±0.5,6073S±009×270W±02,h10km,n25, σ0986/24,mb4.3/16,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.51**	**150**	*e*	**Pn**	**19 31 18.9**	**0.0**
VNA1				*e*		19 31 21.6	
VNA1				*e*		19 31 24.6	
VNA1				*e*		19 32 42.9	
VNA2	**Neumayer--Watz**	**12.91**	**150**	*e*	**Pn**	**19 31 24.5**	**+0.2**
VNA2				*e*		19 31 27.1	
VNA2				*e*		19 31 30.0	
VNA2				*e*		19 32 46.9	
SNAA	**Sanae**	**14.52**	**149**	*e*	**Pn**	**19 31 45.2**	**-1.1**
SNAA				*e*		19 31 48.7	
SNAA				*e*		19 31 50.7	
SNAA	**Sanae**	**14.52**	**149**	Pn	**Pn**	**19 31 45.0**	**-1.3**
	0.2nm,0.3s,baz=315,slow=14,SNR=32						
SNAA				LR	LR	19 35 48.2	
	comp=Z,94nm,19.2s,baz=28,slow=30						
QSPA	**South Pole Qui**	**29.51**	**180**	P	**P**	**19 34 30.4**	**+5.5**
	9.2nm,1.0s,mb4.5,baz=212,slow=4.5,SNR=11						
TRQA	**Tornquist**	**31.53**	**300**	*e*P	**P**	**19 34 43.7**	**+0.5**
	5.1nm,0.7s,mb4.5						
PLCA	**Paso Flores**	**33.22**	**287**	P	**P**	**19 34 58.6**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=90,slow=3.5,SNR=4.6						
PLCA				LR	LR	19 46 50.4	
	comp=Z,76nm,19.7s,baz=161,slow=33						
MAW	**Mawson**	**36.39**	**140**	P	**P**	**19 35 26.2**	**+1.1**
	2.1nm,0.8s,mb4.1,baz=246,slow=12,SNR=5.3						
CFAA	**Coronel Fontan**	**39.71**	**298**	P	**P**	**19 35 53.9**	**+0.5**
	1.5nm,0.7s,mb3.8,baz=157,slow=7.7,SNR=30						
CPUP	**Villa Florida**	**40.12**	**315**	P	**P**	**19 35 56.0**	**-0.8**
	1.1nm,0.3s,mb4.0,baz=144,slow=5.5,SNR=10						
SBA	**Scott Base**	**41.41**	**184**	P	**P**	**19 36 13.2**	**+6.3**
	3.8nm,1.2s,mb3.9						
BOSA	**Boshof**	**47.18**	**71**	P	**P**	**19 36 54.2**	**+0.5**
	1.8nm,0.7s,mb4.1,baz=190,slow=8.0,SNR=5.2						
BOSA	**Boshof**	**47.18**	**71**	*e*P	**P**	**19 36 53.5**	**-0.2**
	12nm,1.5s,mb4.6						
LVC	**Limon Verde**	**47.88**	**304**	*e*P	**P**	**19 36 57.3**	**-1.9**
	9.7nm,0.9s,mb4.8						
LBTB	**Lobatse**	**50.41**	**69**	P	**P**	**19 37 17.8**	**-0.7**
	1.4nm,0.7s,mb4.1						
TSUM	**Tsumeb**	**51.99**	**57**	P	**P**	**19 37 30.3**	**-0.2**
	5.5nm,1.2s,mb4.4						
LPAZ	**La Paz**	**53.27**	**308**	P	**P**	**19 37 41.1**	**+1.2**
	2.1nm,0.5s,mb4.4,baz=162,slow=5.2,SNR=13						
LPAZ	**La Paz**	**53.27**	**308**	*e*P	**P**	**19 37 40.8**	**+0.9**
	6.4nm,0.9s,mb4.5						
LSZ	**Lusaka**	**60.06**	**66**	P	**P**	**19 38 29.4**	**+1.2**
	3.3nm,0.9s,mb4.4						
OTAV	**Otavalo**	**72.40**	**305**	P	**P**	**19 39 48.1**	**+0.8**
	4.1nm,1.0s,mb4.3						
KMBO	**Kilima Mbogo**	**76.66**	**68**	*e*P	**P**	**19 40 12.2**	**+0.1**
TOA0	**Torodi Ar. Sit**	**77.10**	**29**	*e*P	**P**	**19 40 14.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**77.10**	**29**	P	**P**	**19 40 14.4**	**0.0**
	3.1nm,0.5s,mb4.5,baz=199,slow=6.3,SNR=111						
SDV	**Santo Domingo**	**77.43**	**316**	*e*P	**P**	**19 40 14.6**	**-1.8**
	2.2nm,0.5s,mb4.3						
SONM	**Songino Array**	**150.56**	**95**	PKPbc	PKPbc	19 48 12.5	+0.5
	1.0nm,0.8s,baz=202,slow=2.9,SNR=7.1						

ISCJB ***18*** *19:31:33.2±2.2,467N×02×1530E±03,h33km±18km, mb3.6/6,Error ellipse: s-maj=44.1km s-min=14.5km az=136.5*
IDC ***18*** *19:31:35.2±3.1,4653N×15307E,h46km±27km,mb3.4/6, mb1 3.5/9,mb1mx3.3/24,mbtmp3.4/9,ML3.2/3,Error ellipse: s-maj=47.6km s-min=23.2km az=148.0*

MOS ***18*** *19:31:41.4±2.1,4695N×15189E,h54km,mb4.0/4,Error ellipse: s-maj=40.1km s-min=25.6km az=58.1*
ISC 18 19:31:35.8±1.9,466N±02×1530E±03,h44km±16km,n16, σ0973/15,mb3.6/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.18**	**23**	P	**Pn**	**19 33 18.4**	**+0.3**
	0.3nm,0.3s,baz=163,slow=31,SNR=8.9						
ASAJ	**Asahikawa**	**7.74**	**255**	P	**Pn**	**19 33 24.8**	**-1.0**
	0.3nm,0.3s,baz=65,slow=14,SNR=3.4						
MJAR	**Matsushiro Arr**	**14.93**	**233**	P	**Pn**	**19 35 04.6**	**+0.8**
	0.1nm,0.3s,baz=36,slow=8.5,SNR=3.8						
KSRS	**Korea Array**	**20.68**	**253**	P	**P**	**19 36 12.1**	**+0.2**
	0.7nm,0.6s,baz=55,slow=11,SNR=5.2						
KSRS	**Korea Array**	**20.68**	**253**	*e*P	**P**	**19 36 15.6**	**+3.7**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BILL	**Bilibino**	**22.55**	**13**	*e*P	**P**	**19 36 37.1**	**+5.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
MKAR	**Makanchi Array**	**46.94**	**297**	P	**P**	**19 40 00.8**	**-1.0**
	comp=Z,0.2nm,0.2s,mb3.6,baz=46,slow=5.7,SNR=4.1						
MKAR	**Makanchi Array**	**46.94**	**297**	*i* P	**P**	**19 40 02.5**	**+0.7**
NOA	**NORSAR Array B**	**68.34**	**341**	P	**P**	**19 42 32.4**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=29,slow=6.5,SNR=2.8						
NOA	**NORSAR Array B**	**68.34**	**341**	P	**P**	**19 42 32.4**	**+0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MDRS	**Chennai**	**68.78**	**267**	*ex*	x	19 41 29.0	
AKASG	**Malin Array Be**	**71.63**	**326**	P	**P**	**19 42 51.7**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.1,baz=36,slow=6.4,SNR=5.0						
AKASG	**Malin Array Be**	**71.63**	**326**	P	**P**	**19 42 51.7**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**77.63**	**60**	P	**P**	**19 43 26.5**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=303,slow=4.3,SNR=5.3						
TXAR	**Lajitas Array**	**77.63**	**60**	*e*P	**P**	**19 43 26.9**	**-0.5**
GERES	**GERESS Array B**	**78.55**	**334**	P	**P**	**19 43 32.8**	**+0.6**
	comp=Z,0.1nm,0.5s,mb3.0,baz=18,slow=4.8,SNR=3.6						

ISCJB ***18*** *19:38:44.7±0.5,604S±0.1×270W±02,h10km,mb4.3/18, MS3.5/3,Error ellipse: s-maj=16.2km s-min=10.7km az=11.3*
IDC ***18*** *19:38:44.7±0.6,6043S×2696W,h0km,mb4.3/11, mb1 4.3/11,mb1mx4.2/18,mbtmp4.3/11,MS3.3/4, Ms1 3.3/4,ms1mx3.0/26,Error ellipse: s-maj=22.2km s-min=15.4km az=23.0*
NEIC ***18*** *19:38:49.3±0.5,6062S×2695W,h35km,mb4.6/11,Error ellipse: s-maj=16.9km s-min=11.8km az=209.0*
ISC 18 19:38:45.4±0.4,6074S±008×270W±02,h10km,n36, σ1909/32,mb4.3/18,MS3.5/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.50**	**150**	*e*	**Pn**	**19 41 42.1**	**-0.9**
VNA1				*e*		19 41 43.6	
VNA1				*e*		19 41 46.4	
VNA2	**Neumayer--Watz**	**12.89**	**150**	*e*	**Pn**	**19 41 47.9**	**-0.5**
VNA2				*e*		19 41 49.6	
VNA2				*e*		19 41 52.2	
SNAA	**Sanae**	**14.50**	**149**	*e*	**Pn**	**19 42 08.7**	**-1.7**
SNAA				*e*		19 42 10.9	
SNAA				*e*		19 42 13.8	
SNAA	**Sanae**	**14.50**	**149**	Pn	**Pn**	**19 42 08.7**	**-1.6**
	0.4nm,0.3s,baz=317,slow=13,SNR=38						
SNAA				Sn	**Sn**	**19 44 37.2**	**-14**
	0.1nm,0.3s,baz=279,slow=19,SNR=2.6						
SNAA				LR	LR	19 46 34.4	
	comp=Z,50nm,18.9s,baz=18,slow=32						
SNAA	**Sanae**	**14.50**	**149**	*e*Pn	**Pn**	**19 42 08.6**	**-1.7**
SNAA				Sn	**Sn**	**19 44 37.2**	**-14**
SNAA				LR	LR	19 46 34.4	
PMSA	**Palmer Station**	**17.27**	**241**	P	**Pn**	**19 42 52.8**	**+6.6**
USHA	**Ushuaia**	**22.57**	**267**	P	**P**	**19 43 47.2**	**+1.8**
	4.6nm,0.8s,mb4.0,baz=53,slow=10,SNR=1.7						
QSPA	**South Pole Qui**	**29.49**	**180**	P	**P**	**19 44 54.2**	**+5.1**
	5.5nm,0.6s,mb4.5,baz=208,slow=1.5,SNR=16						
TRQA	**Tornquist**	**31.54**	**300**	*e*P	**P**	**19 45 07.6**	**+0.1**
	3.9nm,0.6s,mb4.4						
PLCA	**Paso Flores**	**33.22**	**287**	P	**P**	**19 45 22.4**	**+0.2**
	1.5nm,0.7s,mb4.0,baz=100,slow=7.3,SNR=5.7						
PLCA				LR	LR	19 58 22.8	
	comp=Z,32nm,18.4s,MS3.1,baz=173,slow=36						
MAW	**Mawson**	**36.38**	**140**	P	**P**	**19 45 51.3**	**+2.1**
	5.7nm,1.1s,mb4.4,baz=250,slow=8.9,SNR=5.9						
MAW				LR	LR	19 58 25.1	
	comp=Z,71nm,18.5s,MS3.5,baz=261,slow=32						
MAW	**Mawson**	**36.38**	**140**	*e*P	**P**	**19 45 51.1**	**+1.9**
	16nm,1.3s,mb4.8						
MAW				LR	LR	19 58 25.1	
CFAA	**Coronel Fontan**	**39.71**	**298**	P	**P**	**19 46 17.4**	**-0.3**
	1.6nm,0.6s,mb3.9,baz=165,slow=6.3,SNR=29						
CPUP	**Villa Florida**	**40.13**	**315**	P	**P**	**19 46 19.7**	**-1.4**
	2.8nm,0.6s,mb4.2,baz=131,slow=7.4,SNR=10.0						
CPUP	**Villa Florida**	**40.13**	**315**	*e*P	**P**	**19 46 19.1**	**-2.0**
	17nm,0.7s,mb4.9						
SBA	**Scott Base**	**41.39**	**184**	*e*P	**P**	**19 46 38.4**	**+7.3**
	3.3nm,0.8s,mb4.0						
SUR	**Sutherland**	**41.97**	**70**	P	**P**	**19 46 37.3**	**+1.1**
	3.7nm,0.9s,mb4.0,baz=173,slow=14,SNR=3.8						
BOSA	**Boshof**	**47.19**	**71**	P	**P**	**19 47 19.0**	**+1.0**
	3.1nm,0.6s,mb4.4,baz=208,slow=6.3,SNR=12						
BOSA	**Boshof**	**47.19**	**71**	*e*P	**P**	**19 47 18.6**	**+0.6**
	3.8nm,0.7s,mb4.4						
LVC	**Limon Verde**	**47.89**	**304**	*e*P	**P**	**19 47 23.5**	**+0.1**
	7.8nm,0.8s,mb4.8						
TSUM	**Tsumeb**	**52.00**	**57**	*e*P	**P**	**19 47 55.8**	**+1.0**
	2.6nm,0.7s,mb4.3						
LPAZ	**La Paz**	**53.28**	**308**	P	**P**	**19 48 04.6**	**+0.4**
	3.1nm,0.5s,mb4.5,baz=135,slow=6.1,SNR=29						
LPAZ	**La Paz**	**53.28**	**308**	*e*P	**P**	**19 48 04.4**	**+0.2**
	3.9nm,0.6s,mb4.5						
LSZ	**Lusaka**	**60.07**	**66**	*e*P	**P**	**19 48 52.7**	**+0.2**
	2.6nm,0.8s,mb4.3						
NNA	**Nana**	**60.69**	**301**	P	**P**	**19 49 01.0**	**+4.2**
DBIC	**Dimbokro**	**69.42**	**24**	P	**P**	**19 49 52.8**	**-0.6**
	42nm,1.5s,mb5.2						
TOA0	**Torodi Ar. Sit**	**77.11**	**29**	*e*P	**P**	**19 50 37.7**	**-1.0**
TORD	**Torodi Ar. Bea**	**77.11**	**29**	P	**P**	**19 50 38.0**	**-0.8**
	4.6nm,0.5s,mb4.6,baz=198,slow=6.3,SNR=98						
SDV	**Santo Domingo**	**77.44**	**316**	*e*P	**P**	**19 50 39.0**	**-1.6**
	5.2nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**82.17**	**150**	LR	LR	20 24 12.1	
	comp=Z,41nm,20.1s,MS3.8,baz=111,slow=33						
ASAR	**Alice Springs**	**94.47**	**162**	P	**P**	**19 52 07.3**	**+1.7**
	0.1nm,0.5s,mb3.5,baz=179,slow=3.7,SNR=3.5						
ARCES	**ARCESS Array B**	**135.25**	**23**	PKP	PKPdf	19 58 03.2	-0.1
	1.0nm,0.7s,baz=243,slow=1.0,SNR=4.8						
ARCES	**ARCESS Array B**	**135.25**	**23**	PKP	PKPdf	19 58 03.2	-0.1
ZALV	**Zalesovo Beam**	**144.13**	**70**	PKP	PKPdf	19 58 19.8	-0.1
	0.7nm,0.4s,baz=248,slow=2.7,SNR=3.0						
SONM	**Songino Array**	**150.56**	**95**	PKPbc	PKPbc	19 58 36.7	+0.5
	1.3nm,0.8s,baz=197,slow=3.1,SNR=9.8						
KSRS	**Korea Array**	**151.81**	**134**	PKPbc	PKPbc	19 58 39.5	+0.1
	0.4nm,0.6s,baz=192,slow=1.6,SNR=5.1						

IDC 18 19:45:36.8±2.0,185N×12596E,h0km,mb3.6/3,mb1 3.8/3, mb1mx3.4/15,mbtmp3.6/3,Error ellipse: s-maj=163.7km s-min=25.4km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.17**	**160**	P	P	19 50 45.1	-0.1
	1.0nm,0.3s,baz=336,slow=11,SNR=22						
ASAR	**Alice Springs**	**26.52**	**164**	P	P	19 51 16.5	+0.3
	0.4nm,0.5s,baz=357,slow=7.5,SNR=18						
MKAR	**Makanchi Array**	**58.66**	**326**	P	P	19 55 35.9	-0.1
	0.3nm,0.4s,baz=112,slow=8.2,SNR=5.0						

ATH ***18*** *19:51:14.9,3773N×2137E,h17km±1km,MD3.6/15,ML3.5*
ISCJB ***18*** *19:51:15.2±0.5,3772N±002×2142E±003,h4km±4km, Error ellipse: s-maj=5.0km s-min=3.1km az=135.7*
NEIC ***18*** *19:51:15.0,3774N×2136E,h20km,ML3.5(ATH), ML3.5(THE),After ATH.*
THE ***18*** *19:51:15.0,3767N×2141E,h0km,ML3.5*
CSEM ***18*** *19:51:16.4±0.1,3775N×2140E,h8km,ML3.5,Error ellipse: s-maj=3.5km s-min=2.2km az=38.0*
ISC 18 19:51:15.9±0.5,3771N±003×2140E±003,h7km±4km,n39, σ0998/63,1C,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.35**	**8↑**	*i*PB	**Pg**	**19 51 22.0**	**-0.7**
RLS				*e*SB	**Sg**	**19 51 27.5**	**+0.2**
RLS	**Riolos of Patr**	**0.35**	**8**	*i* Pb	**Pg**	**19 51 22.0**	**-0.7**
RLS				*e*Sb	**Sg**	**19 51 28.1**	**+0.8**
KFL	**Anninata**	**0.63**	**309**	*e*Pg	**Pg**	**19 51 28.1**	**+0.1**
KFL				*e*Sg	**Sg**	**19 51 37.3**	**+1.1**
ITM	**Ithomi**	**0.68**	**142**	*e*PB	**Pg**	**19 51 27.9**	**-1.0**
ITM				*e*SN	**Sg**	**19 51 38.6**	**+0.9**
ITM	**Ithomi**	**0.68**	**142**	*e*Sn	**Sg**	**19 51 39.4**	**+1.7**
ITM	**Ithomi**	**0.68**	**142**	*e*Pb	**Pg**	**19 51 27.9**	**-1.0**
ITM				*e*Sn	**Sg**	**19 51 39.4**	**+1.7**
VLS	**Valsamata**	**0.79**	**306**	*e*Pg	**Pg**	**19 51 30.0**	**-1.2**
VLS				*e*Sg	**Sg**	**19 51 43.7**	**+2.2**
VLS	**Valsamata**	**0.79**	**306**	*e*Pn	**Pg**	**19 51 30.1**	**-1.0**
VLS				*e*Sn	**Sg**	**19 51 40.3**	**-1.1**
VLX	**Vlachokerasia**	**0.85**	**113**	*e*Pg	**Pg**	**19 51 31.1**	**-1.2**
VLX				*e*Sg	**Sg**	**19 51 43.5**	**+0.3**
VLX	**Vlachokerasia**	**0.85**	**113**	*e*Pg	**Pg**	**19 51 31.0**	**-1.2**
VLX				*e*Sg	**Sg**	**19 51 43.5**	**+0.3**
LKD	**Levkas**	**1.16**	**329**	*e*Pg	**Pn**	**19 51 36.0**	**-2.5**
LKD				*e*Sg	**Sg**	**19 51 55.1**	**+2.0**
LTK	**Loutraki**	**1.28**	**76**	*e*Pg	**Pn**	**19 51 38.7**	**-1.5**
LTK				*e*Sg	**Sg**	**19 51 58.2**	**+1.3**
DID	**Didima**	**1.47**	**98**	*e*Pg	**Pn**	**19 51 41.5**	**-1.3**
DID				*e*Sg	**Sg**	**19 52 02.4**	**-0.8**
AGG	**Agios Georgios**	**1.50**	**29**	*e*Pg	**Pn**	**19 51 42.7**	**-0.5**
AGG				*e*Sg	**Sg**	**19 52 04.3**	**+0.2**
LKR	**Lokris**	**1.57**	**53**	*e*Pg	**Pn**	**19 51 43.4**	**-0.8**
LKR				*e*Sg	**Sg**	**19 52 05.2**	**-1.1**
LKR	**Lokris**	**1.57**	**53**	*e*PB	**Pn**	**19 51 43.2**	**-1.0**
LKR				*e*SN	**Sn**	**19 52 04.8**	**+0.1**
LKR	**Lokris**	**1.57**	**53**	*e*Pg	**Pn**	**19 51 43.4**	**-0.8**
LKR				*e*Sn	**Sn**	**19 52 04.8**	**+0.1**
LKR				*e*Sg	**Sg**	**19 52 05.2**	**-1.1**
VLI	**Veliai**	**1.58**	**129**	*e*PN	**Pn**	**19 51 45.0**	**+0.7**
VLI				*e*SN	**Sn**	**19 52 06.7**	**+1.8**
NAIG	**Nisos Aigina**	**1.66**	**88**	*e*PN	**Pn**	**19 51 46.0**	**+0.6**
ATH	**Athens Observa**	**1.85**	**81**	*e*PN	**Pn**	**19 51 48.0**	**-0.1**
KVR	**Kavouri**	**1.88**	**86**	*e*PN	**Pn**	**19 51 49.0**	**+0.5**
THL	**Klokotos Trika**	**1.91**	**14**	*e*Pb	**Pn**	**19 51 49.0**	**+0.1**
THL				*e*Sb	**Sb**	**19 52 16.0**	**+0.9**
THL	**Klokotos Trika**	**1.91**	**14**	*e*PN	**Pn**	**19 51 48.9**	**0.0**
THL				*e*SN	**Sn**	**19 52 13.0**	**-0.2**
THL	**Klokotos Trika**	**1.91**	**14**	*e*Pn	**Pn**	**19 51 48.9**	**0.0**
THL				*e*Sn	**Sn**	**19 52 12.0**	**-1.2**
KYTH	**Kithira**	**1.94**	**137**	*e*PN	**Pn**	**19 51 50.2**	**+0.9**
PTL	**Penteli**	**1.98**	**79**	*e*PN	**Pn**	**19 51 50.5**	**+0.7**
JAN	**Janina**	**1.99**	**348**	*e*PN	**Pn**	**19 51 49.1**	**-0.8**
JAN	**Janina**	**1.99**	**348**	*e*Pb	**Pn**	**19 51 48.1**	**-1.8**
IGT	**Igoumenitsa**	**2.00**	**336**	*e*Pn	**Pn**	**19 51 50.1**	**0.0**
IGT				*e*Sn	**Sn**	**19 52 20.9**	**+5.5**
MEV	**Metsovon**	**2.07**	**356**	*e*Pn	**Pn**	**19 51 51.4**	**+0.2**
MEV	**Metsovon**	**2.07**	**356**	*e*Pn	**Pn**	**19 51 51.3**	**+0.2**
NEO	**Neokhori**	**2.14**	**41**	*e*PN	**Pn**	**19 51 52.0**	**0.0**
NEO	**Neokhori**	**2.14**	**41**	*e*Pb	**Pn**	**19 51 51.0**	**-1.0**
XOR	**Xorichti**	**2.17**	**40**	*e*Pn	**Pn**	**19 51 52.0**	**-0.4**
KEK	**Kerkira**	**2.36**	**328**	*e*PN	**Pn**	**19 51 55.1**	**+0.1**
AOS	**Alonnisos**	**2.43**	**52**	*e*Pn	**Pn**	**19 51 55.5**	**-0.6**
AOS				*e*Sn	**Sn**	**19 52 27.6**	**+1.7**
LIT	**Litokhoron**	**2.53**	**19**	*e*Pn	**Pn**	**19 51 58.5**	**+1.1**
KZN	**Kozani**	**2.61**	**6**	*e*PN	**Pn**	**19 51 58.1**	**-0.3**
KARN	**Karanos**	**3.07**	**138**	*e*Pn	**Pn**	**19 52 04.6**	**-0.3**
KARN				*e*Sn	**Sn**	**19 52 41.6**	**-0.1**

IDC ***18*** *20:01:31.9±0.8,1394S×7681W,h0km,mb4.1/9, mb1 4.2/15,mb1mx4.1/23,mbtmp4.0/15,ML3.5/5,MS3.7/8, Ms1 3.7/8,ms1mx3.4/23,Error ellipse: s-maj=28.2km s-min=13.0km az=66.0*
ISCJB ***18*

DUG					pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5							
DUG	**Dugway**	**63.42**	**330**	*e*P		**P**	**20 12 03.6**	**+0.1**
	comp=Z,4.3nm,0.9s,mb4.6							
HWUT	**Hardware Ranch**	**63.92**	**331**	*e*P		**P**	**20 12 07.6**	**+0.7**
	comp=Z,5.1nm,1.0s,mb4.5							
HWUT				*e*			20 12 12.7	
PDAR	**Pinedale Array**	**63.95**	**334**	P		**P**	**20 12 07.8**	**+0.9**
	comp=Z,0.8nm,0.9s,mb3.8,baz=146,slow=8.2,SNR=4.1							
NVAR	**Mina Array Bea**	**65.01**	**325**	P		**P**	**20 12 15.1**	**+1.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=156,slow=6.7,SNR=7.3							
RRI2	**Red Ridge**	**65.19**	**333**	*e*P		**P**	**20 12 16.1**	**+1.1**
	comp=Z,5.3nm,1.0s,mb4.5							
ULM	**Lac du Bonnet**	**66.05**	**347**	P		**P**	**20 12 19.9**	**-0.6**
	comp=Z,6.6nm,0.9s,mb4.7,baz=155,slow=6.4,SNR=6.8							
ULM	**Lac du Bonnet**	**66.05**	**347**	*e*P		**P**	**20 12 18.9**	**-1.5**
	comp=Z,9.6nm,1.1s,mb4.7							
ULM				*e*			20 12 35.2	
HLID	**Hailey**	**66.77**	**331**	P		**P**	**20 12 25.4**	**+0.2**
	comp=Z,1.9nm,0.9s,mb4.1							
BOZ	**Bozeman (W)**	**67.15**	**334**	*e*P		**P**	**20 12 29.5**	**+1.9**
SCHQ	**Schefferville**	**68.94**	**6**	LR		LR	20 44 21.8	
	comp=Z,92nm,20.4s,MS4.0,baz=97,slow=37							
VNA2	**Neumayer--Watz**	**70.23**	**161**	*e*P		**P**	**20 12 48.0**	**+1.5**
VNA2				*e*			20 13 02.7	
WALA	**Waterton Lakes**	**70.80**	**335**	P		**P**	**20 12 47.9**	**-2.3**
	comp=Z,3.8nm,1.0s,mb4.3							
NEW	**Newport**	**71.56**	**333**	*e*P		**P**	**20 12 55.7**	**+0.9**
NEW					pmax	pmax		
	comp=Z,4.0nm,1.1s							
NEW	**Newport**	**71.56**	**333**	*e*P		**P**	**20 12 55.7**	**+0.9**
	comp=Z,3.8nm,1.1s,mb4.2							
SNAA	**Sanae**	**71.83**	**161**	*e*P		**P**	**20 12 56.8**	**+0.6**
SNAA				*e*			20 13 12.4	
DBIC	**Dimbokro**	**74.10**	**79**	LR		LR	20 45 27.1	
	comp=Z,102nm,18.5s,MS4.1,baz=166,slow=36							
YKA	**Yellowknife Ar**	**81.69**	**343**	P		**P**	**20 13 50.8**	**-0.9**
	comp=Z,1.5nm,0.7s,mb4.0,baz=135,slow=5.5,SNR=5.3							
TORD	**Torodi Ar. Bea**	**82.11**	**74**	P		**P**	**20 13 55.6**	**+0.5**
	comp=Z,3.0nm,1.0s,mb4.2,baz=262,slow=4.8,SNR=18							
WRA	**Warramunga Arr**	**134.62**	**223**	PKP		PKPdf	20 20 52.5	-0.6
	comp=Z,0.8nm,0.7s,baz=122,slow=1.9,SNR=4.2							
ZALV	**Zalesovo Beam**	**137.44**	**16**	PKP		PKPdf	20 20 57.5	+0.2
	comp=Z,0.6nm,0.4s,baz=328,slow=5.1,SNR=4.6							
ZALV	**Zalesovo Beam**	**137.44**	**16**	PKP		PKPdf	20 20 57.5	+0.2
ZAL	**Zalesovo**	**137.44**	**16**	PKIKP		PKPdf	20 20 57.5	+0.3
SONM	**Songino Array**	**146.05**	**356**	PKPbc		PKPbc	20 21 13.7	+0.1
	comp=Z,0.1nm,0.3s,baz=307,slow=1.0,SNR=4.0							
WMQ	**Urumqi**	**147.28**	**21**	PKP		PKPdf	20 21 13.3	-1.7
KSRS	**Korea Array**	**147.91**	**321**	PKPbc		PKPbc	20 21 17.2	-2.0
	comp=Z,2.8nm,1.1s,baz=32,slow=1.8,SNR=14							
HHC	**Hu-ho-hao-te**	**152.19**	**347**	*e*PKP		PKPdf	20 21 21.3	-1.6
HHC				APKP			20 21 31.9	
HHC				XPKP			20 21 35.4	
HHC				PKS			20 24 52.9	
HHC				PP		PP	20 25 13.1	+2.9
HHC				SKS		SKSdf	20 28 23.4	-4.3
HHC				SKKS		SKKSac	20 31 55.1	-4.0
HHC				SS		SS	20 44 35.1	-0.3
HHC				LR		LR		
	comp=N,123nm,21.4s,MS4.8							
HHC				LR		LR		
	comp=E,94nm,20.2s,MS4.8							
HHC				LR		LR		
	comp=Z,87nm,21.4s,MS4.5							
LZH	**Lanzhou**	**157.88**	**359**	*e*PKP		PKPdf	20 21 29.0	-1.8
LZH				APKP			20 21 40.3	
LZH				XPKP			20 21 44.1	
LZH				LR		LR		
	comp=E,106nm,18.3s							
LZH				LR		LR		
	comp=Z,175nm,20.5s,MS4.9							
CD2	**Chengdu**	**163.04**	**359**	*e*PKP		PKPdf	20 21 34.0	-2.6
GYA	**Guiyang**	**167.10**	**347**	*e*PKP		PKPdf	20 21 38.1	-2.1
GYA				XPKP			20 21 54.8	
GYA				PKP2		PKPab	20 22 44.9	+0.7
GYA				PKS			20 25 10.4	
GYA				PP		PP	20 26 33.9	+2.9
GYA				PP		PP		
	comp=Z,70nm,8.4s							

IDC 18 20:22:08.6±2.5, 611S×15144E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/19, Error ellipse: s-maj=85.1km s-min=28.4km az=102.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.78**	**199**	LR	LR	20 29 51.8	
	comp=Z,60nm,19.4s,baz=224,slow=31						
WRA	**Warramunga Arr**	**21.57**	**229**	P		P	20 27 00.5	+0.6
	2.6nm,0.8s,baz=54,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**24.28**	**222**	P		P	20 27 28.1	+0.3
	3.4nm,0.7s,baz=56,slow=9.4,SNR=42						
STKA	**Stephens Creek**	**27.24**	**199**	P		P	20 27 54.2	-0.2
	0.9nm,0.5s,baz=1.3,slow=11,SNR=4.0						
FITZ	**Fitzroy Crossi**	**27.86**	**242**	*e*P		P	20 28 06.6	+6.4
	5.8nm,0.4s						
SONM	**Songino Array**	**66.72**	**329**	P		P	20 33 02.2	+0.7
	0.4nm,0.6s,baz=133,slow=6.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**149.39**	**285**	PKPbc		PKPbc	20 41 59.5	-1.2
	0.9nm,0.5s,baz=84,slow=2.0,SNR=14						

JMA 18 20:37:06.4±0.1, 2470N×12275E, h92km±1km
TAP 18 20:37:06.0, 2456N×12265E, h103km, ML3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.34**	**107**	P		Pn	20 37 20.3	-0.8
YOJ				S		Sn	20 37 30.7	-1.7
IRIF	**Iriomote-Funau**	**1.01**	**103**	P		Pn	20 37 25.8	-0.9
IRIF				S		Sn	20 37 40.4	-1.9
HATJ	**Hateruma jima**	**1.17**	**115**	S		Sn	20 37 44.6	-0.8
JKRS	**Kuro-shima**	**1.28**	**104**	P		Pn	20 37 29.4	-0.3
JKRS				S		Sn	20 37 46.2	-1.5
JIJ	**Ishigaki jima**	**1.37**	**98**	P		Pn	20 37 30.0	-0.9
JIJ				S		Sn	20 37 47.2	-2.5
JTJ	**Tarama**	**1.87**	**87**	P		Pn	20 37 36.4	-0.6
JTJ				S		Sn	20 37 58.3	-2.3
JMJ	**Miyako jima 2**	**2.42**	**83**	S		Sn	20 38 11.1	-2.2

IDC 18 20:52:34.5±2.7, 1491S×7640W, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.6/19, mbtmp3.9/4, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/32, Error ellipse: s-maj=74.7km s-min=25.6km az=58.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.93**	**351**	Pn		Pn	20 53 22.6	+0.2
	2.5nm,0.3s,baz=169,slow=10,SNR=7.0						
NNA				Sn		Sn	20 53 59.0	+0.6
	39nm,0.3s,baz=218,slow=19,SNR=7.3						
LPAZ	**La Paz**	**8.08**	**101**	Pn		Pn	20 54 35.6	+2.5
	0.9nm,0.3s,baz=286,slow=7.9,SNR=22						
LVC	**Limon Verde**	**10.44**	**138**	Pn		Pn	20 55 05.3	-0.2
	1.5nm,0.3s,baz=314,slow=12,SNR=12						
LVC				LR		LR	20 58 01.2	
	comp=Z,55nm,18.5s,baz=36,slow=31							
TORD	**Torodi Ar. Bea**	**82.15**	**74**	P		P	21 04 56.8	-1.0
	1.3nm,0.9s,baz=242,slow=3.4,SNR=5.8							
SONM	**Songino Array**	**147.09**	**357**	PKPbc		PKPbc	21 12 19.9	+0.5
	0.5nm,0.8s,baz=0.0,slow=3.6,SNR=3.9							

ISCJB 18 20:52:56.1±0.8, 5390N±003×16135E±008, h17km±7km, Error ellipse: s-maj=9.2km s-min=3.2km az=30.0
KRSC 18 20:52:56.4±0.1, 5390N×16132E, h24km±23km, ML4.1
MOS 18 20:52:57.2±1.4, 5391N×16139E, h33km, mb4.2/1, Error ellipse: s-maj=24.5km s-min=10.9km az=72.0
ISC 18 20:52:56.3±0.9, 5388N±004×16133E±010, h14km±6km, n27, σ0§93/51, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.71**	**19**	*e*P		**Pg**	**20 53 09.5**	**-0.7**
MKZ				*i* S		**Sg**	**20 53 18.8**	**-0.8**
SPN	**Mys Shipunski**	**1.11**	**225**	*e*P		**Pb**	**20 53 16.0**	**-1.3**
SPN				*i* S		**Sb**	**20 53 30.1**	**-1.5**
KII	**Karymskiy**	**1.12**	**279**	P		**Pb**	**20 53 16.8**	**-0.7**
KII				*i* S		**Sb**	**20 53 31.5**	**-0.5**
NLC	**Nalytchevo**	**1.39**	**240**	*e*P		**Pn**	**20 53 20.2**	**-1.0**
NLC				*i* S		**Sn**	**20 53 37.4**	**-1.9**
TUMR	**Tumrok**	**1.56**	**334**	*e*P		**Pn**	**20 53 23.5**	**-0.2**
TUMR				*i* S		**Sn**	**20 53 43.2**	**-0.5**
AVH	**Avacha**	**1.67**	**249**	*e*P		**Pn**	**20 53 25.3**	**+0.2**
AVH				*i* S		**Sn**	**20 53 46.5**	**+0.3**
PET	**Petropavlovsk**	**1.82**	**243**	*e*PN		**Pn**	**20 53 26.5**	**-0.7**
PET				*e*S		**Sn**	**20 53 49.2**	**-0.8**
PET				pmax	pmax			
	comp=Z,60nm,0.3s							
PET				smax				
	comp=E,806nm,0.4s							
PET				smax				
	comp=E,700nm,0.4s							
PET	**Petropavlovsk**	**1.82**	**243**	*e*P		**Pn**	**20 53 27.0**	**-0.2**
PET				*i* S		**Sn**	**20 53 49.2**	**-0.8**
KMNR	**Kamenistaya**	**1.98**	**342**	*e*P		**Pn**	**20 53 30.4**	**+1.0**
KMNR				*i* S		**Sn**	**20 53 56.2**	**+2.2**
GNL	**Ganaly**	**2.02**	**266**	*e*P		**Pn**	**20 53 30.8**	**+0.9**
GNL				*i* S		**Sn**	**20 53 55.7**	**+0.7**
BZMR	**Bezymyannaya**	**2.11**	**347**	*e*P		**Pn**	**20 53 32.0**	**+0.8**
BZMR				*e*S		**Sn**	**20 53 57.4**	**+0.2**
KIRR	**Kirishev**	**2.15**	**345**	*e*P		**Pn**	**20 53 32.7**	**+1.0**
KIRR				*i* S		**Sn**	**20 53 59.9**	**+1.7**
ZLN	**Zelenaya**	**2.16**	**352**	*e*P		**Pn**	**20 53 32.3**	**+0.4**
ZLN				*i* S		**Sn**	**20 53 57.5**	**-0.9**
KPT	**Kopyto**	**2.18**	**343**	*e*P		**Pn**	**20 53 32.9**	**+0.7**
RUS	**Russkaya**	**2.23**	**231**	*e*P		**Pn**	**20 53 33.9**	**+1.0**
RUS				*i* S		**Sn**	**20 54 00.6**	**+0.4**
KOZ	**Kozyrevsk**	**2.34**	**339**	*e*P		**Pn**	**20 53 34.9**	**+0.6**
KOZ				*i* S		**Sn**	**20 54 02.8**	**+0.1**
KOZR	**Kozyr**	**2.34**	**340**	PN		**Pn**	**20 53 34.9**	**+0.6**
KOZR				S		**Sn**	**20 54 02.8**	**0.0**
GRL	**Gorelyy**	**2.37**	**237**	*e*P		**Pn**	**20 53 36.0**	**+1.3**
KRSR	**Krestovskiy**	**2.38**	**350**	*e*P		**Pn**	**20 53 35.2**	**+0.3**
KRSR				*i* S		**Sn**	**20 54 03.9**	**+0.1**
KLY	**Klyuchi**	**2.47**	**351**	*e*P		**Pn**	**20 53 35.2**	**-0.9**
KLY				*i* S		**Sn**	**20 54 03.7**	**-2.2**
KBTR	**Krutoberegovo**	**2.48**	**20**	*e*P		**Pn**	**20 53 36.4**	**+0.1**
KBTR				*i* S		**Sn**	**20 54 04.6**	**-1.7**
SRDR	**Sredinnyy**	**2.61**	**340**	*e*P		**Pn**	**20 53 38.4**	**+0.4**
SRDR				*i* S		**Sn**	**20 54 08.8**	**-0.7**
BDR	**Baidarnaya**	**2.69**	**359**	*e*P		**Pn**	**20 53 39.7**	**+0.5**
BDR				*i* S		**Sn**	**20 54 11.3**	**-0.2**
SMKR	**Semkarok**	**2.71**	**2**	*e*P		**Pn**	**20 53 39.9**	**+0.6**
SMKR				*i* S		**Sn**	**20 54 11.6**	**-0.2**
SRKR	**Sorokina**	**2.78**	**358**	*e*P		**Pn**	**20 53 40.7**	**+0.4**
SRKR				*i* S		**Sn**	**20 54 12.3**	**-1.3**
MIPR	**Malaya Ipel'ka**	**3.19**	**242**	*e*P		**Pn**	**20 53 47.7**	**+1.6**
SKR	**Severo-Kuril's**	**4.53**	**227**	*e*PN		**Pn**	**20 54 08.8**	**+4.4**
SKR				*e*S		**Sn**	**20 55 05.1**	**+8.3**
SKR				smax				
	comp=N,30nm,0.5s							
SKR				smax				
	comp=E,80nm,0.5s							

IDC 18 21:20:29.7±1.3, 5201N×9605E, h0km, mb3.7/3, mb1 3.7/6, mb1mx3.4/26, mbtmp3.6/6, ML3.3/3, MS3.4/3, Ms1 3.4/3, ms1mx2.6/37, Error ellipse: s-maj=24.4km s-min=16.8km az=11.0
NEIC 18 21:20:31.4±0.8, 5202N×9610E, h10km, Error ellipse: s-maj=20.7km s-min=10.4km az=202.0
MOS 18 21:20:31.8±2.1, 5204N×9555E, h9km, mb3.8/1, Error ellipse: s-maj=15.2km s-min=12.0km az=37.5
ISCJB 18 21:20:32.3±0.6, 5200N±008×9556E±007, h10km, mb3.7/3, MS3.8/2, Error ellipse: s-maj=11.5km s-min=6.1km az=7.2
ASRS 18 21:20:33.9±0.8, 5183N×9561E, h15km, Ms3.1
ISC 18 21:20:34.1±0.6, 5204N±008×9551E±006, h10km, n29, σ1§45/32, mb3.7/3, MS3.8/2, 2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**1.44**	**232**	*i* PG		**Pg**	**21 21 01.9**	**+0.1**
BLRR	**Bol'shaya Rech**	**2.13**	**299**	*e*PN		**Pn**	**21 21 11.0**	**+1.2**
BLRR				*e*			21 21 13.6	
BLRR							21 21 42.2	
BLRR				*e*			21 21 45.3	
CERR	**Cheremushki**	**2.64**	**290**	*i* Pg		**Pg**	**21 21 24.7**	**+0.1**
CERR				*i* Sg		**Sg**	**21 22 00.2**	**+1.4**
ABNR	**Abakan**	**2.99**	**306**	*e*PN		**Pn**	**21 21 21.1**	**-0.5**
KRAR	**Krasnoyarsk**	**4.28**	**340**	*e*PN		**Pn**	**21 21 39.7**	**+0.5**
TASR	**Tashtagol**	**4.73**	**282**	*e*Pg		**Pg**	**21 22 01.2**	**-3.4**
TASR				*e*Sg		**Sg**	**21 23 04.0**	**-1.8**
TLY	**Talaya**	**5.05**	**91**	*e*PN		**Pn**	**21 21 48.9**	**-1.0**
ZAK	**Zakamensk**	**5.16**	**106**	*e*PN		**Pn**	**21 21 57.2**	**+5.9**
ZAK				*e*			21 23 02.5	
ZAK				pmax	pmax			
	comp=Z,14nm,0.8s							
ZAK				smax				
	comp=N,310nm,0.9s							
AKAR	**Aktash**	**5.25**	**254**	*e*Sg		**Sg**	**21 23 17.8**	**-4.8**
ELT	**Yel'tsovka**	**5.78**	**286**	*e*Sg		**Sg**	**21 23 37.3**	**-2.1**
ZAA0	**Zalesovo Array**	**6.73**	**291**	*e*Pn		**Pn**	**21 22 15.9**	**+3.0**
ZALV	**Zalesovo Beam**	**6.73**	**291**	Pn		**Pn**	**21 22 15.2**	**+2.2**
	comp=N,0.6nm,0.3s,baz=104,slow=13,SNR=7.5							
ZALV				Sn		**Sn**	**21 23 35.2**	**+5.6**
	comp=N,1.0nm,0.3s,baz=106,slow=21,SNR=7.9							
ZALV				Lg			21 24 10.0	
	comp=N,4.2nm,0.3s,baz=101,slow=24,SNR=7.4							
ZALV	**Zalesovo Beam**	**6.73**	**291**	Pn		**Pn**	**21 22 15.2**	**+2.2**
ZALV				Sn		**Sn**	**21 23 35.2**	**+5.6**
ZAL	**Zalesovo**	**6.74**	**291**	PN		**Pn**	**21 22 15.2**	**+2.1**
ZAL							21 23 35.2	
UKR	**Ust'-Kan**	**6.80**	**265**	*e*Pg		**Pg**	**21 22 37.5**	**-6.7**
SONM	**Songino Array**	**8.18**	**117**	Pn		**Pn**	**21 22 26.1**	**-6.8**
	comp=N,0.0nm,0.3s,baz=299,slow=18,SNR=2.5							
SONM				Pg		Pn	21 22 53.7	+21
	comp=N,0.4nm,0.3s,baz=312,slow=17,SNR=10							
SONM				Lg			21 24 38.1	
	comp=N,1.8nm,0.3s,baz=306,slow=30,SNR=12							
MKAR	**Makanchi Array**	**10.08**	**244**	Pn		**Pn**	**21 23 00.1**	**+1.2**
	comp=N,0.2nm,0.3s,baz=55,slow=13,SNR=8.8							
MKAR				Lg			21 25 57.4	
	comp=N,0.3nm,0.3s,baz=56,slow=32,SNR=3.7							
MKAR	**Makanchi Array**	**10.08**	**244**	Pn		**Pn**	**21 23 00.1**	**+1.2**
KURK	**Kurchatov**	**10.64**	**270**	*i* P		**Pn**	**21 23 07.2**	**+0.7**
BVAR	**Borovoye Array**	**15.30**	**284**	Pn		**Pn**	**21 24 07.5**	**-2.5**
	comp=N,0.2nm,0.3s,baz=83,slow=14,SNR=2.8							
BVAR				LR		LR	21 29 34.4	
	comp=N,19nm,20.9s,baz=2.7,slow=35							
BRVK	**Borovoye**	**15.36**	**284**	*e*P		**Pn**	**21 24 08.7**	**-2.0**
HIA	**Hailar**	**15.60**	**91**	*e*P		**Pn**	**21 24 12.6**	**-1.2**
AKTK	**Aktyubinsk**	**23.36**	**281**	P		**P**	**21 25 43.3**	**+0.7**
AKTO	**Aktyubinsk**	**23.36**	**281**	P		**P**	**21 25 43.3**	**+0.7**
	comp=N,1.1nm,0.7s,mb3.4,baz=75,slow=14,SNR=4.2							
TIXI	**Tiksi**	**24.59**	**25**	*i* P		**P**	**21 25 55.3**	**+1.5**
ARCES	**ARCESS Array B**	**35.86**	**326**	P		**P**	**21 27 32.1**	**-1.4**
	comp=N,4.1nm,1.1s,mb4.3,baz=82,slow=8.6,SNR=5.6							
ARCES				LR		LR	21 43 45.6	
	comp=N,44nm,21.1s,MS3.2,baz=343,slow=39							
NOA	**NORSAR Array B**	**44.21**	**316**	P		**P**	**21 28 41.8**	**-1.0**
	comp=N,0.8nm,0.7s,mb3.6,baz=61,slow=7.8,SNR=3.3							
NOA	**NORSAR Array B**	**44.21**	**316**	P		**P**	**21 28 41.8**	**-1.0**
KMBO	**Kilima Mbogo**	**71.97**	**243**	LR		LR	22 05 42.2	
	comp=N,201nm,18.9s,MS4.4,baz=95,slow=38							

IDC 18 21:32:43.5±1.7, 4639N×15362E, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.4/24, mbtmp3.6/5, ML3.3/3, MS3.6/1, Ms1 3.6/1, ms1mx2.4/31, Error ellipse: s-maj=71.9km s-min=24.0km az=151.0
MOS 18 21:32:46.8±1.1, 4625N×15355E, h33km, mb4.1/1, Error ellipse: s-maj=64.4km s-min=29.1km az=48.9
ISCJB 18 21:32:47.4±1.8, 4624N±002×1534E±02, h46km±21km, Error ellipse: s-maj=42.2km s-min=9.7km az=144.4
ISC 18 21:32:49.0±1.5, 4624N±02×1536E±02, h41km±19km, n24, σ1§19/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.83**	**20**	*e*PN		**Pn**	**21 33 57.9**	**-1.2**
NEM2	**Nemuro 2**	**6.22**	**246**	P		**Pn**	**21 34 18.4**	**+0.2**
NEM2				*e*S		**Sn**	**21 35 25.6**	**-2.4**
JRA	**Rausu**	**6.37**	**253**	P		**Pn**	**21 34 22.2**	**+1.9**
JNK	**Nakash**	**6.79**	**251**	P		**Pn**	**21 34 27.0**	**+1.1**
JNK				*e*S		**Sn**	**21 35 41.2**	**-0.6**
JAK	**Akkeshi**	**7.07**	**247**	P		**Pn**	**21 34 29.5**	**-0.3**
JAK				*e*S		**Sn**	**21 35 45.1**	**-3.8**
PETK	**Petropavlovsk-**	**7.45**	**20**	Pn		**Pn**	**21 34 30.6**	**-4.5**
	0.2nm,0.3s,baz=178,slow=13,SNR=5.1							
JAR	**Ashorobuto**	**7.53**	**251**	P		**Pn**	**21 34 37.2**	**+1.0**
JAR				*e*S		**Sn**	**21 36 01.0**	**+0.8**
JOB	**Onbets**	**7.67**	**248**	P		**Pn**	**21 34 38.6**	**+0.6**
JKK2	**Kamakawa 2**	**7.99**	**257**	P		**Pn**	**21 34 43.5**	**+1.1**
ASAJ	**Asahikawa**	**8.01**	**259**	Pn		**Pn**	**21 34 44.2**	**+1.5**
	0.5nm,0.3s,baz=88,slow=20,SNR=4.8							
ASAJ	**Asahikawa**	**8.01**	**259**	PN		**Pn**	**21 34 44.3**	**+1.6**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
JCH	**Churui**	**8.12**	**248**	P		**Pn**	**21 34 44.3**	**+0.2**
JCH				*e*S		**Sn**	**21 36 10.4**	**-4.1**
JFR	**Furan**	**8.37**	**253**	P		**Pn**	**21 34 49.2**	**+1.6**
JNBK	**Urakawa-nobuka**	**8.67**	**247**	P		**Pn**	**21 34 51.1**	**-0.7**
JKB	**Kayabe**	**9.98**	**249**	P		**Pn**	**21 35 08.0**	**-1.7**
JKB				*e*S		**Sn**	**21 36 52.0**	**-8.2**
JYM2	**Yakumo 2**	**10.30**	**252**	P		**Pn**	**21 35 12.9**	**-1.2**
JANG	**Nango**	**10.51**	**241**	P		**Pn**	**21 35 15.1**	**-1.8**
JANG				*e*S		**Sn**	**21 37 04.7**	**-8.6**
JRG	**Rokugo**	**11.65**	**239**	P		**Pn**	**21 35 31.7**	**-0.8**
MJAR	**Matsushiro Arr**	**14.98**	**236**	Pn		**Pn**	**21 36 19.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=45,slow=12,SNR=3.5							
KSRS	**Korea Array**	**20.92**	**255**	P		**P**	**21 37 27.7**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=50,slow=11,SNR=4.9							
KSRS	**Korea Array**	**20.92**	**255**	P		**P**	**21 37 27.7**	**-0.2**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BBB	**Bella Bella**	**49.23**	**53**	LR		LR	22 02 56.3	
	comp=Z,55nm,18.0s,baz=251,slow=37							
TXAR	**Lajitas Array**	**77.52**	**61**	P		**P**	**21 44 40.5**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=299,slow=5.1,SNR=9.8							
TXAR	**Lajitas Array**	**77.52**	**61**	*e*P		**P**	**21 44 40.4**	**0.0**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							

NEIC 18 21:33:46.9, 17.11N×9973W, h49km, MD3.9(MEX), After MEX.
MEX 18 21:33:46.6±0.9, 1711N×9973W, h51km±11km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.30**	**218**	*i* P		Pn	21 33 53.7	-2.1
ACX				*i* S		Sn	21 34 00.5	-1.9
CAIG	**El Cayaco**	**0.52**	**264**	*i* P		Pn	21 33 57.0	-1.2
CAIG				*i* S		Sn	21 34 05.6	-0.9
PLIG	**Platanillo**	**1.30**	**9**	*i* P		Pn	21 34 06.7	-1.7
PLIG				*i* S		Sn	21 34 22.9	-1.7
PNIG	**Pinotepa**	**1.69**	**115**	*e*P		Pn	21 34 12.8	-0.9
PNIG				*i* S		Sn	21 34 32.9	-1.2
ZIIG	**Zihuatanejo**	**1.73**	**287**	*i* P		Pn	21 34 12.4	-1.9
ZIIG				*i* S		Sn	21 34 33.6	-1.7
YAIG	**Yautepec**	**1.85**	**20**	*i* P		Pn	21 34 14.6	-1.4
YAIG				*i* S		Sn	21 34 37.2	-1.1
UTMO	**Huajuapan**	**1.97**	**68**	*i* P		Pn	21 34 16.4	-1.1
UTMO				*i* S		Sn	21 34 39.2	-1.9
PPM	**Popocatepetl**	**2.21**	**28**	*e*P		Pn	21 34 19.2	-1.6
PPM				*i* S		Sn	21 34 46.2	-0.8
PPM	**Popocatepetl**	**2.21**	**28**	*i* P		Pn	21 34 18.6	-2.3
PPM				*i* S		Sn	21 34 47.2	+0.2
TPIG	**Tehuac#an**	**2.60**	**60**	*i* S		Sn	21 34 55.4	-1.3
VHO	**Vista Hermosa**	**2.86**	**90**	*i* P		Pn	21 34 33.6	+3.8
VHO				*i* S		Sn	21 35 07.2	+4.2
VHO	**Vista Hermosa**	**2.86**	**90**	*i* P		Pn	21 34 33.6	+3.8
VHO				*i* S		Sn	21 35 08.9	+5.9
MMIG	**Aquila**	**3.65**	**289**	*i* S		Sn	21 35 20.8	-1.5
EZ5V		**4.38**	**303**	*e*P		Pn	21 35 01.6	+11
R15V		**4.54**	**298**	*i* P		Pn	21 34 51.6	-1.1
R15V				*i* S		Sn	21 35 51.8	+7.5

IDC 18 21:39:04.1±12.0, 682S×12851E, h121km±122km, mb3.5/2, mb1 3.3/4, mb1mx3.1/14, mbtmp3.2/4, ML3.5/2, Error ellipse: s-maj=274.1km s-min=40.7km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.22**	**157**	P		Pn	21 42 19.9	-0.1
	0.2nm,0.3s,baz=334,slow=13,SNR=9.

SONM Songino Array 51.39 301 P **P** **21 57 12.4 -0.5**
0.5nm,0.4s,mb3.8,baz=53,slow=6.4,SNR=9.2
TXAR Lajitas Array 52.73 89 P **P** **21 57 23.4 +0.2**
0.5nm,0.6s,mb3.6,baz=304,slow=4.9,SNR=9.5
ZALV Zalesovo Beam 57.54 318 P **P** **21 57 56.2 -1.3**
0.7nm,0.6s,mb3.9,baz=38,slow=7.3,SNR=3.7
ARCES ARCESS Array B 58.06 354 P **P** **21 58 00.0 -1.0**
1.1nm,0.5s,mb4.2,baz=17,slow=9.5,SNR=14
MKAR Makanchi Array 63.92 313 P **P** **21 58 40.0 -1.0**
0.4nm,0.4s,mb3.8,baz=35,slow=7.0,SNR=5.6
JOF Joensuu 64.05 350 *ep* **P** **21 58 40.6 -1.1**
0.9nm,0.4s,mb4.2
KAF Kangasniemi 65.33 352 *ep* **P** **21 58 49.0 -1.0**
0.8nm,0.5s,mb4.0
NB2 NORSAR Subarra 67.08 360 P **P** **21 59 00.4 -0.9**
comp=Z,1.8nm,0.6s,mb4.3,baz=0.9,slow=6.5
NOA NORSAR Array B 67.08 360 P **P** **21 59 00.1 -1.1**
comp=Z,1.4nm,0.6s,mb4.2,baz=360,slow=6.3,SNR=8.7
AKASG Malin Array Be 76.25 348 P **P** **21 59 55.4 -1.2**
comp=Z,2.0nm,0.5s,mb4.3,baz=16,slow=5.8,SNR=8.2
CMAR Chiang Mai Arr 76.67 283 P **P** **21 59 59.8 +0.2**
comp=Z,1.1nm,0.7s,mb3.9,baz=33,slow=6.2,SNR=9.2
CLL Collm 76.82 358 *eP* **P** **22 00 00.0 +0.2**
BAIF Baives 77.94 4 *eP* **P** **22 00 06.0 -0.1**
FLN La Foliniere 78.94 7 *eP* **P** **22 00 11.9 +0.2**
LDF La Druitiere 79.13 7 *eP* **P** **22 00 12.0 -0.7**
GERES GERESS Array B 79.27 358 P **P** **22 00 13.7 +0.2**
comp=Z,0.4nm,0.6s,mb3.5,baz=15,slow=5.5,SNR=7.1
HINF Hinterzarten 80.28 3 *eP* **P** **22 00 18.6 -0.4**
comp=Z,1.8nm,0.5s,mb4.0
LOR Lormes 80.71 5 *eP* **P** **22 00 21.3 0.0**
SSF Saint Saulge 80.90 5 *eP* **P** **22 00 22.4 +0.1**
AVF Avril sur Loir 81.16 5 *eP* **P** **22 00 23.5 -0.2**
comp=Z,7.9nm,0.9s,mb4.3
SMF Signal de Mont 81.33 5 *eP* **P** **22 00 24.5 -0.1**
CABF La Chapelle 81.46 3 *eP* **P** **22 00 25.9 +0.6**
RJF Les Rejaudoux 82.53 7 *eP* **P** **22 00 31.3 +0.4**
comp=Z,4.9nm,0.8s,mb4.3
LFF La Frestale 82.83 7 *eP* **P** **22 00 32.6 +0.1**
comp=Z,6.9nm,0.8s,mb4.5
ORIF Oris-en-Rattie 83.14 3 *eP* **P** **22 00 34.8 +0.7**
comp=Z,6.0nm,0.9s,mb4.3
VIVF Saint-Julien-l 83.16 4 *eP* **P** **22 00 34.6 +0.4**
comp=Z,5.1nm,0.8s,mb4.3
MBDF Montbardon 83.36 3 *eP* **P** **22 00 35.8 +0.5**
comp=Z,13nm,1.1s,mb4.6
LASF Ste Croix 83.89 5 *eP* **P** **22 00 38.7 +0.7**
SJPF Ste Jean 84.48 9 *eP* **P** **22 00 41.8 +0.8**
comp=Z,5.0nm,0.7s,mb4.5
MTLF Montolieu 84.53 6 *eP* **P** **22 00 41.7 +0.4**
comp=Z,2.8nm,0.6s,mb4.3
EPF Esparros 84.70 8 *eP* **P** **22 00 41.8 -0.3**
comp=Z,3.8nm,0.7s,mb4.3
ETSF Etsaut 84.75 8 *eP* **P** **22 00 43.2 +0.8**
comp=Z,5.8nm,0.7s,mb4.5
PGF Pioggiola 85.59 1 *eP* **P** **22 00 46.9 +0.3**
comp=Z,22nm,0.9s,mb5.1
WRA Warramunga Arr 86.94 232 P **P** **22 00 51.9 -1.4**
comp=Z,0.4nm,0.8s,mb3.7,baz=34,slow=6.0,SNR=3.1
ESDC Sonseca Array 87.59 11 P **P** **22 00 56.2 -0.3**
comp=Z,0.3nm,0.5s,mb3.8,baz=350,slow=5.3,SNR=4.9
ASAR Alice Springs 90.32 230 P **P** **22 01 09.5 +0.2**
comp=Z,0.4nm,0.8s,mb3.8,baz=23,slow=5.2,SNR=3.8

*NEIC **18** 21:56:43.5±4.5, 2943S×17629W, h35km, Error ellipse: s-maj=138.0km s-min=45.0km az=204.0*
IDC 18 21:56:52.2±5.6, 2988S×17735W, h41km±38km, mb3.8/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=52.7km s-min=38.6km az=129.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.80**	**322**	P		Pn	21 57 07.0	0.0
	266nm,0.3s,baz=322,slow=19,SNR=4.5							
RAO				S		Sn	21 57 18.8	+1.1
	572nm,0.3s,baz=258,slow=23,SNR=7.4							
RAO	**Raoul Island**	**0.80**	**322**	P		Pn	21 57 07.0	0.0
RAO				S		Sn	21 57 18.8	+1.1
STKA	**Stephens Creek**	**35.14**	**256**	P		P	22 03 42.4	+0.4
	1.5nm,0.7s,baz=92,slow=11,SNR=6.0							
ASAR	**Alice Springs**	**43.70**	**266**	P		P	22 04 53.6	+0.2
	0.4nm,0.4s,baz=106,slow=7.3,SNR=10							
WB2	**Warramunga Arr**	**44.63**	**271**	*eP*		P	22 05 01.3	+0.4
WB2	**Warramunga Arr**	**44.63**	**271**	*eP*		P	22 04 59.9	-0.9
WRA	**Warramunga Arr**	**44.64**	**271**	P		P	22 05 00.1	-0.9
	1.6nm,0.4s,baz=110,slow=8.0,SNR=23							
AKASG	**Malin Array Be**	**151.22**	**324**	PKPbc		PKPbc	22 16 41.1	+0.4
	0.1nm,0.3s,baz=37,slow=3.4,SNR=2.6							
AKASG				PKPab		PKPab	22 16 47.6	-1.1
	0.2nm,0.3s,baz=51,slow=3.1,SNR=4.7							

NEIC 18 21:59:11.7±0.5, 4371N×10514W, h0km, ML3.5, 1C, Error ellipse: s-maj=5.6km s-min=5.3km az=169.0, Suspected Mining explosion., Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.89**	**63**	↑*i*Pg		Pg	21 59 30.2	+1.4
PHWY	**Pilot Hill**	**2.42**	**186**	*e*Pn		Pn	21 59 52.4	-0.1
PHWY				*e*S		Sn	22 00 25.0	+2.2
RWWY	**Rawlins**	**2.54**	**218**	*e*Pn		Pn	21 59 54.5	+0.5
RWWY				*e*Sn		Sn	22 00 24.4	-1.1
LAO	**LASA Array**	**3.07**	**346**	*e*Pn		Pn	22 00 03.0	+1.6
LAO				*e*Sn		Sn	22 00 39.5	+0.6
RLMT	**Red Lodge**	**3.28**	**297**	*e*Pn		Pn	22 00 03.1	-1.2
RLMT				*e*Sn		Sn	22 00 44.5	+0.6
BW06	**Boulder Array**	**3.37**	**255**	*e*Pn		Pn	22 00 04.4	-1.1
BW06				*e*Sn		Sn	22 00 45.8	-0.2
LKWY	**Lake**	**3.88**	**284**	*e*Pn		Pn	22 00 13.7	+1.1
LKWY				*e*Sn		Sn	22 00 58.2	-0.6
LKWY				*e*Sg		Sg	22 01 21.9	+5.5
ISCO	**Idaho Springs**	**3.93**	**185**	*e*Pn		Pn	22 00 13.7	+0.5
ISCO				*e*			22 01 13.5	
LOHW	**Long Hollow**	**3.97**	**270**	*e*Pn		Pn	22 00 14.6	+0.8
FLWY	**Flagg Ranch**	**4.04**	**277**	*e*Pn		Pn	22 00 15.2	+0.5
FLWY				*e*Sn		Sn	22 01 04.8	+2.2
FLWY				*e*Sg		Sg	22 01 22.1	+0.8
MOOW	**Moose Ponds**	**4.07**	**272**	*e*Pn		Pn	22 00 15.5	+0.4
MOOW				*e*Pg		Pg	22 00 31.3	+1.7
MOOW				*e*Sg		Sg	22 01 23.1	+0.9
SNOW	**Snow King Moun**	**4.09**	**268**	*e*Pn		Pn	22 00 16.9	+1.5
SNOW				*e*Pg		Pg	22 00 31.4	+1.4
SNOW				*e*Sn		Sn	22 01 04.2	+0.2
YNR	**Norris Junctio**	**4.11**	**286**	*e*Pg		Pg	22 00 30.1	-0.2
REDW	**Red Top Meadow**	**4.17**	**267**	*e*Pn		Pn	22 00 16.5	0.0
REDW				*e*			22 00 26.1	
REDW				*e*Sg		Sg	22 01 27.0	+1.4
YFT	**Old Faithful**	**4.17**	**282**	*e*Pg		Pg	22 00 34.1	+2.5
IMW	**Indian Meadow**	**4.20**	**275**	*e*Pn		Pn	22 00 17.4	+0.5
IMW				*e*Sg		Sg	22 01 27.6	+1.0
TPAW	**Teton Pass**	**4.23**	**269**	*e*Pn		Pn	22 00 16.8	-0.5
TPAW				*e*Sn		Sn	22 01 08.4	+1.0
DCID1	**Drake Creek**	**4.39**	**271**	*e*Pn		Pn	22 00 18.1	-1.4
DCID1				*e*Pg		Pg	22 00 36.4	+0.6
DCID1				*e*Sn		Sn	22 01 08.7	-2.6
AHID	**Auburn Hatcher**	**4.46**	**260**	*e*Pn		Pn	22 00 20.6	+0.1
RRI2	**Red Ridge**	**4.51**	**267**	*e*Pn		Pn	22 00 20.4	-0.7
RRI2				*e*			22 00 32.2	
RRI2				*e*S		Sn	22 01 32.2	+18
QLMT	**Earthquake Lak**	**4.66**	**286**	*e*Pn		Pn	22 00 24.0	+0.8
QLMT				*e*Sg		Sg	22 01 40.7	-0.4
DGMT	**Dagmar**	**4.80**	**8**	*e*Pn		Pn	22 00 26.6	+1.4
BOZ	**Bozeman (W)**	**5.02**	**295**	*e*Pn		Pn	22 00 29.8	+1.6
HWUT	**Hardware Ranch**	**5.19**	**248**	*e*Pn		Pn	22 00 30.6	+0.1
EGMT	**Eagleton**	**5.38**	**325**	*e*Pn		Pn	22 00 34.5	+1.3
LRM	**Limekiln Ridge**	**5.62**	**295**	*e*Pn		Pn	22 00 36.3	0.0
LRM				*e*Sb		Sb	22 02 01.5	+3.1
DAU	**Daniels Canyon**	**5.62**	**236**	*e*Pn		Pn	22 00 36.5	0.0
JLU	**Jordanelle**	**5.63**	**239**	*e*Pn		Pn	22 00 35.7	-0.8
SDCO	**Great Sand Dun**	**5.97**	**183**	*e*Pn		Pn	22 00 41.7	+0.5
SDCO				*e*S		Sn	22 02 16.6	+26
MPU	**Maple Canyon**	**6.10**	**235**	*e*Pg		Pg	22 01 07.8	-0.6
SRU	**San Rafael**	**6.13**	**223**	*e*Pn		Pn	22 00 43.3	-0.1
ECSD	**EROS,Sioux Fal**	**6.18**	**87**	*e*Pn		Pn	22 00 45.1	+1.0
ECSD				*e*Sg		Sg	22 02 32.0	+2.0
TMUT	**Trail Mountain**	**6.34**	**228**	*e*Pn		Pn	22 00 46.6	+0.2
TMUT				*e*Sn		Sn	22 01 58.2	-1.2
TMUT				*e*Sg		Sg	22 02 34.3	-1.0
CBKS	**Cedar Bluff**	**6.36**	**138**	*e*Pg		Pg	22 01 13.4	-0.1
NLU	**North Lily Min**	**6.40**	**236**	*e*Pg		Pg	22 01 13.6	-0.6
CHMT	**Chamberlain Mo**	**6.56**	**302**	*e*Pn		Pn	22 00 49.1	-0.1
DUG	**Dugway**	**6.71**	**241**	*e*Pn		Pn	22 00 50.6	-0.8
HLID	**Hailey**	**6.73**	**272**	*e*Pn		Pn	22 00 52.8	+1.0
MSO	**Missoula**	**6.95**	**300**	*e*Pn		Pn	22 00 54.7	0.0
MVCO	**Mesa Verde**	**6.98**	**203**	*e*Pn		Pn	22 00 56.8	+1.7
MSU	**Marysvale**	**7.43**	**228**	*e*Pn		Pn	22 01 01.2	-0.1
AGMN	**Agassiz Refuge**	**7.92**	**51**	*e*Pg		Pg	22 01 39.2	-4.1
WALA	**Waterton Lakes**	**8.08**	**314**	*e*Pg		Pg	22 01 42.4	-4.0
WALA				*e*Sb		Sb	22 03 19.5	+10
WUAZ	**Wupatki**	**9.49**	**213**	*e*Pn		Pn	22 01 29.0	-0.6

*ISCJB **18** 22:09:53.3±0.8, 3671N±004×757W±004, h72km±6km, Error ellipse: s-maj=7.4km s-min=4.0km az=29.3*
*NEIC **18** 22:09:53.7, 3659N×770W, h50km, MG3.9(MDD), After MDD.*
*CSEM **18** 22:09:53.3±0.3, 3668N×741W, h15km, ML3.0/5, Error ellipse: s-maj=6.8km s-min=3.0km az=31.0*
*MDD **18** 22:09:54.4±0.9, 3660N×765W, h49km±17km, mb3.4/15, Error ellipse: s-maj=9.9km s-min=5.1km az=23.0, PRIMO*
*INMG **18** 22:09:54.4±1.1, 3661N×764W, h22km±2km, ML1.9, Error ellipse: s-maj=4.3km s-min=1.8km az=42.0*
ISC 18 22:09:54.5±0.8, 3669N±004×758W±004, h58km±9km, n55, σ0°69/97, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.62**	**333**	*e*P		**Pn**	**22 10 07.3**	**-0.3**
PBDV				*e*S		**Sn**	**22 10 16.4**	**-0.7**
PBDV				A			22 10 17.4	
	24nm,0.2s							
PBDV	**Barranco-do-Ve**	**0.62**	**333**	*e*P		**Pn**	**22 10 07.3**	**-0.3**
PBDV				*e*S		**Sn**	**22 10 16.4**	**-0.7**
	24nm,0.2s							
PVAQ	**Vaqueiros**	**0.72**	**351**	*e*P		**Pn**	**22 10 08.8**	**0.0**
PVAQ				*e*S		**Sn**	**22 10 19.2**	**-0.1**
PVAQ				A			22 10 20.4	
	57nm,0.1s							
PVAQ	**Vaqueiros**	**0.72**	**351**	*e*P		**Pn**	**22 10 08.8**	**0.0**
PVAQ				*e*S		**Sn**	**22 10 19.2**	**-0.1**
	57nm,0.1s							
ERIP	**Rio Piedras**	**0.73**	**21**	⇑P		**Pn**	**22 10 09.1**	**+0.2**
	13nm,0.1s,SNR=18							
ERIP				S		**Sn**	**22 10 19.6**	**+0.1**
	94nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**0.84**	**5**	P		**Pn**	**22 10 10.7**	**+0.3**
	2.0nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**22 10 22.6**	**+0.6**
	12nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**0.84**	**5**	P		**Pn**	**22 10 10.7**	**+0.3**
	2.0nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**22 10 22.6**	**+0.5**
	12nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**1.09**	**294**	*e*S		**Sn**	**22 10 26.5**	**-1.4**
PTEO	**Sao Teotonio**	**1.25**	**313**	*e*P		**Pn**	**22 10 15.7**	**0.0**
PTEO				*e*S		**Sn**	**22 10 31.2**	**-0.4**
EMIN	**Mina Concepcio**	**1.29**	**34**	P		**Pn**	**22 10 16.4**	**+0.1**
	0.1nm,0.1s,SNR=33							
EMIN				S		**Sn**	**22 10 33.1**	**+0.5**
	3.3nm,0.1s,SNR=5.5							
EMIN	**Mina Concepcio**	**1.29**	**34**	P		**Pn**	**22 10 16.4**	**+0.1**
	0.1nm,0.1s,SNR=33							
EMIN				S		**Sn**	**22 10 33.1**	**+0.5**
	3.3nm,0.1s,SNR=5.5							
PBEJ	**Beja**	**1.35**	**350**	*e*S		**Sn**	**22 10 34.8**	**+0.8**
PBEJ				A			22 10 35.3	
	6.7nm,0.3s							
PBEJ	**Beja**	**1.35**	**350**	*e*S		**Sn**	**22 10 34.8**	**+0.8**
	6.7nm,0.3s							
ESPR	**Espera**	**1.39**	**82**	P		**Pn**	**22 10 17.4**	**-0.2**
	3.4nm,0.1s,SNR=28							
ESPR				S		**Sn**	**22 10 35.0**	**0.0**
	2.4nm,0.1s,SNR=5.0							
ESPR	**Espera**	**1.39**	**82**	P		**Pn**	**22 10 17.4**	**-0.3**
	3.4nm,0.1s,SNR=28							
ESPR				S		**Sn**	**22 10 35.0**	**0.0**
	2.4nm,0.1s,SNR=5.0							
PBAR	**Barrancos**	**1.54**	**16**	*e*P		**Pn**	**22 10 20.3**	**+0.7**
PBAR				A			22 10 46.7	
	5.8nm,0.1s							
PBAR	**Barrancos**	**1.54**	**16**	*e*P		**Pn**	**22 10 20.3**	**+0.7**
	5.8nm,0.1s							
EVO	**Evora**	**1.87**	**349**	*e*Sn		**Sn**	**22 10 46.9**	**+0.4**
EVO				A			22 10 48.0	
	10nm,0.2s							
EVO	**Evora**	**1.87**	**349**	*e*Sn		**Sn**	**22 10 46.9**	**+0.4**
	10nm,0.2s							
MOE	**Montemor**	**1.93**	**342**	*e*Sn		**Sn**	**22 10 48.5**	**+0.5**
EBAD	**Badajoz**	**2.11**	**12**	P		**Pn**	**22 10 27.8**	**+0.5**
	0.3nm,0.1s,SNR=11							
EBAD				S		**Sn**	**22 10 52.1**	**-0.2**
	0.7nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**2.11**	**12**	P		**Pn**	**22 10 27.8**	**+0.5**
	0.3nm,0.1s,SNR=11							
EBAD				S		**Sn**	**22 10 52.1**	**-0.3**
	0.7nm,0.1s,SNR=7.9							
PESTR	**Estremoz**	**2.17**	**360**	*e*Pn		**Pn**	**22 10 28.8**	**+0.6**
PESTR				*e*Sn		**Sn**	**22 10 54.3**	**+0.4**
PESTR				A			22 10 55.8	
	2.8nm,0.2s							
PESTR	**Estremoz**	**2.17**	**360**	*e*Pn		**Pn**	**22 10 28.8**	**+0.6**
PESTR				*e*Sn		**Sn**	**22 10 54.3**	**+0.4**
	2.8nm,0.2s							
ECAB	**El Cabril**	**2.21**	**51**	P		**Pn**	**22 10 29.2**	**+0.5**
	1.1nm,0.1s,SNR=7.9							
ECAB				S		**Sn**	**22 10 54.7**	**0.0**
	0.8nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**2.21**	**51**	P		**Pn**	**22 10 29.2**	**+0.5**
	1.1nm,0.1s,SNR=7.9							
ECAB				S		**Sn**	**22 10 54.8**	**0.0**
EMIJ	**Mijas**	**2.26**	**92**	P		**Pn**	**22 10 29.7**	**+0.2**
	0.1nm,0.1s,SNR=4.0							
EMIJ				S		**Sn**	**22 10 55.5**	**-0.7**
	0.3nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**2.73**	**3**	*e*Pn		**Pn**	**22 10 36.6**	**+0.7**
PMRV				*e*Sn		**Sn**	**22 11 07.6**	**-0.1**
PMRV				A			22 11 09.5	
	4.2nm,0.2s							
PMRV	**Marv??o**	**2.73**	**3**	*e*Pn		**Pn**	**22 10 36.6**	**+0.7**
PMRV				*e*Sn		**Sn**	**22 11 07.6**	**-0.1**
	4.2nm,0.2s							
ELOJ	**Sierra Loja**	**2.78**	**80**	P		**Pn**	**22 10 36.5**	**0.0**
	0.1nm,0.1s,SNR=7.9							
ELOJ				S		**Sn**	**22 11 09.2**	**+0.3**
	0.2nm,0.1s,SNR=7.9							
ELUQ	**Luque**	**2.78**	**71**	S		**Sn**	**22 11 09.4**	**+0.4**
	0.9nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**2.81**	**57**	P		**Pn**	**22 10 37.3**	**+0.4**
	1.9nm,0.2s,SNR=20							
EADA				S		**Sn**	**22 11 10.1**	**+0.7**
	1.0nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**2.81**	**57**	P		**Pn**	**22 10 37.3**	**+0.4**
	1.9nm,0.2s,SNR=20							
EADA				S		**Sn**	**22 11 10.1**	**+0.6**
	1.0nm,0.1s,SNR=7.9							
PTOM	**Tomar**	**2.99**	**348**	*e*Sn		**Sn**	**22 11 13.7**	**-0.4**
PTOM				A			22 11 16.9	
	5.1nm,0.5s							
PTOM	**Tomar**	**2.99**	**348**	*e*Sn		**Sn**	**22 11 13.7**	**-0.4**
	5.1nm,0.5s							
PCBR	**Castelo Branco**	**3.14**	**1**	*e*Pn		**Pn**	**22 10 42.4**	**+0.9**
PCBR				*e*Sn		**Sn**	**22 11 17.6**	**-0.1**
PCBR				A			22 11 19.8	
	3.9nm,0.1s							
PCBR	**Castelo Branco**	**3.14**	**1**	*e*Pn		**Pn**	**22 10 42.4**	**+0.9**
PCBR				*e*Sn		**Sn**	**22 11 17.6**	**-0.1**
	3.9nm,0.1s							
EQUE	**Quentar**	**3.35**	**80**	Pn		**Pn**	**22 10 43.7**	**-0.7**
	SNR=7.9							
EQUE				S		**Sn**	**22 11 22.5**	**-0.5**
	0.2nm,0.1s,SNR=7.9							
EBAN	**Banos Encina**	**3.36**	**63**	P		**Pn**	**22 10 44.4**	**-0.1**
	1.3nm,0.3s,SNR=6.6							
EBAN				S		**Sn**	**22 11 24.0**	**+1.0**
	1.7nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.76**	**72**	P		**Pn**	**22 10 50.3**	**+0.3**
	0.2nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**22 11 32.7**	**-0.3**
	0.2nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.76**	**72**	P		**Pn**	**22 10 50.3**	**+0.3**
	0.2nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**22 11 32.7**	**-0.3**
	0.2nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**4.12**	**43**	P		**Pn**	**22 10 55.4**	**+0.6**
	0.5nm,0.1s,baz=226,slow=13,SNR=9.5							
ESDC				S		**Sn**	**22 11 41.3**	**-0.4**
	baz=225,slow=24,SNR=7.9							
ESDC	**Sonseca Array**	**4.12**	**43**	P		**Pn**	**22 10 55.4**	**+0.6**
	0.5nm,0.1s,SNR=9.5							
ESDC				S		**Sn**	**22 11 41.3**	**-0.4**
	SNR=7.9							
ESDC	**Sonseca Array**	**4.12**	**43**	P		**Pn**	**22 10 55.4**	**+0.6**
ESDC				S		**Sn**	**22 11 41.3**	**-0.4**
EVIA	**Vianos**	**4.47**	**63**	P		**Pn**	**22 10 58.9**	**-0.8**
	1.5nm,0.1s,SNR=7.9							
EVIA				S		**Sn**	**22 11 48.4**	**-2.0**
	0.6nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**4.49**	**5**	*e*Pn		**Pn**	**22 11 00.5**	**+0.6**
MVO				*e*Sn		**Sn**	**22 11 49.8**	**-0.9**
MVO				A			22 11 52.1	
	3.4nm,0.1s							
MVO	**Moncorvo**	**4.49**	**5**	P		**Pn**	**22 11 00.5**	**+0.6**
MVO				S		**Sn**	**22 11 49.8**	**-0.9**
	1.7nm,0.1s							
ETOB	**Tobarra**	**5.17**	**66**	P		**Pn**	**22 11 08.7**	**-0.5**
	0.2nm,0.1s,SNR=7.4							
ETOB				S		**Sn**	**22 12 04.9**	**-2.5**
	0.3nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**5.17**	**66**	P		**Pn**	**22 11 08.7**	**-0.5**
	0.2nm,0.1s,SNR=7.4							
ETOB				S		**Sn**	**22 12 04.9**	**-2.5**
	0.3nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.18**	**356**	Pn		**Pn**	**22 11 08.7**	**-0.6**
	0.1nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**22 12 05.9**	**-1.9**
	0.2nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**5.28**	**7**	P		**Pn**	**22 11 11.7**	**+0.9**
	0.1nm,0.1s,SNR=7.9							
ECAL				S		**Sn**	**22 12 09.6**	**-0.6**
	0.6nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**5.28**	**7**	P		**Pn**	**22 11 11.7**	**+0.9**
	0.1nm,0.1s,SNR=7.9							
ECAL				S		**Sn**	**22 12 09.6**	**-0.6**
	0.6nm,0.2s,SNR=7.9							
ETOR	**Torete**	**5.97**	**45**	P		**Pn**	**22 11 21.2**	**+1.1**
	2.1nm,0.1s,SNR=6.3							
ETOR				S		**Sn**	**22 12 27.0**	**-0.1**
	0.8nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**6.67**	**55**	P		**Pn**	**22 11 30.8**	**+1.0**
	0.1nm,0.1s,SNR=4.0							
EMOS	**Mosqueruela**	**6.67**	**55**	P		**Pn**	**22 11 30.8**	**+1.1**

MAN 18 22:47:47, 1287N×12493E, h17km, mb3.8, ML2.6, MS2.1, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**0.45**	**216**	*e*P		Pg	22 47 57.5	+1.5
CNP				*e*S		Sg	22 48 05.8	+3.7
PVCP	**Virac**	**1.04**	**314**	*e*P		Pb	22 48 06.4	-0.2
PVCP				*e*S		Sb	22 48 21.6	+1.6
BESP	**Borongan**	**1.36**	**159**	*e*P		Pn	22 48 01.1	-10
PLP	**Palo**	**1.70**	**178**	↓*e*P		Pn	22 48 16.1	+0.2
PLP				*e*S		Sn	22 48 38.8	+1.6
RCP	**Roxas**	**2.50**	**239**	↑*e*P		Pn	22 48 31.9	+4.9
RCP				*e*S		Sn	22 49 02.4	+5.3
GUIM	**Jordan**	**3.20**	**226**	*e*P		Pn	22 48 37.7	+1.1

*IDC **18** 23:35:26.6±1.4, 1018S×1181E, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.8/17, mbtmp3.8/8, ML3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.0/24, Error ellipse: s-maj=51.8km s-min=17.2km az=48.0*
*DJA **18** 23:35:27, 900S×1159E, h0km, ML4.9/3*
*ISCJB **18** 23:35:28.2±0.7, 937S±007×1192E±008, h10km, mb3.8/4, Error ellipse: s-maj=13.7km s-min=6.7km az=137.2*
*NEIC **18** 23:35:33.9±1.0, 924S×1192E, h35km, Error ellipse: s-maj=35.7km s-min=8.1km az=63.0*
ISC 18 23:35:30.2±0.8, 935S±007×1191E±008, h10km, n12, σ1°04/15, mb3.8/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.35**	**8**	*e*Pn		**Pn**	**23 36 35.8**	**-0.6**
BATI	**Baumata**	**4.53**	**101**	Pn		**Pg**	**23 36 48.5**	**-8.6**
	2.1nm,0.3s,baz=277,slow=8.1,SNR=2.3							
BATI				Sn		**Sg**	**23 37 55.9**	**0.0**
	2.7nm,0.3s,baz=6.0,slow=19,SNR=4.7							
FITZ	**Fitzroy Crossi**	**10.74**	**145**	Pn		**Pn**	**23 38 03.6**	**-0.6**
	0.4nm,0.3s,baz=92,slow=18,SNR=5.1							
FITZ				Sn		**Sn**	**23 40 04.2**	**-0.4**
	0.2nm,0.3s,baz=190,slow=19,SNR=3.6							
FITZ				LR		LR	23 42 15.8	
	comp=Z,34nm,19.3s,baz=255,slow=38							
FITZ	**Fitzroy Crossi**	**10.74**	**145**	*e*Pn		**

$M_0$1.87700×10^{17} NP1:$\phi_0$235.00000°, δ36.00000°, λ116.00000°. NP2:$\phi_0$24.00000°, δ58.00000°, λ72.00000°. Principal axes: T 1.7200, Plg71.0000°, Azm252.0000°; N 0.3140, Plg15.0000°, Azm34.0000°; P -2.0350, Plg11.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BJI 19 00:04:31.2, 6040S×2690W, h30km, mB5.5, Ms5.3, Msz5.0

ISC 19 00:04:27.7±0.3, 6052S±006×268W±01, h10km, (h32km±.6km:pP-P), n179, σ1§09/75, mb5.1/28, MS4.9/34, 5C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.66**	**151**	*e*Pn	**Pn**	**00 07 22.4**	**-5.0**
VNA1				*e*		00 07 27.4	
VNA1				*e*S	**Sn**	**00 09 35.2**	**-13**
VNA2	**Neumayer--Watz**	**13.06**	**151**	*e*Pn	**Pn**	**00 07 29.1**	**-3.7**
VNA2				*e*		00 07 34.3	
VNA2				*e*S	**Sn**	**00 09 45.3**	**-13**
SNAA	**Sanae**	**14.66**	**149**	*e*Pn	**Pn**	**00 07 51.0**	**-3.7**
SNAA				*e*		00 07 57.0	
SNAA				*e*S	**Sn**	**00 10 21.2**	**-16**
SNAA	**Sanae**	**14.66**	**149**	Pn	**Pn**	**00 07 50.4**	**-4.3**
	1.2nm,0.3s,baz=315,slow=13,SNR=141						
SNAA				Sn	**Sn**	**00 10 22.0**	**-15**
	0.6nm,0.3s,baz=350,slow=18,SNR=5.9						
SNAA	**Sanae**	**14.66**	**149**	*c i*P	**Pn**	**00 07 52.0**	**-2.7**
PMSA	**Palmer Station**	**17.44**	**240**	P	**Pn**	**00 08 36.0**	**+5.4**
	2.2nm,0.3s,baz=86,slow=9.3,SNR=19						
PMSA				LR	LR	00 14 11.1	
	comp=Z,2μm,21.2s,baz=89,slow=33						
MAIT	**Maitri**	**18.53**	**139**	*e*P	**Pn**	**00 08 41.7**	**-2.3**
MAIT				*e*S	**Sn**	**00 11 55.9**	**-15**
NVL	**N'lazarevskaya**	**18.56**	**139**	*d i*P	**Pn**	**00 08 42.7**	**-1.6**
NVL				*e*S	**Sn**	**00 12 12.0**	**+0.6**
NVL				pmax	pmax		
	comp=Z,67nm,1.1s						
NVL				MLR	MLR		
	comp=N,3μm,11.0s						
NVL				MLR	MLR		
	comp=E,3μm,11.0s						
NVL				MLR	MLR		
	comp=Z,2μm,11.0s						
EFI	**East Falkland**	**19.37**	**283**	*e*P	**Pn**	**00 08 58.5**	**+4.2**
USHA	**Ushuaia**	**22.66**	**266**	P	**P**	**00 09 30.4**	**+1.8**
	comp=Z,12nm,0.8s,mb4.4,baz=93,slow=9.8,SNR=6.5						
USHA				LR	LR	00 15 16.1	
	comp=Z,1μm,21.3s,MS4.3,baz=94,slow=29						
SYO	**Syowa Base**	**28.11**	**136‖**	*e*P	**P**	**00 10 17.5**	**-1.6**
SYO	**Syowa Base**	**28.11**	**136‖**	*e*pP	pP	00 10 20.5	-1.6
SYO	**Syowa Base**	**28.11**	**136‖**	*e*pP	pP	00 10 24.4	+2.3
QSPA	**South Pole Qui**	**29.72**	**180**	P	**P**	**00 10 35.7**	**+2.5**
	comp=Z,53nm,0.8s,mb5.3,baz=209,slow=3.6,SNR=87						
QSPA				S	**S**	**00 15 33.1**	**+4.5**
	comp=Z,1.3nm,0.8s,baz=121,slow=19,SNR=2.3						
QSPA				LR	LR	00 22 02.6	
	comp=Z,2μm,18.2s,MS4.7,baz=191,slow=35						
QSPA	**South Pole Qui**	**29.72**	**180**	P	**P**	**00 10 35.7**	**+2.5**
QSPA				S	**S**	**00 15 33.1**	**+4.5**
QSPA				LR	LR	00 22 02.6	
TRQA	**Tornquist**	**31.49**	**300**	*e*P	**P**	**00 10 49.1**	**-0.1**
	comp=Z,52nm,1.3s,mb5.2						
TRQA				*e*pP	pP	00 10 58.1	+5.8
LPA	**La Plata**	**32.52**	**308**	*c e*P	**P**	**00 10 58.0**	**-0.4**
LPA				*e*PP	PP	00 12 11.0	-0.7
LPA				*e*PCP	PcP	00 13 42.0	-2.8
LPA							
	comp=Z,3μm,19.0s						
PLCA	**Paso Flores**	**33.22**	**287**	P	**P**	**00 11 04.3**	**-0.1**
	comp=Z,4.8nm,0.7s,mb4.6,baz=132,slow=7.4,SNR=16						
PLCA				PcP	PcP	00 13 48.1	+1.4
	comp=Z,2.4nm,0.8s,baz=120,slow=2.4,SNR=3.0						
PLCA				LR	LR	00 23 59.8	
	comp=Z,3μm,19.0s,MS5.0,baz=134,slow=35						
PLCA	**Paso Flores**	**33.22**	**287**	*e*P	**P**	**00 11 04.7**	**+0.3**
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PLCA	**Paso Flores**	**33.22**	**287**	*e*P	**P**	**00 11 04.7**	**+0.3**
	comp=Z,5.5nm,0.7s,mb4.6						
MAW	**Mawson**	**36.51**	**140**	P	**P**	**00 11 32.2**	**-0.2**
	comp=Z,19nm,0.8s,mb5.0,baz=238,slow=8.7,SNR=22						
MAW				S	**S**	**00 17 16.3**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=138,slow=18,SNR=1.6						
MAW				LR	LR	00 24 40.2	
	comp=Z,3μm,19.4s,MS5.1,baz=236,slow=33						
MAW	**Mawson**	**36.51**	**140**	*e*P	**P**	**00 11 31.9**	**-0.6**
MAW				pmax	pmax		
	comp=Z,30nm,0.9s						
MAW	**Mawson**	**36.51**	**140**	*e*P	**P**	**00 11 31.9**	**-0.5**
	comp=Z,30nm,0.9s,mb5.1						
CFAA	**Coronel Fontan**	**39.67**	**298**	P	**P**	**00 11 58.3**	**-1.2**
	comp=Z,7.3nm,0.7s,mb4.5,baz=153,slow=8.5,SNR=70						
CFAA				PcP	PcP	00 14 06.1	0.0
	comp=Z,0.6nm,0.5s,baz=157,slow=2.9,SNR=3.0						
CFAA				S	**S**	**00 18 01.1**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=161,slow=17,SNR=5.8						
CFAA				LR	LR	00 26 43.1	
	comp=Z,217nm,19.6s,MS4.0,baz=177,slow=34						
CFAA				PKP2bc		00 44 55.3	
	comp=Z,0.2nm,0.4s,baz=128,slow=3.2,SNR=6.2						
CFAA	**Coronel Fontan**	**39.67**	**298**	P	**P**	**00 11 58.3**	**-1.2**
CFAA				PcP	PcP	00 14 06.1	0.0
CFAA				S	**S**	**00 18 01.1**	**-1.5**
CFAA				LR	LR	00 26 43.1	
CFAA				⇑*e*		00 44 55.3	
SBA	**Scott Base**	**41.62**	**184**	*e*P	**P**	**00 12 18.0**	**+2.9**
SBA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
SBA	**Scott Base**	**41.62**	**184**	*e*P	**P**	**00 12 18.0**	**+2.8**
	comp=Z,12nm,0.8s,mb4.6						
SUR	**Sutherland**	**41.82**	**70**	P	**P**	**00 12 18.4**	**+1.1**
	comp=Z,26nm,0.8s,mb4.9,baz=201,slow=5.3,SNR=16						
SUR				LR	LR	00 26 51.0	
	comp=Z,696nm,18.8s,MS4.6,baz=181,slow=32						
SUR	**Sutherland**	**41.82**	**70**	*e*P	**P**	**00 12 18.4**	**+1.1**
	comp=Z,21nm,0.7s,mb4.9						
LCO	**Las Campanas**	**42.98**	**297**	*e*P	**P**	**00 12 26.2**	**-0.5**
	comp=Z,53nm,0.8s,mb5.3						
MIR	**Mirnyy**	**45.73**	**151**	‖*i*P	**P**	**00 12 50.0**	**+1.7**
MIR				*i* S	**S**	**00 19 36.0**	**+5.0**
MIR				*i* PS		00 19 54.0	
MIR				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.7						
MIR				MLR	MLR		
	comp=Z,5μm,18.0s,MS5.5						
BOSA	**Boshof**	**47.05**	**71**	P	**P**	**00 12 59.0**	**-0.2**
	comp=Z,32nm,0.8s,mb5.3,baz=214,slow=8.0,SNR=39						
BOSA				PcP	PcP	00 14 32.5	+1.4
	comp=Z,7.3nm,0.8s,baz=189,slow=6.9,SNR=3.5						
BOSA				LR	LR	00 29 05.2	
	comp=Z,826nm,19.7s,MS4.7,baz=212,slow=31						
BOSA	**Boshof**	**47.05**	**71**	*e*P	**P**	**00 12 59.0**	**-0.1**
BOSA				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.3						
BOSA	**Boshof**	**47.05**	**71**	*e*P	**P**	**00 12 59.0**	**-0.1**
	comp=Z,33nm,0.9s,mb5.3						
BDFB	**Brasilia**	**47.38**	**332**	P	**P**	**00 13 01.6**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=154,slow=10.0,SNR=8.8						
BDFB				LR	LR	00 29 49.2	
	comp=Z,900nm,20.8s,MS4.7,baz=328,slow=32						
LVC	**Limon Verde**	**47.82**	**303**	*e*P	**P**	**00 13 04.7**	**-0.4**
CASY	**Casey**	**49.64**	**159**	*e*P	**P**	**00 13 20.6**	**+2.0**
	comp=Z,25nm,1.0s,mb5.2						
TSUM	**Tsumeb**	**51.83**	**57**	*e*P	**P**	**00 13 36.3**	**+0.7**
	comp=Z,39nm,0.9s,mb5.3						
LPAZ	**La Paz**	**53.20**	**308**	P	**P**	**00 13 45.9**	**+0.1**
	comp=Z,18nm,0.5s,mb5.3,baz=124,slow=5.5,SNR=64						
LPAZ				S	**S**	**00 21 16.7**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=63,slow=18,SNR=1.7						
LPAZ				LR	LR	00 36 33.4	
	comp=Z,794nm,18.7s,MS4.8,baz=142,slow=36						
LPAZ	**La Paz**	**53.20**	**308**	*e*P	**P**	**00 13 45.8**	**0.0**
LPAZ				pmax	pmax		
	comp=Z,16nm,0.5s						
LPAZ	**La Paz**	**53.20**	**308**	*e*P	**P**	**00 13 45.8**	**0.0**
	comp=Z,16nm,0.5s,mb5.2						
LSZ	**Lusaka**	**59.92**	**66**	*e*P	**P**	**00 14 34.0**	**+0.4**
LSZ				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
LSZ	**Lusaka**	**59.92**	**66**	*e*P	**P**	**00 14 34.0**	**+0.4**
	comp=Z,32nm,0.9s,mb5.3						
LIC	**Lamto**	**68.72**	**23**	*e*P	**P**	**00 15 31.6**	**+0.3**
	comp=Z,95nm,1.4s,mb5.5						
KIC	**Kosan Boka**	**68.91**	**24**	*e*P	**P**	**00 15 32.9**	**+0.5**
	comp=Z,172nm,1.3s,mb5.8						
TIC	**Toumodi**	**69.13**	**23**	*e*P	**P**	**00 15 34.1**	**+0.3**
	comp=Z,65nm,0.8s,mb5.6						
TIC	**Toumodi**	**69.13**	**23**	*e*P	**P**	**00 15 34.1**	**+0.3**
TIC				pmax	pmax		
	comp=Z,65nm,0.8s,mb5.6						
DBIC	**Dimbokro**	**69.19**	**23**	P	**P**	**00 15 33.7**	**-0.4**
	comp=Z,12nm,0.9s,mb4.9,baz=170,slow=6.2,SNR=11						
DBIC				LR	LR	00 39 23.7	
	comp=Z,484nm,18.6s,MS4.8,baz=72,slow=30						
DBIC	**Dimbokro**	**69.19**	**23**	*e*P	**P**	**00 15 33.9**	**-0.3**
DBIC				*e**PP	pP	00 15 42.9	+5.5
DBIC				*e**SP	sP	00 15 48.0	+9.4
DBIC				pmax	pmax		
	comp=Z,13nm,0.8s						
DBIC	**Dimbokro**	**69.19**	**23**	*e*P	**P**	**00 15 33.9**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9						
DBIC				*e*pP	pP	00 15 42.9	+5.4
DBIC				*e*sP	sP	00 15 48.0	+9.4
OTAV	**Otavalo**	**72.33**	**305**	*e*P	**P**	**00 15 53.9**	**+0.5**
	comp=Z,16nm,0.8s,mb5.0						
ROSC	**El Rosal**	**74.94**	**310**	P	**P**	**00 16 08.4**	**-0.3**
	comp=Z,10nm,0.7s,mb4.9,baz=116,slow=20,SNR=6.6						
ROSC				LR	LR	00 49 17.7	
	comp=Z,850nm,19.7s,MS5.0,baz=199,slow=36						
ROSC	**El Rosal**	**74.94**	**310**	*e*P	**P**	**00 16 08.7**	**+0.1**
ROSC				*e*pP	pP	00 16 18.2	+6.3
KMBO	**Kilima Mbogo**	**76.52**	**68**	LR	LR	00 48 12.9	
	comp=Z,824nm,19.2s,MS5.1,baz=238,slow=34						
TOA0	**Torodi Ar. Sit**	**76.89**	**29**	*e*P	**P**	**00 16 19.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.89**	**29**	P	**P**	**00 16 19.0**	**-0.7**
	comp=Z,55nm,0.8s,mb5.6,baz=199,slow=5.9,SNR=215						
TORD				LR	LR	00 45 46.0	
	comp=Z,559nm,18.2s,MS4.9,baz=175,slow=32						
SDV	**Santo Domingo**	**77.33**	**315**	*e*P	**P**	**00 16 20.8**	**-1.5**
	comp=Z,38nm,0.9s,mb5.3						
SDV				*e*PcP	PcP	00 16 30.8	-1.9
RKT	**Rikitea**	**78.61**	**243**	*e*S	S	00 26 22.5	-3.6
	comp=Z,697nm,29.8s						
RKT	**Rikitea**	**78.61**	**243**	*e*LQ		00 37 41.3	
	comp=Z,1μm,30.0s						
RKT				*e*LR	LR	00 40 55.9	
	comp=Z,779nm,24.0s,baz=154						
MUN	**Mundaring**	**82.98**	**149**	*e*P	**P**	**00 16 53.5**	**+0.8**
TAM	**Tamanrasset**	**87.08**	**30**	*e*P	**P**	**00 17 14.4**	**+1.3**
TAM				*e*PcP	PcP	00 17 16.5	+1.2
STKA	**Stephens Creek**	**87.45**	**170**	*e*P	**P**	**00 17 15.6**	**+0.6**
	comp=Z,4.9nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**87.45**	**170**	P	**P**	**00 17 15.6**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.8,baz=176,slow=9.1,SNR=7.7						
STKA				LR	LR	00 54 04.9	
	comp=Z,1μm,19.9s,MS5.2,baz=190,slow=34						
TGUH	**Tegucigalpa,Un**	**88.45**	**302**	*e*P	**P**	**00 17 19.6**	**-0.2**
	comp=Z,12nm,0.4s,mb5.5						
PPT	**Papeete**	**89.69**	**233**	*e*S	S	00 28 14.3	-2.8
	comp=Z,787nm,25.8s						
PPT	**Papeete**	**89.69**	**233**	*e*LR	LR	00 46 08.4	
	comp=Z,626nm,22.5s,baz=158						
PPT	**Papeete**	**89.69**	**233**	LR	LR	00 51 40.1	
	comp=Z,749nm,18.1s,MS5.2,baz=167,slow=32						
TAOE	**Nuku Hiva Isla**	**93.47**	**245**	*e*SP	SP	00 29 59.2	-5.0
	comp=Z,525nm,24.8s						
TAOE	**Nuku Hiva Isla**	**93.47**	**245**	*e*LR	LR	00 48 04.3	
	comp=Z,2μm,23.8s						
TEIG	**Tepich**	**94.40**	**304**	LR	LR	01 00 01.1	
	comp=Z,317nm,21.5s,MS4.8,baz=179,slow=35						
ASAR	**Alice Springs**	**94.66**	**162**	P	**P**	**00 17 49.0**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.8,baz=188,slow=4.1,SNR=19						
ASAR				PP	PP	00 21 34.5	-1.4
	comp=Z,1.1nm,0.9s,baz=170,slow=8.9,SNR=4.7						
ASAR				PKKPbc	PKKPbc	00 34 43.8	+0.5
	comp=Z,0.4nm,0.8s,baz=19,slow=2.5,SNR=5.1						
ASAR	**Alice Springs**	**94.66**	**162**	P	**P**	**00 17 49.0**	**+0.3**
ASAR						00 21 34.5	
WRA	**Warramunga Arr**	**98.38**	**162**	P	**P**	**00 18 05.3**	**-0.3**
	comp=Z,0.8nm,0.6s,mb4.4,baz=197,slow=3.8,SNR=5.2						
WRA				LR	LR	00 59 48.9	
	comp=Z,1μm,19.9s,MS5.5,baz=185,slow=34						
TXAR	**Lajitas Array**	**108.98**	**296**	PP	PP	00 23 24.4	-0.4
	comp=Z,1.0nm,1.0s,baz=145,slow=4.9,SNR=4.4						
GERES	**GERESS Array B**	**113.83**	**28**	PKiKP	PKiKP	00 23 05.1	-0.1
	comp=Z,0.4nm,0.6s,baz=194,slow=2.0,SNR=6.0						
GERES				PKKPbc	PKKPbc	00 33 48.9	+2.2
	comp=Z,0.2nm,0.7s,baz=1.1,slow=4.9,SNR=3.6						
CLL	**Collm**	**115.98**	**27**	*e*PKIKP	PKPdf	00 23 09.0	-0.3
CLL				MLR	MLR		
	comp=Z,400nm,18.0s,MS5.1						
CLL	**Collm**	**115.98**	**27**	*e*PS	PKKPdf	00 34 06.0	+0.8
CLL				Lm		01 09 00.0	
	comp=N,200nm,18.5s						
CLL				Lm		01 09 00.0	
	comp=E,200nm,20.4s						
CLL				Lm		01 09 00.0	
	comp=Z,400nm,18.0s						
SIM	**Simferopol'**	**116.19**	**44**	*i*PKIKP	PKPdf	00 23 16.5	+6.6
SIM				*e*PS	PS	00 34 02.0	+5.3
KIV	**Kislovodsk**	**118.43**	**50**	*e*PKIKP	PKPdf	00 23 15.3	+1.0
KIV				*e*		00 24 37.8	
KIV				*e*		00 30 19.6	
KIV				*e*SS	SS	00 41 08.4	+20
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PV10	**Paradox Valley**	**118.99**	**297**	*e*PKPdf	PKPdf	00 23 16.6	+1.0
SCHQ	**Schefferville**	**119.32**	**335**	PKP	PKPdf	00 23 16.8	+1.2
	comp=Z,3.8nm,0.8s,baz=249,slow=4.5,SNR=4.7						
GOF	**Gofitskoye**	**119.50**	**50**	*e*P	Pdif	00 19 33.4	-6.3
KIEV	**Kiev**	**119.67**	**37**	*e*PKIKP	PKPdf	00 23 16.9	+0.5
AKASG	**Malin Array Be**	**119.67**	**37**	PKP	PKPdf	00 23 15.7	-0.8
	comp=Z,2.2nm,0.7s,baz=241,slow=1.7,SNR=12						
AKASG				PP	PP	00 24 39.4	-0.9
	comp=Z,0.6nm,0.5s,baz=202,slow=7.3,SNR=4.3						
SRU	**San Rafael**	**120.25**	**296**	*e*PKIKP	PKPdf	00 23 19.1	+1.2
MSU	**Marysvale**	**120.50**	**295**	*e*PKIKP	PKPdf	00 23 19.4	+1.0
RWWY	**Rawlins**	**120.93**	**301**	*e*PKPdf	PKPdf	00 23 20.3	+1.1
SUW	**Suwalki**	**120.93**	**32**	*e*PKP	PKPdf	00 23 19.4	+0.7
SUW	**Suwalki**	**120.93**	**32**	*e*PKP	PKPdf	00 23 19.4	+0.7
TPNV	**Topopah Spring**	**121.08**	**291**	*e*PKIKP	PKPdf	00 23 21.0	+1.4
DUG	**Dugway**	**122.15**	**296**	*e*PKIKP	PKPdf	00 23 22.4	+0.8
HWUT	**Hardware Ranch**	**122.75**	**297**	*e*PKPdf	PKPdf	00 23 22.5	-0.1
PDAR	**Pinedale Array**	**122.81**	**300**	PKP	PKPdf	00 23 22.1	-0.6
	comp=Z,0.9nm,0.6s,baz=125,slow=4.6,SNR=7.7						
BER	**Bergen**	**123.12**	**18**	*e*SS	SS	00 41 46.3	-1.7
KONO	**Kongsberg**	**123.13**	**21**	*e*PP	PP	00 25 05.6	+1.9
KONO				*e*SS	SS	00 41 45.2	-3.0
KONO				AMS	AMS	01 17 08.5	
	comp=Z,299nm,17.8s,MS5.0						
CMAR	**Chiang Mai Arr**	**123.22**	**113**	PKP	PKPdf	00 23 25.0	+0.7
	comp=Z,6.0nm,0.8s,baz=235,slow=2.9,SNR=18						
NVAR	**Mina Array Bea**	**123.23**	**290**	PKP	PKPdf	00 23 24.5	+0.8
	comp=Z,2.1nm,0.7s,baz=147,slow=3.5,SNR=10						
NVAR	**Mina Array Bea**	**123.23**	**290**	PKP	PKPdf	00 23 24.5	+0.8
HVU	**Hansel Valley**	**123.42**	**297**	*e*PKIKP	PKPdf	00 23 25.1	+1.2
ULM	**Lac du Bonnet**	**123.56**	**314**	PKP	PKPdf	00 23 24.9	+1.0
	comp=Z,2.3nm,0.6s,baz=152,slow=7.6,SNR=4.1						
ULM	**Lac du Bonnet**	**123.56**	**314**	PKP	PKPdf	00 23 24.9	+1.0
ELK	**Elko**	**123.69**	**294**	*e*PKIKP	PKPdf	00 23 26.8	+2.3
CMB	**Columbia Colle**	**123.88**	**288**	*e*PKIKP	PKPdf	00 23 25.4	+0.5
LOHW	**Long Hollow**	**123.95**	**299**	*e*PKPdf	PKPdf	00 23 25.1	+0.3
MOOW	**Moose Ponds**	**124.12**	**299**	*e*PKPdf	PKPdf	00 23 27.1	+1.9
FLWY	**Flagg Ranch**	**124.37**	**300**	*e*PKPdf	PKPdf	00 23 27.3	+1.6
RLMT	**Red Lodge**	**124.59**	**302**	*e*PKPdf	PKPdf	00 23 27.2	+1.2
NB2	**NORSAR Subarra**	**124.72**	**21**	PKPdf	PKPdf	00 23 26.9	+1.1
	comp=Z,3.7nm,0.8s,baz=202,slow=1.9						
NB2	**NORSAR Subarra**	**124.72**	**21**	PKPdf	PKPdf	00 23 26.9	+1.1
	baz=202,slow=1.9						
NOA	**NORSAR Array B**	**124.72**	**21**	PKP	PKPdf	00 23 26.6	+0.8
	comp=Z,4.5nm,0.8s,baz=191,slow=1.6,SNR=15						
HLID	**Hailey**	**125.57**	**297**	*e*PKPdf	PKPdf	00 23 29.4	+1.4
OBN	**Obninsk**	**125.74**	**39**	*i*PKIKP	PKPdf	00 23 29.3	+1.4
OBN				pmax	pmax		
	comp=Z,32nm,1.9s						
OBN				MLR	MLR		
	comp=Z,300nm,19.0s,MS5.0						
MCMT	**McKenzie Canyo**	**125.89**	**299**	*e*PKPdf	PKPdf	00 23 29.2	+0.6
DLMT	**Dillon**	**126.20**	**299**	*e*PKPdf	PKPdf	00 23 30.1	+0.9
WVOR	**Wild Horse Val**	**126.57**	**293**	*e*PKIKP	PKPdf	00 23 30.8	+0.9
CHMT	**Chamberlain Mo**	**127.71**	**300**	*e*PKPdf	PKPdf	00 23 33.8	+1.8
MSO	**Missoula**	**127.94**	**300**	*e*PKPdf	PKPdf	00 23 33.3	+0.9
QIZ	**Qiongzhong**	**128.47**	**124**	PKP	PKPdf	00 23 32.5	-1.8
QIZ				PP	PP	00 25 42.9	+3.7
QIZ				SS	SS	00 42 55.0	0.0
QIZ				PP	PP		
	comp=Z,195nm,8.4s						
QIZ				LR	LR		
	comp=N,329nm,21.1s						
QIZ				LR	LR		
	comp=Z,440nm,17.4s,MS5.2						
HUMO	**Hull Mountain**	**128.70**	**290**	*e*PKPdf	PKPdf	00 23 34.2	+0.2
KAF	**Kangasniemi**	**128.87**	**29**	*ep*	PKPdf	00 23 31.6	-2.1
	comp=Z,21nm,0.8s						
OD2	**Odessa Site #2**	**130.45**	**297**	*e*PKPdf	PKPdf	00 23 35.9	-1.3
KMI	**Kunming**	**130.73**	**113**	PKP	PKPdf	00 23 41.1	+2.7
KMI				PP	PP	00 26 00.5	+6.4
KMI				SKKS	SKKSac	00 32 51.3	+0.9
KMI				SS	SS	00 43 29.4	+6.2
KMI				SSS		00 48 22.8	
KMI				PP	PP		
	comp=Z,117nm,5.2s						
KMI				LR	LR		
	comp=N,246nm,16.1s,MS5.1						
KMI				LR	LR		
	comp=E,239nm,17.3s,MS5.1						
KMI				LR	LR		
	comp=Z,346nm,17.3s,MS5.1						
JOF	**Joensuu**	**130.79**	**31**	*ep*	PKPdf	00 23 37.0	-0.3
	comp=Z,9.7nm,1.0s						
EKS2	**Erkin-Say**	**130.84**	**73**	*e*PKPdf	PKPdf	00 23 39.1	+1.0
KLMR	**Klimovskoe**	**131.35**	**37**	*e*PKIKP	PKPdf	00 23 36.6	-1.8
JCW	**Jim Creek**	**132.48**	**295**	*e*PKPdf	PKPdf	00 23 40.6	-0.4
GYA	**Guiyang**	**133.65**	**116**	PKP	PKPdf	00 23 46.3	+2.4
GYA				PP	PP	00 26 20.4	+7.6
GYA				PKS		00 27 21.8	
GYA				SKS	SKSdf	00 30 55.0	+0.1
GYA				SKKS	SKKSac	00 33 09.5	+1.2
GYA				SS	SS	00 44 03.6	+5.0
GYA				PP	PP		
	comp=Z,140nm,7.9s						
GYA				LR	LR		
	comp=N,180nm,24.6s,MS4.8						
GYA				LR	LR		
	comp=E,170nm,23.0s,MS4.8						
GYA				LR	LR		
	comp=Z,140nm,21.4s,MS4.6						
TRO	**Tromso**	**133.89**	**20**	*e*	PKPdf	00 23 39.6	-3.3
TRO				*i*		00 26 24.9	
TRO				*e*SS	SS	00 43 59.7	-1.4
TRO				AMS	AMS	01 20 34.8	
	comp=Z,384nm,17.8s,MS5.2						
ARCES	**ARCESS Array B**	**135.01**	**23**	PKhKP		00 23 34.3	
	comp=Z,2.1nm,0.8s,baz=232,slow=1.4,SNR=6.1						
ARCES				PKP	PKPdf	00 23 44.3	-0.8
	comp=Z,5.6nm,0.8s,baz=227,slow=2.0,SNR=14						
ARCES				SKPbc	SKPbc	00 27 13.9	-1.3
	comp=Z,5.3nm,0.8s,baz=215,slow=4.2,SNR=6.2						
ARCES	**ARCESS Array B**	**135.01**	**23**	PKP	PKPdf	00 23 44.3	-0.8
ARCES				SKPbc	SKPbc	00 27 13.9	-1.3
SVE	**Sverdlovsk**	**135.56**	**52**	*i* PKIKP	PKPdf	00 23 46.3	-0.2
SVE				*e*		00 26 33.1	
SVE				pmax	pmax		
	comp=Z,11nm,0.9s						
CD2	**Chengdu**	**136.12**	**110**	*e*PKP	PKPdf	00 23 49.5	+1.1
CD2				PP	PP	00 26 33.5	+5.0
CD2				PKS		00 27 24.5	
CD2				SKS	SKSdf	00 30 55.0	-4.0
CD2				SKKS	SKKSac	00 33 20.4	-2.6
CD2				SS	SS	00 44 29.1	+0.7
CD2				PP	PP		
	comp=Z,120nm,10.8s						
CD2				LR	LR		
	comp=N,210nm,20.2s,MS5.1						
CD2				LR	LR		
	comp=E,240nm,18.8s,MS5.1						
CD2				LR	LR		
	comp=Z,230nm,22.1s,MS4.9						
BRVK	**Borovoye**	**136.88**	**61**	*e*PKIKP	PKPdf	00 23 49.0	0.0
MK31	**Makanchi Array**	**137.97**	**76**	*e*PKIKP	PKPdf	00 23 53.6	+2.3
MKAR	**Makanchi Array**	**137.97**	**76**	PKhKP		00 23 42.0	
	comp=Z,1.0nm,0.7s,baz=229,slow=1.1,SNR=8.1						
MKAR				PKP	PKPdf	00 23 53.4	+2.1
	comp=Z,3.6nm,0.9s,baz=276

comp=Z,27nm,0.9s,baz=216,slow=2.8,SNR=32
BMRM Bremner River 150.59 298 *e*PKPbc PKPbc 00 24 18.8 +0.8
ZAK Zakamensk 150.65 87 *e*PKIKP PKPdf 00 24 05.8 -7.2
ZAK pmax pmax
comp=Z,22nm,1.0s
DL2 Dalian 150.75 123 PKP PKPbc 00 24 20.0 +0.8
EGAK Eagle 150.76 307 *e*PKPbc PKPbc 00 24 18.1 -0.2
DIV Divide 151.17 298 *e*PKPbc PKPbc 00 24 20.4 +1.0
DIV *e*PKPab PKPab 00 24 27.9 +0.5
TLY Talaya 151.64 86 *i* PKIKP PKPbc 00 24 21.4 +0.6
TLY *e* 00 24 32.8
TLY *e* 00 40 53.5
TLY pmax pmax
comp=Z,17nm,1.1s
TLY Talaya 151.64 86 *e*PKPbc PKPbc 00 24 21.3 +0.5
KSRS Korea Array 151.92 134 PKP PKPdf 00 24 16.6 +1.1
comp=Z,5.9nm,1.1s,baz=206,slow=2.1,SNR=14
KSRS PKPbc PKPbc 00 24 21.9 0.0
comp=Z,6.7nm,0.8s,baz=208,slow=2.6,SNR=17
IRK Irkutsk 152.29 85 *e*PKIKP PKPbc 00 24 20.0 -2.3
IRK pmax pmax
comp=Z,43nm,2.4s
COLA College 153.48 305 *e*PKIKP PKPbc 00 24 25.2 +0.7
COLA *e* 00 24 36.8
MCK McKinley 153.55 302 *e*PKIKP PKPbc 00 24 23.8 -0.9
MCK *e* 00 24 34.9
MAT Matsushiro 154.16 151 X PKPbc 00 24 27.6 +0.7
MJAR Matsushiro Arr 154.16 151 PKPbc PKPbc 00 24 27.4 +0.6
comp=Z,2.8nm,1.0s,baz=164,slow=1.6,SNR=8.0
MJAR PKPab PKPab 00 24 43.7 +3.1
comp=Z,2.8nm,0.8s,baz=173,slow=5.0,SNR=8.6
PPLA Purkeypile 154.65 299 *e*PKPdf PKPdf 00 24 18.6 +0.1
PPLA *e*PKPab PKPab 00 24 42.7 +0.6
IMA2 Indian Mountai 156.14 306 *e*PKPdf PKPdf 00 24 19.9 -0.6
CN2 Changchun 156.41 123 *e*PKP PKPdf 00 24 21.6 +0.1
CN2 PP PP
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,18.0s,MS5.1
CN2 LR LR
comp=E,200nm,18.0s,MS5.1
CN2 LR LR
comp=Z,200nm,19.0s,MS5.0
MDJ Mudanjiang 158.76 128 PKP PKPdf 00 24 26.0 +1.6
MDJ PP PP 00 28 42.3 +1.1
MDJ SS SS 00 48 47.5 +4.0
MDJ PP PP
comp=Z,201nm,7.4s
MDJ LR LR
comp=N,144nm,46.7s,MS4.6
MDJ LR LR
comp=E,127nm,44.7s,MS4.6
MDJ LR LR
comp=Z,293nm,42.8s,MS4.8
BOD Bodaibo 159.95 80 *e*PKIKP PKPdf 00 24 23.4 -1.9
BOD pmax pmax
comp=Z,4.0nm,1.6s
KLR Kul'dur 163.37 123 *e*PKIKP PKPdf 00 24 24.8 -4.4
YSS Yuzh-Sakhalins 165.10 151 *i* PKIKP PKPdf 00 24 30.0 -0.8
YSS *e* 00 25 28.0
YSS *e* 00 29 14.0
YSS *e*PPS 00 42 48.0
YSS *e*SSS 00 56 14.0
PET Petropavlovsk 171.91 204 *i* PKIKP PKPdf 00 24 32.3 -2.8
PET *e* 00 25 58.8
PET *e* 00 29 46.2
PET *e*SS SS 00 50 49.0 -8.1
PET *e*SSS 00 57 44.8
PET pmax pmax
comp=Z,100nm,13.8s
PETK Petropavlovsk- 172.17 200 PKP PKPdf 00 24 35.5 +0.3
comp=Z,2.8nm,0.9s,baz=120,slow=8.5,SNR=3.6
PETK Petropavlovsk- 172.17 200 PKP PKPdf 00 24 35.5 +0.3

*ISCJB **19** 00:22:51.3±0.5, 607S±0.1×266W±02, h10km, mb4.3/13, Error ellipse: s-maj=19.9km s-min=9.0km az=138.4*
*IDC **19** 00:22:52.9±0.7, 6029S×2661W, h0km, mb4.3/10, mb1 4.3/10, mb1mx4.2/17, mbtmp4.3/10, MS4.3/1, Ms1 4.3/1, ms1mx3.4/25, Error ellipse: s-maj=24.3km s-min=17.6km az=27.0*
*NEIC **19** 00:22:54.4±0.3, 6028S×2656W, h10km, mb4.7/3, Error ellipse: s-maj=12.9km s-min=8.8km az=205.0*
ISC 19 00:22:53.3±0.5, 6060S±010×265W±02, h10km, n29, σ0§97/22, mb4.3/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.52**	**151**	*e*	**Pn**	**00 25 51.3**	**+0.1**
VNA2	**Neumayer--Watz**	**12.91**	**151**	*e*	**Pn**	**00 25 56.0**	**-0.6**
SNAA	**Sanae**	**14.52**	**150**	*e*	**Pn**	**00 26 17.3**	**-1.1**
SNAA	**Sanae**	**14.52**	**150**	Pn	**Pn**	**00 26 17.3**	**-1.1**
	0.3nm,0.3s,baz=317,slow=15,SNR=14						
SNAA				Sn	**Sn**	**00 28 48.1**	**-11**
	0.1nm,0.3s,baz=342,slow=20,SNR=2.7						
PMSA	**Palmer Station**	**17.52**	**240**	P	**Pn**	**00 27 04.3**	**+7.0**
	0.4nm,0.3s,baz=88,slow=12,SNR=4.5						
USHA	**Ushuaia**	**22.79**	**266**	P	**P**	**00 27 58.0**	**+2.3**
	5.2nm,0.9s,mb4.0,baz=108,slow=5.0,SNR=5.6						
QSPA	**South Pole Qui**	**29.64**	**180**	P	**P**	**00 29 02.9**	**+4.7**
	2.9nm,0.6s,mb4.2,baz=236,slow=6.3,SNR=19						
QSPA	**South Pole Qui**	**29.64**	**180**	P	**P**	**00 29 02.9**	**+4.7**
TRQA	**Tornquist**	**31.65**	**299**	*e*P	**P**	**00 29 16.5**	**+0.1**
	6.1nm,0.6s,mb4.6						
PLCA	**Paso Flores**	**33.38**	**286**	P	**P**	**00 29 30.9**	**-0.6**
	1.3nm,0.7s,mb3.9,baz=126,slow=7.7,SNR=3.8						
PLCA				PcP	PcP	00 32 13.7	+0.9
	2.0nm,0.5s,baz=158,slow=5.4,SNR=9.1						
MAW	**Mawson**	**36.35**	**140**	P	**P**	**00 29 59.5**	**+2.7**
	2.7nm,1.0s,mb4.1,baz=304,slow=4.6,SNR=3.6						
CFAA	**Coronel Fontan**	**39.84**	**298**	P	**P**	**00 30 25.9**	**-0.7**
	2.0nm,0.7s,mb3.9,baz=154,slow=8.3,SNR=35						
BOSA	**Boshof**	**46.94**	**71**	P	**P**	**00 31 24.5**	**+0.5**
	1.8nm,0.7s,mb4.1,baz=123,slow=5.3,SNR=6.1						
BDFB	**Brasilia**	**47.52**	**331**	P	**P**	**00 31 27.6**	**-0.9**
	1.2nm,0.8s,mb4.0,baz=29,slow=5.0,SNR=3.8						
LVC	**Limon Verde**	**47.99**	**303**	*e*P	**P**	**00 31 32.6**	**+0.5**
	8.9nm,0.5s,mb5.0						
LPAZ	**La Paz**	**53.36**	**307**	P	**P**	**00 32 12.8**	**+0.2**
	2.3nm,0.5s,mb4.4,baz=139,slow=5.6,SNR=20						
TOA0	**Torodi Ar. Sit**	**76.89**	**28**	*e*P	**P**	**00 34 45.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.89**	**28**	P	**P**	**00 34 45.9**	**+0.6**
	5.6nm,0.7s,mb4.6,baz=196,slow=6.5,SNR=27						
TORD	**Torodi Ar. Bea**	**76.89**	**28**	P	**P**	**00 34 45.9**	**+0.6**
SDV	**Santo Domingo**	**77.49**	**315**	*e*P	**P**	**00 34 48.2**	**-0.6**
	4.6nm,0.7s,mb4.5						
SDV				*e*PcP	PcP	00 34 57.0	-2.1
TEIG	**Tepich**	**94.56**	**304**	P	**P**	**00 36 12.5**	**-1.3**
	4.0nm,0.6s,mb5.0,baz=63,slow=2.3,SNR=4.3						
AKASG	**Malin Array Be**	**119.65**	**37**	PKP	PKPdf	00 41 43.0	+1.0
	0.4nm,0.6s,baz=221,slow=0.7,SNR=3.3						
CMAR	**Chiang Mai Arr**	**123.06**	**113**	PKP	PKPdf	00 41 50.9	+1.2
	0.5nm,0.3s,baz=240,slow=3.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**123.06**	**113**	PKP	PKPdf	00 41 50.9	+1.2
NVAR	**Mina Array Bea**	**123.39**	**290**	PKP	PKPdf	00 41 50.8	+1.1
	0.2nm,0.4s,baz=134,slow=4.3,SNR=3.6						
ARCES	**ARCESS Array B**	**135.03**	**23**	PKP	PKPdf	00 42 11.4	+0.6
	1.2nm,0.8s,baz=270,slow=1.1,SNR=3.6						
YKA	**Yellowknife Ar**	**139.70**	**314**	PKP	PKPdf	00 42 20.3	+0.6
	1.2nm,0.9s,baz=150,slow=1.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**143.88**	**69**	PKP	PKPdf	00 42 26.6	-0.7
	0.5nm,0.5s,baz=280,slow=0.9,SNR=2.3						
SONM	**Songino Array**	**150.36**	**94**	PKPbc	PKPbc	00 42 45.0	+1.3
	2.3nm,1.0s,baz=223,slow=4.0,SNR=7.7						

*MOS **19** 00:33:28.1±1.1, 5279N×10725E, h9km, mb4.2/1, Error ellipse: s-maj=25.9km s-min=12.4km az=56.0*
BYKL 19 00:33:27.9±0.2, 5278N×10735E, h17km±4km, 4C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRHB	**Zarechye**	**0.26**	**208⇑**	*i*Pg	Pg	00 33 33.0	-0.6
ZRHB				*i* Sg	Sg	00 33 37.4	-0.1
ZRHB				Pmax			
	356nm,0.3s						
ZRHB				Smax			
	7μm,0.4s						
TRG	**Tyrgan**	**0.61**	**269**	*e*Pg	Pg	00 33 39.5	-0.4
TRG				*e*Sg	Sg	00 33 49.1	+1.1
TRG				Pmax			
	71nm,0.2s						
TRG				Smax			
	471nm,0.2s						
FFNB	**Fofonovo**	**0.82**	**206**	*e*Pg	Pg	00 33 42.9	-0.9
FFNB				*e*Sg	Sg	00 33 53.3	-1.3
FFNB				Pmax			
	462nm,0.3s						
FFNB				Smax			
	2μm,0.2s						
KAB	**Kabansk**	**0.85**	**211**	*e*PG	Pg	00 33 43.1	-1.3
KAB				*e*		00 33 55.3	
KAB				pmax	pmax		
	comp=Z,262nm,0.4s						
KAB				smax			
	comp=E,1μm,0.5s						
KAB	**Kabansk**	**0.85**	**211**	*e*Pg	Pg	00 33 43.4	-1.0
KAB				*e*Sg	Sg	00 33 54.9	-0.6
KAB				Pmax			
	comp=E,453nm,0.2s						
KAB				Smax			
	comp=E,1μm,0.5s						
STDB	**Stepnoy Dvoret**	**0.86**	**225**	*e*Pg	Pg	00 33 45.0	+0.4
STDB				*e*Pb	Pb	00 33 47.0	+2.7
STDB				*e*Sg	Sg	00 33 57.4	+1.5
STDB				max			
	comp=E,286nm,0.3s						
STDB				*e*Sb	Sb		
STDB				max			
	comp=E,2μm,0.4s						
OGRR	**Ongureny**	**0.88**	**10⇑**	*i*Pg	Pg	00 33 44.1	-0.9
OGRR				*e*Sg	Sg	00 33 56.0	-0.5
OGRR				Pmax			
	comp=E,48nm,0.4s						
OGRR				Smax			
	comp=E,232nm,0.4s						
UUDB	**Ulan-Yde**	**0.93**	**168⇑**	*i*Pg	Pg	00 33 44.4	-1.6
UUDB				*e*Sg	Sg	00 33 56.4	-1.9
UUDB				Pmax			
	comp=E,142nm,0.5s						
UUDB				Smax			
	comp=E,559nm,1.0s						
HRMR	**Khuramsha**	**1.18**	**192⇑**	*i*Pg	Pg	00 33 49.0	-1.7
HRMR				*e*Pb	Pb	00 33 51.3	+1.5
HRMR				*e*Sg	Sg	00 34 05.0	-1.0
HRMR				*e*Sb	Sb	00 34 08.8	+4.1
LSTR	**Listvyanka**	**1.79**	**240**	*e*PN	Pn	00 33 59.3	+1.3
LSTR				*e*S	Sn	00 34 22.7	+2.3
LSTR				*e*S	Sn	00 34 24.3	+3.9
LSTR				smax			
	comp=N,337nm,0.4s						
LSTR	**Listvyanka**	**1.79**	**240**	*e*Pg	Pg	00 33 59.3	-3.1
LSTR				*e*Sg	Sg	00 34 23.2	-2.5
LSTR				Pmax			
	comp=N,48nm,0.7s						
LSTR				Smax			
	comp=N,342nm,0.4s						
SYVR	**Suvo**	**1.82**	**60**	*e*Pg	Pg	00 34 00.2	-2.6
SYVR				*e*Sg	Sg	00 34 24.8	-1.7
SYVR				Pmax			
	comp=N,134nm,0.5s						
SYVR				Smax			
	comp=N,175nm,0.4s						
IRK	**Irkutsk**	**1.96**	**255**	*e*PN	Pn	00 34 02.9	+2.6
IRK				*e*		00 34 28.5	
IRK				pmax	pmax		
	comp=Z,114nm,0.2s						
IRK				smax			
	comp=N,1μm,0.5s						
IRK	**Irkutsk**	**1.96**	**255**	*e*Sg	Sg	00 34 29.2	-1.6
IRK				Smax			
	comp=N,1μm,0.4s						
TLY	**Talaya**	**2.53**	**246**	*e*Pn	Pn	00 34 08.8	+0.7
TLY				*e*Pg	Pg	00 34 12.4	-4.0
TLY				*e*Sn	Sn	00 34 39.4	+0.9
TLY				*e*Sg	Sg	00 34 44.7	-4.5
TLY				Pmax			
	comp=N,15nm,0.3s						
TLY				Smax			
	comp=N,98nm,0.6s						
YLYR	**Ulyunkhan**	**3.08**	**46**	*e*Pn	Pn	00 34 16.4	+0.7
YLYR				*e*Pg	Pg	00 34 22.1	-4.9
YLYR				*e*Sn	Sn	00 34 53.0	+0.8
YLYR				*e*Sg	Sg	00 35 02.5	-4.4
YLYR				Pmax			
	comp=N,19nm,0.8s						
YLYR				Smax			
	comp=N,61nm,0.6s						
ARS	**Arshan**	**3.14**	**256**	*e*Pn	Pn	00 34 24.9	+8.4
ARS				*e*		00 35 04.0	
ARS				pmax	pmax		
	comp=Z,41nm,0.3s						
ARS				smax			
	comp=N,227nm,0.5s						
ARS	**Arshan**	**3.14**	**256**	*e*Pn	Pn	00 34 17.4	+0.9
ARS				*e*Pg	Pg	00 34 23.4	-4.7
ARS				*e*Sg	Sg	00 35 04.0	-4.7
ARS				Pmax			
	comp=N,47nm,0.6s						
ARS				Smax			
	comp=N,233nm,0.5s						
NIZ	**Nizh Angarsk**	**3.26**	**22**	*e*PN	Pn	00 34 19.9	+1.7
NIZ				*e*		00 34 26.7	
NIZ				*e*S	Sn	00 34 57.4	+0.8
NIZ				*e*		00 35 09.7	
NIZ				pmax	pmax		
	comp=Z,15nm,0.4s						
NIZ				smax			
	comp=N,95nm,0.5s						
NIZ	**Nizh Angarsk**	**3.26**	**22**	*e*Pn	Pn	00 34 19.2	+1.0
NIZ				*e*Pg	Pg	00 34 25.7	-4.7
NIZ				*e*Sn	Sn	00 34 57.2	+0.6
NIZ				*e*Sg	Sg	00 35 08.1	-4.6
NIZ				Pmax			
	comp=N,18nm,0.3s						
NIZ				Smax			
	comp=N,102nm,0.6s						
ZAK	**Zakamensk**	**3.49**	**228**	*e*Pn	Pn	00 34 22.6	+1.2
ZAK				*e*Pg	Pg	00 34 30.8	-4.0
ZAK				*e*		00 35 05.1	
ZAK				*e*Sg	Sg	00 35 16.3	-3.7
ZAK				Pmax			
	comp=N,8.0nm,0.5s						
ZAK				Smax			
	comp=N,38nm,0.4s						
KMO	**Kumora**	**3.84**	**34**	*e*PN	Pn	00 34 28.9	+2.7
KMO				*e*		00 34 37.5	
KMO				*e*S	Sn	00 35 11.8	+0.9
KMO	**Kumora**	**3.84**	**34**	*e*Pn	Pn	00 34 27.4	+1.2
KMO				*e*Pg	Pg	00 34 37.7	-3.8
KMO				*e*Sg	Sg	00 35 26.3	-4.9
KMO				Pmax			
	comp=N,34nm,1.3s						
KMO				Smax			
	comp=N,82nm,0.6s						
CIT	**Chita**	**3.87**	**99**	*e*Sg	Sg	00 35 28.2	-4.0
CIT				Smax			
	comp=N,173nm,0.5s						
MOY	**Mondy**	**4.07**	**257**	*e*PN	Pn	00 34 32.9	+3.7
MOY				*e*		00 34 41.1	
MOY				*e*		00 35 32.9	
MOY				pmax	pmax		
	comp=Z,47nm,0.5s						
MOY				smax			
	comp=E,88nm,0.6s						
MOY	**Mondy**	**4.07**	**257**	*e*Pn	Pn	00 34 31.9	+2.7
MOY				*e*Pg	Pg	00 34 40.7	-5.0
MOY				*e*Sg	Sg	00 35 33.7	-4.6
MOY				Pmax			
	comp=E,47nm,0.9s						
MOY				Smax			
	comp=E,88nm,0.6s						
KPC	**Khapcheranga**	**4.41**	**132**	*e*PN	Pn	00 34 46.8	-5.5
KPC				*e*S	Sn	00 35 26.6	+1.7
KPC				*e*		00 35 44.4	
KPC				pmax	pmax		
	comp=Z,45nm,0.4s						
KPC				smax			
	comp=N,114nm,0.6s						
KPC	**Khapcheranga**	**4.41**	**132**	*e*Pn	Pn	00 34 34.3	+0.3
KPC				*e*Pg	Pg	00 34 46.8	-5.5
KPC				*e*Sn	Sn	00 35 25.9	+1.0
KPC				*e*Sg	Sg	00 35 44.7	-4.7
KPC				Pmax			
	comp=N,45nm,0.5s						
KPC				Smax			
	comp=N,114nm,0.6s						
UKT	**Uakit**	**4.58**	**51**	*e*PN	Pg	00 34 53.3	-2.3
UKT				*e*		00 35 49.7	
UKT				pmax	pmax		
	comp=Z,20nm,0.7s						
UKT				smax			
	comp=N,43nm,0.5s						
UKT	**Uakit**	**4.58**	**51**	*e*Pn	Pn	00 34 36.6	+0.3
UKT				*e*Pg	Pg	00 34 49.9	-5.7
UKT				*e*Sg	Sg	00 35 50.7	-4.1
UKT				Pmax			
	comp=N,26nm,1.8s						
UKT				Smax			
	comp=N,42nm,1.3s						
ORL	**Orlik**	**4.60**	**270**	*e*PN	Pn	00 34 39.4	+2.9
ORL				*e*S	Sn	00 35 50.8	+21
ORL				smax			
	comp=N,69nm,1.1s						
ORL	**Orlik**	**4.60**	**270**	*e*	Pn	00 34 39.1	+2.6
ORL				*e*Pg	Pg	00 34 49.2	-6.7
ORL				*e*		00 35 35.1	
ORL				*e*Sg	Sg	00 35 49.0	-6.4
ORL				Pmax			
	comp=N,9.0nm,0.8s						
ORL				Smax			
	comp=N,77nm,1.3s						
NLYR	**Nelyaty**	**6.11**	**49**	*e*PG	Pg	00 35 22.0	-2.8
NLYR				*e*		00 36 38.8	
NLYR				pmax	pmax		
	comp=Z,17nm,0.8s						
NLYR				smax			
	comp=N,38nm,1.3s						
NLYR	**Nelyaty**	**6.11**	**49**	*e*Pg	Pg	00 35 19.0	-5.8
NLYR				*e*Sg	Sg	00 36 38.5	-5.3
NLYR				Pmax			
	comp=N,15nm,0.9s						
NLYR				Smax			
	comp=N,38nm,0.8s						
BOD	**Bodaibo**	**6.32**	**34**	*e*Sg	Sn	00 36 43.0	+31
BOD				Smax			
	comp=N,16nm,0.6s						
TDJR	**Todzha**	**6.87**	**271**	*e*Sg	Sn	00 37 00.6	+35
CRS	**Chara**	**7.53**	**52**	*e*PG	Pn	00 35 47.3	+31
CRS				*e*		00 37 23.2	
CRS				pmax	pmax		
	comp=Z,14nm,1.5s						
CRS				smax			
	comp=N,48nm,2.4s						
TUP	**Tupik**	**7.68**	**73**	*e*Sg	Sn	00 37 24.1	+39
TUP				Smax			
	comp=N,51nm,1.2s						

*ISCJB **19** 00:41:25.7±0.3, 6054S±007×266W±0.1, h10km, mb5.0/27, MS4.9/13, Error ellipse: s-maj=11.4km s-min=7.2km az=43.3*
*IDC **19** 00:41:26.3±0.4, 6041S×2669W, h0km, mb4.8/16, mb1 4.8/16, mb1mx4.7/18, mbtmp4.8/16, MS4.5/5, Ms1 4.5/5, ms1mx4.2/24, Error ellipse: s-maj=18.8km s-min=13.7km az=31.0*
*NEIC **19** 00:41:28.1±0.2, 6035S×2667W, h10km, mb5.3/14, Error ellipse: s-maj=7.6km s-min=6.7km az=12.0*
*BJI **19** 00:41:28.1, 6030S×2670W, h10km, mB5.2, Ms5.5, Msz5.2*
*GCMT **19** 00:41:28.1±0.3, 6096S×2603W, h12km, MW5.1/66, Moment Tensor Solution. s32,c41; s66,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.15±.20; $M_{\theta\theta}$-1.09±.21; $M_{\phi\phi}$-3.06±.17; $M_{r\theta}$1.69±.63; $M_{\theta\phi}$-3.36±.15; $M_{\phi r}$0.30±.55; Best double couple: $M_0$5.22900×10^{16} NP1:ϕ_s197.00000°, δ41.00000°, λ60.00000°. NP2: ϕ_s55.00000°, δ55.00000°, λ114.00000°. Principal axes: T 4.7210, Plg69.0000°, Azm18.0000°; N 1.0170, Plg19.0000°, Azm221.0000°; P -5.7380, Plg7.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **19** 00:41:30.5±1.7, 6043S×2654W, h33km, mb5.4/6 Error ellipse: s-maj=34.6km s-min=14.3km az=99.5*
ISC 19 00:41:27.3±0.3, 6064S±006×266W±01, h10km, n118, σ1§27/61, mb5.0/27, MS4.9/13, 1C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.51**	**151**	*e*Pn	**Pn**	**00 44 23.6**	**-1.5**
VNA1				*e*		00 44 27.9	
VNA1				*e*		00 44 34.6	
VNA1				*e*S	**Sn**	**00 46 34.0**	**-10**
VNA2	**Neumayer--Watz**	**12.91**	**151**	*e*Pn	**Pn**	**00 44 28.6**	**-1.9**
VNA2				*e*		00 44 33.4	
VNA2				*e*		00 44 38.9	
VNA2				*e*S	**Sn**	**00 46 42.8**	**-11**
SNAA	**Sanae**	**14.51**	**149**	*e*Pn	**Pn**	**00 44 50.1**	**-2.3**
SNAA				*e*		00 44 53.6	
SNAA				*e*		00 44 59.9	
SNAA				*e*S	**Sn**	**00 47 21.6**	**-11**
SNAA	**Sanae**	**14.51**	**149**	Pn	**Pn**	**00 44 50.3**	**-2.1**
	0.7nm,0.3s,baz=321,slow=13,SNR=50						
SNAA				Sn	**Sn**	**00 47 21.6**	**-11**
	0.2nm,0.3s,baz=9.5,slow=18,SNR=4.0						
SNAA				LR	LR	00 49 13.7	
	comp=Z,791nm,19.8s,baz=8.2,slow=32						
SNAA	**Sanae**	**14.51**	**149**	*e*P	**Pn**	**00 44 50.4**	**-2.0**
SNAA				pmax	pmax		
	comp=Z,69nm,1.2s						
SNAA	**Sanae**	**14.51**	**149**	*e*Pn	**Pn**	**00 44 50.4**	**-1.9**
	comp=Z,70nm,1.2s						
PMSA	**Palmer Station**	**17.46**	**240**	P	**Pn**	**00 45 36.1**	**+5.6**
	comp=Z,0.5nm,0.3s,baz=100,slow=11,SNR=14						
PMSA	**Palmer Station**	**17.46**	**240**	*e*Pn	**Pn**	**00 45 34.4**	**+3.9**
	comp=Z,117nm,1.4s						
MAIT	**Maitri**	**18.38**	**139**	*e*P	**Pn**	**00 45 39.7**	**-2.1**
MAIT				*e*S	**Sn**	**00 48 51.6**	**-15**
NVL	**N'lazarevskaya**	**18.41**	**139***c*	*i*P	**Pn**	**00 45 42.6**	**+0.4**
NVL				pmax	pmax		
	comp=Z,88nm,1.6s						
USHA	**Ushuaia**	**22.74**	**266**	P	**P**	**00 46 30.5**	**+1.4**
	comp=Z,9.1nm,0.9s,mb4.2,baz=92,slow=3.6,SNR=5.6						
QSPA	**South Pole Qui**	**29.60**	**180**	P	**P**	**00 47 35.7**	**+3.9**
	comp=Z,95nm,1.1s,mb5.5,baz=199,slow=5.7,SNR=79						
QSPA				LR	LR	00 58 52.4	
	comp=Z,698nm,18.4s,MS4.3,baz=5.3,slow=35						
TRQA	**Tornquist**	**31.62**	**299**	*e*P	**P**	**00 47 50.0**	**-0.1**
	comp=Z,42nm,1.1s,mb5.2						
PLCA	**Paso Flores**	**33.34**	**286**	P	**P**	**00 48 04.7**	**-0.5**
	comp=Z,3.4nm,0.8s,mb4.3,baz=138,slow=7.7,SNR=11						
PLCA				PcP	PcP	00 50 48.0	+1.4
	comp=Z,1.8nm,0.8s,baz=171,slow=3.9,SNR=3.0						
PLCA				LR	LR	01 01 11.5	
	comp=Z,642nm,18.4s,MS4.4,baz=142,slow=36						
PLCA	**Paso Flores**	**33.34**	**286**	P	**P**	**00 48 04.7**	**-0.4**
PLCA						00 50 48.1	
MAW	**Mawson**	**36.36**	**140**	P	**P**	**00 48 32.7**	**+1.8**
	comp=Z,17nm,1.0s,mb5.0,baz=239,slow=8.9,SNR=22						
MAW				LR	LR	01 02 06.0	
	comp=Z,1μm,18.5s,MS4.6,baz=245,slow=34						
MAW	**Mawson**	**36.36**	**140**	*e*P	**P**	**00 48 32.9**	**+2.0**
MAW				pmax	pmax		
	comp=Z,33nm,1.2s						
MAW	**Mawson**	**36.36**	**140**	*e*P	**P**	**00 48 32.9**	**+2.0**
	comp=Z,33nm,1.2s,mb5.1						
SPB	**Sao Paulo**	**39.74**	**329**	*e*P	**P**	**00 48 58.2**	**-1.6**
CFAA	**Coronel Fontan**	**39.80**	**298**	P	**P**	**00 48 59.1**	**-1.1**
	comp=Z,5.2nm,0.7s,mb4.4,baz=159,slow=7.4,SNR=88						
CFAA				S	**S**	**00 54 57.5**	**-6.7**
	comp=Z,0.5nm,1.0s,baz=72,slow=20,SNR=3.6						
SBA	**Scott Base**	**41.51**	**184**	*e*P	**P**	**00 49 18.2**	**+4.3**
SBA				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.9						
SBA	**Scott Base**	**41.51**	**184**	*e*P	**P**	**00 49 18.2**	**+4.3**
	comp=Z,23nm,0.8s,mb4.8						
SUR	**Sutherland**	**41.78**	**69**	P	**P**	**00 49 17.8**	**+1.2**
	comp=Z,20nm,1.1s,mb4.7,baz=197,slow=7.2,SNR=7						
LCO	**Las Campanas**	**43.11**	**297**	*e*P	**P**	**00 49 27.4**	**-0.1**
	comp=Z,89nm,1.3s,mb5.3						
MIR	**Mirnyy**	**45.59**	**151⇓**	*i*P	**P**	**00 49 49.0**	**+2.2**
MIR				*i*		00 49 55.0	
MIR				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.0						
BOSA	**Boshof**	**47.01**	**71**	P	**P**	**00 49 58.7**	**+0.3**
	comp=Z,20nm,0.7s,mb5.1,baz=215,slow=7.0,SNR=27						
BOSA				PcP	PcP	00 51 32.1	+1.6
	comp=Z,6.6nm,0.9s,baz=173,slow=2.3,SNR=2.7						
BOSA	**Boshof**	**47.01**	**71**	*e*P	**P**	**00 49 59.0**	**+0.6**
BOSA				pmax	pmax		

comp=Z,21nm,0.8s,mb5.1
BOSA Boshof 47.01 71 *e*P **P 00 49 59.0 +0.6**
comp=Z,21nm,0.8s,mb5.1
BDFB Brasilia 47.52 332 P **P 00 50 00.5 -2.0**
comp=Z,1.7nm,0.7s,mb4.2,baz=154,slow=16,SNR=4.0
LVC Limon Verde 47.96 303 *e*P **P 00 50 05.7 -0.2**
CASY Casey 49.50 159 *e*P **P 00 50 19.8 +2.6**
comp=Z,33nm,1.0s,mb5.3
TSUM Tsumeb 51.81 57 *e*P **P 00 50 35.9 +0.7**
comp=Z,25nm,0.9s,mb5.1
LPAZ La Paz 53.34 308 P **P 00 50 46.7 +0.2**
comp=Z,8.2nm,0.7s,mb4.8,baz=140,slow=6.9,SNR=45
LPAZ La Paz 53.34 308 *e*P **P 00 50 46.8 +0.3**
LPAZ pmax pmax
comp=Z,86nm,1.3s
LPAZ La Paz 53.34 308 *e*P **P 00 50 46.8 +0.2**
comp=Z,86nm,1.3s,mb5.5
LSZ Lusaka 59.88 66 *e*P **P 00 51 33.4 +0.3**
LSZ pmax pmax
comp=Z,18nm,0.8s,mb5.2
LSZ Lusaka 59.88 66 *e*P **P 00 51 33.4 +0.3**
comp=Z,18nm,0.8s,mb5.2
ATAH Atahualpa 65.91 301 P **P 00 52 14.6 +1.4**
comp=Z,5.5nm,0.8s,mb4.6,baz=108,slow=13,SNR=3.7
LIC Lamto 68.79 23 *e*P **P 00 52 30.7 -0.7**
comp=Z,64nm,1.3s,mb5.4
KIC Kosan Boka 68.98 23 *e*P **P 00 52 32.4 -0.1**
comp=Z,248nm,1.6s,mb5.9
TIC Toumodi 69.20 23 *e*P **P 00 52 32.6 -1.3**
comp=Z,195nm,1.7s,mb5.8
TIC Toumodi 69.20 23 *e*P **P 00 52 32.6 -1.3**
TIC pmax pmax
comp=Z,195nm,1.7s,mb5.8
DBIC Dimbokro 69.26 23 P **P 00 52 33.7 -0.6**
comp=Z,6.7nm,0.8s,mb4.6,baz=151,slow=7.2,SNR=5.0
DBIC Dimbokro 69.26 23 P **P 00 52 33.7 -0.6**
OTAV Otavalo 72.47 304 *e*P **P 00 52 54.5 +0.6**
ROSC El Rosal 75.08 310 P **P 00 53 09.4 +0.2**
comp=Z,3.6nm,0.4s,mb4.7,baz=306,slow=14,SNR=4.6
TOA0 Torodi Ar. Sit 76.94 28 *e*P **P 00 53 19.8 +0.2**
TORD Torodi Ar. Bea 76.94 28 P **P 00 53 19.7 +0.1**
comp=Z,57nm,1.0s,mb5.5,baz=195,slow=6.1,SNR=96
SDV Santo Domingo 77.48 315 PP PP 00 56 16.8 -0.8
comp=Z,2.2nm,0.5s,baz=180,slow=6.1,SNR=2.9
SDV Santo Domingo 77.48 315 *e*P **P 00 53 21.5 -1.2**
comp=Z,20nm,0.8s,mb5.1
TAM Tamanrasset 87.14 29 *e*P **P 00 54 15.4 +2.4**
STKA Stephens Creek 87.32 170 P **P 00 54 15.3 +1.3**
comp=Z,5.3nm,0.9s,mb4.8,baz=185,slow=4.2,SNR=7.8
EIDS Eidsvold 94.29 178 *e*P **P 00 54 49.8 +3.1**
ASAR Alice Springs 94.52 162 P **P 00 54 48.6 +0.9**
comp=Z,2.4nm,1.0s,mb4.6,baz=184,slow=5.4,SNR=12
ASAR PP PP 00 58 35.9 +1.4
comp=Z,2.2nm,1.0s,baz=186,slow=10,SNR=4.1
TEIG Tepich 94.54 304 P **P 00 54 46.8 -0.8**
comp=Z,10nm,0.9s,mb5.2,baz=191,slow=5.2,SNR=6.9
TEIG Tepich 94.54 304 P **P 00 54 46.8 -0.8**
WRA Warramunga Arr 98.24 162 PP PP 00 59 05.9 +2.6
comp=Z,3.3nm,0.3s,baz=191,slow=10,SNR=4.7
CTA Charters Tower 99.36 173 LR LR 01 38 48.7
comp=Z,302nm,19.9s,MS4.8,baz=222,slow=35
SCHQ Schefferville 119.46 335 PKP PKPdf 01 00 15.0 -0.5
comp=Z,3.0nm,0.8s,baz=207,slow=4.5,SNR=2.9
AKASG Malin Array Be 119.71 37 PKP PKPdf 01 00 16.0 -0.2
comp=Z,1.0nm,0.6s,baz=245,slow=2.0,SNR=7.7
HWUT Hardware Ranch 122.88 297 *e*PKPdf PKPdf 01 00 23.8 +1.2
PDAR Pinedale Array 122.95 299 PKP PKPdf 01 00 23.1 +0.5
comp=Z,0.6nm,0.6s,baz=132,slow=5.3,SNR=4.4
CMAR Chiang Mai Arr 123.09 113 PKP PKPdf 01 00 24.8 +1.1
comp=Z,4.0nm,1.0s,baz=238,slow=3.6,SNR=16
NVAR Mina Array Bea 123.35 290 PKP PKPdf 01 00 25.1 +1.5
comp=Z,1.0nm,0.7s,baz=142,slow=4.5,SNR=5.1
ULM Lac du Bonnet 123.71 314 PKP PKPdf 01 00 23.7 -0.1
comp=Z,0.9nm,0.4s,baz=180,slow=3.0,SNR=2.1
LOHW Long Hollow 124.08 299 *e*PKPdf PKPdf 01 00 25.7 +0.9
MOOW Moose Ponds 124.25 299 *e*PKPdf PKPdf 01 00 26.1 +0.9
NB2 NORSAR Subarra124.80 21 PKPdf PKPdf 01 00 25.6 0.0
comp=Z,4.4nm,1.1s,baz=202,slow=1.9
NOA NORSAR Array B 124.80 21 PKP PKPdf 01 00 26.1 +0.6
comp=Z,3.3nm,0.9s,baz=193,slow=1.7,SNR=7.5
CHMT Chamberlain Mo 127.84 300 *e*PKPdf PKPdf 01 00 33.0 +1.1
BMO Blue Mountains 128.00 295 *e*PKIKP PKPdf 01 00 32.8 +0.6
MSO Missoula 128.07 299 *e*PKPdf PKPdf 01 00 33.9 +1.6
HUMO Hull Mountain 128.82 290 *e*PKPdf PKPdf 01 00 34.9 +1.0
KAF Kangasniemi 128.93 29 *e*p PKPdf 01 00 32.6 -0.8
comp=Z,24nm,1.0s
KMI Kunming 130.60 113 PKP PKPdf 01 00 40.5 +2.6
KMI XPKP 01 00 45.4
KMI PP PP 01 03 01.8 +8.9
KMI LR LR
comp=N,443nm,21.3s,MS5.2
KMI LR LR
comp=E,232nm,17.9s,MS5.2
KMI LR LR
comp=Z,464nm,15.7s,MS5.3
EKS2 Erkin-Say 130.79 73 *e*PKPdf PKPdf 01 00 39.4 +1.8
KLMR Klimovskoe 131.39 37 *e*PKIKP PKPdf 01 00 37.9 -0.3
EDM Edmonton 132.71 305 *e*PKIKP PKPdf 01 00 42.0 +1.1
GYA Guiyang 133.52 116 PKP PKPdf 01 00 45.9 +2.6
GYA PP PP 01 03 19.5 +7.9
GYA PKS 01 04 21.8
GYA SKS SKSdf 01 07 55.4 +1.1
GYA SKKS SKKSac 01 10 09.8 +2.7
GYA PP PP
comp=Z,130nm,7.9s
GYA LR LR
comp=N,190nm,25.6s,MS4.8
GYA LR LR
comp=E,150nm,25.0s,MS4.8
GYA LR LR
comp=Z,170nm,24.4s,MS4.7
ARCES ARCESS Array B 135.09 23 PKP PKPdf 01 00 44.0 -0.9
comp=Z,5.8nm,0.8s,baz=188,slow=2.5,SNR=12
ARCES ARCESS Array B 135.09 23 PKP PKPdf 01 00 44.0 -0.9
CD2 Chengdu 136.00 110 *e*PKP PKPdf 01 00 49.5 +1.7
CD2 XPKP 01 00 55.8
CD2 PP PP 01 03 33.5 +6.1
CD2 PKS 01 04 24.5
CD2 SKS SKSdf 01 07 55.0 -3.5
CD2 SKKS SKKSac 01 10 20.8 -1.1
CD2 PP PP
comp=Z,100nm,10.8s
CD2 LR LR
comp=N,200nm,18.4s
CD2 LR LR
comp=Z,180nm,16.8s,MS4.9
BRVK Borovoye 136.85 61 *e*PKIKP PKPdf 01 00 50.0 +1.4
MK31 Makanchi Array 137.91 76 *e*PKIKP PKPdf 01 00 52.5 +1.7
MKAR Makanchi Array 137.91 76 PKhKP 01 00 44.3
comp=Z,0.4nm,0.7s,baz=218,slow=3.3,SNR=2.7
MKAR PKP PKPdf 01 00 49.0 -1.8
comp=Z,0.8nm,0.9s,baz=217,slow=1.4,SNR=3.6
MKAR Makanchi Array 137.91 76 PKP PKPdf 01 00 49.0 -1.8
WMQ Urumqi 138.36 83 *e*PKP PKPdf 01 00 55.6 +3.8
WMQ LR LR
comp=N,375nm,25.1s,MS5.1
WMQ LR LR
comp=E,179nm,23.1s,MS5.1
WMQ LR LR
comp=Z,205nm,24.8s,MS4.8
YKA Yellowknife Ar 139.69 314 PKP PKPdf 01 00 53.3 -0.3
comp=Z,3.6nm,0.9s,baz=121,slow=2.2,SNR=8.7
YKA PP PP 01 03 48.3 -1.9
comp=Z,2.4nm,1.0s,baz=124,slow=6.5,SNR=5.4
YKA Yellowknife Ar 139.69 314 PKP PKPdf 01 00 53.3 -0.3
YKA PP PP 01 03 48.3 -1.9
LZH Lanzhou 140.30 105 *e*PKP PKPdf 01 00 59.3 +3.7
LZH XPKP 01 01 03.8
LZH PP PP 01 04 01.3 +7.2
LZH SKKS SKKSac 01 10 51.5 +4.3
LZH *e*SS SS 01 22 24.3 +6.7
LZH PP PP
comp=Z,127nm,7.6s
LZH LR LR
comp=E,263nm,18.2s
LZH LR LR
comp=Z,385nm,20.5s,MS5.1
GTA Gaotai 140.99 98 PKP PKPdf 01 00 59.5 +2.8
GTA PP PP 01 04 01.8 +3.4
GTA PKS 01 04 32.8
GTA SKS SKSdf 01 08 09.1 +2.7
GTA SKKS SKKSac 01 10 53.0 +2.0
GTA PP PP
comp=Z,65nm,9.2s
GTA LR LR
comp=N,412nm,13.7s,MS5.4
GTA LR LR
comp=E,110nm,12.6s,MS5.4
GTA LR LR
comp=Z,260nm,13.2s,MS5.2
NJ2 Nanjing 143.55 126 *e*PKP PKPdf 01 01 01.8 +0.3
NVS Novosibirsk 143.77 67 *j*/PKIKP PKPdf 01 00 58.6 -2.5
NVS pmax pmax
comp=N,29nm,1.9s
NVS pmax pmax
comp=Z,49nm,1.9s
ZAL Zalesovo 143.92 69 PKIKP PKPdf 01 00 59.1 -2.3
ZALV Zalesovo Beam 143.94 69 PKP PKPdf 01 00 59.1 -2.3
comp=Z,1.2nm,0.4s,baz=261,slow=3.6,SNR=7.6
SKAG Skagway 145.97 300 *e*PKPdf PKPdf 01 01 06.3 +1.5
BTO Baotou 146.83 107 *e*PKP PKPdf 01 01 08.9 +2.0
HYT Haines Junctio 147.62 301 *e*PKPdf PKPdf 01 01 08.4 +0.9
HYT *e*PKPab PKPab 01 01 13.0 +0.4
HHC Hu-ho-hao-te 147.74 109 *e*PKP PKPdf 01 01 11.9 +3.5
HHC PKS 01 04 44.5
HHC SKS SKSdf 01 08 18.6 +2.1
HHC SKKS SKKSac 01 11 33.6 +4.1
HHC LR LR
comp=N,613nm,22.6s,MS5.5
HHC LR LR
comp=E,467nm,21.4s,MS5.5
HHC LR LR
comp=Z,325nm,22.6s,MS5.1
DAWY Dawson 149.91 306 *e*PKPdf PKPdf 01 01 12.1 +1.0
DAWY *e*PKPbc PKPbc 01 01 16.3 +0.3
MOY Mondy 150.25 84 *e*PKIKP PKPbc 01 01 18.0 +0.8
MOY pmax pmax
comp=Z,75nm,2.1s
SONM Songino Array 150.41 94 PKPbc PKPbc 01 01 17.9 +0.2
comp=Z,12nm,1.1s,baz=223,slow=1.9,SNR=4.2
RAGM Ragged Mountai 150.49 297 *e*PKPdf PKPdf 01 01 13.9 +1.8
RAGM *e*PKPbc PKPbc 01 01 18.9 +1.4
ZAK Zakamensk 150.56 88 *e*PKIKP PKPdf 01 01 14.8 +2.2
ZAK pmax pmax
comp=Z,21nm,1.1s
DL2 Dalian 150.61 123 PKP PKPbc 01 01 19.8 +1.3
BMRM Bremner River 150.73 298 *e*PKPbc PKPbc 01 01 19.8 +1.8
EGAK Eagle 150.91 307 *e*PKPdf PKPdf 01 01 12.9 +0.2
EGAK *e*PKPbc PKPbc 01 01 19.3 +0.9
DIV Divide 151.31 298 *e*PKPbc PKPbc 01 01 21.1 +1.7
TLY Talaya 151.56 86 *i* PKIKP PKPbc 01 01 22.0 +1.7
TLY *e* 01 01 34.5
TLY pmax pmax
comp=Z,12nm,0.9s
KSRS Korea Array 151.77 134 PKPbc PKPbc 01 01 21.9 +0.6
comp=Z,4.6nm,0.9s,baz=206,slow=2.4,SNR=21
MCK McKinley 153.69 302 *e*PKIKP PKPdf 01 01 17.0 +0.2
MCK *e* 01 01 25.5
MCK *e* 01 01 37.6
MJAR Matsushiro Arr 154.02 151 PKP PKPdf 01 01 19.2 +1.1
comp=Z,0.4nm,0.3s,baz=162,slow=0.8,SNR=4.0
MJAR PKPbc PKPbc 01 01 27.3 +1.1
comp=Z,2.8nm,1.0s,baz=187,slow=3.2,SNR=8.9
MJAR PKPab PKPab 01 01 40.8 +1.1
comp=Z,1.3nm,0.8s,baz=183,slow=2.4,SNR=4.5
CN2 Changchun 156.28 123 *e*PKP PKPdf 01 01 22.3 +1.3
CN2 PP PP 01 05 32.6 +5.4
CN2 PP PP
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,18.0s,MS5.1
CN2 LR LR
comp=E,200nm,18.0s,MS5.1
CN2 LR LR
comp=Z,200nm,19.0s,MS5.0
MDJ Mudanjiang 158.62 128 PKP PKPdf 01 01 24.8 +0.9
MDJ APKP 01 01 28.5
MDJ SKS SKSdf 01 08 32.0 +3.0
MDJ LR LR
comp=E,391nm,42.6s
MDJ LR LR
comp=Z,329nm,40.7s,MS4.9
BOD Bodaibo 159.88 81 *e*PKIKP PKPdf 01 01 27.3 +2.4
BOD pmax pmax
comp=Z,3.0nm,1.5s
KLR Kul'dur 163.23 123 *e*PKIKP PKPdf 01 01 23.1 -5.6
PETK Petropavlovsk- 172.09 199 PKP PKPdf 01 01 35.0 +0.1
comp=Z,9.0nm,1.2s,baz=163,slow=10,SNR=4.3
PETK Petropavlovsk- 172.09 199 PKP PKPdf 01 01 35.0 +0.1

*ISCJB **19** 00:54:26.2±3.8, 1366S±006×769W±0.1, h10km±24km, mb3.9/8, Error ellipse: s-maj=24.7km s-min=8.8km az=167.7*
*IDC **19** 00:54:26.4±0.8, 1360S×7672W, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/20, mbtmp4.1/10, ML4.9/1, Error ellipse: s-maj=37.1km s-min=13.8km az=79.0*
*NEIC **19** 00:54:31.7±0.5, 1361S×7681W, h35km, Error ellipse: s-maj=19.2km s-min=9.5km az=69.0*
ISC 19 00:54:27.8±4.3, 1358S±007×767W±02, h7km±28km, n18, σ0=73/16, mb3.9/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.59 354**		Pn	**Pn**		**Pn**	**00 54 56.2**	**-0.3**
	191nm,0.3s,baz=187,slow=13,SNR=222								
NNA					Sn		**Sn**	**00 55 16.8**	**-0.5**
	396nm,0.3s,baz=254,slow=13,SNR=28								
ATAH	**Atahualpa**	**6.75 345**		Pn	**Pn**		**Pn**	**00 56 07.0**	**-0.5**
	2.8nm,0.3s,baz=91,slow=3.0,SNR=13								
LPAZ	**La Paz**	**8.68 109**		Pn	**Pn**		**Pn**	**00 56 39.2**	**+5.3**
	0.2nm,0.3s,baz=289,slow=15,SNR=5.3								
LPAZ	**La Paz**	**8.68 109**		Pn	**Pn**		**Pn**	**00 56 39.2**	**+5.3**
LVC	**Limon Verde**	**11.62 142**		Pn	**Pn**		**Pn**	**00 57 14.7**	**+0.5**
	0.8nm,0.3s,baz=322,slow=8.4,SNR=9.2								
CFAA	**Coronel Fontan**	**19.54 158**		P	**Pn**		**Pn**	**00 58 56.9**	**-0.4**
	0.0nm,0.3s,baz=332,slow=7.8,SNR=5.9								
SDV	**Santo Domingo**	**23.11 15**		P	**P**		**P**	**00 59 35.7**	**+1.1**
	1.4nm,0.5s,mb3.7,baz=229,slow=20,SNR=2.4								
PLCA	**Paso Flores**	**27.58 170**		P	**P**		**P**	**01 00 14.8**	**-0.7**
	1.8nm,0.7s,mb3.8,baz=353,slow=12,SNR=5.8								
NVAR	**Mina Array Bea**	**64.76 325**		P	**P**		**P**	**01 05 07.1**	**+0.1**
	0.2nm,0.4s,mb3.5,baz=156,slow=6.9,SNR=2.8								
ULM	**Lac du Bonnet**	**65.75 347**		P	**P**		**P**	**01 05 12.5**	**-0.7**
	1.4nm,0.7s,mb4.1,baz=132,slow=12,SNR=2.1								
MCMT	**McKenzie Canyo**	**66.76 333**		*e*P	**P**		**P**	**01 05 21.7**	**+1.9**
SNAA	**Sanae**	**72.12 161**		P	**P**		**P**	**01 05 52.0**	**-0.6**
	1.2nm,0.8s,mb3.9,baz=296,slow=5.4,SNR=13								
DBIC	**Dimbokro**	**74.07 79**		P	**P**		**P**	**01 06 04.8**	**-0.4**
	2.8nm,0.8s,mb4.3,baz=225,slow=1.4,SNR=3.0								
QSPA	**South Pole Qui**	**76.56 180**		P	**P**		**P**	**01 06 19.1**	**+0.7**
	2.3nm,1.0s,mb4.0,baz=141,slow=2.3,SNR=4.7								
TORD	**Torodi Ar. Bea**	**82.05 74**		P	**P**		**P**	**01 06 49.6**	**+0.1**
	3.1nm,0.9s,mb4.2,baz=263,slow=4.7,SNR=11								
ASAR	**Alice Springs**	**132.41 219**		PKP		PKPdf		01 13 42.2	-1.6
	0.6nm,0.9s,baz=134,slow=2.7,SNR=3.9								
WRA	**Warramunga Arr**	**134.83 223**		PKP		PKPdf		01 13 48.1	-0.3
	0.7nm,0.5s,baz=141,slow=1.3,SNR=3.1								
SONM	**Songino Array**	**145.75 356**		PKPbc		PKPbc		01 14 07.7	+0.1
	1.3nm,1.0s,baz=40,slow=2.5,SNR=5.9								

*ISCJB **19** 00:54:52.7±1.4, 3207N±007×1423E±0.1, h58km±16km, mb3.6/3, Error ellipse: s-maj=17.2km s-min=10.1km az=159.3*
*JMA **19** 00:54:52.5±0.3, 3224N×14205E, h0km, M3.7*
*IDC **19** 00:54:52.4±3.9, 3150N×14097E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/21, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=154.7km s-min=24.1km az=72.0*
ISC 19 00:54:53.8±1.4, 3205N±007×1423E±01, h46km±17km, n17, σ0=98/29, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.38 297**		P	**Pn**		**Pn**	**00 55 29.3**	**-1.0**
JHJ2				*e*S	**Sn**		**Sn**	**00 55 56.4**	**-1.9**
BSO1	**Boso 1**	**2.84 337**		P	**Pn**		**Pn**	**00 55 36.4**	**-0.2**
BSO1				S	**Sn**		**Sn**	**00 56 08.8**	**-0.8**
BSO2	**Boso 2**	**3.01 334**		*e*S	**Sn**		**Sn**	**00 56 14.0**	**+0.3**
BSO3	**Boso 3**	**3.15 331**		P	**Pn**		**Pn**	**00 55 40.0**	**-0.8**
BSO3				*e*S	**Sn**		**Sn**	**00 56 17.4**	**+0.3**
BSO4	**Boso 4**	**3.38 331**		P	**Pn**		**Pn**	**00 55 44.8**	**+0.8**
BSO4				*e*S	**Sn**		**Sn**	**00 56 23.2**	**+0.4**
JOD2	**Odawara 2**	**4.20 321**		P	**Pn**		**Pn**	**00 55 54.4**	**-0.9**
JOD2				*e*S	**Sn**		**Sn**	**00 56 40.6**	**-2.5**
TK01	**Tokai 1**	**4.35 294**		P	**Pn**		**Pn**	**00 55 59.1**	**+1.8**
JYN	**Shimob**	**4.67 318**		P	**Pn**		**Pn**	**00 56 01.8**	**0.0**
JYN				S	**Sn**		**Sn**	**00 56 56.7**	**+2.0**
JRY	**Ryogami san**	**4.88 325**		P	**Pn**		**Pn**	**00 56 05.5**	**+0.8**
JRY				S	**Sn**		**Sn**	**00 57 00.1**	**+0.3**
JAG	**Ashikaga**	**4.98 332**		P	**Pn**		**Pn**	**00 56 06.2**	**+0.2**
JAG				S	**Sn**		**Sn**	**00 57 02.8**	**+0.6**
MJAR	**Matsushiro Arr**	**5.64 324**		Pn	**Pn**		**Pn**	**00 56 15.4**	**+0.4**
	0.9nm,0.3s,baz=155,slow=9.4,SNR=9.3								
MJAR				Sn	**Sn**		**Sn**	**00 57 18.9**	**+0.4**
	0.7nm,0.3s,baz=186,slow=22,SNR=4.0								
MAT	**Matsushiro**	**5.64 324**		P	**Pn**		**Pn**	**00 56 15.9**	**+0.8**
MAT				S	**Sn**		**Sn**	**00 57 19.0**	**+0.5**
MAT	**Matsushiro**	**5.64 324**		P	**Pn**		**Pn**	**00 56 16.0**	**+0.9**
MAT				*e*S	**Sn**		**Sn**	**00 57 18.6**	**+0.1**
JMM	**Marumori**	**5.94 348**		P	**Pn**		**Pn**	**00 56 19.3**	**+0.1**
JMM				*e*S	**Sn**		**Sn**	**00 57 23.8**	**-2.2**
MKAR	**Makanchi Array**	**47.55 306**		P	**P**		**P**	**01 03 25.2**	**+0.6**
	0.3nm,0.4s,mb3.7,baz=89,slow=9.4,SNR=4.5								
WRA	**Warramunga Arr**	**52.26 190**		P	**P**		**P**	**01 04 00.5**	**0.0**
	0.5nm,0.5s,mb3.7,baz=5.6,slow=7.8,SNR=2.4								
ASAR	**Alice Springs**	**55.98 189**		P	**P**		**P**	**01 04 26.8**	**-0.8**
	0.4nm,0.8s,mb3.5,baz=9.2,slow=7.5,SNR=3.5								

*ISCJB **19** 00:56:14.5±2.6, 1365S±004×7663W±006, h7km±16km, mb4.9/72, MS4.8/9, Error ellipse: s-maj=10.1km s-min=5.1km az=151.6*
*IDC **19** 00:56:14.8±0.5, 1360S×7667W, h0km, mb4.7/24, mb1 4.7/27, mb1mx4.7/28, mbtmp4.6/27, ML3.6/2, MS4.2/2, Ms1 4.3/2, ms1mx3.6/34, Error ellipse: s-maj=19.6km s-min=10.1km az=74.0*
*MOS **19** 00:56:18.4±0.9, 1363S×7671W, h33km, mb5.3/19, Error ellipse: s-maj=12.5km s-min=7.7km az=114.9*
*NEIC **19** 00:56:20.5±0.2, 1363S×7654W, h35km, mb5.1/43, ML5.0(LIM), Error ellipse: s-maj=6.6km s-min=3.5km az=57.0*
NEIC Felt [III] at Chincha Alta, Lima and Pisco; [II] at Ica.
*BJI **19** 00:56:20.5, 1360S×7650W, h35km, mB5.1, Ms5.4, Msz5.2*
ISC 19 00:56:19.8±2.2, 1364S±004×7653W±006, h29km±15km, n226, σ0=85/204, mb4.9/72, MS4.8/9, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.67 349**		Pn	**Pn**		**Pn**	**00 56 44.0**	**-3.1**
	53μm,0.5s,SNR=32								
NNA	**Nana**	**1.67 349**		Pn	**Pn**		**Pn**	**00 56 44.3**	**-2.8**
	462nm,0.3s,baz=178,slow=14,SNR=22								
NNA				Sn	**Sn**		**Sn**	**00 57 05.6**	**-2.0**
	1μm,0.3s,baz=198,slow=17,SNR=20								
ATAH	**Atahualpa**	**6.84 344**		Pn	**Pn**		**Pn**	**00 57 58.5**	**+0.2**
	13nm,0.3s,baz=100,slow=4.9,SNR=12								
ATAH				Sn	**Sn**		**Sn**	**00 59 18.6**	**+3.3**
	5.6nm,0.3s,baz=68,slow=16,SNR=1.5								
LPAZ	**La Paz**	**8.53 109**		Pn	**Pn**		**Pn**	**00 58 27.4**	**+6.0**
	2.3nm,0.3s,baz=295,slow=14,SNR=13								
LPAZ				Sn	**Sn**		**Sn**	**01 00 08.2**	**+11**
	baz=225,slow=20,SNR=1.5								
LPAZ				LR	LR			01 02 15.7	
	comp=Z,2μm,19.4s,baz=78,slow=42								
LPAZ	**La Paz**	**8.53 109**		P	**Pn**		**Pn**	**00 58 27.5**	**+6.0**
LPAZ								01 00 08.2	
LVC	**Limon Verde**	**11.49 142**		Pn	**Pn**		**Pn**	**00 59 02.6**	**+0.6**
	4.5nm,0.3s,baz=310,slow=11,SNR=25								
LVC				Sn	**Sn**		**Sn**	**01 01 08.5**	**-0.9**
	3.8nm,0.3s,baz=93,slow=15,SNR=9.0								
LVC				Lg				01 02 08.0	
	1.5nm,0.3s,baz=166,slow=20,SNR=4.0								
LVC	**Limon Verde**	**11.49 142**		*e*Pn	**Pn**		**Pn**	**00 59 02.7**	**+0.7**
SIV	**San Ignacio**	**15.13 101**		Pn	**Pn**		**Pn**	**00 59 51.9**	**+0.3**
	0.1nm,0.3s,baz=272,slow=14,SNR=6.6								
LCO	**Las Campanas**	**16.23 161**		*e*Pn	**Pn**		**Pn**	**01 00 06.3**	**+0.5**
	51nm,1.1s								
ROSC	**El Rosal**	**18.50 7**		P	**Pn**		**Pn**	**01 00 39.5**	**+5.4**
	1.7nm,0.3s,baz=120,slow=17,SNR=5.5								
ROSC				LR	LR			01 08 49.8	
	comp=Z,541nm,20.0s,baz=14,slow=41								
ROSC	**El Rosal**	**18.50 7**		*e*P	**Pn**		**Pn**	**01 00 36.8**	**+2.7**
CFAA	**Coronel Fontan**	**19.44 158**		P	**Pn**		**Pn**	**01 00 45.2**	**-0.1**
	0.2nm,0.3s,baz=335,slow=11,SNR=19								
BCIP	**Isla Barro Col**	**22.89 352**		*e*P	**P**		**P**	**01 01 21.8**	**+0.5**
	116nm,1.3s,mb5.2								
SDV	**Santo Domingo**	**23.13 15**		P	**P**		**P**	**01 01 24.1**	**+0.3**
	29nm,0.9s,mb4.7,baz=206,slow=6.7,SNR=21								
SDV	**Santo Domingo**	**23.13 15**		*e*P	**P**		**P**	**01 01 24.0**	**+0.2**
	42nm,1.0s,mb4.8								
PCRV	**Puerto La Cruz**	**26.44 27**		P	**P**		**P**	**01 01 54.0**	**-0.4**
	22nm,1.1s,mb4.6,baz=229,slow=9.3,SNR=2.2								
PLCA	**Paso Flores**	**27.50 170**		P	**P**		**P**	**01 02 03.2**	**-0.4**
	27nm,0.9s,mb4.8,baz=347,slow=11,SNR=26								
PLCA	**Paso Flores**	**27.50 170**		*e*P	**P**		**P**	**01 02 03.0**	**-0.6**
PLCA				pmax	pmax				
	comp=Z,26nm,0.8s								
PLCA	**Paso Flores**	**27.50 170**		*e*P	**P**		**P**	**01 02 03.0**	**-0.6**
	comp=Z,26nm,0.8s,mb4.8								
TRQA	**Tornquist**	**27.55 155**		*e*P	**P**		**P**	**01 02 03.1**	**-1.0**
	comp=Z,9.8nm,0.8s,mb4.5								
BDFB	**Brasilia**	**27.65 98**		P	**P**		**P**	**01 02 05.8**	**+0.5**
	comp=Z,2.2nm,0.9s,mb3.8,baz=257,slow=18,SNR=5.8								
CMIG	**Matias Romero**	**35.51 329**		P	**P**		**P**	**01 03 14.0**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.6,baz=180,slow=10,SNR=2.7								
TEIG	**Tepich**	**35.58 341**		P	**P**		**P**	**01 03 14.0**	**-0.9**
	comp=Z,11nm,0.9s,mb4.8,baz=166,slow=6.5,SNR=4.7								
EFI	**East Falkland**	**40.76 162**		*e*P	**P**		**P**	**01 03 56.5**	**-1.6**
USHA	**Ushuaia**	**41.59 173**		P	**P**		**P**	**01 04 05.5**	**+0.6**
	comp=Z,18nm,1.0s,mb4.7,baz=336,slow=6.5,SNR=5.6								
GOGA	**Godfrey**	**47.25 352**		*e*P	**P**		**P**	**01 04 51.0**	**+0.6**
GOGA				pmax	pmax				
	comp=Z,26nm,1.5s,mb4.9								
GOGA	**Godfrey**	**47.25 352**		*e*P	**P**		**P**	**01 04 51.0**	**+0.6**
	comp=Z,26nm,1.5s,mb4.9								
SWET	**Sewanee**	**49.40 350**		*e*P	**P**		**P**	**01 05 06.7**	**-0.3**
CPCT	**Cooper Cave**	**49.40 351**		*e*P	**P**		**P**	**01 05 07.5**	**+0.6**
PLAL	**Pickwick Lake**	**49.58 348**		*e*P	**P**		**P**	**01 05 09.2**	**+0.9**
	comp=Z,3.0nm,0.9s,mb4.3								
TXAR	**Lajitas Array**	**50.12 329**		P	**P**		**P**	**01 05 11.8**	**-0.7**
	comp=Z,2.9nm,0.9s,mb4.3,baz=146,slow=9.1,SNR=14								
TXAR	**Lajitas Array**	**50.12 329**		P	**P**		**P**	**01 05 11.8**	**-0.7**
TZTN	**Tazewell**	**50.35 353**		*e*P	**P**		**P**	**01 05 13.0**	**-1.1**
	comp=Z,20nm,1.3s,mb5.0								
MIAR	**Mount Ida**	**50.58 342**		*e*P	**P**		**P**	**01 05 15.2**	**-0.7**
MIAR				pmax	pmax				
	comp=Z,12nm,1.0s,mb4.8								
MIAR	**Mount Ida**	**50.58 342**		*e*P	**P**		**P**	**01 05 15.2**	**-0.8**
	comp=Z,12nm,1.0s,mb4.8								
ELN	**Prospectdale**	**50.75 356**		*e*P	**P**		**P**	**01 05 17.2**	**0.0**
PMSA	**Palmer Station**	**51.80 173**		P	**P**		**P**	**01 05 24.5**	**-0.1**
	comp=Z,6.8nm,0.8s,mb4.6,baz=2.5,slow=8.4,SNR=4.5								
WCI	**Wyandotte Cave**	**52.40 350**		*e*P	**P**		**P**	**01 05

ISCO Idaho Springs 59.66 334 *eP* **P 01 06 22.0 +0.6**
ISCO pmax pmax
comp=Z,18nm,1.7s,mb4.8
ISCO Idaho Springs 59.66 334 *eP* **P 01 06 22.0 +0.6**
comp=Z,18nm,1.7s,mb4.8
SMCO Snowmass 59.73 333 *eP* **P 01 06 16.1 -5.8**
comp=Z,6.0nm,0.8s,mb4.7
ECSD EROS,Sioux Fal 59.97 343 *eP* **P 01 06 21.9 -1.6**
comp=Z,27nm,1.4s,mb5.1
PFO Pinyon Flat Ob 60.45 322 *eP* **P 01 06 27.2 +0.2**
SRU San Rafael 61.32 330 *eP* **P 01 06 33.3 +0.5**
MSU Marysvale 61.67 329 *eP* **P 01 06 35.9 +0.7**
SHPR Sheep Range 61.76 325 *eP* **P 01 06 37.1 +1.3**
GSC Goldstone 61.84 323 *eP* **P 01 06 36.9 +0.5**
GSC pmax pmax
comp=Z,39nm,1.8s,mb5.2
GSC Goldstone 61.84 323 *eP* **P 01 06 36.9 +0.5**
comp=Z,39nm,1.8s,mb5.2
RWWY Rawlins 61.90 334 *eP* **P 01 06 37.4 +0.7**
DAU Daniels Canyon 62.69 331 *eP* **P 01 06 42.6 +0.7**
RSSD Black Hills 62.71 338 *eP* **P 01 06 45.7 +3.7**
JLU Jordanelle 62.93 331 *eP* **P 01 06 44.5 +1.0**
ISA Isabella 63.07 322 *eP* **P 01 06 44.7 +0.1**
DUG Dugway 63.28 330 *eP* **P 01 06 46.1 +0.2**
DUG pmax pmax
comp=Z,19nm,1.0s,mb5.2
DUG Dugway 63.28 330 *eP* **P 01 06 46.1 +0.3**
comp=Z,19nm,1.0s,mb5.2
HWUT Hardware Ranch 63.77 331 *eP* **P 01 06 48.5 -0.6**
BW06 Boulder Array 63.79 333 *eP* **P 01 06 48.5 -0.6**
PDAR Pinedale Array 63.79 333 P **P 01 06 47.8 -1.4**
comp=Z,2.2nm,0.9s,mb4.2,baz=141,slow=7.3,SNR=10
AGMN Agassiz Refuge 64.01 346 *eP* **P 01 06 49.6 -0.9**
comp=Z,17nm,0.7s,mb5.2
TPH Tonopah 64.03 325 *eP* **P 01 06 51.0 +0.1**
TPH pmax pmax
comp=Z,15nm,1.2s,mb4.9
TPH Tonopah 64.03 325 *eP* **P 01 06 51.0 +0.1**
comp=Z,15nm,1.2s,mb4.9
MTUM Tungsten Hills 64.29 324 *eP* **P 01 06 53.0 +0.4**
HVU Hansel Valley 64.47 331 *eP* **P 01 06 53.4 -0.3**
REDW Red Top Meadow 64.83 333 *eP* **P 01 06 56.3 +0.3**
NVAR Mina Array Bea 64.89 325 P **P 01 06 56.5 0.0**
comp=Z,2.8nm,0.9s,mb4.3,baz=145,slow=5.1,SNR=13
ELK Elko 64.91 328 *eP* **P 01 06 57.4 +0.8**
LOHW Long Hollow 64.92 333 *eP* **P 01 06 56.5 -0.1**
RRI2 Red Ridge 65.03 333 *eP* **P 01 06 57.5 +0.3**
comp=Z,17nm,0.9s,mb5.1
MOOW Moose Ponds 65.09 333 *eP* **P 01 06 58.5 +0.9**
IMW Indian Meadow 65.29 333 *eP* **P 01 06 59.1 +0.1**
comp=Z,36nm,1.8s,mb5.1
FLWY Flagg Ranch 65.34 334 *eP* **P 01 06 59.9 +0.6**
RLMT Red Lodge 65.58 335 *eP* **P 01 07 00.8 0.0**
comp=Z,16nm,1.4s,mb4.9
ULM Lac du Bonnet 65.84 347 P **P 01 07 00.9 -1.5**
comp=Z,18nm,0.8s,mb5.1,baz=156,slow=6.5,SNR=14
QLMT Earthquake Lak 66.25 334 *eP* **P 01 07 05.4 +0.3**
GCMT Greycliff 66.28 335 *eP* **P 01 07 04.9 -0.4**
PAHR Pah Rah Range 66.38 325 *eP* **P 01 07 06.9 +0.8**
comp=Z,37nm,1.3s,mb5.2
HLID Hailey 66.62 331 *eP* **P 01 07 08.1 +0.6**
comp=Z,25nm,1.9s,mb4.9
MCMT McKenzie Canyo 66.87 333 P **P 01 07 09.7 +0.6**
BOZ Bozeman (W) 66.98 334 *eP* **P 01 07 09.6 -0.2**
DLMT Dillon 67.18 333 *eP* **P 01 07 11.3 +0.2**
LRM Limekiln Ridge 67.47 334 *eP* **P 01 07 13.6 +0.6**
WVOR Wild Horse Val 67.89 328 *eP* **P 01 07 18.1 +2.5**
WVOR pmax pmax
comp=Z,21nm,1.7s,mb4.9
WVOR Wild Horse Val 67.89 328 *eP* **P 01 07 18.1 +2.5**
comp=Z,22nm,1.7s,mb4.9
MOD Modoc 68.40 326 *eP* **P 01 07 19.1 +0.3**
CHMT Chamberlain Mo 68.68 334 *eP* **P 01 07 20.5 +0.1**
SCHQ Schefferville 68.69 6 P **P 01 07 19.8 -0.5**
comp=Z,7.9nm,0.8s,mb4.7,baz=194,slow=6.5,SNR=7.4
KCPM Cahto Peak 68.77 323 *eP* **P 01 07 21.4 +0.2**
MSO Missoula 68.91 333 *eP* **P 01 07 22.5 +0.6**
BMO Blue Mountains 68.96 330 *eP* **P 01 07 21.9 -0.4**
YBH Yreka Blue Hor 69.61 325 *eP* **P 01 07 25.2 -1.1**
VNA1 Neumayer--Stat 70.07 161 *eP* **P 01 07 29.2 +0.4**
VNA1 Neumayer--Stat 70.07 161 *eP* **P 01 07 29.2 +0.4**
VNA1 *e* 01 07 34.0
VNA2 Neumayer--Watz 70.42 161 *eP* **P 01 07 31.1 +0.2**
VNA2 Neumayer--Watz 70.42 161 *eP* **P 01 07 31.1 +0.2**
VNA2 *e* 01 07 36.4
WALA Waterton Lakes 70.63 335 *eP* **P 01 07 32.7 +0.2**
HAWA Hanford 71.16 330 *eP* **P 01 07 36.1 +0.4**
RSW Rattlesnake Hi 71.19 330 *eP* **P 01 07 35.9 +0.1**
NEW Newport 71.40 333 *eP* **P 01 07 37.2 +0.1**
FFC Flin Flon 71.43 345 *eP* **P 01 07 39.8 +2.6**
FFC pmax pmax
comp=Z,46nm,2.0s,mb5.1
FFC Flin Flon 71.43 345 *eP* **P 01 07 39.8 +2.7**
comp=Z,46nm,2.0s,mb5.1
OD2 Odessa Site #2 71.48 331 *eP* **P 01 07 38.0 +0.3**
SNAA Sanae 72.02 161 *eP* **P 01 07 40.6 0.0**
SNAA Sanae 72.02 161 *eP* **P 01 07 40.6 0.0**
SNAA *e* 01 07 45.7
SNAA Sanae 72.02 161 P **P 01 07 40.8 +0.2**
comp=Z,8.6nm,1.0s,mb4.7,baz=284,slow=5.0,SNR=42
SNAA Sanae 72.02 161 *eP* **P 01 07 40.7 +0.1**
WTV Waterville 72.29 331 P **P 01 07 43.4 +0.9**
FL2 Flat Top 2 72.42 328 P **P 01 07 44.3 +1.0**
RPW Rockport 73.56 331 *eP* **P 01 07 49.4 -0.6**
JCW Jim Creek 73.58 330 *eP* **P 01 07 49.8 -0.3**
LIC Lamto 73.66 79 *eP* **P 01 07 50.2 -1.2**
comp=Z,31nm,0.9s,mb4.9,baz=261
LIC *eMLR* MLR
comp=Z,514nm,23.0s,MS4.5
LIC Lamto 73.66 79 *eP* **P 01 07 51.3 -0.1**
comp=Z,44nm,0.9s,mb5.4
LIC Lamto 73.66 79 *eP* **P 01 07 50.2 -1.2**
comp=Z,16nm,0.9s,mb4.9
LIC LR LR
comp=Z,260nm,23.0s,MS4.5
EDM Edmonton 73.69 338 *eP* **P 01 07 49.6 -1.1**
TIC Toumodi 73.78 79 *eP* **P 01 07 52.0 -0.1**
comp=Z,92nm,1.2s,mb5.6
TIC Toumodi 73.78 79 *eP* **P 01 07 52.0 -0.1**
TIC pmax pmax
comp=Z,92nm,1.2s,mb5.6
CMW Cultus Mountai 73.83 330 P **P 01 07 51.6 0.0**
DBIC Dimbokro 73.94 79 P **P 01 07 53.0 0.0**
comp=Z,13nm,0.9s,mb4.9,baz=237,slow=6.8,SNR=11
KIC Kosan Boka 73.97 79 *eP* **P 01 07 53.2 0.0**
comp=Z,94nm,0.8s,mb5.8
QSPA South Pole Qui 76.50 180 P **P 01 08 06.6 0.0**
comp=Z,8.7nm,0.9s,mb4.7,baz=141,slow=3.1,SNR=18
YKA Yellowknife Ar 81.50 343 P **P 01 08 32.6 -1.4**
comp=Z,2.5nm,0.8s,mb4.2,baz=141,slow=5.5,SNR=11
YKW3 Yellowknife Ar 81.56 343 *eP* **P 01 08 33.3 -1.0**
TOA0 Torodi Ar. Sit 81.93 74 *eP* **P 01 08 37.4 0.0**
TOA0 *ePcP* PcP 01 08 42.7 -0.3
TORD Torodi Ar. Bea 81.93 74 P **P 01 08 37.9 +0.5**
comp=Z,23nm,1.0s,mb5.1,baz=263,slow=5.2,SNR=62
EVO Evora 82.31 47 *eP* **P 01 08 38.0 -0.9**
comp=Z,81nm,1.3s,mb5.2
EVO *eMLR* MLR
comp=Z,255nm,17.5s,MS4.3
MDT Midelt 82.66 54 P **P 01 08 42.5 +1.6**
comp=Z,6.7nm,1.2s,mb4.6,baz=300,slow=4.1,SNR=6.4
PESTR Estremoz 82.74 47 *eP* **P 01 08 42.2 +1.1**
comp=Z,36nm,1.6s,mb5.2
PBAR Barrancos 82.86 48 *eP* **P 01 08 46.8 +5.0**
comp=Z,34nm,1.6s,mb5.1
PCBR Castelo Branco 83.22 46 *eP* **P 01 08 44.9 +1.3**
comp=Z,33nm,1.6s,mb5.1
PVIS Viseu 83.28 45 *eP* **P 01 08 44.6 +0.7**
comp=Z,34nm,1.4s,mb5.2
MTE Manteigas 83.40 46 *eP* **P 01 08 46.4 +1.9**
comp=Z,43nm,1.6s,mb5.2
DLBC Dease Lake 83.98 335 *eP* **P 01 08 46.7 -0.3**
DLBC *epP* pP 01 09 04.3 +8.1
MVO Moncorvo 84.06 45 *eP* **P 01 08 49.7 +1.8**
comp=Z,22nm,1.4s,mb5.1
HKL Haleakala 85.42 292 *eP* **P 01 08 53.1 -2.1**
ESDC Sonseca Array 85.65 48 P **P 01 08 56.1 +0.2**
comp=Z,2.1nm,0.8s,mb4.4,baz=253,slow=5.4,SNR=12
HYT Haines Junctio 88.46 335 *eP* **P 01 09 09.7 +0.7**
BORG Borgarnes 88.49 21 *eP* **P 01 09 15.4 +6.3**
SJPF Ste Jean 88.79 45 *eP* **P 01 09 11.4 +0.4**
comp=Z,27nm,1.1s,mb5.2
SJPF Ste Jean 88.79 45 *eP* **P 01 09 11.4 +0.4**
SJPF pmax pmax
comp=Z,13nm,1.1s,mb5.2
SJPF Ste Jean 88.79 45 *eP* **P 01 09 11.4 +0.4**
comp=Z,13nm,1.1s,mb5.2
EPF Esparros 89.85 46 *eP* **P 01 09 16.5 +0.5**
LFF La Frestale 90.73 44 *eP* **P 01 09 19.8 -0.2**
DAWY Dawson 90.88 337 *eP* **P 01 09 20.0 -0.3**
MTLF Montolieu 91.25 46 *eP* **P 01 09 22.1 -0.4**
comp=Z,14nm,1.1s,mb4.9
MTLF Montolieu 91.25 46 *eP* **P 01 09 22.1 -0.4**
MTLF pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
MTLF Montolieu 91.25 46 *eP* **P 01 09 22.1 -0.4**
comp=Z,6.8nm,1.1s,mb4.9
RJF Les Rejaudoux 91.37 44 *eP* **P 01 09 22.6 -0.4**
RJF *eMLR* MLR
comp=Z,214nm,20.8s,MS4.3
RJF Les Rejaudoux 91.37 44 *eP* **P 01 09 22.6 -0.4**
RJF LR LR
comp=Z,210nm,20.8s,MS4.6
EGAK Eagle 91.90 337 *eP* **P 01 09 24.3 -0.7**
comp=Z,5.9nm,0.9s,mb4.9
TCF Toulx Ste Croi 92.13 43 *eP* **P 01 09 25.8 -0.7**
comp=Z,39nm,1.5s,mb5.2
TCF Toulx Ste Croi 92.13 43 *eP* **P 01 09 25.8 -0.7**
TCF pmax pmax
comp=Z,20nm,1.5s,mb5.2
TCF Toulx Ste Croi 92.13 43 *eP* **P 01 09 25.8 -0.7**
comp=Z,20nm,1.5s,mb5.2
LASF Ste Croix 92.60 45 *eP* **P 01 09 29.0 +0.3**
comp=Z,15nm,1.1s,mb5.0
AVF Avril sur Loir 93.03 43 *eP* **P 01 09 30.0 -0.6**
comp=Z,48nm,1.6s,mb5.4
AVF Avril sur Loir 93.03 43 *eP* **P 01 09 30.0 -0.6**
AVF pmax pmax
comp=Z,24nm,1.6s,mb5.4
AVF Avril sur Loir 93.03 43 *eP* **P 01 09 30.0 -0.6**
comp=Z,24nm,1.6s,mb5.4
SSF Saint Saulge 93.21 42 *eP* **P 01 09 30.7 -0.8**
SMF Signal de Mont 93.31 43 *eP* **P 01 09 31.1 -0.8**
VIVF Saint-Julien-l 93.38 45 *eP* **P 01 09 32.7 +0.4**
LOR Lormes 93.50 42 *eP* **P 01 09 32.1 -0.7**
LOR *eMLR* MLR
comp=Z,304nm,18.2s,MS4.5
LOR Lormes 93.50 42 *eP* **P 01 09 32.1 -0.7**
LOR LR LR
comp=Z,300nm,18.3s,MS4.8
BOSA Boshof 93.61 120 P **P 01 09 33.3 -0.6**
comp=Z,2.8nm,1.0s,mb4.7,baz=262,slow=7.1,SNR=3.0
MAW Mawson 93.81 166 P **P 01 09 33.7 -0.2**
comp=Z,3.0nm,0.9s,mb4.7,baz=210,slow=8.4,SNR=5.7
ORIF Oris-en-Rattie 94.22 45 *eP* **P 01 09 36.9 +0.7**
comp=Z,18nm,1.1s,mb5.1
ORIF *eMLR* MLR
comp=Z,415nm,18.2s,MS4.6
ORIF Oris-en-Rattie 94.22 45 *eP* **P 01 09 36.9 +0.7**
ORIF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
ORIF Oris-en-Rattie 94.22 45 *eP* **P 01 09 36.9 +0.7**
comp=Z,9.1nm,1.1s,mb5.1
COLA College 94.53 336 *eP* **P 01 09 35.1 -2.0**
KEST Kesra 94.55 54 P **P 01 09 37.8 -0.1**
comp=Z,1.2nm,0.9s,mb4.3,baz=260,slow=11,SNR=4.2
CABF La Chapelle 94.80 43 *eP* **P 01 09 38.9 +0.1**
GIVF Givet 94.88 40 *eP* **P 01 09 37.9 -1.2**
LPL La Plagne 94.96 44 *eP* **P 01 09 40.3 +0.8**
comp=Z,19nm,1.3s,mb5.1
LPL La Plagne 94.96 44 *eP* **P 01 09 40.3 +0.8**
LPL pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
LPL La Plagne 94.96 44 *eP* **P 01 09 40.3 +0.8**
comp=Z,9.6nm,1.3s,mb5.1
LPG La Plagne 94.97 45 *eP* **P 01 09 40.6 +1.0**
comp=Z,49nm,1.5s,mb5.4
LPG La Plagne 94.97 45 *eP* **P 01 09 40.6 +1.0**
LPG pmax pmax
comp=Z,24nm,1.5s,mb5.4
LPG La Plagne 94.97 45 *eP* **P 01 09 40.6 +1.0**
comp=Z,24nm,1.5s,mb5.4
DAVOX Davos/Dischmat 97.37 44 P **P 01 09 50.9 +0.4**
comp=Z,4.0nm,0.8s,mb4.9,baz=250,slow=3.5,SNR=13
KHC Kasperske Hory 100.25 42 *eP* Pdif 01 10 05.9 +2.6
GERES GERESS Array B 100.28 42 P Pdif 01 10 03.6 +0.2
comp=Z,0.5nm,0.8s,baz=280,slow=2.4,SNR=5.3
GERES PP PP 01 14 05.6 -4.2
comp=Z,0.2nm,0.5s,baz=292,slow=10,SNR=2.4
GOF Gofitskoye 120.35 46 *ePKIKP* PKPdf 01 15 05.6 -2.8
ASAR Alice Springs 132.46 219 PKP PKPdf 01 15 31.3 -1.0
comp=Z,2.8nm,1.0s,baz=144,slow=4.5,SNR=11
WRA Warramunga Arr 134.88 223 PKP PKPdf 01 15 36.2 -0.7
comp=Z,4.7nm,0.8s,baz=142,slow=1.4,SNR=15
ZALV Zalesovo Beam 137.18 16 PKP PKPdf 01 15 39.4 -0.7
comp=Z,4.5nm,0.8s,baz=281,slow=2.4,SNR=14
ZAL Zalesovo 137.18 16 PKIKP PKPdf 01 15 39.4 -0.7
KURK Kurchatov 137.87 23 *ePKIKP* PKPdf 01 15 41.7 +0.2
MJAR Matsushiro Arr 141.47 313 PKhKP 01 15 41.1
comp=Z,3.0nm,0.9s,baz=106,slow=1.1,SNR=14
MAT Matsushiro 141.47 313 PKP PKPdf 01 15 41.7 -6.8
FITZ Fitzroy Crossi 141.62 215 PKhKP 01 15 43.4
comp=Z,4.8nm,0.9s,baz=207,slow=2.3,SNR=3.4
MDJ Mudanjiang 141.94 329 PKP PKPdf 01 15 48.8 -0.3
MDJ PP PP 01 18 53.9 +0.2
MDJ PKS 01 19 25.3
MDJ PP PP
comp=Z,99nm,12.8s
MDJ LR LR
comp=N,470nm,43.5s,MS5.1
MDJ LR LR
comp=E,494nm,39.2s,MS5.1
MDJ LR LR
comp=Z,254nm,30.5s
MKAR Makanchi Array 142.47 24 PKP PKPdf 01 15 47.1 -2.8
comp=Z,1.3nm,0.8s,baz=329,slow=2.1,SNR=8.8
ZAK Zakamensk 143.36 0 *ePKIKP* PKPdf 01 15 50.5 -0.9
CN2 Changchun 144.52 332 *ePKP* PKPdf 01 15 50.8 -2.9
CN2 PP PP 01 19 10.8 +1.7
SONM Songino Array 145.82 356 PKPbc PKPbc 01 15 56.6 +0.3
comp=Z,11nm,1.1s,baz=347,slow=2.5,SNR=34
WMQ Urumqi 147.02 21 PKP PKPdf 01 15 57.3 -0.6
WMQ LR LR
comp=N,385nm,25.2s,MS5.1
WMQ LR LR
comp=E,169nm,23.0s,MS5.1
WMQ LR LR
comp=Z,215nm,26.0s,MS4.8
KSRS Korea Array 147.79 322 PKPbc PKPbc 01 15 59.5 -2.7
comp=Z,7.3nm,1.1s,baz=43,slow=2.0,SNR=16
THN Thein Dam 148.49 49 *eP* PKPdf 01 16 02.7 +2.0
HHC Hu-ho-hao-te 151.98 347 *ePKP* PKPdf 01 16 04.9 -1.0
HHC APKP 01 16 15.4
HHC PKS 01 19 37.6
HHC PP PP 01 19 56.6 +4.3
HHC SKS SKSdf 01 23 06.9 -4.6
HHC LR LR
comp=N,218nm,19.0s,MS5.1
HHC LR LR
comp=E,202nm,19.0s,MS5.1
HHC LR LR
comp=Z,319nm,20.2s,MS5.1
GTA Gaotai 154.13 6 PKP PKPdf 01 16 08.9 -0.2
GTA APKP 01 16 19.4
GTA XPKP 01 16 23.6
GTA PP PP 01 20 11.0 +6.7
GTA SKS SKSdf 01 23 10.0 -4.1
GTA PP PP
comp=Z,230nm,9.6s
GTA LR LR
comp=N,352nm,23.7s,MS5.2
GTA LR LR
comp=E,205nm,21.6s,MS5.2
GTA LR LR
comp=Z,411nm,23.4s,MS5.2
NJ2 Nanjing 156.88 325 *ePKP* PKPdf 01 16 12.3 -0.7
CD2 Chengdu 162.81 359 *ePKP* PKPdf 01 16 17.9 -1.9
GYA Guiyang 166.90 347 PKP PKPdf 01 16 21.9 -1.5
GYA APKP 01 16 33.4
GYA XPKP 01 16 37.9
GYA PKP2 PKPab 01 17 27.8 +1.2
GYA PKS 01 19 52.0
GYA PP PP 01 21 16.4 +3.2
GYA SKS SKSdf 01 23 20.8 -4.9
GYA PP PP
comp=Z,110nm,8.5s
GYA LR LR
comp=N,130nm,24.2s
GYA LR LR
comp=E,160nm,22.6s
GYA LR LR
comp=Z,180nm,25.0s
KMI Kunming 168.55 3 PKP PKPdf 01 16 22.8 -1.8
KMI APKP 01 16 34.3
CMAR Chiang Mai Arr 173.53 42 PKP PKPdf 01 16 27.1 -0.3
comp=Z,4.2nm,1.1s,baz=283,slow=1.7,SNR=12
CMAR PKPab PKPab 01 17 55.3 -1.0
comp=Z,0.5nm,0.3s,baz=344,slow=5.6,SNR=3.9

ISCJB ***19*** *01:04:49.3±0.3, 60.47S±0.07×26.6W±0.1, h10km, mb4.9/28, MS5.0/12, Error ellipse: s-maj=11.5km s-min=7.4km az=42.8*
IDC ***19*** *01:04:50.2±0.4, 60.35S×26.73W, h0km, mb4.7/17, mb1 4.6/17, mb1mx4.6/19, mbtmp4.7/17, MS4.5/6, Ms1 4.5/6, ms1mx4.3/24, Error ellipse: s-maj=19.1km s-min=13.1km az=32.0*
NEIC ***19*** *01:04:51.5±4.5, 60.32S×26.57W, h8km±27km, mb5.2/16, Error ellipse: s-maj=9.8km s-min=8.0km az=193.0*
GCMT ***19*** *01:04:51.5±0.3, 61.17S×26.32W, h12km± 1km, MW5.3/67, Moment Tensor Solution. s32,c42; s67,c99; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.49±.04; Mθθ-0.02±.03; Mφφ-0.47±.03; Mrθ0.59±.11; Mrφ-0.55±.03; Mθφ-0.08±.09; Best double couple: M=0.93900×10^17 NP1:φs181.00000°, δ46.00000°, λ32.00000°. NP2: φs68.00000°, δ68.00000°, λ132.00000°. Principal axes: T 0.9790, Plg49.0000°, Azm24.0000°; N -0.0810, Plg38.0000°, Azm230.0000°; P -0.8980, Plg13.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***19*** *01:04:51.5, 60.30S×26.60W, h7km, mB5.4, Ms5.5, Msz5.1*
MOS ***19*** *01:04:54.3±1.9, 60.62S×26.42W, h33km, mb5.5/6, Error ellipse: s-maj=33.6km s-min=13.3km az=102.9*

ISC 19 01:04:50.9±0.3, 60.60S±0.06×26.6W±0.1, h10km, n121, σ1.9 09/61, mb4.9/28, MS5.0/12, 3C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.53**	**151**	*eP*	**Pn**	**01 07 47.2**	**-1.7**
VNA1	**Neumayer--Stat**	**12.53**	**151**	*eP*	**Pn**	**01 07 47.2**	**-1.7**
VNA1				*e*		01 07 51.4	
VNA2	**Neumayer--Watz**	**12.93**	**151**	*eP*	**Pn**	**01 07 52.4**	**-2.0**
VNA2	**Neumayer--Watz**	**12.93**	**151**	*eP*	**Pn**	**01 07 52.4**	**-2.0**
VNA2				*e*		01 07 55.8	
SNAA	**Sanae**	**14.54**	**149**	*eP*	**Pn**	**01 08 14.8**	**-1.4**
SNAA				*e*		01 08 17.9	
SNAA	**Sanae**	**14.54**	**149**	Pn	**Pn**	**01 08 14.9**	**-1.3**
	1.0nm,0.3s,baz=321,slow=14,SNR=23						
SNAA				Sn	**Sn**	**01 10 41.3**	**-16**
	0.0nm,0.3s,baz=339,slow=2.7,SNR=1.5						
SNAA				LR	LR	01 12 26.4	
	comp=Z,1μm,19.3s,baz=339,slow=31						
SNAA	**Sanae**	**14.54**	**149**	*eP*	**Pn**	**01 08 14.8**	**-1.4**
SNAA				pmax	pmax		
	comp=Z,20nm,0.8s						
SNAA	**Sanae**	**14.54**	**149**	*e*Pn	**Pn**	**01 08 14.8**	**-1.4**
	comp=Z,20nm,0.8s						
PMSA	**Palmer Station**	**17.49**	**240**	P	**Pn**	**01 08 59.7**	**+5.3**
	comp=Z,0.5nm,0.3s,baz=102,slow=9.7,SNR=9.3						
PMSA				LR	LR	01 14 23.0	
	comp=Z,716nm,18.9s,baz=285,slow=33						
PMSA	**Palmer Station**	**17.49**	**240**	*e*Pn	**Pn**	**01 09 00.1**	**+5.7**
	comp=Z,75nm,1.4s						
MAIT	**Maitri**	**18.40**	**139**	*eP*	**Pn**	**01 09 04.5**	**-1.1**
NVL	**N'lazarevskaya**	**18.43**	**139**	*eP*	**Pn**	**01 09 06.1**	**+0.2**
NVL				pmax	pmax		
	comp=Z,60nm,1.4s						
USHA	**Ushuaia**	**22.76**	**266**	P	**P**	**01 09 54.3**	**+1.5**
	comp=Z,27nm,1.1s,mb4.6,baz=88,slow=8.4,SNR=5.7						
USHA				LR	LR	01 16 42.6	
	comp=Z,2μm,19.9s,MS4.5,baz=94,slow=31						
SYO	**Syowa Base**	**27.98**	**135**	*eP*	**P**	**01 10 39.8**	**-1.3**
SYO	**Syowa Base**	**27.98**	**135**	*eP*	**P**	**01 10 46.6**	**+5.5**
QSPA	**South Pole Qui**	**29.64**	**180**	P	**P**	**01 10 59.6**	**+3.8**
	comp=Z,21nm,0.9s,mb4.9,baz=207,slow=7.0,SNR=33						
QSPA				LR	LR	01 22 25.2	
	comp=Z,868nm,19.4s,MS4.4,baz=189,slow=35						
TRQA	**Tornquist**	**31.62**	**299**	*eP*	**P**	**01 11 13.4**	**-0.2**
	comp=Z,22nm,1.0s,mb4.9						
PLCA	**Paso Flores**	**33.35**	**286**	P	**P**	**01 11 28.1**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.9,baz=142,slow=10,SNR=5.1						
PLCA				PcP	PcP	01 14 12.8	+2.6
	comp=Z,2.8nm,0.9s,baz=272,slow=2.8,SNR=4.1						
PLCA	**Paso Flores**	**33.35**	**286**	*eP*	**P**	**01 11 29.1**	**+0.4**
PLCA				pmax	pmax		
	comp=Z,12nm,1.4s						
PLCA	**Paso Flores**	**33.35**	**286**	*eP*	**P**	**01 11 29.1**	**+0.3**
	comp=Z,12nm,1.4s,mb4.6						
MAW	**Mawson**	**36.38**	**140**	⇓*iP*	**P**	**01 11 55.8**	**+1.2**
	comp=Z,10.0nm,1.1s,mb4.7						
MAW	**Mawson**	**36.38**	**140**	P	**P**	**01 11 56.3**	**+1.7**
	comp=Z,12nm,1.0s,mb4.8,baz=237,slow=8.5,SNR=14						
MAW				LR	LR	01 25 10.8	
	comp=Z,1μm,19.5s,MS4.8,baz=242,slow=33						
MAW	**Mawson**	**36.38**	**140**	⇓*iP*	**P**	**01 11 55.8**	**+1.2**
MAW				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CFAA	**Coronel Fontan**	**39.80**	**298**	P	**P**	**01 12 22.7**	**-1.1**
	comp=Z,3.8nm,0.8s,mb4.2,baz=155,slow=8.7,SNR=51						
CFAA				PcP	PcP	01 14 29.4	-0.3
	comp=Z,0.5nm,0.7s,baz=160,slow=2.8,SNR=3.2						
SUR	**Sutherland**	**41.75**	**69**	P	**P**	**01 12 40.8**	**+0.9**
	comp=Z,6.3nm,0.9s,mb4.3,baz=194,slow=8.3,SNR=3.9						
LCO	**Las Campanas**	**43.11**	**297**	*eP*	**P**	**01 12 50.4**	**-0.6**
	comp=Z,62nm,1.1s,mb5.2						
MIR	**Mirnyy**	**45.61**	**151**	⇓*iP*	**P**	**01 13 12.0**	**+1.5**
MIR				*i*		01 13 18.0	
MIR				*i*		01 13 28.0	
MIR				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.6						
BOSA	**Boshof**	**46.98**	**71**	P	**P**	**01 13 21.5**	**-0.2**
	comp=Z,19nm,1.1s,mb5.0,baz=220,slow=7.2,SNR=13						
BOSA	**Boshof**	**46.98**	**71**	*eP*	**P**	**01 13 21.5**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
BOSA	**Boshof**	**46.98**	**71**	*eP*	**P**	**01 13 21.5**	**-0.2**
	comp=Z,27nm,1.2s,mb5.0						
BDFB	**Brasilia**	**47.50**	**332**	P	**P**	**01 13 26.0**	**+0.1**
	comp=Z,2.5nm,0.9s,mb4.2,baz=200,slow=24,SNR=2.7						
LVC	**Limon Verde**	**47.96**	**303**	LR	LR	01 30 14.6	
	comp=Z,11μm,21.9s,MS5.8,baz=311,slow=32						
LVC	**Limon Verde**	**47.96**	**303**	*eP*	**P**	**01 13 29.4**	**0.0**
	comp=Z,16nm,0.8s,mb5.1						
CASY	**Casey**	**49.52**	**159**	*eP*	**P**	**01 13 43.0**	**+2.1**
SIV	**San Ignacio**	**51.00**	**316**	P	**P**	**01 13 51.2**	**-1.5**
	comp=Z,5.8nm,0.8s,mb4.5,baz=165,slow=8.6,SNR=9.7						
TSUM	**Tsumeb**	**51.78**	**57**	*eP*	**P**	**01 13 58.8**	**+0.3**
	comp=Z,33nm,1.3s,mb5.1						
LPAZ	**La Paz**	**53.33**	**307**	P	**P**	**01 14 10.3**	**+0.3**
	comp=Z,6.0nm,0.5s,mb4.8,baz=132,slow=6.2,SNR=37						
LPAZ	**La Paz**	**53.33**	**307**	*eP*	**P**	**01 14 09.8**	**-0.2**
LPAZ				pmax	pmax		
	comp=Z,54nm,1.4s						
LPAZ	**La Paz**	**53.33**	**307**	*eP*	**P**	**01 14 09.8**	**-0.2**
	comp=Z,54nm,1.4s,mb5.3						
LSZ	**Lusaka**	**59.85**	**66**	*eP*	**P**	**01 14 56.5**	**+0.1**
LSZ				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.1						
LSZ	**Lusaka**	**59.85**	**66**	*eP*	**P**	**01 14 56.5**	**+0.1**
	comp=Z,26nm,1.3s,mb5.1						
LIC	**Lamto**	**68.75**	**23**	*eP*	**P**	**01 15 53.9**	**-0.8**
	comp=Z,86nm,1.6s,mb5.4						
KIC	**Kosan Boka**	**68.94**	**23**	*eP*	**P**	**01 15 55.1**	**-0.7**
	comp=Z,148nm,1.6s,mb5.7						
TIC	**Toumodi**	**69.16**	**23**	*eP*	**P**	**01 15 57.2**	**0.0**
	comp=Z,60nm,0.9s,mb5.5						
TIC	**Toumodi**	**69.16**	**23**	*eP*	**P**	**01 15 57.2**	**0.0**
TIC				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.5						
DBIC	**Dimbokro**	**69.22**	**23**	P	**P**	**01 15 57.2**	**-0.4**
	comp=Z,8.3nm,0.9s,mb4.6,baz=185,slow=6.6,SNR=5.6						
DBIC	**Dimbokro**	**69.22**	**23**	*eP*	**P**	**01 15 57.2**	**-0.4**
DBIC				pmax	pmax		
	comp=Z,25nm,1.3s						
DBIC	**Dimbokro**	**69.22**	**23**	*eP*	**P**	**01 15 57.1**	**-0.4**
	comp=Z,25nm,1.3s,mb5.0						
OTAV	**Otavalo**	**72.47**	**304**	*eP*	**P**	**01 16 18.1**	**+0.7**
	comp=Z,23nm,1.3s,mb4.9						
ROSC	**El Rosal**	**75.07**	**310**	P	**P**	**01 16 32.7**	**0.0**
	comp=Z,3.8nm,0.4s,m

comp=Z,430nm,20.0s,MS4.8,baz=57,slow=30
KMBO Kilima Mbogo 76.45 67 P **P 01 16 44.6 +4.0**
comp=Z,2.8nm,0.6s,mb4.4,baz=233,slow=20,SNR=2.1
PCRV Puerto La Cruz 76.71 321 P **P 01 16 40.9 -1.0**
comp=Z,13nm,0.9s,mb4.9,baz=281,slow=1.6,SNR=4.4
TOA0 Torodi Ar. Sit 76.90 28 *e*P **P 01 16 43.2 +0.2**
TORD Torodi Ar. Bea 76.90 28 P **P 01 16 43.4 +0.4**
comp=Z,52nm,0.9s,mb5.5,baz=200,slow=6.4,SNR=232
SDV Santo Domingo 77.46 315 P **P 01 16 45.0 -1.2**
comp=Z,10.0nm,0.8s,mb4.8,baz=181,slow=4.1,SNR=16
SDV Santo Domingo 77.46 315 *e*P **P 01 16 45.0 -1.2**
comp=Z,16nm,1.0s,mb4.9
TAM Tamanrasset 87.10 29 *e*P **P 01 17 38.8 +2.4**
STKA Stephens Creek 87.35 170 P **P 01 17 39.6 +1.9**
comp=Z,4.1nm,1.0s,mb4.6,baz=322,slow=0.2,SNR=5.5
STKA Stephens Creek 87.35 170 *e*P **P 01 17 39.7 +1.9**
ASAR Alice Springs 94.55 162 P **P 01 18 12.9 +1.5**
comp=Z,1.7nm,1.0s,mb4.4,baz=178,slow=4.2,SNR=5.6
AKASG Malin Array Be 119.67 37 PKP PKPdf 01 23 40.1 +0.4
comp=Z,0.3nm,0.3s,baz=214,slow=0.6,SNR=6.3
MSU Marysvale 120.63 295 *e*PKIKP PKPdf 01 23 44.0 +2.1
RSSD Black Hills 121.74 304 *e*PKIKP PKPdf 01 23 45.8 +2.0
HWUT Hardware Ranch 122.88 297 *e*PKPdf PKPdf 01 23 47.9 +1.8
CMAR Chiang Mai Arr 123.09 113 PKP PKPdf 01 23 49.0 +1.8
comp=Z,1.0nm,0.4s,baz=235,slow=3.4,SNR=11
NVAR Mina Array Bea 123.36 290 PKP PKPdf 01 23 49.4 +2.3
comp=Z,1.1nm,0.8s,baz=190,slow=4.2,SNR=5.6
NVAR Mina Array Bea 123.36 290 PKP PKPdf 01 23 49.4 +2.3
LOHW Long Hollow 124.08 299 *e*PKPdf PKPdf 01 23 49.9 +1.6
TPAW Teton Pass 124.13 299 *e*PKPdf PKPdf 01 23 49.8 +1.4
MOOW Moose Ponds 124.25 299 *e*PKPdf PKPdf 01 23 49.7 +1.0
NAO01 NORSAR Array S 124.52 21 *e*PKPdf PKPdf 01 23 50.3 +1.7
NB2 NORSAR Subarra 124.76 21 PKPdf PKPdf 01 23 49.0 -0.1
comp=Z,3.5nm,1.1s,baz=202,slow=1.9
NOA NORSAR Array B 124.76 21 PKP PKPdf 01 23 50.5 +1.4
comp=Z,2.1nm,0.9s,baz=194,slow=1.6,SNR=5.4
NOA NORSAR Array B 124.76 21 PKP PKPdf 01 23 50.5 +1.4
DLMT Dillon 126.34 299 *e*PKPdf PKPdf 01 23 51.6 -1.0
WVOR Wild Horse Val 126.70 293 *e*PKIKP PKPdf 01 23 55.6 +2.2
CHMT Chamberlain Mo 127.84 300 *e*PKPdf PKPdf 01 23 57.0 +1.6
MSO Missoula 128.07 299 *e*PKPdf PKPdf 01 23 57.4 +1.5
HUMO Hull Mountain 128.83 290 *e*PKPdf PKPdf 01 23 59.2 +1.7
KAF Kangasniemi 128.89 29 *e*p PKPdf 01 23 55.9 -1.0
comp=Z,20nm,1.0s
FCC Fort Churchill 130.08 321 *e*PKIKP PKPdf 01 23 59.9 +0.6
KMI Kunming 130.60 113 PKP PKPdf 01 24 03.0 +1.6
KMI PP PP 01 26 24.3 +7.8
KMI LR LR
comp=N,357nm,22.5s,MS5.1
KMI LR LR
comp=E,296nm,21.1s,MS5.1
KMI LR LR
comp=Z,370nm,39.9s
GYA Guiyang 133.52 116 PKP PKPdf 01 24 09.6 +2.7
GYA PP PP 01 26 42.4 +7.2
GYA PKS 01 27 44.0
GYA SKS SKSdf 01 31 15.6 -2.3
GYA SKKS SKKSac 01 33 29.3 -1.4
GYA PP PP
comp=Z,120nm,7.4s
GYA LR LR
comp=N,180nm,20.6s,MS4.9
GYA LR LR
comp=E,170nm,21.0s,MS4.9
GYA LR LR
comp=Z,180nm,20.4s,MS4.8
ARCES ARCESS Array B 135.05 23 PKP PKPdf 01 24 10.4 +2.0
comp=Z,3.2nm,0.8s,baz=236,slow=0.9,SNR=9.9
CD2 Chengdu 135.99 110 *e*PKP PKPdf 01 24 12.9 +1.5
BRVK Borovoye 136.82 61 *e*PKIKP PKPdf 01 24 13.4 +1.3
MKAR Makanchi Array 137.88 76 PKP PKPdf 01 24 14.9 +0.6
comp=Z,1.5nm,1.0s,baz=259,slow=2.5,SNR=7.0
WMQ Urumqi 138.34 83 PKP PKPdf 01 24 17.0 +1.7
WMQ LR LR
comp=N,485nm,25.2s,MS5.2
WMQ LR LR
comp=E,269nm,23.0s,MS5.2
WMQ LR LR
comp=Z,415nm,26.0s,MS5.1
KURK Kurchatov 138.92 69 *e*PKIKP PKPdf 01 24 17.9 +1.8
YKA Yellowknife Ar 139.67 314 PKP PKPdf 01 24 17.4 +0.3
comp=Z,4.2nm,0.9s,baz=127,slow=2.0,SNR=9.6
LZH Lanzhou 140.30 105 *e*PKP PKPdf 01 24 21.5 +2.4
LZH XPKP 01 24 27.0
LZH PP PP 01 27 24.4 +6.7
LZH SKKS SKKSac 01 34 13.5 +2.8
LZH PP PP
comp=Z,103nm,7.9s
LZH LR LR
comp=E,165nm,18.0s
LZH LR LR
comp=Z,207nm,20.5s,MS4.9
GTA Gaotai 140.98 98 *e*PKP PKPdf 01 24 22.3 +2.1
GTA XPKP 01 24 29.4
NJ2 Nanjing 143.56 126 *e*PKP PKPdf 01 24 28.8 +3.7
SSE Sheshan 143.62 130 *e*PKP PKPdf 01 24 31.0 +5.8
SSE PP PP 01 27 45.8 +8.2
SSE PP PP
comp=Z,65nm,12.0s
SSE LR LR
comp=N,292nm,24.6s,MS5.4
SSE LR LR
comp=E,709nm,24.6s,MS5.4
SSE LR LR
comp=Z,857nm,20.7s,MS5.5
NVS Novosibirsk 143.74 67 *e*PKIKP PKPdf 01 24 22.2 -2.4
NVS pmax pmax
comp=Z,75nm,1.8s
NVS pmax pmax
comp=N,39nm,1.7s
NVS pmax pmax
comp=E,27nm,1.6s
ZAL Zalesovo 143.90 69 PKIKP PKPdf 01 24 23.1 -1.8
ZALV Zalesovo Beam 143.91 69 PKP PKPdf 01 24 23.1 -1.8
comp=E,1.1nm,0.5s,baz=238,slow=5.4,SNR=6.3
SKAG Skagway 145.97 300 *e*PKPbc PKPbc 01 24 29.9 +0.8
HYT Haines Junctio 147.62 301 *e*PKPbc PKPbc 01 24 35.9 +2.1
HHC Hu-ho-hao-te 147.74 109 *e*PKP PKPdf 01 24 33.8 +1.9
HHC PKS 01 28 06.6
HHC PP PP 01 28 09.0 +6.8
HHC SKS SKSdf 01 31 35.9 -4.1
HHC SKKS SKKSac 01 34 52.1 -0.9
HHC LR LR
comp=N,297nm,21.4s,MS5.3
HHC LR LR
comp=E,438nm,21.4s,MS5.3
HHC LR LR
comp=Z,283nm,23.8s,MS5.0
DAWY Dawson 149.91 306 *e*PKPbc PKPbc 01 24 38.8 -0.7
MOY Mondy 150.23 84 *e*PKIKP PKPbc 01 24 43.0 +2.3
MOY pmax pmax
comp=Z,31nm,2.1s
SONM Songino Array 150.40 94 PKPbc PKPbc 01 24 41.6 +0.4
comp=Z,14nm,1.0s,baz=224,slow=2.4,SNR=28
SONM PKPab PKPab 01 24 51.3 +3.5
comp=Z,10nm,0.9s,baz=202,slow=1.1,SNR=9.5
RAGM Ragged Mountai 150.49 297 *e*PKPbc PKPbc 01 24 42.2 +1.2
ZAK Zakamensk 150.54 87⇑ *e*PKIKP PKPbc 01 24 41.8 +0.3
ZAK pmax pmax
comp=Z,15nm,1.1s
DL2 Dalian 150.62 123 PKP PKPbc 01 24 44.3 +2.2
BMRM Bremner River 150.72 298 *e*PKPbc PKPbc 01 24 43.1 +1.6
EGAK Eagle 150.90 307 *e*PKPbc PKPbc 01 24 42.6 +0.7
EYAK Cordova Ski Ar 151.03 297 *e*PKPbc PKPbc 01 24 43.1 +0.8
DIV Divide 151.31 298 *e*PKPbc PKPbc 01 24 45.0 +2.1
DIV *e*PKPab PKPab 01 24 50.3 -0.9
TLY Talaya 151.54 86 *e*PKIKP PKPbc 01 24 45.3 +1.5
KSRS Korea Array 151.78 134 PKPbc PKPbc 01 24 46.1 +1.3
comp=Z,2.9nm,0.9s,baz=197,slow=2.3,SNR=15
KSRS PKPab PKPab 01 24 55.5 +1.7
comp=Z,3.8nm,1.0s,baz=197,slow=2.7,SNR=7.3
KDAK Kodiak Island 152.84 288 PKPbc PKPbc 01 24 47.4 +0.8
COLA College 153.61 305 *e*PKP2 PKPab 01 25 00.0 -0.8
MCK McKinley 153.68 302 *e*PKIKP PKPdf 01 24 42.1 +1.7
MCK *e* 01 24 50.0
CN2 Changchun 156.28 122 *e*PKP PKPdf 01 24 50.9 +6.3
CN2 PP PP 01 29 02.1 +11
MDJ Mudanjiang 158.63 128 PKP PKPdf 01 24 49.6 +2.1
MDJ PP PP 01 29 07.0 +3.4
MDJ SKS SKSdf 01 31 53.5 +0.9
MDJ PP PP
comp=Z,239nm,14.8s
MDJ LR LR
comp=E,429nm,48.8s
MDJ LR LR
comp=Z,625nm,45.0s,MS5.1
BOD Bodaibo 159.86 80 *e*PKIKP PKPdf 01 24 52.8 +4.3
BOD pmax pmax
comp=Z,5.0nm,1.4s
KLR Kul'dur 163.23 123 *e*PKIKP PKPdf 01 24 55.0 +2.7

IDC 19 01:11:10.9±2.0, 143N×12611E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, Error ellipse: s-maj=175.8km s-min=26.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.72**	**160**	P	P	01 16 14.7	+0.1
	0.9nm,0.3s,baz=338,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**26.07**	**164**	P	P	01 16 46.1	-0.1
	0.2nm,0.5s,baz=348,slow=7.5,SNR=4.1						
MKAR	**Makanchi Array**	**59.10**	**326**	P	P	01 21 13.3	+0.2
	0.2nm,0.4s,baz=119,slow=6.6,SNR=5.9						

*NIED **19** 01:21:00.3380N×13920E, h47km, Mw4.3 Best double couple: M0 3.39000×10^15 NP1:φs121.00000°, δ78.00000°, λ-136.00000°. NP2:φs20.00000°, δ47.00000°, λ-16.00000°.*
*IDC **19** 01:21:21.9±3.0, 3383N×14038E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/22, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=62.5km s-min=17.0km az=100.0*
*NEIC **19** 01:21:22.2±2.7, 3362N×13962E, h10km, mb4.0/1, Error ellipse: s-maj=44.0km s-min=29.1km az=114.0*
NEIC Recorded [1 JMA] on Kozu-shima and Miyake-jima.
*ISCJB **19** 01:21:26.2±0.6, 3385N±004×13930E±008, h27km±5km, mb3.6/3, Error ellipse: s-maj=11.6km s-min=4.8km az=153.0*
*JMA **19** 01:21:26.1, 3383N×13924E, h23km±1km, M4.0*
JMA Felt I J1.

ISC 19 01:21:26.1±0.8, 3383N±004×13928E±007, h19km±5km, n15, σ0°84/23, mb3.6/3, 1C-4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.31**	**38**	P	**Pg**	**01 21 33.2**	**+0.3**
JMY				S	**Sg**	**01 21 38.1**	**+0.6**
JKO	**Kozu shima**	**0.38**	**341**	⇓P	**Pg**	**01 21 33.8**	**-0.3**
JKO				S	**Sg**	**01 21 39.0**	**-0.5**
JHJ	**Hachijo jima 2**	**0.82**	**149**	Pn	**Pn**	**01 21 41.1**	**-1.5**
	170nm,0.3s,baz=337,slow=2.0,SNR=43						
JHJ				Sn	**Sn**	**01 21 53.8**	**-0.4**
	756nm,0.3s,baz=257,slow=20,SNR=33						
JHJ2	**Mitsune**	**0.84**	**148**	P	**Pb**	**01 21 41.8**	**-0.3**
JHJ2				S	**Sb**	**01 21 54.3**	**+1.3**
JIM2	**Oshima 3**	**0.90**	**8**	⇓P	**Pb**	**01 21 42.7**	**-0.3**
JIZS	**Izushimoda**	**0.95**	**339**	⇓P	**Pb**	**01 21 43.2**	**-0.8**
JIZS				S	**Sb**	**01 21 55.8**	**-0.3**
KTJJ	**Kamata 2**	**1.11**	**351**	⇓P	**Pn**	**01 21 45.8**	**-0.8**
KTJJ				S	**Sb**	**01 22 00.7**	**-0.1**
TK03	**Tokai 3**	**1.15**	**287**	⇑P	**Pn**	**01 21 46.4**	**-0.7**
TK03				S	**Sb**	**01 22 02.6**	**+0.8**
MJAR	**Matsushiro Arr**	**2.85**	**342**	Pn	**Pn**	**01 22 11.8**	**+1.3**
	9.5nm,0.3s,baz=145,slow=12,SNR=72						
MJAR				Sn	**Sn**	**01 22 51.8**	**+7.5**
	5.5nm,0.3s,baz=86,slow=8.9,SNR=5.7						
MAJO	**Matsushiro**	**2.85**	**342**	*e*Pn	**Pn**	**01 22 12.2**	**+1.6**
MAT	**Matsushiro**	**2.85**	**342**	P	**Pn**	**01 22 11.9**	**+1.4**
YSS	**Yuzh-Sakhalins**	**13.37**	**10**	*e*Pn	**Pn**	**01 24 33.7**	**-1.1**
MKAR	**Makanchi Array**	**44.42**	**305**	P	**P**	**01 29 42.2**	**+6.7**
	0.4nm,0.7s,mb3.3,baz=87,slow=8.1,SNR=3.4						
KURK	**Kurchatov**	**46.61**	**310**	*e*P	**P**	**01 29 52.2**	**-0.5**
	0.9nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**76.45**	**337**	P	**P**	**01 33 14.4**	**+0.3**
	0.7nm,0.7s,mb3.7,baz=42,slow=5.6,SNR=3.6						

*ISCJB **19** 01:22:37.6±0.1, 1361S±002×7673W±003, h16km, mb5.8/317, MS5.4/219, Error ellipse: s-maj=4.6km s-min=2.7km az=144.6*
*IGIL **19** 01:22:38.0, 1354S×7647W, h38km, MS5.7*
*NEIC **19** 01:22:38.3±0.1, 1362S×7662W, h11km, mb5.9/282, ME5.6, MS5.4/196, ML5.5(LIM), Error ellipse: s-maj=3.8km s-min=2.3km az=51.0 Broadband fault plane solution: P waves. NP1:φs50.00000°, δ20.00000°, λ90.00000°. NP2:φs230.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm140.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm320.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Chincha Alta and Pisco; [III] at Ica and Lima.
*IDC **19** 01:22:39.8±2.5, 1359S×7662W, h20km±15km, mb5.2/34, mb1 5.2/38, mb1mx5.2/39, mbtmp5.2/38, ML4.5/3, MS5.3/20, Ms1 5.3/20, ms1mx5.1/30 Error ellipse: s-maj=12.6km s-min=7.6km az=72.0*
*BJI **19** 01:22:40.6, 1360S×7660W, h26km, mB6.0, Ms5.8, Msz5.6*
*MOS **19** 01:22:40.9±0.8, 1345S×7668W, h33km, mb6.0/114, MS5.3/87, Error ellipse: s-maj=7.8km s-min=5.3km az=71.8*
*GCMT **19** 01:22:40.7±0.1, 1387S×77.10W, h14km, MW5.8/91, Moment Tensor Solution. s91,c149; s89,c245; Duration: 1s9 Moment tensor: Scale 10^17Nm; Mrr5.26±.09; Mθθ-2.23±.07; Mφφ-3.03±.08; Mrθ-2.26±.17; Mθφ-3.52±.06; Mφr-1.14±.18; Best double couple: M0 6.26800×10^17 NP1:φs31.00000°, δ35.00000°, λ72.00000°. NP2:φs232.00000°, δ57.00000°, λ102.00000°. Principal axes: T 5.8920, Plg75.0000°, Azm175.0000°; N 0.7510, Plg10.0000°, Azm45.0000°; P -6.6430, Plg11.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*DJA **19** 01:22:40, 1387S×7619W, h2km, mb5.9/6*
*BGS **19** 01:22:41.0, 1363S×7662W, h33km, mb5.7*
*SZGRF **19** 01:22:53.2, 1361S×7600W, h17km, mb6.2, MS5.3, Central Peru*

ISC 19 01:22:39.0±1.6, 1361S±002×7661W±003, h13km±9km, h18km±.5km: pP-P, n946, σ0°86/682, mb5.8/317, MS5.4/219, 164C-6D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.63**	**352**	Pn	**Pn**	**01 23 05.0**	**-2.3**
	228μm,0.9s						
NNA	**Nana**	**1.63**	**352**	Pn	**Pn**	**01 23 05.1**	**-2.2**
	3μm,0.3s,baz=178,slow=16,SNR=2745						
NNA				Sn	**Sn**	**01 23 26.1**	**-2.0**
	14μm,0.3s,baz=227,slow=12,SNR=43						
NNA	**Nana**	**1.63**	**352**	*e*Pn	**Pn**	**01 23 05.4**	**-1.9**
NNA				*e*Sn	**Sn**	**01 23 27.0**	**-1.2**
ARE	**Arequipa**	**5.70**	**120**	*e*P	**Pn**	**01 24 04.0**	**+0.7**
ARE				*e*S	**Sn**	**01 25 14.0**	**+5.3**
ATAH	**Atahualpa**	**6.80**	**345**	Pn	**Pn**	**01 24 18.0**	**-0.4**
	38nm,0.3s,baz=162,slow=6.9,SNR=92						
ATAH				Sn	**Sn**	**01 25 31.4**	**-4.3**
	40nm,0.3s,baz=101,slow=20,SNR=2.3						
ATAH				LR	LR	01 26 35.9	
	comp=Z,36μm,21.4s,baz=66,slow=36						
LPAZ	**La Paz**	**8.62**	**109**	Pn	**Pn**	**01 24 47.8**	**+4.4**
	1.1nm,0.3s,baz=290,slow=13,SNR=79						
LPAZ				Sn	**Sn**	**01 26 31.9**	**+11**
	baz=298,slow=24,SNR=1.4						
LPAZ				Lg		01 26 58.8	
	baz=161,slow=10,SNR=1.7						
LPAZ	**La Paz**	**8.62**	**109**	*e*P	**Pn**	**01 24 46.8**	**+3.4**
LPAZ				pmax	pmax		
	comp=Z,14nm,0.6s						
LPAZ	**La Paz**	**8.62**	**109**	*e*Pn	**Pn**	**01 24 46.8**	**+3.4**
	comp=Z,14nm,0.6s						
CEN1	**Los Morros**	**11.47**	**149**	*e*P	**Pn**	**01 25 22.1**	**-0.4**
LVC	**Limon Verde**	**11.56**	**142**	Pn	**Pn**	**01 25 23.9**	**+0.1**
	comp=Z,12nm,0.3s,baz=312,slow=10.0,SNR=115						
LVC				Sn	**Sn**	**01 27 28.0**	**-4.8**
	comp=Z,17nm,0.3s,baz=99,slow=11,SNR=11						
LVC	**Limon Verde**	**11.56**	**142**	*e*Pn	**Pn**	**01 25 23.8**	**+0.1**
LVC				*e*Sn	**Sn**	**01 27 30.4**	**-2.3**
ANCH	**Antofagasta**	**11.61**	**151**⇑	*i*P	**Pn**	**01 25 23.0**	**-1.4**
OTAV	**Otavalo**	**13.88**	**352**	*e*Pn	**Pn**	**01 25 54.0**	**-1.5**
SIV	**San Ignacio**	**15.21**	**101**	Pn	**Pn**	**01 26 13.6**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=279,slow=12,SNR=33						
SIV				Sn	**Sn**	**01 29 20.2**	**+18**
SIV				Lg		01 30 44.7	
	comp=Z,1.5nm,0.3s,baz=208,slow=22,SNR=2.7						
LCO	**Las Campanas**	**16.28**	**161**	*e*Pn	**Pn**	**01 26 27.6**	**+0.2**
	comp=Z,433nm,1.1s						
LCO				*e*Sn	**Sn**	**01 29 27.8**	**-0.1**
TLL	**Tololo Astrono**	**17.33**	**163**⇓	*i*P	**Pn**	**01 26 41.4**	**+0.8**
ROSC	**El Rosal**	**18.48**	**7**	P	**Pn**	**01 26 55.8**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=270,slow=23,SNR=16						
ROSC				S	**Sn**	**01 30 34.4**	**+13**
	comp=Z,1.8nm,0.3s,baz=271,slow=21,SNR=2.6						
ROSC				LR	LR	01 34 46.7	
	comp=Z,13μm,18.3s,baz=195,slow=39						
ROSC	**El Rosal**	**18.48**	**7**	P	**Pn**	**01 26 55.8**	**+0.8**
ROSC				*e*Pn	**Pn**	**01 26 58.8**	**+3.8**
ROSC				S	**Sn**	**01 30 34.4**	**+13**
ROSC				LR	LR	01 34 46.7	
CFAA	**Coronel Fontan**	**19.49**	**158**	P	**Pn**	**01 27 06.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=333,slow=10,SNR=111						
CFAA				S	**Sn**	**01 30 32.9**	**-13**
	comp=Z,0.1nm,0.3s,baz=323,slow=14,SNR=1.8						
CFAA				LR	LR	01 33 42.7	
	comp=Z,2μm,19.5s,baz=329,slow=34						
PEL	**Peldehue**	**20.18**	**165**⇓	*i*P	**P**	**01 27 13.6**	**+0.3**
FCH	**Farellones**	**20.46**	**165**⇑	*i*P	**P**	**01 27 16.9**	**+0.7**
LMEL	**Las Melosas**	**20.97**	**165**⇑	*i*P	**P**	**01 27 22.5**	**+0.7**
NICH	**Los Niches**	**21.85**	**168**⇑	*i*P	**P**	**01 27 31.5**	**+0.3**
BCIP	**Isla Barro Col**	**22.85**	**352**	*e*P	**P**	**01 27 42.9**	**+0.8**
	comp=Z,685nm,1.3s,mb5.9						
BCIP				LR	LR		
	comp=Z,14μm,20.0s,MS5.4						
SDV	**Santo Domingo**	**23.12**	**15**	P	**P**	**01 27 45.2**	**+0.2**
	comp=Z,42nm,0.6s,mb5.1,baz=212,slow=9.7,SNR=53						
SDV				S	**S**	**01 31 49.2**	**-6.8**
	comp=Z,18nm,0.8s,baz=190,slow=12,SNR=1.6						
SDV				Lg		01 34 37.7	
	comp=Z,39nm,0.9s,baz=55,slow=12,SNR=3.5						
SDV	**Santo Domingo**	**23.12**	**15**	*e*P	**P**	**01 27 44.9**	**-0.1**
	comp=Z,162nm,0.8s,mb5.5						
SDV				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
CCHI	**Chillan**	**23.25**	**171**⇑	*i*P	**P**	**01 27 45.8**	**-0.4**
PCRV	**Puerto La Cruz**	**26.45**	**27**	P	**P**	**01 28 15.9**	**+0.1**
	comp=Z,66nm,1.1s,mb5.1,baz=178,slow=3.5,SNR=10						
PCRV				S	**S**	**01 32 45.0**	**-4.4**
	comp=Z,4.6nm,0.6s,baz=212,slow=19,SNR=1.6						
LPA	**La Plata**	**27.10**	**145**	*e*P	**P**	**01 28 20.0**	**-1.5**
LPA	**La Plata**	**27.10**	**145**	*e*P	**P**	**01 28 25.0**	**+3.5**
LPA				*e*sP	sP	01 28 35.0	+7.7
LPA				*e*pS		01 33 08.0	
LPA				*e*SP		01 33 13.0	
LPA				*e*PCS	PcS	01 35 25.0	+1.1
PLCA	**Paso Flores**	**27.54**	**170**	P	**P**	**01 28 24.8**	**-0.6**
	comp=Z,80nm,1.0s,mb5.3,baz=343,slow=10,SNR=130						
PLCA				S	**S**	**01 33 07.0**	**+0.9**
	comp=Z,6.3nm,1.2s,baz=346,slow=9.2,SNR=1.2						
PLCA				LR	LR	01 36 45.6	
	comp=Z,6μm,20.1s,MS5.2,baz=336,slow=31						
PLCA	**Paso Flores**	**27.54**	**170**⇑	*i*P	**P**	**01 28 24.2**	**-1.2**
PLCA				pmax	pmax		
	comp=Z,206nm,1.0s						
PLCA				MLR	MLR		
	comp=Z,6μm,21.0s						
PLCA	**Paso Flores**	**27.54**	**170**⇑	*i*P	**P**	**01 28 24.2**	**-1.2**
	comp=Z,206nm,1.0s,mb5.7						
PLCA				LR	LR		
	comp=Z,6μm,21.0s,MS5.1						
TRQA	**Tornquist**	**27.60**	**155**	*e*P	**P**	**01 28 24.6**	**-1.4**
	comp=Z,128nm,1.0s,mb5.5						
TRQA				LR	LR		
	comp=Z,10μm,19.0s,MS5.4						
BDFB	**Brasilia**	**27.73**	**98**	P	**P**	**01 28 26.0**	**-1.4**
	comp=Z,11nm,0.8s,mb4.5,baz=257,slow=18,SNR=29						
BDFB				S	**S**	**01 33 13.9**	**+4.2**
	comp=Z,1.8nm,0.9s,baz=113,slow=25,SNR=1.3						
BDFB				Lg		01 37 40.8	
	comp=Z,8.0nm,1.0s,baz=349,slow=26,SNR=3.1						
BDFB				LR	LR	01 39 46.1	
	comp=Z,7μm,21.1s,MS5.2,baz=86,slow=37						
BDFB	**Brasilia**	**27.73**	**98**	P	**P**	**01 28 26.0**	**-1.4**
BDFB				S	**S**	**01 33 13.9**	**+4.1**
TRN	**Trinidad (W)**	**28.43**	**33**	*e*	**P**	**01 28 32.1**	**-1.6**
SPB	**Sao Paulo**	**29.33**	**114**	*e*P	**P**	**01 28 41.1**	**-0.4**
	comp=Z,69nm,1.0s,mb5.3						
TGUH	**Tegucigalpa,Un**	**29.45**	**339**	*e*P	**P**	**01 28 42.7**	**+0.2**
	comp=Z,156nm,1.3s,mb5.6						
TGUH				LR	LR		
	comp=Z,8μm,21.0s,MS5.3						
GRGR	**Grenville**	**29.56**	**31**	*e*P	**P**	**01 28 42.9**	**-0.8**
	comp=Z,464nm,1.1s,mb6.1						
GRGR				LR	LR		
	comp=Z,11μm,20.0s,MS5.5						
BBGH	**Gun Hill**	**31.50**	**33**	PFAKE		01 29 10.0	+9.3
BBGH				LR	LR		
	comp=Z,14μm,22.0s,MS5.6						
MPR	**Mayaguez**	**32.97**	**17**	*e*P	**P**	**01 29 13.5**	**-0.1**
SJG	**San Juan**	**33.17**	**18**	P	**P**	**01 29 14.5**	**-0.9**
	comp=Z,29nm,0.6s,mb5.4,baz=202,slow=11,SNR=3.6						
SJG	**San Juan**	**33.17**	**18**	*e*P	**P**	**01 29 14.4**	**-0.9**
SJG				pmax	pmax		
	comp=Z,52nm,0.7s						
SJG				MLR	MLR		
	comp=Z,8μm,22.0s						
SJG	**San Juan**	**33.17**	**18**	*e*P	**P**	**01 29 14.3**	**-1.0**
	comp=Z,52nm,0.7s,mb5.6						
SJG				LR	LR		
	comp=Z,8μm,22.0s,MS5.4						
AOPR	**Arecibo Observ**	**33.21**	**17**	*e*P	**P**	**01 29 15.5**	**-0.2**
	comp=Z,102nm,1.1s,mb5.7						
HUMP	**Col San Antoni**	**33.29**	**19**	*e*P	**P**	**01 29 16.3**	**-0.1**
	comp=Z,72nm,1.1s,mb5.5						
RPN	**Rapa Nui**	**33.38**	**241**	PFAKE		01 29 30.0	+13
RPN				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
RCC	**Rio Carpintero**	**33.40**	**2**	*e*P	**P**	**01 29 19.7**	**+2.3**
RCC				*e*S	S	01 35 01.0	+23
	comp=N,9μm,21.9s						
RCC				*e*			
	comp=E,5μm,23.2s						
CCIG	**Comitan**	**33.43**	**332**	*i*P	**P**	**01 29 20.5**	**+2.8**
LMGC	**Las Mercedes**	**33.46**	**359**	*e*P	**P**	**01 29 20.0**	**+2.1**
HLGC	**Holguin**	**34.29**	**1**	*e*P	**P**	**01 29 22.8**	**-2.2**
HUIG	**Huatulco**	**34.98**	**326**	*i*P	**P**	**01 29 33.2**	**+2.1**
CAM3	**Guarapari**	**35.14**	**107**⇑	*i*P	**P**	**01 29 30.1**	**-2.5**
CAM3				*i*		01 29 31.9	
CAM3				*i*		01 29 37.2	
CAM3				*i*		01 29 41.3	
CAM3				*i*		01 29 41.3	
CAM3				*i*		01 30 04.0	
CAM3				*i*		01 30 07.4	
CAM3				*i*		01 30 07.4	
CAM3				*i*		01 30 14.6	
CMIG	**Matias Romero**	**35.44**	**329**	P	**P**	**01 29 36.0**	**+0.9**
	comp=E,37nm,1.0s,mb5.2,baz=145,slow=6.0,SNR=16						
CMIG				LR	LR	01 41 56.5	
	comp=E,7μm,21.8s,MS5.3,baz=123,slow=33						
CMIG	**Matias Romero**	**35.44**	**329**	*e*P	**P**	**01 29 37.0**	**+1.9**
TEIG	**Tepich**	**35.53**	**341**	P	**P**	**01 29 35.6**	**-0.2**
	comp=E,167nm,1.2s,mb5.8,baz=115,slow=6.0,SNR=18						
TEIG				S	**S**	**01 34 58.9**	**-12**
	comp=E,8.1nm,1.1s,baz=269,slow=23,SNR=1.6						
TEIG				LR	LR	01 42 53.6	
	comp=E,7μm,21.6s,MS5.4,baz=156,slow=34						
TEIG	**Tepich**	**35.53**	**341**	*e*P	**P**	**01 29 35.6**	**-0.1**
	comp=E,274nm,1.3s,mb6.0						
TEIG				LR	LR		
	comp=Z,8μm,19.0s,MS5.5						
VHO	**Vista Hermosa**	**36.39**	**326**	*i*P	**P**	**01 29 46.8**	**+3.5**
**

DWPF Disney 41.73 354 PFAKE 01 30 40.0 +12
DWPF LR LR
comp=Z,4μm,19.0s,MS5.3
BRAL Brewton 45.49 347 PFAKE 01 31 10.0 +12
BRAL LR LR
comp=Z,4μm,22.0s,MS5.3
KVTX Kingsville 45.82 333 PFAKE 01 31 10.0 +9.2
KVTX LR LR
comp=Z,4μm,19.0s,MS5.4
NHSC New Hope 46.58 356 *e*P **P** **01 31 06.7 +0.1**
NHSC LR LR
comp=Z,4μm,19.0s,MS5.4
HKT Hockley 47.10 337 *e*P **P** **01 31 10.6 -0.2**
HKT pmax pmax
comp=Z,161nm,1.6s,mb5.7
HKT MLR MLR
comp=Z,4μm,20.0s,MS5.3
HKT Hockley 47.10 337 *e*P **P** **01 31 10.6 -0.2**
comp=Z,161nm,1.6s,mb5.7
HKT LR LR
comp=Z,4μm,20.0s,MS5.3
BBSR BB Station 47.12 14 PFAKE 01 31 20.0 +9.2
BBSR LR LR
comp=Z,4μm,20.0s,MS5.3
GOGA Godfrey 47.21 352 *e*P **P** **01 31 10.9 -0.6**
GOGA MLR MLR
comp=Z,5μm,20.0s,MS5.4
VBMS Vicksburg 47.47 344 PFAKE 01 31 20.0 +6.4
VBMS LR LR
comp=Z,3μm,20.0s,MS5.3
JSC Jenkinsville 47.83 355 *e*P **P** **01 31 16.8 +0.5**
NATX Nacogdoches 48.32 339 *e*P **P** **01 31 20.9 +0.7**
comp=Z,433nm,1.6s,mb6.2
NATX LR LR
comp=Z,3μm,22.0s,MS5.3
CNNC Cliffs of the 48.59 359 *e*P **P** **01 31 21.6 -0.6**
comp=Z,199nm,1.4s,mb6.0
CNNC LR LR
comp=Z,5μm,19.0s,MS5.5
JCT Junction City 49.19 333 *e*P **P** **01 31 27.5 +0.6**
JCT pmax pmax
comp=Z,61nm,1.3s,mb5.5
JCT MLR MLR
comp=Z,2μm,22.0s,MS5.0
JCT Junction City 49.19 333 *e*P **P** **01 31 27.5 +0.6**
comp=Z,61nm,1.3s,mb5.5
JCT LR LR
comp=Z,2μm,22.0s,MS5.0
SWET Sewanee 49.35 350 *e*P **P** **01 31 26.8 -1.3**
CPCT Cooper Cave 49.36 351 *e*P **P** **01 31 27.6 -0.5**
OXF Oxford 49.38 346 *e*P **P** **01 31 26.9 -1.3**
OXF pmax pmax
comp=Z,139nm,1.3s,mb5.8
OXF MLR MLR
comp=Z,4μm,22.0s,MS5.3
OXF Oxford 49.38 346 *e*P **P** **01 31 26.9 -1.4**
comp=Z,139nm,1.3s,mb5.8
OXF LR LR
comp=Z,4μm,22.0s,MS5.3
TKL Tuckaleechee C 49.47 352 P **P** **01 31 28.0 -0.9**
comp=Z,83nm,1.2s,mb5.6,baz=157,slow=7.4,SNR=20
TKL LR LR 01 51 10.7
comp=Z,4μm,20.6s,MS5.4,baz=45,slow=35
TKL Tuckaleechee C 49.47 352 *e*P **P** **01 31 27.6 -1.3**
PLAL Pickwick Lake 49.53 348 *e*P **P** **01 31 27.9 -1.6**
comp=Z,44nm,1.1s,mb5.4
PLAL LR LR
comp=Z,2μm,21.0s,MS5.2
TXAR Lajitas Array 50.05 329 P **P** **01 31 33.5 0.0**
comp=Z,30nm,1.1s,mb5.2,baz=149,slow=7.4,SNR=40
TXAR PcP PcP 01 32 54.4 +1.1
comp=Z,7.6nm,0.8s,baz=144,slow=8.8,SNR=4.5
TXAR LR LR 01 50 50.8
comp=Z,3μm,22.0s,MS5.2,baz=105,slow=34
TXAR PKP2bc 02 02 36.6
comp=Z,1.0nm,1.1s,baz=294,slow=1.2,SNR=3.6
TXAR Lajitas Array 50.05 329 P **P** **01 31 33.5 0.0**
TXAR 01 32 54.4
TXAR Lajitas Array 50.05 329 P **P** **01 31 33.5 0.0**
TXAR PcP PcP 01 32 54.4 +1.1
TXAR LR LR 01 50 50.8
TXAR ⇑*e* 02 02 36.6
MET Memphis--Engin 50.08 346 *e*P **P** **01 31 34.7 +1.1**
TZTN Tazewell 50.31 353 *e*P **P** **01 31 33.9 -1.4**
comp=Z,186nm,1.5s,mb5.9
TZTN LR LR
comp=Z,5μm,21.0s,MS5.5
UALR University of 50.38 343 *e*P **P** **01 31 35.3 -0.6**
comp=Z,86nm,1.1s,mb5.7
MIAR Mount Ida 50.53 342 *e*P **P** **01 31 36.8 -0.2**
MIAR pmax pmax
comp=Z,362nm,2.1s,mb5.9
MIAR MLR MLR
comp=Z,2μm,22.0s,MS5.1
MIAR Mount Ida 50.53 342 *e*P **P** **01 31 36.8 -0.3**
comp=Z,362nm,2.1s,mb5.9
MIAR LR LR
comp=Z,2μm,22.0s,MS5.1
HBAR Harrisburg 50.67 345 *e*P **P** **01 31 37.5 -0.6**
BLA Blacksburg 50.67 356 *e*P **P** **01 31 37.4 -0.6**
BLA pmax pmax
comp=Z,128nm,1.3s,mb5.7
BLA MLR MLR
comp=Z,6μm,21.0s,MS5.6
BLA Blacksburg 50.67 356 *e*P **P** **01 31 37.4 -0.6**
comp=Z,128nm,1.3s,mb5.7
BLA LR LR
comp=Z,6μm,21.0s,MS5.6
ELN Prospectdale 50.71 356 *e*P **P** **01 31 37.7 -0.6**
GNAR Gosnell 50.91 346 *e*P **P** **01 31 39.8 -0.1**
comp=Z,2μm,1.2s,mb6.8
URVA University of 50.91 359 *e*P **P** **01 31 39.1 -0.8**
UTMT University of 51.01 347 *e*P **P** **01 31 40.2 -0.4**
comp=Z,286nm,1.5s,mb6.0
PARMO Parma 51.52 346 *e*P **P** **01 31 43.3 -1.1**
PMSA Palmer Station 51.83 173 P **P** **01 31 45.1 -1.3**
comp=Z,67nm,1.1s,mb5.5,baz=5.6,slow=5.2,SNR=26
PMSA Palmer Station 51.83 173⇑*i*P **P** **01 31 46.8 +0.4**
comp=Z,213nm,1.2s,mb6.0
PMSA LR LR
comp=Z,4μm,19.0s,MS5.4
USIN University of 52.34 349 *e*P **P** **01 31 48.6 -1.9**
comp=Z,222nm,1.3s,mb5.9
WCI Wyandotte Cave 52.36 350 *e*P **P** **01 31 49.1 -1.5**
WCI pmax pmax
comp=Z,179nm,1.2s,mb5.9
WCI MLR MLR
comp=Z,3μm,20.0s,MS5.4
WCI Wyandotte Cave 52.36 350 *e*P **P** **01 31 49.1 -1.6**
comp=Z,179nm,1.2s,mb5.9
WCI LR LR
comp=Z,3μm,20.0s,MS5.4
SIUC Southern Illin 52.41 347 *e*P **P** **01 31 49.8 -1.2**
comp=Z,139nm,0.9s,mb5.9
WMOK Wichita Mounta 52.49 337 *e*P **P** **01 31 51.9 +0.2**
WMOK *e* 01 33 01.7
WMOK pmax pmax
comp=Z,163nm,1.6s,mb5.7
WMOK MLR MLR
comp=Z,2μm,22.0s,MS5.1
WMOK Wichita Mounta 52.49 337 *e*P **P** **01 31 51.9 +0.2**
comp=Z,162nm,1.6s,mb5.7
WMOK *e*PcP PcP 01 33 01.7 -0.5
WMOK LR LR
comp=Z,2μm,22.0s,MS5.1
GDL2 Guadalupe Moun 52.74 330 *e*P **P** **01 31 54.2 +0.6**
SDMD Soldier's Deli 52.74 360 *e*P **P** **01 31 53.1 -0.4**
comp=Z,121nm,1.1s,mb5.7
FVM French Village 52.93 346 *e*P **P** **01 31 54.4 -0.5**
FVM pmax pmax
comp=Z,135nm,1.4s,mb5.7
FVM French Village 52.93 346 *e*P **P** **01 31 54.4 -0.5**
comp=Z,178nm,1.4s,mb5.8
MCWV Mont Chateau 53.08 357 *e*P **P** **01 31 55.2 -0.7**
comp=Z,68nm,1.2s,mb5.5
MCWV LR LR
comp=Z,5μm,21.0s,MS5.5
OLIL Olney 53.17 349 *e*P **P** **01 31 55.0 -1.7**
comp=Z,340nm,1.3s,mb6.1
BLO Bloomington 53.31 350 *e*P **P** **01 31 56.3 -1.4**
BLO pmax pmax
comp=Z,164nm,1.1s,mb5.9
BLO Bloomington 53.31 350 *e*P **P** **01 31 56.3 -1.4**
comp=Z,164nm,1.1s,mb5.9
MVL Millersville 53.33 0 *e*P **P** **01 31 53.4 -4.4**
comp=Z,151nm,1.1s,mb5.8

SLM Saint Louis 53.51 347 *e*P **P** **01 31 58.5 -0.7**
SLM pmax pmax
comp=Z,168nm,1.3s,mb5.8
SLM Saint Louis 53.51 347 *e*P **P** **01 31 58.5 -0.6**
comp=Z,168nm,1.3s,mb5.8
AMTX Amarillo 53.78 334 *e*P **P** **01 32 00.9 -0.3**
comp=Z,203nm,1.6s,mb5.8
AMTX *e*PcP PcP 01 33 07.3 +0.2
AMTX LR LR
comp=Z,2μm,21.0s,MS5.2
ACSO Alum Creek Sta 53.89 354 *e*P **P** **01 32 00.6 -1.3**
comp=Z,183nm,1.0s,mb6.0
ACSO LR LR
comp=Z,4μm,19.0s,MS5.5
CPNY Central Park 54.18 2 *e*P **P** **01 32 04.1 +0.1**
comp=Z,61nm,1.2s,mb5.4
PAL Palisades 54.39 3 *e*P **P** **01 32 05.6 0.0**
PAL pmax pmax
comp=Z,78nm,1.1s,mb5.5
PAL Palisades 54.39 3 *e*P **P** **01 32 05.6 +0.1**
comp=Z,78nm,1.1s,mb5.5
ALLY Alegheny Colle 55.08 357 *e*P **P** **01 32 09.4 -1.1**
comp=Z,144nm,1.1s,mb5.9
BNM Barren Site 55.42 330 *e*P **P** **01 32 13.2 0.0**
comp=Z,188nm,1.7s,mb5.8
BRYW Bryant College 55.45 5 *e*P **P** **01 32 13.9 +0.8**
comp=Z,404nm,1.3s,mb6.3
BINY Binghamton 55.53 1 *e*P **P** **01 32 13.8 +0.1**
comp=Z,139nm,1.0s,mb5.9
BINY LR LR
comp=Z,3μm,20.0s,MS5.4
LPM Los Pinos Moun 55.55 330 *e*P **P** **01 32 14.4 +0.3**
LPM *e*PcP PcP 01 33 14.3 +0.4
LENM Lemitar 55.60 329 *e*P **P** **01 32 14.6 +0.1**
LENM *e*PcP PcP 01 33 13.7 -0.4
KSU1 Kansas State U 55.66 341 *e*P **P** **01 32 14.0 -0.8**
comp=Z,51nm,0.9s,mb5.5
KSU1 LR LR
comp=Z,2μm,22.0s,MS5.1
QUA2 Belchertown 55.75 4 *e*P **P** **01 32 14.7 -0.6**
comp=Z,145nm,1.2s,mb5.9
LAZ Ladron 55.88 330 *e*P **P** **01 32 17.0 +0.6**
comp=Z,135nm,1.6s,mb5.7
LAZ *e*PcP PcP 01 33 15.3 +0.1
RKT Rikitea 55.89 251 *e*S **S** **01 40 01.8 -2.6**
comp=Z,3μm,24.0s
RKT *e*SS SS 01 43 47.1 -3.2
comp=Z,704nm,29.2s
RKT *e*LQ 01 46 17.9
comp=Z,5μm,32.2s
RKT *e*LR LR 01 48 18.3
comp=Z,3μm,26.5s,baz=91
WES Weston 55.93 5 *e*P **P** **01 32 15.7 -0.9**
WES MLR MLR
comp=Z,2μm,20.0s,MS5.3
ANMO Albuquerque 55.99 330 P **P** **01 32 17.6 +0.4**
comp=Z,76nm,1.2s,mb5.6,baz=151,slow=9.8,SNR=27
ANMO PcP PcP 01 33 17.4 +1.9
comp=Z,17nm,0.9s,baz=144,slow=9.3,SNR=2.8
ANMO Albuquerque 55.99 330⇑*e*P **P** **01 32 17.5 +0.3**
ANMO Albuquerque 55.99 330 *e*P **P** **01 32 17.4 +0.2**
comp=Z,153nm,1.4s,mb5.8
ANMO LR LR
comp=Z,2μm,19.0s,MS5.3
AAM Ann Arbor 56.01 354 *e*P **P** **01 32 15.7 -1.5**
AAM pmax pmax
comp=Z,89nm,1.0s,mb5.8
AAM Ann Arbor 56.01 354 *e*P **P** **01 32 15.3 -1.9**
comp=Z,88nm,1.0s,mb5.8
AAM LR LR
comp=Z,4μm,19.0s,MS5.5
HRV Adam Dziewonsk 56.03 5 *e*P **P** **01 32 17.9 +0.6**
HRV Adam Dziewonsk 56.03 5 *e*P **P** **01 32 17.2 -0.1**
HRV LR LR
comp=Z,4μm,22.0s,MS5.5
TUC Tucson 56.17 325 *e*P **P** **01 32 18.3 -0.2**
TUC pmax pmax
comp=Z,155nm,1.5s,mb5.8
TUC MLR MLR
comp=Z,4μm,20.0s,MS5.6
TUC Tucson 56.17 325 *e*P **P** **01 32 18.3 -0.2**
comp=Z,155nm,1.5s,mb5.8
TUC LR LR
comp=Z,4μm,20.0s,MS5.6
CBKS Cedar Bluff 56.45 338 *e*P **P** **01 32 21.1 +0.6**
CBKS pmax pmax
comp=Z,280nm,1.4s,mb6.1
CBKS Cedar Bluff 56.45 338 *e*P **P** **01 32 19.5 -0.9**
comp=Z,278nm,1.4s,mb6.1
CBKS *e*PcP PcP 01 33 16.9 -0.4
CBKS LR LR
comp=Z,3μm,21.0s,MS5.3
ACCN Adirondack Com 56.78 3 *e*P **P** **01 32 22.9 +0.2**
comp=Z,225nm,1.1s,mb6.1
FFD Franklin Falls 56.98 4 *e*P **P** **01 32 24.1 +0.1**
comp=Z,51nm,0.9s,mb5.5
HNH Hanover 57.17 4 *e*P **P** **01 32 25.0 -0.4**
comp=Z,201nm,1.1s,mb6.1
SCIA State Center 57.32 345 *e*P **P** **01 32 25.0 -1.5**
comp=Z,240nm,1.4s,mb6.0
SCIA LR LR
comp=Z,3μm,20.0s,MS5.3
NCB Newcomb 57.34 2 *e*P **P** **01 32 26.4 -0.2**
comp=Z,160nm,1.4s,mb5.9
NCB LR LR
comp=Z,2μm,20.0s,MS5.3
JFWS Jewell Farm 57.62 348 *e*P **P** **01 32 28.6 0.0**
JFWS pmax pmax
comp=Z,157nm,1.6s,mb5.8
JFWS MLR MLR
comp=Z,2μm,20.0s,MS5.3
JFWS Jewell Farm 57.62 348 *e*P **P** **01 32 28.6 0.0**
comp=Z,157nm,1.6s,mb5.8
JFWS LR LR
comp=Z,2μm,20.0s,MS5.3
LBNH Lisbon 57.73 4 *e*P **P** **01 32 30.0 +0.7**
LBNH pmax pmax
comp=Z,116nm,1.1s,mb5.8
LBNH MLR MLR
comp=Z,4μm,21.0s,MS5.5
LBNH Lisbon 57.73 4 *e*P **P** **01 32 30.0 +0.7**
comp=Z,116nm,1.1s,mb5.8
LBNH LR LR
comp=Z,4μm,21.0s,MS5.5
SDCO Great Sand Dun 57.84 333 *e*P **P** **01 32 30.5 +0.2**
comp=Z,224nm,1.6s,mb6.0
SDCO LR LR
comp=Z,3μm,21.0s,MS5.4
LONY Lake Ozonia 57.98 2 *e*P **P** **01 32 30.7 -0.4**
comp=Z,188nm,1.4s,mb5.9
LONY LR LR
comp=Z,2μm,19.0s,MS5.2
FRNY Flat Rock 58.23 3 *e*P **P** **01 32 32.9 +0.1**
comp=Z,277nm,1.1s,mb6.2
GLMI Grayling 58.61 353 *e*P **P** **01 32 34.8 -0.7**
comp=Z,189nm,1.2s,mb6.0
GLMI LR LR
comp=Z,6μm,22.0s,MS5.7
EMMW East Machias 58.63 8 *e*P **P** **01 32 35.8 +0.2**
MVCO Mesa Verde 58.78 330 *e*P **P** **01 32 37.2 +0.3**
comp=Z,100nm,1.3s,mb5.7
MVCO LR LR
comp=Z,2μm,19.0s,MS5.2
WUAZ Wupatki 58.91 327 *e*P **P** **01 32 38.8 +1.0**
comp=Z,368nm,1.5s,mb6.2
WUAZ LR LR
comp=Z,4μm,20.0s,MS5.5
PKME Peaks-Kenny Pk 58.97 6 *e*P **P** **01 32 38.0 0.0**
comp=Z,364nm,1.1s,mb6.3
PKME LR LR
comp=Z,4μm,20.0s,MS5.5
GLA Glamis 59.03 323 *e*P **P** **01 32 40.5 +1.8**
GLA pmax pmax
comp=Z,160nm,1.6s,mb5.8
GLA Glamis 59.03 323 *e*P **P** **01 32 38.3 -0.3**
comp=Z,159nm,1.6s,mb5.8
GLA *e*PcP PcP 01 33 30.3 +2.8
GLA LR LR
comp=Z,3μm,21.0s,MS5.3
PV01 Paradox Valley 59.55 331 *e*P **P** **01 32 42.6 +0.4**
comp=Z,331nm,1.2s,mb6.2
ISCO Idaho Springs 59.60 334 *e*P **P** **01 32 42.6 +0.1**
ISCO pmax pmax
comp=Z,153nm,1.7s,mb5.8
ISCO MLR MLR
comp=Z,3μm,20.0s,MS5.3
ISCO Idaho Springs 59.60 334 *e*P **P** **01 32 42.6 +0.1**

comp=Z,153nm,1.7s,mb5.8
ISCO LR LR
comp=Z,3μm,20.0s,MS5.3
SMCO Snowmass 59.67 333 *e*P **P** **01 32 41.2 -1.8**
BAR Barrett 59.87 321 *e*P **P** **01 32 45.5 +0.9**
comp=Z,242nm,1.8s,mb5.9
BAR LR LR
comp=Z,2μm,19.0s,MS5.3
ECSD EROS,Sioux Fal 59.92 343 *e*P **P** **01 32 43.3 -1.4**
comp=Z,87nm,1.0s,mb5.7
ECSD LR LR
comp=Z,2μm,22.0s,MS5.3
PV10 Paradox Valley 59.97 331 *e*P **P** **01 32 44.3 -0.7**
comp=Z,35μm,1.6s
PFO Pinyon Flat Ob 60.38 322 P **P** **01 32 49.0 +0.9**
comp=Z,33nm,1.2s,mb5.3,baz=132,slow=6.0,SNR=13
PFO LR LR 01 55 33.0
comp=Z,2μm,20.5s,MS5.3,baz=128,slow=33
PFO Pinyon Flat Ob 60.38 322 *e*P **P** **01 32 48.5 +0.5**
PFO pmax pmax
comp=Z,321nm,1.8s,mb6.0
PFO MLR MLR
comp=Z,3μm,22.0s,MS5.3
PFO Pinyon Flat Ob 60.38 322 *e*P **P** **01 32 48.5 +0.5**
comp=Z,321nm,1.8s,mb6.0
PFO LR LR
comp=Z,3μm,22.0s,MS5.3
COWI Conover 60.49 350 *e*P **P** **01 32 47.1 -1.4**
comp=Z,82nm,1.4s,mb5.6
COWI LR LR
comp=Z,5μm,19.0s,MS5.6
PHWY Pilot Hill 60.80 335 *e*P **P** **01 32 51.1 +0.5**
comp=Z,96nm,1.4s,mb5.7
SRU San Rafael 61.26 330 *e*P **P** **01 32 54.1 +0.2**
SRU pmax pmax
comp=Z,112nm,1.4s,mb5.8
SRU San Rafael 61.26 330 *e*P **P** **01 32 54.0 +0.2**
comp=Z,165nm,1.4s,mb6.0
ASCN Ascension 61.28 92 PFAKE 01 33 00.0 +5.4
ASCN LR LR
comp=Z,4μm,19.0s,MS5.6
MSU Marysvale 61.61 329 *e*P **P** **01 32 57.0 +0.8**
MSU *e* 01 33 38.0
MVU Marysvale 61.62 329 PFAKE 01 33 10.0 +14
MVU LR LR
comp=Z,4μm,20.0s,MS5.6
SHPR Sheep Range 61.70 325 *e*P **P** **01 32 57.6 +0.7**
TMUT Trail Mountain 61.73 330 *e*P **P** **01 32 57.9 +0.8**
comp=Z,72nm,1.4s,mb5.6
MWC Mount Wilson 61.77 322 *e*P **P** **01 32 58.8 +1.4**
MWC pmax pmax
comp=Z,499nm,1.6s,mb6.4
MWC MLR MLR
comp=Z,1μm,19.0s,MS5.1
MWC Mount Wilson 61.77 322 *e*P **P** **01 32 58.8 +1.3**
comp=Z,499nm,1.6s,mb6.4
MWC LR LR
comp=Z,1μm,19.0s,MS5.1
GSC Goldstone 61.77 323 *e*P **P** **01 32 58.2 +0.8**
GSC pmax pmax
comp=Z,255nm,1.6s,mb6.1
GSC MLR MLR
comp=Z,3μm,20.0s,MS5.4
GSC Goldstone 61.77 323 *e*P **P** **01 32 58.2 +0.8**
comp=Z,255nm,1.6s,mb6.1
GSC LR LR
comp=Z,3μm,20.0s,MS5.4
RWWY Rawlins 61.84 334 *e*P **P** **01 32 58.0 +0.3**
comp=Z,313nm,1.6s,mb6.2
SNCC San Nicolas Is 62.02 320 PFAKE 01 33 10.0 +11
SNCC LR LR
comp=Z,2μm,19.0s,MS5.2
TAOE Nuku Hiva Isla 62.36 267 *e*S **S** **01 41 24.6 -4.0**
comp=Z,22μm,26.0s
TAOE *e*LQ 01 48 56.4
comp=Z,41μm,26.7s
TAOE *e*LR LR 01 51 29.3
comp=Z,22μm,27.8s,baz=106
MPU Maple Canyon 62.50 330 *e*P **P** **01 33 02.5 +0.4**
comp=Z,110nm,1.4s,mb5.8
MPU LR LR
comp=Z,5μm,21.0s,MS5.6
TPNV Topopah Spring 62.62 325 *e*P **P** **01 33 03.6 +0.5**
TPNV pmax pmax
comp=Z,121nm,1.4s,mb5.8
TPNV MLR MLR
comp=Z,3μm,21.0s,MS5.4
TPNV Topopah Spring 62.62 325 *e*P **P** **01 33 03.6 +0.5**
comp=Z,121nm,1.4s,mb5.8
TPNV LR LR
comp=Z,3μm,21.0s,MS5.4
DAU Daniels Canyon 62.63 331 *e*P **P** **01 33 03.9 +0.9**
RSSD Black Hills 62.66 338 *e*P **P** **01 33 02.7 -0.4**
RSSD pmax pmax
comp=Z,117nm,1.4s,mb5.8
RSSD MLR MLR
comp=Z,2μm,22.0s,MS5.3
RSSD Black Hills 62.66 338 *e*P **P** **01 33 02.7 -0.4**
comp=Z,117nm,1.4s,mb5.8
RSSD LR LR
comp=Z,2μm,22.0s,MS5.3
NLU North Lily Min 62.67 330 *e*P **P** **01 33 03.9 +0.6**
comp=Z,167nm,1.6s,mb5.9
EYMN Ely 62.70 349 *e*P **P** **01 33 01.7 -1.6**
comp=Z,109nm,1.1s,mb5.9
EYMN LR LR
comp=Z,3μm,20.0s,MS5.4
JLU Jordanelle 62.87 331 *e*P **P** **01 33 05.4 +0.8**
comp=Z,256nm,1.5s,mb6.1
DAC Darwin (Calif) 62.91 323 PFAKE 01 33 20.0 +15
DAC LR LR
comp=Z,3μm,19.0s,MS5.5
ISA Isabella 63.00 322 *e*P **P** **01 33 06.8 +1.1**
ISA pmax pmax
comp=Z,253nm,1.7s,mb6.1
ISA MLR MLR
comp=Z,2μm,22.0s,MS5.2
ISA Isabella 63.00 322 *e*P **P** **01 33 06.8 +1.1**
comp=Z,253nm,1.7s,mb6.1
ISA LR LR
comp=Z,2μm,22.0s,MS5.2
CTU Camp Tracy 63.08 331 *e*P **P** **01 33 05.6 -0.4**
comp=Z,39nm,1.0s,mb5.5
DUG Dugway 63.21 330 *e*P **P** **01 33 07.5 +0.6**
DUG pmax pmax
comp=Z,283nm,1.4s,mb6.2
DUG MLR MLR
comp=Z,3μm,20.0s,MS5.5
DUG Dugway 63.21 330 *e*P **P** **01 33 07.5 +0.6**
comp=Z,283nm,1.4s,mb6.2
DUG LR LR
comp=Z,3μm,20.0s,MS5.5
NOQ North Oquirrh 63.23 330 *e*P **P** **01 33 07.4 +0.4**
comp=Z,260nm,1.6s,mb6.1
HWUT Hardware Ranch 63.71 331 *e*P **P** **01 33 10.0 -0.2**
comp=Z,133nm,1.1s,mb5.9
HWUT LR LR
comp=Z,3μm,19.0s,MS5.5
BW06 Boulder Array 63.73 333 *e*P **P** **01 33 09.5 -0.8**
comp=Z,104nm,1.6s,mb5.6
BW06 LR LR
comp=Z,2μm,21.0s,MS5.3
PDAR Pinedale Array 63.73 333 P **P** **01 33 09.7 -0.6**
comp=Z,7.2nm,1.0s,mb4.7,baz=141,slow=7.3,SNR=30
PDAR LR LR 02 00 29.4
comp=Z,1μm,20.4s,MS5.1,baz=141,slow=36
PDAR PKP2bc 02 02 08.4
comp=Z,0.3nm,0.4s,baz=338,slow=1.6,SNR=3.9
PDAR Pinedale Array 63.73 333 P **P** **01 33 09.7 -0.6**
PDAR LR LR 02 00 29.4
PDAR ⇑*e* 02 02 08.4
BGU Big Grassy Mou 63.88 330 *e*P **P** **01 33 11.0 -0.3**
comp=Z,115nm,1.4s,mb5.7
SPUT South Promonto 63.89 331 *e*P **P** **01 33 10.8 -0.6**
comp=Z,124nm,1.3s,mb5.8
TPH Tonopah 63.97 325 *e*P **P** **01 33 12.8 +0.8**
TPH pmax pmax
comp=Z,206nm,1.4s,mb6.0
TPH MLR MLR
comp=Z,3μm,20.0s,MS5.4
TPH Tonopah 63.97 325 *e*P **P** **01 33 12.8 +0.8**
comp=Z,206nm,1.4s,mb6.0
TPH LR LR
comp=Z,3μm,20.0s,MS5.4
AGMN Agassiz Refuge 63.97 346 *e*P **P** **01 33 11.2 -0.6**
comp=Z,122nm,0.8s,mb6.0
AGMN LR LR

comp=Z,2µm,21.0s,MS5.3
MTUM Tungsten Hills 64.22 324 *e*P **P 01 33 14.5 +0.8**
AHID Auburn Hatcher 64.41 332 *e*P **P 01 33 14.2 -0.5**
comp=Z,261nm,1.8s,mb6.0
AHID LR LR
comp=Z,3µm,19.0s,MS5.5
HVU Hansel Valley 64.41 331 *e*P **P 01 33 15.1 +0.3**
HVU pmax pmax
comp=Z,80nm,1.1s,mb5.7
HVU Hansel Valley 64.41 331 *e*P **P 01 33 15.1 +0.3**
comp=Z,80nm,1.1s,mb5.7
REDW Red Top Meadow 64.77 333 *e*P **P 01 33 17.2 +0.1**
comp=Z,292nm,1.7s,mb6.0
SNOW Snow King Moun 64.81 333 *e*P **P 01 33 17.9 +0.5**
comp=Z,107nm,1.5s,mb5.7
NVAR Mina Array Bea 64.82 325 P **P 01 33 18.3 +0.8**
comp=Z,10nm,0.8s,mb4.9,baz=137,slow=6.9,SNR=30
NVAR PKP2bc 02 02 07.2
comp=Z,2.6nm,1.1s,baz=258,slow=2.0,SNR=9.0
NVAR Mina Array Bea 64.82 325 P **P 01 33 18.3 +0.8**
NVAR ⇑*e* 02 02 07.2
ELK Elko 64.84 328 P **P 01 33 18.1 +0.4**
comp=Z,33nm,1.1s,mb5.3,baz=125,slow=4.2,SNR=24
ELK Elko 64.84 328 *e*P **P 01 33 17.6 -0.1**
ELK pmax pmax
comp=Z,209nm,1.6s
ELK MLR MLR
comp=Z,5µm,20.0s
ELK Elko 64.84 328 *e*P **P 01 33 17.6 0.0**
comp=Z,209nm,1.6s,mb5.9
ELK LR LR
comp=Z,5µm,20.0s,MS5.7
LOHW Long Hollow 64.86 333 *e*P **P 01 33 17.6 -0.1**
comp=Z,32nm,1.1s,mb5.3
TPAW Teton Pass 64.92 333 *e*P **P 01 33 18.1 +0.1**
comp=Z,127nm,1.5s,mb5.7
RRI2 Red Ridge 64.97 333 *e*P **P 01 33 18.7 +0.3**
comp=Z,278nm,1.5s,mb6.1
MOOW Moose Ponds 65.03 333 *e*P **P 01 33 18.6 -0.3**
comp=Z,260nm,2.3s,mb5.8
DCID1 Drake Creek 65.10 333 *e*P **P 01 33 19.6 +0.3**
comp=Z,330nm,1.6s,mb6.1
IMW Indian Meadow 65.23 333 *e*P **P 01 33 20.3 +0.1**
comp=Z,159nm,1.5s,mb5.8
FLWY Flagg Ranch 65.28 334 *e*P **P 01 33 20.9 +0.5**
comp=Z,428nm,1.5s,mb6.3
RLMT Red Lodge 65.52 335 *e*P **P 01 33 21.4 -0.5**
comp=Z,159nm,1.5s,mb5.8
RLMT LR LR
comp=Z,4µm,21.0s,MS5.5
SAO San Andreas Ge 65.52 322 *e*P **P 01 33 21.5 -0.7**
SAO pmax pmax
comp=Z,186nm,1.6s,mb5.9
SAO MLR MLR
comp=Z,2µm,21.0s,MS5.3
SAO San Andreas Ge 65.52 322 *e*P **P 01 33 21.5 -0.7**
comp=Z,186nm,1.6s,mb5.9
SAO LR LR
comp=Z,2µm,21.0s,MS5.3
LKWY Lake 65.54 334 *e*P **P 01 33 23.5 +1.4**
LKWY pmax pmax
comp=Z,78nm,1.1s,mb5.7
LKWY MLR MLR
comp=Z,2µm,19.0s,MS5.3
LKWY Lake 65.54 334 *e*P **P 01 33 23.5 +1.4**
comp=Z,99nm,1.1s,mb5.8
LKWY LR LR
comp=Z,2µm,19.0s,MS5.4
YFT Old Faithful 65.63 334 *e*P **P 01 33 24.9 +2.2**
comp=Z,152nm,1.4s,mb5.8
BMN Battle Mountai 65.65 327 *e*P **P 01 33 23.9 +1.0**
BMN pmax pmax
comp=Z,102nm,1.4s,mb5.7
BMN MLR MLR
comp=Z,4µm,20.0s,MS5.6
BMN Battle Mountai 65.65 327 *e*P **P 01 33 23.9 +1.0**
comp=Z,102nm,1.4s,mb5.7
BMN LR LR
comp=Z,4µm,20.0s,MS5.6
LAO LASA Array 65.65 338 *e*P **P 01 33 22.9 +0.2**
comp=Z,178nm,1.4s,mb5.9
LAO LR LR
comp=Z,2µm,22.0s,MS5.3
CMB Columbia Colle 65.74 323 *e*P **P 01 33 24.1 +0.6**
CMB pmax pmax
comp=Z,68nm,1.2s,mb5.5
CMB MLR MLR
comp=Z,2µm,20.0s,MS5.3
CMB Columbia Colle 65.74 323 *e*P **P 01 33 24.1 +0.6**
comp=Z,68nm,1.2s,mb5.6
CMB LR LR
comp=Z,2µm,20.0s,MS5.3
BBTS Babate 65.76 67 P **P 01 33 23.8 -0.3**
comp=Z,72nm,1.0s,mb5.7,baz=261,slow=1.5,SNR=6.5
YNR Norris Junctio 65.78 334 *e*P **P 01 33 25.0 +1.4**
comp=Z,84nm,1.4s,mb5.6
ULM Lac du Bonnet 65.80 347 P **P 01 33 22.6 -1.1**
comp=Z,219nm,1.1s,mb6.1,baz=160,slow=6.1,SNR=51
ULM LR LR 02 06 28.2
comp=Z,2µm,18.1s,MS5.5,baz=150,slow=40
ULM Lac du Bonnet 65.80 347 *e*P **P 01 33 22.1 -1.5**
comp=Z,246nm,1.1s,mb6.2
ULM LR LR
comp=Z,3µm,20.0s,MS5.5
YMR Madison River 65.86 334 *e*P **P 01 33 24.9 +0.7**
comp=Z,272nm,1.6s,mb6.0
YMR LR LR
comp=Z,3µm,21.0s,MS5.4
QLMT Earthquake Lak 66.19 334 *e*P **P 01 33 27.3 +1.0**
GCMT Greycliff 66.23 335 *e*P **P 01 33 26.0 -0.5**
comp=Z,143nm,1.4s,mb5.8
PAHR Pah Rah Range 66.31 325 *e*P **P 01 33 28.3 +1.2**
comp=Z,379nm,1.4s,mb6.2
DGMT Dagmar 66.48 340 *e*P **P 01 33 28.1 0.0**
comp=Z,276nm,1.3s,mb6.1
DGMT LR LR
comp=Z,1µm,21.0s,MS5.2
HLID Hailey 66.55 331 *e*P **P 01 33 29.0 +0.3**
comp=Z,145nm,1.6s,mb5.8
HLID LR LR
comp=Z,2µm,21.0s,MS5.3
MCMT McKenzie Canyo 66.81 333 *e*P **P 01 33 30.5 +0.3**
comp=Z,172nm,1.4s,mb5.9
BOZ Bozeman (W) 66.93 334 *e*P **P 01 33 30.4 -0.6**
BOZ pmax pmax
comp=Z,110nm,1.4s,mb5.7
BOZ MLR MLR
comp=Z,2µm,21.0s,MS5.3
BOZ Bozeman (W) 66.93 334 *e*P **P 01 33 30.4 -0.5**
comp=Z,110nm,1.4s,mb5.7
BOZ LR LR
comp=Z,2µm,21.0s,MS5.3
DLMT Dillon 67.12 333 *e*P **P 01 33 32.4 +0.2**
comp=Z,150nm,1.4s,mb5.8
OHCM Honcut 67.25 324 *e*P **P 01 33 34.1 +1.0**
MCCM Marconi Confer 67.29 322 *e*P **P 01 33 33.4 -0.1**
comp=Z,146nm,1.1s,mb5.9
MCCM LR LR
comp=Z,2µm,21.0s,MS5.3
NSHM Saint Helena R 67.37 322 *e*P **P 01 33 34.0 0.0**
LRM Limekiln Ridge 67.42 334 *e*P **P 01 33 34.3 +0.2**
WVOR Wild Horse Val 67.82 328 *e*P **P 01 33 36.3 -0.4**
WVOR pmax pmax
comp=Z,199nm,1.7s,mb5.9
WVOR MLR MLR
comp=Z,3µm,20.0s,MS5.5
WVOR Wild Horse Val 67.82 328 *e*P **P 01 33 36.3 -0.4**
comp=Z,200nm,1.7s,mb5.9
WVOR LR LR
comp=Z,3µm,20.0s,MS5.5
HRY Holter Researc 67.86 335 *e*P **P 01 33 37.1 +0.3**
HOPS Hopland 67.95 322 *e*P **P 01 33 38.0 +0.4**
comp=Z,410nm,1.8s,mb6.2
HOPS LR LR
comp=Z,2µm,22.0s,MS5.3
EGMT Eagleton 68.09 337 *e*P **P 01 33 38.6 +0.4**
comp=Z,123nm,1.2s,mb5.8
EGMT LR LR
comp=Z,590nm,21.0s,MS4.8
SHEL Horse Pasture 68.25 102 PFAKE 01 33 50.0 +10
SHEL LR LR
comp=Z,4µm,19.0s,MS5.7
MOD Modoc 68.33 326 *e*P **P 01 33 40.5 +0.6**
comp=Z,303nm,1.4s,mb6.1
MOD LR LR
comp=Z,2µm,20.0s,MS5.4
CHMT Chamberlain Mo 68.62 334 *e*P **P 01 33 41.9 +0.3**

SCHQ Schefferville 68.67 6 P **P 01 33 41.2 -0.6**
comp=Z,29nm,0.8s,mb5.3,baz=187,slow=4.6,SNR=27
SCHQ Schefferville 68.67 6 *e*P **P 01 33 40.9 -0.9**
comp=Z,69nm,1.0s,mb5.5
SCHQ LR LR
comp=Z,4µm,21.0s,MS5.7
WDC Whiskeytown Da 68.68 324 *e*P **P 01 33 40.4 -1.7**
WDC pmax pmax
comp=Z,96nm,1.5s,mb5.5
WDC MLR MLR
comp=Z,2µm,22.0s,MS5.2
WDC Whiskeytown Da 68.68 324 *e*P **P 01 33 40.4 -1.8**
comp=Z,96nm,1.5s,mb5.5
WDC LR LR
comp=Z,2µm,22.0s,MS5.2
KCPM Cahto Peak 68.70 323 *e*P **P 01 33 43.2 +0.9**
comp=Z,204nm,1.5s,mb5.8
KIPM Iron Peak 68.72 323 *e*P **P 01 33 43.1 +0.7**
comp=Z,301nm,1.5s,mb6.0
PMOR Pomariorio Ree 68.80 259 *e*P **P 01 33 43.7 +0.3**
comp=Z,285nm,1.4s,mb6.0
MSO Missoula 68.85 333 *e*P **P 01 33 43.2 +0.1**
comp=Z,172nm,1.4s,mb5.8
MSO LR LR
comp=Z,2µm,19.0s,MS5.4
BMO Blue Mountains 68.90 330 *e*P **P 01 33 43.0 -0.4**
comp=Z,94nm,1.4s,mb5.5
BMO LR LR
comp=Z,3µm,21.0s,MS5.5
YBH Yreka Blue Hor 69.54 325 P **P 01 33 46.5 -0.9**
comp=Z,12nm,1.0s,mb4.8,baz=112,slow=3.9,SNR=25
YBH Yreka Blue Hor 69.54 325 *e*P **P 01 33 46.3 -1.1**
YBH pmax pmax
comp=Z,47nm,1.1s
YBH MLR MLR
comp=Z,2µm,22.0s
YBH Yreka Blue Hor 69.54 325 *e*P **P 01 33 46.3 -1.2**
comp=Z,47nm,1.1s,mb5.3
YBH LR LR
comp=Z,2µm,22.0s,MS5.4
KHMM Horse Mountain 69.56 324 *e*P **P 01 33 48.9 +1.3**
PPT Papeete 70.01 256 *e*S S 01 42 55.3 -6.3
comp=Z,5µm,28.2s
PPT *e*SS SS 01 47 28.9 -2.2
comp=Z,1µm,25.8s
PPT *e*LQ 01 51 17.7
comp=Z,4µm,29.2s
PPT *e*LR LR 01 54 44.9
comp=Z,3µm,26.2s,baz=99
PPT Papeete 70.01 256 LR LR 01 55 01.4
comp=Z,772nm,19.3s,MS5.0,baz=91,slow=28
KTRM Thompson Ridge 70.03 325 P **P 01 33 51.0 +0.5**
CMLA Cha da Macela 70.03 41 PFAKE 01 34 00.0 +9.4
CMLA LR LR
comp=Z,2µm,20.0s,MS5.3
KRMB Red Mountain 70.08 324 *e*P **P 01 33 51.8 +1.1**
comp=Z,295nm,1.5s,mb6.0
LNOR Lincton Mounta 70.11 330 *e*P **P 01 33 50.7 -0.2**
comp=Z,28nm,1.1s,mb5.1
VNA1 Neumayer--Stat 70.12 161 *e*P **P 01 33 51.2 +0.6**
VNA1 *e* pP 01 33 57.0 +2.0
HUMO Hull Mountain 70.26 325 *e*P **P 01 33 51.3 -0.6**
comp=Z,38nm,1.5s,mb5.1
HUMO LR LR
comp=Z,2µm,22.0s,MS5.3
VNA2 Neumayer--Watz 70.47 161 *e*P **P 01 33 52.6 -0.2**
VNA2 *e* pP 01 33 58.0 +0.8
WALA Waterton Lakes 70.57 335 *e*P **P 01 33 53.9 +0.3**
comp=Z,204nm,1.6s,mb5.8
KBO Bosley Butte 70.71 324 *e*P **P 01 33 56.6 +2.0**
comp=Z,601nm,1.7s,mb6.2
CROR Criterion Ridg 70.82 328 P **P 01 33 56.2 +1.0**
HAWA Hanford 71.09 330 *e*P **P 01 33 56.9 0.0**
comp=Z,207nm,1.5s,mb5.8
HAWA LR LR
comp=Z,2µm,20.0s,MS5.5
RSW Rattlesnake Hi 71.12 330 *e*P **P 01 33 57.4 +0.4**
comp=Z,248nm,1.4s,mb6.0
KEBM Edson Butte 71.20 325 *e*P **P 01 33 59.0 +1.5**
comp=Z,317nm,1.4s,mb6.0
NEW Newport 71.34 333 *e*P **P 01 33 58.1 -0.2**
NEW pmax pmax
comp=Z,134nm,1.4s
NEW MLR MLR
comp=Z,830nm,20.0s
NEW Newport 71.34 333 *e*P **P 01 33 58.0 -0.2**
comp=Z,134nm,1.4s,mb5.7
NEW LR LR
comp=Z,830nm,20.0s,MS5.0
FFC Flin Flon 71.39 345 P **P 01 33 57.9 -0.5**
comp=Z,262nm,1.2s,mb6.0,SNR=10
FFC Flin Flon 71.39 345 *e*P **P 01 33 57.3 -1.1**
FFC pmax pmax
comp=Z,71nm,1.2s,mb5.5
FFC MLR MLR
comp=Z,2µm,20.0s,MS5.3
FFC Flin Flon 71.39 345 *e*P **P 01 33 57.3 -1.1**
comp=Z,71nm,1.2s,mb5.5
FFC LR LR
comp=Z,2µm,20.0s,MS5.3
HOOD Mount Hood Mea 71.40 328 *e*P **P 01 33 59.0 +0.3**
comp=Z,650nm,1.9s,mb6.2
OD2 Odessa Site #2 71.42 331 P **P 01 33 59.3 +0.5**
COR Corvallis 71.76 327 *e*P **P 01 34 01.4 +0.5**
COR pmax pmax
comp=Z,511nm,1.5s,mb6.2
COR MLR MLR
comp=Z,2µm,22.0s,MS5.4
COR Corvallis 71.76 327 *e*P **P 01 34 01.4 +0.5**
comp=Z,511nm,1.5s,mb6.2
COR LR LR
comp=Z,2µm,22.0s,MS5.4
SNAA Sanae 72.08 161 *e*P **P 01 34 02.1 -0.4**
SNAA *e* pP 01 34 07.6 +0.8
SNAA Sanae 72.08 161 P **P 01 34 02.1 -0.3**
comp=Z,67nm,1.1s,mb5.5,baz=282,slow=5.6,SNR=256
SNAA Sanae 72.08 161 *e*P **P 01 34 02.0 -0.5**
SNAA pmax pmax
comp=Z,382nm,1.3s
SNAA Sanae 72.08 161 *e*P **P 01 34 02.0 -0.5**
comp=Z,382nm,1.3s,mb6.2
ETW Entiat 72.34 331 *e*P **P 01 34 04.5 +0.2**
comp=Z,531nm,1.7s,mb6.2
HEBO Mount Hebo 72.42 327 *e*P **P 01 34 05.9 +1.0**
comp=Z,645nm,1.7s,mb6.3
BMW Boistfort Moun 72.99 328 *e*P **P 01 34 08.7 +0.5**
RPW Rockport 73.50 331 *e*P **P 01 34 10.9 -0.3**
comp=Z,90nm,1.3s,mb5.5
FCC Fort Churchill 73.52 351 *e*P **P 01 34 09.8 -1.2**
FCC pmax pmax
comp=Z,144nm,1.3s,mb5.7
FCC Fort Churchill 73.52 351 *e*P **P 01 34 09.8 -1.2**
comp=Z,144nm,1.3s,mb5.8
JCW Jim Creek 73.52 330 *e*P **P 01 34 10.9 -0.4**
GNW Green Mountain 73.53 329 *e*P **P 01 34 10.5 -0.8**
comp=Z,251nm,1.8s,mb5.8
EDM Edmonton 73.64 338 *e*P **P 01 34 11.0 -0.9**
LIC Lamto 73.73 79⇑*i*P **P 01 34 13.0 -0.3**
comp=Z,204nm,1.1s,mb5.7,baz=265
LIC *e*MLR MLR
comp=Z,5µm,19.8s,MS5.5
LIC Lamto 73.73 79 *e*P **P 01 34 13.0 -0.3**
comp=Z,208nm,1.0s,mb6.0
LIC Lamto 73.73 79⇑*i*P **P 01 34 13.0 -0.3**
comp=Z,102nm,1.1s,mb5.7
LIC LR LR
comp=Z,2µm,19.8s,MS5.5
TIC Toumodi 73.85 79 *e*P **P 01 34 13.8 -0.2**
comp=Z,2µm,2.1s,mb6.6
NLWA Neilton Lookou 73.93 329 *e*P **P 01 34 14.4 +0.7**
comp=Z,586nm,1.7s,mb6.2
DBIC Dimbokro 74.01 79 P **P 01 34 14.9 -0.1**
comp=Z,63nm,0.9s,mb5.5,baz=231,slow=6.5,SNR=49
DBIC LR LR 02 05 09.7
comp=Z,2µm,19.5s,MS5.5,baz=232,slow=34
DBIC Dimbokro 74.01 79 *e*P **P 01 34 14.8 -0.2**
DBIC pmax pmax
comp=Z,201nm,1.3s
DBIC MLR MLR
comp=Z,3µm,22.0s
DBIC Dimbokro 74.01 79 *e*P **P 01 34 14.8 -0.2**
comp=Z,201nm,1.3s,mb5.9
DBIC LR LR
comp=Z,3µm,22.0s,MS5.6
KIC Kosan Boka 74.04 79 *e*P **P 01 34 14.9 -0.2**
comp=Z,439nm,0.8s,mb6.4
PGC Sidney 74.57 330 *e*P **P 01 34 17.9 +0.4**

comp=Z,708nm,1.6s,mb6.3
QSPA South Pole Qui 76.53 180 P **P 01 34 28.6 +0.3**
comp=Z,53nm,0.9s,mb5.5,baz=149,slow=2.4,SNR=105
QSPA LR LR 02 02 30.6
comp=Z,3µm,19.6s,MS5.6,baz=153,slow=31
MAIT Maitri 76.71 160 *e*P **P 01 34 28.7 -0.7**
NVL N'lazarevskaya 76.74 160*c i*P **P 01 34 29.8 +0.2**
NVL *i* pP 01 34 35.4 +1.4
NVL pmax pmax
comp=Z,254nm,1.7s,mb5.9
BBB Bella Bella 79.14 331 P **P 01 34 42.7 -0.4**
comp=Z,36nm,0.9s,mb5.3,baz=152,slow=6.4,SNR=7.5
BBB Bella Bella 79.14 331 P **P 01 34 42.7 -0.4**
PFVI Vila Bisbo 81.18 48 *e*P **P 01 34 56.2 +1.6**
comp=Z,272nm,1.6s,mb5.9
PFVI Vila Bisbo 81.18 48 *e*S S 01 45 13.1 +8.6
PFVI Vila Bisbo 81.18 48 *e*LR LR 02 05 03.1
comp=Z,3µm,20.0s
MORF Marmelete 81.38 48 *i*P **P 01 34 57.6 +2.0**
comp=Z,332nm,1.5s,mb6.0
MORF Marmelete 81.38 48 *e*S S 01 45 08.4 +1.9
MORF Marmelete 81.38 48 *e*LR LR 02 04 46.6
comp=Z,3µm,23.6s
RTC Rabat Centre 81.40 52 PFAKE 01 35 10.0 +14
RTC LR LR
comp=Z,2µm,19.0s,MS5.5
PTEO Sao Teotonio 81.43 48 *e*P **P 01 34 57.8 +2.0**
comp=Z,319nm,1.5s,mb6.0
YKA Yellowknife Ar 81.45 343 P **P 01 34 54.4 -0.9**
comp=Z,52nm,1.2s,mb5.3,baz=137,slow=5.2,SNR=48
YKA LR LR 02 14 03.8
comp=Z,1µm,18.5s,MS5.3,baz=145,slow=38
YKA Yellowknife Ar 81.45 343 P **P 01 34 54.4 -0.9**
YKA LR LR 02 14 03.8
XMAS Kiritimati 81.58 274 PFAKE 01 35 10.0 +13
XMAS LR LR
comp=Z,1µm,20.0s,MS5.3
LIS Lisbon 81.61 47 *e*P **P 01 34 51.2 -5.6**
LIS *e*S S 01 45 03.4 -5.4
LIS *e*S S 01 45 03.4 -5.4
LIS AMS AMS 02 08 41.8
comp=Z,3µm,23.5s,MS5.6
LIS Lisbon 81.61 47 *e*S S 01 45 03.4 -5.4
LIS A 02 08 41.8
comp=Z,3µm,23.5s
PMAFR Mafra 81.62 47 *i*P **P 01 34 58.0 +1.2**
comp=Z,294nm,1.5s,mb6.0
PMAFR Mafra 81.62 47 *e*S S 01 45 10.9 +2.0
PMAFR Mafra 81.62 47 *e*LR LR 02 04 53.7
comp=Z,2µm,31.9s
PBDV Barranco-do-Ve 81.88 49 *e*P **P 01 35 00.0 +1.8**
comp=Z,188nm,2.3s,mb5.6
PBDV Barranco-do-Ve 81.88 49 *e*S S 01 45 17.5 +5.8
PBDV Barranco-do-Ve 81.88 49 *e*LR LR 02 04 57.8
comp=Z,3µm,13.3s
TOA0 Torodi Ar. Sit 82.00 74 *e*P **P 01 34 59.2 -0.2**
TORD Torodi Ar. Bea 82.00 74 P **P 01 34 59.4 0.0**
comp=Z,131nm,1.0s,mb5.8,baz=258,slow=4.4,SNR=369
TORD PKPPKP 02 01 34.4
comp=Z,1.8nm,1.1s,baz=347,slow=2.2,SNR=5.1
TORD LR LR 02 10 36.5
comp=Z,4µm,19.0s,MS5.8,baz=245,slow=35
TORD Torodi Ar. Bea 82.00 74 P **P 01 34 59.4 0.0**
TORD P'P' 02 01 34.4
TORD LR LR 02 10 36.5
PVAQ Vaqueiros 82.10 49 *e*P **P 01 35 01.0 +1.6**
comp=Z,222nm,2.0s,mb5.7
PVAQ Vaqueiros 82.10 49 *e*S S 01 45 21.4 +7.4
PVAQ Vaqueiros 82.10 49 *e*LR LR 02 04 53.2
comp=Z,3µm,11.3s
SBA Scott Base 82.17 191 *e*P **P 01 34 59.5 +0.4**
SBA pmax pmax
comp=Z,198nm,1.6s,mb5.8
SBA MLR MLR
comp=Z,4µm,20.0s,MS5.8
SBA Scott Base 82.17 191 *e*P **P 01 34 59.5 +0.3**
comp=Z,198nm,1.6s,mb5.8
SBA LR LR
comp=Z,4µm,20.0s,MS5.8
ALMR Almeirim 82.20 47 *e*P **P 01 34 56.6 -3.2**
PBEJ Beja 82.25 48 *e*P **P 01 35 01.5 +1.4**
comp=Z,228nm,1.5s,mb5.9
EGRO El Granado 82.33 49 P **P 01 35 02.4 +1.8**
comp=Z,75nm,1.0s,mb5.6
EVO Evora 82.34 47⇑*i*P **P 01 35 01.4 +0.8**
comp=Z,351nm,1.2s,mb5.8
EVO *e*MLR MLR
comp=Z,4µm,21.2s,MS5.5
EVO Evora 82.34 47 *e*P **P 01 35 01.5 +0.9**
comp=Z,200nm,1.4s,mb5.9
PTOM Tomar 82.51 46 *e*P **P 01 35 02.7 +1.2**
comp=Z,293nm,1.2s,mb6.2
SFJD Kangerlussuaq 82.62 10 P **P 01 35 00.6 -0.8**
comp=Z,16nm,0.9s,mb5.1,baz=183,slow=6.4,SNR=5.2
SFJD Kangerlussuaq 82.62 10⇑*i*P **P 01 34 59.2 -2.2**
SFJD *i* S S 01 45 15.5 -2.5
SFJD *i* 01 46 11.6
SFJD pmax pmax
comp=Z,71nm,1.1s,mb5.6
SFJD MLR MLR
comp=Z,3µm,21.0s,MS5.6
SFJD Kangerlussuaq 82.62 10⇑*i*P **P 01 34 59.2 -2.2**
comp=Z,71nm,1.1s,mb5.6
SFJD *i* S S 01 45 15.5 -2.5
SFJD *i* 01 46 11.6
SFJD
comp=Z,3µm,21.0s
MDT Midelt 82.71 54 P **P 01 35 04.2 +1.5**
comp=Z,40nm,1.2s,mb5.3,baz=256,slow=5.4,SNR=33
PESTR Estremoz 82.78 47 *e*P **P 01 35 04.0 +1.1**
comp=Z,185nm,1.8s,mb5.8
PESTR Estremoz 82.78 47 *e*S S 01 45 26.7 +5.8
PESTR Estremoz 82.78 47 *e*LR LR 02 05 39.5
comp=Z,3µm,10.2s
SFS San Fernando 82.85 50 *e*P **P 01 35 05.1 +1.8**
SFS pmax pmax
comp=Z,380nm,1.4s,mb6.2
SFS MLR MLR
comp=Z,2µm,19.0s,MS5.5
SFS San Fernando 82.85 50 *e*P **P 01 35 05.1 +1.8**
comp=Z,380nm,1.4s,mb6.2
SFS LR LR
comp=Z,2µm,19.0s,MS5.5
PBAR Barrancos 82.90 48 *i*P **P 01 35 04.5 +0.9**
comp=Z,107nm,1.9s,mb5.5
PBAR Barrancos 82.90 48 *e*S S 01 45 24.1 +2.0
PBAR Barrancos 82.90 48 *e*LR LR 02 06 00.4
comp=Z,3µm,10.3s
PTO Porto 83.01 45 *e*P **P 01 35 05.2 +1.2**
comp=Z,286nm,1.4s,mb6.1
EMIN Mina Concepcio 83.01 49 P **P 01 35 05.6 +1.5**
comp=Z,47nm,1.0s,mb5.5
PMRV Marv??o 83.15 47 *e*P **P 01 35 05.1 +0.3**
comp=Z,80nm,1.6s,mb5.5
PMRV Marv??o 83.15 47 *e*S S 01 45 27.0 +2.4
PMRV Marv??o 83.15 47 *e*LR LR 02 05 12.2
comp=Z,2µm,28.9s
EBAD Badajoz 83.15 48 P **P 01 35 06.1 +1.2**
comp=Z,35nm,0.9s,mb5.4
PCBR Castelo Branco 83.25 46 *e*P **P 01 35 05.8 +0.5**
comp=Z,141nm,1.4s,mb5.8
ESPR Espera 83.26 50 P **P 01 35 07.2 +1.8**
comp=Z,72nm,1.2s,mb5.6
PVIS Viseu 83.32 45 *i*P **P 01 35 06.3 +0.6**
comp=Z,183nm,1.3s,mb6.0
EJIF Jimena Fronter 83.39 50 P **P 01 35 08.5 +2.4**
EJIF pmax pmax
comp=Z,460nm,1.4s,mb6.3
EJIF Jimena Fronter 83.39 50 P **P 01 35 08.5 +2.3**
comp=Z,460nm,1.4s,mb6.3
MTE Manteigas 83.43 46 *e*P **P 01 35 06.8 +0.5**
comp=Z,165nm,1.3s,mb5.9
MTE Manteigas 83.43 46 *e*S S 01 45 30.1 +2.7
MTE Manteigas 83.43 46 *e*LR LR 02 05 29.6
MTE A 02 11 42.3
comp=Z,2µm,6.6s
MTE Manteigas 83.43 46 *e*P **P 01 35 06.6 +0.4**
comp=Z,88nm,1.0s,mb5.8
MTE LR LR
comp=Z,2µm,20.0s,MS5.4
CRAG Craig 83.50 331 *e*P **P 01 35 06.2 0.0**
comp=Z,137nm,1.4s,mb5.8
EMAZ Mazaricos 83.52 43 P **P 01 35 07.6 +0.9**
comp=Z,75nm,1.2s,mb5.7
PCAB Cabril 83.64 45 *e*P **P 01 35 08.4 +1.1**
comp=Z,153nm,1.8s,mb5.8

ELOB Lobios 83.68 44 P **P 01 35 08.1 +0.6**
comp=Z,22nm,1.0s,mb5.2
WRAK Wrangell Islan 83.70 332 *eP* **P 01 35 06.9 -0.3**
comp=Z,158nm,1.5s,mb5.9
WRAK LR LR
comp=Z,2µm,20.0s,MS5.4
STS Santiago 83.77 43 P **P 01 35 08.6 +0.7**
STS pmax pmax
comp=Z,83nm,1.1s,mb5.8
STS Santiago 83.77 43 P **P 01 35 08.6 +0.7**
comp=Z,82nm,1.1s,mb5.8
EMIJ Mijas 83.95 50 P **P 01 35 10.1 +1.1**
comp=Z,200nm,1.2s,mb6.1
ECAB El Cabril 84.04 49 P **P 01 35 09.0 -0.5**
comp=Z,125nm,1.5s,mb5.8
MVO Moncorvo 84.10 45 *eP* **P 01 35 10.1 +0.5**
comp=Z,129nm,1.4s,mb5.9
MVO Moncorvo 84.10 45 *eS* S 01 45 34.6 +0.5
MVO Moncorvo 84.10 45 *eLR* LR 02 05 13.5
MVO A 02 11 05.3
comp=Z,2µm,9.2s
POHA Pohakuloa 84.41 292 PFAKE 01 35 20.0 +8.3
POHA LR LR
comp=Z,916nm,19.0s,MS5.2
ERUA La Rua 84.52 44 P **P 01 35 11.2 -0.5**
ERUA pmax pmax
comp=Z,54nm,1.3s,mb5.5
ERUA La Rua 84.52 44 P **P 01 35 11.2 -0.5**
comp=Z,54nm,1.3s,mb5.5
ECAL Calabor 84.61 45 P **P 01 35 12.9 +0.6**
comp=Z,26nm,0.9s,mb5.4
ELOJ Sierra Loja 84.63 50 P **P 01 35 13.5 +1.1**
ELOJ pmax pmax
comp=Z,113nm,1.1s,mb5.9
ELOJ Sierra Loja 84.63 50 P **P 01 35 13.5 +1.1**
comp=Z,113nm,1.1s,mb5.9
EADA Adamuz 84.69 49 P **P 01 35 13.9 +1.2**
comp=Z,22nm,1.1s,mb5.2
ELUQ Luque 84.70 50 P **P 01 35 14.2 +1.4**
ELUQ pmax pmax
comp=Z,36nm,1.0s,mb5.5
ELUQ Luque 84.70 50 P **P 01 35 14.2 +1.5**
comp=Z,36nm,1.0s,mb5.5
ERON Agron 84.84 50 P **P 01 35 13.7 +0.2**
comp=Z,9.2nm,0.6s,mb5.1
EPON Pontenova 84.89 43 P **P 01 35 14.0 +0.4**
comp=Z,25nm,1.0s,mb5.3
EGUA Guajares 84.96 50 P **P 01 35 15.9 +1.8**
EGUA pmax pmax
comp=Z,45nm,0.8s,mb5.7
EGUA Guajares 84.96 50 P **P 01 35 15.9 +1.8**
comp=Z,44nm,0.8s,mb5.7
ECOG Cogollos-Vega 85.11 50 P **P 01 35 16.0 +1.1**
ECOG pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
ECOG Cogollos-Vega 85.11 50 P **P 01 35 16.0 +1.2**
comp=Z,9.7nm,0.6s,mb5.1
EBAN Banos Encina 85.27 49 P **P 01 35 16.8 +1.2**
EBAN pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
EBAN Banos Encina 85.27 49 P **P 01 35 16.8 +1.1**
comp=Z,3.5nm,0.6s,mb4.7
PAB San Pablo 85.37 48 *eP* **P 01 35 16.1 0.0**
PAB pmax pmax
comp=Z,26nm,0.9s,mb5.4
PAB MLR MLR
comp=Z,548nm,22.0s,MS4.9
PAB San Pablo 85.37 48 *eP* **P 01 35 16.1 0.0**
comp=Z,26nm,0.9s,mb5.4
PAB LR LR
comp=Z,548nm,22.0s,MS4.9
SIT Sitka 85.41 332 PFAKE 01 35 30.0 +14
SIT LR LR
comp=Z,2µm,19.0s,MS5.6
EBER Berja 85.49 51 P **P 01 35 16.9 +0.2**
comp=Z,100nm,1.3s,mb5.8
EQES Quesada 85.67 50 P **P 01 35 18.1 +0.4**
comp=Z,17nm,0.8s,mb5.3
ESDC Sonseca Array 85.69 48 P **P 01 35 18.3 +0.6**
comp=Z,13nm,0.8s,mb5.2,baz=254,slow=5.2,SNR=57
ESDC LR LR 02 10 41.5
comp=Z,2µm,19.0s,MS5.6,baz=250,slow=34
ESDC Sonseca Array 85.69 48 P **P 01 35 18.2 +0.5**
comp=Z,12nm,0.8s,mb5.2
GUD Guadarrama 85.91 47 P **P 01 35 19.5 +0.7**
GUD pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
GUD Guadarrama 85.91 47 P **P 01 35 19.5 +0.7**
comp=Z,7.6nm,0.8s,mb5.0
EHUE Huescar 86.03 50 P **P 01 35 18.2 -1.2**
EHUE pmax pmax
comp=Z,21nm,0.8s,mb5.4
EHUE Huescar 86.03 50 P **P 01 35 18.2 -1.2**
comp=Z,21nm,0.8s,mb5.4
SYO Syowa Base 86.36 161 ||*iP* **P 01 35 18.3 -2.2**
EVIA Vianos 86.38 49 P **P 01 35 21.6 +0.5**
EVIA pmax pmax
comp=Z,53nm,1.0s,mb5.7
EVIA Vianos 86.38 49 P **P 01 35 21.6 +0.5**
comp=Z,53nm,1.0s,mb5.7
SKAG Skagway 86.75 334 *eP* **P 01 35 22.3 -0.1**
comp=Z,56nm,1.4s,mb5.6
EMUR La Murta 87.04 50 P **P 01 35 24.7 +0.3**
comp=Z,61nm,1.2s,mb5.7
ETOB Tobarra 87.09 49 P **P 01 35 25.5 +0.9**
comp=Z,78nm,1.0s,mb5.9
ETOR Torete 87.46 47 P **P 01 35 26.1 -0.3**
ETOR pmax pmax
comp=Z,37nm,1.2s,mb5.5
ETOR Torete 87.46 47 P **P 01 35 26.1 -0.3**
comp=Z,37nm,1.2s,mb5.5
TAM Tamanrasset 88.12 66 *eP* **P 01 35 30.8 +0.9**
comp=Z,92nm,1.4s,mb5.8
ETRT Tiaret 88.19 53 P **P 01 35 31.5 +1.5**
EANR 'Ain N'Sour 88.21 52 P **P 01 35 31.0 +1.0**
HYT Haines Junctio 88.40 335 *eP* **P 01 35 31.2 +0.9**
EMOS Mosqueruela 88.44 48 P **P 01 35 31.8 +0.8**
comp=Z,117nm,1.8s,mb5.8
ECHA Ech Chlef 88.48 52 P **P 01 35 32.5 +1.2**
BORG Borgarnes 88.49 21 P **P 01 35 31.9 +1.2**
comp=Z,70nm,1.3s,mb5.7,baz=266,slow=2.9,SNR=7.5
BORG Borgarnes 88.49 21 *eP* **P 01 35 30.5 -0.2**
BORG pmax pmax
comp=Z,245nm,1.4s
BORG MLR MLR
comp=Z,1µm,20.0s
BORG Borgarnes 88.49 21 *eP* **P 01 35 30.5 -0.2**
comp=Z,245nm,1.4s,mb6.2
BORG LR LR
comp=Z,1µm,20.0s,MS5.3
EBNR Beni Rached 88.64 52 P **P 01 35 33.0 +0.9**
EALK Alkurruntz 88.67 45 P **P 01 35 31.9 -0.1**
comp=Z,102nm,1.7s,mb5.9
SJPF Ste Jean 88.83 45⇑*iP* **P 01 35 32.8 0.0**
comp=Z,147nm,1.5s,mb5.8
SJPF Ste Jean 88.83 45⇑*iP* **P 01 35 32.8 0.0**
SJPF pmax pmax
comp=Z,74nm,1.5s,mb5.8
SJPF Ste Jean 88.83 45⇑*iP* **P 01 35 32.8 0.0**
comp=Z,74nm,1.5s,mb5.8
RES Resolute Bay 88.86 355 *eP* **P 01 35 31.4 -0.8**
comp=Z,3µm,1.4s
ESAC San Caprasio 88.89 47 P **P 01 35 33.1 0.0**
comp=Z,108nm,1.3s,mb6.0
SUR Sutherland 88.95 123 P **P 01 35 35.0 +1.3**
comp=Z,13nm,1.0s,mb5.2,baz=297,slow=8.2,SNR=4.3
SUR Sutherland 88.95 123 *eP* **P 01 35 33.5 -0.2**
comp=Z,28nm,1.1s,mb5.5
SUR LR LR
comp=Z,3µm,20.0s,MS5.7
ERTA Horta de San J 89.22 48 P **P 01 35 34.6 0.0**
comp=Z,138nm,1.6s,mb6.0
ETSF Etsaut 89.22 45⇑*iP* **P 01 35 34.7 +0.1**
comp=Z,89nm,1.4s,mb5.6
ETSF Etsaut 89.22 45⇑*iP* **P 01 35 34.7 +0.1**
ETSF pmax pmax
comp=Z,45nm,1.4s,mb5.6
ETSF Etsaut 89.22 45⇑*iP* **P 01 35 34.7 +0.1**
comp=Z,45nm,1.4s,mb5.6
QUIF Quistinic 89.23 40⇑*iP* **P 01 35 33.8 -0.8**
comp=Z,76nm,1.2s,mb5.6
QUIF Quistinic 89.23 40⇑*iP* **P 01 35 33.8 -0.8**
QUIF pmax pmax
comp=Z,38nm,1.2s,mb5.6
QUIF Quistinic 89.23 40⇑*iP* **P 01 35 33.8 -0.8**
comp=Z,38nm,1.2s,mb5.6
ROSF Rostrenen 89.32 40⇑*iP* **P 01 35 34.8 -0.2**

REYF Montagne du Re 89.39 45⇑*eP* **P 01 35 35.8 +0.4**
TSUM Tsumeb 89.47 110 *eP* **P 01 35 35.5 -0.9**
comp=Z,72nm,1.3s,mb5.8
TSUM LR LR
comp=Z,2µm,19.0s,MS5.5
SUMG Summit 89.58 11 *eP* **P 01 35 36.1 +0.4**
comp=Z,64nm,1.4s,mb5.8
VIEF Viey 89.62 46⇑*eP* **P 01 35 36.8 +0.3**
EBIE Bielsa 89.64 46 P **P 01 35 37.1 +0.6**
comp=Z,20nm,0.9s,mb5.5
LABF Labassere 89.71 46⇑*eP* **P 01 35 37.0 +0.1**
EMHD Djebel Mahouad 89.72 53 P **P 01 35 38.0 +0.9**
SGMF Saint Gilles 89.74 40⇑*iP* **P 01 35 36.1 -0.8**
comp=Z,280nm,1.8s,mb6.0
SGMF Saint Gilles 89.74 40⇑*iP* **P 01 35 36.1 -0.8**
SGMF pmax pmax
comp=Z,140nm,1.8s,mb6.0
SGMF Saint Gilles 89.74 40⇑*iP* **P 01 35 36.1 -0.8**
comp=Z,140nm,1.8s,mb6.0
RESF Ens 89.81 46⇑*eP* **P 01 35 37.9 +0.5**
EPF Esparros 89.89 46⇑*iP* **P 01 35 37.8 +0.1**
comp=Z,131nm,1.4s,mb5.8
EPF Esparros 89.89 46⇑*iP* **P 01 35 37.8 +0.1**
EPF pmax pmax
comp=Z,65nm,1.4s,mb5.8
EPF Esparros 89.89 46⇑*iP* **P 01 35 37.8 +0.1**
comp=Z,65nm,1.4s,mb5.8
ADJB Djebel Djouab 90.08 53 P **P 01 35 39.8 +1.0**
MELF Melles 90.13 46⇑*eP* **P 01 35 39.2 +0.3**
MLS Moulis 90.39 46⇑*eP* **P 01 35 40.0 -0.1**
AKET Djebel Ketaf 90.39 53 P **P 01 35 41.4 +1.1**
SALF Salau 90.39 46⇑*eP* **P 01 35 40.5 +0.4**
ETOS Mallorca 90.66 49 P **P 01 35 41.9 +0.4**
comp=Z,23nm,0.9s,mb5.5
MFF Saint Martin d 90.71 42⇑*iP* **P 01 35 40.8 -0.7**
comp=Z,149nm,1.5s,mb5.8
MFF Saint Martin d 90.71 42⇑*iP* **P 01 35 40.8 -0.7**
MFF pmax pmax
comp=Z,74nm,1.5s,mb5.8
MFF Saint Martin d 90.71 42⇑*iP* **P 01 35 40.8 -0.7**
comp=Z,74nm,1.5s,mb5.8
LFF La Frestale 90.77 44⇑*iP* **P 01 35 41.2 -0.6**
comp=Z,196nm,1.4s,mb5.9
LFF La Frestale 90.77 44⇑*iP* **P 01 35 41.2 -0.6**
LFF pmax pmax
comp=Z,98nm,1.4s,mb6.0
LFF La Frestale 90.77 44⇑*iP* **P 01 35 41.2 -0.6**
comp=Z,98nm,1.4s,mb5.9
DAWY Dawson 90.83 337 *eP* **P 01 35 40.9 -0.7**
GRR Gorron 90.85 40⇑*iP* **P 01 35 41.2 -0.9**
comp=Z,85nm,1.3s,mb5.6
GRR Gorron 90.85 40⇑*iP* **P 01 35 41.2 -0.9**
GRR pmax pmax
comp=Z,43nm,1.3s,mb5.6
GRR Gorron 90.85 40⇑*iP* **P 01 35 41.2 -0.9**
comp=Z,42nm,1.3s,mb5.6
VALF Valcebollere 90.86 47⇑*eP* **P 01 35 42.7 +0.4**
CARF Carcanieres 91.02 46 *eP* **P 01 35 42.9 -0.1**
AKF Akfadou 91.09 53 P **P 01 35 44.9 +1.4**
FLN La Foliniere 91.21 40⇑*iP* **P 01 35 43.2 -0.6**
comp=Z,389nm,1.9s,mb6.1
FLN *e*MLR MLR
comp=Z,2µm,21.5s,MS5.1
FLN La Foliniere 91.21 40⇑*iP* **P 01 35 43.2 -0.6**
FLN pmax pmax
comp=Z,195nm,1.9s,mb6.1
FLN MLR MLR
comp=Z,2µm,21.5s,MS5.4
FLN La Foliniere 91.21 40⇑*iP* **P 01 35 43.2 -0.6**
comp=Z,194nm,1.9s,mb6.1
FLN LR LR
comp=Z,2µm,21.5s,MS5.4
MTLF Montolieu 91.29 46⇑*iP* **P 01 35 43.6 -0.7**
comp=Z,58nm,1.2s,mb5.5
MTLF Montolieu 91.29 46⇑*iP* **P 01 35 43.6 -0.7**
MTLF pmax pmax
comp=Z,29nm,1.2s,mb5.5
MTLF Montolieu 91.29 46⇑*iP* **P 01 35 43.6 -0.7**
comp=Z,29nm,1.2s,mb5.5
FILF Fillols 91.30 47⇑*eP* **P 01 35 44.1 -0.2**
LDF La Druitiere 91.38 40⇑*iP* **P 01 35 43.8 -0.7**
comp=Z,148nm,1.5s,mb5.8
LDF La Druitiere 91.38 40⇑*iP* **P 01 35 43.8 -0.7**
LDF pmax pmax
comp=Z,74nm,1.5s,mb5.8
LDF La Druitiere 91.38 40⇑*iP* **P 01 35 43.8 -0.7**
comp=Z,74nm,1.5s,mb5.8
KPL Plockton 91.40 31 *eP* **P 01 35 43.3 -1.2**
KPL AMb AMB 01 35 49.8
comp=Z,127nm,1.6s,mb6.0
RJF Les Rejaudoux 91.40 44⇑*iP* **P 01 35 44.0 -0.7**
comp=Z,110nm,1.4s,mb5.7
RJF *e*MLR MLR
comp=Z,3µm,21.2s,MS5.4
RJF Les Rejaudoux 91.40 44⇑*iP* **P 01 35 44.0 -0.7**
RJF pmax pmax
comp=Z,55nm,1.4s,mb5.7
RJF MLR MLR
comp=Z,3µm,21.3s,MS5.7
RJF Les Rejaudoux 91.40 44⇑*iP* **P 01 35 44.0 -0.7**
comp=Z,55nm,1.4s,mb5.7
RJF LR LR
comp=Z,3µm,21.3s,MS5.7
PGBU Glenifferbraes 91.41 33 *eP* **P 01 35 43.7 -0.8**
PGBU AMb AMB 01 35 45.5
comp=Z,104nm,2.3s,mb5.8
EJON La Jonquera 91.49 47 P **P 01 35 45.6 +0.4**
comp=Z,11nm,1.0s,mb5.2
SJAF Saint Jean de 91.50 47⇑*eP* **P 01 35 44.9 -0.4**
BMRM Bremner River 91.51 333 *eP* **P 01 35 44.0 -0.9**
comp=Z,88nm,1.4s,mb5.9
SET Setif 91.61 53 P **P 01 35 47.0 +1.0**
CAF Calviac 91.66 44⇑*iP* **P 01 35 45.4 -0.5**
comp=Z,92nm,1.4s,mb5.6
CAF Calviac 91.66 44⇑*iP* **P 01 35 45.4 -0.5**
CAF pmax pmax
comp=Z,46nm,1.4s,mb5.6
CAF Calviac 91.66 44⇑*iP* **P 01 35 45.4 -0.5**
comp=Z,46nm,1.4s,mb5.6
AFI Afiamalu 91.67 255 PFAKE 01 36 00.0 +13
AFI LR LR
comp=Z,1µm,21.0s,MS5.3
EYAK Cordova Ski Ar 91.84 332 *eP* **P 01 35 45.4 -1.1**
comp=Z,37nm,1.2s,mb5.6
EGAK Eagle 91.85 337 *eP* **P 01 35 45.3 -1.1**
comp=Z,194nm,1.4s,mb6.2
EGAK LR LR
comp=Z,2µm,20.0s,MS5.6
ESK Eskdalemuir 91.90 33 PFAKE 01 36 00.0 +13
ESK LR LR
comp=Z,2µm,21.0s,MS5.4
MENT Mentasta 92.00 335 *eP* **P 01 35 46.5 -0.6**
LHO Holmfirth 92.01 35 *eP* **P 01 35 46.2 -1.1**
CWF Charnwood Fore 92.04 36 *eP* **P 01 35 47.5 0.0**
CWF AMb AMB 01 35 56.1
comp=Z,91nm,2.1s,mb5.7
DFRA Djebel Bou Aff 92.08 53 P **P 01 35 50.0 +1.9**
DIV Divide 92.10 333 *eP* **P 01 35 46.5 -1.1**
comp=Z,45nm,1.0s,mb5.8
TCF Toulx Ste Croi 92.16 43⇑*iP* **P 01 35 47.5 -0.7**
comp=Z,78nm,1.5s,mb5.5
TCF Toulx Ste Croi 92.16 43⇑*iP* **P 01 35 47.5 -0.7**
TCF pmax pmax
comp=Z,39nm,1.5s,mb5.5
TCF Toulx Ste Croi 92.16 43⇑*iP* **P 01 35 47.5 -0.7**
comp=Z,39nm,1.5s,mb5.5
CASM Ain Smara 92.48 53 P **P 01 35 50.0 0.0**
PYM Petit Puy Mans 92.54 44 *eP* **P 01 35 49.0 -1.0**
LBL Lubilhac 92.55 44⇑*eP* **P 01 35 50.0 -0.1**
LASF Ste Croix 92.64 45⇑*iP* **P 01 35 50.3 -0.2**
comp=Z,108nm,1.4s,mb5.8
BGF Bois d'Agland 92.66 43⇑*iP* **P 01 35 49.9 -0.6**
comp=Z,96nm,1.2s,mb5.8
BGF Bois d'Agland 92.66 43⇑*iP* **P 01 35 49.9 -0.6**
BGF pmax pmax
comp=Z,48nm,1.2s,mb5.8
BGF Bois d'Agland 92.66 43⇑*iP* **P 01 35 49.9 -0.6**
comp=Z,48nm,1.2s,mb5.8
CKFL Kef-Lekhel 92.70 53 P **P 01 35 52.0 +1.0**
HYF Humbligny 92.73 42 *eP* **P 01 35 50.4 -0.5**
COLF Collangettes 92.93 44 *eP* **P 01 35 51.8 0.0**
PLDF La Plantade 93.01 43⇑*eP* **P 01 35 52.0 -0.2**
AVF Avril sur Loir 93.06 43⇑*iP* **P 01 35 51.5 -0.9**
comp=Z,31nm,1.1s,mb5.4
AVF Avril sur Loir 93.06 43⇑*iP* **P 01 35 51.5 -0.9**
AVF pmax pmax

comp=Z,16nm,1.1s,mb5.4
AVF Avril sur Loir 93.06 43⇑*iP* **P 01 35 51.5 -0.9**
comp=Z,16nm,1.1s,mb5.3
SSF Saint Saulge 93.24 42⇑*iP* **P 01 35 52.1 -1.1**
comp=Z,104nm,1.6s,mb5.7
SSF Saint Saulge 93.24 42⇑*iP* **P 01 35 52.1 -1.1**
SSF pmax pmax
comp=Z,52nm,1.6s,mb5.7
SSF Saint Saulge 93.24 42⇑*iP* **P 01 35 52.1 -1.1**
comp=Z,52nm,1.6s,mb5.7
CMAH Djebel Manchou 93.30 53 P **P 01 35 54.0 +0.3**
SMF Signal de Mont 93.34 43⇑*iP* **P 01 35 53.0 -0.7**
comp=Z,174nm,1.4s,mb6.0
SMF Signal de Mont 93.34 43⇑*iP* **P 01 35 53.0 -0.7**
SMF pmax pmax
comp=Z,87nm,1.4s,mb6.0
SMF Signal de Mont 93.34 43⇑*iP* **P 01 35 53.0 -0.7**
comp=Z,87nm,1.4s,mb6.0
VIVF Saint-Julien-l 93.41 45⇑*iP* **P 01 35 54.0 -0.1**
comp=Z,93nm,1.3s,mb5.7
VIVF Saint-Julien-l 93.41 45⇑*iP* **P 01 35 54.0 -0.1**
VIVF pmax pmax
comp=Z,47nm,1.3s,mb5.8
VIVF Saint-Julien-l 93.41 45⇑*iP* **P 01 35 54.0 -0.1**
comp=Z,46nm,1.3s,mb5.8
SSB Saint Sauveur 93.44 44 *eP* **P 01 35 54.0 -0.2**
SSB Saint Sauveur 93.44 44 *eP* **P 01 35 54.2 +0.1**
comp=Z,47nm,1.4s,mb5.7
LOR Lormes 93.53 42⇑*iP* **P 01 35 53.4 -1.1**
comp=Z,115nm,1.6s,mb5.8
LOR *e*MLR MLR
comp=Z,2µm,19.8s,MS5.2
LOR Lormes 93.53 42⇑*iP* **P 01 35 53.4 -1.1**
LOR pmax pmax
comp=Z,58nm,1.6s,mb5.8
LOR MLR MLR
comp=Z,2µm,19.8s,MS5.5
LOR Lormes 93.53 42⇑*iP* **P 01 35 53.4 -1.1**
comp=Z,58nm,1.6s,mb5.8
LOR LR LR
comp=Z,2µm,19.8s,MS5.5
BOSA Boshof 93.69 120 P **P 01 35 55.0 -0.8**
comp=Z,36nm,1.2s,mb5.7,baz=254,slow=4.0,SNR=16
BOSA Boshof 93.69 120 *eP* **P 01 35 54.5 -1.3**
BOSA pmax pmax
comp=Z,67nm,1.4s,mb5.9
BOSA MLR MLR
comp=Z,4µm,19.0s,MS5.9
BOSA Boshof 93.69 120 *eP* **P 01 35 54.5 -1.3**
comp=Z,67nm,1.4s,mb5.9
BOSA LR LR
comp=Z,4µm,19.0s,MS5.9
PMR Palmer 93.77 333 *eP* **P 01 35 53.7 -1.6**
PMR pmax pmax
comp=Z,44nm,1.6s,mb5.6
PMR MLR MLR
comp=Z,2µm,19.0s,MS5.5
PMR Palmer 93.77 333 *eP* **P 01 35 53.7 -1.5**
comp=Z,45nm,1.6s,mb5.7
PMR LR LR
comp=Z,2µm,19.0s,MS5.5
SMRF Simiane la Rot 93.80 46⇑*iP* **P 01 35 56.1 +0.2**
comp=Z,149nm,1.9s,mb5.8
SMRF Simiane la Rot 93.80 46⇑*iP* **P 01 35 56.1 +0.2**
comp=Z,149nm,1.9s,mb6.1
RC01 Rabbit Creek A 93.85 332 *eP* **P 01 35 55.0 -0.6**
comp=Z,55nm,1.1s,mb5.9
MAW Mawson 93.86 166⇑*iP* **P 01 35 54.9 -0.8**
comp=Z,24nm,1.2s,mb5.5
MAW Mawson 93.86 166 P **P 01 35 54.8 -1.0**
comp=Z,26nm,1.1s,mb5.6,baz=219,slow=5.8,SNR=31
MAW LR LR 02 14 53.6
comp=Z,3µm,21.9s,MS5.7,baz=229,slow=33
MAW Mawson 93.86 166⇑*iP* **P 01 35 54.9 -0.8**
MAW pmax pmax
comp=Z,24nm,1.2s
KDAK Kodiak Island 94.08 329 PFAKE 01 36 10.0 +13
KDAK LR LR
comp=Z,299nm,20.0s,MS4.8
ORIF Oris-en-Rattie 94.26 45⇑*iP* **P 01 35 58.2 +0.3**
comp=Z,108nm,1.3s,mb5.8
ORIF *e*MLR MLR
comp=Z,2µm,20.0s,MS5.3
ORIF Oris-en-Rattie 94.26 45⇑*iP* **P 01 35 58.2 +0.3**
ORIF pmax pmax
comp=Z,54nm,1.3s,mb5.8
ORIF Oris-en-Rattie 94.26 45⇑*iP* **P 01 35 58.2 +0.3**
comp=Z,54nm,1.3s,mb5.8
LMR La Mourre 94.30 47⇑*iP* **P 01 35 57.8 -0.4**
comp=Z,114nm,1.5s,mb5.8
LMR La Mourre 94.30 47⇑*iP* **P 01 35 57.8 -0.4**
LMR pmax pmax
comp=Z,57nm,1.5s,mb5.8
LMR La Mourre 94.30 47⇑*iP* **P 01 35 57.8 -0.4**
comp=Z,57nm,1.5s,mb5.8
FRF La Foret Royal 94.45 46⇑*iP* **P 01 35 58.5 -0.4**
comp=Z,92nm,1.5s,mb5.7
FRF La Foret Royal 94.45 46⇑*iP* **P 01 35 58.5 -0.4**
FRF pmax pmax
comp=Z,46nm,1.5s,mb5.7
FRF La Foret Royal 94.45 46⇑*iP* **P 01 35 58.5 -0.4**
comp=Z,46nm,1.5s,mb5.7
COLA College 94.47 336 *eP* **P 01 35 57.3 -1.1**
COLA pmax pmax
comp=Z,80nm,1.2s,mb6.0
COLA MLR MLR
comp=Z,2µm,19.0s,MS5.5
COLA College 94.47 336 *eP* **P 01 35 57.3 -1.2**
comp=Z,80nm,1.2s,mb6.0
COLA LR LR
comp=Z,2µm,19.0s,MS5.5
MCK McKinley 94.48 335 *eP* **P 01 35 57.5 -1.0**
MCK pmax pmax
comp=Z,147nm,1.6s,mb6.2
MCK McKinley 94.48 335 *eP* **P 01 35 57.5 -1.0**
comp=Z,147nm,1.6s,mb6.2
BAIF Baives 94.52 40⇑*iP* **P 01 35 58.3 -0.7**
KEST Kesra 94.60 55 P **P 01 35 59.5 -0.2**
comp=Z,5.0nm,0.9s,mb4.9,baz=268,slow=4.8,SNR=14
KEST LR LR 02 20 13.7
comp=Z,616nm,19.3s,MS5.1,baz=0.8,slow=36
SNZO South Karori 94.64 226 PFAKE 01 36 10.0 +10
SNZO LR LR
comp=Z,3µm,20.0s,MS5.8
DOU Dourbes 94.77 40 P **P 01 35 59.5 -0.7**
comp=Z,30nm,2.5s,mb5.3
MBDF Montbardon 94.82 45⇑*iP* **P 01 36 00.6 +0.1**
comp=Z,163nm,1.7s,mb5.9
MBDF Montbardon 94.82 45⇑*iP* **P 01 36 00.6 +0.1**
MBDF pmax pmax
comp=Z,81nm,1.7s,mb5.9
MBDF Montbardon 94.82 45⇑*iP* **P 01 36 00.6 +0.1**
comp=Z,81nm,1.7s,mb5.9
CABF La Chapelle 94.83 43 *eP* **P 01 36 00.0 -0.5**
comp=Z,161nm,1.7s,mb5.9
CABF La Chapelle 94.83 43 *eP* **P 01 36 00.0 -0.5**
CABF pmax pmax
comp=Z,81nm,1.7s,mb5.9
CABF La Chapelle 94.83 43 *eP* **P 01 36 00.0 -0.5**
comp=Z,81nm,1.7s,mb5.9
BNI Bardonecchia 94.84 45 *eP* **P 01 36 00.7 +0.1**
BNI pmax pmax
comp=Z,37nm,1.6s,mb5.6
BNI MLR MLR
comp=Z,2µm,20.0s,MS5.6
BNI Bardonecchia 94.84 45 *eP* **P 01 36 00.7 0.0**
comp=Z,37nm,1.6s,mb5.6
BNI LR LR
comp=Z,2µm,20.0s,MS5.6
MVIF Mont Vial 94.89 46 *eP* **P 01 36 00.8 -0.1**
GIVF Givet 94.91 40⇑*iP* **P 01 36 00.2 -0.6**
comp=Z,138nm,1.5s,mb5.9
GIVF Givet 94.91 40⇑*iP* **P 01 36 00.2 -0.6**
GIVF pmax pmax
comp=Z,69nm,1.5s,mb5.9
GIVF Givet 94.91 40⇑*iP* **P 01 36 00.2 -0.6**
comp=Z,69nm,1.5s,mb5.9
TRF Thorofare Moun 94.94 334 *eP* **P 01 35 59.4 -1.3**
comp=Z,95nm,1.3s,mb6.1
RSL Roselend 94.96 44 *eP* **P 01 36 01.1 0.0**
TOUF Mont Tournerai 94.98 46⇑*eP* **P 01 36 01.1 -0.2**
LPL La Plagne 94.99 45⇑*iP* **P 01 36 01.8 +0.5**
comp=Z,53nm,1.1s,mb5.6
LPL La Plagne 94.99 45⇑*iP* **P 01 36 01.8 +0.5**
LPL pmax pmax
comp=Z,27nm,1.1s,mb5.6
LPL La Plagne 94.99 45⇑*iP* **P 01 36 01.8 +0.5**

comp=Z,27nm,1.1s,mb5.6
LPG La Plagne 95.00 45⇑ *iP* **P 01 36 01.9 +0.6**
comp=Z,102nm,1.3s,mb5.8
LPG La Plagne 95.00 45⇑ *iP* **P 01 36 01.9 +0.6**
LPG pmax pmax
comp=Z,51nm,1.3s,mb5.8
LPG La Plagne 95.00 45⇑ *iP* **P 01 36 01.9 +0.6**
comp=Z,51nm,1.3s,mb5.8
REVF Revere 95.00 46 *eP* **P 01 36 01.4 0.0**
LUCF Luceram 95.02 46 *eP* **P 01 36 01.1 -0.4**
SBF Sospel 95.08 46⇑ *iP* **P 01 36 01.3 -0.4**
comp=Z,186nm,1.6s,mb6.0
SBF Sospel 95.08 46⇑ *iP* **P 01 36 01.3 -0.4**
SBF pmax pmax
comp=Z,93nm,1.6s,mb6.0
SBF Sospel 95.08 46⇑ *iP* **P 01 36 01.3 -0.4**
comp=Z,93nm,1.6s,mb6.0
AUTN L'Aution 95.10 46⇑ *eP* **P 01 36 01.9 +0.1**
THEF They Montfort 95.17 42 *eP* **P 01 36 01.6 -0.4**
SAOF Saorge 95.19 46 *eP* **P 01 36 02.1 -0.1**
KTH Kantishna Hill 95.24 334 *eP* **P 01 36 00.7 -1.3**
comp=Z,56nm,1.2s,mb5.9
HAU Haudompre 95.35 42⇑ *iP* **P 01 36 02.1 -0.8**
HAU *e*MLR MLR
comp=Z,1μm,20.2s,MS5.1
HAU Haudompre 95.35 42⇑ *iP* **P 01 36 02.1 -0.8**
HAU LR LR
comp=Z,1μm,20.3s,MS5.4
LOMF Lomont 95.50 43 *eP* **P 01 36 03.5 -0.1**
PPLA Purkeypile 95.56 334 *eP* **P 01 36 02.2 -1.3**
comp=Z,196nm,1.6s,mb6.3
BEBN Eben Emael 95.62 39 P **P 01 36 03.8 -0.3**
HINF Hinteralfeld 95.63 42 *eP* **P 01 36 03.3 -0.9**
comp=Z,127nm,1.8s,mb5.8
HINF Hinteralfeld 95.63 42 *eP* **P 01 36 03.3 -0.9**
HINF pmax pmax
comp=Z,63nm,1.8s,mb5.7
HINF Hinteralfeld 95.63 42 *eP* **P 01 36 03.3 -0.9**
comp=Z,63nm,1.8s,mb5.8
WLF Walferdange 95.63 40 P **P 01 36 04.6 +0.5**
comp=Z,32nm,1.9s,mb5.4
WLF Walferdange 95.63 40 *eP* **P 01 36 04.5 +0.4**
WLF pmax pmax
comp=Z,37nm,1.3s,mb5.7
WLF MLR MLR
comp=Z,2μm,20.0s,MS5.5
WLF Walferdange 95.63 40 *eP* **P 01 36 03.9 -0.2**
WLF Walferdange 95.63 40 *eP* **P 01 36 04.5 +0.4**
comp=Z,36nm,1.3s,mb5.7
WLF LR LR
comp=Z,2μm,20.0s,MS5.5
HGN Heimansgroeve 95.77 39⇑ *eP* **P 01 36 09.3 +4.6**
comp=Z,42nm,3.1s
HGN Heimansgroeve 95.77 39 *e*SKS SKSac 01 46 36.3 -4.2
MEM Membach 95.77 39 P **P 01 36 04.1 -0.6**
MEM E pP 01 36 09.4 +0.2
MOF Molkenrain 95.82 42⇑ *eP* **P 01 36 04.2 -0.8**
PGF Pioggiola 95.89 48 *eP* **P 01 36 05.1 -0.3**
comp=Z,128nm,1.6s,mb5.8
PGF Pioggiola 95.89 48 *eP* **P 01 36 05.1 -0.3**
PGF pmax pmax
comp=Z,64nm,1.5s,mb5.8
PGF Pioggiola 95.89 48 *eP* **P 01 36 05.1 -0.3**
comp=Z,64nm,1.5s,mb5.8
ECH Echery 95.93 42 *eP* **P 01 36 04.8 -0.7**
ECH Echery 95.93 42 *eP* **P 01 36 05.0 -0.5**
comp=Z,53nm,1.4s,mb5.8
CHUM Lake Minchumin 95.94 334 *eP* **P 01 36 03.6 -1.5**
comp=Z,196nm,1.8s,mb6.2
CDF Champ du Feu 96.05 42⇑ *iP* **P 01 36 05.3 -0.7**
comp=Z,73nm,1.4s,mb5.6
CDF Champ du Feu 96.05 42⇑ *iP* **P 01 36 05.3 -0.7**
CDF pmax pmax
comp=Z,37nm,1.4s,mb5.6
CDF Champ du Feu 96.05 42⇑ *iP* **P 01 36 05.3 -0.7**
comp=Z,37nm,1.4s,mb5.6
RUP Ruppelstein 96.21 40 *eP* **P 01 36 06.1 -0.7**
COLD Coldfoot 96.23 338 *eP* **P 01 36 05.9 -0.5**
comp=Z,40nm,1.3s,mb5.7
FELD Feldberg im Sc 96.40 42⇑ *eP* **P 01 36 07.0 -0.6**
LANF Langenberg 96.52 41⇑ *eP* **P 01 36 07.6 -0.6**
WTSB Winterswijk 96.58 38⇑ *eP* **P 01 36 08.0 -0.4**
comp=Z,47nm,1.6s,mb5.7
WTSB Winterswijk 96.58 38 *ex* x 01 36 13.4
comp=Z,60nm,1.3s
BFO Black Forest 96.71 42 *eP* **P 01 36 08.2 -0.9**
BFO MLR MLR
comp=Z,885nm,19.0s,MS5.3
BUG Bochum--Univer 96.75 39 *eP* **P 01 36 08.9 -0.2**
SPAK Spaichingen-Ko 96.96 42 *eP* **P 01 36 09.6 -0.6**
TUE Stuetta 96.98 44 *eP* **P 01 36 10.2 -0.2**
comp=Z,32nm,1.1s,mb5.7
TUE LR LR
comp=Z,3μm,20.0s,MS5.7
IMA2 Indian Mountai 97.17 336 *eP* **P 01 36 09.3 -1.4**
VLC Villacollemand 97.22 46 PFAKE 01 36 20.0 +8.5
VLC LR LR
comp=Z,1μm,19.0s,MS5.4
PII Pisa 97.23 47 P **P 01 36 11.7 +0.2**
comp=Z,78nm,1.6s,mb5.9
IBBN Ibbenburen 97.24 38 *eP* **P 01 36 10.7 -0.6**
STU Stuttgart 97.37 42 *eP* **P 01 36 11.6 -0.4**
STU pmax pmax
comp=Z,33nm,1.4s,mb5.6
STU Stuttgart 97.37 42 *eP* **P 01 36 11.9 -0.1**
STU Stuttgart 97.37 42 *eP* **P 01 36 11.6 -0.4**
comp=Z,33nm,1.4s,mb5.6
DAVA Damuels 97.51 43⇑ *iP* **P 01 36 12.9 +0.2**
comp=Z,149nm,1.8s,mb6.2,SNR=9.9
DAVA Damuels 97.51 43⇑ *iPcP* PcP 01 36 12.9 +0.2
comp=Z,149nm,1.8s,SNR=9.9
ERC Erice 97.63 53 P **P 01 36 14.0 +0.5**
comp=Z,180nm,0.8s,mb6.7
FETA Feichten 98.03 44⇑ *iP* **P 01 36 15.3 +0.2**
comp=Z,272nm,2.5s,mb6.3,SNR=18
FETA Feichten 98.03 44⇑ *iPcP* PcP 01 36 15.3 +0.2
comp=Z,272nm,2.5s,SNR=18
RETA Reutte 98.14 43⇑ *iP* **P 01 36 15.5 0.0**
comp=Z,414nm,5.4s,SNR=11
RETA Reutte 98.14 43⇑ *iPcP* PcP 01 36 15.5 0.0
comp=Z,414nm,5.4s,SNR=11
SFI Santa Sofia 98.20 47 P **P 01 36 15.3 -0.6**
UBBA Unterbreizbach 98.30 40 *eP* **P 01 36 15.7 -0.4**
MOTA Moosalm 98.34 43⇑ *iP* **P 01 36 16.2 -0.3**
comp=Z,29nm,1.1s,mb5.7,SNR=31
MOTA Moosalm 98.34 43⇑ *iP* **P 01 36 16.2 -0.2**
MOTA pmax pmax
comp=Z,29nm,1.1s,mb5.7
MURB Monte Urbino 98.57 48 P **P 01 36 17.3 -0.2**
comp=Z,86nm,1.6s,mb6.0
FUR Furstenfeldbru 98.61 43 *eP* **P 01 36 17.6 0.0**
WATA Walderalm 98.65 43⇑ *iP* **P 01 36 17.9 +0.1**
comp=Z,47nm,1.5s,mb5.8,SNR=15
WATA Walderalm 98.65 43⇑ *iP* **P 01 36 17.9 +0.1**
WATA pmax pmax
comp=Z,47nm,1.5s,mb5.8
WATA Walderalm 98.65 43⇑ *iP* **P 01 36 17.9 +0.1**
comp=Z,47nm,1.5s,mb5.8
WTTA Wattenberg 98.68 44⇓ *iP* **P 01 36 18.2 +0.3**
comp=Z,467nm,2.6s,mb6.5,SNR=24
NRDL Niedersach Rie 98.68 38 *eP* **P 01 36 18.2 +0.4**
CLZ Clausthal 98.72 39 *eP* **P 01 36 17.8 -0.2**
FIAM Fiamignano 98.81 49 P **P 01 36 18.7 0.0**
GRA1 Grafenberg Arr 98.85 41 *eP* **P 01 36 18.6 -0.1**
comp=Z,148nm,2.8s,mb6.0
GRA1 *e*pP pP 01 36 23.5 +0.3
GRA1 *e*SKSac SKSac 01 47 05.6 +9.1
GRA1 *e*PS PS 01 49 16.7 +0.8
GRA1 LR LR
comp=Z,1μm,19.1s,MS5.3
GRF Grafenberg Arr 98.85 41 *eP* **P 01 36 18.6 -0.1**
GRF *e*PS PS 01 49 16.7 +0.8
GRF pmax pmax
comp=Z,148nm,2.8s,mb6.0
GRF MLR MLR
comp=Z,1μm,19.1s,MS5.3
GRF Grafenberg Arr 98.85 41 *eP* **P 01 36 18.6 -0.1**
GRF *e*PS PS 01 49 16.7 +0.8
GRF pmax pmax
comp=Z,148nm,2.8s,mb6.0
GRF MLR MLR
comp=Z,1μm,19.1s,MS5.3
GRF Grafenberg Arr 98.85 41 *eP* **P 01 36 18.6 -0.1**
comp=Z,148nm,2.8s,mb6.0
GRF *e*pP pP 01 36 23.5 +0.3
GRF *e*SKSac SKSac 01 47 05.6 +9.1
GRF *e*PS PS 01 49 16.7 +0.8
GRF *e*L 02 24 08.4
comp=Z,1μm,19.1s
PTQR Pietraquaria 98.98 49 P **P 01 36 20.1 +0.7**
comp=Z,10nm,0.7s,mb5.5
AQU L'Aquila 99.04 49 *eP* **P 01 36 20.1 +0.4**
AQU pmax pmax
comp=Z,113nm,2.0s,mb6.0
AQU MLR MLR
comp=Z,1μm,19.0s,MS5.4
AQU L'Aquila 99.04 49 *eP* **P 01 36 20.1 +0.4**
comp=Z,113nm,2.0s,mb6.0
AQU LR LR
comp=Z,1μm,19.0s,MS5.4
BSEG Bad Segeberg 99.08 37 *eP* **P 01 36 19.1 -0.4**
VVLD Villa Vallelon 99.11 49 P **P 01 36 20.2 +0.2**
comp=Z,62nm,1.4s,mb6.0
ABTA Abfaltersbach 99.18 44⇑ *iP* **P 01 36 20.3 +0.1**
comp=Z,327nm,2.9s,mb6.3,SNR=24
SDI San Donato 99.23 49 P **P 01 36 20.2 -0.3**
comp=Z,15nm,1.0s,mb5.5
TERO Teramo 99.23 48 P **P 01 36 20.6 +0.1**
MOX Moxa 99.27 40 *eP* **P 01 36 20.9 +0.4**
comp=Z,37nm,2.0s,mb5.6
MOX
comp=Z,1μm,19.0s
MOX Moxa 99.27 40 *eP* **P 01 36 20.9 +0.4**
MOX pmax pmax
comp=Z,37nm,2.0s,mb5.6
MOX MLR MLR
comp=Z,1μm,19.0s,MS5.3
MOX Moxa 99.27 40 *eP* **P 01 36 20.6 +0.1**
FVI Forni Avoltri 99.33 44 P **P 01 36 17.4 -3.5**
MANZ Manzenberg 99.47 41 *eP* **P 01 36 22.1 +0.7**
ROTZ Rotzenmuhle 99.50 41 *eP* **P 01 36 21.7 +0.2**
GMNA Gemona 99.59 45 P **P 01 36 22.2 +0.2**
PTCC Patocco-Chiusa 99.69 45 P Pdif 01 36 22.8 +0.4
KONO Kongsberg 99.72 31⇑ *eP* Pdif 01 36 16.7 -5.8
NKC Nový Kostel 99.73 41 *e*PDIF Pdif 01 36 23.5 +0.9
NKC *e*pP 01 36 28.1
NKC *e*SKS 01 47 06.7
ROBS Robic 99.77 45 *e*Pdiff Pdif 01 36 22.8 0.0
KBA Koelnbreinsper 99.80 44⇑ *iP* Pdif 01 36 23.1 +0.3
comp=Z,206nm,3.5s,SNR=9.9
KBA Koelnbreinsper 99.80 44⇑ *iP* Pdif 01 36 23.1 +0.2
KBA pmax pmax
comp=Z,206nm,3.5s
WET Wettzell 99.83 42 *eP* Pdif 01 36 23.0 0.0
MYKA Terra Mystica 99.93 44⇑ *iP* Pdif 01 36 23.6 +0.2
comp=Z,1μm,2.6s
CSSN Cassano Irpino 99.99 50 P Pdif 01 36 24.4 +0.7
VOY Vojsko 100.00 45 *e*Pdiff Pdif 01 36 24.3 +0.5
VOY *e* 01 36 29.3
JAVS Javornik 100.10 45 *e*Pdiff Pdif 01 36 24.8 +0.5
JAVS *e* 01 36 30.1
JAVS *e*Sdiff Sdif 01 48 06.0 +7.1
JAVS *e*SP SP 01 49 35.0 +7.7
CASY Casey 100.16 183 *e*Pdif Pdif 01 36 24.1 -0.4
CASY LR LR
comp=Z,3μm,19.0s,MS5.9
CLL Collm 100.25 40 *i* P Pdif 01 36 24.4 -0.5
CLL *e* 01 47 06.0
CLL *e*S Sdif 01 48 02.0 +1.8
CLL pmax pmax
comp=Z,39nm,2.3s
CLL MLR MLR
comp=Z,1μm,19.9s,MS5.5
CLL Collm 100.25 40 *eP* Pdif 01 36 24.9 0.0
CLL Collm 100.25 40 *i* Pdif Pdif 01 36 24.4 -0.5
comp=Z,39nm,2.3s
CLL Lm 01 20 00.0
comp=N,500nm,20.4s
CLL Lm 01 20 00.0
comp=E,800nm,21.4s
CLL Lm 01 20 00.0
comp=Z,1μm,19.9s
CLL *e*SKSac SKSac 01 47 06.0 +2.7
CLL *e*Sdif Sdif 01 48 02.0 +1.8
CLL *e*PS PS 01 49 31.0 +0.2
CLL *e*PPS 01 50 21.0
CLL *ex* x 01 51 05.0
CLL *ex* x 01 51 33.0
CLL *e*SS SS 01 55 00.0 +5.1
CLL *e*SSS 01 58 54.0
CLL Collm 100.25 40 *i* Pdif Pdif 01 36 24.4 -0.5
comp=Z,39nm,2.3s
CLL *e*SKS 01 47 06.0
CLL *e*Sdif Sdif 01 48 02.0 +1.8
CLL LR LR
comp=Z,1μm,19.9s,MS5.5
KHC Kasperske Hory 100.28 42 *e*PDIF Pdif 01 36 25.1 +0.1
KHC *e*pP 01 36 29.3
KHC *ex* x 01 40 01.5
KHC *e*SKS 01 47 06.5
KHC *e*SDIF Sdif 01 48 02.9 +2.5
KHC AMS AMS 02 24 10.0
comp=Z,1μm,19.8s
LSZ Lusaka 100.28 108 PFAKE 01 36 40.0 +15
LSZ LR LR
comp=Z,984nm,19.0s,MS5.3
GEC2 GERESS Array S 100.31 42 *eP* Pdif 01 36 25.3 +0.1
GERES GERESS Array B 100.31 42 P Pdif 01 36 24.5 -0.6
comp=Z,2.8nm,0.9s,baz=251,slow=4.1,SNR=21
LJU Ljubljana 100.44 45 *e*Pdiff Pdif 01 36 26.1 +0.4
LJU *e*SKSac SKSac 01 47 03.9 -0.7
LJU *e*Sdiff Sdif 01 48 01.4 -0.3
OBKA Obir 100.53 45⇑ *iP* Pdif 01 36 26.3 +0.2
comp=Z,358nm,3.9s
MOA Molln 100.53 43⇑ *iP* Pdif 01 36 26.3 +0.1
comp=Z,227nm,3.4s,SNR=17
NAO01 NORSAR Array S 100.55 30 *e*Pdif Pdif 01 36 27.1 +0.9
NAO01 LR LR
comp=Z,954nm,20.0s,MS5.3
COP Copenhagen 100.57 35 *eP* Pdif 01 36 29.6 +3.3
COP *i* 01 47 07.9
COP MLR MLR
comp=Z,370nm,19.0s,MS4.9
COP Copenhagen 100.57 35 *i* P Pdif 01 36 29.6 +3.3
COP *i* 01 47 07.9
COP *i* S Sdif 01 48 06.7 +3.8
COP
comp=Z,370nm,19.0s
COP Copenhagen 100.57 35 *eP* Pdif 01 36 29.6 +3.3
COP *i* 01 47 07.9
COP *i* S Sdif 01 48 06.7 +3.8
COP LR LR
comp=Z,370nm,19.0s,MS4.9
NOA NORSAR Array B 100.74 30 P Pdif 01 36 27.1 +0.1
comp=Z,1.0nm,0.8s,baz=68,slow=3.3,SNR=3.1
BRG Berggiesshubel 100.77 40 *eP* Pdif 01 36 27.6 +0.4
BRG PS PS 01 49 34.0 -2.4
BRG SS SS 01 55 09.0 +6.9
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG MLR MLR
comp=Z,730nm,18.7s,MS5.2
BRG Berggiesshubel 100.77 40 *eP* Pdif 01 36 27.3 +0.1
BRG Berggiesshubel 100.77 40 *eP* Pdif 01 36 27.6 +0.4
comp=Z,14nm,1.4s
BRG SKS 01 47 13.0
BRG S Sdif 01 48 10.0 +5.5
BRG PS PS 01 49 34.0 -2.4
BRG SS SS 01 55 09.0 +6.9
BRG LR LR
comp=N,481nm,18.4s
BRG
comp=E,1μm,18.8s
BRG
comp=Z,1μm,18.7s
BRG Berggiesshubel 100.77 40 *eP* Pdif 01 36 27.6 +0.4
comp=Z,8.6nm,1.4s
BRG SKS 01 47 13.0
BRG S Sdif 01 48 10.0 +5.5
BRG PS PS 01 49 34.0 -2.4
BRG SS SS 01 55 09.0 +6.9
BRG LR LR
comp=Z,730nm,18.7s,MS5.2
PERS Pernice 100.93 45 *e*Pdiff Pdif 01 36 27.9 0.0
PERS *e*SKSac SKSac 01 47 04.8 -2.1
PRU Pruhonice 101.02 41 *e*PDIF Pdif 01 36 28.6 +0.3
PRU *e*SKS 01 47 11.4
PRU *e*SDIF Sdif 01 48 10.5 +3.9
PRU AMS AMS 02 24 50.0
comp=Z,900nm,17.4s
TIP Timpagrande 101.04 52 *e*Pdif Pdif 01 36 28.2 -0.2
TIP LR LR
comp=Z,1μm,21.0s,MS5.5
CRES Cresnjev 101.05 45 *e*Pdiff Pdif 01 36 29.0 +0.5
CRES *e* 01 36 34.3
PVCC Panska Ves 101.11 41 *e*PDIF Pdif 01 36 27.8 -0.9
PVCC *e*pP 01 36 33.9
PVCC *e*SKS 01 47 11.6
PVCC AMS AMS 02 25 00.0
comp=Z,1μm,17.5s
ARSA Arzberg 101.29 44⇑ *iP* Pdif 01 36 29.2 -0.3
comp=Z,129nm,2.8s,SNR=6.2
TREC Trest 101.54 42 *e*PDIF Pdif 01 36 31.0 +0.4
TREC *e*SKS 01 47 13.6
TREC AMS AMS 02 22 10.0
comp=Z,1μm,19.3s
CSNA Conrad Observa 101.61 43⇑ *iP* Pdif 01 36 31.3 +0.4
comp=Z,109nm,2.2s
CONA Conrad Observa 101.61 43⇓ *iP* Pdif 01 36 31.4 +0.4
comp=Z,118nm,2.2s,SNR=9.9
FUNA Funafuti 101.62 258 PFAKE 01 36 40.0 +9.0
FUNA LR LR
comp=Z,5μm,19.0s,MS6.0
UPC Upice 102.03 41 *e*PDIF Pdif 01 36 33.5 +0.7
DPC Dobruska-Polom 102.20 41 *e*PDIF Pdif 01 36 34.2 +0.6
DPC *e*pP 01 36 38.7
DPC *e*SKS 01 47 15.9
DPC AMS AMS 02 25 30.0
comp=Z,1μm,19.1s
ZST Bratislava 102.47 43 PDIF Pdif 01 36 35.2 +0.5
ZST Bratislava 102.47 43 *e*Pdif Pdif 01 36 35.2 +0.5
MODS Modra-Piesok 102.60 43 PDIF Pdif 01 36 36.0 +0.6
MODS *e* 01 36 40.7
MODS Modra-Piesok 102.60 43 *e*Pdif Pdif 01 36 36.0 +0.6
MODS *e* 01 36 40.7
MORC Moravsky Berou 102.92 42 *eP* Pdif 01 36 38.0 +1.2
MORC pmax pmax
comp=Z,88nm,2.0s
MORC Moravsky Berou 102.92 42 *e*Pdif Pdif 01 36 38.0 +1.2
comp=Z,88nm,2.0s
KBS Kingsbay 102.98 11 PFAKE 01 36 50.0 +13
KBS LR LR
comp=Z,2μm,22.0s,MS5.7
OKC Ostrava-Krasne 103.32 42 *e*PDIF Pdif 01 36 40.0 +1.5
OKC *e*pP 01 36 44.7
OKC *e*SKS 01 47 15.6
OKC *ex* x 01 48 02.8
OKC AMS AMS 02 23 10.0
comp=Z,900nm,18.1s
OKC Ostrava-Krasne 103.32 42 *e*Pdif Pdif 01 36 40.0 +1.5
OKC *e* 01 36 44.7
OKC *e*SKS 01 47 15.6
OKC *e* 01 48 02.8
KOLL Kolacno 103.37 43 PDIF Pdif 01 36 38.4 -0.4
KOLL Kolacno 103.37 43 *e*Pdif Pdif 01 36 38.4 -0.4
PSZ Piszkesteto 104.31 44 PFAKE 01 36 50.0 +7.1
PSZ LR LR
comp=Z,1μm,20.0s,MS5.4
KECS Kecovo 104.74 43 PDIF Pdif 01 36 44.0 -0.9
KECS Kecovo 104.74 43 *e*Pdif Pdif 01 36 44.0 -0.9
MIDW Midway 105.67 296 PFAKE 01 41 10.0 +7.3
MIDW LR LR
comp=Z,986nm,19.0s,MS5.4
UZH Uzhgorod 105.95 43 *eP* Pdif 01 36 45.0 -5.2
KWP Kalwaria 106.26 42 PFAKE 01 41 10.0 +6.9
KWP LR LR
comp=Z,1μm,21.0s,MS5.4
ADK Adak 106.79 320 PFAKE 01 41 10.0 +6.0
ADK LR LR
comp=Z,795nm,20.0s,MS5.3
KEV Kevo 107.39 21 PFAKE 01 41 10.0 +5.3
KEV LR LR
comp=Z,2μm,20.0s,MS5.6
SANT Santorini 107.59 56 PFAKE 01 41 20.0 +14
SANT LR LR
comp=Z,766nm,21.0s,MS5.2
KIS Kishinev 110.33 45 *e*PKIKP PKiKP 01 41 20.0 +9.2
KIS MLR MLR
comp=Z,600nm,17.0s,MS5.2
KIS MLR MLR
comp=Z,500nm,20.0s
KIEV Kiev 110.43 41 PFAKE 01 41 20.0 +9.1
KIEV LR LR
comp=Z,1μm,20.0s,MS5.5
AKASG Malin Array Be 110.44 41 PKiKP PKiKP 01 41 09.2 -1.7
comp=Z,0.5nm,0.5s,baz=252,slow=2.8,SNR=6.6
AKBB Malin Array Si 110.44 41 *e*PKIKP PKiKP 01 41 10.3 -0.6
LVZ Lovozero 110.48 22 PFAKE 01 41 20.0 +10
LVZ LR LR
comp=Z,803nm,19.0s,MS5.3
TAU Tasmania Unive 110.84 213 PFAKE 01 41 20.0 +8.0
TAU LR LR
comp=Z,2μm,20.0s,MS5.8
ISP Isparta 111.68 55 PFAKE 01 41 20.0 +6.3
ISP LR LR
comp=Z,634nm,20.0s,MS5.2
SMY Shemya 112.39 322 PFAKE 01 41 20.0 +5.4
SMY LR LR
comp=Z,788nm,19.0s,MS5.3
BILL Bilibino 112.54 339 *i* PKIKP PKiKP 01 41 14.0 -0.4
BILL Bilibino 112.54 339 PFAKE 01 41 20.0 +5.6
BILL LR LR
comp=Z,1μm,20.0s,MS5.5
KMBO Kilima Mbogo 112.87 97 PFAKE 01 41 30.0 +13
KMBO LR LR
comp=Z,2μm,19.0s,MS5.7
ANTO Ankara 113.45 52 PFAKE 01 41 30.0 +13
ANTO LR LR
comp=Z,731nm,21.0s,MS5.2
CSS Prodhromos 113.94 58 *e*PKP PKiKP 01 41 18.6 +0.5
SIM Simferopol' 114.14 47 *i* PKIKP PKiKP 01 41 22.7 +4.6
SIM *e* 01 42 09.0
SIM *e*PS PS 01 51 46.0 -4.8
SIM pmax pmax
comp=Z,200nm,5.5s
OBN Obninsk 114.28 35⇓ *i*PKIKP PKiKP 01 41 16.8 -1.3
OBN pmax pmax
comp=Z,24nm,1.6s
OBN MLR MLR
comp=Z,1μm,20.0s,MS5.5
OBN Obninsk 114.28 35 PFAKE 01 41 30.0 +12
OBN LR LR
comp=Z,1μm,20.0s,MS5.5
KLMR Klimovskoe 114.42 29 *e*PKIKP PKiKP 01 41 14.3 -3.9
EIL Elat 115.22 63 PKP PKiKP 01 41 24.7 +4.0
comp=Z,3.3nm,0.6s,baz=180,slow=3.0,SNR=5.8
MMAI Mount Meron Ar 115.66 60 PKP PKPdf 01 41 22.0 +0.6
comp=Z,2.9nm,0.7s,baz=121,slow=4.3,SNR=3.2
ABPO Ambohimpanom 115.88 119 PFAKE 01 41 30.0 +7.7
ABPO LR LR
comp=Z,2μm,19.0s,MS5.8
ASF Jabal al Asfar 116.92 61 PKP PKPdf 01 41 24.3 +0.4
comp=Z,3.5nm,0.9s,baz=222,slow=2.5,SNR=7.7
MALT Malatya 117.91 54 *e*PKIKP PKPdf 01 41 25.0 -0.6
MALT MLR MLR
comp=Z,1μm,20.0s,MS5.5
SOC Sochi 118.29 48*c* *i*PKIKP PKPdf 01 41 25.8 -0.4
SOC *e* 01 42 41.4
SOC *e* 01 48 26.7
SOC *e*SS SS 01 58 48.1 -10
SOC pmax pmax
comp=Z,25nm,0.9s
SOC MLR MLR
comp=Z,269nm,18.0s,MS4.9
TIXI Tiksi 119.99 351 PFAKE 01 41 40.0 +11
TIXI LR LR
comp=Z,1μm,22.0s,MS5.6
KIV Kislovodsk 120.35 47⇑ *i*PKIKP PKPdf 01 41 29.2 -0.9
KIV MLR MLR
comp=Z,700nm,24.0s,MS5.2
KIV Kislovodsk 120.35 47 *e*PKPdf PKPdf 01 41 30.1 0.0
KIV LR LR
comp=Z,508nm,20.0s,MS5.2
ONI Oni 121.15 48 P PKPdf 01 41 31.5 -0.2
PET Petropavlovsk 121.40 324⇑ *i*PKIKP PKPdf 01 41 34.0 +2.1
PET Petropavlovsk 121.40 324 PFAKE 01 41 40.0 +8.1
PET LR LR
comp=Z,703nm,19.0s,MS5.3
STKA Stephens Creek 121.81 218 *i* PKP PKPdf 01 41 32.9 -0.5
comp=Z,6.3nm,0.8s
STKA Stephens Creek 121.81 218 PKP PKPdf 01 41 33.0 -0.4
comp=Z,5.5nm,0.8s,baz=96,slow=2.8,SNR=11
STKA PKKPab PKKPab 01 51 35.8 +2.1
comp=Z,2.5nm,0.9s,baz=304,slow=9.2,SNR=3.1

PETK	**Petropavlovsk-**	**121.91**	**325**	PKP	PKPdf	01 41 31.4	-1.5
	comp=Z,2.6nm,0.8s,baz=64,slow=3.4,SNR=4.7						
TBLG	**Delisi**	**122.25**	**49**	P	PKPdf	01 41 34.1	+0.2
MTA	**Mtatsminda**	**122.30**	**49**	P	PKPdf	01 41 34.1	+0.2
GNI	**Garni**	**122.54**	**51**	PKP	PKPdf	01 41 33.8	-0.6
	comp=Z,11nm,0.8s,baz=21,slow=12,SNR=3.5						
GNI	**Garni**	**122.54**	**51**	*e*PKPdf	PKPdf	01 41 34.7	+0.3
GNI				LR	LR		
	comp=Z,681nm,19.0s,MS5.3						
DGRG	**David-gareji**	**122.77**	**49**	P	PKPdf	01 41 34.7	-0.1
MAK	**Makhachkala**	**123.99**	**47**	*e*PKIKP	PKPdf	01 41 39.2	+2.0
MAK				*i*		01 43 21.0	
MAK				pmax	pmax		
	comp=Z,32nm,0.4s						
NAY	**Al-Naaiem**	**125.94**	**64**	*e*P	PKPdf	01 41 40.4	-0.9
	baz=64						
NAY				AMb	AMB	01 41 48.6	
	comp=Z,27nm,1.7s,baz=64						
MIB	**Mutribah**	**125.98**	**63**	*e*P	PKPdf	01 41 40.9	-0.5
	baz=63						
MIB				AMb	AMB	01 41 48.7	
	comp=Z,57nm,1.3s,baz=63						
CTA	**Charters Tower**	**126.16**	**232**	*e*PKP	PKPdf	01 41 41.3	-0.7
	comp=Z,23nm,1.2s						
CTAO	**Charters Tower**	**126.16**	**232**	*e*PKIKP	PKPdf	01 41 41.4	-0.6
CTAO				MLR	MLR		
	comp=Z,3μm,19.0s,MS6.0						
UMR	**Umm Al-Rimmam**	**126.33**	**63**	*e*P	PKPdf	01 41 40.7	-1.3
	baz=63						
UMR				AMb	AMB	01 41 49.6	
	comp=Z,83nm,1.5s,baz=63						
YAK	**Yakutsk**	**128.11**	**345**	*i* PKIKP	PKPdf	01 41 43.4	-1.0
YAK				*e*		01 43 43.7	
YAK				*e*		01 48 45.6	
YAK				*e*PS	PS	01 53 59.9	+5.2
YAK				pmax	pmax		
	comp=Z,49nm,1.5s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,111nm,2.0s						
YAK				pmax	pmax		
	comp=N,34nm,1.9s						
YAK				pmax	pmax		
	comp=E,36nm,1.9s						
YAK				MLR	MLR		
	comp=Z,760nm,18.0s,MS5.4						
YAK				MLR	MLR		
	comp=N,238nm,20.0s						
YAK				MLR	MLR		
	comp=E,701nm,28.0s						
YAK	**Yakutsk**	**128.11**	**345**	⇑*i*P	PKPdf	01 41 43.0	-1.4
YAK				MLR	MLR		
	comp=Z,900nm,20.0s,MS5.5						
YAK	**Yakutsk**	**128.11**	**345**	*e*PKPdf	PKPdf	01 41 44.1	-0.3
YAK				LR	LR		
	comp=Z,849nm,21.0s,MS5.4						
MSEY	**Mahe Island**	**129.10**	**108**	PFAKE		01 42 00.0	+12
MSEY				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
FORT	**Forrest**	**129.89**	**208**	*e*P	PKPdf	01 41 48.0	-0.9
	comp=Z,22nm,0.9s						
PMG	**Port Moresby**	**130.91**	**245**	*e*PKPdf	PKPdf	01 41 51.6	+0.4
PMG				LR	LR		
	comp=Z,5μm,20.0s,MS6.2						
NWAO	**Narrogin (SRO)**	**131.87**	**196**	PFAKE		01 42 00.0	+7.4
NWAO				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
COEN	**Coen**	**132.01**	**237**	*e*PKPdf	PKPdf	01 41 53.5	+0.2
ASAR	**Alice Springs**	**132.43**	**219**	PKP	PKPdf	01 41 52.3	-1.6
	comp=Z,24nm,1.1s,baz=149,slow=2.1,SNR=6.8						
ASAR	**Alice Springs**	**132.43**	**219**	PKP	PKPdf	01 41 52.3	-1.6
BRVK	**Borovoye**	**132.69**	**27**	*e*PKIKP	PKPdf	01 41 53.3	-0.1
BRVK				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.5						
BVAR	**Borovoye Array**	**132.76**	**27**	PKP	PKPdf	01 41 52.7	-0.8
KLBR	**Kellerberrin**	**132.99**	**197**	*e*PKP	PKPdf	01 41 53.7	-1.0
	comp=Z,109nm,1.6s						
MUN	**Mundaring**	**133.04**	**195**	*e*PKP	PKPdf	01 41 53.9	-0.9
MUN	**Mundaring**	**133.04**	**195**	*e*PKP	PKPdf	01 41 53.9	-0.9
YSS	**Yuzh-Sakhalins**	**133.26**	**323**	*i* PKIKP	PKPdf	01 41 50.8	-3.9
YSS				*e*		01 41 58.0	
YSS				*e*		01 44 28.0	
YSS				*e*PS	PS	01 54 40.0	+0.1
YSS				*e*PPS		01 56 15.0	
YSS				pmax	pmax		
	comp=Z,100nm,1.5s						
YSS	**Yuzh-Sakhalins**	**133.26**	**323**	*e*P	PKPdf	01 41 53.6	-1.1
YSS				MLR	MLR		
	comp=Z,336nm,20.0s,MS5.0						
YSS	**Yuzh-Sakhalins**	**133.26**	**323**	*e*PKPdf	PKPdf	01 41 53.6	-1.1
YSS				LR	LR		
	comp=Z,336nm,20.0s,MS5.0						
CLNS	**Chul'man**	**133.83**	**344**	*e*PKIKP	PKPdf	01 41 55.1	-0.3
CLNS				pmax	pmax		
	comp=Z,24nm,1.2s						
CLNS				pmax	pmax		
	comp=N,14nm,1.2s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.9s						
WB2	**Warramunga Arr**	**134.84**	**223**	*e*PKP	PKPdf	01 41 57.6	-0.9
WB2				*e*PKS		01 45 26.3	
WRA	**Warramunga Arr**	**134.84**	**223**	PKP	PKPdf	01 41 57.6	-0.9
	comp=E,19nm,0.9s,baz=139,slow=1.5,SNR=43						
WRAB	**Tennant Creek**	**134.84**	**223**	*e*PKPdf	PKPdf	01 41 57.7	-0.8
WRAB				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
BOD	**Bodaibo**	**135.15**	**352**	*e*PKIKP	PKPdf	01 41 56.4	-1.5
BOD				pmax	pmax		
	comp=Z,19nm,2.0s						
BOD	**Bodaibo**	**135.15**	**352**	*e*P	PKPdf	01 41 56.4	-1.5
BOD				pmax	pmax		
	comp=Z,19nm,2.0s						
NVS	**Novosibirsk**	**135.95**	**17**	⇑*i*PKIKP	PKPdf	01 41 58.4	-1.1
NVS				*e*		01 44 35.0	
NVS				pmax	pmax		
	comp=E,37nm,2.1s						
NVS				pmax	pmax		
	comp=Z,121nm,2.1s						
NVS				pmax	pmax		
	comp=N,16nm,1.9s						
ZALV	**Zalesovo Beam**	**137.17**	**16**	PKP	PKPdf	01 41 59.9	-1.8
	comp=N,25nm,1.0s,baz=320,slow=1.8,SNR=34						
ZALV	**Zalesovo Beam**	**137.17**	**16**	PKP	PKPdf	01 41 59.9	-1.8
ZAL	**Zalesovo**	**137.18**	**16**	PKIKP	PKPdf	01 41 59.9	-1.9
KURK	**Kurchatov**	**137.88**	**23**	*i* PKIKP	PKPdf	01 42 03.1	-0.1
KURK	**Kurchatov**	**137.88**	**23**	*i* P	PKPdf	01 42 03.1	-0.1
KURK	**Kurchatov**	**137.88**	**23**	*e*PKPpre		01 41 58.5	
KURK				*e*PKPdf	PKPdf	01 42 03.2	0.0
KURK				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
GUMO	**Guam**	**139.72**	**275**	*e*PKIKP	PKPdf	01 42 06.6	-1.0
GUMO				MLR	MLR		
	comp=Z,985nm,19.0s,MS5.6						
KAKA	**Kakadu**	**141.10**	**229**	*e*PKP	PKPdf	01 42 05.3	-4.8
	comp=Z,34nm,0.9s						
EKS2	**Erkin-Say**	**141.39**	**36**	*e*PKPpre		01 42 04.5	
EKS2				*e*PKPdf	PKPdf	01 42 09.0	-0.8
EKS2				LR	LR		
	comp=Z,984nm,20.0s,MS5.6						
MJAR	**Matsushiro Arr**	**141.39**	**313**	PKhKP		01 42 02.6	
	comp=Z,7.9nm,0.8s,baz=90,slow=1.5,SNR=31						
MJAR				PKP	PKPdf	01 42 08.5	-1.5
	comp=Z,16nm,0.8s,baz=88,slow=1.4,SNR=26						
MAJO	**Matsushiro**	**141.39**	**313**	*e*PKHKP		01 42 02.4	
MAJO				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.6						
MAT	**Matsushiro**	**141.39**	**313**	PKP	PKPdf	01 42 02.7	-7.3
IRK	**Irkutsk**	**141.46**	**359**	*e*PKIKP	PKPdf	01 42 09.3	-0.3
IRK				pmax	pmax		
	comp=Z,90nm,2.6s						
FITZ	**Fitzroy Crossi**	**141.60**	**215**	*e*PKP	PKPdf	01 42 04.5	-6.4
	comp=Z,35nm,0.9s						
FITZ				*e*PKS		01 45 47.4	
AML	**Almayashu**	**141.68**	**36**	*e*PKPdf	PKPdf	01 42 08.7	-1.6
AML				LR	LR		
	comp=Z,770nm,20.0s,MS5.5						
VLA	**Vladivostok**	**141.71**	**326**	PKIKP	PKPdf	01 42 07.0	-3.4
VLA				*i*		01 42 12.0	
VLA				pmax	pmax		
	comp=Z,31nm,1.4s						
FRU	**Bishkek**	**141.75**	**35**	*e*PKIKP	PKPdf	01 42 11.0	+0.5
FRU				pmax	pmax		
	comp=Z,220nm,2.1s						
MDJ	**Mudanjiang**	**141.88**	**329**	PKP	PKPdf	01 42 09.3	-1.3
MDJ				PP	PP	01 45 15.8	+1.0
MDJ				PKS		01 45 45.5	
MDJ				SS	SS	02 03 50.3	+3.7
MDJ				PP	PP		
	comp=Z,509nm,8.9s						
MDJ				LR	LR		
	comp=E,1μm,44.1s						
MDJ				LR	LR		
	comp=Z,993nm,27.6s						
MDJ	**Mudanjiang**	**141.88**	**329**	*e*PKPdf	PKPdf	01 42 10.5	-0.1
MDJ				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
MBWA	**Marble Bar**	**141.90**	**205**	*e*PKPdf	PKPdf	01 42 11.5	+0.1
MBWA				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
HIA	**Hailar**	**141.98**	**343**	*e*PKIKP	PKPdf	01 42 09.4	-1.3
HIA				MLR	MLR		
	comp=Z,2μm,22.0s						
MOY	**Mondy**	**141.99**	**2**	*e*PKIKP	PKPdf	01 42 11.9	+1.3
MOY				*e*		01 45 13.7	
MOY				pmax	pmax		
	comp=Z,123nm,2.5s						
TLY	**Talaya**	**142.03**	**360**	*e*PKIKP	PKPdf	01 42 10.9	+0.2
TLY				*i*		01 42 16.2	
TLY				*e*		01 45 13.6	
TLY				*e*SS	SS	02 03 38.9	-8.3
TLY				pmax	pmax		
	comp=Z,25nm,1.6s						
TLY				MLR	MLR		
	comp=Z,1μm,23.0s,MS5.6						
TLY	**Talaya**	**142.03**	**360**	*e*PKPpre		01 42 05.3	
TLY				*e*PKPdf	PKPdf	01 42 10.6	-0.1
TLY				*e*PP	PP	01 45 14.9	-0.2
TLY				LR	LR		
	comp=Z,703nm,20.0s,MS5.4						
TKM2	**Tokmak 2**	**142.23**	**34**	*e*PKHKP		01 42 06.6	
TKM2				*e*		01 42 11.3	
TKM2				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.6						
MK31	**Makanchi Array**	**142.48**	**24**	*e*PKIKP	PKPdf	01 42 07.0	-4.6
MKAR	**Makanchi Array**	**142.48**	**24**	PKhKP		01 42 05.3	
	comp=Z,4.8nm,0.8s,baz=326,slow=3.2,SNR=31						
MKAR	**Makanchi Array**	**142.48**	**24**	PKP	PKPdf	01 42 05.3	-6.3
KBL	**Kabul**	**142.62**	**50**	*e*PKIKP	PKPdf	01 42 08.8	-3.5
DGAR	**Diego Garcia**	**142.86**	**122**	PFAKE		01 42 20.0	+6.7
DGAR				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
ZAK	**Zakamensk**	**143.33**	**0**	⇑*e*PKIKP	PKPdf	01 42 08.7	-4.3
ZAK				pmax	pmax		
	comp=Z,26nm,1.8s						
CN2	**Changchun**	**144.46**	**332**	*e*PKP	PKPdf	01 42 11.3	-3.9
CN2				*e*APKP		01 42 21.8	
CN2				*e*XPKP		01 42 25.6	
CN2				PP	PP	01 45 30.8	+0.5
CN2				PPP		01 48 44.4	
CN2				SS	SS	02 04 16.0	-0.3
CN2				PP	PP		
	comp=Z,800nm,6.0s						
CN2				LR	LR		
	comp=N,600nm,17.0s,MS5.6						
CN2				LR	LR		
	comp=E,600nm,17.0s,MS5.6						
CN2				LR	LR		
	comp=Z,800nm,23.0s						
KSH	**Kashi**	**144.67**	**38**	PKP	PKPdf	01 42 15.8	+0.1
KSH				PP	PP	01 45 34.3	+2.4
KSH				PKS		01 45 50.3	
KSH				PPP		01 48 47.5	
KSH				SKS	SKSdf	01 49 23.3	-1.6
KSH				SKKS	SKKSac	01 52 23.9	-0.9
KSH				SS	SS	02 04 18.0	-1.3
KSH				PP	PP		
	comp=Z,2μm,4.2s						
KSH				LR	LR		
	comp=N,483nm,7.1s						
KSH				LR	LR		
	comp=E,387nm,8.0s						
KSH				LR	LR		
	comp=Z,2μm,24.8s,MS5.9						
SONM	**Songino Array**	**145.79**	**356**	PKPbc	PKPbc	01 42 18.0	+0.2
	comp=Z,45nm,1.0s,baz=348,slow=2.6,SNR=145						
BHJ	**Bhuj**	**146.66**	**68**	*e*P	PKPdf	01 42 16.3	-3.3
SNY	**Shenyang**	**146.86**	**332**	⇑PKP	PKPdf	01 42 19.8	+0.4
JASL	**Jaisalmer**	**146.88**	**61**	*e*P	PKPdf	01 42 20.0	+0.2
WMQ	**Urumqi**	**147.02**	**21**	PKP	PKPdf	01 42 20.4	+0.8
WMQ				PP	PP	01 45 50.4	+5.1
WMQ				PPP		01 49 08.8	
WMQ				SKS	SKSdf	01 49 27.5	-0.6
WMQ				SKKS	SKKSac	01 52 39.8	+2.1
WMQ				SS	SS	02 04 49.8	+4.8
WMQ				PP	PP		
	comp=Z,173nm,7.9s						
WMQ				LR	LR		
	comp=N,914nm,24.6s,MS5.6						
WMQ				LR	LR		
	comp=E,754nm,22.4s,MS5.6						
WMQ				LR	LR		
	comp=Z,733nm,22.4s,MS5.4						
KSRS	**Korea Array**	**147.72**	**322**	PKPbc	PKPbc	01 42 20.8	-3.0
	comp=Z,58nm,1.2s,baz=47,slow=1.7,SNR=65						
INCN	**Inchon**	**148.47**	**323**	*e*PKPbc	PKPbc	01 42 24.4	-1.3
INCN				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
THN	**Thein Dam**	**148.53**	**49**	*e*P	PKPdf	01 42 21.6	-0.9
PONG	**Pong**	**148.94**	**49**	*ex*	x	01 43 10.0	
DL2	**Dalian**	**150.08**	**331**	⇑PKP	PKPdf	01 42 18.4	-6.3
DL2				PP	PP	01 46 03.3	-0.1
DL2				SS	SS	02 05 22.6	+2.7
DL2				PP	PP		
	comp=Z,420nm,7.2s						
DL2				LR	LR		
	comp=N,450nm,20.3s,MS5.3						
DL2				LR	LR		
	comp=E,300nm,23.2s,MS5.3						
DL2				LR	LR		
	comp=Z,590nm,21.1s,MS5.4						
AJM	**Ajmer**	**150.20**	**60**	*e*P	PKPdf	01 42 24.5	-0.8
SMLA	**Simla**	**150.25**	**50**	*e*P	PKPdf	01 42 25.0	-0.2
KLP	**Kalpa**	**150.84**	**48**	*ex*	x	01 42 27.1	
POO	**Poona**	**151.22**	**76**	*e*P	PKPdf	01 42 24.8	-2.3
GOA	**Goa**	**151.33**	**83**	*e*P	PKPdf	01 42 23.4	-3.9
BJI	**Beijing**	**151.37**	**339**	PKP	PKPdf	01 42 26.8	+0.1
BJI				SS	SS	02 05 32.1	-1.6
BJI				PP	PP		
	comp=Z,870nm,5.6s						
BJI				LR	LR		
	comp=N,812nm,24.2s,MS5.6						
BJI				LR	LR		
	comp=E,593nm,22.1s,MS5.6						
BJI				LR	LR		
	comp=Z,997nm,23.8s,MS5.5						
BJT	**Baijiatuau**	**151.40**	**339**	*e*PKIKP	PKPdf	01 42 26.1	-0.6
BJT				*e*		01 42 31.5	
BJT				MLR	MLR		
	comp=Z,1μm,21.0s						
NDI	**New Delhi**	**151.44**	**54**	*e*P	PKPdf	01 42 26.0	-1.2
NDI				*e*P		01 42 26.0	
AYAN	**Aya Nagar**	**151.46**	**55**	*e*P	PKPdf	01 42 25.1	-2.1
SONA	**Sohna**	**151.53**	**55**	*e*P	PKPdf	01 42 26.8	-0.5
KAD	**Karad**	**151.63**	**79**	*e*P	PKPdf	01 42 25.4	-2.3
HHC	**Hu-ho-hao-te**	**151.94**	**347**	*e*PKP	PKPdf	01 42 26.8	-0.7
HHC				APKP		01 42 36.8	
HHC				PKS		01 46 00.1	
HHC				SKS	SKSdf	01 49 28.3	-6.5
HHC				LR	LR		
	comp=N,853nm,21.4s,MS5.6						
HHC				LR	LR		
	comp=E,595nm,21.4s,MS5.6						
HHC				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
JOSI	**Joshimath**	**152.31**	**49**	*ex*	x	01 42 29.5	
BTO	**Baotou**	**152.49**	**349**	*e*PKP	PKPdf	01 42 27.8	-0.5
COCO	**West Island**	**153.56**	**165**	PFAKE		01 42 40.0	+9.3
COCO				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
TRD	**Trivandrum**	**153.58**	**98**	*e*P	PKPdf	01 42 27.9	-2.8
LATR	**Latur**	**153.79**	**76**	*e*P	PKPdf	01 42 28.9	-2.0
AKL	**Akola**	**153.85**	**71**	*ex*	PKPdf	01 42 43.3	+12
GTA	**Gaotai**	**154.11**	**6**	PKP	PKPdf	01 42 30.9	+0.2
GTA				PKS		01 46 03.6	
GTA				SKKS	SKKSac	01 53 16.8	0.0
GTA				SS	SS	02 06 02.8	-0.4
GTA				PP	PP		
	comp=Z,283nm,7.8s						
GTA				LR	LR		
	comp=N,466nm,24.9s,MS5.4						
GTA				LR	LR		
	comp=E,499nm,23.1s,MS5.4						
GTA				LR	LR		
	comp=Z,1μm,25.7s,MS5.6						
KOD	**Kodaikanal**	**154.42**	**95**	*ex*	PKPdf	01 42 35.2	+3.3
TIY	**Taiyuan**	**154.68**	**343**	PKP	PKPdf	01 42 32.3	+0.7
TIY				PP	PP	01 46 29.8	+0.6
TIY				LR	LR		
	comp=N,2μm,22.8s,MS5.9						
TIY				LR	LR		
	comp=E,753nm,20.2s,MS5.9						
TIY				LR	LR		
	comp=Z,1μm,23.3s,MS5.6						
KAPI	**Kappang**	**155.38**	**222**	*e*PKPdf	PKPdf	01 42 32.0	-1.3
KAPI				*e*PKPbc	PKPdf	01 42 41.7	+8.5
KAPI				*e*PKPab	PKPab	01 42 57.9	-0.5
KAPI				LR	LR		
	comp=Z,2μm,19.0s,MS6.0						
NGP	**Nagpur**	**155.61**	**69**	*e*P	PKPdf	01 42 30.0	-3.3
HYB	**Hyderabad**	**155.78**	**78**	*i* PKP	PKPdf	01 42 33.0	-0.6
HYB	**Hyderabad**	**155.78**	**78**	*e*P	PKPdf	01 42 33.0	-0.6
SSE	**Sheshan**	**156.11**	**320**	*e*PKP	PKPdf	01 42 36.4	+2.7
SSE				PP	PP	01 46 41.4	+3.4
SSE				SS	SS	02 06 25.3	-1.4
SSE				LR	LR		
	comp=N,292nm,24.6s,MS5.4						
SSE				LR	LR		
	comp=E,709nm,24.6s,MS5.4						
SSE				LR	LR		
	comp=Z,857nm,20.7s,MS5.6						
DANN	**Dangsing**	**156.58**	**48**	*e*P	PKPdf	01 42 34.7	+0.3
	comp=Z,723nm,1.4s						
KOLN	**Koldanda**	**156.79**	**50**	*e*P	PKPdf	01 42 34.1	-0.6
	comp=Z,304nm,1.7s						
NJ2	**Nanjing**	**156.81**	**325**	*e*PKP	PKPdf	01 42 30.3	-4.3
NJ2				APKP		01 42 40.3	
NJ2				XPKP		01 42 44.1	
NJ2				PKP2	PKPab	01 43 02.3	-1.8
NJ2				PKS		01 46 02.3	
NJ2				PP	PP	01 46 40.4	-1.2
NJ2				PP	PP		
	comp=Z,1μm,9.3s						
NJ2				LR	LR		
	comp=N,6μm,30.4s,MS6.3						
NJ2				LR	LR		
	comp=E,4μm,31.3s,MS6.3						
NJ2				LR	LR		
	comp=Z,10μm,25.7s						
PALK	**Pallekele**	**156.83**	**103**	PFAKE		01 42 40.0	+4.8
PALK				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
DAV	**Davao City (W)**	**157.24**	**256**	PKPab	PKPab	01 43 07.0	+0.4
	comp=Z,125nm,0.4s,baz=247,slow=3.0,SNR=4.3						
DAV	**Davao City (W)**	**157.24**	**256**	PFAKE		01 42 50.0	+14
DAV				LR	LR		
	comp=Z,892nm,21.0s,MS5.6						
MDRS	**Chennai**	**157.47**	**89**	*ex*	PKPdf	01 42 36.0	+0.1
LZH	**Lanzhou**	**157.62**	**359**	⇑PKP	PKPdf	01 42 35.0	-0.5
LZH				APKP		01 42 38.3	
LZH				PP	PP	01 46 47.0	+1.8
LZH				SKS	SKSdf	01 49 38.1	-3.2
LZH				SKKS	SKKSac	01 53 35.3	-0.3
LZH				SS	SS	02 06 43.3	+2.3
LZH				PP	PP		
	comp=Z,1μm,5.4s						
LZH				LR	LR		
	comp=N,786nm,18.5s						
LZH				LR	LR		
	comp=Z,1μm,20.3s,MS5.8						
KKN	**Kakani**	**158.00**	**47**	*e*P	PKPdf	01 42 35.6	-0.6
	comp=Z,363nm,1.3s						
BLSP	**Bilaspur**	**158.09**	**64**	*e*P	PKPdf	01 42 33.4	-3.1
PKI	**Pulchoki**	**158.22**	**48**	*e*P	PKPdf	01 42 35.5	-1.0
GUN	**Gumba**	**158.35**	**46**	*e*P	PKPdf	01 42 36.5	-0.1
	comp=Z,555nm,1.2s						
XAN	**Xi'an**	**159.05**	**347**	PKP	PKPdf	01 42 37.0	-0.3
RAMN	**Ramite**	**159.44**	**47**	*e*P	PKPdf	01 42 37.6	-0.4
	comp=Z,295nm,1.2s						
TAPN	**Taplejung**	**159.97**	**45**	*e*P	PKPdf	01 42 38.6	0.0
	comp=Z,376nm,1.7s						
ODAN	**Odare**	**160.05**	**46**	*e*P	PKPdf	01 42 38.5	-0.2
	comp=Z,119nm,1.3s						
VIS	**Vishakhapatnam**	**160.26**	**75**	*ex*	PKPdf	01 42 40.1	+1.0
LSA	**Lhasa**	**160.39**	**33**	PKP	PKPdf	01 42 40.0	+1.0
LSA				APKP		01 42 50.0	
LSA				PP	PP		
	comp=Z,530nm,6.0s						
LSA				LR	LR		
	comp=N,180nm,30.0s						
LSA				LR	LR		
	comp=E,210nm,29.0s						
LSA				LR	LR		
	comp=Z,450nm,29.0s						
LSA	**Lhasa**	**160.39**	**33**	*e*PKPdf	PKPdf	01 42 39.6	+0.7
LSA				LR	LR		
	comp=Z,1μm,20.0s						
BOK	**Bokaro**	**160.59**	**56**	*e*P	PKPdf	01 42 38.1	-1.3
CD2	**Chengdu**	**162.78**	**359**	*e*PKP	PKPdf	01 42 41.5	+0.1
CD2				APKP		01 42 48.3	
CD2				XPKP		01 42 53.0	
CD2				PKP2	PKPab	01 43 32.6	+2.7
CD2				PP	PP	01 47 13.5	+0.4
CD2				SKS	SKSdf	01 49 41.0	-5.1
CD2				SKKS	SKKSac	01 53 59.3	-3.2
CD2				SS	SS	02 07 33.6	-1.7
CD2				PP	PP		
	comp=Z,1μm,6.2s						
CD2				LR	LR		
	comp=N,910nm,21.6s						
CD2				LR	LR		
	comp=E,710nm,20.4s						
CD2				LR	LR		
	comp=Z,520nm,16.8s						
CAL	**Calcutta**	**163.16**	**56**	*ex*	PP	01 47 13.6	-3.4
SHL	**Shillong**	**163.92**	**41**	*ex*	PKPdf	01 42 44.0	+1.4
SHL				*ex*	x	01 47 18.0	
KKM	**Kota Kinabalu**	**165.30**	**240**	*e*PKPdf	PKPdf	01 42 44.1	-0.1
KKM				LR	LR		
	comp=Z,886nm,20.0s						
KSM	**Kuching**	**166.13**	**210**	*e*PKPdf	PKPdf	01 42 44.2	-0.7
KSM				*e*PKPab	PKPab	01 43 43.9	-1.3
GYA	**Guiyang**	**166.85**	**347**	*i* PKP	PKPdf	01 42 45.3	+0.2
GYA				PKP2	PKPab	01 43 51.0	+3.0
GYA				PKS		01 46 15.0	
GYA				SKS	SKSdf	01 49 45.8	-3.3
GYA				PPP		01 51 35.6	
GYA				SKKS	SKKSac	01 54 17.4	-5.8
GYA				SSS		02 14 50.3	
GYA				PP	PP		
	comp=Z,510nm,6.6s						
GYA				LR	LR		
	comp=N,2μm,25.2s						
GYA				LR	LR		
	comp=E,2μm,24.0s						
GYA				LR	LR		
	comp=Z,2μm,25.7s						
KMI	**Kunming**	**168.53**	**3**	PKP	PKPdf	01 42 46.3	0.0
KMI				XPKP		01 42 50.6	
KMI				PKP2	PKPab	01 43 57.0	+1.6
KMI				PKS		01 46 15.6	
KMI				PP	PP	01 47 41.8	-1.2
KMI				PPP

QIZ LR LR
comp=Z,1μm,19.0s
CHTO Chiang Mai 173.29 39 *e*PKIKP PKPdf 01 42 47.9 -1.0
CHTO *e* 01 44 16.7
CHTO MLR MLR
comp=Z,1μm,19.0s
CM31 Chiang Mai Arr 173.56 41 *e*PKPdf PKPdf 01 42 48.7 -0.4
CM31 LR LR
comp=Z,1μm,19.0s
CMAR Chiang Mai Arr 173.56 41 PKP PKPdf 01 42 48.7 -0.3
comp=Z,14nm,1.0s,baz=285,slow=1.7,SNR=61
CMAR PKPab PKPab 01 44 17.9 -0.2
comp=Z,2.1nm,0.7s,baz=329,slow=5.8,SNR=4.7

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*ISCJB **19** 01:25:35.9±2.7, 1367S±005×765W±0.1, h15km±19km, mb4.9/34, MS5.7/2, Error ellipse: s-maj=20.9km s-min=7.2km az=163.2*
*IDC **19** 01:25:40.1±5.4, 1362S×7649W, h28km±38km, mb4.6/16, mb1 4.7/17, mb1mx4.6/20, mbtmp4.6/17, ML6.1/1, MS5.4/3, Ms1 5.4/3, ms1mx4.5/26, Error ellipse: s-maj=30.1km s-min=10.7km az=75.0*
*MOS **19** 01:25:40.2±2.8, 1375S×7660W, h33km, mb5.2/9, MS5.7/4, Error ellipse: s-maj=18.0km s-min=15.0km az=123.1*
*NEIC **19** 01:25:41.4±0.4, 1375S×7646W, h35km, mb5.1/13, Error ellipse: s-maj=18.2km s-min=8.5km az=73.0*
ISC 19 01:25:39.8±2.9, 1368S±006×765W±01, h22km±20km, n79, σ1§21/71, mb4.9/34, MS5.7/2, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.73**	**347**	Pn		**Pn**		**01 26 05.8**	**-2.7**
	560nm,0.3s,baz=171,slow=12,SNR=6.0								
NNA				Sn		**Sn**		**01 26 26.4**	**-3.4**
	3μm,0.3s,baz=212,slow=13,SNR=7.6								
NNA				LR		LR		01 26 59.2	
	comp=Z,11μm,20.4s,baz=170,slow=48								
NNA	**Nana**	**1.73**	**347**	*e*Pn		**Pn**		**01 26 06.4**	**-2.1**
NNA				*e*Sn		**Sn**		**01 26 25.6**	**-4.2**
ATAH	**Atahualpa**	**6.91**	**344**	Pn		**Pn**		**01 27 18.5**	**-1.3**
	baz=279,slow=19,SNR=1.1								
LPAZ	**La Paz**	**8.45**	**109**	Pn		**Pn**		**01 27 47.7**	**+6.7**
	6.2nm,0.3s,baz=317,slow=24,SNR=8.7								
LPAZ				LR		LR		01 31 36.4	
	comp=Z,7μm,19.3s,baz=76,slow=42								
LVC	**Limon Verde**	**11.41**	**142**	Pn		**Pn**		**01 28 23.0**	**+1.5**
	13nm,0.3s,baz=313,slow=14,SNR=3.1								
LVC				Sn		**Sn**		**01 30 27.5**	**-1.0**
	4.8nm,0.3s,baz=75,slow=20,SNR=4.2								
LVC	**Limon Verde**	**11.41**	**142**	Pn		**Pn**		**01 28 23.0**	**+1.5**
LVC				Sn		**Sn**		**01 30 27.5**	**-1.0**
CFAA	**Coronel Fontan**	**19.37**	**158**	P		**Pn**		**01 30 05.9**	**+0.6**
	0.5nm,0.3s,baz=332,slow=11,SNR=12								
BCIP	**Isla Barro Col**	**22.95**	**351**	*e*P		**P**		**01 30 46.1**	**+3.4**
	308nm,1.6s,mb5.5								
SDV	**Santo Domingo**	**23.15**	**15**	P		**P**		**01 30 46.6**	**+1.7**
	41nm,0.9s,mb4.9,baz=245,slow=9.0,SNR=3.5								
SDV				LR		LR		01 39 22.0	
	comp=Z,21μm,18.2s,MS5.6,baz=224,slow=36								
PLCA	**Paso Flores**	**27.44**	**170**	P		**P**		**01 31 24.1**	**+0.1**
	20nm,0.7s,mb4.8,baz=340,slow=11,SNR=12								
PLCA	**Paso Flores**	**27.44**	**170**	P		**P**		**01 31 24.1**	**0.0**
PLCA				pmax		pmax			
	comp=Z,20nm,0.7s								
PLCA	**Paso Flores**	**27.44**	**170**	*e*P		**P**		**01 31 23.8**	**-0.2**
	comp=Z,20nm,0.7s,mb4.8								
TEIG	**Tepich**	**35.64**	**341**	P		**P**		**01 32 35.4**	**-0.9**
	comp=Z,11nm,0.7s,mb4.9,baz=194,slow=0.1,SNR=3.3								
USHA	**Ushuaia**	**41.54**	**173**	P		**P**		**01 33 25.7**	**+0.3**
	comp=Z,21nm,0.9s,mb4.8,baz=302,slow=7.8,SNR=7.2								
TXAR	**Lajitas Array**	**50.19**	**329**	P		**P**		**01 34 33.5**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=156,slow=8.9,SNR=4.5								
ELN	**Prospectdale**	**50.80**	**356**	*e*P		**P**		**01 34 40.2**	**+1.7**
PMSA	**Palmer Station**	**51.75**	**173**	P		**P**		**01 34 45.3**	**+0.1**
	comp=Z,15nm,0.9s,mb4.9,baz=27,slow=6.1,SNR=4.3								
ACSO	**Alum Creek Sta**	**53.98**	**354**	*e*P		**P**		**01 35 00.6**	**-1.5**
	comp=Z,40nm,1.1s,mb5.3								
ACCN	**Adirondack Com**	**56.84**	**2**	*e*P		**P**		**01 35 25.0**	**+2.4**
	comp=Z,64nm,1.3s,mb5.5								
SADO	**Sadowa**	**58.22**	**358**	P		**P**		**01 35 31.4**	**-0.9**
	baz=200,slow=7.8								
FRNY	**Flat Rock**	**58.29**	**2**	*e*P		**P**		**01 35 34.9**	**+2.1**
	comp=Z,59nm,1.2s,mb5.5								
PDAR	**Pinedale Array**	**63.86**	**333**	P		**P**		**01 36 10.2**	**-0.4**
	comp=Z,3.7nm,0.9s,mb4.4,baz=116,slow=10,SNR=2.7								
AGMN	**Agassiz Refuge**	**64.07**	**346**	*e*P		**P**		**01 36 12.2**	**+0.3**
	comp=Z,43nm,1.1s,mb5.4								
MTUM	**Tungsten Hills**	**64.36**	**324**	*e*P		**P**		**01 36 15.3**	**+1.3**
NVAR	**Mina Array Bea**	**64.96**	**325**	P		**P**		**01 36 20.7**	**+2.8**
	comp=Z,3.2nm,0.8s,mb4.4,baz=153,slow=6.1,SNR=4.1								
ELK	**Elko**	**64.98**	**328**	P		**P**		**01 36 20.8**	**+2.7**
	comp=Z,5.5nm,1.1s,mb4.5,baz=131,slow=9.4,SNR=3.6								
ELK	**Elko**	**64.98**	**328**	P		**P**		**01 36 20.8**	**+2.8**
ELK				pmax		pmax			
	comp=Z,6.0nm,1.1s								
ELK	**Elko**	**64.98**	**328**	*e*P		**P**		**01 36 20.6**	**+2.5**
	comp=Z,17nm,1.2s,mb5.0								
ULM	**Lac du Bonnet**	**65.90**	**346**	P		**P**		**01 36 22.1**	**-1.7**
	comp=Z,24nm,1.0s,mb5.2,baz=161,slow=6.3,SNR=5.3								
MOD	**Modoc**	**68.47**	**326**	*e*P		**P**		**01 36 44.4**	**+4.1**
	comp=Z,33nm,1.3s,mb5.2								
SCHQ	**Schefferville**	**68.73**	**6**	P		**P**		**01 36 40.4**	**-1.2**
	comp=Z,11nm,0.9s,mb4.8,baz=171,slow=8.1,SNR=4.0								
SNAA	**Sanae**	**71.96**	**161**	P		**P**		**01 36 59.8**	**-1.4**
	comp=Z,8.5nm,0.8s,mb4.7,baz=300,slow=11,SNR=2.3								
EDM	**Edmonton**	**73.76**	**338**	*e*P		**P**		**01 37 12.0**	**0.0**
DBIC	**Dimbokro**	**73.88**	**79**	P		**P**		**01 37 13.5**	**-0.1**
	comp=Z,18nm,0.7s,mb5.1,baz=220,slow=2.6,SNR=4.3								
DBIC	**Dimbokro**	**73.88**	**79**	P		**P**		**01 37 13.5**	**-0.1**
PGC	**Sidney**	**74.71**	**330**	*e*P		**P**		**01 37 18.1**	**+0.4**
	comp=Z,55nm,1.1s,mb5.4								
QSPA	**South Pole Qui**	**76.46**	**180**	P		**P**		**01 37 27.2**	**-0.1**
	comp=Z,14nm,0.8s,mb4.9,baz=158,slow=5.0,SNR=5.5								
YKA	**Yellowknife Ar**	**81.56**	**343**	P		**P**		**01 37 54.7**	**-0.6**
	comp=Z,2.4nm,0.7s,mb4.2,baz=143,slow=6.2,SNR=4.6								
YKA	**Yellowknife Ar**	**81.56**	**343**	P		**P**		**01 37 54.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**81.88**	**74**	P		**P**		**01 37 58.7**	**+0.6**
	comp=Z,25nm,0.8s,mb5.2,baz=255,slow=3.9,SNR=8.7								
TORD	**Torodi Ar. Bea**	**81.88**	**74**	P		**P**		**01 37 58.7**	**+0.6**
EVO	**Evora**	**82.28**	**47**	*e*P		**P**		**01 38 00.0**	**+0.3**
	comp=Z,53nm,1.2s,mb5.0								
SFJD	**Kangerlussuaq**	**82.66**	**10**	LR		LR		02 11 49.1	
	comp=Z,3μm,21.3s,MS5.7,baz=192,slow=34								
ESDC	**Sonseca Array**	**85.63**	**48**	P		**P**		**01 38 15.8**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.3,baz=234,slow=5.3,SNR=2.7								
TAM	**Tamanrasset**	**88.02**	**66**	*e*P		**P**		**01 38 29.8**	**+1.0**
BORG	**Borgarnes**	**88.50**	**21**	P		**P**		**01 38 32.5**	**+2.3**
	comp=Z,12nm,0.9s,mb5.2,baz=219,slow=1.8,SNR=4.1								
SJPF	**Ste Jean**	**88.77**	**45**	*e*P		**P**		**01 38 31.3**	**-0.6**
SUMG	**Summit**	**89.62**	**11**	*e*P		**P**		**01 38 35.8**	**+0.5**
	comp=Z,8.4nm,1.1s,mb5.0								
MTLF	**Montolieu**	**91.23**	**46**	*e*P		**P**		**01 38 42.8**	**-0.6**
	comp=Z,5.8nm,0.8s,mb4.7								
MTLF	**Montolieu**	**91.23**	**46**	*e*P		**P**		**01 38 42.8**	**-0.6**
MTLF				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.7								
MTLF	**Montolieu**	**91.23**	**46**	*e*P		**P**		**01 38 42.8**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.7								
BGF	**Bois d'Agland**	**92.61**	**43**	*e*P		**P**		**01 38 49.1**	**-0.6**
	comp=Z,10nm,0.8s,mb5.0								
BGF	**Bois d'Agland**	**92.61**	**43**	*e*P		**P**		**01 38 49.1**	**-0.6**
BGF				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb5.0								
BGF	**Bois d'Agland**	**92.61**	**43**	*e*P		**P**		**01 38 49.1**	**-0.6**
	comp=Z,5.2nm,0.8s,mb5.0								
SMF	**Signal de Mont**	**93.30**	**43**	*e*P		**P**		**01 38 51.2**	**-1.7**
	comp=Z,24nm,1.3s,mb5.2								
SMF	**Signal de Mont**	**93.30**	**43**	*e*P		**P**		**01 38 51.2**	**-1.7**
SMF				pmax		pmax			
	comp=Z,12nm,1.3s,mb5.2								
SMF	**Signal de Mont**	**93.30**	**43**	*e*P		**P**		**01 38 51.2**	**-1.7**
	comp=Z,12nm,1.3s,mb5.2								
BOSA	**Boshof**	**93.53**	**120**	P		**P**		**01 38 53.1**	**-1.4**
	comp=Z,1.5nm,0.6s,mb4.6,baz=270,slow=6.1,SNR=2.4								
MAW	**Mawson**	**93.75**	**166**	P		**P**		**01 38 53.5**	**-1.2**
	comp=Z,2.9nm,0.8s,mb4.8,baz=242,slow=8.1,SNR=2.6								
MAW	**Mawson**	**93.75**	**166**	*e*P		**P**		**01 38 53.8**	**-0.9**
MAW				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MAW	**Mawson**	**93.75**	**166**	*e*P		**P**		**01 38 53.8**	**-0.9**
	comp=Z,3.2nm,0.7s,mb4.9								
ORIF	**Oris-en-Rattie**	**94.20**	**45**	*e*P		**P**		**01 38 57.3**	**+0.2**
LPL	**La Plagne**	**94.94**	**44**	*e*P		**P**		**01 39 00.9**	**+0.5**
	comp=Z,21nm,1.2s,mb5.1								
LPL	**La Plagne**	**94.94**	**44**	*e*P		**P**		**01 39 00.9**	**+0.5**
LPL				pmax		pmax			
	comp=Z,11nm,1.2s,mb5.2								
LPL	**La Plagne**	**94.94**	**44**	*e*P		**P**		**01 39 00.9**	**+0.5**
	comp=Z,10nm,1.2s,mb5.1								
LPG	**La Plagne**	**94.94**	**45**	*e*P		**P**		**01 39 01.2**	**+0.7**
	comp=Z,25nm,1.2s,mb5.2								
LPG	**La Plagne**	**94.94**	**45**	*e*P		**P**		**01 39 01.2**	**+0.7**
LPG				pmax		pmax			
	comp=Z,13nm,1.2s,mb5.2								
LPG	**La Plagne**	**94.94**	**45**	*e*P		**P**		**01 39 01.2**	**+0.7**
	comp=Z,13nm,1.2s,mb5.2								
ASAR	**Alice Springs**	**132.47**	**219**	PKP		PKPdf		01 44 51.6	-1.7
	comp=Z,1.0nm,0.7s,baz=115,slow=1.8,SNR=5.6								
WRA	**Warramunga Arr**	**134.90**	**223**	PKP		PKPdf		01 44 56.8	-1.2
	comp=Z,4.7nm,0.8s,baz=137,slow=1.5,SNR=5.2								
ZALV	**Zalesovo Beam**	**137.20**	**16**	PKP		PKPdf		01 44 59.9	-1.3
	comp=Z,5.2nm,0.9s,baz=248,slow=1.6,SNR=2.4								
ZAL	**Zalesovo**	**137.20**	**16**	PKIKP		PKPdf		01 44 59.9	-1.3
MJAR	**Matsushiro Arr**	**141.55**	**313**	PKhKP				01 45 04.8	
	comp=Z,2.2nm,0.7s,baz=87,slow=2.9,SNR=4.4								
ZAK	**Zakamensk**	**143.40**	**0**	*e*PKIKP		PKPdf		01 45 21.7	+9.2
ZAK				pmax		pmax			
	comp=Z,31nm,1.4s								
SONM	**Songino Array**	**145.87**	**357**	PKPbc		PKPbc		01 45 16.5	-1.0
	comp=Z,5.8nm,0.8s,baz=339,slow=2.6,SNR=4.1								
KSRS	**Korea Array**	**147.87**	**322**	PKPbc		PKPbc		01 45 23.9	+0.4
	comp=Z,3.2nm,0.6s,baz=64,slow=2.5,SNR=4.7								
KSRS	**Korea Array**	**147.87**	**322**	PKP2		PKPab		01 45 23.9	-2.1
KSRS				pmax		pmax			
	comp=Z,3.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**173.51**	**42**	PKPab		PKPab		01 47 19.8	+2.6
	comp=Z,3.2nm,0.9s,baz=317,slow=5.6,SNR=5.1								
CMAR	**Chiang Mai Arr**	**173.51**	**42**	PKP2		PKPab		01 47 19.8	+2.6
CMAR				pmax		pmax			
	comp=Z,3.0nm,1.0s								

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*ISCJB **19** 01:32:37.4±0.4, 6055S±008×266W±0.1, h10km, mb4.9/24, MS4.8/5, Error ellipse: s-maj=13.4km s-min=7.7km az=40.8*
*IDC **19** 01:32:38.7±0.4, 6033S×2669W, h0km, mb4.8/17, mb1 4.8/17, mb1mx4.7/22, mbtmp4.8/17, MS4.8/6, Ms1 4.8/6, ms1mx4.6/18, Error ellipse: s-maj=19.1km s-min=12.8km az=28.0*
*NEIC **19** 01:32:40.0±4.9, 6028S×2647W, h8km±29km, mb5.0/13, Error ellipse: s-maj=11.5km s-min=8.5km az=199.0*
*GCMT **19** 01:32:40.0±0.2, 6077S×2545W, h12km, MW5.4/76, Moment Tensor Solution. s39,c49; s76,c112; Duration: 1§3 Moment tensor: Scale 10^17Nm; Mrr1.33±.04; Mθθ-0.32±.04; Mφφ-1.01±.04; Mrθ-0.56±.16; Mφθ-0.29±.04; Mφr1.16±.14; Best double couple: Mo1.73500×1017 NP1:φs210.00000°, δ27.00000°, λ126.00000°. NP2: φs351.00000°, δ68.00000°, λ74.00000°. Principal axes: T 1.9780, Plg63.0000°, Azm235.0000°; N -0.4900, Plg15.0000°, Azm357.0000°; P -1.4910, Plg22.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **19** 01:32:43.0±1.6, 6044S×2629W, h33km, mb5.2/4 Error ellipse: s-maj=38.4km s-min=17.7km az=106.8*
ISC 19 01:32:39.2±0.4, 6061S±007×266W±01, h10km, n95, σ1§27/52, mb4.9/24, MS4.8/5, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.51**	**151**	*e*P		**Pn**		**01 35 34.9**	**-2.1**
VNA1				*e*				01 35 39.2	
VNA1				*e*				01 35 42.8	
VNA1				*e*S		**Sn**		**01 37 47.4**	**-8.8**
VNA2	**Neumayer--Watz**	**12.91**	**151**	*e*P		**Pn**		**01 35 40.5**	**-1.9**
VNA2				*e*				01 35 44.2	
VNA2				*e*				01 35 47.7	
VNA2				*e*S		**Sn**		**01 37 52.1**	**-14**
SNAA	**Sanae**	**14.52**	**149**	*e*		**Pn**		**01 36 02.7**	**-1.5**
SNAA				*e*				01 36 05.9	
SNAA				*e*				01 36 10.4	
SNAA				*e*S		**Sn**		**01 38 33.4**	**-12**
SNAA	**Sanae**	**14.52**	**149**	Pn		**Pn**		**01 36 01.6**	**-2.6**
	0.5nm,0.3s,baz=316,slow=12,SNR=16								
SNAA				Sn		**Sn**		**01 38 29.7**	**-15**
	0.2nm,0.3s,baz=10,slow=18,SNR=2.3								
SNAA				LR		LR		01 40 36.2	
	comp=Z,1μm,18.7s,baz=270,slow=32								
PMSA	**Palmer Station**	**17.50**	**240**	P		**Pn**		**01 36 48.4**	**+5.5**
	0.4nm,0.3s,baz=103,slow=13,SNR=4.1								
PMSA	**Palmer Station**	**17.50**	**240**	*e*P		**Pn**		**01 36 49.9**	**+7.0**
	41nm,1.1s								
MAIT	**Maitri**	**18.38**	**139**	*e*P		**Pn**		**01 36 53.0**	**-0.6**
NVL	**N'lazarevskaya**	**18.41**	**139**	P		**Pn**		**01 36 56.9**	**+2.9**
NVL				pmax		pmax			
	comp=Z,74nm,1.3s								
USHA	**Ushuaia**	**22.77**	**266**	P		**P**		**01 37 43.3**	**+2.0**
	comp=Z,18nm,0.8s,mb4.5,baz=114,slow=7.4,SNR=7.6								
USHA				LR		LR		01 44 35.2	
	comp=Z,8μm,20.1s,MS5.1,baz=313,slow=32								
QSPA	**South Pole Qui**	**29.62**	**180**	P		**P**		**01 38 47.5**	**+3.6**
	comp=Z,69nm,1.0s,mb5.3,baz=201,slow=5.6,SNR=17								
QSPA	**South Pole Qui**	**29.62**	**180**	P		**P**		**01 38 47.5**	**+3.6**
TRQA	**Tornquist**	**31.64**	**299**	*e*P		**P**		**01 39 01.6**	**-0.6**
	comp=Z,32nm,1.0s,mb5.1								
PLCA	**Paso Flores**	**33.37**	**286**	P		**P**		**01 39 16.2**	**-1.0**
	comp=Z,3.3nm,0.7s,mb4.4,baz=134,slow=7.9,SNR=11								
PLCA				LR		LR		01 53 17.1	
	comp=Z,2μm,18.2s,MS5.0,baz=86,slow=37								
PLCA	**Paso Flores**	**33.37**	**286**	*e*P		**P**		**01 39 18.3**	**+1.1**
PLCA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
PLCA	**Paso Flores**	**33.37**	**286**	*e*P		**P**		**01 39 18.3**	**+1.1**
	comp=Z,4.8nm,0.8s,mb4.5								
PLCA				LR		LR		01 53 17.1	
MAW	**Mawson**	**36.35**	**140**	*e*P		**P**		**01 39 43.6**	**+0.9**
	comp=Z,14nm,0.9s,mb4.9								
MAW	**Mawson**	**36.35**	**140**	P		**P**		**01 39 44.1**	**+1.4**
	comp=Z,21nm,1.0s,mb5.0,baz=254,slow=8.2,SNR=9.7								
MAW				LR		LR		01 52 58.7	
	comp=Z,2μm,19.4s,MS4.9,baz=230,slow=33								
MAW	**Mawson**	**36.35**	**140**	*e*P		**P**		**01 39 43.8**	**+1.1**
MAW				pmax		pmax			
	comp=Z,26nm,1.0s								
MAW	**Mawson**	**36.35**	**140**	*e*P		**P**		**01 39 43.8**	**+1.1**
	comp=Z,26nm,1.0s,mb5.1								
CFAA	**Coronel Fontan**	**39.83**	**298**	P		**P**		**01 40 11.2**	**-1.1**
	comp=Z,3.7nm,0.7s,mb4.2,baz=163,slow=7.0,SNR=53								
CFAA				PcP		PcP		01 42 20.1	+2.0
	comp=Z,0.9nm,0.7s,baz=115,slow=3.8,SNR=2.9								
CFAA				LR		LR		01 56 22.5	
	comp=Z,182nm,19.6s,MS3.9,baz=106,slow=36								
SUR	**Sutherland**	**41.74**	**69**	P		**P**		**01 40 28.8**	**+0.7**
	comp=Z,4.9nm,0.9s,mb4.2,baz=220,slow=8.3,SNR=5.0								
SUR	**Sutherland**	**41.74**	**69**	*e*P		**P**		**01 40 29.0**	**+0.9**
	comp=Z,32nm,1.3s,mb4.8								
LCO	**Las Campanas**	**43.13**	**297**	*e*P		**P**		**01 40 39.0**	**-0.4**
	comp=Z,29nm,0.8s,mb5.0								
MIR	**Mirnyy**	**45.59**	**151**	*e*P		**P**		**01 41 00.0**	**+1.3**
MIR				*i*				01 41 09.0	
MIR				pmax		pmax			
	comp=Z,100nm,1.0s,mb5.7								
BOSA	**Boshof**	**46.96**	**71**	P		**P**		**01 41 09.7**	**-0.2**
	comp=Z,8.0nm,0.7s,mb4.8,baz=201,slow=8.6,SNR=20								
BOSA				PcP		PcP		01 42 44.6	+2.4
	comp=Z,3.8nm,0.9s,baz=228,slow=6.2,SNR=2.5								
BOSA	**Boshof**	**46.96**	**71**	*e*P		**P**		**01 41 09.6**	**-0.3**
BOSA				pmax		pmax			
	comp=Z,8.0nm,0.7s,mb4.8								
BOSA	**Boshof**	**46.96**	**71**	*e*P		**P**		**01 41 09.6**	**-0.3**
	comp=Z,8.1nm,0.7s,mb4.8								
BDFB	**Brasilia**	**47.52**	**331**	LR		LR		01 56 33.6	
	comp=Z,2μm,18.4s,MS5.1,baz=85,slow=30								
LVC	**Limon Verde**	**47.98**	**303**	P		**P**		**01 41 17.5**	**-0.4**
	comp=Z,11nm,0.6s,mb5.1,baz=111,slow=8.7,SNR=4.7								
LVC	**Limon Verde**	**47.98**	**303**	*e*P		**P**		**01 41 17.9**	**0.0**
	comp=Z,28nm,0.9s,mb5.3								
CASY	**Casey**	**49.51**	**159**	*e*P		**P**		**01 41 31.2**	**+2.1**
	comp=Z,29nm,0.6s,mb5.5								
SIV	**San Ignacio**	**51.02**	**316**	P		**P**		**01 41 40.3**	**-0.8**
	comp=Z,6.5nm,0.9s,mb4.5,baz=253,slow=22,SNR=5.4								
TSUM	**Tsumeb**	**51.77**	**57**	*e*P		**P**		**01 41 46.9**	**+0.2**
	comp=Z,24nm,1.4s,mb4.9								
LPAZ	**La Paz**	**53.35**	**307**	P		**P**		**01 41 58.4**	**0.0**
	comp=Z,14nm,0.8s,mb4.9,baz=141,slow=3.8,SNR=12								
LPAZ	**La Paz**	**53.35**	**307**	*e*P		**P**		**01 41 58.9**	**+0.4**
LPAZ				pmax		pmax			
	comp=Z,33nm,1.1s								
LPAZ	**La Paz**	**53.35**	**307**	*e*P		**P**		**01 41 58.9**	**+0.4**
	comp=Z,33nm,1.1s,mb5.2								
LSZ	**Lusaka**	**59.84**	**66**	*e*P		**P**		**01 42 44.3**	**-0.3**
LSZ				pmax		pmax			
	comp=Z,13nm,0.9s,mb5.0								
LSZ	**Lusaka**	**59.84**	**66**	*e*P		**P**		**01 42 44.3**	**-0.3**
	comp=Z,13nm,0.9s,mb5.0								
ATAH	**Atahualpa**	**65.93**	**301**	P		**P**		**01 43 23.0**	**-2.2**
	comp=Z,19nm,0.5s,mb5.4,baz=345,slow=18,SNR=3.9								
DBIC	**Dimbokro**	**69.22**	**23**	P		**P**		**01 43 45.5**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.6,baz=182,slow=5.8,SNR=6.1								
OTAV	**Otavalo**	**72.49**	**304**	*e*P		**P**		**01 44 06.2**	**+0.3**
	comp=Z,9.0nm,1.0s,mb4.7								
PCRV	**Puerto La Cruz**	**76.73**	**321**	P		**P**		**01 44 29.6**	**-0.7**
	comp=Z,21nm,1.0s,mb5.0,baz=140,slow=7.2,SNR=3.8								
TOA0	**Torodi Ar. Sit**	**76.91**	**28**	*e*P		**P**		**01 44 31.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**76.91**	**28**	P		**P**		**01 44 31.7**	**+0.4**
	comp=Z,27nm,0.7s,mb5.3,baz=197,slow=5.3,SNR=155								
TORD	**Torodi Ar. Bea**	**76.91**	**28**	P		**P**		**01 44 31.7**	**+0.4**
SDV	**Santo Domingo**	**77.48**	**315**	P		**P**		**01 44 34.2**	**-0.4**
	comp=Z,12nm,0.8s,mb4.9,baz=242,slow=7.0,SNR=9.1								
STKA	**Stephens Creek**	**87.34**	**170**	P		**P**		**01 45 28.1**	**+2.1**
	comp=Z,4.0nm,1.0s,mb4.6,baz=165,slow=9.4,SNR=3.4								
STKA	**Stephens Creek**	**87.34**	**170**	*e*P		**P**		**01 45 28.5**	**+2.5**
ASAR	**Alice Springs**	**94.53**	**162**	P		**P**		**01 46 01.9**	**+2.3**
	comp=Z,0.6nm,0.6s,mb4.2,baz=185,slow=4.0,SNR=4.5								
GERES	**GERESS Array B**	**113.86**	**28**	PP		PP		01 52 12.2	+1.0
	comp=Z,0.5nm,0.9s,baz=169,slow=8.0,SNR=4.8								
AKASG	**Malin Array Be**	**119.67**	**37**	PKP		PKPdf		01 51 27.7	-0.2
	comp=Z,0.3nm,0.4s,baz=228,slow=1.2,SNR=4.8								
SRU	**San Rafael**	**120.41**	**296**	*e*PKIKP		PKPdf		01 51 30.7	+1.0
HWUT	**Hardware Ranch**	**122.90**	**297**	*e*PKPdf		PKPdf		01 51 36.5	+2.0
PDAR	**Pinedale Array**	**122.97**	**299**	PKP		PKPdf		01 51 34.6	+0.1
	comp=Z,0.3nm,0.5s,baz=297,slow=45,SNR=3.1								
CMAR	**Chiang Mai Arr**	**123.07**	**113**	PKP		PKPdf		01 51 36.5	+1.0
	comp=Z,1.6nm,0.6s,baz=313,slow=3.6,SNR=5.4								
NVAR	**Mina Array Bea**	**123.38**	**290**	PKP		PKPdf		01 51 37.2	+1.7
	comp=Z,0.9nm,0.6s,baz=139,slow=4.5,SNR=5.9								
ULM	**Lac du Bonnet**	**123.72**	**314**	*e*PKPdf		PKPdf		01 51 36.0	+0.3
ELK	**Elko**	**123.84**	**294**	PKP		PKPdf		01 51 39.1	+2.8
	comp=Z,1.2nm,0.8s,baz=111,slow=8.8,SNR=4.9								
ELK	**Elko**	**123.84**	**294**	*e*PKPdf		PKPdf		01 51 37.5	+1.2
ELK				PKP		PKPdf		01 51 39.1	+2.8
MOOW	**Moose Ponds**	**124.28**	**299**	*e*PKPdf		PKPdf		01 51 39.4	+2.3
NAO01	**NORSAR Array S**	**124.52**	**21**	*e*PKPdf		PKPdf		01 51 37.9	+0

s-min=16.8km az=72.0

ISCJB ***19*** *01:40:12.1±1.4, 1360S∧010×765W±02, h49km±13km, mb4.2/8, Error ellipse: s-maj=39.6km s-min=9.9km az=161.1*

NEIC ***19*** *01:40:12.7±3.3, 1353S×7652W, h31km±24km, mb4.3/6, Error ellipse: s-maj=30.6km s-min=8.4km az=73.0*

ISC 19 01:40:13.5±1.3, 1361S±009×766W±02, h41km±13km, n19, σ0§90/18, mb4.2/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.63**	**351**	Pn	**Pn**	**01 40 38.4**	**-1.4**
	267nm,0.3s,baz=173,slow=14,SNR=9.4						
NNA				Sn	**Sn**	**01 40 59.4**	**-0.1**
	526nm,0.3s,baz=169,slow=12,SNR=16						
ATAH	**Atahualpa**	**6.80**	**345**	Pn	**Pn**	**01 41 53.3**	**+2.4**
	1.7nm,0.3s,baz=0.0,slow=0.0,SNR=3.0						
LVC	**Limon Verde**	**11.54**	**142**	Pn	**Pn**	**01 42 55.7**	**-0.1**
	0.7nm,0.3s,baz=293,slow=15,SNR=3.4						
OTAV	**Otavalo**	**13.88**	**352**	*e*Pn	**Pn**	**01 43 28.1**	**+0.3**
ROSC	**El Rosal**	**18.48**	**7**	*e*P	**Pn**	**01 44 26.9**	**+0.4**
CFAA	**Coronel Fontan**	**19.48**	**158**	P	**Pn**	**01 44 38.3**	**-0.2**
	0.0nm,0.3s,baz=339,slow=8.4,SNR=3.7						
SDV	**Santo Domingo**	**23.11**	**15**	*e*P	**P**	**01 45 13.1**	**-3.0**
	8.8nm,0.8s,mb4.2						
PLCA	**Paso Flores**	**27.53**	**170**	P	**P**	**01 45 56.0**	**-0.3**
	2.8nm,0.9s,mb3.9,baz=4.9,slow=13,SNR=3.6						
PLCA	**Paso Flores**	**27.53**	**170**	*e*P	**P**	**01 45 56.3**	**0.0**
	2.4nm,0.8s,mb3.9						
TXAR	**Lajitas Array**	**50.06**	**329**	P	**P**	**01 49 04.5**	**+0.2**
	0.3nm,0.8s,mb3.4,baz=133,slow=7.3,SNR=3.5						
ACSO	**Alum Creek Sta**	**53.89**	**354**	*e*P	**P**	**01 49 32.3**	**-0.4**
	11nm,1.1s,mb4.7						
ECSD	**EROS,Sioux Fal**	**59.93**	**343**	*e*P	**P**	**01 50 15.0**	**-0.3**
	1.3nm,0.6s,mb4.1						
ULM	**Lac du Bonnet**	**65.80**	**347**	P	**P**	**01 50 54.2**	**-0.1**
	3.7nm,0.6s,mb4.6,baz=164,slow=8.5,SNR=6.3						
ULM	**Lac du Bonnet**	**65.80**	**347**	*e*P	**P**	**01 50 54.0**	**-0.2**
	2.8nm,0.6s,mb4.5						
HLID	**Hailey**	**66.56**	**331**	*e*P	**P**	**01 50 59.2**	**-0.1**
	2.8nm,1.3s,mb4.1						
TORD	**Torodi Ar. Bea**	**81.97**	**74**	P	**P**	**01 52 31.2**	**+1.5**
	2.9nm,0.9s,mb4.2,baz=262,slow=5.2,SNR=9.4						
DAWY	**Dawson**	**90.84**	**337**	*e*P	**P**	**01 53 12.2**	**+0.1**
WRAB	**Tennant Creek**	**134.87**	**223**	*e*PKPdf	PKPdf	01 59 30.4	+1.5
SONM	**Songino Array**	**145.79**	**356**	PKPbc	PKPbc	01 59 49.8	+1.6
	1.4nm,0.6s,baz=349,slow=3.0,SNR=5.9						

ISCJB ***19*** *01:49:07.0±0.6, 4271N±005×4621E±004, h1km±13km, Error ellipse: s-maj=8.5km s-min=4.6km az=20.7*

TIF ***19*** *01:49:06.6, 4273N×4626E, h9km±2km*

MOS ***19*** *01:49:07.1±1.9, 4264N×4626E, h12km, mb3.7/1, Error ellipse: s-maj=30.9km s-min=13.1km az=36.9*

ISC 19 01:49:07.7±0.6, 4267N±006×4621E±005, h4km±10km, n8, σ1§06/15, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.02**	**125**	*i* PG	**Pg**	**01 49 07.7**	**-0.8**
BTLR				pmax	pmax		
	comp=Z,132nm,0.2s						
KRNR	**Karanay**	**0.54**	**73**	*e*PG	**Pg**	**01 49 17.6**	**-0.5**
KRNR				*i* S	**Sg**	**01 49 25.6**	**+0.5**
KMKR	**Kumukh**	**0.85**	**129**	*e*PG	**Pg**	**01 49 23.5**	**-0.6**
KMKR				*e*S	**Sg**	**01 49 36.0**	**+0.8**
KMKR				pmax	pmax		
	comp=Z,28nm,0.2s						
DGRG	**David-gareji**	**1.37**	**207**	P	**Pg**	**01 49 35.0**	**+1.0**
DGRG				S	**Sg**	**01 49 56.4**	**+4.7**
BTKR	**Batakoyurt**	**1.41**	**300⇑**	*e*PG	**Pg**	**01 49 35.3**	**+0.7**
BTKR				*i* S	**Sg**	**01 49 56.9**	**+4.0**
LACR	**Lac**	**1.41**	**277**	*e*PG	**Pg**	**01 49 32.6**	**-2.2**
LACR				*e*S	**Sb**	**01 49 52.3**	**-0.7**
ARNR	**Ardon**	**1.50**	**291**	*e*PG	**Pg**	**01 49 35.5**	**-1.1**
ARNR				*e*S	**Sg**	**01 49 56.8**	**+0.7**
KMSR	**Komsomolskaya**	**1.57**	**297**	*e*PG	**Pg**	**01 49 37.0**	**-0.7**
KMSR				*e*S	**Sg**	**01 50 00.0**	**+2.0**

IDC 19 02:08:32.5±1.5, 3693N×3242W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.3/24, mbtmp3.5/3, Error ellipse: s-maj=217.4km s-min=28.5km az=27.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**38.61**	**119**	P	P	02 15 57.4	-0.1
	0.5nm,0.9s,baz=310,slow=8.4,SNR=4.2						
PDAR	**Pinedale Array**	**57.58**	**302**	P	P	02 18 24.2	+0.2
	0.2nm,0.4s,baz=58,slow=8.6,SNR=3.4						
TXAR	**Lajitas Array**	**58.90**	**285**	P	P	02 18 33.6	+0.2
	0.8nm,0.9s,baz=86,slow=7.8,SNR=7.4						

IDC ***19*** *02:32:13.4±0.5, 989S×15985E, h0km, mb4.9/19, mb1 5.0/20, mb1mx5.0/21, mbtmp4.9/20, ML4.1/1, MS4.6/16, Ms1 4.6/16, ms1mx4.3/34, Error ellipse: s-maj=19.6km s-min=10.8km az=105.0*

ISCJB ***19*** *02:32:15.4±0.2, 984S±004×15965E±004, h14km, mb5.1/92, MS4.7/29, Error ellipse: s-maj=6.5km s-min=3.9km az=38.4*

BJI ***19*** *02:32:15.1, 945S×15970E, h4km, mB5.3, mb5.0, Ms5.1, Msz5.0*

NEIC ***19*** *02:32:16.9±1.2, 984S×15963E, h15km±7km, mb5.3/54, Error ellipse: s-maj=7.2km s-min=4.5km az=127.0*

NEIC Felt [IV] at Honiara.

GCMT ***19*** *02:32:17.0±0.3, 993S×15961E, h23km±1km, MW5.2/75, Moment Tensor Solution. s24,c27; s75,c106; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-2.25±.39; Mθθ3.54±.28; Mφφ-1.29±.25; Mrθ4.60±.55; Mφθ5.02±.21; Mφr-1.22±.36; Best double couple: M0=7.56500×10^16 NP1:φs18.00000°, δ47.00000°, λ-164.00000°. NP2: φs276.00000°, δ78.00000°, λ-44.00000°. Principal axes: T 7.8510, Plg20.0000°, Azm334.0000°; N -0.5710, Plg45.0000°, Azm84.0000°; P -7.2800, Plg39.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***19*** *02:32:18.4±1.0, 980S×15952E, h33km, mb5.5/30, MS4.9/5 Error ellipse: s-maj=10.0km s-min=7.5km az=70.1*

DJA ***19*** *02:32:36, 1022S×15920E, h158km, mb5.3/25*

ISC 19 02:32:17.1±0.2, 988S±004×15969E±004, h15km, h15km±1.5km: pP-P, n236, σ1§02/186, mb5.1/92, MS4.7/29, 15C-9D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.51**	**30**	Pn	**Pg**	**02 32 26.0**	**-1.3**
	20μm,0.3s,baz=194,slow=2.6,SNR=4007						
HNR				Sn	**Sg**	**02 32 33.8**	**-0.4**
	26μm,0.3s,baz=88,slow=21,SNR=56						
HNR	**Honiara**	**0.51**	**30**	*e*Pg	**Pg**	**02 32 26.0**	**-1.3**
HNR				*e*Sg	**Sg**	**02 32 31.3**	**-2.9**
PMG	**Port Moresby**	**12.36**	**271**	*e*P	**Pn**	**02 35 20.0**	**+7.3**
DZM	**Mont Dzumac**	**13.75**	**153**	*e*Pn	**Pn**	**02 35 34.9**	**+3.2**
CTA	**Charters Tower**	**16.46**	**230**	*e*P	**Pn**	**02 36 08.1**	**+0.4**
	124nm,1.1s						
CTA	**Charters Tower**	**16.46**	**230**	Pn	**Pn**	**02 36 07.2**	**-0.5**
	0.5nm,0.3s,baz=60,slow=13,SNR=6.7						
CTA	**Charters Tower**	**16.46**	**230**	*e*P	**Pn**	**02 36 08.1**	**+0.4**
CTA				pmax	pmax		
	comp=Z,124nm,1.1s						
CTAO	**Charters Tower**	**16.46**	**230**	*e*P	**Pn**	**02 36 08.2**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,383nm,1.3s						
CTAO	**Charters Tower**	**16.46**	**230**	*e*Pn	**Pn**	**02 36 08.2**	**+0.6**
	comp=Z,383nm,1.3s						
COEN	**Coen**	**16.66**	**254**	*e*P	**Pn**	**02 36 11.6**	**+1.4**
	comp=Z,88nm,1.2s						
ARMA	**Armidale**	**21.77**	**199**	*e*P	**P**	**02 37 08.2**	**-0.2**
WRAB	**Tennant Creek**	**26.41**	**245**	P	**P**	**02 37 53.0**	**-0.4**
	comp=Z,981nm,1.0s,mb6.3,SNR=41						
WRAB	**Tennant Creek**	**26.41**	**245**	*e*P	**P**	**02 37 53.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,143nm,0.9s,mb5.5						
WRAB	**Tennant Creek**	**26.41**	**245**	*e*P	**P**	**02 37 53.2**	**-0.1**
	comp=Z,143nm,0.9s,mb5.5						
WB2	**Warramunga Arr**	**26.41**	**245⇓**	*i*P	**P**	**02 37 53.2**	**-0.2**
WRA	**Warramunga Arr**	**26.42**	**245**	P	**P**	**02 37 52.9**	**-0.6**
	comp=Z,125nm,0.9s,mb5.5,baz=70,slow=9.6,SNR=108						
WRA				LR	LR	02 46 14.3	
	comp=Z,392nm,19.4s,MS4.0,baz=145,slow=32						
KAKA	**Kakadu**	**26.86**	**261**	*e*P	**P**	**02 37 57.0**	**-0.5**
	comp=Z,109nm,1.2s,mb5.3						
CNB	**Canberra Magne**	**27.02**	**199**	*e*P	**P**	**02 37 58.8**	**+0.2**
CAN	**Canberra**	**27.14**	**199**	*e*P	**P**	**02 38 00.0**	**+0.3**
GUMO	**Guam**	**27.57**	**327**	LR	LR	02 48 10.1	
	comp=Z,674nm,18.1s,MS4.3,baz=271,slow=35						
STKA	**Stephens Creek**	**27.57**	**215**	*e*P	**P**	**02 38 03.1**	**-0.6**
	comp=Z,25nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**27.57**	**215**	P	**P**	**02 38 03.1**	**-0.5**
	comp=Z,45nm,1.1s,mb5.0,baz=21,slow=9.7,SNR=31						
STKA				LR	LR	02 48 43.4	
	comp=Z,2μm,18.8s,MS4.6,baz=31,slow=36						
ASAR	**Alice Springs**	**28.17**	**238**	P	**P**	**02 38 08.2**	**-0.9**
	comp=Z,15nm,0.4s,mb5.0,baz=65,slow=10,SNR=310						
ASAR				PcP	PcP	02 41 23.1	+0.1
	comp=Z,1.7nm,0.4s,baz=89,slow=2.9,SNR=6.8						
ASAR				ScP	ScP	02 45 04.2	+0.5
	comp=Z,2.7nm,1.0s,baz=108,slow=5.6,SNR=6.0						
ASAR	**Alice Springs**	**28.17**	**238**	P	**P**	**02 38 08.3**	**-0.8**
ASAR						02 41 23.1	
AFI	**Afiamalu**	**28.20**	**101**	LR	LR	02 46 31.3	
	comp=Z,574nm,20.5s,MS4.2,baz=219,slow=31						
TOO	**Toolangi**	**30.40**	**203**	*e*P	**P**	**02 38 28.7**	**0.0**
URZ	**Urewera**	**32.30**	**154**	LR	LR	02 49 13.8	
	comp=Z,1μm,20.9s,MS4.6,baz=16,slow=32						
FITZ	**Fitzroy Crossi**	**33.99**	**252**	*e*P	**P**	**02 38 59.4**	**-1.1**
	comp=Z,63nm,0.8s,mb5.6						
FITZ	**Fitzroy Crossi**	**33.99**	**252**	LR	LR	02 52 21.6	
	comp=Z,1μm,18.3s,MS4.6,baz=158,slow=35						
TAU	**Tasmania Unive**	**34.64**	**196**	*e*P	**P**	**02 39 07.4**	**+1.6**
TAU				pmax	pmax		
	comp=Z,112nm,1.2s,mb5.7						
TAU	**Tasmania Unive**	**34.64**	**196**	*e*P	**P**	**02 39 07.3**	**+1.6**
	comp=Z,112nm,1.2s,mb5.7						
RPZ	**Rata Peaks**	**35.13**	**166**	P	**P**	**02 39 07.9**	**-2.2**
	comp=Z,13nm,0.9s,mb4.9,baz=48,slow=3.6,SNR=4.7						
FORT	**Forrest**	**36.01**	**230⇓**	*i*P	**P**	**02 39 17.3**	**-0.5**
	comp=Z,64nm,0.8s,mb5.6						
KAPI	**Kappang**	**39.87**	**274**	*e*P	**P**	**02 39 49.4**	**-1.2**
	comp=Z,54nm,1.1s,mb5.2						
MBWA	**Marble Bar**	**39.99**	**249**	*e*P	**P**	**02 39 50.9**	**-0.7**
	comp=Z,104nm,1.0s,mb5.5						
RAR	**Rarotonga**	**40.53**	**111**	LR	LR	02 52 16.2	
	comp=Z,1μm,18.7s,MS4.8,baz=296,slow=30						
MYLDM	**Lahad Datu**	**43.67**	**288**	⇑P	**P**	**02 40 24.3**	**+2.5**
TSM	**Tawau**	**43.97**	**287**	⇑P	**P**	**02 40 24.8**	**+0.6**
KLBR	**Kellerberrin**	**44.41**	**235**	*e*P	**P**	**02 40 26.1**	**-1.3**
	comp=Z,59nm,1.1s,mb5.2						
SDKM	**Sandakan**	**45.05**	**288**	⇑P	**P**	**02 40 32.9**	**+0.1**
NWAO	**Narrogin (SRO)**	**45.28**	**233**	LR	LR	02 57 49.4	
	comp=Z,1μm,20.8s,MS4.8,baz=246,slow=34						
NWAO	**Narrogin (SRO)**	**45.28**	**233**	*e*P	**P**	**02 40 33.8**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,65nm,1.0s						
NWAO	**Narrogin (SRO)**	**45.28**	**233**	*e*P	**P**	**02 40 33.8**	**-0.6**
	comp=Z,64nm,1.0s,mb5.4						
MUN	**Mundaring**	**45.77**	**235**	*e*P	**P**	**02 40 37.3**	**-1.0**
KDM	**Kudat**	**45.83**	**290**	⇓P	**P**	**02 40 42.9**	**+3.9**
KKM	**Kota Kinabalu**	**46.10**	**288**	⇓P	**P**	**02 40 41.4**	**+0.2**
KKM	**Kota Kinabalu**	**46.10**	**288**	*e*P	**P**	**02 40 41.0**	**-0.2**
JOW	**Kunigami**	**47.55**	**321**	P	**P**	**02 40 52.4**	**+0.1**
	comp=Z,40nm,0.8s,mb5.5,baz=159,slow=10,SNR=10						
BTM	**Bintulu**	**48.20**	**283**	⇓P	**P**	**02 40 58.6**	**+1.1**
SBUM	**Sibu**	**48.83**	**282**	⇑P	**P**	**02 41 03.6**	**+1.2**
PPT	**Papeete**	**49.76**	**105**	*e*S	**S**	**02 48 16.1**	**-2.4**
PPT				*e*LQ		02 53 29.0	
	comp=Z,854nm,27.0s						
PPT				*e*LR	LR	02 55 23.8	
	comp=Z,358nm,25.5s,baz=272						
PPT	**Papeete**	**49.76**	**105**	LR	LR	02 55 48.5	
	comp=Z,231nm,21.5s,MS4.2,baz=305,slow=28						
MJAR	**Matsushiro Arr**	**50.40**	**338**	P	**P**	**02 41 12.6**	**-1.3**
	comp=Z,12nm,0.7s,mb5.0,baz=170,slow=8.9,SNR=58						
MAJO	**Matsushiro**	**50.40**	**337**	*e*P	**P**	**02 41 12.7**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.3						
MAJO	**Matsushiro**	**50.40**	**337**	*e*P	**P**	**02 41 12.7**	**-1.2**
	comp=Z,21nm,0.7s,mb5.3						
MAT	**Matsushiro**	**50.40**	**337**	P	**P**	**02 41 12.8**	**-1.1**
KSM	**Kuching**	**50.43**	**280**	⇑P	**P**	**02 41 14.8**	**+0.2**
KSM	**Kuching**	**50.43**	**280**	*e*P	**P**	**02 41 14.5**	**-0.1**
YHNB	**Yeheng**	**50.75**	**313**	*e*P	**P**	**02 41 17.3**	**+0.5**
	comp=Z,69nm,0.8s,mb5.6						
KSRS	**Korea Array**	**55.70**	**330**	P	**P**	**02 41 53.2**	**+0.2**
	comp=Z,11nm,1.0s,mb4.9,baz=146,slow=7.6,SNR=41						
KSRS				LR	LR	03 04 04.1	
	comp=Z,320nm,18.8s,MS4.4,baz=345,slow=34						
INCN	**Inchon**	**56.38**	**329**	*e*P	**P**	**02 41 56.4**	**-1.5**
	comp=Z,27nm,0.9s,mb5.3						
MYKOM	**Kota Tinggi**	**56.78**	**279**	⇑P	**P**	**02 42 01.5**	**+0.2**
NJ2	**Nanjing**	**57.11**	**319**	*e*P	**P**	**02 42 04.3**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
KGM	**Kluang**	**57.35**	**279**	⇑P	**P**	**02 42 05.8**	**+0.5**
YSS	**Yuzh-Sakhalins**	**58.56**	**346⇑**	*e*P	**P**	**02 42 13.0**	**0.0**
YSS				*e*	pP	02 42 18.0	+0.1
YSS				*e*		02 42 27.6	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS				MLR	MLR		
	comp=N,600nm,19.0s						
YSS				MLR	MLR		
	comp=Z,800nm,19.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**58.56**	**346**	*e*P	**P**	**02 42 12.7**	**-0.4**
	comp=Z,12nm,0.6s,mb5.1						
TAOE	**Nuku Hiva Isla**	**59.30**	**94**	*e*LR	LR	02 59 44.2	
	comp=Z,1μm,24.6s						
DL2	**Dalian**	**60.08**	**326**	P	**P**	**02 42 23.6**	**-0.2**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
MDJ	**Mudanjiang**	**60.69**	**336**	P	**P**	**02 42 28.0**	**+0.2**
MDJ				S	**S**	**02 50 48.9**	**+5.0**
MDJ				SS	SS	02 54 43.8	+0.9
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.7						
MDJ				LR	LR		
	comp=N,332nm,26.0s,MS4.5						
MDJ				LR	LR		
	comp=E,353nm,26.0s,MS4.5						
MDJ				LR	LR		
	comp=Z,587nm,23.1s,MS4.7						
MDJ	**Mudanjiang**	**60.69**	**336**	*e*P	**P**	**02 42 27.6**	**-0.2**
PSI	**Prapat**	**61.81**	**279**	P	**P**	**02 42 34.5**	**-1.5**
	comp=Z,5.9nm,0.6s,mb4.9,baz=172,slow=7.1						
CN2	**Changchun**	**61.82**	**332**	*e*P	**P**	**02 42 35.8**	**+0.4**
CN2				*e*S	**S**	**02 50 59.0**	**+0.7**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.2						
CN2				LR	LR		
	comp=N,500nm,16.0s,MS4.9						
CN2				LR	LR		
	comp=E,400nm,16.0s,MS4.9						
CN2				LR	LR		
	comp=Z,600nm,17.0s,MS4.8						
PET	**Petropavlovsk**	**62.66**	**359**	*e*P	**P**	**02 42 39.9**	**-1.0**
PET				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.6						
PET	**Petropavlovsk**	**62.66**	**359**	*e*P	**P**	**02 42 40.5**	**-0.4**
	comp=Z,28nm,0.9s,mb5.4						
PETK	**Petropavlovsk-**	**62.76**	**359**	P	**P**	**02 42 41.8**	**+0.3**
	comp=Z,33nm,0.9s,mb5.5,baz=146,slow=7.5,SNR=20						
PETK				LR	LR	03 05 37.6	
	comp=Z,466nm,20.2s,MS4.7,baz=159,slow=32						
GYA	**Guiyang**	**62.88**	**306⇓**	*i*P	**P**	**02 42 43.3**	**+0.3**
GYA				PCP	PcP	02 43 22.3	+1.1
GYA				PP	PP	02 45 05.6	+4.1
GYA				S	**S**	**02 51 09.8**	**-2.6**
GYA				PS		02 51 31.6	
GYA				SKS		02 52 33.0	
GYA				SS	SS	02 55 19.4	+1.4
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,170nm,6.5s						
GYA				LR	LR		
	comp=N,910nm,17.3s,MS5.2						
GYA				LR	LR		
	comp=E,1μm,16.5s,MS5.2						
GYA				LR	LR		
	comp=Z,1μm,16.1s,MS5.1						
RKT	**Rikitea**	**63.57**	**111**	*e*LR	LR	03 01 55.4	
	comp=Z,402nm,27.0s						
KLR	**Kul'dur**	**63.77**	**340**	*e*P	**P**	**02 42 44.4**	**-3.9**
BJI	**Beijing**	**63.93**	**324**	P	**P**	**02 42 46.9**	**-2.7**
BJI				S	**S**	**02 51 26.5**	**+1.5**
BJI				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
BJI				LR	LR		
	comp=N,261nm,16.0s,MS4.8						
BJI				LR	LR		
	comp=E,507nm,18.9s,MS4.8						
BJI				LR	LR		
	comp=Z,471nm,20.0s,MS4.7						
ADK	**Adak**	**64.80**	**16**	*e*P	**P**	**02 42 55.2**	**+0.2**
ADK				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.6						
ADK	**Adak**	**64.80**	**16**	*e*P	**P**	**02 42 55.2**	**+0.2**
	comp=Z,63nm,1.0s,mb5.6						
CASY	**Casey**	**65.38**	**200**	*e*P	**P**	**02 42 58.5**	**-0.1**
	comp=Z,40nm,1.4s,mb5.2						
KMI	**Kunming**	**65.47**	**303**	P	**P**	**02 43 00.8**	**+0.8**
KMI				AP	pP	02 43 03.6	-1.2
KMI				PP	PP	02 45 26.6	+2.4
KMI				PPP		02 47 00.6	
KMI				S	S	02 51 43.4	-1.1
KMI				PS		02 52 04.6	
KMI				SKS		02 52 52.3	
KMI				SS	SS	02 55 57.9	-0.5
KMI				SSS		02 58 50.3	
KMI				AMB	AMB		
	comp=Z,23nm,1.2s,mb5.1						
KMI				LR	LR		
	comp=N,772nm,18.2s,MS5.1						
KMI				LR	LR		
	comp=E,672nm,17.7s,MS5.1						
KMI				LR	LR		
	comp=Z,963nm,18.2s,MS5.0						
CMAR	**Chiang Mai Arr**	**66.20**	**295**	P	**P**	**02 43 05.7**	**+0.8**
	comp=Z,9.3nm,0.8s,mb4.9,baz=126,slow=4.8,SNR=36						
CMAR	**Chiang Mai Arr**	**66.20**	**295**	*i* P	**P**	**02 43 05.6**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	**Chiang Mai**	**66.33**	**296**	*e*P	**P**	**02 43 05.9**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
CHTO	**Chiang Mai**	**66.33**	**296**	*e*P	**P**	**02 43 05.9**	**+0.3**
	comp=Z,31nm,1.1s,mb5.2						
HHC	**Hu-ho-hao-te**	**67.17**	**322**	*e*P	**P**	**02 43 12.8**	**+2.2**
HHC				XP	sP	02 43 19.1	+1.9
HHC				PP	PP	02 45 41.8	+3.0
HHC				S	S	02 52 05.9	+1.3
HHC				PS		02 52 29.8	
HHC				SCS	ScS	02 53 06.6	-1.4
HHC				SS	SS	02 56 25.3	+0.9
HHC				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.3						
HHC				AMB	AMB		
	comp=Z,230nm,6.5s						
HHC				LR	LR		
	comp=N,478nm,22.6s,MS4.8						
HHC				LR	LR		
	comp=E,458nm,20.2s,MS4.8						
HHC				LR	LR		
	comp=Z,580nm,20.2s,MS4.8						
CD2	**Chengdu**	**67.21**	**309**	*e*P	**P**	**02 43 11.8**	**+0.8**
CD2				AP	pP	02 43 16.8	+0.9
CD2				XP	sP	02 43 19.8	+2.1
CD2				PP	PP	02 45 42.0	+2.6
CD2				S	S	02 52 04.9	-0.6
CD2				XS	sS	02 52 12.8	-0.7
CD2				SCS	ScS	02 53 05.8	-2.9
CD2				SS	SS	02 56 25.8	+0.5
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.6						
CD2				AMB	AMB		
	comp=Z,120nm,5.8s						
CD2				LR	LR		
	comp=N,820nm,19.2s						
CD2				LR	LR		
	comp=Z,1μm,16.8s,MS5.2						
BTO	**Baotou**	**67.97**	**321**	*e*P	**P**	**02 43 15.4**	**-0.2**
HIA	**Hailar**	**68.53**	**333**	*e*P	**P**	**02 43 19.0**	**+0.1**
HIA	**Hailar**	**68.53**	**333**	*e*P	**P**	**02 43 19.4**	**+0.5**
	comp=Z,26nm,1.0s,mb5.1						
LZH	**Lanzhou**	**69.62**	**314**	*e*P	**P**	**02 43 26.8**	**+0.8**
LZH				AP	pP	02 43 31.5	+0.6
LZH				XP	sP	02 43 33.8	+1.1
LZH				PP	PP	02 46 02.5	+2.3
LZH				S	S	02 52 33.0	-1.0
LZH				XS	sS	02 52 40.9	-1.2
LZH				AMB	AMB		
	comp=Z,56nm,1.4s,mb5.3						
LZH				AMB	AMB		
	comp=Z,153nm,4.6s						
LZH				LR	LR		
	comp=N,798nm,14.8s						
LZH				LR	LR		
	comp=Z,1μm,18.0s,MS5.2						
MIR	**Mirnyy**	**71.80**	**203⇑**	*i*P	**P**	**02 43 40.0**	**+1.3**
MIR				*i*		02 44 00.0	
MIR				pmax	pmax		
	comp=Z,200nm,2.0s,mb5.7						
CLNS	**Chul'man**	**72.40**	**341**	*e*P	**P**	**02 43 42.7**	**+0.3**
CLNS				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.3						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
SEY	**Seymchan**	**72.81**	**357⇑**	*e*P	**P**	**02 43 44.5**	**-0.2**
GTA	**Gaotai**	**74.02**	**316**	P	**P**	**02 43 53.6**	**+1.2**
GTA				AP	pP	02 43 57.3	0.0
GTA				XP	sP	02 44 00.3	+1.2
GTA				PP	PP	02 46 41.6	+3.8
GTA				S	S	02 53 28.3	+3.8
GTA				XS	sS	02 53 38.3	+5.7
GTA				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.1						
GTA				AMB	AMB		
	comp=Z,185nm,7.8s					

comp=Z,8.0nm,0.8s,mb4.7
TAPN Taplejung 78.86 300 *e*P **P 02 44 20.8 +0.7**
comp=Z,78nm,1.3s,mb5.5
SVW2 Sparrevohn 78.98 20 *e*P **P 02 44 20.4 +0.4**
ODAN Odare 78.98 300 *e*P **P 02 44 21.1 +0.3**
comp=Z,65nm,0.8s,mb5.6
QSPA South Pole Qui 80.12 180 P **P 02 44 25.2 -0.8**
comp=Z,6.0nm,0.8s,mb4.6,baz=353,slow=2.2,SNR=16
QSPA South Pole Qui 80.12 180 P **P 02 44 25.2 -0.8**
TTA Tatalina 80.15 19 *e*P **P 02 44 26.9 +0.6**
TTA pmax pmax
comp=Z,40nm,1.3s,mb5.2
TTA Tatalina 80.15 19 *e*P **P 02 44 26.9 +0.6**
comp=Z,40nm,1.3s,mb5.2
PALK Pallekele 80.48 279 *e*P **P 02 44 30.5 +1.3**
PALK pmax pmax
comp=Z,24nm,0.9s,mb5.1
PALK Pallekele 80.48 279 *e*P **P 02 44 30.5 +1.3**
comp=Z,24nm,0.9s,mb5.1
SLKM Skilak Lake 80.52 23 *e*P **P 02 44 27.7 -0.7**
GUN Gumba 80.57 301 *e*P **P 02 44 30.0 +0.6**
PKI Pulchoki 80.88 300 *e*P **P 02 44 31.5 +0.5**
KKN Kakani 81.05 300 *e*P **P 02 44 31.9 0.0**
DMN Daman 81.15 300 *e*P **P 02 44 32.7 +0.2**
comp=Z,88nm,1.0s,mb5.7
PMR Palmer 81.62 22 *e*P **P 02 44 33.9 -0.3**
PMR pmax pmax
comp=Z,27nm,1.0s,mb5.1
PMR Palmer 81.62 22 *e*P **P 02 44 33.9 -0.3**
comp=Z,27nm,1.0s,mb5.1
GKN Gorkha 81.65 300 *e*P **P 02 44 35.7 +0.5**
comp=Z,26nm,1.0s,mb5.1
CHUM Lake Minchumin 82.01 19 *e*P **P 02 44 36.1 -0.1**
comp=Z,27µm,1.2s
KOLN Koldanda 82.47 300 *e*P **P 02 44 39.4 -0.1**
DANN Dangsing 82.49 300 *e*P **P 02 44 39.1 -0.5**
MCK McKinley 83.05 21 *e*P **P 02 44 40.7 -0.9**
MCK pmax pmax
comp=Z,61nm,0.9s,mb5.6
MCK McKinley 83.05 21 *e*P **P 02 44 40.7 -0.9**
comp=Z,62nm,0.9s,mb5.6
HVS Khovu-Aksy 83.09 325 *e*P **P 02 44 42.8 +0.7**
HVS pmax pmax
comp=Z,38nm,1.0s,mb5.4
MAW Mawson 83.53 203 ⇓*i*P **P 02 44 44.3 +0.1**
comp=Z,24nm,1.0s,mb5.3
MAW Mawson 83.53 203 P **P 02 44 44.1 -0.1**
comp=Z,34nm,1.1s,mb5.4,baz=97,slow=6.0,SNR=36
MAW LR LR 03 20 43.6
comp=Z,344nm,19.1s,MS4.8,baz=65,slow=35
MAW Mawson 83.53 203 ⇓*i*P **P 02 44 44.3 +0.1**
MAW pmax pmax
comp=Z,24nm,1.0s
TIXI Tiksi 83.89 351⇑*e*P **P 02 44 46.1 +0.3**
TIXI pmax pmax
comp=Z,19nm,1.7s,mb5.0
TIXI Tiksi 83.89 351 *e*P **P 02 44 45.4 -0.4**
comp=Z,7.1nm,0.8s,mb4.8
WMQ Urumqi 84.09 316 P **P 02 44 47.1 -0.4**
WMQ AP pP 02 44 51.8 -0.6
WMQ XP sP 02 44 54.1 -0.1
WMQ AMB AMB
comp=Z,16nm,1.3s,mb5.0
COLA College 84.13 20*d i*P **P 02 44 45.8 -1.4**
COLA College 84.13 20 *e*P **P 02 44 46.0 -1.1**
comp=Z,23nm,0.9s,mb5.3
HYB Hyderabad 84.59 289 *i* P **P 02 44 50.5 0.0**
HYB Hyderabad 84.59 289 *e*P **P 02 44 50.0 -0.5**
COLD Coldfoot 84.89 17 *e*P **P 02 44 51.0 +0.1**
comp=Z,6.0nm,0.8s,mb4.8
KRAR Krasnoyarsk 85.59 329 *e*P **P 02 44 53.9 -0.8**
KRAR pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
HYT Haines Junctio 85.87 26 *e*P **P 02 44 57.2 +1.3**
SKAG Skagway 86.20 28 *e*P **P 02 44 56.3 -1.3**
comp=Z,18nm,0.8s,mb5.3
WRAK Wrangell Islan 86.35 31 *e*P **P 02 44 59.3 +0.9**
comp=Z,8.6nm,0.8s,mb5.0
EGAK Eagle 86.42 22 *e*P **P 02 44 59.0 +0.3**
DAWY Dawson 86.70 23 *e*P **P 02 45 00.9 +0.9**
YBH Yreka Blue Hor 87.40 47 LR LR 03 19 01.3
comp=Z,197nm,18.5s,MS4.5,baz=191,slow=32
YBH Yreka Blue Hor 87.40 47 *e*P **P 02 45 04.8 +0.8**
YBH pmax pmax
comp=Z,32nm,1.8s
YBH Yreka Blue Hor 87.40 47 *e*P **P 02 45 04.8 +0.8**
comp=Z,32nm,1.8s,mb5.2
HUMO Hull Mountain 87.46 46 *e*P **P 02 45 05.6 +1.4**
comp=Z,6.9nm,1.1s,mb4.8
MK31 Makanchi Array 88.63 318 *e*P **P 02 45 08.9 -0.8**
MKAR Makanchi Array 88.63 318 P **P 02 45 09.1 -0.6**
comp=Z,12nm,0.8s,mb5.3,baz=103,slow=5.6,SNR=53
MKAR Makanchi Array 88.63 318 P **P 02 45 09.1 -0.6**
ZALV Zalesovo Beam 89.17 325 P **P 02 45 10.5 -1.5**
comp=Z,6.6nm,0.8s,mb5.0,baz=108,slow=4.8,SNR=17
ZAL Zalesovo 89.17 325 P **P 02 45 10.5 -1.5**
NVAR Mina Array Bea 89.88 51 P **P 02 45 15.6 -0.1**
comp=Z,2.5nm,0.9s,mb4.5,baz=233,slow=7.7,SNR=12
NVS Novosibirsk 90.31 326 *e*P **P 02 45 14.8 -2.6**
NVS pmax pmax
comp=Z,20nm,1.9s,mb5.1
NVS pmax pmax
comp=E,16nm,2.0s
PFO Pinyon Flat Ob 90.34 56 LR LR 03 19 29.1
comp=E,744nm,18.4s,MS5.2,baz=298,slow=31
GSC Goldstone 90.40 54 *e*P **P 02 45 19.4 +1.2**
GSC pmax pmax
comp=Z,11nm,1.2s,mb5.1
GSC Goldstone 90.40 54 *e*P **P 02 45 19.4 +1.2**
comp=Z,11nm,1.2s,mb5.1
WVOR Wild Horse Val 90.51 47 *e*P **P 02 45 20.1 +1.5**
WVOR pmax pmax
comp=Z,29nm,1.5s,mb5.4
WVOR Wild Horse Val 90.51 47 *e*P **P 02 45 20.1 +1.5**
comp=Z,29nm,1.5s,mb5.4
SYO Syowa Base 91.09 198⇑*e*P **P 02 45 18.5 -2.3**
SYO Syowa Base 91.09 198⇑*e*PcP PcP 02 45 20.4 -1.4
BMN Battle Mountai 91.12 49 *e*P **P 02 45 23.5 +2.0**
BMN pmax pmax
comp=Z,48nm,1.7s,mb5.5
BMN Battle Mountai 91.12 49 *e*P **P 02 45 23.5 +2.0**
comp=Z,48nm,1.7s,mb5.5
TPNV Topopah Spring 91.17 53 *e*P **P 02 45 22.2 +0.4**
TPNV pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
TPNV Topopah Spring 91.17 53 *e*P **P 02 45 22.2 +0.4**
comp=Z,9.6nm,1.1s,mb5.0
KSH Kashi 91.41 310 *e*P **P 02 45 23.9 +1.1**
KSH *e*AP pP 02 45 28.4 +0.6
KSH XP sP 02 45 31.4 +1.8
KSH *e*PP PP 02 49 04.8 +4.1
KSH *e*PPP 02 51 05.5
KSH SKS 02 55 54.3
KSH S S 02 56 21.6 -0.2
KSH XS sS 02 56 29.8 -0.3
KSH SS SS 03 02 31.3 +3.5
KSH AMB AMB
comp=Z,55nm,0.6s,mb6.1
KSH AMB AMB
comp=Z,239nm,2.8s,mb6.0
KSH LR LR
comp=N,401nm,4.0s
KSH LR LR
comp=E,515nm,7.6s
KSH LR LR
comp=Z,1µm,17.8s,MS5.4
KURK Kurchatov 91.97 321 P **P 02 45 23.5 -1.6**
comp=Z,51nm,0.9s,mb5.9,SNR=6.9
KURK Kurchatov 91.97 321 *e*P **P 02 45 23.5 -1.6**
KURK pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
KURK Kurchatov 91.97 321 *e*P **P 02 45 23.5 -1.6**
comp=Z,8.2nm,0.9s,mb5.1
TKM2 Tokmak 2 92.36 313 *e*P **P 02 45 26.6 -0.5**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
TKM2 Tokmak 2 92.36 313 *e*P **P 02 45 26.6 -0.6**
comp=Z,4.1nm,0.8s,mb4.8
ELK Elko 92.67 49 *e*P **P 02 45 30.6 +2.0**
ELK pmax pmax
comp=Z,13nm,1.3s
ELK Elko 92.67 49 *e*P **P 02 45 30.6 +2.0**
comp=Z,13nm,1.3s,mb5.2
NEW Newport 92.79 42 *e*P **P 02 45 28.6 -0.4**
NEW pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 92.79 42 *e*P **P 02 45 28.6 -0.5**
comp=Z,2.3nm,0.8s,mb4.7
EKS2 Erkin-Say 93.62 313 *e*P **P 02 45 33.4 +0.4**
comp=Z,3.6nm,1.0s,mb4.8
HLID Hailey 93.77 47 *e*P **P 02 45 34.3 +0.6**
comp=Z,6.3nm,1.1s,mb5.0
LPIG La Paz 93.97 66 LR LR 03 20 39.5
comp=Z,432nm,18.1s,MS5.0,baz=191,slow=31
BOZ Bozeman (W) 96.06 45 *e*P **P 02 45 44.8 +0.7**
BOZ pmax pmax
comp=Z,1.0nm,0.8s,mb4.3
BOZ Bozeman (W) 96.06 45 *e*P **P 02 45 44.8 +0.8**
comp=Z,1.4nm,0.8s,mb4.4
TPAW Teton Pass 96.25 47 *e*P **P 02 45 47.2 +2.2**
comp=Z,3.6nm,1.0s,mb4.8
MOOW Moose Ponds 96.43 47 *e*P **P 02 45 47.1 +1.3**
comp=Z,3.9nm,1.2s,mb4.7
LOHW Long Hollow 96.52 47 *e*P **P 02 45 47.8 +1.6**
comp=Z,1.4nm,0.7s,mb4.5
YKA Yellowknife Ar 96.70 28 P **P 02 45 44.6 -2.0**
comp=Z,0.9nm,0.5s,mb4.4,baz=262,slow=4.8,SNR=7.8
PDAR Pinedale Array 97.17 48 P **P 02 45 48.8 -0.5**
comp=Z,0.9nm,0.8s,mb4.2,baz=260,slow=5.3,SNR=5.6
BVAR Borovoye Array 97.39 322 P **P 02 45 48.2 -1.7**
comp=Z,5.7nm,0.9s,mb5.0,baz=101,slow=4.6,SNR=4.4
BRVK Borovoye 97.45 323 *e*P **P 02 45 48.7 -1.5**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
BRVK Borovoye 97.45 323 *e*P **P 02 45 48.7 -1.5**
comp=Z,4.2nm,0.7s,mb5.0
SNAA Sanae 97.80 186 *e*Pdiff **P 02 45 50.9 -0.6**
SNAA *e* pP 02 45 54.7 -1.8
SNAA Sanae 97.80 186 P **P 02 45 50.4 -1.1**
comp=Z,0.6nm,0.9s,mb4.1,baz=219,slow=8.9,SNR=7.9
VNA2 Neumayer--Watz 98.91 184 *e*Pdiff **P 02 45 56.3 -0.2**
VNA2 *e* pP 02 45 59.8 -1.7
ARCES ARCESS Array B 113.64 344 PKiKP PKiKP 02 50 53.0 -1.4
comp=Z,2.5nm,0.8s,baz=22,slow=1.3,SNR=4.2
ANN Anapa 119.61 316 *i* PKIKP PKPdf 02 51 12.3 +5.7
ANN pmax pmax
comp=Z,44nm,1.1s
MALT Malatya 120.50 309 *e*PKIKP PKPdf 02 51 08.1 -0.4
BOSA Boshof 121.69 228 PKP PKPdf 02 51 10.3 -0.8
comp=Z,2.2nm,1.0s,baz=135,slow=4.3,SNR=2.6
BOSA Boshof 121.69 228 PKP PKPdf 02 51 10.3 -0.8
AKASG Malin Array Be 122.56 325 PKP PKPdf 02 51 10.6 -1.5
comp=Z,0.7nm,0.4s,baz=53,slow=2.7,SNR=4.2
HFS Hagfors 123.81 340 PKP PKPdf 02 51 12.1 -2.0
comp=Z,2.3nm,0.8s,baz=81,slow=9.2,SNR=4.4
NB2 NORSAR Subarra123.89 342 PKPdf PKPdf 02 51 13.1 -1.2
comp=Z,3.5nm,1.0s,baz=36,slow=1.8
NOA NORSAR Array B 123.89 342 PKP PKPdf 02 51 13.2 -1.1
comp=Z,1.2nm,0.8s,baz=40,slow=1.9,SNR=3.2
LSZ Lusaka 125.84 243 PKP PKPdf 02 51 17.3 -2.1
comp=Z,0.9nm,0.5s,baz=0.0,slow=5.1,SNR=3.4
LPAZ La Paz 126.01 118 PKP PKPdf 02 51 17.4 -2.3
comp=Z,0.4nm,0.6s,baz=42,slow=15,SNR=2.0
LPAZ La Paz 126.01 118 PKP PKPdf 02 51 17.4 -2.3
LPAZ *e*PKPdf PKPdf 02 51 21.4 +1.7
KOLS Kolonicke sedl 127.34 326 *e*PKP PKPdf 02 51 22.6 +1.3
OKC Ostrava-Krasne 129.01 329 AMS AMS 03 52 30.0
comp=Z,400nm,14.8s
PSZ Piszkesteto 129.22 326 *e*PKIKP PKPdf 02 51 22.9 -2.0
KOLL Kolacno 129.64 327 *e*PKP PKPdf 02 51 25.1 -0.6
PVCC Panska Ves 130.32 331 *e*PKPdf PKPdf 02 51 29.1 +2.2
PVCC AMS AMS 03 49 00.0
comp=Z,400nm,14.8s
MODS Modra-Piesok 130.36 328 *e*PKP PKPdf 02 51 26.8 -0.3
BRG Berggiesshubel 130.38 332 *e*PKP PKPdf 02 51 27.0 0.0
comp=Z,3.5nm,1.0s
BRG *e* 02 54 50.9
comp=Z,9.0nm,1.1s
BRG
comp=N,240nm,15.9s
BRG
comp=E,137nm,15.9s
BRG
comp=Z,342nm,14.1s
BRG Berggiesshubel 130.38 332 *e*PKP PKPdf 02 51 27.0 0.0
BRG *e* 02 54 50.9
BRG LR LR
comp=Z,210nm,14.1s,MS5.0
TREC Trest 130.70 330 AMS AMS 03 48 10.0
comp=Z,400nm,24.3s
PRU Pruhonice 130.70 331 *e*pPKP pPKPdf 02 51 32.5 -0.3
PRU AMS AMS 03 49 30.0
comp=Z,300nm,17.7s
KHC Kasperske Hory 131.74 331⇑*i*PKIKP PKPdf 02 51 29.7 0.0
KHC Kasperske Hory 131.74 331 *e*PKPdf PKPdf 02 51 31.2 +1.5
KHC *ex* x 02 51 41.5
KHC *e*PP PP 02 53 50.5 +1.3
KHC *e*SKP 02 54 54.5
KHC AMS AMS 03 46 30.0
comp=Z,200nm,14.2s
GERES GERESS Array B 131.88 330 PKP PKPdf 02 51 29.8 -0.1
comp=Z,0.8nm,0.8s,baz=86,slow=1.5,SNR=5.6
DAVOS Davos 135.16 331 PKIKP PKPdf 02 51 34.9 -1.3
DAVOS Davos/Dischmat 135.16 331 PKP PKPdf 02 51 34.9 -1.2
comp=Z,1.1nm,0.5s,baz=321,slow=6.6,SNR=5.3
BDFB Brasilia 142.64 132 PKP PKPdf 02 51 46.8 -4.0
comp=Z,1.8nm,1.1s,baz=230,slow=23,SNR=3.4
KEST Kesra 142.73 318 PKP PKPdf 02 51 47.2 -3.1
comp=Z,1.5nm,1.1s,baz=321,slow=14,SNR=6.4
ESDC Sonseca Array 146.94 337 PKPbc PKPbc 02 51 59.0 -0.4
comp=Z,0.4nm,0.5s,baz=18,slow=4.4,SNR=5.5
PVIS Viseu 147.38 342 *e*PKP PKPbc 02 52 00.3 -0.3
MTE Manteigas 147.56 342 *e*PKP PKPbc 02 52 00.1 -1.0
PCBR Castelo Branco 148.05 341 *e*PKP PKPbc 02 52 02.1 -0.3
PMRV Marv??o 148.39 341 *e*PKP PKPbc 02 52 02.9 -0.5
PTOM Tomar 148.54 342 *e*PKP PKPbc 02 52 03.5 -0.2
PESTR Estremoz 148.97 341 *e*PKP PKPbc 02 52 09.3 +4.4
PBEJ Beja 149.82 340 *e*PKP PKPbc 02 52 08.7 +1.7
PVAQ Vaqueiros 150.33 339 *e*PKP PKPbc 02 52 12.2 +3.9
PTEO Sao Teotonio 150.54 341 *e*PKP PKPbc 02 52 08.3 -0.5
TAM Tamanrasset 152.14 301 *e*PKIKP PKPbc 02 52 14.3 +1.4
TAM *e* 02 52 23.4
TORD Torodi Ar. Bea 158.19 281 PKP PKPdf 02 52 12.9 -1.8
comp=Z,1.2nm,1.0s,baz=149,slow=2.3,SNR=5.3
TORD PKPab PKPab 02 52 46.9 -1.7
comp=Z,3.6nm,0.9s,baz=64,slow=3.3,SNR=9.2
DBIC Dimbokro 164.38 259 PKPab PKPab 02 53 14.5 -1.1
comp=Z,9.6nm,1.0s,baz=140,slow=6.3,SNR=4.6

*ISCJB **19** 02:51:17.4±5.3, 98S±02×1597E±02, h9km±33km, mb4.1/12, Error ellipse: s-maj=41.2km s-min=9.8km az=37.8*
*IDC **19** 02:51:17.2±1.6, 980S×15984E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.2/16, mbtmp4.2/11, Error ellipse: s-maj=51.1km s-min=9.9km az=118.0*
*NEIC **19** 02:51:19.8±1.7, 986S×15964E, h10km±13km, mb4.5/1, Error ellipse: s-maj=31.0km s-min=10.7km az=117.0*
ISC 19 02:51:19.8±2.1, 99S±02×1597E±03, h10km±17km, n18, σ0°66/19, mb4.1/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.52**	**34**	Pn		**Pg**		**02 51 30.0**	**0.0**
	2µm,0.3s,baz=245,slow=1.5,SNR=634								
HNR				Sn		**Sg**		**02 51 37.0**	**+0.1**
	9µm,0.3s,baz=257,slow=1.6,SNR=117								
WRAB	**Tennant Creek**	**26.38**	**245**	*e*P		**P**		**02 56 56.5**	**-0.1**
	12nm,0.9s,mb4.4								
WB2	**Warramunga Arr**	**26.38**	**245**	*e*P		**P**		**02 56 57.2**	**+0.6**
WB2	**Warramunga Arr**	**26.38**	**245**	*e*P		**P**		**02 56 56.7**	**+0.1**
WRA	**Warramunga Arr**	**26.39**	**245**	P		**P**		**02 56 57.5**	**+0.8**
	6.6nm,0.6s,mb4.3,baz=73,slow=9.9,SNR=24								
STKA	**Stephens Creek**	**27.56**	**215**	P		**P**		**02 57 06.5**	**-0.6**
	2.4nm,0.6s,mb4.0,baz=8.7,slow=9.4,SNR=6.0								
ASAR	**Alice Springs**	**28.14**	**238**	P		**P**		**02 57 12.0**	**-0.4**
	2.0nm,0.4s,mb4.1,baz=63,slow=10,SNR=59								
FITZ	**Fitzroy Crossi**	**33.95**	**252**	P		**P**		**02 58 02.9**	**-0.8**
	3.1nm,0.7s,mb4.3,baz=158,slow=19,SNR=6.6								
MJAR	**Matsushiro Arr**	**50.38**	**338**	P		**P**		**03 00 16.4**	**-0.8**
	0.7nm,0.7s,mb3.8,baz=172,slow=9.0,SNR=4.1								
PETK	**Petropavlovsk-**	**62.75**	**359**	P		**P**		**03 01 45.4**	**+0.4**
	1.1nm,0.6s,mb4.2,baz=160,slow=9.2,SNR=2.7								
PETK	**Petropavlovsk-**	**62.75**	**359**	P		**P**		**03 01 45.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**66.17**	**295**	P		**P**		**03 02 09.7**	**+1.5**
	1.1nm,0.5s,mb4.2,baz=115,slow=6.3,SNR=2.7								
SONM	**Songino Array**	**74.26**	**326**	P		**P**		**03 02 57.8**	**+0.7**
	0.6nm,0.6s,mb3.7,baz=155,slow=4.4,SNR=3.8								
MAW	**Mawson**	**83.53**	**203**	P		**P**		**03 03 48.4**	**+0.7**
	1.2nm,0.6s,mb4.2,baz=63,slow=11,SNR=3.6								
MK31	**Makanchi Array**	**88.60**	**318**	*e*P		**P**		**03 04 12.6**	**-0.5**
MKAR	**Makanchi Array**	**88.60**	**318**	P		**P**		**03 04 12.8**	**-0.3**
	0.9nm,0.6s,mb4.3,baz=88,slow=7.0,SNR=8.1								
MKAR	**Makanchi Array**	**88.60**	**318**	P		**P**		**03 04 12.8**	**-0.3**
ZALV	**Zalesovo Beam**	**89.14**	**325**	P		**P**		**03 04 14.6**	**-0.8**
	0.5nm,0.4s,mb4.2,baz=124,slow=7.7,SNR=2.8								

*ISCJB **19** 03:19:10.4±0.6, 1134N±003×62.15W±003, h123km±5km, Error ellipse: s-maj=6.0km s-min=4.0km az=39.3*
*TRN **19** 03:19:12.7, 1136N×6207W, h115km, MD3.5*
*FUNV **19** 03:19:12.6, 1132N×6209W, h119km, MW3.5*
*NEIC **19** 03:19:13.0, 1136N×6206W, h113km, MD3.5(TRN), After TRN.*
ISC 19 03:19:11.2±0.6, 1135N±003×6214W±003, h121km±6km, n26, σ0°99/46, 12C-3D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.70**	**186**⇑	*i*P		**Pn**		**03 19 31.6**	**+0.9**
GUIV				*e*S		**Sn**		**03 19 45.5**	**+0.2**
TCE	**Chacachacare**	**0.75**	**149**⇑	*e*P		**Pn**		**03 19 31.9**	**+0.9**
TCE				*e*S		**Sn**		**03 19 45.4**	**-0.6**
GRGR	**Grenville**	**0.92**	**31**	*e*Pn		**Pn**		**03 19 32.6**	**+0.1**
GRGR				*e*Sn		**Sn**		**03 19 48.2**	**-0.4**
GRW	**Mount Saint Ca**	**0.94**	**30**	*e*P		**Pn**		**03 19 33.4**	**+0.7**
GRW				*e*S		**Sn**		**03 19 48.2**	**-0.7**
ITEV	**Isla Los Testi**	**0.97**	**271**⇓	*i*P		**Pn**		**03 19 33.7**	**+0.8**
ITEV				*e*S		**Sn**		**03 19 50.3**	**+0.9**
TRN	**Trinidad (W)**	**1.00**	**134**⇑	*i*P		**Pn**		**03 19 34.2**	**+0.9**
TRN				*e*S		**Sn**		**03 19 49.7**	**-0.3**
TPP	**Pointe-a-Pierr**	**1.23**	**146**⇑	*e*P		**Pn**		**03 19 37.0**	**+1.4**
TPP				*e*S		**Sn**		**03 19 52.8**	**-1.3**
TPP	**Pointe-a-Pierr**	**1.23**	**146**⇑	*e*P		**Pn**		**03 19 37.0**	**+1.4**
TPP				*e*S		**Sn**		**03 19 54.6**	**+0.4**
CRUV	**Carupano**	**1.26**	**238**⇑	*i*P		**Pn**		**03 19 37.0**	**+1.0**
CRUV				*e*S		**Sn**		**03 19 55.3**	**+0.5**
TPR	**Prospect**	**1.35**	**97**⇑	*i*P		**Pn**		**03 19 37.0**	**0.0**
TPR				*e*S		**Sn**		**03 19 56.2**	**-0.3**
TBH	**Brigand Hill**	**1.36**	**129**⇑	*e*P		**Pn**		**03 19 37.9**	**+0.8**
TBH				*e*S		**Sn**		**03 19 56.9**	**+0.2**
GUNV	**Guanoco**	**1.41**	**214**⇑	*i*P		**Pn**		**03 19 39.0**	**+1.3**
GUNV				*e*S		**Sn**		**03 19 57.2**	**-0.6**
TOSP	**Speyside**	**1.58**	**92**⇑	*i*P		**Pn**		**03 19 39.1**	**-0.4**
TOSP				*e*S		**Sn**		**03 19 58.8**	**-2.3**
SVB	**Belmont**	**2.10**	**24**	*e*P		**Pn**		**03 19 45.6**	**-0.4**
SVB				*e*S		**Sn**		**03 20 12.0**	**-0.6**
SVV	**Soufriere Volc**	**2.16**	**25**	*e*P		**Pn**		**03 19 47.4**	**+0.7**
SVV				*e*S		**Sn**		**03 20 13.3**	**-0.6**
ORIV	**Oritupano**	**2.58**	**209**	*e*P		**Pn**		**03 19 53.1**	**+1.1**
ORIV				*e*S		**Sn**		**03 20 22.8**	**-0.8**
SLB	**Belfond**	**2.69**	**23**⇑	*e*P		**Pn**		**03 19 54.8**	**+1.3**
SLB				*e*S		**Sn**		**03 20 25.4**	**-0.7**
PCRV	**Puerto La Cruz**	**2.71**	**245**⇓	*i*P		**Pn**		**03 19 55.2**	**+1.5**
PCRV				*e*S		**Sn**		**03 20 25.0**	**-1.5**
RIOV	**Rio Grande**	**3.27**	**174**	*e*P		**Pn**		**03 20 01.4**	**+0.3**
GURV	**El Guri**	**3.68**	**195**	*e*P		**Pn**		**03 20 06.7**	**+0.2**
CUPV	**Cœpira**	**3.80**	**251**⇑	*i*P		**Pn**		**03 20 09.6**	**+1.5**
CUPV				*e*S		**Sn**		**03 20 49.9**	**-2.4**
MERV	**Las Mercedes**	**4.59**	**243**	*e*P		**Pn**		**03 20 18.4**	**-0.2**
MERV				*e*S		**Sn**		**03 21 08.4**	**-2.6**
LUEV	**Luepa**	**5.51**	**173**⇓	*i*P		**Pn**		**03 20 29.3**	**-1.7**
CAOV	**Caicara del Or**	**5.74**	**226**	*e*P		**Pn**		**03 20 33.2**	**-0.9**
BAUV	**El Baul**	**6.28**	**248**	*e*P		**Pn**		**03 20 40.4**	**-1.0**
TEPV	**Terepaima**	**7.06**	**259**	*e*P		**Pn**		**03 20 52.1**	**+0.1**

IDC 19 03:31:39.4±2.6, 1347S×7714W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.8/16, mbtmp4.1/3, ML4.1/1, MS3.0/1, Ms1 3.1/1, ms1mx2.8/18, Error ellipse: s-maj=51.3km s-min=45.5km az=121.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.15**	**109**	Pn		Pn		03 33 54.3	+1.6
	0.9nm,0.3s,baz=296,slow=12,SNR=20								
LPAZ				Sn		Sn		03 35 36.8	+0.4
	baz=216,slow=24,SNR=2.8								
LPAZ				LR		LR		03 38 08.7	
	comp=Z,93nm,18.9s,baz=277,slow=43								
PLCA	**Paso Flores**	**27.76**	**169**	P		P		03 37 29.9	+0.1
	2.6nm,1.0s,baz=1.9,slow=8.8,SNR=4.3								
TORD	**Torodi Ar. Bea**	**82.46**	**75**	P		P		03 44 04.4	0.0
	1.5nm,0.9s,baz=266,slow=5.5,SNR=12								

*ISCJB **19** 03:37:36.4±6.7, 210S±03×1782W±0.1, h454km±79km, mb3.9/31, Error ellipse: s-maj=39.3km s-min=15.2km az=0.4*
*IDC **19** 03:37:40.8±4.3, 21.18S×178.12W, h496km±49km, mb3.5/10, mb1 3.8/11, mb1mx3.7/16, mbtmp3.5/11, Error ellipse: s-maj=23.0km s-min=19.5km az=4.0*
*NEIC **19** 03:37:44.4±2.0, 2132S×178.17W, h545km±23km, mb3.9/22, Error ellipse: s-maj=16.2km s-min=8.8km az=159.0*
ISC 19 03:37:36.5±5.1, 210S±03×17813W±010, h443km±63km, n66, σ0°53/38, mb3.9/31, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.66**	**192**	P		**P**		**03 41 15.4**	**-0.3**
	1.3nm,0.3s,baz=102,slow=19,SNR=6.6								
STKA	**Stephens Creek**	**37.45**	**245**	*e*P		**P**		**03 44 11.5**	**+1.0**
	1.3nm,0.4s,mb3.6								
STKA	**Stephens Creek**	**37.45**	**245**	P		**P**		**03 44 11.6**	**+1.1**
	1.8nm,0.5s,mb3.6,baz=99,slow=12,SNR=10								
ASAR	**Alice Springs**	**44.28**	**257**	P		**P**		**03 45 05.8**	**+0.4**
	4.5nm,0.5s,mb4.0,baz=95,slow=8.4,SNR=99								
WB2	**Warramunga Arr**	**44.40**	**263**	*e*P		**P**		**03 45 06.3**	**-0.1**
WRAB	**Tennant Creek**	**44.40**	**263**	*e*P		**P**		**03 45 06.2**	**-0.2**
	3.6nm,0.7s,mb3.8								
WRA	**Warramunga Arr**	**44.41**	**263**	P		**P**		**03 45 06.4**	**-0.1**
	1.9nm,0.3s,mb3.9,baz=97,slow=7.1,SNR=21								
FORT	**Forrest**	**48.97**	**247**	*e*P		**P**		**03 45 41.0**	**-0.1**
	12nm,0.5s,mb4.5								
FORT	**Forrest**	**48.97**	**247**	*e*P		**P**		**03 45 40.5**	**-0.7**
	2.3nm,0.7s,mb3.6								
FITZ	**Fitzroy Crossi**	**52.84**	**263**	*e*P		**P**		**03 46 09.8**	**+0.2**
	2.7nm,0.3s,mb4.0								
FITZ	**Fitzroy Crossi**	**52.84**	**263**	*e*P		**P**		**03 46 09.7**	**+0.1**
	4.4nm,0.4s,mb4.0								
MBWA	**Marble Bar**	**57.62**	**258**	*e*P		**P**		**03 46 42.5**	**-0.7**
	8.1nm,0.6s,mb4.2								
KKM	**Kota Kinabalu**	**69.77**	**285**	*e*P		**P**		**03 48 01.6**	**+0.2**
MJAR	**Matsushiro Arr**	**70.56**	**324**	P		**P**		**03 48 05.6**	**0.0**
	3.0nm,0.6s,mb4.0,baz=155,slow=6.1,SNR=15								
MAJO	**Matsushiro**	**70.56**	**324**	*e*P		**P**		**03 48 05.6**	**-0.1**
	3.7nm,0.5s,mb4.2								
ADK	**Adak**	**72.61**	**1**	*e*P		**P**		**03 48 16.7**	**-0.6**
	24nm,0.8s,mb4.8								
KSM	**Kuching**	**73.36**	**278**	*e*P		**P**		**03 48 22.5**	**-0.1**
PETK	**Petropavlovsk-**	**76.75**	**345**	P		**P**		**03 48 40.9**	**+0.2**
	4.0nm,0.6s,mb4.2,baz=128,slow=7.6,SNR=7.1								
KSRS	**Korea Array**	**77.20**	**319**	P		**P**		**03 48 44.5**	**+1.0**
	1.2nm,0.6s,mb3.7,baz=127,slow=6.0,SNR=11								
YBH	**Yreka Blue Hor**	**80.78**	**39**	*e*P		**P**		**03 49 03.3**	**+0.8**
	3.1nm,0.7s,mb4.2								
**

1.1nm,0.6s,mb3.8
BW06 Boulder Array 89.43 43 *e*P **P 03 49 44.5 -0.4**
1.6nm,0.8s,mb3.8
PDAR Pinedale Array 89.43 43 P **P 03 49 44.6 -0.2**
1.3nm,0.8s,mb3.7,baz=230,slow=2.0,SNR=12
BOZ Bozeman (W) 89.60 40 *e*P **P 03 49 45.9 +0.3**
1.3nm,0.8s,mb3.8
CMAR Chiang Mai Arr 90.17 290 P **P 03 49 48.6 -0.2**
1.5nm,0.4s,mb4.2,baz=132,slow=2.7,SNR=7.4
MK31 Makanchi Array 111.47 313 *e*PKP PKiKP 03 55 17.2 -2.0
EKS2 Erkin-Say 117.05 308 *e*PKPdf PKPdf 03 55 26.6 -3.5
BRVK Borovoye 119.46 320 *e*PKPdf PKPdf 03 55 32.3 -2.1
ARCES ARCESS Array B 129.41 349 PKP PKPdf 03 55 51.0 -2.0
0.9nm,0.5s,baz=17,slow=1.3,SNR=12
AKASG Malin Array Be 143.41 331 PKP PKPdf 03 56 15.7 -3.6
2.5nm,0.5s,baz=40,slow=4.0,SNR=19
AKBB Malin Array Si 143.41 331 *e*PKPdf PKPdf 03 56 15.6 -3.7
MALT Malatya 144.15 307 *e*PKPdf PKPdf 03 56 20.4 -0.6
KWP Kalwaria 147.01 335 *e*PKPbc PKPbc 03 56 27.3 -1.0
KOLS Kolonicke sedl 147.73 334 *e*PKP PKPab 03 56 34.8 +0.8
STHS Stebnicka Huta 147.75 336 *e*PKP PKPab 03 56 34.8 +0.8
CRVS Cervenica-Dubn 148.08 335 *e*PKP PKPab 03 56 37.3 +1.9
CRVS *e* 12 55 25.4
UPC Upice 148.54 343 *e*PKPdf PKPdf 03 56 24.2 -3.7
CLL Collm 148.55 347⇓ *i*PKPbc PKPbc 03 56 31.1 -1.1
comp=Z,6.0nm,0.8s
CLL *i* PKPab PKPab 03 56 36.2 -1.0
comp=Z,3.0nm,0.9s
DPC Dobruska-Polom 148.59 342 *e*PKPbc PKPbc 03 56 31.5 -0.8
BRG Berggiesshubel 148.74 345 *e*PKP PKPbc 03 56 31.7 -1.0
comp=Z,3.5nm,0.8s
KECS Kecovo 148.80 336 *e*PKP PKPab 03 56 38.3 0.0
LIKS Likavka 148.83 338 *e*PKP PKPab 03 56 39.1 +0.6
PVCC Panska Ves 148.90 344 *e*PKPbc PKPbc 03 56 32.3 -0.8
PRU Pruhonice 149.40 344 *e*PKPbc PKPbc 03 56 33.4 -0.9
NKC Novy Kostel 149.68 346 *e*PKPbc PKPbc 03 56 34.1 -0.8
TREC Trest 149.78 342 *e*PKPbc PKPbc 03 56 34.0 -1.2
KHC Kasperske Hory 150.44 344 *e*PKPbc PKPbc 03 56 35.8 -1.0
KHC *e*PKPab PKPab 03 56 44.7 -0.4
GRA1 Grafenberg Arr 150.45 348 *e*PKP PKPbc 03 56 36.2 -0.6
GRF Grafenberg Arr 150.45 348 *e*PKP PKPbc 03 56 36.2 -0.6
GERES GERESS Array B 150.67 344 PKPbc PKPbc 03 56 36.4 -0.9
comp=Z,1.5nm,0.7s,baz=38,slow=2.4,SNR=13
AQU L'Aquila 156.63 338 *e*PKPdf PKPdf 03 56 37.6 -2.4
TORD Torodi Ar. Bea 172.16 179 PKP PKPdf 03 56 51.8 -2.5
comp=Z,0.5nm,0.8s,baz=60,slow=1.2,SNR=3.4
TORD PKPab PKPab 03 58 19.5 -1.0
comp=Z,0.7nm,1.0s,baz=186,slow=4.2,SNR=2.7
TORD Torodi Ar. Bea 172.16 179 PKP PKPdf 03 56 51.8 -2.5
TORD PKPab PKPab 03 58 19.5 -1.0

*CSEM **19** 03:39:47.4±1.1,36.73N×27.55E,h25km, MD2.3, Error ellipse: s-maj=24.3km s-min=12.5km az=21.0*
*ISK **19** 03:39:52.0,36.95N×27.56E,h6km, MD2.7*
DDA 19 03:39:46.3,36.58N×27.66E,h6km±7km,Md2.3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.52**	**341**	*i* P	Pg	03 39 55.8	-0.5
BDRM				*i* S	Sg	03 39 58.6	-4.4
BODT	**Bodrum**	**0.56**	**330**	*e*PG	Pg	03 39 56.9	-0.2
BODT				*e*SG	Sg	03 40 00.9	-3.4
MLSB	**Milas**	**0.72**	**8**	*e*PG	Pg	03 40 00.4	+0.2
YER	**Yerkesik**	**0.75**	**42**	*e*PG	Pg	03 40 04.7	+4.0
YER				*e*SG	Sg	03 40 13.2	+2.7
TURN	**Turunc**	**0.81**	**68**	*i* P	Pg	03 40 03.2	+1.3
TURN				*i* S	Sg	03 40 12.8	+0.3
AYDN	**Tasoluk**	**1.10**	**9**	*i* P	Pg	03 40 06.5	-0.8
AYDN				*i* S	Sg	03 40 17.1	-4.5

BUC 19 03:52:31.4±1.8,45.13N×24.09E,h0km,MD2.8/3,2C-2D, Error ellipse: s-maj=35.0km s-min=6.0km az=2.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.96**	**286**⇑	*i* P	Pg	03 52 50.8	+0.9
GZR				*i* S	Sg	03 53 05.3	+2.9
MLR	**Muntele Rosu**	**1.36**	**74**⇓	*i* P	Pg	03 52 57.7	+0.3
MLR				*i* S	Sg	03 53 17.9	+3.0
BZS	**Buzias**	**1.81**	**286**⇓	*i* P	Pn	03 53 05.7	+1.9
BZS				*i* S	Sn	03 53 28.9	+1.5
DRGR		**1.92**	**330**⇑	*i* P	Pn	03 53 06.7	+1.4
DRGR				*i* S	Sn	03 53 31.2	+1.1

*BJI **19** 03:55:43.8, 190N×128.15E, h62km, mB4.9, mb4.7, Ms4.5, Msz4.2*
*IDC **19** 03:55:49.4±2.5, 269N×127.44E, h40km±22km, mb4.3/14, mb1 4.4/15, mb1mx4.3/18, mbtmp4.3/15, ML4.7/1, MS3.5/9, Ms1 3.5/9, ms1mx3.3/22, Error ellipse: s-maj=25.4km s-min=11.5km az=78.0*
*MOS **19** 03:55:49.9±1.5, 276N×127.43E, h54km, mb4.8/15, Error ellipse: s-maj=15.5km s-min=7.9km az=107.0*
*ISCJB **19** 03:55:50.1±0.9, 269N±004×127.60E±006, h57km±8km, mb4.6/47, MS3.7/12, Error ellipse: s-maj=9.6km s-min=5.4km az=160.5*
*NEIC **19** 03:55:52.0±1.1, 269N×127.57E, h62km±10km, mb4.8/20, Error ellipse: s-maj=10.1km s-min=5.6km az=70.0*
*DJA **19** 03:56:07, 163N×127.11E, h33km, ML4.7/4*
ISC 19 03:55:51.9±0.7,267N±004×12762E±006,h58km±7km, h70km±4.3km:pP-P,n112,σ1°35/103,mb4.6/47,MS3.7/12, 8C-5D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**3.03**	**246**	P	**Pn**	**03 56 38.3**	**+0.8**
0.0nm,0.0s
LBMI Labuha 3.28 182 P **Pn 03 56 41.7 +0.8**
0.0nm,0.0s
DAV Davao City (W) 4.82 335 P **Pn 03 56 60.0 -2.1**
31nm,0.3s,baz=188,slow=16,SNR=2.9
DAV S **Sn 03 58 00.3 +3.6**
37nm,0.3s,baz=253,slow=19,SNR=3.8
DAV LR LR 03 58 53.6
comp=Z,255nm,20.5s,baz=259,slow=39
BUKP Musuan 5.77 334 *e*P **Pn 03 57 14.4 -0.7**
MSAI Masohi 6.11 168 P **Pn 03 57 28.8 +9.1**
0.0nm,0.0s
AAI Ambon 6.34 175 P **Pn 03 57 28.1 +5.3**
0.0nm,0.0s
PAGZ Pagadian 6.66 321 *e*P **Pn 03 57 24.7 -2.5**
IPIL Ipil 7.15 316 *e*P **Pn 03 57 31.3 -2.7**
KDI Kendari 8.26 217 P **Pn 03 57 50.2 +1.0**
0.0nm,0.0s
MYLDM Lahad Datu 9.43 286⇑P **Pn 03 58 06.4 +1.2**
TSM Tawau 9.86 280⇓P **Pn 03 58 10.1 -0.9**
SDKM Sandakan 10.81 286⇓P **Pn 03 58 24.6 +0.5**
KDM Kudat 11.54 292⇑P **Pn 03 58 37.3 +3.2**
KKM Kota Kinabalu 11.85 287⇓P **Pn 03 58 39.4 +1.1**
KKM Kota Kinabalu 11.85 287 *e*P **Pn 03 58 38.9 +0.5**
BATI Baumata 13.38 197 P **Pn 03 59 06.7 +7.6**
0.0nm,0.0s
BATI Baumata 13.38 197 P **Pn 03 59 03.7 +4.6**
4.2nm,0.3s,baz=306,slow=16,SNR=3.1
SBUM Sibu 15.38 270⇓P **Pn 03 59 26.1 +0.5**
KAKA Kakadu 16.01 163 *e*P **Pn 03 59 33.0 -0.5**
14nm,0.5s
IGBI Denpasar 16.87 227 P **Pn 03 59 48.8 +4.5**
0.0nm,0.0s
KSM Kuching 17.34 266⇓P **Pn 03 59 48.7 -1.4**
KSM Kuching 17.34 266 *e*P **Pn 03 59 50.6 +0.5**
GUMO Guam 20.21 57 P **P 04 00 23.9 +1.7**
39nm,0.8s,baz=149,slow=12,SNR=2.9
GUMO LR LR 04 06 34.0
comp=Z,190nm,18.0s,MS3.5,baz=274,slow=32
FITZ Fitzroy Crossi 20.73 185 *e*P **P 04 00 27.5 -0.3**
11nm,0.6s
FITZ Fitzroy Crossi 20.73 185 P **P 04 00 25.7 -2.1**
3.6nm,0.5s,baz=31,slow=13,SNR=20
COEN Coen 22.60 137 *e*P **P 04 00 49.7 +1.9**
4.6nm,0.7s,mb4.0
WRAB Tennant Creek 23.41 164 *e*P **P 04 00 55.4 -0.6**
WRAB pmax pmax
comp=Z,13nm,0.5s,mb4.6
WRAB Tennant Creek 23.41 164 *e*P **P 04 00 55.4 -0.5**
comp=Z,13nm,0.5s,mb4.6
WRA Warramunga Arr 23.42 164 P **P 04 00 55.0 -1.0**
comp=Z,9.5nm,0.3s,mb4.7,baz=333,slow=11,SNR=61
WRA PcP PcP 04 04 41.1 +0.1
comp=Z,0.5nm,0.4s,baz=338,slow=2.3,SNR=3.7
WB2 Warramunga Arr 23.42 164 *e*P **P 04 00 55.3 -0.7**
WB2 *e*S **S 04 05 08.5 +3.5**
KGM Kluang 24.29 269⇑P **P 04 01 03.5 -0.6**
MBWA Marble Bar 24.91 198 *e*P **P 04 01 09.5 -0.1**
comp=Z,15nm,0.5s,mb4.8
ASAR Alice Springs 26.88 167 P **P 04 01 27.0 -0.4**
comp=Z,1.9nm,0.5s,mb3.9,baz=351,slow=7.5,SNR=52
ASAR PcP PcP 04 04 48.8 0.0
comp=Z,1.8nm,0.6s,baz=1.1,slow=1.9,SNR=6.4
ASAR ScP ScP 04 08 25.1 +1.0
comp=Z,0.4nm,0.8s,baz=329,slow=1.1,SNR=2.7
ASAR Alice Springs 26.88 167 P **P 04 01 27.0 -0.4**
ASAR 04 04 48.8
CBIJ Chichi jima 28.01 29 LR LR 04 10 44.0
comp=Z,119nm,20.0s,MS3.5,baz=203,slow=32
CTA Charters Tower 29.09 142 LR LR 04 13 38.4
comp=Z,94nm,18.9s,MS3.4,baz=48,slow=37
NJ2 Nanjing 30.37 345 *e*P **P 04 02 01.3 +2.9**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.1
GYA Guiyang 31.05 322 P **P 04 02 07.0 +2.5**
GYA PP PP 04 03 12.0 -3.5
GYA S **S 04 07 07.6 +2.0**
GYA XS sS 04 07 38.3 +8.0
GYA SCP ScP 04 08 35.9 -1.4
GYA SCS ScS 04 12 31.4 -3.1
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
GYA AMB AMB
comp=Z,90nm,4.9s
GYA LR LR
comp=N,470nm,17.6s,MS4.4
GYA LR LR
comp=E,480nm,16.8s,MS4.4
GYA LR LR
comp=Z,480nm,16.5s,MS4.2
CMAR Chiang Mai Arr 32.17 301 P **P 04 02 11.1 -3.4**
comp=Z,1.4nm,0.3s,mb4.2,baz=122,slow=7.3,SNR=12
CMAR Chiang Mai Arr 32.17 301⇑ *e*P **P 04 02 13.0 -1.5**
CHTO Chiang Mai 32.33 302 *e*P **P 04 02 14.7 -1.1**
CHTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
CHTO Chiang Mai 32.33 302 *e*P **P 04 02 14.7 -1.2**
comp=Z,7.6nm,0.8s,mb4.6
KMI Kunming 32.75 315 P **P 04 02 24.8 +5.3**
KMI AP pP 04 02 37.8 +3.7
KMI XP sP 04 02 44.8 +3.9
KMI AMB AMB
comp=Z,11nm,0.7s,mb4.9
FORT Forrest 33.26 179 *e*P **P 04 02 23.1 -0.7**
comp=Z,11nm,0.5s,mb5.0
KSRS Korea Array 34.62 0 P **P 04 02 34.0 -1.5**
comp=Z,1.6nm,0.6s,mb4.1,baz=177,slow=10,SNR=8.8
KSRS LR LR 04 14 34.4
comp=Z,63nm,21.2s,MS3.3,baz=185,slow=32
MAT Matsushiro 35.10 15 P **P 04 02 42.0 +2.3**
MJAR Matsushiro Arr 35.10 15 P **P 04 02 37.8 -1.9**
comp=Z,2.0nm,0.7s,mb4.1,baz=186,slow=9.1,SNR=7.1
KLBR Kellerberrin 35.33 195 *e*P **P 04 02 41.3 -0.4**
comp=Z,6.9nm,0.3s,mb5.1
XAN Xi'an 35.76 333 P **P 04 02 45.0 -0.4**
XAN AMB AMB
comp=Z,13nm,1.0s,mb4.8
CD2 Chengdu 36.02 324 *e*P **P 04 02 49.0 +1.3**
CD2 AP pP 04 03 07.3 +4.9
CD2 XP sP 04 03 16.3 +7.1
CD2 PP PP 04 04 13.8 +3.3
CD2 S **S 04 08 23.0 +0.4**
CD2 XS sS 04 08 54.3 +6.8
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CD2 AMB AMB
comp=Z,20nm,5.2s
MUN Mundaring 36.12 197 *e*P **P 04 02 48.2 -0.2**
STKA Stephens Creek 36.83 160 *e*P **P 04 02 54.4 -0.1**
comp=Z,19nm,0.8s,mb5.0
STKA Stephens Creek 36.83 160 P **P 04 02 54.4 -0.1**
comp=Z,21nm,0.6s,mb5.2,baz=340,slow=8.2,SNR=38
STKA PcP PcP 04 05 15.6 +0.1
comp=Z,1.2nm,0.4s,baz=359,slow=7.0,SNR=2.8
STKA LR LR 04 18 21.4
comp=Z,126nm,19.5s,MS3.7,baz=26,slow=37
BJT Baijiatuan 38.60 346 *e*P **P 04 03 08.9 -0.5**
BJT *e*PP pP 04 03 18.3 -5.9
BJT pmax pmax
comp=Z,8.0nm,0.8s
BJT Baijiatuan 38.60 346 *e*P **P 04 03 08.9 -0.5**
comp=Z,8.3nm,0.8s,mb4.5
BJT *e*pP pP 04 03 18.3 -5.9
BJI Beijing 38.62 346 P **P 04 03 08.8 -0.8**
BJI AMB AMB
comp=Z,12nm,0.9s,mb4.6
LZH Lanzhou 39.86 329 *e*P **P 04 03 23.8 +3.8**
LZH PP PP 04 05 01.3 +8.7
LZH AMB AMB
comp=Z,25nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,73nm,5.4s
LZH LR LR
comp=N,507nm,14.0s
LZH LR LR
comp=Z,782nm,17.8s,MS4.6
ARMA Armidale 40.10 147 *e*P **P 04 03 23.0 +1.0**
HHC Hu-ho-hao-te 40.68 341 *e*P **P 04 03 28.5 +1.8**
HHC AP pP 04 03 46.4 +4.8
HHC PP PP 04 05 06.1 +4.7
HHC S **S 04 09 33.8 +1.2**
HHC XS sS 04 10 05.8 +7.9
HHC SCS ScS 04 13 23.3 -3.5
HHC AMB AMB
comp=Z,11nm,0.6s,mb4.7
HHC AMB AMB
comp=Z,131nm,10.1s
HHC LR LR
comp=N,170nm,22.6s,MS4.0
HHC LR LR
comp=E,185nm,22.6s,MS4.0
HHC LR LR
comp=Z,83nm,20.2s,MS3.6
CN2 Changchun 41.01 358 *e*P **P 04 03 32.8 +3.5**
MDJ Mudanjiang 41.81 2 P **P 04 03 36.1 +0.2**
MDJ AP pP 04 03 51.0 +0.2
MDJ XP sP 04 04 00.1 +2.5
MDJ AMB AMB
comp=Z,4.0nm,1.3s,mb3.9
MDJ AMB AMB
comp=Z,88nm,4.8s
TOO Toolangi 43.33 159 *e*P **P 04 03 52.2 +3.9**
ASAJ Asahikawa 43.36 16 LR LR 04 22 38.8
comp=Z,62nm,19.7s,MS3.5,baz=251,slow=37
LSA Lhasa 43.80 312 *e*P **P 04 03 53.1 +0.8**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
LSA Lhasa 43.80 312 *e*P **P 04 03 53.1 +0.8**
comp=Z,5.4nm,0.6s,mb4.5
GTA Gaotai 44.46 329 *e*P **P 04 03 58.8 +1.4**
GTA AP pP 04 04 17.5 +5.1
GTA XP sP 04 04 24.4 +5.2
GTA AMB AMB
comp=Z,5.0nm,0.9s,mb4.2
YSS Yuzh-Sakhalins 46.03 14 *e*P **P 04 04 11.7 +2.0**
YSS pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
HIA Hailar 46.91 353 *e*P **P 04 04 15.1 -1.4**
SONM Songino Array 48.58 341 P **P 04 04 29.0 -0.5**
comp=Z,1.4nm,0.5s,mb4.2,baz=156,slow=8.0,SNR=9.9
SONM LR LR 04 29 10.3
comp=Z,68nm,19.5s,MS3.6,baz=102,slow=41
WMQ Urumqi 54.10 325 *e*P **P 04 05 12.3 +1.4**
WMQ AP pP 04 05 31.0 +4.7
WMQ PP PP 04 07 16.3 +3.3
WMQ AMB AMB
comp=Z,11nm,0.8s,mb4.8
WMQ LR LR
comp=N,71nm,21.2s,MS3.8
WMQ LR LR
comp=E,46nm,24.0s,MS3.8
WMQ LR LR
comp=Z,61nm,20.0s,MS3.7
BOD Bodaibo 56.04 351 *e*P **P 04 05 22.7 -1.9**
BOD pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
HVS Khovu-Aksy 56.07 335 *e*P **P 04 05 26.7 +1.8**
HVS pmax pmax
comp=Z,24nm,1.3s,mb5.1
PETK Petropavlovsk- 56.08 21 P **P 04 05 24.5 -0.5**
comp=Z,4.4nm,0.8s,mb4.5,baz=218,slow=9.1,SNR=6.6
PETK LR LR 04 30 17.2
comp=Z,35nm,18.2s,MS3.5,baz=274,slow=37
PETK Petropavlovsk- 56.08 21 P **P 04 05 24.5 -0.5**
PETK LR LR 04 30 17.2
MK31 Makanchi Array 58.93 325 *e*P **P 04 05 45.1 0.0**
MKAR Makanchi Array 58.93 325 P **P 04 05 45.2 +0.1**
comp=Z,12nm,0.6s,mb5.1,baz=119,slow=8.2,SNR=86
MKAR Makanchi Array 58.93 325 P **P 04 05 45.2 +0.1**
YAK Yakutsk 59.24 1⇑ *e*P **P 04 05 45.0 -2.0**
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
TKM2 Tokmak 2 61.12 319 *e*P **P 04 06 00.7 +0.4**
TKM2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
TKM2 Tokmak 2 61.12 319 *e*P **P 04 06 00.7 +0.4**
comp=Z,8.9nm,1.1s,mb4.8
ZALV Zalesovo Beam 61.93 333 P **P 04 06 03.5 -2.0**
comp=Z,1.4nm,0.6s,mb4.2,baz=119,slow=5.8,SNR=5.8
ZALV Zalesovo Beam 61.93 333 P **P 04 06 03.5 -2.0**
ZAL Zalesovo 61.93 333 P **P 04 06 03.5 -2.0**
AML Almayashu 62.07 317 *e*P **P 04 06 07.5 +0.9**
comp=Z,6.8nm,0.8s,mb4.8
EKS2 Erkin-Say 62.23 318 *e*P **P 04 06 08.0 +0.3**
comp=Z,6.3nm,0.7s,mb4.8
KBL Kabul 62.87 308 *e*P **P 04 06 13.1 +0.9**
KBL pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
KBL Kabul 62.87 308 *e*P **P 04 06 13.1 +1.0**
comp=Z,4.6nm,0.6s,mb4.8
SEY Seymchan 62.87 12⇑ *e*P **P 04 06 12.0 +0.4**
KURK Kurchatov 63.11 327⇑ *e*P **P 04 06 12.9 -0.5**
KURK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KURK Kurchatov 63.11 327 *e*P **P 04 06 12.8 -0.6**
comp=Z,13nm,0.6s,mb5.2
NVS Novosibirsk 63.22 333 *e*P **P 04 06 11.5 -2.5**
BILL Bilibino 70.35 14 *e*P **P 04 07 01.9 +2.7**
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
MAW Mawson 83.07 200 P **P 04 08 11.4 +0.5**
comp=Z,4.4nm,0.7s,mb4.6,baz=72,slow=5.5,SNR=11
KIV Kislovodsk 84.51 314 *e*P **P 04 08 16.0 -2.8**
KIV pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
COLD Coldfoot 84.52 23 *e*P **P 04 08 19.3 +1.0**
comp=Z,6.4nm,0.9s,mb4.8
MCK McKinley 84.72 26 *e*P **P 04 08 18.8 -0.6**
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
MCK McKinley 84.72 26 *e*P **P 04 08 18.8 -0.6**
comp=Z,5.2nm,0.8s,mb4.7
DIV Divide 86.04 29 *e*P **P 04 08 26.3 +0.3**
comp=Z,11nm,0.9s,mb5.1
OBN Obninsk 88.44 325 *e*P **P 04 08 35.4 -2.3**
OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
ARCES ARCESS Array B 91.75 340 P **P 04 08 50.9 -2.0**
comp=Z,1.9nm,0.7s,mb4.6,baz=85,slow=6.6,SNR=16
WRAK Wrangell Island 93.34 33 *e*P **P 04 09 00.9 +0.4**
comp=Z,5.4nm,0.7s,mb5.1
RSSD Black Hills 114.48 38 *e*PKIKP PKiKP 04 14 24.3 -1.3
ULM Lac du Bonnet 115.46 29 PKP PKPdf 04 14 26.1 -1.3
comp=Z,0.6nm,0.4s,baz=326,slow=3.6,SNR=2.5
ANMO Albuquerque 117.07 48⇑ *i*PKIKP PKPdf 04 14 30.9 0.0
ESDC Sonseca Array 118.84 319 PKP PKPdf 04 14 31.5 -2.7
comp=Z,0.1nm,0.3s,baz=30,slow=15,SNR=6.0
TXAR Lajitas Array 121.54 53 PKP PKPdf 04 14 40.1 +0.5
comp=Z,0.4nm,0.6s,baz=237,slow=0.7,SNR=8.7
JCT Junction City 124.07 50 *e*PKIKP PKPdf 04 14 44.9 +0.4
TOA0 Torodi Ar. Sit 124.09 288 *e*PKPdf PKPdf 04 14 44.2 -0.7
TORD Torodi Ar. Bea 124.09 288 PKP PKPdf 04 14 44.4 -0.6
comp=Z,0.9nm,0.6s,baz=90,slow=1.8,SNR=20
TKL Tuckaleechee C 131.88 35 *e*PKIKP PKPdf 04 14 58.8 -0.5
PLCA Paso Flores 138.70 159 PKP PKPdf 04 15 12.6 +0.8
comp=Z,1.1nm,0.8s,baz=219,slow=7.7,SNR=4.1
LPAZ La Paz 159.43 132 PKP PKPdf 04 15 46.1 +1.2
comp=Z,1.0nm,0.8s,baz=218,slow=6.3,SNR=4.1
LPAZ PP PP 04 20 05.5 +1.9
comp=Z,1.2nm,0.3s,baz=255,slow=8.2,SNR=18

*NEIC **19** 04:12:14.2, 50.17N×177.49W, h10km, mb4.3/4, ML4.0(AEIC), After AEIC.*
*ISCJB **19** 04:12:15.2±0.4, 50.30N±006×177.64W±006, h32km, mb4.1/31, Error ellipse: s-maj=8.4km s-min=5.2km az=168.4*
*MOS **19** 04:12:15.5±1.1, 50.36N×177.61W, h33km, mb4.5/9, Error ellipse: s-maj=13.4km s-min=9.1km az=101.2*
*IDC **19** 04:12:16.9±0.8, 50.23N×177.64W, h32km±4km, mb3.9/22, mb1 4.1/23, mb1mx4.0/27, mbtmp3.9/23, ML4.0/1, Error ellipse: s-maj=17.7km s-min=12.3km az=175.0*
ISC 19 04:12:17.4±0.4,5033N±006×17763W±006,h34km, h34km±.8km:pP-P,n58,σ0°98/58,mb4.1/31,5C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.67**	**21**	P	**Pn**	**04 12 42.5**	**-1.7**
ADK S **Sn 04 13 04.1 -0.2**
AMKA Amchitka 2.21 300 P **Pn 04 12 50.7 -1.0**
AMKA S **Sn 04 13 18.0 +0.2**
NIKO Nikolski 6.07 61 P **Pn 04 13 42.2 -2.4**
FX1 Attu Island--F 6.28 298 P **Pn 04 13 46.4 -1.1**
PETK Petropavlovsk- 15.52 290 Pn **Pn 04 15 53.5 +0.2**
0.6nm,0.3s,baz=89,slow=17,SNR=15
KDAK Kodiak Island 16.42 53 Pn **Pn 04 16 00.4 -4.5**
0.7nm,0.3s,baz=277,slow=8.1,SNR=4.3
KDAK Sn **Sn 04 19 06.9 +1.1**
0.5nm,0.3s,baz=130,slow=22,SNR=7.6
SLKM Skilak Lake 18.45 46 *e*P **Pn 04 16 28.1 -2.0**
BILL Bilibino 19.46 342 *e*P **Pn 04 16 41.2 -1.0**
BILL pmax pmax
comp=Z,10.0nm,1.3s
KTH Kantishna Hill 19.49 37 *e*P **Pn 04 16 42.2 -0.3**
comp=Z,30nm,1.2s
MCK McKinley 20.35 38 *e*P **P 04 16 53.0 +2.5**
MCK pmax pmax
comp=Z,8.0nm,0.8s
MCK McKinley 20.35 38 *e*P **P 04 16 53.0 +2.6**
comp=Z,7.5nm,0.8s
SEY Seymchan 20.53 319⇑ *e*P **P 04 16 51.7 -0.7**
COLA College 21.31 36 *e*P **P 04 16 59.5 -1.3**
EGAK Eagle 23.88 39 *e*P **P 04 17 28.9 +1.6**
comp=Z,3.7nm,0.7s,mb3.9
YSS Yuzh-Sakhalins 26.18 278 *e*P **P 04 17 49.2 +0.8**
YSS pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
KLR Kul'dur 32.20 288 *e*P **P 04 18 37.3 -4.5**
MJAR Matsushiro Arr 34.38 264 PcP PcP 04 21 36.0 -0.2
comp=Z,0.8nm,0.8s,baz=87,slow=6.4,SNR=4.1
YKA Yellowknife Ar 35.43 46 P **P 04 19 10.4 +0.7**
comp=Z,0.8nm,0.5s,mb3.9,baz=275,slow=8.3,SNR=6.6
YKA pP pP 04 19 19.9 +0.3
comp=Z,1.0nm,0.5s,baz=277,slow=7.9,SNR=4.5
YKA Yellowknife Ar 35.43 46⇑ *e*P **P 04 19 10.6 +0.9**
YKA Yellowknife Ar 35.43 46 P **P 04 19 10.4 +0.7**
YKA pP pP 04 19 19.9 +0.3
YBH Yreka Blue Hor 38.30 81 P **P 04 19 35.3 +0.9**
comp=Z,0.6nm,0.7s,mb3.4,baz=298,slow=5.8,SNR=3.7
BOD Bodaibo 39.21 308 *e*P **P 04 19 40.8 -1.0**
BOD pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
HIA Hailar 39.38 294 *e*P **P 04 19 43.1 -0.2**
KSRS Korea Array 40.41 273 P **P 04 19 53.0 +0.9**
comp=Z,1.2nm,0.7s,mb3.8,baz=58,slow=8.6,SNR=8.6
KSRS Korea Array 40.41 273 P **P 04 19 53.0 +0.9**
KSRS pmax pmax
comp=Z,1.0nm,0.7s,mb3.6
NVAR Mina Array Bea 42.95 82 P **P 04 20 13.9 +1.1**
comp=Z,1.3nm,0.9s,mb3.7,baz=288,slow=8.3,SNR=6.6
TPNV Topopah Spring 45.14 83 *e*P **P 04 20 30.5 +0.1**
TPNV pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
TPNV Topopah Spring 45.14 83 *e*P **P 04 20 30.5 +0.1**
comp=Z,4.5nm,0.8s,mb4.3
PDAR Pinedale Array 45.93 72 P **P 04 20 36.5 -0.1**
comp=Z,0.8nm,0.8s,mb3.7,baz=337,slow=3.4,SNR=5.7
SONM Songino Array 47.79 298 P **P 04 20 51.8 +0.8**
comp=Z,1.4nm,0.8s,mb4.0,baz=43,slow=10,SNR=6.6
SONM PcP PcP 04 22 20.2 +0.8

comp=Z,1.1nm,0.7s,baz=56,slow=3.3,SNR=5.2
ZAK Zakamensk 48.14 302 ⇓*i*P **P 04 20 54.9 +1.2**
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
SPITS Spitsbergen Ar 51.48 356 P **P 04 21 19.6 +0.9**
comp=Z,2.1nm,0.5s,mb4.3,baz=76,slow=8.2,SNR=4.8
ANMO Albuquerque 52.58 78 *e*P **P 04 21 25.9 -1.6**
HVS Khovu-Aksy 52.74 308 *e*P **P 04 21 30.2 +1.8**
HVS pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
ZALV Zalesovo Beam 55.30 315 P **P 04 21 46.7 -0.3**
comp=Z,0.6nm,0.3s,mb4.1,baz=38,slow=9.7,SNR=2.4
ZAL Zalesovo 55.31 315 P **P 04 21 46.7 -0.4**
TXAR Lajitas Array 58.08 81 P **P 04 22 06.2 -1.0**
comp=Z,0.9nm,0.9s,mb3.8,baz=305,slow=4.7,SNR=9.0
TXAR pP pP 04 22 16.4 -1.1
comp=Z,0.4nm,0.7s,baz=302,slow=4.9,SNR=4.1
TXAR PcP PcP 04 22 59.3 +0.6
comp=Z,0.8nm,0.8s,baz=301,slow=3.6,SNR=5.4
ARCES ARCESS Array B 59.25 351 P **P 04 22 14.6 -0.1**
comp=Z,1.2nm,0.5s,mb4.2,baz=30,slow=7.9,SNR=19
ARCES pP pP 04 22 24.4 -0.6
comp=Z,1.0nm,0.6s,baz=22,slow=8.5,SNR=2.0
ARCES ARCESS Array B 59.25 351 P **P 04 22 14.6 -0.1**
ARCES pP pP 04 22 24.4 -0.6
KURK Kurchatov 60.29 315⇑ *e*P **P 04 22 21.7 -0.4**
KURK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
SCHQ Schefferville 60.37 38 P **P 04 22 23.4 +0.9**
comp=Z,3.0nm,0.8s,mb4.4,baz=233,slow=5.1,SNR=3.1
MKAR Makanchi Array 61.27 310 P **P 04 22 28.7 -0.1**
comp=Z,0.6nm,0.6s,mb3.9,baz=58,slow=9.3,SNR=4.8
MKAR Makanchi Array 61.27 310⇑ *e*P **P 04 22 29.7 +0.8**
BVAR Borovoye Array 62.17 321 P **P 04 22 35.2 +0.4**
comp=Z,5.5nm,0.7s,mb4.8,baz=52,slow=6.7,SNR=21
BVAR pP pP 04 22 45.9 +0.7
comp=Z,1.7nm,0.5s,baz=38,slow=7.5,SNR=5.3
NB2 NORSAR Subarra 68.76 355 P **P 04 23 18.1 +0.9**
comp=Z,0.9nm,0.6s,mb3.9,baz=7.1,slow=6.5
NOA NORSAR Array B 68.76 355 P **P 04 23 18.1 +0.9**
comp=Z,1.7nm,0.8s,mb4.1,baz=6.3,slow=6.3,SNR=5.9
NOA pP pP 04 23 27.4 -0.4
comp=Z,0.5nm,0.5s,baz=342,slow=4.9,SNR=3.2
OBN Obninsk 71.12 340 *e*P **P 04 23 32.2 +0.4**
OBN pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CMAR Chiang Mai Arr 71.87 277 P **P 04 23 36.1 -0.8**
comp=Z,0.8nm,0.3s,mb4.1,baz=21,slow=7.7,SNR=5.6
AKASG Malin Array Be 76.78 343 P **P 04 24 05.5 +0.6**
comp=Z,1.7nm,0.6s,mb4.2,baz=25,slow=5.9,SNR=4.8
KIV Kislovodsk 79.75 332⇑ *e*P **P 04 24 22.3 +0.8**
KIV pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
GERES GERESS Array B 80.73 352 P **P 04 24 27.4 +0.7**
comp=Z,0.5nm,0.9s,mb3.4,baz=57,slow=4.9,SNR=4.2
WRA Warramunga Arr 81.78 225 P **P 04 24 31.5 -1.0**
comp=Z,4.8nm,1.3s,mb4.3,baz=36,slow=5.1,SNR=4.1
FITZ Fitzroy Crossi 84.41 233 P **P 04 24 46.1 0.0**
comp=Z,2.1nm,0.5s,mb4.5,baz=72,slow=4.7,SNR=5.9
ASAR Alice Springs 85.22 224 P **P 04 24 49.0 -1.1**
comp=Z,0.8nm,0.7s,mb4.0,baz=24,slow=6.3,SNR=5.1
STKA Stephens Creek 89.45 214 P **P 04 25 09.9 -0.4**
comp=Z,3.4nm,0.8s,mb4.8,baz=351,slow=4.8,SNR=7.3
ESDC Sonseca Array 90.21 5 P **P 04 25 14.3 +0.2**
comp=Z,0.4nm,0.6s,mb3.9,baz=352,slow=4.2,SNR=3.5
TORD Torodi Ar. Bea 116.80 1 PKP PKPdf 04 30 57.2 -1.1
comp=Z,0.2nm,0.6s,baz=334,slow=2.5,SNR=4.7
MAW Mawson 146.09 217 PKPbc PKPbc 04 31 51.9 -0.4
comp=Z,1.5nm,0.5s,baz=81,slow=3.7,SNR=7.3

IDC 19 04:16:23.9±4.2, 799S×12372E, h250km±29km, mb3.4/1, mb1 3.7/5, mb1mx3.2/16, mbtmp3.5/5, Error ellipse: s-maj=105.6km s-min=47.9km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.20**	**181**	P	Pn	04 17 08.2	-0.1
79nm,0.3s,baz=9.2,slow=2.6,SNR=61							
BATI				S	S	04 17 43.9	+0.6
166nm,0.3s,baz=93,slow=18,SNR=21							
FITZ	**Fitzroy Crossi**	**10.22**	**170**	P	Pn	04 18 44.3	-1.0
0.2nm,0.3s,baz=6.0,slow=12,SNR=9.9							
FITZ				S	S	04 20 40.2	+0.1
1.0nm,0.3s,baz=230,slow=21,SNR=7.5							
WRA	**Warramunga Arr**	**15.71**	**140**	P	Pn	04 19 50.8	-1.9
1.4nm,0.3s,baz=314,slow=13,SNR=26							
WRA				S	S	04 22 45.4	+1.2
0.2nm,0.3s,baz=317,slow=24,SNR=4.6							
ASAR	**Alice Springs**	**18.39**	**149**	P	P	04 20 21.6	+0.8
0.9nm,0.3s,baz=335,slow=14,SNR=71							
STKA	**Stephens Creek**	**29.01**	**147**	P	P	04 22 00.9	+0.1
0.6nm,0.3s,baz=326,slow=8.9,SNR=5.1							

TAP 19 04:22:37.1, 2143N×12233E, h149km±1km, ML3.9, Taiwan region

*NEIC **19** 04:32:58.5, 5845N×13664W, h5km, ML2.6(AEIC), ML2.9(PGC), After PGC.*
PGC 19 04:32:58.5, 5845N×13664W, h5km, ML2.9, 3D, 109km Wsw of Haines, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**1.02**	**8**	⇓Pn	Pn	04 33 16.3	-3.0
PLBC				⇓Sg	Sg	04 33 31.1	-0.1
SKAG	**Skagway**	**1.22**	**33**	P	Pg	04 33 20.9	-0.9
SKAG				S	Sg	04 33 39.0	+1.4
SIT	**Sitka**	**1.57**	**153**	P	Pn	04 33 22.7	-4.2
SIT				S	Sn	04 33 43.2	-4.3
YKU2	**Yakutat**	**1.90**	**305**	P	Pn	04 33 26.7	-4.8
WHY	**Whitehorse**	**2.39**	**21**	⇑Pn	Pn	04 33 38.3	+0.1
WHY				⇑Sg	Sg	04 34 14.5	-0.6
WHY	**Whitehorse**	**2.39**	**21**	P	Pn	04 33 37.6	-0.6
WHY				S	Sn	04 34 09.5	+1.7
HYT	**Haines Junctio**	**2.42**	**350**	⇑Pn	Pn	04 33 37.8	-0.8
HYT	**Haines Junctio**	**2.42**	**350**	*e*Pn	Pn	04 33 37.9	-0.8
HYT				*e*Sg	Sg	04 34 12.1	-4.0
WRAK	**Wrangell Islan**	**3.09**	**129**	P	Pn	04 33 44.8	-3.0
DLBC	**Dease Lake**	**3.48**	**87**	⇑Pn	Pn	04 33 53.2	+0.1
DLBC				⇓Pg	Pg	04 34 01.6	-3.3
DLBC				⇑Sg	Sg	04 34 48.3	-1.7
CRAG	**Craig**	**3.56**	**146**	*e*Pg	Pg	04 34 00.6	-6.0
RAGM	**Ragged Mountai**	**4.54**	**299**	*e*Pn	Pn	04 34 03.5	-4.2
DAWY	**Dawson**	**5.79**	**348**	⇑Pn	Pn	04 34 24.4	-0.5

*IDC **19** 05:06:22.1±0.7, 1356S×7661W, h0km, mb4.2/10, mb1 4.3/13, mb1mx4.2/19, mbtmp4.2/13, ML4.7/2, MS3.3/8, Ms1 3.3/8, ms1mx3.2/23, Error ellipse: s-maj=29.8km s-min=12.9km az=72.0*
*ISCJB **19** 05:06:23.7±3.0, 1362S±006×7677W±0.1, h24km±21km, mb4.3/17, MS3.2/3, Error ellipse: s-maj=20.8km s-min=6.4km az=159.1*
*NEIC **19** 05:06:25.2±0.4, 1360S×7669W, mb4.6/7, Error ellipse: s-maj=13.9km s-min=6.4km az=59.0*
*MOS **19** 05:06:25.9±1.3, 1357S×7667W, h33km, mb4.6/3, Error ellipse: s-maj=31.3km s-min=14.9km az=41.9*
ISC 19 05:06:25.4±2.9, 1359S±006×766W±01, h21km±21km, h20km±∞7km: pP-P, n45, σ0°97/43, mb4.3/17, MS3.2/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.61**	**352**	Pn	Pn	05 06 51.2	-1.5
269nm,0.3s,baz=184,slow=13,SNR=385							
NNA				Sn	Sn	05 07 11.8	-1.1
906nm,0.3s,baz=210,slow=15,SNR=29							
ARE	**Arequipa**	**5.71**	**121**	*e*P	Pn	05 07 51.0	+2.0
ARE				*e*S	Sn	05 09 12.0	+18
ATAH	**Atahualpa**	**6.78**	**345**	Pn	Pn	05 08 03.9	+0.1
4.8nm,0.3s,baz=146,slow=5.7,SNR=26							
ATAH				Sn	Sn	05 09 20.8	+0.3
baz=84,slow=18,SNR=1.3							
ATAH				LR	LR	05 11 04.9	
comp=Z,166nm,19.8s,baz=360,slow=43							
LPAZ	**La Paz**	**8.62**	**109**	Pn	Pn	05 08 33.0	+4.0
0.9nm,0.3s,baz=308,slow=13,SNR=22							
LPAZ				LR	LR	05 12 29.7	
comp=Z,270nm,21.5s,baz=257,slow=43							
LPAZ	**La Paz**	**8.62**	**109**	Pn	Pn	05 08 33.0	+4.0
LPAZ				LR	LR	05 12 29.7	
LVC	**Limon Verde**	**11.57**	**142**	Pn	Pn	05 09 08.2	-1.2
2.5nm,0.3s,baz=308,slow=10,SNR=20							
LVC				Sn	Sn	05 11 14.3	-3.8
0.3nm,0.3s,baz=81,slow=9.4,SNR=2.8							
LVC				LR	LR	05 13 20.4	
comp=Z,414nm,19.4s,baz=309,slow=36							
OTAV	**Otavalo**	**13.86**	**352**	*e*Pn	Pn	05 09 41.8	+1.0
8.6nm,0.8s							
SIV	**San Ignacio**	**15.21**	**101**	Pn	Pn	05 09 57.9	-1.1
0.3nm,0.3s,baz=275,slow=16,SNR=8.1							
ROSC	**El Rosal**	**18.47**	**7**	P	Pn	05 10 42.6	+2.4
baz=99,slow=20,SNR=4.9							
ROSC				LR	LR	05 18 45.3	
comp=Z,253nm,21.5s,baz=200,slow=40							
CFAA	**Coronel Fontan**	**19.50**	**158**	P	Pn	05 10 51.8	-0.8
CFAA				LR	LR	05 17 13.1	
comp=Z,18nm,19.6s,baz=329,slow=33							
SDV	**Santo Domingo**	**23.11**	**15**	P	P	05 11 30.3	+0.1
11nm,0.7s,mb4.4,baz=203,slow=14,SNR=9.9							
PCRV	**Puerto La Cruz**	**26.44**	**27**	LR	LR	05 21 37.1	
comp=Z,85nm,20.5s,MS3.3,baz=233,slow=35							
PLCA	**Paso Flores**	**27.55**	**170**	P	P	05 12 10.5	-0.3
3.8nm,0.7s,mb4.2,baz=344,slow=10,SNR=18							
PLCA				LR	LR	05 20 20.1	
comp=Z,80nm,21.7s,MS3.3,baz=6.5,slow=30							
BDFB	**Brasilia**	**27.73**	**98**	LR	LR	05 23 12.5	
comp=Z,55nm,18.9s,MS3.2,baz=77,slow=36							
USHA	**Ushuaia**	**41.64**	**173**	P	P	05 14 12.2	+0.2
8.0nm,1.1s,mb4.3,baz=304,slow=7.3,SNR=3.0							
TXAR	**Lajitas Array**	**50.04**	**329**	P	P	05 15 18.9	+0.3
0.7nm,0.8s,mb3.8,baz=152,slow=9.3,SNR=9.5							
TXAR	**Lajitas Array**	**50.04**	**329**	P	P	05 15 18.9	+0.3
OLIL	**Olney**	**53.15**	**349**	*e*P	P	05 15 39.4	-2.3
25nm,1.4s,mb5.0							
SDCO	**Great Sand Dun**	**57.83**	**333**	*e*P	P	05 16 15.4	0.0
4.3nm,1.3s,mb4.3							
PV01	**Paradox Valley**	**59.54**	**331**	*e*P	P	05 16 28.2	+0.9
DUG	**Dugway**	**63.20**	**330**	*e*P	P	05 16 53.3	+1.2
DUG				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.6							
DUG	**Dugway**	**63.20**	**330**	*e*P	P	05 16 53.3	+1.2
comp=Z,5.1nm,1.1s,mb4.6							
HWUT	**Hardware Ranch**	**63.70**	**331**	*e*P	P	05 16 55.4	+0.1
comp=Z,2.8nm,0.6s,mb4.5							
PDAR	**Pinedale Array**	**63.71**	**333**	P	P	05 16 55.6	+0.2
comp=Z,0.6nm,0.6s,mb3.8,baz=113,slow=8.4,SNR=6.1							
AGMN	**Agassiz Refuge**	**63.95**	**346**	*e*P	P	05 16 56.0	-0.8
comp=Z,5.8nm,0.7s,mb4.7							
AGMN				*e*pP	pP	05 17 02.4	-1.3
NVAR	**Mina Array Bea**	**64.81**	**325**	P	P	05 17 03.4	+0.7
comp=Z,0.9nm,0.7s,mb3.9,baz=142,slow=7.2,SNR=5.9							
ULM	**Lac du Bonnet**	**65.78**	**347**	P	P	05 17 07.8	-0.9
comp=Z,7.1nm,0.6s,mb4.8,baz=157,slow=5.2,SNR=14							
ULM	**Lac du Bonnet**	**65.78**	**347**	P	P	05 17 07.8	-0.9
BOZ	**Bozeman (W)**	**66.91**	**334**	*e*P	P	05 17 16.2	+0.1
BOZ				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.1							
BOZ	**Bozeman (W)**	**66.91**	**334**	*e*P	P	05 17 16.2	+0.1
comp=Z,2.0nm,1.1s,mb4.1							
VNA1	**Neumayer--Stat**	**70.14**	**161**	*e*	P	05 17 37.2	+1.3
VNA1				*e*		05 17 38.3	
VNA1				*e*	pP	05 17 42.7	-0.1
OD2	**Odessa Site #2**	**71.41**	**331**	*e*P	P	05 17 43.8	-0.1
OD2				*e*pP	pP	05 17 49.8	-1.1
SNAA	**Sanae**	**72.09**	**161**	*e*	P	05 17 47.9	+0.2
SNAA				*e*		05 17 48.7	
SNAA				*e*	pP	05 17 54.3	-0.3
SNAA	**Sanae**	**72.09**	**161**	*e*P	P	05 17 47.8	+0.1
SNAA				*e**PP	pP	05 17 54.1	-0.5
SNAA				pmax	pmax		
comp=Z,6.0nm,0.9s							
SNAA	**Sanae**	**72.09**	**161**	*e*P	P	05 17 47.8	+0.1
comp=Z,6.0nm,0.9s,mb4.5							
SNAA				*e*pP	pP	05 17 54.1	-0.6
EDM	**Edmonton**	**73.63**	**338**	*e*P	P	05 17 56.3	-0.7
DBIC	**Dimbokro**	**74.01**	**79**	P	P	05 18 00.5	+0.4
comp=Z,2.4nm,0.5s,mb4.3,baz=209,slow=4.8,SNR=3.4							
DBIC	**Dimbokro**	**74.01**	**79**	P	P	05 18 00.5	+0.4
YKA	**Yellowknife Ar**	**81.44**	**343**	P	P	05 18 39.9	-0.5
comp=Z,1.0nm,0.8s,mb3.8,baz=131,slow=4.3,SNR=5.4							
YKA	**Yellowknife Ar**	**81.44**	**343**	P	P	05 18 39.9	-0.5
TORD	**Torodi Ar. Bea**	**82.00**	**74**	P	P	05 18 44.9	+0.4
comp=Z,1.9nm,0.9s,mb4.0,baz=264,slow=3.1,SNR=10							
ASAR	**Alice Springs**	**132.44**	**219**	PKP	PKPdf	05 25 40.3	+1.3
comp=Z,0.2nm,0.4s,baz=116,slow=2.5,SNR=3.5							
WRA	**Warramunga Arr**	**134.86**	**223**	PKP	PKPdf	05 25 43.5	-0.1
comp=Z,0.3nm,0.4s,baz=146,slow=1.8,SNR=5.9							
SONM	**Songino Array**	**145.77**	**356**	PKPbc	PKPbc	05 26 03.3	+0.4
comp=Z,1.7nm,0.6s,baz=337,slow=2.6,SNR=11							
KSRS	**Korea Array**	**147.71**	**322**	PKPbc	PKPbc	05 26 08.1	-0.8
comp=Z,1.2nm,0.7s,baz=57,slow=2.1,SNR=8.3							

*ISCJB **19** 05:55:57.7±0.8, 99S±0.1×1598E±02, h10km, mb4.2/12, MS3.4/3, Error ellipse: s-maj=30.5km s-min=7.5km az=36.2*
*IDC **19** 05:55:57.0±1.8, 983S×1599OE, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.2/15, mbtmp4.1/10, ML3.7/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/20, Error ellipse: s-maj=54.8km s-min=10.6km az=110.0*
*NEIC **19** 05:55:59.5±0.7, 996S×1597OE, h10km, mb4.7/2, Error ellipse: s-maj=23.9km s-min=7.1km az=123.0*
ISC 19 05:55:58.3±2.3, 100S±01×1598E±02, h1km±13km, n18, σ0°53/18, mb4.2/12, MS3.4/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.59**	**20**	Pn	Pg	05 56 09.5	-0.1
5μm,0.3s,baz=238,slow=1.2,SNR=262							
HNR				Sn	Sg	05 56 17.2	0.0
12μm,0.3s,baz=193,slow=3.5,SNR=172							
CTA	**Charters Tower**	**16.44**	**231**	Pn	Pn	05 59 51.0	+0.6
0.2nm,0.3s,baz=139,slow=21,SNR=2.3							
CTA				LR	LR	06 05 35.5	
comp=Z,255nm,18.4s,baz=53,slow=35							
CTA	**Charters Tower**	**16.44**	**231**	Pn	Pn	05 59 51.0	+0.6
CTA				LR	LR	06 05 35.5	
WRAB	**Tennant Creek**	**26.42**	**245**	*e*P	P	06 01 36.7	0.0
12nm,0.9s,mb4.5							
WB2	**Warramunga Arr**	**26.42**	**245**	*e*P	P	06 01 36.8	0.0
WRA	**Warramunga Arr**	**26.43**	**245**	P	P	06 01 37.3	+0.5
9.1nm,0.9s,mb4.4,baz=71,slow=9.7,SNR=23							
STKA	**Stephens Creek**	**27.51**	**215**	P	P	06 01 45.5	-0.9
0.9nm,0.4s,mb3.9,baz=62,slow=15,SNR=4.4							
STKA				LR	LR	06 12 42.5	
comp=Z,180nm,19.1s,MS3.7,baz=24,slow=36							
GUMO	**Guam**	**27.69**	**328**	LR	LR	06 10 42.0	
comp=Z,71nm,18.7s,MS3.3,baz=107,slow=32							
ASAR	**Alice Springs**	**28.16**	**238**	P	P	06 01 51.9	-0.5
1.5nm,0.4s,mb4.2,baz=62,slow=10,SNR=38							
KSRS	**Korea Array**	**55.83**	**330**	P	P	06 05 37.0	-0.3
0.7nm,0.6s,mb3.9,baz=148,slow=7.4,SNR=4.3							
KSRS				LR	LR	06 26 23.8	
comp=Z,16nm,19.7s,MS3.1,baz=140,slow=33							
PETK	**Petropavlovsk-**	**62.87**	**359**	P	P	06 06 25.4	-0.3
2.4nm,0.8s,mb4.4,baz=157,slow=7.4,SNR=4.3							
CMAR	**Chiang Mai Arr**	**66.31**	**295**	P	P	06 06 48.9	0.0
0.6nm,0.3s,mb4.3,baz=137,slow=5.0,SNR=4.5							
SONM	**Songino Array**	**74.41**	**326**	P	P	06 07 38.7	+0.8
1.0nm,0.6s,mb4.0,baz=146,slow=5.8,SNR=6.3							
SLKM	**Skilak Lake**	**80.60**	**23**	*e*P	P	06 08 04.2	-8.0
MCK	**McKinley**	**83.13**	**20**	*e*P	P	06 08 24.8	-0.8
4.9nm,0.8s,mb4.8							
MAW	**Mawson**	**83.45**	**203**	P	P	06 08 27.4	+0.1
1.7nm,0.7s,mb4.4,baz=112,slow=6.3,SNR=3.9							
MKAR	**Makanchi Array**	**88.75**	**318**	P	P	06 08 53.6	-0.1
0.8nm,0.6s,mb4.1,baz=91,slow=6.3,SNR=8.0							
NVAR	**Mina Array Bea**	**89.90**	**51**	P	P	06 09 00.5	+1.1
0.3nm,0.4s,mb3.8,baz=221,slow=9.5,SNR=3.6							

IDC 19 06:06:50.3±3.9, 981S×15991E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/15, mbtmp3.8/6, MS3.6/1, Ms1 3.6/1, ms1mx2.6/25, Error ellipse: s-maj=104.4km s-min=12.7km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.38**	**5**	Pn	Pg	06 07 03.0	+5.4
148nm,0.3s,baz=253,slow=2.6,SNR=64							
HNR				Sn	Sg	06 07 10.8	+8.4
470nm,0.3s,baz=75,slow=20,SNR=56							
CTA	**Charters Tower**	**16.68**	**231**	Pn	Pn	06 10 49.3	+3.7
0.1nm,0.3s,baz=36,slow=13,SNR=2.9							
WRA	**Warramunga Arr**	**26.65**	**245**	P	P	06 12 30.0	-1.0
2.0nm,0.8s,baz=70,slow=9.6,SNR=7.1							
ASAR	**Alice Springs**	**28.39**	**238**	P	P	06 12 45.0	-1.6
0.4nm,0.9s,baz=69,slow=10.0,SNR=3.4							
JHJ	**Hachijo jima 2**	**46.80**	**337**	LR	LR	06 30 07.5	
comp=Z,76nm,21.7s,baz=169,slow=30							
KSRS	**Korea Array**	**55.76**	**329**	P	P	06 16 29.8	+0.8
1.0nm,0.9s,baz=145,slow=7.2,SNR=4.9							
CMAR	**Chiang Mai Arr**	**66.38**	**295**	P	P	06 17 43.0	+1.4
0.8nm,0.4s,baz=103,slow=3.9,SNR=3.1							
SONM	**Songino Array**	**74.35**	**326**	P	P	06 18 31.4	+1.7
0.5nm,0.8s,baz=116,slow=3.4,SNR=3.7							
MKAR	**Makanchi Array**	**88.73**	**318**	P	P	06 19 46.0	+0.1
0.4nm,0.9s,baz=104,slow=6.1,SNR=3.6							

*ISCJB **19** 06:18:32.7±1.1, 4214N±005×7319E±006, h10km, Error ellipse: s-maj=8.2km s-min=6.0km az=24.2*
*NNC **19** 06:18:34.7±1.7, 4229N×7321E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=19.4km s-min=7.2km az=169.0*
*KNET **19** 06:18:36.3±0.3, 4217N×7338E, h12km, ml2.9, Error ellipse: s-maj=2.0km s-min=0.9km az=77.0*
ISC 19 06:18:34.1±1.1, 4213N±005×7321E±005, h10km, n14, σ1°16/24, 16C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.36**	**90**	⇓P	Pg	06 18 41.5	+0.4
276nm,0.1s,SNR=194							
AML				⇓S	Sg	06 18 46.1	+0.1
1μm,0.2s							
EKS2	**Erkin-Say**	**0.68**	**38**	P	Pg	06 18 47.7	+0.6
39nm,0.1s,SNR=139							
EKS2				⇑S	Sg	06 18 56.5	+0.5
242nm,0.2s							
KBK	**Karagaybulak**	**1.39**	**67**	⇑P	Pn	06 19 00.4	+0.9
60nm,0.1s,SNR=16							
CHMS	**Chumysh**	**1.43**	**52**	⇑P	Pg	06 19 01.2	-0.3
39nm,0.2s,SNR=27							
CHMS				⇑S	Sg	06 19 20.2	+0.1
87nm,0.2s							
USP	**Ospenovka**	**1.48**	**40**	⇑P	Pg	06 19 02.1	-0.4
77nm,0.2s,SNR=154							
USP				⇓S	Sg	06 19 21.7	0.0
156nm,0.1s							
KZA	**Kyzart**	**1.52**	**91**	⇑P	Pg	06 19 02.5	-0.7
91nm,0.3s,SNR=56							
KZA				⇓S	Sg	06 19 22.9	0.0
243nm,0.2s							
TKM2	**Tokmak 2**	**1.93**	**65**	⇑P	Pg	06 19 09.8	-1.4
117nm,0.2s,SNR=276							
TKM2				⇑S	Sg	06 19 35.5	-0.7
107nm,0.2s							
KK31	**Karatay Array**	**2.22**	**297**	⇑Pn	Pn	06 19 14.4	+3.6
10nm,0.2s,baz=114,slow=12,SNR=474							
KK31				Lg		06 19 45.1	
32nm,0.3s,baz=115,slow=27,SNR=12							
MK31	**Makanchi Array**	**7.99**	**51**	⇓Pn	Pn	06 20 33.6	+3.5
1.2nm,0.3s,baz=241,slow=12,SNR=34							
MK31				⇑Sn	Sn	06 22 07.2	+6.6
1.0nm,0.6s							
MK31				⇑Lg		06 22 43.0	
2.0nm,0.5s							
KURBB	**Kurchatov Arra**	**9.25**	**22**	⇓Pn	Pn	06 20 47.9	+0.5
0.3nm,0.9s							
KURBB				⇑Sn	Sn	06 22 35.2	+3.7
0.5nm,0.6s							
KURBB				⇑Lg		06 23 25.9	
2.4nm,0.8s							
KURK	**Kurchatov**	**9.36**	**22**	⇓Sn	Sn	06 22 36.6	+2.4
0.9nm,0.5s							
KURK				⇓Lg		06 23 25.8	
4.6nm,0.6s							
VOSK	**Vostochnaya**	**10.70**	**353**	⇓Pn	Pn	06 21 05.2	-2.1
0.5nm,0.3s							
VOSK				⇑Sn	Sn	06 23 03.0	-4.0
2.7nm,1.2s							
VOSK				⇑Lg		06 24 08.1	
5.9nm,0.8s							
BVA0	**Borovoye Array**	**11.06**	**351**	⇓Pn	Pn	06 21 08.7	-3.5
0.2nm,0.5s							
BVA0				⇓Sn	Sn	06 23 13.9	-2.0
0.3nm,0.7s							
BVA0				⇓Lg		06 24 18.1	
1.1nm,0.9s							
AB31	**Akbulak array**	**11.69**	**312**	⇑Pn	Pn	06 21 21.3	+0.6
1.1nm,0.6s,baz=118,slow=13,SNR=26							

*ISCJB **19** 06:21:17.0±0.8, 3274N±004×477E±0.1, h10km, Error ellipse: s-maj=16.7km s-min=6.2km az=174.9*
*THR **19** 06:21:22.2±0.3, 3282N×4812E, h18km±3km, ML2.8*
*CSEM **19** 06:21:22.2, 3282N×4812E, h18km, ML2.8, After THR*
ISC 19 06:21:18.3±1.9, 3267N±006×477E±02, h1km±18km, n7, σ1°24/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.08**	**121**	*e*Pg	Pg	06 21 39.4	+0.4
SHGR				AML	AML	06 21 59.4	
comp=N,392nm,0.7s							
SNGE	**Sanandaj**	**2.44**	**353**	*e*Pn	Pn	06 22 02.2	+2.9
SNGE				*e*Sg	Sg	06 22 36.2	-0.4
ASAO	**Ashtian**	**2.69**	**45**	*e*Pn	Pn	06 22 02.0	-0.7
ASAO				AML	AML	06 22 46.4	
comp=E,39nm,0.5s							
ASAO	**Ashtian**	**2.69**	**45**	*e*Pn	Pn	06 22 02.0	-0.7
SNR=52							
MIB	**Mutribah**	**2.88**	**187**	*e*P	Pn	06 22 05.0	-0.3
baz=192							
MIB

ISC 19 06:45:09.6±1.0,3994N±008×292W±02,h10km,n10,σ1°49/11,mb3.5/3,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**1.25**	**136**	*eP*	**Pn**	**06 45 34.3**	**+1.3**
SRBC				*eS*	**Sb**	**06 45 47.7**	**-1.5**
CALA	**Caldeira**	**1.40**	**165**	*eP*	**Pn**	**06 45 38.0**	**+2.8**
CALA				*eS*	**Sn**	**06 45 54.4**	**+0.7**
ROSA	**Rosais**	**1.41**	**150**	*eP*	**Pn**	**06 45 36.3**	**+1.0**
HOR	**Horta**	**1.47**	**164**	*eP*	**Sn**	**06 45 55.4**	**+0.1**
PICO	**Pico**	**1.54**	**158**	*eS*	**Sn**	**06 45 57.2**	**0.0**
PMAN	**Manadas**	**1.54**	**147**	*eP*	**Sn**	**06 45 55.1**	**-2.1**
NOA	**NORSAR Array B**	**32.47**	**36**	LR	LR	07 03 17.7	
	comp=Z,23nm,19.5s,baz=280,slow=34						
PDAR	**Pinedale Array**	**58.20**	**301**	P	**P**	**06 55 01.4**	**-2.4**
	0.4nm,0.8s,mb3.5,baz=57,slow=6.6,SNR=3.3						
TXAR	**Lajitas Array**	**60.60**	**285**	P	**P**	**06 55 18.9**	**-1.6**
	0.3nm,0.6s,mb3.6,baz=67,slow=6.7,SNR=4.4						
MKAR	**Makanchi Array**	**74.25**	**42**	P	**P**	**06 56 48.1**	**+1.5**
	0.3nm,0.7s,mb3.3,baz=321,slow=5.7,SNR=3.7						

MAN 19 06:51:09,1316N×12183E,h29km,mb4.3,ML3.1,MS3.1,2C-2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.81**	**167**	*eP*	Pn	06 51 25.2	+0.7
OTRP				*eS*	Sb	06 51 37.4	+2.2
GQP	**Guinayangan**	**0.95**	**39⇓**	*eP*	Pn	06 51 25.9	-0.6
GQP				*eS*	Sn	06 51 39.7	+0.6
SJMP	**San Jose**	**0.98**	**225**	*eP*	Pn	06 51 27.4	+0.6
SJMP				*eS*	Sn	06 51 44.5	+4.8
TGY	**Tagaytay City**	**1.28**	**317⇓**	*eP*	Pn	06 51 32.6	+1.6
KALP	**Kalibo**	**1.55**	**161⇑**	*eP*	Sn	06 51 56.6	+2.7
POLP	**Polilio Island**	**1.56**	**4**	*eP*	Pn	06 51 35.7	+0.9
POLP				*eS*	Sn	06 51 57.4	+3.2
LUBP	**Lubang**	**1.64**	**291**	*eP*	Pn	06 51 36.6	+0.6
LUBP				*eS*	Sn	06 51 57.6	+1.5
RCP	**Roxas**	**1.82**	**150⇑**	*eP*	Pn	06 51 42.7	+4.2
BUSP	**Coron**	**1.96**	**234**	*eP*	Pn	06 51 41.7	+1.4
BUSP				*eS*	Sn	06 52 07.6	+3.6
PVCP	**Virac**	**2.30**	**79**	*eP*	Pn	06 51 47.4	+2.4
CUYO	**Cuyo Island**	**2.43**	**199**	*eP*	Pn	06 51 47.7	+1.0
BALP	**Baler**	**2.58**	**355**	*eP*	Pn	06 51 50.5	+1.7
BALP				*eS*	Sn	06 52 25.0	+5.7
GUIM	**Jordan**	**2.62**	**163**	*eP*	Pn	06 51 52.9	+3.4
ENPP	**El Nido**	**3.05**	**231**	*eP*	Pn	06 51 56.8	+1.5

*CSEM **19** 07:02:41.3±0.1,3985N×2891E,h2km,MD3.0,Error ellipse: s-maj=2.2km s-min=1.4km az=141.0*
*DDA **19** 07:02:41.9,3993N×2881E,h7km±5km,Md3.0*
*ISCJB **19** 07:02:42.2±0.5,3987N±003×2891E±004,h2km±5km,Error ellipse: s-maj=7.0km s-min=3.8km az=136.5*
*ISK **19** 07:02:42.1,3987N×2891E,h6km,MD2.9*

ISC 19 07:02:42.7±0.5,3987N±003×2891E±004,h6km±5km,n22,σ0°73/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.32**	**33**	*i* P	**Pg**	**07 02 48.0**	**-0.9**
ULDT				*i* S	**Sg**	**07 02 54.1**	**+1.0**
DST	**Dursunbey**	**0.35**	**219**	*e*PG	**Pg**	**07 02 49.2**	**-0.2**
DST				*e*SG	**Sg**	**07 02 54.8**	**+0.9**
DURS	**Dursunbey**	**0.43**	**231**	*i* P	**Pg**	**07 02 49.7**	**-1.3**
DURS				*i* S	**Sg**	**07 02 56.6**	**-0.1**
GEMT	**Gemlik**	**0.60**	**21**	*e*PG	**Pg**	**07 02 54.2**	**-0.1**
YLV	**Yalova**	**0.78**	**27**	*e*PG	**Pg**	**07 02 57.7**	**+0.1**
BALB	**Balikesir**	**0.83**	**254**	*e*PG	**Pg**	**07 02 58.5**	**-0.1**
BALB				*e*SG	**Sg**	**07 03 09.4**	**0.0**
DEMI	**Demirci**	**0.84**	**190**	*i* P	**Pg**	**07 02 59.7**	**+0.8**
DEMI				*i* S	**Sg**	**07 03 15.4**	**+5.6**
ADVT	**Abdulvahap**	**0.84**	**48**	*e*PG	**Pg**	**07 02 58.8**	**-0.1**
GDZ	**Gediz**	**0.90**	**150**	*i* P	**Pg**	**07 03 00.1**	**+0.1**
GDZ				*i* S	**Sg**	**07 03 18.3**	**+6.6**
BALY	**Balya**	**1.00**	**263**	*i* P	**Pg**	**07 03 00.1**	**-1.9**
BALY				*i* S	**Sg**	**07 03 16.6**	**+1.6**
ISK	**Istanbul-Kandi**	**1.20**	**5**	*e*PN	**Pn**	**07 03 05.1**	**-0.9**
ALT	**Altintas**	**1.24**	**131**	*e*PN	**Pn**	**07 03 05.8**	**-0.8**
AKS	**Akhisar**	**1.31**	**221**	*e*PN	**Pn**	**07 03 07.1**	**-0.4**
BGKT	**Bogazkoy**	**1.31**	**355**	*e*PN	**Pn**	**07 03 07.1**	**-0.5**
CTT	**Catalca**	**1.32**	**344**	*e*PN	**Pn**	**07 03 08.4**	**+0.7**
KLYT	**Kilyos**	**1.38**	**4**	*e*PN	**Pn**	**07 03 08.8**	**+0.2**
ESKT	**Eskisehir**	**1.54**	**103**	*i* P	**Pn**	**07 03 11.7**	**+1.0**
ESKT				*e*S	**Sn**	**07 03 36.3**	**+5.3**
SEYT	**Eskypehyr**	**1.54**	**103**	*i* P	**Pn**	**07 03 11.7**	**+1.0**
MFT	**Murefte**	**1.54**	**307**	*e*PN	**Pn**	**07 03 11.1**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.56**	**302**	*e*PN	**Pn**	**07 03 11.1**	**+0.2**
MDU	**Mudurnu**	**1.86**	**71**	*e*PN	**Pn**	**07 03 15.4**	**+0.3**
EZN	**Ezine**	**1.99**	**269**	*e*PN	**Pn**	**07 03 17.1**	**+0.2**

*ISCJB **19** 07:16:07.3±0.4,1362S±005×7666W±008,h29km,mb4.4/23,MS3.7/4,Error ellipse: s-maj=12.0km s-min=4.6km az=148.9*
*MOS **19** 07:16:08.4±1.4,1361S×7666W,h33km,mb4.8/4,Error ellipse: s-maj=32.5km s-min=15.3km az=41.7*
*IDC **19** 07:16:08.6±6.4,1356S×7656W,h24km±43km,mb4.2/10,mb1 4.3/14,mb1mx4.1/21,mbtmp4.2/14,ML3.7/3,MS3.2/6,Ms1 3.2/6,ms1mx3.0/25,Error ellipse: s-maj=31.1km s-min=12.2km az=74.0*
*BJI **19** 07:16:10.1,1360S×7660W,h35km,mB5.1,Ms5.1,Msz4.8*
*NEIC **19** 07:16:10.2±0.4,1362S×7664W,h35km,mb4.6/15,Error ellipse: s-maj=14.4km s-min=6.3km az=58.0*
NEIC Felt at Lima.

ISC 19 07:16:09.7±0.4,1358S±005×7663W±008,h31km,h31km±1.9km:pP-P,n63,σ1°08/58,mb4.4/23,MS3.7/4,1C,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.59**	**352**	Pn	**Pn**	**07 16 34.1**	**-1.7**
	359nm,0.3s,baz=187,slow=13,SNR=346						
NNA				Sn	**Sn**	**07 16 54.0**	**-1.3**
	2μm,0.3s,baz=179,slow=13,SNR=12						
NNA	**Nana**	**1.59**	**352**	*e*Pn	**Pn**	**07 16 33.6**	**-2.2**
NNA				*e*Sn	**Sn**	**07 16 55.1**	**-0.2**
ARE	**Arequipa**	**5.73**	**121**	*e*P	**Pn**	**07 17 33.0**	**+0.3**
ARE				*e*S	**Sn**	**07 18 39.0**	**+1.5**
ATAH	**Atahualpa**	**6.76**	**345**	Pn	**Pn**	**07 17 46.2**	**-0.7**
	5.1nm,0.3s,baz=149,slow=5.3,SNR=28						
ATAH				Sn	**Sn**	**07 19 01.1**	**-1.8**
	baz=136,slow=14,SNR=1.0						
ATAH				LR	LR	07 20 47.5	
	comp=Z,197nm,18.5s,baz=43,slow=42						
LPAZ	**La Paz**	**8.64**	**109**	Pn	**Pn**	**07 18 17.2**	**+4.5**
	0.7nm,0.3s,baz=308,slow=12,SNR=16						
LPAZ	**La Paz**	**8.64**	**109**	*e*P	**Pn**	**07 18 16.1**	**+3.4**
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LPAZ	**La Paz**	**8.64**	**109**	*e*Pn	**Pn**	**07 18 16.1**	**+3.3**
	comp=Z,8.4nm,0.6s						
LVC	**Limon Verde**	**11.60**	**142**	Pn	**Pn**	**07 18 52.9**	**-0.3**
	comp=Z,2.6nm,0.3s,baz=304,slow=9.9,SNR=18						
LVC				Sn	**Sn**	**07 20 57.2**	**-4.4**
	comp=Z,1.5nm,0.3s,baz=73,slow=18,SNR=4.0						
LVC				LR	LR	07 23 02.7	
	comp=Z,174nm,19.0s,baz=310,slow=36						
LVC	**Limon Verde**	**11.60**	**142**	*e*Pn	**Pn**	**07 18 52.8**	**-0.3**
	comp=Z,26nm,0.9s						
LVC				*e*Sn	**Sn**	**07 21 01.9**	**+0.3**
OTAV	**Otavalo**	**13.85**	**352**	*e*Pn	**Pn**	**07 19 26.1**	**+2.1**
	comp=Z,16nm,0.9s						
SIV	**San Ignacio**	**15.23**	**101**	Pn	**Pn**	**07 19 40.9**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=275,slow=16,SNR=3.4						
ROSC	**El Rosal**	**18.46**	**7**	P	**Pn**	**07 20 26.9**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=105,slow=19,SNR=2.3						
ROSC				LR	LR	07 28 16.4	
	comp=Z,130nm,19.7s,baz=22,slow=40						
ROSC	**El Rosal**	**18.46**	**7**	P	**Pn**	**07 20 28.1**	**+4.8**
CFAA	**Coronel Fontan**	**19.53**	**158**	P	**Pn**	**07 20 34.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=333,slow=12,SNR=26						
CFAA				LR	LR	07 27 20.9	
	comp=Z,13nm,18.4s,baz=334,slow=34						
SDV	**Santo Domingo**	**23.10**	**15**	P	**P**	**07 21 13.8**	**+0.7**
	comp=Z,15nm,0.6s,mb4.6,baz=220,slow=20,SNR=12						
SDV	**Santo Domingo**	**23.10**	**15**	*e*P	**P**	**07 21 16.2**	**+3.1**
	comp=Z,23nm,0.8s,mb4.7						
SDV				*e*pP		07 21 24.1	
PLCA	**Paso Flores**	**27.57**	**170**	P	**P**	**07 21 53.3**	**-0.7**
	comp=Z,5.1nm,0.7s,mb4.3,baz=344,slow=11,SNR=24						
PLCA				LR	LR	07 30 32.2	
	comp=Z,75nm,21.6s,MS3.2,baz=358,slow=31						
PLCA	**Paso Flores**	**27.57**	**170**	*e*P	**P**	**07 21 53.2**	**-0.7**
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PLCA	**Paso Flores**	**27.57**	**170**	*e*P	**P**	**07 21 53.2**	**-0.7**
	comp=Z,3.2nm,0.6s,mb4.1						
TRQA	**Tornquist**	**27.64**	**155**	*e*P	**P**	**07 21 52.9**	**-1.7**
	comp=Z,1.8nm,0.6s,mb3.9						
BDFB	**Brasilia**	**27.76**	**98**	LR	LR	07 34 33.4	
	comp=Z,39nm,19.2s,MS3.0,baz=59,slow=40						
TEIG	**Tepich**	**35.49**	**341**	*e*P	**P**	**07 23 04.5**	**+0.8**
	comp=Z,2.8nm,0.4s,mb4.5						
USHA	**Ushuaia**	**41.66**	**173**	P	**P**	**07 23 55.2**	**+0.1**
	comp=Z,12nm,0.9s,mb4.5,baz=40,slow=7.2,SNR=4.8						
TXAR	**Lajitas Array**	**50.02**	**329**	P	**P**	**07 25 01.6**	**+0.2**
	comp=Z,0.7nm,0.8s,mb3.8,baz=142,slow=9.9,SNR=9.3						
SDCO	**Great Sand Dun**	**57.80**	**333**	*e*P	**P**	**07 25 58.7**	**+0.6**
	comp=Z,5.6nm,1.4s,mb4.4						
ECSD	**EROS,Sioux Fal**	**59.88**	**343**	*e*P	**P**	**07 26 11.8**	**-0.7**
	comp=Z,18nm,1.8s,mb4.8						
NLU	**North Lily Min**	**62.63**	**330**	*e*P	**P**	**07 26 33.8**	**+2.6**
DUG	**Dugway**	**63.18**	**330**	*e*P	**P**	**07 26 35.2**	**+0.4**
DUG				*e*		07 27 10.9	
DUG				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
DUG	**Dugway**	**63.18**	**330**	*e*P	**P**	**07 26 35.2**	**+0.4**
	comp=Z,9.9nm,1.4s,mb4.8						
DUG				*e*PcP	PcP	07 27 10.8	-1.2
HWUT	**Hardware Ranch**	**63.67**	**331**	*e*P	**P**	**07 26 37.6**	**-0.4**
	comp=Z,24nm,2.0s,mb4.9						
PDAR	**Pinedale Array**	**63.69**	**333**	P	**P**	**07 26 38.3**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.7,baz=119,slow=9.2,SNR=4.9						
AGMN	**Agassiz Refuge**	**63.93**	**346**	*e*P	**P**	**07 26 39.3**	**-0.3**
	comp=Z,6.6nm,0.6s,mb4.8						
AGMN				*e*pP	pP	07 26 50.0	+0.7
FLWY	**Flagg Ranch**	**65.24**	**334**	*e*P	**P**	**07 26 49.6**	**+1.3**
ULM	**Lac du Bonnet**	**65.76**	**347**	P	**P**	**07 26 50.6**	**-0.9**
	comp=Z,4.6nm,0.6s,mb4.7,baz=166,slow=5.6,SNR=13						
GCMT	**Greycliff**	**66.19**	**335**	*e*P	**P**	**07 26 54.6**	**+0.3**
HLID	**Hailey**	**66.52**	**331**	*e*P	**P**	**07 26 57.3**	**+0.8**
	comp=Z,1.2nm,0.7s,mb4.0						
BOZ	**Bozeman (W)**	**66.89**	**334**	*e*P	**P**	**07 26 59.3**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,34nm,2.9s,mb4.9						
BOZ	**Bozeman (W)**	**66.89**	**334**	*e*P	**P**	**07 26 59.3**	**+0.5**
	comp=Z,34nm,2.9s,mb4.9						
SCHQ	**Schefferville**	**68.65**	**6**	P	**P**	**07 27 09.5**	**-0.2**
	comp=Z,4.5nm,0.9s,mb4.4,baz=253,slow=1.3,SNR=4.7						
BMO	**Blue Mountains**	**68.86**	**330**	*e*P	**P**	**07 27 17.2**	**+5.9**
	comp=Z,3.8nm,0.8s,mb4.4						
VNA1	**Neumayer--Stat**	**70.16**	**161**	*e*P	**P**	**07 27 19.6**	**+0.7**
VNA1				*e*		07 27 20.8	
VNA1				*e*	pP	07 27 27.4	-1.3
VNA1				*e*		07 27 32.8	
WALA	**Waterton Lakes**	**70.53**	**335**	*e*P	**P**	**07 27 22.3**	**+0.8**
	comp=Z,0.8nm,0.5s,mb3.9						
OD2	**Odessa Site #2**	**71.39**	**331**	*e*P	**P**	**07 27 26.9**	**+0.3**
OD2				*e*pP	pP	07 27 36.5	+0.1
OD2				*e*sP	sP	07 27 41.7	+1.6
SNAA	**Sanae**	**72.11**	**161**	*e*P	**P**	**07 27 30.6**	**-0.1**
SNAA				*e*		07 27 31.6	
SNAA				*e*	pP	07 27 39.4	-1.1
SNAA				*e*		07 27 44.4	
SNAA	**Sanae**	**72.11**	**161**	*e*P	**P**	**07 27 30.7**	**0.0**
SNAA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SNAA	**Sanae**	**72.11**	**161**	*e*P	**P**	**07 27 30.7**	**0.0**
	comp=Z,7.0nm,0.8s,mb4.6						
EDM	**Edmonton**	**73.60**	**338**	*e*P	**P**	**07 27 39.7**	**0.0**
DBIC	**Dimbokro**	**74.03**	**79**	P	**P**	**07 27 40.9**	**-2.2**
	comp=Z,1.3nm,0.5s,mb4.1,baz=231,slow=6.5,SNR=3.1						
YKA	**Yellowknife Ar**	**81.42**	**343**	P	**P**	**07 28 23.7**	**+0.6**
	comp=Z,2.1nm,0.8s,mb4.1,baz=150,slow=4.9,SNR=5.5						
TOA0	**Torodi Ar. Sit**	**82.01**	**74**	*e*P	**P**	**07 28 28.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**82.01**	**74**	P	**P**	**07 28 27.6**	**+0.2**
	comp=Z,3.8nm,0.8s,mb4.4,baz=263,slow=4.4,SNR=12						
WRAK	**Wrangell Islan**	**83.66**	**332**	P	**P**	**07 28 30.5**	**-4.5**
	comp=Z,3.8nm,0.5s,mb4.8						
SYO	**Syowa Base**	**86.40**	**161⇑**	*e*P	**P**	**07 28 47.2**	**-1.5**
LVV	**L'vov**	**107.11**	**42**	*e*P	Pdif	07 30 26.4	+3.0
ASAR	**Alice Springs**	**132.44**	**219**	PKP	PKPdf	07 35 21.6	-0.2
	comp=Z,0.2nm,0.3s,baz=131,slow=1.7,SNR=3.7						
WRA	**Warramunga Arr**	**134.85**	**223**	PKP	PKPdf	07 35 26.2	-0.2
	comp=Z,0.8nm,0.8s,baz=145,slow=0.9,SNR=5.2						
MDJ	**Mudanjiang**	**141.84**	**329**	PKP	PKPdf	07 35 38.0	-0.5
MDJ				PP	PP	07 38 42.8	+0.1
MDJ				PP	PP		
	comp=Z,100nm,6.2s						
MDJ				LR	LR		
	comp=E,25nm,25.4s						
MDJ				LR	LR		
	comp=Z,24nm,23.4s,MS3.9						
SONM	**Songino Array**	**145.75**	**356**	PKPbc	PKPbc	07 35 46.3	+0.7
	comp=Z,0.9nm,0.6s,baz=343,slow=4.1,SNR=6.4						
KSRS	**Korea Array**	**147.69**	**322**	PKPbc	PKPbc	07 35 50.1	-1.5
	comp=Z,1.1nm,0.7s,baz=64,slow=2.8,SNR=4.0						
HHC	**Hu-ho-hao-te**	**151.90**	**347**	*e*PKP	PKPdf	07 35 53.8	-1.6
HHC				APKP		07 36 03.5	
HHC				XPKP		07 36 08.3	
HHC				PKS		07 39 26.9	
HHC				PP	PP	07 39 44.8	+3.4
HHC				SKS	SKSdf	07 42 56.3	-4.3
HHC				SKKS	SKKSac	07 46 29.0	-1.8
HHC				SS	SS	07 59 04.9	-0.6
HHC				PP	PP		
	comp=Z,105nm,10.7s						
HHC				LR	LR		
	comp=N,155nm,21.4s,MS5.1						
HHC				LR	LR		
	comp=E,315nm,25.0s,MS5.1						
HHC				LR	LR		
	comp=Z,101nm,22.6s,MS4.6						
NJ2	**Nanjing**	**156.78**	**325**	*e*PKP	PKPdf	07 36 01.3	-1.2
CD2	**Chengdu**	**162.75**	**359**	*e*PKP	PKPdf	07 36 06.9	-2.4
GYA	**Guiyang**	**166.82**	**347**	*e*PKP	PKPdf	07 36 12.9	0.0
GYA				XPKP		07 36 26.8	
GYA				PKP2	PKPab	07 37 17.5	+1.7
GYA				PKS		07 39 43.0	
GYA				PP	PP	07 41 06.4	+4.0
GYA				PP	PP		
	comp=Z,90nm,8.9s						

*CSEM **19** 07:21:35.1,3482N×2585E,h48km,MD3.5/3,After ATH*

ATH 19 07:21:36.2,3571N×2577E,h15km,MD3.5/3,2D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.47**	**196⇓**	*i*P	Pg	07 21 45.0	-0.5
NPS				*e*S	Sg	07 21 54.6	+2.9
KARP	**Karpathos**	**1.15**	**98**	*e*PN	Pn	07 21 57.9	+0.2
VAM	**Vamos**	**1.32**	**257**	⇓PN	Pn	07 22 01.0	+1.0
VAM				*e*SN	Sn	07 22 19.1	+1.8

*ISCJB **19** 07:26:56.0±0.6,25S±0.1×673E±0.1,h10km,mb4.2/13,MS3.9/16,Error ellipse: s-maj=22.1km s-min=13.4km az=40.1*
*NEIC **19** 07:26:58.2±0.6,251S×6723E,h10km,mb4.7/5,Error ellipse: s-maj=22.9km s-min=14.3km az=124.0*
*IDC **19** 07:27:00.8±1.9,208S×6806E,h0km,mb3.8/7,mb1 4.0/7,mb1mx3.7/21,mbtmp3.8/7,MS3.8/15,Ms1 3.8/15,ms1mx3.6/36,Error ellipse: s-maj=54.4km s-min=31.1km az=66.0*

ISC 19 07:26:58.1±0.6,25S±01×673E±01,h10km,n28,σ1°14/15,mb4.2/13,MS3.9/16,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**25.58**	**229**	*e*P	**P**	**07 32 27.1**	**-0.5**
	56nm,1.8s,mb4.8						
KMBO	**Kilima Mbogo**	**30.04**	**272**	LR	LR	07 43 35.0	
	comp=Z,84nm,18.3s,MS3.4,baz=99,slow=32						
PSI	**Prapat**	**32.07**	**81**	LR	LR	07 43 30.3	
	comp=Z,192nm,21.4s,MS3.8,baz=243,slow=32						
CMAR	**Chiang Mai Arr**	**37.49**	**55**	P	**P**	**07 34 08.8**	**-3.4**
	0.8nm,0.3s,mb4.0,baz=249,slow=12,SNR=5.4						
CMAR				LR	LR	07 47 25.9	
	comp=Z,131nm,20.2s,MS3.7,baz=63,slow=34						
EKS2	**Erkin-Say**	**45.33**	**7**	*e*P	**P**	**07 35 18.3**	**+2.0**
	10.0nm,1.1s,mb4.6						
TKM2	**Tokmak 2**	**45.83**	**9**	*e*P	**P**	**07 35 21.2**	**+0.9**
	8.6nm,1.1s,mb4.6						
BOSA	**Boshof**	**47.69**	**233**	LR	LR	07 55 19.7	
	comp=Z,119nm,18.8s,MS3.9,baz=139,slow=35						
WMQ	**Urumqi**	**49.62**	**19**	*e*PKP	**P**	**07 35 46.3**	**-3.4**
MKAR	**Makanchi Array**	**50.84**	**13**	P	**P**	**07 35 58.5**	**-0.3**
	0.3nm,0.6s,mb3.4,baz=194,slow=8.5,SNR=5.2						
MKAR				LR	LR	07 57 52.2	
	comp=Z,60nm,19.1s,MS3.6,baz=182,slow=37						
TSUM	**Tsumeb**	**51.32**	**247**	P	**P**	**07 36 04.6**	**+1.5**
	0.5nm,0.6s,mb3.6						
LZH	**Lanzhou**	**51.35**	**38**	*e*PKP	**P**	**07 36 02.1**	**-0.8**
LZH				APKP		07 36 13.3	
LZH				XPKP		07 36 16.5	
LZH				LR	LR		
	comp=N,116nm,18.2s						
LZH				LR	LR		
	comp=Z,173nm,20.3s,MS4.1						
KURK	**Kurchatov**	**53.89**	**9**	PKPdf	**P**	**07 36 22.0**	**+0.6**
	comp=Z,5.9nm,1.1s,mb4.4						
ZALV	**Zalesovo Beam**	**58.12**	**12**	P	**P**	**07 36 50.7**	**-1.0**
	comp=Z,1.3nm,0.3s,mb4.4,baz=224,slow=4.0,SNR=4.7						
SONM	**Songino Array**	**60.64**	**29**	P	**P**	**07 37 09.4**	**+0.2**
	comp=Z,1.1nm,0.9s,mb4.0,baz=226,slow=5.1,SNR=3.4						
SONM				LR	LR	08 02 48.3	
	comp=Z,182nm,18.1s,MS4.3,baz=223,slow=36						
MAW	**Mawson**	**65.06**	**182**	LR	LR	08 00 26.3	
	comp=Z,127nm,18.8s,MS4.1,baz=270,slow=31						
TORD	**Torodi Ar. Bea**	**66.89**	**285**	LR	LR	08 05 41.9	
	comp=Z,96nm,18.8s,MS4.0,baz=160,slow=34						
WRA	**Warramunga Arr**	**67.61**	**110**	P	**P**	**07 37 56.2**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.8,baz=284,slow=6.4,SNR=3.1						
ASAR	**Alice Springs**	**67.62**	**114**	P	**P**	**07 37 56.2**	**+0.6**
	comp=Z,0.4nm,0.7s,mb3.6,baz=294,slow=6.7,SNR=5.4						
KSRS	**Korea Array**	**68.68**	**48**	P	**P**	**07 38 01.9**	**-0.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=281,slow=35,SNR=3.4						
KSRS				LR	LR	08 08 33.6	
	comp=Z,70nm,18.6s,MS3.9,baz=244,slow=37						
SHEL	**Horse Pasture**	**73.00**	**254**	*e*P	**P**	**07 38 26.9**	**-1.8**
	comp=Z,27nm,0.6s,mb5.3						
MJAR	**Matsushiro Arr**	**76.28**	**52**	LR	LR	08 13 47.9	
	comp=Z,78nm,18.2s,MS4.1,baz=35,slow=37						
NOA	**NORSAR Array B**	**76.49**	**335**	LR	LR	08 09 49.4	
	comp=Z,31nm,18.0s,MS3.7,baz=305,slow=34						
ARCES	**ARCESS Array B**	**77.20**	**346**	LR	LR	08 13 35.8	
	comp=Z,49nm,19.1s,MS3.8,baz=111,slow=36						
ASAJ	**Asahikawa**	**81.24**	**45**	LR	LR	08 13 55.0	
	comp=Z,38nm,18.2s,MS3.8,baz=186,slow=35						
JMIC	**Jan Mayen**	**87.74**	**341**	LR	LR	08 17 48.8	
	comp=Z,57nm,20.4s,MS4.0,baz=97,slow=35						
PETK	**Petropavlovsk-**	**92.23**	**37**	LR	LR	08 20 07.4	
	comp=Z,43nm,20.0s,MS3.9,baz=87,slow=35						
PDAR	**Pinedale Array**	**139.81**	**356**	PKP	PKPdf	07 46 31.1	+4.3
	comp=Z,0.2nm,0.4s,baz=338,slow=4.1,SNR=3.1						
TXAR	**Lajitas Array**	**151.96**	**343**	PKPbc	PKPbc	07 46 58.5	+4.3
	comp=Z,0.7nm,0.9s,baz=169,slow=2.6,SNR=8.2						

*ISCJB **19** 07:32:52.7±0.1,4831N±001×657E±001,h10km,Error ellipse: s-maj=1.5km s-min=1.1km az=167.1*
*STR **19** 07:32:54.6±0.1,4833N×665E,h10km,Ml3.6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **19** 07:32:55.0±0.0,4833N×666E,h12km,ML4.0/34,Error ellipse: s-maj=0.8km s-min=0.6km az=161.0*
*LEDBW **19** 07:32:55.4±0.2,4832N±002×6660E±0009,h8km±2km,ML3.4,Error ellipse: s-maj=6.0km s-min=4.0km az=3.0*
*NEIC **19** 07:32:55.1,4834N×665E,h11km,ML3.6(STR),ML3.9(LDG),After LDG.*
*LDG **19** 07:32:55.1±0.1,4834N×665E,h11km,Md3.8/5,Ml3.9/37,Error ellipse: s-maj=1.4km s-min=1.0km az=163.0*
*ZUR **19** 07:32:55.2,4834N×664E,h10km,ML3.5/10*
*PRU **19** 07:32:58.6,4832N×705E,h0km*

ISC 19 07:32:53.4±0.2,48332N±0009×658E±001,h5km±1km,n281,σ1°21/560,21C-21D,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.36**	**205**	*e*Pg	**Pg**	**07 33 02.8**	**+2.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**07 33 07.5**	**+2.5**
	1μm,0.2s						
HAU	**Haudompre**	**0.36**	**205**	*e*Pg	**Pg**	**07 33 02.8**	**+2.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**07 33 07.5**	**+2.5**
	636nm,0.2s

SFTF	Sexfontaines	1.03	263	ePg	Pg	07 33 16.0 +2.8
SFTF				eSg	Sg	07 33 29.6 +3.0
	342nm,0.2s					
SFTF	Sexfontaines	1.03	263	ePn	Pn	07 33 15.1 +0.6
SFTF				ePg	Pg	07 33 16.0 +2.8
SFTF				eSg	Sg	07 33 29.6 +3.0
BOURR	Bourrignon	1.04	155	ePn	Pn	07 33 14.3 -0.2
	2µm,0.9s					
LANF	Langenberg	1.04	51	⇓iPn	Pn	07 33 13.7 -1.0
LANF	Langenberg	1.04	51	Pg	Pg	07 33 13.6 +0.2
FELD	Feldberg im Sc	1.06	115	Px	Pg	07 33 14.4 +0.7
FELD	Feldberg im Sc	1.06	115	⇑ePn	Pn	07 33 13.7 -1.2
FELD	Feldberg im Sc	1.06	115	Pn	Pn	07 33 13.7 -1.2
FELD	Feldberg im Sc	1.06	115	Pg	Pg	07 33 14.3 +0.6
FELD				Sg	Sg	07 33 27.2 -0.3
BBS	Basel-Blauen	1.07	144	⇓iPn	Pn	07 33 14.9 -0.1
BBS	Basel-Blauen	1.07	144	Pg	Pg	07 33 14.9 +1.0
BBS				Sg	Sg	07 33 28.3 +0.5
WYH	Wyhlen	1.09	136	P	Pg	07 33 15.1 +0.9
BFO	Black Forest	1.17	89	⇑iPn	Pn	07 33 15.1 -1.3
BFO				Sn	Sn	07 33 28.9 -3.8
BFO	Black Forest	1.17	89	P	Pg	07 33 16.5 +0.6
BFO				S	Sg	07 33 30.8 -0.2
BFO	Black Forest	1.17	89	ePg	Pg	07 33 14.9 -0.9
BFO	Black Forest	1.17	89	Pn	Pn	07 33 15.1 -1.3
BFO				Sn	Sn	07 33 28.9 -3.8
BFO				Sg	Sg	07 33 30.8 -0.2
BFO	Black Forest	1.17	89	ePg	Pg	07 33 14.9 -0.9
BFO				eS	Sg	07 33 29.2 -1.8
BALST	Balsthal	1.25	142	ePn	Pn	07 33 17.2 -0.3
	2µm,0.4s					
SULZ	Cheisacher	1.31	127	ePn	Pn	07 33 17.9 -0.4
	2µm,0.4s					
WLF	Walferdange	1.36	348	P	Pn	07 33 19.7 +0.7
WLF				S	Sb	07 33 38.9 +1.9
	comp=N,193nm,0.0s					
WLF	Walferdange	1.36	348	Pg	Pg	07 33 20.4 +0.9
	SNR=1.8					
WLF				eSg	Sg	07 33 38.2 +1.0
WLF	Walferdange	1.36	348	ePg	Pg	07 33 20.7 +1.2
WLF				eSg	Sg	07 33 38.1 +1.0
BRANT	Les Verrieres	1.40	183	⇑iPn	Pn	07 33 19.7 +0.2
	comp=N,2µm,0.6s					
KTD	Kalmit	1.40	45	Px	Pg	07 33 21.3 +1.0
KTD	Kalmit	1.40	45	Pg	Pg	07 33 21.2 +0.9
KTD				Sg	Sg	07 33 38.7 +0.2
SLE	Schleitheim	1.41	113	⇑iPn	Pn	07 33 18.6 -1.0
	comp=N,2µm,0.4s					
RUP	Ruppelstein	1.41	13	Pn	Pn	07 33 20.1 +0.5
RUP	Ruppelstein	1.41	13	Pg	Pg	07 33 20.7 +0.3
RUP	Ruppelstein	1.41	13	Pg	Pg	07 33 20.7 +0.3
SPAK	Spaichingen-Ko	1.50	98	⇓iP	Pn	07 33 22.7 +1.9
SPAK	Spaichingen-Ko	1.50	98	Pn	Pn	07 33 20.0 -0.8
	SNR=3.1					
SPAK	Spaichingen-Ko	1.50	98	Pg	Pg	07 33 22.4 +0.3
SPAK	Spaichingen-Ko	1.50	98	Pg	Pg	07 33 22.4 +0.3
LBG	Lerchenberg	1.51	77	⇑iPn	Pn	07 33 19.9 -1.2
LBG				Sn	Sn	07 33 37.4 -3.7
LBG	Lerchenberg	1.51	77	⇓iP	Pn	07 33 22.8 +1.7
LBG				S	Sn	07 33 41.6 +0.4
LBG	Lerchenberg	1.51	77	Pg	Pg	07 33 22.8 +0.4
LBG				Sn	Sn	07 33 37.4 -3.7
LBG				Sg	Sg	07 33 41.6 -0.4
TORNY	Torny/Romont	1.58	170	ePn	Pn	07 33 22.6 +0.6
	comp=N,1µm,0.4s					
MSS	Messtetten	1.60	95	⇑eP	Pn	07 33 24.5 +2.2
BHBD	Braunhartsberg	1.62	92	Pn	Pn	07 33 21.6 -1.0
BHBD	Braunhartsberg	1.62	92	P	Pn	07 33 24.9 +2.3
STEIN	Stein am Rhein	1.68	112	ePn	Pn	07 33 23.4 +0.1
	comp=N,840nm,0.6s					
TUBL	Tuebingen-Lenn	1.68	83	⇓iP	Pg	07 33 26.2 +0.6
TUBL				Sx	Sx	07 33 46.9
TUBL	Tuebingen-Lenn	1.68	83	Pn	Pn	07 33 22.4 -0.9
TUBL	Tuebingen-Lenn	1.68	83	Pn	Pn	07 33 22.4 -1.0
TUBL	Tuebingen-Lenn	1.68	83	Pg	Pg	07 33 26.2 +0.6
TUBL				Sg	Sg	07 33 46.9 -0.5
GUT	Gutenstein	1.72	98	Pn	Pn	07 33 22.8 -1.2
GUT				S	Sn	07 33 48.1 +1.9
GUT	Gutenstein	1.72	98	⇓iP	Pn	07 33 26.7 +2.8
GUT	Gutenstein	1.72	98	Pg	Pg	07 33 26.7 +0.4
GUT				Sg	Sg	07 33 48.1 -0.5
SISB	Singen-Schiene	1.73	111	⇓iP	Pn	07 33 27.1 +3.1
SISB				S	Sn	07 33 48.5 +2.0
SISB	Singen-Schiene	1.73	111	Pg	Pg	07 33 27.1 +0.6
SISB				Sg	Sg	07 33 48.5 -0.4
CABF	La Chapelle	1.75	191	ePg	Pg	07 33 28.1 +1.1
CABF				eSn	Sn	07 33 45.2 -1.9
	SNR=1.0					
CABF				eSg	Sg	07 33 51.1 +1.4
	comp=N,219nm,0.3s,SNR=1.0					
CABF	La Chapelle	1.75	191	ePg	Pg	07 33 28.1 +1.1
CABF				eSg	Sg	07 33 51.1 +1.4
	comp=N,110nm,0.3s,SNR=1.0					
CABF	La Chapelle	1.75	191	ePn	Pn	07 33 24.6 +0.2
CABF				ePg	Pg	07 33 28.1 +1.1
CABF				eSn	Sn	07 33 45.2 -1.9
CABF				eSg	Sg	07 33 51.1 +1.4
STU	Stuttgart	1.79	75	eP	Pn	07 33 23.5 -1.5
STU	Stuttgart	1.79	75	ePg	Pg	07 33 27.8 0.0
STU				Sg	Sg	07 33 50.2 -0.8
STU	Stuttgart	1.79	75	eP	Pn	07 33 23.5 -1.4
STU				ePg	Pg	07 33 27.8 0.0
STU				eS	Sn	07 33 49.9 +1.8
STU				eSg	Sg	07 33 50.2 -0.8
GIMEL	St. Georges /	1.81	187	⇑iPn	Pn	07 33 25.5 +0.3
	comp=N,1µm,0.3s					
SWS	Schriesheim-Wi	1.81	50	Pn	Pn	07 33 23.6 -1.6
SWS				Sx	Sx	07 33 50.8
SWS	Schriesheim-Wi	1.81	50	P	Pn	07 33 28.5 +3.3
SWS	Schriesheim-Wi	1.81	50	Pg	Pg	07 33 28.5 +0.3
SWS				Sg	Sg	07 33 50.8 -0.9
BUCH	Bad Urach	1.85	85	⇑iPn	Pn	07 33 24.7 -1.0
BUCH				S	Sg	07 33 51.7 -1.3
BUCH	Bad Urach	1.85	85	⇑iP	Pn	07 33 29.1 +3.4
BUCH	Bad Urach	1.85	85	Pg	Pg	07 33 29.1 +0.2
BUCH				Sg	Sg	07 33 51.7 -1.3
HASLI	Hasliberg/Brie	1.90	145	ePn	Pn	07 33 27.0 +0.6
	comp=N,959nm,0.7s					
BGG	Burgeitz	1.94	15	Pn	Pn	07 33 27.2 +0.2
TOD	Tromm	1.94	48	Pn	Pn	07 33 24.8 -2.2
HILG	Hillesheim	1.96	2	Pn	Pn	07 33 27.8 +0.5
OG01	Vacheresse	2.00	178	Pn	Pn	07 33 28.4 +0.6
OG01				Pg	Pg	07 33 32.7 +0.9
GIVF	Givet	2.11	328	ePg	Pg	07 33 34.6 +0.8
GIVF				eSg	Sg	07 34 00.9 -0.3
	comp=N,258nm,0.2s					
GIVF	Givet	2.11	328	ePg	Pg	07 33 34.6 +0.8
GIVF				eSg	Sg	07 34 00.9 -0.3
	comp=N,129nm,0.2s					
GIVF	Givet	2.11	328	ePn	Pn	07 33 30.4 +1.1
GIVF				ePg	Pg	07 33 34.6 +0.8
GIVF				eSg	Sg	07 34 00.9 -0.3
LOR	Lormes	2.12	241	ePn	Pn	07 33 29.6 +0.2
	baz=64,SNR=1.0					
LOR	Lormes	2.12	241	ePg	Pg	07 33 35.7 +1.7
	baz=67					
LOR				eSn	Sn	07 33 54.2 -1.9
	SNR=1.0					
LOR				eSg	Sg	07 34 02.1 +0.7
	comp=N,319nm,0.2s,baz=68,SNR=1.0					
LOR	Lormes	2.12	241	ePg	Pg	07 33 35.7 +1.7
LOR				eSn	Sn	07 33 54.2 -1.9
	SNR=1.0					
LOR				eSg	Sg	07 34 02.1 +0.7
	comp=N,159nm,0.2s,SNR=1.0					
LOR	Lormes	2.12	241	ePn	Pn	07 33 29.6 +0.2
LOR				ePg	Pg	07 33 35.7 +1.7
LOR				eSn	Sn	07 33 54.2 -1.9
LOR				eSg	Sg	07 34 02.1 +0.7
DOU	Dourbes	2.19	324	P	Pn	07 33 31.5 +1.1
DOU				S	Sn	07 33 56.4 -1.4
	comp=E,103nm,0.0s					
DOU	Dourbes	2.19	324	P	Pn	07 33 31.4 +1.0
DOU				S	Sn	07 33 56.4 -1.5
LIENZ	Kamor/St.Gall	2.22	117	ePn	Pn	07 33 31.4 +0.6
	comp=E,401nm,0.7s					
KOE	Koeppel	2.23	19	Pn	Pn	07 33 30.8 -0.1
SIND	Sindeldorf	2.25	62	Pn	Pn	07 33 29.9 -1.2
SIND				Sn	Sn	07 33 56.9 -2.3
SIND				S	Sn	07 34 04.3 +5.1
BCLA	Clavier	2.25	339	P	Pn	07 33 32.6 +1.4
BCLA				S	Sn	07 33 59.0 -0.3
	comp=E,68nm,0.0s					
BCLA	Clavier	2.25	339	P	Pn	07 33 32.6 +1.4
BCLA				S	Sn	07 33 58.9 -0.4
STB	Steinbach	2.27	4	Pn	Pn	07 33 32.5 +1.0
MEM	Membach	2.31	351	P	Pn	07 33 32.7 +0.7
MEM				S	Sn	07 34 08.0 +7.2
	comp=E,56nm,0.0s					
BAIF	Baives	2.32	319	ePg	Pg	07 33 38.7 +0.8
BAIF				eSg	Sg	07 34 08.4 +0.4
	comp=E,93nm,0.3s,SNR=1.0					
BAIF	Baives	2.32	319	ePg	Pg	07 33 38.7 +0.8
BAIF				eSg	Sg	07 34 08.4 +0.4
	comp=E,46nm,0.3s,SNR=1.0					
BAIF	Baives	2.32	319	ePn	Pn	07 33 33.4 +1.2
BAIF				ePg	Pg	07 33 38.7 +0.8
BAIF				eSg	Sg	07 34 08.4 +0.4
KLL	Kalltalsperre	2.32	356	Pn	Pn	07 33 32.8 +0.6
DREG	Dreilaegerbach	2.34	355	Pn	Pn	07 33 33.4 +0.9
OG05	Jujurieux	2.42	199	Pn	Pn	07 33 32.8 -0.7
HDH	Heidenheim-Cha	2.43	83	Pn	Pn	07 33 34.7 +1.0
HDH	Heidenheim-Cha	2.43	83	⇓iP	Pn	07 33 39.7 +6.0
HDH				S	Sn	07 34 10.2 +6.4
HDH	Heidenheim-Cha	2.43	83	Pg	Pg	07 33 39.7 -0.2
HDH				Sg	Sg	07 34 10.2 -1.2
SSF	Saint Saulge	2.43	240	ePg	Pg	07 33 41.4 +1.4
	SNR=1.0					
SSF				eSn	Sn	07 34 02.8 -1.0
SSF				eSg	Sg	07 34 12.6 +1.1
	comp=E,199nm,0.3s					
SSF	Saint Saulge	2.43	240	ePg	Pg	07 33 41.4 +1.4
	SNR=1.0					
SSF				eSn	Sn	07 34 02.8 -1.0
SSF				eSg	Sg	07 34 12.6 +1.1
	comp=E,100nm,0.3s					
SSF	Saint Saulge	2.43	240	ePn	Pn	07 33 33.8 +0.1
SSF				ePg	Pg	07 33 41.4 +1.4
SSF				eSn	Sn	07 34 02.8 -1.0
SSF				eSg	Sg	07 34 12.6 +1.1
UBR	Ueberruh	2.46	104	Pn	Pn	07 33 34.5 +0.4
UBR				S	Sn	07 34 11.9 +7.4
UBR	Ueberruh	2.46	104	⇓iP	Pn	07 33 41.0 +6.9
UBR	Ueberruh	2.46	104	Pg	Pg	07 33 41.0 +0.5
UBR				Sg	Sg	07 34 11.9 -0.5
DAVA	Damuels	2.46	114	⇑ePn	Pn	07 33 34.7 +0.6
	SNR=9.1					
DAVA				⇓iPg	Pg	07 33 41.1 +0.6
DAVA	Damuels	2.46	114	⇑ePn	Pn	07 33 34.7 +0.6
	SNR=9.1					
DAVA				⇓iPg	Pg	07 33 41.1 +0.6
DAVA				⇑iSn	Sn	07 34 05.0 +0.5
HGN	Heimansgroeve	2.47	350	ePn	Pn	07 33 36.0 +1.8
	comp=E,8.8nm,0.1s					
HGN	Heimansgroeve	2.47	350	*i* Pg	Pg	07 33 40.5 -0.2
	comp=E,45nm,0.1s					
HGN				eSg	Sg	07 34 12.2 -0.5
HGN	Heimansgroeve	2.47	350	*i* Pg	Pg	07 33 40.5 -0.2
	comp=E,45nm,0.1s					
HGN	Heimansgroeve	2.47	350	*i* x	x	07 33 42.8
	comp=E,60nm,0.4s					
HGN				eSg	Sg	07 34 12.2 -0.5
SMF	Signal de Mont	2.51	229	ePg	Pg	07 33 42.8 +1.4
	SNR=1.0					
SMF				eSn	Sn	07 34 04.9 -0.7
SMF				eSg	Sg	07 34 15.0 +1.1
	comp=E,507nm,0.3s,SNR=1.0					
SMF	Signal de Mont	2.51	229	ePg	Pg	07 33 42.8 +1.4
	SNR=1.0					
SMF				eSn	Sn	07 34 04.9 -0.7
SMF				eSg	Sg	07 34 15.0 +1.1
	comp=E,253nm,0.3s,SNR=1.0					
SMF	Signal de Mont	2.51	229	ePn	Pn	07 33 34.1 -0.6
SMF				ePg	Pg	07 33 42.8 +1.4
SMF				eSn	Sn	07 34 04.9 -0.7
SMF				eSg	Sg	07 34 15.0 +1.1
BEBN	Eben Emael	2.54	347	P	Pn	07 33 37.9 +2.7
BEBN				S	Sn	07 34 13.6 +7.2
	comp=E,48nm,0.0s					
BEBN	Eben Emael	2.54	347	P	Pn	07 33 37.8 +2.7
RSL	Roselend	2.65	179	Pn	Pn	07 33 37.2 +0.6
RSL				Pg	Pg	07 33 44.8 +0.7
TUE	Stuetta	2.65	134	ePn	Pn	07 33 36.2 -0.5
TUE	Stuetta	2.65	134	ePn	Pn	07 33 36.2 -0.5
TUE				Pg	Pg	07 33 39.3 -4.8
TUE				eSn	Sn	07 34 10.7 +1.6
BNS	Bensberg	2.66	8	Pn	Pn	07 33 37.8 +0.9
AVF	Avril sur Loir	2.67	236	ePg	Pg	07 33 46.2 +1.6
	SNR=1.0					
AVF				eSn	Sn	07 34 08.4 -1.3
AVF				eSg	Sg	07 34 19.5 +0.3
	comp=E,93nm,0.2s,SNR=1.0					
AVF	Avril sur Loir	2.67	236	ePg	Pg	07 33 46.2 +1.6
	SNR=1.0					
AVF				eSn	Sn	07 34 08.4 -1.3
AVF				eSg	Sg	07 34 19.5 +0.3
	comp=E,47nm,0.2s,SNR=1.0					
AVF	Avril sur Loir	2.67	236	ePn	Pn	07 33 36.8 -0.2
AVF				ePg	Pg	07 33 46.2 +1.6
AVF				eSn	Sn	07 34 08.4 -1.3
AVF				eSg	Sg	07 34 19.5 +0.3
HOBG	Hohbusch	2.70	10	Pn	Pn	07 33 38.0 +0.6
LPL	La Plagne	2.82	178	ePg	Pg	07 33 47.7 +0.3
LPL				eSg	Sg	07 34 24.2 +0.3
	comp=E,52nm,0.4s,SNR=1.0					
LPL	La Plagne	2.82	178	ePg	Pg	07 33 47.7 +0.3
LPL				eSg	Sg	07 34 24.2 +0.3
	comp=E,26nm,0.4s,SNR=1.0					
LPL	La Plagne	2.82	178	ePn	Pn	07 33 40.2 +1.2
LPL				ePg	Pg	07 33 47.7 +0.3
LPL				eSg	Sg	07 34 24.2 +0.3
LPG	La Plagne	2.84	177	ePg	Pg	07 33 48.2 +0.4
LPG				eSg	Sg	07 34 24.5 0.0
	comp=E,55nm,0.3s,SNR=1.0					
LPG	La Plagne	2.84	177	ePg	Pg	07 33 48.2 +0.4
LPG				eSg	Sg	07 34 24.5 0.0
	comp=E,27nm,0.3s,SNR=1.0					
LPG	La Plagne	2.84	177	ePn	Pn	07 33 40.2 +0.9
LPG				ePg	Pg	07 33 48.2 +0.4
LPG				eSg	Sg	07 34 24.5 0.0
HYF	Humbligny	2.86	250	ePn	Pn	07 33 40.2 +0.6
HYF				ePg	Pg	07 33 50.2 +2.1
HYF				eSn	Sn	07 34 13.5 -0.8
HYF				eSg	Sg	07 34 26.0 +0.8
VAI	Varese	2.88	148	Pg	Pg	07 33 41.9 -6.8
LSD	Lago del Serru	2.90	172	P	Pn	07 33 41.7 +1.5
LSD				S	Sn	07 34 20.8 +5.4
LSD	Lago del Serru	2.90	172	P	Pn	07 33 41.7 +1.5
LSD				S	Sn	07 34 20.8 +5.4
RETA	Reutte	2.94	105	⇑iPn	Pn	07 33 41.3 +0.6
RETA				ePg	Pg	07 33 49.9 +0.2
	SNR=9.9					
RETA				⇑iSn	Sn	07 34 18.0 +1.7
BGF	Bois d'Agland	3.09	236	ePg	Pg	07 33 53.8 +1.2
	SNR=1.0					
BGF				eSg	Sg	07 34 31.7 -0.9
	comp=E,330nm,0.3s					
BGF	Bois d'Agland	3.09	236	ePg	Pg	07 33 53.8 +1.2
	SNR=1.0					
BGF				eSg	Sg	07 34 31.7 -0.9
	comp=E,165nm,0.3s					
BGF	Bois d'Agland	3.09	236	ePn	Pn	07 33 42.4 -0.4
BGF				ePg	Pg	07 33 53.8 +1.2
BGF				eSg	Sg	07 34 31.7 -0.9
FETA	Feichten	3.10	114	⇓iPn	Pn	07 33 44.2 +1.3
FETA				⇓iSn	Sn	07 34 21.3 +1.1
PLDF	La Plantade	3.11	222	Pn	Pn	07 33 41.9 -1.1
FUR	Furstenfeldbru	3.15	91	Pg	Pg	07 33 53.5 -0.1
FUR				Sg	Sg	07 34 33.9 -0.5
BRMO	Bormio	3.18	124	Pg	Pg	07 33 49.0 -5.3
MOTA	Moosalm	3.21	106	⇑iPn	Pn	07 33 45.1 +0.7
	SNR=10.0					
MOTA				⇓iPg	Pg	07 33 54.4 -0.4
MOTA				⇑iSn	Sn	07 34 24.2 +1.3
RSP	Reno Superiore	3.22	171	P	Pn	07 33 46.2 +1.7
RSP	Reno Superiore	3.22	171	P	Pn	07 33 46.3 +1.8
AGO	Saint Agoulin	3.27	227	Pn	Pn	07 33 44.2 -1.1
AGO				Pg	Pg	07 33 57.2 +1.1
BNI	Bardonecchia	3.28	179	ePn	Pn	07 33 45.2 -0.2
BNI	Bardonecchia	3.28	179	ePg	Pg	07 33 56.3 0.0
BNI	Bardonecchia	3.28	179	ePn	Pn	07 33 45.2 -0.2
BNI				ePg	Pg	07 33 56.3 0.0
BNI				eSn	Sg	07 34 39.8 +1.0
UBBA	Unterbreizbach	3.34	41	Pg	Pg	07 33 57.2 -0.2
UBBA				Sg	Sg	07 34 39.6 -1.0
GRA1	Grafenberg Arr	3.35	64	Pn	Pn	07 33 47.3 +1.0
	SNR=1.2					
GRA1	Grafenberg Arr	3.35	64	Pg	Pg	07 33 55.5 -2.0
GRA1				Sg	Sg	07 34 38.3 -2.5
SSB	Saint Sauveur	3.36	205	Pn	Pn	07 33 45.1 -1.3
SSB	Saint Sauveur	3.36	205	ePn	Pn	07 33 45.5 -0.9
SSB				eSn	Sg	07 34 39.1 -2.1
RRL	Rocca Remolon	3.42	178	P	Pn	07 33 49.5 +2.3
RRL	Rocca Remolon	3.42	178	P	Pn	07 33 49.5 +2.3
RRL				S	Sn	07 34 36.3 +8.3
COLF	Collangettes	3.44	216	Pn	Pn	07 33 46.1 -1.4
ORIF	Oris-en-Rattie	3.45	188	ePg	Pg	07 33 58.9 -0.5
	SNR=1.0					
ORIF				eSg	Sg	07 34 43.1 -1.0
	comp=E,106nm,0.5s,SNR=1.0					
ORIF	Oris-en-Rattie	3.45	188	ePg	Pg	07 33 58.9 -0.5
	SNR=1.0					
ORIF				eSg	Sg	07 34 43.1 -1.0
	comp=E,53nm,0.5s,SNR=1.0					
ORIF	Oris-en-Rattie	3.45	188	ePn	Pn	07 33 47.5 -0.2
ORIF				ePg	Pg	07 33 58.9 -0.5
ORIF				eSg	Sg	07 34 43.1 -1.0
WATA	Walderalm	3.51	105	⇓iPg	Pg	07 34 01.2 +0.5
WATA	Walderalm	3.51	105	⇓iPn	Pn	07 33 48.5 -0.1
WATA				⇓iPg	Pg	07 34 01.2 +0.5
WATA				⇑iSn	Sn	07 34 31.8 +1.4
	SNR=8.1					
WATA	Walderalm	3.51	105	Pg	Pg	07 34 01.2 +0.5
WATA				Sn	Sn	07 34 31.8 +1.3
	comp=E,8.0nm,1.0s					
BHB	Bricherasio	3.52	172	P	Pn	07 33 50.1 +1.4
BHB	Bricherasio	3.52	172	P	Pn	07 33 50.1 +1.4
PYM	Petit Puy Mans	3.55	225	Pn	Pn	07 33 48.1 -1.0
PYM				Pg	Pg	07 34 02.5 +1.1
WTTA	Wattenberg	3.58	106	⇑iPn	Pn	07 33 49.9 +0.5
	SNR=10					
WTTA				⇑iSn	Sn	07 34 33.0 +1.1
TCF	Toulx Ste Croi	3.61	237	ePg	Pg	07 34 02.4 0.0
	SNR=1.0					
TCF				eSn	Sn	07 34 30.8 -1.9
	SNR=1.0					
TCF				eSg	Sg	07 34 48.1 -1.0
	comp=E,111nm,0.4s,SNR=1.0					
TCF	Toulx Ste Croi	3.61	237	ePg	Pg	07 34 02.4 0.0
	SNR=1.0					
TCF				eSn	Sn	07 34 30.8 -1.9
	SNR=1.0					
TCF				eSg	Sg	07 34 48.1 -1.0
	comp=E,56nm,0.4s,SNR=1.0					
TCF	Toulx Ste Croi	3.61	237	ePn	Pn	07 33 49.5 -0.3
TCF				ePg	Pg	07 34 02.4 0.0
TCF				eSn	Sn	07 34 30.8 -1.9
TCF				eSg	Sg	07 34 48.1 -1.0
MBDF	Montbardon	3.61	178	ePg	Pg	07 34 01.7 -0.8
MBDF				eSg	Sg	07 34 48.5 -0.8
	comp=E,23nm,0.5s,SNR=1.0					
MBDF	Montbardon	3.61	178	ePg	Pg	07 34 01.7 -0.8
MBDF				eSg	Sg	07 34 48.5 -0.8
	comp=E,11nm,0.5s,SNR=1.0					
MBDF	Montbardon	3.61	178	ePn	Pn	07 33 52.2 +2.3
MBDF				ePg	Pg	07 34 01.7 -0.8
MBDF				eSg	Sg	07 34 48.5 -0.8
WTSB	Winterswijk	3.64	2	ePg	Pg	07 34 05.6 +2.5
	comp=E,13nm,0.9s					
WTSB				eSg	Sg	07 34 48.2 -2.1
APPI	Appiano	3.66	119	Pg	Pg	07 33 53.4 -10
VIVF	Saint-Julien-l	3.72	201	ePg	Pg	07 34 03.7 -0.9
	SNR=1.0					
VIVF				eSn	Sn	07 34 33.9 -1.6
VIVF				eSg	Sg	07 34 50.5 -2.2
	comp=E,117nm,0.5s,SNR=1.0					
VIVF	Saint-Julien-l	3.72	201	ePg	Pg	07 34 03.7 -0.9
	SNR=1.0					
VIVF				eSn	Sn	07 34 33.9 -1.6
VIVF				eSg	Sg	07 34 50.5 -2.2
	comp=E,58nm,0.5s,SNR=1.0					
VIVF	Saint-Julien-l	3.72	201	ePn	Pn	07 33 50.2 -1.2
VIVF				ePg	Pg	07 34 03.7 -0.9
VIVF				eSn	Sn	07 34 33.9 -1.6
VIVF				eSg	Sg	07 34 50.5 -2.2
LBL	Lubilhac	3.85	218	Pn	Pn	07 33 51.8 -1.4
MOX	Moxa	4.02	53	(PN)	Pn	07 33 57.4 +1.9
MOX				*i* PG	Pg	07 34 08.6 -1.7
MOX				*i* SN	Sg	07 34 59.8 -2.6
MOX	Moxa	4.02	53	*i* Pg	Pg	07 34 08.6 -1.7
MOX				Sg	Sg	07 35 00.9 -1.5
MOX	Moxa	4.02	53	Pn	Pn	07 33 57.4 +1.9
MOX				*i* Pg	Pg	07 34 08.6 -1.7
MOX				*i* Sn	Sg	07 34 59.8 -2.6
WET	Wettzell	4.25	77	Pn	Pn	07 33 58.3 -0.4
	SNR=4.8					
WET				Sn	Sn	07 34 44.7 -3.9
WET				Sg	Sg	07 35 06.5 -3.3
WET	Wettzell	4.25	77	ePn	Pn	07 33 58.3 -0.4
WET				eSn	Sn	07 34 44.8 -3.8
WET				eSg	Sg	07 35 06.2 -3.6
GUNZ	Gunzen	4.28	59	Pn	Pn	07 33 58.8 -0.3
	SNR=3.2					
GUNZ	Gunzen	4.28	59	Pg	Pg	07 34 14.2 -1.1
GUNZ				Sg	Sg	07 35 07.1 -3.6
NKC	Novy Kostel	4.29	61	ePN	Pn	07 34 02.4 +3.2
NKC				ePG	Pg	07 34 13.3 -2.2
NKC				eSG	Sg	07 35 06.1 -5.0
	comp=Z,113nm,0.7s					
WERD	Werda	4.30	58	Pg	Pg	07 34 14.0 -1.7
ABTA	Abfaltersbach	4.32	109	⇑iPn	Pn	07 34 00.5 +0.8
	SNR=6.9					
ABTA				⇓iSn	Sn	07 34 50.5 +0.1
SMRF	Simiane la Rot	4.41	189	ePg	Pg	07 34 18.4 +0.5
	SNR=1.0					
SM

comp=Z,20nm,0.5s
FLN La Foliniere 4.71 278 *e*Pn **Pn 07 34 05.3 +0.3**
baz=104,SNR=1.0
FLN *e*Sn **Sn 07 34 56.8 -3.1**
FLN *e*Sg **Sg 07 35 24.6 +0.1**
comp=Z,62nm,0.3s,SNR=1.0
FLN La Foliniere 4.71 278 *e*Pn **Pn 07 34 05.3 +0.3**
SNR=1.0
FLN *e*Sn **Sn 07 34 56.8 -3.1**
FLN *e*Sg **Sg 07 35 24.6 +0.1**
comp=Z,31nm,0.3s,SNR=1.0
GEC2 GERESS Array S 4.76 81 Pn **Pn 07 34 05.8 +0.1**
SNR=9.1
GEC2 Sn **Sn 07 34 58.4 -2.7**
GEC2 Sg **Sg 07 35 23.7 -2.4**
GEC2 GERESS Array S 4.76 81 *e*Pn **Pn 07 34 05.8 +0.1**
GEC2 *e*Sn **Sn 07 34 58.4 -2.7**
GEC2 *e*Sg **Sg 07 35 23.7 -2.4**
FRF La Foret Royal 4.77 179 *e*Pg **Pg 07 34 23.7 -1.1**
FRF *e*Sn **Sn 07 34 57.1 -4.4**
comp=Z,7.1nm,0.4s,SNR=1.0
FRF La Foret Royal 4.77 179 *e*Pg **Pg 07 34 23.7 -1.1**
FRF *e*Sn **Sn 07 34 57.1 -4.4**
comp=Z,3.5nm,0.4s,SNR=1.0
FRF La Foret Royal 4.77 179 *e*Pn **Pn 07 34 05.8 -0.1**
FRF *e*Pg **Pg 07 34 23.7 -1.1**
FRF *e*Sn **Sn 07 34 57.1 -4.4**
MFF Saint Martin d 4.88 252 *e*Pg **Pg 07 34 25.7 -1.1**
SNR=1.0
MFF *e*Sn **Sn 07 35 00.1 -3.9**
MFF *e*Sg **Sg 07 35 27.2 -2.7**
comp=Z,50nm,0.6s,SNR=1.0
MFF Saint Martin d 4.88 252 *e*Pg **Pg 07 34 25.7 -1.1**
SNR=1.0
MFF *e*Sn **Sn 07 35 00.1 -3.9**
MFF *e*Sg **Sg 07 35 27.2 -2.7**
comp=Z,25nm,0.6s,SNR=1.0
MFF Saint Martin d 4.88 252 *e*Pn **Pn 07 34 07.1 -0.2**
MFF *e*Pg **Pg 07 34 25.7 -1.1**
MFF *e*Sn **Sn 07 35 00.1 -3.9**
MFF *e*Sg **Sg 07 35 27.2 -2.7**
GRR Gorron 4.96 273 *e*Pg **Pg 07 34 27.7 -0.6**
SNR=1.0
GRR *e*Sn **Sn 07 35 01.3 -4.7**
GRR *e*Sg **Sg 07 35 30.9 -1.6**
comp=Z,32nm,0.2s
GRR Gorron 4.96 273 *e*Pg **Pg 07 34 27.7 -0.6**
SNR=1.0
GRR *e*Sn **Sn 07 35 01.3 -4.7**
GRR *e*Sg **Sg 07 35 30.9 -1.6**
comp=Z,16nm,0.2s
GRR Gorron 4.96 273 *e*Pn **Pn 07 34 08.7 +0.3**
GRR *e*Pg **Pg 07 34 27.7 -0.6**
GRR *e*Sn **Sn 07 35 01.3 -4.7**
GRR *e*Sg **Sg 07 35 30.9 -1.6**
LMR La Mourre 5.00 181 *e*Pg **Pg 07 34 29.2 +0.1**
SNR=1.0
LMR *e*Sn **Sn 07 35 03.6 -3.5**
comp=Z,2.9nm,0.2s,SNR=1.0
LMR La Mourre 5.00 181 *e*Pg **Pg 07 34 29.2 +0.1**
SNR=1.0
LMR *e*Sn **Sn 07 35 03.6 -3.5**
comp=Z,1.5nm,0.2s,SNR=1.0
LMR La Mourre 5.00 181 *e*Pn **Pn 07 34 09.5 +0.5**
LMR *e*Pg **Pg 07 34 29.2 +0.1**
LMR *e*Sn **Sn 07 35 03.6 -3.5**
CLL Collm 5.12 52 *e*Pg **Pg 07 34 30.0 -1.3**
CLL *e*Sg **Sg 07 35 35.0 -2.6**
comp=Z,41nm,0.8s
CLL Collm 5.12 52 Pg **Pg 07 34 29.4 -1.9**
CLL Sg **Sg 07 35 35.8 -1.8**
MOA Molln 5.18 92 ⇑*i*Pn **Pn 07 34 11.8 +0.4**
MOA ⇑*i*Pg **Pg 07 34 30.9 -1.6**
MOA ⇑*i*Sn **Sn 07 35 12.5 +1.1**
MOA Molln 5.18 92 ⇑*i*Pn **Pn 07 34 11.8 +0.4**
MOA ⇑*i*Pg **Pg 07 34 30.9 -1.6**
MOA *i* Sn **Sn 07 35 12.5 +1.1**
LFF La Frestale 5.26 232 *e*Pg **Pg 07 34 33.1 -1.0**
SNR=1.0
LFF *e*Sg **Sg 07 35 39.7 -2.5**
comp=Z,114nm,0.5s,SNR=1.0
LFF La Frestale 5.26 232 *e*Pg **Pg 07 34 33.1 -1.0**
SNR=1.0
LFF *e*Sg **Sg 07 35 39.7 -2.5**
comp=Z,57nm,0.5s,SNR=1.0
LFF La Frestale 5.26 232 *e*Pn **Pn 07 34 11.5 -1.1**
LFF *e*Pg **Pg 07 34 33.1 -1.0**
LFF *e*Sg **Sg 07 35 39.7 -2.5**
BRG Berggiesshubel 5.42 59 Pg **Pg 07 34 34.7 -2.5**
BRG Sg **Sg 07 35 44.6 -2.8**
BRG Berggiesshubel 5.42 59 PN **Pn 07 34 16.3 +1.5**
BRG PG **Pg 07 34 34.7 -2.5**
BRG SG **Sg 07 35 42.6 -4.8**
comp=Z,22nm,0.8s
BRG Berggiesshubel 5.42 59 Pn **Pn 07 34 16.3 +1.5**
comp=Z,13nm,0.8s
BRG Pg **Pg 07 34 34.7 -2.5**
BRG Sg **Sg 07 35 42.6 -4.8**
PRU Pruhonice 5.48 69 *e*PG **Pg 07 34 34.1 -4.3**
PRU *e*SG **Sg 07 35 44.7 -4.6**
comp=Z,17nm,0.6s
VOY Vojsko 5.49 112 *e*Pn **Sn 07 35 22.8 +3.5**
VOY *e* **Sg 07 35 46.5 -3.2**
VOY *e* 07 35 58.7
MTLF Montolieu 5.85 213 *e*Pg **Pg 07 34 44.9 -0.4**
SNR=1.0
MTLF *e*Sg **Sg 07 35 59.5 -1.5**
comp=Z,30nm,0.6s,SNR=1.0
MTLF Montolieu 5.85 213 *e*Pg **Pg 07 34 44.9 -0.4**
SNR=1.0
MTLF *e*Sg **Sg 07 35 59.5 -1.5**
comp=Z,15nm,0.6s,SNR=1.0
MTLF Montolieu 5.85 213 *e*Pn **Pn 07 34 19.9 -0.7**
MTLF *e*Pg **Pg 07 34 44.9 -0.4**
MTLF *e*Sg **Sg 07 35 59.5 -1.5**
SGMF Saint Gilles 6.10 273 *e*Pn **Pn 07 34 23.9 -0.1**
SNR=1.0
SGMF *e*Sn **Sn 07 35 28.0 -6.1**
comp=Z,10nm,0.2s,SNR=1.0
CONA Conrad Observa 6.23 90 ⇑*i*Pn **Pn 07 34 25.6 -0.3**
CONA ⇑*i*Pg **Pg 07 34 51.3 -1.3**
CONA ⇑*i*Sn **Sn 07 35 33.8 -3.6**
QUIF Quistinic 6.54 270 *e*Pn **Pn 07 34 29.4 -0.7**
SNR=1.0
QUIF *e*Sn **Sn 07 35 37.6 -7.3**
SNR=1.0
QUIF *e*Sg **Sg 07 36 19.7 -3.4**
comp=Z,12nm,0.3s,SNR=1.0
ROSF Rostrenen 6.57 274 *e*Pn **Pn 07 34 29.9 -0.6**
SNR=1.0
ROSF *e*Sn **Sn 07 35 40.3 -5.4**
comp=Z,7.2nm,0.2s,SNR=1.0
ROSF *e*Sg **Sg 07 36 20.9 -3.2**
comp=Z,51nm,0.7s
DPC Dobruska-Polom 6.68 69 *e*SG **Sg 07 36 21.6 -6.2**
comp=Z,12nm,0.5s
EPF Esparros 6.87 222 *e*Pn **Pn 07 34 34.6 0.0**
EPF *e*Sg **Sg 07 36 32.2 -1.6**
comp=Z,17nm,0.5s
ZST Bratislava 7.03 87 *e*SG **Sg 07 36 36.5 -2.5**
MODS Modra-Piesok 7.13 86 *e*SG **Sg 07 36 39.1 -3.2**
ETSF Etsaut 7.38 225 *e*Pn **Pn 07 34 41.6 -0.1**
ETSF *e*Sg **Sg 07 36 47.6 -2.7**
comp=Z,17nm,0.5s
ETSF Etsaut 7.38 225 *e*Pn **Pn 07 34 41.6 -0.1**
ETSF *e*Sg **Sg 07 36 47.6 -2.7**
comp=Z,8.6nm,0.5s
SJPF Ste Jean 7.55 229 *e*Pg **Pg 07 35 12.1 -5.8**
SNR=1.0
SJPF *e*Sg **Sg 07 36 51.6 -4.0**
comp=Z,49nm,1.0s
SJPF Ste Jean 7.55 229 *e*Pg **Pg 07 35 12.1 -5.8**
SNR=1.0
SJPF *e*Sg **Sg 07 36 51.6 -4.0**
comp=Z,24nm,1.0s
SJPF Ste Jean 7.55 229 *e*Pn **Pn 07 34 43.8 -0.2**
SJPF *e*Pg **Pg 07 35 12.1 -5.8**
SJPF *e*Sg **Sg 07 36 51.6 -4.0**

KRSC 19 07:33:37.2±0.9, 5582N×16007E, h283km±23km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.11**	**124**	P	Pn	07 34 14.9	+1.7
KMNR				S	S	07 34 42.5	+0.8
KPT	**Kopyto**	**0.17**	**30**	*e*P	Pn	07 34 14.9	+1.7
KIRR	**Kirishev**	**0.20**	**49**	*e*P	Pn	07 34 15.1	+1.9
KIRR				*e*S	S	07 34 43.0	+1.2
BZMR	**Bezymyannaya**	**0.26**	**64**	*e*P	Pn	07 34 15.4	+2.1
BZMR				*e*S	S	07 34 42.9	+1.0
KOZ	**Kozyrevsk**	**0.26**	**335**	P	Pn	07 34 14.7	+1.4
KOZ				*e*S	S	07 34 42.4	+0.5
ZLN	**Zelenaya**	**0.46**	**64**	*e*P	Pn	07 34 16.1	+2.4
ZLN				*e*S	S	07 34 43.8	+1.2
CIRR	**Tsirk**	**0.48**	**52**	P	Pn	07 34 15.8	+2.1
CIRR				*e*S	S	07 34 44.0	+1.4
KRSR	**Krestovskiy**	**0.48**	**35**	*e*P	Pn	07 34 15.4	+1.7
KRSR				*e*S	S	07 34 43.5	+0.8
SRDR	**Sredinnyy**	**0.54**	**338**	*e*P	Pn	07 34 15.0	+1.2
SRDR				*e*S	S	07 34 43.1	+0.2
TUMR	**Tumrok**	**0.54**	**175**	P	Pn	07 34 16.3	+2.3
TUMR				*e*S	S	07 34 44.4	+1.3
KLY	**Klyuchi**	**0.59**	**33**	*e*P	Pn	07 34 16.2	+2.2
KLY				*e*S	S	07 34 44.0	+0.8
SRKR	**Sorokina**	**1.04**	**36**	*e*P	Pn	07 34 17.2	+1.4
SRKR				*e*S	S	07 34 46.1	-0.3
MKZ	**Mys Kozlova**	**1.58**	**142**	*e*P	Pn	07 34 20.2	+0.9
MKZ				*e*S	S	07 34 51.6	-1.0
KBTR	**Krutoberegovo**	**1.59**	**75**	*e*P	Pn	07 34 20.5	+1.3
KBTR				*e*S	S	07 34 51.5	-1.1
GNL	**Ganaly**	**2.46**	**211**	P	Pn	07 34 28.1	+1.6
AVH	**Avacha**	**2.68**	**197**	P	Pn	07 34 30.2	+1.7
NLC	**Nalytchevo**	**2.69**	**189**	*e*P	Pn	07 34 30.2	+1.5
NLC				*e*S	S	07 35 08.5	-1.1
SPN	**Mys Shipunski**	**2.73**	**181**	*e*P	Pn	07 34 29.5	+0.4
SPN				*e*S	S	07 35 07.6	-2.7
PET	**Petropavlovsk**	**2.92**	**197**	S	S	07 35 14.2	+0.4
RUS	**Russkaya**	**3.52**	**196**	*e*P	Pn	07 34 38.7	+1.5
RUS				*e*S	S	07 35 23.8	-1.2

IDC ***19*** *07:42:19.4±0.5, 4577S×7224W, h0km, mb4.6/17, mb1 4.6/19, mb1mx4.6/20, mbtmp4.5/19, ML3.0/2, MS3.9/4, Ms1 3.8/4, ms1mx3.4/22, Error ellipse: s-maj=23.5km s-min=12.2km az=86.0*
ISCJB ***19*** *07:42:23.2±2.0, 4573S±005×723W±02, h39km±16km, mb4.8/41, MS4.0/4, Error ellipse: s-maj=18.5km s-min=8.0km az=166.8*
MOS ***19*** *07:42:23.4±1.5, 4568S×7232W, h33km, mb5.3/13, Error ellipse: s-maj=23.7km s-min=10.2km az=95.9*
BJI ***19*** *07:42:24.4, 4570S×7250W, h35km, mB4.8, Ms5.1, Msz4.8*
NEIC ***19*** *07:42:24.5±0.2, 4571S×7254W, h35km, mb5.0/29, Error ellipse: s-maj=10.6km s-min=6.5km az=90.0*
NEIC Felt [III] at Puerto Chacabuco and [II] at Puerto Aisen.
ISC 19 07:42:25.4±1.5, 4574S±005×724W±02, h44km±13km, n122, σ0.93/90, mb4.9/41, MS4.0/4, 2C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.18**	**16**	Pn	**Pn**	**07 43 42.0**	**+1.6**
2.3nm,0.3s,baz=198,slow=14,SNR=26							
PLCA				Pg	**Pn**	**07 43 56.4**	**+16**
8.5nm,0.3s,baz=196,slow=16,SNR=15							
PLCA				Sn	**Sn**	**07 44 50.0**	**+11**
1.7nm,0.3s,baz=101,slow=19,SNR=1.9							
PLCA				Lg		07 45 07.2	
8.1nm,0.3s,baz=275,slow=20,SNR=3.0							
PLCA	**Paso Flores**	**5.18**	**16**	*e*Pn	**Pn**	**07 43 42.4**	**+2.0**
PLCA				*e*Sn	**Sn**	**07 44 57.4**	**+19**
USHA	**Ushuaia**	**9.45**	**166**	Pn	**Pn**	**07 44 33.9**	**-4.9**
0.2nm,0.3s,baz=339,slow=17,SNR=2.4							
USHA				Lg		07 47 18.3	
0.3nm,0.3s,baz=206,slow=17,SNR=1.9							
USHA				LR	LR	07 48 18.7	
comp=Z,301nm,21.7s,baz=188,slow=38							
TRQA	**Tornquist**	**10.91**	**49**	*e*Pn	**Pn**	**07 45 00.4**	**+1.6**
EFI	**East Falkland**	**11.17**	**127**	⇑*i*P	**Pn**	**07 45 01.3**	**-1.0**
CFAA	**Coronel Fontan**	**14.48**	**14**	Pn	**Pn**	**07 45 45.6**	**-1.9**
0.1nm,0.3s,baz=203,slow=13,SNR=4.9							
CFAA				Lg		07 49 55.9	
0.0nm,0.3s,baz=307,slow=14,SNR=2.6							
CFAA				LR	LR	07 51 08.3	
comp=Z,12nm,18.4s,baz=210,slow=36							
LPA	**La Plata**	**15.42**	**51**	*de*P	**Pn**	**07 46 07.0**	**+7.1**
LCO	**Las Campanas**	**16.75**	**5**	*e*Pn	**Pn**	**07 46 16.9**	**+0.1**
47nm,1.0s							
PMSA	**Palmer Station**	**19.63**	**169**	P	**Pn**	**07 46 50.7**	**-0.8**
0.1nm,0.3s,baz=331,slow=13,SNR=2.1							
LVC	**Limon Verde**	**23.24**	**8**	P	**P**	**07 47 28.1**	**-0.8**
14nm,0.9s,mb4.4,baz=200,slow=9.0,SNR=8.2							
LVC	**Limon Verde**	**23.24**	**8**	*e*P	**P**	**07 47 28.4**	**-0.5**
12nm,0.8s,mb4.4							
ARE	**Arequipa**	**29.20**	**2**	*e*P	**P**	**07 48 22.0**	**-0.8**
LPAZ	**La Paz**	**29.58**	**8**	P	**P**	**07 48 26.8**	**+0.7**
14nm,0.9s,mb4.7,baz=145,slow=9.6,SNR=28							
LPAZ	**La Paz**	**29.58**	**8**	*e*P	**P**	**07 48 27.1**	**+1.0**
LPAZ				pmax	pmax		
comp=Z,23nm,1.1s							
LPAZ	**La Paz**	**29.58**	**8**	*e*P	**P**	**07 48 27.1**	**+1.0**
comp=Z,23nm,1.1s,mb4.8							
SPB	**Sao Paulo**	**29.94**	**51**	*e*P	**P**	**07 48 29.8**	**+0.5**
SIV	**San Ignacio**	**31.14**	**21**	P	**P**	**07 48 39.9**	**0.0**
comp=Z,32nm,0.9s,mb5.2,baz=208,slow=8.7,SNR=81							
BDFB	**Brasilia**	**36.31**	**42**	P	**P**	**07 49 23.8**	**-1.0**
comp=Z,5.5nm,0.9s,mb4.5,baz=189,slow=14,SNR=13							
BDFB				LR	LR	08 05 45.3	
comp=Z,181nm,20.6s,MS3.8,baz=2.5,slow=39							
ATAH	**Atahualpa**	**38.94**	**350**	P	**P**	**07 49 47.0**	**-0.1**
comp=Z,15nm,0.9s,mb4.7							
VNA1	**Neumayer--Stat**	**39.21**	**152**	*e*P	**P**	**07 49 49.5**	**+0.7**
VNA1				*e*		07 49 52.2	
VNA2	**Neumayer--Watz**	**39.52**	**152**	*e*P	**P**	**07 49 51.6**	**+0.3**
VNA2				*e*		07 49 54.4	
VNA2				*e*	pP	07 50 04.8	+1.5
SNAA	**Sanae**	**41.01**	**153**	*e*P	**P**	**07 50 03.5**	**-0.2**
SNAA				*e*		07 50 06.7	
SNAA				*e*	pP	07 50 17.3	+1.6
SNAA	**Sanae**	**41.01**	**153**	P	**P**	**07 50 03.5**	**-0.2**
comp=Z,3.6nm,0.9s,mb4.0,baz=276,slow=7.5,SNR=15							
SNAA	**Sanae**	**41.01**	**153**	*e*P	**P**	**07 50 03.5**	**-0.2**
SNAA				pmax	pmax		
comp=Z,14nm,1.1s							
SNAA	**Sanae**	**41.01**	**153**	*e*P	**P**	**07 50 03.5**	**-0.2**
comp=Z,14nm,1.1s,mb4.5							
QSPA	**South Pole Qui**	**44.51**	**180**	P	**P**	**07 50 32.0**	**+0.1**
comp=Z,6.5nm,0.8s,mb4.5,baz=149,slow=2.9,SNR=30							
QSPA				PcP	PcP	07 52 17.1	+2.7
comp=Z,2.3nm,0.9s,baz=130,slow=2.4,SNR=2.7							
OTAV	**Otavalo**	**46.09**	**352**	*e*P	**P**	**07 50 46.4**	**+1.2**
comp=Z,16nm,1.1s,mb4.9							
ROSC	**El Rosal**	**50.40**	**357**	P	**P**	**07 51 20.1**	**+1.8**
comp=Z,10nm,0.9s,mb4.9,baz=159,slow=2.3,SNR=12							
ROSC				PcP	PcP	07 52 38.4	+2.1
comp=Z,2.0nm,0.6s,baz=274,slow=22,SNR=2.1							
ROSC	**El Rosal**	**50.40**	**357**	*e*P	**P**	**07 51 18.5**	**+0.2**
SDV	**Santo Domingo**	**54.40**	**2**	P	**P**	**07 51 49.5**	**+1.6**
comp=Z,4.6nm,0.3s,mb4.8							
SDV	**Santo Domingo**	**54.40**	**2**	*e*P	**P**	**07 51 47.1**	**-0.8**
comp=Z,13nm,0.8s,mb4.9							
SYO	**Syowa Base**	**55.15**	**156**	⇑*e*pP	pP	07 52 05.6	+0.4
MAW	**Mawson**	**62.05**	**162**	P	**P**	**07 52 40.6**	**-0.2**
comp=Z,2.4nm,0.7s,mb4.5,baz=233,slow=9.8,SNR=6.6							
SJG	**San Juan**	**63.80**	**7**	LR	LR	08 20 23.0	
comp=Z,150nm,20.7s,MS4.2,baz=267,slow=36							
SJG	**San Juan**	**63.80**	**7**	P	**P**	**07 52 51.9**	**-1.0**
SJG				pmax	pmax		
comp=Z,62nm,1.4s							
SJG	**San Juan**	**63.80**	**7**	P	**P**	**07 52 51.9**	**-1.0**
comp=Z,62nm,1.4s,mb5.4							
TEIG	**Tepich**	**67.22**	**344**	*e*P	**P**	**07 53 13.0**	**-2.0**
comp=Z,23nm,1.1s,mb5.1							
PPT	**Papeete**	**68.76**	**266**	P	**P**	**07 53 26.2**	**+1.3**
comp=Z,20nm,0.6s,mb5.2,baz=198,slow=22,SNR=3.0							
BOSA	**Boshof**	**75.04**	**116**	P	**P**	**07 54 03.0**	**+0.5**
comp=Z,7.3nm,0.9s,mb4.6,baz=220,slow=4.1,SNR=8.8							
BOSA				LR	LR	08 21 59.7	
comp=Z,105nm,20.2s,MS4.1,baz=163,slow=32							
BOSA	**Boshof**	**75.04**	**116**	P	**P**	**07 54 03.0**	**+0.5**
BOSA				LR	LR	08 21 59.7	
GOGA	**Godfrey**	**79.42**	**351**	*e*P	**P**	**07 54 25.5**	**-1.1**
GOGA				pmax	pmax		
comp=Z,22nm,1.0s,mb5.0							
GOGA	**Godfrey**	**79.42**	**351**	*e*P	**P**	**07 54 25.5**	**-1.1**
comp=Z,22nm,1.0s,mb5.0							
DBIC	**Dimbokro**	**79.43**	**69**	P	**P**	**07 54 27.2**	**0.0**
comp=Z,5.0nm,1.0s,mb4.4,baz=289,slow=15,SNR=3.0							
DBIC	**Dimbokro**	**79.43**	**69**	P	**P**	**07 54 27.2**	**0.0**
JCT	**Junction City**	**79.84**	**336**	*e*P	**P**	**07 54 28.8**	**-0.1**
JCT				pmax	pmax		
comp=Z,26nm,1.1s,mb5.1							
JCT	**Junction City**	**79.84**	**336**	*e*P	**P**	**07 54 28.8**	**-0.1**
comp=Z,26nm,1.1s,mb5.1							
TXAR	**Lajitas Array**	**79.94**	**333**	P	**P**	**07 54 29.5**	**0.0**
comp=Z,5.2nm,0.8s,mb4.5,baz=152,slow=8.5,SNR=30							
JSC	**Jenkinsville**	**80.05**	**353**	*e*P	**P**	**07 54 29.9**	**-0.1**
OXF	**Oxford**	**81.35**	**346**	*e*P	**P**	**07 54 33.2**	**-3.7**
OXF				pmax	pmax		
comp=Z,24nm,0.9s,mb5.1							
OXF	**Oxford**	**81.35**	**346**	*e*P	**P**	**07 54 33.2**	**-3.7**
comp=Z,24nm,0.9s,mb5.1							
SWET	**Sewanee**	**81.50**	**349**	*e*P	**P**	**07 54 36.8**	**-0.9**
CPCT	**Cooper Cave**	**81.55**	**350**	*e*P	**P**	**07 54 37.1**	**-0.8**
PLAL	**Pickwick Lake**	**81.59**	**347**	*e*P	**P**	**07 54 36.0**	**-2.2**
comp=Z,12nm,1.0s,mb4.8							
TKL	**Tuckaleechee C**	**81.67**	**351**	*e*P	**P**	**07 54 37.0**	**-1.6**
TZTN	**Tazewell**	**82.52**	**351**	*e*P	**P**	**07 54 42.7**	**-0.4**
comp=Z,11nm,1.1s,mb4.8							
GNAR	**Gosnell**	**82.87**	**346**	*e*P	**P**	**07 54 45.0**	**+0.1**
comp=Z,512nm,1.3s							
WMOK	**Wichita Mounta**	**83.58**	**338**	*e*P	**P**	**07 54 47.4**	**-1.2**
WMOK				pmax	pmax		
comp=Z,21nm,1.1s,mb5.2							
WMOK	**Wichita Mounta**	**83.58**	**338**	*e*P	**P**	**07 54 47.4**	**-1.1**
comp=Z,21nm,1.1s,mb5.2							
SIUC	**Southern Illin**	**84.44**	**347**	*e*P	**P**	**07 54 53.8**	**+0.9**
comp=Z,17nm,0.9s,mb5.2							
USIN	**University of**	**84.45**	**348**	*e*P	**P**	**07 54 51.8**	**-1.1**
comp=Z,7.9nm,0.6s,mb5.0							
AMTX	**Amarillo**	**84.50**	**336**	*e*P	**P**	**07 54 53.3**	**+0.1**
comp=Z,36nm,1.6s,mb5.3							
SDMD	**Soldier's Deli**	**84.86**	**357**	*e*P	**P**	**07 54 56.5**	**+1.6**
comp=Z,12nm,1.0s,mb5.0							
OLIL	**Olney**	**85.27**	**348**	*e*P	**P**	**07 54 57.6**	**+0.6**
comp=Z,6.0nm,0.8s,mb4.8							
BNM	**Barren Site**	**85.34**	**332**	*e*P	**P**	**07 54 57.8**	**+0.4**
BLO	**Bloomington**	**85.48**	**349**	*e*P	**P**	**07 54 57.3**	**-0.7**
BLO				pmax	pmax		
comp=Z,12nm,0.8s,mb5.1							
BLO	**Bloomington**	**85.48**	**349**	*e*P	**P**	**07 54 57.3**	**-0.7**
comp=Z,12nm,0.8s,mb5.1							
LPM	**Los Pinos Moun**	**85.49**	**332**	*e*P	**P**	**07 54 59.0**	**+0.8**
ANMO	**Albuquerque**	**86.02**	**333**	*e*P	**P**	**07 55 01.1**	**+0.3**
ANMO				pmax	pmax		
comp=Z,14nm,1.0s							
ANMO	**Albuquerque**	**86.02**	**333**	*e*P	**P**	**07 55 01.1**	**+0.3**
comp=Z,14nm,1.0s,mb5.1							
LSZ	**Lusaka**	**86.40**	**108**	*e*P	**P**	**07 55 04.6**	**+1.3**
LSZ				pmax	pmax		
comp=Z,8.0nm,0.8s,mb5.0							
LSZ	**Lusaka**	**86.40**	**108**	*e*P	**P**	**07 55 04.5**	**+1.2**
comp=Z,8.4nm,0.8s,mb5.0							
SDCO	**Great Sand Dun**	**88.29**	**334**	*e*P	**P**	**07 55 11.5**	**-0.2**
comp=Z,4.6nm,1.1s,mb4.6							
TORD	**Torodi Ar. Bea**	**88.53**	**70**	P	**P**	**07 55 13.3**	**-0.1**
comp=Z,3.7nm,0.8s,mb4.7,baz=240,slow=3.9,SNR=14							
MVCO	**Mesa Verde**	**88.75**	**332**	*e*P	**P**	**07 55 14.6**	**+0.7**
comp=Z,6.8nm,0.9s,mb5.0							
SCIA	**State Center**	**89.22**	**345**	*e*P	**P**	**07 55 15.9**	**0.0**
comp=Z,3.8nm,0.4s,mb5.1							
PV01	**Paradox Valley**	**89.61**	**332**	*e*P	**P**	**07 55 18.5**	**+0.6**
JFWS	**Jewell Farm**	**89.69**	**347**	*e*P	**P**	**07 55 17.7**	**-0.4**
JFWS				pmax	pmax		
comp=Z,10.0nm,0.7s,mb5.2							
JFWS	**Jewell Farm**	**89.69**	**347**	*e*P	**P**	**07 55 17.7**	**-0.4**
comp=Z,9.6nm,0.7s,mb5.2							
PV10	**Paradox Valley**	**89.98**	**332**	*e*P	**P**	**07 55 19.7**	**0.0**
ISCO	**Idaho Springs**	**90.21**	**335**	*e*P	**P**	**07 55 22.7**	**+2.0**
ISCO				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.5							
ISCO	**Idaho Springs**	**90.21**	**335**	*e*P	**P**	**07 55 22.7**	**+2.0**
comp=Z,2.4nm,0.8s,mb4.6							
MSU	**Marysvale**	**91.17**	**330**	*e*P	**P**	**07 55 26.0**	**+0.8**
PHWY	**Pilot Hill**	**91.56**	**336**	*e*P	**P**	**07 55 27.0**	**+0.1**
RWWY	**Rawlins**	**92.43**	**335**	*e*P	**P**	**07 55 31.7**	**+0.8**
comp=Z,12nm,1.0s,mb5.2							
NVAR	**Mina Array Bea**	**93.39**	**326**	P	**P**	**07 55 36.7**	**+1.2**
comp=Z,0.2nm,0.6s,baz=116,slow=4.1,SNR=2.4							
HWUT	**Hardware Ranch**	**93.73**	**332**	*e*P	**P**	**07 55 37.0**	**+0.1**
comp=Z,6.3nm,0.9s,mb5.0							
PDAR	**Pinedale Array**	**94.13**	**334**	P	**P**	**07 55 37.5**	**-1.2**
comp=Z,0.8nm,0.9s,mb4.2,baz=134,slow=4.3,SNR=5.8							
STKA	**Stephens Creek**	**96.83**	**209**	P	**P**	**07 55 51.2**	**-0.5**
comp=Z,1.7nm,0.9s,mb4.5,baz=126,slow=4.9,SNR=2.8							
STKA	**Stephens Creek**	**96.83**	**209**	P	**P**	**07 55 51.2**	**-0.5**
GERES	**GERESS Array B**	**120.29**	**50**	PKP	PKPdf	08 01 10.4	-0.4
comp=Z,1.1nm,0.8s,baz=169,slow=1.4,SNR=9.6							
RAGM	**Ragged Mountai**	**120.91**	**327**	*e*PKPdf	PKPdf	08 01 09.9	-1.7
CLL	**Collm**	**121.36**	**47**	*e*PKPdf	PKPdf	08 01 15.0	+2.2
comp=Z,4.0nm,1.0s							
COLA	**College**	**124.78**	**330**	*i* PKIKP	PKPdf	08 01 20.1	+1.1
KTH	**Kantishna Hill**	**125.16**	**328**	*e*PKPdf	PKPdf	08 01 20.4	+0.6
BPAW	**Bear Paw Mtn.**	**125.48**	**328**	*e*PKPdf	PKPdf	08 01 20.0	-0.4
NOA	**NORSAR Array B**	**125.84**	**37**	PKP	PKPdf	08 01 21.6	+0.4
comp=Z,1.5nm,0.9s,baz=240,slow=2.2,SNR=4.9							
SUW	**Suwalki**	**128.05**	**48**	*e*PKIKP	PKPdf	08 01 26.4	+0.9
MALT	**Malatya**	**129.53**	**72**	*e*PKIKP	PKPdf	08 01 31.1	+2.2
OBN	**Obninsk**	**135.64**	**51**	*i* PKIKP	PKPdf	08 01 39.4	-0.4
OBN				pmax	pmax		
comp=Z,11nm,1.1s							
PETK	**Petropavlovsk-**	**147.18**	**301**	PKP	PKPdf	08 01 59.7	-0.8
comp=Z,4.0nm,0.9s,baz=194,slow=5.4,SNR=4.2							
PETK				PKPbc	PKPbc	08 02 03.2	+0.3
comp=Z,4.5nm,0.8s,baz=114,slow=7.1,SNR=9.8							
ARU	**Arti**	**148.05**	**52**	*e*PKIKP	PKPdf	08 02 02.6	+0.7
ARU				*e*		08 02 06

CD2 PP PP
comp=Z,90nm,10.2s
CD2 LR LR
comp=N,230nm,20.4s
CD2 LR LR
comp=Z,210nm,18.4s
WMQ Urumqi 165.73 91 *e*PKP PKPdf 08 02 24.5 -0.1
CN2 Changchun 167.17 268 *e*PKP PKPdf 08 02 29.1 +3.4
CN2 PP PP 08 07 23.6 +4.1
BOD Bodaibo 167.28 344 *e*PKP2 PKPab 08 03 28.4 -2.0
BOD pmax pmax
comp=Z,6.0nm,1.0s
LZH Lanzhou 169.95 162 *e*PKP PKPdf 08 02 29.0 +1.2
LZH PP PP 08 07 37.5 +5.1
LZH SKKS SKKSac 08 14 17.3 +1.4
LZH *e*SS SS 08 28 29.8 +2.4
LZH PP PP
comp=Z,93nm,9.5s
LZH LR LR
comp=E,143nm,19.0s
LZH LR LR
comp=Z,189nm,20.5s
HHC Hu-ho-hao-te 174.32 212 *e*PKP PKPdf 08 02 26.1 -3.5
HHC APKP 08 02 39.5
HHC XPKP 08 02 45.5
HHC PKS 08 05 57.0
HHC PP PP 08 07 53.5 -0.8
HHC SKS SKSdf 08 09 26.3 -2.6
HHC SKKS SKKSac 08 14 33.1 -3.8
HHC LR LR
comp=N,135nm,25.0s
HHC LR LR
comp=E,209nm,28.5s
HHC LR LR
comp=Z,79nm,27.4s
SONM Songino Array 177.74 21 PKPab PKPab 08 04 17.9 +0.8
comp=Z,1.8nm,0.9s,baz=346,slow=4.1,SNR=7.9

*ISCJB **19** 07:51:41.6±0.6, 2046S±005×6678W±008, h230km±9km, mb4.0/3, Error ellipse: s-maj=12.9km s-min=8.3km az=172.4*
*NEIC **19** 07:51:42.6±0.8, 2047S×6673W, h220km±10km, mb3.5/2, Error ellipse: s-maj=13.8km s-min=11.3km az=77.0*
*IDC **19** 07:51:42.3±1.1, 2042S×6676W, h217km±13km, mb3.8/4, mb1 3.7/8, mb1mx3.5/18, mbtmp3.6/8, Error ellipse: s-maj=22.5km s-min=14.1km az=130.0*
ISC 19 07:51:42.5±0.6, 2045S±005×6675W±009, h219km±9km, n19, σ1°34/24, mb4.0/3, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.94**	**223**	P	**Pn**	**07 52 33.7**	**+1.2**
	5.8nm,0.3s,baz=26,slow=8.1,SNR=14						
LVC				S	**S**	**07 53 11.7**	**-0.1**
	16nm,0.3s,baz=132,slow=17,SNR=25						
LVC	**Limon Verde**	**2.94**	**223**	P	**Pn**	**07 52 33.7**	**+1.2**
LVC				S	**S**	**07 53 11.7**	**-0.1**
LPAZ	**La Paz**	**4.34**	**342**	P	**Pn**	**07 52 51.7**	**+2.4**
	7.4nm,0.3s,baz=147,slow=8.1,SNR=175						
LPAZ				S	**S**	**07 53 41.4**	**-0.7**
	baz=325,slow=17,SNR=2.0						
LPAZ	**La Paz**	**4.34**	**342**	P	**Pn**	**07 52 51.7**	**+2.4**
LPAZ				S	**S**	**07 53 41.4**	**-0.7**
ARE	**Arequipa**	**6.00**	**311**	*e*P	**Pn**	**07 53 08.0**	**-2.1**
ARE				*e*S	**S**	**07 54 16.0**	**-3.7**
SIV	**San Ignacio**	**6.99**	**52**	P	**Pn**	**07 53 23.5**	**+0.7**
	5.6nm,0.3s,baz=254,slow=10,SNR=89						
CPUP	**Villa Florida**	**10.44**	**126**	Pn	**Pn**	**07 54 05.3**	**-1.9**
	0.7nm,0.6s						
CFAA	**Coronel Fontan**	**11.19**	**187**	P	**Pn**	**07 54 15.3**	**-1.3**
	0.1nm,0.3s,baz=15,slow=14,SNR=3.8						
CFAA				S	**S**	**07 56 12.0**	**-10**
	0.2nm,0.3s,baz=135,slow=15,SNR=9.3						
CFAA	**Coronel Fontan**	**11.19**	**187**	P	**Pn**	**07 54 15.3**	**-1.3**
CFAA				S	**S**	**07 56 12.0**	**-10**
NNA	**Nana**	**12.83**	**309**	P	**Pn**	**07 54 38.5**	**+1.2**
	1.4nm,0.3s,baz=166,slow=9.6,SNR=3.7						
TRQA	**Tornquist**	**18.02**	**168**	*e*P	**P**	**07 55 37.3**	**0.0**
	3.9nm,0.7s						
BDFB	**Brasilia**	**18.45**	**78**	P	**P**	**07 55 43.6**	**+1.6**
	0.2nm,0.3s,baz=239,slow=19,SNR=9.8						
PLCA	**Paso Flores**	**20.47**	**188**	P	**P**	**07 56 05.3**	**+1.8**
	5.5nm,0.7s,baz=12,slow=11,SNR=24						
PLCA	**Paso Flores**	**20.47**	**188**	P	**P**	**07 56 05.3**	**+1.8**
DBIC	**Dimbokro**	**66.50**	**73**	P	**P**	**08 02 08.1**	**-1.2**
	9.5nm,1.3s,mb4.3,baz=203,slow=5.9,SNR=4.1						
PDAR	**Pinedale Array**	**74.24**	**329**	P	**P**	**08 02 55.9**	**+0.5**
	0.3nm,0.5s,mb3.2,baz=118,slow=9.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**75.10**	**70**	P	**P**	**08 03 00.1**	**-0.9**
	4.7nm,0.4s,mb4.5,baz=254,slow=5.5,SNR=122						
ASAR	**Alice Springs**	**131.75**	**206**	PKP	PKPdf	08 10 29.9	-0.3
	0.1nm,0.5s,baz=107,slow=1.7,SNR=2.9						
WRA	**Warramunga Arr**	**134.85**	**209**	PKP	PKPdf	08 10 37.2	+1.1
	0.1nm,0.3s,baz=163,slow=1.8,SNR=2.7						

*IDC **19** 08:26:32.9±1.5, 973S×1597E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/15, mbtmp4.2/6, Error ellipse: s-maj=63.7km s-min=9.7km az=127.0*
*ISCJB **19** 08:26:33.5±5.6, 98S±03×1598E±04, h16km±48km, mb4.1/7, Error ellipse: s-maj=83.2km s-min=10.7km az=34.0*
*NEIC **19** 08:26:33.3±1.2, 1002S×1600E, h10km, mb4.0/2, Error ellipse: s-maj=33.4km s-min=9.2km az=108.0*
ISC 19 08:26:35.9±2.2, 98S±03×1596E±04, h15km±23km, n11, σ0°47/12, mb4.1/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.48**	**39**	Pn	**Pg**	**08 26 45.2**	**-0.3**
	2μm,0.3s,baz=233,slow=1.6,SNR=329						
HNR				Sn	**Sg**	**08 26 52.2**	**+0.3**
	6μm,0.3s,baz=252,slow=9.4,SNR=79						
WRAB	**Tennant Creek**	**26.40**	**245**	*e*P	**P**	**08 32 11.6**	**-0.4**
	5.5nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	**26.40**	**245**	*e*P	**P**	**08 32 12.4**	**+0.3**
WRA	**Warramunga Arr**	**26.41**	**245**	P	**P**	**08 32 12.6**	**+0.4**
	4.5nm,0.6s,mb4.2,baz=73,slow=9.7,SNR=25						
STKA	**Stephens Creek**	**27.60**	**215**	P	**P**	**08 32 23.6**	**+0.8**
	1.7nm,0.6s,mb3.9,baz=57,slow=13,SNR=4.7						
STKA	**Stephens Creek**	**27.60**	**215**	*e*P	**P**	**08 32 22.5**	**-0.2**
	0.6nm,0.4s,mb3.6						
ASAR	**Alice Springs**	**28.17**	**238**	P	**P**	**08 32 27.3**	**-0.6**
	1.3nm,0.4s,mb3.9,baz=62,slow=10,SNR=46						
ASAR				PcP	PcP	08 35 42.2	+0.4
	0.4nm,0.5s,baz=79,slow=2.5,SNR=4.4						
PETK	**Petropavlovsk-**	**62.69**	**359**	P	**P**	**08 36 59.1**	**-0.8**
	1.8nm,0.8s,mb4.3,baz=150,slow=6.0,SNR=3.9						
SONM	**Songino Array**	**74.20**	**326**	P	**P**	**08 38 12.5**	**+0.5**
	1.3nm,0.8s,mb3.9,baz=140,slow=5.2,SNR=6.1						
MKAR	**Makanchi Array**	**88.55**	**318**	P	**P**	**08 39 28.3**	**+0.2**
	0.9nm,0.6s,mb4.3,baz=106,slow=6.6,SNR=5.7						
MKAR	**Makanchi Array**	**88.55**	**318**	P	**P**	**08 39 28.3**	**+0.2**

*ISCJB **19** 08:34:58.9±3.8, 1418S±009×7651W±0.1, h12km±25km, mb3.8/7, Error ellipse: s-maj=21.6km s-min=9.9km az=144.1*
*IDC **19** 08:34:59.1±0.9, 1422S×7662W, h0km, mb3.8/7, mb1 3.9/12, mb1mx3.8/20, mbtmp3.7/12, ML3.7/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/24, Error ellipse: s-maj=35.3km s-min=15.8km az=64.0*
*NEIC **19** 08:35:04.0±0.7, 1419S×7660W, h35km, Error ellipse: s-maj=24.0km s-min=10.6km az=50.0*
ISC 19 08:34:59.8±3.8, 1417S±009×7649W±010, h5km±25km, n23, σ0°98/23, mb3.8/7, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.20**	**351**	Pn	**Pn**	**08 35 36.0**	**-1.2**
	18nm,0.3s,baz=178,slow=17,SNR=12						
NNA				Sn	**Sn**	**08 36 08.4**	**+3.6**
	284nm,0.3s,baz=183,slow=12,SNR=16						
ATAH	**Atahualpa**	**7.37**	**345**	Pn	**Pn**	**08 36 47.8**	**-0.4**
	1.5nm,0.3s,baz=167,slow=3.9,SNR=7.9						
ATAH				Sn	**Sn**	**08 38 06.1**	**-6.3**
	0.7nm,0.3s,baz=48,slow=15,SNR=1.9						
ATAH				LR	LR	08 39 45.5	
	comp=Z,236nm,18.4s,baz=292,slow=40						
LPAZ	**La Paz**	**8.34**	**106**	Pn	**Pn**	**08 37 08.1**	**+6.6**
	0.2nm,0.3s,baz=288,slow=11,SNR=13						
LPAZ	**La Paz**	**8.34**	**106**	*e*Pn	**Pn**	**08 37 06.5**	**+5.0**
	4.0nm,0.9s						
LPAZ				*e*Sn	**Sn**	**08 38 34.9**	**-1.2**
LVC	**Limon Verde**	**11.05**	**141**	Pn	**Pn**	**08 37 40.0**	**+1.3**
	0.6nm,0.3s,baz=324,slow=9.1,SNR=7.1						
LVC				Sn	**Sn**	**08 39 38.6**	**-4.1**
	0.1nm,0.3s,baz=26,slow=5.6,SNR=1.7						
LVC	**Limon Verde**	**11.05**	**141**	Pn	**Pn**	**08 37 40.0**	**+1.3**
LVC				Sn	**Sn**	**08 39 38.6**	**-4.1**
SIV	**San Ignacio**	**15.00**	**99**	Pn	**Pn**	**08 38 33.6**	**+0.9**
	0.1nm,0.3s,baz=248,slow=16,SNR=2.6						
CFAA	**Coronel Fontan**	**18.93**	**158**	P	**Pn**	**08 39 20.7**	**-1.6**
	0.0nm,0.3s,baz=335,slow=11,SNR=5.7						
CFAA	**Coronel Fontan**	**18.93**	**158**	P	**Pn**	**08 39 20.7**	**-1.6**
ROSC	**El Rosal**	**19.03**	**7**	LR	LR	08 47 47.9	
	comp=Z,111nm,19.2s,baz=21,slow=40						
PLCA	**Paso Flores**	**26.96**	**170**	P	**P**	**08 40 42.5**	**+0.1**
	1.4nm,0.8s,mb3.5,baz=132,slow=17,SNR=3.2						
BDFB	**Brasilia**	**27.55**	**97**	LR	LR	08 53 15.0	
	comp=Z,81nm,18.7s,baz=59,slow=40						
TXAR	**Lajitas Array**	**50.59**	**329**	P	**P**	**08 43 59.5**	**-0.3**
	0.6nm,0.9s,mb3.5,baz=156,slow=9.6,SNR=5.1						
TXAR	**Lajitas Array**	**50.59**	**329**	P	**P**	**08 43 59.5**	**-0.4**
PDAR	**Pinedale Array**	**64.28**	**334**	P	**P**	**08 45 36.5**	**+0.3**
	0.1nm,0.5s,mb3.1,baz=126,slow=6.8,SNR=2.7						
NVAR	**Mina Array Bea**	**65.34**	**325**	P	**P**	**08 45 43.4**	**+0.2**
	0.2nm,0.6s,mb3.3,baz=331,slow=27,SNR=2.1						
ULM	**Lac du Bonnet**	**66.37**	**347**	P	**P**	**08 45 49.0**	**-0.6**
	1.9nm,0.8s,mb4.2,baz=180,slow=2.0,SNR=2.5						
ULM	**Lac du Bonnet**	**66.37**	**347**	P	**P**	**08 45 49.0**	**-0.6**
DBIC	**Dimbokro**	**74.01**	**79**	P	**P**	**08 46 38.2**	**+0.9**
	3.6nm,0.8s,mb4.3,baz=134,slow=11,SNR=3.9						
TORD	**Torodi Ar. Bea**	**82.04**	**74**	P	**P**	**08 47 22.9**	**+1.1**
	3.0nm,0.7s,mb4.3,baz=266,slow=3.1,SNR=18						
WRA	**Warramunga Arr**	**134.51**	**223**	PKP	PKPdf	08 54 20.0	-0.3
	0.5nm,0.9s,baz=126,slow=2.0,SNR=4.3						
SONM	**Songino Array**	**146.35**	**356**	PKPbc	PKPbc	08 54 42.2	+0.4
	0.9nm,0.7s,baz=342,slow=1.7,SNR=6.5						
KSRS	**Korea Array**	**148.24**	**141**	PKPbc	PKPbc	08 54 47.4	-0.1
	0.3nm,0.3s,baz=50,slow=33,SNR=3.3						

*CSEM **19** 09:02:34.3±0.1, 3209N×3551E, h2km, Mc1.9, Error ellipse: s-maj=3.0km s-min=1.7km az=105.0*
*GII **19** 09:02:34.3±0.8, 3208N×3548E, h0km±2km, ML3.0/6*
*ISCJB **19** 09:02:34.6±0.5, 3208N±002×3555E±005, h5km±4km, Error ellipse: s-maj=6.8km s-min=2.9km az=16.2*
*HLW **19** 09:02:34.7, 3228N×3566E, h20km, Mb3.5*
*GRAL **19** 09:02:35.9±1.6, 3186N×3561E, h35km±999km, MD3.4*
*NSSC **19** 09:02:40.9, 3225N×3583E, h15km±29km*
ISC 19 09:02:35.0±0.5, 3208N±002×3557E±004, h6km±4km, n29, σ0°83/43, 1C-6D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.17**	**348**	Pg	**Pg**	**09 02 39.1**	**+0.6**
MMLI	**Mount Malkishu**	**0.38**	**341**	Pg	**Pg**	**09 02 42.3**	**0.0**
MMLI				Sg	**Sg**	**09 02 48.7**	**+1.5**
SLTI	**Sal'it**	**0.47**	**289**	Pg	**Pg**	**09 02 43.0**	**-1.2**
SLTI				Sg	**Sg**	**09 02 50.1**	**-0.2**
DSI	**Dead Sea**	**0.54**	**197**	Pg	**Pg**	**09 02 45.1**	**-0.2**
DSI				Sg	**Sg**	**09 02 53.5**	**+1.2**
OFRI	**'Ofer**	**0.73**	**317**	Pg	**Pg**	**09 02 48.6**	**-0.4**
MZDA	**Masada**	**0.79**	**193**	Pg	**Pg**	**09 02 50.0**	**-0.2**
MZDA				Sg	**Sg**	**09 03 01.5**	**+1.1**
YTIR	**Yattir**	**0.82**	**208**	Pg	**Pg**	**09 02 49.9**	**-0.8**
MMB3	**Mount Meron ar**	**0.94**	**351**	Pg	**Pg**	**09 02 53.3**	**+0.2**
SALA	**Sala**	**1.17**	**57**	⇓P	**Pg**	**09 02 58.0**	**+0.6**
SALA				⇓S	**Sg**	**09 03 10.3**	**-2.2**
SALA	**Sala**	**1.17**	**57**	⇓*i*P	**Pg**	**09 02 58.0**	**+0.6**
SALA				⇓*i*S	**Sg**	**09 03 10.3**	**-2.2**
HRI	**Mount Hermon**	**1.19**	**7**	Pg	**Pg**	**09 02 57.1**	**-0.7**
RTMI	**Retamim**	**1.27**	**216**	Pg	**Pg**	**09 02 58.0**	**-1.4**
RCY	**Rachaya**	**1.41**	**9**	*e*P	**Pn**	**09 03 01.2**	**-0.1**
RCY				*e*S	**Sb**	**09 03 21.0**	**+1.0**
MATL	**Matirih**	**1.42**	**352**	*e*P	**Pn**	**09 03 01.3**	**0.0**
TOTH	**TOTAH**	**1.47**	**29**	⇑P	**Pn**	**09 03 03.5**	**+1.5**
TOTH				⇑S	**Sn**	**09 03 20.4**	**-1.1**
TOTH	**TOTAH**	**1.47**	**29**	⇑*i*P	**Pn**	**09 03 03.5**	**+1.5**
TOTH				⇑*i*S	**Sn**	**09 03 20.4**	**-1.1**
KZIT	**Kziot**	**1.54**	**221**	Pn	**Pn**	**09 03 02.7**	**-0.3**
ZFRI	**Zfri**	**1.56**	**192**	Pn	**Pn**	**09 03 03.3**	**0.0**
QASN	**Qassioun**	**1.56**	**22**	⇓P	**Pn**	**09 03 03.8**	**+0.5**
QASN				⇑S	**Sn**	**09 03 22.9**	**-1.0**
QASN	**Qassioun**	**1.56**	**22**	⇓*i*P	**Pn**	**09 03 03.8**	**+0.5**
QASN				⇑*i*S	**Sn**	**09 03 22.9**	**-1.0**
RMNI	**Mount Ramon**	**1.64**	**205**	Pn	**Pn**	**09 03 04.4**	**+0.1**
PRNI	**Paran**	**1.79**	**196**	Pn	**Pn**	**09 03 06.7**	**+0.2**
PRNI				Sn	**Sn**	**09 03 31.0**	**+1.4**
BHL	**Bhannes**	**1.82**	**2**	*e*P	**Pn**	**09 03 08.4**	**+1.6**
RSH		**1.94**	**235**	P	**Pn**	**09 03 08.0**	**-0.4**
RSH				S	**Sn**	**09 03 32.6**	**-0.5**
HRFI	**Mount Harif**	**2.09**	**193**	Pn	**Pn**	**09 03 10.6**	**0.0**
MBRI	**Mt Berech**	**2.35**	**194**	Pn	**Pn**	**09 03 14.0**	**-0.2**
EIL	**Elat**	**2.46**	**193**	Pn	**Pn**	**09 03 15.8**	**+0.1**
HNKL	**Nakhl**	**2.54**	**213**	⇑P	**Pn**	**09 03 16.3**	**-0.5**
HNKL				S	**Sn**	**09 03 47.4**	**-0.7**
HBST	**Basata**	**2.95**	**194**	P	**Pn**	**09 03 22.6**	**+0.2**

*IDC **19** 09:20:43.5±0.6, 1379S×7677W, h0km, mb4.5/14, mb1 4.6/16, mb1mx4.6/20, mbtmp4.5/16, ML3.8/1, MS3.8/12, Ms1 3.8/12, ms1mx3.6/28, Error ellipse: s-maj=21.8km s-min=12.5km az=68.0*
*ISCJB **19** 09:20:44.2±2.4, 1380S±005×7678W±006, h14km±15km, mb4.6/48, MS4.1/10, Error ellipse: s-maj=10.7km s-min=5.7km az=143.5*
*BJI **19** 09:20:46.1, 1379S×7744W, h24km, mB5.1, Ms5.1, Msz4.9*
*NEIC **19** 09:20:47.8±0.2, 1375S×7669W, mb4.7/37, Error ellipse: s-maj=8.6km s-min=4.1km az=56.0*
*MOS **19** 09:20:47.4±1.1, 1371S×7668W, h33km, mb4.7/9, Error ellipse: s-maj=22.0km s-min=10.3km az=130.7*
ISC 19 09:20:46.0±2.9, 1377S±005×7672W±006, h12km±18km, n123, σ0°82/110, mb4.6/48, MS4.1/10, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.77**	**356**	Pn	**Pn**	**09 21 16.0**	**-0.6**
	441nm,0.3s,baz=169,slow=13,SNR=216						
NNA				Sn	**Sn**	**09 21 39.6**	**+0.6**
	2μm,0.3s,baz=227,slow=10,SNR=30						
NNA				LR	LR	09 21 55.1	
	comp=Z,2μm,20.4s,baz=270,slow=40						
NNA	**Nana**	**1.77**	**356**	*e*Pn	**Pn**	**09 21 15.9**	**-0.7**
NNA				*e*Sn	**Sn**	**09 21 39.0**	**-0.1**
ARE	**Arequipa**	**5.72**	**119**	*e*P	**Pn**	**09 22 11.0**	**+0.2**
ARE				*e*S	**Sn**	**09 23 24.0**	**+7.6**
ATAH	**Atahualpa**	**6.92**	**346**	Pn	**Pn**	**09 22 28.1**	**+0.7**
	6.6nm,0.3s,baz=143,slow=6.1,SNR=26						
ATAH				Sn	**Sn**	**09 23 55.8**	**+10**
	7.0nm,0.3s,baz=85,slow=17,SNR=2.6						
LPAZ	**La Paz**	**8.67**	**108**	Pn	**Pn**	**09 22 54.9**	**+3.5**
	1.5nm,0.3s,baz=286,slow=11,SNR=37						
LPAZ				Sn	**Sn**	**09 24 42.4**	**+13**
	0.1nm,0.3s,baz=258,slow=11,SNR=3.7						
LPAZ				LR	LR	09 26 48.0	
	comp=Z,493nm,21.6s,baz=285,slow=42						
LPAZ	**La Paz**	**8.67**	**108**	*e*P	**Pn**	**09 22 54.8**	**+3.4**
LPAZ				pmax	pmax		
	comp=Z,23nm,0.7s						
LPAZ	**La Paz**	**8.67**	**108**	*e*Pn	**Pn**	**09 22 54.8**	**+3.4**
	comp=Z,23nm,0.7s						
LVC	**Limon Verde**	**11.51**	**141**	Pn	**Pn**	**09 23 30.2**	**0.0**
	comp=Z,2.6nm,0.3s,baz=305,slow=9.1,SNR=32						
LVC				LR	LR	09 27 27.6	
	comp=Z,490nm,19.7s,baz=307,slow=35						
LVC	**Limon Verde**	**11.51**	**141**	*e*Pn	**Pn**	**09 23 30.4**	**+0.2**
	comp=Z,59nm,1.0s						
OTAV	**Otavalo**	**14.02**	**353**	*e*P	**Pn**	**09 24 08.8**	**+4.2**
	comp=Z,25nm,0.9s						
SIV	**San Ignacio**	**15.29**	**100**	Pn	**Pn**	**09 24 21.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=277,slow=12,SNR=13						
SIV				Sn	**Sn**	**09 27 12.8**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=260,slow=12,SNR=2.3						
SIV				Lg		09 28 58.3	
	comp=Z,0.1nm,0.3s,baz=214,slow=23,SNR=2.1						
LCO	**Las Campanas**	**16.16**	**161**	P	**Pn**	**09 24 34.3**	**+1.1**
	comp=Z,20nm,1.0s						
ROSC	**El Rosal**	**18.66**	**7**	P	**Pn**	**09 25 10.0**	**+5.7**
	comp=Z,1.0nm,0.3s,baz=100,slow=17,SNR=13						
ROSC				S	**Sn**	**09 28 46.8**	**+14**
	comp=Z,0.4nm,0.3s,baz=264,slow=23,SNR=1.7						
ROSC				LR	LR	09 33 06.0	
	comp=Z,624nm,19.5s,baz=197,slow=40						
ROSC	**El Rosal**	**18.66**	**7**	P	**Pn**	**09 25 05.0**	**+0.7**
ROSC				S	**Sn**	**09 28 46.8**	**+14**
ROSC				LR	LR	09 33 06.0	
CFAA	**Coronel Fontan**	**19.39**	**158**	P	**Pn**	**09 25 12.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=331,slow=12,SNR=19						
CFAA				LR	LR	09 32 04.0	
	comp=Z,30nm,18.6s,baz=322,slow=35						
SDV	**Santo Domingo**	**23.30**	**15**	P	**P**	**09 25 53.6**	**-0.5**
	comp=Z,7.0nm,0.5s,mb4.4,baz=215,slow=22,SNR=4.0						
SDV	**Santo Domingo**	**23.30**	**15**	*e*P	**P**	**09 25 53.4**	**-0.7**
	comp=Z,33nm,1.0s,mb4.7						
PCRV	**Puerto La Cruz**	**26.64**	**27**	P	**P**	**09 26 26.4**	**+1.6**
	comp=Z,8.0nm,0.9s,mb4.2,baz=50,slow=15,SNR=3.0						
PCRV				LR	LR	09 36 52.2	
	comp=Z,244nm,18.2s,MS3.8,baz=206,slow=36						
PLCA	**Paso Flores**	**27.40**	**170**	P	**P**	**09 26 30.3**	**-1.1**
	comp=Z,7.8nm,1.0s,mb4.2,baz=347,slow=9.4,SNR=12						
PLCA				LR	LR	09 35 44.4	
	comp=Z,92nm,20.7s,MS3.3,baz=339,slow=33						
PLCA	**Paso Flores**	**27.40**	**170**	P	**P**	**09 26 30.3**	**-1.1**
PLCA				LR	LR	09 35 44.4	
BDFB	**Brasilia**	**27.82**	**97**	P	**P**	**09 26 34.4**	**-1.1**
	comp=Z,3.2nm,0.9s,mb4.0,baz=241,slow=18,SNR=10						
BDFB	**Brasilia**	**27.82**	**97**	*e*P	**P**	**09 26 34.7**	**-0.8**
USHA	**Ushuaia**	**41.48**	**173**	P	**P**	**09 28 32.3**	**-0.4**
	comp=Z,7.9nm,1.0s,mb4.3,baz=331,slow=15,SNR=3.6						
SWET	**Sewanee**	**49.49**	**350**	*e*P	**P**	**09 29 35.0**	**-1.4**
TXAR	**Lajitas Array**	**50.13**	**329**	P	**P**	**09 29 41.3**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=151,slow=8.4,SNR=11						
TZTN	**Tazewell**	**50.45**	**353**	P	**P**	**09 29 42.2**	**-1.5**
MIAR	**Mount Ida**	**50.65**	**342**	*e*P	**P**	**09 29 45.0**	**-0.2**
MIAR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
MIAR	**Mount Ida**	**50.65**	**342**	*e*P	**P**	**09 29 45.0**	**-0.2**
	comp=Z,5.5nm,0.9s,mb4.5						
ELN	**Prospectdale**	**50.86**	**356**	*e*P	**P**	**09 29 46.5**	**-0.2**
OLIL	**Olney**	**53.30**	**349**	*e*P	**P**	**09 30 01.6**	**-3.2**
	comp=Z,14nm,0.8s,mb5.0						
BLO	**Bloomington**	**53.45**	**351**	*e*P	**P**	**09 30 04.3**	**-1.7**
BLO				*e*		09 30 11.4	
BLO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BLO	**Bloomington**	**53.45**	**351**	*e*P	**P**	**09 30 04.3**	**-1.7**
	comp=Z,4.6nm,0.6s,mb4.6						
BLO				*e*		09 30 11.4	
MVL	**Millersville**	**53.49**	**0**	*e*P	**P**	**09 30 01.4**	**-4.8**
	comp=Z,28nm,1.6s,mb5.0						
ACSO	**Alum Creek Sta**	**54.03**	**354**	*e*P	**P**	**09 30 08.8**	**-1.4**
	comp=Z,4.4nm,0.6s,mb4.6						
ACSO				*e*		09 30 15.9	
BINY	**Binghamton**	**55.69**	**1**	*e*P	**P**	**09 30 22.1**	**-0.1**
	comp=Z,11nm,0.9s,mb4.9						
LAZ	**Ladron**	**55.95**	**330**	*e*P	**P**	**09 30 25.0**	**+0.7**
ANMO	**Albuquerque**	**56.07**	**331**	*e*P	**P**	**09 30 25.4**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ANMO	**Albuquerque**	**56.07**	**331**	*e*P	**P**	**09 30 25.4**	**+0.4**
	comp=Z,5.4nm,1.0s,mb4.5						
NCB	**Newcomb**	**57.50**	**2**	*e*P	**P**	**09 30 34.8**	**-0.2**
SDCO	**Great Sand Dun**	**57.93**	**333**	*e*P	**P**	**09 30 38.2**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.5						
FRNY	**Flat Rock**	**58.39**	**3**	*e*P	**P**	**09 30 41.1**	**-0.2**
	comp=Z,8.7nm,0.7s,mb4.9						
MVCO	**Mesa Verde**	**58.86**	**331**	*e*P	**P**	**09 30 45.1**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.1						
WUAZ	**Wupatki**	**58.98**	**327**	*e*P	**P**	**09 30 46.6**	**+1.0**
	comp=Z,17nm,1.6s,mb4.8						
WUAZ				*e*		09 30 54.6	
PV01	**Paradox Valley**	**59.64**	**331**	*e*P	**P**	**09 30 50.8**	**+0.7**
ECSD	**EROS,Sioux Fal**	**60.04**	**343**	*e*P	**P**	**09 30 51.5**	**-1.2**
	comp=Z,5.5nm,0.8s,mb4.6						
MSU	**Marysvale**	**61.69**	**329**	*e*P	**P**	**09 31 05.1**	**+1.1**
TPNV	**Topopah Spring**	**62.69**	**325**	*e*P	**P**	**09 31 12.2**	**+1.4**
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
TPNV	**Topopah Spring**	**62.69**	**325**	*e*P	**P**	**09 31 12.2**	**+1.4**
	comp=Z,3.2nm,0.9s,mb4.5						
DAU	**Daniels Canyon**	**62.71**	**331**	*e*P	**P**	**09 31 11.3**	**+0.4**
JLU	**Jordanelle**	**62.95**	**331**	*e*P	**P**	**09 31 13.3**	**+0.8**
DUG	**Dugway**	**63.29**	**330**	*e*P	**P**	**09 31 15.5**	**+0.8**
DUG				*e*		09 31 23.5	
DUG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
DUG	**Dugway**	**63.29**	**330**	*e*P	**P**	**09 31 15.5**	**+0.8**
	comp=Z,7.3nm,0.8s,mb4.9						
DUG				*e*		09 31 23.5	
HWUT	**Hardware Ranch**	**63.79**	**331**	*e*P	**P**	**09 31 18.2**	**+0.1**
	comp=Z,7.8nm,0.8s,mb4.8						
PDAR	**Pinedale Array**	**63.82**	**334**	P	**P**	**09

SNAA				*e*		09 32 21.1	
SNAA	**Sanae**	**71.96**	**161**	*e*P	**P**	**09 32 09.1**	**0.0**
SNAA				pmax	pmax		
comp=Z,13nm,1.2s							
SNAA	**Sanae**	**71.96**	**161**	*e*P	**P**	**09 32 09.1**	**0.0**
comp=Z,13nm,1.2s,mb4.8							
EDM	**Edmonton**	**73.74**	**338**	*e*P	**P**	**09 32 19.0**	**-0.8**
EDM				*e*		09 32 26.6	
CMW	**Cultus Mountai**	**73.85**	**330**	P	**P**	**09 32 21.1**	**+0.6**
DBIC	**Dimbokro**	**74.15**	**79**	P	**P**	**09 32 22.8**	**-0.3**
comp=Z,11nm,0.6s,mb5.0,baz=232,slow=5.7,SNR=20							
DBIC				LR	LR	10 03 55.5	
comp=Z,128nm,19.4s,MS4.2,baz=192,slow=35							
DBIC	**Dimbokro**	**74.15**	**79**	P	**P**	**09 32 22.8**	**-0.3**
DBIC				LR	LR	10 03 55.5	
YKA	**Yellowknife Ar**	**81.57**	**343**	P	**P**	**09 33 02.9**	**-0.4**
comp=Z,3.5nm,0.8s,mb4.3,baz=137,slow=5.2,SNR=9.7							
YKA				LR	LR	10 13 37.9	
comp=Z,38nm,19.2s,MS3.8,baz=185,slow=39							
YKA	**Yellowknife Ar**	**81.57**	**343**	P	**P**	**09 33 02.9**	**-0.4**
YKA				LR	LR	10 13 37.9	
TOA0	**Torodi Ar. Sit**	**82.15**	**74**	*e*P	**P**	**09 33 06.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**82.15**	**74**	P	**P**	**09 33 07.3**	**-0.1**
comp=Z,13nm,0.7s,mb5.0,baz=261,slow=4.9,SNR=58							
TORD	**Torodi Ar. Bea**	**82.15**	**74**	P	**P**	**09 33 07.3**	**-0.1**
MDT	**Midelt**	**82.89**	**54**	LR	LR	10 07 27.1	
comp=Z,80nm,18.1s,MS4.1,baz=251,slow=34							
ESDC	**Sonseca Array**	**85.88**	**48**	P	**P**	**09 33 25.7**	**-0.2**
comp=Z,14nm,0.7s,mb4.3,baz=254,slow=5.7,SNR=6.8							
SYO	**Syowa Base**	**86.25**	**161⇑**	*e*P	**P**	**09 33 25.3**	**-2.0**
DAWY	**Dawson**	**90.93**	**337**	*e*P	**P**	**09 33 49.0**	**-0.4**
EGAK	**Eagle**	**91.95**	**337**	*e*P	**P**	**09 33 53.5**	**-0.6**
comp=Z,10nm,1.3s,mb5.0							
BOSA	**Boshof**	**93.71**	**120**	LR	LR	10 12 36.6	
comp=Z,100nm,19.0s,MS4.3,baz=168,slow=33							
JMIC	**Jan Mayen**	**96.04**	**18**	LR	LR	10 14 22.7	
comp=Z,25nm,20.4s,MS3.7,baz=234,slow=34							
STKA	**Stephens Creek**	**121.62**	**218**	PKP	PKPdf	09 39 39.6	-0.8
comp=Z,1.4nm,0.7s,baz=273,slow=20,SNR=4.8							
ASAR	**Alice Springs**	**132.24**	**219**	PKP	PKPdf	09 39 59.5	-1.3
comp=Z,1.2nm,0.8s,baz=108,slow=2.2,SNR=12							
WRA	**Warramunga Arr**	**134.65**	**223**	PKP	PKPdf	09 40 05.3	-0.2
comp=Z,2.6nm,0.8s,baz=140,slow=1.8,SNR=19							
ZALV	**Zalesovo Beam**	**137.35**	**16**	PKP	PKPdf	09 40 07.8	-1.6
comp=Z,4.3nm,0.9s,baz=270,slow=2.2,SNR=12							
ZAL	**Zalesovo**	**137.36**	**16**	PKIKP	PKPdf	09 40 07.8	-1.6
MJAR	**Matsushiro Arr**	**141.42**	**312**	PKhKP		09 40 09.1	
comp=Z,2.0nm,0.8s,baz=83,slow=1.6,SNR=9.4							
MJAR				PKP	PKPdf	09 40 18.4	+1.1
comp=Z,1.1nm,0.5s,baz=79,slow=2.2,SNR=4.5							
MAT	**Matsushiro**	**141.42**	**312**	PKP	PKPdf	09 40 10.5	-6.9
MDJ	**Mudanjiang**	**141.96**	**329**	PKP	PKPdf	09 40 17.5	-0.6
MDJ				XPKP		09 40 27.3	
MDJ				PP	PP	09 43 23.3	+0.7
MKAR	**Makanchi Array**	**142.67**	**24**	PKhKP		09 40 14.0	
comp=Z,0.2nm,0.3s,baz=336,slow=2.7,SNR=4.0							
MKAR				PKP	PKPdf	09 40 16.8	-2.5
comp=Z,0.3nm,0.2s,baz=321,slow=2.8,SNR=5.6							
MKAR	**Makanchi Array**	**142.67**	**24**	PKP	PKPdf	09 40 14.0	-5.2
MKAR				PKP	PKPdf	09 40 16.8	-2.5
SONM	**Songino Array**	**145.94**	**356**	PKPbc	PKPbc	09 40 25.4	-0.2
comp=Z,4.6nm,0.8s,baz=323,slow=1.7,SNR=22							
WMQ	**Urumqi**	**147.21**	**21**	*e*PKP	PKPdf	09 40 25.3	-1.9
KSRS	**Korea Array**	**147.78**	**322**	PKPbc	PKPbc	09 40 27.9	-3.2
comp=Z,3.2nm,0.8s,baz=48,slow=1.5,SNR=12							
HHC	**Hu-ho-hao-te**	**152.06**	**347**	*e*PKP	PKPdf	09 40 32.4	-2.6
HHC				APKP		09 40 43.1	
HHC				XPKP		09 40 46.8	
HHC				PKS		09 44 05.3	
HHC				PP	PP	09 44 23.1	+1.5
HHC				SKS	SKSdf	09 47 35.8	-6.6
HHC				SKKS	SKKSac	09 51 08.1	-5.1
HHC				SS	SS	10 03 44.1	-4.3
HHC				LR	LR		
comp=N,121nm,20.2s,MS4.9							
HHC				LR	LR		
comp=E,137nm,21.4s,MS4.9							
HHC				LR	LR		
comp=Z,87nm,22.6s,MS4.5							
LZH	**Lanzhou**	**157.77**	**359**	*e*PKP	PKPdf	09 40 42.5	-0.5
LZH				APKP		09 40 52.3	
LZH				LR	LR		
comp=E,121nm,18.1s							
LZH				LR	LR		
comp=Z,173nm,20.3s,MS4.9							
CD2	**Chengdu**	**162.93**	**359**	*e*PKP	PKPdf	09 40 45.9	-3.0
GYA	**Guiyang**	**166.98**	**346**	*e*PKP	PKPdf	09 40 51.8	-0.7
GYA				XPKP		09 41 02.6	
GYA				PKP2	PKPab	09 41 56.6	+0.8
GYA				PKS		09 44 22.8	
GYA				PP	PP	09 45 45.0	+2.5
GYA				PP	PP		
comp=Z,90nm,8.2s							
CMAR	**Chiang Mai Arr**	**173.75**	**41**	PKP	PKPdf	09 40 56.4	0.0
comp=Z,1.1nm,0.7s,baz=294,slow=2.1,SNR=5.4							
CMAR				PKPab	PKPab	09 42 26.4	+0.3
comp=Z,0.5nm,0.4s,baz=325,slow=5.2,SNR=4.2							

CSEM ***19*** *09:26:23.2±0.1, 3893N×3366E, h2km, MD2.8, Error ellipse: s-maj=3.4km s-min=2.9km az=107.0*
DDA ***19*** *09:26:24.4, 3893N×3362E, h7km±1km, Md2.8*
ISK ***19*** *09:26:24.1, 3896N×3354E, h5km, MD2.8*
ISCJB ***19*** *09:26:25.7±0.7, 3897N±005×3360E±006, h10km, Error ellipse: s-maj=7.8km s-min=5.3km az=137.5*

ISC 19 09:26:25.1±0.8, 3894N±005×3360E±006, h3km±8km, n7, σ1§06/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.43**	**11**	PG	**Pg**	**09 26 33.0**	**-0.5**
KAMT				SG	**Sg**	**09 26 39.3**	**+0.1**
CDAG	**Cicekdag**	**0.91**	**41**	*i* P	**Pg**	**09 26 40.9**	**-1.6**
CDAG				*i* S	**Sg**	**09 26 55.0**	**+0.8**
AVNT	**Avonos**	**0.99**	**99**	*i* P	**Pg**	**09 26 43.1**	**-1.0**
AVNT				*i* S	**Sg**	**09 27 00.1**	**+3.1**
NIG	**Nigde**	**1.15**	**136**	*e*PN	**Pn**	**09 26 47.0**	**-1.1**
KDHN	**Kadinhani**	**1.23**	**251**	*i* P	**Pg**	**09 26 48.0**	**-0.9**
KDHN				*i* S	**Sg**	**09 27 06.5**	**+1.7**
CORM	**Corum**	**1.47**	**32**	*e*PN	**Pn**	**09 26 52.9**	**+0.3**
CORM				*e*SN	**Sn**	**09 27 12.6**	**+0.4**
YOZ	**Yozgat**	**1.50**	**62**	*e*PN	**Pn**	**09 26 53.2**	**+0.2**

IDC 19 09:45:29.7±3.8, 1847S×17470W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=151.0km s-min=78.2km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.48**	**243**	P	P	09 53 19.1	+0.5
1.1nm,0.7s,baz=96,slow=8.1,SNR=5.5							
WRA	**Warramunga Arr**	**47.99**	**260**	P	P	09 54 10.6	-0.2
0.8nm,0.3s,baz=98,slow=7.5,SNR=38							
WRA				PcP	PcP	09 55 38.8	-0.2
0.4nm,0.9s,baz=98,slow=5.0,SNR=3.8							
ASAR	**Alice Springs**	**48.03**	**254**	P	P	09 54 11.0	-0.1
0.8nm,0.4s,baz=88,slow=8.7,SNR=39							
ASAR				PcP	PcP	09 55 39.0	-0.2
0.3nm,0.6s,baz=117,slow=4.4,SNR=4.4							
FITZ	**Fitzroy Crossi**	**56.41**	**260**	P	P	09 55 13.1	-0.4
1.7nm,0.8s,baz=124,slow=3.6,SNR=5.8							

NIED ***19*** *10:06:00, 2800N×13970E, h520km, Mw4.5 Best double couple: M0:6.83000×10^15 NP1:φs:264.00000°, δ61.00000°, λ-74.00000°. NP2:φs:54.00000°, δ33.00000°, λ-116.00000°.*
JMA ***19*** *10:06:51.5±0.3, 2798N×13968E, h533km±5km, M4.7*
ISCJB ***19*** *10:06:51.6±0.3, 2795N±003×13945E±004, h523km±3km, mb4.3/63, Error ellipse: s-maj=5.8km s-min=4.2km az=176.9*
MOS ***19*** *10:06:51.7±0.8, 2798N×13928E, h524km, mb4.4/17, Error ellipse: s-maj=12.3km s-min=6.4km az=104.8*
IDC ***19*** *10:06:52.7±0.6, 2802N×13933E, h525km±6km, mb3.7/25, mb1 3.8/31, mb1mx3.8/34, mbtmp3.7/31, Error ellipse: s-maj=11.1km s-min=6.7km az=86.0*
BJI ***19*** *10:06:52.3, 2789N×13947E, h553km, mB4.9, mb4.7*
NEIC ***19*** *10:06:53.0±0.2, 2800N×13937E, mb4.6/24, MW4.5(NIED), Error ellipse: s-maj=5.5km s-min=4.4km az=92.0*
DJA ***19*** *10:06:54, 2803N×13926E, h529km, mb5.1/14*

ISC 19 10:06:52.5±0.3, 2799N±003×13947E±004, h519km±3km, h521km±4.8km; pP-P, n171, σ0§95/196, mb4.3/63, 15C-10D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.57**	**110**	P	**P**	**10 08 01.8**	**-0.6**
CBIJ				S	**S**	**10 08 57.2**	**-1.9**
CBIJ	**Chichi jima**	**2.57**	**110**	P	**P**	**10 08 01.9**	**-0.5**
72nm,0.3s,baz=330,slow=2.3,SNR=18							
CBIJ				S	**S**	**10 08 56.0**	**-3.1**
97nm,0.3s,baz=272,slow=23,SNR=10							
JHHJ	**Haha-jima-NKT**	**2.77**	**119**	P	**P**	**10 08 03.3**	**-0.2**
JHHJ				S	**S**	**10 09 00.1**	**-1.1**
JHJ2	**Mitsune**	**5.12**	**3**	P	**P**	**10 08 22.0**	**+0.6**
JHJ2				S	**S**	**10 09 32.3**	**-1.9**
JHJ	**Hachijo jima 2**	**5.12**	**3**	P	**P**	**10 08 20.6**	**-0.9**
26nm,0.3s,baz=165,slow=6.3,SNR=24							
JHJ				S	**S**	**10 09 30.6**	**-3.6**
81nm,0.3s,baz=246,slow=23,SNR=13							
TK01	**Tokai 1**	**5.98**	**345**	P	**P**	**10 08 31.5**	**+2.2**
TK01				*e*S	**S**	**10 09 50.2**	**+1.6**
JWZ	**Kozaga**	**6.40**	**331**	P	**P**	**10 08 34.8**	**+1.5**
JWZ				*e*S	**S**	**10 09 55.8**	**-0.1**
BSO1	**Boso 1**	**6.77**	**11**	P	**P**	**10 08 37.6**	**+0.7**
BSO1				*e*S	**S**	**10 10 01.7**	**-0.8**
JIE	**Ise**	**6.81**	**340**	P	**P**	**10 08 39.4**	**+2.1**
JIE				S	**S**	**10 10 03.9**	**+0.7**
JOD2	**Odawara 2**	**7.26**	**358**	P	**P**	**10 08 41.3**	**-0.4**
JOD2				*e*S	**S**	**10 10 10.5**	**-0.9**
JTO	**Tosashimizu**	**7.53**	**312**	P	**P**	**10 08 46.4**	**+1.9**
JRY	**Ryogami san**	**8.02**	**357**	P	**P**	**10 08 49.0**	**-0.4**
JRY				*e*S	**S**	**10 10 21.7**	**-3.7**
MJAR	**Matsushiro Arr**	**8.60**	**353**	P	**P**	**10 08 54.3**	**-1.0**
8.6nm,0.3s,baz=171,slow=12,SNR=157							
MJAR				S	**S**	**10 10 31.6**	**-4.5**
1.1nm,0.3s,baz=141,slow=16,SNR=3.6							
MAJO	**Matsushiro**	**8.60**	**353**	*e*P	**P**	**10 08 54.3**	**-1.0**
MAJO				*e*S	**S**	**10 10 30.7**	**-5.5**
MAJO				pmax	pmax		
comp=Z,189nm,0.8s							
MAJO	**Matsushiro**	**8.60**	**353**	*e*Pn	**P**	**10 08 54.3**	**-0.9**
comp=Z,189nm,0.8s							
MAJO				*e*S	**S**	**10 10 30.6**	**-5.5**
MAT	**Matsushiro**	**8.60**	**353**	P	**P**	**10 08 54.4**	**-0.9**
MAT				S	**S**	**10 10 31.6**	**-4.6**
JHS	**Saijyo**	**8.84**	**324**	P	**P**	**10 08 59.0**	**+1.2**
JHS				S	**S**	**10 10 42.1**	**+1.2**
JSJ	**Shimokoshiki**	**9.23**	**296**	P	**P**	**10 09 03.3**	**+1.4**
JOW	**Kunigami**	**10.01**	**266**	P	**P**	**10 09 09.6**	**-0.5**
comp=Z,1.7nm,0.3s,baz=133,slow=12,SNR=6.0							
JTU	**Tsushima**	**10.80**	**310**	P	**P**	**10 09 19.0**	**+0.8**
JMK	**Ichinoseki**	**11.04**	**7**	P	**P**	**10 09 21.5**	**+0.9**
JMK				S	**S**	**10 11 23.2**	**+0.5**
JOT	**Ohata**	**13.43**	**5**	P	**P**	**10 09 46.2**	**+0.5**
KSRS	**Korea Array**	**13.54**	**317**	P	**P**	**10 09 45.7**	**-1.3**
comp=Z,1.1nm,0.3s,baz=130,slow=10,SNR=37							
KSRS				S	**S**	**10 12 15.9**	**+5.1**
comp=Z,0.0nm,0.3s,baz=139,slow=14,SNR=4.0							
JKB	**Kayabe**	**13.93**	**5**	P	**P**	**10 09 51.2**	**+0.2**
JOSM	**Okushiri--Mats**	**14.06**	**0**	P	**P**	**10 09 52.3**	**-0.1**
GUMO	**Guam**	**15.18**	**160**	P	**P**	**10 10 05.3**	**+0.9**
comp=Z,12nm,0.3s,baz=192,slow=4.1,SNR=12							
GUMO	**Guam**	**15.18**	**160**	P	**P**	**10 10 05.3**	**+0.9**
GUMO				pmax	pmax		
comp=Z,12nm,0.3s							
GUMO	**Guam**	**15.18**	**160**	*e*P	**P**	**10 10 05.7**	**+1.2**
comp=Z,630nm,1.1s							
NEM2	**Nemuro 2**	**16.16**	**17**	P	**P**	**10 10 13.5**	**-0.7**
ASAJ	**Asahikawa**	**16.29**	**8**	P	**P**	**10 10 16.1**	**+0.6**
comp=Z,1.2nm,0.3s,baz=230,slow=14,SNR=22							
ASAJ	**Asahikawa**	**16.29**	**8**	P	**P**	**10 10 16.1**	**+0.6**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
VLA	**Vladivostok**	**16.30**	**340**	*e*P	**P**	**10 10 15.3**	**-0.2**
VLA				*e*S	**S**	**10 13 02.2**	**-0.1**
VLA				pmax	pmax		
comp=Z,108nm,1.1s							
JTKR	**Abashiri--Toko**	**16.35**	**11**	P	**P**	**10 10 16.8**	**+0.8**
NACB	**Ninganchiao**	**16.50**	**261**	*e*P	**P**	**10 10 16.0**	**-1.9**
JWK2	**Keihoku**	**17.41**	**6**	P	**P**	**10 10 27.7**	**+1.6**
NJ2	**Nanjing**	**18.30**	**288**	*e*P	**P**	**10 10 33.4**	**-1.2**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s							
MDJ	**Mudanjiang**	**18.38**	**337**	P	**P**	**10 10 35.1**	**0.0**
MDJ				XP	sP	10 12 45.1	-2.1
MDJ				S	**S**	**10 13 37.0**	**+0.5**
MDJ				SCP	ScP	10 17 23.3	-1.7
MDJ				PCS	PcS	10 18 14.6	-1.0
MDJ				AMB	AMB		
comp=Z,21nm,0.9s							
MDJ				AMB	AMB		
comp=Z,101nm,6.0s							
MDJ	**Mudanjiang**	**18.38**	**337**	*e*P	**P**	**10 10 35.2**	**+0.1**
comp=Z,20nm,0.8s							
SNY	**Shenyang**	**18.94**	**321**	⇓P	**P**	**10 10 40.3**	**0.0**
SNY				AMB	AMB		
comp=Z,52nm,0.5s							
YSS	**Yuzh-Sakhalins**	**19.11**	**7⇑**	*e*P	**P**	**10 10 42.5**	**+0.8**
YSS	**Yuzh-Sakhalins**	**19.11**	**7**	*e*P	**P**	**10 10 42.4**	**+0.6**
comp=Z,17nm,0.4s							
CN2	**Changchun**	**19.40**	**328**	*e*P	**P**	**10 10 46.0**	**+1.6**
CN2				*e*S	**S**	**10 13 53.0**	**0.0**
CN2				AMB	AMB		
comp=Z,20nm,0.8s							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
KLR	**Kul'dur**	**22.03**	**346**	*e*P	**P**	**10 11 04.8**	**-3.3**
KLR				*e*S	**S**	**10 14 31.0**	**-3.7**
WHN	**Wuhan**	**22.05**	**283**	⇑P	**P**	**10 11 08.8**	**+0.2**
HIA	**Hailar**	**26.10**	**330**	*c i* P	**P**	**10 11 44.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**26.23**	**307**	*e*P	**P**	**10 11 45.4**	**-0.2**
HHC				PCP	PcP	10 14 57.3	+2.2
HHC				S	**S**	**10 15 40.1**	**-0.9**
HHC				PCS	PcS	10 18 37.3	+0.7
HHC				AMB	AMB		
comp=Z,7.0nm,0.7s,mb4.4							
HHC				AMB	AMB		
comp=Z,115nm,7.1s							
PETK	**Petropavlovsk-**	**28.50**	**23**	P	**P**	**10 12 05.9**	**+0.5**
comp=Z,1.1nm,0.7s,mb3.6,baz=254,slow=31,SNR=10							
GYA	**Guiyang**	**29.16**	**275**	P	**P**	**10 12 11.0**	**-0.5**
GYA				PCP	PcP	10 15 03.9	+1.2
GYA				S	**S**	**10 16 26.3**	**-0.8**
GYA				PCS	PcS	10 18 46.3	-0.1
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.5							
KDM	**Kudat**	**29.98**	**230**	⇑P	**P**	**10 12 21.1**	**+2.4**
MYLDM	**Lahad Datu**	**30.19**	**225**	⇓P	**P**	**10 12 22.5**	**+1.9**
CLNS	**Chul'man**	**30.64**	**344**	*e*P	**P**	**10 12 24.6**	**+0.8**
CLNS				pmax	pmax		
comp=Z,13nm,0.9s,mb4.5							
CLNS				pmax	pmax		
comp=N,7.0nm,0.8s							
CLNS				pmax	pmax		
comp=E,3.0nm,0.9s							
SDKM	**Sandakan**	**30.68**	**228**	⇑P	**P**	**10 12 27.2**	**+2.5**
LZH	**Lanzhou**	**31.12**	**294**	⇑P	**P**	**10 12 26.5**	**-1.8**
LZH				XP	sP	10 14 59.6	+3.3
LZH				AMB	AMB		
comp=Z,26nm,1.2s,mb4.6							
LZH				AMB	AMB		
comp=Z,71nm,4.8s							
CD2	**Chengdu**	**31.15**	**284**	*e*P	**P**	**10 12 28.4**	**-0.2**
CD2				PCP	PcP	10 15 09.4	+1.5
CD2				S	**S**	**10 16 57.8**	**+0.1**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
CD2				AMB	AMB		
comp=Z,20nm,6.2s							
TSM	**Tawau**	**31.27**	**225**	⇑P	**P**	**10 12 32.3**	**+2.5**
SONM	**Songino Array**	**32.41**	**317**	P	**P**	**10 12 39.0**	**-0.1**
comp=Z,1.5nm,0.5s,mb3.8,baz=126,slow=7.8,SNR=11							
SONM				ScP	ScP	10 18 04.1	-1.4
comp=Z,2.2nm,0.7s,baz=132,slow=2.8,SNR=11							
KMI	**Kunming**	**32.90**	**274**	P	**P**	**10 12 42.9**	**-0.7**
KMI				AMB	AMB		
comp=Z,16nm,1.0s,mb4.5							
GTA	**Gaotai**	**34.65**	**300**	*e*P	**P**	**10 12 57.8**	**-0.3**
GTA				AMB	AMB		
comp=Z,8.0nm,1.0s,mb4.2							
YAK	**Yakutsk**	**34.66**	**352**	*e*P	**P**	**10 12 57.0**	**-0.9**
YAK				*e*		10 14 40.5	
YAK				*e*		10 15 20.2	
YAK				*e*S	**S**	**10 17 46.6**	**-3.5**
YAK				*e*		10 22 19.3	
YAK				pmax	pmax		
comp=Z,19nm,0.9s,mb4.6							
YAK				pmax	pmax		
comp=N,9.0nm,1.1s							
YAK				pmax	pmax		
comp=Z,17nm,1.5s,mb4.3							
YAK				pmax	pmax		
comp=N,12nm,1.5s							
YAK				smax			
comp=N,43nm,1.5s							
YAK				smax			
comp=E,28nm,1.4s							
YAK	**Yakutsk**	**34.66**	**352**	*e*P	**P**	**10 12 56.5**	**-1.3**
comp=E,19nm,0.8s,mb4.7							
BOD	**Bodaibo**	**34.75**	**336**	*e*P	**P**	**10 12 58.4**	**-0.3**
BOD				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.2							
BTM	**Bintulu**	**35.22**	**230**	⇑P	**P**	**10 13 03.8**	**+0.6**
ZAK	**Zakamensk**	**35.36**	**319**	*e*P	**P**	**10 13 02.5**	**-1.4**
SEY	**Seymchan**	**35.96**	**10⇑**	*e*P	**P**	**10 13 09.2**	**+0.5**
SBUM	**Sibu**	**36.35**	**230**	⇑P	**P**	**10 13 13.0**	**+0.4**
CHTO	**Chiang Mai**	**38.15**	**265**	*e*P	**P**	**10 13 26.7**	**-0.6**
CHTO				pmax	pmax		
comp=Z,18nm,0.8s,mb4.7							
CHTO	**Chiang Mai**	**38.15**	**265**	*e*P	**P**	**10 13 26.7**	**-0.6**
comp=Z,18nm,0.8s,mb4.7							
CMAR	**Chiang Mai Arr**	**38.28**	**265**	P	**P**	**10 13 27.8**	**-0.6**
comp=Z,6.0nm,0.7s,mb4.3,baz=52,slow=8.9,SNR=31							
CMAR				PcP	PcP	10 15 29.0	-0.2
comp=Z,1.0nm,0.5s,baz=326,slow=1.0,SNR=5.4							
CMAR	**Chiang Mai Arr**	**38.28**	**265**	*i* P	**P**	**10 13 28.2**	**-0.2**
CMAR				pmax	pmax		
comp=Z,6.0nm,0.7s							
KSM	**Kuching**	**38.37**	**232**	⇓P	**P**	**10 13 30.3**	**+1.1**
ADK	**Adak**	**40.39**	**42**	P	**P**	**10 13 45.1**	**+0.2**
BATI	**Baumata**	**40.93**	**204**	P	**P**	**10 13 49.4**	**-0.3**
comp=Z,33nm,0.5s,mb5.1,baz=26,slow=1.9,SNR=5.9							
KAKA	**Kakadu**	**41.02**	**190**	*e*P	**P**	**10 13 50.3**	**-0.1**
comp=Z,5.3nm,0.6s,mb4.2							
HVS	**Khovu-Aksy**	**41.31**	**317**	*d i* P	**P**	**10 13 53.4**	**+1.2**
HVS				pmax	pmax		
comp=Z,22nm,0.8s,mb4.7							
MYKOM	**Kota Tinggi**	**42.85**	**239**	⇓P	**P**	**10 14 05.8**	**+0.8**
BILL	**Bilibino**	**43.16**	**14**	*i* P	**P**	**10 14 07.6**	**+1.0**
BILL				pmax	pmax		
comp=Z,13nm,0.7s,mb4.6							
BILL	**Bilibino**	**43.16**	**14**	P	**P**	**10 14 07.6**	**+1.1**
KULM	**Kulim**	**43.20**	**246**	⇓P	**P**	**10 14 08.4**	**+0.7**
IPM	**Ipoh**	**43.38**	**244**	⇑P	**P**	**10 14 08.9**	**-0.2**
FRIM	**Kepong**	**43.66**	**243**	⇓P	**P**	**10 14 11.1**	**-0.1**
WMQ	**Urumqi**	**44.09**	**305**	*e*P	**P**	**10 14 15.1**	**+0.9**
WMQ				AMB	AMB		
comp=Z,15nm,0.8s,mb4.6							
TAPN	**Taplejung**	**45.55**	**282**	*e*P	**P**	**10 14 26.0**	**+0.3**
ODAN	**Odare**	**45.95**	**281**	*e*P	**P**	**10 14 29.0**	**+0.3**
PSI	**Prapat**	**46.06**	**244**	P	**P**	**10 14 29.7**	**0.0**
comp=Z,28nm,0.8s,mb4.9,baz=47,slow=3.9,SNR=21							
PSI				PcP	PcP	10 15 55.2	-0.3
comp=Z,6.8nm,0.7s,baz=14,slow=6.9,SNR=3.9							
PSI	**Prapat**	**46.06**	**244**	P	**P**	**10 14 29.7**	**0.0**
PSI				PcP	PcP	10 15 55.2	-0.3
RAMN	**Ramite**	**46.61**	**282**	*e*P	**P**	**10 14 34.1**	**+0.4**
JIRN	**Jiri**	**46.79**	**283**	*e*P	**P**	**10 14 36.1**	**+1.0**
GUN	**Gumba**	**47.00**	**283**	*e*P	**P**	**10 14 37.4**	**+0.7**
comp=Z,63nm,0.5s,mb5.4							
ZALV	**Zalesovo Beam**	**47.24**	**319**	P	**P**	**10 14 37.6**	**-0.4**
comp=Z,3.5nm,0.5s,mb4.2,baz=110,slow=8.3,SNR=12							
ZALV				PcP	PcP	10 15 58.2	-0.8
comp=Z,3.2nm,0.6s,baz=116,slow=4.0,SNR=8.1							
ZALV				ScP	ScP	10 19 00.6	-2.7
comp=Z,3.3nm,0.7s,baz=109,slow=4.3,SNR=9.5							
ZALV	**Zalesovo Beam**	**47.24**	**319**	P	**P**	**10 14 37.6**	**-0.4**
ZALV				PcP	PcP	10 15 58.2	-0.8
ZALV				ScP	ScP	10 19 00.6	-2.7
ZAL	**Zalesovo**	**47.24**	**319**	P	**P**	**10 14 37.6**	**-0.5**
ZAL						10 15 58.2	
PKI	**Pulchoki**	**47.49**	**283**	*e*P	**P**	**10 14 40.2**	**-0.2**
comp=Z,24nm,0.6s,mb4.9							
PKI	**Pulchoki**	**47.49**	**283**	*e*P	**P**	**10 14 40.2**	**-0.2**
PKI				pmax	pmax		
comp=Z,24nm,0.6s,mb4.9							
KKN	**Kakani**	**47.55**	**283**	*e*P	**P**	**10 14 40.6**	**-0.2**
comp=Z,48nm,0.8s,mb5.1							
KKN	**Kakani**	**47.55**	**283**	*e*P	**P**	**10 14 40.6**	**-0.2**
KKN				pmax	pmax		
comp=Z,48nm,0.8s,mb5.1							
FITZ	**Fitzroy Crossi**	**47.73**	**198**	⇓*i* P	**P**	**10 14 42.3**	**+0.1**
comp=Z,14nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**47.73**	**198**	P	**P**	**10 14 42.0**	**-0.2**
comp=

comp=Z,15nm,0.9s,mb4.2
STKA Stephens Creek 59.56 178 *e*P **P 10 16 05.8 0.0**
comp=Z,3.8nm,0.7s,mb3.8
STKA Stephens Creek 59.56 178 P **P 10 16 05.7 -0.1**
comp=Z,6.0nm,0.8s,mb4.0,baz=344,slow=9.4,SNR=17
ARU Arti 62.24 322 *d* P **P 10 16 22.1 -1.0**
ARU *e* 10 18 49.0
ARU *e*S **S 10 24 10.9 +2.6**
ARU SS SS 10 28 22.4 -0.7
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
ARU Arti 62.24 322 *e*P **P 10 16 22.2 -0.9**
comp=Z,20nm,1.2s,mb4.4
AB31 Akbulak array 62.74 314 *i* P **P 10 16 25.6 -0.9**
AB31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
KLBR Kellerberrin 62.75 201 *e*P **P 10 16 26.2 -0.5**
MUN Mundaring 63.61 202 *e*P **P 10 16 32.7 +0.5**
AKTK Aktyubinsk 63.71 315 P **P 10 16 31.4 -1.3**
AKTO Aktyubinsk 63.71 315 P **P 10 16 31.4 -1.3**
comp=Z,4.8nm,0.7s,mb4.1,baz=77,slow=7.1,SNR=24
NWAO Narrogin (SRO) 64.15 201 P **P 10 16 35.2 -0.5**
comp=Z,16nm,0.7s,mb4.6,baz=3.8,slow=7.5,SNR=11
SPITS Spitsbergen Ar 69.07 349 P **P 10 17 05.1 -0.5**
comp=Z,17nm,0.5s,mb3.8,baz=293,slow=10,SNR=4.2
ARCES ARCESS Array B 71.90 340 P **P 10 17 22.2 -0.1**
comp=Z,5.0nm,0.6s,mb4.2,baz=68,slow=8.0,SNR=42
YKA Yellowknife Ar 72.50 28 P **P 10 17 25.4 -0.6**
comp=Z,2.3nm,0.7s,mb3.7,baz=297,slow=5.9,SNR=5.5
YKA Yellowknife Ar 72.50 28⇓ *e*P **P 10 17 26.1 +0.1**
OBN Obninsk 74.42 324⇓ *i*P **P 10 17 36.4 -0.6**
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.3
UMR Umm Al-Rimmam 78.14 297 *e*P **P 10 17 56.6 -1.5**
baz=297
UMR AMb AMB 10 17 57.6
comp=Z,23nm,0.7s,mb4.6,baz=297
RDF Al-Radifah 78.54 297 *e*P **P 10 17 59.1 -1.1**
baz=297
RDF AMb AMB 10 18 00.4
comp=Z,36nm,0.7s,mb4.8,baz=297
NAY Al-Naaiem 78.64 297 *e*P **P 10 17 59.6 -1.2**
baz=297
NAY AMb AMB 10 18 01.0
comp=Z,25nm,0.9s,mb4.5,baz=297
ANN Anapa 78.67 315 *e*P **P 10 17 58.9 -1.7**
ANN *e**PP pP 10 19 50.8 -1.0
ANN *e*S S 10 27 14.8 -0.3
ANN pmax pmax
comp=Z,22nm,0.9s,mb4.5
WVOR Wild Horse Val 79.70 47 *e*P **P 10 18 07.0 +0.9**
WVOR pmax pmax
comp=Z,2.0nm,0.9s,mb3.5
WVOR Wild Horse Val 79.70 47 *e*P **P 10 18 07.0 +0.8**
comp=Z,2.4nm,0.9s,mb3.5
AKASG Malin Array Be 80.46 323 P **P 10 18 08.7 -1.3**
comp=Z,0.8nm,0.4s,mb3.4,baz=52,slow=5.3,SNR=5.4
AKASG Malin Array Be 80.46 323 *i* P **P 10 18 08.8 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
MALT Malatya 81.08 309 *e*P **P 10 18 14.1 +0.7**
MALT pmax pmax
comp=Z,11nm,1.3s,mb4.1
MALT Malatya 81.08 309 *e*P **P 10 18 14.1 +0.6**
comp=Z,11nm,1.3s,mb4.1
HLID Hailey 81.83 45 *e*P **P 10 18 18.1 +1.0**
comp=Z,1.3nm,1.0s,mb3.3
NVAR Mina Array Bea 81.85 51 P **P 10 18 17.9 +0.5**
comp=Z,1.5nm,0.6s,mb3.6,baz=296,slow=5.4,SNR=14
NVAR pP pP 10 20 13.2 +3.5
comp=Z,1.1nm,0.8s,baz=278,slow=5.3,SNR=6.0
NOA NORSAR Array B 81.88 337 P **P 10 18 15.8 -1.3**
comp=Z,5.9nm,0.6s,mb4.2,baz=46,slow=4.9,SNR=24
IMW Indian Meadow 83.80 43 *e*P **P 10 18 28.8 +1.8**
comp=Z,3.2nm,1.0s,mb3.8
TPNV Topopah Spring 84.00 51 *e*P **P 10 18 29.0 +0.8**
TPNV pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
TPNV Topopah Spring 84.00 51 *e*P **P 10 18 28.9 +0.8**
comp=Z,2.9nm,0.9s,mb3.8
PDAR Pinedale Array 85.26 44 P **P 10 18 34.9 +0.6**
comp=Z,0.3nm,0.3s,mb3.3,baz=288,slow=1.4,SNR=5.5
PDAR pP pP 10 20 30.8 +3.1
comp=Z,0.5nm,0.8s,baz=180,slow=0.6,SNR=1.8
MMAI Mount Meron Ar 85.84 305 P **P 10 18 36.7 -0.5**
comp=Z,0.4nm,0.3s,mb3.6,baz=72,slow=18,SNR=3.1
KHC Kasperske Hory 89.34 328⇓ *e*P **P 10 18 52.6 -0.7**
GERES GERESS Array B 89.48 328 P **P 10 18 52.3 -1.7**
comp=Z,1.1nm,0.9s,mb3.7,baz=47,slow=5.9,SNR=7.8
ANMO Albuquerque 91.73 49⇓ *e*P **P 10 19 05.3 +0.7**
ANMO *i* *PP pP 10 20 57.8 -1.8
TXAR Lajitas Array 96.98 52 P **P 10 19 29.1 +0.6**
comp=Z,0.5nm,0.8s,mb3.8,baz=300,slow=2.5,SNR=7.2
TXAR pP pP 10 21 26.0 +2.0
comp=Z,1.2nm,1.0s,baz=283,slow=3.0,SNR=4.6
TXAR Lajitas Array 96.98 52 P **P 10 19 29.1 +0.6**
TXAR pP pP 10 21 26.0 +2.0
TORD Torodi Ar. Bea 122.17 309 PKP PKPdf 10 24 47.4 -1.5
comp=Z,1.1nm,0.6s,baz=2.9,slow=3.0,SNR=7.0
BOSA Boshof 122.77 252 PKP PKPdf 10 24 48.9 -0.7
comp=Z,2.5nm,0.9s,baz=83,slow=5.2,SNR=4.0
BOSA Boshof 122.77 252 PKP PKPdf 10 24 48.9 -0.7
DBIC Dimbokro 131.28 310 SKPbc SKPbc 10 27 41.6 -1.3
comp=Z,4.0nm,0.8s,baz=45,slow=3.9,SNR=4.1
LPAZ La Paz 151.98 71 PKPbc PKPbc 10 25 49.0 -0.4
comp=Z,1.7nm,0.7s,baz=4.7,slow=3.9,SNR=6.2
LPAZ La Paz 151.98 71 PKIKP PKPbc 10 25 49.0 -0.4
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 151.98 71 *e*PKPbc PKPbc 10 25 50.6 +1.2
PLCA Paso Flores 152.29 125 PKPbc PKPbc 10 25 50.2 +0.8
comp=Z,2.4nm,0.4s,baz=266,slow=0.8,SNR=18
PLCA Paso Flores 152.29 125 PKPbc PKPbc 10 25 50.2 +0.8

*ISK **19** 10:30:08.6,3845N×2906E,h6km,MD2.7*
*CSEM **19** 10:30:08.4±0.1,3848N×2906E,h8km,MD2.7,Error ellipse: s-maj=2.4km s-min=1.6km az=11.0*
*ISCJB **19** 10:30:09.3±0.5,3846N±003×2906E±004,h10km,Error ellipse: s-maj=4.6km s-min=3.9km az=34.9*
*DDA **19** 10:30:09.3,3845N×2905E,h7km±4km,Md2.8*
ISC 19 10:30:09.7±0.6,3845N±003×2905E±004,h9km±9km,n10, σ0°59/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.31**	**281**	*e*PG	**Pg**	**10 30 15.2**	**-0.7**
KULA				*e*SG	**Sg**	**10 30 20.4**	**+0.3**
KHAL	**Karahalli**	**0.35**	**103**	*i* P	**Pg**	**10 30 16.4**	**-0.3**
KHAL				*i* S	**Sg**	**10 30 21.5**	**+0.1**
KHL	**Karahalli**	**0.39**	**109**	*e*PG	**Pg**	**10 30 16.8**	**-0.6**
KHL				*e*SG	**Sg**	**10 30 22.5**	**-0.1**
DEMI	**Demirci**	**0.65**	**336**	*i* P	**Pg**	**10 30 22.0**	**-0.2**
DEMI				*i* S	**Sg**	**10 30 31.2**	**+0.5**
GDZ	**Gediz**	**0.72**	**28**	*i* P	**Pg**	**10 30 23.0**	**-0.5**
GDZ				*i* S	**Sg**	**10 30 33.9**	**+1.0**
DNZL	**Cakiroluk**	**0.76**	**180**	*i* P	**Pg**	**10 30 23.8**	**-0.5**
DNZL				*i* S	**Sg**	**10 30 35.1**	**+0.8**
ALT	**Altintas**	**1.02**	**54**	*e*PG	**Pg**	**10 30 28.4**	**-0.9**
ALT				*e*SG	**Sg**	**10 30 42.7**	**+0.1**
TKTP	**Tekketepe**	**1.08**	**112**	*i* P	**Pg**	**10 30 31.3**	**+0.9**
TKTP				*i* S	**Sg**	**10 30 49.4**	**+5.0**
SHUT	**Suhut-Afyon**	**1.18**	**85**	*e*PN	**Pn**	**10 30 32.4**	**+0.1**
GOLH	**Golhisar**	**1.28**	**161**	*i* P	**Pn**	**10 30 33.5**	**-0.2**
GOLH				*i* S	**Sb**	**10 30 54.5**	**+4.0**

MDD 19 10:49:29.8±0.6,2766N×1811W,h34km±3km,mb3.8/4, mbLg2.4/10,Error ellipse: s-maj=6.2km s-min=3.2km az=144.0,PRIMO TT_MODEL: CANARY,Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIE	**El Hierro**	**0.15**	**62**	P	Pb	10 49 35.4	-0.6
	27nm,0.1s,SNR=26						
CHIE				S	Sb	10 49 39.6	-0.7
	397nm,0.1s,SNR=14						
EHIG	**Higuera**	**0.94**	**17**	S	Sn	10 49 55.9	-2.9
	25nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**0.94**	**58**	P	Pn	10 49 45.0	-1.6
	8.8nm,0.1s,SNR=7.4						
EGOM				S	Sn	10 49 56.3	-2.5
	65nm,0.1s,SNR=18						
CHIO	**Chio**	**1.28**	**63**	P	Pn	10 49 50.2	-1.1
	6.7nm,0.1s,SNR=7.9						
CHIO				S	Sn	10 50 06.1	-1.2
	21nm,0.1s,SNR=8.2						
CICO	**Icod de los Vi**	**1.41**	**60**	S	Sn	10 50 08.9	-1.4
	3.1nm,0.1s,SNR=6.4						
CCAN	**Las Canadas**	**1.45**	**67**	P	Pn	10 49 51.9	-1.6
	0.2nm,0.1s,SNR=7.9						
CCAN				S	Sn	10 50 07.4	-3.9
	2.9nm,0.1s,SNR=8.2						
EBAJ	**Bajamar**	**1.79**	**60**	P	Pn	10 49 55.4	-2.8
	SNR=7.9						
EBAJ				S	Sn	10 50 18.1	-1.8
	2.5nm,0.1s,SNR=7.9						
EOSO	**Osorio**	**2.30**	**79**	S	Sn	10 50 28.4	-4.0
	2.0nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**3.64**	**77**	P	Pn	10 50 22.9	-0.7
	0.8nm,0.1s,SNR=7.9						
CFTV				S	Sn	10 51 00.7	-4.7
	1.4nm,0.2s,SNR=7.9						
CFUE	**Fuerteventura**	**3.82**	**74**	S	Sn	10 51 05.3	-4.5
	1.6nm,0.0s,SNR=7.9						

IDC 19 12:03:27.9±6.6,3883S×7719E,h0km,mb3.9/4,mb1 4.1/4, mb1mx3.8/17,mbtmp3.9/4,MS3.7/4,Ms1 3.7/4, ms1mx3.2/17,Error ellipse: s-maj=216.7km s-min=41.6km az=38.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**29.91**	**191**	LR	LR	12 19 07.9	
	comp=Z,249nm,18.9s,baz=274,slow=31						
BOSA	**Boshof**	**43.87**	**267**	LR	LR	12 26 01.3	
	comp=Z,148nm,19.4s,baz=151,slow=31						
FITZ	**Fitzroy Crossi**	**46.72**	**78**	LR	LR	12 29 10.2	
	comp=Z,38nm,18.4s,baz=214,slow=33						
ASAR	**Alice Springs**	**50.04**	**90**	P	P	12 12 25.4	+1.0
	0.5nm,0.6s,baz=237,slow=5.3,SNR=9.7						
STKA	**Stephens Creek**	**52.03**	**103**	P	P	12 12 39.1	-0.1
	1.5nm,0.7s,baz=243,slow=6.8,SNR=3.3						
WRA	**Warramunga Arr**	**52.39**	**86**	P	P	12 12 41.0	-1.1
	1.4nm,0.6s,baz=235,slow=7.6,SNR=9.0						
MKAR	**Makanchi Array**	**85.37**	**4**	P	P	12 16 06.7	+0.2
	0.6nm,0.4s,baz=168,slow=6.2,SNR=9.0						
MKAR				LR	LR	12 49 44.7	
	comp=Z,37nm,19.5s,baz=43,slow=32						

IDC 19 12:25:07.3±5.0,1240S×7633W,h0km,mb4.4/1, mb1 4.4/2,mb1mx3.8/18,mbtmp4.3/2,ML4.4/1,Error ellipse: s-maj=197.5km s-min=57.0km az=35.0,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.84**	**117**	Pn	Pn	12 27 17.0	+0.6
	1.8nm,0.3s,baz=295,slow=11,SNR=40						
TORD	**Torodi Ar. Bea**	**81.42**	**75**	P	P	12 37 26.9	0.0
	3.4nm,0.9s,baz=261,slow=4.7,SNR=12						
SONM	**Songino Array**	**144.60**	**357**	PKP	PKPdf	12 44 45.7	-0.3
	0.9nm,0.8s,baz=335,slow=2.1,SNR=3.9						

*CSEM **19** 12:44:13.5±0.1,4045N×3323E,h10km,MD2.9,Error ellipse: s-maj=2.5km s-min=2.2km az=116.0*
*ISCJB **19** 12:44:14.6±0.6,4043N±003×3326E±004,h10km,Error ellipse: s-maj=4.9km s-min=3.7km az=16.7*
*DDA **19** 12:44:14.1,4045N×3327E,h7km±1km,Md2.9*
*ISK **19** 12:44:14.4,4044N×3327E,h7km,MD2.8*
ISC 19 12:44:14.7±0.6,4045N±003×3324E±004,h3km±11km,n13, σ0°84/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.15**	**73**	*i* P	**Pg**	**12 44 17.0**	**-0.7**
ELDT				*i* S	**Sg**	**12 44 19.7**	**0.0**
CANT	**Cankiri**	**0.33**	**61**	PG	**Pg**	**12 44 20.7**	**-0.4**
CANT				*e*SG	**Sg**	**12 44 26.3**	**+0.8**
ANTO	**Ankara**	**0.67**	**211**	*e*PG	**Pg**	**12 44 28.1**	**+0.5**
ANTO				*e*SG	**Sg**	**12 44 37.8**	**+1.6**
TOS	**Tosya**	**0.84**	**45**	*e*PG	**Pg**	**12 44 30.7**	**-0.1**
SGKT	**Sivrigoynuk**	**0.91**	**278**	*i* P	**Pg**	**12 44 32.0**	**-0.2**
SGKT				*i* S	**Sg**	**12 44 49.4**	**+5.5**
BALT	**Daday**	**1.09**	**6**	*i* P	**Pg**	**12 44 35.2**	**-0.5**
BALT				*i* S	**Sg**	**12 44 50.1**	**+0.3**
CORM	**Corum**	**1.10**	**104**	*e*PG	**Pg**	**12 44 35.7**	**-0.1**
CORM				*e*SG	**Sg**	**12 44 50.8**	**+0.8**
KAMT	**Kaman**	**1.14**	**161**	*e*PN	**Pg**	**12 44 36.0**	**-0.5**
KAMT				*e*SN	**Sg**	**12 44 51.9**	**+0.7**
CTKT	**Corum**	**1.20**	**81**	*i* P	**Pg**	**12 44 36.9**	**-0.8**
CTKT				*i* S	**Sg**	**12 44 55.1**	**+1.9**
CDAG	**Cicekdag**	**1.20**	**133**	*i* P	**Pg**	**12 44 36.5**	**-1.1**
CDAG				*i* S	**Sg**	**12 44 53.2**	**0.0**
YOZ	**Yozgat**	**1.79**	**116**	*e*PN	**Pn**	**12 44 46.2**	**-0.4**
DIKM	**Dikmen**	**1.94**	**51**	*e*PN	**Pn**	**12 44 49.2**	**+0.6**
AVNT	**Avonos**	**2.08**	**143**	*i* P	**Pg**	**12 44 52.3**	**-2.3**
AVNT				*i* S	**Sg**	**12 45 21.2**	**-0.4**

*ISCJB **19** 12:53:19.7±0.7,3928N±002×2012E±004,h1km±4km, Error ellipse: s-maj=4.8km s-min=3.8km az=157.6*
*THE **19** 12:53:20.2,3927N×2010E,h0km,ML3.7*
*CSEM **19** 12:53:20.0±0.2,3927N×2010E,h2km,ML3.7,Error ellipse: s-maj=4.2km s-min=1.6km az=96.0*
*NEIC **19** 12:53:21.0,3926N×2024E,h19km,MD3.8(ATH), ML3.7(THE),After ATH.*
*ATH **19** 12:53:21.0,3926N×2024E,h19km±2km,MD3.8/7*
ISC 19 12:53:21.0±0.6,3926N±002×2019E±003,h0km±4km,n45, σ1°07/61,3C-3D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.30**	**22**	*e*Pg	**Pg**	**12 53 26.1**	**-0.7**
IGT				*e*Sg	**Sg**	**12 53 30.8**	**+0.2**
KEK	**Kerkira**	**0.55**	**327**	*e*PN	**Pg**	**12 53 32.7**	**+1.2**
KEK				*e*SN	**Sg**	**12 53 40.2**	**+1.6**
JAN	**Janina**	**0.65**	**52**⇓	*i*PB	**Pg**	**12 53 32.8**	**-0.7**
JAN				*e*SN	**Sg**	**12 53 42.0**	**+0.1**
LKD	**Levkas**	**0.65**	**147**	*e*Pg	**Pg**	**12 53 33.0**	**-0.5**
LKD				*e*Sg	**Sg**	**12 53 43.9**	**+1.9**
MEV	**Metsovon**	**0.96**	**56**	*e*Pg	**Pg**	**12 53 38.2**	**-1.3**
VLS	**Valsamata**	**1.12**	**164**⇑	*i*PB	**Pb**	**12 53 41.5**	**-1.7**
VLS				*e*SN	**Sn**	**12 53 58.4**	**-1.6**
VLS	**Valsamata**	**1.12**	**164**	*e*Pg	**Pg**	**12 53 41.2**	**-1.3**
VLS	**Valsamata**	**1.12**	**164**	Pb	**Pb**	**12 53 41.5**	**-1.7**
VLS				*e*Sn	**Sn**	**12 53 58.4**	**-1.6**
KFL	**Anninata**	**1.24**	**158**	*e*Pg	**Pg**	**12 53 44.0**	**-0.7**
THL	**Klokotos Trika**	**1.45**	**77**	*e*Pg	**Pn**	**12 53 47.1**	**-1.2**
THL				*e*Sg	**Sn**	**12 54 09.0**	**+1.0**
RLS	**Riolos of Patr**	**1.56**	**140**⇓	*i*PN	**Pn**	**12 53 49.7**	**-0.2**
KZN	**Kozani**	**1.61**	**49**⇓	*i*PN	**Pn**	**12 53 50.9**	**+0.3**
KZN				*e*SN	**Sn**	**12 54 11.0**	**-1.0**
AGG	**Agios Georgios**	**1.68**	**97**	*e*Pb	**Pn**	**12 53 51.3**	**-0.3**
AGG				*e*Sb	**Sn**	**12 54 15.7**	**+1.8**
AGG	**Agios Georgios**	**1.68**	**97**	*e*Pb	**Pn**	**12 53 51.3**	**-0.3**
AGG				*e*Sb	**Sb**	**12 54 15.6**	**+1.2**
FNA	**Florina**	**1.78**	**30**	*e*Pb	**Pn**	**12 53 51.6**	**-1.3**
FNA				*e*Sb	**Sn**	**12 54 15.8**	**-0.4**
BIA	**Bitola**	**1.96**	**26**	*i* Pn	**Pn**	**12 53 56.2**	**+0.7**
LIT	**Litokhoron**	**1.97**	**64**	*e*Pn	**Pn**	**12 53 56.5**	**+1.0**
LIT				*e*Sn	**Sn**	**12 54 23.3**	**+2.5**
KRUS	**Krusevo**	**2.26**	**21**⇑	*i*Pn	**Pn**	**12 54 00.1**	**+0.5**
KRUS	**Krusevo**	**2.26**	**21**⇑	*i*Pn	**Pn**	**12 54 00.0**	**+0.4**
LKR	**Lokris**	**2.27**	**105**	*e*Pn	**Pn**	**12 53 59.4**	**-0.3**
LKR	**Lokris**	**2.27**	**105**	*e*Pb	**Pn**	**12 53 59.1**	**-0.6**
LKR	**Lokris**	**2.27**	**105**	*e*Pn	**Pn**	**12 53 59.4**	**-0.3**
XOR	**Xorichti**	**2.33**	**86**	*e*Pn	**Pn**	**12 54 00.7**	**+0.1**
ITM	**Ithomi**	**2.48**	**146**	*e*PB	**Pn**	**12 54 03.5**	**+0.9**
LTK	**Loutraki**	**2.50**	**119**	*e*Pn	**Pn**	**12 54 03.6**	**+0.7**
HORT	**Hortiatis**	**2.61**	**58**	*e*Pn	**Pn**	**12 54 04.6**	**+0.2**
TIP	**Timpagrande**	**2.67**	**269**	*e*Pn	**Pn**	**12 54 05.3**	**+0.2**
TIP	**Timpagrande**	**2.67**	**269**	*e*Pn	**Pn**	**12 54 05.3**	**+0.1**
PLG	**Polygyros**	**2.75**	**65**	*e*Pn	**Pn**	**12 54 05.7**	**-0.5**
PLG				*e*Sn	**Sn**	**12 54 40.1**	**0.0**
PAIG	**Paliouri**	**2.78**	**75**	*e*Pn	**Pn**	**12 54 05.7**	**-0.9**
AOS	**Alonnisos**	**2.87**	**91**	*e*Pn	**Pn**	**12 54 07.4**	**-0.5**
SOH	**Sokhos**	**2.89**	**56**	*e*Pn	**Pn**	**12 54 08.7**	**+0.5**
DID	**Didima**	**2.96**	**125**	*e*Pn	**Pn**	**12 54 08.8**	**-0.5**
DID				*e*Sn	**Sn**	**12 54 45.9**	**+0.5**
SG1	**Sgolgore (BA)**	**3.12**	**302**	*e*Pn	**Pn**	**12 54 12.3**	**+0.9**
KKB	**Krupnik**	**3.42**	**39**	*e*P	**Sn**	**12 54 55.0**	**-1.6**
CUC	**Castrocucco**	**3.46**	**284**	*e*Pn	**Pn**	**12 54 17.1**	**+1.1**
CUC	**Castrocucco**	**3.46**	**284**	*e*Pn	**Pn**	**12 54 17.1**	**+1.1**
CEL	**Celeste**	**3.50**	**255**	P	**Pn**	**12 54 17.0**	**+0.4**
MMB	**Musomiste**	**3.57**	**48**	*e*P	**Pn**	**12 54 19.0**	**+1.5**
BARS	**Barje**	**3.77**	**19**	*e*Pn	**Pn**	**12 54 19.9**	**-0.3**
SGO	**Sicignano**	**3.98**	**291**	Pn	**Pn**	**12 54 26.1**	**+3.0**
VTS	**Vitosha**	**4.04**	**33**	*e*P	**Pn**	**12 54 25.0**	**+1.0**
STON	**Ston**	**4.07**	**333**	*e*Pn	**Pn**	**12 54 23.2**	**-1.3**
STON				Sn	**Sn**	**12 55 10.4**	**-2.4**
STON	**Ston**	**4.07**	**333**	*e*Pn	**Pn**	**12 54 23.1**	**-1.4**
STON				Sn	**Sn**	**12 55 10.4**	**-2.4**
DIVS	**Divibare**	**4.84**	**358**	*e*Pn	**Pn**	**12 54 33.4**	**-1.6**

*VIE **19** 12:59:10.6,586S×1678W,h30km,mb4.8/4 1511 km SSW of Monrovia*
*SZGRF **19** 12:59:31.5,438S×1136W,h21km,mb5.0,North of Ascension Island*
*BJI **19** 12:59:38.7,160S×1324W,h14km,mB5.4,Ms5.4,Msz5.1*
*MOS **19** 12:59:38.6±0.9,256S×1225W,h10km,mb5.1/31,MS4.2/7, Error ellipse: s-maj=15.4km s-min=4.8km az=67.7*
*IDC **19** 12:59:38.5±0.6,249S×1219W,h0km,mb4.1/18, mb1 4.2/19,mb1mx4.2/26,mbtmp4.1/19,ML4.0/1,MS4.1/20, Ms1 4.1/20,ms1mx4.0/34,Error ellipse: s-maj=19.7km s-min=14.1km az=139.0*
*ISCJB **19** 12:59:38.7±0.3,256S±005×1225W±007,h10km,mb4.7/55, MS4.3/31,Error ellipse: s-maj=11.1km s-min=6.6km az=28.5*
*NEIC **19** 12:59:40.4±0.4,261S×1228W,h10km,mb4.9/36,MS4.2/1, Error ellipse: s-maj=11.4km s-min=7.1km az=133.0*
*GCMT **19** 12:59:40.4±0.3,237S×1231W,h12km±1km,MW5.0/67, Moment Tensor Solution. s16,c18; s67,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.89±.26; $M_{\theta\theta}$=0.56±.14; $M_{\phi\phi}$=3.32±.18; $M_{r\theta}$=-0.10±.50; $M_{\theta\phi}$=-0.82±.10; $M_{\phi r}$=-0.18±.39; Best double couple: M_0=3.72200×10^{16} NP1:ϕ_s163.00000°,δ44.00000°,λ-93.00000°. NP2: ϕ_s347.00000°,δ46.00000°,λ-87.00000°. Principal axes: T 3.5470, Plg1.0000°, Azm75.0000°; N 0.3460, Plg2.0000°, Azm165.0000°; P -3.8980, Plg88.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 19 12:59:40.7±0.3,258S±005×1225W±007,h10km, (h15km±1.6km:pP-P),n209,σ0°96/191,mb4.7/55,MS4.3/31, 28C-15D,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**5.71**	**202**	P	**Pn**	**13 01 01.6**	**-4.1**
LIC	**Lamto**	**11.34**	**39**	*e*P	**Pn**	**13 02 21.8**	**-1.1**
	22nm,0.7s						
LIC				*e*MLR	MLR		
	comp=Z,2μm,20.4s						
LIC	**Lamto**	**11.34**	**39**	*e*P	**Pn**	**13 02 20.7**	**-2.2**
	comp=Z,43nm,0.7s						
LIC	**Lamto**	**11.34**	**39**	*e*P	**Pn**	**13 02 21.8**	**-1.1**
	comp=Z,11nm,0.7s						
KIC	**Kosan Boka**	**11.62**	**40**	*e*P	**Pn**	**13 02 22.7**	**-4.1**
	comp=Z,66nm,0.8s						
TIC	**Toumodi**	**11.67**	**38**	*e*P	**Pn**	**13 02 23.8**	**-3.6**
	comp=Z,95nm,0.8s						
TIC	**Toumodi**	**11.67**	**38**	*e*P	**Pn**	**13 02 23.8**	**-3.6**
TIC				pmax	pmax		
	comp=Z,95nm,0.8s						
DBIC	**Dimbokro**	**11.79**	**39**	Pn	**Pn**	**13 02 25.7**	**-3.3**
	comp=Z,1.0nm,0.3s,baz=208,slow=13,SNR=10						
DBIC	**Dimbokro**	**11.79**	**39**	*e*P	**Pn**	**13 02 26.1**	**-3.0**
DBIC				pmax	pmax		
	comp=Z,25nm,1.0s						
DBIC	**Dimbokro**	**11.79**	**39**	*e*P	**Pn**	**13 02 26.1**	**-3.0**
	comp=Z,25nm,1.0s						
BBTS	**Babate**	**17.65**	**346**	LR	LR	13 09 20.9	
	comp=Z,370nm,19.0s,baz=160,slow=33						
TOA0	**Torodi Ar. Sit**	**20.88**	**41**	*e*P	**P**	**13 04 19.4**	**-3.8**
TORD	**Torodi Ar. Bea**	**20.88**	**41**	P	**P**	**13 04 19.4**	**-3.8**
	comp=Z,18nm,0.7s,baz=225,slow=11,SNR=84						
TORD				LR	LR	13 11 26.9	
	comp=Z,940nm,20.4s,MS4.2,baz=225,slow=34						
TAM	**Tamanrasset**	**30.61**	**34**	*e*P	**P**	**13 05 55.1**	**0.0**
BDFB	**Brasilia**	**37.54**	**248**	P	**P**	**13 06 55.1**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.6,baz=36,slow=19,SNR=3.1						
LSZ	**Lusaka**	**41.79**	**110**	P	**P**	**13 07 31.1**	**+0.2**
	comp=Z,8.1nm,1.1s,mb4.3,baz=270,slow=8.9,SNR=7.9						
LSZ				LR	LR	13 21 56.7	
	comp=Z,495nm,22.0s,MS4.3,baz=215,slow=32						
LSZ	**Lusaka**	**41.79**	**110**	*e*P	**P**	**13 07 30.8**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
LSZ	**Lusaka**	**41.79**	**110**	*e*P	**P**	**13 07 30.8**	**-0.1**
	comp=Z,13nm,1.2s,mb4.4						
ESDC	**Sonseca Array**	**42.73**	**9**	P	**P**	**13 07 36.1**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=258,slow=5.1,SNR=2.8						
ESDC				PP	PP	13 09 16.6	-0.8
	comp=Z,0.7nm,0.7s,baz=224,slow=9.0,SNR=3.6						
ESDC				LR	LR	13 26 30.3	
	comp=Z,96nm,18.3s,MS3.7,baz=115,slow=38						
KEST	**Kesra**	**43.14**	**26**	P	**P**	**13 07 38.6**	**-2.9**
	comp=Z,4.2nm,1.0s,mb4.1,baz=359,slow=3.8,SNR=11						
KEST				LR	LR	13 26 25.6	
	comp=Z,183nm,19.7s,MS4.0,baz=80,slow=37						
BOSA	**Boshof**	**44.10**	**130**	P	**P**	**13 07 47.8**	**-1.6**
	comp=Z,6.4nm,0.9s,mb4.3,baz=321,slow=12,SNR=6.5						
BOSA				LR	LR	13 23 04.2	
	comp=Z,217nm,18.7s,MS4.1,baz=315,slow=32						
EPF	**Esparros**	**46.80**	**13**	*e*P	**P**	**13 08 10.7**	**+0.1**
	comp=Z,55nm,1.4s,mb5.0						
EPF	**Esparros**	**46.80**	**13**	*e*P	**P**	**13 08 10.7**	**+0.1**
EPF				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
EPF	**Esparros**	**46.80**	**13**	*e*P	**P**	**13 08 10.7**	**+0.1**
	comp=Z,28nm,1.4s,mb5.0						

ORIF *e*MLR MLR
comp=Z,335nm,19.0s,MS4.1
MBDF Montbardon 50.07 18 *e*P **P 13 08 35.3 -0.4**
comp=Z,23nm,0.9s,mb4.9
MBDF Montbardon 50.07 18 *e*P **P 13 08 35.3 -0.4**
MBDF pmax pmax
comp=Z,12nm,0.9s,mb4.9
MBDF Montbardon 50.07 18 *e*P **P 13 08 35.3 -0.4**
comp=Z,12nm,0.9s,mb4.9
TCF Toulx Ste Croi 50.31 13 *e*P **P 13 08 37.4 -0.2**
comp=Z,85nm,1.5s,mb5.2
TCF Toulx Ste Croi 50.31 13 *e*P **P 13 08 37.4 -0.2**
TCF pmax pmax
comp=Z,43nm,1.5s,mb5.3
TCF Toulx Ste Croi 50.31 13 *e*P **P 13 08 37.4 -0.2**
comp=Z,42nm,1.5s,mb5.2
BNI Bardonecchia 50.34 17 *e*P **P 13 08 40.1 +2.3**
BNI pmax pmax
comp=Z,13nm,1.1s,mb4.9
BNI Bardonecchia 50.34 17 *e*P **P 13 08 40.1 +2.3**
comp=Z,13nm,1.1s,mb4.9
LPG La Plagne 50.76 17 *e*P **P 13 08 41.7 +0.7**
LPL La Plagne 50.77 17 *e*P **P 13 08 41.6 +0.6**
comp=Z,32nm,1.1s,mb4.9
LPL La Plagne 50.77 17 *e*P **P 13 08 41.6 +0.6**
LPL pmax pmax
comp=Z,16nm,1.1s,mb4.9
LPL La Plagne 50.77 17 *e*P **P 13 08 41.6 +0.6**
comp=Z,16nm,1.1s,mb4.9
SMF Signal de Mont 51.03 14 *e*P **P 13 08 42.4 -0.6**
comp=Z,15nm,1.0s,mb4.6
SMF Signal de Mont 51.03 14 *e*P **P 13 08 42.4 -0.6**
SMF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SMF Signal de Mont 51.03 14 *e*P **P 13 08 42.4 -0.6**
comp=Z,7.4nm,1.0s,mb4.6
AVF Avril sur Loir 51.05 14 *e*P **P 13 08 42.7 -0.4**
SSF Saint Saulge 51.34 14 *e*P **P 13 08 44.9 -0.4**
comp=Z,20nm,1.0s,mb4.7
SSF Saint Saulge 51.34 14 *e*P **P 13 08 44.9 -0.4**
SSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SSF Saint Saulge 51.34 14 *e*P **P 13 08 44.9 -0.4**
comp=Z,10nm,1.0s,mb4.7
LOR Lormes 51.62 14 *e*P **P 13 08 46.7 -0.7**
comp=Z,22nm,1.2s,mb4.6
LOR *e*MLR MLR
comp=Z,181nm,17.8s,MS3.9
LOR Lormes 51.62 14 *e*P **P 13 08 46.7 -0.7**
LOR pmax pmax
comp=Z,11nm,1.2s,mb4.7
LOR MLR MLR
comp=Z,180nm,17.8s,MS4.2
LOR Lormes 51.62 14 *e*P **P 13 08 46.7 -0.7**
comp=Z,11nm,1.2s,mb4.7
LOR LR LR
comp=Z,180nm,17.8s,MS4.2
DAVOX Davos/Dischmat 52.88 19 LR LR 13 32 09.9
comp=Z,234nm,20.0s,MS4.2,baz=85,slow=37
HAU Haudompre 52.94 16 *e*P **P 13 08 56.3 -0.8**
HAU *e*MLR MLR
comp=Z,182nm,18.5s,MS3.9
HAU Haudompre 52.94 16 *e*P **P 13 08 56.3 -0.8**
HAU LR LR
comp=Z,180nm,18.5s,MS4.2
MEZF Maizieres J'vi 53.06 14 *e*P **P 13 08 57.6 -0.5**
SKDS Skadanscina 53.29 23 *e*P **P 13 09 00.9 +1.1**
DAVA Damuels 53.33 19 ⇑*i*P **P 13 08 57.6 -2.4**
comp=Z,21nm,0.8s,mb5.1,SNR=6.7
DAVA Damuels 53.33 19 ⇓*i*P **P 13 08 59.7 -0.3**
comp=Z,21nm,0.8s,mb5.1,SNR=6.7
FETA Feichten 53.37 19 ⇑*i*P **P 13 09 00.9 +0.5**
comp=Z,13nm,1.1s,mb4.8,SNR=9.7
CDF Champ du Feu 53.56 16 *e*P **P 13 09 00.6 -1.1**
comp=Z,27nm,1.2s,mb4.8
CDF Champ du Feu 53.56 16 *e*P **P 13 09 00.6 -1.1**
CDF pmax pmax
comp=Z,13nm,1.2s,mb4.7
CDF Champ du Feu 53.56 16 *e*P **P 13 09 00.6 -1.1**
comp=Z,13nm,1.2s,mb4.7
CEY Cerknica 53.62 23 *e*P **P 13 09 02.9 +0.8**
BOJS Bojanci 53.75 24 *e*P **P 13 09 04.6 +1.5**
MOTA Moosalm 53.78 20 ⇑*i*P **P 13 09 02.6 -0.7**
comp=Z,27nm,1.6s,mb4.9
MOTA Moosalm 53.78 20 ⇓*i*P **P 13 09 04.3 +0.9**
comp=Z,27nm,1.6s,mb4.9
MOTA Moosalm 53.78 20 ⇑*i*P **P 13 09 02.6 -0.7**
MOTA pmax pmax
comp=Z,27nm,1.6s,mb4.9
BFO Black Forest 53.79 17 P **P 13 09 04.0 +0.6**
BFO pmax pmax
comp=Z,17nm,1.3s,mb4.8
BFO Black Forest 53.79 17 P **P 13 09 04.0 +0.6**
comp=Z,17nm,1.3s,mb4.8
WTTA Wattenberg 53.89 20 ⇑*i*P **P 13 09 03.4 -0.7**
comp=Z,19nm,1.0s,mb5.0,SNR=8.3
WTTA Wattenberg 53.89 20 ⇑*i*P **P 13 09 03.4 -0.8**
WTTA pmax pmax
comp=Z,19nm,1.0s,mb5.0
OBKA Obir 54.30 23 ⇑*i*P **P 13 09 08.4 +1.2**
comp=Z,8.9nm,1.1s,mb4.6
BAIF Baives 54.32 13 *e*P **P 13 09 06.2 -1.0**
comp=Z,33nm,1.0s,mb4.9
BAIF Baives 54.32 13 *e*P **P 13 09 06.2 -1.0**
BAIF pmax pmax
comp=Z,17nm,1.0s,mb4.9
BAIF Baives 54.32 13 *e*P **P 13 09 06.2 -1.0**
comp=Z,17nm,1.0s,mb4.9
GIVF Givet 54.50 13 *e*P **P 13 09 07.4 -1.1**
SOKA Soboth 54.63 23 ⇓*i*P **P 13 09 09.9 +0.3**
comp=Z,16nm,1.2s,mb4.9
VTS Vitosha 55.20 31 ⇓*i*P **P 13 09 14.1 +0.3**
VTS Vitosha 55.20 31 ⇓P **P 13 09 14.1 +0.3**
PKSM Moragy 55.73 26 ⇑*i*P **P 13 09 17.8 +0.3**
PKSM Moragy 55.73 26 ⇑P **P 13 09 17.8 +0.3**
GRA1 Grafenberg Arr 55.87 18 *e*P **P 13 09 17.8 -0.7**
comp=Z,27nm,1.8s,mb5.0
GRA1 *e*pP pP 13 09 23.6 +1.9
GRF Grafenberg Arr 55.87 18 *e*P **P 13 09 17.8 -0.7**
GRF *e**PP pP 13 09 23.6 +1.9
GRF pmax pmax
comp=Z,27nm,1.8s,mb5.0
GRF Grafenberg Arr 55.87 18 *e*P **P 13 09 17.8 -0.7**
GRF *e**PP pP 13 09 23.6 +1.9
GRF pmax pmax
comp=Z,27nm,1.8s,mb5.0
GRF Grafenberg Arr 55.87 18 *e*P **P 13 09 17.8 -0.7**
comp=Z,27nm,1.8s,mb5.0
GRF *e*pP pP 13 09 23.6 +1.9
GEC2 GERESS Array S 55.96 20 *e*P **P 13 09 18.2 -0.9**
GERES GERESS Array B 55.96 20 P **P 13 09 18.6 -0.5**
comp=Z,8.5nm,0.9s,mb4.8,baz=191,slow=6.3,SNR=36
GERES LR LR 13 33 04.4
comp=Z,155nm,19.1s,MS4.1,baz=251,slow=36
SOP Sopron 56.05 23 ⇓*e*P **P 13 09 13.8 -6.0**
KHC Kasperske Hory 56.16 20 *e*P **P 13 09 21.5 +1.0**
KHC *ex* x 13 09 30.0
KHC AMS AMS 13 33 40.0
comp=Z,200nm,12.7s
LPAZ La Paz 56.59 252 P **P 13 09 24.4 +0.2**
comp=Z,1.6nm,0.9s,mb4.0,baz=56,slow=4.3,SNR=4.8
LPAZ LR LR 13 31 24.6
comp=Z,360nm,21.9s,MS4.4,baz=102,slow=34
LPAZ La Paz 56.59 252 P **P 13 09 24.4 +0.2**
LPAZ LR LR 13 31 24.6
BZS Buzias 56.61 28 ⇑*i*P **P 13 09 23.1 -0.7**
ZST Bratislava 56.68 23 *e*P **P 13 09 25.5 +1.2**
ZST pmax pmax
comp=Z,11nm,1.1s,mb4.8
ZST Bratislava 56.68 23 *e*P **P 13 09 25.5 +1.2**
comp=Z,11nm,1.1s,mb4.8
NKC Novy Kostel 56.73 19 *e*P **P 13 09 25.4 +0.8**
NKC *e*pP pP 13 09 30.4 +2.6
BUD Budapest 56.89 25 ⇓*e*P **P 13 09 28.0 +2.2**
MODS Modra-Piesok 56.89 23 *e*P **P 13 09 27.7 +1.9**
TREC Trest 56.97 21 *e*P **P 13 09 26.9 +0.6**
GZR Gura Zlata 57.00 29 ⇑*i*P **P 13 09 27.5 +0.9**
GZR Gura Zlata 57.00 29 ⇑P **P 13 09 27.4 +0.9**
PRU Pruhonice 57.22 20 *e*P **P 13 09 24.3 -3.8**
PRU AMS AMS 13 35 20.0
comp=Z,200nm,10.1s
MMAI Mount Meron Ar 57.24 48 LR LR 13 36 28.9
comp=Z,124nm,20.7s,MS4.0,baz=280,slow=39
VRAC Vranov 57.39 22 LR LR 13 35 07.7
comp=Z,224nm,19.3s,MS4.3,baz=177,slow=37
VRAC Vranov 57.39 22 ⇑*i*P **P 13 09 28.7 -0.6**

KOLL Kolacno 57.50 24 *e*P **P 13 09 30.5 +0.4**
PSZ Piszkesteto 57.60 25 ⇓*e*P **P 13 09 32.6 +1.8**
PSZ Piszkesteto 57.60 25 ⇑*i*P **P 13 09 32.5 +1.7**
PSZ Piszkesteto 57.60 25 *e*P **P 13 09 32.2 +1.4**
comp=Z,19nm,1.2s,mb5.0
PVCC Panska Ves 57.69 20 *e*P **P 13 09 32.2 +0.9**
BRG Berggiesshubel 57.77 19 *e*P **P 13 09 32.3 +0.4**
comp=Z,5.5nm,1.1s,mb4.5
BRG *e* 13 11 19.2
comp=Z,4.7nm,1.2s
CLL Collm 57.84 18 ⇓*i*P **P 13 09 33.2 +0.8**
CLL *e* pP 13 09 38.0 +2.4
CLL *e*S **S 13 17 27.0 -4.8**
CLL pmax pmax
comp=Z,13nm,1.7s,mb4.7
CLL MLR MLR
comp=Z,200nm,16.6s,MS4.3
CLL Collm 57.84 18 ⇓*i*P **P 13 09 33.2 +0.8**
comp=Z,13nm,1.7s,mb4.7
CLL *e*(sP) sP 13 09 38.0 +1.2
CLL *ex* x 13 09 44.0
CLL *e*S **S 13 17 36.0 +4.2**
CLL *e*SS SS 13 21 18.0 -4.8
CLL *ex* x 13 22 48.0
CLL Collm 57.84 18 ⇓*i*P **P 13 09 33.2 +0.8**
comp=Z,13nm,1.7s,mb4.7
CLL *e* pP 13 09 38.0 +2.4
CLL *e* 13 09 44.0
CLL *e*S **S 13 17 27.0 -4.8**
CLL LR LR
comp=Z,200nm,16.6s,MS4.3
ASF Jabal al Asfar 57.96 49 LR LR 13 33 50.5
comp=Z,219nm,21.9s,MS4.2,baz=303,slow=36
DRGR 57.99 28 ⇓*i*P **P 13 09 33.8 +0.2**
DPC Dobruska-Polom 58.15 21 *e*P **P 13 09 34.6 0.0**
DPC *e*pP pP 13 09 39.9 +2.1
UPC Upice 58.17 21 *e*P **P 13 09 33.5 -1.2**
UPC *e*pP pP 13 09 39.3 +1.3
KECS Kecovo 58.28 25 *e*P **P 13 09 37.2 +1.6**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KECS Kecovo 58.28 25 *e*P **P 13 09 37.2 +1.6**
comp=Z,3.0nm,0.8s,mb4.4
OKC Ostrava-Krasne 58.41 23 *e*P **P 13 09 37.7 +1.3**
MLR Muntele Rosu 58.64 31 ⇑*i*P **P 13 09 38.8 +0.7**
MLR Muntele Rosu 58.64 31 ⇑P **P 13 09 38.8 +0.7**
NIE Niedzica 58.94 24 *e*P **P 13 09 42.0 +1.9**
CRVS Cervenica-Dubn 59.02 25 *e*P **P 13 09 41.6 +0.9**
UZH Uzhgorod 59.17 26 *e*P **P 13 09 42.0 +0.2**
UZH *i* 13 09 47.8
VRI Vrincioaia 59.29 31 ⇑*i*P **P 13 09 43.0 +0.3**
VRI Vrincioaia 59.29 31 ⇑P **P 13 09 43.0 +0.4**
SDV Santo Domingo 59.30 282 P **P 13 09 42.9 -0.4**
comp=Z,1.5nm,0.4s,mb4.4,baz=29,slow=13,SNR=3.4
STHS Stebnicka Huta 59.32 25 *e*P **P 13 09 45.2 +2.4**
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
STHS Stebnicka Huta 59.32 25 *e*P **P 13 09 45.2 +2.4**
comp=Z,3.7nm,1.1s,mb4.3
OJC Ojcow 59.36 23 *e*P **P 13 09 47.7 +4.7**
OJC Ojcow 59.36 23 *e*P **P 13 09 43.7 +0.7**
KOLS Kolonicke sedl 59.39 26 *e*P **P 13 09 45.0 +1.7**
BURAR Bucovina Array 59.77 28 ⇑*i*P **P 13 09 46.1 +0.2**
BURAR Bucovina Array 59.77 28 ⇑P **P 13 09 46.1 +0.2**
CFAA Coronel Fontan 59.99 235 P **P 13 09 47.1 -0.7**
comp=Z,0.3nm,0.6s,baz=33,slow=6.1,SNR=6.8
LVV L'vov 60.82 26 *e*P **P 13 09 53.4 +0.3**
KIS Kishinev 61.12 31 *e*P **P 13 09 54.0 -1.2**
KIS *e* 13 18 15.0
MALT Malatya 61.94 44 *e*P **P 13 10 01.6 +0.7**
MALT pmax pmax
comp=Z,17nm,1.4s,mb5.0
MALT Malatya 61.94 44 ⇑*i*P **P 13 10 00.0 -0.9**
MALT Malatya 61.94 44 *e*P **P 13 10 01.6 +0.7**
comp=Z,17nm,1.4s,mb5.0
ROSC El Rosal 62.47 277 LR LR 13 34 50.5
comp=Z,284nm,20.9s,MS4.4,baz=24,slow=34
SUW Suwalki 63.62 22 *e*P **P 13 10 11.7 -0.1**
SUW pmax pmax
comp=Z,47nm,1.0s,mb5.5
SUW Suwalki 63.62 22 *e*P **P 13 10 11.7 -0.1**
comp=Z,47nm,1.0s,mb5.5
KIEV Kiev 63.79 28 *e*P **P 13 10 12.7 -0.3**
KIEV pmax pmax
comp=Z,22nm,1.2s,mb5.1
KIEV Kiev 63.79 28 *e*P **P 13 10 12.7 -0.3**
comp=Z,22nm,1.2s,mb5.1
AKASG Malin Array Be 63.80 28 P **P 13 10 12.6 -0.5**
comp=Z,5.2nm,1.1s,mb4.5,baz=228,slow=7.3,SNR=19
AKASG LR LR 13 38 31.4
comp=Z,92nm,20.1s,MS4.0,baz=295,slow=37
AKASG Malin Array Be 63.80 28 *i*P **P 13 10 13.1 +0.1**
AKASG pmax pmax
comp=Z,5.0nm,1.1s
AKBB Malin Array Si 63.80 28 *e*P **P 13 10 12.6 -0.4**
KONO Kongsberg 64.39 12 ⇑*i*P **P 13 10 21.0 +4.3**
ANN Anapa 64.61 37 *e*P **P 13 10 18.7 +0.2**
ANN *e*S **S 13 18 57.1 -1.2**
ANN pmax pmax
comp=Z,33nm,1.5s,mb5.1
PLCA Paso Flores 64.66 226 LR LR 13 33 35.5
comp=Z,165nm,18.1s,MS4.3,baz=164,slow=32
HFS Hagfors 65.74 14 LR LR 13 37 57.5
comp=Z,120nm,19.0s,MS4.1,baz=226,slow=35
NB2 NORSAR Subarra 65.99 12 P **P 13 10 26.6 -0.5**
comp=Z,9.8nm,1.1s,mb4.8,baz=206,slow=6.5
NOA NORSAR Array B 65.99 12 P **P 13 10 26.5 -0.6**
comp=Z,2.4nm,0.9s,mb4.2,baz=206,slow=6.7,SNR=3.8
NOA LR LR 13 40 29.8
comp=Z,63nm,21.4s,MS3.8,baz=235,slow=37
KIV Kislovodsk 67.45 40 *d*/*i*P **P 13 10 36.5 -0.2**
KIV pmax pmax
comp=Z,15nm,1.3s,mb4.9
BORG Borgarnes 67.50 356 LR LR 13 35 51.6
comp=Z,150nm,21.8s,MS4.2,baz=192,slow=32
VNA1 Neumayer--Stat 68.01 179 *e*P **P 13 10 40.4 +0.6**
VNA1 *e* pP 13 10 42.8 -0.3
VNA1 *e* 13 10 47.3
VSU Vasula 68.28 21 ⇑*i*P **P 13 10 42.3 +0.6**
VNA2 Neumayer--Watz 68.31 178 *e*P **P 13 10 42.2 +0.5**
VNA2 *e* pP 13 10 45.2 +0.3
VNA2 *e* 13 10 48.9
VNA3 Neumayer Olymp 68.58 179 *e*P **P 13 10 43.6 +0.3**
VNA3 *e* pP 13 10 46.4 -0.2
VNA3 *e* 13 10 50.2
SNAA Sanae 69.25 177 *e*P **P 13 10 47.3 -0.2**
SNAA *e* pP 13 10 50.1 -0.7
SNAA *e* 13 10 54.5
SNAA Sanae 69.25 177 ⇑*i*P **P 13 10 47.6 +0.1**
OBN Obninsk 70.04 27 ⇑*i*P **P 13 10 52.6 -0.1**
OBN pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.4
SCHQ Schefferville 72.64 330 LR LR 13 35 02.6
comp=Z,95nm,21.4s,MS4.0,baz=358,slow=29
ELN Prospectdale 74.62 310 *e*P **P 13 11 21.0 +0.6**
SYO Syowa Base 74.68 163 ⇓*e*pP pP 13 11 20.0 -3.4
SYO Syowa Base 74.68 163 ⇑*e*sP sP 13 11 25.2 +0.6
KLMR Klimovskoe 74.72 23 *e*P **P 13 11 19.6 -0.9**
ARCES ARCESS Array B 76.36 13 P **P 13 11 28.2 -1.6**
comp=Z,1.1nm,0.6s,mb4.0,baz=235,slow=4.3,SNR=9.1
SWET Sewanee 78.22 307 *e*P **P 13 11 40.4 -0.6**
ARU Arti 81.65 32 *d*/*i*P **P 13 11 59.4 +0.4**
ARU *e* 13 15 05.8
ARU S S 13 22 12.5 +1.1
ARU SS SS 13 27 33.0 +4.2
ARU pmax pmax
comp=Z,12nm,1.7s,mb4.5
ARU Arti 81.65 32 *e*P **P 13 11 59.3 +0.3**
comp=Z,5.9nm,0.8s,mb4.6
MAW Mawson 81.97 158 P **P 13 12 00.4 -0.1**
comp=Z,6.4nm,0.8s,mb4.6,baz=298,slow=6.7,SNR=10
ECSD EROS,Sioux Fal 87.69 314 *e*P **P 13 12 28.0 -1.8**
comp=Z,12nm,1.3s,mb5.0
WMOK Wichita Mounta 88.61 305 *e*P **P 13 12 33.3 -1.1**
WMOK pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
WMOK Wichita Mounta 88.61 305 *e*P **P 13 12 33.3 -1.1**
comp=Z,8.7nm,1.2s,mb5.0
FRU Bishkek 89.43 47 *e*P **P 13 12 38.0 -0.1**
TXAR Lajitas Array 92.49 299 P **P 13 12 52.5 -0.1**
comp=Z,0.4nm,0.6s,mb3.9,baz=120,slow=7.0,SNR=6.2
KURK Kurchatov 92.53 40 ⇑*i*P **P 13 12 52.1 -0.2**

KURK pmax pmax
comp=Z,7.0nm,2.5s,mb4.7
ANMO Albuquerque 94.92 305 ⇑*i*P **P 13 13 09.1 +5.4**
MKAR Makanchi Array 94.98 43 P **P 13 13 04.0 +0.3**
comp=Z,0.5nm,0.8s,mb4.0,baz=243,slow=4.7,SNR=3.8
WMQ Urumqi 98.96 46 P **P 13 13 21.4 -0.3**
WMQ AP pP 13 13 26.3 +1.2
WMQ XP sP 13 13 28.4 +2.1
WMQ PP PP 13 17 26.8 +3.2
WMQ LR LR
comp=N,596nm,23.8s,MS5.2
WMQ LR LR
comp=E,504nm,21.6s,MS5.2
WMQ LR LR
comp=Z,542nm,17.0s,MS5.1
LZH Lanzhou 112.47 52 *e*PKP PKiKP 13 18 17.5 -0.2
LZH XPKP 13 18 22.1
LZH *e*PP PP 13 19 08.6 +5.0
LZH PP PP
comp=Z,92nm,7.6s
LZH LR LR
comp=N,167nm,17.9s
LZH LR LR
comp=Z,219nm,20.1s,MS4.7
CD2 Chengdu 113.54 57 *e*PKP PKiKP 13 18 17.9 -2.0
CD2 XPKP 13 18 25.8
CD2 PP PP
comp=Z,90nm,10.2s
KMI Kunming 113.67 64 PKP PKiKP 13 18 20.3 0.0
HHC Hu-ho-hao-te 116.80 45 *e*PKP PKPdf 13 18 26.3 +0.4
HHC PP PP 13 19 38.4 +4.5
HHC PP PP
comp=Z,66nm,13.1s
HHC LR LR
comp=N,157nm,23.8s,MS4.7
HHC LR LR
comp=E,153nm,22.6s,MS4.7
HHC LR LR
comp=Z,111nm,23.8s,MS4.4
CN2 Changchun 124.46 36 *e*PKP PKPdf 13 18 36.9 -3.6
CN2 PP PP 13 20 25.9 -0.1
CN2 LR LR
comp=N,400nm,16.0s,MS5.3
CN2 LR LR
comp=E,300nm,16.0s,MS5.3
CN2 LR LR
comp=Z,500nm,20.0s,MS5.2
NJ2 Nanjing 125.54 52 *e*PKP PKPdf 13 18 39.6 -3.3
MDJ Mudanjiang 126.32 33 PKP PKPdf 13 18 41.3 -2.7
MDJ XPKP 13 18 46.8
MDJ PP PP 13 20 37.3 -1.0
MDJ LR LR
comp=N,516nm,18.7s,MS5.2
MDJ LR LR
comp=E,225nm,21.6s,MS5.2
MDJ LR LR
comp=Z,640nm,18.0s,MS5.3
SSE Sheshan 127.75 52 *e*PKP PKPdf 13 18 48.0 +0.8
SSE PP PP 13 20 54.9 +6.4
SSE SS SS 13 38 03.0 +2.1
SSE LR LR
comp=N,146nm,29.8s,MS4.8
SSE LR LR
comp=E,304nm,29.8s,MS4.8
SSE LR LR
comp=Z,432nm,26.3s,MS5.0
ASAR Alice Springs 137.97 130 PKhKP 13 18 55.9
comp=Z,0.8nm,0.9s,baz=228,slow=3.2,SNR=10
WRA Warramunga Arr 140.29 126 PKhKP 13 19 02.7
comp=Z,0.6nm,0.8s,baz=241,slow=2.9,SNR=10.0
WRA PKP PKPdf 13 19 10.0 -0.9
comp=Z,1.5nm,0.8s,baz=240,slow=2.5,SNR=6.6

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*ISCJB **19** 13:03:48.6±0.6, 3966N±003×1414E±01, h102km±4km, mb3.5/4, Error ellipse: s-maj=13.9km s-min=5.4km az=6.3*
*IDC **19** 13:03:50.4±2.4, 3973N×14125E, h106km±23km, mb3.2/4, mb1 3.3/6, mb1mx3.1/22, mbtmp3.2/6, Error ellipse: s-maj=40.4km s-min=19.9km az=83.0*
*JMA **19** 13:03:50.1±0.1, 3965N×14121E, h92km±1km, M3.3*
ISC 19 13:03:49.8±0.6, 3966N±003×1413E±01, h96km±4km, n17, σ0964/27, mb3.5/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOM	**Ohasama**	**0.19**	**183**	P	**Pn**	**13 04 03.2**	**-0.2**
JOM				S	**Sn**	**13 04 13.2**	**-0.3**
JKZ	**Kuzumaki**	**0.32**	**4**	P	**Pn**	**13 04 04.0**	**0.0**
JKZ				S	**Sn**	**13 04 14.4**	**-0.2**
JMK	**Ichinoseki**	**0.71**	**185**	P	**Pn**	**13 04 06.8**	**-0.1**
JMK				*e*S	**Sn**	**13 04 19.7**	**0.0**
JANG	**Nango**	**0.73**	**13**	P	**Pn**	**13 04 07.3**	**+0.2**
JANG				S	**Sn**	**13 04 19.9**	**-0.1**
JAH	**Hinai**	**0.74**	**316**	P	**Pn**	**13 04 06.8**	**-0.3**
JAH				S	**Sn**	**13 04 19.4**	**-0.7**
JYK	**Kaneyama**	**1.04**	**225**	P	**Pn**	**13 04 10.1**	**-0.2**
JYK				S	**Sn**	**13 04 25.0**	**-0.8**
JTM	**Tenmabayashi**	**1.14**	**351**	P	**Pn**	**13 04 11.7**	**+0.3**
JTM				*e*S	**Sn**	**13 04 28.1**	**+0.4**
JIO	**Ouri**	**1.21**	**178**	P	**Pn**	**13 04 12.3**	**+0.1**
JIO				*e*S	**Sn**	**13 04 28.7**	**-0.4**
JIW	**Iwasaki**	**1.36**	**314**	P	**Pn**	**13 04 14.0**	**-0.1**
JOT	**Ohata**	**1.73**	**354**	P	**Pn**	**13 04 19.2**	**+0.5**
JOT				*e*S	**Sn**	**13 04 41.6**	**+1.0**
MAT	**Matsushiro**	**3.96**	**219**	P	**Pn**	**13 04 49.6**	**+1.3**
MAT				S	**Sn**	**13 05 37.1**	**+3.5**
MJAR	**Matsushiro Arr**	**3.96**	**219**	P	**Pn**	**13 04 49.6**	**+1.3**
	0.9nm,0.3s,baz=30,slow=12,SNR=17						
ASAJ	**Asahikawa**	**4.56**	**12**	P	**Pn**	**13 04 56.0**	**-0.3**
	2.9nm,0.3s,baz=226,slow=10,SNR=35						
ZALV	**Zalesovo Beam**	**40.12**	**310**	P	**P**	**13 11 15.2**	**-0.6**
	1.0nm,0.6s,mb3.8,baz=71,slow=9.9,SNR=3.7						
MKAR	**Makanchi Array**	**42.70**	**300**	P	**P**	**13 11 35.7**	**-1.3**
	0.2nm,0.4s,mb3.2,baz=78,slow=10.0,SNR=3.5						
WRA	**Warramunga Arr**	**59.65**	**188**	P	**P**	**13 13 43.4**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=3.2,slow=7.3,SNR=10.0						
WRA				pP	pP	13 14 06.1	-1.4
	0.1nm,0.6s,baz=4.4,slow=7.2,SNR=6.3						
ASAR	**Alice Springs**	**63.37**	**188**	P	**P**	**13 14 09.1**	**+0.2**
	0.2nm,0.4s,mb3.4,baz=2.4,slow=6.6,SNR=15						

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*BJI **19** 13:12:37.7, 068N×9754E, h42km, mB4.9, mb5.0, Ms4.7, Msz4.4*
*ISCJB **19** 13:12:37.8±0.2, 091N±004×9744E±003, h29km, mb4.9/91, MS4.4/21, Error ellipse: s-maj=5.4km s-min=3.5km az=22.4*
*MOS **19** 13:12:38.3±0.7, 100N×9760E, h33km, mb5.2/35, MS4.6/7, Error ellipse: s-maj=10.3km s-min=5.3km az=114.5*
*DJA **19** 13:12:38, 085N×97.19E, h33km, ML5.4/5*
*NEIC **19** 13:12:39.3±0.2, 089N×9754E, h30km, mb5.0/46, MS4.9/1, Error ellipse: s-maj=5.8km s-min=4.2km az=214.0*
NEIC Felt [III] on Nias.
*IDC **19** 13:12:39.9±5.7, 089N×9750E, h33km±42km, mb4.5/21, mb1 4.5/23, mb1mx4.4/26, mbtmp4.5/23, ML4.3/2, MS4.1/4, Ms1 4.2/4, ms1mx3.6/49, Error ellipse: s-maj=17.6km s-min=12.5km az=56.0*
*SZGRF **19** 13:12:40.0, 004N×9641E, h34km, mb5.0, Off west coast of northern Sumatera, Indonesia*
ISC 19 13:12:39.9±0.2, 091N±004×9742E±003, h31km, h31km±.8km; pP-P, n249, σ0995/249, mb4.9/91, MS4.4/21, 36C-17D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRSI	**Tarutung**	**1.90**	**54**	P	**Pn**	**13 13 10.7**	**+0.6**
	0.0nm,0.0s						
PSI	**Prapat**	**2.41**	**39**	Pn	**Pn**	**13 13 16.7**	**-0.5**
	32nm,0.3s,baz=191,slow=8.4,SNR=82						
PSI				LR	LR	13 13 56.4	
	comp=Z,1μm,21.8s,baz=128,slow=33						
PSI	**Prapat**	**2.41**	**39**	Pn	**Pn**	**13 13 16.7**	**-0.5**
PSI				LR	LR	13 13 56.4	
TSI	**Tuntungan**	**2.82**	**24**	P	**Pn**	**13 13 23.7**	**+0.9**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**3.27**	**114**	P	**Pn**	**13 13 29.3**	**+0.3**
	0.0nm,0.0s						
FRIM	**Kepong**	**4.80**	**61**	⇓P	**Pn**	**13 13 50.8**	**+0.8**
BSI	**Banda Aceh**	**5.03**	**335**	P	**Pn**	**13 13 51.5**	**-1.7**
	0.0nm,0.0s						
IPM	**Ipoh**	**5.05**	**45**	⇑P	**Pn**	**13 13 55.0**	**+1.4**
KULM	**Kulim**	**5.42**	**36**	⇓P	**Pn**	**13 13 59.0**	**+0.4**

KGM	**Kluang**	6.00	79	⇓P		Pn	13 14 07.1 +0.6
MYKOM	**Kota Tinggi**	6.49	82	⇓P		Pn	13 14 13.9 +0.6
KSI	**Kapahiang**	6.87	131	P		Pn	13 14 19.1 +0.5
	0.0nm,0.0s						
TPRI	**Tanjung Pinang**	7.10	90	P		Pn	13 14 22.2 +0.4
	0.0nm,0.0s						
KTGM	**Kuala Trenggan**	7.20	52	⇓P		Pn	13 14 23.9 +0.8
DSRI	**Dabo**	7.29	101	P		Pn	13 14 24.2 -0.1
	0.0nm,0.0s						
TPI	**Tanjungpandan**	10.86	110	P		Pn	13 15 14.4 +1.1
	0.0nm,0.0s						
SBJI	**Serang**	11.15	129	P		Pn	13 15 24.7 +7.4
	0.0nm,0.0s						
CBJI	**Citeko**	11.90	128	P		Pn	13 15 30.5 +3.0
	0.0nm,0.0s						
DBJI	**Dramaga**	11.90	129	P		Pn	13 15 32.0 +4.5
	0.0nm,0.0s						
KSM	**Kuching**	12.90	87	⇑P		Pn	13 15 43.4 +2.2
KSM	**Kuching**	12.90	87	*e*P		Pn	13 15 42.8 +1.6
PBKI	**Pangkalan Bun**	14.69	104	P		Pn	13 16 10.4 +4.7
	0.0nm,0.0s						
SBUM	**Sibu**	14.87	84	⇓P		Pn	13 16 09.5 +1.3
BTM	**Bintulu**	15.82	81	⇑P		Pn	13 16 22.9 +2.4
PLKI	**Palangkaraya**	16.81	101	P		Pn	13 16 34.5 +1.3
	0.0nm,0.0s						
CMAR	**Chiang Mai Arr**	17.50	5	P		Pn	13 16 40.4 -1.3
	0.7nm,0.3s,baz=194,slow=12,SNR=95						
CMAR				LR		LR	13 24 22.1
	comp=Z,1μm,18.4s,baz=190,slow=40						
PALK	**Pallekele**	17.83	291	*e*P		Pn	13 16 47.6 +1.8
CHTO	**Chiang Mai**	17.86	5	*e*P		Pn	13 16 43.6 -2.5
CHTO				pmax		pmax	
	comp=Z,32nm,0.8s						
CHTO	**Chiang Mai**	17.86	5	*e*P		Pn	13 16 43.6 -2.5
	comp=Z,32nm,0.8s						
KKM	**Kota Kinabalu**	19.43	74	⇓P		Pn	13 17 04.2 -1.1
KKM	**Kota Kinabalu**	19.43	74	*e*P		Pn	13 17 03.3 -2.0
KDM	**Kudat**	20.26	72	⇓P		P	13 17 13.0 +0.1
SDKM	**Sandakan**	20.29	76	⇓P		P	13 17 13.8 +0.5
TSM	**Tawau**	20.70	80	⇓P		P	13 17 17.0 -0.8
MYLDM	**Lahad Datu**	21.47	78	⇓P		P	13 17 27.4 +1.4
QIZ	**Qiongzhong**	21.74	33	P		P	13 17 28.0 -0.9
QIZ				XP		sP	13 17 41.5 +0.3
QIZ				S		S	13 21 26.3 -1.6
QIZ				XS		sS	13 21 40.8 -0.5
QIZ				AMB		AMB	
	comp=Z,22nm,1.1s,mb4.5						
QIZ				AMB		AMB	
	comp=Z,94nm,4.6s						
QIZ				LR		LR	
	comp=N,575nm,10.4s						
QIZ				LR		LR	
	comp=Z,470nm,11.6s,MS4.1						
QIZ	**Qiongzhong**	21.74	33	*e*P		P	13 17 28.1 -0.8
	comp=Z,14nm,0.6s,mb4.6						
KAPI	**Kappang**	23.07	105	*e*P		P	13 17 41.2 -1.9
	comp=Z,30nm,1.0s,mb4.7						
KMI	**Kunming**	24.62	12	P		P	13 17 58.4 +0.8
KMI				AMB		AMB	
	comp=Z,64nm,1.0s,mb5.1						
KMI				AMB		AMB	
	comp=Z,233nm,4.7s						
KMI				LR		LR	
	comp=N,920nm,12.3s,MS4.6						
KMI				LR		LR	
	comp=E,935nm,12.5s,MS4.6						
KMI				LR		LR	
	comp=Z,1μm,12.9s,MS4.6						
HYB	**Hyderabad**	24.77	313	*i*P		P	13 18 03.0 +3.9
HYB	**Hyderabad**	24.77	313	*e*P		P	13 18 03.5 +4.4
KDI	**Kendari**	25.64	101	P		P	13 18 05.8 -1.3
	comp=Z,0.0nm,0.0s						
BBSI	**Bau Bau**	25.91	104	P		P	13 18 08.9 -0.6
	comp=Z,0.0nm,0.0s						
GYA	**Guiyang**	26.92	19	P		P	13 18 21.4 +3.0
GYA				AMB		AMB	
	comp=Z,20nm,0.7s,mb4.8						
GYA				AMB		AMB	
	comp=Z,120nm,4.7s						
GYA				LR		LR	
	comp=N,470nm,17.4s,MS4.2						
GYA				LR		LR	
	comp=E,450nm,17.2s,MS4.2						
GYA				LR		LR	
	comp=Z,440nm,16.8s,MS4.1						
GYA	**Guiyang**	26.92	19	PKP		P	13 18 26.8 +8.4
GYA				PKS			13 22 01.0
GYA				SKS			13 25 35.8
GYA				SKKS			13 26 31.8
GYA				PP		PP	
	comp=Z,120nm,7.8s						
GYA				LR		LR	
	comp=N,170nm,20.4s,MS3.7						
GYA				LR		LR	
	comp=E,150nm,21.2s,MS3.7						
GYA				LR		LR	
	comp=Z,140nm,20.8s,MS3.5						
ODAN	**Odare**	27.55	340	*e*P		P	13 18 25.1 +1.0
	comp=Z,81nm,0.9s,mb5.4						
TAPN	**Taplejung**	27.89	341	*e*P		P	13 18 28.3 +1.1
	comp=Z,145nm,0.9s,mb5.6						
RAMN	**Ramite**	27.90	339	*e*P		P	13 18 29.0 +1.8
	comp=Z,39nm,0.7s,mb5.2						
PKI	**Pulchoki**	28.91	338	*e*P		P	13 18 36.6 +0.4
GUN	**Gumba**	29.04	339	*e*P		P	13 18 38.6 +1.3
	comp=Z,92nm,0.8s,mb5.6						
DMN	**Daman**	29.06	337	*e*P		P	13 18 38.7 +1.2
	comp=Z,47nm,0.8s,mb5.3						
KKN	**Kakani**	29.15	338	*e*P		P	13 18 39.1 +0.7
	comp=Z,44nm,0.8s,mb5.2						
KKN	**Kakani**	29.15	338	*e*P		P	13 18 39.1 +0.7
KKN				pmax		pmax	
	comp=Z,44nm,0.8s,mb5.2						
LSA	**Lhasa**	29.25	349	P		P	13 18 40.0 +0.8
LSA				AMB		AMB	
	comp=Z,20nm,0.9s,mb4.8						
LSA	**Lhasa**	29.25	349	*e*P		P	13 18 40.1 +0.9
LSA				pmax		pmax	
	comp=Z,28nm,0.8s,mb5.0						
LSA	**Lhasa**	29.25	349	*e*P		P	13 18 40.1 +1.0
	comp=Z,28nm,0.8s,mb5.0						
GKN	**Gorkha**	29.59	337	*e*P		P	13 18 43.7 +1.4
LBMI	**Labuha**	30.12	93	P		P	13 18 48.3 +1.2
	comp=Z,0.0nm,0.0s						
DANN	**Dangsing**	30.26	336	*e*P		P	13 18 48.9 +0.8
	comp=Z,60nm,0.8s,mb5.4						
CD2	**Chengdu**	30.44	11	*e*P		P	13 18 50.8 +1.1
CD2				AP		pP	13 18 59.8 +1.1
CD2				XP		sP	13 19 04.5 +2.0
CD2				PP		PP	13 19 50.9 -7.9
CD2				S		S	13 23 49.4 +0.6
CD2				XS		sS	13 24 05.3 +1.6
CD2				SS		SS	13 25 31.6 -28
CD2				AMB		AMB	
	comp=Z,20nm,0.8s,mb4.9						
CD2				AMB		AMB	
	comp=Z,30nm,5.2s						
CD2				LR		LR	
	comp=N,210nm,13.8s						
CD2				LR		LR	
	comp=Z,160nm,14.2s,MS3.8						
FITZ	**Fitzroy Crossi**	33.58	126	*e*PKP		P	13 19 15.6 -1.9
	comp=Z,10nm,0.8s,mb4.8						
FITZ				*e*		pP	13 19 22.4 -4.1
FITZ	**Fitzroy Crossi**	33.58	126	P		P	13 19 15.7 -1.8
	comp=Z,7.2nm,1.0s,mb4.6,baz=290,slow=10,SNR=8.2						
NDI	**New Delhi**	33.70	327	*e*P		P	13 19 17.0 -1.4
DDI	**Dehra Dun**	34.56	330	*ex*		x	13 19 24.8
XAN	**Xi'an**	34.68	17	P		P	13 19 25.5 -1.3
XAN				AP		pP	13 19 33.8 -2.0
XAN				XP		sP	13 19 38.3 -1.3
XAN				AMB		AMB	
	comp=Z,59nm,0.8s,mb5.6						
LZH	**Lanzhou**	35.51	9	*e*P		P	13 19 37.0 +3.1
LZH				AP		pP	13 19 46.8 +3.8
LZH				XP		sP	13 19 51.1 +4.4
LZH				PP		PP	13 20 58.3 +3.4
LZH				AMB		AMB	
	comp=Z,24nm,1.3s,mb5.0						
LZH				AMB		AMB	
	comp=Z,75nm,5.2s						
LZH				LR		LR	
	comp=E,538nm,13.6s						
LZH				LR		LR	
	comp=Z,803nm,17.8s,MS4.5						
NJ2	**Nanjing**	37.00	31	*e*P		P	13 19 47.3 +0.6
NJ2				AMB		AMB	
	comp=Z,30nm,0.5s,mb5.4						
KAKA	**Kakadu**	37.29	112	*e*P		P	13 19 46.4 -3.0
	comp=Z,17nm,1.2s,mb4.8						
THN	**Thein Dam**	37.44	329	*e*P		P	13 19 48.9 -1.6
GTA	**Gaotai**	38.38	3	P		P	13 19 58.3 0.0
GTA				AP		pP	13 20 07.5 +0.1
GTA				XP		sP	13 20 11.6 +0.4
GTA				PP		PP	13 21 27.8 +1.3
GTA				S		S	13 25 44.1 -7.0
GTA				AMB		AMB	
	comp=Z,31nm,1.1s,mb5.0						
GTA				AMB		AMB	
	comp=Z,101nm,5.9s						
GTA				LR		LR	
	comp=N,247nm,13.6s,MS4.3						
GTA				LR		LR	
	comp=E,251nm,13.4s,MS4.3						
GTA				LR		LR	
	comp=Z,270nm,12.5s,MS4.3						
JOW	**Kunigami**	39.28	46	P		P	13 20 06.0 -0.1
	comp=Z,50nm,0.7s,mb5.3,baz=243,slow=7.4,SNR=18						
WRA	**Warramunga Arr**	41.69	122	P		P	13 20 24.5 -1.6
	comp=Z,7.3nm,0.8s,mb4.3,baz=300,slow=9.0,SNR=27						
WRAB	**Tennant Creek**	41.70	122	*d*iP		P	13 20 24.9 -1.2
WRAB	**Tennant Creek**	41.70	122	*e*P		P	13 20 24.5 -1.6
	comp=Z,11nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	41.70	122	*e*P		P	13 20 24.8 -1.4
WB2				*ep*P		pP	13 20 32.2 -3.2
HHC	**Hu-ho-hao-te**	41.77	16	*e*P		P	13 20 26.9 +0.5
HHC				AP		pP	13 20 36.1 +0.5
HHC				XP		sP	13 20 39.6 +0.2
HHC				PP		PP	13 22 07.8 +4.4
HHC				S		S	13 26 42.4 +0.6
HHC				XS		sS	13 26 57.8 +0.8
HHC				SS		SS	13 29 43.3 -5.3
HHC				SCS		ScS	13 30 26.0 -1.4
HHC				AMB		AMB	
	comp=Z,29nm,0.9s,mb4.9						
HHC				AMB		AMB	
	comp=Z,106nm,6.4s						
HHC				LR		LR	
	comp=N,190nm,17.8s,MS4.2						
HHC				LR		LR	
	comp=E,179nm,16.6s,MS4.2						
HHC				LR		LR	
	comp=Z,159nm,20.2s,MS3.9						
ASAR	**Alice Springs**	43.04	127	P		P	13 20 36.1 -0.9
	comp=Z,4.5nm,0.8s,mb4.3,baz=300,slow=7.5,SNR=47						
WMQ	**Urumqi**	43.60	350	P		P	13 20 41.8 +0.6
WMQ				AP		pP	13 20 51.6 +1.2
WMQ				XP		sP	13 20 55.6 +1.5
WMQ				PP		PP	13 22 25.3 +2.3
WMQ				SCP		ScP	13 26 17.1 -0.8
WMQ				*e*S		S	13 27 08.5 -0.1
WMQ				XS		sS	13 27 24.8 +1.0
WMQ				SS		SS	13 30 16.4 -7.9
WMQ				SCS		ScS	13 30 36.3 -2.2
WMQ				AMB		AMB	
	comp=Z,22nm,1.1s,mb4.8						
WMQ				LR		LR	
	comp=N,188nm,22.8s,MS4.1						
WMQ				LR		LR	
	comp=E,209nm,21.0s,MS4.1						
WMQ				LR		LR	
	comp=Z,168nm,26.0s,MS3.8						
DL2	**Dalian**	43.83	28	⇑P		P	13 20 43.4 +0.2
DL2				AMB		AMB	
	comp=Z,50nm,0.8s,mb5.3						
DL2				LR		LR	
	comp=N,110nm,17.7s,MS4.1						
DL2				LR		LR	
	comp=E,160nm,16.7s,MS4.1						
DL2				LR		LR	
	comp=Z,210nm,14.2s,MS4.2						
KSRS	**Korea Array**	45.96	34	P		P	13 20 59.5 -0.6
	comp=Z,9.5nm,0.7s,mb4.8,baz=220,slow=9.2,SNR=65						
FRU	**Bishkek**	46.47	337	*e*P		P	13 21 04.0 -0.1
SNY	**Shenyang**	47.06	27	⇑P		P	13 21 08.0 -0.7
SNY				S		S	13 28 05.5 +6.8
SNY				AMB		AMB	
	comp=Z,31nm,0.8s,mb5.3						
SNY				AMB		AMB	
	comp=Z,147nm,4.0s						
SNY				LR		LR	
	comp=N,321nm,15.0s,MS4.6						
SNY				LR		LR	
	comp=E,456nm,16.6s,MS4.6						
SNY				LR		LR	
	comp=Z,435nm,12.6s,MS4.6						
SONM	**Songino Array**	47.39	8	P		P	13 21 11.5 +0.4
	comp=Z,11nm,0.8s,mb4.8,baz=190,slow=8.8,SNR=53						
MKAR	**Makanchi Array**	47.58	346	P		P	13 21 12.9 +0.3
	comp=Z,26nm,0.7s,mb5.4,baz=156,slow=7.6,SNR=231						
MKAR				LR		LR	13 44 58.7
	comp=Z,177nm,18.8s,MS4.1,baz=354,slow=41						
KK31	**Karatay Array**	48.41	334	*i*P		P	13 21 19.3 +0.1
KK31				pmax		pmax	
	comp=Z,2.0nm,0.5s,mb4.4						
CN2	**Changchun**	49.46	27	*e*P		P	13 21 26.8 -0.4
CN2				*e*AP		pP	13 21 36.6 0.0
CN2				*e*XP		sP	13 21 40.5 +0.2
CN2				*e*S		S	13 28 31.4 -1.2
CN2				AMB		AMB	
	comp=Z,20nm,0.7s,mb5.3						
CN2				AMB		AMB	
	comp=Z,200nm,4.0s						
CN2				LR		LR	
	comp=N,400nm,14.0s,MS4.7						
CN2				LR		LR	
	comp=E,300nm,14.0s,MS4.7						
CN2				LR		LR	
	comp=Z,600nm,13.0s,MS4.8						
ZAK	**Zakamensk**	49.54	5	⇑*i*P		P	13 21 27.7 0.0
ZAK				pmax		pmax	
	comp=Z,5.0nm,1.0s,mb4.5						
PMG	**Port Moresby**	50.57	103	⇑*e*P		P	13 21 35.1 -1.1
MOY	**Mondy**	50.67	3	*e*P		P	13 21 36.7 +0.5
MOY				pmax		pmax	
	comp=Z,20nm,2.8s,mb4.5						
TLY	**Talaya**	50.86	5	*e*P		P	13 21 38.4 +0.7
TLY				*e*S		S	13 29 06.9 +15
TLY				pmax		pmax	
	comp=Z,11nm,0.7s,mb4.9						
TLY				MLR		MLR	
	comp=Z,415nm,18.0s,MS4.5						
MAJO	**Matsushiro**	51.76	42	*e*P		P	13 21 42.9 -1.8
MAJO				pmax		pmax	
	comp=Z,9.0nm,0.8s,mb4.8						
MAJO	**Matsushiro**	51.76	42	*e*P		P	13 21 42.9 -1.8
	comp=Z,9.0nm,0.8s,mb4.8						
MAT	**Matsushiro**	51.76	42	P		P	13 21 43.3 -1.4
MAT				*e*S		S	13 28 50.0 -15
MJAR	**Matsushiro Arr**	51.76	42	P		P	13 21 43.5 -1.1
	comp=Z,7.3nm,0.8s,mb4.7,baz=224,slow=5.8,SNR=33						
MJAR				PcP		PcP	13 22 58.1 +0.4
	comp=Z,2.5nm,0.9s,baz=237,slow=5.0,SNR=3.3						
HIA	**Hailar**	51.84	18	*c i*P		P	13 21 44.8 -0.3
HIA	**Hailar**	51.84	18	*e*P		P	13 21 45.3 +0.2
	comp=Z,15nm,0.8s,mb5.0						
MDJ	**Mudanjiang**	52.01	29	P		P	13 21 46.1 -0.3
MDJ				AP		pP	13 21 55.3 -0.5
MDJ				XP		sP	13 21 59.0 -0.5
MDJ				PCP		PcP	13 22 57.5 -1.0
MDJ				PP		PP	13 23 43.6 -1.2
MDJ				SCP		ScP	13 26 52.1 -1.3
MDJ				PCS		PcS	13 26 55.9 -0.6
MDJ				S		S	13 29 09.3 +1.4
MDJ				AMB		AMB	
	comp=Z,11nm,0.8s,mb4.8						
MDJ				AMB		AMB	
	comp=Z,106nm,7.7s						
MDJ				LR		LR	
	comp=N,122nm,20.5s,MS4.1						
MDJ				LR		LR	
	comp=E,152nm,19.2s,MS4.1						
MDJ				LR		LR	
	comp=Z,170nm,25.5s						
VLA	**Vladivostok**	52.10	32	P		P	13 21 46.0 -1.1
VLA				pmax		pmax	
	comp=Z,19nm,1.2s,mb4.9						
VLA				MLR		MLR	
	comp=Z,300nm,12.8s,MS4.5						
KURK	**Kurchatov**	52.13	345	*e*P		P	13 21 47.3 +0.1
KURK				pmax		pmax	
	comp=Z,20nm,0.9s,mb5.0						
KURK	**Kurchatov**	52.13	345	*e*P		P	13 21 47.3 +0.1
	comp=Z,20nm,0.9s,mb5.1						
STKA	**Stephens Creek**	53.00	132	*e*P		P	13 21 54.0 +0.1
	comp=Z,9.2nm,0.8s,mb4.8						
STKA	**Stephens Creek**	53.00	132	P		P	13 21 54.1 +0.2
	comp=Z,11nm,0.8s,mb4.8,baz=310,slow=7.3,SNR=22						
OPO	**Ambohidratompo**	53.01	246	P		P	13 21 55.5 +1.3
	comp=Z,3.9nm,0.8s,mb4.4,baz=73,slow=12,SNR=3.7						
ZAL	**Zalesovo**	53.87	351	P		P	13 22 00.1 +0.2
ZALV	**Zalesovo Beam**	53.88	351	P		P	13 22 00.1 +0.1
	comp=Z,33nm,0.7s,mb5.3,baz=178,slow=6.0,SNR=142						
NVS	**Novosibirsk**	55.00	350	⇑*i*P		P	13 22 07.0 -1.1
NVS				pmax		pmax	
	comp=E,8.0nm,0.9s						
NVS				pmax		pmax	
	comp=Z,14nm,0.9s,mb5.0						
NVS				pmax		pmax	
	comp=N,9.0nm,0.8s						
KRAR	**Krasnoyarsk**	55.05	357	⇑*i*P		P	13 22 08.5 0.0
KRAR				pmax		pmax	
	comp=Z,32nm,0.6s,mb5.5						
KLR	**Kul'dur**	56.41	26	*e*P		P	13 22 14.8 -3.6
BVA0	**Borovoye Array**	56.60	341	*i*P		P	13 22 18.4 -1.2
BVAR	**Borovoye Array**	56.60	341	LR		LR	13 49 53.2
	comp=Z,236nm,20.9s,MS4.3,baz=36,slow=39						
BRVK	**Borovoye**	56.66	341	*e*P		P	13 22 19.1 -1.0
BRVK				pmax		pmax	
	comp=Z,6.0nm,0.7s,mb4.7						
BRVK	**Borovoye**	56.66	341	*e*P		P	13 22 19.1 -1.0
	comp=Z,6.5nm,0.7s,mb4.8						
BOD	**Bodaibo**	58.26	10	⇑*i*P		P	13 22 31.5 +0.3
BOD				pmax		pmax	
	comp=Z,21nm,0.9s,mb5.2						
AKTK	**Aktyubinsk**	59.59	332	P		P	13 22 40.2 -0.4
AKTO	**Aktyubinsk**	59.59	332	P		P	13 22 40.2 -0.4
	comp=Z,3.6nm,0.8s,mb4.5,baz=125,slow=6.0,SNR=8.0						
ARMA	**Armidale**	60.18	126	*e*P		P	13 22 46.8 +1.7
KMBO	**Kilima Mbogo**	60.20	268	P		P	13 22 47.2 +1.7
	comp=Z,2.3nm,0.9s,mb4.2,baz=217,slow=23,SNR=3.2						
YSS	**Yuzh-Sakhalins**	60.47	34	⇑*e*P		P	13 22 46.0 -0.7
YSS				*e*		pP	13 22 53.5 -2.7
YSS				pmax		pmax	
	comp=Z,60nm,1.0s,mb5.6						
YSS	**Yuzh-Sakhalins**	60.47	34	*e*P		P	13 22 46.2 -0.5
	comp=Z,35nm,1.0s,mb5.3						
SVE	**Sverdlovsk**	63.04	338	⇑*e*P		P	13 23 03.8 0.0
SVE				*e*			13 23 42.1
SVE				*e*S		S	13 31 44.1 +12
SVE				pmax		pmax	
	comp=Z,16nm,1.0s,mb5.1						
ARU	**Arti**	63.54	337	*c i*P		P	13 23 06.3 -0.8
ARU				*e*			13 25 22.1
ARU				*e*S		S	13 31 40.1 +1.6
ARU				*e*SS		SS	13 35 46.5 +0.4
ARU				pmax		pmax	
	comp=Z,557nm,16.7s						
ARU	**Arti**	63.54	337	*e*P		P	13 23 06.1 -1.1
	comp=Z,18nm,1.3s,mb4.9						
KIV	**Kislovodsk**	64.67	319	*d i*P		P	13 23 13.1 -1.8
KIV				pmax		pmax	
	comp=Z,11nm,1.0s,mb4.8						
MALT	**Malatya**	65.49	312	*e*P		P	13 23 20.8 +0.5
MALT				pmax		pmax	
	comp=Z,4.0nm,0.9s,mb4.5						
MALT	**Malatya**	65.49	312	*e*P		P	13 23 20.8 +0.5
	comp=Z,4.0nm,0.9s,mb4.5						
YAK	**Yakutsk**	65.64	16	*e*P		P	13 23 19.9 -0.9
YAK				pmax		pmax	
	comp=Z,34nm,0.9s,mb5.4						
YAK				pmax		pmax	
	comp=N,8.0nm,1.0s						
YAK				pmax		pmax	
	comp=E,9.0nm,1.2s						
YAK				MLR		MLR	
	comp=Z,353nm,15.0s,MS4.7						
YAK				MLR		MLR	
	comp=N,248nm,16.0s,MS4.6						
YAK				MLR		MLR	
	comp=E,205nm,19.0s,MS4.6						
YAK	**Yakutsk**	65.64	16	*e*P		P	13 23 19.5 -1.3
	comp=E,44nm,0.9s,mb5.5						
SOKR	**Solikamsk**	66.43	339	⇑*i*P		P	13 23 25.0 -0.9
SOKR				pmax		pmax	
	comp=Z,30nm,1.1s,mb5.2						
SIM	**Simferopol'**	70.73	318	*e*P		P	13 23 51.7 -1.4
SIM				pmax		pmax	
	comp=Z,11nm,0.8s,mb4.8						
PETK	**Petropavlovsk-**	71.86	33	P		P	13 23 59.4 -0.3
	comp=Z,4.6nm,0.8s,mb4.5,baz=192,slow=4.3,SNR=7.5						
PETK	**Petropavlovsk-**	71.86	33	P		P	13 23 59.4 -0.3
PET	**Petropavlovsk**	72.35	34	*e*P		P	13 24 02.2 -0.4
PET				pmax		pmax	
	comp=Z,28nm,0.9s,mb5.2						
PET				pmax		pmax	
	comp=Z,100nm,12.5s						
PET	**Petropavlovsk**	72.35	34	*e*P		P	13 24 01.8 -0.9
	comp=Z,14nm,0.7s,mb5.0						
OBN	**Obninsk**	72.98	328	⇓*i*P		P	13 24 06.0 -0.4
OBN				*i*		pP	13 24 15.7 -0.4
OBN				*i* SS		SS	13 38 09.8 -2.3
OBN				pmax		pmax	
	comp=Z,12nm,0.7s,mb4.9						
OBN				MLR		MLR	
	comp=Z,200nm,16.0s,MS4.5						
TIXI	**Tiksi**	73.43	10	*e*P		P	13 24 06.9 -1.8
TIXI				pmax		pmax	
	comp=Z,23nm,1.3s,mb5.0						
TIXI				MLR		MLR	
	comp=Z,211nm,14.0s,MS4.6						
SEY	**Seymchan**	73.94	23	⇑*e*P		P	13 24 11.5 -0.4
KLMR	**Klimovskoe**	74.11	334	*e*P		P	13 24 11.8 -1.1
TIRR	**Tirgusor**	74.49	316	⇑*i*P		P	13 24 15.5 +0.1
TIRR	**Tirgusor**	74.49	316	⇑P		P	13 24 15.5 +0.1
BOSA	**Boshof**	74.83	240	P		P	13 24 17.4 -0.4
	comp=Z,2.0nm,0.9s,mb4.1,baz=90,slow=3.0,SNR=3.2						
AKASG	**Malin Array Be**	75.62	322	P		P	13 24 20.9 -1.0
	comp=Z,5.4nm,0.7s,mb4.6,baz=90,slow=4.7,SNR=29						
VRI	**Vrincioaia**	75.98	317	⇓*i*P		P	13 24 24.5 +0.5
VRI	**Vrincioaia**	75.98	317	⇓P		P	13 24 24.5 +0.5
MLR	**Muntele Rosu**	76.43	317	⇑*i*P		P	13 24 26.8 +0.2
MLR	**Muntele Rosu**	76.43	317	⇑P		P	13 24 26.8 +0.2
BURAR	**Bucovina Array**	77.39	319	⇑*i*P		P	13 24 32.7 +0.8
BURAR	**Bucovina Array**	77.39	319	⇑P		P	13 24 32.7 +0.7
RPZ	**Rata Peaks**	78.84	135	P		P	13 24 39.5 -0.6
	comp=Z,7.4nm,0.8s,mb4.6,baz=123,slow=12,SNR=3.9						
DRGR		78.90	318	⇑*i*P		P	13 24 40.6 +0.3
DRGR		78.90	318	⇑P		P	13 24 40.6 +0.3
KWP	**Kalwaria**	79.44	320	*e*P		P	13 24 43.6 +0.5
KWP	**Kalwaria**	79.44	320	*e*P		P	13 24 43.6 +0.4
KOLS	**Kolonicke sedl**	79.58	320	*e*P		P	13 24 44.6 +0.6
SYO	**Syowa Base**	79.80	198	⇑*e*PcP		PcP	13 24 51.4 -0.9
SUW	**Suwalki**	80.04	325	*e*P		P	13 24 45.9 -0.4
SUW	**Suwalki**	80.04	325	*e*P		P	13 24 45.9 -0.5
CRVS	**Cervenica-Dubn**	80.10	319	*e*P		P	13 24 47.0 +0.2

MODS	Modra-Piesok	82.77 319	eP	P	13 25 01.1	+0.1
ZST	Bratislava	82.87 318	eP	P	13 25 01.8	+0.3
ARCES	ARCESS Array B	82.88 340	P	P	13 25 01.4	+0.2
	comp=Z,6.3nm,0.9s,mb4.7,baz=99,slow=5.4,SNR=14					
GKP	Gorka Klasztor	83.40 323	eP	P	13 25 02.0	-2.1
GKP	Gorka Klasztor	83.40 323	eP	P	13 25 02.0	-2.1
DPC	Dobruska-Polom	83.62 320	eP	P	13 25 06.0	+0.7
DPC			epP	pP	13 25 14.1	-1.1
UPC	Upice	83.83 321	eP	P	13 25 06.9	+0.5
BOJS	Bojanci	83.86 316	eP	P	13 25 06.8	+0.2
TREC	Trest	84.05 319	AMS	AMS	14 03 50.0	
	comp=Z,400nm,19.6s					
PERS	Pernice	84.05 317	eP	P	13 25 07.8	+0.2
PERS			e	pP	13 25 17.9	+0.5
ZAVS	Zavodnje	84.10 316	i P	P	13 25 08.2	+0.3
ZAVS			e	pP	13 25 18.4	+0.7
LJU	Ljubljana	84.41 316	i P	P	13 25 09.9	+0.5
PRU	Pruhonice	84.72 320	eP	P	13 25 11.0	+0.1
PRU			LR	LR		
	comp=Z,300nm,14.5s,MS4.8					
PVCC	Panska Ves	84.75 321	eP	P	13 25 11.2	+0.2
PVCC			epP	pP	13 25 18.8	-2.1
BRG	Berggiesshubel	85.17 321	eP	P	13 25 13.5	+0.3
BRG			e	pP	13 25 23.4	+0.3
BRG			pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4					
BRG	Berggiesshubel	85.17 321	eP	P	13 25 13.5	+0.3
	comp=Z,5.0nm,0.9s,mb4.6					
BRG			e	pP	13 25 23.4	+0.3
	comp=Z,14nm,1.7s					
GERES	GERESS Array B	85.18 319	P	P	13 25 13.7	+0.5
	comp=Z,4.6nm,0.9s,mb4.6,baz=96,slow=5.4,SNR=34					
KHC	Kasperske Hory	85.28 319	eP	P	13 25 13.9	+0.2
KHC			LR	LR		
	comp=Z,500nm,19.9s,MS4.9					
CLL	Collm	85.80 321	eP	P	13 25 16.0	-0.3
CLL			e*PP	pP	13 25 25.0	-1.2
CLL			e*SP	sP	13 25 29.0	-0.7
CLL			pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.5					
CLL	Collm	85.80 321	eP	P	13 25 16.0	-0.3
	comp=Z,3.0nm,1.0s,mb4.5					
CLL			epP	pP	13 25 25.0	-1.2
CLL			esP	sP	13 25 29.0	-0.7
GRA1	Grafenberg Arr	86.85 320	eP	P	13 25 21.7	+0.2
	comp=Z,14nm,1.1s,mb5.1					
GRA1			epP	pP	13 25 31.6	+0.2
GRF	Grafenberg Arr	86.85 320	eP	P	13 25 21.7	+0.2
GRF			e*PP	pP	13 25 31.6	+0.2
GRF			pmax	pmax		
	comp=Z,14nm,1.1s,mb5.1					
GRF	Grafenberg Arr	86.85 320	eP	P	13 25 21.7	+0.2
GRF			e*PP	pP	13 25 31.6	+0.2
GRF			pmax	pmax		
	comp=Z,14nm,1.1s,mb5.1					
GRF	Grafenberg Arr	86.85 320	eP	P	13 25 21.7	+0.2
	comp=Z,14nm,1.1s,mb5.1					
GRF			epP	pP	13 25 31.6	+0.2
NB2	NORSAR Subarra	87.37 331	P	P	13 25 22.8	-0.9
	comp=Z,2.7nm,0.8s,mb4.5,baz=97,slow=4.6					
NOA	NORSAR Array B	87.37 331	P	P	13 25 23.6	-0.1
	comp=Z,3.9nm,0.8s,mb4.7,baz=95,slow=4.9,SNR=13					
KEST	Kesra	87.91 306	P	P	13 25 28.2	+1.2
	comp=Z,1.7nm,0.8s,mb4.3,baz=339,slow=16,SNR=7.5					
SBF	Sospel	89.37 314	eP	P	13 25 33.6	0.0
	comp=Z,22nm,0.9s,mb5.2					
SBF	Sospel	89.37 314	eP	P	13 25 33.6	0.0
SBF			pmax	pmax		
	comp=Z,11nm,0.9s,mb5.2					
SBF	Sospel	89.37 314	eP	P	13 25 33.6	0.0
	comp=Z,11nm,0.9s,mb5.2					
LPG	La Plagne	89.83 315	eP	P	13 25 36.2	+0.5
MBDF	Montbardon	89.83 315	eP	P	13 25 35.3	-0.5
LPL	La Plagne	89.84 315	⇑iP	P	13 25 36.1	+0.3
	comp=Z,12nm,0.8s,mb5.0					
LPL	La Plagne	89.84 315	iP	P	13 25 36.1	+0.3
LPL			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0					
LPL	La Plagne	89.84 315	⇑iP	P	13 25 36.1	+0.3
	comp=Z,6.1nm,0.8s,mb5.0					
FRF	La Foret Royal	89.94 313	eP	P	13 25 36.4	+0.1
	comp=Z,14nm,0.8s,mb5.0					
FRF	La Foret Royal	89.94 313	eP	P	13 25 36.4	+0.1
FRF			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.0					
FRF	La Foret Royal	89.94 313	eP	P	13 25 36.4	+0.1
	comp=Z,6.8nm,0.8s,mb5.0					
LMR	La Mourre	90.05 313	eP	P	13 25 36.8	0.0
	comp=Z,37nm,1.2s,mb5.3					
LMR	La Mourre	90.05 313	eP	P	13 25 36.8	0.0
LMR			pmax	pmax		
	comp=Z,18nm,1.2s,mb5.3					
LMR	La Mourre	90.05 313	eP	P	13 25 36.8	0.0
	comp=Z,18nm,1.2s,mb5.3					
HAU	Haudompre	90.05 318	eP	P	13 25 36.4	-0.3
	comp=Z,11nm,0.8s,mb4.9					
HAU	Haudompre	90.05 318	eP	P	13 25 36.4	-0.3
HAU			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9					
HAU	Haudompre	90.05 318	eP	P	13 25 36.4	-0.3
	comp=Z,5.4nm,0.8s,mb4.9					
SMRF	Simiane la Rot	90.71 314	eP	P	13 25 40.5	+0.6
	comp=Z,29nm,1.2s,mb5.2					
SMRF	Simiane la Rot	90.71 314	eP	P	13 25 40.5	+0.6
	comp=Z,29nm,1.2s,mb5.5					
MEZF	Maizieres J'vi	90.90 318	eP	P	13 25 40.8	+0.1
GIVF	Givet	90.98 320	eP	P	13 25 41.1	+0.1
VIVF	Saint-Julien-I	91.32 315	eP	P	13 25 42.3	-0.4
	comp=Z,18nm,1.2s,mb5.0					
VIVF	Saint-Julien-I	91.32 315	eP	P	13 25 42.3	-0.4
VIVF			pmax	pmax		
	comp=Z,9.0nm,1.2s,mb5.0					
VIVF	Saint-Julien-I	91.32 315	eP	P	13 25 42.3	-0.4
	comp=Z,9.3nm,1.2s,mb5.0					
BAIF	Baives	91.38 320	eP	P	13 25 43.4	+0.6
	comp=Z,13nm,0.9s,mb5.0					
BAIF	Baives	91.38 320	eP	P	13 25 43.4	+0.6
BAIF			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9					
BAIF	Baives	91.38 320	eP	P	13 25 43.4	+0.6
	comp=Z,6.3nm,0.9s,mb5.0					
LOR	Lormes	91.77 317	⇑iP	P	13 25 44.8	+0.1
	comp=Z,13nm,0.8s,mb5.0					
LOR	Lormes	91.77 317	⇑iP	P	13 25 44.8	+0.1
LOR			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0					
LOR	Lormes	91.77 317	⇑iP	P	13 25 44.8	+0.1
	comp=Z,6.3nm,0.8s,mb5.0					
SMF	Signal de Mont	91.81 317	⇑iP	P	13 25 44.9	0.0
	comp=Z,11nm,0.8s,mb4.9					
SMF	Signal de Mont	91.81 317	⇑iP	P	13 25 44.9	0.0
SMF			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9					
SMF	Signal de Mont	91.81 317	⇑iP	P	13 25 44.9	0.0
	comp=Z,5.4nm,0.8s,mb4.9					
SSF	Saint Saulge	92.02 317	eP	P	13 25 45.2	-0.7
	comp=Z,21nm,1.3s,mb5.0					
SSF	Saint Saulge	92.02 317	eP	P	13 25 45.2	-0.7
SSF			pmax	pmax		
	comp=Z,11nm,1.3s,mb5.0					
SSF	Saint Saulge	92.02 317	eP	P	13 25 45.2	-0.7
	comp=Z,11nm,1.3s,mb5.0					
AVF	Avril sur Loir	92.14 317	eP	P	13 25 46.4	0.0
	comp=Z,14nm,1.1s,mb4.9					
AVF	Avril sur Loir	92.14 317	eP	P	13 25 46.4	0.0
AVF			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0					
AVF	Avril sur Loir	92.14 317	eP	P	13 25 46.4	0.0
	comp=Z,6.8nm,1.0s,mb4.9					
BGF	Bois d'Agland	92.50 316	eP	P	13 25 48.5	+0.4
	comp=Z,22nm,1.0s,mb5.2					
BGF	Bois d'Agland	92.50 316	eP	P	13 25 48.5	+0.4
BGF			pmax	pmax		
	comp=Z,11nm,1.0s,mb5.2					
BGF	Bois d'Agland	92.50 316	eP	P	13 25 48.5	+0.4
	comp=Z,11nm,1.0s,mb5.2					
ULM	Lac du Bonnet	127.78 11	PKP	PKPdf	13 31 40.7	-1.7
	comp=Z,2.1nm,0.8s,baz=9.5,slow=6.1,SNR=3.3					
NVAR	Mina Array Bea	128.89 36	PKP	PKPdf	13 31 45.7	+0.8
	comp=Z,1.4nm,0.8s,baz=250,slow=2.7,SNR=9.2					
NVAR	Mina Array Bea	128.89 36	PKP	PKPdf	13 31 45.7	+0.8
PDAR	Pinedale Array	130.21 26	PKP	PKPdf	13 31 45.6	-1.7
	comp=Z,0.3nm,0.5s,baz=158,slow=1.0,SNR=3.0					
TXAR	Lajitas Array	143.80 32	PKP	PKPdf	13 32 10.5	-2.2
	comp=Z,1.2nm,0.8s,baz=275,slow=0.9,SNR=12					
TXAR	Lajitas Array	143.80 32	PKP	PKPdf	13 32 10.5	-2.2
JCT	Junction City	144.74 26	ePKIKP	PKPdf	13 32 13.0	-1.3
GOGA	Godfrey	145.85 1	ePKP2	PKPab	13 32 16.0	-1.1

*IDC **19** 13:14:07.5±1.2,088N×9739E,h0km,mb4.3/11,*
mb1 4.4/12,mb1mx4.2/20,mbtmp4.3/12,ML4.1/1,Error
ellipse: s-maj=40.8km s-min=19.3km az=56.0
*MOS **19** 13:14:09.3±0.8,082N×9788E,h33km,mb4.9/1,Error*
ellipse: s-maj=67.8km s-min=16.0km az=94.9
*ISCJB **19** 13:14:10.7±0.8,089N±0.10×975E±0.1,h33km,mb4.4/14,*
Error ellipse: s-maj=21.2km s-min=10.0km az=149.8
*BJI **19** 13:14:10.2,116N×9762E,h13km,mB5.0,mb4.8*
*NEIC **19** 13:14:11.9±0.8,088N×9741E,h30km,mb4.6/1,Error*
ellipse: s-maj=23.4km s-min=10.3km az=58.0

ISC 19 13:14:12.9±0.8,089N±010×975E±01,h35km,n24,
σ0°96/24,mb4.4/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.52	5	P	Pn	13 18 13.2	-1.3
	0.2nm,0.3s,baz=195,slow=12,SNR=3.7						
CMAR	Chiang Mai Arr	17.52	5	P	Pn	13 18 13.2	-1.3
CHTO	Chiang Mai	17.87	5	eP	Pn	13 18 18.1	-0.7
KKM	Kota Kinabalu	19.40	74	eP	Pn	13 18 37.9	+0.4
FITZ	Fitzroy Crossi	33.54	126	eP	P	13 20 49.5	-0.1
XAN	Xi'an	34.68	17	P	P	13 20 58.6	-0.7
XAN				AP	pP	13 21 06.1	-3.3
XAN				XP	sP	13 21 09.8	-3.9
XAN				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.0						
XAN				AMB	AMB		
	comp=Z,84nm,5.1s						
WRA	Warramunga Arr	41.65	122	P	P	13 21 57.5	-0.7
	comp=Z,1.6nm,0.5s,mb3.9,baz=302,slow=9.0,SNR=3.4						
WB2	Warramunga Arr	41.66	122	eP	P	13 21 56.9	-1.4
ASAR	Alice Springs	43.00	127	P	P	13 22 08.3	-0.8
	comp=Z,1.7nm,0.7s,mb3.9,baz=300,slow=7.6,SNR=4.5						
DL2	Dalian	43.83	27	P	P	13 22 17.1	+1.5
DL2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
KSRS	Korea Array	45.96	34	P	P	13 22 32.6	+0.1
	comp=Z,2.3nm,0.6s,mb4.3,baz=219,slow=9.2,SNR=6.2						
SONM	Songino Array	47.40	8	P	P	13 22 41.9	-1.7
	comp=Z,3.2nm,0.7s,mb4.4,baz=189,slow=6.0,SNR=3.9						
MKAR	Makanchi Array	47.60	346	P	P	13 22 45.6	+0.3
	comp=Z,5.3nm,0.5s,mb4.8,baz=160,slow=7.2,SNR=8.5						
MJAR	Matsushiro Arr	51.74	42	P	P	13 23 18.3	+1.3
	comp=Z,2.0nm,0.8s,mb4.1,baz=214,slow=6.6,SNR=4.8						
KURK	Kurchatov	52.16	345	eP	P	13 23 20.0	+0.2
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KURK	Kurchatov	52.16	345	eP	P	13 23 20.0	+0.2
	comp=Z,8.0nm,1.0s,mb4.6						
STKA	Stephens Creek	52.96	132	P	P	13 23 27.9	+1.7
	comp=Z,3.4nm,0.7s,mb4.4,baz=304,slow=11,SNR=3.0						
ZAL	Zalesovo	53.90	351	P	P	13 23 33.4	+0.8
ZALV	Zalesovo Beam	53.90	351	P	P	13 23 33.4	+0.7
	comp=Z,8.4nm,0.6s,mb4.8,baz=191,slow=5.9,SNR=4.0						
YSS	Yuzh-Sakhalins	60.46	34	eP	P	13 24 20.0	+0.9
AKASG	Malin Array Be	75.66	322	P	P	13 25 53.6	-0.8
	comp=Z,1.2nm,0.5s,mb4.1,baz=90,slow=5.0,SNR=3.6						
ARCES	ARCESS Array B	82.91	340	P	P	13 26 33.2	-0.4
	comp=Z,1.6nm,0.8s,mb4.1,baz=90,slow=4.9,SNR=3.5						
ARCES	ARCESS Array B	82.91	340	P	P	13 26 33.2	-0.5
GERES	GERESS Array B	85.22	319	P	P	13 26 46.7	+0.9
	comp=Z,1.1nm,0.8s,mb4.0,baz=76,slow=5.6,SNR=4.2						

*ISCJB **19** 13:23:13.5±3.4,078N±008×9748E±009,h3km±21km,*
mb4.4/25,Error ellipse: s-maj=17.2km s-min=10.2km
az=147.4
*IDC **19** 13:23:14.8±0.8,080N×9744E,h0km,mb4.3/15,*
mb1 4.4/17,mb1mx4.3/23,mbtmp4.3/17,ML4.1/2,Error
ellipse: s-maj=25.9km s-min=15.3km az=52.0
*DJA **19** 13:23:16,075N×9734E,h25km,ML4.6/5*
*BJI **19** 13:23:17.3,063N×9760E,h39km,mB5.0,mb4.8,Ms4.6,*
Msz4.3
*NEIC **19** 13:23:19.3±0.5,082N×9753E,h30km,mb4.4/8,Error*
ellipse: s-maj=13.4km s-min=7.4km az=52.0
NEIC Felt [II] on Nias.

ISC 19 13:23:18.3±3.4,082N±008×9755E±010,h21km±23km,n38,
σ0°77/36,mb4.4/25,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.41	35	Pn	Pn	13 23 57.0	+0.5
	7.8nm,0.3s,baz=293,slow=18,SNR=20						
CMAR	Chiang Mai Arr	17.59	4	P	Pn	13 27 21.6	-0.5
	0.7nm,0.3s,baz=195,slow=12,SNR=26						
CHTO	Chiang Mai	17.94	4	eP	Pn	13 27 25.7	-0.8
	13nm,0.9s						
KKM	Kota Kinabalu	19.34	74	eP	Pn	13 27 43.3	-0.3
KAPI	Kappang	22.93	105	P	P	13 28 20.2	-1.0
	10nm,0.9s,mb4.3						
KMI	Kunming	24.68	11	P	P	13 28 40.3	+2.5
KMI				S	S	13 32 57.6	-0.9
KMI				AMB	AMB		
	comp=Z,22nm,1.0s						
KMI				LR	LR		
	comp=N,755nm,13.7s						
KMI				LR	LR		
	comp=E,539nm,14.0s						
KMI				LR	LR		
	comp=Z,806nm,13.1s						
LSA	Lhasa	29.36	349	eP	P	13 29 19.6	-0.2
	comp=Z,11nm,0.8s,mb4.6						
XAN	Xi'an	34.73	17	P	P	13 30 06.4	-0.5
XAN				AP	pP	13 30 12.9	-0.5
XAN				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
GTA	Gaotai	38.47	3	eP	P	13 30 38.9	+0.2
GTA				AP	pP	13 30 46.0	+0.7
GTA				XP	sP	13 30 49.8	+1.9
GTA				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
WRA	Warramunga Arr	41.54	122	P	P	13 31 03.9	-0.6
	comp=Z,3.3nm,1.0s,mb3.9,baz=300,slow=9.9,SNR=20						
WRAB	Tennant Creek	41.55	122	eP	P	13 31 04.0	-0.6
	comp=Z,7.8nm,0.9s,mb4.3						
WB2	Warramunga Arr	41.55	122	eP	P	13 31 04.7	+0.1
ASAR	Alice Springs	42.89	127	P	P	13 31 15.8	+0.3
	comp=Z,1.6nm,0.8s,mb3.8,baz=295,slow=7.5,SNR=22						
DL2	Dalian	43.86	27	P	P	13 31 24.0	+1.0
DL2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
KSRS	Korea Array	45.97	34	P	P	13 31 40.1	+0.2
	comp=Z,6.3nm,0.7s,mb4.6,baz=219,slow=8.8,SNR=39						
TKM2	Tokmak 2	46.30	338	eP	P	13 31 42.8	+0.4
	comp=Z,4.3nm,0.9s,mb4.4						
EKS2	Erkin-Say	46.80	336	eP	P	13 31 47.5	+1.2
	comp=Z,3.4nm,0.8s,mb4.3						
SONM	Songino Array	47.46	8	P	P	13 31 52.2	+0.8
	comp=Z,3.6nm,0.7s,mb4.4,baz=187,slow=9.6,SNR=20						
SONM				PcP	PcP	13 33 22.3	+0.8
	comp=Z,1.3nm,0.8s,baz=191,slow=4.4,SNR=3.5						
MKAR	Makanchi Array	47.70	346	P	P	13 31 52.5	-0.8
	comp=Z,8.6nm,0.7s,mb4.9,baz=159,slow=7.6,SNR=76						
MKAR	Makanchi Array	47.70	346	P	P	13 31 52.5	-0.8
MJAR	Matsushiro Arr	51.74	42	P	P	13 32 24.1	-0.1
	comp=Z,2.8nm,1.0s,mb4.2,baz=226,slow=5.6,SNR=13						
KURK	Kurchatov	52.25	345	eP	P	13 32 27.9	+0.2
	comp=Z,6.0nm,0.9s,mb4.5						
STKA	Stephens Creek	52.84	132	P	P	13 32 33.7	+1.2
	comp=Z,1.8nm,0.7s,mb4.1,baz=295,slow=5.5,SNR=7.8						
STKA	Stephens Creek	52.84	132	eP	P	13 32 33.7	+1.1
ZALV	Zalesovo Beam	53.99	351	P	P	13 32 40.5	-0.1
	comp=Z,8.6nm,0.5s,mb4.9,baz=177,slow=6.4,SNR=48						
AKTK	Aktyubinsk	59.73	332	P	P	13 33 19.9	-1.4
AKTO	Aktyubinsk	59.73	332	P	P	13 33 19.9	-1.4
	comp=Z,1.3nm,0.7s,mb4.1,baz=102,slow=4.3,SNR=3.8						
YSS	Yuzh-Sakhalins	60.47	34	eP	P	13 33 26.9	+0.4
	comp=Z,8.7nm,0.8s,mb4.8						
AKASG	Malin Array Be	75.77	322	P	P	13 35 01.5	-1.0
	comp=Z,1.9nm,0.6s,mb4.2,baz=91,slow=4.3,SNR=12						
ARCES	ARCESS Array B	83.01	340	P	P	13 35 41.7	+0.1
	comp=Z,2.6nm,0.8s,mb4.3,baz=90,slow=6.1,SNR=12						
GERES	GERESS Array B	85.33	319	P	P	13 35 54.7	+0.9
	comp=Z,1.5nm,0.8s,mb4.2,baz=97,slow=4.6,SNR=13						
HFS	Hagfors	86.22	330	P	P	13 35 58.3	+0.3
	comp=Z,1.9nm,0.8s,mb4.4,baz=122,slow=7.0,SNR=6.1						
NB2	NORSAR Subarra	87.51	331	P	P	13 36 04.2	0.0
	comp=Z,0.2nm,0.7s,mb3.5,baz=91,slow=5.9						
NOA	NORSAR Array B	87.51	331	P	P	13 36 04.3	+0.1
	comp=Z,1.8nm,0.8s,mb4.4,baz=94,slow=5.0,SNR=6.1						
KEST	Kesra	88.06	306	P	P	13 36 07.7	+0.3
	comp=Z,1.1nm,0.9s,mb4.1,baz=153,slow=2.3,SNR=4.0						
NVAR	Mina Array Bea	128.89	36	PKP	PKPdf	13 42 27.1	+2.3
	comp=Z,0.5nm,0.6s,baz=236,slow=1.6,SNR=4.8						
TXAR	Lajitas Array	143.81	32	PKP	PKPdf	13 42 51.1	-1.5
	comp=Z,0.6nm,0.7s,baz=170,slow=0.7,SNR=7.0						
JCT	Junction City	144.77	26	ePKP	PKPdf	13 42 53.7	-0.6

*IDC **19** 13:29:44.9±0.8,090N×9738E,h0km,mb4.3/18,*
mb1 4.3/20,mb1mx4.2/27,mbtmp4.3/20,ML4.1/2,Error
ellipse: s-maj=25.0km s-min=14.3km az=52.0
*MOS **19** 13:29:47.9±1.2,096N×9740E,h33km,mb4.8/5,Error*
ellipse: s-maj=17.4km s-min=9.3km az=92.0
*BJI **19** 13:29:47.1,075N×9750E,h37km,mb4.8,Ms4.8,Msz4.6*
*ISCJB **19** 13:29:48.8±2.2,094N±010×974E±01,h41km±16km,*
mb4.4/29,Error ellipse: s-maj=22.5km s-min=9.1km
az=138.8
*NEIC **19** 13:29:49.4±0.5,094N×9742E,h30km,mb4.4/5,Error*
ellipse: s-maj=14.2km s-min=8.5km az=54.0

ISC 19 13:29:50.8±2.0,094N±010×974E±01,h41km±14km,n57,
σ0°81/55,mb4.4/29,3C-9D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.40	40	Pn	Pn	13 30 26.6	-1.1
	17nm,0.3s,baz=203,slow=7.1,SNR=85						
FRIM	Kepong	4.81	62	⇑P	Pn	13 31 00.9	+0.1
IPM	Ipoh	5.05	46	⇓P	Pn	13 31 05.1	+1.0
KULM	Kulim	5.41	37	⇓P	Pn	13 31 08.6	-0.4
KGM	Kluang	6.02	80	⇓P	Pn	13 31 17.7	+0.3
MYKOM	Kota Tinggi	6.51	82	⇓P	Pn	13 31 24.5	+0.4
KTGM	Kuala Trenggan	7.20	53	⇓P	Pn	13 31 33.9	+0.2
KSM	Kuching	12.92	88	⇓P	Pn	13 32 51.5	-0.6
SBUM	Sibu	14.90	84	⇑P	Pn	13 33 20.3	+1.5
CMAR	Chiang Mai Arr	17.48	5	P	Pn	13 33 50.5	-1.1
	0.6nm,0.3s,baz=194,slow=12,SNR=22						
CHTO	Chiang Mai	17.83	5	eP	Pn	13 33 52.8	-3.1
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
CHTO	Chiang Mai	17.83	5	eP	Pn	13 33 52.8	-3.1
	comp=Z,12nm,0.9s						
KKM	Kota Kinabalu	19.45	74	⇑P	Pn	13 34 15.4	-0.2
KKM	Kota Kinabalu	19.45	74	eP	Pn	13 34 14.9	-0.7
SDKM	Sandakan	20.31	76	⇓P	P	13 34 23.8	+0.3
TSM	Tawau	20.73	80	⇓P	P	13 34 28.5	+0.5
MYLDM	Lahad Datu	21.49	78	⇓P	P	13 34 37.4	+1.1
KMI	Kunming	24.59	12	P	P	13 35 08.3	+1.1
KMI				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.7						
FITZ	Fitzroy Crossi	33.62	126	P	P	13 36 26.5	-1.2
	comp=Z,1.9nm,0.7s,mb4.1,baz=309,slow=13,SNR=4.4						
GTA	Gaotai	38.35	3	eP	P	13 37 08.1	+0.2
GTA				AP	pP	13 37 17.8	-1.4
GTA				XP	sP	13 37 21.6	-2.5
GTA				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
JOW	Kunigami	39.28	46	P	P	13 37 16.2	+0.4
	comp=Z,22nm,0.8s,mb4.9,baz=284,slow=11,SNR=4.9						
WRA	Warramunga Arr	41.73	122	P	P	13 37 35.9	-0.4
	comp=Z,3.9nm,0.8s,mb4.1,baz=299,slow=10.0,SNR=31						
WRAB	Tennant Creek	41.74	122	eP	P	13 37 34.7	-1.6
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
WRAB	Tennant Creek	41.74	122	eP	P	13 37 34.7	-1.6
	comp=Z,9.0nm,1.0s,mb4.3						
ASAR	Alice Springs	43.09	127	P	P	13 37 47.0	-0.2
	comp=Z,1.8nm,0.7s,mb3.9,baz=298,slow=7.8,SNR=32						
DL2	Dalian	43.82	28	P	P	13 37 53.3	+0.4
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
KSRS	Korea Array	45.95	34	P	P	13 38 09.6	-0.3
	comp=Z,9.1nm,1.0s,mb4.7,baz=222,slow=9.1,SNR=32						
EKS2	Erkin-Say	46.62	336	P	P	13 38 15.8	+0.7
	comp=Z,3.3nm,0.8s,mb4.3						
SONM	Songino Array	47.36	8	P	P	13 38 21.3	+0.6
	comp=Z,4.7nm,0.8s,mb4.5,baz=187,slow=9.2,SNR=20						
MKAR	Makanchi Array	47.54	346	P	P	13 38 22.8	+0.7
	comp=Z,3.3nm,0.4s,mb4.7,baz=159,slow=8.4,SNR=56						
CN2	Changchun	49.45	27	eP	P	13 38 36.1	-0.8
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
ZAK	Zakamensk	49.51	5	eP	P	13 38 37.3	0.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
MAT	Matsushiro	51.75	42	P	P	13 38 53.7	-0.7
MJAR	Matsushiro Arr	51.75	42	P	P	13 38 54.0	-0.5
	comp=Z,2.2nm,0.7s,mb4.2,baz=224,slow=5.7,SNR=14						
MJAR	Matsushiro Arr	51.75	42	P	P	13 38 54.0	-0.5
KURK	Kurchatov	52.09	345	eP	P	13 38 57.2	+0.5
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KURK	Kurchatov	52.09	345	eP	P	13 38 57.2	+0.5
	comp=Z,7.0nm,1.0s,mb4.5						
STKA	Stephens Creek	53.04	132	P	P	13 39 04.

mb1 4.7/16,mb1mx4.6/20,mbtmp4.6/16,ML5.2/2,MS4.8/9, Ms1 4.7/9,ms1mx4.3/32 Error ellipse: s-maj=14.6km s-min=12.4km az=142.0

ISC 19 13:30:43.3±0.3,3400S±004×17888W±006,h47km, h47km±2.7km:pP-P,n184,σ1§52/119,mb5.0/36,MS4.9/19, 5C-4D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.23**	**212**	P	**Pn**	**13 31 44.7**	**-0.4**
MXZ				S	**Sn**	**13 32 38.2**	**+5.0**
PUZ	**Puketiti**	**4.68**	**209**	P	**Pn**	**13 31 50.6**	**-0.7**
PUZ				S	**Sn**	**13 32 50.1**	**+5.8**
RAO	**Raoul Island**	**4.80**	**10**	P	**Pn**	**13 31 50.0**	**-3.0**
	105nm,0.3s,baz=253,slow=20,SNR=3.8						
RAO				S	**Sn**	**13 32 34.4**	**-13**
	190nm,0.3s,baz=81,slow=22,SNR=3.6						
RAO	**Raoul Island**	**4.80**	**10**	P	**Pn**	**13 31 50.0**	**-3.0**
RAO				S	**Sn**	**13 32 34.4**	**-13**
KUZ	**Kuaotunu**	**5.20**	**237**	P	**Pn**	**13 32 00.8**	**+2.4**
MWZ	**Matawai**	**5.21**	**213**	P	**Pn**	**13 31 58.0**	**-0.6**
URZ	**Urewera**	**5.35**	**216**	P	**Pn**	**13 32 01.2**	**+0.7**
	67nm,0.3s,baz=44,slow=3.6,SNR=372						
URZ				S	**Sn**	**13 33 03.2**	**+2.5**
	99nm,0.3s,baz=171,slow=18,SNR=9.0						
URZ	**Urewera**	**5.35**	**216**	P	**Pn**	**13 31 59.8**	**-0.7**
MARZ	**Manawahe**	**5.37**	**221**	P	**Pn**	**13 32 02.5**	**+1.7**
KNZ	**Kokohu**	**5.73**	**208**	P	**Pn**	**13 32 03.9**	**-1.8**
MKAZ	**Moumakai**	**5.76**	**236**	P	**Pn**	**13 32 09.7**	**+3.5**
OUZ	**Omahuta**	**6.33**	**257**	P	**Pn**	**13 32 16.2**	**+2.3**
BKZ	**Black Stump Fm**	**6.36**	**215**	P	**Pn**	**13 32 13.5**	**-0.9**
RATZ	**Rangitukua**	**6.50**	**220**	P	**Pn**	**13 32 17.2**	**+1.0**
HIZ	**Hauiti**	**6.78**	**227**	P	**Pn**	**13 32 22.2**	**+2.1**
NGZ	**Ngauruhoe**	**6.81**	**219**	P	**Pn**	**13 32 21.0**	**+0.4**
TUVZ	**Tukino**	**6.85**	**218**	P	**Pn**	**13 32 21.0**	**-0.1**
FWVZ	**Far West T-bar**	**6.90**	**219**	P	**Pn**	**13 32 22.0**	**+0.3**
MOVZ	**Moawhango**	**6.91**	**217**	P	**Pn**	**13 32 21.1**	**-0.8**
WNVZ	**Wahianoa**	**6.93**	**218**	P	**Pn**	**13 32 22.1**	**0.0**
TSZ	**Takapari Road**	**7.32**	**213**	P	**Pn**	**13 32 25.7**	**-1.8**
WAZ	**Wanganui**	**7.56**	**219**	P	**Pn**	**13 32 30.7**	**-0.1**
MRZ	**Mangatainoka R**	**7.98**	**212**	P	**Pn**	**13 32 34.1**	**-2.5**
MTW	**Mount Morrison**	**8.42**	**210**	P	**Pn**	**13 32 39.2**	**-3.4**
KIW	**Kapiti Island**	**8.44**	**214**	P	**Pn**	**13 32 40.0**	**-2.9**
CAW	**Cannon Point**	**8.57**	**212**	P	**Pn**	**13 32 41.4**	**-3.2**
SNZO	**South Karori**	**8.89**	**213**	P	**Pn**	**13 32 45.0**	**-4.1**
TCW	**Tory Channel**	**9.02**	**215**	P	**Pn**	**13 32 47.4**	**-3.3**
NNZ	**Nelson**	**9.46**	**218**	P	**Pn**	**13 32 53.3**	**-3.6**
THZ	**Tophouse**	**10.11**	**218**	P	**Pn**	**13 33 01.5**	**-4.2**
KHZ	**Kahutara**	**10.30**	**213**	P	**Pn**	**13 33 04.3**	**-4.0**
LTZ	**Lake Taylor**	**11.18**	**216**	P	**Pn**	**13 33 16.8**	**-3.5**
MQZ	**McQueen's Vall**	**11.72**	**212**	P	**Pn**	**13 33 24.0**	**-3.7**
RPZ	**Rata Peaks**	**12.47**	**216**	P	**Pn**	**13 33 36.2**	**-1.7**
	3.0nm,0.3s,baz=36,slow=3.2,SNR=18						
RPZ				S	**Sn**	**13 35 49.1**	**-6.2**
	3.8nm,0.3s,baz=335,slow=21,SNR=9.5						
FOZ	**Fox Glacier**	**13.05**	**220**	P	**Pn**	**13 33 42.4**	**-3.5**
ODZ	**Otahua Downs**	**13.66**	**213**	P	**Pn**	**13 33 48.6**	**-5.6**
JCZ	**Jackson Bay**	**13.90**	**220**	P	**Pn**	**13 33 52.8**	**-4.6**
WHZ	**Wether Hill Ro**	**15.57**	**216**	P	**Pn**	**13 34 16.5**	**-2.9**
AFI	**Afiamalu**	**21.01**	**20**	P	**P**	**13 35 19.0**	**-3.9**
	60nm,1.0s,mb4.9,baz=131,slow=20,SNR=3.4						
AFI	**Afiamalu**	**21.01**	**20**	*e*P	**P**	**13 35 20.7**	**-2.2**
RAR	**Rarotonga**	**21.14**	**58**	LR	LR	13 40 58.1	
	comp=Z,2μm,20.8s,MS4.4,baz=234,slow=29						
ARMA	**Armidale**	**25.17**	**270**	*e*P	**P**	**13 36 07.0**	**+2.8**
CNB	**Canberra Magne**	**26.10**	**258**	*e*P	**P**	**13 36 16.2**	**+3.6**
CNB				*e*S	**S**	**13 40 52.5**	**+12**
CAN	**Canberra**	**26.40**	**258**	*e*P	**P**	**13 36 17.7**	**+2.5**
TOO	**Toolangi**	**29.02**	**253**	*e*P	**P**	**13 36 40.9**	**+2.3**
TOO				*e*S	S	13 42 03.7	+37
PPT	**Papeete**	**30.90**	**65**	*e*S	**S**	**13 41 58.6**	**+2.3**
	418nm,25.0s						
PPT				*e*LR	LR	13 44 34.8	
	4μm,28.8s,baz=236						
PPT	**Papeete**	**30.90**	**65**	LR	LR	13 47 36.5	
	comp=Z,2μm,18.6s,MS4.7,baz=239,slow=33						
STKA	**Stephens Creek**	**33.10**	**262**	*e*P	**P**	**13 37 16.2**	**+1.5**
	5.0nm,0.7s,mb4.5						
STKA				*e*S	**S**	**13 42 46.8**	**+16**
STKA	**Stephens Creek**	**33.10**	**262**	P	**P**	**13 37 16.3**	**+1.6**
	7.2nm,0.8s,mb4.7,baz=114,slow=8.2,SNR=7.5						
STKA				PcP	PcP	13 39 56.6	-0.5
	3.9nm,0.8s,baz=143,slow=2.0,SNR=3.6						
CTA	**Charters Tower**	**33.83**	**285**	*e*P	**P**	**13 37 21.8**	**+0.7**
	16nm,0.7s,mb5.1						
CTA	**Charters Tower**	**33.83**	**285**	P	**P**	**13 37 20.9**	**-0.2**
	15nm,0.6s,mb5.1,baz=110,slow=10,SNR=24						
CTA	**Charters Tower**	**33.83**	**285**	*e*P	**P**	**13 37 21.8**	**+0.7**
CTA				pmax	pmax		
	comp=Z,16nm,0.7s						
CTAO	**Charters Tower**	**33.83**	**285**	*e*P	**P**	**13 37 22.4**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
CTAO	**Charters Tower**	**33.83**	**285**	*e*P	**P**	**13 37 22.4**	**+1.3**
	comp=Z,31nm,0.9s,mb5.2						
PMG	**Port Moresby**	**39.62**	**300**	*e*P	**P**	**13 38 09.4**	**-1.0**
PMG				pmax	pmax		
	comp=Z,18nm,0.9s						
PMG	**Port Moresby**	**39.62**	**300**	*e*P	**P**	**13 38 09.4**	**-1.0**
	comp=Z,18nm,0.9s,mb4.8						
RKT	**Rikitea**	**39.79**	**86**	*e*S	**S**	**13 44 15.1**	**+2.3**
	comp=Z,462nm,27.2s						
RKT				*e*LQ		13 47 21.8	
	comp=Z,1μm,39.8s						
RKT				*e*LR	LR	13 48 51.3	
	comp=Z,4μm,29.0s,baz=245						
ASAR	**Alice Springs**	**42.31**	**271**	P	**P**	**13 38 32.2**	**-0.3**
	comp=Z,29nm,0.7s,mb4.9,baz=112,slow=7.7,SNR=148						
WB2	**Warramunga Arr**	**43.61**	**276**	*e*P	**P**	**13 38 42.2**	**-0.9**
WRAB	**Tennant Creek**	**43.62**	**276**	P	**P**	**13 38 42.0**	**-1.1**
	comp=Z,330nm,0.7s,mb6.2,SNR=13						
WRAB	**Tennant Creek**	**43.62**	**276**	*e*P	**P**	**13 38 42.1**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.2						
WRAB	**Tennant Creek**	**43.62**	**276**	*e*P	**P**	**13 38 42.1**	**-1.0**
	comp=Z,31nm,0.6s,mb5.2						
WRA	**Warramunga Arr**	**43.62**	**276**	P	**P**	**13 38 42.4**	**-0.8**
	comp=Z,34nm,0.7s,mb5.2,baz=118,slow=7.3,SNR=118						
WRA				S	**S**	**13 45 08.1**	**-1.4**
	comp=Z,1.8nm,0.9s,baz=116,slow=14,SNR=5.3						
SBA	**Scott Base**	**44.40**	**184**	P	**P**	**13 38 48.4**	**-0.3**
SBA				pmax	pmax		
	comp=Z,58nm,1.7s,mb5.0						
SBA	**Scott Base**	**44.40**	**184**	P	**P**	**13 38 48.4**	**-0.3**
	comp=Z,58nm,1.7s,mb5.0						
FORT	**Forrest**	**44.51**	**259**	*e*P	**P**	**13 38 49.8**	**-0.4**
	comp=Z,24nm,0.6s,mb5.2						
KAKA	**Kakadu**	**48.93**	**284**	*e*P	**P**	**13 39 22.0**	**-2.9**
	comp=Z,12nm,0.7s,mb5.0						
CASY	**Casey**	**51.63**	**209**	*e*P	**P**	**13 39 45.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**51.71**	**273**	*e*P	**P**	**13 39 45.4**	**-0.5**
	comp=Z,28nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**51.71**	**273**	P	**P**	**13 39 45.6**	**-0.3**
	comp=Z,15nm,0.7s,mb5.0,baz=152,slow=9.2,SNR=34						
NWAO	**Narrogin (SRO)**	**52.51**	**252**	P	**P**	**13 39 50.8**	**-0.8**
	comp=Z,9.4nm,0.6s,mb4.9,baz=76,slow=6.1,SNR=13						
KLBR	**Kellerberrin**	**52.56**	**254**	*e*P	**P**	**13 39 51.1**	**-0.9**
	comp=Z,34nm,0.7s,mb5.4						
MUN	**Mundaring**	**53.65**	**253**	*e*P	**P**	**13 39 59.1**	**-1.0**
MUN				*e*S	**S**	**13 47 37.7**	**+7.2**
QSPA	**South Pole Qui**	**56.12**	**180**	P	**P**	**13 40 20.2**	**+3.0**
	comp=Z,39nm,1.1s,mb5.4,baz=41,slow=1.8,SNR=66						
MIR	**Mirnyy**	**58.60**	**208**	⇑*i*P	**P**	**13 40 36.0**	**+1.2**
MIR				*i*	pP	13 40 49.0	+0.9
MIR				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.8						
MAW	**Mawson**	**68.69**	**201**	*e*P	**P**	**13 41 42.9**	**+1.6**
	comp=Z,10nm,1.1s,mb4.7						
MAW	**Mawson**	**68.69**	**201**	P	**P**	**13 41 42.9**	**+1.6**
	comp=Z,16nm,1.1s,mb4.8,baz=114,slow=6.6,SNR=9.1						
MAW	**Mawson**	**68.69**	**201**	*e*P	**P**	**13 41 42.9**	**+1.6**
MAW				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PMSA	**Palmer Station**	**69.30**	**155**	LR	LR	14 10 19.6	
	comp=Z,941nm,18.0s,MS5.1,baz=61,slow=34						
USHA	**Ushuaia**	**73.38**	**146**	LR	LR	14 08 30.3	
	comp=Z,960nm,19.4s,MS5.1,baz=248,slow=31						
SYO	**Syowa Base**	**73.45**	**194**	‖*e*P	**P**	**13 42 09.8**	**-0.3**
SYO	**Syowa Base**	**73.45**	**194**	‖*e*pP	pP	13 42 21.6	-2.2
SNAA	**Sanae**	**74.59**	**179**	*e*P	**P**	**13 42 17.4**	**+0.7**
SNAA				*e*		13 42 21.2	
SNAA				*e*	pP	13 42 28.6	-1.8
SNAA				*e*		13 42 36.5	
SNAA				*e*		13 42 52.7	
SNAA	**Sanae**	**74.59**	**179**	LR	LR	14 12 45.1	
	comp=Z,331nm,21.9s,MS4.6,baz=201,slow=34						
SNAA	**Sanae**	**74.59**	**179**	*e*P	**P**	**13 42 17.2**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,13nm,1.0s						
SNAA	**Sanae**	**74.59**	**179**	*e*P	**P**	**13 42 17.2**	**+0.5**
	comp=Z,12nm,1.0s,mb4.8						
VNA3	**Neumayer Olymp**	**74.77**	**176**	*e*P	**P**	**13 42 18.4**	**+0.6**
VNA3				*e*		13 42 22.0	
VNA3				*e*	pP	13 42 30.2	-1.3
VNA3				*e*	pP	13 42 31.7	+0.2
VNA3				*e*		13 42 37.2	
VNA3				*e*		13 42 51.6	
VNA2	**Neumayer--Watz**	**75.19**	**177**	*e*P	**P**	**13 42 21.3**	**+1.1**
VNA2				*e*		13 42 24.8	
VNA2				*e*	pP	13 42 32.6	-1.3
VNA2				*e*	pP	13 42 34.0	+0.1
VNA2				*e*	pP	13 42 39.4	+5.5
VNA2				*e*		13 42 54.2	
MAIT	**Maitri**	**75.25**	**184**	*e*P	**P**	**13 42 23.7**	**+3.2**
NVL	**N'lazarevskaya**	**75.25**	**184**	P	**P**	**13 42 21.0**	**+0.5**
NVL				pmax	pmax		
	comp=Z,31nm,1.9s,mb4.9						
VNA1	**Neumayer--Stat**	**75.43**	**177**	*e*P	**P**	**13 42 22.8**	**+1.2**
VNA1				*e*		13 42 26.4	
VNA1				*e*	pP	13 42 34.4	-0.9
VNA1				*e*		13 42 41.8	
VNA1				*e*		13 42 56.0	
PLCA	**Paso Flores**	**80.60**	**133**	P	**P**	**13 42 50.9**	**+0.1**
	comp=Z,7.8nm,1.1s,mb4.6,baz=236,slow=6.8,SNR=9.3						
PLCA				LR	LR	14 13 36.5	
	comp=Z,417nm,18.6s,MS4.8,baz=61,slow=32						
PLCA	**Paso Flores**	**80.60**	**133**	*e*P	**P**	**13 42 49.7**	**-1.1**
	comp=Z,13nm,1.2s,mb4.7						
MJAR	**Matsushiro Arr**	**80.79**	**326**	P	**P**	**13 42 49.4**	**-2.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=162,slow=5.2,SNR=6.2						
MAT	**Matsushiro**	**80.79**	**326**	P	**P**	**13 42 50.9**	**-0.7**
MAT				*e*S	S	13 52 56.0	0.0
YSS	**Yuzh-Sakhalins**	**87.67**	**335**	⇑*e*P	**P**	**13 43 24.7**	**-1.5**
YSS				*e*	pP	13 43 37.5	-2.7
YSS				*e*S	S	13 53 54.0	-10
YSS				MLR	MLR		
	comp=N,800nm,18.0s						
YSS				MLR	MLR		
	comp=Z,700nm,18.0s,MS5.1						
YSS	**Yuzh-Sakhalins**	**87.67**	**335**	*e*P	**P**	**13 43 25.7**	**-0.5**
	comp=Z,17nm,0.9s,mb5.3						
CFAA	**Coronel Fontan**	**87.69**	**127**	LR	LR	14 15 19.8	
	comp=Z,83nm,18.3s,MS4.2,baz=203,slow=30						
NJ2	**Nanjing**	**88.03**	**311**	*e*P	**P**	**13 43 29.1**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.3						
PET	**Petropavlovsk**	**88.84**	**347**	*e*P	**P**	**13 43 30.2**	**-1.4**
PET				*e*S	S	13 54 05.3	-10
PET				pmax	pmax		
	comp=Z,200nm,13.5s						
PET				MLR	MLR		
	comp=Z,700nm,18.0s,MS5.1						
PET	**Petropavlovsk**	**88.84**	**347**	*e*P	**P**	**13 43 29.0**	**-2.6**
	comp=Z,6.5nm,0.6s,mb5.1						
PETK	**Petropavlovsk-**	**89.11**	**346**	P	**P**	**13 43 31.7**	**-1.2**
	comp=Z,13nm,0.7s,mb5.3,baz=126,slow=6.2,SNR=20						
CMB	**Columbia Colle**	**89.92**	**42**	*e*P	**P**	**13 43 36.6**	**-0.5**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb5.0						
CMB	**Columbia Colle**	**89.92**	**42**	*e*P	**P**	**13 43 36.6**	**-0.5**
	comp=Z,10nm,1.4s,mb5.0						
GSC	**Goldstone**	**90.11**	**46**	*e*P	**P**	**13 43 39.2**	**+1.2**
GSC				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.8						
GSC	**Goldstone**	**90.11**	**46**	*e*P	**P**	**13 43 39.2**	**+1.2**
	comp=Z,5.4nm,1.1s,mb4.8						
LDFC	**Landfair**	**90.99**	**47**	P	**P**	**13 43 40.1**	**-2.0**
	comp=Z,33nm,1.3s,mb5.5						
MDJ	**Mudanjiang**	**91.17**	**326**	P	**P**	**13 43 43.8**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,117nm,7.6s						
MDJ				LR	LR		
	comp=N,417nm,26.5s						
MDJ				LR	LR		
	comp=Z,909nm,24.1s,MS5.1						
NVAR	**Mina Array Bea**	**91.37**	**43**	P	**P**	**13 43 43.8**	**0.0**
	comp=Z,0.4nm,0.3s,mb4.2,baz=220,slow=8.3,SNR=7.0						
CN2	**Changchun**	**92.56**	**323**	*e*P	**P**	**13 43 51.6**	**+2.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CN2				LR	LR		
	comp=N,400nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=E,300nm,19.0s,MS5.0						
CN2				LR	LR		
	comp=Z,500nm,24.0s,MS4.9						
GYA	**Guiyang**	**92.70**	**300**	P	**P**	**13 43 52.4**	**+2.1**
GYA				AP	pP	13 44 06.9	+2.6
GYA				PP	PP	13 47 37.9	+4.9
GYA				SKS		13 54 20.3	
GYA				S	S	13 54 50.6	-1.0
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.5						
GYA				AMB	AMB		
	comp=Z,120nm,5.7s						
GYA				LR	LR		
	comp=N,490nm,19.4s,MS5.1						
GYA				LR	LR		
	comp=E,480nm,20.2s,MS5.1						
GYA				LR	LR		
	comp=Z,470nm,21.8s,MS4.9						
LVC	**Limon Verde**	**92.83**	**120**	LR	LR	14 17 14.2	
	comp=Z,490nm,20.9s,MS4.9,baz=316,slow=30						
NNA	**Nana**	**93.13**	**107**	LR	LR	14 19 34.3	
	comp=Z,1μm,18.6s,MS5.3,baz=148,slow=31						
KMI	**Kunming**	**94.78**	**297**	P	**P**	**13 44 01.3**	**+1.4**
KMI				AP	pP	13 44 16.8	+2.8
KMI				XP	sP	13 44 22.3	+3.1
KMI				S	S	13 55 09.9	-0.1
KMI				XS	sS	13 55 33.8	+0.1
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb5.1						
KMI				LR	LR		
	comp=N,322nm,19.9s,MS4.9						
KMI				LR	LR		
	comp=E,295nm,21.6s,MS4.9						
KMI				LR	LR		
	comp=Z,626nm,26.6s,MS5.0						
TXAR	**Lajitas Array**	**94.94**	**58**	P	**P**	**13 43 59.2**	**-1.3**
	comp=Z,0.3nm,0.7s,mb3.8,baz=191,slow=5.9,SNR=4.2						
LPAZ	**La Paz**	**97.33**	**115**	P	**P**	**13 44 11.6**	**-0.2**
	comp=Z,0.4nm,0.6s,mb4.0,baz=238,slow=7.4,SNR=2.7						
CD2	**Chengdu**	**97.37**	**302**	*e*P	**P**	**13 44 13.5**	**+2.0**
CD2				AP	pP	13 44 27.0	+1.4
CD2				XP	sP	13 44 32.5	+1.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,30nm,8.8s						
CD2				LR	LR		
	comp=N,210nm,16.2s						
CD2				LR	LR		
	comp=Z,180nm,14.8s,MS4.7						
HHC	**Hu-ho-hao-te**	**98.19**	**314**	*e*P	**P**	**13 44 17.1**	**+2.1**
HHC				AP	pP	13 44 34.0	+4.9
HHC				PP	PP	13 48 21.1	+5.7
HHC				SKS		13 54 48.3	
HHC				S	S	13 55 36.4	-2.2
HHC				AMB	AMB		
	comp=Z,12nm,0.6s,mb5.6						
HHC				AMB	AMB		
	comp=Z,89nm,9.0s						
HHC				LR	LR		
	comp=N,296nm,21.4s,MS4.9						
HHC				LR	LR		
	comp=E,278nm,20.2s,MS4.9						
HHC				LR	LR		
	comp=Z,364nm,21.4s,MS4.8						
LZH	**Lanzhou**	**100.27**	**307**	*e*P	Pdif	13 44 26.5	+2.1
LZH				AP		13 44 41.3	
LZH				XP		13 44 46.3	
LZH				AMB	AMB		
	comp=Z,18nm,1.6s						
LZH				AMB	AMB		
	comp=Z,83nm,8.9s						
LZH				LR	LR		
	comp=E,178nm,18.3s						
LZH				LR	LR		
	comp=Z,265nm,19.8s,MS4.8						
MDRS	**Chennai**	**106.13**	**275**	*ex*	x	13 49 06.0	
WMQ	**Urumqi**	**114.83**	**307**	*e*PKP	PKiKP	13 49 18.3	0.0
WMQ				LR	LR		
	comp=N,246nm,24.1s,MS5.0						
WMQ				LR	LR		
	comp=E,355nm,26.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,432nm,24.0s,MS5.0						
MKAR	**Makanchi Array**	**119.48**	**309**	PKP	PKPdf	13 49 25.6	-1.5
	comp=Z,3.5nm,0.8s,baz=64,slow=2.8,SNR=13						
ZALV	**Zalesovo Beam**	**120.19**	**317**	PKP	PKPdf	13 49 26.6	-1.7
	comp=Z,2.9nm,0.7s,baz=135,slow=1.6,SNR=10.0						
ZAL	**Zalesovo**	**120.20**	**317**	PKIKP	PKPdf	13 49 26.6	-1.7
NVS	**Novosibirsk**	**121.33**	**318**	*e*PKIKP	PKPdf	13 49 28.8	-1.6
KURK	**Kurchatov**	**122.95**	**312**	⇑*i*PKIKP	PKPdf	13 49 31.8	-1.9
LSZ	**Lusaka**	**124.63**	**212**	PKP	PKPdf	13 49 38.7	+0.7
	comp=Z,5.5nm,0.9s,baz=175,slow=1.4,SNR=7.8						
ARCES	**ARCESS Array B**	**141.92**	**346**	PKhKP		13 50 04.5	
	comp=Z,3.3nm,0.8s,baz=24,slow=3.3,SNR=7.5						
ARCES	**ARCESS Array B**	**141.92**	**346**	PKP	PKPdf	13 50 04.5	-4.2
BHD	**Baghdad**	**144.17**	**281**	*ex*	x	13 50 14.0	
JOF	**Joensuu**	**145.44**	**336**	*ep*	PKPdf	13 50 11.8	-3.3
	comp=Z,24nm,0.6s						
MSL	**Mosul**	**145.80**	**286**	*ex*	x	13 50 16.5	
BORG	**Borgarnes**	**146.32**	**17**	PKPbc	PKPbc	13 50 17.3	-0.5
	comp=Z,11nm,0.8s,baz=305,slow=3.2,SNR=3.7						
BORG	**Borgarnes**	**146.32**	**17**	PKPbc	PKPbc	13 50 17.3	-0.5
KIV	**Kislovodsk**	**146.50**	**300**	*i* PKIKP	PKPdf	13 50 17.5	0.0
KIV				pmax	pmax		
	comp=Z,74nm,1.3s						
KAF	**Kangasniemi**	**147.64**	**338**	*ep*	PKPdf	13 50 19.1	+0.3
	comp=Z,20nm,0.7s						
SOC	**Sochi**	**148.67**	**299**	*i* PKP2	PKPbc	13 50 23.4	-1.5
SOC				*e*		13 53 54.0	
SOC				*e*PPP		13 57 12.1	
SOC				*e*SSS		14 18 31.6	
SOC				pmax	pmax		
	comp=Z,27nm,1.0s						
MALT	**Malatya**	**149.71**	**289**	⇑PKP2	PKPbc	13 50 27.6	-0.1
MALT	**Malatya**	**149.71**	**289**	⇑*i*P	PKPbc	13 50 27.5	-0.2
MALT	**Malatya**	**149.71**	**289**	*e*PKPbc	PKPbc	13 50 27.4	-0.2
ASF	**Jabal al Asfar**	**150.06**	**277**	PKPbc	PKPbc	13 50 29.0	+0.3
	comp=Z,13nm,0.8s,baz=318,slow=1.3,SNR=10						
VSU	**Vasula**	**150.14**	**333**	*i* PKHKP		13 50 26.7	
EIL	**Elat**	**151.02**	**271**	PKPbc	PKPbc	13 50 31.0	-0.1
	comp=Z,29nm,0.9s,baz=328,slow=1.6,SNR=14						
MMAI	**Mount Meron Ar**	**151.47**	**278**	PKPbc	PKPbc	13 50 32.8	+0.7
	comp=Z,30nm,0.7s,baz=72,slow=5.4,SNR=20						
LIC	**Lamto**	**151.78**	**167**	*e*PKIKP	PKPbc	13 50 33.1	-0.2
	comp=Z,21nm,0.7s						
LIC	**Lamto**	**151.78**	**167**	*e*PKIKP	PKPbc	13 50 33.4	+0.1
	comp=Z,111nm,1.4s						
KIC	**Kosan Boka**	**151.97**	**168**	*e*PKIKP	PKPbc	13 50 33.8	+0.1
	comp=Z,165nm,1.1s						
NB2	**NORSAR Subarra**	**152.17**	**349**	PKP	PKPbc	13 50 31.5	-1.2
	comp=Z,14nm,1.0s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**152.17**	**349**	PKPbc	PKPbc	13 50 31.6	-1.1
	comp=Z,3.6nm,0.8s,baz=20,slow=4.7,SNR=29						
TIC	**Toumodi**	**152.19**	**167**	*e*PKIKP	PKPbc	13 50 34.1	-0.1
	comp=Z,108nm,1.1s						
DBIC	**Dimbokro**	**152.25**	**167**	PKPbc	PKPbc	13 50 34.7	+0.4
	comp=Z,16nm,1.1s,baz=128,slow=3.6,SNR=6.5						
DBIC	**Dimbokro**	**152.25**	**167**	*e*PKPbc	PKPbc	13 50 34.0	-0.3
MNK	**Minsk**	**152.25**	**326**	*e*PKIKP	PKPbc	13 50 30.0	-3.0
NAO01	**NORSAR Array S**	**152.40**	**350**	PKPdf	PKPdf	13 50 25.9	-0.4
NAO01				*e*PKPbc	PKPbc	13 50 32.6	-0.6
NAO01				*e*PKPab	PKPab	13 50 41.5	-2.0
KIEV	**Kiev**	**153.60**	**318**	*e*PKPdf	PKPdf	13 50 29.4	+1.0
KOLS	**Kolonicke sedl**	**158.34**	**320**	*e*PKP	PKPab	13 51 11.0	+1.7
KOLS	**Kolonicke sedl**	**158.34**	**320**	*e*PKP	PKPab	13 51 11.0	+1.7
UZH	**Uzhgorod**	**158.50**	**319**	*e*PKP2	PKPab	13 50 58.2	-12
STHS	**Stebnicka Huta**	**158.59**	**322**	*e*PKP	PKPdf	13 50 33.3	-1.7
STHS				*e*		13 51 10.1	
STHS	**Stebnicka Huta**	**158.59**	**322**	*e*PKP	PKPdf	13 50 33.4	-1.6
STHS				*e*		13 51 10.1	
OJC	**Ojcow**	**158.77**	**325**	*e*PKP	PKPab	13 51 13.1	+2.0
CRVS	**Cervenica-Dubn**	**158.79**	**321**	*e*PKP	PKPab	13 51 15.0	+3.8
CRVS	**Cervenica-Dubn**	**158

RGRI Rengat 5.06 104 P **Pn 13 35 40.1 +1.4**
0.0nm,0.0s
IPM Ipoh 5.08 45 ⇓P **Pn 13 35 40.5 +1.5**
KULM Kulim 5.45 36 ⇑P **Pn 13 35 44.2 +0.2**
KGM Kluang 6.00 79 ⇓P **Pn 13 35 52.8 +1.0**
MYKOM Kota Tinggi 6.49 82 ⇑P **Pn 13 35 59.5 +1.1**
KSI Kapahiang 6.85 131 P **Pn 13 36 04.2 +0.8**
0.0nm,0.0s
TPRI Tanjung Pinang 7.11 90 P **Pn 13 36 07.0 +0.1**
0.0nm,0.0s
KTGM Kuala Trenggan 7.22 52 ⇑P **Pn 13 36 09.0 +0.6**
DSRI Dabo 7.28 101 P **Pn 13 36 09.3 0.0**
0.0nm,0.0s
TPI Tanjungpandan 10.85 109 P **Pn 13 36 59.5 +1.3**
0.0nm,0.0s
CBJI Citeko 11.88 128 P **Pn 13 37 16.2 +3.9**
0.0nm,0.0s
SBUM Sibu 14.88 84 ⇓P **Pn 13 37 54.8 +1.6**
BTM Bintulu 15.82 81 ⇑P **Pn 13 38 07.7 +2.0**
PLKI Palangkaraya 16.81 101 P **Pn 13 38 19.7 +1.5**
0.0nm,0.0s
CMAR Chiang Mai Arr 17.54 5 P **Pn 13 38 25.4 -1.9**
0.9nm,0.3s,baz=195,slow=13,SNR=40
CMAR LR LR 13 46 07.2
comp=Z,3μm,18.1s,baz=198,slow=40
PALK Pallekele 17.84 291 P **Pn 13 38 31.2 +0.1**
CHTO Chiang Mai 17.89 5 *e*P **Pn 13 38 29.4 -2.3**
BBKI Banjar Baru 17.94 104 P **Pn 13 38 30.7 -1.6**
0.0nm,0.0s
KKM Kota Kinabalu 19.44 74 ⇓P **Pn 13 38 51.4 +0.8**
KKM Kota Kinabalu 19.44 74 *e*P **Pn 13 38 49.4 -1.2**
KDM Kudat 20.27 72 ⇓P **P 13 38 58.3 +0.1**
SDKM Sandakan 20.30 76 ⇓P **P 13 38 58.9 +0.3**
TSM Tawau 20.71 80 ⇓P **P 13 39 01.9 -1.1**
MYLDM Lahad Datu 21.48 78 ⇑P **P 13 39 12.4 +1.1**
QIZ Qiongzhong 21.77 33 P **P 13 39 12.8 -1.6**
QIZ AMB AMB
comp=Z,18nm,1.0s,mb4.5
QIZ LR LR
comp=N,1μm,17.3s
QIZ LR LR
comp=Z,736nm,18.9s,MS4.1
QIZ Qiongzhong 21.77 33 *e*P **P 13 39 13.5 -0.9**
comp=Z,14nm,0.8s,mb4.5
KAPI Kappang 23.06 105 *e*P **P 13 39 26.7 -1.5**
comp=Z,44nm,1.1s,mb4.8
KMI Kunming 24.65 12 P **P 13 39 43.9 +0.8**
KMI XP sP 13 39 54.8 +0.5
KMI PPP 13 40 31.1
KMI AMB AMB
comp=Z,47nm,0.9s,mb5.0
KMI LR LR
comp=N,2μm,13.5s,MS5.0
KMI LR LR
comp=E,2μm,12.8s,MS5.0
KMI LR LR
comp=Z,3μm,14.1s,MS4.9
HYB Hyderabad 24.79 313 *i*P **P 13 39 54.0 +9.5**
HYB Hyderabad 24.79 313 *e*P **P 13 39 54.0 +9.5**
BBSI Bau Bau 25.90 104 P **P 13 39 54.2 -0.4**
comp=Z,0.0nm,0.0s
GYA Guiyang 26.95 19 P **P 13 40 06.3 +2.4**
GYA AP pP 13 40 14.3 +2.4
GYA XP sP 13 40 18.6 +3.4
GYA PP 13 40 52.0
GYA PCP PcP 13 43 27.4 +1.8
GYA AMB AMB
comp=Z,20nm,0.7s,mb4.8
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,480nm,17.8s,MS4.2
GYA LR LR
comp=E,470nm,17.6s,MS4.2
GYA LR LR
comp=Z,450nm,16.4s,MS4.1
ODAN Odare 27.58 340 *e*P **P 13 40 10.7 +1.1**
comp=Z,84nm,1.0s,mb5.3
TAPN Taplejung 27.93 341 *e*P **P 13 40 12.9 +0.2**
comp=Z,153nm,0.8s,mb5.7
RAMN Ramite 27.93 339 *e*P **P 13 40 15.0 +2.2**
BATI Baumata 28.34 114 P **P 13 40 15.7 -0.8**
comp=Z,17nm,0.5s,mb4.9,baz=270,slow=4.0,SNR=4.4
JIRN Jiri 28.73 339 *e*P **P 13 40 20.7 +0.9**
DAV Davao City (W) 28.74 77 LR LR 13 53 07.6
comp=Z,1μm,19.6s,MS4.5,baz=263,slow=39
PKI Pulchoki 28.34 338 *e*P **P 13 40 23.0 +1.3**
GUN Gumba 29.07 339 *e*P **P 13 40 23.9 +1.0**
DMN Daman 29.09 337 *e*P **P 13 40 25.7 +2.7**
comp=Z,49nm,1.0s,mb5.2
KKN Kakani 29.18 338 *e*P **P 13 40 26.3 +2.4**
comp=Z,26nm,0.7s,mb5.1
KKN Kakani 29.18 338 *e*P **P 13 40 26.3 +2.4**
KKN pmax pmax
comp=Z,26nm,0.6s,mb5.1
LSA Lhasa 29.28 349 P **P 13 40 25.6 +0.9**
LSA AMB AMB
comp=Z,20nm,0.8s,mb4.9
LSA Lhasa 29.28 349 *e*P **P 13 40 24.5 -0.2**
LSA pmax pmax
comp=Z,17nm,0.8s,mb4.8
LSA Lhasa 29.28 349 *e*P **P 13 40 24.5 -0.3**
comp=Z,17nm,0.8s,mb4.8
GKN Gorkha 29.62 337 *e*P **P 13 40 29.3 +1.5**
DANN Dangsing 30.29 336 *e*P **P 13 40 35.2 +1.5**
CD2 Chengdu 30.47 11 *e*P **P 13 40 36.9 +1.7**
CD2 AP pP 13 40 44.1 +0.9
CD2 XP sP 13 40 47.8 +1.3
CD2 PP PP 13 41 37.5 -6.9
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CD2 AMB AMB
comp=Z,20nm,5.8s
FITZ Fitzroy Crossi 33.56 126 *e*P **P 13 41 01.0 -1.5**
comp=Z,14nm,0.8s,mb5.0
LZH Lanzhou 35.54 9 *e*P **P 13 41 18.9 -0.5**
LZH AP pP 13 41 28.0 +0.5
LZH XP sP 13 41 32.3 +1.5
LZH AMB AMB
comp=Z,23nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,102nm,5.2s
LZH LR LR
comp=E,1μm,16.2s
LZH LR LR
comp=Z,1μm,18.0s,MS4.8
NJ2 Nanjing 37.03 31 *e*P **P 13 41 33.8 +1.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
KAKA Kakadu 37.27 112 *e*P **P 13 41 32.1 -2.5**
comp=Z,9,7nm,0.6s,mb4.8
THN Thein Dam 37.47 329 *e*P **P 13 41 34.1 -1.9**
SSE Sheshan 37.55 35 *e*P **P 13 41 36.5 -0.2**
SSE AP pP 13 41 45.4 +0.6
SSE S **S 13 47 24.9 +0.5**
SSE XS sS 13 47 38.8 +1.1
SSE AMB AMB
comp=Z,30nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,169nm,6.5s
SSE LR LR
comp=N,465nm,16.9s,MS4.4
SSE LR LR
comp=E,287nm,17.0s,MS4.4
SSE LR LR
comp=Z,740nm,14.8s,MS4.6
GTA Gaotai 38.42 3 P **P 13 41 43.3 -0.5**
GTA AP pP 13 41 50.4 -1.5
GTA XP sP 13 41 54.3 -0.9
GTA PP PP 13 43 15.3 +3.2
GTA AMB AMB
comp=Z,22nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,171nm,6.2s
GTA LR LR
comp=N,570nm,13.7s,MS4.7
GTA LR LR
comp=E,601nm,13.7s,MS4.7
GTA LR LR
comp=Z,526nm,13.7s,MS4.5
JOW Kunigami 39.30 46 P **P 13 41 51.1 -0.3**
comp=Z,39nm,0.6s,mb5.3,baz=238,slow=7.4,SNR=19
WRA Warramunga Arr 41.67 122 P **P 13 42 10.1 -1.1**
comp=Z,6.8nm,0.6s,mb4.5,baz=302,slow=9.5,SNR=13
WRAB Tennant Creek 41.68 122 ⇓*i*P **P 13 42 10.1 -1.2**
WRAB Tennant Creek 41.68 122 *e*P **P 13 42 09.7 -1.6**
WB2 Warramunga Arr 41.69 122 *e*P **P 13 42 10.1 -1.2**
HHC Hu-ho-hao-te 41.81 16 *e*P **P 13 42 11.6 -0.4**
HHC AP pP 13 42 20.8 +0.7
HHC XP sP 13 42 24.3 +0.9
HHC PP PP 13 43 53.5 +4.5
HHC AMB AMB
comp=Z,16nm,0.7s,mb4.8
HHC AMB AMB
comp=Z,178nm,8.8s
HHC LR LR
comp=N,1μm,16.7s,MS5.1
HHC LR LR
comp=E,1μm,14.3s,MS5.1
HHC LR LR
comp=Z,1μm,16.7s,MS4.9
ASAR Alice Springs 43.02 127 P **P 13 42 21.5 -0.6**
comp=Z,4.8nm,0.6s,mb4.4,baz=300,slow=7.7,SNR=26
WMQ Urumqi 43.63 350 P **P 13 42 26.9 +0.2**
WMQ AP pP 13 42 34.4 -0.5
WMQ XP sP 13 42 37.8 -0.3
WMQ PP PP 13 44 10.4 +1.8
WMQ PCP PcP 13 44 14.8 +1.0
WMQ SCP ScP 13 48 03.4 -0.4
WMQ *e*S **S 13 48 54.4 -0.3**
WMQ AMB AMB
comp=Z,19nm,0.8s,mb4.9
WMQ LR LR
comp=N,596nm,24.0s,MS4.6
WMQ LR LR
comp=E,502nm,20.9s,MS4.6
WMQ LR LR
comp=Z,542nm,18.0s,MS4.5
DL2 Dalian 43.86 27 ⇑P **P 13 42 28.4 -0.3**
DL2 AP pP 13 42 36.8 0.0
DL2 *e*S **S 13 48 58.4 +0.2**
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
DL2 LR LR
comp=N,340nm,16.8s,MS4.5
DL2 LR LR
comp=E,310nm,16.6s,MS4.5
DL2 LR LR
comp=Z,550nm,15.0s,MS4.6
KSRS Korea Array 45.99 34 P **P 13 42 44.6 -1.0**
comp=Z,15nm,0.7s,mb5.0,baz=218,slow=9.1,SNR=57
FRU Bishkek 46.51 337 *e*P **P 13 42 50.0 +0.4**
FRU MLR MLR
comp=Z,500nm,20.0s,MS4.5
SONM Songino Array 47.42 8 P **P 13 42 56.5 -0.1**
comp=Z,9.0nm,0.8s,mb4.8,baz=190,slow=8.6,SNR=35
SONM PcP PcP 13 44 26.9 0.0
comp=Z,3.5nm,1.0s,baz=189,slow=4.9,SNR=2.6
MK31 Makanchi Array 47.61 346 P **P 13 42 57.9 -0.2**
MK31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MKAR Makanchi Array 47.61 346 P **P 13 42 58.0 -0.1**
comp=Z,12nm,0.5s,mb5.2,baz=158,slow=7.6,SNR=72
KK31 Karatay Array 48.45 334 *i*P **P 13 43 04.4 -0.3**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
CN2 Changchun 49.49 27 ⇑P **P 13 43 11.8 -0.9**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,14.0s,MS5.0
CN2 LR LR
comp=E,600nm,14.0s,MS5.0
CN2 LR LR
comp=Z,1μm,14.0s,MS5.1
ZAK Zakamensk 49.58 5 ⇓*i*P **P 13 43 12.3 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
HVS Khovu-Aksy 50.18 357 ⇓*i*P **P 13 43 17.5 -0.3**
HVS pmax pmax
comp=Z,17nm,1.0s,mb5.0
MOY Mondy 50.70 3 *e*P **P 13 43 22.0 +0.3**
MOY pmax pmax
comp=Z,21nm,2.5s,mb4.6
TLY Talaya 50.90 5*c i*P **P 13 43 23.0 -0.2**
TLY pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TLY Talaya 50.90 5 *e*P **P 13 43 23.3 +0.1**
comp=Z,8.2nm,0.8s,mb4.7
MAT Matsushiro 51.78 42 P **P 13 43 27.7 -2.4**
MJAR Matsushiro Arr 51.78 42 P **P 13 43 28.8 -1.3**
comp=Z,6.5nm,0.8s,mb4.6,baz=221,slow=6.0,SNR=20
MJAR PcP PcP 13 44 43.6 +0.5
comp=Z,2.1nm,1.0s,baz=214,slow=4.3,SNR=2.5
HIA Hailar 51.88 18*c i*P **P 13 43 30.0 -0.6**
MDJ Mudanjiang 52.04 29 P **P 13 43 33.8 +1.9**
MDJ AMB AMB
comp=Z,12nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,182nm,7.6s
MDJ LR LR
comp=N,578nm,13.9s,MS4.8
MDJ LR LR
comp=E,381nm,16.9s,MS4.8
MDJ LR LR
comp=Z,487nm,19.4s,MS4.5
VLA Vladivostok 52.13 32 *e*P **P 13 43 27.6 -5.0**
VLA *e**PP pP 13 43 39.5 -1.4
VLA pmax pmax
comp=Z,21nm,1.8s,mb4.8
VLA MLR MLR
comp=Z,600nm,13.2s,MS4.8
CTA Charters Tower 52.16 116 *e*P **P 13 43 32.9 -0.3**
comp=Z,4.7nm,0.9s,mb4.4
CTA Charters Tower 52.16 116 P **P 13 43 32.5 -0.7**
comp=Z,7.8nm,1.0s,mb4.6,baz=270,slow=7.1,SNR=3.3
CTA Charters Tower 52.16 116 *e*P **P 13 43 32.9 -0.3**
CTA pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 52.16 345 ⇑*e*P **P 13 43 32.4 -0.3**
KURK pmax pmax
comp=Z,13nm,0.9s,mb4.9
KURK Kurchatov 52.16 345 *e*P **P 13 43 31.8 -0.9**
comp=Z,11nm,1.0s,mb4.8
STKA Stephens Creek 52.97 132 *e*P **P 13 43 39.4 +0.3**
comp=Z,9.3nm,0.6s,mb4.9
STKA Stephens Creek 52.97 132 P **P 13 43 39.6 +0.5**
comp=Z,8.7nm,0.6s,mb4.8,baz=307,slow=7.3,SNR=27
STKA pP pP 13 43 46.4 -0.9
comp=Z,11nm,0.6s,baz=317,slow=6.9,SNR=12
OPO Ambohidratompo 52.99 246 P **P 13 43 40.2 +0.8**
comp=Z,4.8nm,0.9s,mb4.4,baz=69,slow=10,SNR=3.2
ZAL Zalesovo 53.91 351 P **P 13 43 45.2 -0.3**
ZALV Zalesovo Beam 53.91 351 P **P 13 43 45.2 -0.3**
comp=Z,14nm,0.4s,mb5.3,baz=175,slow=5.7,SNR=63
ZALV Zalesovo Beam 53.91 351 P **P 13 43 45.2 -0.3**
NVS Novosibirsk 55.03 350 ⇑*i*P **P 13 43 52.2 -1.4**
NVS pmax pmax
comp=Z,17nm,1.5s,mb4.8
NVS pmax pmax
comp=N,11nm,1.7s
KRAR Krasnoyarsk 55.09 357 ⇓*i*P **P 13 43 53.9 -0.1**
KRAR pmax pmax
comp=Z,48nm,1.3s,mb5.4
BVA0 Borovoye Array 56.63 341 *i*P **P 13 44 03.9 -1.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BVAR Borovoye Array 56.63 341 P **P 13 44 04.2 -0.9**
comp=Z,7.5nm,0.9s,mb4.7,baz=142,slow=7.5,SNR=22
BVAR pP pP 13 44 11.4 -2.1
comp=Z,9.0nm,0.7s,baz=149,slow=9.7,SNR=13
BRVK Borovoye 56.69 341 *e*P **P 13 44 03.7 -1.9**
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.9
BRVK Borovoye 56.69 341 *e*P **P 13 44 03.7 -1.9**
comp=Z,11nm,0.9s,mb4.9
AB31 Akbulak array 57.90 332 *i*P **P 13 44 13.2 -1.0**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
BOD Bodaibo 58.29 10 *e*P **P 13 44 16.1 -0.6**
BOD pmax pmax
comp=Z,14nm,0.9s,mb5.0
AKTK Aktyubinsk 59.62 332 P **P 13 44 26.2 0.0**
AKTO Aktyubinsk 59.62 332 P **P 13 44 26.2 0.0**
comp=Z,2.4nm,0.8s,mb4.3,baz=148,slow=5.4,SNR=5.8
KMBO Kilima Mbogo 60.20 268 P **P 13 44 32.4 +1.6**
comp=Z,0.8nm,0.2s,mb4.3,baz=219,slow=20,SNR=2.7
YSS Yuzh-Sakhalins 60.49 34 ⇑*e*P **P 13 44 31.0 -1.2**
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 60.49 34 *e*P **P 13 44 31.8 -0.4**
comp=Z,21nm,0.9s,mb5.2
SVE Sverdlovsk 63.07 338 *e*P **P 13 44 48.9 -0.4**
SVE pmax pmax
comp=Z,14nm,1.0s,mb5.0
ARU Arti 63.57 337*d i*P **P 13 44 52.8 +0.2**
ARU *e*S **S 13 53 26.1 +1.6**
ARU pmax pmax
comp=Z,12nm,1.7s,mb4.7
ARU Arti 63.57 337 *e*P **P 13 44 51.3 -1.3**
comp=Z,6.1nm,0.8s,mb4.7
KIV Kislovodsk 64.70 319 ⇑*i*P **P 13 45 00.9 +0.6**
KIV pmax pmax
comp=Z,14nm,1.0s,mb5.0
YAK Yakutsk 65.67 16 *e*P **P 13 45 04.8 -1.5**
YAK *e**PP pP 13 45 14.9 +0.1
YAK *e* 13 45 33.9
YAK *e*S S 13 53 47.1 -3.2
YAK *e* 13 54 57.4
YAK pmax pmax
comp=Z,32nm,1.0s,mb5.3
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK smax
comp=N,135nm,6.2s
YAK smax
comp=E,31nm,2.5s
YAK MLR MLR
comp=Z,936nm,17.0s,MS5.1
YAK MLR MLR
comp=N,476nm,14.0s,MS5.0
YAK MLR MLR
comp=E,358nm,12.0s,MS5.0
YAK Yakutsk 65.67 16 *e*P **P 13 45 04.6 -1.6**
comp=E,31nm,0.8s,mb5.4
LSZ Lusaka 70.23 254 P **P 13 45 35.5 -0.4**
comp=E,1.4nm,0.9s,mb3.9,baz=37,slow=5.1,SNR=2.6
LSZ LR LR 14 13 51.9
comp=E,543nm,18.1s,MS4.8,baz=181,slow=34
SIM Simferopol' 70.75 318 *e*P **P 13 45 45.0 +6.5**
SIM pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
PETK Petropavlovsk- 71.88 33 P **P 13 45 44.4 -0.7**
comp=Z,3.9nm,0.8s,mb4.4,baz=180,slow=5.8,SNR=5.0
PETK Petropavlovsk- 71.88 33 P **P 13 45 44.4 -0.7**
PET Petropavlovsk 72.38 34 *e*P **P 13 45 47.4 -0.7**
PET *e*S S 13 55 11.8 +1.8
PET pmax pmax
comp=Z,20nm,0.7s,mb5.2
PET pmax pmax
comp=Z,100nm,12.4s
PET MLR MLR
comp=Z,1μm,20.0s,MS5.2
PET Petropavlovsk 72.38 34 *e*P **P 13 45 47.1 -1.0**
comp=Z,9.9nm,0.6s,mb4.9
OBN Obninsk 73.01 328 ⇑*i*P **P 13 45 50.5 -1.3**
OBN pmax pmax
comp=Z,23nm,1.4s,mb4.9
OBN MLR MLR
comp=Z,300nm,23.0s,MS4.5
TIXI Tiksi 73.47 10*c i*P **P 13 45 52.6 -1.6**
TIXI pmax pmax
comp=Z,17nm,1.0s,mb4.9
TIXI MLR MLR
comp=Z,557nm,15.0s,MS5.0
SEY Seymchan 73.97 23 ⇑*e*P **P 13 45 56.6 -0.7**
TIRR Tirgusor 74.51 316 ⇑*i*P **P 13 46 07.6 +6.7**
BOSA Boshof 74.81 240 P **P 13 46 03.0 +0.1**
comp=Z,4.9nm,0.9s,mb4.4,baz=65,slow=6.4,SNR=4.8
AKASG Malin Array Be 75.65 322 P **P 13 46 06.1 -1.2**
comp=Z,1.0nm,0.3s,mb4.2,baz=88,slow=5.1,SNR=11
AKASG pP pP 13 46 13.1 -2.8
comp=Z,3.3nm,0.7s,baz=87,slow=4.4,SNR=5.3
AKASG Malin Array Be 75.65 322 P **P 13 46 06.1 -1.2**
AKASG pP pP 13 46 13.1 -2.8
BURAR Bucovina Array 77.41 319 ⇓*i*P **P 13 46 18.1 +0.7**
BURAR Bucovina Array 77.41 319 ⇓P **P 13 46 18.1 +0.8**
GZR Gura Zlata 78.62 316 ⇓*i*P **P 13 46 26.1 +2.0**
GZR Gura Zlata 78.62 316 ⇓P **P 13 46 26.1 +2.0**
RPZ Rata Peaks 78.82 135 P **P 13 46 25.6 +0.3**
comp=Z,5.6nm,0.6s,mb4.7,baz=234,slow=5.3,SNR=6.3
DRGR 78.92 318 ⇓*i*P **P 13 46 26.7 +1.0**
DRGR 78.92 318 ⇓P **P 13 46 26.7 +0.9**
SUR Sutherland 79.17 237 LR LR 14 18 04.7
comp=Z,376nm,18.9s,MS4.8,baz=32,slow=33
BZS Buzias 79.46 316 ⇑*i*P **P 13 46 35.6 +6.9**
BZS Buzias 79.46 316 ⇑P **P 13 46 35.6 +6.9**
KOLS Kolonicke sedl 79.61 320 *e*P **P 13 46 30.0 +0.6**
CRVS Cervenica-Dubn 80.13 319 *e*P **P 13 46 32.0 -0.3**
STHS Stebnicka Huta 80.36 320 *e*P **P 13 46 34.6 +1.1**
STHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
STHS Stebnicka Huta 80.36 320 *e*P **P 13 46 34.6 +1.1**
comp=Z,5.2nm,1.0s,mb4.4
TSUM Tsumeb 80.69 250 LR LR 14 23 00.4
comp=Z,227nm,18.2s,MS4.6,baz=318,slow=36
KECS Kecovo 80.70 319 *e*P **P 13 46 36.3 +1.0**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 80.70 319 *e*P **P 13 46 36.3 +1.0**
comp=Z,2.7nm,1.0s,mb4.1
PSZ Piszkesteto 81.00 318 ⇓*i*P **P 13 46 37.8 +0.9**
PSZ Piszkesteto 81.00 318 ⇓P **P 13 46 37.8 +0.9**
BILL Bilibino 81.39 21 *e*P **P 13 46 38.9 +0.3**
BILL pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
OJC Ojcow 81.42 321 *e*P **P 13 46 39.2 +0.1**
PKSM Moragy 81.61 316 ⇑*i*P **P 13 46 40.4 +0.2**
PKSM Moragy 81.61 316 ⇑P **P 13 46 40.4 +0.2**
MORC Moravsky Berou 82.79 320 *e*P **P 13 46 46.4 0.0**
MORC pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
MORC Moravsky Berou 82.79 320 *e*P **P 13 46 46.4 0.0**
comp=Z,5.5nm,1.3s,mb4.4
ZST Bratislava 82.89 318 *e*P **P 13 46 52.7 +5.8**
ZST pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ZST Bratislava 82.89 318 *e*P **P 13 46 52.7 +5.8**
comp=Z,6.7nm,0.8s,mb4.7
ARCES ARCESS Array B 82.92 340 P **P 13 46 46.3 -0.3**
comp=Z,7.8nm,1.1s,mb4.7,baz=102,slow=5.0,SNR=18
DPC Dobruska-Polom 83.64 320 *e*P **P 13 46 51.0 +0.3**
DPC *e*pP pP 13 46 58.4 -1.0
PRU Pruhonice 84.75 320 *e*P **P 13 46 56.7 +0.4**
PRU *e*pP pP 13 47 03.1 -2.0
BRG Berggiesshubel 85.20 321 *e*P **P 13 46 58.7 +0.1**
BRG *e* pP 13 47 06.3 -1.0
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb4.2
BRG Berggiesshubel 85.20 321 *e*P **P 13 46 58.7 +0.1**
comp=Z,3.8nm,1.0s,mb4.5
BRG *e* pP 13 47 06.3 -1.1
comp=Z,6.0nm,1.2s
GERES GERESS Array B 85.20 319 P **P 13 46 58.6 0.0**
comp=Z,2.1nm,0.7s,mb4.4,baz=101,slow=4.2,SNR=18
GERES pP pP 13 47 06.1 -1.3
comp=Z,4.0nm,0.9s,baz=103,slow=5.8,SNR=12
KHC Kasperske Hory 85.31 319 *e*P **P 13 46 59.8 +0.6**
KHC *e* pP 13 47 06.7 -1.2
KHC Kasperske Hory 85.31 319 *e*P **P 13 46 59.8 +0.6**
KHC *e*pP pP 13 47 06.7 -1.2
KHC *e*x x 13 47 25.0
CLL Collm 85.82 321 *e*P **P 13 47 01.0 -0.7**
CLL *e*pP pP 13 47 09.0 -1.4
CLL Collm 85.82 321 *e*P **P 13 47 00.0 -1.7**
CLL *e*pP pP 13 47 09.0 -1.4
GRA1 Grafenberg Arr 86.87 320 *e*P **P 13 47 06.7 -0.2**
comp=Z,6.0nm,0.7s,mb4.9
GRA1 *e*pP pP 13 47 14.3 -1.3
GRF Grafenberg Arr 86.87 320 *e*P **P 13 47 06.7 -0.2**
GRF *e**PP pP 13 47 14.3 -1.3
GRF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
GRF Grafenberg Arr 86.87 320 *e*P **P 13 47 06.7 -0.2**
GRF *e**PP pP 13 47 14.3 -1.3
GRF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
GRF Grafenberg Arr 86.87 320 *e*P **P 13 47 06.7 -0.2**
comp=Z,6.0nm,0.7s,mb4.9
GRF *e*pP pP 13 47 14.3 -1.3
NB2 NORSAR Subarra 87.40 331 P **P 13 47 08.4 -0.8**
comp=Z,4.2nm,1.0s,mb4.6,baz=92,slow=5.3

NOA	**NORSAR Array B**	**87.40**	**331**	P	**P**	**13 47 08.2**	**-1.0**
	comp=Z,1.9nm,0.7s,mb4.4,baz=94,slow=5.1,SNR=7.1						
NOA				pP	pP	13 47 15.9	-2.0
	comp=Z,3.1nm,0.9s,baz=94,slow=4.9,SNR=6.7						
CDF	**Champ du Feu**	**89.45**	**318**	*e*P	**P**	**13 47 19.8**	**+0.6**
LPL	**La Plagne**	**89.87**	**315**	*e*P	**P**	**13 47 21.5**	**+0.3**
	comp=Z,17nm,1.0s,mb5.0						
LPL	**La Plagne**	**89.87**	**315**	*e*P	**P**	**13 47 21.5**	**+0.3**
LPL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
LPL	**La Plagne**	**89.87**	**315**	*e*P	**P**	**13 47 21.5**	**+0.3**
	comp=Z,8.6nm,1.0s,mb5.0						
FRF	**La Foret Royal**	**89.97**	**313**	*e*P	**P**	**13 47 21.9**	**+0.2**
	comp=Z,35nm,1.1s,mb5.3						
FRF	**La Foret Royal**	**89.97**	**313**	*e*P	**P**	**13 47 21.9**	**+0.2**
FRF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.3						
FRF	**La Foret Royal**	**89.97**	**313**	*e*P	**P**	**13 47 21.9**	**+0.2**
	comp=Z,18nm,1.1s,mb5.3						
LMR	**La Mourre**	**90.07**	**313**	*e*P	**P**	**13 47 22.2**	**0.0**
	comp=Z,47nm,1.2s,mb5.4						
LMR	**La Mourre**	**90.07**	**313**	*e*P	**P**	**13 47 22.2**	**0.0**
LMR				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.4						
LMR	**La Mourre**	**90.07**	**313**	*e*P	**P**	**13 47 22.2**	**0.0**
	comp=Z,24nm,1.2s,mb5.4						
BAIF	**Baives**	**91.41**	**320**	*e*P	**P**	**13 47 28.8**	**+0.5**
	comp=Z,30nm,1.0s,mb5.3						
BAIF	**Baives**	**91.41**	**320**	*e*P	**P**	**13 47 28.8**	**+0.5**
BAIF				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.3						
BAIF	**Baives**	**91.41**	**320**	*e*P	**P**	**13 47 28.8**	**+0.5**
	comp=Z,15nm,1.0s,mb5.3						
LOR	**Lormes**	**91.79**	**317**	*e*P	**P**	**13 47 30.1**	**0.0**
	comp=Z,34nm,1.2s,mb5.2						
LOR	**Lormes**	**91.79**	**317**	*e*P	**P**	**13 47 30.1**	**0.0**
LOR				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.2						
LOR	**Lormes**	**91.79**	**317**	*e*P	**P**	**13 47 30.1**	**0.0**
	comp=Z,17nm,1.2s,mb5.3						
SMF	**Signal de Mont**	**91.84**	**317**	*e*P	**P**	**13 47 30.3**	**0.0**
	comp=Z,39nm,1.2s,mb5.3						
SMF	**Signal de Mont**	**91.84**	**317**	*e*P	**P**	**13 47 30.3**	**0.0**
SMF				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.3						
SMF	**Signal de Mont**	**91.84**	**317**	*e*P	**P**	**13 47 30.3**	**0.0**
	comp=Z,20nm,1.2s,mb5.3						
SSF	**Saint Saulge**	**92.04**	**317**	*e*P	**P**	**13 47 30.8**	**-0.5**
AVF	**Avril sur Loir**	**92.16**	**317**	*e*P	**P**	**13 47 32.0**	**+0.1**
	comp=Z,16nm,1.1s,mb5.0						
AVF	**Avril sur Loir**	**92.16**	**317**	*e*P	**P**	**13 47 32.0**	**+0.1**
AVF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.0						
AVF	**Avril sur Loir**	**92.16**	**317**	*e*P	**P**	**13 47 32.0**	**+0.1**
	comp=Z,7.9nm,1.1s,mb5.0						
BGF	**Bois d'Agland**	**92.53**	**316**	*e*P	**P**	**13 47 34.1**	**+0.6**
	comp=Z,61nm,1.2s,mb5.6						
BGF	**Bois d'Agland**	**92.53**	**316**	*e*P	**P**	**13 47 34.1**	**+0.6**
BGF				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.6						
BGF	**Bois d'Agland**	**92.53**	**316**	*e*P	**P**	**13 47 34.1**	**+0.6**
	comp=Z,30nm,1.2s,mb5.6						
NVAR	**Mina Array Bea**	**128.92**	**36**	PKP	PKPdf	13 53 31.1	+0.8
	comp=Z,0.8nm,0.9s,baz=224,slow=1.4,SNR=4.6						
NVAR				pPKP	pPKPdf	13 53 39.6	+0.3
	comp=Z,1.3nm,0.9s,baz=268,slow=3.9,SNR=4.9						
TXAR	**Lajitas Array**	**143.83**	**32**	PKP	PKPdf	13 53 56.0	-2.1
	comp=Z,0.8nm,0.7s,baz=328,slow=0.6,SNR=7.5						
TXAR	**Lajitas Array**	**143.83**	**32**	PKP	PKPdf	13 53 56.0	-2.1
JCT	**Junction City**	**144.77**	**26**	*e*PKIKP	PKPdf	13 53 58.3	-1.4
GOGA	**Godfrey**	**145.89**	**1**	*e*PKP2	PKPab	13 54 01.0	-1.5
CFAA	**Coronel Fontan**	**146.56**	**203**	PKPbc	PKPbc	13 54 04.0	-0.2
	comp=Z,0.4nm,0.6s,baz=146,slow=4.3,SNR=7.0						
CFAA				pPKPbc	pPKPbc	13 54 12.7	-0.4
	comp=Z,0.8nm,0.7s,baz=150,slow=4.1,SNR=7.7						
CFAA	**Coronel Fontan**	**146.56**	**203**	PKPbc	PKPbc	13 54 04.0	-0.2
CFAA				pPKPbc	pPKPbc	13 54 12.7	-0.4
SIV	**San Ignacio**	**154.01**	**234**	PKPbc	PKPbc	13 54 23.0	+0.2
	comp=Z,1.0nm,0.8s,baz=108,slow=6.4,SNR=4.0						

MAN 19 13:41:23, 1518N×12171E, h20km, mb4.0, ML2.7, MS2.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.50**	**154**	*e*P	Pb	13 41 34.4	+1.3
POLP				eS	Sb	13 41 45.2	+5.2
BALP	**Baler**	**0.57**	**347**	*e*P	Pb	13 41 33.3	-1.1
PCPH	**Palayan**	**0.70**	**303**	⇑*i*P	Pb	13 41 38.3	+1.7
PCPH				*i* S	Sb	13 41 49.5	+3.7
CAUP	**Cauayan**	**1.76**	**4**	*e*P	Pn	13 41 52.8	+0.4

BJI ***19*** *13:44:00.0, 2077S×17068E, h87km, mB5.2, mb5.4, Ms5.2, Msz4.9*
DJA ***19*** *13:44:02, 2089S×16976E, h44km, mb6.1/35*
NEIC ***19*** *13:44:04.8±0.1, 2066S×16970E, mb5.7/62, Error ellipse: s-maj=5.7km s-min=3.8km az=160.0*
BGS ***19*** *13:44:04.8±5.1, 2066S×16970E, h88km, mb5.7(NEIC)*
GCMT ***19*** *13:44:04.8±0.1, 2051S×16966E, h101km±1km, MW5.6/108, Moment Tensor Solution. s88,c162; s108,c235; Duration: 1s5 Moment tensor: Scale 10^17 Nm; M_{rr}=2.04±.04; $M_{\theta\theta}$1.09±.04; $M_{\phi\phi}$0.95±.05; $M_{r\theta}$0.70±.03; $M_{\theta\phi}$0.88±.04; $M_{\phi r}$1.91±.03; Best double couple: M_0=2.82300×10^17 NP1:ϕ_s=60.00000°, δ25.00000°, λ-62.00000°. NP2:ϕ_s=209.00000°, δ68.00000°, λ-102.00000°. Principal axes: T 2.6610, Plg22.0000°, Azm308.0000°; N 0.3320, Plg11.0000°, Azm214.0000°; P -2.9850, Plg65.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***19*** *13:44:04.5±0.1, 2059S±004×16968E±003, h88km, mb5.5/99 Error ellipse: s-maj=5.3km s-min=3.6km az=164.2*
MOS ***19*** *13:44:04.0±1.0, 2059S×16971E, h84km, mb5.5/40, Error ellipse: s-maj=7.9km s-min=6.8km az=143.1*
IDC ***19*** *13:44:05.8±0.4, 2061S×16973E, h92km±2km, mb5.1/22, mb1 5.3/26, mb1mx5.3/26, mbtmp5.2/26, MS4.8/17, Ms1 4.8/17, ms1mx4.6/26, Error ellipse: s-maj=10.6km s-min=9.2km az=4.0*
SZGRF ***19*** *13:44:07.5, 1974S×17104E, h92km, Vanuatu Islands region*

ISC 19 13:44:06.1±0.1, 2062S±004×16973E±003, h90km, h90km±1.0km: pP-P, n828, σ0.990/324, mb5.5/99, 48C-49D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.39**	**244**	*e*P	**Pn**	**13 44 56.8**	**0.0**
DZM				eS	**Sn**	**13 45 27.5**	**-8.5**
RAO	**Raoul Island**	**14.11**	**130**	P	**Pn**	**13 47 22.8**	**+1.0**
	101nm,0.3s,baz=300,slow=20,SNR=4.4						
HNR	**Honiara**		**14.59**	**318**	P	**Pn**	**13 47 28.9**	**+0.9**
	41nm,0.3s,baz=239,slow=0.8,SNR=37						
HNR				LR	LR	13 51 02.7	
	comp=Z,3μm,21.6s,baz=180,slow=29						
HNR	**Honiara**	**14.59**	**318**	P	**Pn**	**13 47 28.9**	**+0.9**
HNR				pmax	pmax		
	comp=Z,41nm,0.3s						
HNR				MLR	MLR		
	comp=Z,3μm,21.6s						
HNR	**Honiara**	**14.59**	**318**	*e*P	**Pn**	**13 47 28.1**	**0.0**
	comp=Z,2μm,0.9s						
URZ	**Urewera**	**18.70**	**162**	P	**Pn**	**13 48 19.0**	**+0.3**
	comp=Z,4.3nm,0.3s,baz=347,slow=5.6,SNR=33						
URZ				LR	LR	13 52 57.4	
	comp=Z,1μm,21.4s,baz=155,slow=28						
AFI	**Afiamalu**	**18.87**	**72**	P	**Pn**	**13 48 19.5**	**-1.3**
	comp=Z,28nm,0.3s,baz=55,slow=1.5,SNR=75						
AFI				LR	LR	13 53 43.7	
	comp=Z,2μm,19.2s,baz=261,slow=31						
AFI	**Afiamalu**	**18.87**	**72**	*e*P	**Pn**	**13 48 17.6**	**-3.3**
	comp=Z,2μm,1.0s						
ARMA	**Armidale**	**19.01**	**236**	*e*P	**Pn**	**13 48 23.8**	**+1.4**
SNZO	**South Karori**	**21.05**	**170**	*e*P	**P**	**13 48 44.0**	**+1.3**
	comp=Z,266nm,1.3s,mb5.4						
RIV	**Riverview**	**21.07**	**228**	*e*P	**P**	**13 48 44.6**	**+1.6**
CTA	**Charters Tower**	**22.02**	**267**	⇑*i*P	**P**	**13 48 53.8**	**+0.6**
	comp=Z,56nm,0.7s,mb5.0						
CTA				*e*pP		13 49 14.7	
CTA				*e*PCP	PcP	13 52 19.0	-29
CTA				*e*S	**S**	**13 52 51.8**	**+0.8**
CTA				*e*SCP	ScP	13 56 16.7	-1.0
CTA				*e*PCS	PcS	13 56 23.4	-3.7
CTA	**Charters Tower**	**22.02**	**267**	P	**P**	**13 48 54.0**	**+0.7**
	comp=Z,101nm,0.8s,mb5.2,baz=92,slow=12,SNR=79						
CTA				PcP	PcP	13 52 47.4	-1.0
	comp=Z,21nm,1.0s,baz=136,slow=4.2,SNR=3.1						
CTA	**Charters Tower**	**22.02**	**267**	⇑*i*P	**P**	**13 48 53.8**	**+0.6**
CTA				*e**PP		13 49 14.7	
CTA				*e*S	**S**	**13 52 51.8**	**+0.8**
CTA				pmax	pmax		
	comp=Z,56nm,0.7s						
CTAO	**Charters Tower**	**22.02**	**267**	*e*P	**P**	**13 48 54.0**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,270nm,1.1s,mb5.5						
CTAO	**Charters Tower**	**22.02**	**267**	*e*P	**P**	**13 48 54.0**	**+0.8**
	comp=Z,270nm,1.1s,mb5.5						
RPZ	**Rata Peaks**	**23.06**	**178**	P	**P**	**13 49 04.6**	**+0.9**
	comp=Z,43nm,0.6s,mb4.9,baz=349,slow=3.1,SNR=26						
RPZ				LR	LR	13 56 04.7	
	comp=Z,3μm,21.1s,baz=342,slow=31						
RPZ	**Rata Peaks**	**23.06**	**178**	P	**P**	**13 49 04.6**	**+0.9**
RPZ				LR	LR	13 56 04.7	
CNB	**Canberra Magne**	**23.13**	**226**	*e*P	**P**	**13 49 05.5**	**+1.1**
CNB				*e*pP		13 49 25.9	
CNB				*e*S	S	13 53 39.7	+31
CNB				*e*SCP	ScP	13 56 21.4	+1.1
CNB				*e*PCS	PcS	13 56 30.6	+1.0
CAN	**Canberra**	**23.38**	**227**	*e*P	**P**	**13 49 07.3**	**+0.6**
PMG	**Port Moresby**	**24.45**	**294**	*c i*P	**P**	**13 49 16.5**	**-0.2**
PMG	**Port Moresby**	**24.45**	**294**	*e*P	**P**	**13 49 16.3**	**-0.4**
TOO	**Toolangi**	**26.97**	**226**	*e*P	**P**	**13 49 40.0**	**+0.7**
TOO				*e*pP	pP	13 50 00.0	+0.4
TOO				*e*PCP	PcP	13 52 59.2	+0.3
STKA	**Stephens Creek**	**27.53**	**240**	⇑*i*P	**P**	**13 49 45.2**	**+0.8**
	comp=Z,44nm,0.6s,mb5.2						
STKA				*e*pP	pP	13 50 06.1	+1.4
STKA				*i* PCP	PcP	13 53 00.5	+0.1
STKA				*e*		13 53 27.0	
STKA				*i* SCP	ScP	13 56 33.5	+0.5
STKA				*e*PCS	PcS	13 56 39.1	-3.2
STKA				*e*		13 57 08.6	
STKA				*e*SCS	ScS	14 00 23.5	-1.4
STKA	**Stephens Creek**	**27.53**	**240**	P	**P**	**13 49 45.3**	**+0.9**
	comp=Z,71nm,0.8s,mb5.2,baz=82,slow=9.9,SNR=160						
STKA				PcP	PcP	13 53 00.6	+0.3
	comp=Z,80nm,1.0s,baz=57,slow=3.0,SNR=8.6						
STKA				ScP	ScP	13 56 33.7	+0.7
	comp=Z,22nm,1.0s,baz=56,slow=4.2,SNR=8.2						
STKA				LR	LR	13 59 31.0	
	comp=Z,2μm,19.2s,baz=54,slow=34						
STKA				PKiKP	PKiKP	14 00 35.0	-2.1
	comp=Z,2.3nm,1.0s,baz=278,slow=8.9,SNR=4.2						
RAR	**Rarotonga**	**28.47**	**97**	LR	LR	13 57 46.9	
	comp=Z,1μm,19.4s,baz=277,slow=29						
TAU	**Tasmania Unive**	**29.11**	**215**	*e*P	**P**	**13 49 58.9**	**+0.7**
WB2	**Warramunga Arr**	**33.16**	**265**	*e*P	**P**	**13 50 32.8**	**-1.3**
WB2				*e*PCP	PcP	13 53 14.6	-0.7
WB2				*e*S	**S**	**13 55 43.3**	**-4.0**
WB2				*e*PCS	PcS	13 56 58.8	-2.3
WB2				*e*SCS	ScS	14 00 48.9	-3.6
WB2				*e*		14 01 16.4	
WRAB	**Tennant Creek**	**33.16**	**265**	P	**P**	**13 50 32.9**	**-1.2**
	comp=Z,518nm,0.8s,mb6.4,SNR=64						
WRAB	**Tennant Creek**	**33.16**	**265**	*e*P	**P**	**13 50 32.9**	**-1.2**
WRAB				*e*		13 53 14.7	
WRAB				pmax	pmax		
	comp=Z,136nm,1.2s,mb5.7						
WRAB	**Tennant Creek**	**33.16**	**265**	*e*P	**P**	**13 50 32.9**	**-1.2**
	comp=Z,136nm,1.2s,mb5.7						
WRAB				*e*PcP	PcP	13 53 14.7	-0.6
WRA	**Warramunga Arr**	**33.17**	**265**	P	**P**	**13 50 33.3**	**-0.9**
	comp=Z,48nm,0.6s,mb5.5,baz=90,slow=8.5,SNR=218						
WRA				pP	pP	13 50 53.7	-1.1
	comp=Z,39nm,1.0s,baz=94,slow=8.8,SNR=5.8						
WRA				PcP	PcP	13 53 14.5	-0.8
	comp=Z,31nm,1.0s,baz=98,slow=1.7,SNR=8.2						
WRA				S	**S**	**13 55 44.3**	**-3.2**
	comp=Z,18nm,1.2s,baz=101,slow=20,SNR=8.6						
WRA				ScP	ScP	13 56 50.3	-1.3
	comp=Z,9.2nm,1.1s,baz=94,slow=3.2,SNR=5.3						
WRA				PKiKP	PKiKP	14 00 38.8	-2.5
	comp=Z,2.9nm,0.8s,baz=41,slow=0.2,SNR=12						
WRA				LR	LR	14 02 16.5	
	comp=Z,2μm,18.7s,baz=105,slow=33						
WRA				P3KPbc		14 21 48.0	
	comp=Z,1.0nm,0.9s,baz=301,slow=3.2,SNR=5.0						
WRA	**Warramunga Arr**	**33.17**	**265**	P	**P**	**13 50 33.3**	**-0.9**
WRA				*PP	pP	13 50 53.7	-1.1
WRA						13 53 14.5	
WRA				S	**S**	**13 55 44.3**	**-3.2**
WRA	**Warramunga Arr**	**33.17**	**265**	P	**P**	**13 50 33.3**	**-0.9**
WRA				pP	pP	13 50 53.7	-1.1
WRA				PcP	PcP	13 53 14.5	-0.8
WRA				S	**S**	**13 55 44.3**	**-3.2**
WRA				ScP	ScP	13 56 50.3	-1.3
ASAR	**Alice Springs**	**33.27**	**258**	P	**P**	**13 50 34.5**	**-0.5**
	comp=Z,97nm,0.8s,mb5.7,baz=95,slow=9.3,SNR=1146						
ASAR				pP	pP	13 50 55.1	-0.6
	comp=Z,60nm,0.7s,baz=87,slow=9.7,SNR=5.7						
ASAR				PcP	PcP	13 53 15.0	-0.6
	comp=Z,29nm,0.8s,baz=105,slow=3.0,SNR=13						
ASAR				ScP	ScP	13 56 51.0	-0.9
	comp=Z,4.7nm,0.9s,baz=96,slow=3.9,SNR=5.0						
ASAR				PKiKP	PKiKP	14 00 39.0	-2.3
	comp=Z,2.0nm,0.8s,baz=107,slow=1.2,SNR=8.2						
ASAR				P3KPbc		14 21 48.4	
	comp=Z,2.1nm,0.8s,baz=276,slow=3.7,SNR=22						
ASAR	**Alice Springs**	**33.27**	**258**	P	**P**	**13 50 34.6**	**-0.5**
ASAR				*PP	pP	13 50 55.1	-0.6
ASAR						13 53 15.0	
ASAR	**Alice Springs**	**33.27**	**258**	P	**P**	**13 50 34.5**	**-0.5**
ASAR				pP	pP	13 50 55.1	-0.6
ASAR				PcP	PcP	13 53 15.0	-0.6
ASAR				ScP	ScP	13 56 51.0	-0.9
KAKA	**Kakadu**	**36.51**	**276**	⇑*i*P	**P**	**13 51 02.4**	**-0.7**
	comp=Z,111nm,1.0s,mb5.7						
KAKA				*i* PCP	PcP	13 53 24.7	-0.4
PAE	**Paea**	**38.48**	**93**	*e*P	**P**	**13 51 17.7**	**-2.0**
	comp=Z,946nm,1.3s,mb6.5						
PPT	**Papeete**	**38.51**	**93**	*e*P	**P**	**13 51 18.1**	**-1.8**
	comp=Z,169nm,1.3s,mb5.7						
PPT				*e*S	**S**	**13 57 12.2**	**+3.1**
	comp=Z,700nm,25.0s						
PPT				*e*LQ		14 00 14.1	
	comp=Z,3μm,31.5s						
PPT				*e*LR	LR	14 01 56.2	
	comp=Z,7μm,32.2s,baz=257						
PPT	**Papeete**	**38.51**	**93**	P	**P**	**13 51 20.0**	**+0.2**
	comp=Z,42nm,0.8s,mb5.3,baz=88,slow=2.6,SNR=5.3						
PPT				PcP	PcP	13 53 31.6	+0.5
	comp=Z,36nm,0.8s,baz=212,slow=20,SNR=3.5						
PPT				LR	LR	14 02 41.7	
	comp=Z,2μm,21.2s,baz=248,slow=29						
PPT	**Papeete**	**38.51**	**93**	P	**P**	**13 51 20.0**	**+0.1**
PPT						13 53 31.6	
PPT				pmax	pmax		
	comp=Z,42nm,0.8s						
PPT				pmax	pmax		
	comp=Z,36nm,0.8s						
PPT	**Papeete**	**38.51**	**93**	*e*P	**P**	**13 51 18.1**	**-1.8**
	comp=Z,169nm,1.3s,mb5.7						
PPT				*e*S	**S**	**13 57 12.2**	**+3.1**
PPT				*e*LQ		14 00 14.1	
FORT	**Forrest**	**38.70**	**246**	*e*P	**P**	**13 51 21.0**	**-0.4**
	comp=Z,76nm,0.6s,mb5.7						
FORT				*e*SCP	ScP	13 57 11.5	-0.3
TIAR	**Tiarei**	**38.72**	**93**	*e*P	**P**	**13 51 19.9**	**-1.8**
	comp=Z,1μm,1.0s,mb6.7						
TVO	**Taravao**	**38.77**	**93**	*e*P	**P**	**13 51 20.1**	**-2.0**
	comp=Z,592nm,1.1s,mb6.3						
XMAS	**Kiritimati**	**39.26**	**59**	*e*P	**P**	**13 51 26.7**	**+0.5**
	comp=Z,380nm,1.1s,mb6.1						
XMAS				*e*pP	pP	13 51 45.9	-1.3
MEH	**Mehetia**	**39.86**	**93**	*e*P	**P**	**13 51 29.2**	**-1.9**
	comp=Z,8μm,1.5s						
PMOR	**Pomariorio Ree**	**40.64**	**89**	*e*P	**P**	**13 51 35.8**	**-1.8**
	comp=Z,550nm,1.2s,mb6.2						
FITZ	**Fitzroy Crossi**	**41.58**	**266**	*e*P	**P**	**13 51 45.4**	**+0.1**
	comp=Z,335nm,0.6s,mb6.2						
FITZ				*e*pP	pP	13 52 06.5	0.0
FITZ				*e*S	**S**	**13 57 52.8**	**-2.3**
BATI	**Baumata**	**45.46**	**276**	P	**P**	**13 52 17.8**	**+1.3**
	comp=Z,77nm,0.6s,mb5.6,baz=208,slow=2.6,SNR=13						
BATI				pP	pP	13 52 38.7	+0.6
	comp=Z,265nm,0.9s,baz=245,slow=0.5,SNR=4.5						
BATI				LR	LR	14 08 14.2	
	comp=Z,3μm,19.4s,baz=122,slow=32						
MBWA	**Marble Bar**	**46.56**	**260**	*e*P	**P**	**13 52 25.1**	**0.0**
	comp=Z,121nm,0.8s,mb5.7						
MBWA				*e*pP	pP	13 52 45.0	-1.6
KLBR	**Kellerberrin**	**47.55**	**246**	*e*P	**P**	**13 52 31.8**	**-0.9**
	comp=Z,64nm,0.7s,mb5.6						
KLBR				*e*pP	pP	13 52 53.2	-1.1
NWAO	**Narrogin (SRO)**	**48.01**	**244**	*e*P	**P**	**13 52 35.3**	**-0.9**
NWAO				*e**PP	pP	13 52 56.5	-1.4
NWAO				pmax	pmax		
	comp=Z,95nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.01**	**244**	*e*P	**P**	**13 52 35.3**	**-0.9**
	comp=Z,95nm,1.0s,mb5.6						
NWAO				*e*pP	pP	13 52 56.5	-1.3
MUN	**Mundaring**	**48.87**	**245**	*e*P	**P**	**13 52 41.4**	**-1.4**
MUN				*e*pP	pP	13 53 06.5	+1.9
DRV	**Dumont d'Urvil**	**49.82**	**195**	P	**P**	**13 52 57.0**	**+7.5**
DRV				R		14 08 00.0	
KAPI	**Kappang**	**50.91**	**281**	P	**P**	**13 52 58.7**	**+0.1**
	comp=Z,616nm,0.9s,mb6.6,SNR=9.3						
KAPI	**Kappang**	**50.91**	**281**	*e*P	**P**	**13 52 57.2**	**-1.3**
RKT	**Rikitea**	**51.12**	**104**	*e*LQ		14 05 14.3	
	comp=Z,971nm,40.8s						
RKT				*e*LR	LR	14 07 40.0	
	comp=Z,3μm,31.0s,baz=259						
DAV	**Davao City (W)**	**51.37**	**298**	LR	LR	14 14 33.0	
	comp=Z,773nm,18.2s,baz=16,slow=36						
BUKP	**Musuan**	**52.24**	**298**	*e*P	**P**	**13 53 08.7**	**+0.3**
KIP	**Kipapa**	**52.34**	**39**	P	**P**	**13 53 09.0**	**+0.1**
KIP				*e**PP	pP	13 53 29.1	-1.8
HKL	**Haleakala**	**52.85**	**41**	*e*P	**P**	**13 53 13.3**	**+0.6**
MSLP	**Maasin**	**53.67**	**300**	*e*P	**P**	**13 53 18.5**	**-0.4**
CBIJ	**Chichi jima**	**54.42**	**330**	LR	LR	14 13 45.9	
	comp=Z,709nm,21.9s,baz=140,slow=33						
CNP	**Catarman**	**55.20**	**303**	*e*P	**P**	**13 53 29.3**	**-0.6**
PVCP	**Virac**	**56.24**	**303**	*e*P	**P**	**13 53 33.7**	**-3.7**
MYLDM	**Lahad Datu**	**56.44**	**291**	⇓P	**P**	**13 53 38.5**	**-0.4**
TSM	**Tawau**	**56.57**	**290**	⇓P	**P**	**13 53 42.3**	**+2.5**
CUYO	**Cuyo Island**	**57.20**	**299**	*e*P	**P**	**13 53 43.4**	**-0.9**
OTRP	**Odiongan**	**57.22**	**301**	*e*P	**P**	**13 53 43.8**	**-0.6**
SBA	**Scott Base**	**57.30**	**181**	*e*P	**P**	**13 53 44.8**	**+0.8**
SDKM	**Sandakan**	**57.80**	**291**	⇑P	**P**	**13 53 50.1**	**+1.6**
BUSP	**Coron**	**58.50**	**299**	*e*P	**P**	**13 53 53.1**	**-0.2**
BATP	**Bataraza**	**58.82**	**295**	*e*P	**P**	**13 53 56.0**	**+0.5**
KKM	**Kota Kinabalu**	**58.85**	**291**	⇑P	**P**	**13 53 55.6**	**-0.2**
KKM	**Kota Kinabalu**	**58.85**	**291**	*e*P	**P**	**13 53 55.6**	**-0.1**
KKM				*e*pP	pP	13 54 17.9	-0.2
CASY	**Casey**	**59.05**	**204**	*e*P	**P**	**13 53 55.4**	**-1.0**
BALP	**Baler**	**59.51**	**304**	*e*P	**P**	**13 53 59.5**	**-0.7**
CAUP	**Cauayan**	**60.03**	**305**	*e*P	**P**	**13 54 04.2**	**+0.4**
BTM	**Bintulu**	**60.34**	**286**	⇓P	**P**	**13 54 09.1**	**+3.0**
SBUM	**Sibu**	**60.80**	**285**	⇑P	**P**	**13 54 10.1**	**+0.8**
APYP	**Conner**	**61.02**	**305**	*e*P	**P**	**13 54 09.4**	**-1.0**
JOW	**Kunigami**	**61.96**	**318**	P	**P**	**13 54 17.4**	**+0.8**
	comp=Z,24nm,0.8s,mb5.3,baz=150,slow=9.4,SNR=5.7						
JOW				pP	pP	13 54 40.0	+0.7
	comp=Z,37nm,0.7s,baz=152,slow=6.3,SNR=5.8						
JOW				LR	LR	14 17 40.8	
	comp=Z,404nm,18.3s,baz=3.3,slow=32						
KSM	**Kuching**	**62.13**	**283**	⇓P	**P**	**13 54 18.5**	**+0.3**
KSM	**Kuching**	**62.13**	**283**	*e*P	**P**	**13 54 17.6**	**-0.6**
KSM				*e*pP	pP	13 54 39.6	-1.1
MJAR	**Matsushiro Arr**	**64.18**	**332**	P	**P**	**13 54 30.4**	**-0.8**
	comp=Z,10nm,0.5s,mb4.9,baz=174,slow=7.5,SNR=58						
MJAR				pP	pP	13 54 52.4	-1.5
	comp=Z,22nm,0.9s,baz=158,slow=5.8,SNR=9.9						
MJAR				LR	LR	14 19 43.9	
	comp=Z,441nm,18.4s,baz=275,slow=33						
MJAR				PKP2bc		14 23 23.2	
	comp=Z,8.9nm,1.2s,baz=315,slow=2.9,SNR=19						
MJAR	**Matsushiro Arr**	**64.18**	**332**	P	**P**	**13 54 30.4**	**-0.8**
MJAR				*PP	pP	13 54 52.4	-1.5
MJAR	**Matsushiro Arr**	**64.18**	**332**	P	**P**	**13 54 30.4**	**-0.8**
MJAR				pP	pP	13 54 52.4	-1.5
MJAR				LR	LR	14 19 43.9	
MJAR				⇑*e*		14 23 23.2	
MAJO	**Matsushiro**	**64.18**	**332**	*e*P	**P**	**13 54 30.7**	**-0.5**
MAJO				*e**PP	pP	13 54 52.9	-1.0
MAT	**Matsushiro**	**64.18**	**332**	P	**P**	**13 54 30.4**	**-0.8**
MAT			

comp=Z,54nm,1.6s,mb5.1
VLA Vladivostok 72.35 332 *e*P **P 13 55 20.5 -1.6**
comp=Z,54nm,1.6s,mb5.1
KULM Kulim 72.48 283 ⇑P **P 13 55 14.4 -9.2**
PSI Prapat 73.11 280 P **P 13 55 26.9 -0.4**
comp=Z,13nm,0.8s,mb4.8,baz=90,slow=3.0,SNR=8.2
PSI pP pP 13 55 49.1 -1.3
comp=Z,56nm,1.0s,baz=146,slow=4.5,SNR=11
SMY Shemya 73.13 3 *ep*P pP 13 55 50.1 +0.5
ADK Adak 73.16 9 *e*P **P 13 55 26.2 -0.4**
comp=Z,349nm,1.7s,mb5.9
ADK *ep*P pP 13 55 49.0 -0.8
WHN Wuhan 73.61 312 *e*P **P 13 55 30.0 +0.2**
PET Petropavlovsk 73.96 353 *e*P **P 13 55 30.9 -0.4**
PET *e*S S 14 04 54.7 -1.4
PET pmax pmax
comp=Z,40nm,1.2s,mb5.0
PET MLR MLR
comp=Z,500nm,18.0s
PET Petropavlovsk 73.96 353⇑*e*P **P 13 55 30.8 -0.5**
PET *ep*P pP 13 55 50.1 -4.4
PETK Petropavlovsk- 74.16 352 P **P 13 55 32.6 +0.1**
comp=Z,6.6nm,0.6s,mb4.5,baz=137,slow=8.4,SNR=11
PETK pP pP 13 55 55.7 0.0
comp=Z,25nm,0.8s,baz=140,slow=7.2,SNR=9.2
PETK PKPPKP 14 23 07.8
comp=Z,3.2nm,1.0s,baz=289,slow=4.5,SNR=3.9
PETK Petropavlovsk- 74.16 352 P **P 13 55 32.6 +0.2**
PETK *PP pP 13 55 55.7 0.0
PETK Petropavlovsk- 74.16 352 P **P 13 55 32.6 +0.1**
PETK pP pP 13 55 55.7 0.0
PETK P'P' 14 23 07.8
DL2 Dalian 74.39 323 *i*P **P 13 55 34.6 +0.4**
DL2 S S 14 05 02.4 +0.9
DL2 AMB AMB
comp=Z,80nm,0.8s,mb5.5
DL2 AMB AMB
comp=Z,220nm,8.3s
DL2 LR LR
comp=N,160nm,20.5s
DL2 LR LR
comp=E,250nm,23.0s
DL2 LR LR
comp=Z,370nm,23.7s
MDJ Mudanjiang 74.55 331 P **P 13 55 35.0 +0.1**
MDJ S S 14 05 03.6 +0.5
MDJ AMB AMB
comp=Z,29nm,1.2s,mb4.9
MDJ AMB AMB
comp=Z,388nm,14.4s
MDJ LR LR
comp=N,424nm,20.2s
MDJ LR LR
comp=Z,909nm,23.9s
MDJ Mudanjiang 74.55 331 *e*P **P 13 55 34.9 0.0**
comp=Z,55nm,1.0s,mb5.2
MDJ *ep*P pP 13 55 57.5 -0.8
TIA Tai'an 75.28 318 *e*P **P 13 55 44.3 +5.0**
TIA AMB AMB
comp=Z,24nm,0.9s,mb4.9
NIKO Nikolski 75.61 13 *e*P **P 13 55 39.9 -0.9**
comp=Z,170nm,0.5s,mb6.0
NIKO *ep*P pP 13 56 03.4 -0.7
CN2 Changchun 75.87 329 ⇓P **P 13 55 42.5 -0.1**
CN2 PCP PcP 13 55 54.8 +0.1
CN2 *e*S S 14 05 17.5 -0.3
CN2 AMB AMB
comp=Z,100nm,0.7s,mb5.7
CN2 AMB AMB
comp=Z,300nm,3.0s
GYA Guiyang 76.98 305⇑*i*P **P 13 55 51.0 +1.7**
GYA PCP PcP 13 56 01.8 +1.9
GYA PP PP 13 58 47.0 +3.1
GYA S S 14 05 31.3 +0.6
GYA SKS 14 05 50.9
GYA PS 14 06 23.0
GYA SS SS 14 10 33.4 +3.6
GYA AMB AMB
comp=Z,50nm,1.2s,mb5.1
GYA AMB AMB
comp=Z,190nm,6.1s
GYA LR LR
comp=N,890nm,21.4s
GYA LR LR
comp=E,780nm,22.2s
GYA LR LR
comp=Z,770nm,21.8s
KLR Kul'dur 77.31 336 *e*P **P 13 55 46.8 -3.7**
KLR *e* pP 13 56 10.0 -3.9
KLR *e*S S 14 05 30.5 -2.7
KLR pmax pmax
comp=E,50nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.2
MAW Mawson 77.34 202 *e*P **P 13 55 50.7 +0.1**
comp=Z,64nm,0.9s,mb5.4
MAW Mawson 77.34 202 P **P 13 55 50.9 +0.4**
comp=Z,72nm,0.8s,mb5.4,baz=113,slow=6.8,SNR=108
MAW Mawson 77.34 202 *e*P **P 13 55 50.7 +0.1**
MAW pmax pmax
comp=Z,65nm,0.9s
AKUT Akutan 77.38 14 *e*P **P 13 55 49.7 -1.1**
KMI Kunming 79.39 302 P **P 13 56 04.0 +1.4**
KMI PP PP 13 59 06.3 +2.2
KMI PPP 14 00 56.4
KMI S S 14 05 55.9 -0.6
KMI PS 14 06 51.4
KMI SSS 14 14 27.6
KMI AMB AMB
comp=Z,63nm,1.1s,mb5.4
KMI AMB AMB
comp=Z,551nm,6.7s
KMI LR LR
comp=N,391nm,17.0s
KMI LR LR
comp=E,252nm,15.8s
KMI LR LR
comp=Z,419nm,18.1s
CMAR Chiang Mai Arr 79.49 294 P **P 13 56 04.5 +1.3**
comp=Z,51nm,0.9s,mb5.3,baz=134,slow=4.2,SNR=178
CMAR pP pP 13 56 27.4 +0.6
comp=Z,31nm,0.9s,baz=135,slow=4.1,SNR=7.9
CMAR PKiKP PKiKP 14 01 34.3 -0.7
comp=Z,1.0nm,0.7s,baz=248,slow=1.5,SNR=4.4
CMAR PKKPbc PKKPbc 14 14 51.3 -0.3
comp=Z,2.2nm,0.6s,baz=289,slow=4.1,SNR=12
CMAR PKPPKP 14 22 50.5
comp=Z,0.5nm,0.3s,baz=295,slow=3.8,SNR=5.7
CMAR Chiang Mai Arr 79.49 294 P **P 13 56 04.5 +1.3**
CMAR pP pP 13 56 27.4 +0.6
CHTO Chiang Mai 79.64 295 *e*P **P 13 56 05.2 +1.1**
CHTO *e**PP pP 13 56 27.3 -0.3
SDPT Sand Point 79.81 17 *e*P **P 13 56 03.1 -1.0**
CD2 Chengdu 81.44 307⇓*i*P **P 13 56 13.6 +0.2**
CD2 AP pP 13 56 38.8 +1.8
CD2 PP PP 13 59 23.3 +2.4
CD2 S S 14 06 15.9 -1.8
CD2 PS 14 07 16.5
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,90nm,6.2s
CD2 LR LR
comp=N,350nm,19.2s
CD2 LR LR
comp=E,200nm,15.6s
CD2 LR LR
comp=Z,540nm,18.0s
HHC Hu-ho-hao-te 81.56 319 *e*P **P 13 56 14.4 +0.6**
HHC AP pP 13 56 37.8 +0.4
HHC PP PP 13 59 25.4 +3.6
HHC S S 14 06 16.9 -1.7
HHC PS 14 07 20.9
HHC SS SS 14 11 40.3 +2.3
HHC AMB AMB
comp=Z,60nm,0.9s,mb5.4
HHC AMB AMB
comp=Z,206nm,4.3s
HHC LR LR
comp=N,290nm,19.0s
HHC LR LR
comp=E,301nm,17.8s
HHC LR LR
comp=Z,415nm,20.2s
BTO Baotou 82.37 318 *e*P **P 13 56 17.5 -0.6**

HIA Hailar 82.53 330 *e*P **P 13 56 18.5 -0.2**
HIA *e**PP pP 13 56 41.2 -1.1
HIA pmax pmax
comp=Z,14nm,0.8s
HIA Hailar 82.53 330 *e*P **P 13 56 18.5 -0.2**
comp=Z,14nm,0.8s,mb4.8
HIA *ep*P pP 13 56 41.1 -1.2
SYO Syowa Base 83.74 196⇑*i*P **P 13 56 22.5 -2.3**
SYO Syowa Base 83.74 196⇓*i*PcP PcP 13 56 24.2 -4.5
LZH Lanzhou 83.99 312 ⇓P **P 13 56 27.5 +1.0**
LZH AP pP 13 56 52.8 +2.6
LZH XP sP 13 57 03.6 +3.7
LZH PP PP 13 59 45.3 +3.5
LZH SKS 14 06 38.5
LZH S S 14 06 43.4 -0.1
LZH SS SS 14 12 17.3 +3.1
LZH AMB AMB
comp=Z,91nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,367nm,8.4s
LZH LR LR
comp=E,1μm,17.8s
LZH LR LR
comp=Z,2μm,19.6s
KDAK Kodiak Island 84.17 19 P **P 13 56 27.0 +0.1**
comp=Z,422nm,0.9s,mb6.3,SNR=5.7
KDAK Kodiak Island 84.17 19 *e*P **P 13 56 27.0 +0.1**
KDAK *e**PP pP 13 56 50.7 +0.1
KDAK pmax pmax
comp=Z,74nm,1.0s,mb5.5
KDAK Kodiak Island 84.17 19 *e*P **P 13 56 27.0 +0.1**
comp=Z,74nm,1.0s,mb5.5
KDAK *ep*P pP 13 56 50.6 0.0
SEY Seymchan 84.39 352⇑*e*P **P 13 56 26.7 -1.2**
PMSA Palmer Station 85.46 160 P **P 13 56 32.7 -0.8**
comp=Z,125nm,1.0s,mb5.8,baz=229,slow=4.3,SNR=55
PMSA Palmer Station 85.46 160 *e*P **P 13 56 32.1 -1.4**
comp=Z,227nm,1.1s,mb6.0
CLNS Chul'man 85.84 337 *e*P **P 13 56 35.5 +0.2**
CLNS *e*S S 14 06 49.5 -11
CLNS *e**SS sS 14 08 08.3 +27
CLNS pmax pmax
comp=Z,52nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,19nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax
comp=N,189nm,11.9s
CLNS smax
comp=E,159nm,13.9s
MCCM Marconi Confer 86.06 47 *e*P **P 13 56 37.7 +0.9**
SVW2 Sparrevohn 86.09 16 *e*P **P 13 56 36.4 0.0**
SAC San Andreas 86.10 48 *e*P **P 13 56 37.7 +0.6**
HOPS Hopland 86.36 46 *e*P **P 13 56 39.0 +0.7**
KCPM Cahto Peak 86.36 45 *e*P **P 13 56 38.3 0.0**
SAO San Andreas Ge 86.38 49 *e*P **P 13 56 39.1 +0.7**
NSHM Saint Helena R 86.44 47 *e*P **P 13 56 39.0 +0.4**
KIPM Iron Peak 86.49 45 *e*P **P 13 56 39.9 +1.0**
PTRM Twissleman Ran 86.73 50 *e*P **P 13 56 41.0 +0.8**
KHMM Horse Mountain 86.87 44 *e*P **P 13 56 42.2 +1.5**
KRMB Red Mountain 87.08 44 *e*P **P 13 56 42.9 +1.2**
SLKM Skilak Lake 87.10 19 *e*P **P 13 56 39.9 -1.5**
WDC Whiskeytown Da 87.50 45 *e*P **P 13 56 44.3 +0.5**
TTA Tatalina 87.54 15 *e*P **P 13 56 43.9 +0.5**
NVL N'lazarevskaya 87.55 187 *d i*P **P 13 56 42.6 -1.0**
NVL *e* pP 13 57 09.0 +1.5
NVL pmax pmax
comp=Z,252nm,1.2s,mb6.1
MAIT Maitri 87.56 187 *e*P **P 13 56 42.1 -1.5**
OHCM Honcut 87.60 46 *e*P **P 13 56 44.5 +0.2**
MWC Mount Wilson 87.64 52 *e*P **P 13 56 45.0 +0.4**
RC01 Rabbit Creek A 87.71 18 *e*P **P 13 56 42.8 -1.5**
comp=Z,12nm,0.5s,mb5.2
CMB Columbia Colle 87.73 48 *e*P **P 13 56 45.2 +0.3**
SNAA Sanae 87.81 182 *e*P **P 13 56 43.4 -1.4**
SNAA *e* 13 56 45.1
SNAA *e* pP 13 57 08.7 0.0
SNAA *e* pP 13 57 11.9 +3.2
SNAA Sanae 87.81 182 P **P 13 56 43.6 -1.2**
comp=Z,39nm,0.8s,mb5.5,baz=199,slow=5.2,SNR=398
SNAA PKKPbc PKKPbc 14 14 27.6 -5.6
comp=Z,0.4nm,0.6s,baz=227,slow=3.4,SNR=8.0
SNAA Sanae 87.81 182 *e*P **P 13 56 43.4 -1.4**
comp=Z,205nm,1.1s,mb6.1
SNAA *ep*P pP 13 57 08.3 -0.5
YBH Yreka Blue Hor 87.97 44 *e*P **P 13 56 47.0 +1.0**
ISA Isabella 87.99 51 *e*P **P 13 56 45.8 -0.4**
BAR Barrett 88.00 54 *e*P **P 13 56 46.5 +0.2**
comp=Z,75nm,1.4s,mb5.5
HUMO Hull Mountain 88.25 43 *e*P **P 13 56 48.2 +0.9**
PMR Palmer 88.28 18 *e*P **P 13 56 45.5 -1.5**
PMR Palmer 88.28 18 *e*P **P 13 56 45.2 -1.8**
YAK Yakutsk 88.32 342 *d i*P **P 13 56 45.7 -1.4**
YAK *e**PP pP 13 57 09.3 -1.8
YAK *e*S S 14 07 00.5 -24
YAK *e* 14 07 23.0
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.8
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK smax
comp=N,144nm,3.5s
YAK smax
comp=E,22nm,1.5s
YAK Yakutsk 88.32 342 *e*P **P 13 56 46.2 -0.9**
comp=E,21nm,0.7s,mb5.3
VNA3 Neumayer Olymp 88.38 180 *e*P **P 13 56 46.3 -1.2**
VNA3 *e* 13 56 48.5
VNA3 *e* pP 13 57 10.5 -0.9
VNA3 *e* pP 13 57 14.8 +3.4
GTA Gaotai 88.41 313 P **P 13 56 48.5 +0.4**
GTA AP pP 13 57 12.4 +0.4
GTA PP PP 14 00 23.4 +6.0
GTA SKS 14 07 06.9
GTA S S 14 07 28.6 +2.3
GTA XS sS 14 08 13.3 +6.1
GTA AMB AMB
comp=Z,48nm,1.1s,mb5.4
GTA AMB AMB
comp=Z,192nm,5.7s
GTA LR LR
comp=N,169nm,17.0s
GTA LR LR
comp=E,268nm,19.0s
GTA LR LR
comp=Z,317nm,18.4s
LBCM Butte Creek Ri 88.42 45 P **P 13 56 48.7 +0.6**
BILL Bilibino 88.43 359 *d i*P **P 13 56 46.7 -0.8**
BILL pmax pmax
comp=Z,46nm,1.6s,mb5.3
BILL Bilibino 88.43 359 P **P 13 56 47.0 -0.5**
comp=Z,8.8nm,0.4s,mb5.1
PFO Pinyon Flat Ob 88.56 53 P **P 13 56 49.0 0.0**
comp=Z,273nm,1.4s,mb6.1,SNR=19
PFO Pinyon Flat Ob 88.56 53 *e*P **P 13 56 49.4 +0.4**
PFO *e**PP pP 13 57 09.0 -3.9
PFO pmax pmax
comp=Z,71nm,1.3s,mb5.5
PFO Pinyon Flat Ob 88.56 53 *e*P **P 13 56 49.4 +0.4**
comp=Z,71nm,1.3s,mb5.5
PFO *ep*P pP 13 57 09.0 -3.9
PFO *es*P sP 13 57 16.1 -6.4
SONM Songino Array 88.59 323 P **P 13 56 48.7 -0.1**
comp=Z,24nm,0.9s,mb5.2,baz=139,slow=5.4,SNR=95
SONM pP pP 13 57 12.7 0.0
comp=Z,34nm,0.9s,baz=135,slow=4.6,SNR=12
SONM PKKPbc PKKPbc 14 14 29.1 -2.6
comp=Z,1.9nm,0.7s,baz=271,slow=2.1,SNR=9.8
SONM PKPPKP 14 22 38.8
comp=Z,0.8nm,0.9s,baz=146,slow=2.8,SNR=4.5
SONM LR LR 14 32 19.3
comp=Z,737nm,21.9s,baz=130,slow=33
SONM Songino Array 88.59 323 P **P 13 56 48.7 -0.1**
SONM *PP pP 13 57 12.7 0.0
VNA2 Neumayer--Watz 88.68 181 *e*P **P 13 56 48.1 -0.8**
VNA2 *e* 13 56 49.7
VNA2 *e* pP 13 57 11.5 -1.4
VNA2 *e* pP 13 57 16.4 +3.5
MTUM Tungsten Hills 88.69 49 *e*P **P 13 56 50.4 +0.8**
DIV Divide 88.96 20 P **P 13 56 50.2 0.0**
comp=Z,7.9nm,0.6s,mb4.9

VNA1 Neumayer--Stat 88.97 181 *e*P **P 13 56 49.6 -0.7**
VNA1 *e* 13 56 51.2
VNA1 *e* pP 13 57 12.6 -1.6
VNA1 *e* pP 13 57 17.9 +3.7
COR Corvallis 89.03 41 *e*P **P 13 56 50.9 0.0**
COR pmax pmax
comp=Z,32nm,1.0s,mb5.3
COR Corvallis 89.03 41 *e*P **P 13 56 50.9 0.0**
comp=Z,32nm,1.0s,mb5.3
GSC Goldstone 89.04 52 *e*P **P 13 56 51.6 +0.4**
HEBO Mount Hebo 89.07 40 *e*P **P 13 56 52.1 +1.1**
comp=Z,172nm,1.5s,mb5.9
PAHR Pah Rah Range 89.20 47 *e*P **P 13 56 52.5 +0.6**
BMRM Bremner River 89.21 20 P **P 13 56 49.9 -1.4**
CHUM Lake Minchumin 89.25 16 *e*P **P 13 56 49.6 -1.9**
comp=Z,7.2nm,0.5s,mb5.0
KTH Kantishna Hill 89.35 16 *e*P **P 13 56 49.5 -2.4**
comp=Z,9.8nm,0.7s,mb5.0
NVAR Mina Array Bea 89.36 48 P **P 13 56 53.2 +0.6**
comp=Z,40nm,0.8s,mb5.5,baz=226,slow=8.3,SNR=186
NVAR pP pP 13 57 18.6 +2.1
comp=Z,31nm,1.0s,baz=223,slow=7.7,SNR=6.4
NVAR PKKPbc PKKPbc 14 14 27.3 -2.0
comp=Z,1.3nm,0.9s,baz=139,slow=1.6,SNR=6.3
NVAR PKPPKP 14 22 37.4
comp=Z,1.9nm,0.8s,baz=70,slow=3.9,SNR=8.8
NVAR Mina Array Bea 89.36 48 P **P 13 56 53.2 +0.6**
NVAR pP pP 13 57 18.6 +2.1
NVAR PKKPbc PKKPbc 14 14 27.3 -2.0
NVAR P'P' 14 22 37.4
TRF Thorofare Moun 89.44 17 *e*P **P 13 56 50.1 -2.2**
comp=Z,7.5nm,0.6s,mb4.9
GLA Glamis 89.56 54 *e*P **P 13 56 54.7 +1.0**
MOD Modoc 89.62 45 *e*P **P 13 56 53.9 +0.2**
comp=Z,87nm,1.3s,mb5.7
WIFE Three Sisters- 89.69 42 P **P 13 56 54.7 +0.7**
BPAW Bear Paw Mtn. 89.78 16 *e*P **P 13 56 52.9 -1.0**
CRAG Craig 89.91 29 *e*P **P 13 56 55.4 +0.6**
SIT Sitka 89.95 27 *e*P **P 13 56 54.6 -0.3**
TPH Tonopah 89.97 49 *e*P **P 13 56 56.2 +0.7**
USHA Ushuaia 90.02 151 P **P 13 56 54.6 -0.9**
comp=Z,12nm,0.9s,mb5.0,baz=217,slow=6.9,SNR=4.3
BMW Boistfort Moun 90.03 40 *e*P **P 13 56 56.1 +0.6**
MCK McKinley 90.03 17 *e*P **P 13 56 55.1 0.0**
comp=Z,10μm,0.6s
OOW Octopus West 90.11 38 P **P 13 56 57.2 +1.3**
NLWA Neilton Lookou 90.12 39 *e*P **P 13 56 56.6 +0.7**
comp=Z,83nm,1.3s,mb5.7
TPNV Topopah Spring 90.17 50 *e*P **P 13 56 57.1 +0.7**
LDFC Landfair 90.20 52 *e*P **P 13 56 57.5 +0.9**
HOOD Mount Hood Mea 90.41 41 *e*P **P 13 56 58.0 +0.7**
comp=Z,76nm,1.2s,mb5.7
LSA Lhasa 90.64 301 P **P 13 56 59.0 +0.2**
LSA Lhasa 90.64 301 *e*P **P 13 56 59.4 +0.6**
LSA pmax pmax
comp=Z,36nm,1.1s,mb5.4
LSA Lhasa 90.64 301 *e*P **P 13 56 59.4 +0.6**
comp=Z,36nm,1.1s,mb5.4
VIPM Ingram Point 90.66 42 P **P 13 56 59.0 +0.5**
SHPR Sheep Range 90.77 51 *e*P **P 13 56 59.9 +0.7**
BOD Bodaibo 90.77 334 *e*P **P 13 56 56.6 -2.1**
BOD *e* pP 13 57 21.0 -1.7
BOD pmax pmax
comp=Z,31nm,1.1s,mb5.3
BOD pmax pmax
comp=Z,33nm,1.6s,mb5.2
GNW Green Mountain 90.81 39 P **P 13 56 59.6 +0.4**
WRAK Wrangell Islan 90.84 28 *e*P **P 13 56 58.7 -0.3**
comp=Z,48nm,0.9s,mb5.6
WRAK *ep*P pP 13 57 22.8 -0.2
VGZ Gonzales 90.95 38 P **P 13 56 59.8 0.0**
WVOR Wild Horse Val 90.96 45 *e*P **P 13 57 00.1 +0.1**
WVOR pmax pmax
comp=Z,71nm,1.3s,mb5.6
WVOR Wild Horse Val 90.96 45 *e*P **P 13 57 00.1 +0.1**
comp=Z,71nm,1.3s,mb5.6
PGC Sidney 91.00 38 *e*P **P 13 57 00.2 +0.2**
BMN Battle Mountai 91.01 47 *e*P **P 13 57 01.0 +0.7**
LON Longmire 91.01 40 *e*P **P 13 56 59.9 -0.2**
COLA College 91.22 17 *i*P **P 13 56 58.4 -2.2**
COLA College 91.22 17 *e*P **P 13 56 57.6 -3.0**
comp=Z,22nm,0.9s,mb5.3
SKAG Skagway 91.50 25 *e*P **P 13 57 01.5 -0.6**
SKAG *ep*P pP 13 57 26.2 +0.2
HYT Haines Junctio 91.57 23 *e*P **P 13 57 02.0 -0.3**
HYT *ep*P pP 13 57 23.4 -2.9
JCW Jim Creek 91.65 38 *e*P **P 13 57 03.4 +0.4**
ZAK Zakamensk 91.68 324⇓*i*P **P 13 57 02.8 -0.3**
ZAK *e* pP 13 57 25.0 -2.1
ZAK pmax pmax
comp=Z,42nm,1.4s,mb5.5
RPW Rockport 92.02 38 *e*P **P 13 57 04.5 -0.3**
IRK Irkutsk 92.11 326⇓*i*P **P 13 57 03.6 -1.5**
IRK *e* pP 13 57 27.4 -1.6
IRK pmax pmax
comp=Z,42nm,1.4s,mb5.5
TLY Talaya 92.15 325 *e*P **P 13 57 04.4 -0.9**
TLY *e* pP 13 57 28.2 -1.0
TLY pmax pmax
comp=Z,27nm,0.8s,mb5.5
TLY pmax pmax
comp=Z,367nm,20.0s
TLY Talaya 92.15 325 *e*P **P 13 57 04.8 -0.4**
comp=Z,14nm,0.7s,mb5.3
RSW Rattlesnake Hi 92.19 41 *e*P **P 13 57 06.0 +0.5**
RSW *ep*P pP 13 57 30.7 +1.2
HAWA Hanford 92.22 41 *e*P **P 13 57 05.9 +0.2**
comp=Z,55nm,1.4s,mb5.6
HAWA *ep*P pP 13 57 29.3 -0.4
ETW Entiat 92.31 40 *e*P **P 13 57 06.0 0.0**
TUC Tucson 92.38 56 *e*P **P 13 57 06.7 -0.1**
TUC pmax pmax
comp=Z,55nm,1.1s,mb5.7
TUC Tucson 92.38 56 *e*P **P 13 57 06.7 -0.1**
comp=Z,54nm,1.1s,mb5.7
COLD Coldfoot 92.49 15 *e*P **P 13 57 06.2 -0.3**
comp=Z,9.2nm,0.9s,mb5.0
ELK Elko 92.51 47 *e*P **P 13 57 06.8 -0.4**
ELK pmax pmax
comp=Z,25nm,1.1s
ELK Elko 92.51 47 *e*P **P 13 57 06.8 -0.4**
comp=Z,26nm,1.1s,mb5.5
TAPN Taplejung 92.54 298 *e*P **P 13 57 07.6 -0.1**
comp=Z,84nm,1.2s,mb6.0
ODAN Odare 92.63 298 *e*P **P 13 57 08.0 -0.1**
comp=Z,106nm,0.9s,mb6.2
LNOR Lincton Mounta 92.75 42 *e*P **P 13 57 08.0 -0.2**
BMO Blue Mountains 92.91 43 *e*P **P 13 57 08.6 -0.4**
DLBC Dease Lake 93.05 27 *e*P **P 13 57 09.2 0.0**
DLBC *ep*P pP 13 57 34.1 +0.9
EGAK Eagle 93.07 19 *e*P **P 13 57 07.8 -1.4**
DAWY Dawson 93.12 20 *e*P **P 13 57 08.4 -1.0**
WUAZ Wupatki 93.17 53 *e*P **P 13 57 11.0 +0.6**
RAMN Ramite 93.31 297 *e*P **P 13 57 10.6 -0.7**
MOY Mondy 93.57 324 *e*P **P 13 57 11.6 -0.2**
MOY pmax pmax
comp=Z,58nm,2.2s,mb5.5
MSU Marysvale 93.75 50 *e*P **P 13 57 13.9 +0.9**
MSU Marysvale 93.75 50 *e*P **P 13 57 13.4 +0.5**
DUG Dugway 93.97 49 *e*P **P 13 57 13.9 0.0**
DUG pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
DUG Dugway 93.97 49 *e*P **P 13 57 13.9 -0.1**
comp=Z,7.7nm,0.8s,mb5.1
BGU Big Grassy Mou 94.11 48 *e*P **P 13 57 14.1 -0.5**
HLID Hailey 94.24 45 *e*P **P 13 57 15.3 +0.2**
comp=Z,7.4nm,0.9s,mb5.0
GUN Gumba 94.26 298 *e*P **P 13 57 15.7 +0.1**
NLU North Lily Min 94.39 49 *e*P **P 13 57 16.6 +0.8**
PKI Pulchoki 94.53 298 *e*P **P 13 57 16.4 -0.4**
comp=Z,88nm,1.1s,mb6.1
PKI Pulchoki 94.53 298 *e*P **P 13 57 16.4 -0.4**
PKI pmax pmax
comp=Z,88nm,1.1s,mb6.1
NEW Newport 94.53 40 *e*P **P 13 57 16.0 -0.3**
HVU Hansel Valley 94.62 47 *e*P **P 13 57 17.0 +0.1**
KKN Kakani 94.71 298 *e*P **P 13 57 17.0 -0.6**
comp=Z,52nm,0.8s,mb6.0
KKN Kakani 94.71 298 *e*P **P 13 57 17.0 -0.6**
KKN pmax pmax
comp=Z,52nm,0.8s,mb6.0
MPU Maple Canyon 94.73 49 *e*P **P 13 57 18.4 +1.0**
TMUT Trail Mountain 94.75 50 *e*P **P 13 57 18.8 +1.3**
TMUT *ep*P pP 13 57 45.7 +4.2

DMN Daman 94.79 298 *eP* **P 13 57 17.8 -0.2**
comp=Z,118nm,1.0s,mb6.3
JLU Jordanelle 95.08 49 *eP* **P 13 57 19.8 +0.7**
DAU Daniels Canyon 95.15 49 *eP* **P 13 57 20.5 +1.2**
SRU San Rafael 95.17 50 *eP* **P 13 57 20.0 +0.5**
GKN Gorkha 95.32 298 *eP* **P 13 57 19.8 -0.6**
HWUT Hardware Ranch 95.39 48 *eP* **P 13 57 19.9 -0.5**
comp=Z,11nm,1.2s,mb5.2
PV10 Paradox Valley 95.98 51 *eP* **P 13 57 23.2 0.0**
LAZ Ladron 95.98 56 P **P 13 57 23.5 +0.2**
KOLN Koldanda 96.10 297 *eP* **P 13 57 22.9 -1.1**
DLMT Dillon 96.16 44 *eP* **P 13 57 24.0 +0.2**
DANN Dangsing 96.16 298 *eP* **P 13 57 23.3 -1.0**
RRI2 Red Ridge 96.22 46 *eP* **P 13 57 24.7 +0.5**
PV01 Paradox Valley 96.23 52 *eP* **P 13 57 24.4 0.0**
BNM Barren Site 96.29 56 *eP* **P 13 57 24.7 0.0**
LPM Los Pinos Moun 96.34 56 *eP* **P 13 57 24.9 -0.1**
CHMT Chamberlain Mo 96.35 42 *eP* **P 13 57 23.8 -0.8**
LRM Limekiln Ridge 96.43 43 *eP* **P 13 57 24.7 -0.3**
TPAW Teton Pass 96.53 46 *eP* **P 13 57 26.1 +0.5**
REDW Red Top Meadow 96.55 46 *eP* **P 13 57 25.9 +0.3**
SNOW Snow King Moun 96.65 46 *eP* **P 13 57 27.2 +1.2**
IMW Indian Meadow 96.69 46 *eP* **P 13 57 26.9 +0.6**
ANMO Albuquerque 96.70 55 *eP* **P 13 57 26.3 -0.2**
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 96.70 55 *eP* **P 13 57 26.3 -0.3**
comp=Z,7.5nm,1.2s,mb5.0
MOOW Moose Ponds 96.76 46 *eP* **P 13 57 26.8 +0.2**
LOHW Long Hollow 96.81 46 *eP* **P 13 57 26.6 -0.2**
FLWY Flagg Ranch 96.92 46 *eP* **P 13 57 27.9 +0.6**
TXAR Lajitas Array 97.02 61 P **P 13 57 28.5 +0.4**
comp=Z,8.1nm,1.0s,mb5.1,baz=228,slow=4.9,SNR=30
TXAR PP PP 14 01 24.5 -0.7
comp=Z,1.1nm,1.0s,baz=240,slow=10.0,SNR=4.1
TXAR PKKPbc PKKPbc 14 14 09.0 +0.2
comp=Z,4.0nm,0.9s,baz=64,slow=3.5,SNR=9.8
TXAR LR LR 14 31 19.5
comp=Z,476nm,19.8s,baz=300,slow=29
TXAR Lajitas Array 97.02 61 P **P 13 57 28.5 +0.4**
TXAR 14 01 24.5
TXAR Lajitas Array 97.02 61 P **P 13 57 28.5 +0.4**
TXAR PP PP 14 01 24.5 -0.7
TXAR PKKPbc PKKPbc 14 14 09.0 +0.2
TXAR LR LR 14 31 19.5
PLCA Paso Flores 97.20 138 P **P 13 57 28.2 -0.6**
comp=Z,7.7nm,1.1s,mb5.0,baz=251,slow=5.3,SNR=8.5
PLCA PKKP PKKPbc 14 14 07.2 -1.1
comp=Z,2.5nm,0.9s,baz=336,slow=2.5,SNR=4.4
PLCA LR LR 14 31 02.7
comp=Z,332nm,20.8s,baz=227,slow=29
PLCA Paso Flores 97.20 138 P **P 13 57 28.2 -0.6**
PLCA PKKP PKKPbc 14 14 07.2 -1.1
PLCA LR LR 14 31 02.7
BW06 Boulder Array 97.21 47 *eP* **P 13 57 28.2 -0.4**
PDAR Pinedale Array 97.21 47 P **P 13 57 28.2 -0.4**
comp=Z,2.1nm,0.6s,mb4.8,baz=202,slow=2.7,SNR=14
PDAR PP PP 14 01 24.6 -1.7
comp=Z,2.5nm,1.0s,baz=251,slow=4.5,SNR=5.9
PDAR PKKP PKKPbc 14 14 07.0 -1.9
comp=Z,4.5nm,0.9s,baz=81,slow=4.7,SNR=20
PDAR PKPPKP 14 22 20.6
comp=Z,1.1nm,1.1s,baz=67,slow=3.9,SNR=4.7
GDL2 Guadalupe Moun 97.41 59 *eP* **P 13 57 30.4 +0.7**
HVS Khovu-Aksy 97.43 322 *c iP* **P 13 57 31.1 +1.7**
SDCO Great Sand Dun 98.38 53 *eP* **P 13 57 33.7 -0.3**
comp=Z,4.6nm,1.2s,mb4.9
WMQ Urumqi 98.49 314 P **P 13 57 33.8 -0.6**
WMQ AP pP 13 57 59.6 +1.2
WMQ AMB AMB
comp=Z,25nm,0.9s,mb5.7
WMQ LR LR
comp=N,347nm,24.0s
WMQ LR LR
comp=E,351nm,24.2s
WMQ LR LR
comp=Z,433nm,23.8s
YKA Yellowknife Ar 101.67 27 P Pdif 13 57 47.0 -1.5
comp=Z,1.6nm,0.6s,baz=252,slow=4.9,SNR=8.1
YKA pP 13 58 12.7
comp=Z,2.4nm,0.8s,baz=241,slow=4.7,SNR=4.6
YKA Yellowknife Ar 101.67 27 P Pdif 13 57 47.0 -1.5
YKA pP 13 58 12.7
MKAR Makanchi Array 103.04 315 Pdiff Pdif 13 57 53.6 -1.0
comp=Z,4.2nm,0.6s,baz=90,slow=6.3,SNR=9.3
MKAR PP PP 14 02 08.4 -2.0
comp=Z,3.5nm,1.0s,baz=120,slow=7.1,SNR=6.0
MKAR PKiKP PKiKP 14 02 12.7 -1.4
comp=Z,1.7nm,0.6s,baz=87,slow=2.5,SNR=6.6
MKAR PKKPbc PKKPbc 14 13 49.5 -2.8
comp=Z,1.1nm,0.6s,baz=300,slow=2.7,SNR=7.5
MKAR PKPPKP 14 22 09.4
comp=Z,0.2nm,0.2s,baz=343,slow=4.5,SNR=6.3
MKAR Makanchi Array 103.04 315 Pdif Pdif 13 57 53.6 -1.0
MKAR PP PP 14 02 08.4 -2.0
ZALV Zalesovo Beam 103.49 323 Pdiff Pdif 13 57 55.2 -1.4
comp=Z,2.9nm,0.7s,baz=114,slow=5.0,SNR=6.7
ZALV pPdiff 13 58 19.2
comp=Z,3.1nm,0.8s,baz=248,slow=4.0,SNR=4.7
ZALV PKiKP PKiKP 14 02 12.7 -2.0
comp=Z,2.8nm,0.9s,baz=97,slow=3.3,SNR=5.4
ZALV PKKPbc PKKPbc 14 13 48.1 -3.2
comp=Z,0.4nm,0.3s,baz=297,slow=2.8,SNR=4.9
ZALV Zalesovo Beam 103.49 323 Pdif Pdif 13 57 55.2 -1.4
ZAL Zalesovo 103.50 323 P Pdif 13 57 55.2 -1.4
ULM Lac du Bonnet 108.33 42 PKiKP PKiKP 14 02 21.7 -2.0
comp=Z,2.5nm,0.6s,baz=317,slow=2.6,SNR=6.9
ULM PKKPab PKKPab 14 13 46.3 -0.6
comp=Z,2.7nm,0.8s,baz=94,slow=2.1,SNR=3.1
LVC Limon Verde 108.46 124 PKKPbc PKKPbc 14 13 35.3 +0.5
comp=Z,4.2nm,0.6s,baz=347,slow=1.4,SNR=4.6
FCC Fort Churchill 110.57 34 *e*PKiKP PKiKP 14 02 24.9 -2.7
OPO Ambohidratompo 111.54 239 PKiKP PKiKP 14 02 30.5 -0.3
comp=Z,7.6nm,0.8s,baz=150,slow=3.9,SNR=8.3
BVAR Borovoye Array 111.77 320 Pdiff Pdif 13 58 34.7 +1.3
comp=Z,0.9nm,0.6s,baz=96,slow=2.9,SNR=3.2
BVAR PKiKP PKiKP 14 02 28.7 -1.4
comp=Z,8.5nm,0.7s,baz=99,slow=1.4,SNR=27
BVAR PKKPbc PKKPbc 14 13 22.1 -3.0
comp=Z,2.0nm,0.8s,baz=318,slow=2.0,SNR=9.7
BVAR Borovoye Array 111.77 320 PKiKP PKiKP 14 02 28.7 -1.4
BRVK Borovoye 111.83 320 *e*PKiKP PKiKP 14 02 28.6 -1.6
LPAZ La Paz 112.39 118 PKiKP PKiKP 14 02 31.8 -0.6
comp=Z,1.8nm,0.8s,baz=272,slow=2.8,SNR=8.6
LPAZ PKKPbc PKKPbc 14 13 21.6 -0.4
comp=Z,1.7nm,0.8s,baz=195,slow=1.5,SNR=5.0
WCI Wyandotte Cave 113.20 56 *e*PKiKP PKiKP 14 02 31.2 -2.1
TKL Tuckaleechee C 114.82 59 *e*PKiKP PKiKP 14 02 34.6 -1.9
ROSC El Rosal 115.96 95 PKP PKPdf 14 02 38.3 -1.1
comp=Z,3.9nm,0.4s,baz=102,slow=18,SNR=3.6
ACSO Alum Creek Sta 116.00 54 *e*PKPdf PKPdf 14 02 36.4 -2.3
ELN Prospectdale 117.43 58 *e*PKPdf PKPdf 14 02 39.9 -1.5
SVE Sverdlovsk 117.44 324 *e*PKiKP PKPdf 14 02 39.9 -1.0
SVE pmax pmax
comp=Z,17nm,0.6s
BLA Blacksburg 117.69 58 *e*PKiKP PKPdf 14 02 40.0 -2.0
SIV San Ignacio 118.26 122 PKP PKPdf 14 02 42.1 -1.6
comp=Z,2.8nm,0.7s,baz=271,slow=2.7,SNR=14
ARU Arti 118.62 324 *i* PKiKP PKPdf 14 02 41.5 -1.6
ARU 14 04 00.6
ARU 14 09 26.3
ARU Arti 118.62 324 *e*PKPdf PKPdf 14 02 41.7 -1.5
AKTK Aktyubinsk 119.39 317 PKP PKPdf 14 02 43.5 -1.3
AKTK SKP 14 06 10.2
AKTK PKKPbc PKKPbc 14 12 55.8 -2.6
AKTO Aktyubinsk 119.39 317 PKP PKPdf 14 02 43.5 -1.3
comp=Z,18nm,0.8s,baz=95,slow=2.9,SNR=49
AKTO SKP 14 06 10.2
comp=Z,2.4nm,0.9s,baz=21,slow=5.1,SNR=3.7
AKTO PKKPbc PKKPbc 14 12 55.8 -2.6
comp=Z,1.4nm,0.4s,baz=241,slow=2.4,SNR=7.4
SUR Sutherland 119.49 210 *e*PKPdf PKPdf 14 02 45.7 -0.1
URVA University of 120.01 58 *e*PKPdf PKPdf 14 02 44.3 -2.1
BOSA Boshof 120.23 216 PKP PKPdf 14 02 47.0 -0.3
comp=Z,21nm,1.0s,baz=114,slow=3.2,SNR=21
BOSA PKKPbc PKKPbc 14 12 51.9 -3.1
comp=Z,2.1nm,0.9s,baz=261,slow=1.1,SNR=4.3
BOSA Boshof 120.23 216 *e*PKPdf PKPdf 14 02 46.9 -0.4
SDMD Soldier's Deli 120.66 56 *e*PKPdf PKPdf 14 02 45.6 -2.0
SDV Santo Domingo 120.76 92 PKP PKPdf 14 02 46.8 -1.8
comp=Z,22nm,0.8s,baz=199,slow=2.4,SNR=24
SDV Santo Domingo 120.76 92 *e*PKPdf PKPdf 14 02 46.4 -2.2
SPITS Spitsbergen Ar 121.01 354 PKP PKPdf 14 02 45.5 -1.7
comp=Z,23nm,0.7s,baz=323,slow=1.0,SNR=17
NCB Newcomb 122.63 50 *e*PKPdf PKPdf 14 02 49.2 -2.0

PAL Palisades 122.93 54 *e*PKIKP PKPdf 14 02 50.0 -1.9
DAG Danmarks Havn 123.65 2⇑ *iP* PKPdf 14 02 50.0 -2.3
comp=Z,11nm,0.5s
DAG *e* 14 03 15.9
DAG Danmarks Havn 123.65 2⇑ *eP* PKPdf 14 02 50.0 -2.3
DAG *e* 14 03 15.9
QUA2 Belchertown 124.06 52 *e*PKPdf PKPdf 14 02 52.2 -1.8
LBNH Lisbon 124.27 50 *e*PKIKP PKPdf 14 02 52.0 -2.4
BRYW Bryant College 124.68 53 *e*PKPdf PKPdf 14 02 53.5 -1.7
APA Apatity 125.68 341⇓ *iPKIKP* PKPdf 14 02 54.5 -1.9
APA pmax pmax
comp=Z,36nm,1.2s
SCHQ Schefferville 125.74 37 PKP PKPdf 14 02 55.3 -1.6
comp=Z,5.0nm,0.6s,baz=351,slow=4.4,SNR=8.0
ARCES ARCESS Array B 126.51 345 PKP PKPdf 14 02 56.5 -1.4
comp=Z,16nm,0.7s,baz=70,slow=1.4,SNR=46
ARE0 ARCESS Array S 126.51 345 *e*PKPdf PKPdf 14 02 56.1 -1.9
PCRV Puerto La Cruz 126.78 93 PKP PKPdf 14 02 56.9 -3.1
comp=Z,10nm,0.8s,baz=308,slow=4.1,SNR=4.7
AOPR Arecibo Observ 126.92 82 *e*PKPdf PKPdf 14 02 57.5 -2.7
UMR Umm Al-Rimmam 127.19 292 *eP* PKPdf 14 02 59.9 -0.5
baz=292
UMR AMb AMB 14 03 00.8
comp=Z,114nm,1.0s,baz=292
RDF Al-Radifah 127.29 291 *eP* PKPdf 14 03 00.5 -0.1
baz=291
RDF AMb AMB 14 03 01.3
comp=Z,117nm,1.0s,baz=291
SJG San Juan 127.44 83 PKP PKPdf 14 02 59.5 -1.8
comp=Z,111nm,0.7s,baz=81,slow=2.1,SNR=36
SJG San Juan 127.44 83 PKIKP PKPdf 14 02 59.5 -1.7
SJG pmax pmax
comp=Z,111nm,0.7s
SJG San Juan 127.44 83 *e*PKPdf PKPdf 14 02 59.4 -1.8
MIB Mutribah 127.54 292 *eP* PKPdf 14 03 00.6 -0.5
baz=292
MIB AMb AMB 14 03 01.4
comp=Z,75nm,1.0s,baz=292
NAY Al-Naaiem 127.58 292 *eP* PKPdf 14 03 00.6 -0.6
baz=292
NAY AMb AMB 14 03 01.9
comp=Z,26nm,1.2s,baz=292
HUMP Col San Antoni 127.72 83 *e*PKPdf PKPdf 14 03 00.1 -1.7
LSZ Lusaka 128.04 230 PKP PKPdf 14 03 02.7 +0.2
comp=Z,32nm,0.9s,baz=139,slow=1.7,SNR=57
LSZ Lusaka 128.04 230 *e*PKPdf PKPdf 14 03 02.2 -0.3
BDFB Brasilia 128.30 131 PKP PKPdf 14 03 01.7 -1.2
comp=Z,12nm,0.7s,baz=221,slow=4.0,SNR=32
KMBO Kilima Mbogo 128.73 251 PKP PKPdf 14 03 04.8 +0.9
comp=Z,20nm,0.9s,baz=37,slow=3.4,SNR=27
KMBO Kilima Mbogo 128.73 251 PKP PKPdf 14 03 04.8 +0.9
DGRG David-gareji 128.92 307 P PKPdf 14 03 04.4 +1.0
JOF Joensuu 129.19 337 *ep* PKPdf 14 02 59.2 -4.0
comp=Z,30nm,0.7s
MTA Mtatsminda 129.33 307 P PKPdf 14 03 04.4 +0.2
TBLG Delisi 129.36 308 P PKPdf 14 03 04.5 +0.3
GNI Garni 129.54 305 PKP PKPdf 14 03 04.1 -0.4
comp=Z,12nm,0.6s,baz=223,slow=1.5,SNR=7.3
GNI Garni 129.54 305 PKIKP PKPdf 14 03 04.1 -0.5
GNI pmax pmax
comp=Z,12nm,0.6s
ONI Oni 130.20 309 P PKPdf 14 03 06.6 +0.8
KIV Kislovodsk 130.52 311⇓ *iPKIKP* PKPdf 14 03 06.6 +0.3
KIV MLR MLR
comp=Z,400nm,20.0s
OBN Obninsk 130.90 326⇑ *iPKIKP* PKPdf 14 03 04.9 -1.8
OBN *i* 14 03 32.6
OBN pmax pmax
comp=Z,63nm,1.4s
OBN Obninsk 130.90 326 *i* PKP PKPdf 14 03 04.9 -1.8
OBN LR LR
comp=Z,300nm,20.0s
KAF Kangasniemi 131.50 338 *ep* PKPdf 14 03 02.9 -4.7
comp=Z,17nm,0.6s
TSUM Tsumeb 131.93 216 PKP PKPdf 14 03 09.2 -0.6
comp=Z,28nm,0.9s,baz=115,slow=2.2,SNR=36
TSUM Tsumeb 131.93 216 *e*PKPdf PKPdf 14 03 09.2 -0.6
ANN Anapa 134.00 313 *i* PKIKP PKPdf 14 03 11.0 -1.9
ANN *e* 14 03 40.6
ANN pmax pmax
comp=Z,15nm,0.8s
MALT Malatya 134.63 304⇓ *iP* PKPdf 14 03 15.0 +0.7
MALT Malatya 134.63 304 *e*PKPdf PKPdf 14 03 14.1 -0.1
SIM Simferopol' 136.21 314 *i* PKIKP PKPdf 14 03 15.1 -1.9
SIM *e**PP 14 03 41.0
SIM pmax pmax
comp=Z,17nm,0.8s
ASF Jabal al Asfar 136.52 295 PKP PKPdf 14 03 18.1 +0.1
comp=Z,5.9nm,0.8s,baz=215,slow=2.6,SNR=7.6
ASF SKPbc SKPbc 14 06 41.2 -1.3
comp=Z,6.5nm,0.8s,baz=339,slow=1.0,SNR=6.3
AKASG Malin Array Be 136.88 324 PKhKP 14 03 05.5
comp=Z,1.7nm,0.6s,baz=53,slow=3.2,SNR=11
AKASG PKP PKPdf 14 03 16.4 -1.6
comp=Z,11nm,0.7s,baz=73,slow=1.4,SNR=22
AKASG SKPbc SKPbc 14 06 40.4 -2.5
comp=Z,14nm,0.8s,baz=45,slow=3.5,SNR=26
AKASG Malin Array Be 136.88 324 PKHKP 14 03 05.5
AKASG 14 03 16.5
AKASG Malin Array Be 136.88 324 PKP 14 03 05.5
AKASG PKP PKPdf 14 03 16.4 -1.6
AKASG SKPbc SKPbc 14 06 40.4 -2.5
KIEV Kiev 136.89 324 *e*PKIKP PKPdf 14 03 16.5 -1.6
NOA NORSAR Array B 136.89 345 PKhKP 14 03 07.0
comp=Z,2.8nm,0.6s,baz=39,slow=1.4,SNR=9.8
NOA PKP PKPdf 14 03 17.1 -0.7
comp=Z,7.5nm,0.7s,baz=36,slow=2.0,SNR=21
NOA SKPbc SKPbc 14 06 39.6 -3.0
comp=Z,1.7nm,0.8s,baz=17,slow=4.5,SNR=4.7
NOA NORSAR Array B 136.89 345 PKHKP 14 03 07.0
NOA 14 03 17.1
HFS Hagfors 137.01 343 PKhKP 14 03 05.2
comp=Z,2.6nm,0.7s,baz=308,slow=7.1,SNR=4.8
HFS PKP PKPdf 14 03 18.0 0.0
comp=Z,8.2nm,0.7s,baz=108,slow=2.3,SNR=10.0
HFS SKPbc SKPbc 14 06 39.8 -3.2
comp=Z,6.7nm,0.8s,baz=38,slow=5.6,SNR=8.3
HFS Hagfors 137.01 343 PKHKP 14 03 05.3
HFS 14 03 18.0
MMAI Mount Meron Ar 137.71 297 PKP PKPdf 14 03 17.9 -2.3
comp=Z,11nm,0.7s,baz=71,slow=5.4,SNR=8.0
MMAI SKPbc SKPbc 14 06 45.6 -0.3
comp=Z,16nm,0.8s,baz=58,slow=5.3,SNR=10
SUW Suwalki 138.06 331 *e*PKPdf PKPdf 14 03 18.6 -1.6
SUW Suwalki 138.06 331 *e*PKPdf PKPdf 14 03 18.6 -1.5
EIL Elat 138.30 292 PKP PKPdf 14 03 19.8 -1.6
comp=Z,17nm,0.9s,baz=331,slow=2.0,SNR=11
EIL SKPbc SKPbc 14 06 46.5 -1.2
comp=Z,12nm,0.9s,baz=3.6,slow=4.4,SNR=7.2
EIL Elat 138.30 292 PKP PKPdf 14 03 19.8 -1.6
EIL SKPbc SKPbc 14 06 46.5 -1.2
ANTO Ankara 138.61 307⇓ *iP* PKPdf 14 03 21.0 -0.6
ANTO Ankara 138.61 307 *e*PKPdf PKPdf 14 03 22.0 +0.4
KIS Kishinev 138.84 319 *e*PKIKP PKPdf 14 03 20.0 -1.8
KIS MLR MLR
comp=Z,600nm,21.0s
KIS MLR MLR
comp=Z,700nm,24.0s
CSS Prodhromos 139.19 300 *e*PKPdf PKPdf 14 03 21.7 -1.1
TLCR 139.62 317 PKIKP PKPdf 14 03 22.3 -1.0
LVV L'vov 140.17 325 *e*PKIKP PKPdf 14 03 22.8 -1.3
WAR Warsaw 140.20 330 *e*PKPdf PKPdf 14 03 23.8 -0.3
WAR Warsaw 140.20 330 *e*PKPdf PKPdf 14 03 23.8 -0.3
BURAR Bucovina Array 140.70 322 PKIKP PKPdf 14 03 26.3 +1.2
BURAR Bucovina Array 140.70 322 *iP* PKPdf 14 03 20.1 -5.0
BURAR Bucovina Array 140.70 322 ‖P PKPdf 14 03 20.1 -5.0
BURAR P 14 03 26.2
ISP Isparta 140.84 305 *e*PKIKP PKPdf 14 03 23.1 -2.6
KWP Kalwaria 140.98 326 *e*PKPdf PKPdf 14 03 25.0 -0.6
KWP *e*PKiKP PKiKP 14 03 27.8 -0.5
KWP Kalwaria 140.98 326⇑ *iP* PKPdf 14 03 24.9 -0.7
KWP Kalwaria 140.98 326 *e*PKPpre 14 03 18.8
KWP PKPdf PKPdf 14 03 24.8 -0.8
KWP *e*PKPdf PKPdf 14 03 25.0 -0.6
KWP *e*PKPdf PKPdf 14 03 27.8 +2.2
GKP Gorka Klasztor 141.16 334 *e*PKPdf PKPdf 14 03 25.4 -0.4
MLR Muntele Rosu 141.30 318⇑ *iP* PKPdf 14 03 26.3 0.0
MLR Muntele Rosu 141.30 318 P PKPdf 14 03 25.7 -0.6
KOLS Kolonicke sedl 141.62 325 *e*PKP PKPdf 14 03 22.1 -4.7
KOLS *e*SKP 14 06 54.0
UZH Uzhgorod 141.79 325 *e*PKIKP PKPdf 14 03 23.8 -3.3
UZH *e* 14 03 46.8
UZH *i* 14 03 51.6
STHS Stebnicka Huta 141.87 326 *e*PKP PKPdf 14 03 23.0 -4.2

STHS *e*SKP 14 06 55.2
STHS Stebnicka Huta 141.87 326 *e*PKP PKPdf 14 03 23.0 -4.2
STHS *e* 14 06 55.3
CRVS Cervenica-Dubn 142.07 326 *e*PKP PKPdf 14 03 22.7 -4.9
CRVS *e*SKP 14 06 54.7
OJC Ojcow 142.10 328 *e*PKP PKPdf 14 03 22.4 -5.2
OJC *e*PP PP 14 06 54.8 +21
SZH Strazhica 142.30 315 P PKPdf 14 03 23.4 -4.8
NIE Niedzica 142.35 327 *e*PKP PKPdf 14 03 23.8 -4.2
NIE *e*PP PP 14 06 56.8 +21
MVH1 Achvaich 142.47 355 *e*P PKPdf 14 03 24.5 -3.5
DRGR 142.59 322⇑ *iP* PKPdf 14 03 24.0 -4.6
DRGR 142.59 322 P PKPdf 14 03 24.4 -4.1
MCD Coleburn Disti 142.73 354 *e*P PKPdf 14 03 22.2 -6.2
KECS Kecovo 142.84 326 *e*PKP PKPdf 14 03 24.8 -4.1
KECS *e*SKP 14 06 53.7
KAC Achnashellach 142.99 356 *e*P PKPdf 14 03 23.7 -5.2
RUE Ruedersdorf 143.15 335 *e*PKPpre PKPdf 14 03 25.9 -3.4
OKC Ostrava-Krasne 143.15 329 *e*PKP PKPdf 14 03 25.5 -4.0
OKC *ex* x 14 03 42.2
OKC AMS AMS 15 03 20.0
comp=Z,400nm,26.9s
OKC Ostrava-Krasne 143.15 329 *e*PKP PKPdf 14 03 25.5 -4.0
OKC *e* 14 03 42.2
KPL Plockton 143.17 356 *e*P PKPdf 14 03 23.7 -5.5
ALN Alexandroupoli 143.18 311 *e*P PKPdf 14 03 24.6 -5.2
CRAR CRAIOVA 143.20 318 PKIKP PKPdf 14 03 27.7 -2.0
BSEG Bad Segeberg 143.21 340 *e*PKPbc PKPdf 14 03 25.4 -4.0
GZR Gura Zlata 143.29 320 PKHKP PKPdf 14 03 26.3 -3.5
KSP Ksiaz 143.31 332 *e*PKP PKPdf 14 03 26.0 -3.7
KSP Ksiaz 143.31 332⇓ *e*PKIKP PKPdf 14 03 25.9 -3.8
KSP *e* 14 03 50.3
KSP Ksiaz 143.31 332⇓ *e*PKP PKPdf 14 03 25.9 -3.8
KSP *ep*PKP pPKPdf 14 03 50.3 -4.4
KSP *e*PP PP 14 06 58.0 +17
KDZ Kurdzhali 143.32 313 P PKPdf 14 03 26.1 -3.9
SHEL Horse Pasture 143.38 187 *e*PKIKP PKPdf 14 03 28.5 -2.4
MORC Moravsky Berou 143.48 329 PKIKP PKPdf 14 03 27.2 -2.8
MORC Moravsky Berou 143.48 329⇑ *iP* PKPdf 14 03 26.8 -3.2
MORC Moravsky Berou 143.48 329 *e*PKPpre PKPdf 14 03 26.6 -3.4
PSZ Piszkesteto 143.50 325⇓ *e*PKP PKPdf 14 03 26.9 -3.2
PSZ Piszkesteto 143.50 325⇑ *iP* PKPdf 14 03 27.3 -2.8
PSZ Piszkesteto 143.50 325 *e*PKPpre PKPdf 14 03 26.8 -3.4
KAR1 Arisaig 143.60 356 *e*P PKPdf 14 03 26.5 -3.5
PRK Paraskevi 143.61 309 *e*P PKPdf 14 03 27.0 -3.6
PRK Paraskevi 143.61 309 *e*P PKPdf 14 03 27.0 -3.6
PLD Plovdiv 143.62 314 *e*P PKPdf 14 03 26.9 -3.6
PLD Plovdiv 143.62 314 P PKPdf 14 03 26.8 -3.7
DPC Dobruska-Polom 143.65 331 *e*PKP PKPdf 14 03 27.4 -2.9
DPC *ep*PKP pPKPdf 14 03 52.0 -3.3
DPC AMS AMS 15 06 40.0
comp=Z,500nm,18.7s
UPC Upice 143.68 331 *e*PKP PKPdf 14 03 27.4 -3.0
PGB Panagyurishte 143.78 315 P PKPdf 14 03 27.9 -2.9
RZN Rozhen 143.78 313 P PKPdf 14 03 23.4 -7.4
KOLL Kolacno 143.86 327 *i* PKP PKPdf 14 03 29.1 -1.6
BZS Buzias 143.86 321⇑ *iP* PKPdf 14 03 28.3 -2.5
BZS Buzias 143.86 321 P PKPdf 14 03 27.9 -3.0
KARP Karpathos 144.02 302 *e*P PKPdf 14 03 26.0 -5.4
CHOS Chios island 144.06 308 *e*P PKPdf 14 03 28.6 -2.8
EBH Black Hill 144.07 354 *e*P PKPdf 14 03 30.0 -0.8
EAB Aberfoyle 144.21 354 *e*P PKPdf 14 03 28.1 -3.0
LOS Limnos 144.22 310 *e*P PKPdf 14 03 28.9 -2.7
BUD Budapest 144.23 325⇓ *e*PKP PKPdf 14 03 29.5 -1.9
VRAC Vranov 144.25 330 PKP PKPdf 14 03 29.3 -2.1
comp=Z,52nm,0.8s,baz=54,slow=2.9,SNR=68
VRAC SKPbc SKPbc 14 07 00.3 -2.1
comp=Z,1.3nm,0.4s,baz=292,slow=2.6,SNR=3.1
VRAC Vranov 144.25 330⇑ *iP* PKPdf 14 03 29.7 -1.7
VRAC Vranov 144.25 330 P PKPdf 14 03 29.6 -1.8
PVCC Panska Ves 144.30 333 *e*PKP PKPdf 14 03 29.5 -1.9
PVCC *ep*PKP pPKPdf 14 03 55.9 -0.5
PVCC AMS AMS 15 01 30.0
comp=Z,600nm,24.8s
BRG Berggiesshubel 144.31 334⇓ *iPKIKP* PKPdf 14 03 29.4 -2.0
BRG *i* 14 03 54.6
BRG MLR MLR
comp=Z,330nm,20.4s
BRG Berggiesshubel 144.31 334 *e*PKPbc PKPdf 14 03 29.4 -2.0
BRG Berggiesshubel 144.31 334⇓ *iPKP* PKPdf 14 03 29.4 -2.0
comp=Z,189nm,0.8s
BRG *i* pPKP pPKPdf 14 03 54.6 -1.8
comp=Z,53nm,1.0s
BRG *i* 14 04 08.5
comp=Z,112nm,1.5s
BRG *i* 14 07 00.9
comp=Z,18nm,1.0s
BRG
comp=N,491nm,21.8s
BRG
comp=E,276nm,19.6s
BRG
comp=Z,546nm,20.4s
BRG Berggiesshubel 144.31 334⇓ *iPKP* PKPdf 14 03 29.4 -2.0
BRG *i* pPKP pPKPdf 14 03 54.6 -1.8
BRG *i* 14 04 08.5
BRG *i* 14 07 00.9
BRG LR LR
comp=Z,330nm,20.4s
CLL Collm 144.36 335 *e*PKPbc PKPdf 14 03 29.3 -2.2
CLL Collm 144.36 335⇓ *iPKPdf* PKPdf 14 03 29.2 -2.3
comp=Z,166nm,0.8s
CLL *ep*PKPdf pPKPdf 14 03 55.0 -1.5
CLL *ep*PKiKP 14 03 58.0
CLL *es*PKiKP 14 04 08.0
CLL Collm 144.36 335⇓ *iPKP* PKPdf 14 03 29.2 -2.3
CLL *ep*PKP pPKPdf 14 03 55.0 -1.5
CLL LR LR
comp=Z,500nm,21.3s
VTS Vitosha 144.39 316 P PKPdf 14 03 30.2 -1.7
VTS Vitosha 144.39 316⇑ *iP* PKPdf 14 03 30.3 -1.6
VTS Vitosha 144.39 316 P PKPdf 14 03 30.4 -1.5
EAU Auchinoon 144.46 353 *e*P PKPdf 14 03 29.2 -2.3
NRDL Niedersach Rie 144.48 339 *e*PKPbc PKPdf 14 03 29.4 -2.3
EBL Broad Law 144.48 353 *e*P PKPdf 14 03 28.6 -3.0
MMB Musomiste 144.50 314 P PKPdf 14 03 30.1 -2.0
MODS Modra-Piesok 144.56 328 *i* PKIKP PKPdf 14 03 30.8 -1.2
MODS *e* 14 03 55.1
MODS Modra-Piesok 144.56 328 *i* PKP PKPdf 14 03 30.8 -1.2
MODS *e* 14 03 55.1
MODS *e* 14 04 10.7
MODS *e*SKP 14 07 02.0
PGBU Glenifferbraes 144.59 354 *e*P PKPdf 14 03 29.2 -2.6
XSO Sourhope Farm 144.66 352 *e*P PKPdf 14 03 29.7 -2.2
PRA Prague 144.69 332 PKP PKPdf 14 03 31.0 -1.1
PRA pPKP pPKPdf 14 03 55.0 -2.1
PRU Pruhonice 144.71 332 *e*PKP PKPdf 14 03 30.6 -1.6
PRU *ep*PKP pPKPdf 14 03 55.0 -2.1
PRU AMS AMS 15 01 40.0
comp=Z,600nm,24.9s
ZST Bratislava 144.76 328 *i* PKP PKPdf 14 03 31.4 -0.9
ZST *e* 14 03 52.7
ZST *e*SKP 14 06 56.3
TREC Trest 144.78 330 *e*PKP PKPdf 14 03 30.9 -1.4
TREC *ep*PKP pPKPdf 14 03 51.8 -5.5
TREC AMS AMS 15 05 00.0
comp=Z,800nm,25.0s
SRS Serrai 144.79 313 *e*P PKPdf 14 03 30.4 -2.2
KKB Krupnik 144.81 315 P PKPdf 14 03 31.1 -1.5
OUR Ouranopolis 144.84 312 *e*P PKPdf 14 03 30.4 -2.3
APE Apeiranthos 144.87 306 *e*P PKPdf 14 03 30.1 -2.7
APE Apeiranthos 144.87 306 *e*P PKPdf 14 03 29.0 -3.9
APE Apeiranthos 144.87 306⇓ *iP* PKPdf 14 03 30.1 -2.8
CLZ Clausthal 144.93 338 *e*PKPbc PKPdf 14 03 31.1 -1.4
EKA Eskdalemuir Ar 144.93 353 PKP PKPdf 14 03 30.2 -2.1
comp=Z,72nm,0.6s,baz=348,slow=1.9,SNR=275
EKA SKPbc SKPbc 14 07 01.4 -2.3
comp=Z,4.8nm,0.8s,baz=350,slow=3.6,SNR=5.8
ESK Eskdalemuir 144.95 353 *e*P PKPdf 14 03 30.2 -2.2
ESK Eskdalemuir 144.95 353 *e*PKP PKPdf 14 03 30.4 -2.0
ECK Cauldkaine Hil 145.07 353 *e*P PKPbc 14 03 30.5 -1.8
SOH Sokhos 145.08 313 *e*P PKPbc 14 03 31.1 -1.6
THR1 Thera Island 145.13 304 *e*P PKPbc 14 03 31.7 -1.4
THR4 Thira Island, 145.15 305 *e*P PKPbc 14 03 31.8 -1.4
THR3 Thira Island, 145.16 305 *e*P PKPbc 14 03 31.9 -1.3
THR6 Thira Island, 145.18 304 *e*P PKPbc 14 03 31.9 -1.3
THR5 Thira Island, 145.20 305 *e*P PKPbc 14 03 31.9 -1.4
PLG Polygyros 145.20 312 *e*P PKPbc 14 03 31.4 -1.8
PLG Polygyros 145.20 312 *e*P PKPbc 14 03 30.0 -3.2
PKSM Moragy 145.22 324⇑ *iP* PKPbc 14 03 32.1 -0.9
PKSM Moragy 145.22 324 P PKPbc 14 03 31.8 -1.2

PAIG	Paliouri	145.22 311	eP	PKPbc	14 03 31.5	-1.8
XAL	Allendale	145.27 352	eP	PKPbc	14 03 31.4	-1.5
NPS	Neapolis	145.32 303	eP	PKPbc	14 03 33.5	-0.2
HORT	Hortiatis	145.35 313	eP	PKPdf	14 03 32.0	-1.6
AOS	Alonnisos	145.37 310	eP	PKPdf	14 03 32.4	-1.3
SOP	Sopron	145.38 328⇓	eP	PKPdf	14 03 25.2	-8.2
VAY	Valandovo	145.40 314	eP	PKPdf	14 03 31.2	-2.5
VAY	Valandovo	145.40 314⇑	iPKP	PKPdf	14 03 31.1	-2.6
IBBN	Ibbenburen	145.41 340	eP	PKPbc	PKPbc	14 03 32.6 -0.8
IBBN			ep	PKPbc	pPKPbc	14 03 57.5 -0.5
NKC	Novy Kostel	145.41 334	eP	PKPdf	PKPdf	14 03 32.6 -0.8
NKC			ep	PKP	pPKPdf	14 03 57.8 -0.6
MOX	Moxa	145.42 335⇓	iPKP	PKPdf	14 03 32.7	-0.7
	comp=Z,275nm,1.6s					
MOX			e		14 03 57.8	
MOX						
	comp=Z,300nm,19.0s					
MOX	Moxa	145.42 335	ePKPbc	PKPbc	14 03 32.7	-0.8
THE	Thessaloniki	145.43 313	eP	PKPdf	14 03 31.9	-1.8
STIP	Stip	145.48 315⇑	ePKP	PKPdf	14 03 31.5	-2.2
GAL1	Galloway	145.55 354	eP	PKPdf	14 03 31.8	-1.7
CONA	Conrad Observa	145.56 328⇓	iP	PKPdf	14 03 32.4	-1.3
	comp=Z,375nm,1.7s,SNR=134					
CSNA	Conrad Observa	145.56 328⇓	iP	PKPdf	14 03 32.3	-1.4
	comp=Z,337nm,1.7s					
DIVS	Divibare	145.66 320	eP	PKPdf	14 03 32.5	-1.5
GRG	Griva	145.67 314	eP	PKPdf	14 03 32.9	-1.3
MANZ	Manzenberg	145.74 334	ePKPbc	PKPbc	14 03 33.5	-1.0
KHC	Kasperske Hory	145.76 332	ePKIKP	PKPdf	14 03 32.7	-1.3
KHC			e		14 03 57.3	
KHC			MLR	MLR		
	comp=Z,700nm,22.7s					
KHC	Kasperske Hory	145.76 332	ePKP	PKPdf	14 03 32.7	-1.3
KHC			epPKP	pPKPdf	14 03 57.3	-1.7
KHC			ex	x	14 04 13.0	
KHC			AMS	AMS	15 04 50.0	
	comp=Z,700nm,22.7s					
XOR	Xorichti	145.79 311	eP	PKPdf	14 03 32.3	-2.1
PTL	Penteli	145.79 308	eP	PKPdf	14 03 30.0	-4.4
SKO	Skopje	145.84 316	eP	PKPdf	14 03 35.0	+0.6
SKO	Skopje	145.84 316⇑	iPKP	PKPdf	14 03 33.8	-0.6
ROTZ	Rotzenmuhle	145.87 334	ePKPbc	PKPbc	14 03 34.1	-0.8
IDI	Anoyia	145.88 303	PKPbc	PKPbc	14 03 34.2	-1.2
	comp=Z,78nm,0.8s,baz=48,slow=8.2,SNR=51					
UBBA	Unterbreizbach	145.90 337	ePKPbc	PKPbc	14 03 33.8	-1.2
GEC2	GERESS Array S	145.92 331	ePKPbc	PKPbc	14 03 34.6	-0.5
GERES	GERESS Array B	145.92 331	PKPbc	PKPbc	14 03 33.3	-1.8
	comp=Z,66nm,0.7s,baz=70,slow=1.6,SNR=344					
GERES			pPKPbc	pPKPbc	14 03 59.2	-0.6
	comp=Z,34nm,0.8s,baz=52,slow=2.4,SNR=5.6					
GERES			SKPbc	SKPbc	14 07 04.3	-1.9
	comp=Z,8.7nm,0.8s,baz=48,slow=2.0,SNR=9.1					
ATH	Athens Observa	145.93 308	eP	PKPdf	14 03 33.0	-1.7
KVR	Kavouri	145.94 308	eP	PKPdf	14 03 30.0	-4.7
LIT	Litokhoron	145.98 312	eP	PKPdf	14 03 32.2	-2.4
WTSB	Winterswijk	146.00 341	ePKP	PKPdf	14 03 33.3	-1.0
	comp=Z,174nm,1.5s					
WTSB	Winterswijk	146.00 341	ex	x	14 03 58.4	
HPK	Haverah Park	146.07 351	eP	PKPdf	14 03 34.3	0.0
GIM	North Isle of	146.09 354	eP	PKPdf	14 03 33.7	-0.7
NAIG	Nisos Aigina	146.17 308	eP	PKPdf	14 03 33.5	-1.6
ARSA	Arzberg	146.19 328⇑	iP	PKPdf	14 03 33.2	-1.5
	comp=Z,48nm,1.1s,SNR=13					
LKR	Lokris	146.20 309	eP	PKPdf	14 03 33.1	-2.0
KRUS	Krusevo	146.26 315⇑	iPKP	PKPdf	14 03 34.0	-1.1
GRF	Grafenberg Arr	146.33 335	ePKPbc	PKPbc	14 03 35.7	-0.6
GRF			epPKPbc	pPKPbc	14 04 00.9	-0.1
KOGS	Kog	146.35 326	ePKPdf	PKPdf	14 03 33.4	-1.7
KOGS			i PKPbc	PKPbc	14 03 35.4	-1.1
KOGS			i pPKPdf	pPKPdf	14 04 00.9	+0.8
KOGS			i pPKPbc	pPKPbc	14 04 04.8	+3.6
KOGS			e		14 04 18.8	
KOGS			e		14 07 04.9	
BIA	Bitola	146.37 314	eP	PKPdf	14 03 35.1	-0.2
BIA	Bitola	146.37 314⇑	iPKP	PKPdf	14 03 32.9	-2.5
IVA	Berane	146.38 318⇑	iPKP	PKPdf	14 03 35.5	+0.2
MOA	Molln	146.38 330⇓	iP	PKPdf	14 03 32.9	-2.2
	comp=Z,90nm,1.2s,SNR=54					
VAM	Vamos	146.39 303	eP	PKPdf	14 03 36.5	+1.0
FNA	Florina	146.44 314	eP	PKPdf	14 03 32.2	-3.2
PLE	Pljevlja	146.44 319⇑	iPKP	PKPdf	14 03 33.9	-1.5
DID	Didima	146.45 307	eP	PKPdf	14 03 34.8	-0.8
LTK	Loutraki	146.46 308	eP	PKPdf	14 03 34.9	-0.7
PVY	Plav	146.47 318⇑	iPKP	PKPdf	14 03 36.0	+0.6
LHO	Holmfirth	146.50 351	eP	PKPdf	14 03 34.9	-0.2
AGG	Agios Georgios	146.54 310	eP	PKPdf	14 03 34.0	-1.7
THL	Klokotos Trika	146.54 312	eP	PKPdf	14 03 32.2	-3.4
ABA1	Baconsthorpe	146.60 347	eP	PKPdf	14 03 36.4	+1.1
GVD	Gavdhos	146.63 302	eP	PKPdf	14 03 33.0	-3.0
DMUB	Kingscourt	146.68 356⇓	iP	PKPdf	14 03 35.9	+0.5
OHR	Ohrid	146.68 315	eP	PKPdf	14 03 35.9	+0.1
OHR	Ohrid	146.68 315⇑	iPKP	PKPdf	14 03 34.1	-1.7
KBI1	Birley Grange	146.73 350	eP	PKPdf	14 03 35.2	-0.3
UPM	Unac-Piva	146.81 319⇑	iPKP	PKPdf	14 03 36.6	+0.6
SOKA	Soboth	146.82 327⇓	iP	PKPdf	14 03 33.7	-2.2
	comp=Z,102nm,1.4s					
AEU	East Anglia Un	146.84 347	eP	PKPdf	14 03 36.2	+0.5
VLI	Veliai	146.95 306	eP	PKPdf	14 03 36.5	+0.1
NKY	Niksic	146.97 319⇑	iPKP	PKPdf	14 03 37.3	+1.0
MEV	Metsovon	146.99 312	eP	PKPdf	14 03 35.9	-0.5
TTG	Podgorica	147.01 318⇑	iPKP	PKPdf	14 03 37.3	+1.0
KWE	Weaver Farm	147.01 351	eP	PKPdf	14 03 36.9	+0.9
KYTH	Kithira	147.02 305	eP	PKPdf	14 03 34.0	-2.6
VLX	Vlachokerasia	147.13 308	eP	PKPdf	14 03 38.0	+1.2
TIR	Tirane	147.18 316	eP	PKPdf	14 03 38.2	+1.5
CWF	Charnwood Fore	147.20 350	eP	PKPdf	14 03 37.4	+1.1
BRY	Bratogost	147.20 319⇑	iPKP	PKPdf	14 03 37.8	+1.2
DCN	Croghan	147.25 357⇓	iP	PKPdf	14 03 37.6	+1.2
ULC	Ulcinj	147.26 317	ePKP	PKPdf	14 03 37.4	+0.6
DSB	Dublin	147.29 356	ePKPdf	PKPdf	14 03 35.6	-0.9
BUM	Brajici-Budva	147.31 318⇑	iPKP	PKPdf	14 03 37.9	+1.1
JAN	Janina	147.31 312	eP	PKPdf	14 03 35.5	-1.4
HGN	Heimansgroeve	147.32 341	eP	PKPdf	14 03 38.2	+1.7
HGN	Heimansgroeve	147.32 341	ePKP	PKPdf	14 03 37.9	+1.4
	comp=Z,82nm,1.9s					
HGN	Heimansgroeve	147.32 341	ex	x	14 04 03.0	
SBD1	Bryn Du	147.32 352	eP	PKPdf	14 03 37.6	+1.1
TOD	Tromm	147.33 337	PKIKP	PKPdf	14 03 35.4	-1.2
BEBN	Eben Emael	147.37 341	PKPbc	PKPbc	14 03 38.6	-0.6
KBA	Koelnbreinsper	147.37 329⇑	iP	PKPdf	14 03 34.7	-2.0
	comp=Z,67nm,0.8s,SNR=21					
MEM	Membach	147.43 341	PKP	PKPdf	14 03 35.9	-0.9
MEM			PKPbc	PKPbc	14 03 38.4	-1.0
MEM			APKP		14 03 58.8	
MEM			APKPbc		14 04 02.3	
HCY	Herceg Novi	147.48 319⇑	iPKP	PKPdf	14 03 38.5	+1.4
FUR	Furstenfeldbru	147.50 333	ePKP2	PKPab	14 03 42.0	+0.2
FUR	Furstenfeldbru	147.50 333	ePKPbc	PKPbc	14 03 38.8	-0.8
FUR			ePKPab	PKPab	14 03 42.0	+0.2
FUR			epPKPbc	pPKPbc	14 04 04.7	+0.3
BOJS	Bojanci	147.50 326	ePKPdf	PKPdf	14 03 35.8	-1.3
BOJS			i PKPbc	PKPbc	14 03 39.2	-0.5
LJU	Ljubljana	147.51 327	i PKPdf	PKPdf	14 03 35.8	-1.2
LJU			i PKPbc	PKPbc	14 03 38.9	-0.8
ITM	Ithomi	147.54 308	eP	PKPdf	14 03 35.0	-2.4
MYKA	Terra Mystica	147.55 329⇓	iP	PKPdf	14 03 35.3	-1.8
	comp=Z,63nm,0.7s					
HLM1	Long Mynd	147.65 352	eP	PKPdf	14 03 38.2	+1.1
IGT	Igoumenitsa	147.72 313	eP	PKPdf	14 03 39.4	+1.8
STON	Ston	147.73 320	P	PKPdf	14 03 38.7	+1.1
UCC	Uccle	147.75 343	PKPbc	PKPbc	14 03 39.2	-1.0
UCC			APKPbc		14 04 05.4	
BCLA	Clavier	147.81 341	PKPbc	PKPbc	14 03 39.4	-1.0
BCLA			APKPbc		14 04 04.5	
VOY	Vojsko	147.84 328	ePKPdf	PKPdf	14 03 35.9	-1.7
VOY			ePKPbc	PKPbc	14 03 39.4	-1.2
VOY			epPKPdf	pPKPdf	14 04 01.5	-1.1
VOY			e		14 04 41.7	
PTCC	Patocco-Chiusa	147.84 329	PKP	PKPdf	14 03 35.8	-1.8
LKD	Levkas	147.86 311	eP	PKPbc	14 03 40.1	-0.9
STU	Stuttgart	147.87 336	ePKPbc	PKPbc	14 03 39.7	-0.9
STU	Stuttgart	147.87 336	ePKPdf	PKPdf	14 03 36.4	-1.1
STU			ePKPbc	PKPbc	14 03 39.8	-0.8
RUP	Ruppelstein	147.87 339	PKIKP	PKPdf	14 03 36.7	-0.8
ROBS	Robic	147.88 328	i PKPdf	PKPdf	14 03 35.9	-1.8
ROBS			i PKPbc	PKPbc	14 03 39.0	-1.7
GMNA	Gemona	148.00 329	PKP	PKPdf	14 03 36.6	-1.2
WATA	Walderalm	148.00 331⇓	iP	PKPdf	14 03 36.2	-1.6
	comp=Z,34nm,0.6s,SNR=34					
ABTA	Abfaltersbach	148.00 330⇓	iP	PKPdf	14 03 35.7	-2.1
	comp=Z,69nm,0.7s,SNR=63					
KEK	Kerkira	148.01 313	eP	PKPdf	14 03 40.0	+1.9
KFL	Anninata	148.01 310	eP	PKPbc	14 03 40.6	-0.7
WTTA	Wattenberg	148.02 331⇓	iP	PKPdf	14 03 36.3	-1.5
	comp=Z,71nm,0.8s,SNR=62					
HAE	Alders End	148.07 351	eP	PKPbc	14 03 39.9	-1.1
VLS	Valsamata	148.13 310	eP	PKPbc	14 03 40.3	-1.4
VLS	Valsamata	148.13 310	eP	PKPbc	14 03 40.0	-1.7
MCH1	Michaelchurch	148.17 351	eP	PKPdf	14 03 39.0	+1.1
MOTA	Moosalm	148.20 332⇑	iP	PKPdf	14 03 36.2	-1.9
	comp=Z,88nm,0.7s,SNR=87					
WLF	Walferdange	148.21 340	PKPbc	PKPbc	14 03 41.2	-0.3
WLF			APKP		14 04 01.2	
WLF			APKPbc		14 04 05.9	
WLF	Walferdange	148.21 340	ePKPbc	PKPbc	14 03 41.2	-0.3
WLF			epPKPbc	pPKPbc	14 04 06.1	-0.1
WLF	Walferdange	148.21 340	ePKPdf	PKPdf	14 03 37.5	-0.6
WLF			ePKPbc	PKPbc	14 03 40.7	-0.8
LANF	Langenberg	148.22 337	PKP	PKPdf	14 03 37.6	-0.5
RETA	Reutte	148.24 332⇑	iP	PKPdf	14 03 36.7	-1.5
	comp=Z,56nm,0.8s,SNR=33					
DOU	Dourbes	148.31 342	PKPbc	PKPbc	14 03 41.0	-0.8
DOU			APKPbc		14 04 04.8	
NVLJ	Novalja	148.32 325	P	PKPdf	14 03 40.1	+1.7
BAIF	Baives	148.46 342	ePKIKP	PKPdf	14 03 38.2	-0.3
	comp=Z,31nm,1.1s					
SWN1	Swindon	148.46 350	eP	PKPbc	14 03 40.5	-1.6
HGH	Gray Hill	148.50 351	eP	PKPdf	14 03 40.3	+1.8
MENF	Mencas	148.55 345	PKP	PKPdf	14 03 39.0	+0.4
WOL	Wolverton	148.56 349	eP	PKPdf	14 03 40.3	+1.7
BFO	Black Forest	148.56 336	ePKPab	PKPab	14 03 45.4	-0.7
BFO	Black Forest	148.56 336	ePKPbc	PKPbc	14 03 41.4	-1.0
BFO			ePKPab	PKPab	14 03 45.4	-0.7
BFO			ePKPab	PKPab	14 03 45.6	-0.4
STR	Strasbourg	148.56 337	PKP	PKPdf	14 03 38.0	-0.7
SPAK	Spaichingen-Ko	148.57 335	PKP	PKPdf	14 03 36.9	-1.8
FETA	Feichten	148.61 332⇓	iP	PKPdf	14 03 37.5	-1.3
	comp=Z,94nm,0.7s,SNR=108					
DAVA	Damuels	148.77 333⇓	iP	PKPdf	14 03 37.8	-1.3
	comp=Z,144nm,0.8s,SNR=37					
APPI	Appiano	148.80 331	PKP	PKPbc	14 03 41.7	-1.4
CDF	Champ du Feu	148.88 337	ePKIKP	PKPdf	14 03 37.3	-1.9
	comp=Z,11nm,0.9s					
CTI	Castel Tesino	148.92 330	PKIKP	PKPdf	14 03 38.2	-1.2
FELD	Feldberg im Sc	149.06 336	PKP	PKPdf	14 03 38.0	-1.5
ECH	Echery	149.09 337	PKP	PKPdf	14 03 38.0	-1.6
ECH	Echery	149.09 337	ePKPdf	PKPdf	14 03 38.0	-1.6
ECH			ePKPbc	PKPbc	14 03 42.4	-1.4
ECH			ePKPab	PKPab	14 03 47.8	-0.5
DAVOS	Davos	149.16 333	PKP2	PKPbc	14 03 43.5	-0.5
DAVOX	Davos/Dischmat	149.17 332	PKPbc	PKPbc	14 03 43.5	-0.5
	comp=Z,89nm,0.6s,baz=360,slow=1.0,SNR=60					
MOF	Molkenrain	149.41 337	PKP	PKPdf	14 03 38.7	-1.4
MABI	Malga Bissina	149.44 331	PKP	PKPbc	14 03 42.9	-1.8
THEF	They Montfort	149.50 338	PKP	PKPdf	14 03 38.9	-1.3
HINF	Hinterzarfeld	149.54 337	ePKIKP	PKPdf	14 03 38.3	-2.0
	comp=Z,45nm,1.2s					
HAU	Haudompre	149.56 338	ePKIKP	PKPdf	14 03 39.3	-1.0
HAU			eMLR	MLR		
	comp=Z,534nm,19.8s					
HAU	Haudompre	149.56 338	ePKPdf	PKPdf	14 03 39.3	-1.0
HAU			LR	LR		
	comp=Z,530nm,19.8s					
MEZF	Maizieres J'vi	149.57 340	ePKIKP	PKPdf	14 03 40.0	-0.3
	comp=Z,56nm,1.1s					
TUE	Stuetta	149.64 333	ePKPdf	PKPdf	14 03 38.9	-1.6
TUE			PKP	PKPdf	14 03 43.7	+3.2
TUE			ePKPbc	PKPbc	14 03 44.6	-0.6
RGNG	Rignano Grg	149.70 320	PKP	PKPdf	14 03 39.2	-1.6
LOMF	Lomont	149.94 336	PKP	PKPdf	14 03 40.0	-0.9
CING	Cingoli	150.01 324	PKP	PKPdf	14 03 40.1	-1.1
CCA1	Carnmenellis	150.23 353	eP	PKPbc	14 03 44.4	-2.1
TIP	Timpagrande	150.32 314	ePKPdf	PKPdf	14 03 39.8	-2.0
TIP			ePKPbc	PKPbc	14 03 46.4	-0.7
MURB	Monte Urbino	150.45 325	PKP	PKPdf	14 03 40.7	-1.2
CUC	Castrocucco	150.51 317	ePKPbc	PKPbc	14 03 45.5	-2.1
FNVD	Fontana Vidola	150.54 328	PKP	PKPdf	14 03 41.2	-0.8
AQU	L'Aquila	150.56 323⇓	iP	PKPbc	14 03 46.4	-1.2
AQU	L'Aquila	150.56 323	PKP	PKPdf	14 03 40.8	-1.3
AQU			ePKPbc	PKPbc	14 03 46.5	-1.1
GRAM	Graiana	150.82 329	P	PKPbc	14 03 47.0	-1.1
CABF	La Chapelle	150.84 337	ePKIKP	PKPdf	14 03 41.1	-1.3
	comp=Z,84nm,1.4s					
FLN	La Foliniere	150.84 347	ePKIKP	PKPdf	14 03 41.5	-0.8
	comp=Z,41nm,0.9s					
FLN			eMLR	MLR		
	comp=Z,717nm,22.8s					
FLN	La Foliniere	150.84 347	ePKPdf	PKPdf	14 03 41.5	-0.8
FLN			LR	LR		
	comp=Z,720nm,22.8s					
VALM	Valbona	150.84 329	P	PKPbc	14 03 47.2	-1.0
ORO	Oropa	150.89 333	PKIKP	PKPbc	14 03 46.7	-1.5
SARO	Sassorosso	150.89 329	P	PKPbc	14 03 46.3	-2.0
VLC	Villacollemand	150.92 329	ePKPbc	PKPbc	14 03 46.5	-1.9
LDF	La Druitiere	150.92 346	ePKIKP	PKPdf	14 03 41.6	-0.8
CSNT	Castellina Chi	150.96 327	PKP	PKPbc	14 03 46.1	-2.3
BACM	Baccana	150.98 329	P	PKPbc	14 03 46.6	-1.9
CODM	Codolo	151.00 329	P	PKPbc	14 03 46.5	-2.1
MAIM	Mastiano	151.04 328	P	PKPbc	14 03 46.3	-2.3
VINC	Vinca	151.04 329	P	PKPbc	14 03 46.2	-2.4
LOR	Lormes	151.04 340	ePKIKP	PKPdf	14 03 42.4	-0.3
	comp=Z,14nm,0.9s					
LOR			eMLR	MLR		
	comp=Z,601nm,21.8s					
LOR	Lormes	151.04 340	ePKPdf	PKPdf	14 03 42.4	-0.3
LOR			LR	LR		
	comp=Z,600nm,21.8s					
CERT	Cerreto	151.06 323	PKP	PKPdf	14 03 40.8	-2.1
SC2M	Scurtabo	151.14 330	P	PKPbc	14 03 46.9	-1.9
MTCE	Montecelio	151.15 323	PKP	PKPdf	14 03 41.0	-2.0
GRR	Gorron	151.28 347	ePKIKP	PKPdf	14 03 42.7	-0.3
SSF	Saint Saulge	151.34 340	ePKIKP	PKPdf	14 03 42.8	-0.3
	comp=Z,15nm,0.8s					
LSD	Lago del Serru	151.37 334	PKIKP	PKPbc	14 03 48.9	-0.4
CEL	Celeste	151.37 314	ePKPdf	PKPdf	14 03 41.9	-1.6
CEL			ePKPbc	PKPbc	14 03 48.1	-1.5
RSL	Roselend	151.40 335	PKP	PKPdf	14 03 41.0	-2.3
GENL	Genova Univers	151.41 330	P	PKPbc	14 03 46.9	-2.5
HYF	Humbligny	151.42 341	ePKIKP	PKPdf	14 03 41.9	-1.3
LPL	La Plagne	151.49 334	ePKIKP	PKPdf	14 03 42.2	-1.2
PCP	Piancastagn	151.50 331	PKIKP	PKPbc	14 03 47.7	-2.0
LPG	La Plagne	151.50 334	ePKIKP	PKPdf	14 03 42.1	-1.3
OG05	Jujurieux	151.55 337	PKP	PKPdf	14 03 44.4	+0.9
OG05	Jujurieux	151.55 337	PKP	PKPdf	14 03 41.5	-2.0
OG05			PKP	PKPdf	14 03 44.4	+0.9
RSP	Reno Superiore	151.57 333	PKIKP	PKPbc	14 03 48.2	-1.6
SMF	Signal de Mont	151.60 339	ePKIKP	PKPdf	14 03 41.6	-1.9
	comp=Z,28nm,1.3s					
AVF	Avril sur Loir	151.63 340	ePKIKP	PKPdf	14 03 41.5	-2.1
	comp=Z,39nm,1.4s					
SGMF	Saint Gilles	151.74 349	ePKIKP	PKPdf	14 03 43.1	-0.6
BHB	Bricherasio	151.82 333	P	PKPbc	14 03 47.4	-3.0
BNI	Bardonecchia	151.90 334	ePKPdf	PKPdf	14 03 43.2	-0.8
BNI			ePKPbc	PKPbc	14 03 50.1	-0.5
FIN	Finale Ligure	151.91 331	PKIKP	PKPbc	14 03 48.5	-2.1
RRL	Rocca Remolon	151.96 334	PKIKP	PKPbc	14 03 49.8	-0.9
ROB	Robourent	151.99 332	PKIKP	PKPbc	14 03 49.0	-1.8
BGF	Bois d'Agland	152.00 341	ePKIKP	PKPdf	14 03 43.8	-0.3
RORO	Rocca Rossa	152.04 331	P	PKPbc	14 03 48.8	-2.2
GRN	Grenoble	152.11 335	PKP	PKPdf	14 03 43.6	-0.8
MBDF	Montbardon	152.12 333	ePKIKP	PKPdf	14 03 42.7	-1.7
	comp=Z,19nm,1.0s					
QUIF	Quistinic	152.17 350	ePKIKP	PKPdf	14 03 44.0	-0.3
PLDF	La Plantade	152.26 339	PKP	PKPdf	14 03 43.3	-1.2
STV	Sant Anna di V	152.27 332	PKIKP	PKPbc	14 03 48.6	-2.8
SURF	Saint Ours	152.30 333	PKP	PKPdf	14 03 44.3	-0.4
ORIF	Oris-en-Rattie	152.33 335	ePKIKP	PKPdf	14 03 42.9	-1.8
	comp=Z,8.9nm,0.9s					
ORIF			eMLR	MLR		
	comp=Z,878nm,19.2s					
AGO	Saint Agoulin	152.35 340	PKP	PKPdf	14 03 43.1	-1.6
SAOF	Saorge	152.37 332	PKP	PKPdf	14 03 43.8	-1.0
NEGI	Seborga	152.41 331	P	PKPbc	14 03 48.9	-2.8
AUTN	L'Aution	152.42 332	PKP	PKPdf	14 03 44.2	-0.7
TCF	Toulx Ste Croi	152.43 341	ePKIKP	PKPdf	14 03 43.0	-1.8
	comp=Z,60nm,1.2s					
TOUF	Mont Tournerai	152.49 332	PKP	PKPdf	14 03 45.2	+0.3
SBF	Sospel	152.52 332	ePKIKP	PKPdf	14 03 42.9	-2.1
	comp=Z,77nm,1.3s					
SSB	Saint Sauveur	152.54 337	PKP	PKPdf	14 03 44.1	-0.9
SSB	Saint Sauveur	152.54 337	ePKPdf	PKPdf	14 03 43.8	-1.2
SSB			ePKPbc	PKPbc	14 03 51.0	-1.0
SSB			ePKPab	PKPab	14 04 02.6	0.0
LUCF	Luceram	152.54 332	PKP	PKPdf	14 03 43.9	-1.1
MVIF	Mont Vial	152.62 332	PKP	PKPdf	14 03 44.2	-0.9
COLF	Collangettes	152.63 338	PKP	PKPdf	14 03 43.9	-1.2
REVF	Revere	152.65 331	PKP	PKPdf	14 03 44.1	-1.1
PYM	Petit Puy Mans	152.66 340	PKP	PKPdf	14 03 44.0	-1.1
PGF	Pioggiola	152.78 328	ePKIKP	PKPdf	14 03 43.4	-2.0
	comp=Z,96nm,1.2s					
MFF	Saint Martin d	152.79 345	ePKIKP	PKPdf	14 03 43.7	-1.6
	comp=Z,80nm,1.4s					
OCF	Saint Nazaire	152.84 335	PKP	PKPdf	14 03 45.1	-0.3
OG26	St.-Nazaire-De	152.84 335	PKP	PKPdf	14 03 45.1	-0.3
VIVF	Saint-Julien-l	152.85 336	ePKIKP	PKPdf	14 03 43.7	-1.7
	comp=Z,66nm,1.4s					
CALN	Calern	152.85 332	PKP	PKPdf	14 03 44.2	-1.3
CORF	Corte	152.89 327	PKP	PKPdf	14 03 45.0	-0.6
LBL	Lubilhac	153.04 339	PKP	PKPdf	14 03 45.0	-0.7
FRF	La Foret Royal	153.11 332	ePKIKP	PKPdf	14 03 43.9	-2.0
	comp=Z,55nm,1.2s					
SMRF	Simiane la Rot	153.23 334	ePKIKP	PKPdf	14 03 44.7	-1.3
LMR	La Mourre	153.35 332	ePKIKP	PKPdf	14 03 44.1	-2.1
RJF	Les Rejaudoux	153.53 341	ePKIKP	PKPdf	14 03 44.7	-1.7
	comp=Z,114nm,1.6s					
RJF			eMLR	MLR		
	comp=Z,758nm,17.8s					
RJF	Les Rejaudoux	153.53 341	ePKPdf	PKPdf	14 03 44.7	-1.7
RJF			LR	LR		
	comp=Z,760nm,17.8s					
CAF	Calviac	153.70 340	ePKIKP	PKPdf	14 03 45.3	-1.4
LASF	Ste Croix	153.82 337	ePKIKP	PKPdf	14 03 45.3	-1.6
	comp=Z,115nm,1.6s					
LFF	La Frestale	154.09 342	ePKIKP	PKPdf	14 03 45.9	-1.3
	comp=Z,57nm,1.3s					
MTLF	Montolieu	155.05 338	ePKIKP	PKPdf	14 03 46.8	-1.8
	comp=Z,34nm,1.4s					
EPF	Esparros	155.95 341	ePKIKP	PKPdf	14 03 49.3	-0.5
	comp=Z,109nm,1.7s					
EBIE	Bielsa	156.32 341	PKP	PKPdf	14 03 48.8	-1.6
SJPF	Ste Jean	156.32 343	ePKIKP	PKPdf	14 03 49.1	-1.2
	comp=Z,56nm,1.2s					
ETSF	Etsaut	156.34 342	ePKIKP	PKPdf	14 03 49.5	-0.8
	comp=Z,25nm,1.2s					
EMIR	Miracle	156.54 337	PKP	PKPdf	14 03 48.8	-1.8
KEST	Kesra	157.14 315	PKP	PKPdf	14 03 50.2	-1.4
	comp=Z,1.9nm,0.8s,baz=313,slow=5.4,SNR=7.0					
KEST			PKPab	PKPab	14 04 23.1	+0.5
	comp=Z,10nm,0.8s,baz=229,slow=2.0,SNR=15					
EPOB	Poblet	157.20 338	PKP	PKPdf	14 03 49.2	-2.3
EPON	Pontenova	157.21 354	PKP	PKPdf	14 03 50.4	-1.1
EMOS	Mosqueruela	158.61 339	PKP	PKPdf	14 03 52.9	-0.4
ETOR	Torete	158.68 343	PKIKP	PKPdf	14 03 51.7	-1.6
GUD	Guadarrama	159.37 347	PKIKP	PKPdf	14 03 52.4	-1.8
PVIS	Viseu	159.87 355	ePKPdf	PKPdf	14 03 53.9	-0.8
MTE	Manteigas	160.15 354	ePKPdf	PKPdf	14 03 54.3	-0.7
MTE	Manteigas	160.15 354	ePKPab	PKPab	14 04 34.6	-0.8
ESDC	Sonseca Array	160.25 345	PKP	PKPdf	14 03 54.2	-1.0
	comp=Z,2.1nm,0.9s,baz=0.0,slow=2.9,SNR=8.8					
ESDC			PKPab	PKPab	14 04 35.2	-0.7
	comp=Z,4.2nm,0.7s,baz=16,slow=3.7,SNR=16					
ESD

Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	Maraveh tapeh	1.15	160	ePg	Pg	13 45 52.8	-4.2
MRVT				eSg	Sg	13 46 07.6	-4.3
DAMV	Damavand	4.25	224	ePn	Pn	13 46 39.6	-0.9
DAMV				AML	AML	13 48 23.8	
	comp=N,235nm,0.8s						
CHTH	Charan	4.55	233	ePn	Pn	13 46 44.1	-0.5
CHTH				AML	AML	13 47 38.3	
	comp=N,151nm,0.6s						
CHTH				AML	AML	13 47 38.6	
	comp=E,139nm,0.7s						
THKV	Tehran--Karaj	4.70	235	ePn	Pn	13 46 46.3	-0.4
THKV				AML	AML	13 47 42.8	
	comp=N,840nm,0.5s						
THKV				AML	AML	13 47 43.3	
	comp=E,528nm,0.6s						
GLBA	Ciilabad	5.63	277	P	Pn	13 46 58.7	-0.8
	SNR=9.8						
PQL	Pirkuli	5.77	293	P	Pn	13 47 02.4	+1.0
	SNR=6.6						
ASAO	Ashtian	6.13	229	ePn	Pn	13 47 05.7	-0.7
ASAO				AML	AML	13 49 01.6	
	comp=E,44nm,0.7s						
ASAO				AML	AML	13 49 12.6	
	comp=N,28nm,0.7s						
NASN	Na'in	6.35	202	ePn	Pn	13 47 07.0	-2.4
SEKA	Sheki	6.90	294	P	Pn	13 47 17.8	+0.9
	SNR=20						
SEKA				S	Sn	13 48 35.1	-0.9
GANJ	Ganja	7.40	288	P	Pn	13 47 22.9	-0.9
	SNR=10						
NAX	Nakhchivan	7.88	276	P	Pn	13 47 30.5	+0.1
	SNR=16						
DGRG	David-gareji	8.29	292	P	Pn	13 47 35.6	-0.3
DGRG				S	Sn	13 49 04.0	-6.0
GNI	Garni	8.51	283	Pn	Pn	13 47 39.9	+0.9
	comp=N,2.6nm,0.3s,baz=27,slow=2.0,SNR=9.4						
GNI				Sn	Sn	13 49 15.8	+0.2
	comp=N,2.0nm,0.3s,baz=30,slow=23,SNR=2.7						
GNI	Garni	8.51	283	eP	Pn	13 47 40.0	+0.9
GNI				S	Sn	13 49 15.8	+0.2
GNI	Garni	8.51	283	ePn	Pn	13 47 40.0	+1.0
GNI				Sn	Sn	13 49 15.8	+0.2
MTA	Mtatsminda	8.77	293	P	Pn	13 47 52.5	+10
MTA				S	Sn	13 49 18.9	-3.0
TBLG	Delisi	8.82	293	P	Pn	13 47 49.5	+6.2
TBLG				S	Sn	13 49 22.0	-1.2
ONI	Oni	9.99	296	P	Pn	13 48 06.4	+7.2
ONI				S	Sn	13 50 16.8	+25
MSL	Mosul	10.23	260	ex	x	13 48 02.5	
BHD	Baghdad	10.60	242	ex	x	13 48 42.5	
AB31	Akbulak array	10.96	15	Pn	Pn	13 48 12.4	-0.2
	comp=N,7.7nm,0.5s,baz=203,slow=14,SNR=144						
AB31				⇑Sn	Sn	13 50 11.5	-4.1
	comp=N,86nm,0.9s,baz=197,slow=24,SNR=5.0						
KIV	Kislovodsk	11.01	302	i P	Pn	13 48 11.9	-1.3
KIV				eS	Sn	13 50 11.1	-5.7
KIV				pmax	pmax		
	comp=Z,30nm,0.6s						
KIV	Kislovodsk	11.01	302	ePn	Pn	13 48 11.2	-2.0
	comp=Z,37nm,0.6s						
KIV	Kislovodsk	11.01	302	ePn	Pn	13 48 11.2	-2.0
	comp=Z,37nm,0.6s						
MIB	Mutribah	11.23	220	eP	Pn	13 48 19.0	+2.7
	baz=223						
MIB				AMb	AMB	13 48 22.7	
	comp=Z,46nm,0.7s,baz=223						
NAY	Al-Naaiem	11.73	219	eP	Pn	13 48 25.3	+2.1
	baz=221						
NAY				AMb	AMB	13 48 30.8	
	comp=Z,15nm,1.3s,baz=221						
AKTK	Aktyubinsk	11.81	8	Pn	Pn	13 48 25.1	+0.9
AKTK				Sn	Sn	13 50 34.6	-1.9
AKTK	Aktyubinsk	11.81	8	Pn	Pn	13 48 25.1	+0.9
AKTK				Sn	Sn	13 50 34.6	-1.9
AKTK				LR	LR	13 53 40.6	
AKTO	Aktyubinsk	11.81	8	Pn	Pn	13 48 25.1	+0.9
	comp=Z,3.4nm,0.3s,baz=184,slow=13,SNR=52						
AKTO				Sn	Sn	13 50 34.6	-1.9
	comp=Z,2.3nm,0.3s,baz=90,slow=22,SNR=3.1						
AKTO				LR	LR	13 53 40.6	
	comp=Z,424nm,20.4s,baz=357,slow=40						
AKTO	Aktyubinsk	11.81	8	P	Pn	13 48 25.1	+0.9
AKTO						13 50 34.6	
AKTO	Aktyubinsk	11.81	8	Pn	Pn	13 48 25.3	+1.1
	comp=Z,12nm,1.2s						
AKTO				Sn	Sn	13 50 33.9	-2.6
	comp=Z,19nm,1.3s						
RDF	Al-Radifah	11.85	217	eP	Pn	13 48 27.2	+2.3
	baz=219						
RDF				AMb	AMB	13 48 37.4	
	comp=Z,31nm,1.2s,baz=219						
KK31	Karatay Array	12.09	64	⇑Pn	Pn	13 48 25.2	-2.9
	comp=Z,23nm,0.6s,baz=240,slow=17,SNR=199						
KK31				⇑Sn	Sn	13 50 39.0	-4.4
	comp=Z,27nm,0.7s,baz=96,slow=34,SNR=7.8						
MALT	Malatya	13.45	274	eP	Pn	13 48 43.9	-2.8
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MALT	Malatya	13.45	274	ePn	Pn	13 48 43.9	-2.8
	comp=Z,5.7nm,0.9s						
AML	Almayashu	14.19	70	P	Pn	13 48 53.2	-3.5
	SNR=20						
AML	Almayashu	14.19	70	eP	Pn	13 48 52.5	-4.2
	comp=Z,36nm,0.7s						
EKS2	Erkin-Say	14.34	68	P	Pn	13 48 55.6	-3.1
	SNR=39						
EKS2	Erkin-Say	14.34	68	eP	Pn	13 48 55.1	-3.5
	comp=Z,23nm,0.6s						
AAK	Ala-Archa	14.85	69	P	Pn	13 49 03.7	-2.1
	SNR=22						
USP	Ospenovka	14.97	66	P	Pn	13 49 03.5	-3.8
	SNR=28						
FRU	Bishkek	14.97	68	eP	Pn	13 49 06.0	-1.4
FRU				eS	Sn	13 52 00.0	+6.3
FRU				pmax	pmax		
	comp=Z,80nm,1.8s						
FRU				pmax	pmax		
	comp=E,140nm,1.9s						
FRU	Bishkek	14.97	68	eP	Pn	13 49 06.0	-1.4
	comp=E,80nm,1.8s						
KBK	Karagaybulak	15.19	69	P	Pn	13 49 07.8	-2.4
	SNR=24						
KZA	Kyzart	15.34	71	P	Pn	13 49 08.8	-3.4
	SNR=12						
TKM2	Tokmak 2	15.70	68	eP	Pn	13 49 12.9	-4.1
TKM2				pmax	pmax		
	comp=Z,45nm,0.9s						
TKM2	Tokmak 2	15.70	68	P	Pn	13 49 13.4	-3.5
	SNR=9.2						
TKM2	Tokmak 2	15.70	68	eP	Pn	13 49 12.9	-4.0
	comp=Z,45nm,0.9s						
VRHR	Novokhopersk	15.79	326	eP	Pn	13 49 20.2	+2.1
VRHR				pmax	pmax		
	comp=Z,20nm,0.5s						
VRHR				pmax	pmax		
	comp=N,30nm,1.0s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRHR	Novokhopersk	15.79	326	eP	Pn	13 49 20.2	+2.1
	comp=E,30nm,1.0s						
ASF	Jabal al Asfar	16.57	252	Pn	Pn	13 49 26.4	-1.8
	comp=E,0.1nm,0.3s,baz=274,slow=2.8,SNR=5.7						
ASF				LR	LR	13 55 40.5	
	comp=E,158nm,19.2s,baz=294,slow=37						
VRSR	Storozhevoye	16.98	323	eP	Pn	13 49 32.8	-0.5
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
VRSR				pmax	pmax		
	comp=N,3.0nm,0.4s						
VRSR				pmax	pmax		
	comp=E,7.0nm,1.3s						
VRSR	Storozhevoye	16.98	323	eP	Pn	13 49 32.8	-0.5
	comp=E,3.0nm,0.4s						
MMAI	Mount Meron Ar	17.32	257	Pn	Pn	13 49 36.0	-1.7
	baz=66,slow=15,SNR=6.6						
MMAI				LR	LR	13 57 45.7	
	comp=E,152nm,20.7s,baz=95,slow=43						
VOR	Voronezh	17.32	324	eP	Pn	13 49 38.0	+0.4
VOR				pmax	pmax		
	comp=N,400nm,1.2s						
VOR	Voronezh	17.32	324	eP	Pn	13 49 38.0	+0.4
	comp=N,400nm,1.2s						
THN	Thein Dam	17.52	105	ex	Pn	13 49 43.0	+2.8
BRVK	Borovoye	17.54	31	eP	Pn	13 49 40.8	+0.6
BVA0	Borovoye Array	17.55	31	⇓Pn	Pn	13 49 41.3	+0.8
	comp=N,3.1nm,0.6s,baz=210,slow=14,SNR=93						
BVA0				⇑Sn	Sn	13 52 44.9	-11
	comp=N,6.5nm,1.4s,baz=216,slow=28,SNR=5.1						
BVAR	Borovoye Array	17.55	31	Pn	Pn	13 49 41.1	+0.6
	comp=N,1.4nm,0.3s,baz=211,slow=11,SNR=27						
BVAR				Sn	Sn	13 52 48.4	-7.9
	comp=N,1.0nm,0.3s,baz=213,slow=24,SNR=6.5						
VOSK	Vostochnaya	17.57	32	⇑Pn	Pn	13 49 40.6	-0.1
	comp=N,27nm,1.1s						
VOSK				⇓Sn	Sn	13 52 48.7	-8.0
	comp=N,22nm,0.8s						
ARU	Arti	17.80	5	i P	Pn	13 49 42.4	-1.1
ARU						13 53 05.6	
ARU	Arti	17.80	5	eP	Pn	13 49 42.2	-1.3
	comp=N,57nm,0.9s						
SVE	Sverdlovsk	18.40	9	eP	Pn	13 49 50.7	-0.1
SVE				pmax	pmax		
	comp=Z,21nm,0.7s						
SVE	Sverdlovsk	18.40	9	eP	Pn	13 49 50.7	-0.1
	comp=Z,21nm,0.7s						
SMLA	Simla	19.22	107	i P	Pn	13 49 59.3	-1.8
SMLA				ex	x	13 50 03.1	
	comp=Z,89nm,0.8s						
EIL	Elat	19.29	248	P	Pn	13 49 59.1	-2.7
	comp=Z,0.1nm,0.3s,baz=80,slow=12,SNR=2.2						
EIL				LR	LR	13 57 21.8	
	comp=Z,197nm,18.7s,baz=284,slow=37						
KURBB	Kurchatov Arra	20.08	46	⇓Pn	P	13 50 13.8	+4.4
	comp=Z,2.6nm,0.9s						
DDI	Dehra Dun	20.29	108	ex	P	13 50 11.1	-0.7
OBN	Obninsk	20.79	328	⇑iP	P	13 50 18.3	+1.3
OBN				pmax	pmax		
	comp=Z,126nm,1.2s						
OBN	Obninsk	20.79	328	i P	P	13 50 18.3	+1.3
	comp=Z,126nm,1.2s						
MOS	Moscow	20.82	331	eP	P	13 50 17.3	0.0
MOS				pmax	pmax		
	comp=Z,199nm,1.8s						
MOS	Moscow	20.82	331	eP	P	13 50 17.3	0.0
	comp=Z,199nm,1.8s						
TLCR		20.87	297	P	P	13 50 18.9	+0.9
TLCR		20.87	297	⇑P	P	13 50 18.9	+0.9
TIRR	Tirgusor	21.06	294	⇑iP	P	13 50 19.0	-1.0
TIRR	Tirgusor	21.06	294	P	P	13 50 19.0	-1.0
TIRR	Tirgusor	21.06	294	⇑P	P	13 50 19.0	-1.0
MK31	Makanchi Array	21.11	59	⇓Pn	P	13 50 21.5	+1.0
	comp=Z,22nm,0.8s,mb4.5,baz=245,slow=13,SNR=3.5						
MKAR	Makanchi Array	21.11	59	P	P	13 50 21.9	+1.3
	comp=Z,12nm,0.7s,mb4.3,baz=250,slow=9.8,SNR=25						
KIS	Kishinev	21.21	302	eP	P	13 50 23.0	+1.4
AKASG	Malin Array Be	22.09	311	P	P	13 50 30.8	-0.2
	comp=Z,22nm,0.8s,mb4.6,baz=114,slow=9.3,SNR=25						
VRI	Vrincioaia	22.42	298	⇓iP	P	13 50 37.0	+2.4
VRI	Vrincioaia	22.42	298	⇓P	P	13 50 37.0	+2.4
PLOR	Plostina	22.47	298	⇑iP	P	13 50 36.9	+1.7
PLOR	Plostina	22.47	298	P	P	13 50 36.9	+1.7
MLR	Muntele Rosu	22.92	297	⇑iP	P	13 50 41.2	+1.3
MLR	Muntele Rosu	22.92	297	⇑iP	P	13 50 41.2	+1.3
MLR	Muntele Rosu	22.92	297	⇑P	P	13 50 41.2	+1.3
BURAR	Bucovina Array	23.73	302	⇓iP	P	13 50 50.0	+1.8
BURAR	Bucovina Array	23.73	302	⇓P	P	13 50 50.0	+1.8
WMQ	Urumqi	24.56	68	eP	P	13 50 56.5	+0.7
WMQ				LR	LR		
	comp=N,247nm,24.2s,MS3.8						
WMQ				LR	LR		
	comp=E,356nm,26.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,432nm,23.8s,MS3.9						
NVS	Novosibirsk	24.61	40	eP	P	13 50 57.4	+1.2
NVS				e		13 55 20.7	
IDI	Anoyia	24.70	272	P	P	13 50 56.7	-0.5
	comp=Z,34nm,0.6s,mb5.1,baz=45,slow=9.0,SNR=32						
VTS	Vitosha	24.78	289	⇑iP	P	13 50 59.3	+1.5
VTS	Vitosha	24.78	289	⇑P	P	13 50 59.3	+1.5
ZAL	Zalesovo	25.01	43	P	P	13 51 00.9	+1.1
ZALV	Zalesovo Beam	25.02	43	P	P	13 51 00.9	+1.0
	comp=Z,10nm,0.5s,mb4.6,baz=258,slow=9.7,SNR=24						
GZR	Gura Zlata	25.13	296	⇓iP	P	13 51 01.2	+0.2
GZR	Gura Zlata	25.13	296	⇓P	P	13 51 01.2	+0.2
DRGR		25.30	299	⇑iP	P	13 51 04.3	+1.8
DRGR		25.30	299	⇑iP	P	13 51 04.3	+1.8
DRGR		25.30	299	⇑P	P	13 51 04.3	+1.8
DANN	Dangsing	25.57	105	eP	P	13 51 05.4	+0.2
UZH	Uzhgorod	25.84	303	i	P	13 51 07.2	-0.2
BZS	Buzias	25.96	296	⇑iP	P	13 51 09.3	+0.8
BZS	Buzias	25.96	296	⇑iP	P	13 51 09.3	+0.8
BZS	Buzias	25.96	296	⇑P	P	13 51 09.3	+0.8
GKN	Gorkha	26.41	105	eP	P	13 51 13.5	+0.7
DMN	Daman	26.97	105	eP	P	13 51 19.9	+2.1
KKN	Kakani	27.01	105	eP	P	13 51 19.8	+1.6
	comp=Z,55nm,0.8s,mb5.1						
KKN	Kakani	27.01	105	eP	P	13 51 19.8	+1.6
KKN				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.1						
PKI	Pulchoki	27.22	105	eP	P	13 51 22.5	+2.4
	comp=Z,85nm,0.7s,mb5.4						
PKI	Pulchoki	27.22	105	eP	P	13 51 22.5	+2.4
PKI				pmax	pmax		
	comp=Z,85nm,0.7s,mb5.4						
GUN	Gumba	27.40	104	eP	P	13 51 25.0	+3.3
GERES	GERESS Array B	31.52	302	P	P	13 51 58.3	+0.3
	comp=Z,0.7nm,0.6s,mb3.7,baz=69,slow=5.4,SNR=3.7						
CLL	Collm	32.16	307	e(PP)	PP	13 53 09.0	-7.0
ARCES	ARCESS Array B	34.77	342	P	P	13 52 27.4	+1.2
	comp=Z,1.7nm,0.7s,mb4.1,baz=142,slow=8.2,SNR=9.6						
ARCES				LR	LR	14 08 31.1	
	comp=Z,208nm,19.1s,MS3.9,baz=3.6,slow=39						
PGF	Pioggiola	35.21	291	eP	P	13 52 30.0	-0.3
	comp=Z,43nm,1.2s,mb5.0						
PGF	Pioggiola	35.21	291	eP	P	13 52 30.0	-0.3
PGF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
PGF	Pioggiola	35.21	291	eP	P	13 52 30.0	-0.3
	comp=Z,43nm,1.2s,mb5.3						
NB2	NORSAR Subarra	35.26	324	P	P	13 52 30.2	-0.3
	comp=Z,1.4nm,0.7s,mb4.0,baz=110,slow=8.6						
NOA	NORSAR Array B	35.26	324	P	P	13 52 31.5	+1.0
	comp=Z,2.7nm,0.8s,mb4.2,baz=110,slow=8.3,SNR=6.5						
ZAK	Zakamensk	35.33	55	e	P	13 52 31.0	-0.2
LPL	La Plagne	36.40	297	eP	P	13 52 40.1	-0.3
	comp=Z,6.5nm,0.7s,mb4.4						
LPL	La Plagne	36.40	297	eP	P	13 52 40.1	-0.3
LPL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LPL	La Plagne	36.40	297	eP	P	13 52 40.1	-0.3
	comp=Z,6.0nm,0.7s,mb4.6						
MBDF	Montbardon	36.47	296	eP	P	13 52 40.6	-0.5
	comp=Z,12nm,0.6s,mb4.7						
MBDF	Montbardon	36.47	296	eP	P	13 52 40.6	-0.5
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
MBDF	Montbardon	36.47	296	eP	P	13 52 40.6	-0.5
	comp=Z,12nm,0.6s,mb5.0						
KEST	Kesra	36.64	280	P	P	13 52 44.5	+1.9
	comp=Z,1.2nm,0.9s,mb3.7,baz=330,slow=8.1,SNR=2.9						
SONM	Songino Array	37.48	59	P	P	13 52 52.5	+2.9
	comp=Z,1.7nm,0.7s,mb4.0,baz=259,slow=9.0,SNR=8.7						
SMF	Signal de Mont	38.25	299	eP	P	13 52 55.7	-0.4
AVF	Avril sur Loir	38.57	299	eP	P	13 52 58.5	-0.3
	comp=Z,66nm,1.5s,mb4.8						
AVF	Avril sur Loir	38.57	299	eP	P	13 52 58.5	-0.3
AVF				pmax	pmax		
	comp=Z,33nm,1.5s,mb4.8						
AVF	Avril sur Loir	38.57	299	eP	P	13 52 58.5	-0.3
	comp=Z,65nm,1.5s,mb5.1						
BOD	Bodaibo	41.78	43	eP	P	13 53 27.4	+2.1
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.9						
BOD	Bodaibo	41.78	43	eP	P	13 53 27.4	+2.1
	comp=Z,4.0nm,1.4s,mb3.9						
CMAR	Chiang Mai Arr	42.62	106	P	P	13 53 31.6	-1.0
	comp=Z,1.7nm,0.8s,mb3.8,baz=297,slow=8.2,SNR=11						
ESDC	Sonseca Array	45.40	291	P	P	13 53 53.7	-1.0
	comp=Z,1.1nm,0.5s,mb3.9,baz=61,slow=8.1,SNR=11						
TORD	Torodi Ar. Bea	53.86	257	P	P	13 54 56.9	-2.6
	comp=Z,1.9nm,0.9s,mb4.0,baz=54,slow=6.3,SNR=4.9						
BILL	Bilibino	61.73	24	eP	P	13 55 56.9	+2.8
BILL				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.7						
BILL	Bilibino	61.73	24	eP	P	13 55 56.9	+2.8
	comp=Z,11nm,1.7s,mb4.7						
DBIC	Dimbokro	62.94	256	P	P	13 56 00.5	-2.4
	comp=Z,1.7nm,0.6s,mb4.3,baz=12,slow=4.3,SNR=3.4						
DBIC	Dimbokro	62.94	256	P	P	13 56 00.5	-2.4
LIC	Lamto	63.35	256	eP	P	13 56 04.0	-1.7
TSUM	Tsumeb	67.76	219	P	P	13 56 32.3	-1.7
	comp=Z,1.5nm,0.8s,mb4.1,baz=51,slow=13						
BOSA	Boshof	72.75	208	P	P	13 57 02.4	-2.0
	comp=Z,3.4nm,0.9s,mb4.2,baz=27,slow=2.8,SNR=4.1						
YKA	Yellowknife Ar	78.80	355	P	P	13 57 40.0	+1.4
	comp=Z,1.8nm,0.7s,mb4.1,baz=5.9,slow=5.9,SNR=6.2						
YKA	Yellowknife Ar	78.80	355	P	P	13 57 40.0	+1.4
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	78.80	355	P	P	13 57 40.0	+1.4
	comp=Z,2.0nm,0.7s,mb4.2						
WRA	Warramunga Arr	93.88	112	P	P	13 58 55.1	+1.1
	comp=Z,0.4nm,0.8s,mb3.9,baz=322,slow=4.1,SNR=2.7						

*NEIC **19** 13:59:47.0, 1656N×9473W, h20km, MD4.3(MEX), After MEX.*

MEX 19 13:59:49.5±1.1, 1671N×9498W, h21km±41km, MD4.2, 2D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.39	13	⇓iP	Pb	13 59 55.9	-2.0
CMIG				i S	Sb	14 00 02.3	-1.2
CMIG	Matias Romero	0.39	13	i P	Pb	13 59 55.9	-2.0
CMIG				i S	Sb	14 00 02.3	-1.1
TUIG	Tuzandepetl	1.42	22	i P	Pn	14 00 11.2	-2.9
TUIG				i S	Sn	14 00 28.0	-4.2
TUIG	Tuzandepetl	1.42	22	i P	Pn	14 00 16.9	+2.8
TUIG				i S	Sn	14 00 37.4	+5.2
HUIG	Huatulco	1.43	230	⇓iP	Pn	14 00 10.8	-3.4
HUIG				i S	Sn	14 00 28.3	-4.1
HUIG	Huatulco	1.43	230	i P	Pn	14 00 10.6	-3.6
HUIG				i S	Sn	14 00 28.3	-4.1
OXX	Oaxaca	1.71	283	i P	Pn	14 00 14.5	-3.6
OXX				i S	Sn	14 00 35.9	-3.5
OXX	Oaxaca	1.71	283	i P	Pn	14 00 17.3	-0.8
OXX				i S	Sn	14 00 39.2	-0.1
VHO	Vista Hermosa	1.72	283	i P	Pn	14 00 17.0	-1.2
VHO				i S	Sn	14 00 36.1	-3.5
VHO	Vista Hermosa	1.72	283	i P	Pn	14 00 17.3	-0.9
VHO				i S	Sn	14 00 40.4	+0.8
TGIG		1.78	87	eP	Pn	14 00 16.9	-2.1
TGIG				i S	Sn	14 00 36.7	-4.4
SCX	San Cristobal	2.25	89	i P	Pn	14 00 23.2	-2.3
SCX				i S	Sn	14 00 49.6	-3.0
SCX	San Cristobal	2.25	89	i P	Pn	14 00 25.0	-0.4
SCX				i S	Sn	14 00 57.9	+5.3
CCIG	Comitan	2.76	98	eP	Pn	14 00 32.5	0.0
CCIG				i S	Sn	14 01 02.9	-2.3
CCIG	Comitan	2.76	98	i P	Pn	14 00 33.5	+1.1
CCIG				i S	Sn	14 01 12.0	+6.8
TPIG	Tehuac#an	2.84	307	i P	Pn	14 00 33.1	-0.5
TPIG				i S	Sn	14 01 06.8	-0.5
UTMO	Huajuapan	2.92	293	i P	Pn	14 00 33.9	-0.9
UTMO				i S	Sn	14 01 08.6	-0.7
PNIG	Pinotepa	3.04	265	eP	Pn	14 00 33.9	-2.5
PNIG				i S	Sn	14 01 06.8	-5.2
PNIG	Pinotepa	3.04	265	eP	Pn	14 00 33.9	-2.5
PNIG				i S	Sn	14 01 17.4	+5.4
THIG		3.16	124	eP	Pn	14 00 35.5	-2.6
THIG				i S	Sn	14 01 12.8	-2.5
PPM	Popocatepetl	4.19	305	i P	Pn	14 00 47.8	-4.4
PPM				eP		14 00 54.5	
PPM				i S	Sn	14 01 36.8	-3.8
PLIG	Platanillo	4.63	292	i S	Sn	14 01 49.3	-2.1
ACX	Acapulco	4.73	273	eP	Pn	14 00 59.0	-0.7
CAIG	El Cayaco	5.08	275	i S	Sn	14 02 00.5	-2.0
ZIIG	Zihuatanejo	6.27	279	eP	Pn	14 01 28.0	+7.2
ZIIG				i S	Sn	14 02 33.6	+1.8
TEIG	Tepich 13nm,0.3s	7.26	60	eP	Pn	14 01 33.5	-0.9

*ISCJB **19** 14:16:10.0±0.4, 3301N±006×13600E±007, h439km±3km, mb3.4/10, Error ellipse: s-maj=10.3km s-min=8.2km az=142.4*
*MOS **19** 14:16:09.5±0.9, 3297N×13600E, h440km, mb4.7/1, Error ellipse: s-maj=20.2km s-min=12.2km az=97.0*
*JMA **19** 14:16:10.4±0.1, 3305N×13597E, h439km±1km, M3.3*
*NEIC **19** 14:16:11.1±0.6, 3301N×13601E, h436km±8km, mb4.7/2, Error ellipse: s-maj=12.9km s-min=9.1km az=87.0*
*IDC **19** 14:16:11.9±1.0, 3300N×13594E, h442km±13km, mb3.1/10, mb1 3.2/15, mb1mx3.1/28, mbtmp3.2/15, Error ellipse: s-maj=22.0km s-min=11.2km az=68.0*

ISC 19 14:16:11.2±0.4, 3304N±006×13599E±007, h432km±3km, n50, σ0967/71, mb3.4/10, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	Kozaga	0.54	335	P	P	14 17 04.4	0.0
JWZ				S	S	14 17 47.5	0.0
JKN2	Miekihoku	1.22	11	P	P	14 17 06.6	+0.4
JKN2				S	S	14 17 50.7	-0.2
JWY	Kouya	1.22	344	P	P	14 17 07.1	+0.9
JWY				S	S	14 17 50.7	-0.2
JIE	Ise	1.47	24	P	P	14 17 07.9	+0.6
JIE				S	S	14 17 53.1	+0.3
JHE	Heguri	1.62	351	P	P	14 17 08.5	+0.5
JHE				eS	S	14 17 53.8	-0.3
TSUJ	Tsu 2	1.70	12	P	P	14 17 08.9	+0.6
TSUJ				eS	S	14 17 54.6	-0.2
JAA	Atsumi	1.85	31	P	P	14 17 09.7	+0.5
JAA				eS	S	14 17 55.6	-0.6
JWT	Wachi	2.29	348	P	P	14 17 12.2	+0.5
JWT				S	S	14 18 00.3	-0.5
HMMJ	Hamamatsu 2	2.31	38	P	P	14 17 12.3	+0.4
HMMJ				eS	S	14 18 00.8	-0.3
JAO	Obara	2.46	25	P	P	14 17 13

comp=Z,12nm,0.4s
SONM Songino Array 26.73 312 P **P 14 21 14.5 +0.6**
comp=Z,0.9nm,0.7s,mb3.3,baz=118,slow=7.9,SNR=6.5
CMAR Chiang Mai Arr 36.19 256 P **P 14 22 35.0 -0.7**
comp=Z,0.3nm,0.3s,mb3.1,baz=51,slow=8.2,SNR=4.4
CMAR Chiang Mai Arr 36.19 256 P **P 14 22 35.0 -0.7**
CMAR pmax pmax
comp=Z,12nm,0.4s
ZALV Zalesovo Beam 41.49 316 P **P 14 23 17.6 -0.9**
comp=Z,0.8nm,0.4s,mb3.5,baz=95,slow=8.2,SNR=5.1
ZAL Zalesovo 41.50 316 P **P 14 23 17.6 -1.0**
MKAR Makanchi Array 42.61 305 P **P 14 23 27.5 0.0**
comp=Z,0.8nm,0.5s,mb3.4,baz=90,slow=10,SNR=13
MKAR ScP ScP 14 28 18.4 -0.9
comp=Z,0.2nm,0.2s,baz=98,slow=5.1,SNR=5.5
KURK Kurchatov 45.02 311 *e*P **P 14 23 45.3 -1.0**
WRAB Tennant Creek 52.70 182 *e*P **P 14 24 43.0 -1.0**
WRA Warramunga Arr 52.71 182 P **P 14 24 43.1 -0.9**
comp=Z,2.4nm,0.4s,mb3.8,baz=359,slow=7.6,SNR=56
ASAR Alice Springs 56.43 182 P **P 14 25 09.8 -0.5**
comp=Z,0.9nm,0.5s,mb3.4,baz=2.4,slow=3.3,SNR=43
AKTK Aktyubinsk 58.05 313 P **P 14 25 22.6 +1.4**
AKTO Aktyubinsk 58.05 313 P **P 14 25 22.6 +1.4**
comp=Z,0.9nm,0.5s,mb3.3,baz=78,slow=13,SNR=4.4
STKA Stephens Creek 64.79 175 P **P 14 26 05.5 -0.2**
comp=Z,0.7nm,0.5s,mb3.6,baz=328,slow=19,SNR=4.5
ARCES ARCESS Array B 66.13 339 P **P 14 26 13.5 -0.2**
comp=Z,1.2nm,0.9s,mb3.5,baz=46,slow=8.7,SNR=4.3
ARCES ARCESS Array B 66.13 339 P **P 14 26 13.5 -0.2**
NOA NORSAR Array B 76.06 336 P **P 14 27 11.1 -1.5**
comp=Z,0.4nm,0.5s,mb3.3,baz=48,slow=5.4,SNR=2.7

MAN 19 14:19:40,657N×12611E,h22km,mb4.4,ML3.3,MS3.2, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.40**	**21**	*e*P	Pb	14 19 50.4	+1.9
GSPH	**General Santos**	**1.25**	**248**	⇑*e*P	Pn	14 19 57.2	-5.0
GSPH				*e*S	Sn	14 20 14.3	-4.0
BUKP	**Musuan**	**1.67**	**321**	*e*P	Pn	14 20 08.8	+0.9
BUTP	**Butuan**	**2.44**	**349**	*e*P	Pn	14 20 19.6	+1.0
PAGZ	**Pagadian**	**2.99**	**295**	*e*P	Pn	14 20 27.3	+1.1

MAN 19 15:38:38,1136N×12626E,h52km,mb3.8,ML2.5,MS2.1, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.84**	**287**	*e*P	Pn	15 38 55.3	+1.7
PLP	**Palo**	**1.27**	**261**	⇓*e*P	Pn	15 39 00.7	+1.3
PLP				*e*S	Sn	15 39 17.7	+2.4
MSLP	**Maasin**	**1.84**	**228**	*e*P	Pn	15 39 09.5	+2.3
CNP	**Catarman**	**1.93**	**306**	*e*P	Pn	15 39 11.1	+2.7
PVCP	**Virac**	**3.02**	**317**	*e*P	Pn	15 39 25.2	+1.8

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*MOS **19** 15:41:31.3±1.4,5278N×10743E,h12km,mb4.8/6,Error ellipse: s-maj=7.7km s-min=5.8km az=59.3*
*BJI **19** 15:41:31.1,5285N×10753E,h12km,mB4.7,mb4.2,Ms4.3, Msz3.9*
*IDC **19** 15:41:31.4±0.6,5277N×10728E,h0km,mb4.0/13, mb1 4.2/16,mb1mx4.1/25,mbtmp4.0/16,ML3.4/3,MS3.7/11, Ms1 3.8/11,ms1mx3.3/42,Error ellipse: s-maj=17.6km s-min=13.6km az=71.0*
*ISCJB **19** 15:41:31.1±0.2,5275N±002×10745E±003,h10km, mb4.1/23,MS3.7/13,Error ellipse: s-maj=3.0km s-min=1.9km az=140.2*
*BYKL **19** 15:41:32.5±0.2,5276N×10737E,h12km±3km*
*NEIC **19** 15:41:32.0±3.2,5280N×10732E,h4km±21km,mb4.3/11, Error ellipse: s-maj=9.0km s-min=6.9km az=179.0*
ISC 19 15:41:32.6±0.2,5276N±002×10741E±003,h10km,n120, σ1⇕20/182,mb4.1/23,MS3.7/13,15C-6D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRHB	**Zarechye**	**0.26**	**217**	⇑*i*Pg	**Pg**	**15 41 37.4**	**-0.4**
ZRHB				Pmax		15 41 38.4	
4μm,0.4s							
ZRHB				*i* Sg	**Sg**	**15 41 42.0**	**+0.7**
ZRHB				Smax		15 41 45.7	
92μm,0.8s							
TRG	**Tyrgan**	**0.64**	**271**	*e*PG	**Pg**	**15 41 44.1**	**-0.9**
TRG				*e*		15 41 53.4	
TRG				pmax	pmax		
comp=Z,331nm,0.1s							
TRG				smax			
comp=E,5μm,0.3s							
TRG	**Tyrgan**	**0.64**	**271**	*e*Pg	**Pg**	**15 41 44.0**	**-1.0**
TRG				Pmax		15 41 45.3	
comp=E,201nm,0.2s							
TRG				*e*Sg	**Sg**	**15 41 53.3**	**-0.2**
TRG				Smax		15 41 56.3	
comp=E,4μm,0.3s							
FFNB	**Fofonovo**	**0.81**	**209**	*e*Pg	**Pg**	**15 41 47.3**	**-1.0**
FFNB				Pmax		15 41 50.7	
comp=E,5μm,0.4s							
FFNB				*e*Sg	**Sg**	**15 41 58.0**	**-0.9**
FFNB				Smax		15 41 58.3	
comp=E,27μm,0.5s							
KAB	**Kabansk**	**0.85**	**213**	*e*PG	**Pg**	**15 41 48.7**	**-0.2**
KAB				*e*		15 41 59.3	
KAB				pmax	pmax		
comp=Z,4μm,0.6s							
KAB				smax			
comp=N,8μm,0.2s							
KAB	**Kabansk**	**0.85**	**213**	*e*Pg	**Pg**	**15 41 47.9**	**-1.0**
KAB				Pmax		15 41 52.6	
comp=N,4μm,0.8s							
KAB				*e*Sg	**Sg**	**15 41 59.2**	**-0.7**
KAB				Smax		15 42 03.6	
comp=N,18μm,0.6s							
OGRR	**Ongureny**	**0.89**	**7**	*e*PG	**Pg**	**15 41 48.8**	**-1.0**
OGRR				*e*		15 42 00.7	
OGRR				pmax	pmax		
comp=Z,467nm,0.5s							
OGRR				smax			
comp=E,3μm,0.8s							
OGRR	**Ongureny**	**0.89**	**7**	⇑*i*Pg	**Pg**	**15 41 48.8**	**-1.0**
OGRR				Pmax		15 41 52.8	
comp=E,454nm,0.3s							
OGRR				*i* Sg	**Sg**	**15 42 00.6**	**-0.8**
OGRR				Smax		15 42 09.8	
comp=E,3μm,0.5s							
UUDB	**Ulan-Yde**	**0.91**	**170**	⇑*i*Pg	**Pg**	**15 41 48.9**	**-1.1**
UUDB				Pmax		15 41 49.5	
comp=E,2μm,0.8s							
UUDB				*e*Sg	**Sg**	**15 42 00.5**	**-1.3**
UUDB				Smax		15 42 05.9	
comp=E,10μm,1.0s							
MXMB	**Maximikha**	**0.95**	**57**	*e*Pg	**Pg**	**15 41 49.8**	**-1.1**
MXMB				*e*Pb	**Pb**	**15 41 52.1**	**+0.9**
MXMB				max		15 41 56.6	
comp=E,2μm,0.4s							
MXMB				*e*Sg	**Sg**	**15 42 03.0**	**-0.3**
MXMB				*e*Sb	**Sb**	**15 42 06.7**	**+2.9**
MXMB				max		15 42 07.7	
comp=E,18μm,0.8s							
HRMR	**Khuramsha**	**1.17**	**194**	⇑*i*Pg	**Pg**	**15 41 53.4**	**-1.6**
HRMR				*e*		15 41 56.1	
HRMR				max		15 41 56.3	
comp=E,4μm,0.6s							
HRMR				*e*Sg	**Sg**	**15 42 09.4**	**-0.7**
HRMR				*e*Sb	**Sb**	**15 42 13.5**	**+3.6**
HRMR				max		15 42 14.4	
comp=E,28μm,0.3s							
SYVR	**Suvo**	**1.80**	**59**	*e*PN	**Pn**	**15 42 05.2**	**+1.6**
SYVR				*e*		15 42 29.9	
SYVR				pmax	pmax		
comp=Z,2μm,1.4s							
SYVR				smax			
comp=E,3μm,0.4s							
SYVR	**Suvo**	**1.80**	**59**	⇓*i*Pn	**Pn**	**15 42 03.9**	**+0.3**
SYVR				*e*Pg	**Pg**	**15 42 05.0**	**-2.1**
SYVR				Pmax		15 42 10.1	
comp=E,2μm,1.2s							
SYVR				*e*Sg	**Sg**	**15 42 28.6**	**-1.8**
SYVR				Smax		15 42 32.2	
comp=E,3μm,0.4s							
LSTR	**Listvyanka**	**1.82**	**242**	⇑*i*PN	**Pn**	**15 42 03.6**	**-0.3**
LSTR				*e*		15 42 04.6	
LSTR				*e*S	**Sn**	**15 42 27.0**	**+0.1**
LSTR				*e*		15 42 28.4	
LSTR				pmax	pmax		
comp=Z,475nm,0.5s							
LSTR				smax			
comp=N,4μm,0.4s							
LSTR	**Listvyanka**	**1.82**	**242**	*i*Pg	**Pg**	**15 42 03.7**	**-3.7**
comp=N,141nm,0.9s							
LSTR				⇑*i*Pg	**Pg**	**15 42 03.7**	**-3.7**
comp=N,270nm,0.9s							
LSTR				⇓*i*Pg	**Pg**	**15 42 03.7**	**-3.7**
comp=N,235nm,0.9s							
LSTR				Pmax		15 42 10.0	
comp=N,704nm,1.0s							
LSTR				*e*Sg	**Sg**	**15 42 28.0**	**-2.9**
LSTR				Smax		15 42 29.1	
comp=N,4μm,0.4s							
IRK	**Irkutsk**	**1.99**	**256**	*e*PN	**Pn**	**15 42 06.3**	**+0.1**
IRK				*e*		15 42 07.9	
IRK				*e*		15 42 33.9	
IRK				pmax	pmax		
comp=Z,1μm,0.9s							
IRK				smax			
comp=N,18μm,0.5s							
IRK	**Irkutsk**	**1.99**	**256**	*e*Pn	**Pn**	**15 42 06.2**	**0.0**
IRK				*e*Pg	**Pg**	**15 42 08.0**	**-2.6**
IRK				Pmax		15 42 09.3	
comp=N,1μm,0.8s							
IRK				*e*Sg	**Sg**	**15 42 34.1**	**-2.3**
IRK				Smax		15 42 35.0	
comp=N,18μm,0.5s							
TLY	**Talaya**	**2.56**	**246**	*e*PN	**Pn**	**15 42 14.0**	**0.0**
TLY				*e*		15 42 17.9	
TLY				*e*S	**Sn**	**15 42 45.8**	**+0.7**
TLY				*e*		15 42 50.2	
TLY				pmax	pmax		
comp=Z,167nm,0.4s							
TLY				smax			
comp=N,1μm,1.0s							
TLY	**Talaya**	**2.56**	**246**	*e*Pn	**Pn**	**15 42 13.6**	**-0.4**
TLY				*e*Pg	**Pg**	**15 42 17.3**	**-4.2**
TLY				Pmax		15 42 22.4	
comp=N,161nm,0.4s							
TLY				*e*Sn	**Sn**	**15 42 45.5**	**+0.4**
TLY				*e*Sg	**Sg**	**15 42 50.4**	**-4.2**
TLY				Smax		15 43 00.1	
comp=N,1μm,0.8s							
TLY	**Talaya**	**2.56**	**246**	*e*Pn	**Pn**	**15 42 14.0**	**0.0**
TLY				*e*Pg	**Pg**	**15 42 21.0**	**-0.5**
TLY				*e*Sg	**Sg**	**15 42 51.0**	**-3.7**
YLYR	**Ulyunkhan**	**3.07**	**45**	*e*PN	**Pn**	**15 42 21.6**	**+0.5**
YLYR				*e*		15 42 26.6	
YLYR	**Ulyunkhan**	**3.07**	**45**	*e*Pn	**Pn**	**15 42 21.6**	**+0.5**
YLYR				*e*Pg	**Pg**	**15 42 27.3**	**-4.1**
YLYR				Pmax		15 42 35.1	
comp=N,243nm,1.1s							
YLYR				*e*Sn	**Sn**	**15 42 58.5**	**+0.6**
YLYR				*e*Sg	**Sg**	**15 43 07.9**	**-3.3**
YLYR				Smax		15 43 15.5	
comp=N,1μm,1.0s							
ARS	**Arshan**	**3.17**	**257**	*e*PN	**Pn**	**15 42 23.5**	**+1.0**
ARS				*e*		15 42 28.7	
ARS				*e*		15 43 08.7	
ARS				pmax	pmax		
comp=Z,666nm,0.1s							
ARS				smax			
comp=N,3μm,0.5s							
ARS	**Arshan**	**3.17**	**257**	⇑*i*Pn	**Pn**	**15 42 23.6**	**+1.1**
ARS				*e*Pg	**Pg**	**15 42 28.4**	**-4.9**
ARS				Pmax		15 42 35.7	
comp=N,661nm,0.7s							
ARS				*e*Sg	**Sg**	**15 43 08.6**	**-5.8**
ARS				Smax		15 43 17.1	
comp=N,3μm,0.5s							
NIZ	**Nizh Angarsk**	**3.27**	**22**	*e*PN	**Pn**	**15 42 24.8**	**+1.0**
NIZ				*e*		15 42 31.2	
NIZ				*e*S	**Sn**	**15 43 02.8**	**0.0**
NIZ	**Nizh Angarsk**	**3.27**	**22**	*e*Pn	**Pn**	**15 42 24.6**	**+0.8**
NIZ				*e*Pg	**Pg**	**15 42 30.0**	**-5.2**
NIZ				Pmax		15 42 50.6	
comp=N,258nm,1.2s							
NIZ				*e*Sn	**Sn**	**15 43 02.7**	**-0.1**
NIZ				*e*Sg	**Sg**	**15 43 12.9**	**-4.7**
NIZ				Smax		15 43 22.9	
comp=N,1μm,0.7s							
ZAK	**Zakamensk**	**3.51**	**229**	*e*PN	**Pn**	**15 42 27.8**	**+0.7**
ZAK				*e*		15 42 35.6	
ZAK				*e*		15 43 20.7	
ZAK				pmax	pmax		
comp=Z,95nm,0.6s							
ZAK				smax			
comp=N,406nm,0.9s							
ZAK	**Zakamensk**	**3.51**	**229**	⇑*i*Pn	**Pn**	**15 42 27.4**	**+0.3**
comp=N,75nm,0.9s							
ZAK				⇑*i*Pn	**Pn**	**15 42 27.4**	**+0.3**
comp=N,122nm,0.9s							
ZAK				⇓*i*Pn	**Pn**	**15 42 27.4**	**+0.3**
comp=N,150nm,0.9s							
ZAK				*e*Pg	**Pg**	**15 42 35.8**	**-3.9**
ZAK				Pmax		15 42 44.2	
comp=N,166nm,1.3s							
ZAK				*e*Sn	**Sn**	**15 43 09.6**	**+1.0**
ZAK				*e*Sg	**Sg**	**15 43 20.9**	**-4.2**
ZAK				Smax		15 43 28.7	
comp=N,579nm,1.1s							
CIT	**Chita**	**3.84**	**99**	*e*PN	**Pn**	**15 42 30.5**	**-1.1**
CIT				*e*		15 42 40.1	
CIT				*e*S	**Sn**	**15 43 16.8**	**+0.1**
CIT				*e*		15 43 30.6	
CIT				pmax	pmax		
comp=Z,606nm,1.0s							
CIT				smax			
comp=N,3μm,1.2s							
CIT	**Chita**	**3.84**	**99**	*e*Pn	**Pn**	**15 42 31.6**	**0.0**
CIT				*e*Pg	**Pg**	**15 42 41.1**	**-4.9**
CIT				Pmax		15 42 46.1	
comp=N,607nm,1.3s							
CIT				*e*Sn	**Sn**	**15 43 16.9**	**+0.2**
CIT				*e*Sg	**Sg**	**15 43 31.9**	**-3.8**
CIT				Smax		15 43 38.7	
comp=N,3μm,1.1s							
KMO	**Kumora**	**3.84**	**34**	*e*Pn	**Pn**	**15 42 31.9**	**+0.2**
KMO				*e*Pg	**Pg**	**15 42 41.7**	**-4.4**
KMO				Pmax		15 42 50.4	
comp=N,450nm,1.3s							
KMO				*e*Sg	**Sg**	**15 43 31.7**	**-4.1**
KMO				Smax		15 43 40.6	
comp=N,1μm,1.0s							
MOY	**Mondy**	**4.09**	**257**	*e*PN	**Pn**	**15 42 37.4**	**+2.2**
MOY				*e*		15 42 46.5	
MOY				*e*S	**Sn**	**15 43 24.1**	**+1.0**
MOY				*e*		15 43 36.1	
MOY				pmax	pmax		
comp=Z,671nm,1.3s							
MOY				smax			
comp=E,1μm,0.8s							
MOY	**Mondy**	**4.09**	**257**	*e*Pn	**Pn**	**15 42 36.9**	**+1.7**
MOY				*e*Pg	**Pg**	**15 42 44.3**	**-6.7**
MOY				Pmax		15 42 48.3	
comp=E,673nm,1.0s							
MOY				*e*		15 43 26.5	
MOY				*e*Sg	**Sg**	**15 43 36.4**	**-7.6**
MOY				Smax		15 43 44.7	
comp=E,1μm,0.7s							
YOA	**Uoyan**	**4.22**	**35**	*e*PN	**Pb**	**15 42 49.4**	**+2.6**
YOA				*i*		15 43 43.8	
YOA				pmax	pmax		
comp=Z,521nm,1.0s							
YOA				smax			
comp=E,4μm,1.0s							
YOA	**Uoyan**	**4.22**	**35**	*e*Pg	**Pg**	**15 42 48.3**	**-5.0**
YOA				Pmax		15 43 11.4	
comp=E,518nm,1.1s							
YOA				*e*Sg	**Sg**	**15 43 45.0**	**-2.8**
YOA				Smax		15 44 04.8	
comp=E,3μm,1.4s							
KPC	**Khapcheranga**	**4.37**	**132**	*e*PN	**Pn**	**15 42 39.0**	**0.0**
KPC				*e*		15 42 50.3	
KPC				*e*S	**Sn**	**15 43 28.5**	**-1.4**
KPC				*e*		15 43 45.2	
KPC				pmax	pmax		
comp=Z,585nm,0.8s							
KPC				smax			
comp=N,2μm,1.2s							
KPC	**Khapcheranga**	**4.37**	**132**	*e*Pn	**Pn**	**15 42 38.7**	**-0.3**
KPC				*e*Pg	**Pg**	**15 42 51.1**	**-5.2**
KPC				Pmax		15 42 53.3	
comp=N,586nm,0.9s							
KPC				*e*Sn	**Sn**	**15 43 29.8**	**-0.1**
KPC				*e*Sg	**Sg**	**15 43 47.1**	**-5.8**
KPC				Smax		15 43 53.4	
comp=N,2μm,1.4s							
UKT	**Uakit**	**4.57**	**51**	*e*PN	**Pb**	**15 42 57.0**	**+4.3**
UKT				*e*		15 43 54.2	
UKT				pmax	pmax		
comp=Z,242nm,0.6s							
UKT				smax			
comp=N,564nm,0.7s							
UKT	**Uakit**	**4.57**	**51**	*e*Pn	**Pn**	**15 42 42.6**	**+1.0**
UKT				*e*Pg	**Pg**	**15 42 55.1**	**-4.9**
UKT				Pmax		15 43 00.8	
comp=N,255nm,1.2s							
UKT				*e*Sn	**Sn**	**15 43 34.4**	**-0.3**
UKT				*e*Sg	**Sg**	**15 43 55.1**	**-4.0**
UKT				Smax		15 44 08.0	
comp=N,758nm,1.4s							
ORL	**Orlik**	**4.63**	**270**	*e*PN	**Pn**	**15 42 44.1**	**+1.6**
ORL				*e*		15 42 56.3	
ORL				*e*		15 43 54.6	
ORL				pmax	pmax		
comp=Z,152nm,0.8s							
ORL				smax			
comp=N,1μm,2.0s							
ORL	**Orlik**	**4.63**	**270**	⇓*i*	**Pn**	**15 42 43.7**	**+1.1**
ORL				*e*Pg	**Pg**	**15 42 53.3**	**-8.0**
ORL				Pmax		15 43 12.6	
comp=N,135nm,1.0s							
ORL				*e*		15 43 39.8	
ORL				*e*Sg	**Sg**	**15 43 53.2**	**-8.0**
ORL				Smax		15 44 09.8	
comp=N,1μm,1.9s							
SONM	**Songino Array**	**4.97**	**188**	Pn	**Pn**	**15 42 48.4**	**+1.2**
comp=N,3.5nm,0.3s,baz=360,slow=14,SNR=145							
SONM				Pg	**Pg**	**15 43 02.0**	**-5.8**
comp=N,15nm,0.3s,baz=359,slow=17,SNR=33							
SONM				Lg		15 44 08.9	
comp=N,77nm,0.3s,baz=14,slow=26,SNR=23							
SONM				LR	LR	15 44 54.9	
comp=N,372nm,21.7s,baz=248,slow=41							
SONM	**Songino Array**	**4.97**	**188**	PN	**Pn**	**15 42 48.4**	**+1.2**
SONM						15 43 02.0	
SONM						15 44 08.9	
NLYR	**Nelyaty**	**6.10**	**49**	*e*PN	**Pn**	**15 43 03.1**	**+0.5**
NLYR				*e*		15 43 21.2	
NLYR	**Nelyaty**	**6.10**	**49**	*e*Pn	**Pn**	**15 43 04.3**	**+1.7**
NLYR				*e*Pg	**Pg**	**15 43 22.8**	**-6.4**
NLYR				Pmax		15 43 35.0	
comp=N,155nm,1.5s							
NLYR				*e*Sg	**Sg**	**15 44 42.0**	**-6.1**
NLYR				Smax		15 44 58.5	
comp=N,537nm,1.2s							
BOD	**Bodaibo**	**6.32**	**34**	*e*PN	**Pn**	**15 43 05.3**	**-0.3**
BOD				*e*		15 43 25.7	
BOD				*e*		15 44 46.9	
BOD				pmax	pmax		
comp=Z,43nm,1.1s							
BOD				smax			
comp=N,289nm,1.7s							
BOD	**Bodaibo**	**6.32**	**34**	*e*Pn	**Pn**	**15 43 06.1**	**+0.5**
BOD				*e*Pg	**Pg**	**15 43 26.1**	**-7.3**
BOD				Pmax		15 43 40.7	
comp=N,42nm,1.3s							
BOD				*e*Sg	**Sg**	**15 44 47.8**	**-7.3**
BOD				Smax		15 45 17.7	
comp=N,289nm,1.4s							
TDJR	**Todzha**	**6.90**	**272**	*e*Pn	**Pn**	**15 43 14.7**	**+1.0**
TDJR				*e*Pg	**Pg**	**15 43 36.3**	**-8.4**
TDJR				*e*Sg	**Sg**	**15 45 06.0**	**-8.0**
CRS	**Chara**	**7.52**	**52**	*e*PN	**Pn**	**15 43 22.6**	**+0.5**
CRS				*e*		15 43 48.4	
CRS				*e*		15 45 27.2	
CRS				pmax	pmax		
comp=Z,104nm,1.3s							
CRS				smax			
comp=N,557nm,2.2s							
CRS	**Chara**	**7.52**	**52**	*e*Pn	**Pn**	**15 43 22.4**	**+0.3**
CRS				*e*Pg	**Pg**	**15 43 48.9**	**-7.5**
CRS				Pmax		15 43 55.4	
comp=N,104nm,1.4s							
CRS				*e*Sg	**Sg**	**15 45 27.2**	**-6.4**
CRS				Smax		15 45 41.9	
comp=N,653nm,2.2s							
TUP	**Tupik**	**7.65**	**72**	*e*PN	**Pn**	**15 43 23.8**	**-0.2**
TUP				*e*		15 43 49.8	
TUP				*e*		15 45 31.2	
TUP				pmax	pmax		
comp=Z,35nm,0.9s							
TUP				smax			
comp=N,983nm,1.1s							
TUP	**Tupik**	**7.65**	**72**	*e*Pn	**Pn**	**15 43 24.0**	**0.0**
TUP				*e*Pg	**Pg**	**15 43 50.0**	**-9.0**
TUP				Pmax		15 43 56.1	
comp=N,35nm,0.9s							
TUP				*e*Sn	**Sn**	**15 44 49.4**	**-1.2**
TUP				*e*Sg	**Sg**	**15 45 28.6**	**-9.3**
TUP				Smax		15 45 41.4	
comp=N,894nm,1.3s							
HIA	**Hailar**	**8.53**	**109**	*e*PN	**Pn**	**15 43 34.7**	**-1.3**
HIA				pmax	pmax		
comp=Z,15nm,0.5s							
HIA	**Hailar**	**8.53**	**109**	*e*Pn	**Pn**	**15 43 34.7**	**-1.3**
comp=Z,15nm,0.5s							
HVS	**Khovu-Aksy**	**8.62**	**265**	*i* PN	**Pn**	**15 43 42.2**	**+4.9**
BLRR	**Bol'shaya Rech**	**9.06**	**278**	⇓*e*P	**Pn**	**15 43 46.0**	**+2.7**
KRAR	**Krasnoyarsk**	**9.08**	**297**	⇑*i*P	**Pn**	**15 43 41.1**	**-2.5**
BTO	**Baotou**	**12.29**	**171**	*e*P	**Pn**	**15 44 30.3**	**+2.8**
ZALV	**Zalesovo Beam**	**13.54**	**284**	Pn	**Pn**	**15 44 44.9**	**+0.4**
comp=Z,0.1nm,0.3s,baz=95,slow=11,SNR=20							
ZALV				Lg		15 48 32.4	
comp=Z,0.3nm,0.3s,baz=87,slow=26,SNR=8.4							
ZAL	**Zalesovo**	**13.55**	**284**	P	**Pn**	**15 44 44.9**	**+0.3**
GTA	**Gaotai**	**14.34**	**204**	*e*P	**Pn**	**15 44 56.6**	**+1.1**
GTA				AP	pP	15 45 00.9	-4.5
GTA				XP	sP	15 45 04.1	-2.6
GTA				LG2		15 49 07.3	
GTA				AMB	AMB		
comp=Z,4.0nm,1.4s							
GTA				AMB	AMB		
comp=Z,37nm,5.6s							
GTA				LR	LR		
comp=N,435nm,11.6s							
GTA				LR	LR		
comp=E,815nm,12.5s							
GTA				LR	LR		
comp=Z,428nm,12.2s							
NVS	**Novosibirsk**	**14.42**	**288**	*e*P	**Pn**	**15 44 54.3**	**-2.2**
NVS				*e*		15 47 32.8	
CN2	**Changchun**	**14.95**	**120**	*e*P	**Pn**	**15 45 03.8**	**0.0**
CN2				AMB	AMB		
comp=Z,10.0nm,0.8s							
CN2				LR	LR		
comp=N,400nm,10.0s							
CN2				LR	LR		
comp=E,600nm,10.0s							
CN2				LR	LR		
comp=Z,500nm,13.0s							
YAK	**Yakutsk**	**15.10**	**43**	*e*P	**Pn**	**15 45 06.0**	**+0.3**
YAK				*e*		15 47 58.0	
YAK				pmax	pmax		
comp=Z,5.0nm,1.1s							
YAK				smax			
comp=N,2.0nm,0.5s							
YAK				smax			
comp=E,2.0nm,0.6s							
YAK				MLR	MLR		
comp=Z,237nm,10.0s							
YAK	**Yakutsk**	**15.10**	**43**	*e*P	**Pn**	**15 45 06.4**	**+0.8**
comp=Z,17nm,0.9s							
MDJ	**Mudanjiang**	**16.71**	**110**	P	**Pn**	**15 45 25.9**	**-0.7**
MDJ				AMB	AMB		
comp=Z,8.0nm,1.3s							
MDJ				AMB	AMB		
comp=Z,66nm,4.7s							
MDJ				LR	LR		
comp=N,132nm,17.2s							
MDJ				LR	LR		
comp=E,160nm,18.7s							
MDJ				LR	LR		

comp=Z,193nm,20.3s
MDJ Mudanjiang 16.71 110 *e*P Pn **15 45 30.3 +3.7**
comp=Z,6.4nm,0.8s
MKAR Makanchi Array 17.24 260 P Pn **15 45 33.7 +0.5**
comp=Z,0.1nm,0.3s,baz=69,slow=10,SNR=14
MKAR Lg 15 50 39.6
comp=Z,0.1nm,0.3s,baz=60,slow=32,SNR=4.2
MKAR Makanchi Array 17.24 260 P Pn **15 45 33.7 +0.5**
MKAR Lg 15 50 39.6
KURK Kurchatov 17.90 275 *e*P Pn **15 45 40.2 -1.2**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 17.90 275 *e*P Pn **15 45 40.2 -1.2**
comp=Z,4.6nm,0.9s
VLA Vladivostok 18.94 111 *e*P Pn **15 45 55.2 +1.0**
VLA pmax pmax
comp=Z,13nm,1.3s
KSRS Korea Array 20.95 129 P P **15 46 16.9 +1.4**
comp=Z,1.4nm,0.8s,baz=328,slow=9.6,SNR=9.2
KSRS Lg 15 52 40.6
comp=Z,0.6nm,0.8s,baz=323,slow=32,SNR=3.6
KSRS LR LR 15 55 20.9
comp=Z,217nm,19.0s,MS3.5,baz=347,slow=40
TIXI Tiksi 21.19 19⇑*i*P P **15 46 14.8 -2.9**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb3.9
TIXI MLR MLR
comp=Z,100nm,20.0s,MS3.2
TIXI Tiksi 21.19 19 *e*P P **15 46 16.3 -1.4**
comp=Z,13nm,0.9s,mb4.3
BVAR Borovoye Array 22.18 286 P P **15 46 27.3 -1.2**
comp=Z,5.1nm,0.7s,mb4.0,baz=88,slow=9.6,SNR=24
BVAR LR LR 15 55 33.1
comp=Z,270nm,19.2s,MS3.7,baz=336,slow=38
BRVK Borovoye 22.24 286 *e*P P **15 46 28.9 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
BRVK Borovoye 22.24 286 *e*P P **15 46 28.9 -0.2**
comp=Z,8.4nm,0.8s,mb4.2
TKM2 Tokmak 2 23.33 258 *e*P P **15 46 41.3 +0.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s,mb3.9
TKM2 Tokmak 2 23.33 258 *e*P P **15 46 41.3 +0.4**
comp=Z,4.5nm,0.9s,mb3.9
FRU Bishkek 23.97 259 *e*P P **15 46 48.0 +1.1**
ASAJ Asahikawa 24.68 96 LR LR 15 57 14.4
comp=Z,130nm,18.0s,MS3.5,baz=184,slow=38
SEY Seymchan 25.47 49⇑*i*P P **15 47 01.0 +0.7**
SVE Sverdlovsk 26.85 298⇑*e*P P **15 47 13.9 +1.0**
SVE *e*S S **15 51 49.6 +0.6**
SVE pmax pmax
comp=Z,18nm,0.7s,mb4.7
SVE MLR MLR
comp=Z,342nm,14.0s,MS4.1
MJAR Matsushiro Arr 26.98 115 LR LR 15 58 07.3
comp=Z,108nm,18.8s,MS3.4,baz=345,slow=37
ARU Arti 28.05 297 *e*P P **15 47 22.7 -1.0**
ARU *e*PPP 15 48 18.9
ARU *e*S S **15 52 08.0 0.0**
PETK Petropavlovsk- 29.81 69 P P **15 47 40.0 +0.6**
comp=Z,1.5nm,0.7s,mb3.8,baz=291,slow=8.6,SNR=3.8
BILL Bilibino 31.35 38⇑*i*P P **15 47 53.5 +0.7**
BILL pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
BILL MLR MLR
comp=Z,100nm,16.0s,MS3.6
CHTO Chiang Mai 34.52 194 *e*P P **15 48 21.7 +0.9**
CHTO pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
CHTO Chiang Mai 34.52 194 *e*P P **15 48 21.7 +0.9**
comp=Z,7.2nm,1.1s,mb4.5
CMAR Chiang Mai Arr 34.87 194 P P **15 48 24.5 +0.6**
comp=Z,2.7nm,0.8s,mb4.2,baz=0.0,slow=8.1,SNR=18
CMAR Chiang Mai Arr 34.87 194 *i* P P **15 48 25.2 +1.3**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 36.44 310 P P **15 48 35.7 -1.3**
ARCES ARCESS Array B 39.33 327 LR LR 16 07 17.9
comp=Z,83nm,18.5s,MS3.6,baz=95,slow=39
AKASG Malin Array Be 46.21 300 P P **15 49 53.5 -3.8**
comp=Z,0.2nm,0.2s,mb3.7,baz=6.9,slow=38,SNR=1.7
AKASG Malin Array Be 46.21 300 *i* P P **15 50 00.4 +3.1**
JMIC Jan Mayen 48.46 337 LR LR 16 13 05.3
comp=Z,44nm,21.6s,MS3.4,baz=93,slow=39
NOA NORSAR Array B 48.56 320 P P **15 50 15.2 -0.3**
comp=Z,0.6nm,0.8s,mb3.7,baz=63,slow=9.0,SNR=2.6
NOA LR LR 16 12 22.6
comp=Z,132nm,19.3s,MS3.9,baz=40,slow=38
NOA NORSAR Array B 48.56 320 P P **15 50 15.2 -0.3**
NOA LR LR 16 12 22.6
COLA College 49.30 33⇓*i*P P **15 50 21.9 +0.8**
VRAC Vranov 53.51 306 LR LR 16 16 18.5
comp=Z,248nm,18.5s,MS4.3,baz=266,slow=39
GERES GERESS Array B 55.23 307 P P **15 51 04.3 -1.1**
comp=Z,0.3nm,0.6s,mb3.5,baz=32,slow=7.8,SNR=3.4
GERES LR LR 16 14 45.3
comp=Z,83nm,19.1s,MS3.8,baz=62,slow=36
DAVOX Davos/Dischmat 58.52 307 LR LR 16 19 08.2
comp=Z,111nm,18.3s,MS4.0,baz=86,slow=39
YKA Yellowknife Ar 60.42 21 P P **15 51 41.1 -0.4**
comp=Z,1.2nm,0.6s,mb4.1,baz=331,slow=6.8,SNR=3.7
ESDC Sonseca Array 70.49 310 P P **15 52 47.5 +0.5**
comp=Z,1.1nm,0.7s,mb3.9,baz=38,slow=6.0,SNR=8.1
WRAB Tennant Creek 76.08 154 *e*P P **15 53 20.2 +0.1**
WRAB pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
WRAB Tennant Creek 76.08 154 *e*P P **15 53 20.2 +0.1**
comp=Z,3.2nm,0.7s,mb4.4
WRA Warramunga Arr 76.08 154 P P **15 53 20.2 0.0**
comp=Z,2.2nm,0.6s,mb4.3,baz=346,slow=6.2,SNR=16
ASAR Alice Springs 79.53 155 P P **15 53 39.8 +0.5**
comp=Z,1.7nm,0.7s,mb4.1,baz=354,slow=7.0,SNR=17
HWUT Hardware Ranch 80.16 29 *e*P P **15 53 44.3 +1.6**
comp=Z,2.5nm,1.2s,mb4.0
NVAR Mina Array Bea 80.90 35 P P **15 53 48.5 +1.9**
comp=Z,1.0nm,0.7s,mb3.8,baz=309,slow=3.0,SNR=7.8
SDCO Great Sand Dun 85.43 26 *e*P P **15 54 11.1 +1.0**
comp=Z,3.8nm,1.2s,mb4.4
ANMO Albuquerque 87.80 27 *e*P P **15 54 23.7 +1.9**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO Albuquerque 87.80 27 *e*P P **15 54 23.7 +1.9**
comp=Z,3.9nm,1.1s,mb4.5
TORD Torodi Ar. Bea 88.90 290 P P **15 54 27.2 0.0**
comp=Z,1.1nm,0.9s,mb4.2,baz=16,slow=4.4,SNR=4.4
TXAR Lajitas Array 93.87 27 P P **15 54 52.2 +2.1**
comp=Z,0.6nm,0.9s,mb4.0,baz=126,slow=1.7,SNR=4.4
SNAA Sanae 145.07 211 *e*PKPdf PKPdf 16 01 07.8 -0.6
SNAA *e* 16 01 09.4
SNAA *e* 16 01 12.9
SNAA *e* 16 01 14.5
VNA2 Neumayer--Watz 146.49 213 *e*PKPdf PKPdf 16 01 12.8 +1.9
VNA2 *e* 16 01 14.3
VNA2 *e* 16 01 17.5
VNA2 *e* 16 01 19.2
VNA1 Neumayer--Stat 146.77 213 *e*PKPdf PKPdf 16 01 13.7 +2.3
VNA1 *e* 16 01 15.4
VNA1 *e* 16 01 18.5
VNA1 *e* 16 01 20.7
VNA3 Neumayer Olymp 147.24 212 *e*PKPdf PKPdf 16 01 14.8 +2.7
VNA3 *e* 16 01 16.3
VNA3 *e* 16 01 19.4
VNA3 *e* 16 01 20.9

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*IDC **19** 15:42:17.9±1.8, 497S×10253E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/20, mbtmp3.9/10, Error ellipse: s-maj=72.0km s-min=15.1km az=57.0*
*ISCJB **19** 15:42:20.5±1.6, 50S±02×1025E±04, h33km, mb3.9/12, Error ellipse: s-maj=60.8km s-min=11.4km az=146.5*
*NEIC **19** 15:42:22.8±1.5, 486S×10272E, h30km, mb3.8/2, Error ellipse: s-maj=65.2km s-min=8.2km az=55.0*
ISC 19 15:42:23.1±1.6, 50S±02×1026E±04, h35km, n14, σ0.51/13, mb3.9/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.53**	**351**	P	**P**	**15 47 30.6**	**+0.1**
	1.2nm,0.6s,mb3.5,baz=187,slow=9.3,SNR=7.9						
CHTO	**Chiang Mai**	**23.88**	**351**	*e*P	**P**	**15 47 33.4**	**-0.2**
	1.5nm,0.7s,mb3.5						
FITZ	**Fitzroy Crossi**	**26.04**	**122**	P	**P**	**15 47 52.7**	**-0.6**
	3.8nm,1.0s,mb3.9,baz=311,slow=9.3,SNR=3.7						
WRA	**Warramunga Arr**	**34.29**	**119**	P	**P**	**15 49 06.0**	**-0.3**
	0.4nm,0.4s,mb3.7,baz=300,slow=10,SNR=6.6						
WRAB	**Tennant Creek**	**34.30**	**119**	*e*P	**P**	**15 49 05.8**	**-0.6**
	1.1nm,0.5s,mb4.0						
ASAR	**Alice Springs**	**35.44**	**125**	P	**P**	**15 49 16.6**	**+0.4**
	0.4nm,0.5s,mb3.6,baz=291,slow=6.8,SNR=23						
STKA	**Stephens Creek**	**45.27**	**131**	P	**P**	**15 50 38.5**	**+1.1**
	3.0nm,0.5s,mb4.3,baz=310,slow=7.8,SNR=17						
KSRS	**Korea Array**	**48.33**	**27**	P	**P**	**15 51 01.6**	**+0.4**
	0.3nm,0.6s,mb3.5,baz=221,slow=7.1,SNR=3.3						
SONM	**Songino Array**	**52.66**	**3**	P	**P**	**15 51 34.0**	**+0.2**
	1.7nm,0.8s,mb4.1,baz=171,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**54.57**	**343**	P	**P**	**15 51 48.3**	**+0.5**
	1.6nm,0.5s,mb4.3,baz=153,slow=8.9,SNR=13						
ZALV	**Zalesovo Beam**	**60.55**	**348**	P	**P**	**15 52 29.2**	**-0.6**
	2.3nm,0.5s,mb4.6,baz=163,slow=4.9,SNR=6.2						
ZALV	**Zalesovo Beam**	**60.55**	**348**	P	**P**	**15 52 29.2**	**-0.6**
BVAR	**Borovoye Array**	**63.84**	**339**	P	**P**	**15 52 51.3**	**-0.5**
	0.6nm,0.5s,mb3.9,baz=133,slow=10,SNR=3.7						
TXAR	**Lajitas Array**	**145.27**	**43**	PKPbc	PKPbc	16 01 58.2	+0.6
	0.6nm,0.7s,baz=276,slow=0.6,SNR=8.0						

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*MOS **19** 15:58:38.7±1.5, 5544N×11040E, h8km, mb4.5/1, Error ellipse: s-maj=14.1km s-min=7.4km az=66.3*
BYKL 19 15:58:39.2±0.2, 5543N×11034E, h10km±18km, 3C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.57**	**308**⇑	*i*PG	Pg	15 58 50.1	-0.1
NIZ				*e*		15 58 58.5	
NIZ				pmax	pmax		
	comp=Z,391nm,0.4s						
NIZ				smax			
	comp=E,751nm,0.8s						
NIZ	**Nizh Angarsk**	**0.57**	**308**⇑	*i*Pg	Pg	15 58 50.1	-0.1
NIZ				*e*Sg	Sg	15 58 58.6	+0.9
NIZ				Pmax			
	comp=E,183nm,0.7s						
NIZ				Smax			
	comp=E,754nm,0.6s						
KMO	**Kumora**	**0.67**	**46**	*e*PG	Pg	15 58 50.6	-1.5
KMO				*e*		15 58 58.3	
KMO				pmax	pmax		
	comp=Z,180nm,0.4s						
KMO				smax			
	comp=N,1μm,1.0s						
KMO	**Kumora**	**0.67**	**46**⇓	*i*Pg	Pg	15 58 50.7	-1.4
KMO				*e*Sg	Sg	15 58 59.4	-1.5
KMO				Pmax			
	comp=N,316nm,0.6s						
KMO				Smax			
	comp=N,1μm,0.9s						
YLYR	**Ulyunkhan**	**0.73**	**139**⇓	*i*PG	Pg	15 58 51.6	-1.6
YLYR				*e*		15 59 00.3	
YLYR				pmax	pmax		
	comp=Z,194nm,0.3s						
YLYR				smax			
	comp=N,644nm,0.1s						
YLYR	**Ulyunkhan**	**0.73**	**139**⇓	*i*Pg	Pg	15 58 51.6	-1.6
YLYR				*e*Sg	Sg	15 59 02.0	-0.7
YLYR				Pmax			
	comp=N,226nm,0.6s						
YLYR				Smax			
	comp=N,950nm,1.2s						
YOA	**Uoyan**	**1.05**	**47**⇑	*i*PG	Pg	15 58 58.7	-0.7
YOA	**Uoyan**	**1.05**	**47**	*e*Pg	Pg	15 58 58.6	-0.8
YOA				*e*Sg	Sg	15 59 13.6	+0.5
YOA				Pmax			
	comp=N,208nm,0.2s						
YOA				Smax			
	comp=N,1μm,0.7s						
SYVR	**Suvo**	**1.79**	**187**	*e*PN	Pn	15 59 11.0	+1.0
SYVR				*e*		15 59 35.7	
SYVR				pmax	pmax		
	comp=Z,302nm,0.7s						
SYVR				smax			
	comp=N,1μm,1.3s						
SYVR	**Suvo**	**1.79**	**187**	*e*Pg	Pg	15 59 11.0	-2.4
SYVR				*e*Sg	Sg	15 59 35.5	-1.1
SYVR				Pmax			
	comp=N,296nm,0.7s						
SYVR				Smax			
	comp=N,1μm,1.3s						
UKT	**Uakit**	**1.87**	**87**	*e*PN	Pn	15 59 12.0	+0.8
UKT				*e*		15 59 36.8	
UKT				pmax	pmax		
	comp=Z,171nm,0.4s						
UKT				smax			
	comp=N,715nm,0.4s						
UKT	**Uakit**	**1.87**	**87**	*e*Pg	Pg	15 59 12.2	-2.9
UKT				*e*Sg	Sg	15 59 36.9	-2.4
UKT				*e*		15 59 38.9	
UKT				Pmax			
	comp=N,224nm,0.9s						
UKT				max			
	comp=N,725nm,0.6s						
MXMB	**Maximikha**	**2.36**	**204**	*e*Pn	Pn	15 59 18.5	+0.5
MXMB				*e*Pg	Pg	15 59 22.3	-2.2
MXMB				*e*Sg	Sg	15 59 52.8	-2.3
MXMB				Pmax			
	comp=N,121nm,0.9s						
MXMB				Smax			
	comp=N,190nm,0.7s						
OGRR	**Ongureny**	**2.40**	**223**	*e*PN	Pn	15 59 20.2	+1.7
OGRR				*e*		15 59 23.5	
OGRR				*e*		15 59 54.1	
OGRR				pmax	pmax		
	comp=Z,70nm,1.2s						
OGRR				smax			
	comp=N,843nm,1.0s						
OGRR	**Ongureny**	**2.40**	**223**	*e*Pn	Pn	15 59 19.6	+1.1
OGRR				*e*Pg	Pg	15 59 22.1	-3.1
OGRR				*e*Sg	Sg	15 59 53.4	-2.8
OGRR				Pmax			
	comp=N,61nm,1.0s						
OGRR				Smax			
	comp=N,848nm,0.7s						
BOD	**Bodaibo**	**3.14**	**39**	*e*PN	Pn	15 59 33.4	+4.8
BOD				*e*		16 00 13.1	
BOD				pmax	pmax		
	comp=Z,26nm,0.8s						
BOD				smax			
	comp=E,170nm,1.6s						
BOD	**Bodaibo**	**3.14**	**39**	*e*Pn	Pn	15 59 29.0	+0.4
BOD				*e*Pg	Pg	15 59 35.3	-3.9
BOD				*e*Sn	Sn	16 00 06.6	+0.6
BOD				*e*Sg	Sg	16 00 15.8	-4.0
BOD				Pmax			
	comp=E,18nm,0.3s						
BOD				Smax			
	comp=E,165nm,1.5s						
NLYR	**Nelyaty**	**3.20**	**68**	*e*PN	Pn	15 59 29.6	+0.2
NLYR				*e*		15 59 35.5	
NLYR				*e*		16 00 16.9	
NLYR				pmax	pmax		
	comp=Z,59nm,1.3s						
NLYR				smax			
	comp=N,284nm,1.0s						
NLYR	**Nelyaty**	**3.20**	**68**	*e*Pn	Pn	15 59 29.2	-0.2
NLYR				*e*Pg	Pg	15 59 36.0	-4.4
NLYR				*e*Sg	Sg	16 00 18.2	-3.6
NLYR				Pmax			
	comp=N,59nm,0.7s						
NLYR				Smax			
	comp=N,282nm,0.8s						
ZRHB	**Zarechye**	**3.44**	**214**	*e*Pg	Pg	15 59 40.3	-4.8
ZRHB				*e*Sn	Sn	16 00 12.5	-1.1
ZRHB				*e*Sg	Sg	16 00 26.2	-3.4
ZRHB				Pmax			
	comp=N,124nm,0.7s						
ZRHB				Smax			
	comp=N,745nm,1.2s						
TRG	**Tyrgan**	**3.56**	**223**	*e*PN	Pn	15 59 36.8	+2.4
TRG				*e*		15 59 44.6	
TRG				*e*S	Sn	16 00 17.9	+1.4
TRG				*e*		16 00 29.6	
TRG				pmax	pmax		
	comp=Z,12nm,0.2s						
TRG				smax			
	comp=E,260nm,0.3s						
TRG	**Tyrgan**	**3.56**	**223**	*e*Pn	Pn	15 59 36.7	+2.3
TRG				Sn	Sn	16 00 16.6	+0.1
TRG				*e*Sg	Sg	16 00 29.6	-3.8
TRG				max			
	comp=E,11nm,0.4s						
TRG				Smax			
	comp=E,244nm,0.5s						
UUDB	**Ulan-Yde**	**3.91**	**205**	*e*Pn	Pn	15 59 39.2	0.0
UUDB				*e*Pg	Pg	15 59 49.7	-4.3
UUDB				*e*Sg	Sg	16 00 40.8	-3.8
UUDB				Pmax			
	comp=E,71nm,1.1s						
UUDB				Smax			
	comp=E,328nm,1.0s						
CIT	**Chita**	**3.91**	**150**	*e*Sg	Sg	16 00 40.8	-3.9
CIT				Smax			
	comp=E,227nm,0.4s						
KAB	**Kabansk**	**4.03**	**214**	*e*Sg	Sg	16 00 45.3	-3.2
KAB				Smax			
	comp=E,716nm,1.0s						
HRMR	**Khuramsha**	**4.31**	**209**	*e*Pn	Pn	15 59 46.2	+1.5
HRMR				*e*Pg	Pg	15 59 56.5	-5.2
HRMR				*e*Sg	Sg	16 00 52.5	-5.0
HRMR				Pmax			
	comp=E,59nm,0.9s						
HRMR				Smax			
	comp=E,639nm,0.7s						
CRS	**Chara**	**4.67**	**68**	*e*PN	Pn	15 59 51.5	+1.8
CRS	**Chara**	**4.67**	**68**	*e*Pn	Pn	15 59 50.7	+1.0
CRS				*e*Pg	Pg	16 00 03.2	-5.4
CRS				*e*Sn	Sn	16 00 44.6	+0.8
CRS				*e*Sg	Sg	16 01 03.8	-5.2
CRS				Pmax			
	comp=E,61nm,0.8s						
CRS				Smax			
	comp=E,141nm,1.5s						
IRK	**Irkutsk**	**4.81**	**231**	*e*PN	Pg	16 00 07.1	-4.1
IRK				*e*S	Sn	16 00 46.8	-0.4
IRK				*e*		16 01 08.0	
IRK				pmax	pmax		
	comp=Z,59nm,0.1s						
IRK				smax			
	comp=N,752nm,0.8s						
IRK	**Irkutsk**	**4.81**	**231**	*e*Sn	Sn	16 00 43.8	-3.4
IRK				*e*Sg	Sg	16 01 07.9	-5.5
IRK				Smax			
	comp=N,751nm,1.0s						
LSTR	**Listvyanka**	**4.84**	**225**	*e*Pn	Pn	15 59 52.5	+0.5
LSTR				*e*Pg	Pg	16 00 05.0	-6.9
LSTR				*e*Sn	Sn	16 00 47.6	-0.5
LSTR				*e*Sg	Sg	16 01 08.5	-6.1
LSTR				Pmax			
	comp=N,4.0nm,0.2s						
LSTR				Smax			
	comp=N,226nm,1.4s						
TLY	**Talaya**	**5.48**	**229**	*e*PN	Pg	16 00 16.0	-8.1
TLY				*e*S	Sn	16 01 03.0	-0.8
TLY				*e*		16 01 27.9	
TLY				pmax	pmax		
	comp=Z,200nm,0.9s						
TLY				smax			
	comp=E,226nm,1.3s						
TLY	**Talaya**	**5.48**	**229**	*e*Pg	Pg	16 00 16.8	-7.3
TLY				*e*Sn	Sn	16 01 03.0	-0.8
TLY				*e*Sg	Sg	16 01 27.5	-7.5
TLY				Pmax			
	comp=E,19nm,0.8s						
TLY				Smax			
	comp=E,223nm,1.0s						
TUP	**Tupik**	**5.63**	**96**	*e*PN	Pn	16 00 02.8	-0.1
TUP				*e*		16 00 20.0	
TUP				*e*S	Sn	16 01 05.1	-2.5
TUP				*e*		16 01 32.5	
TUP				pmax	pmax		
	comp=Z,21nm,0.9s						
TUP				smax			
	comp=E,137nm,1.0s						
TUP	**Tupik**	**5.63**	**96**	*e*Pn	Pn	16 00 02.9	0.0
TUP				*e*Sn	Sn	16 01 04.8	-2.8
TUP				*e*Sg	Sg	16 01 34.7	-5.2
TUP				max			
	comp=E,31nm,1.4s						
TUP				Smax			
	comp=E,136nm,0.9s						
KPC	**Khapcheranga**	**5.87**	**167**	*e*PN	Pn	16 00 06.2	+0.1
KPC				*e*		16 00 24.7	
KPC				*e*S	Sn	16 01 10.5	-2.9
KPC				*e*		16 01 40.1	
KPC				pmax	pmax		
	comp=Z,21nm,0.7s						
KPC				smax			
	comp=E,112nm,1.1s						
KPC	**Khapcheranga**	**5.87**	**167**	*e*Pn	Pn	16 00 05.1	-1.0
KPC				*e*Pg	Pg	16 00 23.9	-7.6
KPC				*e*Sn	Sn	16 01 11.9	-1.5
KPC				*e*Sg	Sg	16 01 40.1	-7.3
KPC				Pmax			
	comp=E,21nm,0.6s						
KPC				Smax			
	comp=E,112nm,1.0s						
ARS	**Arshan**	**5.87**	**236**	*e*PN	Pn	16 00 07.1	+0.9
ARS				*e*S	Sn	16 01 12.6	-0.8
ARS				*e*S	Sn	16 01 44.1	+31
ARS				smax			
	comp=E,705nm,0.6s						
ARS	**Arshan**	**5.87**	**236**	*e*Pn	Pn	16 00 05.6	-0.6
ARS				*e*Pg	Pg	16 00 23.6	-8.0
ARS				*e*Sn	Sn	16 01 12.6	-0.8
ARS				*e*Sg	Sg	16 01 40.0	-7.5
ARS				Pmax			
	comp=E,32nm,0.5s						
ARS				Smax			
	comp=E,703nm,0.9s						
ZAK	**Zakamensk**	**6.62**	**223**	*e*PN	Pn	16 00 17.0	+0.6
ZAK				*e*		16 00 37.8	
ZAK				*e*		16 01 33.5	
ZAK				*e*		16 02 03.8	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZAK	**Zakamensk**	**6.62**	**223**	*e*Pg	Pg	16 00 38.6	-7.2
ZAK				*e*Sn	Sn	16 01 30.1	-1.7
ZAK				*e*Sg	Sg	16 02 03.9	-7.5
ZAK				Pmax			
	comp=Z,5.0nm,0.7s						
ZAK				Smax			
	comp=Z,137nm,1.1s						
MOY	**Mondy**	**6.72**	**240**	*e*PN	Pn	16 00 18.8	+0.9
MOY				*e*		16 00 39.1	
MOY				*e*S	Sn	16 01 33.8	-0.6
MOY				*e*		16 02 09.4	
MOY				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MOY				smax			
	comp=N,205nm,1.7s						
MOY	**Mondy**	**6.72**	**240**	*e*Pn	Pn	16 00 19.6	+1.8
MOY				*e*Sn	Sn	16 01 33.5	-0.9
MOY				*e*Sg	Sg	16 02 06.2	-8.6
MOY				max			
	comp=N,24nm,1.2s						
MOY				Smax			
	comp=N,200nm,1.6s						
ORL	**Orlik**	**6.85**	**249**	*e*PN	Pn	16 00 21.9	+2.3
ORL				*e*		16 00 44.3	
ORL				*e*		16 02 13.6	
ORL				pmax	pmax		
	comp=Z,16nm,0.8s						
ORL				smax			
	comp=N,226nm,1.4s						
ORL	**Orlik**	**6.85**	**249**	*e*Pn	Pn	16 00 21.5	+1.9
ORL				*e*Sn	Sn	16 01 36.3	-1.2
ORL				*e*Sg	Sg	16 02 13.2	-5.7
ORL				max			
	comp=N,24nm,1.3s						
ORL				Smax			
	comp=N,224nm,1.5s						

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*NEIC **19** 16:03:45.0±0.5, 782N×9359E, h30km, mb4.2/3, Error ellipse: s-maj=17.0km s-min=8.4km az=60.0*
*IDC **19** 16:03:48.9±3.8, 789N×9379E, h61km±34km, mb3.8/12, mb1 3.9/14, mb1mx3.7/25, mbtmp3.8/14, ML3.8/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/40, Error ellipse: s-maj=35.3km s-min=14.0km az=69.0*
*ISCJB **19** 16:03:49.3±2.8, 787N±009×939E±02, h85km±25km, mb4.0/15, Error ellipse: s-maj=31.2km s-min=10.8km az=159.2*
ISC 19 16:03:51.2±2.1, 790N±009×939E±02, h87km±20km, n27,

σ0°85/24, **mb4.0**/15, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.14**	**135**	P	**Pn**	**16 05 32.3**	**-0.6**
	1.2nm,0.3s,baz=317,slow=12,SNR=9.4						
PSI				LR	LR	16 08 31.6	
	comp=Z,162nm,22.0s,baz=299,slow=39						
CMAR	**Chiang Mai Arr**	**11.60**	**25**	P	**Pn**	**16 06 33.8**	**0.0**
	0.2nm,0.3s,baz=212,slow=15,SNR=12						
CHTO	**Chiang Mai**	**11.92**	**24**	P	**Pn**	**16 06 40.2**	**+2.0**
KSM	**Kuching**	**17.57**	**110**	P	**Pn**	**16 07 49.9**	**-0.7**
LSA	**Lhasa**	**21.84**	**354**	*eP*	**P**	**16 08 34.9**	**-1.8**
	6.7nm,0.8s,mb4.0						
AML	**Almayashu**	**38.47**	**336**	*eP*	**P**	**16 11 03.7**	**-1.0**
	12nm,0.8s,mb4.8						
EKS2	**Erkin-Say**	**38.88**	**336**	*eP*	**P**	**16 11 08.5**	**+0.3**
MK31	**Makanchi Array**	**40.01**	**348**	*eP*	**P**	**16 11 17.3**	**-0.1**
MKAR	**Makanchi Array**	**40.01**	**348**	P	**P**	**16 11 16.8**	**-0.6**
	1.0nm,0.7s,mb3.7,baz=169,slow=8.2,SNR=6.7						
SONM	**Songino Array**	**41.20**	**13**	P	**P**	**16 11 27.7**	**+0.5**
	2.0nm,0.8s,mb4.0,baz=188,slow=7.9,SNR=12						
KURK	**Kurchatov**	**44.52**	**346**	*eP*	**P**	**16 11 53.4**	**-0.6**
	3.2nm,1.1s,mb4.0						
NWAO	**Narrogin (SRO)**	**46.29**	**153**	P	**P**	**16 12 09.6**	**+1.4**
	10nm,0.8s,mb4.6,baz=348,slow=6.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**46.50**	**353**	P	**P**	**16 12 10.3**	**+0.7**
	3.0nm,0.6s,mb4.2,baz=178,slow=7.7,SNR=21						
ZALV	**Zalesovo Beam**	**46.50**	**353**	P	**P**	**16 12 10.3**	**+0.7**
WRA	**Warramunga Arr**	**48.49**	**125**	P	**P**	**16 12 25.2**	**-0.3**
	2.2nm,0.6s,mb4.2,baz=308,slow=8.8,SNR=5.3						
BVAR	**Borovoye Array**	**48.88**	**341**	P	**P**	**16 12 27.8**	**-0.2**
	0.5nm,0.5s,mb3.7,baz=134,slow=11,SNR=3.9						
BVAR				PcP	PcP	16 13 53.1	+1.9
	0.6nm,0.6s,baz=118,slow=5.5,SNR=3.5						
BVAR				LR	LR	16 35 54.3	
	comp=Z,49nm,19.2s,baz=27,slow=39						
ASAR	**Alice Springs**	**50.14**	**130**	P	**P**	**16 12 38.0**	**0.0**
	1.5nm,0.7s,mb4.0,baz=311,slow=7.4,SNR=4.5						
ARCES	**ARCESS Array B**	**75.15**	**340**	P	**P**	**16 15 24.7**	**+1.0**
	3.1nm,0.9s,mb4.0,baz=92,slow=4.2,SNR=6.5						
ARCES	**ARCESS Array B**	**75.15**	**340**	P	**P**	**16 15 24.7**	**+1.0**
BOSA	**Boshof**	**75.37**	**238**	P	**P**	**16 15 26.2**	**+0.5**
	1.4nm,0.6s,mb3.9,baz=233,slow=3.8,SNR=3.8						
GERES	**GERESS Array B**	**77.63**	**318**	P	**P**	**16 15 38.7**	**+0.6**
	0.8nm,0.8s,mb3.5,baz=90,slow=5.3,SNR=7.3						
HFS	**Hagfors**	**78.30**	**330**	P	**P**	**16 15 41.9**	**+0.4**
	1.1nm,0.7s,mb3.7,baz=182,slow=40,SNR=3.9						
NB2	**NORSAR Subarra**	**79.58**	**331**	P	**P**	**16 15 47.2**	**-1.3**
	comp=Z,3.8nm,1.1s,mb4.1,baz=91,slow=5.9						
NOA	**NORSAR Array B**	**79.58**	**331**	P	**P**	**16 15 47.6**	**-0.9**
	comp=Z,1.4nm,0.8s,mb3.8,baz=90,slow=6.0,SNR=4.6						
PDAR	**Pinedale Array**	**125.24**	**21**	PKP	PKPdf	16 22 44.1	+2.0
	comp=Z,0.7nm,0.7s,baz=336,slow=3.3,SNR=6.4						
TXAR	**Lajitas Array**	**139.31**	**24**	PKP	PKPdf	16 23 09.8	+0.8
	comp=Z,0.1nm,0.6s,baz=293,slow=7.7,SNR=2.7						
CFAA	**Coronel Fontan**	**151.11**	**213**	PKPbc	PKPbc	16 23 35.5	+0.6
	comp=Z,0.6nm,0.7s,baz=159,slow=1.5,SNR=11						

*IDC **19** 16:04:48.3±1.1, 530S×129.48E, h0km, mb3.9/8, mb1 4.1/11, mb1mx4.0/16, mbtmp3.9/11, ML4.0/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/26, Error ellipse: s-maj=41.7km s-min=21.6km az=83.0*

*ISCJB **19** 16:04:51.4±0.5, 525S±006×1296E±0.1, h33km, mb4.0/12, MS3.2/2, Error ellipse: s-maj=18.3km s-min=7.2km az=164.7*

*NEIC **19** 16:04:51.4±0.4, 5.12S×129.58E, h15km, mb4.3/4, Error ellipse: s-maj=25.6km s-min=7.6km az=73.0*

ISC 19 16:04:53.7±0.5, **525S**±006×**1297E**±0.1, **h35**km, **n27**, σ1§**16**/26, **mb4.0**/12, **MS3.2**/2, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.71**	**230**	Pn	**Pn**	**16 06 43.8**	**+0.3**
	5.5nm,0.3s,baz=86,slow=3.6,SNR=10						
BATI				LR	LR	16 08 51.7	
	comp=Z,119nm,21.6s,baz=97,slow=32						
KAKA	**Kakadu**	**7.91**	**160**	*eP*	**Pn**	**16 06 48.2**	**+1.9**
	20nm,0.5s						
KAKA	**Kakadu**	**7.91**	**160**	*ePn*	**Pn**	**16 06 47.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**13.36**	**197**	*eP*	**Pn**	**16 07 57.4**	**-3.5**
	7.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**13.36**	**197**	Pn	**Pn**	**16 07 56.5**	**-4.4**
	0.2nm,0.3s,baz=298,slow=24,SNR=7.5						
FITZ				LR	LR	16 13 24.8	
	comp=Z,76nm,19.2s,baz=168,slow=39						
FITZ	**Fitzroy Crossi**	**13.36**	**197**	*eP*	**Pn**	**16 07 57.1**	**-3.9**
WRAB	**Tennant Creek**	**15.29**	**163**	*eP*	**Pn**	**16 08 26.7**	**-0.4**
	10nm,0.6s						
WRA	**Warramunga Arr**	**15.30**	**163**	Pn	**Pn**	**16 08 25.1**	**-2.1**
	0.4nm,0.3s,baz=341,slow=13,SNR=18						
WB2	**Warramunga Arr**	**15.30**	**163**	*eP*	**Pn**	**16 08 24.9**	**-2.3**
WB2	**Warramunga Arr**	**15.30**	**163**	*ePn*	**Pn**	**16 08 25.0**	**-2.2**
ASAR	**Alice Springs**	**18.76**	**168**	P	**Pn**	**16 09 10.8**	**+0.3**
	0.4nm,0.3s,baz=0.5,slow=15,SNR=40						
CTA	**Charters Tower**	**21.87**	**134**	*eP*	**P**	**16 09 53.0**	**+9.4**
	10nm,2.0s,mb3.9						
FORT	**Forrest**	**25.44**	**183**	*eP*	**P**	**16 10 20.3**	**+2.0**
	22nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**28.76**	**159**	*eP*	**P**	**16 10 55.7**	**+7.6**
	2.6nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**28.76**	**159**	P	**P**	**16 10 50.3**	**+2.2**
	1.3nm,0.9s,mb3.7,baz=321,slow=15,SNR=3.5						
STKA	**Stephens Creek**	**28.76**	**159**	*eP*	**P**	**16 10 51.1**	**+3.0**
NWAO	**Narrogin (SRO)**	**29.87**	**201**	LR	LR	16 24 02.6	
	comp=Z,89nm,21.2s,MS3.4,baz=158,slow=39						
CMAR	**Chiang Mai Arr**	**38.36**	**309**	P	**P**	**16 12 10.8**	**-0.9**
	0.6nm,0.6s,mb3.5,baz=140,slow=6.0,SNR=5.6						
CMAR				LR	LR	16 26 28.8	
	comp=Z,28nm,21.3s,MS3.0,baz=120,slow=34						
MJAR	**Matsushiro Arr**	**42.34**	**10**	P	**P**	**16 12 44.3**	**0.0**
	1.2nm,0.7s,mb3.6,baz=190,slow=9.6,SNR=8.1						
KSRS	**Korea Array**	**42.51**	**358**	P	**P**	**16 12 47.4**	**+1.6**
	0.8nm,0.8s,mb3.5,baz=183,slow=7.4,SNR=4.7						
SONM	**Songino Array**	**56.68**	**341**	P	**P**	**16 14 34.0**	**+0.5**
	1.1nm,0.9s,mb3.9,baz=161,slow=9.7,SNR=6.5						
PETK	**Petropavlovsk-**	**62.78**	**19**	P	**P**	**16 15 14.6**	**-0.8**
	1.4nm,0.8s,mb4.1,baz=198,slow=9.1,SNR=3.0						
MKAR	**Makanchi Array**	**66.58**	**327**	P	**P**	**16 15 40.2**	**-0.1**
	1.2nm,0.4s,mb4.2,baz=118,slow=8.3,SNR=20						
MK31	**Makanchi Array**	**66.58**	**327**	*eP*	**P**	**16 15 40.5**	**+0.2**
ZALV	**Zalesovo Beam**	**69.87**	**334**	P	**P**	**16 16 00.3**	**-0.5**
	2.0nm,0.7s,mb4.1,baz=113,slow=4.3,SNR=9.5						
BVAR	**Borovoye Array**	**76.41**	**328**	P	**P**	**16 16 38.5**	**-0.9**
	2.0nm,0.9s,mb4.0,baz=132,slow=6.6,SNR=7.6						
BRVK	**Borovoye**	**76.48**	**328**	*eP*	**P**	**16 16 40.1**	**+0.2**
	3.7nm,1.0s,mb4.3						

*IDC **19** 16:12:38.4±1.1, 17.12S×69.79W, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.7/20, mbtmp3.6/7, ML4.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/21, Error ellipse: s-maj=29.6km s-min=22.8km az=76.0*

*ISCJB **19** 16:12:44.4±1.7, 1730S±009×698W±0.1, h63km±17km, mb3.6/5, Error ellipse: s-maj=19.0km s-min=12.4km az=36.3*

*NEIC **19** 16:12:45.0±1.9, 1730S×69.75W, h51km±20km, mb4.0/1, Error ellipse: s-maj=27.1km s-min=11.7km az=107.0*

ISC 19 16:12:45.6±1.7, **1734S**±008×**699W**±0.1, **h56**km±18km, **n13**, σ1§**34**/16, **mb3.6**/5, **Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.95**	**58**	Pn	**Pn**	**16 13 15.9**	**-0.4**
	24nm,0.3s,baz=247,slow=12,SNR=214						
LPAZ				Sn	**Sn**	**16 13 42.1**	**+2.3**
	18nm,0.3s,baz=102,slow=17,SNR=7.2						
LPAZ	**La Paz**	**1.95**	**58**	*ePn*	**Pn**	**16 13 16.0**	**-0.4**
LPAZ				Sn	**Sn**	**16 13 42.1**	**+2.3**
LVC	**Limon Verde**	**5.32**	**171**	Pn	**Pn**	**16 14 03.4**	**+0.8**
	2.0nm,0.3s,baz=315,slow=9.4,SNR=15						
LVC				Lg		16 15 24.6	
	4.4nm,0.3s,baz=206,slow=20,SNR=6.9						
LVC				LR	LR	16 16 17.5	
	comp=Z,163nm,18.8s,baz=336,slow=40						
LVC	**Limon Verde**	**5.32**	**171**	*ePn*	**Pn**	**16 14 01.9**	**-0.7**
LVC				*eSn*	**Sn**	**16 15 19.9**	**+17**
LVC				Lg		16 15 24.6	
LVC				LR	LR	16 16 17.6	
SIV	**San Ignacio**	**8.52**	**82**	Pn	**Pn**	**16 14 43.9**	**-2.5**
	1.5nm,0.3s,baz=262,slow=11,SNR=24						
SIV				Sn	**Sn**	**16 16 21.2**	**0.0**
	0.4nm,0.3s,baz=253,slow=17,SNR=2.0						
SIV				Lg		16 17 13.4	
	1.1nm,0.3s,baz=359,slow=23,SNR=5.6						
CFAA	**Coronel Fontan**	**14.28**	**174**	Pn	**Pn**	**16 16 04.0**	**-0.8**
	0.0nm,0.3s,baz=5.7,slow=10,SNR=3.4						
TRQA	**Tornquist**	**21.77**	**163**	*eP*	**P**	**16 17 33.4**	**+0.9**
	6.3nm,0.9s,mb4.0						
PLCA	**Paso Flores**	**23.32**	**181**	P	**P**	**16 17 50.4**	**+1.6**
	4.3nm,0.9s,mb3.9,baz=346,slow=10.0,SNR=7.8						
TXAR	**Lajitas Array**	**56.73**	**324**	P	**P**	**16 22 22.8**	**-1.0**
	0.1nm,0.5s,mb3.1,baz=144,slow=9.7,SNR=3.0						
PDAR	**Pinedale Array**	**70.08**	**330**	P	**P**	**16 23 53.0**	**+1.4**
	0.2nm,0.5s,mb3.3,baz=153,slow=8.1,SNR=2.6						
PDAR	**Pinedale Array**	**70.08**	**330**	P	**P**	**16 23 53.0**	**+1.4**
TORD	**Torodi Ar. Bea**	**76.85**	**72**	P	**P**	**16 24 30.4**	**-1.8**
	1.1nm,0.9s,mb3.8,baz=256,slow=4.9,SNR=4.6						
SONM	**Songino Array**	**149.43**	**5**	PKPbc	PKPbc	16 32 29.0	+0.7
	0.4nm,0.6s,baz=344,slow=4.7,SNR=2.9						

*IDC **19** 16:22:07.4±1.2, 1349N×120.62E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/19, mbtmp3.9/5, MS3.0/1, Ms1 3.0/1, ms1mx2.1/34, Error ellipse: s-maj=57.9km s-min=18.8km az=61.0*

*NEIC **19** 16:22:09.0±0.7, 1345N×120.59E, h10km, mb4.3/2, Error ellipse: s-maj=34.5km s-min=10.5km az=58.0*

*ISCJB **19** 16:22:09.4±0.9, 1332N±003×120.12E±005, h13km±6km, mb4.1/6, Error ellipse: s-maj=7.8km s-min=5.5km az=179.3*

*MAN **19** 16:22:09, 1333N×120.17E, h6km, mb4.5, ML3.3, MS3.2*

ISC 19 16:22:10.4±1.1, **1335N**±004×**12013E**±005, **h14**km±7km, **n26**, σ1§**15**/31, **mb4.1**/6, **2C-2D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.40**	**16**	*eP*	**Pg**	**16 22 18.0**	**-0.4**
LUBP				*eS*	**Sg**	**16 22 23.0**	**-0.9**
TGY	**Tagaytay City**	**1.08**	**46**	*eP*	**Pb**	**16 22 30.8**	**-0.1**
TGY				*i S*	**Sb**	**16 22 44.9**	**-0.1**
SJMP	**San Jose**	**1.31**	**132**	*eP*	**Pn**	**16 22 33.7**	**-0.5**
BUSP	**Coron**	**1.34**	**177**	*eP*	**Pn**	**16 22 35.1**	**+0.4**
OTRP	**Odiongan**	**2.09**	**118**	*eP*	**Pn**	**16 22 44.3**	**-0.7**
OTRP				*eS*	**Sn**	**16 23 16.3**	**+5.5**
POLP	**Polilio Island**	**2.23**	**52**	*eP*	**Pn**	**16 22 47.1**	**+0.2**
ENPP	**El Nido**	**2.24**	**198**	*eP*	**Pn**	**16 22 47.5**	**+0.4**
GQP	**Guinayangan**	**2.32**	**76**	*eP*	**Pn**	**16 22 48.8**	**+0.6**
GQP				*eS*	**Sn**	**16 23 17.2**	**+0.8**
CUYO	**Cuyo Island**	**2.63**	**161**	*eP*	**Pn**	**16 22 52.5**	**0.0**
KALP	**Kalibo**	**2.72**	**127**	*eP*	**Pg**	**16 23 07.6**	**+5.0**
BALP	**Baler**	**2.76**	**30**	*eP*	**Pn**	**16 22 54.1**	**-0.1**
BALP				*eS*	**Sn**	**16 23 24.1**	**-3.3**
RCP	**Roxas**	**3.11**	**125**	*eP*	**Pg**	**16 23 04.7**	**-5.3**
RCP				*eS*	**Sg**	**16 23 52.5**	**+2.1**
GUIM	**Jordan**	**3.62**	**138**	*eP*	**Pn**	**16 23 06.5**	**+0.4**
PVCP	**Virac**	**3.92**	**86**	*eP*	**Pn**	**16 23 15.4**	**+5.1**
CAUP	**Cauayan**	**3.93**	**24**	*eP*	**Pn**	**16 23 11.9**	**+1.6**
ABRA	**Dolores**	**4.31**	**7**	*eP*	**Pg**	**16 23 28.9**	**-4.2**
APYP	**Conner**	**4.61**	**13**	*eP*	**Pn**	**16 23 23.9**	**+4.1**
DAV	**Davao City (W)**	**8.22**	**139**	LR	LR	16 27 57.7	
	comp=Z,111nm,19.1s,baz=222,slow=44						
CMAR	**Chiang Mai Arr**	**21.00**	**287**	P	**P**	**16 26 56.5**	**+2.9**
	1.8nm,0.9s,baz=100,slow=8.8,SNR=12						
WRAB	**Tennant Creek**	**35.91**	**157**	*eP*	**P**	**16 29 08.7**	**-1.7**
	3.4nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**35.91**	**157**	P	**P**	**16 29 08.7**	**-1.8**
	4.0nm,0.6s,mb4.5,baz=336,slow=9.6,SNR=39						
WB2	**Warramunga Arr**	**35.92**	**157**	*eP*	**P**	**16 29 09.1**	**-1.4**
SONM	**Songino Array**	**36.24**	**344**	P	**P**	**16 29 11.5**	**-1.5**
	0.8nm,0.6s,mb3.8,baz=161,slow=9.6,SNR=7.5						
ASAR	**Alice Springs**	**39.18**	**160**	P	**P**	**16 29 37.4**	**-0.7**
	2.4nm,0.6s,mb4.1,baz=338,slow=6.4,SNR=77						
MKAR	**Makanchi Array**	**45.99**	**324**	P	**P**	**16 30 34.9**	**+1.7**
	0.1nm,0.3s,mb3.2,baz=111,slow=7.9,SNR=3.1						
KURK	**Kurchatov**	**50.18**	**327**	*eP*	**P**	**16 31 06.5**	**+1.0**
	1.5nm,0.6s,mb4.2						

*IDC **19** 16:24:30.4±1.9, 3371S×178.69W, h0km, mb4.0/2, mb1 4.3/4, mb1mx3.9/16, mbtmp4.2/4, ML4.0/2, Error ellipse: s-maj=54.6km s-min=29.8km az=127.0*

*NEIC **19** 16:24:36.1±1.1, 3385S×178.77W, h35km, mb4.2/1, Error ellipse: s-maj=31.1km s-min=16.2km az=117.0*

ISC 19 16:24:30.2±3.6, **339S**±02×**1779W**±05, **h35**km, **n13**, σ0§**80**/9, **mb4.0**/3, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.95**	**222**	Pn	**Pn**	**16 25 57.4**	**+1.7**
	9.6nm,0.3s,baz=66,slow=2.9,SNR=104						
URZ				Sn	**Sn**	**16 27 02.4**	**-0.1**
	10nm,0.3s,baz=121,slow=21,SNR=8.7						
SNZO	**South Karori**	**9.45**	**216**	Pn	Px	16 26 33.0	
SNZO				*eSn*	**Sn**	**16 28 17.3**	**-11**
RPZ	**Rata Peaks**	**13.04**	**218**	Pn	**Pn**	**16 27 31.7**	**-1.2**
	0.4nm,0.3s,baz=12,slow=19,SNR=3.2						
ASAR	**Alice Springs**	**43.14**	**271**	P	**P**	**16 32 27.1**	**-0.2**
	1.3nm,0.6s,mb3.8,baz=111,slow=7.8,SNR=22						
WB2	**Warramunga Arr**	**44.43**	**276**	*eP*	**P**	**16 32 37.4**	**-0.4**
WB2	**Warramunga Arr**	**44.43**	**276**	*eP*	**P**	**16 32 37.9**	**+0.1**
WRAB	**Tennant Creek**	**44.43**	**276**	*eP*	**P**	**16 32 38.1**	**+0.3**
	3.6nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**44.44**	**276**	P	**P**	**16 32 37.7**	**-0.2**
	1.9nm,0.6s,mb4.0,baz=116,slow=8.3,SNR=19						
MKAR	**Makanchi Array**	**120.06**	**309**	PKP	PKPdf	16 43 21.4	+4.7
	0.2nm,0.2s,baz=70,slow=1.7,SNR=2.2						
MKAR	**Makanchi Array**	**120.06**	**309**	PKP	PKPdf	16 43 21.4	+4.7
ARCES	**ARCESS Array B**	**142.02**	**347**	PKP	PKPdf	16 44 04.0	+6.7
	2.2nm,0.9s,baz=355,slow=1.9,SNR=3.6						
NOA	**NORSAR Array B**	**152.22**	**351**	PKPbc	PKPbc	16 44 25.4	+4.3
	0.8nm,0.8s,baz=13,slow=4.0,SNR=3.5						
AKASG	**Malin Array Be**	**154.07**	**319**	PKPbc	PKPbc	16 44 30.9	+5.3
	0.5nm,0.5s,baz=48,slow=1.4,SNR=3.2						

NEIC 19 16:33:39.9, 3714S×176.93E, h243km, MG3.7(WEL), **After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.13**	**173**	P	Pn	16 34 14.7	-0.1
MXZ	**Matakaoa Point**	**1.18**	**112**	P	Pn	16 34 15.3	+0.1
MWZ	**Matawai**	**1.28**	**159**	P	Pn	16 34 16.1	+0.2
MWZ				S	S	16 34 44.3	0.0
PUZ	**Puketiti**	**1.41**	**132**	P	Pn	16 34 17.0	+0.2
PUZ				S	S	16 34 44.9	-0.9
KNZ	**Kokohu**	**1.97**	**163**	P	Pn	16 34 21.8	+0.4
BKZ	**Black Stump Fm**	**2.05**	**190**	P	Pn	16 34 22.3	+0.1
BKZ				S	S	16 34 55.3	-0.3
TWVZ	**Taurewa**	**2.26**	**211**	P	Pn	16 34 24.9	+0.8
NGZ	**Ngauruhoe**	**2.29**	**207**	P	Pn	16 34 25.3	+0.9
WPVZ	**Whakapapa**	**2.33**	**207**	P	Pn	16 34 25.5	+0.6
TUVZ	**Tukino**	**2.35**	**205**	P	Pn	16 34 25.7	+0.7
FWVZ	**Far West T-bar**	**2.38**	**207**	P	Pn	16 34 26.2	+0.9
WNVZ	**Wahianoa**	**2.42**	**205**	P	Pn	16 34 26.2	+0.4
MOVZ	**Moawhango**	**2.45**	**202**	P	Pn	16 34 25.9	-0.1
TSZ	**Takapari Road**	**3.01**	**194**	P	Pn	16 34 31.5	-0.5
WAZ	**Wanganui**	**3.03**	**210**	P	Pn	16 34 32.2	+0.1
MRZ	**Mangatainoka R**	**3.67**	**196**	P	Pn	16 34 38.0	-1.4
KIW	**Kapiti Island**	**4.04**	**202**	P	Pn	16 34 42.2	-1.5
MTW	**Mount Morrison**	**4.16**	**195**	P	Pn	16 34 43.4	-1.8
CAW	**Cannon Point**	**4.22**	**199**	P	Pn	16 34 44.0	-1.9
MRW	**Makara Radio**	**4.44**	**202**	P	Pn	16 34 46.4	-2.1
MSWZ	**Moikau Station**	**4.46**	**196**	P	Pn	16 34 46.7	-2.1
SNZO	**South Karori**	**4.51**	**202**	P	Pn	16 34 47.3	-2.0
TCW	**Tory Channel**	**4.56**	**206**	P	Pn	16 34 48.1	-1.9
NNZ	**Nelson**	**4.92**	**213**	P	Pn	16 34 52.0	-2.3
THZ	**Tophouse**	**5.57**	**213**	P	Pn	16 35 00.4	-2.0
KHZ	**Kahutara**	**5.88**	**205**	P	Pn	16 35 04.2	-2.1
LTZ	**Lake Taylor**	**6.68**	**211**	P	Pn	16 35 13.3	-2.9

*ISCJB **19** 16:38:01.3±3.8, 1366S±006×769W±0.1, h1km±25km, mb3.9/6, Error ellipse: s-maj=21.7km s-min=9.1km az=166.4*

*IDC **19** 16:38:03.2±0.9, 1366S×76.96W, h0km, mb3.9/6, mb1 3.9/11, mb1mx3.8/22, mbtmp3.8/11, ML3.3/4, MS3.4/2, Ms1 3.4/2, ms1mx2.6/28, Error ellipse: s-maj=33.4km s-min=15.4km az=76.0*

*NEIC **19** 16:38:06.8±0.6, 1361S×76.82W, h25km, mb4.2/1, ML4.2(LIM), Error ellipse: s-maj=15.5km s-min=8.1km az=65.0*

NEIC Felt [II] at Chincha Alta and Pisco.

ISC 19 16:38:04.2±4.4, **1361S**±006×**769W**±01, **h8**km±29km, **n20**, σ0§**85**/21, **mb3.8**/6, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.62**	**2**	Pn	**Pn**	**16 38 33.0**	**0.0**
	103nm,0.3s,baz=188,slow=13,SNR=124						
NNA				Sn	**Sn**	**16 38 53.3**	**-0.7**
	214nm,0.3s,baz=173,slow=16,SNR=37						
NNA				LR	LR	16 38 58.0	
	comp=Z,586nm,19.3s,baz=316,slow=33						
NNA	**Nana**	**1.62**	**2**	*ePn*	**Pn**	**16 38 32.5**	**-0.5**
NNA				*eSn*	**Sn**	**16 38 52.8**	**-1.3**
NNA				LR	LR	16 38 58.0	
ATAH	**Atahualpa**	**6.73**	**347**	Pn	**Pn**	**16 39 43.6**	**+0.2**
	1.0nm,0.3s,baz=197,slow=11,SNR=5.4						
ATAH				Sn	**Sn**	**16 41 13.5**	**+13**
	0.9nm,0.3s,baz=311,slow=20,SNR=2.0						
LPAZ	**La Paz**	**8.89**	**109**	Pn	**Pn**	**16 40 15.5**	**+2.5**
	0.1nm,0.3s,baz=287,slow=15,SNR=4.2						
LPAZ				LR	LR	16 43 10.2	
	comp=Z,62nm,18.4s,baz=303,slow=34						
LPAZ	**La Paz**	**8.89**	**109**	*ePn*	**Pn**	**16 40 13.6**	**+0.7**
LPAZ				LR	LR	16 43 10.2	
LVC	**Limon Verde**	**11.74**	**141**	Pn	**Pn**	**16 40 50.9**	**-1.1**
	0.8nm,0.3s,baz=303,slow=10.0,SNR=13						
LVC	**Limon Verde**	**11.74**	**141**	*ePn*	**Pn**	**16 40 50.9**	**-1.1**
	6.9nm,0.8s						
OTAV	**Otavalo**	**13.85**	**354**	*eP*	**Pn**	**16 41 29.1**	**+8.2**
	4.4nm,0.8s						
SIV	**San Ignacio**	**15.49**	**101**	Pn	**Pn**	**16 41 42.8**	**-0.4**
	0.1nm,0.3s,baz=278,slow=15,SNR=2.4						
CFAA	**Coronel Fontan**	**19.60**	**157**	P	**Pn**	**16 42 33.1**	**-1.1**
	0.0nm,0.3s,baz=333,slow=12,SNR=10						
SDV	**Santo Domingo**	**23.20**	**16**	P	**P**	**16 43 13.6**	**+1.9**
	5.3nm,0.6s,mb4.2,baz=215,slow=6.1,SNR=11						
SDV	**Santo Domingo**	**23.20**	**16**	*eP*	**P**	**16 43 12.6**	**+0.8**
	6.5nm,0.8s,mb4.1						
PLCA	**Paso Flores**	**27.58**	**170**	P	**P**	**16 43 51.9**	**+0.1**
	1.5nm,0.6s,mb3.8,baz=15,slow=13,SNR=4.7						
TXAR	**Lajitas Array**	**49.91**	**329**	P	**P**	**16 46 58.5**	**+0.1**
	0.4nm,0.8s,mb3.5,baz=158,slow=10,SNR=4.0						
PFO	**Pinyon Flat Ob**	**60.21**	**322**	LR	LR	17 14 40.3	
	comp=Z,104nm,18.3s,baz=320,slow=36						
QSPA	**South Pole Qui**	**76.53**	**180**	P	**P**	**16 49 55.4**	**+1.0**
	1.2nm,0.8s,mb3.9,baz=172,slow=5.2,SNR=8.3						
YKA	**Yellowknife Ar**	**81.37**	**343**	P	**P**	**16 50 20.7**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=158,slow=5.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**82.28**	**75**	P	**P**	**16 50 27.3**	**+0.4**
	1.7nm,0.9s,mb4.0,baz=266,slow=4.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**82.28**	**75**	P	**P**	**16 50 27.3**	**+0.4**
SONM	**Songino Array**	**145.77**	**356**	PKPbc	PKPbc	16 57 44.8	+0.9
	0.2nm,0.3s,baz=350,slow=7.3,SNR=2.7						

*SZGRF **19** 16:44:30.6, 3266S×176.83W, h33km, mb5.1, South of Kermadec Islands*

*ISCJB **19** 16:44:34.9±0.2, 3185S±003×178.01W±005, h30km, mb5.3/57, MS4.9/105, Error ellipse: s-maj=7.4km s-min=3.4km az=32.9*

*GCMT **19** 16:44:35.8±0.2, 3160S×177.48W, h33km, MW5.4/93, Moment Tensor Solution. s56,c92; s93,c141; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.69±.03; $M_{\theta\theta}$-0.68±.02; $M_{\phi\phi}$-0.01±.02; $M_{r\theta}$-0.05±.03; $M_{\phi\phi}$1.07±.02; $M_{\phi r}$0.55±.03; Best double couple: $

WKZ	**Wanaka**	**16.51**	**214**	P	**Pn**	**16 48 20.6**	**-5.4**
EAZ	**Earnscleugh**	**16.68**	**213**	P	**Pn**	**16 48 23.3**	**-4.7**
MSZ	**Milford Sound**	**16.94**	**217**	P	**Pn**	**16 48 27.8**	**-3.5**
TUZ	**Tuapeka**	**17.09**	**211**	P	**Pn**	**16 48 29.2**	**-4.0**
MLZ	**Mavora Lakes**	**17.30**	**215**	P	**Pn**	**16 48 34.0**	**-1.8**
WHZ	**Wether Hill Ro**	**17.81**	**214**	P	**Pn**	**16 48 38.5**	**-3.6**
AFI	**Afiamalu**	**18.68**	**19**	P	**Pn**	**16 48 43.1**	**-10**
	3.8nm,0.3s,baz=63,slow=11,SNR=4.1						
AFI				S	Sn	16 51 55.9	-25
	9.2nm,0.3s,baz=33,slow=22,SNR=8.0						
AFI	**Afiamalu**	**18.68**	**19**	*e*P	**Pn**	**16 48 41.0**	**-12**
RAR	**Rarotonga**	**19.37**	**61**	P	**Pn**	**16 48 55.2**	**-6.0**
	13nm,0.3s,baz=234,slow=8.5,SNR=17						
RAR				S	Sn	16 52 09.7	-28
	4.0nm,0.3s,baz=85,slow=18,SNR=4.3						
RAR				LR	LR	16 54 26.5	
	comp=Z,2μm,20.4s,baz=276,slow=31						
ARMA	**Armidale**	**26.03**	**265**	*e*P	**P**	**16 50 11.6**	**+4.4**
ARMA				*e*		16 50 28.4	
CNB	**Canberra Magne**	**27.38**	**254**	*e*P	**P**	**16 50 23.7**	**+4.4**
CNB				*e*PCP	PcP	16 53 39.3	+1.5
CNB				*e*S	S	16 55 53.3	+56
CAN	**Canberra**	**27.68**	**254**	*e*P	**P**	**16 50 26.3**	**+4.3**
PPT	**Papeete**	**29.32**	**68**	*e*LR	LR	16 58 12.0	
	2μm,23.5s,baz=237						
PPT	**Papeete**	**29.32**	**68**	P	**P**	**16 50 35.0**	**-1.7**
	14nm,0.5s,mb4.9,baz=22,slow=18,SNR=2.7						
PPT				LR	LR	17 00 25.1	
	comp=Z,1μm,18.1s,MS4.6,baz=245,slow=33						
TAU	**Tasmania Unive**	**29.55**	**238**	*e*P	**P**	**16 50 41.5**	**+3.0**
TAU				pmax	pmax		
	comp=Z,106nm,1.3s,mb5.4						
TAU	**Tasmania Unive**	**29.55**	**238**	*e*P	**P**	**16 50 41.5**	**+3.0**
	comp=Z,106nm,1.3s,mb5.4						
HNR	**Honiara**	**30.25**	**313**	LR	LR	17 00 55.7	
	comp=Z,1μm,20.0s,MS4.5,baz=179,slow=33						
HNR	**Honiara**	**30.25**	**313**	PFAKE		16 51 00.0	+15
HNR				LR	LR		
	comp=Z,1μm,19.0s,MS4.6						
TOO	**Toolangi**	**30.46**	**249**	*e*P	**P**	**16 50 49.6**	**+2.9**
TOO				*e*PCP	PcP	16 53 46.8	+1.3
TOO				*e*S	S	16 56 23.8	+38
TOO	**Toolangi**	**30.46**	**249**	*e*P	**P**	**16 50 49.6**	**+2.9**
TOO				*e*		16 53 46.8	
CTA	**Charters Tower**	**34.07**	**281**	*e*P	**P**	**16 51 21.0**	**+2.5**
	comp=Z,105nm,1.1s,mb5.7						
CTA				*e*		16 51 38.8	
CTA				*e*PCP	PcP	16 53 57.0	+1.4
CTA				*e*S	**S**	**16 56 45.4**	**+3.1**
CTA	**Charters Tower**	**34.07**	**281**	LR	LR	17 03 50.0	
	comp=Z,2μm,19.5s,MS4.9,baz=114,slow=34						
CTA	**Charters Tower**	**34.07**	**281**	*e*P	**P**	**16 51 21.0**	**+2.5**
CTA				*e*		16 51 38.8	
CTA				*e*		16 53 57.0	
CTA				*e*S	**S**	**16 56 45.4**	**+3.1**
CTA				pmax	pmax		
	comp=Z,105nm,1.1s						
CTAO	**Charters Tower**	**34.07**	**281**	*e*P	**P**	**16 51 20.8**	**+2.3**
CTAO				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.9						
STKA	**Stephens Creek**	**34.22**	**259**	*e*P	**P**	**16 51 22.5**	**+2.9**
	comp=Z,29nm,0.5s,mb5.5						
STKA				*e*		16 51 39.0	
STKA				*e*PCP	PcP	16 53 56.6	+0.7
STKA	**Stephens Creek**	**34.22**	**259**	P	**P**	**16 51 22.6**	**+3.0**
	comp=Z,36nm,0.5s,mb5.6,baz=104,slow=10.0,SNR=145						
STKA				tx	tx	16 51 39.4	
	comp=Z,61nm,1.0s,baz=92,slow=12,SNR=13						
STKA				LR	LR	17 04 38.1	
	comp=Z,2μm,18.0s,MS5.0,baz=90,slow=35						
RKT	**Rikitea**	**38.91**	**88**	*e*LR	LR	17 02 33.8	
	comp=Z,3μm,28.0s,baz=253						
PMG	**Port Moresby**	**39.24**	**297⇑**	*i*P	**P**	**16 52 02.6**	**0.0**
ASAR	**Alice Springs**	**43.08**	**268**	P	**P**	**16 52 35.0**	**+0.9**
	comp=Z,49nm,0.6s,mb5.5,baz=105,slow=7.6,SNR=628						
ASAR				tx	tx	16 52 51.7	
	comp=Z,104nm,0.8s,baz=103,slow=7.6,SNR=33						
ASAR				ScP	ScP	16 58 15.3	+2.8
	comp=Z,2.6nm,0.9s,baz=134,slow=5.4,SNR=4.8						
WB2	**Warramunga Arr**	**44.19**	**274**	*e*P	**P**	**16 52 43.8**	**+0.8**
WB2				*e*		16 53 01.4	
WB2				*e*S	**S**	**16 59 11.0**	**-3.3**
WRAB	**Tennant Creek**	**44.19**	**274**	P	**P**	**16 52 44.1**	**+1.1**
	comp=Z,1μm,0.6s						
WRAB	**Tennant Creek**	**44.19**	**274**	*c i*P	**P**	**16 52 43.3**	**+0.3**
WRAB	**Tennant Creek**	**44.19**	**274**	*e*P	**P**	**16 52 44.0**	**+1.0**
WRAB				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
WRA	**Warramunga Arr**	**44.20**	**274**	P	**P**	**16 52 43.6**	**+0.5**
	comp=Z,119nm,0.5s,mb5.9,baz=113,slow=7.9,SNR=740						
WRA				tx	tx	16 52 59.6	
	baz=114,slow=7.8						
WRA				ScP	ScP	16 58 18.8	+1.7
	comp=Z,3.7nm,1.0s,baz=114,slow=3.9,SNR=4.5						
WRA				S	**S**	**16 59 13.7**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=114,slow=12,SNR=2.8						
WRA				LR	LR	17 10 46.4	
	comp=Z,2μm,18.0s,MS5.1,baz=115,slow=36						
WRA	**Warramunga Arr**	**44.20**	**274**	P	**P**	**16 52 43.6**	**+0.5**
WRA				S	**S**	**16 59 13.7**	**-0.8**
FORT	**Forrest**	**45.73**	**256**	*e*P	**P**	**16 52 55.3**	**+0.1**
	comp=Z,95nm,0.7s,mb5.8						
FORT				*e*PCP	PcP	16 54 32.8	+0.1
SBA	**Scott Base**	**46.65**	**184**	*e*P	**P**	**16 53 07.3**	**+5.5**
SBA				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.4						
SBA	**Scott Base**	**46.65**	**184**	*e*P	**P**	**16 53 07.2**	**+5.5**
	comp=Z,60nm,1.1s,mb5.4						
KAKA	**Kakadu**	**49.21**	**281**	*e*P	**P**	**16 53 22.6**	**+0.2**
	comp=Z,13nm,0.4s,mb5.3						
KAKA				*e*		16 53 40.2	
FITZ	**Fitzroy Crossi**	**52.40**	**271**	*e*P	**P**	**16 53 46.6**	**+0.2**
	comp=Z,76nm,1.0s,mb5.6						
FITZ				*e*		16 54 04.3	
FITZ				*e*S	**S**	**17 01 17.0**	**+6.6**
FITZ	**Fitzroy Crossi**	**52.40**	**271**	LR	LR	17 15 39.4	
	comp=Z,2μm,18.8s,MS5.1,baz=307,slow=36						
CASY	**Casey**	**53.93**	**208**	*e*P	**P**	**16 53 59.1**	**+2.2**
KLBR	**Kellerberrin**	**53.94**	**252**	*e*P	**P**	**16 53 57.4**	**-0.1**
	comp=Z,194nm,1.9s,mb5.7						
NWAO	**Narrogin (SRO)**	**53.94**	**250**	LR	LR	17 13 19.4	
	comp=Z,648nm,20.4s,MS4.7,baz=116,slow=32						
MUN	**Mundaring**	**55.06**	**251**	*e*P	**P**	**16 54 05.8**	**+0.1**
MBWA	**Marble Bar**	**56.11**	**265**	*e*P	**P**	**16 54 13.1**	**-0.3**
	comp=Z,39nm,0.8s,mb5.5						
GUMO	**Guam**	**57.49**	**316**	PFAKE		16 54 30.0	+6.9
GUMO				LR	LR		
	comp=Z,859nm,20.0s,MS4.8						
BATI	**Baumata**	**57.87**	**278**	P	**P**	**16 54 27.8**	**+1.9**
	comp=Z,48nm,0.5s,mb5.8,baz=178,slow=2.2,SNR=6.8						
QSPA	**South Pole Qui**	**58.32**	**180**	P	**P**	**16 54 31.9**	**+3.7**
	comp=Z,16nm,0.9s,mb5.1,baz=35,slow=1.9,SNR=43						
MIR	**Mirnyy**	**60.90**	**207⇓**	*i*P	**P**	**16 54 49.0**	**+3.0**
MIR				*i*		16 55 05.0	
MIR				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.9						
KAPI	**Kappang**	**63.89**	**281**	*e*P	**P**	**16 55 06.3**	**-0.5**
KAPI				LR	LR		
	comp=Z,779nm,21.0s,MS4.9						
DAV	**Davao City (W)**	**66.24**	**295**	PFAKE		16 55 30.0	+7.9
DAV				LR	LR		
	comp=Z,552nm,22.0s,MS4.7						
BUKP	**Musuan**	**67.14**	**296**	*e*P	**P**	**16 55 27.1**	**-0.7**
MSLP	**Maasin**	**68.72**	**297**	*e*P	**P**	**16 55 36.8**	**-1.0**
CBIJ	**Chichi jima**	**69.80**	**323**	LR	LR	17 23 48.4	
	comp=Z,259nm,18.1s,MS4.5,baz=1.0,slow=34						
MAW	**Mawson**	**71.02**	**201**	*e*P	**P**	**16 55 53.6**	**+2.5**
	comp=Z,23nm,1.5s,mb4.9						
MAW	**Mawson**	**71.02**	**201**	P	**P**	**16 55 53.7**	**+2.6**
	comp=Z,19nm,1.0s,mb5.0,baz=119,slow=7.7,SNR=17						
MAW				LR	LR	17 27 22.7	
	comp=Z,1μm,18.6s,MS5.2,baz=111,slow=36						
MAW	**Mawson**	**71.02**	**201**	*e*P	**P**	**16 55 53.6**	**+2.5**
MAW				pmax	pmax		
	comp=Z,23nm,1.5s						
RCP	**Roxas**	**71.23**	**297⇓**	*e*P	**P**	**16 55 56.7**	**+3.5**
KKM	**Kota Kinabalu**	**73.02**	**288**	PFAKE		16 56 20.0	+16
KKM				LR	LR		
	comp=Z,260nm,19.0s,MS4.5						
KSM	**Kuching**	**75.31**	**281**	*e*P	**P**	**16 56 17.0**	**-0.4**
SYO	**Syowa Base**	**75.77**	**193⇓**	*e*P	**P**	**16 56 19.4**	**+0.4**
JHJ	**Hachijo jima 2**	**75.89**	**324**	LR	LR	17 26 08.8	
	comp=Z,206nm,21.7s,MS4.4,baz=106,slow=33						
SNAA	**Sanae**	**76.77**	**178**	*e*P	**P**	**16 56 26.3**	**+1.6**
SNAA				*e*	pP	16 56 34.7	+0.1
SNAA				*e*	pP	16 56 36.3	+1.7
SNAA				*e*		16 56 39.4	
SNAA				*e*		16 56 45.1	
SNAA				*e*		16 56 51.7	
SNAA	**Sanae**	**76.77**	**178**	*e*P	**P**	**16 56 25.7**	**+1.0**
SNAA				pmax	pmax		
	comp=Z,94nm,1.1s						
SNAA	**Sanae**	**76.77**	**178**	*e*P	**P**	**16 56 25.7**	**+1.0**
	comp=Z,94nm,1.1s,mb5.6						
VNA3	**Neumayer Olymp**	**76.92**	**176**	*e*P	**P**	**16 56 26.8**	**+1.3**
VNA3				*e*	pP	16 56 35.2	-0.3
VNA3				*e*	pP	16 56 37.6	+2.1
VNA3				*e*		16 56 40.4	
VNA3				*e*		16 56 46.1	
VNA3				*e*		16 56 53.0	
VNA2	**Neumayer--Watz**	**77.35**	**177**	*e*P	**P**	**16 56 30.3**	**+2.4**
VNA2				*e*	pP	16 56 38.1	+0.2
VNA2				*e*	pP	16 56 40.0	+2.1
VNA2				*e*		16 56 43.2	
VNA2				*e*		16 56 48.9	
VNA2				*e*		16 56 55.9	
MAIT	**Maitri**	**77.48**	**183**	*e*P	**P**	**16 56 29.6**	**+0.9**
NVL	**N'lazarevskaya**	**77.49**	**183**	P	**P**	**16 56 31.2**	**+2.5**
NVL				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.0						
VNA1	**Neumayer--Stat**	**77.58**	**177**	*e*P	**P**	**16 56 31.1**	**+1.9**
VNA1				*e*	pP	16 56 39.6	+0.4
VNA1				*e*	pP	16 56 41.3	+2.1
VNA1				*e*		16 56 44.4	
VNA1				*e*		16 56 50.7	
VNA1				*e*		16 56 57.5	
JOW	**Kunigami**	**77.62**	**312**	P	**P**	**16 56 27.8**	**-2.3**
	comp=Z,22nm,0.8s,mb5.1,baz=162,slow=3.9,SNR=7.3						
MJAR	**Matsushiro Arr**	**79.40**	**325**	P	**P**	**16 56 37.6**	**-2.0**
	comp=Z,15nm,1.0s,mb4.9,baz=161,slow=5.5,SNR=30						
MJAR				LR	LR	17 27 33.8	
	comp=Z,165nm,20.7s,MS4.3,baz=135,slow=33						
MAJO	**Matsushiro**	**79.40**	**325**	*e*P	**P**	**16 56 37.9**	**-1.7**
MAJO				MLR	MLR		
	comp=Z,344nm,21.0s,MS4.7						
MAT	**Matsushiro**	**79.40**	**325**	P	**P**	**16 56 37.5**	**-2.1**
MAT				*e*S	S	17 06 39.0	+0.7
COCO	**West Island**	**79.65**	**262**	PFAKE		16 56 50.0	+8.4
COCO				LR	LR		
	comp=Z,782nm,19.0s,MS5.1						
PLCA	**Paso Flores**	**81.54**	**133**	P	**P**	**16 56 52.7**	**+1.4**
	comp=Z,7.9nm,1.0s,mb4.6,baz=220,slow=4.5,SNR=9.6						
PLCA				pP	pP	16 56 59.8	-1.6
	comp=Z,9.5nm,0.9s,baz=226,slow=5.4,SNR=11						
PLCA				tx	tx	16 57 09.2	
	comp=Z,12nm,1.0s,baz=233,slow=4.4,SNR=8.6						
PLCA				LR	LR	17 24 14.3	
	comp=Z,379nm,20.9s,MS4.7,baz=220,slow=29						
PLCA	**Paso Flores**	**81.54**	**133**	P	**P**	**16 56 52.7**	**+1.4**
PLCA				*PP	pP	16 56 59.8	-1.6
PLCA	**Paso Flores**	**81.54**	**133**	P	**P**	**16 56 52.7**	**+1.4**
PLCA				pP	pP	16 56 59.8	-1.6
PLCA				LR	LR	17 24 14.3	
ADK	**Adak**	**83.33**	**1**	PFAKE		16 57 10.0	+10
ADK				LR	LR		
	comp=Z,766nm,19.0s,MS5.1						
ASAJ	**Asahikawa**	**83.69**	**333**	P	**P**	**16 57 00.6**	**-1.5**
	comp=Z,22nm,0.8s,mb5.3,baz=224,slow=8.5,SNR=20						
ASAJ				LR	LR	17 31 14.0	
	comp=Z,361nm,19.7s,MS4.8,baz=176,slow=34						
ASAJ	**Asahikawa**	**83.69**	**333**	P	**P**	**16 57 00.6**	**-1.5**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,361nm,19.7s						
SSE	**Sheshan**	**85.04**	**311**	*e*P	**P**	**16 57 10.0**	**+0.7**
SSE				AP	pP	16 57 22.8	+3.4
SSE				XP	sP	16 57 27.3	+4.2
SSE				S	S	17 07 36.8	+0.3
SSE				AMB	AMB		
	comp=Z,51nm,0.7s,mb5.8						
SSE				AMB	AMB		
	comp=Z,162nm,4.5s						
SSE				LR	LR		
	comp=N,64nm,23.3s,MS4.2						
SSE				LR	LR		
	comp=E,99nm,23.3s,MS4.2						
SSE				LR	LR		
	comp=Z,178nm,22.0s,MS4.4						
KSRS	**Korea Array**	**85.42**	**320**	P	**P**	**16 57 10.7**	**-0.4**
	comp=Z,7.7nm,1.0s,mb4.8,baz=143,slow=5.6,SNR=34						
KSRS				LR	LR	17 30 43.2	
	comp=Z,123nm,20.5s,MS4.3,baz=140,slow=32						
KSRS	**Korea Array**	**85.42**	**320**	P	**P**	**16 57 10.7**	**-0.4**
KSRS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
KSRS				MLR	MLR		
	comp=Z,123nm,20.5s,MS4.3						
KS15	**Wonju Array Si**	**85.44**	**320**	*e*P	**P**	**16 57 11.5**	**+0.3**
PSI	**Prapat**	**85.61**	**276**	P	**P**	**16 57 11.3**	**-1.3**
	comp=Z,8.8nm,0.6s,mb5.2,baz=244,slow=3.0,SNR=8.0						
QIZ	**Qiongzhong**	**85.61**	**295**	P	**P**	**16 57 12.8**	**+0.4**
QIZ				XP	sP	16 57 28.8	+2.6
QIZ				S	S	17 07 43.3	+0.7
QIZ				SS	SS	17 13 19.8	+0.2
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,167nm,8.0s						
QIZ				LR	LR		
	comp=Z,219nm,36.9s,MS4.3						
YSS	**Yuzh-Sakhalins**	**86.01**	**334⇑**	*i*P	**P**	**16 57 13.5**	**-0.2**
YSS				*e*		16 57 25.5	
YSS				pmax	pmax		
	comp=E,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,70nm,0.8s,mb5.9						
YSS				MLR	MLR		
	comp=Z,700nm,22.0s,MS5.0						
YSS	**Yuzh-Sakhalins**	**86.01**	**334**	*e*P	**P**	**16 57 13.3**	**-0.4**
	comp=Z,56nm,0.9s,mb5.8						
INCN	**Inchon**	**86.16**	**319**	PFAKE		16 57 30.0	+15
INCN				LR	LR		
	comp=Z,254nm,22.0s,MS4.6						
BAR	**Barrett**	**86.38**	**48**	PFAKE		16 57 30.0	+14
BAR				LR	LR		
	comp=Z,603nm,19.0s,MS5.0						
MWC	**Mount Wilson**	**86.55**	**46**	*e*P	**P**	**16 57 17.4**	**+0.7**
NSHM	**Saint Helena R**	**86.88**	**40**	*e*P	**P**	**16 57 17.6**	**-0.6**
PET	**Petropavlovsk**	**86.89**	**346**	*e*P	**P**	**16 57 16.8**	**-1.1**
PET				*e*S	S	17 07 57.0	+3.5
PET				*e*SS	SS	17 13 28.8	-8.4
PET				*e*SSS		17 17 11.9	
PET				pmax	pmax		
	comp=Z,51nm,0.8s,mb5.8						
PET				MLR	MLR		
	comp=Z,300nm,21.0s,MS4.7						
PET	**Petropavlovsk**	**86.89**	**346**	*e*P	**P**	**16 57 15.9**	**-2.0**
	comp=Z,25nm,0.7s,mb5.5						
HOPS	**Hopland**	**86.96**	**40**	*e*P	**P**	**16 57 18.9**	**+0.3**
HOPS				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
PFO	**Pinyon Flat Ob**	**87.13**	**47**	P	**P**	**16 57 19.2**	**-0.4**
	baz=274,slow=8.6						
PFO	**Pinyon Flat Ob**	**87.13**	**47**	*e*P	**P**	**16 57 19.5**	**-0.1**
PFO				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.2						
PFO	**Pinyon Flat Ob**	**87.13**	**47**	*e*P	**P**	**16 57 19.5**	**0.0**
	comp=Z,21nm,1.2s,mb5.2						
PETK	**Petropavlovsk-**	**87.17**	**346**	P	**P**	**16 57 18.6**	**-0.6**
	comp=Z,58nm,0.8s,mb5.8,baz=125,slow=6.9,SNR=108						
PETK				LR	LR	17 29 57.6	
	comp=Z,263nm,21.8s,MS4.6,baz=159,slow=31						
NJ2	**Nanjing**	**87.17**	**311**	*e*P	**P**	**16 57 20.3**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.6						
ISA	**Isabella**	**87.27**	**45**	*e*P	**P**	**16 57 20.3**	**+0.1**
ISA				MLR	MLR		
	comp=Z,397nm,19.0s,MS4.8						
VLA	**Vladivostok**	**87.56**	**326**	*e*P	**P**	**16 57 19.4**	**-2.0**
VLA				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.3						
CMB	**Columbia Colle**	**87.78**	**42**	*e*P	**P**	**16 57 22.4**	**-0.2**
CMB				MLR	MLR		
	comp=Z,681nm,19.0s,MS5.1						
GLA	**Glamis**	**87.79**	**49**	*e*P	**P**	**16 57 23.7**	**+0.9**
GLA				MLR	MLR		
	comp=Z,539nm,21.0s,MS4.9						
GSC	**Goldstone**	**88.03**	**46**	*e*P	**P**	**16 57 23.9**	**0.0**
GSC				MLR	MLR		
	comp=Z,552nm,19.0s,MS5.0						
DAC	**Darwin (Calif)**	**88.21**	**45**	PFAKE		16 57 40.0	+15
DAC				LR	LR		
	comp=Z,569nm,19.0s,MS5.0						
MTUM	**Tungsten Hills**	**88.36**	**43**	*e*P	**P**	**16 57 25.9**	**+0.5**
WDC	**Whiskeytown Da**	**88.38**	**39**	*e*P	**P**	**16 57 24.5**	**-0.8**
WDC				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.2						
WDC	**Whiskeytown Da**	**88.38**	**39**	*e*P	**P**	**16 57 24.5**	**-0.8**
	comp=Z,16nm,1.0s,mb5.2						
CFAA	**Coronel Fontan**	**88.39**	**127**	P	**P**	**16 57 26.2**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=254,slow=4.1,SNR=6.2						
CFAA				pP	pP	16 57 34.5	-1.5
	comp=Z,1.3nm,0.9s,baz=244,slow=4.8,SNR=7.3						
CFAA				tx	tx	16 57 42.3	
	comp=Z,1.2nm,0.9s,baz=236,slow=2.4,SNR=7.1						
CFAA	**Coronel Fontan**	**88.39**	**127**	P	**P**	**16 57 26.2**	**+0.3**
CFAA				pP	pP	16 57 34.5	-1.5
LDFC	**Landfair**	**88.93**	**47**	*e*P	**P**	**16 57 29.4**	**+1.3**
LBCM	**Butte Creek Ri**	**89.20**	**39**	P	**P**	**16 57 29.0**	**-0.2**
NVAR	**Mina Array Bea**	**89.24**	**43**	P	**P**	**16 57 28.9**	**-0.5**
	comp=Z,6.4nm,0.9s,mb5.0,baz=222,slow=7.9,SNR=30						
NVAR				pP	pP	16 57 37.8	-1.8
	comp=Z,9.1nm,0.9s,baz=220,slow=8.5,SNR=16						
TPNV	**Topopah Spring**	**89.46**	**45**	*e*P	**P**	**16 57 31.3**	**+0.8**
PAHR	**Pah Rah Range**	**89.50**	**41**	P	**P**	**16 57 30.2**	**-0.4**
	comp=Z,13nm,1.1s,mb5.2						
HUMO	**Hull Mountain**	**89.61**	**37**	PFAKE		16 57 40.0	+8.9
HUMO				LR	LR		
	comp=Z,566nm,20.0s,MS5.0						
TPH	**Tonopah**	**89.63**	**44**	*e*P	**P**	**16 57 30.3**	**-1.0**
TPH				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.5						
TPH	**Tonopah**	**89.63**	**44**	*e*P	**P**	**16 57 30.3**	**-1.0**
	comp=Z,34nm,1.3s,mb5.5						
MDJ	**Mudanjiang**	**89.79**	**326**	P	**P**	**16 57 31.9**	**0.0**
MDJ				AP	pP	16 57 43.8	+1.8
MDJ				S	S	17 08 13.3	-8.1
MDJ				XS	sS	17 08 34.8	-3.4
MDJ				SS	SS	17 14 21.8	+2.0
MDJ				AMB	AMB		
	comp=Z,26nm,1.4s,mb5.4						
MDJ				AMB	AMB		
	comp=Z,87nm,5.0s						
MDJ				LR	LR		
	comp=N,130nm,29.1s,MS4.3						
MDJ				LR	LR		
	comp=E,131nm,29.1s,MS4.3						
MDJ				LR	LR		
	comp=Z,241nm,27.6s,MS4.5						
MDJ	**Mudanjiang**	**89.79**	**326**	*e*P	**P**	**16 57 31.0**	**-0.9**
	comp=Z,63nm,1.4s,mb5.8						
SHPR	**Sheep Range**	**89.83**	**46**	*e*P	**P**	**16 57 33.1**	**+0.9**
TUC	**Tucson**	**89.96**	**51**	*e*P	**P**	**16 57 33.3**	**+0.3**
TUC				pmax	pmax		
	comp=Z,41nm,1.7s,mb5.5						
TUC	**Tucson**	**89.96**	**51**	*e*P	**P**	**16 57 33.3**	**+0.3**
	comp=Z,41nm,1.7s,mb5.5						
DL2	**Dalian**	**89.99**	**317⇑**	P	**P**	**16 57 32.8**	**-0.2**
DL2				S	S	17 08 19.1	-4.4
DL2				XS	sS	17 08 40.1	-0.3
DL2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.4						
DL2				AMB	AMB		
	comp=Z,130nm,4.2s						
DL2				LR	LR		
	comp=N,120nm,15.7s,MS4.6						
DL2				LR	LR		
	comp=E,140nm,15.5s,MS4.6						
DL2				LR	LR		
	comp=Z,180nm,19.2s,MS4.5						
COR	**Corvallis**	**90.85**	**36**	PFAKE		16 57 50.0	+13
COR				LR	LR		
	comp=Z,865nm,20.0s,MS5.2						
SNY	**Shenyang**	**90.88**	**320⇑**	P	**P**	**16 57 36.8**	**-0.2**
SNY				S	S	17 08 21.6	-10
SNY				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.4						
SNY				AMB	AMB		
	comp=Z,121nm,5.6s						
SNY				LR	LR		
	comp=N,248nm,22.8s,MS4.7						
SNY				LR	LR		
	comp=E,211nm,21.0s,MS4.7						
SNY				LR	LR		
	comp=Z,271nm,20.4s,MS4.7						
TIA	**Tai'an**	**90.94**	**313**	*e*P	**P**	**16 57 37.4**	**-0.1**
HEBO	**Mount Hebo**	**91.08**	**35**	*e*P	**P**	**16 57 38.3**	**+0.4**
BMN	**Battle Mountai**	**91.21**	**42**	*e*P	**P**	**16 57 39.2**	**+0.6**
BMN				MLR	MLR		
	comp=Z,670nm,19.0s,MS5.1						
CN2	**Changchun**	**91.27**	**323⇑**	P	**P**	**16 57 38.3**	**-0.5**
CN2				*e*XP	sP	16 57 56.8	+4.2
CN2				*e*S	S	17 08 31.0	-4.0
CN2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=E,200nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=Z,200nm,19.0s,MS4.6						
WUAZ	**Wupatki**	**91.56**	**48**	*e*P	**P**	**16 57 40.9**	**+0.6**
	comp=Z,23nm,1.1s,mb5.4						
KDAK	**Kodiak Island**	**91.75**	**13**	PFAKE		16 57 50.0	+9.3

CMAR Chiang Mai Arr 93.89 289 P **P** **16 57 51.8 +0.3**
comp=Z,1.0nm,0.7s,mb4.4,baz=137,slow=2.9,SNR=6.8
CMAR PP PP 17 01 34.6 -3.1
comp=Z,1.0nm,0.9s,baz=145,slow=5.6,SNR=4.1
RSW Rattlesnake Hi 93.98 36 *e*P **P** **16 57 51.0 -0.2**
HAWA Hanford 94.01 36 *e*P **P** **16 57 51.0 -0.3**
comp=Z,17nm,1.4s,mb5.3
HAWA LR LR
comp=Z,745nm,19.0s,MS5.2
TMUT Trail Mountain 94.01 46 *e*P **P** **16 57 53.0 +1.4**
CHTO Chiang Mai 94.07 289 PFAKE 16 58 00.0 +7.7
CHTO LR LR
comp=Z,253nm,19.0s,MS4.7
BMO Blue Mountains 94.12 38 PFAKE 16 58 00.0 +8.1
BMO LR LR
comp=Z,889nm,19.0s,MS5.2
SRU San Rafael 94.32 46 *e*P **P** **16 57 53.5 +0.5**
ANMO Albuquerque 94.42 51 *e*P **P** **16 57 53.4 -0.2**
ANMO *e* pP 16 58 01.5 -2.2
ANMO pmax pmax
comp=Z,2.0nm,1.3s
ANMO MLR MLR
comp=Z,482nm,19.0s
ANMO Albuquerque 94.42 51 *e*P **P** **16 57 53.4 -0.2**
comp=Z,2.1nm,1.3s,mb4.4
ANMO *e* pP 16 58 01.5 -2.3
ANMO LR LR
comp=Z,482nm,19.0s,MS5.0
KMI Kunming 94.47 297 P **P** **16 57 55.3 +1.2**
KMI S S 17 09 01.5 -2.8
KMI AMB AMB
comp=Z,8.0nm,1.6s,mb4.9
KMI LR LR
comp=N,111nm,9.2s
KMI LR LR
comp=E,105nm,13.9s
KMI LR LR
comp=Z,221nm,31.7s
HVU Hansel Valley 94.64 43 *e*P **P** **16 57 54.4 0.0**
HLID Hailey 94.84 41 *e*P **P** **16 57 54.8 -0.4**
comp=Z,7.3nm,1.0s,mb5.1
HLID LR LR
comp=Z,360nm,19.0s,MS4.9
HWUT Hardware Ranch 95.23 44 PFAKE 16 58 10.0 +13
HWUT LR LR
comp=Z,548nm,19.0s,MS5.0
AHID Auburn Hatcher 96.22 43 PFAKE 16 58 10.0 +8.4
AHID LR LR
comp=Z,444nm,20.0s,MS4.9
JCT Junction City 96.54 58 PFAKE 16 58 10.0 +6.6
JCT LR LR
comp=Z,519nm,19.0s,MS5.0
REDW Red Top Meadow 96.73 43 *e*P **P** **16 58 03.6 -0.2**
comp=Z,20nm,1.5s,mb5.3
CD2 Chengdu 96.85 302 *e*P **P** **16 58 06.0 +1.2**
CD2 AP pP 16 58 16.3 +1.4
CD2 XP sP 16 58 22.8 +4.2
CD2 PP PP 17 02 02.8 +2.2
CD2 SKS 17 08 39.0
CD2 S S 17 09 22.0 -2.7
CD2 XS sS 17 09 39.3 -2.3
CD2 PS PS 17 10 53.0 +3.2
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,40nm,8.5s
CD2 LR LR
comp=N,200nm,16.8s,MS4.7
CD2 LR LR
comp=E,120nm,18.0s,MS4.7
CD2 LR LR
comp=Z,220nm,15.6s,MS4.8
BW06 Boulder Array 97.12 44 PFAKE 16 58 20.0 +14
BW06 LR LR
comp=Z,573nm,19.0s,MS5.1
PDAR Pinedale Array 97.12 44 P **P** **16 58 05.1 -0.6**
comp=Z,1.3nm,1.0s,mb4.3,baz=222,slow=2.0,SNR=6.9
PDAR pP pP 16 58 13.4 -2.4
comp=Z,1.6nm,0.9s,baz=241,slow=3.1,SNR=8.0
PDAR PKKPbc PKKPbc 17 14 46.6 +0.3
comp=Z,1.0nm,0.5s,baz=90,slow=4.4,SNR=7.0
PDAR LR LR 17 37 42.0
comp=Z,460nm,18.8s,MS5.0,baz=244,slow=33
HHC Hu-ho-hao-te 97.22 314 *e*P **P** **16 58 08.3 +2.1**
HHC AP pP 16 58 18.9 +2.6
HHC XP sP 16 58 22.4 +2.4
HHC PP PP 17 02 08.4 +5.1
HHC SKS 17 08 40.9
HHC S S 17 09 24.9 -2.5
HHC XS sS 17 09 43.5 -0.8
HHC SS SS 17 16 07.6 +1.3
HHC AMB AMB
comp=Z,14nm,0.5s,mb5.7
HHC AMB AMB
comp=Z,72nm,7.8s
HHC LR LR
comp=N,173nm,15.5s,MS4.7
HHC LR LR
comp=E,138nm,16.7s,MS4.7
HHC LR LR
comp=Z,147nm,19.0s,MS4.5
SEY Seymchan 97.34 347⇑ *e*P **P** **16 58 05.2 -0.9**
LPAZ La Paz 97.55 114 LR LR 17 31 43.1
comp=Z,128nm,21.5s,MS4.4,baz=52,slow=29
AMTX Amarillo 97.62 54 PFAKE 16 58 20.0 +12
AMTX LR LR
comp=Z,543nm,19.0s,MS5.1
BOZ Bozeman (W) 97.70 40 PFAKE 16 58 20.0 +12
BOZ LR LR
comp=Z,344nm,22.0s,MS4.8
LKWY Lake 97.72 42 PFAKE 16 58 20.0 +12
LKWY LR LR
comp=Z,787nm,20.0s,MS5.2
ISCO Idaho Springs 97.78 48 PFAKE 16 58 20.0 +11
ISCO LR LR
comp=Z,567nm,19.0s,MS5.1
HIA Hailar 97.86 324 PFAKE 16 58 20.0 +11
HIA LR LR
comp=Z,253nm,20.0s,MS4.7
HKT Hockley 99.17 61 PFAKE 16 58 30.0 +15
HKT LR LR
comp=Z,392nm,22.0s,MS4.9
COLA College 99.19 13⇑ *i*P **P** **16 58 12.5 -1.9**
COLA MLR MLR
comp=Z,450nm,20.0s,MS5.0
LZH Lanzhou 99.57 306 *e*P Pdif 16 58 17.5 +0.6
LZH AP pP 16 58 28.3 +1.3
LZH XP sP 16 58 32.5 +1.8
LZH PP PP 17 02 23.5 +2.1
LZH SKS 17 08 52.6
LZH *e*S S 17 09 44.0 -3.6
LZH XS sS 17 10 01.8 -2.7
LZH *e*SS SS 17 16 38.6 -0.9
LZH AMB AMB
comp=Z,25nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,132nm,9.3s
LZH LR LR
comp=E,526nm,17.9s
LZH LR LR
comp=Z,882nm,20.1s,MS5.3
EGMT Eagleton 100.16 39 PFAKE 16 58 30.0 +10
EGMT LR LR
comp=Z,932nm,19.0s,MS5.3
BILL Bilibino 100.23 354⇑ *i*P Pdif 16 58 18.5 -1.3
BILL pmax pmax
comp=Z,6.0nm,1.3s
BILL Bilibino 100.23 354⇑ *i*P Pdif 16 58 18.6 -1.2
BILL LR LR
comp=Z,393nm,21.0s,MS4.9
EGAK Eagle 100.46 15 PFAKE 16 58 30.0 +9.2
EGAK LR LR
comp=Z,622nm,20.0s,MS5.1
CBKS Cedar Bluff 101.05 51 PFAKE 16 58 30.0 +6.6
CBKS LR LR
comp=Z,591nm,19.0s,MS5.1
LAO LASA Array 101.34 42 PFAKE 16 58 40.0 +15
LAO LR LR
comp=Z,466nm,19.0s,MS5.0
BCIP Isla Barro Col 101.65 86 PFAKE 16 58 40.0 +14
BCIP LR LR
comp=Z,667nm,20.0s,MS5.2
YAK Yakutsk 102.54 338*c* *i*P Pdif 16 58 27.7 -2.4
YAK pmax pmax
comp=Z,13nm,1.7s

DGMT Dagmar 103.47 41 PFAKE 16 58 50.0 +16
DGMT LR LR
comp=Z,460nm,20.0s,MS5.0
SONM Songino Array 104.19 318 Pdiff Pdif 16 58 35.0 -2.4
comp=Z,1.0nm,0.9s,baz=110,slow=2.2,SNR=3.8
SONM PP PP 17 02 58.5 +2.7
comp=Z,1.0nm,0.9s,baz=138,slow=7.6,SNR=3.8
SONM PKKPbc PKKPbc 17 14 32.1 +6.1
comp=Z,1.0nm,1.1s,baz=10,slow=3.3,SNR=4.3
SONM Songino Array 104.19 318 P Pdif 16 58 35.0 -2.4
SONM 17 02 58.5
ECSD EROS,Sioux Fal 105.57 48 PFAKE 17 03 10.0 +13
ECSD LR LR
comp=Z,404nm,20.0s,MS5.0
BRAL Brewton 106.28 63 PFAKE 17 03 10.0 +12
BRAL LR LR
comp=Z,264nm,19.0s,MS4.8
FFC Flin Flon 107.91 36 PFAKE 17 03 10.0 +10
FFC LR LR
comp=Z,482nm,20.0s,MS5.1
JFWS Jewell Farm 109.32 51 PFAKE 17 03 20.0 +16
JFWS LR LR
comp=Z,529nm,19.0s,MS5.1
GOGA Godfrey 110.08 63 PFAKE 17 03 20.0 +15
GOGA LR LR
comp=Z,456nm,20.0s,MS5.0
EYMN Ely 110.67 46 PFAKE 17 03 20.0 +14
EYMN LR LR
comp=Z,430nm,20.0s,MS5.0
COWI Conover 111.38 48 PFAKE 17 03 20.0 +13
COWI LR LR
comp=Z,596nm,19.0s,MS5.2
BDFB Brasilia 112.73 127 PFAKE 17 03 20.0 +9.2
BDFB LR LR
comp=Z,408nm,21.0s,MS5.0
ACSO Alum Creek Sta 113.20 56 PFAKE 17 03 20.0 +9.0
ACSO LR LR
comp=Z,718nm,20.0s,MS5.3
ABPO Ambohimpanom 113.45 227 PFAKE 17 03 20.0 +7.8
ABPO LR LR
comp=Z,412nm,20.0s,MS5.0
AAM Ann Arbor 113.52 54 PFAKE 17 03 20.0 +8.5
AAM LR LR
comp=Z,465nm,20.0s,MS5.1
GLMI Grayling 113.81 51 PFAKE 17 03 20.0 +8.0
GLMI LR LR
comp=Z,477nm,20.0s,MS5.1
BLA Blacksburg 113.89 60 PFAKE 17 03 20.0 +7.6
BLA LR LR
comp=Z,410nm,20.0s,MS5.0
WMQ Urumqi 114.10 308 *e*PKP PKiKP 17 03 13.5 +0.9
WMQ XPKP 17 03 27.8
WMQ PP PP 17 04 12.8 +4.8
WMQ PKS 17 06 48.9
WMQ SKS SKSdf 17 10 20.8 -1.4
WMQ SKKS SKKSac 17 11 01.8 -4.9
WMQ SS SS 17 19 56.8 +0.1
WMQ PP PP
comp=Z,32nm,9.8s
WMQ LR LR
comp=N,72nm,18.7s,MS4.6
WMQ LR LR
comp=E,139nm,23.6s,MS4.6
WMQ LR LR
comp=Z,147nm,20.3s,MS4.6
CNNC Cliffs of the 115.03 63 PFAKE 17 03 30.0 +15
CNNC LR LR
comp=Z,418nm,19.0s,MS5.1
BOSA Boshof 115.99 203 PKP PKPdf 17 03 18.2 +1.3
comp=Z,2.1nm,0.5s,baz=106,slow=4.3,SNR=11
BOSA Boshof 115.99 203 PKP PKPdf 17 03 18.2 +1.3
BOSA LR LR
comp=Z,306nm,19.0s,MS4.9
GRGR Grenville 118.60 93 PFAKE 17 03 30.0 +7.9
GRGR LR LR
comp=Z,479nm,21.0s,MS5.1
MK31 Makanchi Array 118.68 309 *i* PKIKP PKPdf 17 03 20.3 -1.0
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 118.68 309 *e*PKPdf PKPdf 17 03 20.7 -0.6
MKAR Makanchi Array 118.68 309 PKP PKPdf 17 03 20.3 -1.0
comp=Z,2.6nm,0.5s,baz=101,slow=1.2,SNR=23
BINY Binghamton 118.83 56 PFAKE 17 03 30.0 +8.3
BINY LR LR
comp=Z,820nm,20.0s,MS5.4
ZALV Zalesovo Beam 119.09 318 PKP PKPdf 17 03 20.2 -1.6
comp=Z,1.6nm,0.6s,baz=174,slow=2.6,SNR=8.3
ZALV Zalesovo Beam 119.09 318 PKP PKPdf 17 03 20.2 -1.6
ZAL Zalesovo 119.09 318 PKIKP PKPdf 17 03 20.2 -1.6
NVS Novosibirsk 120.20 319 *e*PKIKP PKPdf 17 03 20.9 -3.0
KURK Kurchatov 122.03 313⇑ *i*PKIKP PKPdf 17 03 26.4 -1.2
KURK Kurchatov 122.03 313 *e*PKPdf PKPdf 17 03 26.3 -1.3
KURK LR LR
comp=Z,192nm,20.0s,MS4.8
HRV Adam Dziewonsk 122.06 57 PFAKE 17 03 40.0 +12
HRV LR LR
comp=Z,698nm,19.0s,MS5.3
TKM2 Tokmak 2 122.19 304 P PKPdf 17 03 27.9 -0.3
SNR=12
LBNH Lisbon 122.25 55 PFAKE 17 03 40.0 +12
LBNH LR LR
comp=Z,613nm,19.0s,MS5.3
KBK Karagaybulak 122.58 303 P PKPdf 17 03 29.5 +0.6
SNR=7.0
CHMS Chumysh 122.81 304 P PKPdf 17 03 29.4 0.0
SNR=8.1
FRU Bishkek 122.86 303 *i* PKIKP PKPdf 17 03 30.0 +0.5
FRU *e* 17 03 42.0
AML Almayashu 123.35 302 P PKPdf 17 03 31.4 +1.0
SNR=12
EKS2 Erkin-Say 123.42 303 P PKPdf 17 03 30.8 +0.3
SNR=12
KBL Kabul 124.78 292 *e*PKIKP PKPdf 17 03 34.1 +0.7
KK31 Karatay Array 125.86 303 PKIKP PKPdf 17 03 34.5 -0.7
KK31 pmax pmax
comp=Z,8.0nm,0.8s
LSZ Lusaka 126.90 212 *e*PKIKP PKPdf 17 03 39.6 +1.5
VOSK Vostochnaya 127.03 315 PKIKP PKPdf 17 03 35.3 -1.8
VOSK pmax pmax
comp=Z,60nm,1.4s
TSUM Tsumeb 127.15 199 *e*PKPdf PKPdf 17 03 39.6 +1.1
SCHQ Schefferville 127.25 43 PKP PKPdf 17 03 36.5 -0.9
comp=Z,10nm,0.9s,baz=338,slow=3.0,SNR=4.5
BVA0 Borovoye Array 127.41 315 *i* PKIKP PKPdf 17 03 36.8 -1.0
BVA0 pmax pmax
comp=Z,4.0nm,1.2s
BRVK Borovoye 127.48 315 PKIKP PKPdf 17 03 36.8 -1.2
BRVK pmax pmax
comp=Z,23nm,1.1s
BRVK Borovoye 127.48 315 *e*PKPdf PKPdf 17 03 37.4 -0.5
BRVK LR LR
comp=Z,224nm,19.0s,MS4.9
KBS Kingsbay 132.58 357 PFAKE 17 04 00.0 +13
KBS LR LR
comp=Z,337nm,20.0s,MS5.0
AB31 Akbulak array 133.83 310⇑ *e*PKIKP PKPdf 17 03 48.3 -1.8
ARU Arti 134.18 320 *i* PKIKP PKPdf 17 03 49.9 -0.6
ARU 17 06 19.6
ARU MLR MLR
comp=Z,274nm,21.0s,MS5.0
ARU Arti 134.18 320 *e*PKPdf PKPdf 17 03 51.7 +1.1
AKTO Aktyubinsk 135.05 311 PKIKP PKPdf 17 03 52.7 +0.3
AKTO pmax pmax
comp=Z,3.0nm,1.1s
ARCES ARCESS Array B 139.95 347 PKhKP 17 03 54.0
comp=Z,3.7nm,0.7s,baz=46,slow=2.6,SNR=30
ARCES PKP PKPdf 17 04 01.0 +0.2
comp=Z,4.7nm,0.7s,baz=349,slow=1.1,SNR=16
ARCES SKPbc SKPbc 17 07 37.6 +3.3
comp=Z,2.7nm,0.8s,baz=32,slow=3.2,SNR=3.6
ARCES ARCESS Array B 139.95 347 PKHKP 17 03 54.0
ARCES 17 04 01.0
ARCES ARCESS Array B 139.95 347 PKP PKPdf 17 03 54.0 -6.8
ARCES PKP PKPdf 17 04 01.0 +0.2
ARCES SKPbc SKPbc 17 07 37.6 +3.3
RDF Al-Radifah 140.84 278 *e*P PKPdf 17 03 56.7 -7.0
baz=278
RDF AMb AMB 17 04 08.3
comp=Z,45nm,0.5s,baz=278
NAY Al-Naaiem 141.18 278 *e*P PKPdf 17 03 56.5 -7.8
baz=279
NAY AMb AMB 17 04 08.4
comp=Z,16nm,1.1s,baz=279
MIB Mutribah 141.24 279 *e*P PKPdf 17 03 56.9 -7.5
baz=279

MIB AMb AMB 17 04 08.2
comp=Z,49nm,1.0s,baz=279
KLMR Klimovskoe 142.00 331 *i* PKHKP 17 03 58.6
KLMR pmax pmax
comp=Z,36nm,1.5s
JOF Joensuu 143.72 338 *e*p PKPdf 17 04 04.1 -3.7
comp=Z,14nm,0.8s
DGRG David-gareji 144.22 298 P PKPdf 17 04 09.2 -0.2
BHD Baghdad 144.44 284 *i* x x 17 04 07.0
MTA Mtatsminda 144.65 298 P PKPdf 17 04 09.6 -0.5
TBLG Delisi 144.69 299 P PKPdf 17 04 09.5 -0.6
GNI Garni 144.72 296 PKP PKPdf 17 04 09.4 -0.8
comp=Z,36nm,0.8s,baz=218,slow=0.6,SNR=20
GNI Garni 144.72 296 PKIKP PKPdf 17 04 09.4 -0.8
GNI pmax pmax
comp=Z,36nm,0.8s
GNI Garni 144.72 296 *e*PKP PKPdf 17 04 09.6 -0.6
GNI LR LR
comp=Z,185nm,19.0s,MS4.9
MOR8 Moi Rana 144.78 351 *e*P PKPdf 17 04 07.4 -2.2
MOR8 AMb AMB 17 04 19.9
comp=Z,69nm,4.4s
STOK Stokkvaagen 144.80 352 *e*P PKPdf 17 04 08.0 -1.5
STOK Stokkvaagen 144.80 352 *e*P PKPdf 17 04 08.4 -1.1
VRHR Novokhopersk 145.16 315 *e*PKIKP PKPdf 17 04 10.0 -0.6
VRHR pmax pmax
comp=Z,110nm,1.2s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,50nm,0.9s
HAKT HAKKARI 145.46 291 *i* P PKPdf 17 04 11.7 +0.1
MOS Moscow 145.49 324 *e*PKIKP PKPdf 17 04 09.3 -1.7
MOS *e* 17 04 18.7
MOS pmax pmax
comp=Z,1μm,1.5s
MOS pmax pmax
comp=Z,607nm,1.2s
DYDN Diyadin 145.53 295 *i* P PKPdf 17 04 13.2 +1.5
ONI Oni 145.60 300 P PKPdf 17 04 12.9 +1.2
TVAN Van 145.74 293 *i* P PKPbc 17 04 14.3 +1.8
KAF Kangasniemi 145.87 340 *e*p PKPdf 17 04 10.4 -1.1
MSL Mosul 145.87 289 *i* x x 17 04 14.0
KIV Kislovodsk 146.02 303⇑ *i*PKP2 PKPdf 17 04 13.2 +0.9
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.6
KIV Kislovodsk 146.02 303⇑ *i*P PKPdf 17 04 13.3 +1.0
KIV Kislovodsk 146.02 303 *e*PKP PKPdf 17 04 12.8 +0.4
KIV LR LR
comp=Z,291nm,21.0s,MS5.0
PUL Pulkovo 146.27 334⇑ *e*PKP2 PKPdf 17 04 12.9 +0.6
OBN Obninsk 146.32 324⇑ *i*PKP2 PKPdf 17 04 13.0 +0.5
OBN pmax pmax
comp=Z,541nm,1.4s
OBN Obninsk 146.32 324 *e*PKPdf PKPdf 17 04 12.9 +0.5
VOR Voronezh 146.37 317 *e*PKP2 PKPdf 17 04 13.0 +0.3
VOR pmax pmax
comp=N,400nm,1.4s
VRSR Storozhevoye 146.56 316 *e*PKP2 PKPab 17 04 14.0 -1.6
VRSR pmax pmax
comp=E,40nm,1.1s
VRSR pmax pmax
comp=Z,70nm,1.1s
VRSR pmax pmax
comp=N,10.0nm,0.7s
NSS Namsos 146.66 352 *e*P PKPdf 17 04 12.5 -0.3
HOMI Horasan 146.90 296 *i* P PKPbc 17 04 17.0 +1.1
ERZM Erzurum 147.32 295 *i* P PKPdf 17 04 15.9 +1.3
BNGL BINGOL 147.50 294 *i* P PKPbc 17 04 19.2 +1.6
MARD Mardin 147.78 291 *i* P PKPbc 17 04 19.0 +0.6
KOPT Kop Dagi 147.98 296 *i* P PKPbc 17 04 20.6 +1.7
SOC Sochi 148.20 303 *i* PKP2 PKPbc 17 04 20.0 +0.7
DIYA Diyarbakir 148.31 292 *i* P PKPbc 17 04 20.5 +0.7
VSU Vasula 148.50 335 *i* PKP2 PKPbc 17 04 19.1 -0.5
ELZG Elazig 149.20 293 *i* P PKPbc 17 04 23.7 +1.7
ANN Anapa 149.58 305 *i* PKP2 PKPbc 17 04 22.4 -0.4
ANN pmax pmax
comp=Z,192nm,1.4s
GRSN GIRESUNGRSN 149.61 298 *i* P PKPbc 17 04 22.5 -0.5
MALT Malatya 149.65 293⇑ *i*P PKPbc 17 04 24.2 +1.0
MALT Malatya 149.65 293 *e*PKPdf PKPdf 17 04 18.2 -0.3
MALT *e*PKPbc PKPbc 17 04 23.9 +0.7
MALT ⇑P 17 04 24.2
NB2 NORSAR Subarra150.13 351 PKP PKPbc 17 04 23.0 -0.6
comp=Z,71nm,1.2s,baz=15,slow=2.6
NB2 NORSAR Subarra150.13 351 PKP PKPbc 17 04 23.0 -0.6
baz=15,slow=2.6
NOA NORSAR Array B150.13 351 PKP PKPdf 17 04 17.7 -0.8
comp=Z,1.9nm,0.6s,baz=209,slow=12,SNR=6.4
NOA PKPbc PKPbc 17 04 22.5 -1.1
comp=Z,21nm,1.0s,baz=14,slow=4.1,SNR=35
NA001 NORSAR Array S150.36 351 *e*PKPbc PKPbc 17 04 23.1 -1.0
MNK Minsk 150.82 329 *e*PKIKP PKPdf 17 04 22.0 +2.2
PINB Pinarbasi 151.22 293 *i* P PKPbc 17 04 28.0 +1.1
ANDN Andirin 151.31 291 *i* P PKPbc 17 04 28.0 +0.9
COBT Iskenderun 151.38 289 *i* P PKPbc 17 04 28.9 +1.5
BHL Bhannes 151.75 283 *e*P PKPbc 17 04 29.1 +0.8
SIM Simferopol' 151.82 307*c* *i*PKIKP PKPbc 17 04 27.6 -0.5
SIM *i* 17 04 37.0
SIM *e* 17 08 03.0
SIM pmax pmax
comp=Z,30nm,0.6s
YURE YUREGIR 151.89 290 *i* P PKPbc 17 04 29.6 +1.1
CTKT Corum 152.27 298 *i* P PKPdf 17 04 22.4 -0.1
AKASG Malin Array Be 152.41 321 PKP PKPdf 17 04 20.0 -2.4
comp=Z,0.2nm,0.4s,baz=2.2,slow=1.2,SNR=5.4
AKASG PKPbc PKPbc 17 04 28.5 -0.7
comp=Z,8.4nm,0.4s,baz=44,slow=3.0,SNR=72
AKASG PKPab PKPab 17 04 38.5 -0.9
comp=Z,13nm,0.6s,baz=44,slow=3.9,SNR=26
AKASG Malin Array Be 152.41 321 PKP PKPdf 17 04 20.0 -2.4
AKASG PKPbc PKPbc 17 04 28.5 -0.7
AKASG PKPab PKPab 17 04 38.5 -0.9
AKBB Malin Array Si 152.41 321 *e*PKIKP PKPbc 17 04 28.5 -0.7
AKBB *e* 17 04 38.4
AVNT Avonos 152.42 294 *i* P PKPbc 17 04 28.9 -0.7
KIEV Kiev 152.43 321 *e*PKIKP PKPdf 17 04 21.7 -0.7
KIEV *e* 17 04 28.3
KIEV *e* 17 04 38.4
CDAG Cicekdag 152.71 296 *i* P PKPbc 17 04 30.6 +0.3
MEST Erdemli 153.08 289 *i* P PKPbc 17 04 32.4 +1.2
SUW Suwalki 153.12 332 *e*PKP PKPbc 17 04 30.4 -0.3
SUW Suwalki 153.12 332 *e*PKP PKPbc 17 04 30.4 -0.3
BALT Daday 153.16 300 *i* P PKPbc 17 04 32.2 +1.0
ELDT Eldivan 153.31 298 *i* P PKPbc 17 04 31.9 +0.4
LIC Lamto 153.72 164 *e*PKIKP PKPdf 17 04 26.5 +1.1
LIC *e*MLR MLR
comp=Z,273nm,19.8s,MS4.8
LIC Lamto 153.72 164 *e*PKIKP PKPdf 17 04 26.4 +1.0
comp=Z,63nm,0.9s
LIC Lamto 153.72 164 *e*PKPdf PKPdf 17 04 26.5 +1.1
LIC LR LR
comp=Z,140nm,19.8s,MS4.8
CSS Prodhromos 153.73 285 *e*PKPbc PKPbc 17 04 32.7 0.0
ANTO Ankara 153.89 297⇑ *i*P PKPbc 17 04 33.0 +0.2
ANTO Ankara 153.89 297 *e*PKPbc PKPbc 17 04 33.0 +0.2
KIC Kosan Boka 153.91 165 *e*PKIKP PKPdf 17 04 26.7 +1.0
comp=Z,87nm,0.9s
TIC Toumodi 154.12 164 *e*PKIKP PKPdf 17 04 27.2 +1.2
comp=Z,86nm,1.0s
DBIC Dimbokro 154.19 164 PKP PKPdf 17 04 26.0 -0.1
comp=Z,4.8nm,0.9s,baz=20,slow=2.2,SNR=3.9
DBIC PKPbc PKPbc 17 04 34.6 +0.4
comp=Z,13nm,1.0s,baz=132,slow=4.0,SNR=8.4
SGKT Sivrigoynuk 154.33 298 *i* P PKPbc 17 04 34.6 +0.9
WAR Warsaw 155.31 331 *e*PKP PKPab 17 04 51.7 0.0
WAR Warsaw 155.31 331 *e*PKP PKPab 17 04 51.7 0.0
LVV L'vov 155.63 324 *e*PKP2 PKPab 17 04 52.0 -1.1
TIRR Tirgusor 155.82 309⇑ *i*P PKPab 17 04 53.7 -0.5
TIRR Tirgusor 155.82 309 ⇑P PKPab 17 04 53.7 -0.5
GKP Gorka Klasztor 155.89 337 *e*PKP PKPab 17 04 53.3 -0.8
GKP Gorka Klasztor 155.89 337 *e*PKP PKPab 17 04 53.3 -0.8
VRI Vrincioaia 156.30 313⇑ *i*P PKPab 17 04 56.4 +0.2
VRI Vrincioaia 156.30 313 P PKPab 17 04 56.6 +0.5
BURAR Bucovina Array 156.30 318⇓ *i*P PKPab 17 04 55.4 -0.7
BURAR Bucovina Array 156.30 318 ⇓P PKPab 17 04 55.4 -0.7
PLOR Plostina 156.36 313 PKP2 PKPab 17 04 56.7 +0.3
KWP Kalwaria 156.40 325 *e*PKP PKPab 17 04 55.4 -1.1
KWP Kalwaria 156.40 325⇑ *i*P PKPab 17 04 55.5 -1.0
KWP Kalwaria 156.40 325 *e*PKP PKPab 17 04 55.4 -1.1
ULDT Uludag 156.60 298 *i* P PKPdf 17 04 38.9 +10
MLR Muntele Rosu 156.96 313⇑ *i*P PKPab 17 04 58.4 -0.6
MLR Muntele Rosu 156.96 313 ⇑P PKPab 17 04 58.4 -0.6

KOLS	**Kolonicke sedl**	**157.08**	**324**	*e*PKP	PKPab	17 04 55.7	-3.7
DNZL	**Cakiroluk**	**157.08**	**292**	*i* P	PKPdf	17 04 38.5	+9.3
BSEG	**Bad Segeberg**	**157.09**	**347**	*e*PKPab	PKPab	17 04 57.9	-1.3
STHS	**Stebnicka Huta**	**157.25**	**326**	*e*PKP	PKPab	17 04 59.8	-0.3
UZH	**Uzhgorod**	**157.26**	**324**	*i*	PKPab	17 04 59.6	-0.6
OJC	**Ojcow**	**157.33**	**329**	*e*PKP	PKPab	17 04 59.4	-1.0
CRVS	**Cervenica-Dubn**	**157.50**	**325**	*e*PKP	PKPab	17 05 00.6	-0.6
NIE	**Niedzica**	**157.68**	**327**	*e*PKP	PKPdf	17 04 29.7	+0.1
NIE				*e*		17 05 01.9	
NIE				*e*		17 05 17.9	
ZIMR		**158.15**	**309**	PKP2	PKPab	17 05 05.1	+0.8
DRGR		**158.18**	**319**	⇑*i*P	PKPab	17 05 03.5	-0.7
DRGR		**158.18**	**319**	P	PKPab	17 05 04.0	-0.2
KSP	**Ksiaz**	**158.23**	**335**	*e*PKP	PKPab	17 05 04.2	-0.1
KSP	**Ksiaz**	**158.23**	**335**	⇓PKPab	PKPab	17 05 04.0	-0.3
KECS	**Kecovo**	**158.26**	**325**	*e*PKP	PKPab	17 05 04.0	-0.5
OKC	**Ostrava-Krasne**	**158.32**	**331**	*e*PKPAB	PKPab	17 05 03.4	-1.3
OKC				AMS	AMS	18 25 40.0	
	comp=Z,200nm,17.5s						
NRDL	**Niedersach Rie**	**158.49**	**346**	*e*PKPab	PKPab	17 05 03.7	-1.6
UPC	**Upice**	**158.61**	**335**	*e*PKPAB	PKPab	17 05 05.6	-0.3
MORC	**Moravsky Berou**	**158.62**	**332**	⇑*i*P	PKPab	17 05 05.0	-1.0
MORC	**Moravsky Berou**	**158.62**	**332**	⇑P	PKPab	17 05 05.0	-1.0
DPC	**Dobruska-Polom**	**158.63**	**334**	*e*PKPAB	PKPab	17 05 05.9	-0.1
CLL	**Collm**	**158.89**	**341**	⇓*i*PKP2	PKPab	17 05 06.2	-0.9
CLL				*e*		17 08 43.0	
CLL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CLL				MLR	MLR		
	comp=Z,200nm,24.3s,MS4.9						
CLL	**Collm**	**158.89**	**341**	*e*PKPab	PKPab	17 05 05.6	-1.5
CLL	**Collm**	**158.89**	**341**	*e*PKPdif		17 04 44.0	
CLL				⇓*i*PKPab	PKPab	17 05 06.2	-0.9
	comp=Z,45nm,1.0s						
CLL				*e*PP	PP	17 08 43.0	-4.5
CLL				*e*SKSP		17 19 00.0	
CLL				*e*SPP		17 22 00.0	
CLL				*e*SS	SS	17 28 52.0	+3.8
CLL				*ex*	x	17 31 45.0	
CLL				*e*(SSS)		17 35 30.0	
CLL				*e*SSSS		17 39 18.0	
CLL	**Collm**	**158.89**	**341**	⇓*i*PKP	PKPab	17 05 06.2	-0.9
CLL				*e*PP	PP	17 08 43.0	-4.5
CLL				LR	LR		
	comp=Z,200nm,24.3s,MS4.9						
PSZ	**Piszkesteto**	**158.93**	**325**	⇓*e*PKP	PKPdf	17 04 30.9	-0.2
PSZ				*e*PKP	PKPab	17 05 07.2	-0.3
PSZ	**Piszkesteto**	**158.93**	**325**	⇑*i*P	PKPab	17 05 06.4	-1.1
PSZ	**Piszkesteto**	**158.93**	**325**	P	PKPab	17 05 07.3	-0.2
BRG	**Berggiesshubel**	**159.00**	**339**	*e*PKPab	PKPab	17 05 06.5	-1.1
BRG	**Berggiesshubel**	**159.00**	**339**	*i* PKP	PKPab	17 05 07.0	-0.6
	comp=Z,47nm,1.1s						
BRG				*i*		17 05 15.0	
	comp=Z,17nm,1.0s						
BRG							
	comp=N,247nm,22.7s						
BRG							
	comp=E,114nm,15.8s						
BRG							
	comp=Z,287nm,23.0s						
BRG	**Berggiesshubel**	**159.00**	**339**	*i* PKP	PKPab	17 05 07.0	-0.6
BRG				*i*		17 05 15.0	
BRG				LR	LR		
	comp=Z,170nm,23.0s,MS4.8						
CLZ	**Clausthal**	**159.05**	**345**	*e*PKPab	PKPab	17 05 06.6	-1.2
IBBN	**Ibbenburen**	**159.08**	**350**	*e*PKPab	PKPab	17 05 06.5	-1.4
PVCC	**Panska Ves**	**159.09**	**337**	*e*PKPAB	PKPab	17 05 07.7	-0.3
PVCC				AMS	AMS	18 24 40.0	
	comp=Z,300nm,19.0s						
KOLL	**Kolacno**	**159.16**	**328**	*e*PKP	PKPab	17 05 08.1	-0.3
VRAC	**Vranov**	**159.37**	**332**	⇑*i*P	PKPab	17 05 06.1	-3.2
VRAC	**Vranov**	**159.37**	**332**	⇑P	PKPab	17 05 06.1	-3.1
VRAC				P		17 05 09.4	
BZS	**Buzias**	**159.48**	**318**	⇓*i*P	PKPab	17 05 09.0	-0.9
BZS	**Buzias**	**159.48**	**318**	⇓P	PKPab	17 05 09.0	-1.0
PRU	**Pruhonice**	**159.56**	**336**	*e*PKPAB	PKPab	17 05 09.7	-0.4
PRU				AMS	AMS	18 25 10.0	
	comp=Z,300nm,19.5s						
BUD	**Budapest**	**159.66**	**325**	⇓*e*PKP	PKPab	17 05 10.3	-0.3
TREC	**Trest**	**159.80**	**334**	*e*PKPAB	PKPab	17 05 10.6	-0.6
MODS	**Modra-Piesok**	**159.81**	**329**	*e*PKP	PKPdf	17 04 32.8	+0.7
MODS				*e*		17 05 11.2	
MODS	**Modra-Piesok**	**159.81**	**329**	*e*PKP	PKPdf	17 04 32.8	+0.7
MODS				*e*		17 05 11.3	
MOX	**Moxa**	**159.87**	**342**	*e*PKP	PKPab	17 05 10.6	-0.8
	comp=Z,41nm,1.5s						
MOX							
	comp=Z,200nm,20.0s						
MOX	**Moxa**	**159.87**	**342**	*e*PKPab	PKPab	17 05 10.1	-1.3
BUG	**Bochum--Univer**	**160.00**	**350**	*e*PKPab	PKPab	17 05 10.1	-1.8
NKC	**Novy Kostel**	**160.01**	**340**	*e*PKPAB	PKPab	17 05 11.5	-0.5
ZST	**Bratislava**	**160.02**	**329**	*e*PKP	PKPdf	17 04 31.9	-0.5
ZST				*e*		17 05 12.0	
ZST	**Bratislava**	**160.02**	**329**	*e*PKP	PKPdf	17 04 31.9	-0.5
ZST				*e*		17 05 12.1	
VTS	**Vitosha**	**160.04**	**309**	⇑*i*P	PKPab	17 05 12.4	-0.1
VTS	**Vitosha**	**160.04**	**309**	⇑P	PKPab	17 05 12.4	-0.1
UBBA	**Unterbreizbach**	**160.10**	**345**	*e*PKPab	PKPab	17 05 10.8	-1.6
MANZ	**Manzenberg**	**160.33**	**340**	*e*PKPab	PKPab	17 05 12.5	-0.9
ROTZ	**Rotzenmuhle**	**160.50**	**340**	*e*PKPab	PKPab	17 05 13.7	-0.4
KHC	**Kasperske Hory**	**160.62**	**337**	*e*PKIKP	PKPdf	17 04 28.5	-4.5
KHC				*e*		17 05 14.1	
KHC				MLR	MLR		
	comp=Z,300nm,16.1s						
KHC	**Kasperske Hory**	**160.62**	**337**	*e*PKPDF	PKPdf	17 04 28.5	-4.5
KHC				*e*PKPAB	PKPab	17 05 14.1	-0.6
KHC				*ep*PKP	pPKPab	17 05 24.0	-0.9
KHC				*ex*	x	17 05 32.0	
KHC				AMS	AMS	18 22 20.0	
	comp=Z,300nm,16.1s						
SOP	**Sopron**	**160.65**	**329**	⇓*e*PKP	PKPab	17 05 07.8	-7.1
PKSM	**Moragy**	**160.72**	**323**	⇑*i*P	PKPab	17 05 13.3	-2.0
PKSM	**Moragy**	**160.72**	**323**	⇑P	PKPab	17 05 13.3	-2.0
CONA	**Conrad Observa**	**160.75**	**331**	⇓*i*P	PKPab	17 05 15.3	-0.1
	comp=Z,25nm,0.9s						
CSNA	**Conrad Observa**	**160.76**	**331**	⇓*i*P	PKPab	17 05 15.3	-0.1
	comp=Z,23nm,1.0s						
GEC2	**GERESS Array S**	**160.82**	**336**	*e*PKPab	PKPab	17 05 14.6	-1.0
GERES	**GERESS Array B**	**160.82**	**336**	PKP	PKPdf	17 04 33.4	+0.2
	comp=Z,0.2nm,0.3s,baz=169,slow=11,SNR=4.7						
GERES				PKPab	PKPab	17 05 15.0	-0.7
	comp=Z,7.2nm,0.8s,baz=34,slow=4.6,SNR=27						
GRA1	**Grafenberg Arr**	**160.84**	**342**	*e*PKPab	PKPab	17 05 15.0	-0.6
GRA1				LR	LR		
	comp=Z,300nm,19.2s						
GRF	**Grafenberg Arr**	**160.84**	**342**	*e*PKPab	PKPab	17 05 15.0	-0.6
GRF				*e*L		18 21 43.0	
	comp=Z,264nm,19.2s						
WET	**Wettzell**	**160.84**	**338**	*e*PKPab	PKPab	17 05 15.0	-0.7
VAY	**Valandovo**	**161.00**	**306**	*i* PKP	PKPab	17 05 15.2	-1.5
TOA0	**Torodi Ar. Sit**	**161.44**	**179**	*e*PKPdf	PKPdf	17 04 34.9	0.0
TOA0				*e*PKPab	PKPab	17 05 20.4	+1.4
TORD	**Torodi Ar. Bea**	**161.44**	**179**	PKP	PKPdf	17 04 34.9	0.0
	comp=Z,5.2nm,1.1s,baz=273,slow=0.3,SNR=15						
TORD				PKPab	PKPab	17 05 20.1	+1.1
	comp=Z,7.5nm,0.6s,baz=174,slow=3.3,SNR=24						
TORD	**Torodi Ar. Bea**	**161.44**	**179**	PKP	PKPdf	17 04 34.9	0.0
TORD				PKPab	PKPab	17 05 20.1	+1.1
MOA	**Molln**	**161.46**	**333**	⇓*i*P	PKPab	17 05 18.4	0.0
	comp=Z,30nm,1.5s						
SKO	**Skopje**	**161.49**	**309**	*i* PKP	PKPab	17 05 19.5	+0.7
TOD	**Tromm**	**161.50**	**346**	PKP2	PKPab	17 05 15.0	-3.5
GIVF	**Givet**	**161.59**	**354**	*e*PKP2	PKPab	17 05 17.0	-1.9
BAIF	**Baives**	**161.68**	**356**	*e*PKP2	PKPab	17 05 17.7	-1.6
	comp=Z,53nm,1.5s						
RUP	**Ruppelstein**	**161.72**	**350**	PKP2	PKPab	17 05 17.4	-2.1
KRUS	**Krusevo**	**161.88**	**307**	*i* PKP	PKPab	17 05 19.5	-1.1
WLF	**Walferdange**	**161.88**	**351**	*e*PKPab	PKPab	17 05 19.1	-1.1
PERS	**Pernice**	**162.08**	**330**	*e*PKPab	PKPab	17 05 19.8	-1.4
SOKA	**Soboth**	**162.09**	**330**	⇑*i*P	PKPab	17 05 20.3	-0.9
	comp=Z,22nm,1.2s						
STU	**Stuttgart**	**162.20**	**344**	*e*PKPab	PKPab	17 05 20.1	-1.5
FUR	**Furstenfeldbru**	**162.20**	**339**	*e*PKPab	PKPab	17 05 20.9	-0.8
LANF	**Langenberg**	**162.29**	**347**	PKP	PKPab	17 05 20.0	-2.0
KBA	**Koelnbreinsper**	**162.44**	**334**	⇓*i*P	PKPab	17 05 22.0	-0.7
	comp=Z,8.6nm,1.1s						
MYKA	**Terra Mystica**	**162.70**	**332**	⇓*i*P	PKPab	17 05 22.8	-1.1
	comp=Z,24nm,1.0s						
LJU	**Ljubljana**	**162.80**	**329**	*e*PKPdf	PKPdf	17 04 34.5	-0.9
LJU				*e*PKPab	PKPab	17 05 22.9	-1.4
BFO	**Black Forest**	**162.81**	**346**	*e*PKPab	PKPab	17 05 22.7	-1.6
WATA	**Walderalm**	**162.85**	**338**	⇑*i*P	PKPab	17 05 23.8	-0.7
	comp=Z,79nm,1.9s						
BOJS	**Bojanci**	**162.89**	**327**	*e*PKPdf	PKPdf	17 04 34.2	-1.3
BOJS				*e*PKPab	PKPab	17 05 22.8	-1.9
WTTA	**Wattenberg**	**162.89**	**337**	⇑*i*P	PKPab	17 05 24.0	-0.7
	comp=Z,32nm,1.0s						
SPAK	**Spaichingen-Ko**	**162.92**	**344**	PKP	PKPab	17 05 22.6	-2.2
CDF	**Champ du Feu**	**162.93**	**348**	*e*PKP2	PKPab	17 05 23.3	-1.5
	comp=Z,57nm,1.3s						
FLN	**La Foliniere**	**162.94**	**6**	*e*PKP2	PKPab	17 05 23.7	-1.1
FLN				*e*MLR	MLR		
	comp=Z,463nm,20.8s						
FLN	**La Foliniere**	**162.94**	**6**	*e*PKPab	PKPab	17 05 23.7	-1.1
FLN				LR	LR		
	comp=Z,460nm,20.8s						
RETA	**Reutte**	**162.97**	**339**	⇑*i*P	PKPab	17 05 24.5	-0.5
	comp=Z,46nm,1.0s						
MOTA	**Moosalm**	**162.99**	**339**	⇑*i*P	PKPab	17 05 24.3	-0.8
	comp=Z,50nm,1.1s						
ABTA	**Abfaltersbach**	**163.03**	**335**	⇑*i*P	PKPab	17 05 24.5	-0.8
	comp=Z,26nm,1.2s						
CEY	**Cerknica**	**163.08**	**329**	*e*PKPab	PKPab	17 05 23.8	-1.8
LDF	**La Druitiere**	**163.14**	**5**	*e*PKP2	PKPab	17 05 23.8	-1.9
ECH	**Echery**	**163.14**	**348**	PKP	PKPab	17 05 23.7	-2.0
MEZF	**Maizieres J'vi**	**163.16**	**353**	*e*PKP2	PKPab	17 05 24.1	-1.7
	comp=Z,92nm,1.6s						
GRR	**Gorron**	**163.28**	**7**	*e*PKP2	PKPab	17 05 24.7	-1.6
FELD	**Feldberg im Sc**	**163.31**	**346**	PKP	PKPab	17 05 25.0	-1.5
FETA	**Feichten**	**163.39**	**339**	⇓*i*P	PKPab	17 05 26.5	-0.4
	comp=Z,32nm,1.1s						
DAVA	**Damuels**	**163.40**	**341**	⇓*i*P	PKPab	17 05 26.5	-0.4
	comp=Z,32nm,0.9s						
HAU	**Haudompre**	**163.48**	**350**	*e*PKP2	PKPab	17 05 25.6	-1.6
	comp=Z,39nm,1.3s						
HAU				*e*MLR	MLR		
	comp=Z,565nm,20.8s						
HAU	**Haudompre**	**163.48**	**350**	*e*PKPab	PKPab	17 05 25.6	-1.6
HAU				LR	LR		
	comp=Z,570nm,20.8s						
MOF	**Molkenrain**	**163.50**	**348**	PKP	PKPab	17 05 25.2	-2.1
HINF	**Hinteralfeld**	**163.58**	**348**	*e*PKP2	PKPab	17 05 26.0	-1.7
	comp=Z,45nm,1.5s						
LOMF	**Lomont**	**164.04**	**348**	PKP	PKPab	17 05 27.3	-2.4
TUE	**Stuetta**	**164.29**	**341**	*e*Pn	PKPdf	17 04 38.7	+1.9
LOR	**Lormes**	**164.48**	**355**	*e*PKP2	PKPab	17 05 29.8	-1.8
	comp=Z,23nm,1.2s						
LOR				*e*MLR	MLR		
	comp=Z,567nm,22.5s						
LOR	**Lormes**	**164.48**	**355**	*e*PKPab	PKPab	17 05 29.8	-1.8
LOR				LR	LR		
	comp=Z,570nm,22.5s						
SSF	**Saint Saulge**	**164.71**	**356**	*e*PKP2	PKPab	17 05 30.8	-1.9
	comp=Z,50nm,1.3s						
CABF	**La Chapelle**	**164.88**	**349**	*e*PKP2	PKPab	17 05 32.1	-1.3
	comp=Z,32nm,1.3s						
AVF	**Avril sur Loir**	**164.99**	**356**	*e*PKP2	PKPab	17 05 32.1	-1.8
	comp=Z,19nm,1.2s						
SMF	**Signal de Mont**	**165.10**	**355**	*e*PKP2	PKPab	17 05 32.8	-1.6
	comp=Z,58nm,1.3s						
MFF	**Saint Martin d**	**165.12**	**6**	*e*PKP2	PKPab	17 05 32.8	-1.7
	comp=Z,71nm,1.2s						
BGF	**Bois d'Agland**	**165.24**	**358**	*e*PKP2	PKPab	17 05 33.2	-1.8
	comp=Z,117nm,1.7s						
TCF	**Toul± Ste Croi**	**165.53**	**360**	*e*PKP2	PKPab	17 05 34.5	-1.8
	comp=Z,48nm,1.6s						
LPL	**La Plagne**	**165.82**	**346**	*e*PKP2	PKPab	17 05 37.0	-0.6
	comp=Z,39nm,1.1s						
LPG	**La Plagne**	**165.84**	**346**	*e*PKP2	PKPab	17 05 37.2	-0.5
	comp=Z,66nm,1.3s						
RJF	**Les Rejaudoux**	**166.50**	**2**	*e*PKP2	PKPab	17 05 39.6	-1.0
RJF				*e*MLR	MLR		
	comp=Z,491nm,19.8s						
ORIF	**Oris-en-Rattie**	**166.56**	**348**	*e*PKP2	PKPab	17 05 39.0	-1.9
	comp=Z,28nm,1.1s						
ORIF				*e*MLR	MLR		
	comp=Z,461nm,20.5s						
MBDF	**Montbardon**	**166.57**	**345**	*e*PKP2	PKPab	17 05 38.5	-2.4
	comp=Z,39nm,1.3s						
VIVF	**Saint-Julien-l**	**166.80**	**352**	*e*PKP2	PKPab	17 05 40.7	-1.2
	comp=Z,66nm,1.4s						
LFF	**La Frestale**	**166.84**	**4**	*e*PKP2	PKPab	17 05 40.4	-1.7
CAF	**Calviac**	**166.89**	**360**	*e*PKP2	PKPab	17 05 40.8	-1.5
	comp=Z,63nm,1.5s						
SAOF	**Saorge**	**167.08**	**342**	PKP	PKPab	17 05 41.5	-1.7
AUTN	**L'Aution**	**167.10**	**342**	PKP	PKPab	17 05 41.8	-1.5
TOUF	**Mont Tournerai**	**167.13**	**343**	PKP	PKPab	17 05 42.2	-1.2
LUCF	**Luceram**	**167.22**	**342**	PKP	PKPab	17 05 42.0	-1.8
SBF	**Sospel**	**167.22**	**342**	*e*PKP2	PKPab	17 05 42.2	-1.6
	comp=Z,136nm,0.9s						
MVIF	**Mont Vial**	**167.26**	**343**	PKP	PKPab	17 05 42.2	-1.8
REVF	**Revere**	**167.36**	**342**	PKP	PKPab	17 05 42.5	-1.9
SMRF	**Simiane la Rot**	**167.52**	**348**	*e*PKP2	PKPab	17 05 44.3	-0.9
	comp=Z,45nm,1.3s						
FRF	**La Foret Royal**	**167.70**	**344**	*e*PKP2	PKPab	17 05 44.4	-1.6
	comp=Z,90nm,1.2s						
PGF	**Pioggiola**	**167.92**	**335**	*e*PKP2	PKPab	17 05 45.3	-1.7
	comp=Z,69nm,1.2s						
LMR	**La Mourre**	**167.95**	**344**	*e*PKP2	PKPab	17 05 45.7	-1.4
	comp=Z,98nm,1.2s						
ESDC	**Sonseca Array**	**170.75**	**30**	PKP	PKPdf	17 04 41.6	0.0
	comp=Z,0.1nm,0.3s,baz=325,slow=2.3,SNR=6.4						
ESDC				PKPab	PKPab	17 05 57.9	-1.8
	comp=Z,0.9nm,0.7s,baz=306,slow=3.5,SNR=4.2						
KEST	**Kesra**	**172.76**	**305**	PKPab	PKPab	17 06 09.2	+0.5
	comp=Z,1.6nm,0.9s,baz=105,slow=5.3,SNR=4.2						

ISCJB ***19*** *17:18:20.8±0.9, 19N±02×669E±02, h10km, mb3.8/6, MS4.0/2, Error ellipse: s-maj=26.9km s-min=22.0km az=156.3*
IDC ***19*** *17:18:21.8±2.0, 202N×6700E, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.5/23, mbtmp3.9/5, MS4.1/2, Ms1 4.1/2, ms1mx3.3/27, Error ellipse: s-maj=86.4km s-min=26.6km az=54.0*
NEIC ***19*** *17:18:22.7±0.7, 191N×6683E, h10km, mb3.6/1, Error ellipse: s-maj=22.3km s-min=19.6km az=56.0*
ISC 19 17:18:22.7±0.9, 19N±02×668E±02, h10km, n10, σ0$36/7, mb3.8/6, MS4.0/2, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**29.73**	**264**	LR	LR	17 33 35.7	
	comp=Z,100nm,21.0s,MS3.4,baz=311,slow=31						
LSZ	**Lusaka**	**41.86**	**245**	P	**P**	**17 26 13.4**	**0.0**
	0.4nm,0.3s,mb3.5						
AKTK	**Aktyubinsk**	**48.93**	**353**	P	**P**	**17 27 09.3**	**+0.4**
AKTO	**Aktyubinsk**	**48.93**	**353**	P	**P**	**17 27 09.3**	**+0.4**
	2.0nm,0.7s,mb4.2,baz=184,slow=8.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**53.95**	**13**	P	**P**	**17 27 45.9**	**-0.6**
	1.1nm,0.6s,mb4.0,baz=211,slow=7.3,SNR=6.9						
WRA	**Warramunga Arr**	**69.60**	**112**	P	**P**	**17 29 32.8**	**+0.1**
	1.0nm,0.9s,mb3.8,baz=284,slow=6.1,SNR=5.5						
ASAR	**Alice Springs**	**69.89**	**116**	P	**P**	**17 29 34.4**	**0.0**
	0.4nm,0.9s,mb3.3,baz=289,slow=5.9,SNR=4.7						
HFS	**Hagfors**	**70.81**	**335**	P	**P**	**17 29 38.8**	**-0.5**
	0.9nm,0.6s,mb3.9,baz=144,slow=12,SNR=4.6						
BORG	**Borgarnes**	**87.50**	**335**	LR	LR	18 08 29.9	
	comp=Z,265nm,18.4s,MS4.7,baz=49,slow=34						
TXAR	**Lajitas Array**	**147.63**	**344**	PKPbc	PKPbc	17 38 09.4	+1.3
	1.7nm,0.7s,baz=64,slow=3.1,SNR=26						

CSEM ***19*** *17:19:50.6±0.1, 3878N×4299E, h5km, MD2.8, Error ellipse: s-maj=2.4km s-min=1.1km az=60.0*
ISK ***19*** *17:19:50.9, 3879N×4300E, h4km, MD2.8*
ISCJB ***19*** *17:19:52.2±0.5, 3882N±004×43.14E±005, h10km, Error ellipse: s-maj=7.3km s-min=3.1km az=143.2*
DDA ***19*** *17:19:52.3, 3886N×4323E, h3km±5km, Md2.9*
ISC 19 17:19:53.1±0.5, 3883N±003×4319E±006, h10km, n9, σ1$10/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.28**	**147**	PG	**Pg**	**17 19 58.3**	**-0.5**
VANB				*e*SG	**Sg**	**17 20 04.2**	**+1.6**
TVAN	**Van**	**0.35**	**151**	*i* P	**Pg**	**17 19 58.7**	**-1.3**
TVAN				*i* S	**Sg**	**17 20 04.6**	**0.0**
VANT	**Van**	**0.42**	**158**	*e*PG	**Pg**	**17 19 59.7**	**-1.6**
VANT				*e*SG	**Sg**	**17 20 06.2**	**-0.6**
CLDR	**Caldiran**	**0.64**	**61**	*e*PG	**Pg**	**17 20 07.0**	**+1.5**
AGRB	**Hanur-Agry**	**0.76**	**348**	*e*PG	**Pg**	**17 20 06.8**	**-0.9**
AGRB				*e*SG	**Sg**	**17 20 17.9**	**+0.4**
HAKT	**HAKKARI**	**1.34**	**162**	*i* P	**Pg**	**17 20 18.7**	**-0.1**
HAKT				*i* S	**Sg**	**17 20 37.8**	**+1.7**
BNGL	**BINGOL**	**1.60**	**275**	*i* P	**Pn**	**17 20 18.0**	**-3.4**
BNGL				*i* S	**Sg**	**17 20 45.5**	**+1.1**
ERZM	**Erzurum**	**1.77**	**308**	*i* P	**Pg**	**17 20 26.7**	**-0.4**
ERZM				*e*S	**Sg**	**17 20 51.0**	**+0.9**
EZM	**Erzurum**	**1.78**	**308**	*e*PN	**Pn**	**17 20 22.8**	**-1.0**

MOS ***19*** *17:21:57.9±0.9, 2551N×12403E, h123km, mb4.7/23, Error ellipse: s-maj=10.9km s-min=6.0km az=118.1*
ISCJB ***19*** *17:22:00.7±0.2, 2539N±002×12405E±002, h151km, mb4.4/62, Error ellipse: s-maj=3.2km s-min=2.8km az=3.5*
NIED ***19*** *17:22:00, 2530N×12400E, h113km, Mw4.3 Best double couple: M0:2.97000×10^15 NP1:φ=22.00000°, δ=78.00000°, λ=-43.00000°. NP2:φ=122.00000°, δ=48.00000°, λ=-164.00000°.*
BJI ***19*** *17:22:01.3, 2541N×124.17E, h160km, mB4.6, mb4.6*
NEIC ***19*** *17:22:01.6±0.5, 2545N×12403E, h145km±5km, mb4.5/20, Error ellipse: s-maj=5.6km s-min=5.3km az=192.0*
IDC ***19*** *17:22:02.2±0.5, 2543N×12406E, h154km±4km, mb4.0/23, mb1 4.0/26, mb1mx4.0/33, mbtmp3.9/26, MS3.8/3, Ms1 3.8/3, ms1mx3.0/36, Error ellipse: s-maj=12.3km s-min=7.8km az=70.0*
JMA ***19*** *17:22:02.7±0.2, 2532N×12398E, h137km±4km, M4.2*
ISC 19 17:22:02.1±0.2, 2537N±003×12407E±002, h153km, h153km±3.2km: pP-P, n171, σ1$15/190, mb4.4/62, 13C-14D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.92**	**142**	P	**Pn**	**17 22 26.1**	**-0.4**
JTJ				S	**Sn**	**17 22 43.9**	**-1.2**
JIJ	**Ishigaki jima**	**1.00**	**176**	P	**Pn**	**17 22 25.8**	**-1.3**
JIJ				S	**Sn**	**17 22 43.1**	**-3.2**
IRIF	**Iriomote-Funau**	**1.07**	**197**	P	**Pn**	**17 22 26.3**	**-1.4**
IRIF				S	**Sn**	**17 22 44.7**	**-2.6**
JKRS	**Kuro-shima**	**1.13**	**183**	P	**Pn**	**17 22 27.2**	**-1.0**
JKRS				S	**Sn**	**17 22 45.8**	**-2.4**
JMJ	**Miyako jima 2**	**1.24**	**116**	P	**Pn**	**17 22 29.3**	**+0.1**
JMJ				S	**Sn**	**17 22 49.3**	**-0.6**
YOJ	**Yonaguni jima**	**1.32**	**227**	P	**Pn**	**17 22 28.8**	**-1.2**
YOJ				S	**Sn**	**17 22 48.3**	**-3.1**
HATJ	**Hateruma jima**	**1.33**	**191**	P	**Pn**	**17 22 29.1**	**-1.0**
HATJ				S	**Sn**	**17 22 49.5**	**-2.0**
JOGS	**Gusukube**	**1.35**	**116**	P	**Pn**	**17 22 30.8**	**+0.5**
JOGS				S	**Sn**	**17 22 51.5**	**-0.4**
TATO	**Taipei**	**2.37**	**261**	*e*Pn	**Pn**	**17 22 40.8**	**-0.9**
YHNB	**Yeheng**	**2.54**	**255**	⇑*e*Pn	**Pn**	**17 22 43.5**	**-0.3**
YHNB				*e*Sn	**Sn**	**17 23 14.5**	**-1.5**
NACB	**Ninganchiao**	**2.55**	**243**	*e*Pn	**Pn**	**17 22 42.0**	**-1.9**
JKE	**Kume jima 2**	**2.62**	**68**	P	**Pn**	**17 22 45.0**	**+0.2**
JKE				*e*S	**Sn**	**17 23 19.1**	**+1.3**
JAGN	**Aguni-jima**	**3.10**	**66**	P	**Pn**	**17 22 50.9**	**+0.1**
JAGN				*e*S	**Sn**	**17 23 27.5**	**-1.0**
NAH1	**Naha**	**3.37**	**75**	P	**Pn**	**17 22 54.9**	**+0.7**
NAH1				*e*S	**Sn**	**17 23 33.5**	**-1.0**
JJT2	**Tamagusuku 2**	**3.40**	**76**	P	**Pn**	**17 22 55.2**	**+0.6**
JJT2				*e*S	**Sn**	**17 23 35.2**	**-0.2**
JIH	**Iheya**	**3.87**	**64**	P	**Pn**	**17 23 00.4**	**-0.3**
JOW	**Kunigami**	**4.05**	**68**	P	**Pn**	**17 23 02.1**	**-0.8**
	46nm,0.3s,baz=119,slow=18,SNR=416						
JOW				S	**Sn**	**17 23 45.5**	**-5.0**
	27nm,0.3s,baz=123,slow=25,SNR=3.3						
JOW				LR	LR	17 25 07.8	
	comp=Z,356nm,19.0s,baz=

comp=Z,5.8nm,0.4s,mb4.4,baz=226,slow=11,SNR=24
ASAJ Asahikawa 24.02 34 P **P 17 27 01.9 -0.7**
ASAJ pmax pmax
comp=Z,6.0nm,0.4s
CHTO Chiang Mai 24.16 259 *eP* **P 17 27 05.1 +0.9**
CMAR Chiang Mai Arr 24.28 259 P **P 17 27 04.2 -1.1**
comp=Z,1.4nm,0.7s,mb3.6,baz=56,slow=7.6,SNR=11
CMAR pP 17 27 37.0
comp=Z,0.3nm,0.3s,baz=50,slow=8.5,SNR=2.0
CMAR Chiang Mai Arr 24.28 259 *i* P **P 17 27 05.8 +0.5**
BTM Bintulu 24.44 207 ⇓P **P 17 27 11.5 +4.7**
KLR Kul'dur 24.56 12 *e*P **P 17 27 04.8 -2.7**
GTA Gaotai 24.71 310 *e*P **P 17 27 08.5 -0.5**
GTA S **S 17 31 18.6 -1.1**
GTA SS 17 32 31.4
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb3.9
GTA AMB AMB
comp=Z,83nm,6.6s
GTA LR LR
comp=N,186nm,16.9s
GTA LR LR
comp=E,107nm,16.6s
GTA LR LR
comp=Z,121nm,19.0s
SBUM Sibu 25.48 208 ⇑P **P 17 27 19.1 +2.9**
SONM Songino Array 26.41 333 P **P 17 27 22.6 -1.7**
comp=Z,1.6nm,0.6s,mb3.8,baz=137,slow=8.0,SNR=13
SONM pP pP 17 27 57.3 +1.2
comp=Z,6.0nm,1.0s,baz=146,slow=9.8,SNR=10
SONM PcP PcP 17 30 47.2 +1.6
comp=Z,0.5nm,0.5s,baz=158,slow=6.7,SNR=3.5
SONM ScP ScP 17 34 10.8 -0.4
comp=Z,0.9nm,0.8s,baz=184,slow=3.4,SNR=6.6
SONM Songino Array 26.41 333 P **P 17 27 22.6 -1.6**
SONM 17 30 47.2
KSM Kuching 27.21 211 ⇓P **P 17 27 35.2 +3.5**
LSA Lhasa 29.45 286 *e*P **P 17 27 50.7 -0.8**
LSA pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
LSA Lhasa 29.45 286 *e*P **P 17 27 50.6 -0.9**
comp=Z,2.8nm,0.5s,mb4.2
ZAK Zakamensk 29.68 333 *e*P **P 17 27 52.9 -0.4**
IPM Ipoh 30.34 231 ⇑P **P 17 28 06.3 +6.8**
MYKOM Kota Tinggi 30.49 223 ⇑P **P 17 28 02.7 +2.0**
BOD Bodaibo 33.22 350 *e*P **P 17 28 22.9 -1.2**
WMQ Urumqi 34.79 311 P **P 17 28 39.1 +1.2**
WMQ AP pP 17 29 09.8 -0.9
WMQ AMB AMB
comp=Z,11nm,0.8s,mb4.5
WMQ LR LR
comp=N,71nm,17.6s
WMQ LR LR
comp=E,142nm,22.0s
WMQ LR LR
comp=Z,147nm,21.6s
BATI Baumata 35.36 181 P **P 17 28 42.0 -1.0**
comp=Z,17nm,0.5s,mb4.9,baz=289,slow=22,SNR=5.2
YAK Yakutsk 36.85 4⇑*e*P **P 17 28 54.0 -1.1**
YAK pmax pmax
comp=Z,19nm,0.8s,mb4.8
YAK Yakutsk 36.85 4 *e*P **P 17 28 53.5 -1.6**
comp=Z,21nm,0.8s,mb4.8
PETK Petropavlovsk- 37.43 33 P **P 17 28 59.2 -1.0**
comp=Z,1.7nm,0.6s,mb3.9,baz=188,slow=1.0,SNR=20
PETK Petropavlovsk- 37.43 33 P **P 17 28 59.2 -1.0**
PET Petropavlovsk 37.86 34 *e*P **P 17 29 03.7 -0.1**
PET pmax pmax
comp=Z,12nm,0.7s,mb4.6
PET Petropavlovsk 37.86 34 *e*P **P 17 29 03.4 -0.4**
KRAR Krasnoyarsk 38.08 332 ⇓*i*P **P 17 29 05.6 0.0**
KRAR pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
KAKA Kakadu 38.72 167 *e*P **P 17 29 11.8 +0.5**
comp=Z,9.9nm,0.6s,mb4.6
KAKA Kakadu 38.72 167 *e*P **P 17 29 11.0 -0.3**
MK31 Makanchi Array 39.37 314 *e*P **P 17 29 16.2 -0.3**
MKAR Makanchi Array 39.37 314 P **P 17 29 16.2 -0.3**
comp=Z,3.8nm,0.4s,mb4.4,baz=97,slow=10,SNR=48
MKAR pP pP 17 29 50.5 +0.6
comp=Z,6.4nm,0.7s,baz=95,slow=11,SNR=6.6
MKAR PcP PcP 17 31 22.2 +0.5
comp=Z,1.1nm,0.6s,baz=84,slow=4.3,SNR=4.3
MKAR ScP ScP 17 34 54.9 -1.2
comp=Z,0.4nm,0.6s,baz=100,slow=4.4,SNR=4.0
MKAR Makanchi Array 39.37 314 P **P 17 29 16.2 -0.3**
MKAR 17 31 22.3
ZALV Zalesovo Beam 40.73 325 P **P 17 29 26.7 -0.9**
comp=Z,18nm,0.6s,mb4.9,baz=110,slow=8.5,SNR=92
ZALV pP pP 17 30 01.2 +0.1
comp=Z,4.6nm,0.8s,baz=105,slow=7.9,SNR=2.9
ZALV PcP PcP 17 31 26.0 +0.1
comp=Z,1.1nm,0.5s,baz=122,slow=4.4,SNR=4.1
ZALV ScP ScP 17 35 00.1 -1.1
comp=Z,0.4nm,0.3s,baz=106,slow=4.8,SNR=5.5
ZALV Zalesovo Beam 40.73 325 P **P 17 29 26.7 -0.9**
ZALV pP pP 17 30 01.2 +0.1
ZALV PcP PcP 17 31 26.0 +0.1
ZALV ScP ScP 17 35 00.1 -1.1
ZAL Zalesovo 40.74 325 P **P 17 29 26.7 -0.9**
ZAL 17 31 26.0
PMG Port Moresby 41.23 144⇑*i*P **P 17 29 34.0 +1.8**
NVS Novosibirsk 41.97 326 *e*P **P 17 29 36.6 -1.1**
SEY Seymchan 41.99 19⇑*i*P **P 17 29 38.2 +0.5**
KURK Kurchatov 42.92 318 *e*P **P 17 29 44.9 -0.5**
KURK pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
KURK Kurchatov 42.92 318 *e*P **P 17 29 44.9 -0.5**
comp=Z,7.7nm,0.6s,mb4.5
TKM2 Tokmak 2 43.14 306 ⇓*i*P **P 17 29 48.4 +1.1**
TKM2 pmax pmax
comp=Z,21nm,0.6s,mb4.9
TKM2 Tokmak 2 43.14 306 ⇓*i*P **P 17 29 48.4 +1.1**
comp=Z,21nm,0.6s,mb5.0
FITZ Fitzroy Crossi 43.23 178 *e*P **P 17 29 48.9 +0.7**
comp=Z,9.3nm,0.6s,mb4.6
FITZ Fitzroy Crossi 43.23 178 P **P 17 29 48.2 -0.1**
comp=Z,6.4nm,0.6s,mb4.4,baz=232,slow=20,SNR=21
EKS2 Erkin-Say 44.44 306 *e*P **P 17 29 58.3 +0.6**
comp=Z,3.0nm,0.8s,mb4.0
WRAB Tennant Creek 46.12 167⇑*i*P **P 17 30 12.5 +1.4**
WRAB Tennant Creek 46.12 167 *e*P **P 17 30 12.2 +1.1**
comp=Z,7.5nm,0.8s,mb4.4
WRA Warramunga Arr 46.13 167 P **P 17 30 12.3 +1.1**
comp=Z,8.3nm,0.7s,mb4.5,baz=349,slow=8.7,SNR=50
WRA pP pP 17 30 44.4 -1.0
comp=Z,1.6nm,0.7s,baz=350,slow=8.7,SNR=3.0
WRA Warramunga Arr 46.13 167 *i* P **P 17 30 12.6 +1.4**
WRA pmax pmax
comp=Z,8.0nm,0.7s
WB2 Warramunga Arr 46.13 167 *e*P **P 17 30 12.6 +1.4**
TIXI Tiksi 46.40 2⇑*i*P **P 17 30 11.8 -0.8**
TIXI pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
KK31 Karatay Array 46.87 306 *i* P **P 17 30 17.6 +0.8**
KK31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.4
VOSK Vostochnaya 48.04 319 P **P 17 30 24.9 -0.7**
VOSK pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
KBL Kabul 48.05 295 ⇓*i*P **P 17 30 26.9 +0.9**
KBL pmax pmax
comp=Z,16nm,0.7s,mb4.8
KBL Kabul 48.05 295 ⇓*i*P **P 17 30 26.9 +0.9**
comp=Z,16nm,0.7s,mb4.8
BVA0 Borovoye Array 48.46 319 *i* P **P 17 30 28.6 -0.2**
BVAR Borovoye Array 48.46 319 P **P 17 30 28.6 -0.2**
comp=Z,5.8nm,0.5s,mb4.5,baz=103,slow=7.7,SNR=43
BVAR pP pP 17 31 04.1 +0.8
comp=Z,1.0nm,0.5s,baz=105,slow=11,SNR=1.9
BVAR PcP PcP 17 31 53.1 +0.5
comp=Z,4.6nm,0.6s,baz=108,slow=4.0,SNR=17
BRVK Borovoye 48.52 319 P **P 17 30 29.5 +0.2**
BRVK pmax pmax
comp=Z,2.0nm,0.3s,mb4.2
BRVK Borovoye 48.52 319 *e*P **P 17 30 29.3 0.0**
ASAR Alice Springs 49.66 168 P **P 17 30 40.1 +1.8**
comp=Z,1.4nm,0.6s,mb3.8,baz=359,slow=6.1,SNR=45
ASAR pP pP 17 31 12.3 -0.7
comp=Z,0.5nm,0.5s,baz=2.3,slow=7.0,SNR=2.5
AB31 Akbulak array 54.51 314 *i* P **P 17 31 14.1 +0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
SVE Sverdlovsk 54.67 323 *e*P **P 17 31 15.7 +0.8**
SVE pmax pmax
comp=Z,28nm,0.7s,mb5.1

ARU Arti 55.76 322 *d i*P **P 17 31 22.6 -0.1**
ARU *e* 17 33 24.3
ARU *e*S **S 17 38 58.9 +1.5**
ARU *e*SS SS 17 42 40.5 -4.3
ARU pmax pmax
comp=Z,30nm,1.0s,mb5.1
ARU Arti 55.76 322 *e*P **P 17 31 22.2 -0.5**
comp=Z,21nm,0.7s,mb5.1
AKTK Aktyubinsk 55.78 315 P **P 17 31 21.5 -1.5**
AKTO Aktyubinsk 55.78 315 P **P 17 31 21.5 -1.5**
comp=Z,3.2nm,0.7s,mb4.2,baz=89,slow=10.0,SNR=4.7
NWAO Narrogin (SRO) 58.33 187 P **P 17 31 41.8 +0.8**
comp=Z,8.8nm,1.0s,mb4.6,baz=63,slow=16,SNR=3.7
STKA Stephens Creek 59.33 163 *e*P **P 17 31 49.3 +1.4**
comp=Z,2.7nm,0.8s,mb4.1
STKA Stephens Creek 59.33 163 P **P 17 31 48.7 +0.8**
comp=Z,2.7nm,0.6s,mb4.2,baz=351,slow=7.9,SNR=8.4
STKA pP pP 17 32 24.0 +0.2
comp=Z,1.0nm,0.7s,baz=315,slow=8.6,SNR=1.6
STKA Stephens Creek 59.33 163 *e*P **P 17 31 49.4 +1.5**
comp=Z,3.7nm,0.7s,mb4.3
KLMR Klimovskoe 65.57 328 *e*P **P 17 32 27.8 -1.2**
KLMR pmax pmax
comp=Z,21nm,1.4s,mb4.8
GNI Garni 66.30 305⇑*i*P **P 17 32 35.0 +1.0**
GNI pmax pmax
comp=Z,16nm,1.3s
UMR Umm Al-Rimmam 66.73 293 *e*P **P 17 32 37.2 +0.2**
baz=293
UMR AMb AMB 17 32 37.6
comp=Z,20nm,0.7s,mb5.1,baz=293
KIV Kislovodsk 66.89 309 *d i*P **P 17 32 38.4 +0.7**
KIV pmax pmax
comp=Z,39nm,1.3s,mb5.1
KIV Kislovodsk 66.89 309 *e*P **P 17 32 38.9 +1.2**
MIB Mutribah 66.97 293 *e*P **P 17 32 38.7 +0.2**
baz=293
MIB AMb AMB 17 32 39.5
comp=Z,32nm,0.7s,mb5.3,baz=293
RDF Al-Radifah 67.06 292 *e*P **P 17 32 39.3 +0.2**
baz=292
RDF AMb AMB 17 32 39.9
comp=Z,31nm,0.7s,mb5.2,baz=292
NAY Al-Naaiem 67.22 293 *e*P **P 17 32 40.0 -0.1**
baz=293
NAY AMb AMB 17 32 41.0
comp=Z,18nm,0.6s,mb5.1,baz=293
OBN Obninsk 68.20 322⇑*i*P **P 17 32 45.5 -0.2**
OBN *e* 17 33 10.4
OBN pmax pmax
comp=Z,43nm,1.7s,mb4.9
JOF Joensuu 68.97 331 *ep* **P 17 32 49.3 -1.0**
comp=Z,4.4nm,0.5s,mb4.4
EGAK Eagle 69.34 27 *e*P **P 17 32 53.3 +0.7**
comp=Z,2.1nm,0.6s,mb4.0
ARCES ARCESS Array B 69.42 338 P **P 17 32 52.9 -0.2**
comp=Z,0.5nm,0.3s,mb3.7,baz=79,slow=8.2,SNR=12
ARCES PcP PcP 17 33 15.7 +0.3
comp=Z,4.6nm,0.6s,baz=82,slow=5.2,SNR=15
ANN Anapa 70.31 311 *e*P **P 17 32 57.8 -1.1**
ANN *e**PP pP 17 33 27.2 -8.7
ANN *e*S S 17 41 59.8 +1.2
ANN pmax pmax
comp=Z,58nm,1.8s,mb5.0
KAF Kangasniemi 71.42 331 *ep* **P 17 33 03.9 -1.4**
comp=Z,3.0nm,0.4s,mb4.4,baz=70,slow=5.6
KAF Kangasniemi 71.42 331 *e*P **P 17 33 03.9 -1.4**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
MALT Malatya 71.51 304 *e*P **P 17 33 07.8 +1.5**
MALT pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
MALT Malatya 71.51 304 *e*P **P 17 33 07.8 +1.5**
comp=Z,9.9nm,0.8s,mb4.6
HYT Haines Junctio 72.15 31 *e*P **P 17 33 12.0 +2.3**
SIM Simferopol' 72.51 312 *e*P **P 17 33 11.9 -0.2**
SIM pmax pmax
comp=Z,11nm,0.8s,mb4.6
AKASG Malin Array Be 73.73 319 P **P 17 33 18.2 -1.0**
comp=Z,2.6nm,0.7s,mb4.1,baz=56,slow=5.3,SNR=14
AKASG Malin Array Be 73.73 319 *i* P **P 17 33 18.7 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 73.73 319 P **P 17 33 18.2 -1.0**
ASF Jabal al Asfar 74.72 299 P **P 17 33 25.7 +0.4**
comp=Z,7.6nm,0.9s,mb4.3,baz=315,slow=6.5,SNR=11
WRAK Wrangell Islan 76.34 34 *e*P **P 17 33 36.2 +2.2**
comp=Z,8.6nm,0.8s,mb4.4
EIL Elat 77.18 297 P **P 17 33 39.4 +0.1**
comp=Z,2.6nm,0.7s,mb4.0,baz=137,slow=16,SNR=2.9
HFS Hagfors 77.81 331 P **P 17 33 42.1 0.0**
comp=Z,5.1nm,0.8s,mb4.2,baz=103,slow=4.7,SNR=21
NB2 NORSAR Subarra 78.39 333 P **P 17 33 45.2 -0.1**
comp=Z,1.1nm,0.4s,mb3.8,baz=51,slow=6.2
NOA NORSAR Array B 78.39 333 P **P 17 33 45.1 -0.2**
comp=Z,1.6nm,0.5s,mb3.9,baz=56,slow=5.4,SNR=9.4
NOA pP pP 17 34 23.4 +0.3
comp=Z,0.6nm,0.7s,baz=88,slow=5.2,SNR=1.9
OJC Ojcow 79.44 321 *e*P **P 17 33 52.1 +0.8**
OKC Ostrava-Krasne 80.56 321 *e*P **P 17 33 57.8 +0.5**
YKA Yellowknife Ar 80.85 24 P **P 17 33 58.8 +0.3**
comp=Z,1.3nm,0.6s,mb3.7,baz=309,slow=4.9,SNR=5.4
DPC Dobruska-Polom 81.35 322 *e*P **P 17 34 01.9 +0.5**
CLL Collm 82.67 324 *i* P **P 17 34 08.4 +0.1**
CLL pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
CLL Collm 82.67 324 *i* P **P 17 34 08.4 +0.1**
comp=Z,3.0nm,0.7s,mb4.1
IDI Anoyia 82.71 305 LR LR 18 15 43.5
comp=Z,69nm,21.9s,baz=299,slow=39
KHC Kasperske Hory 83.50 322 *e*P **P 17 34 13.3 +0.7**
GERES GERESS Array B 83.58 321 P **P 17 34 13.2 +0.2**
comp=Z,1.7nm,0.9s,mb3.8,baz=57,slow=4.9,SNR=14
EDM Edmonton 87.28 30 *e*P **P 17 34 32.9 +1.7**
CDF Champ du Feu 87.36 323 *e*P **P 17 34 31.8 0.0**
CABF La Chapelle 89.08 322 *e*P **P 17 34 41.0 +1.1**
VAE Valguarnera 89.08 311 LR LR 18 18 06.3
comp=Z,154nm,18.1s,baz=93,slow=38
LPL La Plagne 89.38 321 *e*P **P 17 34 41.9 +0.6**
comp=Z,10nm,0.8s,mb4.5
LPL La Plagne 89.38 321 *e*P **P 17 34 41.9 +0.6**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPL La Plagne 89.38 321 *e*P **P 17 34 41.9 +0.6**
comp=Z,5.1nm,0.8s,mb4.5
LPG La Plagne 89.38 321 *e*P **P 17 34 42.0 +0.7**
comp=Z,18nm,0.8s,mb4.7
LPG La Plagne 89.38 321 *e*P **P 17 34 42.0 +0.7**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPG La Plagne 89.38 321 *e*P **P 17 34 42.0 +0.7**
comp=Z,9.3nm,0.8s,mb4.8
ORIF Oris-en-Rattie 90.22 321 *e*P **P 17 34 45.5 +0.2**
comp=Z,5.1nm,0.6s,mb4.3
ORIF Oris-en-Rattie 90.22 321 *e*P **P 17 34 45.5 +0.2**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ORIF Oris-en-Rattie 90.22 321 *e*P **P 17 34 45.5 +0.2**
comp=Z,2.5nm,0.6s,mb4.3
VIVF Saint-Julien-l 90.94 322 *e*P **P 17 34 48.6 0.0**
comp=Z,4.7nm,0.7s,mb4.4
VIVF Saint-Julien-l 90.94 322 *e*P **P 17 34 48.6 0.0**
VIVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
VIVF Saint-Julien-l 90.94 322 *e*P **P 17 34 48.6 0.0**
comp=Z,2.3nm,0.6s,mb4.4
CAF Calviac 92.34 323 *e*P **P 17 34 56.0 +0.9**
HLID Hailey 92.93 38 *e*P **P 17 34 58.7 +0.9**
comp=Z,113nm,1.1s
NVAR Mina Array Bea 93.77 44 P **P 17 35 03.0 +1.2**
comp=Z,0.5nm,0.5s,mb3.9,baz=316,slow=4.1,SNR=4.2
TORD Torodi Ar. Bea 112.06 297 PKiKP PKiKP 17 40 19.9 -0.1
comp=Z,0.3nm,0.5s,baz=17,slow=3.1,SNR=4.3
TORD Torodi Ar. Bea 112.06 297 PKPdf PKiKP 17 40 19.9 -0.1

*NEIC **19** 17:34:31.0±5.5, 1323N×9153W, h35km, Error ellipse: s-maj=67.7km s-min=18.0km az=160.0*
*MEX **19** 17:34:37.4±0.7, 1359N×9211W, h20km±117km, MD4.5*
ISC 19 17:34:39.4±1.8, 1389N±007×9213W±009, h11km±8km, n15, σ1°20/27, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.02**	**353**	*i* P	**Pg**	**17 34 57.1**	**-1.9**
THIG				*i* S	**Sg**	**17 35 13.5**	**+1.1**
CCIG	**Comitan**	**2.38**	**360**	*i* P	**Pn**	**17 35 17.7**	**-0.7**
CCIG				*i* S	**Sn**	**17 35 48.2**	**+0.7**
SCX	**San Cristobal**	**2.87**	**350**	*i* P	**Pn**	**17 35 23.7**	**-1.4**
SCX				*i* S	**Sn**	**17 35 58.9**	**-0.8**
SCX	**San Cristobal**	**2.87**	**350**	*i* P	**Pn**	**17 35 25.5**	**+0.4**
SCX				*i* S	**Sn**	**17 35 58.9**	**-0.8**
TGIG		**3.02**	**342**	*i* P	**Pn**	**17 35 26.5**	**-0.8**
TGIG				*i* S	**Sn**	**17 36 04.5**	**+1.0**
CMIG	**Matias Romero**	**4.14**	**321**	*e*P	**Pn**	**17 35 42.4**	**-0.2**
CMIG				*i* S	**Sn**	**17 36 30.2**	**-0.9**
CMIG	**Matias Romero**	**4.14**	**321**	*i* P	**Pn**	**17 35 43.1**	**+0.5**
CMIG				*i* S	**Sn**	**17 36 30.2**	**-0.9**
VHO	**Vista Hermosa**	**5.45**	**306**	*i* P	**Pn**	**17 35 59.9**	**-0.7**
VHO				*i* S	**Sn**	**17 37 02.2**	**-1.1**
PNIG	**Pinotepa**	**6.30**	**294**	*i* P	**Pn**	**17 36 11.9**	**-0.4**
PNIG				*i* S	**Sn**	**17 37 21.9**	**-2.4**
PNIG	**Pinotepa**	**6.30**	**294**	*i* P	**Pn**	**17 36 13.1**	**+0.8**
UTMO	**Huajuapan**	**6.72**	**306**	*i* P	**Pn**	**17 36 19.1**	**+1.1**
UTMO				*i* S	**Sn**	**17 37 30.6**	**-4.0**
TPIG	**Tehuac#an**	**6.75**	**313**	*i* S	**Sn**	**17 37 35.4**	**+0.1**
TEIG	**Tepich**	**7.30**	**30**	*e*Pn	**Pn**	**17 36 19.5**	**-6.5**
	29nm,0.4s						
PPM	**Popocatepetl**	**8.08**	**310**	*e*P	**Pn**	**17 36 38.1**	**+1.3**
PPM				*i* S	**Sn**	**17 38 09.9**	**+1.7**
CAIG	**El Cayaco**	**8.45**	**293**	*e*P	**Pn**	**17 36 44.4**	**+2.6**
CAIG				*i* S	**Sn**	**17 38 25.1**	**+7.9**

MAN 19 17:42:44, 1000N×12517E, h18km, mb4.5, ML3.4, MS3.3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.33**	**294**	*e*P	Pg	17 42 51.9	+0.8
MSLP				*e*S	Sg	17 42 55.6	-0.3
SCPH	**Surigao**	**0.38**	**124**	*e*P	Pg	17 42 59.9	+8.0
SCPH				*e*S	Sg	17 43 10.7	+13
BUTP	**Butuan**	**1.11**	**156**	*e*P	Pn	17 43 03.5	-1.2
PLP	**Palo**	**1.18**	**351**⇓	*e*P	Pn	17 43 05.9	+0.3
PLP				*e*S	Sb	17 43 20.3	-0.4
OCLP	**Ormoc**	**1.19**	**332**	*e*P	Pn	17 43 05.4	-0.3
OCLP				*e*S	Sb	17 43 21.1	+0.1
LLP	**Lapu-Lapu**	**1.23**	**285**⇓	*e*P	Pn	17 43 05.3	-0.9
LLP				*e*S	Sb	17 43 18.7	-3.4
TBP	**Tagbilaran**	**1.32**	**257**	*e*P	Pn	17 43 08.8	+1.2
TBP				*e*S	Sn	17 43 24.8	0.0
BESP	**Borongan**	**1.62**	**9**	*e*P	Pn	17 43 15.0	+3.4
BUKP	**Musuan**	**2.10**	**183**	*e*P	Pn	17 43 18.9	+0.6
CNP	**Catarman**	**2.55**	**349**	*e*P	Pn	17 43 26.5	+2.0
GUIM	**Jordan**	**2.61**	**284**	*e*P	Pn	17 43 26.4	+1.0
PAGZ	**Pagadian**	**2.77**	**220**	*e*P	Pn	17 43 31.3	+3.8
RCP	**Roxas**	**2.84**	**303**⇑	*e*P	Pn	17 43 34.0	+5.4
IPIL	**Ipil**	**3.38**	**230**	*e*P	Pn	17 43 40.7	+4.8
PVCP	**Virac**	**3.71**	**345**	*e*P	Pn	17 43 46.7	+6.2
OTRP	**Odiongan**	**3.88**	**308**	*e*P	Pn	17 43 44.5	+1.7

*ISCJB **19** 17:48:35.6±0.6, 1067N±004×6250W±003, h86km±7km, Error ellipse: s-maj=6.7km s-min=4.1km az=151.8*
*FUNV **19** 17:48:37.0, 1074N×6244W, h78km, MW2.9*
*NEIC **19** 17:48:38.3, 1073N×6243W, h68km, MD3.1(TRN), After TRN.*
*TRN **19** 17:48:38.3, 1073N×6243W, h68km, MD3.1*
ISC 19 17:48:36.5±0.6, 1069N±004×6250W±003, h80km±7km, n20, σ0°92/32, 2C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.27**	**98**⇑	*i*P	**Pn**	**17 48 48.9**	**+0.3**
GUIV				*e*S	**Sn**	**17 48 57.0**	**-0.6**
GUNV	**Guanoco**	**0.68**	**220**⇑	*i*P	**Pn**	**17 48 53.5**	**+1.5**
GUNV				*e*S	**Sn**	**17 49 04.5**	**+1.0**
CRUV	**Carupano**	**0.73**	**269**⇓	*i*P	**Pn**	**17 48 53.0**	**+0.5**
CRUV				*e*S	**Sn**	**17 49 04.3**	**0.0**
ITEV	**Isla Los Testi**	**0.91**	**317**⇓	*e*P	**Pn**	**17 48 54.6**	**+0.1**
ITEV				*e*S	**Sn**	**17 49 07.1**	**-0.9**
TRN	**Trinidad (W)**	**1.08**	**92**	*e*P	**Pn**	**17 48 57.6**	**+1.1**
TRN				*e*S	**Sn**	**17 49 10.4**	**-1.0**
TBH	**Brigand Hill**	**1.42**	**98**	*e*P	**Pn**	**17 49 02.2**	**+1.4**
TBH				*e*S	**Sn**	**17 49 18.4**	**-0.7**
GRW	**Mount Saint Ca**	**1.68**	**29**	*e*P	**Pn**	**17 49 04.8**	**+0.6**
GRW				*e*S	**Sn**	**17 49 25.4**	**+0.3**
GRHS	**Sauteurs**	**1.74**	**29**	*e*P	**Pn**	**17 49 05.9**	**+0.9**
GRHS	**Sauteurs**	**1.74**	**29**	*e*P	**Pn**	**17 49 02.9**	**-2.1**
GRSS	**Sisters**	**1.82**	**28**	*e*P	**Pn**	**17 49 06.0**	**-0.1**
GRSS				*e*S	**Sn**	**17 49 28.0**	**-0.6**
TOSP	**Speyside**	**2.02**	**72**	*e*P	**Pn**	**17 49 10.5**	**+1.8**
TOSP				*e*S	**Sn**	**17 49 32.0**	**-1.2**
GRCU	**Cariacou**	**2.05**	**30**	*e*P	**Pn**	**17 49 09.4**	**+0.3**
GRCU				*e*S	**Sn**	**17 49 33.6**	**-0.3**
PCRV	**Puerto La Cruz**	**2.16**	**257**⇓	*e*P	**Pn**	**17 49 11.4**	**+0.8**
PCRV				*e*S	**Sn**	**17 49 36.1**	**-0.5**
SVB	**Belmont**	**2.84**	**25**	*e*P	P_x	17 48 21.5	
SVB				*e*S	Sx	17 48 33.2	
GURV	**El Guri**	**2.96**	**191**	*e*S	**Sn**	**17 49 55.2**	**-0.8**
CUPV	**Cœpira**	**3.30**	**259**⇓	*e*P	**Pn**	**17 49 27.2**	**+1.4**
CUPV				*e*S	**Sn**	**17 50 02.8**	**-1.2**
BIRV	**Birongo**	**3.71**	**267**	*e*P	**Pn**	**17 49 31.6**	**0.0**
LUEV	**Luepa**	**4.92**	**168**	*e*P	**Pn**	**17 49 47.2**	**-0.8**
CAOV	**Caicara del Or**	**5.04**	**229**	*e*P	**Pn**	**17 49 49.3**	**-0.3**
CAOV				*e*S	**Sn**	**17 50 43.1**	**-3.5**
BAUV	**El Baul**	**5.73**	**253**	*e*P	**Pn**	**17 49 58.3**	**-0.8**

*ISCJB **19** 17:58:29.8±0.4, 262S±006×3607E±010, h10km, mb4.1/18, Error ellipse: s-maj=15.5km s-min=6.4km az=27.1*
*IDC **19** 17:58:29.8±0.8, 270S×3618E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, Error ellipse: s-maj=27.9km s-min=17.4km az=126.0*
*NEIC **19** 17:58:30.9±0.5, 269S×3605E, h10km, mb4.3/4, Error ellipse: s-maj=15.9km s-min=9.0km az=118.0*
ISC 19 17:58:33.1±5.8, 262S±007×361E±01, h18km±37km, n31, σ0°78/34, mb4.1/18, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.86**	**37**	Pn	**Pn**	**17 59 03.7**	**-0.3**
	226nm,0.3s,baz=216,slow=16,SNR=349						
KMBO				Sn	**Sn**	**17 59 27.8**	**+0.7**
	395nm,0.3s,baz=217,slow=21,SNR=3.1						
KMBO	**Kilima Mbogo**	**1.86**	**37**	Pn	**Pn**	**17 59 03.7**	**-0.3**
KMBO				Sn	**Sn**	**17 59 27.8**	**+0.7**
LSZ	**Lusaka**	**14.81**	**211**	Pn	**Pn**	**18 01 56.4**	**-5.3**
	0.4nm,0.3s,baz=14,slow=15,SNR=5.9						
LSZ				Sn	**Sn**	**18 04 33.3**	**-12**
	0.9nm,0.3s,baz=110,slow=20,SNR=3.4						
LSZ				Lg		18 06 09.5	
	1.2nm,0.3s,baz=287,slow=23,SNR=8.2						
LSZ	**Lusaka**	**14.81**	**211**	*e*Pn	**Pn**	**18 01 57.5**	**-4.2**
	3.2nm,0.5s						
LSZ	**Lusaka**	**14.81**	**211**	*e*P	**Pn**	**18 01 57.7**	**-4.0**
LSZ				AMb	AMB	18 02 14.0	
	comp=Z,113nm,1.4s						
OPO	**Ambohidratompo**	**19.20**	**146**	P	**Pn**	**18 02 57.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=276,slow=18,SNR=2.8						
ABPO	**Ambohimpanom**	**19.58**	**147**	*e*P	**Pn**	**18 03 05.1**	**+3.5**
	comp=Z,61nm,1.7s						
MSNA	**Messina**	**20.48**	**196**	*e*P	**P**	**18 03 10.8**	**+0.9**
MSNA				AMb	AMB	18 03 43.7	
	comp=Z,13nm,1.8s						
MOPA	**Mopani**	**21.27**	**192**	*e*P	**P**	**18 03 18.6**	**+0.1**
MOPA				AMb	AMB	18 03 36.2	
	comp=Z,17nm,1.5s,mb4.2						
SLR	**Silverton**	**24.19**	**197**	*e*P	**P**	**18 03 50.4**	**+1.9**
SLR				AMb	AMB	18 04 00.6	
	comp=Z,18nm,1.8s,mb4.2						
TSUM	**Tsumeb**	**24.51**	**226**	P	**P**	**18 03 50.9**	**-0.6**
	comp=Z,1.6nm,1.0s,mb3.5,baz=45,slow=14,SNR=2.9						
TSUM				Lg		18 11 29.7	
	comp=Z,7.1nm,1.0s,baz=294,slow=23,SNR=2.7						
TSUM	**Tsumeb**	**24.51**	**226**	*e*P	**P**	**18 03 49.2**	**-2.3**
	comp=Z,2.2nm,0.8s,mb3.7						
TSUM				Lg		18 11 29.7	
TSUM	**Tsumeb**	**24.51**	**226**	*e*P	**P**	**18 03 51.8**	**+0.3**
TSUM				AMb	AMB	18 03 54.9	
	comp=Z,83nm,1.6s,mb5.0						
KSR	**Koster**	**24.74**	**200**	*e*P	**P**	**18 03 52.8**	**-0.8**
KSR				AMb	AMB	18 03 54.4	
	comp=Z,20nm,1.5s,mb4.4

comp=Z,27nm,1.4s,mb4.6
PRYS Parys 25.58 198 *e*P **P 18 04 00.8 -0.4**
PRYS AMb AMB 18 04 18.4
comp=Z,13nm,1.5s,mb4.2
BOSA Boshof 27.85 201 P **P 18 04 20.6 -0.9**
comp=Z,4.4nm,0.7s,mb4.2,baz=26,slow=10,SNR=12
BOSA Boshof 27.85 201 *e*P **P 18 04 20.5 -1.0**
BOSA AMb AMB 18 04 42.3
comp=Z,18nm,1.9s,mb4.4
TORD Torodi Ar. Bea 37.59 295 P **P 18 05 47.7 +0.8**
comp=Z,1.1nm,1.0s,mb3.5,baz=123,slow=8.6,SNR=4.3
AKASG Malin Array Be 53.45 355 P **P 18 07 52.1 +0.3**
comp=Z,0.2nm,0.3s,mb3.5,baz=178,slow=6.6,SNR=4.0
GERES GERESS Array B 54.84 342 P **P 18 08 02.5 +0.5**
comp=Z,0.5nm,0.7s,mb3.7,baz=134,slow=5.8,SNR=4.4
TKM2 Tokmak 2 57.61 34 *e*P **P 18 08 21.6 -0.3**
comp=Z,2.6nm,1.0s,mb4.2
MK31 Makanchi Array 63.75 34 *e*P **P 18 09 03.2 -0.5**
MKAR Makanchi Array 63.75 34 P **P 18 09 03.2 -0.5**
comp=Z,2.8nm,1.0s,mb4.2,baz=236,slow=5.5,SNR=14
KURK Kurchatov 64.33 28 *e*P **P 18 09 07.1 -0.4**
comp=Z,2.6nm,1.0s,mb4.2
HFS Hagfors 64.99 348 P **P 18 09 16.1 +4.6**
comp=Z,1.4nm,0.9s,mb4.0,baz=67,slow=23,SNR=2.5
CMAR Chiang Mai Arr 65.23 68 P **P 18 09 14.3 +0.3**
comp=Z,3.4nm,1.0s,mb4.3,baz=254,slow=8.2,SNR=12
ZALV Zalesovo Beam 69.32 28 P **P 18 09 38.5 -0.7**
comp=Z,1.6nm,1.0s,mb3.9,baz=259,slow=2.9,SNR=4.6
ZALV Zalesovo Beam 69.32 28 P **P 18 09 38.5 -0.7**
SONM Songino Array 78.83 40 P **P 18 10 35.4 +0.5**
comp=Z,0.7nm,1.0s,mb3.6,baz=242,slow=6.1,SNR=4.7
WRA Warramunga Arr 96.82 110 P **P 18 12 02.9 -0.7**
comp=Z,0.6nm,0.7s,mb4.1,baz=273,slow=7.1,SNR=4.4

MOS ***19*** *18:06:27.6±1.3, 5225N×16004E, h21km, mb5.0/32, MS4.0/7, Error ellipse: s-maj=8.2km s-min=4.2km az=99.9*
ISCJB ***19*** *18:06:29.1±0.2, 5224N±002×16019E±004, h31km, mb4.7/97, MS4.2/26, Error ellipse: s-maj=3.4km s-min=2.4km az=25.7*
BJI ***19*** *18:06:29.3, 5296N×15954E, h8km, mB4.5, mb4.7, Ms4.5, Msz4.3*
KRSC ***19*** *18:06:31.1±0.2, 5237N×16012E, h23km±23km, ML5.0*
NEIC ***19*** *18:06:32.1±0.3, 5241N×15996E, h35km, mb4.8/46, MS4.7/1, Error ellipse: s-maj=7.8km s-min=5.3km az=165.0*
IDC ***19*** *18:06:34.5±1.8, 5239N×15997E, h60km±15km, mb4.1/26, mb1 4.3/27, mb1mx4.3/29, mbtmp4.1/27, MS4.1/14, Ms1 4.1/14, ms1mx3.8/33, Error ellipse: s-maj=13.5km s-min=10.1km az=149.0*
SZGRF ***19*** *18:06:48.6, 5305N×16004E, h33km, mb5.0, Near east coast of Kamchatka Peninsula, Russia*
ISC 19 18:06:31.3±0.2, 5225N±002×16010E±004, h33km, h33km±1.1km: pP-P, n270, σ1§19/304, mb4.7/96, MS4.2/26, 27C-9D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.85**	**357**	*e*P	**Pn**	**18 06 45.3**	**-1.6**
SPN				*i* S	**Sn**	**18 06 56.5**	**-1.6**
RUS	**Russkaya**	**0.99**	**281**	*e*P	**Pn**	**18 06 48.8**	**-0.1**
RUS				*i* S	**Sn**	**18 07 01.0**	**-0.7**
NLC	**Nalytchevo**	**1.03**	**334**	*e*P	**Pn**	**18 06 48.8**	**-0.6**
PET	**Petropavlovsk**	**1.17**	**312**	*k i*PN	**Pn**	**18 06 51.3**	**-0.1**
PET				*e*S	**Sn**	**18 07 06.7**	**+0.5**
PET				pmax	pmax		
	comp=Z,4μm,1.7s						
PET				pmax	pmax		
	comp=Z,4μm,0.5s						
PET				smax			
	comp=N,9μm,1.9s						
PET				smax			
	comp=N,9μm,0.5s						
PET				smax			
	comp=E,8μm,0.6s						
PET	**Petropavlovsk**	**1.17**	**312**	*e*P	**Pn**	**18 06 51.3**	**-0.1**
PET				*i* S	**Sn**	**18 07 06.6**	**+0.4**
PET	**Petropavlovsk**	**1.17**	**312**	⇓*i*P	**Pn**	**18 06 51.0**	**-0.3**
PET				*e*S	**Sn**	**18 07 04.1**	**-2.0**
INSR	**Institute**	**1.22**	**312**	*e*P	**Pn**	**18 06 52.6**	**+0.6**
INSR				*i* S	**Sn**	**18 07 08.8**	**+1.4**
GRL	**Gorelyy**	**1.28**	**284**	*e*P	**Pn**	**18 06 53.9**	**+1.1**
GRL				*i* S	**Sn**	**18 07 10.9**	**+2.1**
AVH	**Avacha**	**1.31**	**321**	*e*P	**Pn**	**18 06 53.7**	**+0.5**
AVH				*i* S	**Sn**	**18 07 09.1**	**-0.4**
PETK	**Petropavlovsk-**	**1.70**	**301**	P	**Pn**	**18 06 59.6**	**+1.1**
	comp=E,335nm,0.3s,baz=110,slow=20,SNR=4336						
PETK				S	**Sn**	**18 07 19.5**	**+0.4**
	comp=E,118nm,0.3s,baz=92,slow=17,SNR=8.6						
PETK				LR	LR	18 07 44.9	
	comp=E,3μm,19.8s,baz=91,slow=45						
PETK	**Petropavlovsk-**	**1.70**	**301**	PN	**Pn**	**18 06 59.6**	**+1.1**
PETK				S	**Sn**	**18 07 19.5**	**+0.4**
KII	**Karymskiy**	**1.83**	**348**	*e*P	**Pn**	**18 07 01.1**	**+0.7**
GNL	**Ganaly**	**1.95**	**319**	*e*P	**Pn**	**18 07 03.6**	**+1.6**
GNL				*i* S	**Sn**	**18 07 26.6**	**+1.3**
MIPR	**Malaya Ipel'ka**	**2.06**	**272**	*e*P	**Pn**	**18 07 06.0**	**+2.5**
MIPR				*i* S	**Sn**	**18 07 31.4**	**+3.5**
MKZ	**Mys Kozlova**	**2.50**	**22**	*e*P	**Pn**	**18 07 08.9**	**-0.7**
MKZ				*i* S	**Sn**	**18 07 37.4**	**-1.6**
SKR	**Severo-Kuril's**	**2.95**	**239**	*e*PN	**Pn**	**18 07 16.0**	**+0.3**
SKR				*e*S	**Sn**	**18 07 51.0**	**+1.1**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				smax			
	comp=E,240nm,0.5s						
SKR				smax			
	comp=N,1μm,0.6s						
SKR				smax			
	comp=N,4μm,2.0s						
SKR				MLR	MLR		
	comp=N,3μm,16.0s						
SKR				MLR	MLR		
	comp=E,6μm,16.0s						
SKR				MLR	MLR		
	comp=Z,3μm,16.0s						
TUMR	**Tumrok**	**3.04**	**0**	*e*P	**Pn**	**18 07 18.3**	**+1.4**
TUMR				*i* S	**Sn**	**18 07 51.8**	**-0.3**
KMNR	**Kamenistaya**	**3.51**	**1**	*e*P	**Pn**	**18 07 25.3**	**+1.9**
KMNR				*i* S	**Sn**	**18 08 04.5**	**+0.7**
BZMR	**Bezymyannaya**	**3.70**	**3**	*e*P	**Pn**	**18 07 27.8**	**+1.8**
BZMR				*i* S	**Sn**	**18 08 09.6**	**+1.3**
KIRR	**Kirishev**	**3.71**	**2**	*e*P	**Pn**	**18 07 28.1**	**+1.9**
KIRR				*i* S	**Sn**	**18 08 09.4**	**+0.7**
KPT	**Kopyto**	**3.72**	**1**	*e*P	**Pn**	**18 07 27.9**	**+1.6**
KPT				*i* S	**Sn**	**18 08 07.9**	**-1.1**
ZLN	**Zelenaya**	**3.79**	**6**	*e*P	**Pn**	**18 07 29.3**	**+2.0**
ZLN				*i* S	**Sn**	**18 08 10.8**	**+0.1**
KOZ	**Kozyrevsk**	**3.81**	**358**	*e*P	**Pn**	**18 07 29.2**	**+1.6**
KOZ				*i* S	**Sn**	**18 08 11.7**	**+0.4**
KOZR	**Kozyr**	**3.82**	**358**	PN	**Pn**	**18 07 29.2**	**+1.5**
KOZR				S	**Sn**	**18 08 11.7**	**+0.2**
CIRR	**Tsirk**	**3.89**	**5**	P	**Pn**	**18 07 31.0**	**+2.4**
CIRR				*i* S	**Sn**	**18 08 13.0**	**-0.1**
KRSR	**Krestovskiy**	**3.98**	**4**	*e*P	**Pn**	**18 07 31.5**	**+1.6**
KRSR				*i* S	**Sn**	**18 08 14.2**	**-1.2**
SRDR	**Sredinnyy**	**4.08**	**357**	*e*P	**Pn**	**18 07 32.4**	**+1.2**
SRDR				*i* S	**Sn**	**18 08 17.2**	**-0.6**
KLY	**Klyuchi**	**4.08**	**4**	P	**Pn**	**18 07 32.9**	**+1.6**
KLY				*i* S	**Sn**	**18 08 18.6**	**+0.8**
KBTR	**Krutoberegovo**	**4.27**	**21**	P	**Pn**	**18 07 34.4**	**+0.5**
KBTR				*i* S	**Sn**	**18 08 19.3**	**-3.2**
SRKR	**Sorokina**	**4.45**	**8**	*e*P	**Pn**	**18 07 38.3**	**+1.9**
SRKR				*i* S	**Sn**	**18 08 27.7**	**+0.7**
SMY	**Shemya**	**8.56**	**81**⇑	*e*PN	**Pn**	**18 08 32.0**	**-0.7**
SMY				pmax	pmax		
	comp=Z,105nm,0.6s						
SMY	**Shemya**	**8.56**	**81**⇑	*e*Pn	**Pn**	**18 08 32.0**	**-0.7**
	comp=Z,105nm,0.6s						
SMY				*e*Sn	**Sn**	**18 10 02.9**	**-5.1**
SEY	**Seymchan**	**11.47**	**342**	*i* PN	**Pn**	**18 09 11.4**	**-1.1**
YSS	**Yuzh-Sakhalins**	**12.43**	**252**	*e*PN	**Pn**	**18 09 28.0**	**+2.3**
YSS				MLR	MLR		
	comp=E,800nm,16.0s						
YSS				MLR	MLR		
	comp=Z,900nm,16.0s						
YSS	**Yuzh-Sakhalins**	**12.43**	**252**	*e*Pn	**Pn**	**18 09 28.4**	**+2.6**
ASAJ	**Asahikawa**	**14.21**	**242**	P	**Pn**	**18 09 51.1**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=70,slow=14,SNR=32						
ASAJ				LR	LR	18 15 00.9	
	comp=Z,290nm,21.7s,baz=277,slow=36						
ASAJ	**Asahikawa**	**14.21**	**242**	P	**Pn**	**18 09 51.1**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,290nm,21.7s						
BILL	**Bilibino**	**16.12**	**8**	*d i*P	**Pn**	**18 10 13.9**	**-1.1**
BILL				pmax	pmax		
	comp=Z,24nm,0.9s						
KLR	**Kul'dur**	**18.15**	**272**	*e*P	**Pn**	**18 10 37.8**	**-2.6**
YAK	**Yakutsk**	**19.00**	**313**	*e*P	**Pn**	**18 10 47.4**	**-3.3**
YAK				*e*S	**Sn**	**18 14 24.0**	**+1.7**
YAK				pmax	pmax		
	comp=Z,39nm,1.0s						
YAK				pmax	pmax		
	comp=N,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,19nm,1.1s						
YAK				smax			
	comp=N,53nm,2.7s						
YAK				smax			
	comp=E,55nm,3.2s						
YAK				MLR	MLR		
	comp=Z,362nm,18.0s						
YAK				MLR	MLR		
	comp=N,244nm,15.0s						
YAK				MLR	MLR		
	comp=E,259nm,16.0s						
YAK	**Yakutsk**	**19.00**	**313**	*e*Pn	**Pn**	**18 10 47.4**	**-3.3**
	comp=E,62nm,0.6s						
VLA	**Vladivostok**	**20.96**	**255**	*e*P	**P**	**18 11 07.3**	**-3.9**
VLA				*e*		18 11 28.8	
VLA				pmax	pmax		
	comp=Z,13nm,0.9s						
VLA				MLR	MLR		
	comp=Z,500nm,12.8s,MS4.1						
MDJ	**Mudanjiang**	**21.52**	**261**	P	**P**	**18 11 15.8**	**-1.4**
MDJ				AP		18 11 23.8	
MDJ				S	**S**	**18 15 13.0**	**-0.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,55nm,5.6s						
MDJ				LR	LR		
	comp=N,415nm,18.6s,MS3.9						
MDJ				LR	LR		
	comp=E,239nm,19.8s,MS3.9						
MDJ				LR	LR		
	comp=Z,547nm,16.3s,MS4.0						
MDJ	**Mudanjiang**	**21.52**	**261**	*e*P	**P**	**18 11 14.4**	**-2.8**
	comp=Z,4.7nm,0.4s,mb4.3						
MAJO	**Matsushiro**	**22.04**	**233**	*e*P	**P**	**18 11 23.7**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,47nm,1.0s,mb4.9						
MAJO	**Matsushiro**	**22.04**	**233**	*e*P	**P**	**18 11 23.7**	**+0.9**
	comp=Z,47nm,1.0s,mb4.9						
MAT	**Matsushiro**	**22.04**	**233**	P	**P**	**18 11 24.4**	**+1.6**
MAT				S	**S**	**18 15 27.0**	**+3.0**
MJAR	**Matsushiro Arr**	**22.04**	**233**	P	**P**	**18 11 24.5**	**+1.6**
	comp=Z,19nm,0.7s,mb4.6,baz=24,slow=9.6,SNR=64						
MJAR				LR	LR	18 20 32.6	
	comp=Z,359nm,21.4s,MS3.8,baz=25,slow=38						
TIXI	**Tiksi**	**23.85**	**336**	*e*P	**P**	**18 11 39.4**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,576nm,16.0s,MS4.1						
CN2	**Changchun**	**24.47**	**264**	⇓P	**P**	**18 11 45.3**	**-1.7**
CN2				*e*AP		18 11 54.6	
CN2				*e*XP	sP	18 11 58.5	-1.9
CN2				*e*S	**S**	**18 15 59.3**	**-5.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CN2				LR	LR		
	comp=N,400nm,15.0s,MS4.2						
CN2				LR	LR		
	comp=E,500nm,15.0s,MS4.2						
CN2				LR	LR		
	comp=Z,500nm,19.0s,MS4.0						
TTA	**Tatalina**	**25.30**	**48**	*e*P	**P**	**18 11 55.6**	**+1.2**
TTA				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.5						
TTA	**Tatalina**	**25.30**	**48**	*e*P	**P**	**18 11 55.6**	**+1.2**
	comp=Z,20nm,1.2s,mb4.5						
HIA	**Hailar**	**25.47**	**279**	*e*P	**P**	**18 11 54.1**	**-1.9**
HIA				pmax	pmax		
	comp=Z,32nm,0.8s						
HIA	**Hailar**	**25.47**	**279**	*e*P	**P**	**18 11 54.1**	**-2.0**
	comp=Z,32nm,0.8s,mb4.9						
BOD	**Bodaibo**	**26.57**	**300**	*e*P	**P**	**18 12 02.8**	**-3.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.1						
KSRS	**Korea Array**	**26.92**	**249**	P	**P**	**18 12 08.4**	**-0.7**
	comp=Z,3.9nm,0.8s,mb4.0,baz=44,slow=9.1,SNR=19						
KSRS				PcP	PcP	18 15 31.4	+0.9
	comp=Z,0.7nm,0.8s,baz=63,slow=0.3,SNR=4.4						
KSRS				LR	LR	18 23 48.6	
	comp=Z,226nm,18.7s,MS3.8,baz=52,slow=38						
KSRS	**Korea Array**	**26.92**	**249**	P	**P**	**18 12 08.5**	**-0.7**
KSRS						18 15 31.4	
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
KSRS				MLR	MLR		
	comp=Z,226nm,18.7s,MS3.8						
KDAK	**Kodiak Island**	**27.22**	**59**	P	**P**	**18 12 11.6**	**-0.1**
	comp=Z,11nm,1.0s,mb4.3,baz=297,slow=11,SNR=3.3						
KDAK	**Kodiak Island**	**27.22**	**59**	P	**P**	**18 12 11.6**	**-0.1**
COLA	**College**	**29.00**	**44**⇑	*i*P	**P**	**18 12 28.4**	**+0.9**
EGAK	**Eagle**	**31.86**	**44**	*e*P	**P**	**18 12 52.1**	**-0.7**
	comp=Z,18nm,1.7s,mb4.6						
TLY	**Talaya**	**34.04**	**292**	*e*P	**P**	**18 13 11.5**	**-0.4**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
TLY				MLR	MLR		
	comp=Z,318nm,16.0s,MS4.1						
SONM	**Songino Array**	**34.11**	**284**	P	**P**	**18 13 11.4**	**-1.2**
	comp=Z,2.3nm,0.4s,mb4.5,baz=63,slow=7.7,SNR=66						
SONM				PcP	PcP	18 15 49.7	+0.5
	comp=Z,1.2nm,0.8s,baz=113,slow=3.3,SNR=5.0						
SONM				LR	LR	18 28 35.8	
	comp=Z,863nm,18.4s,MS4.5,baz=50,slow=39						
SONM	**Songino Array**	**34.11**	**284**	P	**P**	**18 13 11.4**	**-1.1**
SONM						18 15 49.7	
HHC	**Hu-ho-hao-te**	**34.65**	**270**	*e*P	**P**	**18 13 18.1**	**+0.8**
HHC				AP	pP	18 13 27.4	+0.5
HHC				XP	sP	18 13 31.0	+0.1
HHC				PP	PP	18 14 35.3	-0.7
HHC				PCP	PcP	18 15 53.8	+2.9
HHC				S	**S**	**18 18 43.8**	**-0.7**
HHC				XS	sS	18 18 59.3	-1.0
HHC				PCS	PcS	18 19 38.5	+1.2
HHC				SS	SS	18 20 53.4	-22
HHC				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,68nm,6.3s						
HHC				LR	LR		
	comp=N,437nm,16.7s,MS4.4						
HHC				LR	LR		
	comp=E,337nm,16.6s,MS4.4						
HHC				LR	LR		
	comp=Z,509nm,20.2s,MS4.3						
ZAK	**Zakamensk**	**34.79**	**290**	*e*P	**P**	**18 13 17.4**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
NJ2	**Nanjing**	**36.00**	**252**	*e*P	**P**	**18 13 33.3**	**+4.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
KRAR	**Krasnoyarsk**	**38.17**	**303**⇑	*i*P	**P**	**18 13 44.7**	**-2.4**
KRAR				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.7						
DLBC	**Dease Lake**	**38.55**	**52**	P	**P**	**18 13 49.1**	**-1.2**
	baz=279,slow=10						
DLBC	**Dease Lake**	**38.55**	**52**	*e*P	**P**	**18 13 52.9**	**+2.6**
HVS	**Khovu-Aksy**	**39.87**	**296**	*d i*P	**P**	**18 14 02.2**	**+0.8**
HVS				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.6						
GTA	**Gaotai**	**42.71**	**277**	*e*P	**P**	**18 14 24.6**	**-0.3**
GTA				AP	pP	18 14 33.9	-0.7
GTA				XP	sP	18 14 38.3	-0.3
GTA				PP	PP	18 16 08.6	+4.5
GTA				S	**S**	**18 20 48.4**	**+2.3**
GTA				SS	SS	18 23 52.3	-4.6
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,46nm,7.1s						
GTA				LR	LR		
	comp=N,318nm,15.5s,MS4.5						
GTA				LR	LR		
	comp=E,358nm,15.5s,MS4.5						
GTA				LR	LR		
	comp=Z,515nm,17.2s,MS4.5						
ZALV	**Zalesovo Beam**	**43.24**	**303**	P	**P**	**18 14 26.4**	**-2.6**
	comp=Z,2.6nm,0.5s,mb4.2,baz=56,slow=7.1,SNR=16						
ZALV				PcP	PcP	18 16 17.4	-0.2
	comp=Z,0.8nm,0.4s,baz=60,slow=4.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**43.24**	**303**	P	**P**	**18 14 26.4**	**-2.6**
ZALV				PcP	PcP	18 16 17.4	-0.2
ZAL	**Zalesovo**	**43.26**	**303**	P	**P**	**18 14 26.4**	**-2.7**
ZAL						18 16 17.4	
NVS	**Novosibirsk**	**43.60**	**305**	*e*P	**P**	**18 14 28.8**	**-3.1**
NVS				pmax	pmax		
	comp=E,24nm,1.1s						
NVS				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.0						
NVS				pmax	pmax		
	comp=N,14nm,1.3s						
YKA	**Yellowknife Ar**	**43.78**	**42**	P	**P**	**18 14 32.9**	**-0.3**
	comp=N,1.0nm,0.8s,mb3.6,baz=297,slow=7.0,SNR=3.0						
CD2	**Chengdu**	**45.90**	**265**	*e*P	**P**	**18 14 52.1**	**+1.6**
CD2				AP	pP	18 15 02.0	+1.7
CD2				PP	PP	18 16 39.8	+1.6
CD2				S	**S**	**18 21 32.8**	**+0.3**
CD2				SS	SS	18 24 49.1	-8.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,5.8s						
CD2				LR	LR		
	comp=N,210nm,14.4s						
CD2				LR	LR		
	comp=Z,160nm,15.2s,MS4.1						
WMQ	**Urumqi**	**47.26**	**290**	P	**P**	**18 15 02.6**	**+1.6**
WMQ				PCP	PcP	18 16 35.0	+3.3
WMQ				PP	PP	18 16 52.8	+0.9
WMQ				SCP	ScP	18 20 24.9	+2.0
WMQ				S	**S**	**18 21 51.6**	**-0.1**
WMQ				SCS	ScS	18 24 51.8	-0.3
WMQ				SS	SS	18 25 10.8	-8.0
WMQ				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
WMQ				LR	LR		
	comp=N,154nm,15.5s,MS4.3						
WMQ				LR	LR		
	comp=E,205nm,16.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,288nm,15.6s,MS4.3						
GYA	**Guiyang**	**47.33**	**258**	P	**P**	**18 15 04.8**	**+3.1**
GYA				AP	pP	18 15 15.4	+3.8
GYA				PCP	PcP	18 16 35.8	+3.6
GYA				PP	PP	18 16 55.3	+2.4
GYA				SCP	ScP	18 20 26.4	+2.9
GYA				S	**S**	**18 21 53.6**	**+0.5**
GYA				XS	sS	18 22 11.3	+2.0
GYA				SS	SS	18 25 18.8	-1.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=N,490nm,18.4s,MS4.7						
GYA				LR	LR		
	comp=E,480nm,17.2s,MS4.7						
GYA				LR	LR		
	comp=Z,470nm,18.8s,MS4.5						
SPB4	**Spitsbergen Ar**	**47.97**	**351**	*e*P	**P**	**18 15 05.5**	**-0.6**
KURK	**Kurchatov**	**48.19**	**302**⇑	*e*P	**P**	**18 15 05.8**	**-2.3**
KURK				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.2						
KURK	**Kurchatov**	**48.19**	**302**	*e*P	**P**	**18 15 05.5**	**-2.5**
	comp=Z,24nm,0.8s,mb5.3						
MK31	**Makanchi Array**	**48.53**	**296**	*e*P	**P**	**18 15 08.5**	**-2.3**
MKAR	**Makanchi Array**	**48.53**	**296**	P	**P**	**18 15 08.5**	**-2.3**
	comp=Z,2.5nm,0.5s,mb4.5,baz=48,slow=6.4,SNR=61						
MKAR				LR	LR	18 36 56.7	
	comp=Z,284nm,18.2s,MS4.3,baz=359,slow=38						
KMI	**Kunming**	**50.69**	**261**	P	**P**	**18 15 29.4**	**+1.9**
KMI				AP	pP	18 15 40.3	+2.9
KMI				PP	PP	18 17 26.4	+2.9
KMI				PPP		18 18 25.0	
KMI				S	**S**	**18 22 41.8**	**+1.5**
KMI				XS	sS	18 22 57.9	+1.3
KMI				SS	SS	18 26 11.6	-3.0
KMI				SSS		18 27 42.3	
KMI				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.2						
KMI				AMB	AMB		
	comp=Z,29nm,4.1s						
KMI				LR	LR		
	comp=N,242nm,14.0s,MS4.5						
KMI				LR	LR		
	comp=E,256nm,18.7s,MS4.5						
KMI				LR	LR		
	comp=Z,221nm,17.9s,MS4.2						
VOSK	**Vostochnaya**	**50.82**	**308**	P	**P**	**18 15 25.2**	**-2.9**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BVA0	**Borovoye Array**	**50.92**	**309**	*i* P	**P**	**18 15 26.5**	**-2.3**
BRVK	**Borovoye**	**50.95**	**309**	P	**P**	**18 15 26.9**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**50.95**	**309**	*e*P	**P**	**18 15 26.4**	**-2.7**
	comp=Z,6.3nm,0.5s,mb4.8						
QIZ	**Qiongzhong**	**51.14**	**249**	*e*P	**P**	**18 15 33.5**	**+2.6**
	comp=Z,49nm,1.5s,mb5.2						
WALA	**Waterton Lakes**	**51.51**	**57**	*e*P	**P**	**18 15 34.3**	**+0.9**
KEV	**Kevo**	**53.62**	**342**	*e*p	**P**	**18 15 46.8**	**-1.8**
	comp=Z,2.7nm,0.4s,mb4.5						
KEV	**Kevo**	**53.62**	**342**	*e*P	**P**	**18 15 46.8**	**-1.8**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
ARU	**Arti**	**54.02**	**318**	*c i*P	**P**	**18 15 49.8**	**-2.0**
ARU				*e*		18 17 48.8	
ARU				*e*S	**S**	**18 23 25.4**	**+0.3**
ARU				*e*SS	SS	18 27 01.1	-4.9
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ARU	**Arti**	**54.02**	**318**	*e*P	**P**	**18 15 49.3**	**-2.4**
	comp=Z,5.2nm,0.6s,mb4.6						
ARCES	**ARCESS Array B**	**54.09**	**342**	P	**P**	**18 15 51.4**	**-0.7**
	comp=Z,8.6nm,0.7s,mb4.8,baz=50,slow=8.9,SNR=38						
ARCES				PcP	PcP	18 16 56.2	-0.2
	comp=Z,5.0nm,0.9s,baz=35,slow=4.4,SNR=3.6						
ARCES				LR	LR	18 45 47.3	
	comp=Z,224nm,18.3s,MS4.3,baz=139,slow=44						
ARCES	**ARCESS Array B**	**54.09**	**342**	P	**P**	**18 15 51.4**	**-0.7**
ARCES						18 16 56.3	
ARCES	**ARCESS Array B**	**54.09**	**342**	P	**P**	**18 15 51.4**	**-0.7**
ARCES				PcP	PcP	18 16 56.2	-0.2
ARCES				LR	LR	18 45 47.2	
ARE0	**ARCESS Array S**	**54.09**	**342**	*e*P	**P**	**18 15 50.3**	**-1.8**
LSA	**Lhasa**	**54.49**	**274**	*e*P	**P**

DUG	**Dugway**	**57.93**	**65**	*e*P	**P**	**18 16 21.3**	**+1.4**
DUG				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.3							
DUG	**Dugway**	**57.93**	**65**	*e*P	**P**	**18 16 21.3**	**+1.3**
comp=Z,3.0nm,0.9s,mb4.3							
PDAR	**Pinedale Array**	**57.93**	**60**	P	**P**	**18 16 21.3**	**+1.4**
comp=Z,2.7nm,0.7s,mb4.4,baz=316,slow=2.8,SNR=22							
CMAR	**Chiang Mai Arr**	**58.02**	**259**	P	**P**	**18 16 22.0**	**+1.2**
comp=Z,5.7nm,0.8s,mb4.7,baz=25,slow=6.7,SNR=45							
CMAR				LR	LR	18 44 16.4	
comp=Z,124nm,19.7s,MS4.0,baz=40,slow=39							
TAPN	**Taplejung**	**58.28**	**275**	*e*P	**P**	**18 16 22.6**	**0.0**
comp=Z,31nm,0.8s,mb5.4							
JOF	**Joensuu**	**58.33**	**335**	*e*p	**P**	**18 16 21.2**	**-1.2**
comp=Z,14nm,0.8s,mb5.0							
AB31	**Akbulak array**	**58.35**	**311**	P	**P**	**18 16 20.6**	**-2.1**
AB31				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
ODAN	**Odare**	**58.83**	**274**	*e*P	**P**	**18 16 27.2**	**+0.8**
GUN	**Gumba**	**58.99**	**276**	*e*P	**P**	**18 16 27.6**	**+0.1**
RAMN	**Ramite**	**59.24**	**275**	*e*P	**P**	**18 16 28.8**	**-0.5**
comp=Z,50nm,0.5s,mb5.8							
ULM	**Lac du Bonnet**	**59.40**	**46**	P	**P**	**18 16 29.7**	**-0.3**
comp=Z,2.0nm,0.5s,mb4.5,baz=300,slow=7.5,SNR=5.1							
ULM	**Lac du Bonnet**	**59.40**	**46**	P	**P**	**18 16 29.7**	**-0.3**
KKN	**Kakani**	**59.45**	**277**	*e*P	**P**	**18 16 30.1**	**-0.6**
PKI	**Pulchoki**	**59.52**	**277**	*e*P	**P**	**18 16 30.9**	**-0.3**
GKN	**Gorkha**	**59.68**	**277**	*e*P	**P**	**18 16 31.9**	**-0.4**
RSSD	**Black Hills**	**59.87**	**56**	*e*P	**P**	**18 16 34.3**	**+0.9**
RSSD				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.9							
RSSD	**Black Hills**	**59.87**	**56**	*e*P	**P**	**18 16 34.3**	**+1.0**
comp=Z,9.2nm,0.7s,mb4.9							
DANN	**Dangsing**	**59.97**	**278**	*e*P	**P**	**18 16 34.0**	**-0.3**
KAF	**Kangasniemi**	**60.26**	**337**	*e*p	**P**	**18 16 34.7**	**-1.1**
comp=Z,23nm,0.4s,mb5.6,baz=31,slow=6.3							
KAF	**Kangasniemi**	**60.26**	**337**	*e*P	**P**	**18 16 34.7**	**-1.1**
KAF				pmax	pmax		
comp=Z,23nm,0.4s,mb5.6							
PFO	**Pinyon Flat Ob**	**60.45**	**72**	P	**P**	**18 16 36.9**	**-0.6**
comp=Z,0.6nm,0.5s,mb3.9,baz=282,slow=15,SNR=3.8							
KOLN	**Koldanda**	**60.48**	**278**	*e*P	**P**	**18 16 36.5**	**-1.3**
HNR	**Honiara**	**61.44**	**180**	LR	LR	18 40 48.2	
comp=Z,91nm,21.8s,MS3.9,baz=357,slow=33							
ISCO	**Idaho Springs**	**62.13**	**60**	*e*P	**P**	**18 16 50.0**	**+1.2**
ISCO				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.4							
ISCO	**Idaho Springs**	**62.13**	**60**	*e*P	**P**	**18 16 50.0**	**+1.2**
comp=Z,3.1nm,1.0s,mb4.4							
OBN	**Obninsk**	**63.23**	**328⇑**	*i*P	**P**	**18 16 54.7**	**-1.1**
OBN				pmax	pmax		
comp=Z,33nm,1.6s,mb5.2							
OBN				MLR	MLR		
comp=Z,200nm,18.0s,MS4.3							
VSU	**Vasula**	**63.31**	**335***c*	*i*P	**P**	**18 16 55.9**	**-0.4**
NB2	**NORSAR Subarra**	**64.35**	**344**	P	**P**	**18 17 02.5**	**-0.6**
comp=Z,11nm,1.1s,mb4.8,baz=23,slow=6.9							
NOA	**NORSAR Array B**	**64.35**	**344**	P	**P**	**18 17 02.0**	**-1.2**
comp=Z,0.7nm,0.4s,mb4.1,baz=19,slow=5.4,SNR=15							
NOA				LR	LR	18 51 01.4	
comp=Z,97nm,18.4s,MS4.0,baz=305,slow=42							
HFS	**Hagfors**	**64.75**	**342**	P	**P**	**18 17 05.3**	**-0.5**
comp=Z,2.5nm,0.4s,mb4.6,baz=54,slow=7.5,SNR=24							
SCHQ	**Schefferville**	**66.39**	**27**	LR	LR	18 47 24.2	
comp=Z,135nm,19.1s,MS4.2,baz=59,slow=37							
SUW	**Suwalki**	**68.18**	**334**	*e*P	**P**	**18 17 27.4**	**-0.4**
SUW	**Suwalki**	**68.18**	**334**	*e*P	**P**	**18 17 27.4**	**-0.4**
AKASG	**Malin Array Be**	**69.34**	**329**	P	**P**	**18 17 34.0**	**-1.1**
comp=Z,5.0nm,0.4s,mb4.8,baz=30,slow=6.2,SNR=32							
AKASG				LR	LR	18 52 38.9	
comp=Z,170nm,18.2s,MS4.3,baz=130,slow=40							
AKASG	**Malin Array Be**	**69.34**	**329**	P	**P**	**18 17 34.0**	**-1.1**
AKASG				LR	LR	18 52 38.9	
AKBB	**Malin Array Si**	**69.34**	**329**	*e*P	**P**	**18 17 33.6**	**-1.4**
KIEV	**Kiev**	**69.35**	**329**	*e*P	**P**	**18 17 33.2**	**-1.9**
KIEV				pmax	pmax		
comp=Z,16nm,1.0s,mb4.9							
KIEV	**Kiev**	**69.35**	**329**	*e*P	**P**	**18 17 33.2**	**-1.9**
comp=Z,16nm,1.0s,mb4.9							
WMOK	**Wichita Mounta**	**69.53**	**60**	*e*P	**P**	**18 17 36.5**	**0.0**
WMOK				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5							
WMOK	**Wichita Mounta**	**69.53**	**60**	*e*P	**P**	**18 17 36.5**	**0.0**
comp=Z,6.1nm,0.9s,mb4.5							
AFI	**Afiamalu**	**70.24**	**151**	LR	LR	18 44 52.8	
comp=Z,118nm,19.0s,MS4.2,baz=135,slow=33							
TXAR	**Lajitas Array**	**70.96**	**67**	P	**P**	**18 17 46.3**	**+1.0**
comp=Z,3.5nm,0.8s,mb4.4,baz=300,slow=4.7,SNR=31							
HYB	**Hyderabad**	**71.28**	**274**	*i* P	**P**	**18 17 47.5**	**+0.1**
HYB	**Hyderabad**	**71.28**	**274**	*e*P	**P**	**18 17 47.5**	**+0.1**
LVV	**L'vov**	**71.69**	**332**	*e*P	**P**	**18 17 49.6**	**+0.2**
LVV				*e*	pP	18 17 59.2	-0.5
EKA	**Eskdalemuir Ar**	**71.89**	**350**	P	**P**	**18 17 50.4**	**-0.1**
comp=Z,2.0nm,0.6s,mb4.2,baz=19,slow=5.4,SNR=10							
KWP	**Kalwaria**	**72.24**	**332**	*e*P	**P**	**18 17 54.0**	**+1.3**
KWP	**Kalwaria**	**72.24**	**332⇑**	*i*P	**P**	**18 17 52.4**	**-0.3**
KWP	**Kalwaria**	**72.24**	**332**	*e*P	**P**	**18 17 54.0**	**+1.3**
OJC	**Ojcow**	**72.51**	**335**	*e*P	**P**	**18 17 54.3**	**0.0**
KIS	**Kishinev**	**72.70**	**327**	*e*P	**P**	**18 17 55.0**	**-0.5**
STHS	**Stebnicka Huta**	**72.85**	**333**	*e*P	**P**	**18 17 56.9**	**+0.6**
STHS				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.5							
STHS	**Stebnicka Huta**	**72.85**	**333**	*e*P	**P**	**18 17 56.9**	**+0.6**
comp=Z,6.0nm,1.0s,mb4.5							
KOLS	**Kolonicke sedl**	**73.00**	**332**	*e*P	**P**	**18 17 57.1**	**-0.1**
NIE	**Niedzica**	**73.10**	**334**	*e*P	**P**	**18 17 58.1**	**+0.3**
CLL	**Collm**	**73.14**	**339**	*i* P	**P**	**18 17 57.6**	**-0.4**
CLL				*i*		18 18 00.8	
CLL				*i* *PP	pP	18 18 07.3	-1.0
CLL				*i*		18 18 09.5	
CLL				pmax	pmax		
comp=Z,16nm,1.6s,mb4.7							
CLL				MLR	MLR		
comp=Z,400nm,19.5s,MS4.7							
CLL	**Collm**	**73.14**	**339**	*i* P	**P**	**18 17 57.6**	**-0.4**
comp=Z,16nm,1.6s,mb4.7							
CLL				*i* pP	pP	18 18 09.3	+1.0
comp=Z,13nm,1.0s							
CLL				*i* PcP	PcP	18 18 15.1	+0.6
comp=Z,9.0nm,1.0s							
CLL	**Collm**	**73.14**	**339**	*i* P	**P**	**18 17 57.6**	**-0.4**
comp=Z,16nm,1.6s,mb4.7							
CLL				*i*		18 18 00.8	
CLL				*i* pP	pP	18 18 07.3	-1.0
CLL				*i*		18 18 09.5	
CLL				LR	LR		
comp=Z,400nm,19.5s,MS4.7							
UPC	**Upice**	**73.20**	**337**	*e*P	**P**	**18 17 59.7**	**+1.3**
UPC				*e*pP	pP	18 18 07.8	-0.8
CRVS	**Cervenica-Dubn**	**73.25**	**333**	*e*P	**P**	**18 17 57.9**	**-0.8**
DPC	**Dobruska-Polom**	**73.27**	**337**	*e*P	**P**	**18 17 59.0**	**+0.2**
DPC				*e*pP	pP	18 18 08.8	-0.3
OKC	**Ostrava-Krasne**	**73.29**	**335**	*e*P	**P**	**18 17 59.1**	**+0.2**
OKC				*e*pP	pP	18 18 08.7	-0.5
BURAR	**Bucovina Array**	**73.31**	**330⇑**	*i*P	**P**	**18 17 58.7**	**-0.3**
BURAR	**Bucovina Array**	**73.31**	**330⇑**	P	**P**	**18 17 58.7**	**-0.4**
BRG	**Berggiesshubel**	**73.34**	**338**	P	**P**	**18 18 00.3**	**+1.1**
BRG				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.0							
BRG	**Berggiesshubel**	**73.34**	**338**	*e*(P)	**P**	**18 18 00.3**	**+1.1**
comp=Z,3.2nm,1.1s,mb4.2							
BRG				*e*		22 58 37.6	
MORC	**Moravsky Berou**	**73.50**	**336**	*e*P	**P**	**18 17 59.2**	**-0.9**
MORC				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
MORC	**Moravsky Berou**	**73.50**	**336⇑**	*i*P	**P**	**18 18 08.3**	**+8.2**
MORC	**Moravsky Berou**	**73.50**	**336**	*e*P	**P**	**18 17 59.2**	**-0.9**
comp=Z,3.5nm,0.9s,mb4.3							
KECS	**Kecovo**	**73.90**	**333**	*e*P	**P**	**18 18 01.9**	**-0.6**
KECS				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.0							
KECS	**Kecovo**	**73.90**	**333**	*e*P	**P**	**18 18 01.9**	**-0.6**
comp=Z,1.7nm,0.9s,mb4.0							
PRU	**Pruhonice**	**74.03**	**338**	*e*P	**P**	**18 18 04.5**	**+1.3**
PRU				*e*pP	pP	18 18 12.8	-0.7
KOLL	**Kolacno**	**74.38**	**335**	*e*P	**P**	**18 18 04.8**	**-0.5**
VRI	**Vrincioaia**	**74.38**	**328⇑**	*i*P	**P**	**18 18 14.5**	**+9.1**
PSZ	**Piszkesteto**	**74.58**	**333⇑**	*i*P	**P**	**18 18 07.0**	**+0.5**
DRGR		**74.80**	**331⇓**	*i*P	**P**	**18 18 07.8**	**0.0**
DRGR		**74.80**	**331⇓**	P	**P**	**18 18 07.8**	**0.0**
MLR	**Muntele Rosu**	**74.97**	**328⇑**	*i*P	**P**	**18 18 08.1**	**-0.7**
MLR	**Muntele Rosu**	**74.97**	**328⇑**	P	**P**	**18 18 08.1**	**-0.7**
GRA1	**Grafenberg Arr**	**75.05**	**340**	*e*P	pP	18 18 21.0	+1.5
GRF	**Grafenberg Arr**	**75.05**	**340**	*e*P	pP	18 18 21.0	+1.5
comp=Z,19nm,1.2s							
KHC	**Kasperske Hory**	**75.06**	**338**	*e*P	**P**	**18 18 09.6**	**+0.4**
KHC				*e*	pP	18 18 19.2	-0.3
KHC	**Kasperske Hory**	**75.06**	**338**	*e*P	**P**	**18 18 09.6**	**+0.4**
KHC				*e*pP	pP	18 18 19.2	-0.3
KHC				*ex*	x	18 18 30.5	
MEM	**Membach**	**75.19**	**343**	P	**P**	**18 18 11.0**	**+1.0**
comp=Z,13nm,1.3s,mb4.7							
GERES	**GERESS Array B**	**75.29**	**338**	P	**P**	**18 18 10.5**	**-0.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=51,slow=5.3,SNR=8.7							
GERES				LR	LR	18 54 38.4	
comp=Z,154nm,20.3s,MS4.3,baz=18,slow=38							
WRAB	**Tennant Creek**	**75.31**	**205⇑**	*i*P	**P**	**18 18 10.5**	**-0.4**
WB2	**Warramunga Arr**	**75.32**	**205**	*e*P	**P**	**18 18 11.4**	**+0.5**
WRA	**Warramunga Arr**	**75.32**	**205**	P	**P**	**18 18 11.7**	**+0.8**
comp=Z,1.6nm,0.6s,mb4.2,baz=21,slow=6.1,SNR=26							
BAIF	**Baives**	**76.03**	**344**	*e*P	**P**	**18 18 14.4**	**-0.4**
BZS	**Buzias**	**76.19**	**331⇑**	*i*P	**P**	**18 18 14.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**76.20**	**214**	*e*P	**P**	**18 18 17.4**	**+1.4**
comp=Z,5.0nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**76.20**	**214**	P	**P**	**18 18 15.7**	**-0.3**
comp=Z,3.2nm,0.7s,mb4.3,baz=14,slow=9.7,SNR=9.2							
PKSM	**Moragy**	**76.49**	**334⇓**	*i*P	**P**	**18 18 16.6**	**-0.9**
MALT	**Malatya**	**76.53**	**316⇑**	*i*P	**P**	**18 18 18.1**	**+0.3**
MALT	**Malatya**	**76.53**	**316⇑**	P	**P**	**18 18 18.1**	**+0.3**
KBA	**Koelnbreinsper**	**77.03**	**337⇑**	*i*P	**P**	**18 18 21.5**	**+0.9**
comp=Z,14nm,0.8s,mb5.0							
KBA	**Koelnbreinsper**	**77.03**	**337⇑**	*i*P	**P**	**18 18 21.5**	**+1.0**
KBA				pmax	pmax		
comp=Z,15nm,0.8s,mb5.0							
CDF	**Champ du Feu**	**77.07**	**342**	*e*P	**P**	**18 18 20.5**	**-0.2**
comp=Z,51nm,1.4s,mb5.0							
CDF	**Champ du Feu**	**77.07**	**342**	*e*P	**P**	**18 18 20.5**	**-0.2**
CDF				pmax	pmax		
comp=Z,26nm,1.4s,mb5.0							
CDF	**Champ du Feu**	**77.07**	**342**	*e*P	**P**	**18 18 20.5**	**-0.2**
comp=Z,26nm,1.4s,mb5.0							
MOTA	**Moosalm**	**77.30**	**339⇑**	*i*P	**P**	**18 18 22.5**	**+0.6**
comp=Z,11nm,1.1s,mb4.7							
MOTA	**Moosalm**	**77.30**	**339⇑**	*i*P	**P**	**18 18 22.5**	**+0.5**
MOTA				pmax	pmax		
comp=Z,11nm,1.1s,mb4.7							
MOTA	**Moosalm**	**77.30**	**339⇑**	*i*P	**P**	**18 18 22.5**	**+0.6**
comp=Z,11nm,1.1s,mb4.7							
MEZF	**Maizieres J'vi**	**77.39**	**343**	*e*P	**P**	**18 18 23.6**	**+1.1**
HINF	**Hinteralfeld**	**77.72**	**342**	*e*P	**P**	**18 18 24.7**	**+0.4**
DAVOS	**Davos**	**78.06**	**340**	P	**P**	**18 18 24.9**	**-1.3**
DAVOX	**Davos/Dischmat**	**78.10**	**340**	P	**P**	**18 18 24.9**	**-1.6**
comp=Z,1.8nm,0.6s,mb4.2,baz=86,slow=6.4,SNR=5.3							
VTS	**Vitosha**	**78.44**	**329⇑**	*i*P	**P**	**18 18 28.1**	**-0.3**
VTS	**Vitosha**	**78.44**	**329⇑**	P	**P**	**18 18 28.1**	**-0.3**
TUE	**Stuetta**	**78.50**	**340**	*e*P	**P**	**18 18 29.6**	**+0.9**
comp=Z,8.4nm,0.8s,mb4.7							
SGMF	**Saint Gilles**	**78.78**	**348**	*e*P	**P**	**18 18 30.1**	**-0.1**
comp=Z,306nm,1.8s,mb5.6							
SGMF	**Saint Gilles**	**78.78**	**348**	*e*P	**P**	**18 18 30.1**	**-0.1**
SGMF				pmax	pmax		
comp=Z,153nm,1.8s,mb5.6							
SGMF	**Saint Gilles**	**78.78**	**348**	*e*P	**P**	**18 18 30.1**	**-0.1**
comp=Z,153nm,1.8s,mb5.6							
ROSF	**Rostrenen**	**78.79**	**349**	*e*P	**P**	**18 18 30.1**	**-0.1**
LOR	**Lormes**	**78.79**	**344**	*e*P	**P**	**18 18 30.1**	**-0.2**
comp=Z,21nm,1.1s,mb4.7							
LOR	**Lormes**	**78.79**	**344**	*e*P	**P**	**18 18 30.1**	**-0.2**
LOR				pmax	pmax		
comp=Z,11nm,1.1s,mb4.7							
LOR	**Lormes**	**78.79**	**344**	*e*P	**P**	**18 18 30.1**	**-0.2**
comp=Z,11nm,1.1s,mb4.7							
ASAR	**Alice Springs**	**78.99**	**204**	P	**P**	**18 18 32.8**	**+1.3**
comp=Z,1.6nm,0.5s,mb4.2,baz=20,slow=5.0,SNR=87							
CABF	**La Chapelle**	**79.03**	**342**	*e*P	**P**	**18 18 31.9**	**+0.3**
SSF	**Saint Saulge**	**79.05**	**344**	*e*P	**P**	**18 18 31.5**	**-0.2**
comp=Z,26nm,1.2s,mb4.7							
SSF	**Saint Saulge**	**79.05**	**344**	*e*P	**P**	**18 18 31.5**	**-0.2**
SSF				pmax	pmax		
comp=Z,13nm,1.2s,mb4.7							
SSF	**Saint Saulge**	**79.05**	**344**	*e*P	**P**	**18 18 31.5**	**-0.2**
comp=Z,13nm,1.2s,mb4.7							
AVF	**Avril sur Loir**	**79.34**	**344**	*e*P	**P**	**18 18 32.1**	**-1.2**
comp=Z,45nm,1.4s,mb4.9							
AVF	**Avril sur Loir**	**79.34**	**344**	*e*P	**P**	**18 18 32.1**	**-1.2**
AVF				pmax	pmax		
comp=Z,23nm,1.4s,mb4.9							
AVF	**Avril sur Loir**	**79.34**	**344**	*e*P	**P**	**18 18 32.1**	**-1.2**
comp=Z,22nm,1.4s,mb4.9							
SMF	**Signal de Mont**	**79.40**	**344**	*e*P	**P**	**18 18 33.5**	**-0.1**
comp=Z,104nm,1.7s,mb5.2							
SMF	**Signal de Mont**	**79.40**	**344**	*e*P	**P**	**18 18 33.5**	**-0.1**
SMF				pmax	pmax		
comp=Z,52nm,1.7s,mb5.2							
SMF	**Signal de Mont**	**79.40**	**344**	*e*P	**P**	**18 18 33.5**	**-0.1**
comp=Z,52nm,1.7s,mb5.2							
MIB	**Mutribah**	**79.44**	**305**	*e*P	**P**	**18 18 33.1**	**-1.0**
baz=305							
MIB				AMb	AMB	18 18 34.2	
comp=Z,53nm,0.9s,mb5.5,baz=305							
UMR	**Umm Al-Rimmam**	**79.45**	**305**	*e*P	**P**	**18 18 33.0**	**-1.2**
baz=305							
UMR				AMb	AMB	18 18 33.9	
comp=Z,28nm,0.6s,mb5.4,baz=305							
NAY	**Al-Naaiem**	**79.94**	**305**	*e*P	**P**	**18 18 35.6**	**-1.2**
baz=305							
NAY				AMb	AMB	18 18 36.5	
comp=Z,20nm,0.7s,mb5.2,baz=305							
LPL	**La Plagne**	**79.95**	**341**	*e*P	**P**	**18 18 37.6**	**+1.0**
comp=Z,22nm,1.0s,mb4.7							
LPL	**La Plagne**	**79.95**	**341**	*e*P	**P**	**18 18 37.6**	**+1.0**
LPL				pmax	pmax		
comp=Z,11nm,1.0s,mb4.7							
LPL	**La Plagne**	**79.95**	**341**	*e*P	**P**	**18 18 37.6**	**+1.0**
comp=Z,11nm,1.0s,mb4.7							
LPG	**La Plagne**	**79.97**	**341**	*e*P	**P**	**18 18 37.9**	**+1.2**
comp=Z,40nm,1.2s,mb4.9							
LPG	**La Plagne**	**79.97**	**341**	*e*P	**P**	**18 18 37.9**	**+1.2**
LPG				pmax	pmax		
comp=Z,20nm,1.2s,mb4.9							
LPG	**La Plagne**	**79.97**	**341**	*e*P	**P**	**18 18 37.9**	**+1.2**
comp=Z,20nm,1.2s,mb4.9							
TCF	**Toulx Ste Croi**	**80.02**	**345**	*e*P	**P**	**18 18 37.2**	**+0.2**
RDF	**Al-Radifah**	**80.05**	**305**	*e*P	**P**	**18 18 36.7**	**-0.7**
baz=305							
RDF				AMb	AMB	18 18 37.7	
comp=Z,46nm,0.7s,mb5.5,baz=305							
ORIF	**Oris-en-Rattie**	**80.69**	**342**	*e*P	**P**	**18 18 40.3**	**-0.3**
comp=Z,20nm,1.0s,mb4.7							
ORIF	**Oris-en-Rattie**	**80.69**	**342**	*e*P	**P**	**18 18 40.3**	**-0.3**
ORIF				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.7							
ORIF	**Oris-en-Rattie**	**80.69**	**342**	*e*P	**P**	**18 18 40.3**	**-0.3**
comp=Z,9.9nm,1.0s,mb4.7							
MBDF	**Montbardon**	**80.70**	**341**	*e*P	**P**	**18 18 41.2**	**+0.5**
comp=Z,15nm,1.0s,mb4.6							
MBDF	**Montbardon**	**80.70**	**341**	*e*P	**P**	**18 18 41.2**	**+0.5**
MBDF				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.5							
MBDF	**Montbardon**	**80.70**	**341**	*e*P	**P**	**18 18 41.2**	**+0.5**
comp=Z,7.4nm,1.0s,mb4.6							
VIVF	**Saint-Julien-l**	**80.98**	**343**	*e*P	**P**	**18 18 42.8**	**+0.6**
comp=Z,28nm,1.2s,mb4.8							
VIVF	**Saint-Julien-l**	**80.98**	**343**	*e*P	**P**	**18 18 42.8**	**+0.6**
VIVF				pmax	pmax		
comp=Z,14nm,1.2s,mb4.8							
VIVF	**Saint-Julien-l**	**80.98**	**343**	*e*P	**P**	**18 18 42.8**	**+0.6**
comp=Z,14nm,1.2s,mb4.8							
SMRF	**Simiane la Rot**	**81.66**	**342**	*e*P	**P**	**18 18 45.6**	**-0.2**
comp=Z,21nm,1.1s,mb4.7							
SMRF	**Simiane la Rot**	**81.66**	**342**	*e*P	**P**	**18 18 45.6**	**-0.2**
comp=Z,21nm,1.0s,mb5.0							
FRF	**La Foret Royal**	**81.85**	**341**	*e*P	**P**	**18 18 46.4**	**-0.4**
comp=Z,42nm,1.2s,mb4.9							
FRF	**La Foret Royal**	**81.85**	**341**	*e*P	**P**	**18 18 46.4**	**-0.4**
FRF				pmax	pmax		
comp=Z,21nm,1.2s,mb4.9							
FRF	**La Foret Royal**	**81.85**	**341**	*e*P	**P**	**18 18 46.4**	**-0.4**
comp=Z,21nm,1.2s,mb4.9							
PPT	**Papeete**	**82.08**	**132**	LR	LR	18 47 48.3	
comp=Z,114nm,21.9s,MS4.2,baz=330,slow=30							
STKA	**Stephens Creek**	**85.33**	**196**	*e*P	**P**	**18 19 04.9**	**+0.4**
comp=Z,3.8nm,1.6s,mb4.3							
STKA	**Stephens Creek**	**85.33**	**196**	P	**P**	**18 19 04.5**	**+0.1**
comp=Z,2.1nm,0.8s,mb4.3,baz=354,slow=7.5,SNR=3.9							
ESDC	**Sonseca Array**	**87.40**	**348**	P	**P**	**18 19 15.0**	**+0.1**
comp=Z,2.1nm,0.7s,mb4.5,baz=4.3,slow=4.7,SNR=11							
KEST	**Kesra**	**88.73**	**337**	P	**P**	**18 19 20.4**	**-0.8**
comp=Z,2.3nm,1.0s,mb4.5,baz=223,slow=2.4,SNR=5.5							

IDC 19 18:07:18.4±3.1, 5237N×3492W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/27, mbtmp3.7/5, ML2.9/1, Error ellipse: s-maj=135.7km s-min=23.8km az=0.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**19.01**	**290**	P	Pn	18 11 40.2	-1.8
0.4nm,0.3s,baz=70,slow=12,SNR=5.3							
GERES	**GERESS Array B**	**30.59**	**77**	P	P	18 13 34.8	+1.1
0.2nm,0.3s,baz=307,slow=3.6,SNR=4.0							
AKASG	**Malin Array Be**	**38.77**	**66**	P	P	18 14 42.6	-1.6
0.4nm,0.6s,baz=302,slow=8.7,SNR=4.5							
PDAR	**Pinedale Array**	**49.15**	**290**	P	P	18 16 08.2	+0.6
0.3nm,0.4s,baz=67,slow=7.9,SNR=3.3							
SONM	**Songino Array**	**74.85**	**26**	P	P	18 19 01.2	+0.8
0.6nm,0.9s,baz=321,slow=7.0,SNR=3.9							
WRA	**Warramunga Arr**	**146.57**	**19**	PKPbc	PKPbc	18 27 02.7	+1.1
1.2nm,0.8s,baz=343,slow=3.2,SNR=8.4							
ASAR	**Alice Springs**	**150.09**	**21**	PKPbc	PKPbc	18 27 08.8	-2.0
0.7nm,0.9s,baz=2.5,slow=2.1,SNR=5.6							

MAN 19 18:11:18, 1110N×12582E, h3km, mb3.9, ML2.6, MS2.2, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.62**	**323**	*e*P	Pg	18 11 30.8	+0.9
BESP				*e*S	Sg	18 11 41.3	+3.2
PLP	**Palo**	**0.83**	**274⇓**	*e*P	Pg	18 11 33.6	-0.3
PLP				*e*S	Sg	18 11 42.5	-2.1
OCLP	**Ormoc**	**1.19**	**268**	*e*P	Pg	18 11 40.5	-0.3
MSLP	**Maasin**	**1.35**	**225**	*e*P	Pn	18 11 43.5	-0.2
MSLP				*e*S	Sg	18 12 03.7	+2.4
SCPH	**Surigao**	**1.35**	**194**	*e*P	Pn	18 11 43.6	-0.1
SCPH				*e*S	Sg	18 12 01.6	+0.2
CNP	**Catarman**	**1.80**	**321**	*e*P	Pn	18 11 49.5	-0.5
CNP				*e*S	Sn	18 12 12.8	-0.5
PVCP	**Virac**	**2.96**	**327**	*e*P	Pn	18 12 09.1	+3.1

*IDC **19** 18:17:25.2±2.0, 274S×13922E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.6/13, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=74.0km s-min=23.2km az=92.0*
*NEIC **19** 18:17:29.5±1.2, 276S×13948E, h35km, mb3.6/1, Error ellipse: s-maj=40.5km s-min=9.6km az=94.0*
*ISCJB **19** 18:17:32.5±6.4, 29S±02×139 4E±04, h84km±64km, mb3.3/5, Error ellipse: s-maj=60.3km s-min=29.1km az=173.3*

ISC 19 18:17:34.2±4.8, 29S±02×1394E±04, h83km±45km, n11, σ0°78/11, mb3.3/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.94**	**215**	*e*P	**Pn**	**18 20 23.0**	**+1.4**
6.2nm,0.6s							
KAKA	**Kakadu**	**11.94**	**215**	*e*Pn	**Pn**	**18 20 20.6**	**-0.9**
22nm,0.8s							
WRAB	**Tennant Creek**	**17.64**	**196**	*e*P	**Pn**	**18 21 33.9**	**-0.8**
6.1nm,1.2s							
WB2	**Warramunga Arr**	**17.65**	**196

AVNT	**Avonos**	**0.77 254**	*i* P	**Pg**	**18 50 33.8**	**-2.1**
AVNT			*i* S	**Sg**	**18 50 45.4**	**-0.4**
CDAG	**Cicekdag**	**1.28 300**	*i* P	**Pg**	**18 50 44.1**	**-1.3**
CDAG			*i* S	**Sg**	**18 51 03.5**	**+1.4**
NIG	**Nigde**	**1.29 227**	*e*PN	**Pn**	**18 50 44.4**	**-1.7**
SVSK	**Karacayir**	**1.30 45**	*e*PN	**Pn**	**18 50 44.5**	**-1.8**
SVSK			*e*SN	**Sn**	**18 51 03.6**	**-0.7**
TOKT	**Tokat**	**1.44 23**	*e*PN	**Pn**	**18 50 47.4**	**-0.8**
ANDN	**Andirin**	**1.48 163**	*i* P	**Pn**	**18 50 48.0**	**-0.7**
ANDN			*i* S	**Sb**	**18 51 09.2**	**+0.7**
ANDN	**Andirin**	**1.48 163**	*i* P	**Pn**	**18 50 48.0**	**-0.7**
ANDN			*i* S	**Sb**	**18 51 09.1**	**+0.6**
CORM	**Corum**	**1.49 323**	*e*PN	**Pn**	**18 50 48.3**	**-0.6**
KOZT	**Kozan**	**1.51 179**	*e*PN	**Pn**	**18 50 49.5**	**+0.3**
KOZT			*e*SN	**Sg**	**18 51 10.6**	**+1.0**
DARE	**Darende-Malaty**	**1.56 91**	*e*PN	**Pn**	**18 50 46.8**	**-3.0**
KAMT	**Kaman**	**1.67 284**	*e*PN	**Pn**	**18 50 50.8**	**-0.6**
KMRS	**Kahramanmaras**	**1.72 150**	*e*PN	**Pn**	**18 50 52.1**	**+0.1**
CTKT	**Corum**	**1.80 335**	*i* P	**Pn**	**18 50 54.2**	**+1.0**
CTKT			*i* S	**Sg**	**18 51 20.8**	**+1.9**
RSDY	**Resadiye-TOKAT**	**1.82 40**	*e*PN	**Pn**	**18 50 53.2**	**-0.3**
KARA	**Karaisali**	**1.83 199**	*e*PN	**Pn**	**18 50 52.9**	**-0.7**
KVT	**Kavak**	**2.09 5**	*e*PN	**Pn**	**18 50 56.7**	**-0.4**
GZT	**Gaziantep**	**2.15 139**	*i* P	**Pg**	**18 50 60.0**	**-2.1**
GZT			*e*S	**Sg**	**18 51 31.1**	**+1.2**
MYA	**Malataya**	**2.16 107**	*e*PN	**Pn**	**18 50 58.5**	**+0.5**
MALT	**Malatya**	**2.16 108**	*e*PN	**Pn**	**18 50 59.0**	**+0.9**
MERS	**Mersin**	**2.36 206**	*e*PN	**Pn**	**18 51 01.6**	**+0.8**
ELDT	**Eldivan**	**2.36 310**	*i* P	**Pn**	**18 51 01.1**	**+0.2**
ELDT			*i* S	**Sb**	**18 51 34.8**	**+0.8**
TOS	**Tosya**	**2.45 327**	*e*PN	**Pn**	**18 51 02.5**	**+0.4**
ANTO	**Ankara**	**2.49 291**	*e*PN	**Pn**	**18 51 02.8**	**+0.1**
ELZG	**Elazig**	**2.53 100**	*i* P	**Pn**	**18 51 03.5**	**+0.3**
ELZG			*i* S	**Sg**	**18 51 43.6**	**+1.2**
PTK	**Pertek**	**2.80 91**	*e*PN	**Pn**	**18 51 07.8**	**+1.0**
SVRC	**Sivrice-ELAZID**	**2.81 102**	*e*PN	**Pn**	**18 51 07.8**	**+0.8**
KDHN	**Kadinhani**	**2.92 262**	*i* P	**Pb**	**18 51 14.3**	**+0.4**
KDHN			*i* S	**Sg**	**18 51 55.5**	**+0.6**
BALT	**Daday**	**3.14 325**	*i* P	**Pn**	**18 51 12.5**	**+1.0**
BALT			*i* S	**Sg**	**18 51 58.4**	**-3.4**

BJI ***19*** *19:09:43.5, 547S×14123E, h26km, mB5.3, mb5.2, Ms4.9, Msz4.7*

IDC ***19*** *19:09:43.7±0.4, 532S×14086E, h0km, mb5.0/15, mb1 5.0/21, mb1mx5.0/22, mbtmp5.1/21, ML5.2/5, MS4.7/19, Ms1 4.7/19, ms1mx4.5/25, Error ellipse: s-maj=17.1km s-min=11.8km az=78.0*

ISCJB ***19*** *19:09:44.3±0.2, 544S±003×14088E±004, h17km, mb5.2/76, MS4.7/34, Error ellipse: s-maj=5.6km s-min=3.9km az=0.5*

GCMT ***19*** *19:09:45.1±0.1, 531S×14095E, h12km, MW5.3/92, Moment Tensor Solution. s69,c100; s92,c161; Duration: 1§1 Moment tensor: Scale 10^17^Nm; M_{rr}0.24±.02; $M_{\theta\theta}$-0.66±.01; $M_{\phi\phi}$0.42±.02; $M_{r\theta}$0.04±.04; $M_{\theta\phi}$0.93±.01; $M_{\phi r}$0.04±.04; Best double couple: $M_0$1.07900×10^17^ NP1:ϕ_s345.00000°, δ87.00000°, λ177.00000°. NP2:ϕ_s75.00000°, δ87.00000°, λ3.00000°. Principal axes: T 0.9620, Plg4.0000°, Azm300.0000°; N 0.2330, Plg86.0000°, Azm115.0000°; P -1.1950, Plg0.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

DJA ***19*** *19:09:45, 536S×14096E, h0km, mb5.6/8*

NEIC ***19*** *19:09:45.1±0.2, 537S×14085E, h10km, mb5.4/35, Error ellipse: s-maj=5.7km s-min=4.8km az=84.0*

NEIC Felt [III] at Wamena. Felt [IV] at Kiunga; felt at Vanimo, Papua New Guinea.

MOS ***19*** *19:09:47.3±1.3, 527S×14085E, h33km, mb5.5/30, MS4.6/5, Error ellipse: s-maj=11.3km s-min=6.3km az=107.8*

ISC 19 19:09:44.2±1.2, 543S±003×14090E±004, h6km±7km, h18km±3.1km; pP-P, n271, σ1§14/248, mb5.2/76, MS4.7/34, 23C-19D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.36 123**		*e*P	**Pn**	**19 11 31.1**	**-1.2**
KAKA	**Kakadu**	**11.05 229**		*e*P	**Pn**	**19 12 21.1**	**-1.9**
	308nm,0.4s						
KAKA				*e*S	**Sn**	**19 14 22.3**	**-4.6**
KAKA	**Kakadu**	**11.05 229**		*e*Pn	**Pn**	**19 12 21.6**	**-1.3**
KAKA				*e*Sn	**Sn**	**19 14 22.1**	**-4.8**
CTA	**Charters Tower**	**15.47 161**		*e*P	**Pn**	**19 13 25.5**	**+2.3**
	25nm,0.6s						
CTA				*e*S	**Sn**	**19 16 20.1**	**+5.0**
CTA	**Charters Tower**	**15.47 161**		Pn	**Pn**	**19 13 24.4**	**+1.1**
	1.4nm,0.3s,baz=346,slow=13,SNR=15						
CTA				Lg		19 17 50.8	
	2.7nm,0.3s,baz=226,slow=23,SNR=6.3						
CTAO	**Charters Tower**	**15.47 161**		*e*P	**Pn**	**19 13 24.8**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,272nm,1.6s						
CTAO	**Charters Tower**	**15.47 161**		*e*P	**Pn**	**19 13 24.8**	**+1.5**
	comp=Z,272nm,1.6s						
WRAB	**Tennant Creek**	**15.76 203**		Pn	**Pn**	**19 13 24.0**	**-3.0**
	comp=Z,3μm,1.1s,SNR=55						
WRAB	**Tennant Creek**	**15.76 203**		⇑*i*P	**Pn**	**19 13 24.7**	**-2.3**
WRAB	**Tennant Creek**	**15.76 203**		*e*Pn	**Pn**	**19 13 24.0**	**-3.0**
	comp=Z,403nm,1.0s						
WB2	**Warramunga Arr**	**15.77 203**		*e*P	**Pn**	**19 13 24.0**	**-3.1**
WB2				*e*		19 13 33.2	
WB2				*e*S	**Sn**	**19 16 15.7**	**-6.6**
WRA	**Warramunga Arr**	**15.77 203**		Pn	**Pn**	**19 13 24.2**	**-3.0**
	comp=Z,5.4nm,0.3s,baz=13,slow=13,SNR=79						
WRA				Sn	**Sn**	**19 16 20.0**	**-2.4**
	comp=Z,6.5nm,0.3s,baz=23,slow=22,SNR=4.5						
WRA				Lg		19 18 06.8	
	comp=Z,8.6nm,0.3s,baz=26,slow=26,SNR=6.5						
WRA	**Warramunga Arr**	**15.77 203**		P	**Pn**	**19 13 24.2**	**-3.0**
WRA				P		19 16 20.0	
BATI	**Baumata**	**17.72 253**		P	**Pn**	**19 13 53.4**	**+1.6**
	comp=Z,18nm,0.3s,baz=114,slow=1.8,SNR=23						
BATI				S	**Sn**	**19 17 01.1**	**-8.6**
	comp=Z,9.1nm,0.3s,baz=305,slow=18,SNR=2.6						
MATI	**Mati**	**19.10 310**		*e*P	**Pn**	**19 14 05.4**	**-3.3**
HNR	**Honiara**	**19.30 103**		P	**Pn**	**19 14 11.2**	**0.0**
	comp=Z,18nm,0.3s,baz=233,slow=0.7,SNR=22						
HNR	**Honiara**	**19.30 103**		P	**Pn**	**19 14 11.2**	**0.0**
HNR				pmax	pmax		
	comp=Z,18nm,0.3s						
HNR	**Honiara**	**19.30 103**		*e*P	**Pn**	**19 14 10.8**	**-0.4**
	comp=Z,867nm,1.1s						
GUMO	**Guam**	**19.30 12**		P	**Pn**	**19 14 07.8**	**-3.4**
	comp=Z,3.3nm,0.3s,baz=181,slow=20,SNR=2.4						
GUMO				LR	LR	19 21 24.0	
	comp=Z,826nm,18.8s,baz=192,slow=36						
ASAR	**Alice Springs**	**19.34 200**		P	**Pn**	**19 14 12.3**	**+0.7**
	comp=Z,11nm,0.3s,baz=31,slow=10,SNR=214						
ASAR				S	**Sn**	**19 17 43.0**	**-5.9**
	comp=Z,3.1nm,0.3s,baz=17,slow=30,SNR=5.4						
ASAR				Lg		19 20 00.5	
	comp=Z,1.0nm,0.3s,baz=17,slow=31,SNR=4.2						
ASAR	**Alice Springs**	**19.34 200**		P	**Pn**	**19 14 12.3**	**+0.7**
ASAR				S	**Sn**	**19 17 43.0**	**-5.9**
FITZ	**Fitzroy Crossi**	**19.51 229**		*e*P	**Pn**	**19 14 11.1**	**-2.6**
	comp=Z,76nm,0.4s						
FITZ				*e*S	**Sn**	**19 17 42.3**	**-11**
FITZ	**Fitzroy Crossi**	**19.51 229**		P	**Pn**	**19 14 12.6**	**-1.1**
	comp=Z,12nm,0.3s,baz=56,slow=12,SNR=101						
FITZ				S	**Sn**	**19 17 39.7**	**-13**
	comp=Z,3.8nm,0.3s,baz=129,slow=1.9,SNR=3.6						
FITZ				Lg		19 19 57.2	
	baz=12,slow=13,SNR=3.9						
FITZ				LR	LR	19 22 42.0	
	comp=Z,2μm,18.7s,baz=48,slow=40						
DAV	**Davao City (W)**	**19.70 309**		P	**Pn**	**19 14 16.3**	**+0.4**
	comp=Z,16nm,0.3s,baz=340,slow=2.5,SNR=1.7						
DAV				LR	LR	19 22 01.5	
	comp=Z,2μm,19.1s,baz=126,slow=38						
DAV	**Davao City (W)**	**19.70 309**		⇑*e*P	**Pn**	**19 14 25.7**	**+10**
DAV	**Davao City (W)**	**19.70 309**		P	**Pn**	**19 14 16.3**	**+0.4**
DAV				LR	LR	19 22 01.5	
BUKP	**Musuan**	**20.60 310**		*e*P	**P**	**19 14 24.6**	**+0.2**
BUTP	**Butuan**	**20.89 313**		*e*P	**P**	**19 14 28.6**	**+1.0**
KAPI	**Kappang**	**21.06 270**		⇑P	**P**	**19 14 30.9**	**+1.5**
	SNR=11						
KAPI	**Kappang**	**21.06 270**		P	**P**	**19 14 29.0**	**-0.4**
	baz=270,slow=20						
KAPI	**Kappang**	**21.06 270**		*e*Pn	**P**	**19 14 30.8**	**+1.4**
PAGZ	**Pagadian**	**21.89 307**		*e*P	**P**	**19 14 38.3**	**-0.1**
MSLP	**Maasin**	**22.23 314**		*e*P	**P**	**19 14 42.2**	**+0.2**
IPIL	**Ipil**	**22.51 306**		⇓*e*P	**P**	**19 14 45.1**	**+0.2**
BESP	**Borongan**	**22.87 318**		*e*P	**P**	**19 14 48.6**	**-0.1**
OCLP	**Ormoc**	**23.04 315**		*e*P	**P**	**19 14 50.0**	**-0.5**
CNP	**Catarman**	**24.04 318**		*e*P	**P**	**19 14 57.9**	**-2.6**
GUIM	**Jordan**	**24.22 311**		*e*P	**P**	**19 15 01.5**	**-0.5**
RCP	**Roxas**	**24.72 313**		⇓*e*P	**P**	**19 15 10.9**	**+4.3**
MYLDM	**Lahad Datu**	**24.73 295**		⇑P	**P**	**19 15 09.4**	**+2.7**
KALP	**Kalibo**	**25.09 313**		⇑*e*P	**P**	**19 15 17.6**	**+7.6**
PVCP	**Virac**	**25.17 319**		⇑*e*P	**P**	**19 15 09.5**	**-1.2**
CUYO	**Cuyo Island**	**25.56 309**		*e*P	**P**	**19 15 13.3**	**-1.0**
OTRP	**Odiongan**	**25.78 313**		*e*P	**P**	**19 15 16.5**	**+0.2**
MBWA	**Marble Bar**	**25.80 231**		*e*P	**P**	**19 15 17.9**	**+1.4**
SDKM	**Sandakan**	**26.10 295**		⇑P	**P**	**19 15 09.4**	**-10**
STKA	**Stephens Creek**	**26.32 179**		*e*P	**P**	**19 15 20.2**	**-0.7**
	comp=Z,18nm,0.8s,mb4.6						
STKA				*e*S	**S**	**19 20 04.0**	**+10**
STKA	**Stephens Creek**	**26.32 179**		P	**P**	**19 15 21.4**	**+0.4**
	comp=Z,10nm,0.5s,mb4.6,baz=347,slow=9.0,SNR=19						
STKA				LR	LR	19 26 25.3	
	comp=Z,5μm,21.4s,MS5.0,baz=352,slow=38						
BUSP	**Coron**	**26.90 310**		*e*P	**P**	**19 15 28.7**	**+2.3**
KDM	**Kudat**	**26.97 297**		⇓*e*P	**P**	**19 15 27.3**	**+0.3**
ENPP	**El Nido**	**27.02 308**		*e*P	**P**	**19 15 28.5**	**+1.0**
BATP	**Bataraza**	**27.02 301**		*e*P	**P**	**19 15 27.9**	**+0.4**
KKM	**Kota Kinabalu**	**27.15 294**		⇓P	**P**	**19 15 27.3**	**-1.3**
KKM	**Kota Kinabalu**	**27.15 294**		*e*P	**P**	**19 15 28.3**	**-0.4**
FORT	**Forrest**	**27.96 204**		*e*P	**P**	**19 15 38.3**	**+2.6**
	comp=Z,41nm,0.6s,mb5.2						
BALP	**Baler**	**28.43 318**		*e*P	**P**	**19 15 39.0**	**-1.1**
BTM	**Bintulu**	**29.08 287**		⇓P	**P**	**19 15 47.2**	**+1.3**
SBUM	**Sibu**	**29.70 285**		⇓P	**P**	**19 15 47.2**	**-4.2**
APYP	**Conner**	**30.20 320**		*e*P	**P**	**19 15 54.8**	**-1.0**
KSM	**Kuching**	**31.31 282**		⇓P	**P**	**19 16 06.7**	**+1.0**
KSM	**Kuching**	**31.31 282**		*e*P	**P**	**19 16 05.5**	**-0.2**
TOO	**Toolangi**	**32.26 173**		*e*P	**P**	**19 16 17.2**	**+3.5**
KLBR	**Kellerberrin**	**33.88 217**		*e*P	**P**	**19 16 27.2**	**-0.7**
	comp=Z,27nm,1.1s,mb5.1						
JOW	**Kunigami**	**34.32 340**		P	**P**	**19 16 31.1**	**-0.7**
	comp=Z,32nm,1.1s,mb5.2,baz=152,slow=6.1,SNR=7.8						
MUN	**Mundaring**	**35.09 218**		*e*P	**P**	**19 16 34.0**	**-4.4**
NWAO	**Narrogin (SRO)**	**35.14 216**		LR	LR	19 31 49.0	
	comp=Z,4μm,18.5s,MS5.2,baz=32,slow=38						
NWAO	**Narrogin (SRO)**	**35.14 216**		*e*P	**P**	**19 16 38.1**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,12nm,0.7s						
NWAO	**Narrogin (SRO)**	**35.14 216**		*e*P	**P**	**19 16 38.1**	**-0.7**
	comp=Z,12nm,0.7s,mb4.9						
JHJ	**Hachijo jima 2**	**38.35 358**		LR	LR	19 29 52.5	
	comp=Z,1μm,21.2s,MS4.8,baz=163,slow=32						
QIZ	**Qiongzhong**	**39.07 309**		P	**P**	**19 17 11.3**	**-1.1**
QIZ				PP	PP	19 18 41.8	-0.2
QIZ				S	**S**	**19 23 04.9**	**-7.6**
QIZ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,57nm,3.6s						
QIZ				LR	LR		
	comp=E,572nm,18.4s						
QIZ				LR	LR		
	comp=Z,793nm,29.1s						
QIZ	**Qiongzhong**	**39.07 309**		*e*P	**P**	**19 17 10.3**	**-2.2**
	comp=Z,39nm,1.3s,mb5.0						
KTGM	**Kuala Trenggan**	**39.19 285**		⇓P	**P**	**19 17 14.9**	**+1.3**
FRIM	**Kepong**	**40.16 281**		⇑P	**P**	**19 17 21.5**	**-0.1**
SSE	**Sheshan**	**40.91 334**		*e*P	**P**	**19 17 28.1**	**+0.5**
SSE				AP	pP	19 17 31.5	+2.2
SSE				S	**S**	**19 23 38.6**	**-1.2**
SSE				AMB	AMB		
	comp=Z,55nm,1.3s,mb5.0						
SSE				AMB	AMB		
	comp=Z,44nm,3.5s						
SSE				LR	LR		
	comp=N,723nm,19.6s,MS4.6						
SSE				LR	LR		
	comp=E,269nm,19.6s,MS4.6						
SSE				LR	LR		
	comp=Z,974nm,22.2s,MS4.6						
IPM	**Ipoh**	**41.02 283**		⇓P	**P**	**19 17 29.8**	**+1.0**
KULM	**Kulim**	**41.58 284**		⇓P	**P**	**19 17 33.1**	**-0.2**
MJAR	**Matsushiro Arr**	**41.83 357**		P	**P**	**19 17 33.1**	**-1.9**
	comp=Z,9.6nm,1.0s,mb4.4,baz=173,slow=7.8,SNR=23						
MJAR				PcP	PcP	19 19 32.1	+1.1
	comp=Z,7.0nm,0.9s,baz=160,slow=2.9,SNR=8.8						
MAJO	**Matsushiro**	**41.83 357**		*e*P	**P**	**19 17 33.5**	**-1.5**
MAT	**Matsushiro**	**41.83 357**		P	**P**	**19 17 32.3**	**-2.7**
MAT				S	**S**	**19 23 53.0**	**-0.2**
NJ2	**Nanjing**	**42.78 332**		*e*P	**P**	**19 17 44.3**	**+1.4**
NJ2				AP	pP	19 17 48.3	+3.7
NJ2				XP	sP	19 17 50.8	+5.5
NJ2				PP	PP	19 19 26.0	+3.8
NJ2				S	**S**	**19 24 06.0**	**-1.4**
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,270nm,6.5s						
NJ2				LR	LR		
	comp=N,440nm,17.0s,MS4.7						
NJ2				LR	LR		
	comp=E,840nm,18.0s,MS4.7						
NJ2				LR	LR		
	comp=Z,1μm,24.9s						
WHN	**Wuhan**	**43.88 326**		⇓P	**P**	**19 17 53.0**	**+1.2**
COCO	**West Island**	**44.01 258**		*e*P	**P**	**19 17 54.0**	**+0.9**
COCO				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.4						
COCO	**West Island**	**44.01 258**		*e*P	**P**	**19 17 54.0**	**+0.9**
	comp=Z,80nm,1.0s,mb5.4						
KS15	**Wonju Array Si**	**44.34 345**		*e*P	**P**	**19 17 55.8**	**+0.4**
KSRS	**Korea Array**	**44.35 345**		P	**P**	**19 17 55.2**	**-0.1**
	comp=Z,23nm,1.1s,mb4.8,baz=158,slow=7.3,SNR=54						
KSRS				PcP	PcP	19 19 41.5	+2.0
	comp=Z,6.6nm,0.9s,baz=167,slow=4.8,SNR=8.0						
KSRS				LR	LR	19 35 23.1	
	comp=Z,694nm,20.6s,MS4.6,baz=165,slow=35						
KSRS	**Korea Array**	**44.35 345**		P	**P**	**19 17 55.3**	**-0.1**
KSRS						19 19 41.5	
KSRS				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.8						
KSRS				MLR	MLR		
	comp=Z,694nm,20.6s,MS4.6						
INCN	**Inchon**	**44.72 344**		P	**P**	**19 17 58.6**	**+0.3**
	SNR=16						
INCN	**Inchon**	**44.72 344**		*e*P	**P**	**19 17 59.5**	**+1.2**
RAO	**Raoul Island**	**45.53 126**		LR	LR	19 33 14.8	
	comp=Z,519nm,20.4s,MS4.5,baz=266,slow=31						
GYA	**Guiyang**	**45.88 315**		⇑*i*P	**P**	**19 18 10.3**	**+2.5**
GYA				PCP	PcP	19 19 46.5	+1.4
GYA				PP	PP	19 19 58.0	+2.6
GYA				PPP		19 20 41.8	
GYA				SCP	ScP	19 23 38.4	-0.6
GYA				S	**S**	**19 24 54.3**	**+1.6**
GYA				SCS	ScS	19 28 03.5	-1.5
GYA				SSS		19 29 15.8	
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,180nm,4.9s						
GYA				LR	LR		
	comp=N,5μm,17.4s,MS5.6						
GYA				LR	LR		
	comp=E,4μm,18.2s,MS5.6						
GYA				LR	LR		
	comp=Z,4μm,18.8s,MS5.3						
URZ	**Urewera**	**46.34 140**		P	**P**	**19 18 12.4**	**+1.1**
	comp=Z,45nm,1.2s,mb5.3,baz=352,slow=1.5,SNR=7.9						
URZ				LR	LR	19 35 30.6	
	comp=Z,1μm,19.6s,MS4.8,baz=151,slow=33						
RPZ	**Rata Peaks**	**46.45 150**		P	**P**	**19 18 13.7**	**+1.6**
	comp=Z,77nm,1.0s,mb5.6,baz=347,slow=1.0,SNR=9.1						
RPZ				LR	LR	19 36 20.9	
	comp=Z,2μm,18.7s,MS5.0,baz=310,slow=34						
AFI	**Afiamalu**	**47.33 104**		LR	LR	19 36 56.5	
	comp=Z,683nm,18.6s,MS4.7,baz=264,slow=34						
DL2	**Dalian**	**47.59 340**		⇑P	**P**	**19 18 20.8**	**-0.2**
DL2				S	**S**	**19 25 17.3**	**+0.5**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
DL2				AMB	AMB		
	comp=Z,100nm,5.1s						
DL2				LR	LR		
	comp=N,280nm,17.1s,MS4.4						
DL2				LR	LR		
	comp=E,180nm,16.6s,MS4.4						
DL2				LR	LR		
	comp=Z,310nm,19.6s,MS4.3						
CM31	**Chiang Mai Arr**	**47.69 301**		*e*P	**P**	**19 18 21.1**	**-1.0**
	comp=Z,8.8nm,0.7s,mb4.9						
CMAR	**Chiang Mai Arr**	**47.69 301**		P	**P**	**19 18 21.6**	**-0.5**
	comp=Z,11nm,0.8s,mb4.9,baz=126,slow=6.1,SNR=71						
CMAR				LR	LR	19 37 11.6	
	comp=Z,569nm,20.5s,MS4.5,baz=278,slow=35						
CHTO	**Chiang Mai**	**47.84 301**		⇑P	**P**	**19 18 22.5**	**-0.8**
	SNR=7.4						
CHTO	**Chiang Mai**	**47.84 301**		*e*P	**P**	**19 18 22.5**	**-0.7**
KMI	**Kunming**	**47.94 311**		P	**P**	**19 18 24.5**	**+0.6**
KMI				PP	PP	19 20 16.8	+0.8
KMI				PPP		19 21 07.4	
KMI				S	**S**	**19 25 23.1**	**+0.9**
KMI				SS	SS	19 28 47.3	-3.9
KMI				SSS		19 30 04.5	
KMI				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.9						
KMI				AMB	AMB		
	comp=Z,302nm,4.6s						
KMI				LR	LR		
	comp=N,339nm,20.7s,MS4.6						
KMI				LR	LR		
	comp=E,655nm,23.0s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,25.4s,MS4.8						
VLA	**Vladivostok**	**49.01 351**		*e*P	**P**	**19 18 30.9**	**-0.9**
VLA				pmax	pmax		
	comp=Z,95nm,1.7s,mb5.5						
ASAJ	**Asahikawa**	**49.34 2**		LR	LR	19 37 14.4	
	comp=Z,430nm,21.3s,MS4.4,baz=192,slow=34						
XAN	**Xi'an**	**49.54 325**		P	**P**	**19 18 35.3**	**-0.8**
XAN				AP	pP	19 18 44.3	+6.4
XAN				XP	sP	19 18 49.0	+10
XAN				AMB	AMB		
	comp=Z,44nm,1.6s,mb5.2						
XAN				AMB	AMB		
	comp=Z,140nm,3.6s						
XAN				LR	LR		
	comp=Z,519nm,29.1s,MS4.4						
SNY	**Shenyang**	**49.62 343**		⇑P	**P**	**19 18 35.8**	**-0.7**
SNY				S	**S**	**19 25 43.8**	**-1.6**
SNY				AMB	AMB		
	comp=Z,32nm,1.5s,mb5.1						
SNY				AMB	AMB		
	comp=Z,419nm,5.9s						
SNY				LR	LR		
	comp=N,357nm,18.0s,MS4.6						
SNY				LR	LR		
	comp=E,441nm,21.0s,MS4.6						
SNY				LR	LR		
	comp=Z,663nm,22.2s,MS4.6						
TIY	**Taiyuan**	**50.44 331**		P	**P**	**19 18 43.1**	**+0.2**
TIY				S	**S**	**19 25 57.4**	**+0.4**
TIY				LR	LR		
	comp=N,332nm,12.9s						
TIY				LR	LR		
	comp=E,602nm,18.7s						
TIY				LR	LR		
	comp=Z,1μm,23.0s						
CD2	**Chengdu**	**50.65 318**		⇑*i*P	**P**	**19 18 44.8**	**+0.2**
CD2				AP	pP	19 18 48.8	+2.4
CD2				PCP	PcP	19 20 01.0	-1.1
CD2				PP	PP	19 20 42.0	+1.3
CD2				PCS	PcS	19 23 57.0	-2.5
CD2				S	**S**	**19 25 58.6**	**-1.5**
CD2				SCS	ScS	19 28 31.3	-5.3
CD2				SS	SS	19 29 30.5	-4.2
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
CD2				AMB	AMB		
	comp=Z,230nm,5.4s						
CD2				LR	LR		
	comp=N,660nm,16.8s,MS4.8						
CD2				LR	LR		
	comp=E,610nm,18.0s,MS4.8						
CD2				LR	LR		
	comp=Z,810nm,19.8s,MS4.7						
MDJ	**Mudanjiang**	**50.84 350**		P	**P**	**19 18 46.1**	**+0.3**
MDJ				PP	PP	19 20 42.6	+0.4
MDJ				S	**S**	**19 26 04.5**	**+2.2**
MDJ				AMB	AMB		
	comp=Z,32nm,1.2s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,138nm,5.8s						
MDJ				LR	LR		
	comp=N,451nm,24.7s,MS4.5						
MDJ				LR	LR		
	comp=E,259nm,24.7s,MS4.5						
MDJ				LR	LR		
	comp=Z,622nm,24.1s,MS4.5						
MDJ	**Mudanjiang**	**50.84 350**		*e*P	**P**	**19 18 45.2**	**-0.5**
	comp=Z,54nm,1.1s,mb5.4						
CN2	**Changchun**	**50.95 346**		⇑P	**P**	**19 18 46.1**	**-0.5**
CN2				PCP	PcP	19 20 01.6	-1.3
CN2				*e*S	**S**	**19 26 03.3**	**-0.6**
CN2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,600nm,20.0s,MS4.7						
CN2				LR	LR		
	comp=E,500nm,20.0s,MS4.7						
CN2				LR	LR		
	comp=Z,700nm,24.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**52.18 2**		⇓*e*P	**P**	**19 18 54.0**	**-1.8**
YSS				*e*S	**S**	**19 26 20.0**	**-0.7**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4						
YSS				MLR	MLR		
	comp=Z,

comp=N,268nm,19.6s,MS4.5
GTA LR LR
comp=E,219nm,19.3s,MS4.5
GTA LR LR
comp=Z,410nm,21.4s,MS4.5
LSA Lhasa 59.11 309 P **P** **19 19 47.0 +1.0**
LSA Lhasa 59.11 309 *eP* **P** **19 19 46.3 +0.3**
LSA pmax pmax
comp=Z,23nm,1.1s,mb5.1
LSA Lhasa 59.11 309 *eP* **P** **19 19 46.3 +0.3**
comp=Z,23nm,1.1s,mb5.1
PETK Petropavlovsk- 60.03 12 P **P** **19 19 51.4 -0.4**
comp=Z,45nm,0.9s,mb5.5,baz=168,slow=5.8,SNR=34
PETK LR LR 19 42 42.2
comp=Z,321nm,21.2s,MS4.4,baz=196,slow=33
PET Petropavlovsk 60.14 12 *eP* **P** **19 19 51.6 -1.0**
PET pmax pmax
comp=Z,62nm,1.3s,mb5.5
PET Petropavlovsk 60.14 12 *eP* **P** **19 19 51.6 -1.0**
comp=Z,62nm,1.3s,mb5.5
TAPN Taplejung 60.81 305 *eP* **P** **19 19 58.4 +0.7**
comp=Z,73nm,1.1s,mb5.7
ODAN Odare 60.88 305 *eP* **P** **19 19 58.5 +0.4**
comp=Z,19nm,0.6s,mb5.4
SONM Songino Array 61.10 334 P **P** **19 19 59.4 +0.2**
comp=Z,2.0nm,0.5s,mb4.5,baz=149,slow=8.0,SNR=23
SONM LR LR 19 46 37.5
comp=Z,716nm,20.0s,MS4.8,baz=146,slow=36
PALK Pallekele 61.37 281 *eP* **P** **19 20 02.9 +1.1**
PALK pmax pmax
comp=Z,22nm,0.9s,mb5.3
PALK Pallekele 61.37 281 *eP* **P** **19 20 02.9 +1.1**
comp=Z,22nm,0.9s,mb5.3
GUN Gumba 62.53 305 *eP* **P** **19 20 09.3 +0.1**
PKI Pulchoki 62.78 305 *eP* **P** **19 20 11.1 +0.2**
KKN Kakani 62.97 305 *eP* **P** **19 20 12.3 +0.1**
comp=Z,52nm,0.9s,mb5.7
KKN Kakani 62.97 305 *eP* **P** **19 20 12.3 +0.1**
KKN pmax pmax
comp=Z,53nm,0.9s,mb5.7
CLNS Chul'man 63.42 350 *eP* **P** **19 20 15.4 +0.8**
CLNS pmax pmax
comp=Z,52nm,1.1s,mb5.6
CLNS pmax pmax
comp=N,39nm,1.6s
CLNS pmax pmax
comp=E,10.0nm,1.1s
GKN Gorkha 63.58 305 *eP* **P** **19 20 16.5 +0.3**
CASY Casey 64.31 193 *eP* **P** **19 20 20.6 +0.3**
KOLN Koldanda 64.34 304 *eP* **P** **19 20 21.7 +0.4**
ZAK Zakamensk 64.36 334⇑ *iP* **P** **19 20 21.0 +0.1**
ZAK pmax pmax
comp=Z,25nm,1.5s,mb5.0
SMY Shemya 64.41 22 *eP* **P** **19 20 21.5 +0.3**
DANN Dangsing 64.42 305 *eP* **P** **19 20 22.3 +0.5**
TLY Talaya 65.18 335 ⇑P **P** **19 20 27.1 +0.9**
SNR=8.4
TLY Talaya 65.18 335 *c iP* **P** **19 20 26.4 +0.2**
TLY *e* 19 22 46.3
TLY *e*S S 19 29 05.0 -4.7
TLY pmax pmax
comp=Z,40nm,1.2s,mb5.3
TLY Talaya 65.18 335 *eP* **P** **19 20 24.4 -1.8**
comp=Z,40nm,1.2s,mb5.3
IRK Irkutsk 65.34 336 *eP* **P** **19 20 21.8 -5.5**
IRK *e* 19 22 47.1
IRK pmax pmax
comp=Z,54nm,3.1s
AMKA Amchitka 65.44 25 *eP* **P** **19 20 30.2 +2.3**
HYB Hyderabad 65.59 292 *i* P **P** **19 20 31.5 +1.9**
HYB Hyderabad 65.59 292 *eP* **P** **19 20 29.0 -0.6**
MOY Mondy 66.29 334 *eP* **P** **19 20 33.0 -0.4**
MOY pmax pmax
comp=Z,62nm,1.7s,mb5.4
BOD Bodaibo 66.69 345 *eP* **P** **19 20 35.0 -0.8**
BOD pmax pmax
comp=Z,33nm,1.2s,mb5.2
ADK Adak 67.56 27 *eP* **P** **19 20 41.8 +0.3**
YAK Yakutsk 67.82 354 *d iP* **P** **19 20 43.0 +0.1**
YAK *e**PP pP 19 20 53.0 +8.3
YAK *e* 19 21 08.7
YAK *e* 19 23 14.2
YAK *e*S S 19 29 41.8 +0.5
YAK *e* 19 30 37.8
YAK *e*SSS 19 37 05.4
YAK pmax pmax
comp=Z,96nm,1.4s,mb5.6
YAK pmax pmax
comp=N,58nm,1.5s
YAK pmax pmax
comp=E,13nm,1.9s
YAK pmax pmax
comp=Z,16nm,1.5s,mb4.8
YAK smax
comp=N,90nm,2.7s
YAK smax
comp=E,131nm,2.7s
YAK MLR MLR
comp=Z,234nm,15.0s,MS4.5
YAK MLR MLR
comp=N,207nm,19.0s
YAK Yakutsk 67.82 354 *eP* **P** **19 20 42.9 0.0**
WMQ Urumqi 68.48 321 P **P** **19 20 48.5 +1.0**
WMQ AP pP 19 20 53.3 +4.0
WMQ XP sP 19 20 55.5 +5.5
WMQ PCP PcP 19 21 13.6 +0.9
WMQ PP PP 19 23 22.3 +3.6
WMQ SCP 19 25 15.4
WMQ S S 19 29 49.5 -0.5
WMQ SCS ScS 19 30 44.3 -3.7
WMQ SS SS 19 34 15.0 +1.0
WMQ AMB AMB
comp=Z,31nm,0.9s,mb5.3
WMQ AMB AMB
comp=Z,37nm,7.4s
WMQ LR LR
comp=N,401nm,24.9s,MS4.6
WMQ LR LR
comp=E,184nm,20.3s,MS4.6
WMQ LR LR
comp=Z,234nm,21.6s,MS4.4
SEY Seymchan 68.73 6⇑ *eP* **P** **19 20 47.7 -0.9**
PPT Papeete 68.88 107 *eS* S 19 29 48.3 -7.3
comp=Z,117nm,22.5s
PPT Papeete 68.88 107 *e*LR LR 19 41 39.1
comp=Z,776nm,23.8s
PPT Papeete 68.88 107 LR LR 19 47 25.6
comp=Z,322nm,20.5s,MS4.6,baz=272,slow=33
MIR Mirnyy 69.31 199⇑ *iP* **P** **19 20 55.5 +3.3**
MIR *i* 19 21 13.0
MIR *i* 19 21 17.0
MIR pmax pmax
comp=Z,100nm,1.2s,mb5.6
HVS Khovu-Aksy 69.32 330⇓ *iP* **P** **19 20 55.1 +2.6**
SMLA Simla 70.76 305 *i* P **P** **19 21 01.9 0.0**
SMLA *ex* x 19 21 04.9
comp=Z,69nm,0.7s
KRAR Krasnoyarsk 72.77 334⇑ *iP* **P** **19 21 11.9 -1.5**
KRAR pmax pmax
comp=Z,18nm,1.3s,mb4.8
MK31 Makanchi Array 73.26 322 *i* P **P** **19 21 16.4 -0.1**
MK31 pmax pmax
comp=Z,220nm,1.7s,mb5.8
MKAR Makanchi Array 73.26 322 P **P** **19 21 16.6 +0.1**
comp=Z,11nm,0.8s,mb4.9,baz=110,slow=7.4,SNR=96
MKAR LR LR 19 55 37.1
comp=Z,282nm,19.3s,MS4.6,baz=131,slow=38
SBA Scott Base 73.64 174 *eP* **P** **19 21 19.4 +1.2**
SBA pmax pmax
comp=Z,80nm,1.8s,mb5.3
SBA Scott Base 73.64 174 *eP* **P** **19 21 19.4 +1.2**
comp=Z,80nm,1.8s,mb5.3
KSH Kashi 74.53 313 *eP* **P** **19 21 25.3 +1.2**
KSH AP pP 19 21 30.4 +4.5
KSH XP sP 19 21 32.3 +5.7
KSH PCP PcP 19 21 39.8 +1.3
KSH PP PP 19 24 14.9 +4.2
KSH PPP 19 25 59.8
KSH S S 19 31 00.6 +0.6
KSH SKS 19 31 28.4
KSH SCS ScS 19 31 33.6 -2.5
KSH SS SS 19 35 50.6 +3.7
KSH AMB AMB
comp=Z,54nm,0.4s,mb5.8
KSH AMB AMB
comp=Z,633nm,2.8s,mb6.0
KSH LR LR
comp=N,345nm,4.8s
KSH LR LR
comp=E,416nm,5.0s
KSH LR LR
comp=Z,309nm,6.4s
ZALV Zalesovo Beam 75.37 330 P **P** **19 21 28.0 -0.6**
comp=Z,10nm,1.0s,mb4.7,baz=108,slow=4.8,SNR=27
ZALV Zalesovo Beam 75.37 330 P **P** **19 21 28.0 -0.6**
ZAL Zalesovo 75.38 330 P **P** **19 21 28.0 -0.6**
BILL Bilibino 75.45 10 *d iP* **P** **19 21 28.5 -0.3**
BILL pmax pmax
comp=Z,37nm,1.7s,mb5.0
BILL Bilibino 75.45 10 *i* P **P** **19 21 28.6 -0.2**
FALS False Pass 75.65 30 *eP* **P** **19 21 31.6 +1.4**
KZA Kyzart 75.94 316 P **P** **19 21 34.7 +2.5**
SNR=6.2
TKM2 Tokmak 2 76.01 317 *eP* **P** **19 21 32.4 -0.1**
TKM2 pmax pmax
comp=Z,37nm,1.3s,mb5.2
TKM2 Tokmak 2 76.01 317 P **P** **19 21 33.7 +1.2**
SNR=12
TKM2 Tokmak 2 76.01 317 *eP* **P** **19 21 32.4 -0.1**
comp=Z,37nm,1.3s,mb5.2
CHMS Chumysh 76.61 316 P **P** **19 21 36.7 +0.8**
SNR=7.9
NVS Novosibirsk 76.62 330⇑ *iP* **P** **19 21 34.4 -1.3**
NVS *e*S S 19 31 20.3 -2.3
NVS pmax pmax
comp=Z,57nm,1.3s,mb5.3
NVS pmax pmax
comp=N,33nm,1.5s
NVS pmax pmax
comp=E,42nm,1.5s
NVS smax
comp=N,19nm,2.3s
NVS smax
comp=E,22nm,2.2s
FRU Bishkek 76.65 316 *i* P **P** **19 21 38.0 +1.8**
FRU pmax pmax
comp=Z,50nm,2.0s,mb5.1
AAK Ala-Archa 76.66 316 P **P** **19 21 37.7 +1.4**
SNR=6.8
USP Ospenovka 76.88 317 P **P** **19 21 38.5 +1.0**
SNR=16
AML Almayashu 77.05 315 P **P** **19 21 40.5 +2.0**
SNR=7.1
AML Almayashu 77.05 315 *eP* **P** **19 21 39.1 +0.7**
comp=Z,32nm,1.0s,mb5.2
EKS2 Erkin-Say 77.17 316 P **P** **19 21 40.6 +1.5**
SNR=19
EKS2 Erkin-Say 77.17 316 *eP* **P** **19 21 39.4 +0.3**
comp=Z,18nm,1.1s,mb4.9
KURK Kurchatov 77.18 325⇓ *iP* **P** **19 21 40.0 +1.0**
SNR=23
KURK Kurchatov 77.18 325 *eP* **P** **19 21 38.1 -0.9**
KURK pmax pmax
comp=Z,111nm,1.8s,mb5.5
KURK Kurchatov 77.18 325 *eP* **P** **19 21 38.1 -0.9**
comp=Z,111nm,1.8s,mb5.5
TIXI Tiksi 77.33 356 *eP* **P** **19 21 38.1 -1.3**
TIXI *e*S S 19 31 24.9 -4.9
TIXI *e*SS SS 19 36 28.9 +0.7
TIXI pmax pmax
comp=Z,37nm,1.3s,mb5.2
TIXI MLR MLR
comp=Z,351nm,17.0s,MS4.8
TIXI Tiksi 77.33 356 *eP* **P** **19 21 38.4 -1.0**
comp=Z,30nm,1.1s,mb5.1
SDPT Sand Point 77.36 30 *eP* **P** **19 21 39.6 -0.3**
KBL Kabul 78.29 307 *eP* **P** **19 21 44.6 -1.0**
KBL pmax pmax
comp=Z,14nm,0.7s,mb5.0
KBL Kabul 78.29 307 *eP* **P** **19 21 44.6 -1.0**
comp=Z,14nm,0.7s,mb5.0
CHGN Chignik 78.84 30 *eP* **P** **19 21 49.8 +1.8**
MAW Mawson 80.44 202 P **P** **19 21 57.1 +0.4**
comp=Z,2.5nm,0.7s,mb4.2,baz=89,slow=12,SNR=5.1
MAW LR LR 19 55 55.5
comp=Z,694nm,20.4s,MS5.0,baz=78,slow=34
SVW2 Sparrevohn 82.33 26 *eP* **P** **19 22 07.7 +1.0**
VOSK Vostochnaya 82.34 325 P **P** **19 22 04.9 -2.0**
VOSK pmax pmax
comp=Z,205nm,0.1s
KDAK Kodiak Island 82.35 30 P **P** **19 22 06.1 -0.8**
comp=Z,54nm,1.0s,mb5.4,baz=243,slow=4.0,SNR=10.0
KDAK LR LR 19 53 36.5
comp=Z,384nm,21.7s,MS4.7,baz=253,slow=32
KDAK Kodiak Island 82.35 30 *eP* **P** **19 22 06.6 -0.2**
RKT Rikitea 82.50 113 *e*LR LR 19 47 58.6
comp=Z,680nm,35.0s
BVA0 Borovoye Array 82.78 325 *i* P **P** **19 22 08.7 -0.5**
BVA0 pmax pmax
comp=Z,84nm,2.4s,mb5.3
BRVK Borovoye 82.85 325⇓ P **P** **19 22 09.6 0.0**
SNR=38
BRVK Borovoye 82.85 325 P **P** **19 22 08.9 -0.7**
BRVK pmax pmax
comp=Z,107nm,1.3s,mb5.7
BRVK Borovoye 82.85 325 *eP* **P** **19 22 09.5 -0.1**
TTA Tatalina 82.96 24 *eP* **P** **19 22 10.0 +0.1**
IMA2 Indian Mountai 85.23 22 *eP* **P** **19 22 21.4 -0.1**
PMR Palmer 85.38 27 *eP* **P** **19 22 22.1 -0.2**
PMR pmax pmax
comp=Z,50nm,1.0s,mb5.6
PMR Palmer 85.38 27 *eP* **P** **19 22 22.1 -0.3**
comp=Z,50nm,1.0s,mb5.6
BIDO Bidbid 85.54 294⇓ P **P** **19 22 24.3 +0.3**
SNR=6.0
COLD Coldfoot 86.97 21 *eP* **P** **19 22 30.3 +0.3**
comp=Z,40nm,1.3s,mb5.5
COLA College 87.04 24 *i* P **P** **19 22 28.6 -1.8**
COLA College 87.04 24 *i* P **P** **19 22 28.6 -1.8**
AB31 Akbulak array 88.19 320 *i* P **P** **19 22 34.5 -1.8**
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
AB31 Akbulak array 88.19 320 *i* P **P** **19 22 34.6 -1.7**
SVE Sverdlovsk 89.19 327⇑ *eP* **P** **19 22 40.3 -0.5**
SVE *e*S S 19 33 09.7 -21
SVE pmax pmax
comp=Z,37nm,1.4s,mb5.5
SVE MLR MLR
comp=Z,279nm,17.0s,MS4.8
AKTK Aktyubinsk 89.62 321 *i* P **P** **19 22 40.5 -2.5**
AKTO Aktyubinsk 89.62 321 *i* P **P** **19 22 40.5 -2.5**
EGAK Eagle 89.76 25 *eP* **P** **19 22 43.3 -0.1**
comp=Z,34nm,0.8s,mb5.7
ARU Arti 90.25 327 P **P** **19 22 44.9 -0.9**
comp=Z,139nm,1.2s,mb6.2,SNR=11
ARU Arti 90.25 327 *d iP* **P** **19 22 44.6 -1.2**
ARU *e* 19 26 19.8
ARU *e*PPP 19 28 13.4
ARU S S 19 33 15.8 -25
ARU SP SP 19 34 44.9 -1.4
ARU PS PS 19 34 53.2 +5.8
ARU SS SS 19 39 43.0 +3.3
ARU pmax pmax
comp=Z,39nm,1.7s,mb5.5
ARU Arti 90.25 327 *eP* **P** **19 22 43.7 -2.1**
comp=Z,42nm,1.2s,mb5.6
DAWY Dawson 90.36 26 *eP* **P** **19 22 46.0 -0.1**
SIT Sitka 91.13 33 *eP* **P** **19 22 50.5 +0.6**
SIT pmax pmax
comp=Z,21nm,1.2s,mb5.3
SIT Sitka 91.13 33 *eP* **P** **19 22 50.5 +0.7**
comp=Z,21nm,1.2s,mb5.3
SKAG Skagway 91.47 31 *eP* **P** **19 22 50.7 -0.7**
comp=Z,14nm,1.1s,mb5.2
OPO Ambohidratompo 91.80 251 P **P** **19 22 53.7 -0.2**
comp=Z,2.0nm,0.7s,mb4.5
BBB Bella Bella 94.86 38 P **P** **19 23 07.6 +0.4**
comp=Z,4.6nm,0.7s,mb5.0,baz=307,slow=2.9,SNR=7.2
BBB Bella Bella 94.86 38 P **P** **19 23 07.6 +0.4**
NLWA Neilton Lookou 97.51 43 *eP* **P** **19 23 21.2 +1.9**
comp=Z,13nm,1.4s,mb5.3
GNW Green Mountain 98.22 43 *eP* **P** **19 23 22.6 +0.1**
YKA Yellowknife Ar 101.48 27 P Pdif 19 23 35.7 -1.2
comp=Z,1.2nm,0.7s,baz=281,slow=4.9,SNR=3.3
YKA Yellowknife Ar 101.48 27 P Pdif 19 23 35.7 -1.2
NVAR Mina Array Bea 101.81 52 P Pdif 19 23 40.3 +1.9
comp=Z,0.4nm,0.6s,baz=264,slow=3.5,SNR=4.1
BMO Blue Mountains 102.17 45 *eP* Pdif 19 23 40.9 +0.9
OBN Obninsk 102.62 325⇑ *iP* Pdif 19 23 39.5 -2.5
OBN *i* 19 27 54.9
OBN pmax pmax
comp=Z,15nm,1.3s
ARCES ARCESS Array B 103.78 341 Pdiff Pdif 19 23 46.1 -1.0
comp=Z,6.0nm,0.8s,baz=60,slow=7.3,SNR=11
AKASG Malin Array Be 107.84 322 Pdiff Pdif 19 24 07.5 +2.3
comp=Z,1.1nm,0.4s,baz=60,slow=3.8,SNR=6.7
UZH Uzhgorod 112.74 321 *e*PKIKP PKiKP 19 28 15.6 -6.5
UZH *e* 19 28 31.0
TXAR Lajitas Array 114.78 60 PKP PKiKP 19 28 28.0 +1.4
comp=Z,0.7nm,0.9s,baz=328,slow=1.9,SNR=5.5
TXAR PKKPab PKKPab 19 39 13.2 +3.6
comp=Z,1.4nm,0.9s,baz=118,slow=6.9,SNR=13
OKC Ostrava-Krasne 114.86 323 AMS AMS 20 19 40.0
comp=Z,200nm,14.9s
DPC Dobruska-Polom 115.73 324 AMS AMS 20 19 40.0
comp=Z,200nm,20.4s
PRU Pruhonice 116.92 324 AMS AMS 20 17 10.0
comp=Z,300nm,27.6s
CLL Collm 117.20 326 *e*(SKKSac)SKKSac 19 36 24.0 -18
CLL Lm 19 22 00.0
comp=N,300nm,20.9s
CLL Lm 19 22 00.0
comp=E,200nm,20.1s
CLL Lm 19 22 00.0
comp=Z,400nm,19.5s
CLL *e*PS PS 19 39 30.0 +5.2
CLL *e*SS SS 19 45 42.0 -8.0
CLL *e*SSS 19 50 48.0
KHC Kasperske Hory 117.86 324 AMS AMS 20 23 10.0
comp=Z,200nm,21.7s
JCT Junction City 117.91 58 *e*PKIKP PKPdf 19 28 32.4 -0.2
GERES GERESS Array B 117.92 323 PKP PKPdf 19 28 32.1 +0.1
comp=Z,0.6nm,0.4s,baz=90,slow=1.6,SNR=13
HINF Hinteralfeld 122.41 325 *e*PKIKP PKPdf 19 28 40.9 +0.2
comp=Z,9.5nm,0.8s
HAU Haudompre 122.59 325 *e*PKIKP PKPdf 19 28 40.8 -0.2
LPG La Plagne 123.68 323 *e*PKIKP PKPdf 19 28 43.2 0.0
comp=Z,7.0nm,0.9s
LPL La Plagne 123.68 323 *e*PKIKP PKPdf 19 28 43.4 +0.2
MBDF Montbardon 124.06 322 *e*PKIKP PKPdf 19 28 44.0 0.0
comp=Z,7.9nm,0.8s
CMIG Matias Romero 124.26 73 PKP PKPdf 19 28 44.4 -0.7
comp=Z,2.4nm,0.7s,baz=24,slow=5.4,SNR=4.1
LOR Lormes 124.40 326 *e*PKIKP PKPdf 19 28 45.2 +0.7
ORIF Oris-en-Rattie 124.50 322 *e*PKIKP PKPdf 19 28 44.6 -0.2
SSF Saint Saulge 124.72 326 *e*PKIKP PKPdf 19 28 46.0 +0.9
VIVF Saint-Julien-l 125.27 323 *e*PKIKP PKPdf 19 28 46.3 0.0
PLCA Paso Flores 125.75 151 PKP PKPdf 19 28 48.6 +1.2
comp=Z,3.0nm,0.7s,baz=195,slow=6.4,SNR=7.5
TCF Toulx Ste Croi 125.90 326 *e*PKIKP PKPdf 19 28 48.2 +0.8
LASF Ste Croix 126.18 323 *e*PKIKP PKPdf 19 28 48.2 +0.2
TOA0 Torodi Ar. Sit 139.06 284 *e*PKPdf 19 29 05.9
TORD Torodi Ar. Bea 139.06 284 PKhKP 19 29 03.7
comp=Z,1.6nm,0.7s,baz=72,slow=2.4,SNR=12
TORD PKP PKPdf 19 29 13.9 +0.8
comp=Z,5.8nm,0.8s,baz=86,slow=1.5,SNR=21
LPAZ La Paz 144.08 127 PKP PKPdf 19 29 22.3 +0.3
comp=Z,2.6nm,0.6s,baz=274,slow=4.0,SNR=13
ROSC El Rosal 144.91 89 PKP PKPdf 19 29 23.4 -0.2
comp=Z,12nm,0.8s,baz=274,slow=19,SNR=13
KIC Kosan Boka 145.81 273 *e*PKP1 PKPbc 19 29 25.4 -0.2
comp=Z,320nm,1.0s
KIC *e*P
comp=Z,320nm,1.0s
DBIC Dimbokro 145.93 274 PKPbc PKPbc 19 29 25.7 -0.3
comp=Z,20nm,0.5s,baz=80,slow=3.3,SNR=31
TIC Toumodi 146.09 274 *e*PKP1 PKPbc 19 29 26.1 -0.4
comp=Z,196nm,0.8s
TIC *e*P
comp=Z,196nm,0.8s
LIC Lamto 146.10 273 *e*PKIKP PKPdf 19 29 26.0 +0.4
comp=Z,126nm,1.0s
LIC Lamto 146.10 273 *e*PKP1 PKPbc 19 29 26.1 -0.4
comp=Z,172nm,1.0s
LIC *e*P
comp=Z,172nm,1.0s
SDV Santo Domingo 148.53 82 *e*PKPdf PKPbc 19 29 32.5 -0.8
SJG San Juan 150.73 62 *e*PKIKP PKPdf 19 29 33.4 +0.4
HUMP Col San Antoni 150.99 62 *e*PKPbc PKPbc 19 29 37.5 -1.7
BDFB Brasilia 157.28 157 PKP PKPdf 19 29 43.0 +0.7
comp=Z,1.6nm,0.9s,baz=242,slow=25,SNR=2.9
BDFB PKPab PKPab 19 30 13.8 +0.8
comp=Z,4.5nm,0.8s,baz=173,slow=11,SNR=9.1

ISCJB ***19*** *19:22:39.2±1.0, 24S±02×686E±02, h10km, mb4.2/7, Error ellipse: s-maj=30.4km s-min=18.7km az=145.3*
NEIC ***19*** *19:22:40.8±0.9, 244S×6862E, h10km, mb4.5/3, Error ellipse: s-maj=28.2km s-min=17.4km az=145.0*
IDC ***19*** *19:22:44.8±2.2, 188S×6901E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, Error ellipse: s-maj=62.7km s-min=39.6km az=70.0*

ISC 19 19:22:41.0±1.0, 24S±02×686E±02, h10km, n10, σ0$90/9, mb4.2/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.43**	**51**	*e*Pn		**Pn**	**19 26 18.1**	**-0.9**
6.6nm,0.3s								
CMAR	**Chiang Mai Arr**	**36.35**	**54**	P		**P**	**19 29 46.8**	**+1.2**
0.2nm,0.4s,mb3.4,baz=244,slow=10,SNR=4.7								
LSZ	**Lusaka**	**41.84**	**250**	*eP*		**P**	**19 30 31.3**	**-0.2**
22nm,2.0s,mb4.5								
MBWA	**Marble Bar**	**53.09**	**115**	*eP*		**P**	**19 31 57.8**	**-1.3**
37nm,1.3s,mb5.2								
SONM	**Songino Array**	**59.94**	**28**	P		**P**	**19 32 47.3**	**-0.1**
1.5nm,0.8s,mb4.1,baz=213,slow=6.6,SNR=10								
WRA	**Warramunga Arr**	**66.37**	**111**	P		**P**	**19 33 34.8**	**+4.1**
1.0nm,0.8s,mb3.9,baz=291,slow=5.8,SNR=3.0								
WRAB	**Tennant Creek**	**66.38**	**111**	*eP*		**P**	**19 33 31.7**	**+1.0**
5.0nm,0.9s,mb4.5								
WB2	**Warramunga Arr**	**66.38**	**111**	P		**P**	**19 33 30.5**	**-0.3**
ASAR	**Alice Springs**	**66.43**	**115**	P		**P**	**19 33 35.5**	**+4.6**
0.8nm,0.8s,mb3.8,baz=280,slow=5.9,SNR=4.4								
TXAR	**Lajitas Array**	**152.26**	**345**	PKPbc		PKPbc	19 42 43.0	+5.2
0.5nm,0.7s,baz=64,slow=2.1,SNR=4.7								

IDC ***19*** *19:22:53.0±0.6, 3334S×7782E, h0km, mb4.3/16, mb1 4.4/16, mb1mx4.3/22, mbtmp4.3/16, MS4.4/4, Ms1 4.3/4, ms1mx3.9/21, Error ellipse: s-maj=17.8km s-min=16.2km az=164.0*
ISCJB ***19*** *19:22:53.0±0.4, 3338S±007×7782E±0.10, h10km, mb4.5/21, MS4.4/4, Error ellipse: s-maj=11.9km s-min=9.6km az=24.7*
NEIC ***19*** *19:22:54.8±0.3, 3337S×7781E, h10km, mb4.7/7, Error ellipse: s-maj=10.8km s-min=9.5km az=126.0*
GCMT ***19*** *19:22:54.8±0.4, 3343S×7788E, h17km±1km, MW5.0/54, Moment Tensor Solution. s19,c20; s54,c82; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.10±.16; Mθθ-3.33±.15; Mφφ3.43±.16; Mrθ1.52±.47; Mrφ0.32±.14; Mθφ-2.55±.53; Best double couple: M0=4.47800×1016 NP1:φ=230.00000°, δ49.00000°, λ2.00000°. NP2: φ=139.00000°, δ89.00000°, λ139.00000°. Principal axes: T 4.7890, Plg28.0000°, Azm86.0000°; N -0.6250, Plg49.0000°, Azm317.0000°; P -4.1670, Plg26.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 19:22:55.0±0.4, 3336S±007×7782E±010, h10km, (h15km±.3km:pP-P), n36, σ0$90/32, mb4.5/21, MS4.4/4, 2D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PAF	**Port-aux-Franc**	**16.95**	**197**	*eP*		**Pn**	**19 26 53.3**	**+1.2**
OPO	**Ambohidratompo**	**31.09**	**291**	P		**P**	**19 29 13.8**	**+0.3**
2.7nm,0.8s,mb4.1,baz=86,slow=10,SNR=3.6								
MAW	**Mawson**	**35.37**	**190**	P		**P**	**19 29 49.5**	**-0.9**
6.6nm,1.5s,mb4.5,baz=25,slow=8.6,SNR=8.3								
MAW	**Mawson**	**35.37**	**190**	*eP*		**P**	**19 29 49.2**	**-1.2**
17nm,1.3s,mb4.8								
PALK	**Pallekele**	**40.50**	**4**	*eP*		**P**	**19 30 36.2**	**+2.0**
80nm,1.6s,mb5.1								
SYO	**Syowa Base**	**41.62**	**200**⇓	*eP*		**P**	**19 30 41.4**	**-1.5**
SYO	**Syowa Base**	**41.62**	**200**⇓	*eP*		**P**	**19 30 44.0**	**+1.1**
BOSA	**Boshof**	**44.92**	**261**	P		**P**	**19 31 10.0**	**-0.1**
2.4nm,0.7s,mb4.2,baz=100,slow=15,SNR=4.4								
BOSA				LR		LR	19 45 12.7	
comp=Z,451nm,21.9s,MS4.4,baz=102,slow=30								
BOSA	**Boshof**	**44.92**	**261**	P		**P**	**19 31 10.0**	**-0.1**
BOSA				LR		LR	19 45 12.7	
FITZ	**Fitzroy Crossi**	**45.29**	**83**	P		**P**	**19 31 13.0**	**-0.2**
5.4nm,1.0s,mb4.3,baz=154,slow=17,SNR=3.8								

LSZ	Lusaka	48.20	280	P	P	19 31 36.0	+0.1
	18nm,0.6s,mb5.3,baz=123,slow=7.9,SNR=53						
ASAR	Alice Springs	49.72	94	P	P	19 31 47.5	-0.1
	4.1nm,1.0s,mb4.4,baz=236,slow=7.5,SNR=9.1						
KMBO	Kilima Mbogo	49.73	302	P	P	19 31 47.5	-0.3
	2.1nm,0.8s,mb4.2,baz=77,slow=8.8,SNR=4.5						
KMBO	Kilima Mbogo	49.73	302	eP	P	19 31 46.9	-0.9
	2.3nm,0.8s,mb4.3						
WRA	Warramunga Arr	51.69	90	P	P	19 32 02.3	-0.2
	9.4nm,0.9s,mb4.7,baz=245,slow=7.2,SNR=12						
WRA				LR	LR	19 50 25.4	
	comp=Z,520nm,18.6s,MS4.6,baz=135,slow=32						
STKA	Stephens Creek	52.97	107	LR	LR	19 50 28.0	
	comp=Z,391nm,18.6s,MS4.5,baz=111,slow=31						
TSUM	Tsumeb	55.14	269	eP	P	19 32 27.5	-0.3
	7.1nm,0.8s,mb4.8						
CMAR	Chiang Mai Arr	55.34	25	P	P	19 32 28.9	-0.2
	2.8nm,1.0s,mb4.2,baz=209,slow=6.4,SNR=9.7						
SNAA	Sanae	55.79	202	e	P	19 32 31.3	-0.4
SNAA				e	pP	19 32 35.3	+0.4
SNAA				e		19 32 39.7	
SNAA	Sanae	55.79	202	P	P	19 32 31.4	-0.3
	1.4nm,0.8s,mb4.0,baz=102,slow=9.4,SNR=17						
QSPA	South Pole Qui	56.78	180	P	P	19 32 38.7	0.0
	12nm,0.9s,mb4.9,baz=275,slow=3.9,SNR=22						
VNA2	Neumayer--Watz	57.32	203	e	P	19 32 42.5	-0.1
VNA2				e	pP	19 32 46.9	+1.1
VNA2				e		19 32 50.8	
VNA1	Neumayer--Stat	57.65	203	e	P	19 32 45.8	+0.9
VNA1				e	pP	19 32 49.9	+1.8
VNA1				e		19 32 53.7	
VNA3	Neumayer Olymp	58.01	202	e	P	19 32 48.0	+0.5
VNA3				e	pP	19 32 52.4	+1.7
VNA3				e		19 32 55.9	
CTAO	Charters Tower	61.58	96	P	P	19 33 12.7	-0.1
	46nm,1.6s,mb5.3						
LSA	Lhasa	63.98	13	eP	P	19 33 29.9	+1.5
	3.3nm,0.8s,mb4.4						
TKM2	Tokmak 2	75.94	358	eP	P	19 34 43.5	+1.8
	1.0nm,0.3s,mb4.2						
MKAR	Makanchi Array	79.89	3	P	P	19 35 01.6	-2.0
	1.1nm,0.8s,mb3.8,baz=178,slow=6.1,SNR=4.8						
SONM	Songino Array	84.80	19	P	P	19 35 29.2	0.0
	1.0nm,0.8s,mb4.0,baz=206,slow=4.4,SNR=6.0						
TORD	Torodi Ar. Bea	85.88	289	P	P	19 35 35.0	-0.4
	4.5nm,1.0s,mb4.7,baz=109,slow=3.1,SNR=12						
TORD	Torodi Ar. Bea	85.88	289	P	P	19 35 35.0	-0.4
ZALV	Zalesovo Beam	87.16	4	P	P	19 35 39.5	-1.3
	1.6nm,0.5s,mb4.5,baz=207,slow=4.7,SNR=7.8						
ZALV				LR	LR	20 11 54.2	
	comp=Z,116nm,21.3s,MS4.3,baz=2.7,slow=34						
AKASG	Malin Array Be	94.04	331	P	P	19 36 11.9	-1.1
	0.1nm,0.3s,mb3.8,baz=159,slow=2.9,SNR=2.8						
SKAG	Skagway	145.94	30	ePKPab	PKPab	19 42 34.1	-0.4
SCHQ	Schefferville	147.29	322	PKPbc	PKPbc	19 42 38.8	+0.7
	17nm,1.1s,baz=21,slow=8.6,SNR=3.0						
YKA	Yellowknife Ar	149.80	11	PKPbc	PKPbc	19 42 42.6	-1.7
	1.2nm,0.8s,baz=12,slow=3.3,SNR=3.1						

*KNET **19** 19:25:34.0±0.6, 41.84N×72.95E, h11km±2km, ml2.8, Error ellipse: s-maj=9.2km s-min=3.1km az=148.0*
*ISCJB **19** 19:25:35.6±1.5, 420N±02×7289E±008, h10km, Error ellipse: s-maj=22.4km s-min=7.3km az=170.1*
ISC 19 19:25:35.5±1.6, 419N±02×7287E±008, h10km, n8, σ0.96/12, 6C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	0.65	73	⇓P	Pg	19 25 46.0	-2.0
	43nm,0.1s,SNR=11						
AML				⇑S	Sg	19 25 56.2	-0.3
	123nm,0.2s						
EKS2	Erkin-Say	0.99	43	⇓P	Pg	19 25 53.1	-1.4
	9.3nm,0.1s,SNR=29						
AAK	Ala-Archa	1.39	60	⇓P	Pn	19 26 00.3	-0.7
	18nm,0.3s,SNR=15						
AAK				⇑S	Sn	19 26 19.9	+0.5
	25nm,0.3s						
KBK	Karagaybulak	1.70	64	⇓P	Pn	19 26 05.8	+0.5
	14nm,0.1s,SNR=25						
KBK				⇑S	Sg	19 26 30.2	0.0
	111nm,0.4s						
CHMS	Chumysh	1.75	52	⇑P	Pn	19 26 06.9	+1.1
	24nm,0.2s,SNR=18						
CHMS				⇓S	Sg	19 26 31.9	+0.1
	91nm,0.3s						
USP	Ospenovka	1.79	42	⇑P	Pn	19 26 07.6	+1.1
	20nm,0.2s,SNR=7.8						
KK31	Karatay Array	2.09	304	Pn	Pn	19 26 10.1	-0.6
	5.1nm,0.3s,baz=124,slow=13,SNR=288						
KK31				Lg		19 26 40.3	
	23nm,0.4s,baz=127,slow=25,SNR=10.0						
TKM2	Tokmak 2	2.25	63	⇑P	Pn	19 26 14.0	+1.3
	7.8nm,0.1s,SNR=17						

KRSC 19 19:28:36.3±1.0, 5232N×16033E, h24km±24km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.80	347	eP	Pb	19 28 52.0	+0.5
SPN				i S	Sb	19 29 04.0	+2.1
NLC	Nalytchevo	1.04	325	eP	Pn	19 28 55.8	+0.4
NLC				i S	Sb	19 29 10.5	+1.7
RUS	Russkaya	1.12	277	eP	Pn	19 28 56.1	-0.3
RUS				i S	Sn	19 29 10.6	-0.4
PET	Petropavlovsk	1.24	305	P	Pn	19 28 58.5	+0.4
PET				i S	Sn	19 29 14.6	+0.6
AVH	Avacha	1.35	315	eP	Pn	19 29 00.8	+1.2
AVH				i S	Sn	19 29 19.1	+2.3
GRL	Gorelyy	1.40	280	P	Pn	19 29 01.6	+1.3
GNL	Ganaly	2.00	315	eP	Pn	19 29 10.9	+2.4
GNL				i S	Sn	19 29 35.8	+3.2
MIPR	Malaya Ipel'ka	2.19	270	eP	Pn	19 29 13.2	+2.0
MKZ	Mys Kozlova	2.39	20	eP	Pn	19 29 14.9	+1.0
MKZ				i S	Sn	19 29 42.9	+0.5
KMNR	Kamenistaya	3.44	359	P	Pn	19 29 31.5	+3.2
KBTR	Krutoberegovo	4.16	20	P	Pn	19 29 40.0	+1.8

*BJI **19** 19:33:54.4, 36.30N×137.20E, h265km, mB4.4, mb4.3*
*ISCJB **19** 19:33:57.8±0.3, 36.28N±003×137.12E±005, h268km±2km, mb3.7/17, Error ellipse: s-maj=7.0km s-min=5.1km az=14.1*
*MOS **19** 19:33:57.6±1.2, 36.36N×137.14E, h269km, mb4.6/1, Error ellipse: s-maj=18.7km s-min=11.9km az=95.5*
*NEIC **19** 19:33:58.4, 36.28N×137.17E, h265km, mb4.6/2, After JMA.*
*JMA **19** 19:33:58.4±0.1, 36.28N×137.17E, h265km±1km, M3.6*
*IDC **19** 19:33:58.6±0.4, 36.22N×137.05E, h263km±3km, mb3.5/16, mb1 3.7/20, mb1mx3.6/28, mbtmp3.5/20, Error ellipse: s-maj=12.5km s-min=8.5km az=81.0*
ISC 19 19:33:58.6±0.3, 3627N±003×13712E±005, h263km±2km, n54, σ0.69/74, mb3.7/17, 2C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.16	107	P	Pn	19 34 32.4	+0.1
JGN				S	S	19 34 58.4	-0.5
JKG	Kaga	0.64	271	P	Pn	19 34 33.8	+0.4
JKG				S	S	19 35 01.1	+0.3
JGM	Miyama	0.66	210	P	Pn	19 34 33.6	+0.1
JGM				S	S	19 35 00.5	-0.5
MAJO	Matsushiro	0.92	73	⇑iP	Pn	19 34 34.8	+0.3
MAJO				eS	S	19 35 03.2	+0.3
MAT	Matsushiro	0.92	73	P	Pn	19 34 34.8	+0.3
MAT				S	S	19 35 02.8	-0.1
MJAR	Matsushiro Arr	0.92	73	P	Pn	19 34 35.0	+0.5
	14nm,0.3s,baz=257,slow=6.0,SNR=202						
MJAR				S	S	19 35 04.4	+1.5
	4.7nm,0.3s,baz=30,slow=14,SNR=26						
JSZ	Suzu	1.19	9	P	Pn	19 34 36.0	0.0
JSZ				S	S	19 35 05.1	-0.5
JYN	Shimob	1.39	123	P	Pn	19 34 37.2	-0.2
JYN				eS	S	19 35 07.8	-0.2
JRY	Ryogami san	1.46	100	P	Pn	19 34 38.1	+0.2
JRY				eS	S	19 35 08.9	+0.1
JHG	Hegura jima	1.58	354	P	Pn	19 34 39.0	+0.3
JHG				S	S	19 35 10.8	+0.4
JWT	Wachi	1.71	235	P	Pn	19 34 39.9	+0.1
JAG	Ashikaga	1.89	85	P	Pn	19 34 40.5	-0.6
JOD2	Odawara 2	1.89	122	P	Pn	19 34 41.5	+0.3
JOD2				eS	S	19 35 15.7	+0.8
JIE	Ise	1.91	190	P	Pn	19 34 41.7	+0.3
JIE				S	S	19 35 15.5	+0.3
JSD	Sado	1.98	27	P	Pn	19 34 41.8	-0.1
JSD				S	S	19 35 15.1	-1.1
JNS	Sasagawa	2.34	48	P	Pn	19 34 44.9	-0.2
JWY	Kouya	2.40	212	P	Pn	19 34 46.6	+0.7
JWY				S	S	19 35 23.2	-0.1
TK01	Tokai 1	2.53	171	P	Pn	19 34 47.7	+0.5
JAW	Awa shima	2.76	37	P	Pn	19 34 49.5	+0.2
JAW				S	S	19 35 29.2	-0.4
JWZ	Kozaga	2.97	203	P	Pn	19 34 51.6	0.0
JWZ				S	S	19 35 32.8	-0.9
JHS	Saijyo	3.50	250	P	Pn	19 34 57.3	0.0
JHJ	Hachijo jima 2	3.83	144	P	Pn	19 35 00.6	-0.6
	5.4nm,0.3s,baz=196,slow=15,SNR=3.6						
JHJ				S	S	19 35 49.7	-1.1
	9.9nm,0.3s,baz=252,slow=22,SNR=3.0						
KSRS	Korea Array	7.47	282	P	Pn	19 35 45.6	+0.4
	0.1nm,0.3s,baz=101,slow=12,SNR=24						
VLA	Vladivostok	7.94	331	eP	Pn	19 35 50.9	-0.1
VLA				pmax	pmax		
	comp=Z,40nm,1.0s						
ASAJ	Asahikawa	8.88	26	P	Pn	19 36 00.1	-2.8
	comp=Z,16nm,0.3s,baz=221,slow=9.4,SNR=124						
ASAJ				S	S	19 37 34.5	-8.9
	comp=Z,1.4nm,0.3s,baz=122,slow=34,SNR=5.7						
ASAJ	Asahikawa	8.88	26	P	Pn	19 36 00.1	-2.7
ASAJ				S	S	19 37 34.6	-8.8
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
CBIJ	Chichi jima	10.11	153	P	Pn	19 36 18.6	+0.1
	comp=N,24nm,0.3s,baz=300,slow=23,SNR=10.0						
CBIJ				S	S	19 37 58.5	-14
	comp=N,10nm,0.3s,baz=283,slow=22,SNR=5.9						
MDJ	Mudanjiang	10.11	328	P	Pn	19 36 19.1	+0.8
MDJ				AMB	AMB		
	comp=Z,23nm,0.9s						
MDJ	Mudanjiang	10.11	328	⇑ePn	Pn	19 36 19.0	+0.7
	comp=Z,17nm,0.8s						
YSS	Yuzh-Sakhalins	11.47	20	eP	Pn	19 36 32.0	-3.1
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS	Yuzh-Sakhalins	11.47	20	ePn	Pn	19 36 32.2	-2.9
	comp=Z,53nm,0.4s						
JOW	Kunigami	12.05	221	P	Pn	19 36 42.1	-0.5
	comp=Z,1.0nm,0.3s,baz=75,slow=25,SNR=5.6						
PETK	Petropavlovsk-	22.17	34	P	P	19 38 31.8	-1.0
	comp=Z,2.6nm,0.9s,mb3.6,baz=170,slow=2.6,SNR=4.8						
SONM	Songino Array	25.41	307	P	P	19 39 01.6	-0.6
	comp=Z,0.5nm,0.9s,mb2.9,baz=81,slow=11,SNR=2.7						
KMI	Kunming	31.43	259	P	P	19 39 51.3	-4.4
ZALV	Zalesovo Beam	39.90	313	P	P	19 41 07.0	0.0
	comp=Z,0.8nm,0.4s,mb3.4,baz=99,slow=9.2,SNR=4.6						
ZALV				PcP	PcP	19 43 05.9	-1.0
	comp=Z,0.9nm,0.4s,baz=78,slow=6.6,SNR=3.5						
ZAL	Zalesovo	39.91	313	P	P	19 41 07.0	-0.1
ZAL						19 43 05.9	
MKAR	Makanchi Array	41.60	302	P	P	19 41 21.3	+0.4
	comp=Z,0.3nm,0.5s,mb2.8,baz=82,slow=11,SNR=8.2						
MKAR	Makanchi Array	41.60	302	P	P	19 41 21.3	+0.4
MKAR				pmax	pmax		
	comp=Z,16nm,0.3s						
BATI	Baumata	47.94	198	P	P	19 42 10.2	-0.8
	comp=Z,17nm,0.6s,mb4.6,baz=295,slow=16,SNR=4.6						
KDAK	Kodiak Island	49.96	41	P	P	19 42 27.1	+1.3
	comp=Z,11nm,1.0s,mb4.2,baz=239,slow=12,SNR=4.3						
FITZ	Fitzroy Crossi	55.16	193	P	P	19 43 03.7	-0.5
	comp=Z,1.1nm,0.5s,mb3.6,baz=8.3,slow=11,SNR=6.8						
WRA	Warramunga Arr	55.97	183	P	P	19 43 09.7	-0.2
	comp=Z,7.3nm,0.5s,mb4.4,baz=359,slow=7.6,SNR=121						
ASAR	Alice Springs	59.69	183	P	P	19 43 35.8	+0.2
	comp=Z,1.7nm,0.7s,mb3.7,baz=1.8,slow=5.5,SNR=29						
ARCES	ARCESS Array B	63.47	339	P	P	19 44 00.5	+0.2
	comp=Z,0.9nm,0.5s,mb3.6,baz=61,slow=6.9,SNR=12						
AKASG	Malin Array Be	72.74	321	P	P	19 44 57.1	-0.8
	comp=Z,0.8nm,0.6s,mb3.5,baz=49,slow=5.3,SNR=8.5						
NB2	NORSAR Subarra	73.51	336	P	P	19 45 02.0	-0.2
	comp=Z,0.5nm,0.5s,mb3.4,baz=43,slow=5.6						
NOA	NORSAR Array B	73.51	336	P	P	19 45 01.9	-0.3
	comp=Z,1.1nm,1.0s,mb3.4,baz=47,slow=5.2,SNR=4.4						
NOA	NORSAR Array B	73.51	336	P	P	19 45 01.9	-0.3
NVAR	Mina Array Bea	78.18	51	P	P	19 45 30.7	+1.7
	comp=Z,1.3nm,0.6s,mb3.8,baz=293,slow=5.7,SNR=8.4						
PDAR	Pinedale Array	80.62	43	P	P	19 45 43.2	+1.1
	comp=Z,1.7nm,0.7s,mb3.9,baz=313,slow=1.9,SNR=13						
GERES	GERESS Array B	81.48	326	P	P	19 45 46.4	-0.1
	comp=Z,0.4nm,0.6s,mb3.3,baz=44,slow=8.6,SNR=2.6						
ULM	Lac du Bonnet	81.99	31	P	P	19 45 48.8	-0.3
	comp=Z,2.5nm,0.8s,mb4.0,baz=158,slow=17,SNR=3.1						
TXAR	Lajitas Array	93.28	50	P	P	19 46 44.9	+1.1
	comp=Z,1.4nm,0.6s,mb4.0,baz=291,slow=2.7,SNR=18						

*ISCJB **19** 20:11:38.4±1.5, 1361S±003×7655W±004, h6km±9km, mb5.4/118, MS5.2/194, Error ellipse: s-maj=6.9km s-min=3.5km az=147.7*
*MOS **19** 20:11:42.7±1.0, 1355S×7655W, h33km, mb5.6/46, MS5.1/48, Error ellipse: s-maj=9.3km s-min=5.1km az=110.6*
*IDC **19** 20:11:42.1±3.7, 1360S×7669W, h23km±24km, mb4.9/17, mb1 5.0/22, mb1mx5.0/23, mbtmp4.9/22, ML4.5/3, MS5.1/22, Ms1 5.1/22, ms1mx4.9/30, Error ellipse: s-maj=17.4km s-min=10.5km az=75.0*
*BJI **19** 20:11:44.3, 1360S×7650W, h35km, mB5.5, Ms5.5, Msz5.3*
*GCMT **19** 20:11:44.4±0.2, 1373S×7695W, h25km, MW5.6/90, Moment Tensor Solution. s71,c120; s90,c203; Duration: 19s6 Moment tensor: Scale 1017Nm; M_{rr}1.02±.04; $M_{\theta\theta}$0.38±.03; $M_{\phi\phi}$-1.41±.04; $M_{r\theta}$-2.61±.11; $M_{\theta\phi}$-1.75±.03; $M_{\phi r}$-0.78±.09; Best double couple: $M_0$3.47300×1017 NP1:ϕ_s353.00000°, δ34.00000°, λ19.00000°. NP2:ϕ_s248.00000°, δ80.00000°, λ123.00000°. Principal axes: T 3.4100, Plg45.0000°, Azm191.0000°; N 0.1210, Plg32.0000°, Azm61.0000°; P -3.5370, Plg27.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **19** 20:11:44.4±0.1, 1363S×7650W, h35km, mb5.5/91, MS5.2/168, ML5.7(LIM) Error ellipse: s-maj=5.4km s-min=2.9km az=55.0*
NEIC Felt [IV] at Chincha Alta and Pisco; [III] at Ica and Lima.
ISC 19 20:11:43.4±1.4, 1362S±003×7650W±004, h26km±9km, h31km±1.4km: pP-P, n545, σ0.93/365, mb5.4/118, MS5.2/194, 11C-4D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.66	348	Pn	Pn	20 12 08.8	-2.0
	142μm,0.5s						
NNA	Nana	1.66	348	Pn	Pn	20 12 07.4	-3.4
	2μm,0.3s,baz=168,slow=13,SNR=1479						
NNA				Sn	Sn	20 12 28.8	-2.5
	13μm,0.3s,baz=197,slow=18,SNR=57						
NNA	Nana	1.66	348	ePn	Pn	20 12 07.4	-3.4
NNA				eSn	Sn	20 12 28.9	-2.3
ARE	Arequipa	5.60	121	eP	Pn	20 13 06.0	+1.0
ARE				eS	Sn	20 14 10.0	+1.5
ATAH	Atahualpa	6.84	344	Pn	Pn	20 13 19.4	-2.6
	32nm,0.3s,baz=169,slow=7.4,SNR=78						
ATAH				Sn	Sn	20 14 40.5	+1.4
	80nm,0.3s,baz=300,slow=19,SNR=2.2						
ATAH				LR	LR	20 16 22.3	
	comp=Z,15μm,18.5s,baz=322,slow=42						
LPAZ	La Paz	8.51	109	Pn	Pn	20 13 48.1	+3.2
	5.9nm,0.3s,baz=286,slow=11,SNR=77						
LPAZ				Sn	Sn	20 15 32.8	+13
	baz=248,slow=19,SNR=2.5						
LPAZ				LR	LR	20 17 48.7	
	comp=Z,17μm,21.8s,baz=298,slow=42						
LPAZ	La Paz	8.51	109	P	Pn	20 13 48.1	+3.2
LPAZ						20 15 32.8	
CEN1	Los Morros	11.40	149	⇑eP	Pn	20 14 23.5	-1.1
LVC	Limon Verde	11.48	142	Pn	Pn	20 14 26.5	+0.7
	10nm,0.3s,baz=304,slow=9.4,SNR=74						
LVC				Sn	Sn	20 16 32.2	-1.0
	9.4nm,0.3s,baz=61,slow=19,SNR=4.7						
LVC				LR	LR	20 19 06.9	
	comp=Z,10μm,18.6s,baz=318,slow=38						
LVC	Limon Verde	11.48	142	ePn	Pn	20 14 26.1	+0.3
OTAV	Otavalo	13.90	352	ePn	Pn	20 14 59.2	+0.3
SIV	San Ignacio	15.10	101	Pn	Pn	20 15 15.2	+0.1
	0.5nm,0.3s,baz=278,slow=13,SNR=22						
LCO	Las Campanas	16.23	162	ePn	Pn	20 15 30.2	+0.6
	218nm,1.0s						
TLL	Tololo Astrono	17.29	163	⇑eP	Pn	20 15 42.9	-0.1
ROSC	El Rosal	18.48	7	P	Pn	20 15 59.8	+2.0
	0.9nm,0.3s,baz=84,slow=23,SNR=24						
ROSC				S	Sn	20 19 30.5	+6.8
	1.0nm,0.3s,baz=108,slow=20,SNR=3.2						
ROSC				LR	LR	20 24 16.8	
	comp=Z,13μm,21.1s,baz=193,slow=41						
ROSC	El Rosal	18.48	7	ePn	Pn	20 16 00.9	+3.1
CFAA	Coronel Fontan	19.44	158	P	Pn	20 16 08.9	-0.3
	0.8nm,0.3s,baz=339,slow=12,SNR=78						
CFAA				LR	LR	20 22 28.3	
	comp=Z,1μm,18.8s,baz=337,slow=33						
PEL	Peldehue	20.14	166	eP	P	20 16 15.1	-0.5
FCH	Farellones	20.42	165	eP	P	20 16 19.6	+1.1
LMEL	Las Melosas	20.93	165	eP	P	20 16 24.9	+0.7
BCIP	Isla Barro Col	22.88	351	eP	P	20 16 45.1	0.0
BCIP				LR	LR		
	comp=Z,8μm,20.0s,MS5.1						
SDV	Santo Domingo	23.11	15	P	P	20 16 47.0	-0.4
	comp=Z,35nm,0.7s,mb4.9,baz=224,slow=7.3,SNR=41						
SDV				S	S	20 20 58.0	+0.9
	comp=Z,19nm,1.1s,baz=224,slow=18,SNR=2.4						
SDV	Santo Domingo	23.11	15	eP	P	20 16 47.0	-0.4
	comp=Z,132nm,0.8s,mb5.4						
SDV				LR	LR		
	comp=Z,1μm,19.0s,MS4.4						
CCHI	Chillan	23.23	171	⇑eP	P	20 16 48.1	-0.4
PCRV	Puerto La Cruz	26.41	27	P	P	20 17 18.4	+0.4
	comp=Z,23nm,0.9s,mb4.7,baz=46,slow=21,SNR=6.1						
PCRV				LR	LR	20 27 23.9	
	comp=Z,4μm,21.7s,MS4.9,baz=213,slow=36						
LPA	La Plata	27.03	145	deP	P	20 17 24.0	+0.5
LPA	La Plata	27.03	145	eP	P	20 17 27.0	+3.5
LPA				ePP		20 18 07.0	
LPA				eSP		20 22 14.0	
LPA				esS	sS	20 22 26.0	+14
PLCA	Paso Flores	27.51	170	P	P	20 17 26.8	-0.9
	comp=Z,32nm,0.7s,mb5.1,baz=344,slow=10,SNR=87						
PLCA				LR	LR	20 25 58.1	
	comp=Z,4μm,20.1s,MS5.0,baz=338,slow=31						
PLCA	Paso Flores	27.51	170	P	P	20 17 26.8	-0.9
PLCA				LR	LR	20 25 58.1	
TRQA	Tornquist	27.55	155	eP	P	20 17 26.4	-1.6
TRQA				LR	LR		
	comp=Z,6μm,20.0s,MS5.2						
BDFB	Brasilia	27.62	98	P	P	20 17 29.2	+0.3
	comp=Z,5.8nm,0.9s,mb4.2,baz=249,slow=17,SNR=13						
BDFB				LR	LR	20 30 07.4	
	comp=Z,3μm,18.5s,MS4.9,baz=91,slow=40						
BDFB	Brasilia	27.62	98	P	P	20 17 29.2	+0.3
BDFB				LR	LR	20 30 07.4	
SPB	Sao Paulo	29.22	114	eP	P	20 17 43.6	+0.4
TGUH	Tegucigalpa,Un	29.50	338	eP	P	20 17 46.6	+1.0
	comp=Z,295nm,1.8s,mb5.7						
TGUH				LR	LR		
	comp=Z,5μm,20.0s,MS5.1						
GRGR	Grenville	29.52	31	eP	P	20 17 44.3	-1.5
	comp=Z,402nm,1.5s,mb5.9						
GRGR				epP	pP	20 17 54.7	+1.2
GRGR				LR	LR		
	comp=Z,6μm,21.0s,MS5.2						
BBGH	Gun Hill	31.44	33	PFAKE		20 18 20.0	+17
BBGH				LR	LR		
	comp=Z,7μm,21.0s,MS5.3						
MPR	Mayaguez	32.95	17	eP	P	20 18 16.7	+0.7
SJG	San Juan	33.14	18	eP	P	20 18 17.5	-0.2
SJG				MLR	MLR		
	comp=Z,4μm,19.0s						
AOPR	Arecibo Observ	33.19	17	eP	P	20 18 17.2	-0.8
	comp=Z,102nm,1.5s,mb5.5						
HUMP	Col San Antoni	33.26	19	eP	P	20 18 22.1	+3.4
	comp=Z,204nm,1.8s,mb5.8						
CCIG	Comitan	33.49	332	i P	P	20 18 22.5	+1.7
CAM3	Guarapari	35.03	107	i	P	20 18 33.4	-0.8
CAM3				i		20 18 37.5	
CAM3				i	pP	20 18 41.9	-0.1
CAM3				i		20 18 45.9	
CAM3				i		20 18 49.4	
CAM3				i		20 19 07.7	
CAM3				i		20 19 28.2	
CMIG	Matias Romero	35.51	329	i P	P	20 18 37.4	-0.9
TEIG	Tepich	35.58	341	eP	P	20 18 38.8	+0.1
TEIG				LR	LR		
	comp=Z,5μm,22.0s,MS5.2						
VHO	Vista Hermosa	36.46	326	i P	P	20 18 46.4	0.0
OXX	Oaxaca	36.47	326	i P	P	20 18 48.4	+1.9
PNIG	Pinotepa	36.69	324	i P	P	20 18 46.4	-2.0
CAIG	El Cayaco	38.47	322	i P	P	20 19 02.9	-0.5
PPM	Popocatepetl	39.12	326	i P	P	20 19 08.8	0.0
PBVM	Pinon	39.67	325	i P	P	20 19 14.7	+1.2
EFI	East Falkland	40.76	162	eP	P	20 19 21.7	-0.4
EFI				pmax	pmax		
	comp=Z,56nm,0.8s,mb5.2						
EFI				MLR	MLR		
	comp=Z,5μm,19.0s,MS5.4						
EFI	East Falkland	40.76	162	eP	P	20 19 21.7	-0.4
	comp=Z,56nm,0.8s,mb5.2						
EFI				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
USHA	Ushuaia	41.60	173	P	P	20 19 28.4	-0.6
	comp=Z,60nm,0.9s,mb5.2,baz=329,slow=4.9,SNR=15						
DWPF	Disney	41.76	353	PFAKE		20 19 40.0	+9.5
DWPF				LR	LR		
	comp=Z,3μm,20.0s,MS5

PLAL LR LR
comp=Z,1µm,20.0s,MS4.8
TXAR Lajitas Array 50.12 329 P **P** **20 20 35.2 -1.3**
comp=Z,14nm,0.9s,mb5.0,baz=152,slow=6.6,SNR=77
TXAR LR LR 20 41 48.5
comp=Z,1µm,19.7s,MS4.9,baz=290,slow=36
TZTN Tazewell 50.33 353 PFAKE 20 20 50.0 +12
TZTN LR LR
comp=Z,3µm,20.0s,MS5.3
UALR University of 50.43 343 *e*P **P** **20 20 37.9 -0.9**
comp=Z,66nm,1.1s,mb5.6
MIAR Mount Ida 50.58 342 *e*P **P** **20 20 39.5 -0.3**
MIAR pmax pmax
comp=Z,45nm,1.0s,mb5.3
MIAR Mount Ida 50.58 342 PFAKE 20 20 50.0 +10
MIAR LR LR
comp=Z,1µm,22.0s,MS4.9
BLA Blacksburg 50.69 356 *e*P **P** **20 20 40.0 -0.7**
BLA pmax pmax
comp=Z,158nm,1.5s,mb5.7
BLA MLR MLR
comp=Z,3µm,20.0s,MS5.2
BLA Blacksburg 50.69 356 *e*P **P** **20 20 40.0 -0.7**
comp=Z,158nm,1.5s,mb5.7
BLA LR LR
comp=Z,3µm,20.0s,MS5.2
HBAR Harrisburg 50.71 345 *e*P **P** **20 20 38.8 -2.0**
ELN Prospectdale 50.73 356 *e*P **P** **20 20 40.5 -0.5**
URVA University of 50.93 359 *e*P **P** **20 20 40.9 -1.6**
PARMO Parma 51.55 346 *e*P **P** **20 20 45.4 -1.8**
PMSA Palmer Station 51.81 173 *e*P **P** **20 20 46.9 -1.8**
comp=Z,24nm,0.8s,mb5.2
PMSA LR LR
comp=Z,1µm,20.0s,MS4.9
USIN University of 52.37 349 *e*P **P** **20 20 52.3 -0.9**
WCI Wyandotte Cave 52.39 350 *e*P **P** **20 20 51.0 -2.3**
WCI pmax pmax
comp=Z,148nm,1.2s,mb5.8
WCI MLR MLR
comp=Z,2µm,21.0s,MS5.1
WCI Wyandotte Cave 52.39 350 *e*P **P** **20 20 51.0 -2.4**
comp=Z,148nm,1.2s,mb5.8
WCI LR LR
comp=Z,2µm,21.0s,MS5.1
SIUC Southern Illin 52.44 347 *e*P **P** **20 20 52.8 -1.0**
WMOK Wichita Mounta 52.54 337 *e*P **P** **20 20 53.7 -0.9**
WMOK MLR MLR
comp=Z,1µm,22.0s,MS4.8
SDMD Soldier's Deli 52.75 360 *e*P **P** **20 20 56.4 +0.3**
comp=Z,64nm,0.9s,mb5.5
GDL2 Guadalupe Moun 52.80 330 *e*P **P** **20 20 56.4 -0.1**
FVM French Village 52.97 346 *e*P **P** **20 20 57.0 -0.7**
FVM pmax pmax
comp=Z,54nm,1.0s,mb5.4
FVM French Village 52.97 346 *e*P **P** **20 20 57.0 -0.7**
comp=Z,54nm,1.0s,mb5.4
MCWV Mont Chateau 53.09 357 *e*P **P** **20 20 57.8 -0.8**
MCWV LR LR
comp=Z,3µm,21.0s,MS5.3
OLIL Olney 53.20 349 *e*P **P** **20 20 57.9 -1.4**
comp=Z,152nm,0.9s,mb5.9
MVL Millersville 53.34 0 *e*P **P** **20 20 55.7 -4.7**
comp=Z,127nm,1.3s,mb5.7
BLO Bloomington 53.34 350 *e*P **P** **20 20 58.3 -2.1**
SLM Saint Louis 53.55 347 *e*P **P** **20 21 01.1 -0.8**
SLM pmax pmax
comp=Z,69nm,1.0s,mb5.5
SLM Saint Louis 53.55 347 *e*P **P** **20 21 01.1 -0.8**
comp=Z,69nm,1.0s,mb5.5
AMTX Amarillo 53.84 334 *e*P **P** **20 21 03.4 -0.7**
AMTX LR LR
comp=Z,997nm,21.0s,MS4.8
ACSO Alum Creek Sta 53.91 354 *e*P **P** **20 21 02.6 -2.0**
ACSO LR LR
comp=Z,2µm,19.0s,MS5.2
CPNY Central Park 54.18 2 *e*P **P** **20 21 06.8 +0.3**
PAL Palisades 54.40 2 *e*P **P** **20 21 08.7 +0.6**
ALLY Alegheny Colle 55.09 357 *e*P **P** **20 21 11.8 -1.3**
comp=Z,113nm,1.2s,mb5.8
BRYW Bryant College 55.45 4 *e*P **P** **20 21 16.1 +0.4**
BNM Barren Site 55.49 330 *e*P **P** **20 21 16.3 +0.2**
BINY Binghamton 55.54 0 *e*P **P** **20 21 16.3 0.0**
comp=Z,70nm,0.8s,mb5.7
BINY LR LR
comp=Z,2µm,20.0s,MS5.2
LPM Los Pinos Moun 55.62 330 *e*P **P** **20 21 17.4 +0.3**
LENM Lemitar 55.67 329 *e*P **P** **20 21 17.9 +0.5**
KSU1 Kansas State U 55.71 341 *e*P **P** **20 21 16.8 -0.7**
comp=Z,43nm,0.9s,mb5.5
KSU1 LR LR
comp=Z,1µm,21.0s,MS4.9
QUA2 Belchertown 55.75 4 *e*P **P** **20 21 17.5 -0.3**
comp=Z,186nm,1.4s,mb5.9
WES Weston 55.93 5 *e*P **P** **20 21 20.0 +0.9**
WES MLR MLR
comp=Z,5µm,22.0s,MS5.5
LAZ Ladron 55.94 329 *e*P **P** **20 21 19.7 +0.4**
RKT Rikitea 55.99 251 *e*S **S** **20 29 06.4 -0.6**
comp=Z,506nm,28.0s
RKT *e*LQ 20 35 07.6
comp=Z,2µm,33.8s
RKT *e*LR LR 20 37 12.3
comp=Z,477nm,23.5s
AAM Ann Arbor 56.03 354 *e*P **P** **20 21 18.7 -1.1**
AAM pmax pmax
comp=Z,74nm,1.0s,mb5.7
AAM MLR MLR
comp=Z,3µm,19.0s,MS5.3
AAM Ann Arbor 56.03 354 *e*P **P** **20 21 18.7 -1.1**
comp=Z,74nm,1.0s,mb5.7
AAM LR LR
comp=Z,3µm,19.0s,MS5.3
HRV Adam Dziewonsk 56.03 4 *e*P **P** **20 21 20.2 +0.4**
HRV pmax pmax
comp=Z,174nm,1.8s,mb5.8
HRV MLR MLR
comp=Z,2µm,21.0s,MS5.2
HRV Adam Dziewonsk 56.03 4 *e*P **P** **20 21 20.2 +0.4**
comp=Z,174nm,1.8s,mb5.8
HRV LR LR
comp=Z,2µm,21.0s,MS5.2
ANMO Albuquerque 56.05 330 *e*P **P** **20 21 19.7 -0.4**
ANMO pmax pmax
comp=Z,68nm,1.3s
ANMO MLR MLR
comp=Z,1µm,22.0s
ANMO Albuquerque 56.05 330 *e*P **P** **20 21 19.7 -0.4**
comp=Z,68nm,1.3s,mb5.5
ANMO LR LR
comp=Z,1µm,22.0s,MS5.0
TUC Tucson 56.24 325 *e*P **P** **20 21 21.6 +0.1**
TUC pmax pmax
comp=Z,93nm,1.7s,mb5.5
TUC MLR MLR
comp=Z,2µm,21.0s,MS5.2
TUC Tucson 56.24 325 *e*P **P** **20 21 21.6 +0.1**
comp=Z,93nm,1.7s,mb5.5
TUC LR LR
comp=Z,2µm,21.0s,MS5.2
CBKS Cedar Bluff 56.51 338 *e*P **P** **20 21 23.4 +0.1**
CBKS pmax pmax
comp=Z,107nm,1.2s,mb5.8
CBKS MLR MLR
comp=Z,2µm,22.0s,MS5.0
CBKS Cedar Bluff 56.51 338 *e*P **P** **20 21 23.4 +0.1**
comp=Z,107nm,1.2s,mb5.8
CBKS LR LR
comp=Z,2µm,22.0s,MS5.0
FFD Franklin Falls 56.98 4 *e*P **P** **20 21 26.8 +0.2**
comp=Z,16nm,0.7s,mb5.2
NCB Newcomb 57.35 2 *e*P **P** **20 21 29.0 -0.1**
NCB LR LR
comp=Z,2µm,21.0s,MS5.1
SCIA State Center 57.36 345 *e*P **P** **20 21 28.2 -1.1**
comp=Z,57nm,0.9s,mb5.6
SCIA LR LR
comp=Z,1µm,22.0s,MS5.0
JFWS Jewell Farm 57.65 348 *e*P **P** **20 21 29.8 -1.5**
JFWS MLR MLR
comp=Z,1µm,20.0s,MS5.0
LBNH Lisbon 57.73 4 *e*P **P** **20 21 32.9 +1.1**
LBNH pmax pmax
comp=Z,77nm,1.2s,mb5.6
LBNH MLR MLR
comp=Z,3µm,21.0s,MS5.3
LBNH Lisbon 57.73 4 *e*P **P** **20 21 32.9 +1.1**
comp=Z,76nm,1.2s,mb5.6
LBNH LR LR
comp=Z,3µm,21.0s,MS5.3
SDCO Great Sand Dun 57.90 333 *e*P **P** **20 21 32.6 -0.5**
comp=Z,101nm,1.5s,mb5.6
SDCO LR LR
comp=Z,1µm,22.0s,MS4.9
LONY Lake Ozonia 57.98 2 *e*P **P** **20 21 33.3 -0.3**
comp=Z,115nm,1.5s,mb5.7
LONY LR LR
comp=Z,2µm,22.0s,MS5.1
EMMW East Machias 58.63 8 *e*P **P** **20 21 39.3 +1.2**
GLMI Grayling 58.63 353 *e*P **P** **20 21 37.0 -1.1**
GLMI LR LR
comp=Z,2µm,20.0s,MS5.2
MVCO Mesa Verde 58.85 330 *e*P **P** **20 21 40.1 +0.3**
comp=Z,53nm,1.2s,mb5.5
MVCO LR LR
comp=Z,1µm,20.0s,MS5.0
PKME Peaks-Kenny Pk 58.97 6 *e*P **P** **20 21 40.7 +0.3**
comp=Z,81nm,1.4s,mb5.6
PKME LR LR
comp=Z,2µm,21.0s,MS5.3
WUAZ Wupatki 58.98 327 PFAKE 20 21 50.0 +9.2
WUAZ LR LR
comp=Z,2µm,20.0s,MS5.2
GLA Glamis 59.10 323 *e*P **P** **20 21 42.6 +0.9**
GLA pmax pmax
comp=Z,55nm,1.5s,mb5.4
GLA MLR MLR
comp=Z,1µm,20.0s,MS5.1
GLA Glamis 59.10 323 *e*P **P** **20 21 42.5 +0.9**
comp=Z,54nm,1.5s,mb5.4
GLA LR LR
comp=Z,1µm,20.0s,MS5.1
PV01 Paradox Valley 59.62 331 *e*P **P** **20 21 45.5 +0.4**
ISCO Idaho Springs 59.66 334 *e*P **P** **20 21 45.6 +0.2**
ISCO MLR MLR
comp=Z,2µm,22.0s,MS5.2
BAR Barrett 59.95 321 *e*P **P** **20 21 48.4 +0.9**
BAR LR LR
comp=Z,1µm,19.0s,MS5.0
ECSD EROS,Sioux Fal 59.96 343 *e*P **P** **20 21 45.0 -2.3**
comp=Z,60nm,0.9s,mb5.6
ECSD LR LR
comp=Z,984nm,22.0s,MS4.9
PV10 Paradox Valley 60.03 331 *e*P **P** **20 21 47.2 -0.8**
PFO Pinyon Flat Ob 60.46 322 P **P** **20 21 51.8 +0.8**
comp=Z,182nm,1.2s,mb6.0,SNR=11
PFO Pinyon Flat Ob 60.46 322 *e*P **P** **20 21 52.0 +1.0**
PFO pmax pmax
comp=Z,51nm,1.2s,mb5.4
PFO MLR MLR
comp=Z,1µm,22.0s,MS4.9
PFO Pinyon Flat Ob 60.46 322 *e*P **P** **20 21 52.0 +1.0**
comp=Z,51nm,1.2s,mb5.4
PFO LR LR
comp=Z,1µm,22.0s,MS4.9
COWI Conover 60.52 350 *e*P **P** **20 21 50.0 -1.1**
comp=Z,104nm,1.8s,mb5.7
COWI LR LR
comp=Z,2µm,22.0s,MS5.3
PHWY Pilot Hill 60.85 335 *e*P **P** **20 21 54.0 +0.5**
ASCN Ascension 61.17 92 PFAKE 20 22 10.0 +14
ASCN LR LR
comp=Z,3µm,19.0s,MS5.4
SRU San Rafael 61.32 330 *e*P **P** **20 21 57.2 +0.5**
CCUT Cedar City 61.56 327 *e*P pP 20 22 08.4 +1.8
MSU Marysvale 61.68 329 *e*P **P** **20 21 59.9 +0.7**
MVU Marysvale 61.69 329 PFAKE 20 22 10.0 +11
MVU LR LR
comp=Z,2µm,21.0s,MS5.2
SHPR Sheep Range 61.77 325 *e*P **P** **20 22 00.4 +0.6**
TMUT Trail Mountain 61.80 330 *e*P **P** **20 22 00.5 +0.5**
GSC Goldstone 61.85 323 *e*P **P** **20 22 01.4 +1.0**
GSC pmax pmax
comp=Z,93nm,1.7s,mb5.6
GSC MLR MLR
comp=Z,1µm,20.0s,MS5.1
GSC Goldstone 61.85 323 *e*P **P** **20 22 01.4 +1.0**
comp=Z,93nm,1.7s,mb5.6
GSC LR LR
comp=Z,1µm,20.0s,MS5.1
MWC Mount Wilson 61.85 321 *e*P **P** **20 22 01.4 +1.0**
MWC MLR MLR
comp=Z,550nm,21.0s,MS4.7
RWWY Rawlins 61.90 334 *e*P **P** **20 22 01.1 +0.5**
SNCC San Nicolas Is 62.10 320 PFAKE 20 22 10.0 +7.9
SNCC LR LR
comp=Z,940nm,19.0s,MS5.0
TAOE Nuku Hiva Isla 62.47 267 *e*S **S** **20 30 29.9 -1.3**
comp=Z,3µm,28.8s
TAOE *e*LQ 20 38 01.0
comp=Z,17µm,27.3s
TAOE *e*LR LR 20 40 31.6
comp=Z,4µm,32.3s
MPU Maple Canyon 62.56 330 *e*P **P** **20 22 05.7 +0.7**
MPU LR LR
comp=Z,3µm,20.0s,MS5.5
DAU Daniels Canyon 62.69 331 *e*P **P** **20 22 06.9 +1.0**
TPNV Topopah Spring 62.69 325 *e*P **P** **20 22 07.0 +1.0**
TPNV pmax pmax
comp=Z,42nm,1.1s,mb5.5
TPNV MLR MLR
comp=Z,987nm,21.0s,MS5.0
TPNV Topopah Spring 62.69 325 *e*P **P** **20 22 07.0 +1.0**
comp=Z,42nm,1.1s,mb5.5
TPNV LR LR
comp=Z,987nm,21.0s,MS5.0
RSSD Black Hills 62.71 338 *e*P **P** **20 22 05.7 -0.2**
RSSD pmax pmax
comp=Z,63nm,1.4s,mb5.5
RSSD MLR MLR
comp=Z,1µm,20.0s,MS5.1
RSSD Black Hills 62.71 338 *e*P **P** **20 22 05.7 -0.3**
comp=Z,63nm,1.4s,mb5.6
RSSD LR LR
comp=Z,1µm,20.0s,MS5.1
EYMN Ely 62.73 349 *e*P **P** **20 22 05.5 -0.5**
comp=Z,40nm,1.0s,mb5.5
EYMN LR LR
comp=Z,1µm,20.0s,MS5.1
NLU North Lily Min 62.73 330 *e*P **P** **20 22 06.9 +0.7**
JLU Jordanelle 62.93 331 *e*P **P** **20 22 08.7 +1.2**
DAC Darwin (Calif) 62.99 323 PFAKE 20 22 20.0 +12
DAC LR LR
comp=Z,1µm,20.0s,MS5.1
ISA Isabella 63.08 322 *e*P **P** **20 22 09.6 +1.0**
ISA pmax pmax
comp=Z,130nm,1.9s,mb5.7
ISA MLR MLR
comp=Z,968nm,21.0s,MS5.0
ISA Isabella 63.08 322 *e*P **P** **20 22 09.6 +1.0**
comp=Z,130nm,1.9s,mb5.7
ISA LR LR
comp=Z,968nm,21.0s,MS5.0
CTU Camp Tracy 63.15 331 *e*P **P** **20 22 10.4 +1.5**
DUG Dugway 63.28 329 *e*P **P** **20 22 09.8 0.0**
DUG MLR MLR
comp=Z,1µm,20.0s,MS5.1
NOQ North Oquirrh 63.29 330 *e*P **P** **20 22 10.8 +0.9**
HWUT Hardware Ranch 63.77 331 *e*P **P** **20 22 12.2 -0.9**
HWUT LR LR
comp=Z,2µm,20.0s,MS5.2
BW06 Boulder Array 63.79 333 *e*P **P** **20 22 12.9 -0.2**
BW06 LR LR
comp=Z,674nm,19.0s,MS4.8
PDAR Pinedale Array 63.79 333 P **P** **20 22 11.9 -1.2**
comp=Z,19nm,1.1s,mb5.0,baz=142,slow=7.5,SNR=67
PDAR LR LR 20 50 45.6
comp=Z,541nm,18.9s,MS4.8,baz=137,slow=37
BGU Big Grassy Mou 63.94 330 *e*P **P** **20 22 13.8 -0.4**
SPUT South Promonto 63.96 331 *e*P **P** **20 22 15.1 +0.8**
AGMN Agassiz Refuge 64.00 346 PFAKE 20 22 30.0 +16
AGMN LR LR
comp=Z,1µm,19.0s,MS5.0
TPH Tonopah 64.04 325 *e*P **P** **20 22 16.0 +1.1**
TPH pmax pmax
comp=Z,78nm,1.3s,mb5.6
TPH Tonopah 64.04 325 PFAKE 20 22 30.0 +15
TPH LR LR
comp=Z,1µm,19.0s,MS5.0
MTUM Tungsten Hills 64.29 324 *e*P **P** **20 22 17.2 +0.7**
AHID Auburn Hatcher 64.47 332 PFAKE 20 22 30.0 +12
AHID LR LR
comp=Z,1µm,22.0s,MS5.1
HVU Hansel Valley 64.48 331 *e*P **P** **20 22 17.7 0.0**
REDW Red Top Meadow 64.83 333 *e*P **P** **20 22 20.1 +0.1**
comp=Z,56nm,1.2s,mb5.5
SNOW Snow King Moun 64.87 333 *e*P **P** **20 22 20.6 +0.4**
NVAR Mina Array Bea 64.89 325 P **P** **20 22 19.7 -0.7**
comp=Z,15nm,0.8s,mb5.0,baz=142,slow=6.6,SNR=82
ELK Elko 64.91 328 *e*P **P** **20 22 20.8 +0.3**
ELK MLR MLR
comp=Z,2µm,21.0s
LOHW Long Hollow 64.92 333 *e*P **P** **20 22 20.3 -0.2**
RRI2 Red Ridge 65.03 333 *e*P **P** **20 22 21.5 +0.2**
DCID1 Drake Creek 65.16 333 *e*P **P** **20 22 27.0 +4.9**
IMW Indian Meadow 65.30 333 *e*P **P** **20 22 23.9 +0.9**
FLWY Flagg Ranch 65.34 334 *e*P **P** **20 22 23.9 +0.7**
RLMT Red Lodge 65.58 335 *e*P **P** **20 22 24.5 -0.2**
comp=Z,68nm,1.3s,mb5.5
RLMT LR LR
comp=Z,2µm,20.0s,MS5.3
LKWY Lake 65.60 334 PFAKE 20 22 40.0 +15
LKWY LR LR
comp=Z,575nm,19.0s,MS4.8
SAO San Andreas Ge 65.60 321 *e*P **P** **20 22 26.1 +1.0**
SAO MLR MLR
comp=Z,974nm,20.0s,MS5.0
YFT Old Faithful 65.69 334 *e*P **P** **20 22 27.7 +2.2**
LAO LASA Array 65.70 338 *e*P **P** **20 22 25.6 +0.1**
LAO LR LR
comp=Z,1µm,22.0s,MS5.1
BMN Battle Mountai 65.72 327 *e*P **P** **20 22 27.0 +1.2**
BMN MLR MLR
comp=Z,2µm,20.0s,MS5.3
CMB Columbia Colle 65.81 323 *e*P **P** **20 22 26.7 +0.2**
CMB MLR MLR
comp=Z,1µm,20.0s,MS5.1
ULM Lac du Bonnet 65.83 346 P **P** **20 22 24.9 -1.4**
comp=Z,96nm,0.8s,mb5.9,baz=160,slow=6.3,SNR=94
ULM Lac du Bonnet 65.83 346 P **P** **20 22 24.9 -1.4**
ULM LR LR
comp=Z,2µm,21.0s,MS5.3
YNR Norris Junctio 65.84 334 *e*P **P** **20 22 28.0 +1.6**
YMR Madison River 65.92 334 *e*P **P** **20 22 28.2 +1.2**
comp=Z,35nm,0.9s,mb5.4
YMR LR LR
comp=Z,820nm,20.0s,MS4.9
QLMT Earthquake Lak 66.25 334 *e*P **P** **20 22 31.0 +1.9**
GCMT Greycliff 66.28 335 *e*P **P** **20 22 29.4 +0.1**
PAHR Pah Rah Range 66.38 325 *e*P **P** **20 22 31.0 +1.0**
DGMT Dagmar 66.53 340 *e*P **P** **20 22 31.6 +0.7**
DGMT LR LR
comp=Z,718nm,20.0s,MS4.9
HLID Hailey 66.62 331 *e*P **P** **20 22 31.9 +0.4**
HLID LR LR
comp=Z,1µm,20.0s,MS5.1
BOZ Bozeman (W) 66.98 334 *e*P **P** **20 22 33.2 -0.6**
BOZ pmax pmax
comp=Z,44nm,1.1s,mb5.4
BOZ MLR MLR
comp=Z,888nm,20.0s,MS5.0
BOZ Bozeman (W) 66.98 334 *e*P **P** **20 22 33.2 -0.6**
comp=Z,44nm,1.1s,mb5.4
BOZ LR LR
comp=Z,888nm,20.0s,MS5.0
DLMT Dillon 67.18 333 *e*P **P** **20 22 35.5 +0.5**
comp=Z,75nm,1.2s,mb5.6
OHCM Honcut 67.32 324 *e*P **P** **20 22 36.6 +0.6**
MCCM Marconi Confer 67.36 322 PFAKE 20 22 50.0 +14
MCCM LR LR
comp=Z,681nm,19.0s,MS4.9
NSHM Saint Helena R 67.44 322 *e*P **P** **20 22 37.2 +0.3**
LRM Limekiln Ridge 67.48 334 *e*P **P** **20 22 29.6 -7.2**
WVOR Wild Horse Val 67.89 328 *e*P **P** **20 22 39.4 -0.2**
WVOR pmax pmax
comp=Z,78nm,1.8s,mb5.4
WVOR MLR MLR
comp=Z,2µm,20.0s,MS5.3
WVOR Wild Horse Val 67.89 328 *e*P **P** **20 22 39.4 -0.1**
comp=Z,78nm,1.8s,mb5.4
WVOR LR LR
comp=Z,2µm,20.0s,MS5.3
HOPS Hopland 68.03 322 *e*P **P** **20 22 41.9 +1.4**
HOPS LR LR
comp=Z,1µm,21.0s,MS5.1
EGMT Eagleton 68.14 337 *e*P **P** **20 22 41.5 +0.5**
comp=Z,60nm,1.0s,mb5.6
EGMT LR LR
comp=Z,1µm,19.0s,MS5.1
SHEL Horse Pasture 68.14 102 PFAKE 20 22 50.0 +8.2
SHEL LR LR
comp=Z,2µm,20.0s,MS5.2
MOD Modoc 68.40 326 *e*P **P** **20 22 43.2 +0.4**
MOD LR LR
comp=Z,1µm,21.0s,MS5.1
SCHQ Schefferville 68.67 6 P **P** **20 22 43.7 -0.5**
comp=Z,26nm,0.8s,mb5.2,baz=189,slow=5.6,SNR=18
SCHQ LR LR 20 54 31.4
comp=Z,2µm,20.6s,MS5.2,baz=16,slow=37
CHMT Chamberlain Mo 68.68 334 *e*P **P** **20 22 44.8 +0.4**
WDC Whiskeytown Da 68.75 324 *e*P **P** **20 22 44.0 -1.0**
WDC MLR MLR
comp=Z,841nm,22.0s,MS4.9
KCPM Cahto Peak 68.78 323 *e*P **P** **20 22 45.2 0.0**
KIPM Iron Peak 68.80 323 *e*P **P** **20 22 46.5 +1.1**
MSO Missoula 68.91 333 *e*P **P** **20 22 46.5 +0.7**
comp=Z,59nm,1.2s,mb5.4
MSO LR LR
comp=Z,849nm,19.0s,MS5.0
BMO Blue Mountains 68.97 330 *e*P **P** **20 22 45.0 -1.2**
BMO LR LR
comp=Z,792nm,20.0s,MS5.0
LHEM Herd Peak 69.27 325 P **P** **20 22 48.7 +0.5**
YBH Yreka Blue Hor 69.61 325 *e*P **P** **20 22 49.8 -0.5**
YBH MLR MLR
comp=Z,1µm,21.0s
KHMM Horse Mountain 69.63 324 *e*P **P** **20 22 51.0 +0.5**
VNA3 Neumayer Olymp 69.81 162 *e*P **P** **20 22 51.2 +0.1**
VNA3 *e* 20 22 53.2
VNA3 *e* pP 20 23 00.5 +1.0
VNA3 *e* 20 23 07.2
VNA3 *e* 20 25 25.7
CMLA Cha da Macela 69.97 41 PFAKE 20 23 00.0 +7.4
CMLA LR LR
comp=Z,1µm,20.0s,MS5.2
VNA1 Neumayer--Stat 70.08 161 *e*P **P** **20 22 53.1 +0.3**
VNA1 *e* 20 22 55.2
VNA1 *e* pP 20 23 01.5 +0.4
VNA1 *e* 20 23 08.3
VNA1 *e* 20 25 28.0
PPT Papeete 70.12 256 *e*S S 20 32 03.7 -0.2
comp=Z,1µm,27.8s
PPT *e*SS SS 20 36 35.1 +1.1
comp=Z,416nm,26.0s
PPT *e*LR LR 20 43 48.6
comp=Z,600nm,24.0s,baz=98
PPT Papeete 70.12 256 LR LR 20 47 55.1
comp=Z,231nm,19.0s,MS4.5,baz=93,slow=31
LNOR Lincton Mounta 70.18 330 *e*P **P** **20 22 53.2 -0.5**
HUMO Hull Mountain 70.33 325 PFAKE 20 23 10.0 +15
HUMO LR LR
comp=Z,765nm,20.0s,MS5.0
VIPM Ingram Point 70.37 328 P **P** **20 22 56.0 +1.1**
VNA2 Neumayer--Watz 70.43 161 *e*P **P** **20 22 54.8 -0.1**
VNA2 *e* 20 22 56.9
VNA2 *e* pP 20 23 03.1 -0.2
VNA2 *e* 20 23 10.7
VNA2 *e* 20 25 32.3
WALA Waterton Lakes 70.63 335 *e*P **P** **20 22 56.2 -0.2**
comp=Z,34nm,0.8s,mb5.3
WIFE Three Sisters- 70.69 327 P **P** **20 22 57.9 +1.0**
HAWA Hanford 71.16 330 *e*P **P** **20 23 00.1 +0.4**
comp=Z,41nm,1.0s,mb5.3
HAWA LR LR
comp=Z,1µm,19.0s,MS5.2
BROR Big Rock Looko 71.17 327 P **P** **20 22 59.9 +0.1**
RSW Rattlesnake Hi 71.19 330 *e*P **P** **20 23 00.3 +0.5**
NEW Newport 71.40 333 *e*P **P** **20 23 00.3 -0.8**
NEW pmax pmax
comp=Z,45nm,1.0s
NEW MLR MLR
comp=Z,988nm,21.0s
NEW Newport 71.40 333 *e*P **P** **20 23 00.3 -0.7**
comp=Z,44nm,1.0s,mb5.3
NEW LR LR
comp=Z,988nm,21.0s,MS5.0
FFC Flin Flon 71.43 345 P **P** **20 23 00.2 -0.9**
comp=Z,145nm,1.1s,mb5.8,SNR=5.9

FFC Flin Flon 71.43 345 *e*P **P 20 23 00.2 -0.9**
FFC LR LR
comp=Z,1μm,20.0s,MS5.1
HOOD Mount Hood Mea 71.47 328 *e*P **P 20 23 02.0 +0.4**
comp=Z,37nm,0.9s,mb5.3
OD2 Odessa Site #2 71.48 331 P **P 20 23 01.7 +0.1**
COR Corvallis 71.83 327 *e*P **P 20 23 04.9 +1.1**
COR MLR MLR
comp=Z,1μm,19.0s,MS5.2
MPOR Mary's Peak 71.91 327 P **P 20 23 05.5 +1.2**
SNAA Sanae 72.03 161 *e*P **P 20 23 04.2 -0.4**
SNAA *e* 20 23 06.4
SNAA *e* pP 20 23 12.5 -0.5
SNAA *e* 20 23 18.6
SNAA Sanae 72.03 161 *e*P **P 20 23 04.2 -0.4**
ETW Entiat 72.40 331 *e*P **P 20 23 07.8 +0.6**
HEBO Mount Hebo 72.49 327 *e*P **P 20 23 08.4 +0.7**
comp=Z,230nm,1.7s,mb5.8
LON Longmire 72.53 329 *e*P **P 20 23 07.4 -0.5**
KMOR Kings Mountain 72.63 327 P **P 20 23 08.9 +0.4**
BMW Boistfort Moun 73.06 328 *e*P **P 20 23 10.9 -0.1**
FCC Fort Churchill 73.54 351 *e*P **P 20 23 13.5 -0.1**
FCC pmax pmax
comp=Z,53nm,1.0s,mb5.4
RPW Rockport 73.56 331 *e*P **P 20 23 12.9 -1.1**
JCW Jim Creek 73.58 330 *e*P **P 20 23 13.2 -0.9**
GNW Green Mountain 73.59 329 *e*P **P 20 23 14.0 -0.2**
LIC Lamto 73.62 79⇑ *i*P **P 20 23 14.8 -0.3**
comp=Z,55nm,1.0s,mb5.1,baz=263
LIC *e*MLR MLR
comp=Z,2μm,23.0s,MS5.0
LIC Lamto 73.62 79 *e*P **P 20 23 14.4 -0.7**
comp=Z,72nm,1.0s,mb5.6
LIC Lamto 73.62 79⇑ *i*P **P 20 23 14.8 -0.3**
comp=Z,27nm,1.0s,mb5.1
LIC LR LR
comp=Z,1μm,23.0s,MS5.0
EDM Edmonton 73.69 338 *e*P **P 20 23 13.5 -1.1**
TIC Toumodi 73.74 79 *e*P **P 20 23 15.2 -0.6**
comp=Z,571nm,2.1s,mb6.1
HDW Hoodsport 73.76 329 P **P 20 23 15.8 +0.7**
DBIC Dimbokro 73.91 79 P **P 20 23 16.8 0.0**
comp=Z,16nm,0.6s,mb5.1,baz=238,slow=5.5,SNR=50
DBIC LR LR 20 54 47.3
comp=Z,2μm,18.3s,MS5.5,baz=234,slow=35
KIC Kosan Boka 73.93 79 *e*P **P 20 23 16.0 -0.9**
comp=Z,132nm,0.6s,mb6.0
NLWA Neilton Lookou 74.00 329 *e*P **P 20 23 17.1 +0.6**
comp=Z,50nm,0.8s,mb5.5
NLWA LR LR
comp=Z,2μm,21.0s,MS5.3
PGC Sidney 74.64 330 *e*P **P 20 23 20.8 +0.6**
comp=Z,85nm,0.9s,mb5.7
MAIT Maitri 76.66 160 *e*P **P 20 23 30.4 -1.2**
NVL N'lazarevskaya 76.69 160 P **P 20 23 31.9 +0.1**
NVL pmax pmax
comp=Z,99nm,3.0s
PFVI Vila Bisbo 81.11 48 *e*S S 20 34 09.1 +4.3
PFVI Vila Bisbo 81.11 48 *e*LR LR 20 53 16.0
comp=Z,1μm,20.0s
MORF Marmelete 81.31 48 *e*P **P 20 23 59.4 +1.8**
comp=Z,83nm,1.5s,mb5.4
MORF Marmelete 81.31 48 *e*S S 20 34 08.6 +1.8
MORF Marmelete 81.31 48 *e*LR LR 20 53 10.9
comp=Z,1μm,20.0s
YKA Yellowknife Ar 81.49 343 P **P 20 23 56.6 -1.4**
comp=Z,18nm,0.9s,mb5.0,baz=138,slow=5.3,SNR=51
YKA LR LR 21 04 38.6
comp=Z,656nm,18.6s,MS5.0,baz=155,slow=39
PMAFR Mafra 81.54 47 *e*S S 20 34 09.0 -0.2
PMAFR Mafra 81.54 47 *e*LR LR 20 52 39.7
comp=Z,1μm,18.0s
YKW3 Yellowknife Ar 81.55 343 *e*P **P 20 23 56.7 -1.6**
XMAS Kiritimati 81.69 274 PFAKE 20 24 10.0 +10
XMAS LR LR
comp=Z,615nm,19.0s,MS5.0
PBDV Barranco-do-Ve 81.81 49 *e*S S 20 34 16.7 +4.7
PBDV Barranco-do-Ve 81.81 49 *e*LR LR 20 53 40.1
comp=Z,2μm,20.0s
TOA0 Torodi Ar. Sit 81.90 74 *e*P **P 20 24 01.4 +0.3**
TORD Torodi Ar. Bea 81.90 74 P **P 20 24 01.4 +0.2**
comp=Z,29nm,0.9s,mb5.2,baz=265,slow=5.1,SNR=101
TORD LR LR 20 59 38.7
comp=Z,2μm,18.4s,MS5.5,baz=245,slow=35
PVAQ Vaqueiros 82.03 49 *e*S S 20 34 14.7 +0.5
PVAQ Vaqueiros 82.03 49 *e*LR LR 20 53 17.2
comp=Z,1μm,20.0s
PBEJ Beja 82.17 48 *e*P **P 20 24 03.8 +1.7**
comp=Z,42nm,1.6s,mb5.1
SBA Scott Base 82.18 191 *e*P **P 20 24 02.3 +0.7**
SBA MLR MLR
comp=Z,3μm,19.0s,MS5.6
EGRO El Granado 82.25 49 P **P 20 24 03.7 +1.1**
comp=Z,260nm,3.1s
EVO Evora 82.27 47 *e*P **P 20 24 01.7 -0.9**
comp=Z,78nm,1.2s,mb5.2
EVO *e*MLR MLR
comp=Z,2μm,21.0s,MS5.1
SFJD Kangerlussuaq 82.61 10 LR LR 21 00 51.6
comp=Z,2μm,21.0s,MS5.4,baz=196,slow=36
SFJD Kangerlussuaq 82.61 10 PFAKE 20 24 10.0 +6.3
SFJD LR LR
comp=Z,2μm,21.0s,MS5.4
PESTR Estremoz 82.71 47 *e*P **P 20 24 05.2 +0.3**
comp=Z,36nm,1.6s,mb5.2
PESTR Estremoz 82.71 47 *e*S S 20 34 23.9 +2.7
PESTR Estremoz 82.71 47 *e*LR LR 20 53 07.0
comp=Z,1μm,20.0s
SFS San Fernando 82.77 50 PFAKE 20 24 20.0 +15
SFS LR LR
comp=Z,1μm,21.0s,MS5.2
PBAR Barrancos 82.83 48 *e*P **P 20 24 06.7 +1.1**
comp=Z,27nm,1.3s,mb5.1
PBAR Barrancos 82.83 48 *e*S S 20 34 24.1 +1.7
PBAR Barrancos 82.83 48 *e*LR LR 20 52 34.9
comp=Z,1μm,20.0s
EMIN Mina Concepcio 82.93 49 P **P 20 24 06.2 +0.1**
comp=Z,442nm,4.2s
EBAD Badajoz 83.08 48 P **P 20 24 07.1 +0.2**
comp=Z,277nm,4.0s
PMRV Marv??o 83.08 47 *e*S S 20 34 24.9 0.0
PMRV Marv??o 83.08 47 *e*LR LR 20 52 33.8
comp=Z,1μm,20.0s
PCBR Castelo Branco 83.18 46 *e*P **P 20 24 08.2 +0.9**
comp=Z,34nm,2.1s,mb5.0
ESPR Espera 83.18 50 P **P 20 24 08.5 +1.1**
comp=Z,282nm,2.5s,mb5.8
PVIS Viseu 83.25 45 *e*P **P 20 24 08.2 +0.5**
comp=Z,66nm,1.4s,mb5.5
MTE Manteigas 83.36 46 *e*P **P 20 24 08.8 +0.5**
MTE Manteigas 83.36 46 *e*S S 20 34 26.5 -1.2
MTE Manteigas 83.36 46 *e*LR LR 20 52 57.3
comp=Z,1μm,20.0s
MTE Manteigas 83.36 46 PFAKE 20 24 20.0 +12
MTE LR LR
comp=Z,1μm,22.0s,MS5.3
CRAG Craig 83.56 331 *e*P **P 20 24 09.6 +0.7**
WRAK Wrangell Islan 83.76 332 *e*P **P 20 24 07.3 -2.6**
comp=Z,43nm,1.4s,mb5.4
WRAK LR LR
comp=Z,1μm,19.0s,MS5.3
EMIJ Mijas 83.88 50 P **P 20 24 11.9 +0.9**
comp=Z,340nm,3.4s
DLBC Dease Lake 83.98 335 *e*P **P 20 24 11.2 +0.2**
MVO Moncorvo 84.03 45 *e*P **P 20 24 11.1 -0.6**
comp=Z,43nm,1.7s,mb5.3
MVO Moncorvo 84.03 45 *e*S S 20 34 31.4 -3.0
MVO Moncorvo 84.03 45 *e*LR LR 20 54 16.2
comp=Z,1μm,20.0s
ELOJ Sierra Loja 84.55 50 P **P 20 24 15.9 +1.5**
ELOJ pmax pmax
comp=Z,34nm,1.2s,mb5.3
ELOJ Sierra Loja 84.55 50 P **P 20 24 15.9 +1.4**
comp=Z,34nm,1.2s,mb5.3
EADA Adamuz 84.61 49 P **P 20 24 15.2 +0.5**
comp=Z,548nm,4.7s
ELUQ Luque 84.62 49 P **P 20 24 15.9 +1.1**
ELUQ pmax pmax
comp=Z,21nm,1.1s,mb5.2
ELUQ Luque 84.62 49 P **P 20 24 15.9 +1.2**
comp=Z,21nm,1.1s,mb5.2
ERON Agron 84.76 50 P **P 20 24 16.7 +1.2**
ECOG Cogollos-Vega 85.03 50 P **P 20 24 17.9 +1.0**
ECOG pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
ECOG Cogollos-Vega 85.03 50 P **P 20 24 17.9 +1.0**
comp=Z,8.6nm,0.7s,mb5.0
EBAN Banos Encina 85.19 49 P **P 20 24 18.2 +0.6**
EBAN pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
EBAN Banos Encina 85.19 49 P **P 20 24 18.2 +0.5**
comp=Z,3.1nm,0.8s,mb4.5
PAB San Pablo 85.29 48 PFAKE 20 24 30.0 +12
PAB LR LR
comp=Z,2μm,21.0s,MS5.4
EBER Berja 85.41 50 P **P 20 24 19.8 +1.1**
comp=Z,149nm,2.7s,mb5.6
SIT Sitka 85.47 332 PFAKE 20 24 30.0 +11
SIT LR LR
comp=Z,1μm,22.0s,MS5.3
EQES Quesada 85.59 50 P **P 20 24 19.6 0.0**
comp=Z,151nm,2.8s,mb5.7
ESDC Sonseca Array 85.61 48 P **P 20 24 20.2 +0.5**
comp=Z,3.9nm,0.8s,mb4.7,baz=253,slow=5.4,SNR=18
ESDC LR LR 20 59 03.7
comp=Z,1μm,21.1s,MS5.3,baz=235,slow=33
ESDC Sonseca Array 85.61 48 P **P 20 24 19.9 +0.2**
comp=Z,39nm,2.3s,mb5.2
GUD Guadarrama 85.84 47 P **P 20 24 20.1 -0.7**
GUD pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
GUD Guadarrama 85.84 47 P **P 20 24 20.1 -0.7**
comp=Z,9.7nm,1.1s,mb5.0
EHUE Huescar 85.95 50 P **P 20 24 21.1 -0.3**
EHUE pmax pmax
comp=Z,5.0nm,1.4s,mb4.5
EHUE Huescar 85.95 50 P **P 20 24 21.1 -0.3**
comp=Z,5.3nm,1.4s,mb4.6
EVIA Vianos 86.30 49 P **P 20 24 23.5 +0.4**
EVIA pmax pmax
comp=Z,18nm,1.1s,mb5.2
EVIA Vianos 86.30 49 P **P 20 24 23.4 +0.3**
comp=Z,18nm,1.1s,mb5.2
SYO Syowa Base 86.32 161⇓ *e*P **P 20 24 20.2 -2.5**
SKAG Skagway 86.80 334 *e*P **P 20 24 26.2 +1.1**
ETOB Tobarra 87.01 49 P **P 20 24 27.1 +0.5**
comp=Z,401nm,3.7s
TAM Tamanrasset 88.03 66 *e*P **P 20 24 32.7 +0.9**
HYT Haines Junctio 88.46 335 *e*P **P 20 24 33.4 +0.4**
SJPF Ste Jean 88.76 45 *e*P **P 20 24 34.3 -0.5**
SUR Sutherland 88.85 123 PFAKE 20 24 50.0 +14
SUR LR LR
comp=Z,2μm,20.0s,MS5.5
RES Resolute Bay 88.88 355 *e*P **P 20 24 35.3 +0.6**
ETSF Etsaut 89.15 45 *e*P **P 20 24 36.5 -0.2**
comp=Z,16nm,1.0s,mb5.0
ETSF Etsaut 89.15 45 *e*P **P 20 24 36.5 -0.2**
ETSF pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
ETSF Etsaut 89.15 45 *e*P **P 20 24 36.5 -0.2**
comp=Z,8.2nm,1.0s,mb5.0
TSUM Tsumeb 89.36 109 *e*P **P 20 24 38.2 -0.1**
TSUM LR LR
comp=Z,1μm,22.0s,MS5.3
SUMG Summit 89.57 11 *e*P **P 20 24 37.9 -0.1**
EPF Esparros 89.81 46 *e*P **P 20 24 39.4 -0.4**
comp=Z,35nm,1.3s,mb5.2
EPF Esparros 89.81 46 *e*P **P 20 24 39.4 -0.4**
EPF pmax pmax
comp=Z,18nm,1.3s,mb5.2
EPF Esparros 89.81 46 *e*P **P 20 24 39.4 -0.4**
comp=Z,18nm,1.3s,mb5.2
LFF La Frestale 90.70 44 *e*P **P 20 24 44.0 +0.2**
comp=Z,44nm,1.1s,mb5.4
LFF La Frestale 90.70 44 *e*P **P 20 24 44.0 +0.2**
LFF pmax pmax
comp=Z,22nm,1.1s,mb5.4
LFF La Frestale 90.70 44 *e*P **P 20 24 44.0 +0.2**
comp=Z,22nm,1.1s,mb5.4
MTLF Montolieu 91.21 46 *e*P **P 20 24 45.2 -1.1**
comp=Z,22nm,1.0s,mb5.1
MTLF Montolieu 91.21 46 *e*P **P 20 24 45.2 -1.1**
MTLF pmax pmax
comp=Z,11nm,1.0s,mb5.1
MTLF Montolieu 91.21 46 *e*P **P 20 24 45.2 -1.1**
comp=Z,11nm,1.0s,mb5.1
ESK Eskdalemuir 91.84 33 PFAKE 20 25 00.0 +11
ESK LR LR
comp=Z,900nm,20.0s,MS5.2
EGAK Eagle 91.90 337 *e*P **P 20 24 47.8 -1.1**
comp=Z,29nm,1.0s,mb5.6
EGAK LR LR
comp=Z,1μm,19.0s,MS5.3
TCF Toulx Ste Croi 92.09 43 *e*P **P 20 24 48.8 -1.5**
DIV Divide 92.16 333 *e*P **P 20 24 49.7 -0.5**
comp=Z,24nm,0.9s,mb5.5
BGF Bois d'Agland 92.59 43 *e*P **P 20 24 51.5 -1.1**
AVF Avril sur Loir 93.00 43 *e*P **P 20 24 53.1 -1.4**
SMF Signal de Mont 93.28 43 *e*P **P 20 24 54.4 -1.4**
comp=Z,22nm,1.0s,mb5.2
SMF Signal de Mont 93.28 43 *e*P **P 20 24 54.4 -1.4**
SMF pmax pmax
comp=Z,11nm,1.0s,mb5.2
SMF Signal de Mont 93.28 43 *e*P **P 20 24 54.4 -1.4**
comp=Z,11nm,1.0s,mb5.2
VIVF Saint-Julien-l 93.34 45 *e*P **P 20 24 55.6 -0.5**
comp=Z,35nm,1.3s,mb5.3
VIVF Saint-Julien-l 93.34 45 *e*P **P 20 24 55.6 -0.5**
VIVF pmax pmax
comp=Z,17nm,1.3s,mb5.3
VIVF Saint-Julien-l 93.34 45 *e*P **P 20 24 55.6 -0.5**
comp=Z,17nm,1.3s,mb5.3
BOSA Boshof 93.59 120 P **P 20 24 57.5 -0.3**
comp=Z,5.3nm,0.9s,mb5.0,baz=284,slow=3.2,SNR=8.4
BOSA LR LR 21 05 43.5
comp=Z,2μm,18.0s,MS5.7,baz=257,slow=35
MAW Mawson 93.82 166 P **P 20 24 57.1 -0.8**
comp=Z,6.5nm,0.9s,mb5.0,baz=254,slow=3.6,SNR=8.2
MAW LR LR 21 03 56.4
comp=Z,2μm,21.0s,MS5.5,baz=229,slow=33
PMR Palmer 93.83 333 PFAKE 20 25 10.0 +12
PMR LR LR
comp=Z,1μm,22.0s,MS5.4
URZ Urewera 94.11 229 LR LR 20 58 20.6
comp=Z,872nm,20.6s,MS5.2,baz=300,slow=30
KDAK Kodiak Island 94.15 329 PFAKE 20 25 10.0 +11
KDAK LR LR
comp=Z,177nm,20.0s,MS4.5
ORIF Oris-en-Rattie 94.19 45 *e*P **P 20 24 59.1 -0.9**
comp=Z,12nm,0.8s,mb5.0
ORIF *e*MLR MLR
comp=Z,1μm,19.8s,MS5.0
ORIF Oris-en-Rattie 94.19 45 *e*P **P 20 24 59.1 -0.9**
ORIF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
ORIF Oris-en-Rattie 94.19 45 *e*P **P 20 24 59.1 -0.9**
comp=Z,5.8nm,0.8s,mb5.1
KEST Kesra 94.51 54 P **P 20 25 03.5 +1.8**
comp=Z,1.3nm,0.8s,mb4.4,baz=198,slow=0.6,SNR=3.9
COLA College 94.53 336⇑ *i*P **P 20 25 00.3 -0.8**
COLA College 94.53 336 PFAKE 20 25 10.0 +8.9
COLA LR LR
comp=Z,829nm,19.0s,MS5.2
MCK McKinley 94.53 335 *e*P **P 20 25 01.3 +0.2**
SNZO South Karori 94.71 226 PFAKE 20 25 10.0 +7.4
SNZO LR LR
comp=Z,1μm,19.0s,MS5.5
BNI Bardonecchia 94.77 45 PFAKE 20 25 10.0 +7.3
BNI LR LR
comp=Z,1μm,19.0s,MS5.4
GIVF Givet 94.85 40 *e*P **P 20 25 01.8 -1.1**
LPL La Plagne 94.92 44 *e*P **P 20 25 03.4 +0.1**
comp=Z,16nm,1.0s,mb5.1
LPL La Plagne 94.92 44 *e*P **P 20 25 03.4 +0.1**
LPL pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
LPL La Plagne 94.92 44 *e*P **P 20 25 03.4 +0.1**
comp=Z,8.0nm,1.0s,mb5.1
LPG La Plagne 94.93 45 *e*P **P 20 25 03.5 +0.1**
comp=Z,15nm,1.0s,mb5.1
LPG La Plagne 94.93 45 *e*P **P 20 25 03.5 +0.1**
LPG pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
LPG La Plagne 94.93 45 *e*P **P 20 25 03.5 +0.1**
comp=Z,7.7nm,1.0s,mb5.1
HAU Haudompre 95.28 42 *e*P **P 20 25 04.0 -0.9**
HAU *e*MLR MLR
comp=Z,628nm,19.0s,MS4.8
HAU Haudompre 95.28 42 *e*P **P 20 25 04.0 -0.9**
HAU LR LR
comp=Z,630nm,19.0s,MS5.1
WLF Walferdange 95.57 40 PFAKE 20 25 20.0 +14
WLF LR LR
comp=Z,988nm,20.0s,MS5.3
JMIC Jan Mayen 95.83 18 LR LR 21 03 45.9
comp=Z,288nm,21.9s,MS4.7,baz=248,slow=33
RPZ Rata Peaks 96.20 222 LR LR 21 00 35.4
comp=Z,2μm,18.4s,MS5.5,baz=81,slow=30
COLD Coldfoot 96.28 338 *e*P **P 20 25 08.1 -1.0**
comp=Z,12nm,1.2s,mb5.2
BFO Black Forest 96.65 42 PFAKE 20 25 20.0 +8.9
BFO LR LR
comp=Z,527nm,20.0s,MS5.0
TUE Stuetta 96.92 44 *e*P **P 20 25 11.8 -0.6**
comp=Z,10.0nm,1.3s,mb5.1
TUE LR LR
comp=Z,1μm,20.0s,MS5.3
VLC Villacollemand 97.14 46 PFAKE 20 25 20.0 +6.5
VLC LR LR
comp=Z,653nm,22.0s,MS5.1
MOTA Moosalm 98.27 43⇓ *i*P **P 20 25 18.4 -0.1**
comp=Z,7.7nm,1.1s,mb5.2,SNR=6.4
MOTA Moosalm 98.27 43⇓ *i*P **P 20 25 18.4 -0.1**
MOTA pmax pmax
comp=Z,8.0nm,1.1s,mb5.2
WTTA Wattenberg 98.61 44 *i* P **P 20 25 20.3 +0.3**
comp=Z,24nm,1.5s,mb5.5,SNR=7.6
WTTA Wattenberg 98.61 44 *i* P **P 20 25 20.3 +0.3**
WTTA pmax pmax
comp=Z,24nm,1.5s,mb5.5
AQU L'Aquila 98.96 49 PFAKE 20 25 30.0 +8.3
AQU LR LR
comp=Z,765nm,22.0s,MS5.2
ABTA Abfaltersbach 99.11 44⇑ *i*P **P 20 25 22.4 +0.2**
comp=Z,11nm,1.0s,mb5.3
CASY Casey 100.16 183 PFAKE 20 25 40.0 +13
CASY LR LR
comp=Z,2μm,20.0s,MS5.6
LSZ Lusaka 100.17 108 PFAKE 20 25 40.0 +13
LSZ LR LR
comp=Z,2μm,21.0s,MS5.6
CLL Collm 100.18 40 *e*SKSac SKSac 20 36 05.0 +1.1
CLL *e*Sdif Sdif 20 37 05.0 +4.4
CLL *e*PS PS 20 38 42.0 +9.2
CLL *e*PPS 20 39 19.0
CLL *e*x x 20 42 44.0
CLL *e*SS SS 20 44 10.0 +15
CLL *e*SSS 20 47 39.0
KHC Kasperske Hory 100.21 42⇑ *e*P Pdif 20 25 28.3 +1.2
KHC Kasperske Hory 100.21 42 AMS AMS 21 09 40.0
comp=Z,600nm,16.9s
GERES GERESS Array B 100.25 42 P Pdif 20 25 26.0 -1.3
comp=Z,0.6nm,0.8s,baz=264,slow=6.7,SNR=5.7
PRU Pruhonice 100.96 41 AMS AMS 21 17 10.0
comp=Z,500nm,17.1s
TIP Timpagrande 100.96 52 PFAKE 20 25 40.0 +10
TIP LR LR
comp=Z,737nm,20.0s,MS5.2
PVCC Panska Ves 101.05 41 AMS AMS 21 11 20.0
comp=Z,500nm,18.2s
DPC Dobruska-Polom 102.14 41 AMS AMS 21 11 40.0
comp=Z,600nm,19.8s
KBS Kingsbay 102.97 11 PFAKE 20 25 50.0 +11
KBS LR LR
comp=Z,1μm,22.0s,MS5.5
OKC Ostrava-Krasne 103.25 42 AMS AMS 21 12 10.0
comp=Z,500nm,22.3s
PSZ Piszkesteto 104.24 44 PFAKE 20 26 00.0 +15
PSZ LR LR
comp=Z,390nm,19.0s,MS5.0
KWP Kalwaria 106.19 42 PFAKE 20 30 20.0 +15
KWP LR LR
comp=Z,603nm,22.0s,MS5.1
ARCES ARCESS Array B 106.87 21 PKKPbc PKKPbc 20 41 23.5 -3.4
comp=Z,2.6nm,1.0s,baz=96,slow=3.7,SNR=7.0
KEV Kevo 107.36 21 PFAKE 20 30 20.0 +13
KEV LR LR
comp=Z,739nm,21.0s,MS5.2
SANT Santorini 107.50 56 PFAKE 20 30 20.0 +12
SANT LR LR
comp=Z,332nm,20.0s,MS4.9
KIEV Kiev 110.36 41 PFAKE 20 30 20.0 +6.9
KIEV LR LR
comp=Z,792nm,20.0s,MS5.3
AKASG Malin Array Be 110.37 41 *i* PKIKP PKiKP 20 30 12.3 -0.8
LVZ Lovozero 110.45 22 PFAKE 20 30 20.0 +7.3
LVZ LR LR
comp=Z,468nm,21.0s,MS5.0
ISP Isparta 111.59 55 PFAKE 20 30 30.0 +14
ISP LR LR
comp=Z,359nm,19.0s,MS5.0
BILL Bilibino 112.59 339 PFAKE 20 30 30.0 +13
BILL LR LR
comp=Z,755nm,20.0s,MS5.3
ANTO Ankara 113.36 52 PFAKE 20 30 30.0 +11
ANTO LR LR
comp=Z,314nm,21.0s,MS4.9
OBN Obninsk 114.23 35 PFAKE 20 30 30.0 +10
OBN LR LR
comp=Z,884nm,22.0s,MS5.3
ABPO Ambohimpanom 115.78 119 PFAKE 20 30 40.0 +16
ABPO LR LR
comp=Z,1μm,20.0s,MS5.6
MALT Malatya 117.82 54 PFAKE 20 30 40.0 +12
MALT LR LR
comp=Z,400nm,20.0s,MS5.0
HNR Honiara 119.48 251 PFAKE 20 30 40.0 +8.3
HNR LR LR
comp=Z,444nm,19.0s,MS5.1
EIDS Eidsvold 119.58 230 *e*PKPdf PKPdf 20 30 30.3 -1.3
TIXI Tiksi 120.02 351 PFAKE 20 30 40.0 +9.0
TIXI LR LR
comp=Z,714nm,22.0s,MS5.3
SEY Seymchan 120.04 337⇑ *i*PKIKP PKPdf 20 30 30.2 -1.1
KIV Kislovodsk 120.28 47 PFAKE 20 30 40.0 +7.7
KIV LR LR
comp=Z,210nm,19.0s,MS4.8
GOF Gofitskoye 120.31 46 *e*PKIKP PKPdf 20 30 40.9 +8.6
PET Petropavlovsk 121.47 324 PFAKE 20 30 50.0 +16
PET LR LR
comp=Z,359nm,19.0s,MS5.0
STKA Stephens Creek 121.87 218 *e*PKP PKPdf 20 30 34.1 -1.7
comp=Z,3.3nm,1.2s
STKA Stephens Creek 121.87 218 PKP PKPdf 20 30 33.6 -2.3
comp=Z,1.4nm,0.7s,baz=315,slow=3.3,SNR=5.0
PETK Petropavlovsk- 121.98 325 PKP PKPdf 20 30 33.3 -2.0
comp=Z,2.5nm,0.8s,baz=87,slow=11,SNR=4.3
GNI Garni 122.46 51 PFAKE 20 30 50.0 +13
GNI LR LR
comp=Z,339nm,19.0s,MS5.0
ARU Arti 125.23 29 *i* PKIKP PKPdf 20 30 41.2 -0.2
ARU 20 32 30.3
ARU 20 37 42.1
ARU MLR MLR
comp=Z,612nm,21.0s,MS5.2
ARU Arti 125.23 29 PFAKE 20 30 50.0 +8.6
ARU LR LR
comp=Z,645nm,21.0s,MS5.3
CTA Charters Tower 126.24 232 *e*PKP PKPdf 20 30 43.8 -0.7
comp=Z,4.9nm,0.9s
CTA Charters Tower 126.24 232 PKP PKPdf 20 30 43.6 -0.8
comp=Z,4.1nm,0.8s,baz=180,slow=1.0,SNR=4.3
CTAO Charters Tower 126.24 232 PFAKE 20 31 00.0 +16
CTAO LR LR
comp=Z,594nm,20.0s,MS5.3
YAK Yakutsk 128.15 345 *i* PKIKP PKPdf 20 30 47.6 +0.8
YAK *e* 20 32 46.5
YAK pmax pmax
comp=Z,13nm,1.1s
YAK MLR MLR
comp=Z,511nm,22.0s,MS5.2
YAK MLR MLR
comp=N,342nm,28.0s
YAK MLR MLR
comp=E,532nm,25.0s
YAK Yakutsk 128.15 345 PFAKE 20 31 00.0 +13
YAK LR LR
comp=Z,491nm,22.0s,MS5.2
MSEY Mahe Island 128.99 108 PFAKE 20 31 00.0 +10
MSEY LR LR
comp=Z,954nm,19.0s,MS5.5
PMG Port Moresby 131.00 244 PFAKE 20 31 10.0 +16
PMG LR LR
comp=Z,425nm,21.0s,MS5.1
NWAO Narrogin (SRO) 131.89 196 PFAKE 20 31 10.0 +15
NWAO LR LR
comp=Z,710nm,19.0s,MS5.4
ASAR Alice Springs 132.49 219 PKP PKPdf 20 30 55.0 -1.4

comp=Z,2.5nm,0.9s,baz=118,slow=2.2,SNR=16
BRVK Borovoye 132.65 27 PFAKE 20 31 10.0 +14
BRVK LR LR
comp=Z,830nm,22.0s,MS5.4
YSS Yuzh-Sakhalins 133.33 323 *i* PKIKP PKPdf 20 30 54.9 -2.2
YSS Yuzh-Sakhalins 133.33 323 PFAKE 20 31 10.0 +13
YSS LR LR
comp=Z,168nm,20.0s,MS4.8
WB2 Warramunga Arr 134.91 223 *e*P PKPdf 20 30 59.7 -1.2
WB2 Warramunga Arr 134.91 223 *e*PKPdf PKPdf 20 30 59.2 -1.7
WB2 *e*P 20 30 59.7
WRAB Tennant Creek 134.91 223 *e*PKIKP PKPdf 20 30 59.7 -1.2
WRAB MLR MLR
comp=Z,833nm,20.0s,MS5.5
WRA Warramunga Arr 134.91 223 PKhKP 20 30 49.6
comp=Z,0.3nm,0.6s,baz=109,slow=2.5,SNR=4.0
WRA PKP PKPdf 20 30 59.9 -1.1
comp=Z,6.3nm,0.7s,baz=134,slow=1.8,SNR=25
NVS Novosibirsk 135.93 17 *e*PKIKP PKPdf 20 30 54.9 -6.8
NVS pmax pmax
comp=Z,26nm,2.5s
NVS pmax pmax
comp=E,35nm,3.4s
ZALV Zalesovo Beam 137.15 16 PKhKP 20 30 57.1
comp=E,0.3nm,0.3s,baz=268,slow=6.8,SNR=4.6
ZALV PKP PKPdf 20 31 03.4 -0.7
comp=E,5.1nm,0.9s,baz=10,slow=1.7,SNR=9.4
ZAL Zalesovo 137.16 16 PKIKP 20 30 57.1
ZAL PKPdf 20 31 03.4 -0.6
KLR Kul'dur 137.57 333 *e*PKIKP PKPdf 20 31 02.2 -2.8
KURK Kurchatov 137.84 23 *i* PKIKP PKPdf 20 31 05.5 +0.1
KURK Kurchatov 137.84 23 *e*PKPdf PKPdf 20 31 05.2 -0.3
KURK LR LR
comp=Z,758nm,22.0s,MS5.4
EKS2 Erkin-Say 141.33 36 *e*PKPdf PKPdf 20 31 12.0 0.0
EKS2 LR LR
comp=Z,494nm,19.0s,MS5.3
MJAR Matsushiro Arr 141.48 313 PKhKP 20 31 04.9
comp=Z,7.7nm,0.8s,baz=93,slow=1.8,SNR=34
MAJO Matsushiro 141.48 313 *e*PKHKP 20 31 04.5
MAJO MLR MLR
comp=Z,519nm,20.0s,MS5.3
MAT Matsushiro 141.48 313 PKP 20 31 04.4
AML Almayashu 141.62 37 *e*PKPdf PKPdf 20 31 13.8 +1.3
AML LR LR
comp=Z,476nm,20.0s,MS5.2
FITZ Fitzroy Crossi 141.66 215 *e*PKP PKPdf 20 31 07.4 -6.0
comp=Z,13nm,0.9s
FITZ Fitzroy Crossi 141.66 215 PKP PKPdf 20 31 09.7 -3.7
comp=Z,5.4nm,0.8s,baz=231,slow=3.7,SNR=12
FITZ Fitzroy Crossi 141.66 215 *e*PKP PKPdf 20 31 07.4 -6.0
FITZ *e*PKPdf PKPdf 20 31 14.7 +1.3
FRU Bishkek 141.69 35 *e*PKIKP PKPdf 20 31 14.0 +1.3
FRU *e* 20 34 19.0
FRU MLR MLR
comp=Z,500nm,20.0s,MS5.3
HVS Khovu-Aksy 141.75 10 *i* PKIKP PKPdf 20 31 15.4 +2.9
VLA Vladivostok 141.78 326 *e*PKHKP 20 31 07.0
VLA *e* 20 31 12.3
VLA pmax pmax
comp=Z,13nm,1.1s
MBWA Marble Bar 141.94 205 PFAKE 20 31 30.0 +16
MBWA LR LR
comp=Z,676nm,19.0s,MS5.4
MDJ Mudanjiang 141.94 329 PKP PKPdf 20 31 12.8 -0.3
MDJ PP PP 20 34 18.4 +0.7
MDJ SKS SKSdf 20 38 19.8 -1.6
MDJ PP PP
comp=Z,222nm,9.2s
MDJ LR LR
comp=N,193nm,35.5s,MS4.9
MDJ LR LR
comp=E,330nm,32.5s,MS4.9
MDJ LR LR
comp=Z,334nm,29.5s,MS4.9
MDJ Mudanjiang 141.94 329 PFAKE 20 31 20.0 +6.9
MDJ LR LR
comp=Z,583nm,22.0s,MS5.3
MOY Mondy 142.00 3 *e*PKIKP PKPdf 20 31 17.5 +4.6
MOY pmax pmax
comp=Z,27nm,3.1s
HIA Hailar 142.03 343 PFAKE 20 31 20.0 +6.9
HIA LR LR
comp=Z,1μm,22.0s,MS5.6
UCH Uchtor 142.03 36 PFAKE 20 31 30.0 +17
UCH LR LR
comp=Z,54nm,19.0s,MS4.3
TLY Talaya 142.04 360 *e*PKIKP PKPdf 20 31 12.9 -0.1
TLY *e* 20 34 14.9
TLY *e*SS SS 20 52 42.8 -5.7
TLY pmax pmax
comp=Z,7.0nm,1.6s
TLY MLR MLR
comp=Z,664nm,22.0s,MS5.3
TLY Talaya 142.04 360 PFAKE 20 31 20.0 +7.0
TLY LR LR
comp=Z,321nm,20.0s,MS5.1
TKM2 Tokmak 2 142.18 34 *e*PKIKP PKPdf 20 31 13.4 -0.1
TKM2 MLR MLR
comp=Z,688nm,22.0s,MS5.4
MK31 Makanchi Array 142.44 24 *e*PKIKP PKPdf 20 31 10.3 -3.6
MKAR Makanchi Array 142.44 24 PKhKP PKPdf 20 31 09.6 -4.3
comp=Z,1.8nm,0.7s,baz=321,slow=1.7,SNR=12
MKAR Makanchi Array 142.44 24 PKP PKPdf 20 31 09.6 -4.3
ZAK Zakamensk 143.34 0 *e*PKIKP PKPdf 20 31 10.6 -4.7
CN2 Changchun 144.53 332 *e*PKP PKPdf 20 31 16.4 -1.2
CN2 LR LR
comp=N,500nm,19.0s,MS5.4
CN2 LR LR
comp=E,300nm,19.0s,MS5.4
CN2 LR LR
comp=Z,500nm,20.0s,MS5.3
KSH Kashi 144.61 38 PKP PKPdf 20 31 17.8 -0.1
KSH PKS 20 34 51.5
KSH PPP 20 37 51.6
KSH SKS SKSdf 20 38 21.3 -4.4
KSH SKKS SKKSac 20 41 22.6 -2.7
KSH LR LR
comp=N,381nm,8.2s
KSH LR LR
comp=E,457nm,4.6s
KSH LR LR
comp=Z,1μm,24.9s,MS5.6
SONM Songino Array 145.81 357 PKPbc PKPbc 20 31 19.7 -0.5
comp=Z,37nm,1.0s,baz=284,slow=0.4,SNR=84
SNY Shenyang 146.93 332 PKPR PKPbc 20 31 24.3 +0.6
SNY PP PP
comp=Z,345nm,7.8s
SNY LR LR
comp=N,350nm,19.2s,MS5.3
SNY LR LR
comp=E,333nm,17.4s,MS5.3
SNY LR LR
comp=Z,422nm,21.8s,MS5.2
WMQ Urumqi 146.99 21 PKP PKPdf 20 31 21.0 -0.8
WMQ PPP 20 38 09.8
WMQ SKS SKSdf 20 38 24.3 -4.6
WMQ SKKS SKKSac 20 41 36.8 -1.7
WMQ PP PP
comp=Z,71nm,9.6s
WMQ LR LR
comp=N,488nm,23.8s,MS5.3
WMQ LR LR
comp=E,341nm,22.0s,MS5.3
WMQ LR LR
comp=Z,397nm,23.2s,MS5.1
KSRS Korea Array 147.80 322 PKPbc PKPbc 20 31 23.1 -3.1
comp=Z,10nm,0.7s,baz=38,slow=1.7,SNR=28
KS15 Wonju Array Si 147.83 322 *e*PKPdf PKPdf 20 31 25.1 +1.6
THN Thein Dam 148.46 49 *ex* PKPbc 20 31 26.9 -1.3
INCN Inchon 148.54 323 PFAKE 20 31 40.0 +15
INCN LR LR
comp=Z,517nm,19.0s,MS5.3
BATI Baumata 149.01 221 PKPbc PKPbc 20 31 29.6 -0.5
comp=Z,31nm,1.0s,baz=180,slow=14,SNR=2.7
DL2 Dalian 150.15 331 PKP PKPbc 20 31 30.8 -1.4
DL2 PP PP
comp=Z,140nm,6.4s
DL2 LR LR
comp=N,260nm,20.3s,MS5.1
DL2 LR LR
comp=E,150nm,21.7s,MS5.1
DL2 LR LR
comp=Z,230nm,20.4s,MS5.0
SMLA Simla 150.18 50 *i* P PKPbc 20 31 32.3 -0.3

DDI Dehra Dun 151.24 51 *ex* PKPdf 20 31 29.0 -0.1
HHC Hu-ho-hao-te 151.97 347 *e*PKP PKPdf 20 31 28.4 -1.5
HHC PKS 20 35 01.3
HHC SKS SKSdf 20 38 30.5 -5.2
HHC SKKS SKKSac 20 42 02.3 -3.8
HHC LR LR
comp=N,627nm,25.0s,MS5.4
HHC LR LR
comp=E,358nm,22.6s,MS5.4
HHC LR LR
comp=Z,750nm,25.0s,MS5.4
BTO Baotou 152.52 349 *e*PKP PKPbc 20 31 35.4 -2.2
GTA Gaotai 154.11 7 *e*PKP PKPdf 20 31 32.8 -0.2
GTA PKS 20 35 06.9
GTA SKS SKSdf 20 38 33.9 -4.4
GTA PP PP
comp=Z,304nm,7.1s
GTA LR LR
comp=N,214nm,22.3s,MS5.1
GTA LR LR
comp=E,282nm,24.1s,MS5.1
GTA LR LR
comp=Z,479nm,25.3s,MS5.2
KAPI Kappang 155.45 222 PFAKE 20 31 50.0 +14
KAPI LR LR
comp=Z,613nm,19.0s,MS5.5
SSE Sheshan 156.19 320 *e*PKP PKPdf 20 31 33.6 -2.5
SSE PP PP
comp=Z,221nm,4.5s
SSE LR LR
comp=N,284nm,22.1s,MS5.1
SSE LR LR
comp=E,90nm,22.0s,MS5.1
SSE LR LR
comp=Z,372nm,23.4s,MS5.1
DANN Dangsing 156.50 48 *e*P PKPab 20 32 06.0 +0.7
comp=Z,101nm,1.0s
KOLN Koldanda 156.71 50 *e*P PKPab 20 32 06.0 -0.2
comp=Z,10nm,0.4s
PALK Pallekele 156.72 103 PFAKE 20 31 50.0 +13
PALK LR LR
comp=Z,717nm,20.0s,MS5.5
NJ2 Nanjing 156.89 325 *e*PKP PKPdf 20 31 36.5 -0.5
NJ2 PKS 20 35 08.3
DAV Davao City (W) 157.34 256 PFAKE 20 31 50.0 +12
DAV LR LR
comp=Z,469nm,20.0s,MS5.3
LZH Lanzhou 157.63 359 PKP PKPdf 20 31 37.6 -0.2
LZH SKS SKSdf 20 38 38.3 -3.9
LZH SKKS SKKSac 20 42 35.3 -1.3
LZH PP PP
comp=Z,409nm,5.4s
LZH LR LR
comp=N,675nm,18.3s
LZH LR LR
comp=Z,897nm,20.5s,MS5.6
KKN Kakani 157.92 47 *e*P PKPab 20 32 11.8 +0.4
comp=Z,51nm,0.9s
PKI Pulchoki 158.14 48 *e*P PKPab 20 32 12.5 +0.1
comp=Z,30nm,0.9s
GUN Gumba 158.28 46 *e*P PKPab 20 32 13.8 +0.8
comp=Z,112nm,1.0s
YHNB Yeheng 159.88 306 PFAKE 20 31 50.0 +9.2
YHNB LR LR
comp=Z,368nm,20.0s,MS5.2
LSA Lhasa 160.33 34 PKP PKPdf 20 31 42.1 +0.9
LSA Lhasa 160.33 34 *e*PKPdf PKPdf 20 31 41.6 +0.4
LSA LR LR
comp=Z,534nm,20.0s
ENH Enshi 162.53 343 PFAKE 20 31 50.0 +6.5
ENH LR LR
comp=Z,5.0nm,19.0s
CD2 Chengdu 162.79 359 *e*PKP PKPdf 20 31 42.8 -0.9
CD2 SKS SKSdf 20 38 42.1 -4.9
CD2 PP PP
comp=Z,360nm,8.4s
CD2 LR LR
comp=N,450nm,21.6s
CD2 LR LR
comp=E,400nm,20.4s
CD2 LR LR
comp=Z,530nm,20.6s
KKM Kota Kinabalu 165.40 240 PFAKE 20 32 00.0 +13
KKM LR LR
comp=Z,399nm,21.0s
GYA Guiyang 166.89 347 *i* PKP PKPdf 20 31 46.3 -1.1
GYA PKS 20 35 18.0
GYA SKS SKSdf 20 38 45.4 -4.5
GYA PPP 20 40 39.6
GYA SKKS SKKSac 20 43 22.8 -1.5
GYA SSS 21 03 50.3
GYA PP PP
comp=Z,410nm,6.8s
GYA LR LR
comp=N,1μm,25.8s
GYA LR LR
comp=E,1μm,24.4s
GYA LR LR
comp=Z,1μm,25.0s
KMI Kunming 168.53 3 PKP PKPdf 20 31 46.8 -1.8
KMI PKP2 PKPab 20 32 56.5 -1.3
KMI PP PP 20 36 46.0 +0.6
KMI SKS SKSdf 20 38 45.3 -5.6
KMI PPP 20 40 47.0
KMI SKKS SKKSac 20 43 28.4 -4.1
KMI SSS 21 04 06.5
KMI PP PP
comp=Z,314nm,8.4s
KMI LR LR
comp=N,464nm,23.7s
KMI LR LR
comp=E,259nm,20.6s
KMI LR LR
comp=Z,687nm,21.6s
QIZ Qiongzhong 171.88 312 PFAKE 20 32 00.0 +9.4
QIZ LR LR
comp=Z,606nm,19.0s
CHTO Chiang Mai 173.23 40 *e*PKIKP PKPdf 20 31 50.0 -1.2
CHTO MLR MLR
comp=Z,597nm,20.0s
CM31 Chiang Mai Arr 173.49 42 PFAKE 20 32 00.0 +8.7
CM31 LR LR
comp=Z,802nm,21.0s
CMAR Chiang Mai Arr 173.49 42 PKP PKPdf 20 31 50.6 -0.7
comp=Z,2.0nm,0.7s,baz=291,slow=3.4,SNR=16
CMAR PKPab PKPab 20 33 20.0 -0.1
comp=Z,2.2nm,0.8s,baz=319,slow=5.5,SNR=6.6

*IDC **19** 20:31:59.6±2.7, 3.15S×13651E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/14, mbtmp3.7/5, ML3.7/1, MS4.2/1, Ms1 4.2/1, ms1mx3.0/21, Error ellipse: s-maj=76.2km s-min=25.9km az=81.0*
*ISCJB **19** 20:32:05.1±1.2, 344S±007×1360E±02, h33km, mb3.7/3, Error ellipse: s-maj=25.4km s-min=9.8km az=179.7*
*NEIC **19** 20:32:06.0±1.7, 335S×13627E, h35km, mb3.9/2, Error ellipse: s-maj=50.7km s-min=12.8km az=82.0*
ISC 19 20:32:07.9±1.3, 349S±006×1359E±02, h35km, n9, σ1§32/13, mb3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.78**	**200**	*e*Pn		**Pn**	**20 34 27.4**	**+1.3**
KAKA				*e*Sn		**Sn**	**20 36 14.1**	**-0.7**
WRAB	**Tennant Creek**	**16.41**	**185**	*e*Pn		**Pn**	**20 35 56.5**	**+0.9**
	3.0nm,0.6s							
WB2	**Warramunga Arr**	**16.42**	**185**	*e*Pn		**Pn**	**20 35 55.3**	**-0.4**
WRA	**Warramunga Arr**	**16.42**	**185**	Pn		**Pn**	**20 35 54.6**	**-1.1**
	0.2nm,0.3s,baz=9.3,slow=13,SNR=4.5							
WRA				Sn		**Sn**	**20 38 55.6**	**-1.4**
	0.2nm,0.3s,baz=8.7,slow=24,SNR=4.6							
FITZ	**Fitzroy Crossi**	**17.66**	**214**	P		**Pn**	**20 36 14.0**	**+2.7**
	0.2nm,0.3s,baz=44,slow=15,SNR=5.0							
FITZ				S		**S**	**20 39 26.0**	**-7.7**
	0.2nm,0.3s,baz=176,slow=15,SNR=5.2							
ASAR	**Alice Springs**	**20.15**	**185**	P		**P**	**20 36 41.2**	**+2.1**
	2.8nm,0.7s,baz=12,slow=12,SNR=24							
ASAR				S		**S**	**20 40 23.5**	**-0.1**
	0.4nm,0.8s,baz=7.9,slow=23,SNR=3.0							
CMAR	**Chiang Mai Arr**	**42.45**	**302**	P		**P**	**20 39 59.3**	**-0.4**
	0.2nm,0.3s,mb3.2,baz=127,slow=7.6,SNR=4.3							
MKAR	**Makanchi Array**	**68.73**	**324**	P		**P**	**20 43 05.8**	**-2.3**
	0.7nm,0.6s,mb3.8,baz=109,slow=8.1,SNR=5.9							
EKS2	**Erkin-Say**	**72.35**	**317**	*e*P		**P**	**20 43 30.8**	**+0.5**
	1.8nm,0.6s,mb4.2							

IDC 19 20:40:23.7±3.0, 1511S×17646W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, Error ellipse: s-maj=111.4km s-min=32.9km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.04**	**257**	P		P	20 48 56.9	-0.5
	0.3nm,0.4s,baz=89,slow=7.4,SNR=10							
ASAR	**Alice Springs**	**47.40**	**252**	P		P	20 49 00.5	+0.4
	3.4nm,0.5s,baz=87,slow=8.6,SNR=77							
PETK	**Petropavlovsk-**	**71.50**	**344**	P		P	20 51 46.0	-0.1
	1.3nm,0.8s,baz=128,slow=9.3,SNR=3.9							
ARCES	**ARCESS Array B**	**123.89**	**351**	PKP		PKPdf	20 59 22.6	-0.6
	1.8nm,0.8s,baz=70,slow=1.4,SNR=7.0							
GERES	**GERESS Array B**	**145.34**	**348**	PKPbc		PKPbc	21 00 03.3	0.0
	0.8nm,0.7s,baz=11,slow=2.9,SNR=7.7							

*BJI **19** 20:47:28.0, 3624N×7852E, h19km, ML3.4*
ISC 19 20:47:27.5±2.9, 3598N±008×787E±04, h35km, n5, σ0§99/10, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**4.12**	**214**	*e*P		**Pn**	**20 48 29.0**	**+1.1**
DLH				*e*S		**Sn**	**20 49 15.0**	**+0.1**
KSH	**Kashi**	**4.15**	**329**	P		**Pn**	**20 48 27.8**	**-0.4**
KSH				S		**Sn**	**20 49 10.1**	**-5.4**
KSH				Smax				
	comp=N,399nm,0.4s							
KSH				Smax				
	comp=E,248nm,0.4s							
THN	**Thein Dam**	**4.33**	**216**	*e*P		**Pn**	**20 48 30.6**	**-0.2**
THN				*ex*		**Sn**	**20 49 14.7**	**-5.3**
KLP	**Kalpa**	**4.46**	**185**	*e*P		**Pn**	**20 48 26.3**	**-6.3**
KLP				*e*S		**Sn**	**20 49 15.1**	**-8.0**
KLP				AML		AML	20 49 34.3	
	comp=N,33nm,0.6s							
KLP				AML		AML	20 49 37.2	
	comp=E,44nm,0.6s							
SMLA	**Simla**	**5.01**	**195**	*i* P		**Pn**	**20 48 43.4**	**+3.3**
SMLA				*i* S		**Sn**	**20 49 35.9**	**-1.0**
SMLA				*ex*		x	20 49 39.5	
	comp=N,97nm,0.4s							
SMLA				*ex*		x	20 49 44.1	
	comp=E,176nm,0.3s							

*ISCJB **19** 21:13:23.2±1.5, 6.18N±005×1275E±0.1, h49km±13km, mb4.1/22, Error ellipse: s-maj=17.6km s-min=7.9km az=164.2*
*NEIC **19** 21:13:24.9±1.2, 6.16N×12749E, h47km±12km, mb4.3/15, Error ellipse: s-maj=11.6km s-min=5.1km az=73.0*
*IDC **19** 21:13:24.2±0.8, 6.13N×12749E, h38km±6km, mb3.8/10, mb1 3.9/11, mb1mx3.8/19, mbtmp3.8/11, ML4.2/1, Error ellipse: s-maj=41.9km s-min=13.3km az=73.0*
ISC 19 21:13:24.1±1.4, 618N±005×1275E±01, h39km±13km, h41km±1.3km: pP-P, n43, σ0§88/43, mb4.1/22, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MATI	**Mati**	**1.49**	**301**	*e*P		**Pn**	**21 13 44.5**	**-3.8**
DAV	**Davao City (W)**	**2.14**	**295**	Pn		**Pn**	**21 13 57.8**	**+0.5**
	78nm,0.3s,baz=220,slow=7.9,SNR=3.0							
DAV				Sn		**Sn**	**21 14 27.8**	**+5.1**
	69nm,0.3s,baz=90,slow=22,SNR=11							
GSPH	**General Santos**	**2.58**	**268**	*e*P		**Pn**	**21 14 03.0**	**-0.3**
BUKP	**Musuan**	**2.98**	**305**	*e*P		**Pn**	**21 14 10.5**	**+1.6**
NACB	**Ninganchiao**	**18.78**	**343**	P		**Pn**	**21 17 39.5**	**-1.4**
YHNB	**Yeheng**	**19.32**	**343**	P		**Pn**	**21 17 45.7**	**-1.6**
TATO	**Taipei**	**19.57**	**343**	*e*P		**Pn**	**21 17 49.4**	**-0.9**
	11nm,0.4s							
FITZ	**Fitzroy Crossi**	**24.20**	**184**	*e*P		**P**	**21 18 38.3**	**+1.2**
	7.5nm,1.1s,mb4.0							
FITZ	**Fitzroy Crossi**	**24.20**	**184**	P		**P**	**21 18 38.1**	**+1.0**
	3.1nm,0.9s,mb3.8,baz=14,slow=8.4,SNR=3.8							
FITZ	**Fitzroy Crossi**	**24.20**	**184**	*e*P		**P**	**21 18 38.3**	**+1.3**
	8.7nm,0.9s,mb4.2							
PMG	**Port Moresby**	**24.94**	**128**	P		**P**	**21 18 43.8**	**-0.1**
WRAB	**Tennant Creek**	**26.80**	**166**	*e*P		**P**	**21 19 00.3**	**-0.3**
	3.8nm,0.6s,mb4.1							
WRA	**Warramunga Arr**	**26.80**	**166**	P		**P**	**21 19 00.3**	**-0.4**
	4.9nm,0.8s,mb4.1,baz=341,slow=11,SNR=17							
WRA				PcP		PcP	21 22 23.9	+0.8
	1.3nm,1.0s,baz=322,slow=2.7,SNR=4.2							
WB2	**Warramunga Arr**	**26.80**	**166**	*e*P		**P**	**21 19 00.3**	**-0.4**
MBWA	**Marble Bar**	**28.22**	**196**	P		**P**	**21 19 13.0**	**-0.4**
ASAR	**Alice Springs**	**30.30**	**168**	P		**P**	**21 19 31.8**	**-0.1**
	1.3nm,0.6s,mb3.8,baz=2.5,slow=11,SNR=20							
ASAR				PcP		PcP	21 22 32.5	+0.7
	0.5nm,0.5s,baz=356,slow=2.5,SNR=8.2							
CM31	**Chiang Mai Arr**	**30.43**	**296**	P		**P**	**21 19 31.1**	**-2.0**
KSRS	**Korea Array**	**31.14**	**1**	P		**P**	**21 19 40.1**	**+1.0**
	1.8nm,0.8s,mb4.0,baz=177,slow=9.7,SNR=9.7							
KSRS				pP		pP	21 19 51.1	+1.3
	0.8nm,0.4s,baz=176,slow=10,SNR=3.8							
INCN	**Inchon**	**31.17**	**359**	*e*P		**P**	**21 19 41.1**	**+1.7**
MAJO	**Matsushiro**	**31.76**	**16**	*e*P		**P**	**21 19 44.9**	**+0.3**
	1.5nm,0.3s,mb4.3							
MDJ	**Mudanjiang**	**38.33**	**2**	*e*P		**P**	**21 20 41.1**	**0.0**
	3.5nm,0.5s,mb4.3							
NWAO	**Narrogin (SRO)**	**40.10**	**194**	*e*P		**P**	**21 20 57.1**	**+1.1**
	34nm,1.1s,mb5.0							
STKA	**Stephens Creek**	**40.15**	**161**	P		**P**	**21 20 55.3**	**-1.1**
	3.3nm,0.8s,mb4.1,baz=327,slow=9.4,SNR=5.9							
STKA	**Stephens Creek**	**40.15**	**161**	*e*P		**P**	**21 20 56.1**	**-0.2**
	2.9nm,0.7s,mb4.1							
LSA	**Lhasa**	**41.49**	**309**	*e*P		**P**	**21 21 07.8**	**+0.2**
	0.7nm,0.5s,mb3.5							
SONM	**Songino Array**	**45.27**	**340**	P		**P**	**21 21 38.5**	**+0.8**
	0.9nm,1.0s,mb3.6,baz=145,slow=5.4,SNR=5.3							
SONM				pP		pP	21 21 50.2	+1.3
	0.4nm,0.6s,baz=155,slow=8.5,SNR=3.7							
TLY	**Talaya**	**49.49**	**341**	*e*P		**P**	**21 22 09.6**	**-0.9**
	1.8nm,1.0s,mb4.1							
PET	**Petropavlovsk**	**53.17**	**23**	*e*P		**P**	**21 22 38.9**	**+0.8**
MKAR	**Makanchi Array**	**56.04**	**324**	P		**P**	**21 22 59.6**	**+0.5**
	0.5nm,0.4s,mb3.9,baz=112,slow=7.5,SNR=8.1							
MKAR				pP		pP	21 23 10.3	-0.1
	0.4nm,0.4s,baz=119,slow=9.0,SNR=4.3							
MKAR				PcP		PcP	21 23 57.9	+0.9
	0.4nm,0.6s,baz=133,slow=4.6,SNR=2.8							
MKAR	**Makanchi Array**	**56.04**	**324**	P		**P**	**21 22 59.5**	**+0.5**
MKAR				pP		pP	21 23 10.3	-0.1
MKAR				PcP		PcP	21 23 57.9	+0.9
TKM2	**Tokmak 2**	**58.48**	**317**	*e*P		**P**	**21 23 17.1**	**+0.8**
	0.6nm,0.6s,mb3.8							
ZALV	**Zalesovo Beam**	**58.80**	**332**	P		**P**	**21 23 17.8**	**-0.6**
	1.0nm,0.4s,mb4.2,baz=131,slow=6.1,SNR=7.7							
ZALV				pP		pP	21 23 29.1	-0.7
	1.2nm,0.4s,baz=111,slow=7.3,SNR=6.3							
ZALV	**Zalesovo Beam**	**58.80**	**332**	P		**P**	**21 23 17.8**	**-0.6**
ZALV				pP		pP	21 23 29.1	-0.7
UCH	**Uchtor**	**58.95**	**316**	P		**P**	**21 23 19.6**	**0.0**
AML	**Almayashu**	**59.48**	**316**	*e*P		**P**	**21 23 24.2**	**+0.9**
	1.7nm,0.3s,mb4.5							
EKS2	**Erkin-Say**	**59.62**	**316**	P		**P**	**21 23 24.4**	**+0.1**
KBL	**Kabul**	**60.71**	**306**	*e*P		**P**	**21 23 32.2**	**+0.4**
	0.9nm,0.4s,mb4.2							
ARU	**Arti**	**73.32**	**327**	*e*P		**P**	**21 24 51.7**	**+0.2**
	1.8nm,0.4s,mb4.3							
MCK	**McKinley**	**81.63**	**27**	*e*P		**P**	**21 25 38.3**	**+0.5**
	4.6nm,0.8s,mb4.5							
KIV	**Kislovodsk**	**82.05**	**313**	*e*P		**P**	**21 25 40.5**	**+0.1**
	2.0nm,0.4s,mb4.4							
ARCES	**ARCESS Array B**	**88.44**	**340**	P		**P**	**21 26 10.4**	**-1.5**
	1.0nm,0.8s,mb4.1,baz=77,slow=6.6,SNR=3.5							
AKASG	**Malin Array Be**	**90.51**	**321**	P		**P**	**21 26 20.9**	**-1.0**
	0.2nm,0.3s,mb3.9,baz=70,slow=3.0,SNR=3.4							
TORD	**Torodi Ar. Bea**	**122.89**	**290**	PKP		PKPdf	21 32 17.1	0.0
	0.4nm,0.7s,baz=48,slow=2.1,SNR=2.5							

*IDC **19** 21:18:09.0±1.8, 1456S×7635W, h0km, mb4.2/3, mb1 4.1/6, mb1mx3.8/19, mbtmp4.0/6, ML4.1/3, MS3.2/2, Ms1 3.2/2, ms1mx2.9/26, Error ellipse: s-maj=54.2km s-min=22.7km az=57.0*
*ISCJB **19** 21:18:12.6±1.5, 1462S±008×764W±0.1, h43km±13km, mb4.5/7, Error ellipse: s-maj=23.3km s-min=7.2km az=149.8*
*MOS **19** 21:18:12.2±1.8, 1479S×7663W, h33km, mb5.1/1, Error*

ellipse: s-maj=33.1km s-min=16.8km az=38.9
*NEIC **19** 21:18:14.6±0.6, 1445S×7628W, h35km, mb4.6/2, Error ellipse: s-maj=16.8km s-min=7.2km az=52.0*
ISC 19 21:18:15.7±1.3, 1453S±009×763W±01, h48km±11km, n29, σ1§26/35, mb4.5/7, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.59**	**348**	Pn	**Pn**	**21 18 53.5**	**-1.7**
	17nm,0.3s,baz=180,slow=9.7,SNR=17						
NNA				Sn	**Sn**	**21 19 26.4**	**+1.0**
	95nm,0.3s,baz=205,slow=12,SNR=16						
ARE	**Arequipa**	**5.00**	**113**	*e*P	**Pn**	**21 19 30.0**	**+1.7**
ARE				*e*S	**Sn**	**21 20 37.0**	**+12**
ATAH	**Atahualpa**	**7.77**	**344**	Pn	**Pn**	**21 20 06.4**	**+0.1**
	0.8nm,0.3s,baz=142,slow=12,SNR=4.3						
ATAH				Sn	**Sn**	**21 21 34.0**	**+1.0**
	1.0nm,0.3s,baz=336,slow=19,SNR=2.4						
ATAH				LR	LR	21 23 28.1	
	comp=Z,187nm,19.0s,baz=318,slow=42						
LPAZ	**La Paz**	**8.05**	**104**	Pn	**Pn**	**21 20 13.0**	**+2.9**
	1.1nm,0.3s,baz=316,slow=8.8,SNR=56						
LPAZ				Sn	**Sn**	**21 21 52.7**	**+13**
	baz=288,slow=19,SNR=2.2						
LPAZ	**La Paz**	**8.05**	**104**	Pn	**Pn**	**21 20 13.0**	**+2.9**
LPAZ				Sn	**Sn**	**21 21 52.7**	**+13**
LVC	**Limon Verde**	**10.65**	**140**	Pn	**Pn**	**21 20 44.6**	**-1.0**
	0.4nm,0.3s,baz=300,slow=17,SNR=4.4						
LVC				Sn	**Sn**	**21 22 40.0**	**-3.5**
	0.3nm,0.3s,baz=90,slow=20,SNR=3.4						
LVC				LR	LR	21 24 02.4	
	comp=Z,119nm,19.5s,baz=52,slow=33						
LVC	**Limon Verde**	**10.65**	**140**	Pn	**Pn**	**21 20 44.6**	**-1.0**
LVC				Sn	**Sn**	**21 22 40.0**	**-3.5**
LVC				LR	LR	21 24 02.4	
SIV	**San Ignacio**	**14.75**	**98**	Pn	**Pn**	**21 21 39.9**	**-1.5**
	0.2nm,0.3s,baz=291,slow=16,SNR=4.7						
OTAV	**Otavalo**	**14.83**	**351**	*e*P	**Pn**	**21 21 39.6**	**-2.9**
	2.7nm,0.8s						
ROSC	**El Rosal**	**19.36**	**6**	*e*P	**Pn**	**21 22 37.4**	**-1.5**
SDV	**Santo Domingo**	**23.93**	**14**	P	**P**	**21 23 25.5**	**+0.1**
	5.6nm,0.3s,mb4.5,baz=151,slow=5.0,SNR=11						
PLCA	**Paso Flores**	**26.58**	**170**	P	**P**	**21 23 45.5**	**-3.8**
TGUH	**Tegucigalpa,Un**	**30.42**	**339**	*e*P	**P**	**21 24 24.4**	**+0.8**
	6.8nm,0.3s,mb4.9						
BBGH	**Gun Hill**	**32.10**	**32**	P	**P**	**21 24 37.8**	**-0.7**
TEIG	**Tepich**	**36.50**	**341**	*e*P	**P**	**21 25 16.2**	**-0.3**
	4.0nm,0.7s,mb4.5						
DWPF	**Disney**	**42.68**	**353**	*e*P	**P**	**21 26 05.7**	**-2.2**
BBSR	**BB Station**	**47.94**	**13**	*e*P	**P**	**21 26 49.9**	**+0.5**
	20nm,1.0s,mb5.1						
TXAR	**Lajitas Array**	**51.00**	**329**	P	**P**	**21 27 12.4**	**-0.5**
	0.3nm,0.6s,mb3.4,baz=151,slow=8.9,SNR=5.5						
WMOK	**Wichita Mounta**	**53.46**	**337**	P	**P**	**21 27 33.3**	**+2.3**
KSU1	**Kansas State U**	**56.63**	**341**	*e*P	**P**	**21 27 50.4**	**-3.4**
PV10	**Paradox Valley**	**60.92**	**331**	P	**P**	**21 28 24.2**	**+0.5**
RSSD	**Black Hills**	**63.62**	**338**	*e*P	**P**	**21 28 41.5**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
RSSD	**Black Hills**	**63.62**	**338**	*e*P	**P**	**21 28 41.5**	**-0.1**
	comp=Z,5.9nm,0.5s,mb4.9						
ISA	**Isabella**	**63.92**	**322**	*e*P	**P**	**21 28 43.8**	**0.0**
HLID	**Hailey**	**67.51**	**331**	*e*P	**P**	**21 29 07.2**	**+0.5**
SNAA	**Sanae**	**71.10**	**161**	*e*P	**P**	**21 29 29.7**	**+1.1**
WALA	**Waterton Lakes**	**71.54**	**335**	*e*P	**P**	**21 29 31.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**81.94**	**74**	P	**P**	**21 30 31.3**	**+0.4**
	comp=Z,2.0nm,0.6s,mb4.2,baz=264,slow=4.9,SNR=25						
SONM	**Songino Array**	**146.72**	**357**	PKPbc	PKPbc	21 37 52.7	+0.4
	comp=Z,1.0nm,0.6s,baz=0.0,slow=2.6,SNR=11						

*IDC **19** 21:54:31.0±1.9, 1813S×169.17E, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.0/15, mbtmp4.0/5, MS4.3/1, Ms1 4.3/1, ms1mx3.3/18, Error ellipse: s-maj=71.9km s-min=26.8km az=141.0*
*ISCJB **19** 21:54:34.6±1.4, 180S±03×1690E±02, h33km, mb4.0/7, Error ellipse: s-maj=45.8km s-min=19.0km az=143.1*
*NEIC **19** 21:54:36.2±1.2, 1810S×169.08E, h35km, mb4.0/2, Error ellipse: s-maj=38.9km s-min=16.2km az=143.0*
ISC 19 21:54:36.4±1.4, 1815S±03×1691E±02, h35km, n10, σ0§72/10, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.34**	**236**	P	**P**	**22 00 27.1**	**-0.1**
	0.5nm,0.4s,mb3.5,baz=79,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**28.34**	**236**	*e*P	**P**	**22 00 26.8**	**-0.4**
	1.1nm,0.5s,mb3.7						
WB2	**Warramunga Arr**	**32.85**	**261**	P	**P**	**22 01 07.7**	**+0.7**
WRAB	**Tennant Creek**	**32.85**	**261**	*e*P	**P**	**22 01 07.4**	**+0.4**
	2.7nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**32.86**	**261**	P	**P**	**22 01 07.5**	**+0.4**
	0.3nm,0.3s,mb3.7,baz=81,slow=6.2,SNR=7.5						
ASAR	**Alice Springs**	**33.27**	**254**	P	**P**	**22 01 11.1**	**+0.4**
	2.8nm,0.5s,mb4.5,baz=84,slow=9.6,SNR=42						
FITZ	**Fitzroy Crossi**	**41.22**	**263**	*e*P	**P**	**22 02 16.2**	**-2.0**
	20nm,1.4s,mb4.5						
MAJO	**Matsushiro**	**61.67**	**332**	P	**P**	**22 04 50.4**	**-0.4**
PETK	**Petropavlovsk-**	**71.58**	**353**	P	**P**	**22 05 54.1**	**+0.4**
	1.5nm,1.0s,mb3.9,baz=139,slow=9.6,SNR=2.7						
TXAR	**Lajitas Array**	**96.35**	**61**	P	**P**	**22 08 01.9**	**0.0**
	0.5nm,1.0s,mb3.9,baz=225,slow=3.7,SNR=3.5						

*IDC **19** 21:59:48.2±1.5, 1115N×126.18E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, Error ellipse: s-maj=179.2km s-min=19.5km az=69.0*
*ISCJB **19** 21:59:50.1±1.8, 1135N±005×12636E±007, h26km±13km, mb3.6/6, Error ellipse: s-maj=11.5km s-min=8.1km az=172.5*
*MAN **19** 21:59:52, 1136N×126.14E, h20km, mb4.7, ML3.6, MS3.6*
ISC 19 21:59:50.3±1.8, 1134N±005×12629E±006, h13km±11km, n19, σ1§33/23, mb3.6/6, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.88**	**288**	*e*P	**Pg**	**22 00 06.6**	**-0.7**
PLP	**Palo**	**1.30**	**263**	⇑*i*P	**Pn**	**22 00 12.9**	**-1.3**
PLP				*e*S	**Sb**	**22 00 28.9**	**-2.3**
OCLP	**Ormoc**	**1.68**	**260**	*e*P	**Pn**	**22 00 20.6**	**+1.3**
SCPH	**Surigao**	**1.73**	**207**	*e*P	**Pn**	**22 00 19.3**	**-0.8**
SCPH				*e*S	**Sn**	**22 00 41.1**	**-1.1**
MSLP	**Maasin**	**1.85**	**230**	*e*P	**Pn**	**22 00 22.2**	**+0.5**
MSLP				*e*S	**Sn**	**22 00 47.3**	**+2.4**
CNP	**Catarman**	**1.98**	**306**	*e*P	**Pn**	**22 00 22.4**	**-1.1**
CNP				*e*S	**Sn**	**22 00 46.5**	**-1.7**
TBP	**Tagbilaran**	**2.89**	**236**	*e*P	**Pn**	**22 00 37.6**	**+1.4**
PVCP	**Virac**	**3.07**	**317**	*e*P	**Pn**	**22 00 39.2**	**+0.7**
RCP	**Roxas**	**3.48**	**274**	⇓*e*P	**Pn**	**22 00 49.8**	**+5.6**
BUKP	**Musuan**	**3.64**	**200**	*e*P	**Pn**	**22 00 51.3**	**+4.8**
GUIM	**Jordan**	**3.70**	**259**	*e*P	**Pn**	**22 00 48.0**	**+0.8**
OTRP	**Odiongan**	**4.30**	**284**	*e*P	**Pn**	**22 00 57.2**	**+1.6**
PAGZ	**Pagadian**	**4.50**	**220**	*e*P	**Pn**	**22 00 59.9**	**+1.7**
WRA	**Warramunga Arr**	**32.07**	**166**	P	**P**	**22 06 16.0**	**-1.1**
	0.3nm,0.5s,mb3.4,baz=344,slow=8.9,SNR=3.0						
ASAR	**Alice Springs**	**35.57**	**168**	P	**P**	**22 06 46.5**	**-1.1**
	0.3nm,0.4s,mb3.6,baz=353,slow=6.6,SNR=9.6						
SONM	**Songino Array**	**40.03**	**339**	P	**P**	**22 07 25.9**	**+0.8**
	0.3nm,0.6s,mb3.2,baz=146,slow=6.2,SNR=4.0						
STKA	**Stephens Creek**	**45.40**	**162**	P	**P**	**22 08 06.4**	**-2.3**
	1.0nm,0.7s,mb3.8,baz=350,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**51.20**	**322**	P	**P**	**22 08 53.7**	**+0.3**
	1.0nm,0.6s,mb4.0,baz=114,slow=8.5,SNR=10						
ARCES	**ARCESS Array B**	**83.21**	**340**	P	**P**	**22 12 17.5**	**+1.5**
	1.0nm,0.8s,mb3.9,baz=81,slow=5.9,SNR=3.0						

IDC 19 22:23:10.3±10.0, 1738S×17894W, h580km±134km, mb2.9/6, mb1 3.2/6, mb1mx3.0/16, mbtmp2.9/6, Error ellipse: s-maj=69.7km s-min=41.1km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.45**	**240**	P	P	22 29 43.9	+0.3
	1.7nm,0.6s,baz=90,slow=6.0,SNR=8.5						
WRA	**Warramunga Arr**	**44.24**	**259**	P	P	22 30 28.3	-1.1
	0.4nm,0.4s,baz=95,slow=7.9,SNR=6.2						
ASAR	**Alice Springs**	**44.45**	**254**	P	P	22 30 31.1	+0.1
	2.4nm,0.4s,baz=89,slow=8.4,SNR=41						
PETK	**Petropavlovsk-**	**73.04**	**346**	P	P	22 33 42.4	+0.6
	1.1nm,0.8s,baz=160,slow=6.0,SNR=3.1						
NVAR	**Mina Array Bea**	**79.39**	**44**	P	P	22 34 17.4	+0.4
	0.2nm,0.3s,baz=231,slow=9.4,SNR=3.7						
PDAR	**Pinedale Array**	**87.31**	**44**	P	P	22 34 56.1	-0.1
	0.2nm,0.6s,baz=212,slow=3.1,SNR=2.4						
GERES	**GERESS Array B**	**146.97**	**345**	PKPbc	PKPbc	22 41 48.1	-0.4
	0.3nm,0.5s,baz=358,slow=3.2,SNR=4.4						

*LJU **19** 22:57:01.9, 4637N×1697E, h7km, ML2.8*
*ISCJB **19** 22:57:02.0±0.3, 4657N±002×1682E±002, h5km±2km, Error ellipse: s-maj=2.8km s-min=2.1km az=176.3*
*VIE **19** 22:57:02.3±0.2, 4649N×1687E, h5km±1km, mb2.6/7, ML3.0/6, Error ellipse: s-maj=1.8km s-min=1.0km az=177.0*
*NEIC **19** 22:57:03.7±0.7, 4644N×1677E, h10km±5km, ML2.8(LJU), ML3.0(SZGRF), Error ellipse: s-maj=5.6km s-min=3.4km az=161.0*
*PRU **19** 22:57:03.9, 4653N×1685E, h10km*
*CSEM **19** 22:57:03.7±0.1, 4644N×1685E, h1km, ML3.8/10, Error ellipse: s-maj=2.0km s-min=1.6km az=159.0*
*BGR **19** 22:57:04.1±0.6, 4649N×1690E, h10km, ML3.0/5, Error ellipse: s-maj=13.3km s-min=6.7km az=56.0*
*LDG **19** 22:57:04.8±0.2, 4641N×1687E, h10km, Ml3.3/7, Error ellipse: s-maj=4.6km s-min=3.7km az=144.0*
ISC 19 22:57:03.9±0.3, 4652N±002×1683E±002, h10km±2km, n138, σ1§18/218, 31C-25D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOGS	**Kog**	**0.41**	**260**	⇓*i*Pg	**Pg**	**22 57 12.1**	**+0.2**
KOGS				*i* Sg	**Sg**	**22 57 18.8**	**+1.5**
GOLS	**Golise**	**0.98**	**239**	⇓*i*Pg	**Pg**	**22 57 22.3**	**-0.4**
GOLS				*i* Sg	**Sg**	**22 57 36.8**	**+1.4**
GOLS							
	comp=Z,245nm,0.2s						
GOLS	**Golise**	**0.98**	**239**	⇓*i*Pg	**Pg**	**22 57 22.3**	**-0.4**
GOLS				*i* Sg	**Sg**	**22 57 36.8**	**+1.4**
	comp=Z,245nm,0.2s						
GOLS	**Golise**	**0.98**	**239**	⇓*i*Pg	**Pg**	**22 57 22.3**	**-0.4**
GOLS				*i* Sg	**Sg**	**22 57 36.8**	**+1.4**
DOBS	**Dobrina**	**1.01**	**249**	⇓*i*Pg	**Pg**	**22 57 22.7**	**-0.7**
DOBS				*i* Sg	**Sg**	**22 57 37.3**	**+0.8**
DOBS							
	comp=Z,146nm,0.1s						
DOBS	**Dobrina**	**1.01**	**249**	⇓*i*Pg	**Pg**	**22 57 22.7**	**-0.7**
DOBS				*i* Sg	**Sg**	**22 57 37.3**	**+0.8**
	comp=Z,146nm,0.1s						
DOBS	**Dobrina**	**1.01**	**249**	⇓*i*Pg	**Pg**	**22 57 22.7**	**-0.7**
DOBS				*i* Sg	**Sg**	**22 57 37.3**	**+0.8**
ARSA	**Arzberg**	**1.16**	**310**	*e*Pg	**Pg**	**22 57 25.7**	**-0.5**
ARSA				*e*Sg	**Sg**	**22 57 41.1**	**-0.1**
ARSA	**Arzberg**	**1.16**	**310**	*e*Pg	**Pg**	**22 57 25.7**	**-0.5**
	SNR=87						
ARSA				⇓*i*Sg	**Sg**	**22 57 41.6**	**+0.3**
	comp=Z,89nm,0.3s						
ARSA	**Arzberg**	**1.16**	**310**	Pg	**Pg**	**22 57 25.7**	**-0.5**
	comp=Z,86nm,7.0s						
ARSA				Sg	**Sg**	**22 57 41.6**	**+0.4**
	comp=Z,89nm,0.3s						
RHK3	**Tenkes**	**1.17**	**122**	⇓*e*Pn	**Pn**	**22 57 25.2**	**-1.2**
RHK3				*e*Sg	**Sg**	**22 57 42.5**	**+0.9**
SOP	**Sopron**	**1.18**	**351**	⇑*e*Pg	**Pg**	**22 57 16.9**	**-10**
SOP				*e*Sg	**Sg**	**22 57 33.6**	**-8.4**
SOKA	**Soboth**	**1.25**	**278**	⇑*i*Pg	**Pg**	**22 57 26.6**	**-1.3**
SOKA				⇑*i*Sg	**Sg**	**22 57 43.4**	**-0.7**
ZAVS	**Zavodnje**	**1.25**	**267**	⇑*i*Pg	**Pg**	**22 57 26.4**	**-1.5**
ZAVS				*i* Sg	**Sg**	**22 57 43.7**	**-0.4**
PKSM	**Moragy**	**1.29**	**103**	⇑*i*P	**Pn**	**22 57 26.2**	**-1.8**
PKSM	**Moragy**	**1.29**	**103**	⇓*e*Pn	**Pn**	**22 57 26.3**	**-1.7**
PKSM				*e*Sg	**Sg**	**22 57 46.1**	**+0.6**
PKSM	**Moragy**	**1.29**	**103**	⇑P	**Pn**	**22 57 26.2**	**-1.8**
PKSM				P		22 57 29.3	
PDKS	**Podkum**	**1.35**	**251**	⇓*i*Pg	**Pg**	**22 57 27.7**	**-2.1**
PDKS				*i* Sg	**Sg**	**22 57 47.5**	**+0.2**
PDKS							
	comp=Z,203nm,0.3s						
PDKS	**Podkum**	**1.35**	**251**	⇓*i*Pg	**Pg**	**22 57 27.7**	**-2.1**
PDKS				*i* Sg	**Sg**	**22 57 47.5**	**+0.2**
	comp=Z,203nm,0.3s						
PDKS	**Podkum**	**1.35**	**251**	⇓*i*Pg	**Pg**	**22 57 27.7**	**-2.1**
PDKS				*i* Sg	**Sg**	**22 57 47.5**	**+0.2**
BOJS	**Bojanci**	**1.50**	**228**	⇓*i*Pg	**Pg**	**22 57 29.6**	**-3.1**
BOJS							
	comp=Z,29nm,0.2s						
CONA	**Conrad Observa**	**1.56**	**335**	⇑*e*Pn	**Pn**	**22 57 31.3**	**-0.3**
	SNR=46						
CONA				⇑*i*Sn	**Sn**	**22 57 53.3**	**+1.4**
CONA	**Conrad Observa**	**1.56**	**335**	Pn	**Pn**	**22 57 31.3**	**-0.4**
	comp=Z,45nm,7.0s						
CONA				Sn	**Sn**	**22 57 53.3**	**+1.4**
CSNA	**Conrad Observa**	**1.56**	**335**	⇑*i*Pn	**Pn**	**22 57 31.4**	**-0.3**
CSNA				⇑*i*Sn	**Sn**	**22 57 53.4**	**+1.5**
OBKA	**Obir**	**1.57**	**271**	*e*Pn	**Pn**	**22 57 31.1**	**-0.8**
	SNR=56						
OBKA				⇑*i*Sg	**Sg**	**22 57 55.6**	**+1.0**
	comp=Z,284nm,0.4s						
OBKA	**Obir**	**1.57**	**271**	Pn	**Pn**	**22 57 31.1**	**-0.8**
	comp=Z,55nm,9.0s						
OBKA				Sg	**Sg**	**22 57 55.6**	**+1.1**
	comp=Z,284nm,0.4s						
LJU	**Ljubljana**	**1.67**	**254**	*i* Pn	**Pn**	**22 57 32.2**	**-1.0**
LJU							
	comp=Z,42nm,0.2s						
PKS7	**Kunszentmiklos**	**1.69**	**71**	*e*Pn	**Pn**	**22 57 35.5**	**+2.0**
PKS7				*e*Sn	**Sn**	**22 58 00.9**	**+5.8**
ZST	**Bratislava**	**1.69**	**6**	*i* PG	**Pg**	**22 57 33.1**	**-3.3**
ZST				*e*SN	**Sn**	**22 57 53.4**	**-1.8**
ZST				*e*SG	**Sg**	**22 58 00.2**	**+1.9**
MODS	**Modra-Piesok**	**1.88**	**9**	*e*PG	**Pg**	**22 57 35.5**	**-4.5**
MODS				*e*SN	**Sn**	**22 57 57.8**	**-2.1**
MODS				*e*SG	**Sg**	**22 58 04.8**	**+0.4**
VOY	**Vojsko**	**2.09**	**258**	*e*Pn	**Pn**	**22 57 38.2**	**-0.8**
VOY				*e*Pg	**Pg**	**22 57 42.1**	**-1.9**
VOY				*e*Sn	**Sn**	**22 58 12.5**	**+7.4**
VOY	**Vojsko**	**2.09**	**258**	*e*Pg	**Pg**	**22 57 42.1**	**-1.9**
MOA	**Molln**	**2.20**	**308**	⇓*e*Pn	**Pn**	**22 57 40.7**	**+0.2**
	SNR=27						
MOA				⇑*i*Sn	**Sn**	**22 58 09.1**	**+1.4**
MOA	**Molln**	**2.20**	**308**	Pn	**Pn**	**22 57 40.7**	**+0.2**
	comp=Z,26nm,7.0s						
MOA				Sn	**Sn**	**22 58 09.1**	**+1.4**
MYKA	**Terra Mystica**	**2.20**	**274**	⇑*i*Pn	**Pn**	**22 57 39.9**	**-0.6**
MYKA				⇑*i*Sn	**Sn**	**22 58 08.3**	**+0.5**
MYKA				⇑*i*Sg	**Sg**	**22 58 16.5**	**+1.9**
	comp=Z,25nm,0.3s						
KOLL	**Kolacno**	**2.32**	**27**	*i* PN	**Pn**	**22 57 41.7**	**-0.5**
KOLL				*e*SN	**Sn**	**22 58 09.1**	**-1.7**
NVLJ	**Novalja**	**2.39**	**216**	*e*Pn	**Pn**	**22 57 43.4**	**+0.3**
NVLJ				Sn	**Sn**	**22 58 12.3**	**-0.1**
NVLJ	**Novalja**	**2.39**	**216**	*e*Pn	**Pn**	**22 57 43.3**	**+0.2**
NVLJ				Sn	**Sn**	**22 58 12.3**	**-0.1**
PTCC	**Patocco-Chiusa**	**2.41**	**269**	Pn	**Pn**	**22 57 43.3**	**0.0**
KBA	**Koelnbreinsper**	**2.46**	**284**	⇓*i*Pn	**Pn**	**22 57 44.3**	**+0.3**
KBA				⇓*i*Pg	**Pg**	**22 57 50.5**	**-0.6**
KBA	**Koelnbreinsper**	**2.46**	**284**	⇑*i*Sn	**Sn**	**22 58 15.9**	**+1.8**
KBA	**Koelnbreinsper**	**2.46**	**284**	*e*Pn	**Pn**	**22 57 44.3**	**+0.2**
KBA	**Koelnbreinsper**	**2.46**	**284**	⇓*i*Pn	**Pn**	**22 57 44.3**	**+0.3**
KBA				⇓*i*Pg	**Pg**	**22 57 50.5**	**-0.6**
KBA				⇑*i*Sn	**Sn**	**22 58 15.9**	**+1.8**
FGSL	**Fruska Gora**	**2.49**	**122**	*e*Pn	**Pn**	**22 57 40.3**	**-4.2**
GMNA	**Gemona**	**2.50**	**266**	Pn	**Pn**	**22 57 46.1**	**+1.5**
PSZ	**Piszkesteto**	**2.52**	**55**	⇑*e*Pn	**Pn**	**22 57 43.9**	**-0.9**
PSZ				*e*PB	**Pb**	**22 57 46.4**	**-2.8**
PSZ				*e*Sn	**Sn**	**22 58 15.9**	**+0.4**
PSZ	**Piszkesteto**	**2.52**	**55**	⇓*i*P	**Pn**	**22 57 43.8**	**-1.0**
PSZ	**Piszkesteto**	**2.52**	**55**	P	**Pn**	**22 57 46.6**	**+1.8**
PSZ	**Piszkesteto**	**2.52**	**55**	P	**Pn**	**22 57 46.6**	**+1.7**
FVI	**Forni Avoltri**	**2.79**	**273**	Pn	**Pn**	**22 57 48.9**	**+0.2**
VRAC	**Vranov**	**2.80**	**357**	⇑*i*P	**Pn**	**22 57 48.3**	**-0.4**
VRAC	**Vranov**	**2.80**	**357**	*e*Pn	**Pn**	**22 57 48.2**	**-0.5**
VRAC	**Vranov**	**2.80**	**357**	P	**Pn**	**22 57 48.4**	**-0.3**
RJOB	**Jochberg**	**3.01**	**295**	*e*Pn	**Pn**	**22 57 53.1**	**+1.5**
RJOB				*e*Sn	**Sn**	**22 58 29.5**	**+1.7**
GEC2	**GERESS Array S**	**3.14**	**319**	*e*Pn	**Pn**	**22 57 55.1**	**+1.6**
GEC2				*e*Sg	**Sg**	**22 58 45.3**	**+0.5**
GEC2	**GERESS Array S**	**3.14**	**319**	*e*Pn	**Pn**	**22 57 55.1**	**+1.6**
GEC2				*e*Sg	**Sg**	**22 58 45.3**	**+0.4**
TIM	**Timisoara**	**3.15**	**103**	⇑*i*P	**Pn**	**22 57 56.3**	**+2.7**
KECS	**Kecovo**	**3.17**	**50**	*e*PN	**Pn**	**22 57 53.6**	**-0.2**
KECS				*e*SN	**Sn**	**22 58 30.2**	**-1.3**
KECS				*e*		22 58 49.1	
DIVS	**Divibare**	**3.29**	**136**	*e*Pn	**Pn**	**22 57 54.7**	**-0.8**
MORC	**Moravsky Berou**	**3.30**	**8**	⇑*i*P	**Pn**	**22 57 55.7**	**+0.1**
MORC	**Moravsky Berou**	**3.30**	**8**	*e*Pn	**Pn**	**22 57 55.8**	**+0.2**
MORC	**Moravsky Berou**	**3.30**	**8**	P	**Pn**	**22 57 56.0**	**+0.4**
KHC	**Kasperske Hory**	**3.41**	**321**	*e*Pn	**Pn**	**22 57 58.2**	**+1.1**
KHC				*e*Sn	**Sn**	**22 58 37.4**	**-0.2**
KHC	**Kasperske Hory**	**3.41**	**321**	*e*PN	**Pn**	**22 57 58.2**	**+1.1**
KHC				*e*SN	**Sn**	**22 58 37.4**	**-0.2**
KHC				*e*SG	**Sg**	**22 58 52.7**	**-0.7**
	comp=Z,17nm,0.9s						
OKC	**Ostrava-Krasne**	**3.44**	**14**	*e*Pn	**Pn**	**22 57 57.9**	**+0.4**
OKC				*e*Sn	**Sn**	**22 58 37.5**	**-0.8**
BZS	**Buzias**	**3.45**	**103**	⇑*i*P	**Pg**	**22 58 11.9**	**+1.8**
CTI	**Castel Tesino**	**3.62**	**264**	Pn	**Pn**	**22 57 59.6**	**-0.4**
WTTA	**Wattenberg**	**3.64**	**284**	⇑*i*Pn	**Pn**	**22 58 01.5**	**+1.2**
	SNR=25						
WTTA				⇓*i*Sn	**Sn**	**22 58 45.6**	**+2.4**
WTTA	**Wattenberg**	**3.64**	**284**	Pn	**Pn**	**22 58 01.5**	**+1.2**
	comp=Z,24nm,9.0s						
WTTA				Sn	**Sn**	**22 58 45.6**	**+2.4**
WATA	**Walderalm**	**3.69**	**285**	⇑*i*Pn	**Pn**	**22 58 01.8**	**+0.8**
WATA				⇑*i*Sn	**Sn**	**22 58 46.1**	**+1.6**
WET	**Wettzell**	**3.74**	**316**	*e*Pn	**Pn**	**22 58 02.6**	**+0.9**
WET	**Wettzell**	**3.74**	**316**	*e*Pn	**Pn**	**22 58 02.6**	**+0.9**
PRU	**Pruhonice**	**3.79**	**337**	*e*PN	**Pn**	**22 58 02.6**	**+0.2**
PRU				*e*SG	**Sg**	**22 59 04.6**	**-1.1**
	comp=Z,15nm,0.8s						
DPC	**Dobruska-Polom**	**3.85**	**355**	*e*Pn	**Pn**	**22 58 02.5**	**-0.7**
DPC				*e*Sn	**Sn**	**22 58 45.9**	**-2.5**
APPI	**Appiano**	**3.87**	**271**	Pn	**Pn**	**22 58 04.2**	**+0.8**
CRVS	**Cervenica-Dubn**	**3.93**	**51**	*e*PN	**Pn**	**22 58 04.7**	**+0.4**
MOTA	**Moosalm**	**4.01**	**284**	⇑*i*Pn	**Pn**	**22 58 05.9**	**+0.6**
	SNR=13						
MOTA				⇑*i*Sn	**Sn**	**22 58 53.9**	**+1.5**
MOTA	**Moosalm**	**4.01**	**284**	Pn	**Pn**	**22 58 05.9**	**+0.5**
	comp=Z,13nm,4.0s						
MOTA				*i* Sn	**Sn**	**22 58 53.8**	**+1.4**
DRGR		**4.06**	**84**	⇓*i*P	**Pg**	**22 58 24.4**	**+2.7**
STHS	**Stebnicka Huta**	**4.15**	**44**	*e*PN	**Pn**	**22 58 08.9**	**+1.6**
STHS				*e*SN	**Sn**	**22 58 56.4**	**+0.6**
GZR	**Gura Zlata**	**4.30**	**103**	⇑*i*P	**Pg**	**22 58 28.1**	**+1.9**
KOLS	**Kolonicke sedl**	**4.40**	**55**	*e*SN	**Sn**	**22 59 00.8**	**-1.1**
ROTZ	**Rotzenmuhle**	**4.49**	**318**	*e*Pn	**Pn**	**22 58 12.7**	**+0.7**
ROTZ				*e*Sg	**Sg**	**22 59 29.5**	**+1.5**
MANZ	**Manzenberg**	**4.69**	**319**	*e*Pn	**Pn**	**22 58 15.3**	**+0.6**
NKC	**Novy Kostel**	**4.73**	**323**	*e*Pn	**Pn**	**22 58 15.1**	**-0.1**
NKC				*e*Sn	**Sn**	**22 59 08.5**	**-1.5**
NKC	**Novy Kostel**	**4.73**	**323**	*e*PN	**Pn**	**22 58 15.1**	**-0.1**
NKC				*e*SN	**Sn**	**22 59 08.5**	**-1.5**
NKC				*e*SG	**Sg**	**22 59 33.9**	**-1.7**
	comp=Z,17nm,0.6s						
BRG	**Berggiesshubel**	**4.76**	**337**	SG	**Sg**	**22 59 32.5**	**-4.2**
	comp=Z,9.7nm,0.7s						
WERN	**Wernitzgruen**	**4.80**	**323**	*e*Pn	**Pn**	**22 58 16.5**	**+0.3**
DAVA	**Damuels**	**4.83**	**282**	⇓*i*Pn	**Pn**	**22 58 17.0**	**+0.4**
	SNR=9.4						
DAVA				⇑*i*Sn	**Sn**	**22 59 12.8**	**+0.3**
**DAVA

ZLN Zelenaya 1.37 292 *e*P **Pn 22 58 33.2 -0.9**
ZLN *i* S **Sg 22 58 53.2 +1.2**
SMKR Semkarok 1.38 320 *e*P **Pn 22 58 33.4 -1.0**
SMKR *i* S **Sg 22 58 53.2 +0.7**
CIRR Tsirk 1.43 295 *e*P **Pn 22 58 34.1 -0.9**
CIRR *i* S **Sb 22 58 53.4 -0.7**
BDR Baidarnaya 1.47 316 *e*P **Pn 22 58 35.2 -0.4**
BDR *i* S **Sb 22 58 55.4 +0.1**
SRKR Sorokina 1.55 317 *e*P **Pn 22 58 36.3 -0.3**
SRKR *i* S **Sn 22 58 57.7 +0.5**
KRSR Krestovskiy 1.57 297 *e*P **Pn 22 58 35.6 -1.3**
KRSR *i* S **Sn 22 58 56.4 -1.3**
KLY Klyuchi 1.57 301 *e*P **Pn 22 58 34.8 -2.1**
KLY *i* S **Sn 22 58 54.8 -2.9**
KIRR Kirishev 1.60 287 *e*P **Pn 22 58 36.8 -0.5**
KIRR *i* S **Sn 22 58 58.2 -0.2**
KMNR Kamenistaya 1.62 279 *e*P **Pn 22 58 37.4 -0.2**
KMNR *i* S **Sn 22 58 58.8 -0.1**
KPT Kopyto 1.67 286 *e*P **Pn 22 58 37.9 -0.3**
KPT *i* S **Sn 22 59 00.3 +0.2**
KOZR Kozyr 1.87 288 PN **Pn 22 58 41.3 +0.3**
KOZR S **Sn 22 59 06.6 +1.5**
KOZ Kozyrevsk 1.88 288 *e*P **Pn 22 58 41.3 +0.2**
KOZ *i* S **Sn 22 59 06.6 +1.3**
SRDR Sredinnyy 2.04 294 *e*P **Pn 22 58 44.1 +0.7**
SRDR *i* S **Sn 22 59 10.3 +0.9**
KII Karymskiy 2.57 236 *e*P **Pn 22 58 50.5 -0.2**
SPN Mys Shipunski 3.02 217 *e*P **Pn 22 58 56.4 -0.4**
SPN *i* S **Sn 22 59 33.7 +0.3**
NLC Nalytchevo 3.21 224 *e*P **Pn 22 58 59.9 +0.4**
NLC *i* S **Sn 22 59 38.5 +0.3**
AVH Avacha 3.40 230 *e*P **Pn 22 59 02.4 +0.4**
GNL Ganaly 3.50 240 *e*P **Pn 22 59 04.0 +0.6**
PET Petropavlovsk 3.60 228 *e*PN **Pn 22 59 08.9 +4.1**
PET *e*S **Sn 22 59 55.1 +7.2**
PET smax
comp=N,167nm,0.8s
PET Petropavlovsk 3.60 228 *e*P **Pn 22 59 05.6 +0.8**
PET *i* S **Sn 22 59 48.5 +0.6**
PETK Petropavlovsk- 3.97 235 P **Pn 22 59 11.9 +2.1**
comp=N,2.3nm,0.3s,baz=63,slow=16,SNR=20
RUS Russkaya 4.10 223 *e*P **Pn 22 59 12.3 +0.6**
RUS *i* S **Sn 23 00 00.5 +0.3**
MIPR Malaya Ipel'ka 4.95 231 *e*P **Pn 22 59 24.1 +0.7**
BILL Bilibino 12.64 6 ⇑*i*PN **Pn 23 01 03.5 -5.1**
TIXI Tiksi 21.68 331 ⇑*i*P **P 23 02 51.8 -7.9**
TIXI pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
MJAR Matsushiro Arr 25.42 232 P **P 23 03 37.5 +0.7**
comp=Z,0.6nm,0.4s,mb3.5,baz=31,slow=8.6,SNR=5.0
MJAR Matsushiro Arr 25.42 232 P **P 23 03 37.5 +0.7**
MJAR pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 35.08 282 P **P 23 05 03.2 +1.0**
comp=Z,0.3nm,0.6s,mb3.4,baz=54,slow=8.3,SNR=3.3
KURK Kurchatov 47.93 302 ⇓*i*P **P 23 06 44.8 -2.6**
KURK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MKAR Makanchi Array 48.67 295 P **P 23 06 51.4 -1.9**
comp=Z,1.3nm,0.7s,mb4.1,baz=57,slow=6.1,SNR=6.7
MKAR Makanchi Array 48.67 295 P **P 23 06 51.4 -1.8**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
BRVK Borovoye 50.27 308 *i*P **P 23 07 03.6 -1.7**
NOA NORSAR Array B 61.66 345 P **P 23 08 28.2 +1.4**
comp=Z,0.7nm,0.8s,mb3.8,baz=15,slow=4.7,SNR=2.7
NOA NORSAR Array B 61.66 345 P **P 23 08 28.2 +1.5**
NOA pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 67.39 330 P **P 23 09 04.2 -0.2**
comp=Z,0.9nm,0.6s,mb4.0,baz=28,slow=6.3,SNR=3.1
AKASG Malin Array Be 67.39 330 P **P 23 09 04.2 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 68.12 70 P **P 23 09 12.2 +2.9**
comp=Z,0.4nm,0.8s,mb3.5,baz=322,slow=5.8,SNR=3.0

KRSC 19 23:04:01.3±0.4, 5549N×16324E, h5km±5km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.76**	**342**	*e*P	Pg	23 04 18.4	+2.6
KBTR				*i* S	Sg	23 04 30.9	+5.2
MKZ	**Mys Kozlova**	**1.28**	**224**	*e*P	Pn	23 04 25.6	-0.1
MKZ				*i* S	Sg	23 04 43.3	+1.0
ZLN	**Zelenaya**	**1.48**	**292**	*e*P	Pn	23 04 28.2	-0.3
ZLN				*i* S	Sn	23 04 47.2	-0.9
CIRR	**Tsirk**	**1.54**	**295**	*e*P	Pn	23 04 29.4	0.0
CIRR				*i* S	Sn	23 04 50.1	+0.4
BDR	**Baidarnaya**	**1.57**	**314**	*e*P	Pn	23 04 30.6	+0.8
BDR				*e*S	Sn	23 04 52.4	+1.9
SRKR	**Sorokina**	**1.65**	**316**	*e*P	Pn	23 04 31.8	+1.0
KLY	**Klyuchi**	**1.68**	**301**	*e*P	Pn	23 04 29.9	-1.3
KLY				*i* S	Sn	23 04 50.4	-2.6
KRSR	**Krestovskiy**	**1.68**	**297**	*e*P	Pn	23 04 31.1	-0.1
KRSR				*i* S	Sn	23 04 53.5	+0.5
KIRR	**Kirishev**	**1.70**	**287**	*e*P	Pn	23 04 32.3	+0.7
KIRR				*i* S	Sn	23 04 55.3	+1.5
KMNR	**Kamenistaya**	**1.72**	**280**	*e*P	Pn	23 04 32.7	+0.8
KMNR				*i* S	Sn	23 04 55.6	+1.4
KPT	**Kopyto**	**1.77**	**287**	*e*P	Pn	23 04 33.4	+0.8
KOZ	**Kozyrevsk**	**1.99**	**288**	*e*P	Pn	23 04 37.0	+1.5
SRDR	**Sredinnyy**	**2.15**	**294**	*e*P	Pn	23 04 39.3	+1.6
SPN	**Mys Shipunski**	**3.05**	**220**	*e*P	Pn	23 04 52.3	+2.2
SPN				*i* S	Sn	23 05 29.9	+3.0
NLC	**Nalytchevo**	**3.26**	**226**	*e*P	Pn	23 04 55.8	+2.9
NLC				*e*S	Sn	23 05 36.7	+4.7
AVH	**Avacha**	**3.45**	**232**	P	Pn	23 04 57.7	+2.1
GNL	**Ganaly**	**3.57**	**242**	*e*P	Pn	23 04 59.4	+2.2
PET	**Petropavlovsk**	**3.65**	**229**	P	Pn	23 05 00.0	+1.6
RUS	**Russkaya**	**4.14**	**224**	*e*P	Pn	23 05 08.8	+3.7
RUS				*e*S	Sn	23 05 59.0	+5.1

*KRSC **19** 23:04:52.2±0.3, 5546N×163.16E, h15km±15km, ML4.2*
*MOS **19** 23:04:54.3±1.8, 5551N×162.93E, h12km, mb4.2/2, Error ellipse: s-maj=21.3km s-min=11.6km az=83.4*
*ISCJB **19** 23:04:55.3±1.2, 5548N±004×1632E±01, h33km±12km, mb4.1/2, Error ellipse: s-maj=12.9km s-min=6.3km az=165.9*
ISC 19 23:04:54.7±1.2, 5553N±005×1631E±02, h16km±13km, n24, σ1§17/34, mb4.1/2, 1C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.69**	**348**	*e*P	**Pg**	**23 05 08.6**	**+0.3**
KBTR				*e*S	**Sg**	**23 05 21.7**	**+4.2**
MKZ	**Mys Kozlova**	**1.25**	**219**	P	**Pn**	**23 05 16.1**	**-1.3**
ZLN	**Zelenaya**	**1.38**	**292**	P	**Pn**	**23 05 19.0**	**-0.2**
ZLN				S	**Sn**	**23 05 38.6**	**+1.6**
CIRR	**Tsirk**	**1.44**	**295**	P	**Pn**	**23 05 19.2**	**-0.8**
CIRR				S	**Sn**	**23 05 38.8**	**+0.2**
SRKR	**Sorokina**	**1.55**	**317**	P	**Pn**	**23 05 21.7**	**+0.1**
SRKR				S	**Sn**	**23 05 42.9**	**+1.5**
KLY	**Klyuchi**	**1.57**	**301**	P	**Pn**	**23 05 19.5**	**-2.4**
KLY				S	**Sn**	**23 05 39.6**	**-2.3**
KRSR	**Krestovskiy**	**1.57**	**297**	P	**Pn**	**23 05 21.0**	**-0.9**
KIRR	**Kirishev**	**1.60**	**286**	P	**Pn**	**23 05 20.6**	**-1.7**
KIRR				S	**Sn**	**23 05 41.6**	**-1.0**
KMNR	**Kamenistaya**	**1.63**	**279**	P	**Pn**	**23 05 21.8**	**-0.8**
KMNR				S	**Sn**	**23 05 44.1**	**+0.9**
KPT	**Kopyto**	**1.67**	**286**	P	**Pn**	**23 05 22.9**	**-0.3**
KPT				S	**Sn**	**23 05 44.5**	**+0.2**
KOZR	**Kozyr**	**1.88**	**288**	PN	**Pn**	**23 05 26.9**	**+0.9**
KOZ	**Kozyrevsk**	**1.89**	**288**	P	**Pn**	**23 05 26.9**	**+0.7**
SRDR	**Sredinnyy**	**2.05**	**294**	P	**Pn**	**23 05 27.9**	**-0.5**
SRDR				S	**Sn**	**23 05 54.1**	**+0.5**
SPN	**Mys Shipunski**	**3.02**	**218**	S	**Sn**	**23 06 15.1**	**-2.5**
NLC	**Nalytchevo**	**3.22**	**224**	P	**Pn**	**23 05 44.9**	**+0.4**
AVH	**Avacha**	**3.40**	**230**	P	**Pn**	**23 05 47.9**	**+0.9**
GNL	**Ganaly**	**3.51**	**240**	P	**Pn**	**23 05 49.7**	**+1.2**
PET	**Petropavlovsk**	**3.61**	**228**	*e*PN	**Pn**	**23 05 52.1**	**+2.2**
PET				*e*S	**Sn**	**23 06 36.7**	**+4.6**
PET				pmax	pmax		
comp=Z,49nm,0.7s							
PET				smax			
comp=N,106nm,0.7s							
RUS	**Russkaya**	**4.11**	**223**	P	**Pn**	**23 05 56.5**	**-0.2**
MIPR	**Malaya Ipel'ka**	**4.96**	**231**	P	**Pn**	**23 06 09.0**	**+0.6**
TIXI	**Tiksi**	**21.69**	**331**	⇓*i*P	**P**	**23 09 49.2**	**+4.9**
TIXI				pmax	pmax		
comp=Z,9.0nm,1.3s,mb4.0							
MJAR	**Matsushiro Arr**	**25.43**	**232**	*e*P	**P**	**23 10 24.3**	**+2.9**
KURK	**Kurchatov**	**47.94**	**302**	⇑*i*P	**P**	**23 13 31.1**	**-0.8**
KURK				pmax	pmax		
comp=Z,3.0nm,1.3s,mb4.2							
MKAR	**Makanchi Array**	**48.68**	**295**	*e*P	**P**	**23 13 38.1**	**+0.4**

*DDA **19** 23:07:27.9, 3806N×3426E, h27km, Md3.5*
*ISK **19** 23:07:28.5, 3828N×3401E, h5km, MD3.6*
*CSEM **19** 23:07:29.5±0.1, 3827N×3402E, h5km, MD3.6, Error ellipse: s-maj=1.7km s-min=1.4km az=12.0*
*ISCJB **19** 23:07:30.6±0.3, 3830N±002×3404E±003, h10km, Error ellipse: s-maj=3.5km s-min=3.4km az=13.3*
ISC 19 23:07:30.1±1.0, 3827N±003×3402E±004, h1km±8km, n41, σ0§82/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIG	**Nigde**	**0.50**	**109**	PG	**Pg**	**23 07 38.9**	**-0.7**
AVNT	**Avonos**	**0.83**	**52**	*i*P	**Pg**	**23 07 43.6**	**-2.5**
AVNT				*i* S	**Sg**	**23 07 56.5**	**-0.3**
KAMT	**Kaman**	**1.12**	**348**	PN	**Pn**	**23 07 50.1**	**-2.9**
LADK	**Ladik-KONYA**	**1.30**	**267**	*e*PN	**Pn**	**23 07 54.6**	**-0.8**
LADK				*e*SN	**Sn**	**23 08 12.9**	**-0.5**
KARA	**Karaisali**	**1.30**	**140**	*e*PN	**Pn**	**23 07 53.8**	**-1.6**
KONT	**Konya--Tatoy**	**1.35**	**256**	*e*PN	**Pn**	**23 07 55.0**	**-1.0**
KONT				*e*SN	**Sn**	**23 08 14.7**	**+0.2**
CDAG	**Cicekdag**	**1.38**	**12**	*i*P	**Pn**	**23 07 55.6**	**-0.9**
CDAG				*i* S	**Sg**	**23 08 15.5**	**+1.1**
MERS	**Mersin**	**1.46**	**164**	*e*PN	**Pn**	**23 07 56.6**	**-1.0**
KDHN	**Kadinhani**	**1.51**	**280**	*i*P	**Pn**	**23 07 58.0**	**-0.3**
KDHN				*i* S	**Sg**	**23 08 25.3**	**+6.6**
BNN	**Bunyan**	**1.55**	**67**	*e*PN	**Pn**	**23 07 58.0**	**-0.8**
KOZT	**Kozan**	**1.64**	**118**	*e*PN	**Pn**	**23 07 59.8**	**-0.2**
MEST	**Erdemli**	**1.69**	**176**	*e*P	**Pn**	**23 08 02.5**	**+1.8**
MEST				*i* S	**Sg**	**23 08 28.0**	**+3.7**
YOZ	**Yozgat**	**1.70**	**36**	*e*PN	**Pn**	**23 08 00.3**	**-0.7**
KIZT	**Kizilcal**	**1.78**	**291**	*e*PN	**Pn**	**23 08 02.0**	**0.0**
HDMB	**Hadim**	**1.78**	**223**	*e*PN	**Pn**	**23 08 01.9**	**-0.1**
ANTO	**Ankara**	**1.86**	**330**	*e*PN	**Pn**	**23 08 02.9**	**-0.2**
CEYT	**Ceyhan**	**1.86**	**132**	*e*PN	**Pn**	**23 08 03.4**	**+0.2**
CORM	**Corum**	**1.96**	**14**	*e*PN	**Pn**	**23 08 04.6**	**0.0**
IKL	**Isikli**	**2.05**	**187**	*e*PN	**Pn**	**23 08 05.6**	**-0.1**
SARI	**SarD1z-Kayseri**	**2.14**	**78**	*e*PN	**Pn**	**23 08 03.0**	**-4.0**
ELDT	**Eldivan**	**2.26**	**349**	*i*P	**Pn**	**23 08 08.7**	**+0.1**
ELDT				*i* S	**Sg**	**23 08 43.5**	**+0.7**
CANT	**Cankiri**	**2.35**	**353**	*e*PN	**Pn**	**23 08 09.9**	**+0.1**
KMRS	**Kahramanmaras**	**2.41**	**108**	*e*PN	**Pn**	**23 08 10.9**	**+0.3**
HTY	**Hatay**	**2.73**	**141**	*e*PN	**Pn**	**23 08 16.2**	**+1.1**
SHUT	**Suhut-Afyon**	**2.74**	**277**	*e*PN	**Pn**	**23 08 14.6**	**-0.5**
TOS	**Tosya**	**2.76**	**0**	*e*PN	**Pn**	**23 08 15.9**	**+0.4**
GAZ	**Gaziantep**	**2.76**	**112**	*e*PN	**Pn**	**23 08 15.5**	**0.0**
ISP	**Isparta**	**2.80**	**262**	*e*PN	**Pn**	**23 08 16.6**	**+0.6**
BCK	**Bucak**	**2.83**	**254**	*e*PN	**Pn**	**23 08 17.5**	**+1.1**
SVSK	**Karacayir**	**2.84**	**54**	*e*PN	**Pn**	**23 08 16.9**	**+0.3**
MDU	**Mudurnu**	**3.08**	**316**	*e*PN	**Pn**	**23 08 20.5**	**+0.6**
SAFT	**Safranbolu**	**3.14**	**341**	*e*PN	**Pn**	**23 08 20.8**	**+0.1**
KVT	**Kavak**	**3.21**	**29**	*e*PN	**Pn**	**23 08 22.2**	**+0.5**
BYBT	**Boyabat**	**3.25**	**10**	*e*PN	**Pn**	**23 08 22.4**	**+0.3**
RSDY	**Resadiye-TOKAT**	**3.33**	**49**	*e*PN	**Pn**	**23 08 24.2**	**+0.8**
MYA	**Malataya**	**3.47**	**88**	*e*PN	**Pn**	**23 08 24.8**	**-0.4**
MALT	**Malatya**	**3.47**	**88**	*e*PN	**Pn**	**23 08 25.8**	**+0.5**
DIKM	**Dikmen**	**3.51**	**15**	*e*PN	**Pn**	**23 08 26.1**	**+0.4**
BZK	**Bozkurt**	**3.68**	**360**	*e*PN	**Pn**	**23 08 28.3**	**+0.1**
URFA	**Urfa**	**3.89**	**101**	*e*PN	**Pn**	**23 08 31.9**	**+0.8**
SVRC	**Sivrice-ELAZID**	**4.16**	**87**	*e*PN	**Pn**	**23 08 35.5**	**+0.7**

*ISCJB **19** 23:22:20.7±3.2, 1371S±005×7751W±009, h27km±24km, mb3.9/5, Error ellipse: s-maj=15.5km s-min=8.2km az=169.6*
*IDC **19** 23:22:21.0±1.6, 1372S×7712W, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, ML3.5/2, MS2.9/1, Ms1 3.0/1, ms1mx2.4/26, Error ellipse: s-maj=51.2km s-min=32.0km az=85.0*
*NEIC **19** 23:22:23.2±0.7, 1374S×7739W, h35km, mb4.1/4, Error ellipse: s-maj=19.4km s-min=7.8km az=81.0*
ISC 19 23:22:22.1±3.1, 1368S±005×7756W±009, h27km±23km, n19, σ1§08/20, mb3.9/5, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.82**	**23**	*e*Pn	**Pn**	**23 22 50.9**	**-0.8**
NNA				*e*Sn	**Sn**	**23 23 13.0**	**-1.0**
ARE	**Arequipa**	**6.48**	**116**	*e*P	**Pn**	**23 23 57.0**	**+1.2**
ARE				*e*S	**Sn**	**23 25 10.0**	**+1.1**
LPAZ	**La Paz**	**9.47**	**107**	Pn	**Pn**	**23 24 35.8**	**-1.1**
0.6nm,0.3s,baz=293,slow=13,SNR=16							
LPAZ				LR	LR	23 28 21.5	
comp=Z,74nm,19.0s,baz=52,slow=40							
LVC	**Limon Verde**	**12.10**	**138**	Pn	**Pn**	**23 25 09.9**	**-3.0**
24nm,0.3s							
OTAV	**Otavalo**	**13.86**	**356**	*e*Pn	**Pn**	**23 25 38.0**	**+1.0**
2.6nm,0.8s							
LCO	**Las Campanas**	**16.53**	**158**	*e*Pn	**Pn**	**23 26 12.1**	**-0.1**
CFAA	**Coronel Fontan**	**19.78**	**156**	P	**Pn**	**23 26 52.7**	**+0.6**
0.0nm,0.3s,baz=330,slow=10,SNR=5.6							
CFAA	**Coronel Fontan**	**19.78**	**156**	P	**Pn**	**23 26 52.7**	**+0.6**
SDV	**Santo Domingo**	**23.45**	**17**	*e*P	**P**	**23 27 31.5**	**+1.7**
3.2nm,0.5s,mb4.0							
PLCA	**Paso Flores**	**27.64**	**168**	P	**P**	**23 28 09.2**	**+1.7**
1.7nm,0.8s,mb3.8,baz=349,slow=9.0,SNR=4.9							
PLCA	**Paso Flores**	**27.64**	**168**	*e*P	**P**	**23 28 06.8**	**-0.7**
1.4nm,0.7s,mb3.7							
TRQA	**Tornquist**	**27.95**	**153**	*e*P	**P**	**23 28 09.7**	**-0.7**
5.8nm,1.4s,mb4.0							
BBSR	**BB Station**	**47.42**	**15**	P	**P**	**23 30 55.3**	**+0.9**
SNAA	**Sanae**	**72.30**	**161**	P	**P**	**23 33 46.3**	**+1.3**
0.7nm,0.8s,mb3.6,baz=280,slow=5.8,SNR=7.2							
SNAA	**Sanae**	**72.30**	**161**	*e*P	**P**	**23 33 44.4**	**-0.5**
1.1nm,0.6s,mb4.0							
DBIC	**Dimbokro**	**74.93**	**79**	*e*P	**P**	**23 34 00.7**	**-0.8**
SBA	**Scott Base**	**81.93**	**191**	P	**P**	**23 34 38.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**82.91**	**75**	P	**P**	**23 34 44.8**	**-0.4**
1.0nm,0.8s,mb3.9,baz=260,slow=4.1,SNR=5.8							
SONM	**Songino Array**	**145.79**	**355**	PKPbc	PKPbc	23 42 03.4	+4.5
0.3nm,0.5s,baz=353,slow=4.8,SNR=3.2							

*SZGRF **19** 23:25:13.7, 1746S×17825W, h33km, Fiji Islands region*
*ISCJB **19** 23:25:57.0±1.0, 1501S±007×17768W±006, h361km±10km, mb4.2/35, Error ellipse: s-maj=12.2km s-min=8.0km az=140.9*
*NEIC **19** 23:25:57.4±1.0, 1504S×17766W, h353km±9km, mb4.3/20, Error ellipse: s-maj=11.3km s-min=7.4km az=137.0*
*IDC **19** 23:25:57.2±2.0, 1512S×17764W, h351km±20km, mb3.8/17, mb1 4.0/18, mb1mx3.9/22, mbtmp3.8/18, Error ellipse: s-maj=17.1km s-min=10.6km az=128.0*
ISC 19 23:25:57.7±1.0, 1504S±007×17765W±006, h356km±10km, n165, σ0§97/64, mb4.2/35, 20C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.79**	**80**	P	**Pn**	**23 27 26.8**	**+0.3**
11nm,0.3s,baz=60,slow=1.1,SNR=16							
FUNA	**Funafuti**	**7.17**	**334**	*e*Pn	**Pn**	**23 27 42.2**	**-0.1**
DZM	**Mont Dzumac**	**16.62**	**243**	*e*P	**P**	**23 29 33.0**	**+3.4**
HNR	**Honiara**	**22.59**	**282**	P	**P**	**23 30 28.3**	**-0.7**
URZ	**Urewera**	**23.59**	**190**	P	**P**	**23 30 35.1**	**-2.7**
5.6nm,0.3s,mb4.3,baz=300,slow=3.8,SNR=15							
SNZO	**South Karori**	**27.01**	**193**	P	**P**	**23 31 06.9**	**-1.4**
RPZ	**Rata Peaks**	**30.17**	**196**	P	**P**	**23 31 34.5**	**-1.6**
3.4nm,0.4s,mb3.9,baz=36,slow=12,SNR=10							
ARMA	**Armidale**	**32.07**	**236**	*e*P	**P**	**23 31 57.1**	**+4.3**
CTA	**Charters Tower**	**34.73**	**256**	*e*P	**P**	**23 32 16.5**	**+0.7**
5.7nm,0.9s,mb3.8							
CTAO	**Charters Tower**	**34.73**	**256**	*e*P	**P**	**23 32 16.4**	**+0.7**
25nm,1.3s,mb4.3							
PMG	**Port Moresby**	**34.82**	**275**	*e*P	**P**	**23 32 16.9**	**+0.4**
6.6nm,0.6s,mb4.0							
CNB	**Canberra Magne**	**35.79**	**230**	*e*P	**P**	**23 32 25.7**	**+1.2**
TOO	**Toolangi**	**39.58**	**228**	*e*P	**P**	**23 32 56.5**	**+0.7**
STKA	**Stephens Creek**	**40.70**	**238**	*e*P	**P**	**23 33 07.5**	**+2.5**
4.8nm,0.6s,mb3.9							
STKA	**Stephens Creek**	**40.70**	**238**	P	**P**	**23 33 05.5**	**+0.5**
7.1nm,0.5s,mb4.1,baz=81,slow=9.5,SNR=18							
STKA	**Stephens Creek**	**40.70**	**238**	*e*P	**P**	**23 33 06.3**	**+1.2**
7.5nm,0.6s,mb4.1							
STKA				*e*PcP	PcP	23 34 57.7	-1.2
TAU	**Tasmania Unive**	**40.87**	**220**	P	**P**	**23 33 04.4**	**-1.8**
WB2	**Warramunga Arr**	**45.92**	**257**	*e*P	**P**	**23 33 46.1**	**-0.4**
WRAB	**Tennant Creek**	**45.93**	**257**	*e*P	**P**	**23 33 46.4**	**-0.1**
4.6nm,0.6s,mb3.8							
WRA	**Warramunga Arr**	**45.94**	**257**	P	**P**	**23 33 46.2**	**-0.4**
4.3nm,0.7s,mb3.7,baz=89,slow=6.8,SNR=22							
WRA				PcP	PcP	23 35 16.9	-0.1
2.9nm,0.7s,baz=92,slow=3.2,SNR=7.7							
ASAR	**Alice Springs**	**46.33**	**252**	P	**P**	**23 33 50.1**	**+0.5**
29nm,0.7s,mb4.5,baz=84,slow=8.7,SNR=290							
ASAR				PcP	PcP	23 35 18.7	+0.4
2.9nm,0.6s,baz=98,slow=4.3,SNR=6.7							
ASAR				S	**S**	**23 40 14.6**	**+5.1**
1.8nm,0.8s,baz=90,slow=16,SNR=12							
GUMO	**Guam**	**46.74**	**306**	P	**P**	**23 33 52.9**	**+0.1**
KAKA	**Kakadu**	**48.43**	**266**	*e*P	**P**	**23 34 06.4**	**+0.6**
10nm,0.4s,mb4.4							
FORT	**Forrest**	**51.93**	**243**	*e*P	**P**	**23 34 31.3**	**-0.2**
17nm,0.5s,mb4.6							
FITZ	**Fitzroy Crossi**	**54.27**	**258**	*e*P	**P**	**23 34 49.3**	**+0.7**
8.4nm,0.5s,mb4.3							
FITZ	**Fitzroy Crossi**	**54.27**	**258**	*e*P	**P**	**23 34 49.3**	**+0.7**
9.0nm,0.6s,mb4.3							
MBWA	**Marble Bar**	**59.52**	**254**	*e*P	**P**	**23 35 24.8**	**-0.3**
5.1nm,0.3s,mb4.4							
KLBR	**Kellerberrin**	**60.78**	**242**	*e*P	**P**	**23 35 31.6**	**-1.8**
12nm,0.5s,mb4.6							
NWAO	**Narrogin (SRO)**	**61.23**	**241**	*e*P	**P**	**23 35 34.9**	**-1.4**
24nm,1.1s,mb4.5							
SBA	**Scott Base**	**63.31**	**184**	*e*P	**P**	**23 35 52.2**	**+2.9**
3.3nm,0.5s,mb4.1							
MJAR	**Matsushiro Arr**	**66.08**	**322**	P	**P**	**23 36 06.5**	**-1.1**
1.1nm,0.5s,mb3.9,baz=155,slow=6.8,SNR=7.5							
MAJO	**Matsushiro**	**66.08**	**322**	P	**P**	**23 36 07.6**	**0.0**
KKM	**Kota Kinabalu**	**68.79**	**283**	*e*P	**P**	**23 36 25.3**	**+0.3**
CASY	**Casey**	**69.04**	**204**	*e*P	**P**	**23 36 26.7**	**+1.3**
CASY	**Casey**	**69.04**	**204**	*e*P	**P**	**23 36 26.4**	**+1.0**
28nm,1.7s,mb4.7							
PETK	**Petropavlovsk-**	**71.11**	**345**	P	**P**	**23 36 38.0**	**+0.1**
7.1nm,0.7s,mb4.5,baz=128,slow=8.8,SNR=16							
KSM	**Kuching**	**73.07**	**276**	*e*P	**P**	**23 36 50.1**	**-0.4**
KSRS	**Korea Array**	**73.07**	**317**	P	**P**	**23 36 50.9**	**+0.9**
0.9nm,0.3s,mb4.0,baz=128,slow=6.5,SNR=7.1							
CMB	**Columbia Colle**	**75.26**	**43**	*e*P	**P**	**23 37 02.2**	**-0.2**
2.6nm,0.8s,mb4.0							
KDAK	**Kodiak Island**	**75.45**	**14**	P	**P**	**23 37 02.7**	**-0.4**
11nm,0.7s,mb4.7,baz=322,slow=5.2,SNR=5.2							
KDAK	**Kodiak Island**	**75.45**	**14**	P	**P**	**23 37 02.7**	**-0.4**
YBH	**Yreka Blue Hor**	**75.85**	**39**	P	**P**	**23 37 07.0**	**+1.3**
3.9nm,0.9s,mb4.2,baz=301,slow=2.0,SNR=7.9							
NVAR	**Mina Array Bea**	**76.86**	**44**	P	**P**	**23 37 12.4**	**+1.1**
1.8nm,0.9s,mb3.8,baz=222,slow=9.4,SNR=6.5							
PMR	**Palmer**	**79.66**	**13**	*e*P	**P**	**23 37 21.5**	**-4.5**
3.0nm,0.6s,mb4.2							
BMO	**Blue Mountains**	**80.86**	**39**	*e*P	**P**	**23 37 32.7**	**0.0**
3.3nm,1.2s,mb3.9							
KTH	**Kantishna Hill**	**81.03**	**12**	*e*P	**P**	**23 37 31.7**	**-1.5**
4μm,1.2s							
MCK	**McKinley**	**81.59**	**12**	*e*P	**P**	**23 37 35.5**	**-0.6**
5.7nm,0.8s,mb4.5							
HLID	**Hailey**	**81.99**	**41**	*e*P	**P**	**23 37 39.1**	**+0.4**
1.9nm,0.7s,mb4.0							
COCO	**West Island**	**82.65**	**259**	*e*P	**P**	**23 37 42.8**	**+0.1**
NEW	**Newport**	**82.77**	**36**	*e*P	**P**	**23 37 42.1**	**-0.4**
COLA	**College**	**82.83**	**12**	*e*P	**P**	**23 37 41.7**	**-0.7**
7.7nm,0.7s,mb4.6							
HWUT	**Hardware Ranch**	**82.92**	**44**	*e*P	**P**	**23 37 43.4**	**0.0**
ANMO	**Albuquerque**	**83.75**	**51**	P	**P**	**23 37 47.0**	**-0.8**
TXAR	**Lajitas Array**	**83.85**	**58**	P	**P**	**23 37 49.8**	**+1.4**
0.6nm,0.7s,mb3.5,baz=224,slow=5.2,SNR=8.0							
COLD	**Coldfoot**	**84.47**	**10**	*e*P	**P**	**23 37 49.3**	**-1.4**
5.4nm,1.1s,mb4.3							
PDAR	**Pinedale Array**	**84.77**	**43**	P	**P**	**23 37 53.3**	**+0.6**
0.9nm,0.7s,mb3.7,baz=178,slow=2.3,SNR=2.9							
PMSA	**Palmer Station**	**86.15**

SOKA	Soboth	146.72	344	⇑ *i* P	PKPbc	23 44 58.0	-0.2
RETA	Reutte	146.90	350	⇑ *i* P	PKPbc	23 44 58.8	+0.1
	comp=Z,8.4nm,0.9s						
WTTA	Wattenberg	146.95	348	⇑ *i* P	PKPbc	23 44 59.2	+0.3
	comp=Z,14nm,0.7s						
HAU	Haudompre	146.96	355	*e*PKP1	PKPbc	23 44 58.5	-0.3
	comp=Z,16nm,0.9s						
MOTA	Moosalm	146.98	349	⇑ *i* P	PKPbc	23 44 58.8	-0.1
	comp=Z,13nm,1.1s						
HINF	Hinteralfeld	147.10	354	*e*PKP1	PKPbc	23 44 58.6	-0.6
	comp=Z,7.3nm,0.8s						
VTS	Vitosha	147.20	331	⇓ *i* P	PKPbc	23 44 59.8	+0.1
VTS	Vitosha	147.20	331	⇓ P	PKPbc	23 44 59.8	+0.2
DAVA	Damuels	147.24	351	⇑ *i* P	PKPbc	23 44 59.9	+0.3
	comp=Z,6.3nm,0.7s						
ABTA	Abfaltersbach	147.27	347	⇑ *i* P	PKPbc	23 44 59.2	-0.5
	comp=Z,8.4nm,0.7s						
LJU	Ljubljana	147.44	344	*i* PKPbc	PKPbc	23 44 59.9	-0.3
VISS	Visnje	147.58	344	*i* PKPbc	PKPbc	23 45 00.3	-0.3
BOJS	Bojanci	147.74	343	*i* PKPbc	PKPbc	23 45 01.0	+0.1
CEY	Cerknica	147.75	344	*i* PKPbc	PKPbc	23 45 00.7	-0.3
LOR	Lormes	147.84	358	*e*PKP1	PKPbc	23 45 00.8	-0.4
	comp=Z,32nm,1.2s						
SSF	Saint Saulge	148.06	359	*e*PKP1	PKPbc	23 45 01.6	-0.1
	comp=Z,8.7nm,0.8s						
TUE	Stuetta	148.12	351	*e*PKPbc	PKPbc	23 45 01.9	0.0
AVF	Avril sur Loir	148.33	359	*e*PKP1	PKPbc	23 45 01.8	-0.6
	comp=Z,30nm,1.3s						
CABF	La Chapelle	148.37	355	*e*PKP1	PKPbc	23 45 02.8	+0.3
	comp=Z,37nm,1.1s						
MFF	Saint Martin d	148.46	3	*e*PKP1	PKPbc	23 45 02.3	-0.5
SMF	Signal de Mont	148.46	358	*e*PKP1	PKPbc	23 45 02.9	+0.1
	comp=Z,21nm,1.1s						
BGF	Bois d'Agland	148.57	359	*e*PKP1	PKPbc	23 45 02.7	-0.4
	comp=Z,24nm,0.9s						
TCF	Toulx Ste Croi	148.85	0	*e*PKP1	PKPbc	23 45 04.1	+0.4
LPL	La Plagne	149.39	354	*e*PKP1	PKPbc	23 45 05.8	+0.7
	comp=Z,18nm,1.0s						
LPG	La Plagne	149.41	354	*e*PKP1	PKPbc	23 45 06.0	+0.8
RJF	Les Rejaudoux	149.82	1	*e*PKP1	PKPbc	23 45 05.7	-0.5
BNI	Bardonecchia	149.86	354	*e*PKPdf	PKPdf	23 45 01.5	+0.5
BNI				*e*PKPbc	PKPbc	23 45 07.2	+0.9
ORIF	Oris-en-Rattie	150.07	355	*e*PKP1	PKPbc	23 45 07.0	+0.2
	comp=Z,8.5nm,0.8s						
LFF	La Frestale	150.16	2	*e*PKP1	PKPbc	23 45 06.6	-0.4
	comp=Z,48nm,1.1s						
MBDF	Montbardon	150.17	354	*e*PKP1	PKPbc	23 45 07.2	+0.2
	comp=Z,16nm,0.8s						
CAF	Calviac	150.21	0	*e*PKP1	PKPbc	23 45 07.0	-0.1
VIVF	Saint-Julien-l	150.21	357	*e*PKP1	PKPbc	23 45 07.2	+0.1
	comp=Z,14nm,0.9s						
SBF	Sospel	150.94	352	*e*PKP1	PKPbc	23 45 08.2	-0.6
	comp=Z,48nm,1.0s						
SMRF	Simiane la Rot	151.03	355	*e*PKP1	PKPbc	23 45 09.4	+0.4
	comp=Z,23nm,1.0s						
LASF	Ste Croix	151.03	358	*e*PKP1	PKPbc	23 45 09.2	+0.2
	comp=Z,14nm,0.8s						
AQU	L'Aquila	151.16	343	*e*PKPbc	PKPbc	23 45 09.2	-0.2
FRF	La Foret Royal	151.34	353	*e*PKP1	PKPbc	23 45 09.3	-0.4
LMR	La Mourre	151.58	354	*e*PKP1	PKPbc	23 45 10.5	+0.2
PGF	Pioggiola	151.99	350	*e*PKP1	PKPbc	23 45 10.6	-0.7
	comp=Z,63nm,1.2s						
ETSF	Etsaut	152.12	5	*e*PKP1	PKPbc	23 45 11.4	-0.1
	comp=Z,13nm,0.8s						
KEST	Kesra	158.46	344	PKPab	PKPab	23 45 49.4	-0.6
	comp=Z,0.9nm,1.0s,baz=37,slow=10,SNR=4.2						
TORD	Torodi Ar. Bea	178.01	161	PKP	PKPdf	23 45 25.8	-1.0
	comp=Z,0.7nm,1.1s,baz=358,slow=1.2,SNR=4.1						
TORD				PKPab		23 47 17.6	
	comp=Z,0.7nm,0.9s,baz=205,slow=2.7,SNR=3.2						

*MOS **19** 23:27:13.1±2.0, 5231N×160.18E, h13km, mb4.2/1, Error ellipse: s-maj=24.5km s-min=11.6km az=92.6*

KRSC 19 23:27:12.8±0.6, 5226N×16007E, h10km±10km, ML4.2, 2C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.84	358	*e*P	Pg	23 27 28.0	-1.0
SPN				*i* S	Sg	23 27 40.6	+0.7
RUS	Russkaya	0.97	281	*e*P	Pg	23 27 31.7	+0.2
RUS				*i* S	Sg	23 27 45.8	+1.7
NLC	Nalytchevo	1.01	334	*e*P	Pg	23 27 31.7	-0.6
NLC				*i* S	Sg	23 27 46.2	+0.7
PET	Petropavlovsk	1.15	312	α *i* PN	Pn	23 27 34.0	-1.0
PET				*i* S	Sb	23 27 49.6	-0.2
PET				pmax	pmax		
	comp=Z,300nm,0.6s						
PET				pmax	pmax		
	comp=Z,396nm,0.5s						
PET				smax			
	comp=E,2μm,1.4s						
PET				smax			
	comp=N,1μm,0.6s						
PET	Petropavlovsk	1.15	312	*e*P	Pb	23 27 34.3	-0.5
PET				*i* S	Sb	23 27 49.8	0.0
GRL	Gorelyy	1.26	284	*e*P	Pn	23 27 38.1	+1.7
GRL				*i* S	Sb	23 27 55.9	+3.1
AVH	Avacha	1.29	322	*e*P	Pn	23 27 36.8	-0.1
AVH				*i* S	Sb	23 27 55.1	+1.3
GNL	Ganaly	1.93	319	*e*P	Pn	23 27 47.2	+1.6
GNL				*i* S	Sn	23 28 12.1	+2.2
MIPR	Malaya Ipel'ka	2.04	272	*e*P	Pn	23 27 49.2	+2.1
MIPR				*i* S	Sn	23 28 15.8	+3.3
MKZ	Mys Kozlova	2.51	23	P	Pn	23 27 53.5	0.0
MKZ				*i* S	Sn	23 28 23.2	-0.9
SKR	Severo-Kuril's	2.93	239	*e*PN	Pn	23 28 04.5	+5.1
SKR				*e*S	Sn	23 28 37.3	+2.7
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,120nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
KMNR	Kamenistaya	3.50	2	P	Pn	23 28 09.3	+2.0
KMNR				*i* S	Sn	23 28 51.4	+2.7
KIRR	Kirishev	3.70	2	P	Pn	23 28 11.5	+1.5
KPT	Kopyto	3.71	1	P	Pn	23 28 12.4	+2.3
ZLN	Zelenaya	3.79	6	P	Pn	23 28 13.9	+2.7
KOZ	Kozyrevsk	3.81	358	P	Pn	23 28 14.0	+2.6
KOZR	Kozyr	3.81	359	PN	Pn	23 28 14.0	+2.5
CIRR	Tsirk	3.88	6	P	Pn	23 28 14.7	+2.2
KRSR	Krestovskiy	3.98	4	P	Pn	23 28 15.6	+1.9
SRDR	Sredinnyy	4.07	357	P	Pn	23 28 16.9	+1.9
KBTR	Krutoberegovo	4.27	21	P	Pn	23 28 21.3	+3.5
KBTR				*i* S	Sn	23 29 11.8	+4.2
SRKR	Sorokina	4.45	8	P	Pn	23 28 23.6	+3.4
SRKR				*i* S	Sn	23 29 16.1	+4.1

*ISCJB **19** 23:30:00.5±1.3, 160N±0.1×975W±0.1, h28km±23km, Error ellipse: s-maj=26.8km s-min=8.2km az=35.7*
*NEIC **19** 23:30:03.6, 1602N×9758W, h22km, MD4.0(MEX), After MEX.*
*MEX **19** 23:30:03.4±0.9, 1602N×9758W, h24km±28km, MD4.0*

ISC 19 23:30:00.9±1.3, 1610N±008×9752W±006, h15km±12km, n9, σ0§66/18, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.66	297	*i* P	Pg	23 30 14.0	+0.3
PNIG				*i* S	Sg	23 30 21.8	-0.7
VHO	Vista Hermosa	1.23	38	*i* P	Pn	23 30 24.1	+0.5
VHO				*i* S	Sb	23 30 39.5	-0.1
OXX	Oaxaca	1.24	38	*i* P	Pn	23 30 23.0	-0.8
OXX				*i* S	Sb	23 30 40.0	+0.1
UTMO	Huajuapan	1.75	351	*i* P	Pn	23 30 32.1	+1.3
UTMO				*i* S	Sn	23 30 51.6	-1.1
TPIG	Tehuac#an	2.32	4	*i* P	Pn	23 30 39.8	+1.2
TPIG				*i* S	Sn	23 31 07.4	+0.6
CMIG	Matias Romero	2.71	68	*i* P	Pn	23 30 43.6	-0.4
CMIG				*i* S	Sn	23 31 16.6	0.0
PPM	Popocatepetl	3.14	340	*i* P	Pn	23 30 49.8	-0.1
PPM				*e*P		23 30 55.0	
PPM				*i* S	Sn	23 31 26.8	-0.4
PPM	Popocatepetl	3.14	340	*i* P	Pn	23 30 59.8	+10
PPM				*i* P		23 30 59.8	
PPM				*e*P		23 31 00.0	
PPM				*i* S	Sn	23 31 32.8	+5.7
TGIG		4.27	80	*e*P	Pn	23 31 05.3	-0.1
TGIG				*i* S	Sn	23 31 54.7	-0.4

*CASC **19** 23:54:12.7±2.0, 1098N×8695W, h29km±33km, MD4.0*
*ISCJB **19** 23:54:14.7±0.6, 1123N±006×8701W±006, h33km, mb3.6/6, MS3.0/1, Error ellipse: s-maj=9.2km s-min=6.7km az=136.6*
*NEIC **19** 23:54:19.9±1.2, 1142N×8703W, h61km±11km, mb3.8/2, Error ellipse: s-maj=20.0km s-min=9.2km az=65.0*
*IDC **19** 23:54:19.9±10.0, 1144N×8703W, h56km±74km, mb3.4/4, mb1 3.9/5, mb1mx3.5/21, mbtmp3.5/5, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=79.5km s-min=60.2km az=140.0*

ISC 19 23:54:14.8±0.6, 1110N±006×8689W±006, h35km, n44, σ0§89/41, mb3.6/6, 6C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.05	33	*e*P	Pn	23 54 33.8	+0.8
COPN	Copaltepe	1.11	15	⇓ *e*P	Pn	23 54 34.1	+0.3
APON	Apoyo	1.14	45	*e*P	Pn	23 54 34.3	0.0
CSAN		1.17	23	⇓ *e*P	Pn	23 54 34.6	0.0
MGAN	Managua	1.21	31	⇑ *e*P	Pn	23 54 35.4	+0.2
APYN	Apoyeque	1.24	25	⇓ *e*P	Pn	23 54 35.7	0.0
LEON	Leon	1.31	360	⇓ *e*P	Pn	23 54 36.2	-0.3
CONN	Concepcion	1.32	69	⇑ *e*P	Pn	23 54 36.1	-0.6
MADN	Villa Maderas	1.36	77	*e*P	Pn	23 54 38.3	+1.0
CNGN	Cerro Negro	1.40	7	⇑ *e*P	Pn	23 54 37.8	-0.1
HUEN		1.41	30	⇑ *e*P	Pn	23 54 38.0	0.0
VCR	Vista de Mar	1.57	128	*e*P	Pn	23 54 36.8	-3.3
CRIN	San Cristobal	1.60	354	⇓ *e*P	Pn	23 54 41.0	+0.5
JCR	Jicaral	2.14	125	*e*P	Pn	23 54 45.8	-2.2
CNCH	Conchagua	2.35	337	⇓ *e*P	x	23 54 51.2	
CGA2	Cerro Gallo 2	2.61	114	*e*P	Pn	23 54 53.8	-0.8
PRS1	Puriscal	2.76	113	*e*P	Pn	23 54 58.0	+1.4
TGUH	Tegucigalpa,Un	2.96	353	*e*P	Pn	23 54 59.5	+0.1
TGUH	Tegucigalpa,Un	2.96	353	*e*Pn	Pn	23 54 60.0	+0.6
TGUH				*e*Sn	Sn	23 55 29.0	-4.7
BUS	Buena Vista	3.44	116	*e*P	Pn	23 55 05.8	-0.1
ACR	Cerro Adams	4.40	123	*e*P	Pn	23 55 19.4	+0.3
TEIG	Tepich	9.17	352	Pn	Pn	23 56 24.5	-0.1
TEIG				Sn	Sn	23 58 05.1	-1.6
CMIG	Matias Romero	9.78	308	P	Pn	23 56 33.7	+0.7
	0.4nm,0.3s,baz=121,slow=13,SNR=7.4						
CMIG	Matias Romero	9.78	308	P	Pn	23 56 33.7	+0.7
CHI2		14.51	115	⇓ *e*P	Px	23 54 40.0	
LAPE	La Pedrera	15.51	102	⇑ *e*P	Px	23 54 36.9	
ATAH	Atahualpa	19.87	154	LR	LR	00 05 38.2	
	comp=Z,59nm,19.2s,baz=13,slow=33						
TXAR	Lajitas Array	23.97	322	P	P	23 59 25.7	-0.3
	1.8nm,0.9s,mb3.5,baz=138,slow=11,SNR=15						
TXAR				PcP	PcP	00 03 10.9	+3.2
	0.6nm,0.8s,baz=128,slow=5.8,SNR=4.6						
CPCT	Cooper Cave	24.34	5	*e*P	P	23 59 29.2	0.0
TKL	Tuckaleechee C	24.61	6	P	P	23 59 33.2	+1.4
	3.4nm,0.8s,mb3.9,baz=181,slow=12,SNR=4.9						
TKL	Tuckaleechee C	24.61	6	P	P	23 59 33.2	+1.4
NNA	Nana	25.01	156	P	P	23 59 42.1	+6.5
WMOK	Wichita Mounta	25.91	337	*e*P	P	23 59 42.3	-1.3
	6.8nm,1.3s,mb4.0						
ACSO	Alum Creek Sta	29.22	6	P	P	00 00 13.5	+0.3
SDCO	Great Sand Dun	31.35	331	*e*P	P	00 00 33.0	+0.9
	0.6nm,0.6s,mb3.6						
LPAZ	La Paz	32.94	145	P	P	00 00 52.3	+6.1
PDAR	Pinedale Array	37.22	332	P	P	00 01 21.6	-1.2
	0.3nm,0.5s,mb3.4,baz=116,slow=10,SNR=3.1						
LVC	Limon Verde	37.85	152	*e*P	P	00 01 34.2	+5.8
NVAR	Mina Array Bea	39.08	319	P	P	00 01 40.5	+1.9
	0.1nm,0.3s,mb3.0,baz=131,slow=9.7,SNR=4.9						
NVAR	Mina Array Bea	39.08	319	P	P	00 01 40.5	+1.9
WALA	Waterton Lakes	44.01	335	P	P	00 02 19.2	+0.4
EDM	Edmonton	47.06	339	*e*P	P	00 02 42.3	-0.6
RAGM	Ragged Mountai	64.80	332	P	P	00 04 48.7	-1.0
CMAR	Chiang Mai Arr	150.07	349	PKPbc	PKPbc	00 14 02.6	-0.1
	0.9nm,0.3s,baz=347,slow=3.7,SNR=7.8						

IDC 19 23:55:01.4±5.6, 2041S×17591W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=304.1km s-min=84.0km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	35.45	264	P	P	00 02 01.1	+1.4
	1.8nm,0.4s,baz=92,slow=12,SNR=3.6						
ASAR	Alice Springs	46.45	256	P	P	00 03 29.6	-0.8
	1.1nm,0.8s,baz=96,slow=8.5,SNR=7.9						
WRA	Warramunga Arr	46.55	262	P	P	00 03 30.7	-0.5
	0.5nm,0.3s,baz=95,slow=8.7,SNR=5.9						
AKASG	Malin Array Be	143.86	333	PKP	PKPdf	00 14 38.1	-0.4
	1.3nm,0.5s,baz=41,slow=4.1,SNR=7.2						

*ISCJB **20** 00:06:49.5±0.7, 3925N±002×2008E±006, h10km, Error ellipse: s-maj=6.3km s-min=3.4km az=176.4*
*ATH **20** 00:06:49.7, 3918N×2027E, h21km±2km, MD3.2/4*
*THE **20** 00:06:50.0, 3928N×2009E, h0km, ML2.8*
*CSEM **20** 00:06:51.4±0.3, 3926N×2023E, h2km, ML2.8, Error ellipse: s-maj=7.2km s-min=4.1km az=83.0*

ISC 20 00:06:51.3±0.7, 3927N±003×2022E±005, h0km±6km, n21, σ1§26/37, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.28	18	*e*Pg	Pg	00 06 55.9	-0.7
IGT				*e*Sg	Sg	00 07 00.2	0.0
IGT	Igoumenitsa	0.28	18	*e*Pg	Pg	00 06 55.9	-0.7
IGT				*e*Sg	Sg	00 07 00.2	0.0
KEK	Kerkira	0.55	324	⇓ *i* PN	Pg	00 07 02.7	+0.8
KEK				*e*SN	Sg	00 07 11.4	+2.4
JAN	Janina	0.62	51	*e*PN	Pg	00 07 02.5	-0.7
JAN				*e*SN	Sg	00 07 11.6	+0.3
LKD	Levkas	0.65	149	*e*Pg	Pg	00 07 02.8	-1.0
LKD				*e*Sg	Sg	00 07 15.5	+3.2
MEV	Metsovon	0.94	56	*e*Pg	Pg	00 07 08.7	-0.5
VLS	Valsamata	1.13	165	*e*Pg	Pg	00 07 11.5	-1.4
VLS				*e*Sg	Sg	00 07 29.2	+1.7
VLS	Valsamata	1.13	165	*e*PN	Pn	00 07 10.0	-4.3
VLS				*e*SN	Sn	00 07 24.0	-6.5
VLS	Valsamata	1.13	165	*e*Pg	Pg	00 07 11.5	-1.4
VLS				*e*Sn	Sn	00 07 24.0	-6.5
VLS				*e*Sg	Sg	00 07 29.2	+1.7
KFL	Anninata	1.24	159	*e*Pg	Pg	00 07 13.5	-1.6
KFL				*e*Sg	Sg	00 07 32.8	+1.6
THL	Klokotos Trika	1.42	77	*e*Pg	Pg	00 07 18.3	-0.2
THL				*e*Sg	Sg	00 07 38.7	+1.7
THL	Klokotos Trika	1.42	77	*e*Pn	Pn	00 07 16.1	-2.3
THL	Klokotos Trika	1.42	77	*e*Pg	Pg	00 07 18.3	-0.2
THL				*e*Sg	Sg	00 07 38.7	+1.7
AGG	Agios Georgios	1.66	98	*e*Pb	Pb	00 07 20.9	-1.8
AGG				*e*Sb	Sb	00 07 45.9	+1.8
FNA	Florina	1.75	30	*e*Pb	Pb	00 07 22.6	-1.7
FNA				*e*Sb	Sb	00 07 46.1	-0.8
LIT	Litokhoron	1.94	64	*e*Pn	Pn	00 07 25.4	0.0
LIT				*e*Sn	Sn	00 07 51.6	+1.1
BIA	Bitola	1.94	25	*e*Pn	Pn	00 07 26.2	+0.7
BIA	Bitola	1.94	25	*e*Pn	Pn	00 07 26.1	+0.6
KRUS	Krusevo	2.24	20	*e*Pn	Pn	00 07 30.6	+0.9
KRUS	Krusevo	2.24	20	*e*Pn	Pn	00 07 30.5	+0.9
GRG	Griva	2.37	44	*e*Pn	Pn	00 07 31.4	0.0
GRG				*e*Sn	Sn	00 08 01.5	+0.2

*ISCJB **20** 00:08:54.6±0.4, 1176S±008×6624E±007, h10km, mb4.3/26, MS3.8/9, Error ellipse: s-maj=12.0km s-min=10.1km az=28.1*
*IDC **20** 00:08:54.6±0.6, 1184S×66.19E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.2/21, mbtmp4.2/18, MS3.7/9, Ms1 3.7/9, ms1mx3.4/25, Error ellipse: s-maj=20.6km s-min=15.9km az=21.0*
*NEIC **20** 00:08:56.5±0.3, 1178S×6624E, h10km, mb4.7/8, Error ellipse: s-maj=12.4km s-min=9.9km az=201.0*

ISC 20 00:08:56.5±0.4, 1179S±008×6622E±007, h10km, n62, σ0§94/45, mb4.3/26, MS3.8/9, 6C-3D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	19.55	248	P	Pn	00 13 27.6	+1.7
	0.3nm,0.3s,baz=68,slow=11,SNR=3.6						
KMBO	Kilima Mbogo	30.63	288	LR	LR	00 24 50.1	
	comp=Z,216nm,21.9s,MS3.8,baz=136,slow=31						
LSZ	Lusaka	37.10	260	P	P	00 16 06.6	-0.9
	3.0nm,0.9s,mb4.1,baz=84,slow=6.7,SNR=4.4						
BOSA	Boshof	41.68	240	LR	LR	00 32 07.1	
	comp=Z,102nm,20.5s,MS3.7,baz=283,slow=33						
CMAR	Chiang Mai Arr	44.11	47	P	P	00 17 06.8	+1.4
	1.2nm,0.3s,mb4.1,baz=245,slow=8.6,SNR=3.6						
CMAR				LR	LR	00 33 10.1	
	comp=Z,33nm,18.4s,MS3.3,baz=16,slow=33						
TKM2	Tokmak 2	55.12	8	*e*P	P	00 18 28.2	-0.7
	1.3nm,0.6s,mb4.1						
GNI	Garni	55.39	340	*e*P	P	00 18 30.4	-0.5
	9.0nm,0.9s,mb4.8						
MAW	Mawson	55.80	182	P	P	00 18 31.2	-2.3
	3.1nm,1.1s,mb4.3,baz=326,slow=11,SNR=4.3						
MAW				LR	LR	00 36 00.7	
	comp=Z,118nm,19.2s,MS4.0,baz=241,slow=29						
FITZ	Fitzroy Crossi	57.56	104	*e*P	P	00 18 47.5	+0.7
	5.2nm,0.6s,mb4.7						
MKAR	Makanchi Array	60.07	13	P	P	00 19 02.6	-1.0
	1.0nm,0.4s,mb4.2,baz=209,slow=7.8,SNR=7.6						
MKAR				LR	LR	00 44 42.8	
	comp=Z,39nm,19.8s,MS3.5,baz=184,slow=36						
KURK	Kurchatov	63.18	9	*e*P	P	00 19 24.0	-0.6
	1.5nm,0.6s,mb4.3						
KAKA	Kakadu	64.56	99	*e*P	P	00 19 35.1	+0.6
	6.8nm,0.6s,mb4.8						
ASAR	Alice Springs	65.05	111	P	P	00 19 37.5	-0.1
	3.3nm,0.8s,mb4.4,baz=269,slow=6.2,SNR=23						
WRA	Warramunga Arr	65.66	107	P	P	00 19 41.8	+0.2
	5.2nm,0.8s,mb4.6,baz=272,slow=6.0,SNR=19						
WB2	Warramunga Arr	65.67	107	*e*P	P	00 19 42.1	+0.4
ZALV	Zalesovo Beam	67.37	12	P	P	00 19 50.6	-1.1
	1.2nm,0.4s,mb4.3,baz=205,slow=6.7,SNR=4.9						
VRI	Vrincioaia	67.49	331	⇑ *i* P	P	00 19 53.1	+0.4
PLOR	Plostina	67.52	331	⇓ *i* P	P	00 19 53.4	+0.5
MLR	Muntele Rosu	67.59	331	⇑ *i* P	P	00 19 51.3	-2.0
TORD	Torodi Ar. Bea	68.63	289	P	P	00 20 01.6	+1.1
	1.0nm,1.1s,mb3.6,baz=129,slow=4.1,SNR=3.2						
TORD				LR	LR	00 47 51.5	
	comp=Z,62nm,20.9s,MS3.8,baz=125,slow=34						
SONM	Songino Array	69.27	28	P	P	00 20 04.6	+0.8
	1.3nm,0.5s,mb4.1,baz=218,slow=6.6,SNR=12						
SONM				LR	LR	00 49 36.1	
	comp=Z,106nm,19.2s,MS4.1,baz=77,slow=35						
BZS	Buzias	69.84	328	⇓ *i* P	P	00 20 06.9	-0.4
AKASG	Malin Array Be	70.08	336	P	P	00 20 07.7	-1.0
	1.9nm,0.6s,mb4.2,baz=141,slow=5.3,SNR=6.7						
AKASG	Malin Array Be	70.08	336	P	P	00 20 07.7	-1.0
STKA	Stephens Creek	71.52	120	P	P	00 20 17.7	-0.3
	2.3nm,0.8s,mb4.2,baz=273,slow=6.1,SNR=4.6						
PKSM	Moragy	71.78	327	⇑ *i* P	P	00 20 18.6	-0.6
KOLS	Kolonicke sedl	71.80	331	*i* P	P	00 20 19.8	+0.6
KOLS	Kolonicke sedl	71.80	331	*e*P	P	00 20 19.8	+0.6
KWP	Kalwaria	72.09	332	⇑ *i* P	P	00 20 25.6	+4.7
KWP	Kalwaria	72.09	332	*e*P	P	00 20 20.1	-0.8
	14nm,1.1s,mb4.8						
CRVS	Cervenica-Dubn	72.17	331	*e*P	P	00 20 23.4	+2.0
SNAA	Sanae	72.34	198	*e*	P	00 20 21.7	-0.5
SNAA				*e*	pP	00 20 23.6	-1.9
SNAA				*e*		00 20 28.5	
STHS	Stebnicka Huta	72.62	331	*i* P	P	00 20 26.0	+1.9
STHS	Stebnicka Huta	72.62	331	*e*P	P	00 20 26.0	+1.9
DBIC	Dimbokro	73.02	281	P	P	00 20 27.4	+0.1
	4.5nm,0.9s,mb4.4,baz=110,slow=1.7,SNR=3.9						
DBIC				LR	LR	00 49 40.4	
	comp=Z,81nm,19.8s,MS4.0,baz=120,slow=34						
DBIC	Dimbokro	73.02	281	P	P	00 20 27.4	+0.1
DBIC				LR	LR	00 49 40.4	
VNA3	Neumayer Olymp	74.38	199	*e*	P	00 20 33.9	-0.3
VNA3				*e*	pP	00 20 36.1	-1.4
VNA3				*e*		00 20 40.9	
MORC	Moravsky Berou	74.66	330	⇓ *i* P	P	00 20 36.2	+0.1
MOA	Molln	75.14	327	⇑ *i* P	P	00 20 38.2	-0.7
	comp=Z,8.0nm,0.9s,mb4.7						
KSRS	Korea Array	75.73	46	P	P	00 20 42.4	-0.2
	0.5nm,0.3s,mb4.0,baz=243,slow=5.3,SNR=3.4						
KSRS				LR	LR	00 52 49.1	
	comp=Z,43nm,19.1s,MS3.8,baz=256,slow=35						
GERES	GERESS Array B	76.04	327	P	P	00 20 42.9	-1.2
	0.9nm,0.8s,mb3.8,baz=134,slow=5.8,SNR=8.2						
MOTA	Moosalm	76.58	325	⇑ *i* P	P	00 20 47.1	-0.1
	comp=Z,2.3nm,1.0s,mb4.0						
ESDC	Sonseca Array	82.70	313	P	P	00 21 21.5	+0.9
	1.4nm,0.6s,mb4.2,baz=107,slow=4.4,SNR=13						
MJAR	Matsushiro Arr	82.91	51	P	P	00 21 21

ZLN			*i* S	Sn	00 52 11.4	+1.7
SMKR	**Semkarok**	**1.43 320**	*e*P	Pn	00 51 53.0	+1.1
SMKR			*i* S	Sn	00 52 11.2	+1.1
CIRR	**Tsirk**	**1.48 296**	*e*P	Pn	00 51 53.5	+0.9
CIRR			*i* S	Sn	00 52 12.0	+0.7
BDR	**Baidarnaya**	**1.52 315**	*e*P	Pn	00 51 54.6	+1.4
BDR			*i* S	Sn	00 52 14.5	+2.2
SRKR	**Sorokina**	**1.60 317**	*e*P	Pn	00 51 55.7	+1.5
SRKR			*i* S	Sn	00 52 16.1	+1.9
KRSR	**Krestovskiy**	**1.62 297**	*e*P	Pn	00 51 54.9	+0.4
KRSR			*i* S	Sn	00 52 14.9	+0.2
KLY	**Klyuchi**	**1.62 301**	*e*P	Pn	00 51 54.2	-0.3
KLY			*i* S	Sn	00 52 13.7	-1.0
KMNR	**Kamenistaya**	**1.67 280**	*e*P	Pn	00 51 56.5	+1.4
KMNR			*i* S	Sn	00 52 17.5	+1.7
KPT	**Kopyto**	**1.71 287**	*e*P	Pn	00 51 57.1	+1.3
KPT			*i* S	Sn	00 52 19.2	+2.2
KOZR	**Kozyr**	**1.92 289**	PN	Pn	00 52 00.7	+2.1
KOZR			S	Sn	00 52 24.8	+2.8
KOZ	**Kozyrevsk**	**1.93 288**	*e*P	Pn	00 52 00.7	+2.0
KOZ			*i* S	Sn	00 52 24.8	+2.5
SRDR	**Sredinnyy**	**2.09 294**	*e*P	Pn	00 52 03.1	+2.1
SRDR			*i* S	Sn	00 52 29.1	+2.7
SPN	**Mys Shipunski**	**3.02 218**	*e*P	Pn	00 52 15.8	+2.1
SPN			*i* S	Sn	00 52 51.7	+2.5
NLC	**Nalytchevo**	**3.22 225**	*e*P	Pn	00 52 18.9	+2.4
NLC			*i* S	Sn	00 52 57.2	+3.0
AVH	**Avacha**	**3.41 231**	*e*P	Pn	00 52 21.5	+2.4
GNL	**Ganaly**	**3.52 241**	*e*P	Pn	00 52 22.9	+2.3
PET	**Petropavlovsk**	**3.62 229**	*e*PN	Pn	00 52 27.9	+6.0
PET			*e*S	Sn	00 53 13.3	+9.4
PET			pmax	pmax		
	comp=Z,39nm,0.7s					
PET			smax			
	comp=N,110nm,0.8s					
PET	**Petropavlovsk**	**3.62 229**	P	Pn	00 52 25.4	+3.5
PET			*i* S	Sn	00 53 07.8	+3.9
RUS	**Russkaya**	**4.11 224**	*e*P	Pn	00 52 31.3	+2.6
RUS			*i* S	Sn	00 53 17.9	+1.8
MIPR	**Malaya Ipel'ka**	**4.97 232**	P	Pn	00 52 44.9	+4.4

JMA ***20*** *00:55:39.9±0.3, 4685N×14153E, h0km, M3.4*
SKHL ***20*** *00:55:41.0±0.3, 4670N×14170E, h10km, mb3.7/1*
ISC 20 00:55:40.5±3.1, 469N±01×1415E±02, h10km, n3, σ0§41/6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.85**	**86**	*e*Pg	**Pg**	**00 55 57.0**	**0.0**
YSS				AMB	AMB	00 55 58.0	
	45nm,0.3s						
YSS				*e*Sg	**Sg**	**00 56 08.0**	**-0.1**
YSS				A		00 56 09.0	
	300nm,0.3s						
YSS				A		00 56 09.0	
	450nm,0.3s						
JWK2	**Keihoku**	**1.61**	**170**	P	**Pn**	**00 56 08.8**	**-0.1**
JWK2				*e*S	**Sn**	**00 56 29.2**	**-0.5**
JSE	**Soyaes**	**2.08**	**159**	P	**Pn**	**00 56 15.7**	**+0.3**
JSE				*e*S	**Sn**	**00 56 41.8**	**+0.4**

ISCJB ***20*** *00:56:14.8±1.8, 34N±02×929E±02, h33km, mb3.6/6, MS3.2/2, Error ellipse: s-maj=35.0km s-min=16.1km az=27.4*
IDC ***20*** *00:56:15.3±1.8, 387N×9237E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/22, mbtmp3.7/7, ML3.9/1, MS3.0/4, Ms1 3.1/4, ms1mx2.7/32, Error ellipse: s-maj=59.3km s-min=27.0km az=56.0*
NEIC ***20*** *00:56:18.3±1.4, 372N×9268E, h30km, Error ellipse: s-maj=28.2km s-min=15.8km az=209.0*
ISC 20 00:56:17.6±1.7, 35N±02×928E±02, h35km, n12, σ0§92/11, mb3.6/6, MS3.2/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.11**	**96**	Pn	**Pn**	**00 57 44.9**	**-0.7**
	2.5nm,0.3s,baz=296,slow=12,SNR=6.5						
PSI				Sn	**Sn**	**00 58 49.5**	**-4.8**
	2.7nm,0.3s,baz=354,slow=17,SNR=4.7						
PSI				LR	LR	00 59 44.3	
	comp=Z,44nm,19.5s,baz=274,slow=32						
CMAR	**Chiang Mai Arr**	**16.02**	**21**	Pn	**Pn**	**00 59 59.4**	**-1.1**
	0.2nm,0.3s,baz=220,slow=15,SNR=7.6						
CMAR				LR	LR	01 07 31.4	
	comp=Z,61nm,18.4s,baz=210,slow=43						
KSM	**Kuching**	**17.57**	**96**	*e*Pn	**Pn**	**01 00 23.4**	**+3.5**
SHL	**Shillong**	**21.96**	**358**	*e*P	**P**	**01 01 10.0**	**+1.6**
JOW	**Kunigami**	**41.07**	**52**	LR	LR	01 22 07.1	
	comp=Z,51nm,18.1s,MS3.4,baz=240,slow=38						
MKAR	**Makanchi Array**	**44.09**	**350**	P	**P**	**01 04 22.6**	**+0.3**
	1.3nm,0.7s,mb3.8,baz=169,slow=8.0,SNR=9.6						
SONM	**Songino Array**	**45.69**	**13**	P	**P**	**01 04 35.4**	**+0.4**
	0.2nm,0.3s,mb3.5,baz=191,slow=4.4,SNR=2.0						
KSRS	**Korea Array**	**46.63**	**39**	LR	LR	01 27 19.6	
	comp=Z,18nm,18.0s,MS3.1,baz=215,slow=40						
WRA	**Warramunga Arr**	**46.94**	**121**	P	**P**	**01 04 52.9**	**+7.6**
	0.3nm,0.4s,mb3.5,baz=302,slow=8.9,SNR=2.7						
ZALV	**Zalesovo Beam**	**50.72**	**354**	P	**P**	**01 05 13.4**	**-0.3**
	0.8nm,0.5s,mb3.9,baz=186,slow=10,SNR=4.6						
BVAR	**Borovoye Array**	**52.73**	**343**	P	**P**	**01 05 28.3**	**-0.5**
	0.4nm,0.5s,mb3.6,baz=138,slow=8.9,SNR=3.0						
GERES	**GERESS Array B**	**80.23**	**319**	P	**P**	**01 08 24.1**	**-0.5**
	0.6nm,1.1s,mb3.5,baz=70,slow=6.5,SNR=3.7						

ISCJB ***20*** *01:01:11.7±0.8, 1702N±006×9447W±003, h130km±8km, Error ellipse: s-maj=9.7km s-min=4.5km az=14.9*
NEIC ***20*** *01:01:13.4, 1705N×9447W, h132km, MD4.0(MEX), After MEX.*
MEX ***20*** *01:01:13.5±1.1, 1708N×9447W, h132km±9km, MD4.0*
ISC 20 01:01:12.7±0.8, 1702N±006×9447W±003, h126km±9km, n15, σ1§05/29, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.40**	**281**	*i* P	**Pn**	**01 01 31.1**	**+0.4**
CMIG				*i* S	**Sn**	**01 01 44.9**	**+0.5**
TUIG	**Tuzandepetl**	**1.01**	**3**	*i* P	**Pn**	**01 01 34.5**	**-0.8**
TUIG				*i* S	**Sn**	**01 01 50.6**	**-2.0**
TGIG		**1.31**	**100**	*i* P	**Pn**	**01 01 38.9**	**+0.4**
TGIG				*i* S	**Sn**	**01 01 58.3**	**+0.3**
SCX	**San Cristobal**	**1.78**	**99**	*i* P	**Pn**	**01 01 44.5**	**+0.7**
SCX				*i* S	**Sn**	**01 02 07.4**	**-0.1**
HUIG	**Huatulco**	**2.00**	**232**	*i* P	**Pn**	**01 01 45.1**	**-1.4**
HUIG				*i* S	**Sn**	**01 02 12.3**	**0.0**
OXX	**Oaxaca**	**2.15**	**272**	*i* P	**Pn**	**01 01 48.4**	**+0.1**
OXX				*i* S	**Sn**	**01 02 17.5**	**+1.9**
OXX	**Oaxaca**	**2.15**	**272**	*i* P	**Pn**	**01 01 49.5**	**+1.2**
VHO	**Vista Hermosa**	**2.16**	**272**	*i* P	**Pn**	**01 01 49.3**	**+0.8**
VHO				*i* S	**Sn**	**01 02 17.6**	**+1.7**
CCIG	**Comitan**	**2.35**	**108**	*i* P	**Pn**	**01 01 52.0**	**+1.1**
CCIG				*i* S	**Sn**	**01 02 20.3**	**+0.1**
CCIG	**Comitan**	**2.35**	**108**	*i* P	**Pn**	**01 01 52.0**	**+1.1**
CCIG				*i* S	**Sn**	**01 02 15.2**	**-5.0**
THIG		**2.98**	**134**	*i* P	**Pn**	**01 01 58.9**	**-0.1**
THIG				*i* S	**Sn**	**01 02 33.6**	**-1.1**
TPIG	**Tehuac#an**	**3.09**	**297**	*i* P	**Pn**	**01 02 00.2**	**-0.1**
TPIG				*i* S	**Sn**	**01 02 36.7**	**-0.4**
UTMO	**Huajuapan**	**3.28**	**285**	*e*P	**Pn**	**01 02 03.3**	**+0.4**
UTMO				*i* S	**Sn**	**01 02 39.9**	**-1.7**
PNIG	**Pinotepa**	**3.56**	**260**	*i* P	**Pn**	**01 02 04.9**	**-1.6**
PNIG				*i* S	**Sn**	**01 02 46.2**	**-1.9**
PPM	**Popocatepetl**	**4.45**	**298**	*i* P	**Pn**	**01 02 19.7**	**+1.4**
PPM				*i* S	**Sn**	**01 03 09.7**	**+0.4**

ISCJB ***20*** *01:07:14.9±0.9, 1389S±008×7580W±010, h80km±9km, mb3.9/9, Error ellipse: s-maj=19.2km s-min=5.8km az=141.3*
IDC ***20*** *01:07:15.1±1.6, 1371S×7554W, h60km±15km, mb3.8/9, mb1 3.9/13, mb1mx3.8/22, mbtmp3.8/13, MS3.0/3, Ms1 3.1/3, ms1mx2.7/26, Error ellipse: s-maj=26.1km s-min=11.1km az=56.0*
NEIC ***20*** *01:07:16.3±1.0, 1375S×7569W, h75km±10km, Error ellipse: s-maj=19.0km s-min=8.4km az=56.0*
ISC 20 01:07:16.3±0.8, 1382S±008×757W±01, h75km±8km, n27, σ1§22/29, mb3.9/9, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.12**	**329**	P	**Pn**	**01 07 48.5**	**-1.2**
	61nm,0.3s,baz=139,slow=12,SNR=52						
NNA				S	**Sn**	**01 08 14.5**	**-0.7**
	109nm,0.3s,baz=220,slow=17,SNR=18						
ARE	**Arequipa**	**4.87**	**123**	*e*P	**Pn**	**01 08 29.0**	**+1.9**
ARE				*e*S	**Sn**	**01 09 22.0**	**-0.1**
ATAH	**Atahualpa**	**7.26**	**339**	P	**Pn**	**01 09 00.5**	**+0.6**
	1.9nm,0.3s,baz=150,slow=9.3,SNR=12						
ATAH				S	**Sn**	**01 10 24.8**	**+3.9**
	0.9nm,0.3s,baz=324,slow=19,SNR=2.4						
LPAZ	**La Paz**	**7.75**	**109**	P	**Pn**	**01 09 09.2**	**+2.8**
	1.4nm,0.3s,baz=280,slow=10,SNR=43						
LPAZ				S	**Sn**	**01 10 37.6**	**+5.0**
	0.5nm,0.3s,baz=196,slow=20,SNR=4.7						
LPAZ				LR	LR	01 12 38.8	
	comp=Z,78nm,20.2s,baz=303,slow=43						
LPAZ	**La Paz**	**7.75**	**109**	P	**Pn**	**01 09 09.2**	**+2.8**
LPAZ				S	**Sn**	**01 10 37.6**	**+5.0**
LVC	**Limon Verde**	**10.88**	**144**	P	**Pn**	**01 09 47.4**	**-1.8**
	0.8nm,0.3s,baz=336,slow=10,SNR=7.0						
LVC				LR	LR	01 13 22.1	
	comp=Z,58nm,20.0s,baz=186,slow=34						
OTAV	**Otavalo**	**14.23**	**349**	*e*Pn	**Pn**	**01 10 34.5**	**+0.3**
	6.0nm,1.0s						
SIV	**San Ignacio**	**14.34**	**100**	P	**Pn**	**01 10 33.9**	**-1.8**
	0.3nm,0.3s,baz=275,slow=11,SNR=6.6						
ROSC	**El Rosal**	**18.61**	**4**	P	**Pn**	**01 11 31.7**	**+2.7**
	0.6nm,0.3s,baz=286,slow=16,SNR=3.1						
CFAA	**Coronel Fontan**	**18.99**	**160**	P	**Pn**	**01 11 32.5**	**-0.9**
	0.1nm,0.3s,baz=341,slow=18,SNR=11						
CFAA	**Coronel Fontan**	**18.99**	**160**	P	**Pn**	**01 11 32.5**	**-0.9**
SDV	**Santo Domingo**	**23.12**	**13**	P	**P**	**01 12 14.6**	**-1.6**
	11nm,0.6s,mb4.3,baz=219,slow=13,SNR=11						
PCRV	**Puerto La Cruz**	**26.26**	**25**	LR	LR	01 23 36.7	
	comp=Z,91nm,20.2s,baz=134,slow=38						
PLCA	**Paso Flores**	**27.19**	**171**	P	**P**	**01 12 53.3**	**+0.4**
	3.1nm,1.0s,mb3.8,baz=358,slow=11,SNR=4.6						
TXAR	**Lajitas Array**	**50.68**	**328**	P	**P**	**01 16 08.7**	**+0.4**
	1.3nm,0.8s,mb4.0,baz=152,slow=8.7,SNR=11						
PDAR	**Pinedale Array**	**64.30**	**333**	P	**P**	**01 17 43.8**	**0.0**
	0.5nm,0.8s,mb3.4,baz=137,slow=8.2,SNR=3.5						
PDAR	**Pinedale Array**	**64.30**	**333**	P	**P**	**01 17 43.8**	**0.0**
NVAR	**Mina Array Bea**	**65.48**	**324**	P	**P**	**01 17 52.6**	**+1.0**
	0.3nm,0.6s,mb3.3,baz=120,slow=5.4,SNR=3.3						
DBIC	**Dimbokro**	**73.22**	**79**	P	**P**	**01 18 39.2**	**-0.8**
	3.7nm,0.6s,mb4.4,baz=228,slow=7.9,SNR=8.7						
DBIC	**Dimbokro**	**73.22**	**79**	P	**P**	**01 18 39.2**	**-0.8**
EDM	**Edmonton**	**74.16**	**338**	*e*P	**P**	**01 18 44.1**	**-0.4**
QSPA	**South Pole Qui**	**76.32**	**180**	P	**P**	**01 18 58.9**	**+2.2**
	1.7nm,0.9s,mb3.8,baz=129,slow=5.6,SNR=5.0						
TOA0	**Torodi Ar. Sit**	**81.24**	**74**	*e*P	**P**	**01 19 24.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**81.24**	**74**	P	**P**	**01 19 24.4**	**-0.4**
	4.3nm,0.7s,mb4.4,baz=270,slow=5.8,SNR=22						
YKA	**Yellowknife Ar**	**81.90**	**343**	P	**P**	**01 19 26.5**	**-0.7**
	0.4nm,0.3s,mb3.7,baz=139,slow=5.5,SNR=8.0						
SONM	**Songino Array**	**146.04**	**357**	PKPbc	PKPbc	01 26 48.4	+0.7
	1.6nm,0.7s,baz=337,slow=3.3,SNR=14						
KSRS	**Korea Array**	**148.41**	**322**	PKPbc	PKPbc	01 26 55.4	+0.7
	0.9nm,0.7s,baz=36,slow=1.5,SNR=5.7						

BEO ***20*** *01:14:19.9±1.2, 4322N×1761E, h9km±5km, ML3.3/5*
CSEM ***20*** *01:14:20.6±0.1, 4319N×1787E, h10km, ML3.2/9, Error ellipse: s-maj=1.4km s-min=1.1km az=21.0*
NEIC ***20*** *01:14:20.9, 4313N×1782E, h8km, ML3.2(PDG), ML4.0(THE), After PDG.*
ISCJB ***20*** *01:14:20.3±0.4, 4316N±002×1781E±002, h9km±3km, Error ellipse: s-maj=3.0km s-min=2.3km az=10.5*
PDG ***20*** *01:14:20.9±0.4, 4313N×1782E, h8km±1km, MD3.1/7, ML3.2/9, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
THE ***20*** *01:14:21.3, 4311N×1775E, h12km, ML4.0*
PRU ***20*** *01:14:23.7, 4326N×1784E, h0km*
ISC 20 01:14:21.4±0.4, 4315N±002×1781E±002, h7km±3km, n88, σ1§12/131, 20C-17D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.29**	**197**	⇓*i*Pg	**Pg**	**01 14 26.6**	**-0.4**
STON				Sg	**Sg**	**01 14 31.6**	**+0.8**
BRY	**Bratogost**	**0.59**	**114**	⇑*i*Pg	**Pg**	**01 14 31.5**	**-1.3**
BRY				*e*Sg	**Sg**	**01 14 41.1**	**+0.7**
UPM	**Unac-Piva**	**0.80**	**86**	⇑*i*Pg	**Pg**	**01 14 35.6**	**-1.3**
UPM				*e*Sg	**Sg**	**01 14 48.6**	**+1.3**
HCY	**Herceg Novi**	**0.86**	**144**	⇑*i*Pg	**Pg**	**01 14 36.3**	**-1.7**
HCY				*e*Sg	**Sg**	**01 14 49.4**	**+0.3**
NKY	**Niksic**	**0.93**	**111**	⇓*i*Pg	**Pg**	**01 14 37.8**	**-1.5**
NKY				*e*Sg	**Sg**	**01 14 52.4**	**+1.0**
BUM	**Brajici-Budva**	**1.16**	**136**	⇑*i*Pg	**Pg**	**01 14 41.5**	**-2.2**
BUM				*e*Sg	**Sg**	**01 14 59.9**	**+1.1**
PLE	**Pljevlja**	**1.17**	**80**	⇑*i*Pg	**Pg**	**01 14 43.0**	**-0.9**
PLE				*e*Sg	**Sg**	**01 15 00.8**	**+1.8**
PDG	**Podgorica**	**1.28**	**123**	⇓*i*Pg	**Pg**	**01 14 44.3**	**-1.7**
TTG	**Podgorica**	**1.28**	**123**	⇓*i*Pg	**Pg**	**01 14 44.3**	**-1.7**
TTG				*e*Sg	**Sg**	**01 15 04.6**	**+1.9**
BEY	**Berane**	**1.55**	**99**	⇑*i*Pg	**Pg**	**01 14 49.5**	**-1.7**
IVA	**Berane**	**1.55**	**99**	⇑*i*Pg	**Pg**	**01 14 49.5**	**-1.7**
IVA				*e*Sg	**Sg**	**01 15 12.3**	**+1.0**
SJES	**Sjenica**	**1.58**	**85**	*e*Pn	**Pn**	**01 14 50.2**	**+0.4**
SJES				*e*Sg	**Sg**	**01 15 13.6**	**+1.3**
ULC	**Ulcinj**	**1.59**	**138**	⇑*i*Pg	**Pg**	**01 14 49.4**	**-2.5**
ULC				*e*Sg	**Sg**	**01 15 12.8**	**+0.4**
PVY	**Plav**	**1.68**	**108**	⇓*i*Pn	**Pn**	**01 14 51.5**	**+0.3**
PVY				*e*Sn	**Sn**	**01 15 15.3**	**+2.4**
DIVS	**Divibare**	**1.84**	**58**	*e*Pb	**Pb**	**01 14 52.3**	**-3.2**
DIVS				*e*Sb	**Sb**	**01 15 18.0**	**-0.7**
DIVS	**Divibare**	**1.84**	**58**	*e*Pn	**Pn**	**01 14 53.5**	**+0.1**
DIVS				*e*Sn	**Sn**	**01 15 16.8**	**-0.2**
FGMS	**Monte Sant'Ang**	**1.99**	**224**	Pn	**Pn**	**01 14 54.1**	**-1.3**
MS1	**Monte Sant'Ang**	**2.00**	**225**	*e*Pn	**Pn**	**01 14 56.6**	**+1.1**
BAI	**Bari**	**2.15**	**199**	*e*Pn	**Pn**	**01 14 56.8**	**-0.9**
RGNG	**Rignano Grg**	**2.21**	**229**	Pn	**Pn**	**01 14 58.5**	**0.0**
GRUS	**Gruza**	**2.24**	**70**	*e*Pn	**Pn**	**01 14 58.7**	**-0.1**
GRUS				*e*Sn	**Sn**	**01 15 28.4**	**+1.8**
TIR	**Tirane**	**2.35**	**139**	*e*Pn	**Pn**	**01 15 00.1**	**-0.3**
TIR				*e*Sn	**Sn**	**01 15 29.8**	**+0.2**
TIR	**Tirane**	**2.35**	**139**	*e*Pn	**Pn**	**01 15 00.0**	**-0.4**
TIR				S	**Sn**	**01 15 29.8**	**+0.2**
SG1	**Sgolgore (BA)**	**2.46**	**201**	*e*Pn	**Pn**	**01 15 05.8**	**+4.0**
FGSL	**Fruska Gora**	**2.47**	**35**	*e*Pn	**Pn**	**01 15 00.6**	**-1.4**
BEO	**Beograd**	**2.54**	**48**	*e*Sg	**Sg**	**01 15 43.0**	**+0.1**
NVLJ	**Novalja**	**2.56**	**305**	*e*Pn	**Pn**	**01 15 05.0**	**+1.7**
NVLJ				Sn	**Sn**	**01 15 39.0**	**+4.4**
CIGN	**Sant'Elia a Pi**	**2.62**	**236**	Pn	**Pn**	**01 15 03.0**	**-1.1**
SVIS	**Svilajnac**	**2.71**	**64**	*e*Pn	**Pn**	**01 15 04.7**	**-0.6**
BARS	**Barje**	**2.95**	**95**	*e*Pn	**Pn**	**01 15 09.5**	**+0.8**
BOJS	**Bojanci**	**2.99**	**323**	*i* Pn	**Pn**	**01 15 11.4**	**+2.3**
BOJS				*e*Sn	**Sn**	**01 15 47.5**	**+2.3**
BOJS							
	comp=Z,42nm,0.4s						
BOJS	**Bojanci**	**2.99**	**323**	*i* Pn	**Pn**	**01 15 11.4**	**+2.2**
BOJS				*e*Sn	**Sn**	**01 15 47.5**	**+2.3**
BOJS	**Bojanci**	**2.99**	**323**	*i* Pn	**Pn**	**01 15 11.4**	**+2.3**
BOJS				*e*Sn	**Sn**	**01 15 47.5**	**+2.3**
OHR	**Ohrid**	**3.01**	**131**	*e*Pn	**Pn**	**01 15 08.1**	**-1.3**
MIDA	**Miranda**	**3.04**	**242**	Pn	**Pn**	**01 15 08.7**	**-1.1**
CSSN	**Cassano Irpino**	**3.09**	**223**	Pn	**Pn**	**01 15 09.8**	**-0.7**
SGG	**Gregorio Mates**	**3.10**	**237**	Pn	**Pn**	**01 15 10.5**	**-0.1**
INTR	**Introdacqua**	**3.10**	**250**	Pn	**Pn**	**01 15 10.1**	**-0.6**
KRUS	**Krusevo**	**3.11**	**124**	⇑*i*Pn	**Pn**	**01 15 12.3**	**+1.5**
KRUS	**Krusevo**	**3.11**	**124**	⇑*i*Pn	**Pn**	**01 15 12.2**	**+1.4**
PKSM	**Moragy**	**3.12**	**11**	⇓*i*P	**Pn**	**01 15 09.6**	**-1.4**
GCIS	**Gornji Cirnik**	**3.14**	**331**	*e*Pn	**Pn**	**01 15 11.9**	**+0.7**
GCIS				*e*Sn	**Sn**	**01 15 48.3**	**-0.6**
GCIS							
	comp=Z,13nm,0.3s						
GCIS	**Gornji Cirnik**	**3.14**	**331**	*e*Pn	**Pn**	**01 15 11.9**	**+0.7**
GCIS				*e*Sn	**Sn**	**01 15 48.3**	**-0.6**
GCIS	**Gornji Cirnik**	**3.14**	**331**	*e*Pn	**Pn**	**01 15 11.9**	**+0.7**
GCIS				*e*Sn	**Sn**	**01 15 48.3**	**-0.6**
TERO	**Teramo**	**3.14**	**262**	Pn	**Pn**	**01 15 10.8**	**-0.4**
CRES	**Cresnjev**	**3.17**	**329**	*i* Pn	**Pn**	**01 15 12.4**	**+0.8**
SDI	**San Donato**	**3.29**	**246**	Pn	**Pn**	**01 15 12.6**	**-0.7**
AQU	**L'Aquila**	**3.34**	**258**	⇑*i*P	**Pn**	**01 15 12.7**	**-1.4**
AQU	**L'Aquila**	**3.34**	**258**	⇓*i*P	**Sn**	**01 15 54.4**	**+0.4**
AQU	**L'Aquila**	**3.34**	**258**	*e*Pn	**Pn**	**01 15 12.7**	**-1.4**
AQU	**L'Aquila**	**3.34**	**258**	*e*Pn	**Pn**	**01 15 12.7**	**-1.3**
VVLD	**Villa Vallelon**	**3.35**	**249**	Pn	**Pn**	**01 15 13.4**	**-0.7**
BIA	**Bitola**	**3.37**	**128**	*e*Pn	**Pn**	**01 15 13.6**	**-0.8**
BIA				*e*Sn	**Sn**	**01 15 53.7**	**-0.8**
BIA	**Bitola**	**3.37**	**128**	*i* Pn	**Pn**	**01 15 14.7**	**+0.4**
CING	**Cingoli**	**3.38**	**275**	Pn	**Pn**	**01 15 14.8**	**+0.2**
VISS	**Visnje**	**3.41**	**322**	*i* Pn	**Pn**	**01 15 16.2**	**+1.3**
VISS				*i* Sn	**Sn**	**01 15 57.3**	**+1.8**
PTQR	**Pietraquaria**	**3.45**	**252**	Pn	**Pn**	**01 15 16.0**	**+0.5**
STIP	**Stip**	**3.55**	**113**	*e*Pn	**Pn**	**01 15 16.6**	**-0.2**
STIP				*e*Sn	**Sn**	**01 15 59.0**	**+0.1**
STIP	**Stip**	**3.55**	**113**	⇑*i*Pn	**Pn**	**01 15 16.9**	**0.0**
FNA	**Florina**	**3.55**	**130**	*e*Pn	**Pn**	**01 15 17.0**	**+0.1**
FNA				*e*Sn	**Sn**	**01 15 59.3**	**+0.2**
FIAM	**Fiamignano**	**3.57**	**257**	Pn	**Pn**	**01 15 17.9**	**+0.7**
BZS	**Buzias**	**3.68**	**47**	⇓*i*P	**Pn**	**01 15 17.8**	**-0.8**
BZS				S	**Sn**	**01 16 01.3**	**-0.9**
FSSB	**Fossombrone**	**3.71**	**280**	Pn	**Pn**	**01 15 19.7**	**+0.6**
CERT	**Cerreto**	**3.77**	**253**	Pn	**Pn**	**01 15 19.4**	**-0.4**
JAVS	**Javornik**	**3.84**	**317**	*i* Pn	**Pn**	**01 15 21.5**	**+0.6**
JAVS				*i* Sn	**Sn**	**01 16 07.8**	**+1.7**
MURB	**Monte Urbino**	**3.87**	**274**	Pn	**Pn**	**01 15 22.2**	**+0.9**
PERS	**Pernice**	**3.98**	**332**	*i* Pn	**Pn**	**01 15 23.4**	**+0.6**
PERS				*i* Sn	**Sn**	**01 16 08.1**	**-1.6**
VTS	**Vitosha**	**4.00**	**96**	⇑*i*P	**Pn**	**01 15 24.1**	**+1.0**
VOY	**Vojsko**	**4.02**	**317**	*e*Pn	**Pn**	**01 15 24.6**	**+1.3**
VOY				*e*Sn	**Sn**	**01 16 15.0**	**+4.4**
SOKA	**Soboth**	**4.05**	**332**	⇓*i*Pn	**Pn**	**01 15 24.2**	**+0.5**
SOKA				⇓*i*Sn	**Sn**	**01 16 10.3**	**-1.0**
IGT	**Igoumenitsa**	**4.08**	**151**	*e*Pn	**Pn**	**01 15 22.3**	**-1.8**
BADI	**Badiali**	**4.08**	**277**	Pn	**Pn**	**01 15 25.6**	**+1.4**
OBKA	**Obir**	**4.09**	**326**	⇑*i*Pn	**Pn**	**01 15 24.8**	**+0.6**
OBKA				⇓*i*Sn	**Sn**	**01 16 12.1**	**-0.2**
OBKA	**Obir**	**4.09**	**326**	Pn	**Pn**	**01 15 24.8**	**+0.6**
OBKA				Sn	**Sn**	**01 16 12.1**	**-0.2**
GZR	**Gura Zlata**	**4.21**	**56**	⇑*i*P	**Pn**	**01 15 26.7**	**+0.7**
GZR				S	**Sn**	**01 16 14.9**	**-0.5**
ARSA	**Arzberg**	**4.41**	**339**	⇓*i*Pn	**Pn**	**01 15 28.9**	**+0.2**
ARSA				⇓*i*Sn	**Sn**	**01 16 18.9**	**-1.4**
PTCC	**Patocco-Chiusa**	**4.55**	**317**	Pn	**Pn**	**01 15 30.9**	**+0.3**
SRS	**Serrai**	**4.75**	**113**	*e*Pn	**Pn**	**01 15 34.0**	**+0.6**
CONA	**Conrad Observa**	**4.97**	**345**	⇑*i*Pn	**Pn**	**01 15 37.3**	**+0.8**
CONA				⇓*i*Sn	**Sn**	**01 16 32.2**	**-1.9**
PSZ	**Piszkesteto**	**4.99**	**16**	⇑*i*P	**Pn**	**01 15 35.4**	**-1.3**
ZST	**Bratislava**	**5.08**	**355**	*e*PN	**Pn**	**01 15 34.1**	**-3.7**
MODS	**Modra-Piesok**	**5.24**	**356**	*e*SN	**Sn**	**01 16 37.6**	**-3.1**
MOA	**Molln**	**5.32**	**333**	⇑*i*Pn	**Pn**	**01 15 42.0**	**+0.8**
MOA				⇑*i*Sn	**Sn**	**01 16 42.3**	**-0.4**
KOLL	**Kolacno**	**5.45**	**4**	*e*PN	**Pn**	**01 15 43.2**	**+0.3**
KOLL				*e*SN	**Sn**	**01 16 43.0**	**-2.8**
WTTA	**Wattenberg**	**6.00**	**315**	⇓*i*Pn	**Pn**	**01 15 51.7**	**+1.2**
WTTA				⇓*i*Sn	**Sn**	**01 16 59.6**	**+0.2**
MOTA	**Moosalm**	**6.33**	**314**	⇑*i*Pn	**Pn**	**01 15 55.7**	**+0.7**
MOTA				⇓*i*Sn	**Sn**	**01 17 07.7**	**+0.2**
MOTA	**Moosalm**	**6.33**	**314**	Pn	**Pn**	**01 15 55.7**	**+0.7**
KHC	**Kas

BDR eS Sn 01 49 50.2 +1.4
SRKR Sorokina 1.59 301 eP Pn 01 49 30.9 +0.9
SRKR i S Sn 01 49 52.1 +1.8
ZLN Zelenaya 1.60 277 eP Pn 01 49 31.8 +1.7
ZLN i S Sn 01 49 52.9 +2.4
CIRR Tsirk 1.65 280 eP Pn 01 49 32.0 +1.3
MKZ Mys Kozlova 1.71 221 eP Pn 01 49 32.0 +0.5
MKZ i S Sn 01 49 52.7 -0.3
KLY Klyuchi 1.73 286 eP Pn 01 49 31.4 -0.5
KLY i S Sn 01 49 53.0 -0.8
KRSR Krestovskiy 1.76 283 eP Pn 01 49 33.2 +0.9
KRSR i S Sn 01 49 55.8 +1.4
KIRR Kirishev 1.86 274 eP Pn 01 49 35.3 +1.7
KIRR i S Sn 01 49 59.4 +2.6
KMNR Kamenistaya 1.92 268 eP Pn 01 49 36.6 +2.1
KMNR i S Sn 01 50 01.0 +2.6
KPT Kopyto 1.93 275 eP Pn 01 49 36.4 +1.8
KPT i S Sn 01 50 01.9 +3.4
KOZ Kozyrevsk 2.13 277 eP Pn 01 49 39.9 +2.6
KOZ i S Sn 01 50 07.3 +3.9
SRDR Sredinnyy 2.25 283 eP Pn 01 49 41.2 +2.2
SRDR i S Sn 01 50 10.0 +3.6
SPN Mys Shipunski 3.48 219 eP Pn 01 49 56.2 +0.3
SPN i S Sn 01 50 34.6 -2.2
NLC Nalytchevo 3.68 225 eP Pn 01 50 00.1 +1.5
NLC i S Sn 01 50 41.9 +0.2
AVH Avacha 3.86 230 eP Pn 01 50 04.1 +3.0
GNL Ganaly 3.95 239 eP Pn 01 50 05.3 +3.0
RUS Russkaya 4.57 223 eP Pn 01 50 12.9 +2.0
RUS eS Sn 01 51 04.3 +0.7

KRSC 20 01:50:36.2±0.2, 5587N×16352E, h5km±5km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.52**	**311**	eP	Pg	01 50 47.1	+0.9
KBTR				i S	Sg	01 50 54.2	+1.3
SMKR	**Semkarok**	**1.35**	**303**	eP	Pn	01 51 01.7	0.0
SMKR				i S	Sb	01 51 19.7	+0.2
BDR	**Baidarnaya**	**1.47**	**299**	eP	Pn	01 51 03.9	+0.6
BDR				i S	Sn	01 51 24.3	+1.4
SRKR	**Sorokina**	**1.53**	**302**	eP	Pn	01 51 05.0	+0.9
SRKR				i S	Sn	01 51 25.3	+0.9
ZLN	**Zelenaya**	**1.54**	**277**	eP	Pn	01 51 05.5	+1.3
ZLN				i S	Sn	01 51 26.2	+1.7
CIRR	**Tsirk**	**1.58**	**280**	eP	Pn	01 51 05.9	+1.1
CIRR				i S	Sn	01 51 27.8	+2.3
KLY	**Klyuchi**	**1.67**	**287**	eP	Pn	01 51 05.0	-1.0
KLY				i S	Sn	01 51 26.5	-1.2
MKZ	**Mys Kozlova**	**1.67**	**219**	eP	Pn	01 51 05.5	-0.5
MKZ				i S	Sn	01 51 26.5	-1.3
KRSR	**Krestovskiy**	**1.69**	**283**	eP	Pn	01 51 07.6	+1.2
KRSR				i S	Sn	01 51 30.1	+1.7
KIRR	**Kirishev**	**1.79**	**274**	eP	Pn	01 51 09.3	+1.6
KIRR				i S	Sn	01 51 34.3	+3.5
KPT	**Kopyto**	**1.86**	**274**	eP	Pn	01 51 10.1	+1.5
KPT				i S	Sn	01 51 34.1	+1.6
KOZ	**Kozyrevsk**	**2.06**	**277**	eP	Pn	01 51 13.7	+2.3
KOZ				i S	Sn	01 51 41.0	+3.6
SRDR	**Sredinnyy**	**2.18**	**283**	eP	Pn	01 51 15.6	+2.6
SRDR				i S	Sn	01 51 43.8	+3.5
SPN	**Mys Shipunski**	**3.45**	**218**	eP	Pn	01 51 30.4	0.0
SPN				i S	Sn	01 52 10.1	-1.5
NLC	**Nalytchevo**	**3.64**	**224**	eP	Pn	01 51 34.2	+1.1
NLC				i S	Sn	01 52 15.5	-0.8
AVH	**Avacha**	**3.82**	**229**	eP	Pn	01 51 38.9	+3.4
GNL	**Ganaly**	**3.90**	**238**	eP	Pn	01 51 39.1	+2.5
RUS	**Russkaya**	**4.53**	**223**	eP	Pn	01 51 47.1	+1.8

*ISCJB **20** 02:16:46.1±1.4, 1437S×007×765W±0.1, h44km±12km, mb4.0/13, MS3.5/2, Error ellipse: s-maj=21.1km s-min=7.4km az=150.5*
*IDC **20** 02:16:46.7±4.6, 1434S×7647W, h33km±35km, mb3.9/9, mb1 4.0/12, mb1mx3.9/18, mbtmp3.9/12, ML3.9/2, MS3.4/6, Ms1 3.5/6, ms1mx3.1/31, Error ellipse: s-maj=30.6km s-min=15.0km az=60.0*
*NEIC **20** 02:16:47.0±0.5, 1437S×7657W, h35km, mb4.4/3, Error ellipse: s-maj=17.9km s-min=8.6km az=50.0*

ISC 20 02:16:48.1±1.2, 1433S±007×765W±01, h43km±10km, n35, σ1§24/34, mb4.0/13, MS3.5/2, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.36**	**352**	Pn	**Pn**	**02 17 24.6**	**+0.3**
	49nm,0.3s,baz=179,slow=14,SNR=13						
NNA				Sn	**Sn**	**02 17 51.0**	**-1.1**
	270nm,0.3s,baz=212,slow=12,SNR=22						
NNA	**Nana**	**2.36**	**352**	Pn	**Pn**	**02 17 24.6**	**+0.3**
NNA				Sn	**Sn**	**02 17 51.0**	**-1.1**
NNA				LR	LR	02 21 44.9	
ARE	**Arequipa**	**5.27**	**114**	eP	**Pn**	**02 18 06.0**	**+1.7**
ARE				eS	**Sn**	**02 19 21.0**	**+17**
ATAH	**Atahualpa**	**7.52**	**345**	Pn	**Pn**	**02 18 35.9**	**+0.5**
	1.9nm,0.3s,baz=187,slow=3.6,SNR=9.9						
ATAH				Sn	**Sn**	**02 20 05.8**	**+6.5**
	1.7nm,0.3s,baz=269,slow=15,SNR=4.3						
ATAH				LR	LR	02 21 44.9	
	comp=Z,138nm,19.7s,baz=194,slow=40						
LPAZ	**La Paz**	**8.30**	**105**	Pn	**Pn**	**02 18 48.8**	**+2.8**
	0.9nm,0.3s,baz=293,slow=7.9,SNR=20						
LPAZ				LR	LR	02 22 26.6	
	comp=Z,272nm,20.4s,baz=79,slow=41						
LVC	**Limon Verde**	**10.93**	**140**	Pn	**Pn**	**02 19 21.6**	**-0.4**
	1.0nm,0.3s,baz=308,slow=10,SNR=12						
LVC				Sn	**Sn**	**02 21 19.2**	**-3.7**
	1.2nm,0.3s,baz=71,slow=23,SNR=6.0						
LVC				Lg		02 22 23.8	
	baz=246,slow=19,SNR=6.2						
LVC				LR	LR	02 23 07.5	
	comp=Z,130nm,18.5s,baz=318,slow=35						
LVC	**Limon Verde**	**10.93**	**140**	Pn	**Pn**	**02 19 21.6**	**-0.4**
LVC				Sn	**Sn**	**02 21 19.2**	**-3.7**
LVC				Lg		02 22 23.8	
LVC				LR	LR	02 23 07.5	
SIV	**San Ignacio**	**14.98**	**98**	Pn	**Pn**	**02 20 15.0**	**-2.0**
	0.1nm,0.3s,baz=280,slow=13,SNR=4.9						
CFAA	**Coronel Fontan**	**18.78**	**158**	P	**Pn**	**02 21 02.7**	**-1.9**
	0.0nm,0.3s,baz=0.0,slow=13,SNR=2.7						
CFAA	**Coronel Fontan**	**18.78**	**158**	P	**Pn**	**02 21 02.7**	**-1.9**
ROSC	**El Rosal**	**19.18**	**7**	LR	LR	02 29 53.3	
	comp=Z,219nm,18.2s,baz=213,slow=41						
SDV	**Santo Domingo**	**23.79**	**14**	P	**P**	**02 21 54.9**	**-2.1**
	4.1nm,0.5s,mb4.1,baz=216,slow=15,SNR=4.5						
PLCA	**Paso Flores**	**26.81**	**170**	P	**P**	**02 22 22.9**	**-1.4**
	1.1nm,0.7s,mb3.5,baz=346,slow=5.8,SNR=3.1						
PCRV	**Puerto La Cruz**	**27.04**	**26**	LR	LR	02 33 30.5	
	comp=Z,136nm,18.4s,MS3.5,baz=25,slow=37						
BDFB	**Brasilia**	**27.53**	**96**	P	**P**	**02 22 31.8**	**+0.8**
	0.6nm,0.4s,mb3.6,baz=259,slow=9.5,SNR=3.7						
BDFB				LR	LR	02 34 11.1	
	comp=Z,104nm,19.3s,MS3.4,baz=243,slow=38						
TXAR	**Lajitas Array**	**50.73**	**329**	P	**P**	**02 25 43.9**	**+0.1**
	0.5nm,0.7s,mb3.5,baz=147,slow=8.4,SNR=6.6						
DUG	**Dugway**	**63.89**	**330**	eP	**P**	**02 27 16.3**	**-0.2**
	3.6nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**64.42**	**334**	P	**P**	**02 27 22.6**	**+2.7**
	0.2nm,0.3s,mb3.6,baz=151,slow=6.2,SNR=2.2						
NVAR	**Mina Array Bea**	**65.47**	**325**	P	**P**	**02 27 27.8**	**+0.9**
	0.6nm,0.7s,mb3.7,baz=150,slow=7.3,SNR=3.6						
NVAR	**Mina Array Bea**	**65.47**	**325**	P	**P**	**02 27 27.8**	**+0.9**
ULM	**Lac du Bonnet**	**66.52**	**347**	P	**P**	**02 27 33.5**	**+0.2**
	0.9nm,0.4s,mb4.2,baz=190,slow=6.1,SNR=2.0						
HLID	**Hailey**	**67.24**	**331**	eP	**P**	**02 27 38.5**	**+0.5**
	0.9nm,0.6s,mb4.0						
VNA2	**Neumayer--Watz**	**69.76**	**161**	e	**P**	**02 27 54.5**	**+1.1**
VNA2				e	pP	02 28 03.8	-2.2
SNAA	**Sanae**	**71.36**	**161**	e	**P**	**02 28 04.2**	**+1.0**
SNAA				e		02 28 13.0	
SNAA	**Sanae**	**71.36**	**161**	eP	**P**	**02 28 04.1**	**+0.9**
	4.8nm,1.0s,mb4.4						
DBIC	**Dimbokro**	**74.04**	**79**	P	**P**	**02 28 19.6**	**-0.5**
	3.7nm,0.7s,mb4.4,baz=257,slow=5.1,SNR=7.3						
TOA0	**Torodi Ar. Sit**	**82.08**	**74**	eP	**P**	**02 29 04.8**	**0.0**
TORD	**Torodi Ar. Bea**	**82.08**	**74**	P	**P**	**02 29 04.9**	**+0.2**
	4.4nm,0.7s,mb4.5,baz=261,slow=3.8,SNR=38						
YKA	**Yellowknife Ar**	**82.17**	**343**	P	**P**	**02 29 02.2**	**-1.9**
	0.9nm,0.9s,mb3.7,baz=141,slow=5.1,SNR=4.6						
YKA	**Yellowknife Ar**	**82.17**	**343**	P	**P**	**02 29 02.2**	**-1.9**
ZALV	**Zalesovo Beam**	**137.83**	**16**	PKP	PKPdf	02 36 07.2	-0.5
	0.3nm,0.4s,baz=343,slow=4.5,SNR=2.8						
MJAR	**Matsushiro Arr**	**141.96**	**312**	PKP	PKPdf	02 36 14.9	-0.8
	0.9nm,0.5s,baz=34,slow=3.6,SNR=2.6						
MKAR	**Makanchi Array**	**143.09**	**24**	PKP	PKPdf	02 36 17.0	-0.4
	0.2nm,0.4s,baz=336,slow=3.2,SNR=2.5						
MKAR	**Makanchi Array**	**143.09**	**24**	PKP	PKPdf	02 36 17.0	-0.4
SONM	**Songino Array**	**146.51**	**356**	PKPbc	PKPbc	02 36 24.9	+0.2
	1.0nm,0.6s,baz=341,slow=2.2,SNR=7.6						

*ISCJB **20** 02:27:51.4±1.5, 3216S±007×1768W±02, h33km, mb4.7/8, Error ellipse: s-maj=29.2km s-min=7.7km az=13.7*
*NEIC **20** 02:27:54.4±0.9, 3185S×17747W, h10km, mb4.7/5, Error ellipse: s-maj=24.8km s-min=8.2km az=104.0*
*IDC **20** 02:27:55.1±1.1, 3142S×17772W, h0km, mb4.6/4, mb1 4.8/5, mb1mx4.4/15, mbtmp4.7/5, ML4.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/25, Error ellipse: s-maj=34.0km s-min=23.7km az=113.0*

ISC 20 02:27:52.0±1.5, 3212S±007×1765W±02, h35km, n46, σ1§48/41, mb4.7/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.10**	**337**	Pn	**Pn**	**02 28 31.5**	**-6.9**
	313nm,0.3s,baz=74,slow=23,SNR=10						
RAO				Sn	**Sn**	**02 29 01.8**	**-12**
	762nm,0.3s,baz=69,slow=24,SNR=6.3						
RAO				LR	LR	02 29 02.9	
	comp=Z,412nm,21.9s,baz=188,slow=31						
RAO	**Raoul Island**	**3.10**	**337**	ePn	**Pn**	**02 28 34.0**	**-4.4**
RAO				eSn	**Sn**	**02 29 02.0**	**-12**
MXZ	**Matakaoa Point**	**6.89**	**217**	eP	**Pn**	**02 29 33.0**	**+2.5**
MXZ				S	**Sn**	**02 30 49.6**	**+1.9**
PUZ	**Puketiti**	**7.32**	**214**	eP	**Pn**	**02 29 39.8**	**+3.5**
MWZ	**Matawai**	**7.88**	**216**	eP	**Pn**	**02 29 46.3**	**+2.2**
MWZ				S	**Sn**	**02 31 12.8**	**+0.8**
URZ	**Urewera**	**8.04**	**219**	Pn	**Pn**	**02 29 47.9**	**+1.6**
	4.9nm,0.3s,baz=282,slow=4.2,SNR=27						
URZ				Sn	**Sn**	**02 31 14.2**	**-1.7**
	14nm,0.3s,baz=259,slow=23,SNR=13						
URZ	**Urewera**	**8.04**	**219**	P	**Pn**	**02 29 48.3**	**+2.1**
KNZ	**Kokohu**	**8.35**	**213**	P	**Pn**	**02 29 52.4**	**+1.9**
BKZ	**Black Stump Fm**	**9.04**	**217**	P	**Pn**	**02 30 01.9**	**+2.0**
BKZ				S	**Sn**	**02 31 39.3**	**-1.1**
MOVZ	**Moawhango**	**9.60**	**219**	P	**Pn**	**02 30 07.5**	**-0.1**
TSZ	**Takapari Road**	**9.98**	**215**	P	**Pn**	**02 30 13.5**	**+0.6**
MRZ	**Mangatainoka R**	**10.63**	**214**	P	**Pn**	**02 30 21.2**	**-0.6**
MTW	**Mount Morrison**	**11.06**	**213**	P	**Pn**	**02 30 26.6**	**-1.0**
KIW	**Kapiti Island**	**11.11**	**216**	P	**Pn**	**02 30 26.8**	**-1.5**
TCW	**Tory Channel**	**11.69**	**216**	P	**Pn**	**02 30 34.2**	**-2.1**
THZ	**Tophouse**	**12.80**	**218**	P	**Pn**	**02 30 48.2**	**-3.2**
KHZ	**Kahutara**	**12.96**	**215**	P	**Pn**	**02 30 51.6**	**-2.0**
DSZ	**Denniston Nort**	**13.38**	**221**	P	**Pn**	**02 31 01.0**	**+1.6**
LTZ	**Lake Taylor**	**13.86**	**217**	P	**Pn**	**02 31 04.4**	**-1.5**
RPZ	**Rata Peaks**	**15.15**	**217**	Pn	**Pn**	**02 31 23.5**	**+0.2**
	3.8nm,0.3s,baz=34,slow=3.9,SNR=15						
RPZ				Sn	**Sn**	**02 33 57.2**	**-13**
	2.4nm,0.3s,baz=1.8,slow=20,SNR=7.9						
FOZ	**Fox Glacier**	**15.76**	**220**	P	**Pn**	**02 31 28.7**	**-2.5**
ODZ	**Otahua Downs**	**16.32**	**214**	P	**Pn**	**02 31 38.5**	**+0.2**
JCZ	**Jackson Bay**	**16.60**	**220**	P	**Pn**	**02 31 39.4**	**-2.5**
TOO	**Toolangi**	**31.49**	**249**	eP	**P**	**02 34 13.6**	**+3.1**
CTA	**Charters Tower**	**35.33**	**281**	eP	**P**	**02 34 44.4**	**+0.3**
	3.1nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**35.35**	**259**	eP	**P**	**02 34 45.8**	**+1.6**
	3.5nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**35.35**	**259**	P	**P**	**02 34 45.8**	**+1.6**
	3.8nm,0.5s,mb4.6,baz=94,slow=10,SNR=18						
STKA				LR	LR	02 47 33.2	
	comp=Z,88nm,20.0s,baz=24,slow=34						
ASAR	**Alice Springs**	**44.29**	**268**	P	**P**	**02 35 58.4**	**-0.2**
	3.2nm,0.5s,mb4.3,baz=106,slow=7.7,SNR=59						
WB2	**Warramunga Arr**	**45.42**	**273**	eP	**P**	**02 36 06.8**	**-0.8**
WRAB	**Tennant Creek**	**45.43**	**273**	eP	**P**	**02 36 07.1**	**-0.5**
	14nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**45.43**	**273**	P	**P**	**02 36 06.9**	**-0.8**
	9.6nm,0.4s,mb5.0,baz=112,slow=8.0,SNR=51						
FORT	**Forrest**	**46.84**	**256**	eP	**P**	**02 36 18.5**	**-0.1**
	11nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**53.62**	**270**	eP	**P**	**02 37 10.5**	**+0.4**
	7.1nm,1.0s,mb4.5						
PETK	**Petropavlovsk-**	**87.79**	**345**	P	**P**	**02 40 42.0**	**+5.1**
	2.6nm,0.7s,mb4.6,baz=140,slow=6.8,SNR=7.4						
ARCES	**ARCESS Array B**	**140.53**	**348**	PKhKP		02 47 13.0	
	1.8nm,1.1s,baz=15,slow=2.0,SNR=2.0						
ARCES				PKP	PKPdf	02 47 23.6	+7.0
	1.3nm,0.8s,baz=1.1,slow=4.6,SNR=3.8						
ARCES	**ARCESS Array B**	**140.53**	**348**	PKP	PKPdf	02 47 13.0	-3.6
JOF	**Joensuu**	**144.47**	**338**	ep	PKPdf	02 47 27.3	+3.5
	0.4nm,0.3s						
KAF	**Kangasniemi**	**146.58**	**341**	ep	PKPbc	02 47 33.9	+4.9
	1.5nm,0.4s						
ONI	**Oni**	**146.82**	**300**	P	PKPbc	02 47 36.1	+5.8
NB2	**NORSAR Subarra**	**150.62**	**352**	PKP	PKPbc	02 47 45.6	+6.1
	comp=Z,0.7nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.62**	**352**	PKPbc	PKPbc	02 47 45.6	+6.1
	1.2nm,0.3s,baz=16,slow=4.0,SNR=4.7						
ASF	**Jabal al Asfar**	**151.76**	**279**	PKPbc	PKPbc	02 47 49.5	+6.5
	comp=Z,2.3nm,0.6s,baz=130,slow=2.3,SNR=5.7						
MMAI	**Mount Meron Ar**	**153.12**	**281**	PKPbc	PKPbc	02 47 52.9	+6.8
	comp=Z,5.7nm,0.4s,baz=83,slow=7.9,SNR=20						
AKASG	**Malin Array Be**	**153.42**	**322**	PKPbc	PKPbc	02 47 52.0	+5.8
	comp=Z,1.0nm,0.4s,baz=45,slow=2.8,SNR=11						
AKASG				PKPab	PKPab	02 48 01.4	+3.0
	comp=Z,0.2nm,0.3s,baz=46,slow=4.0,SNR=8.0						
AKASG	**Malin Array Be**	**153.42**	**322**	PKPbc	PKPbc	02 47 52.0	+5.8
AKASG				PKPab	PKPab	02 48 01.4	+3.0
TORD	**Torodi Ar. Bea**	**161.05**	**175**	PKPab	PKPab	02 48 43.2	+11
	comp=Z,1.0nm,0.6s,baz=178,slow=3.4,SNR=15						

*ISCJB **20** 02:44:07.6±1.3, 26N±02×6621E±02, h10km, mb4.0/7, Error ellipse: s-maj=36.3km s-min=22.3km az=29.6*
*IDC **20** 02:44:08.1±1.4, 254N×6608E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.8/21, mbtmp4.0/6, Error ellipse: s-maj=42.1km s-min=27.9km az=39.0*
*NEIC **20** 02:44:09.6±1.1, 256N×6607E, h10km, mb4.3/1, Error ellipse: s-maj=31.7km s-min=22.5km az=210.0*

ISC 20 02:44:09.6±1.3, 25N±02×661E±02, h10km, n9, σ0§77/8, mb4.0/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.88**	**62**	P	**P**	**02 51 11.6**	**+1.5**
	1.2nm,0.3s,mb4.3,baz=245,slow=7.9,SNR=3.4						
QIZ	**Qiongzhong**	**45.84**	**66**	eP	**P**	**02 52 32.1**	**-0.1**
	4.4nm,1.1s,mb4.3						
ZALV	**Zalesovo Beam**	**53.51**	**14**	P	**P**	**02 53 28.8**	**-1.3**
	3.7nm,1.0s,mb4.3,baz=217,slow=7.1,SNR=7.0						
SONM	**Songino Array**	**56.93**	**31**	P	**P**	**02 53 54.6**	**-0.3**
	0.8nm,0.8s,mb3.8,baz=234,slow=5.1,SNR=3.7						
CLL	**Collm**	**65.73**	**327**	eP	**P**	**02 54 55.0**	**+0.5**
WRA	**Warramunga Arr**	**70.55**	**112**	P	**P**	**02 55 24.7**	**-0.7**
	2.3nm,1.0s,mb4.1,baz=291,slow=5.9,SNR=5.3						
ASAR	**Alice Springs**	**70.85**	**116**	P	**P**	**02 55 27.2**	**+0.1**
	1.4nm,0.9s,mb3.9,baz=281,slow=6.2,SNR=7.0						
ESDC	**Sonseca Array**	**73.06**	**311**	P	**P**	**02 55 40.4**	**+0.3**
	0.9nm,1.0s,mb3.7,baz=80,slow=4.9,SNR=5.2						
TXAR	**Lajitas Array**	**146.81**	**343**	PKPbc	PKPbc	03 03 53.8	+1.1
	1.5nm,0.8s,baz=60,slow=3.2,SNR=10						

*ISCJB **20** 02:46:48.6±0.6, 255S±009×362E±0.1, h10km, mb4.1/12, MS4.2/2, Error ellipse: s-maj=22.0km s-min=8.1km az=32.2*
*IDC **20** 02:46:49.0±0.9, 262S×3616E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.1/9, MS4.0/3, Ms1 4.0/3, ms1mx3.5/31, Error ellipse: s-maj=28.4km s-min=13.8km az=133.0*
*NEIC **20** 02:46:50.6±0.7, 256S×3619E, h10km, mb4.4/3, Error ellipse: s-maj=18.8km s-min=11.3km az=134.0*
*SZGRF **20** 02:46:54.2, 240S×3570E, h33km, mb4.3, Tanzania*

ISC 20 02:46:50.8±0.6, 254S±009×362E±01, h10km, n21, σ0§79/21, mb4.1/12, MS4.2/2, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.75**	**37**	Pg	**Pg**	**02 47 23.0**	**-1.6**
	199nm,0.3s,baz=226,slow=23,SNR=36						
KMBO				Lg		02 47 47.4	
	565nm,0.3s,baz=226,slow=23,SNR=20						
KMBO				LR	LR	02 48 01.6	
	comp=Z,408nm,21.4s,baz=196,slow=39						
LSZ	**Lusaka**	**14.92**	**212**	Pn	**Pn**	**02 50 15.8**	**-6.1**
	1.1nm,0.3s,baz=40,slow=13,SNR=18						
LSZ				Sn	**Sn**	**02 53 07.5**	**+0.1**
	1.6nm,0.3s,baz=63,slow=18,SNR=3.2						
LSZ				Lg		02 54 27.3	
	4.5nm,0.3s,baz=103,slow=18,SNR=9.2						
LSZ				LR	LR	02 56 09.5	
	comp=Z,202nm,18.7s,baz=289,slow=38						
LSZ	**Lusaka**	**14.92**	**212**	Pn	**Pn**	**02 50 15.8**	**-6.1**
LSZ				Sn	**Sn**	**02 53 07.5**	**+0.1**
LSZ				Lg		02 54 27.3	
LSZ				LR	LR	02 56 09.5	
TSUM	**Tsumeb**	**24.61**	**226**	P	**P**	**02 52 24.3**	**+13**
	1.3nm,0.4s,mb3.8,baz=38,slow=12,SNR=7.4						
TSUM				Lg		02 59 40.9	
	3.1nm,0.8s,baz=110,slow=22,SNR=3.5						
BOSA	**Boshof**	**27.95**	**201**	P	**P**	**02 52 39.9**	**-1.7**
	4.1nm,1.0s,mb4.0,baz=28,slow=8.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**37.63**	**295**	P	**P**	**02 54 06.2**	**0.0**
	3.6nm,1.2s,mb4.0,baz=122,slow=7.8,SNR=8.2						
TORD				PcP	PcP	02 56 24.6	+0.6
	1.6nm,1.1s,baz=126,slow=1.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**37.63**	**295**	P	**P**	**02 54 06.2**	**-0.1**
TORD				PcP	PcP	02 56 24.6	+0.6
VAE	**Valguarnera**	**44.66**	**335**	LR	LR	03 15 32.7	
	comp=Z,442nm,18.0s,MS4.4,baz=27,slow=38						
AKASG	**Malin Array Be**	**53.37**	**354**	P	**P**	**02 56 10.7**	**+0.2**
	0.4nm,0.5s,mb3.6,baz=180,slow=6.7,SNR=10.0						
GERES	**GERESS Array B**	**54.78**	**342**	P	**P**	**02 56 21.5**	**+0.7**
	1.6nm,1.0s,mb4.0,baz=156,slow=6.9,SNR=11						
GRA1	**Grafenberg Arr**	**56.32**	**341**	eP	**P**	**02 56 31.5**	**-0.3**
	3.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**56.32**	**341**	eP	**P**	**02 56 31.5**	**-0.3**
	comp=Z,3.0nm,0.9s,mb4.3						
TKM2	**Tokmak 2**	**57.51**	**34**	eP	**P**	**02 56 41.1**	**+0.7**
	comp=Z,9.3nm,1.3s,mb4.7						
PSI	**Prapat**	**62.92**	**86**	LR	LR	03 22 18.2	
	comp=Z,93nm,19.1s,MS4.0,baz=159,slow=34						
MK31	**Makanchi Array**	**63.64**	**34**	eP	**P**	**02 57 22.5**	**+0.4**
MKAR	**Makanchi Array**	**63.64**	**34**	P	**P**	**02 57 22.4**	**+0.3**
	comp=Z,4.5nm,1.0s,mb4.5,baz=233,slow=5.9,SNR=18						
CMAR	**Chiang Mai Arr**	**65.14**	**68**	P	**P**	**02 57 33.7**	**+1.2**
	comp=Z,0.8nm,0.3s,mb4.2,baz=258,slow=7.8,SNR=9.8						
ZALV	**Zalesovo Beam**	**69.22**	**28**	P	**P**	**02 57 57.9**	**+0.1**
	comp=Z,3.4nm,1.0s,mb4.2,baz=254,slow=5.5,SNR=10						
ARCES	**ARCESS Array B**	**72.30**	**356**	P	**P**	**02 58 15.3**	**-0.9**
	comp=Z,1.2nm,1.0s,mb3.8,baz=182,slow=3.6,SNR=4.4						
ARCES	**ARCESS Array B**	**72.30**	**356**	P	**P**	**02 58 15.3**	**-0.9**
SONM	**Songino Array**	**78.72**	**40**	P	**P**	**02 58 54.0**	**+0.5**
	comp=Z,1.2nm,0.9s,mb3.8,baz=232,slow=4.7,SNR=6.7						

*IDC **20** 02:48:23.2±0.8, 1731S×17239W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/21, mbtmp4.1/9, ML1.8/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/28, Error ellipse: s-maj=33.7km s-min=19.1km az=123.0*
*NEIC **20** 02:48:24.9±0.5, 1728S×17243W, h10km, mb4.5/1, Error ellipse: s-maj=22.5km s-min=10.6km az=117.0*
*ISCJB **20** 02:48:26.9±0.6, 1710S±008×1726W±02, h33km, mb4.1/9, MS3.4/2, Error ellipse: s-maj=27.1km s-min=8.3km az=20.1*

ISC 20 02:48:28.6±0.7, 1718S±010×1725W±02, h35km, n14, σ1§06/14, mb4.1/9, MS3.4/2, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.33**	**12**	Pn	**Pn**	**02 49 17.1**	**-1.0**
	4.8nm,0.3s,baz=301,slow=14,SNR=5.5						
AFI				Sn	**Sn**	**02 49 53.8**	**-2.6**
	21nm,0.3s,baz=72,slow=18,SNR=9.6						
AFI	**Afiamalu**	**3.33**	**12**	ePn	**Pn**	**02 49 18.1**	**-0.1**
RAR	**Rarotonga**	**12.68**	**110**	Pn	**Pn**	**02 51 16.2**	**-10**
	3.0nm,0.3s,baz=270,slow=11,SNR=4.5						
RAR				LR	LR	02 55 30.3	
	comp=Z,130nm,18.0s,baz=280,slow=34						
PPT	**Papeete**	**21.89**	**94**	LR	LR	02 58 58.0	
	comp=Z,97nm,19.2s,MS3.2,baz=300,slow=29						
URZ	**Urewera**	**22.89**	**201**	P	**P**	**02 53 28.8**	**-0.4**
	12nm,0.5s,mb4.5,baz=7.7,slow=4.1,SNR=9.6

cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **20** 02:56:48.0±0.2,271S×3629E,h10km,mb5.3/107, MS5.1/183 Error ellipse: s-maj=5.3km s-min=4.3km az=58.0*
NEIC Felt [IV] at Arusha. Felt at Mwanza and Usa River. Also felt [IV] at Nairobi, Kenya.
*SZGRF **20** 02:56:54.3,180S×3748E,h33km,mb5.2,MS4.5,Kenya*
*DJA **20** 02:57:01,269S×36.13E,h105km,mb5.3/32*
ISC 20 02:56:47.4±1.2,279S±003×3621E±003,h7km±7km, h13km±1.8km:pP-P,n694,σ1§00/560,mb5.2/192,MS5.0/220, 40C-21D,Tanzania

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.95**	**32**	Pg	**Pn**	**02 57 19.9**	**-1.0**
	626nm,0.3s,baz=210,slow=15,SNR=512						
KMBO				Lg		02 57 44.5	
	5μm,0.3s,baz=275,slow=24,SNR=23						
KMBO				LR	LR	02 57 59.4	
	comp=Z,10μm,21.7s,baz=43,slow=39						
KMBO	**Kilima Mbogo**	**1.95**	**32**	*i* P	**Pn**	**02 57 19.8**	**-1.2**
KMBO				pmax	pmax		
	comp=Z,3μm,0.4s						
KMBO	**Kilima Mbogo**	**1.95**	**32**	Pg	**Pn**	**02 57 19.9**	**-1.0**
KMBO				Lg		02 57 44.5	
KMBO				LR	LR	02 57 59.4	
FURI	**Furi**	**11.87**	**12**	*e*P	**Pn**	**02 59 41.8**	**+4.6**
FURI				S	Sx	03 02 13.0	
LSZ	**Lusaka**	**14.71**	**212**	Pn	**Pn**	**03 00 15.2**	**-0.8**
	comp=Z,3.1nm,0.3s,baz=46,slow=11,SNR=25						
LSZ				Sn	**Sn**	**03 02 50.5**	**-8.9**
	comp=Z,5.8nm,0.3s,baz=300,slow=21,SNR=6.2						
LSZ				Lg		03 04 26.4	
	comp=Z,26nm,0.3s,baz=354,slow=10,SNR=11						
LSZ				LR	LR	03 05 05.2	
	comp=Z,4μm,18.1s,baz=40,slow=34						
LSZ	**Lusaka**	**14.71**	**212**	*e*Pn	**Pn**	**03 00 14.3**	**-1.7**
LSZ	**Lusaka**	**14.71**	**212**	*e*P	**Pn**	**03 00 13.1**	**-2.9**
LSZ				AMb	AMB	03 00 33.1	
	comp=Z,576nm,1.1s						
MRKH	**Merkhyat**	**18.76**	**348**	*i* P	**Pn**	**03 01 08.8**	**+1.3**
MRKH				AMb	AMB	03 01 19.0	
	comp=Z,100nm,1.7s						
SLAT	**Slait**	**18.85**	**349**	*i* P	**Pn**	**03 01 10.4**	**+1.8**
SLAT				AMb	AMB	03 01 19.0	
	comp=Z,92nm,1.6s						
SLAT				*i* S	**Sn**	**03 04 41.6**	**+1.7**
OPO	**Ambohidratompo**	**19.01**	**146**	P	**Pn**	**03 01 14.2**	**+3.6**
	comp=Z,1.0nm,0.3s,baz=314,slow=9,2,SNR=11						
OPO				S	**Sn**	**03 04 52.4**	**+8.6**
	comp=Z,0.7nm,0.3s,baz=25,slow=16,SNR=2.7						
MSEY	**Mahe Island**	**19.32**	**96**	*e*P	**Pn**	**03 01 13.0**	**-1.3**
MSEY				pmax	pmax		
	comp=Z,94nm,1.1s						
MSEY	**Mahe Island**	**19.32**	**96**	*e*P	**Pn**	**03 01 13.0**	**-1.3**
	comp=Z,94nm,1.1s						
ABPO	**Ambohimpanom**	**19.40**	**147**	*e*P	**Pn**	**03 01 16.7**	**+1.5**
ABPO				pmax	pmax		
	comp=Z,69nm,1.1s						
ABPO	**Ambohimpanom**	**19.40**	**147**	*e*P	**Pn**	**03 01 16.7**	**+1.5**
	comp=Z,69nm,1.1s						
MSNA	**Messina**	**20.34**	**197**	*e*P	**P**	**03 01 25.6**	**+1.2**
MSNA				AMb	AMB	03 01 44.4	
	comp=Z,67nm,1.4s						
MOPA	**Mopani**	**21.12**	**192**	*e*P	**P**	**03 01 33.8**	**+1.0**
MOPA				AMb	AMB	03 01 43.1	
	comp=Z,80nm,1.5s,mb4.8						
SLR	**Silverton**	**24.05**	**198**	*e*P	**P**	**03 02 04.6**	**+1.4**
SLR				AMb	AMB	03 02 22.6	
	comp=Z,100nm,1.7s,mb5.0						
TSUM	**Tsumeb**	**24.45**	**227**	P	**P**	**03 02 08.0**	**+1.0**
	comp=Z,7.4nm,0.8s,mb4.2,baz=22,slow=11,SNR=4.8						
TSUM				LR	LR	03 12 31.6	
	comp=Z,2μm,18.0s,MS4.7,baz=42,slow=38						
TSUM	**Tsumeb**	**24.45**	**227**	*e*P	**P**	**03 02 08.2**	**+1.2**
TSUM				AMb	AMB	03 02 10.0	
	comp=Z,442nm,1.6s,mb5.6						
KSR	**Koster**	**24.61**	**200**	*e*P	**P**	**03 02 06.7**	**-1.7**
KSR				AMb	AMB	03 02 30.8	
	comp=Z,93nm,1.6s,mb5.1						
POGA	**Pongola**	**24.83**	**190**	*e*P	**P**	**03 02 10.1**	**-0.3**
POGA				AMb	AMB	03 02 22.0	
	comp=Z,86nm,1.3s,mb5.1						
PRYS	**Parys**	**25.45**	**199**	*e*P	**P**	**03 02 14.8**	**-1.2**
PRYS				AMb	AMB	03 02 31.3	
	comp=Z,96nm,1.7s,mb5.0						
ABTO	**Aybut**	**26.17**	**40**	⇓P	**P**	**03 02 24.4**	**+1.8**
	SNR=7.5						
WHFO	**Wadi Hawf**	**26.89**	**39**	P	**P**	**03 02 30.4**	**+1.3**
	SNR=5.6						
BOSA	**Boshof**	**27.72**	**201**	P	**P**	**03 02 36.9**	**+0.4**
	comp=Z,26nm,0.8s,mb4.9,baz=23,slow=8.8,SNR=17						
BOSA				LR	LR	03 12 29.5	
	comp=Z,2μm,19.8s,MS4.8,baz=24,slow=34						
BOSA	**Boshof**	**27.72**	**201**	*e*P	**P**	**03 02 36.8**	**+0.3**
BOSA				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
BOSA				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.6						
BOSA	**Boshof**	**27.72**	**201**	*e*P	**P**	**03 02 36.8**	**+0.3**
	comp=Z,20nm,0.8s,mb4.8						
BOSA				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
BOSA	**Boshof**	**27.72**	**201**	*e*P	**P**	**03 02 34.8**	**-1.7**
BOSA				AMb	AMB	03 02 40.2	
	comp=Z,67nm,1.5s,mb5.0						
HVD	**Gariep Dam**	**29.46**	**199**	*e*P	**P**	**03 02 51.6**	**-0.4**
GRM	**Grahamstown**	**31.69**	**196**	*e*P	**P**	**03 03 11.6**	**-0.1**
GRM				AMb	AMB	03 03 27.8	
	comp=Z,89nm,1.5s,mb5.4						
EIL	**Elat**	**32.30**	**358**	P	**P**	**03 03 18.0**	**+1.0**
	comp=Z,2.4nm,0.8s,mb4.1,baz=127,slow=14,SNR=4.0						
EIL				LR	LR	03 15 59.4	
	comp=Z,2μm,18.5s,MS4.9,baz=346,slow=36						
CVNA	**Calvinia**	**32.48**	**207**	*e*P	**P**	**03 03 18.2**	**-0.4**
CVNA				AMb	AMB	03 04 18.4	
	comp=Z,74nm,1.6s,mb5.3						
BSY	**Bisya**	**32.62**	**38**	P	**P**	**03 03 20.8**	**+0.9**
	SNR=19						
SUR	**Sutherland**	**32.80**	**205**	P	**P**	**03 03 22.1**	**+0.8**
	comp=Z,14nm,0.8s,mb5.0,baz=32,slow=11,SNR=11						
SUR				LR	LR	03 16 31.0	
	comp=Z,3μm,19.5s,MS4.9,baz=31,slow=36						
SUR	**Sutherland**	**32.80**	**205**	*e*P	**P**	**03 03 22.0**	**+0.6**
	comp=Z,170nm,1.9s,mb5.7						
SUR				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
SUR	**Sutherland**	**32.80**	**205**	*e*P	**P**	**03 03 21.8**	**+0.4**
SUR				AMb	AMB	03 03 27.5	
	comp=Z,44nm,1.4s,mb5.2						
JMDO	**Jabal Madar**	**32.90**	**39**	P	**P**	**03 03 22.9**	**+0.5**
	SNR=7.8						
HOQ	**Hoqain**	**33.31**	**37**	P	**P**	**03 03 26.5**	**+0.5**
	SNR=16						
RDF	**Al-Radifah**	**33.36**	**18**	*e*P	**P**	**03 03 26.2**	**-0.1**
	baz=18						
RDF				AMb	AMB	03 03 31.7	
	comp=Z,55nm,1.5s,mb5.3,baz=18						
SMDO	**Samad**	**33.37**	**39**	P	**P**	**03 03 27.1**	**+0.6**
	SNR=33						
NAY	**Al-Naaiem**	**33.57**	**18**	*e*P	**P**	**03 03 27.6**	**-0.5**
	baz=17						
NAY				AMb	AMB	03 03 32.7	
	comp=Z,21nm,1.9s,mb4.7,baz=17						
WBK	**Wadi Bani Khal**	**33.63**	**40**	⇑P	**P**	**03 03 30.0**	**+1.2**
	SNR=12						
RST	**Umm Al-Ruwaisa**	**33.73**	**17**	*e*P	**P**	**03 03 29.5**	**-0.1**
	baz=17						
RST				AMb	AMB	03 03 33.5	
	comp=Z,2.0nm,1.3s,baz=17						
BIDO	**Bidbid**	**33.76**	**38**	P	**P**	**03 03 31.0**	**+1.1**
	SNR=20						
CER	**Ceres**	**34.29**	**206**	*e*P	**P**	**03 03 32.8**	**-1.5**
CER				AMb	AMB	03 03 37.2	
	comp=Z,32nm,2.0s,mb4.9						
ASF	**Jabal al Asfar**	**34.78**	**1**	P	**P**	**03 03 40.3**	**+1.7**
	comp=Z,1.3nm,0.4s,mb4.2,baz=101,slow=3.6,SNR=3.3						
ASF				PcP	PcP	03 06 09.7	-2.5
	comp=Z,4.3nm,1.0s,baz=191,slow=5.2,SNR=3.2						
ASF				LR	LR	03 17 19.3	
	comp=Z,3μm,19.0s,MS5.0,baz=58,slow=36						
ASF	**Jabal al Asfar**	**34.78**	**1**	P	**P**	**03 03 40.3**	**+1.7**
ASF						03 06 09.7	
ELIM	**Elim**	**35.16**	**204**	*e*P	**P**	**03 03 40.1**	**-1.8**
MMAI	**Mount Meron Ar**	**35.62**	**359**	P	**P**	**03 03 48.0**	**+2.1**
	comp=Z,8.7nm,0.9s,mb4.7,baz=266,slow=11,SNR=4.0						
DGAR	**Diego Garcia**	**36.38**	**99**	PFAKE		03 04 00.0	+7.4
DGAR				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
BHD	**Baghdad**	**36.69**	**11**	*ex*	x	03 03 55.0	
BHD				*ex*	x	03 05 25.0	
BHD				*ex*	x	03 09 44.0	
CSS	**Prodhromos**	**37.65**	**356**	*e*P	**P**	**03 04 03.9**	**+0.7**
	comp=Z,33nm,1.0s,mb5.0						
CSS				LR	LR		
	comp=Z,407nm,20.0s,MS4.2						
TOA0	**Torodi Ar. Sit**	**37.74**	**296**	*e*P	**P**	**03 04 03.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**37.74**	**296**	P	**P**	**03 04 02.7**	**-1.5**
	comp=Z,20nm,1.2s,mb4.7,baz=115,slow=6.5,SNR=31						
TORD				PcP	PcP	03 06 21.6	+0.2
	comp=Z,12nm,1.0s,baz=98,slow=3.3,SNR=9.2						
TORD				LR	LR	03 19 39.2	
	comp=Z,4μm,18.1s,MS5.2,baz=105,slow=36						
TORD	**Torodi Ar. Bea**	**37.74**	**296**	P	**P**	**03 04 02.7**	**-1.6**
TORD				PcP	PcP	03 06 21.6	+0.2
TORD				LR	LR	03 19 39.2	
LAST	**Lasithi**	**39.07**	**346**	*e*P	**P**	**03 04 15.1**	**0.0**
TAM	**Tamanrasset**	**39.28**	**312**	*e*P	**P**	**03 04 18.9**	**+1.8**
IDI	**Anoyia**	**39.34**	**345**	P	**P**	**03 04 18.5**	**+1.1**
	comp=Z,9.3nm,0.9s,mb4.5,baz=178,slow=12,SNR=3.9						
IDI				PcP	PcP	03 06 26.8	+0.9
	comp=Z,13nm,0.9s,baz=150,slow=4.6,SNR=4.1						
MSL	**Mosul**	**39.41**	**9**	*ex*	x	03 04 20.0	
MSL				*ex*	x	03 10 21.0	
KARN	**Karanos**	**39.70**	**344**	*e*P	**P**	**03 04 18.6**	**-1.7**
SANT	**Santorini**	**40.23**	**347**	*e*P	**P**	**03 04 25.3**	**+0.6**
SANT	**Santorini**	**40.23**	**347**	P	**P**	**03 04 25.3**	**+0.6**
SANT				LR	LR		
	comp=Z,1μm,22.0s,MS4.8						
THR4	**Thira Island,**	**40.33**	**346**	*e*P	**P**	**03 04 25.4**	**-0.2**
ISP	**Isparta**	**40.77**	**353**	*e*P	**P**	**03 04 29.3**	**+0.1**
ISP				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.8						
ISP				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.7						
ISP	**Isparta**	**40.77**	**353**	*e*P	**P**	**03 04 29.3**	**+0.1**
	comp=Z,22nm,0.9s,mb4.8						
ISP				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
APE	**Apeiranthos**	**40.88**	**347**	*e*P	**P**	**03 04 30.6**	**+0.5**
MALT	**Malatya**	**40.95**	**3**	*e*P	**P**	**03 04 31.9**	**+1.2**
MALT				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.6						
MALT				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.0						
MALT	**Malatya**	**40.95**	**3**	*e*P	**P**	**03 04 31.9**	**+1.2**
	comp=Z,19nm,1.1s,mb4.6						
MALT				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
DID	**Didima**	**41.87**	**344**	*e*P	**P**	**03 04 36.9**	**-1.3**
KIC	**Kosan Boka**	**41.89**	**283**	*e*P	**P**	**03 04 36.1**	**-2.7**
	comp=Z,157nm,1.6s,mb5.4						
VLX	**Vlachokerasia**	**41.97**	**343**	*e*P	**P**	**03 04 42.2**	**+3.1**
DBIC	**Dimbokro**	**42.06**	**283**	P	**P**	**03 04 38.5**	**-1.8**
	comp=Z,10nm,0.9s,mb4.5,baz=81,slow=8.1,SNR=7.1						
DBIC				PP	PP	03 06 17.1	-0.5
	comp=Z,15nm,1.0s,baz=87,slow=8.6,SNR=5.5						
DBIC				LR	LR	03 22 25.4	
	comp=Z,3μm,18.7s,MS5.1,baz=88,slow=37						
DBIC	**Dimbokro**	**42.06**	**283**	*e*P	**P**	**03 04 39.3**	**-0.9**
DBIC				pmax	pmax		
	comp=Z,30nm,1.4s						
DBIC				MLR	MLR		
	comp=Z,3μm,21.0s						
DBIC	**Dimbokro**	**42.06**	**283**	*e*P	**P**	**03 04 39.3**	**-0.9**
	comp=Z,30nm,1.4s,mb4.7						
DBIC				LR	LR		
	comp=Z,3μm,21.0s,MS5.1						
LIC	**Lamto**	**42.14**	**282**	⇑*i* P	**P**	**03 04 39.1**	**-1.8**
	comp=Z,24nm,0.9s,mb4.5						
LIC				*e*MLR	MLR		
	comp=Z,4μm,19.5s,MS5.0						
LIC	**Lamto**	**42.14**	**282**	*e*P	**P**	**03 04 38.8**	**-2.1**
	comp=Z,34nm,0.9s,mb5.0						
LIC	**Lamto**	**42.14**	**282**	⇑*i* P	**P**	**03 04 39.1**	**-1.8**
	comp=Z,12nm,0.9s,mb4.5						
LIC				LR	LR		
	comp=Z,2μm,19.5s,MS5.0						
TIC	**Toumodi**	**42.22**	**283**	*e*P	**P**	**03 04 40.2**	**-1.3**
	comp=Z,84nm,0.8s,mb5.4						
TIC	**Toumodi**	**42.22**	**283**	*e*P	**P**	**03 04 40.2**	**-1.3**
TIC				pmax	pmax		
	comp=Z,84nm,0.8s,mb5.4						
LTK	**Loutraki**	**42.42**	**344**	*e*P	**P**	**03 04 41.2**	**-1.5**
ANTO	**Ankara**	**42.57**	**356**	PFAKE		03 05 00.0	+16
ANTO				LR	LR		
	comp=Z,641nm,21.0s,MS4.5						
POO	**Poona**	**42.68**	**59**	*ex*	x	03 04 33.0	
PRK	**Paraskevi**	**42.82**	**349**	*e*P	**P**	**03 04 44.7**	**-1.3**
LKR	**Lokris**	**43.00**	**345**	*e*P	**P**	**03 04 45.8**	**-1.6**
KFL	**Anninata**	**43.13**	**342**	*e*P	**P**	**03 04 48.4**	**-0.1**
VLS	**Valsamata**	**43.25**	**342**	*e*P	**P**	**03 04 50.8**	**+1.3**
AOS	**Alonnisos**	**43.27**	**346**	*e*P	**P**	**03 04 50.0**	**+0.4**
GNI	**Garni**	**43.44**	**10**	P	**P**	**03 04 52.0**	**+1.1**
	comp=Z,2.5nm,0.3s,mb4.3,baz=222,slow=17,SNR=3.3						
GNI				LR	LR	03 23 26.3	
	comp=Z,2μm,19.7s,MS4.9,baz=32,slow=37						
GNI	**Garni**	**43.44**	**10**	⇑*e*P	**P**	**03 04 51.9**	**+0.9**
GNI				pmax	pmax		
	comp=Z,17nm,1.4s						
GNI	**Garni**	**43.44**	**10**	P	**P**	**03 04 52.0**	**+1.1**
GNI				LR	LR	03 23 26.3	
AGG	**Agios Georgios**	**43.53**	**344**	*e*P	**P**	**03 04 50.3**	**-1.4**
LKD	**Levkas**	**43.72**	**342**	*e*P	**P**	**03 04 52.6**	**-0.6**
PAIG	**Paliouri**	**44.04**	**346**	*e*P	**P**	**03 04 54.5**	**-1.3**
THL	**Klokotos Trika**	**44.12**	**344**	*e*P	**P**	**03 04 55.6**	**-0.9**
ALN	**Alexandroupoli**	**44.46**	**349**	*e*P	**P**	**03 04 57.8**	**-1.3**
LIT	**Litokhoron**	**44.50**	**345**	*e*P	**P**	**03 04 56.8**	**-2.7**
PLG	**Polygyros**	**44.52**	**346**	*e*P	**P**	**03 04 58.8**	**-0.8**
MEV	**Metsovon**	**44.55**	**344**	*e*P	**P**	**03 05 01.3**	**+1.4**
IGT	**Igoumenitsa**	**44.58**	**342**	*e*P	**P**	**03 05 01.3**	**+1.2**
RAFF	**Raffo Rosso**	**44.69**	**335**	P	**P**	**03 05 04.3**	**+3.2**
SOI	**Samo**	**44.74**	**337**	P	**P**	**03 05 02.8**	**+1.4**
HORT	**Hortiatis**	**44.82**	**346**	*e*P	**P**	**03 05 00.5**	**-1.5**
DGRG	**David-gareji**	**44.82**	**10**	P	**P**	**03 05 04.9**	**+2.9**
MTTG	**Motta San Giov**	**44.82**	**337**	P	**P**	**03 05 04.2**	**+2.2**
	comp=Z,99nm,1.3s,mb5.5						
THE	**Thessaloniki**	**44.88**	**346**	*e*P	**P**	**03 05 02.0**	**-0.5**
VAE	**Valguarnera**	**44.89**	**335**	P	**P**	**03 05 05.3**	**+2.7**
	comp=Z,4.0nm,0.3s,mb4.7,baz=31,slow=18,SNR=3.7						
MTA	**Mtatsminda**	**44.96**	**9**	P	**P**	**03 05 04.5**	**+1.4**
CEL	**Celeste**	**44.96**	**337**	*e*P	**P**	**03 05 03.9**	**+0.7**
	comp=Z,79nm,1.2s,mb5.4						
CEL				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
SOH	**Sokhos**	**44.97**	**346**	*e*P	**P**	**03 05 03.5**	**+0.3**
TBLG	**Delisi**	**44.99**	**9**	P	**P**	**03 05 07.4**	**+4.0**
GRI	**Girifalco**	**45.26**	**338**	P	**P**	**03 05 06.8**	**+1.3**
GRI				pmax	pmax		
	comp=Z,53nm,1.2s,mb5.2						
GRI	**Girifalco**	**45.26**	**338**	P	**P**	**03 05 06.8**	**+1.3**
	comp=Z,53nm,1.2s,mb5.2						
GRG	**Griva**	**45.33**	**345**	*e*P	**P**	**03 05 05.7**	**-0.3**
FNA	**Florina**	**45.44**	**344**	*e*P	**P**	**03 05 06.4**	**-0.5**
TIP	**Timpagrande**	**45.45**	**339**	*e*P	**P**	**03 05 07.7**	**+0.7**
	comp=Z,69nm,1.7s,mb5.2						
TIP				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
GIB	**Gibilmanna**	**45.48**	**335**	P	**P**	**03 05 11.1**	**+3.8**
GIB				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.1						
GIB	**Gibilmanna**	**45.48**	**335**	P	**P**	**03 05 11.1**	**+3.8**
	comp=Z,20nm,0.7s,mb5.0						
RZN	**Rozhen**	**45.49**	**348**	P	**P**	**03 05 07.0**	**-0.3**
PALK	**Pallekele**	**45.51**	**77**	PFAKE		03 05 20.0	+12
PALK				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
VAY	**Valandovo**	**45.63**	**346**	*e*P	**P**	**03 05 07.3**	**-1.1**
VAY	**Valandovo**	**45.63**	**346**	*i* P	**P**	**03 05 07.5**	**-0.9**
BIA	**Bitola**	**45.67**	**344**	*e*P	**P**	**03 05 08.1**	**-0.6**
KEST	**Kesra**	**45.83**	**329**	P	**P**	**03 05 12.8**	**+2.7**
	comp=Z,4.7nm,1.1s,mb4.3,baz=131,slow=3.7,SNR=4.7						
KEST				LR	LR	03 26 03.6	
	comp=Z,1μm,18.1s,MS4.8,baz=147,slow=38						
OHR	**Ohrid**	**45.90**	**344**	*i* P	**P**	**03 05 10.4**	**-0.2**
KRUS	**Krusevo**	**46.02**	**344**	*i* P	**P**	**03 05 11.8**	**+0.3**
KKB	**Krupnik**	**46.02**	**346**	P	**P**	**03 05 10.5**	**-1.0**
STIP	**Stip**	**46.08**	**345**	*e*P	**P**	**03 05 11.4**	**-0.6**
STIP	**Stip**	**46.08**	**345**	*i* P	**P**	**03 05 12.4**	**+0.4**
SOC	**Sochi**	**46.27**	**4**	*c i* P	**P**	**03 05 14.1**	**+0.6**
SOC				*e**PP	pP	03 05 20.8	+5.0
SOC				*e*		03 06 49.3	
SOC				*e*		03 07 00.9	
SOC				*e*PPP		03 07 40.1	
SOC				*e*S	**S**	**03 11 58.7**	**-1.8**
SOC				*e**SS	sS	03 12 13.5	+9.2
SOC				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.1						
SOC				MLR	MLR		
	comp=Z,326nm,14.0s,MS4.4						
TIR	**Tirane**	**46.39**	**343**	*e*P	**P**	**03 05 14.1**	**-0.3**
TIR	**Tirane**	**46.39**	**343**	P	**P**	**03 05 14.1**	**-0.3**
TIR				LR	LR		
	comp=Z,1μm,19.0s,MS4.9						
CUC	**Castrocucco**	**46.51**	**338**	*e*P	**P**	**03 05 15.7**	**+0.3**
	comp=Z,64nm,1.3s,mb5.4						
CUC				LR	LR		
	comp=Z,919nm,20.0s,MS4.7						
SKO	**Skopje**	**46.53**	**345**	*i* P	**P**	**03 05 16.3**	**+0.8**
MAK	**Makhachkala**	**46.67**	**11**	*e*P	**P**	**03 05 15.8**	**-0.8**
MAK				*e*		03 06 45.9	
MAK				*e*		03 07 10.8	
MAK				*e*S	**S**	**03 12 07.4**	**+1.1**
MAK				*e*		03 15 08.6	
MAK				pmax	pmax		
	comp=Z,180nm,1.2s,mb5.9						
MAK				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.0						
VTS	**Vitosha**	**46.68**	**347**	P	**P**	**03 05 16.5**	**-0.2**
KIV	**Kislovodsk**	**46.90**	**6**	*de*P	**P**	**03 05 18.5**	**+0.1**
KIV				*i*		03 06 52.8	
KIV						03 07 11.0	
KIV				*e*S	**S**	**03 12 12.4**	**+2.9**
KIV				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.1						
KIV				MLR	MLR		
	comp=Z,600nm,14.0s,MS4.7						
KIV	**Kislovodsk**	**46.90**	**6**	*e*P	**P**	**03 05 19.2**	**+0.8**
	comp=Z,34nm,1.3s,mb5.1						
KIV				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
SGO	**Sicignano**	**47.19**	**338**	P	**P**	**03 05 21.0**	**+0.3**
SGO				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
SGO	**Sicignano**	**47.19**	**338**	P	**P**	**03 05 21.0**	**+0.3**
	comp=Z,21nm,1.1s,mb5.0						
CSSN	**Cassano Irpino**	**47.56**	**338**	P	**P**	**03 05 25.4**	**+1.8**
	comp=Z,9.5nm,0.9s,mb4.8						
SIM	**Simferopol'**	**47.57**	**358**	*ce*P	**P**	**03 05 24.3**	**+0.7**
SIM				*e*		03 07 16.0	
SIM				*e*S	**S**	**03 12 20.0**	**+1.0**
SIM				pmax	pmax		
	comp=Z,70nm,8.7s						
SIM				pmax	pmax		
	comp=Z,140nm,11.0s						
SIM				MLR	MLR		
	comp=Z,700nm,20.0s,MS4.6						
SGG	**Gregorio Mates**	**48.26**	**338**	P	**P**	**03 05 31.4**	**+2.4**
KBL	**Kabul**	**48.28**	**37**	*e*P	**P**	**03 05 29.6**	**+0.4**
	comp=Z,24nm,1.0s,mb5.2						
RFI	**Roccamonfina**	**48.33**	**338**	P	**P**	**03 05 31.1**	**+1.5**
	comp=Z,16nm,1.6s,mb4.8						
STON	**Ston**	**48.43**	**342**	P	**P**	**03 05 28.7**	**-1.6**
SDI	**San Donato**	**48.75**	**338**	P	**P**	**03 05 33.0**	**+0.2**
SDI				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.3						
SDI	**San Donato**	**48.75**	**338**	P	**P**	**03 05 33.0**	**+0.2**
	comp=Z,44nm,1.4s,mb5.3						
DIVS	**Divibare**	**48.90**	**345**	*e*P	**P**	**03 05 34.1**	**+0.2**
MLR	**Muntele Rosu**	**48.93**	**350**	P	**P**	**03 05 34.4**	**+0.3**
	comp=Z,5.7nm,0.9s,mb4.6,baz=145,slow=8.8,SNR=9.1						
MLR				PcP	PcP	03 06 58.6	+0.2
	comp=Z,23nm,1.2s,baz=77,slow=4.4,SNR=7.7						
MLR	**Muntele Rosu**	**48.93**	**350**	P	**P**	**03 05 34.6**	**+0.5**
PTQR	**Pietraguaria**	**49.17**	**338**	P	**P**	**03 05 37.2**	**+1.2**
	comp=Z,18nm,1.0s,mb5.1						
VRI	**Vrincioaia**	**49.17**	**351**	P	**P**	**03 05 36.8**	**+0.9**
RDP	**Rocca di Papa**	**49.21**	**337**	P	**P**	**03 05 37.1**	**+0.8**
CERT	**Cerreto**	**49.27**	**337**	P	**P**	**03 05 37.0**	**+0.2**
MTCE	**Montecelio**	**49.43**	**337**	P	**P**	**03 05 40.0**	**+2.0**
GZR	**Gura Zlata**	**49.44**	**348**	⇓*i* P	**P**	**03 05 38.3**	**+0.3**
GZR	**Gura Zlata**	**49.44**	**348**	P	**P**	**03 05 38.2**	**+0.2**
AQU	**L'Aquila**	**49.46**	**338**	⇓*i* P	**P**	**03 05 38.3**	**+0.1**
AQU	**L'Aquila**	**49.46**	**338**	*e*P	**P**	**03 05 39.7**	**+1.5**
AQU				LR	LR		
	comp=Z,897nm,21.0s,MS4.7						
NRCA	**Norcia**	**49.98**	**338**	P	**P**	**03 05 42.2**	**0.0**
	comp=Z,30nm,1.1s,mb5.2						
KIS	**Kishinev**	**50.01**	**353**	*e*P	**P**	**03 05 42.0**	**-0.3**
KIS				*e*		03 07 42.0	
KIS				*e*S	**S**	**03 13 05.0**	**+12**
KIS				MLR	MLR		
	comp=

comp=Z,85nm,1.4s,mb5.2
FRF La Foret Royal 53.25 333 *e*P **P 03 06 06.0 -0.6**
FRF pmax pmax
comp=Z,42nm,1.4s,mb5.2
FRF La Foret Royal 53.25 333 *e*P **P 03 06 06.0 -0.6**
comp=Z,42nm,1.4s,mb5.2
CTI Castel Tesino 53.27 339 P **P 03 06 07.1 +0.3**
CTI pmax pmax
comp=Z,87nm,1.4s,mb5.5
CTI Castel Tesino 53.27 339 P **P 03 06 07.1 +0.3**
comp=Z,87nm,1.4s,mb5.5
LVV L'vov 53.45 350 *e*P **P 03 06 08.5 +0.5**
LVV *e*S **S 03 13 40.3 -0.3**
ZST Bratislava 53.45 344 *e*P **P 03 06 05.6 -2.4**
ZST pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ZST Bratislava 53.45 344 *e*P **P 03 06 05.6 -2.4**
comp=Z,9.3nm,1.0s,mb4.7
KOLL Kolacno 53.46 345 *e*P **P 03 06 07.9 -0.2**
KWP Kalwaria 53.51 349 *e*P **P 03 06 08.3 -0.1**
KWP *e*pP pP 03 06 13.4 +2.7
KWP LMZ 03 30 09.0
comp=Z,500nm,23.2s
KWP Kalwaria 53.51 349 ⇑P **P 03 06 08.7 +0.3**
KWP Kalwaria 53.51 349 ⇑*i*P **P 03 06 08.7 +0.3**
KWP Kalwaria 53.51 349 *e*P **P 03 06 08.3 -0.1**
KWP *e*pP pP 03 06 13.4 +2.7
KWP LR LR
comp=Z,527nm,20.0s,MS4.6
CONA Conrad Observa 53.56 343 *i*P **P 03 06 09.0 +0.2**
comp=Z,29nm,1.2s,mb5.1,SNR=16
CSNA Conrad Observa 53.56 343 ⇑*i*P **P 03 06 09.1 +0.3**
comp=Z,29nm,1.2s,mb5.1
MODS Modra-Piesok 53.57 344 *e*P **P 03 06 08.0 -0.9**
MODS pmax pmax
comp=Z,13nm,1.3s,mb4.7
MODS Modra-Piesok 53.57 344 *e*P **P 03 06 08.0 -0.9**
MODS *e*PcP PcP 03 07 14.1 -1.4
MODS *e*PP PP 03 08 07.8 -1.8
MODS *e*S **S 03 13 43.3 +1.0**
MODS *e*SS SS 03 17 42.1 +19
MODS Modra-Piesok 53.57 344 *e*P **P 03 06 08.0 -0.9**
comp=Z,13nm,1.3s,mb4.7
MODS *e*PcP PcP 03 07 14.1 -1.4
MODS *e*PP PP 03 08 07.8 -1.8
MODS *e*S **S 03 13 43.4 +1.1**
MODS *e*SS SS 03 17 42.1 +19
KBA Koelnbreinsper 53.58 341 ⇑*i*P **P 03 06 09.4 +0.4**
comp=Z,28nm,1.3s,mb5.0
KBA Koelnbreinsper 53.58 341 ⇑*i*P **P 03 06 09.4 +0.4**
KBA pmax pmax
comp=Z,28nm,1.3s,mb5.0
STHS Stebnicka Huta 53.59 348 *i*P **P 03 06 09.1 +0.1**
STHS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
STHS Stebnicka Huta 53.59 348 *i*P **P 03 06 09.1 +0.1**
comp=Z,2.4nm,0.8s,mb4.2
KIEV Kiev 53.62 354 *e*P **P 03 06 08.1 -1.1**
KIEV pmax pmax
comp=Z,40nm,1.3s,mb5.2
KIEV MLR MLR
comp=Z,524nm,20.0s,MS4.6
KIEV Kiev 53.62 354 *e*P **P 03 06 08.1 -1.0**
comp=Z,40nm,1.3s,mb5.2
KIEV LR LR
comp=Z,524nm,20.0s,MS4.6
AKASG Malin Array Be 53.62 354 P **P 03 06 08.2 -1.0**
comp=Z,18nm,1.0s,mb4.9,baz=181,slow=6.7,SNR=48
AKASG PcP PcP 03 07 15.6 -0.1
comp=Z,5.7nm,0.9s,baz=179,slow=4.4,SNR=6.9
AKASG LR LR 03 29 42.9
comp=Z,459nm,19.4s,MS4.5,baz=180,slow=37
AKASG Malin Array Be 53.62 354 P **P 03 06 08.2 -1.0**
AKASG 03 07 15.6
AKBB Malin Array Si 53.62 354 *e*P **P 03 06 08.6 -0.6**
MABI Malga Bissina 53.70 338 P **P 03 06 11.8 +1.9**
APPI Appiano 53.79 339 P **P 03 06 11.1 +0.5**
NIE Niedzica 53.79 347 *e*P **P 03 06 10.8 +0.3**
MOA Molln 53.97 342 *i*P **P 03 06 11.9 +0.1**
comp=Z,43nm,1.2s,mb5.2,SNR=15
SMRF Simiane la Rot 54.06 333 *e*P **P 03 06 11.8 -0.7**
comp=Z,90nm,1.4s,mb5.2
SMRF Simiane la Rot 54.06 333 *e*P **P 03 06 11.8 -0.7**
comp=Z,90nm,1.4s,mb5.5
MBDF Montbardon 54.12 334 *e*P **P 03 06 13.1 +0.1**
comp=Z,65nm,1.3s,mb5.1
MBDF Montbardon 54.12 334 *e*P **P 03 06 13.1 +0.1**
MBDF pmax pmax
comp=Z,33nm,1.3s,mb5.1
MBDF Montbardon 54.12 334 *e*P **P 03 06 13.1 +0.1**
comp=Z,32nm,1.3s,mb5.1
WTTA Wattenberg 54.32 340 ⇑*i*P **P 03 06 14.7 +0.3**
comp=Z,38nm,1.2s,mb5.2,SNR=16
WTTA Wattenberg 54.32 340 ⇑*i*P **P 03 06 14.7 +0.3**
WTTA pmax pmax
comp=Z,38nm,1.2s,mb5.2
BNI Bardonecchia 54.42 335 *e*P **P 03 06 15.7 +0.6**
BNI pmax pmax
comp=Z,38nm,1.2s,mb5.2
BNI MLR MLR
comp=Z,2μm,20.0s,MS5.1
BNI Bardonecchia 54.42 335 *e*P **P 03 06 15.7 +0.5**
comp=Z,38nm,1.2s,mb5.2
BNI LR LR
comp=Z,2μm,20.0s,MS5.1
FETA Feichten 54.44 339 *i*P **P 03 06 15.9 +0.6**
comp=Z,30nm,1.7s,mb5.0,SNR=13
TUE Stuetta 54.49 337 *e*P **P 03 06 15.5 -0.2**
comp=Z,43nm,1.4s,mb5.2
TUE LR LR
comp=Z,773nm,20.0s,MS4.8
MOTA Moosalm 54.58 339 ⇓*i*P **P 03 06 15.1 -1.1**
comp=Z,68nm,1.9s,mb5.4,SNR=7.4
MOTA Moosalm 54.58 339 ⇓*i*P **P 03 06 15.1 -1.2**
MOTA pmax pmax
comp=Z,68nm,1.9s,mb5.3
RTC Rabat Centre 54.59 316 PFAKE 03 06 30.0 +13
RTC LR LR
comp=Z,3μm,20.0s,MS5.3
VRAC Vranov 54.60 344 ⇑*i*P **P 03 06 15.9 -0.5**
VRAC Vranov 54.60 344 ⇑P **P 03 06 15.9 -0.5**
ORIF Oris-en-Rattie 54.66 334 *e*P **P 03 06 16.6 -0.3**
comp=Z,61nm,1.5s,mb5.1
ORIF *e*MLR MLR
comp=Z,2μm,22.8s,MS4.7
ORIF Oris-en-Rattie 54.66 334 *e*P **P 03 06 16.6 -0.3**
ORIF pmax pmax
comp=Z,30nm,1.5s,mb5.1
ORIF Oris-en-Rattie 54.66 334 *e*P **P 03 06 16.6 -0.3**
comp=Z,30nm,1.5s,mb5.1
OJC Ojcow 54.66 347 *e*P **P 03 06 15.5 -1.3**
OJC *e*PcP PcP 03 07 18.7 -0.9
OJC *e*S **S 03 13 49.7 -7.3**
OJC *e*SS SS 03 17 31.1 -9.0
OJC L 03 30 04.6
comp=Z,0.6nm,23.3s
OKC Ostrava-Krasne 54.69 346 *e*S **S 03 14 01.1 +3.7**
OKC AMS AMS 03 31 40.0
comp=Z,600nm,17.1s
LPG La Plagne 54.74 335 *e*P **P 03 06 16.6 -0.9**
comp=Z,44nm,1.2s,mb5.1
LPG La Plagne 54.74 335 *e*P **P 03 06 16.6 -0.9**
LPG pmax pmax
comp=Z,22nm,1.2s,mb5.1
LPG La Plagne 54.74 335 *e*P **P 03 06 16.6 -0.9**
comp=Z,22nm,1.2s,mb5.1
LPL La Plagne 54.76 335 *e*P **P 03 06 17.9 +0.2**
comp=Z,81nm,1.3s,mb5.3
LPL La Plagne 54.76 335 *e*P **P 03 06 17.9 +0.2**
LPL pmax pmax
comp=Z,40nm,1.3s,mb5.3
LPL La Plagne 54.76 335 *e*P **P 03 06 17.9 +0.2**
comp=Z,40nm,1.3s,mb5.3
KOLN Koldanda 54.77 53 *e*P **P 03 06 17.6 -0.5**
comp=Z,303nm,1.4s,mb6.2
MORC Moravsky Berou 54.79 345 ⇑*i*P **P 03 06 17.6 -0.1**
MORC Moravsky Berou 54.79 345 *e*P **P 03 06 17.4 -0.3**
comp=Z,12nm,0.9s,mb4.9
RETA Reutte 54.82 339 *i*P **P 03 06 17.9 -0.2**
comp=Z,43nm,1.4s,mb5.3,SNR=16
TREC Trest 54.90 344 *e*P **P 03 06 17.7 -0.8**
TREC *e*x x 03 13 55.7
TREC AMS AMS 03 34 30.0
comp=Z,900nm,16.6s
LASF Ste Croix 54.93 332 *e*P **P 03 06 19.0 +0.1**
comp=Z,54nm,1.3s,mb5.1

DAVA Damuels 54.97 338 *i*P **P 03 06 18.9 -0.2**
comp=Z,53nm,1.5s,mb5.3,SNR=12
GEC2 GERESS Array S 55.02 342 *e*P **P 03 06 19.3 -0.2**
GEC2 *e* 03 07 20.6
GEC2 pmax pmax
comp=Z,60nm,1.4s,mb5.4
GEC2 GERESS Array S 55.02 342 *e*P **P 03 06 19.3 -0.2**
comp=Z,60nm,1.4s,mb5.4
GEC2 *e*PcP PcP 03 07 20.6 -0.5
GERES GERESS Array B 55.02 342 P **P 03 06 19.3 -0.2**
comp=Z,13nm,1.0s,mb4.9,baz=151,slow=5.8,SNR=52
GERES LR LR 03 34 14.7
comp=Z,593nm,19.4s,MS4.7,baz=146,slow=41
VIVF Saint-Julien-I 55.15 333 *e*P **P 03 06 20.4 0.0**
comp=Z,155nm,1.7s,mb5.5
VIVF Saint-Julien-I 55.15 333 *e*P **P 03 06 20.4 0.0**
VIVF pmax pmax
comp=Z,77nm,1.7s,mb5.5
VIVF Saint-Julien-I 55.15 333 *e*P **P 03 06 20.4 0.0**
comp=Z,77nm,1.7s,mb5.5
KK31 Karatay Array 55.15 30 P **P 03 06 19.6 -0.9**
KK31 pmax pmax
comp=Z,11nm,0.8s,mb4.9
KK31 Karatay Array 55.15 30 *i*P **P 03 06 19.6 -0.9**
DANN Dangsing 55.16 52 *e*P **P 03 06 20.4 -0.4**
comp=Z,170nm,0.8s,mb6.1
MTLF Montolieu 55.17 330 *e*P **P 03 06 20.4 -0.3**
comp=Z,16nm,1.0s,mb4.7
MTLF Montolieu 55.17 330 *e*P **P 03 06 20.4 -0.3**
MTLF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MTLF Montolieu 55.17 330 *e*P **P 03 06 20.4 -0.3**
comp=Z,8.1nm,1.0s,mb4.7
FUR Furstenfeldbru 55.22 340 *e*P **P 03 06 21.3 +0.4**
FUR pmax pmax
comp=Z,61nm,1.7s,mb5.3
FUR Furstenfeldbru 55.22 340 *e*P **P 03 06 21.3 +0.4**
comp=Z,61nm,1.7s,mb5.3
KHC Kasperske Hory 55.31 342 *e*P **P 03 06 20.7 -0.9**
KHC *e*x x 03 06 40.0
KHC *e*S **S 03 14 01.2 -4.6**
KHC AMS AMS 03 34 10.0
comp=Z,900nm,16.1s
SSB Saint Sauveur 55.53 333 *e*P **P 03 06 24.0 +0.8**
SFS San Fernando 55.54 319 PFAKE 03 06 40.0 +17
SFS LR LR
comp=Z,5μm,19.0s,MS5.6
WET Wettzell 55.54 342 *e*P **P 03 06 22.5 -0.7**
WET *e* 03 07 23.0
WET pmax pmax
comp=Z,25nm,1.4s,mb5.0
WET Wettzell 55.54 342 *e*P **P 03 06 22.5 -0.7**
comp=Z,25nm,1.4s,mb5.0
WET *e*PcP PcP 03 07 23.0 -0.1
MELF Melles 55.57 329 *e*P **P 03 06 24.7 +1.1**
DPC Dobruska-Polom 55.63 345 *e*P **P 03 06 22.7 -1.1**
DPC *e*x x 03 14 12.1
DPC AMS AMS 03 32 50.0
comp=Z,500nm,23.6s
GKN Gorkha 55.70 53 *e*P **P 03 06 24.0 -0.8**
comp=Z,45nm,0.9s,mb5.5
KSH Kashi 55.72 37 *e*P **P 03 06 27.0 +2.3**
KSH AP pP 03 06 32.3 +5.3
KSH XP sP 03 06 34.6 +6.7
KSH PCP PcP 03 07 26.3 +2.3
KSH PP PP 03 08 33.5 +4.3
KSH PPP 03 09 48.8
KSH SCP ScP 03 11 23.3 -0.3
KSH PCS PcS 03 11 25.4 +1.3
KSH S **S 03 14 12.3 +0.7**
KSH XS sS 03 14 20.0 +4.6
KSH SCS ScS 03 16 12.5 -2.1
KSH AMB AMB
comp=Z,90nm,0.5s,mb6.1
KSH AMB AMB
comp=Z,736nm,6.0s
KSH LR LR
comp=N,3μm,11.1s,MS5.6
KSH LR LR
comp=E,2μm,11.3s,MS5.6
KSH LR LR
comp=Z,2μm,13.6s,MS5.3
AB31 Akbulak array 55.77 19 *i*P **P 03 06 23.5 -1.3**
AB31 pmax pmax
comp=Z,44nm,1.3s,mb5.3
AB31 Akbulak array 55.77 19 *i*P **P 03 06 23.6 -1.2**
AB31 Akbulak array 55.77 19 *i*P **P 03 06 23.6 -1.2**
PRU Pruhonice 55.79 343 *e*P **P 03 06 25.0 0.0**
PRU *e*S **S 03 14 03.2 -9.0**
PRU AMS AMS 03 34 30.0
comp=Z,700nm,18.2s
UPC Upice 55.85 345 *e*P **P 03 06 24.7 -0.7**
EPF Esparros 55.90 329 *e*P **P 03 06 26.2 +0.3**
comp=Z,75nm,1.6s,mb5.2
EPF Esparros 55.90 329 *e*P **P 03 06 26.2 +0.3**
EPF pmax pmax
comp=Z,38nm,1.6s,mb5.2
EPF Esparros 55.90 329 *e*P **P 03 06 26.2 +0.3**
comp=Z,38nm,1.6s,mb5.2
CABF La Chapelle 55.91 335 *e*P **P 03 06 25.1 -0.8**
comp=Z,104nm,1.6s,mb5.3
CABF La Chapelle 55.91 335 *e*P **P 03 06 25.1 -0.8**
CABF pmax pmax
comp=Z,52nm,1.6s,mb5.3
CABF La Chapelle 55.91 335 *e*P **P 03 06 25.1 -0.8**
comp=Z,52nm,1.6s,mb5.3
DMN Daman 55.91 54 *e*P **P 03 06 26.0 -0.3**
comp=Z,98nm,1.1s,mb5.8
BBS Basel-Blauen 56.02 337 *e*P **P 03 06 26.7 0.0**
LABF Labassere 56.05 329 *e*P **P 03 06 28.0 +1.0**
SPAK Spaichingen-Ko 56.06 338 *e*P **P 03 06 27.1 +0.2**
ESDC Sonseca Array 56.06 323 P **P 03 06 27.5 +0.3**
comp=Z,5.0nm,0.9s,mb4.5,baz=130,slow=7.2,SNR=17
ESDC PcP PcP 03 07 25.5 +0.1
comp=Z,3.6nm,0.9s,baz=117,slow=4.0,SNR=4.7
ESDC LR LR 03 32 39.2
comp=Z,2μm,18.0s,MS5.3,baz=135,slow=38
KSP Ksiaz 56.09 345 *e*P **P 03 06 28.2 +1.1**
KSP LMZ 03 32 58.7
comp=Z,900nm,22.2s
KSP Ksiaz 56.09 345 ⇑*e*P **P 03 06 28.1 +1.0**
KSP *e*PcP PcP 03 07 27.4 +2.3
KSP *e*S **S 03 14 10.0 -6.1**
KSP *e*SS SS 03 18 06.0 +3.5
KSP LR LR
comp=Z,1μm,22.2s,MS4.9
LBL Lubilhac 56.09 332 *e*P **P 03 06 28.2 +1.0**
COLF Collangettes 56.10 333 *e*P **P 03 06 28.2 +0.9**
KKN Kakani 56.13 54 *e*P **P 03 06 27.2 -0.7**
comp=Z,183nm,1.2s,mb6.0
AML Almayashu 56.13 33 P **P 03 06 27.6 0.0**
SNR=15
AML Almayashu 56.13 33 PFAKE 03 06 40.0 +12
AML LR LR
comp=Z,901nm,22.0s,MS4.8
PKI Pulchoki 56.14 54 *e*P **P 03 06 27.0 -1.0**
comp=Z,94nm,1.3s,mb5.7
PKI Pulchoki 56.14 54 *e*P **P 03 06 27.0 -1.0**
PKI pmax pmax
comp=Z,94nm,1.3s,mb5.7
FELD Feldberg im Sc 56.17 337 *e*P **P 03 06 27.8 +0.1**
LOMF Lomont 56.20 336 *e*P **P 03 06 28.4 +0.5**
PAB San Pablo 56.22 323 PFAKE 03 06 40.0 +12
PAB LR LR
comp=Z,3μm,20.0s,MS5.3
AKTK Aktyubinsk 56.23 17 P **P 03 06 27.6 -0.6**
AKTO Aktyubinsk 56.23 17 P **P 03 06 27.6 -0.6**
comp=Z,29nm,1.0s,mb5.3,baz=205,slow=7.2,SNR=53
PVCC Panska Ves 56.27 344 AMS AMS 03 33 50.0
comp=Z,600nm,18.0s
ETSF Etsaut 56.28 328 *e*P **P 03 06 28.8 +0.2**
comp=Z,82nm,1.3s,mb5.3
ETSF Etsaut 56.28 328 *e*P **P 03 06 28.8 +0.2**
ETSF pmax pmax
comp=Z,41nm,1.3s,mb5.3
ETSF Etsaut 56.28 328 *e*P **P 03 06 28.8 +0.2**
comp=Z,41nm,1.3s,mb5.3
ROTZ Rotzenmuhle 56.30 342 *e*P **P 03 06 28.1 -0.5**
comp=Z,29nm,1.3s,mb5.2
WAR Warsaw 56.32 349 *e*P **P 03 06 28.5 -0.2**
WAR LMZ 03 30 19.4
comp=Z,500nm,28.7s
WAR Warsaw 56.32 349 *e*P **P 03 06 28.5 -0.2**
WAR LR LR
comp=Z,500nm,28.7s,MS4.5

CAF Calviac 56.41 331 *e*P **P 03 06 29.7 +0.2**
comp=Z,90nm,1.4s,mb5.3
CAF Calviac 56.41 331 *e*P **P 03 06 29.7 +0.2**
CAF pmax pmax
comp=Z,45nm,1.4s,mb5.3
CAF Calviac 56.41 331 *e*P **P 03 06 29.7 +0.2**
comp=Z,45nm,1.4s,mb5.3
BFO Black Forest 56.42 338 *e*P **P 03 06 29.6 +0.1**
comp=Z,45nm,1.5s,mb5.3
BFO LR LR
comp=Z,504nm,20.0s,MS4.6
STU Stuttgart 56.47 339 *e*P **P 03 06 31.4 +1.6**
comp=Z,24nm,0.9s,mb5.2
PLDF La Plantade 56.48 333 *e*P **P 03 06 31.7 +1.7**
MOF Molkenrain 56.48 337 *e*P **P 03 06 30.1 +0.1**
MANZ Manzenberg 56.52 342 *e*P **P 03 06 29.6 -0.6**
comp=Z,27nm,1.3s,mb5.1
MANZ *e*PcP PcP 03 07 29.1 +2.2
EKS2 Erkin-Say 56.54 33 P **P 03 06 30.6 +0.1**
SNR=11
EKS2 Erkin-Say 56.54 33 PFAKE 03 06 40.0 +10
EKS2 LR LR
comp=Z,1μm,22.0s,MS4.9
GRA1 Grafenberg Arr 56.55 341 *e*P **P 03 06 28.9 -1.5**
comp=Z,42nm,1.4s,mb5.3
GRA1 *e*PcP PcP 03 07 27.6 +0.6
GRA1 *e*S **S 03 14 26.5 +4.2**
GRA1 *e*SS SS 03 18 08.3 -1.7
GRA1 LR LR
comp=Z,400nm,20.7s,MS4.5
GRF Grafenberg Arr 56.55 341 *e*P **P 03 06 28.9 -1.5**
GRF *e* 03 07 27.6
GRF *e*S **S 03 14 26.5 +4.2**
GRF *e*SS SS 03 18 08.3 -1.7
GRF pmax pmax
comp=Z,42nm,1.4s,mb5.3
GRF MLR MLR
comp=Z,400nm,20.7s,MS4.5
GRF Grafenberg Arr 56.55 341 *e*P **P 03 06 28.9 -1.5**
GRF *e* 03 07 27.6
GRF *e*S **S 03 14 26.5 +4.2**
GRF *e*SS SS 03 18 08.3 -1.7
GRF *e*L 03 32 05.4
comp=Z,368nm,20.7s
HINF Hinteralfeld 56.56 337 *e*P **P 03 06 29.9 -0.7**
comp=Z,87nm,1.7s,mb5.2
HINF Hinteralfeld 56.56 337 *e*P **P 03 06 29.9 -0.7**
HINF pmax pmax
comp=Z,44nm,1.7s,mb5.2
HINF Hinteralfeld 56.56 337 *e*P **P 03 06 29.9 -0.7**
comp=Z,44nm,1.7s,mb5.2
PYM Petit Puy Mans 56.59 333 *e*P **P 03 06 31.9 +1.1**
NKC Novy Kostel 56.63 342 *e*P **P 03 06 31.2 +0.2**
NKC *e*S **S 03 14 26.3 +2.9**
NKC AMS AMS 03 33 50.0
comp=Z,1μm,17.2s
NKC Novy Kostel 56.63 342 *e*P **P 03 06 31.2 +0.2**
NKC *e*S **S 03 14 26.3 +2.9**
GUN Gumba 56.66 54 *e*P **P 03 06 31.3 -0.4**
comp=Z,208nm,1.0s,mb6.1
BRG Berggiesshubel 56.76 343 *e*P **P 03 06 32.4 +0.6**
BRG *e* 03 07 28.5
BRG S **S 03 14 24.0 -1.0**
BRG SS SS 03 18 12.0 -1.1
BRG pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
BRG MLR MLR
comp=Z,330nm,19.3s,MS4.4
BRG Berggiesshubel 56.76 343 *e*P **P 03 06 32.2 +0.4**
BRG *e*PcP PcP 03 07 28.5 +0.8
BRG Berggiesshubel 56.76 343 *e*P **P 03 06 32.4 +0.6**
comp=Z,14nm,1.4s,mb4.8
BRG *e* 03 07 28.5
comp=Z,15nm,1.4s
BRG *i* 03 07 31.0
BRG S **S 03 14 24.0 -1.0**
BRG SS SS 03 18 12.0 -1.1
BRG
comp=N,758nm,22.3s
BRG
comp=E,334nm,17.2s
BRG
comp=Z,558nm,19.3s
BRG Berggiesshubel 56.76 343 *e*P **P 03 06 32.4 +0.6**
comp=Z,8.4nm,1.4s,mb4.6
BRG *e* 03 07 28.5
BRG *i* 03 07 31.0
BRG S **S 03 14 24.0 -1.0**
BRG SS SS 03 18 12.0 -1.1
BRG LR LR
comp=Z,330nm,19.3s,MS4.4
AGO Saint Agoulin 56.76 333 *e*P **P 03 06 32.7 +0.7**
ECH Echery 56.77 337 *e*P **P 03 06 31.9 -0.1**
ECH Echery 56.77 337 *e*P **P 03 06 31.4 -0.6**
SJPF Ste Jean 56.78 328 *e*P **P 03 06 32.5 +0.3**
comp=Z,152nm,1.4s,mb5.5
SJPF Ste Jean 56.78 328 *e*P **P 03 06 32.5 +0.3**
SJPF pmax pmax
comp=Z,76nm,1.4s,mb5.5
SJPF Ste Jean 56.78 328 *e*P **P 03 06 32.5 +0.3**
comp=Z,76nm,1.4s,mb5.5
CDF Champ du Feu 56.88 337 *e*P **P 03 06 31.9 -0.9**
comp=Z,88nm,1.4s,mb5.3
CDF Champ du Feu 56.88 337 *e*P **P 03 06 31.9 -0.9**
CDF pmax pmax
comp=Z,44nm,1.4s,mb5.3
CDF Champ du Feu 56.88 337 *e*P **P 03 06 31.9 -0.9**
comp=Z,44nm,1.4s,mb5.3
SMF Signal de Mont 56.90 334 *e*P **P 03 06 32.4 -0.5**
comp=Z,134nm,1.5s,mb5.4
SMF Signal de Mont 56.90 334 *e*P **P 03 06 32.4 -0.5**
SMF pmax pmax
comp=Z,67nm,1.5s,mb5.5
SMF Signal de Mont 56.90 334 *e*P **P 03 06 32.4 -0.5**
comp=Z,67nm,1.5s,mb5.5
AAK Ala-Archa 56.91 33 P **P 03 06 32.9 -0.2**
SNR=11
HAU Haudompre 56.92 336 *e*P **P 03 06 32.3 -0.8**
comp=Z,98nm,1.6s,mb5.3
HAU *e*MLR MLR
comp=Z,862nm,20.2s,MS4.5
HAU Haudompre 56.92 336 *e*P **P 03 06 32.3 -0.8**
HAU pmax pmax
comp=Z,49nm,1.6s,mb5.3
HAU MLR MLR
comp=Z,860nm,20.3s,MS4.8
HAU Haudompre 56.92 336 *e*P **P 03 06 32.3 -0.8**
comp=Z,49nm,1.6s,mb5.3
HAU LR LR
comp=Z,860nm,20.3s,MS4.8
RJF Les Rejaudoux 56.96 331 *e*P **P 03 06 33.6 +0.2**
comp=Z,126nm,1.4s,mb5.5
RJF *e*MLR MLR
comp=Z,2μm,21.2s,MS4.9
RJF Les Rejaudoux 56.96 331 *e*P **P 03 06 33.6 +0.2**
RJF pmax pmax
comp=Z,63nm,1.4s,mb5.5
RJF MLR MLR
comp=Z,2μm,21.3s,MS5.2
RJF Les Rejaudoux 56.96 331 *e*P **P 03 06 33.6 +0.2**
comp=Z,63nm,1.4s,mb5.5
RJF LR LR
comp=Z,2μm,21.3s,MS5.2
LFF La Frestale 57.07 331 *e*P **P 03 06 34.4 +0.2**
comp=Z,140nm,1.4s,mb5.5
LFF La Frestale 57.07 331 *e*P **P 03 06 34.4 +0.2**
LFF pmax pmax
comp=Z,70nm,1.4s,mb5.5
LFF La Frestale 57.07 331 *e*P **P 03 06 34.4 +0.2**
comp=Z,70nm,1.4s,mb5.5
FRU Bishkek 57.11 33 *e*P **P 03 06 34.0 -0.5**
FRU pmax pmax
comp=Z,40nm,1.2s,mb5.3
LANF Langenberg 57.15 338 *e*P **P 03 06 34.7 0.0**
KBK Karagaybulak 57.17 33 P **P 03 06 35.1 +0.1**
SNR=27
AVF Avril sur Loir 57.22 334 *e*P **P 03 06 34.9 -0.4**

comp=Z,108nm,1.4s,mb5.4
AVF Avril sur Loir 57.22 334 *e*P **P 03 06 34.9 -0.4**
AVF pmax pmax
comp=Z,54nm,1.4s,mb5.4
AVF Avril sur Loir 57.22 334 *e*P **P 03 06 34.9 -0.4**
comp=Z,54nm,1.4s,mb5.4
THEF They Montfort 57.24 336 *e*P **P 03 06 34.3 -1.0**
MOX Moxa 57.25 342 *e*P **P 03 06 35.1 -0.3**
comp=Z,37nm,1.8s,mb5.1
MOX *e* 03 07 31.3
MOX *e* 03 10 09.0
MOX
comp=Z,400nm,18.0s
MOX Moxa 57.25 342 *e*P **P 03 06 35.1 -0.3**
MOX *e* 03 07 31.3
MOX *e* 03 10 09.0
MOX pmax pmax
comp=Z,37nm,1.8s,mb5.1
MOX MLR MLR
comp=Z,400nm,18.0s,MS4.6
MOX Moxa 57.25 342 *e*P **P 03 06 34.9 -0.5**
comp=Z,40nm,1.6s,mb5.2
BGF Bois d'Agland 57.27 333 *e*P **P 03 06 35.3 -0.3**
comp=Z,96nm,1.4s,mb5.3
BGF Bois d'Agland 57.27 333 *e*P **P 03 06 35.3 -0.3**
BGF pmax pmax
comp=Z,48nm,1.4s,mb5.3
BGF Bois d'Agland 57.27 333 *e*P **P 03 06 35.3 -0.3**
comp=Z,48nm,1.4s,mb5.3
CHMS Chumysh 57.30 33 P **P 03 06 34.8 -1.1**
SNR=14
TOD Tromm 57.31 339 *e*P **P 03 06 36.0 +0.2**
USP Ospenovka 57.34 33 P **P 03 06 34.6 -1.6**
SNR=12
TCF Toulx Ste Croi 57.36 333 *e*P **P 03 06 36.6 +0.4**
comp=Z,183nm,1.3s,mb5.7
TCF Toulx Ste Croi 57.36 333 *e*P **P 03 06 36.6 +0.4**
TCF pmax pmax
comp=Z,92nm,1.3s,mb5.7
TCF Toulx Ste Croi 57.36 333 *e*P **P 03 06 36.6 +0.4**
comp=Z,92nm,1.3s,mb5.7
SSF Saint Saulge 57.36 334 *e*P **P 03 06 35.6 -0.6**
comp=Z,32nm,1.2s,mb4.9
SSF Saint Saulge 57.36 334 *e*P **P 03 06 35.6 -0.6**
SSF pmax pmax
comp=Z,16nm,1.2s,mb4.9
SSF Saint Saulge 57.36 334 *e*P **P 03 06 35.6 -0.6**
comp=Z,16nm,1.2s,mb4.9
LOR Lormes 57.37 334 *e*P **P 03 06 35.8 -0.5**
comp=Z,102nm,1.5s,mb5.3
LOR *e*MLR MLR
comp=Z,1μm,21.0s,MS4.6
LOR Lormes 57.37 334 *e*P **P 03 06 35.8 -0.5**
LOR pmax pmax
comp=Z,51nm,1.5s,mb5.3
LOR MLR MLR
comp=Z,1μm,21.0s,MS4.9
LOR Lormes 57.37 334 *e*P **P 03 06 35.8 -0.5**
comp=Z,51nm,1.5s,mb5.3
LOR LR LR
comp=Z,1μm,21.0s,MS4.9
CLL Collm 57.41 343⇑ *i*P **P 03 06 35.5 -1.0**
CLL *e* 03 06 43.0
CLL *i* 03 07 32.5
CLL *e*S **S 03 14 34.0 +0.4**
CLL pmax pmax
comp=Z,27nm,1.4s,mb5.1
CLL MLR MLR
comp=Z,900nm,20.7s,MS4.9
CLL Collm 57.41 343 *e*P **P 03 06 35.7 -0.8**
comp=Z,27nm,1.4s,mb5.1
CLL *e*PcP PcP 03 07 32.3 +2.0
CLL Collm 57.41 343⇑ *i*P **P 03 06 35.5 -1.0**
comp=Z,27nm,1.4s,mb5.1
CLL *e*x x 03 06 40.0
CLL *i* PcP PcP 03 07 32.5 +2.2
comp=Z,22nm,1.5s
CLL *e*PP PP 03 08 49.0 +5.0
comp=Z,31nm,2.0s
CLL *e*PPP 03 10 09.0
CLL *e*S **S 03 14 34.0 +0.4**
comp=N,500nm,32.3s
CLL *e*S **S 03 14 34.0 +0.4**
comp=E,100nm,29.8s
CLL *e*SS SS 03 18 31.0 +7.5
CLL Lm 03 34 00.0
comp=N,700nm,20.5s
CLL Lm 03 34 00.0
comp=E,300nm,21.0s
CLL Lm 03 34 00.0
comp=Z,900nm,20.7s
CLL Collm 57.41 343⇑ *i*P **P 03 06 35.5 -1.0**
comp=Z,27nm,1.4s,mb5.1
CLL *e* 03 06 43.0
CLL *i* PcP PcP 03 07 32.5 +2.2
CLL *e*S **S 03 14 34.0 +0.4**
CLL LR LR
comp=Z,900nm,20.7s,MS4.9
ODAN Odare 57.48 56 *e*P **P 03 06 36.6 -0.9**
comp=Z,27nm,0.9s,mb5.3
ULHL Ulahol 57.62 34 P **P 03 06 38.0 -0.1**
SNR=22
SUW Suwalki 57.64 351 *e*P **P 03 06 37.6 -0.5**
comp=Z,400nm,1.3s,mb6.3
SUW LMZ 03 36 31.0
comp=Z,700nm,18.6s
OBN Obninsk 57.71 0 *d e*P **P 03 06 37.6 -0.9**
OBN 03 07 31.0
OBN 03 08 47.0
OBN *e*S **S 03 14 47.7 +10**
OBN *e*SS SS 03 18 27.4 -0.5
OBN pmax pmax
comp=Z,34nm,1.2s,mb5.2
OBN Obninsk 57.71 0 *i* P **P 03 06 37.1 -1.4**
OBN LR LR
comp=Z,509nm,20.0s,MS4.6
TKM2 Tokmak 2 57.71 33 P **P 03 06 38.2 -0.5**
SNR=66
TKM2 Tokmak 2 57.71 33 PFAKE 03 06 50.0 +11
TKM2 LR LR
comp=Z,987nm,21.0s,MS4.9
MEZF Maizieres J'vi 57.84 336 *e*P **P 03 06 39.6 +0.1**
comp=Z,143nm,1.5s,mb5.5
MEZF Maizieres J'vi 57.84 336 *e*P **P 03 06 39.6 +0.1**
comp=Z,143nm,1.5s,mb5.8
EVO Evora 57.90 320 *e*P **P 03 06 40.6 +0.4**
comp=Z,44nm,1.2s,mb5.1
EVO *e*MLR MLR
comp=Z,2μm,18.0s,MS4.9
HYF Humbligny 57.90 334 *e*P **P 03 06 39.8 -0.2**
UBBA Unterbreizbach 57.92 341 *e*P **P 03 06 39.9 -0.2**
comp=Z,47nm,1.5s,mb5.3
TAPN Taplejung 57.93 55 *e*P **P 03 06 40.0 -0.6**
comp=Z,66nm,0.9s,mb5.7
RUP Ruppelstein 58.02 338 *e*P **P 03 06 40.7 -0.1**
GKP Gorka Klasztor 58.09 347 *e*P **P 03 06 41.8 +0.6**
GKP LMZ 03 30 17.3
comp=Z,500nm,23.5s
GKP Gorka Klasztor 58.09 347 *e*P **P 03 06 41.8 +0.6**
GKP LR LR
comp=Z,500nm,23.5s,MS4.6
WLF Walferdange 58.33 338 *e*P **P 03 06 43.8 +0.8**
WLF pmax pmax
comp=Z,44nm,1.4s,mb5.3
WLF MLR MLR
comp=Z,796nm,20.0s,MS4.8
WLF Walferdange 58.33 338 *e*P **P 03 06 43.2 +0.2**
comp=Z,49nm,1.4s,mb5.3
WLF Walferdange 58.33 338 *e*P **P 03 06 43.8 +0.8**
comp=Z,44nm,1.4s,mb5.3
WLF LR LR
comp=Z,796nm,20.0s,MS4.8
MOS Moscow 58.34 1 *e*P **P 03 06 40.9 -2.0**
MOS *e* 03 07 31.3
MOS pmax pmax
comp=Z,42nm,0.8s,mb5.5
CLZ Clausthal 58.68 342 *e*P **P 03 06 45.6 +0.2**
CLZ *e* 03 07 35.9
CLZ pmax pmax
comp=Z,32nm,1.8s,mb5.0
CLZ Clausthal 58.68 342 *e*P **P 03 06 45.6 +0.2**
comp=Z,32nm,1.8s,mb5.0
CLZ *e*PcP PcP 03 07 35.9 +0.6
MTE Manteigas 58.69 322 PFAKE 03 07 00.0 +14
MTE LR LR
comp=Z,4μm,19.0s,MS5.5

MFF Saint Martin d 58.70 331 *e*P **P 03 06 45.5 -0.1**
comp=Z,142nm,1.4s,mb5.5
MFF Saint Martin d 58.70 331 *e*P **P 03 06 45.5 -0.1**
MFF pmax pmax
comp=Z,71nm,1.4s,mb5.5
MFF Saint Martin d 58.70 331 *e*P **P 03 06 45.5 -0.1**
comp=Z,71nm,1.4s,mb5.5
GIVF Givet 59.20 337 *e*P **P 03 06 48.4 -0.6**
comp=Z,123nm,1.6s,mb5.4
GIVF Givet 59.20 337 *e*P **P 03 06 48.4 -0.6**
GIVF pmax pmax
comp=Z,62nm,1.6s,mb5.4
GIVF Givet 59.20 337 *e*P **P 03 06 48.4 -0.6**
comp=Z,62nm,1.6s,mb5.4
HGN Heimansgroeve 59.31 338⇑ *i*P **P 03 06 51.6 +1.8**
comp=Z,34nm,1.4s,mb5.2
HGN Heimansgroeve 59.31 338 *e*PP PP 03 09 06.3 +5.5
HGN Heimansgroeve 59.31 338 *e*S **S 03 15 04.6 +6.2**
HGN Heimansgroeve 59.31 338 *e*SS SS 03 19 06.0 +13
NRDL Niedersach Rie 59.33 342 *e*P **P 03 06 50.2 +0.3**
comp=Z,66nm,1.5s,mb5.4
NRDL *e*PcP PcP 03 07 39.8 +1.9
BUG Bochum--Univer 59.38 339 *e*P **P 03 06 50.7 +0.5**
comp=Z,48nm,1.4s,mb5.3
BAIF Baives 59.41 337 *e*P **P 03 06 50.0 -0.5**
comp=Z,60nm,1.4s,mb5.1
BAIF Baives 59.41 337 *e*P **P 03 06 50.0 -0.5**
BAIF pmax pmax
comp=Z,30nm,1.4s,mb5.1
BAIF Baives 59.41 337 *e*P **P 03 06 50.0 -0.5**
comp=Z,30nm,1.4s,mb5.1
IBBN Ibbenburen 59.93 340 *e*P **P 03 06 55.3 +1.3**
comp=Z,86nm,1.5s,mb5.6
WTSB Winterswijk 59.98 339⇑ *i*P **P 03 06 55.1 +0.7**
comp=Z,74nm,1.5s,mb5.5
LDF La Druitiere 60.13 333 *e*P **P 03 06 54.9 -0.6**
comp=Z,152nm,1.7s,mb5.5
LDF La Druitiere 60.13 333 *e*P **P 03 06 54.9 -0.6**
LDF pmax pmax
comp=Z,76nm,1.7s,mb5.5
LDF La Druitiere 60.13 333 *e*P **P 03 06 54.9 -0.6**
comp=Z,76nm,1.7s,mb5.5
GRR Gorron 60.32 332 *e*P **P 03 06 56.4 -0.4**
BSEG Bad Segeberg 60.51 343 *e*P **P 03 06 57.7 -0.2**
BSEG pmax pmax
comp=Z,56nm,1.7s,mb5.4
BSEG Bad Segeberg 60.51 343 *e*P **P 03 06 57.7 -0.2**
comp=Z,56nm,1.7s,mb5.4
COCO West Island 60.71 102 PFAKE 03 07 10.0 +10
COCO LR LR
comp=Z,481nm,19.0s,MS4.7
SGMF Saint Gilles 61.02 331 *e*P **P 03 07 02.1 +0.5**
comp=Z,182nm,1.6s,mb5.7
SGMF Saint Gilles 61.02 331 *e*P **P 03 07 02.1 +0.5**
SGMF pmax pmax
comp=Z,91nm,1.5s,mb5.7
SGMF Saint Gilles 61.02 331 *e*P **P 03 07 02.1 +0.5**
comp=Z,91nm,1.5s,mb5.7
QUIF Quistinic 61.08 331 *e*P **P 03 07 01.8 -0.2**
comp=Z,110nm,1.4s,mb5.5
QUIF Quistinic 61.08 331 *e*P **P 03 07 01.8 -0.2**
QUIF pmax pmax
comp=Z,55nm,1.4s,mb5.5
QUIF Quistinic 61.08 331 *e*P **P 03 07 01.8 -0.2**
comp=Z,55nm,1.4s,mb5.5
COP Copenhagen 61.46 345 *i* P **P 03 07 03.9 -0.5**
COP *i* 03 09 19.5
COP *e*S **S 03 15 25.3 -0.5**
COP MLR MLR
comp=Z,130nm,19.0s,MS4.1
COP Copenhagen 61.46 345 *i* P **P 03 07 03.9 -0.5**
COP *i* 03 09 19.5
COP *e*S **S 03 15 25.3 -0.5**
COP *i* 03 19 33.4
COP
comp=Z,130nm,19.0s
VSU Vasula 61.53 354⇑ *i*P **P 03 07 03.2 -1.6**
LSA Lhasa 61.62 54 P **P 03 07 06.5 +0.5**
LSA Lhasa 61.62 54 PFAKE 03 07 20.0 +14
LSA LR LR
comp=Z,563nm,22.0s,MS4.7
ARU Arti 61.77 14 P **P 03 07 05.4 -1.1**
comp=Z,312nm,1.2s,mb6.3,SNR=8.4
ARU Arti 61.77 14 *e*P **P 03 07 05.7 -0.8**
ARU *e* 03 09 20.7
ARU *e*S **S 03 15 26.9 -2.8**
ARU *e*SS SS 03 19 25.0 -6.7
ARU MLR MLR
comp=Z,851nm,17.0s,MS5.0
ARU Arti 61.77 14 *e*P **P 03 07 06.0 -0.5**
comp=Z,88nm,1.2s,mb5.8
ARU LR LR
comp=Z,1μm,21.0s,MS5.0
BRVK Borovoye 62.56 22 ⇑P **P 03 07 11.2 -0.7**
SNR=10
BRVK Borovoye 62.56 22 *e*P **P 03 07 10.7 -1.1**
BRVK pmax pmax
comp=Z,27nm,1.2s,mb5.2
BRVK MLR MLR
comp=Z,831nm,22.0s,MS4.9
BRVK Borovoye 62.56 22 *e*P **P 03 07 10.7 -1.2**
comp=Z,27nm,1.2s,mb5.2
BRVK LR LR
comp=Z,831nm,22.0s,MS4.9
VOSK Vostochnaya 62.57 23 P **P 03 07 08.7 -3.2**
VOSK pmax pmax
comp=Z,102nm,1.7s,mb5.7
BVA0 Borovoye Array 62.58 22 *i* P **P 03 07 10.2 -1.7**
BVA0 pmax pmax
comp=Z,24nm,1.9s,mb5.0
BVAR Borovoye Array 62.58 22 P **P 03 07 10.7 -1.2**
comp=Z,8.3nm,0.9s,mb4.8,baz=212,slow=5.3,SNR=21
BVAR PcP PcP 03 07 51.3 +0.4
comp=Z,1.2nm,0.7s,baz=191,slow=3.0,SNR=3.8
BVAR LR LR 03 36 23.6
comp=Z,678nm,21.5s,MS4.8,baz=233,slow=38
BVAR Borovoye Array 62.58 22 P **P 03 07 10.7 -1.2**
BVAR 03 07 51.3
SVE Sverdlovsk 62.64 15⇓ *e*P **P 03 07 11.8 -0.5**
SVE *e*SS SS 03 19 40.2 -5.1
SVE pmax pmax
comp=Z,59nm,1.2s,mb5.6
SVE MLR MLR
comp=Z,600nm,16.0s,MS4.9
PSI Prapat 62.93 85 P **P 03 07 15.8 +0.7**
comp=Z,16nm,0.8s,mb5.2,baz=283,slow=9.4,SNR=10
MUD Monsted U'grnd 63.02 344 *i* P **P 03 07 18.8 +4.0**
MUD *e* 03 19 56.8
MUD Monsted U'grnd 63.02 344 *e*P **P 03 07 18.8 +4.0**
MUD *e* 03 19 56.8
KLMR Klimovskoe 63.52 2 *d i*P **P 03 07 16.8 -1.2**
KLMR *e*S **S 03 15 41.2 -10**
MK31 Makanchi Array 63.84 33 *e*P **P 03 07 19.5 -1.0**
MKAR Makanchi Array 63.84 33 P **P 03 07 19.4 -1.0**
comp=Z,28nm,0.8s,mb5.3,baz=232,slow=6.0,SNR=111
MKAR LR LR 03 38 12.9
comp=Z,708nm,19.6s,MS4.8,baz=160,slow=39
MKAR Makanchi Array 63.84 33 P **P 03 07 19.4 -1.0**
MKAR LR LR 03 38 12.9
SOKR Solikamsk 64.26 11 *d i*P **P 03 07 22.7 -0.2**
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.4
KURK Kurchatov 64.44 28 P **P 03 07 24.0 -0.3**
SNR=25
KURK Kurchatov 64.44 28 *e*P **P 03 07 23.5 -0.8**
KURK pmax pmax
comp=Z,67nm,1.3s,mb5.5
KURK MLR MLR
comp=Z,1μm,22.0s,MS5.0
KURK Kurchatov 64.44 28 *e*P **P 03 07 23.5 -0.8**
comp=Z,67nm,1.3s,mb5.5
KURK LR LR
comp=Z,1μm,22.0s,MS5.0
KAF Kangasniemi 65.17 355 *e*p **P 03 07 27.6 -1.2**
comp=Z,9.3nm,0.8s,mb4.9
KAF Kangasniemi 65.17 355 *e*P **P 03 07 27.6 -1.2**
KAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CMAR Chiang Mai Arr 65.22 68 P **P 03 07 30.3 +0.3**
comp=Z,22nm,1.0s,mb5.2,baz=258,slow=7.2,SNR=57
CMAR LR LR 03 33 22.3
comp=Z,168nm,18.6s,MS4.3,baz=254,slow=34
CHTO Chiang Mai 65.30 68⇓ P **P 03 07 31.1 +0.6**
SNR=13
CHTO Chiang Mai 65.30 68 *e*P **P 03 07 30.7 +0.2**
CHTO pmax pmax

comp=Z,43nm,1.2s,mb5.3
CHTO MLR MLR
comp=Z,238nm,19.0s,MS4.4
CHTO Chiang Mai 65.30 68 *e*P **P 03 07 30.7 +0.2**
comp=Z,43nm,1.2s,mb5.4
CHTO LR LR
comp=Z,238nm,19.0s,MS4.4
WMQ Urumqi 65.36 39 P **P 03 07 31.3 +0.8**
WMQ AP pP 03 07 35.9 +3.0
WMQ XP sP 03 07 38.3 +4.5
WMQ PCP PcP 03 08 03.1 +0.5
WMQ PP PP 03 09 57.3 +2.9
WMQ SCP 03 12 04.3
WMQ S S 03 16 13.5 -1.5
WMQ SCS ScS 03 17 22.3 -4.1
WMQ SS SS 03 20 28.3 0.0
WMQ AMB AMB
comp=Z,68nm,1.0s,mb5.6
WMQ LR LR
comp=N,763nm,21.4s,MS4.9
WMQ LR LR
comp=E,331nm,21.4s,MS4.9
WMQ LR LR
comp=Z,319nm,19.0s,MS4.5
JOF Joensuu 65.64 358 *e*p **P 03 07 30.4 -1.5**
comp=Z,6.0nm,0.8s,mb4.7
KONO Kongsberg 65.68 346⇑ *e*P **P 03 07 30.8 -1.4**
SYO Syowa Base 66.14 179⇑ *e*P **P 03 07 35.6 +0.5**
SYO Syowa Base 66.14 179⇓ *e*P **P 03 07 38.4 +3.3**
ESK Eskdalemuir 66.33 337 PFAKE 03 07 50.0 +14
ESK LR LR
comp=Z,571nm,20.0s,MS4.8
NOA NORSAR Array B 66.53 347 P **P 03 07 36.9 -0.7**
comp=Z,3.1nm,0.8s,mb4.4,baz=151,slow=6.1,SNR=8.3
NOA LR LR 03 41 26.5
comp=Z,261nm,19.0s,MS4.5,baz=140,slow=40
MAW Mawson 67.25 169 *e*P **P 03 07 43.6 +1.5**
comp=Z,13nm,0.8s,mb5.0
MAW Mawson 67.25 169 P **P 03 07 43.7 +1.6**
comp=Z,15nm,0.8s,mb5.1,baz=306,slow=9.3,SNR=17
MAW LR LR 03 32 23.7
comp=Z,1μm,20.8s,MS5.2,baz=320,slow=32
MAW Mawson 67.25 169 *e*P **P 03 07 43.6 +1.5**
MAW pmax pmax
comp=Z,13nm,0.8s
NVS Novosibirsk 69.24 27 *e*P **P 03 07 53.5 -1.4**
NVS pmax pmax
comp=Z,83nm,1.5s,mb5.4
NVS pmax pmax
comp=N,50nm,1.4s
ZAL Zalesovo 69.41 28 P **P 03 07 54.5 -1.4**
ZALV Zalesovo Beam 69.43 28 P **P 03 07 54.5 -1.5**
comp=N,38nm,1.1s,mb5.2,baz=240,slow=5.0,SNR=41
ZALV LR LR 03 41 37.7
comp=N,720nm,18.1s,MS5.0,baz=74,slow=39
NVL N'lazarevskaya 69.69 188 *c i*P **P 03 08 01.9 +4.6**
NVL pmax pmax
comp=Z,30nm,1.9s,mb4.9
CMLA Cha da Macela 69.80 312 PFAKE 03 08 10.0 +11
CMLA LR LR
comp=Z,946nm,21.0s,MS5.0
KMI Kunming 70.11 62 P **P 03 08 01.6 +0.7**
KMI XP sP 03 08 05.9 +1.8
KMI PP PP 03 10 38.8 +2.7
KMI PPP 03 12 18.9
KMI S S 03 17 11.3 -1.3
KMI PS 03 17 39.8
KMI SKS 03 17 58.6
KMI SS SS 03 21 43.1 +0.5
KMI SSS 03 24 48.3
KMI AMB AMB
comp=Z,23nm,1.2s,mb5.0
KMI AMB AMB
comp=Z,227nm,6.8s
KMI LR LR
comp=N,245nm,16.5s,MS4.6
KMI LR LR
comp=E,192nm,19.2s,MS4.6
KMI LR LR
comp=Z,261nm,25.2s
APA Apatity 70.23 359 *e*P **P 03 08 00.0 -0.7**
APA *i* S S 03 17 18.0 +5.5
APA pmax pmax
comp=Z,36nm,1.2s,mb5.2
LVZ Lovozero 70.55 359 PFAKE 03 08 10.0 +7.4
LVZ LR LR
comp=Z,336nm,19.0s,MS4.6
GTA Gaotai 71.73 47 P **P 03 08 10.3 -0.1**
GTA AP pP 03 08 14.3 +1.5
GTA XP sP 03 08 15.9 +2.2
GTA PP PP 03 10 51.4 +1.6
GTA S S 03 17 29.6 -1.4
GTA XS sS 03 17 37.8 +2.9
GTA SKS 03 18 09.8
GTA AMB AMB
comp=Z,18nm,1.3s,mb4.8
GTA AMB AMB
comp=Z,244nm,5.4s
GTA LR LR
comp=N,367nm,19.5s,MS4.7
GTA LR LR
comp=E,258nm,21.9s,MS4.7
GTA LR LR
comp=Z,396nm,22.8s,MS4.6
CD2 Chengdu 72.35 56 *e*P **P 03 08 14.3 0.0**
CD2 AP pP 03 08 19.5 +2.8
CD2 XP sP 03 08 22.1 +4.5
CD2 PP PP 03 10 57.5 +2.2
CD2 S S 03 17 36.5 -1.9
CD2 XS sS 03 17 44.3 +1.9
CD2 SCS ScS 03 18 17.4 -4.4
CD2 SS SS 03 22 17.0 +0.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,340nm,16.4s,MS4.9
CD2 LR LR
comp=E,420nm,14.4s,MS4.9
CD2 LR LR
comp=Z,300nm,16.8s,MS4.6
HVS Khovu-Aksy 72.50 34 *c i*P **P 03 08 16.9 +2.1**
HVS pmax pmax
comp=Z,135nm,1.3s,mb5.7
ARCES ARCESS Array B 72.55 356 P **P 03 08 13.8 -0.9**
comp=Z,16nm,0.9s,mb4.9,baz=169,slow=4.5,SNR=23
ARCES LR LR 03 42 03.0
comp=Z,388nm,20.6s,MS4.7,baz=164,slow=38
ARE0 ARCESS Array S 72.55 356 *e*P **P 03 08 14.1 -0.6**
KEV Kevo 72.67 357 *e*P **P 03 08 14.1 -1.3**
KEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KEV MLR MLR
comp=Z,429nm,21.0s,MS4.7
KEV Kevo 72.67 357 *e*P **P 03 08 14.1 -1.3**
comp=Z,6.1nm,0.8s,mb4.6
KEV LR LR
comp=Z,429nm,21.0s,MS4.7
SNAA Sanae 73.06 192 *e*P **P 03 08 19.9 +2.2**
SNAA *e* pP 03 08 21.7 +1.6
SNAA *e* 03 08 28.2
SNAA Sanae 73.06 192 P **P 03 08 19.7 +1.9**
comp=Z,1.6nm,0.9s,mb4.0,baz=61,slow=7.3,SNR=16
SNAA Sanae 73.06 192 *e*P **P 03 08 19.8 +2.1**
SNAA pmax pmax
comp=Z,33nm,1.8s
SNAA Sanae 73.06 192 *e*P **P 03 08 19.8 +2.1**
comp=Z,33nm,1.8s,mb5.0
VNA2 Neumayer--Watz 73.53 194 *e*P **P 03 08 22.5 +2.0**
VNA2 *e* pP 03 08 24.5 +1.6
VNA2 *e* 03 08 31.9
VNA1 Neumayer--Stat 73.55 194 *e*P **P 03 08 23.2 +2.6**
VNA1 *e* pP 03 08 25.3 +2.3
VNA1 *e* 03 08 31.9
LZH Lanzhou 73.77 51 P **P 03 08 22.4 -0.2**
LZH AP pP 03 08 25.1 +0.1
LZH XP sP 03 08 27.0 +1.1
LZH *e*S S 03 17 49.0 -5.3
LZH XS sS 03 17 58.1 -0.2
LZH *e*SS SS 03 22 33.0 -5.2
LZH AMB AMB
comp=Z,41nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,284nm,5.9s

LZH LR LR
comp=E,1µm,15.8s
LZH LR LR
comp=Z,1µm,17.4s,MS5.3
GYA Guiyang 73.85 62 P **P 03 08 25.6 +2.3**
GYA PCP PcP 03 08 41.0 +2.2
GYA PP PP 03 11 12.4 +4.2
GYA S S 03 17 55.8 +0.2
GYA SKS 03 18 27.9
GYA PS 03 18 30.0
GYA SS SS 03 22 42.8 +2.9
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,140nm,4.6s
GYA LR LR
comp=N,510nm,20.8s,MS5.0
GYA LR LR
comp=E,490nm,19.4s,MS5.0
GYA LR LR
comp=Z,480nm,19.0s,MS4.8
QIZ Qiongzhong 75.49 70 P **P 03 08 34.3 +1.4**
QIZ S S 03 18 14.3 +0.2
QIZ AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
QIZ AMB AMB
comp=Z,209nm,6.7s
QIZ Qiongzhong 75.49 70 PFAKE 03 08 40.0 +7.1
QIZ LR LR
comp=Z,215nm,20.0s,MS4.5
MOY Mondy 76.87 35 *e*P **P 03 08 41.2 +1.1**
MOY pmax pmax
comp=Z,60nm,1.8s,mb5.2
ZAK Zakamensk 77.76 37 *e*P **P 03 08 45.1 0.0**
ZAK pmax pmax
comp=Z,12nm,1.3s,mb4.7
TLY Talaya 78.42 36 ⇓P **P 03 08 48.8 +0.1**
SNR=8.6
TLY Talaya 78.42 36 *e*P **P 03 08 49.7 +1.0**
TLY *e*S S 03 18 45.0 +0.1
TLY *e*SS SS 03 23 51.4 +3.5
TLY pmax pmax
comp=Z,28nm,1.8s,mb4.9
TLY MLR MLR
comp=Z,777nm,19.0s,MS5.1
TLY Talaya 78.42 36 *e*P **P 03 08 48.7 0.0**
comp=Z,33nm,1.5s,mb5.0
TLY LR LR
comp=Z,804nm,20.0s,MS5.0
SONM Songino Array 78.91 40 P **P 03 08 52.5 +1.0**
comp=Z,10nm,1.0s,mb4.7,baz=240,slow=5.0,SNR=37
SONM PP PP 03 11 48.6 -1.7
comp=Z,1.4nm,0.8s,baz=236,slow=8.0,SNR=4.0
BTO Baotou 79.59 48 *e*P **P 03 08 55.3 -0.1**
HHC Hu-ho-hao-te 80.79 48 *e*P **P 03 09 03.6 +1.7**
HHC XP sP 03 09 09.8 +4.6
HHC PP PP 03 12 08.3 +2.2
HHC S S 03 19 09.3 -1.2
HHC SKS 03 19 16.3
HHC PS 03 19 59.1
HHC AMB AMB
comp=Z,57nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,665nm,4.9s
HHC LR LR
comp=N,346nm,21.4s,MS4.8
HHC LR LR
comp=E,268nm,22.6s,MS4.8
HHC LR LR
comp=Z,258nm,21.4s,MS4.5
NWAO Narrogin (SRO) 80.95 123 PFAKE 03 09 10.0 +7.0
NWAO LR LR
comp=Z,740nm,19.0s,MS5.1
CASY Casey 81.17 157 *e*P **P 03 09 03.6 +0.2**
CASY LR LR
comp=Z,1µm,19.0s,MS5.3
KBS Kingsbay 82.61 355 PFAKE 03 09 20.0 +9.2
KBS LR LR
comp=Z,300nm,20.0s,MS4.7
MBWA Marble Bar 82.96 111 PFAKE 03 09 20.0 +6.2
MBWA LR LR
comp=Z,700nm,20.0s,MS5.0
KAPI Kappang 83.33 95 PFAKE 03 09 30.0 +14
KAPI LR LR
comp=Z,586nm,22.0s,MS4.9
BDFB Brasilia 83.70 255 P **P 03 09 18.9 +1.3**
comp=Z,2.7nm,0.9s,mb4.4,baz=85,slow=9.3,SNR=7.3
BDFB LR LR 03 45 19.6
comp=Z,193nm,18.1s,MS4.5,baz=14,slow=35
BJT Baijiatuau 84.10 49 PFAKE 03 09 30.0 +11
BJT LR LR
comp=Z,405nm,20.0s,MS4.8
BJI Beijing 84.11 49 P **P 03 09 20.0 +0.7**
BJI S S 03 19 44.8 +0.3
BJI AMB AMB
comp=Z,34nm,1.4s,mb5.3
BJI AMB AMB
comp=Z,444nm,6.9s
BJI LR LR
comp=N,479nm,19.5s
BJI LR LR
comp=E,205nm,25.1s
BJI LR LR
comp=Z,267nm,25.5s
DAG Danmarks Havn 85.11 349⇑ *e*P **P 03 09 22.6 -1.0**
DAG pmax pmax
comp=Z,27nm,1.7s,mb5.1
DAG Danmarks Havn 85.11 349⇑ *i*P **P 03 09 22.6 -1.0**
comp=Z,27nm,1.7s,mb5.1
DAG *i* 03 10 30.2
DAG Danmarks Havn 85.11 349⇑ *e*P **P 03 09 22.6 -1.0**
comp=Z,27nm,1.7s,mb5.1
DAG *i* 03 10 30.2
NJ2 Nanjing 85.23 58 *e*P **P 03 09 25.3 +0.2**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.5
BOD Bodaibo 85.86 32 *e*P **P 03 09 26.8 -0.9**
BOD pmax pmax
comp=Z,22nm,1.4s,mb5.2
SSE Sheshan 87.12 59 *e*P **P 03 09 33.0 -1.5**
SSE S S 03 20 12.6 -2.0
SSE AMB AMB
comp=Z,37nm,0.7s,mb5.7
SSE AMB AMB
comp=Z,167nm,3.5s
SSE LR LR
comp=N,141nm,24.0s,MS4.4
SSE LR LR
comp=E,144nm,24.0s,MS4.4
SSE LR LR
comp=Z,111nm,19.7s,MS4.3
HIA Hailar 87.87 41 PFAKE 03 09 50.0 +12
HIA LR LR
comp=Z,585nm,19.0s,MS5.0
FITZ Fitzroy Crossi 88.60 108 *e*P **P 03 09 42.6 +0.8**
comp=Z,11nm,1.1s,mb5.1
FITZ Fitzroy Crossi 88.60 108 P **P 03 09 42.6 +0.8**
comp=Z,8.1nm,1.1s,mb5.0,baz=230,slow=6.5,SNR=5.4
DAV Davao City (W) 89.71 83 PFAKE 03 10 00.0 +13
DAV LR LR
comp=Z,382nm,22.0s,MS4.8
EFI East Falkland 90.49 218 PFAKE 03 10 00.0 +10
EFI LR LR
comp=Z,462nm,19.0s,MS4.9
SFJD Kangerlussuaq 91.31 337 PFAKE 03 10 00.0 +6.6
SFJD LR LR
comp=Z,644nm,19.0s,MS5.1
CN2 Changchun 91.36 46 *e*P **P 03 09 55.3 +1.2**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
PMSA Palmer Station 91.86 205 PFAKE 03 10 10.0 +14
PMSA LR LR
comp=Z,1µm,19.0s,MS5.3
INCN Inchon 92.02 53 PFAKE 03 10 10.0 +13
INCN LR LR
comp=Z,261nm,21.0s,MS4.7
KSRS Korea Array 93.04 53 P **P 03 10 00.6 -1.4**
comp=Z,2.1nm,1.0s,mb4.5,baz=271,slow=4.8,SNR=10
TIXI Tiksi 93.47 18⇑ *i*P **P 03 10 02.7 -0.6**
TIXI pmax pmax
comp=Z,15nm,1.3s,mb5.3
TIXI Tiksi 93.47 18⇑ *i*P **P 03 10 02.8 -0.5**
TIXI LR LR
comp=Z,621nm,21.0s,MS5.0
YAK Yakutsk 94.08 28⇓ *i*P **P 03 10 06.1 -0.2**
YAK pmax pmax
comp=Z,18nm,0.8s,mb5.5
YAK Yakutsk 94.08 28⇓ *i*P **P 03 10 06.2 -0.1**
YAK LR LR
comp=Z,621nm,20.0s,MS5.1
MDJ Mudanjiang 94.36 46 P **P 03 10 07.4 -0.6**
MDJ AP pP 03 10 10.6 +0.2
MDJ XP sP 03 10 11.9 +0.6
MDJ PP PP 03 13 54.5 -0.6
MDJ S S 03 21 19.0 -1.3
MDJ XS sS 03 21 24.8 +0.4
MDJ SS SS 03 27 40.4 -1.5
MDJ AMB AMB
comp=Z,18nm,1.3s,mb5.3
MDJ AMB AMB
comp=Z,74nm,5.6s
MDJ LR LR
comp=N,251nm,28.9s
MDJ LR LR
comp=E,174nm,34.7s
MDJ LR LR
comp=Z,263nm,21.7s
TRQA Tornquist 94.74 232 *e*P **P 03 10 09.7 -0.2**
comp=Z,16nm,1.3s,mb5.3
TRQA LR LR
comp=Z,832nm,20.0s,MS5.2
SBA Scott Base 95.18 171 PFAKE 03 10 20.0 +8.9
SBA LR LR
comp=Z,919nm,21.0s,MS5.2
KLR Kul'dur 95.72 41 *e*P **P 03 10 09.3 -4.8**
ASAR Alice Springs 95.93 114 P **P 03 10 15.5 -0.1**
comp=Z,0.9nm,0.8s,mb4.2,baz=290,slow=3.8,SNR=3.7
WRA Warramunga Arr 96.69 110 P **P 03 10 18.8 -0.3**
comp=Z,3.0nm,0.7s,mb4.8,baz=273,slow=2.8,SNR=11
WRA LR LR 03 53 40.3
comp=Z,493nm,18.6s,MS5.0,baz=275,slow=35
WB2 Warramunga Arr 96.70 110 *e*P **P 03 10 18.9 -0.3**
WRAB Tennant Creek 96.70 110⇑ *i*P **P 03 10 20.4 +1.2**
WRAB Tennant Creek 96.70 110 PFAKE 03 10 30.0 +11
WRAB LR LR
comp=Z,753nm,20.0s,MS5.2
GRGR Grenville 98.27 282 PFAKE 03 10 40.0 +14
GRGR LR LR
comp=Z,234nm,19.0s,MS4.7
SCHQ Schefferville 99.78 325 LR LR 03 57 22.7
comp=Z,446nm,20.2s,MS5.0,baz=197,slow=36
SCHQ Schefferville 99.78 325 PFAKE 03 10 40.0 +7.8
SCHQ LR LR
comp=Z,891nm,21.0s,MS5.2
BBSR BB Station 100.70 302 PFAKE 03 10 50.0 +14
BBSR LR LR
comp=Z,1µm,20.0s,MS5.5
PLCA Paso Flores 100.80 228 PFAKE 03 10 50.0 +13
PLCA LR LR
comp=Z,503nm,19.0s,MS5.0
MAJO Matsushiro 101.30 53 PFAKE 03 10 50.0 +11
MAJO LR LR
comp=Z,350nm,21.0s,MS4.8
MJAR Matsushiro Arr 101.30 53 P Pdif 03 10 38.5 -0.5
comp=Z,0.4nm,0.3s,baz=264,slow=2.4,SNR=4.0
SJG San Juan 102.61 288 PFAKE 03 11 00.0 +15
SJG LR LR
comp=Z,607nm,22.0s,MS5.1
LVC Limon Verde 102.84 246 PFAKE 03 11 00.0 +14
LVC LR LR
comp=Z,432nm,19.0s,MS5.0
PKME Peaks-Kenny Pk 102.87 316 PFAKE 03 11 00.0 +14
PKME LR LR
comp=Z,1µm,22.0s,MS5.4
LPAZ La Paz 102.95 253 PFAKE 03 11 00.0 +14
LPAZ LR LR
comp=Z,270nm,21.0s,MS4.8
YSS Yuzh-Sakhalins 103.30 42 PFAKE 03 11 00.0 +12
YSS LR LR
comp=Z,218nm,20.0s,MS4.7
LCO Las Campanas 103.37 239 PFAKE 03 11 00.0 +12
LCO LR LR
comp=Z,639nm,20.0s,MS5.2
WES Weston 104.80 313 PFAKE 03 11 10.0 +15
WES LR LR
comp=Z,657nm,20.0s,MS5.2
LBNH Lisbon 104.90 315 PFAKE 03 11 10.0 +15
LBNH LR LR
comp=Z,923nm,20.0s,MS5.3
HRV Adam Dziewonsk 104.95 313 PFAKE 03 11 10.0 +15
HRV LR LR
comp=Z,555nm,20.0s,MS5.1
NCB Newcomb 106.58 315 PFAKE 03 15 30.0 +17
NCB LR LR
comp=Z,924nm,22.0s,MS5.3
BILL Bilibino 106.66 17 PFAKE 03 15 20.0 +7.1
BILL LR LR
comp=Z,525nm,22.0s,MS5.0
LONY Lake Ozonia 106.69 316 PFAKE 03 15 30.0 +16
LONY LR LR
comp=Z,770nm,21.0s,MS5.2
SDV Santo Domingo 107.06 278 PFAKE 03 15 30.0 +15
SDV LR LR
comp=Z,129nm,21.0s,MS4.5
CTAO Charters Tower 107.77 112 PFAKE 03 15 30.0 +14
CTAO LR LR
comp=Z,620nm,20.0s,MS5.2
BINY Binghamton 108.23 314 PFAKE 03 15 30.0 +13
BINY LR LR
comp=Z,788nm,20.0s,MS5.3
PMG Port Moresby 110.15 101 PFAKE 03 15 30.0 +9.0
PMG LR LR
comp=Z,391nm,21.0s,MS5.0
CNNC Cliffs of the 111.20 307 PFAKE 03 15 30.0 +7.6
CNNC LR LR
comp=Z,691nm,21.0s,MS5.2
PET Petropavlovsk 111.24 33 PFAKE 03 15 30.0 +8.1
PET LR LR
comp=Z,436nm,20.0s,MS5.0
MCWV Mont Chateau 111.68 312 PFAKE 03 15 30.0 +6.8
MCWV LR LR
comp=Z,949nm,20.0s,MS5.4
NNA Nana 111.88 256 PFAKE 03 15 40.0 +16
NNA LR LR
comp=Z,294nm,19.0s,MS4.9
BLA Blacksburg 112.74 309 PFAKE 03 15 40.0 +15
BLA LR LR
comp=Z,698nm,20.0s,MS5.2
GLMI Grayling 113.47 318 PFAKE 03 15 40.0 +14
GLMI LR LR
comp=Z,1µm,22.0s,MS5.4
NHSC New Hope 113.51 305 PFAKE 03 15 40.0 +13
NHSC LR LR
comp=Z,1µm,19.0s,MS5.5
AAM Ann Arbor 113.67 315 PFAKE 03 15 40.0 +13
AAM LR LR
comp=Z,980nm,19.0s,MS5.4
ACSO Alum Creek Sta 113.83 313 PFAKE 03 15 40.0 +13
ACSO LR LR
comp=Z,749nm,21.0s,MS5.3
OTAV Otavalo 114.64 269 PFAKE 03 15 40.0 +10
OTAV LR LR
comp=Z,395nm,19.0s,MS5.0
TZTN Tazewell 115.34 309 PFAKE 03 15 40.0 +10
TZTN LR LR
comp=Z,666nm,21.0s,MS5.2
DWPF Disney 115.60 300 PFAKE 03 15 40.0 +8.9
DWPF LR LR
comp=Z,801nm,21.0s,MS5.3
COWI Conover 115.90 321 PFAKE 03 15 40.0 +8.9
COWI LR LR
comp=Z,890nm,20.0s,MS5.4
GOGA Godfrey 116.11 306 PFAKE 03 15 40.0 +8.1
GOGA LR LR
comp=Z,869nm,21.0s,MS5.3
BCIP Isla Barro Col 116.15 279 PFAKE 03 15 40.0 +7.5
BCIP LR LR
comp=Z,440nm,21.0s,MS5.0
EYMN Ely 116.52 324 PFAKE 03 15 40.0 +7.8
EYMN LR LR
comp=Z,882nm,21.0s,MS5.3
YKA Yellowknife Ar 116.60 345 PKP PKPdf 03 15 31.1 -0.8
comp=Z,0.6nm,0.6s,baz=18,slow=2.4,SNR=4.4
WCI Wyandotte Cave 116.91 312 PFAKE 03 15 50.0 +17
WCI LR LR
comp=Z,725nm,20.0s,MS5.3
ULM Lac du Bonnet 117.83 327 PFAKE 03 15 50.0 +15
ULM LR LR
comp=Z,826nm,19.0s,MS5.4
JFWS Jewell Farm 117.96 318 PFAKE 03 15 50.0 +15
JFWS LR LR
comp=Z,691nm,21.0s,MS5.3
COLA College 117.98 2 PFAKE 03 15 50.0 +15
COLA LR LR
comp=Z,307nm,21.0s,MS4.9
EGAK Eagle 118.12 359 *e*PKPdf PKPdf 03 15 34.9 +0.1
EGAK LR LR
comp=Z,278nm,20.0s,MS4.9
FFC Flin Flon 118.12 334 PFAKE 03 15 50.0 +15
FFC LR LR
comp=Z,360nm,20.0s,MS5.0
DAWY Dawson 118.78 358 *e*PKPdf PKPdf 03 15 36.3 +0.2
AGMN Agassiz Refuge 118.88 326 PFAKE 03 15 50.0 +13
AGMN LR LR
comp=Z,360nm,19.0s,MS5.0
PLAL Pickwick Lake 119.32 309 PFAKE 03 15 50.0 +12
PLAL LR LR
comp=Z,799nm,21.0s,MS5.3
BRAL Brewton 119.69 304 PFAKE 03 15 50.0 +11
BRAL LR LR
comp=Z,931nm,20.0s,MS5.4
SCIA State Center 120.38 318 PFAKE 03 15 50.0 +10
SCIA LR LR
comp=Z,726nm,19.0s,MS5.3
OXF Oxford 120.51 309 PFAKE 03 15 50.0 +10
OXF LR LR
comp=Z,666nm,22.0s,MS5.2
PMR Palmer 121.20 3 PFAKE 03 15 50.0 +9.2
PMR LR LR
comp=Z,348nm,20.0s,MS5.0
ECSD EROS,Sioux Fal 121.70 321 *e*PKPdf PKPdf 03 15 42.1 -0.3
ECSD LR LR
comp=Z,1µm,20.0s,MS5.5
HYT Haines Junctio 121.92 356 *e*PKPdf PKPdf 03 15 43.1 +0.9
SNZO South Karori 122.12 144 PFAKE 03 15 50.0 +6.8
SNZO LR LR
comp=Z,2µm,19.0s,MS5.8
VBMS Vicksburg 122.14 307 PFAKE 03 16 00.0 +16
VBMS LR LR
comp=Z,1µm,20.0s,MS5.5
TGUH Tegucigalpa,Un 123.12 285 PFAKE 03 16 00.0 +14
TGUH LR LR
comp=Z,558nm,20.0s,MS5.2
TEIG Tepich 123.21 292 PFAKE 03 16 00.0 +14
TEIG LR LR
comp=Z,834nm,20.0s,MS5.4
DGMT Dagmar 123.25 330 PFAKE 03 16 00.0 +15
DGMT LR LR
comp=Z,622nm,21.0s,MS5.2
MIAR Mount Ida 123.70 310 PFAKE 03 16 00.0 +14
MIAR LR LR
comp=Z,759nm,19.0s,MS5.4
KSU1 Kansas State U 123.96 317 PFAKE 03 16 00.0 +13
KSU1 LR LR
comp=Z,770nm,21.0s,MS5.3
KDAK Kodiak Island 124.72 6 PFAKE 03 16 00.0 +12
KDAK LR LR
comp=Z,99nm,21.0s,MS4.5
LAO LASA Array 125.46 329 PFAKE 03 16 00.0 +11
LAO LR LR
comp=Z,378nm,19.0s,MS5.1
SIT Sitka 125.47 354 PFAKE 03 16 00.0 +11
SIT LR LR
comp=Z,468nm,21.0s,MS5.1
NATX Nacogdoches 125.60 308 PFAKE 03 16 00.0 +10
NATX LR LR
comp=Z,972nm,20.0s,MS5.5
WRAK Wrangell Islan 125.75 352 PFAKE 03 16 00.0 +10
WRAK LR LR
comp=Z,409nm,21.0s,MS5.1
RSSD Black Hills 125.92 325 *e*PKIKP PKPdf 03 15 50.8 +0.4
RSSD MLR MLR
comp=Z,526nm,21.0s,MS5.2
CBKS Cedar Bluff 126.23 318 PFAKE 03 16 00.0 +8.8
CBKS LR LR
comp=Z,538nm,19.0s,MS5.2
EGMT Eagleton 126.27 332 PFAKE 03 16 00.0 +9.1
EGMT LR LR
comp=Z,529nm,22.0s,MS5.2
HKT Hockley 127.20 306 PFAKE 03 16 10.0 +17
HKT LR LR
comp=Z,539nm,20.0s,MS5.2
WMOK Wichita Mounta 127.52 313 *e*PKIKP PKPdf 03 15 54.4 +0.6
WMOK MLR MLR
comp=Z,586nm,19.0s,MS5.3
RLMT Red Lodge 128.08 329 PFAKE 03 16 10.0 +15
RLMT LR LR
comp=Z,677nm,19.0s,MS5.3
BOZ Bozeman (W) 128.88 331 PFAKE 03 16 10.0 +14
BOZ LR LR
comp=Z,495nm,20.0s,MS5.2
LKWY Lake 129.05 330 PFAKE 03 16 10.0 +14
LKWY LR LR
comp=Z,1µm,20.0s,MS5.6
MSO Missoula 129.05 334 *e*PKPdf PKPdf 03 15 57.0 +0.7
MSO LR LR
comp=Z,350nm,20.0s,MS5.0
NEW Newport 129.23 337 PFAKE 03 16 10.0 +13
NEW LR LR
comp=Z,490nm,19.0s,MS5.2
YMR Madison River 129.26 330 PFAKE 03 16 10.0 +13
YMR LR LR
comp=Z,2µm,22.0s,MS5.7
ISCO Idaho Springs 129.48 322 PFAKE 03 16 10.0 +13
ISCO LR LR
comp=Z,769nm,19.0s,MS5.4
AMTX Amarillo 129.55 314 PFAKE 03 16 10.0 +12
AMTX LR LR
comp=Z,610nm,20.0s,MS5.3
PDAR Pinedale Array 129.86 327 PKP PKPdf 03 15 58.5 +0.5
comp=Z,3.4nm,1.0s,baz=90,slow=3.0,SNR=19
BW06 Boulder Array 129.86 327 PFAKE 03 16 10.0 +12
BW06 LR LR
comp=Z,1µm,21.0s,MS5.5
JCT Junction City 130.15 308 PFAKE 03 16 10.0 +11
JCT LR LR
comp=Z,687nm,19.0s,MS5.4
RRI2 Red Ridge 130.38 329 *e*PKPdf PKPdf 03 15 60.0 +1.0
SDCO Great Sand Dun 130.62 320 *e*PKPdf PKPdf 03 15 59.9 +0.3
SDCO LR LR
comp=Z,659nm,19.0s,MS5.3
RPW Rockport 130.66 341 *e*PKPdf PKPdf 03 15 57.3 -2.0
AHID Auburn Hatcher 130.68 328 PFAKE 03 16 10.0 +10
AHID LR LR
comp=Z,600nm,22.0s,MS5.2
HAWA Hanford 131.70 338 PFAKE 03 16 10.0 +8.7
HAWA LR LR
comp=Z,435nm,20.0s,MS5.2
HWUT Hardware Ranch 131.74 328 PFAKE 03 16 10.0 +8.4
HWUT LR LR
comp=Z,764nm,21.0s,MS5.4
HLID Hailey 131.76 331 PFAKE 03 16 10.0 +8.5
HLID LR LR
comp=Z,567nm,20.0s,MS5.3
GNW Green Mountain 131.86 341 *e*PKPdf PKPdf 03 16 02.1 +0.5
BMO Blue Mountains 132.06 335 *e*PKIKP PKPdf 03 16 02.2 +0.1
BMO MLR MLR
comp=Z,517nm,20.0s,MS5.2
LON Longmire 132.22 340 *e*PKIKP PKPdf 03 16 02.5 +0.2
PV01 Paradox Valley 132.32 322 *e*PKPdf PKPdf 03 16 04.1 +1.3
NLWA Neilton Lookou 132.34 342 PFAKE 03 16 10.0 +7.5
NLWA LR LR
comp=Z,673nm,20.0s,MS5.3
DAU Daniels Canyon 132.39 326 *e*PKIKP PKPdf 03 16 02.5 -0.4
PV10 Paradox Valley 132.45 323 *e*PKPdf PKPdf 03 16 04.3 +1.2
ANMO Albuquerque 132.85 317⇑ *i*PKIKP PKPdf 03 16 04.8 +0.9
ANMO Albuquerque 132.85 317 PFAKE 03 16 20.0 +16
ANMO LR LR
comp=Z,690nm,19.0s,MS5.4
MVCO Mesa Verde 132.85 321 PFAKE 03 16 20.0 +16
MVCO LR LR
comp=Z,884nm,19.0s,MS5.5
SRU San Rafael 132.86 324 *e*PKIKP PKPdf 03 16 04.4 +0.6
DUG Dugway 133.40 327 PFAKE 03 16 20.0 +15
DUG LR LR
comp=Z,457nm,19.0s,MS5.2
TXAR Lajitas Array 133.67 309 PKP PKPdf 03 16 07.6 +2.0
comp=Z,1.2nm,0.9s,baz=116,slow=2.9,SNR=8.5
MSU Marysvale 134.21 325 *e*PKIKP PKPdf 03 16 07.4 +1.1
MVU Marysvale 134.24 325 PFAKE 03 16 20.0 +14
MVU LR LR
comp=Z,654nm,21.0s,MS5.3
ELK Elko 134.27 330 PFAKE 03 16 20.0 +14
ELK LR LR
comp=Z,472nm,20.0s,MS5.2
WVOR Wild Horse Val 134.58 334 PFAKE 03 16 20.0 +13

WVOR LR LR
comp=Z,447nm,19.0s,MS5.2
COR Corvallis 134.62 339 PFAKE 03 16 20.0 +11
COR LR LR
comp=Z,433nm,21.0s,MS5.2
BMN Battle Mountai 135.50 331 PFAKE 03 16 20.0 +11
BMN LR LR
comp=Z,391nm,19.0s,MS5.2
WUAZ Wupatki 135.71 321 PFAKE 03 16 20.0 +11
WUAZ LR LR
comp=Z,546nm,20.0s,MS5.3
MOD Modoc 135.73 335 PFAKE 03 16 20.0 +11
MOD LR LR
comp=Z,425nm,22.0s,MS5.1
HUMO Hull Mountain 136.21 338 PFAKE 03 16 20.0 +10
HUMO LR LR
comp=Z,474nm,20.0s,MS5.2
YBH Yreka Blue Hor 136.86 337 PFAKE 03 16 20.0 +8.8
YBH LR LR
comp=Z,392nm,20.0s,MS5.1
TPH Tonopah 137.29 329 PFAKE 03 16 20.0 +7.9
TPH LR LR
comp=Z,609nm,21.0s,MS5.3
TUC Tucson 137.31 317 PFAKE 03 16 20.0 +7.7
TUC LR LR
comp=Z,597nm,19.0s,MS5.3
NVAR Mina Array Bea 137.57 330 PKhKP 03 16 02.6
comp=Z,0.4nm,0.3s,baz=163,slow=1.5,SNR=5.2
NVAR PKP PKPdf 03 16 14.5 +1.9
comp=Z,5.2nm,1.0s,baz=124,slow=1.4,SNR=12
NVAR Mina Array Bea 137.57 330 PKP PKPdf 03 16 14.5 +1.9
TPNV Topopah Spring 137.60 327 PFAKE 03 16 20.0 +7.3
TPNV LR LR
comp=Z,639nm,22.0s,MS5.3
WDC Whiskeytown Da 137.77 336 PFAKE 03 16 20.0 +7.1
WDC LR LR
comp=Z,438nm,22.0s,MS5.2
DAC Darwin (Calif) 138.83 327 PFAKE 03 16 30.0 +15
DAC LR LR
comp=Z,511nm,22.0s,MS5.2
CMB Columbia Colle 138.90 332 PFAKE 03 16 30.0 +15
CMB LR LR
comp=Z,342nm,20.0s,MS5.1
GSC Goldstone 139.10 325 PFAKE 03 16 30.0 +14
GSC LR LR
comp=Z,526nm,20.0s,MS5.3
HOPS Hopland 139.32 335 PFAKE 03 16 30.0 +14
HOPS LR LR
comp=Z,572nm,19.0s,MS5.3
GLA Glamis 139.48 321 PFAKE 03 16 30.0 +14
GLA LR LR
comp=Z,680nm,20.0s,MS5.4
ISA Isabella 139.76 327 PFAKE 03 16 30.0 +13
ISA LR LR
comp=Z,475nm,20.0s,MS5.2
MCCM Marconi Confer 139.95 334 PFAKE 03 16 30.0 +13
MCCM LR LR
comp=Z,456nm,21.0s,MS5.2
PFO Pinyon Flat Ob 140.10 323 PFAKE 03 16 30.0 +13
PFO LR LR
comp=Z,605nm,22.0s,MS5.3
SAO San Andreas Ge 140.42 331 PFAKE 03 16 30.0 +12
SAO LR LR
comp=Z,505nm,20.0s,MS5.3
MWC Mount Wilson 140.59 325 PFAKE 03 16 30.0 +12
MWC LR LR
comp=Z,622nm,19.0s,MS5.4
BAR Barrett 140.88 322 PFAKE 03 16 30.0 +11
BAR LR LR
comp=Z,564nm,20.0s,MS5.3
SNCC San Nicolas Is 142.14 326 PFAKE 03 16 30.0 +9.0
SNCC LR LR
comp=Z,559nm,20.0s,MS5.3
RKT Rikitea 152.85 198 *e*LR LR 04 07 45.2
comp=Z,519nm,24.8s
PPT Papeete 158.98 164 *e*LR LR 04 10 32.2
comp=Z,503nm,22.2s
TAOE Nuku Hiva Isla 167.87 197 *e*LR LR 04 14 36.8
comp=Z,3μm,26.1s

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*ISK **20** 03:21:19.7,3788N×2726E,h5km,MD3.4,ML3.4*
*ISCJB **20** 03:21:20.5±0.4,3786N±002×2720E±003,h6km±4km, Error ellipse: s-maj=3.8km s-min=2.7km az=177.3*
*DDA **20** 03:21:20.2,3788N×2726E,h5km±3km,Md3.2*
*CSEM **20** 03:21:20.1±0.1,3787N×2727E,h2km,MD3.2, Error ellipse: s-maj=2.6km s-min=1.3km az=77.0*
*ATH **20** 03:21:21.6,3793N×2698E,h24km±1km,MD3.7/4*
*NEIC **20** 03:21:21.7,3793N×2698E,h24km,MD3.7(ATH), ML3.3(THE), After ATH.*
*THE **20** 03:21:22.7,3807N×2723E,h0km,ML3.3*
ISC 20 03:21:21.1±0.4,3788N±002×2724E±003,h3km±4km,n40, σ1§06/56,5C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.18**	**180**	⇑	*i*	P	**Pg**	**03 21 24.5**	**-0.1**
GCAM					*i*	S	**Sg**	**03 21 26.1**	**-0.7**
SMG	**Samos**	**0.36**	**242**	⇓	*i*	PB	**Pg**	**03 21 28.1**	**+0.1**
SMG					*e*	SB	**Sg**	**03 21 32.4**	**-0.2**
IZM	**Izmir**	**0.52**	**2**	PG			**Pg**	**03 21 30.9**	**-0.2**
IZM					*e*	SG	**Sg**	**03 21 39.4**	**+1.5**
KDAG	**Bornova**	**0.53**	**3**	*i* P			**Pg**	**03 21 31.0**	**-0.2**
KDAG					*i*	S	**Sg**	**03 21 37.8**	**-0.2**
BLCB	**Balcova**	**0.53**	**343**	PG			**Pg**	**03 21 31.1**	**-0.1**
BLCB					*e*	SG	**Sg**	**03 21 39.1**	**+0.9**
AYDN	**Tasoluk**	**0.55**	**113**	⇑	*i*	P	**Pg**	**03 21 31.3**	**-0.4**
AYDN					*i*	S	**Sg**	**03 21 38.5**	**-0.4**
MLSB	**Milas**	**0.72**	**143**	*e*	PG		**Pg**	**03 21 34.4**	**-0.6**
MLSB					*e*	SG	**Sg**	**03 21 45.5**	**+1.2**
BODT	**Bodrum**	**0.82**	**176**	*e*	PG		**Pg**	**03 21 36.3**	**-0.5**
BODT					*e*	SG	**Sg**	**03 21 48.7**	**+1.4**
BDRM	**Kayabasi**	**0.83**	**168**	⇑	*i*	P	**Pg**	**03 21 35.7**	**-1.2**
BDRM					*i*	S	**Sg**	**03 21 48.3**	**+0.6**
CHOS	**Chios island**	**1.06**	**299**	*e*	Pg		**Pg**	**03 21 41.5**	**+0.1**
CHOS					*e*	Sg	**Sg**	**03 21 56.0**	**+0.8**
AKHS	**Akhisar**	**1.10**	**24**	⇑	*i*	P	**Pg**	**03 21 41.0**	**-1.2**
AKHS					*i*	S	**Sg**	**03 21 56.7**	**+0.2**
AKS	**Akhisar**	**1.10**	**24**	*e*	PN		**Pn**	**03 21 40.7**	**-2.7**
AKS					*e*	SN	**Sn**	**03 21 56.6**	**-2.4**
YER	**Yerkesik**	**1.11**	**131**	*e*	PN		**Pn**	**03 21 41.9**	**-1.7**
KULA	**Kula-Manisa**	**1.29**	**60**	*e*	PN		**Pn**	**03 21 45.0**	**-1.0**
AYVA	**Ayvalik**	**1.49**	**344**	⇑	*i*	P	**Pn**	**03 21 48.9**	**+0.1**
AYVA					*i*	S	**Sn**	**03 22 09.1**	**+0.4**
PRK	**Paraskevi**	**1.56**	**331**	*e*	Pg		**Pn**	**03 21 48.0**	**-1.7**
PRK	**Paraskevi**	**1.56**	**331**	*e*	PN		**Pn**	**03 21 48.0**	**-1.8**
PRK					*e*	SN	**Sn**	**03 22 07.4**	**-3.1**
DALT	**Dalyan (Mudla)**	**1.57**	**134**	*e*	PN		**Pn**	**03 21 49.6**	**-0.3**
APE	**Apeiranthos**	**1.58**	**240**	⇓	*i*	PN	**Pn**	**03 21 48.5**	**-1.5**
BALB	**Balikesir**	**1.83**	**16**	*e*	PN		**Pn**	**03 21 53.4**	**-0.1**
DST	**Dursunbey**	**2.04**	**32**	*e*	PN		**Pn**	**03 21 56.7**	**+0.3**
THR3	**Thira Island,**	**2.07**	**226**	*e*	Pn		**Pg**	**03 21 58.8**	**-2.1**
THR3					*e*	Sn	**Sg**	**03 22 28.7**	**+1.0**
THR5	**Thira Island,**	**2.10**	**227**	*e*	Pn		**Pg**	**03 22 00.0**	**-1.3**
THR5					*e*	Sn	**Sg**	**03 22 28.8**	**+0.3**
THR6	**Thira Island,**	**2.11**	**225**	*e*	Pn		**Pn**	**03 22 00.2**	**+2.8**
KAP	**Karpathos**	**2.32**	**181**	*e*	Pn		**Pn**	**03 22 01.6**	**+1.4**
KARP	**Karpathos**	**2.33**	**181**	*e*	PN		**Pn**	**03 22 01.6**	**+1.3**
EDC	**Edincik**	**2.51**	**11**	*e*	PN		**Pn**	**03 22 03.6**	**+0.8**
LPK	**Lapseki**	**2.52**	**352**	*e*	PN		**Pn**	**03 22 03.0**	**+0.1**
BNT	**Bandirma**	**2.53**	**12**	*e*	PN		**Pn**	**03 22 03.5**	**+0.4**
GADA	**Gvkgeada**	**2.53**	**336**	*e*	PN		**Pn**	**03 22 03.5**	**+0.4**
ISP	**Isparta**	**2.59**	**90**	*e*	Pn		**Pn**	**03 22 05.1**	**+1.2**
LOS	**Limnos**	**2.65**	**321**	*e*	Pn		**Pn**	**03 22 04.0**	**-0.7**
RKY	**Sarkoy-Tekirda**	**2.81**	**359**	*e*	PN		**Pn**	**03 22 08.2**	**+1.3**
MFT	**Murefte**	**2.91**	**1**	*e*	PN		**Pn**	**03 22 09.3**	**+1.1**
ENEZ	**Enez**	**2.98**	**344**	*e*	PN		**Pn**	**03 22 09.9**	**+0.7**
ALN	**Alexandroupoli**	**3.15**	**343**	*e*	Pn		**Pn**	**03 22 10.0**	**-1.6**
YLV	**Yalova**	**3.16**	**31**	*e*	PN		**Pn**	**03 22 12.8**	**+1.1**
GPA	**Golpazari**	**3.39**	**44**	*e*	PN		**Pn**	**03 22 15.9**	**+1.0**
PAIG	**Paliouri**	**3.45**	**308**	*e*	Pn		**Pn**	**03 22 15.3**	**-0.3**
HRT	**Hereke**	**3.49**	**32**	*e*	PN		**Pn**	**03 22 17.5**	**+1.2**

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*IDC **20** 03:29:20.1±1.9,2365S×17998E,h518km±18km,mb3.5/7, mb1 3.8/8,mb1mx3.5/15,mbtmp3.5/8,Error ellipse: s-maj=31.0km s-min=16.7km az=156.0*
*ISCJB **20** 03:29:21.3±1.8,237S±02×1799E±0.1,h541km±28km, mb4.1/14,Error ellipse: s-maj=34.5km s-min=13.7km az=170.3*
*NEIC **20** 03:29:23.0±1.1,2385S×17994E,h556km±16km,mb4.5/9, Error ellipse: s-maj=21.6km s-min=8.9km az=171.0*
ISC 20 03:29:22.7±1.8,238S±02×1799E±01,h547km±26km,n28, σ0§55/20,mb4.1/14,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.77**	**161**	*e*	P		**P**	**03 30 59.4**	**+0.5**
	483nm,1.4s								
URZ	**Urewera**	**14.62**	**189**	P			**P**	**03 32 26.7**	**-1.2**
	3.6nm,0.3s,baz=30,slow=2.4,SNR=18								
CTA	**Charters Tower**	**31.39**	**270**	*e*	P		**P**	**03 34 59.9**	**+0.6**
	20nm,0.6s,mb4.8								
STKA	**Stephens Creek**	**34.68**	**248**	*e*	P		**P**	**03 35 28.0**	**+1.0**
	2.3nm,0.6s,mb3.9								
STKA	**Stephens Creek**	**34.68**	**248**	P			**P**	**03 35 27.6**	**+0.7**
	2.6nm,0.5s,mb4.0,baz=95,slow=11,SNR=11								
ASAR	**Alice Springs**	**41.97**	**261**	P			**P**	**03 36 26.5**	**+0.3**
	6.4nm,0.8s,mb4.2,baz=100,slow=8.2,SNR=49								
ASAR						ScP	ScP	03 41 11.3	+4.1
	2.6nm,0.8s,baz=104,slow=4.4,SNR=14								
WB2	**Warramunga Arr**	**42.32**	**266**	⇓	*i*	P	**P**	**03 36 28.4**	**-0.6**
WRA	**Warramunga Arr**	**42.33**	**266**	P			**P**	**03 36 28.6**	**-0.5**
	11nm,0.6s,mb4.5,baz=103,slow=8.2,SNR=45								
WRA						ScP	ScP	03 41 13.1	+4.3
	2.3nm,0.9s,baz=97,slow=4.3,SNR=7.4								
FORT	**Forrest**	**46.27**	**249**	*e*	P		**P**	**03 36 59.3**	**0.0**
	23nm,0.6s,mb4.9								
GUMO	**Guam**	**50.54**	**314**	*e*	P		**P**	**03 37 30.3**	**-0.8**
	49nm,0.8s,mb4.9								
FITZ	**Fitzroy Crossi**	**50.75**	**266**	*e*	P		**P**	**03 37 33.5**	**+0.7**
	6.8nm,0.6s,mb4.2								
MJAR	**Matsushiro Arr**	**71.76**	**326**	P			**P**	**03 39 49.5**	**-0.3**
	0.4nm,0.3s,mb3.3,baz=162,slow=6.6,SNR=4.1								
CMB	**Columbia Colle**	**83.18**	**43**	*e*	P		**P**	**03 40 51.2**	**-0.4**
	3.6nm,0.9s,mb3.9								
NVAR	**Mina Array Bea**	**84.74**	**44**	P			**P**	**03 40 59.2**	**0.0**
	0.6nm,0.5s,mb3.4,baz=219,slow=7.4,SNR=4.9								
TUC	**Tucson**	**86.52**	**53**	*e*	P		**P**	**03 41 08.4**	**+0.5**
	3.1nm,1.1s,mb3.9								
TMUT	**Trail Mountain**	**89.83**	**46**	*e*	P		**P**	**03 41 23.5**	**+0.3**
SRU	**San Rafael**	**90.19**	**47**	*e*	P		**P**	**03 41 24.9**	**+0.1**
	3.5nm,1.2s,mb4.1								
TXAR	**Lajitas Array**	**90.45**	**58**	P			**P**	**03 41 26.7**	**+0.4**
	1.5nm,0.7s,mb3.9,baz=214,slow=6.6,SNR=21								
TXAR	**Lajitas Array**	**90.45**	**58**	P			**P**	**03 41 26.7**	**+0.4**
PDAR	**Pinedale Array**	**92.67**	**44**	P			**P**	**03 41 35.9**	**-0.4**
	0.9nm,0.7s,mb3.9,baz=214,slow=1.6,SNR=7.8								
ARCES	**ARCESS Array B**	**131.77**	**348**	PKP			PKPdf	03 47 32.0	-0.9
	0.8nm,0.7s,baz=33,slow=2.9,SNR=5.9								
NOA	**NORSAR Array B**	**141.97**	**351**	PKhKP				03 47 45.0	
	1.0nm,0.7s,baz=16,slow=4.8,SNR=3.9								
NOA						SKPbc	SKPbc	03 50 38.8	+0.9
	0.6nm,0.7s,baz=15,slow=4.3,SNR=3.3								
AKASG	**Malin Array Be**	**144.84**	**327**	PKP			PKPdf	03 47 56.1	-1.1
	1.0nm,0.5s,baz=41,slow=3.5,SNR=5.8								
AKASG						SKPbc	SKPbc	03 50 45.9	+0.8
	0.4nm,0.4s,baz=42,slow=1.1,SNR=5.2								
AKASG	**Malin Array Be**	**144.84**	**327**	PKP			PKPdf	03 47 56.1	-1.1
AKASG						SKPbc	SKPbc	03 50 45.9	+0.8
CLL	**Collm**	**150.73**	**343**	*e*	PKPbc		PKPbc	03 48 12.0	-1.0
	comp=Z,6.0nm,0.9s								
BRG	**Berggiesshubel**	**150.86**	**342**	*e*	P		PKPbc	03 48 12.3	-0.9
	comp=Z,3.5nm,0.5s								
GERES	**GERESS Array B**	**152.73**	**340**	PKPbc			PKPbc	03 48 16.5	-1.0
	comp=Z,0.3nm,0.6s,baz=352,slow=2.2,SNR=3.8								
TORD	**Torodi Ar. Bea**	**169.27**	**189**	PKPab			PKPab	03 49 44.3	+0.3
	comp=Z,0.7nm,0.9s,baz=160,slow=4.6,SNR=3.2								

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*IDC **20** 03:47:17.2±0.6,3149S×17779W,h0km,mb4.5/11, mb1 4.7/13,mb1mx4.6/18,mbtmp4.5/13,MS4.1/6, Ms1 4.1/6,ms1mx3.7/24,Error ellipse: s-maj=22.2km s-min=16.7km az=107.0*
*NEIC **20** 03:47:17.7±0.6,3197S×17779W,h10km,mb4.9/5,Error ellipse: s-maj=17.7km s-min=7.8km az=109.0*
*ISCJB **20** 03:47:19.7±0.7,3206S±006×1779W±0.1,h33km,mb4.5/14, MS4.1/5,Error ellipse: s-maj=16.4km s-min=7.3km az=11.6*
ISC 20 03:47:22.0±0.7,3200S±005×1779W±01,h35km, (h29km±1.0km:pP-P),n66,σ1§52/43,mb4.5/14,MS4.1/5,1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.74**	**0**	Pn			**Pn**	**03 47 56.3**	**-7.2**
	618nm,0.3s,baz=122,slow=3.9,SNR=36								
RAO						Sn	**Sn**	**03 48 23.2**	**-12**
	2μm,0.3s,baz=61,slow=22,SNR=12								
MXZ	**Matakaoa Point**	**6.35**	**208**	P			**Pn**	**03 48 54.7**	**+1.6**
PUZ	**Puketiti**	**6.82**	**206**	P			**Pn**	**03 49 00.6**	**+1.1**
MWZ	**Matawai**	**7.33**	**209**	P			**Pn**	**03 49 08.3**	**+1.8**
URZ	**Urewera**	**7.45**	**212**	Pn			**Pn**	**03 49 09.8**	**+1.7**
	2.8nm,0.3s,baz=324,slow=2.2,SNR=33								
URZ						Sn	**Sn**	**03 50 38.1**	**+6.8**
	18nm,0.3s,baz=150,slow=20,SNR=15								
URZ	**Urewera**	**7.45**	**212**	P			**Pn**	**03 49 09.5**	**+1.4**
KNZ	**Kokohu**	**7.87**	**206**	P			**Pn**	**03 49 13.8**	**-0.1**
MOVZ	**Moawhango**	**9.00**	**213**	P			**Pn**	**03 49 30.4**	**+1.0**
TSZ	**Takapari Road**	**9.44**	**210**	P			**Pn**	**03 49 34.8**	**-0.6**
MRZ	**Mangatainoka R**	**10.10**	**209**	P			**Pn**	**03 49 43.0**	**-1.5**
MTW	**Mount Morrison**	**10.55**	**208**	P			**Pn**	**03 49 48.2**	**-2.5**
KIW	**Kapiti Island**	**10.55**	**211**	P			**Pn**	**03 49 48.6**	**-2.1**
TCW	**Tory Channel**	**11.12**	**212**	P			**Pn**	**03 49 55.9**	**-2.5**
NNZ	**Nelson**	**11.54**	**215**	P			**Pn**	**03 50 02.7**	**-1.5**
THZ	**Tophouse**	**12.19**	**214**	P			**Pn**	**03 50 11.1**	**-2.0**
LTZ	**Lake Taylor**	**13.28**	**213**	P			**Pn**	**03 50 25.1**	**-2.8**
RPZ	**Rata Peaks**	**14.56**	**213**	Pn			**Pn**	**03 50 44.8**	**-0.6**
	2.6nm,0.3s,baz=312,slow=1.7,SNR=14								
RPZ						Sn	**Sn**	**03 53 19.3**	**-6.1**
	1.1nm,0.3s,baz=87,slow=18,SNR=8.6								
JCZ	**Jackson Bay**	**15.95**	**217**	P			**Pn**	**03 51 02.6**	**-1.1**
DZM	**Mont Dzumac**	**17.06**	**302**	*e*	Pn		**Pn**	**03 51 16.3**	**-1.5**
AFI	**Afiamalu**	**18.87**	**19**	P			**Pn**	**03 51 33.4**	**-6.6**
	1.9nm,0.3s,baz=355,slow=14,SNR=3.7								
AFI						S	S	03 54 44.1	-27
	0.6nm,0.3s,baz=240,slow=20,SNR=3.2								
RAR	**Rarotonga**	**19.44**	**61**	LR			LR	03 56 46.9	
	comp=Z,343nm,21.7s,baz=270,slow=30								
CTA	**Charters Tower**	**34.14**	**281**	*e*	P		**P**	**03 54 05.8**	**+2.0**
	18nm,1.0s,mb5.0								
CTA	**Charters Tower**	**34.14**	**281**	P			**P**	**03 54 05.5**	**+1.7**
	20nm,0.9s,mb5.0,baz=130,slow=8.9,SNR=10								
CTA						LR	LR	04 06 42.7	
	comp=Z,357nm,18.4s,MS4.1,baz=228,slow=34								
STKA	**Stephens Creek**	**34.20**	**259**	*e*	P		**P**	**03 54 06.9**	**+2.6**
	6.6nm,0.9s,mb4.6								
STKA					*e*			03 54 23.5	
STKA	**Stephens Creek**	**34.20**	**259**	P			**P**	**03 54 06.6**	**+2.3**
	6.3nm,0.8s,mb4.6,baz=97,slow=10,SNR=14								
STKA						LR	LR	04 06 52.8	
	comp=Z,332nm,18.6s,MS4.1,baz=291,slow=34								
ASAR	**Alice Springs**	**43.10**	**269**	P			**P**	**03 55 19.9**	**+1.0**
	3.7nm,0.6s,mb4.3,baz=104,slow=7.6,SNR=37								
WB2	**Warramunga Arr**	**44.23**	**274**	*e*	P		**P**	**03 55 28.1**	**+0.1**
WB2					*e*			03 55 45.1	
WRAB	**Tennant Creek**	**44.23**	**274**	*e*	P		**P**	**03 55 29.1**	**+1.0**
	38nm,0.8s,mb5.2								
WRA	**Warramunga Arr**	**44.24**	**274**	P			**P**	**03 55 29.0**	**+0.9**
	28nm,0.7s,mb5.1,baz=113,slow=7.7,SNR=15								
WRA						LR	LR	04 13 11.7	
	comp=Z,234nm,18.1s,MS4.1,baz=105,slow=35								
FITZ	**Fitzroy Crossi**	**52.43**	**271**	*e*	P		**P**	**03 56 32.2**	**+0.9**
	13nm,0.9s,mb4.9								
GUMO	**Guam**	**57.66**	**316**	LR			LR	04 17 33.7	
	comp=Z,139nm,19.2s,MS4.1,baz=106,slow=32								
QSPA	**South Pole Qui**	**58.12**	**180**	P			**P**	**03 57 16.4**	**+5.0**
	1.9nm,0.7s,mb4.2,baz=42,slow=8.6,SNR=7.0								
MAW	**Mawson**	**70.84**	**201**	P			**P**	**03 58 38.4**	**+3.7**
	2.2nm,0.8s,mb4.1,baz=108,slow=7.1,SNR=5.0								
SNAA	**Sanae**	**76.56**	**178**	*e*			**P**	**03 59 10.9**	**+2.7**
SNAA					*e*		pP	03 59 19.5	+0.4
SNAA					*e*			03 59 35.8	
SNAA	**Sanae**	**76.56**	**178**	*e*	P		**P**	**03 59 09.8**	**+1.6**
	8.9nm,0.9s,mb4.7								
VNA2	**Neumayer--Watz**	**77.14**	**177**	*e*			**P**	**03 59 14.8**	**+3.3**
VNA2					*e*		pP	03 59 23.4	+0.9
VNA2					*e*			03 59 40.0	
VNA1	**Neumayer--Stat**	**77.38**	**176**	*e*			**P**	**03 59 16.2**	**+3.4**
VNA1					*e*		pP	03 59 25.5	+1.8
VNA1					*e*			03 59 42.0	
MJAR	**Matsushiro Arr**	**79.59**	**325**	P			**P**	**03 59 23.2**	**-2.1**
	2.7nm,0.9s,mb4.2,baz=163,slow=5.3,SNR=5.3								
ASAJ	**Asahikawa**	**83.88**	**333**	LR			LR	04 37 40.5	
	comp=Z,99nm,18.2s,MS4.2,baz=156,slow=36								
KSRS	**Korea Array**	**85.60**	**320**	P			**P**	**03 59 55.9**	**-0.7**
	1.2nm,0.7s,mb4.2,baz=141,slow=5.3,SNR=5.4								
PETK	**Petropavlovsk-**	**87.37**	**346**	P			**P**	**04 00 03.8**	**-1.1**
	9.8nm,0.8s,mb5.1,baz=123,slow=6.6,SNR=22								
NVAR	**Mina Array Bea**	**89.37**	**43**	P			**P**	**04 00 13.8**	**-1.0**
	0.7nm,0.6s,mb4.2,baz=218,slow=6.8,SNR=4.7								
TXAR	**Lajitas Array**	**93.20**	**57**	P			**P**	**04 00 32.6**	**-0.2**
	0.6nm,1.0s,mb4.0,baz=193,slow=3.5,SNR=4.4								
MKAR	**Makanchi Array**	**118.83**	**309**	PKP			PKPdf	04 06 05.3	-1.0
	0.3nm,0.3s,baz=50,slow=2.3,SNR=4.6								
ARCES	**ARCESS Array B**	**140.16**	**347**	PKhKP				04 06 39.5	
	0.9nm,0.7s,baz=50,slow=1.9,SNR=6.1								
JOF	**Joensuu**	**143.92**	**338**	*e*pkp			PKPdf	04 06 50.1	-2.7
	2.9nm,0.7s								
GNI	**Garni**	**144.84**	**296**	*e*PKPdf			PKPdf	04 06 54.8	-0.3
KAF	**Kangasniemi**	**146.07**	**340**	*e*pkp			PKPdf	04 06 55.1	-1.4
	8.7nm,0.7s,baz=41,slow=3.5								
OBN	**Obninsk**	**146.50**	**324**	*e*PKPdf			PKPdf	04 06 58.3	+0.9
MALT	**Malatya**	**149.75**	**292**	*e*PKPbc			PKPbc	04 07 08.8	+0.7
NB2	**NORSAR Subarra**	**150.34**	**351**	PKP			PKPbc	04 07 07.4	-1.4
	comp=Z,1.3nm,0.7s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**150.34**	**351**	PKPbc			PKPbc	04 07 07.7	-1.1
	comp=Z,3.6nm,0.9s,baz=14,slow=4.1,SNR=8.8								
NOA						PKPab	PKPab	04 07 14.9	-0.2
	comp=Z,0.5nm,0.5s,baz=26,slow=2.1,SNR=4.2								
NOA	**NORSAR Array B**	**150.34**	**351**	PKPbc			PKPbc	04 07 07.7	-1.1
NOA						PKPab	PKPab	04 07 14.9	-0.3
ASF	**Jabal al Asfar**	**150.56**	**280**	PKPbc			PKPbc	04 07 11.6	+1.4
	comp=Z,8.5nm,0.9s,baz=108,slow=3.2,SNR=14								
EIL	**Elat**	**151.73**	**274**	PKPbc			PKPbc	04 07 13.7	+0.6
	comp=Z,7.4nm,0.7s,baz=37,slow=4.8,SNR=11								
MMAI	**Mount Meron Ar**	**151.93**	**281**	PKP			PKPdf	04 07 07.2	+0.3
	comp=Z,0.5nm,0.3s,baz=122,slow=1.9,SNR=3.2								
MMAI						PKPbc	PKPbc	04 07 14.4	+1.0
	comp=Z,7.7nm,0.5s,baz=110,slow=3.6,SNR=10								
AKASG	**Malin Array Be**	**152.59**	**321**	PKPbc			PKPbc	04 07 13.5	-0.8
	comp=Z,0.6nm,0.3s,baz=51,slow=2.2,SNR=11								
AKASG						PKPab	PKPab	04 07 23.6	-1.3
	comp=Z,1.8nm,0.5s,baz=47,slow=4.4,SNR=11								
KOLS	**Kolonicke sedl**	**157.26**	**324**	*e*PKP			PKPab	04 07 42.5	-2.4
STHS	**Stebnicka Huta**	**157.44**	**326**	*i* PKP			PKPab	04 07 45.5	-0.1
CRVS	**Cervenica-Dubn**	**157.68**	**325**	*i* PKP			PKPab	04 07 45.0	-1.7
KECS	**Kecovo**	**158.44**	**325**	*i* PKP			PKPab	04 07 48.1	-1.9
CLL	**Collm**	**159.09**	**341**	⇓	*i*PKPab		PKPab	04 07 51.1	-1.6
	comp=Z,7.0nm,0.8s								
BRG	**Berggiesshubel**	**159.20**	**338**	*e* P			PKPab	04 07 51.7	-1.5
	comp=Z,8.9nm,1.3s								
GERES	**GERESS Array B**	**161.02**	**336**	PKPab			PKPab	04 07 59.4	-1.8
	comp=Z,1.1nm,0.7s,baz=35,slow=5.1,SNR=10								
TORD	**Torodi Ar. Bea**	**161.23**	**179**	PKP			PKPdf	04 07 21.4	+2.0
	comp=Z,0.6nm,0.9s,baz=180,slow=0.7,SNR=3.6								
TORD						PKPab	PKPab	04 08 04.5	+1.7
	comp=Z,2.1nm,0.9s,baz=169,slow=3.5,SNR=7.8								
DAVOX	**Davos/Dischmat**	**164.07**	**340**	PKPab			PKPab	04 08 13.7	-0.8
	comp=Z,3.9nm,0.7s,baz=61,slow=2.7,SNR=9.4								

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*CSEM **20** 03:51:50.9±0.1,3790N×2731E,h2km,ML3.1,Error ellipse: s-maj=2.2km s-min=1.2km az=72.0*
*DDA **20** 03:51:51.5,3788N×2729E,h7km±5km,Md3.0,Ml3.1*
*ISK **20** 03:51:51.7,3790N×2726E,h6km,MD2.9*
*ATH **20** 03:51:52.0,3794N×2713E,h12km±8km,MD3.4/4*
*NEIC **20** 03:51:52.0,3794N×2714E,h12km,MD2.9(ISK), MD3.4(ATH),ML3.4(THE),After ATH.*
*ISCJB **20** 03:51:52.3±0.3,3790N±002×2728E±003,h10km,Error ellipse: s-maj=3.8km s-min=2.2km az=176.0*
*THE **20** 03:51:55.9,3805N×27.17E,h15km,ML3.4*
ISC 20 03:51:52.2±0.4,3790N±002×2727E±003,h1km±4km,n38, σ0§90/56,4C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.20**	**187**	⇑	*i*	P	**Pg**	**03 51 55.3**	**-0.7**
GCAM					*i*	S	**Sg**	**03 51 58.2**	**-0.3**
SMG	**Samos**

JOB				*e*S	Sn	03 54 43.6	-0.4
JAR	**Ashorobuto**	**1.08**	**289**	⇑P	**Pn**	**03 54 32.3**	**-0.1**
JAR				*e*S	Sn	03 54 45.9	-0.4
YUK	**Yuzh-Kuril'sk**	**1.19**	**25**	⇑*i*PN	**Pn**	**03 54 34.2**	**+0.3**
YUK				*i* S	Sn	03 54 49.5	+0.5
YUK				pmax	pmax		
	comp=N,180nm,0.3s						
YUK				pmax	pmax		
	comp=E,180nm,0.3s						
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				smax			
	comp=N,4μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,5μm,0.5s						
YUK				smax			
	comp=E,5μm,1.0s						
JTKR	**Abashiri–Toko**	**1.36**	**318**	⇑P	**Pn**	**03 54 36.6**	**+0.3**
JTKR				*e*S	Sn	03 54 53.2	0.0
JCH	**Churui**	**1.37**	**256**	⇑P	**Pn**	**03 54 36.0**	**-0.4**
JCH				*e*S	Sn	03 54 52.2	-1.3
ASAJ	**Asahikawa**	**2.20**	**303**	P	**Pn**	**03 54 48.7**	**+1.1**
	comp=E,29nm,0.3s,baz=143,slow=14,SNR=41						
ASAJ				S	Sn	03 55 16.2	+2.7
	comp=E,26nm,0.3s,baz=358,slow=28,SNR=12						
ASAJ	**Asahikawa**	**2.20**	**303**	PN	**Pn**	**03 54 48.7**	**+1.1**
ASAJ				S	Sn	03 55 16.3	+2.7
ASAJ				pmax	pmax		
	comp=Z,29nm,0.3s						
ASAJ				smax			
	comp=N,26nm,0.3s						
KUR	**Kuril'sk**	**2.99**	**40**	*e*PN	**Pn**	**03 54 56.0**	**-2.5**
KUR				*e*S	Sn	03 55 31.3	-1.8
KUR				pmax	pmax		
	comp=Z,60nm,0.7s						
KUR				smax			
	comp=N,100nm,0.5s						
KUR				smax			
	comp=E,210nm,0.5s						
MJAR	**Matsushiro Arr**	**8.35**	**222**	P	**Pn**	**03 56 12.2**	**+0.3**
	comp=E,0.4nm,0.3s,baz=27,slow=12,SNR=4.8						
SONM	**Songino Array**	**27.45**	**294**	P	**P**	**03 59 54.1**	**-0.1**
	comp=E,1.2nm,0.8s,mb3.5,baz=89,slow=9.1,SNR=5.7						
ZALV	**Zalesovo Beam**	**40.33**	**307**	P	**P**	**04 01 44.6**	**-0.8**
	comp=E,0.3nm,0.2s,mb3.6,baz=31,slow=3.7,SNR=2.6						
ZAL	**Zalesovo**	**40.34**	**307**	P	**P**	**04 01 44.6**	**-0.9**
MKAR	**Makanchi Array**	**43.67**	**298**	P	**P**	**04 02 11.7**	**-1.0**
	comp=E,0.6nm,0.4s,mb3.7,baz=72,slow=6.9,SNR=5.8						
WRA	**Warramunga Arr**	**63.38**	**191**	P	**P**	**04 04 37.7**	**+0.5**
	comp=E,0.5nm,0.7s,mb3.8,baz=7.9,slow=6.9,SNR=3.4						
ASAR	**Alice Springs**	**67.10**	**191**	P	**P**	**04 05 01.4**	**+0.2**
	comp=E,0.4nm,0.6s,mb3.6,baz=9.3,slow=5.1,SNR=5.1						
NOA	**NORSAR Array B**	**69.81**	**338**	P	**P**	**04 05 18.9**	**+1.1**
	comp=E,0.6nm,0.7s,mb3.6,baz=36,slow=6.0,SNR=3.5						
PDAR	**Pinedale Array**	**71.52**	**49**	P	**P**	**04 05 28.9**	**+0.3**
	comp=E,0.2nm,0.4s,mb3.4,baz=237,slow=5.0,SNR=4.3						
TXAR	**Lajitas Array**	**84.29**	**55**	P	**P**	**04 06 40.9**	**+1.2**
	comp=E,0.2nm,0.7s,mb3.3,baz=305,slow=3.2,SNR=2.7						

JMA 20 04:13:06.7±0.2, 2663N×14417E, h32km, M3.7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.78**	**270**	P	Pn	04 13 36.3	+1.0
JHHJ				S	Sn	04 13 57.7	+0.9
CBIJ	**Chichi jima**	**1.83**	**285**	P	Pn	04 13 36.8	+0.8
CBIJ				*e*S	Sn	04 13 59.6	+1.5
BSO1	**Boso 1**	**8.46**	**342**	P	Pn	04 15 10.3	+3.4
JKO	**Kozu shima**	**8.69**	**331**	P	Pn	04 15 08.9	-1.3
JOD2	**Odawara 2**	**9.65**	**334**	P	Pn	04 15 28.7	+5.4
JRY	**Ryogami san**	**10.38**	**336**	P	Pn	04 15 38.0	+4.7
JRY				*e*S	Sn	04 17 32.5	+3.9

IDC 20 04:17:12.1±9.9, 1515S×7623W, h98km±47km, mb3.6/2, mb1 3.7/3, mb1mx3.3/15, mbtmp3.5/3, Error ellipse: s-maj=265.6km s-min=37.2km az=28.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.88**	**99**	P	Pn	04 19 04.4	+0.4
	0.7nm,0.3s,baz=290,slow=8.4,SNR=23						
TXAR	**Lajitas Array**	**51.55**	**329**	P	P	04 26 08.6	+0.3
	0.4nm,0.8s,baz=140,slow=13,SNR=3.4						
TORD	**Torodi Ar. Bea**	**82.06**	**74**	P	P	04 29 22.6	+0.3
	2.3nm,0.6s,baz=264,slow=4.0,SNR=28						
SONM	**Songino Array**	**147.34**	**357**	PKPbc	PKPbc	04 36 43.2	-1.2
	0.5nm,0.6s,baz=48,slow=2.1,SNR=4.0						

*CSEM **20** 04:22:44.4±0.8, 3846N×2696W, h10km, ML1.6, Error ellipse: s-maj=3.2km s-min=1.7km az=39.0, After PDA*

PDA 20 04:22:44.4±0.8, 3846N×2696W, h10km, MD3.5, ML1.6, Error ellipse: s-maj=3.2km s-min=1.7km az=39.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCM	**Serra do Cume**	**0.27**	**332**	*e*P	Pg	04 22 49.1	-0.8
PSCM				*e*S	Sg	04 22 53.0	-0.6
PSCM				A		04 22 54.8	
	30nm,0.2s						
PSCM	**Serra do Cume**	**0.27**	**332**	*e*P	Pg	04 22 49.1	-0.8
PSCM				*e*S	Sg	04 22 53.0	-0.6
ADH	**Angra Heroismo**	**0.29**	**311**	*e*P	Pg	04 22 49.5	-0.8
ADH				*e*S	Sg	04 22 53.7	-0.5
PMAN	**Manadas**	**0.91**	**281**	*e*P	Pg	04 22 58.3	-3.5
PMAN				*e*S	Sg	04 23 09.2	-4.4
PMAN				A		04 23 09.7	
	48nm,0.5s						
PMAN	**Manadas**	**0.91**	**281**	*e*P	Pg	04 22 58.3	-3.5
PMAN				*e*S	Sg	04 23 09.2	-4.4
SRBC	**Serra Branca**	**1.02**	**304**	*e*P	Pg	04 23 00.0	-4.1
SRBC				*e*S	Sg	04 23 12.0	-5.4
ROSA	**Rosais**	**1.04**	**285**	*e*P	Pg	04 23 00.1	-4.3
ROSA				*e*S	Sg	04 23 12.4	-5.5
PICO	**Pico**	**1.16**	**272**	*e*P	Pb	04 23 01.8	-4.6
PICO				*e*S	Sb	04 23 15.5	-6.0
PDA	**Ponta Delgada**	**1.24**	**125**	*e*S	Sb	04 23 17.3	-6.7
HOR	**Horta**	**1.32**	**273**	*e*P	Pn	04 23 03.9	-4.9
HOR				*e*S	Sb	04 23 18.9	-7.2
CMLA	**Cha da Macela**	**1.33**	**121**	*e*S	Sb	04 23 19.5	-6.9
CMLA				A		04 23 21.2	
	12nm,0.1s						
CALA	**Caldeira**	**1.38**	**276**	*e*P	Pn	04 23 04.6	-5.0
CALA				*e*S	Sb	04 23 20.9	-6.9

*MOS **20** 04:51:40.3±0.9, 3651N×7135E, h227km, mb4.4/17, Error ellipse: s-maj=7.4km s-min=4.7km az=105.6*
*ISCJB **20** 04:51:40.5±0.1, 3646N±002×7131E±003, h231km, mb4.5/75, Error ellipse: s-maj=3.0km s-min=2.0km az=152.3*
*BJI **20** 04:51:41.5, 3667N×7132E, h231km, mB4.5, mb4.8*
*NEIC **20** 04:51:41.4±0.5, 3649N×7137E, h225km±5km, mb4.6/32, Error ellipse: s-maj=5.6km s-min=3.6km az=219.0*
*DJA **20** 04:51:42, 3655N×7112E, h228km, mb4.9/13*
*IDC **20** 04:51:42.6±0.5, 3654N×7132E, h238km±4km, mb3.9/18, mb1 4.1/22, mb1mx4.1/23, mbtmp4.0/22, Error ellipse: s-maj=9.6km s-min=7.4km az=5.0*
*SZGRF **20** 04:52:09.5, 3663N×7215E, h33km, mb4.7, Afghanistan-Tajikistan border region*

ISC 20 04:51:42.0±0.1, 3648N±002×7139E±003, h233km, h233km±1.8km: pP-P, n243, σ1919/273, mb4.5/75, 13C-14D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.68**	**171**	⇑P	**Pn**	**04 52 30.3**	**+0.3**
CEP				S	**S**	**04 53 07.0**	**-0.7**
KBL	**Kabul**	**2.72**	**225**	*e*PN	**Pn**	**04 52 29.5**	**-0.9**
CHCP	**Chirah Chowk**	**3.21**	**151**	⇓P	**Pn**	**04 52 36.4**	**+0.6**
THW	**Thamme Wali**	**3.69**	**175**	⇑P	**Pn**	**04 52 41.2**	**-0.1**
SRNI	**Srinagar**	**3.69**	**129**	*e*P	**Pn**	**04 52 41.5**	**+0.1**
SRNI				*ex*	**S**	**04 53 27.0**	**-1.3**
SARP	**Sargodha**	**4.67**	**166**	⇑P	**Pn**	**04 52 53.7**	**+0.5**
SARP				S	**S**	**04 53 47.0**	**-2.7**
KSH	**Kashi**	**4.72**	**49**	*i* P	**Pn**	**04 52 53.8**	**+0.1**
KSH				Smax			
	comp=N,13μm,0.5s						
KSH				Smax			
	comp=E,9μm,0.6s						
JMU	**Jammu**	**4.74**	**141**	*e*P	**Pn**	**04 52 52.5**	**-1.5**
JMU				*e*S	**S**	**04 53 45.0**	**-6.2**
THN	**Thein Dam**	**5.39**	**137**	*e*P	**Pn**	**04 53 01.0**	**-1.1**
THN				*e*S	**S**	**04 54 02.0**	**-3.8**
DLH	**Dalhousie**	**5.45**	**135**	*e*P	**Pn**	**04 53 02.0**	**-0.8**
DLH				*ex*	**S**	**04 54 05.0**	**-2.2**
AML	**Almayashu**	**5.92**	**17**	P	**Pn**	**04 53 07.9**	**-0.7**
	SNR=671						
AML	**Almayashu**	**5.92**	**17**	*e*Pn	**Pn**	**04 53 07.9**	**-0.7**
	comp=E,3μm,0.6s						
UCH	**Uchtor**	**6.23**	**22**	P	**Pn**	**04 53 12.3**	**-0.2**
	SNR=7.1						
UCH	**Uchtor**	**6.23**	**22**	*e*Pn	**Pn**	**04 53 12.4**	**-0.1**
	comp=E,6.4nm,0.6s						
KZA	**Kyzart**	**6.34**	**27**	P	**Pn**	**04 53 13.4**	**-0.5**
	SNR=24						
EKS2	**Erkin-Say**	**6.44**	**16**	P	**Pn**	**04 53 14.1**	**-1.1**
	SNR=503						
EKS2	**Erkin-Say**	**6.44**	**16**	*e*Pn	**Pn**	**04 53 14.5**	**-0.7**
	comp=E,386nm,0.7s						
BHK	**Bhakra**	**6.55**	**139**	*e*P	**Pn**	**04 53 14.6**	**-2.2**
BHK				*e*S	**S**	**04 54 26.8**	**-5.7**
AAK	**Ala-Archa**	**6.60**	**20**	P	**Pn**	**04 53 16.8**	**-0.4**
	SNR=60						
KK31	**Karatay Array**	**6.65**	**354**	⇓P	**Pn**	**04 53 16.1**	**-1.7**
	comp=E,214nm,0.6s,baz=162,slow=15,SNR=3223						
KK31				⇓S	**S**	**04 54 24.6**	**-10**
	comp=E,404nm,0.4s,baz=168,slow=21						
KK31	**Karatay Array**	**6.65**	**354**	*e*PN	**Pn**	**04 53 16.1**	**-1.7**
KK31				pmax	pmax		
	comp=Z,76nm,0.4s						
KBK	**Karagaybulak**	**6.75**	**23**	P	**Pn**	**04 53 18.8**	**-0.4**
	SNR=168						
SDNR	**Sundarnagar**	**6.79**	**135**	*e*P	**Pn**	**04 53 18.0**	**-1.8**
SDNR				*ex*	x	04 54 05.4	
FRU	**Bishkek**	**6.81**	**20**	⇑*i*PN	**Pn**	**04 53 19.0**	**-0.9**
FRU				*i* S	**S**	**04 54 34.0**	**-4.3**
FRU				pmax	pmax		
	comp=Z,350nm,1.0s						
FRU				smax			
	comp=N,1μm,2.0s						
ULHL	**Ulahol**	**6.88**	**32**	P	**Pn**	**04 53 20.2**	**-0.5**
	SNR=178						
CHMS	**Chumysh**	**7.01**	**21**	P	**Pn**	**04 53 21.3**	**-1.0**
	SNR=148						
SMLA	**Simla**	**7.18**	**136**	⇓*i*P	**Pn**	**04 53 24.8**	**0.0**
SMLA				⇓*i*P		04 53 24.8	
SMLA				*i* S	**S**	**04 54 42.5**	**-4.5**
USP	**Ospenovka**	**7.19**	**18**	P	**Pn**	**04 53 23.3**	**-1.4**
	SNR=56						
TKM2	**Tokmak 2**	**7.20**	**25**	⇑P	**Pn**	**04 53 24.4**	**-0.5**
	comp=N,350nm,0.6s						
TKM2				⇓S	**S**	**04 54 43.7**	**-3.6**
	comp=N,104nm,0.6s						
TKM2	**Tokmak 2**	**7.20**	**25**	*e*PN	**Pn**	**04 53 24.3**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,482nm,0.6s						
TKM2	**Tokmak 2**	**7.20**	**25**	P	**Pn**	**04 53 24.2**	**-0.7**
	SNR=910						
TKM2	**Tokmak 2**	**7.20**	**25**	*e*Pn	**Pn**	**04 53 24.3**	**-0.5**
	comp=Z,482nm,0.6s						
KLP	**Kalpa**	**7.53**	**129**	*e*P	**Pn**	**04 53 29.4**	**+0.1**
KLP				AMb	AMB	04 53 34.7	
	comp=Z,308nm,1.2s						
KLP				*e*S	**S**	**04 54 49.7**	**-5.6**
KKR	**Kurukshetra**	**7.93**	**143**	*e*P	**Pn**	**04 53 33.5**	**-0.9**
KKR				AMb	AMB	04 53 36.4	
	comp=Z,564nm,1.0s						
AAA	**Alma-Ata**	**8.01**	**30**	*e*PN	**Pn**	**04 53 33.4**	**-1.8**
AAA				*e*S	**S**	**04 55 06.1**	**-0.1**
DDI	**Dehra Dun**	**8.29**	**136**	*e*P	**Pn**	**04 53 38.0**	**-0.9**
DDI				*ex*	**S**	**04 55 12.2**	**-0.7**
JOSI	**Joshimath**	**9.02**	**129**	*e*P	**Pn**	**04 53 48.4**	**+0.1**
JOSI				AMb	AMB	04 53 51.9	
	comp=Z,2μm,1.1s						
JOSI				*ex*	x	04 55 05.9	
NDI	**New Delhi**	**9.20**	**146**	*e*P	**Pn**	**04 53 49.0**	**-1.5**
NDI				*e*S	**S**	**04 55 25.0**	**-9.2**
SONA	**Sohna**	**9.51**	**148**	*e*P	**Pn**	**04 53 53.5**	**-1.0**
SONA				AMb	AMB	04 53 55.7	
	comp=Z,457nm,0.7s						
SONA				*e*S	**S**	**04 55 32.1**	**-10**
JASL	**Jaisalmer**	**9.54**	**183**	*ex*	**Pn**	**04 53 51.4**	**-3.5**
JASL				AMb	AMB	04 53 55.3	
	comp=Z,133nm,0.6s						
PTH	**Pithoragarh**	**10.13**	**131**	*ex*	**Pn**	**04 54 00.0**	**-2.4**
PTH				*e*S	**S**	**04 55 48.6**	**-7.5**
AJM	**Ajmer**	**10.35**	**164**	*e*P	**Pn**	**04 54 04.3**	**-0.9**
AJM				AMb	AMB	04 54 05.2	
	comp=Z,187nm,0.7s						
AJM				*e*S	**S**	**04 55 54.2**	**-7.1**
MK31	**Makanchi Array**	**13.12**	**35**	*i* P	**Pn**	**04 54 38.9**	**-0.8**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**13.12**	**35**	*e*Pn	**Pn**	**04 54 38.6**	**-1.1**
MKAR	**Makanchi Array**	**13.12**	**35**	P	**Pn**	**04 54 38.2**	**-1.5**
	comp=Z,2.4nm,0.3s,baz=224,slow=12,SNR=62						
MKAR				S	**S**	**04 57 02.8**	**-2.7**
	baz=241,slow=20,SNR=2.1						
MKAR				ScP	ScP	05 03 01.2	-1.3
	comp=Z,0.1nm,0.3s,baz=259,slow=3.1,SNR=4.5						
MKAR	**Makanchi Array**	**13.12**	**35**	P	**Pn**	**04 54 38.3**	**-1.4**
MKAR				S	**S**	**04 57 02.8**	**-2.8**
DANN	**Dangsing**	**13.21**	**124**	*e*P	**Pn**	**04 54 40.6**	**-0.5**
	comp=Z,116nm,0.2s						
BHJ	**Bhuj**	**13.27**	**187**	*e*P	**Pn**	**04 54 43.7**	**+2.0**
BHJ				AMb	AMB	04 54 47.7	
	comp=Z,320nm,1.4s						
BHJ				*e*S	**S**	**04 57 00.0**	**-9.3**
KOLN	**Koldanda**	**13.50**	**127**	*e*P	**Pn**	**04 54 42.7**	**-1.8**
GKN	**Gorkha**	**14.03**	**123**	*e*P	**Pn**	**04 54 51.5**	**+0.5**
WMQ	**Urumqi**	**14.45**	**55**	P	**Pn**	**04 54 57.1**	**+1.1**
WMQ				XP		04 55 53.4	
WMQ				S	**S**	**04 57 32.4**	**-3.6**
WMQ				PCP	PcP	04 59 57.3	+3.8
WMQ				SCP	ScP	05 03 08.6	+3.7
WMQ				SCS	ScS	05 06 44.1	+1.7
WMQ				AMB	AMB		
	comp=Z,26nm,0.6s						
DMN	**Daman**	**14.60**	**123**	*e*P	**Pn**	**04 54 58.4**	**+0.4**
	comp=Z,291nm,0.5s						
KKN	**Kakani**	**14.60**	**122**	*e*P	**Pn**	**04 54 58.2**	**+0.2**
	comp=Z,333nm,0.6s						
KKN	**Kakani**	**14.60**	**122**	*e*P	**Pn**	**04 54 58.2**	**+0.2**
KKN				pmax	pmax		
	comp=Z,333nm,0.6s						
PKI	**Pulchoki**	**14.83**	**123**	*e*P	**Pn**	**04 55 01.0**	**+0.2**
GUN	**Gumba**	**14.94**	**121**	*e*P	**Pn**	**04 55 02.3**	**+0.2**
	comp=Z,269nm,0.5s						
KURK	**Kurchatov**	**15.15**	**18**	*e*P	**Pn**	**04 55 02.7**	**-1.7**
KURK				pmax	pmax		
	comp=Z,44nm,0.8s						
KURK	**Kurchatov**	**15.15**	**18**	*e*Pn	**Pn**	**04 55 02.7**	**-1.7**
	comp=Z,44nm,0.8s						
AB31	**Akbulak array**	**15.26**	**330**	P	**Pn**	**04 55 03.1**	**-2.6**
AB31						04 57 54.1	
AB31				pmax	pmax		
	comp=Z,8.0nm,0.3s						
AB31				smax			
	comp=Z,17nm,0.5s						
JIRN	**Jiri**	**15.31**	**121**	*e*P	**Pn**	**04 55 07.7**	**+1.2**
	comp=Z,441nm,0.5s						
RAMN	**Ramite**	**16.04**	**122**	*e*P	**P**	**04 55 15.1**	**+0.9**
	comp=Z,120nm,0.4s						
AKL	**Akola**	**16.47**	**161**	*ex*	**P**	**04 55 20.6**	**+1.6**
AKL				AMb	AMB	04 55 23.8	
	comp=Z,45nm,0.8s						
BVA0	**Borovoye Array**	**16.56**	**358**	*i* P	**P**	**04 55 19.7**	**0.0**
BVA0				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BVAR	**Borovoye Array**	**16.56**	**358**	P	**P**	**04 55 19.8**	**+0.1**
	comp=Z,39nm,0.3s,baz=167,slow=10,SNR=130						
BVAR				S	**S**	**04 58 17.2**	**-3.4**
	comp=Z,2.8nm,0.3s,baz=177,slow=13,SNR=5.9						
TAPN	**Taplejung**	**16.56**	**119**	*e*P	**P**	**04 55 23.0**	**+3.0**
	comp=Z,150nm,0.4s						
BRVK	**Borovoye**	**16.60**	**358**	*e*P	**P**	**04 55 20.6**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,101nm,0.5s						
BRVK	**Borovoye**	**16.60**	**358**	*e*P	**P**	**04 55 20.6**	**+0.5**
	comp=Z,101nm,0.5s						
ODAN	**Odare**	**16.64**	**121**	*e*P	**P**	**04 55 23.3**	**+2.5**
	comp=Z,124nm,0.5s						
NGP	**Nagpur**	**16.67**	**154**	*ex*	**P**	**04 55 25.6**	**+4.3**
NGP				*ex*	**S**	**04 58 18.7**	**-4.8**
AKTK	**Aktyubinsk**	**16.96**	**330**	P	**P**	**04 55 24.3**	**+0.2**
AKTK				S	**S**	**04 58 26.7**	**-1.9**
AKTO	**Aktyubinsk**	**16.96**	**330**	P	**P**	**04 55 24.3**	**+0.2**
	comp=Z,39nm,0.3s,baz=135,slow=11,SNR=371						
AKTO				S	**S**	**04 58 26.7**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=22,slow=20,SNR=3.3						
BLSP	**Bilaspur**	**17.07**	**144**	*e*P	**P**	**04 55 24.9**	**-0.8**
BLSP				AMb	AMB	04 55 30.4	
	comp=Z,103nm,1.5s						
BLSP				*e*S	**S**	**04 58 30.7**	**-0.8**
BOK	**Bokaro**	**17.78**	**131**	*e*P	**P**	**04 55 33.0**	**-0.2**
BOK				AMb	AMB	04 55 37.1	
	comp=Z,42nm,0.3s						
BOK				*ex*	**S**	**04 58 44.3**	**-1.2**
LSA	**Lhasa**	**17.87**	**107**	P	**P**	**04 55 38.8**	**+4.6**
LSA	**Lhasa**	**17.87**	**107**	*e*P	**P**	**04 55 38.3**	**+4.1**
LSA				pmax	pmax		
	comp=Z,86nm,0.8s						
LSA	**Lhasa**	**17.87**	**107**	*e*P	**P**	**04 55 38.3**	**+4.1**
	comp=Z,86nm,0.8s						
POO	**Poona**	**18.01**	**172**	*e*P	**P**	**04 55 34.8**	**-1.1**
POO				AMb	AMB	04 55 44.8	
	comp=Z,63nm,2.0s						
POO				*ex*	x	04 59 40.8	
LATR	**Latur**	**18.56**	**164**	*e*P	**P**	**04 55 42.3**	**+0.5**
LATR				AMb	AMB	04 55 48.5	
	comp=Z,17nm,0.3s						
KAD	**Karad**	**19.26**	**172**	*e*P	**P**	**04 55 50.0**	**+0.7**
MAK	**Makhachkala**	**19.45**	**297**	*e*P	**P**	**04 55 51.4**	**+0.3**
MAK				*i* S	**S**	**04 59 19.9**	**+1.9**
MAK				pmax	pmax		
	comp=Z,105nm,1.1s						
MAK				MLR	MLR		
	comp=Z,115nm,11.0s						
ZAL	**Zalesovo**	**19.79**	**24**	P	**P**	**04 55 54.4**	**-0.2**
ZAL				S	**S**	**04 59 23.1**	**-1.2**
ZALV	**Zalesovo Beam**	**19.80**	**24**	P	**P**	**04 55 54.4**	**-0.4**
	comp=Z,9.7nm,0.3s,baz=221,slow=12,SNR=53						
ZALV				S	**S**	**04 59 23.1**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=209,slow=19,SNR=5.7						
HYB	**Hyderabad**	**20.02**	**160**	*e*P	**P**	**04 55 58.5**	**+1.1**
HYB				pmax	pmax		
	comp=Z,90nm,1.0s						
HYB	**Hyderabad**	**20.02**	**160**	*i* P	**P**	**04 55 58.5**	**+1.1**
	comp=Z,90nm,1.0s						
HYB				*e*		04 56 24.5	
HYB	**Hyderabad**	**20.02**	**160**	*e*P	**P**	**04 55 58.5**	**+1.1**
	comp=Z,90nm,1.0s						
HYB				*e*		04 56 24.5	
NVS	**Novosibirsk**	**20.09**	**20**	*e*P	**P**	**04 55 56.5**	**-1.3**
NVS				*e*S	**S**	**04 59 27.6**	**-2.5**
NVS				pmax	pmax		
	comp=Z,72nm,1.7s						
NVS				pmax	pmax		
	comp=N,60nm,1.6s						
NVS				pmax	pmax		
	comp=E,17nm,1.2s						
NVS				smax			
	comp=N,137nm,1.7s						
NVS				smax			
	comp=E,82nm,1.3s						
SHL	**Shillong**	**20.62**	**116**	*e*P	**P**	**04 56 06.5**	**+2.9**
SHL				*e*S	**S**	**04 59 45.5**	**+4.9**
MIB	**Mutribah**	**21.18**	**259**	*e*P	**P**	**04 56 08.7**	**-0.9**
	baz=258						
MIB				AMb	AMB	04 56 13.6	
	comp=Z,74nm,1.2s,mb5.1,baz=258						
GNI	**Garni**	**21.20**	**288**	P	**P**	**04 56 11.2**	**+1.6**
	comp=Z,29nm,0.6s,mb5.0,baz=302,slow=23,SNR=6.2						
RDF	**Al-Radifah**	**21.40**	**256**	*e*P	**P**	**04 56 10.7**	**-1.1**
	baz=256						
RDF				AMb	AMB	04 56 16.1	
	comp=Z,64nm,0.6s,mb5.3,baz=256						
NAY	**Al-Naaiem**	**21.50**	**257**	*e*P	**P**	**04 56 11.7**	**-1.0**
	baz=257						
NAY				AMb	AMB	04 56 16.8	
	comp=Z,34nm,0.7s,mb5.0,baz=257						
SVE	**Sverdlovsk**	**21.60**	**344**	⇓*e*P	**P**	**04 56 13.5**	**+0.1**
SVE				*e*S	**S**	**05 00 01.5**	**+5.5**
SVE				pmax	pmax		
	comp=Z,47nm,0.7s,mb5.1						
HVS	**Khovu-Aksy**	**21.65**	**40**	⇓*i*P	**P**	**04 56 17.5**	**+3.6**
HVS				pmax	pmax		
	comp=Z,79nm,0.5s,mb5.5						
ARU	**Arti**	**21.76**	**341**	*d i*P	**P**	**04 56 14.7**	**-0.1**
ARU				*e*S	**S**	**04 59 59.6**	**+1.1**
ARU				pmax	pmax		
	comp=Z,144nm,1.7s,mb5.2						
ARU	**Arti**	**21.76**	**341**	*e*P	**P**	**04 56 14.9**	**+0.1**
GTA	**Gaotai**	**22.57**	**74**	⇑P	**P**	**04 56 25.3**	**+2.9**
GTA				XP	sP	04 57 34.0	+1.9
GTA				S	**S**	**05 00 18.5**	**+6.4**
GTA				SS		05 01 29.8	
GTA				AMB	AMB		
	comp=Z,35nm,0.9s,mb4.9						
GTA				AMB	AMB		
	comp=Z,215nm,3.9s						
GTA				LR	LR		
	comp=N,90nm,15.3s						
GTA				LR	LR		
	comp=E,69nm,15.6s						
GTA				LR	LR		
	comp=Z,82nm,17.1s						
IMP	**Imphal**	**22.57**	**115**	*ex*	**P**	**04 56 25.0**	**+2.4**
IMP				*ex*	x	04 57 39.0	
KIV	**Kislovodsk**	**23.08**	**298**	P	**P**	**04 56 28.0**	**+1.0**
KIV				*PP		04 57 07.0	
KIV				MLR	MLR		
	comp=Z,100nm,17.0s						
KIV	**Kislovodsk**	**23.08**	**298**	*e*P	**P**	**04 56 26.0**	**-1.0**
	comp=Z,16nm,0.6s,mb4.7						
SOKR	**Solikamsk**	**24.97**	**342**	*c i*P	**P**	**04 56 45.5**	**+1.6**
SOKR				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.9						
LZH	**Lanzhou**	**26.10**	**81**	P	**P**	**04 56 55.1**	**+0.7**
LZH				*e*S	**S**	**05 01 10.0**	**+1.8**
LZH				XS	sS	05 02 28.3	-2.6
LZH				SS	SS	05 02 44.0	-24
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7

OBN e*PP pP 04 58 15.5 -1.1
OBN e*SP sP 04 58 42.2 -1.4
OBN 05 00 30.0
OBN S **S** **05 02 15.0 +3.6**
OBN pmax pmax
comp=Z,56nm,1.7s,mb4.9
CMAR Chiang Mai Arr 30.17 119 P **P** **04 57 32.2 +1.6**
comp=Z,14nm,0.9s,mb4.6,baz=304,slow=8.3,SNR=66
CMAR pP pP 04 58 20.4 +3.3
comp=Z,4.5nm,0.9s,baz=313,slow=10.0,SNR=2.7
CMAR PcP PcP 05 00 26.1 +0.3
comp=Z,1.1nm,0.3s,baz=298,slow=4.9,SNR=4.8
PALK Pallekele 30.29 161 eP **P** **04 57 31.7 0.0**
PALK pmax pmax
comp=Z,30nm,1.1s,mb4.8
PALK Pallekele 30.29 161 eP **P** **04 57 31.7 0.0**
comp=Z,30nm,1.1s,mb4.8
BTO Baotou 30.33 70 eP **P** **04 57 34.1 +2.3**
XAN Xi'an 30.62 83 P **P** **04 57 35.6 +1.2**
XAN AMB AMB
comp=Z,34nm,1.0s,mb4.9
XAN AMB AMB
comp=Z,38nm,4.7s
HHC Hu-ho-hao-te 31.48 70 eP **P** **04 57 44.4 +2.6**
HHC AP pP 04 58 29.8 +1.3
HHC XP sP 04 58 55.9 +0.5
HHC PP PP 04 58 58.3 +0.4
HHC S **S** **05 02 36.0 +3.7**
HHC XS sS 05 03 54.5 -1.3
HHC PCS PcS 05 04 14.8 +1.4
HHC SS SS 05 04 44.4 -4.7
HHC AMB AMB
comp=Z,16nm,0.6s,mb4.8
HHC AMB AMB
comp=Z,78nm,6.2s
HHC LR LR
comp=N,219nm,21.4s
HHC LR LR
comp=E,245nm,21.4s
HHC LR LR
comp=Z,195nm,20.2s
GYA Guiyang 31.55 98 P **P** **04 57 45.0 +2.3**
GYA AP pP 04 58 30.8 +1.5
GYA XP sP 04 58 56.9 +0.8
GYA PCP PcP 05 00 31.8 +2.5
GYA S **S** **05 02 36.8 +3.1**
GYA SCP ScP 05 03 52.0 +1.9
GYA PCS PcS 05 04 15.9 +1.7
GYA SCS ScS 05 07 49.6 +1.0
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
KLMR Klimovskoe 31.65 330 d iP **P** **04 57 42.8 -0.3**
KLMR e*PP pP 04 58 28.7 -1.1
AKASG Malin Array Be 33.20 309 P **P** **04 57 55.8 -0.9**
comp=Z,1.2nm,0.4s,mb3.8,baz=91,slow=6.6,SNR=18
AKASG pP pP 04 58 43.1 -0.5
comp=Z,10nm,0.8s,baz=92,slow=7.3,SNR=7.9
KIEV Kiev 33.21 309 eP **P** **04 57 56.6 -0.2**
KIEV pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
KIEV Kiev 33.21 309 eP **P** **04 57 56.6 -0.2**
comp=Z,4.5nm,0.7s,mb4.1
BJT Baijiatuau 35.06 70 eP **P** **04 58 14.1 +1.3**
BJT pmax pmax
comp=Z,13nm,0.6s
BJT Baijiatuau 35.06 70 eP **P** **04 58 14.1 +1.3**
comp=Z,13nm,0.6s,mb4.7
MLR Muntele Rosu 35.07 299⇑ iP **P** **04 58 14.6 +1.8**
BOD Bodaibo 35.17 39 eP **P** **04 58 14.6 +1.2**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
JOF Joensuu 36.04 330 ep **P** **04 58 20.2 -0.6**
comp=Z,8.8nm,0.3s,mb4.8
WHN Wuhan 36.08 87 ⇓iP **P** **04 58 22.5 +0.9**
WHN AMB AMB
comp=Z,70nm,0.8s,mb5.2
VSU Vasula 36.40 321 d iP **P** **04 58 23.6 -0.3**
KWP Kalwaria 37.28 306 eP **P** **04 58 29.5 -1.9**
KWP pmax pmax
comp=Z,6.0nm,0.5s,mb4.4
KWP Kalwaria 37.28 306 eP **P** **04 58 29.5 -1.9**
comp=Z,5.9nm,0.5s,mb4.4
KOLS Kolonicke sedl 37.55 305 eP **P** **04 58 23.8 -10**
KOLS i pP pP 04 59 22.9 +1.5
KOLS ePP PP 05 00 05.7 +1.2
APA Apatity 37.78 337⇓ iP **P** **04 58 35.8 +0.5**
APA i 05 00 06.2
APA pmax pmax
comp=Z,11nm,0.6s,mb4.6
APA MLR MLR
comp=Z,300nm,15.0s
KAF Kangasniemi 37.81 327 ep **P** **04 58 35.3 -0.4**
comp=Z,1.9nm,0.4s,mb4.0,baz=112,slow=8.5
KAF Kangasniemi 37.81 327 eP **P** **04 58 35.3 -0.4**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
STHS ePP PP 05 00 17.8 +6.0
STHS Stebnicka Huta 38.23 306 epP pP 04 59 22.2 -5.0
KECS Kecovo 38.73 304 eP **P** **04 58 37.8 -5.7**
KECS ePP PP 05 00 21.3 +3.9
PSZ Piszkesteto 39.15 304 eP **P** **04 58 46.9 -0.1**
PSZ pmax pmax
comp=Z,7.0nm,1.8s,mb3.9
PSZ Piszkesteto 39.15 304 eP **P** **04 58 46.9 -0.1**
comp=Z,6.8nm,1.8s,mb3.9
NJ2 Nanjing 39.17 82 eP **P** **04 58 49.3 +1.9**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.8
MORC Moravsky Berou 40.63 306 eP **P** **04 58 59.8 +0.7**
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
MORC Moravsky Berou 40.63 306 eP **P** **04 58 59.8 +0.6**
comp=Z,2.4nm,0.6s,mb3.8
KEV Kevo 40.94 338 ep **P** **04 59 01.1 -0.2**
comp=Z,1.3nm,0.3s,mb3.8
KEV Kevo 40.94 338 eP **P** **04 59 01.1 -0.2**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb3.7
ARCES ARCESS Array B 41.28 337 P **P** **04 59 04.4 +0.3**
comp=Z,5.2nm,0.5s,mb4.3,baz=115,slow=8.2,SNR=95
ARCES pP pP 04 59 52.1 -0.6
comp=Z,5.6nm,0.7s,baz=113,slow=8.3,SNR=3.9
ARE0 ARCESS Array S 41.28 337 eP **P** **04 59 05.1 +0.9**
CN2 Changchun 41.34 63 eP **P** **04 59 06.0 +1.0**
DPC Dobruska-Polom 41.40 307 eP pP 04 59 55.8 +1.9
DPC Dobruska-Polom 41.40 307 epP pP 04 59 55.8 +1.9
DPC ePP PP 05 00 51.9 +5.9
SOP Sopron 41.41 303⇑ epP PP 05 00 40.5 -5.6
UPC Upice 41.59 308 eP pP 04 59 57.3 +1.8
UPC Upice 41.59 308 epP pP 04 59 57.3 +1.8
UPC esP sP 05 00 22.1 +0.2
PRU Pruhonice 42.56 307 eP pP 05 00 04.0 +0.5
PRU Pruhonice 42.56 307 epP pP 05 00 04.0 +0.5
GERES GERESS Array B 43.20 305 P **P** **04 59 20.9 +1.0**
comp=Z,0.3nm,0.2s,mb3.3,baz=62,slow=31,SNR=4.4
GERES pP pP 05 00 09.6 +0.8
comp=Z,0.4nm,0.3s,baz=86,slow=5.9,SNR=3.8
GERES PcP PcP 05 01 04.2 -0.5
comp=Z,1.3nm,0.7s,baz=92,slow=5.9,SNR=5.4
KHC ePP PP 05 01 03.6 -2.1
KHC Kasperske Hory 43.25 306 epP pP 05 00 10.6 +1.3
CLL Collm 43.45 309 eP pP 05 00 12.0 +1.1
comp=Z,11nm,1.3s
CLL Collm 43.45 309 e(pP) pP 05 00 12.0 +1.1
CLL esP sP 05 00 34.0 -3.2
CLL ePP PP 05 01 05.0 -2.8
CLL eSS SS 05 08 56.0 +1.1
CLL e(SSS) 05 10 18.0
CLL eX x 05 11 56.0
YAK Yakutsk 43.80 35 eP **P** **04 59 24.2 -0.2**
YAK e 05 05 36.2
YAK pmax pmax
comp=Z,14nm,0.9s,mb4.3
MDJ Mudanjiang 44.14 61 P **P** **04 59 26.4 -1.0**
MDJ AP pP 05 00 13.1 -3.5
MDJ PP PP 05 01 13.8 -1.4
MDJ SCP ScP 05 04 38.3 +0.9
MDJ PCS PcS 05 05 00.5 -0.9
MDJ S **S** **05 05 43.3 +1.0**
MDJ AMB AMB
comp=Z,4.0nm,1.0s,mb3.7
MDJ AMB AMB
comp=Z,31nm,3.1s
MDJ LR LR
comp=N,18nm,20.3s
MDJ LR LR
comp=E,24nm,23.4s
MDJ LR LR
comp=Z,42nm,19.9s
KS15 Wonju Array Si 44.56 71 eP **P** **04 59 33.1 +2.2**
NB2 NORSAR Subarra 44.59 323 P **P** **04 59 30.2 -0.5**
comp=Z,6.6nm,0.7s,mb4.1,baz=96,slow=7.9
NOA NORSAR Array B 44.59 323 P **P** **04 59 29.9 -0.8**
comp=Z,5.4nm,0.6s,mb4.0,baz=96,slow=7.7,SNR=28
NOA pP pP 05 00 19.5 -0.5
comp=Z,3.7nm,0.5s,baz=96,slow=8.0,SNR=4.8
KSRS Korea Array 44.59 71 P **P** **04 59 32.2 +1.1**
comp=Z,6.7nm,0.5s,mb4.2,baz=281,slow=6.6,SNR=27
KSRS PcP PcP 05 01 07.2 -2.4
comp=Z,2.7nm,0.9s,baz=282,slow=3.9,SNR=6.9
KSRS Korea Array 44.59 71 P **P** **04 59 32.2 +1.1**
KSRS 05 01 07.3
KSRS pmax pmax
comp=Z,7.0nm,0.5s,mb4.2
KLR Kul'dur 44.90 54 eP **P** **04 59 30.6 -2.7**
CDF Champ du Feu 47.48 306 eP **P** **04 59 54.5 +1.1**
HINF Hinteralfeld 47.87 305 eP **P** **04 59 56.9 +0.5**
HINF epP pP 05 00 46.5 +0.1
LPG La Plagne 48.43 302 eP **P** **05 00 02.7 +2.0**
LPG epP pP 05 00 51.7 +0.9
LPL La Plagne 48.44 302 eP **P** **05 00 01.4 +0.7**
MBDF Montbardon 48.59 301 eP **P** **05 00 02.5 +0.5**
comp=Z,7.0nm,0.6s,mb3.9
MBDF Montbardon 48.59 301 eP **P** **05 00 02.5 +0.5**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
MBDF Montbardon 48.59 301 eP **P** **05 00 02.5 +0.5**
comp=Z,3.5nm,0.6s,mb3.9
CABF La Chapelle 48.63 303 eP **P** **05 00 03.0 +0.8**
FRF La Foret Royal 48.97 299 eP **P** **05 00 04.6 -0.2**
KMBO Kilima Mbogo 49.05 228 P **P** **05 00 07.0 +1.2**
comp=Z,1.7nm,0.5s,mb3.6,baz=27,slow=8.9,SNR=5.8
KMBO Kilima Mbogo 49.05 228 i P **P** **05 00 07.9 +2.1**
KMBO pmax pmax
comp=Z,2.0nm,0.5s
KMBO Kilima Mbogo 49.05 228 P **P** **05 00 07.0 +1.2**
LMR La Mourre 49.12 299 eP **P** **05 00 04.6 +0.2**
KEST Kesra 49.34 289 P **P** **05 00 08.4 +0.6**
comp=Z,1.0nm,0.5s,mb3.4,baz=315,slow=12,SNR=8.6
KEST pP pP 05 00 59.2 +1.2
comp=Z,3.9nm,1.0s,baz=339,slow=4.7,SNR=5.3
VIVF Saint-Julien-l 50.01 301 eP **P** **05 00 13.0 +0.4**
SMF Signal de Mont 50.13 304 eP **P** **05 00 13.5 0.0**
comp=Z,5.6nm,0.6s,mb3.8
SMF epP pP 05 01 04.1 +0.2
SMF Signal de Mont 50.13 304 eP **P** **05 00 13.5 0.0**
SMF e*PP pP 05 01 04.1 +0.2
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
SMF Signal de Mont 50.13 304 eP **P** **05 00 13.5 0.0**
comp=Z,2.8nm,0.6s,mb3.8
SMF epP pP 05 01 04.1 +0.2
AVF Avril sur Loir 50.42 304 eP **P** **05 00 15.6 -0.1**
comp=Z,6.2nm,0.6s,mb3.8
AVF epP pP 05 01 06.4 +0.2
AVF Avril sur Loir 50.42 304 eP **P** **05 00 15.6 -0.1**
AVF e*PP pP 05 01 06.4 +0.2
AVF pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
AVF Avril sur Loir 50.42 304 eP **P** **05 00 15.6 -0.1**
comp=Z,3.1nm,0.6s,mb3.8
AVF epP pP 05 01 06.4 +0.2
KKM Kota Kinabalu 50.92 115 eP **P** **05 00 22.7 +2.9**
TCF Toulx Ste Croi 51.31 304 eP **P** **05 00 22.9 +0.6**
CAF Calviac 51.77 302 eP **P** **05 00 26.3 +0.5**
comp=Z,5.2nm,0.7s,mb3.8
CAF Calviac 51.77 302 eP **P** **05 00 26.3 +0.5**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
CAF Calviac 51.77 302 eP **P** **05 00 26.3 +0.5**
comp=Z,2.6nm,0.7s,mb3.8
LDF La Druitiere 52.24 307 eP **P** **05 00 29.9 +0.8**
FLN La Foliniere 52.43 307 eP **P** **05 00 30.8 +0.3**
YSS Yuzh-Sakhalins 52.58 55⇑ eP **P** **05 00 33.1 +1.5**
YSS pmax pmax
comp=Z,23nm,1.0s,mb4.6
MAT Matsushiro 52.67 69 P **P** **05 00 33.1 +0.6**
MJAR Matsushiro Arr 52.67 69 P **P** **05 00 32.8 +0.3**
comp=Z,1.8nm,0.5s,mb3.8,baz=293,slow=8.5,SNR=14
GRR Gorron 52.77 307 eP **P** **05 00 33.9 +0.9**
MFF Saint Martin d 52.79 305 eP **P** **05 00 33.3 +0.1**
ETSF Etsaut 54.20 301 eP **P** **05 00 44.4 +0.9**
comp=Z,9.0nm,0.6s,mb4.2
ETSF Etsaut 54.20 301 eP **P** **05 00 44.4 +0.9**
ETSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.2
ETSF Etsaut 54.20 301 eP **P** **05 00 44.4 +0.9**
comp=Z,4.5nm,0.6s,mb4.2
SEY Seymchan 54.26 34⇑ eP **P** **05 00 45.0 +1.4**
SEY i *PP pP 05 01 43.8 +9.0
ROSF Rostrenen 54.33 308 eP **P** **05 00 44.8 +0.5**
QUIF Quistinic 54.38 307 eP **P** **05 00 44.9 +0.2**
comp=Z,23nm,0.9s,mb4.4
QUIF Quistinic 54.38 307 eP **P** **05 00 44.9 +0.2**
QUIF pmax pmax
comp=Z,12nm,0.9s,mb4.4
QUIF Quistinic 54.38 307 eP **P** **05 00 44.9 +0.2**
comp=Z,12nm,0.9s,mb4.4
ESDC Sonseca Array 57.74 298 P **P** **05 01 07.5 -1.1**
comp=Z,0.3nm,0.3s,mb3.4,baz=56,slow=6.6,SNR=6.3
ESDC pP pP 05 01 59.8 -0.7
comp=Z,3.0nm,0.8s,baz=56,slow=8.9,SNR=4.4
BILL Bilibino 58.49 26 eP **P** **05 01 15.1 +1.8**
BILL e pP 05 02 03.0 -2.3
BILL e 05 03 26.1
BILL eS **S** **05 08 56.7 -0.9**
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
PETK Petropavlovsk- 59.77 44 P **P** **05 01 22.3 +0.1**
comp=Z,0.9nm,0.4s,mb3.8,baz=339,slow=2.0,SNR=3.4
LSZ Lusaka 65.67 226 eP **P** **05 02 00.9 -0.7**
LSZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
LSZ Lusaka 65.67 226 eP **P** **05 02 00.9 -0.6**
comp=Z,8.4nm,0.9s,mb4.4
TOA0 Torodi Ar. Sit 66.03 269 eP **P** **05 02 02.7 -1.3**
TORD Torodi Ar. Bea 66.03 269 P **P** **05 02 01.9 -2.1**
comp=Z,3.6nm,0.5s,mb4.3,baz=48,slow=5.6,SNR=69
TORD pP pP 05 02 56.8 -0.6
comp=Z,1.7nm,0.5s,baz=51,slow=5.9,SNR=2.3
TORD sP sP 05 03 25.2 +2.7
comp=Z,2.9nm,0.7s,baz=41,slow=5.7,SNR=2.7
TORD Torodi Ar. Bea 66.03 269 P **P** **05 02 01.9 -2.1**
TORD pP pP 05 02 56.8 -0.6
TORD sP sP 05 03 25.2 +2.7
MBWA Marble Bar 73.28 133 eP **P** **05 02 48.5 +0.5**
comp=Z,55nm,1.6s,mb4.9
COLA College 74.41 16 eP **P** **05 02 55.2 +1.3**
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
COLA College 74.41 16 eP **P** **05 02 55.2 +1.3**
comp=Z,4.4nm,0.8s,mb4.1
FITZ Fitzroy Crossi 74.63 127 eP **P** **05 02 56.4 +0.6**
comp=Z,26nm,1.0s,mb4.8
PPLA Purkeypile 75.00 19 eP **P** **05 02 58.6 +1.2**
comp=Z,3.5nm,0.6s,mb4.2
DBIC Dimbokro 75.01 267 P **P** **05 02 57.0 -1.2**
comp=Z,2.6nm,0.5s,mb4.1,baz=18,slow=6.1,SNR=10.0
DBIC pP pP 05 03 54.9 +2.0
comp=Z,3.3nm,0.7s,baz=50,slow=7.9,SNR=2.4
DBIC Dimbokro 75.01 267 P **P** **05 02 57.0 -1.2**
DBIC pP pP 05 03 54.9 +2.0
KIC Kosan Boka 75.10 267 ePKP2 **P** **05 02 57.2 -1.5**
comp=Z,14nm,0.5s,mb4.9
TSUM Tsumeb 75.15 232 eP **P** **05 02 58.3 -0.5**
comp=Z,3.9nm,0.8s,mb4.1
TIC Toumodi 75.16 267 ePKP2 **P** **05 02 57.7 -1.4**
comp=Z,175nm,1.6s,mb5.4
LIC Lamto 75.41 267 ePKP2 **P** **05 02 58.4 -2.1**
comp=Z,94nm,1.9s,mb5.1
KAKA Kakadu 75.45 118 eP **P** **05 03 00.2 -0.4**
comp=Z,14nm,0.5s,mb4.9
DAWY Dawson 76.87 13 eP **P** **05 03 08.6 +0.7**
YKA Yellowknife Ar 81.25 3 P **P** **05 03 31.9 +0.3**
comp=Z,3.0nm,0.5s,mb4.2,baz=351,slow=5.4,SNR=74
YKA pP pP 05 04 27.2 +0.1
comp=Z,1.4nm,0.5s,baz=345,slow=5.5,SNR=4.3
YKA Yellowknife Ar 81.25 3 P **P** **05 03 31.9 +0.3**
YKA pP pP 05 04 27.2 +0.1
WRA Warramunga Arr 81.71 122 P **P** **05 03 34.3 -0.3**
comp=Z,16nm,0.4s,mb5.0,baz=324,slow=4.9,SNR=102
WRA pP pP 05 04 31.3 +1.0
comp=Z,1.2nm,0.5s,baz=324,slow=5.2,SNR=1.7
WRAB Tennant Creek 81.71 122 c iP **P** **05 03 34.4 -0.2**
WB2 Warramunga Arr 81.72 122⇑ iP **P** **05 03 34.4 -0.3**
SCHQ Schefferville 82.24 337 P **P** **05 03 37.3 +0.4**
comp=Z,3.5nm,0.9s,mb4.0,baz=70,slow=12,SNR=2.8
ASAR Alice Springs 83.98 125 P **P** **05 03 45.7 -0.5**
comp=Z,21nm,0.8s,mb4.9,baz=314,slow=4.8,SNR=129
ASAR pP pP 05 04 43.8 +1.7
comp=Z,0.8nm,0.6s,baz=306,slow=4.4,SNR=1.4
FORT Forrest 85.42 134 eP **P** **05 03 53.2 0.0**
comp=Z,44nm,0.7s,mb5.3
CTA Charters Tower 90.25 115 eP **P** **05 04 16.0 -0.4**
comp=Z,11nm,0.8s,mb4.8
CTA Charters Tower 90.25 115 eP **P** **05 04 16.0 -0.4**
CTA pmax pmax
comp=Z,11nm,0.8s
CTAO Charters Tower 90.25 115 eP **P** **05 04 17.0 +0.6**
CTAO pmax pmax
comp=Z,14nm,0.8s,mb4.8
CTAO Charters Tower 90.25 115 eP **P** **05 04 17.0 +0.6**
comp=Z,14nm,0.8s,mb4.8
STKA Stephens Creek 94.52 127 eP **P** **05 04 34.9 -0.9**
comp=Z,2.5nm,0.9s,mb4.3
STKA Stephens Creek 94.52 127 P **P** **05 04 35.0 -0.9**
comp=Z,2.1nm,0.7s,mb4.4,baz=28,slow=3.9,SNR=5.6
SWET Sewanee 105.61 341 ePKP PKiKP 05 09 37.5 0.0
ROSC El Rosal 127.87 315 PKP PKPdf 05 10 22.8 +2.4
comp=Z,2.4nm,0.7s,baz=310,slow=1.0,SNR=3.5

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*TEH **20** 04:52:23.7, 3783N×5745E, h8km, ML4.1*
*ISCJB **20** 04:53:29.9±0.8, 3786N±004×5740E±003, h5km±5km, mb4.7/14, Error ellipse: s-maj=6.4km s-min=3.9km az=28.2*
*THR **20** 04:53:30.6±0.8, 3780N×5750E, h15km, ML4.0*
*CSEM **20** 04:53:30.2±0.1, 3783N×5743E, h10km, mb4.8/7, Error ellipse: s-maj=2.6km s-min=1.2km az=25.0*
*NEIC **20** 04:53:32.4, 3783N×5745E, h8km, mb4.7/8, MN4.1(TEH), After TEH.*
*MOS **20** 04:53:49.0±1.6, 3982N×5645E, h33km, mb4.7/7, Error ellipse: s-maj=40.7km s-min=9.6km az=38.2*
ISC 20 04:53:30.8±0.8, 3787N±004×5747E±003, h1km±5km, n83, σ1§19/94, **mb4.7**/14, **2C-3D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ISFR	**Sfrayin**	**0.92**	**152**⇑	e	Pg	**Pg**	**04 53 48.0**	**-0.4**
ISFR				e			04 54 09.0	
ISFR	**Sfrayin**	**0.92**	**152**	P	g	**Pg**	**04 53 47.9**	**-0.5**
IEMG	**Emamgholi**	**1.04**	**115**⇓	e	Pg	**Pg**	**04 53 51.1**	**+0.3**
IEMG				e			04 54 14.3	
IEMG	**Emamgholi**	**1.04**	**115**	P	g	**Pg**	**04 53 51.0**	**+0.2**
MRVT	**Maraveh tapeh**	**1.11**	**260**	e	Pg	**Pg**	**04 53 51.1**	**-1.1**
MRVT				e	Sg	**Sg**	**04 54 07.0**	**+0.3**
MRVT				AML		AML	04 54 10.5	
	comp=N,3μm,0.5s							
MRVT	**Maraveh tapeh**	**1.11**	**260**	e	Pg	**Pg**	**04 53 51.1**	**-1.1**
	SNR=91							
MRVT				e	Sg	**Sg**	**04 54 07.0**	**+0.3**
	SNR=91							
IQHU	**Qucahn**	**1.16**	**133**⇓	e	Pg	**Pg**	**04 53 52.9**	**-0.2**
IQHU	**Qucahn**	**1.16**	**133**	e	Pg	**Pg**	**04 53 52.7**	**-0.4**
IQHU				e			04 54 34.2	
IKRD	**Kardeh**	**1.37**	**142**	e	Pn	**Pg**	**04 54 06.8**	**+10**
IKRD				e	Sn	**Sg**	**04 54 31.3**	**+16**
IKRD				e			04 54 45.5	
IKRD	**Kardeh**	**1.37**	**142**	P	n	**Pg**	**04 54 06.8**	**+10**
IKRD				S	n	**Sg**	**04 54 31.3**	**+16**
IAKL	**Akhelmad**	**1.63**	**141**	e	Pn	**Pn**	**04 54 00.5**	**-0.1**
IAKL				e	Sn	**Sn**	**04 54 23.1**	**+0.9**
IAKL	**Akhelmad**	**1.63**	**141**	e	Pn	**Pn**	**04 54 00.5**	**-0.1**
IAKL				e	Sn	**Sn**	**04 54 23.1**	**+0.9**
IAKL				e			04 54 27.9	
IPAY	**Payeh**	**1.87**	**139**	e	Pn	**Pn**	**04 54 05.0**	**+1.1**
IPAY				e	Sn	**Sn**	**04 54 28.0**	**-0.2**
IPAY	**Payeh**	**1.87**	**139**	P	n	**Pn**	**04 54 04.9**	**+1.0**
IPAY				S	n	**Sn**	**04 54 27.9**	**-0.3**
MHI	**Mashad**	**2.23**	**134**	e	Pn	**Pn**	**04 54 10.7**	**+1.8**
MHI				e	Sg	**Sg**	**04 54 41.1**	**-1.4**
MHI				e			04 54 45.2	
IMOG	**Moghan**	**2.31**	**139**	e	Pn	**Pn**	**04 54 11.3**	**+1.3**
IMOG				e			04 54 16.4	
IMOG	**Moghan**	**2.31**	**139**	P	n	**Pn**	**04 54 11.2**	**+1.2**
IMYA	**Miami**	**2.60**	**125**	e	Sg	**Sg**	**04 54 53.8**	**-0.4**
IMYA				e			04 55 07.3	
IKIA	**Kiasar**	**3.45**	**242**⇑	e	Pn	**Pn**	**04 54 26.2**	**+0.4**
IKIA				e			04 54 40.7	
IKIA				e	Sn	**Sn**	**04 55 05.3**	**-2.0**
IKIA	**Kiasar**	**3.45**	**242**	P	n	**Pn**	**04 54 26.2**	**+0.4**
IKIA				S	n	**Sn**	**04 55 05.2**	**-2.1**
ISHM	**Shahmirzad**	**3.93**	**240**	e		**Sg**	**04 55 39.5**	**+2.3**
IALA	**Alasht**	**4.14**	**246**	e	Pn	**Pn**	**04 54 34.9**	**-0.2**
ILAS	**Lasjerd**	**4.40**	**237**	e	Pn	**Pn**	**04 54 38.9**	**+0.2**
ILAS	**Lasjerd**	**4.40**	**237**	e	Pn	**Pn**	**04 54 39.1**	**+0.4**
ILAS				e			04 54 56.9	
ILAS	**Lasjerd**	**4.40**	**237**	P	n	**Pn**	**04 54 39.0**	**+0.3**
DAMV	**Damavand**	**4.95**	**245**	e	Pn	**Pn**	**04 54 47.2**	**+0.9**
DAMV				AML		AML	04 56 15.2	
	comp=N,104nm,0.7s							
ITEG	**Tejag**	**5.07**	**168**	e	Pn	**Pn**	**04 54 47.7**	**-0.3**
ITEG				e			04 55 11.9	
CHTH	**Charan**	**5.45**	**251**	e	Pn	**Pn**	**04 54 54.0**	**+0.9**
CHTH	**Charan**	**5.45**	**251**	e	Pn	**Pn**	**04 54 54.0**	**+0.8**
	SNR=52							
IDAH	**Dahanechah**	**5.48**	**158**	e	Pn	**Pn**	**04 54 53.4**	**-0.2**
IDAH				e			04 55 26.4	
IKOO	**Kooshah**	**5.57**	**167**	e	Pn	**Pn**	**04 54 54.5**	**-0.4**
IKOO				e			04 55 01.0	
ICHK	**Chekchek**	**6.15**	**205**	e		**Sn**	**04 56 13.5**	**-0.2**
NASN	**Na'in**	**6.33**	**218**	e	Pn	**Pn**	**04 55 04.9**	**-0.4**
IZEF	**Zefreh**	**6.50**	**222**	e	Pn	**Pn**	**04 55 06.9**	**-0.7**
GOBA	**Gobu**	**6.53**	**295**	P		**Pn**	**04 55 10.9**	**+2.9**
	SNR=3.9							
IKLH	**Kolahrood**	**6.61**	**228**	e	Pn	**Pn**	**04 55 08.3**	**-0.8**
IKLH				e			04 55 42.3	
ALIB	**Ii-Bayraml**	**6.92**	**290**	P		**Pn**	**04 55 15.8**	**+2.4**
	SNR=7.0							
ALIB				S		**Sn**	**04 56 38.9**	**+6.1**
GLBA	**Ciilabad**	**7.25**	**284**	P		**Pn**	**04 55 16.6**	**-1.3**
	SNR=6.9							
GLBA				S		**Sn**	**04 56 37.1**	**-3.7**
PQL	**Pirkuli**	**7.47**	**296**	P		**Pn**	**04 55 21.9**	**+0.9**
	SNR=8.6							
BRDA	**Brd**	**8.36**	**290**	P		**Pn**	**04 55 33.4**	**+0.3**
	SNR=6.2							
SEKA	**Sheki**	**8.61**	**296**	P		**Pn**	**04 55 36.2**	**-0.4**
	SNR=4.8							
SNGE	**Sanandaj**	**8.61**	**254**	e	Pn	**Pn**	**04 55 37.7**	**+1.1**
GANJ	**Ganja**	**9.08**	**291**	P		**Pn**	**04 55 41.3**	**-1.7**
	SNR=15							
DGRG	**David-gareji**	**9.99**	**295**	P		**Pn**	**04 55 51.9**	**-3.5**
GNI	**Garni**	**10.17**	**287**	e	Pn	**Pn**	**04 55 58.7**	**+0.8**
GNI				pmax		pmax		
	comp=Z,50nm,0.7s							
GNI	**Garni**	**10.17**	**287**	e	Pn	**Pn**	**04 55 58.7**	**+0.8**
	comp=Z,50nm,0.7s							
GNI	**Garni**	**10.17**	**287**	e	Pn	**Pn**	**04 55 58.7**	**+0.8**
	comp=Z,50nm,0.7s							
ONI	**Oni**	**11.70**	**298**	P		**Pn**	**04 56 17.1**	**-1.8**
SIM	**Simferopol'**	**18.86**	**299**	P		**Pn**	**04 57 47.8**	**-4.9**
SIM				pmax		pmax		
	comp=Z,7.0nm,0.6s							
MOS	**Moscow**	**22.31**	**330**	e	P	**P**	**04 58 32.5**	**+2.9**
TIRR	**Tirgusor**	**22.77**	**296**⇓	i	P	**P**	**04 58 32.9**	**-1.7**
KIEV	**Kiev**	**23.79**	**312**	e	P	**P**	**04 58 44.1**	**-0.8**
KIEV				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.5							
KIEV	**Kiev**	**23.79**	**312**	e	P	**P**	**04 58 44.1**	**-0.8**
	comp=Z,13nm,0.8s,mb4.5							
KIEV	**Kiev**	**23.79**	**312**	e	P	**P**	**04 58 44.1**	**-0.9**
	comp=Z,13nm,0.8s,mb4.5							
KLMR	**Klimovskoe**	**25.63**	**340**	e	P	**P**	**04 58 54.9**	**-6.7**
KLMR	**Klimovskoe**	**25.63**	**340**	e	P	**P**	**04 58 54.9**	**-6.7**
KWP	**Kalwaria**	**27.48**	**307**	e	P	**P**	**04 59 17.0**	**-1.5**
UZH	**Uzhgorod**	**27.56**	**304**	e	P	**P**	**04 59 22.0**	**+2.8**
MORC	**Moravsky Berou**	**30.81**	**306**	e	P	**P**	**04 59 48.9**	**+0.9**
VRAC	**Vranov**	**31.37**	**305**	e	P	**P**	**04 59 54.3**	**+1.3**
BRG	**Berggiesshubel**	**33.23**	**307**	e	P	**P**	**05 00 07.9**	**-1.3**

comp=Z,16nm,1.2s,mb4.8
BRG e 05 01 11.2
comp=Z,5.3nm,1.0s
GEC2 GERESS Array S 33.23 304 *e*P **P 05 00 10.7 +1.4**
GEC2 pmax pmax
comp=Z,12nm,1.8s,mb4.5
GEC2 GERESS Array S 33.23 304 *e*P **P 05 00 10.7 +1.4**
comp=Z,12nm,1.8s,mb4.5
WET Wettzell 33.79 304 *e*P **P 05 00 15.2 +1.1**
WET pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
WET Wettzell 33.79 304 *e*P **P 05 00 15.2 +1.1**
comp=Z,6.0nm,1.2s,mb4.4
ROTZ Rotzenmuhle 34.26 305 *e*P **P 05 00 18.3 +0.1**
comp=Z,12nm,1.5s,mb4.6
MANZ Manzenberg 34.33 305 *e*P **P 05 00 18.3 -0.5**
comp=Z,8.0nm,1.2s,mb4.5
MOX Moxa 34.68 307 *e*P **P 05 00 20.0 -1.9**
comp=Z,9.0nm,1.3s,mb4.5
FUR Furstenfeldbru 34.83 302 *e*P **P 05 00 24.2 +1.0**
FUR pmax pmax
comp=Z,15nm,0.7s,mb5.0
FUR Furstenfeldbru 34.83 302 *e*P **P 05 00 24.2 +1.0**
comp=Z,15nm,0.7s,mb5.0
GRA1 Grafenberg Arr 34.89 305 *e*P **P 05 00 23.2 -0.5**
comp=Z,107nm,2.7s,mb5.3
GRF Grafenberg Arr 34.89 305 *e*P **P 05 00 23.2 -0.5**
GRF pmax pmax
comp=Z,107nm,2.7s,mb5.3
GRF Grafenberg Arr 34.89 305 *e*P **P 05 00 23.2 -0.5**
GRF pmax pmax
comp=Z,107nm,2.7s,mb5.3
GRF Grafenberg Arr 34.89 305 *e*P **P 05 00 23.2 -0.5**
comp=Z,107nm,2.7s,mb5.3
GRF *e*PP PP 05 02 10.1 +28
CLZ Clausthal 35.55 309 *e*P **P 05 00 25.0 -4.3**
CLZ pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
CLZ Clausthal 35.55 309 *e*P **P 05 00 25.0 -4.3**
comp=Z,7.0nm,1.1s,mb4.4
UBBA Unterbreizbach 35.72 307 *e*PP PP 05 02 15.3 +24
NRDL Niedersach Rie 35.76 310 *e*P **P 05 00 26.4 -4.7**
comp=Z,14nm,1.3s,mb4.6
NRDL *e*PP PP 05 02 12.5 +20
BSEG Bad Segeberg 35.79 312 *e*P **P 05 00 25.0 -6.3**
BSEG pmax pmax
comp=Z,11nm,1.0s,mb4.6
BSEG Bad Segeberg 35.79 312 *e*P **P 05 00 25.0 -6.3**
comp=Z,11nm,1.0s,mb4.6
BFO Black Forest 36.80 303 *e*PP PP 05 02 28.2 +25
IBBN Ibbenburen 37.19 309 *e*P **P 05 00 37.2 -6.1**
comp=Z,14nm,0.4s,mb5.0
WLF Walferdange 38.18 305 *e*P **P 05 00 48.1 -3.7**
comp=Z,27nm,1.4s,mb4.8

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*ISCJB **20** 05:01:29.6±0.2, 1742N±003×9591W±002, h85km±3km, mb4.3/47, Error ellipse: s-maj=4.9km s-min=2.4km az=28.1*
*IDC **20** 05:01:30.9±0.6, 1749N×9578W, h84km±3km, mb4.0/18, mb1 4.1/21, mb1mx4.1/27, mbtmp4.0/21, MS3.3/10, Ms1 3.3/10, ms1mx3.1/29, Error ellipse: s-maj=17.1km s-min=6.0km az=43.0*
*MEX **20** 05:01:30.5±0.9, 1732N×9592W, h95km±9km, MD4.7*
*NEIC **20** 05:01:30.8, 1731N×9593W, h92km, mb4.5/30, MD4.7(MEX), After MEX.*
NEIC Felt at Santa Cruz.
*CASC **20** 05:02:02.5±1.8, 1660N×9323W, h0km±117km, MD4.7, ML3.2, mb4.5(NEIC)*
ISC 20 05:01:30.9±0.2, 1742N±003×9591W±002, h82km±2km, h83km±1.6km:pP-P, n169, σ1§15/185, mb4.3/47, 3C-5D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.85**	**246**	*i* P	**Pn**	**05 01 46.6**	**-1.7**
OXX				*i* S	**Sn**	**05 02 00.9**	**-0.5**
VHO	**Vista Hermosa**	**0.86**	**246**	*i* P	**Pn**	**05 01 47.7**	**-0.8**
VHO				*e*S	**Sn**	**05 02 00.9**	**-0.7**
CMIG	**Matias Romero**	**1.03**	**109**	P	**Pn**	**05 01 49.9**	**-0.6**
	2μm,0.3s,baz=270,slow=10						
CMIG				S	**Sn**	**05 02 04.2**	**-0.9**
	6μm,0.3s,baz=107,slow=18,SNR=151						
TUIG	**Tuzandepetl**	**1.54**	**67**	*i* P	**Pn**	**05 01 56.6**	**-0.3**
TUIG				*i* S	**Sn**	**05 02 16.6**	**+0.1**
HUIG	**Huatulco**	**1.66**	**187**	*i* P	**Pn**	**05 01 56.3**	**-2.1**
HUIG				*e*S	**Sn**	**05 02 15.3**	**-3.9**
TPIG	**Tehuac#an**	**1.70**	**306**	*e*P	**Pn**	**05 01 59.0**	**0.0**
TPIG				*e*S	**Sn**	**05 02 21.2**	**+1.0**
UTMO	**Huajuapan**	**1.85**	**283**	*i* P	**Pn**	**05 02 00.5**	**-0.5**
UTMO				*i* S	**Sn**	**05 02 22.4**	**-1.3**
LVIG	**Laguna Verde**	**2.34**	**348**	*e*P	**Pn**	**05 02 05.6**	**-1.9**
LVIG				*e*S	**Sn**	**05 02 32.4**	**-2.9**
LVIG	**Laguna Verde**	**2.34**	**348**	*e*P	**Pn**	**05 02 05.2**	**-2.2**
LVIG				*e*S	**Sn**	**05 02 32.4**	**-2.9**
PNIG	**Pinotepa**	**2.36**	**245**	*i* P	**Pn**	**05 02 05.9**	**-1.7**
PNIG				*i* S	**Sn**	**05 02 31.7**	**-4.1**
PNIG	**Pinotepa**	**2.36**	**245**	*i* P	**Pn**	**05 02 03.9**	**-3.7**
PNIG				*e*S	**Sn**	**05 02 28.0**	**-7.8**
TGIG		**2.74**	**103**	*i* P	**Pn**	**05 02 12.2**	**-0.6**
TGIG				*e*S	**Sn**	**05 02 43.5**	**-1.5**
PPM	**Popocatepetl**	**3.06**	**303**	*i* P	**Pn**	**05 02 16.8**	**-0.3**
PPM				*i* P		05 02 19.0	
PPM				*i* S	**Sn**	**05 02 53.4**	**+0.8**
PPM				*i* S	**Sn**	**05 02 53.5**	**+0.9**
PPM	**Popocatepetl**	**3.06**	**303**	*i* P	**Pn**	**05 02 18.8**	**+1.7**
PPM				*e*S	**Sn**	**05 02 44.6**	**-8.0**
SCX	**San Cristobal**	**3.21**	**102**	*i* P	**Pn**	**05 02 18.4**	**-0.8**
SCX				*i* S	**Sn**	**05 02 54.6**	**-1.7**
SCX	**San Cristobal**	**3.21**	**102**	*i* P	**Pn**	**05 02 18.4**	**-0.8**
SCX				*i* S	**Sn**	**05 02 42.5**	**-14**
YAIG	**Yautepec**	**3.33**	**296**	*i* P	**Pn**	**05 02 21.0**	**+0.2**
YAIG				*i* S	**Sn**	**05 02 59.5**	**+0.2**
YAIG	**Yautepec**	**3.33**	**296**	*i* P	**Pn**	**05 02 21.0**	**+0.2**
YAIG				*i* S	**Sn**	**05 02 46.6**	**-13**
PLIG	**Platanillo**	**3.55**	**286**	*e*P	**Pn**	**05 02 23.8**	**0.0**
PLIG				*e*S	**Sn**	**05 03 02.3**	**-2.5**
PBVM	**Pinon**	**3.62**	**304**	*i* P	**Pn**	**05 02 25.9**	**+1.2**
PBVM				*i* S	**Sn**	**05 03 06.5**	**+0.1**
UNM	**Universidad Na**	**3.64**	**302**	*i* P	**Pn**	**05 02 25.2**	**+0.3**
UNM				*e*P		05 02 26.0	
CCIG	**Comitan**	**3.79**	**107**	*i* P	**Pn**	**05 02 27.0**	**0.0**
CCIG				*e*S	**Sn**	**05 03 09.6**	**-0.9**
ACX	**Acapulco**	**3.87**	**262**	*e*P	**Pn**	**05 02 22.0**	**-6.1**
ACX				*i* S	**Sn**	**05 03 11.2**	**-1.3**
ACX	**Acapulco**	**3.87**	**262**	*i* P	**Pn**	**05 02 23.5**	**-4.7**
DEIG	**Demacu**	**4.12**	**315**	*i* P	**Pn**	**05 02 31.9**	**+0.4**
DEIG				*i* S	**Sn**	**05 03 23.0**	**+4.5**
CAIG	**El Cayaco**	**4.18**	**266**	*i* P	**Pn**	**05 02 29.5**	**-2.8**
THIG		**4.30**	**125**	*i* P	**Pn**	**05 02 34.6**	**+0.5**
THIG				*e*S	**Sn**	**05 03 23.4**	**+0.4**
SCIG	**Sabancuy**	**4.75**	**70**	*i* P	**Pn**	**05 02 38.4**	**-1.7**
SCIG				*i* S	**Sn**	**05 03 29.5**	**-4.3**
JAT	**Jato**	**5.14**	**126⇑**	*e*P	**Pn**	**05 02 47.3**	**+1.8**
ZIIG	**Zihuatanejo**	**5.30**	**273**	*i* P	**Pn**	**05 02 44.9**	**-2.8**
MOIG	**Morelia**	**5.49**	**295**	*i* P	**Pn**	**05 02 51.8**	**+1.7**
FG6		**5.61**	**120⇓**	*e*P	**Pn**	**05 02 53.5**	**+1.6**
FUG	**Fuego 3**	**5.70**	**121⇓**	*e*P	**Pn**	**05 02 54.1**	**+0.9**
PCG	**Pacaya**	**5.92**	**120**	*e*P	**Pn**	**05 02 57.5**	**+1.3**
NBG	**Las Nubes**	**6.05**	**117**	*e*P	**Pn**	**05 02 58.0**	**+0.2**
MMIG	**Aquila**	**7.13**	**278**	*i* P	**Pn**	**05 03 11.4**	**-1.2**
MMIG				*i* S	**Sn**	**05 04 29.6**	**-2.7**
SFJM	**Santa Fe**	**7.40**	**295**	*e*P	**Pn**	**05 03 17.1**	**+0.8**
COLM	**Colima**	**7.59**	**284**	*i* P	**Pn**	**05 03 20.2**	**+1.3**
TEIG	**Tepich**	**7.75**	**68**	P	**Pn**	**05 03 17.8**	**-3.2**
	26nm,0.3s,baz=264,slow=4.7,SNR=73						
TEIG				S	**Sn**	**05 04 40.4**	**-6.8**
	28nm,0.3s,baz=329,slow=23,SNR=3.6						
TEIG				LR	LR	05 06 58.1	
	comp=Z,271nm,20.1s,baz=350,slow=43						
TEIG	**Tepich**	**7.75**	**68**	*e*S	**Sn**	**05 04 41.8**	**-5.4**
TEIG	**Tepich**	**7.75**	**68**	*e*Pn	**Pn**	**05 03 18.8**	**-2.2**
R15V		**7.86**	**284**	*i* P	**Pn**	**05 03 23.2**	**+0.6**
R15V				*i* S	**Sn**	**05 04 51.6**	**+1.6**
LNIG	**Linares**	**8.14**	**337**	*i* P	**Pn**	**05 03 27.6**	**+1.3**
ANIG	**Ahuacatlan**	**8.90**	**295**	*i* P	**Pn**	**05 03 38.4**	**+1.7**
TGUH	**Tegucigalpa,Un**	**8.96**	**111**	*e*P	**Pn**	**05 03 36.1**	**-1.5**
TGUH	**Tegucigalpa,Un**	**8.96**	**111**	*e*Pn	**Pn**	**05 03 36.2**	**-1.4**
	98nm,0.5s						
TEL3	**Telica 3**	**10.00**	**118**	*e*P	**Pn**	**05 03 53.6**	**+1.8**
LEON	**Leon**	**10.04**	**119⇑**	*e*P	**Pn**	**05 03 52.9**	**+0.6**
CNGN	**Cerro Negro**	**10.16**	**118**	*e*P	**Pn**	**05 03 54.4**	**+0.5**
MOMN	**Momotombo**	**10.34**	**118**	*e*P	**Pn**	**05 03 58.2**	**+1.8**
COPN	**Copaltepe**	**10.41**	**119⇓**	*e*P	**Pn**	**05 03 57.9**	**+0.5**
CSAN		**10.55**	**118⇑**	*e*P	**Pn**	**05 04 00.3**	**+1.0**
APYN	**Apoyeque**	**10.58**	**118**	*e*P	**Pn**	**05 04 00.7**	**+1.0**
XAVN	**Gruta Xavier**	**10.65**	**118**	*e*P	**Pn**	**05 04 01.2**	**+0.6**
HUEN		**10.68**	**117**	*e*P	**Pn**	**05 04 01.9**	**+0.8**
TISN	**Laguna Tiscapa**	**10.70**	**118**	*e*P	**Pn**	**05 04 01.2**	**-0.1**
MGAN	**Managua**	**10.71**	**118**	*e*P	**Pn**	**05 04 04.0**	**+2.4**
CRUN	**El Crucero**	**10.75**	**119**	*e*P	**Pn**	**05 04 02.6**	**+0.5**
APON	**Apoyo**	**10.98**	**119**	*e*P	**Pn**	**05 04 05.8**	**+0.6**
CONN	**Concepcion**	**11.53**	**119**	*e*P	**Pn**	**05 04 13.3**	**+0.6**
MADN	**Villa Maderas**	**11.69**	**119**	*e*P	**Pn**	**05 04 15.0**	**+0.2**
VCR	**Vista de Mar**	**12.34**	**125⇓**	*e*P	**Pn**	**05 04 23.9**	**+0.3**
JCR	**Jicaral**	**12.91**	**124⇓**	*e*P	**Pn**	**05 04 31.4**	**+0.1**
HPIG		**13.08**	**318**	*i* P	**Pn**	**05 04 34.2**	**+0.8**
JCT	**Junction City**	**13.47**	**345**	*e*Pn	**Pn**	**05 04 39.7**	**+1.1**
	15nm,0.6s						
PRS1	**Puriscal**	**13.47**	**122**	*e*P	**Pn**	**05 04 38.9**	**+0.2**
TXAR	**Lajitas Array**	**13.82**	**330**	P	**Pn**	**05 04 44.0**	**+0.8**
	0.1nm,0.3s,baz=152,slow=14,SNR=31						
TXAR				LR	LR	05 10 51.6	
	comp=Z,33nm,21.7s,baz=0.0,slow=41						
QCR	**Quepos**	**13.91**	**123**	*e*P	**Pn**	**05 04 46.3**	**+1.8**
NATX	**Nacogdoches**	**14.32**	**4**	*e*Pn	**Pn**	**05 04 50.5**	**+0.8**
	23nm,0.6s						
LPIG	**La Paz**	**15.01**	**299**	P	**Pn**	**05 05 00.8**	**+2.1**
	1.2nm,0.3s,baz=285,slow=2.1,SNR=4.8						
LPIG				LR	LR	05 10 42.9	
	comp=Z,156nm,22.0s,baz=139,slow=37						
CGIG		**16.94**	**322**	*i* P	**Pn**	**05 05 22.9**	**+0.1**
MIAR	**Mount Ida**	**17.18**	**7**	*e*Pn	**Pn**	**05 05 26.5**	**+0.8**
	11nm,1.1s						
MIAR				Sn	**Sn**	**05 08 30.5**	**-5.9**
WMOK	**Wichita Mounta**	**17.43**	**352**	*e*P	**Pn**	**05 05 29.1**	**+0.3**
	7.6nm,0.6s						
WMOK				*e*S	**S**	**05 08 35.0**	**-11**
UALR	**University of**	**17.57**	**10**	*e*P	**Pn**	**05 05 31.1**	**+0.6**
	27nm,0.8s						
HSIG		**17.98**	**313**	*i* P	**Pn**	**05 05 35.8**	**+0.2**
AMTX	**Amarillo**	**18.14**	**345**	*e*P	**Pn**	**05 05 40.2**	**+2.9**
	12nm,0.9s						
BNM	**Barren Site**	**19.23**	**332**	*e*P	**Pn**	**05 05 50.8**	**+0.5**
LPM	**Los Pinos Moun**	**19.36**	**332**	*e*P	**Pn**	**05 05 53.0**	**+1.1**
GOGA	**Godfrey**	**19.46**	**33**	*e*P	**Pn**	**05 05 50.7**	**-2.4**
	12nm,0.6s						
LAZ	**Ladron**	**19.67**	**331**	*e*P	**Pn**	**05 05 56.0**	**+0.5**
ANMO	**Albuquerque**	**19.83**	**334**	P	**Pn**	**05 05 56.3**	**-1.1**
	0.3nm,0.3s,baz=140,slow=14,SNR=15						
ANMO	**Albuquerque**	**19.83**	**334**	*e*P	**Pn**	**05 05 56.4**	**-1.0**
TUC	**Tucson**	**20.01**	**321**	*e*P	**P**	**05 05 59.4**	**+2.3**
	5.0nm,0.8s						
TUC				*e*pP		05 06 17.1	
CPCT	**Cooper Cave**	**20.62**	**27**	P	**P**	**05 06 04.5**	**+0.9**
COW	**Cow Castle Cre**	**20.96**	**38**	*e*P	**P**	**05 06 10.6**	**+3.3**
SIUC	**Southern Illin**	**21.05**	**15**	*e*P	**P**	**05 06 08.5**	**+0.2**
	24nm,0.8s,mb4.6						
TKL	**Tuckaleechee C**	**21.12**	**28**	P	**P**	**05 06 08.4**	**-0.7**
	9.0nm,0.5s,mb4.3,baz=205,slow=10,SNR=40						
TKL				LR	LR	05 17 38.4	
	comp=Z,51nm,18.3s,baz=248,slow=46						
JSC	**Jenkinsville**	**21.30**	**35**	*e*P	**P**	**05 06 09.2**	**-1.8**
KSU1	**Kansas State U**	**21.61**	**359**	*e*P	**P**	**05 06 14.1**	**0.0**
	19nm,0.8s,mb4.5						
OLIL	**Olney**	**22.30**	**16**	*e*P	**P**	**05 06 20.3**	**-1.2**
	18nm,0.6s,mb4.6						
MVCO	**Mesa Verde**	**22.62**	**333**	*e*P	**P**	**05 06 27.6**	**+2.7**
	15nm,0.9s,mb4.3						
WUAZ	**Wupatki**	**22.67**	**326**	P	**P**	**05 06 27.7**	**+2.2**
	5.5nm,0.8s,mb3.9						
WUAZ				*e*pP		05 06 44.0	
GLA	**Glamis**	**23.07**	**316**	*e*P	**P**	**05 06 31.8**	**+2.3**
	6.3nm,0.8s,mb4.0						
GLA				*e*pP		05 06 49.3	
PV01	**Paradox Valley**	**23.43**	**334**	*e*P	**P**	**05 06 35.2**	**+2.4**
OTAV	**Otavalo**	**24.23**	**133**	P	**P**	**05 06 41.9**	**+1.6**
	31nm,1.6s,mb4.4						
OTAV				*e*pP		05 06 59.6	
PFO	**Pinyon Flat Ob**	**24.49**	**315**	P	**P**	**05 06 44.3**	**+1.8**
	2.5nm,0.8s,mb3.6,baz=165,slow=8.2,SNR=3.9						
PFO				pP		05 07 02.6	
	8.6nm,1.0s,baz=126,slow=10.0,SNR=6.3						
PFO				LR	LR	05 15 46.9	
	comp=Z,81nm,21.9s,baz=301,slow=35						
PFO	**Pinyon Flat Ob**	**24.49**	**315**	*e*P	**P**	**05 06 46.6**	**+4.0**
	12nm,1.1s,mb4.1						
PFO				*e*pP		05 07 02.5	
PFO				pP		05 07 02.6	
PFO				*e*sP	sP	05 07 14.5	+3.6
PFO				LR	LR	05 15 46.9	
SCIA	**State Center**	**24.51**	**5**	*e*P	**P**	**05 06 42.0**	**-0.6**
	12nm,0.4s,mb4.7						
CHI2		**25.15**	**118**	*e*P	Px	05 03 47.6	
ACSO	**Alum Creek Sta**	**25.33**	**24**	*e*P	**P**	**05 06 48.6**	**-1.5**
	19nm,0.5s,mb4.8						
JFWS	**Jewell Farm**	**25.86**	**10**	*e*P	**P**	**05 06 53.7**	**-1.1**
	15nm,0.6s,mb4.6						
SDV	**Santo Domingo**	**26.01**	**106**	P	**P**	**05 06 55.9**	**-0.6**
	25nm,0.7s,mb4.7,baz=322,slow=5.5,SNR=27						
SDV				LR	LR	05 17 09.7	
	comp=Z,105nm,18.6s,baz=354,slow=36						
SDV	**Santo Domingo**	**26.01**	**106**	*e*P	**P**	**05 06 56.2**	**-0.3**
SDV				LR	LR	05 17 09.7	
ECSD	**EROS,Sioux Fal**	**26.23**	**359**	*e*P	**P**	**05 06 57.7**	**-0.5**
	11nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**27.81**	**338**	P	**P**	**05 07 10.8**	**-1.5**
	0.2nm,0.4s,mb3.0,baz=217,slow=22,SNR=2.8						
PDAR				pP	pP	05 07 30.8	-0.4
	0.7nm,0.6s,baz=128,slow=9.6,SNR=4.8						
SJG	**San Juan**	**28.34**	**84**	LR	LR	05 17 06.6	
	comp=Z,83nm,18.7s,baz=268,slow=33						
ELK	**Elko**	**28.60**	**328**	P	**P**	**05 07 21.3**	**+1.9**
	0.3nm,0.3s,mb3.4,baz=180,slow=3.0,SNR=2.3						
ELK				pP	pP	05 07 39.1	+0.8
	6.3nm,0.7s,baz=139,slow=7.5,SNR=19						
ELK				PcP	PcP	05 10 28.7	0.0
	0.8nm,0.6s,baz=162,slow=6.4,SNR=4.1						
ELK				LR	LR	05 21 39.9	
	comp=Z,39nm,19.9s,baz=197,slow=42						
ELK	**Elko**	**28.60**	**328**	P	**P**	**05 07 21.3**	**+1.9**
ELK				pP	pP	05 07 39.1	+0.8
ELK				PcP	PcP	05 10 28.7	0.0
ELK				LR	LR	05 21 39.9	
NVAR	**Mina Array Bea**	**28.66**	**321**	P	**P**	**05 07 20.3**	**+0.4**
	0.9nm,0.7s,mb3.5,baz=132,slow=8.7,SNR=5.6						
NVAR				pP	pP	05 07 39.7	+0.8
	14nm,0.7s,baz=133,slow=8.4,SNR=45						
NVAR				PcP	PcP	05 10 29.0	+0.2
	0.4nm,0.5s,baz=169,slow=1.5,SNR=3.7						
NVAR	**Mina Array Bea**	**28.66**	**321**	P	**P**	**05 07 20.3**	**+0.4**
NVAR				pP	pP	05 07 39.7	+0.8
NVAR				PcP	PcP	05 10 29.0	+0.2
ATAH	**Atahualpa**	**29.81**	**143**	P	**P**	**05 07 31.5**	**+1.2**
	5.1nm,0.6s,mb4.3,baz=356,slow=8.5,SNR=4.7						
ATAH				LR	LR	05 17 16.1	
	comp=Z,88nm,20.0s,baz=99,slow=32						
HLID	**Hailey**	**30.40**	**333**	*e*P	**P**	**05 07 35.2**	**-0.1**
	3.1nm,0.9s,mb3.9						
AGMN	**Agassiz Refuge**	**30.79**	**0**	*e*P	**P**	**05 07 38.1**	**-0.5**
	7.3nm,0.6s,mb4.6						
LBCM	**Butte Creek Ri**	**32.01**	**322**	P	pP	05 08 08.8	+0.3
LTIM	**Timbered Crate**	**32.30**	**322**	P	pP	05 08 11.6	+0.4
ULM	**Lac du Bonnet**	**32.75**	**0**	P	**P**	**05 07 54.1**	**-1.7**
	4.3nm,0.6s,mb4.5,baz=184,slow=7.8,SNR=8.2						
VIPM	**Ingram Point**	**34.06**	**328**	P	pP	05 08 25.8	-0.7
IRO	**Indian Ridge**	**34.57**	**326**	P	pP	05 08 30.6	-0.4
PKME	**Peaks-Kenny Pk**	**35.56**	**33**	*e*P	**P**	**05 08 21.0**	**+0.7**
	17nm,1.2s,mb4.9						
ASR	**Mount Adams--S**	**35.70**	**329**	P	pP	05 08 41.4	+0.7
EBG	**Ellensburg**	**35.76**	**331**	P	pP	05 08 42.8	+1.7
KMOR	**Kings Mountain**	**36.31**	**327**	P	pP	05 08 47.0	+1.0
EDM	**Edmonton**	**38.24**	**343**	*e*P	**P**	**05 08 42.5**	**-0.3**
EDM				*e*pP	pP	05 09 03.0	+0.7
EDM				*e*sP	sP	05 09 12.4	+0.7
LPAZ	**La Paz**	**43.26**	**139**	P	**P**	**05 09 24.1**	**-0.4**
	3.1nm,0.6s,mb4.2,baz=338,slow=7.9,SNR=21						
SCHQ	**Schefferville**	**43.49**	**24**	P	**P**	**05 09 23.9**	**-2.1**
	4.3nm,0.4s,mb4.5,baz=239,slow=4.6,SNR=17						
YKA	**Yellowknife Ar**	**46.88**	**348**	P	**P**	**05 09 51.6**	**-1.1**
	1.0nm,0.6s,mb3.8,baz=152,slow=7.6,SNR=10						
YKA				pP	pP	05 10 11.4	-1.3
	2.7nm,0.8s,baz=151,slow=7.5,SNR=10						
YKA				PcP	PcP	05 11 23.1	-1.0
	0.7nm,0.7s,baz=161,slow=3.3,SNR=4.3						
YKA	**Yellowknife Ar**	**46.88**	**348**	P	**P**	**05 09 51.6**	**-1.1**
YKA				pP	pP	05 10 11.4	-1.3
YKA				PcP	PcP	05 11 23.1	-1.0
BDFB	**Brasilia**	**57.52**	**122**	P	**P**	**05 11 11.3**	**-0.9**
	1.2nm,0.5s,mb4.2,baz=290,slow=12,SNR=9.8						
BDFB				LR	LR	05 39 48.8	
	comp=Z,31nm,19.6s,baz=182,slow=40						
TRF	**Thorofare Moun**	**58.95**	**335**	*e*P	**P**	**05 11 22.1**	**+0.6**
	7.1nm,0.7s,mb4.8						
TRF				*e*sP	sP	05 11 54.5	+3.2
PLCA	**Paso Flores**	**62.47**	**158**	P	**P**	**05 11 45.4**	**-0.2**
	20nm,0.8s,mb5.2,baz=334,slow=7.6,SNR=36						
PLCA	**Paso Flores**	**62.47**	**158**	*e*P	**P**	**05 11 45.3**	**-0.3**
	20nm,1.0s,mb5.1						
TRQA	**Tornquist**	**63.73**	**151**	*e*P	**P**	**05 11 53.1**	**-0.8**
	25nm,1.4s,mb4.9						
ESDC	**Sonseca Array**	**80.55**	**51**	P	**P**	**05 13 34.1**	**-0.4**
	0.2nm,0.3s,mb3.4,baz=284,slow=6.2,SNR=5.4						
ESDC				pP	pP	05 13 55.1	-1.2
	0.3nm,0.3s,baz=294,slow=4.9,SNR=3.0						
LDF	**La Druitiere**	**80.87**	**42**	*e*P	**P**	**05 13 35.4**	**-0.6**
	17nm,1.0s,mb4.5						
LDF	**La Druitiere**	**80.87**	**42**	*e*P	**P**	**05 13 35.4**	**-0.6**
	8.7nm,1.0s,mb4.5						
SJPF	**Ste Jean**	**81.63**	**48**	*e*P	**P**	**05 13 39.4**	**-0.8**
ETSF	**Etsaut**	**82.16**	**48**	*e*P	**P**	**05 13 42.6**	**-0.3**
NB2	**NORSAR Subarra**	**82.92**	**28**	P	**P**	**05 13 47.0**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.4,baz=293,slow=5.3						
NOA	**NORSAR Array B**	**82.92**	**28**	P	**P**	**05 13 46.9**	**+0.4**
	comp=Z,4.1nm,0.8s,mb4.3,baz=292,slow=5.2,SNR=14						
NOA				pP	pP	05 14 07.8	-0.6
	comp=Z,2.8nm,0.8s,baz=297,slow=5.4,SNR=7.2						
NOA	**NORSAR Array B**	**82.92**	**28**	P	**P**	**05 13 46.9**	**+0.4**
NOA				pP	pP	05 14 07.8	-0.6
TCF	**Toulx Ste Croi**	**83.06**	**44**	*e*P	**P**	**05 13 47.4**	**-0.1**
	comp=Z,18nm,1.0s,mb4.6						
TCF	**Toulx Ste Croi**	**83.06**	**44**	*e*P	**P**	**05 13 47.4**	**-0.1**
	comp=Z,9.2nm,1.0s,mb4.6						
BAIF	**Baives**	**83.14**	**40**	*e*P	**P**	**05 13 48.0**	**+0.1**
BGF	**Bois d'Agland**	**83.39**	**43**	*e*P	**P**	**05 13 48.3**	**-0.9**
	comp=Z,14nm,0.9s,mb4.5						
BGF	**Bois d'Agland**	**83.39**	**43**	*e*P	**P**	**05 13 48.3**	**-0.9**
	comp=Z,7.2nm,0.9s,mb4.5						
AVF	**Avril sur Loir**	**83.65**	**43**	*e*P	**P**	**05 13 49.7**	**-0.8**
	comp=Z,11nm,0.9s,mb4.4						
SSF	**Saint Saulge**	**83.66**	**43**	*e*P	**P**	**05 13 50.1**	**-0.5**
	comp=Z,6.7nm,0.8s,mb4.2						
LOR	**Lormes**	**83.82**	**42**	*e*P	**P**	**05 13 50.5**	**-0.9**
	comp=Z,9.2nm,0.7s,mb4.4						
MTLF	**Montolieu**	**83.97**	**47**	*e*P	**P**	**05 13 51.3**	**-1.0**
	comp=Z,14nm,1.1s,mb4.4						
MTLF	**Montolieu**	**83.97**	**47**	*e*P	**P**	**05 13 51.3**	**-1.0**
	comp=Z,7.3nm,1.1s,mb4.4						
SMF	**Signal de Mont**	**84.01**	**43**	*e*P	**P**	**05 13 51.4**	**-1.0**
	comp=Z,5.2nm,0.7s,mb4.2						
ARCES	**ARCESS Array B**	**84.06**	**18**	P	**P**	**05 13 52.0**	**-0.2**
	comp=Z,2.6nm,0.6s,mb4.3,baz=290,slow=4.6,SNR=25						
ARCES				pP	pP	05 14 12.9	-1.2
	comp=Z,2.0nm,0.6s,baz=284,slow=4.9,SNR=3.7						
VIVF	**Saint-Julien-l**	**85.15**	**45**	*e*P	**P**	**05 13 57.8**	**-0.4**
HAU	**Haudompre**	**85.16**	**41**	*e*P	**P**	**05 13 57.4**	**-0.8**
	comp=Z,11nm,0.7s,mb4.6						
CABF	**La Chapelle**	**85.48**	**43**	*e*P	**P**	**05 13 59.7**	**-0.1**
	comp=Z,29nm,1.2s,mb4.8						
CABF	**La Chapelle**	**85.48**	**43**	*e*P	**P**	**05 13 59.7**	**-0.1**
	comp=Z,15nm,1.2s,mb4.8						
HINF	**Hinteralfeld**	**85.54**	**41**	*e*P	**P**	**05 13 59.1**	**-1.0**
	comp=Z,6.9nm,0.7s,mb4.4						
CDF	**Champ du Feu**	**85.59**	**41**	*e*P	**P**	**05 13 59.6**	**-0.7**
	comp=Z,15nm,1.0s,mb4.6						
CDF	**

1.0nm,0.4s,baz=345,slow=10,SNR=18
STKA Stephens Creek 34.45 158 P P 06 12 22.0 -1.1
0.4nm,0.3s,baz=330,slow=8.1,SNR=3.2
MKAR Makanchi Array 60.99 326 P P 06 15 49.0 +0.1
0.4nm,0.5s,baz=119,slow=8.4,SNR=5.0

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*IDC **20** 06:16:42.1±0.9, 3.13S×128.17E, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.1/17, mbtmp4.1/8, ML4.1/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/27, Error ellipse: s-maj=60.1km s-min=16.8km az=74.0*
*DJA **20** 06:16:49, 347S×12798E, h75km, ML3.8/3*
*ISCJB **20** 06:16:50.7±4.1, 33S±0.1×128.1E±0.2, h89km±43km, mb4.0/7, Error ellipse: s-maj=41.2km s-min=19.9km az=159.2*
*NEIC **20** 06:16:50.5±3.1, 388S×12667E, h57km±32km, mb4.1/3, Error ellipse: s-maj=47.2km s-min=18.7km az=67.0*
ISC 20 06:16:53.7±3.0, 33S±01×1282E±03, h101km±33km, n17, σ0980/16, mb3.9/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.24**	**156**	*eP*	**Pn**	**06 19 19.1**	**+1.4**
	16nm,0.6s						
KAKA				*e*S	**Sn**	**06 21 15.4**	**+4.8**
FITZ	**Fitzroy Crossi**	**14.91**	**190**	Pn	**Pn**	**06 20 18.6**	**-0.8**
	0.4nm,0.3s,baz=14,slow=10,SNR=8.0						
FITZ				LR	LR	06 26 03.2	
	comp=Z,32nm,21.4s,baz=43,slow=37						
FITZ	**Fitzroy Crossi**	**14.91**	**190**	*eP*	Px	06 20 07.5	
	11nm,1.7s						
FITZ				LR	LR	06 26 03.2	
WRAB	**Tennant Creek**	**17.58**	**161**	*eP*	**Pn**	**06 20 51.9**	**-0.4**
	13nm,1.0s						
WRA	**Warramunga Arr**	**17.58**	**161**	P	**Pn**	**06 20 51.5**	**-0.9**
	1.0nm,0.3s,baz=340,slow=12,SNR=14						
WB2	**Warramunga Arr**	**17.59**	**161**	*eP*	**Pn**	**06 20 51.2**	**-1.2**
ASAR	**Alice Springs**	**20.97**	**165**	P	**P**	**06 21 29.5**	**+0.7**
	7.5nm,0.3s,baz=345,slow=10,SNR=124						
STKA	**Stephens Creek**	**31.08**	**158**	*eP*	**P**	**06 23 03.6**	**+1.2**
	1.5nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**31.08**	**158**	P	**P**	**06 23 03.4**	**+1.0**
	1.6nm,0.4s,mb4.1,baz=348,slow=8.4,SNR=10.0						
STKA				LR	LR	06 37 39.6	
	comp=Z,53nm,18.1s,baz=36,slow=40						
MJAR	**Matsushiro Arr**	**40.73**	**12**	P	**P**	**06 24 23.5**	**-1.1**
	0.7nm,0.3s,mb3.9,baz=188,slow=7.4,SNR=3.1						
MJAR				LR	LR	06 39 44.6	
	comp=Z,56nm,18.8s,baz=195,slow=34						
SONM	**Songino Array**	**54.40**	**342**	P	**P**	**06 26 10.0**	**-0.2**
	0.4nm,0.7s,mb3.6,baz=178,slow=7.2,SNR=3.1						
MK31	**Makanchi Array**	**64.18**	**327**	*eP*	**P**	**06 27 18.1**	**+0.5**
MKAR	**Makanchi Array**	**64.18**	**327**	P	**P**	**06 27 17.7**	**+0.1**
	1.2nm,0.6s,mb3.9,baz=123,slow=8.1,SNR=17						
MKAR	**Makanchi Array**	**64.18**	**327**	P	**P**	**06 27 17.7**	**+0.1**
ZALV	**Zalesovo Beam**	**67.50**	**334**	P	**P**	**06 27 38.9**	**+0.2**
	0.4nm,0.3s,mb3.7,baz=104,slow=3.0,SNR=3.3						
KURK	**Kurchatov**	**68.46**	**329**	*eP*	**P**	**06 27 45.1**	**+0.4**
	2.2nm,0.8s,mb4.0						
TORD	**Torodi Ar. Bea**	**126.27**	**284**	PKP	PKPdf	06 35 46.6	+1.1
	0.5nm,0.9s,baz=116,slow=4.1,SNR=2.7						

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*SZGRF **20** 06:38:37.8, 355S×3638E, h33km, mb4.4, Tanzania*
*IDC **20** 06:38:39.1±0.8, 269S×36.19E, h0km, mb4.2/10, mb1 4.2/11, mb1mx4.0/23, mbtmp4.2/11, ML4.0/1, MS3.8/19, Ms1 3.8/19, ms1mx3.7/31, Error ellipse: s-maj=30.7km s-min=11.0km az=123.0*
*NEIC **20** 06:38:40.7±0.6, 272S×3626E, h10km, mb4.4/3, Error ellipse: s-maj=24.5km s-min=9.0km az=117.0*
*ISCJB **20** 06:38:41.8±0.4, 232S±006×363E±01, h10km, mb4.3/17, MS3.8/18, Error ellipse: s-maj=18.5km s-min=7.4km az=18.9*
ISC 20 06:38:43.9±0.4, 236S±006×364E±01, h10km, n46, σ0976/34, mb4.3/17, MS3.8/18, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.47**	**34**	Pg	**Pg**	**06 39 13.6**	**+1.4**
	151nm,0.3s,baz=214,slow=19,SNR=63						
KMBO				Lg		06 39 37.1	
	742nm,0.3s,baz=38,slow=24,SNR=8.1						
FURI	**Furi**	**11.40**	**11**	*eP*	**Pn**	**06 41 36.1**	**+9.1**
LSZ	**Lusaka**	**15.20**	**212**	Pn	**Pn**	**06 42 09.2**	**-10**
	0.7nm,0.3s,baz=31,slow=11,SNR=6.1						
LSZ				Sn	**Sn**	**06 44 43.0**	**-24**
	1.0nm,0.3s,baz=298,slow=16,SNR=3.3						
LSZ				Lg		06 46 19.1	
	6.0nm,0.3s,baz=119,slow=18,SNR=12						
LSZ				LR	LR	06 47 40.8	
	comp=Z,312nm,18.5s,baz=224,slow=37						
LSZ	**Lusaka**	**15.20**	**212**	*eP*	**Pn**	**06 42 19.8**	**+1.0**
OPO	**Ambohidratompo**	**19.25**	**148**	P	**Pn**	**06 43 09.0**	**-0.6**
	0.2nm,0.3s,baz=334,slow=16,SNR=2.4						
MSNA	**Messina**	**20.82**	**197**	*eP*	**P**	**06 43 25.9**	**+0.2**
MSNA				AMb	AMB	06 43 50.7	
	comp=Z,18nm,1.4s						
MOPA	**Mopani**	**21.59**	**193**	*eP*	**P**	**06 43 33.3**	**-0.7**
MOPA				AMb	AMB	06 44 02.3	
	comp=Z,19nm,1.7s,mb4.2						
SLR	**Silverton**	**24.53**	**198**	*eP*	**P**	**06 44 03.0**	**-0.8**
SLR				AMb	AMB	06 44 29.6	
	comp=Z,28nm,1.5s,mb4.6						
LBTB	**Lobatse**	**24.83**	**204**	P	**P**	**06 44 00.0**	**-6.5**
	comp=Z,2.6nm,0.7s,mb3.9,baz=41,slow=11,SNR=4.2						
LBTB				S	**S**	**06 48 40.6**	**+11**
	comp=Z,5.9nm,0.9s,baz=38,slow=13,SNR=3.1						
LBTB				Lg		06 51 17.2	
	comp=Z,16nm,1.0s,baz=322,slow=16,SNR=4.6						
LBTB				LR	LR	06 53 45.1	
	comp=Z,187nm,18.2s,MS3.6,baz=44,slow=37						
LBTB	**Lobatse**	**24.83**	**204**	*eP*	**P**	**06 44 08.5**	**+1.9**
LBTB				AMb	AMB	06 44 37.6	
	comp=Z,17nm,1.4s,mb4.4						
TSUM	**Tsumeb**	**24.91**	**226**	P	**P**	**06 44 00.5**	**-6.9**
	comp=Z,3.3nm,0.9s,mb3.9,baz=41,slow=7.5,SNR=4.8						
TSUM				Lg		06 51 29.0	
	comp=Z,13nm,0.9s,baz=97,slow=9.1,SNR=2.4						
TSUM				LR	LR	06 53 06.8	
	comp=Z,135nm,18.8s,MS3.5,baz=295,slow=35						
TSUM	**Tsumeb**	**24.91**	**226**	*eP*	**P**	**06 44 09.2**	**+1.9**
TSUM				AMb	AMB	06 44 42.8	
	comp=Z,138nm,1.4s,mb5.3						
KSR	**Koster**	**25.10**	**201**	*eP*	**P**	**06 44 08.9**	**0.0**
KSR				AMb	AMB	06 44 48.1	
	comp=Z,27nm,1.5s,mb4.5						
PRYS	**Parys**	**25.93**	**199**	*eP*	**P**	**06 44 16.7**	**+0.2**
PRYS				AMb	AMB	06 44 55.6	
	comp=Z,21nm,1.8s,mb4.4						
BOSA	**Boshof**	**28.20**	**201**	P	**P**	**06 44 29.7**	**-7.3**
	comp=Z,8.7nm,1.0s,mb4.3,baz=14,slow=9.9,SNR=7.1						
BOSA				Lg		06 53 10.4	
	comp=Z,14nm,0.9s,baz=118,slow=22,SNR=4.0						
BOSA				LR	LR	06 55 49.3	
	comp=Z,287nm,18.9s,MS3.9,baz=26,slow=37						
BOSA	**Boshof**	**28.20**	**201**	P	**P**	**06 44 29.7**	**-7.3**
BOSA				Lg		06 53 10.4	
BOSA				LR	LR	06 55 49.3	
BOSA	**Boshof**	**28.20**	**201**	*eP*	**P**	**06 44 37.0**	**+0.1**
BOSA				AML	AML	06 44 45.9	
	comp=Z,31nm,1.8s						
UPI	**Upington**	**29.64**	**208**	*eP*	**P**	**06 44 50.4**	**+0.6**
UPI				AMb	AMB	06 45 45.6	
	comp=Z,27nm,1.9s,mb4.7						
SUR	**Sutherland**	**33.28**	**205**	P	**P**	**06 45 14.9**	**-6.8**
	comp=Z,8.2nm,0.8s,mb4.7,baz=32,slow=8.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**37.76**	**295**	P	**P**	**06 45 55.2**	**-5.3**
	comp=Z,4.5nm,1.1s,mb4.1,baz=109,slow=4.8,SNR=11						
TORD				PcP	PcP	06 48 14.3	-3.2
	comp=Z,2.7nm,1.1s,baz=120,slow=3.7,SNR=4.6						
TORD				LR	LR	07 01 31.4	
	comp=Z,323nm,18.4s,MS4.2,baz=95,slow=36						
TORD	**Torodi Ar. Bea**	**37.76**	**295**	P	**P**	**06 45 55.2**	**-5.3**
TORD				PcP	PcP	06 48 14.3	-3.2
TORD				LR	LR	07 01 31.4	
DBIC	**Dimbokro**	**42.19**	**283**	LR	LR	07 04 18.6	
	comp=Z,242nm,20.3s,MS4.1,baz=102,slow=37						
KEST	**Kesra**	**45.57**	**329**	LR	LR	07 09 12.6	
	comp=Z,82nm,18.1s,MS3.7,baz=178,slow=40						
AKASG	**Malin Array Be**	**53.21**	**354**	P	**P**	**06 48 02.1**	**-0.2**
	comp=Z,0.3nm,0.2s,mb3.8,baz=179,slow=6.4,SNR=9.0						
AKASG				PcP	PcP	06 49 07.2	-3.0
	comp=Z,0.6nm,0.3s,baz=185,slow=4.1,SNR=4.6						
GERES	**GERESS Array B**	**54.68**	**342**	P	**P**	**06 48 13.0**	**-0.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=159,slow=5.9,SNR=10						
GERES				LR	LR	07 16 24.9	
	comp=Z,101nm,18.6s,MS3.9,baz=129,slow=41						
KHC	**Kasperske Hory**	**54.97**	**342**	*eP*	**P**	**06 48 14.0**	**-1.2**
GRA1	**Grafenberg Arr**	**56.22**	**341**	*eP*	**P**	**06 48 24.1**	**-0.1**
	comp=Z,3.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**56.22**	**341**	*eP*	**P**	**06 48 24.1**	**-0.1**
	comp=Z,3.0nm,0.9s,mb4.3						
MK31	**Makanchi Array**	**63.35**	**33**	*eP*	**P**	**06 49 13.4**	**0.0**
MKAR	**Makanchi Array**	**63.35**	**33**	P	**P**	**06 49 12.8**	**-0.6**
	comp=Z,3.4nm,0.9s,mb4.5,baz=233,slow=5.9,SNR=22						
MKAR	**Makanchi Array**	**63.35**	**33**	P	**P**	**06 49 12.8**	**-0.6**
KURK	**Kurchatov**	**63.95**	**28**	*eP*	**P**	**06 49 17.5**	**+0.3**
	comp=Z,5.9nm,1.1s,mb4.5						
HFS	**Hagfors**	**64.80**	**348**	LR	LR	07 23 15.0	
	comp=Z,75nm,18.4s,MS3.9,baz=177,slow=41						
CMAR	**Chiang Mai Arr**	**64.85**	**68**	LR	LR	07 14 46.1	
	comp=Z,30nm,19.4s,MS3.5,baz=64,slow=33						
NOA	**NORSAR Array B**	**66.16**	**347**	LR	LR	07 24 19.6	
	comp=Z,17nm,18.6s,MS3.3,baz=180,slow=41						
MAW	**Mawson**	**67.63**	**169**	LR	LR	07 17 32.2	
	comp=Z,104nm,19.2s,MS4.1,baz=59,slow=35						
ZALV	**Zalesovo Beam**	**68.94**	**28**	P	**P**	**06 49 48.1**	**-1.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=255,slow=5.8,SNR=8.8						
ZALV				LR	LR	07 23 39.2	
	comp=Z,61nm,18.0s,MS3.9,baz=240,slow=39						
ARCES	**ARCESS Array B**	**72.13**	**356**	LR	LR	07 23 54.6	
	comp=Z,41nm,20.2s,MS3.7,baz=316,slow=38						
SONM	**Songino Array**	**78.43**	**40**	P	**P**	**06 50 45.5**	**+0.5**
	comp=Z,1.3nm,1.0s,mb3.8,baz=241,slow=6.0,SNR=8.5						
JMIC	**Jan Mayen**	**78.86**	**346**	LR	LR	07 29 04.8	
	comp=Z,20nm,20.3s,MS3.5,baz=150,slow=38						
BORG	**Borgarnes**	**78.95**	**338**	LR	LR	07 29 06.0	
	comp=Z,67nm,21.1s,MS4.0,baz=295,slow=38						
SPITS	**Spitsbergen Ar**	**81.17**	**356**	LR	LR	07 32 58.5	
	comp=Z,42nm,18.3s,MS3.8,baz=265,slow=40						
FITZ	**Fitzroy Crossi**	**88.52**	**108**	LR	LR	07 24 02.3	
	comp=Z,106nm,19.0s,MS4.3,baz=181,slow=31						
WRA	**Warramunga Arr**	**96.62**	**110**	LR	LR	07 29 09.1	
	comp=Z,70nm,21.0s,MS4.1,baz=265,slow=31						
NVAR	**Mina Array Bea**	**137.31**	**330**	PKP	PKPdf	06 58 07.5	-0.7
	comp=Z,0.1nm,0.3s,baz=67,slow=3.9,SNR=5.4						
NVAR	**Mina Array Bea**	**137.31**	**330**	PKP	PKPdf	06 58 07.5	-0.7

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*NIED **20** 07:01:00, 3350N×141.10E, h41km, Mw3.8 Best double couple: M0=5.00000×10^14 NP1:φ=123.00000°, δ=88.00000°, λ=-19.00000°. NP2:φ=213.00000°, δ=71.00000°, λ=-178.00000°.*
*IDC **20** 07:01:09.4±4.3, 3309N×14086E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.5/21, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=180.6km s-min=32.9km az=72.0*
*ISCJB **20** 07:01:13.1±1.0, 3342N±005×14107E±009, h64km±12km, mb3.9/2, Error ellipse: s-maj=12.5km s-min=7.8km az=172.1*
*NEIC **20** 07:01:13.0, 3346N×141.10E, h49km, MG3.5(JMA), After JMA.*
*JMA **20** 07:01:13.0±0.2, 3345N×141.10E, h49km, M3.5*
ISC 20 07:01:14.0±1.1, 3340N±005×14108E±009, h48km±16km, n17, σ0989/28, mb3.9/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.10**	**255**	P	**Pn**	**07 01 33.0**	**0.0**
JHJ2				S	**Sn**	**07 01 47.5**	**+0.5**
BSO1	**Boso 1**	**1.25**	**356**	P	**Pn**	**07 01 33.8**	**-1.3**
JMY	**Miyakejima3**	**1.47**	**298**	P	**Pn**	**07 01 37.5**	**-0.5**
BSO3	**Boso 3**	**1.48**	**341**	P	**Pn**	**07 01 37.3**	**-0.8**
BSO4	**Boso 4**	**1.70**	**339**	P	**Pn**	**07 01 41.0**	**-0.2**
JKO	**Kozu shima**	**1.80**	**296**	P	**Pn**	**07 01 42.8**	**+0.3**
JKO				*e*S	**Sn**	**07 02 03.9**	**-0.3**
JIM2	**Oshima 3**	**1.90**	**314**	P	**Pn**	**07 01 43.0**	**-0.9**
JIM2				S	**Sn**	**07 02 05.2**	**-1.4**
JIZS	**Izushimoda**	**2.25**	**306**	P	**Pn**	**07 01 48.9**	**+0.2**
JIZS				S	**Sn**	**07 02 15.0**	**-0.3**
JOD2	**Odawara 2**	**2.49**	**319**	P	**Pn**	**07 01 51.0**	**-0.9**
JOD2				S	**Sn**	**07 02 19.4**	**-1.6**
JYN	**Shimob**	**2.96**	**316**	P	**Pn**	**07 01 59.5**	**+1.0**
JYN				S	**Sn**	**07 02 32.3**	**-0.5**
JRY	**Ryogami san**	**3.17**	**326**	P	**Pn**	**07 02 01.5**	**+0.2**
JRY				*e*S	**Sn**	**07 02 36.7**	**-1.1**
JAG	**Ashikaga**	**3.30**	**337**	P	**Pn**	**07 02 04.1**	**+1.0**
JAG				*e*S	**Sn**	**07 02 41.3**	**+0.2**
MJAR	**Matsushiro Arr**	**3.92**	**324**	Pn	**Pn**	**07 02 12.6**	**+1.0**
	3.7nm,0.3s,baz=149,slow=12,SNR=58						
MJAR				Sn	**Sn**	**07 02 57.0**	**+0.6**
	1.6nm,0.3s,baz=138,slow=12,SNR=3.3						
MAJO	**Matsushiro**	**3.92**	**324**	*e*Pn	**Pn**	**07 02 12.9**	**+1.3**
MAJO				*e*Sn	**Sn**	**07 02 57.6**	**+1.2**
MAT	**Matsushiro**	**3.92**	**324**	P	**Pn**	**07 02 12.9**	**+1.2**
MAT				*e*S	**Sn**	**07 02 58.4**	**+2.0**
WRA	**Warramunga Arr**	**53.43**	**188**	P	**P**	**07 10 28.8**	**-0.3**
	0.9nm,0.3s,mb4.2,baz=5.8,slow=7.5,SNR=33						
ASAR	**Alice Springs**	**57.16**	**188**	P	**P**	**07 10 55.5**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=18,slow=12,SNR=10						

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*SKHL **20** 07:02:38.2±0.9, 4670N×14160E, h10km, mb3.8/1*
JMA 20 07:02:38.6±0.4, 4687N×14157E, h0km, M3.4, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.82**	**84↑**	*e*Pg	Pg	07 02 54.0	-0.2
YSS				AMB	AMB	07 02 56.0	
	60nm,0.3s						
YSS				*e*Sg	Sg	07 03 06.0	+1.2
YSS				A		07 03 07.0	
	1μm,0.2s						
YSS				A		07 03 07.0	
	1μm,0.2s						
JWK2	**Keihoku**	**1.57**	**172**	P	Pn	07 03 07.7	0.0
JWK2				*e*S	Sn	07 03 28.1	-0.6

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*ISCJB **20** 07:15:33.9±0.4, 264S±007×36.1E±0.1, h10km, mb4.1/15, MS3.7/18, Error ellipse: s-maj=16.7km s-min=7.9km az=20.1*
*IDC **20** 07:15:34.6±0.6, 262S×36.15E, h0km, mb4.1/11, mb1 4.1/12, mb1mx4.0/22, mbtmp4.0/12, ML3.4/1, MS3.7/19, Ms1 3.7/19, ms1mx3.6/30, Error ellipse: s-maj=21.9km s-min=10.9km az=121.0*
*NEIC **20** 07:15:35.8±0.5, 262S×36.12E, h10km, mb4.6/1, Error ellipse: s-maj=19.7km s-min=9.6km az=117.0*
ISC 20 07:15:36.0±0.4, 268S±007×361E±01, h10km, n35, σ0976/27, mb4.1/15, MS3.7/18, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.94**	**38**	Pg	**Pg**	**07 16 08.4**	**-4.9**
	110nm,0.3s,baz=212,slow=15,SNR=49						
KMBO				Lg		07 16 32.6	
	440nm,0.3s,baz=359,slow=22,SNR=19						
LSZ	**Lusaka**	**14.73**	**211**	Pn	**Pn**	**07 19 02.4**	**-2.2**
	0.8nm,0.3s,baz=32,slow=14,SNR=7.1						
LSZ				Sn	**Sn**	**07 21 36.5**	**-11**
	0.7nm,0.3s,baz=24,slow=13,SNR=2.8						
LSZ				Lg		07 23 11.7	
	3.6nm,0.3s,baz=84,slow=3.1,SNR=5.3						
LSZ				LR	LR	07 24 45.4	
	comp=Z,137nm,20.5s,baz=179,slow=37						
LSZ	**Lusaka**	**14.73**	**211**	*eP*	**Pn**	**07 19 01.6**	**-2.9**
LSZ				AMb	AMB	07 19 28.4	
	comp=Z,94nm,1.1s						
OPO	**Ambohidratompo**	**19.19**	**146**	P	**Pn**	**07 20 01.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=313,slow=17,SNR=2.4						
OPO				S	**Sn**	**07 23 24.0**	**-12**
	comp=Z,1.3nm,0.3s,baz=266,slow=1.9,SNR=7.8						
MSNA	**Messina**	**20.41**	**196**	*eP*	**P**	**07 20 13.5**	**+0.2**
MSNA				AMb	AMB	07 20 25.5	
	comp=Z,18nm,1.8s						
MOPA	**Mopani**	**21.20**	**192**	*eP*	**P**	**07 20 21.7**	**-0.2**
MOPA				AMb	AMB	07 20 42.4	
	comp=Z,13nm,1.3s,mb4.1						
SLR	**Silverton**	**24.12**	**197**	*eP*	**P**	**07 20 52.9**	**+0.8**
SLR				AMb	AMB	07 20 53.3	
	comp=Z,33nm,1.7s,mb4.5						
LBTB	**Lobatse**	**24.39**	**204**	P	**P**	**07 20 55.0**	**+0.4**
	comp=Z,3.5nm,0.7s,mb3.9,baz=27,slow=10,SNR=4.2						
LBTB				LR	LR	07 30 51.4	
	comp=Z,100nm,19.9s,MS3.3,baz=227,slow=38						
LBTB	**Lobatse**	**24.39**	**204**	*eP*	**P**	**07 20 52.4**	**-2.2**
LBTB				AMb	AMB	07 21 08.7	
	comp=Z,23nm,1.7s,mb4.3						
TSUM	**Tsumeb**	**24.42**	**226**	P	**P**	**07 20 55.5**	**+0.6**
	comp=Z,1.6nm,0.9s,mb3.5,baz=38,slow=15,SNR=3.9						
TSUM				LR	LR	07 30 12.2	
	comp=Z,80nm,21.0s,MS3.2,baz=139,slow=36						
TSUM	**Tsumeb**	**24.42**	**226**	*eP*	**P**	**07 20 55.3**	**+0.4**
TSUM				AMb	AMB	07 21 23.0	
	comp=Z,64nm,1.4s,mb4.8						
PRYS	**Parys**	**25.51**	**198**	*eP*	**P**	**07 21 04.7**	**-0.1**
PRYS				AMb	AMB	07 21 34.4	
	comp=Z,21nm,1.8s,mb4.4						
BOSA	**Boshof**	**27.77**	**201**	P	**P**	**07 21 25.5**	**+0.3**
	comp=Z,4.3nm,0.9s,mb4.1,baz=26,slow=7.7,SNR=6.6						
BOSA				LR	LR	07 32 43.0	
	comp=Z,204nm,18.9s,MS3.7,baz=24,slow=37						
BOSA	**Boshof**	**27.77**	**201**	*eP*	**P**	**07 21 25.2**	**+0.1**
BOSA				AMb	AMB	07 22 09.0	
	comp=Z,23nm,1.6s,mb4.6						
EIL	**Elat**	**32.18**	**358**	LR	LR	07 34 55.9	
	comp=Z,130nm,18.3s,MS3.6,baz=109,slow=36						
MMAI	**Mount Meron Ar**	**35.50**	**359**	LR	LR	07 37 01.0	
	comp=Z,113nm,18.8s,MS3.6,baz=165,slow=36						
TORD	**Torodi Ar. Bea**	**37.56**	**296**	P	**P**	**07 22 51.4**	**+0.6**
	comp=Z,2.6nm,1.0s,mb3.9,baz=104,slow=3.6,SNR=9.6						
TORD				PcP	PcP	07 25 09.7	+0.8
	comp=Z,2.1nm,1.1s,baz=114,slow=3.5,SNR=4.4						
TORD				LR	LR	07 38 26.1	
	comp=Z,229nm,18.4s,MS4.0,baz=80,slow=36						
DBIC	**Dimbokro**	**41.89**	**283**	LR	LR	07 41 22.5	
	comp=Z,192nm,18.9s,MS4.0,baz=115,slow=37						
VAE	**Valguarnera**	**44.72**	**335**	LR	LR	07 44 56.7	
	comp=Z,128nm,18.6s,MS3.9,baz=298,slow=39						
KEST	**Kesra**	**45.65**	**329**	LR	LR	07 46 07.9	
	comp=Z,60nm,19.4s,MS3.5,baz=268,slow=40						
AKASG	**Malin Array Be**	**53.49**	**355**	P	**P**	**07 24 56.5**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=180,slow=6.6,SNR=4.9						
GERES	**GERESS Array B**	**54.87**	**342**	P	**P**	**07 25 07.0**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=152,slow=9.1,SNR=7.4						
GERES				LR	LR	07 51 55.6	
	comp=Z,41nm,19.9s,MS3.5,baz=358,slow=40						
ESDC	**Sonseca Array**	**55.88**	**323**	LR	LR	07 51 27.9	
	comp=Z,125nm,19.1s,MS4.0,baz=125,slow=38						
BVAR	**Borovoye Array**	**62.52**	**23**	LR	LR	07 53 57.3	
	comp=Z,60nm,20.6s,MS3.8,baz=262,slow=37						
MK31	**Makanchi Array**	**63.83**	**34**	*eP*	**P**	**07 26 08.3**	**-0.2**
MKAR	**Makanchi Array**	**63.83**	**34**	P	**P**	**07 26 08.0**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.3,baz=232,slow=5.7,SNR=16						
MKAR				LR	LR	07 56 50.5	
	comp=Z,46nm,20.7s,MS3.6,baz=2.8,slow=39						
KURK	**Kurchatov**	**64.41**	**28**	*eP*	**P**	**07 26 12.5**	**+0.3**
	comp=Z,4.6nm,1.0s,mb4.5						
CMAR	**Chiang Mai Arr**	**65.32**	**68**	P	**P**	**07 26 18.6**	**-0.3**
	comp=Z,1.1nm,0.3s,mb4.3,baz=264,slow=7.2,SNR=9.0						
CMAR				LR	LR	07 55 11.3	
	comp=Z,30nm,18.4s,MS3.5,baz=312,slow=36						
NOA	**NORSAR Array B**	**66.38**	**347**	LR	LR	08 00 02.7	
	comp=Z,16nm,18.4s,MS3.3,baz=150,slow=40						
MAW	**Mawson**	**67.39**	**169**	P	**P**	**07 26 31.8**	**+0.7**
	comp=Z,1.3nm,0.4s,mb4.3,baz=328,slow=8.1,SNR=9.1						
MAW				LR	LR	07 50 28.0	
	comp=Z,76nm,19.8s,MS3.9,baz=62,slow=31						
ZAA0	**Zalesovo Array**	**69.40**	**28**	*eP*	**P**	**07 26 43.4**	**-0.5**
ZALV	**Zalesovo Beam**	**69.40**	**28**	P	**P**	**07 26 42.7**	**-1.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=245,slow=6.4,SNR=7.7						
ZALV				LR	LR	08 00 14.7	
	comp=Z,40nm,18.2s,MS3.7,baz=172,slow=39						
SONM	**Songino Array**	**78.92**	**40**	P	**P**	**07 27 40.5**	**+0.8**
	comp=Z,0.9nm,0.8s,mb3.7,baz=240,slow=3.9,SNR=5.0						
PMSA	**Palmer Station**	**91.91**	**205**	LR	LR	08 03 55.0	
	comp=Z,219nm,19.0s,MS4.6,baz=232,slow=32						
PDAR	**Pinedale Array**	**129.68**	**327**	PKP	PKPdf	07 34 47.6	+1.8
	comp=Z,0.6nm,0.9s,baz=61,slow=2.3,SNR=4.4						

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*IDC **20** 07:34:07.1±1.0, 270S×3627E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/20, mbtmp3.9/9, ML3.8/1, MS3.5/3, Ms1 3.5/3, ms1mx2.9/25, Error ellipse: s-maj=32.2km s-min=14.3km az=126.0*
*ISCJB **20** 07:34:08.5±0.5, 238S±007×362E±0.1, h10km, mb4.0/13, MS3.5/3, Error ellipse: s-maj=17.3km s-min=8.5km az=22.9*
*NEIC **20** 07:34:08.5±0.7, 268S×3628E, h10km, Error ellipse: s-maj=25.3km s-min=10.4km az=123.0*
ISC 20 07:34:10.5±0.5, 239S±007×362E±01, h10km, n25, σ0995/25, mb4.0/13, MS3.5/3, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.61**	**39**	Pg	**Pg**	**07 34 41.1**	**-0.3**
	144nm,0.

ISC 20 07:50:39.0±1.7, 220S±01×1780W±01, h339km±19km, n28, σ0°75/22, mb4.0/13, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.99	37	eP	P	07 52 56.5	-0.4
AFI				eS	S	07 54 42.9	-7.1
URZ	Urewera	16.75	193	P	P	07 54 13.2	+0.2
	1.0nm,0.3s,baz=82,slow=12,SNR=3.9						
RPZ	Rata Peaks	23.49	200	P	P	07 55 19.7	+0.4
	4.5nm,0.5s,mb4.0,baz=321,slow=19,SNR=7.4						
CTA	Charters Tower	33.36	267	eP	P	07 56 48.0	+1.4
	24nm,0.5s,mb4.7						
CTA	Charters Tower	33.36	267	P	P	07 56 47.7	+1.1
	33nm,0.6s,mb4.7,baz=95,slow=11,SNR=51						
TOO	Toolangi	35.02	235	eP	P	07 57 01.1	+0.5
STKA	Stephens Creek	37.15	246	eP	P	07 57 18.8	+0.3
	1.7nm,0.4s,mb3.6						
STKA	Stephens Creek	37.15	246	P	P	07 57 19.0	+0.4
	3.0nm,0.5s,mb3.8,baz=90,slow=9.3,SNR=14						
ASAR	Alice Springs	44.18	258	P	P	07 58 15.8	+0.2
	4.0nm,0.3s,mb4.0,baz=87,slow=9.0,SNR=92						
WB2	Warramunga Arr	44.39	264	eP	P	07 58 17.2	-0.1
WRA	Warramunga Arr	44.40	264	P	P	07 58 16.7	-0.7
	5.7nm,0.7s,mb3.8,baz=91,slow=5.9,SNR=125						
KAKA	Kakadu	48.01	273	eP	P	07 58 45.0	-0.3
	9.7nm,0.3s,mb4.5						
FORT	Forrest	48.71	248	eP	P	07 58 49.4	-1.0
	23nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	52.83	263	eP	P	07 59 21.4	+0.4
	5.8nm,0.6s,mb4.1						
MJAR	Matsushiro Arr	71.40	324	P	P	08 01 21.8	-1.1
	1.0nm,0.5s,mb3.8,baz=120,slow=8.5,SNR=3.7						
MAW	Mawson	80.16	200	P	P	08 02 11.8	0.0
	1.7nm,0.6s,mb4.0,baz=117,slow=6.8,SNR=9.4						
NVAR	Mina Array Bea	82.12	43	P	P	08 02 23.6	+1.2
	0.3nm,0.5s,mb3.3,baz=235,slow=6.3,SNR=3.8						
SNAA	Sanae	86.53	178	e	P	08 02 42.1	-1.7
VNA2	Neumayer--Watz	87.10	177	e	P	08 02 46.1	-0.5
TXAR	Lajitas Array	87.87	57	P	P	08 02 51.9	+0.9
	0.2nm,0.8s,mb3.0,baz=226,slow=2.4,SNR=3.2						
CMAR	Chiang Mai Arr	90.60	290	P	P	08 03 04.1	+0.2
	2.0nm,0.7s,mb4.2,baz=130,slow=3.5,SNR=8.4						
ARCES	ARCESS Array B	130.38	349	PKP	PKPdf	08 09 07.6	-1.0
	1.5nm,0.6s,baz=36,slow=2.3,SNR=10						
AKASG	Malin Array Be	144.30	330	PKP	PKPdf	08 09 32.5	-2.2
	1.6nm,0.3s,baz=41,slow=4.0,SNR=15						
CLL	Collm	149.51	346	⇓i PKPbc	PKPbc	08 09 47.9	-0.3
	comp=Z,6.0nm,0.8s						
BRG	Berggiesshubel	149.69	345	eP	PKPdf	08 09 48.5	+4.9
	comp=Z,5.5nm,0.7s						
GERES	GERESS Array B	151.63	344	PKPbc	PKPbc	08 09 52.5	-0.7
	comp=Z,1.0nm,0.7s,baz=54,slow=2.5,SNR=6.1						
DBIC	Dimbokro	163.39	156	PKP	PKPdf	08 10 01.1	-1.2
	comp=Z,7.1nm,1.0s,baz=158,slow=5.4,SNR=2.6						
TORD	Torodi Ar. Bea	171.20	178	PKP	PKPdf	08 10 06.1	-1.7
	comp=Z,0.8nm,0.9s,baz=15,slow=1.6,SNR=4.6						
TORD				PKPab	PKPab	08 11 27.9	-1.4
	comp=Z,0.5nm,0.5s,baz=177,slow=3.8,SNR=7.1						

ISCJB 20 08:22:23.7±0.6, 4042N±003×2574E±005, h4km±7km, Error ellipse: s-maj=6.5km s-min=4.1km az=22.3
THE 20 08:22:24.8, 4043N×2578E, h14km, ML2.5
ISK 20 08:22:24.3, 4041N×2583E, h14km, ML2.5
CSEM 20 08:22:24.6±0.1, 4040N×2584E, h12km, ML2.5, Error ellipse: s-maj=2.7km s-min=1.5km az=109.0
DDA 20 08:22:26.5, 4036N×2601E, h7km±4km, Md2.8

ISC 20 08:22:24.3±0.6, 4043N±003×2575E±005, h9km±6km, n14, σ0°93/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	Gvkgeada	0.26	154	PG	Pg	08 22 30.1	+0.6
GADA				eSG	Sg	08 22 33.3	+0.3
ENEZ	Enez	0.44	45	PG	Pg	08 22 32.9	+0.1
ENEZ				eSG	Sg	08 22 39.5	+0.9
ALN	Alexandroupoli	0.52	26	ePg	Pg	08 22 34.5	+0.1
ALN				eSg	Sg	08 22 42.0	+0.7
ALN	Alexandroupoli	0.52	26	ePg	Pg	08 22 34.5	+0.1
ALN				eSg	Sg	08 22 42.0	+0.7
BOZC	Bozcaada	0.63	158	i P	Pg	08 22 36.4	0.0
BOZC				i S	Sg	08 22 44.7	+0.1
LOS	Limnos	0.71	226	ePg	Pg	08 22 38.4	+0.5
LOS				eSg	Sg	08 22 48.8	+1.7
EZN	Ezine	0.74	143	ePG	Pg	08 22 37.9	-0.7
RKY	Sarkoy-Tekirda	1.12	76	ePG	Pg	08 22 44.3	-1.5
RKY				eSG	Sg	08 23 00.8	+0.4
SART	Tekirdag	1.12	76	i P	Pb	08 22 44.4	-1.5
SART				i S	Sn	08 23 15.2	+1.8
BALY	Balya	1.59	115	i P	Pn	08 22 53.4	+0.8
BALY				i S	Sn	08 23 15.2	+1.8
BALY	Balya	1.59	115	i P	Pn	08 22 53.4	+0.8
BALY				i S	Sn	08 23 15.1	+1.8

ISCJB 20 08:44:12.7±1.6, 359N±01×705E±02, h33km, Error ellipse: s-maj=31.9km s-min=8.5km az=143.0
NNC 20 08:44:21.1±10.0, 3672N×6992E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=102.4km s-min=81.8km az=4.0

ISC 20 08:44:14.8±1.6, 359N±01×704E±02, h35km, n5, σ0°93/7, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	7.23	1	⇑P	Pn	08 45 58.4	+0.4
	2.0nm,0.2s,baz=190,slow=15,SNR=57						
KK31				⇓S	Sn	08 47 11.2	-7.6
	2.5nm,0.4s,baz=187,slow=26						
SMLA	Simla	7.39	128	i P	Pn	08 46 01.5	+1.4
SMLA				i S	Sn	08 47 21.7	-1.0
SMLA				ex	x	08 47 28.4	
	comp=E,135nm,0.3s						
SMLA				ex	x	08 47 28.4	
	comp=N,150nm,0.3s						
TKM2	Tokmak 2	8.13	28	⇑P	Pn	08 46 10.2	0.0
	comp=N,2.4nm,0.5s						
AB31	Akbulak array	15.41	334	⇑P	Pn	08 47 48.0	-1.4
	comp=N,1.5nm,0.5s						
AKTO	Aktyubinsk	17.09	332	⇓P	Pn	08 48 11.2	+0.5
	comp=N,0.5nm,0.7s						

SZGRF 20 08:54:41.8, 1708S×17556W, h33km, Tonga Islands
ISCJB 20 08:55:19.9±1.1, 161S±02×1764W±01, h341km±11km, mb4.0/16, Error ellipse: s-maj=28.5km s-min=11.8km az=146.7
IDC 20 08:55:20.8±1.4, 1619S×17631W, h340km±15km, mb3.6/12, mb1 3.8/13, mb1mx3.7/18, mbtmp3.6/13, Error ellipse: s-maj=22.0km s-min=10.9km az=138.0
NEIC 20 08:55:21.0±1.4, 1609S×17646W, h337km±14km, mb4.4/4, Error ellipse: s-maj=26.5km s-min=11.7km az=143.0

ISC 20 08:55:20.5±1.1, 162S±02×1764W±01, h333km±10km, n82, σ0°72/37, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.00	64	P	Pn	08 56 41.1	+1.7
	15nm,0.3s,baz=177,slow=2.4,SNR=20						
AFI				S	S	08 57 41.9	-1.2
	2.9nm,0.3s,baz=218,slow=18,SNR=3.1						
AFI	Afiamalu	5.00	64	P	Pn	08 56 41.1	+1.7
AFI				S	S	08 57 41.9	-1.2
URZ	Urewera	22.75	193	P	P	08 59 53.1	-1.6
	14nm,0.6s,mb4.4,baz=337,slow=3.2,SNR=15						
STKA	Stephens Creek	41.16	240	P	P	09 02 33.5	+0.1
	1.3nm,0.5s,mb3.5,baz=106,slow=13,SNR=8.7						
STKA	Stephens Creek	41.16	240	P	P	09 02 33.5	+0.1
WRA	Warramunga Arr	46.85	258	P	P	09 03 19.3	+0.8
	1.3nm,0.6s,mb3.3,baz=89,slow=7.3,SNR=26						
WRA				PcP	PcP	09 04 45.5	+0.1
	0.6nm,0.5s,baz=94,slow=3.6,SNR=5.3						
ASAR	Alice Springs	47.12	253	P	P	09 03 21.4	+0.9
	4.8nm,0.5s,mb4.0,baz=90,slow=8.4,SNR=99						
ASAR				PcP	PcP	09 04 46.6	+0.3
	0.5nm,0.5s,baz=95,slow=5.0,SNR=4.7						
MJAR	Matsushiro Arr	67.68	322	P	P	09 05 41.9	-0.7
	0.8nm,0.4s,mb3.8,baz=155,slow=6.3,SNR=4.9						
PETK	Petropavlovsk-	72.50	344	P	P	09 06 10.8	-0.4
	5.4nm,0.6s,mb4.5,baz=123,slow=8.0,SNR=17						
KSRS	Korea Array	74.69	317	P	P	09 06 24.0	-0.3
	0.5nm,0.3s,mb3.8,baz=137,slow=6.0,SNR=5.4						
CMB	Columbia Colle	75.25	43	eP	P	09 06 27.2	-0.2
	4.2nm,0.8s,mb4.2						
WDC	Whiskeytown Da	75.37	39	eP	P	09 06 28.4	+0.4
YBH	Yreka Blue Hor	75.96	38	eP	P	09 06 31.8	+0.5
	7.2nm,0.7s,mb4.5						
NVAR	Mina Array Bea	76.84	43	P	P	09 06 36.5	+0.2
	4.7nm,0.8s,mb4.3,baz=226,slow=9.5,SNR=40						
NVAR	Mina Array Bea	76.84	43	P	P	09 06 36.5	+0.2
TPNV	Topopah Spring	77.43	45	eP	P	09 06 39.8	+0.2
MOD	Modoc	77.52	39	eP	P	09 06 40.3	+0.4
WVOR	Wild Horse Val	78.84	40	eP	P	09 06 46.8	-0.4
	5.5nm,0.9s,mb4.3						
VIPM	Ingram Point	78.84	37	P	P	09 06 47.3	+0.2
TDL	Tradedollar La	79.04	35	P	P	09 06 48.8	+0.6
GNW	Green Mountain	79.45	34	eP	P	09 06 50.5	+0.1
RMW	Rattlesnake Mo	79.94	34	P	P	09 06 53.0	+0.1
GBL	Gable Mountain	80.72	36	P	P	09 06 57.2	+0.1
BMO	Blue Mountains	80.98	38	eP	P	09 06 58.4	-0.1
WTV	Waterville	81.09	35	P	P	09 06 58.6	-0.4
TMUT	Trail Mountain	82.04	45	eP	P	09 07 05.3	+1.2
PV10	Paradox Valley	83.12	47	eP	P	09 07 09.6	-0.1
PV01	Paradox Valley	83.34	47	eP	P	09 07 11.1	+0.3
TXAR	Lajitas Array	83.44	57	P	P	09 07 12.3	+0.8
	1.0nm,0.7s,mb3.7,baz=213,slow=6.5,SNR=13						
COLA	College	83.66	12	eP	P	09 07 10.5	-1.2
	16nm,0.8s,mb4.9						
SNOW	Snow King Moun	84.32	42	eP	P	09 07 16.2	+0.6
PDAR	Pinedale Array	84.77	43	P	P	09 07 17.4	-0.4
	0.9nm,0.6s,mb3.8,baz=216,slow=4.2,SNR=10.0						
DAWY	Dawson	84.88	15	eP	P	09 07 17.4	-0.5
YKA	Yellowknife Ar	91.95	24	P	P	09 07 49.6	-1.6
	0.3nm,0.6s,mb3.4,baz=237,slow=4.7,SNR=5.8						
SONM	Songino Array	93.48	319	P	P	09 07 58.3	-0.3
	0.4nm,0.6s,mb3.6,baz=120,slow=6.5,SNR=3.6						
ARCES	ARCESS Array B	124.91	351	PKP	PKPdf	09 13 38.5	-2.0
	2.2nm,0.5s,baz=358,slow=1.6,SNR=26						
STHS	Stebnicka Huta	143.84	340	ePKP	PKPdf	09 14 14.3	-1.9
CLZ	Clausthal	143.98	353	ePKPbc	PKPdf	09 14 14.3	-2.1
CLL	Collm	144.12	350	ePKPbc	PKPdf	09 14 14.9	-1.7
CRVS	Cervenica-Dubn	144.22	340	ePKP	PKPdf	09 14 15.5	-1.4
CRVS	Cervenica-Dubn	144.22	340	eP	PKPdf	09 14 15.6	-1.3
BRG	Berggiesshubel	144.37	349	ePKPbc	PKPdf	09 14 15.6	-1.5
FBE	Freiberg	144.44	349	ePKPbc	PKPdf	09 14 16.1	-1.1
BUG	Bochum--Univer	144.67	356	ePKPbc	PKPdf	09 14 16.6	-1.0
KECS	Kecovo	144.90	340	ePKP	PKPdf	09 14 15.4	-2.7
MOX	Moxa	144.99	351	ePKPbc	PKPdf	09 14 17.5	-0.7
UBBA	Unterbreizbach	145.03	353	ePKPbc	PKPbc	09 14 17.3	-1.1
WERD	Werda	145.07	350	ePKPbc	PKPbc	09 14 17.9	-0.6
GUNZ	Gunzen	145.15	350	ePKPbc	PKPbc	09 14 18.5	-0.3
WERN	Wernitzgruen	145.21	350	ePKPbc	PKPbc	09 14 18.2	-0.8
ANTO	Ankara	145.30	319	eP	PKPdf	09 14 19.1	0.0
KOLL	Kolacno	145.45	343	ePKP	PKPdf	09 14 19.7	+0.7
MANZ	Manzenberg	145.55	350	ePKPbc	PKPbc	09 14 19.8	-0.2
ROTZ	Rotzenmuhle	145.75	350	ePKPbc	PKPbc	09 14 20.3	-0.3
MODS	Modra-Piesok	145.95	344	ePKP	PKPdf	09 14 20.7	+0.8
GRA1	Grafenberg Arr	145.97	351	ePKPbc	PKPbc	09 14 21.7	+0.4
GRF	Grafenberg Arr	145.97	351	ePKPbc	PKPbc	09 14 21.7	+0.4
GIVF	Givet	146.12	359	ePKP1	PKPbc	09 14 21.0	-0.7
BAIF	Baives	146.17	359	ePKP1	PKPbc	09 14 21.5	-0.3
	9.5nm,0.6s						
GEC2	GERESS Array S	146.36	348	ePKPbc	PKPbc	09 14 21.8	-0.6
GERES	GERESS Array B	146.36	348	PKPbc	PKPbc	09 14 21.6	-0.8
	1.3nm,0.5s,baz=29,slow=3.0,SNR=11						
WLF	Walferdange	146.51	357	ePKPbc	PKPbc	09 14 22.5	-0.3
FLN	La Foliniere	147.30	5	ePKP1	PKPbc	09 14 24.1	-0.9
	13nm,0.4s						
LDF	La Druitiere	147.50	5	ePKP1	PKPbc	09 14 24.6	-0.9
	6.0nm,0.4s						
SGMF	Saint Gilles	147.59	8	ePKP1	PKPbc	09 14 24.9	-0.9
RJOB	Jochberg	147.59	348	ePKPbc	PKPbc	09 14 25.8	0.0
GRR	Gorron	147.64	6	ePKP1	PKPbc	09 14 25.2	-0.7
	11nm,0.4s						
BFO	Black Forest	147.67	354	ePKPbc	PKPbc	09 14 24.7	-1.3
CDF	Champ du Feu	147.68	355	ePKP1	PKPbc	09 14 25.6	-0.4
	6.4nm,0.6s						
QUIF	Quistinic	147.83	9	ePKP1	PKPbc	09 14 25.6	-0.8
LOR	Lormes	148.97	360	ePKP1	PKPbc	09 14 28.9	-0.4
	5.3nm,0.5s						
DAVOX	Davos/Dischmat	149.01	352	PKPbc	PKPbc	09 14 29.6	+0.2
	9.6nm,0.7s,baz=12,slow=2.7,SNR=13						
SSF	Saint Saulge	149.18	0	ePKP1	PKPbc	09 14 29.6	-0.2
AVF	Avril sur Loir	149.45	0	ePKP1	PKPbc	09 14 29.8	-0.7
LPL	La Plagne	150.60	355	ePKP1	PKPbc	09 14 33.9	+0.6
CAF	Cafviac	151.28	2	ePKP1	PKPbc	09 14 34.6	-0.3
VIVF	Saint-Julien-l	151.37	358	ePKP1	PKPbc	09 14 35.1	0.0
	3.8nm,0.4s						
MBDF	Montbardon	151.38	355	ePKP1	PKPbc	09 14 35.0	-0.1
	17nm,0.8s						
SBF	Sospel	152.18	354	ePKP1	PKPbc	09 14 36.1	-0.8
SMRF	Simiane la Rot	152.21	357	ePKP1	PKPbc	09 14 37.2	+0.2
FRF	La Foret Royal	152.55	355	ePKP1	PKPbc	09 14 36.8	-1.0
	13nm,0.7s						
TORD	Torodi Ar. Bea	176.50	148	PKP	PKPdf	09 14 51.1	-0.8
	0.5nm,0.8s,baz=306,slow=2.3,SNR=3.5						

IDC 20 09:08:02.5±0.8, 1355S×7697W, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.1/17, mbtmp3.9/8, ML3.3/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/27, Error ellipse: s-maj=33.6km s-min=16.1km az=74.0
ISCJB 20 09:08:03.7±3.6, 1360S±006×7711W±0.1, h19km±26km, mb3.9/8, Error ellipse: s-maj=21.8km s-min=8.7km az=164.0
NEIC 20 09:08:09.1±1.7, 1350S×7691W, h48km±15km, mb4.2/2, Error ellipse: s-maj=24.6km s-min=9.4km az=62.0

ISC 20 09:08:03.6±4.4, 1354S±006×770W±01, h6km±28km, n25, σ0°59/19, mb3.9/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.55	4	Pn	Pn	09 08 31.5	-0.2
	182nm,0.3s,baz=185,slow=13,SNR=237						
NNA				Sn	Sn	09 08 52.0	-0.1
	648nm,0.3s,baz=176,slow=15,SNR=14						
NNA				LR	LR	09 09 02.0	
	comp=Z,863nm,18.6s,baz=47,slow=38						
ATAH	Atahualpa	6.65	348	Pn	Pn	09 09 41.9	0.0
	2.2nm,0.3s,baz=154,slow=6.9,SNR=18						
ATAH				LR	LR	09 12 03.4	
	comp=Z,76nm,18.5s,baz=183,slow=37						
LPAZ	La Paz	8.95	109	Pn	Pn	09 10 17.8	+4.3
	0.2nm,0.3s,baz=283,slow=12,SNR=8.2						
LPAZ				LR	LR	09 14 26.5	
	comp=Z,177nm,20.1s,baz=30,slow=43						
OTAV	Otavalo	13.77	354	eP	Pn	09 11 23.5	+4.0
	14nm,1.2s						
SIV	San Ignacio	15.55	101	Pn	Pn	09 11 44.1	+0.6
	0.1nm,0.3s,baz=276,slow=14,SNR=7.6						
CFAA	Coronel Fontan	19.68	157	P	Pn	09 12 34.1	-0.8
	0.0nm,0.3s,baz=326,slow=12,SNR=5.7						
SDV	Santo Domingo	23.14	16	eP	P	09 13 10.2	-0.6
	6.2nm,0.9s,mb4.0						
PCRV	Puerto La Cruz	26.54	28	LR	LR	09 25 02.1	
	comp=Z,145nm,18.7s,baz=278,slow=38						
PLCA	Paso Flores	27.66	169	P	P	09 13 52.5	+0.2
	1.1nm,0.6s,mb3.6,baz=215,slow=22,SNR=5.2						
PLCA	Paso Flores	27.66	169	P	P	09 13 52.5	+0.2
TXAR	Lajitas Array	49.82	329	P	P	09 16 57.8	+0.2
	0.5nm,0.6s,mb3.7,baz=147,slow=8.8,SNR=8.7						
PDAR	Pinedale Array	63.52	334	P	P	09 18 34.5	-0.2
	0.5nm,0.6s,mb3.7,baz=123,slow=7.4,SNR=5.2						
NVAR	Mina Array Bea	64.57	325	P	P	09 18 43.0	+1.3
	1.1nm,0.8s,mb4.0,baz=137,slow=6.8,SNR=8.5						
VNA2	Neumayer--Watz	70.65	161	e	P	09 19 19.9	+0.2
VNA2				e	pP	09 19 22.9	+1.3
SNAA	Sanae	72.25	161	e	P	09 19 28.8	-0.5
SNAA				e	pP	09 19 32.1	+0.8
SNAA	Sanae	72.25	161	eP	P	09 19 29.0	-0.4
	2.9nm,0.8s,mb4.3						
YKA	Yellowknife Ar	81.29	343	P	P	09 20 19.7	-0.7
	0.8nm,0.7s,mb3.7,baz=143,slow=6.5,SNR=5.9						
YKA	Yellowknife Ar	81.29	343	P	P	09 20 19.7	-0.7
TORD	Torodi Ar. Bea	82.30	75	P	P	09 20 27.0	+0.2
	5.2nm,0.9s,mb4.5,baz=264,slow=5.3,SNR=20						
ASAR	Alice Springs	132.28	219	PKP	PKPdf	09 27 18.0	-1.5
	0.3nm,0.8s,baz=129,slow=1.8,SNR=4.5						
WRA	Warramunga Arr	134.67	223	PKP	PKPdf	09 27 23.4	-0.7
	1.0nm,0.8s,baz=137,slow=2.0,SNR=6.9						
ZALV	Zalesovo Beam	137.19	16	PKP	PKPdf	09 27 27.4	-0.3
	0.5nm,0.4s,baz=304,slow=2.6,SNR=3.6						
MKAR	Makanchi Array	142.55	24	PKP	PKPdf	09 27 35.1	-2.5
	0.2nm,0.3s,baz=323,slow=2.2,SNR=3.0						
SONM	Songino Array	145.70	356	PKPbc	PKPbc	09 27 43.4	0.0
	3.5nm,0.9s,baz=348,slow=2.5,SNR=18						
KSRS	Korea Array	147.47	322	PKPbc	PKPbc	09 27 46.4	-2.5
	0.6nm,0.3s,baz=38,slow=6.3,SNR=4.7						

IDC 20 09:15:52.0±3.2, 735S×7268E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/22, mbtmp4.0/4, Error ellipse: s-maj=98.4km s-min=29.3km az=168.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	27.18	243	P	P	09 21 37.8	+0.3
	1.2nm,0.3s,baz=89,slow=18,SNR=5.9						
MAW	Mawson	60.53	184	P	P	09 26 03.5	-0.2
	2.3nm,0.3s,baz=349,slow=7.2,SNR=24						
ASAR	Alice Springs	60.76	113	P	P	09 26 07.1	+1.0
	0.6nm,1.0s,baz=269,slow=5.9,SNR=5.1						
WRA	Warramunga Arr	60.92	109	P	P	09 26 06.3	-0.9
	1.0nm,0.9s,baz=293,slow=5.9,SNR=4.7						

IDC 20 09:21:19.1±6.4, 3109N×14237E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=246.7km s-min=27.2km az=70.0
JMA 20 09:21:22.3±0.6, 3167N×14254E, h0km, M3.5
ISCJB 20 09:21:25.3±2.6, 315N±03×1424E±06, h93km±46km, mb3.6/3, Error ellipse: s-maj=93.0km s-min=23.5km az=149.7

ISC 20 09:21:25.1±2.4, 314N±02×1425E±05, h59km±33km, n8, σ0°89/11, mb3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	3.49	339	P	Pn	09 22 16.0	-0.8
BSO1				eS	Sn	09 22 56.9	+0.1
JOD2	Odawara 2	4.79	325	P	Pn	09 22 35.0	+0.4
JHU	Hanno	5.18	330	P	Pn	09 22 41.2	+1.2
JHU				eS	Sn	09 23 37.7	-0.8
JRY	Ryogami san	5.49	328	P	Pn	09 22 45.1	+0.9
JRY				eS	Sn	09 23 45.4	-0.6
MJAR	Matsushiro Arr	6.24	327	Pn	Pn	09 22 54.1	-0.3
	0.4nm,0.3s,baz=151,slow=14,SNR=6.5						
MKAR	Makanchi Array	48.02	307	P	P	09 30 01.2	+3.0
	0.3nm,0.3s,mb3.9,baz=90,slow=7.7,SNR=3.6						
WRA	Warramunga Arr	51.63	190	P	P	09 30 25.1	-0.6
	0.4nm,0.5s,mb3.6,baz=9.9,slow=8.1,SNR=4.9						
ASAR	Alice Springs	55.35	190	P	P	09 30 52.5	-0.4
	0.2nm,0.4s,mb3.5,baz=9.1,slow=6.1,SNR=6.2						

ISCJB 20 09:21:26.3±1.3, 2987N±004×3624E±008, h0km, Error ellipse: s-maj=9.9km s-min=6.2km az=14.0
SGS 20 09:21:26.6, 2996N×3633E, h7km
GII 20 09:21:27.8±0.8, 2990N×3613E, h0km, ML2.5/3, EXPLOSION

ISC 20 09:21:26.2±1.3, 2986N±004×3629E±008, h0km, n12, σ0°66/15, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.10	279	Pg	Pg	09 21 46.9	-0.4
EIL	Elat	1.18	261	Pg	Pg	09 21 48.8	0.0
ZFRI	Zfri	1.19	306	Pg	Pg	09 21 48.8	-0.2
MBRI	Mt Berech	1.20	267	Pg	Pg	09 21 48.6	-0.5
MBRI				Sg	Sg	09 22 05.7	+1.0
HQLS		1.21	243	S	Sg	09 22 05.8	+0.9
HQLS		1.21	243	P	Pg	09 21 49.0	-0.4
PRNI	Paran	1.22	294	Pg	Pg	09 21 49.4	-0.1
JLOS		1.32	212	S	Sg	09 22 09.1	+0.5
KRMI	Paran Flat	1.38	281	Pg	Pg	09 21 51.9	-0.8
KRMI				Sg	Sg	09 22 10.0	-0.7
MZDA	Masada	1.65	331	Pn	Pn	09 21 56.7	+0.3
MZDA				Sn	Sn	09 22 18.6	+0.2
DSI	Dead Sea	1.88	335	Pn	Pn	09 22 00.9	+1.4
RSHS		2.03	220	P	Pn	09 22 00.7	-0.9

MAN 20 09:22:18, 694N×12512E, h10km, mb4.1, ML2.9, MS2.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.07	336	⇑i P	Pg	09 22 20.8	+0.6
KCP				i S	Sg	09 22 23.4	+1.6
DMPH	Davao City--Mi	0.41	70	⇓i P	Pg	09 22 26.9	+0.9
DMPH				i S	Sg	09 22 35.0	+3.4
BUKP	Musuan	0.93	356	eP	Pg	09 22 35.8	-0.2
BUKP				eS	Sg	09 22 50.9	+2.7
MATI	Mati	1.13	90	eP	Pb	09 22 38.5	-1.1
PAGZ	Pagadian	1.94	298	eP	Pn	09 22 51.4	+0.3
PAGZ				eS	Sn	09 23 21.3	+5.7

*ISCJB 20 09:33:27.1±2.3, 194S±

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**5.56**	**32**	*e*P	**Pn**	**09 38 05.0**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,60nm,0.9s						
SONM	**Songino Array**	**5.70**	**66**	Pn	**Pn**	**09 38 07.4**	**-1.3**
	comp=Z,3.2nm,0.3s,baz=247,slow=15,SNR=61						
SONM				Pg	**Pg**	**09 38 25.7**	**-7.5**
	comp=Z,40nm,0.3s,baz=256,slow=21,SNR=54						
SONM				Lg		09 39 43.6	
	comp=Z,174nm,0.3s,baz=249,slow=20,SNR=13						
SONM				LR	LR	09 40 41.6	
	comp=Z,148nm,20.5s,baz=245,slow=42						
MOY	**Mondy**	**6.10**	**14**	*e*P	**Pn**	**09 38 15.0**	**+0.9**
MOY				*e*S	**Sn**	**09 39 18.4**	**-5.4**
MOY				pmax	pmax		
	comp=Z,78nm,0.7s						
MOY				smax			
	comp=E,2μm,1.5s						
HVS	**Khovu-Aksy**	**6.29**	**330**	*c i*P	**Pn**	**09 38 19.0**	**+2.2**
GTA	**Gaotai**	**6.42**	**172**	P	**Pn**	**09 38 21.5**	**+2.9**
GTA				PG	**Pg**	**09 38 41.8**	**-5.1**
GTA				S	**Sn**	**09 39 33.9**	**+2.0**
GTA				SG	**Sg**	**09 40 04.8**	**-5.2**
GTA				Smax			
	comp=N,200nm,0.9s						
GTA				Smax			
	comp=E,363nm,0.9s						
TLY	**Talaya**	**6.77**	**27**	*e*P	**Pn**	**09 38 26.4**	**+3.1**
TLY				pmax	pmax		
	comp=Z,37nm,0.4s						
WMQ	**Urumqi**	**8.03**	**260**	*e*P	**Pn**	**09 38 42.3**	**+1.6**
WMQ				Smax			
	comp=N,187nm,0.8s						
WMQ				Smax			
	comp=E,225nm,0.8s						
BLRR	**Bol'shaya Rech**	**8.32**	**333**	*k*eP	**Pn**	**09 38 45.4**	**+0.8**
CERR	**Cheremushki**	**8.51**	**329**	*i* Pn	**Pn**	**09 38 48.9**	**+1.7**
CERR				*e*Pg	Pn	09 39 17.0	+30
CERR				*e*Sg	Sn	09 41 03.3	+40
AKAR	**Aktash**	**8.67**	**306**	*e*P	**Pn**	**09 38 49.6**	**+0.2**
AKAR	**Aktash**	**8.67**	**306**	*e*Pn	**Pn**	**09 38 49.6**	**+0.2**
AKAR				*e*Sg	Sn	09 41 12.8	+46
LZH	**Lanzhou**	**10.44**	**156**	*e*P	**Pn**	**09 39 15.4**	**+1.6**
LZH				AP		09 39 18.6	
LZH				XP		09 39 21.5	
LZH				*e*S	**Sn**	**09 41 08.9**	**-1.9**
LZH				AMB	AMB		
	comp=Z,27nm,1.4s						
LZH				AMB	AMB		
	comp=Z,129nm,4.3s						
LZH				LR	LR		
	comp=E,608nm,9.8s						
LZH				LR	LR		
	comp=Z,819nm,10.3s						
ELT	**Yel'tsovka**	**11.00**	**317**	*e*P	**Pn**	**09 39 23.6**	**+2.4**
ELT				*e*		09 41 24.3	
ELT	**Yel'tsovka**	**11.00**	**317**	*e*Pn	**Pn**	**09 39 23.6**	**+2.4**
ELT				*e*Pg	Pn	09 40 00.2	+39
ELT				*e*Sn	**Sn**	**09 41 24.3**	**+0.1**
ELT				*e*Sg	Sn	09 42 22.4	+58
MK31	**Makanchi Array**	**11.37**	**281**	*e*P	**Pn**	**09 39 25.2**	**-1.1**
MKAR	**Makanchi Array**	**11.37**	**281**	Pn	**Pn**	**09 39 25.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=87,slow=16,SNR=4.9						
MKAR				Pg	Pn	09 40 08.9	+43
	comp=Z,0.5nm,0.3s,baz=88,slow=18,SNR=5.8						
MKAR				Lg		09 42 41.5	
	comp=Z,2.0nm,0.3s,baz=82,slow=33,SNR=5.2						
ZALV	**Zalesovo Beam**	**12.09**	**318**	Pn	**Pn**	**09 39 35.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=128,slow=9.3,SNR=2.6						
ZALV				Pg	Pn	09 40 20.2	+44
	comp=Z,0.2nm,0.3s,baz=127,slow=14,SNR=5.2						
ZALV				Lg		09 43 02.7	
	comp=Z,0.9nm,0.3s,baz=128,slow=26,SNR=9.1						
ZALV				LR	LR	09 44 09.6	
	comp=Z,73nm,19.8s,baz=214,slow=37						
ZALV	**Zalesovo Beam**	**12.09**	**318**	Pn	**Pn**	**09 39 35.4**	**-0.8**
ZALV				Pg	Pn	09 40 20.2	+44
ZALV				Lg		09 43 02.7	
ZALV				LR	LR	09 44 09.6	
ZAL	**Zalesovo**	**12.09**	**317**	P	**Pn**	**09 39 35.4**	**-0.8**
KURK	**Kurchatov**	**14.22**	**298**	*e*P	**Pn**	**09 40 11.0**	**+5.8**
KURK				pmax	pmax		
	comp=Z,14nm,0.8s						
KURK	**Kurchatov**	**14.22**	**298**	*e*P	**Pn**	**09 40 11.0**	**+5.8**
	comp=Z,14nm,0.8s						
BOD	**Bodaibo**	**15.30**	**32**	*e*P	**Pn**	**09 40 22.5**	**+2.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,2.8s						
EKS2	**Erkin-Say**	**18.07**	**269**	*e*P	**Pn**	**09 40 55.2**	**+0.2**
	comp=Z,7.4nm,0.7s						
BVAR	**Borovoye Array**	**19.68**	**302**	P	**Pn**	**09 41 13.5**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=102,slow=12,SNR=21						
BVAR				LR	LR	09 49 09.4	
	comp=Z,77nm,18.3s,baz=100,slow=38						
BRVK	**Borovoye**	**19.75**	**302**	*e*P	**Pn**	**09 41 13.6**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,19nm,0.8s						
BRVK	**Borovoye**	**19.75**	**302**	*e*P	**Pn**	**09 41 13.6**	**-1.6**
	comp=Z,19nm,0.8s						
KSRS	**Korea Array**	**23.32**	**100**	P	**P**	**09 41 51.8**	**-0.4**
	comp=Z,3.4nm,0.9s,mb3.8,baz=290,slow=8.9,SNR=10						
KSRS				LR	LR	09 51 39.6	
	comp=Z,80nm,18.3s,MS3.2,baz=300,slow=38						
KSRS	**Korea Array**	**23.32**	**100**	P	**P**	**09 41 51.8**	**-0.4**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
KSRS				MLR	MLR		
	comp=Z,80nm,18.3s,MS3.2						
ARU	**Arti**	**26.95**	**308**	*d i*P	**P**	**09 42 29.8**	**+4.5**
ARU				*e*		09 43 14.3	
ARU				*e*SS		09 48 17.4	
ARU				pmax	pmax		
	comp=Z,13nm,2.5s,mb4.0						
CMAR	**Chiang Mai Arr**	**27.24**	**179**	P	**P**	**09 42 28.8**	**+0.5**
	comp=Z,0.7nm,0.3s,mb3.6,baz=357,slow=9.7,SNR=6.3						
AKTK	**Aktyubinsk**	**27.28**	**295**	P	**P**	**09 42 27.6**	**-0.7**
AKTO	**Aktyubinsk**	**27.28**	**295**	P	**P**	**09 42 27.6**	**-0.7**
	comp=Z,0.9nm,0.5s,mb3.5,baz=108,slow=3.2,SNR=3.0						
PETK	**Petropavlovsk-**	**38.11**	**57**	LR	LR	10 00 59.2	
	comp=Z,32nm,19.3s,MS3.1,baz=327,slow=38						
GNI	**Garni**	**39.22**	**282**	*e*P	**P**	**09 44 15.4**	**+3.2**
GNI				pmax	pmax		
	comp=Z,13nm,1.5s						
BILL	**Bilibino**	**40.36**	**32**	*e*P	**P**	**09 44 21.6**	**+0.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
ARCES	**ARCESS Array B**	**42.27**	**330**	P	**P**	**09 44 36.0**	**-1.0**
	comp=Z,2.3nm,0.9s,mb3.8,baz=66,slow=9.4,SNR=3.4						
AKASG	**Malin Array Be**	**44.95**	**303**	P	**P**	**09 44 57.2**	**-1.7**
	comp=Z,0.3nm,0.4s,mb3.5,baz=56,slow=8.6,SNR=3.0						
AKASG	**Malin Array Be**	**44.95**	**303**	P	**P**	**09 44 57.2**	**-1.7**
ASF	**Jabal al Asfar**	**48.74**	**276**	LR	LR	10 07 23.7	
	comp=Z,19nm,18.4s,MS3.1,baz=73,slow=38						
MMAI	**Mount Meron Ar**	**49.30**	**278**	LR	LR	10 10 29.1	
	comp=Z,32nm,18.5s,MS3.4,baz=165,slow=41						
NOA	**NORSAR Array B**	**50.27**	**321**	LR	LR	10 08 33.5	
	comp=Z,38nm,21.2s,MS3.4,baz=305,slow=38						
GERES	**GERESS Array B**	**54.76**	**306**	LR	LR	10 08 57.7	
	comp=Z,32nm,20.3s,MS3.4,baz=279,slow=35						
TORD	**Torodi Ar. Bea**	**85.47**	**284**	P	**P**	**09 49 20.2**	**-2.0**
	comp=Z,0.4nm,0.9s,mb3.6,baz=47,slow=5.0,SNR=3.3						

IDC 20 09:48:28.7±4.4,344N×12739E,h0km,mb3.9/3,mb1 4.1/3, mb1mx3.6/17,mbtmp3.9/3,Error ellipse: s-maj=173.2km s-min=68.3km az=75.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.21**	**164**	P	P	09 53 46.9	-0.3
	3.7nm,0.7s,baz=344,slow=9.9,SNR=20						
WB2	**Warramunga Arr**	**24.22**	**164**	*e*P	P	09 53 46.8	-0.5
ASAR	**Alice Springs**	**27.68**	**167**	P	P	09 54 18.4	-0.2
	0.4nm,0.5s,baz=348,slow=7.2,SNR=7.3						
STKA	**Stephens Creek**	**37.63**	**160**	*e*P	P	09 55 45.9	+0.5
	2.6nm,0.9s						
STKA	**Stephens Creek**	**37.63**	**160**	P	P	09 55 46.0	+0.5
	1.5nm,0.3s,baz=328,slow=6.1,SNR=11						

*NEIC **20** 10:00:07.0±1.4,659S×12907E,h206km±15km,mb5.0/5, Error ellipse: s-maj=15.2km s-min=8.9km az=75.0*
*ISCJB **20** 10:00:07.2±0.7,665S±004×12909E±005,h225km±8km, mb4.2/15,Error ellipse: s-maj=9.5km s-min=5.1km az=155.3*
*IDC **20** 10:00:08.7±1.6,660S×129.10E,h224km±15km,mb3.8/13, mb1 3.9/16,mb1mx3.9/19,mbtmp3.9/16,Error ellipse: s-maj=17.9km s-min=8.6km az=85.0*
*DJA **20** 10:00:11,659S×12880E,h185km,mb4.9/4*

ISC 20 10:00:07.3±0.7,666S±004×12918E±006,h211km±8km, n46,σ1§11/53,mb4.2/15,2C-6D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**6.21**	**344**	P	**S**	**10 02 49.3**	**0.0**
	0.0nm,0.0s						
BATI	**Baumata**	**6.49**	**237**	P	**Pn**	**10 01 40.7**	**-0.4**
	0.0nm,0.0s						
BATI	**Baumata**	**6.49**	**237**	P	**Pn**	**10 01 41.3**	**+0.2**
	165nm,0.3s,baz=114,slow=2.3,SNR=110						
BATI				S	**S**	**10 02 52.0**	**-3.6**
	143nm,0.3s,baz=102,slow=4.1,SNR=10.0						
KAKA	**Kakadu**	**6.82**	**152**	*e*P	**Pn**	**10 01 47.7**	**+2.4**
	65nm,0.6s						
KAKA				*e*S	**S**	**10 03 02.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**11.88**	**197**	*e*P	**Pn**	**10 02 48.8**	**-1.6**
	105nm,0.4s						
FITZ				*e*S	**S**	**10 04 55.6**	**-7.6**
FITZ	**Fitzroy Crossi**	**11.88**	**197**	P	**Pn**	**10 02 50.0**	**-0.4**
	12nm,0.3s,baz=31,slow=11,SNR=197						
FITZ				S	**S**	**10 04 58.5**	**-4.7**
	3.6nm,0.3s,baz=290,slow=23,SNR=4.8						
WRAB	**Tennant Creek**	**14.12**	**160**	*e*Pn	**Pn**	**10 03 18.8**	**+0.5**
	12nm,0.6s						
WRAB				*e*Sn	**S**	**10 05 53.3**	**-1.9**
WRA	**Warramunga Arr**	**14.12**	**160**	P	**Pn**	**10 03 18.8**	**+0.5**
	2.4nm,0.3s,baz=340,slow=11,SNR=99						
WRA				S	**S**	**10 05 53.1**	**-2.3**
	3.6nm,0.3s,baz=332,slow=23,SNR=5.5						
WRA				ScP	ScP	10 11 32.5	-2.9
	0.0nm,0.3s,baz=330,slow=2.3,SNR=5.6						
WB2	**Warramunga Arr**	**14.12**	**160**	*e*P	**Pn**	**10 03 18.7**	**+0.3**
WB2				*e*S	**S**	**10 05 37.3**	**-18**
BBKI	**Banjar Baru**	**14.63**	**282**	P	**Pn**	**10 03 26.2**	**+1.5**
	0.0nm,0.0s						
MYLDM	**Lahad Datu**	**15.87**	**318**	⇑P	**Pn**	**10 03 40.0**	**+0.3**
SDKM	**Sandakan**	**17.10**	**315**	⇓P	**P**	**10 03 53.0**	**+0.3**
SJI	**Sawahan**	**17.31**	**265**	P	**P**	**10 03 54.7**	**-0.3**
	0.0nm,0.0s						
ASAR	**Alice Springs**	**17.51**	**165**	P	**P**	**10 03 59.9**	**+2.8**
	3.2nm,0.3s,baz=349,slow=11,SNR=294						
ASAR				S	**S**	**10 07 11.1**	**+3.0**
	0.6nm,0.3s,baz=347,slow=22,SNR=8.1						
ASAR				ScP	ScP	10 11 38.5	-3.2
	0.3nm,0.3s,baz=349,slow=2.3,SNR=5.4						
KKM	**Kota Kinabalu**	**18.07**	**314**	⇓P	**P**	**10 04 05.9**	**+2.6**
SBUM	**Sibu**	**19.20**	**298**	⇓P	**P**	**10 04 16.6**	**+1.1**
KSM	**Kuching**	**20.50**	**293**	⇓P	**P**	**10 04 29.6**	**+0.2**
KSM	**Kuching**	**20.50**	**293**	*e*P	**P**	**10 04 28.9**	**-0.5**
LEM	**Lembang**	**21.41**	**268**	P	**P**	**10 04 38.8**	**-0.3**
	0.0nm,0.0s						
CBJI	**Citeko**	**22.18**	**269**	P	**P**	**10 04 43.8**	**-2.6**
	0.0nm,0.0s						
FORT	**Forrest**	**24.01**	**182**	*e*P	**P**	**10 05 03.8**	**+0.9**
	20nm,0.8s,mb4.8						
KLBR	**Kellerberrin**	**27.00**	**202**	*e*P	**P**	**10 05 30.0**	**+0.2**
	76nm,1.5s,mb5.1						
STKA	**Stephens Creek**	**27.64**	**157**	*e*P	**P**	**10 05 36.7**	**+1.3**
	2.4nm,1.0s,mb3.8						
STKA	**Stephens Creek**	**27.64**	**157**	P	**P**	**10 05 36.9**	**+1.5**
	1.8nm,0.5s,mb4.0,baz=323,slow=10,SNR=13						
MUN	**Mundaring**	**27.95**	**204**	*e*P	**P**	**10 05 38.2**	**0.0**
NWAO	**Narrogin (SRO)**	**28.39**	**201**	P	**P**	**10 05 42.3**	**+0.1**
	3.9nm,0.4s,mb4.4,baz=21,slow=7.9,SNR=9.9						
KTGM	**Kuala Trenggan**	**28.59**	**294**	⇑P	**P**	**10 05 44.1**	**0.0**
IPM	**Ipoh**	**30.20**	**291**	⇓P	**P**	**10 05 58.6**	**+0.3**
KULM	**Kulim**	**30.85**	**292**	⇓P	**P**	**10 06 04.2**	**+0.1**
PSI	**Prapat**	**31.63**	**286**	P	**P**	**10 06 10.9**	**0.0**
	14nm,0.8s,mb4.6,baz=133,slow=10.0,SNR=6.2						
JOW	**Kunigami**	**33.31**	**359**	P	**P**	**10 06 24.6**	**-0.6**
	14nm,0.8s,mb4.6,baz=185,slow=8.8,SNR=12						
TOO	**Toolangi**	**34.16**	**157**	*e*P	**P**	**10 06 35.7**	**+3.2**
CMAR	**Chiang Mai Arr**	**38.89**	**310**	P	**P**	**10 07 12.6**	**-0.1**
	1.4nm,0.4s,mb3.9,baz=135,slow=7.0,SNR=8.0						
MJAR	**Matsushiro Arr**	**43.80**	**11**	P	**P**	**10 07 50.6**	**-1.7**
	4.4nm,0.8s,mb3.8,baz=189,slow=9.6,SNR=15						
MAT	**Matsushiro**	**43.80**	**11**	P	**P**	**10 07 50.8**	**-1.5**
KSRS	**Korea Array**	**43.90**	**359**	P	**P**	**10 07 52.9**	**-0.2**
	3.0nm,0.7s,mb3.8,baz=173,slow=8.8,SNR=16						
ASAJ	**Asahikawa**	**51.98**	**12**	P	**P**	**10 08 54.5**	**-0.4**
	1.8nm,0.5s,mb3.8,baz=194,slow=32,SNR=5.5						
SONM	**Songino Array**	**57.87**	**342**	P	**P**	**10 09 37.2**	**+0.3**
	0.8nm,0.4s,mb3.7,baz=162,slow=6.3,SNR=7.2						
PETK	**Petropavlovsk-**	**64.26**	**19**	P	**P**	**10 10 20.3**	**+0.5**
	5.6nm,0.6s,mb4.3,baz=170,slow=3.5,SNR=27						
PETK				PcP	PcP	10 10 51.8	-0.8
	0.9nm,0.5s,baz=187,slow=2.4,SNR=4.9						
PETK	**Petropavlovsk-**	**64.26**	**19**	P	**P**	**10 10 20.3**	**+0.5**
PETK				PcP	PcP	10 10 51.8	-0.8
MK31	**Makanchi Array**	**67.50**	**327**	*e*P	**P**	**10 10 39.9**	**-0.6**
MKAR	**Makanchi Array**	**67.50**	**327**	P	**P**	**10 10 40.0**	**-0.5**
	1.5nm,0.4s,mb4.0,baz=118,slow=7.7,SNR=16						
ZALV	**Zalesovo Beam**	**70.92**	**334**	P	**P**	**10 11 00.3**	**-1.1**
	1.8nm,0.5s,mb4.0,baz=129,slow=4.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**70.92**	**334**	P	**P**	**10 11 00.3**	**-1.1**
MAW	**Mawson**	**74.96**	**201**	P	**P**	**10 11 25.4**	**+0.5**
	1.2nm,0.6s,mb3.7,baz=90,slow=14,SNR=6.6						
TORD	**Torodi Ar. Bea**	**127.94**	**281**	PKP	PKPdf	10 18 48.0	-0.9
	0.5nm,0.7s,baz=113,slow=1.2,SNR=3.8						

*TEH **20** 10:01:18.5,3150N×4990E,h8km,ML3.6*
*THR **20** 10:01:21.7±0.3,3116N×4974E,h32km±8km,ML3.5*
*ISCJB **20** 10:01:22.7±0.4,3139N±004×4985E±004,h10km,Error ellipse: s-maj=5.6km s-min=4.3km az=142.7*
*CSEM **20** 10:01:24.2±0.1,3144N×4987E,h25km,ML3.5,Error ellipse: s-maj=3.0km s-min=1.9km az=157.0*
*SGS **20** 10:01:26.8,3133N×4984E,h19km*

ISC 20 10:01:26.3±0.5,3137N±005×4982E±005,h51km±41km, n33,σ0§98/39,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.14**	**311**	*e*Pg	**Pn**	**10 01 44.5**	**-1.4**
SHGR				*e*Sg	**Sn**	**10 02 00.8**	**+0.4**
SHGR				AML	AML	10 02 04.8	
	comp=N,508nm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.14**	**311**	*e*Pg	**Pn**	**10 01 44.5**	**-1.4**
	SNR=98						
SHGR				*e*Sg	**Sn**	**10 02 00.9**	**+0.5**
	SNR=98						
IPIR	**Pirpir**	**1.60**	**34**	*e*Pg	**Pn**	**10 01 51.2**	**-0.9**
IPIR				*e*Sg	**Sn**	**10 02 10.5**	**-1.1**
IPIR	**Pirpir**	**1.60**	**34**	*e*Pg	**Pn**	**10 01 51.2**	**-0.9**
IPIR				*e*Sg	**Sn**	**10 02 10.5**	**-1.1**
IPIR				*e*		10 02 16.5	
IGAR	**Gharneh**	**2.15**	**61**	*e*Pn	**Pn**	**10 02 00.1**	**+0.4**
IGAR				*e*Sn	**Sn**	**10 02 25.4**	**+0.2**
IGAR	**Gharneh**	**2.15**	**61**	*e*Pn	**Pn**	**10 02 00.1**	**+0.4**
IGAR				*e*Sn	**Sn**	**10 02 25.4**	**+0.2**
IGAR				*e*		10 02 34.9	
IKLH	**Kolahrood**	**2.45**	**37**	*e*Pn	**Pn**	**10 02 04.2**	**+0.4**
IKLH				*e*		10 02 50.9	
UMR	**Umm Al-Rimmam**	**2.56**	**226**	*e*P	**Pn**	**10 02 06.1**	**+0.7**
	baz=225						
UMR				AML	AML	10 02 46.2	
	comp=Z,81nm,0.4s,baz=225						
IZEF	**Zefreh**	**2.62**	**54**	*e*Pn	**Pn**	**10 02 06.0**	**-0.1**
IZEF				*e*Sn	**Sn**	**10 02 35.8**	**-0.8**
IZEF	**Zefreh**	**2.62**	**54**	*e*Pn	**Pn**	**10 02 06.0**	**-0.1**
IZEF				*e*Sn	**Sn**	**10 02 35.8**	**-0.8**
IZEF				*e*		10 02 44.7	
MIB	**Mutribah**	**2.65**	**235**	*e*P	**Pn**	**10 02 07.1**	**+0.6**
	baz=233						
MIB				AML	AML	10 02 53.0	
	comp=Z,33nm,0.4s,baz=233						
NASN	**Na'in**	**2.91**	**60**	*e*Pn	**Pn**	**10 02 10.5**	**+0.5**
NAY	**Al-Naaiem**	**3.07**	**227**	*e*P	**Pn**	**10 02 13.3**	**+1.0**
	baz=226						
NAY				AML	AML	10 02 56.5	
	comp=Z,26nm,0.4s,baz=226						
RDF	**Al-Radifah**	**3.13**	**220**	*e*P	**Pn**	**10 02 14.3**	**+1.2**
	baz=219						
RDF				AML	AML	10 02 58.1	
	comp=Z,81nm,0.3s,baz=219						
ASAO	**Ashtian**	**3.18**	**3**	*e*Pn	**Pn**	**10 02 14.7**	**+1.0**
ASAO				AML	AML	10 03 07.6	
	comp=N,122nm,0.8s						
GHVR	**GHOM**	**3.34**	**21**	*e*Pn	**Pn**	**10 02 16.9**	**+0.9**
GHVR				AML	AML	10 03 13.7	
	comp=E,118nm,0.6s						
ISRV	**Sarvestan**	**3.47**	**124**	*e*Pn	**Pn**	**10 02 19.1**	**+1.4**
ISRV				*e*		10 03 10.2	
KFJS		**3.57**	**208**	P	**Pn**	**10 02 19.3**	**+0.2**
IVRN	**Varamin**	**3.96**	**23**	*e*Pn	**Pn**	**10 02 23.1**	**-1.3**
ICHK	**Chekchek**	**4.00**	**76**	*e*Pn	**Pn**	**10 02 24.9**	**-0.1**
ICHK				*e*		10 02 26.1	
IMEH	**Mehriz**	**4.10**	**88**	*e*Pn	**Pn**	**10 02 27.2**	**+0.8**
IMEH				*e*		10 02 32.2	
GHIR	**Ghir-Karzin**	**4.12**	**137**	*e*Pn	**Pn**	**10 02 23.4**	**-3.3**
CHTH	**Charan**	**4.66**	**13**	*e*Pn	**Pn**	**10 02 35.4**	**+1.3**
CHTH	**Charan**	**4.66**	**13**	*e*Pn	**Pn**	**10 02 35.3**	**+1.3**
	SNR=54						
IAFJ	**Afjeh**	**4.75**	**19**	*e*Pn	**Pn**	**10 02 34.4**	**-0.8**
IAFJ				*e*		10 04 12.5	
IBAF	**Bafgh**	**4.92**	**86**	*e*Pn	**Pn**	**10 02 37.7**	**+0.1**
IBAF				*e*		10 02 38.8	
BHD	**Baghdad**	**4.98**	**294**	*e*x	x	10 02 40.0	
BHD				*e*x	x	10 03 38.0	
ISHM	**Shahmirzad**	**5.29**	**32**	*e*Pn	**Pn**	**10 02 42.1**	**-0.6**
ISHM				*e*		10 03 08.8	
BOQSS		**5.49**	**184**	S	**Sn**	**10 03 44.9**	**-2.5**
BOQSS		**5.49**	**184**	P	**Pn**	**10 02 45.6**	**+0.1**
ASYS		**6.13**	**233**	S	**Sn**	**10 04 01.2**	**-2.0**
MSL	**Mosul**	**7.45**	**313**	*e*x	x	10 03 13.0	
MSL				*e*x	x	10 04 38.0	
HRDDS		**8.41**	**182**	P	**Pn**	**10 03 25.5**	**-0.1**

*TIR **20** 10:10:22.3±2.9,3918N×2020E,h6km±12km*
*ATH **20** 10:10:24.8,3927N×2029E,h17km,MD3.5/4*
*ISCJB **20** 10:10:24.5±0.7,3927N±002×2021E±005,h0km±6km, Error ellipse: s-maj=6.1km s-min=4.1km az=178.0*
*CSEM **20** 10:10:25.2±0.2,3930N×2015E,h1km±1km,ML3.5,Error ellipse: s-maj=3.2km s-min=1.4km az=97.0*
*THE **20** 10:10:26.0,3927N×2025E,h0km,ML3.5*
*NEIC **20** 10:10:26.0,3927N×2025E,h0km,MD3.5(ATH), ML3.5(THE),After THE.*

ISC 20 10:10:25.5±0.6,3928N±002×2023E±004,h4km±5km,n29, σ1§11/45,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**17**	*e*Pg	**Pg**	**10 10 30.1**	**-0.6**
IGT				*e*Sg	**Sg**	**10 10 34.3**	**+0.2**
IGT	**Igoumenitsa**	**0.26**	**17**	*i e*Pg	**Pg**	**10 10 30.1**	**-0.5**
IGT				*i* SG	**Sg**	**10 10 34.3**	**+0.2**
KEK	**Kerkira**	**0.55**	**322**	*e*PN	**Pg**	**10 10 36.2**	**+0.2**
JAN	**Janina**	**0.61**	**52**	*e*PN	**Pg**	**10 10 36.2**	**-1.0**
LKD	**Levkas**	**0.66**	**150**	*e*Pg	**Pg**	**10 10 36.6**	**-1.6**
LKD				*e*Sg	**Sg**	**10 10 48.0**	**+1.3**
MEV	**Metsovon**	**0.92**	**56**	*e*Pg	**Pg**	**10 10 41.7**	**-1.5**
MEV				*e*Sg	**Sg**	**10 10 56.8**	**+1.7**
MEV	**Metsovon**	**0.92**	**56**	*i e*Pg	**Pg**	**10 10 41.7**	**-1.5**
MEV				*i* SG	**Sg**	**10 10 56.8**	**+1.7**
VLS	**Valsamata**	**1.14**	**166**	*e*Pg	**Pg**	**10 10 47.1**	**-0.2**
VLS	**Valsamata**	**1.14**	**166**	*e*Pn	**Pn**	**10 10 46.3**	**-1.9**
VLS	**Valsamata**	**1.14**	**166**	*e*Pg	**Pg**	**10 10 47.1**	**-0.2**
KFL	**Anninata**	**1.25**	**159**	*e*Pg	**Pg**	**10 10 49.7**	**+0.3**
KFL				*e*Sg	**Sg**	**10 11 06.7**	**+1.1**
THL	**Klokotos Trika**	**1.41**	**78**	*e*Pg	**Pg**	**10 10 52.6**	**0.0**
THL				*e*Sg	**Sg**	**10 11 12.1**	**+1.2**
THL	**Klokotos Trika**	**1.41**	**78**	*e*PN	**Pn**	**10 10 50.7**	**-1.3**
THL				*e*SN	**Sn**	**10 11 09.2**	**-1.8**
THL	**Klokotos Trika**	**1.41**	**78**	*e*Pg	**Pg**	**10 10 52.6**	**+0.1**
THL				*e*Sn	**Sn**	**10 11 09.2**	**-1.8**
THL				*e*Sg	**Sg**	**10 11 12.1**	**+1.3**
AGG	**Agios Georgios**	**1.65**	**98**	*e*Pb	**Pb**	**10 10 56.0**	**-0.5**
AGG				*e*Sb	**Sb**	**10 11 19.5**	**+1.8**
FNA	**Florina**	**1.74**	**30**	*e*Pb	**Pb**	**10 10 57.8**	**-0.2**
FNA				*e*Sb	**Sb**	**10 11 19.9**	**-0.3**
FNA	**Florina**	**1.74**	**30**	*i* PG	**Pg**	**10 10 57.8**	**-1.1**
OHR	**Ohrid**	**1.88**	**13**	*e*Pb	**Pb**	**10 10 59.7**	**-0.7**
OHR				*e*Sb	**Sb**	**10 11 25.0**	**+0.8**
OHR	**Ohrid**	**1.88**	**13**	*i* Pn	**Pn**	**10 10 59.5**	**+1.1**
LIT	**Litokhoron**	**1.93**	**64**	*e*Pb	**Pb**	**10 11 00.0**	**-1.1**
LIT				*e*Sb	**Sb**	**10 11 24.4**	**-1.2**
BIA	**Bitola**	**1.93**	**25**	*e*Pb	**Pb**	**10 11 01.1**	**-0.2**
BIA				*e*Sb	**Sb**	**10 11 24.8**	**-0.9**
BIA

CTA	**Charters Tower**	**37.98 265**	P	P	10 25 23.2	+1.1
	2.0nm,0.3s,baz=77,slow=14,SNR=4.5					
STKA	**Stephens Creek**	**41.40 246**	P	P	10 25 48.7	-1.8
	0.6nm,0.5s,baz=97,slow=11,SNR=3.8					
ASAR	**Alice Springs**	**48.72 257**	P	P	10 26 48.5	-0.3
	0.3nm,0.5s,baz=89,slow=7.6,SNR=5.5					
WRA	**Warramunga Arr**	**49.00 262**	P	P	10 26 51.5	+0.4
	0.8nm,0.3s,baz=98,slow=8.3,SNR=49					

*ISCJB **20** 10:22:14.9±1.8, 2205N±008×1433E±02, h121km±16km, mb4.2/15, Error ellipse: s-maj=25.6km s-min=12.8km az=177.2*
*NEIC **20** 10:22:15.4±3.2, 2207N×14364E, h113km±29km, mb4.6/2, Error ellipse: s-maj=24.7km s-min=12.5km az=95.0*
*IDC **20** 10:22:16.1±0.8, 2206N×14343E, h118km±7km, mb3.8/12, mb1 3.9/15, mb1mx3.8/24, mbtmp3.9/15, Error ellipse: s-maj=20.4km s-min=10.5km az=80.0*

ISC 20 10:22:16.3±1.7, 2206N±008×1433E±02, h119km±14km, h119km±2.8km; pP-P, n31, σ0§90/28, mb4.2/15, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.12**	**349**	P	**Pn**	**10 23 32.0**	**+1.2**
	151nm,0.3s,baz=110,slow=17,SNR=33						
CBIJ				S	**Sn**	**10 24 28.9**	**-0.1**
	180nm,0.3s,baz=112,slow=23,SNR=13						
JHJ	**Hachijo jima 2**	**11.46**	**345**	P	**Pn**	**10 24 55.9**	**-0.3**
	7.3nm,0.3s,baz=273,slow=20,SNR=5.2						
JOW	**Kunigami**	**14.51**	**292**	P	**Pn**	**10 25 41.2**	**+5.3**
	1.4nm,0.3s,baz=119,slow=12,SNR=10						
MJAR	**Matsushiro Arr**	**15.10**	**344**	P	**Pn**	**10 25 42.0**	**-1.4**
	1.3nm,0.3s,baz=159,slow=10,SNR=20						
MAJO	**Matsushiro**	**15.10**	**344**	*e*Pn	**Pn**	**10 25 42.3**	**-1.1**
	35nm,0.8s						
MAT	**Matsushiro**	**15.10**	**344**	P	**Pn**	**10 25 41.8**	**-1.6**
KSRS	**Korea Array**	**20.31**	**322**	P	**P**	**10 26 43.5**	**+0.7**
	13nm,0.5s,baz=144,slow=8.8,SNR=47						
ASAJ	**Asahikawa**	**22.01**	**359**	P	**P**	**10 27 02.2**	**+1.5**
	4.7nm,0.6s,mb4.0,baz=100,slow=22,SNR=6.7						
YSS	**Yuzh-Sakhalins**	**24.84**	**359**	*e*P	**P**	**10 27 28.1**	**+0.6**
	27nm,1.8s,mb4.4						
PETK	**Petropavlovsk-**	**32.89**	**16**	P	**P**	**10 28 39.4**	**+0.6**
	1.5nm,0.8s,mb3.9,baz=198,slow=7.6,SNR=3.2						
SONM	**Songino Array**	**39.15**	**320**	P	**P**	**10 29 33.2**	**+1.1**
	2.3nm,0.5s,mb4.3,baz=131,slow=7.8,SNR=20						
WB2	**Warramunga Arr**	**42.66**	**193**	*e*P	**P**	**10 30 01.4**	**+0.2**
WB2	**Warramunga Arr**	**42.66**	**193**	*e*P	**P**	**10 30 01.6**	**+0.4**
WRA	**Warramunga Arr**	**42.66**	**193**	P	**P**	**10 30 01.9**	**+0.7**
	2.4nm,0.3s,mb4.5,baz=9.3,slow=8.2,SNR=107						
ASAR	**Alice Springs**	**46.37**	**192**	P	**P**	**10 30 31.1**	**+0.4**
	1.4nm,0.4s,mb4.1,baz=13,slow=6.8,SNR=48						
STKA	**Stephens Creek**	**53.65**	**182**	P	**P**	**10 31 23.9**	**-1.6**
	1.0nm,0.5s,mb4.2,baz=342,slow=19,SNR=4.4						
ZALV	**Zalesovo Beam**	**54.01**	**321**	P	**P**	**10 31 27.6**	**-0.3**
	1.0nm,0.3s,mb4.3,baz=107,slow=7.2,SNR=5.8						
MK31	**Makanchi Array**	**54.55**	**312**	*e*P	**P**	**10 31 33.0**	**+1.0**
MKAR	**Makanchi Array**	**54.55**	**312**	P	**P**	**10 31 32.9**	**+0.9**
	1.1nm,0.4s,mb4.2,baz=89,slow=9.4,SNR=13						
MKAR				pP	pP	10 31 59.9	-0.5
	0.4nm,0.3s,baz=91,slow=8.7,SNR=1.5						
MKAR	**Makanchi Array**	**54.55**	**312**	P	**P**	**10 31 32.9**	**+0.9**
MKAR				pP	pP	10 31 59.9	-0.5
YKA	**Yellowknife Ar**	**76.08**	**28**	P	**P**	**10 33 49.5**	**-0.9**
	0.6nm,0.4s,mb3.6,baz=292,slow=5.8,SNR=8.6						
YKA				pP	pP	10 34 20.0	-0.4
	0.3nm,0.5s,baz=290,slow=5.9,SNR=2.3						
YKA	**Yellowknife Ar**	**76.08**	**28**	P	**P**	**10 33 49.5**	**-0.9**
YKA				pP	pP	10 34 20.0	-0.4
ARCES	**ARCESS Array B**	**78.62**	**342**	P	**P**	**10 34 04.9**	**+0.3**
	0.6nm,0.5s,mb3.7,baz=74,slow=8.9,SNR=6.2						
NVAR	**Mina Array Bea**	**82.81**	**52**	P	**P**	**10 34 27.6**	**+0.1**
	0.7nm,0.7s,mb3.6,baz=271,slow=6.6,SNR=8.3						
NVAR				pP	pP	10 34 57.9	0.0
	0.9nm,0.7s,baz=274,slow=5.7,SNR=5.9						
MIB	**Mutribah**	**84.23**	**300**	*e*P	**P**	**10 34 34.2**	**-0.6**
	baz=296						
MIB				AMb	AMB	10 34 36.6	
	comp=Z,12nm,0.7s,mb4.8,baz=296						
RDF	**Al-Radifah**	**84.39**	**299**	*e*P	**P**	**10 34 34.5**	**-1.1**
	baz=295						
RDF				AMb	AMB	10 34 37.0	
	comp=Z,19nm,1.1s,mb4.8,baz=295						
NAY	**Al-Naaiem**	**84.52**	**299**	*e*P	**P**	**10 34 35.6**	**-0.7**
	baz=295						
NAY				AMb	AMB	10 34 37.6	
	comp=Z,6.0nm,0.7s,mb4.6,baz=295						
LSZ	**Lusaka**	**118.56**	**264**	PKP	PKPdf	10 40 51.1	+0.3
	comp=Z,1.1nm,0.4s,baz=359,slow=4.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**128.62**	**309**	PKP	PKPdf	10 41 09.3	-1.0
	comp=Z,0.5nm,0.8s,baz=31,slow=2.0,SNR=3.5						
PLCA	**Paso Flores**	**145.89**	**131**	PKPbc	PKPbc	10 41 41.9	-0.1
	comp=Z,2.7nm,0.4s,baz=245,slow=3.8,SNR=29						
LPAZ	**La Paz**	**149.77**	**85**	PKPbc	PKPbc	10 41 52.5	-0.5
	comp=Z,1.6nm,0.5s,baz=298,slow=3.4,SNR=11						

*NEIC **20** 10:22:52.1, 1630N×9453W, h80km, MD4.3(MEX), After MEX.*

MEX 20 10:22:52.1±0.9, 1631N×9452W, h80km±21km, MD4.3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.85**	**336**	*i* P	Pn	10 23 08.1	-1.3
CMIG				*i* S	Sn	10 23 20.6	-1.7
TGIG		**1.42**	**71**	*i* P	Pn	10 23 15.8	-0.6
TGIG				*i* S	Sn	10 23 32.8	-1.9
HUIG	**Huatulco**	**1.62**	**251**	*i* P	Pn	10 23 17.0	-2.0
HUIG				*i* S	Sn	10 23 38.1	-1.2
SCX	**San Cristobal**	**1.86**	**76**	*i* P	Pn	10 23 20.5	-1.6
SCX				*i* S	Sn	10 23 43.3	-1.7
OXX	**Oaxaca**	**2.25**	**290**	*e*P	Pn	10 23 24.0	-3.3
VHO	**Vista Hermosa**	**2.25**	**290**	*i* P	Pn	10 23 27.5	+0.1
VHO				*i* S	Sn	10 23 53.3	-1.1
CCIG	**Comitan**	**2.29**	**90**	*i* P	Pn	10 23 26.0	-1.9
CCIG				*i* S	Sn	10 23 54.5	-0.7
THIG		**2.58**	**122**	*e*P	Pn	10 23 36.7	+5.0
THIG				*i* S	Sn	10 24 01.4	-0.9
PNIG	**Pinotepa**	**3.46**	**272**	*i* P	Pn	10 23 42.5	-1.3
PNIG				*i* S	Sn	10 24 21.0	-2.7
PNIG	**Pinotepa**	**3.46**	**272**	*i* P	Pn	10 23 40.7	-3.0
PNIG				*i* S	Sn	10 24 20.1	-3.6
UTMO	**Huajuapan**	**3.49**	**296**	*i* P	Pn	10 23 43.6	-0.4
UTMO				*i* S	Sn	10 24 21.2	-3.0
TEIG	**Tepich**	**7.10**	**56**	*i* P	Pn	10 24 32.9	-0.4
TEIG				*i* S	Sn	10 25 47.2	-5.3
TEIG	**Tepich**	**7.10**	**56**	*i* P	Pn	10 24 30.9	-2.4
TEIG				*i* S	Sn	10 25 43.9	-8.6

*NEIC **20** 10:29:43.9±1.1, 008N×9856E, h30km, Error ellipse: s-maj=35.8km s-min=10.4km az=66.0*
*ISCJB **20** 10:29:45.0±3.4, 02N±02×987E±03, h52km±24km, mb4.2/9, MS3.3/3, Error ellipse: s-maj=56.0km s-min=16.8km az=151.9*
*IDC **20** 10:29:47.0±3.8, 023N×9878E, h46km±30km, mb4.0/9, mb1 4.1/11, mb1mx3.8/21, mbtmp4.0/11, ML4.2/2, MS3.3/3, Ms1 3.3/3, ms1mx3.0/23, Error ellipse: s-maj=49.2km s-min=15.9km az=63.0*
*DJA **20** 10:29:49, 023N×9858E, h50km, ML4.4/2*

ISC 20 10:29:45.9±3.4, 02N±02×987E±03, h41km±24km, n16, σ0§41/13, mb4.2/9, MS3.3/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.60**	**5**	P	**Pn**	**10 30 25.7**	**+0.2**
	23nm,0.3s,baz=215,slow=3.9,SNR=98						
CMAR	**Chiang Mai Arr**	**18.15**	**1**	P	**Pn**	**10 33 54.5**	**-0.4**
	0.5nm,0.3s,baz=189,slow=11,SNR=13						
WRA	**Warramunga Arr**	**40.23**	**122**	P	**P**	**10 37 18.4**	**-0.5**
	0.9nm,0.5s,mb3.7,baz=305,slow=9.3,SNR=15						
WRA				PcP	PcP	10 39 23.0	+0.5
	0.4nm,0.6s,baz=315,slow=2.7,SNR=7.8						
ASAR	**Alice Springs**	**41.59**	**127**	P	**P**	**10 37 30.4**	**+0.2**
	1.3nm,0.8s,mb3.6,baz=304,slow=7.7,SNR=14						
ASAR				PcP	PcP	10 39 28.0	+1.1
	0.6nm,0.7s,baz=303,slow=2.5,SNR=5.6						
KSRS	**Korea Array**	**45.84**	**33**	P	**P**	**10 38 04.3**	**+0.2**
	6.1nm,0.7s,mb4.7,baz=222,slow=8.5,SNR=36						
KSRS				LR	LR	10 58 14.2	
	comp=Z,26nm,19.5s,MS3.2,baz=204,slow=37						

SONM	**Songino Array**	**47.92**	**7**	P	**P**	**10 38 21.1**	**+1.0**
	3.8nm,0.6s,mb4.6,baz=184,slow=7.6,SNR=6.6					
MK31	**Makanchi Array**	**48.59**	**345**	*e*P	**P**	**10 38 25.4**	**+0.1**
MKAR	**Makanchi Array**	**48.59**	**345**	P	**P**	**10 38 25.2**	**-0.1**
	5.0nm,0.5s,mb4.8,baz=150,slow=8.2,SNR=39						
MKAR				LR	LR	11 02 09.1	
	comp=Z,16nm,19.0s,MS3.0,baz=353,slow=40						
MJAR	**Matsushiro Arr**	**51.44**	**41**	P	**P**	**10 38 46.8**	**-0.3**
	2.2nm,0.9s,mb4.1,baz=228,slow=6.1,SNR=5.9						
MJAR				LR	LR	11 03 20.0	
	comp=Z,54nm,18.0s,MS3.6,baz=230,slow=39						
STKA	**Stephens Creek**	**51.57**	**132**	P	**P**	**10 38 48.5**	**+0.3**
	1.6nm,0.8s,mb4.0,baz=322,slow=8.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**54.79**	**350**	P	**P**	**10 39 11.0**	**-0.5**
	3.1nm,0.4s,mb4.7,baz=178,slow=6.8,SNR=14						
ZALV	**Zalesovo Beam**	**54.79**	**350**	P	**P**	**10 39 11.0**	**-0.5**
PETK	**Petropavlovsk-**	**71.74**	**33**	P	**P**	**10 41 03.8**	**-0.1**
	1.2nm,0.7s,mb3.9,baz=247,slow=3.1,SNR=3.8						
NVAR	**Mina Array Bea**	**128.69**	**37**	PKP	PKPdf	10 48 50.7	+1.4
	0.4nm,0.7s,baz=10,slow=1.7,SNR=6.0						
PDAR	**Pinedale Array**	**130.27**	**27**	PKP	PKPdf	10 48 53.0	+0.9
	0.5nm,0.6s,baz=115,slow=2.1,SNR=4.1						
TXAR	**Lajitas Array**	**143.69**	**34**	PKP	PKPdf	10 49 15.6	-1.7
	0.6nm,0.5s,baz=235,slow=0.2,SNR=6.8						

MAN 20 10:44:57,686N×12509E, h7km, mb4.4, ML3.3, MS3.1, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.15**	**359**	*i* P	Pg	10 45 01.5	+1.3
KCP				*i* S	Sg	10 45 04.0	+1.7
DMPH	**Davao City--Mi**	**0.47**	**62**	⇓*i* P	Pg	10 45 07.5	+1.4
DMPH				*i* S	Sg	10 45 15.4	+3.1
CTBH	**Cotabato--PC H**	**0.91**	**293**	⇓*e*P	Pg	10 45 15.3	+0.7
CTBH				*i* S	Sg	10 45 28.1	+1.6
BUKP	**Musuan**	**1.01**	**358**	*e*P	Pg	10 45 16.2	-0.3
MATI	**Mati**	**1.16**	**86**	*e*P	Pg	10 45 19.1	-0.2
PAGZ	**Pagadian**	**1.96**	**300**	*e*P	Pn	10 45 32.1	+1.4
BUTP	**Butuan**	**2.16**	**14**	*e*P	Pn	10 45 36.7	+3.2
IPIL	**Ipil**	**2.67**	**290**	*e*P	Pn	10 45 35.1	-5.2

*ATH **20** 11:13:32.2, 3961N×2627E, h25km, MD3.4/3*
*CSEM **20** 11:13:32.9±0.1, 3949N×2591E, h17km±1km, ML3.3, Error ellipse: s-maj=2.2km s-min=1.7km az=8.0*
*ISK **20** 11:13:32.6, 3944N×2599E, h14km, MD3.0*
*ISCJB **20** 11:13:34.1±0.5, 3947N±003×2598E±004, h21km±5km, Error ellipse: s-maj=5.6km s-min=4.2km az=157.4*
*THE **20** 11:13:35.1, 3947N×2604E, h13km, ML3.3*
*NEIC **20** 11:13:35.1, 3947N×2604E, h13km, MD3.4(ATH), ML3.3(THE), After THE.*
*DDA **20** 11:13:36.6, 3960N×2621E, h7km±3km, Md2.8*

ISC 20 11:13:33.9±0.5, 3948N±002×2596E±004, h17km±3km, n26, σ0§81/40, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.34**	**134**	*e*Pg	**Pg**	**11 13 41.2**	**+0.2**
PRK				*e*Sg	**Sg**	**11 13 45.3**	**-0.5**
PRK	**Paraskevi**	**0.34**	**134**	*e*PB	**Pg**	**11 13 40.3**	**-0.7**
PRK				*e*SB	**Sg**	**11 13 46.1**	**+0.3**
PRK	**Paraskevi**	**0.34**	**134**	*e*Pg	**Pg**	**11 13 41.2**	**+0.2**
PRK				*e*Sg	**Sg**	**11 13 45.3**	**-0.5**
PRK				*e*Sb	**Sg**	**11 13 46.1**	**+0.3**
BOZC	**Bozcaada**	**0.37**	**11**	*i* P	**Pg**	**11 13 41.9**	**+0.3**
BOZC				*i* S	**Sg**	**11 13 47.2**	**+0.4**
EZN	**Ezine**	**0.45**	**39**	*e*PG	**Pg**	**11 13 42.7**	**-0.2**
EZN				*e*SG	**Sg**	**11 13 48.9**	**-0.2**
AYVA	**Ayvalik**	**0.59**	**107**	*i* P	**Pg**	**11 13 45.4**	**-0.2**
AYVA				*i* S	**Sg**	**11 13 53.2**	**-0.4**
GADA	**Gvkgeada**	**0.71**	**356**	*e*PG	**Pg**	**11 13 48.0**	**+0.2**
GADA				*e*SG	**Sg**	**11 13 58.1**	**+0.7**
LOS	**Limnos**	**0.81**	**304**	*e*Pg	**Pg**	**11 13 52.1**	**+2.3**
LOS				*e*Sg	**Sg**	**11 14 05.2**	**+4.6**
LPK	**Lapseki**	**1.08**	**34**	*e*PN	**Pn**	**11 13 54.1**	**-0.1**
CHOS	**Chios island**	**1.09**	**176**	*e*Pg	**Pg**	**11 13 55.3**	**+0.2**
CHOS				*e*Sg	**Sg**	**11 14 10.7**	**+1.3**
ENEZ	**Enez**	**1.26**	**7**	*e*PN	**Pn**	**11 13 56.5**	**-0.2**
ENEZ				*e*SN	**Sn**	**11 14 14.7**	**+1.5**
BALY	**Balya**	**1.31**	**78**	*i* P	**Pn**	**11 13 57.9**	**+0.6**
BALY				*i* S	**Sn**	**11 14 14.9**	**+0.5**
BLCB	**Balcova**	**1.38**	**142**	*e*PN	**Pn**	**11 13 56.9**	**-1.4**
ALN	**Alexandroupoli**	**1.42**	**3**	*e*Pg	**Pg**	**11 13 60.0**	**-1.3**
ALN				*e*Sg	**Sg**	**11 14 18.3**	**-1.4**
BALB	**Balikesir**	**1.49**	**83**	*e*PN	**Pn**	**11 13 59.1**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.52**	**37**	*e*PN	**Pn**	**11 14 00.8**	**+0.5**
SART	**Tekirdag**	**1.53**	**37**	*i* P	**Pn**	**11 14 01.9**	**+1.5**
SART				*i* S	**Sn**	**11 14 19.9**	**+0.1**
AOS	**Alonnisos**	**1.64**	**260**	*e*Pb	**Pb**	**11 14 02.7**	**-1.0**
MFT	**Murefte**	**1.65**	**37**	*e*PN	**Pn**	**11 14 02.2**	**+0.2**
RDO	**Rodhopi**	**1.69**	**349**	*e*PN	**Pn**	**11 14 01.5**	**-1.1**
BNT	**Bandirma**	**1.74**	**59**	*e*PN	**Pn**	**11 14 02.8**	**-0.5**
OUR	**Ouranopolis**	**1.74**	**300**	*e*Pb	**Pb**	**11 14 05.1**	**-0.3**
PAIG	**Paliouri**	**1.81**	**285**	*e*Pb	**Pb**	**11 14 05.8**	**-0.8**
SMG	**Samos**	**1.90**	**158**	*e*PN	**Pn**	**11 14 05.9**	**+0.5**
KULA	**Kula-Manisa**	**2.31**	**114**	*e*PN	**Pn**	**11 14 10.8**	**-0.3**
SLVT	**Silivri**	**2.45**	**44**	*e*PN	**Pn**	**11 14 12.9**	**-0.2**

*ISCJB **20** 11:52:16.7±0.6, 3928N±003×2029E±005, h10km, Error ellipse: s-maj=6.0km s-min=3.7km az=2.6*
*CSEM **20** 11:52:16.9±0.1, 3930N×2021E, h2km, ML3.3, Error ellipse: s-maj=3.4km s-min=1.6km az=96.0*
*ATH **20** 11:52:16.9, 3927N×2028E, h14km±6km, MD3.6/3*
*NEIC **20** 11:52:17.1, 3927N×2027E, h4km, MD3.7(ATH), ML3.3(THE), After ATH.*
*THE **20** 11:52:17.2, 3928N×2023E, h0km, ML3.3*

ISC 20 11:52:16.6±0.8, 3927N±003×2022E±006, h1km±8km, n17, σ0§67/23, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.27**	**19**	*e*Pg	**Pg**	**11 52 21.9**	**+0.1**
IGT				*e*Sg	**Sg**	**11 52 25.6**	**+0.3**
KEK	**Kerkira**	**0.55**	**323**	*e*PB	**Pg**	**11 52 28.2**	**+1.1**
JAN	**Janina**	**0.62**	**52**	*e*PB	**Pg**	**11 52 28.0**	**-0.5**
JAN				*e*SB	**Sg**	**11 52 36.3**	**-0.2**
LKD	**Levkas**	**0.66**	**149**	*e*Pg	**Pg**	**11 52 28.7**	**-0.5**
MEV	**Metsovon**	**0.93**	**56**	*e*Pg	**Pg**	**11 52 34.1**	**-0.3**
VLS	**Valsamata**	**1.13**	**165**	*e*Pg	**Pg**	**11 52 38.4**	**+0.1**
VLS	**Valsamata**	**1.13**	**165**	*e*PB	**Pb**	**11 52 38.4**	**-0.5**
VLS				*e*SB	**Sb**	**11 52 53.9**	**-0.2**
KFL	**Anninata**	**1.25**	**159**	*e*Pg	**Pg**	**11 52 40.8**	**+0.3**
THL	**Klokotos Trika**	**1.42**	**78**	*e*Pg	**Pg**	**11 52 43.4**	**-0.3**
THL				*e*Sg	**Sg**	**11 53 02.9**	**+0.8**
AGG	**Agios Georgios**	**1.66**	**98**	*e*Pb	**Pg**	**11 52 47.9**	**-0.5**
AGG				*e*Sb	**Sg**	**11 53 11.1**	**+1.2**
FNA	**Florina**	**1.75**	**30**	*e*Sb	**Sg**	**11 53 12.6**	**-0.1**
OHR	**Ohrid**	**1.89**	**13**	*e*Pn	**Pb**	**11 52 51.7**	**-0.1**
OHR	**Ohrid**	**1.89**	**13**	*e*Pn	**Pb**	**11 52 51.6**	**-0.2**
BIA	**Bitola**	**1.94**	**26**	*e*Pb	**Pn**	**11 52 50.6**	**0.0**
BIA				*e*Sb	**Sb**	**11 53 16.7**	**-0.6**
BIA	**Bitola**	**1.94**	**26**	*e*Pn	**Pg**	**11 52 52.2**	**-1.5**
KRUS	**Krusevo**	**2.23**	**20**	*i* Pn	**Pn**	**11 52 56.2**	**+1.5**
KRUS	**Krusevo**	**2.23**	**20**	*i* Pn	**Pn**	**11 52 56.1**	**+1.4**

*MOS **20** 11:57:52.9±1.2, 780N×9374E, h33km, mb5.1/28, Error ellipse: s-maj=10.9km s-min=5.7km az=112.5*
*SZGRF **20** 11:57:53.8, 780N×9340E, h33km, mb4.7, Nicobar Islands, India, region*
*IDC **20** 11:57:54.8±1.7, 784N×9378E, h37km±12km, mb4.1/17, mb1 4.2/18, mb1mx4.1/22, mbtmp4.1/18, ML4.1/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/42, Error ellipse: s-maj=19.4km s-min=12.4km az=57.0*
*BJI **20** 11:57:54.3, 787N×93.17E, h51km, mB4.9, mb4.6, Ms3.9, Msz3.8*
*ISCJB **20** 11:57:55.5±0.8, 782N±004×9375E±005, h56km±7km, mb4.7/63, MS3.8/15, Error ellipse: s-maj=8.5km s-min=5.5km az=142.6*
*NEIC **20** 11:57:56.2±0.9, 780N×9374E, h48km±8km, mb4.8/27, Error ellipse: s-maj=11.3km s-min=5.3km az=61.0*
*DJA **20** 11:57:59, 771N×9358E, h57km, ML4.8/4*

ISC 20 11:57:58.0±0.7, 783N×004×9372E±005, h63km±6km, n175, σ1§15/157, mb4.7/63, 5C-7D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.79**	**146**	P	**Pn**	**11 58 38.3**	**-2.1**
TSI	**Tuntungan**	**6.46**	**131**	P	**Pn**	**11 59 27.1**	**-3.4**
PSI	**Prapat**	**7.19**	**134**	Pn	**Pn**	**11 59 39.8**	**-0.8**
	3.1nm,0.3s,baz=310,slow=11,SNR=16						
KULM	**Kulim**	**7.33**	**110**	⇓P	**Pn**	**11 59 45.9**	**+3.5**
IPM	**Ipoh**	**7.98**	**114**	⇑P	**Pn**	**11 59 54.5**	**+3.0**
FRIM	**Kepong**	**9.09**	**120**	⇓P	**Pn**	**12 00 08.1**	**+1.6**
KTGM	**Kuala Trenggan**	**9.67**	**104**	⇓P	**Pn**	**12 00 22.1**	**+7.5**
KGM	**Kluang**	**11.16**	**121**	⇓P	**Pn**	**12 00 36.6**	**+1.7**
CM31	**Chiang Mai Arr**	**11.72**	**25**	*e*Pn	**Pn**	**12 00 43.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**11.72**	**25**	Pn	**Pn**	**12 00 42.6**	**+0.1**
	1.2nm,0.3s,baz=214,slow=14,SNR=42						
CMAR	**Chiang Mai Arr**	**11.72**	**25**	*i* P	**Pn**	**12 00 43.7**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MYKOM	**Kota Tinggi**	**11.73**	**120**	⇑P	**Pn**	**12 00 50.1**	**+7.3**
CHTO	**Chiang Mai**	**12.04**	**24**	*e*P	**Pn**	**12 00 47.3**	**+0.4**
VIS	**Vishakhapatnam**	**14.12**	**315**	*i* P	**Pn**	**12 01 12.6**	**-2.3**
VIS				AMb	AMB	12 01 16.6	
	comp=Z,40nm,0.5s						
VIS				*i* x	x	12 03 32.8	
BWNR	**Bhubaneshwar**	**14.57**	**329**	*ex*	x	12 01 17.0	
BWNR				*ex*	x	12 03 50.0	
KOD	**Kodaikanal**	**16.23**	**280**	*e*P	**Pn**	**12 01 43.0**	**+0.8**
KOD				AMb	AMB	12 01 54.7	
	comp=Z,52nm,1.2s						
TRD	**Trivandrum**	**16.61**	**274**	*e*P	**Pn**	**12 01 44.0**	**-3.0**
TRD				AMb	AMB	12 01 44.5	
	comp=Z,19nm,0.6s						
IMP	**Imphal**	**16.86**	**1**	*ex*	x	12 01 30.0	
BOK	**Bokaro**	**17.57**	**336**	*e*P	**Pn**	**12 01 59.4**	**+0.8**
BOK				AMb	AMB	12 02 02.4	
	comp=Z,27nm,0.8s						
HYB	**Hyderabad**	**17.59**	**304**	*i* P	**Pn**	**12 02 00.0**	**+1.0**
HYB				*e*S	**S**	**12 05 14.0**	**-4.8**
HYB	**Hyderabad**	**17.59**	**304**	*e*P	**Pn**	**12 02 00.0**	**+1.0**
HYB				*e*S	**S**	**12 05 14.0**	**-4.8**
SHL	**Shillong**	**17.73**	**355**	*e*P	**Pn**	**12 02 00.0**	**-0.6**
KMI	**Kunming**	**19.23**	**26**	P	**Pn**	**12 02 21.6**	**+2.8**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s						
KMI				LR	LR		
	comp=N,220nm,22.0s						
KMI				LR	LR		
	comp=E,313nm,17.8s						
KMI				LR	LR		
	comp=Z,235nm,28.2s						
BTM	**Bintulu**	**19.81**	**102**	⇑P	**Pn**	**12 02 35.1**	**+9.4**
RAMN	**Ramite**	**20.18**	**341**	*e*P	**P**	**12 02 25.6**	**-2.0**
	comp=Z,133nm,0.7s						
TAPN	**Taplejung**	**20.24**	**344**	*e*P	**P**	**12 02 26.9**	**-1.2**
	comp=Z,131nm,0.5s						
AKL	**Akola**	**20.61**	**310**	*e*P	**P**	**12 02 32.4**	**+0.2**
AKL				AMb	AMB	12 02 41.8	
	comp=Z,48nm,1.1s						
PKI	**Pulchoki**	**21.16**	**339**	*e*P	**P**	**12 02 36.7**	**-1.4**
KAD	**Karad**	**21.25**	**298**	*e*P	**P**	**12 02 39.2**	**+0.1**
KAD				AMb	AMB	12 02 46.5	
	comp=Z,62nm,0.8s,mb5.0						
KAD				*e*S	**S**	**12 06 34.1**	**+2.1**
DMN	**Daman**	**21.30**	**339**	*e*P	**P**	**12 02 38.7**	**-0.9**
GUN	**Gumba**	**21.31**	**341**	*e*P	**P**	**12 02 38.4**	**-1.3**
	comp=Z,148nm,0.8s,mb5.4						
KKN	**Kakani**	**21.40**	**339**	*e*P	**P**	**12 02 39.2**	**-1.5**
	comp=Z,126nm,0.9s,mb5.2						
KKN	**Kakani**	**21.40**	**339**	*e*P	**P**	**12 02 39.2**	**-1.5**
KKN				pmax	pmax		
	comp=Z,126nm,0.9s,mb5.2						
GKN	**Gorkha**	**21.83**	**338**	*e*P	**P**	**12 02 44.0**	**-1.2**
LSA	**Lhasa**	**21.89**	**354**	P	**P**	**12 02 44.0**	**-1.9**
LSA				S	**S**	**12 06 43.8**	**-0.4**
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
LSA				LR	LR		
	comp=N,200nm,20.0s						
LSA				LR	LR		
	comp=E,200nm,23.0s						
LSA				LR	LR		
	comp=Z,390nm,20.0s						
LSA	**Lhasa**	**21.89**	**354**	*e*P	**P**	**12 02 44.6**	**-1.3**
POO	**Poona**	**22.06**	**301**	*e*

comp=Z,130nm,19.1s,baz=282,slow=42
HIA Hailar 46.73 23 *e*P **P 12 06 21.7 +1.0**
HIA pmax pmax
comp=Z,34nm,1.5s
HIA Hailar 46.73 23 *e*P **P 12 06 21.7 +1.0**
comp=Z,34nm,1.5s,mb5.1
NVS Novosibirsk 47.63 352 *e*P **P 12 06 25.7 -1.9**
NVS pmax pmax
comp=E,18nm,1.3s
NVS pmax pmax
comp=Z,27nm,1.3s,mb5.1
NVS pmax pmax
comp=N,35nm,1.7s
RDF Al-Radifah 48.20 302 *e*P **P 12 06 32.6 +0.1**
baz=302
RDF AMb AMB 12 06 39.8
comp=Z,23nm,1.0s,mb5.2,baz=302
NAY Al-Naaiem 48.55 302 *e*P **P 12 06 35.0 -0.2**
baz=302
NAY AMb AMB 12 06 42.1
comp=Z,16nm,0.7s,mb5.2,baz=302
WRA Warramunga Arr 48.57 125 P **P 12 06 33.8 -1.6**
comp=Z,5.5nm,0.8s,mb4.6,baz=300,slow=9.9,SNR=92
WRA ScP ScP 12 11 50.8 +0.7
comp=Z,0.9nm,0.9s,baz=316,slow=3.8,SNR=8.2
WRAB Tennant Creek 48.57 125 *e*P **P 12 06 33.9 -1.6**
WRAB Tennant Creek 48.57 125 *e*P **P 12 06 33.7 -1.8**
comp=Z,4.4nm,0.6s,mb4.7
WB2 Warramunga Arr 48.58 125 *e*P **P 12 06 33.9 -1.6**
MIB Mutribah 48.63 303 *e*P **P 12 06 36.0 +0.2**
baz=303
MIB AMb AMB 12 06 43.2
comp=Z,35nm,1.0s,mb5.3,baz=303
BVAR Borovoye Array 48.90 341 ScP ScP 12 11 54.2 +3.4
comp=Z,1.4nm,0.7s,baz=140,slow=7.7,SNR=5.0
BRVK Borovoye 48.96 341 *e*P **P 12 06 37.7 -0.2**
MJAR Matsushiro Arr 49.50 48 P **P 12 06 42.9 +0.6**
comp=Z,0.9nm,0.7s,mb3.9,baz=245,slow=8.1,SNR=3.1
MJAR LR LR 12 29 21.3
comp=Z,147nm,18.8s,baz=275,slow=38
MJAR Matsushiro Arr 49.50 48 P **P 12 06 42.9 +0.6**
MJAR LR LR 12 29 21.3
ASAR Alice Springs 50.20 130 P **P 12 06 46.4 -1.5**
comp=Z,2.5nm,0.7s,mb4.3,baz=307,slow=6.8,SNR=26
ASAR PcP PcP 12 08 06.5 +0.2
comp=Z,2.0nm,0.9s,baz=310,slow=4.3,SNR=4.4
ASAR ScP ScP 12 11 59.0 +2.1
comp=Z,0.6nm,0.8s,baz=310,slow=4.8,SNR=6.1
ASAR Alice Springs 50.20 130 P **P 12 06 46.4 -1.4**
ASAR 12 08 06.5
FORT Forrest 50.56 141 *e*P **P 12 06 50.5 +0.1**
comp=Z,16nm,0.7s,mb5.1
AKTO Aktyubinsk 51.79 332 LR LR 12 31 07.9
comp=Z,95nm,20.5s,baz=141,slow=38
BOD Bodaibo 52.29 14 *e*P **P 12 07 03.2 +0.3**
BOD pmax pmax
comp=Z,10.0nm,1.6s,mb4.5
GNI Garni 54.17 314 *e*P **P 12 07 19.6 +2.5**
GNI pmax pmax
comp=Z,60nm,1.6s
GNI Garni 54.17 314 *e*P **P 12 07 19.6 +2.5**
comp=Z,60nm,1.6s,mb5.3
SVE Sverdlovsk 55.29 339 *e*P **P 12 07 25.4 +0.5**
SVE pmax pmax
comp=Z,19nm,1.1s,mb5.0
ASAJ Asahikawa 55.72 41 LR LR 12 33 12.0
comp=Z,46nm,18.3s,baz=346,slow=38
ARU Arti 55.77 337 *d*iP **P 12 07 27.6 -0.7**
ARU *e* 12 09 36.6
ARU *e*SS **S 12 15 11.0 +0.6**
ARU *e*SS SS 12 18 52.5 -4.2
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KMBO Kilima Mbogo 57.01 264 P **P 12 07 39.2 +1.4**
comp=Z,3.6nm,0.7s,mb4.5,baz=54,slow=12,SNR=6.7
KIV Kislovodsk 57.08 318 P **P 12 07 38.0 +0.2**
KIV 12 08 34.0
MALT Malatya 58.18 310 *e*P **P 12 07 47.6 +1.9**
MALT pmax pmax
comp=Z,14nm,1.4s,mb4.8
MALT Malatya 58.18 310 *e*P **P 12 07 47.6 +1.9**
comp=Z,14nm,1.4s,mb4.8
SOKR Solikamsk 58.70 339 ⇓*i*P **P 12 07 51.5 +2.6**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOC Sochi 58.93 317 *i*P **P 12 07 49.2 -1.6**
YAK Yakutsk 60.17 19 *e*P **P 12 07 58.6 -0.4**
YAK pmax pmax
comp=Z,14nm,0.8s,mb5.0
STKA Stephens Creek 60.37 133 *e*P **P 12 08 00.1 -0.8**
comp=Z,3.8nm,1.0s,mb4.4
STKA Stephens Creek 60.37 133 P **P 12 07 59.5 -1.4**
comp=Z,2.9nm,0.9s,mb4.3,baz=264,slow=6.1,SNR=5.2
STKA LR LR 12 33 13.9
comp=Z,171nm,19.8s,baz=287,slow=35
MOS Moscow 64.91 329 *e*P **P 12 08 35.3 +4.6**
MOS *i* pP 12 08 47.5 -0.1
MOS *e* 12 09 08.1
MOS pmax pmax
comp=Z,44nm,0.7s,mb5.6
OBN Obninsk 65.20 328 ⇑P **P 12 08 35.0 +2.4**
OBN pmax pmax
comp=Z,37nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,100nm,15.0s
KLMR Klimovskoe 66.32 334 P **P 12 08 40.7 +1.0**
KLMR pmax pmax
comp=Z,28nm,1.4s,mb5.1
TIXI Tiksi 67.36 11 *e*P **P 12 08 44.6 -1.5**
TIXI pmax pmax
comp=Z,28nm,1.5s,mb5.1
TIXI MLR MLR
comp=Z,97nm,19.0s
TIXI Tiksi 67.36 11 *e*P **P 12 08 46.6 +0.5**
comp=Z,39nm,1.6s,mb5.2
AKASG Malin Array Be 67.94 322 P **P 12 08 48.4 -1.7**
comp=Z,3.0nm,0.8s,mb4.4,baz=93,slow=3.8,SNR=8.6
AKASG Malin Array Be 67.94 322 *i*P **P 12 08 49.4 -0.7**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 68.28 36 LR LR 12 40 12.9
comp=Z,50nm,19.7s,baz=330,slow=37
LSZ Lusaka 68.86 250 *e*P **P 12 08 55.8 -0.8**
LSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LSZ Lusaka 68.86 250 *e*P **P 12 08 55.8 -0.7**
comp=Z,4.5nm,0.8s,mb4.5
JOF Joensuu 70.71 335 *e*p **P 12 09 07.2 +0.1**
comp=Z,8.4nm,0.7s,mb4.8
VSU Vasula 71.42 329 *e*P **P 12 09 11.4 0.0**
KAF Kangasniemi 72.64 333 *e*p **P 12 09 18.7 0.0**
comp=Z,5.3nm,0.8s,mb4.5
KAF Kangasniemi 72.64 333 *e*P **P 12 09 18.7 0.0**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PSZ Piszkesteto 73.40 318 *e*P **P 12 09 25.8 +2.4**
PSZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
PSZ Piszkesteto 73.40 318 *e*P **P 12 09 25.8 +2.4**
comp=Z,7.7nm,1.3s,mb4.5
OJC Ojcow 73.75 320 *e*P **P 12 09 26.0 +0.6**
KEV Kevo 74.74 341 *e*p **P 12 09 34.2 +3.4**
comp=Z,6.3nm,0.7s,mb4.7
KEV Kevo 74.74 341 *e*P **P 12 09 34.2 +3.4**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MORC Moravsky Berou 75.14 319 *e*P **P 12 09 34.7 +1.2**
MORC pmax pmax
comp=Z,12nm,1.3s,mb4.7
MORC Moravsky Berou 75.14 319 *e*P **P 12 09 34.7 +1.2**
comp=Z,12nm,1.3s,mb4.7
ARCES ARCESS Array B 75.17 340 P **P 12 09 33.7 +0.4**
comp=Z,12nm,0.9s,mb4.8,baz=101,slow=6.3,SNR=20
ARCES ARCESS Array B 75.17 340 P **P 12 09 33.7 +0.4**
ARE0 ARCESS Array S 75.17 340 *e*P **P 12 09 34.1 +0.8**
BOSA Boshof 75.21 238 P **P 12 09 34.6 +0.3**
comp=Z,3.1nm,0.6s,mb4.4,baz=75,slow=10,SNR=5.3
BILL Bilibino 76.28 22 *e*P **P 12 09 42.4 +2.7**
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
BRG Berggiesshubel 77.52 320 *e*P **P 12 09 53.0 +6.0**
BRG *e* pP 12 10 07.2 +2.9
BRG pmax pmax
comp=Z,12nm,1.6s,mb4.6
BRG Berggiesshubel 77.52 320 *e*P **P 12 09 53.0 +6.0**
comp=Z,20nm,1.6s,mb4.8
BRG *e* pP 12 10 07.2 +2.9
comp=Z,3.8nm,0.8s
GEC2 GERESS Array S 77.59 318 *e*P **P 12 09 47.3 -0.1**
GERES GERESS Array B 77.59 318 P **P 12 09 47.5 +0.1**
comp=Z,2.7nm,0.7s,mb4.3,baz=91,slow=5.3,SNR=12
KHC Kasperske Hory 77.68 319 ⇓*e*P **P 12 09 48.2 +0.3**
KHC Kasperske Hory 77.68 319 *e*P **P 12 09 47.0 -0.9**
GRA1 Grafenberg Arr 79.23 319 *e*P **P 12 09 54.9 -1.6**
comp=Z,8.0nm,1.0s,mb4.6
GRF Grafenberg Arr 79.23 319 *e*P **P 12 09 54.9 -1.6**
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GRF Grafenberg Arr 79.23 319 *e*P **P 12 09 54.9 -1.6**
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GRF Grafenberg Arr 79.23 319 *e*P **P 12 09 54.9 -1.6**
comp=Z,8.0nm,1.0s,mb4.6
NB2 NORSAR Subarra 79.57 331 P **P 12 09 57.2 -0.8**
comp=Z,1.1nm,0.7s,mb3.9,baz=95,slow=6.2
NOA NORSAR Array B 79.57 331 P **P 12 09 57.6 -0.4**
comp=Z,3.1nm,0.8s,mb4.3,baz=93,slow=5.7,SNR=10
NAO01 NORSAR Array S 79.72 330 *e*P **P 12 10 01.7 +2.8**
TUE Stuetta 80.51 316 *e*P **P 12 10 04.7 +1.2**
comp=Z,8.9nm,0.8s,mb4.8
HINF Hinteralfeld 82.16 317 *e*P **P 12 10 12.5 +0.3**
LPG La Plagne 82.36 315 *e*P **P 12 10 13.9 +0.7**
LPL La Plagne 82.37 315 *e*P **P 12 10 13.6 +0.3**
comp=Z,24nm,0.7s,mb4.9
LPL La Plagne 82.37 315 *e*P **P 12 10 13.6 +0.3**
LPL pmax pmax
comp=Z,12nm,0.7s,mb4.9
LPL La Plagne 82.37 315 *e*P **P 12 10 13.6 +0.3**
comp=Z,12nm,0.7s,mb4.9
MBDF Montbardon 82.39 314 *e*P **P 12 10 14.1 +0.7**
comp=Z,13nm,0.9s,mb4.6
MBDF Montbardon 82.39 314 *e*P **P 12 10 14.1 +0.7**
MBDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MBDF Montbardon 82.39 314 *e*P **P 12 10 14.1 +0.7**
comp=Z,6.4nm,0.9s,mb4.5
HAU Haudompre 82.49 317 *e*P **P 12 10 14.3 +0.4**
CABF La Chapelle 82.75 316 *e*P **P 12 10 15.4 +0.1**
comp=Z,48nm,1.3s,mb5.1
CABF La Chapelle 82.75 316 *e*P **P 12 10 15.4 +0.1**
CABF pmax pmax
comp=Z,24nm,1.3s,mb5.1
CABF La Chapelle 82.75 316 *e*P **P 12 10 15.4 +0.1**
comp=Z,24nm,1.3s,mb5.1
ORIF Oris-en-Rattie 83.01 314 *e*P **P 12 10 17.0 +0.4**
comp=Z,12nm,0.8s,mb4.7
ORIF Oris-en-Rattie 83.01 314 *e*P **P 12 10 17.0 +0.4**
ORIF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ORIF Oris-en-Rattie 83.01 314 *e*P **P 12 10 17.0 +0.4**
comp=Z,5.8nm,0.8s,mb4.7
LOR Lormes 84.22 317 *e*P **P 12 10 22.4 -0.4**
SMF Signal de Mont 84.29 316 *e*P **P 12 10 23.5 +0.3**
AVF Avril sur Loir 84.61 316 *e*P **P 12 10 24.4 -0.4**
BGF Bois d'Agland 84.98 316 *e*P **P 12 10 26.6 0.0**
LDF La Druitiere 86.73 318 *e*P **P 12 10 35.6 +0.4**
TOA0 Torodi Ar. Sit 90.21 283 *e*P **P 12 10 59.2 +6.8**
TORD Torodi Ar. Bea 90.21 283 P **P 12 10 52.9 +0.5**
comp=Z,0.6nm,0.8s,mb4.0,baz=82,slow=4.5,SNR=4.3
ESDC Sonseca Array 90.93 310 P **P 12 10 55.7 +0.4**
comp=Z,0.3nm,0.4s,mb4.0,baz=59,slow=5.4,SNR=4.0
LOHW Long Hollow 124.25 21 *e*PKPdf PKPdf 12 16 51.8 +1.8
SNOW Snow King Moun 124.32 21 *e*PKPdf PKPdf 12 16 51.3 +1.2
NVAR Mina Array Bea 125.17 31 PKP PKPdf 12 16 53.2 +1.4
comp=Z,1.1nm,0.9s,baz=276,slow=1.7,SNR=6.0
PDAR Pinedale Array 125.36 21 PKP PKPdf 12 16 51.6 -0.5
comp=Z,0.9nm,0.7s,baz=339,slow=2.7,SNR=7.8
ECSD EROS,Sioux Fal 127.83 9 *e*PKPdf PKPdf 12 16 59.6 +2.8
MSU Marysvale 127.98 26 *e*PKIKP PKPdf 12 16 57.4 +0.2
SMCO Snowmass 129.44 21 *e*PKPdf PKPdf 12 17 01.0 +1.0
ACSO Alum Creek Sta 132.09 357 *e*PKPdf PKPdf 12 17 03.5 -1.6
ANMO Albuquerque 133.38 23 *e*PKIKP PKPdf 12 17 10.0 +2.4
LHS Liberty Hill 137.61 353 *e*PKIKP PKPdf 12 17 17.5 +2.0
TXAR Lajitas Array 139.44 24 PKP PKPdf 12 17 18.9 -0.1
comp=Z,0.3nm,0.7s,baz=331,slow=1.8,SNR=3.5
TXAR SKP 12 20 51.1
comp=Z,1.2nm,0.9s,baz=135,slow=0.4,SNR=7.3
JCT Junction City 139.76 18 *e*PKIKP PKPdf 12 17 20.7 +1.1
PLCA Paso Flores 144.36 201 PKP PKPdf 12 17 26.5 -0.9
comp=Z,2.6nm,0.8s,baz=172,slow=4.1,SNR=5.3
CFAA Coronel Fontan 150.97 213 PKPbc PKPbc 12 17 45.0 +0.6
comp=Z,2.1nm,0.9s,baz=228,slow=1.1,SNR=20
SIV San Ignacio 154.06 249 PKPbc PKPbc 12 17 49.7 -1.9
comp=Z,0.5nm,0.5s,baz=65,slow=7.3,SNR=4.2
LVC Limon Verde 157.75 227 *e*PKPab PKPab 12 18 26.7 +5.8
LPAZ La Paz 160.38 243 PKP PKPdf 12 17 53.3 +1.8
comp=Z,1.1nm,0.8s,baz=355,slow=2.3,SNR=3.9

ISCJB ***20*** *11:59:16.8±0.9,3929N±003×202E±0.1,h11km±10km, Error ellipse: s-maj=13.7km s-min=4.8km az=177.3*
THE ***20*** *11:59:16.9,3928N×2016E,h1km,ML2.7*
ATH ***20*** *11:59:17.3,3930N×2035E,h10km,MD3.3/3*
CSEM ***20*** *11:59:17.8±0.1,3932N×2033E,h12km,ML2.7, Error ellipse: s-maj=8.5km s-min=2.1km az=74.0*
ISC 20 11:59:17.2±0.8,3932N±003×203E±01,h19km±8km,n8, σ0°59/13,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.21**	**4**	*e*Pg		**Pg**	**Pg**	**11 59 22.1**	**-0.4**
IGT				*e*Sg		**Sg**	**Sg**	**11 59 26.3**	**+0.3**
JAN	**Janina**	**0.53**	**51**	*e*PB		**Pb**	**Pb**	**11 59 27.4**	**-0.5**
KEK	**Kerkira**	**0.56**	**315**	*e*PB		**Pb**	**Pb**	**11 59 28.7**	**+0.3**
LKD	**Levkas**	**0.67**	**157**	*e*Pg		**Pg**	**Pg**	**11 59 29.1**	**-1.3**
LKD				*e*Sg		**Sg**	**Sg**	**11 59 39.5**	**+0.2**
MEV	**Metsovon**	**0.84**	**56**	*e*Pg		**Pg**	**Pg**	**11 59 34.5**	**+0.8**
MEV				*e*Sg		**Sg**	**Sg**	**11 59 50.0**	**+5.0**
VLS	**Valsamata**	**1.16**	**169**	*e*Pg		**Pg**	**Pg**	**11 59 39.1**	**-0.6**
VLS				*e*Sg		**Sg**	**Sg**	**11 59 55.7**	**+0.7**
VLS	**Valsamata**	**1.16**	**169**	*e*PB		**Pb**	**Pb**	**11 59 39.0**	**+0.4**
KFL	**Anninata**	**1.27**	**163**	*e*Pg		**Pg**	**Pg**	**11 59 41.5**	**-0.2**
KFL				*e*Sg		**Sg**	**Sg**	**11 59 58.5**	**+0.3**

ISCJB ***20*** *12:00:13.2±3.9, 1391S±007×774W±0.1,h4km±25km, mb3.8/8, Error ellipse: s-maj=17.8km s-min=11.7km az=173.9*
IDC ***20*** *12:00:14.9±0.8, 1382S×77.14W,h0km,mb3.8/7,mb1 4.1/9, mb1mx4.0/17,mbtmp3.8/9,ML4.2/2,MS3.0/2,Ms1 3.0/2, ms1mx2.6/32, Error ellipse: s-maj=32.4km s-min=17.3km az=68.0*
NEIC ***20*** *12:00:22.5±0.8, 1338S×7722W,h35km,mb4.2/1, Error ellipse: s-maj=24.0km s-min=11.4km az=49.0*
ISC 20 12:00:15.4±4.5,1388S±007×773W±01,h6km±29km,n22, σ0°86/20,mb3.8/8,Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.93**	**13**	Pn		Pn	**Pn**	**12 00 47.3**	**-1.5**
29nm,0.3s,baz=180,slow=14,SNR=15									
NNA					LR		LR	12 01 12.9	
comp=Z,680nm,19.1s,baz=48,slow=32									
NNA					Sn		**Sn**	**12 01 13.6**	**+0.1**
369nm,0.3s,baz=230,slow=13,SNR=14									
ARE	**Arequipa**	**6.14**	**115**	*e*P		**Pn**	**Pn**	**12 01 55.0**	**+8.2**
ARE				*e*S			**Sn**	**12 03 15.0**	**+18**
ATAH	**Atahualpa**	**6.93**	**351**	Pn		**Pn**	**Pn**	**12 01 58.6**	**+1.0**
7.4nm,0.3s,baz=155,slow=4.2,SNR=31									
LPAZ	**La Paz**	**9.15**	**106**	Pn		**Pn**	**Pn**	**12 02 28.7**	**+0.6**
0.3nm,0.3s,baz=291,slow=11,SNR=8.9									
LPAZ	**La Paz**	**9.15**	**106**	Pn		**Pn**	**Pn**	**12 02 28.7**	**+0.6**
LVC	**Limon Verde**	**11.76**	**139**	Pn		**Pn**	**Pn**	**12 03 03.1**	**-0.8**
0.7nm,0.3s,baz=309,slow=14,SNR=6.0									
LVC					Sn		**Sn**	**12 05 07.3**	**-8.3**
0.7nm,0.3s,baz=70,slow=16,SNR=4.6									
LVC					LR		LR	12 07 26.0	
comp=Z,47nm,18.9s,baz=92,slow=37									
SIV	**San Ignacio**	**15.79**	**100**	Pn		**Pn**	**Pn**	**12 04 02.4**	**+3.7**
0.2nm,0.3s,baz=274,slow=13,SNR=6.2									
CFAA	**Coronel Fontan**	**19.49**	**156**	P		**Pn**	**Pn**	**12 04 52.0**	**+7.5**
0.0nm,0.3s,baz=333,slow=13,SNR=5.1									
PCRV	**Puerto La Cruz**	**26.99**	**28**	LR		LR		12 16 35.3	
comp=Z,50nm,18.9s,baz=208,slow=36									
PLCA	**Paso Flores**	**27.39**	**169**	P			**P**	**12 06 01.8**	**+0.1**
1.6nm,0.9s,mb3.5,baz=312,slow=18,SNR=2.8									
TXAR	**Lajitas Array**	**49.95**	**330**	P		**P**	**P**	**12 09 10.1**	**-0.3**
0.5nm,0.8s,mb3.6,baz=150,slow=9.1,SNR=5.5									
DUG	**Dugway**	**63.12**	**330**	P		**P**	**P**	**12 10 43.4**	**-0.7**
2.0nm,1.0s,mb4.2									

PDAR Pinedale Array 63.69 334 P **P 12 10 47.7 0.0**
0.4nm,0.7s,mb3.6,baz=123,slow=6.6,SNR=3.0
NVAR Mina Array Bea 64.67 325 P **P 12 10 56.1 +1.8**
0.4nm,0.7s,mb3.6,baz=154,slow=8.2,SNR=4.4
ULM Lac du Bonnet 65.91 347 P **P 12 11 02.1 0.0**
4.5nm,1.0s,mb4.5,baz=166,slow=4.9,SNR=4.1
YKA Yellowknife Ar 81.53 343 P **P 12 12 33.2 -0.3**
0.7nm,0.8s,mb3.6,baz=129,slow=5.7,SNR=5.0
YKA Yellowknife Ar 81.53 343 P **P 12 12 33.2 -0.3**
TORD Torodi Ar. Bea 82.69 75 P **P 12 12 40.1 -0.6**
0.6nm,0.8s,mb3.7,baz=230,slow=6.8,SNR=3.8
WRA Warramunga Arr 134.21 223 PKP PKPdf 12 19 36.2 +1.1
0.3nm,0.8s,baz=129,slow=1.6,SNR=5.4
ZALV Zalesovo Beam 137.61 16 PKP PKPdf 12 19 40.4 +0.1
0.2nm,0.3s,baz=321,slow=2.1,SNR=2.7
SONM Songino Array 146.01 356 PKPbc PKPbc 12 19 57.0 +0.7
0.9nm,0.5s,baz=326,slow=3.3,SNR=6.8
KSRS Korea Array 147.53 321 PKPbc PKPbc 12 20 02.1 +1.1
0.5nm,0.6s,baz=20,slow=4.0,SNR=5.0

ISK ***20*** *12:01:51.9,3632N×2886E,h12km,MD3.1*
ISCJB ***20*** *12:01:52.4±0.9,3630N±004×2882E±004,h0km±8km, Error ellipse: s-maj=7.3km s-min=5.2km az=21.7*
DDA ***20*** *12:01:52.1,3622N×2878E,h3km±5km,Md3.1*
CSEM ***20*** *12:01:52.3±0.1,3635N×2888E,h5km,MD3.1, Error ellipse: s-maj=2.5km s-min=2.0km az=27.0*
ATH ***20*** *12:01:57.3,3640N×2839E,h10km,MD3.3/3*
ISC 20 12:01:53.0±0.8,3627N±004×2882E±004,h8km±7km,n15, σ1°19/23,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.52**	**344**	*e*PG		**Pg**	**Pg**	**12 02 01.8**	**-1.1**
DALT				*e*SG			**Sg**	**12 02 09.2**	**-0.5**
ARG	**Arkhangelos**	**0.56**	**264**	*e*PG		**Pg**	**Pg**	**12 02 03.0**	**-0.8**
TURN	**Turunc**	**0.62**	**344**	*i* P		**Pg**	**Pg**	**12 02 05.0**	**0.0**
TURN				*i* S		**Sg**	**Sg**	**12 02 16.4**	**+3.2**
AKAS	**Kas**	**0.64**	**93**	*i* P		**Pg**	**Pg**	**12 02 05.4**	**+0.1**
AKAS				*i* S		**Sg**	**Sg**	**12 02 15.7**	**+2.1**
YER	**Yerkesik**	**0.96**	**334**	*e*PG		**Pg**	**Pg**	**12 02 10.6**	**-0.9**
YER				*e*SG		**Sg**	**Sg**	**12 02 24.0**	**+0.1**
ELL	**Elmali**	**1.00**	**61**	*e*PG		**Pg**	**Pg**	**12 02 10.6**	**-1.5**
GOLH	**Golhisar**	**1.13**	**32**	*i* P		**Pg**	**Pg**	**12 02 13.3**	**-1.4**
GOLH				*i* S		**Sg**	**Sg**	**12 02 31.8**	**+2.4**
MLSB	**Milas**	**1.32**	**321**	*e*PN		**Pn**	**Pn**	**12 02 16.2**	**-1.5**
BDRM	**Kayabasi**	**1.36**	**306**	*i* P		**Pn**	**Pn**	**12 02 18.7**	**+0.5**
BDRM				*i* S		**Sg**	**Sg**	**12 02 37.8**	**+1.2**
BODT	**Bodrum**	**1.45**	**304**	*e*PN		**Pn**	**Pn**	**12 02 19.1**	**-0.4**
KARP	**Karpathos**	**1.53**	**242**	*e*PB		**Pb**	**Pb**	**12 02 22.0**	**+0.5**
AYDN	**Tasoluk**	**1.58**	**332**	*i* P		**Pn**	**Pn**	**12 02 21.9**	**+0.6**
AYDN				*i* S		**Sg**	**Sg**	**12 02 45.0**	**+1.4**
SMG	**Samos**	**2.14**	**313**	*e*PN		**Pn**	**Pn**	**12 02 30.5**	**+1.5**
KHAL	**Karahalli**	**2.16**	**14**	*i* P		**Pn**	**Pn**	**12 02 29.8**	**+0.5**
KHAL				*i* S		**Sg**	**Sg**	**12 03 01.1**	**-1.4**
KULA	**Kula-Manisa**	**2.24**	**357**	*e*PN		**Pn**	**Pn**	**12 02 29.1**	**-1.3**

IDC ***20*** *12:04:22.5±1.2,4702N×15579E,h0km,mb3.6/3, mb1 3.9/5,mb1mx3.6/23,mbtmp3.7/5,ML3.5/2,Error ellipse: s-maj=51.1km s-min=25.2km az=135.0*
ISCJB ***20*** *12:04:25.4±1.0,472N±0.1×1556E±02,h33km,mb3.6/3, Error ellipse: s-maj=23.4km s-min=12.3km az=34.0*
MOS ***20*** *12:04:26.9±2.2,4728N×155.17E,h33km,mb4.4/1,Error ellipse: s-maj=42.5km s-min=16.5km az=70.5*
ISC 20 12:04:27.9±0.9,472N±01×1556E±02,h35km,n10, σ0°51/10,mb3.6/3,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.55**	**5**	*e*PN		**Pn**	**Pn**	**12 05 19.9**	**-0.5**
SKR				*e*				12 06 01.4	
PETK	**Petropavlovsk-**	**6.11**	**12**	Pn		**Pn**	**Pn**	**12 05 55.0**	**-0.6**
0.6nm,0.3s,baz=180,slow=12,SNR=11									
PET	**Petropavlovsk**	**6.19**	**17**	*e*PN		**Pn**	**Pn**	**12 05 57.5**	**+0.8**
ASAJ	**Asahikawa**	**9.62**	**256**	Pn		**Pn**	**Pn**	**12 06 44.0**	**+0.3**
0.6nm,0.3s,baz=90,slow=19,SNR=4.8									
ASAJ	**Asahikawa**	**9.62**	**256**	PN		**Pn**	**Pn**	**12 06 44.1**	**+0.4**
ASAJ				pmax		pmax			
comp=Z,1.0nm,0.3s									
ADK	**Adak**	**18.53**	**65**	P		**Pn**	**Pn**	**12 08 48.5**	**+7.0**
NVAR	**Mina Array Bea**	**60.72**	**64**	P		**P**	**P**	**12 14 35.8**	**+0.2**
comp=Z,0.4nm,0.8s,mb3.6,baz=244,slow=5.6,SNR=4.1									
ASAR	**Alice Springs**	**73.16**	**201**	P		**P**	**P**	**12 15 54.1**	**-0.6**
comp=Z,0.2nm,0.8s,mb3.1,baz=23,slow=6.0,SNR=3.4									
TXAR	**Lajitas Array**	**75.79**	**62**	P		**P**	**P**	**12 16 10.3**	**+0.2**
comp=Z,1.2nm,0.5s,mb4.0,baz=302,slow=4.7,SNR=24									
TXAR	**Lajitas Array**	**75.79**	**62**	P		**P**	**P**	**12 16 10.4**	**+0.3**
TXAR				pmax		pmax			
comp=Z,1.0nm,0.5s									

BJI 20 12:09:47.4,4393N×8538E,h15km,ML2.8,2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.68**	**93**	PG		Pg	Pg	12 10 17.5	-2.1
WMQ				SG		Sg	Sg	12 10 41.3	-0.1
WMQ				Smax					
comp=N,299nm,0.4s									
WMQ				Smax					
comp=E,297nm,0.4s									
MK31	**Makanchi Array**	**3.60**	**324**	⇓Pn		Pn	Pn	12 10 42.0	-0.5
comp=E,0.2nm,0.2s,baz=138,slow=14,SNR=34									
MK31				⇑Pg		Pg	Pg	12 10 52.0	-4.3
comp=E,2.0nm,0.5s,baz=130,slow=17									
MK31				⇑Sn		Sn	Sn	12 11 37.1	+12
comp=E,8.3nm,0.3s,baz=133,slow=27									
KURBB	**Kurchatov Arra**	**8.15**	**328**	⇓Pn		Pn	Pn	12 11 43.9	-1.1
comp=E,1.1nm,1.9s,baz=105,slow=16									
KURBB				⇓Sn		Sn	Sn	12 13 35.1	+18
comp=E,2.0nm,0.7s,baz=96,slow=46									

IDC ***20*** *12:28:25.2±2.0,2781N×12988E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.4/21,mbtmp3.5/3,ML3.0/1,Error ellipse: s-maj=42.0km s-min=32.9km az=85.0*
ISCJB ***20*** *12:28:32.8±0.5,2808N±006×12863E±009,h95km±7km, mb3.6/2, Error ellipse: s-maj=15.5km s-min=4.0km az=34.1*
JMA ***20*** *12:28:33.4±0.2,2826N×12838E,h58km,M3.3*
ISC 20 12:28:33.8±0.5,2809N±005×12861E±009,h88km±7km, n16,σ0°89/28,mb3.6/2,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.43**	**135**	P		**Pn**	**Pn**	**12 28 47.4**	**-0.4**
JTK				S			**Sn**	**12 28 57.9**	**-0.2**
JAM	**Amami Oshima**	**0.94**	**70**	P		**Pn**	**Pn**	**12 28 52.0**	**-0.6**
JAM				S			**Sn**	**12 29 05.8**	**-0.9**
JIH	**Iheya**	**1.19**	**209**	P		**Pn**	**Pn**	**12 28 55.5**	**-0.1**
JIH				S			**Sn**	**12 29 12.1**	**+0.1**
JJK	**Kikaishima**	**1.23**	**79**	P		**Pn**	**Pn**	**12 28 58.2**	**+2.2**
JZK				*e*S		**Sn**	**Sn**	**12 29 16.4**	**+3.7**
JOW	**Kunigami**	**1.28**	**193**	P		**Pn**	**Pn**	**12 28 56.5**	**-0.3**
JOW				S		**Sn**	**Sn**	**12 29 13.8**	**-0.2**
JOW	**Kunigami**	**1.28**	**193**	Pn		**Pn**	**Pn**	**12 28 56.5**	**-0.3**
28nm,0.3s,baz=60,slow=10.0,SNR=175									
JOW				Sn			**

*BJI **20** 12:32:35.3,049S×9848E,h56km,mB4.8,mb5.0*
*NEIC **20** 12:32:37.8±0.9,004N×9835E,h30km,mb4.5/7,Error ellipse: s-maj=26.2km s-min=10.5km az=63.0*
*ISCJB **20** 12:32:39.4±2.6,0.1N±0.1×984E±02,h60km±18km, mb4.5/17,Error ellipse: s-maj=30.9km s-min=10.6km az=144.6*
*IDC **20** 12:32:41.9±3.9,024N×9880E,h51km±31km,mb4.1/10, mb1 4.2/12,mb1mx4.0/22,mbtmp4.1/12,ML4.0/2,MS3.2/1, Ms1 3.4/1,ms1mx2.5/29,Error ellipse: s-maj=48.8km s-min=14.2km az=65.0*
*DJA **20** 12:32:41,0.15N×9838E,h81km,ML4.8/4*
ISC 20 12:32:42.3±2.5,01N±01×985E±02,h66km±17km,n37, σ1♀04/35,mb4.5/17,2C-5D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.67**	**9**	P		**Pn**	**12 33 20.2**	**-2.9**
21nm,0.3s,baz=227,slow=4.0,SNR=55								
PSI	**Prapat**	**2.67**	**9**	P		**Pn**	**12 33 20.2**	**-2.9**
FRIM	**Kepong**	**4.38**	**45**	⇓P		**Pn**	**12 33 46.0**	**-0.4**
IPM	**Ipoh**	**4.99**	**30**	⇓P		**Pn**	**12 33 55.6**	**+0.9**
KGM	**Kluang**	**5.16**	**69**	⇓P		**Pn**	**12 33 57.4**	**+0.3**
KULM	**Kulim**	**5.54**	**23**	⇑P		**Pn**	**12 34 02.8**	**+0.5**
MYKOM	**Kota Tinggi**	**5.59**	**73**	⇓P		**Pn**	**12 34 03.6**	**+0.6**
SBUM	**Sibu**	**13.90**	**80**	⇓P		**Pn**	**12 36 03.6**	**+7.3**
BTM	**Bintulu**	**14.88**	**78**	⇑P		**Pn**	**12 36 14.3**	**+5.2**
CMAR	**Chiang Mai Arr**	**18.20**	**1**	P		**Pn**	**12 36 49.2**	**-1.4**
0.3nm,0.3s,baz=190,slow=11,SNR=14								
CMAR				LR		LR	12 44 19.9	
comp=Z,72nm,18.1s,baz=185,slow=39								
CHTO	**Chiang Mai**	**18.56**	**1**	*e*P		**Pn**	**12 36 54.4**	**-0.5**
2.5nm,0.6s								
KKM	**Kota Kinabalu**	**18.62**	**71**	*e*P		**Pn**	**12 36 56.0**	**+0.3**
SHL	**Shillong**	**26.07**	**346**	*e*P		**P**	**12 38 12.0**	**+2.2**
FITZ	**Fitzroy Crossi**	**32.26**	**126**	*e*P		**P**	**12 39 03.5**	**-1.4**
1.9nm,0.4s,mb4.2								
FITZ	**Fitzroy Crossi**	**32.26**	**126**	P		**P**	**12 39 03.5**	**-1.4**
1.8nm,0.8s,mb3.9,baz=282,slow=17,SNR=3.4								
XAN	**Xi'an**	**35.11**	**15**	P		**P**	**12 39 28.6**	**-0.8**
XAN				AMB		AMB		
comp=Z,29nm,0.8s,mb5.2								
XAN				AMB		AMB		
comp=Z,14nm,5.2s								
GTA	**Gaotai**	**39.10**	**2**	P		**P**	**12 40 03.8**	**+0.6**
GTA				AMB		AMB		
comp=Z,5.0nm,0.9s,mb4.3								
WRA	**Warramunga Arr**	**40.37**	**122**	P		**P**	**12 40 12.7**	**-1.4**
comp=Z,1.7nm,0.5s,mb4.1,baz=299,slow=9.1,SNR=9.0								
WRA				PcP		PcP	12 42 17.7	+1.4
comp=Z,0.9nm,0.5s,baz=316,slow=2.7,SNR=6.3								
FORT	**Forrest**	**41.63**	**140**	*e*P		**P**	**12 40 26.6**	**+2.3**
comp=Z,14nm,0.6s,mb4.9								
ASAR	**Alice Springs**	**41.72**	**127**	P		**P**	**12 40 24.6**	**-0.5**
comp=Z,2.2nm,0.7s,mb4.0,baz=302,slow=7.2,SNR=15								
ASAR				PcP		PcP	12 42 22.3	+1.6
comp=Z,1.0nm,0.7s,baz=310,slow=2.5,SNR=6.0								
BJT	**Baijiatuau**	**42.83**	**20**	*e*P		**P**	**12 40 34.7**	**+0.8**
comp=Z,27nm,1.0s,mb4.9								
BJI	**Beijing**	**42.85**	**20**	P		**P**	**12 40 35.0**	**+0.9**
BJI				AMB		AMB		
comp=Z,26nm,0.8s,mb5.0								
KSRS	**Korea Array**	**46.00**	**33**	P		**P**	**12 40 58.7**	**-0.5**
comp=Z,7.9nm,0.7s,mb4.6,baz=222,slow=8.5,SNR=50								
SONM	**Songino Array**	**47.99**	**7**	P		**P**	**12 41 15.7**	**+1.1**
comp=Z,4.2nm,0.6s,mb4.4,baz=189,slow=9.1,SNR=16								
MK31	**Makanchi Array**	**48.58**	**345**	*e*P		**P**	**12 41 19.7**	**+0.5**
MKAR	**Makanchi Array**	**48.58**	**345**	P		**P**	**12 41 19.6**	**+0.4**
comp=Z,7.7nm,0.5s,mb4.8,baz=151,slow=7.9,SNR=11								
MJAR	**Matsushiro Arr**	**51.61**	**41**	P		**P**	**12 41 41.1**	**-1.1**
comp=Z,3.0nm,0.9s,mb4.3,baz=214,slow=6.1,SNR=9.0								
STKA	**Stephens Creek**	**51.68**	**132**	*e*P		**P**	**12 41 43.6**	**+0.7**
comp=Z,2.4nm,0.8s,mb4.3								
STKA	**Stephens Creek**	**51.68**	**132**	P		**P**	**12 41 43.7**	**+0.8**
comp=Z,3.9nm,0.8s,mb4.5,baz=331,slow=8.9,SNR=8.3								
KURK	**Kurchatov**	**53.15**	**344**	*e*P		**P**	**12 41 53.7**	**+0.3**
comp=Z,6.6nm,0.9s,mb4.7								
ZAA0	**Zalesovo Array**	**54.81**	**350**	*e*P		**P**	**12 42 05.5**	**+0.1**
ZALV	**Zalesovo Beam**	**54.81**	**350**	P		**P**	**12 42 05.5**	**+0.1**
comp=Z,4.3nm,0.4s,mb4.8,baz=180,slow=5.1,SNR=22								
BRVK	**Borovoye**	**57.74**	**340**	*e*P		**P**	**12 42 25.9**	**-0.4**
comp=Z,2.3nm,0.6s,mb4.4								
PETK	**Petropavlovsk-**	**71.90**	**33**	P		**P**	**12 43 57.9**	**-0.5**
comp=Z,0.9nm,0.6s,mb3.8,baz=168,slow=7.4,SNR=3.6								
GRF	**Grafenberg Arr**	**88.13**	**320**	*e*PcP		PcP	12 45 36.8	+9.2
SPB4	**Spitsbergen Ar**	**88.25**	**348**	*e*P		**P**	**12 45 23.3**	**-2.6**
TXAR	**Lajitas Array**	**143.84**	**34**	PKP		PKPdf	12 52 10.2	-0.6
comp=Z,1.1nm,0.8s,baz=280,slow=1.6,SNR=4.6								

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*ORF **20** 12:36:26.5,299S×2629W,h30km,mb5.7*
*BGS **20** 12:36:53.8±2.2,108S×1779W,h10km±999km,mb5.6*
*BJI **20** 12:37:03.7,067N×19.18W,h14km,mB5.6,mb5.4,Ms5.5, Msz5.0*
*ISCJB **20** 12:37:04.1±0.6,027S±003×1809W±002,h5km±3km, mb5.6/327,MS5.2/225,Error ellipse: s-maj=5.0km s-min=2.6km az=150.2*
*MOS **20** 12:37:04.9±0.8,024S×1811W,h10km,mb5.8/97, MS5.1/53,Error ellipse: s-maj=10.9km s-min=3.2km az=64.7*
*IDC **20** 12:37:05.3±0.4,0.13S×1828W,h0km,mb5.0/38, mb1 5.1/39,mb1mx5.1/41,mbtmp5.0/39,ML5.8/1,MS5.0/27, Ms1 5.0/27,ms1mx4.9/32,Error ellipse: s-maj=11.6km s-min=10.2km az=175.0*
*NEIC **20** 12:37:06.7±0.1,026S×1818W,h10km,mb5.7/213, MS5.1/169,Error ellipse: s-maj=3.8km s-min=2.3km az=151.0*
*GCMT **20** 12:37:06.7±0.1,002S×1814W,h21km,MW5.8/103, Moment Tensor Solution. s89,c172; s103,c291; Duration: 1♀8 Moment tensor: Scale 1017Nm; Mrr=0.22±.05; Mθθ 1.99±.05; Mφφ=1.76±.06; Mrθ 0.08±.10; Mθφ=4.76±.05; Mφr=0.29±.10; Best double couple: M0=5.12500×1017 NP1:φs=79.00000°,δ87.00000°, λ180.00000°. NP2:φs=169.00000°,δ90.00000°,λ3.00000°. Principal axes: T 5.2410, Plg2.0000°, Azm34.0000°; N -0.2240, Plg87.0000°, Azm170.0000°; P -5.0090, Plg2.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IGIL **20** 12:37:07.7,0.19S×1820W,h10km,MS5.1*
*SZGRF **20** 12:37:08.4,052S×1736W,h22km,mb5.7,MS5.1,North of Ascension Island*
*DJA **20** 12:37:13,0.12S×1726W,h10km,mb5.9/9*
ISC 20 12:37:07.9±0.7,027S±003×1818W±002,h18km±4km, h41km±2.4km:pP-P,n1333,σ0♀72/1251,mb5.6/327, MS5.2/225,344C-111D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**8.51**	**154**	Pn		**Pn**	**12 39 11.3**	**+0.9**
3μm,0.6s,SNR=21								
ASCN	**Ascension**	**8.51**	**154**	*e*Pn		**Pn**	**12 39 10.6**	**+0.1**
238nm,0.4s								
ASCN				*e*Sn		**Sn**	**12 40 45.7**	**-0.4**
LIC	**Lamto**	**14.63**	**64**	⇑*i*Pn		**Pn**	**12 40 30.9**	**-3.3**
baz=263								
LIC				*e*Sn		**Sn**	**12 43 02.1**	**-14**
657nm,0.7s								
LIC				*e*MLR		MLR		
comp=Z,12μm,17.0s								
LIC	**Lamto**	**14.63**	**64**	*e*P		**Pn**	**12 40 32.2**	**-2.0**
comp=Z,2μm,0.9s								
TIC	**Toumodi**	**14.82**	**62**	*e*P		**Pn**	**12 40 34.0**	**-2.8**
comp=Z,498nm,0.2s								
TIC	**Toumodi**	**14.82**	**62**	*e*P		**Pn**	**12 40 34.0**	**-2.8**
TIC				pmax		pmax		
comp=Z,498nm,0.2s								
BBTS	**Babate**	**14.92**	**6**	Pn		**Pn**	**12 40 34.1**	**-4.1**
comp=Z,41nm,0.3s,baz=214,slow=1.6,SNR=37								
BBTS				Sn		**Sn**	**12 43 04.4**	**-19**
comp=Z,41nm,0.3s,baz=272,slow=23,SNR=12								
BBTS				LR		LR	12 44 15.4	
comp=Z,2μm,21.2s,baz=194,slow=29								
KIC	**Kosan Boka**	**14.94**	**64**	*e*P		**Pn**	**12 40 36.3**	**-2.2**
comp=Z,632nm,0.3s								
DBIC	**Dimbokro**	**14.98**	**62**	Pn		**Pn**	**12 40 35.9**	**-3.1**
comp=Z,194nm,0.3s,baz=234,slow=15,SNR=448								
DBIC				Sn		**Sn**	**12 43 09.8**	**-15**
comp=Z,18nm,0.3s,baz=130,slow=18,SNR=3.5								
DBIC	**Dimbokro**	**14.98**	**62**	*e*P		**Pn**	**12 40 36.0**	**-2.9**
DBIC				pmax		pmax		
comp=Z,533nm,0.4s								
DBIC	**Dimbokro**	**14.98**	**62**	*e*Pn		**Pn**	**12 40 36.0**	**-2.9**
comp=Z,533nm,0.4s								
SHEL	**Horse Pasture**	**19.84**	**142**	*e*P		**Pn**	**12 41 39.9**	**+0.2**
SHEL				pmax		pmax		
comp=Z,159nm,0.8s								
SHEL	**Horse Pasture**	**19.84**	**142**	*e*P		**Pn**	**12 41 39.9**	**+0.3**
comp=Z,159nm,0.8s								
TOA0	**Torodi Ar. Sit**	**23.79**	**55**	*e*P		**P**	**12 42 18.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**23.79**	**55**	P		**P**	**12 42 18.2**	**-1.8**
comp=Z,654nm,1.2s,mb6.0,baz=241,slow=8.7,SNR=701								
TORD				LR		LR	12 50 05.8	
comp=Z,8μm,20.3s,MS5.2,baz=225,slow=33								
TORD	**Torodi Ar. Bea**	**23.79**	**55**	P		**P**	**12 42 18.2**	**-1.8**
TORD				LR		LR	12 50 05.8	
CHIE	**El Hierro**	**27.84**	**0**	P		**P**	**12 42 56.7**	**+0.2**
comp=Z,25nm,0.7s,mb5.0								
EOSO	**Osorio**	**28.29**	**5**	P		**P**	**12 43 02.8**	**+2.2**
comp=Z,27nm,0.5s,mb5.1								
CCAN	**Las Canadas**	**28.37**	**3**	P		**P**	**12 43 03.1**	**+1.9**
comp=Z,40nm,0.9s,mb5.0								
CFTV	**Fuerteventura**	**28.79**	**8**	P		**P**	**12 43 07.6**	**+2.6**
comp=Z,9.5nm,0.7s,mb4.6								
CAM3	**Guarapari**	**29.84**	**226**	*i*		**P**	**12 43 14.0**	**-0.4**
CAM3				*i*			12 43 21.4	
CAM3				*i*			12 43 25.6	
CAM3				*i*			12 43 35.5	
TAM	**Tamanrasset**	**32.52**	**44**	*e*P		**P**	**12 43 38.7**	**+0.6**
BDFB	**Brasilia**	**33.18**	**241**	P		**P**	**12 43 43.6**	**-0.3**
comp=Z,23nm,1.0s,mb5.1,baz=48,slow=14,SNR=29								
BDFB				LR		LR	12 55 37.9	
comp=Z,3μm,18.3s,MS5.0,baz=252,slow=34								
MDT	**Midelt**	**35.31**	**20**	LR		LR	12 57 37.3	
comp=Z,5μm,19.2s,MS5.2,baz=215,slow=35								
RTC	**Rabat Centre**	**35.70**	**16**	PFAKE			12 44 20.0	+15
RTC				LR		LR		
comp=Z,4μm,19.0s,MS5.2								
SPB	**Sao Paulo**	**36.65**	**229**	*e*P		**P**	**12 44 14.1**	**+0.3**
TRIS	**Tristan da Cun**	**37.02**	**172**	PFAKE			12 44 30.0	+13
TRIS				LR		LR		
comp=Z,4μm,22.0s,MS5.1								
SFS	**San Fernando**	**38.20**	**16**	PFAKE			12 44 40.0	+13
SFS				LR		LR		
comp=Z,6μm,19.0s,MS5.4								
PFVI	**Vila Bisbo**	**38.21**	**12**	*e*P		**P**	**12 44 27.1**	**+0.3**
comp=Z,140nm,1.2s,mb5.6								
PFVI	**Vila Bisbo**	**38.21**	**12**	*e*LR		LR	12 55 45.6	
comp=Z,3μm,18.0s								
EJIF	**Jimena Fronter**	**38.40**	**17**	P		**P**	**12 44 28.9**	**+0.5**
EJIF				pmax		pmax		
comp=Z,186nm,1.2s,mb5.7								
EJIF	**Jimena Fronter**	**38.40**	**17**	P		**P**	**12 44 28.9**	**+0.5**
comp=Z,186nm,1.2s,mb5.7								
MORF	**Marmelete**	**38.41**	**12**	*e*P		**P**	**12 44 28.9**	**+0.4**
comp=Z,176nm,1.6s,mb5.5								
MORF				*e*S		**S**	**12 50 26.2**	**+3.4**
MORF				*e*LR		LR	12 55 54.1	
comp=Z,2μm,18.0s								
CMLA	**Cha da Macela**	**38.45**	**351**	*e*P		**P**	**12 44 31.1**	**+2.3**
comp=Z,32nm,2.2s,mb4.7								
CMLA				*e*S		**S**	**12 50 10.3**	**-13**
CMLA				*e*LQ			12 52 54.2	
CMLA				*e*LR		LR	12 55 00.2	
CMLA	**Cha da Macela**	**38.45**	**351**	PFAKE			12 44 40.0	+11
CMLA				LR		LR		
comp=Z,2μm,21.0s,MS4.8								
PDA	**Ponta Delgada**	**38.45**	**350**	*i* LQ			12 53 13.0	
PDA				*e*LR		LR	12 55 40.0	
PBDV	**Barranco-do-Ve**	**38.51**	**13**	*e*P		**P**	**12 44 29.8**	**+0.5**
comp=Z,320nm,1.7s,mb5.8								
PBDV	**Barranco-do-Ve**	**38.51**	**13**	*e*PP		PP	12 45 56.5	-1.2
PBDV				*e*S		**S**	**12 50 23.8**	**-0.5**
PBDV				*e*SS		SS	12 53 17.8	+3.7
PTEO	**Sao Teotonio**	**38.63**	**12**	*e*P		**P**	**12 44 31.6**	**+1.3**
comp=Z,360nm,1.4s,mb5.9								
ESPR	**Espera**	**38.68**	**16**	P		**P**	**12 44 30.0**	**-0.7**
comp=Z,479nm,1.5s,mb6.0								
EALB	**Alboran**	**38.69**	**20**	P		**P**	**12 44 29.7**	**-1.1**
comp=Z,359nm,1.0s,mb6.1								
EMIJ	**Mijas**	**38.70**	**17**	P		**P**	**12 44 29.3**	**-1.7**
comp=Z,462nm,1.6s,mb6.0								
PVAQ	**Vaqueiros**	**38.72**	**13**	*e*P		**P**	**12 44 31.7**	**+0.7**
comp=Z,305nm,1.7s,mb5.8								
PVAQ				*e*S		**S**	**12 50 29.9**	**+2.6**
PVAQ				*e*SS		SS	12 53 20.5	+2.2
PVAQ				*e*LQ			12 53 39.2	
PVAQ				*e*LR		LR	12 55 57.5	
comp=Z,2μm,18.0s								
ODZI	**Dziouia**	**38.75**	**22**	P		**P**	**12 44 33.0**	**+1.6**
EGRO	**El Granado**	**38.89**	**14**	P		**P**	**12 44 31.4**	**-1.1**
comp=Z,456nm,1.8s,mb5.9								
ODJA	**Bouhanifia**	**39.21**	**24**	P		**P**	**12 44 40.0**	**+4.8**
PBEJ	**Beja**	**39.28**	**13**	*e*P		**P**	**12 44 37.2**	**+1.5**
comp=Z,193nm,1.8s,mb5.5								
EMIN	**Mina Concepcio**	**39.31**	**14**	P		**P**	**12 44 35.2**	**-0.8**
comp=Z,433nm,2.2s,mb5.8								
EGUA	**Guajares**	**39.33**	**19**	P		**P**	**12 44 35.0**	**-1.2**
EGUA				pmax		pmax		
comp=Z,48nm,0.8s,mb5.3								
EGUA	**Guajares**	**39.33**	**19**	P		**P**	**12 44 35.0**	**-1.2**
comp=Z,48nm,0.8s,mb5.3								
USTO	**Oran**	**39.41**	**23**	P		**P**	**12 44 38.5**	**+1.6**
ERON	**Agron**	**39.42**	**18**	P		**P**	**12 44 36.7**	**-0.2**
comp=Z,31nm,0.6s,mb5.2								
ELOJ	**Sierra Loja**	**39.43**	**18**	P		**P**	**12 44 37.2**	**+0.2**
ELOJ				pmax		pmax		
comp=Z,46nm,0.9s,mb5.2								
ELOJ	**Sierra Loja**	**39.43**	**18**	P		**P**	**12 44 37.2**	**+0.2**
comp=Z,46nm,0.9s,mb5.2								
EBER	**Berja**	**39.60**	**19**	P		**P**	**12 44 37.9**	**-0.6**
comp=Z,352nm,1.9s,mb5.8								
PBAR	**Barrancos**	**39.61**	**14**	*e*P		**P**	**12 44 38.9**	**+0.4**
comp=Z,136nm,1.4s,mb5.5								
PBAR	**Barrancos**	**39.61**	**14**	*e*PP		PP	12 46 08.4	-1.3
PBAR				*e*S		**S**	**12 50 42.1**	**+1.3**
PBAR				*e*SS		SS	12 53 39.2	+3.0
PBAR				*e*LR		LR	12 56 24.1	
comp=Z,3μm,18.0s								
OJBR	**Djebel Berber**	**39.63**	**24**	P		**P**	**12 44 46.0**	**+7.3**
LIS	**Lisbon**	**39.67**	**11**	*e*P		**P**	**12 44 40.8**	**+1.7**
LIS				*e*S		**S**	**12 50 43.7**	**+1.9**
LIS				*e*S		**S**	**12 50 44.1**	**+2.3**
LIS				AMS		AMS	13 00 43.5	
comp=Z,4μm,19.1s,MS5.3								
LIS	**Lisbon**	**39.67**	**11**	*e*P		**P**	**12 44 40.8**	**+1.8**
LIS				*e*S		**S**	**12 50 43.7**	**+2.0**
LIS				A			13 00 43.5	
comp=Z,4μm,19.1s								
EVO	**Evora**	**39.73**	**13**	⇑*i*P		**P**	**12 44 39.9**	**+0.4**
comp=Z,503nm,1.4s,mb5.7								
EVO				*e*pP		pP	12 44 54.4	+9.4
EVO				*e*MLR		MLR		
comp=Z,3μm,21.0s,MS4.9								
EVO	**Evora**	**39.73**	**13**	*e*P		**P**	**12 44 40.5**	**+1.0**
comp=Z,219nm,1.7s,mb5.6								
EVO	**Evora**	**39.73**	**13**	*e*PP		PP	12 46 12.2	+1.2
OJGS	**Djebel Guires**	**39.73**	**24**	P		**P**	**12 44 42.0**	**+2.4**
ECOG	**Cogollos-Vega**	**39.73**	**18**	P		**P**	**12 44 39.2**	**-0.3**
ECOG				pmax		pmax		
comp=Z,114nm,1.0s,mb5.6								
ECOG	**Cogollos-Vega**	**39.73**	**18**	P		**P**	**12 44 39.2**	**-0.3**
comp=Z,114nm,1.0s,mb5.6								
ELUQ	**Luque**	**39.78**	**17**	P		**P**	**12 44 40.0**	**+0.1**
ELUQ				pmax		pmax		
comp=Z,58nm,0.8s,mb5.4								
ELUQ	**Luque**	**39.78**	**17**	P		**P**	**12 44 40.0**	**+0.1**
comp=Z,58nm,0.8s,mb5.4								
TSUM	**Tsumeb**	**39.79**	**120**	P		**P**	**12 44 41.9**	**+1.6**
comp=Z,27nm,1.0s,mb4.9,baz=288,slow=9.0,SNR=48								
TSUM	**Tsumeb**	**39.79**	**120**	*e*P		**P**	**12 44 42.0**	**+1.6**
TSUM				LR		LR		
comp=Z,2μm,22.0s,MS4.9								
ETRT	**Tiaret**	**39.86**	**25**	P		**P**	**12 44 42.0**	**+1.3**
PMAFR	**Mafra**	**39.88**	**11**	*e*P		**P**	**12 44 41.9**	**+1.1**
comp=Z,249nm,1.5s,mb5.7								
PMAFR				*e*S		**S**	**12 50 45.1**	**+0.3**
PMAFR				*e*SS		SS	12 53 32.5	-9.1
PMAFR				*e*LR		LR	12 56 22.0	
comp=Z,3μm,18.0s								
ECAB	**El Cabril**	**39.93**	**16**	P		**P**	**12 44 40.4**	**-0.8**
comp=Z,631nm,1.5s,mb6.1								
PESTR	**Estremoz**	**40.14**	**13**	*e*P		**P**	**12 44 43.5**	**+0.6**
comp=Z,106nm,1.4s,mb5.4								
PESTR				*e*S		**S**	**12 50 47.2**	**-1.5**
PESTR				*e*SS		SS	12 53 50.1	+3.2
PESTR				*e*LR		LR	12 56 56.3	
comp=Z,2μm,18.0s								
OKGL	**Djebel Kef Gue**	**40.15**	**24**	P		**P**	**12 44 45.0**	**+2.0**
EBAD	**Badajoz**	**40.17**	**14**	P		**P**	**12 44 42.5**	**-0.7**
comp=Z,346nm,1.9s,mb5.8								
EADA	**Adamuz**	**40.25**	**17**	P		**P**	**12 44 43.0**	**-0.8**
comp=Z,383nm,1.7s,mb5.8								
EANR	**`Ain N'Sour**	**40.26**	**24**	P		**P**	**12 44 45.0**	**+1.1**
EQES	**Quesada**	**40.37**	**19**	P		**P**	**12 44 43.8**	**-1.1**
comp=Z,525nm,2.2s,mb5.9								
EBAN	**Banos Encina**	**40.48**	**18**	P		**P**	**12 44 45.2**	**-0.5**
EBAN				pmax		pmax		
comp=Z,142nm,1.0s,mb5.7								
EBAN	**Banos Encina**	**40.48**	**18**	P		**P**	**12 44 45.2**	**-0.6**
comp=Z,142nm,1.0s,mb5.7								
EHUE	**Huescar**	**40.53**	**19**	P		**P**	**12 44 45.3**	**-0.9**
EHUE				pmax		pmax		
comp=Z,12nm,0.7s,mb4.6								
EHUE	**Huescar**	**40.53**	**19**	P		**P**	**12 44 45.3**	**-0.9**
comp=Z,12nm,0.7s,mb4.6								
ECHA	**Ech Chlef**	**40.54**	**25**	P		**P**	**12 44 48.0**	**+1.7**
PMRV	**Marv??o**	**40.72**	**13**	*e*P		**P**	**12 44 48.7**	**+1.0**
comp=Z,207nm,1.5s,mb5.5								
PMRV				*e*S		**S**	**12 50 59.8**	**+2.4**
PMRV				*e*SS		SS	12 54 04.9	+6.4
PMRV				*e*LR		LR	12 57 17.7	
comp=Z,2μm,20.0s								
EBNR	**Beni Rached**	**40.73**	**25**	P		**P**	**12 44 49.0**	**+1.2**
CART	**Cartagena**	**40.88**	**21**	*e*P		**P**	**12 44 48.4**	**-0.6**
comp=Z,386nm,1.3s,mb5.9								
EMUR	**La Murta**	**41.02**	**21**	P		**P**	**12 44 49.3**	**-0.9**
comp=Z,589nm,1.7s,mb5.9								
PCBR	**Castelo Branco**	**41.10**	**13**	*e*P		**P**	**12 44 51.6**	**+0.8**
comp=Z,58nm,2.0s,mb4.9								
PCBR	**Castelo Branco**	**41.10**	**13**	*e*PP		PP	12 46 25.6	-0.3
EMHD	**Djebel Mahouad**	**41.26**	**26**	P		**P**	**12 44 53.0**	**+0.8**
EVIA	**Vianos**	**41.31**	**19**	P		**P**	**12 44 51.9**	**-0.7**
EVIA				pmax		pmax		
comp=Z,17nm,0.8s,mb4.7								
EVIA	**Vianos**	**41.31**	**19**	P		**P**	**12 44 51.9**	**-0.7**
comp=Z,17nm,0.8s,mb4.7								
ADJB	**Djebel Djouab**	**41.44**	**27**	P		**P**	**12 44 55.3**	**+1.6**
PAB	**San Pablo**	**41.60**	**16**	*e*P		**P**	**12 44 54.9**	**0.0**
PAB				pmax		pmax		
comp=Z,120nm,1.0s,mb5.5								
PAB				MLR		MLR		
comp=Z,2μm,20.0s,MS5.0								
PAB	**San Pablo**	**41.60**	**16**	*e*P		**P**	**12 44 54.9**	**0.0**
comp=Z,120nm,1.0s,mb5.5								
PAB				LR		LR		
comp=Z,2μm,20.0s,MS5.0								
MTE	**Manteigas**	**41.62**	**12**	*e*P		**P**	**12 44 55.5**	**+0.4**
comp=Z,208nm,1.1s,mb5.7								
MTE				*i* P			12 45 14.9	
MTE				*e*S		**S**	**12 51 11.2**	**+0.5**
MTE				*e*SS		SS	12 54 12.2	-4.1
MTE				*e*LR		LR	12 57 04.0	
comp=Z,3μm,18.0s								
MTE	**Manteigas**	**41.62**	**12**	*e*P		**P**	**12 44 55.8**	**+0.7**
comp=Z,110nm,0.9s,mb5.5								
MTE				LR		LR		
comp=Z,3μm,20.0s,MS5.2								
ETOB	**Tobarra**	**41.63**	**20**	P		**P**	**12 44 55.4**	**+0.1**
comp=Z,410nm,1.5s,mb5.8								
ABA	**Alger-Bouzarea**	**41.80**	**26**	P		**P**	**12 44 57.3**	**+0.7**
ESDC	**Sonseca Array**	**41.83**	**17**	P		**P**	**12 44 57.3**	**+0.5**
comp=Z,28nm,1.0s,mb4.8,baz=204,slow=7.8,SNR=77								
ESDC				PP		PP	12 46 38.4	+4.6
comp=Z,30nm,1.0s,baz=200,slow=9.7,SNR=7.2								
ESDC				LR		LR	13 02 13.3	
comp=Z,2μm,18.3s,MS5.1,baz=170,slow=36								
ESDC	**Sonseca Array**	**41.83**	**17**	P		**P**	**12 44 55.8**	**-1.0**
comp=Z,87nm,1.0s,mb5.3								
PVIS	**Viseu**	**41.85**	**12**	*e*P		**P**	**12 44 57.5**	**+0.5**
comp=Z,130nm,1.7s,mb5.3								
EBEN	**Beniarda**	**42.15**	**21**	P		**P**	**12 44 58.3**	**-1.2**
comp=Z,175nm,1.4s,mb5.5								
AKF	**Akfadou**	**42.35**	**27**	P		**P**	**12 45 02.6**	**+1.5**
SET	**Setif**	**42.39**	**29**	P		**P**	**12 45 03.0**	**+1.5**
MVO	**Moncorvo**	**42.47**	**12**	*e*P		**P**	**12 45 02.5**	**+0.5**
comp=Z,235nm,1.8s,mb5.5								
MVO				*i* P			12

comp=Z,210nm,1.5s,mb5.8
ETSF Etsaut 45.80 18⇑iP P 12 45 29.3 +0.6
comp=Z,210nm,1.5s,mb5.8
EALK Alkurruntz 45.80 17 P P 12 45 29.9 +1.2
comp=Z,142nm,1.5s,mb5.7
EBIE Bielsa 45.83 19 P P 12 45 28.7 -0.2
comp=Z,123nm,1.4s,mb5.6
OSSF Osses 45.91 17 eP P 12 45 29.8 +0.2
ATE Arette 45.92 18 eP P 12 45 30.5 +0.8
VIEF Viey 45.97 19⇑eP P 12 45 30.5 +0.5
RESF Ens 46.00 19 eP P 12 45 30.8 +0.5
REYF Montagne du Re 46.01 18⇑eP P 12 45 31.2 +0.9
LABF Labassere 46.13 19 eP P 12 45 32.0 +0.7
MELF Melles 46.20 19⇑eP P 12 45 32.7 +0.9
EPF Esparros 46.20 19⇑iP P 12 45 32.6 +0.7
comp=Z,568nm,1.7s,mb5.9
EPF Esparros 46.20 19⇑iP P 12 45 32.6 +0.7
EPF pmax pmax
comp=Z,284nm,1.7s,mb5.9
EPF Esparros 46.20 19⇑iP P 12 45 32.6 +0.7
comp=Z,284nm,1.7s,mb5.9
VALF Valcebollere 46.21 21⇑eP P 12 45 32.5 +0.5
SALF Salau 46.24 20 eP P 12 45 32.9 +0.7
PTS Pantelleria 46.29 34 P P 12 45 33.9 +1.2
PTS pmax pmax
comp=Z,901nm,1.8s,mb6.4
PTS Pantelleria 46.29 34 P P 12 45 33.9 +1.2
comp=Z,901nm,1.8s,mb6.4
MLS Moulis 46.38 20 eP P 12 45 33.9 +0.6
MLS Moulis 46.38 20⇑eP P 12 45 34.1 +0.8
CARF Carcanieres 46.52 21 eP P 12 45 34.9 +0.5
FILF Fillols 46.54 21 eP P 12 45 34.6 0.0
EJON La Jonquera 46.57 21 P P 12 45 34.5 -0.2
comp=Z,239nm,1.7s,mb5.8
SJAF Saint Jean de 46.59 21⇑eP P 12 45 35.1 +0.1
LRDF Laroque-de-Fa 46.87 21⇑eP P 12 45 37.3 +0.2
MTLF Montolieu 47.11 20⇑iP P 12 45 38.6 -0.4
comp=Z,135nm,1.4s,mb5.4
MTLF epP pP 12 45 51.5 +7.0
MTLF Montolieu 47.11 20⇑iP P 12 45 38.6 -0.4
MTLF pmax pmax
comp=Z,68nm,1.4s,mb5.4
MTLF Montolieu 47.11 20⇑iP P 12 45 38.6 -0.4
comp=Z,68nm,1.4s,mb5.4
MTLF epP pP 12 45 51.5 +7.0
HMDC Modica 47.99 36 P P 12 45 46.5 +0.6
LFF La Frestale 48.04 18⇑iP P 12 45 46.7 +0.5
comp=Z,664nm,1.5s,mb6.1
LFF epP pP 12 45 59.6 +7.8
LFF La Frestale 48.04 18⇑iP P 12 45 46.7 +0.5
LFF pmax pmax
comp=Z,332nm,1.5s,mb6.2
LFF La Frestale 48.04 18⇑iP P 12 45 46.7 +0.5
comp=Z,332nm,1.5s,mb6.2
LFF epP pP 12 45 59.6 +7.8
VAE Valguarnera 48.13 35 LR LR 13 06 42.8
comp=Z,3μm,18.4s,MS5.4,baz=288,slow=37
LSZ Lusaka 48.15 110 ⇓P P 12 45 49.2 +1.7
SNR=13
LSZ Lusaka 48.15 110 P P 12 45 49.2 +1.6
comp=Z,67nm,0.8s,mb5.7,baz=289,slow=5.9,SNR=136
LSZ Lusaka 48.15 110 P P 12 45 49.2 +1.7
LSZ pmax pmax
comp=Z,67nm,0.8s,mb5.7
LSZ Lusaka 48.15 110 eP P 12 45 49.1 +1.5
comp=Z,66nm,0.8s,mb5.7
LSZ LR LR
comp=Z,2μm,22.0s,MS5.1
CSLB Castelbuono 48.25 34 P P 12 45 49.1 +1.2
comp=Z,179nm,1.2s,mb6.0
USI Ustica 48.30 33 P P 12 45 49.2 +0.9
LASF Ste Croix 48.33 21⇑iP P 12 45 48.6 +0.2
comp=Z,409nm,1.6s,mb5.9
BERF Bertagne 48.37 23 eP P 12 45 49.7 +0.9
CAF Calviac 48.45 19⇑iP P 12 45 49.4 0.0
comp=Z,216nm,1.4s,mb5.7
CAF Calviac 48.45 19⇑iP P 12 45 49.4 0.0
CAF pmax pmax
comp=Z,108nm,1.4s,mb5.7
CAF Calviac 48.45 19⇑iP P 12 45 49.4 0.0
comp=Z,108nm,1.4s,mb5.7
TREF Trevaresse 48.52 23 eP P 12 45 51.0 +1.1
PUYF Puyloubier 48.56 23 eP P 12 45 51.0 +0.8
RJF Les Rejaudoux 48.61 18⇑iP P 12 45 50.7 +0.1
comp=Z,419nm,1.6s,mb5.9
RJF eMLR MLR
comp=Z,3μm,17.2s,MS5.1
RJF Les Rejaudoux 48.61 18⇑iP P 12 45 50.7 +0.1
RJF pmax pmax
comp=Z,210nm,1.6s,mb5.9
RJF MLR MLR
comp=Z,3μm,17.3s,MS5.4
RJF Les Rejaudoux 48.61 18⇑iP P 12 45 50.7 +0.1
comp=Z,210nm,1.6s,mb5.9
RJF LR LR
comp=Z,3μm,17.3s,MS5.4
SUR Sutherland 48.69 135 P P 12 45 53.1 +1.6
comp=Z,19nm,0.6s,mb5.3,baz=287,slow=8.4,SNR=33
SUR Sutherland 48.69 135 eP P 12 45 52.7 +1.3
comp=Z,23nm,0.6s,mb5.4
SUR LR LR
comp=Z,2μm,21.0s,MS5.0
LMR La Mourre 48.72 24⇑iP P 12 45 51.6 +0.1
comp=Z,250nm,1.3s,mb5.8
LMR epP pP 12 46 04.5 +7.5
LMR La Mourre 48.72 24⇑iP P 12 45 51.6 +0.1
LMR pmax pmax
comp=Z,125nm,1.3s,mb5.8
LMR La Mourre 48.72 24⇑iP P 12 45 51.6 +0.1
comp=Z,125nm,1.3s,mb5.8
LMR epP pP 12 46 04.5 +7.5
TAVF Tavernes 48.77 23 eP P 12 45 52.7 +0.8
SMRF Simiane la Rot 48.89 23⇑iP P 12 45 53.5 +0.8
comp=Z,113nm,1.5s,mb5.4
SMRF Simiane la Rot 48.89 23⇑iP P 12 45 53.5 +0.8
comp=Z,113nm,1.5s,mb5.7
LBTB Lobatse 48.92 124 P P 12 45 54.3 +0.9
comp=Z,25nm,0.7s,mb5.3,baz=300,slow=8.1,SNR=40
LBTB Lobatse 48.92 124 P P 12 45 54.3 +0.9
LBTB pmax pmax
comp=Z,25nm,0.7s,mb5.3
LBTB Lobatse 48.92 124 eP P 12 45 53.9 +0.5
comp=Z,25nm,0.7s,mb5.3
LBTB LR LR
comp=Z,1μm,20.0s,MS4.9
FRF La Foret Royal 48.96 24⇑iP P 12 45 53.3 0.0
comp=Z,160nm,1.5s,mb5.5
FRF La Foret Royal 48.96 24⇑iP P 12 45 53.3 0.0
FRF pmax pmax
comp=Z,80nm,1.5s,mb5.5
FRF La Foret Royal 48.96 24⇑iP P 12 45 53.3 0.0
comp=Z,80nm,1.5s,mb5.5
CORF Corte 49.01 27 eP P 12 45 53.0 -0.7
FRNF Fournols 49.03 19 eP P 12 45 54.3 +0.5
STOF St-Etienne Org 49.03 23 eP P 12 45 54.9 +1.0
LBL Lubilhac 49.12 20 eP P 12 45 54.9 +0.4
PGF Pioggiola 49.14 27⇑iP P 12 45 54.8 +0.1
comp=Z,196nm,1.4s,mb5.7
PGF Pioggiola 49.14 27⇑iP P 12 45 54.8 +0.1
PGF pmax pmax
comp=Z,98nm,1.4s,mb5.7
PGF Pioggiola 49.14 27⇑iP P 12 45 54.8 +0.1
comp=Z,98nm,1.4s,mb5.6
CALN Calern 49.22 24 eP P 12 45 55.8 +0.5
MFF Saint Martin d 49.29 16⇑iP P 12 45 55.8 0.0
comp=Z,286nm,1.5s,mb5.8
MFF epP pP 12 46 08.7 +7.4
MFF Saint Martin d 49.29 16⇑iP P 12 45 55.8 0.0
MFF pmax pmax
comp=Z,143nm,1.5s,mb5.8
MFF Saint Martin d 49.29 16⇑iP P 12 45 55.8 0.0
comp=Z,143nm,1.5s,mb5.8
MFF epP pP 12 46 08.7 +7.4
OCF Saint Nazaire 49.29 22 eP P 12 45 56.9 +1.1
OG26 St.-Nazaire-De 49.29 22 eP P 12 45 56.9 +1.1
VIVF Saint-Julien-l 49.30 21⇑iP P 12 45 56.1 +0.2
comp=Z,173nm,1.4s,mb5.6
VIVF epP pP 12 46 09.1 +7.7
VIVF Saint-Julien-l 49.30 21⇑iP P 12 45 56.1 +0.2
VIVF pmax pmax
comp=Z,86nm,1.4s,mb5.6
VIVF Saint-Julien-l 49.30 21⇑iP P 12 45 56.1 +0.2
comp=Z,86nm,1.4s,mb5.6
VIVF epP pP 12 46 09.1 +7.7
VERF Verneugheol 49.32 19 eP P 12 45 56.6 +0.6

REVF Revere 49.40 24 eP P 12 45 57.1 +0.4
MVIF Mont Vial 49.45 24 eP P 12 45 57.9 +0.9
SOI Samo 49.49 36 P P 12 45 58.3 +0.9
PYM Petit Puy Mans 49.49 19 eP P 12 45 58.5 +1.1
CEL Celeste 49.52 35 eP P 12 45 58.5 +0.9
comp=Z,112nm,1.0s,mb5.8
CEL LR LR
comp=Z,4μm,20.0s,MS5.4
LUCF Luceram 49.52 24 eP P 12 45 58.3 +0.7
COLF Collangettes 49.52 20 eP P 12 45 57.7 +0.1
SBF Sospel 49.53 24⇑iP P 12 45 57.9 +0.2
comp=Z,342nm,1.3s,mb5.9
SBF Sospel 49.53 24⇑iP P 12 45 57.9 +0.2
SBF pmax pmax
comp=Z,171nm,1.3s,mb5.9
SBF Sospel 49.53 24⇑iP P 12 45 57.9 +0.2
comp=Z,171nm,1.3s,mb5.9
TOUF Mont Tournerai 49.58 24 eP P 12 45 59.0 +0.9
SSB Saint Sauveur 49.61 21 eP P 12 45 58.7 +0.4
SSB Saint Sauveur 49.61 21 eP P 12 45 58.6 +0.3
NEGI Seborga 49.63 24 P P 12 45 58.8 +0.3
AUTN L'Aution 49.64 24 eP P 12 45 59.5 +1.0
SAOF Saorge 49.68 24 eP P 12 45 59.5 +0.7
TCF Toulx Ste Croi 49.71 18⇑iP P 12 45 59.5 +0.5
comp=Z,391nm,1.9s,mb5.8
TCF epP pP 12 46 13.1 +8.5
TCF Toulx Ste Croi 49.71 18⇑iP P 12 45 59.5 +0.5
TCF pmax pmax
comp=Z,195nm,1.9s,mb5.8
TCF Toulx Ste Croi 49.71 18⇑iP P 12 45 59.5 +0.5
comp=Z,195nm,1.9s,mb5.8
TCF epP pP 12 46 13.1 +8.5
QUIF Quistinic 49.74 13⇑iP P 12 45 59.0 -0.2
comp=Z,291nm,1.8s,mb5.7
QUIF Quistinic 49.74 13⇑iP P 12 45 59.0 -0.2
QUIF pmax pmax
comp=Z,145nm,1.8s,mb5.7
QUIF Quistinic 49.74 13⇑iP P 12 45 59.0 -0.2
comp=Z,145nm,1.8s,mb5.7
ORIF Oris-en-Rattie 49.80 22⇑iP P 12 46 00.7 +1.0
comp=Z,292nm,1.7s,mb5.7
ORIF eMLR MLR
comp=Z,3μm,17.2s,MS5.0
ORIF Oris-en-Rattie 49.80 22⇑iP P 12 46 00.7 +1.0
ORIF pmax pmax
comp=Z,146nm,1.7s,mb5.7
ORIF Oris-en-Rattie 49.80 22⇑iP P 12 46 00.7 +1.0
comp=Z,146nm,1.7s,mb5.7
AGO Saint Agoulin 49.80 19 eP P 12 46 00.4 +0.7
STV Sant Anna di V 49.80 24 P P 12 46 00.9 +1.2
PLDF La Plantade 49.89 20 eP P 12 46 00.9 +0.5
MBDF Montbardon 49.98 23⇑iP P 12 46 02.2 +1.1
comp=Z,216nm,1.2s,mb5.8
MBDF Montbardon 49.98 23⇑iP P 12 46 02.2 +1.1
MBDF pmax pmax
comp=Z,108nm,1.2s,mb5.8
MBDF Montbardon 49.98 23⇑iP P 12 46 02.2 +1.1
comp=Z,108nm,1.2s,mb5.8
RORO Rocca Rossa 50.00 25 P P 12 46 02.2 +1.0
ROB Robourent 50.07 24 P P 12 46 02.5 +0.8
ROSF Rostrenen 50.11 13⇑iP P 12 46 02.0 0.0
comp=Z,199nm,1.5s,mb5.6
ROSF Rostrenen 50.11 13⇑iP P 12 46 02.0 0.0
ROSF pmax pmax
comp=Z,100nm,1.5s,mb5.6
ROSF Rostrenen 50.11 13⇑iP P 12 46 02.0 0.0
comp=Z,100nm,1.5s,mb5.6
FIN Finale Ligure 50.14 25 P P 12 46 03.0 +0.7
RRL Rocca Remolon 50.15 23 P P 12 46 03.6 +1.2
BGF Bois d'Agland 50.15 19⇑iP P 12 46 02.9 +0.5
comp=Z,348nm,1.6s,mb5.8
BGF Bois d'Agland 50.15 19⇑iP P 12 46 02.9 +0.5
BGF pmax pmax
comp=Z,174nm,1.6s,mb5.8
BGF Bois d'Agland 50.15 19⇑iP P 12 46 02.9 +0.5
comp=Z,174nm,1.6s,mb5.8
BOSA Boshof 50.16 128 P P 12 46 03.3 +0.6
comp=Z,11nm,0.7s,mb5.0,baz=293,slow=7.7,SNR=30
BOSA LR LR 13 05 31.6
comp=Z,820nm,18.5s,MS4.8,baz=298,slow=34
BOSA Boshof 50.16 128 eP P 12 46 03.1 +0.4
comp=Z,23nm,0.6s,mb5.4
BOSA LR LR
comp=Z,999nm,19.0s,MS4.8
SGMF Saint Gilles 50.20 14⇑iP P 12 46 02.7 +0.1
comp=Z,559nm,1.8s,mb6.0
SGMF epP pP 12 46 15.8 +7.6
SGMF Saint Gilles 50.20 14⇑iP P 12 46 02.7 +0.1
SGMF pmax pmax
comp=Z,280nm,1.8s,mb6.0
SGMF Saint Gilles 50.20 14⇑iP P 12 46 02.7 +0.1
comp=Z,280nm,1.8s,mb6.0
SGMF epP pP 12 46 15.8 +7.6
BNI Bardonecchia 50.22 23 eP P 12 46 04.3 +1.4
BNI pmax pmax
comp=Z,54nm,0.9s,mb5.6
BNI MLR MLR
comp=Z,1μm,21.0s,MS5.0
BNI Bardonecchia 50.22 23 eP P 12 46 04.3 +1.4
comp=Z,54nm,0.9s,mb5.6
BNI LR LR
comp=Z,1μm,21.0s,MS5.0
BHB Bricherasio 50.27 23 P P 12 46 03.6 +0.3
HUMP Col San Antoni 50.29 294 eP P 12 46 03.8 -0.1
comp=Z,155nm,1.4s,mb5.8
MTCE Montecelio 50.50 30 P P 12 46 05.3 +0.2
AVF Avril sur Loir 50.52 19⇑iP P 12 46 05.6 +0.4
comp=Z,136nm,1.3s,mb5.4
AVF epP pP 12 46 18.5 +7.8
AVF Avril sur Loir 50.52 19⇑iP P 12 46 05.6 +0.4
AVF pmax pmax
comp=Z,68nm,1.3s,mb5.4
AVF Avril sur Loir 50.52 19⇑iP P 12 46 05.6 +0.4
comp=Z,68nm,1.3s,mb5.4
AVF epP pP 12 46 18.5 +7.8
RSP Reno Superiore 50.53 23 P P 12 46 05.9 +0.7
PCP Piancastagn 50.55 25 P P 12 46 05.3 -0.1
SJG San Juan 50.56 294 P P 12 46 04.9 -1.0
comp=Z,17nm,0.3s,mb5.5,baz=304,slow=20,SNR=6.1
SJG San Juan 50.56 294 eP P 12 46 06.2 +0.2
SJG LR LR
comp=Z,2μm,21.0s,MS5.1
SMF Signal de Mont 50.56 20⇑iP P 12 46 05.7 +0.3
comp=Z,132nm,1.4s,mb5.4
SMF Signal de Mont 50.56 20⇑iP P 12 46 05.7 +0.3
SMF pmax pmax
comp=Z,66nm,1.4s,mb5.4
SMF Signal de Mont 50.56 20⇑iP P 12 46 05.7 +0.3
comp=Z,66nm,1.4s,mb5.4
CERT Cerreto 50.56 30 P P 12 46 05.8 +0.2
OG05 Jujurieux 50.60 21 eP P 12 46 06.2 +0.5
GENL Genova Univers 50.62 25 P P 12 46 06.3 +0.4
LPG La Plagne 50.62 23⇑iP P 12 46 07.1 +1.2
comp=Z,233nm,1.2s,mb5.7
LPG epP pP 12 46 20.0 +8.5
LPG La Plagne 50.62 23⇑iP P 12 46 07.1 +1.2
LPG pmax pmax
comp=Z,117nm,1.2s,mb5.7
LPG La Plagne 50.62 23⇑iP P 12 46 07.1 +1.2
comp=Z,117nm,1.2s,mb5.7
LPG epP pP 12 46 20.0 +8.5
LPL La Plagne 50.63 23⇑iP P 12 46 06.9 +0.9
comp=Z,154nm,1.1s,mb5.5
LPL La Plagne 50.63 23⇑iP P 12 46 06.9 +0.9
LPL pmax pmax
comp=Z,77nm,1.1s,mb5.5
LPL La Plagne 50.63 23⇑iP P 12 46 06.9 +0.9
comp=Z,77nm,1.1s,mb5.5
TIP Timpagrande 50.64 35 eP P 12 46 05.3 -0.8
comp=Z,102nm,1.0s,mb5.7
TIP LR LR
comp=Z,3μm,20.0s,MS5.3
CUC Castrocucco 50.66 34 eP P 12 46 06.3 0.0
comp=Z,101nm,1.4s,mb5.6
CUC LR LR
comp=Z,5μm,19.0s,MS5.5
HYF Humbligny 50.72 18 eP P 12 46 06.9 +0.3
RSL Roselend 50.73 22 eP P 12 46 07.3 +0.6
GRR Gorron 50.74 15⇑iP P 12 46 06.8 +0.1
comp=Z,430nm,1.5s,mb5.8
GRR epP pP 12 46 19.8 +7.5
GRR Gorron 50.74 15⇑iP P 12 46 06.8 +0.1
GRR pmax pmax
comp=Z,215nm,1.5s,mb5.9
GRR Gorron 50.74 15⇑iP P 12 46 06.8 +0.1

comp=Z,215nm,1.5s,mb5.9
GRR epP pP 12 46 19.8 +7.5
LSD Lago del Serru 50.74 23 P P 12 46 07.9 +1.1
SSF Saint Saulge 50.81 19⇑iP P 12 46 07.7 +0.4
comp=Z,413nm,1.6s,mb5.8
SSF Saint Saulge 50.81 19⇑iP P 12 46 07.7 +0.4
SSF pmax pmax
comp=Z,206nm,1.6s,mb5.8
SSF Saint Saulge 50.81 19⇑iP P 12 46 07.7 +0.4
comp=Z,206nm,1.6s,mb5.8
SC2M Scurtabo 50.85 25 P P 12 46 08.0 +0.2
MAIM Mastiano 50.89 27 P P 12 46 08.0 0.0
VINC Vinca 50.91 26 P P 12 46 08.3 +0.1
CODM Codolo 50.98 26 P P 12 46 08.3 -0.4
MIDA Miranda 50.99 31 P P 12 46 09.6 +0.9
BACM Baccana 50.99 26 P P 12 46 08.9 +0.2
VLC Villacollemand 51.03 26 eP P 12 46 09.5 +0.5
comp=Z,98nm,1.2s,mb5.6
VLC LR LR
comp=Z,2μm,19.0s,MS5.0
SARO Sassorosso 51.06 26 P P 12 46 08.9 -0.3
ORI Oriolo Calabro 51.06 34 P P 12 46 09.2 -0.1
AQU L'Aquila 51.07 30⇑iP P 12 46 10.2 +0.8
AQU L'Aquila 51.07 30 eP P 12 46 10.1 +0.8
comp=Z,69nm,0.8s,mb5.6
AQU LR LR
comp=Z,5μm,21.0s,MS5.5
LOR Lormes 51.11 19⇑iP P 12 46 09.7 +0.1
comp=Z,288nm,1.6s,mb5.7
LOR epP pP 12 46 22.7 +7.6
LOR eMLR MLR
comp=Z,2μm,19.5s,MS4.8
LOR Lormes 51.11 19⇑iP P 12 46 09.7 +0.1
LOR pmax pmax
comp=Z,144nm,1.6s,mb5.7
LOR MLR MLR
comp=Z,2μm,19.5s,MS5.1
LOR Lormes 51.11 19⇑iP P 12 46 09.7 +0.1
comp=Z,144nm,1.6s,mb5.7
LOR epP pP 12 46 22.7 +7.6
LOR LR LR
comp=Z,2μm,19.5s,MS5.1
LDF La Druitiere 51.12 15⇑iP P 12 46 09.6 0.0
comp=Z,155nm,1.4s,mb5.5
LDF La Druitiere 51.12 15⇑iP P 12 46 09.6 0.0
LDF pmax pmax
comp=Z,78nm,1.4s,mb5.5
LDF La Druitiere 51.12 15⇑iP P 12 46 09.6 0.0
comp=Z,78nm,1.4s,mb5.4
EMV Vieux Emosson 51.15 22⇑iP P 12 46 10.5 +0.6
comp=Z,325nm,2.2s,mb5.9
GRAM Graiana 51.16 26 P P 12 46 10.7 +0.7
AOPR Arecibo Observ 51.17 294 eP P 12 46 10.9 +0.3
FLN La Foliniere 51.18 15⇑iP P 12 46 09.8 -0.3
comp=Z,188nm,1.3s,mb5.5
FLN epP pP 12 46 22.9 +7.3
FLN eMLR MLR
comp=Z,4μm,19.0s,MS5.1
FLN La Foliniere 51.18 15⇑iP P 12 46 09.8 -0.3
FLN pmax pmax
comp=Z,94nm,1.3s,mb5.6
FLN MLR MLR
comp=Z,4μm,19.0s,MS5.4
FLN La Foliniere 51.18 15⇑iP P 12 46 09.8 -0.3
comp=Z,94nm,1.3s,mb5.6
FLN epP pP 12 46 22.9 +7.3
FLN LR LR
comp=Z,4μm,19.0s,MS5.4
SALAN Lac Salanfe 51.25 22⇑iP P 12 46 11.1 +0.5
comp=Z,274nm,1.9s,mb5.9
ERBM Eremo 51.25 26 P P 12 46 12.7 +2.0
GSCL Gusciola 51.27 26 P P 12 46 12.3 +1.5
comp=Z,192nm,1.3s,mb5.9
FG4 Candela 51.29 32 P P 12 46 12.1 +1.1
FG4 pmax pmax
comp=Z,253nm,1.3s,mb6.0
FG4 Candela 51.29 32 P P 12 46 12.1 +1.1
comp=Z,252nm,1.3s,mb6.0
OG01 Vacheresse 51.29 22 eP P 12 46 11.1 +0.1
CABF La Chapelle 51.31 21⇑iP P 12 46 11.2 +0.1
comp=Z,164nm,1.2s,mb5.5
CABF epP pP 12 46 24.1 +7.4
CABF La Chapelle 51.31 21⇑iP P 12 46 11.2 +0.1
CABF pmax pmax
comp=Z,82nm,1.2s,mb5.5
CABF La Chapelle 51.31 21⇑iP P 12 46 11.2 +0.1
comp=Z,82nm,1.2s,mb5.5
CABF epP pP 12 46 24.1 +7.4
GIMEL St. Georges / 51.31 21⇑iP P 12 46 11.2 +0.1
comp=Z,435nm,3.0s
MURB Monte Urbino 51.32 29 P P 12 46 11.2 -0.1
DIX Grande Dixence 51.36 23⇑iP P 12 46 11.9 +0.4
comp=Z,356nm,2.0s,mb5.9
FNVD Fontana Vidola 51.37 27 P P 12 46 11.8 +0.2
GRYON Gryon 51.39 22⇑iP P 12 46 12.0 +0.3
comp=Z,267nm,1.5s,mb6.0
AIGLE Aigle 51.40 22⇑iP P 12 46 12.2 +0.4
comp=Z,984nm,3.2s
MMK Mattmark 51.55 23⇑iP P 12 46 13.2 +0.3
comp=Z,303nm,2.0s,mb5.9
SENIN Lac Senin/Sane 51.55 22⇑iP P 12 46 13.3 +0.4
comp=Z,393nm,2.8s,mb5.8
LKBD Leukerbad 51.70 23⇑iP P 12 46 13.9 -0.1
comp=Z,160nm,1.3s,mb5.8
CING Cingoli 51.73 29 P P 12 46 13.6 -0.7
LPAZ La Paz 51.74 249 P P 12 46 15.2 +0.4
comp=Z,8,6nm,0.9s,mb4.7,baz=68,slow=8.1,SNR=16
LPAZ LR LR 13 06 01.2
comp=Z,2μm,19.1s,MS5.1,baz=89,slow=34
TORNY Torny/Romont 51.77 22⇑iP P 12 46 14.2 -0.3
comp=Z,634nm,2.4s,mb6.1
MUGIO Muggio 51.87 24⇑iP P 12 46 14.8 -0.5
comp=Z,375nm,2.6s,mb5.9
WIMIS Wimmis 51.93 22⇑iP P 12 46 15.6 -0.1
comp=Z,216nm,1.9s,mb5.8
FUSIO Fusio 52.16 23⇑iP P 12 46 17.0 -0.4
comp=Z,345nm,1.9s,mb6.0
HASLI Hasliberg/Brie 52.21 23⇑iP P 12 46 17.5 -0.3
comp=Z,448nm,2.2s,mb6.0
LOMF Lomont 52.21 21 eP P 12 46 17.8 0.0
VLS Valsamata 52.30 39 eP P 12 46 17.6 -1.0
VLS Valsamata 52.30 39 eP P 12 46 18.0 -0.6
KFL Anninata 52.38 39 eP P 12 46 18.7 -0.5
BOURR Bourrignon 52.39 22⇑iP P 12 46 19.2 +0.1
comp=Z,447nm,2.0s,mb6.0
TUE Stuetta 52.45 24 eP P 12 46 18.8 -0.8
comp=Z,85nm,1.3s,mb5.5
TUE LR LR
comp=Z,2μm,21.0s,MS5.1
VDL Val di Lei 52.50 24⇑iP P 12 46 19.2 -0.7
comp=Z,272nm,2.1s,mb5.8
BALST Balsthal 52.52 22⇑iP P 12 46 20.0 -0.1
comp=Z,641nm,1.7s,mb6.3
ITM Ithomi 52.55 40 eP P 12 46 21.0 +0.5
BBS Basel-Blauen 52.55 22 eP P 12 46 20.2 -0.1
MUO Muotathal 52.57 23⇑iP P 12 46 20.2 -0.3
comp=Z,413nm,2.0s,mb6.0
MEZF Maizieres J'vi 52.58 19⇑iP P 12 46 20.7 +0.2
comp=Z,361nm,1.4s,mb5.8
MEZF epP pP 12 46 33.8 +7.7
MEZF Maizieres J'vi 52.58 19⇑iP P 12 46 20.7 +0.2
comp=Z,361nm,1.4s,mb6.1
MEZF epP pP 12 46 33.8 +7.7
MABI Malga Bissina 52.59 25 P P 12 46 20.2 -0.4
HAU Haudompre 52.59 21⇑iP P 12 46 20.4 -0.2
comp=Z,411nm,1.5s,mb5.8
HAU eMLR MLR
comp=Z,1μm,19.2s,MS4.7
HAU Haudompre 52.59 21⇑iP P 12 46 20.4 -0.2
HAU pmax pmax
comp=Z,205nm,1.5s,mb5.8
HAU MLR MLR
comp=Z,1μm,19.3s,MS5.0
HAU Haudompre 52.59 21⇑iP P 12 46 20.4 -0.2
comp=Z,205nm,1.5s,mb5.8
HAU LR LR
comp=Z,1μm,19.3s,MS5.0
HINF Hinteralfeld 52.61 21⇑iP P 12 46 20.3 -0.5
comp=Z,249nm,1.7s,mb5.6
HINF Hinteralfeld 52.61 21⇑iP P 12 46 20.3 -0.5
HINF pmax pmax
comp=Z,125nm,1.7s,mb5.6
HINF Hinteralfeld 52.61 21⇑iP P 12 46 20.3 -0.5
comp=Z,125nm,1.7s,mb5.6
LLS Linth-Limmern 52.62 23⇑iP P 12 46 20.2 -0.6
comp=Z,332nm,2.9s,mb5.8

THEF They Montfort 52.66 20 *eP* **P 12 46 21.3 +0.2**
LKD Levkas 52.66 38 *eP* **P 12 46 20.9 -0.4**
BERNI Berninapass 52.67 24⇑*iP* **P 12 46 20.8 -0.4**
comp=Z,222nm,1.8s,mb5.8
MOF Molkenrain 52.74 21 *eP* **P 12 46 21.3 -0.4**
RLS Riolos of Patr 52.77 39 *eP* **P 12 46 23.0 +0.8**
SULZ Cheisacher 52.83 22⇑*iP* **P 12 46 22.2 -0.2**
comp=Z,583nm,1.9s,mb6.2
KARN Karanos 52.88 43 *eP* **P 12 46 22.9 -0.1**
DAVOX Davos/Dischmat 52.91 24 LR LR 13 08 17.1
comp=Z,2μm,20.6s,MS5.2,baz=229,slow=35
DAVOX Davos/Dischmat 52.91 24⇑*iP* **P 12 46 22.4 -0.6**
comp=Z,246nm,2.0s,mb5.8
PLONS Plons/SG 52.93 23⇑*iP* **P 12 46 22.8 -0.3**
comp=Z,367nm,2.0s,mb6.0
FUORN Ofenpass-Fuorn 52.94 24⇑*iP* **P 12 46 22.6 -0.6**
comp=Z,449nm,3.4s
VLI Veliai 52.95 41 *eP* **P 12 46 28.5 +5.0**
VLX Vlachokerasia 52.95 40 *eP* **P 12 46 24.4 +0.9**
IGT Igoumenitsa 52.98 37 *eP* **P 12 46 23.5 -0.1**
SRN Sarande 52.99 37 *ePN* **P 12 46 24.5 +0.8**
SDV Santo Domingo 53.02 281 *eP* **P 12 46 24.4 0.0**
comp=Z,10nm,0.8s,mb4.8
SDV LR LR
comp=Z,358nm,20.0s,MS4.4
WILA Wila 53.04 23⇑*iP* **P 12 46 23.6 -0.3**
comp=Z,497nm,1.9s,mb6.1
ECH Echery 53.06 21 *eP* **P 12 46 23.7 -0.4**
CTI Castel Tesino 53.07 26 P **P 12 46 24.1 -0.1**
CTI pmax pmax
comp=Z,66nm,0.8s,mb5.6
CTI Castel Tesino 53.07 26 P **P 12 46 24.1 -0.1**
comp=Z,66nm,0.8s,mb5.6
FELD Feldberg im Sc 53.08 22 *eP* **P 12 46 23.9 -0.3**
LIBD Limburg 53.16 21 *eP* **P 12 46 24.3 -0.5**
SLE Schleitheim 53.17 22⇑*iP* **P 12 46 24.4 -0.5**
comp=Z,499nm,2.1s,mb6.1
LIENZ Kamor/St.Gall 53.17 23⇑*iP* **P 12 46 24.4 -0.5**
comp=Z,458nm,1.5s,mb6.2
CDF Champ du Feu 53.27 21⇑*iP* **P 12 46 25.3 -0.3**
comp=Z,281nm,1.5s,mb5.7
CDF *epP* pP 12 46 38.3 +7.1
CDF Champ du Feu 53.27 21⇑*iP* **P 12 46 25.3 -0.3**
CDF pmax pmax
comp=Z,140nm,1.5s,mb5.7
CDF Champ du Feu 53.27 21⇑*iP* **P 12 46 25.3 -0.3**
comp=Z,140nm,1.5s,mb5.7
CDF *epP* pP 12 46 38.3 +7.1
DAVA Damuels 53.32 24⇑*iP* **P 12 46 25.4 -0.6**
comp=Z,259nm,1.4s,mb6.0,SNR=38
DAVA Damuels 53.32 24⇑*iP* **P 12 46 25.4 -0.6**
comp=Z,259nm,1.4s,mb6.0
JAN Janina 53.37 37 *eP* **P 12 46 27.0 +0.5**
WOL Wolverton 53.37 13 *eP* **P 12 46 25.9 -0.3**
WOL AMb AMB 12 46 30.8
comp=Z,294nm,1.6s,mb6.0
SWN1 Swindon 53.42 13 *eP* **P 12 46 26.5 -0.2**
SWN1 AMb AMB 12 46 29.4
comp=Z,428nm,1.6s,mb6.1
FETA Feichten 53.45 24 *iP* **P 12 46 26.3 -0.6**
comp=Z,165nm,1.8s,mb5.7,SNR=26
IDI Anoyia 53.49 44 LR LR 13 08 27.0
comp=Z,1μm,19.4s,MS5.0,baz=256,slow=35
MENF Mencas 53.52 16 *eP* **P 12 46 27.1 -0.3**
SPAK Spaichingen-Ko 53.56 22 *eP* **P 12 46 27.5 -0.3**
BFO Black Forest 53.58 22 *eP* **P 12 46 27.5 -0.4**
BFO *eS* **S 12 54 01.0 +0.6**
BFO pmax pmax
comp=Z,133nm,1.3s,mb5.7
BFO MLR MLR
comp=Z,1μm,20.0s,MS4.9
BFO Black Forest 53.58 22 *eP* **P 12 46 27.5 -0.4**
comp=Z,133nm,1.3s,mb5.7
BFO *eS* **S 12 54 01.0 +0.6**
BFO Black Forest 53.58 22 *eP* **P 12 46 27.5 -0.4**
comp=Z,133nm,1.3s,mb5.7
BFO *eS* **S 12 54 01.0 +0.6**
BFO LR LR
comp=Z,1μm,20.0s,MS4.9
DID Didima 53.59 41 *eP* **P 12 46 27.5 -0.7**
MCH1 Michaelchurch 53.63 12 *eP* **P 12 46 27.5 -0.6**
HTR Trewern Hill 53.65 11 *eP* **P 12 46 27.5 -0.8**
STON Ston 53.67 32 P **P 12 46 27.7 -0.9**
BAIF Baives 53.67 18⇑*iP* **P 12 46 28.2 -0.3**
comp=Z,400nm,1.4s,mb5.8
BAIF Baives 53.67 18⇑*iP* **P 12 46 28.2 -0.3**
BAIF pmax pmax
comp=Z,200nm,1.4s,mb5.8
BAIF Baives 53.67 18⇑*iP* **P 12 46 28.2 -0.3**
comp=Z,200nm,1.4s,mb5.8
MEV Metsovon 53.67 37 *eP* **P 12 46 29.8 +1.0**
LTK Loutraki 53.71 40 *eP* **P 12 46 28.6 -0.4**
HAE Alders End 53.76 12 *eP* **P 12 46 29.0 -0.1**
HCY Herceg Novi 53.81 33⇑*iP* **P 12 46 29.7 0.0**
DOU Dourbes 53.83 18 P **P 12 46 29.3 -0.3**
comp=Z,62nm,1.2s,mb5.4
LAST Lasithi 53.84 44 *eP* **P 12 46 29.6 -0.5**
RETA Reutte 53.84 24 *iP* **P 12 46 28.9 -0.9**
comp=Z,259nm,2.0s,mb5.8,SNR=16
TIR Tirane 53.85 35 *eP* **P 12 46 30.4 +0.3**
TIR Tirane 53.85 35 P **P 12 46 30.4 +0.3**
TIR LR LR
comp=Z,2μm,22.0s,MS5.1
MOTA Moosalm 53.86 24⇑*iP* **P 12 46 28.7 -1.3**
comp=Z,116nm,1.5s,mb5.6,SNR=12
MOTA Moosalm 53.86 24⇑*iP* **P 12 46 28.7 -1.3**
MOTA pmax pmax
comp=Z,116nm,1.5s,mb5.6
AGG Agios Georgios 53.89 39 *eP* **P 12 46 28.3 -2.0**
GIVF Givet 53.90 18⇑*iP* **P 12 46 29.7 -0.5**
comp=Z,405nm,1.5s,mb5.8
GIVF *epP* pP 12 46 42.8 +7.0
GIVF Givet 53.90 18⇑*iP* **P 12 46 29.7 -0.5**
GIVF pmax pmax
comp=Z,203nm,1.5s,mb5.8
GIVF Givet 53.90 18⇑*iP* **P 12 46 29.7 -0.5**
comp=Z,203nm,1.5s,mb5.8
GIVF *epP* pP 12 46 42.8 +7.0
ULC Ulcinj 53.91 34⇑*iP* **P 12 46 29.8 -0.6**
BUM Brajici-Budva 53.93 34⇑*iP* **P 12 46 30.7 +0.1**
LANF Langenberg 53.94 21 *eP* **P 12 46 30.4 -0.1**
GMNA Gemona 53.95 27 P **P 12 46 30.6 0.0**
comp=Z,752nm,1.6s,mb6.4
WLF Walferdange 53.95 19 P **P 12 46 31.1 +0.6**
comp=Z,62nm,1.9s,mb5.2
WLF Walferdange 53.95 19 *eP* **P 12 46 30.8 +0.2**
WLF pmax pmax
comp=Z,159nm,1.8s,mb5.7
WLF MLR MLR
comp=Z,2μm,19.0s,MS5.2
WLF Walferdange 53.95 19 *eP* **P 12 46 30.5 -0.1**
comp=Z,172nm,1.6s,mb5.7
WLF *epP* pP 12 46 36.4 +0.2
WLF *eS* **S 12 54 04.3 -1.0**
WLF Walferdange 53.95 19 *eP* **P 12 46 30.8 +0.2**
comp=Z,159nm,1.8s,mb5.7
WLF LR LR
comp=Z,2μm,19.0s,MS5.2
NPS Neapolis 53.98 44 *eP* **P 12 46 31.5 +0.4**
ABTA Abfaltersbach 53.99 26⇑*iP* **P 12 46 31.1 +0.2**
comp=Z,374nm,2.0s,mb6.0,SNR=28
THL Klokotos Trika 54.02 38 *eP* **P 12 46 31.2 -0.1**
THL Klokotos Trika 54.02 38 *eP* **P 12 46 31.5 +0.2**
WTTA Wattenberg 54.02 25⇑*iP* **P 12 46 30.5 -0.6**
comp=Z,341nm,1.9s,mb6.0,SNR=25
WTTA Wattenberg 54.02 25⇑*iP* **P 12 46 30.5 -0.6**
WTTA pmax pmax
comp=Z,341nm,1.9s,mb6.0
JAVS Javornik 54.03 27 *iP* **P 12 46 31.4 +0.1**
JAVS *i* 12 46 45.4
JAVS *eS* **S 12 54 08.3 +1.7**
WATA Walderalm 54.05 25⇑*iP* **P 12 46 30.6 -0.8**
comp=Z,77nm,1.3s,mb5.5,SNR=5,6
WATA Walderalm 54.05 25⇑*iP* **P 12 46 30.6 -0.8**
WATA pmax pmax
comp=Z,77nm,1.3s,mb5.5
VOY Vojsko 54.06 27 *eP* **P 12 46 30.9 -0.5**
VOY *e* 12 46 44.0
VOY *e* 12 48 28.7
LVC Limon Verde 54.08 242 *eP* **P 12 46 31.7 -0.4**
comp=Z,21nm,1.0s,mb5.0
LVC LR LR
comp=Z,2μm,19.0s,MS5.1
CEY Cerknica 54.08 28 *iP* **P 12 46 31.5 -0.1**
CEY *i* 12 46 45.7

LKR Lokris 54.10 40 *eP* **P 12 46 30.8 -1.1**
LKR Lokris 54.10 40 *eP* **P 12 46 31.5 -0.4**
PTCC Patocco-Chiusa 54.10 27 P **P 12 46 31.9 +0.2**
comp=Z,133nm,1.5s,mb5.7
BRY Bratogost 54.14 33⇑*iP* **P 12 46 30.0 -2.1**
HLM1 Long Mynd 54.15 11 *eP* **P 12 46 32.0 0.0**
ATH Athens Observa 54.17 41 *eP* **P 12 46 32.5 +0.1**
TTG Podgorica 54.22 34⇑*iP* **P 12 46 31.7 -1.0**
DSB Dublin 54.23 9 *eP* **P 12 46 32.2 -0.4**
OHR Ohrid 54.24 36 *eP* **P 12 46 33.1 +0.2**
OHR Ohrid 54.24 36⇑*iP* **P 12 46 33.1 +0.3**
OHR *i* PP PP 12 48 31.9 -3.0
STU Stuttgart 54.27 22 *eP* **P 12 46 32.2 -0.7**
comp=Z,81nm,1.1s,mb5.6
STU *eS* **S 12 54 10.3 +0.6**
STU Stuttgart 54.27 22 *eP* **P 12 46 33.0 +0.1**
STU *epP* pP 12 46 46.2 +7.7
RUP Ruppelstein 54.28 20 *eP* **P 12 46 32.7 -0.3**
BOJS Bojanci 54.30 28 *iP* **P 12 46 33.6 +0.4**
KTD Kalmit 54.32 21 *eP* **P 12 46 33.2 -0.1**
PUK Puka 54.32 34 *ePN* **P 12 46 34.0 +0.6**
KZN Kozani 54.32 37 *eP* **P 12 46 33.5 0.0**
BCLA Clavier 54.33 18 P **P 12 46 33.4 +0.1**
comp=Z,57nm,1.8s,mb5.2
NKY Niksic 54.33 33⇑*iP* **P 12 46 32.5 -1.0**
LJU Ljubljana 54.36 28 *iP* **P 12 46 34.0 +0.4**
LJU *eS* **S 12 54 12.9 +1.9**
UCC Uccle 54.37 17 P **P 12 46 33.9 +0.3**
comp=Z,88nm,2.3s,mb5.3
FNA Florina 54.38 37 *eP* **P 12 46 33.8 -0.1**
MYKA Terra Mystica 54.40 27⇑*iP* **P 12 46 34.0 +0.1**
comp=Z,2μm,2.0s,mb6.6
SBD1 Bryn Du 54.44 11 *eP* **P 12 46 33.1 -0.9**
SANT Santorini 54.46 43 *eP* **P 12 46 33.1 -1.4**
SANT Santorini 54.46 43 P **P 12 46 33.1 -1.4**
SANT LR LR
comp=Z,1μm,20.0s,MS5.1
BIA Bitola 54.49 36⇑*iP* **P 12 46 34.6 -0.1**
UPM Unac-Piva 54.54 33⇑*iP* **P 12 46 33.4 -1.6**
BBSR BB Station 54.56 311 PFAKE 12 46 50.0 +15
BBSR LR LR
comp=Z,882nm,19.0s,MS4.8
FUR Furstenfeldbru 54.59 24 *eP* **P 12 46 34.8 -0.4**
FUR *e* 12 48 33.3
FUR *eS* **S 12 54 14.2 +0.2**
FUR pmax pmax
comp=Z,352nm,1.5s,mb6.2
FUR Furstenfeldbru 54.59 24 *eP* **P 12 46 34.8 -0.4**
comp=Z,352nm,1.5s,mb6.2
FUR *ePP* PP 12 48 33.3 -4.5
FUR *eS* **S 12 54 14.2 +0.2**
KBA Koelnbreinsper 54.61 26⇓*iP* **P 12 46 34.9 -0.5**
comp=Z,281nm,2.5s,mb5.9,SNR=17
KBA Koelnbreinsper 54.61 26⇓*iP* **P 12 46 34.9 -0.5**
KBA pmax pmax
comp=Z,281nm,2.5s,mb5.8
NEO Neokhori 54.62 39 *eP* **P 12 46 35.5 -0.2**
BCI Bajram Curri 54.63 34 *ePN* **P 12 46 36.5 +0.8**
LIT Litokhoron 54.63 38 *eP* **P 12 46 35.2 -0.6**
XOR Xorichti 54.63 39 *eP* **P 12 46 35.6 -0.2**
KRUS Krusevo 54.67 36⇑*iP* **P 12 46 36.5 +0.5**
CWF Charnwood Fore 54.68 12 *eP* **P 12 46 35.9 0.0**
CWF AMb AMB 12 46 38.9
comp=Z,68nm,1.6s,mb5.4
OBKA Obir 54.72 27⇑*iP* **P 12 46 36.2 0.0**
comp=Z,479nm,3.1s,SNR=6.5
MEM Membach 54.72 19 P **P 12 46 37.0 +0.8**
comp=Z,56nm,2.0s,mb5.2
PVY Plav 54.72 34⇑*iP* **P 12 46 37.0 +0.6**
BEBN Eben Emael 54.77 18 P **P 12 46 36.9 +0.3**
comp=Z,42nm,1.5s,mb5.2
TOD Tromm 54.82 21 *eP* **P 12 46 36.6 -0.3**
HGN Heimansgroeve 54.83 19⇑*iP* **P 12 46 37.0 +0.1**
comp=Z,164nm,1.6s,mb5.8
HGN Heimansgroeve 54.83 19 *ex* x 12 46 43.6
comp=Z,71nm,1.9s
HGN Heimansgroeve 54.83 19 *iX* x 12 46 51.3
comp=Z,116nm,1.5s
HGN Heimansgroeve 54.83 19 *iS* **S 12 54 18.3 +1.2**
HGN Heimansgroeve 54.83 19 *eSS* SS 12 58 08.9 +8.2
IVA Berane 54.86 34⇑*iP* **P 12 46 38.3 +0.9**
APE Apeiranthos 54.88 43 *eP* **P 12 46 36.4 -1.2**
APE Apeiranthos 54.88 43 *eP* **P 12 46 37.0 -0.6**
APE Apeiranthos 54.88 43⇓*iP* **P 12 46 37.2 -0.4**
PLE Pljevlja 54.89 33⇑*iP* **P 12 46 37.7 +0.2**
AOS Alonnisos 54.96 39 *eP* **P 12 46 37.4 -0.7**
SOKA Soboth 55.06 27⇑*iP* **P 12 46 38.8 +0.1**
comp=Z,215nm,1.7s,mb5.9
TRQA Tornquist 55.07 222 *eP* **P 12 46 39.1 +0.2**
comp=Z,21nm,1.3s,mb5.0
TRQA LR LR
comp=Z,2μm,21.0s,MS5.2
PERS Pernice 55.07 27 *iP* **P 12 46 38.8 0.0**
GRG Griva 55.10 37 *eP* **P 12 46 38.6 -0.5**
SKO Skopje 55.16 35 *eP* **P 12 46 39.5 0.0**
SKO Skopje 55.16 35⇑*iP* **P 12 46 40.2 +0.7**
SKO *i* PP PP 12 48 42.5 -0.6
SKO *iS* **S 12 54 24.9 +3.0**
KARP Karpathos 55.22 45 *eP* **P 12 46 39.5 -0.6**
THE Thessaloniki 55.24 38 *eP* **P 12 46 39.8 -0.4**
PAIG Paliouri 55.27 39 *eP* **P 12 46 39.7 -0.6**
HORT Hortiatis 55.30 38 *eP* **P 12 46 40.0 -0.6**
LHO Holmfirth 55.32 12 *eP* **P 12 46 39.8 -0.7**
PLG Polygyros 55.38 38 *eP* **P 12 46 40.9 -0.3**
PLG Polygyros 55.38 38 *eP* **P 12 46 41.0 -0.2**
VAY Valandovo 55.42 37 *eP* **P 12 46 40.2 -1.2**
VAY Valandovo 55.42 37⇑*iP* **P 12 46 40.6 -0.8**
VAY *i* PP PP 12 48 43.1 -2.3
VAY *iS* **S 12 54 27.8 +2.3**
KMBO Kilima Mbogo 55.43 91 P **P 12 46 44.9 +2.8**
comp=Z,20nm,1.1s,mb5.1,baz=262,slow=8.8,SNR=14
KMBO LR LR 13 08 21.2
comp=Z,4μm,19.0s,MS5.5,baz=260,slow=34
SOH Sokhos 55.59 38 *eP* **P 12 46 42.3 -0.4**
MOA Molln 55.60 26⇑*iP* **P 12 46 41.4 -1.2**
comp=Z,175nm,1.7s,mb5.8,SNR=11
OUR Ouranopolis 55.69 38 *eP* **P 12 46 43.0 -0.4**
ARSA Arzberg 55.71 27⇑*iP* **P 12 46 42.9 -0.5**
comp=Z,314nm,3.0s,mb5.8,SNR=24
DIVS Divibare 55.72 33 *eP* **P 12 46 43.4 -0.1**
HPK Haverah Park 55.76 12 *eP* **P 12 46 42.6 -1.0**
HPK AMb AMB 12 46 46.1
comp=Z,179nm,1.6s,mb5.9
GRA1 Grafenberg Arr 55.79 23 *eP* **P 12 46 43.3 -0.6**
comp=Z,125nm,1.4s,mb5.8
GRA1 *ePP* PP 12 48 43.5 -5.1
GRA1 LR LR
comp=Z,2μm,19.0s,MS5.1
GRF Grafenberg Arr 55.79 23 *eP* **P 12 46 43.3 -0.6**
GRF *e* 12 48 43.5
GRF pmax pmax
comp=Z,125nm,1.4s,mb5.8
GRF MLR MLR
comp=Z,2μm,19.0s,MS5.1
GRF Grafenberg Arr 55.79 23 *eP* **P 12 46 43.3 -0.6**
GRF *e* 12 48 43.5
GRF pmax pmax
comp=Z,125nm,1.4s,mb5.8
GRF MLR MLR
comp=Z,2μm,19.0s,MS5.1
GRF Grafenberg Arr 55.79 23 *eP* **P 12 46 43.3 -0.6**
comp=Z,125nm,1.4s,mb5.8
GRF *ePP* PP 12 48 43.5 -5.1
GRF *eL* 13 12 45.9
comp=Z,2μm,19.0s
GRF Grafenberg Arr 55.79 23 *eP* **P 12 46 43.3 -0.6**
comp=Z,125nm,1.4s,mb5.8
GRF *ePP* PP 12 48 43.5 -5.1
GRF LR LR
comp=Z,2μm,19.0s,MS5.1
BUG Bochum--Univer 55.84 19 *eP* **P 12 46 44.1 -0.1**
comp=Z,101nm,1.3s,mb5.7
BUG *ePP* PP 12 48 46.5 -2.5
BUG *eS* **S 12 54 32.1 +1.4**
SRS Serrai 55.91 37 *eP* **P 12 46 44.5 -0.5**
CHOS Chios island 55.93 41 *eP* **P 12 46 45.2 +0.1**
WET Wettzell 56.01 24 *eP* **P 12 46 45.0 -0.5**
WET *e* 12 48 46.6
WET *eS* **S 12 54 32.5 -0.5**
WET pmax pmax
comp=Z,191nm,1.4s,mb5.9
WET Wettzell 56.01 24 *eP* **P 12 46 45.0 -0.5**
comp=Z,191nm,1.4s,mb5.9

WET *ePP* PP 12 48 46.6 -4.0
WET *eS* **S 12 54 32.5 -0.5**
KKB Krupnik 56.06 36 P **P 12 46 46.6 +0.6**
BODT Bodrum 56.09 43 *eP* **P 12 46 45.5 -0.8**
SMG Samos 56.10 43 *eP* **P 12 46 46.0 -0.3**
GEC2 GERESS Array S 56.12 25 *eP* **P 12 46 45.9 -0.4**
GEC2 *e* 12 48 45.5
GEC2 *eS* **S 12 54 34.2 -0.3**
GEC2 pmax pmax
comp=Z,236nm,1.8s,mb5.9
GEC2 GERESS Array S 56.12 25 *eP* **P 12 46 45.9 -0.4**
comp=Z,236nm,1.8s,mb5.9
GEC2 *ePP* PP 12 48 45.5 -6.0
GEC2 *eS* **S 12 54 34.2 -0.3**
GERES GERESS Array B 56.12 25 P **P 12 46 45.8 -0.5**
comp=Z,19nm,0.8s,mb5.2,baz=214,slow=6.0,SNR=98
GERES PP PP 12 48 48.7 -2.8
comp=Z,111nm,1.0s,baz=207,slow=8.7,SNR=18
GERES LR LR 13 10 44.8
comp=Z,1μm,18.3s,MS5.0,baz=226,slow=36
GERES GERESS Array B 56.12 25 P **P 12 46 45.8 -0.5**
GERES 12 48 48.7
GERES GERESS Array B 56.12 25 P **P 12 46 45.8 -0.5**
GERES PP PP 12 48 48.7 -2.8
GERES LR LR 13 10 44.8
WTSB Winterswijk 56.14 18⇑*iP* **P 12 46 46.7 +0.3**
comp=Z,216nm,1.7s,mb5.9
WTSB Winterswijk 56.14 18 *ex* x 12 46 53.2
comp=Z,61nm,1.2s
WTSB Winterswijk 56.14 18 *iX* x 12 47 00.9
comp=Z,176nm,1.2s
LOS Limnos 56.16 39 *eP* **P 12 46 47.0 +0.3**
BDRM Kayabasi 56.18 43 *iP* **P 12 46 46.6 -0.3**
NVR Nevrokopi 56.22 37 *eP* **P 12 46 47.5 +0.4**
ROTZ Rotzenmuhle 56.23 23 *eP* **P 12 46 46.7 -0.4**
comp=Z,122nm,1.6s,mb5.7
ROTZ *epP* pP 12 46 52.4 -0.3
ROTZ *ePP* PP 12 48 48.6 -3.9
ROTZ *eS* **S 12 54 36.9 +0.9**
UBBA Unterbreizbach 56.25 21 *eP* **P 12 46 47.2 0.0**
comp=Z,154nm,1.7s,mb5.8
UBBA *ePP* PP 12 48 48.9 -3.8
UBBA *eS* **S 12 54 37.5 +1.3**
MMB Musomiste 56.28 37 P **P 12 46 47.4 -0.2**
KHC Kasperske Hory 56.29 25*c iP* **P 12 46 47.0 -0.5**
KHC Kasperske Hory 56.29 25⇑*iP* **P 12 46 46.7 -0.8**
KHC *ex* x 12 46 52.7
KHC *ePP* PP 12 48 47.4 -5.6
KHC *eS* **S 12 54 37.1 +0.4**
KHC AMS AMS 13 10 00.0
comp=Z,2μm,18.5s
ROSC El Rosal 56.31 276 P **P 12 46 49.3 +0.9**
comp=Z,6.4nm,0.4s,mb5.0,baz=117,slow=21,SNR=14
ROSC LR LR 13 07 55.9
comp=Z,2μm,20.8s,MS5.2,baz=147,slow=33
ROSC El Rosal 56.31 276 *eP* **P 12 46 49.6 +1.2**
CSNA Conrad Observa 56.37 27⇑*iP* **P 12 46 47.5 -0.6**
comp=Z,300nm,2.0s,mb6.0
CONA Conrad Observa 56.37 27⇓*iP* **P 12 46 47.6 -0.5**
comp=Z,321nm,1.9s,mb6.0,SNR=33
MANZ Manzenberg 56.37 23 *eP* **P 12 46 47.5 -0.5**
comp=Z,110nm,1.3s,mb5.7
MANZ *ePP* PP 12 48 48.8 -4.9
MANZ *eS* **S 12 54 38.6 +0.8**
PKSM Moragy 56.46 30⇑*iP* **P 12 46 48.6 -0.2**
PKSM Moragy 56.46 30 P **P 12 46 48.8 0.0**
XAL Allendale 56.49 11 *eP* **P 12 46 47.8 -1.0**
MLSB Milas 56.52 43 *eP* **P 12 46 48.8 -0.7**
PRK Paraskevi 56.54 41 *eP* **P 12 46 49.6 +0.1**
PRK Paraskevi 56.54 41 *eP* **P 12 46 50.0 +0.5**
VTS Vitosha 56.57 36 P **P 12 46 50.2 +0.6**
VTS Vitosha 56.57 36⇑*iP* **P 12 46 50.6 +1.0**
VTS Vitosha 56.57 36 P **P 12 46 50.8 +1.2**
BLCB Balcova 56.59 42 *eP* **P 12 46 50.2 +0.4**
NKC Novy Kostel 56.70 23⇑*iP* **P 12 46 49.8 -0.6**
NKC *e* 12 46 57.5
NKC *e* 12 48 52.3
NKC *eS* **S 12 54 40.1 -2.0**
NKC Novy Kostel 56.70 23⇑*iP* **P 12 46 49.8 -0.6**
NKC *ex* x 12 46 57.5
NKC *ex* x 12 47 05.3
NKC *ePP* PP 12 48 52.3 -4.4
NKC *eS* **S 12 54 40.1 -2.0**
NKC AMS AMS 13 08 40.0
comp=Z,2μm,16.3s
NKC Novy Kostel 56.70 23⇑*iP* **P 12 46 49.8 -0.6**
NKC *e* 12 46 57.5
NKC *e* 12 47 05.3
NKC *ePP* PP 12 48 52.3 -4.4
NKC *eS* **S 12 54 40.1 -2.0**
MOX Moxa 56.71 22⇓*iP* **P 12 46 50.5 +0.1**
comp=Z,129nm,1.6s,mb5.7
MOX *e* 12 50 21.0
MOX
comp=Z,1μm,20.0s
MOX Moxa 56.71 22⇓*iP* **P 12 46 50.5 +0.1**
MOX *e* 12 50 21.0
MOX pmax pmax
comp=Z,129nm,1.6s,mb5.7
MOX MLR MLR
comp=Z,1μm,20.0s,MS4.9
MOX Moxa 56.71 22 *eP* **P 12 46 50.1 -0.3**
comp=Z,78nm,1.2s,mb5.6
MOX *epP* pP 12 46 56.3 +0.2
MOX *eS* **S 12 54 42.9 +0.7**
IBBN Ibbenburen 56.74 19 *eP* **P 12 46 50.7 +0.1**
comp=Z,162nm,1.6s,mb5.8
IBBN *eS* **S 12 54 43.9 +1.3**
ESK Eskdalemuir 56.74 10 *eP* **P 12 46 50.4 -0.2**
ESK AMb AMB 12 46 52.6
comp=Z,84nm,1.9s,mb5.4
ESK Eskdalemuir 56.74 10 *eP* **P 12 46 50.6 +0.1**
ESK LR LR
comp=Z,988nm,20.0s,MS4.9
EKA Eskdalemuir Ar 56.77 10 P **P 12 46 50.8 0.0**
comp=Z,17nm,1.1s,mb5.0,baz=197,slow=7.8,SNR=14
YER Yerkesik 56.79 44 *eP* **P 12 46 50.5 -0.8**
GADA Gvkgeada 56.82 40 *eP* **P 12 46 51.1 -0.4**
AYVA Ayvalik 56.85 41 *iP* **P 12 46 51.8 +0.2**
DALT Dalyan (Mudla) 56.86 44 *eP* **P 12 46 51.8 0.0**
TURN Turunc 56.88 44 *iP* **P 12 46 48.9 -3.1**
EZN Ezine 56.89 40 *eP* **P 12 46 52.0 +0.1**
RZN Rozhen 56.93 37 P **P 12 46 52.5 +0.3**
XSO Sourhope Farm 57.08 11 *eP* **P 12 46 52.3 -0.7**
RDO Rodhopi 57.13 38 *eP* **P 12 46 53.5 -0.1**
ZST Bratislava 57.13 27 *iP* **P 12 46 53.5 0.0**
ZST *i* 12 48 55.3
ZST *iS* **S 12 54 44.9 -3.0**
ZST pmax pmax
comp=Z,87nm,1.3s,mb5.6
ZST Bratislava 57.13 27 *iP* **P 12 46 53.5 0.0**
comp=Z,87nm,1.3s,mb5.6
ZST *iPP* sP 12 47 07.4 +6.1
ZST *iPP* PP 12 48 55.3 -5.3
ZST *iS* **S 12 54 44.9 -3.0**
ZST *iSS* 12 57 46.8
PLD Plovdiv 57.17 37 *eP* **P 12 46 54.0 +0.1**
PLD Plovdiv 57.17 37 P **P 12 46 54.2 +0.3**
EAU Auchinoon 57.21 10 *eP* **P 12 46 53.1 -0.7**
EBL Broad Law 57.21 10 *eP* **P 12 46 52.9 -1.0**
TREC Trest 57.23 26⇑*iP* **P 12 46 53.3 -0.8**
TREC *ex* x 12 47 07.7
TREC *ePP* PP 12 48 57.3 -4.1
TREC AMS AMS 13 14 20.0
comp=Z,2μm,14.4s
CLZ Clausthal 57.23 21 *eP* **P 12 46 54.0 -0.1**
CLZ *e* 12 48 58.1
CLZ *eS* **S 12 54 51.3 +2.3**
CLZ pmax pmax
comp=Z,45nm,1.4s,mb5.3
CLZ Clausthal 57.23 21 *eP* **P 12 46 54.0 -0.1**
comp=Z,45nm,1.4s,mb5.3
CLZ *ePP* PP 12 48 58.1 -3.2
CLZ *eS* **S 12 54 51.3 +2.3**
ENEZ Enez 57.28 39 *eP* **P 12 46 55.0 +0.3**
AKAS Kas 57.28 45 *iP* **P 12 46 54.8 0.0**
ALN Alexandroupoli 57.30 39 *eP* **P 12 46 52.2 -2.6**
KDZ Kurdzhali 57.34 38 P **P 12 46 54.1 -1.0**
MODS Modra-Piesok 57.34 27 *iP* **P 12 46 54.2 -0.8**
MODS *e* 12 47 03.1
MODS *e* 12 47 46.9
MODS *i* 12 48 58.0
MODS *iS* **S 12 54 47.1 -3.6**

MODS pmax pmax
comp=Z,65nm,1.4s,mb5.5
MODS Modra-Piesok 57.34 27 *i* P **P 12 46 54.2 -0.8**
comp=Z,64nm,1.4s,mb5.5
MODS *e*PP sP 12 47 03.1 +0.4
MODS *e*PcP PcP 12 47 46.9 -2.0
MODS *i* PP PP 12 48 58.0 -4.4
MODS *i* S **S 12 54 47.1 -3.6**
MODS *i* SS SS 12 58 29.4 -11
PRU Pruhonice 57.35 24⇑*i*P **P 12 46 54.1 -0.9**
PRU *e* 12 47 01.3
PRU *e* 12 48 57.2
PRU *e*S **S 12 54 46.4 -4.3**
PRU MLR MLR
comp=Z,2μm,19.2s,MS5.2
PRU Pruhonice 57.35 24⇑*i*P **P 12 46 54.1 -0.9**
PRU *e*x x 12 47 01.3
PRU *e*x x 12 47 08.6
PRU *e*PP PP 12 48 57.2 -5.3
PRU *e*S **S 12 54 46.4 -4.3**
PRU AMS AMS 13 12 00.0
comp=Z,2μm,19.2s
AKHS Akhisar 57.36 42 *i* P **P 12 46 55.6 +0.2**
BUD Budapest 57.53 29⇑*e*P **P 12 46 56.5 +0.2**
BZS Buzias 57.59 32⇑*i*P **P 12 46 57.0 +0.2**
BZS Buzias 57.59 32 P **P 12 46 57.2 +0.4**
LCO Las Campanas 57.64 235 PFAKE 12 47 10.0 +13
LCO LR LR
comp=Z,2μm,22.0s,MS5.3
NRDL Niedersach Rie 57.68 20 *e*P **P 12 46 57.8 +0.6**
comp=Z,108nm,1.6s,mb5.6
NRDL *e*pP pP 12 47 03.5 +0.6
NRDL *e*PP PP 12 49 01.7 -3.6
NRDL *e*S **S 12 54 56.3 +1.4**
BALY Balya 57.68 41 *i* P **P 12 46 57.6 0.0**
VRAC Vranov 57.72 26 P **P 12 46 56.8 -0.8**
comp=Z,32nm,1.1s,mb5.3,baz=226,slow=6.8,SNR=46
VRAC PP PP 12 49 01.8 -4.0
comp=Z,14nm,1.0s,baz=228,slow=11,SNR=4.9
VRAC LR LR 13 14 11.5
comp=Z,1μm,19.1s,MS5.0,baz=228,slow=39
VRAC Vranov 57.72 26⇑*i*P **P 12 46 56.9 -0.7**
VRAC Vranov 57.72 26 P **P 12 46 57.1 -0.5**
GOLH Golhisar 57.73 44 *i* P **P 12 46 58.8 +0.8**
ELL Elmali 57.74 45 *e*P **P 12 46 59.1 +1.1**
KULA Kula-Manisa 57.74 43 *e*P **P 12 46 58.0 0.0**
CLL Collm 57.77 23⇑*i*P **P 12 46 57.3 -0.6**
CLL *i* 12 49 02.5
CLL *e*S **S 12 54 56.0 -0.1**
CLL pmax pmax
comp=Z,82nm,1.3s,mb5.6
CLL MLR MLR
comp=Z,1μm,16.2s,MS5.1
CLL Collm 57.77 23 *e*P **P 12 46 57.4 -0.5**
comp=Z,82nm,1.3s,mb5.6
CLL *e*pP pP 12 47 03.7 +0.2
CLL *e*S **S 12 54 55.9 -0.2**
CLL Collm 57.77 23⇑*i*P **P 12 46 57.3 -0.6**
comp=Z,82nm,1.3s,mb5.6
CLL *i* (sP) sP 12 47 04.3 -1.4
CLL *i* x x 12 47 12.1
CLL *i* PP PP 12 49 02.5 -3.6
comp=Z,43nm,1.1s
CLL *e*(sPP) 12 49 12.0
CLL *e*PPP 12 50 21.0
CLL *e*S **S 12 54 56.0 -0.1**
comp=N,2μm,25.6s
CLL *e*S **S 12 54 56.0 -0.1**
comp=E,1μm,24.0s
CLL *e*SSS 13 01 23.0
CLL Collm 57.77 23⇑*i*P **P 12 46 57.3 -0.6**
comp=E,82nm,1.3s,mb5.6
CLL *i* PP PP 12 49 02.5 -3.6
CLL *e*S **S 12 54 56.0 -0.1**
CLL LR LR
comp=Z,1μm,16.2s,MS5.1
PVCC Panska Ves 57.78 24⇑*i*P **P 12 46 57.7 -0.3**
PVCC *e*x x 12 47 04.2
PVCC *e*S **S 12 54 54.3 -2.0**
PVCC AMS AMS 13 12 20.0
comp=Z,2μm,14.6s
BRG Berggiesshubel 57.79 23 *i* P **P 12 46 57.7 -0.4**
BRG *i* 12 49 03.2
BRG S **S 12 54 55.0 -1.5**
BRG pmax pmax
comp=Z,55nm,1.4s,mb5.4
BRG MLR MLR
comp=Z,760nm,16.4s,MS4.9
BRG Berggiesshubel 57.79 23 *e*P **P 12 46 57.5 -0.6**
comp=Z,93nm,1.4s,mb5.6
BRG *e*PP PP 12 49 00.9 -5.5
BRG Berggiesshubel 57.79 23 *i* P **P 12 46 57.7 -0.4**
comp=Z,92nm,1.4s,mb5.6
BRG *i* 12 47 13.2
comp=Z,25nm,0.9s
BRG *e* 12 48 00.2
comp=Z,14nm,1.0s
BRG *i* PP PP 12 49 03.2 -3.2
comp=Z,148nm,1.5s
BRG S **S 12 54 55.0 -1.5**
BRG Berggiesshubel 57.79 23 *i* P **P 12 46 57.7 -0.4**
comp=Z,55nm,1.4s,mb5.4
BRG *i* 12 47 13.2
BRG *e* 12 48 00.2
BRG *i* PP PP 12 49 03.2 -3.2
BRG S **S 12 54 55.0 -1.5**
BRG P'P' 13 16 49.4
BRG LR LR
comp=Z,760nm,16.4s,MS4.9
BALB Balikesir 57.80 41 *e*P **P 12 46 58.4 0.0**
RKY Sarkoy-Tekirda 57.91 40 *e*P **P 12 46 57.8 -1.3**
SART Tekirdag 57.91 40 *i* P **P 12 46 58.3 -0.8**
BTOK Tokmak 57.97 41 *i* P **P 12 46 59.9 +0.3**
KOLL Kolacno 58.01 28 *i* P **P 12 46 59.4 -0.3**
MFT Murefte 58.03 40 *e*P **P 12 46 59.3 -0.6**
DEMI Demirci 58.05 42 *i* P **P 12 47 00.3 +0.2**
GZR Gura Zlata 58.07 33⇓*i*P **P 12 47 00.8 +0.6**
GZR Gura Zlata 58.07 33 P **P 12 47 00.7 +0.6**
BNT Bandirma 58.21 40 *e*P **P 12 47 01.0 -0.3**
KHAL Karahalli 58.24 43 *i* P **P 12 47 01.7 +0.2**
PSZ Piszkesteto 58.26 29⇑*e*P **P 12 47 01.6 +0.2**
PSZ Piszkesteto 58.26 29⇑*i*P **P 12 47 01.4 0.0**
PSZ Piszkesteto 58.26 29 *e*P **P 12 47 00.5 -0.9**
comp=Z,112nm,1.2s,mb5.8
PSZ LR LR
comp=Z,1μm,21.0s,MS5.0
KPL Plockton 58.30 8 *e*P **P 12 47 01.6 +0.1**
KPL AMb AMB 12 47 02.8
comp=Z,113nm,1.5s,mb5.7
UPC Upice 58.36 25⇑*i*P **P 12 47 01.5 -0.6**
UPC *e* pP 12 47 08.1 +0.4
UPC *e* 12 49 07.9
UPC Upice 58.36 25⇑*i*P **P 12 47 01.5 -0.6**
UPC *e*x x 12 47 08.1
UPC *e*x x 12 47 15.6
UPC *e*PP PP 12 49 07.9 -3.5
DPC Dobruska-Polom 58.38 25⇑*i*P **P 12 47 01.7 -0.5**
DPC *e*x x 12 47 08.4
DPC *e*PP PP 12 49 07.5 -4.1
DPC *e*S **S 12 55 03.3 -0.8**
DPC AMS AMS 13 11 10.0
comp=Z,1μm,15.9s
ZIMR 58.48 36 P **P 12 47 03.5 +0.5**
MORC Moravsky Berou 58.48 26 P **P 12 47 02.9 -0.1**
MORC Moravsky Berou 58.48 26⇑*i*P **P 12 47 02.7 -0.2**
MORC Moravsky Berou 58.48 26 *e*P **P 12 47 02.2 -0.7**
comp=Z,79nm,1.1s,mb5.7
JMB Yambol 58.52 38 *e*P **P 12 47 02.1 -1.3**
JMB Yambol 58.52 38 P **P 12 47 02.3 -1.1**
BCK Bucak 58.56 45 *e*P **P 12 47 03.7 0.0**
SZH Strazhica 58.58 37 P **P 12 47 03.3 -0.5**
GDZ Gediz 58.59 42 *i* P **P 12 47 04.3 +0.4**
MDO Dochfour 58.59 9 *e*P **P 12 47 03.0 -0.6**
TKTP Tekketepe 58.65 44 *i* P **P 12 47 04.8 +0.4**
EIL Elat 58.68 55 P **P 12 47 05.0 +0.3**
comp=Z,40nm,1.1s,mb5.4,baz=277,slow=5.3,SNR=36
ISP Isparta 58.68 44 *e*P **P 12 47 04.7 +0.1**
ISP Isparta 58.68 44 *e*P **P 12 47 04.3 -0.3**
ISP Isparta 58.68 44 P **P 12 47 05.0 +0.4**
ISP Isparta 58.68 44 P **P 12 47 04.3 -0.3**
ISP LR LR
comp=Z,1μm,20.0s,MS5.0
KSP Ksiaz 58.73 25 *e*P **P 12 47 04.2 -0.5**
comp=Z,300nm,1.8s,mb6.0
KSP *e*PP PP 12 49 10.1 -4.6
KSP *e*S **S 12 55 07.6 -1.1**
KSP *e*sS sS 12 55 22.9 +4.9
KSP LMZ 13 11 28.6
comp=Z,4μm,19.9s
KSP Ksiaz 58.73 25 *e*P **P 12 47 03.8 -0.9**
KSP *e* 12 47 18.0
KSP *e*PP PP 12 49 10.0 -4.7
KSP *e*S **S 12 55 08.0 -0.8**
KSP LR LR
comp=Z,4μm,19.9s,MS5.5
OKC Ostrava-Krasne 58.80 27⇑*i*P **P 12 47 05.1 0.0**
OKC *e*PP PP 12 49 12.2 -3.1
OKC *e*S **S 12 55 09.4 -0.2**
OKC AMS AMS 13 15 20.0
comp=Z,1μm,13.7s
OKC Ostrava-Krasne 58.80 27⇑*i*P **P 12 47 05.1 0.0**
OKC *e*PP PP 12 49 12.2 -3.1
OKC *e*S **S 12 55 09.4 -0.2**
ULDT Uludag 58.89 41 *i* P **P 12 47 05.9 -0.1**
DRGR 58.93 32⇓*i*P **P 12 47 06.4 +0.2**
DRGR 58.93 32 P **P 12 47 06.3 +0.1**
KECS Kecovo 58.94 29 *i* P **P 12 47 06.2 +0.1**
KECS *e* 12 49 13.2
KECS pmax pmax
comp=Z,32nm,1.2s,mb5.2
KECS Kecovo 58.94 29 *i* P **P 12 47 06.2 +0.1**
comp=Z,32nm,1.2s,mb5.2
KECS *e*PP sP 12 47 15.5 +1.6
KECS *e*PP PP 12 49 13.2 -3.4
BSEG Bad Segeberg 58.94 19 *e*P **P 12 47 05.8 -0.3**
comp=Z,186nm,1.5s,mb5.9
BSEG *e*PP PP 12 49 13.3 -3.2
RUE Ruedersdorf 58.99 22 *e*P **P 12 47 06.8 +0.4**
comp=Z,77nm,1.0s,mb5.7
ALT Altintas 58.99 43 *e*P **P 12 47 07.2 +0.4**
RAC Raciborz 58.99 26 *e*P **P 12 47 06.8 +0.3**
RAC *e*S **S 12 55 08.8 -3.4**
RAC MLR MLR
comp=Z,1μm,17.0s,MS5.1
SHUT Suhut-Afyon 59.05 43 *e*P **P 12 47 07.3 +0.2**
GEMT Gemlik 59.07 41 *e*P **P 12 47 06.4 -0.8**
LEF Lefka 59.17 48 *e*P **P 12 47 07.4 -0.7**
YLV Yalova 59.26 41 *e*P **P 12 47 07.8 -0.8**
ISK Istanbul-Kandi 59.31 40 *e*P **P 12 47 07.1 -1.8**
NNA Nana 59.35 256 PFAKE 12 47 20.0 +10
NNA LR LR
comp=Z,3μm,19.0s,MS5.5
KLYT Kilyos 59.40 40 *e*P **P 12 47 08.4 -1.2**
BOLV Bolvadin 59.41 43 *i* P **P 12 47 10.1 +0.5**
PRD Provadia 59.43 37 P **P 12 47 08.5 -1.2**
CSS Prodhromos 59.44 48 *e*P **P 12 47 08.9 -1.0**
NIE Niedzica 59.50 28 *e*P **P 12 47 10.4 +0.4**
NIE *e*PP PP 12 49 20.0 -1.5
HDMB Hadim 59.68 46 *e*P **P 12 47 11.5 0.0**
CRVS Cervenica-Dubn 59.69 29 *i* P **P 12 47 11.0 -0.4**
CRVS *e* 12 47 58.0
CRVS *e* 12 49 21.7
CRVS *i* S **S 12 55 17.3 -4.0**
CRVS Cervenica-Dubn 59.69 29 *i* P **P 12 47 11.0 -0.4**
CRVS *e*PCP PcP 12 47 58.0 -0.2
CRVS *e*PP PP 12 49 21.7 -1.6
CRVS *i* S **S 12 55 17.3 -4.0**
CRVS *e*SS SS 12 59 03.9 -13
LFK Lefkose 59.72 48 *e*P **P 12 47 12.3 +0.5**
ESKT Eskisehir 59.72 43 *i* P **P 12 47 11.7 -0.1**
OJC Ojcow 59.82 27 *i* P **P 12 47 11.8 -0.4**
OJC *e*PP PP 12 49 21.5 -2.8
OJC *e*S **S 12 55 18.5 -4.3**
OJC *e*SS SS 12 59 12.7 -6.5
OJC L 13 11 07.5
comp=Z,1.3nm,22.5s
MLR Muntele Rosu 59.89 34⇑*i*P **P 12 47 12.6 -0.2**
MLR Muntele Rosu 59.89 34 P **P 12 47 12.7 -0.1**
UZH Uzhgorod 59.92 30*d*⇑*i*P **P 12 47 12.4 -0.6**
UZH *e* 12 48 00.2
UZH *e* 12 49 27.0
UZH *e*S **S 12 55 19.3 -5.0**
UZH *e*PS 12 55 37.0
UZH *e* 12 56 58.0
UZH *e*SS SS 12 59 14.0 -6.9
UZH MLR MLR
comp=N,760nm,15.0s,MS5.0
UZH MLR MLR
comp=E,470nm,15.0s,MS5.0
UZH MLR MLR
comp=Z,340nm,15.0s,MS4.6
STHS Stebnicka Huta 59.94 29 *i* P **P 12 47 13.0 0.0**
STHS pmax pmax
comp=Z,12nm,1.3s,mb4.8
STHS Stebnicka Huta 59.94 29 *i* P **P 12 47 13.0 0.0**
comp=Z,12nm,1.3s,mb4.8
KONT Konya--Tatoy 60.03 45 *e*P **P 12 47 14.3 +0.4**
KOLS Kolonicke sedl 60.11 30 *i* P **P 12 47 13.8 -0.5**
KOLS *e*pP pP 12 47 21.1 +1.2
KOLS *e*PP PP 12 49 25.7 -1.3
KOLS *i* S **S 12 55 24.7 -2.0**
KDHN Kadinhani 60.12 44 *i* P **P 12 47 14.5 0.0**
KIZT Kizilcal 60.12 44 *e*P **P 12 47 14.8 +0.3**
LADK Ladik-KONYA 60.15 45 *e*P **P 12 47 14.7 0.0**
OTAV Otavalo 60.27 270 PFAKE 12 47 30.0 +14
OTAV LR LR
comp=Z,1μm,22.0s,MS5.0
EREN Erenkoy 60.30 48 *e*P **P 12 47 16.4 +0.6**
HENT Hendek 60.39 41 *i* P **P 12 47 16.2 -0.2**
ATAH Atahualpa 60.42 262 P **P 12 47 17.4 +0.4**
comp=Z,8.6nm,0.8s,mb4.8,baz=106,slow=6.2,SNR=4.8
MDU Mudurnu 60.43 42 *e*P **P 12 47 16.3 -0.3**
PLOR Plostina 60.51 34 P **P 12 47 16.5 -0.5**
VRI Vrincioaia 60.56 35⇑*i*P **P 12 47 16.6 -0.8**
VRI Vrincioaia 60.56 35 P **P 12 47 16.5 -0.8**
MUD Monsted U'grnd 60.71 17 *i* P **P 12 47 18.7 +0.5**
TIRR Tirgusor 60.74 37⇓*i*P **P 12 47 18.0 -0.6**
TIRR Tirgusor 60.74 37 *e*P **P 12 47 17.6 -1.1**
comp=Z,30nm,0.9s,mb5.4
BHL Bhannes 60.78 50 *e*P **P 12 47 19.4 +0.3**
BURAR Bucovina Array 60.78 32⇑*i*P **P 12 47 19.3 +0.5**
BURAR Bucovina Array 60.78 32 P **P 12 47 19.4 +0.6**
KWP Kalwaria 60.79 29 *e*P **P 12 47 18.4 -0.5**
comp=Z,200nm,1.4s,mb6.0
KWP *e*pP pP 12 47 24.7 +0.1
KWP *e*PP PP 12 49 31.1 -1.9
KWP LMZ 13 13 29.7
comp=Z,2μm,24.1s
KWP Kalwaria 60.79 29⇑*i*P **P 12 47 18.7 -0.2**
KWP Kalwaria 60.79 29⇑*e*P **P 12 47 18.4 -0.5**
KWP *e*pP pP 12 47 24.7 +0.2
KWP *e*PP PP 12 49 31.1 -1.9
KWP LR LR
comp=Z,2μm,21.0s,MS5.2
GKP Gorka Klasztor 60.94 23 *e*P **P 12 47 20.1 +0.3**
comp=Z,600nm,1.7s,mb6.5
GKP *e*S **S 12 55 35.9 -1.2**
GKP Gorka Klasztor 60.94 23⇑*e*P **P 12 47 20.1 +0.3**
GKP *e*S **S 12 55 35.9 -1.2**
GKP pmax pmax
comp=Z,1.0nm,1.7s
GKP Gorka Klasztor 60.94 23⇑*e*P **P 12 47 20.1 +0.3**
comp=Z,0.6nm,1.7s
GKP *e*S **S 12 55 35.9 -1.2**
SGKT Sivrigoynuk 61.04 42 *i* P **P 12 47 20.6 -0.2**
COP Copenhagen 61.08 19 *i* P **P 12 47 19.9 -0.8**
COP *i* 12 49 33.4
COP *i* S **S 12 55 42.2 +3.4**
COP
comp=Z,920nm,19.0s
MERS Mersin 61.11 47 *e*P **P 12 47 21.0 -0.3**
ASF Jabal al Asfar 61.12 53 P **P 12 47 22.5 +1.0**
comp=Z,45nm,0.9s,mb5.6,baz=120,slow=3.7,SNR=53
HWQ Hawqa 61.14 50 *e*P **P 12 47 13.7 -7.9**
ANTO Ankara 61.21 43 P **P 12 47 22.9 +1.0**
ANTO Ankara 61.21 43 *e*P **P 12 47 22.6 +0.7**
comp=Z,118nm,1.4s,mb5.8
ANTO LR LR
comp=Z,1μm,20.0s,MS5.0
EFI East Falkland 61.22 207 PFAKE 12 47 30.0 +8.3
EFI LR LR
comp=Z,2μm,21.0s,MS5.2
TLCR 61.38 36 P **P 12 47 22.9 -0.1**
LVV L'vov 61.56 30⇓*i*P **P 12 47 23.6 -0.5**
LVV *e* 12 49 37.4
LVV *e*S **S 12 55 41.0 -4.2**
LVV MLR MLR
comp=N,100nm,18.0s,MS4.7
LVV MLR MLR
comp=Z,700nm,18.0s,MS4.9
LVV MLR MLR
comp=E,500nm,19.0s,MS4.7
KAMT Kaman 61.61 44 *e*P **P 12 47 24.5 -0.2**
NIG Nigde 61.70 46 *e*P **P 12 47 26.3 +1.0**
WAR Warsaw 61.78 26 *e*P **P 12 47 25.9 +0.4**
WAR *e*S **S 12 55 44.1 -3.7**
WAR LMZ 13 12 48.0
comp=E,1μm,20.6s
WAR Warsaw 61.78 26 *e*P **P 12 47 25.9 +0.4**
WAR *e*S **S 12 55 44.1 -3.8**
WAR LR LR
comp=Z,1μm,20.6s,MS5.1
BCIP Isla Barro Col 62.09 280 *e*P **P 12 47 28.5 +0.1**
comp=Z,35nm,0.8s,mb5.5
BCIP LR LR
comp=Z,1μm,22.0s,MS5.0
CANT Cankiri 62.11 43 *e*P **P 12 47 27.8 -0.2**
AVNT Avonos 62.16 45 *i* P **P 12 47 27.2 -1.1**
PLCA Paso Flores 62.16 223 P **P 12 47 27.3 -1.0**
comp=Z,3.6nm,1.1s,mb4.4,baz=72,slow=8.9,SNR=4.4
PLCA LR LR 13 11 06.9
comp=Z,1μm,19.8s,MS5.1,baz=60,slow=33
PLCA Paso Flores 62.16 223 P **P 12 47 27.3 -1.1**
PLCA LR LR 13 11 06.9
CDAG Cicekdag 62.18 44 *i* P **P 12 47 28.3 -0.2**
KOZT Kozan 62.31 47 *e*P **P 12 47 31.1 +1.7**
BALT Daday 62.38 42 *i* P **P 12 47 28.6 -1.2**
TOS Tosya 62.58 42 *e*P **P 12 47 30.9 -0.2**
CORM Corum 62.61 43 *e*P **P 12 47 30.8 -0.5**
ANDN Andirin 62.73 47 *i* P **P 12 47 32.9 +0.7**
BNN Bunyan 62.89 45 *e*P **P 12 47 32.9 -0.4**
CTKT Corum 62.91 43 *i* P **P 12 47 33.4 +0.1**
KMRS Kahramanmaras 63.10 47 *e*P **P 12 47 35.1 +0.4**
GAZ Gaziantep 63.20 47 *e*P **P 12 47 36.1 +0.8**
SARI SarD1z-Kayseri 63.42 46 *e*P **P 12 47 35.2 -1.6**
KONO Kongsberg 63.56 15 *e*P **P 12 47 36.7 -0.5**
DIKM Dikmen 63.68 42 *e*P **P 12 47 38.0 -0.5**
WES Weston 63.81 319 PFAKE 12 47 50.0 +11
WES LR LR
comp=Z,1μm,21.0s,MS5.1
PKME Peaks-Kenny Pk 63.89 322 PFAKE 12 47 50.0 +10
PKME LR LR
comp=Z,1μm,21.0s,MS5.0
SUW Suwalki 63.95 26 *e*P **P 12 47 39.2 -0.8**
comp=Z,400nm,1.2s,mb6.3
SUW *e*PP PP 12 49 54.6 -6.0
SUW *e*S **S 12 56 12.8 -2.2**
SUW LMZ 13 12 58.4
comp=Z,1μm,27.8s
SUW Suwalki 63.95 26⇑*e*P **P 12 47 39.2 -0.7**
SUW *e*PP PP 12 49 54.7 -6.0
SUW *e*S **S 12 56 12.8 -2.1**
HRV Adam Dziewonsk 64.03 319 *e*P **P 12 47 40.9 +0.2**
HRV pmax pmax
comp=Z,130nm,2.0s,mb5.6
HRV MLR MLR
comp=Z,892nm,20.0s,MS5.0
HRV Adam Dziewonsk 64.03 319 *e*P **P 12 47 40.9 +0.2**
comp=Z,130nm,2.0s,mb5.6
HRV LR LR
comp=Z,892nm,20.0s,MS5.0
SVSK Karacayir 64.14 45 *e*P **P 12 47 41.2 -0.2**
QUA2 Belchertown 64.45 318 *e*P **P 12 47 43.9 +0.4**
comp=Z,124nm,1.4s,mb5.8
SIM Simferopol' 64.47 39 P **P 12 47 41.5 -2.0**
SIM *e*S **S 12 56 19.0 -2.8**
SIM MLR MLR
comp=Z,1μm,18.0s,MS5.1
URFA Urfa 64.49 48 *e*P **P 12 47 44.4 +0.6**
MALT Malatya 64.53 47 *e*P **P 12 47 44.8 +0.7**
MALT Malatya 64.53 47 P **P 12 47 44.7 +0.6**
MALT Malatya 64.53 47⇑*i*P **P 12 47 44.6 +0.5**
MALT Malatya 64.53 47 *e*P **P 12 47 44.6 +0.5**
comp=Z,64nm,0.8s,mb5.7
MALT LR LR
comp=Z,984nm,21.0s,MS5.0
MYA Malataya 64.53 47 *e*P **P 12 47 44.5 +0.4**
RSDY Resadiye-TOKAT 64.57 44 *e*P **P 12 47 44.1 -0.2**
KIEV Kiev 64.72 31 *e*P **P 12 47 43.9 -1.2**
KIEV pmax pmax
comp=Z,172nm,1.3s,mb5.9
KIEV MLR MLR
comp=Z,1μm,22.0s,MS5.1
KIEV Kiev 64.72 31 *e*P **P 12 47 43.9 -1.2**
comp=Z,172nm,1.3s,mb5.9
KIEV LR LR
comp=Z,1μm,22.0s,MS5.1
AKASG Malin Array Be 64.74 31 P **P 12 47 43.6 -1.6**
comp=Z,72nm,1.1s,mb5.6,baz=234,slow=7.4,SNR=102
AKASG PP PP 12 50 02.1 -5.5
comp=Z,16nm,1.0s,baz=234,slow=9.5,SNR=5.0
AKASG LR LR 13 15 37.0
comp=Z,1μm,20.1s,MS5.1,baz=245,slow=36
AKASG Malin Array Be 64.74 31 P **P 12 47 43.6 -1.6**
AKASG 12 50 02.2
BORG Borgarnes 64.91 359 P **P 12 47 48.9 +2.9**
comp=Z,6.0nm,0.8s,mb4.7,baz=170,slow=6.6,SNR=3.7
BORG Borgarnes 64.91 359 P **P 12 47 48.9 +2.9**
BORG LR LR
comp=Z,1μm,21.0s,MS5.2
NAO01 NORSAR Array S 64.92 15 *e*P **P 12 47 46.1 -0.1**
comp=Z,55nm,1.3s,mb5.4
NAO01 LR LR
comp=Z,1μm,21.0s,MS5.0
LBNH Lisbon 65.05 320 *e*P **P 12 47 48.0 +0.6**
LBNH pmax pmax
comp=Z,68nm,1.5s,mb5.5
LBNH MLR MLR
comp=Z,1μm,20.0s,MS5.2
LBNH Lisbon 65.05 320 *e*P **P 12 47 48.0 +0.7**
comp=Z,68nm,1.5s,mb5.5
LBNH LR LR
comp=Z,1μm,20.0s,MS5.2
HFS Hagfors 65.10 17 P **P 12 47 46.5 -0.9**
comp=Z,14nm,0.7s,mb5.1,baz=197,slow=4.6,SNR=23
HFS PP PP 12 50 04.7 -6.1
comp=Z,32nm,1.0s,baz=208,slow=5.0,SNR=5.1
NB2 NORSAR Subarra 65.17 15 P **P 12 47 47.6 -0.2**
comp=Z,2.3nm,0.7s,baz=204,slow=6.9
NOA NORSAR Array B 65.17 15 P **P 12 47 47.5 -0.3**
comp=Z,12nm,0.9s,mb4.9,baz=211,slow=6.6,SNR=18
NOA LR LR 13 14 15.4
comp=Z,1μm,21.8s,MS5.0,baz=210,slow=34
SVRC Sivrice-ELAZID 65.19 47 *e*P **P 12 47 49.1 +0.7**
PTK Pertek 65.45 46 *e*P **P 12 47 50.4 +0.3**
CNNC Cliffs of the 65.78 309 PFAKE 12 48 00.0 +7.7
CNNC LR LR
comp=Z,1μm,20.0s,MS5.1
MARD Mardin 65.90 48 *i* P **P 12 47 53.0 0.0**
GUMT Gumushane 66.10 45 *e*P **P 12 47 54.5 +0.3**
URVA University of 66.29 312 *e*P **P 12 47 55.6 +0.1**
MNK Minsk 66.34 27⇓*e*P **P 12 47 51.0 -4.5**
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.2
FRNY Flat Rock 66.38 320 *e*P **P 12 47 55.9 0.0**
NCB Newcomb 66.42 319 PFAKE 12 48 10.0 +14
NCB LR LR
comp=Z,1μm,19.0s,MS5.1
SDMD Soldier's Deli 66.42 314 *e*P **P 12 47 57.0 +0.6**
comp=Z,84nm,1.5s,mb5.5
ANN Anapa 66.50 40*c*⇑*i*P **P 12 47 55.0 -1.7**
ANN *i* *PP pP 12 47 58.3 -4.1
ANN *i* 12 50 20.8
ANN *i* PPP 12 51 56.1
ANN *e*S S 12 56 45.2 -1.4
ANN *e*SS SS 13 01 00.9 -2.9
ANN pmax pmax
comp=Z,154nm,1.2s,mb5.9
ANN MLR MLR
comp=N,930nm,20.0s,MS5.1
ANN MLR MLR
comp=E,755nm,20.0s,MS5.1
ANN MLR MLR
comp=Z,1μm,20.0s,MS5.1
OPO Ambohidratompo 66.62 110 P **P 12 48 00.9 +3.0**
comp=Z,25nm,1.0s,mb5.2,baz=259,slow=4.0,SNR=16
KOPT Kop Dagi 66.66 46 *i* P **P 12 47 58.5 +0.7**
ABPO Ambohimpanom 66.72 111 *e*P **P 12 48 00.2 +1.6**
ABPO pmax pmax
comp=Z,33nm,1.2s,mb5.2

ABPO MLR MLR
comp=Z,1μm,19.0s,MS5.1
ABPO Ambohimpanom 66.72 111 *eP* **P 12 48 00.2 +1.6**
comp=Z,33nm,1.2s,mb5.2
ABPO LR LR
comp=Z,1μm,19.0s,MS5.1
BINY Binghamton 66.87 317 *eP* **P 12 48 00.0 +0.9**
comp=Z,105nm,1.6s,mb5.6
BINY LR LR
comp=Z,878nm,21.0s,MS5.0
LONY Lake Ozonia 66.93 320 *eP* **P 12 48 00.4 +1.0**
comp=Z,88nm,1.8s,mb5.5
LONY LR LR
comp=Z,921nm,20.0s,MS5.0
NHSC New Hope 66.95 306 *eP* **P 12 48 00.3 +0.5**
NHSC LR LR
comp=Z,989nm,19.0s,MS5.0
EZM Erzurum 67.24 46 *eP* **P 12 48 02.1 +0.7**
ERZM Erzurum 67.24 46 *i P* **P 12 48 02.6 +1.1**
SOC Sochi 67.48 42 *i P* **P 12 48 03.0 0.0**
HOMI Horasan 67.68 46 *i P* **P 12 48 04.9 +0.6**
SCHQ Schefferville 67.77 332 PFAKE 12 48 20.0 +15
SCHQ LR LR
comp=Z,2μm,20.0s,MS5.3
BCA Borcka 67.97 45 *eP* **P 12 48 05.0 -1.1**
HAKT HAKKARI 68.18 49 *i P* **P 12 48 07.8 +0.3**
VANB Van 68.27 48 *eP* **P 12 48 08.0 0.0**
AGRB Hanur-Agry 68.30 47 *eP* **P 12 48 08.7 +0.5**
BLA Blacksburg 68.34 311 *eP* **P 12 48 09.4 +0.9**
BLA *e* pP 12 48 14.6 +0.3
BLA pmax pmax
comp=Z,36nm,1.3s,mb5.2
BLA Blacksburg 68.34 311 *eP* **P 12 48 09.1 +0.5**
comp=Z,20nm,1.1s,mb5.0
BLA LR LR
comp=Z,1μm,20.0s,MS5.2
VSU Vasula 68.39 24⇑ *i P* **P 12 48 07.7 -0.7**
ELN Prospectdale 68.60 310 *eP* **P 12 48 10.8 +0.6**
MCWV Mont Chateau 68.69 313 PFAKE 12 48 20.0 +9.4
MCWV LR LR
comp=Z,1μm,21.0s,MS5.1
NAY Al-Naaiem 68.83 58 *eP* **P 12 48 11.0 -0.7**
baz=58
NAY AMb AMB 12 48 12.8
comp=Z,75nm,0.8s,mb5.7,baz=58
CLDR Caldiran 68.84 47 *eP* **P 12 48 12.4 +0.8**
RDF Al-Radifah 69.02 59 *eP* **P 12 48 12.4 -0.5**
baz=59
RDF AMb AMB 12 48 14.9
comp=Z,103nm,1.3s,mb5.6,baz=59
MIB Mutribah 69.03 58 *eP* **P 12 48 11.8 -1.1**
baz=58
MIB AMb AMB 12 48 14.4
comp=Z,90nm,1.1s,mb5.6,baz=58
UMR Umm Al-Rimmam 69.30 58 *eP* **P 12 48 14.4 -0.2**
baz=58
UMR AMb AMB 12 48 16.2
comp=Z,157nm,1.4s,mb5.8,baz=58
ALLY Alegheny Colle 69.56 315 *eP* **P 12 48 16.2 +0.2**
comp=Z,94nm,1.5s,mb5.5
KIV Kislovodsk 69.61 42α *i P* **P 12 48 16.2 -0.1**
KIV *i* *PP pP 12 48 18.8 -3.2
KIV *e* 12 48 24.6
KIV 12 48 39.0
KIV 12 50 57.0
KIV *e* 12 52 36.8
KIV *i* S S 12 57 23.4 -0.5
KIV *i* 12 57 44.1
KIV pmax pmax
comp=Z,176nm,1.8s,mb5.7
KIV MLR MLR
comp=Z,800nm,24.0s,MS4.9
KIV Kislovodsk 69.61 42 *eP* **P 12 48 16.0 -0.2**
comp=Z,150nm,1.4s,mb5.7
KIV LR LR
comp=Z,793nm,22.0s,MS4.9
ONI Oni 69.65 44 P **P 12 48 16.1 -0.4**
GOGA Godfrey 69.69 306 *eP* **P 12 48 17.8 +0.8**
GOGA MLR MLR
comp=Z,742nm,20.0s,MS4.9
GNI Garni 69.76 47 *eP* **P 12 48 17.2 -0.1**
GNI Garni 69.76 47 P **P 12 48 17.5 +0.2**
comp=Z,45nm,1.1s,mb5.3,baz=6.2,slow=2.3,SNR=21
GNI LR LR 13 18 37.2
comp=Z,388nm,20.1s,MS4.7,baz=258,slow=36
GNI Garni 69.76 47*c i P* **P 12 48 17.4 +0.1**
GNI pmax pmax
comp=Z,131nm,1.8s
GNI Garni 69.76 47 *eP* **P 12 48 17.5 +0.3**
comp=Z,89nm,1.2s,mb5.6
GNI LR LR
comp=Z,725nm,21.0s,MS4.9
TGUH Tegucigalpa,Un 69.81 285 *eP* **P 12 48 18.0 -0.1**
comp=Z,49nm,0.8s,mb5.5
TGUH LR LR
comp=Z,865nm,21.0s,MS5.0
GOR Gori 69.91 45 P **P 12 48 22.8 +4.7**
TBLG Delisi 70.27 45 P **P 12 48 20.4 +0.1**
MTA Mtatsminda 70.29 45 P **P 12 48 19.4 -1.1**
VRSR Storozhevoye 70.40 34*c i P* **P 12 48 19.4 -1.5**
VRSR *e* 12 48 39.9
VRSR *e*S S 12 57 27.5 -5.3
VRSR pmax pmax
comp=Z,30nm,1.8s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,1.2s
VRSR MLR MLR
comp=E,120nm,16.0s,MS4.5
VRSR MLR MLR
comp=Z,160nm,16.0s,MS4.4
VRSR MLR MLR
comp=N,200nm,17.0s,MS4.5
TKL Tuckaleechee C 70.50 308 P **P 12 48 21.9 0.0**
comp=N,11nm,1.0s,mb4.8,baz=120,slow=5.4,SNR=8.6
TKL Tuckaleechee C 70.50 308 *eP* **P 12 48 22.3 +0.4**
TKL Tuckaleechee C 70.50 308 *eP* **P 12 48 21.8 -0.1**
TZTN Tazewell 70.56 309 *eP* **P 12 48 22.6 +0.3**
comp=N,90nm,1.6s,mb5.5
TZTN LR LR
comp=Z,867nm,20.0s,MS5.0
VNA1 Neumayer--Stat 70.56 177 *eP* **P 12 48 23.9 +2.3**
VNA1 *e* 12 48 26.2
VNA1 *e* pP 12 48 28.3 +1.0
VNA1 *e* 12 48 31.4
VNA1 *e* 12 48 38.6
VNA1 *e* 12 48 43.1
KAF Kangasniemi 70.65 20 *ep* **P 12 48 21.7 -0.5**
comp=Z,43nm,0.8s,mb5.4,baz=229,slow=6.0
KAF Kangasniemi 70.65 20 *eP* **P 12 48 21.7 -0.5**
KAF pmax pmax
comp=Z,43nm,0.8s,mb5.4
OBN Obninsk 70.87 30α *i P* **P 12 48 22.4 -1.3**
OBN *e* 12 48 43.4
OBN *e* 12 50 57.3
OBN *i* S S 12 57 34.4 -3.7
OBN *e* 12 58 09.2
OBN *e* 13 05 12.2
OBN pmax pmax
comp=Z,137nm,1.8s,mb5.6
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.2
OBN Obninsk 70.87 30 *eP* **P 12 48 22.6 -1.1**
comp=Z,62nm,0.8s,mb5.6
OBN *e*pP pP 12 48 36.7 +7.3
OBN LR LR
comp=Z,1μm,20.0s,MS5.2
SFJD Kangerlussuaq 70.89 347 PFAKE 12 48 40.0 +16
SFJD LR LR
comp=Z,1μm,20.0s,MS5.2
VNA2 Neumayer--Watz 70.89 176 *eP* **P 12 48 25.0 +1.4**
VNA2 *e* 12 48 27.9
VNA2 *e* pP 12 48 29.9 +0.6
VNA2 *e* 12 48 33.3
VNA2 *e* 12 48 40.2
VNA2 *e* 12 48 44.7
CPCT Cooper Cave 71.04 308 *eP* **P 12 48 25.6 +0.4**
VNA3 Neumayer Olymp 71.07 177 *eP* **P 12 48 26.8 +2.1**
VNA3 *e* 12 48 29.6
VNA3 *e* pP 12 48 30.8 +0.4
VNA3 *e* pP 12 48 33.3 +2.9
VNA3 *e* 12 48 45.6
ACSO Alum Creek Sta 71.16 313 *eP* **P 12 48 25.2 -0.6**
comp=Z,50nm,1.0s,mb5.4
ACSO LR LR
comp=Z,956nm,20.0s,MS5.0
TEIG Tepich 71.45 291 P **P 12 48 27.2 -0.8**
comp=Z,17nm,1.1s,mb4.9,baz=5.3,slow=5.6,SNR=7.2
TEIG Tepich 71.45 291 *eP* **P 12 48 27.8 -0.2**
comp=Z,151nm,1.7s,mb5.7
TEIG *e*pP pP 12 48 42.5 +8.8
TEIG LR LR
comp=Z,812nm,19.0s,MS5.0
MOS Moscow 71.70 30α *i P* **P 12 48 28.2 -0.5**
MOS *e* 12 48 47.5
MOS *e* 12 51 07.0
MOS *e*S S 12 57 44.6 -3.1
MOS pmax pmax
comp=Z,600nm,1.9s,mb6.2
MOS pmax pmax
comp=Z,306nm,1.5s,mb6.0
MOS MLR MLR
comp=Z,2μm,22.0s,MS5.4
SNAA Sanae 71.97 175 *eP* **P 12 48 31.8 +1.7**
SNAA *e* 12 48 34.3
SNAA *e* pP 12 48 36.0 +0.2
SNAA *e* pP 12 48 38.8 +3.0
SNAA *e* 12 48 46.4
SNAA *e* 12 48 50.9
SNAA Sanae 71.97 175 P **P 12 48 31.0 +1.0**
comp=Z,1.0nm,0.7s,baz=348,slow=4.2,SNR=14
SWET Sewanee 72.10 307 *eP* **P 12 48 31.8 +0.2**
BRAL Brewton 72.12 303 *eP* **P 12 48 33.2 +1.4**
BRAL LR LR
comp=Z,1μm,22.0s,MS5.1
AAM Ann Arbor 72.25 315 P **P 12 48 32.9 +0.5**
AAM pmax pmax
comp=Z,22nm,0.4s,mb5.4
AAM Ann Arbor 72.25 315 *eP* **P 12 48 32.5 +0.1**
comp=Z,22nm,0.4s,mb5.4
AAM LR LR
comp=Z,1μm,19.0s,MS5.1
PMSA Palmer Station 72.39 199 *eP* **P 12 48 33.4 +0.8**
comp=Z,46nm,1.2s,mb5.3
MAK Makhachkala 72.60 45 *eP* **P 12 48 30.5 -3.9**
MAK *e* 12 48 49.7
MAK *e* 12 51 19.2
MAK *i* PPP 12 52 56.5
MAK *i* S S 12 57 54.6 -3.9
MAK *e* 12 58 39.6
MAK pmax pmax
comp=Z,331nm,1.7s,mb6.0
MAK MLR MLR
comp=Z,912nm,19.0s,MS5.1
MAK Makhachkala 72.60 45 *eP* **P 12 48 32.1 -2.3**
JOF Joensuu 72.95 21 *ep* **P 12 48 35.4 -0.7**
comp=Z,67nm,0.8s,mb5.6
MAIT Maitri 73.05 170 *eP* **P 12 48 43.2 +6.7**
WCI Wyandotte Cave 73.10 310 *eP* **P 12 48 37.0 -0.5**
WCI pmax pmax
comp=Z,58nm,1.4s,mb5.3
WCI MLR MLR
comp=Z,914nm,20.0s,MS5.0
WCI Wyandotte Cave 73.10 310 *eP* **P 12 48 37.0 -0.5**
comp=Z,58nm,1.4s,mb5.3
WCI LR LR
comp=Z,914nm,20.0s,MS5.0
GLMI Grayling 73.67 317 *eP* **P 12 48 40.8 +0.1**
comp=Z,118nm,1.2s,mb5.7
GLMI LR LR
comp=Z,972nm,19.0s,MS5.1
MSEY Mahe Island 73.69 95 PFAKE 12 48 50.0 +8.5
MSEY LR LR
comp=Z,924nm,20.0s,MS5.1
PLAL Pickwick Lake 73.77 307 *eP* **P 12 48 40.3 -1.2**
comp=Z,105nm,1.7s,mb5.5
PLAL LR LR
comp=Z,726nm,20.0s,MS5.0
SUMG Summit 73.85 354 *eP* **P 12 48 42.5 +1.3**
comp=Z,9.2nm,1.0s,mb4.7
OLIL Olney 74.60 310 *eP* **P 12 48 45.5 -0.7**
comp=Z,90nm,1.1s,mb5.6
OXF Oxford 74.75 306 PFAKE 12 49 00.0 +13
OXF LR LR
comp=Z,787nm,20.0s,MS5.0
GLAT Glass 75.00 308 *eP* **P 12 48 47.8 -0.8**
KLMR Klimovskoe 75.08 25*c i P* **P 12 48 47.7 -0.8**
KLMR *e*S S 12 58 23.6 -2.2
KLMR *e*SS SS 13 03 08.4 -6.5
KLMR pmax pmax
comp=Z,184nm,1.6s,mb5.8
VBMS Vicksburg 75.25 303 *eP* **P 12 48 50.7 +0.5**
comp=Z,135nm,1.7s,mb5.6
VBMS LR LR
comp=Z,761nm,20.0s,MS5.0
ARCES ARCESS Array B 75.53 15 P **P 12 48 49.5 -1.4**
comp=Z,8.6nm,0.7s,mb4.8,baz=224,slow=3.3,SNR=17
ARCES LR LR 13 20 36.1
comp=Z,1μm,21.6s,MS5.1,baz=233,slow=35
ARE0 ARCESS Array S 75.53 15 *eP* **P 12 48 50.8 -0.1**
HBAR Harrisburg 75.95 307 *eP* **P 12 48 53.7 -0.4**
KEV Kevo 76.06 15 P **P 12 48 54.3 +0.3**
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KEV Kevo 76.06 15 *eP* **P 12 48 53.4 -0.6**
comp=Z,26nm,0.7s,mb5.3
KEV LR LR
comp=Z,1μm,21.0s,MS5.1
FVM French Village 76.23 309 *eP* **P 12 48 54.9 -0.7**
FVM pmax pmax
comp=Z,51nm,1.5s,mb5.2
FVM French Village 76.23 309 *eP* **P 12 48 54.9 -0.7**
comp=Z,51nm,1.5s,mb5.2
APA Apatity 76.46 18⇓ *i P* **P 12 48 56.3 0.0**
APA *i* 12 49 11.5
APA *i* PPP 12 53 36.0
APA *i* S S 12 58 42.0 +1.2
APA *i* PS 12 59 14.0
APA pmax pmax
comp=Z,29nm,0.9s,mb5.2
APA MLR MLR
comp=Z,1μm,17.0s,MS5.2
DAG Danmarks Havn 76.95 360⇑ *i P* **P 12 49 00.2 +1.2**
comp=Z,4.8nm,0.7s,mb4.5
DAG Danmarks Havn 76.95 360⇑ *eP* **P 12 49 00.2 +1.2**
comp=Z,4.8nm,0.7s,mb4.5
LVZ Lovozero 77.04 18 PFAKE 12 49 10.0 +10
LVZ LR LR
comp=Z,958nm,20.0s,MS5.1
COWI Conover 77.08 318 *eP* **P 12 48 59.6 -0.7**
comp=Z,54nm,1.3s,mb5.3
COWI LR LR
comp=Z,1μm,20.0s,MS5.2
JFWS Jewell Farm 77.11 314 *eP* **P 12 49 00.2 -0.3**
JFWS pmax pmax
comp=Z,49nm,1.0s,mb5.4
JFWS MLR MLR
comp=Z,1μm,22.0s,MS5.2
JFWS Jewell Farm 77.11 314 *eP* **P 12 49 00.1 -0.4**
comp=Z,49nm,1.0s,mb5.4
JFWS LR LR
comp=Z,1μm,22.0s,MS5.2
MIAR Mount Ida 78.14 305 PFAKE 12 49 20.0 +14
MIAR LR LR
comp=Z,637nm,20.0s,MS5.0
NATX Nacogdoches 78.66 302 *eP* **P 12 49 09.1 -0.3**
comp=Z,140nm,1.5s,mb5.7
NATX LR LR
comp=Z,523nm,19.0s,MS4.9
SYO Syowa Base 78.67 162⇑ *eP* **P 12 49 08.9 +0.3**
SCIA State Center 79.07 313 *eP* **P 12 49 10.4 -1.0**
comp=Z,54nm,1.4s,mb5.3
SCIA LR LR
comp=Z,1μm,20.0s,MS5.3
EYMN Ely 79.07 319 *eP* **P 12 49 10.3 -1.0**
EYMN LR LR
comp=Z,1μm,21.0s,MS5.1
HKT Hockley 79.44 300 PFAKE 12 49 30.0 +16
HKT LR LR
comp=Z,625nm,20.0s,MS5.0
KBS Kingsbay 80.64 6 PFAKE 12 49 30.0 +11
KBS LR LR
comp=Z,499nm,20.0s,MS4.9
KSU1 Kansas State U 81.19 310 *eP* **P 12 49 21.7 -1.2**
comp=Z,21nm,0.9s,mb5.1
KSU1 LR LR
comp=Z,775nm,20.0s,MS5.1
AKTK Aktyubinsk 81.43 39 P **P 12 49 23.8 -0.1**
AKTK LR LR 13 28 14.8
AKTO Aktyubinsk 81.43 39 P **P 12 49 23.8 -0.1**
comp=Z,17nm,1.0s,mb4.9,baz=250,slow=4.6,SNR=42
AKTO LR LR 13 28 14.8
comp=Z,1μm,21.3s,MS5.2,baz=87,slow=38
ECSD EROS,Sioux Fal 81.83 314 *eP* **P 12 49 25.3 -0.9**
comp=Z,56nm,1.0s,mb5.5
ECSD LR LR
comp=Z,851nm,20.0s,MS5.1
AGMN Agassiz Refuge 82.01 319 *eP* **P 12 49 26.4 -0.7**
comp=Z,52nm,0.9s,mb5.5
AGMN LR LR
comp=Z,812nm,19.0s,MS5.1
ULM Lac du Bonnet 82.34 321 P **P 12 49 28.1 -0.7**
comp=Z,18nm,0.9s,mb5.0,baz=87,slow=5.5,SNR=14
ULM LR LR 13 23 41.7
comp=Z,744nm,18.2s,MS5.1,baz=82,slow=34
ULM Lac du Bonnet 82.34 321 *eP* **P 12 49 27.9 -0.9**
comp=Z,87nm,1.6s,mb5.4
ULM *e*pP pP 12 49 42.5 +7.9
ULM LR LR
comp=Z,1μm,20.0s,MS5.2
WMOK Wichita Mounta 82.42 305 *eP* **P 12 49 28.7 -0.8**
WMOK pmax pmax
comp=Z,31nm,1.0s,mb5.2
WMOK MLR MLR
comp=Z,781nm,21.0s,MS5.0
WMOK Wichita Mounta 82.42 305 *eP* **P 12 49 28.7 -0.8**
comp=Z,31nm,1.0s,mb5.2
WMOK *e*pP pP 12 49 43.0 +7.6
WMOK LR LR
comp=Z,781nm,21.0s,MS5.0
SOKR Solikamsk 82.65 30*c i P* **P 12 49 30.2 +0.1**
SOKR S S 12 59 48.5 +1.8
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.2
SOKR MLR MLR
comp=Z,1μm,18.0s,MS5.3
ARU Arti 82.91 33 P **P 12 49 31.7 +0.2**
comp=Z,182nm,1.0s,mb6.1,SNR=9.8
ARU Arti 82.91 33*c i P* **P 12 49 31.1 -0.4**
ARU pmax pmax
comp=Z,44nm,1.1s,mb5.4
ARU Arti 82.91 33⇑ *i P* **P 12 49 31.2 -0.3**
ARU LR LR
comp=Z,979nm,19.0s,MS5.2
JCT Junction City 82.91 301 *eP* **P 12 49 32.0 -0.2**
JCT pmax pmax
comp=Z,49nm,1.1s,mb5.5
JCT MLR MLR
comp=Z,395nm,20.0s,MS4.8
JCT Junction City 82.91 301 *eP* **P 12 49 32.0 -0.2**
comp=Z,49nm,1.1s,mb5.5
JCT LR LR
comp=Z,395nm,20.0s,MS4.8
FCC Fort Churchill 82.94 329 *eP* **P 12 49 31.7 0.0**
FCC pmax pmax
comp=Z,48nm,1.1s,mb5.4
FCC Fort Churchill 82.94 329 *eP* **P 12 49 31.6 0.0**
comp=Z,48nm,1.1s,mb5.4
CBKS Cedar Bluff 83.58 309 *eP* **P 12 49 35.5 0.0**
CBKS pmax pmax
comp=Z,83nm,1.1s,mb5.8
CBKS Cedar Bluff 83.58 309 *eP* **P 12 49 35.4 0.0**
comp=Z,83nm,1.1s,mb5.8
CBKS *e*pP pP 12 49 50.6 +9.3
CBKS LR LR
comp=Z,853nm,19.0s,MS5.1
TXAR Lajitas Array 86.19 299 P **P 12 49 48.9 +0.1**
comp=Z,14nm,0.9s,mb5.2,baz=121,slow=7.4,SNR=62
TXAR LR LR 13 25 36.3
comp=Z,396nm,19.8s,MS4.8,baz=190,slow=34
MAW Mawson 86.33 158 LR LR 13 20 30.4
comp=Z,460nm,19.8s,MS4.9,baz=291,slow=30
MAW Mawson 86.33 158 PFAKE 12 50 00.0 +11
MAW LR LR
comp=Z,823nm,22.0s,MS5.1
FFC Flin Flon 86.63 325 *eP* **P 12 49 49.6 -0.7**
FFC pmax pmax
comp=Z,18nm,1.2s,mb5.2
FFC MLR MLR
comp=Z,1μm,21.0s,MS5.2
FFC Flin Flon 86.63 325 *eP* **P 12 49 49.6 -0.7**
comp=Z,18nm,1.2s,mb5.2
FFC LR LR
comp=Z,1μm,21.0s,MS5.2
GDL2 Guadalupe Moun 86.91 302 *eP* **P 12 49 52.6 +0.3**
DGMT Dagmar 87.55 318 *eP* **P 12 49 55.4 +0.5**
comp=Z,110nm,1.4s,mb5.9
DGMT LR LR
comp=Z,1μm,19.0s,MS5.3
SDCO Great Sand Dun 88.04 308 *eP* **P 12 49 58.3 +0.8**
comp=Z,50nm,1.3s,mb5.6
SDCO *e*pP pP 12 50 13.1 +10
SDCO LR LR
comp=Z,754nm,20.0s,MS5.1
PHWY Pilot Hill 88.13 311 *eP* **P 12 49 58.4 +0.5**
ISCO Idaho Springs 88.19 310 *eP* **P 12 49 59.3 +1.0**
ISCO pmax pmax
comp=Z,67nm,1.4s,mb5.7
ISCO MLR MLR
comp=Z,1μm,22.0s,MS5.2
ISCO Idaho Springs 88.19 310 *eP* **P 12 49 59.3 +1.0**
comp=Z,67nm,1.4s,mb5.7
ISCO LR LR
comp=Z,1μm,22.0s,MS5.2
ANMO Albuquerque 88.74 305 P **P 12 50 01.3 +0.3**
comp=Z,5.3nm,0.9s,mb4.8,baz=126,slow=6.4,SNR=9.7
ANMO Albuquerque 88.74 305 *eP* **P 12 50 01.6 +0.6**
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO MLR MLR
comp=Z,1μm,21.0s
ANMO Albuquerque 88.74 305 *eP* **P 12 50 01.6 +0.6**
comp=Z,6.6nm,1.0s,mb4.9
ANMO LR LR
comp=Z,1μm,21.0s,MS5.3
LAO LASA Array 88.85 317 *eP* **P 12 50 01.5 +0.3**
comp=Z,67nm,1.1s,mb5.9
LAO LR LR
comp=Z,980nm,19.0s,MS5.2
BNM Barren Site 88.86 304 *eP* **P 12 50 02.4 +0.9**
LPM Los Pinos Moun 88.87 304 *eP* **P 12 50 02.4 +0.8**
SMCO Snowmass 89.23 309 *eP* **P 12 49 56.1 -7.0**
SMCO *e*pP pP 12 50 16.1 +7.1
BRVK Borovoye 89.29 37 *eP* **P 12 50 03.4 +0.3**
BRVK pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
BRVK MLR MLR
comp=Z,771nm,21.0s,MS5.1
BRVK Borovoye 89.29 37 *eP* **P 12 50 03.4 +0.3**
comp=Z,5.7nm,0.7s,mb5.0
BRVK LR LR
comp=Z,771nm,21.0s,MS5.1
LAZ Ladron 89.29 304 *eP* **P 12 50 03.9 +0.4**
BVAR Borovoye Array 89.35 37 P **P 12 50 03.5 +0.1**
comp=Z,6.0nm,0.7s,mb5.0,baz=268,slow=4.3,SNR=33
BVAR PP PP 12 53 31.0 -3.2
comp=Z,3.9nm,0.9s,baz=268,slow=7.4,SNR=4.6
BVAR LR LR 13 31 47.3
comp=Z,584nm,19.6s,MS5.0,baz=264,slow=37
BVAR Borovoye Array 89.35 37 P **P 12 50 03.5 +0.1**
BVAR 12 53 31.0
RWWY Rawlins 89.45 312 *eP* **P 12 50 05.0 +0.8**
comp=Z,60nm,1.4s,mb5.7
MVCO Mesa Verde 90.42 307 ⇓P **P 12 50 09.6 +0.8**
baz=90
MVCO Mesa Verde 90.42 307 *eP* **P 12 50 09.7 +1.0**
comp=Z,50nm,1.2s,mb5.7
MVCO LR LR
comp=Z,410nm,20.0s,MS4.9
T19A Beclabito 90.84 307 ⇑P **P 12 50 10.8 +0.1**
baz=91,SNR=8.1
PV10 Paradox Valley 90.84 308 *eP* **P 12 50 11.9 +1.2**
PV10 *e*pP pP 12 50 26.7 +10
V19A Window Rock 90.86 306 ⇑P **P 12 50 10.9 0.0**
baz=91
S19A Harvey Farm, M 90.92 308 ⇓P **P 12 50 11.4 +0.3**
baz=91,SNR=10
RLMT Red Lodge 90.96 315 *eP* **P 12 50 11.5 +0.4**
comp=Z,28nm,1.1s,mb5.5
RLMT LR LR
comp=Z,884nm,19.0s,MS5.2
Q19A Hogan Spring (91.01 309 ⇑P **P 12 50 12.1 +0.6**
baz=91,SNR=25
R19A Curley Farm, L 91.02 308 ⇑P **P 12 50 12.2 +0.7**
baz=91,SNR=8.0
Y19A Nutrioso 91.04 304 ⇓P **P 12 50 12.7 +1.0**
baz=91

Z19A T-Link Ranch, 91.06 303 ⇓P P 12 50 12.3 +0.5
baz=91
219A White Tail Can 91.06 302 ⇑P P 12 50 12.3 +0.5
baz=91,SNR=13
X19A St. Johns 91.07 304 ⇑P P 12 50 12.4 +0.5
baz=91,SNR=5.2
319A Douglas 91.08 301 ⇑P P 12 50 12.6 +0.6
baz=91,SNR=6.2
119A Ashpeak Ranch, 91.09 303 ⇓P P 12 50 12.6 +0.6
baz=91,SNR=7.5
W19A Sanders 91.14 305 ⇑P P 12 50 12.3 +0.1
baz=91
BW06 Boulder Array 91.20 313 eP P 12 50 11.9 -0.3
BW06 LR LR
comp=Z,1μm,21.0s,MS5.3
PDAR Pinedale Array 91.20 313 P P 12 50 11.7 -0.6
comp=Z,3.4nm,0.8s,mb4.7,baz=96,slow=4.5,SNR=22
PDAR LR LR 13 25 06.0
comp=Z,972nm,21.3s,MS5.2,baz=94,slow=32
EGMT Eagleton 91.26 318 ⇓P P 12 50 12.1 -0.3
baz=91
EGMT Eagleton 91.26 318 eP P 12 50 12.2 -0.2
comp=Z,18nm,1.3s,mb5.2
EGMT epP pP 12 50 27.4 +9.2
EGMT LR LR
comp=Z,951nm,20.0s,MS5.2
N18A Larsen Ranch, 91.31 311 ⇑P P 12 50 12.9 +0.1
baz=91
W18A Petrified Fore 91.43 305 ⇑P P 12 50 13.3 -0.2
baz=92
R18A Canyonlands Na 91.51 308 ⇓P P 12 50 14.2 +0.3
baz=92,SNR=14
T18A Mexican Hat 91.52 307 ⇑P P 12 50 14.0 +0.2
baz=92,SNR=14
U18A Rough Rock, Ch 91.52 306 ⇑P P 12 50 14.2 +0.3
baz=92,SNR=10
O18A Roosevelt 91.57 310 ⇓P P 12 50 14.3 +0.2
baz=92,SNR=5.8
AML Almayashu 91.57 48 PFAKE 12 50 30.0 +16
AML LR LR
comp=Z,750nm,20.0s,MS5.1
V18A Ganado 91.58 306 ⇑P P 12 50 14.4 +0.1
baz=92
S18A Hurst Farm, Bl 91.60 308 ⇑P P 12 50 14.4 +0.2
baz=92,SNR=8.9
X18A Snowflake 91.61 304 ⇑P P 12 50 14.8 +0.4
baz=92,SNR=7.3
118A Homack Ranch, 91.65 302 ⇑P P 12 50 15.1 +0.5
baz=92,SNR=12
318A Bisbee 91.69 301 ⇑P P 12 50 15.2 +0.4
baz=92,SNR=15
Q18A Rafter H Ranch 91.69 309 ⇓P P 12 50 14.6 0.0
baz=92,SNR=6.3
Y18A Canyon Day Jun 91.69 304 ⇑P P 12 50 14.8 0.0
baz=92
218A Dragoon 91.73 302 ⇓P P 12 50 15.1 +0.1
baz=92,SNR=6.9
P18A Preston Nutter 91.77 309 ⇑P P 12 50 15.3 +0.3
baz=92,SNR=7.9
LKWY Lake 91.77 314 PFAKE 12 50 30.0 +15
LKWY LR LR
comp=Z,2μm,20.0s,MS5.5
LOHW Long Hollow 91.94 313 eP P 12 50 15.8 +0.1
comp=Z,32nm,1.4s,mb5.5
SRU San Rafael 91.99 309 ⇓P P 12 50 15.9 -0.2
baz=92,SNR=7.6
SRU San Rafael 91.99 309 eP P 12 50 16.4 +0.4
FLWY Flagg Ranch 92.00 314 eP P 12 50 16.3 +0.3
comp=Z,18nm,1.0s,mb5.3
MOOW Moose Ponds 92.04 314 eP P 12 50 16.0 -0.1
comp=Z,52nm,2.3s,mb5.5
SNOW Snow King Moun 92.06 313 eP P 12 50 16.4 +0.1
comp=Z,32nm,1.1s,mb5.6
Z17A San Carlos Hig 92.07 303 ⇓P P 12 50 16.4 -0.2
baz=92
YFT Old Faithful 92.09 314 eP P 12 50 16.9 +0.5
P17A Butcher Ranch, 92.15 309 ⇓P P 12 50 16.7 0.0
baz=92,SNR=5.2
R17A Hanksville Air 92.15 308 ⇓P P 12 50 16.7 -0.1
baz=92,SNR=5.4
U17A Shonto 92.16 306 ⇓P P 12 50 17.5 +0.6
baz=92,SNR=5.5
YMR Madison River 92.17 315 eP P 12 50 17.6 +0.9
comp=Z,13nm,0.9s,mb5.3
YMR LR LR
comp=Z,2μm,21.0s,MS5.6
IMW Indian Meadow 92.18 314 eP P 12 50 17.0 +0.2
comp=Z,19nm,1.2s,mb5.3
N17A Moffit Pass 92.19 311 ⇑P P 12 50 16.9 0.0
baz=92,SNR=5.9
W17A Winslow 92.23 305 ⇑P P 12 50 17.7 +0.5
baz=92
FRU Bishkek 92.24 47 eP P 12 50 18.0 +0.9
FRU pmax pmax
comp=Z,40nm,1.6s,mb5.5
S17A Black Ridge (B 92.24 307 ⇓P P 12 50 17.9 +0.7
baz=92,SNR=13
T17A Navajo Res., N 92.26 307 ⇑P P 12 50 18.2 +0.9
baz=92,SNR=12
117A Oracle 92.31 302 ⇑P P 12 50 17.7 +0.1
baz=92
X17A Forest Lakes 92.32 304 ⇓P P 12 50 18.0 +0.3
baz=92
AHID Auburn Hatcher 92.33 313 PFAKE 12 50 30.0 +12
AHID LR LR
comp=Z,1μm,20.0s,MS5.3
TUC Tucson 92.35 302 eP P 12 50 18.1 +0.3
TUC pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
TUC MLR MLR
comp=Z,440nm,20.0s,MS4.9
TUC Tucson 92.35 302 eP P 12 50 18.1 +0.2
comp=Z,3.2nm,0.8s,mb4.7
TUC LR LR
comp=Z,440nm,20.0s,MS4.9
Y17A Roosevelt 92.37 304 ⇓P P 12 50 18.0 +0.1
baz=92
217A Green Valley 92.39 302 ⇓P P 12 50 18.0 -0.1
baz=92,SNR=6.8
RRI2 Red Ridge 92.47 313 eP P 12 50 18.5 +0.3
comp=Z,23nm,1.0s,mb5.5
QLMT Earthquake Lak 92.50 315 eP P 12 50 18.8 +0.5
Q16A Castle Valley 92.50 309 ⇑P P 12 50 18.3 -0.1
baz=92
TMUT Trail Mountain 92.52 309 eP P 12 50 19.2 +0.7
DAU Daniels Canyon 92.52 310 eP P 12 50 19.1 +0.6
DAU Daniels Canyon 92.52 310 eP P 12 50 18.5 +0.1
L16A Fish Haven 92.60 312 ⇑P P 12 50 18.2 -0.6
baz=93,SNR=5.8
BOZ Bozeman (W) 92.61 315 eP P 12 50 18.8 +0.1
BOZ Bozeman (W) 92.61 315 ⇓P P 12 50 18.4 -0.3
baz=93
BOZ Bozeman (W) 92.61 315 eP P 12 50 18.7 0.0
comp=Z,6.8nm,1.3s,mb4.9
BOZ LR LR
comp=Z,831nm,19.0s,MS5.2
N16A Rees Ranch, Co 92.64 311 ⇓P P 12 50 18.8 -0.2
baz=93
JLU Jordanelle 92.66 310 eP P 12 50 19.8 +0.7
K16A Soda Springs 92.69 313 ⇓P P 12 50 19.0 -0.1
baz=93
J16A Bone 92.69 313 ⇑P P 12 50 18.9 -0.2
baz=93
HWUT Hardware Ranch 92.72 311 eP P 12 50 19.3 0.0
HWUT LR LR
comp=Z,1μm,20.0s,MS5.3
O16A Springville 92.72 310 ⇑P P 12 50 19.6 +0.2
baz=93
WUAZ Wupatki 92.76 305 ⇓P P 12 50 20.2 +0.5
baz=93,SNR=5.4
WUAZ Wupatki 92.76 305 eP P 12 50 20.0 +0.3
comp=Z,28nm,1.5s,mb5.5
WUAZ LR LR
comp=Z,693nm,20.0s,MS5.1
M16A Huntsville 92.78 311 ⇑P P 12 50 19.4 -0.2
baz=93,SNR=12
MPU Maple Canyon 92.82 310 PFAKE 12 50 30.0 +10
MPU LR LR
comp=Z,2μm,19.0s,MS5.5
T16A Glen Canyon Da 92.82 307 ⇓P P 12 50 19.9 0.0
baz=93
X16A Lo Mia Camp, P 92.85 304 ⇑P P 12 50 20.6 +0.5
baz=93,SNR=5.1
S16A Weppner Ranch, 92.87 308 ⇓P P 12 50 20.0 -0.1
baz=93
Y16A Circle Bar Ran 92.89 304 ⇑P P 12 50 20.3 0.0
baz=93

W16A Flagstaff 92.90 305 ⇑P P 12 50 20.8 +0.5
baz=93
216A Three Points, 92.93 302 ⇑P P 12 50 20.7 +0.2
baz=93
TKM2 Tokmak 2 92.95 47 PFAKE 12 50 30.0 +10
TKM2 LR LR
comp=Z,497nm,22.0s,MS4.9
116A Eloy 93.12 302 ⇑P P 12 50 21.4 +0.1
baz=93
D15A Lincoln 93.16 317 ⇑P P 12 50 21.2 -0.1
baz=93,SNR=9.1
NLU North Lily Min 93.17 310 eP P 12 50 21.7 +0.3
NOQ North Oquirrh 93.17 311 eP P 12 50 20.7 -0.7
comp=Z,39nm,1.2s,mb5.7
LRM Limekiln Ridge 93.18 316 eP P 12 50 21.8 +0.4
F15A Butte 93.20 316 ⇑P P 12 50 21.6 +0.2
baz=93,SNR=8.6
YKW3 Yellowknife Ar 93.21 333 eP P 12 50 19.9 -1.2
YKA Yellowknife Ar 93.22 332 P P 12 50 20.9 -0.2
comp=Z,7.6nm,0.9s,mb5.1,baz=84,slow=5.4,SNR=32
YKA LR LR 13 25 33.0
comp=Z,468nm,20.1s,MS4.9,baz=140,slow=31
YKA Yellowknife Ar 93.22 332 P P 12 50 20.9 -0.2
YKA LR LR 13 25 33.0
G15A Dillon 93.24 315 ⇑P P 12 50 21.7 0.0
baz=93
E15A Deer Lodge 93.28 316 ⇑P P 12 50 22.1 +0.3
baz=93
MSU Marysvale 93.30 308 eP P 12 50 22.7 +0.6
DLMT Dillon 93.30 315 eP P 12 50 22.2 +0.3
L15A Malad City 93.31 312 ⇓P P 12 50 21.3 -0.8
baz=93,SNR=9.4
EDM Edmonton 93.32 323 eP P 12 50 21.2 -0.6
MVU Marysvale 93.33 308 PFAKE 12 50 30.0 +7.8
MVU LR LR
comp=Z,748nm,22.0s,MS5.1
P15A Leamington 93.34 309 ⇑P P 12 50 22.2 -0.1
baz=93,SNR=6.0
K15A Arbon 93.39 313 ⇓P P 12 50 22.4 0.0
baz=93
SPUT South Promonto 93.39 311 eP P 12 50 20.1 -2.4
SPUT epP pP 12 50 39.2 +11
V15A Kaibab Nationa 93.40 306 ⇓P P 12 50 22.7 +0.1
baz=93
N15A Stansbury Isla 93.46 311 ⇓P P 12 50 22.5 -0.3
baz=94
U15A North Rim 93.47 306 ⇑P P 12 50 22.9 0.0
baz=94
W15A Williams 93.50 305 ⇑P P 12 50 23.3 +0.2
baz=94
X15A Humboldt 93.50 304 ⇓P P 12 50 22.8 -0.3
baz=94
MCMT McKenzie Canyo 93.51 315 eP P 12 50 23.2 +0.4
T15A Red Dirt Ranch 93.52 307 ⇓P P 12 50 22.5 -0.6
baz=94
115A Sonoran Desert 93.56 303 ⇑P P 12 50 23.7 +0.3
baz=94
Y15A Casa Rosa Ranc 93.60 304 ⇓P P 12 50 23.4 -0.2
baz=94
HVU Hansel Valley 93.61 312 eP P 12 50 23.3 -0.2
HVU Hansel Valley 93.61 312 eP P 12 50 22.5 -1.0
comp=Z,11nm,1.0s,mb5.2
CHMT Chamberlain Mo 93.67 317 eP P 12 50 22.9 -0.7
DUG Dugway 93.72 310 eP P 12 50 24.2 +0.2
DUG pmax pmax
comp=Z,21nm,1.4s,mb5.4
DUG MLR MLR
comp=Z,875nm,20.0s,MS5.2
DUG Dugway 93.72 310 eP P 12 50 24.2 +0.2
comp=Z,21nm,1.4s,mb5.4
DUG LR LR
comp=Z,875nm,20.0s,MS5.2
D14A Greenough 93.83 317 ⇓P P 12 50 24.3 -0.1
baz=94
K14A Jones Ranch, D 93.87 312 ⇑P P 12 50 24.5 -0.2
baz=94,SNR=6.6
L14A Malta 93.95 312 ⇑P P 12 50 24.8 -0.2
baz=94
P14A Drum Mountains 93.95 309 ⇓P P 12 50 25.6 +0.5
baz=94,SNR=6.4
C14A Swan Lake 93.95 318 ⇓P P 12 50 24.7 -0.2
baz=94
WALA Waterton Lakes 93.97 319 eP P 12 50 25.4 +0.5
comp=Z,46nm,2.0s,mb5.6
N14A Grayback Hills 93.97 311 ⇑P P 12 50 25.0 -0.1
baz=94
M14A Sheep Mountain 94.06 311 ⇑P P 12 50 25.1 -0.4
baz=94
214A Organ Pipe Nat 94.08 302 ⇑P P 12 50 25.8 0.0
baz=94
Q14A Sevier Lake (B 94.14 309 ⇓P P 12 50 26.3 +0.4
baz=94,SNR=12
MSO Missoula 94.15 317 eP P 12 50 25.3 -0.4
comp=Z,4.4nm,0.8s,mb4.9
MSO LR LR
comp=Z,508nm,20.0s,MS5.0
Y14A Wickenburg 94.16 304 ⇓P P 12 50 26.2 0.0
baz=94
V14A Bonillas Ranc 94.17 306 ⇑P P 12 50 26.6 +0.4
baz=94
W14A Seligman 94.17 305 ⇑P P 12 50 26.4 +0.2
baz=94
E13A Victor 94.34 316 ⇓P P 12 50 26.1 -0.6
baz=94,SNR=5.0
B13A Whitefish 94.39 318 ⇓P P 12 50 26.8 -0.1
baz=94
L13A Double Diamond 94.47 312 ⇑P P 12 50 27.4 +0.1
baz=94
G13A Cobalt 94.47 315 ⇑P P 12 50 27.2 -0.1
baz=94,SNR=7.5
I13A Wildhorse Cree 94.47 314 ⇓P P 12 50 27.2 -0.2
baz=94,SNR=7.0
D13A Huson 94.48 317 ⇑P P 12 50 26.7 -0.6
baz=94
F13A Darby 94.49 316 ⇓P P 12 50 27.1 -0.2
baz=94,SNR=7.4
C13A Hot Springs 94.51 318 ⇑P P 12 50 27.6 +0.2
baz=94
KURK Kurchatov 94.52 39 eP P 12 50 27.0 -0.4
KURK Kurchatov 94.52 39 eP P 12 50 26.8 -0.6
comp=Z,7.6nm,1.1s,mb5.0
KURK LR LR
comp=Z,857nm,20.0s,MS5.2
H13A Challis 94.53 315 ⇑P P 12 50 27.7 +0.1
baz=94
K13A Stover Farm, H 94.53 313 ⇓P P 12 50 28.0 +0.3
baz=95
J13A Cove Ranch, Pi 94.55 313 ⇑P P 12 50 27.9 +0.2
baz=95,SNR=6.5
S13A Holt Ranch, En 94.67 308 ⇓P P 12 50 28.5 +0.1
baz=95,SNR=8.2
M13A Montello 94.68 311 ⇓P P 12 50 28.0 -0.3
baz=95
P13A Bates Ranch, G 94.69 309 ⇓P P 12 50 28.6 +0.1
baz=95
HLID Hailey 94.71 314 ⇑P P 12 50 28.2 -0.3
baz=95,SNR=9.0
HLID Hailey 94.71 314 eP P 12 50 28.5 +0.1
comp=Z,26nm,1.7s,mb5.4
HLID LR LR
comp=Z,1μm,19.0s,MS5.3
Q13A Wheeler Ranch, 94.72 309 ⇑P P 12 50 28.6 0.0
baz=95
R13A O'Grain Ranch, 94.72 308 ⇑P P 12 50 28.9 +0.2
baz=95
X13A Yucca 94.81 305 ⇑P P 12 50 28.7 -0.5
baz=95
113A Mohawk Valley, 94.85 303 ⇓P P 12 50 29.0 -0.4
baz=95
D12A Red Ives Fores 95.09 317 ⇑P P 12 50 28.8 -1.4
baz=95,SNR=5.4
A12A Yaak River Ran 95.12 319 ⇑P P 12 50 29.6 -0.6
baz=95
B12A Libby 95.12 318 ⇓P P 12 50 29.7 -0.5
baz=95
K12A Draper Farm, C 95.14 313 ⇓P P 12 50 30.6 +0.2
baz=95
F12A Elk City 95.14 316 ⇑P P 12 50 29.7 -0.6
baz=95,SNR=13
O12A Currie 95.19 310 ⇓P P 12 50 30.6 -0.1
baz=95,SNR=8.0
R12A Pony Springs, 95.22 308 ⇑P P 12 50 30.7 -0.2
baz=95
J12A Stokes Ranch, 95.23 313 ⇓P P 12 50 30.8 -0.1
baz=95,SNR=14
M12A Wells 95.24 311 ⇓P P 12 50 30.9 0.0
baz=95,SNR=6.7

L12A House Creek Ra 95.26 312 ⇓P P 12 50 31.3 +0.3
baz=95,SNR=5.7
Q12A Willow Creek R 95.34 309 ⇓P P 12 50 31.4 0.0
baz=95
N12A Clover Valley, 95.37 311 ⇓P P 12 50 31.5 0.0
baz=95,SNR=8.3
S12A Delamar Landin 95.45 308 ⇓P P 12 50 32.4 +0.4
baz=96,SNR=7.3
DDI Dehra Dun 95.52 60 ex P 12 50 31.6 -0.9
ELK Elko 95.53 311 P P 12 50 32.3 0.0
comp=Z,2.9nm,0.9s,mb4.7,baz=82,slow=4.7,SNR=15
ELK Elko 95.53 311 eP P 12 50 32.8 +0.5
ELK Elko 95.53 311 eP P 12 50 32.3 0.0
comp=Z,3.0nm,0.9s,mb4.7
ELK LR LR
comp=Z,1μm,22.0s,MS5.3
A11A Hall Mountain, 95.59 319 ⇑P P 12 50 31.6 -0.7
baz=96,SNR=11
GLA Glamis 95.72 303 PFAKE 12 50 40.0 +6.7
GLA LR LR
comp=Z,489nm,21.0s,MS5.0
E11A Bogner Ranch, 95.75 316 ⇓P P 12 50 31.6 -1.5
baz=96,SNR=7.3
MFID Camas Ranch 95.75 313 ⇓P P 12 50 32.5 -0.7
baz=96
F11A Grangeville 95.75 316 ⇑P P 12 50 32.4 -0.8
baz=96
D11A Klaveano Farm, 95.76 317 ⇑P P 12 50 31.9 -1.3
baz=96
H11A Donnelly 95.77 315 ⇑P P 12 50 32.3 -0.9
baz=96
T11A Corn Creek, Al 95.78 307 ⇓P P 12 50 33.5 0.0
baz=96
L11A Cat Creek Ranc 95.80 312 ⇓P P 12 50 33.5 0.0
baz=96,SNR=8.5
G11A Walters Elk Ra 95.88 315 ⇑P P 12 50 33.2 -0.6
baz=96
M11A Holland Ranch, 95.89 311 ⇓P P 12 50 34.5 +0.6
baz=96,SNR=7.9
O11A Cowboy Ranch, 95.90 310 ⇑P P 12 50 34.0 +0.1
baz=96
K11A Parker Ranch, 95.96 313 ⇑P P 12 50 34.0 -0.1
baz=96,SNR=8.8
R11A Troy Canyon, C 95.98 308 ⇓P P 12 50 34.1 -0.3
baz=96,SNR=6.0
Q11A Duckwater 96.00 309 ⇑P P 12 50 34.4 -0.1
baz=96
H10A Noah's Angus R 96.30 315 ⇑P P 12 50 35.1 -0.6
baz=96,SNR=5.8
L10A Juniper Basin 96.34 312 ⇑P P 12 50 35.7 -0.3
baz=96,SNR=9.2
A10A Northport 96.37 319 ⇑P P 12 50 35.2 -0.6
baz=96
I10A Payette 96.39 314 ⇑P P 12 50 36.7 +0.6
baz=96
D10A Wagner Farm, O 96.40 317 ⇑P P 12 50 34.3 -1.8
baz=96,SNR=7.8
O10A Cortez Mining, 96.53 310 ⇑P P 12 50 36.8 -0.1
baz=97
R10A Warm Springs 96.55 308 ⇑P P 12 50 36.9 -0.1
baz=97
K10A MacKenzie Ranc 96.57 313 ⇓P P 12 50 37.4 +0.5
baz=97,SNR=5.1
TPNV Topopah Spring 96.62 307 ⇓P P 12 50 37.2 -0.1
baz=97
TPNV Topopah Spring 96.62 307 PFAKE 12 50 50.0 +13
TPNV LR LR
comp=Z,625nm,21.0s,MS5.1
BMO Blue Mountains 96.67 315 eP P 12 50 36.8 -0.5
BMO pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
BMO MLR MLR
comp=Z,501nm,20.0s,MS5.0
BMO Blue Mountains 96.67 315 eP P 12 50 36.8 -0.5
comp=Z,8.7nm,0.8s,mb5.2
BMO LR LR
comp=Z,501nm,20.0s,MS5.0
NVS Novosibirsk 96.79 35 eP P 12 50 36.8 -0.9
NVS eS SKSac 13 01 15.1 +1.3
NVS pmax pmax
comp=Z,15nm,1.3s,mb5.3
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS smax
comp=E,60nm,3.4s
S10A Tonopah Range, 96.81 308 ⇓P P 12 50 37.8 -0.4
baz=97,SNR=5.5
B09A Rice 96.82 319 ⇓P P 12 50 36.8 -1.2
baz=97
G09A Cove 96.95 315 ⇓P P 12 50 38.1 -0.5
baz=97,SNR=19
F09A S2 Ranch, Elgi 96.99 316 ⇑P P 12 50 38.2 -0.6
baz=97
A09A Danville 97.04 319 ⇑P P 12 50 38.2 -0.7
baz=97
PFO Pinyon Flat Ob 97.05 304 PFAKE 12 50 50.0 +11
PFO LR LR
comp=Z,584nm,20.0s,MS5.1
E09A Wood Farm, Sta 97.06 317 ⇓P P 12 50 38.2 -0.8
baz=97
BMN Battle Mountai 97.06 311 eP P 12 50 39.8 +0.6
BMN pmax pmax
comp=Z,14nm,1.2s,mb5.3
BMN MLR MLR
comp=Z,832nm,19.0s,MS5.2
BMN Battle Mountai 97.06 311 eP P 12 50 39.8 +0.5
comp=Z,14nm,1.2s,mb5.3
BMN epP pP 12 50 54.9 +10
BMN LR LR
comp=Z,832nm,19.0s,MS5.2
O09A Fish Creek Ran 97.07 310 ⇓P P 12 50 38.8 -0.5
baz=97,SNR=6.3
D09A Jones Farm, Ri 97.10 317 ⇑P P 12 50 37.7 -1.6
baz=97,SNR=6.4
FURC Furnace Creek, 97.15 307 ⇓P P 12 50 39.6 -0.1
baz=97
J09A Fry Pan Ranch, 97.15 314 ⇑P P 12 50 39.4 -0.2
baz=97,SNR=6.7
R09A Tonopah 97.16 308 ⇑P P 12 50 39.0 -0.8
baz=97,SNR=5.4
GSC Goldstone 97.20 305 PFAKE 12 50 50.0 +10
GSC LR LR
comp=Z,552nm,19.0s,MS5.1
K09A Rome 97.20 313 ⇓P P 12 50 39.6 -0.2
baz=97,SNR=9.9
LNOR Lincton Mounta 97.23 316 eP P 12 50 38.6 -1.3
N09A Rock Creek Ran 97.25 311 ⇓P P 12 50 39.9 -0.2
baz=97,SNR=5.8
TPH Tonopah 97.29 308 PFAKE 12 50 50.0 +10
TPH LR LR
comp=Z,788nm,22.0s,MS5.2
BAR Barrett 97.30 303 PFAKE 12 50 50.0 +10
BAR LR LR
comp=Z,578nm,21.0s,MS5.0
S09A Goldfield 97.33 308 ⇑P P 12 50 39.9 -0.6
baz=97,SNR=11
OD2 Odessa Site #2 97.33 318 eP P 12 50 39.0 -1.3
MKAR Makanchi Array 97.37 43 P P 12 50 40.0 -0.5
comp=Z,1.1nm,0.6s,mb4.5,baz=286,slow=4.5,SNR=8.2
MKAR PP PP 12 54 31.9 -5.4
comp=Z,5.8nm,1.0s,baz=293,slow=6.3,SNR=6.0
A08A Turner Farm, O 97.49 319 ⇑P P 12 50 40.0 -1.0
baz=98,SNR=5.6
C08A Higginbotham F 97.50 318 ⇑P P 12 50 39.8 -1.2
baz=98
B08A Colville Reser 97.61 319 ⇑P P 12 50 40.4 -1.1
baz=98,SNR=6.5
H08A Prairie City 97.67 315 ⇑P P 12 50 41.5 -0.4
baz=98
J08A Circle Bar Ran 97.67 314 ⇑P P 12 50 41.5 -0.4
baz=98,SNR=13
I08A Drewsey 97.68 314 ⇑P P 12 50 41.6 -0.3
baz=98,SNR=5.1
E08A Dider Farm, El 97.69 317 ⇑P P 12 50 41.4 -0.5
baz=98
MPMC Manual Prospec 97.69 306 ⇓P P 12 50 42.0 -0.2
baz=98
L08A Fields 97.72 312 ⇑P P 12 50 41.9 -0.2
baz=98,SNR=9.5
N08A GE Springer Mi 97.72 311 ⇑P P 12 50 42.0 -0.2
baz=98
DAC Darwin (Calif) 97.75 306 PFAKE 12 50 50.0 +7.5
DAC LR LR
comp=Z,681nm,21.0s,MS5.1
K08A Mann Creek Ran 97.76 313 ⇑P P 12 50 42.1 -0.2
baz=98,SNR=13
G08A Pilot Rock 97.78 316 ⇓P P 12 50 41.2 -1.2
baz=98

O08A Rochester Mine 97.79 311 ⇓P **P 12 50 42.3 -0.3**
baz=98
M08A Happy Creek Ra 97.83 312 ⇑P **P 12 50 42.8 +0.1**
baz=98
ZAL Zalesovo 97.85 36 P **P 12 50 42.1 -0.3**
ZAL 12 54 38.2
ZALV Zalesovo Beam 97.86 36 P **P 12 50 42.0 -0.4**
comp=Z,0.3nm,0.3s,baz=238,slow=5.1,SNR=3.7
ZALV PP PP 12 54 38.2 -2.5
comp=Z,3.5nm,0.8s,baz=309,slow=9.1,SNR=4.0
ZALV Zalesovo Beam 97.86 36 P **P 12 50 42.0 -0.4**
ZALV PP PP 12 54 38.2 -2.5
WVOR Wild Horse Val 97.90 313 *e*P **P 12 50 43.4 +0.4**
WVOR pmax pmax
comp=Z,14nm,1.4s,mb5.3
WVOR MLR MLR
comp=Z,1μm,21.0s,MS5.3
WVOR Wild Horse Val 97.90 313 *e*P **P 12 50 43.4 +0.4**
comp=Z,14nm,1.4s,mb5.3
WVOR LR LR
comp=Z,1μm,21.0s,MS5.3
GBL Gable Mountain 97.95 317 P **P 12 50 42.5 -0.6**
HAWA Hanford 98.03 317 PFAKE 12 50 50.0 +6.6
HAWA LR LR
comp=Z,726nm,19.0s,MS5.2
S08C White Mtn Res 98.09 308 ⇑P **P 12 50 44.0 +0.1**
baz=98
NVAR Mina Array Bea 98.10 309 P **P 12 50 43.8 -0.2**
comp=Z,1.8nm,0.9s,mb4.6,baz=95,slow=5.4,SNR=13
NVAR PP PP 12 54 39.5 -3.7
comp=Z,0.7nm,0.9s,baz=97,slow=5.1,SNR=3.9
NVAR PKKP PKKPbc 13 07 24.9 +7.0
comp=Z,1.2nm,1.0s,baz=257,slow=6.2,SNR=5.8
NVAR Mina Array Bea 98.10 309 P **P 12 50 43.8 -0.1**
NVAR PP PP 12 54 39.5 -3.7
NVAR PKKP PKKPbc 13 07 24.9 +7.0
B07A Winthrop 98.12 319 ⇑P **P 12 50 43.2 -0.6**
baz=98
A07A Ashnola River, 98.20 319 ⇑P **P 12 50 43.6 -0.5**
baz=98,SNR=8.3
EDW2 Edwards Air Fo 98.21 305 ⇓P **P 12 50 43.7 -0.8**
baz=98
G07A Ruggs Ranch, H 98.28 316 ⇑P **P 12 50 44.7 +0.1**
baz=98,SNR=6.0
J07A Hines 98.28 314 ⇓P **P 12 50 44.0 -0.6**
baz=98
K07A Rock Creek Ran 98.32 313 ⇑P **P 12 50 44.4 -0.5**
baz=98,SNR=5.7
MWC Mount Wilson 98.32 304 PFAKE 12 51 00.0 +15
MWC LR LR
comp=Z,550nm,20.0s,MS5.0
N07B Gerlach 98.35 311 ⇓P **P 12 50 44.9 -0.1**
baz=98
M07A Soldier Meadow 98.43 312 ⇓P **P 12 50 45.0 -0.4**
baz=98
L07A Adell 98.47 312 ⇓P **P 12 50 46.0 +0.5**
baz=98,SNR=12
ISA Isabella 98.53 306 ⇑P **P 12 50 45.7 -0.2**
baz=99
ISA Isabella 98.53 306 PFAKE 12 51 00.0 +14
ISA LR LR
comp=Z,688nm,21.0s,MS5.1
H06A Lindquist Farm 98.82 315 ⇓P **P 12 50 47.1 0.0**
baz=99
PALK Pallekele 98.84 83 PFAKE 12 51 00.0 +12
PALK LR LR
comp=Z,837nm,20.0s,MS5.2
I06A Prineville 98.85 314 ⇑P **P 12 50 47.2 0.0**
baz=99,SNR=6.0
HELL Mitchell Peak 98.86 307 ⇑P **P 12 50 47.3 -0.1**
baz=99
J06A Christmas Vall 98.90 314 ⇓P **P 12 50 47.6 +0.1**
baz=99,SNR=9.7
G06A Carlson Farm, 98.96 316 ⇓P **P 12 50 47.7 0.0**
baz=99
E06A Yakima 98.99 317 ⇓P **P 12 50 47.4 -0.3**
baz=99,SNR=6.5
N06A Buffalo Meadow 99.00 311 ⇓P **P 12 50 47.8 -0.2**
baz=99,SNR=16
K06A Valley Falls 99.04 313 ⇓P **P 12 50 47.9 -0.1**
baz=99
VIPM Ingram Point 99.06 315 P **P 12 50 48.8 +0.7**
O06A Flanigan 99.08 311 ⇓P **P 12 50 47.8 -0.4**
baz=99,SNR=12
MOD Modoc 99.20 312 ⇓P **P 12 50 49.0 +0.2**
baz=99,SNR=8.4
MOD Modoc 99.20 312 *e*P **P 12 50 48.4 -0.4**
MOD LR LR
comp=Z,936nm,20.0s,MS5.3
JCW Jim Creek 99.35 319 *e*P **P 12 50 47.6 -1.7**
F05A White Salmon 99.43 316 ⇑P **P 12 50 49.7 0.0**
baz=99
B05A Bryant 99.45 319 ⇑P **P 12 50 48.9 -0.8**
baz=99
R05C Kirkwood Meado 99.45 309 ⇑P **P 12 50 50.0 0.0**
baz=100
H05A Madras 99.46 315 ⇑P **P 12 50 50.0 +0.1**
baz=100
K05A Summer Lake 99.52 313 ⇑P **P 12 50 50.8 +0.6**
baz=100
BEKR Beckwourth 99.52 310 ⇓P **P 12 50 50.2 -0.1**
baz=100
I05A Bend 99.57 315 ⇓P **P 12 50 50.5 +0.1**
baz=100
L05A Lakeview 99.57 313 ⇓P **P 12 50 50.6 +0.2**
baz=100
SNCC San Nicolas Is 99.64 304 PFAKE 12 51 00.0 +10
SNCC LR LR
comp=Z,477nm,22.0s,MS5.0
J05A Fort Rock 99.68 314 ⇓P Pdif 12 50 51.2 +0.6
baz=100
CMB Columbia Colle 99.78 308 PFAKE 12 51 00.0 +9.0
CMB LR LR
comp=Z,724nm,20.0s,MS5.2
P05C Yuba Gap, Truc 99.78 310 ⇓P Pdif 12 50 52.0 +0.9
baz=100
M05C Lookout 99.90 312 ⇑P Pdif 12 50 52.0 +0.4
baz=100
O04C Chester 100.01 311 ⇓P Pdif 12 50 52.3 +0.3
baz=100
C04A Brinnon 100.13 318 ⇑P Pdif 12 50 53.1 +0.5
baz=100
LBCM Butte Creek Ri 100.13 311 P Pdif 12 50 52.8 +0.2
E04A Onalaska 100.17 317 ⇓P Pdif 12 50 52.9 +0.1
baz=100
LTIM Timbered Crate 100.19 312 P Pdif 12 50 53.5 +0.6
HATC Hat Creek Radi 100.22 311 ⇑P Pdif 12 50 53.8 +0.8
baz=100
PGC Sidney 100.26 319 *e*Pdif Pdif 12 50 53.8 +0.5
U04C Hernandez Rese 100.31 307 ⇑P Pdif 12 50 54.1 +0.7
baz=100
L04A Klamath Falls 100.33 313 ⇑P Pdif 12 50 53.5 0.0
baz=100
M04C Macdoel 100.35 312 ⇑P Pdif 12 50 54.1 +0.5
baz=100
ORV Oroville 100.43 310 ⇓P Pdif 12 50 54.5 +0.5
baz=100
OHCM Honcut 100.45 310 *e*Pdif Pdif 12 50 59.2 +5.1
SAO San Andreas Ge 100.78 307 PFAKE 12 51 10.0 +14
SAO LR LR
comp=Z,610nm,20.0s,MS5.1
NLWA Neilton Lookou 100.79 318 PFAKE 12 51 10.0 +14
NLWA LR LR
comp=Z,1μm,22.0s,MS5.4
YBH Yreka Blue Hor 101.00 312 PFAKE 12 51 10.0 +14
YBH LR LR
comp=Z,1μm,19.0s,MS5.3
HUMO Hull Mountain 101.04 313 PFAKE 12 51 10.0 +13
HUMO LR LR
comp=Z,674nm,20.0s,MS5.2
WDC Whiskeytown Da 101.07 311 PFAKE 12 51 10.0 +13
WDC LR LR
comp=Z,926nm,19.0s,MS5.3
L02A Cave Junction 101.59 313 ⇓P Pdif 12 50 59.7 +0.6
baz=102
N02C Big Bar 101.60 312 ⇓P Pdif 12 50 59.3 +0.1
baz=102
WMQ Urumqi 101.61 45 P Pdif 12 50 59.3 +0.1
WMQ AP 12 51 04.0
WMQ PP PP 12 55 11.9 +2.3
WMQ SKS 13 01 36.8
WMQ S Sdif 13 02 35.8 -3.5
WMQ XS 13 02 43.9
WMQ PS PS 13 04 13.8 -0.2
WMQ AMB AMB
comp=Z,9.0nm,0.7s
WMQ AMB AMB
comp=Z,23nm,8.9s
WMQ LR LR
comp=N,834nm,19.2s,MS5.3
WMQ LR LR
comp=E,464nm,20.4s,MS5.3
WMQ LR LR
comp=Z,575nm,18.2s,MS5.1
HOPS Hopland 101.72 310 PFAKE 12 51 10.0 +10
HOPS LR LR
comp=Z,1μm,19.0s,MS5.4
SBA Scott Base 101.92 181 PFAKE 12 51 10.0 +9.5
SBA LR LR
comp=Z,725nm,19.0s,MS5.2
WRAK Wrangell Islan 103.38 329 PFAKE 12 51 20.0 +13
WRAK LR LR
comp=Z,1μm,21.0s,MS5.4
EGAK Eagle 103.74 338 PFAKE 12 51 20.0 +11
EGAK LR LR
comp=Z,907nm,22.0s,MS5.3
CASY Casey 104.40 161 PFAKE 12 51 20.0 +8.4
CASY LR LR
comp=Z,803nm,22.0s,MS5.2
SIT Sitka 104.67 330 PFAKE 12 51 20.0 +7.2
SIT LR LR
comp=Z,2μm,20.0s,MS5.6
TIXI Tiksi 105.68 10 PFAKE 12 55 40.0 +10
TIXI LR LR
comp=Z,539nm,19.0s,MS5.1
COLA College 106.07 340 PFAKE 12 55 40.0 +9.3
COLA LR LR
comp=Z,905nm,20.0s,MS5.3
LSA Lhasa 106.88 59 PFAKE 12 55 50.0 +17
LSA LR LR
comp=Z,4μm,20.0s,MS6.0
PMR Palmer 108.51 338 PFAKE 12 55 50.0 +15
PMR LR LR
comp=Z,2μm,19.0s,MS5.7
TLY Talaya 109.39 34 PFAKE 12 55 50.0 +13
TLY LR LR
comp=Z,2μm,19.0s,MS5.8
GTA Gaotai 111.50 47 *e*PKP PKiKP 12 55 37.8 -3.9
GTA PP PP 12 56 20.3 -2.2
GTA PP PP
comp=Z,111nm,3.7s
GTA LR LR
comp=N,433nm,15.6s,MS5.3
GTA LR LR
comp=E,514nm,16.5s,MS5.3
GTA LR LR
comp=Z,443nm,17.4s,MS5.1
KDAK Kodiak Island 112.26 336 PFAKE 12 55 50.0 +7.5
KDAK LR LR
comp=Z,584nm,20.0s,MS5.2
BILL Bilibino 112.29 358 PFAKE 12 55 50.0 +7.7
BILL LR LR
comp=Z,2μm,20.0s,MS5.6
SONM Songino Array 112.69 37 PP PP 12 56 23.4 -7.2
comp=Z,2.3nm,1.0s,baz=283,slow=3.6,SNR=4.1
YAK Yakutsk 113.79 16 PFAKE 12 56 00.0 +15
YAK LR LR
comp=Z,2μm,20.0s,MS5.7
COCO West Island 114.36 103 PFAKE 12 56 00.0 +12
COCO LR LR
comp=Z,4μm,22.0s,MS6.0
RKT Rikitea 114.40 244 *e*SP SP 13 06 21.1 +1.1
comp=Z,441nm,29.0s
RKT *e*SS SS 13 12 40.7 +4.7
comp=Z,737nm,30.5s
RKT Rikitea 114.40 244 *e*LR LR 13 30 08.9
comp=Z,768nm,25.0s
LZH Lanzhou 115.61 50 *e*PKP PKPdf 12 55 45.6 -4.0
LZH PP PP 12 56 58.1 +6.3
LZH SKS SKSdf 13 02 52.0 -9.3
LZH SKKS SKKSac 13 03 40.4 -12
LZH SS SS 13 12 47.0 -3.9
LZH PP PP
comp=Z,179nm,5.9s
LZH LR LR
comp=N,836nm,19.3s
LZH LR LR
comp=Z,1μm,20.8s,MS5.5
CHTO Chiang Mai 115.68 69 PFAKE 12 56 00.0 +10
CHTO LR LR
comp=Z,33μm,20.0s
CM31 Chiang Mai Arr 115.73 70 PFAKE 12 56 00.0 +10
CM31 LR LR
comp=Z,40μm,19.0s
CMAR Chiang Mai Arr 115.73 70 PKP PKPdf 12 55 50.9 +0.6
comp=Z,0.5nm,0.6s,baz=217,slow=2.8,SNR=3.3
CD2 Chengdu 117.20 55 *e*PKP PKPdf 12 55 51.3 -1.6
CD2 PP PP 12 57 05.4 +2.3
CD2 PKS 12 59 26.6
CD2 SKS SKSdf 13 02 58.4 -6.1
CD2 SKKS SKKSac 13 03 54.8 -8.9
CD2 SS SS 13 13 07.8 -4.2
CD2 PP PP
comp=Z,120nm,4.8s
CD2 LR LR
comp=N,650nm,19.2s,MS5.3
CD2 LR LR
comp=E,360nm,22.8s,MS5.3
CD2 LR LR
comp=Z,420nm,27.2s,MS4.9
KMI Kunming 117.89 62 PKP PKPdf 12 55 55.3 +1.0
KMI XPKP 12 55 59.8
KMI PP PP 12 57 10.9 +2.8
KMI PKS 12 59 30.8
KMI PPP 12 59 40.3
KMI SKKS SKKSac 13 04 02.8 -5.7
KMI S Sdif 13 04 51.6 -3.5
KMI PS PS 13 06 51.3 -2.8
KMI SS SS 13 13 18.1 -3.3
KMI SSS 13 17 41.0
KMI LR LR
comp=N,226nm,17.1s
KMI LR LR
comp=E,226nm,24.2s
KMI LR LR
comp=Z,285nm,34.9s
HHC Hu-ho-hao-te 119.21 42 *e*PKP PKPdf 12 55 54.1 -2.3
HHC PP PP 12 57 19.5 +3.0
HHC PKS 12 59 29.1
HHC SKS SKSdf 13 03 00.8 -7.1
HHC SKKS SKKSac 13 04 09.8 -6.8
HHC SS SS 13 13 37.5 +0.3
HHC PP PP
comp=Z,114nm,10.7s
HHC LR LR
comp=N,581nm,25.0s,MS5.2
HHC LR LR
comp=E,407nm,26.2s,MS5.2
HIA Hailar 119.32 30 PFAKE 12 56 10.0 +14
HIA LR LR
comp=Z,4μm,19.0s,MS6.1
TAOE Nuku Hiva Isla 121.50 260 *e*LR LR 13 33 33.4
comp=Z,1μm,24.4s
BJI Beijing 122.66 41 PKP PKPdf 12 56 02.4 -0.7
BJI PP PP 12 57 38.9 -1.2
BJI SS SS 13 14 20.8 -0.5
BJI PP PP
comp=Z,135nm,7.6s
BJI LR LR
comp=N,528nm,22.9s,MS5.2
BJI LR LR
comp=E,438nm,22.0s,MS5.2
BJI LR LR
comp=Z,430nm,44.1s
BJT Baijiatuau 122.67 41 PFAKE 12 56 10.0 +6.9
BJT LR LR
comp=Z,19μm,20.0s,MS6.7
KLR Kul'dur 124.81 24 *e*PKIKP PKPdf 12 56 12.0 +5.1
ADK Adak 125.48 344 PFAKE 12 56 20.0 +12
ADK LR LR
comp=Z,5μm,19.0s,MS6.2
QIZ Qiongzhong 125.75 67 PKP PKPdf 12 56 09.3 -0.3
QIZ PP PP 12 58 00.6 -1.2
QIZ SS SS 13 14 59.6 -2.5
QIZ PP PP
comp=Z,64nm,4.6s
QIZ LR LR
comp=E,451nm,21.2s
QIZ LR LR
comp=Z,485nm,21.6s,MS5.1
QIZ Qiongzhong 125.75 67 PFAKE 12 56 20.0 +10
QIZ LR LR
comp=Z,61μm,20.0s
WHN Wuhan 125.84 52 *e*PKP PKPdf 12 56 06.9 -2.6
NWAO Narrogin (SRO) 126.62 133 PFAKE 12 56 20.0 +9.1
NWAO LR LR
comp=Z,16μm,19.0s,MS6.7
SMY Shemya 126.72 351 PFAKE 12 56 20.0 +10
SMY LR LR
comp=Z,5μm,22.0s,MS6.1
DL2 Dalian 126.79 39 *e*PKP PKPdf 12 56 02.6 -8.4
DL2 PP PP 12 58 03.0 -4.6
DL2 SS SS 13 15 07.3 -5.9
DL2 PP PP
comp=Z,100nm,4.7s
DL2 LR LR
comp=N,240nm,20.3s,MS5.0
DL2 LR LR
comp=E,220nm,20.6s,MS5.0
DL2 LR LR
comp=Z,430nm,27.8s
PETK Petropavlovsk- 127.23 3 PKP PKPdf 12 56 12.5 +1.1
comp=Z,0.8nm,0.8s,baz=131,slow=6.3,SNR=3.1
PET Petropavlovsk 127.36 2 *e*PKIKP PKPdf 12 56 13.5 +1.8
PET MLR MLR
comp=Z,6μm,19.0s,MS6.3
MDJ Mudanjiang 127.40 29 PKP PKPdf 12 56 11.3 -0.7
MDJ PP PP
comp=Z,61nm,4.8s
MDJ Mudanjiang 127.40 29 PFAKE 12 56 20.0 +8.0
MDJ LR LR
comp=Z,23μm,20.0s
NJ2 Nanjing 128.60 48 *e*PKP PKPdf 12 56 11.3 -3.4
PPT Papeete 129.01 247 *e*SS SS 13 15 43.6 +0.9
comp=Z,979nm,29.5s
PPT Papeete 129.01 247 *e*LQ 13 31 10.5
comp=Z,2μm,31.5s
PPT *e*LR LR 13 37 00.7
comp=Z,566nm,24.8s
YSS Yuzh-Sakhalins 130.61 17 PFAKE 12 56 30.0 +12
YSS LR LR
comp=Z,7μm,19.0s,MS6.4
INCN Inchon 130.77 37 PFAKE 12 56 30.0 +11
INCN LR LR
comp=Z,31μm,20.0s
SSE Sheshan 130.80 48 *e*PKP PKPdf 12 56 19.6 +0.7
SSE PP PP 12 58 38.4 +4.2
SSE PKS 12 59 52.3
SSE LR LR
comp=N,198nm,26.2s,MS5.0
SSE LR LR
comp=E,348nm,26.3s,MS5.0
SSE LR LR
comp=Z,189nm,26.0s,MS4.7
KSRS Korea Array 131.56 36 PP PP 12 58 32.6 -6.1
comp=Z,2.2nm,0.9s,baz=319,slow=5.5,SNR=4.6
MBWA Marble Bar 133.71 120 PFAKE 12 56 40.0 +15
MBWA LR LR
comp=Z,26μm,19.0s
TATO Taipei 133.93 55 PFAKE 12 56 40.0 +15
TATO LR LR
comp=Z,40μm,20.0s
YHNB Yeheng 133.97 55 PFAKE 12 56 40.0 +15
YHNB LR LR
comp=Z,39μm,20.0s
POHA Pohakuloa 133.97 298 PFAKE 12 56 40.0 +15
POHA LR LR
comp=Z,5μm,19.0s,MS6.2
TAU Tasmania Unive 135.08 165 PFAKE 12 56 40.0 +13
TAU LR LR
comp=Z,16μm,21.0s,MS6.7
KIP Kipapa 135.54 301 PFAKE 12 56 40.0 +12
KIP LR LR
comp=Z,8μm,20.0s,MS6.4
SNZO South Karori 137.00 194 PFAKE 12 56 40.0 +10
SNZO LR LR
comp=Z,12μm,22.0s,MS6.6
KAPI Kappang 137.66 98 PFAKE 12 56 40.0 +7.8
KAPI LR LR
comp=Z,67μm,20.0s
MAJO Matsushiro 137.79 29 PFAKE 12 56 40.0 +8.2
MAJO LR LR
comp=Z,65μm,19.0s
MJAR Matsushiro Arr 137.79 29 PP PP 12 59 15.9 -1.9
comp=Z,2.6nm,1.0s,baz=308,slow=7.2,SNR=8.7
XMAS Kiritimati 139.24 273 PFAKE 12 56 50.0 +15
XMAS LR LR
comp=Z,8μm,21.0s,MS6.4
FITZ Fitzroy Crossi 140.02 119 *e*PKP PKPdf 12 56 34.7 -1.7
comp=Z,10nm,1.5s
FITZ Fitzroy Crossi 140.02 119 PKP PKPdf 12 56 34.8 -1.6
comp=Z,3.4nm,0.9s,baz=180,slow=1.6,SNR=3.8
STKA Stephens Creek 142.74 151 *e*PKP PKPdf 12 56 36.9 -4.0
comp=Z,5.9nm,0.9s
STKA Stephens Creek 142.74 151 PKP PKPdf 12 56 40.3 -0.6
comp=Z,3.0nm,0.6s,baz=195,slow=5.2,SNR=7.4
STKA Stephens Creek 142.74 151 *e*PKP PKPdf 12 56 36.9 -4.0
STKA PKP PKPdf 12 56 40.3 -0.6
ASAR Alice Springs 143.93 133 PKhKP 12 56 40.6
comp=Z,5.0nm,0.7s,baz=222,slow=2.2,SNR=51
RAO Raoul Island 144.84 212 PFAKE 12 57 00.0 +15
RAO LR LR
comp=Z,6μm,20.0s,MS6.4
MIDW Midway 145.80 326 PFAKE 12 57 00.0 +14
MIDW LR LR
comp=Z,11μm,20.0s,MS6.6
WRA Warramunga Arr 146.41 128 PKPbc PKPbc 12 56 48.4 -0.5
comp=Z,4.7nm,0.7s,baz=242,slow=2.4,SNR=24
WB2 Warramunga Arr 146.42 128 *e*PKP PKPdf 12 56 48.8 +1.2
WRAB Tennant Creek 146.42 128 *e*PKPdf PKPdf 12 56 47.6 -0.1
WRAB LR LR
comp=Z,29μm,21.0s
KAKA Kakadu 148.13 115 *e*PKP PKPdf 12 56 53.6 +3.0
comp=Z,19nm,0.7s
KAKA Kakadu 148.13 115 *e*PKPdf PKPdf 12 56 50.5 -0.1
KAKA *e*PKP PKPdf 12 56 53.6 +3.0
KAKA *e*PKPbc PKPbc 12 56 53.9 +0.1
KAKA *e*PKPab PKPab 12 56 56.4 -0.3
CTAO Charters Tower 154.67 144 *e*PKIKP PKPdf 12 57 00.3 -0.1
CTAO *e* 12 57 08.3
CTAO MLR MLR
comp=Z,32μm,20.0s
GUMO Guam 158.62 51 PFAKE 12 57 20.0 +14
GUMO LR LR
comp=Z,69μm,19.0s
FUNA Funafuti 160.61 243 PFAKE 12 57 20.0 +12
FUNA LR LR
comp=Z,32μm,20.0s
PMG Port Moresby 162.52 124 PFAKE 12 57 20.0 +10
PMG LR LR
comp=Z,32μm,19.0s
HNR Honiara 170.18 169 PFAKE 12 57 30.0 +14
HNR LR LR
comp=Z,20μm,20.0s

MOS ***20*** *12:38:05.3±0.9, 24.57N×109.70W, h10km, mb4.6/5, Error ellipse: s-maj=10.6km s-min=5.2km az=93.1*
IDC ***20*** *12:38:07.1±0.9, 24.85N×109.70W, h0km, mb4.1/6, mb1 4.5/13, mb1mx4.3/27, mbtmp4.3/13, ML3.9/6, MS3.9/10, Ms1 3.9/10, ms1mx3.6/32, Error ellipse: s-maj=18.1km s-min=8.3km az=123.0*
ISCJB ***20*** *12:38:08.5±0.4, 24.91N±003×109.51W±003, h10km, mb4.6/25, MS4.0/5, Error ellipse: s-maj=5.0km s-min=3.1km az=21.4*
NEIC ***20*** *12:38:09.0±0.4, 24.74N×109.67W, h10km, mb4.5/54, Error ellipse: s-maj=5.7km s-min=4.0km az=211.0*
MEX ***20*** *12:38:09.5±0.8, 24.85N×109.61W, h10km, MD4.9*
ISC 20 12:38:09.3±0.3, 24.80N±003×109.54W±002, h10km, n409, σ1§07/419, mb4.6/25, MS4.0/5, 126C-106D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**0.98**	**226**	Pg	**Pg**	**12 38 25.0**	**-3.2**
	413nm,0.3s,baz=32,slow=0.9,SNR=172						
LPIG				Lg		12 38 37.4	
	7μm,0.3s,baz=124,slow=20,SNR=71						
LPIG	**La Paz**	**0.98**	**226**	*i* P	**Pg**	**12 38 24.9**	**-3.3**
LPIG				*i* S	**Sg**	**12 38 38.5**	**-2.5**
MAIG	**Mazatlaan**	**3.27**	**119**	*i* P	**Pn**	**12 38 58.9**	**-1.8**
MAIG				*i* S	**Sn**	**12 39 38.2**	**-1.3**
MAIG	**Mazatlaan**	**3.27**	**119**	*i* P	**Pn**	**12 39 01.4**	**+0.8**
MAIG				*i* S	**Sn**	**12 39 44.2**	**+4.6**
HPIG		**4.09**	**58**	*i* P	**Pn**	**12 39 11.4**	**-0.5**

HPIG			*i* S	Sn	12 39 56.7	-3.1
HSIG		4.39 344	*i* P	Pn	12 39 11.8	-4.3
HSIG			*i* S	Sn	12 40 04.3	-3.0
CGIG		5.72 14	*e*P	Pn	12 39 33.1	-1.2
CGIG			*i* S	Sn	12 40 37.0	-3.0
319A	**Douglas** baz=6.4,SNR=32	6.56 2	⇓P	Pn	12 39 43.2	-2.6
318A	**Bisbee** baz=6.5,SNR=29	6.63 357	P	Pn	12 39 44.0	-2.8
TXAR	**Lajitas Array** 1.7nm,0.3s,baz=230,slow=13,SNR=106	6.92 48	Pn	Pn	12 39 49.5	-1.2
TXAR	1.6nm,0.3s,baz=232,slow=16,SNR=8.9		Pg	Pg	12 40 20.2	-1.6
TXAR	15nm,0.3s,baz=229,slow=17,SNR=19		Sn	Sn	12 41 08.9	-0.7
TXAR	4.7nm,0.3s,baz=249,slow=32,SNR=7.4		Lg		12 41 47.4	
TXAR	comp=Z,446nm,19.2s,baz=190,slow=42		LR	LR	12 42 57.6	
TXAR	**Lajitas Array**	6.92 48	P	Pn	12 39 49.6	-1.2
TXAR					12 41 08.9	
217A	**Green Valley** baz=7.0,SNR=20	7.04 351	⇑P	Pn	12 39 50.0	-2.5
218A	**Dragoon** baz=7.1,SNR=23	7.17 357	⇓P	Pn	12 39 51.8	-2.4
218A	baz=7.1		⇑S	Sn	12 41 13.7	-1.9
219A	**White Tail Can** baz=7.0,SNR=21	7.18 2	⇓P	Pn	12 39 51.6	-2.8
216A	**Three Points,** baz=7.3,SNR=13	7.38 347	⇑P	Pn	12 39 55.5	-1.6
TUC	**Tucson**	7.57 352	*e*P	Pn	12 39 57.0	-2.7
TUC	comp=Z,15nm,0.8s		pmax	pmax		
TUC	**Tucson** comp=Z,15nm,0.8s	7.57 352	*e*Pn	Pn	12 39 57.0	-2.6
TUC			*e*Sg	Sg	12 42 12.8	+0.6
214A	**Organ Pipe Nat** baz=7.7	7.69 339	⇓P	Pn	12 39 59.7	-1.7
117A	**Oracle** baz=7.7,SNR=24	7.82 353	⇓P	Pn	12 40 00.6	-2.6
118A	**Homack Ranch,** baz=7.7,SNR=18	7.83 357	⇑P	Pn	12 40 00.2	-3.0
119A	**Ashpeak Ranch,** baz=7.8,SNR=9.9	7.95 1	⇑P	Pn	12 40 02.4	-2.5
116A	**Eloy** baz=7.9,SNR=36	7.97 347	⇓P	Pn	12 40 03.6	-1.6
115A	**Sonoran Desert** baz=8.2,SNR=8.6	8.22 344	⇑P	Pn	12 40 07.4	-1.2
Z18A	**Geronimo** baz=8.2	8.27 357	⇓P	Pn	12 40 07.6	-1.7
Z17A	**San Carlos Hig** baz=8.4,SNR=14	8.51 355	⇑P	Pn	12 40 10.4	-2.2
Z16A	**Peralta Trail,** baz=8.6	8.67 349	⇑P	Pn	12 40 13.7	-1.1
113A	**Mohawk Valley,** baz=8.8	8.77 336	⇑P	Pn	12 40 15.6	-0.5
Y17A	**Roosevelt** baz=8.9,SNR=23	8.94 353	⇓P	Pn	12 40 16.4	-2.1
Y18A	**Canyon Day Jun** baz=8.8,SNR=18	8.96 357	⇓P	Pn	12 40 16.8	-2.0
Y19A	**Nutrioso** baz=9.0	9.13 2	⇑P	Pn	12 40 18.9	-2.3
LNIG	**Linares**	9.15 87	*i* P	Pn	12 40 22.2	+0.8
LNIG			*i* S	Sn	12 42 06.0	+1.5
Y16A	**Circle Bar Ran** baz=9.2,SNR=23	9.21 350	⇑P	Pn	12 40 20.1	-2.1
GLA	**Glamis**	9.44 332	*e*P	Pn	12 40 23.3	-2.0
GLA	comp=Z,24nm,1.0s		pmax	pmax		
GLA	**Glamis** baz=9.5	9.44 332	⇑P	Pn	12 40 24.5	-0.9
GLA	**Glamis** comp=Z,24nm,1.0s	9.44 332	*e*Pn	Pn	12 40 23.3	-2.1
Y15A	**Casa Rosa Ranc** baz=9.4,SNR=24	9.45 346	⇓P	Pn	12 40 24.3	-1.1
X17A	**Forest Lakes** baz=9.5	9.57 354	⇑P	Pn	12 40 24.9	-2.3
Y14A	**Wickenburg** baz=9.6,SNR=12	9.60 342	⇑P	Pn	12 40 25.5	-2.0
X19A	**St. Johns** baz=9.5	9.60 1	⇓P	Pn	12 40 25.7	-1.8
BNM	**Barren Site**	9.66 15	*e*Pn	Pn	12 40 27.9	-0.5
X18A	**Snowflake** baz=9.6,SNR=14	9.71 358	⇑P	Pn	12 40 26.7	-2.4
DVTC	**Desert V Tower** baz=9.9	9.72 325	⇑P	Pn	12 40 29.8	+0.6
X16A	**Lo Mia Camp, P** baz=9.7,SNR=28	9.73 351	⇑P	Pn	12 40 27.3	-2.1
Y13A	**Salome** baz=9.8,SNR=8.1	9.73 338	⇓P	Pn	12 40 28.2	-1.2
SWSC	**Sam W. Stewart** baz=9.9	9.79 327	⇑P	Pn	12 40 31.0	+0.8
LAZ	**Ladron**	9.80 12	*e*Pn	Pn	12 40 30.4	+0.1
LPM	**Los Pinos Moun**	9.81 14	*e*Pn	Pn	12 40 32.0	+1.5
Y12C	**Blythe** baz=10.0	9.93 335	⇓P	Pn	12 40 31.5	-0.5
X15A	**Humboldt** baz=9.9,SNR=22	9.94 347	⇑P	Pn	12 40 30.2	-2.0
BAR	**Barrett** comp=Z,36nm,1.1s	10.04 323	*e*Pn	Pn	12 40 33.7	+0.1
MONP	**Monument Peak** baz=10,SNR=12	10.07 325	⇓P	Pn	12 40 34.0	+0.1
X14A	**Yava** baz=10,SNR=10.0	10.07 344	⇓P	Pn	12 40 32.6	-1.4
BC3	**Big Chuckw Mtn** baz=10,SNR=22	10.22 331	⇑P	Pn	12 40 35.4	-0.7
W18A	**Petrified Fore** baz=10,SNR=26	10.29 359	⇑P	Pn	12 40 35.9	-1.1
JCT	**Junction City**	10.32 55	*e*P	Pn	12 40 39.0	+1.5
JCT	comp=Z,13nm,0.9s		pmax	pmax		
JCT	**Junction City** comp=Z,13nm,0.9s	10.32 55	*e*Pn	Pn	12 40 39.0	+1.5
W16A	**Flagstaff** baz=10,SNR=24	10.41 351	⇑P	Pn	12 40 37.6	-1.0
X13A	**Yucca** baz=10	10.45 340	⇑P	Pn	12 40 38.9	-0.3
ANMO	**Albuquerque** comp=Z,0.2nm,0.3s,baz=207,slow=12,SNR=37	10.47 14	Pn	Pn	12 40 39.7	+0.3
ANMO	comp=Z,0.3nm,0.3s,baz=117,slow=21,SNR=4.0		Lg		12 43 38.4	
ANMO	comp=Z,594nm,21.2s,baz=344,slow=41		LR	LR	12 45 12.4	
ANMO	**Albuquerque**	10.47 14	*e*P	Pn	12 40 40.9	+1.5
ANMO	comp=Z,30nm,1.1s		pmax	pmax		
ANMO	**Albuquerque** comp=Z,30nm,1.1s	10.47 14	*e*Pn	Pn	12 40 40.9	+1.4
W15A	**Williams** baz=11	10.61 348	⇑P	Pn	12 40 42.4	+1.0
PFO	**Pinyon Flat Ob** comp=Z,0.4nm,0.3s,baz=152,slow=12,SNR=16	10.65 327	Pn	Pn	12 40 42.3	+0.3
PFO	comp=Z,590nm,18.0s,baz=145,slow=35		LR	LR	12 44 16.3	
PFO	**Pinyon Flat Ob**	10.65 327	*e*P	Pn	12 40 42.8	+0.8
PFO	comp=Z,20nm,0.9s		pmax	pmax		
PFO	**Pinyon Flat Ob** baz=11,SNR=13	10.65 327	⇓P	Pn	12 40 42.2	+0.2
PFO	**Pinyon Flat Ob** comp=Z,20nm,0.9s	10.65 327	*e*Pn	Pn	12 40 42.8	+0.7
BELC	**Belle Mtn.** baz=11	10.76 330	⇓P	Pn	12 40 44.4	+1.0
WUAZ	**Wupatki** baz=11,SNR=11	10.80 352	⇑P	Pn	12 40 42.0	-2.0
WUAZ	**Wupatki** comp=Z,24nm,1.0s	10.80 352	*e*Pn	Pn	12 40 45.7	+1.6
W14A	**Seligman** baz=11,SNR=38	10.82 344	⇓P	Pn	12 40 43.2	-1.2
V19A	**Window Rock** baz=11,SNR=5.6	10.89 2	⇑P	Pn	12 40 44.8	-0.4
W13A	**Hualapai Mount** baz=11,SNR=26	10.94 341	⇑P	Pn	12 40 44.9	-1.0
MURC	**Murrieta** baz=11	11.03 324	⇑P	Pn	12 40 47.5	+0.3
V15A	**Kaibab Nationa** baz=11,SNR=21	11.22 349	⇑P	Pn	12 40 49.9	+0.2
V14A	**Boquillas Ranc** baz=11,SNR=26	11.23 345	⇑P	Pn	12 40 48.4	-1.5
GMRC	**Granite Mounta** baz=11,SNR=5.3	11.28 333	⇑P	Pn	12 40 50.8	+0.3
LDFC	**Landfair** comp=Z,75nm,1.2s	11.32 336	*e*Pn	Pn	12 40 51.5	+0.3
BBRC	**Big Bear Sol-O** baz=12	11.41 327	⇑P	Pn	12 40 54.4	+2.1
W12A	**Cal Nev Ari**	11.44 337	⇓P	Pn	12 40 54.5	+1.8
V13A	**Grand Canyon W** baz=12,SNR=21	11.67 342	⇓P	Pn	12 40 55.3	-0.6
BFSC	**Mount Baldy St** baz=12	11.76 325	⇑P	Pn	12 40 59.3	+2.1
U17A	**Shonto** baz=12	11.81 356	⇓P	Pn	12 40 58.7	+0.9
V12A	**Nelson** baz=12,SNR=19	11.82 338	⇓P	Pn	12 40 58.6	+0.7
U15A	**North Rim** baz=12,SNR=26	11.83 349	⇑P	Pn	12 40 59.6	+1.4
TUQ	**Turquoise Mtn.** baz=12	11.95 334	⇓P	Pn	12 41 01.5	+1.7
U14A	**Mt Trumbull** baz=12,SNR=15	12.00 346	⇑P	Pn	12 41 01.6	+1.2
T19A	**Beclabito** baz=12	12.01 2	⇑P	Pn	12 41 01.0	+0.6
V11A	**Goodsprings** baz=12	12.12 337	⇓P	Pn	12 41 03.8	+1.8
U13A	**Pakoon Wash** baz=12,SNR=20	12.19 343	⇓P	Pn	12 41 03.3	+0.3
GSC	**Goldstone**	12.21 331	*e*P	Pn	12 41 04.8	+1.5
GSC	comp=Z,26nm,1.1s		pmax	pmax		
GSC	**Goldstone** baz=12	12.21 331	⇑P	Pn	12 41 04.3	+1.0
GSC	**Goldstone** comp=Z,26nm,1.1s	12.21 331	*e*Pn	Pn	12 41 04.8	+1.5
T17A	**Navajo Res., N** baz=12	12.21 355	⇓P	Pn	12 41 04.5	+1.2
T16A	**Glen Canyon Da** baz=12,SNR=9.6	12.27 353	⇑P	Pn	12 41 02.7	-1.3
T18A	**Mexican Hat** baz=12,SNR=18	12.31 359	⇑P	Pn	12 41 03.4	-1.2
U12A	**Valley of Fire** baz=12,SNR=5.2	12.37 341	⇑P	Pn	12 41 05.3	-0.1
MVCO	**Mesa Verde** comp=Z,72nm,1.3s	12.41 4	*e*Pn	Pn	12 41 06.9	+0.9
T15A	**Red Dirt Ranch** baz=12,SNR=24	12.43 349	⇑P	Pn	12 41 06.4	+0.2
EDW2	**Edwards Air Fo** baz=13	12.43 326	⇓P	Pn	12 41 07.3	+0.9
SHOC	**Shoshone** baz=13	12.50 334	⇑P	Pn	12 41 09.0	+1.7
T14A	**Hurricane** baz=13	12.60 347	⇑P	Pn	12 41 09.8	+1.2
U11A	**Corn Creek** baz=13	12.63 338	⇓P	Pn	12 41 10.8	+1.8
T13A	**Saint George** baz=13	12.75 344	⇑P	Pn	12 41 12.3	+1.7
LRMC	**Laurel Mountai** baz=13	12.76 328	⇑P	Pn	12 41 12.0	+1.2
S17A	**Black Ridge (B** baz=13,SNR=8.1	12.85 355	⇓P	Pn	12 41 12.1	+0.1
S18A	**Hurst Farm, Bl** baz=13,SNR=16	12.86 358	⇑P	Pn	12 41 12.3	+0.2
S19A	**Harvey Farm, M** baz=13	12.92 1	⇑P	Pn	12 41 11.1	-1.9
U10A	**Ash Meadows, A** baz=13,SNR=18	12.97 335	⇑P	Pn	12 41 14.4	+0.7
S16A	**Weppner Ranch,** baz=13	13.01 353	⇑P	Pn	12 41 16.7	+2.6
ARVC	**Arvin** baz=13	13.06 324	⇑P	Pn	12 41 15.4	+0.4
CCUT	**Cedar City**	13.13 347	*e*Pn	Pn	12 41 19.2	+3.4
MPMC	**Manual Prospec** baz=13,SNR=21	13.15 330	⇑P	Pn	12 41 16.7	+0.5
HKT	**Hockley**	13.22 64	*e*P	Pn	12 41 18.8	+1.7
HKT	comp=Z,17nm,1.3s		pmax	pmax		
HKT	**Hockley** comp=Z,17nm,1.3s	13.22 64	*e*Pn	Pn	12 41 18.8	+1.7
FURC	**Furnace Creek,** baz=13	13.23 333	⇓P	Pn	12 41 18.7	+1.5
S13A	**Holt Ranch, En** baz=13,SNR=13	13.27 345	⇓P	Pn	12 41 18.6	+0.9
ISA	**Isabella**	13.29 327	*e*P	Pn	12 41 18.5	+0.4
ISA	comp=Z,47nm,1.6s		pmax	pmax		
ISA	**Isabella** baz=13	13.29 327	⇑P	Pn	12 41 18.0	-0.1
ISA	**Isabella** comp=Z,47nm,1.6s	13.29 327	*e*Pn	Pn	12 41 18.5	+0.4
T11A	**Corn Creek, Al** baz=13,SNR=18	13.32 340	⇑P	Pn	12 41 18.9	+0.4
SDCO	**Great Sand Dun** comp=Z,12nm,1.1s	13.36 14	*e*Pn	Pn	12 41 20.2	+1.2
TPNV	**Topopah Spring**	13.41 336	*e*P	Pn	12 41 20.9	+1.3
TPNV	comp=Z,20nm,1.0s		pmax	pmax		
TPNV	**Topopah Spring** baz=14	13.41 336	⇓P	Pn	12 41 21.3	+1.7
TPNV	**Topopah Spring** comp=Z,20nm,1.0s	13.41 336	*e*Pn	Pn	12 41 20.9	+1.2
PV10	**Paradox Valley**	13.55 2	*e*Pn	Pn	12 41 22.4	+0.8
S12A	**Delamar Landin** baz=14,SNR=22	13.55 342	⇑P	Pn	12 41 23.0	+1.4
R18A	**Canyonlands Na** baz=13,SNR=16	13.55 359	⇓P	Pn	12 41 21.6	0.0
R15A	**Junction** baz=14	13.58 351	⇓P	Pn	12 41 25.6	+3.7
WMOK	**Wichita Mounta**	13.61 41	*e*P	Pn	12 41 25.6	+3.2
WMOK	comp=Z,15nm,1.1s		pmax	pmax		
WMOK	**Wichita Mounta** comp=Z,15nm,1.1s	13.61 41	*e*Pn	Pn	12 41 25.6	+3.1
R17A	**Hanksville Air** baz=14,SNR=24	13.62 356	⇓P	Pn	12 41 23.8	+1.3
CWC	**Cottonwood Cre** baz=14	13.73 330	⇑P	Pn	12 41 25.6	+1.5
VES	**Vestal, Richgr** baz=14	13.74 325	⇑P	Pn	12 41 24.7	+0.5
MSU	**Marysvale**	13.86 351	*e*P	Pn	12 41 25.8	0.0
S11A	**Rachel** baz=14	13.86 339	⇑P	Pn	12 41 27.9	+2.1
R13A	**O'Grain Ranch,** baz=14,SNR=13	13.87 345	⇓P	Pn	12 41 27.1	+1.2
GRAC	**Grapevine Rang** baz=14	13.89 333	⇑P	Pn	12 41 28.1	+1.9
Q19A	**Hogan Spring (** baz=14,SNR=7.9	14.12 1	⇑P	Pn	12 41 28.4	-1.0
Q16A	**Castle Valley** baz=14,SNR=6.2	14.15 355	⇑P	Pn	12 41 30.1	+0.4
R12A	**Pony Springs,** baz=14	14.16 344	⇑P	Pn	12 41 31.9	+2.0
Q18A	**Rafter H Ranch** baz=14	14.27 358	⇓P	Pn	12 41 30.0	-1.5
SRU	**San Rafael**	14.30 357	*e*P	Pn	12 41 32.4	+0.6
SRU	comp=Z,9.0nm,1.0s		pmax	pmax		
SRU	**San Rafael** baz=14	14.30 357	⇑P	Pn	12 41 30.6	-1.2
SRU	**San Rafael** comp=Z,8.9nm,1.0s	14.30 357	*e*Pn	Pn	12 41 32.4	+0.7
HELL	**Mitchell Peak** baz=14	14.37 328	⇓P	Pn	12 41 33.7	+1.0
S10A	**Tonopah Range,** baz=14,SNR=44	14.40 337	⇑P	Pn	12 41 34.1	+0.9
R11A	**Troy Canyon, C** baz=14,SNR=21	14.46 341	⇑P	Pn	12 41 33.6	-0.3
S09A	**Goldfield** baz=14,SNR=53	14.46 335	⇓P	Pn	12 41 34.4	+0.4
Q14A	**Sevier Lake (B** baz=14,SNR=9.0	14.50 348	⇑P	Pn	12 41 35.4	+0.9
Q13A	**Wheeler Ranch,** baz=15,SNR=17	14.62 346	⇑P	Pn	12 41 37.0	+0.9
R10A	**Warm Springs** baz=15,SNR=18	14.63 338	⇑P	Pn	12 41 37.3	+1.0
S08C	**White Mtn Res** baz=15,SNR=22	14.65 332	⇓P	Pn	12 41 36.1	-0.5
TPH	**Tonopah**	14.76 336	*e*P	Pn	12 41 39.1	+1.0
TPH	comp=Z,44nm,1.1s		pmax	pmax		
TPH	**Tonopah** comp=Z,44nm,1.1s	14.76 336	*e*Pn	Pn	12 41 39.1	+0.9
P18A	**Preston Nutter** baz=15,SNR=13	14.80 358	⇓P	Pn	12 41 37.4	-1.2
R09A	**Tonopah** baz=15,SNR=38	14.85 336	⇓P	Pn	12 41 40.1	+0.7
Q12A	**Willow Creek R** baz=15,SNR=44	14.89 344	P	Pn	12 41 41.5	+1.6
Q11A	**Duckwater** baz=15,SNR=15	14.93 341	⇓P	Pn	12 41 41.3	+0.8
T06C	**Millerton Lake** baz=15	14.96 327	⇑P	Pn	12 41 41.3	+0.4
KCC	**Kaiser Creek** baz=15,SNR=12	15.03 329	⇓P	Pn	12 41 42.3	+0.6
P14A	**Drum Mountains** baz=15,SNR=45	15.05 349	⇑P	Pn	12 41 42.3	+0.3
P13A	**Bates Ranch, G** baz=15,SNR=11	15.10 347	⇓P	Pn	12 41 43.0	+0.4
NLU	**North Lily Min**	15.27 353	*e*Pn	Pn	12 41 46.0	+1.2
MPU	**Maple Canyon** comp=Z,41nm,1.2s	15.28 354	*e*Pn	Pn	12 41 46.9	+1.8
ISCO	**Idaho Springs**	15.32 12	*e*P	Pn	12 41 46.5	+0.9
ISCO	comp=Z,28nm,1.0s		pmax	pmax		
ISCO	**Idaho Springs** comp=Z,28nm,1.0s	15.32 12	*e*Pn	Pn	12 41 46.5	+0.9
Q09A	**Carvers** baz=16,SNR=11	15.42 337	⇓P	Pn	12 41 47.7	+0.9
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.3s,baz=162,slow=11,SNR=30	15.49 333	Pn	Pn	12 41 48.5	+0.6
NVAR	**Mina Array Bea**	15.49 333	Pn	Pn	12 41 48.5	+0.6
R07C	**Lee Vining** baz=16	15.52 331	⇑P	Pn	12 41 49.4	+1.2
DUG	**Dugway**	15.60 351	*e*P	Pn	12 41 51.1	+1.9
DUG	comp=Z,60nm,1.1s		pmax	pmax		
DUG	**Dugway** comp=Z,60nm,1.1s	15.60 351	*e*Pn	Pn	12 41 51.0	+1.8
P11A	**Circle Ranch,** baz=16	15.62 342	⇓P	Pn	12 41 50.8	+1.3
DAU	**Daniels Canyon**	15.64 355	*e*P	Pn	12 41 50.7	+0.9
CMIG	**Matias Romero** baz=292,slow=10,SNR=8.1	15.68 116	Pn	Pn	12 41 52.5	+2.0
CMIG	comp=Z,659nm,19.1s,baz=283,slow=37		LR	LR	12 47 48.4	
Q08A	**Gabbs** baz=16	15.72 335	⇓P	Pn	12 41 51.6	+0.8
S06C	**San Francisco** baz=16	15.72 329	⇑P	Pn	12 41 51.2	+0.4
JLU	**Jordanelle**	15.84 355	*e*Pn	Pn	12 41 52.8	+0.4
P10A	**Eureka** baz=16,SNR=8.0	15.89 340	P	Pn	12 41 54.9	+1.8
CTU	**Camp Tracy** comp=Z,38nm,1.2s	15.96 354	*e*Pn	Pn	12 41 55.3	+1.4
O12A	**Currie** baz=16,SNR=31	16.04 345	P	Pn	12 41 55.6	+0.8
R06C	**Coleville** baz=16,SNR=15	16.06 331	P	Pn	12 41 56.5	+1.3
CMB	**Columbia Colle**	16.10 328	*e*P	Pn	12 41 55.7	-0.1
CMB	comp=Z,14nm,1.1s		pmax	pmax		
CMB	**Columbia Colle** comp=Z,14nm,1.1s	16.10 328	*e*Pn	Pn	12 41 55.7	-0.1
N18A	**Larsen Ranch,** baz=16	16.14 360	⇑P	Pn	12 41 56.0	-0.2
N17A	**Moffit Pass** baz=16	16.14 356	⇑P	Pn	12 41 56.6	+0.4
CBKS	**Cedar Bluff**	16.26 28	*e*P	Pn	12 41 58.6	+0.9
CBKS	comp=Z,87nm,1.0s		pmax	pmax		
CBKS	**Cedar Bluff** comp=Z,87nm,1.0s	16.26 28	*e*Pn	Pn	12 41 58.6	+0.8
N14A	**Grayback Hills** baz=16,SNR=25	16.30 350	⇑P	Pn	12 41 57.6	-0.7
BGU	**Big Grassy Mou**	16.35 351	*e*Pn	Pn	12 41 59.5	+0.7
R05C	**Kirkwood Meado** baz=17	16.49 330	⇑P	Pn	12 42 01.8	+1.0
O10A	**Cortez Mining,** baz=16,SNR=17	16.52 341	⇑P	Pn	12 42 01.3	+0.2
M16A	**Huntsville** baz=16,SNR=20	16.57 354	⇓P	Pn	12 42 01.3	-0.4
ELK	**Elko** comp=Z,0.1nm,0.3s,baz=169,slow=8.6,SNR=14	16.60 345	Pn	Pn	12 42 02.4	+0.2
ELK	comp=Z,308nm,19.8s,baz=165,slow=41		LR	LR	12 49 20.6	
ELK	**Elko**	16.60 345	*e*P	Pn	12 42 02.5	+0.3
ELK	comp=Z,23nm,1.2s		pmax	pmax		
ELK	**Elko** comp=Z,23nm,1.2s	16.60 345	*e*Pn	Pn	12 42 02.5	+0.3
O09A	**Fish Creek Ran** baz=17,SNR=15	16.62 339	⇑P	Pn	12 42 01.9	-0.5
N12A	**Clover Valley,** baz=17,SNR=21	16.66 345	⇑P	Pn	12 42 01.8	-1.0
PHWY	**Pilot Hill**	16.81 11	*e*Pn	Pn	12 42 06.4	+1.7
WCN	**Washoe City** baz=17,SNR=21	16.84 332	⇑P	Pn	12 42 05.7	+0.5
LAVA	**Lava Cap Winer** baz=17	16.84 328	⇓P	Pn	12 42 06.7	+1.5
HWUT	**Hardware Ranch** comp=Z,22nm,1.0s	16.85 355	*e*Pn	Pn	12 42 06.0	+0.8
BMN	**Battle Mountai**	16.87 339	*e*P	Pn	12 42 05.8	+0.3
BMN	comp=Z,41nm,1.3s		pmax	pmax		
BMN	**Battle Mountai** comp=Z,41nm,1.3s	16.87 339	*e*Pn	Pn	12 42 05.8	+0.3
MIAR	**Mount Ida**	16.92 51	*e*P	Pn	12 42 07.8	+1.6
MIAR	comp=Z,13nm,0.9s		pmax	pmax		
MIAR	**Mount Ida** comp=Z,13nm,0.9s	16.92 51	*e*Pn	Pn	12 42 07.8	+1.5
RWWY	**Rawlins** comp=Z,34nm,1.4s	16.96 6	*e*Pn	Pn	12 42 07.9	+1.3
M14A	**Sheep Mountain** baz=17,SNR=15	16.96 350	⇓P	Pn	12 42 06.2	-0.5
M13A	**Montello** baz=17	16.96 348	⇑P	Pn	12 42 06.5	-0.1
PAHR	**Pah Rah Range** comp=Z,34nm,1.4s	17.02 333	*e*Pn	Pn	12 42 08.5	+1.1
O08A	**Rochester Mine** baz=17	17.06 337	⇓P	Pn	12 42 08.5	+0.6
HVU	**Hansel Valley**	17.15 352	*e*P	Pn	12 42 09.4	+0.4
HVU	comp=Z,40nm,1.2s		pmax	pmax		
HVU	**Hansel Valley** comp=Z,40nm,1.2s	17.15 352	*e*Pn	Pn	12 42 09.4	+0.4
M12A	**Wells** baz=17,SNR=9.1	17.17 346	⇓P	Pn	12 42 08.9	-0.4
O07A	**Toulon** baz=17,SNR=13	17.21 335	⇑P	Pn	12 42 10.6	+0.8
P05C	**Yuba Gap, Truc** baz=17	17.22 330	⇓P	Pn	12 42 11.3	+1.4
L16A	**Fish Haven** baz=17,SNR=8.8	17.25 355	⇑P	Pn	12 42 09.6	-0.7
L15A	**Malad City** baz=17,SNR=16	17.32 353	⇑P	Pn	12 42 11.3	+0.1
N09A	**Rock Creek Ran** baz=17,SNR=11	17.35 339	P	Pn	12 42 12.2	+0.7
M11A	**Holland Ranch,** baz=17	17.39 344	⇓P	Pn	12 42 12.6	+0.6
L14A	**Malta** baz=17,SNR=31	17.46 351	⇑P	Pn	12 42 13.8	+0.9
N08A	**GE Springer Mi** baz=18	17.48 338	⇓P	Pn	12 42 13.9	+0.7
BEKR	**Beckwourth** baz=18,SNR=11	17.57 331	⇑P	Pn	12 42 14.8	+0.6
O06A	**Flanigan** baz=18	17.59 333	⇑P	Pn	12 42 15.2	+0.6
OHCM	**Honcut**	17.66 328	*e*P	Pn	12 42 15.9	+0.5
M10A	**I.L. Ranch, Tu** baz=18,SNR=13	17.67 342	⇑P	Pn	12 42 16.1	+0.6
N07B	**Gerlach** baz=18,SNR=22	17.78 336	⇓P	Pn	12 42 17.5	+0.6
MNRC	**McLaughlin Nat** baz=18	17.79 325	⇓P	Pn	12 42 19.3	+2.4
ORV	**Oroville** baz=18	17.84 328	⇓P	Pn	12 42 19.1	+1.6
M09A	**Marrel Ranch,** baz=18	17.84 340	⇓P	Pn	12 42 18.5	+0.9
L12A	**House Creek Ra** baz=18	17.89 347	⇓P	Pn	12 42 18.8	+0.6
O05C	**Quincy** baz=18	17.89 330	⇑P	Pn	12 42 19.1	+0.8
PDAR	**Pinedale Array** comp=Z,0.3nm,0.3s,baz=163,slow=11,SNR=51	17.93 360	P	Pn	12 42 18.1	-0.6
PDAR	comp=Z,297nm,18.4s,baz=181,slow=36		LR	LR	12 48 55.3	
K14A	**Jones Ranch, D** baz=18	17.96 351	⇑P	Pn	12 42 19.7	+0.7
KSU1	**Kansas State U** comp=Z,38nm,0.9s	17.97 34	*e*P	Pn	12 42 20.2	+1.0
AHID	**Auburn Hatcher** comp=Z,8.0nm,0.7s	17.97 356	*e*P	Pn	12 42 19.2	0.0
K15A	**Arbon** baz=18	18.01 353	⇓P	Pn	12 42 20.1	+0.4
K16A	**Soda Springs** baz=18	18.07 355	⇓P	Pn	12 42 20.1	-0.3
L11A	**Cat Creek Ranc** baz=18,SNR=27	18.07 345	⇑P	Pn	12 42 21.0	+0.5
N06A	**Buffalo Meadow** baz=18,SNR=13	18.09 334	⇑P	Pn	12 42 21.2	+0.5
M08A	**Happy Creek Ra** baz=18,SNR=22	18.16 338	⇓P	Pn	12 42 22.4	+0.8

L10A	Juniper Basin	18.17	343	⇑P	Pn	12 42 21.8 +0.2
	baz=18,SNR=32					
K13A	Stover Farm, H	18.20	349	⇓P	Pn	12 42 21.6 -0.5
	baz=18					
K12A	Draper Farm, C	18.34	347	⇓P	Pn	12 42 24.2 +0.5
	baz=18					
M07A	Soldier Meadow	18.39	336	⇑P	Pn	12 42 25.2 +0.9
	baz=18					
J16A	Bone	18.51	355	⇑P	Pn	12 42 25.7 -0.1
	baz=18					
REDW	Red Top Meadow	18.55	357	eP	Pn	12 42 26.0 -0.4
	comp=Z,42nm,1.2s					
RRI2	Red Ridge	18.56	356	eP	Pn	12 42 26.2 -0.3
	comp=Z,20nm,1.0s					
SNOW	Snow King Moun	18.65	357	eP	Pn	12 42 27.6 +0.1
	comp=Z,106nm,1.6s					
TPAW	Teton Pass	18.68	357	eP	Pn	12 42 28.0 +0.1
	comp=Z,44nm,1.3s					
K11A	Parker Ranch,	18.71	345	⇑P	Pn	12 42 27.8 -0.5
	baz=19,SNR=15					
M06C	Likely Place G	18.73	334	⇓P	Pn	12 42 28.9 +0.4
	baz=19					
LOHW	Long Hollow	18.79	358	eP	Pn	12 42 28.9 -0.3
	comp=Z,36nm,1.4s					
DCID1	Drake Creek	18.80	356	eP	Pn	12 42 29.5 +0.1
L08A	Fields	18.82	339	⇑P	Pn	12 42 29.5 -0.1
	baz=19					
HATC	Hat Creek Radi	18.83	331	⇓P	Pn	12 42 30.2 +0.5
	baz=19					
K10A	MacKenzie Ranc	18.93	343	P	Pn	12 42 30.7 -0.2
	baz=19,SNR=10					
MOOW	Moose Ponds	18.93	357	eP	Pn	12 42 30.4 -0.6
	comp=Z,19nm,1.2s					
J13A	Cove Ranch, Pi	18.94	350	⇓P	Pn	12 42 30.6 -0.4
	baz=19,SNR=10					
J12A	Stokes Ranch,	18.97	347	⇓P	Pn	12 42 30.4 -1.0
	baz=19,SNR=11					
L07A	Adell	19.00	337	⇑P	Pn	12 42 32.1 +0.3
	baz=19					
IMW	Indian Meadow	19.09	357	eP	Pn	12 42 32.9 0.0
	comp=Z,27nm,1.1s					
IMW				epP	pP	12 42 40.4 +5.5
IMW				esP	sP	12 42 45.5 +9.4
K09A	Rome	19.09	341	P	Pn	12 42 32.6 -0.2
	baz=19,SNR=49					
LTIM	Timbered Crate	19.13	332	P	Pn	12 42 33.0 -0.4
WVOR	Wild Horse Val	19.13	339	eP	Pn	12 42 32.7 -0.7
WVOR				pmax	pmax	
	comp=Z,33nm,1.2s					
WVOR	Wild Horse Val	19.13	339	eP	Pn	12 42 32.7 -0.7
	comp=Z,33nm,1.2s					
WVOR				epP	pP	12 42 38.3 +3.0
WVOR				esP	sP	12 42 43.4 +6.7
M05C	Lookout	19.14	332	⇑P	Pn	12 42 33.5 0.0
	baz=19					
HLID	Hailey	19.14	349	⇑P	Pn	12 42 32.6 -0.9
	baz=19,SNR=13					
HLID	Hailey	19.14	349	eP	Pn	12 42 33.0 -0.5
	comp=Z,9.8nm,1.0s					
MOD	Modoc	19.26	335	P	Pn	12 42 34.1 -0.7
	baz=19,SNR=14					
MOD	Modoc	19.26	335	eP	Pn	12 42 33.9 -1.0
	comp=Z,28nm,1.3s					
FLWY	Flagg Ranch	19.27	357	eP	Pn	12 42 35.3 +0.4
	comp=Z,15nm,0.8s					
MFID	Camas Ranch	19.28	346	⇓P	Pn	12 42 34.4 -0.7
	baz=19,SNR=14					
K08A	Mann Creek Ran	19.35	340	P	Pn	12 42 35.3 -0.7
	baz=19,SNR=19					
I13A	Wildhorse Cree	19.44	350	⇓P	Pn	12 42 35.8 -1.2
	baz=19					
M03C	McCloud	19.49	331	⇓P	Pn	12 42 38.1 +0.4
	baz=20					
K07A	Rock Creek Ran	19.56	338	⇓P	Pn	12 42 38.1 -0.4
	baz=20					
L05A	Lakeview	19.59	334	⇑P	Pn	12 42 38.6 -0.2
	baz=20					
YFT	Old Faithful	19.64	357	eP	Pn	12 42 39.7 +0.3
N02C	Big Bar	19.69	328	⇓P	Pn	12 42 40.2 +0.2
	baz=20					
J09A	Fry Pan Ranch,	19.70	342	⇓P	Pn	12 42 39.3 -0.8
	baz=20					
I11A	Placerville	19.78	346	P	Pn	12 42 40.3 -0.8
	baz=20,SNR=8.0					
M04C	Macdoel	19.78	332	⇑P	Pn	12 42 40.5 -0.7
	baz=20,SNR=11					
YMR	Madison River	19.86	357	eP	Pn	12 42 41.8 -0.2
	comp=Z,35nm,1.3s					
J08A	Circle Bar Ran	19.92	341	P	Pn	12 42 41.5 -1.2
	baz=20,SNR=20					
M02C	Callahan	19.92	329	⇑P	Pn	12 42 42.6 -0.2
	baz=20					
OXF	Oxford	19.97	56	eP	Pn	12 42 42.9 -0.5
OXF				pmax	pmax	
	comp=Z,27nm,1.0s					
OXF	Oxford	19.97	56	eP	Pn	12 42 42.9 -0.5
	comp=Z,28nm,1.0s					
K06A	Valley Falls	20.01	336	P	P	12 42 42.7 +0.6
	baz=20,SNR=12					
QLMT	Earthquake Lak	20.05	356	eP	P	12 42 44.3 +1.8
H13A	Challis	20.09	350	⇓P	P	12 42 43.3 +0.3
	baz=20,SNR=16					
YBH	Yreka Blue Hor	20.12	330	P	P	12 42 42.1 -1.2
	comp=Z,2.0nm,0.9s,baz=215,slow=9.3,SNR=4.0					
YBH				LR	LR	12 49 53.5
	comp=Z,282nm,21.9s,MS3.6,baz=318,slow=35					
I10A	Payette	20.14	345	⇑P	P	12 42 44.1 +0.6
	baz=20,SNR=5.1					
TEIG	Tepich	20.16	99	P	P	12 42 45.9 +2.0
	comp=Z,14nm,1.0s,baz=166,slow=21,SNR=3.6					
TEIG				LR	LR	12 52 38.2
	comp=Z,386nm,18.4s,MS3.8,baz=326,slow=43					
MCMT	McKenzie Canyo	20.17	353	eP	P	12 42 45.3 +1.5
K05A	Summer Lake	20.19	335	⇑P	P	12 42 44.0 0.0
	baz=20,SNR=7.3					
J07A	Hines	20.19	339	⇑P	P	12 42 44.0 -0.1
	baz=20,SNR=26					
I09A	Lost Marbles R	20.27	343	P	P	12 42 45.2 +0.3
	baz=20,SNR=11					
RLMT	Red Lodge	20.28	1	eP	P	12 42 45.5 +0.4
	comp=Z,50nm,1.8s					
J06A	Christmas Vall	20.37	337	⇓P	P	12 42 46.4 +0.4
	baz=20,SNR=38					
I08A	Drewsey	20.45	341	⇑P	P	12 42 47.2 +0.3
	baz=20					
G15A	Dillon	20.46	354	⇓P	P	12 42 46.6 -0.4
	baz=20,SNR=8.5					
H11A	Donnelly	20.55	347	⇓P	P	12 42 48.3 +0.4
	baz=20,SNR=10					
H10A	Noah's Angus R	20.60	345	⇓P	P	12 42 48.7 +0.2
	baz=21,SNR=32					
G13A	Cobalt	20.61	351	⇓P	P	12 42 48.9 +0.3
	baz=21,SNR=32					
G14A	Jackson	20.65	352	⇑P	P	12 42 48.9 -0.1
	baz=21					
DLMT	Dillon	20.67	354	eP	P	12 42 50.0 +0.8
	comp=Z,36nm,1.4s					
J05A	Fort Rock	20.79	335	P	P	12 42 50.9 +0.2
	baz=21,SNR=13					
BOZ	Bozeman (W)	20.87	356	eP	P	12 42 51.9 +0.5
BOZ				pmax	pmax	
	comp=Z,21nm,1.3s					
BOZ	Bozeman (W)	20.87	356	⇑P	P	12 42 51.5 +0.1
	baz=21					
BOZ	Bozeman (W)	20.87	356	eP	P	12 42 51.9 +0.5
	comp=Z,21nm,1.3s					
H09A	Durkee	20.90	344	P	P	12 42 51.7 0.0
	baz=21,SNR=35					
FVM	French Village	20.90	46	eP	P	12 42 54.3 +2.4
FVM				pmax	pmax	
	comp=Z,15nm,1.0s					
FVM	French Village	20.90	46	eP	P	12 42 54.3 +2.4
	comp=Z,15nm,1.0s					
GCMT	Greycliff	20.95	360	eP	P	12 42 52.7 +0.5
BMO	Blue Mountains	20.98	344	eP	P	12 42 52.2 -0.4
	comp=Z,26nm,1.3s					
I06A	Prineville	21.00	338	P	P	12 42 53.0 +0.2
	baz=21,SNR=18					
H08A	Prairie City	21.03	342	P	P	12 42 53.2 +0.1
	baz=21,SNR=28					
LCCM	Lewis and Clar	21.08	355	P	P	12 42 54.6 +0.9
F15A	Butte	21.13	354	⇓P	P	12 42 54.1 -0.2
	baz=21,SNR=33					
PLAL	Pickwick Lake	21.16	56	eP	P	12 42 55.7 +1.0
	comp=Z,29nm,1.4s,mb4.4					
F14A	Wisdom	21.20	353	⇓P	P	12 42 55.4 +0.5
	baz=21					
G11A	Walters Elk Ra	21.27	347	⇓P	P	12 42 55.7 +0.1
	baz=21					
F13A	Darby	21.30	351	P	P	12 42 56.3 +0.2
	baz=21,SNR=81					
G10A	Bishop Farm, J	21.35	345	P	P	12 42 56.4 -0.2
	baz=21,SNR=25					
F12A	Elk City	21.42	349	P	P	12 42 57.1 -0.2
	baz=21,SNR=25					
G09A	Cove	21.50	344	P	P	12 42 58.0 -0.2
	baz=22,SNR=50					
ECSD	EROS,Sioux Fal	21.65	26	eP	P	12 42 59.7 -0.2
	comp=Z,31nm,1.2s,mb4.6					
I04A	Tendick Farm,	21.68	334	⇑P	P	12 43 01.2 +1.0
	baz=22					
F11A	Grangeville	21.71	347	⇑P	P	12 42 58.5 -2.0
	baz=22,SNR=19					
E15A	Deer Lodge	21.73	354	⇓P	P	12 42 59.2 -1.4
	baz=22,SNR=7.4					
H06A	Lindquist Farm	21.74	339	⇓P	P	12 43 00.8 0.0
	baz=22,SNR=9.3					
KEBM	Edson Butte	21.76	330	eP	P	12 43 00.3 -0.7
E14A	Clinton	21.81	353	⇓P	P	12 43 01.2 -0.3
	baz=22					
J02A	Umpqua	21.81	332	⇓P	P	12 43 02.7 +1.1
	baz=22					
G08A	Pilot Rock	21.82	342	⇓P	P	12 43 01.2 -0.5
	baz=22,SNR=14					
E13A	Victor	21.92	351	P	P	12 43 02.5 -0.2
	baz=22,SNR=32					
F09A	S2 Ranch, Elgi	21.93	344	⇑P	P	12 43 02.3 -0.5
	baz=22,SNR=8.9					
G07A	Ruggs Ranch, H	22.01	341	⇓P	P	12 43 03.2 -0.5
	baz=22					
LAO	LASA Array	22.01	6	eP	P	12 43 03.9 +0.3
	comp=Z,71nm,1.2s,mb5.0					
E11A	Bogner Ranch,	22.17	348	⇓P	P	12 43 04.3 -1.1
	baz=22,SNR=19					
LNOR	Lincton Mounta	22.18	344	eP	P	12 43 05.2 -0.3
I03A	Eugene	22.18	333	⇓P	P	12 43 05.9 +0.4
	baz=22,SNR=7.8					
F08A	Pendleton	22.24	343	⇑P	P	12 43 06.0 -0.1
	baz=22					
MSO	Missoula	22.27	352	eP	P	12 43 06.2 -0.1
	comp=Z,19nm,1.2s,mb4.4					
CHMT	Chamberlain Mo	22.27	353	eP	P	12 43 06.5 +0.1
G06A	Carlson Farm,	22.28	339	⇑P	P	12 43 05.8 -0.8
	baz=22					
D15A	Lincoln	22.33	355	P	P	12 43 06.7 -0.3
	baz=22,SNR=8.8					
H04A	Detroit Lake	22.35	336	⇑P	P	12 43 06.3 -0.9
	baz=22					
D14A	Greenough	22.46	353	P	P	12 43 08.1 -0.4
	baz=22,SNR=28					
G05A	Wamic	22.52	338	⇓P	P	12 43 08.1 -1.0
	baz=23					
D13A	Huson	22.60	351	P	P	12 43 09.1 -0.8
	baz=22,SNR=9.3					
D12A	Red Ives Fores	22.69	350	⇑P	P	12 43 09.3 -1.6
	baz=23,SNR=12					
E09A	Wood Farm, Sta	22.74	344	⇑P	P	12 43 09.4 -2.0
	baz=23					
H03A	Soap Creek Ran	22.77	334	⇑P	P	12 43 11.4 -0.3
	baz=23					
OLIL	Olney	22.85	47	eP	P	12 43 14.1 +1.5
	comp=Z,26nm,0.2s,mb5.3					
OLIL				epP		12 43 18.8
D11A	Klaveano Farm,	22.86	348	⇓P	P	12 43 11.7 -0.9
	baz=23					
G04A	Mulino	22.90	336	⇓P	P	12 43 12.6 -0.5
	baz=23					
HAWA	Hanford	22.99	342	eP	P	12 43 13.8 -0.3
	comp=Z,8.2nm,0.9s,mb4.2					
D10A	Wagner Farm, O	23.06	346	P	P	12 43 13.3 -1.5
	baz=23,SNR=9.4					
C14A	Swan Lake	23.17	353	P	P	12 43 15.4 -0.5
	baz=23,SNR=14					
EGMT	Eagleton	23.18	360	⇑P	P	12 43 15.1 -1.0
	baz=23					
EGMT	Eagleton	23.18	360	eP	P	12 43 15.7 -0.4
	comp=Z,47nm,1.3s,mb4.8					
C13A	Hot Springs	23.19	351	⇑P	P	12 43 15.0 -1.2
	baz=23					
D08A	Wollman Farm,	23.44	344	⇓P	P	12 43 16.7 -2.1
	baz=23					
E06A	Yakima	23.56	340	⇑P	P	12 43 19.1 -0.9
	baz=24					
E05A	Randle	23.82	339	⇓P	P	12 43 21.6 -0.8
	baz=24,SNR=7.7					
B13A	Whitefish	23.85	352	P	P	12 43 22.1 -0.5
	baz=24,SNR=13					
DGMT	Dagmar	24.00	9	eP	P	12 43 23.9 -0.2
	comp=Z,74nm,1.3s,mb5.0					
CPCT	Cooper Cave	24.04	58	eP	P	12 43 25.3 +0.7
B12A	Libby	24.11	350	⇑P	P	12 43 24.4 -0.6
	baz=24					
C08A	Higginbotham F	24.15	344	⇓P	P	12 43 24.6 -0.8
	baz=24					
NEW	Newport	24.18	348	eP	P	12 43 24.4 -1.3
NEW				pmax	pmax	
	comp=Z,13nm,0.8s					
NEW	Newport	24.18	348	eP	P	12 43 24.4 -1.3
	comp=Z,13nm,0.8s,mb4.4					
B11A	Sandpoint	24.20	349	⇑P	P	12 43 24.5 -1.4
	baz=24,SNR=8.1					
ETW	Entiat	24.32	342	eP	P	12 43 25.7 -1.3
C07A	Waterville	24.33	343	⇓P	P	12 43 26.1 -1.0
	baz=24,SNR=9.6					
D05A	Enumclaw	24.45	339	⇓P	P	12 43 28.2 0.0
	baz=24					
WALA	Waterton Lakes	24.46	353	eP	P	12 43 27.9 -0.3
	comp=Z,60nm,1.1s,mb4.9					
WALA				epP		12 43 33.3
A12A	Yaak River Ran	24.57	350	⇓P	P	12 43 28.5 -0.7
	baz=24,SNR=6.6					
TKL	Tuckaleechee C	24.69	58	P	P	12 43 31.6 +1.2
	comp=Z,13nm,1.0s,mb4.4,baz=227,slow=9.3,SNR=5.5					
TKL				LR	LR	12 53 56.1
	comp=Z,466nm,20.5s,MS4.0,baz=17,slow=38					
A11A	Hall Mountain,	24.71	349	⇑P	P	12 43 29.8 -0.7
	baz=25,SNR=29					
B08A	Colville Reser	24.76	344	⇓P	P	12 43 30.4 -0.5
	baz=25,SNR=9.9					
A10A	Northport	24.95	347	⇓P	P	12 43 32.0 -0.7
	baz=25,SNR=9.5					
B07A	Winthrop	25.05	343	⇓P	P	12 43 32.7 -0.9
	baz=25					
GNW	Green Mountain	25.05	338	eP	P	12 43 33.0 -0.6
	comp=Z,19nm,1.2s,mb4.5					
GNW				epP	pP	12 43 37.8 +1.1
GNW				esP	sP	12 43 43.0 +5.0
TZTN	Tazewell	25.16	56	eP	P	12 43 35.9 +1.2
	comp=Z,30nm,1.3s,mb4.7					
A09A	Danville	25.16	346	⇑P	P	12 43 34.0 -0.6
	baz=25					
C04A	Brinnon	25.24	338	⇑P	P	12 43 35.4 +0.1
	baz=25					
NLWA	Neilton Lookou	25.27	337	eP	P	12 43 35.7 +0.1
	comp=Z,25nm,1.4s,mb4.6					
A08A	Turner Farm, O	25.30	345	P	P	12 43 35.9 0.0
	baz=25,SNR=13					
A07A	Ashnola River,	25.66	343	⇑P	P	12 43 39.1 0.0
	baz=26					
AGMN	Agassiz Refuge	25.82	21	eP	P	12 43 39.9 -0.7
	comp=Z,9.6nm,1.0s,mb4.3					
A04A	Legoe Bay, Lum	26.03	340	⇓P	P	12 43 41.9 -0.6
	baz=26					
PGC	Sidney	26.21	339	eP	P	12 43 43.5 -0.6
	comp=Z,44nm,1.2s,mb4.9					
ULM	Lac du Bonnet	27.54	19	P	P	12 43 54.8 -1.2
	comp=Z,9.5nm,1.0s,mb4.4,baz=206,slow=9.9,SNR=7.0					
EDM	Edmonton	28.53	355	eP	P	12 44 03.7 -1.2
FFC	Flin Flon	30.42	9	eP	P	12 44 20.3 -1.3
FFC				pmax	pmax	
	comp=Z,13nm,1.4s,mb4.5					
FFC	Flin Flon	30.42	9	eP	P	12 44 20.3 -1.3
	comp=Z,13nm,1.4s,mb4.5					
YKA	Yellowknife Ar	37.84	356	P	P	12 45 24.4 -1.4
	comp=Z,2.2nm,0.9s,mb3.9,baz=175,slow=7.9,SNR=9.3					
YKA				LR	LR	13 03 12.9
	comp=Z,181nm,18.0s,MS3.9,baz=180,slow=40					
OTAV	Otavalo	38.74	124	eP	P	12 45 37.0 +3.0
	comp=Z,16nm,1.4s,mb4.6					
DAWY	Dawson	43.85	342	eP	P	12 46 14.8 -0.5
EGAK	Eagle	44.89	341	eP	P	12 46 22.5 -1.2
	comp=Z,6.1nm,1.0s,mb4.4					
TRF	Thorofare Moun	47.00	336	eP	P	12 46 40.0 -0.4
	comp=Z,34nm,1.4s,mb5.1					
KTH	Kantishna Hill	47.29	336	eP	P	12 46 41.7 -0.9
	comp=Z,13nm,1.1s,mb4.8					
BPAW	Bear Paw Mtn.	47.63	337	eP	P	12 46 44.4 -0.9
	comp=Z,8.8nm,1.0s,mb4.7					
SFJD	Kangerlussuaq	55.40	24	LR	LR	13 10 26.3
	comp=Z,1μm,18.3s,MS5.0,baz=134,slow=35					
PETK	Petropavlovsk-	72.16	321	P	P	12 49 32.7 -1.4
	comp=Z,3.2nm,0.9s,mb4.3,baz=82,slow=12,SNR=7.7					
PETK	Petropavlovsk-	72.16	321	P	P	12 49 32.7 -1.4

*IDC **20** 13:08:53.4±4.0, 009N×1835W, h0km, mb4.0/1, mb1 4.6/3, mb1mx3.8/24, mbtmp4.6/3, ML4.9/2, Error ellipse: s-maj=81.9km s-min=61.8km az=122.0*
*NEIC **20** 13:08:53.9±1.6, 0.10N×1853W, h10km, Error ellipse: s-maj=24.3km s-min=20.7km az=181.0*

ISC 20 13:09:04.6±2.5, 09N±01×180W±01, h10km, n10, σ1§28/13, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	Babate	13.77	6	Pn	Pn	13 12 21.0	+0.9
	6.4nm,0.3s,baz=173,slow=0.7,SNR=11						
BBTS				Sn	Sn	13 14 53.0	-0.2
	1.7nm,0.3s,baz=84,slow=19,SNR=7.2						
BBTS	Babate	13.77	6	Pn	Pn	13 12 21.0	+0.9
BBTS				Sn	Sn	13 14 53.0	-0.2
LIC	Lamto	13.96	67	eP	Pn	13 12 24.4	+1.7
	37nm,0.8s						
TIC	Toumodi	14.13	66	eP	Pn	13 12 26.2	+1.2
	50nm,0.2s						
KIC	Kosan Boka	14.28	67	eP	Pn	13 12 27.7	+0.7
	20nm,0.3s						
DBIC	Dimbokro	14.29	66	Pn	Pn	13 12 26.9	-0.3
	4.1nm,0.3s,baz=233,slow=14,SNR=43						
DBIC				Sn	Sn	13 15 05.5	-0.4
	0.5nm,0.3s,baz=113,slow=10,SNR=3.8						
DBIC	Dimbokro	14.29	66	Pn	Pn	13 12 26.9	-0.3
DBIC				Sn	Sn	13 15 05.5	-0.4
TOA0	Torodi Ar. Sit	22.98	57	eP	P	13 14 07.2	-2.5
TORD	Torodi Ar. Bea	22.98	57	P	P	13 14 07.4	-2.2
	3.1nm,0.6s,baz=238,slow=10,SNR=16						
ASAR	Alice Springs	144.54	132	PKP	PKPdf	13 28 32.0	-10
	0.8nm,1.0s,baz=211,slow=2.0,SNR=4.5						

*ISCJB **20** 13:10:32.9±0.6, 100N±003×12353E±004, h55km±6km, mb4.5/24, Error ellipse: s-maj=6.4km s-min=5.3km az=2.9*
*BJI **20** 13:10:33.9, 103N×12405E, h65km, mB5.1, mb4.6*
*DJA **20** 13:10:34, 086N×12365E, h10km, ML5.1/8*
*NEIC **20** 13:10:35.5±0.9, 093N×12348E, h65km±9km, mb4.6/12, Error ellipse: s-maj=10.1km s-min=5.4km az=75.0*
*IDC **20** 13:10:37.8±2.7, 097N×12361E, h86km±27km, mb4.0/12, mb1 4.2/14, mb1mx4.0/22, mbtmp4.1/14, MS3.7/2, Ms1 3.7/2, ms1mx2.9/34, Error ellipse: s-maj=21.5km s-min=10.4km az=80.0*

ISC 20 13:10:34.4±0.5, 098N±003×12356E±004, h52km±6km, n71, σ1§10/72, mb4.5/24, 5C-5D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	Manado	1.36	70	P	Pn	13 10 56.9	-0.2
	0.0nm,0.0s						
PCI	Palu	4.17	243	P	Pn	13 11 34.0	-1.5
	0.0nm,0.0s						
LBMI	Labuha	4.25	112	P	Pn	13 11 38.0	+1.3
	0.0nm,0.0s						
KDI	Kendari	4.99	191	P	Pn	13 11 48.6	+1.8
	0.0nm,0.0s						
DAV	Davao City (W)	6.38	18	P	Pn	13 12 09.4	+3.5
	49nm,0.3s,baz=120,slow=2.9,SNR=25						
DAV				S	Sn	13 13 21.0	+3.5
	102nm,0.3s,baz=335,slow=17,SNR=3.3						
DAV				LR	LR	13 14 37.8	
	comp=Z,550nm,20.6s,baz=154,slow=38						
DAV	Davao City (W)	6.38	18	ePn	Pn	13 12 09.3	+3.4
DAV				eSn	Sn	13 13 22.4	+4.9
DAV				LR	LR	13 14 37.8	
SMKI	Samarinda	6.51	257	P	Pn	13 12 07.5	-0.2
	0.0nm,0.0s						
MATI	Mati	6.51	24	eP	Pn	13 12 06.8	-0.9
MYLDM	Lahad Datu	6.55	310	⇑P	Pn	13 12 09.0	+0.7
TSM	Tawau	6.57	300	⇑P	Pn	13 12 06.3	-2.2
PAGZ	Pagadian	6.83	359	eP	Pn	13 12 11.0	-1.1
IPIL	Ipil	6.84	352	⇓iP	Pn	13 12 19.9	+7.7
IPIL				i S	Sn	13 13 26.7	-2.0
BUKP	Musuan	7.02	12	eP	Pn	13 12 15.2	+0.5
KAPI	Kappang	7.06	213	eP	Pn	13 12 14.8	-0.5
	148nm,0.6s						
SDKM	Sandakan	7.87	306	⇓P	Pn	13 12 26.4	+0.1
KKM	Kota Kinabalu	8.89	305	⇑P	Pn	13 12 40.2	-0.2
KKM	Kota Kinabalu	8.89	305	eP	Pn	13 12 39.7	-0.7
MSLP	Maasin	9.19	8	eP	Pn	13 12 50.1	+5.7
CUYO	Cuyo Island	10.13	346	eP	Pn	13 12 58.0	+0.7
SBUM	Sibu	11.43	278	⇓P	Pn	13 13 15.2	+0.1
CNP	Catarman	11.51	5	eP	Pn	13 13 22.2	+6.0
PVCP	Virac	12.55	3	eP	Pn	13 13 38.3	+7.9
KSM	Kuching	13.26	272	eP	Pn	13 13 48.9	+8.8
SJI	Sawahan	14.60	233	P	Pn	13 14 00.0	+1.8
	0.0nm,0.0s						
BJII	Banjamegara	16.09	239	P	Pn	13 14 19.2	+1.8
	0.0nm,0.0s						
KAKA	Kakadu	16.20	147	eP	Pn	13 14 18.2	-0.6
	12nm,0.6s						
KAKA	Kakadu	16.20	147	eP	Pn	13 14 19.1	+0.3
APYP	Conner	16.93	352	eP	Pn	13 14 28.8	+0.8
LEM	Lembang	17.70	244	P	Pn	13 14 37.1	-0.3
	0.0nm,0.0s						
CBJI	Citeko	18.23	246	P	Pn	13 14 42.9	-1.0
	0.0nm,0.0s						
SKJI	Sukabumi	18.73	245	P	Pn	13 14 47.9	-2.0
	0.0nm,0.0s						
TPRI	Tanjung Pinang	19.03	270	P	Pn	13 14 53.5	-0.1
	0.0nm,0.0s						
FITZ	Fitzroy Crossi	19.07	174	eP	Pn	13 14 53.2	-0.7
	29nm,0.6s						
FITZ	Fitzroy Crossi	19.07	174	P	Pn	13 14 53.6	-0.3
	3.3nm,0.3s,baz=5.2,slow=8.8,SNR=104						
MYKOM	Kota Tinggi	19.72	273	⇓P	Pn	13 15 00.4	-1.4
KGM	Kluang	20.26	273	⇓P	P	13 15 06.7	+0.9
MBWA	Marble Bar	22.32	189	eP	P	13 15 26.2	-1.5
	18nm,0.7s,mb4.6						
IPM	Ipoh	22.77	279	⇑P	P	13 15 34.3	+1.5
PPI	Padang Panjang	23.21	267	P	P	13 15 37.5	+0.2
	110nm,0.8s,mb5.3						
KULM	Kulim	23.27	281	⇑P	P	13 15 40.7	+2.8
WRAB	Tennant Creek	23.32	154	eP	P	13 15 38.3	+0.1
	9.0nm,0.6s,mb4.4						
WRA	Warramunga Arr	23.32	154	P	P	13 15 38.2	-0.1
	8.6nm,0.8s,mb4.3,baz=337,slow=10,SNR=98						
WB2	Warramunga Arr	23.33	154	eP	P	13 15 38.4	+0.1
GUMO	Guam	24.53	58	LR	LR

comp=Z,2.4nm,0.9s,mb4.2,baz=151,slow=8.1,SNR=10
MK31 Makanchi Array 58.09 328 *e*P **P 13 20 22.6 +0.2**
MKAR Makanchi Array 58.09 328 P **P 13 20 22.6 +0.2**
comp=Z,2.9nm,0.6s,mb4.5,baz=128,slow=8.5,SNR=17
PETK Petropavlovsk- 59.17 23 P **P 13 20 30.6 +0.7**
comp=Z,2.4nm,0.7s,mb4.3,baz=191,slow=4.8,SNR=5.8
TKM2 Tokmak 2 59.78 321 *e*P **P 13 20 34.8 +0.4**
comp=Z,1.4nm,0.6s,mb4.2
YAK Yakutsk 61.08 3 *e*P **P 13 20 41.9 -0.9**
comp=Z,14nm,0.8s,mb5.2
ZAA0 Zalesovo Array 61.66 335 *e*P **P 13 20 46.8 -0.1**
ZALV Zalesovo Beam 61.66 335 P **P 13 20 46.9 0.0**
comp=Z,0.6nm,0.5s,mb4.0,baz=150,slow=6.1,SNR=3.2
KURK Kurchatov 62.42 330 *e*P **P 13 20 51.4 -0.6**
comp=Z,6.8nm,0.8s,mb4.8
BVAR Borovoye Array 67.94 329 P **P 13 21 27.4 -0.4**
comp=Z,0.5nm,0.5s,mb3.9,baz=139,slow=11,SNR=2.9
TORD Torodi Ar. Bea 120.69 286 PKP PKPdf 13 29 20.4 -1.3
comp=Z,0.6nm,0.7s,baz=105,slow=1.8,SNR=3.7

CSEM ***20*** *13:16:24.8±0.3, 3880N×2666E, h15km, MD2.8, Error ellipse: s-maj=10.2km s-min=3.8km az=67.0*
ISCJB ***20*** *13:16:25.1±1.2, 3878N±005×267E±0.1, h10km±8km, Error ellipse: s-maj=14.4km s-min=6.4km az=152.4*
DDA ***20*** *13:16:26.7, 3886N×2679E, h7km±2km, Md2.8*
ISC 20 13:16:25.6±1.2,3879N±005×2668E±010,h15km±8km,n5, σ0§43/10,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.49**	**144**	*e*PG	**Pg**	**13 16 35.6**	**+0.2**
BLCB				*e*SG	**Sg**	13 16 42.3	+0.3
AYVA	**Ayvalik**	**0.52**	**1**	*i* P	**Pg**	**13 16 35.5**	**-0.4**
AYVA				*i* S	**Sg**	**13 16 42.9**	**+0.1**
AKHS	**Akhisar**	**0.89**	**84**	*i* P	**Pb**	**13 16 42.6**	**-0.2**
AKHS				*i* S	**Sb**	**13 16 54.2**	**-0.3**
EZN	**Ezine**	**1.07**	**345**	*e*PN	**Pn**	**13 16 45.8**	**-0.3**
EZN				*e*SN	**Sn**	**13 17 01.3**	**+0.5**
BALY	**Balya**	**1.20**	**37**	*i* P	**Pn**	**13 16 47.2**	**-0.7**
BALY				*i* S	**Sb**	**13 17 04.1**	**+0.7**

ISCJB ***20*** *13:40:04.0±0.9, 3926N±003×2022E±008, h11km±10km, Error ellipse: s-maj=10.0km s-min=4.5km az=3.7*
CSEM ***20*** *13:40:04.9±0.2, 3925N×2021E, h10km, ML2.5, Error ellipse: s-maj=6.0km s-min=3.2km az=90.0*
THE ***20*** *13:40:04.2, 3926N×2015E, h3km, ML2.5*
ATH ***20*** *13:40:04.4, 3922N×2027E, h10km, MD3.2/3*
ISC 20 13:40:04.1±0.9,3927N±003×2017E±008,h17km±9km,n10, σ0§72/17,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.29**	**26**	*e*Pg	**Pg**	**13 40 10.0**	**-0.4**
IGT				*e*Sg	**Sg**	**13 40 14.5**	**-0.2**
KEK	**Kerkira**	**0.53**	**327**	*e*PB	**Pb**	**13 40 16.2**	**+1.4**
JAN	**Janina**	**0.65**	**54**	*e*PB	**Pb**	**13 40 16.3**	**-0.7**
LKD	**Levkas**	**0.68**	**146**	*e*Pg	**Pg**	**13 40 17.2**	**-0.2**
LKD				*e*Sg	**Sg**	**13 40 27.1**	**+0.7**
MEV	**Metsovon**	**0.97**	**58**	*e*Pg	**Pg**	**13 40 23.2**	**+0.3**
MEV				*e*Sg	**Sg**	**13 40 36.5**	**+0.9**
VLS	**Valsamata**	**1.14**	**163**	*e*Pg	**Pg**	**13 40 25.4**	**-0.7**
VLS				*e*Sg	**Sg**	**13 40 41.4**	**+0.4**
VLS	**Valsamata**	**1.14**	**163**	*e*Pb	**Pb**	**13 40 24.9**	**-0.4**
VLS	**Valsamata**	**1.14**	**163**	*e*Pg	**Pg**	**13 40 25.5**	**-0.6**
VLS				*e*Sg	**Sg**	**13 40 41.4**	**+0.3**
KFL	**Anninata**	**1.26**	**157**	*e*Pg	**Pg**	**13 40 27.2**	**-1.1**
KFL				*e*Sg	**Sg**	**13 40 45.7**	**+0.9**
THL	**Klokotos Trika**	**1.46**	**78**	*e*Pg	**Pg**	**13 40 31.2**	**-1.0**
THL				*e*Sg	**Sg**	**13 40 51.4**	**+0.2**

BJI ***20*** *13:46:15.4, 594N×12764E, h21km, mB6.5, mb6.1, Ms6.3, Msz6.2*
NEIC ***20*** *13:46:17.4±0.1, 6.13N×12738E, h8km, mb6.4/168, ME6.7, MS6.2/195, Error ellipse: s-maj=3.7km s-min=2.8km az=222.0 Broadband fault plane solution: P waves. NP1:φs340.00000°, δ35.00000°, λ-90.00000°. NP2: φs160.00000°, δ55.00000°, λ-90.00000°. Principal axes: T Plg10.0000°, Azm250.0000°; N Plg0.0000°, Azm0.0000°; P Plg80.0000°, Azm70.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III PIVS] at Cateel; [II PIVS] at Bislig, Davao, General Santos, Kidapawan and San Francisco; [I PIVS] at Butuan, Mindanao. Felt [IV] in Kepulauan Talaud and [III] in Kepulauan Sangihe, Indonesia.
GCMT ***20*** *13:46:17.4±0.1, 6.19N×12772E, h12km, MW6.4/116, Moment Tensor Solution. s107,c249; s116,c513; Duration: 3s9 Moment tensor: Scale 1018Nm; Mrr=5.12±.02; Mθθ0.49±.02; Mφφ4.63±.02; Mrθ0.42±.06; Mθφ=-1.71±.02; Mφr=0.75±.06; Best double couple: M0=5.25400×1018 NP1:φs162.00000°, δ40.00000°, λ-88.00000°. NP2:φs339.00000°, δ50.00000°, λ-92.00000°. Principal axes: T 5.3140, Plg5.0000°, Azm70.0000°; N -0.1170, Plg2.0000°, Azm340.0000°; P -5.1930, Plg85.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***20*** *13:46:18.2±0.1, 6.12N±002×12745E±002, h22km, mb6.4/196, MS6.2/252 Error ellipse: s-maj=3.2km s-min=2.2km az=144.0*
IDC ***20*** *13:46:19.0±1.5, 6.11N×12747E, h15km±8km, mb6.1/33, mb1 6.0/35, mb1mx6.0/35, mbtmp6.0/35, ML4.9/2, MS6.1/26, Ms1 6.1/26, ms1mx5.9/33, Error ellipse: s-maj=12.4km s-min=7.0km az=73.0*
MOS ***20*** *13:46:19.4±1.1, 621N×12747E, h33km, mb6.8/66, MS6.2/87, Error ellipse: s-maj=6.8km s-min=4.1km az=116.1*
MAN ***20*** *13:46:19, 6.10N×12754E, h16km, mb6.6, ML5.8, MS6.6*
MAN INTENSITY III - CATEEL, DAVAO, ORIENTAL; INTENSITY II - BISLIG, SURIGAO DEL SUR, KIDAPAWAN CITY, GEN SANTOS; INTENSITY I - BUTUAN CITY.
IGIL ***20*** *13:46:20.0, 6.16N×12742E, h21km, MS6.3*
SZGRF ***20*** *13:46:26.6, 873N×12931E, h21km, mb6.4, East of Philippine Islands*
DJA ***20*** *13:46:27, 602N×12756E, h68km, Mwp6.5/60*
ISC 20 13:46:19.9±0.1,611N±002×12745E±002,h24km, h24km±1.7km:pP-P,n1751,σ1§20/876,mb6.4/194, MS6.2/252,260C-291D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.44**	**305**	*e*P	**Pn**	**13 46 45.1**	**+0.5**
DAV	**Davao City (W)**	**2.09**	**297**	⇑P	**Pn**	**13 46 57.9**	**+4.4**
	SNR=2226						
DAV	**Davao City (W)**	**2.09**	**297**	Pn	**Pn**	**13 46 56.2**	**+2.8**
	980nm,0.3s,baz=237,slow=1.5,SNR=220						
DAV				LR	LR	13 47 45.9	
	comp=Z,371μm,18.6s,baz=297,slow=41						
DAV	**Davao City (W)**	**2.09**	**297**	⇓*e*P	**Pn**	**13 46 58.8**	**+5.3**
DAV	**Davao City (W)**	**2.09**	**297**	⇓*e*P	**Pn**	**13 46 55.7**	**+2.2**
DMPH	**Davao City--Mi**	**2.15**	**297**	⇑*i*P	**Pn**	**13 46 57.6**	**+3.2**
DMPH				*i* S	**Sn**	**13 47 24.6**	**+4.2**
BIPH	**Bislig**	**2.33**	**332**	⇓*e*P	**Pn**	**13 46 54.4**	**-2.3**
BIPH				*e*S	**Sn**	**13 47 22.5**	**-2.1**
KCP	**Kidapawan**	**2.50**	**291**	⇓*e*P	**Pn**	**13 47 00.6**	**+1.3**
KCP				*i* S	**Sn**	**13 47 39.5**	**+10**
BUKP	**Musuan**	**2.95**	**307**	*e*P	**Pn**	**13 47 07.8**	**+2.5**
CTBH	**Cotabato--PC H**	**3.37**	**289**	*e*P	**Pn**	**13 47 12.4**	**+1.4**
CTBH				*i* S	**Sn**	**13 48 00.5**	**+10**
BUTP	**Butuan**	**3.37**	**328**	*e*P	**Pn**	**13 47 13.4**	**+2.3**
SCPH	**Surigao**	**4.13**	**332**	*e*P	**Pn**	**13 47 22.0**	**+0.4**
PAGZ	**Pagadian**	**4.39**	**293**	*e*P	**Pn**	**13 47 27.8**	**+2.7**
MSLP	**Maasin**	**4.75**	**328**	*e*P	**Pn**	**13 47 31.1**	**+1.0**
TBP	**Tagbilaran**	**5.03**	**315**	⇓*e*P	**Pn**	**13 47 34.3**	**+0.4**
TBP				*e*S	**Sn**	**13 48 32.9**	**+1.6**
IPIL	**Ipil**	**5.12**	**289**	*e*P	**Pn**	**13 47 39.0**	**+3.8**
SNPH	**Sibulan**	**5.26**	**308**	⇓*e*P	**Pn**	**13 47 41.5**	**+4.3**
MNI	**Manado**	**5.31**	**209**	P	**Pn**	**13 47 41.1**	**+3.2**
LLP	**Lapu-Lapu**	**5.42**	**321**	*e*P	**Pn**	**13 47 40.6**	**+1.4**
LLP				*e*S	**Sn**	**13 48 43.7**	**+2.8**
PLP	**Palo**	**5.58**	**334**	⇓*e*P	**Pn**	**13 47 44.3**	**+2.7**
OCLP	**Ormoc**	**5.65**	**330**	*e*P	**Pn**	**13 47 45.9**	**+3.4**
BESP	**Borongan**	**5.80**	**340**	*e*P	**Pn**	**13 47 43.7**	**-0.9**
GUIM	**Jordan**	**6.57**	**313**	*e*P	**Pn**	**13 47 55.8**	**+0.6**
CNP	**Catarman**	**6.93**	**337**	*e*P	**Pn**	**13 47 59.9**	**-0.1**
RCP	**Roxas**	**7.13**	**320**	⇓*e*P	**Pn**	**13 48 08.5**	**+5.6**
MMPH	**Masbate**	**7.26**	**329**	⇑*e*P	**Pn**	**13 48 08.7**	**+4.0**
MMPH				*e*S	**Sn**	**13 49 28.1**	**+1.6**
KALP	**Kalibo**	**7.49**	**318**	⇑*e*P	**Pn**	**13 48 13.3**	**+5.6**
CUYO	**Cuyo Island**	**7.91**	**307**	*e*P	**Pn**	**13 48 15.6**	**+2.1**
PVCP	**Virac**	**8.11**	**337**	⇑*e*P	**Pn**	**13 48 17.8**	**+1.5**
OTRP	**Odiongan**	**8.20**	**320**	*e*P	**Pn**	**13 48 20.7**	**+3.1**
SJMP	**San Jose**	**8.88**	**316**	*e*P	**Pn**	**13 48 30.9**	**+4.1**
BUSP	**Coron**	**9.24**	**310**	*e*P	**Pn**	**13 48 33.1**	**+1.2**
ENPP	**El Nido**	**9.41**	**303**	*e*P	**Pn**	**13 48 37.4**	**+3.3**
AAI	**Ambon**	**9.76**	**176**	P	**Pn**	**13 48 44.2**	**+5.3**
BATP	**Bataraza**	**9.93**	**286**	*e*P	**Pn**	**13 48 45.5**	**+4.2**
POLP	**Polillo Island**	**10.13**	**328**	*e*P	**Pn**	**13 48 46.9**	**+2.9**
TGY	**Tagaytay City**	**10.20**	**322**	⇑*e*P	**Pn**	**13 48 49.8**	**+4.8**
PCI	**Palu**	**10.31**	**228**	P	**Pn**	**13 48 53.0**	**+6.5**
LUBP	**Lubang**	**10.38**	**317**	*e*P	**Pn**	**13 48 51.8**	**+4.5**
BALP	**Baler**	**11.17**	**329**	*e*P	**Pn**	**13 48 57.8**	**-0.5**
KKM	**Kota Kinabalu**	**11.17**	**270**	⇑*e*P	**Pn**	**13 49 03.5**	**+5.3**
PALP	**Palanan**	**11.94**	**336**	⇓*e*P	**Pn**	**13 49 08.8**	**0.0**
PALP	**Palanan**	**11.94**	**336**	*e*P	**Pn**	**13 49 18.8**	**+10**
CAUP	**Cauayan**	**12.09**	**333**	*e*P	**Pn**	**13 49 08.5**	**-2.4**
BOLP	**Bolinao**	**12.60**	**325**	*e*P	**Pn**	**13 49 22.4**	**+4.7**
APYP	**Conner**	**13.16**	**333**	*e*P	**Pn**	**13 49 33.8**	**+8.4**
ABRA	**Dolores**	**13.22**	**331**	*e*P	**Pn**	**13 49 34.1**	**+7.8**
KAPI	**Kappang**	**13.46**	**215**	Pn	**Pn**	**13 49 31.9**	**+2.3**
	4μm,1.6s,SNR=44						
KAPI	**Kappang**	**13.46**	**215**	⇑P	**Pn**	**13 49 31.5**	**+2.0**
	SNR=55						
KAPI	**Kappang**	**13.46**	**215**	⇑*e*P	**Pn**	**13 49 30.4**	**+0.8**
	771nm,0.9s						
JAY	**Jayapura**	**15.77**	**123**	P	**Pn**	**13 50 01.9**	**+1.2**
BATI	**Baumata**	**16.64**	**193**	Pn	**Pn**	**13 50 13.1**	**+1.3**
	6.7nm,0.3s,baz=30,slow=1.7,SNR=31						
KSM	**Kuching**	**17.70**	**256**	⇑*e*P	**Pn**	**13 50 27.3**	**+2.2**
KHKI	**Kahang-Kahang**	**18.60**	**220**	P	**Pn**	**13 50 38.7**	**+2.6**
GUMO	**Guam**	**18.70**	**65**	P	**Pn**	**13 50 35.4**	**-1.8**
	2.2nm,0.3s,baz=245,slow=3.3,SNR=17						
GUMO				LR	LR	13 56 58.2	
	comp=Z,55μm,18.6s,baz=204,slow=34						
GUMO	**Guam**	**18.70**	**65**	*e*P	**Pn**	**13 50 35.6**	**-1.6**
GUMO				pmax	pmax		
	comp=Z,2μm,1.3s						
GUMO	**Guam**	**18.70**	**65**	*e*P	**Pn**	**13 50 35.6**	**-1.6**
	comp=Z,2μm,1.3s						
KMMI	**Kalianget**	**18.76**	**226**	P	**Pn**	**13 50 42.1**	**+4.1**
NACB	**Ninganchiao**	**18.82**	**343**	*e*P	**Pn**	**13 50 39.1**	**+0.5**
	comp=Z,165nm,0.9s						
DNP	**Denpasar**	**19.09**	**220**	P	**Pn**	**13 50 46.0**	**+4.0**
KAKA	**Kakadu**	**19.34**	**165**	*e*P	**Pn**	**13 50 41.6**	**-3.4**
	comp=Z,864nm,0.6s						
MMPI	**Merauke**	**19.39**	**138**	P	**Pn**	**13 50 46.6**	**+1.0**
QZH	**Quanzhou**	**20.56**	**337**	P	**P**	**13 50 57.6**	**+0.6**
QZH				S	**S**	**13 54 40.3**	**-5.7**
QZH				AMB	AMB		
	comp=Z,310nm,1.1s						
QZH				AMB	AMB		
	comp=Z,8μm,7.4s						
QZH				LR	LR		
	comp=N,60μm,15.1s,MS6.2						
QZH				LR	LR		
	comp=E,58μm,16.7s,MS6.2						
QZH				LR	LR		
	comp=Z,89μm,17.4s,MS6.2						
HKC	**Hong Kong Obse**	**20.58**	**323**	⇑*i*P	**P**	**13 51 00.0**	**+2.7**
HKC				*i* S	**S**	**13 54 48.0**	**+1.6**
KRKI	**Karangkates**	**20.60**	**227**	P	**P**	**13 51 00.6**	**+3.0**
JOW	**Kunigami**	**20.62**	**2**	P	**P**	**13 50 59.4**	**+1.7**
	comp=Z,1μm,0.8s,baz=181,slow=8.9,SNR=114						
JOW				LR	LR	13 59 33.6	
	comp=Z,60μm,18.1s,MS6.0,baz=180,slow=38						
QIZ	**Qiongzhong**	**21.42**	**308**	P	**P**	**13 51 07.3**	**+0.9**
QIZ				S	**S**	**13 55 05.5**	**+2.5**
QIZ				AMB	AMB		
	comp=Z,321nm,1.2s,mb5.5						
QIZ				LR	LR		
	comp=E,68μm,16.4s						
QIZ				LR	LR		
	comp=Z,123μm,16.6s,MS6.4						
QIZ	**Qiongzhong**	**21.42**	**308**	*e*P	**P**	**13 51 06.2**	**-0.2**
	comp=Z,489nm,1.1s,mb5.8						
QIZ				LR	LR		
	comp=Z,61μm,20.0s,MS6.0						
TPI	**Tanjungpandan**	**21.64**	**247**	P	**P**	**13 51 11.5**	**+2.7**
GZH	**Guangzhou**	**21.67**	**323**	P	**P**	**13 51 12.5**	**+3.5**
GZH				S	**S**	**13 55 08.9**	**+1.0**
GZH				LR	LR		
	comp=N,30μm,16.9s,MS6.0						
GZH				LR	LR		
	comp=E,46μm,17.1s,MS6.0						
FITZ	**Fitzroy Crossi**	**24.12**	**184**	*e*P	**P**	**13 51 33.6**	**-0.5**
	comp=E,822nm,0.8s,mb6.2						
FITZ				*e*S	**S**	**13 55 49.8**	**-0.9**
FITZ				*e*SCS	ScS	14 02 39.0	-0.8
FITZ	**Fitzroy Crossi**	**24.12**	**184**	P	**P**	**13 51 33.7**	**-0.4**
	comp=E,193nm,0.6s,mb5.7,baz=23,slow=13,SNR=182						
FITZ				S	**S**	**13 55 48.3**	**-2.4**
	comp=E,59nm,0.9s,baz=57,slow=23,SNR=2.7						
PMG	**Port Moresby**	**24.97**	**128**	*d*P	**P**	**13 51 39.6**	**-2.3**
PMG	**Port Moresby**	**24.97**	**128**	⇓*e*P	**P**	**13 51 38.2**	**-3.7**
	comp=E,386nm,1.1s,mb5.8						
PMG				LR	LR		
	comp=Z,32μm,19.0s,MS5.8						
CBIJ	**Chichi jima**	**25.15**	**32**	P	**P**	**13 51 42.5**	**-0.8**
	comp=Z,2μm,1.0s,mb6.6,baz=40,slow=0.7,SNR=27						
CBIJ				LR	LR	14 00 38.5	
	comp=Z,36μm,21.1s,MS5.9,baz=63,slow=34						
COEN	**Coen**	**25.32**	**142**	*e*P	**P**	**13 51 41.4**	**-3.7**
	comp=Z,132nm,0.9s,mb5.5						
SSE	**Sheshan**	**25.54**	**347**	⇓P	**P**	**13 51 47.8**	**+0.9**
SSE				XP	sP	13 51 56.3	-0.6
SSE				S	**S**	**13 56 13.4**	**+0.1**
SSE				XS	sS	13 56 25.3	+0.3
SSE				AMB	AMB		
	comp=Z,159nm,1.1s,mb5.5						
SSE				AMB	AMB		
	comp=Z,8μm,7.0s						
SSE				LR	LR		
	comp=N,30μm,16.7s,MS5.9						
SSE				LR	LR		
	comp=E,11μm,16.7s,MS5.9						
SSE				LR	LR		
	comp=Z,38μm,16.3s,MS6.0						
WRAB	**Tennant Creek**	**26.76**	**165**	P	**P**	**13 51 57.0**	**-1.0**
	comp=Z,13μm,0.8s,mb7.5						
WRAB	**Tennant Creek**	**26.76**	**165**	*c i*P	**P**	**13 51 56.4**	**-1.6**
WRAB	**Tennant Creek**	**26.76**	**165**	*e*P	**P**	**13 51 56.8**	**-1.2**
	comp=Z,2μm,0.9s,mb6.7						
WRAB				LR	LR		
	comp=Z,29μm,21.0s,MS5.8						
WRA	**Warramunga Arr**	**26.76**	**165**	P	**P**	**13 51 56.9**	**-1.2**
	comp=Z,222nm,0.7s,mb5.8,baz=343,slow=10.0,SNR=516						
WRA				PcP	PcP	13 55 22.3	+1.3
	comp=Z,53nm,0.6s,baz=330,slow=2.7,SNR=4.5						
WRA				S	**S**	**13 56 33.4**	**+0.6**
	comp=Z,34nm,0.9s,baz=339,slow=12,SNR=5.0						
WRA				P3KPbc		14 24 39.3	
	comp=Z,5.1nm,0.9s,baz=166,slow=4.2,SNR=22						
WRA				P3KP		14 25 39.6	
	comp=Z,2.7nm,1.1s,baz=88,slow=3.1,SNR=6.4						
WRA	**Warramunga Arr**	**26.76**	**165**	P	**P**	**13 51 56.9**	**-1.1**
WRA						13 55 22.3	
WRA				S	**S**	**13 56 33.4**	**+0.7**
WRA	**Warramunga Arr**	**26.76**	**165**	P	**P**	**13 51 56.9**	**-1.2**
WRA				PcP	PcP	13 55 22.3	+1.3
WRA				S	**S**	**13 56 33.4**	**+0.6**
WRA				*e*		14 24 39.3	
WB2	**Warramunga Arr**	**26.77**	**165**	*e*P	**P**	**13 51 55.7**	**-2.4**
WB2				*e*S	**S**	**13 56 28.1**	**-4.7**
WB2				*e*SCS	ScS	14 02 48.1	-2.6
WB2				*e*		14 24 38.9	
NJ2	**Nanjing**	**27.03**	**344**	*e*P	**P**	**13 52 00.6**	**+0.2**
NJ2				AP	pP	13 52 04.9	-2.6
NJ2				XP	sP	13 52 07.8	-2.6
NJ2				PP		13 52 46.4	
NJ2				S	**S**	**13 56 34.5**	**-2.3**
NJ2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.0						
NJ2				LR	LR		
	comp=N,12μm,14.1s,MS5.8						
NJ2				LR	LR		
	comp=E,18μm,17.5s,MS5.8						
NJ2				LR	LR		
	comp=Z,18μm,17.5s,MS5.7						
WHN	**Wuhan**	**27.25**	**335**	⇓*i*P	**P**	**13 52 01.9**	**-0.4**
WHN				AP	pP	13 52 12.3	+2.9
WHN				S	**S**	**13 56 41.3**	**+1.1**
WHN				LR	LR		
	comp=N,138μm,15.3s,MS6.7						
WHN				LR	LR		
	comp=E,46μm,15.7s,MS6.7						
WHN				LR	LR		
	comp=Z,190μm,16.2s,MS6.8						
XMIS	**Christmas Isla**	**27.25**	**233**	*e*P	**P**	**13 52 03.3**	**+0.7**
MBWA	**Marble Bar**	**28.14**	**195**	⇓P	**P**	**13 52 10.5**	**+0.2**
	SNR=82						
MBWA	**Marble Bar**	**28.14**	**195**	*e*P	**P**	**13 52 10.5**	**+0.1**
	comp=Z,17nm,0.6s						
MBWA				LR	LR		
	comp=Z,26μm,19.0s						
GYA	**Guiyang**	**28.32**	**318**	⇑*i*P	**P**	**13 52 10.9**	**-1.1**
GYA				AP	pP	13 52 16.8	-2.4
GYA				XP	sP	13 52 20.8	-1.3
GYA				PP	PP	13 53 06.4	-10
GYA				PCP	PcP	13 55 27.9	+3.1
GYA				S	**S**	**13 56 51.8**	**-5.5**
GYA				SS		13 58 22.6	
GYA				SSS		13 58 42.0	
GYA				SCP	ScP	13 59 05.3	+0.7
GYA				SCS	ScS	14 02 57.3	-0.3
GYA				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,8μm,10.2s						
GYA				LR	LR		
	comp=N,35μm,15.8s,MS6.3						
GYA				LR	LR		
	comp=E,47μm,15.4s,MS6.3						
GYA				LR	LR		
	comp=Z,48μm,15.0s,MS6.2						
PSI	**Prapat**	**28.62**	**265**	P	**P**	**13 52 15.5**	**+0.7**
	comp=Z,38nm,0.7s,mb5.3,baz=61,slow=4.7,SNR=24						
PSI				LR	LR	14 07 20.4	
	comp=Z,30μm,18.2s,MS5.9,baz=245,slow=44						
PSI	**Prapat**	**28.62**	**265**	P	**P**	**13 52 15.5**	**+0.7**
PSI				LR	LR	14 07 20.4	
JHJ	**Hachijo jima 2**	**29.22**	**22**	P	**P**	**13 52 21.4**	**+1.5**
	comp=Z,72nm,0.6s,mb5.6,baz=237,slow=22,SNR=4.7						
JHJ				LR	LR	14 03 48.1	
	comp=Z,73μm,18.5s,MS6.3,baz=224,slow=36						
ASAR	**Alice Springs**	**30.26**	**168**	P	**P**	**13 52 29.2**	**+0.1**
	comp=Z,114nm,0.6s,mb5.8,baz=352,slow=6.1,SNR=536						
ASAR				PcP	PcP	13 55 31.2	+1.6
	comp=Z,96nm,0.6s,baz=354,slow=2.5,SNR=13						
ASAR				S	**S**	**13 57 27.1**	**-0.6**
	comp=Z,7.0nm,0.8s,baz=3.8,slow=15,SNR=2.5						
ASAR				ScP	ScP	13 59 10.7	0.0
	comp=Z,43nm,1.2s,baz=256,slow=0.5,SNR=4.3						
ASAR				P3KPbc		14 24 23.7	
	comp=Z,1.8nm,0.8s,baz=163,slow=6.2,SNR=13						
ASAR				P3KP		14 25 36.7	
	comp=Z,1.0nm,1.0s,baz=138,slow=4.5,SNR=2.9						
ASAR	**Alice Springs**	**30.26**	**168**	P	**P**	**13 52 29.3**	**+0.1**
ASAR						13 55 31.3	
ASAR				S	**S**	**13 57 27.1**	**-0.6**
ASAR						13 59 10.7	
ASAR	**Alice Springs**	**30.26**	**168**	P	**P**	**13 52 29.2**	**+0.1**
ASAR				PcP	PcP	13 55 31.2	+1.6
ASAR				S	**S**	**13 57 27.1**	**-0.6**
ASAR				ScP	ScP	13 59 10.7	0.0
ASAR				*e*		14 24 23.7	
KMI	**Kunming**	**30.28**	**311**	P	**P**	**13 52 30.6**	**+1.1**
KMI				AP	pP	13 52 39.3	+2.7
KMI				XP	sP	13 52 43.1	+3.6
KMI				PP	PP	13 53 31.5	-6.5
KMI				PPP		13 53 46.1	
KMI				PCP	PcP	13 55 28.8	-1.0
KMI				S	**S**	**13 57 29.5**	**+1.3**
KMI				XS	sS	13 57 44.8	+4.9
KMI				SCP	ScP	13 59 07.5	-3.4
KMI				SS	SS	13 59 11.8	-26
KMI				SSS		13 59 33.4	
KMI				SCS	ScS	14 03 02.4	-4.4
KMI				AMB	AMB		
	comp=Z,137nm,1.7s,mb5.4						
KMI				AMB	AMB		
	comp=Z,4μm,9.8s						
KMI				LR	LR		
	comp=N,21μm,17.5s,MS6.2						
KMI				LR	LR		
	comp=E,40μm,18.4s,MS6.2						
KMI				LR	LR		
	comp=Z,41μm,18.4s,MS6.1						
CMAR	**Chiang Mai Arr**	**30.37**	**296**	P	**P**	**13 52 32.1**	**+1.8**
	comp=Z,38nm,0.7s,mb5.2,baz=121,slow=6.9,SNR=115						
CMAR				PcP	PcP	13 55 32.4	+2.2
	comp=Z,34nm,1.0s,baz=108,slow=1.4,SNR=6.2						
CMAR				ScP	ScP	13 59 12.3	+1.1
	comp=Z,16nm,1.0s,baz=154,slow=1.4,SNR=5.6						
CMAR				PKiKP	PKiKP	14 03 01.6	-0.4
	comp=Z,4.5nm,0.8s,baz=276,slow=1.5,SNR=5.2						
CMAR				LR	LR	14 05 00.7	
	comp=Z,44μm,19.6s,MS6.1,baz=114,slow=37						
CMAR				P3KPbc		14 24 25.9	
	comp=Z,2.1nm,0.9s,baz=282,slow=6.6,SNR=13						
CMAR				PKPPKP		14 26 18.1	
	comp=Z,4.9nm,1.1s,baz=305,slow=3.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**30.37**	**296**	*i* P	**P**	**13 52 32.0**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,38nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.37**	**296**	P	**P**	**13 52 32.1**	**+1.8**
CMAR				PcP	PcP	13 55 32.4	+2.2
CMAR				ScP	ScP	13 59 12.3	+1.1
CHTO	**Chiang Mai**	**30.50**	**297**	P	**P**	**13 52 32.1**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,680nm,1.9s,mb6.0						
CHTO	**Chiang

MJAR			LR	LR	14 05 03.9	
	comp=Z,57μm,18.7s,MS6.3,baz=195,slow=35					
MJAR			P3KPbc		14 24 18.6	
	comp=Z,4.7nm,1.2s,baz=340,slow=4.4,SNR=6.8					
MJAR	**Matsushiro Arr**	**31.85 17**	P	**P**	**13 52 42.3**	**-0.8**
MJAR					13 55 36.1	
MJAR	**Matsushiro Arr**	**31.85 17**	P	**P**	**13 52 42.2**	**-0.9**
MJAR			PcP	PcP	13 55 36.1	+2.4
MJAR			ScP	ScP	13 59 16.8	+1.0
MJAR			LR	LR	14 05 03.9	
MJAR			*e*		14 24 18.6	
CTA	**Charters Tower**	**31.94 145**	*e*P	**P**	**13 52 44.1**	**+0.1**
	comp=Z,84nm,0.7s,mb5.7					
CTA			*e*PCP	PcP	13 55 36.5	+2.3
CTA			*e*S	**S**	**13 57 55.6**	**+1.5**
CTA	**Charters Tower**	**31.94 145**	P	**P**	**13 52 43.5**	**-0.5**
	comp=Z,101nm,0.7s,mb5.8,baz=326,slow=10,SNR=108					
CTA			PcP	PcP	13 55 36.8	+2.5
	comp=Z,46nm,0.7s,baz=1.8,slow=5.3,SNR=4.1					
CTA			LR	LR	14 06 41.6	
	comp=Z,43μm,18.1s,MS6.2,baz=64,slow=38					
CTA			P3KPbc		14 24 18.1	
	comp=Z,5.6nm,0.8s,baz=135,slow=5.7,SNR=5.1					
CTA	**Charters Tower**	**31.94 145**	*e*P	**P**	**13 52 44.1**	**+0.1**
CTA			*e*		13 55 36.5	
CTA			*e*S	**S**	**13 57 55.6**	**+1.5**
CTA			pmax	pmax		
	comp=Z,84nm,0.7s					
CTAO	**Charters Tower**	**31.94 145**	*e*P	**P**	**13 52 43.1**	**-0.9**
CTAO			pmax	pmax		
	comp=Z,117nm,0.8s,mb5.8					
CTAO			MLR	MLR		
	comp=Z,32μm,20.0s,MS6.0					
CTAO	**Charters Tower**	**31.94 145**	*e*P	**P**	**13 52 43.1**	**-0.9**
	comp=Z,117nm,0.8s,mb5.8					
CTAO			LR	LR		
	comp=Z,32μm,20.0s,MS6.0					
XAN	**Xi'an**	**32.66 331**	P	**P**	**13 52 48.9**	**-1.4**
XAN			AP	pP	13 52 56.8	-0.6
XAN			XP	sP	13 53 00.3	-0.1
XAN			S	**S**	**13 58 04.6**	**-0.5**
XAN			XS	sS	13 58 17.8	+0.9
XAN			SS	SS	14 00 00.5	-26
XAN			AMB	AMB		
	comp=Z,247nm,1.4s,mb6.0					
XAN			AMB	AMB		
	comp=Z,2μm,6.8s					
XAN			LR	LR		
	comp=E,22μm,19.9s					
XAN			LR	LR		
	comp=Z,32μm,16.6s,MS6.1					
DL2	**Dalian**	**33.07 352**	*i* P	**P**	**13 52 53.5**	**-0.3**
DL2			PP	PP	13 54 06.9	-1.9
DL2			PCP	PcP	13 55 38.5	+1.5
DL2			S	**S**	**13 58 10.9**	**-0.4**
DL2			PCS	PcS	13 59 21.6	-0.8
DL2			SS	SS	14 00 11.8	-23
DL2			SCS	ScS	14 03 20.8	+0.6
DL2			AMB	AMB		
	comp=Z,700nm,1.0s,mb6.5					
DL2			AMB	AMB		
	comp=Z,3μm,4.5s					
DL2			LR	LR		
	comp=N,12μm,16.6s,MS5.8					
DL2			LR	LR		
	comp=E,9μm,16.5s,MS5.8					
DL2			LR	LR		
	comp=Z,14μm,17.5s,MS5.7					
CD2	**Chengdu**	**33.21 321**	P	**P**	**13 52 54.5**	**-0.6**
CD2			AP	pP	13 52 58.5	-3.7
CD2			XP	sP	13 53 01.4	-3.8
CD2			PP	PP	13 54 06.5	-3.9
CD2			PCP	PcP	13 55 35.5	-2.1
CD2			S	**S**	**13 58 14.1**	**+0.4**
CD2			PCS	PcS	13 59 20.6	-2.6
CD2			SS	SS	14 00 16.8	-21
CD2			SCS	ScS	14 03 18.3	-2.9
CD2			AMB	AMB		
	comp=Z,770nm,1.1s,mb6.5					
CD2			AMB	AMB		
	comp=Z,5μm,4.2s					
CD2			LR	LR		
	comp=N,48μm,17.4s,MS6.4					
CD2			LR	LR		
	comp=E,44μm,16.8s,MS6.4					
CD2			LR	LR		
	comp=Z,55μm,17.4s,MS6.3					
BJT	**Baijiatuau**	**35.25 345**	*e*P	**P**	**13 53 11.4**	**-1.3**
BJT			pmax	pmax		
	comp=Z,450nm,0.8s					
BJT			MLR	MLR		
	comp=Z,19μm,20.0s					
BJT	**Baijiatuau**	**35.25 345**	*e*P	**P**	**13 53 11.4**	**-1.3**
	comp=Z,450nm,0.8s,mb6.5					
BJT			LR	LR		
	comp=Z,19μm,20.0s,MS5.8					
BJI	**Beijing**	**35.27 345**	P	**P**	**13 53 13.5**	**+0.7**
BJI			XP	sP	13 53 22.5	-0.4
BJI			PCP	PcP	13 55 44.4	+1.1
BJI			S	**S**	**13 58 42.4**	**-2.9**
BJI			XS	sS	13 58 57.8	+0.6
BJI			AMB	AMB		
	comp=Z,865nm,1.3s,mb6.5					
BJI			AMB	AMB		
	comp=Z,8μm,4.2s					
BJI			LR	LR		
	comp=N,17μm,16.6s,MS6.0					
BJI			LR	LR		
	comp=E,15μm,18.7s,MS6.0					
BJI			LR	LR		
	comp=Z,16μm,18.7s,MS5.8					
COCO	**West Island**	**35.45 239**	P	**P**	**13 53 13.8**	**-0.9**
COCO			pmax	pmax		
	comp=Z,420nm,1.5s,mb6.2					
COCO			MLR	MLR		
	comp=Z,6μm,20.0s,MS5.4					
COCO	**West Island**	**35.45 239**	P	**P**	**13 53 13.8**	**-0.9**
	comp=Z,420nm,1.5s,mb6.2					
COCO			LR	LR		
	comp=Z,6μm,20.0s,MS5.4					
HNR	**Honiara**	**35.88 115**	P	**P**	**13 53 18.7**	**+0.3**
	comp=Z,229nm,0.7s,mb6.2,baz=261,slow=2.7,SNR=12					
HNR			LR	LR	14 06 14.7	
	comp=Z,17μm,19.5s,MS5.8,baz=348,slow=33					
HNR	**Honiara**	**35.88 115**	*e*P	**P**	**13 53 17.8**	**-0.6**
HNR			pmax	pmax		
	comp=Z,585nm,0.9s,mb6.5					
HNR			MLR	MLR		
	comp=Z,20μm,20.0s,MS5.9					
HNR	**Honiara**	**35.88 115**	*e*P	**P**	**13 53 17.8**	**-0.6**
	comp=Z,585nm,0.9s,mb6.5					
HNR			LR	LR		
	comp=Z,20μm,20.0s,MS5.9					
FORT	**Forrest**	**36.68 179**	*e*P	**P**	**13 53 23.5**	**-1.5**
	comp=Z,1μm,0.6s,mb6.8					
FORT			*e*S	**S**	**13 59 04.7**	**-2.4**
LZH	**Lanzhou**	**36.86 327**	*e*P	**P**	**13 53 26.4**	**-0.1**
LZH			AP	pP	13 53 32.4	-1.3
LZH			XP	sP	13 53 36.3	-0.4
LZH			S	**S**	**13 59 10.0**	**+0.2**
LZH			XS	sS	13 59 23.1	+1.4
LZH			AMB	AMB		
	comp=Z,1μm,1.2s,mb6.7					
LZH			AMB	AMB		
	comp=Z,6μm,4.3s					
LZH			LR	LR		
	comp=E,35μm,14.0s					
LZH			LR	LR		
	comp=Z,45μm,15.8s,MS6.3					
VLA	**Vladivostok**	**37.07 5**	*e*P	**P**	**13 53 25.7**	**-2.5**
VLA			*e*PP	pP	13 53 34.6	-0.8
VLA			*e*		13 54 55.7	
VLA			*i* S	**S**	**13 59 14.6**	**+1.9**
VLA			pmax	pmax		
	comp=Z,500nm,1.7s,mb6.1					
IMP	**Imphal**	**37.09 304**	*i* P	**P**	**13 53 28.0**	**-0.7**
IMP			*ex*	x	13 55 01.0	
HHC	**Hu-ho-hao-te**	**37.40 340** ⇓	*i*P	**P**	**13 53 32.3**	**+1.3**
HHC			XP	sP	13 53 39.6	-1.5
HHC			PP	PP	13 55 00.5	+3.9
HHC			S	**S**	**13 59 19.8**	**+2.0**
HHC			SS	SS	14 01 53.1	-9.2
HHC			SCS	ScS	14 03 44.9	+1.4
HHC			AMB	AMB		
	comp=Z,634nm,1.2s,mb6.3					
HHC			AMB	AMB		
	comp=Z,7μm,6.8s					
HHC			LR	LR		
	comp=N,32μm,15.5s,MS6.3					
HHC			LR	LR		
	comp=E,18μm,16.7s,MS6.3					
HHC			LR	LR		
	comp=Z,43μm,17.8s,MS6.3					
CN2	**Changchun**	**37.58 358**	P	**P**	**13 53 31.4**	**-1.1**
CN2			*e*AP	pP	13 53 44.3	+4.6
CN2			PP	PP	13 55 02.6	+4.1
CN2			AMB	AMB		
	comp=Z,360nm,1.3s,mb5.9					
CN2			AMB	AMB		
	comp=Z,7μm,6.0s					
CN2			LR	LR		
	comp=N,18μm,16.0s,MS6.0					
CN2			LR	LR		
	comp=E,11μm,16.0s,MS6.0					
CN2			LR	LR		
	comp=Z,17μm,16.0s,MS5.9					
BTO	**Baotou**	**37.73 338**	*e*P	**P**	**13 53 33.8**	**0.0**
BTO			AMB	AMB		
	comp=Z,84nm,1.7s,mb5.2					
MDJ	**Mudanjiang**	**38.40 2**	P	**P**	**13 53 41.4**	**+2.0**
MDJ			S	**S**	**13 59 35.1**	**+2.2**
MDJ			AMB	AMB		
	comp=Z,1μm,1.9s,mb6.4					
MDJ			AMB	AMB		
	comp=Z,9μm,5.0s					
MDJ			LR	LR		
	comp=N,15μm,20.6s,MS5.8					
MDJ			LR	LR		
	comp=E,8μm,24.7s,MS5.8					
MDJ			LR	LR		
	comp=Z,22μm,18.6s					
MDJ	**Mudanjiang**	**38.40 2**	*e*P	**P**	**13 53 39.6**	**+0.2**
	comp=Z,4μm,1.6s,mb6.8					
MDJ			LR	LR		
	comp=Z,23μm,20.0s,MS6.0					
KLBR	**Kellerberrin**	**38.61 193**	*e*P	**P**	**13 53 41.1**	**-0.3**
	comp=Z,1μm,1.1s,mb6.5					
SHL	**Shillong**	**39.10 304**	*e*P	**P**	**13 53 46.5**	**+0.9**
SHL			*i* S	**S**	**13 59 44.0**	**-0.1**
SHL			*ex*	x	14 03 53.5	
MUN	**Mundaring**	**39.36 195**	*e*P	**P**	**13 53 47.0**	**-0.6**
MUN			*e*PP	PP	13 55 22.9	+4.6
MUN			*e*S	**S**	**13 59 42.3**	**-5.4**
NWAO	**Narrogin (SRO)**	**40.02 193**	P	**P**	**13 53 54.3**	**+1.3**
	SNR=56					
NWAO	**Narrogin (SRO)**	**40.02 193**	P	**P**	**13 53 54.0**	**+0.9**
	comp=Z,896nm,0.8s,mb6.5,baz=20,slow=7.8,SNR=326					
NWAO	**Narrogin (SRO)**	**40.02 193**	*e*P	**P**	**13 53 53.9**	**+0.8**
NWAO			pmax	pmax		
	comp=Z,1μm,0.9s					
NWAO			MLR	MLR		
	comp=Z,16μm,19.0s					
NWAO	**Narrogin (SRO)**	**40.02 193**	*e*P	**P**	**13 53 53.9**	**+0.8**
	comp=Z,1μm,0.9s,mb6.5					
NWAO			LR	LR		
	comp=Z,16μm,19.0s,MS5.9					
STKA	**Stephens Creek**	**40.11 161**	*e*P	**P**	**13 53 51.7**	**-2.2**
	comp=Z,419nm,0.6s,mb6.3					
STKA			*e*PCP	PP	13 55 28.8	+2.3
STKA			*e*S	**S**	**13 59 55.8**	**-3.2**
STKA	**Stephens Creek**	**40.11 161**	P	**P**	**13 53 53.0**	**-0.8**
	comp=Z,306nm,0.6s,mb6.2,baz=333,slow=8.5,SNR=186					
STKA			PcP	PcP	13 55 59.5	+1.3
	comp=Z,98nm,0.6s,baz=347,slow=5.9,SNR=3.1					
STKA			ScP	ScP	13 59 48.1	+2.0
	comp=Z,47nm,1.1s,baz=218,slow=3.6,SNR=3.6					
ASAJ	**Asahikawa**	**40.12 17**	LR	LR	14 10 34.5	
	comp=Z,50μm,19.6s,MS6.4,baz=210,slow=36					
YUK	**Yuzh-Kuril'sk**	**41.09 20** ⇓	*i*P	**P**	**13 54 03.0**	**+1.2**
YUK			*i* SP		13 54 14.0	
YUK			*i* PPP		13 55 58.0	
YUK			*e*S	**S**	**14 00 13.0**	**-0.2**
YUK			*e*		14 03 15.0	
YUK			pmax	pmax		
	comp=N,12μm,3.0s					
YUK			pmax	pmax		
	comp=E,5μm,3.0s					
YUK			pmax	pmax		
	comp=Z,12μm,3.0s					
YUK			pmax	pmax		
	comp=Z,2μm,1.2s,mb6.5					
YUK			smax			
	comp=N,25μm,11.0s					
YUK			smax			
	comp=E,14μm,11.0s					
YUK			MLR	MLR		
	comp=N,18μm,18.0s,MS6.0					
YUK			MLR	MLR		
	comp=E,9μm,18.0s,MS6.0					
YUK			MLR	MLR		
	comp=Z,21μm,18.0s,MS6.0					
LSA	**Lhasa**	**41.46 309**	P	**P**	**13 54 06.4**	**+1.3**
LSA			PP	PP	13 55 50.0	+8.9
LSA			AMB	AMB		
	comp=Z,350nm,1.0s,mb5.9					
LSA			AMB	AMB		
	comp=Z,5μm,10.0s					
LSA			LR	LR		
	comp=N,10μm,15.0s,MS6.0					
LSA			LR	LR		
	comp=E,13μm,19.0s,MS6.0					
LSA			LR	LR		
	comp=Z,20μm,18.0s,MS6.0					
LSA	**Lhasa**	**41.46 309**	*e*P	**P**	**13 54 06.2**	**+1.1**
LSA			pmax	pmax		
	comp=Z,984nm,1.5s,mb6.2					
LSA			MLR	MLR		
	comp=Z,23μm,21.0s,MS6.0					
LSA	**Lhasa**	**41.46 309**	*e*P	**P**	**13 54 06.2**	**+1.1**
	comp=Z,984nm,1.5s,mb6.2					
LSA			LR	LR		
	comp=Z,23μm,21.0s,MS6.0					
GTA	**Gaotai**	**41.47 327**	P	**P**	**13 54 04.3**	**-0.7**
GTA			AP	pP	13 54 10.3	-1.9
GTA			XP	sP	13 54 13.1	-2.1
GTA			PP	PP	13 55 43.4	+2.4
GTA			PCP	PcP	13 56 04.4	+1.8
GTA			SCP	ScP	13 59 50.8	-0.5
GTA			PCS	PcS	13 59 52.8	-1.0
GTA			S	**S**	**14 00 18.0**	**-1.0**
GTA			SS	SS	14 03 17.6	-6.3
GTA			SCS	ScS	14 04 04.5	-3.0
GTA			AMB	AMB		
	comp=Z,234nm,1.9s,mb5.5					
GTA			AMB	AMB		
	comp=Z,6μm,5.7s					
GTA			LR	LR		
	comp=N,25μm,17.4s,MS6.3					
GTA			LR	LR		
	comp=E,24μm,17.1s,MS6.3					
GTA			LR	LR		
	comp=Z,47μm,17.4s,MS6.4					
YSS	**Yuzh-Sakhalins**	**42.77 15**	*αe*P	**P**	**13 54 16.0**	**+0.5**
YSS			*e*	pP	13 54 22.0	-0.8
YSS			*e*		13 56 10.0	
YSS			*e*S	**S**	**14 00 36.0**	**-2.1**
YSS			*e*SSS		14 04 17.0	
YSS			pmax	pmax		
	comp=Z,2μm,1.5s,mb6.6					
YSS			pmax	pmax		
	comp=N,7μm,5.0s					
YSS			pmax	pmax		
	comp=Z,10μm,5.0s					
YSS			MLR	MLR		
	comp=N,20μm,19.0s,MS6.1					
YSS			MLR	MLR		
	comp=E,13μm,19.0s,MS6.1					
YSS			MLR	MLR		
	comp=Z,18μm,19.0s,MS6.0					
YSS	**Yuzh-Sakhalins**	**42.77 15**	*e*P	**P**	**13 54 15.3**	**-0.2**
	comp=Z,1μm,1.3s,mb6.4					
YSS			LR	LR		
	comp=Z,7μm,19.0s,MS5.6					
BWNR	**Bhubaneshwar**	**42.77 293**	*e*P	**P**	**13 54 17.0**	**+1.0**
BWNR			*ex*	x	13 56 07.0	
ARMA	**Armidale**	**43.09 149**	*e*P	**P**	**13 54 18.2**	**-0.1**
KLR	**Kul'dur**	**43.12 4**	*e*P	**P**	**13 54 13.7**	**-4.6**
KLR			*e*S	**S**	**14 00 38.5**	**-4.7**
KLR			*e*SS	SS	14 03 40.0	-16
KLR			pmax	pmax		
	comp=N,400nm,1.6s					
KLR			pmax	pmax		
	comp=E,350nm,1.6s					
KLR			pmax	pmax		
	comp=Z,2μm,1.6s,mb6.7					
KLR			pmax	pmax		
	comp=N,7μm,7.0s					
KLR			pmax	pmax		
	comp=Z,11μm,7.0s					
KLR			MLR	MLR		
	comp=N,21μm,14.0s					
TAPN	**Taplejung**	**43.24 304**	*e*P	**P**	**13 54 19.2**	**-0.4**
ODAN	**Odare**	**43.33 303**	*e*P	**P**	**13 54 19.7**	**-0.7**
	comp=N,934nm,0.8s,mb6.5					
HIA	**Hailar**	**43.50 353**	*e*P	**P**	**13 54 20.4**	**-0.9**
HIA			pmax	pmax		
	comp=Z,729nm,1.2s					
HIA			MLR	MLR		
	comp=Z,22μm,19.0s					
HIA	**Hailar**	**43.50 353**	*e*P	**P**	**13 54 20.4**	**-1.0**
	comp=Z,729nm,1.2s,mb6.3					
HIA			LR	LR		
	comp=Z,22μm,19.0s,MS6.1					
RAMN	**Ramite**	**44.02 303**	*e*P	**P**	**13 54 25.7**	**-0.2**
	comp=Z,1μm,1.0s,mb6.7					
VIS	**Vishakhapatnam**	**44.57 289**	*e*P	**P**	**13 54 30.5**	**+0.1**
VIS			AMb	AMB	13 54 36.1	
	comp=Z,564nm,1.3s,mb6.2					
VIS			*i* S	**S**	**14 01 05.5**	**+0.3**
JIRN	**Jiri**	**44.61 304**	*e*P	**P**	**13 54 31.0**	**+0.3**
	comp=Z,508nm,0.6s,mb6.5					
GUN	**Gumba**	**44.96 304**	*e*P	**P**	**13 54 33.2**	**-0.2**
	comp=Z,2μm,1.1s,mb6.8					
PKI	**Pulchoki**	**45.23 303**	*e*P	**P**	**13 54 34.7**	**-0.9**
	comp=Z,428nm,0.8s,mb6.3					
PKI	**Pulchoki**	**45.23 303**	*e*P	**P**	**13 54 34.7**	**-0.9**
PKI			pmax	pmax		
	comp=Z,428nm,0.8s,mb6.3					
SONM	**Songino Array**	**45.30 340**	P	**P**	**13 54 35.2**	**-0.6**
	comp=Z,133nm,0.8s,mb5.8,baz=157,slow=8.5,SNR=265					
SONM			PcP	PcP	13 56 16.8	+1.5
	comp=Z,104nm,1.0s,baz=152,slow=3.3,SNR=5.9					
SONM			LR	LR	14 16 41.3	
	comp=Z,20μm,19.1s,MS6.1,baz=154,slow=40					
SONM			P3KP		14 25 05.1	
	comp=Z,0.5nm,0.8s,baz=135,slow=1.0,SNR=3.7					
SONM			PKPPKP		14 26 06.5	
	comp=Z,1.9nm,0.9s,baz=219,slow=1.2,SNR=4.2					
SONM			P4KPbc		14 32 24.7	
	comp=Z,0.8nm,0.6s,baz=177,slow=7.3,SNR=4.0					
SONM	**Songino Array**	**45.30 340**	P	**P**	**13 54 35.2**	**-0.6**
SONM					13 56 16.8	
SONM	**Songino Array**	**45.30 340**	P	**P**	**13 54 35.2**	**-0.6**
SONM			PcP	PcP	13 56 16.8	+1.5
SONM			LR	LR	14 16 41.3	
SONM			PKKKP		14 25 05.1	
SONM			P'P'		14 26 06.5	
KKN	**Kakani**	**45.41 303**	*e*P	**P**	**13 54 35.7**	**-1.3**
DMN	**Daman**	**45.49 303**	*e*P	**P**	**13 54 36.2**	**-1.5**
	comp=Z,1μm,1.0s,mb6.7					
RIV	**Riverview**	**45.63 152**	*e*P	**P**	**13 54 40.7**	**+2.1**
CAN	**Canberra**	**45.94 155**	P	**P**	**13 54 40.9**	**-0.1**
CAN	**Canberra**	**45.94 155**	*e*P	**P**	**13 54 41.4**	**+0.4**
GKN	**Gorkha**	**46.02 303**	*e*P	**P**	**13 54 41.2**	**-0.6**
CNB	**Canberra Magne**	**46.08 155**	*e*P	**P**	**13 54 42.4**	**+0.3**
CNB			*e*PP	PP	13 56 31.2	+0.6
CNB			*e*S	**S**	**14 01 29.0**	**+2.5**
PALK	**Pallekele**	**46.42 274**	P	**P**	**13 54 46.7**	**+1.5**
	comp=Z,655nm,1.7s,mb6.3,SNR=7.2					
PALK	**Pallekele**	**46.42 274** ⇑	P	**P**	**13 54 47.0**	**+1.8**
	SNR=11					
PALK	**Pallekele**	**46.42 274**	*e*P	**P**	**13 54 45.8**	**+0.6**
PALK			pmax	pmax		
	comp=Z,2μm,2.5s,mb6.6					
PALK			MLR	MLR		
	comp=Z,13μm,20.0s,MS5.9					
PALK	**Pallekele**	**46.42 274**	*e*P	**P**	**13 54 45.8**	**+0.6**
	comp=Z,2μm,2.5s,mb6.6					
PALK			LR	LR		
	comp=Z,13μm,20.0s,MS5.9					
BLSP	**Bilaspur**	**46.53 295**	*e*P	**P**	**13 54 45.3**	**-0.6**
BLSP			AMb	AMB	13 54 52.5	
	comp=Z,782nm,1.6s,mb6.4					
TOO	**Toolangi**	**46.60 160**	*e*P	**P**	**13 54 46.4**	**+0.2**
TOO			*e*PP	PP	13 56 35.5	-0.5
TOO			*e*S	**S**	**14 01 34.4**	**+0.6**
KOLN	**Koldanda**	**46.80 303**	*e*P	**P**	**13 54 46.8**	**-1.2**
	comp=Z,1μm,0.8s,mb6.8					
DANN	**Dangsing**	**46.86 303**	*e*P	**P**	**13 54 47.3**	**-1.2**
	comp=Z,2μm,0.9s,mb7.0					
MDRS	**Chennai**	**46.99 282**	*e*P	**P**	**13 54 50.0**	**+0.4**
MDRS			*e*PP	PP	13 56 40.0	-0.4
CIT	**Chita**	**47.19 348**	*e*P	**P**	**13 54 52.1**	**+1.6**
CIT			*e*		13 56 23.0	
CIT			*e*		14 01 46.0	
CIT			pmax	pmax		
	comp=Z,2μm,2.0s,mb6.7					
DZM	**Mont Dzumac**	**47.36 127**	*e*P	**P**	**13 54 52.2**	**-0.2**
ZAK	**Zakamensk**	**48.54 340** ⇑	*i*P	**P**	**13 55 01.2**	**+0.1**
ZAK			*e*		13 56 28.2	
ZAK			*e*		14 04 51.6	
ZAK			pmax	pmax		
	comp=Z,109nm,1.6s,mb5.6					
HYB	**Hyderabad**	**49.03 288**	*e*P	**P**	**13 55 05.5**	**+0.1**
HYB			*e*		13 55 15.0	
HYB			*e*S	**S**	**14 02 17.5**	**+8.5**
HYB			pmax	pmax		
	comp=Z,460nm,1.0s,mb6.5					
HYB	**Hyderabad**	**49.03 288**	*i* P	**P**	**13 55 05.5**	**+0.1**
	comp=Z,257nm,0.8s,mb6.3					
HYB			*e*		13 55 15.0	
HYB			*e*S	**S**	**14 02 09.0**	**0.0**
HYB	**Hyderabad**	**49.03 288**	*e*P	**P**	**13 55 05.5**	**+0.1**
	comp=Z,460nm,1.0s,mb6.5					
HYB			*e*		13 55 15.0	
HYB			*e*S	**S**	**14 02 17.5**	**+8.5**
HYB			*e*		14 11 10.0	
NGP	**Nagpur**	**49.14 293**	*e*P	**P**	**13 55 04.3**	**-1.8**
NGP			*ex*	x	14 02 05.3	
TLY	**Talaya**	**49.52 341**	P	**P**	**13 55 09.9**	**+1.4**
	comp=Z,2μm,1.3s,mb7.0,SNR=66					
TLY	**Talaya**	**49.52 341** ⇓	P	**P**	**13 55 09.7**	**+1.2**
	SNR=170					
TLY	**Talaya**	**49.52 341** *c*	*i*P	**P**	**13 55 07.7**	**-0.8**
TLY			*e*		13 56 25.2	
TLY			*e*		13 57 05.7	
TLY			*e*S	**S**	**14 02 14.2**	**-0.6**
TLY			*e*PS		14 02 29.4	
TLY			*e*		14 04 49.1	
TLY			*e*SS	SS	14 05 46.6	-0.4
TLY			pmax	pmax		
	comp=Z,525nm,1.2s,mb6.4					
TLY			MLR	MLR		
	comp=Z,13μm,17.0s,MS6.0					
TLY	**Talaya**	**49.52 341**	*e*P	**P**	**13 55 07.9**	**-0.6**
	comp=Z,488nm,1.2s,mb6.4					
TLY			LR	LR		
	comp=Z,13μm,19.0s,MS6.0					
KOD	**Kodaikanal**	**49.60 278**	*e*P	**P**	**13 55 11.4**	**+1.5**
KOD			AMb	AMB	13 55 14.7	
	comp=Z,608nm,1.7s,mb6.3					
IRK	**Irkutsk**	**49.80 342** ⇓	*i*P	**P**	**13 55 11.6**	**+0.9**
IRK			*e*		14 02 21.7	
IRK			pmax	pmax		
	comp=Z,1μm,2.0s,mb6.5					
TRD	**Trivandrum**	**50.11 276**	*e*P	**P**	**13 55 13.1**	**-0.6**
PTH	**Pithoragarh**	**50.19 304**	*e*P	**P**	**13 55 14.0**	**-0.1**
PTH			*ex*	x	14 00 30.0	
MOY	**Mondy**	**50.42 339**	*e*P	**P**	**13 55 15.0**	**-0.4**
MOY			pmax	pmax		
	comp=Z,1μm,2.5s,mb6.5					
SKR	**Severo-Kuril's**	**50.46 23**	*i* P	**P**	**13 55 16.0**	**+0.3**
SKR			*e*		13 55 27.0	
SKR			*e*		13 57 04.0	
SKR			*e*S	**S**	**14 02 29.0**	**+1.0**
SKR			pmax	pmax		
	comp=N,800nm,1.5s					
SKR			pmax	pmax		
	comp=E,800nm,1.5s					
SKR			pmax	pmax		
	comp=Z,1μm,1.5s,mb6.8					
SKR			pmax	pmax		
	comp=N,5μm,4.0s					
SKR			pmax	pmax		
	comp=E,8μm,4.0s					
SKR			pmax	pmax		

comp=Z,10μm,4.0s
SKR smax
comp=N,19μm,14.0s
SKR smax
comp=E,14μm,14.0s
SKR MLR MLR
comp=N,9μm,18.0s,MS6.0
SKR MLR MLR
comp=E,10μm,18.0s,MS6.0
SKR MLR MLR
comp=Z,11μm,18.0s,MS5.9
CLNS Chul'man 50.63 358 *e*P **P 13 55 18.3 +1.4**
CLNS *e* 13 56 36.0
CLNS *e* 13 57 16.9
CLNS *e*PPP 13 58 07.5
CLNS *e*S **S 14 02 26.7 -3.4**
CLNS pmax pmax
comp=Z,721nm,1.3s,mb6.4
CLNS pmax pmax
comp=E,144nm,1.3s
CLNS pmax pmax
comp=N,794nm,1.7s
CLNS pmax pmax
comp=Z,359nm,2.0s,mb6.0
CLNS pmax pmax
comp=N,566nm,1.9s
CLNS pmax pmax
comp=E,98nm,1.3s
CLNS smax
comp=N,2μm,14.1s
CLNS smax
comp=E,2μm,13.0s
CLNS MLR MLR
comp=N,15μm,22.0s,MS6.1
CLNS MLR MLR
comp=Z,18μm,22.0s,MS6.0
CLNS MLR MLR
comp=E,7μm,17.0s,MS6.1
AKL Akola 50.94 292 *e*P **P 13 55 21.2 +1.4**
AKL AMb AMB 13 55 22.9
comp=Z,902nm,1.5s,mb6.5
AKL *i* x x 14 02 33.4
LATR Latur 51.04 289 *e*P **P 13 55 21.5 +0.9**
LATR *e*P 13 55 21.6
LATR AMb AMB 13 55 23.6
comp=Z,697nm,1.1s,mb6.5
WMQ Urumqi 51.22 324 P **P 13 55 22.9 +1.3**
WMQ AP pP 13 55 27.4 -1.6
WMQ XP sP 13 55 29.9 -2.0
WMQ PCP PcP 13 56 38.3 +1.6
WMQ PP PP 13 57 20.5 +1.9
WMQ SCP ScP 14 00 32.8 +0.9
WMQ S **S 14 02 39.4 +0.6**
WMQ SCS ScS 14 05 09.9 -0.9
WMQ SS SS 14 06 12.6 -1.8
WMQ AMB AMB
comp=Z,373nm,1.2s,mb6.2
WMQ AMB AMB
comp=Z,914nm,6.9s
WMQ LR LR
comp=N,28μm,18.0s,MS6.4
WMQ LR LR
comp=E,10μm,17.0s,MS6.4
WMQ LR LR
comp=Z,18μm,18.0s,MS6.1
TAU Tasmania Unive 52.02 162 *e*P **P 13 55 28.7 +1.2**
TAU pmax pmax
comp=Z,149nm,1.0s,mb5.9
TAU MLR MLR
comp=Z,14μm,20.0s,MS6.0
TAU Tasmania Unive 52.02 162 *e*P **P 13 55 28.6 +1.1**
comp=Z,149nm,1.0s,mb5.9
TAU LR LR
comp=Z,14μm,20.0s,MS6.0
DDI Dehra Dun 52.21 304 *e*P **P 13 55 26.5 -2.7**
DDI *e*x x 14 02 47.0
NDI New Delhi 52.45 302 *e*P **P 13 55 28.0 -3.1**
NDI *e*x x 14 02 49.0
BOD Bodaibo 52.63 351 *e*P **P 13 55 31.0 -0.8**
BOD pmax pmax
comp=Z,668nm,1.8s,mb6.3
HVS Khovu-Aksy 52.91 334*c i*P **P 13 55 36.3 +2.3**
PETK Petropavlovsk- 52.97 22 P **P 13 55 33.8 -0.6**
comp=Z,157nm,0.8s,mb6.0,baz=194,slow=4.6,SNR=140
PETK LR LR 14 20 08.4
comp=Z,9μm,18.3s,MS5.9,baz=216,slow=38
KAD Karad 53.17 287 *e*P **P 13 55 35.3 -1.2**
KAD AMb AMB 13 55 40.6
comp=Z,518nm,1.4s,mb6.2
SMLA Simla 53.18 305 *i* P **P 13 55 35.4 -1.0**
SMLA *e*x x 13 55 39.2
comp=Z,1μm,0.5s
SMLA *i* S **S 14 03 05.1 -0.9**
PET Petropavlovsk 53.27 23κ *i*P **P 13 55 36.7 +0.1**
PET *e* 13 56 41.1
PET *i* S **S 14 03 02.6 -4.0**
PET *e* 14 05 18.6
PET *e*SS SS 14 06 40.7 -5.8
PET pmax pmax
comp=Z,11μm,5.0s
PET pmax pmax
comp=Z,6μm,8.1s
PET pmax pmax
comp=Z,1μm,1.5s,mb6.5
PET smax
comp=N,9μm,18.6s
PET smax
comp=N,23μm,20.7s
PET MLR MLR
comp=Z,10μm,19.0s,MS5.9
PET MLR MLR
comp=Z,9μm,18.0s
PET Petropavlovsk 53.27 23 *e*P **P 13 55 36.6 0.0**
comp=Z,2μm,1.3s,mb6.8
PET LR LR
comp=Z,10μm,19.0s,MS5.9
GOA Goa 53.37 285⇓*i*P **P 13 55 37.5 -0.5**
GOA AMb AMB 13 55 42.6
comp=Z,499nm,1.0s,mb6.4
GOA *e*x x 14 03 06.6
SDNR Sundarnagar 53.45 305 *e*P **P 13 55 38.0 -0.4**
SDNR *e*x x 14 03 08.0
FUNA Funafuti 53.61 105 *e*P **P 13 55 40.2 +0.4**
comp=Z,568nm,1.0s,mb6.5
FUNA LR LR
comp=Z,32μm,20.0s,MS6.4
POO Poona 53.61 288 *e*P **P 13 55 38.3 -1.4**
POO AMb AMB 13 55 43.7
comp=Z,516nm,1.1s,mb6.4
POO *e*PCP PcP 13 56 45.0 -1.2
POO *e*PP PP 13 57 38.5 -2.1
BHK Bhakra 53.88 305 *e*P **P 13 55 40.2 -1.3**
BHK *e*x x 13 56 38.8
AJM Ajmer 54.15 298 *i* P **P 13 55 42.0 -1.6**
DLH Dalhousie 54.57 306 *e*P **P 13 55 46.0 -0.6**
DLH *e*x x 13 56 00.0
BOM Bombay 54.62 289 *e*P **P 13 55 41.9 -5.3**
BOM *e*x x 13 55 46.9
comp=Z,2μm,1.9s
BOM *e*S **S 14 03 21.8 -4.1**
THN Thein Dam 54.74 306 *e*P **P 13 55 46.7 -1.1**
THN *e*x x 14 03 25.7
YAK Yakutsk 55.83 1 *e*P **P 13 55 54.3 -0.7**
YAK *e* 13 56 52.4
YAK *e* 13 58 01.9
YAK *e*S **S 14 03 33.4 -7.3**
YAK *e* 14 05 35.8
YAK *e*SS SS 14 07 17.3 -9.2
YAK *e*SSS 14 09 36.8
YAK pmax pmax
comp=Z,1μm,1.1s,mb6.9
YAK pmax pmax
comp=N,518nm,1.0s
YAK pmax pmax
comp=E,148nm,1.1s
YAK pmax pmax
comp=Z,442nm,1.3s,mb6.3
YAK pmax pmax
comp=N,584nm,1.5s
YAK pmax pmax
comp=E,258nm,1.6s
YAK smax
comp=N,6μm,16.6s
YAK smax
comp=E,3μm,14.8s
YAK MLR MLR
comp=Z,19μm,19.0s,MS6.2
YAK MLR MLR
comp=N,13μm,19.0s,MS6.1
YAK MLR MLR
comp=E,6μm,19.0s,MS6.1
YAK Yakutsk 55.83 1 *e*P **P 13 55 54.0 -1.0**
comp=E,2μm,1.1s,mb7.0
YAK LR LR
comp=Z,19μm,19.0s,MS6.2
MK31 Makanchi Array 56.04 324 *i* P **P 13 55 56.9 0.0**
MKAR Makanchi Array 56.04 324 P **P 13 55 55.5 -1.4**
comp=Z,264nm,0.9s,mb6.3,baz=110,slow=9.2,SNR=319
MKAR PcP PcP 13 56 56.6 +1.6
comp=Z,115nm,0.8s,baz=121,slow=4.5,SNR=5.5
MKAR ScP ScP 14 00 52.6 -0.2
comp=Z,15nm,0.8s,baz=126,slow=6.2,SNR=3.5
MKAR S **S 14 03 43.5 -0.6**
comp=Z,3.8nm,0.9s,baz=110,slow=8.2,SNR=4.9
MKAR LR LR 14 22 44.0
comp=Z,17μm,18.2s,MS6.2,baz=118,slow=39
MKAR PKPPKP 14 25 49.4
comp=Z,0.6nm,0.7s,baz=264,slow=2.9,SNR=3.7
MKAR PKP2bc 14 26 08.1
comp=Z,6.1nm,0.7s,baz=290,slow=1.4,SNR=8.6
MKAR P4KPbc 14 33 11.8
comp=Z,3.7nm,0.8s,baz=112,slow=5.4,SNR=11
MKAR Makanchi Array 56.04 324 P **P 13 55 55.5 -1.4**
MKAR 13 56 56.6
MKAR S **S 14 03 43.5 -0.5**
MKAR Makanchi Array 56.04 324 P **P 13 55 55.5 -1.4**
MKAR PcP PcP 13 56 56.6 +1.6
MKAR ScP ScP 14 00 52.6 -0.3
MKAR S **S 14 03 43.5 -0.6**
MKAR LR LR 14 22 44.0
MKAR P'P' 14 25 49.4
MKAR ⇑*e* 14 26 08.1
MIDW Midway 56.58 60 P **P 13 56 02.1 +1.0**
comp=Z,992nm,1.8s,mb6.5
MIDW LR LR
comp=Z,11μm,20.0s,MS6.0
KRAR Krasnoyarsk 56.82 338*d i*P **P 13 56 02.9 +0.7**
KRAR pmax pmax
comp=Z,490nm,1.7s,mb6.3
KSH Kashi 56.90 314 P **P 13 56 05.3 +2.2**
KSH AP pP 13 56 10.1 -0.5
KSH XP sP 13 56 12.5 -1.0
KSH PCP PcP 13 57 00.3 +1.8
KSH PP PP 13 58 13.5 +3.8
KSH PPP 13 59 33.3
KSH SCP ScP 14 00 58.3 +1.5
KSH PCS PcS 14 00 59.3 +0.1
KSH S **S 14 03 57.8 +2.1**
KSH XS sS 14 04 05.1 -2.9
KSH SCS ScS 14 05 50.3 -0.9
KSH SS SS 14 07 47.3 +3.1
KSH AMB AMB
comp=Z,1μm,1.2s,mb6.8
KSH LR LR
comp=N,46μm,14.1s,MS6.9
KSH LR LR
comp=E,56μm,14.2s,MS6.9
KSH LR LR
comp=Z,63μm,17.9s,MS6.8
AAA Alma-Ata 57.71 318 *e*P **P 13 56 09.5 +0.7**
ULHL Ulahol 57.76 317 P **P 13 56 11.3 +2.1**
SNR=26
BHJ Bhuj 58.06 294 *e*P **P 13 56 12.0 +0.4**
BHJ AMb AMB 13 56 16.8
comp=Z,1μm,1.6s,mb6.6
BHJ *e*x x 14 04 09.5
KZA Kyzart 58.38 316 P **P 13 56 16.3 +2.8**
SNR=27
TKM2 Tokmak 2 58.47 317 *e*P **P 13 56 13.6 -0.5**
TKM2 pmax pmax
comp=Z,749nm,1.7s,mb6.4
TKM2 MLR MLR
comp=Z,25μm,21.0s,MS6.3
TKM2 Tokmak 2 58.47 317 P **P 13 56 15.3 +1.2**
SNR=143
TKM2 Tokmak 2 58.47 317 *e*P **P 13 56 13.6 -0.5**
comp=Z,749nm,1.7s,mb6.4
TKM2 LR LR
comp=Z,25μm,21.0s,MS6.3
KBK Karagaybulak 58.80 317 P **P 13 56 18.0 +1.6**
SNR=69
ZALV Zalesovo Beam 58.82 332 P **P 13 56 14.0 -2.3**
comp=Z,242nm,0.6s,mb6.4,baz=119,slow=7.6,SNR=244
ZALV PcP PcP 13 57 06.5 +0.8
comp=Z,148nm,0.9s,baz=95,slow=4.8,SNR=3.6
ZALV S **S 14 04 18.7 -1.6**
comp=Z,14nm,1.0s,baz=126,slow=9.3,SNR=5.9
ZALV LR LR 14 24 29.2
comp=Z,11μm,18.6s,MS6.0,baz=132,slow=39
ZALV PKPPKP 14 25 51.1
comp=Z,6.2nm,1.0s,baz=299,slow=1.5,SNR=5.0
ZALV PKP2bc 14 26 02.8
comp=Z,11nm,0.7s,baz=319,slow=1.9,SNR=9.5
ZALV P4KPbc 14 33 18.9
comp=Z,0.9nm,0.4s,baz=151,slow=3.3,SNR=3.2
ZALV Zalesovo Beam 58.82 332 P **P 13 56 14.0 -2.3**
ZALV PcP PcP 13 57 06.5 +0.8
ZALV S **S 14 04 18.7 -1.6**
ZALV LR LR 14 24 29.2
ZALV P'P' 14 25 51.1
ZALV ⇑*e* 14 26 02.8
ZAL Zalesovo 58.82 332 P **P 13 56 14.0 -2.3**
ZAL 13 57 06.5
ZAL S **S 14 04 18.7 -1.6**
UCH Uchtor 58.94 316 P PcP 13 57 14.0 +7.6
SNR=5.2
CHMS Chumysh 59.07 317 P **P 13 56 19.1 +0.8**
SNR=62
FRU Bishkek 59.10 317 *i* P **P 13 56 19.0 +0.5**
FRU *e* 13 57 14.0
FRU *e*S **S 14 04 26.0 +1.7**
FRU pmax pmax
comp=Z,480nm,1.6s,mb6.3
FRU pmax pmax
comp=Z,5μm,7.0s
FRU smax
comp=E,6μm,8.0s
AAK Ala-Archa 59.10 317 P **P 13 56 19.8 +1.2**
SNR=39
USP Ospenovka 59.34 317 P **P 13 56 21.4 +1.3**
SNR=165
AML Almayashu 59.47 316 P **P 13 56 23.6 +2.5**
SNR=131
AML Almayashu 59.47 316 *e*P **P 13 56 20.6 -0.5**
comp=E,417nm,1.1s,mb6.4
AML LR LR
comp=Z,25μm,20.0s,MS6.3
SEY Seymchan 59.57 13⇑*i*P **P 13 56 21.6 +0.3**
EKS2 Erkin-Say 59.60 316 P **P 13 56 23.6 +1.6**
SNR=143
EKS2 Erkin-Say 59.60 316 *e*P **P 13 56 21.6 -0.4**
comp=Z,313nm,1.1s,mb6.2
SMY Shemya 60.06 31 *e*P **P 13 56 25.0 +0.1**
SMY pmax pmax
comp=Z,3μm,1.7s,mb7.0
SMY MLR MLR
comp=Z,9μm,19.0s,MS5.9
SMY Shemya 60.06 31 *e*P **P 13 56 25.0 +0.1**
comp=Z,3μm,1.7s,mb7.0
SMY LR LR
comp=Z,9μm,19.0s,MS5.9
NVS Novosibirsk 60.10 332 *e*P **P 13 56 22.7 -2.4**
NVS *i* S **S 14 04 35.0 -1.8**
NVS pmax pmax
comp=N,932nm,1.5s
NVS pmax pmax
comp=Z,2μm,1.5s,mb6.8
NVS pmax pmax
comp=E,854nm,1.3s
NVS smax
comp=N,752nm,2.0s
NVS smax
comp=E,380nm,1.6s
KURK Kurchatov 60.15 327 P **P 13 56 24.0 -1.5**
comp=E,9μm,1.3s,mb7.6
KURK Kurchatov 60.15 327 P **P 13 56 25.3 -0.2**
KURK pmax pmax
comp=Z,1μm,0.9s,mb7.0
KURK Kurchatov 60.15 327 *e*P **P 13 56 23.8 -1.7**
comp=Z,2μm,1.1s,mb7.1
KURK LR LR
comp=Z,9μm,19.0s,MS5.9
WCZ Waipu Caves 60.69 137 *e*P **P 13 56 31.0 +1.5**
KK31 Karatay Array 62.01 316 *i* P **P 13 56 37.4 -0.9**
KK31 pmax pmax
comp=Z,910nm,1.3s,mb6.8
KK31 Karatay Array 62.01 316 *i* P **P 13 56 37.5 -0.8**
AMKA Amchitka 62.14 34 *e*P **P 13 56 41.2 +2.1**
MSZ Milford Sound 62.25 148 P **P 13 56 40.9 +1.0**
JCZ Jackson Bay 62.29 147 *e*P **P 13 56 40.7 +0.6**
HIZ Hauiti 62.46 139 P **P 13 56 42.7 +1.3**
DSZ Denniston Nort 62.49 144 P **P 13 56 42.2 +0.7**
MLZ Mavora Lakes 62.84 149 P **P 13 56 44.1 +0.3**
THZ Tophouse 63.15 143 P **P 13 56 44.5 -1.4**
RAO Raoul Island 63.16 127 P **P 13 56 45.8 -0.4**
comp=Z,365nm,0.8s,mb6.6,baz=254,slow=16,SNR=3.9
RAO Raoul Island 63.16 127 P **P 13 56 45.8 -0.4**
RAO LR LR
comp=Z,6μm,20.0s,MS5.8
LBZ Lake Benmore 63.26 147 P **P 13 56 46.4 -0.2**
RPZ Rata Peaks 63.30 146 P **P 13 56 46.3 -0.6**
comp=Z,101nm,0.6s,mb6.1,baz=0.2,slow=4.9,SNR=66
RPZ Rata Peaks 63.30 146 P **P 13 56 46.8 -0.1**
LTZ Lake Taylor 63.40 145 P **P 13 56 47.1 -0.5**
AFI Afiamalu 63.50 109 P **P 13 56 48.0 -0.8**
comp=Z,81nm,0.8s,mb5.8,baz=286,slow=14,SNR=12
AFI Afiamalu 63.50 109 *e*P **P 13 56 50.3 +1.5**
AFI pmax pmax
comp=Z,230nm,1.1s,mb6.1
AFI MLR MLR
comp=Z,14μm,22.0s,MS6.1
AFI Afiamalu 63.50 109 *e*P **P 13 56 50.3 +1.5**
comp=Z,230nm,1.1s,mb6.1
AFI LR LR
comp=Z,14μm,22.0s,MS6.1
URZ Urewera 63.80 138 P **P 13 56 49.9 -0.4**
comp=Z,141nm,0.8s,mb6.0,baz=280,slow=2.2,SNR=42
BKZ Black Stump Fm 63.88 139 P **P 13 56 48.9 -1.9**
KHZ Kahutara 63.92 144 P **P 13 56 48.8 -2.2**
ODZ Otahua Downs 63.94 147 P **P 13 56 52.1 +1.0**
SNZO South Karori 63.97 142 *e*P **P 13 56 50.3 -1.0**
comp=Z,105nm,0.8s,mb5.9
SNZO LR LR
comp=Z,17μm,20.0s,MS6.2
MWZ Matawai 64.12 138 P **P 13 56 51.9 -0.5**
ADK Adak 64.61 35 *e*P **P 13 56 54.2 -1.2**
ADK pmax pmax
comp=Z,1μm,1.5s,mb6.8
ADK MLR MLR
comp=Z,17μm,20.0s,MS6.2
ADK Adak 64.61 35 *e*P **P 13 56 54.1 -1.2**
comp=Z,1μm,1.5s,mb6.8
ADK LR LR
comp=Z,17μm,20.0s,MS6.2
VOSK Vostochnaya 65.29 326 P **P 13 56 59.1 -0.7**
VOSK pmax pmax
comp=Z,564nm,1.0s,mb6.5
TIXI Tiksi 65.47 0 *e*P **P 13 56 58.5 -2.1**
TIXI *e* 13 57 30.2
TIXI *e* 13 59 23.1
TIXI *e*PPP 14 00 55.1
TIXI *e*S S 14 05 40.0 -3.7
TIXI *e* 14 06 51.1
TIXI pmax pmax
comp=N,364nm,1.7s
TIXI pmax pmax
comp=Z,836nm,1.4s,mb6.6
TIXI pmax pmax
comp=E,140nm,1.5s
TIXI pmax pmax
comp=Z,2μm,7.3s
TIXI smax
comp=N,2μm,8.6s
TIXI smax
comp=E,1μm,8.5s
TIXI MLR MLR
comp=Z,16μm,19.0s,MS6.2
TIXI MLR MLR
comp=N,10μm,16.0s,MS6.1
TIXI MLR MLR
comp=E,2μm,18.0s,MS6.1
TIXI Tiksi 65.47 0 *e*P **P 13 56 58.8 -1.8**
comp=E,728nm,1.3s,mb6.5
TIXI LR LR
comp=Z,15μm,20.0s,MS6.2
BVA0 Borovoye Array 65.74 326 *i* P **P 13 57 02.6 -0.1**
BVA0 pmax pmax
comp=Z,654nm,1.4s,mb6.5
BVAR Borovoye Array 65.74 326 S S 14 05 46.4 -1.2
comp=Z,6.6nm,1.1s,baz=74,slow=11,SNR=4.0
BVAR PKP2bc 14 25 40.4
comp=Z,3.7nm,0.8s,baz=276,slow=3.0,SNR=7.1
BVAR LR LR 14 30 28.6
comp=Z,10μm,18.4s,MS6.1,baz=340,slow=40
BRVK Borovoye 65.81 326 P **P 13 57 02.9 -0.3**
comp=Z,7μm,1.1s,mb7.6
BRVK Borovoye 65.81 326 ⇑P **P 13 57 03.8 +0.7**
SNR=852
BRVK Borovoye 65.81 326 P **P 13 57 01.1 -2.1**
BRVK pmax pmax
comp=Z,2μm,1.1s,mb6.9
BRVK Borovoye 65.81 326 *e*P **P 13 57 02.0 -1.1**
comp=Z,2μm,1.1s,mb6.9
BRVK LR LR
comp=Z,12μm,19.0s,MS6.1
BILL Bilibino 67.08 15*c i*P **P 13 57 10.8 -0.2**
BILL *e* 13 57 39.0
BILL *e* 13 59 33.2
BILL *i* S S 14 06 03.4 0.0
BILL *e*SS SS 14 10 19.2 -3.2
BILL pmax pmax
comp=Z,857nm,1.5s,mb6.6
BILL MLR MLR
comp=Z,9μm,20.0s,MS6.0
BILL Bilibino 67.08 15 *e*P **P 13 57 10.2 -0.8**
comp=Z,1μm,1.5s,mb6.7
BILL LR LR
comp=Z,9μm,20.0s,MS6.0
WBK Wadi Bani Khal 67.82 292 ⇑P **P 13 57 17.0 +0.5**
SNR=17
BIDO Bidbid 68.64 293 P **P 13 57 21.4 -0.3**
SNR=64
SMDO Samad 68.69 292 ⇓P **P 13 57 22.5 +0.5**
SNR=24
NIKO Nikolski 69.47 35 *e*P **P 13 57 26.1 -0.2**
comp=Z,1μm,1.2s,mb6.6
BANOM Banah 70.41 295 ⇓P **P 13 57 33.7 +1.1**
SNR=7.1
HATD Hatta, Dubai 70.51 294 ⇓P **P 13 57 34.3 +1.1**
SNR=16
ASHO Ashiyiah 70.57 294 P **P 13 57 34.3 +0.6**
SNR=17
AB31 Akbulak array 70.78 320 *i* P **P 13 57 33.6 -0.8**
SHAO Shalim 70.87 287 P **P 13 57 37.5 +2.0**
SNR=9.6
AKUT Akutan 71.57 35 *e*P **P 13 57 39.5 +0.4**
comp=Z,5μm,1.6s,mb7.2
AKUT LR LR
comp=Z,18μm,23.0s,MS6.3
AKTO Aktyubinsk 72.26 321 S S 14 07 01.6 -3.3
comp=Z,8.5nm,1.1s,baz=206,slow=22,SNR=19
AKTO PKP2bc 14 25 27.7
comp=Z,3.0nm,1.0s,baz=178,slow=0.8,SNR=6.4
AKTO LR LR 14 35 26.6
comp=Z,14μm,18.4s,MS6.2,baz=275,slow=41
SVE Sverdlovsk 72.33 328⇑*e*P **P 13 57 42.8 -0.8**
SVE *e* 13 58 08.8
SVE *e* 14 00 24.1
SVE *e*S S 14 06 59.5 -5.9
SVE pmax pmax
comp=Z,2μm,1.3s,mb6.8
SVE pmax pmax
comp=Z,3μm,7.9s
SVE MLR MLR
comp=Z,14μm,18.0s,MS6.3
MSEY Mahe Island 72.65 263 *e*P **P 13 57 46.6 +0.3**
MSEY pmax pmax
comp=Z,482nm,1.9s,mb6.1
MSEY MLR MLR
comp=Z,12μm,22.0s,MS6.1
MSEY Mahe Island 72.65 263 *e*P **P 13 57 46.6 +0.3**
comp=Z,482nm,1.9s,mb6.1
MSEY LR LR
comp=Z,12μm,22.0s,MS6.1
DRV Dumont d'Urvil 73.16 175 P **P 13 57 51.0 +2.8**
DRV S S 14 07 17.0 +2.6
DRV L 14 17 00.0

DRV R 14 21 00.0
CASY Casey 73.25 187 *e*P **P 13 57 49.0 +0.2**
CASY *e*S S 14 07 17.5 +2.1
ARU Arti 73.33 327 P **P 13 57 47.5 -2.0**
comp=Z,4μm,1.4s,mb7.2
ARU Arti 73.33 327*d i*P **P 13 57 48.1 -1.4**
ARU *e* 13 58 00.0
ARU *e* 14 00 28.1
ARU *e*PPP 14 02 13.9
ARU *e*S S 14 07 14.5 -2.3
ARU *e* 14 07 58.6
ARU *e*SS SS 14 11 53.9 -4.9
ARU *e*SSS 14 15 05.7
ARU pmax pmax
comp=Z,1μm,1.7s,mb6.6
ARU Arti 73.33 327 *e*P **P 13 57 47.6 -1.9**
KIP Kipapa 73.42 70⇓*i*P **P 13 57 49.8 -1.0**
KIP Kipapa 73.42 70 *e*P **P 13 57 51.9 +1.2**
comp=Z,285nm,0.9s,mb6.2
KIP LR LR
comp=Z,9μm,21.0s,MS6.0
HON Honolulu 73.43 70 *e*P **P 13 57 52.1 +1.3**
TNA Tin City 74.13 23 *e*P **P 13 57 55.1 +1.0**
comp=Z,534nm,1.5s,mb6.2
PAF Port-aux-Franc 74.22 215 P **P 13 57 56.6 +1.8**
SDPT Sand Point 74.84 34 *e*P **P 13 57 59.7 +1.4**
comp=Z,4μm,1.6s,mb7.1
SDPT LR LR
comp=Z,21μm,23.0s,MS6.4
XMAS Kiritimati 74.98 90 *e*P **P 13 58 01.7 +1.7**
comp=Z,588nm,1.4s,mb6.3
XMAS LR LR
comp=Z,14μm,19.0s,MS6.3
SOKR Solikamsk 75.01 330*d i*P **P 13 57 59.2 0.0**
SOKR S S 14 07 31.3 -4.2
SOKR pmax pmax
comp=Z,740nm,1.2s,mb6.5
SOKR MLR MLR
comp=Z,11μm,19.0s,MS6.2
RER Riviere de l'E 75.32 246 *e*P **P 13 58 03.6 +1.8**
KHU Kahuku 75.70 72 *e*P **P 13 58 05.7 +1.7**
POHA Pohakuloa 75.77 71 *e*P **P 13 58 06.6 +2.2**
comp=Z,656nm,1.0s,mb6.5
POHA LR LR
comp=Z,13μm,20.0s,MS6.2
STCH Steam Cracks 76.16 72 *e*P **P 13 58 07.5 +0.8**
MIR Mirnyy 76.62 193κ *i*P **P 13 58 09.0 +0.7**
MIR *i* 13 58 20.0
MIR *i* 14 01 00.0
MIR *i*S S 14 07 54.0 +1.0
MIR *i* 14 08 08.0
MIR *i*PS 14 08 46.0
MIR pmax pmax
comp=Z,1μm,1.5s,mb6.6
MIR pmax pmax
comp=Z,8μm,3.0s
MIR MLR MLR
comp=Z,7μm,19.0s,MS6.0
UMR Umm Al-Rimmam 78.09 299 *e*P **P 13 58 16.2 -1.1**
baz=299
UMR AMb AMB 13 58 19.9
comp=Z,2μm,1.7s,mb6.7,baz=299
KBD Kabd 78.11 298 *e*P **P 13 58 16.6 -0.8**
baz=298
KBD AMb AMB 13 58 20.1
comp=Z,27nm,1.7s,baz=298
RDF Al-Radifah 78.24 298 *e*P **P 13 58 17.3 -0.9**
baz=298
RDF AMb AMB 13 58 20.2
comp=Z,1μm,1.3s,mb6.7,baz=298
SVW2 Sparrevohn 78.39 29 *e*P **P 13 58 18.6 +0.3**
MIB Mutribah 78.42 299 *e*P **P 13 58 17.7 -1.5**
baz=299
MIB AMb AMB 13 58 21.0
comp=Z,2μm,1.1s,mb6.9,baz=299
TTA Tatalina 78.47 27 *e*P **P 13 58 19.1 +0.4**
MAK Makhachkala 78.50 312*d i*P **P 13 58 20.8 +1.4**
MAK *i* pP 13 58 27.1 0.0
MAK *i*S S 14 08 13.6 -0.8
MAK *e*SS SS 14 13 16.4 -1.5
MAK pmax pmax
comp=N,329nm,1.6s
MAK pmax pmax
comp=Z,2μm,1.9s,mb6.8
MAK pmax pmax
comp=E,368nm,1.3s
MAK Makhachkala 78.50 312⇓*e*P **P 13 58 20.9 +1.5**
NAY Al-Naaiem 78.51 299 *e*P **P 13 58 18.3 -1.4**
baz=298
NAY AMb AMB 13 58 21.4
comp=Z,836nm,1.3s,mb6.5,baz=298
OHAK Old Harbor 79.08 33 *e*P **P 13 58 23.3 +1.1**
comp=Z,5μm,2.4s,mb7.0
OHAK LR LR
comp=Z,22μm,23.0s,MS6.4
KDAK Kodiak Island 79.51 32 P **P 13 58 25.1 +0.6**
comp=Z,4μm,1.6s,mb7.1,SNR=20
KDAK Kodiak Island 79.51 32 LR LR 14 33 22.1
comp=Z,9μm,20.0s,MS6.1,baz=253,slow=36
KDAK Kodiak Island 79.51 32 *e*P **P 13 58 23.7 -0.8**
KDAK pmax pmax
comp=Z,1μm,1.2s,mb6.7
KDAK MLR MLR
comp=Z,3μm,20.0s,MS5.6
KDAK Kodiak Island 79.51 32 *e*P **P 13 58 23.7 -0.9**
comp=Z,1μm,1.2s,mb6.7
KDAK LR LR
comp=Z,3μm,20.0s,MS5.6
IMA2 Indian Mountai 79.93 24 *e*P **P 13 58 27.0 +0.4**
DGRG David-gareji 80.05 311 P **P 13 58 29.9 +2.1**
DGRG S S 14 08 30.3 -0.6
MTA Mtatsminda 80.49 311 P **P 13 58 31.3 +1.1**
MTA S S 14 08 31.6 -3.9
GNI Garni 80.52 310 *e*P **P 13 58 31.2 +0.8**
GNI Garni 80.52 310 ⇑P **P 13 58 31.3 +0.9**
SNR=388
GNI Garni 80.52 310 P **P 13 58 31.6 +1.2**
comp=Z,2μm,1.4s,mb6.8,baz=177,slow=1.9,SNR=136
GNI S S 14 08 36.9 +1.0
comp=Z,4.3nm,0.4s,baz=306,slow=17,SNR=3.9
GNI Garni 80.52 310 P **P 13 58 31.1 +0.7**
GNI pmax pmax
comp=Z,3μm,1.6s
GNI Garni 80.52 310 *e*P **P 13 58 30.9 +0.5**
comp=Z,3μm,1.6s,mb7.0
GNI LR LR
comp=Z,4μm,20.0s,MS5.8
BPAW Bear Paw Mtn. 80.85 26 *e*P **P 13 58 31.3 -0.3**
comp=Z,2μm,1.3s,mb6.8
BHD Baghdad 80.89 303 *i*x x 13 58 31.0
BHD *i*x x 13 58 32.5
BHD *i*x x 13 58 38.0
BHD *e*x x 14 08 36.0
BHD *e*x x 14 08 58.0
SLKM Skilak Lake 80.94 30 *e*P **P 13 58 30.9 -1.3**
FIB Fire Island 81.00 29 *e*P **P 13 58 32.8 +0.3**
FIB pmax pmax
comp=Z,1μm,1.3s,mb6.7
FIB Fire Island 81.00 29 *e*P **P 13 58 32.8 +0.3**
comp=Z,1μm,1.3s,mb6.7
CLDR Caldiran 81.16 309 *e*P **P 13 58 35.6 +1.7**
SEW Seward 81.30 30 *e*P **P 13 58 33.8 -0.3**
HKR Hakkari 81.33 307 *e*P **P 13 58 35.5 +0.7**
COLD Coldfoot 81.44 23 *e*P **P 13 58 34.9 +0.2**
comp=Z,554nm,1.0s,mb6.4
ONI Oni 81.48 312 P **P 13 58 37.1 +1.6**
ONI S S 14 08 47.0 +1.2
PMR Palmer 81.53 29 *e*P **P 13 58 33.3 -2.0**
PMR pmax pmax
comp=Z,1μm,1.3s,mb6.6
PMR MLR MLR
comp=Z,9μm,19.0s,MS6.1
PMR Palmer 81.53 29 *e*P **P 13 58 33.3 -2.0**
comp=Z,1μm,1.3s,mb6.6
PMR LR LR
comp=Z,9μm,19.0s,MS6.1
VANB Van 81.58 308 *e*P **P 13 58 37.6 +1.6**
KARS Kars 81.78 310 *e*P **P 13 58 38.5 +1.5**
AGRB Hanur-Agry 81.87 309 *e*P **P 13 58 39.6 +2.0**
MSL Mosul 81.88 306 *i*x x 13 58 38.0
MSL Mosul 81.88 306 *i*x x 14 08 47.0
KIV Kislovodsk 82.03 313 P **P 13 58 38.2 -0.1**
comp=Z,4μm,0.9s,mb7.3,SNR=63
KIV Kislovodsk 82.03 313 ⇓P **P 13 58 39.2 +0.9**
SNR=101
KIV Kislovodsk 82.03 313κ *i*P **P 13 58 37.9 -0.4**
KIV *i* pP 13 58 43.9 -2.2
KIV *e* 14 01 40.2
KIV *i* 14 08 49.4
KIV *e* 14 08 56.2
KIV *i* 14 09 59.0
KIV SS SS 14 14 07.0 -3.5
KIV pmax pmax
comp=Z,3μm,1.9s,mb6.8
KIV pmax pmax
comp=Z,946nm,1.3s,mb6.6
KIV Kislovodsk 82.03 313⇑*i*P **P 13 58 38.7 +0.4**
KIV Kislovodsk 82.03 313 *e*P **P 13 58 39.0 +0.7**
comp=Z,679nm,1.0s,mb6.5
KIV LR LR
comp=Z,12μm,19.0s,MS6.3
COLA College 82.25 25*d i*P **P 13 58 37.9 -1.1**
COLA College 82.25 25 *e*P **P 13 58 37.2 -1.9**
comp=Z,481nm,1.3s,mb6.3
COLA LR LR
comp=Z,9μm,19.0s,MS6.2
SIRT Sirnak 82.36 307 *e*P **P 13 58 40.7 +0.5**
VRHR Novokhopersk 82.66 321 *e*P **P 13 58 41.3 -0.2**
VRHR *e**PP pP 13 58 49.0 -0.2
VRHR *e* 14 08 52.7
VRHR *e*S S 14 08 56.2 -1.4
VRHR pmax pmax
comp=Z,1μm,1.2s,mb6.8
VRHR pmax pmax
comp=N,220nm,2.6s
VRHR pmax pmax
comp=E,600nm,1.0s
ABPO Ambohimpanom 82.79 250 P **P 13 58 43.1 +0.4**
comp=E,2μm,1.5s,mb6.8,SNR=21
ABPO Ambohimpanom 82.79 250 *e*P **P 13 58 41.7 -1.0**
ABPO pmax pmax
comp=Z,570nm,1.3s,mb6.4
ABPO MLR MLR
comp=Z,7μm,19.0s,MS6.0
ABPO Ambohimpanom 82.79 250 *e*P **P 13 58 41.7 -1.1**
comp=Z,570nm,1.3s,mb6.4
ABPO LR LR
comp=Z,7μm,19.0s,MS6.0
MID Middleton Isla 82.85 31 *e*P **P 13 58 44.8 +2.5**
BCA Borcka 82.87 311 *e*P **P 13 58 42.7 -0.1**
EZM Erzurum 83.12 309 *e*P **P 13 58 45.4 +1.3**
EYAK Cordova Ski Ar 83.15 30 *e*P **P 13 58 42.5 -1.3**
comp=Z,1μm,0.9s,mb7.0
BNGL BINGOL 83.32 308 *i*P **P 13 58 46.4 +1.2**
PZAR Pazar-Rize 83.42 311 *e*P **P 13 58 47.2 +1.6**
RAGM Ragged Mountai 83.68 30 *e*P **P 13 58 45.9 -0.6**
KLMR Klimovskoe 83.70 331*d i*P **P 13 58 45.5 -1.1**
KLMR *i*S S 14 09 03.0 -4.7
DIY Diyarbakir 84.10 307 *e*P **P 13 58 51.3 +2.2**
SOC Sochi 84.19 313*d i*P **P 13 58 48.0 -1.5**
SOC *e* 14 02 00.7
SOC *e*PPP 14 03 53.7
SOC *e*S S 14 09 02.7 -11
SOC pmax pmax
comp=Z,703nm,1.2s,mb6.7
SOC pmax pmax
comp=Z,2μm,4.6s
SOC Sochi 84.19 313 *i*P **P 13 58 49.0 -0.5**
VRSR Storozhevoye 84.19 321 *e*P **P 13 58 47.8 -1.5**
VRSR *e**PP pP 13 58 55.5 -1.6
VRSR *e**SP sP 13 59 00.7 +0.8
VRSR *e* 14 09 06.9
VRSR *e*S S 14 09 09.9 -3.1
VRSR pmax pmax
comp=Z,330nm,1.3s,mb6.3
VRSR pmax pmax
comp=N,20nm,1.4s
VRSR pmax pmax
comp=E,200nm,1.2s
KTUT Trabzon 84.29 311 *e*P **P 13 58 51.2 +1.2**
EZC Erzincan 84.32 309 *e*P **P 13 58 52.7 +2.5**
GUMT Gumushane 84.53 310 *e*P **P 13 58 51.8 +0.5**
PTK Pertek 84.69 308 *e*P **P 13 58 53.4 +1.2**
SVRC Sivrice-ELAZID 84.79 308 *e*P **P 13 58 53.5 +0.9**
MOS Moscow 84.90 325 *e*P **P 13 58 51.9 -0.9**
MOS *e* 14 02 08.3
MOS *e*S S 14 09 11.7 -8.2
MOS *e*SS SS 14 14 56.5 +4.1
MOS pmax pmax
comp=Z,3μm,1.4s,mb7.2
MOS pmax pmax
comp=Z,8μm,2.2s,mb7.4
MOS MLR MLR
comp=Z,14μm,18.0s,MS6.4
MOS Moscow 84.90 325 *e*P **P 13 58 52.1 -0.7**
ESPY Espiye-Giresun 85.08 310 *e*P **P 13 58 53.5 -0.5**
EGAK Eagle 85.11 25 *e*P **P 13 58 52.3 -1.4**
comp=Z,2μm,1.9s,mb6.8
EGAK LR LR
comp=Z,10μm,20.0s,MS6.2
PPT Papeete 85.17 108 *e*PP PP 14 02 10.9 -1.7
comp=Z,842nm,23.5s
PPT *e*S S 14 09 19.8 -4.2
comp=Z,34μm,29.2s
PPT *e*SS SS 14 14 55.1 -3.3
comp=Z,6μm,27.8s
PPT *e*LQ 14 21 37.5
comp=Z,35μm,35.0s
PPT *e*LR LR 14 25 46.8
comp=Z,21μm,26.2s,baz=288
PPT Papeete 85.17 108 P **P 13 58 57.0 +2.0**
comp=Z,53nm,0.8s,mb5.7,baz=357,slow=2.5,SNR=6.6
PPT LR LR 14 31 43.8
comp=Z,8μm,19.5s,MS6.1,baz=270,slow=32
PPT Papeete 85.17 108 *e*P **P 13 58 56.1 +1.2**
PPT *e* 14 02 10.9
PPT *e*S S 14 09 19.8 -4.2
PPT *e*SS SS 14 14 55.1 -3.3
PPT pmax pmax
comp=Z,191nm,1.5s
PPT Papeete 85.17 108 *e*P **P 13 58 56.1 +1.2**
comp=Z,190nm,1.5s,mb6.0
PPT *e*PP PP 14 02 10.9 -1.7
PPT *e*S S 14 09 19.8 -4.2
PPT *e*SS SS 14 14 55.1 -3.3
PPT *e*LQ 14 21 37.5
PAE Paea 85.18 108 *e*P **P 13 58 55.3 +0.3**
comp=Z,1μm,1.3s,mb7.0
PAE Paea 85.18 108 *e*P **P 13 58 55.3 +0.3**
PAE pmax pmax
comp=Z,1μm,1.3s,mb7.0
URFA Urfa 85.24 307 *e*P **P 13 58 56.9 +1.9**
TIAR Tiarei 85.38 108 *e*P **P 13 58 57.0 +1.0**
comp=Z,3μm,1.5s,mb7.2
LVZ Lovozero 85.44 338 P **P 13 58 55.6 +0.3**
comp=Z,1μm,0.9s,mb7.1,SNR=17
MALT Malatya 85.49 308 *e*P **P 13 58 58.2 +2.0**
MALT Malatya 85.49 308⇓*i*P **P 13 58 57.0 +0.8**
MALT Malatya 85.49 308 P **P 13 58 56.2 0.0**
MYA Malataya 85.49 308 *e*P **P 13 58 57.1 +0.9**
TVO Taravao 85.50 108 *e*P **P 13 58 57.6 +1.0**
comp=Z,1μm,0.8s,mb7.3
TVO Taravao 85.50 108 *e*P **P 13 58 57.6 +1.0**
TVO pmax pmax
comp=Z,1μm,0.8s,mb7.3
OBN Obninsk 85.54 325 P **P 13 58 55.0 -1.0**
comp=Z,8μm,1.2s
OBN Obninsk 85.54 325*c e*P **P 13 58 54.4 -1.6**
OBN *e* pP 13 59 03.6 -0.2
OBN *i* 14 09 15.8
OBN *e* 14 09 22.3
OBN *i*PS 14 10 18.6
OBN *i*PPS 14 10 49.8
OBN *i*SS SS 14 15 07.3 +5.5
OBN pmax pmax
comp=Z,6μm,1.6s,mb7.6
OBN pmax pmax
comp=Z,3μm,1.5s,mb7.3
OBN MLR MLR
comp=Z,14μm,18.0s,MS6.4
OBN Obninsk 85.54 325 *e*P **P 13 58 54.7 -1.3**
comp=Z,3μm,1.4s,mb7.4
OBN LR LR
comp=Z,15μm,19.0s,MS6.4
ANN Anapa 85.75 314*c i*P **P 13 58 55.6 -1.7**
ANN *i**PP pP 13 59 06.1 +1.0
ANN *i* 14 02 19.9
ANN *i* 14 09 18.1
ANN *e* 14 09 26.4
ANN pmax pmax
comp=N,443nm,0.9s
ANN pmax pmax
comp=E,311nm,0.9s
ANN pmax pmax
comp=Z,2μm,0.9s,mb7.3
ANN Anapa 85.75 314 *i*P **P 13 58 55.5 -1.8**
DARE Darende-Malaty 85.92 309 *e*P **P 13 59 01.3 +3.0**
DAWY Dawson 85.94 26 *e*P **P 13 58 57.7 -0.1**
APA Apatity 85.94 337⇑*i*P **P 13 58 59.0 +1.2**
APA *i* 14 02 18.0
APA *i*PPP 14 04 17.0
APA *i* 14 09 13.0
APA *i*S S 14 09 35.0 +5.2
APA pmax pmax
comp=Z,691nm,1.5s,mb6.7
APA MLR MLR
comp=Z,8μm,21.0s,MS6.1
RSDY Resadiye-TOKAT 86.18 310 *e*P **P 13 59 00.7 +1.1**
MAW Mawson 86.22 200 *e*S S 14 09 21.5 -11
MAW Mawson 86.22 200 P **P 13 59 00.2 +1.2**
comp=Z,32nm,0.8s,mb5.6,baz=58,slow=5.8,SNR=29
MAW PKKPbc PKKPbc 14 16 58.9 -1.8
comp=Z,5.8nm,0.3s,baz=288,slow=6.8,SNR=16
MAW PKPPKP 14 24 59.2
comp=Z,5.3nm,1.0s,baz=249,slow=3.5,SNR=3.6
MAW LR LR 14 39 35.8
comp=Z,4μm,18.1s,MS5.8,baz=56,slow=37
MAW Mawson 86.22 200 *e*P **P 13 58 59.3 +0.2**
MAW *e*S S 14 09 21.5 -11
MAW pmax pmax
comp=Z,17nm,0.3s
MAW Mawson 86.22 200 *e*P **P 13 58 59.3 +0.2**
comp=Z,17nm,0.3s,mb5.7
MAW *e*S S 14 09 21.5 -11
PMOR Pomariorio Ree 86.43 105 *e*P **P 13 59 02.3 +1.1**
comp=Z,1μm,1.4s,mb6.9
SVSK Karacayir 86.47 310 *e*P **P 13 59 02.5 +1.5**
GAZ Gaziantep 86.54 307 *e*P **P 13 59 01.7 +0.3**
SBA Scott Base 86.58 172 *e*P **P 13 59 00.9 +0.2**
SBA pmax pmax
comp=Z,489nm,1.5s,mb6.5
SBA MLR MLR
comp=Z,6μm,19.0s,MS6.0
SBA Scott Base 86.58 172 *e*P **P 13 59 00.9 +0.2**
comp=Z,489nm,1.5s,mb6.5
SBA LR LR
comp=Z,6μm,19.0s,MS6.0
MEH Mehetia 86.63 108 *e*P **P 13 59 02.7 +0.5**
comp=Z,17μm,1.5s
KMRS Kahramanmaras 86.76 307 *e*P **P 13 59 02.7 +0.2**
TOKT Tokat 86.78 310 *e*P **P 13 59 02.5 0.0**
SARI SarD1z-Kayseri 86.81 308 *e*P **P 13 59 05.4 +2.7**
KVT Kavak 87.08 311 *e*P **P 13 59 05.0 +1.1**
HYT Haines Junctio 87.17 29 *e*P **P 13 59 04.7 +0.7**
ASF Jabal al Asfar 87.25 302 P **P 13 59 05.6 +0.6**
comp=Z,522nm,1.0s,mb6.7,baz=322,slow=1.4,SNR=207
ASF PKKPbc PKKPbc 14 16 57.5 +1.0
comp=Z,2.2nm,0.5s,baz=102,slow=3.1,SNR=4.8
COBT Iskenderun 87.36 306 *i*P **P 13 59 06.8 +1.3**
JOF Joensuu 87.40 333 *e*p **P 13 59 03.2 -1.8**
comp=Z,133nm,0.6s,mb6.3
BNN Bunyan 87.46 309 *e*P **P 13 59 07.0 +1.1**
HTY Hatay 87.50 306 *e*P **P 13 59 05.7 -0.3**
KOZT Kozan 87.61 307 *e*P **P 13 59 08.2 +1.7**
DIKM Dikmen 87.62 311 *e*P **P 13 59 06.6 +0.1**
CEYT Ceyhan 87.72 307 *e*P **P 13 59 08.2 +1.1**
YOZ Yozgat 87.78 309 *e*P **P 13 59 08.4 +1.1**
YURE YUREGIR 87.83 307 *i*P **P 13 59 09.1 +1.5**
HWQ Hawqa 87.84 304 *e*P **P 13 58 59.9 -7.9**
FURI Furi 87.86 279 *e*P **P 13 59 11.6 +3.4**
FURI S S 14 09 33.5 -17
KEV Kevo 87.91 340 *e*p **P 13 59 06.6 -0.7**
comp=Z,40nm,0.8s,mb5.7
KEV Kevo 87.91 340 P **P 13 59 06.7 -0.6**
KEV pmax pmax
comp=Z,220nm,1.2s,mb6.3
BYBT Boyabat 88.00 311 *e*P **P 13 59 08.9 +0.5**
RCY Rachaya 88.03 303 *e*P **P 13 59 09.7 +1.1**
CTKT Corum 88.08 310 *i*P **P 13 59 08.6 -0.2**
KSHT Keshet 88.08 303 P **P 13 59 09.9 +1.0**
SIM Simferopol' 88.08 315*de*P **P 13 59 08.2 -0.5**
SIM *e* 14 02 39.0
SIM *e* 14 09 32.0
SIM *e*S S 14 09 49.0 -2.4
SIM pmax pmax
comp=Z,212nm,1.1s,mb6.3
SIM pmax pmax
comp=Z,1μm,10.0s
BHL Bhannes 88.12 304 *e*P **P 13 59 10.1 +1.0**
HRI Mount Hermon 88.12 303 P **P 13 59 09.8 +0.7**
KSDI Kefar Szold 88.19 303 P **P 13 59 09.9 +0.5**
AVNT Avonos 88.23 309 *i*P **P 13 59 08.2 -1.4**
KARA Karaisali 88.25 307 *e*P **P 13 59 10.1 +0.5**
CORM Corum 88.25 310 *e*P **P 13 59 10.9 +1.3**
SPITS Spitsbergen Ar 88.30 349 P **P 13 59 08.7 -0.3**
comp=Z,290nm,1.1s,mb6.4,baz=18,slow=8.6,SNR=32
PUL Pulkovo 88.35 330 *e*P **P 13 59 09.0 -0.6**
HMDT Nahal Hemdat 88.40 302 P **P 13 59 11.2 +0.7**
SKAG Skagway 88.45 30 *e*P **P 13 59 11.3 +1.2**
comp=Z,220nm,1.1s,mb6.3
SKAG LR LR
comp=Z,11μm,23.0s,MS6.2
MMLI Mount Malkishu 88.47 302 P **P 13 59 11.1 +0.3**
ARCES ARCESS Array B 88.47 340 P **P 13 59 08.6 -1.4**
comp=Z,175nm,0.8s,mb6.3,baz=78,slow=6.7,SNR=147
ARCES PKKPbc PKKPbc 14 16 53.1 -1.7
comp=Z,5.8nm,0.6s,baz=270,slow=2.6,SNR=27
ARCES LR LR 14 45 24.5
comp=Z,8μm,18.8s,MS6.2,baz=81,slow=40
NIG Nigde 88.50 308 *e*P **P 13 59 12.4 +1.6**
CDAG Cicekdag 88.51 310 *i*P **P 13 59 09.9 -0.9**
DSI Dead Sea 88.60 301 P **P 13 59 11.6 +0.2**
HNTI Hanita 88.61 303 P **P 13 59 13.1 +1.7**
TOS Tosya 88.61 311 *e*P **P 13 59 10.8 -0.5**
MERS Mersin 88.71 307 *e*P **P 13 59 11.9 +0.1**
KBS Kingsbay 88.80 350 *e*P **P 13 59 10.6 -0.9**
KBS AMS AMS 14 46 19.2
comp=Z,9μm,17.7s,MS6.2
KBS Kingsbay 88.80 350 *e*P **P 13 59 10.4 -1.0**
KBS pmax pmax
comp=Z,91nm,1.1s,mb6.0
KBS MLR MLR
comp=Z,9μm,19.0s,MS6.2
KBS Kingsbay 88.80 350 *e*P **P 13 59 10.4 -1.0**
comp=Z,91nm,1.1s,mb6.0
KBS LR LR
comp=Z,9μm,19.0s,MS6.2
SLTI Sal'it 88.81 302 P **P 13 59 12.8 +0.4**
OFRI 'Ofer 88.81 303 P **P 13 59 12.0 -0.4**
SIT Sitka 88.84 33 *e*P **P 13 59 13.0 +1.0**
SIT pmax pmax
comp=Z,964nm,2.4s,mb6.7
SIT MLR MLR
comp=Z,6μm,23.0s,MS5.9
SIT Sitka 88.84 33 *e*P **P 13 59 13.0 +1.0**
comp=Z,964nm,2.4s,mb6.7
SIT LR LR
comp=Z,6μm,23.0s,MS5.9
YTIR Yattir 88.84 301 P **P 13 59 12.8 +0.2**
ZFRI Zfri 88.88 300 P **P 13 59 12.5 -0.3**
BJO Bjornoya 88.96 345 *e*P **P 13 59 10.6 -1.6**
BJO *e*PP PP 14 02 40.9 -0.7
BJO *e*SKS 14 09 40.3
BJO AMS AMS 14 49 03.4
comp=Z,10μm,17.9s,MS6.3
BJO1 Bjornoya 89.01 345 *e*P **P 13 59 10.6 -1.9**
BJO1 LR LR
comp=Z,10μm,17.9s,MS6.3
BALT Daday 89.03 311 *i*P **P 13 59 12.8 -0.4**
KAMT Kaman 89.05 309 *e*P **P 13 59 12.2 -1.2**
PRNI Paran 89.05 300 P **P 13 59 13.4 -0.2**
HRFI Mount Harif 89.06 300 P **P 13 59 13.6 0.0**
EREN Erenkoy 89.15 305 *e*P **P 13 59 14.4 +0.5**
EIL Elat 89.17 300 S S 14 09 51.6 -11
comp=Z,3.0nm,0.8s,baz=29,slow=15,SNR=2.8
EIL Elat 89.17 300 P **P 13 59 14.2 0.0**
RMNI Mount Ramon 89.23 301 P **P 13 59 14.7 +0.3**
RTMI Retamim 89.24 301 P **P 13 59 14.2 -0.2**
PHNC Paralimni 89.33 305 ⇑P **P 13 59 14.8 0.0**
comp=Z,4.7nm,0.9s
IKL Isikli 89.46 306 *e*P **P 13 59 15.8 +0.4**
KZIT Kziot 89.51 301 P **P 13 59 15.3 -0.4**
SAFT Safranbolu 89.59 311 *e*P **P 13 59 14.6 -1.2**

ANTO Ankara 89.69 310 *e*P **P** **13 59 16.1 -0.3**
ANTO Ankara 89.69 310 ⇓P **P** **13 59 16.4 0.0**
SNR=79
ANTO Ankara 89.69 310 *e*P **P** **13 59 15.3 -1.0**
ANTO pmax pmax
comp=Z,276nm,1.3s,mb6.4
ANTO MLR MLR
comp=Z,5μm,20.0s,MS5.9
ANTO Ankara 89.69 310 ⇓*i*P **P** **13 59 16.9 +0.6**
ANTO Ankara 89.69 310 *e*P **P** **13 59 15.3 -1.0**
comp=Z,276nm,1.3s,mb6.4
ANTO LR LR
comp=Z,5μm,20.0s,MS5.9
LFK Lefkose 89.70 305 *e*P **P** **13 59 16.9 +0.4**
LOD Lodumlu 89.71 310 *e*P **P** **13 59 13.9 -2.6**
KAF Kangasniemi 89.83 333 *e*p **P** **13 59 15.1 -1.4**
comp=Z,94nm,0.8s,mb6.2,baz=72,slow=4.3
KAF Kangasniemi 89.83 333 *e*P **P** **13 59 15.1 -1.4**
KAF pmax pmax
comp=Z,94nm,0.8s,mb6.2
CSS Prodhromos 89.90 305 ⇑P **P** **13 59 16.7 -0.8**
comp=Z,4,5nm,1.1s
CSS Prodhromos 89.90 305 ⇑*i*P **P** **13 59 17.1 -0.4**
CSS Prodhromos 89.90 305 ⇑*i*P **P** **13 59 16.7 -0.8**
MAMC Mammari 89.97 305 P **P** **13 59 17.6 -0.2**
LEF Lefka 90.24 305 *e*P **P** **13 59 19.1 0.0**
LADK Ladik-KONYA 90.25 308 *e*P **P** **13 59 18.3 -0.7**
KONT Konya--Tatoy 90.28 308 *e*P **P** **13 59 18.2 -1.0**
KMBO Kilima Mbogo 90.31 269 P **P** **13 59 20.1 +0.4**
comp=Z,172nm,1.1s,mb6.3,baz=65,slow=5.2,SNR=129
KMBO S S 14 09 56.4 -17
comp=Z,1.3nm,0.5s,baz=342,slow=22,SNR=5.6
KMBO PKKPbc PKKPbc 14 16 47.3 -1.2
comp=Z,3.7nm,0.3s,baz=67,slow=22,SNR=6.2
KMBO LR LR 14 41 00.1
comp=Z,5μm,18.7s,MS5.9,baz=91,slow=36
HDMB Hadim 90.32 307 *e*P **P** **13 59 18.2 -1.2**
CRAG Craig 90.34 34 *e*P **P** **13 59 20.0 +1.0**
comp=Z,647nm,2.3s,mb6.5
CRAG LR LR
comp=Z,4μm,18.0s,MS5.8
VSU Vasula 90.41 329 *i*P **P** **13 59 17.6 -1.7**
VSU Vasula 90.41 329 *i*P **P** **13 59 17.6 -1.7**
ALFC Alevga 90.47 305 P **P** **13 59 19.0 -1.1**
comp=Z,3.9nm,0.7s
KDZE Karadeniz Ereo 90.50 311 *e*P **P** **13 59 18.6 -1.5**
AKASG Malin Array Be 90.51 321 P **P** **13 59 17.6 -2.3**
comp=Z,114nm,0.8s,mb6.3,baz=67,slow=4.4,SNR=247
AKASG PKKPbc PKKPbc 14 16 45.5 -3.6
comp=Z,1.4nm,0.5s,baz=261,slow=3.3,SNR=8.8
AKASG PKPPKP 14 24 52.3
comp=Z,0.2nm,0.3s,baz=244,slow=1.7,SNR=5.5
AKASG LR LR 14 45 39.9
comp=Z,11μm,19.2s,MS6.3,baz=95,slow=39
KIEV Kiev 90.52 321 *e*P **P** **13 59 17.4 -2.6**
KIEV pmax pmax
comp=Z,308nm,1.0s,mb6.6
KIEV MLR MLR
comp=Z,12μm,19.0s,MS6.3
KIEV Kiev 90.52 321 *e*P **P** **13 59 17.4 -2.5**
comp=Z,308nm,1.0s,mb6.6
KIEV LR LR
comp=Z,12μm,19.0s,MS6.3
KIZT Kizilcal 90.53 309 *e*P **P** **13 59 19.1 -1.2**
WRAK Wrangell Islan 90.57 33 *e*P **P** **13 59 19.9 -0.2**
comp=Z,213nm,1.1s,mb6.4
WRAK LR LR
comp=Z,5μm,20.0s,MS6.0
MNK Minsk 90.63 325*d i*P **P** **13 59 17.0 -3.4**
MNK *e* 14 02 54.0
MNK *e*PPP 14 04 50.0
MNK *e* 14 09 46.0
MNK *e*S S 14 10 10.0 -4.8
MNK pmax pmax
comp=Z,18μm,7.0s
MNK pmax pmax
comp=Z,2μm,2.0s,mb7.0
MNK pmax pmax
comp=E,540nm,1.6s
MNK MLR MLR
comp=Z,23μm,18.0s,MS6.7
MNK MLR MLR
comp=E,19μm,18.0s
TRO Tromso 90.66 341 ⇓*i*P **P** **13 59 19.1 -1.1**
TRO *e*SKS 14 09 49.4
TRO *e* 14 11 08.9
TRO AMS AMS 14 48 44.9
comp=Z,8μm,19.6s,MS6.1
PPCY Paphos 90.72 305 P **P** **13 59 21.6 +0.3**
IDID Didziasalis 91.08 326 *e*P **P** **13 59 22.4 -0.1**
IDID AMb AMB 13 59 26.3
comp=Z,72nm,1.0s,mb5.9
IZAR Zarasai 91.26 326 *e*P **P** **13 59 23.2 -0.1**
IZAR AMb AMB 13 59 27.9
comp=Z,71nm,1.4s,mb5.8
BOLV Bolvadin 91.27 309 *i*P **P** **13 59 24.3 +0.5**
DLBC Dease Lake 91.35 31 *e*P **P** **13 59 24.1 +0.5**
IIGN Ignalina 91.36 326 *e*P **P** **13 59 23.7 -0.1**
IIGN AMb AMB 13 59 27.7
comp=Z,51nm,1.2s,mb5.7
SHUT Suhut-Afyon 91.60 309 *e*P **P** **13 59 25.2 -0.1**
BCK Bucak 91.74 308 *e*P **P** **13 59 24.3 -1.7**
ISP Isparta 91.75 308 *e*P **P** **13 59 24.6 -1.4**
ISP Isparta 91.75 308 *e*P **P** **13 59 24.7 -1.3**
TLCR 91.76 316 ⇑*i*P **P** **13 59 26.3 +0.4**
TLCR 91.76 316 P **P** **13 59 25.1 -0.8**
ANTB Antalya 91.78 307 *e*P **P** **13 59 24.9 -1.3**
ALT Altintas 91.86 309 *e*P **P** **13 59 26.3 -0.2**
SILT Sile 91.87 312 *e*P **P** **13 59 25.8 -0.7**
HRT Hereke 91.91 311 *e*P **P** **13 59 25.5 -1.2**
ADVT Abdulvahap 91.92 311 *e*P **P** **13 59 26.0 -0.7**
YLV Yalova 92.17 311 *e*P **P** **13 59 27.2 -0.6**
TIRR Tirgusor 92.18 315 *e*P **P** **13 59 25.9 -1.9**
TIRR pmax pmax
comp=Z,250nm,1.1s,mb6.5
TIRR Tirgusor 92.18 315 ⇓*i*P **P** **13 59 27.7 -0.1**
TIRR Tirgusor 92.18 315 *e*P **P** **13 59 25.9 -2.0**
comp=Z,250nm,1.1s,mb6.5
KLYT Kilyos 92.30 312 *e*P **P** **13 59 28.4 -0.1**
ISK Istanbul-Kandi 92.32 312 *e*P **P** **13 59 28.4 -0.1**
GEMT Gemlik 92.33 311 *e*P **P** **13 59 27.7 -1.0**
ELL Elmali 92.39 307 *e*P **P** **13 59 28.6 -0.4**
KHL Karahalli 92.44 309 *e*P **P** **13 59 27.9 -1.2**
CVD Cernavoda 92.47 315 ⇓*i*P **P** **13 59 29.9 +0.7**
CVD Cernavoda 92.47 315 ⇓P **P** **13 59 29.9 +0.8**
PSN Preseletsi 92.48 314 P **P** **13 59 29.7 +0.5**
BGKT Bogazkoy 92.51 312 *e*P **P** **13 59 28.4 -1.0**
AKAS Kas 92.72 307 *i*P **P** **13 59 30.5 0.0**
SLAT Slait 92.91 286 *i*P **P** **13 59 31.3 -0.5**
SLAT AMb AMB 13 59 35.5
comp=Z,560nm,1.8s,mb6.7
SLAT *i*S SKSac 14 10 00.9 -4.0
SLVT Silivri 92.92 312 *e*P **P** **13 59 30.8 -0.6**
LOF Lofoten 93.03 340 *e*P **P** **13 59 32.0 +0.8**
LOF AMb AMB 13 59 36.6
comp=Z,533nm,1.6s,mb6.7
LOF Lofoten 93.03 340 *e*P **P** **13 59 32.0 +0.8**
comp=Z,533nm,1.6s,mb6.7
KULA Kula-Manisa 93.07 309 *e*P **P** **13 59 31.6 -0.5**
VRI Vrincioaia 93.07 317 ⇓*i*P **P** **13 59 32.6 +0.7**
VRI Vrincioaia 93.07 317 P **P** **13 59 31.4 -0.5**
PLOR Plostina 93.13 317 P **P** **13 59 31.8 -0.4**
PLOR Plostina 93.13 317 ⇑*i*P **P** **13 59 33.0 +0.8**
PRD Provadia 93.14 314 P **P** **13 59 31.5 -0.8**
JAWL J.Aulia 93.18 286 *i*P **P** **13 59 26.1 -6.9**
JAWL AMb AMB 13 59 29.5
comp=Z,509nm,1.8s,mb6.7
CRLT Corlu 93.29 312 *e*P **P** **13 59 32.6 -0.4**
TAOE Nuku Hiva Isla 93.29 99 *e*PP PP 14 03 16.5 -1.2
comp=Z,4μm,24.4s
TAOE *e*S S 14 10 35.9 -4.4
comp=Z,12μm,25.5s
TAOE Nuku Hiva Isla 93.29 99 *e*PS PS 14 11 55.3 -0.6
comp=Z,50μm,26.6s
TAOE *e*SS SS 14 16 55.7 -1.0
comp=Z,19μm,27.1s
TAOE Nuku Hiva Isla 93.29 99 *e*LR LR 14 29 23.5
comp=Z,145μm,26.5s,baz=285
TAOE Nuku Hiva Isla 93.29 99 *e*P **P** **13 59 34.5 +0.9**
comp=Z,720nm,1.1s,mb7.0
TAOE *e*PP PP 14 03 16.5 -1.2
TAOE *e*S S 14 10 35.9 -4.4
TAOE *e*PS PS 14 11 55.3 -0.6
TAOE *e*SS SS 14 16 55.7 -1.0

BNT Bandirma 93.30 311 *e*P **P** **13 59 32.1 -1.0**
DALT Dalyan (Mudla) 93.40 307 *e*P **P** **13 59 33.3 -0.3**
SUW Suwalki 93.40 325 *e*P **P** **13 59 32.5 -0.7**
comp=Z,1μm,1.5s,mb7.0
SUW *e*PP PP 14 03 19.0 +1.9
SUW *e*SKSac SKSac 14 10 00.5 -5.6
SUW *e*S S 14 10 40.6 +0.9
SUW *e*SP SP 14 11 52.4 +0.4
SUW LMZ 14 45 09.3
comp=Z,12μm,18.3s
SUW Suwalki 93.40 325 ⇓*e*P **P** **13 59 32.5 -0.7**
SUW *e*PP PP 14 03 19.0 +1.8
SUW *e*SKSac SKSac 14 10 00.5 -5.6
SUW *e*S S 14 10 40.6 +0.9
SUW *e*SP SP 14 11 52.4 +0.5
BALB Balikesir 93.46 310 *e*P **P** **13 59 33.3 -0.6**
TKR Tekirdag 93.47 312 *e*P **P** **13 59 33.3 -0.5**
MOR8 Moi Rana 93.51 338 *e*P **P** **13 59 31.1 -2.4**
MOR8 AMb AMB 13 59 33.9
comp=Z,254nm,1.3s,mb6.5
MOR8 Moi Rana 93.51 338 *e*P **P** **13 59 31.1 -2.4**
comp=Z,254nm,1.3s,mb6.5
YER Yerkesik 93.61 308 *e*P **P** **13 59 34.3 -0.3**
BALY Balya 93.64 310 *i*P **P** **13 59 33.5 -1.2**
AKHS Akhisar 93.66 310 *i*P **P** **13 59 34.6 -0.2**
MLR Muntele Rosu 93.69 316 ⇓*i*P **P** **13 59 35.1 +0.3**
MLR Muntele Rosu 93.69 316 P **P** **13 59 34.5 -0.2**
MFT Murefte 93.70 312 *e*P **P** **13 59 34.3 -0.6**
BURAR Bucovina Array 93.71 318 ⇓*i*P **P** **13 59 35.6 +0.8**
BURAR Bucovina Array 93.71 318 P **P** **13 59 34.4 -0.4**
RKY Sarkoy-Tekirda 93.79 311 *e*P **P** **13 59 34.6 -0.7**
AYDN Tasoluk 93.83 308 *i*P **P** **13 59 37.2 +1.6**
JMB Yambol 93.87 313 *e*P **P** **13 59 35.0 -0.7**
JMB Yambol 93.87 313 P **P** **13 59 35.4 -0.3**
ARG Arkhangelos 93.90 307 *e*P **P** **13 59 36.0 0.0**
LVV L'vov 93.95 321 ⇑*i*P **P** **13 59 36.0 +0.1**
LVV *e* 14 03 24.8
LVV *e* 14 10 08.0
LVV *e*S S 14 10 43.4 -1.3
LVV *e*PS PS 14 11 56.2 -5.5
LVV *e*SS SS 14 16 57.0 -6.9
STOK Stokkvaagen 93.97 338 *e*P **P** **13 59 34.4 -1.2**
STOK AMb AMB 13 59 36.9
comp=Z,320nm,1.4s,mb6.6
STOK Stokkvaagen 93.97 338 *e*P **P** **13 59 34.4 -1.2**
comp=Z,320nm,1.4s,mb6.6
MLSB Milas 93.98 308 *e*P **P** **13 59 36.2 -0.1**
LPK Lapseki 94.17 311 *e*P **P** **13 59 37.0 0.0**
IZM Izmir 94.17 309 *e*P **P** **13 59 37.5 +0.4**
SZH Strazhica 94.17 314 P **P** **13 59 36.6 -0.4**
BDRM Kayabasi 94.28 308 *i*P **P** **13 59 38.4 +0.7**
BLCB Balcova 94.34 309 *e*P **P** **13 59 37.7 -0.2**
BODT Bodrum 94.39 308 *e*P **P** **13 59 37.5 -0.7**
AYVA Ayvalik 94.43 310 *i*P **P** **13 59 38.9 +0.6**
ZIMR 94.49 315 P **P** **13 59 39.2 +0.7**
ENEZ Enez 94.55 312 *e*P **P** **13 59 38.3 -0.5**
ALN Alexandroupoli 94.59 312 *e*P **P** **13 59 37.0 -2.0**
EZN Ezine 94.60 311 *e*P **P** **13 59 38.5 -0.6**
PVL Pavlikeni 94.61 314 P **P** **13 59 39.7 +0.6**
SMG Samos 94.64 309 *e*P **P** **13 59 39.0 -0.3**
PRK Paraskevi 94.76 310 *e*P **P** **13 59 38.0 -1.8**
PRK Paraskevi 94.76 310 *e*P **P** **13 59 39.5 -0.3**
KARP Karpathos 94.80 306 *e*P **P** **13 59 40.0 -0.1**
BOZC Bozcaada 94.81 311 *i*P **P** **13 59 39.4 -0.6**
KWP Kalwaria 94.83 321 *e*P **P** **13 59 40.3 +0.4**
comp=Z,1μm,1.5s,mb7.2
KWP *e*pP pP 13 59 46.3 -1.5
KWP *e*PP PP 14 03 33.7 +5.2
KWP *e*SP SP 14 12 18.0 +10
KWP LMZ 14 48 46.8
comp=Z,10μm,21.4s
KWP Kalwaria 94.83 321 ⇓*i*P **P** **13 59 40.4 +0.5**
KWP Kalwaria 94.83 321 ⇓*e*P **P** **13 59 40.3 +0.4**
KWP *e*pP pP 13 59 46.3 -1.4
KWP *e*PP PP 14 03 33.7 +5.2
KWP *e*SP SP 14 12 18.0 +10
KWP LR LR
comp=Z,9μm,20.0s,MS6.2
GADA Gvkgeada 94.85 311 *e*P **P** **13 59 39.9 -0.3**
SYO Syowa Base 94.89 201 ⇑*e*P **P** **13 59 38.3 -1.4**
SYO Syowa Base 94.89 201 ⇓*i*PcP PcP 13 59 40.5 +0.5
SYO Syowa Base 94.89 201 *e*SH SKSac 14 10 10.6 -2.9
RDO Rodhopi 94.91 312 *e*P **P** **13 59 40.0 -0.5**
DAG Danmarks Havn 95.00 353 ⇑*e*P **P** **13 59 38.1 -2.1**
DAG pmax pmax
comp=Z,139nm,0.8s,mb6.4
DAG MLR MLR
comp=Z,6μm,18.0s,MS6.1
DAG Danmarks Havn 95.00 353 ⇑*i*P **P** **13 59 38.1 -2.1**
comp=Z,138nm,0.8s,mb6.4
DAG
comp=Z,6μm,18.0s
DAG Danmarks Havn 95.00 353 ⇑*e*P **P** **13 59 38.1 -2.1**
comp=Z,139nm,0.8s,mb6.4
DAG LR LR
comp=Z,6μm,18.0s,MS6.1
CHOS Chios island 95.10 309 *e*P **P** **13 59 40.7 -0.7**
WAR Warsaw 95.14 324 *e*P **P** **13 59 41.9 +0.7**
WAR *e*SKSac SKSac 14 10 13.9 -1.7
WAR *e*S S 14 10 58.3 +3.4
WAR *e*SP SP 14 12 10.1 -1.1
WAR LMZ 14 45 57.2
comp=Z,11μm,18.3s
WAR Warsaw 95.14 324 *e*P **P** **13 59 41.9 +0.7**
WAR *e*SKSac SKSac 14 10 13.9 -1.7
WAR *e*S S 14 10 58.3 +3.4
WAR *e*SP SP 14 12 10.1 -1.0
WAR LR LR
comp=Z,11μm,18.3s,MS6.4
NSS Namsos 95.14 337 *e*P **P** **13 59 38.7 -2.3**
NSS AMb AMB 13 59 41.1
comp=Z,223nm,1.5s,mb6.4
NSS *e*PP PP 14 03 30.9 +0.5
NSS *e*SKS 14 10 16.4
NSS AMS AMS 14 49 01.4
comp=Z,10μm,18.4s,MS6.3
NSS Namsos 95.14 337 *e*P **P** **13 59 38.7 -2.3**
comp=Z,223nm,1.5s,mb6.4
NSS LR LR
comp=Z,10μm,18.4s,MS6.3
KOLS Kolonicke sedl 95.29 320 *i*P **P** **13 59 42.1 +0.1**
KOLS *e* 14 03 34.4
KOLS *i*S SKSac 14 10 10.2 -6.3
KOLS *e*SS SS 14 17 21.5 -1.5
KOLS Kolonicke sedl 95.29 320 *i*P **P** **13 59 42.0 0.0**
KOLS *e*PP PP 14 03 34.4 +2.4
KOLS *e*SKP 14 07 51.3
KOLS *i*SKS 14 10 10.2
KOLS *e*SS SS 14 17 21.4 -1.6
KOLS Kolonicke sedl 95.29 320 *i*P **P** **13 59 42.1 +0.1**
KOLS *e*PP PP 14 03 34.4 +2.4
KOLS *e* 14 07 51.3
KOLS *i*S SKSac 14 10 10.2 -6.3
KOLS *e*SS SS 14 17 21.5 -1.5
PLD Plovdiv 95.31 313 *e*P **P** **13 59 40.6 -1.6**
UZH Uzhgorod 95.36 320*d i*P **P** **13 59 41.8 -0.5**
UZH *i* 14 03 37.0
UZH *e*PPP 14 05 41.0
UZH *e* 14 10 14.0
UZH *i*S S 14 10 55.0 -2.0
UZH *e*SS SS 14 17 27.0 +3.1
RES Resolute Bay 95.36 10 *e*P **P** **13 59 41.8 0.0**
comp=Z,3μm,1.1s
RZN Rozhen 95.40 313 P **P** **13 59 41.8 -0.9**
CRAR CRAIOVA 95.44 316 P **P** **13 59 42.9 +0.1**
LOS Limnos 95.52 311 *e*P **P** **13 59 42.0 -1.3**
DRGR 95.56 318 ⇓*i*P **P** **13 59 44.0 +0.7**
DRGR 95.56 318 P **P** **13 59 42.6 -0.7**
PGB Panagyurishte 95.60 314 P **P** **13 59 43.0 -0.6**
ZKR Zakros 95.64 306 *e*P **P** **13 59 42.6 -1.3**
APE Apeiranthos 95.78 308 *e*P **P** **13 59 42.4 -2.1**
APE Apeiranthos 95.78 308 *e*P **P** **13 59 43.0 -1.6**
APE Apeiranthos 95.78 308 ⇓*i*P **P** **13 59 43.4 -1.2**
STHS Stebnicka Huta 95.81 321 *i*P **P** **13 59 44.0 -0.4**
STHS pmax pmax
comp=Z,129nm,1.5s,mb6.1
STHS Stebnicka Huta 95.81 321 *i*P **P** **13 59 44.0 -0.4**
comp=Z,129nm,1.5s,mb6.1
CRVS Cervenica-Dubn 95.81 320 *i*P **P** **13 59 44.1 -0.3**
CRVS *i*PP PP 14 03 35.7 -0.4
CRVS *i*S S 14 10 51.2 -10
CRVS *e*SS SS 14 17 31.6 +1.2

GZR Gura Zlata 95.88 317 ⇑*i*P **P** **13 59 44.9 +0.1**
GZR Gura Zlata 95.88 317 P **P** **13 59 45.4 +0.6**
SANT Santorini 95.98 307 *e*P **P** **13 59 43.3 -2.2**
SANT Santorini 95.98 307 P **P** **13 59 43.3 -2.2**
SANT LR LR
comp=Z,3μm,22.0s,MS5.7
THR1 Thera Island 95.98 307 *e*P **P** **13 59 43.5 -2.0**
QSPA South Pole Qui 96.00 180 P **P** **13 59 44.4 -0.2**
comp=Z,23nm,0.6s,mb5.8,baz=315,slow=1.0,SNR=150
QSPA S SKSac 14 10 15.7 -3.4
comp=Z,4.3nm,1.0s,baz=126,slow=1.2,SNR=3.2
THR3 Thira Island, 96.02 308 *e*P **P** **13 59 44.8 -0.9**
NPS Neapolis 96.09 306 *e*P **P** **13 59 46.0 0.0**
NVR Nevrokopi 96.10 313 *e*P **P** **13 59 45.0 -0.9**
MMB Musomiste 96.14 313 P **P** **13 59 44.9 -1.2**
LAST Lasithi 96.22 306 *e*P **P** **13 59 46.6 0.0**
OUR Ouranopolis 96.25 312 *e*P **P** **13 59 43.2 -3.4**
HFS Hagfors 96.25 333 P **P** **13 59 44.8 -1.3**
comp=Z,143nm,0.9s,mb6.4,baz=66,slow=4.0,SNR=103
VTS Vitosha 96.28 314 ⇓*i*P **P** **13 59 46.6 -0.1**
VTS Vitosha 96.28 314 P **P** **13 59 47.5 +0.8**
SRS Serrai 96.35 312 *e*P **P** **13 59 44.9 -2.2**
NIE Niedzica 96.39 321 *e*P **P** **13 59 46.9 -0.1**
OJC Ojcow 96.47 322 *i*P **P** **13 59 47.6 +0.3**
OJC *e*pP pP 13 59 49.9 -5.3
OJC *e*PP PP 14 03 43.5 +2.4
OJC *e*SKSac SKSac 14 10 19.8 -2.9
OJC *e*S S 14 11 07.2 +0.7
OJC *e*SS SS 14 17 39.6 0.0
OJC L 14 48 45.3
comp=Z,12nm,19.6s
KECS Kecovo 96.55 320 *i*P **P** **13 59 46.7 -1.1**
KECS pmax pmax
comp=Z,49nm,1.0s,mb5.9
KECS Kecovo 96.55 320 *i*P **P** **13 59 46.7 -1.1**
comp=Z,49nm,1.0s,mb5.9
PAIG Paliouri 96.57 311 *e*P **P** **13 59 45.3 -2.7**
AOS Alonnisos 96.59 310 *e*P **P** **13 59 46.5 -1.7**
SOH Sokhos 96.60 312 *e*P **P** **13 59 46.8 -1.4**
BZS Buzias 96.61 317 ⇓*i*P **P** **13 59 48.0 -0.1**
BZS Buzias 96.61 317 P **P** **13 59 48.3 +0.2**
PLG Polygyros 96.64 312 *e*P **P** **13 59 46.0 -2.4**
PLG Polygyros 96.64 312 *e*P **P** **13 59 47.0 -1.4**
IDI Anoyia 96.66 306 P **P** **13 59 47.6 -1.0**
baz=52,slow=7.7
IDI PKKPbc PKKPbc 14 16 33.7 +1.2
comp=Z,10nm,0.9s,baz=115,slow=5.2,SNR=5.2
IDI PKPPKP 14 24 45.6
comp=Z,7.0nm,1.0s,baz=292,slow=5.9,SNR=2.9
SIVA Sivas 96.78 306 *e*P **P** **13 59 48.8 -0.4**
HORT Hortiatis 96.84 312 *e*P **P** **13 59 47.4 -1.8**
THE Thessaloniki 96.93 312 *e*P **P** **13 59 47.4 -2.3**
NB2 NORSAR Subarra 96.98 334 P **P** **13 59 46.7 -2.7**
comp=Z,82nm,0.8s,mb6.2,baz=67,slow=4.6
NB2 NORSAR Subarra 96.98 334 P **P** **13 59 48.0 -1.4**
NOA NORSAR Array B 96.98 334 P **P** **13 59 47.3 -2.2**
comp=Z,50nm,0.9s,mb5.9,baz=64,slow=4.6,SNR=73
NOA PP PP 14 03 38.1 -6.6
comp=Z,17nm,0.9s,baz=72,slow=8.7,SNR=5.0
NOA PKKPbc PKKPbc 14 16 31.4 -1.1
comp=Z,2.3nm,0.7s,baz=72,slow=3.1,SNR=12
NOA LR LR 14 49 54.3
comp=Z,8μm,18.7s,MS6.2,baz=65,slow=39
NOA NORSAR Array B 96.98 334 P **P** **13 59 47.3 -2.1**
NOA PP PP 14 03 38.1 -6.6
NOA PKKPbc PKKPbc 14 16 31.4 -1.2
NOA LR LR 14 49 54.3
GKP Gorka Klasztor 97.00 325 *e*P **P** **13 59 49.3 -0.4**
comp=Z,700nm,2.0s,mb6.7
GKP *e*SKSac SKSac 14 10 23.3 -2.0
GKP *e*S S 14 11 10.0 -1.0
GKP *e*SP SP 14 12 26.6 -4.8
GKP LMZ 14 47 11.2
comp=Z,16μm,19.2s
GKP Gorka Klasztor 97.00 325 ⇓*e*P **P** **13 59 49.3 -0.4**
GKP *e* 14 10 23.3
GKP *e*S S 14 11 10.0 -1.0
GKP *e*SP SP 14 12 26.6 -4.8
GKP pmax pmax
comp=Z,100nm,2.0s,mb5.9
GKP MLR MLR
comp=Z,16μm,19.2s,MS6.5
GKP Gorka Klasztor 97.00 325 ⇓*e*P **P** **13 59 49.3 -0.4**
comp=Z,0.7nm,2.0s
GKP *e*SKSac SKSac 14 10 23.3 -2.0
GKP *e*S S 14 11 10.0 -1.0
GKP *e*SP SP 14 12 26.6 -4.8
GKP LR LR
comp=Z,16μm,19.2s
VAY Valandovo 97.05 313 *e*P **P** **13 59 48.1 -2.1**
VAY Valandovo 97.05 313 *i*P **P** **13 59 47.8 -2.4**
VAY *i* 14 10 15.1
VAY *i*1 14 10 52.4
YKA Yellowknife Ar 97.05 24 P **P** **13 59 48.4 -1.3**
comp=Z,33nm,0.9s,mb5.8,baz=299,slow=4.7,SNR=63
YKA PP PP 14 03 49.8 +4.6
comp=Z,15nm,1.1s,baz=304,slow=7.5,SNR=7.4
YKA PKKPbc PKKPbc 14 16 26.0 -6.4
comp=Z,3.6nm,0.6s,baz=115,slow=2.6,SNR=10
YKA LR LR 14 44 45.4
comp=Z,5μm,21.2s,MS6.0,baz=260,slow=36
YKA Yellowknife Ar 97.05 24 P **P** **13 59 48.4 -1.3**
YKA 14 03 49.8
YKA Yellowknife Ar 97.05 24 P **P** **13 59 48.4 -1.3**
YKA PP PP 14 03 49.8 +4.6
YKA PKKPbc PKKPbc 14 16 26.0 -6.4
YKA LR LR 14 44 45.4
XOR Xorichti 97.07 311 *e*P **P** **13 59 47.1 -3.2**
PSZ Piszkesteto 97.09 320 P **P** **13 59 49.8 -0.4**
PSZ MLR MLR
comp=Z,7μm,19.0s,MS6.2
PSZ Piszkesteto 97.09 320 ⇓*e*P **P** **13 59 50.2 0.0**
PSZ Piszkesteto 97.09 320 ⇓*i*P **P** **13 59 50.3 +0.1**
PSZ Piszkesteto 97.09 320 P **P** **13 59 49.8 -0.4**
PSZ LR LR
comp=Z,7μm,19.0s,MS6.2
VAM Vamos 97.19 307 *e*P **P** **13 59 50.5 -0.5**
BARS Barje 97.21 314 P **P** **13 59 49.7 -1.2**
NAO01 NORSAR Array S 97.21 334 PFAKE 14 00 00.0 +10
NAO01 LR LR
comp=Z,10μm,20.0s,MS6.3
GRG Griva 97.27 312 *e*P **P** **13 59 49.7 -1.5**
C03A Quillayute Air 97.36 40 ⇓P **P** **13 59 53.6 +2.1**
baz=97,SNR=13
LKR Lokris 97.38 310 *e*P **P** **13 59 49.4 -2.4**
LIT Litokhoron 97.41 312 *e*P **P** **13 59 50.2 -1.7**
KARN Karanos 97.42 307 *e*P **P** **13 59 51.7 -0.3**
DID Didima 97.47 309 *e*P **P** **13 59 49.1 -3.1**
RAC Raciborz 97.49 322 *e*P **P** **13 59 52.9 +0.9**
RAC MLR MLR
comp=Z,10μm,19.0s,MS6.3
LTK Loutraki 97.56 310 *e*P **P** **13 59 49.7 -2.8**
OKC Ostrava-Krasne 97.60 322 *e*P **P** **13 59 53.0 +0.5**
OKC *e* 14 03 53.2
OKC *e*SP SP 14 12 36.4 -1.8
OKC Ostrava-Krasne 97.60 322 *e*P **P** **13 59 53.0 +0.5**
OKC *e*x x 14 00 23.3
OKC *e*PP PP 14 03 53.2 +3.4
OKC *e*SKS 14 10 36.9
OKC *e*S S 14 11 20.8 +4.5
OKC *e*SP SP 14 12 36.4 -1.8
OKC AMS AMS 14 49 10.0
comp=Z,6μm,16.8s
OKC Ostrava-Krasne 97.60 322 *e*Pdif **P** **13 59 53.0 +0.5**
OKC *e* 14 00 23.3
OKC *e*PP PP 14 03 53.2 +3.4
OKC *e*SKS 14 10 36.9
OKC *e*Sdif S 14 11 20.8 +4.5
OKC *e*SP SP 14 12 36.4 -1.8
JNW Jan Mayen West 97.67 347 *e*P **P** **13 59 54.0 +1.6**
SKO Skopje 97.70 314 *e*P **P** **13 59 52.7 -0.4**
SKO Skopje 97.70 314 *i*P **P** **13 59 52.4 -0.8**
SKO *i* 14 10 23.4
SKO *i*1 14 11 05.4
JMIC Jan Mayen 97.72 347 P **P** **13 59 51.8 -0.8**
comp=Z,50nm,0.7s,mb6.2,baz=155,slow=2.0,SNR=5.6
JMIC Jan Mayen 97.72 347 *e*P **P** **13 59 52.6 0.0**
JMIC *e*PP PP 14 03 49.5 -0.6
JMIC *e*SKS 14 10 29.9
AGG Agios Georgios 97.80 311 *e*P **P** **13 59 50.3 -3.3**
MOL Molde 97.81 336 *e*P **P** **13 59 54.6 +1.5**
MOL *e*SKS 14 10 27.9
MOL AMS AMS 14 50 19.7

comp=Z,12µm,16.7s,MS6.4
KOLL Kolacno 97.84 321 *i* P **P 13 59 53.8 +0.2**
PGC Sidney 97.86 39 *e*P **P 13 59 51.9 -1.7**
comp=Z,228nm,1.3s,mb6.5
VLI Velíai 97.89 308 *e*P **P 13 59 56.0 +1.9**
KZN Kozani 97.89 312 *e*P **P 13 59 53.0 -1.0**
THL Klokotos Trika 97.90 311 *e*P **P 13 59 50.1 -4.0**
THL Klokotos Trika 97.90 311 *e*P **P 13 59 51.5 -2.6**
OSD Olympics--Snow 97.96 40 P **P 13 59 56.4 +2.3**
NLWA Neilton Lookou 97.98 41 ⇓P **P 13 59 56.0 +1.7**
baz=98,SNR=21
NLWA Neilton Lookou 97.98 41 *e*P **P 13 59 54.3 +0.1**
comp=Z,132nm,1.1s,mb6.4
NLWA LR LR
comp=Z,6µm,21.0s,MS6.1
MORC Moravsky Berou 97.99 322 ⇓*i*P **P 13 59 54.9 +0.7**
MORC Moravsky Berou 97.99 322 P **P 13 59 54.4 +0.1**
KRUS Krusevo 98.00 313 ⇑*i*P **P 13 59 52.4 -2.1**
B04A Port Angeles 98.01 40 ⇑P **P 13 59 55.9 +1.6**
baz=98,SNR=26
VGZ Gonzales 98.01 39 P **P 13 59 55.2 +0.9**
BIA Bitola 98.04 313 *e*P **P 13 59 52.6 -2.1**
BIA Bitola 98.04 313 *i* P **P 13 59 52.5 -2.1**
FNA Florina 98.06 313 *e*P **P 13 59 52.8 -2.0**
D03A Wishkah Elem. 98.13 41 ⇑P **P 13 59 56.9 +2.0**
baz=98,SNR=19
DIVS Divibare 98.14 316 *e*P **P 13 59 54.6 -0.4**
VLX Vlachokerasia 98.17 309 *e*P **P 13 59 54.0 -1.4**
MCW Mount Constitu 98.23 39 P **P 13 59 56.6 +1.2**
A04A Legoe Bay, Lum 98.30 39 ⇓P **P 13 59 57.1 +1.5**
baz=98,SNR=18
KONO Kongsberg 98.33 333 *e*P **P 13 59 53.7 -1.8**
KONO *e*PP PP 14 03 54.1 -1.0
KONO *e*SKS 14 10 30.8
KONO AMS AMS 14 49 36.0
comp=Z,11µm,19.7s,MS6.3
KONO Kongsberg 98.33 333 *e*P **P 13 59 53.7 -1.8**
KONO *e* 14 03 54.5
KONO LR LR
comp=Z,11µm,19.7s,MS6.3
KSP Ksiaz 98.38 323 *e*P **P 13 59 56.4 +0.5**
comp=Z,1µm,1.7s,mb7.1
KSP *e*PP PP 14 03 57.5 +1.7
KSP *e*SKSac SKSac 14 10 30.9 -1.7
KSP *e*S S 14 11 21.4 -1.4
KSP *e*SP SP 14 12 42.4 -4.2
KSP LMZ 14 48 20.2
comp=Z,22µm,18.7s
KSP Ksiaz 98.38 323 *e*P **P 13 59 55.2 -0.8**
KSP *e*PP PP 14 03 49.5 -6.3
KSP *e*SKS 14 10 28.5
KSP *e*S S 14 11 17.0 -5.9
KSP *e*SP SP 14 12 41.5 -5.1
KSP LR LR
comp=Z,26µm,18.7s,MS6.8
OHR Ohrid 98.39 313 *e*P **P 13 59 52.5 -3.8**
OHR Ohrid 98.39 313 *i* P **P 13 59 52.3 -3.9**
OHR *i* 14 10 27.6
OHR *i* 1 14 11 12.9
PKSM Moragy 98.42 318 ⇓*i*P **P 13 59 56.2 -0.1**
PKSM Moragy 98.42 318 P **P 13 59 56.1 -0.2**
MEV Metsovon 98.43 312 *e*P **P 13 59 55.9 -0.5**
E03A Lebam 98.44 41 ⇑P **P 13 59 57.8 +1.4**
baz=98,SNR=17
C04A Brinnon 98.46 40 ⇓P **P 13 59 58.0 +1.6**
baz=98,SNR=23
DPC Dobruska-Polom 98.53 323 *e*P **P 13 59 56.5 -0.2**
DPC *e*x x 14 00 27.6
DPC *e*PP PP 14 04 00.1 +3.1
DPC *e*SKS 14 10 30.5
DPC *e*S S 14 11 26.7 +2.5
DPC *e*SP SP 14 12 43.4 -4.9
DPC AMS AMS 14 49 40.0
comp=Z,10µm,17.2s
IVA Berane 98.55 315 ⇑*i*PKP **P 13 59 57.1 +0.2**
ITM Ithomi 98.56 309 *e*P **P 13 59 56.0 -1.1**
BCI Bajram Curri 98.58 314 *e*PN **P 13 59 56.2 -0.8**
PVY Plav 98.58 315 ⇑*i*PKP **P 13 59 57.2 +0.1**
A05A Maple Falls 98.60 39 ⇓P **P 13 59 57.9 +0.9**
baz=98,SNR=16
GNW Green Mountain 98.60 40 P **P 13 59 57.0 -0.1**
MODS Modra-Piesok 98.62 321 *i* P **P 13 59 57.1 0.0**
MODS *e* 14 03 57.7
MODS *e*S S 14 11 19.4 -5.6
MODS *i* SS SS 14 18 06.9 -3.0
MODS pmax pmax
comp=Z,45nm,1.6s,mb5.8
MODS Modra-Piesok 98.62 321 PDIF **P 13 59 57.1 0.0**
MODS *e*PP PP 14 03 57.7 0.0
MODS *e* 14 08 18.7
MODS *e*S S 14 11 19.4 -5.6
MODS *i* SS SS 14 18 06.9 -3.0
MODS *e*SSS 14 24 13.6
MODS Modra-Piesok 98.62 321 *i* P **P 13 59 57.1 0.0**
comp=Z,45nm,1.6s,mb5.8
MODS *e*PP PP 14 03 57.7 0.0
MODS *e* 14 08 18.7
MODS *e*S S 14 11 19.4 -5.6
MODS *i* SS SS 14 18 06.9 -3.0
MODS *e*SSS 14 24 13.6
F03A Seaside 98.64 42 ⇑P **P 13 59 58.6 +1.4**
baz=98,SNR=7.8
UPC Upice 98.67 323 *e*P **P 13 59 56.8 -0.4**
RGN Rugen 98.68 327 P **P 13 59 55.8 -1.4**
COP Copenhagen 98.68 329 *i* P **P 13 59 56.4 -0.8**
COP *i* 14 04 01.5
COP *i* S SKSac 14 10 33.2 -0.6
COP *i* 14 11 22.1
COP
comp=Z,4µm,18.0s
BMW Boistfort Moun 98.69 41 *e*P **P 13 59 58.5 +1.1**
RLS Riolos of Patr 98.70 310 *e*P **P 13 59 57.0 -0.7**
H02A Toledo 98.72 43 ⇓P **P 13 59 59.4 +1.7**
baz=99
VRAC Vranov 98.73 322 P **P 13 59 57.7 +0.1**
comp=Z,110nm,1.0s,mb6.4,baz=73,slow=3.8,SNR=85
VRAC Vranov 98.73 322 ⇓*i*P **P 13 59 58.5 +0.9**
VRAC Vranov 98.73 322 P **P 13 59 57.5 -0.1**
JAN Janina 98.75 312 *e*P **P 13 59 57.0 -0.9**
D04A Dobbs Creek Ra 98.76 41 ⇑P **P 13 59 59.5 +1.7**
baz=99
PLE Pljevlja 98.78 315 ⇑*i*PKP **P 13 59 58.6 +0.7**
ZST Bratislava 98.78 321 *i* P **P 13 59 58.1 +0.3**
ZST *i* 14 03 58.4
ZST pmax pmax
comp=Z,357nm,3.7s
ZST Bratislava 98.78 321 PDIF **P 13 59 58.1 +0.3**
ZST *i* PP PP 14 03 58.4 -0.6
ZST *e* 14 08 24.9
ZST *e* 14 12 24.9
ZST Bratislava 98.78 321 *i* P **P 13 59 58.1 +0.3**
comp=Z,357nm,3.7s
ZST *i* PP PP 14 03 58.4 -0.6
ZST *e* 14 08 24.9
ZST *e*S SP 14 12 24.9 -26
PUK Puka 98.79 314 *e*PN **P 13 59 57.9 -0.1**
B05A Bryant 98.83 39 ⇓P **P 13 59 59.4 +1.4**
baz=99,SNR=20
A06A Chilliwack 98.94 38 ⇓P **P 13 59 59.2 +0.7**
baz=99,SNR=10.0
JCW Jim Creek 98.96 39 *e*P **P 13 59 58.5 -0.2**
E04A Onalaska 98.98 41 ⇓P **P 14 00 00.4 +1.7**
baz=99
TIR Tirane 99.01 313 *e*P **P 13 59 58.1 -0.9**
TIR Tirane 99.01 313 *e*PN **P 13 59 58.8 -0.2**
G03A Yamhill 99.01 42 ⇓P **P 14 00 00.3 +1.4**
baz=99,SNR=8.5
KEBM Edson Butte 99.03 45 *e*P **P 14 00 00.3 +1.2**
I02A Mapleton 99.04 44 ⇑P **P 14 00 00.3 +1.3**
baz=99,SNR=7.6
TTG Podgorica 99.13 315 ⇑*i*PKP **P 13 59 57.6 -1.9**
B06A Marblemount 99.13 39 ⇑P **P 14 00 00.3 +0.9**
baz=99,SNR=8.5
RPW Rockport 99.14 39 *e*P **P 13 59 59.6 +0.2**
UPM Unac-Piva 99.15 315 ⇑*i*PKP **P 13 59 58.3 -1.3**
IGT Igoumenitsa 99.17 312 *e*P **P 13 59 57.6 -2.2**
KFL Anninata 99.20 310 *e*P **P 13 59 57.9 -2.0**
H03A Soap Creek Ran 99.20 43 ⇑P **P 14 00 01.3 +1.5**
baz=99,SNR=29
NKY Niksic 99.20 315 ⇑*i*PKP **P 13 59 58.7 -1.1**
COR Corvallis 99.22 43 *e*P **P 14 00 01.5 +1.6**
COR pmax pmax
comp=Z,128nm,1.1s,mb6.4
COR MLR MLR
comp=Z,15µm,21.0s,MS6.5
COR Corvallis 99.22 43 *e*P **P 14 00 01.5 +1.6**
comp=Z,128nm,1.1s,mb6.4
COR LR LR
comp=Z,15µm,21.0s,MS6.5
D05A Enumclaw 99.26 40 ⇓P **P 14 00 01.6 +1.6**
baz=99,SNR=9.8
ULC Ulcinj 99.27 314 ⇑*i*PKP **P 13 59 58.8 -1.4**
C05A Tolt Reservoir 99.28 40 ⇑P **P 14 00 01.4 +1.3**
baz=99,SNR=22
KBO Bosley Butte 99.30 46 *e*P **P 14 00 01.9 +1.7**
SRN Sarande 99.32 312 *e*PN **P 14 00 01.7 +1.3**
RKT Rikitea 99.33 112 *e*PP PP 14 03 57.2 -6.9
comp=Z,1µm,26.5s
RKT *e*SKSac SKSac 14 10 35.1 -3.2
comp=Z,2µm,25.8s
RKT Rikitea 99.33 112 *e*PS PS 14 13 00.9 -0.7
comp=Z,4µm,30.5s
RKT *e*SS SS 14 18 21.3 -0.5
comp=Z,5µm,29.2s
RKT *e*LQ 14 28 07.4
comp=Z,11µm,34.2s
RKT *e*LR LR 14 32 16.6
comp=Z,15µm,32.5s,baz=285
VLS Valsamata 99.33 310 *e*P **P 13 59 59.4 -1.1**
VLS Valsamata 99.33 310 *e*P **P 13 59 58.0 -2.5**
F04A Amboy 99.39 42 ⇑P **P 14 00 01.8 +1.2**
baz=99,SNR=11
J02A Umpqua 99.41 44 ⇑P **P 14 00 02.1 +1.4**
baz=99,SNR=12
TREC Trest 99.41 322 *e*PDIF **P 14 00 01.3 +0.7**
TREC *e*x x 14 00 31.3
TREC *e*PP PP 14 04 07.5 +3.8
TREC AMS AMS 14 52 00.0
comp=Z,6µm,18.3s
BUM Brajici-Budva 99.43 315 ⇑*i*PKP **P 13 59 58.2 -2.6**
I03A Eugene 99.43 44 ⇑P **P 14 00 02.1 +1.3**
baz=99,SNR=11
M01C Crescent City 99.48 46 ⇓P **P 14 00 02.5 +1.4**
baz=99
BRY Bratogost 99.50 315 ⇑*i*PKP **P 13 59 59.1 -2.0**
KEK Kerkira 99.51 312 *e*P **P 14 00 00.0 -1.3**
PVCC Panska Ves 99.52 323 *e*PDIF **P 14 00 01.4 +0.4**
PVCC *e*x x 14 00 32.3
PVCC *e*PP PP 14 04 07.4 +3.0
PVCC *e*SKS 14 10 32.0
PVCC *e*SDIF S 14 11 33.0 +0.5
PVCC *e*SP SP 14 12 53.9 -4.9
PVCC AMS AMS 14 48 30.0
comp=Z,13µm,18.3s
G04A Mulino 99.59 42 ⇑P **P 14 00 02.8 +1.3**
baz=100,SNR=11
E05A Randle 99.62 41 ⇑P Pdif 14 00 02.4 +1.0
baz=100,SNR=11
A07A Ashnola River, 99.63 38 ⇓P Pdif 14 00 02.8 +1.4
baz=100,SNR=53
K02A Glendale 99.65 45 ⇑P Pdif 14 00 03.1 +1.6
baz=100,SNR=17
CONA Conrad Observa 99.66 321 *i* P Pdif 14 00 02.1 +0.6
comp=Z,645nm,2.7s,SNR=29
CONA Conrad Observa 99.66 321 *i* pPdiff 14 00 02.1
comp=Z,645nm,2.7s,SNR=29
CSNA Conrad Observa 99.66 321 ⇓*i*P Pdif 14 00 02.2 +0.6
comp=Z,602nm,2.6s
CSNA Conrad Observa 99.66 321 ⇓*i*pPdiff 14 00 02.2
comp=Z,602nm,2.6s
HCY Herceg Novi 99.67 315 ⇑*i*PKP Pdif 13 59 59.4 -2.2
C06A Tall Timber Ra 99.71 39 ⇓P Pdif 14 00 03.0 +1.3
baz=100
KRMB Red Mountain 99.72 46 *e*Pdif Pdif 14 00 03.7 +1.9
PRU Pruhonice 99.73 323 *e*PDIF Pdif 14 00 02.3 +0.4
PRU *e*x x 14 00 33.2
PRU *e*PP PP 14 04 09.5 +3.4
PRU *e*SKS 14 10 34.8
PRU *e*SDIF S 14 11 37.0 +2.7
PRU *e*SP SP 14 12 54.3 -6.9
PRU AMS AMS 14 48 40.0
comp=Z,10µm,17.5s
PRU Pruhonice 99.73 323 *e*Pdif Pdif 14 00 02.3 +0.4
PRU *e* 14 00 33.2
PRU *e*PP PP 14 04 09.5 +3.4
PRU *e*SKS 14 10 34.8
PRU *e*Sdif S 14 11 37.0 +2.7
PRU *e*SP SP 14 12 54.3 -6.9
PRU LR LR
comp=Z,10µm,17.5s,MS6.4
L02A Cave Junction 99.75 46 ⇓P Pdif 14 00 03.7 +1.8
baz=100,SNR=9.3
BRG Berggiesshubel 99.76 324 *i* P Pdif 14 00 02.5 +0.5
BRG 14 04 07.0
BRG *e* 14 10 39.0
BRG 14 18 21.9
BRG pmax pmax
comp=Z,140nm,1.4s,mb6.2
BRG MLR MLR
comp=Z,6µm,17.8s,MS6.2
BRG Berggiesshubel 99.76 324 *e*Pdif Pdif 14 00 01.7 -0.3
BRG *e*Sdiff S 14 11 35.1 +0.7
BRG *e*SP SP 14 12 56.3 -5.1
BRG Berggiesshubel 99.76 324 *i* PKP Pdif 14 00 02.5 +0.5
comp=Z,234nm,1.4s
BRG SKP PP 14 04 07.0 +0.7
BRG *i* 14 06 55.2
comp=Z,59nm,1.8s
BRG *e* 14 10 39.0
BRG *e* 14 11 17.0
BRG PKKS 14 13 57.8
comp=Z,17nm,1.5s
BRG *e* 14 16 31.7
comp=Z,11nm,1.3s
BRG SS SS 14 17 52.0 -34
BRG PKPPKP 14 18 21.9
comp=Z,8.7nm,1.6s
BRG
comp=N,11µm,18.5s
BRG
comp=E,7µm,17.8s
BRG
comp=Z,11µm,17.8s
BRG Berggiesshubel 99.76 324 *i* PKP Pdif 14 00 02.5 +0.5
comp=Z,140nm,1.4s
BRG SKP PP 14 04 07.0 +0.7
BRG *i* 14 06 55.2
BRG *e* 14 10 39.0
BRG *e* 14 11 17.0
BRG PKKS 14 13 57.8
BRG *e* 14 16 31.7
BRG SS SS 14 17 52.0 -34
BRG P'P' 14 18 21.9
BRG LR LR
comp=Z,6µm,17.8s,MS6.2
BER Bergen 99.83 335 *e*P Pdif 14 00 02.5 +0.1
BER *e*PP PP 14 04 09.7 +3.2
BER *e*SKS 14 10 40.8
BER AMS AMS 14 51 11.6
comp=Z,10µm,18.6s,MS6.3
BER Bergen 99.83 335 *e*P Pdif 14 00 02.5 +0.1
BER *e* 14 04 11.7
BER LR LR
comp=Z,10µm,18.6s,MS6.3
BLS5 Blasjo 99.84 334 *e*P Pdif 14 00 02.1 -0.3
BLS5 AMb AMB 14 00 06.7
comp=Z,144nm,1.2s,mb6.3
BLS5 Blasjo 99.84 334 *e*P Pdif 14 00 02.1 -0.3
comp=Z,144nm,1.3s
JCC Jacoby Creek 99.84 47 ⇑P Pdif 14 00 04.3 +1.9
baz=100,SNR=7.7
H04A Detroit Lake 99.95 43 ⇑P Pdif 14 00 04.0 +1.2
baz=100,SNR=21
D06A Cle Elum 99.99 40 ⇑P Pdif 14 00 04.4 +1.4
baz=100,SNR=12
MUD Monsted U'grnd 100.00 330 *i* P Pdif 14 00 06.3 +3.3
MUD *i* 14 04 09.7
MUD *i* 14 11 35.2
MUD Monsted U'grnd 100.00 330 *i* P Pdif 14 00 06.3 +3.3
MUD *e* 14 01 17.5
MUD *i* 14 04 09.7
MUD *e* 14 10 27.8
MUD *i* 14 11 35.2
MUD
comp=Z,11µm,20.0s
MUD Monsted U'grnd 100.00 330 *i* P Pdif 14 00 06.3 +3.3
MUD *e* 14 01 17.5
MUD *i* 14 04 09.7
MUD *e* 14 10 27.8
MUD *i* 14 11 35.2
B07A Winthrop 100.00 39 ⇑P Pdif 14 00 04.4 +1.3
baz=100,SNR=35
F05A White Salmon 100.04 41 ⇓P Pdif 14 00 04.9 +1.6
baz=100,SNR=15
HUMO Hull Mountain 100.07 45 ⇓P Pdif 14 00 05.1 +1.7
baz=100,SNR=25
HUMO Hull Mountain 100.07 45 *e*Pdif Pdif 14 00 03.6 +0.2
comp=Z,66nm,1.2s
HUMO LR LR
comp=Z,8µm,20.0s,MS6.2
I04A Tendick Farm, 100.08 44 ⇓P Pdif 14 00 04.7 +1.2
baz=100,SNR=28
LTY Liberty 100.08 40 P Pdif 14 00 04.4 +1.0
HOOD Mount Hood Mea 100.10 42 Pdif Pdif 14 00 03.6 +0.1
comp=Z,339nm,1.8s
ARSA Arzberg 100.11 320 ⇓*i*P Pdif 14 00 03.9 +0.4
comp=Z,579nm,2.9s,SNR=24
E06A Yakima 100.13 41 ⇓P Pdif 14 00 05.2 +1.5
baz=100,SNR=62
CLL Collm 100.14 325 ⇓*i*P Pdif 14 00 03.7 0.0
CLL *i* 14 00 16.0
CLL *e* 14 04 08.0
CLL *e* 14 10 37.0
CLL *e*S Sdif 14 11 38.0 +0.6
CLL pmax pmax
comp=Z,136nm,1.4s
CLL MLR MLR
comp=Z,10µm,19.1s,MS6.3
CLL Collm 100.14 325 *e*Pdiff Pdif 14 00 03.0 -0.7
CLL *e*PP PP 14 04 08.4 -0.7
CLL *e*Sdiff Sdif 14 11 37.5 +0.1
CLL *e*SP SP 14 12 59.6 -5.8
CLL Collm 100.14 325 ⇓*i*Pdif Pdif 14 00 03.7 0.0
comp=Z,136nm,1.4s
CLL *i* x x 14 00 16.0
CLL *e*x x 14 01 13.0
CLL *e*PP PP 14 04 08.0 -1.1
CLL *e*pPP 14 04 13.0
CLL *e*x x 14 05 23.0
CLL *e*SKSac SKSac 14 10 37.0 -4.2
CLL *e*Sdif Sdif 14 11 38.0 +0.6
CLL *e*(SP) 14 12 53.0
CLL *e*SS SS 14 18 36.0 +5.1
CLL *e*SSS 14 22 36.0
CLL *e*x x 14 24 06.0
CLL *e*PKPPKPdf 14 24 38.0
CLL Collm 100.14 325 ⇓*i*Pdif Pdif 14 00 03.7 0.0
comp=Z,136nm,1.4s
CLL *i* 14 00 16.0
CLL *e*PP PP 14 04 08.0 -1.1
CLL *e*SKS 14 10 37.0
CLL *e*Sdif Sdif 14 11 38.0 +0.6
CLL *e*P'P' 14 24 38.0
CLL LR LR
comp=Z,10µm,19.1s,MS6.3
TBM Table Mountain 100.16 40 P Pdif 14 00 05.6 +1.8
ETW Entiat 100.18 40 *e*Pdif Pdif 14 00 03.6 -0.2
O01C Eel River Cons 100.19 48 ⇑P Pdif 14 00 06.0 +2.1
baz=100
C07A Waterville 100.32 39 ⇓P Pdif 14 00 05.4 +1.0
baz=100,SNR=28
A08A Turner Farm, O 100.34 38 ⇑P Pdif 14 00 06.1 +1.5
baz=100,SNR=52
G05A Wamic 100.35 42 ⇑P Pdif 14 00 06.2 +1.5
baz=100,SNR=9.7
N02C Big Bar 100.37 47 ⇓P Pdif 14 00 06.5 +1.8
baz=100,SNR=24
J04A Umpqua Nationa 100.47 44 ⇓P Pdif 14 00 06.8 +1.7
baz=100,SNR=11
LSZ Lusaka 100.49 256 ⇓P Pdif 14 00 06.3 +1.0
SNR=31
LSZ Lusaka 100.49 256 *e*P Pdif 14 00 05.3 +0.1
LSZ pmax pmax
comp=Z,100nm,1.3s
LSZ MLR MLR
comp=Z,9µm,19.0s,MS6.3
LSZ Lusaka 100.49 256 *e*Pdif Pdif 14 00 05.3 0.0
comp=Z,100nm,1.3s
LSZ LR LR
comp=Z,9µm,19.0s,MS6.3
KCPM Cahto Peak 100.50 48 *e*Pdif Pdif 14 00 06.9 +1.6
YBH Yreka Blue Hor 100.52 46 *e*P Pdif 14 00 05.6 +0.2
YBH pmax pmax
comp=Z,151nm,1.6s
YBH MLR MLR
comp=Z,8µm,20.0s
YBH Yreka Blue Hor 100.52 46 ⇓P Pdif 14 00 07.2 +1.9
baz=100,SNR=31
YBH Yreka Blue Hor 100.52 46 *e*Pdif Pdif 14 00 05.6 +0.3
comp=Z,150nm,1.6s
YBH LR LR
comp=Z,8µm,20.0s,MS6.2
M02C Callahan 100.52 46 ⇓P Pdif 14 00 07.4 +2.0
baz=100,SNR=30
F06A Goldendale 100.53 41 ⇓P Pdif 14 00 07.1 +1.7
baz=100,SNR=7.0
B08A Colville Reser 100.53 39 ⇑P Pdif 14 00 06.7 +1.3
baz=100,SNR=50
BSEG Bad Segeberg 100.54 328 *e*Pdiff Pdif 14 00 04.9 -0.5
BSEG *e*PP PP 14 04 10.1 -1.9
BSEG *e*SP SP 14 13 05.4 -4.1
KIPM Iron Peak 100.54 48 Pdif Pdif 14 00 07.4 +1.9
D07A Quincy 100.55 40 ⇓P Pdif 14 00 06.9 +1.4
baz=100,SNR=8.7
PERS Pernice 100.59 320 *i* P Pdif 14 00 05.8 +0.1
H05A Madras 100.61 43 ⇑P Pdif 14 00 07.2 +1.5
baz=100,SNR=21
SOKA Soboth 100.62 320 ⇓*i*P Pdif 14 00 06.2 +0.4
comp=Z,612nm,3.4s
KHC Kasperske Hory 100.64 322 *e*PDIF Pdif 14 00 05.7 -0.2
KHC *e*x x 14 00 15.5
KHC *e*x x 14 00 24.5
KHC *e*x x 14 00 37.0
KHC *e*PP PP 14 04 15.0 +2.0
KHC *e*SKS 14 10 42.1
KHC *e*SDIF Sdif 14 11 43.8 +2.2
KHC *e*SP SP 14 13 07.7 -3.2
KHC AMS AMS 14 51 00.0
comp=Z,10µm,17.9s
KHC Kasperske Hory 100.64 322 *e*Pdif Pdif 14 00 05.7 -0.2
KHC *e* 14 00 15.5
KHC *e* 14 00 24.5
KHC *e* 14 00 37.0
KHC *e*PP PP 14 04 15.0 +2.0
KHC *e*SKS 14 10 42.1
KHC *e*Sdif Sdif 14 11 43.8 +2.2
KHC *e*SP SP 14 13 07.7 -3.2
KHC LR LR
comp=Z,10µm,17.9s,MS6.4
GEC2 GERESS Array S 100.67 322 *e*Pdiff Pdif 14 00 05.9 -0.1
GEC2 *e*Sdiff Sdif 14 11 43.7 +1.9
GEC2 *e*SP SP 14 13 06.8 -4.5
GERES GERESS Array B 100.67 322 P Pdif 14 00 05.8 -0.2
comp=Z,40nm,0.9s,baz=64,slow=3.1,SNR=124
GERES PKKPbc PKKPbc 14 16 22.2 +0.3
comp=Z,0.7nm,0.4s,baz=242,slow=2.3,SNR=6.0
MOA Molln 100.69 321 *i* P Pdif 14 00 06.9 +0.8
comp=Z,796nm,2.9s,SNR=51
MOA Molln 100.69 321 *i* pPdiff Pdif 14 00 06.9 +0.8
comp=Z,796nm,2.9s,SNR=51
MOA Molln 100.69 321 P Pdif 14 00 06.9 +0.8
I05A Bend 100.74 43 ⇑P Pdif 14 00 08.1 +1.8
baz=101
A09A Danville 100.76 38 ⇓P Pdif 14 00 08.0 +1.5
baz=101,SNR=41
G06A Carlson Farm, 100.81 42 ⇓P Pdif 14 00 08.2 +1.5
baz=101,SNR=24
E07A Sunnyside 100.85 40 ⇑P Pdif 14 00 08.5 +1.7
baz=101,SNR=8.2
NKC Novy Kostel 100.88 324 *e*P Pdif 14 00 06.9 -0.1
NKC *e* 14 04 16.9
NKC *e* 14 10 43.7
NKC *e*S Sdif 14 11 46.5 +2.9
NKC *e*SP SP 14 13 07.4 -6.1
NKC Novy Kostel 100.88 324 *e*PDIF Pdif 14 00 06.9 -0.1
NKC *e*x x 14 00 38.3
NKC *e*PP PP 14 04 16.9 +2.1
NKC *e*SKS 14 10 43.7
NKC *e*S Sdif 14 11 46.5 +2.9
NKC *e*SP SP 14 13 07.4 -6.1
NKC AMS AMS 14 49 20.0
comp=Z,12µm,18.3s

NKC	Novy Kostel	100.88	324	ePdif		Pdif	14 00 06.9 -0.1
NKC				e			14 00 38.3
NKC				ePP		PP	14 04 16.9 +2.1
NKC				eSKS			14 10 43.7
NKC				eSdif		Sdif	14 11 46.5 +2.9
NKC				eSP		SP	14 13 07.4 -6.1
BOJS	Bojanci	100.89	318	i P		Pdif	14 00 07.8 +0.8
BOJS				ePP		PP	14 04 17.9 +2.8
BOJS				eSKSac		SKSac	14 10 42.1 -3.0
BOJS				e			14 11 42.5
C08A	Higginbotham F	100.92	39	⇓P		Pdif	14 00 08.3 +1.2
baz=101,SNR=18							
K04A	Chilquin	100.93	45	⇓P		Pdif	14 00 08.8 +1.6
baz=101							
O02C	Red Bluff	100.94	47	⇑P		Pdif	14 00 09.6 +2.4
baz=101,SNR=45							
L04A	Klamath Falls	100.96	45	⇑P		Pdif	14 00 08.9 +1.6
baz=101,SNR=8.4							
WDC	Whiskeytown Da	100.99	47	eP		Pdif	14 00 08.0 +0.5
WDC					pmax	pmax	
comp=Z,157nm,1.6s							
WDC					MLR	MLR	
comp=Z,13µm,20.0s,MS6.4							
WDC	Whiskeytown Da	100.99	47	⇓P		Pdif	14 00 09.1 +1.6
baz=101,SNR=28							
WDC	Whiskeytown Da	100.99	47	ePdif		Pdif	14 00 08.0 +0.6
comp=Z,157nm,1.6s							
WDC					LR	LR	
comp=Z,13µm,20.0s,MS6.4							
OBKA	Obir	101.00	320	⇑i P		Pdif	14 00 07.8 +0.3
comp=Z,610nm,3.5s,SNR=10							
OBKA	Obir	101.00	320	P		Pdif	14 00 08.5 +1.0
J05A	Fort Rock	101.06	44	⇓P		Pdif	14 00 09.6 +1.8
baz=101,SNR=28							
WET	Wettzell	101.06	323	ePdif		Pdif	14 00 07.8 0.0
WET				eSdif		Sdif	14 11 45.3 +0.2
WET				eSP		SP	14 13 10.8 -4.6
HOPS	Hopland	101.08	48	⇑P		Pdif	14 00 09.4 +1.5
baz=101							
HOPS	Hopland	101.08	48	Pdif		Pdif	14 00 08.8 +0.9
comp=Z,63nm,1.5s							
HOPS					LR	LR	
comp=Z,11µm,21.0s,MS6.4							
M03C	McCloud	101.08	46	⇓P		Pdif	14 00 09.5 +1.6
baz=101							
RSW	Rattlesnake Hi	101.08	40	ePdif		Pdif	14 00 09.1 +1.2
HAWA	Hanford	101.12	40	ePdif		Pdif	14 00 08.6 +0.6
comp=Z,155nm,1.7s							
HAWA					LR	LR	
comp=Z,8µm,20.0s,MS6.2							
M04C	Macdoel	101.12	45	⇓P		Pdif	14 00 09.8 +1.7
baz=101,SNR=33							
GASB	Alder Springs	101.15	48	⇓P		Pdif	14 00 10.7 +2.5
baz=101,SNR=41							
H06A	Lindquist Farm	101.18	42	⇑P		Pdif	14 00 09.8 +1.5
baz=101,SNR=27							
LJU	Ljubljana	101.18	319	i P		Pdif	14 00 08.7 +0.4
LJU				ePP		PP	14 04 19.7 +2.5
LJU				eSKSac		SKSac	14 10 43.1 -3.4
LJU				e			14 11 46.0
MANZ	Manzenberg	101.18	324	ePdif		Pdif	14 00 08.4 +0.1
MANZ				ePP		PP	14 04 17.0 -0.1
MANZ				eSdif		Sdif	14 11 45.0 -1.1
MANZ				eSP		SP	14 13 12.1 -4.6
MOX	Moxa	101.20	324	⇑i P		Pdif	14 00 09.3 +0.9
comp=Z,223nm,1.8s							
MOX							
comp=Z,8µm,19.0s							
MOX	Moxa	101.20	324	⇑i P		Pdif	14 00 09.3 +0.9
MOX					pmax	pmax	
comp=Z,223nm,1.8s							
MOX					MLR	MLR	
comp=Z,8µm,19.0s,MS6.2							
MOX	Moxa	101.20	324	ePdif		Pdif	14 00 08.2 -0.2
MOX				ePP		PP	14 04 16.2 -1.0
MOX				eSdif		Sdif	14 11 46.3 0.0
MOX				eSP		SP	14 13 10.4 -6.5
ROTZ	Rotzenmuhle	101.21	323	ePdif		Pdif	14 00 08.7 +0.2
ROTZ				ePP		PP	14 04 17.3 0.0
ROTZ				eSdif		Sdif	14 11 49.2 +2.8
ROTZ				eSP		SP	14 13 12.0 -5.0
B09A	Rice	101.23	38	⇓P		Pdif	14 00 10.1 +1.6
baz=101,SNR=24							
D08A	Wollman Farm,	101.27	40	⇓P		Pdif	14 00 10.1 +1.4
baz=101,SNR=19							
NRDL	Niedersach Rie	101.28	326	ePdif		Pdif	14 00 08.7 0.0
NRDL				eSdif		Sdif	14 11 45.3 -1.6
NRDL				eSP		SP	14 13 11.6 -5.9
OD2	Odessa Site #2	101.28	39	ePdif		Pdif	14 00 08.2 -0.5
A10A	Northport	101.38	38	⇑P		Pdif	14 00 10.7 +1.5
baz=101,SNR=25							
E08A	Dider Farm, El	101.39	40	⇑P		Pdif	14 00 10.7 +1.5
baz=101							
CLZ	Clausthal	101.41	326	ePdif		Pdif	14 00 09.3 0.0
CLZ				eSdif		Sdif	14 11 45.2 -2.8
CLZ				eSP		SP	14 13 14.3 -4.7
G07A	Ruggs Ranch, H	101.43	42	⇑P		Pdif	14 00 10.9 +1.4
baz=101,SNR=29							
K05A	Summer Lake	101.48	44	⇓P		Pdif	14 00 11.7 +2.1
baz=101,SNR=31							
I06A	Prineville	101.53	43	⇓P		Pdif	14 00 11.8 +2.0
baz=101,SNR=26							
JAVS	Javornik	101.53	319	i P		Pdif	14 00 09.9 +0.1
MYKA	Terra Mystica	101.54	320	⇓i P		Pdif	14 00 10.0 +0.1
comp=Z,5µm,3.4s							
O03C	Acorn Hollow,	101.54	47	⇑P		Pdif	14 00 11.4 +1.5
baz=101							
KBA	Koelnbreinsper	101.56	320	⇓i P		Pdif	14 00 09.9 -0.1
comp=Z,389nm,3.6s,SNR=17							
KBA	Koelnbreinsper	101.56	320	⇓i P		Pdif	14 00 09.9 -0.1
KBA					pmax	pmax	
comp=Z,389nm,3.6s							
NSHM	Saint Helena R	101.57	49	ePdif		Pdif	14 00 11.2 +1.1
MNRC	McLaughlin Nat	101.58	48	⇓P		Pdif	14 00 12.3 +2.2
baz=102,SNR=12							
VOY	Vojsko	101.59	319	eP		Pdif	14 00 10.0 -0.1
VOY				e			14 00 32.5
VOY				e			14 00 56.9
VOY	Vojsko	101.59	319	eP		Pdif	14 00 10.0 -0.1
VOY				e			14 00 32.5
VOY				e			14 00 56.9
VOY				e			14 03 07.5
VOY				e			14 03 40.8
VOY				e			14 04 33.6
D09A	Jones Farm, Ri	101.65	40	⇑P		Pdif	14 00 11.9 +1.5
baz=102,SNR=12							
HATC	Hat Creek Radi	101.70	46	⇑P		Pdif	14 00 12.3 +1.7
baz=102,SNR=8.5							
CVS	Carmenet Viney	101.73	49	⇓P		Pdif	14 00 12.3 +1.6
baz=102,SNR=9.2							
L05A	Lakeview	101.75	45	⇑P		Pdif	14 00 12.7 +1.9
baz=102,SNR=29							
M05C	Lookout	101.75	46	⇑P		Pdif	14 00 12.6 +1.7
baz=102,SNR=22							
PTCC	Patocco-Chiusa	101.80	320	P		Pdif	14 00 10.9 -0.2
J06A	Christmas Vall	101.81	44	⇓P		Pdif	14 00 12.7 +1.6
baz=102,SNR=33							
F08A	Pendleton	101.83	41	⇑P		Pdif	14 00 13.1 +1.9
baz=102,SNR=16							
GRA1	Grafenberg Arr	101.83	323	ePdif		Pdif	14 00 11.4 +0.2
GRA1				eSdif		Sdif	14 11 50.0 -1.5
GRA1				eSP		SP	14 13 18.4 -5.1
GRA1					LR	LR	
comp=Z,11µm,19.7s,MS6.4							
GRF	Grafenberg Arr	101.83	323	ePdif		Pdif	14 00 11.4 +0.2
GRF				eSdif		Sdif	14 11 50.0 -1.5
GRF				eSP		SP	14 13 18.4 -5.1
GRF				eL			14 50 27.1
comp=Z,11µm,19.7s							
B10A	Chitwood Farm,	101.85	38	⇑P		Pdif	14 00 12.5 +1.3
baz=102							
G08A	Pilot Rock	101.89	41	⇓P		Pdif	14 00 13.1 +1.6
baz=102,SNR=27							
K06A	Valley Falls	101.90	44	⇓P		Pdif	14 00 13.3 +1.8
baz=102,SNR=43							
TIP	Timpagrande	101.92	312	PFAKE			14 00 20.0 +8.4
TIP					LR	LR	
comp=Z,4µm,21.0s,MS5.9							
NEW	Newport	101.93	38	eP		Pdif	14 00 11.2 -0.4
NEW					pmax	pmax	
comp=Z,83nm,1.2s							
NEW					MLR	MLR	
comp=Z,6µm,20.0s							
NEW	Newport	101.93	38	ePdif		Pdif	14 00 11.2 -0.4
comp=Z,83nm,1.2s							
NEW					LR	LR	
comp=Z,6µm,20.0s,MS6.1							
GMNA	Gemona	101.93	320	P		Pdif	14 00 12.4 +0.8
EDM	Edmonton	101.96	32	eP		Pdif	14 00 12.2 +0.4
SUTB	Sutter Butte	101.96	48	⇓P		Pdif	14 00 12.7 +0.9
baz=102							
I07A	Izee	101.96	43	⇑P		Pdif	14 00 13.7 +1.9
baz=102,SNR=13							
E09A	Wood Farm, Sta	101.97	40	⇑P		Pdif	14 00 13.4 +1.6
baz=102,SNR=26							
RGNG	Rignano Grg	101.97	315	P		Pdif	14 00 11.8 0.0
Q03C	Winters	101.98	49	⇑P		Pdif	14 00 14.2 +2.4
baz=102							
C10A	Spilker Farm,	101.99	39	⇓P		Pdif	14 00 13.3 +1.4
baz=102							
PTRP	Pietrapertosa	102.00	313	P		Pdif	14 00 13.0 +1.0
UBBA	Unterbreizbach	102.06	325	ePdif		Pdif	14 00 11.9 -0.3
UBBA				ePP		PP	14 04 24.4 +0.7
UBBA				eSdiff		Sdif	14 11 50.5 -3.0
UBBA				eSP		SP	14 13 20.3 -5.7
ORV	Oroville	102.07	48	⇓P		Pdif	14 00 13.3 +1.1
baz=102,SNR=28							
FVI	Forni Avoltri	102.10	320	P		Pdif	14 00 12.3 -0.1
A11A	Hall Mountain,	102.11	37	⇑P		Pdif	14 00 14.8 +2.4
baz=102,SNR=60							
LNOR	Lincton Mounta	102.12	41	eP		Pdif	14 00 13.1 +0.6
O04C	Chester	102.13	47	⇓P		Pdif	14 00 14.3 +1.8
baz=102,SNR=43							
OHCM	Honcut	102.15	48	ePdif		Pdif	14 00 13.1 +0.5
MOD	Modoc	102.17	45	⇑P		Pdif	14 00 14.3 +1.6
baz=102,SNR=36							
MOD	Modoc	102.17	45	ePdif		Pdif	14 00 13.1 +0.4
comp=Z,212nm,1.6s							
MOD					LR	LR	
comp=Z,5µm,20.0s,MS6.0							
JRSC	Jasper Ridge	102.18	50	⇓P		Pdif	14 00 14.1 +1.4
baz=102							
FG4	Candela	102.19	314	P		Pdif	14 00 14.0 +1.2
ABTA	Abfaltersbach	102.21	320	⇓i P		Pdif	14 00 12.4 -0.5
comp=Z,134nm,1.7s,SNR=18							
M06C	Likely Place G	102.28	46	⇓P		Pdif	14 00 15.2 +2.0
baz=102,SNR=22							
GRI	Girifalco	102.28	312	P		Pdif	14 00 15.3 +2.1
ELFS	Eagle Lake Fie	102.29	46	⇓P		Pdif	14 00 15.3 +2.1
baz=102,SNR=13							
BDM	Black Diamond	102.30	49	⇓P		Pdif	14 00 14.7 +1.4
baz=102							
D10A	Wagner Farm, O	102.31	39	⇓P		Pdif	14 00 14.5 +1.1
baz=102,SNR=15							
BNLO	Ben Lomond (Sa	102.31	50	⇑P		Pdif	14 00 14.9 +1.6
baz=102							
B11A	Sandpoint	102.32	38	⇑P		Pdif	14 00 15.2 +1.8
baz=102,SNR=12							
J07A	Hines	102.34	43	⇓P		Pdif	14 00 15.4 +1.9
baz=102,SNR=22							
CUC	Castrocucco	102.35	313	PFAKE			14 00 30.0 +16
CUC					LR	LR	
comp=Z,5µm,20.0s,MS6.1							
H08A	Prairie City	102.36	42	⇓P		Pdif	14 00 15.3 +1.8
baz=102,SNR=30							
O05C	Quincy	102.37	47	⇓P		Pdif	14 00 15.1 +1.5
baz=102,SNR=5.2							
Q04C	Lincoln	102.39	48	⇓P		Pdif	14 00 15.1 +1.4
baz=102							
FUR	Furstenfeldbru	102.42	322	ePdif		Pdif	14 00 13.9 +0.1
FUR				eSdiff		Sdif	14 11 56.9 +0.5
FUR				eSP		SP	14 13 26.2 -3.7
F09A	S2 Ranch, Elgi	102.42	41	⇓P		Pdif	14 00 15.4 +1.6
baz=102							
CIGN	Sant'Elia a Pi	102.45	315	P		Pdif	14 00 14.5 +0.5
WENL	Wente Brothers	102.48	49	⇓P		Pdif	14 00 15.9 +1.8
baz=102							
A12A	Yaak River Ran	102.55	37	⇑P		Pdif	14 00 16.3 +2.0
baz=102							
WTTA	Wattenberg	102.56	321	⇓i P		Pdif	14 00 14.9 +0.4
comp=Z,527nm,2.7s,SNR=14							
WTTA	Wattenberg	102.56	321	⇓i Pdiff		Pdif	14 00 14.9 +0.4
comp=Z,527nm,2.7s,SNR=14							
WTTA	Wattenberg	102.56	321	⇓i P		Pdif	14 00 14.9 +0.5
WTTA					pmax	pmax	
comp=Z,527nm,2.7s							
WATA	Walderalm	102.57	321	⇓i P		Pdif	14 00 15.0 +0.5
comp=Z,80nm,1.3s							
WATA	Walderalm	102.57	321	⇓i Pdiff			14 00 15.0
comp=Z,80nm,1.3s							
WATA	Walderalm	102.57	321	⇓i P		Pdif	14 00 15.0 +0.5
WATA					pmax	pmax	
comp=Z,80nm,1.3s							
K07A	Rock Creek Ran	102.63	44	⇓P		Pdif	14 00 16.7 +1.9
baz=102,SNR=45							
E10A	Myers Farm, Un	102.64	40	⇑P		Pdif	14 00 16.1 +1.3
baz=102							
IBBN	Ibbenburen	102.65	327	ePdif		Pdif	14 00 14.4 -0.4
IBBN				eSdiff		Sdif	14 11 56.3 -2.1
IBBN				eSP		SP	14 13 26.8 -5.2
I08A	Drewsey	102.66	43	⇑P		Pdif	14 00 16.6 +1.7
baz=102,SNR=15							
PSB1	Pescosannita	102.67	314	P		Pdif	14 00 15.3 +0.4
G09A	Cove	102.67	41	⇑P		Pdif	14 00 16.5 +1.6
baz=102,SNR=30							
B12A	Libby	102.78	37	⇑P		Pdif	14 00 17.2 +1.8
baz=103,SNR=12							
SOI	Sasino	102.79	311	P		Pdif	14 00 16.5 +1.0
L07A	Adell	102.80	45	⇓P		Pdif	14 00 17.9 +2.3
baz=103,SNR=58							
P05C	Yuba Gap, Truc	102.81	48	⇑P		Pdif	14 00 17.3 +1.7
baz=103,SNR=20							
S04C	Ingram Canyon,	102.84	49	⇑P		Pdif	14 00 17.4 +1.7
baz=103,SNR=9.4							
SQTA	Sankt Quirin	102.84	321	P		Pdif	14 00 16.7 +1.0
MOTA	Moosalm	102.86	321	⇑i P		Pdif	14 00 15.9 +0.1
comp=Z,62nm,1.2s,SNR=13							
MOTA	Moosalm	102.86	321	P		Pdif	14 00 16.6 +0.8
LAVA	Lava Cap Winer	102.89	48	⇑P		Pdif	14 00 17.5 +1.6
baz=103,SNR=13							
N06A	Buffalo Meadow	102.89	46	⇑P		Pdif	14 00 17.8 +1.9
baz=103,SNR=54							
HDH	Heidenheim-Cha	102.89	323	P		Pdif	14 00 17.2 +1.3
R04C	Big Horse Ranc	102.90	49	⇑P		Pdif	14 00 17.4 +1.4
baz=103							
D11A	Klaveano Farm,	102.90	39	⇓P		Pdif	14 00 17.1 +1.2
baz=103,SNR=7.5							
J08A	Circle Bar Rn	102.92	43	⇑P		Pdif	14 00 17.8 +1.8
baz=103,SNR=25							
SIND	Sindeldorf	102.93	324	P		Pdif	14 00 17.6 +1.5
RNI2	Rionero Sannit	102.97	315	P		Pdif	14 00 17.2 +0.9
SAO	San Andreas Ge	102.98	50	PFAKE			14 00 30.0 +14
SAO					LR	LR	
comp=Z,5µm,20.0s,MS6.1							
H09A	Durkee	102.98	42	⇓P		Pdif	14 00 18.1 +1.8
baz=103,SNR=11							
HAST	Hastings Reser	103.01	51	⇓P		Pdif	14 00 18.1 +1.7
baz=103,SNR=9.6							
RETA	Reutte	103.01	322	⇓i P		Pdif	14 00 16.9 +0.5
comp=Z,563nm,4.5s							
RETA	Reutte	103.01	322	⇓i Pdiff		Pdif	14 00 16.9 +0.5
comp=Z,563nm,4.5s							
PACP	Pacheco Peak	103.02	50	⇓P		Pdif	14 00 18.5 +2.0
baz=103,SNR=10							
CTI	Castel Tesino	103.03	320	P		Pdif	14 00 17.2 +0.7
MTTG	Motta San Giov	103.08	311	P		Pdif	14 00 17.7 +0.9
O06A	Flanigan	103.09	47	⇑P		Pdif	14 00 18.6 +1.8
baz=103,SNR=51							
G10A	Bishop Farm, J	103.09	41	⇑P		Pdif	14 00 18.2 +1.4
baz=103,SNR=24							
K08A	Mann Creek Ran	103.14	44	⇓P		Pdif	14 00 18.8 +1.8
baz=103,SNR=26							
M07A	Soldier Meadow	103.14	45	⇓P		Pdif	14 00 19.0 +2.0
baz=103,SNR=35							
BMO	Blue Mountains	103.14	41	PFAKE			14 00 30.0 +13
BMO					LR	LR	
comp=Z,5µm,20.0s,MS6.0							
WVOR	Wild Horse Val	103.14	44	eP		Pdif	14 00 17.6 +0.6
WVOR					pmax	pmax	
comp=Z,157nm,1.7s							
WVOR					MLR	MLR	
comp=Z,8µm,21.0s,MS6.2							
WVOR	Wild Horse Val	103.14	44	ePdif		Pdif	14 00 17.6 +0.6
comp=Z,158nm,1.7s							
WVOR					LR	LR	
comp=Z,8µm,21.0s,MS6.2							
I09A	Lost Marbles R	103.19	42	⇑P		Pdif	14 00 18.9 +1.7
baz=103,SNR=12							
FSSB	Fossombrone	103.20	317	P		Pdif	14 00 18.6 +1.3
P06A	Stead Airport,	103.20	47	⇓P		Pdif	14 00 19.1 +1.8
baz=103							
SDI	San Donato	103.20	315	P		Pdif	14 00 17.3 0.0
FETA	Feichten	103.22	321	⇓i P		Pdif	14 00 18.0 +0.6
comp=Z,509nm,3.1s,SNR=23							
FETA	Feichten	103.22	321	⇓i Pdiff		Pdif	14 00 18.0 +0.6
comp=Z,509nm,3.1s,SNR=23							
SNTG	Esanatoglia	103.25	317	P		Pdif	14 00 18.6 +1.1
AQU	L'Aquila	103.26	316	eP		Pdif	14 00 18.3 +0.7
AQU					pmax	pmax	
comp=Z,60nm,1.0s							
AQU					MLR	MLR	
comp=Z,8µm,20.0s,MS6.2							
AQU	L'Aquila	103.26	316	ePdif		Pdif	14 00 18.3 +0.7
comp=Z,60nm,1.0s							
AQU					LR	LR	
comp=Z,8µm,20.0s,MS6.2							
E11A	Bogner Ranch,	103.26	40	⇑P		Pdif	14 00 18.8 +1.2
baz=103,SNR=16							
LBTB	Lobatse	103.28	246	PKKPbc		PKKPbc	14 16 16.8 +3.3
comp=Z,12nm,0.9s,baz=277,slow=3.3,SNR=11							
NRCA	Norcia	103.28	316	P		Pdif	14 00 17.9 +0.2
A13A	Flathead Natio	103.28	37	⇑P		Pdif	14 00 19.7 +2.0
baz=103							
TOD	Tromm	103.28	324	eP		Pdif	14 00 18.5 +0.8
BUG	Bochum--Univer	103.32	326	ePdif		Pdif	14 00 17.3 -0.5
BUG				eSdiff		Sdif	14 12 02.4 -1.6
BUG				eSP		SP	14 13 34.1 -5.1
WTSB	Winterswijk	103.33	327	⇓eP		Pdif	14 00 18.3 +0.4
comp=Z,108nm,1.7s							
UBR	Ueberruh	103.33	322	P		Pdif	14 00 19.4 +1.5
V03C	Hunter Liggett	103.37	51	⇓P		Pdif	14 00 20.1 +2.1
baz=103							
PTQR	Pietraquaria	103.38	316	P		Pdif	14 00 19.3 +1.2
CMB	Columbia Colle	103.38	49	⇑P		Pdif	14 00 19.6 +1.5
baz=103,SNR=7.9							
CMB	Columbia Colle	103.38	49	PFAKE			14 00 30.0 +12
CMB					LR	LR	
comp=Z,12µm,20.0s,MS6.4							
R05C	Kirkwood Meado	103.39	48	⇓P		Pdif	14 00 19.9 +1.8
baz=103,SNR=14							
J09A	Fry Pan Ranch,	103.41	43	⇑P		Pdif	14 00 20.0 +1.8
baz=103,SNR=39							
STU	Stuttgart	103.42	323	ePdif		Pdif	14 00 18.1 -0.2
STU				eSdiff		Sdif	14 12 01.4 -3.4
STU				eSP		SP	14 13 34.0 -6.4
STU	Stuttgart	103.42	323	ePdif		Pdif	14 00 18.4 +0.1
WCN	Washoe City	103.43	47	⇓P		Pdif	14 00 20.3 +2.0
baz=103,SNR=15							
L08A	Fields	103.43	44	⇓P		Pdif	14 00 20.3 +1.9
baz=103,SNR=53							
BUCH	Bad Urach	103.47	323	P		Pdif	14 00 20.3 +1.8
F11A	Grangeville	103.48	40	⇓P		Pdif	14 00 19.2 +0.6
baz=103							
FIAM	Fiamignano	103.49	316	P		Pdif	14 00 19.3 +0.7
N07B	Gerlach	103.49	46	⇑P		Pdif	14 00 20.5 +1.9
baz=103							
B13A	Whitefish	103.50	37	⇓P		Pdif	14 00 20.6 +2.0
baz=103,SNR=19							
D12A	Red Ives Fores	103.51	39	⇓P		Pdif	14 00 20.0 +1.3
baz=103							
T05C	Eagle Field, D	103.53	50	⇑P		Pdif	14 00 20.8 +2.1
baz=103							
MURB	Monte Urbino	103.53	317	P		Pdif	14 00 20.0 +1.3
WALA	Waterton Lakes	103.53	36	ePdif		Pdif	14 00 19.2 +0.5
comp=Z,89nm,1.3s							
PAHR	Pah Rah Range	103.56	47	ePdif		Pdif	14 00 20.0 +1.1
comp=Z,35nm,1.1s							
BOSA	Boshof	103.59	242	Pdiff		Pdif	14 00 19.8 +0.8
comp=Z,3.4nm,0.7s,baz=137,slow=3.3,SNR=9.6							
BOSA					PKKPbc	PKKPbc	14 16 15.3 +2.5
comp=Z,15nm,1.0s,baz=265,slow=3.8,SNR=12							
BOSA	Boshof	103.59	242	Pdif		Pdif	14 00 19.8 +0.8
BOSA					PKKPbc	PKKPbc	14 16 15.3 +2.5
G11A	Walters Elk Ra	103.61	41	⇑P		Pdif	14 00 20.0 +0.9
baz=104,SNR=15							
U04C	Hernandez Rese	103.61	50	⇑P		Pdif	14 00 21.4 +2.3
baz=104,SNR=15							
H10A	Noah's Angus R	103.61	41	⇑P		Pdif	14 00 20.3 +1.2
baz=104,SNR=17							
DAVA	Damuels	103.64	322	⇓i P		Pdif	14 00 19.9 +0.6
comp=Z,516nm,3.0s,SNR=11							
DAVA	Damuels	103.64	322	⇓i Pdiff		Pdif	14 00 19.9 +0.6
comp=Z,516nm,3.0s,SNR=11							
S05C	Merced	103.64	49	⇑P		Pdif	14 00 20.7 +1.4
baz=104,SNR=6.8							
CDCA	Citt' di Caste	103.65	317	P		Pdif	14 00 21.1 +1.8
K09A	Rome	103.67	44	⇑P		Pdif	14 00 21.2 +1.8
baz=104,SNR=25							
M08A	Happy Creek Ra	103.67	45	⇑P		Pdif	14 00 21.5 +2.1
baz=104,SNR=29							
LBG	Lerchenberg	103.71	323	P		Pdif	14 00 21.4 +1.9
C13A	Hot Springs	103.73	38	⇓P		Pdif	14 00 21.2 +1.6
baz=104,SNR=6.7							
SFI	Santa Sofia	103.74	318	P		Pdif	14 00 20.7 +1.0
V04C	Ramage Ranch,	103.77	51	⇑P		Pdif	14 00 22.0 +2.2
baz=104							
I10A	Payette	103.77	42	⇓P		Pdif	14 00 21.6 +1.7
baz=104							
GUT	Gutenstein	103.77	323	P		Pdif	14 00 23.2 +3.4
O07A	Toulon	103.78	46	⇓P		Pdif	14 00 21.6 +1.8
baz=104,SNR=25							
MAGA	Magasa	103.80	320	P		Pdif	14 00 22.4 +2.5
S06C	San Francisco	103.83	49	⇓P		Pdif	14 00 21.7 +1.6
baz=104,SNR=16							
MNO	Monte Soro	103.85	311	P		Pdif	14 00 21.3 +1.1
DAVOX	Davos/Dischmat	103.85	321	Pdiff		Pdif	14 00 20.7 +0.5
comp=Z,43nm,1.1s,baz=102,slow=1.3,SNR=28							
DAVOX					PKiKP	PKiKP	14 04 39.2 +1.0
comp=Z,24nm,1.0s,baz=177,slow=9.2,SNR=5.4							
DAVOS	Davos	103.88	321	P		Pdif	14 00 20.7 +0.4
R06C	Coleville	103.92	48	⇓P	

HGN Heimansgroeve 104.39 326 ScSP SP 14 13 44.2 -6.2
I11A Placerville 104.40 42 ⇓P Pdif 14 00 24.1 +1.5
baz=104
KCC Kaiser Creek 104.41 49 ⇓P Pdif 14 00 24.1 +1.4
baz=104,SNR=18
MEM Membach 104.42 326 P Pdif 14 00 23.2 +0.5
comp=Z,37nm,1.3s
V05C Boulder Hill, 104.44 51 ⇓P Pdif 14 00 25.1 +2.3
baz=104
MSO Missoula 104.48 39 ePdif Pdif 14 00 23.2 +0.2
comp=Z,17nm,1.3s
MSO LR LR
comp=Z,3µm,20.0s,MS5.9
N09A Rock Creek Ran 104.49 45 ⇑P Pdif 14 00 25.2 +2.2
baz=104,SNR=21
E13A Victor 104.50 39 ⇑P Pdif 14 00 23.6 +0.5
baz=104
BEBN Eben Emael 104.51 326 P Pdif 14 00 23.9 +0.7
P08A Dixie Valley 104.51 47 ⇑P Pdif 14 00 25.5 +2.3
baz=104
FELD Feldberg im Sc 104.53 323 eP Pdif 14 00 23.7 +0.5
SMMC Simmler 104.54 51 ⇑P Pdif 14 00 25.6 +2.3
baz=104
KIZ Kirchzarten 104.55 323 P Pdif 14 00 24.8 +1.5
VLC Villacollemand 104.61 319 PFAKE 14 00 40.0 +16
VLC LR LR
comp=Z,7µm,20.0s,MS6.2
D14A Greenough 104.64 38 ⇓P Pdif 14 00 24.4 +0.7
baz=104,SNR=16
LIBD Limburg 104.65 323 eP Pdif 14 00 24.1 +0.4
MLAC Mammoth Lakes 104.67 49 ⇓P Pdif 14 00 26.2 +2.4
baz=105
MFID Camas Ranch 104.68 42 ⇑P Pdif 14 00 25.8 +1.9
baz=104,SNR=30
F13A Darby 104.69 40 ⇓P Pdif 14 00 24.6 +0.7
baz=104,SNR=11
CDF Champ du Feu 104.72 323 eP Pdif 14 00 23.9 -0.2
comp=Z,386nm,1.9s
CDF Champ du Feu 104.72 323 eP Pdif 14 00 23.9 -0.2
CDF pmax pmax
comp=Z,193nm,1.9s
CDF Champ du Feu 104.72 323 eP Pdif 14 00 23.9 -0.2
comp=Z,193nm,1.9s
L10A Juniper Basin 104.77 44 ⇑P Pdif 14 00 26.2 +1.9
baz=105,SNR=19
WLF Walferdange 104.79 325 P Pdif 14 00 25.1 +0.8
comp=Z,94nm,1.9s
WLF Walferdange 104.79 325 ePdiff Pdif 14 00 24.8 +0.4
WLF ePP PP 14 04 44.3 +0.3
WLF eSdiff Sdif 14 12 17.7 +1.5
WLF eSP SP 14 13 49.6 -5.0
WLF Walferdange 104.79 325 PFAKE 14 00 40.0 +16
WLF LR LR
comp=Z,12µm,19.0s,MS6.5
NVAR Mina Array Bea 104.79 48 Pdiff Pdif 14 00 25.1 +0.8
comp=Z,11nm,0.9s,baz=277,slow=4.4,SNR=52
NVAR PKiKP PKiKP 14 04 42.3 +2.1
comp=Z,14nm,1.1s,baz=233,slow=2.4,SNR=6.5
NVAR PKKPbc PKKPbc 14 16 09.3 0.0
comp=Z,7.4nm,0.7s,baz=140,slow=2.9,SNR=26
K11A Parker Ranch, 104.80 43 ⇑P Pdif 14 00 26.3 +1.9
baz=105,SNR=17
RCTC Rector, Farmer 104.81 50 ⇑P Pdif 14 00 25.8 +1.4
baz=105
PKM Peak Mountain 104.81 52 ⇑P Pdif 14 00 27.1 +2.6
baz=105
HELL Mitchell Peak 104.85 50 ⇑P Pdif 14 00 26.1 +1.5
baz=105,SNR=16
BMN Battle Mountai 104.86 46 eP Pdif 14 00 26.1 +1.4
BMN pmax pmax
comp=Z,33nm,1.4s
BMN MLR MLR
comp=Z,6µm,20.0s,MS6.1
BMN Battle Mountai 104.86 46 ePdif Pdif 14 00 26.1 +1.4
comp=Z,33nm,1.4s
BMN LR LR
comp=Z,6µm,20.0s,MS6.1
H12A Diamond D Ranc 104.87 41 ⇑P Pdif 14 00 26.3 +1.6
baz=105
CHMT Chamberlain Mo 104.87 38 ePdif Pdif 14 00 24.6 -0.1
ECH Echery 104.88 323 eP Pdif 14 00 25.4 +0.6
ECH Echery 104.88 323 ePdif Pdif 14 00 24.4 -0.3
BCLA Clavier 104.90 326 P Pdif 14 00 25.4 +0.6
comp=Z,56nm,2.0s
Q08A Gabbs 104.92 47 ⇓P Pdif 14 00 26.7 +1.7
baz=105,SNR=9.7
M10A I.L. Ranch, Tu 104.93 44 ⇑P Pdif 14 00 26.9 +1.9
baz=105,SNR=13
E14A Clinton 104.94 39 ⇑P Pdif 14 00 26.4 +1.3
baz=105
R08A Mina 104.97 48 ⇓P Pdif 14 00 27.2 +2.1
baz=105
MTUM Tungsten Hills 104.97 49 ePdif Pdif 14 00 25.5 +0.4
O09A Fish Creek Ran 104.98 46 ⇓P Pdif 14 00 27.5 +2.3
baz=105,SNR=20
BBS Basel-Blauen 105.01 322 eP Pdif 14 00 25.4 +0.1
SBC Santa Barbara 105.04 52 ⇑P Pdif 14 00 27.6 +2.1
baz=105
G13A Cobalt 105.04 40 ⇓P Pdif 14 00 26.5 +1.0
baz=105,SNR=13
MOF Molkenrain 105.06 323 eP Pdif 14 00 25.8 +0.2
VES Vestal, Richgr 105.08 51 ⇓P Pdif 14 00 26.8 +1.1
baz=105,SNR=7.7
S08C White Mtn Res 105.21 49 ⇑P Pdif 14 00 28.3 +2.1
baz=105,SNR=22
L11A Cat Creek Ranc 105.22 43 ⇓P Pdif 14 00 28.1 +1.8
baz=105,SNR=23
UCC Uccle 105.23 327 P Pdif 14 00 27.3 +1.0
comp=Z,46nm,1.7s
J12A Stokes Ranch, 105.24 42 ⇓P Pdif 14 00 28.1 +1.8
baz=105,SNR=14
P09A Austin 105.24 46 ⇓P Pdif 14 00 27.1 +0.7
baz=105
BSC Santa Cruz Isl 105.24 52 ⇑P Pdif 14 00 28.4 +2.0
baz=105
HINF Hinteralfeld 105.25 323 eP Pdif 14 00 25.8 -0.6
comp=Z,154nm,1.9s
HINF Hinteralfeld 105.25 323 eP Pdif 14 00 25.8 -0.6
HINF pmax pmax
comp=Z,77nm,1.9s
HINF Hinteralfeld 105.25 323 eP Pdif 14 00 25.8 -0.6
comp=Z,77nm,1.9s
H13A Challis 105.25 41 ⇓P Pdif 14 00 27.9 +1.5
baz=105,SNR=26
N10A Dunphy 105.26 45 ⇓P Pdif 14 00 28.6 +2.1
baz=105
D15A Lincoln 105.26 38 ⇑P Pdif 14 00 27.7 +1.3
baz=105
F14A Wisdom 105.28 39 ⇑P Pdif 14 00 27.1 +0.6
baz=105
TIN Tinemaha 105.32 49 ⇓P Pdif 14 00 28.9 +2.2
baz=105
GIVF Givet 105.33 326 eP Pdif 14 00 26.5 -0.2
comp=Z,281nm,1.6s
GIVF Givet 105.33 326 eP Pdif 14 00 26.5 -0.2
GIVF pmax pmax
comp=Z,141nm,1.6s
GIVF Givet 105.33 326 eP Pdif 14 00 26.5 -0.2
comp=Z,141nm,1.6s
O10A Cortez Mining, 105.42 45 ⇑P Pdif 14 00 28.9 +1.7
baz=105
DOU Dourbes 105.46 326 P Pdif 14 00 27.6 +0.3
comp=Z,19nm,1.1s
HAU Haudompre 105.46 323 eP Pdif 14 00 27.1 -0.2
comp=Z,150nm,1.8s
HAU eMLR MLR
comp=Z,11µm,19.2s,MS6.1
HAU Haudompre 105.46 323 eP Pdif 14 00 27.1 -0.2
HAU pmax pmax
comp=Z,75nm,1.8s
HAU MLR MLR
comp=Z,11µm,19.3s,MS6.4
HAU Haudompre 105.46 323 eP Pdif 14 00 27.1 -0.2
comp=Z,75nm,1.8s
HAU LR LR
comp=Z,11µm,19.3s,MS6.4
E15A Deer Lodge 105.47 38 ⇓P Pdif 14 00 28.5 +1.1
baz=105,SNR=31
G14A Jackson 105.47 40 ⇑P Pdif 14 00 27.5 +0.1
baz=105
Q09A Carvers 105.47 47 ⇑P Pdif 14 00 29.0 +1.6
baz=105
LOMF Lomont 105.48 323 eP Pdif 14 00 28.2 +0.8
M11A Holland Ranch, 105.49 44 ⇓P Pdif 14 00 29.0 +1.5
baz=105,SNR=18
ARVC Arvin 105.51 51 ⇓P Pdif 14 00 29.3 +1.7
baz=105

SNCC San Nicolas Is 105.56 53 ⇓P Pdif 14 00 29.0 +1.2
baz=106
SNCC San Nicolas Is 105.56 53 PFAKE 14 04 50.0 +8.2
SNCC LR LR
comp=Z,9µm,20.0s,MS6.3
HLID Hailey 105.56 42 ⇑P Pdif 14 00 29.5 +1.7
baz=105,SNR=27
HLID Hailey 105.56 42 ePdif Pdif 14 00 28.1 +0.4
comp=Z,34nm,1.4s
HLID LR LR
comp=Z,6µm,20.0s,MS6.1
THEF They Montfort 105.57 324 eP Pdif 14 00 26.3 -1.5
ISA Isabella 105.61 51 P Pdif 14 00 29.6 +1.6
ISA e 14 04 53.3
ISA pmax pmax
comp=Z,13nm,1.1s
ISA Isabella 105.61 51 ⇑P Pdif 14 00 29.2 +1.3
baz=106,SNR=9.0
ISA Isabella 105.61 51 ePdif Pdif 14 00 28.8 +0.9
comp=Z,13nm,1.1s
ISA LR LR
comp=Z,7µm,20.0s,MS6.2
I13A Wildhorse Cree 105.61 41 ⇓P Pdif 14 00 29.8 +1.8
baz=106,SNR=31
K12A Draper Farm, C 105.62 43 ⇑P Pdif 14 00 29.8 +1.8
baz=106
BORG Borgarnes 105.62 347 PFAKE 14 04 50.0 +9.1
BORG LR LR
comp=Z,7µm,19.0s,MS6.2
CWC Cottonwood Cre 105.64 50 ⇑P Pdif 14 00 29.9 +1.8
baz=106,SNR=5.8
BLG Laguna Peak 105.66 52 ⇓P Pdif 14 00 29.6 +1.4
baz=106
BAIF Baives 105.69 326 eP Pdif 14 00 28.2 -0.2
comp=Z,126nm,1.4s
BAIF Baives 105.69 326 eP Pdif 14 00 28.2 -0.2
BAIF pmax pmax
comp=Z,63nm,1.4s
BAIF Baives 105.69 326 eP Pdif 14 00 28.2 -0.2
comp=Z,63nm,1.4s
P10A Eureka 105.70 46 ⇓P Pdif 14 00 30.2 +1.8
baz=106
TPH Tonopah 105.72 48 P Pdif 14 00 31.1 +2.6
TPH pmax pmax
comp=Z,27nm,1.3s
TPH Tonopah 105.72 48 ePdif Pdif 14 00 29.1 +0.7
comp=Z,27nm,1.4s
TPH LR LR
comp=Z,8µm,20.0s,MS6.2
L12A House Creek Ra 105.74 43 ⇑P Pdif 14 00 30.3 +1.7
baz=106,SNR=12
N11A Elko Archery C 105.76 45 ⇑P Pdif 14 00 30.7 +2.1
baz=106
R09A Tonopah 105.77 48 ⇓P Pdif 14 00 30.4 +1.7
baz=106,SNR=24
J13A Cove Ranch, Pi 105.79 42 ⇑P Pdif 14 00 30.4 +1.6
baz=106,SNR=18
F15A Butte 105.82 39 ⇓P Pdif 14 00 30.4 +1.5
baz=106,SNR=18
S09A Goldfield 105.84 48 ⇑P Pdif 14 00 30.3 +1.3
baz=106,SNR=18
MEZF Maizieres J'vi 105.98 324 eP Pdif 14 00 29.8 +0.1
comp=Z,335nm,1.7s
MEZF Maizieres J'vi 105.98 324 eP Pdif 14 00 29.8 +0.1
comp=Z,335nm,1.7s
GRAC Grapevine Rang 105.99 49 ⇓P Pdif 14 00 31.6 +1.9
baz=106,SNR=11
Q10A Clear Creek Ra 106.04 47 ⇑P Pdif 14 00 31.7 +1.8
baz=106
DAC Darwin (Calif) 106.07 50 PFAKE 14 04 50.0 +7.4
DAC LR LR
comp=Z,10µm,20.0s,MS6.4
O11A Cowboy Ranch, 106.08 45 ⇑P Pdif 14 00 31.7 +1.6
baz=106
M12A Wells 106.10 44 ⇓P Pdif 14 00 32.4 +2.2
baz=106,SNR=20
G15A Dillon 106.12 40 ⇓P Pdif 14 00 31.8 +1.5
baz=106,SNR=6.5
ELK Elko 106.14 45 P Pdif 14 00 32.9 +2.5
ELK pmax pmax
comp=Z,26nm,1.2s
ELK Elko 106.14 45 ePdif Pdif 14 00 32.0 +1.7
comp=Z,26nm,1.2s
ELK LR LR
comp=Z,6µm,21.0s,MS6.1
K13A Stover Farm, H 106.16 42 ⇑P Pdif 14 00 32.5 +2.0
baz=106
DECC Green Verdugo 106.19 52 ⇓P Pdif 14 00 31.6 +1.0
baz=106
PGF Pioggiola 106.19 317 eP Pdif 14 00 30.4 -0.2
comp=Z,294nm,1.6s
PGF Pioggiola 106.19 317 eP Pdif 14 00 30.4 -0.2
PGF pmax pmax
comp=Z,147nm,1.6s
PGF Pioggiola 106.19 317 eP Pdif 14 00 30.4 -0.2
comp=Z,147nm,1.6s
MPMC Manual Prospec 106.22 50 ⇑P Pdif 14 00 32.9 +2.1
baz=106,SNR=15
S10A Tonopah Range, 106.23 48 ⇑P Pdif 14 00 32.9 +2.1
baz=106,SNR=16
P11A Circle Ranch, 106.23 46 ⇑P Pdif 14 00 33.1 +2.3
baz=106
N12A Clover Valley, 106.24 44 ⇓P Pdif 14 00 33.3 +2.5
baz=106,SNR=13
EDW2 Edwards Air Fo 106.24 51 ⇑P Pdif 14 00 32.9 +2.1
baz=106,SNR=8.2
CABF La Chapelle 106.27 322 eP Pdif 14 00 30.8 -0.1
comp=Z,183nm,1.9s
CABF La Chapelle 106.27 322 eP Pdif 14 00 30.8 -0.1
CABF pmax pmax
comp=Z,92nm,1.9s
CABF La Chapelle 106.27 322 eP Pdif 14 00 30.8 -0.1
comp=Z,92nm,1.9s
LRMC Laurel Mountai 106.27 50 ⇑P Pdif 14 00 33.2 +2.2
baz=106
R10A Warm Springs 106.31 47 ⇑P Pdif 14 00 33.6 +2.5
baz=106
LPG La Plagne 106.37 321 eP Pdif 14 00 31.7 +0.3
comp=Z,60nm,1.1s
LPG La Plagne 106.37 321 eP Pdif 14 00 31.7 +0.3
LPG pmax pmax
comp=Z,30nm,1.1s
LPG La Plagne 106.37 321 eP Pdif 14 00 31.7 +0.3
comp=Z,30nm,1.1s
LPL La Plagne 106.38 321 eP Pdif 14 00 31.7 +0.3
comp=Z,67nm,1.1s
LPL La Plagne 106.38 321 eP Pdif 14 00 31.7 +0.3
LPL pmax pmax
comp=Z,33nm,1.1s
LPL La Plagne 106.38 321 eP Pdif 14 00 31.7 +0.3
comp=Z,34nm,1.1s
FMP Fort Macarthur 106.39 52 ⇓P Pdif 14 00 33.4 +1.9
baz=106
CIS Catalina Islan 106.40 53 ⇑P Pdif 14 00 32.8 +1.3
baz=106
MWC Mount Wilson 106.41 52 P Pdif 14 00 34.0 +2.5
MWC 14 04 58.7
MWC pmax pmax
comp=Z,43nm,1.4s
MWC Mount Wilson 106.41 52 ePdif Pdif 14 00 33.6 +2.1
comp=Z,43nm,1.4s
MWC LR LR
comp=Z,9µm,19.0s,MS6.3
SCI San Clemente I 106.43 53 ⇑P Pdif 14 00 32.6 +1.0
baz=106
EKA Eskdalemuir Ar 106.44 333 Pdiff Pdif 14 00 32.5 +0.9
comp=Z,5.6nm,0.9s,baz=46,slow=3.6,SNR=9.4
EKA PP PP 14 04 54.4 -1.5
comp=Z,7.5nm,0.9s,baz=59,slow=8.2,SNR=5.1
EKA PKKPbc PKKPbc 14 16 03.6 -1.3
comp=Z,9.9nm,1.0s,baz=239,slow=3.4,SNR=7.9
EKA Eskdalemuir Ar 106.44 333 P Pdif 14 00 32.6 +0.9
EKA 14 04 54.4
BOZ Bozeman (W) 106.45 39 P Pdif 14 00 33.8 +2.1
BOZ pmax pmax
comp=Z,13nm,1.2s
BOZ Bozeman (W) 106.45 39 ⇑P Pdif 14 00 33.8 +2.1
baz=106
BOZ Bozeman (W) 106.45 39 Pdif Pdif 14 00 31.6 -0.2
comp=Z,13nm,1.2s
BOZ LR LR
comp=Z,3µm,21.0s,MS5.8
EGMT Eagleton 106.45 36 ⇑P Pdif 14 00 33.4 +1.7
baz=106
EGMT Eagleton 106.45 36 ePdif Pdif 14 00 32.9 +1.2
comp=Z,62nm,1.3s
EGMT LR LR

comp=Z,5µm,20.0s,MS6.0
ESK Eskdalemuir 106.47 333 PFAKE 14 04 50.0 +7.2
ESK LR LR
comp=Z,9µm,20.0s,MS6.3
L13A Double Diamond 106.49 43 ⇓P Pdif 14 00 34.1 +2.2
baz=106
FURC Furnace Creek, 106.56 49 ⇑P Pdif 14 00 33.7 +1.5
baz=106,SNR=10
Q11A Duckwater 106.58 47 ⇑P Pdif 14 00 33.9 +1.6
baz=106,SNR=11
BNI Bardonecchia 106.62 321 PFAKE 14 05 00.0 +17
BNI LR LR
comp=Z,9µm,20.0s,MS6.3
M13A Montello 106.64 44 ⇓P Pdif 14 00 34.8 +2.3
baz=106
SBF Sospel 106.66 319 eP Pdif 14 00 32.2 -0.5
O12A Currie 106.67 45 ⇑P Pdif 14 00 33.9 +1.1
baz=106,SNR=12
MBDF Montbardon 106.71 320 eP Pdif 14 00 32.1 -0.8
BFSC Mount Baldy St 106.71 52 ⇓P Pdif 14 00 34.8 +1.9
baz=107
FFC Flin Flon 106.80 27 P Pdif 14 00 34.5 +1.2
FFC e 14 04 59.3
FFC pmax pmax
comp=Z,28nm,1.2s
FFC Flin Flon 106.80 27 ePdif Pdif 14 00 34.2 +0.9
comp=Z,28nm,1.3s
FFC LR LR
comp=Z,6µm,20.0s,MS6.1
R11A Troy Canyon, C 106.81 47 ⇓P Pdif 14 00 35.2 +1.8
baz=107,SNR=21
K14A Jones Ranch, D 106.81 42 ⇓P Pdif 14 00 35.1 +1.8
baz=107
TPNV Topopah Spring 106.84 49 P Pdif 14 00 35.0 +1.5
TPNV pmax pmax
comp=Z,84nm,1.7s
TPNV Topopah Spring 106.84 49 ⇑P Pdif 14 00 35.2 +1.8
baz=107
TPNV Topopah Spring 106.84 49 ePdif Pdif 14 00 34.1 +0.6
comp=Z,84nm,1.8s
TPNV LR LR
comp=Z,8µm,22.0s,MS6.2
QLMT Earthquake Lak 106.94 40 ePdif Pdif 14 00 35.7 +1.8
S11A Rachel 106.96 48 ⇓P Pdif 14 00 36.1 +2.1
baz=107
U10A Ash Meadows, A 106.97 49 ⇑P Pdif 14 00 36.1 +2.0
baz=107,SNR=10
L14A Malta 106.99 43 ⇓P Pdif 14 00 35.9 +1.8
baz=107,SNR=8.7
RRX Edison Barstow 107.01 51 ⇓P Pdif 14 00 36.2 +2.0
baz=107
GSC Goldstone 107.01 50 P Pdif 14 00 36.6 +2.4
GSC e 14 05 07.7
GSC pmax pmax
comp=Z,29nm,1.3s
GSC Goldstone 107.01 50 ⇑P Pdif 14 00 36.2 +2.0
baz=107,SNR=9.5
GSC Goldstone 107.01 50 ePdif Pdif 14 00 36.0 +1.8
comp=Z,29nm,1.3s
GSC LR LR
comp=Z,8µm,20.0s,MS6.3
SFJD Kangerlussuaq 107.06 359 PFAKE 14 05 00.0 +16
SFJD LR LR
comp=Z,6µm,19.0s,MS6.2
Q12A Willow Creek R 107.09 46 ⇑P Pdif 14 00 36.5 +1.9
baz=107,SNR=13
M14A Sheep Mountain 107.14 43 ⇓P Pdif 14 00 36.8 +2.0
baz=107,SNR=9.5
ORIF Oris-en-Rattie 107.18 321 eP Pdif 14 00 35.0 0.0
comp=Z,50nm,1.1s
ORIF eMLR MLR
comp=Z,15µm,22.5s,MS6.2
ORIF Oris-en-Rattie 107.18 321 eP Pdif 14 00 35.0 0.0
ORIF pmax pmax
comp=Z,25nm,1.1s
ORIF Oris-en-Rattie 107.18 321 eP Pdif 14 00 35.0 0.0
comp=Z,25nm,1.1s
K15A Arbon 107.19 42 ⇓P Pdif 14 00 37.7 +2.7
baz=107
SHOC Shoshone 107.20 50 ⇑P Pdif 14 00 37.1 +2.1
baz=107
O13A Hicks Ranch, I 107.26 45 ⇑P Pdif 14 00 37.2 +1.9
baz=107
BBRC Big Bear Sol-O 107.28 51 ⇑P Pdif 14 00 36.9 +1.5
baz=107
MURC Murrieta 107.29 52 ⇑P Pdif 14 00 37.3 +1.9
baz=107
SUR Sutherland 107.29 238 PFAKE 14 05 00.0 +15
SUR LR LR
comp=Z,11µm,22.0s,MS6.4
LOR Lormes 107.29 324 eP Pdif 14 00 35.2 -0.3
comp=Z,102nm,1.5s
LOR eMLR MLR
comp=Z,10µm,19.8s,MS6.1
LOR Lormes 107.29 324 eP Pdif 14 00 35.2 -0.3
LOR pmax pmax
comp=Z,51nm,1.5s
LOR MLR MLR
comp=Z,10µm,19.8s,MS6.4
LOR Lormes 107.29 324 eP Pdif 14 00 35.2 -0.3
comp=Z,51nm,1.5s
LOR LR LR
comp=Z,10µm,19.8s,MS6.4
FRF La Foret Royal 107.31 319 eP Pdif 14 00 35.2 -0.4
YMR Madison River 107.31 40 ePdif Pdif 14 00 35.4 -0.1
comp=Z,34nm,1.1s
YMR LR LR
comp=Z,7µm,22.0s,MS6.2
FCC Fort Churchill 107.32 21 ePKiKP PKiKP 14 04 45.6 +1.4
HVU Hansel Valley 107.41 43 eP Pdif 14 00 37.9 +1.9
HVU pmax pmax
comp=Z,19nm,1.2s
HVU Hansel Valley 107.41 43 ePdif Pdif 14 00 37.9 +1.9
comp=Z,19nm,1.2s
YFT Old Faithful 107.50 40 ePdif Pdif 14 00 40.7 +4.3
T11A Corn Creek, Al 107.50 48 ⇑P Pdif 14 00 38.1 +1.7
baz=107,SNR=9.6
LMR La Mourre 107.50 319 eP Pdif 14 00 36.1 -0.3
comp=Z,86nm,1.4s
LMR La Mourre 107.50 319 eP Pdif 14 00 36.1 -0.3
LMR pmax pmax
comp=Z,43nm,1.4s
LMR La Mourre 107.50 319 eP Pdif 14 00 36.1 -0.3
comp=Z,43nm,1.4s
P13A Bates Ranch, G 107.51 45 ⇓P Pdif 14 00 38.1 +1.7
baz=107,SNR=31
N14A Grayback Hills 107.52 44 ⇑P Pdif 14 00 38.5 +2.0
baz=107
J16A Bone 107.53 41 ⇑P Pdif 14 00 38.7 +2.2
baz=107
R12A Pony Springs, 107.53 47 ⇑P Pdif 14 00 38.2 +1.6
baz=107,SNR=28
HEC Hector,Ludlow 107.54 51 ⇓P Pdif 14 00 38.4 +1.8
baz=107,SNR=5.6
L15A Malad City 107.58 43 ⇑P Pdif 14 00 38.4 +1.7
baz=107
GCMT Greycliff 107.59 38 ePdif Pdif 14 00 38.8 +2.0
BGU Big Grassy Mou 107.60 44 ePKiKP PKiKP 14 04 48.0 +2.7
109C Camp Elliot, M 107.60 53 ⇑P Pdif 14 00 38.3 +1.5
baz=108
SSF Saint Saulge 107.60 323 eP Pdif 14 00 36.6 -0.3
comp=Z,33nm,1.1s
SSF Saint Saulge 107.60 323 eP Pdif 14 00 36.6 -0.3
SSF pmax pmax
comp=Z,16nm,1.1s
SSF Saint Saulge 107.60 323 eP Pdif 14 00 36.6 -0.3
comp=Z,16nm,1.1s
SMF Signal de Mont 107.61 323 eP Pdif 14 00 36.7 -0.2
comp=Z,50nm,1.3s
SMF Signal de Mont 107.61 323 eP Pdif 14 00 36.7 -0.2
SMF pmax pmax
comp=Z,25nm,1.3s
SMF Signal de Mont 107.61 323 eP Pdif 14 00 36.7 -0.2
comp=Z,25nm,1.3s
S12A Delamar Landin 107.63 48 ⇓P Pdif 14 00 39.0 +2.0
baz=108,SNR=8.5
TUQ Turquoise Mtn. 107.64 50 ⇑P Pdif 14 00 37.7 +0.7
baz=108,SNR=8.2
DCID1 Drake Creek 107.67 41 ePdif Pdif 14 00 39.3 +2.1
SNAA Sanae 107.68 195 ePKiKP PP 14 05 05.1 +0.2
SNAA e 14 15 59.5
SNAA e 14 16 12.8
SNAA e 14 16 15.3
SNAA Sanae 107.68 195 PKKPbc PKKPbc 14 15 59.0 -2.5
comp=Z,4.0nm,0.9s,baz=315,slow=6.4,SNR=20
SNAA PKPPKP 14 24 20.9
comp=Z,0.8nm,0.8s,baz=286,slow=2.5,SNR=3.9

U11A	Corn Creek	107.68	49	⇑P		Pdif	14 00 39.1 +1.9
	baz=108						
IMW	Indian Meadow	107.69	40	ePdif		Pdif	14 00 39.0 +1.7
	comp=Z,55nm,1.6s						
RRI2	Red Ridge	107.69	41	ePdif		Pdif	14 00 38.9 +1.6
	comp=Z,34nm,1.5s						
Q13A	Wheeler Ranch,	107.71	46	⇓P		Pdif	14 00 39.5 +2.2
	baz=108						
LKWY	Lake	107.72	39	PFAKE			14 05 00.0 +15
LKWY				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
K16A	Soda Springs	107.74	41	⇑P		Pdif	14 00 40.2 +2.7
	baz=108						
FLWY	Flagg Ranch	107.75	40	ePdif		Pdif	14 00 39.8 +2.2
	comp=Z,52nm,1.3s						
M15A	Larsen Ranch,	107.77	43	⇑P		Pdif	14 00 39.2 +1.6
	baz=108						
SMRF	Simiane la Rot	107.81	320	eP		Pdif	14 00 37.9 +0.1
AVF	Avril sur Loir	107.83	323	eP		Pdif	14 00 37.5 -0.4
	comp=Z,30nm,1.1s						
AVF	Avril sur Loir	107.83	323	eP		Pdif	14 00 37.5 -0.4
AVF				pmax	pmax		
	comp=Z,15nm,1.1s						
AVF	Avril sur Loir	107.83	323	eP		Pdif	14 00 37.5 -0.4
	comp=Z,15nm,1.1s						
SSB	Saint Sauveur	107.85	321	P		Pdif	14 00 38.6 +0.6
SSB	Saint Sauveur	107.85	321	ePdif		Pdif	14 00 38.5 +0.6
TPAW	Teton Pass	107.86	41	Pdif		Pdif	14 00 38.9 +0.9
	comp=Z,32nm,1.5s						
V11A	Goodsprings	107.86	49	⇑P		Pdif	14 00 39.6 +1.6
	baz=108						
PFO	Pinyon Flat Ob	107.87	52	PKiKP		PKiKP	14 04 46.0 0.0
	comp=Z,3.9nm,0.8s,baz=306,slow=10,SNR=3.9						
PFO	Pinyon Flat Ob	107.87	52	P		Pdif	14 00 39.8 +1.8
PFO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PFO	Pinyon Flat Ob	107.87	52	⇓P		Pdif	14 00 39.6 +1.6
	baz=108						
PFO	Pinyon Flat Ob	107.87	52	ePdif		Pdif	14 00 39.4 +1.3
	comp=Z,6.6nm,0.9s						
PFO				PKPdf		PKiKP	14 04 46.0 0.0
PFO				LR	LR		
	comp=Z,7μm,19.0s,MS6.2						
MOOW	Moose Ponds	107.88	40	ePdif		Pdif	14 00 38.8 +0.7
	comp=Z,11nm,1.1s						
N15A	Stansbury Isla	107.96	44	⇓P		Pdif	14 00 39.8 +1.3
	baz=108						
VIVF	Saint-Julien-l	107.97	321	eP		Pdif	14 00 38.2 -0.3
	comp=Z,37nm,1.1s						
VIVF	Saint-Julien-l	107.97	321	eP		Pdif	14 00 38.2 -0.3
VIVF				pmax	pmax		
	comp=Z,18nm,1.1s						
VIVF	Saint-Julien-l	107.97	321	eP		Pdif	14 00 38.2 -0.3
	comp=Z,18nm,1.1s						
REDW	Red Top Meadow	107.99	41	ePdif		Pdif	14 00 40.5 +1.9
	comp=Z,63nm,1.7s						
REDW				ePKiKP		PKiKP	14 04 47.5 +1.5
SNOW	Snow King Moun	108.00	41	ePKiKP		PKiKP	14 04 47.2 +1.2
BAR	Barrett	108.01	53	PFAKE			14 05 00.0 +14
BAR				LR	LR		
	comp=Z,6μm,19.0s,MS6.2						
LOHW	Long Hollow	108.03	40	ePdif		Pdif	14 00 37.1 -1.7
	comp=Z,43nm,1.9s						
LOHW				ePKiKP		PKiKP	14 04 47.5 +1.5
R13A	O'Grain Ranch,	108.05	47	⇑P		Pdif	14 00 40.6 +1.7
	baz=108,SNR=27						
DUG	Dugway	108.05	44	P		Pdif	14 00 40.6 +1.7
DUG				pmax	pmax		
	comp=Z,13nm,1.0s						
DUG	Dugway	108.05	44	ePdif		Pdif	14 00 39.2 +0.3
	comp=Z,13nm,1.0s						
DUG				LR	LR		
	comp=Z,6μm,21.0s,MS6.1						
T12A	Moapa	108.07	48	⇓P		Pdif	14 00 41.0 +2.1
	baz=108,SNR=16						
GMRC	Granite Mounta	108.07	51	⇑P		Pdif	14 00 40.6 +1.7
	baz=108,SNR=9.6						
PLDF	La Plantade	108.08	322	eP		Pdif	14 00 39.9 +0.9
BELC	Belle Mtn.	108.09	51	⇓P		Pdif	14 00 40.9 +1.8
	baz=108,SNR=8.0						
AHID	Auburn Hatcher	108.09	41	PFAKE			14 05 00.0 +14
AHID				LR	LR		
	comp=Z,5μm,22.0s,MS6.1						
P14A	Drum Mountains	108.12	45	⇓P		Pdif	14 00 41.1 +1.9
	baz=108,SNR=10						
MONP	Monument Peak	108.14	53	⇓P		Pdif	14 00 41.2 +1.9
	baz=108,SNR=8.0						
RLMT	Red Lodge	108.16	39	ePdif		Pdif	14 00 41.0 +1.7
	comp=Z,62nm,1.4s						
RLMT				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
L16A	Fish Haven	108.21	42	⇑P		Pdif	14 00 41.2 +1.7
	baz=108						
Q14A	Sevier Lake (B	108.22	46	⇑P		Pdif	14 00 41.1 +1.5
	baz=108,SNR=30						
O15A	The Old Anders	108.25	44	⇓P		Pdif	14 00 42.0 +2.2
	baz=108						
HWUT	Hardware Ranch	108.30	43	ePdif		Pdif	14 00 40.8 +0.9
	comp=Z,26nm,1.6s						
HWUT				LR	LR		
	comp=Z,9μm,21.0s,MS6.3						
U12A	Valley of Fire	108.31	49	⇓P		Pdif	14 00 41.9 +1.9
	baz=108						
V12A	Nelson	108.34	49	⇑P		Pdif	14 00 42.4 +2.2
	baz=108,SNR=5.5						
S13A	Holt Ranch, En	108.37	47	⇓P		Pdif	14 00 42.4 +2.1
	baz=108,SNR=9.7						
M16A	Huntsville	108.39	43	⇓P		Pdif	14 00 41.6 +1.2
	baz=108						
DVTC	Desert V Tower	108.47	53	⇓P		Pdif	14 00 42.6 +1.9
	baz=108						
W12A	Cal Nev Ari	108.48	50	⇑P		Pdif	14 00 42.8 +2.1
	baz=108						
T13A	Saint George	108.55	48	⇓P		Pdif	14 00 43.8 +2.7
	baz=108						
SWSC	Sam W. Stewart	108.62	52	⇑P		Pdif	14 00 43.1 +1.7
	baz=108						
BC3	Big Chuckw Mtn	108.64	52	⇓P		Pdif	14 00 44.2 +2.7
	baz=108						
KEST	Kesra	108.64	311	Pdiff		Pdif	14 00 42.7 +1.2
	comp=Z,2.8nm,0.9s,baz=292,slow=6.3,SNR=6.1						
NLU	North Lily Min	108.67	44	PKPdf		PKiKP	14 04 49.4 +2.0
P15A	Leamington	108.69	45	⇓P		Pdif	14 00 43.6 +1.9
	baz=109						
R14A	James Farms, M	108.69	46	⇑P		Pdif	14 00 43.8 +2.1
	baz=109						
N16A	Rees Ranch, Co	108.70	43	⇑P		Pdif	14 00 43.2 +1.4
	baz=109						
U13A	Pakoon Wash	108.74	48	⇑P		Pdif	14 00 44.1 +2.2
	baz=109,SNR=11						
TCF	Toulx Ste Croi	108.76	323	eP		Pdif	14 00 42.9 +0.9
	comp=Z,36nm,1.1s						
TCF	Toulx Ste Croi	108.76	323	eP		Pdif	14 00 42.9 +0.9
TCF				pmax	pmax		
	comp=Z,18nm,1.1s						
TCF	Toulx Ste Croi	108.76	323	eP		Pdif	14 00 42.9 +0.9
	comp=Z,18nm,1.1s						
S14A	Cedar City	108.80	47	⇓P		Pdif	14 00 44.4 +2.3
	baz=109						
JLU	Jordanelle	108.82	44	ePdif		Pdif	14 00 42.8 +0.5
Q15A	Fillmore	108.86	45	⇑P		Pdif	14 00 44.3 +1.9
	baz=109						
LASF	Ste Croix	108.86	321	eP		Pdif	14 00 42.8 +0.4
LDF	La Druitiere	108.87	326	eP		Pdif	14 00 43.5 +1.0
	comp=Z,105nm,1.6s						
LDF	La Druitiere	108.87	326	eP		Pdif	14 00 43.5 +1.0
LDF				pmax	pmax		
	comp=Z,52nm,1.6s						
LDF	La Druitiere	108.87	326	eP		Pdif	14 00 43.5 +1.0
	comp=Z,52nm,1.6s						
NEE2	Needles Airpor	108.88	50	⇑P		Pdif	14 00 44.6 +2.1
	baz=109						
V13A	Grand Canyon W	108.95	49	⇑P		Pdif	14 00 45.1 +2.3
	baz=109						
MPU	Maple Canyon	108.95	44	ePdif		Pdif	14 00 43.8 +1.0
	comp=Z,58nm,1.6s						
MPU				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
O16A	Springville	108.96	44	⇓P		Pdif	14 00 44.1 +1.2
	baz=109						
FLN	La Foliniere	108.98	327	eP		Pdif	14 00 44.1 +1.1
	comp=Z,78nm,1.4s						
FLN				eMLR		MLR	
	comp=Z,15μm,18.2s,MS6.3						
FLN	La Foliniere	108.98	327	eP		Pdif	14 00 44.1 +1.1
FLN				pmax	pmax		
	comp=Z,39nm,1.4s						
FLN				MLR	MLR		
	comp=Z,15μm,18.3s,MS6.6						
FLN	La Foliniere	108.98	327	eP		Pdif	14 00 44.1 +1.1
	comp=Z,39nm,1.4s						
FLN				LR	LR		
	comp=Z,15μm,18.3s,MS6.6						
DAU	Daniels Canyon	109.04	44	P		Pdif	14 00 45.9 +2.7
DAU				e			14 05 14.1
DAU	Daniels Canyon	109.04	44	ePdif		Pdif	14 00 44.7 +1.5
DMUB	Kingscourt	109.04	333	eP		PP	14 05 14.3 -0.6
N17A	Moffit Pass	109.09	43	⇑P		Pdif	14 00 46.0 +2.5
	baz=109						
BW06	Boulder Array	109.10	41	PFAKE			14 05 00.0 +12
BW06				LR	LR		
	comp=Z,9μm,22.0s,MS6.3						
PDAR	Pinedale Array	109.10	41	Pdiff		Pdif	14 00 45.3 +1.8
	comp=Z,1.9nm,0.8s,baz=259,slow=2.4,SNR=8.1						
PDAR				PKiKP		PKiKP	14 04 49.6 +1.5
	comp=Z,3.3nm,0.6s,baz=139,slow=1.9,SNR=11						
PDAR				PKKPbc		PKKPbc	14 15 55.1 -1.1
	comp=Z,2.4nm,0.8s,baz=107,slow=4.8,SNR=8.8						
P16A	Fountain Green	109.11	45	⇑P		Pdif	14 00 45.8 +2.3
	baz=109						
T14A	Hurricane	109.14	47	⇑P		Pdif	14 00 46.5 +2.8
	baz=109						
MVU	Marysvale	109.18	46	PFAKE			14 05 00.0 +12
MVU				LR	LR		
	comp=Z,11μm,22.0s,MS6.4						
LAO	LASA Array	109.20	36	ePKiKP		PKiKP	14 04 49.3 +1.2
LAO				LR	LR		
	comp=Z,6μm,20.0s,MS6.1						
MSU	Marysvale	109.20	46	P		Pdif	14 00 46.1 +2.1
MSU	Marysvale	109.20	46	ePdif		Pdif	14 00 43.9 0.0
R15A	Junction	109.26	46	⇑P		Pdif	14 00 46.5 +2.3
	baz=109						
VNA2	Neumayer--Watz	109.29	194	ePKiKP		PKiKP	14 04 49.1 +1.5
VNA2				e			14 04 51.3
VNA2				e			14 05 21.1
VNA2				e			14 15 54.4
VNA2				e			14 16 05.8
VNA2				e			14 16 08.8
W13A	Hualapai Mount	109.31	50	⇑P		Pdif	14 00 46.6 +2.2
	baz=109						
Y12C	Blythe	109.32	51	⇑P		Pdif	14 00 46.9 +2.4
	baz=109						
U14A	Mt Trumbull	109.33	48	⇑P		Pdif	14 00 46.5 +1.9
	baz=109						
GLA	Glamis	109.34	52	⇑P		Pdif	14 00 47.3 +2.8
	baz=109						
GLA	Glamis	109.34	52	PFAKE			14 05 00.0 +11
GLA				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
DGMT	Dagmar	109.38	34	ePKiKP		PKiKP	14 04 49.8 +1.4
DGMT				LR	LR		
	comp=Z,5μm,22.0s,MS6.1						
GRR	Gorron	109.39	326	eP		Pdif	14 00 44.6 -0.2
	comp=Z,107nm,1.5s						
S15A	Panguitch	109.42	47	⇓P		Pdif	14 00 47.4 +2.5
	baz=109						
X13A	Yucca	109.54	50	⇑P		Pdif	14 00 47.3 +1.8
	baz=109						
CAF	Calviac	109.55	322	eP		Pdif	14 00 45.9 +0.4
	comp=Z,60nm,1.3s						
DCN	Croghan	109.57	333	eP		PP	14 05 13.6 -5.2
VNA3	Neumayer Olymp	109.62	194	ePKiKP		PKiKP	14 04 49.9 +1.7
VNA3				e			14 04 52.3
VNA3				e			14 05 22.0
VNA3				e			14 15 53.3
VNA3				e			14 16 04.4
VNA3				e			14 16 08.3
T15A	Red Dirt Ranch	109.67	47	⇓P		Pdif	14 00 48.1 +2.1
	baz=110						
RJF	Les Rejaudoux	109.69	323	eP		Pdif	14 00 46.6 +0.5
	comp=Z,187nm,1.8s						
RJF				eMLR		MLR	
	comp=Z,8μm,20.5s,MS6.0						
RJF	Les Rejaudoux	109.69	323	eP		Pdif	14 00 46.6 +0.5
RJF				LR	LR		
	comp=Z,8μm,20.5s,MS6.3						
V14A	Boquillas Ranc	109.69	49	⇓P		Pdif	14 00 48.6 +2.5
	baz=110						
VNA1	Neumayer--Stat	109.69	194	ePKiKP		PKiKP	14 04 49.9 +1.6
VNA1				e			14 04 52.2
VNA1				e			14 05 21.8
VNA1				e			14 15 53.4
VNA1				e			14 16 04.1
VNA1				e			14 16 08.2
112A	Yuma	109.72	52	⇓P		Pdif	14 00 48.5 +2.2
	baz=110						
Q16A	Castle Valley	109.74	45	⇓P		Pdif	14 00 48.3 +1.9
	baz=110						
P17A	Butcher Ranch,	109.80	44	⇓P		Pdif	14 00 48.6 +1.9
	baz=110						
Y13A	Salome	109.84	51	⇓P		Pdif	14 00 49.3 +2.5
	baz=110						
N18A	Larsen Ranch,	109.86	43	⇓P		Pdif	14 00 48.5 +1.6
	baz=110						
W14A	Seligman	109.87	49	⇑P		Pdif	14 00 48.9 +2.0
	baz=110						
S16A	Weppner Ranch,	109.95	46	⇑P		Pdif	14 00 49.3 +2.0
	baz=110						
O18A	Roosevelt	109.95	43	⇓P		Pdif	14 00 49.9 +2.6
	baz=110						
U15A	North Rim	109.98	48	⇓P		Pdif	14 00 50.0 +2.5
	baz=110						
MFF	Saint Martin d	109.98	324	eP		Pdif	14 00 47.9 +0.5
P18A	Preston Nutter	110.08	44	⇑P		Pdif	14 00 50.1 +2.3
	baz=110						
SRU	San Rafael	110.11	45	P		Pdif	14 00 50.2 +2.2
SRU	San Rafael	110.11	45	⇓P		Pdif	14 00 49.8 +1.8
	baz=110						
SRU	San Rafael	110.11	45	ePdif		Pdif	14 00 47.7 -0.3
MTLF	Montolieu	110.25	321	eP		Pdif	14 00 49.1 +0.5
113A	Mohawk Valley,	110.27	52	⇓P		Pdif	14 00 49.7 +1.0
	baz=110						
R17A	Hanksville Air	110.28	45	⇑P		Pdif	14 00 50.3 +1.5
	baz=110						
X14A	Yava	110.31	50	⇑P		Pdif	14 00 50.2 +1.3
	baz=110						
V15A	Kaibab Nationa	110.31	48	⇓P		Pdif	14 00 50.2 +1.3
	baz=110						
T16A	Glen Canyon Da	110.33	47	⇓P		Pdif	14 00 49.4 +0.4
	baz=110						
Q18A	Rafter H Ranch	110.39	44	⇑P		Pdif	14 00 49.9 +0.6
	baz=110						
SGMF	Saint Gilles	110.40	327	eP		Pdif	14 00 50.0 +0.7
	comp=Z,59nm,1.3s						
Y14A	Wickenburg	110.42	51	⇓P		Pdif	14 00 50.0 +0.6
	baz=110						
W15A	Williams	110.50	49	⇓P		Pdif	14 00 51.4 +1.6
	baz=110						
S17A	Black Ridge (B	110.56	46	⇑P		Pdif	14 00 50.6 +0.6
	baz=110						
Z14A	Wintersburg	110.69	51	⇑P		Pdif	14 00 52.1 +1.6
	baz=111						
TSUM	Tsumeb	110.72	252	PKKPbc		PKKPbc	14 15 50.8 +0.5
	comp=Z,2.9nm,0.8s,baz=236,slow=9.2,SNR=5.3						
TSUM	Tsumeb	110.72	252	ePdif		Pdif	14 00 52.5 +1.7
TSUM				LR	LR		
	comp=Z,6μm,19.0s,MS6.2						
ROSF	Rostrenen	110.74	327	eP		Pdif	14 00 50.6 -0.2
X15A	Humboldt	110.80	50	⇓P		Pdif	14 00 53.6 +2.5
	baz=111						
T17A	Navajo Res., N	110.83	47	⇓P		Pdif	14 00 52.0 +0.8
	baz=111						
R18A	Canyonlands Na	110.88	45	⇑P		Pdif	14 00 52.7 +1.2
	baz=111						
QUIF	Quistinic	110.93	327	eP		Pdif	14 00 53.1 +1.5
	comp=Z,150nm,1.5s						
Y15A	Casa Rosa Ranc	110.93	50	⇑P		Pdif	14 00 52.6 +0.9
	baz=111						
WUAZ	Wupatki	111.03	48	⇓P		Pdif	14 00 54.0 +1.9
	baz=111						
WUAZ	Wupatki	111.03	48	ePdif		Pdif	14 00 54.3 +2.2
WUAZ				LR	LR		
	comp=Z,9μm,19.0s,MS6.4						
Q19A	Hogan Spring (	111.06	44	⇑P		Pdif	14 00 53.2 +1.0
	baz=111						
W16A	Flagstaff	111.08	49	⇑P		Pdif	14 00 54.3 +2.0
	baz=111						
U17A	Shonto	111.10	47	⇓P		Pdif	14 00 55.0 +2.5
	baz=111						
S18A	Hurst Farm, Bl	111.11	46	⇑P		Pdif	14 00 54.1 +1.7
	baz=111						
214A	Organ Pipe Nat	111.33	52	⇑P		Pdif	14 00 54.0 +0.6
	baz=111						
Z15A	Gila River Ind	111.33	51	⇑P		Pdif	14 00 55.6 +2.2
	baz=111						
R19A	Curley Farm, L	111.36	45	⇓P		Pdif	14 00 53.8 +0.2
	baz=111						
X16A	Lo Mia Camp, P	111.43	49	⇓P		Pdif	14 00 55.0 +1.1
	baz=111						
T18A	Mexican Hat	111.44	46	⇓P		Pdif	14 00 55.0 +1.1
	baz=111						
PV10	Paradox Valley	111.48	45	ePdif		Pdif	14 00 55.6 +1.5
115A	Sonoran Desert	111.50	51	⇑P		Pdif	14 00 55.5 +1.3
	baz=111						
Y16A	Circle Bar Ran	111.61	50	⇓P		Pdif	14 00 55.5 +0.8
	baz=112						
S19A	Harvey Farm, M	111.70	45	⇑P		Pdif	14 00 55.2 +0.2
	baz=112						
W17A	Winslow	111.70	49	⇑P		Pdif	14 00 55.9 +0.8
	baz=112						
U18A	Rough Rock, Ch	111.75	47	⇑P		Pdif	14 00 58.0 +2.7
	baz=112						
Z16A	Peralta Trail,	111.87	51	⇑P		Pdif	14 00 57.0 +1.2
	baz=112						
PV01	Paradox Valley	111.92	45	ePdif		Pdif	14 00 56.6 +0.6
PV01				ePKiKP		PKiKP	14 04 55.0 +1.5
X17A	Forest Lakes	111.94	49	⇑P		Pdif	14 00 58.0 +1.9
	baz=112						
116A	Eloy	111.96	51	⇓P		Pdif	14 00 58.7 +2.4
	baz=112						
V18A	Ganado	112.01	48	⇑P		Pdif	14 00 58.8 +2.3
	baz=112						
Y17A	Roosevelt	112.17	50	⇑P		Pdif	14 00 59.1 +1.9
	baz=112						
T19A	Beclabito	112.19	46	⇑P		Pdif	14 00 59.3 +2.0
	baz=112						
216A	Three Points,	112.37	52	⇑P		Pdif	14 00 59.9 +1.8
	baz=112						
MVCO	Mesa Verde	112.39	46	⇑P		Pdif	14 00 59.9 +1.7
	baz=112						
MVCO	Mesa Verde	112.39	46	PKiKP		PKiKP	14 04 55.9 +1.5
MVCO				LR	LR		
	comp=Z,11μm,22.0s,MS6.4						
W18A	Petrified Fore	112.41	48	⇓P		Pdif	14 00 59.7 +1.5
	baz=112						
X18A	Snowflake	112.50	49	⇑P		Pdif	14 01 00.5 +1.9
	baz=112						
SJPF	Ste Jean	112.52	322	eP		Pdif	14 00 59.6 +0.9
ULM	Lac du Bonnet	112.54	28	PKiKP		PKiKP	14 04 53.6 -0.7
	comp=Z,23nm,0.8s,baz=310,slow=1.8,SNR=20						
ULM				PKKPbc		PKKPbc	14 15 43.2 -2.0
	comp=Z,3.7nm,0.5s,baz=192,slow=2.6,SNR=7.3						
ULM	Lac du Bonnet	112.54	28	PKPdf		PKiKP	14 04 53.6 -0.7
ULM				PKKPbc		PKKPbc	14 15 43.2 -2.0
Z17A	San Carlos Hig	112.62	50	⇑P		Pdif	14 01 01.6 +2.4
	baz=112						
V19A	Window Rock	112.66	47	⇓P		Pdif	14 01 01.2 +1.9
	baz=112						
W19A	Sanders	112.67	48	⇓P		Pdif	14 01 01.9 +2.5
	baz=112						
117A	Oracle	112.70	51	⇓P		Pdif	14 01 02.8 +3.2
	baz=113						
Y18A	Canyon Day Jun	112.75	50	⇓P		Pdif	14 01 02.2 +2.5
	baz=113						
TUC	Tucson	112.78	51	P		Pdif	14 01 01.8 +1.9
TUC				i			14 04 55.4
TUC				MLR	MLR		
	comp=Z,5μm,19.0s,MS6.1						
TUC	Tucson	112.78	51	Pdif		Pdif	14 01 01.8 +2.0
TUC				ePKiKP		PKiKP	14 04 55.4 +0.1
TUC				LR	LR		
	comp=Z,5μm,19.0s,MS6.1						
217A	Green Valley	112.96	52	⇓P		Pdif	14 01 04.1 +3.4
	baz=113						
Z18A	Geronimo	113.04	50	⇑P		Pdif	14 01 04.0 +3.0
	baz=113						
X19A	St. Johns	113.04	49	⇓P		Pdif	14 01 03.6 +2.6
	baz=113						
ISCO	Idaho Springs	113.14	42	ePKIKP		PKiKP	14 04 57.5 +1.7
ISCO				MLR	MLR		
	comp=Z,9μm,20.0s,MS6.3						
Y19A	Nutrioso	113.27	49	⇓P		Pdif	14 01 04.4 +2.4
	baz=113						
118A	Homack Ranch,	113.27	51	⇑P		Pdif	14 01 04.7 +2.6
	baz=113						
218A	Dragoon	113.48	51	⇑P		Pdif	14 01 05.3 +2.3
	baz=113						
Z19A	T-Link Ranch,	113.54	50	⇓P		Pdif	14 01 05.6 +2.3
	baz=113						
119A	Ashpeak Ranch,	113.73	50	⇑P		Pdif	14 01 06.4 +2.3
	baz=114						
318A	Bisbee	113.74	52	⇓P		Pdif	14 01 06.4 +2.3
	baz=114						
AGMN	Agassiz Refuge	113.86	30	ePKiKP		PKiKP	14 04 56.6 -0.3
AGMN				LR	LR		
	comp=Z,6μm,22.0s,MS6.2						
219A	White Tail Can	114.08	51	⇑P		Pdif	14 01 09.1 +3.4
	baz=114						
SDCO	Great Sand Dun	114.24	44	ePdif		Pdif	14 01 08.7 +2.3
SDCO				ePKiKP		PKiKP	14 04 58.6 +0.7
SDCO				LR	LR		
	comp=Z,8μm,21.0s,MS6.3						
319A	Douglas	114.32	52	⇓P		Pdif	14 01 09.0 +2.2
	baz=114						
LAZ	Ladron	114.65	48	ePKiKP		PKiKP	14 04 59.2 +0.4
ANMO	Albuquerque	114.89	47	i PKiKP		PKiKP	14 04 59.2 -0.1
ANMO	Albuquerque	114.89	47	ePKiKP		PKiKP	14 05 01.1 +1.8
ANMO				LR	LR		
	comp=Z,7μm,20.0s,MS6.3						
Y22C	IRIS PASSCAL I	114.95	48	⇓P		Pdif	14 01 11.8 +2.2
	baz=115						
LPM	Los Pinos Moun	115.06	48	ePKiKP		PKiKP	14 05 01.2 +1.6
BNM	Barren Site	115.14	48	ePKiKP		PKiKP	14 05 00.8 +1.0
ESDC	Sonseca Array	116.13	320	PKP		PKPdf	14 05 02.6 +1.1
	comp=Z,3.7nm,0.7s,baz=30,slow=2.2,SNR=10						
ESDC				PKKPbc		PKKPbc	14 15 30.4 -2.2
	comp=Z,0.4nm,0.3s,baz=268,slow=3.1,SNR=3.7						
EYMN	Ely	116.21	28	ePKPdf		PKPdf	14 05 01.9 +0.4
EYMN				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
TAM	Tamanrasset	116.39	299	ePKIKP		PKPdf	14 05 03.2 +0.7
ECSD	EROS,Sioux Fal	116.43	34	ePKiKP		PKiKP	14 05 00.4 -1.6
ECSD				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
PAB	San Pablo	116.45	320	PKIKP		PKPdf	14 05 03.9 +1.7
PAB	San Pablo	116.45	320	ePKPdf		PKPdf	14 05 04.0 +1.9
PAB				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
ODZI	Dziouia	116.59	314	P		PKPdf	14 05 07.0 +

KSU1 LR LR
comp=Z,5μm,20.0s,MS6.1
EVO Evora 119.36 321 *e*PKIKP PKPdf 14 05 07.9 +0.1
comp=Z,213nm,1.3s
EVO *e*MLR MLR
comp=Z,7μm,22.5s,MS5.9
EVO Evora 119.36 321 *e*PKPdf PKPdf 14 05 09.3 +1.5
EVO Evora 119.36 321 *e*PP PP 14 06 32.3 +3.9
SFS San Fernando 119.39 318 PFAKE 14 05 20.0 +12
SFS LR LR
comp=Z,10μm,19.0s,MS6.5
SCIA State Center 119.52 34 *e*PKPdf PKPdf 14 05 07.0 -1.0
SCIA LR LR
comp=Z,3μm,20.0s,MS6.0
PBEJ Beja 119.57 320 *e*PKPdf PKPdf 14 05 09.6 +1.4
TXAR Lajitas Array 119.58 51 PKP PKPdf 14 05 08.7 +0.2
comp=Z,11nm,0.7s,baz=257,slow=0.8,SNR=49
TXAR PKKPbc PKKPbc 14 15 21.3 +1.3
comp=Z,4.7nm,0.6s,baz=123,slow=4.3,SNR=17
TXAR PKPPKP 14 24 05.3
comp=Z,1.1nm,1.1s,baz=118,slow=1.8,SNR=3.9
TXAR Lajitas Array 119.58 51 PKP PKPdf 14 05 08.7 +0.2
TXAR PKKPbc PKKPbc 14 15 21.3 +1.3
TXAR P'P' 14 24 05.3
PVAQ Vaqueiros 119.84 320 *e*PKPdf PKPdf 14 05 09.6 +0.8
PVAQ Vaqueiros 119.84 320 *e*PP PP 14 06 33.3 +1.5
PVAQ Vaqueiros 119.84 320 *e*LR LR 14 56 10.7
comp=Z,4μm,20.0s
PMAFR Mafra 119.89 322 *e*PP PP 14 06 33.5 +1.5
PMAFR Mafra 119.89 322 *e*LR LR 14 56 42.6
comp=Z,6μm,18.0s
LIS Lisbon 119.95 322 *e*P PKPdf 14 05 11.8 +2.9
LIS *e*PP PP 14 06 32.5 0.0
LIS AMS AMS 15 16 03.0
comp=Z,6μm,17.1s,MS6.3
LIS Lisbon 119.95 322 A 15 16 03.0
comp=Z,6μm,17.1s
PBDV Barranco-do-Ve 120.07 320 *e*PKPdf PKPdf 14 05 09.2 0.0
PBDV Barranco-do-Ve 120.07 320 *e*PP PP 14 06 34.1 +0.7
PBDV Barranco-do-Ve 120.07 320 *e*LR LR 14 56 41.3
comp=Z,5μm,18.0s
JFWS Jewell Farm 120.42 31 *e*PKIKP PKPdf 14 05 07.7 -2.0
JFWS MLR MLR
comp=Z,6μm,20.0s,MS6.2
WMOK Wichita Mounta 120.44 44 *e*PKIKP PKPdf 14 05 10.4 +0.4
WMOK MLR MLR
comp=Z,9μm,22.0s,MS6.4
MORF Marmelete 120.50 320 *e*PKPdf PKPdf 14 05 10.9 +0.9
MORF Marmelete 120.50 320 *e*PP PP 14 06 41.2 +4.9
MORF Marmelete 120.50 320 *e*LR LR 14 58 52.1
comp=Z,4μm,18.0s
PFVI Vila Bisbo 120.71 320 *e*PKPdf PKPdf 14 05 10.6 +0.2
PFVI Vila Bisbo 120.71 320 *e*PP PP 14 06 41.6 +3.8
PFVI Vila Bisbo 120.71 320 *e*LR LR 14 58 55.9
comp=Z,5μm,20.0s
PMSA Palmer Station 120.87 174 PKP PKPdf 14 05 11.3 +1.4
comp=Z,9.0nm,0.5s,baz=154,slow=0.6,SNR=10
PMSA Palmer Station 120.87 174 *e*PKPdf PKPdf 14 05 09.0 -0.8
PMSA LR LR
comp=Z,4μm,20.0s,MS6.1
GLMI Grayling 121.70 26 PFAKE 14 05 20.0 +7.9
GLMI LR LR
comp=Z,5μm,19.0s,MS6.2
JCT Junction City 121.96 48 *e*PKIKP PKPdf 14 05 12.4 -0.6
JCT MLR MLR
comp=Z,4μm,19.0s,MS6.1
TORD Torodi Ar. Bea 122.82 290 PKP PKPdf 14 05 14.3 -0.8
comp=Z,59nm,0.8s,baz=57,slow=0.8,SNR=64
TORD PP PP 14 06 43.7 -10
comp=Z,25nm,1.1s,baz=59,slow=4.6,SNR=3.9
TORD PKKPab PKKPab 14 15 09.1 +1.0
comp=Z,21nm,0.8s,baz=253,slow=2.4,SNR=49
TORD Torodi Ar. Bea 122.82 290 PKP PKPdf 14 05 14.3 -0.8
TORD PP PP 14 06 43.7 -10
TORD PKKPab PKKPab 14 15 09.1 +1.0
SLM Saint Louis 123.41 35 *e*PKIKP PKPdf 14 05 15.7 +0.1
FVM French Village 123.74 36 *e*PKIKP PKPdf 14 05 15.2 -1.0
MIAR Mount Ida 124.03 41 *e*PKIKP PKPdf 14 05 16.6 -0.3
MIAR MLR MLR
comp=Z,10μm,21.0s,MS6.4
AAM Ann Arbor 124.11 28 *e*PKIKP PKPdf 14 05 17.3 +0.5
AAM MLR MLR
comp=Z,5μm,20.0s,MS6.2
OLIL Olney 124.54 34 *e*PKPdf PKPdf 14 05 17.2 -0.6
SIUC Southern Illin 124.62 35 *e*PKPdf PKPdf 14 05 19.0 +1.0
UALR University of 124.68 40 *e*PKPdf PKPdf 14 05 17.1 -1.1
KVTX Kingsville 124.89 50 *e*PKPdf PKPdf 14 05 21.7 +2.9
KVTX LR LR
comp=Z,4μm,22.0s,MS6.0
NATX Nacogdoches 124.96 44 *e*PKPdf PKPdf 14 05 18.9 +0.2
NATX LR LR
comp=Z,7μm,21.0s,MS6.3
PARMO Parma 125.03 36 *e*PKPdf PKPdf 14 05 19.4 +0.7
BLO Bloomington 125.07 32 *e*PKIKP PKPdf 14 05 18.3 -0.4
HKT Hockley 125.16 47 *e*PKIKP PKPdf 14 05 18.9 -0.3
HKT MLR MLR
comp=Z,7μm,20.0s,MS6.3
HBAR Harrisburg 125.23 38 *e*PKPdf PKPdf 14 05 20.3 +1.1
USIN University of 125.32 34 *e*PKPdf PKPdf 14 05 19.6 +0.3
GNAR Gosnell 125.34 37 *e*PKPdf PKPdf 14 05 20.6 +1.3
GLAT Glass 125.58 36 *e*PKPdf PKPdf 14 05 20.8 +1.0
LONY Lake Ozonia 125.75 19 *e*PKPdf PKPdf 14 05 19.9 0.0
LONY LR LR
comp=Z,6μm,20.0s,MS6.2
UTMT University of 125.77 36 *e*PKPdf PKPdf 14 05 19.5 -0.7
HALT Halls 125.79 37 *e*PKPdf PKPdf 14 05 20.1 -0.1
FRNY Flat Rock 125.88 18 *e*PKPdf PKPdf 14 05 20.3 +0.1
WCI Wyandotte Cave 125.88 33 *e*PKIKP PKPdf 14 05 19.8 -0.5
WCI MLR MLR
comp=Z,5μm,20.0s,MS6.1
ACSO Alum Creek Sta 126.04 29 *e*PKPdf PKPdf 14 05 19.9 -0.7
ACSO LR LR
comp=Z,5μm,22.0s,MS6.2
ALLY Alegheny Colle 126.19 25 *e*PKPdf PKPdf 14 05 20.9 +0.1
NCB Newcomb 126.45 19 *e*PKPdf PKPdf 14 05 22.2 +1.0
NCB LR LR
comp=Z,6μm,20.0s,MS6.2
OXF Oxford 126.69 38 *e*PKIKP PKPdf 14 05 22.6 +0.6
OXF MLR MLR
comp=Z,7μm,20.0s,MS6.3
LBNH Lisbon 126.92 17 *e*PKIKP PKPdf 14 05 21.5 -0.6
LBNH MLR MLR
comp=Z,5μm,22.0s,MS6.1
PLAL Pickwick Lake 127.17 37 *e*PKPdf PKPdf 14 05 23.2 +0.3
PLAL LR LR
comp=Z,4μm,20.0s,MS6.1
HNH Hanover 127.30 18 *e*PKPdf PKPdf 14 05 23.8 +0.9
BINY Binghamton 127.39 22 *e*PKPdf PKPdf 14 05 22.3 -0.8
BINY LR LR
comp=Z,7μm,22.0s,MS6.3
VBMS Vicksburg 127.48 41 *e*PKPdf PKPdf 14 05 24.4 +0.8
VBMS LR LR
comp=Z,8μm,22.0s,MS6.4
FFD Franklin Falls 127.71 18 *e*PKPdf PKPdf 14 05 25.0 +1.3
MCWV Mont Chateau 127.95 27 *e*PKPdf PKPdf 14 05 24.4 +0.2
MCWV LR LR
comp=Z,7μm,19.0s,MS6.4
SWET Sewanee 128.26 35 *e*PKPdf PKPdf 14 05 25.3 +0.3
QUA2 Belchertown 128.57 19 *e*PKPdf PKPdf 14 05 26.3 +1.0
TZTN Tazewell 128.59 32 *e*PKPdf PKPdf 14 05 25.4 -0.2
TZTN LR LR
comp=Z,5μm,19.0s,MS6.2
HRV Adam Dziewonsk 128.61 18 *e*PKIKP PKPdf 14 05 25.9 +0.5
HRV MLR MLR
comp=Z,5μm,22.0s,MS6.2
WES Weston 128.80 18 PKIKP PKPdf 14 05 26.3 +0.5
WES Weston 128.80 18 *e*PKPdf PKPdf 14 05 26.7 +0.9
WES LR LR
comp=Z,4μm,20.0s,MS6.1
CPCT Cooper Cave 128.88 34 *e*PKPdf PKPdf 14 05 26.2 0.0
BRYW Bryant College 129.16 18 *e*PKPdf PKPdf 14 05 26.2 -0.3
PAL Palisades 129.18 21 *e*PKIKP PKPdf 14 05 27.2 +0.6
CPNY Central Park 129.35 21 *e*PKPdf PKPdf 14 05 28.4 +1.5
SDMD Soldier's Deli 129.44 24 *e*PKPdf PKPdf 14 05 26.4 -0.7
ELN Prospectdale 129.48 29 *e*PKPpre 14 05 12.9
ELN *e*PKPdf PKPdf 14 05 27.2 0.0
CMLA Cha da Macela 129.61 332 *e*PP PP 14 07 30.0 -6.7
CMLA *i* P 14 09 04.2
CMLA Cha da Macela 129.61 332 *e*SS SS 14 25 07.9 +10
CMLA Cha da Macela 129.61 332 *e*LQ 14 40 03.8
CMLA *e*LR LR 14 46 15.6
CMLA Cha da Macela 129.61 332 PFAKE 14 05 40.0 +13
CMLA LR LR
comp=Z,6μm,19.0s,MS6.3

BLA Blacksburg 129.66 29 *e*PKIKP PKPdf 14 05 27.9 +0.3
BLA MLR MLR
comp=Z,7μm,20.0s,MS6.3
PDA Ponta Delgada 129.69 332 *e*PP PP 14 07 22.0 -15
PDA Ponta Delgada 129.69 332 *e*SS SS 14 25 27.0 +28
USHA Ushuaia 129.76 168 PKP PKPdf 14 05 27.9 +0.7
comp=Z,65nm,0.6s,baz=176,slow=1.9,SNR=53
USHA SKPbc 14 08 48.0
comp=Z,22nm,0.8s,baz=211,slow=3.9,SNR=5.4
BRAL Brewton 130.50 40 *e*PKPdf PKPdf 14 05 30.5 +1.2
BRAL LR LR
comp=Z,7μm,21.0s,MS6.3
URVA University of 130.69 26 *e*PKPdf PKPdf 14 05 30.0 +0.5
KIC Kosan Boka 130.70 284 *e*PKIKP PKPdf 14 05 22.2 -8.0
comp=Z,1μm,1.5s
DBIC Dimbokro 130.74 284 PKhKP 14 05 21.9
comp=Z,4.1nm,0.7s,baz=49,slow=4.3,SNR=5.7
DBIC PKP PKPdf 14 05 30.5 +0.3
comp=Z,32nm,0.7s,baz=22,slow=2.1,SNR=5.9
DBIC PP PP 14 07 48.1 +2.2
comp=Z,20nm,0.9s,baz=38,slow=4.8,SNR=3.8
DBIC SKPbc SKPbc 14 08 51.4 -1.5
comp=Z,56nm,0.8s,baz=34,slow=12,SNR=14
DBIC Dimbokro 130.74 284 PKP PKPdf 14 05 21.9 -8.4
DBIC PKP PKPdf 14 05 30.5 +0.3
DBIC PP PP 14 07 48.1 +2.2
DBIC SKPbc SKPbc 14 08 51.4 -1.5
DBIC LR LR
comp=Z,3μm,19.0s,MS6.0
TIC Toumodi 130.90 284 *e*PKIKP PKPdf 14 05 23.0 -7.6
comp=Z,1μm,1.5s
GOGA Godfrey 130.97 35 *e*PKIKP PKPdf 14 05 30.8 +0.6
GOGA MLR MLR
comp=Z,5μm,20.0s,MS6.2
LIC Lamto 131.01 284 *e*PKIKP PKPdf 14 05 30.1 -0.7
comp=Z,196nm,0.9s
LIC *e*MLR MLR
comp=Z,4μm,20.8s,MS5.8
LIC Lamto 131.01 284 *e*PKIKP PKPdf 14 05 22.5 -8.3
comp=Z,510nm,1.5s
LIC Lamto 131.01 284 *e*PKPdf PKPdf 14 05 22.5 -8.3
LIC *e*PKPdf PKPdf 14 05 30.1 -0.7
LIC LR LR
comp=Z,2μm,20.8s,MS5.8
JSC Jenkinsville 131.52 32 *e*PKIKP PKPdf 14 05 33.2 +2.0
TRIS Tristan da Cun 132.12 224 PFAKE 14 05 40.0 +7.8
TRIS LR LR
comp=Z,9μm,21.0s,MS6.5
CMIG Matias Romero 132.24 60 PKP PKPdf 14 05 34.0 +1.0
comp=Z,27nm,0.7s,baz=286,slow=2.7,SNR=28
CMIG Matias Romero 132.24 60 PKP PKPdf 14 05 34.0 +1.0
CNNC Cliffs of the 132.45 28 PFAKE 14 05 40.0 +7.1
CNNC LR LR
comp=Z,5μm,20.0s,MS6.3
COW Cow Castle Cre 132.51 32 *e*PKPdf PKPdf 14 05 35.5 +2.4
NHSC New Hope 133.00 32 PKPdf PKPdf 14 05 34.8 +0.7
NHSC LR LR
comp=Z,5μm,19.0s,MS6.2
SHEL Horse Pasture 133.12 254 PFAKE 14 05 50.0 +15
SHEL LR LR
comp=Z,7μm,22.0s,MS6.3
EFI East Falkland 134.35 175 *e*PKIKP PKPdf 14 05 37.3 +1.4
EFI MLR MLR
comp=Z,3μm,19.0s,MS6.0
TEIG Tepich 136.20 52 PKP PKPdf 14 05 41.0 +0.6
comp=Z,32nm,0.9s,baz=107,slow=2.1,SNR=10.0
TEIG Tepich 136.20 52 *e*PKPdf PKPdf 14 05 40.9 +0.5
TEIG LR LR
comp=Z,4μm,20.0s,MS6.1
BBSR BB Station 140.03 16 *e*PKPdf PKPdf 14 05 47.4 +0.4
BBSR LR LR
comp=Z,4μm,20.0s,MS6.2
TGUH Tegucigalpa,Un 140.15 60 *e*PKPpre 14 05 43.0
TGUH LR LR
comp=Z,5μm,20.0s,MS6.3
PLCA Paso Flores 141.95 158 PKhKP 14 05 42.6
comp=Z,6.3nm,0.7s,baz=218,slow=3.3,SNR=3.3
PLCA Paso Flores 141.95 158 PKP PKPdf 14 05 42.6 -7.6
PLCA LR LR
comp=Z,4μm,19.0s,MS6.2
ASCN Ascension 142.06 265 PFAKE 14 06 00.0 +8.8
ASCN LR LR
comp=Z,4μm,20.0s,MS6.2
VCR Vista de Mar 143.32 64 *e*P PKPdf 14 05 53.2 -0.3
JCR Jicaral 143.90 64⇑ *e*P PKPdf 14 05 55.0 +0.6
CGA2 Cerro Gallo 2 144.40 63 *e*P PKPdf 14 05 56.2 +0.9
PRS1 Puriscal 144.56 63 *e*P PKPdf 14 05 56.7 +1.1
CCHI Chillan 144.78 152⇓ *e*P PKPdf 14 05 55.6 +0.2
QCR Quepos 144.92 64 *e*P PKPdf 14 05 57.2 +0.9
LCR2 La Lucha 2 144.93 64⇓ *e*P PKPdf 14 05 58.0 +1.7
BUS Buena Vista 145.23 64⇓ *e*P PKPbc 14 05 58.1 +1.7
LIO Limon 145.68 62⇓ *e*P PKPdf 14 05 59.9 +2.4
BAR1 145.76 64 *e*P PKPdf 14 05 59.3 +1.7
ACR Cerro Adams 146.14 65 *e*P PKPdf 14 06 00.8 +2.5
NICH Los Niches 146.48 152⇓ *e*P PKPdf 14 05 59.5 +1.2
TRQA Tornquist 147.07 166 *e*PKPdf PKPdf 14 06 00.1 +0.9
TRQA LR LR
comp=Z,4μm,22.0s,MS6.2
LMEL Las Melosas 147.91 152⇓ *e*P PKPdf 14 06 01.9 +1.2
PEL Peldehue 148.25 150⇓ *e*P PKPdf 14 06 02.2 +0.9
FCH Farellones 148.30 151⇓ *e*P PKPdf 14 06 02.9 +1.6
BCIP Isla Barro Col 148.86 61 *e*PKPdf PKPdf 14 06 03.0 +0.2
BCIP *e*PKPbc PKPbc 14 06 07.9 +1.2
BCIP LR LR
comp=Z,6μm,22.0s,MS6.4
TLL Tololo Astrono 150.54 147⇑ *e*P PKPdf 14 06 05.5 +0.4
CFAA Coronel Fontan 150.69 152 PKP PKPdf 14 06 06.5 +1.2
comp=Z,3.4nm,0.7s,baz=222,slow=1.5,SNR=39
CFAA PKPbc PKPbc 14 06 12.0 +1.2
comp=Z,45nm,0.7s,baz=213,slow=2.6,SNR=98
LCO Las Campanas 151.48 145 *e*PKPdf PKPdf 14 06 08.5 +1.9
LCO *e*PKPbc PKPbc 14 06 14.2 +1.5
LCO LR LR
comp=Z,4μm,20.0s,MS6.2
AGPR Aguadilla, PR 151.67 30 *e*PKPdf PKPdf 14 06 08.1 +1.0
AGPR *e*PKPbc PKPbc 14 06 14.2 +0.8
AOPR Arecibo Observ 151.95 30 *e*PKPbc PKPbc 14 06 14.3 +0.3
SJG San Juan 152.44 29 PKP PKPdf 14 06 08.3 0.0
comp=Z,11nm,0.3s,baz=18,slow=6.6,SNR=12
SJG PKPbc PKPbc 14 06 15.7 +0.5
comp=Z,186nm,0.8s,baz=77,slow=0.5,SNR=20
SJG San Juan 152.44 29 PKP PKPdf 14 06 08.3 0.0
SJG PKPbc PKPbc 14 06 15.7 +0.5
SJG LR LR
comp=Z,4μm,22.0s,MS6.2
HUMP Col San Antoni 152.56 28 *e*PKPdf PKPdf 14 06 07.8 -0.7
HUMP *e*PKPbc PKPbc 14 06 15.8 +0.4
OTAV Otavalo 153.39 77 PFAKE 14 06 20.0 +10
OTAV LR LR
comp=Z,5μm,20.0s,MS6.3
ATAH Atahualpa 154.31 93 PKP PKPdf 14 06 14.1 +3.0
comp=Z,95nm,1.1s,baz=208,slow=1.3,SNR=54
NNA Nana 155.32 105 PKP PKPdf 14 06 13.9 +1.5
comp=Z,45nm,1.0s,baz=291,slow=1.5,SNR=15
NNA PKPab PKPab 14 06 39.8 +2.1
comp=Z,53nm,0.6s,baz=245,slow=6.2,SNR=8.2
NNA Nana 155.32 105 *e*PKPdf PKPdf 14 06 12.5 +0.1
NNA LR LR
comp=Z,5μm,19.0s,MS6.3
ROSC El Rosal 155.68 64 PKP PKPdf 14 06 15.0 +2.0
comp=Z,34nm,0.8s,baz=86,slow=2.6,SNR=54
ROSC PKPab PKPab 14 06 41.3 +2.1
comp=Z,368nm,1.4s,baz=92,slow=16,SNR=5.0
CEN1 Los Morros 155.84 137⇓ *e*P PKPdf 14 06 13.9 +1.0
LZG Guadaloupe-1 156.08 22 *e*P PKPab 14 06 41.0 +0.5
TBG Guadaloupe-3 156.40 22⇑ *i*P PKPab 14 06 42.4 +0.5
MGG Marie-Galante 156.46 22 *e*P PKPab 14 06 42.6 +0.4
SDV Santo Domingo 156.62 51 PKP PKPdf 14 06 13.8 -0.3
comp=Z,161nm,0.8s,baz=148,slow=1.1,SNR=82
SDV PKPab PKPab 14 06 43.6 +0.5
comp=Z,139nm,0.9s,baz=309,slow=3.3,SNR=9.0
SDV Santo Domingo 156.62 51 *e*PKPdf PKPdf 14 06 13.3 -0.8
SDV LR LR
comp=Z,1μm,21.0s,MS5.7
LVC Limon Verde 157.23 138 PKP PKPdf 14 06 17.1 +2.4
comp=Z,27nm,1.0s,baz=212,slow=1.3,SNR=34
LVC PKPab PKPab 14 06 48.9 +3.3
comp=Z,45nm,1.1s,baz=170,slow=2.1,SNR=3.8
LVC Limon Verde 157.23 138 *e*PKPdf PKPdf 14 06 15.7 +1.0
LVC LR LR
comp=Z,4μm,19.0s,MS6.3
ARE Arequipa 158.79 121 *e*PKIKP PKPdf 14 06 18.0 +1.2
BBGH Gun Hill 159.65 20 PFAKE 14 06 30.0 +12
BBGH LR LR
comp=Z,8μm,22.0s,MS6.5

GRGR Grenville 159.74 27 PFAKE 14 06 30.0 +12
GRGR LR LR
comp=Z,3μm,22.0s,MS6.2
PCRV Puerto La Cruz 159.84 37 PKP PKPdf 14 06 16.9 -1.2
comp=Z,39nm,1.1s,baz=15,slow=4.6,SNR=14
PCRV PKPab PKPab 14 06 57.0 +0.1
comp=Z,40nm,0.9s,baz=0.8,slow=6.0,SNR=5.3
TPR Prospect 160.97 25 *e*P PKPdf 14 06 22.5 +3.2
TRN Trinidad (W) 161.16 28 *e*P PKPdf 14 06 20.8 +1.2
TRN Trinidad (W) 161.16 28 *e* PKPab 14 07 02.7 +0.1
CAM3 Guarapari 161.36 218⇓ *i*P PKPdf 14 06 20.2 +0.7
CAM3 *i* 14 06 39.2
CAM3 *i* 14 06 41.7
CAM3 *i* 14 07 04.6
CAM3 *i* 14 07 12.3
CAM3 *i* 14 07 15.9
CAM3 *i* 14 10 46.0
CAM3 *i* 14 11 00.3
TPP Pointe-a-Pierr 161.43 29 *e*P PKPdf 14 06 21.8 +2.0
TBH Brigand Hill 161.46 27 *e*P PKPdf 14 06 20.9 +1.0
TBH Brigand Hill 161.46 27 *e* PKPab 14 07 05.1 +1.1
TBH Brigand Hill 161.46 27 *e*P PKPab 14 07 05.1 +1.1
LPAZ La Paz 161.69 125 PKP PKPdf 14 06 21.2 +1.2
comp=Z,73nm,1.0s,baz=75,slow=1.2,SNR=93
LPAZ PKPab PKPab 14 07 06.9 +1.8
comp=Z,36nm,0.9s,baz=308,slow=2.4,SNR=5.8
LPAZ La Paz 161.69 125 PKP PKPdf 14 06 21.2 +1.2
LPAZ PKPab PKPab 14 07 06.9 +1.8
LPAZ LR LR
comp=Z,4μm,21.0s
SPB Sao Paulo 161.93 195 *e*PKPdf PKPdf 14 06 21.3 +1.2
SIV San Ignacio 167.11 140 PKP PKPdf 14 06 25.2 +0.4
comp=Z,97nm,1.1s,baz=229,slow=1.4,SNR=101
SIV PKPab PKPab 14 07 29.6 +0.8
comp=Z,9.6nm,0.6s,baz=214,slow=6.8,SNR=3.9
BDFB Brasilia 169.53 205 PKP PKPdf 14 06 26.9 +0.4
comp=Z,17nm,1.0s,baz=333,slow=2.9,SNR=23
BDFB PKPab PKPab 14 07 39.9 +0.4
comp=Z,12nm,0.7s,baz=101,slow=5.1,SNR=7.0
BDFB Brasilia 169.53 205 PKP PKPdf 14 06 26.9 +0.4
BDFB PKPab PKPab 14 07 39.9 +0.4
BDFB LR LR
comp=Z,427nm,21.0s

ISK ***20*** *13:46:21.3, 36.18N×2878E, h10km, MD3.1*
DDA ***20*** *13:46:23.9, 3622N×2877E, h7km±6km, Md3.1*
CSEM ***20*** *13:46:23.7±0.3, 3628N×2890E, h8km, MD3.1, Error ellipse: s-maj=7.5km s-min=5.4km az=2.0*
ISCJB ***20*** *13:46:24.1±0.7, 3622N±004×2885E±004, h10km, Error ellipse: s-maj=6.2km s-min=4.8km az=19.9*
ATH ***20*** *13:46:30.5, 3641N×2823E, h10km, MD3.2/3*
ISC 20 13:46:23.5±0.9, 3620N±004×2886E±004, h3km±6km, n16,
σ1§17/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.59**	**272**	*e*PG	**Pg**	**13 46 35.0**	**+0.2**
DALT	**Dalyan (Mudla)**	**0.59**	**343**	*e*PG	**Pg**	**13 46 33.5**	**-1.4**
DALT				*e*SG	**Sg**	**13 46 41.8**	**-0.9**
AKAS	**Kas**	**0.61**	**87**	*i* P	**Pg**	**13 46 36.9**	**+1.7**
AKAS				*i* S	**Sg**	**13 46 47.9**	**+4.8**
TURN	**Turunc**	**0.70**	**343**	*i* P	**Pg**	**13 46 37.3**	**+0.3**
TURN				*i* S	**Sg**	**13 46 47.4**	**+1.3**
ELL	**Elmali**	**1.01**	**57**	*e*PG	**Pg**	**13 46 42.5**	**-0.4**
YER	**Yerkesik**	**1.04**	**334**	*e*PG	**Pg**	**13 46 40.7**	**-2.8**
YER				*e*SG	**Sg**	**13 46 57.0**	**0.0**
YER	**Yerkesik**	**1.04**	**334**	*e*Sg	**Sg**	**13 46 57.0**	**0.0**
GOLH	**Golhisar**	**1.18**	**29**	*i* P	**Pg**	**13 46 45.1**	**-1.0**
GOLH				*i* S	**Sg**	**13 47 03.5**	**+2.0**
BDRM	**Kayabasi**	**1.43**	**308**	*i* P	**Pn**	**13 46 50.2**	**-0.1**
BDRM				*i* S	**Sg**	**13 47 09.7**	**+0.4**
DNZL	**Cakiroluk**	**1.50**	**6**	*i* P	**Pn**	**13 46 51.1**	**-0.2**
DNZL				*i* S	**Sb**	**13 47 11.4**	**+0.1**
BODT	**Bodrum**	**1.51**	**305**	*e*PN	**Pn**	**13 46 49.0**	**-2.5**
KARP	**Karpathos**	**1.52**	**245**	*e*PB	**Pb**	**13 46 53.5**	**+1.1**
AYDN	**Tasoluk**	**1.66**	**332**	*i* P	**Pn**	**13 46 53.6**	**+0.1**
AYDN				*i* S	**Sn**	**13 47 16.4**	**+1.2**
BCK	**Bucak**	**1.88**	**47**	*e*PN	**Pn**	**13 46 54.6**	**-1.9**
SMG	**Samos**	**2.21**	**314**	*e*PN	**Pn**	**13 47 02.5**	**+1.4**
HDMB	**Hadim**	**3.02**	**74**	*e*PN	**Pn**	**13 47 11.9**	**-0.3**

ISCJB ***20*** *13:54:38.5±0.2, 4462N±001×702E±002, h14km±2km, Error ellipse: s-maj=2.7km s-min=2.0km az=162.3*
ROM ***20*** *13:54:38.8±0.2, 4463N×705E, h11km, Md2.1/7, Ml2.0/6, Error ellipse: s-maj=4.5km s-min=1.3km az=82.0*
NEIC ***20*** *13:54:39.4, 4462N×703E, h10km, ML2.0(ROM), ML2.5(STR), ML2.7(LDG), ML2.7(GEN), After GEN.*
LDG ***20*** *13:54:39.4±0.1, 4464N×706E, h3km, Md2.5/1, Ml2.7/10, Error ellipse: s-maj=1.6km s-min=0.8km az=69.0*
STR ***20*** *13:54:39.4±0.2, 4463N×706E, h5km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
GEN ***20*** *13:54:39.4, 4462N×703E, h10km, ML2.0*
CSEM ***20*** *13:54:39.2±0.0, 4463N×705E, h10km, ML2.7/12, Error ellipse: s-maj=0.9km s-min=0.6km az=75.0*
ISC 20 13:54:38.9±0.2, 4463N±001×705E±002, h17km±2km, n59,
σ0§55/122, 1C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.19**	**132**⇑	*i*Pg	**Pg**	**13 54 43.7**	**+0.1**
DOI				Sg	**Sg**	**13 54 46.8**	**+0.1**
	1μm,0.2s						
OG22	**Abries**	**0.20**	**339**	Pg	**Pg**	**13 54 43.9**	**+0.1**
OG22				Sg	**Sg**	**13 54 47.1**	**0.0**
MBDF	**Montbardon**	**0.22**	**295**	*e*Pg	**Pg**	**13 54 44.0**	**0.0**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**13 54 47.3**	**-0.1**
	399nm,0.2s						
MBDF	**Montbardon**	**0.22**	**295**	*e*Pg	**Pg**	**13 54 44.0**	**0.0**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**13 54 47.3**	**-0.1**
	200nm,0.2s						
SURF	**Saint Ours**	**0.23**	**228**	Pg	**Pg**	**13 54 44.0**	**-0.1**
SURF				Sg	**Sg**	**13 54 47.2**	**-0.5**
BHB	**Bricherasio**	**0.26**	**36**	P	**Pg**	**13 54 45.0**	**+0.4**
BHB	**Bricherasio**	**0.26**	**36**	P	**Pg**	**13 54 45.0**	**+0.4**
BHB				S	**Sg**	**13 54 49.0**	**+0.4**
RRL	**Rocca Remolon**	**0.34**	**327**	P	**Pg**	**13 54 46.2**	**+0.1**
RRL	**Rocca Remolon**	**0.34**	**327**	P	**Pg**	**13 54 46.2**	**+0.2**
RRL				S	**Sg**	**13 54 51.5**	**+0.6**
STV	**Sant Anna di V**	**0.44**	**153**	Pg	**Pg**	**13 54 47.8**	**+0.1**
STV				Sg	**Sg**	**13 54 53.6**	**-0.1**
	107nm,0.2s						
STV	**Sant Anna di V**	**0.44**	**153**	P	**Pg**	**13 54 47.8**	**0.0**
STV				S	**Sg**	**13 54 53.5**	**-0.2**
STV				Sg	**Sg**	**13 54 53.6**	**-0.1**
BNI	**Bardonecchia**	**0.49**	**328**	Pg	**Pg**	**13 54 48.9**	**+0.1**
BNI				Sg	**Sg**	**13 54 55.5**	**0.0**
	54nm,0.6s						
BNI	**Bardonecchia**	**0.49**	**328**	*e*Pg	**Pg**	**13 54 48.9**	**+0.1**
BNI				Sg	**Sg**	**13 54 55.5**	**0.0**
BNI				*e*Sg	**Sg**	**13 54 55.8**	**+0.3**
RSP	**Reno Superiore**	**0.54**	**16**	Pg	**Pg**	**13 54 49.9**	**+0.3**
RSP				Sg	**Sg**	**13 54 57.0**	**+0.1**
	38nm,0.2s						
RSP	**Reno Superiore**	**0.54**	**16**	P	**Pg**	**13 54 50.0**	**+0.4**
RSP				Sg	**Sg**	**13 54 57.0**	**+0.1**
TOUF	**Mont Tournerai**	**0.64**	**167**	Pg	**Pg**	**13 54 51.6**	**+0.2**
TOUF				Sg	**Sg**	**13 55 00.4**	**+0.5**
ROB	**Robourent**	**0.68**	**120**	P	**Pg**	**13 54 52.2**	**0.0**
ROB				S	**Sg**	**13 55 01.2**	**-0.1**
ROB	**Robourent**	**0.68**	**120**	P	**Pg**	**13 54 52.2**	**0.0**
ROB				S	**Sg**	**13 55 01.2**	**0.0**
AUTN	**L'Aution**	**0.69**	**157**	Pg	**Pg**	**13 54 52.6**	**+0.1**
AUTN				Sg	**Sg**	**13 55 01.0**	**-0.7**
MVIF	**Mont Vial**	**0.74**	**174**	Pg	**Pg**	**13 54 53.5**	**+0.1**
MVIF				Sg	**Sg**	**13 55 03.1**	**-0.1**
LUCF	**Luceram**	**0.77**	**164**	Pg	**Pg**	**13 54 54.3**	**+0.3**
LUCF				Sg	**Sg**	**13 55 04.3**	**+0.2**
SBF	**Sospel**	**0.82**	**160**	*e*Pg	**Pg**	**13 54 54.8**	**-0.1**
SBF				*e*Sg	**Sg**	**13 55 05.4**	**-0.3**
	95nm,0.4s,SNR=1.0						
SBF	**Sospel**	**0.82**	**160**	*e*Pg	**Pg**	**13 54 54.8**	**-0.1**
SBF				*e*Sg	**Sg**	**13 55 05.4**	**-0.3**
	48nm,0.4s,SNR=1.0						
LSD	**Lago del Serru**	**0.83**	**5**	Pg	**Pg**	**13 54 55.4**	**+0.4**
LSD				Sg	**Sg**	**13 55 05.7**	**-0.3**
	38nm,0.3s						

LSD	**Lago del Serru**	**0.83**	**5**	P	**Pb**	**13 54 55.1**	**+0.3**
LSD				Pg	**Pg**	**13 54 55.4**	**+0.4**
LSD				Sg	**Sg**	**13 55 05.7**	**-0.3**
LSD				S	**Sb**	**13 55 05.8**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.88**	**289**	*e*Pg	**Pg**	**13 54 55.6**	**-0.4**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**13 55 07.5**	**-0.1**
	23nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.88**	**289**	*e*Pg	**Pg**	**13 54 55.6**	**-0.4**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**13 55 07.5**	**-0.1**
	12nm,0.2s,SNR=1.0						
CALN	**Calern**	**0.89**	**187**	Pg	**Pg**	**13 54 56.7**	**+0.5**
LPG	**La Plagne**	**0.89**	**346**	*e*Pg	**Pg**	**13 54 56.3**	**+0.1**
LPG				*e*Sg	**Sg**	**13 55 07.4**	**-0.5**
	39nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**0.89**	**346**	*e*Pg	**Pg**	**13 54 56.3**	**+0.1**
LPG				*e*Sg	**Sg**	**13 55 07.4**	**-0.5**
	19nm,0.4s,SNR=1.0						
RORO	**Rocca Rossa**	**0.90**	**125**	P	**Pb**	**13 54 56.1**	**+0.1**
RORO				S	**Sb**	**13 55 07.4**	**-0.3**
RORO	**Rocca Rossa**	**0.90**	**125**	P	**Pb**	**13 54 56.1**	**+0.1**
RORO				S	**Sb**	**13 55 07.4**	**-0.3**
LPL	**La Plagne**	**0.91**	**346**	*e*Pg	**Pg**	**13 54 56.6**	**0.0**
LPL				*e*Sg	**Sg**	**13 55 08.8**	**+0.2**
	20nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**0.91**	**346**	*e*Pg	**Pg**	**13 54 56.6**	**0.0**
LPL				*e*Sg	**Sg**	**13 55 08.8**	**+0.2**
	9.8nm,0.2s,SNR=1.0						
NEGI	**Seborga**	**0.92**	**149**	P	**Pb**	**13 54 56.6**	**+0.3**
NEGI	**Seborga**	**0.92**	**149**	P	**Pb**	**13 54 56.6**	**+0.2**
FIN	**Finale Ligure**	**0.93**	**117**	Pg	**Pg**	**13 54 56.5**	**-0.5**
FIN				Sg	**Sg**	**13 55 09.1**	**-0.2**
FIN	**Finale Ligure**	**0.93**	**117**	P	**Pb**	**13 54 56.4**	**-0.2**
FIN				Sg	**Sg**	**13 55 09.1**	**-0.2**
STOF	**St-Etienne Org**	**1.04**	**233**	Pg	**Pg**	**13 54 59.9**	**+0.9**
STOF				Sg	**Sg**	**13 55 15.7**	**+3.2**
PCP	**Piancastagn**	**1.07**	**94**	P	**Pb**	**13 54 59.1**	**+0.1**
PCP				S	**Sb**	**13 55 12.6**	**-0.2**
PCP	**Piancastagn**	**1.07**	**94**	P	**Pb**	**13 54 59.1**	**0.0**
PCP				S	**Sb**	**13 55 12.6**	**-0.2**
FRF	**La Foret Royal**	**1.11**	**195**	*e*Pg	**Pg**	**13 54 59.9**	**-0.5**
FRF				*e*Sg	**Sg**	**13 55 14.2**	**-0.7**
	48nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**1.11**	**195**	*e*Pg	**Pg**	**13 54 59.9**	**-0.5**
FRF				*e*Sg	**Sg**	**13 55 14.2**	**-0.7**
	24nm,0.2s,SNR=1.0						
TAVF	**Tavernes**	**1.24**	**215**	Pg	**Pg**	**13 55 03.3**	**+0.4**
TAVF				Sg	**Sg**	**13 55 19.6**	**+0.5**
SMRF	**Simiane la Rot**	**1.25**	**239**	*e*Pg	**Pg**	**13 55 02.8**	**-0.1**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**13 55 18.9**	**-0.3**
	12nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.25**	**239**	*e*Pg	**Pg**	**13 55 02.8**	**-0.1**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**13 55 18.9**	**-0.3**
	6.2nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.36**	**197**	*e*Pg	**Pg**	**13 55 04.5**	**-0.5**
LMR				*e*Sn	**Sn**	**13 55 20.9**	**+0.2**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**13 55 22.4**	**-0.3**
	24nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.36**	**197**	*e*Pg	**Pg**	**13 55 04.5**	**-0.5**
LMR				*e*Sn	**Sn**	**13 55 20.9**	**+0.2**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**13 55 22.4**	**-0.3**
	12nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.36**	**197**	*e*Pn	**Pn**	**13 55 04.0**	**+0.9**
LMR				*e*Pg	**Pg**	**13 55 04.5**	**-0.5**
LMR				*e*Sn	**Sn**	**13 55 20.9**	**+0.2**
LMR				*e*Sg	**Sg**	**13 55 22.4**	**-0.3**
PUYF	**Puyloubier**	**1.47**	**222**	Pg	**Pg**	**13 55 06.8**	**-0.4**
VIVF	**Saint-Julien-l**	**1.71**	**278**	*e*Pg	**Pg**	**13 55 11.7**	**0.0**
VIVF				*e*Sn	**Sn**	**13 55 29.7**	**+0.4**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**13 55 33.4**	**-0.5**
	8.1nm,0.3s						
VIVF	**Saint-Julien-l**	**1.71**	**278**	*e*Pg	**Pg**	**13 55 11.7**	**0.0**
VIVF				*e*Sn	**Sn**	**13 55 29.7**	**+0.4**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**13 55 33.4**	**-0.5**
	4.1nm,0.3s						
VIVF	**Saint-Julien-l**	**1.71**	**278**	*e*P	**Pn**	**13 55 09.6**	**+1.7**
VIVF				*e*Pg	**Pg**	**13 55 11.7**	**0.0**
VIVF				*e*Sn	**Sn**	**13 55 29.7**	**+0.4**
VIVF				*e*Sg	**Sg**	**13 55 33.4**	**-0.5**
CABF	**La Chapelle**	**2.09**	**342**	*e*Pg	**Pg**	**13 55 17.5**	**-1.5**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**13 55 45.0**	**-1.1**
	4.6nm,0.4s						
CABF	**La Chapelle**	**2.09**	**342**	*e*Pg	**Pg**	**13 55 17.5**	**-1.5**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**13 55 45.0**	**-1.1**
	2.3nm,0.4s						
LASF	**Ste Croix**	**2.36**	**257**	*e*Pn	**Pn**	**13 55 17.3**	**+0.5**
LASF				*e*Sn	**Sn**	**13 55 43.0**	**-2.3**
	8.9nm,0.9s,SNR=1.0						
LASF	**Ste Croix**	**2.36**	**257**	*e*Pn	**Pn**	**13 55 17.3**	**+0.5**
LASF				*e*Sn	**Sn**	**13 55 43.0**	**-2.3**
	4.4nm,0.9s,SNR=1.0						
PGF	**Pioggiola**	**2.52**	**145**	*e*Sn	**Sn**	**13 55 49.0**	**-0.4**
	4.5nm,0.3s						
PGF	**Pioggiola**	**2.52**	**145**	*e*Sn	**Sn**	**13 55 49.0**	**-0.4**
	2.2nm,0.3s						

*NEIC **20** 14:12:07.9, 4463N×704E, h10km, ML2.2(STR), ML2.3(LDG), ML2.6(GEN), After ROM.*
*ROM **20** 14:12:07.9±0.2, 4463N×704E, h10km, Md1.8/4, Ml1.5/2, Error ellipse: s-maj=3.3km s-min=1.6km az=65.0*
*CSEM **20** 14:12:07.9, 4463N×704E, h10km, ML2.6, After NEIC*
*ISCJB **20** 14:12:07.9±0.3, 4462N±001×700E±003, h15km±2km, Error ellipse: s-maj=3.2km s-min=2.1km az=154.7*
*LDG **20** 14:12:08.6±0.1, 4463N×705E, h3km, Md2.2/1, Ml2.3/9, Error ellipse: s-maj=1.5km s-min=0.8km az=68.0*
*STR **20** 14:12:08.7±0.1, 4463N×703E, h5km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 20 14:12:08.2±0.3, 4463N±001×704E±003, h17km±2km, n43, σ0§40/81, 1C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.19**	**130⇑**	*i*Pg	**Pg**	**14 12 13.0**	**+0.1**
DOI				Sg	**Sg**	**14 12 16.3**	**+0.2**
OG22	**Abries**	**0.20**	**341**	Pg	**Pg**	**14 12 13.2**	**+0.1**
OG22				Sg	**Sg**	**14 12 16.4**	**0.0**
MBDF	**Montbardon**	**0.21**	**297**	*e*Pg	**Pg**	**14 12 13.3**	**+0.1**
MBDF				*e*Sg	**Sg**	**14 12 16.6**	**0.0**
	161nm,0.2s						
SURF	**Saint Ours**	**0.22**	**227**	Pg	**Pg**	**14 12 13.4**	**+0.1**
SURF				Sg	**Sg**	**14 12 16.6**	**-0.2**
BHB	**Bricherasio**	**0.27**	**37**	P	**Pg**	**14 12 14.3**	**+0.3**
BHB				S	**Sg**	**14 12 18.0**	**0.0**
BHB	**Bricherasio**	**0.27**	**37**	P	**Pg**	**14 12 14.3**	**+0.3**
BHB				S	**Sg**	**14 12 18.0**	**0.0**
RRL	**Rocca Remolon**	**0.34**	**328**	P	**Pg**	**14 12 15.5**	**+0.1**
RRL				S	**Sg**	**14 12 20.5**	**+0.3**
RRL	**Rocca Remolon**	**0.34**	**328**	P	**Pg**	**14 12 15.5**	**+0.1**
RRL				S	**Sg**	**14 12 20.5**	**+0.3**
STV	**Sant Anna di V**	**0.44**	**152**	Pg	**Pg**	**14 12 17.1**	**+0.1**
STV				Sg	**Sg**	**14 12 22.8**	**-0.2**
	43nm,0.2s						
STV	**Sant Anna di V**	**0.44**	**152**	P	**Pg**	**14 12 17.1**	**+0.1**
STV				S	**Sg**	**14 12 22.8**	**-0.1**
BNI	**Bardonecchia**	**0.49**	**329**	Pg	**Pg**	**14 12 18.2**	**+0.1**
BNI				Sg	**Sg**	**14 12 24.8**	**0.0**
	33nm,0.9s						
RSP	**Reno Superiore**	**0.54**	**16**	P	**Pg**	**14 12 19.2**	**+0.2**
RSP				S	**Sg**	**14 12 26.4**	**+0.1**
RSP	**Reno Superiore**	**0.54**	**16**	P	**Pg**	**14 12 19.2**	**+0.2**
RSP				S	**Sg**	**14 12 26.4**	**+0.1**
TOUF	**Mont Tournerai**	**0.63**	**166**	Pg	**Pg**	**14 12 20.8**	**+0.1**
ROB	**Robourent**	**0.68**	**119**	P	**Pg**	**14 12 21.4**	**-0.2**
ROB				S	**Sg**	**14 12 30.4**	**-0.3**
ROB	**Robourent**	**0.68**	**119**	P	**Pg**	**14 12 21.4**	**-0.2**
ROB				S	**Sg**	**14 12 30.4**	**-0.3**
AUTN	**L'Aution**	**0.69**	**156**	Pg	**Pg**	**14 12 21.7**	**-0.1**
AUTN				Sg	**Sg**	**14 12 30.8**	**-0.2**
MVIF	**Mont Vial**	**0.74**	**174**	Pg	**Pg**	**14 12 22.9**	**+0.3**
MVIF				Sg	**Sg**	**14 12 32.9**	**+0.5**
LUCF	**Luceram**	**0.77**	**163**	Pg	**Pg**	**14 12 23.4**	**+0.2**
LUCF				Sg	**Sg**	**14 12 33.8**	**+0.4**
SBF	**Sospel**	**0.82**	**160**	*e*Pg	**Pg**	**14 12 24.1**	**0.0**
SBF				*e*Sg	**Sg**	**14 12 34.7**	**-0.2**
	16nm,0.2s						
LSD	**Lago del Serru**	**0.83**	**6**	P	**Pb**	**14 12 24.4**	**+0.2**
LSD				S	**Sb**	**14 12 35.1**	**0.0**
LSD	**Lago del Serru**	**0.83**	**6**	P	**Pb**	**14 12 24.4**	**+0.2**
LSD				S	**Sb**	**14 12 35.1**	**0.0**
ORIF	**Oris-en-Rattie**	**0.88**	**290**	*e*Pg	**Pg**	**14 12 24.9**	**-0.3**
ORIF				*e*Sg	**Sg**	**14 12 36.8**	**+0.1**
	7.1nm,0.2s						
LPG	**La Plagne**	**0.89**	**347**	*e*Pg	**Pg**	**14 12 25.6**	**+0.1**
LPG				*e*Sg	**Sg**	**14 12 36.7**	**-0.6**
	11nm,0.2s						
RORO	**Rocca Rossa**	**0.90**	**125**	P	**Pb**	**14 12 25.4**	**+0.1**
RORO	**Rocca Rossa**	**0.90**	**125**	P	**Pb**	**14 12 25.4**	**+0.1**
LPL	**La Plagne**	**0.91**	**346**	*e*Pg	**Pg**	**14 12 25.9**	**0.0**
LPL				*e*Sg	**Sg**	**14 12 38.1**	**+0.2**
	14nm,0.3s						
NEGI	**Seborga**	**0.92**	**148**	P	**Pb**	**14 12 25.7**	**+0.1**
NEGI	**Seborga**	**0.92**	**148**	P	**Pb**	**14 12 25.7**	**0.0**
FIN	**Finale Ligure**	**0.94**	**116**	P	**Pb**	**14 12 26.0**	**0.0**
FIN				S	**Sb**	**14 12 37.4**	**-0.7**
FIN	**Finale Ligure**	**0.94**	**116**	P	**Pb**	**14 12 26.0**	**0.0**
FIN				S	**Sb**	**14 12 37.4**	**-0.7**
PCP	**Piancastagn**	**1.08**	**94**	P	**Pb**	**14 12 28.5**	**+0.1**
PCP				S	**Sb**	**14 12 42.2**	**0.0**
PCP	**Piancastagn**	**1.08**	**94**	P	**Pb**	**14 12 28.5**	**+0.1**
PCP				S	**Sb**	**14 12 42.1**	**-0.1**
FRF	**La Foret Royal**	**1.11**	**195**	*e*Pg	**Pg**	**14 12 29.2**	**-0.4**
FRF				*e*Sg	**Sg**	**14 12 43.5**	**-0.5**
	14nm,0.2s						
SMRF	**Simiane la Rot**	**1.24**	**239**	*e*Pg	**Pg**	**14 12 32.1**	**0.0**
SMRF				*e*Sg	**Sg**	**14 12 48.2**	**0.0**
	5.0nm,0.2s						
LMR	**La Mourre**	**1.35**	**197**	*e*Pg	**Pg**	**14 12 33.8**	**-0.4**
LMR				*e*Sg	**Sg**	**14 12 51.8**	**0.0**
	8.1nm,0.2s						
LMR	**La Mourre**	**1.35**	**197**	*e*Pg	**Pg**	**14 12 33.8**	**-0.4**
LMR	**La Mourre**	**1.35**	**197**	*e*Pn	**Pn**	**14 12 33.3**	**+1.0**
LMR				*e*Pg	**Pg**	**14 12 33.8**	**-0.4**
LMR				*e*Sg	**Sg**	**14 12 51.8**	**0.0**
VIVF	**Saint-Julien-l**	**1.70**	**278**	*e*Pg	**Pg**	**14 12 40.9**	**0.0**
VIVF				*e*Sn	**Sn**	**14 12 59.0**	**+0.5**
VIVF				*e*Sg	**Sg**	**14 13 02.7**	**-0.3**
	2.8nm,0.3s						
VIVF	**Saint-Julien-l**	**1.70**	**278**	*e*P	**Pn**	**14 12 38.7**	**+1.6**
VIVF				*e*Pg	**Pg**	**14 12 40.9**	**0.0**
VIVF				*e*Sn	**Sn**	**14 12 59.0**	**+0.5**
VIVF				*e*Sg	**Sg**	**14 13 02.7**	**-0.3**
CABF	**La Chapelle**	**2.09**	**342**	*e*Sg	**Sg**	**14 13 14.4**	**-1.1**
	1.2nm,0.3s						
LASF	**Ste Croix**	**2.35**	**257**	*e*Sn	**Sn**	**14 13 13.3**	**-1.1**
	0.6nm,0.2s						
PGF	**Pioggiola**	**2.52**	**145**	*e*Sn	**Sn**	**14 13 18.3**	**-0.4**

*ISCJB **20** 14:20:37.0±0.2, 4462N×001×700E±003, h15km±2km, Error ellipse: s-maj=3.1km s-min=2.1km az=163.9*
*LDG **20** 14:20:37.7±0.1, 4463N×706E, h5km, Md2.4/1, Ml2.4/9, Error ellipse: s-maj=1.6km s-min=0.8km az=70.0*
*STR **20** 14:20:37.9±0.3, 4462N×704E, h5km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ROM **20** 14:20:37.3±0.2, 4463N×705E, h13km±6km, Md1.9/3, Error ellipse: s-maj=3.0km s-min=1.5km az=71.0*
*NEIC **20** 14:20:37.7, 4462N×701E, h9km, MD1.9(ROM), ML2.3(STR), ML2.4(LDG), ML2.6(GEN), After GEN.*

ISC 20 14:20:37.4±0.3, 4463N±001×704E±003, h17km±3km, n34, σ0§43/66, 1C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.19**	**130⇑**	*i*Pg	**Pg**	**14 20 42.1**	**0.0**
DOI				Sg	**Sg**	**14 20 45.4**	**+0.1**
OG22	**Abries**	**0.20**	**341**	Pg	**Pg**	**14 20 42.4**	**+0.1**
OG22				Sg	**Sg**	**14 20 45.6**	**0.0**
MBDF	**Montbardon**	**0.21**	**297**	*e*Pg	**Pg**	**14 20 42.5**	**+0.1**
MBDF				*e*Sg	**Sg**	**14 20 45.8**	**0.0**
	210nm,0.2s						
SURF	**Saint Ours**	**0.22**	**228**	Pg	**Pg**	**14 20 42.5**	**0.0**
SURF				Sg	**Sg**	**14 20 45.6**	**-0.3**
BHB	**Bricherasio**	**0.27**	**37**	P	**Pg**	**14 20 43.5**	**+0.3**
BHB				S	**Sg**	**14 20 47.2**	**0.0**
RRL	**Rocca Remolon**	**0.34**	**328**	P	**Pg**	**14 20 44.7**	**+0.2**
RRL				S	**Sg**	**14 20 49.2**	**-0.3**
STV	**Sant Anna di V**	**0.43**	**152**	Pg	**Pg**	**14 20 46.3**	**+0.1**
STV				Sg	**Sg**	**14 20 52.0**	**-0.1**
STV	**Sant Anna di V**	**0.43**	**152**	P	**Pg**	**14 20 46.3**	**+0.1**
STV				S	**Sg**	**14 20 52.0**	**-0.1**
BNI	**Bardonecchia**	**0.49**	**329**	Pg	**Pg**	**14 20 47.5**	**+0.2**
BNI				Sg	**Sg**	**14 20 54.0**	**0.0**
RSP	**Reno Superiore**	**0.55**	**16**	Pg	**Pg**	**14 20 48.8**	**+0.6**
RSP				Sg	**Sg**	**14 20 55.7**	**+0.1**
RSP	**Reno Superiore**	**0.55**	**16**	P	**Pg**	**14 20 48.5**	**+0.3**
RSP				Pg	**Pg**	**14 20 48.8**	**+0.6**
RSP				Sg	**Sg**	**14 20 55.7**	**+0.1**
RSP				S	**Sg**	**14 20 55.8**	**+0.2**
TOUF	**Mont Tournerai**	**0.63**	**166**	Pg	**Pg**	**14 20 49.9**	**+0.1**
ROB	**Robourent**	**0.68**	**119**	P	**Pg**	**14 20 50.7**	**-0.1**
AUTN	**L'Aution**	**0.69**	**156**	Pg	**Pg**	**14 20 51.1**	**+0.2**
AUTN				Sg	**Sg**	**14 20 59.7**	**-0.4**
MVIF	**Mont Vial**	**0.74**	**174**	Pg	**Pg**	**14 20 51.8**	**0.0**
MVIF				Sg	**Sg**	**14 21 01.7**	**+0.2**
SBF	**Sospel**	**0.82**	**159**	*e*Pg	**Pg**	**14 20 53.3**	**0.0**
SBF				*e*Sg	**Sg**	**14 21 03.9**	**-0.1**
	19nm,0.2s						
LSD	**Lago del Serru**	**0.83**	**6**	Pg	**Pg**	**14 20 53.6**	**0.0**
LSD				Sg	**Sg**	**14 21 04.2**	**-0.4**
LSD	**Lago del Serru**	**0.83**	**6**	P	**Pb**	**14 20 53.6**	**+0.2**
LSD				Sg	**Sg**	**14 21 04.2**	**-0.4**
LSD				S	**Sb**	**14 21 04.3**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.88**	**290**	*e*Pg	**Pg**	**14 20 54.1**	**-0.3**
ORIF				*e*Sg	**Sg**	**14 21 06.0**	**+0.1**
	11nm,0.2s						
CALN	**Calern**	**0.88**	**187**	Pg	**Pg**	**14 20 56.0**	**+1.5**
LPG	**La Plagne**	**0.89**	**347**	*e*Pg	**Pg**	**14 20 54.7**	**0.0**
LPG				*e*Sg	**Sg**	**14 21 05.9**	**-0.6**
	14nm,0.2s						
RORO	**Rocca Rossa**	**0.90**	**125**	P	**Pb**	**14 20 54.6**	**+0.2**
LPL	**La Plagne**	**0.91**	**346**	*e*Pg	**Pg**	**14 20 55.1**	**0.0**
LPL				*e*Sg	**Sg**	**14 21 07.3**	**+0.1**
	16nm,0.3s						
NEGI	**Seborga**	**0.92**	**148**	P	**Pb**	**14 20 54.6**	**-0.1**
NEGI				S	**Sb**	**14 21 06.1**	**-0.5**
FIN	**Finale Ligure**	**0.94**	**116**	P	**Pb**	**14 20 55.0**	**-0.2**
FIN				S	**Sb**	**14 21 06.8**	**-0.4**
PCP	**Piancastagn**	**1.08**	**94**	P	**Pb**	**14 20 57.6**	**+0.1**
PCP				S	**Sb**	**14 21 11.5**	**+0.1**
FRF	**La Foret Royal**	**1.10**	**195**	*e*Pg	**Pg**	**14 20 58.5**	**-0.2**
FRF				*e*Sg	**Sg**	**14 21 12.7**	**-0.4**
	20nm,0.2s						
SMRF	**Simiane la Rot**	**1.24**	**239**	*e*Pg	**Pg**	**14 21 01.3**	**+0.1**
SMRF				*e*Sg	**Sg**	**14 21 17.4**	**0.0**
	5.1nm,0.2s						
LMR	**La Mourre**	**1.35**	**197**	*e*Pg	**Pg**	**14 21 02.9**	**-0.5**
LMR				*e*Sg	**Sg**	**14 21 21.0**	**+0.1**
	12nm,0.2s						
VIVF	**Saint-Julien-l**	**1.70**	**279**	*e*Pg	**Pg**	**14 21 10.2**	**+0.1**
VIVF				*e*Sg	**Sg**	**14 21 32.1**	**-0.1**
	2.1nm,0.3s						
VIVF	**Saint-Julien-l**	**1.70**	**279**	*e*P	**Pn**	**14 21 08.1**	**+1.9**
VIVF				*e*Pg	**Pg**	**14 21 10.2**	**+0.1**
VIVF				*e*Sg	**Sg**	**14 21 32.1**	**-0.1**
CABF	**La Chapelle**	**2.09**	**342**	*e*Sg	**Sg**	**14 21 43.6**	**-1.1**
	1.2nm,0.3s						
LASF	**Ste Croix**	**2.35**	**258**	*e*Pn	**Pn**	**14 21 15.8**	**+0.7**
LASF				*e*Sn	**Sn**	**14 21 42.4**	**-1.1**
	0.9nm,0.2s						
PGF	**Pioggiola**	**2.52**	**145**	*e*Sn	**Sn**	**14 21 47.5**	**-0.3**

*ISCJB **20** 14:21:27.2±2.2, 1352S×010×772W±02, h35km±22km, mb3.7/3, Error ellipse: s-maj=33.3km s-min=11.1km az=157.4*
*NEIC **20** 14:21:29.3±6.2, 1344S×77.12W, h34km±45km, Error ellipse: s-maj=40.1km s-min=14.5km az=69.0*
*IDC **20** 14:21:31.4±2.7, 1337S×7697W, h49km±23km, mb3.4/3, mb1 3.6/6, mb1mx3.5/18, mbtmp3.3/6, ML3.2/3, Error ellipse: s-maj=36.2km s-min=16.6km az=67.0*

ISC 20 14:21:29.7±1.7, 1345S±010×769W±02, h39km±18km, n12, σ0§49/14, mb3.7/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**		**4**	P	**Pn**	**14 21 52.8**	**-0.8**
	175nm,0.3s,baz=185,slow=13,SNR=172						
NNA				S	**Sn**	**14 22 11.7**	**+0.3**
	126nm,0.3s,baz=312,slow=23,SNR=6.5						
NNA	**Nana**	**1.46**	**4**	*e*Pn	**Pn**	**14 21 53.0**	**-0.5**
NNA				*e*Sn	**Sn**	**14 22 11.7**	**+0.2**
ATAH	**Atahualpa**	**6.57**	**347**	P	**Pn**	**14 23 04.2**	**+0.4**
	2.4nm,0.3s,baz=133,slow=13,SNR=7.5						
ATAH				S	**Sn**	**14 24 25.0**	**+7.4**
	0.3nm,0.3s,baz=255,slow=20,SNR=2.0						
LPAZ	**La Paz**	**8.97**	**109**	P	**Pn**	**14 23 41.2**	**+4.5**
	0.1nm,0.3s,baz=280,slow=11,SNR=3.2						
LPAZ	**La Paz**	**8.97**	**109**	P	**Pn**	**14 23 41.2**	**+4.5**
LVC	**Limon Verde**	**11.88**	**141**	*e*P	**Pn**	**14 24 16.6**	**0.0**
CFAA	**Coronel Fontan**	**19.75**	**158**	P	**Pn**	**14 25 58.2**	**+0.1**
	0.0nm,0.3s,baz=320,slow=9.0,SNR=4.2						
CFAA	**Coronel Fontan**	**19.75**	**158**	P	**Pn**	**14 25 58.2**	**+0.1**
TXAR	**Lajitas Array**	**49.75**	**329**	P	**P**	**14 30 17.6**	**-0.8**
	0.3nm,0.7s,mb3.4,baz=151,slow=8.0,SNR=3.8						
NVAR	**Mina Array Bea**	**64.51**	**325**	P	**P**	**14 32 03.3**	**+0.7**
	0.4nm,0.7s,mb3.6,baz=145,slow=8.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**82.26**	**75**	P	**P**	**14 33 47.6**	**-0.1**
	2.0nm,0.9s,mb4.0,baz=257,slow=5.9,SNR=6.6						
SONM	**Songino Array**	**145.61**	**356**	PKPbc	PKPbc	14 41 05.1	+1.0
	1.2nm,0.9s,baz=352,slow=3.3,SNR=7.5						

*NEIC **20** 14:22:21.4±0.4, 6.16N×12771E, h10km, mb4.3/4, Error ellipse: s-maj=15.9km s-min=8.1km az=69.0*
*ISCJB **20** 14:22:24.7±1.5, 6.10N±006×1277E±0.1, h49km±14km, mb4.2/18, Error ellipse: s-maj=18.1km s-min=8.4km az=156.7*
*IDC **20** 14:22:29.1±2.4, 603N×12749E, h72km±22km, mb3.9/16, mb1 3.9/17, mb1mx3.9/24, mbtmp3.9/17, Error ellipse: s-maj=24.8km s-min=10.1km az=74.0*
*MAN **20** 14:22:45, 684N×12608E, h1km, mb4.6, ML3.5, MS3.4*

ISC 20 14:22:26.5±1.5, 607N±006×1276E±01, h48km±14km, n37, σ1§03/39, mb4.2/18, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.60**	**303**	*e*P	**Pn**	**14 22 49.8**	**-2.6**
MATI				*e*S	**Sn**	**14 23 09.1**	**-2.9**
DAV	**Davao City (W)**	**2.25**	**296**	P	**Pn**	**14 23 02.1**	**+0.8**
	80nm,0.3s,baz=42,slow=2.0,SNR=8.0						
DAV				S	**Sn**	**14 23 29.6**	**+1.7**
	200nm,0.3s,baz=286,slow=24,SNR=15						
DAV	**Davao City (W)**	**2.25**	**296**	*e*Pn	**Pn**	**14 23 01.6**	**+0.2**
DAV				S	**Sn**	**14 23 29.6**	**+1.7**
KCP	**Kidapawan**	**2.67**	**290⇑**	*e*P	**Pn**	**14 23 06.4**	**-0.7**
KCP				*i* S	**Sn**	**14 23 40.0**	**+1.6**
BUKP	**Musuan**	**3.10**	**305**	*e*P	**Pn**	**14 23 12.3**	**-0.7**
PAGZ	**Pagadian**	**4.56**	**293**	*e*P	**Pn**	**14 23 33.3**	**+0.3**
BESP	**Borongan**	**5.90**	**339**	*e*P	**Pn**	**14 24 01.0**	**+10**
KSM	**Kuching**	**17.86**	**256**	*e*P	**Pn**	**14 26 31.1**	**-0.6**
KAKA	**Kakadu**	**19.27**	**166**	*e*P	**Pn**	**14 26 47.7**	**-0.9**
	2.8nm,0.3s						
KAKA	**Kakadu**	**19.27**	**166**	*e*P	**Pn**	**14 26 47.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.10**	**185**	*e*P	**P**	**14 27 38.7**	**+0.9**
	6.5nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	**24.10**	**185**	P	**P**	**14 27 38.8**	**+1.0**
	2.8nm,0.7s,mb3.8,baz=26,slow=14,SNR=8.2						
WRAB	**Tennant Creek**	**26.68**	**166**	*e*P	**P**	**14 28 03.3**	**+2.1**
	5.0nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**26.68**	**166**	P	**P**	**14 28 00.2**	**-1.1**
	1.8nm,0.3s,mb4.1,baz=336,slow=12,SNR=54						
WB2	**Warramunga Arr**	**26.69**	**166**	*e*P	**P**	**14 28 01.0**	**-0.3**
ASAR	**Alice Springs**	**30.19**	**168**	P	**P**	**14 28 32.5**	**+0.1**
	2.2nm,0.6s,mb4.1,baz=6.9,slow=11,SNR=19						
ASAR				PcP	PcP	14 31 32.8	0.0
	0.7nm,0.5s,baz=344,slow=3.2,SNR=6.5						
KSRS	**Korea Array**	**31.24**	**0**	P	**P**	**14 28 42.0**	**+0.5**
	2.9nm,0.8s,mb4.1,baz=173,slow=9.2,SNR=10						
NWAO	**Narrogin (SRO)**	**

ASAR	Alice Springs	36.66	127	P	P	14 30 29.3	-0.5
	0.4nm,0.4s,baz=298,slow=7.6,SNR=5.1						
MKAR	Makanchi Array	52.43	342	P	P	14 32 35.8	+0.4
	0.6nm,0.4s,baz=143,slow=7.4,SNR=4.2						
TXAR	Lajitas Array	143.46	41	PKP	PKPdf	14 42 56.2	-2.3
	0.8nm,0.5s,baz=244,slow=1.1,SNR=17						

NEIC ***20*** *14:27:12.2±0.6, 647N×128.14E, h10km, mb4.5/2, Error ellipse: s-maj=18.2km s-min=10.4km az=72.0*
ISCJB ***20*** *14:27:15.0±0.6, 631N±007×12781E±008, h33km, mb4.1/10, Error ellipse: s-maj=12.5km s-min=8.6km az=138.1*
IDC ***20*** *14:27:25.7±2.6, 6.14N×127.43E, h114km±25km, mb3.7/9, mb1 3.7/10, mb1mx3.6/20, mbtmp3.7/10, Error ellipse: s-maj=34.8km s-min=13.8km az=81.0*

ISC 20 14:27:17.3±0.6, 620N±009×1275E±01, h35km, n24, σ0§91/23, mb4.1/10, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.47	301	eP	Pn	14 27 40.5	-0.9
DAV	Davao City (W)	2.12	294	P	Pn	14 28 00.5	+10
	46nm,0.3s,baz=236,slow=1.3,SNR=4.4						
DAV				S	Sn	14 28 21.4	+5.9
	85nm,0.3s,baz=287,slow=23,SNR=11						
DAV	Davao City (W)	2.12	294	ePn	Pn	14 27 55.5	+5.2
DAV				S	Sn	14 28 21.4	+5.9
BUKP	Musuan	2.97	304	eP	Pn	14 28 02.9	+0.9
BUTP	Butuan	3.34	326	eP	Pn	14 28 07.9	+0.8
KAPI	Kappang	13.57	215	Pn	Pn	14 30 32.4	+4.8
JOW	Kunigami	20.54	2	P	P	14 31 56.2	+3.5
	6.6nm,0.6s,baz=193,slow=9.1,SNR=5.7						
FITZ	Fitzroy Crossi	24.21	184	P	P	14 32 31.0	+0.1
	2.3nm,0.8s,mb3.7,baz=20,slow=7.9,SNR=3.6						
FITZ	Fitzroy Crossi	24.21	184	eP	P	14 32 30.9	+0.1
WRA	Warramunga Arr	26.82	166	P	P	14 32 55.6	+1.1
	3.8nm,0.7s,mb4.0,baz=341,slow=10,SNR=12						
ASAR	Alice Springs	30.32	168	PcP	PcP	14 36 25.7	+0.2
	0.6nm,0.6s,baz=356,slow=2.5,SNR=8.4						
KSRS	Korea Array	31.12	1	P	P	14 33 32.6	+0.1
	2.0nm,0.7s,mb4.0,baz=179,slow=10.0,SNR=12						
STKA	Stephens Creek	40.17	161	eP	P	14 34 49.2	-1.0
	1.6nm,0.9s,mb3.8						
STKA	Stephens Creek	40.17	161	P	P	14 34 48.9	-1.3
	0.6nm,0.4s,mb3.7,baz=333,slow=9.0,SNR=3.4						
PETK	Petropavlovsk-	52.86	22	P	P	14 36 30.6	+1.1
	0.5nm,0.5s,mb3.7,baz=195,slow=4.2,SNR=4.4						
MKAR	Makanchi Array	56.02	324	P	P	14 36 52.3	-0.2
	0.5nm,0.4s,mb3.9,baz=107,slow=7.0,SNR=8.1						
ZALV	Zalesovo Beam	58.78	332	P	P	14 37 10.9	-1.0
	1.5nm,0.5s,mb4.3,baz=112,slow=7.1,SNR=7.0						
KURK	Kurchatov	60.12	326	eP	P	14 37 20.6	-0.6
BRVK	Borovoye	65.79	326	eP	P	14 37 57.8	-1.0
	2.4nm,0.6s,mb4.4						
ARU	Arti	73.30	327	eP	P	14 38 44.1	-1.0
	2.4nm,0.5s,mb4.4						
KDAK	Kodiak Island	79.39	32	P	P	14 39 20.2	+0.5
	4.1nm,0.7s,mb4.4,baz=202,slow=12,SNR=4.3						
KDAK	Kodiak Island	79.39	32	P	P	14 39 20.2	+0.5
TORD	Torodi Ar. Bea	122.87	290	PKP	PKPdf	14 46 10.1	-0.7
	0.4nm,0.8s,baz=56,slow=3.6,SNR=2.8						
CFAA	Coronel Fontan	150.73	152	PKPbc	PKPbc	14 47 06.4	-0.1
	0.3nm,0.8s,baz=339,slow=1.8,SNR=4.6						

IDC ***20*** *14:28:23.6±4.1, 232S×139.12E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/13, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=162.6km s-min=28.0km az=87.0*
ISCJB ***20*** *14:28:28.2±2.7, 23S±02×1387E±06, h33km, mb3.4/2, Error ellipse: s-maj=84.7km s-min=21.9km az=0.4*

ISC 20 14:28:29.6±2.7, 23S±02×1389E±06, h35km, n5, σ0§30/5, mb3.4/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	12.12	211	eP	Pn	14 31 19.9	0.0
	6.6nm,0.8s						
WB2	Warramunga Arr	18.05	194	eP	Pn	14 32 38.1	+0.4
WRA	Warramunga Arr	18.05	194	P	Pn	14 32 37.7	-0.1
	0.2nm,0.3s,baz=14,slow=12,SNR=8.2						
ASAR	Alice Springs	21.74	192	P	P	14 33 17.8	-0.3
	1.0nm,0.7s,mb3.4,baz=27,slow=12,SNR=14						
MKAR	Makanchi Array	69.61	322	P	P	14 39 35.3	0.0
	0.4nm,0.7s,mb3.4,baz=112,slow=7.5,SNR=3.2						

IDC ***20*** *14:32:18.2±1.9, 2706N×12884E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=33.4km s-min=19.2km az=172.0*
ISCJB ***20*** *14:32:20.4±0.5, 2741N±007×12862E±009, h50km±7km, mb3.8/2, Error ellipse: s-maj=17.5km s-min=4.3km az=40.7*
JMA ***20*** *14:32:20.9±0.1, 2743N×12859E, h43km±2km, M3.6*
JMA Felt I J1.

ISC 20 14:32:21.2±0.5, 2742N±008×12860E±010, h40km±11km, n16, σ0§41/24, mb3.8/2, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.48	40	P	Pn	14 32 31.5	-0.2
JTK				eS	Sn	14 32 38.6	-0.5
JOW	Kunigami	0.65	207	P	Pn	14 32 33.8	-0.1
JOW				eS	Sn	14 32 42.9	-0.1
JOW	Kunigami	0.65	207	Pn	Pn	14 32 33.9	-0.1
	362nm,0.3s,baz=81,slow=18,SNR=3594						
JOW				Sn	Sn	14 32 42.5	-0.5
	681nm,0.3s,baz=120,slow=20,SNR=55						
JIH	Iheya	0.68	236	P	Pn	14 32 34.2	-0.1
JIH				eS	Sn	14 32 43.8	0.0
JAM	Amami Oshima	1.33	42	P	Pn	14 32 43.3	0.0
JAM				eS	Sn	14 32 59.8	0.0
NAH1	Naha	1.46	214	P	Pn	14 32 45.6	+0.6
JAGN	Aguni-jima	1.47	236	P	Pn	14 32 44.9	-0.2
JAGN				eS	Sn	14 33 03.0	-0.1
JJT2	Tamagusuku 2	1.48	211	P	Pn	14 32 46.1	+0.7
JZK	Kikaishima	1.51	53	P	Pn	14 32 46.3	+0.6
JKE	Kume jima 2	1.95	237	P	Pn	14 32 51.6	-0.2
JKE				eS	Sn	14 33 15.1	0.0
JNN	Nakanoshima	2.66	25	P	Pn	14 33 01.2	-0.4
JNN				eS	Sn	14 33 33.0	+0.3
JKC	Kuchinoerabu	3.34	24	P	Pn	14 33 11.0	+0.1
JTN	Tanegashima 3	3.84	32	P	Pn	14 33 18.0	+0.2
KSRS	Korea Array	10.03	357	Pn	Pn	14 34 47.8	+5.1
	0.1nm,0.3s,baz=176,slow=15,SNR=5.6						
WRA	Warramunga Arr	47.40	173	P	P	14 40 50.6	-1.1
	0.8nm,0.5s,mb3.9,baz=353,slow=8.3,SNR=9.9						
ASAR	Alice Springs	51.04	174	P	P	14 41 20.0	+0.6
	0.5nm,0.5s,mb3.7,baz=7.0,slow=14,SNR=14						

ISCJB ***20*** *14:47:51.5±0.4, 4209N±002×2133E±005, h10km, Error ellipse: s-maj=4.9km s-min=2.6km az=174.7*
CSEM ***20*** *14:47:52.1±0.2, 4208N×2128E, h15km, ML2.3, Error ellipse: s-maj=5.8km s-min=3.0km az=82.0*
BEO ***20*** *14:47:52.1±1.3, 4201N×2136E, h20km±9km, ML2.7/5*
SKO ***20*** *14:47:52.9, 4203N×2138E, h15km, M1.8, ML2.3*
TIR ***20*** *14:47:52.8±0.5, 4203N×2128E, h8km±15km*
NEIC ***20*** *14:47:53.8, 4202N×2137E, h2km, ML3.5(THE), After THE.*
THE ***20*** *14:47:53.8, 4202N×2137E, h1km, ML3.5*

ISC 20 14:47:52.5±0.4, 4208N±002×2135E±005, h14km±7km, n24, σ0§68/46, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	Skopje	0.13	148	ePg	Pg	14 47 56.3	+0.4
SKO				eSg	Sg	14 47 58.2	-0.3
SKO	Skopje	0.13	148	i PG	Pg	14 47 56.3	+0.3
SKO				i SG	Sg	14 47 58.2	-0.2
SKO	Skopje	0.13	148	i Pg	Pg	14 47 56.1	+0.2
SKO				⇑iSg	Sg	14 47 58.1	-0.3
SKO				eLg		14 47 58.2	
	comp=E,1μm,0.2s						
SKO				eLg		14 47 58.5	
	comp=N,1μm,0.2s						
SKO	Skopje	0.13	148	i Pg	Pg	14 47 56.1	+0.1
SKO				eLg		14 47 58.1	
	comp=N,1μm,0.2s						
SKO				eSg	Sg	14 47 58.2	-0.2
KRUS	Krusevo	0.72	186	i Pg	Pg	14 48 06.8	+0.4
KRUS				eSg	Sg	14 48 16.0	+0.2
KRUS				eLg		14 48 16.9	
	comp=N,78nm,0.2s						
KRUS				eLg		14 48 17.8	
	comp=E,70nm,0.2s						
KRUS	Krusevo	0.72	186	i Pg	Pg	14 48 06.8	+0.4
KRUS				eSg	Sg	14 48 15.9	+0.1
BARS	Barje	0.81	25	ePg	Pg	14 48 08.7	+0.4
BARS				eSg	Sg	14 48 20.9	+2.0
OHR	Ohrid	1.05	203	ePg	Pg	14 48 12.1	-0.7
OHR				eSg	Sg	14 48 26.6	0.0
OHR	Ohrid	1.05	203	i PG	Pg	14 48 12.1	-0.7
OHR				i SG	Sg	14 48 26.6	+0.1
OHR	Ohrid	1.05	203	i Pg	Pg	14 48 12.6	-0.3
OHR				eSg	Sg	14 48 27.0	+0.4
OHR				eLg		14 48 27.1	
	comp=N,74nm,0.4s						
OHR				eLg		14 48 27.2	
	comp=E,102nm,0.5s						
OHR	Ohrid	1.05	203	ePg	Pg	14 48 12.1	-0.7
OHR				eSg	Sg	14 48 26.9	+0.4
BIA	Bitola	1.06	181	ePg	Pg	14 48 12.5	-0.5
BIA				⇑iSg	Sg	14 48 26.7	-0.1
BIA				eLg		14 48 26.8	
	comp=E,102nm,0.5s						
BIA				eLg		14 48 26.8	
	comp=N,62nm,0.3s						
BIA	Bitola	1.06	181	ePg	Pg	14 48 12.4	-0.6
BIA				eSg	Sg	14 48 26.5	-0.3
VAY	Valandovo	1.19	129	ePg	Pg	14 48 15.1	-0.3
VAY				eSg	Sg	14 48 30.7	-0.2
VAY				eLg		14 48 31.5	
	comp=N,25nm,0.5s						
VAY				eLg		14 48 31.7	
	comp=E,31nm,0.5s						
VAY	Valandovo	1.19	129	ePg	Pg	14 48 15.1	-0.3
VAY				eSg	Sg	14 48 31.3	+0.4
FNA	Florina	1.30	179	ePg	Pg	14 48 17.1	-0.3
FNA				eSg	Sg	14 48 35.1	+0.8
FNA	Florina	1.30	179	i PG	Pg	14 48 17.1	-0.3
FNA				i SG	Sg	14 48 35.2	+0.9
GRG	Griva	1.37	145	ePg	Pg	14 48 18.6	-0.4
GRG				eSg	Sg	14 48 37.1	+0.3
GRG	Griva	1.37	145	ePg	Pg	14 48 18.5	-0.4
GRG				eSg	Sg	14 48 37.1	+0.3
ZAPS	Zavoj	1.52	38	ePg	Pg	14 48 20.3	-1.5
ZAPS				eSg	Sg	14 48 41.6	+0.1
SJES	Sjenica	1.56	320	eSg	Sg	14 48 42.6	0.0
GRUS	Gruza	1.86	346	ePn	Pn	14 48 24.3	+0.3
GRUS				eSg	Sg	14 48 57.3	+4.8
DIVS	Divibare	2.25	334	ePn	Pn	14 48 29.4	+0.2
DIVS				eSg	Sg	14 49 05.2	+0.5
BZS	Buzias	3.54	3	eSg	Sg	14 49 44.6	-1.5

IDC 20 14:53:52.6±1.1, 480N×12755E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, Error ellipse: s-maj=85.3km s-min=19.4km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.48	165	P	P	14 59 22.3	-0.3
	0.5nm,0.4s,baz=343,slow=10,SNR=12						
ASAR	Alice Springs	28.96	168	P	P	14 59 54.3	+0.4
	0.4nm,0.7s,baz=356,slow=10,SNR=8.2						
KSRS	Korea Array	32.51	1	P	P	15 00 24.4	-0.7
	0.7nm,0.6s,baz=177,slow=10.0,SNR=4.2						
MKAR	Makanchi Array	57.16	324	P	P	15 03 42.8	+1.6
	0.3nm,0.6s,baz=123,slow=5.3,SNR=3.6						
ZALV	Zalesovo Beam	60.02	332	P	P	15 03 59.9	-1.2
	0.5nm,0.5s,baz=142,slow=7.3,SNR=2.8						

IDC ***20*** *14:55:27.8±2.1, 227S×6888E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.7/5, Error ellipse: s-maj=58.5km s-min=39.0km az=57.0*
NEIC ***20*** *14:55:29.0±1.1, 226S×6880E, h10km, mb4.1/1, Error ellipse: s-maj=23.1km s-min=22.4km az=195.0*

ISC 20 14:55:28.7±2.0, 23S±02×688E±02, h10km, n8, σ0§27/7, mb3.8/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	15.24	51	ePn	Pn	14 59 03.9	-0.3
CMAR	Chiang Mai Arr	36.16	54	P	P	15 02 32.1	+0.5
	0.3nm,0.5s,mb3.5,baz=260,slow=11,SNR=3.4						
TKM2	Tokmak 2	45.44	7	P	P	15 03 47.7	-0.1
	2.2nm,0.9s,mb4.0						
MKAR	Makanchi Array	50.32	12	P	P	15 04 25.8	+0.2
	0.2nm,0.3s,mb3.7,baz=188,slow=7.3,SNR=2.8						
ZALV	Zalesovo Beam	57.63	11	P	P	15 05 18.5	-0.3
	1.0nm,0.7s,mb4.0,baz=196,slow=8.2,SNR=5.2						
SONM	Songino Array	59.76	28	P	P	15 05 33.9	+0.1
	0.4nm,0.4s,mb3.8,baz=216,slow=7.3,SNR=3.6						
WRA	Warramunga Arr	66.28	111	P	P	15 06 17.6	-0.1
	0.7nm,0.8s,mb3.8,baz=287,slow=5.7,SNR=4.1						
TXAR	Lajitas Array	152.17	346	PKPbc	PKPbc	15 15 26.3	+1.0
	0.4nm,0.9s,baz=36,slow=4.9,SNR=2.9						
TXAR				PKPab	PKPab	15 15 36.0	+1.2
	0.6nm,0.8s,baz=35,slow=3.1,SNR=4.9						

IDC ***20*** *15:12:55.2±1.4, 3934N×7393E, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.6/25, mbtmp3.7/8, ML3.4/3, Error ellipse: s-maj=33.9km s-min=25.0km az=74.0*
NNC ***20*** *15:12:57.3±3.9, 3953N×7381E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=30.9km s-min=16.4km az=178.0*
NEIC ***20*** *15:13:01.8±3.4, 3953N×7378E, h42km±26km, Error ellipse: s-maj=33.9km s-min=19.7km az=189.0*
ISCJB ***20*** *15:13:03.7±0.6, 3971N±004×737E±0.1, h70km±9km, mb3.6/5, Error ellipse: s-maj=15.2km s-min=6.2km az=10.6*

ISC 20 15:13:05.4±0.6, 3974N±004×737E±01, h69km±9km, n27, σ1§14/34, mb3.6/5, 2C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	2.39	359	P	Pn	15 13 42.4	+0.2
	SNR=52						
AML	Almayashu	2.39	359	ePn	Pn	15 13 42.1	-0.2
AML				eSn	Sn	15 14 18.6	+8.2
KZA	Kyzart	2.60	26	P	Pn	15 13 43.1	-2.0
	SNR=5.6						
EKS2	Erkin-Say	2.92	0	P	Pn	15 13 50.5	+1.1
	SNR=26						
EKS2	Erkin-Say	2.92	0	ePn	Pn	15 13 50.3	+0.9
EKS2				eSn	Sn	15 14 30.1	+6.8
AAK	Ala-Archa	2.94	11	P	Pn	15 13 50.2	+0.5
	SNR=26						
KBK	Karagaybulak	3.05	17	P	Pn	15 13 50.9	-0.3
	SNR=23						
ULHL	Ulahol	3.14	36	P	Pn	15 13 52.9	+0.5
	SNR=5.7						
TKM2	Tokmak 2	3.47	23	⇑Pn	Pn	15 13 55.4	-1.5
	8.5nm,0.5s						
TKM2				⇑Sn	Sn	15 14 40.5	+3.8
	34nm,0.6s						
TKM2	Tokmak 2	3.47	23	P	Pn	15 13 56.2	-0.7
	SNR=12						
TKM2	Tokmak 2	3.47	23	ePn	Pn	15 13 55.1	-1.8
TKM2				eSn	Sn	15 14 39.1	+2.4
USP	Ospenovka	3.57	9	P	Pn	15 14 04.5	+6.3
	SNR=13						
KK31	Karatay Array	4.15	325	⇓Pn	Pn	15 14 07.0	+0.8
	2.6nm,0.5s,baz=131,slow=12,SNR=46						
KK31				⇓Pg	Pn	15 14 16.6	+10
	6.5nm,0.6s						
KK31				⇓Sn	Sn	15 15 02.4	+9.0
	5.8nm,0.3s,baz=139,slow=23						
KK31				⇓Lg		15 15 18.1	
	8.6nm,0.4s						
CHCP	Chirah Chowk	6.08	184	P	Pn	15 14 31.3	-1.4
CEP	Cherat	6.09	195	P	Pn	15 14 32.2	-0.5
CEP				S	Sn	15 15 42.0	+1.1
THW	Thamme Wali	7.12	194	P	Pn	15 14 48.3	+1.5
BVAR	Borovoye Array	13.49	351	Pn	Pn	15 16 11.3	-2.1
	0.2nm,0.3s,baz=160,slow=14,SNR=5.3						
BVAR				Lg		15 20 06.1	
	0.2nm,0.3s,baz=162,slow=24,SNR=3.1						
AB31	Akbulak array	13.67	319	Pn	Pn	15 16 13.9	-2.0
	0.8nm,0.5s,baz=192,slow=28,SNR=20						
AKTK	Aktyubinsk	15.38	319	Pn	Pn	15 16 38.1	-0.1
AKTO	Aktyubinsk	15.38	319	⇓Pn	Pn	15 16 38.0	-0.2
	0.3nm,0.8s						
AKTO	Aktyubinsk	15.38	319	Pn	Pn	15 16 38.1	-0.1
	0.1nm,0.3s,baz=121,slow=14,SNR=7.6						
ZALV	Zalesovo Beam	16.07	24	Pn	Pn	15 16 47.9	+1.0
	0.2nm,0.3s,baz=229,slow=11,SNR=4.1						
ARCES	ARCESS Array B	39.04	335	P	P	15 20 26.2	+1.4
	1.7nm,0.8s,mb3.9,baz=99,slow=6.5,SNR=3.7						
NOA	NORSAR Array B	43.17	321	P	P	15 20 60.0	+1.2
	0.3nm,0.4s,mb3.4,baz=109,slow=7.4,SNR=3.0						
TORD	Torodi Ar. Bea	67.95	269	P	P	15 23 57.0	-0.2
	0.9nm,0.5s,mb3.9,baz=51,slow=5.5,SNR=22						
YKA	Yellowknife Ar	77.89	4	P	P	15 24 54.8	-0.4
	0.3nm,0.5s,mb3.3,baz=346,slow=6.0,SNR=3.6						
WRA	Warramunga Arr	81.94	124	P	P	15 25 16.5	-1.1
	0.3nm,0.5s,mb3.4,baz=329,slow=4.7,SNR=2.7						

IDC ***20*** *15:15:57.1±1.2, 2883N×13060E, h0km, mb3.5/3, mb1 3.8/7, mb1mx3.6/25, mbtmp3.8/7, ML4.1/3, MS3.4/1, Ms1 3.4/1, ms1mx3.1/33, Error ellipse: s-maj=28.2km s-min=21.1km az=102.0*
ISCJB ***20*** *15:15:59.6±0.5, 2886N±003×13073E±006, h33km, mb3.6/3, Error ellipse: s-maj=7.6km s-min=3.4km az=25.2*
JMA ***20*** *15:16:00.5±0.1, 2890N×13066E, h67km±4km, M3.9*

ISC 20 15:16:01.5±0.5, 2889N±003×13064E±006, h35km, n19, σ0§58/28, mb3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	Kikaishima	0.82	226	P	Pn	15 16 17.1	+0.5
JAM	Amami Oshima	1.03	243	P	Pn	15 16 19.4	0.0
JAM				eS	Sn	15 16 32.9	+0.3
JNN	Nakanoshima	1.16	325	P	Pn	15 16 21.3	+0.1
JNN				eS	Sn	15 16 36.3	+0.4
JKC	Kuchinoerabu	1.61	346	P	Pn	15 16 27.5	0.0
JKC				eS	Sn	15 16 46.7	-0.4
JTN	Tanegashima 3	1.78	9	P	Pn	15 16 29.2	-0.6
JTN				eS	Sn	15 16 51.3	+0.1
JTK	Tokunoshima	1.85	234	P	Pn	15 16 31.0	+0.2
JTK				eS	Sn	15 16 54.3	+1.3
JTSR	Tashiro 2	2.28	6	P	Pn	15 16 36.7	0.0
JTSR				eS	Sn	15 17 03.2	-0.3
JSU	Suzuyama	2.61	356	P	Pn	15 16 40.8	-0.4
JSU				eS	Sn	15 17 11.0	-0.7
JNAR	Kushima--Naru	2.68	12	P	Pn	15 16 42.3	+0.1
JNAR				eS	Sn	15 17 13.4	0.0
JOW	Kunigami	2.93	226	P	Pn	15 16 45.3	-0.3
JOW	Kunigami	2.93	226	Pn	Pn	15 16 45.4	-0.3
	37nm,0.3s,baz=102,slow=22,SNR=250						
JOW				Sn	Sn	15 17 18.6	-1.0
	24nm,0.3s,baz=120,slow=29,SNR=8.0						
JOW				LR	LR	15 17 56.5	
	comp=Z,630nm,19.0s,baz=183,slow=42						
JIH	Iheya	3.00	233	P	Pn	15 16 46.3	-0.3
JIH				eS	Sn	15 17 20.2	-1.2
KSRS	Korea Array	8.84	346	Pn	Pn	15 18 07.7	+0.9
	0.1nm,0.3s,baz=161,slow=14,SNR=7.7						
MJAR	Matsushiro Arr	9.94	38	Pn	Pn	15 18 23.0	+1.2
	0.3nm,0.3s,baz=209,slow=12,SNR=5.2						
CBIJ	Chichi jima	10.36	97	Pn	Pn	15 18 26.9	-0.7
	14nm,0.3s,baz=286,slow=22,SNR=5.5						
SONM	Songino Array	26.64	322	pP	pP	15 21 51.2	+4.5
	0.6nm,0.7s,baz=135,slow=10,SNR=3.5						
WRA	Warramunga Arr	48.68	175	P	P	15 24 42.8	+0.5
	0.4nm,0.5s,mb3.8,baz=354,slow=8.3,SNR=3.2						
BVAR	Borovoye Array	49.77	317	P	P	15 24 50.5	+0.1
	0.6nm,0.5s,mb3.9,baz=81,slow=9.5,SNR=4.8						
BVAR				pP	pP	15 25 03.3	+2.5
	1.4nm,0.7s,baz=98,slow=11,SNR=5.9						
ASAR	Alice Springs	52.35	176	P	P	15 25 10.2	+0.2
	0.2nm,0.5s,mb3.3,baz=5.7,slow=9.2,SNR=8.0						

BJI ***20*** *15:49:26.8, 399N×12484E, h416km, mB4.4, mb4.7*
ISCJB ***20*** *15:49:28.6±0.2, 444N±002×12461E±003, h389km±2km, mb4.6/76, Error ellipse: s-maj=5.6km s-min=3.7km az=168.9*
NEIC ***20*** *15:49:29.7±0.6, 444N×12454E, h385km±6km, mb4.9/32, Error ellipse: s-maj=7.0km s-min=4.1km az=63.0*
IDC ***20*** *15:49:29.3±0.7, 441N×12454E, h378km±6km, mb4.1/24, mb1 4.1/26, mb1mx4.1/29, mbtmp4.1/26, Error ellipse: s-maj=12.2km s-min=6.3km az=74.0*
MAN ***20*** *15:49:29, 441N×12455E, h373km, mb5.4, ML4.3, MS4.6*
DJA ***20*** *15:49:30, 436N×12457E, h374km, ML5.4/6*
MOS ***20*** *15:49:30.1±0.8, 445N×12458E, h410km, mb4.7/24, Error ellipse: s-maj=11.9km s-min=6.1km az=117.1*

ISC 20 15:49:29.5±0.2, 444N±002×12462E±004, h381km±2km, h406km±10.5km: pP-P, n194, σ0§99/203, mb4.6/76, 17C-11D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	2.59	10	⇓iP	Pn	15 50 27.8	-0.1
KCP				i S	S	15 51 14.1	-1.0
DMPH	Davao City--Mi	2.77	19	⇓iP	Pn	15 50 22.6	-6.8
DMPH				i S	S	15 51 18.2	+0.6
DAV	Davao City (W)	2.78	20	P	Pn	15 50 30.5	+1.1
	51nm,0.3s,baz=79,slow=17,SNR=5.4						
DAV				S	S	15 51 17.8	0.0
	77nm,0.3s,baz=316,slow=24,SNR=9.0						
DAV	Davao City (W)	2.78	20	P	Pn	15 50 30.5	+1.1
DAV				S	S	15 51 17.8	0.0
MATI	Mati	2.97	33	eP	Pn	15 50 30.3	-0.7
MNI	Manado	2.99	176	P	Pn	15 50 30.0	-1.2
	0.0nm,0.0s						
BUKP	Musuan	3.44	7	eP	Pn	15 50 35.9	+0.7
PAGZ	Pagadian	3.60	340	eP	Pn	15 50 36.5	-0.1
IPIL	Ipil	3.90	329	⇑eP	Pn	15 50 39.1	-0.3
BIPH	Bislig	4.10	25	eS	S	15 51 38.1	-1.4
BUTP	Butuan	4.60	12	eP	Pn	15 50 47.3	+0.8
TBP	Tagbilaran	5.27	352	eP	Pn	15 50 53.8	+0.4
MSLP	Maasin	5.66	2	eP	Pn	15 50 58.6	+0.9
LBMI	Labuha	5.81	150	P	Pn	15 50 58.0	-1.4
	0.0nm,0.0s						
GUIM	Jordan	6.46	342	eP	Pn	15 51 05.6	-1.1
PCI	Palu	7.15	222	P	Pn	15 51 12.8	-1.6
	0.0nm,0.0s						
BESP	Borongan	7.16	6	eP	Pn

0.0nm,0.0s
KAKA Kakadu 18.73 156⇑*i*P P 15 53 22.3 -0.4
70nm,0.6s
KAKA *e*S **S** 15 56 30.5 -5.2
YHNB Yeheng 20.35 351 *e*P **P 15 53 37.4 -1.1**
54nm,0.6s
TPRI Tanjung Pinang 20.37 261 P **P 15 53 38.1 -0.7**
0.0nm,0.0s
QIZ Qiongzhong 20.45 316 *e*P **P 15 53 39.3 -0.2**
107nm,0.8s
MYKOM Kota Tinggi 20.90 263⇓P **P 15 53 44.1 +0.3**
QZH Quanzhou 21.19 345 P **P 15 53 46.9 +0.8**
QZH AMB AMB
comp=Z,120nm,0.9s,mb5.1
KGM Kluang 21.40 264⇑P **P 15 53 49.1 +0.9**
KGM Kluang 21.40 264⇓P **P 15 53 49.8 +1.5**
KTGM Kuala Trenggan 21.43 273⇑P **P 15 53 49.1 +0.6**
GUMO Guam 21.95 64 P **P 15 53 53.6 +0.4**
comp=Z,35nm,0.5s,mb4.9,baz=7.6,slow=20,SNR=4.8
FITZ Fitzroy Crossi 22.43 177 *e*P **P 15 53 57.1 -0.3**
comp=Z,18nm,0.8s,mb4.4
FITZ Fitzroy Crossi 22.43 177 P **P 15 53 57.4 0.0**
comp=Z,9.9nm,0.6s,mb4.2,baz=11,slow=9.8,SNR=96
JOW Kunigami 22.54 9 P **P 15 53 59.5 +1.1**
comp=Z,23nm,0.7s,mb4.5,baz=215,slow=9.9,SNR=17
FRIM Kepong 22.97 268⇑P **P 15 54 03.8 +1.3**
IPM Ipoh 23.52 271⇓P **P 15 54 08.8 +1.3**
KULM Kulim 23.90 273⇓P **P 15 54 10.8 -0.1**
PSI Prapat 25.70 267 P **P 15 54 25.6 -1.4**
comp=Z,6.1nm,0.5s,mb4.0,baz=90,slow=8.0,SNR=5.2
WRAB Tennant Creek 26.04 159 *e*P **P 15 54 29.4 -0.5**
WRAB pmax pmax
comp=Z,14nm,0.7s,mb4.3
WRAB Tennant Creek 26.04 159 *e*P **P 15 54 29.4 -0.5**
comp=Z,14nm,0.7s,mb4.3
WRA Warramunga Arr 26.05 159 P **P 15 54 29.4 -0.5**
comp=Z,8.1nm,0.5s,mb4.3,baz=330,slow=11,SNR=136
WRA S **S 15 58 26.9 -5.7**
comp=Z,2.1nm,0.9s,baz=329,slow=14,SNR=5.0
WRA ScP ScP 16 00 49.9 +0.5
comp=Z,1.8nm,0.6s,baz=339,slow=2.8,SNR=5.0
WRA Warramunga Arr 26.05 159 P **P 15 54 29.4 -0.5**
WRA S **S 15 58 26.9 -5.7**
WB2 Warramunga Arr 26.05 159⇑*i*P **P 15 54 29.4 -0.6**
PMG Port Moresby 26.34 122*c i*P **P 15 54 33.2 +0.5**
WHN Wuhan 27.71 341⇑P **P 15 54 46.3 +1.8**
WHN AMB AMB
comp=Z,54nm,1.1s,mb4.7
CMAR Chiang Mai Arr 28.70 301 P **P 15 54 53.6 +0.2**
comp=Z,13nm,1.0s,mb4.1,baz=118,slow=7.3,SNR=58
CMAR PcP PcP 15 57 53.5 +0.6
comp=Z,1.2nm,0.7s,baz=185,slow=1.5,SNR=6.0
CMAR ScP ScP 16 00 58.0 +0.3
comp=Z,1.5nm,0.9s,baz=144,slow=1.9,SNR=8.3
CMAR Chiang Mai Arr 28.70 301 P **P 15 54 53.7 +0.3**
CMAR 15 57 53.6
CHTO Chiang Mai 28.86 302 *e*P **P 15 54 54.6 -0.2**
CHTO pmax pmax
comp=Z,22nm,0.7s,mb4.5
CHTO Chiang Mai 28.86 302 *e*P **P 15 54 54.6 -0.2**
comp=Z,22nm,0.7s,mb4.5
ASAR Alice Springs 29.37 162 P **P 15 54 59.4 +0.2**
comp=Z,10nm,0.6s,mb4.2,baz=341,slow=7.7,SNR=270
ASAR S **S 15 59 22.9 -1.7**
comp=Z,1.6nm,0.9s,baz=349,slow=18,SNR=6.2
ASAR ScP ScP 16 01 00.2 +0.6
comp=Z,0.9nm,0.8s,baz=11,slow=0.8,SNR=4.4
ASAR Alice Springs 29.37 162 P **P 15 54 59.4 +0.2**
ASAR S **S 15 59 22.9 -1.7**
KMI Kunming 29.40 317 P **P 15 55 01.1 +1.6**
KMI AMB AMB
comp=Z,29nm,1.1s,mb4.4
CTA Charters Tower 32.35 140 *e*P **P 15 55 26.5 +1.3**
comp=Z,10nm,0.8s,mb4.1
CTA Charters Tower 32.35 140 *e*P **P 15 55 26.5 +1.3**
CTA pmax pmax
comp=Z,10.0nm,0.8s
XAN Xi'an 32.87 336 P **P 15 55 29.3 -0.1**
XAN AMB AMB
comp=Z,65nm,0.8s,mb4.9
KSRS Korea Array 32.99 5 P **P 15 55 31.3 +0.8**
comp=Z,6.2nm,0.6s,mb4.0,baz=186,slow=10.0,SNR=23
KSRS PcP PcP 15 58 05.3 +1.1
comp=Z,2.1nm,0.6s,baz=174,slow=2.3,SNR=8.7
KSRS ScP ScP 16 01 12.8 +1.3
comp=Z,2.5nm,0.8s,baz=187,slow=3.4,SNR=9.7
MJAR Matsushiro Arr 34.30 20 P **P 15 55 41.7 +0.1**
comp=Z,4.9nm,0.7s,mb3.8,baz=193,slow=9.3,SNR=11
MAJO Matsushiro 34.30 20 *e*P **P 15 55 41.0 -0.6**
MAJO pmax pmax
comp=Z,7.0nm,0.8s,mb3.9
MAJO Matsushiro 34.30 20 *e*P **P 15 55 41.0 -0.6**
comp=Z,7.0nm,0.8s,mb3.9
FORT Forrest 35.18 175 *e*P **P 15 55 49.4 +0.3**
comp=Z,26nm,0.6s,mb4.6
BJT Baijiatuau 36.23 349 *e*P **P 15 55 58.0 +0.2**
BJT pmax pmax
comp=Z,31nm,0.6s
BJT Baijiatuau 36.23 349 *e*P **P 15 55 58.0 +0.1**
comp=Z,31nm,0.6s,mb4.7
BJI Beijing 36.25 349 P **P 15 55 57.8 -0.2**
BJI AMB AMB
comp=Z,48nm,0.7s,mb4.8
KLBR Kellerberrin 36.43 190 *e*P **P 15 55 59.2 -0.4**
comp=Z,9.0nm,0.3s,mb4.5
LZH Lanzhou 36.85 331 P **P 15 56 04.0 +0.9**
LZH *e*S **S 16 01 23.0 +4.1**
LZH XS sS 16 03 37.1 +6.5
LZH *e*SS SS 16 04 20.0 +0.4
LZH AMB AMB
comp=Z,47nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,309nm,4.2s
MUN Mundaring 37.09 192 *e*P **P 15 56 04.9 -0.3**
HNR Honiara 37.81 111 P **P 15 56 10.6 -0.8**
comp=Z,18nm,0.5s,mb4.6,baz=263,slow=8.0,SNR=4.9
NWAO Narrogin (SRO) 37.82 190 P **P 15 56 11.1 -0.1**
comp=Z,3.8nm,0.3s,mb4.0,baz=12,slow=4.4,SNR=20
STKA Stephens Creek 39.57 157⇑*i*P **P 15 56 26.8 +1.2**
comp=Z,21nm,0.6s,mb4.5
STKA Stephens Creek 39.57 157 P **P 15 56 26.9 +1.3**
comp=Z,36nm,0.7s,mb4.7,baz=330,slow=8.0,SNR=125
STKA ScP ScP 16 01 36.2 +0.1
comp=Z,3.4nm,0.9s,baz=341,slow=8.6,SNR=4.9
STKA Stephens Creek 39.57 157 *e*P **P 15 56 26.7 +1.2**
LSA Lhasa 40.40 312 *e*P **P 15 56 33.8 +1.4**
LSA pmax pmax
comp=Z,27nm,0.8s,mb4.5
LSA Lhasa 40.40 312 *e*P **P 15 56 33.8 +1.4**
comp=Z,27nm,0.8s,mb4.5
GTA Gaotai 41.42 331⇓P **P 15 56 41.3 +0.8**
GTA PCP PcP 15 58 31.1 +0.9
GTA AMB AMB
comp=Z,36nm,0.8s,mb4.7
TAPN Taplejung 41.90 307 *e*P **P 15 56 44.8 +0.3**
comp=Z,30nm,0.5s,mb4.7
ODAN Odare 41.95 306 *e*P **P 15 56 44.9 0.0**
comp=Z,78nm,0.6s,mb5.0
RAMN Ramite 42.62 306 *e*P **P 15 56 50.9 +0.6**
comp=Z,85nm,0.7s,mb5.0
JIRN Jiri 43.25 306 *e*P **P 15 56 55.5 +0.3**
comp=Z,82nm,0.5s,mb5.1
GUN Gumba 43.61 307 *e*P **P 15 56 58.2 +0.2**
comp=Z,91nm,0.5s,mb5.2
PKI Pulchoki 43.84 306 *e*P **P 15 56 59.6 -0.3**
comp=Z,34nm,0.6s,mb4.7
PKI Pulchoki 43.84 306 *e*P **P 15 56 59.6 -0.3**
PKI pmax pmax
comp=Z,34nm,0.6s,mb4.7
KKN Kakani 44.04 306 *e*P **P 15 57 01.2 -0.2**
comp=Z,44nm,0.5s,mb4.8
KKN Kakani 44.04 306 *e*P **P 15 57 01.2 -0.2**
KKN pmax pmax
comp=Z,44nm,0.5s,mb4.8
DMN Daman 44.10 306 *e*P **P 15 57 01.7 -0.3**
comp=Z,66nm,0.9s,mb4.8
HIA Hailar 44.85 355 *e*P **P 15 57 07.6 +0.2**
HIA Hailar 44.85 355 *e*P **P 15 57 07.5 +0.1**
comp=Z,4.1nm,0.4s,mb3.9
YSS Yuzh-Sakhalins 45.16 18 *e*P **P 15 57 10.1 +0.3**
YSS pmax pmax
comp=Z,12nm,1.3s,mb3.9
KOLN Koldanda 45.39 305 *e*P **P 15 57 12.1 +0.1**
DANN Dangsing 45.49 306 *e*P **P 15 57 12.6 -0.2**
comp=Z,109nm,0.6s,mb5.2
CNB Canberra Magne 45.87 152 *e*P **P 15 57 17.5 +2.0**

SONM Songino Array 45.98 343 P **P 15 57 16.5 +0.4**
comp=Z,16nm,0.8s,mb4.2,baz=158,slow=8.6,SNR=79
SONM PcP PcP 15 58 45.8 +0.2
comp=Z,2.2nm,0.7s,baz=151,slow=3.2,SNR=4.4
TOO Toolangi 46.09 157⇑*i*P **P 15 57 19.3 +2.1**
HYB Hyderabad 46.89 290 *i*P **P 15 57 24.0 +0.3**
HYB Hyderabad 46.89 290 *e*P **P 15 57 24.0 +0.3**
ZAK Zakamensk 49.18 342 *e*P **P 15 57 39.4 -1.0**
ZAK *e* pP 15 58 57.4 -0.2
TLY Talaya 50.22 343 *e*P **P 15 57 48.0 -0.1**
TLY pmax pmax
comp=Z,19nm,0.9s,mb4.3
WMQ Urumqi 50.95 326 *e*P **P 15 57 54.3 +0.6**
MOY Mondy 51.01 341 *e*P **P 15 57 54.9 +0.9**
MOY pmax pmax
comp=Z,19nm,1.5s,mb4.1
HVS Khovu-Aksy 53.22 336 *e*P **P 15 58 10.8 +0.7**
BOD Bodaibo 53.88 353 *e*P **P 15 58 14.6 -0.1**
BOD pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
PETK Petropavlovsk- 55.59 24 P **P 15 58 28.6 +1.7**
comp=Z,3.2nm,0.5s,mb3.9,baz=214,slow=1.2,SNR=13
MK31 Makanchi Array 55.78 326 *i*P **P 15 58 28.2 -0.1**
MK31 pmax pmax
comp=Z,32nm,0.7s,mb4.8
MKAR Makanchi Array 55.78 326 P **P 15 58 28.4 +0.1**
comp=Z,41nm,0.6s,mb5.0,baz=120,slow=8.6,SNR=364
MKAR PcP PcP 15 59 21.5 -0.7
comp=Z,4.3nm,0.5s,baz=119,slow=4.9,SNR=4.6
MKAR ScP ScP 16 02 43.6 -0.5
comp=Z,2.4nm,0.7s,baz=112,slow=5.4,SNR=6.5
MKAR Makanchi Array 55.78 326 P **P 15 58 28.5 +0.1**
MKAR 15 59 21.5
MKAR Makanchi Array 55.78 326 P **P 15 58 28.4 +0.1**
MKAR PcP PcP 15 59 21.5 -0.7
MKAR ScP ScP 16 02 43.6 -0.5
YAK Yakutsk 57.58 3 *e*P **P 15 58 39.6 -1.0**
YAK pmax pmax
comp=Z,22nm,0.9s,mb4.5
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK Yakutsk 57.58 3 *e*P **P 15 58 40.7 +0.1**
comp=E,28nm,0.6s,mb4.8
KZA Kyzart 57.67 318 P **P 15 58 43.3 +1.7**
SNR=6.0
TKM2 Tokmak 2 57.83 319 *e*P **P 15 58 43.1 +0.5**
TKM2 pmax pmax
comp=Z,95nm,1.4s,mb4.9
TKM2 Tokmak 2 57.83 319 P **P 15 58 43.4 +0.7**
SNR=23
TKM2 Tokmak 2 57.83 319 *e*P **P 15 58 43.1 +0.5**
comp=Z,95nm,1.4s,mb4.9
KBK Karagaybulak 58.13 319 P **P 15 58 46.0 +1.3**
SNR=9.6
CHMS Chumysh 58.41 319 P **P 15 58 47.1 +0.5**
SNR=5.1
AAK Ala-Archa 58.42 318 P **P 15 58 48.0 +1.2**
SNR=8.6
USP Ospenovka 58.70 319 P **P 15 58 49.3 +0.7**
SNR=21
AML Almayashu 58.74 318 P **P 15 58 50.2 +1.3**
SNR=17
AML Almayashu 58.74 318 *e*P **P 15 58 50.1 +1.2**
comp=Z,59nm,0.9s,mb5.0
EKS2 Erkin-Say 58.91 318 P **P 15 58 51.1 +1.0**
SNR=29
EKS2 Erkin-Say 58.91 318 *e*P **P 15 58 50.7 +0.7**
comp=Z,34nm,0.8s,mb4.8
ZAA0 Zalesovo Array 59.01 334 *e*P **P 15 58 49.3 -1.2**
ZALV Zalesovo Beam 59.01 334 P **P 15 58 49.3 -1.2**
comp=Z,10.0nm,0.7s,mb4.4,baz=118,slow=6.3,SNR=40
ZAL Zalesovo 59.01 334 P **P 15 58 49.3 -1.2**
KURK Kurchatov 60.02 328 P **P 15 58 57.1 -0.3**
KURK pmax pmax
comp=Z,45nm,0.6s,mb5.1
KURK Kurchatov 60.02 328 *e*P **P 15 58 57.0 -0.4**
comp=Z,119nm,0.8s,mb5.4
NVS Novosibirsk 60.30 334 *e*P **P 15 58 57.3 -1.9**
NVS *e*S **S 16 06 38.0 -4.7**
NVS pmax pmax
comp=Z,21nm,0.9s,mb4.6
NVS pmax pmax
comp=N,16nm,1.2s
NVS pmax pmax
comp=E,13nm,1.1s
NVS smax
comp=N,8.0nm,1.7s
NVS smax
comp=E,11nm,1.7s
KK31 Karatay Array 61.28 317 *i*P **P 15 59 05.4 -0.6**
KK31 pmax pmax
comp=Z,13nm,0.8s,mb4.4
SEY Seymchan 61.83 14 *i*P **P 15 59 10.3 +1.1**
SEY *i* *PP pP 16 00 41.2 +11
RPZ Rata Peaks 63.56 144 P **P 15 59 21.9 +1.1**
comp=Z,14nm,0.7s,mb4.7
RAO Raoul Island 64.46 125 P **P 15 59 25.7 -1.3**
comp=Z,159nm,0.3s
URZ Urewera 64.50 136 P **P 15 59 27.5 +0.5**
comp=Z,9.9nm,0.6s,mb4.6
VOSK Vostochnaya 65.13 327 P **P 15 59 29.7 -1.0**
VOSK pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
BVA0 Borovoye Array 65.58 327 *i*P **P 15 59 33.0 -0.6**
BVAR Borovoye Array 65.58 327 P **P 15 59 33.5 -0.2**
comp=Z,7.7nm,0.5s,mb4.7,baz=145,slow=8.8
BRVK Borovoye 65.66 327 *e*P **P 15 59 33.5 -0.6**
BRVK pmax pmax
comp=Z,25nm,0.9s,mb4.9
BRVK Borovoye 65.66 327 *e*P **P 15 59 33.5 -0.6**
comp=Z,25nm,0.9s,mb4.9
TIXI Tiksi 67.17 1 *i*P **P 15 59 42.9 -0.4**
TIXI pmax pmax
comp=Z,21nm,1.3s,mb4.7
TIXI Tiksi 67.17 1 *e*P **P 15 59 42.8 -0.4**
comp=Z,8.7nm,0.6s,mb4.7
BILL Bilibino 69.42 15 *e*P **P 15 59 56.6 -0.5**
BILL *e* 16 00 14.8
AB31 Akbulak array 70.27 321 P **P 16 00 01.7 -0.9**
AB31 pmax pmax
comp=Z,14nm,0.7s,mb4.8
AKTO Aktyubinsk 71.80 322 P **P 16 00 11.1 -0.5**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
SVE Sverdlovsk 72.26 329 *e*P **P 16 00 13.4 -0.8**
SVE pmax pmax
comp=Z,44nm,0.6s,mb5.4
ARU Arti 73.22 328*d i*P **P 16 00 18.3 -1.5**
ARU *e* 16 03 04.4
ARU *e*S S 16 09 14.6 -1.4
ARU SS SS 16 14 07.6 +0.9
ARU pmax pmax
comp=Z,34nm,0.7s,mb5.2
ARU Arti 73.22 328 *e*P **P 16 00 18.4 -1.4**
comp=Z,38nm,0.6s,mb5.3
UMR Umm Al-Rimmam 76.43 299 *e*P **P 16 00 37.1 -1.5**
baz=299
UMR AMb AMB 16 00 38.4
comp=Z,37nm,0.7s,mb5.2,baz=299
RDF Al-Radifah 76.55 299 *e*P **P 16 00 37.8 -1.5**
baz=299
RDF AMb AMB 16 00 39.1
comp=Z,42nm,1.0s,mb5.1,baz=299
MIB Mutribah 76.77 299 *e*P **P 16 00 38.9 -1.6**
baz=299
MIB AMb AMB 16 00 40.2
comp=Z,69nm,0.7s,mb5.5,baz=299
NAY Al-Naaiem 76.83 299 *e*P **P 16 00 39.3 -1.5**
baz=299
NAY AMb AMB 16 00 40.4
comp=Z,28nm,0.8s,mb5.0,baz=299
KLMR Klimovskoe 83.75 331 *e*P **P 16 01 15.5 -1.1**
ANN Anapa 84.90 314*c i*P **P 16 01 21.3 -1.4**
ANN *e* *PP pP 16 02 53.5 +3.3
ANN pmax pmax
comp=Z,30nm,0.8s,mb5.2
OBN Obninsk 85.27 325⇓*e*P **P 16 01 24.1 -0.2**
OBN pmax pmax
comp=Z,27nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,200nm,17.0s
KMBO Kilima Mbogo 87.46 269 P **P 16 01 35.3 -0.4**
comp=Z,1.9nm,0.9s,mb3.9,baz=48,slow=17,SNR=3.8
JOF Joensuu 87.59 333 *e*p **P 16 01 33.6 -1.6**

comp=Z,9.0nm,0.5s,mb4.9
ARCES ARCESS Array B 89.05 340 P **P 16 01 40.5 -1.5**
comp=Z,2.7nm,0.7s,mb4.2,baz=80,slow=4.5,SNR=12
ARCES ARCESS Array B 89.05 340 P **P 16 01 40.5 -1.5**
KAF Kangasniemi 89.99 332 *e*p **P 16 01 44.9 -1.5**
comp=Z,3.7nm,0.5s,mb4.6
KAF Kangasniemi 89.99 332 *e*P **P 16 01 44.9 -1.5**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
AKASG Malin Array Be 90.01 321 P **P 16 01 44.9 -1.9**
comp=Z,0.5nm,0.4s,mb3.8,baz=71,slow=4.5,SNR=4.5
AKASG Malin Array Be 90.01 321 P **P 16 01 44.9 -1.9**
QSPA South Pole Qui 94.35 180 P **P 16 02 07.2 +1.1**
comp=Z,1.2nm,1.0s,mb3.9,baz=319,slow=1.4,SNR=6.0
NB2 NORSAR Subarra 97.21 333 P **P 16 02 17.3 -2.2**
comp=Z,1.5nm,0.6s,mb4.3,baz=69,slow=4.6
NOA NORSAR Array B 97.21 333 P **P 16 02 17.6 -1.9**
comp=Z,1.3nm,0.7s,mb4.2,baz=70,slow=4.6,SNR=5.0
GERES GERESS Array B 100.22 321 P Pdif 16 02 33.5 +0.5
comp=Z,0.2nm,0.2s,baz=70,slow=8.5,SNR=2.9
GERES PP PP 16 06 48.0 +3.8
comp=Z,1.2nm,0.9s,baz=79,slow=6.9,SNR=5.4
SCHQ Schefferville 120.17 8 PKP PKPdf 16 07 36.0 +0.4
comp=Z,3.1nm,0.5s,baz=129,slow=5.9,SNR=7.6
TORD Torodi Ar. Bea 120.70 288 PKP PKPdf 16 07 37.0 -0.7
comp=Z,2.1nm,0.7s,baz=58,slow=2.0,SNR=13
TORD PP PP 16 09 13.8 +2.2
comp=Z,1.1nm,0.9s,baz=78,slow=6.6,SNR=4.0
TORD Torodi Ar. Bea 120.70 288 PKP PKPdf 16 07 37.0 -0.7
TORD PP PP 16 09 13.8 +2.2

TEH ***20*** *16:07:59.9, 3748N×4905E, h3km, ML4.1*
IDC ***20*** *16:08:57.4±2.4, 3791N×4898E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.7/26, mbtmp3.9/8, ML4.3/2, MS3.9/2, Ms1 3.9/2, ms1mx3.1/46, Error ellipse: s-maj=40.5km s-min=20.7km az=161.0*
NEIC ***20*** *16:08:57.3±0.4, 3768N×49.10E, h10km, mb4.0/2, MN4.1(TEH), Error ellipse: s-maj=8.6km s-min=4.7km az=211.0*
THR ***20*** *16:08:57.3±1.5, 3762N×4924E, h14km±13km, ML4.0*
CSEM ***20*** *16:08:58.1±0.1, 3754N×4909E, h25km, ML4.1, Error ellipse: s-maj=2.5km s-min=1.4km az=39.0*
ISCJB ***20*** *16:08:60.0±0.3, 3757N±004×49.14E±004, h58km±7km, mb3.8/7, Error ellipse: s-maj=7.8km s-min=3.5km az=40.0*
ISC 20 16:09:01.3±0.3, 3757N±004×4910E±004, h48km±8km, n76, σ0º94/88, mb3.8/7, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRB	**Sarab**	**1.17**	**283**	*e*Pg	**Pn**	**16 09 19.4**	**-1.8**
ISRB				*e*Sg	**Sn**	**16 09 34.7**	**-1.3**
ISRB	**Sarab**	**1.17**	**283**	*e*Pg	**Pn**	**16 09 19.4**	**-1.8**
ISRB				*e*Sg	**Sn**	**16 09 34.7**	**-1.3**
ISRB				*e*		16 09 38.3	
GRMI	**Germi**	**1.57**	**323**	*e*Pg	**Pn**	**16 09 26.2**	**-0.5**
GRMI				*e*Sg	**Sn**	**16 09 48.0**	**+2.2**
GRMI				AML	AML	16 09 49.1	
	comp=E,1μm,0.6s						
GRMI				AML	AML	16 09 49.3	
	comp=N,1μm,0.3s						
GRMI	**Germi**	**1.57**	**323**	*e*Pg	**Pn**	**16 09 26.2**	**-0.4**
	SNR=90						
GRMI				*e*Sg	**Sn**	**16 09 48.0**	**+2.3**
	SNR=90						
IBST	**Bostanabad**	**1.76**	**275**	*e*Pg	**Pn**	**16 09 28.7**	**-0.6**
IBST				*e*Sg	**Sn**	**16 09 52.4**	**+1.9**
IBST	**Bostanabad**	**1.76**	**275**	*e*Pg	**Pn**	**16 09 28.7**	**-0.6**
IBST				*e*Sg	**Sn**	**16 09 52.4**	**+1.9**
IBST				*e*		16 09 55.8	
GLBA	**Clilabad**	**1.77**	**342**	P	**Pn**	**16 09 27.9**	**-1.4**
	SNR=15						
IHRS	**Heris**	**1.79**	**295**	*e*Pg	**Pn**	**16 09 29.4**	**-0.4**
IHRS				*e*		16 09 36.6	
THKV	**Tehran--Karaj**	**2.18**	**139**	*e*Pg	**Pn**	**16 09 35.8**	**+0.8**
THKV				AML	AML	16 10 08.9	
	comp=N,1μm,0.4s						
THKV				AML	AML	16 10 12.0	
	comp=E,2μm,0.5s						
IRAZ	**Razeghan**	**2.26**	**163**	*e*Pn	**Pn**	**16 09 35.5**	**-0.6**
IRAZ				*e*		16 10 10.6	
IMHD	**Mahdasht**	**2.26**	**146**	*e*Pn	**Pn**	**16 09 35.5**	**-0.6**
IMHD				*e*		16 10 13.7	
CHTH	**Charan**	**2.32**	**135**	*e*Pn	**Pn**	**16 09 37.6**	**+0.7**
ALIB	**Ii-Bayraml**	**2.39**	**358**	P	**Pn**	**16 09 38.2**	**+0.3**
	SNR=4.3						
ITBZ	**Tabriz**	**2.43**	**287**	*e*Pn	**Pn**	**16 09 38.6**	**+0.1**
IAZR	**Azarshahr**	**2.48**	**274**	*e*Pn	**Pn**	**16 09 39.5**	**+0.3**
IAZR				*e*		16 10 18.1	
IAZR	**Azarshahr**	**2.48**	**274**	Pn	**Pn**	**16 09 39.4**	**+0.2**
IR3	**Iran Long-Peri**	**2.60**	**143**	*e*Pn	**Pn**	**16 09 40.7**	**0.0**
IAFJ	**Afjeh**	**2.70**	**128**	*e*Pn	**Pn**	**16 09 42.5**	**+0.3**
IAFJ				*e*		16 10 26.6	
IAFJ	**Afjeh**	**2.70**	**128**	Pn	**Pn**	**16 09 42.4**	**+0.2**
ISHB	**Shabestar**	**2.85**	**286**	*e*Pn	**Pn**	**16 09 44.4**	**+0.2**
ISHB				*e*		16 10 31.0	
ISHB	**Shabestar**	**2.85**	**286**	Pn	**Pn**	**16 09 44.3**	**+0.1**
IPRN	**Peran**	**2.91**	**116**	*e*Pn	**Pn**	**16 09 44.1**	**-0.9**
IPRN				*e*		16 09 44.8	
IPRN	**Peran**	**2.91**	**116**	Pn	**Pn**	**16 09 44.0**	**-1.0**
IMRD	**Marand**	**2.92**	**294**	*e*Pn	**Pn**	**16 09 45.7**	**+0.6**
DAMV	**Damavand**	**3.01**	**129**	*e*Pn	**Pn**	**16 09 46.9**	**+0.4**
DAMV				AML	AML	16 10 36.7	
	comp=N,432nm,0.6s						
DAMV	**Damavand**	**3.01**	**129**	*e*Pn	**Pn**	**16 09 46.8**	**+0.4**
	SNR=52						
IDMV	**Damavand**	**3.08**	**129**	*e*Pn	**Pn**	**16 09 48.1**	**+0.7**
IDMV				*e*		16 10 38.1	
IDMV	**Damavand**	**3.08**	**129**	Pn	**Pn**	**16 09 48.0**	**+0.6**
BRDA	**Brd**	**3.08**	**331**	P	**Pn**	**16 09 47.9**	**+0.5**
	SNR=2.7						
NDR	**Nardaran**	**3.09**	**13**	S	**Sn**	**16 10 27.9**	**+4.8**
ASAO	**Ashtian**	**3.10**	**166**	*e*Pn	**Pn**	**16 09 48.1**	**+0.4**
PQL	**Pirkuli**	**3.24**	**353**	P	**Pn**	**16 09 49.0**	**-0.6**
	SNR=5.7						
IALA	**Alasht**	**3.32**	**115**	*e*	**Sn**	**16 10 32.3**	**+3.4**
IVRN	**Varamin**	**3.33**	**140**	*e*Pn	**Pn**	**16 09 50.3**	**-0.5**
IVRN				*e*Pn	**Pn**	**16 09 50.4**	**-0.4**
IVRN				*e*		16 10 46.7	
IFIR	**Firoozkooh**	**3.51**	**122**	*e*Pn	**Pn**	**16 09 53.6**	**+0.3**
IFIR				*e*		16 09 56.6	
SIZA	**Siyzn**	**3.51**	**357**	P	**Pn**	**16 09 53.6**	**+0.3**
	SNR=4.6						
GHVR	**GHOM**	**3.55**	**149**	*e*Pn	**Pn**	**16 09 53.5**	**-0.4**
GHVR				AML	AML	16 10 59.4	
	comp=N,180nm,0.5s						
GANJ	**Ganja**	**3.76**	**326**	P	**Pn**	**16 09 57.4**	**+0.7**
	SNR=4.6						
ILAS	**Lasjerd**	**3.79**	**124**	*e*Pn	**Pn**	**16 09 57.9**	**+0.7**
ILAS				*e*		16 10 12.1	
ILAS	**Lasjerd**	**3.79**	**124**	Pn	**Pn**	**16 09 57.8**	**+0.6**
ISHM	**Shahmirzad**	**3.80**	**116**	*e*Pn	**Pn**	**16 09 57.7**	**+0.5**
ISHM				*e*		16 10 46.4	
MAKU	**Maku**	**3.90**	**299**	*e*Pn	**Pn**	**16 10 00.2**	**+1.6**
MAKU				*e*Pg	**Pn**	**16 10 08.4**	**+10**
MAKU	**Maku**	**3.90**	**299**	*e*Pn	**Pn**	**16 10 00.2**	**+1.5**
	SNR=52						
IKIA	**Kiasar**	**3.91**	**109**	*e*Pn	**Pn**	**16 09 58.5**	**-0.3**
IKIA				*e*		16 10 00.1	
SEKA	**Sheki**	**3.93**	**339**	P	**Pn**	**16 09 58.3**	**-0.7**
	SNR=13						
ISFB	**Sefidab**	**4.09**	**141**	*e*Pn	**Pn**	**16 10 00.6**	**-0.7**
ISFB				*e*		16 11 09.9	
ISFB	**Sefidab**	**4.09**	**141**	Pn	**Pn**	**16 10 00.5**	**-0.8**
GNI	**Garni**	**4.27**	**308**	Pg	**Pn**	**16 10 16.3**	**+13**
	comp=N,4.4nm,0.3s,baz=117,slow=3.2,SNR=22						
GNI				LR	LR	16 11 23.2	
	comp=N,359nm,20.1s,baz=288,slow=37						
GNI	**Garni**	**4.27**	**308**	*e*Pn	**Pn**	**16 10 04.1**	**+0.4**
GNI	**Garni**	**4.27**	**308**	*e*Pn	**Pn**	**16 10 04.1**	**+0.3**
GNI				Pg	**Pn**	**16 10 16.3**	**+13**
GNI				*e*Pg	**Pn**	**16 10 17.2**	**+13**
GNI				LR	LR	16 11 23.2	
IKLH	**Kolahrood**	**4.69**	**154**	*e*Pn	**Pn**	**16 10 09.3**	**-0.2**
IKLH	**Kolahrood**	**4.69**	**154**	Pn	**Pn**	**16 10 09.2**	**-0.3**
IPIR	**Pirpir**	**5.08**	**163**	*e*Pn	**Pn**	**16 10 14.6**	**-0.3**
IPIR				*e*		16 11 58.6	
IZEF	**Zefreh**	**5.35**	**150**	*e*Pn	**Pn**	**16 10 17.7**	**-0.9**
MRVT	**Maraveh tapeh**	**5.55**	**87**	*e*Pn	**Pn**	**16 10 19.4**	**-1.8**
NASN	**Na'in**	**5.64**	**146**	*e*Pn	**Pn**	**16 10 23.0**	**+0.5**
ISFR	**Sfrayin**	**7.11**	**91**	*e*	**Pn**	**16 10 44.3**	**+1.6**
IKRD	**Kardeh**	**7.55**	**93**	*e*Pn	**Pn**	**16 10 59.8**	**+11**

IKRD	**Kardeh**	**7.55**	**93**	Pn	**Pn**	**16 10 59.7**	**+11**
IPAY	**Payeh**	**7.99**	**95**	*e*Pn	**Pn**	**16 10 55.0**	**+0.2**
IPAY	**Payeh**	**7.99**	**95**	Pn	**Pn**	**16 10 54.9**	**+0.1**
IMYA	**Miami**	**8.89**	**95**	*e*Pn	**Pn**	**16 11 07.1**	**+0.1**
IMYA				*e*		16 11 10.2	
IMYA	**Miami**	**8.89**	**95**	Pn	**Pn**	**16 11 07.0**	**0.0**
AKTK	**Aktyubinsk**	**14.36**	**24**	Pn	**Pn**	**16 12 16.2**	**-5.4**
AKTK				Sn	**Sn**	**16 14 45.7**	**-14**
AKTO	**Aktyubinsk**	**14.36**	**24**	Pn	**Pn**	**16 12 16.2**	**-5.4**
	comp=N,0.9nm,0.3s,baz=207,slow=11,SNR=12						
AKTO				Sn	**Sn**	**16 14 45.7**	**-14**
	comp=N,0.5nm,0.3s,baz=351,slow=19,SNR=6.0						
AKASG	**Malin Array Be**	**19.31 319**		P	**Pn**	**16 13 18.5**	**-5.1**
	comp=N,1.1nm,0.3s,baz=127,slow=12,SNR=5.5						
ARU	**Arti**	**19.91**	**16**	*e*P	**Pn**	**16 13 27.1**	**-3.4**
	comp=N,3.8nm,0.3s						
BRVK	**Borovoye**	**21.37**	**37**	*e*P	**P**	**16 13 43.7**	**-0.6**
	comp=N,3.9nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**21.40**	**37**	P	**P**	**16 13 42.4**	**-2.3**
	comp=N,4.8nm,0.6s,mb4.0,baz=233,slow=9.8,SNR=24						
KURK	**Kurchatov**	**24.74**	**48**	*e*P	**P**	**16 14 19.2**	**+1.2**
KURK	**Kurchatov**	**24.74**	**48**	*e*P	**P**	**16 14 19.2**	**+1.2**
MKAR	**Makanchi Array**	**26.10**	**59**	P	**P**	**16 14 32.1**	**+1.7**
	comp=N,1.5nm,0.6s,mb3.7,baz=258,slow=10,SNR=9.9						
GERES	**GERESS Array B**	**27.91**	**305**	P	**P**	**16 14 46.7**	**+0.1**
	comp=N,0.3nm,0.5s,mb3.2,baz=108,slow=8.8,SNR=3.5						
HFS	**Hagfors**	**31.82**	**327**	P	**P**	**16 15 19.8**	**-1.2**
	comp=N,1.5nm,0.5s,mb4.1,baz=104,slow=12,SNR=4.7						
ARCES	**ARCESS Array B**	**34.47**	**346**	P	**P**	**16 15 44.5**	**+0.5**
	comp=N,2.2nm,0.8s,mb4.1,baz=144,slow=9.0,SNR=6.2						
EKA	**Eskdalemuir Ar**	**39.09**	**314**	P	**P**	**16 16 23.7**	**+0.2**
	comp=N,1.0nm,0.7s,mb3.6,baz=90,slow=7.8,SNR=3.0						

MOS ***20*** *16:13:10.2±1.6,5001N×11722E,h14km,mb4.6/1,Error ellipse: s-maj=24.7km s-min=13.2km az=112.4*

BYKL 20 16:13:10.6±0.9,5003N×11731E,h33km±27km,1D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIA	**Hailar**	**1.76**	**115**	*e*PN	Pn	16 13 42.1	+3.4
HIA				*e*S	Sn	16 14 05.2	+5.4
HIA	**Hailar**	**1.76**	**115**	*e*Pg	Pn	16 13 40.9	+2.2
HIA				*e*Sg	Sn	16 14 05.2	+5.4
CIT	**Chita**	**3.10**	**311**	*e*PN	Pn	16 14 04.9	+7.8
CIT				*e*		16 14 43.5	
CIT				pmax	pmax		
	comp=Z,68nm,0.3s						
CIT				smax			
	comp=E,588nm,0.6s						
CIT	**Chita**	**3.10**	**311**	*e*Pn	Pn	16 13 57.6	+0.5
CIT				*e*Pg	Pn	16 14 06.3	+9.2
CIT				Pmax		16 14 09.1	
	comp=E,68nm,0.3s						
CIT				*e*Sn	Sn	16 14 36.9	+3.9
CIT				*e*Sg	Sn	16 14 45.2	+12
CIT				*e*		16 14 49.5	
CIT				max		16 14 52.8	
	comp=E,680nm,0.6s						
KPC	**Khapcheranga**	**3.21**	**266**	*e*PN	Pn	16 14 00.7	+2.1
KPC				*e*		16 14 07.5	
KPC				*e*S	Sn	16 14 37.8	+2.2
KPC				*e*		16 14 48.1	
KPC				pmax	pmax		
	comp=Z,36nm,0.2s						
KPC				smax			
	comp=N,388nm,0.4s						
KPC	**Khapcheranga**	**3.21**	**266**	*e*Pn	Pn	16 14 00.4	+1.8
KPC				*e*Pg	Pn	16 14 07.4	+8.8
KPC				Pmax		16 14 12.3	
	comp=N,36nm,0.4s						
KPC				*e*Sn	Sn	16 14 37.8	+2.2
KPC				*e*Sg	Sn	16 14 48.8	+13
KPC				Smax		16 14 58.7	
	comp=N,463nm,1.3s						
TUP	**Tupik**	**4.69**	**19**	*e*PN	Pn	16 14 20.0	+1.0
TUP				*e*		16 14 33.6	
TUP				*e*		16 15 36.8	
TUP				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TUP				smax			
	comp=N,257nm,1.0s						
TUP	**Tupik**	**4.69**	**19**	*e*Pn	Pn	16 14 20.2	+1.2
TUP				*e*Pg	Pn	16 14 34.1	+15
TUP				Pmax		16 14 36.7	
	comp=N,12nm,0.5s						
TUP				*e*Sn	Sn	16 15 13.7	+1.5
TUP				*e*Sg	Sn	16 15 35.7	+24
TUP				*e*		16 15 55.1	
TUP				max		16 15 56.4	
	comp=N,294nm,1.1s						
SYVR	**Suvo**	**5.81**	**312**	*e*PN	Pn	16 14 34.9	+0.6
SYVR				*e*		16 14 56.3	
SYVR				*e*		16 16 08.6	
SYVR				pmax	pmax		
	comp=Z,12nm,0.8s						
SYVR				smax			
	comp=E,113nm,1.0s						
SYVR	**Suvo**	**5.81**	**312**	*e*Pn	Pn	16 14 34.9	+0.6
SYVR				max		16 14 37.2	
	comp=E,13nm,0.5s						
SYVR				*e*Sn	Sn	16 15 41.4	+1.8
SYVR				*e*Sg	Sn	16 16 08.3	+29
SYVR				Smax		16 16 28.6	
	comp=E,174nm,1.4s						
UKT	**Uakit**	**5.91**	**339**	⇓*i*Pn	Pn	16 14 36.4	+0.8
UKT				*e*Sn	Sn	16 15 43.7	+1.6
UKT				*e*Sg	Sn	16 16 12.6	+31
UKT				Smax		16 16 19.5	
	comp=E,159nm,1.3s						
UKT				*e*		16 16 29.6	
YLYR	**Ulyunkhan**	**6.14**	**325**	*e*PG	Pn	16 15 01.8	+23
YLYR				*e*		16 16 18.3	
YLYR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
YLYR				smax			
	comp=N,103nm,1.2s						
YLYR	**Ulyunkhan**	**6.14**	**325**	*e*Pn	Pn	16 14 39.2	+0.4
YLYR				*e*Sn	Sn	16 15 49.1	+1.3
YLYR				*e*		16 16 06.3	
YLYR				*e*Sg	Sn	16 16 17.8	+30
YLYR				Smax		16 16 30.4	
	comp=N,93nm,1.4s						
MXMB	**Maximikha**	**6.24**	**305**	*e*Sn	Sn	16 15 52.4	+2.2
MXMB				*e*Sg	Sn	16 16 23.1	+33
MXMB				Smax		16 16 31.8	
	comp=N,270nm,1.0s						
UUDB	**Ulan-Yde**	**6.37**	**290**	*e*Sn	Sn	16 15 54.8	+1.3
UUDB				*e*		16 16 10.6	
UUDB				*e*Sg	Sn	16 16 27.2	+34
UUDB				Smax		16 16 35.3	
	comp=N,227nm,1.3s						
NLYR	**Nelyaty**	**6.54**	**352**	*e*PN	Pn	16 14 42.8	-1.6
NLYR				*e*		16 15 05.4	
NLYR				pmax	pmax		
	comp=Z,19nm,0.6s						
NLYR	**Nelyaty**	**6.54**	**352**	*e*Pn	Pn	16 14 44.5	+0.1
NLYR				max		16 15 20.5	
	comp=Z,14nm,1.4s						
NLYR				*e*Sn	Sn	16 16 00.9	+3.1
NLYR				*e*Sg	Sn	16 16 33.7	+36
NLYR				Smax		16 16 54.2	
	comp=Z,123nm,1.0s						
HRMR	**Khuramsha**	**6.75**	**288**	*e*Pn	Pn	16 14 48.0	+0.7
HRMR				max		16 15 02.0	
	comp=Z,7.0nm,0.5s						
HRMR				*e*Sn	Sn	16 16 05.4	+2.5
HRMR				*e*Sg	Sn	16 16 37.7	+35
HRMR				Smax		16 16 50.0	
	comp=Z,329nm,1.0s						
ZRHB	**Zarechye**	**6.85**	**296**	*e*Sg	Sn	16 16 43.1	+38
ZRHB				Smax		16 16 58.6	
	comp=Z,525nm,1.2s						
CRS	**Chara**	**6.91**	**4**	*e*PG	Pn	16 15 14.1	+25
CRS				*e*		16 16 45.4	
CRS				pmax	pmax		
	comp=Z,17nm,1.3s						
CRS				smax			
	comp=E,158nm,1.7s						
CRS	**Chara**	**6.91**	**4**	*e*Pn	Pn	16 14 54.2	+4.8
CRS				*e*Pg	Pn	16 15 16.4	+27
CRS				*e*Sg	Sn	16 16 47.0	+40
CRS				Smax		16 17 12.1	
	comp=E,158nm,1.6s						
KMO	**Kumora**	**6.93**	**330**	*e*Pn	Pn	16 14 50.2	+0.5
KMO				*e*Sg	Sn	16 16 44.4	+37
KMO				Smax		16 16 53.6	
	comp=E,189nm,1.2s						
FFNB	**Fofonovo**	**6.95**	**291**	*e*Sg	Sn	16 16 45.5	+38
FFNB				Smax		16 17 01.6	
	comp=E,284nm,1.2s						
OGRR	**Ongureny**	**7.02**	**305**	*e*PN	Pn	16 14 51.1	+0.1
OGRR				*e*		16 15 14.5	
OGRR				*e*		16 16 47.4	
OGRR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
OGRR				smax			
	comp=N,115nm,1.4s						
OGRR	**Ongureny**	**7.02**	**305**	*e*Pn	Pn	16 14 51.0	0.0
OGRR				*e*Sn	Sn	16 16 09.9	+0.4
OGRR				*e*Sg	Sn	16 16 46.8	+37
OGRR				Smax		16 17 06.0	
	comp=N,115nm,1.3s						
TRG	**Tyrgan**	**7.38**	**296**	*e*Pn	Pn	16 14 58.0	+2.1
TRG				*e*Sn	Sn	16 16 19.9	+1.5
TRG				*e*Sg	Sn	16 16 59.7	+41
TRG				Smax		16 17 06.2	
	comp=N,51nm,1.7s						
NIZ	**Nizh Angarsk**	**7.42**	**324**	*e*Sg	Sn	16 17 01.8	+42
NIZ				Smax		16 17 14.5	
	comp=N,54nm,0.9s						
IENR	**Iengra**	**7.69**	**33**	*e*Sg	Sn	16 17 09.9	+44
LSTR	**Listvyanka**	**8.09**	**288**	*e*Sg	Sn	16 17 21.9	+46
LSTR				Smax		16 17 39.8	
	comp=N,70nm,1.8s						
TLY	**Talaya**	**8.80**	**286**	*e*Sg	Sn	16 17 45.6	+52
TLY				Smax		16 18 02.6	
	comp=N,92nm,1.2s						
ZAK	**Zakamensk**	**9.01**	**278**	*e*PG	Pn	16 15 51.7	+34
ZAK				*e*		16 17 50.8	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZAK				smax			
	comp=N,48nm,1.4s						
ZAK	**Zakamensk**	**9.01**	**278**	*e*Sg	Sn	16 17 50.3	+52
ZAK				Smax		16 18 09.0	
	comp=N,47nm,1.1s						
MOY	**Mondy**	**10.45**	**285**	*e*Sg	Sn	16 18 36.3	+63
MOY				Smax		16 18 52.9	
	comp=N,52nm,1.3s						

MOS ***20*** *16:17:07.1±1.1,4944N×15684E,h23km,mb4.4/3,Error ellipse: s-maj=20.3km s-min=6.6km az=72.9*
KRSC ***20*** *16:17:13.1±1.0,5011N×15667E,h5km±5km,ML4.7*
ISCJB ***20*** *16:17:15.6±0.8,5024N±008×1557E±01,h111km±5km, mb4.1/16,Error ellipse: s-maj=16.0km s-min=6.3km az=142.2*
NEIC ***20*** *16:17:17.8±0.8,5036N×15562E,h113km±7km,mb4.4/7, Error ellipse: s-maj=12.8km s-min=6.0km az=153.0*
IDC ***20*** *16:17:19.2±2.0,5035N×15559E,h125km±16km,mb3.7/10, mb1 4.0/13,mb1mx3.7/26,mbtmp3.7/13,Error ellipse: s-maj=26.9km s-min=11.5km az=148.0*

ISC 20 16:17:17.2±0.7,5025N±008×1557E±01,h107km±5km,n62, σ1§10/73,mb4.1/16,2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.51**	**33**	*i* PN	**Pn**	**16 17 28.4**	**-5.3**
SKR				pmax	pmax		
	comp=N,230nm,0.5s						
SKR				pmax	pmax		
	comp=E,140nm,0.5s						
SKR				pmax	pmax		
	comp=Z,390nm,0.5s						
ALID	**Alaid**	**0.62**	**352**	*e*P	**Pn**	**16 17 32.5**	**-2.0**
ALID				*i* S	**Sn**	**16 17 46.1**	**-1.5**
MIPR	**Malaya Ipel'ka**	**2.14**	**18**	*e*P	**Pn**	**16 17 50.9**	**-0.8**
MIPR				*i* S	**Sn**	**16 18 18.1**	**0.0**
GRL	**Gorelyy**	**2.75**	**32**	*e*P	**Pn**	**16 17 59.4**	**-0.2**
GRL				*i* S	**Sn**	**16 18 34.0**	**+1.7**
RUS	**Russkaya**	**2.81**	**38**	*e*P	**Pn**	**16 17 58.1**	**-2.4**
RUS				*i* S	**Sn**	**16 18 30.9**	**-3.0**
PETK	**Petropavlovsk-**	**3.12**	**23**	P	**Pn**	**16 18 05.0**	**+0.3**
	comp=Z,17nm,0.3s,baz=178,slow=12,SNR=372						
PETK				S	**Sn**	**16 18 43.9**	**+2.7**
	comp=Z,3.4nm,0.3s,baz=156,slow=16,SNR=3.2						
PET	**Petropavlovsk**	**3.34**	**33**	⇓*i*PN	**Pn**	**16 18 06.8**	**-0.7**
PET				pmax	pmax		
	comp=Z,169nm,0.5s						
PET	**Petropavlovsk**	**3.34**	**33**	*e*P	**Pn**	**16 18 06.4**	**-1.1**
PET				*i* S	**Sn**	**16 18 46.3**	**0.0**
PET	**Petropavlovsk**	**3.34**	**33**	*e*Pn	**Pn**	**16 18 06.5**	**-1.0**
PET				*e*Sn	**Sn**	**16 18 47.8**	**+1.4**
AVH	**Avacha**	**3.56**	**31**	*e*P	**Pn**	**16 18 11.0**	**+0.5**
NLC	**Nalytchevo**	**3.71**	**37**	*e*P	**Pn**	**16 18 09.5**	**-2.9**
NLC				*i* S	**Sn**	**16 18 50.6**	**-4.6**
GNL	**Ganaly**	**3.72**	**21**	*e*P	**Pn**	**16 18 13.4**	**+0.8**
SPN	**Mys Shipunski**	**3.93**	**42**	*e*P	**Pn**	**16 18 12.6**	**-2.8**
SPN				*i* S	**Sn**	**16 18 56.5**	**-4.0**
KII	**Karymskiy**	**4.44**	**30**	*e*P	**Pn**	**16 18 22.5**	**+0.2**
KII				*i* S	**Sn**	**16 19 13.8**	**+0.9**
MKZ	**Mys Kozlova**	**5.68**	**38**	*e*P	**Pn**	**16 18 35.6**	**-3.4**
MKZ				*i* S	**Sn**	**16 19 36.3**	**-6.5**
TUMR	**Tumrok**	**5.72**	**27**	*e*P	**Pn**	**16 18 40.0**	**+0.4**
KMNR	**Kamenistaya**	**6.16**	**25**	*e*P	**Pn**	**16 18 46.2**	**+0.7**
KOZ	**Kozyrevsk**	**6.34**	**22**	*e*P	**Pn**	**16 18 50.0**	**+2.1**
KPT	**Kopyto**	**6.34**	**24**	*e*P	**Pn**	**16 18 49.3**	**+1.3**
KOZR	**Kozyr**	**6.35**	**22**	PN	**Pn**	**16 18 50.0**	**+1.9**
SRDR	**Sredinnyy**	**6.54**	**20**	*e*P	**Pn**	**16 18 51.4**	**+0.8**
ZLN	**Zelenaya**	**6.54**	**26**	*e*P	**Pn**	**16 18 51.1**	**+0.4**
CIRR	**Tsirk**	**6.61**	**25**	*e*P	**Pn**	**16 18 52.4**	**+0.7**
KRSR	**Krestovskiy**	**6.65**	**24**	*e*P	**Pn**	**16 18 52.7**	**+0.5**
KLY	**Klyuchi**	**6.76**	**24**	*e*P	**Pn**	**16 18 54.6**	**+0.9**
BDR	**Baidarnaya**	**7.13**	**25**	*e*P	**Pn**	**16 18 59.0**	**+0.3**
SRKR	**Sorokina**	**7.20**	**25**	*e*P	**Pn**	**16 18 59.6**	**0.0**
SMKR	**Semkarok**	**7.22**	**26**	*e*P	**Pn**	**16 18 59.7**	**-0.2**
KBTR	**Krutoberegovo**	**7.34**	**33**	*e*P	**Pn**	**16 19 00.3**	**-1.2**
YSS	**Yuzh-Sakhalins**	**9.18**	**254**	PN	**Pn**	**16 19 27.7**	**+1.2**
ASAJ	**Asahikawa**	**10.81**	**240**	P	**Pn**	**16 19 49.9**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=47,slow=11,SNR=38						
ASAJ	**Asahikawa**	**10.81**	**240**	PN	**Pn**	**16 19 49.9**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YAK	**Yakutsk**	**18.52**	**319**	*e*P	**P**	**16 21 24.0**	**-0.8**
	comp=Z,21nm,0.8s						
BILL	**Bilibino**	**18.60**	**13**	*e*P	**P**	**16 21 24.9**	**-0.7**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MJAR	**Matsushiro Arr**	**18.62**	**229**	P	**P**	**16 21 25.5**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=16,slow=13,SNR=4.7						
MJAR	**Matsushiro Arr**	**18.62**	**229**	*e*P	**P**	**16 21 27.6**	**+1.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**23.60**	**248**	P	**P**	**16 22 19.7**	**+1.6**
	comp=Z,0.6nm,0.8s,mb3.0,baz=36,slow=11,SNR=4.6						
KSRS	**Korea Array**	**23.60**	**248**	P	**P**	**16 22 19.7**	**+1.6**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.2						
TIXI	**Tiksi**	**24.67**	**340**	*e*P	**P**	**16 22 26.3**	**-1.2**
COLA	**College**	**32.35**	**42**	⇓*i*P	**P**	**16 23 36.0**	**+0.1**
EGAK	**Eagle**	**35.22**	**42**	*e*P	**P**	**16 23 59.3**	**-1.3**
	comp=Z,4.6nm,0.7s,mb4.4						
DAWY	**Dawson**	**36.08**	**43**	*e*P	**P**	**16 24 07.7**	**-0.3**
MKAR	**Makanchi Array**	**46.91**	**296**	P	**P**	**16 25 35.8**	**-0.7**
	comp=Z,0.3nm,0.3s,mb3.5,baz=47,slow=7.1,SNR=3.9						
YKA	**Yellowknife Ar**	**47.11**	**39**	P	**P**	**16 25 38.0**	**+0.1**
	comp=Z,3.1nm,0.7s,mb4.1,baz=299,slow=7.7,SNR=14						
YKA	**Yellowknife Ar**	**47.11**	**39**	P	**P**	**16 25 38.0**	**+0.1**
EDM	**Edmonton**	**52.69**	**49**	*e*P	**P**	**16 26 19.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**54.87**	**256**	P	**P**	**16 26 37.5**	**+1.0**
	comp=Z,0.9nm,0.4s,mb4.2,baz=29,slow=7.6,SNR=5.7						
BMO	**Blue Mountains**	**55.76**	**59**	*e*P	**P**	**16 26 42.5**	**-0.1**
	comp=Z,1.3nm,0.9s,mb4.0						
WVOR	**Wild Horse Val**	**56.55**	**62**	*e*P	**P**	**16 26 47.9**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
WVOR	**Wild Horse Val**	**56.55**	**62**	*e*P	**P**	**16 26 47.9**	**-0.3**
	comp=Z,5.5nm,0.9s,mb4.2						
AKTK	**Aktyubinsk**	**57.67**	**311**	P	**P**	**16 26 54.6**	**-1.4**
AKTO	**Aktyubinsk**	**57.67**	**311**	P	**P**	**16 26 54.6**	**-1.4**
	comp=Z,0.5nm,0.3s,mb4.0,baz=30,slow=8.1,SNR=3.1						
NVAR	**Mina Array Bea**	**59.36**	**66**	P	**P**	**16 27 08.3**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.1,baz=293,slow=6.4,SNR=9.6						
RLMT	**Red Lodge**	**59.90**	**55**	*e*P	**P**	**16 27 12.2**	**+0.7**
	comp=Z,4.0nm,0.9s,mb4.5						
BW06	**Boulder Array**	**61.35**	**57**	*e*P	**P**	**16 27 21.5**	**+0.1**
	comp=Z,4.7nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**61.35**	**57**	P	**P**	**16 27 21.9**	**+0.5**
	comp=Z,3.4nm,0.8s,mb4.4,baz=316,slow=2.1,SNR=20						
SRU	**San Rafael**	**63.34**	**60**	*e*P	**P**	**16 27 34.8**	**+0.1**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
SRU	**San Rafael**	**63.34**	**60**	*e*P	**P**	**16 27 34.8**	**+0.1**
	comp=Z,2.1nm,0.9s,mb4.1						
ANMO	**Albuquerque**	**68.58**	**61**	*e*P	**P**	**16 28 09.0**	**+0.7**
SCHQ	**Schefferville**	**69.42**	**25**	P	**P**	**16 28 12.5**	**-0.6**
	comp=Z,1.4nm,0.4s,mb4.2,baz=349,slow=10,SNR=6.7						
EKA	**Eskdalemuir Ar**	**73.31**	**348**	P	**P**	**16 28 35.7**	**-0.8**
	comp=Z,2.1nm,1.0s,mb3.9,baz=13,slow=5.1,SNR=4.4						
TXAR	**Lajitas Array**	**74.33**	**63**	P	**P**	**16 28 42.9**	**-0.1**
	comp=Z,2.8nm,0.7s,mb4.1,baz=300,slow=4.7,SNR=22						

BJI ***20*** *16:21:40.8,630N×12790E,h44km,mB5.2,mb4.7*
ISCJB ***20*** *16:21:41.4±1.2,624N±005×12767E±008,h44km±10km, mb4.5/24,Error ellipse: s-maj=13.9km s-min=7.2km az=166.2*
NEIC ***20*** *16:21:42.8±0.3,630N×12787E,mb4.8/9,Error ellipse: s-maj=12.5km s-min=5.8km az=74.0*
IDC ***20*** *16:21:43.5±0.6,623N×12772E,h44km±5km,mb4.2/15, mb1 4.2/16,mb1mx4.1/23,mbtmp4.2/16,ML4.1/1,MS3.2/1, Ms1 3.2/1,ms1mx3.0/20,Error ellipse: s-maj=13.4km s-min=8.3km az=41.0*
MAN ***20*** *16:21:44,670N×12734E,h1km,mb5.0,ML3.9,MS4.0*

ISC 20 16:21:43.2±1.1,621N±005×12766E±008,h43km±10km, h44km±2.2km:pP-P,n51,σ1§12/55,mb4.5/24,1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.57**	**298**	*e*P	**Pn**	**16 22 06.2**	**-2.4**
MATI				*e*S	**Sn**	**16 22 23.7**	**-4.1**
DAV	**Davao City (W)**	**2.23**	**293**	P	**Pn**	**16 22 19.4**	**+1.7**
	49nm,0.3s,baz=277,slow=4.7,SNR=7.5						
DAV				S	**Sn**	**16 22 46.6**	**+2.5**
	93nm,0.3s,baz=85,slow=22,SNR=17						
DAV				LR	LR	16 23 04.9	
	comp=Z,464nm,19.5s,baz=284,slow=36						
BIPH	**Bislig**	**2.34**	**327**	⇓*e*P	**Pn**	**16 22 16.8**	**-2.4**
BIPH				*e*S	**Sn**	**16 22 42.4**	**-4.4**
KCP	**Kidapawan**	**2.67**	**287**	⇓*i*P	**Pn**	**16 22 22.8**	**-0.9**
KCP				*i* S	**Sn**	**16 22 53.9**	**-1.0**
BUKP	**Musuan**	**3.06**	**303**	*e*P	**Pn**	**16 22 28.7**	**-0.4**
BUTP	**Butuan**	**3.40**	**324**	*e*P	**Pn**	**16 22 34.8**	**+1.0**
SCPH	**Surigao**	**4.15**	**329**	*e*P	**Pn**	**16 22 47.1**	**+3.1**
SCPH				*e*S	**Sn**	**16 23 24.0**	**-7.3**
PAGZ	**Pagadian**	**4.54**	**291**	*e*P	**Pn**	**16 22 49.6**	**+0.1**
MSLP	**Maasin**	**4.78**	**325**	*e*P	**Pn**	**16 22 51.8**	**-0.9**
IPIL	**Ipil**	**5.29**	**288**	*e*P	**Pn**	**16 23 03.5**	**+3.8**
CUYO	**Cuyo Island**	**8.02**	**306**	*e*P	**Pn**	**16 23 46.7**	**+9.5**
PVCP	**Virac**	**8.11**	**335**	*e*P	**Pn**	**16 23 38.9**	**+0.5**
KSM	**Kuching**	**17.93**	**255**	Pn	**Pn**	**16 25 52.9**	**+3.3**
KAKA	**Kakadu**	**19.39**	**166**	*e*P	**Pn**	**16 26 06.6**	**-0.5**
	6.3nm,0.5s						
KAKA	**Kakadu**	**19.39**	**166**	*e*P	**Pn**	**16 26 05.1**	**-2.0**
JOW	**Kunigami**	**20.52**	**2**	P	**P**	**16 26 20.2**	**+2.4**
	17nm,0.7s,baz=184,slow=12,SNR=12						
FITZ	**Fitzroy Crossi**	**24.24**	**185**	*e*P	**P**	**16 26 57.0**	**+0.8**
	6.6nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.24**	**185**	P	**P**	**16 26 57.0**	**+0.8**
	4.6nm,0.8s,mb4.0,baz=26,slow=19,SNR=18						
FITZ				PcP	PcP	16 30 36.8	+0.9
	1.9nm,1.0s,baz=49,slow=9.3,SNR=3.4						
FITZ	**Fitzroy Crossi**	**24.24**	**185**	*e*P	**P**	**16 26 57.2**	**+1.0**
WRAB	**Tennant Creek**	**26.80**	**166**	*e*P	**P**	**16 27 19.2**	**-0.2**
	9.2nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**26.81**	**166**	P	**P**	**16 27 19.2**	**-0.3**
	5.0nm,0.4s,mb4.4,baz=345,slow=10,SNR=52						
WRA				PcP	PcP	16 30 42.6	+0.9
	1.1nm,0.6s,baz=330,slow=2.7,SNR=5.6						
WB2	**Warramunga Arr**	**26.81**	**166**	*e*P	**P**	**16 27 19.2**	**-0.3**
WB2	**Warramunga Arr**	**26.81**	**166**	*e*P	**P**	**16 27 18.8**	**-0.7**
MBWA	**Marble Bar**	**28.29**	**196**	*e*P	**P**	**16 27 33.8**	**+1.1**
	2.2nm,0.5s,mb4.0						
ASAR	**Alice Springs**	**30.32**	**169**	P	**P**	**16 27 50.6**	**0.0**
	2.8nm,0.6s,mb4.2,baz=0.6,slow=12,SNR=94						
ASAR				pP	pP	16 28 03.6	+1.3
	1.7nm,0.5s,baz=353,slow=9.2,SNR=6.0						
ASAR				PcP	PcP	16 30 51.4	+1.0
	1.7nm,0.5s,baz=355,slow=2.2,SNR=20						
ASAR				pPcP		16 31 04.2	
	0.9nm,0.5s,baz=357,slow=2.4,SNR=5.8						
KSRS	**Korea Array**	**31.10**	**0**	P	**P**	**16 27 58.8**	**+1.3**
	3.7nm,0.7s,mb4.3,baz=176,slow=10,SNR=17						
FORT	**Forrest**	**36.78**	**179**	*e*P	**P**	**16 28 46.7**	**-0.1**
	7.9nm,0.7s,mb4.7						
MDJ	**Mudanjiang**	**38.29**	**2**	*e*P	**P**	**16 28 56.6**	**-2.8**
	39nm,1.1s,mb5.0						
KLBR	**Kellerberrin**	**38.76**	**194**	*e*P	**P**	**16 29 03.9**	**+0.4**
	27nm,1.0s,mb4.9

*NEIC **20** 16:24:16.9±0.6, 4692N×14185E, h10km, mb4.3/1, Error ellipse: s-maj=17.0km s-min=11.6km az=151.0*
*IDC **20** 16:24:20.6±2.4, 4688N×14177E, h42km±23km, mb3.5/8, mb1 3.8/12, mb1mx3.6/23, mbtmp3.5/12, ML3.5/4, MS3.6/2, Ms1 3.6/2, ms1mx3.1/25, Error ellipse: s-maj=21.7km s-min=15.4km az=97.0*

ISC 20 16:24:16.6±0.6, 4692N±002×14177E±004, h14km±4km, n49, σ1§30/72, mb3.8/11, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.68**	**87**	*i*PN	**Pg**	**16 24 29.0**	**-0.8**
YSS				*e*		16 24 39.1	
YSS				smax			
	comp=N,14μm,0.2s						
YSS				smax			
	comp=E,11μm,0.4s						
YSS	**Yuzh-Sakhalins**	**0.68**	**87**	*i*Pg	**Pg**	**16 24 29.0**	**-0.8**
YSS				A		16 24 39.6	
	comp=E,14μm,0.3s						
YSS				A		16 24 39.6	
	comp=E,11μm,0.3s						
YSS				AMS	AMS	16 25 09.0	
	comp=E,6μm,4.0s						
YSS				AMS	AMS	16 25 09.0	
	comp=E,4μm,4.0s						
YSS	**Yuzh-Sakhalins**	**0.68**	**87**	*e*Pn	**Pn**	**16 24 28.9**	**-2.8**
YSS				*e*Sn	**Sg**	**16 24 39.4**	**+0.8**
JWK2	**Keihoku**	**1.60**	**177**	P	**Pn**	**16 24 44.3**	**-0.2**
JWK2				*e*S	**Sn**	**16 25 07.8**	**+2.8**
JRR	**Rishiri**	**1.81**	**190**	P	**Pn**	**16 24 47.5**	**+0.2**
JRR				*e*S	**Sn**	**16 25 13.3**	**+3.3**
JSE	**Soyaes**	**2.04**	**164**	P	**Pn**	**16 24 50.0**	**-0.5**
UGL	**Uglegorsk**	**2.17**	**5**	*e*PN	**Pn**	**16 24 53.5**	**+1.2**
UGL				S	**Sn**	**16 25 21.0**	**+2.0**
UGL				pmax	pmax		
	comp=Z,162nm,0.4s						
UGL				pmax	pmax		
	comp=N,652nm,0.4s						
UGL				pmax	pmax		
	comp=E,1μm,0.4s						
UGL	**Uglegorsk**	**2.17**	**5**	*e*P	**Pn**	**16 24 51.5**	**-0.8**
UGL				AMB	AMB	16 24 55.0	
	comp=E,162nm,0.4s						
UGL				*e*Pg	**Pg**	**16 24 57.5**	**-0.7**
UGL				AMB	AMB	16 25 03.5	
	comp=E,424nm,0.5s						
UGL				*e*S	**Sn**	**16 25 19.0**	**0.0**
UGL				A		16 25 25.5	
	comp=E,652nm,0.4s						
UGL				A		16 25 25.5	
	comp=E,1μm,0.4s						
UGL				*e*Sg	**Sg**	**16 25 29.5**	**+3.1**
UGL				A		16 25 33.0	
	comp=E,1μm,0.5s						
UGL				A		16 25 33.0	
	comp=E,2μm,0.5s						
JYG	**Yagishiri**	**2.50**	**186**	P	**Pn**	**16 24 57.2**	**+0.3**
JSS	**Shosan**	**2.52**	**179**	P	**Pn**	**16 24 57.2**	**+0.1**
ASAJ	**Asahikawa**	**2.86**	**168**	P	**Pn**	**16 25 01.7**	**-0.1**
ASAJ	**Asahikawa**	**2.86**	**168**	P	**Pn**	**16 25 02.2**	**+0.4**
	comp=E,25nm,0.3s,baz=15,slow=11,SNR=252						
ASAJ				S	**Sn**	**16 25 36.2**	**+0.2**
	comp=E,25nm,0.3s,baz=320,slow=30,SNR=4.9						
ASAJ				LR	LR	16 26 32.9	
	comp=E,340nm,20.9s,baz=354,slow=47						
ASAJ	**Asahikawa**	**2.86**	**168**	PN	**Pn**	**16 25 02.2**	**+0.4**
ASAJ				S	**Sn**	**16 25 36.3**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,25nm,0.3s						
ASAJ				smax			
	comp=N,25nm,0.3s						
JMP	**Maruseppu**	**3.12**	**158**	P	**Pn**	**16 25 04.5**	**-0.8**
JKK2	**Kamakawa 2**	**3.12**	**167**	P	**Pn**	**16 25 05.7**	**+0.3**
JHR	**Hokuryu**	**3.17**	**181**	P	**Pn**	**16 25 07.4**	**+1.3**
JTKR	**Abashiri--Toko**	**3.31**	**152**	P	**Pn**	**16 25 06.7**	**-1.3**
JTKR				*e*S	**Sn**	**16 25 46.5**	**-0.6**
JAB	**Ashibetsu**	**3.43**	**174**	P	**Pn**	**16 25 10.6**	**+1.0**
JSK	**Shakotan**	**3.68**	**195**	P	**Pn**	**16 25 13.2**	**+0.1**
TYV	**Tymovskoe**	**3.99**	**8**	*e*P	**Pn**	**16 25 17.3**	**0.0**
TYV				*e*Pg	**Pg**	**16 25 35.0**	**+2.0**
TYV				AMB	AMB	16 25 38.0	
	comp=N,38nm,0.5s						
TYV				*e*S	**Sn**	**16 26 02.5**	**-1.4**
TYV				A		16 26 03.0	
	comp=N,38nm,0.4s						
TYV				*e*Sg	**Sg**	**16 26 29.0**	**+4.3**
TYV				A		16 26 31.0	
	comp=N,35nm,0.5s						
TYV				AMS	AMS	16 27 42.0	
	comp=N,700nm,10.0s						
TEY	**Ternei**	**4.07**	**244**	*e*P	**Pn**	**16 25 17.0**	**-1.3**
TEY				*e*Pg	**Pg**	**16 25 34.0**	**-0.4**
TEY				AMB	AMB	16 25 39.0	
	comp=N,53nm,0.4s						
TEY				*e*Sb	**Sb**	**16 26 13.0**	**-3.9**
YUK	**Yuzh-Kuril'sk**	**4.07**	**134**	*e*P	**Pn**	**16 25 18.4**	**0.0**
YUK				*e*S	**Sn**	**16 26 04.5**	**-1.4**
YUK				A		16 26 10.5	
	comp=N,180nm,0.5s						
KUR	**Kuril'sk**	**4.56**	**109**	*e*P	**Pn**	**16 25 23.8**	**-1.4**
KUR				*e*S	**Sn**	**16 26 14.0**	**-4.0**
KUR				A		16 26 15.5	
	comp=N,84nm,0.6s						
GRNR	**Gornyy**	**5.23**	**319**	*e*P	**Pn**	**16 25 29.0**	**-5.3**
GRNR				AMB	AMB	16 25 29.8	
	comp=N,19nm,0.5s						
GRNR				AMB	AMB	16 25 29.8	
	comp=N,23nm,0.5s						
GRNR				AMB	AMB	16 25 29.8	
	comp=N,26nm,0.5s						
GRNR				*e*Pg	**Pg**	**16 25 55.0**	**-1.6**
GRNR				AMB	AMB	16 25 56.0	
	comp=N,30nm,0.4s						
GRNR				*e*Sg	**Sg**	**16 27 05.0**	**+0.7**
GRNR				eSm		16 27 09.2	
	comp=N,360nm,0.8s						
NKL	**Nikolayevsk**	**6.28**	**354**	*e*P	**Pn**	**16 25 43.7**	**-5.0**
NKL				AMB	AMB	16 25 44.5	
	comp=N,18nm,0.5s						
NKL				*e*Pg	**Pg**	**16 26 14.0**	**-2.7**
NKL				AMB	AMB	16 26 20.3	
	comp=N,26nm,0.8s						
NKL				*e*S	**Sn**	**16 26 53.5**	**-6.7**
NKL				*e*Sg	**Sg**	**16 27 41.0**	**+3.0**
NKL				A		16 27 45.0	
	comp=N,18nm,0.4s						
KLR	**Kul'dur**	**7.10**	**293**	*e*P	**Pn**	**16 26 01.7**	**+1.7**
KLR				AMS	AMS	16 28 09.5	
	comp=N,1μm,13.0s						
KLR				AMS	AMS	16 28 09.5	
	comp=N,500nm,13.0s						
EKMR	**Ekimchan**	**8.38**	**321**	*e*P	**Pn**	**16 26 14.3**	**-3.2**
EKMR				AMB	AMB	16 26 27.0	
	comp=N,4.0nm,0.5s						
EKMR				*e*S	**Sn**	**16 27 58.0**	**+6.3**
EKMR				*e*Sg	Sn	16 28 50.0	+58
EKMR				A		16 29 02.0	
	comp=N,97nm,1.0s						
EKMR				A		16 29 02.0	
	comp=N,100nm,1.0s						
EKMR				A		16 29 02.0	
	comp=N,32nm,1.0s						
MJAR	**Matsushiro Arr**	**10.70**	**196**	P	**Pn**	**16 26 52.0**	**+2.6**
	comp=N,0.3nm,0.3s,baz=7.3,slow=15,SNR=6.3						
BMKR	**Bomnak**	**11.29**	**318**	*e*S	**Sn**	**16 29 06.9**	**+3.7**
BMKR				*e*Sg		16 30 18.0	
BMKR				A		16 30 24.5	
	comp=N,70nm,0.8s						
PETK	**Petropavlovsk-**	**11.96**	**53**	P	**Pn**	**16 27 08.7**	**+2.2**
	comp=N,0.1nm,0.3s,baz=227,slow=16,SNR=11						
KROS	**Kirovskiy**	**12.01**	**314**	*e*P	**Pn**	**16 27 05.0**	**-2.2**
KROS				*e*Sg		16 30 43.5	
KROS				A		16 30 46.3	
	comp=N,31nm,1.1s						
KSRS	**Korea Array**	**13.94**	**232**	P	**Pn**	**16 27 37.2**	**+3.6**
	comp=N,0.0nm,0.3s,baz=50,slow=14,SNR=3.2						
HIA	**Hailar**	**14.90**	**287**	*e*P	**Pn**	**16 27 45.2**	**-1.5**
YAK	**Yakutsk**	**16.64**	**340**	*e*P	**Pn**	**16 28 08.0**	**-1.2**
BOD	**Bodaibo**	**20.01**	**313**	*e*P	**P**	**16 28 45.1**	**-3.5**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**23.85**	**285**	P	**P**	**16 29 29.7**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.4,baz=76,slow=8.8,SNR=9.8						
SONM				LR	LR	16 39 31.3	
	comp=Z,446nm,20.3s,baz=340,slow=38						
TLY	**Talaya**	**25.11**	**295**	*e*P	**P**	**16 29 39.8**	**-0.9**
ZAK	**Zakamensk**	**25.47**	**292**	*e*P	**P**	**16 29 44.7**	**+0.7**
ZAK				*e*		16 30 18.1	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
MKAR	**Makanchi Array**	**39.81**	**292**	P	**P**	**16 31 53.0**	**+4.0**
	comp=Z,1.9nm,0.7s,mb3.9,baz=74,slow=8.9,SNR=5.3						
EGAK	**Eagle**	**43.65**	**37**	*e*P	**P**	**16 32 20.2**	**0.0**
	comp=Z,4.2nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**55.26**	**33**	P	**P**	**16 33 48.4**	**-0.4**
	comp=Z,1.1nm,0.8s,mb4.0,baz=302,slow=6.6,SNR=4.9						
YKA	**Yellowknife Ar**	**55.26**	**33**	*e*P	**P**	**16 33 48.8**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**65.22**	**336**	P	**P**	**16 34 57.4**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.7,baz=34,slow=6.7,SNR=2.7						
NOA	**NORSAR Array B**	**65.22**	**336**	P	**P**	**16 34 57.4**	**+0.4**
WRA	**Warramunga Arr**	**66.88**	**188**	P	**P**	**16 35 07.4**	**-0.7**
	comp=Z,0.4nm,1.0s,mb3.4,baz=5.2,slow=6.8,SNR=4.1						
NVAR	**Mina Array Bea**	**69.03**	**56**	P	**P**	**16 35 23.1**	**+1.5**
	comp=Z,0.8nm,0.9s,mb3.7,baz=300,slow=3.3,SNR=4.4						
ASAR	**Alice Springs**	**70.61**	**188**	P	**P**	**16 35 31.6**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=9.0,slow=6.0,SNR=9.9						
PDAR	**Pinedale Array**	**70.67**	**48**	P	**P**	**16 35 31.9**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=325,slow=2.3,SNR=3.6						
TXAR	**Lajitas Array**	**83.91**	**53**	P	**P**	**16 36 47.0**	**+0.9**
	comp=Z,0.7nm,0.9s,mb3.8,baz=323,slow=5.9,SNR=4.4						

*ISCJB **20** 16:39:30.2±0.7, 5377N±003×16084E±008, h21km±6km, Error ellipse: s-maj=8.9km s-min=3.2km az=33.6*
*KRSC **20** 16:39:30.3±0.1, 5378N×16081E, h25km±25km, ML4.0*
*MOS **20** 16:39:30.4±0.6, 5375N×16085E, h27km, mb4.2/1, Error ellipse: s-maj=28.4km s-min=11.7km az=72.9*

ISC 20 16:39:30.8±1.2, 5376N±004×16081E±009, h19km±10km, n27, σ0§80/45, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.81**	**216**	*i*P	**Pb**	**16 39 46.2**	**-0.1**
SPN				*i*S	**Sb**	**16 39 56.9**	**+0.1**
KII	**Karymskiy**	**0.85**	**289**	*e*P	**Pb**	**16 39 46.6**	**-0.4**
KII				*i*S	**Sb**	**16 39 57.7**	**-0.3**
MKZ	**Mys Kozlova**	**0.96**	**34**	*e*P	**Pb**	**16 39 47.1**	**-1.7**
MKZ				*i*S	**Sb**	**16 39 58.3**	**-2.9**
NLC	**Nalytchevo**	**1.06**	**237**	*e*P	**Pb**	**16 39 49.7**	**-0.7**
NLC				*i*S	**Sb**	**16 40 03.4**	**-0.4**
AVH	**Avacha**	**1.33**	**249**	*e*P	**Pn**	**16 39 54.6**	**+0.3**
AVH				*i*S	**Sn**	**16 40 12.0**	**+0.5**
PET	**Petropavlovsk**	**1.49**	**241**	⇑*i*PN	**Pn**	**16 39 56.2**	**-0.3**
PET				*e*S	**Sn**	**16 40 14.6**	**-0.7**
PET				pmax	pmax		
	comp=Z,134nm,0.4s						
PET				pmax	pmax		
	comp=Z,100nm,0.3s						
PET				smax			
	comp=N,500nm,0.4s						
PET				smax			
	comp=N,688nm,0.5s						
PET	**Petropavlovsk**	**1.49**	**241**	*e*P	**Pn**	**16 39 56.4**	**-0.1**
PET				*i*S	**Sn**	**16 40 14.9**	**-0.4**
TUMR	**Tumrok**	**1.57**	**346**	*i*P	**Pn**	**16 39 57.3**	**-0.4**
TUMR				*i*S	**Sn**	**16 40 16.1**	**-1.4**
GNL	**Ganaly**	**1.71**	**269**	*e*P	**Pn**	**16 40 00.0**	**+0.5**
GNL				*i*S	**Sn**	**16 40 21.9**	**+1.2**
RUS	**Russkaya**	**1.92**	**227**	*e*P	**Pn**	**16 40 01.8**	**-0.6**
RUS				*i*S	**Sn**	**16 40 24.6**	**-1.4**
KMNR	**Kamenistaya**	**2.03**	**351**	*e*P	**Pn**	**16 40 04.1**	**+0.2**
KMNR				*i*S	**Sn**	**16 40 29.7**	**+1.0**
GRL	**Gorelyy**	**2.05**	**235**	*e*P	**Pn**	**16 40 04.5**	**+0.4**
GRL				*i*S	**Sn**	**16 40 29.2**	**+0.1**
BZMR	**Bezymyannaya**	**2.19**	**355**	*e*P	**Pn**	**16 40 06.5**	**+0.4**
KIRR	**Kirishev**	**2.21**	**353**	*e*P	**Pn**	**16 40 07.0**	**+0.6**
KIRR				*i*S	**Sn**	**16 40 34.2**	**+0.9**
KPT	**Kopyto**	**2.24**	**351**	*e*P	**Pn**	**16 40 07.2**	**+0.4**
ZLN	**Zelenaya**	**2.26**	**360**	*e*P	**Pn**	**16 40 07.7**	**+0.6**
ZLN				*i*S	**Sn**	**16 40 35.2**	**+0.8**
CIRR	**Tsirk**	**2.36**	**359**	*e*P	**Pn**	**16 40 09.2**	**+0.7**
KOZ	**Kozyrevsk**	**2.37**	**347**	*e*P	**Pn**	**16 40 08.5**	**0.0**
KOZ				*i*S	**Sn**	**16 40 35.6**	**-1.4**
KOZR	**Kozyr**	**2.37**	**347**	PN	**Pn**	**16 40 08.5**	**-0.1**
KOZR				S	**Sn**	**16 40 35.6**	**-1.5**
KRSR	**Krestovskiy**	**2.47**	**357**	*e*P	**Pn**	**16 40 10.1**	**+0.2**
KLY	**Klyuchi**	**2.56**	**358**	*e*P	**Pn**	**16 40 11.3**	**+0.1**
KLY				*i*S	**Sn**	**16 40 41.2**	**-0.6**
SRDR	**Sredinnyy**	**2.64**	**347**	*e*P	**Pn**	**16 40 11.8**	**-0.5**
KBTR	**Krutoberegovo**	**2.71**	**24**	*e*P	**Pn**	**16 40 14.2**	**+0.9**
KBTR				*i*S	**Sn**	**16 40 46.1**	**+0.6**
BDR	**Baidarnaya**	**2.82**	**4**	*e*P	**Pn**	**16 40 15.6**	**+0.8**
SMKR	**Semkarok**	**2.85**	**7**	*e*P	**Pn**	**16 40 15.4**	**+0.2**
MIPR	**Malaya Ipel'ka**	**2.87**	**240**	*e*P	**Pn**	**16 40 16.7**	**+1.3**
SRKR	**Sorokina**	**2.91**	**4**	*e*P	**Pn**	**16 40 16.3**	**+0.3**

*ATH **20** 16:52:02.9, 3999N×2061E, h5km, MD3.3/3*
*ISCJB **20** 16:52:02.9±0.6, 3936N±003×2057E±004, h5km±7km, Error ellipse: s-maj=5.2km s-min=5.0km az=174.4*
*TIR **20** 16:52:02.2±0.3, 3932N×2053E, h20km±7km*
*CSEM **20** 16:52:03.4±0.1, 3936N×2056E, h12km, ML3.0, Error ellipse: s-maj=2.1km s-min=2.0km az=153.0*
*NEIC **20** 16:52:03.8, 3935N×2058E, h0km, MD3.3(ATH), ML3.0(THE), After THE.*
*THE **20** 16:52:03.8, 3935N×2058E, h0km, ML3.0*

ISC 20 16:52:03.5±0.6, 3936N±003×2054E±004, h10km±7km, n18, σ0§97/32, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.24**	**317**	*e*Pg	**Pg**	**16 52 08.5**	**+0.1**
IGT				*e*Sg	**Sg**	**16 52 13.0**	**+1.3**
IGT	**Igoumenitsa**	**0.24**	**317**	*i*PG	**Pg**	**16 52 08.5**	**+0.1**
IGT				*i*SG	**Sg**	**16 52 13.0**	**+1.3**
JAN	**Janina**	**0.38**	**39**	*e*PB	**Pg**	**16 52 10.5**	**-0.5**
JAN				*e*SB	**Sg**	**16 52 16.1**	**-0.1**
LKD	**Levkas**	**0.65**	**173**	*e*Pg	**Pg**	**16 52 15.8**	**-0.4**
KEK	**Kerkira**	**0.68**	**302**	*e*PB	**Pb**	**16 52 16.2**	**-1.2**
MEV	**Metsovon**	**0.68**	**51**	*e*Pg	**Pg**	**16 52 16.4**	**-0.3**
MEV				*e*Sg	**Sg**	**16 52 26.6**	**+0.9**
MEV	**Metsovon**	**0.68**	**51**	*i*PG	**Pg**	**16 52 16.4**	**-0.3**
MEV				*i*SG	**Sg**	**16 52 26.5**	**+0.9**
MEV	**Metsovon**	**0.68**	**51**	*e*Pg	**Pg**	**16 52 16.4**	**-0.3**
MEV				*e*Sg	**Sg**	**16 52 26.5**	**+0.9**
THL	**Klokotos Trika**	**1.16**	**79**	*e*Pg	**Pg**	**16 52 24.4**	**-1.3**
THL				*e*Sg	**Sg**	**16 52 40.8**	**0.0**
THL	**Klokotos Trika**	**1.16**	**79**	*e*Pb	**Pb**	**16 52 25.2**	**-0.4**
THL				*e*Sg	**Sg**	**16 52 40.8**	**0.0**
VLS	**Valsamata**	**1.18**	**178**	*e*Pg	**Pg**	**16 52 25.5**	**-0.6**
VLS				*e*Sg	**Sg**	**16 52 42.9**	**+1.4**
AGG	**Agios Georgios**	**1.43**	**103**	*e*Pg	**Pg**	**16 52 29.8**	**-1.2**
AGG				*e*Sg	**Sg**	**16 52 50.8**	**+1.3**
FNA	**Florina**	**1.56**	**24**	*e*Pg	**Pg**	**16 52 31.9**	**-1.5**
FNA				*e*Sg	**Sg**	**16 52 54.0**	**+0.2**
FNA	**Florina**	**1.56**	**24**	*i*PG	**Pg**	**16 52 32.0**	**-1.5**
FNA				*i*SG	**Sg**	**16 52 54.0**	**+0.3**
LIT	**Litokhoron**	**1.68**	**63**	*e*Pb	**Pb**	**16 52 34.0**	**-0.4**
LIT				*e*Sb	**Sb**	**16 52 56.3**	**+0.7**
LIT	**Litokhoron**	**1.68**	**63**	*e*Pb	**Pb**	**16 52 34.0**	**-0.4**
LIT				*e*Sb	**Sb**	**16 52 56.3**	**+0.7**
KRUS	**Krusevo**	**2.08**	**15**	*i*Pn	**Pn**	**16 52 40.8**	**+2.3**
KRUS	**Krusevo**	**2.08**	**15**	*i*Pn	**Pn**	**16 52 40.7**	**+2.3**

MAN 20 17:02:22, 695N×12509E, h16km, mb4.1, ML2.9, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.06**	**358**	⇑*i*P	Pg	17 02 25.5	+0.5
KCP				*i*S	Sg	17 02 28.0	+1.0
BUKP	**Musuan**	**0.92**	**358**	*e*P	Pb	17 02 40.5	+0.8
MATI	**Mati**	**1.16**	**90**	*e*P	Pn	17 02 43.3	-0.3

MAN 20 17:12:08, 1363N×12065E, h137km, mb4.3, ML3.1, MS2.9, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.41**	**284**	*e*P	Pn	17 12 29.1	+1.7
LUBP				*e*S	Sn	17 12 44.4	+2.3
TGY	**Tagaytay City**	**0.54**	**31**	⇓*i*P	Pn	17 12 30.1	+2.0
TGY				*i*S	Sn	17 12 47.1	+3.7
SJMP	**San Jose**	**1.25**	**159**	*e*P	Pn	17 12 34.9	+0.9
SJMP				*e*S	Sn	17 12 55.5	+1.7
POLP	**Polilio Island**	**1.66**	**49**	*e*P	Pn	17 12 39.5	+1.1
BUSP	**Coron**	**1.68**	**195**	*e*P	Pn	17 12 40.0	+1.4
BUSP				*e*S	Sn	17 13 03.5	+1.4
OTRP	**Odiongan**	**1.84**	**133**	*e*P	Pn	17 12 40.7	+0.2
PCPH	**Palayan**	**1.97**	**13**	⇓*e*P	Pn	17 12 41.8	-0.2
PCPH				*e*S	Sn	17 13 11.7	+3.7
SCZP	**Santa Cruz**	**2.25**	**342**	*e*P	Pn	17 12 46.5	+1.1
BALP	**Baler**	**2.28**	**23**	*e*P	Pn	17 12 46.6	+0.8
ENPP	**El Nido**	**2.69**	**207**	*e*P	Pn	17 12 52.9	+1.9
CUYO	**Cuyo Island**	**2.79**	**173**	*e*P	Pn	17 12 52.3	+0.1
BOLP	**Bolinao**	**2.82**	**345**	*e*P	Pn	17 12 53.0	+0.4
PVCP	**Virac**	**3.41**	**90**	*e*P	Pn	17 13 01.2	+1.1
CAUP	**Cauayan**	**3.48**	**19**	*e*P	Pn	17 13 02.5	+1.3
GUIM	**Jordan**	**3.54**	**147**	*e*P	Sn	17 13 59.3	+16
PALP	**Palanan**	**3.82**	**26**	*e*P	Pn	17 13 00.7	-4.8
APYP	**Conner**	**4.24**	**8**	*e*P	Pn	17 13 12.2	+1.1

*PRU **20** 17:12:48.5, 4418N×670E, h62km*
*ISCJB **20** 17:12:50.0±0.2, 4464N±0010×704E±002, h12km±1km, Error ellipse: s-maj=1.9km s-min=1.5km az=150.5*
*ROM **20** 17:12:50.7±0.2, 4463N×705E, h13km±3km, Md3.0/16, Ml3.2/12, Error ellipse: s-maj=4.0km s-min=1.4km az=64.0*
*NEIC **20** 17:12:50.7, 4463N×705E, h13km, ML3.2(STR), ML3.2(ROM), ML3.3(GEN), ML3.5(LDG), After ROM.*
*CSEM **20** 17:12:50.9±0.1, 4461N×7.10E, h0km, ML3.5/25, Error ellipse: s-maj=1.2km s-min=0.8km az=94.0*
*LDG **20** 17:12:51.4±0.1, 4463N×709E, h3km, Md3.4/2, Ml3.5/30, Error ellipse: s-maj=1.7km s-min=1.2km az=78.0*
*STR **20** 17:12:51.8±0.2, 4460N×702E, h5km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*GEN **20** 17:12:51.0, 4462N×702E, h10km, ML3.0*

ISC 20 17:12:50.7±0.2, 44649N±0009×705E±002, h9km±1km, n165, σ1§07/320, 7C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG22	**Abries**	**0.19**	**337**	Pg	**Pg**	**17 12 55.7**	**+1.0**
OG22				Sg	**Sg**	**17 12 58.8**	**+1.5**
DOI	**San Damiano**	**0.20**	**136**	⇑*i*Pg	**Pg**	**17 12 55.4**	**+0.5**
DOI				Sg	**Sg**	**17 12 58.7**	**+1.1**
	17μm,0.3s						
MBDF	**Montbardon**	**0.21**	**291**	*e*Pg	**Pg**	**17 12 55.7**	**+0.6**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 12 58.7**	**+0.6**
	15μm,0.5s						
MBDF	**Montbardon**	**0.21**	**291**	*e*Pg	**Pg**	**17 12 55.7**	**+0.6**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 12 58.7**	**+0.6**
	7μm,0.5s						
SURF	**Saint Ours**	**0.24**	**225**	Pg	**Pg**	**17 12 55.6**	**+0.1**
SURF				Sg	**Sg**	**17 12 58.8**	**0.0**
BHB	**Bricherasio**	**0.24**	**38**	P	**Pg**	**17 12 56.7**	**+1.0**
BHB	**Bricherasio**	**0.24**	**38**	P	**Pg**	**17 12 56.7**	**+1.1**
RRL	**Rocca Remolon**	**0.33**	**325**	P	**Pg**	**17 12 57.9**	**+0.7**
RRL	**Rocca Remolon**	**0.33**	**325**	P	**Pg**	**17 12 57.9**	**+0.7**
STV	**Sant Anna di V**	**0.45**	**154**	Pg	**Pg**	**17 12 59.5**	**+0.1**
STV				Sg	**Sg**	**17 13 05.2**	**-0.2**
	1μm,0.4s						
STV	**Sant Anna di V**	**0.45**	**154**	P	**Pg**	**17 12 59.5**	**0.0**
STV				S	**Sg**	**17 13 05.2**	**-0.2**
BNI	**Bardonecchia**	**0.48**	**327**	Pg	**Pg**	**17 13 00.6**	**+0.5**
BNI				Sg	**Sg**	**17 13 07.3**	**+0.9**
	1μm,0.5s						
ENR	**Entracque**	**0.50**	**148**	P	**Pg**	**17 13 00.5**	**+0.1**
RSP	**Reno Superiore**	**0.52**	**16**	Pg	**Pg**	**17 13 01.7**	**+0.8**
RSP				Sg	**Sg**	**17 13 08.8**	**+1.0**
	1μm,0.2s						
RSP	**Reno Superiore**	**0.52**	**16**	P	**Pg**	**17 13 01.7**	**+0.8**
RSP				S	**Sg**	**17 13 08.7**	**+1.0**
TOUF	**Mont Tournerai**	**0.65**	**167**	Pg	**Pg**	**17 13 03.4**	**+0.1**
TOUF				Sg	**Sg**	**17 13 11.9**	**+0.2**
ROB	**Robourent**	**0.69**	**121**	P	**Pg**	**17 13 03.8**	**-0.1**
ROB				S	**Sg**	**17 13 13.3**	**+0.4**
ROB	**Robourent**	**0.69**	**121**	P	**Pg**	**17 13 03.8**	**-0.1**
ROB				S	**Sg**	**17 13 13.3**	**+0.4**
AUTN	**L'Aution**	**0.71**	**157**	Pg	**Pg**	**17 13 04.3**	**0.0**
AUTN				Sg	**Sg**	**17 13 13.3**	**-0.2**
MONC	**Moncucco Torin**	**0.75**	**55**	Pg	**Pg**	**17 13 06.2**	**+1.0**
	1μm,0.6s						
SAOF	**Saorge**	**0.76**	**151**	Pg	**Pg**	**17 13 05.1**	**-0.1**
SAOF				Sg	**Sg**	**17 13 14.0**	**-1.1**
MVIF	**Mont Vial**	**0.76**	**174**	Pg	**Pg**	**17 13 05.4**	**+0.1**
MVIF				Sg	**Sg**	**17 13 15.0**	**-0.1**
LUCF	**Luceram**	**0.79**	**164**	Pg	**Pg**	**17 13 05.8**	**0.0**
LUCF				Sg	**Sg**	**17 13 16.2**	**+0.2**
LSD	**Lago del Serru**	**0.81**	**5**	Pg	**Pg**	**17 13 06.7**	**+0.4**
LSD				Sg	**Sg**	**17 13 17.4**	**+0.5**
	749nm,0.2s						
LSD	**Lago del Serru**	**0.81**	**5**	P	**Pg**	**17 13 06.8**	**+0.4**
LSD				S	**Sg**	**17 13 16.5**	**-0.4**
LSD				Sg	**Sg**	**17 13 17.4**	**+0.5**
SBF	**Sospel**	**0.83**

MRGE	Morge	1.12	0	Pg	Pg	17 13 12.1	-0.1
	332nm,0.6s						
FRF	La Foret Royal	1.13	195	ePn	Pn	17 13 12.5	-0.1
	SNR=1.0						
FRF				eSg	Sg	17 13 26.1	-0.8
	380nm,0.3s,SNR=1.0						
FRF	La Foret Royal	1.13	195	ePn	Pn	17 13 12.5	-0.1
	SNR=1.0						
FRF				eSg	Sg	17 13 26.1	-0.8
	190nm,0.3s,SNR=1.0						
FRF	La Foret Royal	1.13	195	ePg	Pg	17 13 11.7	-0.6
FRF				ePn	Pn	17 13 12.5	-0.1
FRF				eSg	Sg	17 13 26.1	-0.8
ORO	Oropa	1.18	34	Pg	Pg	17 13 11.6	-1.7
	121nm,0.2s						
OCF	Saint Nazaire	1.25	267	Pg	Pg	17 13 15.5	+0.8
OG26	St.-Nazaire-De	1.25	267	Pg	Pg	17 13 15.5	+0.8
SMRF	Simiane la Rot	1.25	238	ePg	Pg	17 13 14.6	-0.2
SMRF				eSg	Sg	17 13 31.6	+0.5
	259nm,0.5s,SNR=1.0						
SMRF	Simiane la Rot	1.25	238	ePg	Pg	17 13 14.6	-0.2
SMRF				eSg	Sg	17 13 31.6	+0.5
	130nm,0.5s,SNR=1.0						
SMRF	Simiane la Rot	1.25	238	ePn	Pn	17 13 13.9	-0.5
SMRF				ePg	Pg	17 13 14.6	-0.2
SMRF				eSg	Sg	17 13 31.6	+0.5
LMR	La Mourre	1.37	197	ePg	Pg	17 13 16.3	-0.7
LMR				eSg	Sg	17 13 33.9	-0.9
	325nm,0.2s,SNR=1.0						
LMR	La Mourre	1.37	197	ePg	Pg	17 13 16.3	-0.7
LMR				eSg	Sg	17 13 33.9	-0.9
	162nm,0.2s,SNR=1.0						
LMR	La Mourre	1.37	197	ePn	Pn	17 13 15.7	-0.3
LMR				ePg	Pg	17 13 16.3	-0.7
LMR				eSg	Sg	17 13 33.9	-0.9
EMV	Vieux Emosson	1.42	356	Pg	Pg	17 13 18.2	+0.3
DIX	Grande Dixence	1.45	10	Pg	Pg	17 13 18.4	-0.2
PUYF	Puyloubier	1.48	222	Pg	Pg	17 13 18.3	-0.8
MMK	Mattmark	1.54	24	Pg	Pg	17 13 17.8	-2.5
OG01	Vacheresse	1.70	351	Pn	Pn	17 13 23.4	+2.9
VIVF	Saint-Julien-I	1.71	278	ePg	Pg	17 13 23.3	-0.1
VIVF				eSn	Sn	17 13 41.2	-1.3
	SNR=1.0						
VIVF				eSg	Sg	17 13 45.5	-0.1
	140nm,0.5s,SNR=1.0						
VIVF	Saint-Julien-I	1.71	278	ePg	Pg	17 13 23.3	-0.1
VIVF				eSn	Sn	17 13 41.2	-1.3
	SNR=1.0						
VIVF				eSg	Sg	17 13 45.5	-0.1
	70nm,0.5s,SNR=1.0						
VIVF	Saint-Julien-I	1.71	278	ePn	Pn	17 13 21.1	+0.5
VIVF				ePg	Pg	17 13 23.3	-0.1
VIVF				eSn	Sn	17 13 41.2	-1.3
VIVF				eSg	Sg	17 13 45.5	-0.1
GELF	Grande-Etoile	1.72	223	Pg	Pg	17 13 22.8	-0.9
OG05	Jujurieux	1.79	322	Pn	Pn	17 13 23.5	+1.8
SSB	Saint Sauveur	1.89	290	Pn	Pn	17 13 22.9	-0.2
MUGIO	Muggio	1.90	47	Pg	Pn	17 13 22.8	-0.4
CABF	La Chapelle	2.08	341	ePg	Pg	17 13 29.2	-1.3
CABF				eSg	Sg	17 13 57.1	-0.3
	82nm,0.4s,SNR=1.0						
CABF	La Chapelle	2.08	341	ePg	Pg	17 13 29.2	-1.3
CABF				eSg	Sg	17 13 57.1	-0.3
	41nm,0.4s,SNR=1.0						
CABF	La Chapelle	2.08	341	ePn	Pn	17 13 27.3	+1.7
CABF				ePg	Pg	17 13 29.2	-1.3
CABF				eSg	Sg	17 13 57.1	-0.3
LASF	Ste Croix	2.36	257	ePg	Pg	17 13 35.4	-0.5
	SNR=1.0						
LASF				eSn	Sn	17 13 55.7	-2.9
LASF				eSg	Sg	17 14 06.7	+0.2
	45nm,0.5s,SNR=1.0						
LASF	Ste Croix	2.36	257	ePg	Pg	17 13 35.4	-0.5
	SNR=1.0						
LASF				eSn	Sn	17 13 55.7	-2.9
LASF				eSg	Sg	17 14 06.7	+0.2
	22nm,0.5s,SNR=1.0						
LASF	Ste Croix	2.36	257	ePn	Pn	17 13 29.1	-0.5
LASF				ePg	Pg	17 13 35.4	-0.5
LASF				eSn	Sn	17 13 55.7	-2.9
LASF				eSg	Sg	17 14 06.7	+0.2
TUE	Stuetta	2.43	41	Pg	Pn	17 13 31.0	+0.4
	34nm,0.4s						
COLF	Collangettes	2.53	291	Pn	Pn	17 13 32.4	+0.5
PGF	Pioggiola	2.53	145	ePn	Pn	17 13 30.9	-1.0
	SNR=1.0						
PGF				eSn	Sn	17 14 00.6	-2.3
	44nm,0.2s,SNR=1.0						
PGF	Pioggiola	2.53	145	ePn	Pn	17 13 30.9	-1.0
	SNR=1.0						
PGF				eSn	Sn	17 14 00.6	-2.3
	22nm,0.2s,SNR=1.0						
PLDF	La Plantade	2.76	300	Pn	Pn	17 13 35.7	+0.7
LBL	Lubilhac	2.76	284	Pn	Pn	17 13 36.0	+0.9
MAGA	Magasa	2.77	65	Pg	Pn	17 13 34.2	-1.0
	130nm,0.6s						
CORF	Corte	2.80	146	Pn	Pn	17 13 35.1	-0.6
BBS	Basel-Blauen	2.83	6	Pn	Pn	17 13 37.8	+1.7
SMF	Signal de Mont	3.01	313	ePn	Pn	17 13 39.4	+0.9
	SNR=1.0						
SMF				eSn	Sn	17 14 13.7	-0.9
	SNR=1.0						
SMF				eSg	Sg	17 14 26.1	-1.2
	38nm,0.3s,SNR=1.0						
SMF	Signal de Mont	3.01	313	ePn	Pn	17 13 39.4	+0.9
	SNR=1.0						
SMF				eSn	Sn	17 14 13.7	-0.9
	SNR=1.0						
SMF				eSg	Sg	17 14 26.1	-1.2
	19nm,0.3s,SNR=1.0						
PYM	Petit Puy Mans	3.06	292	Pn	Pn	17 13 39.7	+0.5
AGO	Saint Agoulin	3.10	298	Pn	Pn	17 13 41.0	+1.3
HINF	Hinteralfeld	3.17	358	ePn	Pn	17 13 40.9	+0.2
	SNR=1.0						
HINF				eSn	Sn	17 14 17.1	-1.5
	SNR=1.0						
HINF				eSg	Sg	17 14 31.6	-0.9
	27nm,0.4s,SNR=1.0						
HINF	Hinteralfeld	3.17	358	ePn	Pn	17 13 40.9	+0.2
	SNR=1.0						
HINF				eSn	Sn	17 14 17.1	-1.5
	SNR=1.0						
HINF				eSg	Sg	17 14 31.6	-0.9
	13nm,0.4s,SNR=1.0						
DAVA	Damuels	3.29	36⇑	iPn	Pn	17 13 44.3	+1.9
DAVA			⇑	iSn	Sn	17 14 23.3	+1.7
FELD	Feldberg im Sc	3.29	11	Pn	Pn	17 13 43.1	+0.7
AVF	Avril sur Loir	3.36	311	ePn	Pn	17 13 44.4	+1.1
	SNR=1.0						
AVF				eSg	Sg	17 14 38.3	-0.3
	30nm,0.4s						
AVF	Avril sur Loir	3.36	311	ePn	Pn	17 13 44.4	+1.1
	SNR=1.0						
AVF				eSg	Sg	17 14 38.3	-0.3
	15nm,0.4s						
HAU	Haudompre	3.39	352	ePn	Pn	17 13 44.4	+0.7
	SNR=1.0						
HAU				eSn	Sn	17 14 22.6	-1.5
	SNR=1.0						
HAU				eSg	Sg	17 14 39.5	-0.1
	31nm,0.3s						
HAU	Haudompre	3.39	352	ePn	Pn	17 13 44.4	+0.7
	SNR=1.0						
HAU				eSn	Sn	17 14 22.6	-1.5
	SNR=1.0						
HAU				eSg	Sg	17 14 39.5	-0.1
	16nm,0.3s						
VERF	Verneugheol	3.41	290	Pn	Pn	17 13 45.1	+1.1
LOR	Lormes	3.44	321	ePn	Pn	17 13 45.9	+1.5
	baz=142,SNR=1.0						
LOR				eSn	Sn	17 14 23.9	-1.3
	baz=136,SNR=1.0						
LOR				eSg	Sg	17 14 40.3	-0.8
	31nm,0.4s,baz=143,SNR=1.0						
LOR	Lormes	3.44	321	ePn	Pn	17 13 45.9	+1.5
	SNR=1.0						
LOR				eSn	Sn	17 14 23.9	-1.3
	SNR=1.0						
LOR				eSg	Sg	17 14 40.3	-0.8
	15nm,0.4s,SNR=1.0						
SSF	Saint Saulge	3.46	315	ePn	Pn	17 13 46.4	+1.8
	SNR=1.0						
SSF				eSn	Sn	17 14 24.4	-1.3
	SNR=1.0						
SSF				eSg	Sg	17 14 40.9	-0.8
	33nm,0.4s,SNR=1.0						
SSF	Saint Saulge	3.46	315	ePn	Pn	17 13 46.4	+1.8
	SNR=1.0						
SSF				eSn	Sn	17 14 24.4	-1.3
	SNR=1.0						
SSF				eSg	Sg	17 14 40.9	-0.8
	17nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	3.51	304	ePg	Pg	17 13 55.0	-3.0
	SNR=1.0						
BGF				eSg	Sg	17 14 43.2	-0.3
	62nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	3.51	304	ePg	Pg	17 13 55.0	-3.0
	SNR=1.0						
BGF				eSg	Sg	17 14 43.2	-0.3
	31nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	3.51	304	ePn	Pn	17 13 46.9	+1.5
BGF				ePg	Pg	17 13 55.0	-3.0
BGF				eSg	Sg	17 14 43.2	-0.3
CAF	Calviac	3.56	276	ePg	Pg	17 13 58.0	-0.9
	SNR=1.0						
CAF				eSg	Sg	17 14 43.7	-1.3
	23nm,0.6s,SNR=1.0						
CAF	Calviac	3.56	276	ePg	Pg	17 13 58.0	-0.9
	SNR=1.0						
CAF				eSg	Sg	17 14 43.7	-1.3
	11nm,0.6s,SNR=1.0						
CAF	Calviac	3.56	276	ePn	Pn	17 13 46.9	+0.8
CAF				ePg	Pg	17 13 58.0	-0.9
CAF				eSg	Sg	17 14 43.7	-1.3
ECH	Echery	3.57	1	ePn	Pn	17 13 45.4	-0.8
ECH	Echery	3.57	1	ePn	Pn	17 13 45.4	-0.7
THEF	They Montfort	3.65	349	Pn	Pn	17 13 48.5	+1.2
MTLF	Montolieu	3.73	251	ePn	Pn	17 13 48.4	+0.1
	SNR=1.0						
MTLF				eSn	Sn	17 14 29.6	-2.7
	9.0nm,0.4s,SNR=1.0						
MTLF	Montolieu	3.73	251	ePn	Pn	17 13 48.4	+0.1
	SNR=1.0						
MTLF				eSn	Sn	17 14 29.6	-2.7
	4.5nm,0.4s,SNR=1.0						
EJON	La Jonquera	3.74	235	Pn	Pn	17 13 51.4	+2.9
	0.3nm,0.1s,SNR=4.0						
EJON				Sn	Sn	17 14 31.1	-1.6
	2.8nm,0.2s,SNR=4.0						
EJON	La Jonquera	3.74	235	Pn	Pn	17 13 51.4	+2.9
EJON				Sn	Sn	17 14 31.1	-1.6
EJON				Lg		17 14 50.9	
CDF	Champ du Feu	3.77	2	ePn	Pn	17 13 49.4	+0.5
	SNR=1.0						
CDF				eSn	Sn	17 14 31.6	-1.7
	SNR=1.0						
CDF				eSg	Sg	17 14 50.7	-0.9
	25nm,0.6s						
CDF	Champ du Feu	3.77	2	ePn	Pn	17 13 49.4	+0.5
	SNR=1.0						
CDF				eSn	Sn	17 14 31.6	-1.7
	SNR=1.0						
CDF				eSg	Sg	17 14 50.7	-0.9
	13nm,0.6s						
TCF	Toulx Ste Croi	3.78	297	ePn	Pn	17 13 49.9	+0.8
	SNR=1.0						
TCF				eSn	Sn	17 14 32.1	-1.5
	SNR=1.0						
TCF				eSg	Sg	17 14 51.0	-1.0
	18nm,0.5s						
TCF	Toulx Ste Croi	3.78	297	ePn	Pn	17 13 49.9	+0.8
	SNR=1.0						
TCF				eSn	Sn	17 14 32.1	-1.5
	SNR=1.0						
TCF				eSg	Sg	17 14 51.0	-1.0
	9.2nm,0.5s						
BFO	Black Forest	3.79	13	ePn	Pn	17 13 50.3	+1.1
BFO	Black Forest	3.79	13	ePn	Pn	17 13 50.3	+1.2
SFTF	Sexfontaines	3.82	339	ePn	Pn	17 13 50.5	+0.9
	baz=155						
SFTF	Sexfontaines	3.82	339	ePg	Pg	17 14 02.9	-0.9
	baz=152						
SFTF				eSn	Sn	17 14 32.6	-2.0
	baz=155						
SFTF				eSg	Sg	17 14 52.2	-1.1
	120nm,0.8s,baz=158						
SFTF	Sexfontaines	3.82	339	ePg	Pg	17 14 02.9	-0.9
SFTF				eSn	Sn	17 14 32.6	-2.0
SFTF				eSg	Sg	17 14 52.2	-1.1
	60nm,0.8s						
SFTF	Sexfontaines	3.82	339	ePn	Pn	17 13 50.5	+0.9
SFTF				ePg	Pg	17 14 02.9	-0.9
SFTF				eSn	Sn	17 14 32.6	-2.0
SFTF				eSg	Sg	17 14 52.2	-1.1
MOTA	Moosalm	3.90	45⇓	iPn	Pn	17 13 51.9	+1.1
RJF	Les Rejaudoux	3.98	281	ePn	Pn	17 13 52.9	+1.1
	SNR=1.0						
HYF	Humbligny	4.04	312	eSg	Sg	17 14 59.5	-0.9
MEZF	Maizieres J'vi	4.09	341	ePn	Pn	17 13 54.4	+1.0
	baz=156						
MEZF	Maizieres J'vi	4.09	341	ePg	Pg	17 14 07.8	-1.3
	baz=159						
MEZF				eSn	Sn	17 14 39.4	-1.9
	baz=168,SNR=1.0						
MEZF				eSg	Sg	17 15 01.2	-0.9
	45nm,0.5s,baz=161,SNR=1.0						
MEZF	Maizieres J'vi	4.09	341	ePg	Pg	17 14 07.8	-1.3
MEZF				eSn	Sn	17 14 39.4	-1.9
	SNR=1.0						
MEZF				eSg	Sg	17 15 01.2	-0.9
	22nm,0.5s,SNR=1.0						
MEZF	Maizieres J'vi	4.09	341	ePn	Pn	17 13 54.4	+1.0
MEZF				ePg	Pg	17 14 07.8	-1.3
MEZF				eSn	Sn	17 14 39.4	-1.9
MEZF				eSg	Sg	17 15 01.2	-0.9
RFYF	Reffroy	4.13	345	ePg	Pg	17 14 08.0	-1.7
RFYF				eSn	Sn	17 14 40.0	-2.2
	baz=164						
RFYF				eSg	Sg	17 15 02.5	-0.6
	23nm,0.3s						
RFYF	Reffroy	4.13	345	ePg	Pg	17 14 08.0	-1.7
RFYF				eSn	Sn	17 14 40.0	-2.2
RFYF				eSg	Sg	17 15 02.5	-0.6
	12nm,0.3s						
RFYF	Reffroy	4.13	345	ePn	Pn	17 13 54.5	+0.7
RFYF				ePg	Pg	17 14 08.0	-1.7
RFYF				eSn	Sn	17 14 40.0	-2.2
RFYF				eSg	Sg	17 15 02.5	-0.6
WTTA	Wattenberg	4.13	49⇓	iPn	Pn	17 13 55.6	+1.7
WTTA	Wattenberg	4.13	49⇓	iPn	Pn	17 13 55.5	+1.6
LFF	La Frestale	4.50	276	ePn	Pn	17 13 59.5	+0.5
	SNR=1.0						
LFF				eSg	Sg	17 15 14.8	-0.4
	28nm,0.6s,SNR=1.0						
LFF	La Frestale	4.50	276	ePn	Pn	17 13 59.5	+0.5
	SNR=1.0						
LFF				eSg	Sg	17 15 14.8	-0.4
	14nm,0.6s,SNR=1.0						
EMIR	Miracle	4.87	238	Pn	Pn	17 14 07.8	+3.7
	SNR=4.0						
EMIR				Sn	Sn	17 15 05.0	+4.4
	SNR=4.0						
EMIR	Miracle	4.87	238	Pn	Pn	17 14 07.8	+3.7
EMIR				Sn	Sn	17 15 05.0	+4.4
KBA	Koelnbreinsper	5.02	59⇓	iPn	Pn	17 14 07.0	+0.9
EPF	Esparros	5.12	254	ePn	Pn	17 14 11.0	+3.6
EPF				eSn	Sn	17 15 04.2	-2.4
	7.4nm,0.6s,SNR=1.0						
EPF	Esparros	5.12	254	ePn	Pn	17 14 11.0	+3.6
EPF				eSn	Sn	17 15 04.2	-2.4
	3.7nm,0.6s,SNR=1.0						
EBIE	Bielsa	5.38	251	Pn	Pn	17 14 13.8	+2.7
	0.9nm,0.2s,SNR=7.5						
EBIE				Sn	Sn	17 15 14.4	+1.3
	0.9nm,0.3s,SNR=7.9						
EBIE	Bielsa	5.38	251	Pn	Pn	17 14 13.8	+2.7
EBIE				Sn	Sn	17 15 14.4	+1.3
MFF	Saint Martin d	5.41	294	ePn	Pn	17 14 12.9	+1.4
	SNR=1.0						
EPOB	Poblet	5.48	235	Pn	Pn	17 14 20.0	+7.6
EPOB				Sn	Sn	17 15 20.2	+4.7
GIVF	Givet	5.66	345	eP	Pn	17 14 18.1	+3.2
	SNR=1.0						
GIVF				eSg	Sg	17 15 49.7	-2.6
	6.4nm,0.3s						
GIVF	Givet	5.66	345	eP	Pn	17 14 18.1	+3.2
	SNR=1.0						
GIVF				eSg	Sg	17 15 49.7	-2.6
	3.2nm,0.3s						
BAIF	Baives	5.75	341	eP	Pn	17 14 19.7	+3.6
ETSF	Etsaut	5.78	255	eP	Pn	17 14 20.7	+4.1
	SNR=1.0						
ETSF				eSn	Sn	17 15 19.9	-3.1
	6.1nm,0.5s						
ETOS	Mallorca	5.80	214	Pn	Pn	17 14 20.6	+3.7
ETOS				Sn	Sn	17 15 27.2	+3.7
ERTA	Horta de San J	6.17	236	Pn	Pn	17 14 24.3	+2.4
	0.7nm,0.2s,SNR=4.0						
SJPF	Ste Jean	6.17	258	ePn	Pn	17 14 22.0	0.0
EORO	Oroz-Betelu	6.30	257	Pn	Pn	17 14 25.2	+1.5
	5.4nm,0.8s,SNR=4.8						
LDF	La Druitiere	6.32	311	ePn	Pn	17 14 24.6	+0.6
	SNR=1.0						
KHC	Kasperske Hory	6.33	43	ePn	Pn	17 14 25.0	+0.9
KHC				eSn	Sn	17 15 35.6	-0.9
FLN	La Foliniere	6.61	311	ePn	Pn	17 14 28.5	+0.5
	baz=127						
GRR	Gorron	6.61	307	ePn	Pn	17 14 28.6	+0.6
	SNR=1.0						
DPC	Dobruska-Polom	8.48	44	ePN	Pn	17 14 53.3	-0.2
DPC				eSN	Sn	17 16 26.9	-2.3
EARI	Arriondas	8.95	266	Pn	Pn	17 14 58.9	-1.1
EARI				Sn	Sn	17 16 35.5	-5.3

*NEIC **20** 17:16:27.0, 1600N×6309W, h32km, MD3.9(TRN), After TRN.*

TRN 20 17:16:27.5, 1625N×6206W, h175km, MD3.7, M4.0(FDF), **M4.2**(FDF), **4C-1D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZG	Guadaloupe-1	0.29	112	eP	Pn	17 16 52.5	+1.5
SCG	Saint Claude	0.42	122	eP	Pn	17 16 52.7	+1.3
TBG	Guadaloupe-3	0.56	135⇓	iP	Pn	17 16 53.0	+1.0
MGG	Marie-Galante	0.78	115⇑	iP	Pn	17 16 54.5	+1.3
BPA	Boggy Peak	0.81	13⇑	iP	Pn	17 16 55.2	+1.8
BPA				eS	Sn	17 17 13.7	+0.3
SFG	Saint Francois	0.82	90	eP	Pn	17 16 54.8	+1.3
DEG	La Desirade	0.96	86⇑	eP	Pn	17 16 55.4	+1.0
DEG			⇑	eS	Sn	17 17 15.6	+0.6
FDF	Fort de France	1.74	150	eP	Pn	17 17 01.7	+0.2
FDF				eS	Sn	17 17 33.4	+5.6
FDF	Fort de France	1.74	150	eP	Pn	17 17 01.2	-0.3
STMA	St. Maarten, A	2.05	331	eP	Pn	17 17 16.1	+11
STMA				eS	Sn	17 17 33.5	-0.2
SLW	Petit Monier	2.47	154	eP	Pn	17 17 09.7	+0.1
SLB	Belfond	2.60	158	eP	Pn	17 17 12.9	+1.8
SLB				eS	Sn	17 17 44.9	-0.1
SLB	Belfond	2.60	158	eP	Pn	17 17 12.9	+1.8
SLB				eS	Sn	17 17 47.5	+2.6
SSV	Crater Summit	3.02	164	eP	Pn	17 17 17.2	+1.0
SSV				eS	Sn	17 17 53.7	-0.5
SVV	Soufriere Volc	3.03	164	eP	Pn	17 17 17.2	+0.9
SVV				eS	Sn	17 17 54.0	-0.2
SVV	Soufriere Volc	3.03	164	eP	Pn	17 17 17.2	+0.9
SVV				eS	Sn	17 17 55.2	+1.0

*ISCJB **20** 17:23:40.1±0.3, 4462N±001×700E±003, h15km±2km, Error ellipse: s-maj=3.2km s-min=2.1km az=153.2*
*LDG **20** 17:23:40.9±0.1, 4464N×704E, h3km, Md2.4/1, Ml2.3/9, Error ellipse: s-maj=1.7km s-min=0.9km az=66.0*
*ROM **20** 17:23:40.2±0.2, 4463N×704E, h10km, Md1.7/3, Ml1.7/3, Error ellipse: s-maj=3.5km s-min=1.6km az=64.0*
*NEIC **20** 17:23:40.2, 4463N×704E, h10km, ML1.7(ROM), ML2.3(LDG), ML2.5(GEN), After ROM.*
*STR **20** 17:23:41.1±0.1, 4463N×702E, h5km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 20 17:23:40.5±0.3, **4463N**±001×**704E**±003, **h16**km±2km, **n34**, σ0°**45**/66, **1C, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	San Damiano	0.20	130⇑	iPg	Pg	17 23 45.3	+0.1
DOI				Sg	Sg	17 23 48.5	+0.2
OG22	Abries	0.20	341	Pg	Pg	17 23 45.5	+0.2
OG22				Sg	Sg	17 23 48.7	+0.1
MBDF	Montbardon	0.21	297	ePg	Pg	17 23 45.5	+0.1
MBDF				eSg	Sg	17 23 48.7	-0.1
	236nm,0.2s						
SURF	Saint Ours	0.22	227	Pg	Pg	17 23 45.6	+0.1
SURF				Sg	Sg	17 23 48.7	-0.3
BHB	Bricherasio	0.27	37	P	Pg	17 23 46.6	+0.3
BHB				S	Sg	17 23 50.3	0.0
RRL	Rocca Remolon	0.34	328	P	Pg	17 23 47.8	+0.2
RRL				S	Sg	17 23 52.5	+0.1
STV	Sant Anna di V	0.44	152	Pg	Pg	17 23 49.4	+0.1
STV				Sg	Sg	17 23 55.1	-0.1
	130nm,0.2s						
STV	Sant Anna di V	0.44	152	P	Pg	17 23 49.4	+0.1
STV				S	Sg	17 23 55.0	-0.2
BNI	Bardonecchia	0.49	329	Pg	Pg	17 23 50.6	+0.2
BNI				Sg	Sg	17 23 57.1	+0.1
	19nm,0.4s						
RSP	Reno Superiore	0.54	17	P	Pg	17 23 51.6	+0.3
TOUF	Mont Tournerai	0.64	166	Pg	Pg	17 23 53.4	+0.4
ROB	Robourent	0.69	119	P	Pg	17 23 53.8	-0.1
ROB				S	Sg	17 24 02.6	-0.4
AUTN	L'Aution	0.69	156	Pg	Pg	17 23 54.2	+0.1
AUTN				Sg	Sg	17 24 03.2	-0.1
MVIF	Mont Vial	0.74	174	Pg	Pg	17 23 55.3	+0.4
MVIF				Sg	Sg	17 24 05.3	+0.6
SAOF	Saorge	0.74	150	Pg	Pg	17 23 55.3	+0.3
SAOF				Sg	Sg	17 24 03.9	-0.9
LUCF	Luceram	0.77	163	Pg	Pg	17 23 55.6	+0.1
LUCF				Sg	Sg	17 24 06.4	+0.7
SBF	Sospel	0.82	159	ePg	Pg	17 23 56.3	-0.1
	SNR=1.0						
SBF				eSg	Sg	17 24 07.0	-0.2
	16nm,0.2s						
LSD	Lago del Serru	0.83	6	P	Pb	17 23 56.7	+0.1
LSD				S	Sb	17 24 07.2	-0.3
ORIF	Oris-en-Rattie	0.87	290	ePg	Pg	17 23 57.1	-0.4
ORIF				eSg	Sg	17 24 09.0	+0.1
	7.1nm,0.2s						
LPG	La Plagne	0.89	347	ePg	Pg	17 23 57.8	0.0
	SNR=1.0						
LPG				eSg	Sg	17 24 09.0	-0.5
	9.7nm,0.3s						
RORO	Rocca Rossa	0.90	125	P	Pb	17 23 58.0	+0.2
LPL	La Plagne	0.91	346	ePg	Pg	17 23 58.1	-0.1
LPL				eSg	Sg	17 24 10.4	+0.2
	11nm,0.3s						
FIN	Finale Ligure	0.94	116	P	Pb	17 23 58.0	-0.4
PCP	Piancastagn	1.08	94	P	Pb	17 24 00.7	-0.1
PCP				S	Sb	17 24 14.5	-0.1
FRF	La Foret Royal	1.11	195	ePg	Pg	17 24 01.5	-0.4
FRF				eSg	Sg	17 24 15.7	-0.6
	12nm,0.2s						
SMRF	Simiane la Rot	1.24	239	ePg	Pg	17 24 04.4	0.0
SMRF				eSg	Sg	17 24 20.5	0.0
	3.9nm,0.2s						
LMR	La Mourre	1.35	197	ePg

Error ellipse: s-maj=4.0km s-min=1.6km az=62.0
*STR **20** 17:24:42.6±0.2, 4463N×704E, h5km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **20** 17:24:42.4±0.1, 4463N×704E, h10km, ML2.6/11, Error ellipse: s-maj=1.2km s-min=0.7km az=66.0*
*LDG **20** 17:24:42.5±0.1, 4463N×705E, h3km, Md2.5/1, Ml2.7/10, Error ellipse: s-maj=1.5km s-min=0.7km az=64.0*
*GEN **20** 17:24:42.6, 4462N×703E, h10km, ML2.0*

ISC 20 17:24:42.0±0.2, 4463N±001×703E±003, h17km±2km, n54, σ0°56/102, 1C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.20**	**130⇑**	*i* Pg	**Pg**	**17 24 46.9**	**+0.1**
DOI				Sg	**Sg**	**17 24 50.1**	**0.0**
OG22	**Abries**	**0.20**	**342**	Pg	**Pg**	**17 24 47.1**	**+0.2**
OG22				Sg	**Sg**	**17 24 50.2**	**-0.1**
MBDF	**Montbardon**	**0.21**	**297**	*e*Pg	**Pg**	**17 24 47.1**	**+0.1**
MBDF				*e*Sg	**Sg**	**17 24 50.3**	**-0.2**
	697nm,0.2s						
MBDF	**Montbardon**	**0.21**	**297**	*e*Pg	**Pg**	**17 24 47.1**	**+0.1**
MBDF				*e*Sg	**Sg**	**17 24 50.3**	**-0.2**
	349nm,0.2s						
SURF	**Saint Ours**	**0.22**	**227**	Pg	**Pg**	**17 24 46.9**	**-0.2**
SURF				Sg	**Sg**	**17 24 50.3**	**-0.3**
BHB	**Bricherasio**	**0.27**	**38**	P	**Pg**	**17 24 48.2**	**+0.2**
BHB	**Bricherasio**	**0.27**	**38**	P	**Pg**	**17 24 48.2**	**+0.2**
BHB				S	**Sg**	**17 24 51.9**	**-0.1**
RRL	**Rocca Remolon**	**0.34**	**329**	P	**Pg**	**17 24 49.4**	**+0.2**
RRL	**Rocca Remolon**	**0.34**	**329**	P	**Pg**	**17 24 49.4**	**+0.2**
RRL				S	**Sg**	**17 24 54.6**	**+0.5**
STV	**Sant Anna di V**	**0.44**	**152**	Pg	**Pg**	**17 24 50.9**	**0.0**
STV				Sg	**Sg**	**17 24 56.7**	**-0.2**
	130nm,0.2s						
STV	**Sant Anna di V**	**0.44**	**152**	P	**Pg**	**17 24 51.0**	**0.0**
STV				S	**Sg**	**17 24 56.6**	**-0.3**
BNI	**Bardonecchia**	**0.49**	**329**	Pg	**Pg**	**17 24 52.1**	**+0.2**
BNI				Sg	**Sg**	**17 24 58.8**	**+0.2**
	46nm,0.4s						
RSP	**Reno Superiore**	**0.55**	**17**	P	**Pg**	**17 24 53.3**	**+0.4**
RSP				S	**Sg**	**17 25 00.5**	**+0.3**
RSP	**Reno Superiore**	**0.55**	**17**	P	**Pg**	**17 24 53.3**	**+0.4**
RSP				S	**Sg**	**17 25 00.5**	**+0.2**
TOUF	**Mont Tournerai**	**0.64**	**166**	Pg	**Pg**	**17 24 54.8**	**+0.2**
TOUF				Sg	**Sg**	**17 25 03.5**	**+0.5**
ROB	**Robourent**	**0.69**	**119**	P	**Pb**	**17 24 55.3**	**-0.2**
ROB	**Robourent**	**0.69**	**119**	P	**Pb**	**17 24 55.3**	**-0.2**
AUTN	**L'Aution**	**0.69**	**156**	Pg	**Pg**	**17 24 55.9**	**+0.2**
AUTN				Sg	**Sg**	**17 25 04.6**	**-0.3**
MVIF	**Mont Vial**	**0.74**	**173**	Pg	**Pg**	**17 24 56.9**	**+0.4**
MVIF				Sg	**Sg**	**17 25 06.9**	**+0.6**
SAOF	**Saorge**	**0.74**	**150**	Pg	**Pg**	**17 24 56.6**	**0.0**
SAOF				Sg	**Sg**	**17 25 05.9**	**-0.6**
LUCF	**Luceram**	**0.77**	**163**	Pg	**Pg**	**17 24 57.3**	**+0.2**
LUCF				Sg	**Sg**	**17 25 07.7**	**+0.4**
SBF	**Sospel**	**0.82**	**159**	*e*Pg	**Pg**	**17 24 58.1**	**+0.1**
SBF				*e*Sg	**Sg**	**17 25 08.4**	**-0.4**
	41nm,0.2s						
SBF	**Sospel**	**0.82**	**159**	*e*Pg	**Pg**	**17 24 58.1**	**+0.1**
SBF				*e*Sg	**Sg**	**17 25 08.4**	**-0.4**
	20nm,0.2s						
LSD	**Lago del Serru**	**0.83**	**6**	Pg	**Pg**	**17 24 58.5**	**+0.2**
LSD				P		17 24 58.6	
LSD				S	**Sb**	**17 25 09.0**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.87**	**290**	*e*Pg	**Pg**	**17 24 58.7**	**-0.3**
ORIF				*e*Sg	**Sg**	**17 25 11.0**	**+0.5**
	18nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.87**	**290**	*e*Pg	**Pg**	**17 24 58.7**	**-0.3**
ORIF				*e*Sg	**Sg**	**17 25 11.0**	**+0.5**
	9.1nm,0.2s						
CALN	**Calern**	**0.88**	**187**	Pg	**Pg**	**17 25 00.6**	**+1.4**
LPG	**La Plagne**	**0.89**	**347**	*e*Pg	**Pg**	**17 24 59.3**	**-0.1**
LPG				*e*Sg	**Sg**	**17 25 10.7**	**-0.4**
	33nm,0.4s						
LPG	**La Plagne**	**0.89**	**347**	*e*Pg	**Pg**	**17 24 59.3**	**-0.1**
LPG				*e*Sg	**Sg**	**17 25 10.7**	**-0.4**
	17nm,0.4s						
RORO	**Rocca Rossa**	**0.90**	**125**	P	**Pb**	**17 24 59.1**	**-0.1**
RORO	**Rocca Rossa**	**0.90**	**125**	P	**Pb**	**17 24 59.1**	**-0.1**
LPL	**La Plagne**	**0.91**	**347**	*e*Pg	**Pg**	**17 24 59.7**	**-0.1**
LPL				*e*Sg	**Sg**	**17 25 11.9**	**+0.1**
	30nm,0.3s						
LPL	**La Plagne**	**0.91**	**347**	*e*Pg	**Pg**	**17 24 59.7**	**-0.1**
LPL				*e*Sg	**Sg**	**17 25 11.9**	**+0.1**
	15nm,0.3s						
NEGI	**Seborga**	**0.92**	**148**	P	**Pb**	**17 24 59.2**	**-0.3**
FIN	**Finale Ligure**	**0.94**	**116**	P	**Pb**	**17 24 59.6**	**-0.2**
FIN				S	**Sb**	**17 25 11.4**	**-0.6**
FIN	**Finale Ligure**	**0.94**	**116**	P	**Pb**	**17 24 59.6**	**-0.3**
FIN				S	**Sb**	**17 25 11.4**	**-0.6**
PCP	**Piancastagn**	**1.08**	**94**	P	**Pb**	**17 25 02.3**	**0.0**
PCP				S	**Sb**	**17 25 16.1**	**0.0**
PCP	**Piancastagn**	**1.08**	**94**	P	**Pb**	**17 25 02.3**	**+0.1**
GRN	**Grenoble**	**1.10**	**304**	Pg	**Pg**	**17 25 03.5**	**+0.2**
FRF	**La Foret Royal**	**1.10**	**195**	*e*Pg	**Pg**	**17 25 03.2**	**-0.2**
FRF				*e*Sg	**Sg**	**17 25 17.3**	**-0.6**
	27nm,0.2s						
FRF	**La Foret Royal**	**1.10**	**195**	*e*Pg	**Pg**	**17 25 03.2**	**-0.2**
FRF				*e*Sg	**Sg**	**17 25 17.3**	**-0.6**
	14nm,0.2s						
SMRF	**Simiane la Rot**	**1.23**	**239**	*e*Pg	**Pg**	**17 25 06.1**	**+0.2**
SMRF				*e*Sg	**Sg**	**17 25 22.0**	**0.0**
	14nm,0.3s						
SMRF	**Simiane la Rot**	**1.23**	**239**	*e*Pg	**Pg**	**17 25 06.1**	**+0.2**
SMRF				*e*Sg	**Sg**	**17 25 22.0**	**0.0**
	6.9nm,0.3s						
LMR	**La Mourre**	**1.35**	**196**	*e*Pg	**Pg**	**17 25 07.4**	**-0.7**
LMR				*e*Sg	**Sg**	**17 25 25.3**	**-0.4**
	32nm,0.3s						
LMR	**La Mourre**	**1.35**	**196**	*e*Pg	**Pg**	**17 25 07.4**	**-0.7**
LMR				*e*Sg	**Sg**	**17 25 25.3**	**-0.4**
	16nm,0.3s						
VIVF	**Saint-Julien-l**	**1.70**	**278**	*e*Pg	**Pg**	**17 25 14.5**	**-0.2**
VIVF				*e*Sn	**Sn**	**17 25 32.5**	**+0.4**
VIVF				*e*Sg	**Sg**	**17 25 36.4**	**-0.3**
	8.0nm,0.3s						
VIVF	**Saint-Julien-l**	**1.70**	**278**	*e*Pg	**Pg**	**17 25 14.5**	**-0.2**
VIVF				*e*Sn	**Sn**	**17 25 32.5**	**+0.4**
VIVF				*e*Sg	**Sg**	**17 25 36.4**	**-0.3**
	4.0nm,0.3s						
VIVF	**Saint-Julien-l**	**1.70**	**278**	*e*Pn	**Pn**	**17 25 12.3**	**+1.5**
VIVF				*e*Pg	**Pg**	**17 25 14.5**	**-0.2**
VIVF				*e*Sn	**Sn**	**17 25 32.5**	**+0.4**
VIVF				*e*Sg	**Sg**	**17 25 36.4**	**-0.3**
CABF	**La Chapelle**	**2.09**	**342**	*e*Pg	**Pg**	**17 25 20.3**	**-1.8**
CABF				*e*Sg	**Sg**	**17 25 48.0**	**-1.2**
	1.6nm,0.2s						
CABF	**La Chapelle**	**2.09**	**342**	*e*Pg	**Pg**	**17 25 20.3**	**-1.8**
CABF				*e*Sg	**Sg**	**17 25 48.0**	**-1.2**
	0.8nm,0.2s						
LASF	**Ste Croix**	**2.34**	**257**	*e*Pn	**Pn**	**17 25 20.3**	**+0.6**
LASF				*e*Sn	**Sn**	**17 25 46.7**	**-1.4**
	2.8nm,0.2s						
LASF	**Ste Croix**	**2.34**	**257**	*e*Pn	**Pn**	**17 25 20.3**	**+0.6**
LASF				*e*Sn	**Sn**	**17 25 46.7**	**-1.4**
	1.4nm,0.2s						
PGF	**Pioggiola**	**2.52**	**145**	*e*Pn	**Pn**	**17 25 24.1**	**+1.9**
PGF				*e*Sn	**Sn**	**17 25 51.8**	**-0.7**
	3.5nm,0.3s						
PGF	**Pioggiola**	**2.52**	**145**	*e*Pn	**Pn**	**17 25 24.1**	**+1.9**
PGF				*e*Sn	**Sn**	**17 25 51.8**	**-0.7**
	1.8nm,0.3s						

IDC 20 17:24:46.5±1.5, 585N×12707E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=161.7km s-min=19.3km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.61**	**165**	P	P	17 30 26.6	-0.2
	0.9nm,0.3s,baz=344,slow=9.9,SNR=18						
WB2	**Warramunga Arr**	**26.61**	**165**	*e*P	P	17 30 26.7	-0.1
ASAR	**Alice Springs**	**30.08**	**167**	P	P	17 30 58.3	+0.5
	0.7nm,0.5s,baz=353,slow=7.2,SNR=28						
ASAR				PcP	PcP	17 33 59.8	-0.1
	0.3nm,0.5s,baz=5.3,slow=1.7,SNR=10						
STKA	**Stephens Creek**	**39.99**	**161**	P	P	17 32 22.8	-0.3
	0.7nm,0.5s,baz=349,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**56.03**	**324**	P	P	17 34 27.8	+0.7
	0.2nm,0.3s,baz=126,slow=8.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**58.87**	**332**	P	P	17 34 46.4	-0.7

0.5nm,0.3s,baz=119,slow=5.1,SNR=3.5

MAN 20 17:57:01, 711N×12583E, h55km, mb3.9, ML2.7, MS2.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.32**	**266⇓**	*i* P	Pn	17 57 12.6	+1.8
DMPH				*i* S	Sn	17 57 21.2	+3.4
MATI	**Mati**	**0.46**	**110**	*e*P	Pn	17 57 14.4	+2.3
MATI				*e*S	Sn	17 57 23.5	+3.4
BUKP	**Musuan**	**1.08**	**315**	*e*P	Pn	17 57 20.7	+0.8

*ISCJB **20** 18:00:15.7±0.2, 4462N±001×700E±002, h14km±2km, Error ellipse: s-maj=3.1km s-min=2.0km az=159.6*
*LDG **20** 18:00:16.4±0.1, 4464N×705E, h3km, Md2.4/1, Ml2.3/9, Error ellipse: s-maj=2.0km s-min=1.1km az=63.0*
*STR **20** 18:00:16.6±0.2, 4463N×706E, h5km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ROM **20** 18:00:16.1±0.2, 4463N×704E, h10km, Md1.8/6, Ml1.8/4, Error ellipse: s-maj=3.3km s-min=1.3km az=68.0*
*NEIC **20** 18:00:16.1, 4463N×704E, h10km, ML1.8(ROM), ML2.3(STR), ML2.3(LDG), ML2.6(GEN), After ROM.*

ISC 20 18:00:16.1±0.3, 4463N±001×703E±003, h17km±3km, n35, σ0°52/71, 1C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.20**	**129⇑**	*i* Pg	**Pg**	**18 00 21.1**	**+0.2**
DOI				Sg	**Sg**	**18 00 24.3**	**+0.1**
	557nm,0.3s						
OG22	**Abries**	**0.20**	**342**	Pg	**Pg**	**18 00 21.2**	**+0.2**
OG22				Sg	**Sg**	**18 00 24.4**	**+0.1**
MBDF	**Montbardon**	**0.21**	**298**	*e*Pg	**Pg**	**18 00 21.3**	**+0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**18 00 24.3**	**-0.2**
	243nm,0.2s						
SURF	**Saint Ours**	**0.22**	**226**	Pg	**Pg**	**18 00 21.0**	**-0.2**
SURF				Sg	**Sg**	**18 00 24.6**	**0.0**
BHB	**Bricherasio**	**0.27**	**38**	P	**Pg**	**18 00 22.4**	**+0.4**
BHB				S	**Sg**	**18 00 26.0**	**0.0**
RRL	**Rocca Remolon**	**0.34**	**329**	P	**Pg**	**18 00 23.6**	**+0.4**
RRL				S	**Sg**	**18 00 28.4**	**+0.4**
STV	**Sant Anna di V**	**0.44**	**151**	Pg	**Pg**	**18 00 25.1**	**+0.1**
STV				Sg	**Sg**	**18 00 30.9**	**-0.1**
STV	**Sant Anna di V**	**0.44**	**151**	P	**Pg**	**18 00 25.2**	**+0.2**
STV				S	**Sg**	**18 00 30.9**	**-0.1**
BNI	**Bardonecchia**	**0.49**	**329**	Pg	**Pg**	**18 00 26.3**	**+0.4**
BNI				Sg	**Sg**	**18 00 32.9**	**+0.3**
	25nm,0.5s						
BNI	**Bardonecchia**	**0.49**	**329**	*e*P	**Pg**	**18 00 26.1**	**+0.1**
BNI				Pg	**Pg**	**18 00 26.3**	**+0.4**
BNI				Sg	**Sg**	**18 00 32.9**	**+0.3**
RSP	**Reno Superiore**	**0.55**	**17**	Pg	**Pg**	**18 00 27.3**	**+0.4**
RSP				Sg	**Sg**	**18 00 34.4**	**+0.1**
RSP	**Reno Superiore**	**0.55**	**17**	P	**Pg**	**18 00 27.4**	**+0.4**
RSP				S	**Sg**	**18 00 34.4**	**+0.1**
TOUF	**Mont Tournerai**	**0.64**	**166**	Pg	**Pg**	**18 00 29.0**	**+0.4**
ROB	**Robourent**	**0.69**	**119**	P	**Pb**	**18 00 29.6**	**0.0**
ROB				S	**Sg**	**18 00 38.2**	**-0.6**
AUTN	**L'Aution**	**0.70**	**156**	Pg	**Pg**	**18 00 29.9**	**+0.2**
AUTN				Sg	**Sg**	**18 00 38.8**	**-0.2**
MVIF	**Mont Vial**	**0.74**	**173**	Pg	**Pg**	**18 00 30.9**	**+0.4**
MVIF				Sg	**Sg**	**18 00 41.5**	**+1.2**
SAOF	**Saorge**	**0.75**	**149**	Pg	**Pg**	**18 00 30.1**	**-0.6**
SAOF				Sg	**Sg**	**18 00 39.8**	**-0.7**
LUCF	**Luceram**	**0.77**	**163**	Pg	**Pg**	**18 00 31.5**	**+0.4**
LUCF				Sg	**Sg**	**18 00 42.0**	**+0.6**
SBF	**Sospel**	**0.82**	**159**	*e*Pg	**Pg**	**18 00 31.8**	**-0.3**
SBF				*e*Sg	**Sg**	**18 00 42.6**	**-0.3**
	33nm,0.3s,SNR=1.0						
LSD	**Lago del Serru**	**0.83**	**6**	Pg	**Pg**	**18 00 32.5**	**+0.2**
LSD				Sg	**Sg**	**18 00 43.3**	**0.0**
	18nm,0.2s						
LSD	**Lago del Serru**	**0.83**	**6**	P	**Pb**	**18 00 32.5**	**+0.4**
LSD				S	**Sb**	**18 00 43.1**	**+0.2**
LSD				Sg	**Sg**	**18 00 43.3**	**0.0**
ORIF	**Oris-en-Rattie**	**0.87**	**290**	*e*Pg	**Pg**	**18 00 32.6**	**-0.4**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**18 00 44.3**	**-0.1**
	12nm,0.3s,SNR=1.0						
CALN	**Calern**	**0.88**	**187**	Pg	**Pg**	**18 00 34.1**	**+0.8**
LPG	**La Plagne**	**0.89**	**347**	*e*Pg	**Pg**	**18 00 33.3**	**-0.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**18 00 44.6**	**-0.5**
	12nm,0.3s,SNR=1.0						
RORO	**Rocca Rossa**	**0.91**	**125**	P	**Pb**	**18 00 33.9**	**+0.6**
RORO				S	**Sb**	**18 00 45.2**	**+0.2**
LPL	**La Plagne**	**0.91**	**347**	*e*Pg	**Pg**	**18 00 33.7**	**-0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**18 00 45.8**	**0.0**
	15nm,0.3s,SNR=1.0						
FIN	**Finale Ligure**	**0.94**	**116**	P	**Pb**	**18 00 33.8**	**-0.1**
FIN				S	**Sb**	**18 00 45.2**	**-0.9**
PCP	**Piancastagn**	**1.09**	**94**	P	**Pb**	**18 00 36.4**	**+0.1**
FRF	**La Foret Royal**	**1.10**	**195**	*e*Pg	**Pg**	**18 00 37.0**	**-0.4**
FRF				*e*Sg	**Sg**	**18 00 51.2**	**-0.7**
	14nm,0.2s						
SMRF	**Simiane la Rot**	**1.23**	**238**	*e*Pg	**Pg**	**18 00 39.8**	**-0.1**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**18 00 56.1**	**+0.1**
	6.3nm,0.3s						
LMR	**La Mourre**	**1.35**	**196**	*e*Pg	**Pg**	**18 00 41.4**	**-0.7**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**18 00 59.5**	**-0.2**
	12nm,0.2s						
VIVF	**Saint-Julien-l**	**1.69**	**278**	*e*Pg	**Pg**	**18 00 48.6**	**-0.1**
VIVF				*e*Sn	**Sn**	**18 01 06.7**	**+0.6**
VIVF				*e*Sg	**Sg**	**18 01 10.5**	**-0.2**
	1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**1.69**	**278**	*e*P	**Pn**	**18 00 46.5**	**+1.7**
VIVF				*e*Pg	**Pg**	**18 00 48.6**	**-0.1**
VIVF				*e*Sn	**Sn**	**18 01 06.7**	**+0.6**
VIVF				*e*Sg	**Sg**	**18 01 10.5**	**-0.2**
CABF	**La Chapelle**	**2.09**	**342**	*e*Pg	**Pg**	**18 00 54.5**	**-1.7**
CABF				*e*Sg	**Sg**	**18 01 22.1**	**-1.2**
	2.0nm,0.3s						
LASF	**Ste Croix**	**2.34**	**257**	*e*Sn	**Sn**	**18 01 21.0**	**-1.0**
	1.2nm,0.3s						

*ATH **20** 18:16:13.8, 3771N×2570E, h10km, MD3.2/3, ML3.4*
*CSEM **20** 18:16:17.7±0.1, 3868N×2522E, h12km, ML3.4, Error ellipse: s-maj=2.3km s-min=1.6km az=3.0*
*ISCJB **20** 18:16:17.9±0.5, 3868N±004×2517E±003, h21km±7km, Error ellipse: s-maj=5.9km s-min=4.5km az=3.9*
*DDA **20** 18:16:18.1, 3879N×2523E, h7km±2km, Md3.0*
*ISK **20** 18:16:18.2, 3890N×2539E, h4km, MD3.1*
*THE **20** 18:16:19.0, 3864N×2529E, h25km*

ISC 20 18:16:17.5±0.6, 3871N±003×2516E±003, h15km±5km, n28, σ0°94/40, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.77**	**114**	*e*Pg	**Pg**	**18 16 31.3**	**-1.2**
PRK	**Paraskevi**	**1.02**	**58**	*e*Pg	**Pg**	**18 16 36.3**	**-0.9**
AOS	**Alonnisos**	**1.10**	**295**	*e*Pg	**Pg**	**18 16 39.9**	**+1.1**
AOS				*e*Sg	**Sg**	**18 16 54.8**	**+1.7**
PTL	**Penteli**	**1.21**	**237**	*e*PB	**Pb**	**18 16 41.3**	**+1.1**
LOS	**Limnos**	**1.22**	**357**	*e*Pg	**Pg**	**18 16 41.0**	**-0.1**
LOS				*e*Sg	**Sg**	**18 16 57.0**	**0.0**
BOZC	**Bozcaada**	**1.33**	**31**	*i* P	**Pn**	**18 16 41.7**	**+0.2**
BOZC				*i* S	**Sn**	**18 16 58.6**	**-0.3**
AYVA	**Ayvalik**	**1.33**	**63**	*i* P	**Pn**	**18 16 42.1**	**+0.5**
AYVA				*i* S	**Sn**	**18 16 59.9**	**+0.8**
ATH	**Athens Observa**	**1.35**	**237**	*e*PB	**Pb**	**18 16 43.9**	**+1.3**
KVR	**Kavouri**	**1.41**	**232**	*e*PB	**Pb**	**18 16 42.5**	**-1.0**
BLCB	**Balcova**	**1.51**	**102**	*e*PN	**Pn**	**18 16 45.3**	**+1.2**
BLCB				*e*SN	**Sn**	**18 17 04.8**	**+1.2**
GADA	**Gvkgeada**	**1.58**	**21**	*e*PN	**Pn**	**18 16 44.4**	**-0.8**
SMG	**Samos**	**1.66**	**127**	*e*PN	**Pn**	**18 16 45.9**	**-0.2**
APE	**Apeiranthos**	**1.67**	**170**	*e*Pg	**Pn**	**18 16 44.4**	**-1.8**
APE				*e*Sg	**Sn**	**18 17 03.1**	**-4.2**
APE	**Apeiranthos**	**1.67**	**170**	*e*Pg	**Pn**	**18 16 44.3**	**-1.9**
APE				*e*Sg	**Sn**	**18 17 03.1**	**-4.2**
XOR	**Xorichti**	**1.67**	**294**	*e*Pb	**Pb**	**18 16 47.3**	**-0.6**
XOR				*e*Sb	**Sb**	**18 17 08.3**	**-0.5**
IZM	**Izmir**	**1.68**	**100**	*e*PN	**Pn**	**18 16 47.0**	**+0.7**
KDAG	**Bornova**	**1.68**	**100**	*i* P	**Pb**	**18 16 48.5**	**+0.3**
KDAG				*i* S	**Sg**	**18 17 12.3**	**+0.6**
LKR	**Lokris**	**1.69**	**269**	*e*Pb	**Pb**	**18 16 47.2**	**-1.1**
LKR				*e*Sb	**Sb**	**18 17 08.9**	**-0.5**
LKR	**Lokris**	**1.69**	**269**	*e*Pb	**Pb**	**18 16 47.2**	**-1.2**
LKR				*e*Sb	**Sb**	**18 17 08.9**	**-0.6**
LTK	**Loutraki**	**1.85**	**249**	*e*Pb	**Pb**	**18 16 50.1**	**-1.0**
DID	**Didima**	**1.94**	**232**	*e*Pb	**Pn**	**18 16 49.9**	**0.0**
LPK	**Lapseki**	**2.07**	**36**	*e*PN	**Pn**	**18 16 50.4**	**-1.4**
ENEZ	**Enez**	**2.16**	**20**	*e*PN	**Pn**	**18 16 53.1**	**0.0**
BALY	**Balya**	**2.17**	**61**	*i* P	**Pb**	**18 16 57.1**	**+0.6**
BALY				*i* S	**Sg**	**18 17 26.9**	**-0.4**
AGG	**Agios Georgios**	**2.23**	**279**	*e*Pn	**Pn**	**18 16 55.8**	**+1.8**
RDO	**Rodhopi**	**2.45**	**7**	*e*PN	**Pn**	**18 16 53.4**	**-3.6**
MFT	**Murefte**	**2.64**	**38**	*e*PN	**Pn**	**18 16 59.8**	**+0.2**
KCT	**Karacabey**	**2.92**	**57**	*e*PN	**Pn**	**18 17 02.8**	**-0.6**

*SZGRF **20** 18:19:30.5, 2550S×17150E, h33km, Southeast of Loyalty Islands*
*IDC **20** 18:19:31.5±0.8, 2222S×17467E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.3/17, mbtmp4.2/12, ML3.5/1, MS4.0/12, Ms1 4.0/12, ms1mx3.8/24, Error ellipse: s-maj=25.1km s-min=20.3km az=141.0*
*ISCJB **20** 18:19:40.5±2.6, 2236S±009×17458E±010, h81km±22km, mb4.2/19, Error ellipse: s-maj=17.2km s-min=13.1km az=44.8*
*NEIC **20** 18:19:43.2±1.7, 2245S×17462E, h94km±15km, mb4.7/4, Error ellipse: s-maj=13.3km s-min=10.7km az=205.0*
*BJI **20** 18:19:43.2, 2240S×17460E, h94km, mB5.0, mb4.5*
*MOS **20** 18:19:46.5±2.4, 2104S×17393E, h77km, mb5.0/6, Error ellipse: s-maj=19.3km s-min=15.5km az=23.2*

ISC 20 18:19:42.6±2.1, 2240S±009×17464E±010, h90km±19km, n88, σ0°90/36, mb4.2/19, 2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.60**	**271**	*e*P	**Pn**	**18 21 31.3**	**+0.6**
AFI	**Afiamalu**	**15.41**	**59**	LR	LR	18 27 49.3	
	comp=Z,506nm,21.7s,baz=232,slow=32						
URZ	**Urewera**	**15.95**	**173**	Pn	**Pn**	**18 23 21.2**	**-0.6**
	0.2nm,0.3s,baz=127,slow=5.1,SNR=1.9						
HNR	**Honiara**	**19.10**	**310**	LR	LR	18 29 57.2	
	comp=Z,376nm,20.6s,baz=176,slow=33						
RPZ	**Rata Peaks**	**21.47**	**187**	P	**P**	**18 24 24.3**	**+0.6**
	14nm,0.8s,mb4.4,baz=133,slow=4.8,SNR=3.2						
RAR	**Rarotonga**	**23.78**	**92**	LR	LR	18 31 39.4	
	comp=Z,413nm,18.8s,baz=226,slow=31						
CTA	**Charters Tower**	**26.54**	**270**	P	**P**	**18 25 11.3**	**-0.8**
	2.9nm,0.7s,mb3.9,baz=72,slow=19,SNR=2.7						
CTA				LR	LR	18 34 26.7	
	comp=Z,504nm,21.4s,baz=90,slow=34						
PMG	**Port Moresby**	**29.35**	**292**	*e*P	**P**	**18 25 37.1**	**-0.2**
STKA	**Stephens Creek**	**30.79**	**245**	P	**P**	**18 25 50.3**	**+0.5**
	2.4nm,0.7s,mb4.0,baz=86,slow=16,SNR=3.7						
STKA				LR	LR	18 36 58.7	
	comp=Z,307nm,19.9s,baz=64,slow=34						
PPT	**Papeete**	**33.92**	**88**	*e*S	**S**	**18 31 39.7**	**+4.0**
	78nm,24.8s						
PPT				*e*LR	LR	18 35 12.0	
	894nm,28.8s,baz=250						
PPT	**Papeete**	**33.92**	**88**	LR	LR	18 36 50.6	
	comp=Z,151nm,19.7s,baz=0.2,slow=31						
ASAR	**Alice Springs**	**37.42**	**260**	P	**P**	**18 26 46.9**	**-0.4**
	6.4nm,0.9s,mb4.6,baz=94,slow=9.0,SNR=44						
ASAR				PcP	PcP	18 29 04.5	+0.2
	0.8nm,0.8s,baz=62,slow=2.8,SNR=4.2						
WRA	**Warramunga Arr**	**37.59**	**266**	P	**P**	**18 26 47.1**	**-1.6**
	2.6nm,1.0s,mb4.0,baz=96,slow=8.4,SNR=9.4						
TAOE	**Nuku Hiva Isla**	**45.39**	**80**	*e*LR	LR	18 40 43.1	
	2μm,26.7s						
RKT	**Rikitea**	**46.28**	**101**	*e*LR	LR	18 40 41.3	
	336nm,29.0s						
MBWA	**Marble Bar**	**50.76**	**260**	*e*P	**P**	**18 28 34.6**	**+0.7**
JOW	**Kunigami**	**66.39**	**315**	LR	LR	18 53 44.1	
	comp=Z,55nm,19.1s,baz=118,slow=31						
MJAR	**Matsushiro Arr**	**67.97**	**329**	LR	LR	18 59 41.7	
	comp=Z,62nm,18.5s,baz=135,slow=36						
KSRS	**Korea Array**	**74.00**	**323**	P	**P**	**18 31 08.1**	**-0.4**
	1.5nm,0.8s,mb3.8,baz=120,slow=5.7,SNR=6.2						
YSS	**Yuzh-Sakhalins**	**74.79**	**338**	*e*P	**P**	**18 31 11.9**	**-0.9**
YSS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
PETK	**Petropavlovsk-**	**76.61**	**350**	P	**P**	**18 31 23.1**

CLL ex x 18 39 24.0
BRG Berggiesshubel 147.83 337 ePKPbc PKPbc 18 39 16.3 -0.7
BRG Berggiesshubel 147.83 337 eP PKPdf 18 39 16.9 +2.9
comp=Z,7.0nm,1.3s
NEUB Neuenburg 148.30 339 ePKPbc PKPbc 18 39 18.6 +0.4
PRU Pruhonice 148.32 335 ePKP PKPbc 18 39 18.7 +0.4
MODS Modra-Piesok 148.41 331 ePKP PKPdf 18 39 16.8 +1.8
TREC Trest 148.49 334 ePKP PKPbc 18 39 19.4 +0.6
ZST Bratislava 148.62 331 ePKP PKPdf 18 39 12.3 -3.1
WERD Werda 148.77 338 ePKPbc PKPbc 18 39 19.4 0.0
WERN Wernitzgruen 148.88 338 ePKPbc PKPbc 18 39 19.0 -0.7
NKC Novy Kostel 148.90 338 ePKP PKPbc 18 39 20.3 +0.5
UBBA Unterbreizbach 149.20 341 ePKPbc PKPbc 18 39 20.9 +0.4
MANZ Manzenberg 149.22 338 ePKPbc PKPbc 18 39 20.3 -0.3
ROTZ Rotzenmuhle 149.37 337 ePKPbc PKPbc 18 39 18.2 -2.8
KHC Kasperske Hory 149.39 335 ePKP PKPbc 18 39 21.3 +0.3
GEC2 GERESS Array S 149.57 335 ePKPbc PKPbc 18 39 21.3 -0.2
GERES GERESS Array B 149.57 335 PKPbc PKPbc 18 39 21.8 +0.3
comp=Z,1.6nm,0.7s,baz=52,slow=2.4,SNR=15
WET Wettzell 149.64 336 ePKPbc PKPbc 18 39 21.3 -0.4
GRA1 Grafenberg Arr 149.78 338 ePKPbc PKPbc 18 39 22.5 +0.5
GRF Grafenberg Arr 149.78 338 ePKPbc PKPbc 18 39 22.5 +0.5
SKO Skopje 150.27 317 ePKP PKPbc 18 39 23.7 +0.3
KRUS Krusevo 150.72 316 ||i PKP PKPbc 18 39 24.3 -0.2
OHR Ohrid 151.14 316 ePKP PKPbc 18 39 25.2 -0.3
GIVF Givet 151.21 346 ePKP1 PKPbc 18 39 24.6 -0.8
BFO Black Forest 151.91 340 ePKPbc PKPbc 18 39 26.6 -0.4
CDF Champ du Feu 152.15 342 ePKP1 PKPbc 18 39 26.8 -0.8
comp=Z,26nm,1.2s
HAU Haudompre 152.78 343 ePKP1 PKPbc 18 39 28.0 -1.0
HINF Hinteralfeld 152.81 342 ePKP1 PKPbc 18 39 28.1 -0.9
comp=Z,5.5nm,0.8s
TORD Torodi Ar. Bea 168.61 217 PKPab PKPab 18 40 51.2 +1.4
comp=Z,1.4nm,0.7s,baz=115,slow=3.7,SNR=7.7

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*ISCJB **20** 18:30:17.1±0.2, 835S±004×7425W±005, h157km, mb4.6/62, Error ellipse: s-maj=7.8km s-min=4.3km az=146.7*
*IDC **20** 18:30:18.5±0.4, 833S×7430W, h156km±4km, mb4.2/16, mb1 4.3/23, mb1mx4.2/29, mbtmp4.2/23, Error ellipse: s-maj=11.7km s-min=7.8km az=52.0*
*NEIC **20** 18:30:18.4±0.2, 838S×7418W, mb4.7/49, Error ellipse: s-maj=7.0km s-min=3.8km az=59.0*
ISC 20 18:30:19.1±0.2, 835S±004×7416W±006, h159km, h159km±1.8km:pP-P, n113, σ0.9 77/110, mb4.6/62, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.41**	**287**	P	**Pn**	**18 31 21.8**	**-3.2**
	35nm,0.3s,baz=21,slow=15,SNR=111						
ATAH				S	**Sn**	**18 32 09.1**	**-7.2**
	46nm,0.3s,baz=309,slow=14,SNR=24						
NNA	**Nana**	**4.48**	**216**	P	**Pn**	**18 31 22.9**	**-3.0**
	8.1nm,0.3s,baz=25,slow=8.5,SNR=21						
NNA				S	**Sn**	**18 32 09.6**	**-8.4**
	16nm,0.3s,baz=19,slow=14,SNR=4.3						
OTAV	**Otavalo**	**9.54**	**333**	*e*P	**Pn**	**18 32 33.0**	**0.0**
	12nm,0.5s						
LPAZ	**La Paz**	**9.84**	**144**	P	**Pn**	**18 32 37.5**	**+0.5**
	0.2nm,0.3s,baz=327,slow=13,SNR=19						
LPAZ	**La Paz**	**9.84**	**144**	P	**Pn**	**18 32 37.5**	**+0.5**
ROSC	**El Rosal**	**13.12**	**359**	P	**Pn**	**18 33 18.9**	**-0.7**
	0.9nm,0.3s,baz=319,slow=11,SNR=3.1						
SIV	**San Ignacio**	**14.87**	**122**	P	**Pn**	**18 33 42.1**	**+0.6**
	0.7nm,0.3s,baz=294,slow=11,SNR=25						
SIV				S	**Sn**	**18 36 22.7**	**-4.3**
	0.8nm,0.3s,baz=208,slow=20,SNR=4.3						
LVC	**Limon Verde**	**15.05**	**161**	P	**Pn**	**18 33 43.7**	**-0.2**
	1.4nm,0.3s,baz=332,slow=7.7,SNR=16						
LVC				S	**S**	**18 36 29.8**	**-1.9**
	0.1nm,0.3s,baz=358,slow=5.0,SNR=1.9						
SDV	**Santo Domingo**	**17.48**	**12**	P	**Pn**	**18 34 12.8**	**-0.5**
	10.0nm,0.3s,baz=194,slow=13,SNR=32						
SDV				S	**S**	**18 37 22.2**	**-3.5**
	0.3nm,0.3s,baz=278,slow=22,SNR=2.0						
BCIP	**Isla Barro Col**	**18.30**	**342**	*e*P	**P**	**18 34 21.8**	**+0.7**
	60nm,1.0s						
PCRV	**Puerto La Cruz**	**20.70**	**27**	P	**P**	**18 34 47.6**	**+0.5**
	11nm,0.6s,baz=158,slow=7.7,SNR=4.5						
CFAA	**Coronel Fontan**	**23.79**	**167**	P	**P**	**18 35 17.9**	**+0.7**
	1.5nm,0.7s,mb3.6,baz=343,slow=8.6,SNR=24						
CFAA				pP		18 35 49.9	
	0.8nm,0.8s,baz=358,slow=7.9,SNR=3.5						
BDFB	**Brasilia**	**26.56**	**108**	P	**P**	**18 35 42.1**	**-0.4**
	3.0nm,0.5s,mb4.2,baz=272,slow=15,SNR=6.7						
BDFB				pP	pP	18 36 17.3	+1.8
	7.3nm,0.6s,baz=264,slow=17,SNR=6.7						
SJG	**San Juan**	**27.45**	**17**	P	**P**	**18 35 50.4**	**0.0**
	26nm,0.4s,mb5.2,baz=320,slow=20,SNR=5.0						
TRQA	**Tornquist**	**31.56**	**161**	*e*P	**P**	**18 36 25.8**	**-0.7**
	15nm,1.1s,mb4.6						
TEIG	**Tepich**	**31.61**	**334**	P	**P**	**18 36 26.7**	**-0.4**
	32nm,0.8s,mb5.1,baz=152,slow=12,SNR=9.7						
PLCA	**Paso Flores**	**32.41**	**175**	P	**P**	**18 36 34.1**	**+0.3**
	4.4nm,0.8s,mb4.2,baz=353,slow=12,SNR=7.3						
PLCA				pP	pP	18 37 07.5	0.0
	7.1nm,1.0s,baz=344,slow=11,SNR=4.6						
CMIG	**Matias Romero**	**32.54**	**321**	P	**P**	**18 36 35.6**	**+0.4**
	5.9nm,0.5s,mb4.5,baz=116,slow=6.1,SNR=15						
COW	**Cow Castle Cre**	**41.96**	**352**	P	**P**	**18 37 54.8**	**+0.4**
JSC	**Jenkinsville**	**42.93**	**351**	P	**P**	**18 37 58.6**	**-3.6**
CPCT	**Cooper Cave**	**44.65**	**348**	*e*P	**P**	**18 38 12.5**	**-3.3**
TKL	**Tuckaleechee C**	**44.70**	**349**	*e*P	**P**	**18 38 06.5**	**-10**
SWET	**Sewanee**	**44.73**	**346**	*e*P	**P**	**18 38 15.1**	**-1.5**
PLAL	**Pickwick Lake**	**45.06**	**344**	*e*P	**P**	**18 38 16.6**	**-2.5**
	5.3nm,0.8s,mb4.2						
BLA	**Blacksburg**	**45.70**	**353**	*e*P	**P**	**18 38 24.6**	**+0.4**
	14nm,0.6s,mb4.8						
ELN	**Prospectdale**	**45.76**	**353**	*e*P	**P**	**18 38 25.4**	**+0.8**
JCT	**Junction City**	**45.79**	**329**	*e*P	**P**	**18 38 24.8**	**-0.1**
	17nm,1.0s,mb4.6						
MIAR	**Mount Ida**	**46.45**	**338**	*e*P	**P**	**18 38 29.0**	**-1.1**
	5.0nm,0.6s,mb4.3						
TXAR	**Lajitas Array**	**47.03**	**324**	P	**P**	**18 38 34.8**	**+0.1**
	8.5nm,0.7s,mb4.5,baz=148,slow=8.7,SNR=83						
TXAR				pP	pP	18 39 08.8	-1.5
	3.1nm,0.6s,baz=148,slow=8.5,SNR=5.7						
FVM	**French Village**	**48.53**	**343**	*e*P	**P**	**18 38 44.6**	**-1.5**
	9.3nm,0.6s,mb4.6						
BNM	**Barren Site**	**52.28**	**326**	*e*P	**P**	**18 39 14.5**	**+0.2**
LPM	**Los Pinos Moun**	**52.41**	**326**	*e*P	**P**	**18 39 15.4**	**+0.2**
LAZ	**Ladron**	**52.76**	**326**	*e*P	**P**	**18 39 17.9**	**+0.1**
LAZ				*ep*P	pP	18 39 52.8	-1.4
ANMO	**Albuquerque**	**52.78**	**327**	*e*P	**P**	**18 39 18.0**	**0.0**
	10nm,1.1s,mb4.5						
TUC	**Tucson**	**53.43**	**321**	*e*P	**P**	**18 39 22.6**	**-0.2**
	6.6nm,0.8s,mb4.4						
SDCO	**Great Sand Dun**	**54.41**	**330**	*e*P	**P**	**18 39 30.1**	**+0.3**
	15nm,0.9s,mb4.7						
SDCO				*ep*P	pP	18 40 04.3	-2.1
MVCO	**Mesa Verde**	**55.57**	**327**	*e*P	**P**	**18 39 38.1**	**0.0**
	12nm,1.1s,mb4.7						
ECSD	**EROS,Sioux Fal**	**55.70**	**340**	*e*P	**P**	**18 39 37.2**	**-1.7**
	4.8nm,0.6s,mb4.5						
WUAZ	**Wupatki**	**55.98**	**323**	*e*P	**P**	**18 39 41.4**	**+0.3**
	20nm,1.0s,mb4.9						
PV01	**Paradox Valley**	**56.28**	**328**	*e*P	**P**	**18 39 43.2**	**0.0**
PFO	**Pinyon Flat Ob**	**57.90**	**318**	*e*P	**P**	**18 39 55.5**	**+0.8**
	3.1nm,0.8s,mb4.2						
SRU	**San Rafael**	**58.04**	**327**	*e*P	**P**	**18 39 55.6**	**+0.1**
	14nm,1.5s,mb4.5						
MSU	**Marysvale**	**58.52**	**325**	*e*P	**P**	**18 39 59.1**	**+0.3**
RSSD	**Black Hills**	**58.81**	**335**	*e*P	**P**	**18 40 00.9**	**+0.2**
	11nm,0.9s,mb4.7						
GSC	**Goldstone**	**59.18**	**320**	*e*P	**P**	**18 40 04.2**	**+0.7**
	3.1nm,0.8s,mb4.2						
DAU	**Daniels Canyon**	**59.37**	**328**	*e*P	**P**	**18 40 04.7**	**0.0**
AGMN	**Agassiz Refuge**	**59.56**	**343**	*e*P	**P**	**18 40 03.6**	**-2.2**
	10nm,0.7s,mb4.8						
AGMN				*ep*P	pP	18 40 41.9	-1.2
TPNV	**Topopah Spring**	**59.87**	**322**	*e*P	**P**	**18 40 08.5**	**+0.3**
	14nm,0.9s,mb4.8						
DUG	**Dugway**	**60.05**	**326**	*e*P	**P**	**18 40 09.9**	**+0.5**
	18nm,0.9s,mb4.9						
PDAR	**Pinedale Array**	**60.24**	**331**	P	**P**	**18 40 10.2**	**-0.4**
	4.6nm,0.7s,mb4.4,baz=140,slow=7.8,SNR=32						
HWUT	**Hardware Ranch**	**60.39**	**328**	*e*P	**P**	**18 40 11.4**	**-0.2**
	16nm,0.7s,mb5.0						
ISA	**Isabella**	**60.47**	**319**	*e*P	**P**	**18 40 12.1**	**-0.2**
	2.9nm,0.7s,mb4.2						
BGU	**Big Grassy Mou**	**60.68**	**327**	*e*P	**P**	**18 40 13.9**	**+0.3**
HVU	**Hansel Valley**	**61.15**	**328**	*e*P	**P**	**18 40 16.7**	**0.0**
	9.9nm,0.9s,mb4.6						
ULM	**Lac du Bonnet**	**61.34**	**344**	P	**P**	**18 40 16.8**	**-1.1**
	9.9nm,0.7s,mb4.8,baz=143,slow=6.7,SNR=8.8						
ULM				pP	pP	18 40 53.6	-1.7
	18nm,0.9s,baz=141,slow=7.9,SNR=8.4						
LOHW	**Long Hollow**	**61.38**	**331**	*e*P	**P**	**18 40 17.8**	**-0.4**
	9.6nm,0.7s,mb4.7						
TPAW	**Teton Pass**	**61.46**	**330**	*e*P	**P**	**18 40 19.0**	**+0.3**
	5.6nm,0.7s,mb4.5						
RRI2	**Red Ridge**	**61.53**	**330**	*e*P	**P**	**18 40 19.6**	**+0.3**
	24nm,0.8s,mb5.1						
MOOW	**Moose Ponds**	**61.55**	**331**	*e*P	**P**	**18 40 19.3**	**0.0**
	5.8nm,0.8s,mb4.5						
MTUM	**Tungsten Hills**	**61.56**	**321**	*e*P	**P**	**18 40 19.9**	**+0.3**
IMW	**Indian Meadow**	**61.75**	**331**	*e*P	**P**	**18 40 20.7**	**0.0**
	13nm,0.8s,mb4.8						
FLWY	**Flagg Ranch**	**61.77**	**331**	*e*P	**P**	**18 40 21.7**	**+0.8**
	29nm,0.8s,mb5.2						
RLMT	**Red Lodge**	**61.88**	**333**	*e*P	**P**	**18 40 21.4**	**-0.1**
	5.6nm,0.6s,mb4.6						
NVAR	**Mina Array Bea**	**62.07**	**322**	P	**P**	**18 40 23.5**	**+0.5**
	3.5nm,0.8s,mb4.3,baz=138,slow=6.9,SNR=21						
NVAR				pP	pP	18 40 58.4	-2.0
	1.5nm,0.7s,baz=137,slow=4.9,SNR=3.5						
YMR	**Madison River**	**62.34**	**331**	*e*P	**P**	**18 40 25.2**	**+0.6**
	17nm,0.7s,mb5.0						
QLMT	**Earthquake Lak**	**62.68**	**331**	*e*P	**P**	**18 40 28.3**	**+1.5**
SCHQ	**Schefferville**	**63.24**	**5**	P	**P**	**18 40 30.4**	**+0.1**
	16nm,0.8s,mb4.9,baz=208,slow=5.1,SNR=15						
SCHQ				pP	pP	18 41 06.3	-1.7
	8.6nm,0.9s,baz=184,slow=1.8,SNR=3.4						
HLID	**Hailey**	**63.26**	**328**	*e*P	**P**	**18 40 30.9**	**+0.2**
	13nm,1.1s,mb4.7						
BOZ	**Bozeman (W)**	**63.38**	**331**	*e*P	**P**	**18 40 31.2**	**-0.2**
	8.6nm,0.7s,mb4.7						
LCCM	**Lewis and Clar**	**63.64**	**331**	P	**P**	**18 40 33.5**	**+0.3**
MSO	**Missoula**	**65.34**	**331**	*e*P	**P**	**18 40 44.6**	**+0.4**
	25nm,1.0s,mb5.0						
MOD	**Modoc**	**65.43**	**324**	*e*P	**P**	**18 40 45.0**	**+0.1**
	6.2nm,0.6s,mb4.6						
BMO	**Blue Mountains**	**65.66**	**328**	*e*P	**P**	**18 40 45.9**	**-0.4**
	2.6nm,0.6s,mb4.2						
KIPM	**Iron Peak**	**66.12**	**320**	*e*P	**P**	**18 40 50.1**	**+0.8**
YBH	**Yreka Blue Hor**	**66.76**	**322**	*e*P	**P**	**18 40 51.9**	**-1.5**
	4.4nm,0.8s,mb4.3						
LNOR	**Lincton Mounta**	**66.85**	**328**	*e*P	**P**	**18 40 53.8**	**0.0**
WALA	**Waterton Lakes**	**66.94**	**333**	*e*P	**P**	**18 40 54.2**	**-0.1**
	11nm,0.8s,mb4.8						
VIPM	**Ingram Point**	**67.24**	**326**	P	**P**	**18 40 57.2**	**+0.9**
NEW	**Newport**	**67.88**	**331**	*e*P	**P**	**18 41 00.1**	**-0.2**
	9.6nm,0.9s,mb4.5						
OD2	**Odessa Site #2**	**68.08**	**329**	P	**P**	**18 41 02.2**	**+0.7**
WTV	**Waterville**	**68.92**	**329**	P	**P**	**18 41 07.5**	**+0.7**
ETW	**Entiat**	**69.05**	**328**	*e*P	**P**	**18 41 08.4**	**+0.8**
ETW				*ep*P	pP	18 41 47.6	+1.8
LON	**Longmire**	**69.29**	**327**	*e*P	**P**	**18 41 08.7**	**-0.4**
	5.2nm,0.8s,mb4.3						
EDM	**Edmonton**	**69.76**	**336**	*e*P	**P**	**18 41 11.2**	**-0.6**
BMW	**Boistfort Moun**	**69.89**	**326**	*e*P	**P**	**18 41 13.3**	**+0.5**
RPW	**Rockport**	**70.20**	**329**	*e*P	**P**	**18 41 14.1**	**-0.4**
RPW				*ep*P	pP	18 41 52.4	-0.6
LIC	**Lamto**	**70.43**	**80**	*e*P	**P**	**18 41 16.4**	**-0.3**
	54nm,1.3s,mb5.1						
TIC	**Toumodi**	**70.52**	**80**	*e*P	**P**	**18 41 17.0**	**-0.2**
	49nm,0.8s,mb5.3						
DBIC	**Dimbokro**	**70.68**	**80**	P	**P**	**18 41 18.4**	**+0.1**
	14nm,0.6s,mb4.8,baz=242,slow=5.1,SNR=27						
KIC	**Kosan Boka**	**70.73**	**80**	*e*P	**P**	**18 41 18.2**	**-0.4**
	70nm,0.7s,mb5.5						
NLWA	**Neilton Lookou**	**70.80**	**327**	*e*P	**P**	**18 41 19.3**	**+1.1**
	16nm,0.8s,mb4.8						
PGC	**Sidney**	**71.34**	**328**	*e*P	**P**	**18 41 22.0**	**+0.5**
	38nm,1.1s,mb5.0						
VNA3	**Neumayer Olymp**	**74.08**	**162**	*e*	**P**	**18 41 38.0**	**+0.7**
VNA3				*e*		18 41 51.4	
VNA3				*e*	pP	18 42 18.1	+2.1
VNA1	**Neumayer--Stat**	**74.29**	**162**	*e*	**P**	**18 41 40.0**	**+1.5**
VNA1				*e*		18 41 53.5	
VNA1				*e*	pP	18 42 19.9	+2.6
VNA2	**Neumayer--Watz**	**74.66**	**162**	*e*	**P**	**18 41 41.2**	**+0.6**
VNA2				*e*		18 41 54.6	
VNA2				*e*	pP	18 42 21.5	+2.0
SNAA	**Sanae**	**76.28**	**162**	*e*	**P**	**18 41 50.2**	**+0.3**
SNAA				*e*		18 42 04.3	
SNAA				*e*	pP	18 42 29.7	+0.8
SNAA	**Sanae**	**76.28**	**162**	*e*P	**P**	**18 41 50.3**	**+0.5**
	19nm,1.4s,mb4.5						
SNAA				*ep*P	pP	18 42 29.7	+0.9
YKA	**Yellowknife Ar**	**77.18**	**342**	P	**P**	**18 41 54.3**	**-0.6**
	3.6nm,0.5s,mb4.2,baz=142,slow=5.8,SNR=31						
YKA				pP	pP	18 42 33.5	-0.5
	1.8nm,0.5s,baz=142,slow=5.9,SNR=6.6						
YKA	**Yellowknife Ar**	**77.18**	**342**	P	**P**	**18 41 54.4**	**-0.6**
YKA				pP	pP	18 42 33.5	-0.5
TOA0	**Torodi Ar. Sit**	**78.28**	**75**	*e*P	**P**	**18 42 01.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**78.28**	**75**	P	**P**	**18 42 01.9**	**-0.2**
	7.6nm,0.7s,mb4.5,baz=285,slow=5.6,SNR=40						
ESDC	**Sonseca Array**	**80.38**	**47**	P	**P**	**18 42 13.1**	**+0.2**
	0.3nm,0.3s,mb3.4,baz=253,slow=5.1,SNR=5.6						
TAM	**Tamanrasset**	**83.80**	**66**	*e*P	**P**	**18 42 32.5**	**+1.3**
EGAK	**Eagle**	**87.97**	**337**	*e*P	**P**	**18 42 50.7**	**0.0**
	7.3nm,0.9s,mb4.5						
EGAK				*ep*P	pP	18 43 28.5	-2.2
DIV	**Divide**	**88.55**	**333**	*e*P	**P**	**18 42 53.5**	**0.0**
	7.3nm,0.8s,mb4.7						
ZALV	**Zalesovo Beam**	**131.48**	**16**	PKP	PKPdf	18 49 11.1	-1.5
	0.4nm,0.4s,baz=294,slow=4.6,SNR=2.9						
ZALV				pPKP	pPKPdf	18 49 54.7	+0.1
	2.4nm,0.8s,baz=318,slow=2.0,SNR=4.9						
ZALV	**Zalesovo Beam**	**131.48**	**16**	PKP	PKPdf	18 49 11.1	-1.5
ZALV				pPKP	pPKPdf	18 49 54.7	+0.1
MKAR	**Makanchi Array**	**136.72**	**24**	PKP	PKPdf	18 49 20.2	-2.5
	0.2nm,0.4s,baz=128,slow=42,SNR=3.2						
MKAR				pPKP	pPKPdf	18 50 04.0	-0.7
	0.9nm,0.9s,baz=1.9,slow=3.6,SNR=3.5						
ASAR	**Alice Springs**	**138.00**	**220**	PKP	PKPdf	18 49 24.8	-1.0
	1.0nm,1.0s,baz=123,slow=4.6,SNR=5.0						
ASAR				pPKP	pPKPdf	18 50 05.7	-2.1
	0.6nm,0.8s,baz=115,slow=2.4,SNR=2.3						
WRA	**Warramunga Arr**	**140.29**	**225**	PKP	PKPdf	18 49 28.5	-1.5
	0.9nm,0.7s,baz=142,slow=1.4,SNR=5.8						
WRA				pPKP	pPKPdf	18 50 10.9	-1.2
	1.0nm,0.9s,baz=128,slow=2.0,SNR=3.3						
SONM	**Songino Array**	**140.65**	**359**	PKP	PKPdf	18 49 28.5	-1.3
	0.5nm,0.7s,baz=322,slow=1.9,SNR=3.2						
KSRS	**Korea Array**	**144.79**	**329**	PKP	PKPdf	18 49 36.6	-0.9
	4.3nm,0.7s,baz=47,slow=3.8,SNR=18						
KSRS				pPKP	pPKPdf	18 50 16.8	-2.8
	1.5nm,0.7s,baz=34,slow=3.1,SNR=3.2						
CMAR	**Chiang Mai Arr**	**167.92**	**33**	pPKP	pPKPdf	18 50 51.3	+1.6
	0.5nm,0.8s,baz=27,slow=2.2,SNR=3.6						

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*IDC **20** 18:51:36.0±1.4, 161N×12708E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/16, mbtmp3.9/6, ML4.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/25, Error ellipse: s-maj=73.7km s-min=17.8km az=68.0*
*NEIC **20** 18:51:48.2±3.8, 148N×12700E, h105km±38km, mb4.3/5, Error ellipse: s-maj=31.7km s-min=13.0km az=66.0*
*ISCJB **20** 18:51:49.9±1.2, 15N×01.1×1270E±0.2, h142km±16km, mb4.1/9, Error ellipse: s-maj=38.4km s-min=9.3km az=158.6*
ISC 20 18:51:50.3±1.1, 150N±010×1271E±02, h130km±14km, n21, σ0.9 67/20, mb4.1/9, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**5.48**	**351**	*e*P	**Pn**	**18 53 09.6**	**-0.3**
DAV	**Davao City (W)**	**5.75**	**344**	LR	LR	18 55 27.0	
	comp=Z,73nm,21.1s,baz=64,slow=41						
BUKP	**Musuan**	**6.67**	**342**	*e*P	**Pn**	**18 53 26.9**	**+1.0**
IPIL	**Ipil**	**7.73**	**324**	||*i*P	**Pn**	**18 53 39.6**	**-0.6**
IPIL				*i* S	**Sn**	**18 54 58.2**	**-8.0**
IPIL	**Ipil**	**7.73**	**324**	||*e*P	**Sn**	**18 55 00.7**	**-5.5**
KAKA	**Kakadu**	**15.07**	**160**	*e*P	**Pn**	**18 55 17.6**	**+1.0**
	8.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.53**	**184**	*e*P	**P**	**18 56 07.9**	**+0.2**
	2.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.53**	**184**	P	**P**	**18 56 08.2**	**+0.5**
	0.5nm,0.3s,baz=6.8,slow=9.8,SNR=17						
WRAB	**Tennant Creek**	**22.44**	**162**	*e*P	**P**	**18 56 38.0**	**-0.8**
	16nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**22.45**	**162**	P	**P**	**18 56 38.1**	**-0.7**
	7.0nm,0.4s,mb4.5,baz=339,slow=11,SNR=82						
WB2	**Warramunga Arr**	**22.45**	**162**	*e*P	**P**	**18 56 38.1**	**-0.8**
ASAR	**Alice Springs**	**25.86**	**166**	P	**P**	**18 57 09.8**	**-0.2**
	1.6nm,0.4s,mb4.0,baz=347,slow=8.0,SNR=78						
CMAR	**Chiang Mai Arr**	**32.38**	**303**	P	**P**	**18 58 06.5**	**-1.3**
	0.3nm,0.6s,mb3.2,baz=133,slow=7.7,SNR=4.3						
KLBR	**Kellerberrin**	**34.09**	**194**	*e*P	**P**	**18 58 22.9**	**+0.5**
	36nm,1.3s,mb5.0						
MUN	**Mundaring**	**34.86**	**196**	*e*P	**P**	**18 58 29.7**	**+0.6**
STKA	**Stephens Creek**	**35.91**	**159**	*e*P	**P**	**18 58 38.3**	**+0.2**
	1.2nm,0.3s,mb4.0						
SONM	**Songino Array**	**49.53**	**342**	P	**P**	**19 00 27.8**	**+0.1**
	0.4nm,0.5s,mb3.3,baz=168,slow=7.3,SNR=4.1						
MKAR	**Makanchi Array**	**59.61**	**326**	P	**P**	**19 01 41.2**	**+0.7**
	1.0nm,0.3s,mb4.1,baz=115,slow=7.9,SNR=15						
KBL	**Kabul**	**63.20**	**308**	*e*P	**P**	**19 02 05.5**	**+0.6**
	2.0nm,0.6s,mb4.1						
KURK	**Kurchatov**	**63.83**	**328**	*e*P	**P**	**19 02 08.5**	**-0.2**
PLAL	**Pickwick Lake**	**130.99**	**39**	*e*PKPdf	PKPdf	19 10 50.2	+3.1

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*ISCJB **20** 18:51:49.5±0.4, 1359S±006×7652W±008, h20km, mb4.7/24, MS4.0/5, Error ellipse: s-maj=13.4km s-min=5.9km az=146.4*
*IDC **20** 18:51:49.0±0.7, 1354S×7647W, h0km, mb4.2/11, mb1 4.3/16, mb1mx4.2/22, mbtmp4.2/16, ML4.0/3, MS3.7/9, Ms1 3.7/9, ms1mx3.5/26, Error ellipse: s-maj=28.0km s-min=10.8km az=70.0*
*NEIC **20** 18:51:54.3±0.4, 1354S×7644W, h35km, mb4.7/5, Error ellipse: s-maj=16.2km s-min=8.0km az=61.0*
ISC 20 18:51:51.5±0.4, 1357S±006×7649W±009, h20km, h20km±2.6km:pP-P, n60, σ1.9 35/52, mb4.7/24, MS4.0/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.61**	**348**	Pg	**Pn**	**18 52 16.7**	**-2.2**
	260nm,0.3s,baz=178,slow=13,SNR=388						
NNA				Lg		18 52 38.1	
	2μm,0.3s,baz=195,slow=9.1,SNR=34						
NNA				LR	LR	18 52 48.4	
	comp=Z,572nm,20.6s,baz=154,slow=37						
ARE	**Arequipa**	**5.62**	**121**	*e*P	**Pn**	**18 53 18.0**	**+4.1**
ARE				*e*S	**Sn**	**18 54 20.0**	**+2.1**
ATAH	**Atahualpa**	**6.79**	**344**	Pn	**Pn**	**18 53 30.3**	**+0.2**
	15nm,0.3s,baz=139,slow=2.7,SNR=28						
ATAH				Lg		18 55 16.7	
	7.1nm,0.3s,baz=292,slow=23,SNR=3.8						
ATAH				LR	LR	18 56 37.5	
	comp=Z,730nm,18.4s,baz=189,slow=43						
LPAZ	**La Paz**	**8.52**	**110**	Pn	**Pn**	**18 53 59.4**	**+5.6**
	1.9nm,0.3s,baz=296,slow=13,SNR=58						
LPAZ				LR	LR	18 56 52.4	
	comp=Z,80nm,19.4s,baz=276,slow=36						
LVC	**Limon Verde**	**11.52**	**142**	Pn	**Pn**	**18 54 35.7**	**+0.8**
	3.6nm,0.3s,baz=310,slow=10,SNR=16						
LVC				Sn	**Sn**	**18 56 40.5**	**-2.5**
	1.7nm,0.3s,baz=75,slow=18,SNR=5.2						
LVC				LR	LR	18 58 34.4	
	comp=Z,615nm,19.7s,baz=78,slow=35						
OTAV	**Otavalo**	**13.86**	**352**	*e*P	**Pn**	**18 55 03.9**	**-3.0**
	24nm,1.0s						
SIV	**San Ignacio**	**15.10**	**101**	Pn	**Pn**	**18 55 25.2**	**+1.4**
	0.5nm,0.3s,baz=279,slow=12,SNR=13						
SIV				Lg		19 00 03.3	
	0.3nm,0.3s,baz=245,slow=21,SNR=2.2						
ROSC	**El Rosal**	**18.43**	**7**	P	**Pn**	**18 56 07.5**	**+1.6**
	1.0nm,0.3s,baz=80,slow=23,SNR=2.2						
**CF

0.7nm,0.3s,baz=270,slow=1.5,SNR=6.8
MKAR Makanchi Array 142.39 24 PKP PKPdf 19 11 24.9 +2.0
0.3nm,0.2s,baz=338,slow=1.6,SNR=3.4
SONM Songino Array 145.75 357 PKPbc PKPbc 19 11 29.5 +0.4
2.3nm,0.6s,baz=334,slow=2.4,SNR=12
KSRS Korea Array 147.77 322 PKPbc PKPbc 19 11 33.8 -1.5
0.7nm,0.6s,baz=21,slow=4.3,SNR=5.6

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*ISCJB **20** 18:52:22.7±0.5, 3974N±002×2389E±003, h9km±4km, Error ellipse: s-maj=4.5km s-min=3.6km az=26.1*
*ATH **20** 18:52:23.0, 3975N×2385E, h27km, MD3.7/10, ML3.5*
*THE **20** 18:52:24.1, 3976N×2384E, h9km, ML3.8*
*NEIC **20** 18:52:24.1, 3976N×2384E, h10km, ML3.5(ATH), ML3.8(THE), After THE.*
*CSEM **20** 18:52:24.0±0.1, 3975N×2387E, h20km, ML3.8, Error ellipse: s-maj=1.7km s-min=1.2km az=101.0*
*SOF **20** 18:52:25.3, 3998N×2387E, h10km, MD3.2*
ISC 20 18:52:23.2±0.5, 3974N±002×2390E±003, h8km±4km, n63, σ1§06/72, 6C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.25**	**318**	*e*Pg	**Pg**	**18 52 28.6**	**+0.3**
PAIG				*e*Sg	**Sg**	**18 52 32.4**	**+0.6**
PAIG	**Paliouri**	**0.25**	**318**	*e*Pg	**Pg**	**18 52 28.6**	**+0.3**
PAIG				*e*Sg	**Sg**	**18 52 32.4**	**+0.6**
AOS	**Alonnisos**	**0.57**	**182**	*e*Pg	**Pg**	**18 52 35.0**	**+0.8**
OUR	**Ouranopolis**	**0.60**	**6**	*e*Pg	**Pg**	**18 52 35.7**	**+0.9**
XOR	**Xorichti**	**0.66**	**236**	*e*Pg	**Pg**	**18 52 36.1**	**+0.2**
XOR				*e*Sg	**Sg**	**18 52 46.1**	**+1.4**
NEO	**Neokhori**	**0.68**	**231**	*e*PN	**Pn**	**18 52 36.5**	**-2.6**
NEO				*e*SN	**Sg**	**18 52 45.7**	**+0.6**
PLG	**Polygyros**	**0.72**	**331**	*e*Pg	**Pg**	**18 52 36.5**	**-0.7**
LOS	**Limnos**	**0.93**	**77**	*e*Pg	**Pg**	**18 52 42.2**	**+1.1**
HORT	**Hortiatis**	**1.05**	**325**	*e*Pg	**Pg**	**18 52 42.3**	**-1.2**
HORT				*e*Sg	**Sg**	**18 52 57.1**	**-0.1**
LIT	**Litokhoron**	**1.14**	**289**	*e*Pg	**Pg**	**18 52 44.2**	**-1.0**
LIT				*e*Sg	**Sg**	**18 53 00.2**	**+0.1**
THE	**Thessaloniki**	**1.15**	**322**	*e*Pg	**Pg**	**18 52 44.3**	**-0.9**
SOH	**Sokhos**	**1.16**	**339**	*e*Pg	**Pg**	**18 52 44.9**	**-0.6**
SOH				*e*Sg	**Sg**	**18 53 00.8**	**+0.2**
LKR	**Lokris**	**1.29**	**213**	*e*Pg	**Pn**	**18 52 46.5**	**-1.1**
SRS	**Serrai**	**1.40**	**350**	*e*Pg	**Pn**	**18 52 48.5**	**-0.4**
AGG	**Agios Georgios**	**1.41**	**240**	*e*Pg	**Pn**	**18 52 48.2**	**-1.0**
THL	**Klokotos Trika**	**1.47**	**264**	*e*Pg	**Pn**	**18 52 48.7**	**-1.2**
THL	**Klokotos Trika**	**1.47**	**264**	*e*PN	**Pn**	**18 52 49.0**	**-0.9**
GADA	**Gvkgeada**	**1.60**	**73**	*e*PN	**Pn**	**18 52 50.6**	**-1.2**
NVR	**Nevrokopi**	**1.61**	**359**	*e*PN	**Pn**	**18 52 51.5**	**-0.4**
GRG	**Griva**	**1.67**	**317**	*e*Pb	**Pb**	**18 52 53.0**	**-1.3**
PTL	**Pedima**	**1.69**	**181**	*e*PN	**Pn**	**18 52 52.9**	**0.0**
KZN	**Kozani**	**1.73**	**290**	*e*PN	**Pn**	**18 52 53.1**	**-0.5**
ATH	**Athens Observa**	**1.77**	**185**	*e*PN	**Pn**	**18 52 54.0**	**-0.1**
MMB	**Musomiste**	**1.85**	**356**	P	**Pn**	**18 52 54.7**	**-0.5**
EZN	**Ezine**	**1.87**	**87**	*e*PN	**Pn**	**18 52 56.0**	**+0.6**
VAY	**Valandovo**	**1.88**	**328**	*e*Pn	**Pn**	**18 52 56.2**	**+0.6**
VAY	**Valandovo**	**1.88**	**328**	*e*Pn	**Pn**	**18 52 56.1**	**+0.5**
RDO	**Rodhopi**	**1.88**	**41**	*e*PB	**Pn**	**18 52 55.5**	**-0.1**
PRK	**Paraskevi**	**1.90**	**104**	*e*Pb	**Pb**	**18 52 57.0**	**-1.1**
PRK	**Paraskevi**	**1.90**	**104**	*e*PB	**Pn**	**18 52 56.4**	**+0.5**
KVR	**Kavouri**	**1.91**	**183**	*e*PB	**Pn**	**18 52 56.0**	**0.0**
ENEZ	**Enez**	**1.99**	**59**	*e*PN	**Pn**	**18 52 56.0**	**-1.1**
ALN	**Alexandroupoli**	**2.01**	**54**	*e*Pn	**Pn**	**18 52 56.9**	**-0.5**
ALN				*e*Sn	**Sn**	**18 53 24.8**	**+2.1**
ALN	**Alexandroupoli**	**2.01**	**54**	*e*Pn	**Pn**	**18 52 56.8**	**-0.6**
RZN	**Rozhen**	**2.04**	**17**	P	**Pn**	**18 52 58.3**	**+0.4**
FNA	**Florina**	**2.20**	**299**	*e*Pn	**Pn**	**18 53 00.0**	**+0.1**
KKB	**Krupnik**	**2.21**	**344**	P	**Pn**	**18 53 00.1**	**-0.1**
LPK	**Lapseki**	**2.28**	**73**	*e*PN	**Pn**	**18 52 59.7**	**-1.5**
DID	**Didima**	**2.29**	**193**	*e*Pn	**Pn**	**18 53 00.6**	**-0.6**
PLD	**Plovdiv**	**2.44**	**14**	P	**Pn**	**18 53 04.5**	**+1.2**
KRUS	**Krusevo**	**2.59**	**310**	*i* Pn	**Pn**	**18 53 06.9**	**+1.4**
KRUS	**Krusevo**	**2.59**	**310**	*i* Pn	**Pn**	**18 53 06.8**	**+1.4**
DIM	**Dimitrovgrad**	**2.62**	**28**	P	**Pn**	**18 53 14.3**	**+8.5**
VLX	**Vlachokerasia**	**2.65**	**207**	*e*Pn	**Pn**	**18 53 06.2**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.68**	**68**	*e*PN	**Pn**	**18 53 04.9**	**-1.7**
LKD	**Levkas**	**2.73**	**249**	*e*Pn	**Pn**	**18 53 09.1**	**+1.9**
MFT	**Murefte**	**2.79**	**67**	*e*PN	**Pn**	**18 53 07.7**	**-0.4**
PGB	**Panagyurishte**	**2.82**	**4**	P	**Pg**	**18 53 15.8**	**-1.4**
VTS	**Vitosha**	**2.90**	**350**	⇓*i*P	**Pn**	**18 53 10.3**	**+0.7**
VTS				S	**Sn**	**18 53 34.5**	**-10**
VTS	**Vitosha**	**2.90**	**350**	P	**Pn**	**18 53 10.4**	**+0.8**
ITM	**Ithomi**	**2.99**	**212**	P	**Pn**	**18 53 12.8**	**+2.0**
SZH	**Strazhica**	**3.84**	**23**	P	**Pn**	**18 53 23.8**	**+1.2**
GZR	**Gura Zlata**	**5.71**	**352**	⇓*i*P	**Pn**	**18 53 42.1**	**-6.2**
GZR	**Gura Zlata**	**5.71**	**352**	⇓P	**Pn**	**18 53 42.1**	**-6.2**
MLR	**Muntele Rosu**	**5.94**	**14**	⇑*i*P	**Pn**	**18 53 53.7**	**+2.3**
MLR	**Muntele Rosu**	**5.94**	**14**	⇑P	**Pn**	**18 53 53.6**	**+2.2**
PLOR	**Plostina**	**6.43**	**17**	⇓*i*P	**Pn**	**18 54 00.9**	**+2.7**
VRI	**Vrincioaia**	**6.47**	**18**	⇑*i*P	**Pn**	**18 54 01.8**	**+3.2**
VRI	**Vrincioaia**	**6.47**	**18**	⇑P	**Pn**	**18 54 01.8**	**+3.2**
BURAR	**Bucovina Array**	**7.93**	**6**	⇑*i*P	**Pn**	**18 54 14.1**	**-4.6**
BURAR	**Bucovina Array**	**7.93**	**6**	⇑P	**Pn**	**18 54 14.1**	**-4.6**
PSZ	**Piszkesteto**	**8.67**	**342**	⇓*i*P	**Pn**	**18 54 19.4**	**-9.5**
PSZ	**Piszkesteto**	**8.67**	**342**	⇓P	**Pn**	**18 54 19.4**	**-9.4**

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*IDC **20** 19:09:19.7±0.7, 5255N×16386W, h0km, mb4.2/22, mb1 4.4/23, mb1mx4.4/28, mbtmp4.2/23, ML4.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/38, Error ellipse: s-maj=22.5km s-min=11.5km az=3.0*
*MOS **20** 19:09:19.5±1.1, 5258N×16385W, h10km, mb4.7/10, Error ellipse: s-maj=15.2km s-min=9.1km az=98.0*
*BJI **20** 19:09:20.5, 5260N×16380W, h22km, mB4.7, mb4.6, Ms4.2, Msz4.0*
*NEIC **20** 19:09:22.6, 5262N×16376W, h22km, mb4.5/18, ML4.0(AEIC), ML4.4(PMR), After AEIC.*
*ISCJB **20** 19:09:23.8±0.2, 5274N±004×16392W±004, h33km, mb4.3/48, MS3.7/2, Error ellipse: s-maj=6.0km s-min=2.9km az=22.3*
ISC 20 19:09:25.9±0.2, 5275N±004×16395W±004, h35km, (h17km±5.1km:pP-P), n228, σ0§81/230, mb4.3/48, MS3.7/2, 66C-62D, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**1.76**	**323**	P	**Pn**	**19 09 53.0**	**-0.9**
AKA				S	**Sn**	**19 10 17.5**	**+2.5**
AKUT	**Akutan**	**1.76**	**323**	P	**Pn**	**19 09 52.8**	**-1.0**
AKLV	**Akutan Long Va**	**1.85**	**320**	P	**Pn**	**19 09 54.2**	**-0.9**
AKGG	**Akutan Green G**	**1.89**	**321**	P	**Pn**	**19 09 54.9**	**-0.8**
FALS	**False Pass**	**2.13**	**8**	P	**Pn**	**19 09 57.0**	**-1.9**
FALS				S	**Sn**	**19 10 24.8**	**+0.6**
OKCD	**Okmok Cone D**	**2.60**	**287**	P	**Pn**	**19 10 04.0**	**-1.4**
OKCE	**Okmok Cone E**	**2.63**	**287**	P	**Pn**	**19 10 04.8**	**-1.0**
NIKO	**Nikolski**	**2.98**	**276**	P	**Pn**	**19 10 08.6**	**-2.0**
SDPT	**Sand Point**	**3.31**	**37**	P	**Pn**	**19 10 12.7**	**-2.5**
CHGN	**Chignik**	**4.80**	**40**	P	**Pn**	**19 10 33.6**	**-2.0**
SPIA	**Saint Paul Isl**	**5.72**	**323**	P	**Pn**	**19 10 48.4**	**+0.1**
OHAK	**Old Harbor**	**7.59**	**50**	P	**Pn**	**19 11 10.1**	**-3.8**
ADK	**Adak**	**7.85**	**269**	P	**Pn**	**19 11 16.2**	**-1.3**
KDAK	**Kodiak Island**	**8.21**	**48**	Pn	**Pn**	**19 11 19.9**	**-2.5**
	3.0nm,0.3s,baz=251,slow=7.5,SNR=15						
KDAK				Sn	**Sn**	**19 12 47.2**	**-6.6**
	2.7nm,0.3s,baz=303,slow=23,SNR=6.2						
SVW2	**Sparrevohn**	**9.53**	**25**	*e*P	**Pn**	**19 11 40.4**	**+0.1**
PPLA	**Purkeypile**	**11.92**	**27**	*e*P	**Pn**	**19 12 13.9**	**+0.8**
TRF	**Thorofare Moun**	**12.89**	**28**	*e*P	**Pn**	**19 12 21.4**	**-4.9**
BPAW	**Bear Paw Mtn.**	**13.21**	**26**	P	**Pn**	**19 12 31.9**	**+1.2**
	16nm,0.5s						
COLD	**Coldfoot**	**16.00**	**20**	*e*P	**Pn**	**19 13 07.2**	**-0.7**
	7.0nm,0.7s						
HYT	**Haines Junctio**	**16.49**	**50**	*e*P	**Pn**	**19 13 14.5**	**+0.3**
EGAK	**Eagle**	**16.75**	**35**	*e*P	**Pn**	**19 13 14.1**	**-3.3**
	15nm,0.8s						
DAWY	**Dawson**	**17.01**	**39**	*e*P	**Pn**	**19 13 18.5**	**-2.1**
DLBC	**Dease Lake**	**19.84**	**60**	P	**Pn**	**19 13 53.3**	**-1.9**
PETK	**Petropavlovsk-**	**22.94**	**286**	P	**P**	**19 14 26.4**	**-0.3**
	5.8nm,0.6s,mb4.2,baz=81,slow=14,SNR=11						
NLWA	**Neilton Lookou**	**26.02**	**86**	⇑P	**P**	**19 14 56.5**	**+1.1**
	baz=26						
NLWA	**Neilton Lookou**	**26.02**	**86**	*e*P	**P**	**19 14 56.4**	**+1.0**
	11nm,1.0s,mb4.4						
A06A	**Chilliwack**	**26.73**	**81**	⇑P	**P**	**19 15 02.4**	**+0.6**
	baz=26						
A07A	**Ashnola River,**	**27.41**	**80**	P	**P**	**19 15 08.3**	**+0.5**
	baz=27,SNR=11						
YKA	**Yellowknife Ar**	**27.48**	**50**	P	**P**	**19 15 08.1**	**-0.3**
	1.9nm,0.6s,mb3.8,baz=267,slow=7.9,SNR=14						
YKA				PcP	PcP	19 18 25.0	-0.7
	0.7nm,0.6s,baz=274,slow=2.1,SNR=5.4						
B07A	**Winthrop**	**27.82**	**81**	⇓P	**P**	**19 15 11.7**	**+0.2**
	baz=28,SNR=7.8						
A08A	**Turner Farm, O**	**28.11**	**80**	⇑P	**P**	**19 15 14.0**	**-0.2**
	baz=28						
E06A	**Yakima**	**28.17**	**85**	⇓P	**P**	**19 15 14.9**	**+0.2**
	baz=28						
C07A	**Waterville**	**28.19**	**83**	⇓P	**P**	**19 15 15.1**	**+0.2**
	baz=28						
B08A	**Colville Reser**	**28.33**	**81**	P	**P**	**19 15 16.8**	**+0.7**
	baz=28,SNR=7.5						
H04A	**Detroit Lake**	**28.37**	**90**	⇑P	**P**	**19 15 16.7**	**+0.3**
	baz=28						
D07A	**Quincy**	**28.47**	**83**	⇑P	**P**	**19 15 17.7**	**+0.3**
	baz=28						
A09A	**Danville**	**28.51**	**79**	P	**P**	**19 15 18.6**	**+0.8**
	baz=28,SNR=7.0						
G05A	**Wamic**	**28.61**	**88**	⇑P	**P**	**19 15 19.2**	**+0.6**
	baz=28						
I04A	**Tendick Farm,**	**28.71**	**91**	⇓P	**P**	**19 15 19.5**	**0.0**
	baz=28						
C08A	**Higginbotham F**	**28.76**	**82**	⇑P	**P**	**19 15 20.0**	**+0.1**
	baz=29						
B09A	**Rice**	**29.01**	**80**	P	**P**	**19 15 22.9**	**+0.7**
	baz=29,SNR=7.6						
RSW	**Rattlesnake Hi**	**29.08**	**85**	P	**P**	**19 15 19.9**	**-2.9**
A10A	**Northport**	**29.12**	**79**	⇓P	**P**	**19 15 23.4**	**+0.3**
	baz=29						
OD2	**Odessa Site #2**	**29.14**	**82**	*e*P	**P**	**19 15 22.6**	**-0.7**
D08A	**Wollman Farm,**	**29.17**	**83**	⇓P	**P**	**19 15 23.6**	**+0.1**
	baz=29						
C09A	**Chrisman Ranch**	**29.22**	**81**	⇑P	**P**	**19 15 24.0**	**+0.1**
	baz=29						
H06A	**Lindquist Farm**	**29.47**	**88**	⇓P	**P**	**19 15 26.6**	**+0.3**
	baz=29						
D09A	**Jones Farm, Ri**	**29.54**	**83**	⇓P	**P**	**19 15 27.1**	**+0.3**
	baz=29						
YBH	**Yreka Blue Hor**	**29.69**	**95**	P	**P**	**19 15 26.4**	**-1.8**
	1.1nm,0.8s,mb3.7,baz=359,slow=7.7,SNR=2.8						
YBH				LR	LR	19 25 34.3	
	comp=Z,68nm,19.1s,MS3.3,baz=177,slow=33						
NEW	**Newport**	**29.70**	**80**	*e*P	**P**	**19 15 26.7**	**-1.5**
NEW				pmax	pmax		
	comp=Z,14nm,0.6s						
NEW	**Newport**	**29.70**	**80**	*e*P	**P**	**19 15 26.7**	**-1.5**
	comp=Z,14nm,0.6s,mb4.8						
A11A	**Hall Mountain,**	**29.84**	**78**	⇓P	**P**	**19 15 29.9**	**+0.4**
	baz=30						
N02C	**Big Bar**	**29.88**	**97**	⇓P	**P**	**19 15 30.0**	**+0.1**
	baz=30						
E09A	**Wood Farm, Sta**	**29.90**	**83**	⇑P	**P**	**19 15 29.3**	**-0.7**
	baz=30,SNR=5.5						
G08A	**Pilot Rock**	**30.02**	**86**	⇑P	**P**	**19 15 31.3**	**+0.2**
	baz=30						
B11A	**Sandpoint**	**30.07**	**79**	⇑P	**P**	**19 15 31.9**	**+0.4**
	baz=30						
D10A	**Wagner Farm, O**	**30.16**	**82**	⇓P	**P**	**19 15 32.0**	**-0.3**
	baz=30,SNR=7.5						
M04C	**Macdoel**	**30.19**	**94**	⇓P	**P**	**19 15 33.0**	**+0.3**
	baz=30						
K05A	**Summer Lake**	**30.22**	**92**	⇑P	**P**	**19 15 33.6**	**+0.7**
	baz=30						
I07A	**Izee**	**30.32**	**89**	⇓P	**P**	**19 15 33.6**	**-0.2**
	baz=30,SNR=5.1						
J06A	**Christmas Vall**	**30.38**	**90**	⇓P	**P**	**19 15 34.5**	**+0.2**
	baz=30,SNR=5.7						
F09A	**S2 Ranch, Elgi**	**30.44**	**85**	⇓P	**P**	**19 15 35.2**	**+0.3**
	baz=30						
E10A	**Myers Farm, Un**	**30.54**	**83**	⇓P	**P**	**19 15 36.0**	**+0.4**
	baz=30						
K06A	**Valley Falls**	**30.57**	**91**	⇑P	**P**	**19 15 36.7**	**+0.6**
	baz=30						
H08A	**Prairie City**	**30.59**	**87**	⇓P	**P**	**19 15 36.2**	**0.0**
	baz=30						
D11A	**Klaveano Farm,**	**30.73**	**81**	⇑P	**P**	**19 15 36.8**	**-0.6**
	baz=30						
G09A	**Cove**	**30.74**	**85**	⇑P	**P**	**19 15 37.4**	**-0.1**
	baz=30						
I08A	**Drewsey**	**30.98**	**88**	⇑P	**P**	**19 15 40.0**	**+0.4**
	baz=31						
G10A	**Bishop Farm, J**	**31.13**	**85**	⇓P	**P**	**19 15 40.7**	**-0.2**
	baz=31,SNR=8.8						
E11A	**Bonner Ranch,**	**31.14**	**82**	⇓P	**P**	**19 15 40.6**	**-0.4**
	baz=31						
K07A	**Rock Creek Ran**	**31.24**	**91**	⇑P	**P**	**19 15 42.2**	**+0.2**
	baz=31						
BMO	**Blue Mountains**	**31.25**	**86**	*e*P	**P**	**19 15 42.2**	**+0.3**
	comp=Z,9.0nm,1.6s,mb4.3						
D12A	**Red Ives Fores**	**31.32**	**81**	⇓P	**P**	**19 15 42.2**	**-0.4**
	baz=31						
F11A	**Grangeville**	**31.41**	**83**	⇑P	**P**	**19 15 43.4**	**+0.1**
	baz=31						
C13A	**Hot Springs**	**31.49**	**79**	⇑P	**P**	**19 15 44.0**	**-0.1**
	baz=31,SNR=8.5						
G11A	**Walters Elk Ra**	**31.59**	**84**	⇑P	**P**	**19 15 44.5**	**-0.4**
	baz=31,SNR=7.1						
K08A	**Mann Creek Ran**	**31.68**	**90**	⇑P	**P**	**19 15 45.6**	**-0.2**
	baz=32						
H10A	**Noah's Angus R**	**31.72**	**86**	⇑P	**P**	**19 15 45.5**	**-0.6**
	baz=32						
J09A	**Fry Pan Ranch,**	**31.78**	**88**	⇓P	**P**	**19 15 47.0**	**+0.3**
	baz=32						
D13A	**Huson**	**31.84**	**80**	⇓P	**P**	**19 15 46.4**	**-0.7**
	baz=32,SNR=5.3						
C14A	**Swan Lake**	**31.94**	**78**	⇑P	**P**	**19 15 47.5**	**-0.5**
	baz=32						
F12A	**Elk City**	**32.02**	**83**	⇑P	**P**	**19 15 48.3**	**-0.4**
	baz=32,SNR=13						
N06A	**Buffalo Meadow**	**32.02**	**94**	⇓P	**P**	**19 15 48.7**	**0.0**
	baz=32						
K09A	**Rome**	**32.16**	**89**	⇑P	**P**	**19 15 50.2**	**+0.2**
	baz=32						
MSO	**Missoula**	**32.27**	**80**	*e*P	**P**	**19 15 50.6**	**-0.3**
	comp=Z,3.8nm,0.6s,mb4.4						
E13A	**Victor**	**32.32**	**81**	⇓P	**P**	**19 15 50.9**	**-0.4**
	baz=32,SNR=5.3						
O06A	**Flanigan**	**32.38**	**95**	⇓P	**P**	**19 15 52.4**	**+0.4**
	baz=32						
D14A	**Greenough**	**32.41**	**79**	⇑P	**P**	**19 15 51.4**	**-0.8**
	baz=32,SNR=8.5						
M08A	**Happy Creek Ra**	**32.49**	**92**	⇓P	**P**	**19 15 53.4**	**+0.5**
	baz=32						
F13A	**Darby**	**32.56**	**82**	P	**P**	**19 15 53.8**	**+0.3**
	baz=32,SNR=13						
I11A	**Placerville**	**32.56**	**86**	⇓P	**P**	**19 15 53.6**	**+0.1**
	baz=32						
CHMT	**Chamberlain Mo**	**32.64**	**80**	*e*P	**P**	**19 15 53.5**	**-0.7**
H12A	**Diamond D Ranc**	**32.89**	**84**	⇑P	**P**	**19 15 56.2**	**-0.2**
	baz=33						
MFID	**Camas Ranch**	**32.92**	**87**	⇓P	**P**	**19 15 56.6**	**0.0**
	baz=33						
O07A	**Toulon**	**32.96**	**94**	⇑P	**P**	**19 15 57.1**	**+0.1**
	baz=33						
G13A	**Cobalt**	**32.98**	**83**	⇓P	**P**	**19 15 56.8**	**-0.3**
	baz=33,SNR=7.6						
D15A	**Lincoln**	**33.02**	**79**	⇑P	**P**	**19 15 57.1**	**-0.3**
	baz=33,SNR=6.9						
N08A	**GE Springer Mi**	**33.03**	**93**	⇓P	**P**	**19 15 57.9**	**+0.3**
	baz=33						
F14A	**Wisdom**	**33.13**	**81**	⇓P	**P**	**19 15 58.9**	**+0.5**
	baz=33,SNR=6.3						
K11A	**Parker Ranch,**	**33.15**	**88**	⇑P	**P**	**19 15 58.5**	**-0.1**
	baz=33						
H13A	**Challis**	**33.24**	**84**	⇑P	**P**	**19 15 59.2**	**-0.2**
	baz=33,SNR=6.4						
E15A	**Deer Lodge**	**33.25**	**80**	⇓P	**P**	**19 15 59.3**	**-0.2**
	baz=33,SNR=10						
G14A	**Jackson**	**33.37**	**82**	⇑P	**P**	**19 16 00.6**	**+0.1**
	baz=33						
J12A	**Stokes Ranch,**	**33.45**	**87**	⇑P	**P**	**19 16 01.4**	**+0.1**
	baz=33,SNR=5.7						
R06C	**Coleville**	**33.63**	**97**	⇓P	**P**	**19 16 03.2**	**+0.3**
	baz=33						
F15A	**Butte**	**33.64**	**81**	⇑P	**P**	**19 16 02.7**	**-0.2**
	baz=33						
L11A	**Cat Creek Ranc**	**33.67**	**89**	⇑P	**P**	**19 16 03.9**	**+0.7**
	baz=33						
I13A	**Wildhorse Cree**	**33.68**	**85**	⇑P	**P**	**19 16 03.2**	**-0.1**
	baz=34,SNR=10						
HLID	**Hailey**	**33.69**	**86**	⇓P	**P**	**19 16 03.1**	**-0.2**
	baz=34,SNR=5.4						
HLID	**Hailey**	**33.69**	**86**	*e*P	**P**	**19 16 03.8**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.2						
H14A	**Leadore**	**33.75**	**83**	⇑P	**P**	**19 16 03.9**	**0.0**
	baz=34						
HAST	**Hastings Reser**	**33.78**	**102**	⇓P	**P**	**19 16 04.3**	**+0.1**
	baz=34						
S06C	**San Francisco**	**33.81**	**98**	⇑P	**P**	**19 16 04.8**	**+0.4**
	baz=34						
J13A	**Cove Ranch, Pi**	**33.93**	**86**	⇑P	**P**	**19 16 05.4**	**0.0**
	baz=34,SNR=5.8						
MCMT	**McKenzie Canyo**	**33.95**	**83**	*e*P	**P**	**19 16 06.0**	**+0.4**
G15A	**Dillon**	**33.99**	**82**	⇑P	**P**	**19 16 06.1**	**+0.2**
	baz=34						
I14A	**Mackay**	**34.07**	**84**	⇑P	**P**	**19 16 06.5**	**-0.1**
	baz=34						
L12A	**House Creek Ra**	**34.13**	**88**	⇓P	**P**	**19 16 07.3**	**+0.2**
	baz=34,SNR=6.1						
H15A	**Lima**	**34.19**	**83**	⇓P	**P**	**19 16 07.7**	**0.0**
	baz=34						
BOZ	**Bozeman (W)**	**34.26**	**81**	*e*P	**P**	**19 16 08.0**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BOZ	**Bozeman (W)**	**34.26**	**81**	⇓P	**P**	**19 16 08.1**	**-0.1**
	baz=34						
BOZ	**Bozeman (W)**	**34.26**	**81**	*e*P	**P**	**19 16 08.0**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.3						
J14A	**Carey**	**34.37**	**85**	⇓P	**P**	**19 16 09.7**	**+0.5**
	baz=34						
NVAR	**Mina Array Bea**	**34.39**	**96**	P	**P**	**19 16 07.5**	**-1.9**
	comp=Z,1.8nm,0.8s,mb4.1,baz=297,slow=9.0,SNR=8.4						
K13A	**Stover Farm, H**	**34.40**	**87**	⇑P	**P**	**19 16 10.2**	**+0.7**
	baz=34						
KCC	**Kaiser Creek**	**34.49**	**98**	⇓P	**P**	**19 16 11.0**	**+0.6**
	baz=34						
L13A	**Double Diamond**	**34.81**	**87**	⇓P	**P**	**19 16 13.8**	**+0.8**
	baz=35						
N12A	**Clover Valley,**	**34.87**	**90**	⇑P	**P**	**19 16 13.6**	**0.0**
	baz=35						
S08C	**White Mtn Res**	**35.07**	**97**	⇑P	**P**	**19 16 16.3**	**+0.9**
	baz=35						
HELL	**Mitchell Peak**	**35.09**	**99**	⇓P	**P**	**19 16 15.8**	**+0.2**
	baz=35						
M13A	**Montello**	**35.10**	**89**	⇓P	**P**	**19 16 15.7**	**+0.2**
	baz=35						
R09A	**Tonopah**	**35.25**	**95**	⇓P	**P**	**19 16 16.7**	**-0.2**
	baz=35						
L14A	**Malta**	**35.27**	**87**	⇓P	**P**	**19 16 17.6**	**+0.6**
	baz=35						
K15A	**Arbon**	**35.33**	**85**	⇓P	**P**	**19 16 18.1**	**+0.6**
	baz=35						
O12A	**Currie**	**35.40**	**91**	⇓P	**P**	**19 16 18.4**	**+0.2**
	baz=35						
M14A	**Sheep Mountain**	**35.51**	**88**	⇓P	**P**	**19 16 19.5**	**+0.4**
	baz=35						
J16A	**Bone**	**35.55**	**84**	⇓P	**P**	**19 16 20.3**	**+0.9**
	baz=35						
IMW	**Indian Meadow**	**35.61**	**83**	*e*P	**P**	**19 16 20.6**	**+0.7**
	comp=Z,10nm,1.0s,mb4.7						
RRI2	**Red Ridge**	**35.68**	**84**	*e*P	**P**	**19 16 21.5**	**+0.9**
	comp=Z,8.0nm,0.9s,mb4.7						
S10A	**Tonopah Range,**	**35.74**	**95**	⇓P	**P**	**19 16 21.0**	**-0.2**
	baz=36,SNR=6.3						
L15A	**Malad City**	**35.80**	**86**	⇓P	**P**	**19 16 21.7**	**+0.1**
	baz=36						
K16A	**Soda Springs**	**35.81**	**85**	⇓P	**P**	**19 16 22.9**	**+1.3**
	baz=36						
RLMT	**Red Lodge**	**35.95**	**80**	*e*P	**P**	**19 16 22.6**	**-0.1**
	comp=Z,16nm,1.1s,mb4.9						
BGU	**Big Grassy Mou**	**36.05**	**88**	*e*P	**P**	**19 16 24.1**	**+0.4**
M15A	**Larsen Ranch,**	**36.08**	**87**	⇑P	**P**	**19 16 24.5**	**+0.5**
	baz=36						
R11A	**Troy Canyon, C**	**36.09**	**94**	⇑P	**P**	**19 16 23.7**	**-0.3**
	baz=36,SNR=5.1						
ISA	**Isabella**	**36.10**	**100**	⇑P	**P**	**19 16 24.1**	**-0.2**
	baz=36						
Q12A	**Willow Creek R**	**36.11**	**92**	⇓P	**P**	**19 16 24.3**	**+0.1**
	baz=36						
P13A	**Bates Ranch, G**	**36.34**	**91**	⇓P	**P**	**19 16 25.8**	**-0.4**
	baz=36,S

GTA				XP	sP	19 19 57.8	-7.2
GTA				XS	sS	19 28 31.4	-5.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,38nm,4.8s						
GTA				LR	LR		
	comp=N,67nm,16.2s,MS4.1						
GTA				LR	LR		
	comp=E,70nm,15.6s,MS4.1						
GTA				LR	LR		
	comp=Z,89nm,16.8s,MS4.0						
LZH	**Lanzhou**	**63.47**	**295**	*e*P	**P**	**19 19 53.5**	**+1.4**
LZH				AP	pP	19 19 59.0	-3.8
LZH				XP	sP	19 20 01.5	-5.4
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.0						
JOF	**Joensuu**	**64.05**	**352**	*e*p	**P**	**19 19 55.6**	**+0.1**
	comp=Z,2.1nm,0.5s,mb4.4						
KURK	**Kurchatov**	**64.22**	**321**	*c i*P	**P**	**19 19 57.8**	**+1.0**
KURK	**Kurchatov**	**64.22**	**321**	*e*P	**P**	**19 19 56.6**	**-0.1**
	comp=Z,7.3nm,1.2s,mb4.6						
KAF	**Kangasniemi**	**65.19**	**355**	*e*p	**P**	**19 20 03.1**	**+0.2**
	baz=3.0,slow=6.2						
BVAR	**Borovoye Array**	**65.24**	**327**	P	**P**	**19 20 04.0**	**+0.6**
	comp=Z,2.2nm,0.5s,mb4.4,baz=44,slow=6.6,SNR=17						
BRVK	**Borovoye**	**65.25**	**327**	*e*P	**P**	**19 20 04.0**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**65.25**	**327**	*e*P	**P**	**19 20 04.0**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.2						
ARU	**Arti**	**65.71**	**336**	*e*P	**P**	**19 20 07.0**	**+0.6**
ARU	**Arti**	**65.71**	**336**	*e*P	**P**	**19 20 06.6**	**+0.2**
	comp=Z,15nm,1.4s,mb4.8						
MK31	**Makanchi Array**	**65.88**	**316**	*e*P	**P**	**19 20 07.8**	**+0.2**
MKAR	**Makanchi Array**	**65.88**	**316**	P	**P**	**19 20 07.7**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.3,baz=47,slow=6.7,SNR=15						
MKAR	**Makanchi Array**	**65.88**	**316**	P	**P**	**19 20 07.7**	**+0.1**
NB2	**NORSAR Subarra**	**66.49**	**3**	P	**P**	**19 20 11.5**	**+0.2**
	comp=Z,2.5nm,0.9s,mb4.2,baz=356,slow=6.5						
NOA	**NORSAR Array B**	**66.49**	**3**	P	**P**	**19 20 11.8**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=358,slow=6.3,SNR=4.7						
GYA	**Guiyang**	**69.04**	**286**	P	**P**	**19 20 29.4**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
OBN	**Obninsk**	**71.16**	**348**	P	**P**	**19 20 40.0**	**-0.5**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AKTK	**Aktyubinsk**	**71.25**	**333**	P	**P**	**19 20 42.3**	**+1.2**
AKTO	**Aktyubinsk**	**71.25**	**333**	P	**P**	**19 20 42.3**	**+1.2**
	comp=Z,5.5nm,0.7s,mb4.6,baz=41,slow=6.0,SNR=31						
AKASG	**Malin Array Be**	**76.32**	**351**	P	**P**	**19 21 10.1**	**-0.7**
	comp=Z,2.6nm,0.6s,mb4.3,baz=12,slow=5.7,SNR=9.6						
STHS	**Stebnicka Huta**	**78.11**	**357**	*i* P	**P**	**19 21 22.7**	**+1.9**
STHS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
STHS	**Stebnicka Huta**	**78.11**	**357**	*i* P	**P**	**19 21 22.7**	**+1.9**
	comp=Z,5.7nm,0.9s,mb4.5						
KHC	**Kasperske Hory**	**78.47**	**2**	*c i*P	**P**	**19 21 24.3**	**+1.5**
KOLS	**Kolonicke sedl**	**78.55**	**356**	*i* P	**P**	**19 21 24.6**	**+1.3**
CRVS	**Cervenica-Dubn**	**78.62**	**356**	*i* P	**P**	**19 21 24.0**	**+0.4**
GERES	**GERESS Array B**	**78.76**	**2**	P	**P**	**19 21 24.9**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=358,slow=4.0,SNR=6.6						
KECS	**Kecovo**	**79.07**	**357**	*i* P	**P**	**19 21 23.9**	**-2.2**
KECS				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
KECS	**Kecovo**	**79.07**	**357**	*i* P	**P**	**19 21 23.9**	**-2.2**
	comp=Z,3.2nm,0.7s,mb4.4						
MODS	**Modra-Piesok**	**79.25**	**359**	*e*P	**P**	**19 21 28.4**	**+1.3**
MODS				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.3						
MODS	**Modra-Piesok**	**79.25**	**359**	*e*P	**P**	**19 21 28.4**	**+1.3**
	comp=Z,5.9nm,1.5s,mb4.3						
CMAR	**Chiang Mai Arr**	**79.72**	**287**	P	**P**	**19 21 29.8**	**-0.3**
	comp=Z,2.8nm,0.9s,mb4.2,baz=20,slow=5.2,SNR=15						
KIV	**Kislovodsk**	**80.98**	**341⇑**	*e*P	**P**	**19 21 38.1**	**+1.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
GNI	**Garni**	**84.19**	**338**	*e*P	**P**	**19 21 55.2**	**+1.9**
ESDC	**Sonseca Array**	**86.32**	**15**	P	**P**	**19 22 03.7**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.8,baz=348,slow=4.7,SNR=4.2						
WRA	**Warramunga Arr**	**89.90**	**236**	P	**P**	**19 22 18.8**	**-2.2**
	comp=Z,0.9nm,0.9s,mb3.7,baz=71,slow=3.7,SNR=5.9						
ASAR	**Alice Springs**	**93.24**	**234**	P	**P**	**19 22 35.0**	**-1.5**
	comp=Z,0.8nm,0.7s,mb4.3,baz=35,slow=4.0,SNR=12						
BOSA	**Boshof**	**154.94**	**341**	PKPab	PKPab	19 29 38.8	+0.1
	comp=Z,3.0nm,0.9s,baz=352,slow=2.5,SNR=3.4						

*ISCJB **20** 19:09:49.0±5.7, 524N±02×1635W±0.1, h2km±35km, mb4.1/10, Error ellipse: s-maj=41.6km s-min=14.4km az=175.7*
*IDC **20** 19:09:50.2±1.6, 5234N×16355W, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.0/27, mbtmp4.2/11, ML4.2/1, Error ellipse: s-maj=53.0km s-min=20.3km az=7.0*
*NEIC **20** 19:09:54.1, 5269N×16384W, h10km, ML3.9(AEIC), After AEIC.*

ISC 20 19:09:50.4±6.2, 523N±02×1636W±01, h2km±38km, n14, σ0§57/15, mb4.1/10, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**3.26**	**283**	P	**Pn**	**19 10 42.1**	**-0.5**
KDAK	**Kodiak Island**	**8.35**	**45**	Pn	**Pn**	**19 11 52.6**	**+0.2**
	3.0nm,0.3s,baz=248,slow=1.3,SNR=5.1						
KDAK				Sn	**Sn**	**19 13 17.4**	**-10**
	2.0nm,0.3s,baz=131,slow=19,SNR=3.4						
PETK	**Petropavlovsk-**	**23.27**	**287**	P	**P**	**19 14 59.6**	**+0.5**
	5.5nm,0.8s,mb4.1,baz=87,slow=14,SNR=3.5						
NVAR	**Mina Array Bea**	**34.13**	**96**	P	**P**	**19 16 35.8**	**-0.8**
	0.9nm,0.7s,mb3.8,baz=308,slow=7.9,SNR=3.4						
ULM	**Lac du Bonnet**	**41.00**	**65**	P	**P**	**19 17 35.5**	**+0.9**
	5.6nm,0.7s,mb4.3,baz=292,slow=8.9,SNR=3.3						
SONM	**Songino Array**	**54.31**	**304**	P	**P**	**19 19 18.3**	**+0.5**
	3.1nm,1.0s,mb4.2,baz=43,slow=8.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**59.77**	**320**	P	**P**	**19 19 56.6**	**+0.2**
	0.6nm,0.3s,mb4.1,baz=32,slow=8.5,SNR=2.7						
BVAR	**Borovoye Array**	**65.72**	**328**	P	**P**	**19 20 36.3**	**+0.2**
	1.5nm,0.7s,mb4.1,baz=46,slow=6.8,SNR=2.8						
MKAR	**Makanchi Array**	**66.33**	**317**	P	**P**	**19 20 40.0**	**-0.2**
	0.9nm,0.6s,mb4.0,baz=53,slow=5.5,SNR=2.7						
MKAR	**Makanchi Array**	**66.33**	**317**	P	**P**	**19 20 40.0**	**-0.2**
AKTK	**Aktyubinsk**	**71.72**	**333**	P	**P**	**19 21 12.8**	**-0.8**
AKTO	**Aktyubinsk**	**71.72**	**333**	P	**P**	**19 21 12.8**	**-0.8**
	1.5nm,0.5s,mb4.2,baz=53,slow=5.4,SNR=2.9						
AKASG	**Malin Array Be**	**76.77**	**352**	P	**P**	**19 21 42.6**	**-0.4**
	1.0nm,0.5s,mb4.0,baz=11,slow=5.2,SNR=2.9						
CMAR	**Chiang Mai Arr**	**80.04**	**287**	P	**P**	**19 22 02.5**	**+0.9**
	1.7nm,0.9s,mb4.0,baz=22,slow=5.4,SNR=3.7						

*IDC **20** 19:15:52.0±1.1, 1698N×7346E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/22, mbtmp3.9/11, MS2.5/1, Ms1 2.7/1, ms1mx2.1/35, Error ellipse: s-maj=32.8km s-min=18.1km az=49.0*
*ISCJB **20** 19:15:53.6±0.5, 1723N±004×7405E±004, h10km, mb3.9/14, Error ellipse: s-maj=5.7km s-min=5.5km az=28.6*
*NEIC **20** 19:15:53.5, 1720N×7370E, h5km, mb4.4/7, ML4.0(MERI), After NDI.*
NEIC Slight damage in the Satara area. Felt at Chiplun, Karad, Kolhapur, Pune, Ratnagiri, Sangli and Shirala.
*NDI **20** 19:15:53.4±3.5, 1716N×7372E, h5km, ML4.3, mb4.4(NEIC)*

ISC 20 19:15:54.9±0.5, 1720N±004×7399E±003, h10km, n40, σ1§31/55, mb3.9/14, 1C, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAD	**Karad**	**0.21**	**59**	*e*P	**Pg**	**19 16 02.2**	**+2.8**
KAD				*e*S	**Sg**	**19 16 08.4**	**+6.0**
POO	**Poona**	**1.33**	**354**	*e*P	**Pn**	**19 16 19.5**	**0.0**
POO				AML	AML	19 16 38.2	
	comp=E,5μm,0.3s						
POO				*e*S	**Sb**	**19 16 38.4**	**+1.3**
POO				AML	AML	19 16 39.8	
	comp=N,6μm,0.2s						
GOA	**Goa**	**1.70**	**185⇑**	*i* P	**Pn**	**19 16 24.5**	**-0.1**
GOA				*i* S	**Sn**	**19 16 45.6**	**-0.9**
GOA				*i* S	**Sn**	**19 16 46.0**	**-0.6**
BOM	**Bombay**	**2.03**	**327**	*e*P	**Pn**	**19 16 26.9**	**-2.3**
BOM				*e*S	**Sn**	**19 16 52.9**	**-1.6**
LATR	**Latur**	**2.73**	**63**	*e*P	**Pn**	**19 16 42.5**	**+3.7**
LATR				*e*S	**Sn**	**19 17 16.8**	**+4.9**
HYB	**Hyderabad**	**4.36**	**86**	*e*Pn	**Pn**	**19 17 04.5**	**+3.2**
HYB				*e*Pg	**Pg**	**19 17 15.5**	**-3.0**
HYB				*e*Sn	**Sn**	**19 17 53.0**	**+0.8**
HYB				*e*Sg	**Sg**	**19 18 14.0**	**-1.1**
AKL	**Akola**	**4.51**	**39**	*e*P	**Pg**	**19 17 17.4**	**-4.0**
AKL				*e*S	**Sg**	**19 18 13.8**	**-6.1**
NGP	**Nagpur**	**6.19**	**50**	*e*P	**Pn**	**19 17 26.4**	**0.0**
NGP				*e*S	**Sn**	**19 18 35.9**	**-1.4**
VIS	**Vishakhapatnam**	**8.93**	**85**	*i* P	**Pn**	**19 18 05.7**	**+1.7**
VIS				*i* S	**Sn**	**19 19 43.0**	**-1.7**
BLSP	**Bilaspur**	**9.10**	**56**	*e*P	**Pn**	**19 18 08.1**	**+1.7**
BLSP				*e*S	**Sn**	**19 19 47.3**	**-1.7**
PTH	**Pithoragarh**	**13.55**	**24**	*ex*	**Sn**	**19 21 31.0**	**-7.0**
PTH				*ex*	x	19 23 04.2	
KOLN	**Koldanda**	**13.76**	**38**	*e*P	**Pn**	**19 19 09.8**	**-0.3**
	comp=N,26nm,0.5s						
KOLN				*e*S	**Sn**	**19 21 35.6**	**-7.5**
SMLA	**Simla**	**14.17**	**11**	*i* P	**Pn**	**19 19 18.0**	**+2.3**
SMLA				*i* S	**Sn**	**19 21 44.3**	**-8.6**
DANN	**Dangsing**	**14.29**	**37**	*e*P	**Pn**	**19 19 17.7**	**+0.4**
	comp=N,16nm,0.6s						
GKN	**Gorkha**	**14.56**	**41**	*e*P	**Pn**	**19 19 19.8**	**-1.2**
GKN				*e*S	**Sn**	**19 21 54.0**	**-8.6**
DMN	**Daman**	**14.59**	**43**	*e*P	**Pn**	**19 19 20.9**	**-0.5**
	comp=N,7.2nm,0.5s						
PKI	**Pulchoki**	**14.76**	**44**	*e*P	**Pn**	**19 19 23.2**	**-0.5**
KKN	**Kakani**	**14.82**	**43**	*e*P	**Pn**	**19 19 24.5**	**-0.1**
	comp=N,25nm,0.6s						
RAMN	**Ramite**	**15.18**	**48**	*e*P	**Pn**	**19 19 29.3**	**-0.1**
GUN	**Gumba**	**15.29**	**44**	*e*P	**Pn**	**19 19 29.9**	**-1.0**
JIRN	**Jiri**	**15.34**	**45**	*e*P	**Pn**	**19 19 31.3**	**-0.2**
	comp=N,11nm,0.4s						
ODAN	**Odare**	**15.70**	**50**	*e*P	**Pn**	**19 19 36.0**	**-0.2**
	comp=N,16nm,0.7s						
TAPN	**Taplejung**	**16.21**	**49**	*e*P	**Pn**	**19 19 43.4**	**+0.5**
KBL	**Kabul**	**17.83**	**347**	P	**Pn**	**19 20 03.7**	**+0.5**
LSA	**Lhasa**	**20.04**	**49**	*e*P	**P**	**19 20 34.0**	**+5.9**
	comp=N,16nm,0.8s						
CHTO	**Chiang Mai**	**23.78**	**82**	*e*P	**P**	**19 21 12.8**	**+4.8**
	comp=N,10.0nm,1.4s,mb4.0						
CMAR	**Chiang Mai Arr**	**23.78**	**83**	P	**P**	**19 21 12.8**	**+4.8**
	comp=N,3.0nm,0.8s,mb3.8,baz=276,slow=9.4,SNR=23						
CMAR				LR	LR	19 33 38.3	
	comp=N,9.4nm,18.3s,baz=260,slow=44						
EKS2	**Erkin-Say**	**25.38**	**360**	*e*P	**P**	**19 21 23.8**	**+1.5**
	comp=N,9.3nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**30.30**	**11**	P	**P**	**19 22 06.9**	**+0.6**
	comp=N,0.4nm,0.5s,mb3.4,baz=207,slow=11,SNR=3.5						
KURK	**Kurchatov**	**33.64**	**5**	*e*P	**P**	**19 22 36.6**	**+1.0**
	comp=N,3.2nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**35.86**	**356**	P	**P**	**19 22 55.1**	**+0.4**
	comp=N,0.8nm,0.6s,mb3.8,baz=153,slow=9.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**37.63**	**10**	P	**P**	**19 23 10.8**	**+1.0**
	comp=N,1.5nm,0.6s,mb3.9,baz=196,slow=7.7,SNR=9.3						
SONM	**Songino Array**	**40.46**	**34**	P	**P**	**19 23 36.3**	**+2.7**
	comp=N,1.7nm,0.8s,mb3.9,baz=222,slow=7.0,SNR=13						
AKASG	**Malin Array Be**	**48.83**	**323**	P	**P**	**19 24 38.0**	**-2.4**
	comp=N,0.1nm,0.3s,mb3.3,baz=122,slow=6.0,SNR=3.2						
KSRS	**Korea Array**	**51.26**	**56**	P	**P**	**19 25 01.0**	**+1.9**
	comp=N,0.5nm,0.5s,mb3.7,baz=258,slow=9.0,SNR=5.6						
GERES	**GERESS Array B**	**57.75**	**317**	P	**P**	**19 25 43.5**	**-2.6**
	comp=N,0.4nm,0.7s,mb3.5,baz=104,slow=11,SNR=4.7						
ARCES	**ARCESS Array B**	**60.14**	**342**	P	**P**	**19 26 01.4**	**-0.9**
	comp=N,3.8nm,0.9s,mb4.4,baz=130,slow=4.9,SNR=4.6						
WRA	**Warramunga Arr**	**69.80**	**119**	P	**P**	**19 27 06.4**	**+0.4**
	comp=N,2.0nm,0.9s,mb4.0,baz=305,slow=5.8,SNR=10						
ASAR	**Alice Springs**	**71.21**	**123**	P	**P**	**19 27 14.8**	**+0.3**
	comp=N,1.1nm,0.8s,mb3.9,baz=301,slow=5.2,SNR=15						
PDAR	**Pinedale Array**	**120.25**	**3**	PKP	PKPdf	19 34 47.8	+1.3
	comp=N,0.3nm,0.5s,baz=74,slow=3.2,SNR=3.4						

*ISK **20** 19:17:15.3, 3664N×3646E, h5km, MD3.1*
*DDA **20** 19:17:15.6, 3662N×3654E, h12km, Md3.1*
*ISCJB **20** 19:17:16.7±0.5, 3665N±003×3648E±004, h10km, Error ellipse: s-maj=5.8km s-min=3.5km az=41.4*
*CSEM **20** 19:17:16.2±0.1, 3659N×3644E, h10km, MD3.1, Error ellipse: s-maj=3.2km s-min=2.3km az=159.0*

ISC 20 19:17:17.3±0.5, 3664N±003×3648E±004, h10km, n21, σ1§15/26, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COBT	**Iskenderun**	**0.22**	**235**	*i* P	**Pg**	**19 17 21.1**	**-0.7**
COBT				*i* S	**Sg**	**19 17 26.1**	**+1.3**
HTY	**Hatay**	**0.59**	**208**	*e*PG	**Pg**	**19 17 27.2**	**-1.4**
HTY				*e*SG	**Sg**	**19 17 37.3**	**+0.9**
YAYL	**Yayladag**	**0.68**	**206**	*i* P	**Pg**	**19 17 28.7**	**-1.6**
YAYL				*i* S	**Sg**	**19 17 39.2**	**0.0**
CEYT	**Ceyhan**	**0.69**	**302**	*e*PG	**Pg**	**19 17 29.7**	**-0.9**
CEYT				*e*SG	**Sg**	**19 17 40.0**	**+0.3**
KMRS	**Kahramanmaras**	**0.93**	**21**	*e*PG	**Pg**	**19 17 33.5**	**-1.6**
KOZT	**Kozan**	**0.98**	**328**	*e*PG	**Pg**	**19 17 35.8**	**-0.4**
GZT	**Gaziantep**	**1.12**	**50**	*i* P	**Pb**	**19 17 35.5**	**-3.3**
GZT				*i* S	**Sb**	**19 17 51.5**	**-1.9**
KARA	**Karaisali**	**1.29**	**299**	*e*PN	**Pn**	**19 17 40.8**	**-0.6**
MERS	**Mersin**	**1.58**	**279**	*e*PN	**Pn**	**19 17 45.1**	**-0.3**
URFA	**Urfa**	**2.04**	**66**	*e*PN	**Pn**	**19 17 52.1**	**+0.5**
SARI	**SarD1z-Kayseri**	**2.04**	**5**	*e*PN	**Pn**	**19 17 48.1**	**-3.6**
NIG	**Nigde**	**2.09**	**315**	*e*PN	**Pn**	**19 17 53.0**	**+0.7**
BNN	**Bunyan**	**2.26**	**347**	*e*PN	**Pn**	**19 17 55.0**	**+0.3**
MALT	**Malatya**	**2.28**	**42**	*e*PN	**Pn**	**19 17 56.5**	**+1.5**
IKL	**Isikli**	**2.29**	**261**	*e*PN	**Pn**	**19 17 55.0**	**0.0**
MYA	**Malataya**	**2.29**	**42**	*e*PN	**Pn**	**19 17 55.9**	**+0.9**
DARE	**Darende-Malaty**	**2.53**	**24**	*e*PN	**Pn**	**19 17 53.5**	**-5.0**
SVRC	**Sivrice-ELAZID**	**2.84**	**52**	*e*PN	**Pn**	**19 18 03.8**	**+1.1**
HDMB	**Hadim**	**3.22**	**277**	*e*PN	**Pn**	**19 18 07.8**	**-0.1**
PTK	**Pertek**	**3.22**	**45**	*e*PN	**Pn**	**19 18 09.7**	**+1.8**
SVSK	**Karacayir**	**3.29**	**7**	*e*PN	**Pn**	**19 18 10.7**	**+1.8**

PRE 20 19:17:43.1±1.1, 3039S×2465E, h5km, ML3.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRM	**Grahamstown**	**3.32**	**152**	*e*P	Pn	19 18 36.7	+1.1
GRM				*e*S	Sn	19 19 16.6	+1.2
GRM				AML	AML	19 19 30.4	
	comp=Z,76nm,0.5s						
UPI	**Upington**	**3.59**	**303**	*e*P	Pn	19 18 39.4	0.0
UPI				*e*S	Sn	19 19 22.5	+0.3
UPI				AML	AML	19 19 46.9	
	comp=Z,44nm,0.2s						
SUR	**Sutherland**	**3.84**	**238**	*e*P	Pn	19 18 44.3	+1.5
SUR				*e*S	Sn	19 19 27.7	-0.6
PRYS	**Parys**	**4.19**	**35**	*e*P	Pn	19 18 48.5	+0.8
PRYS				*e*S	Sn	19 19 36.4	-0.7
PRYS				AML	AML	19 20 01.9	
	comp=Z,55nm,0.7s						
KSR	**Koster**	**4.94**	**24**	*e*P	Pn	19 18 58.2	+0.3
KSR				*e*S	Sn	19 19 53.9	-1.5
KSR				AML	AML	19 20 23.9	
	comp=Z,70nm,0.3s						
ELIM	**Elim**	**5.90**	**223**	*e*P	Pn	19 19 12.0	+0.9
ELIM				*e*S	Sn	19 20 15.8	-3.2
ELIM				AML	AML	19 20 52.2	
	comp=Z,66nm,0.5s						
MOPA	**Mopani**	**9.11**	**43**	*e*P	Pn	19 19 56.2	+0.9
MOPA				*e*S	Sn	19 21 33.7	-4.5
MOPA				AML	AML	19 22 32.9	
	comp=Z,43nm,0.6s						

*IDC **20** 19:22:09.8±0.8, 1184N×14398E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/19, mbtmp4.0/6, MS3.6/3, Ms1 3.6/3, ms1mx2.9/35, Error ellipse: s-maj=44.7km s-min=16.1km az=107.0*
*ISCJB **20** 19:22:10.4±5.5, 1188N±01×1439E±03, h16km±41km, mb4.0/6, MS4.0/2, Error ellipse: s-maj=48.8km s-min=10.5km az=22.7*
*NEIC **20** 19:22:10.4±5.4, 1183N×14398E, h4km±34km, mb3.9/1, Error ellipse: s-maj=30.1km s-min=9.0km az=108.0*

ISC 20 19:22:11.3±6.7, 1188N±01×1440E±03, h10km±42km, n16, σ0§20/12, mb4.0/6, MS4.0/2, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.95**	**26**	Pn	**Pn**	**19 22 44.4**	**0.0**
	34nm,0.3s,baz=194,slow=7.0,SNR=33						
GUMO				Sn	**Sn**	**19 23 08.8**	**-0.1**
	42nm,0.3s,baz=12,slow=22,SNR=14						
DAV	**Davao City (W)**	**18.78**	**257**	LR	LR	19 32 04.5	
	comp=Z,54nm,19.7s,baz=236,slow=32						
WRAB	**Tennant Creek**	**32.96**	**197**	*e*P	**P**	**19 28 46.2**	**0.0**
WB2	**Warramunga Arr**	**32.97**	**197**	*e*P	**P**	**19 28 46.0**	**-0.3**
WRA	**Warramunga Arr**	**32.97**	**197**	P	**P**	**19 28 46.1**	**-0.3**
	5.3nm,0.7s,mb4.6,baz=19,slow=9.8,SNR=44						
ASAR	**Alice Springs**	**36.63**	**196**	P	**P**	**19 29 18.2**	**+0.3**
	1.4nm,0.6s,mb4.0,baz=21,slow=12,SNR=39						
STKA	**Stephens Creek**	**43.51**	**183**	*e*P	**P**	**19 30 15.5**	**+0.5**
	1.1nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**43.51**	**183**	P	**P**	**19 30 15.0**	**0.0**
	0.5nm,0.6s,mb3.4,baz=0.0,slow=10,SNR=6.6						
ZALV	**Zalesovo Beam**	**62.57**	**325**	P	**P**	**19 32 35.4**	**+0.1**
	0.6nm,0.7s,mb3.9,baz=90,slow=8.6,SNR=2.8						
YKA	**Yellowknife Ar**	**84.81**	**27**	P	**P**	**19 34 45.7**	**0.0**
	0.7nm,0.7s,mb3.9,baz=296,slow=4.7,SNR=3.8						
YKA	**Yellowknife Ar**	**84.81**	**27**	P	**P**	**19 34 45.7**	**0.0**
NVAR	**Mina Array Bea**	**88.67**	**51**	P	**P**	**19 35 05.2**	**+0.1**
	0.6nm,0.7s,mb4.0,baz=284,slow=7.3,SNR=3.4						
PFO	**Pinyon Flat Ob**	**91.33**	**55**	LR	LR	20 12 17.3	
	comp=Z,60nm,18.1s,MS4.1,baz=140,slow=33						
LPIG	**La Paz**	**99.16**	**63**	LR	LR	20 13 44.1	
	comp=Z,50nm,21.0s,MS4.0,baz=11,slow=31						
LPAZ	**La Paz**	**148.53**	**102**	PKPbc	PKPbc	19 42 00.8	+1.5
	0.3nm,0.3s,baz=0.0,slow=1.0,SNR=3.2						
LPAZ	**La Paz**	**148.53**	**102**	PKPbc	PKPbc	19 42 00.8	+1.4

IDC 20 19:48:52.7±27.0, 2386S×17321W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/17, mbtmp4.1/4, Error ellipse: s-maj=495.8km s-min=152.5km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.69**	**268**	*e*P	P	19 56 10.5	+0.5
	3.2nm,0.4s						
CTA	**Charters Tower**	**37.69**	**268**	P	P	19 56 10.2	+0.2
	4.7nm,0.5s,baz=94,slow=10,SNR=9.7						
STKA	**Stephens Creek**	**40.51**	**248**	P	P	19 56 33.1	-0.5
	0.8nm,0.6s,baz=92,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**48.16**	**259**	P	P	19 57 34.9	-0.1
	0.6nm,0.4s,baz=98,slow=7.2,SNR=30						
WB2	**Warramunga Arr**	**48.59**	**264**	*e*P	P	19 57 38.4	+0.1
WRA	**Warramunga Arr**	**48.60**	**264**	P	P	19 57 38.4	0.0
	1.7nm,0.4s,baz=103,slow=8.1,SNR=32						
FITZ	**Fitzroy Crossi**	**57.02**	**263**	*e*P	P	19 58 41.4	+0.7
	2.6nm,0.5s						

*ISCJB **20** 19:57:05.9±0.8, 3927N±003×20.16E±006, h10km, Error ellipse: s-maj=7.2km s-min=4.0km az=3.8*
*THE **20** 19:57:06.2, 3927N×20.16E, h0km, ML2.5*
*ATH **20** 19:57:06.8, 3925N×2019E, h10km, MD3.1/3*
*CSEM **20** 19:57:06.9±0.2, 3930N×2019E, h2km, ML2.5, Error ellipse: s-maj=3.8km s-min=2.6km az=83.0*

ISC 20 19:57:06.2±0.9, 3928N±003×2015E±007, h8km±8km, n10, σ0§98/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.29**	**29**	*e*Pg	**Pg**	**19 57 11.4**	**-0.6**
IGT				*e*Sg	**Sg**	**19 57 15.8**	**-0.2**
KEK	**Kerkira**	**0.51**	**329**	*e*PB	**Pg**	**19 57 17.4**	**+1.3**
LKD	**Levkas**	**0.69**	**145**	*e*Pg	**Pg**	**19 57 18.4**	**-1.1**
LKD				*e*Sg	**Sg**	**19 57 29.5**	**+1.0**
MEV	**Metsovon**	**0.98**	**58**	*e*Pg	**Pg**	**19 57 24.2**	**-0.8**
MEV				*e*Sg	**Sg**	**19 57 39.0**	**+1.3**
VLS	**Valsamata**	**1.15**	**162**	*e*Pg	**Pg**	**19 57 27.4**	**-0.9**
VLS				*e*Sg	**Sg**	**19 57 44.8**	**+1.6**
VLS	**Valsamata**	**1.15**	**162**	*e*Pb	**Pb**	**19 57 28.1**	**-0.2**
VLS				*e*Sg	**Sg**	**19 57 44.8**	**+1.6**
THL	**Klokotos Trika**	**1.48**	**78**	*e*Pg	**Pg**	**19 57 33.9**	**-0.6**
THL				*e*Sg	**Sg**	**19 57 53.5**	**-0.1**
THL	**Klokotos Trika**	**1.48**	**78**	*e*PB	**Pb**	**19 57 34.0**	**+0.1**
AGG	**Agios Georgios**	**1.72**	**98**	*e*Pb	**Pb**	**19

216nm,0.2s,SNR=1.0
SURF Saint Ours 0.22 227 Pg **Pg 20 03 42.4 -0.2**
SURF Sg **Sg 20 03 45.9 -0.2**
BHB Bricherasio 0.26 37 P **Pg 20 03 43.6 +0.4**
BHB S **Sg 20 03 47.5 +0.3**
RRL Rocca Remolon 0.34 328 P **Pg 20 03 44.8 +0.2**
RRL Rocca Remolon 0.34 328 P **Pg 20 03 44.8 +0.3**
RRL S **Sg 20 03 49.4 0.0**
STV Sant Anna di V 0.44 152 Pg **Pg 20 03 46.4 +0.1**
STV Sg **Sg 20 03 52.1 -0.2**
83nm,0.2s
STV Sant Anna di V 0.44 152 P **Pg 20 03 46.4 +0.1**
STV S **Sg 20 03 52.0 -0.2**
BNI Bardonecchia 0.49 329 Pg **Pg 20 03 47.5 +0.2**
BNI Sg **Sg 20 03 54.1 +0.2**
BNI Bardonecchia 0.49 329 *e*P **Pg 20 03 47.3 0.0**
BNI Pg **Pg 20 03 47.5 +0.2**
BNI Sg **Sg 20 03 54.1 +0.2**
RSP Reno Superiore 0.54 17 Pg **Pg 20 03 48.6 +0.4**
RSP Sg **Sg 20 03 55.7 +0.3**
RSP Reno Superiore 0.54 17 P **Pg 20 03 48.5 +0.3**
RSP S **Sg 20 03 55.8 +0.3**
TOUF Mont Tournerai 0.64 166 Pg **Pg 20 03 50.3 +0.3**
ROB Robourent 0.69 119 P **Pg 20 03 50.7 -0.2**
ROB S **Sg 20 03 59.7 -0.2**
ROB Robourent 0.69 119 P **Pg 20 03 50.7 -0.1**
ROB S **Sg 20 03 59.7 -0.3**
AUTN L'Aution 0.70 156 Pg **Pg 20 03 51.4 +0.3**
AUTN Sg **Sg 20 04 00.0 -0.3**
MVIF Mont Vial 0.74 174 Pg **Pg 20 03 52.3 +0.4**
MVIF Sg **Sg 20 04 02.0 +0.3**
SAOF Saorge 0.75 150 Pg **Pg 20 03 52.1 +0.1**
SAOF Sg **Sg 20 04 01.0 -0.9**
LUCF Luceram 0.77 163 Pg **Pg 20 03 52.7 +0.2**
LUCF Sg **Sg 20 04 03.1 +0.4**
SBF Sospel 0.82 160 *e*Pg **Pg 20 03 53.5 +0.1**
SBF *e*Sg **Sg 20 04 03.7 -0.5**
37nm,0.2s,SNR=1.0
SBF Sospel 0.82 160 *e*Pg **Pg 20 03 53.5 +0.1**
SBF *e*Sg **Sg 20 04 03.7 -0.5**
18nm,0.2s,SNR=1.0
LSD Lago del Serru 0.83 6 Pg **Pg 20 03 53.7 +0.1**
20nm,0.3s
LSD S **Sb 20 04 04.4 +0.1**
LSD Lago del Serru 0.83 6 P **Pb 20 03 53.6 +0.2**
LSD S **Sb 20 04 04.4 +0.1**
ORIF Oris-en-Rattie 0.87 289 *e*Pg **Pg 20 03 54.2 -0.2**
SNR=1.0
ORIF *e*Sg **Sg 20 04 05.6 -0.3**
21nm,0.3s,SNR=1.0
ORIF Oris-en-Rattie 0.87 289 *e*Pg **Pg 20 03 54.2 -0.2**
SNR=1.0
ORIF *e*Sg **Sg 20 04 05.6 -0.3**
11nm,0.3s,SNR=1.0
CALN Calern 0.89 187 Pg **Pg 20 03 56.3 +1.6**
CALN Sg **Sg 20 04 06.9 +0.5**
LPG La Plagne 0.89 347 *e*Pg **Pg 20 03 54.7 0.0**
LPG *e*Sg **Sg 20 04 05.7 -0.7**
19nm,0.2s,SNR=1.0
LPG La Plagne 0.89 347 *e*Pg **Pg 20 03 54.7 0.0**
LPG *e*Sg **Sg 20 04 05.7 -0.7**
9.6nm,0.2s,SNR=1.0
RORO Rocca Rossa 0.90 125 P **Pb 20 03 54.7 +0.1**
RORO Rocca Rossa 0.90 125 P **Pb 20 03 54.7 0.0**
LPL La Plagne 0.91 346 *e*Pg **Pg 20 03 55.1 0.0**
SNR=1.0
LPL *e*Sg **Sg 20 04 07.1 0.0**
26nm,0.3s,SNR=1.0
LPL La Plagne 0.91 346 *e*Pg **Pg 20 03 55.1 0.0**
SNR=1.0
LPL *e*Sg **Sg 20 04 07.1 0.0**
13nm,0.3s,SNR=1.0
FIN Finale Ligure 0.94 116 Pg **Pg 20 03 55.0 -0.6**
FIN Finale Ligure 0.94 116 P **Pb 20 03 54.9 -0.4**
FIN Pg **Pg 20 03 55.0 -0.6**
FIN S **Sb 20 04 06.5 -0.9**
PCP Piancastagn 1.08 94 P **Pb 20 03 57.7 0.0**
PCP S **Sb 20 04 11.5 0.0**
PCP Piancastagn 1.08 94 P **Pb 20 03 57.7 0.0**
PCP S **Sb 20 04 11.5 0.0**
FRF La Foret Royal 1.11 195 *e*Pg **Pg 20 03 58.5 -0.4**
SNR=1.0
FRF *e*Sg **Sg 20 04 12.5 -0.9**
21nm,0.2s,SNR=1.0
FRF La Foret Royal 1.11 195 *e*Pg **Pg 20 03 58.5 -0.4**
SNR=1.0
FRF *e*Sg **Sg 20 04 12.5 -0.9**
11nm,0.2s,SNR=1.0
SMRF Simiane la Rot 1.24 238 *e*Pg **Pg 20 04 01.8 +0.4**
SNR=1.0
SMRF *e*Sg **Sg 20 04 17.5 -0.1**
8.6nm,0.2s,SNR=1.0
SMRF Simiane la Rot 1.24 238 *e*Pg **Pg 20 04 01.8 +0.4**
SNR=1.0
SMRF *e*Sg **Sg 20 04 17.5 -0.1**
4.3nm,0.2s,SNR=1.0
LMR La Mourre 1.35 197 *e*Pg **Pg 20 04 03.0 -0.5**
LMR *e*Sg **Sg 20 04 20.8 -0.4**
20nm,0.2s,SNR=1.0
LMR La Mourre 1.35 197 *e*Pg **Pg 20 04 03.0 -0.5**
LMR *e*Sg **Sg 20 04 20.8 -0.4**
10.0nm,0.2s,SNR=1.0
LMR La Mourre 1.35 197 *e*Pn **Pn 20 04 02.7 +1.1**
LMR *e*Pg **Pg 20 04 03.0 -0.5**
LMR *e*Sg **Sg 20 04 20.8 -0.4**
VIVF Saint-Julien-l 1.70 278 *e*P **Pn 20 04 08.0 +1.6**
VIVF *e*Pg **Pg 20 04 10.1 0.0**
CABF La Chapelle 2.09 342 *e*Pg **Pg 20 04 15.8 -1.7**
CABF *e*Sg **Sg 20 04 43.4 -1.2**
1.9nm,0.3s
CABF La Chapelle 2.09 342 *e*Pg **Pg 20 04 15.8 -1.7**
CABF *e*Sg **Sg 20 04 43.4 -1.2**
0.9nm,0.3s
LASF Ste Croix 2.35 257 *e*Pn **Pn 20 04 15.8 +0.5**
LASF *e*Sn **Sn 20 04 42.4 -1.3**
1.2nm,0.2s
LASF Ste Croix 2.35 257 *e*Pn **Pn 20 04 15.8 +0.5**
LASF *e*Sn **Sn 20 04 42.4 -1.3**
0.6nm,0.2s
PGF Pioggiola 2.52 145 *e*Pn **Pn 20 04 19.8 +2.1**
PGF *e*Sn **Sn 20 04 47.2 -0.8**

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*IDC **20** 20:10:06.9±1.4, 594N×12687E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=140.1km s-min=20.0km az=67.0*
*ISCJB **20** 20:10:08.4±1.2, 63N±02×1278E±02, h33km, mb3.6/5, Error ellipse: s-maj=41.2km s-min=12.3km az=140.2*
ISC 20 20:10:11.2±1.2, 62N±02×1276E±03, h35km, n7, σ0§35/7, mb3.6/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.51**	**299**	*e*P	**Pn**	**20 10 35.6**	**-0.2**
BUKP	**Musuan**	**3.00**	**304**	*e*P	**Pn**	**20 10 56.6**	**+0.3**
WRA	**Warramunga Arr**	**26.83**	**166**	P	**P**	**20 15 48.0**	**-0.4**
	1.4nm,0.5s,mb3.7,baz=344,slow=11,SNR=15						
ASAR	**Alice Springs**	**30.33**	**168**	P	**P**	**20 16 19.7**	**+0.1**
	0.3nm,0.5s,mb3.3,baz=351,slow=7.1,SNR=15						
ASAR				PcP	PcP	20 19 20.6	+1.1
	0.3nm,0.5s,baz=355,slow=2.2,SNR=8.9						
STKA	**Stephens Creek**	**40.16**	**161**	P	**P**	**20 17 44.5**	**+0.4**
	0.9nm,0.5s,mb3.8,baz=6.3,slow=9.2,SNR=4.4						
MKAR	**Makanchi Array**	**56.04**	**324**	P	**P**	**20 19 46.0**	**-0.5**
	0.1nm,0.3s,mb3.3,baz=115,slow=7.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**58.79**	**332**	P	**P**	**20 20 06.2**	**+0.3**
	0.3nm,0.3s,mb3.8,baz=134,slow=6.2,SNR=3.5						

MAN 20 20:22:18, 694N×12509E, h16km, mb3.9, ML2.7, MS2.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.07**	**3**	⇑*i*P	Pg	20 22 21.6	+0.5
KCP				*i* S	Sg	20 22 24.1	+0.9
BUKP	**Musuan**	**0.94**	**359**	*e*P	Pb	20 22 36.9	+1.0
MATI	**Mati**	**1.16**	**89**	*e*P	Pn	20 22 39.3	-0.3

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*ISCJB **20** 20:32:46.6±0.7, 3208N±007×5007E±006, h10km, Error ellipse: s-maj=10.7km s-min=6.8km az=151.1*
*CSEM **20** 20:32:46.5±0.1, 3209N×5013E, h16km, ML3.1, Error ellipse: s-maj=4.1km s-min=2.1km az=131.0*
*THR **20** 20:32:46.2±0.5, 3205N×5014E, h18km, 6km, ML3.1*
ISC 20 20:32:47.3±0.7, 3214N±006×5009E±007, h10km, n11, σ0§71/15, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.09**	**269**	*e*Pg	**Pg**	**20 33 07.5**	**-0.8**
SHGR				*e*Sg	**Sg**	**20 33 22.8**	**+0.4**
SHGR				AML	AML	20 33 28.4	
	comp=E,427nm,0.6s						
SHGR				AML	AML	20 33 30.8	
	comp=N,390nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.09**	**269**	*e*Pg	**Pg**	**20 33 07.5**	**-0.8**
	SNR=92						
SHGR				*e*Sg	**Sg**	**20 33 22.8**	**+0.4**
	SNR=92						
NASN	**Na'in**	**2.39**	**73**	*e*Pn	**Pn**	**20 33 26.7**	**+0.1**
ASAO	**Ashtian**	**2.40**	**359**	*e*Pn	**Pn**	**20 33 28.0**	**+1.3**
ASAO				AML	AML	20 34 05.0	
	comp=N,66nm,0.6s						
GHVR	**GHOM**	**2.54**	**23**	*e*Pn	**Pn**	**20 33 29.6**	**+1.0**
GHVR				*e*Sg	**Sg**	**20 34 07.5**	**-1.4**
GHVR				AML	AML	20 34 14.1	
	comp=E,71nm,0.8s						
GHVR	**GHOM**	**2.54**	**23**	*e*Pn	**Pn**	**20 33 29.6**	**+1.0**
	SNR=52						
GHVR				*e*Sg	**Sg**	**20 34 07.6**	**-1.3**
	SNR=91						
UMR	**Umm Al-Rimmam**	**3.29**	**219**	*e*P	**Pn**	**20 33 38.9**	**0.0**
	baz=220						
UMR				AML	AML	20 34 23.2	
	comp=Z,22nm,0.4s,baz=220						
MIB	**Mutribah**	**3.32**	**226**	*e*P	**Pn**	**20 33 39.1**	**-0.2**
	baz=227						
MIB				AML	AML	20 34 20.5	
	comp=Z,14nm,0.4s,baz=227						
RST	**Umm Al-Ruwaisa**	**3.74**	**226**	*e*P	**Pn**	**20 33 44.9**	**-0.2**
	baz=227						
RST				AML	AML	20 34 37.5	
	comp=Z,0.4nm,0.6s,baz=227						
NAY	**Al-Naaiem**	**3.78**	**221**	*e*P	**Pn**	**20 33 45.7**	**0.0**
RDF	**Al-Radifah**	**3.88**	**215**	*e*P	**Pn**	**20 33 46.6**	**-0.4**
	baz=216						
RDF				AML	AML	20 34 34.8	
	comp=Z,9.0nm,0.5s,baz=216						

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*BJI **20** 20:52:39.8, 583S×12958E, h47km, mB5.0, mb4.7*
*IDC **20** 20:52:40.2±0.6, 5.14S×12950E, h0km, mb4.3/12, mb1 4.5/14, mb1mx4.5/18, mbtmp4.4/14, ML4.9/2, MS3.7/6, Ms1 3.7/6, ms1mx3.3/28, Error ellipse: s-maj=27.7km s-min=13.4km az=77.0*
*ISCJB **20** 20:52:42.3±0.3, 528S±004×12959E±006, h33km, mb4.4/21, MS3.6/4, Error ellipse: s-maj=9.0km s-min=5.4km az=157.9*
*DJA **20** 20:52:44, 5.17S×12967E, h50km, ML4.8/3*
*NEIC **20** 20:52:45.3±1.4, 5.17S×12950E, h36km±13km, mb4.6/8, Error ellipse: s-maj=13.7km s-min=6.4km az=55.0*
ISC 20 20:52:44.7±0.3, 525S±004×12961E±006, h35km, n59, σ1§12/59, mb4.4/21, MS3.6/4, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.10**	**318**	P	**Pn**	**20 53 12.5**	**-4.9**
	0.0nm,0.0s						
LBMI	**Labuha**	**5.04**	**335**	P	**Pn**	**20 53 57.2**	**-0.7**
	0.0nm,0.0s						
KDI	**Kendari**	**7.09**	**280**	P	**Pn**	**20 54 32.2**	**+6.2**
	0.0nm,0.0s						
BATI	**Baumata**	**7.68**	**230**	Pn	**Pn**	**20 54 33.9**	**-0.2**
	28nm,0.3s,baz=123,slow=1.9,SNR=37						
BATI				LR	LR	20 56 53.4	
	comp=Z,473nm,19.6s,baz=262,slow=33						
KAKA	**Kakadu**	**7.92**	**160**	*e*P	**Pn**	**20 54 37.6**	**+0.1**
	68nm,0.6s						
KAPI	**Kappang**	**9.82**	**271**	*e*P	**Pn**	**20 55 03.5**	**0.0**
FITZ	**Fitzroy Crossi**	**13.35**	**197**	⇑*i*P	**Pn**	**20 55 47.9**	**-3.9**
	17nm,0.7s						
FITZ	**Fitzroy Crossi**	**13.35**	**197**	Pn	**Pn**	**20 55 47.9**	**-3.9**
	0.9nm,0.3s,baz=28,slow=12,SNR=36						
FITZ				LR	LR	21 02 06.4	
	comp=Z,134nm,18.2s,baz=20,slow=42						
WRAB	**Tennant Creek**	**15.31**	**163**	*e*Pn	**Pn**	**20 56 15.1**	**-3.1**
WRA	**Warramunga Arr**	**15.31**	**163**	Pn	**Pn**	**20 56 14.9**	**-3.4**
	2.1nm,0.3s,baz=340,slow=13,SNR=45						
WRA				Sn	**Sn**	**20 58 59.2**	**-7.6**
	1.1nm,0.3s,baz=329,slow=21,SNR=4.8						
WB2	**Warramunga Arr**	**15.31**	**163**	*e*P	**Pn**	**20 56 15.1**	**-3.2**
COEN	**Coen**	**15.92**	**124**	*e*P	**Pn**	**20 56 24.8**	**-1.4**
	33nm,0.8s						
MSLP	**Maasin**	**16.00**	**343**	*e*P	**Pn**	**20 56 31.6**	**+4.4**
KKM	**Kota Kinabalu**	**17.46**	**310**	*e*P	**Pn**	**20 56 44.6**	**-1.0**
SJI	**Sawahan**	**17.90**	**261**	P	**Pn**	**20 56 50.1**	**-1.0**
	0.0nm,0.0s						
CNP	**Catarman**	**18.32**	**344**	*e*P	**Pn**	**20 56 57.2**	**+1.0**
ASAR	**Alice Springs**	**18.77**	**168**	P	**Pn**	**20 57 01.6**	**0.0**
	2.0nm,0.3s,baz=352,slow=12,SNR=93						
STKI	**Sintang**	**18.86**	**286**	P	**Pn**	**20 57 03.1**	**+0.3**
	0.0nm,0.0s						
BJII	**Banjamegara**	**19.89**	**263**	P	**Pn**	**20 57 17.4**	**+2.3**
	0.0nm,0.0s						
KSM	**Kuching**	**20.40**	**289**	*e*P	**P**	**20 57 17.5**	**-1.4**
CTA	**Charters Tower**	**21.90**	**134**	*e*P	**P**	**20 57 38.5**	**+3.6**
	13nm,1.5s,mb4.2						
CTA	**Charters Tower**	**21.90**	**134**	P	**P**	**20 57 38.1**	**+3.2**
	5.2nm,0.6s,mb4.1,baz=310,slow=11,SNR=7.6						
CTA				LR	LR	21 06 43.5	
	comp=Z,284nm,19.2s,MS3.7,baz=130,slow=38						
CTAO	**Charters Tower**	**21.90**	**134**	*e*P	**P**	**20 57 38.6**	**+3.6**
	40nm,1.1s,mb4.8						
LEM	**Lembang**	**21.93**	**265**	P	**P**	**20 57 39.5**	**+4.2**
	0.0nm,0.0s						
CBJI	**Citeko**	**22.67**	**266**	P	**P**	**20 57 41.9**	**-1.3**
	0.0nm,0.0s						
FORT	**Forrest**	**25.44**	**183**	*e*P	**P**	**20 58 11.5**	**+2.2**
	92nm,0.7s,mb5.4						
KLBR	**Kellerberrin**	**28.47**	**202**	*e*P	**P**	**20 58 37.6**	**+1.1**
	34nm,1.3s,mb4.8						
STKA	**Stephens Creek**	**28.77**	**158**	*e*P	**P**	**20 58 41.8**	**+2.6**
	9.3nm,0.3s,mb4.5						
STKA	**Stephens Creek**	**28.77**	**158**	P	**P**	**20 58 41.3**	**+2.0**
	7.3nm,0.7s,mb4.5,baz=322,slow=9.8,SNR=9.4						
STKA				LR	LR	21 10 24.1	
	comp=Z,215nm,18.9s,MS3.8,baz=357,slow=37						
NWAO	**Narrogin (SRO)**	**29.86**	**201**	LR	LR	21 11 54.0	
	comp=Z,129nm,20.8s,MS3.5,baz=200,slow=39						
CAN	**Canberra**	**34.86**	**152**	*e*P	**P**	**20 59 32.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**38.33**	**309**	P	**P**	**21 00 02.5**	**+0.1**
	3.4nm,0.9s,mb4.1,baz=140,slow=7.5,SNR=26						
CMAR				LR	LR	21 16 50.3	
	comp=Z,94nm,21.4s,MS3.6,baz=310,slow=38						
CHTO	**Chiang Mai**	**38.53**	**309**	*e*P	**P**	**21 00 03.8**	**-0.3**
KMI	**Kunming**	**39.92**	**320**	P	**P**	**21 00 16.5**	**+0.8**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.3						
MJAR	**Matsushiro Arr**	**42.34**	**10**	P	**P**	**21 00 35.2**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.0,baz=188,slow=9.3,SNR=13						
MJAR	**Matsushiro Arr**	**42.34**	**10**	P	**P**	**21 00 35.2**	**-0.2**
MAJO	**Matsushiro**	**42.35**	**10**	*e*P	**P**	**21 00 35.3**	**-0.2**
	comp=Z,14nm,0.9s,mb4.6						
MAT	**Matsushiro**	**42.35**	**10**	P	**P**	**21 00 34.9**	**-0.5**
KSRS	**Korea Array**	**42.51**	**358**	P	**P**	**21 00 36.5**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.1,baz=177,slow=8.9,SNR=14						
XAN	**Xi'an**	**43.70**	**335**	P	**P**	**21 00 44.8**	**-1.6**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
XAN				AMB	AMB		
	comp=Z,21nm,5.0s						
BJI	**Beijing**	**46.73**	**346**	P	**P**	**21 01 09.8**	**-0.6**
BJI				S	**S**	**21 08 01.3**	**+3.4**
BJI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
LZH	**Lanzhou**	**47.69**	**332**	*e*P	**P**	**21 01 18.6**	**+0.7**
LZH				AMB	AMB		
	comp=Z,17nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,59nm,4.3s						
SHL	**Shillong**	**47.75**	**312**	*e*P	**P**	**21 01 20.5**	**+1.9**
LSA	**Lhasa**	**50.68**	**316**	*e*P	**P**	**21 01 41.7**	**+0.7**
GTA	**Gaotai**	**52.26**	**331**	*e*P	**P**	**21 01 52.5**	**-0.1**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
SONM	**Songino Array**	**56.67**	**341**	P	**P**	**21 02 25.3**	**+0.8**
	comp=Z,5.1nm,1.0s,mb4.5,baz=162,slow=7.4,SNR=26						
PETK	**Petropavlovsk-**	**62.80**	**19**	P	**P**	**21 03 06.3**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.2,baz=251,slow=31,SNR=2.2						
MK31	**Makanchi Array**	**66.56**	**327**	*e*P	**P**	**21 03 31.4**	**+0.2**
MKAR	**Makanchi Array**	**66.56**	**327**	P	**P**	**21 03 30.7**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.4,baz=226,slow=9.5,SNR=3.7						
KBL	**Kabul**	**69.35**	**310**	*e*P	**P**	**21 03 47.4**	**-1.7**
	comp=Z,1.7nm,0.7s,mb4.1						
ZAA0	**Zalesovo Array**	**69.85**	**334**	*e*P	**P**	**21 03 51.4**	**-0.3**
ZALV	**Zalesovo Beam**	**69.85**	**334**	P	**P**	**21 03 51.4**	**-0.3**
	comp=Z,6.4nm,0.8s,mb4.6,baz=108,slow=4.8,SNR=28						
KURK	**Kurchatov**	**70.83**	**328**	*e*P	**P**	**21 03 57.7**	**-0.1**
VNDA	**Vanda**	**74.22**	**173**	P	**P**	**21 04 19.3**	**+1.8**
	comp=Z,1.6nm,0.8s,mb4.0,baz=304,slow=5.1,SNR=9.8						
BVAR	**Borovoye Array**	**76.39**	**328**	P	**P**	**21 04 30.4**	**+0.1**
	comp=Z,6.2nm,0.9s,mb4.5,baz=134,slow=6.4,SNR=34						
MAW	**Mawson**	**76.43**	**201**	P	**P**	**21 04 31.2**	**+0.8**
	comp=Z,1.5nm,0.7s,mb4.0,baz=49,slow=11,SNR=2.2						
BRVK	**Borovoye**	**76.46**	**328**	*e*P	**P**	**21 04 30.8**	**+0.1**
DAWY	**Dawson**	**95.12**	**26**	*e*P	**P**	**21 06 05.3**	**+1.4**
EOSO	**Osorio**	**139.89**	**308**	P	PKPdf	21 12 08.1	-1.9

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*NEIC **20** 21:01:28.4±0.5, 1972S×6645W, h222km±5km, mb5.3/149, Error ellipse: s-maj=4.1km s-min=2.9km az=45.0*
*BJI **20** 21:01:28.4, 1970S×6650W, h201km, mB5.1*
*MOS **20** 21:01:28.3±1.0, 1965S×6654W, h232km, mb5.4/73, Error ellipse: s-maj=7.6km s-min=5.3km az=94.9*
*GCMT **20** 21:01:28.5±0.2, 1982S×6666W, h270km±1km, MW5.4/73, Moment Tensor Solution. s62,c85; s73,c111; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.30±.03; $M_{\theta\theta}$0.17±.03; $M_{\phi\phi}$0.12±.03; $M_{r\theta}$-0.24±.03; $M_{r\phi}$0.25±.03; $M_{\theta\phi}$-1.28±.03; Best double couple: $M_0$1.35000×10^{17} NP1:ϕ_s254.00000°, δ12.00000°, λ-30.00000°. NP2: ϕ_s13.00000°, δ84.00000°, λ-100.00000°. Principal axes: T 1.3160, Plg38.0000°, Azm112.0000°; N 0.0690, Plg10.0000°, Azm14.0000°; P -1.3850, Plg50.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*GUC **20** 21:01:32.3±0.5, 2097S×6647W, h295km±19km, MS3.4*
*ISCJB **20** 21:01:32.1±0.1, 1970S±003×6645W±003, h266km, mb5.2/203, Error ellipse: s-maj=4.6km s-min=3.0km az=20.4*
*LDG **20** 21:01:32.8±0.4, 1930S×6664W, h264km, Mb5.1/33, Ms3.9/2, Error ellipse: s-maj=37.2km s-min=14.8km az=164.0*
*IDC **20** 21:01:33.4±0.3, 1964S×6647W, h267km±2km, mb4.9/33, mb1 5.0/37, mb1mx5.0/37, mbtmp4.9/37, Error ellipse: s-maj=8.9km s-min=6.2km az=60.0*
ISC 20 21:01:33.9±0.1, 1968S±003×6640W±003, h268km, h268km±.9km: pP-P, n1000, σ0§73/930, mb5.2/203, 299C-193D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.74**	**218**	P	**Pn**	**21 02 29.5**	**-6.1**
	54nm,0.3s,baz=40,slow=9.1,SNR=324						
LVC				S	**S**	**21 03 11.9**	**-13**
	253nm,0.3s,baz=263,slow=18,SNR=31						
LVC	**Limon Verde**	**3.74**	**218**	*i* P	**Pn**	**21 02 28.9**	**-6.7**
LPAZ	**La Paz**	**3.75**	**334**	P	**Pn**	**21 02 34.1**	**-1.7**
	184nm,0.3s,baz=146,slow=8.1,SNR=6811						
LPAZ				S	**S**	**21 03 16.1**	**-8.8**
	baz=232,slow=16,SNR=0.9						
CEN1	**Los Morros**	**5.11**	**223**	⇓*e*P	**Pn**	**21 02 47.0**	**-4.6**
CEN1				*i* S	**S**	**21 03 43.5**	**-10**
ANCH	**Antofagasta**	**5.46**	**222**	*e*P	**Pn**	**21 02 48.3**	**-7.4**
ANCH				*i* S	**S**	**21 03 46.0**	**-15**
ANCH	**Antofagasta**	**5.46**	**222**	*e*P	**Pn**	**21 02 48.5**	**-7.2**
ANCH				*i* S	**S**	**21 03 45.5**	**-16**
ARE	**Arequipa**	**5.80**	**303**	⇑*i*P	**Pn**	**21 02 54.5**	**-5.5**
ARE				*i* S	**S**	**21 03 58.2**	**-11**
CPN1	**Cerro Paranal**	**6.16**	**216**	*e*P	**Pn**	**21 02 56.9**	**-7.5**
CPN1				*e*S	**S**	**21 04 01.4**	**-16**
SIV	**San Ignacio**	**6.26**	**55**	P	**Pn**	**21 03 05.3**	**-0.4**
	298nm,0.3s,baz=250,slow=9.7,SNR=2285						
SIV				S	**S**	**21 04 15.7**	**-3.7**
	baz=272,slow=18,SNR=3.4						
CDCH	**Caldera**	**8.41**	**208**	*e*P	**Pn**	**21 03 23.4**	**-8.9**
CDCH				*e*S	**S**	**21 04 48.4**	**-20**
LCO	**Las Campanas**	**10.08**	**202**	*e*Pn	**Pn**	**21 03 46.0**	**-7.3**
	66nm,0.6s						
LCO				*e*S	**S**	**21 05 32.5**	**-14**
TLL	**Tololo Astrono**	**11.18**	**200**	*e*P	**Pn**	**21 04 00.3**	**-6.6**
TLL				AMS	AMS	21 06 25.2	
	comp=E,210nm,17.5s						
TLL	**Tololo Astrono**	**11.18**	**200**	*e*P	**Pn**	**21 04 00.6**	**-6.3**
CFAA	**Coronel Fontan**	**11.99**	**188**	P	**Pn**	**21 04 12.1**	**-4.8**
	comp=E,1.2nm,0.3s,baz=4.2,slow=11,SNR=36						
CFAA				S	**S**	**21 06 15.2**	**-15**
	comp=E,2.1nm,0.3s,baz=193,slow=17,SNR=14						
CFAA	**Coronel Fontan**	**11.99**	**188**	P	**Pn**	**21 04 12.1**	**-4.8**
CFAA				S	**S**	**21 06 15.2**	**-15**
NNA	**Nana**	**12.62**	**306**	Pn	**Pn**	**21 04 20.0**	**-4.8**
	comp=E,4μm,0.9s,SNR=22						
NNA	**Nana**	**12.62**	**306**	P	**Pn**	**21 04 20.9**	**-3.9**
	comp=E,34nm,0.3s,baz=137,slow=9.7,SNR=22						
NNA				S	**S**	**21 06 34.3**	**-11**
	comp=E,19nm,0.3s,baz=242,slow=20,SNR=6.4						
NNA	**Nana**	**12.62**	**306**	*e*Pn	**Pn**	**21 04 20.3**	**-4.5**
FCH	**Farellones**	**14.03**	**194**	*e*P	**Pn**	**21 04 39.0**	**-2.7**
FCH				AMS	AMS	21 07 54.6	
	comp=E,727nm,20.7s						
ATAH	**Atahualpa**	**17.16**	**316**	P	**P**	**21 05 15.5**	**-1.0**
	comp=E,4.9nm,0.3s,baz=152,slow=7.5,SNR=68						
ATAH				S	**S**	**21 08 13.4**	**-7.9**
	comp=E,0.4nm,0.3s,baz=110,slow=17,SNR=1.7						
ATAH				ScP	ScP	21 12 58.2	+3.0
	comp=E,0.6nm,0.3s,baz=3.5,slow=3.6,SNR=3.7						
BDFB	**Brasilia**	**17.98**	**80**	P	**P**	**21 05 27.4**	**+2.1**
	comp=E,43nm,0.3s,baz=249,slow=16,SNR=158						
BDFB				S	**S**	**21 08 28.9**	**-8.6**
	comp=E,1.3nm,0.3s,baz=158,slow=26,SNR=1.9						
BDFB				ScP	ScP	21 12 58.8	+1.8
	comp=E,0.2nm,0.3s,baz=16,slow=26,SNR=3.2						
BDFB	**Brasilia**	**17.98**	**80**	*e*P	**P**	**21 05 27.4**	**+2.1**
BDFB				S	**S**	**21 08 28.9**	**-8.6**
BDFB				pmax	pmax		
	comp=Z,234nm,0.4s						
BDFB	**Brasilia**	**17.98**	**80**	*e*P	**P**	**21 05 27.4**	**+2.1**
	comp=Z,234nm,0.4s						
BDFB				S	**S**	**21 08 28.9**	**-8.6**
BDFB				ScP	ScP	21 12 58.8	+1.8
SPB	**Sao Paulo**	**18.06**	**106**	*e*P	**P**	**21 05 26.1**	**0.0**
TRQA	**Tornquist**	**18.71**	**169**	*e*P	**P**	**21 05 29.1**	**-3.

comp=Z,70nm,0.5s,mb5.4
GRW Mount Saint Ca 31.98 9 *e*P **P 21 07 35.7 +0.3**
EFI East Falkland 32.60 170 *e*P **P 21 07 39.4 -1.0**
EFI pmax pmax
comp=Z,280nm,1.3s,mb5.6
EFI East Falkland 32.60 170 *e*P **P 21 07 39.4 -1.0**
comp=Z,280nm,1.3s,mb5.6
FDF Fort de France 34.58 9 *e*P **P 21 07 56.8 -1.1**
FDF Fort de France 34.58 9 *e*P **P 21 07 56.9 -0.9**
USHA Ushuaia 35.13 182 P **P 21 08 00.2 -1.9**
comp=Z,9.0nm,0.7s,mb4.4,baz=305,slow=7.4,SNR=7.2
USHA ScP ScP 21 13 47.4 +0.5
comp=Z,15nm,0.9s,baz=274,slow=3.8,SNR=3.6
SJG San Juan 37.55 0 P **P 21 08 20.7 -2.3**
comp=Z,101nm,0.5s,mb5.5,baz=159,slow=5.5,SNR=34
SJG pP pP 21 09 16.0 -1.0
comp=Z,42nm,0.9s,baz=103,slow=4.2,SNR=2.0
SJG San Juan 37.55 0 *e*P **P 21 08 20.8 -2.2**
HUMP Col San Antoni 37.59 1 *e*P **P 21 08 20.1 -3.1**
comp=Z,42nm,0.4s,mb5.2
MPR Mayaguez 37.66 359 *e*P **P 21 08 21.6 -2.2**
TGUH Tegucigalpa,Un 39.31 327 *e*P **P 21 08 37.1 -0.5**
CCIG Comitan 43.78 323 *i*P **P 21 09 12.7 -1.0**
TEIG Tepich 45.08 330 *e*P **P 21 09 21.9 -1.9**
comp=Z,260nm,1.1s,mb5.4
TEIG *e*PcP PcP 21 10 59.6 -0.1
PMSA Palmer Station 45.10 179 P **P 21 09 21.6 -1.7**
comp=Z,16nm,0.7s,mb4.4,baz=4.8,slow=5.3,SNR=11
HUIG Huatulco 45.76 318 *i*P **P 21 09 27.9 -1.3**
CMIG Matias Romero 46.02 321 *i*P **P 21 09 30.2 -1.0**
VHO Vista Hermosa 47.13 319 *i*P **P 21 09 37.6 -2.2**
PPM Popocatepetl 49.81 319 *i*P **P 21 10 00.5 +0.3**
PLIG Platanillo 49.86 317 *i*P **P 21 10 00.3 -0.3**
TRIS Tristan da Cun 49.99 122 *e*P **P 21 10 00.8 -0.5**
comp=Z,426nm,0.9s,mb5.8
PBVM Pinon 50.38 319 *i*P **P 21 10 04.7 +0.3**
ASCN Ascension 51.68 85 *e*P **P 21 10 13.5 -0.8**
comp=Z,180nm,0.6s,mb5.6
BBSR BB Station 51.78 2 *e*P **P 21 10 13.2 -1.3**
comp=Z,282nm,2.1s,mb5.2
MOIG Morelia 51.88 317 *i*P **P 21 10 15.1 -0.4**
SFJM Santa Fe 53.67 316 *i*P **P 21 10 26.5 -2.1**
NHSC New Hope 54.11 346 *e*P **P 21 10 30.7 -0.8**
BRAL Brewton 54.16 338 *e*P **P 21 10 31.5 -0.4**
COW Cow Castle Cre 54.50 345 *e*P **P 21 10 33.5 -0.7**
GOGA Godfrey 55.25 343 *e*P **P 21 10 37.6 -2.0**
LHS Liberty Hill 55.57 346 *e*P **P 21 10 43.6 +1.7**
KVTX Kingsville 55.98 326 *e*P **P 21 10 45.3 +0.4**
HKT Hockley 56.90 329 *e*P **P 21 10 50.4 -1.0**
HKT *e* 21 11 43.5
HKT pmax pmax
comp=Z,101nm,1.1s,mb5.2
HKT Hockley 56.90 329 *e*P **P 21 10 50.4 -1.0**
comp=Z,101nm,1.1s,mb5.2
HKT *e*PcP PcP 21 11 43.5 0.0
TKL Tuckaleechee C 57.44 343 P **P 21 10 53.2 -1.8**
comp=Z,51nm,0.8s,mb5.0,baz=159,slow=8.7,SNR=63
TKL Tuckaleechee C 57.44 343 *e*P **P 21 10 53.3 -1.7**
TKL *e*PcP PcP 21 11 44.2 -1.3
CPCT Cooper Cave 57.45 342 *e*P **P 21 10 48.9 -6.2**
SWET Sewanee 57.65 341 *e*P **P 21 10 54.5 -2.0**
NATX Nacogdoches 57.88 332 *e*P **P 21 10 58.0 -0.1**
comp=Z,354nm,0.8s,mb5.8
URVA University of 57.90 350 *e*P **P 21 10 56.0 -2.1**
BLA Blacksburg 58.11 347 *e*P **P 21 10 58.8 -0.8**
BLA pmax pmax
comp=Z,97nm,1.2s,mb5.1
BLA Blacksburg 58.11 347 *e*P **P 21 10 58.8 -0.8**
comp=Z,97nm,1.2s,mb5.1
PLAL Pickwick Lake 58.13 339 *e*P **P 21 10 57.2 -2.5**
OXF Oxford 58.16 338 *e*P **P 21 10 57.4 -2.6**
OXF 21 11 50.7
OXF pmax pmax
comp=Z,200nm,0.9s,mb5.5
OXF Oxford 58.16 338 *e*P **P 21 10 57.4 -2.7**
comp=Z,200nm,0.9s,mb5.5
OXF PcP PcP 21 11 50.7 +2.3
ELN Prospectdale 58.19 347 *e*P **P 21 10 59.2 -1.0**
TZTN Tazewell 58.22 344 P **P 21 10 58.2 -2.2**
comp=Z,51nm,0.8s,mb5.0
MET Memphis--Engin 58.90 338 P **P 21 11 02.5 -2.5**
JCT Junction City 59.32 326 *e*P **P 21 11 06.8 -1.3**
JCT pmax pmax
comp=Z,122nm,0.8s,mb5.4
JCT Junction City 59.32 326 *e*P **P 21 11 06.8 -1.3**
comp=Z,122nm,0.8s,mb5.4
UALR University of 59.50 335 *e*P **P 21 11 07.2 -2.0**
comp=Z,109nm,1.0s,mb5.3
HBAR Harrisburg 59.55 337 *e*P **P 21 11 08.0 -1.5**
SDMD Soldier's Deli 59.58 351 *e*P **P 21 11 08.5 -1.2**
comp=Z,34nm,0.9s,mb4.9
SDMD *e*PcP PcP 21 11 53.2 -0.7
UTMT University of 59.63 339 *e*P **P 21 11 07.5 -2.5**
UTMT PcP PcP 21 11 53.4 -0.7
GNAR Gosnell 59.69 338 *e*P **P 21 11 09.3 -1.1**
GLAT Glass 59.71 339 *e*P **P 21 11 08.7 -1.8**
GLAT *e*PcP PcP 21 11 53.4 -1.1
BBTS Babate 59.76 59 P **P 21 11 11.0 -0.3**
comp=Z,38nm,0.8s,mb5.0,baz=296,slow=2.3,SNR=8.4
BBTS Babate 59.76 59 P **P 21 11 11.0 -0.3**
MIAR Mount Ida 59.80 334 *e*P **P 21 11 09.6 -1.6**
MIAR pmax pmax
comp=Z,92nm,0.8s,mb5.4
MIAR Mount Ida 59.80 334 *e*P **P 21 11 09.6 -1.6**
comp=Z,92nm,0.8s,mb5.4
PVMO Portageville 59.98 338 *e*P **P 21 11 10.8 -1.5**
comp=Z,232nm,0.3s,mb6.2
PVMO *e*PcP PcP 21 11 55.1 -0.5
MVL Millersville 60.09 351 *e*P **P 21 11 07.5 -5.5**
PARMO Parma 60.22 338 *e*P **P 21 11 12.7 -1.3**
MCWV Mont Chateau 60.35 348 *e*P **P 21 11 14.2 -0.7**
comp=Z,81nm,0.8s,mb5.3
TXAR Lajitas Array 60.55 323 P **P 21 11 15.0 -1.4**
comp=Z,23nm,0.7s,mb4.8,baz=149,slow=8.6,SNR=247
TXAR pP pP 21 12 15.2 -0.8
comp=Z,1.8nm,0.9s,baz=329,slow=17,SNR=1.3
WCI Wyandotte Cave 60.55 342 *e*P **P 21 11 13.4 -2.8**
USIN University of 60.72 341 *e*P **P 21 11 14.9 -2.4**
comp=Z,93nm,0.8s,mb5.4
PAL Palisades 60.77 353 *e*P **P 21 11 16.8 -0.8**
SIUC Southern Illin 60.99 339 *e*P **P 21 11 17.1 -2.0**
comp=Z,197nm,1.3s,mb5.5
LPIG La Paz 61.02 314 P **P 21 11 17.9 -1.8**
comp=Z,22nm,0.4s,mb5.0,baz=7.7,slow=4.0,SNR=5.4
VNA3 Neumayer Olymp 61.06 162 *e*P **P 21 11 19.0 -0.2**
VNA3 *e* 21 11 22.6
VNA3 *e* 21 11 25.2
VNA3 *e* pP 21 12 20.0 +1.2
VNA1 Neumayer--Stat 61.23 161 *e*P **P 21 11 20.4 +0.1**
VNA1 *e* 21 11 24.0
VNA1 *e* 21 11 26.4
BRYW Bryant College 61.47 356 *e*P **P 21 11 21.7 -0.6**
BLO Bloomington 61.49 342 *e*P **P 21 11 20.4 -2.1**
BLO pmax pmax
comp=Z,169nm,0.8s,mb5.6
BLO Bloomington 61.49 342 *e*P **P 21 11 20.4 -2.1**
comp=Z,169nm,0.8s,mb5.6
OLIL Olney 61.56 341 *e*P **P 21 11 20.6 -2.3**
comp=Z,50nm,0.8s,mb5.2
OLIL *e*PcP PcP 21 12 01.6 -0.3
ACSO Alum Creek Sta 61.57 346 *e*P **P 21 11 21.5 -1.5**
comp=Z,188nm,0.8s,mb5.8
VNA2 Neumayer--Watz 61.60 161 *e*P **P 21 11 22.7 -0.1**
VNA2 *e* 21 11 26.2
VNA2 *e* 21 11 28.6
VNA2 *e* pP 21 12 23.7 +1.2
FVM French Village 61.64 339 *e*P **P 21 11 21.6 -1.9**
FVM *e* 21 12 01.4
FVM pmax pmax
comp=Z,232nm,0.8s,mb5.9
FVM French Village 61.64 339 *e*P **P 21 11 21.6 -1.9**
comp=Z,232nm,0.8s,mb5.9
FVM *e*PcP PcP 21 12 01.4 -0.9
WES Weston 61.91 356 *e*P **P 21 11 24.8 -0.4**
HRV Adam Dziewonsk 62.05 356 *e*P **P 21 11 25.5 -0.6**
SLM Saint Louis 62.16 339 *e*P **P 21 11 24.8 -2.2**
SLM *e* 21 12 03.8
SLM pmax pmax
comp=Z,96nm,1.0s,mb5.4
SLM Saint Louis 62.16 339 *e*P **P 21 11 24.8 -2.2**
comp=Z,96nm,1.0s,mb5.4
SLM *e*PcP PcP 21 12 03.8 -0.5
BINY Binghamton 62.20 352 *e*P **P 21 11 26.8 -0.3**
comp=Z,118nm,0.9s,mb5.5
WMOK Wichita Mounta 62.25 330 *e*P **P 21 11 25.7 -2.0**
WMOK *e* 21 12 04.3
WMOK pmax pmax
comp=Z,19nm,0.6s,mb4.9
WMOK Wichita Mounta 62.25 330 *e*P **P 21 11 25.7 -2.0**
comp=Z,19nm,0.6s,mb4.9
WMOK *e*PcP PcP 21 12 04.3 -0.5
GDL2 Guadalupe Moun 63.10 324 *e*P **P 21 11 32.5 -0.8**
SNAA Sanae 63.24 162 *e*P **P 21 11 33.1 -0.5**
SNAA *e* 21 11 36.3
SNAA *e* 21 11 39.6
SNAA *e* pP 21 12 34.4 +0.7
SNAA Sanae 63.24 162 P **P 21 11 32.4 -1.3**
comp=Z,10nm,0.6s,mb4.6,baz=287,slow=6.2,SNR=178
SNAA pP pP 21 12 34.0 +0.3
comp=Z,5.9nm,1.1s,baz=324,slow=4.6,SNR=1.9
HNH Hanover 63.30 355 *e*P **P 21 11 34.5 +0.1**
RKT Rikitea 63.41 253 *e*P **P 21 11 34.6 -1.0**
comp=Z,99nm,1.0s,mb5.4
RKT Rikitea 63.41 253 *e*P **P 21 11 34.6 -1.0**
RKT pmax pmax
comp=Z,99nm,1.0s,mb5.4
AAM Ann Arbor 63.69 346 *e*P **P 21 11 35.3 -1.6**
NCB Newcomb 63.74 354 *e*P **P 21 11 36.6 -0.6**
LBNH Lisbon 63.80 356 *e*P **P 21 11 37.8 +0.2**
EMMW East Machias 64.08 359 *e*P **P 21 11 39.0 -0.4**
LONY Lake Ozonia 64.42 354 *e*P **P 21 11 41.0 -0.6**
comp=Z,40nm,0.8s,mb5.1
LONY PcP PcP 21 12 13.5 0.0
LONY *e* 21 12 30.6
FRNY Flat Rock 64.53 354 *e*P **P 21 11 41.7 -0.6**
PKME Peaks-Kenny Pk 64.68 358 *e*P **P 21 11 42.8 -0.5**
comp=Z,30nm,0.8s,mb5.0
PKME *e*PcP PcP 21 12 13.9 -0.6
KSU1 Kansas State U 64.95 334 *e*P **P 21 11 43.7 -1.4**
319A Douglas 65.34 320 ⇓P **P 21 11 47.5 -0.3**
baz=66,SNR=84
LIC Lamto 65.62 73 ⇑*i*P **P 21 11 49.0 -1.0**
comp=Z,66nm,0.5s,mb5.3,baz=265
LIC ⇑*i*pP pP 21 12 50.3 -0.2
LIC *e*MLR MLR
comp=Z,164nm,21.5s
LIC Lamto 65.62 73 *e*P **P 21 11 48.9 -1.1**
comp=Z,139nm,0.6s,mb5.9
LIC Lamto 65.62 73 ⇑*i*P **P 21 11 49.0 -1.0**
comp=Z,33nm,0.5s,mb5.3
LIC *i*pP pP 21 12 50.3 -0.2
LIC LR LR
comp=Z,80nm,21.5s
219A White Tail Can 65.77 321 ⇑P **P 21 11 50.2 -0.3**
baz=66,SNR=57
TIC Toumodi 65.81 73 *e*P **P 21 11 50.1 -1.1**
comp=Z,187nm,0.8s,mb5.9
TIC Toumodi 65.81 73 *e*P **P 21 11 50.1 -1.1**
TIC pmax pmax
comp=Z,187nm,0.8s,mb5.9
318A Bisbee 65.81 320 ⇓P **P 21 11 50.5 -0.3**
baz=66,SNR=80
BNM Barren Site 65.82 324 *e*P **P 21 11 50.7 -0.1**
BNM *e*PcP PcP 21 12 19.9 +0.4
BNM *e*PP PP 21 14 17.4 -2.3
Y22C IRIS PASSCAL I 65.92 324 ⇓P **P 21 11 51.2 -0.2**
baz=66
KIC Kosan Boka 65.94 73 *e*P **P 21 11 51.2 -0.8**
comp=Z,376nm,0.4s,mb6.5
LPM Los Pinos Moun 65.94 324 *e*P **P 21 11 51.2 -0.4**
DBIC Dimbokro 65.96 73 P **P 21 11 51.4 -0.8**
comp=Z,94nm,0.6s,mb5.7,baz=222,slow=6.9,SNR=171
DBIC pP pP 21 12 52.8 0.0
comp=Z,50nm,0.9s,baz=233,slow=6.6,SNR=3.8
DBIC PP PP 21 14 19.3 -1.9
comp=Z,30nm,1.0s,baz=236,slow=9.1,SNR=4.0
LENM Lemitar 66.02 324 *e*P **P 21 11 52.3 +0.2**
LENM *e*PcP PcP 21 12 20.5 +0.1
LENM *e*PP PP 21 14 20.8 -0.7
CBKS Cedar Bluff 66.04 332 *e*P **P 21 11 51.5 -0.6**
CBKS *e* 21 12 19.9
CBKS pmax pmax
comp=Z,239nm,0.8s,mb6.0
CBKS Cedar Bluff 66.04 332 *e*P **P 21 11 51.5 -0.6**
comp=Z,239nm,0.8s,mb6.0
CBKS *e*PcP PcP 21 12 19.9 -0.5
JFWS Jewell Farm 66.04 341 *e*P **P 21 11 50.3 -1.7**
JFWS pmax pmax
comp=Z,132nm,0.9s,mb5.7
JFWS Jewell Farm 66.04 341 *e*P **P 21 11 50.3 -1.7**
comp=Z,132nm,0.9s,mb5.7
SCIA State Center 66.11 338 *e*P **P 21 11 50.8 -1.7**
comp=Z,128nm,0.9s,mb5.7
218A Dragoon 66.22 320 ⇑P **P 21 11 53.2 -0.3**
baz=66,SNR=38
LAZ Ladron 66.29 324 *e*P **P 21 11 53.6 -0.2**
LAZ *e*PcP PcP 21 12 21.8 +0.2
GLMI Grayling 66.31 346 *e*P **P 21 11 51.9 -1.7**
comp=Z,135nm,0.8s,mb5.7
GLMI *e*PcP PcP 21 12 18.1 -3.2
ANMO Albuquerque 66.32 325 P **P 21 11 53.7 -0.3**
comp=Z,31nm,0.7s,mb5.2,baz=135,slow=7.7,SNR=91
ANMO pP pP 21 12 54.6 0.0
comp=Z,5.4nm,0.9s,baz=137,slow=15,SNR=1.7
ANMO Albuquerque 66.32 325 *e*P **P 21 11 53.6 -0.4**
ANMO pmax pmax
comp=Z,355nm,2.1s
ANMO Albuquerque 66.32 325 *e*P **P 21 11 53.6 -0.4**
comp=Z,355nm,2.1s,mb5.7
119A Ashpeak Ranch, 66.34 321 ⇓P **P 21 11 54.0 -0.2**
baz=67,SNR=39
217A Green Valley 66.55 319 ⇓P **P 21 11 55.1 -0.4**
baz=67,SNR=47
118A Homack Ranch, 66.65 321 ⇑P **P 21 11 55.8 -0.2**
baz=67,SNR=54
Z19A T-Link Ranch, 66.69 322 ⇑P **P 21 11 56.6 +0.2**
baz=67,SNR=17
TUC Tucson 66.91 320 *e*P **P 21 11 57.2 -0.5**
Z18A Geronimo 67.00 321 ⇑P **P 21 11 58.1 -0.1**
baz=67,SNR=5.5
117A Oracle 67.06 320 ⇑P **P 21 11 58.5 -0.2**
baz=67,SNR=75
216A Three Points, 67.10 319 ⇓P **P 21 11 59.0 0.0**
baz=67,SNR=50
Y19A Nutrioso 67.16 322 ⇓P **P 21 11 59.8 +0.5**
baz=67,SNR=120
Z17A San Carlos Hig 67.41 321 ⇑P **P 21 12 00.6 -0.2**
baz=68,SNR=11
Y18A Canyon Day Jun 67.49 322 ⇑P **P 21 12 01.2 -0.2**
baz=68,SNR=9.8
X19A St. Johns 67.52 322 ⇓P **P 21 12 01.5 0.0**
baz=68,SNR=10.0
116A Eloy 67.64 320 ⇓P **P 21 12 02.1 -0.2**
baz=68,SNR=16
MAIT Maitri 67.67 159 *e*P **P 21 12 01.0 -0.9**
NVL N'lazarevskaya 67.70 159 *c i*P **P 21 12 03.4 +1.3**
NVL pmax pmax
comp=Z,93nm,1.1s,mb5.4
Y17A Roosevelt 67.91 321 ⇓P **P 21 12 04.1 +0.2**
baz=68,SNR=78
214A Organ Pipe Nat 67.91 318 ⇑P **P 21 12 04.1 +0.1**
baz=68,SNR=59
SDCO Great Sand Dun 67.93 327 *e*P **P 21 12 04.1 +0.1**
X18A Snowflake 67.97 322 ⇑P **P 21 12 04.5 +0.1**
baz=68,SNR=16
Z16A Peralta Trail, 68.01 320 ⇓P **P 21 12 04.6 0.0**
baz=68,SNR=15
W19A Sanders 68.07 323 ⇑P **P 21 12 04.9 0.0**
baz=68,SNR=22
W18A Petrified Fore 68.27 323 ⇑P **P 21 12 06.1 0.0**
baz=68,SNR=14
V19A Window Rock 68.31 324 ⇓P **P 21 12 06.5 +0.1**
baz=68,SNR=13
X17A Forest Lakes 68.34 321 ⇓P **P 21 12 07.0 +0.5**
baz=69,SNR=23
Y16A Circle Bar Ran 68.41 321 ⇑P **P 21 12 07.4 +0.3**
baz=69,SNR=52
Z15A Gila River Ind 68.42 320 ⇓P **P 21 12 07.0 -0.1**
baz=69
X16A Lo Mia Camp, P 68.77 321 ⇓P **P 21 12 09.6 +0.3**
baz=69,SNR=52
W17A Winslow 68.80 322 ⇑P **P 21 12 09.6 +0.1**
baz=69,SNR=16
V18A Ganado 68.81 323 ⇑P **P 21 12 09.1 -0.3**
baz=69,SNR=11
ECSD EROS,Sioux Fal 68.92 337 *e*P **P 21 12 08.5 -1.4**
comp=Z,165nm,1.4s,mb5.6
Z14A Wintersburg 68.95 319 ⇓P **P 21 12 10.3 -0.1**
baz=69,SNR=8.4
Y15A Casa Rosa Ranc 68.98 320 ⇑P **P 21 12 10.5 0.0**
baz=69,SNR=75
113A Mohawk Valley, 69.06 318 ⇑P **P 21 12 10.8 -0.3**
baz=69,SNR=27
MVCO Mesa Verde 69.10 325 ⇓P **P 21 12 11.3 +0.1**
baz=69
MVCO Mesa Verde 69.10 325 *e*P **P 21 12 10.9 -0.3**
comp=Z,180nm,1.1s,mb5.7
T19A Beclabito 69.11 324 ⇑P **P 21 12 11.0 -0.3**
baz=69,SNR=48
U18A Rough Rock, Ch 69.28 324 ⇑P **P 21 12 12.5 +0.2**
baz=70,SNR=45
X15A Humboldt 69.29 321 ⇑P **P 21 12 12.8 +0.4**
baz=70,SNR=51
W16A Flagstaff 69.29 322 ⇑P **P 21 12 13.2 +0.7**
baz=70,SNR=56
Y14A Wickenburg 69.37 320 ⇓P **P 21 12 13.0 0.0**
baz=70,SNR=41
112A Yuma 69.41 318 ⇑P **P 21 12 13.0 -0.2**
baz=70
WUAZ Wupatki 69.50 322 ⇑P **P 21 12 14.1 +0.4**
baz=70,SNR=59
WUAZ Wupatki 69.50 322 *e*P **P 21 12 14.0 +0.4**
ISCO Idaho Springs 69.57 329 *e*P **P 21 12 14.1 +0.1**
ISCO pmax pmax
comp=Z,111nm,1.4s,mb5.4
ISCO Idaho Springs 69.57 329 *e*P **P 21 12 14.1 +0.1**
comp=Z,111nm,1.4s,mb5.4
CFTV Fuerteventura 69.58 48 P **P 21 12 15.1 +0.8**
comp=Z,19nm,0.7s,mb4.9
X14A Yava 69.67 320 ⇓P **P 21 12 15.1 +0.4**
baz=70,SNR=91
SMCO Snowmass 69.77 327 *e*P **P 21 12 11.1 -4.1**
W15A Williams 69.78 321 ⇓P **P 21 12 16.0 +0.6**
baz=70,SNR=27
Y13A Salome 69.80 319 ⇓P **P 21 12 15.7 +0.2**
baz=70,SNR=22
T18A Mexican Hat 69.80 324 ⇓P **P 21 12 15.2 -0.3**
baz=70,SNR=88
PV01 Paradox Valley 69.82 326 *e*P **P 21 12 15.9 +0.3**
PV01 *e*PcP PcP 21 12 36.2 -0.1
S19A Harvey Farm, M 69.84 325 ⇓P **P 21 12 15.6 -0.1**
baz=70,SNR=39
U17A Shonto 69.85 323 ⇑P **P 21 12 16.3 +0.4**
baz=70,SNR=22
GLA Glamis 69.91 318 *e*P **P 21 12 16.2 0.0**
GLA pmax pmax
comp=Z,61nm,0.9s,mb5.3
GLA Glamis 69.91 318 ⇑P **P 21 12 16.2 0.0**
baz=70,SNR=15
GLA Glamis 69.91 318 *e*P **P 21 12 16.2 -0.1**
comp=Z,61nm,0.9s,mb5.3
V15A Kaibab Nationa 70.17 322 ⇑P **P 21 12 18.5 +0.7**
baz=70,SNR=110
Y12C Blythe 70.18 319 ⇑P **P 21 12 18.0 +0.2**
baz=70,SNR=25
T17A Navajo Res., N 70.22 323 ⇑P **P 21 12 18.8 +0.8**
baz=70,SNR=29
PV10 Paradox Valley 70.25 326 *e*P **P 21 12 18.0 -0.2**
S18A Hurst Farm, Bl 70.27 324 ⇓P **P 21 12 18.7 +0.4**
baz=70,SNR=112
W14A Seligman 70.29 321 ⇓P **P 21 12 19.1 +0.6**
baz=70,SNR=38
R19A Curley Farm, L 70.31 325 ⇑P **P 21 12 18.4 -0.2**
baz=70,SNR=10
X13A Yucca 70.32 320 ⇓P **P 21 12 18.9 +0.2**
baz=70,SNR=86
SWSC Sam W. Stewart 70.45 317 ⇑P **P 21 12 19.6 0.0**
baz=71,SNR=8.3
DVTC Desert V Tower 70.47 317 ⇑P **P 21 12 19.9 +0.3**
baz=71,SNR=27
QSPA South Pole Qui 70.51 180 P **P 21 12 18.8 -0.4**
comp=Z,5.5nm,0.5s,mb4.5,baz=141,slow=1.0,SNR=29
QSPA pP pP 21 13 21.2 +0.6
comp=Z,6.5nm,0.6s,baz=134,slow=3.3,SNR=2.2
QSPA South Pole Qui 70.51 180 P **P 21 12 18.8 -0.4**
QSPA pP pP 21 13 21.2 +0.6
V14A Boquillas Ranc 70.59 321 ⇑P **P 21 12 21.2 +0.9**
baz=71,SNR=130
T16A Glen Canyon Da 70.60 323 ⇓P **P 21 12 20.8 +0.5**
baz=71,SNR=15
PHWY Pilot Hill 70.66 330 *e*P **P 21 12 20.6 +0.1**
U15A North Rim 70.66 322 ⇓P **P 21 12 21.7 +1.0**
baz=71,SNR=117
S17A Black Ridge (B 70.67 324 ⇓P **P 21 12 21.1 +0.3**
baz=71,SNR=16
W13A Hualapai Mount 70.69 320 ⇓P **P 21 12 21.6 +0.6**
baz=71,SNR=69
BC3 Big Chuckw Mtn 70.70 318 ⇓P **P 21 12 21.2 +0.2**
baz=71,SNR=79
R18A Canyonlands Na 70.72 325 ⇓P **P 21 12 20.8 -0.2**
baz=71,SNR=42
Q19A Hogan Spring (70.79 326 ⇑P **P 21 12 21.6 +0.1**
baz=71,SNR=70
MONP Monument Peak 70.82 317 ⇓P **P 21 12 22.0 +0.3**
baz=71,SNR=38
BAR Barrett 70.85 317 *e*P **P 21 12 21.8 -0.1**
comp=Z,80nm,0.8s,mb5.4
NEE2 Needles Airpor 70.92 319 ⇓P **P 21 12 22.3 0.0**
baz=71,SNR=9.2
EYMN Ely 70.98 342 *e*P **P 21 12 20.7 -1.6**
T15A Red Dirt Ranch 71.13 323 ⇓P **P 21 12 24.3 +0.8**
baz=71,SNR=75
U14A Mt Trumbull 71.17 322 ⇑P **P 21 12 24.7 +0.9**
baz=71,SNR=137
S16A Weppner Ranch, 71.18 324 ⇑P **P 21 12 23.8 0.0**
baz=71,SNR=24
R17A Hanksville Air 71.18 325 ⇑P **P 21 12 23.9 +0.1**
baz=71,SNR=140
109C Camp Elliot, M 71.26 317 ⇑P **P 21 12 24.0 -0.4**
baz=72
V13A Grand Canyon W 71.26 321 ⇑P **P 21 12 24.8 +0.5**
baz=72,SNR=134
BELC Belle Mtn. 71.27 318 ⇑P **P 21 12 24.7 +0.3**
baz=72,SNR=43
PFO Pinyon Flat Ob 71.30 318 P **P 21 12 24.1 -0.5**
comp=Z,41nm,0.8s,mb5.1,baz=118,slow=4.8,SNR=43
PFO pP pP 21 13 25.5 -0.7
comp=Z,14nm,1.2s,baz=104,slow=5.2,SNR=2.3
PFO Pinyon Flat Ob 71.30 318 ⇓P **P 21 12 24.9 +0.3**
baz=72,SNR=33
PFO Pinyon Flat Ob 71.30 318 P **P 21 12 24.1 -0.5**
PFO pP pP 21 13 25.5 -0.7
Q18A Rafter H Ranch 71.36 325 ⇑P **P 21 12 24.9 0.0**
baz=72,SNR=22
LDFC Landfair 71.42 319 *e*P **P 21 12 26.1 +0.7**
W12A Cal Nev Ari 71.43 320 ⇑P **P 21 12 25.5 +0.2**
baz=72,SNR=7.7
T14A Hurricane 71.56 322 ⇓P **P 21 12 26.8 +0.7**
baz=72,SNR=29
GMRC Granite Mounta 71.57 319 ⇑P **P 21 12 26.7 +0.5**
baz=72,SNR=177
S15A Panguitch 71.58 323 ⇓P **P 21 12 26.5 +0.4**
baz=72,SNR=12
SRU San Rafael 71.58 325 ⇑P **P 21 12 26.2 +0.1**
baz=72,SNR=83
SRU San Rafael 71.58 325 *e*P **P 21 12 26.1 0.0**
U13A Pakoon Wash 71.63 321 ⇑P **P 21 12 27.1 +0.6**
baz=72,SNR=35
V12A Nelson 71.70 320 ⇑P **P 21 12 27.1 +0.2**
baz=72,SNR=75
MURC Murrieta 71.77 317 ⇑P **P 21 12 27.5 0.0**
baz=72,SNR=5.7
Q16A Castle Valley 71.79 325 ⇑P **P 21 12 27.6 +0.2**
baz=72,SNR=20
RWWY Rawlins 71.79 329 *e*P **P 21 12 27.9 +0.6**
comp=Z,282nm,2.0s,mb5.5
P18A Preston Nutter 71.80 326 ⇑P **P 21 12 28.0 +0.5**
baz=72,SNR=90
TAOE Nuku Hiva Isla 71.83 267 *e*P **P 21 12 26.9 -1.3**
comp=Z,946nm,1.2s,mb6.3
R15A Junction 71.90 323 ⇓P **P 21 12 28.6 +0.5**
baz=72,SNR=36
P17A Butcher Ranch, 71.96 325 ⇓P **P 21 12 28.6 +0.2**
baz=72,SNR=36
U12A Valley of Fire 71.98 321 ⇓P **P 21 12 29.2 +0.6**
baz=72,SNR=16
T13A Saint George 72.01 322 ⇓P **P 21 12 29.6 +0.9**
baz=72,SNR=55
HEC Hector,Ludlow 72.02 319 ⇓P **P 21 12 29.4 +0.5**
baz=72,SNR=72
BBRC Big Bear Sol-O 72.02 318 ⇑P **P 21 12 29.6 +0.8**
baz=72
MSU Marysvale 72.06 324 *e*P **P 21 12 29.5 +0.5**
TMUT Trail Mountain 72.08 325 *e*P **P 21 12 29.5 +0.4**
S14A Cedar City 72.09 323 ⇑P **P 21 12 29.8 +0.6**
baz=72,SNR=16
V11A Goodsprings 72.12 320 ⇑P **P 21 12 29.8 +0.3**
baz=72,SNR=13

O18A **Roosevelt** 72.14 326 ⇓P P 21 12 29.8 +0.3
baz=72,SNR=6.8
TUQ **Turquoise Mtn.** 72.16 319 ⇓P P 21 12 29.9 +0.2
baz=72,SNR=5.5
RSSD **Black Hills** 72.23 332 eP P 21 12 29.6 -0.2
SCI **San Clemente I** 72.26 316 ⇓P P 21 12 28.8 -1.5
baz=72,SNR=6.9
T12A **Moapa** 72.29 321 ⇓P P 21 12 30.5 +0.1
baz=72,SNR=8.8
S13A **Holt Ranch, En** 72.37 322 ⇓P P 21 12 31.9 +1.0
baz=73,SNR=59
R14A **James Farms, M** 72.38 323 ⇓P P 21 12 31.5 +0.6
baz=73
SHPR **Sheep Range** 72.41 321 eP P 21 12 31.6 +0.5
CIS **Catalina Islan** 72.43 316 ⇑P P 21 12 31.1 -0.2
baz=73
RRX **Edison Barstow** 72.47 318 ⇓P P 21 12 31.8 +0.3
baz=73
BFSC **Mount Baldy St** 72.47 317 ⇓P P 21 12 31.5 -0.1
baz=73,SNR=20
U11A **Corn Creek** 72.48 320 ⇓P P 21 12 32.2 +0.6
baz=73,SNR=12
N18A **Larsen Ranch,** 72.49 327 ⇑P P 21 12 31.2 -0.2
baz=73,SNR=16
Q15A **Fillmore** 72.51 324 ⇑P P 21 12 31.9 +0.2
baz=73
P16A **Fountain Green** 72.55 325 ⇑P P 21 12 32.4 +0.6
baz=73
FMP **Fort Macarthur** 72.55 317 ⇓P P 21 12 32.1 +0.1
baz=73
AGMN **Agassiz Refuge** 72.62 340 eP P 21 12 31.0 -1.1
GSC **Goldstone** 72.62 319 eP P 21 12 32.7 +0.3
GSC pmax pmax
comp=Z,165nm,1.4s,mb5.5
GSC **Goldstone** 72.62 319 ⇓P P 21 12 32.7 +0.4
baz=73,SNR=40
GSC **Goldstone** 72.62 319 eP P 21 12 32.7 +0.3
comp=Z,165nm,1.4s,mb5.5
SHOC **Shoshone** 72.68 319 ⇓P P 21 12 32.5 -0.2
baz=73
MWC **Mount Wilson** 72.72 317 eP P 21 12 33.1 +0.1
MPU **Maple Canyon** 72.82 325 eP P 21 12 33.7 +0.2
comp=Z,94nm,1.0s,mb5.4
MPU e pP 21 13 37.5 +2.2
R13A **O'Grain Ranch,** 72.84 323 ⇑P P 21 12 34.6 +1.0
baz=73,SNR=77
P15A **Leamington** 72.86 325 ⇑P P 21 12 33.9 +0.2
baz=73,SNR=23
O16A **Springville** 72.89 325 ⇑P P 21 12 34.1 +0.3
baz=73,SNR=19
DAU **Daniels Canyon** 72.91 326 eP P 21 12 34.5 +0.6
DECC **Green Verdugo** 72.91 317 ⇓P P 21 12 34.2 +0.1
baz=73
T11A **Corn Creek, Al** 72.93 321 ⇓P P 21 12 35.0 +0.8
baz=73,SNR=107
S12A **Delamar Landin** 72.96 322 ⇑P P 21 12 35.2 +0.9
baz=73,SNR=34
Q14A **Sevier Lake (B** 73.00 324 ⇑P P 21 12 35.5 +0.9
baz=73,SNR=247
NLU **North Lily Min** 73.02 325 eP P 21 12 35.1 +0.5
U10A **Ash Meadows, A** 73.05 320 ⇑P P 21 12 35.6 +0.7
baz=73,SNR=48
N17A **Moffit Pass** 73.07 326 ⇓P P 21 12 35.1 +0.3
baz=73,SNR=23
EDW2 **Edwards Air Fo** 73.09 318 ⇑P P 21 12 34.9 -0.2
baz=73,SNR=25
JLU **Jordanelle** 73.14 326 eP P 21 12 35.8 +0.5
LRMC **Laurel Mountai** 73.28 318 ⇓P P 21 12 36.3 0.0
baz=74,SNR=9.5
BLG **Laguna Peak** 73.30 316 ⇑P P 21 12 36.1 -0.3
baz=74,SNR=8.6
P14A **Drum Mountains** 73.31 324 ⇓P P 21 12 37.1 +0.9
baz=74,SNR=142
R12A **Pony Springs,** 73.31 322 ⇓P P 21 12 37.1 +0.8
baz=74,SNR=100
N16A **Rees Ranch, Co** 73.34 326 ⇓P P 21 12 36.9 +0.4
baz=74,SNR=19
TPNV **Topopah Spring** 73.35 320 ⇑P P 21 12 37.5 +0.9
baz=74
TPNV **Topopah Spring** 73.35 320 eP P 21 12 37.3 +0.7
CTU **Camp Tracy** 73.37 326 eP P 21 12 36.8 +0.2
Q13A **Wheeler Ranch,** 73.40 323 ⇑P P 21 12 37.4 +0.5
baz=74,SNR=67
FURC **Furnace Creek,** 73.41 320 ⇓P P 21 12 37.5 +0.6
baz=74,SNR=65
O15A **The Old Anders** 73.46 325 ⇓P P 21 12 37.9 +0.7
baz=74,SNR=8.0
S11A **Rachel** 73.51 321 ⇓P P 21 12 38.6 +1.0
baz=74
MPMC **Manual Prospec** 73.53 319 ⇓P P 21 12 37.8 +0.1
baz=74,SNR=54
NOQ **North Oquirrh** 73.54 325 eP P 21 12 38.0 +0.4
DUG **Dugway** 73.59 325 eP P 21 12 38.2 +0.3
DUG pmax pmax
comp=Z,82nm,0.9s,mb5.4
DUG **Dugway** 73.59 325 eP P 21 12 38.2 +0.3
comp=Z,82nm,0.9s,mb5.4
BSC **Santa Cruz Isl** 73.60 316 ⇑P P 21 12 38.0 -0.1
baz=74,SNR=8.0
P13A **Bates Ranch, G** 73.74 323 ⇑P P 21 12 39.7 +0.8
baz=74,SNR=120
M16A **Huntsville** 73.75 326 ⇓P P 21 12 38.6 -0.2
baz=74,SNR=18
PDAR **Pinedale Array** 73.75 328 P P 21 12 38.3 -0.5
comp=Z,16nm,0.6s,mb4.9,baz=124,slow=8.5,SNR=30
ARVC **Arvin** 73.78 317 ⇓P P 21 12 38.9 -0.2
baz=74
R11A **Troy Canyon, C** 73.89 322 ⇓P P 21 12 40.5 +0.8
baz=74,SNR=123
ISA **Isabella** 73.89 318 eP P 21 12 40.3 +0.5
ISA pmax pmax
comp=Z,98nm,1.0s,mb5.4
ISA **Isabella** 73.89 318 ⇓P P 21 12 40.2 +0.4
baz=74,SNR=39
ISA **Isabella** 73.89 318 eP P 21 12 40.2 +0.5
comp=Z,98nm,1.0s,mb5.4
Q12A **Willow Creek R** 73.92 323 ⇓P P 21 12 40.4 +0.5
baz=74,SNR=55
N15A **Stansbury Isla** 73.92 325 ⇑P P 21 12 39.8 0.0
baz=74,SNR=35
SBC **Santa Barbara** 73.93 316 ⇓P P 21 12 39.6 -0.4
baz=74
HWUT **Hardware Ranch** 73.93 326 eP P 21 12 39.7 -0.1
GRAC **Grapevine Rang** 74.07 320 ⇑P P 21 12 41.2 +0.5
baz=74,SNR=21
CWC **Cottonwood Cre** 74.14 319 ⇑P P 21 12 41.6 +0.4
baz=74,SNR=14
L16A **Fish Haven** 74.15 327 ⇑P P 21 12 40.9 -0.2
baz=74
SPUT **South Promonto** 74.18 326 eP P 21 12 41.4 +0.1
O13A **Hicks Ranch, I** 74.19 324 ⇓P P 21 12 41.7 +0.4
baz=74,SNR=7.1
S10A **Tonopah Range,** 74.20 321 ⇓P P 21 12 42.0 +0.5
baz=74,SNR=138
SCHQ **Schefferville** 74.21 360 P P 21 12 40.6 -0.5
comp=Z,60nm,0.8s,mb5.3,baz=178,slow=4.1,SNR=54
BGU **Big Grassy Mou** 74.22 325 eP P 21 12 41.5 0.0
N14A **Grayback Hills** 74.25 325 ⇓P P 21 12 42.0 +0.2
baz=74,SNR=88
Q11A **Duckwater** 74.26 322 ⇑P P 21 12 42.4 +0.6
baz=74,SNR=121
R10A **Warm Springs** 74.27 321 ⇑P P 21 12 43.1 +1.2
baz=74,SNR=15
PKM **Peak Mountain** 74.27 317 ⇑P P 21 12 42.4 +0.4
baz=74,SNR=58
M15A **Larsen Ranch,** 74.29 326 ⇑P P 21 12 41.8 -0.2
baz=74,SNR=105
ULM **Lac du Bonnet** 74.33 341 P P 21 12 40.6 -1.3
comp=Z,104nm,0.7s,mb5.6,baz=150,slow=5.9,SNR=116
VES **Vestal, Richgr** 74.39 318 ⇑P P 21 12 42.7 0.0
baz=75,SNR=46
S09A **Goldfield** 74.45 320 ⇑P P 21 12 43.2 +0.3
baz=75,SNR=31
AHID **Auburn Hatcher** 74.52 327 eP P 21 12 43.3 +0.1
comp=Z,85nm,0.9s,mb5.4
TOA0 **Torodi Ar. Sit** 74.53 70 eP P 21 12 43.0 -0.8
TORD **Torodi Ar. Bea** 74.53 70 P P 21 12 42.9 -1.0
comp=Z,188nm,0.4s,mb6.1,baz=255,slow=5.3,SNR=4040
TORD pP pP 21 13 46.1 +0.1
comp=Z,41nm,0.7s,baz=251,slow=6.3,SNR=4.1
TORD PP PP 21 15 26.1 -8.5
comp=Z,7.6nm,0.6s,baz=249,slow=8.1,SNR=5.0
TORD **Torodi Ar. Bea** 74.53 70 P P 21 12 42.9 -1.0
TORD pP pP 21 13 46.1 +0.1
TORD PP PP 21 15 26.1 -8.5
TIN **Tinemaha** 74.63 319 ⇓P P 21 12 44.6 +0.6
baz=75,SNR=19

L15A **Malad City** 74.64 326 ⇓P P 21 12 43.7 -0.2
baz=75,SNR=42
SMMC **Simmler** 74.65 317 ⇓P P 21 12 44.7 +0.6
baz=75,SNR=32
TPH **Tonopah** 74.67 321 eP P 21 12 44.6 +0.4
Q10A **Clear Creek Ra** 74.68 322 ⇓P P 21 12 45.0 +0.8
baz=75,SNR=33
HVU **Hansel Valley** 74.69 326 eP P 21 12 44.1 -0.1
R09A **Tonopah** 74.69 321 ⇓P P 21 12 44.7 +0.4
baz=75,SNR=100
O12A **Currie** 74.71 324 ⇓P P 21 12 44.7 +0.4
baz=75,SNR=30
RCTC **Rector, Farmer** 74.78 318 ⇓P P 21 12 44.1 -0.8
baz=75,SNR=7.4
P11A **Circle Ranch,** 74.79 323 ⇑P P 21 12 45.4 +0.6
baz=75
M14A **Sheep Mountain** 74.80 325 ⇓P P 21 12 44.9 +0.1
baz=75,SNR=53
K16A **Soda Springs** 74.82 327 ⇓P P 21 12 45.5 +0.6
baz=75,SNR=41
REDW **Red Top Meadow** 74.83 328 eP P 21 12 45.1 +0.2
SNOW **Snow King Moun** 74.86 328 eP P 21 12 45.6 +0.5
comp=Z,81nm,0.9s,mb5.3
S08C **White Mtn Res** 74.88 320 ⇑P P 21 12 46.0 +0.6
baz=75,SNR=60
HELL **Mitchell Peak** 74.88 319 ⇓P P 21 12 45.3 -0.1
baz=75,SNR=114
LOHW **Long Hollow** 74.89 328 eP P 21 12 45.6 +0.3
V05C **Boulder Hill,** 74.93 317 ⇓P P 21 12 46.1 +0.4
baz=75,SNR=5.3
TPAW **Teton Pass** 74.98 328 eP P 21 12 46.1 +0.3
comp=Z,67nm,0.8s,mb5.3
MTUM **Tungsten Hills** 75.02 319 eP P 21 12 46.4 +0.2
MTUM PcP PcP 21 13 00.5 +1.9
RRI2 **Red Ridge** 75.06 328 eP P 21 12 46.8 +0.5
MOOW **Moose Ponds** 75.06 328 eP P 21 12 46.4 +0.1
L14A **Malta** 75.11 326 ⇑P P 21 12 46.4 -0.2
baz=75,SNR=70
O11A **Cowboy Ranch,** 75.13 323 ⇓P P 21 12 47.2 +0.5
baz=75,SNR=35
M13A **Montello** 75.14 325 ⇑P P 21 12 46.5 -0.2
baz=75,SNR=22
Q09A **Carvers** 75.15 321 ⇓P P 21 12 47.6 +0.7
baz=75,SNR=17
J16A **Bone** 75.15 328 ⇑P P 21 12 47.2 +0.4
baz=75
DCID1 **Drake Creek** 75.17 328 eP P 21 12 47.7 +0.8
K15A **Arbon** 75.20 327 ⇓P P 21 12 47.3 +0.2
baz=75
LAO **LASA Array** 75.20 333 eP P 21 12 46.2 -0.8
comp=Z,48nm,0.9s,mb5.1
P10A **Eureka** 75.25 322 ⇓P P 21 12 48.3 +0.9
baz=76,SNR=29
IMW **Indian Meadow** 75.27 328 eP P 21 12 48.0 +0.5
N12A **Clover Valley,** 75.27 324 ⇑P P 21 12 47.6 +0.1
baz=76,SNR=15
FLWY **Flagg Ranch** 75.28 329 eP P 21 12 48.3 +0.7
ELK **Elko** 75.31 324 P P 21 12 47.9 +0.2
comp=Z,42nm,0.8s,mb5.1,baz=124,slow=4.4,SNR=141
ELK pP pP 21 13 49.9 -0.2
comp=Z,5.3nm,0.9s,baz=71,slow=8.2,SNR=1.3
ELK **Elko** 75.31 324 P P 21 12 47.9 +0.2
ELK pP pP 21 13 49.9 -0.2
U05C **Westside ANR,** 75.36 318 ⇓P P 21 12 47.9 -0.2
baz=76
MLAC **Mammoth Lakes** 75.37 319 ⇓P P 21 12 48.9 +0.8
baz=76
RLMT **Red Lodge** 75.37 330 eP P 21 12 48.2 +0.3
R08A **Mina** 75.38 320 ⇓P P 21 12 48.5 +0.2
baz=76,SNR=20
PKD **Parkfield** 75.38 317 ⇑P P 21 12 48.0 -0.3
baz=76,SNR=27
V04C **Ramage Ranch,** 75.41 317 ⇓P P 21 12 48.9 +0.4
baz=76,SNR=18
K14A **Jones Ranch, D** 75.44 326 ⇓P P 21 12 48.2 -0.2
baz=76,SNR=23
KCC **Kaiser Creek** 75.47 319 ⇑P P 21 12 48.2 -0.6
baz=76,SNR=34
LKWY **Lake** 75.49 329 eP P 21 12 50.6 +1.9
T06C **Millerton Lake** 75.51 318 ⇑P P 21 12 47.6 -1.4
baz=76,SNR=9.8
L13A **Double Diamond** 75.52 325 ⇑P P 21 12 49.4 +0.5
baz=76,SNR=82
NVAR **Mina Array Bea** 75.55 320 P P 21 12 49.5 +0.3
comp=Z,53nm,0.9s,mb5.2,baz=152,slow=6.6,SNR=204
NVAR pP pP 21 13 51.8 +0.3
comp=Z,5.7nm,1.0s,baz=316,slow=4.1,SNR=2.2
M12A **Wells** 75.58 324 ⇓P P 21 12 49.5 +0.2
baz=76,SNR=42
P09A **Austin** 75.59 322 ⇓P P 21 12 49.8 +0.4
baz=76,SNR=14
Q08A **Gabbs** 75.61 321 ⇑P P 21 12 49.5 0.0
baz=76,SNR=41
YFT **Old Faithful** 75.62 329 eP P 21 12 50.9 +1.5
N11A **Elko Archery C** 75.63 324 ⇓P P 21 12 49.8 +0.2
baz=76
O10A **Cortez Mining,** 75.71 323 ⇑P P 21 12 50.5 +0.4
baz=76,SNR=15
YNR **Norris Junctio** 75.74 329 eP P 21 12 50.9 +0.8
DGMT **Dagmar** 75.77 335 eP P 21 12 50.4 +0.2
comp=Z,112nm,0.8s,mb5.5
R07C **Lee Vining** 75.79 320 ⇓P P 21 12 51.3 +0.8
baz=76,SNR=21
U04C **Hernandez Rese** 75.79 317 ⇑P P 21 12 50.8 +0.1
baz=76,SNR=65
YMR **Madison River** 75.84 329 eP P 21 12 51.8 +1.1
comp=Z,424nm,1.4s,mb5.9
V03C **Hunter Liggett** 75.88 317 ⇑P P 21 12 51.7 +0.6
baz=76,SNR=23
K13A **Stover Farm, H** 75.99 326 ⇑P P 21 12 51.8 +0.2
baz=76,SNR=23
N10A **Dunphy** 76.00 323 ⇓P P 21 12 51.8 +0.1
baz=76,SNR=5.8
O09A **Fish Creek Ran** 76.03 322 ⇓P P 21 12 51.6 -0.3
baz=76,SNR=29
T05C **Eagle Field, D** 76.05 318 ⇑P P 21 12 52.7 +0.7
baz=76
GCMT **Greycliff** 76.06 330 eP P 21 12 51.9 0.0
M11A **Holland Ranch,** 76.08 324 ⇑P P 21 12 52.7 +0.6
baz=76,SNR=72
S05C **Merced** 76.11 318 ⇑P P 21 12 52.7 +0.3
baz=76,SNR=47
L12A **House Creek Ra** 76.14 325 ⇓P P 21 12 53.3 +0.8
baz=76,SNR=79
S06C **San Francisco** 76.15 319 ⇓P P 21 12 52.9 +0.3
baz=76,SNR=83
Q07A **Schurz** 76.18 320 ⇑P P 21 12 53.5 +0.7
baz=76
QLMT **Earthquake Lak** 76.19 329 eP P 21 12 53.5 +0.9
BMN **Battle Mountai** 76.22 322 eP P 21 12 52.1 -0.8
BMN pmax pmax
comp=Z,35nm,1.3s,mb4.8
BMN **Battle Mountai** 76.22 322 eP P 21 12 52.1 -0.8
comp=Z,35nm,1.3s,mb4.8
P08A **Dixie Valley** 76.24 321 ⇑P P 21 12 53.8 +0.8
baz=76,SNR=17
HAST **Hastings Reser** 76.30 317 ⇓P P 21 12 53.7 +0.2
baz=76,SNR=29
R06C **Coleville** 76.31 320 ⇑P P 21 12 54.4 +1.0
baz=76,SNR=46
K12A **Draper Farm, C** 76.42 325 ⇓P P 21 12 54.8 +0.9
baz=77,SNR=72
SAO **San Andreas Ge** 76.46 317 eP P 21 12 54.6 +0.2
PACP **Pacheco Peak** 76.51 318 ⇑P P 21 12 55.0 +0.4
baz=77,SNR=21
J13A **Cove Ranch, Pi** 76.56 326 ⇑P P 21 12 55.4 +0.7
baz=77,SNR=26
L11A **Cat Creek Ranc** 76.56 325 ⇓P P 21 12 55.5 +0.8
baz=77,SNR=94
M10A **I.L. Ranch, Tu** 76.56 324 ⇑P P 21 12 55.3 +0.6
baz=77,SNR=42
CMB **Columbia Colle** 76.58 319 ⇓P P 21 12 54.8 -0.2
baz=77,SNR=14
CMB **Columbia Colle** 76.58 319 eP P 21 12 54.7 -0.2
P07A **Fallon** 76.61 321 ⇑P P 21 12 55.8 +0.6
baz=77
O08A **Rochester Mine** 76.67 322 ⇑P P 21 12 55.1 -0.3
baz=77
N09A **Rock Creek Ran** 76.67 323 ⇑P P 21 12 55.0 -0.4
baz=77,SNR=12
HLID **Hailey** 76.80 326 ⇑P P 21 12 56.9 +0.9
baz=77,SNR=166
HLID **Hailey** 76.80 326 eP P 21 12 56.8 +0.8
R05C **Kirkwood Meado** 76.80 320 ⇑P P 21 12 56.8 +0.6
baz=77,SNR=34
S04C **Ingram Canyon,** 76.84 318 ⇓P P 21 12 56.5 +0.1
baz=77,SNR=26

BOZ **Bozeman (W)** 76.88 329 eP P 21 12 56.0 -0.5
BOZ pmax pmax
comp=Z,22nm,1.1s,mb4.8
BOZ **Bozeman (W)** 76.88 329 ⇓P P 21 12 56.1 -0.4
baz=77,SNR=13
BOZ **Bozeman (W)** 76.88 329 eP P 21 12 56.0 -0.5
comp=Z,22nm,1.1s,mb4.8
I13A **Wildhorse Cree** 76.89 327 ⇓P P 21 12 57.6 +1.0
baz=77,SNR=93
MCMT **McKenzie Canyo** 76.89 328 P P 21 12 57.4 +0.8
L10A **Juniper Basin** 76.89 324 ⇓P P 21 12 57.3 +0.7
baz=77,SNR=171
J12A **Stokes Ranch,** 76.94 326 ⇑P P 21 12 57.5 +0.6
baz=77,SNR=103
G15A **Dillon** 76.95 328 ⇓P P 21 12 57.2 +0.3
baz=77,SNR=18
N08A **GE Springer Mi** 76.97 322 ⇑P P 21 12 56.6 -0.5
baz=77,SNR=39
WCN **Washoe City** 76.98 320 ⇑P P 21 12 58.0 +0.8
baz=77,SNR=9.4
M09A **Marrel Ranch,** 77.00 323 ⇓P P 21 12 57.7 +0.5
baz=77,SNR=50
O07A **Toulon** 77.00 321 ⇓P P 21 12 57.4 0.0
baz=77,SNR=34
PAHR **Pah Rah Range** 77.02 321 eP P 21 12 58.0 +0.6
R04C **Big Horse Ranc** 77.05 319 ⇑P P 21 12 58.1 +0.5
baz=77,SNR=13
K11A **Parker Ranch,** 77.12 325 ⇑P P 21 12 58.5 +0.7
baz=77,SNR=114
DLMT **Dillon** 77.14 329 eP P 21 12 58.3 +0.4
comp=Z,200nm,1.6s,mb5.6
BNLO **Ben Lomond (Sa** 77.15 317 ⇑P P 21 12 58.3 +0.1
baz=77,SNR=8.1
WENL **Wente Brothers** 77.18 318 ⇑P P 21 12 58.9 +0.6
baz=77,SNR=5.3
LAVA **Lava Cap Winer** 77.24 319 ⇑P P 21 12 58.7 +0.1
baz=78,SNR=27
PMOR **Pomariorio Ree** 77.24 258 eP P 21 12 58.1 -1.1
comp=Z,142nm,1.0s,mb5.7
P06A **Stead Airport,** 77.30 321 ⇓P P 21 12 59.8 +0.8
baz=78,SNR=5.1
JRSC **Jasper Ridge** 77.35 318 ⇑P P 21 12 59.4 +0.1
baz=78,SNR=7.6
SYO **Syowa Base** 77.37 159 ⇓iP P 21 12 57.4 -1.5
SYO **Syowa Base** 77.37 159 ⇓iP P 21 13 00.6 +1.7
LRM **Limekiln Ridge** 77.40 329 eP P 21 12 59.6 +0.2
H13A **Challis** 77.41 327 ⇓P P 21 13 00.2 +0.8
baz=78,SNR=89
F15A **Butte** 77.44 329 ⇑P P 21 12 59.9 +0.4
baz=78,SNR=23
MFID **Camas Ranch** 77.44 325 ⇑P P 21 13 00.5 +0.8
baz=78,SNR=86
BDM **Black Diamond** 77.45 318 ⇑P P 21 13 00.6 +0.8
baz=78,SNR=12
N07B **Gerlach** 77.46 322 ⇑P P 21 12 60.0 +0.2
baz=78,SNR=50
SUR **Sutherland** 77.46 120 P P 21 13 01.4 +1.2
comp=Z,97nm,0.9s,mb5.5,baz=253,slow=5.3,SNR=41
G14A **Jackson** 77.49 328 ⇑P P 21 13 00.3 +0.5
baz=78
P05C **Yuba Gap, Truc** 77.50 320 ⇓P P 21 13 00.8 +0.8
baz=78,SNR=43
L09A **Wilkinson Ranc** 77.52 323 ⇑P P 21 13 00.6 +0.5
baz=78,SNR=15
M08A **Happy Creek Ra** 77.55 323 ⇑P P 21 13 00.5 +0.2
baz=78,SNR=28
O06A **Flanigan** 77.57 321 ⇑P P 21 13 00.7 +0.3
baz=78,SNR=32
SAC **San Andreas** 77.57 318 eP P 21 13 00.9 +0.4
K10A **MacKenzie Ranc** 77.58 324 ⇓P P 21 13 00.8 +0.4
baz=78,SNR=74
TVO **Taravao** 77.68 255 eP P 21 13 00.5 -1.1
comp=Z,1μm,1.2s,mb6.4
TVO **Taravao** 77.68 255 eP P 21 13 00.5 -1.1
TVO pmax pmax
comp=Z,1μm,1.2s,mb6.4
Q04C **Lincoln** 77.68 319 ⇑P P 21 13 01.7 +0.6
baz=78,SNR=13
H12A **Diamond D Ranc** 77.71 327 ⇓P P 21 13 01.8 +0.7
baz=78,SNR=96
EGMT **Eagleton** 77.77 332 ⇑P P 21 13 01.1 -0.2
baz=78
EGMT **Eagleton** 77.77 332 eP P 21 13 01.2 -0.1
G13A **Cobalt** 77.77 328 ⇓P P 21 13 02.2 +0.8
baz=78,SNR=221
TIAR **Tiarei** 77.83 256 eP P 21 13 01.0 -1.4
comp=Z,793nm,1.3s,mb6.3
F14A **Wisdom** 77.85 328 ⇓P P 21 13 02.4 +0.6
baz=78,SNR=26
I11A **Placerville** 77.85 326 ⇑P P 21 13 02.0 +0.1
baz=78,SNR=22
E15A **Deer Lodge** 77.93 329 ⇑P P 21 13 02.6 +0.3
baz=78,SNR=20
N06A **Buffalo Meadow** 77.94 321 ⇓P P 21 13 02.8 +0.3
baz=78,SNR=91
Q03C **Winters** 77.95 319 ⇑P P 21 13 03.4 +0.8
baz=78,SNR=10
J10A **Berg Farm, Mel** 77.96 325 ⇑P P 21 13 02.5 0.0
baz=78,SNR=5.0
M07A **Soldier Meadow** 77.96 322 ⇑P P 21 13 02.8 +0.3
baz=78,SNR=42
K09A **Rome** 78.00 324 ⇑P P 21 13 03.1 +0.4
baz=78,SNR=52
L08A **Fields** 78.01 323 ⇓P P 21 13 02.8 0.0
baz=78,SNR=53
FARB **Farallon Islan** 78.01 317 ⇓P P 21 13 02.8 -0.2
baz=78,SNR=14
PAE **Paea** 78.01 255 eP P 21 13 01.9 -1.5
comp=Z,748nm,1.2s,mb6.3
PAE **Paea** 78.01 255 eP P 21 13 01.9 -1.5
PAE pmax pmax
comp=Z,748nm,1.2s,mb6.3
PPT **Papeete** 78.04 256 eP P 21 13 02.6 -1.0
comp=Z,132nm,1.5s,mb5.4
PPT **Papeete** 78.04 256 P P 21 13 03.7 +0.1
comp=Z,20nm,0.3s,mb5.3,baz=184,slow=21,SNR=3.6
PPT **Papeete** 78.04 256 eP P 21 13 02.6 -1.0
PPT pmax pmax
comp=Z,132nm,1.5s
OHCM **Honcut** 78.05 319 eP P 21 13 03.1 0.0
CVS **Carmenet Viney** 78.06 318 ⇑P P 21 13 03.0 -0.1
baz=78,SNR=34
O05C **Quincy** 78.09 320 ⇓P P 21 13 03.7 +0.4
baz=78,SNR=22
SUTB **Sutter Butte** 78.17 319 ⇑P P 21 13 03.6 -0.1
baz=78,SNR=10.0
ORV **Oroville** 78.20 320 ⇓P P 21 13 04.3 +0.4
baz=78,SNR=105
MCCM **Marconi Confer** 78.20 318 ⇓P P 21 13 03.9 -0.1
baz=78,SNR=11
MCCM **Marconi Confer** 78.20 318 eP P 21 13 03.9 -0.1
NSHM **Saint Helena R** 78.25 318 eP P 21 13 04.0 -0.2
TSUM **Tsumeb** 78.31 106 P P 21 13 05.6 +0.6
comp=Z,187nm,0.8s,mb5.9,baz=234,slow=5.7,SNR=386
TSUM pP pP 21 14 07.7 0.0
comp=Z,27nm,0.9s,baz=271,slow=4.6,SNR=2.7
F13A **Darby** 78.31 328 ⇓P P 21 13 04.8 +0.4
baz=78,SNR=127
D15A **Lincoln** 78.31 330 ⇓P P 21 13 05.0 +0.6
baz=78,SNR=35
WVOR **Wild Horse Val** 78.33 323 eP P 21 13 04.1 -0.5
WVOR e 21 16 02.7
WVOR pmax pmax
comp=Z,22nm,1.0s,mb4.8
WVOR **Wild Horse Val** 78.33 323 eP P 21 13 04.1 -0.5
comp=Z,22nm,1.0s,mb4.8
WVOR ePP PP 21 16 02.7 -3.3
E14A **Clinton** 78.33 329 ⇓P P 21 13 05.0 +0.5
baz=79,SNR=26
MNRC **McLaughlin Nat** 78.37 319 ⇓P P 21 13 05.0 +0.2
baz=79,SNR=17
ELFS **Eagle Lake Fie** 78.39 321 ⇓P P 21 13 05.5 +0.6
baz=79
H11A **Donnelly** 78.42 326 ⇑P P 21 13 05.2 +0.3
baz=79,SNR=20
I10A **Payette** 78.42 325 ⇑P P 21 13 05.5 +0.5
baz=79,SNR=7.5
O04C **Chester** 78.42 320 ⇑P P 21 13 05.2 +0.1
baz=79,SNR=20
J09A **Fry Pan Ranch,** 78.44 324 ⇓P P 21 13 05.4 +0.3
baz=79,SNR=13
K08A **Mann Creek Ran** 78.44 324 ⇓P P 21 13 05.4 +0.2
baz=79,SNR=18
L07A **Adell** 78.46 323 ⇑P P 21 13 06.0 +0.7
baz=79,SNR=49
MORF **Marmelete** 78.53 43 eP P 21 13 06.6 +0.9
comp=Z,84nm,1.6s,mb5.2

CHMT Chamberlain Mo 78.57 329 eP P 21 13 05.5 -0.3
M06C Likely Place G 78.61 321 ⇊P P 21 13 06.5 +0.4
baz=79,SNR=62
PTEO Sao Teotonio 78.62 43 eP P 21 13 07.8 +1.6
comp=Z,128nm,1.4s,mb5.5
E13A Victor 78.69 329 ⇊P P 21 13 06.9 +0.4
baz=79,SNR=28
H10A Noah's Angus R 78.72 326 ⇑P P 21 13 06.6 -0.1
baz=79,SNR=53
F12A Elk City 78.75 327 ⇑P P 21 13 07.0 +0.3
baz=79,SNR=55
O03C Acorn Hollow, 78.79 320 ⇑P P 21 13 06.4 -0.7
baz=79
D14A Greenough 78.81 329 ⇊P P 21 13 07.2 +0.1
baz=79,SNR=13
HOPS Hopland 78.83 318 ⇊P P 21 13 07.7 +0.4
baz=79,SNR=13
HOPS Hopland 78.83 318 eP P 21 13 07.5 +0.2
K07A Rock Creek Ran 78.84 323 ⇊P P 21 13 07.9 +0.5
baz=79,SNR=61
J08A Circle Bar Ran 78.84 324 ⇑P P 21 13 07.8 +0.5
baz=79,SNR=63
MSO Missoula 78.84 329 eP P 21 13 07.1 -0.2
comp=Z,31nm,1.2s,mb4.9
I09A Lost Marbles R 78.85 325 ⇊P P 21 13 07.7 +0.4
baz=79,SNR=31
LBCM Butte Creek Ri 78.89 321 P P 21 13 07.4 -0.3
MOD Modoc 78.94 322 ⇊P P 21 13 08.1 +0.3
baz=79,SNR=39
MOD Modoc 78.94 322 eP P 21 13 08.2 +0.3
HATC Hat Creek Radi 78.95 321 ⇑P P 21 13 08.0 0.0
baz=79,SNR=24
PBDV Barranco-do-Ve 78.96 44 eP P 21 13 09.1 +1.0
comp=Z,62nm,2.3s,mb4.9
GASB Alder Springs 79.00 319 ⇑P P 21 13 08.7 +0.4
baz=79,SNR=98
G11A Walters Elk Ra 79.02 327 ⇊P P 21 13 08.5 +0.3
baz=79,SNR=67
VNDA Vanda 79.03 190 P P 21 13 06.8 -1.2
comp=Z,1.7nm,0.8s,mb3.8,baz=137,slow=5.5,SNR=8.5
PMAFR Mafra 79.09 42 eP P 21 13 09.4 +0.6
comp=Z,181nm,2.4s,mb5.4
M05C Lookout 79.10 321 ⇑P P 21 13 08.9 +0.2
baz=79,SNR=35
PVAQ Vaqueiros 79.19 44 eP P 21 13 10.1 +0.8
comp=Z,27nm,0.7s,mb5.1
BMO Blue Mountains 79.20 326 eP P 21 13 09.2 +0.1
I08A Drewsey 79.26 324 ⇑P P 21 13 10.3 +0.8
baz=80,SNR=137
H09A Durkee 79.26 325 ⇑P P 21 13 10.1 +0.5
baz=80,SNR=24
P01C Double 8 Ranch 79.28 319 ⇑P P 21 13 10.3 +0.6
baz=80,SNR=38
D13A Huson 79.28 329 ⇑P P 21 13 09.9 +0.3
baz=80,SNR=70
F11A Grangeville 79.30 327 ⇑P P 21 13 09.5 -0.2
baz=80,SNR=43
J07A Hines 79.32 324 ⇑P P 21 13 10.6 +0.7
baz=80,SNR=35
L05A Lakeview 79.34 322 ⇊P P 21 13 10.9 +0.9
baz=80,SNR=72
G10A Bishop Farm, J 79.39 326 ⇑P P 21 13 11.1 +0.9
baz=80,SNR=167
EGRO El Granado 79.42 44 ⇑P P 21 13 11.5 +0.9
comp=Z,53nm,0.7s,mb5.4
PBEJ Beja 79.45 43 eP P 21 13 11.6 +0.9
comp=Z,38nm,1.6s,mb4.9
WDC Whiskeytown Da 79.45 320 ⇊P P 21 13 09.2 -1.5
baz=80,SNR=64
WDC Whiskeytown Da 79.45 320 eP P 21 13 09.1 -1.6
K06A Valley Falls 79.48 323 ⇑P P 21 13 11.5 +0.7
baz=80,SNR=112
KCPM Cahto Peak 79.56 319 eP P 21 13 11.8 +0.6
KIPM Iron Peak 79.57 319 eP P 21 13 11.9 +0.6
M03C McCloud 79.62 321 ⇑P P 21 13 11.0 -0.5
baz=80,SNR=9.4
E11A Bogner Ranch, 79.64 327 ⇑P P 21 13 11.2 -0.3
baz=80,SNR=35
EVO Evora 79.65 43⇑iP P 21 13 12.0 +0.2
comp=Z,65nm,0.7s,mb5.2
EVO epP pP 21 14 12.7 -2.0
H08A Prairie City 79.71 325 ⇑P P 21 13 12.6 +0.6
baz=80,SNR=39
J06A Christmas Vall 79.71 323 ⇊P P 21 13 12.3 +0.3
baz=80,SNR=124
G09A Cove 79.73 326 ⇊P P 21 13 12.7 +0.6
baz=80,SNR=195
C13A Hot Springs 79.75 329 ⇑P P 21 13 12.2 +0.1
baz=80,SNR=37
M04C Macdoel 79.77 321 ⇑P P 21 13 12.5 +0.2
baz=80,SNR=48
K05A Summer Lake 79.80 322 ⇑P P 21 13 13.5 +1.0
baz=80,SNR=90
I07A Izee 79.88 324 ⇊P P 21 13 13.6 +0.8
baz=80,SNR=106
F10A Beach Ranch, E 79.91 327 ⇊P P 21 13 13.2 +0.2
baz=80,SNR=67
O01C Eel River Cons 79.97 319 ⇊P P 21 13 14.2 +0.7
baz=80,SNR=16
PTOM Tomar 80.03 42 eP P 21 13 14.4 +0.6
comp=Z,102nm,0.8s,mb5.6
L04A Klamath Falls 80.04 322 ⇊P P 21 13 14.0 +0.2
baz=80,SNR=34
N02C Big Bar 80.06 320 ⇊P P 21 13 14.3 +0.3
baz=80,SNR=97
PBAR Barrancos 80.07 44 eP P 21 13 14.7 +0.7
comp=Z,32nm,1.8s,mb4.8
EMIN Mina Concepcio 80.08 44 ⇑P P 21 13 14.9 +0.8
comp=Z,80nm,0.6s,mb5.6
F09A S2 Ranch, Elgi 80.08 326 ⇊P P 21 13 14.2 +0.3
baz=80,SNR=54
FFC Flin Flon 80.10 340 P P 21 13 12.3 -1.5
comp=Z,136nm,1.3s,mb5.5,SNR=6.4
FFC Flin Flon 80.10 340 eP P 21 13 12.8 -1.0
FFC pmax pmax
comp=Z,37nm,1.2s,mb5.0
FFC Flin Flon 80.10 340 eP P 21 13 12.8 -1.0
comp=Z,37nm,1.2s,mb5.0
PESTR Estremoz 80.11 43 eP P 21 13 14.8 +0.6
comp=Z,64nm,1.3s,mb5.2
ESPR Espera 80.12 45 ⇑P P 21 13 15.0 +0.7
comp=Z,31nm,0.6s,mb5.2
M02C Callahan 80.13 320 ⇊P P 21 13 13.8 -0.5
baz=80,SNR=29
EJIF Jimena Fronter 80.15 46 P P 21 13 15.3 +0.8
EJIF pmax pmax
comp=Z,29nm,0.7s,mb5.1
EJIF Jimena Fronter 80.15 46 P P 21 13 15.3 +0.8
comp=Z,29nm,0.7s,mb5.1
D11A Klaveano Farm, 80.18 328 ⇑P P 21 13 14.1 -0.3
baz=80,SNR=15
I06A Prineville 80.18 324 ⇑P P 21 13 15.4 +0.9
baz=80,SNR=48
B13A Whitefish 80.19 330 ⇑P P 21 13 14.3 0.0
baz=80,SNR=32
E10A Myers Farm, Un 80.19 327 ⇊P P 21 13 14.6 +0.1
baz=80,SNR=37
K04A Chilquin 80.22 322 ⇑P P 21 13 15.0 +0.3
baz=80,SNR=5.1
H07A Lands Inn, Kim 80.24 325 ⇑P P 21 13 15.0 +0.2
baz=80
YBH Yreka Blue Hor 80.25 321 P P 21 13 13.7 -1.2
comp=Z,33nm,0.8s,mb5.1,baz=87,slow=3.5,SNR=101
YBH Yreka Blue Hor 80.25 321 ⇊P P 21 13 13.7 -1.2
baz=80,SNR=41
J05A Fort Rock 80.35 323 ⇊P P 21 13 15.9 +0.5
baz=81,SNR=38
KHMM Horse Mountain 80.35 320 eP P 21 13 15.9 +0.4
G08A Pilot Rock 80.37 325 ⇑P P 21 13 15.8 +0.3
baz=81,SNR=71
LNOR Lincton Mounta 80.39 326 eP P 21 13 14.8 -0.7
WALA Waterton Lakes 80.41 331 eP P 21 13 15.2 -0.3
EBAD Badajoz 80.42 43 ⇑P P 21 13 16.6 +0.7
comp=Z,62nm,1.1s,mb5.2
JCC Jacoby Creek 80.50 319 ⇑P P 21 13 16.5 +0.2
baz=81,SNR=9.2
PMRV Marv??o 80.56 42 eP P 21 13 16.6 0.0
comp=Z,41nm,1.7s,mb4.9
F08A Pendleton 80.60 326 ⇊P P 21 13 16.0 -0.7
baz=81,SNR=21
D10A Wagner Farm, O 80.66 327 ⇑P P 21 13 16.4 -0.6
baz=81,SNR=51
EMIJ Mijas 80.68 46 ⇑P P 21 13 17.5 +0.2
comp=Z,31nm,0.5s,mb5.3
G07A Ruggs Ranch, H 80.73 325 ⇊P P 21 13 18.2 +0.8
baz=81,SNR=74
E09A Wood Farm, Sta 80.74 327 ⇑P P 21 13 16.9 -0.5
baz=81,SNR=40

PCBR Castelo Branco 80.74 42 eP P 21 13 17.8 +0.2
comp=Z,41nm,1.5s,mb4.9
H06A Lindquist Farm 80.75 324 ⇑P P 21 13 18.4 +0.8
baz=81,SNR=126
KTRM Thompson Ridge 80.76 321 P P 21 13 17.9 +0.3
VIPM Ingram Point 80.77 324 P P 21 13 18.4 +0.8
B12A Libby 80.79 329 ⇑P P 21 13 17.7 +0.1
baz=81,SNR=15
J04A Umpqua Nationa 80.82 322 ⇊P P 21 13 18.1 +0.2
baz=81,SNR=25
KRMB Red Mountain 80.85 320 eP P 21 13 18.1 +0.1
I05A Bend 80.91 323 ⇊P P 21 13 19.1 +0.8
baz=81,SNR=9.9
HUMO Hull Mountain 80.93 321 ⇊P P 21 13 17.5 -1.0
baz=81,SNR=37
HUMO Hull Mountain 80.93 321 eP P 21 13 17.4 -1.1
comp=Z,23nm,0.7s,mb5.0
HUMO ePcP PcP 21 13 24.1 0.0
PVIS Viseu 80.99 41 eP P 21 13 19.0 +0.2
comp=Z,43nm,1.8s,mb4.9
MTE Manteigas 81.02 41 eP P 21 13 19.4 +0.4
comp=Z,55nm,0.8s,mb5.3
L02A Cave Junction 81.04 321 ⇑P P 21 13 19.2 +0.1
baz=81,SNR=25
ECAB El Cabril 81.07 44 P P 21 13 19.5 +0.1
comp=Z,18nm,0.5s,mb5.1
A12A Yaak River Ran 81.14 330 ⇑P P 21 13 19.5 0.0
baz=81,SNR=13
B11A Sandpoint 81.14 329 ⇑P P 21 13 18.9 -0.5
baz=81,SNR=10
WIFE Three Sisters- 81.16 323 P P 21 13 20.1 +0.5
VTHM Trough 81.16 325 P P 21 13 20.3 +0.7
M01C Crescent City 81.17 320 ⇊P P 21 13 19.8 +0.1
baz=81,SNR=8.1
C10A Spilker Farm, 81.19 328 ⇑P P 21 13 19.4 -0.3
baz=81,SNR=6.9
D09A Jones Farm, Ri 81.19 327 ⇑P P 21 13 19.6 -0.1
baz=81,SNR=81
H05A Madras 81.19 324 ⇊P P 21 13 20.4 +0.6
baz=81,SNR=8.7
E08A Dider Farm, El 81.20 326 ⇊P P 21 13 19.4 -0.4
baz=81,SNR=7.9
G06A Carlson Farm, 81.24 325 ⇑P P 21 13 20.7 +0.7
baz=82,SNR=47
CROR Criterion Ridg 81.27 324 P P 21 13 21.0 +0.8
I04A Tendick Farm, 81.33 323 ⇑P P 21 13 19.9 -0.7
baz=82,SNR=26
K02A Glendale 81.34 321 ⇑P P 21 13 20.7 +0.1
baz=82,SNR=54
HAWA Hanford 81.39 326 eP P 21 13 21.0 +0.2
NEW Newport 81.39 328 P P 21 13 19.7 -1.1
ELOJ Sierra Loja 81.41 46 ⇑P P 21 13 22.1 +0.9
ELOJ pmax pmax
comp=Z,25nm,0.4s,mb5.3
ELOJ Sierra Loja 81.41 46 ⇑P P 21 13 22.1 +0.9
comp=Z,25nm,0.4s,mb5.3
FRIS Frissel Point 81.41 323 P P 21 13 21.1 +0.1
FCC Fort Churchill 81.42 346 eP P 21 13 20.1 -0.5
RSW Rattlesnake Hi 81.42 326 P P 21 13 21.4 +0.4
KBO Bosley Butte 81.44 321 eP P 21 13 21.7 +0.5
B10A Chitwood Farm, 81.47 328 ⇑P P 21 13 20.3 -0.9
baz=82
PCAB Cabril 81.48 40 eP P 21 13 21.8 +0.4
comp=Z,79nm,0.5s,mb5.7
A11A Hall Mountain, 81.50 329 ⇊P P 21 13 21.0 -0.3
baz=82,SNR=62
D08A Wollman Farm, 81.50 327 ⇑P P 21 13 21.5 +0.1
baz=82,SNR=41
EALB Alboran 81.54 47 P P 21 13 21.3 -0.5
comp=Z,44nm,0.8s,mb5.2
ELOB Lobios 81.56 40 ⇑P P 21 13 22.2 +0.4
comp=Z,35nm,0.7s,mb5.2
ELUQ Luque 81.56 45 P P 21 13 22.8 +0.9
ELUQ pmax pmax
comp=Z,123nm,1.1s,mb5.5
ELUQ Luque 81.56 45 P P 21 13 22.8 +0.9
comp=Z,123nm,1.1s,mb5.5
ERON Agron 81.58 46 P P 21 13 22.4 +0.3
comp=Z,14nm,0.5s,mb4.9
OD2 Odessa Site #2 81.61 327 P P 21 13 21.8 -0.1
G05A Wamic 81.62 324 ⇑P P 21 13 22.9 +0.9
baz=82
EGUA Guajares 81.64 46 P P 21 13 22.6 +0.2
EGUA pmax pmax
comp=Z,42nm,0.6s,mb5.3
EGUA Guajares 81.64 46 P P 21 13 22.6 +0.2
comp=Z,42nm,0.6s,mb5.3
EMAZ Mazaricos 81.65 39 P P 21 13 23.0 +0.7
comp=Z,20nm,1.0s,mb4.8
F06A Goldendale 81.65 325 ⇊P P 21 13 22.6 +0.4
baz=82,SNR=14
E07A Sunnyside 81.66 326 ⇑P P 21 13 22.7 +0.5
baz=82,SNR=7.6
EADA Adamuz 81.68 45 ⇑P P 21 13 22.3 -0.2
comp=Z,52nm,1.1s,mb5.2
J02A Umpqua 81.75 322 ⇊P P 21 13 23.1 +0.3
baz=82,SNR=19
H04A Detroit Lake 81.75 323 ⇑P P 21 13 22.4 -0.4
baz=82,SNR=26
MVO Moncorvo 81.78 41 eP P 21 13 23.6 +0.6
comp=Z,79nm,0.7s,mb5.5
HOOD Mount Hood Mea 81.85 324 eP P 21 13 23.6 +0.4
STS Santiago 81.86 39 P P 21 13 23.4 +0.1
STS pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
STS Santiago 81.86 39 P P 21 13 23.4 +0.1
comp=Z,7.6nm,0.6s,mb4.6
ECOG Cogollos-Vega 81.88 46 ⇑P P 21 13 24.1 +0.5
ECOG pmax pmax
comp=Z,15nm,0.6s,mb4.9
ECOG Cogollos-Vega 81.88 46 ⇑P P 21 13 24.1 +0.5
comp=Z,15nm,0.6s,mb4.9
KEBM Edson Butte 81.90 321 eP P 21 13 23.9 +0.3
TAM Tamanrasset 81.90 62 eP P 21 13 24.6 +0.6
I03A Eugene 81.94 322 ⇑P P 21 13 23.9 +0.1
baz=82,SNR=10
K01A Sixes 81.94 321 ⇑P P 21 13 23.9 +0.1
baz=82,SNR=11
B09A Rice 82.01 328 ⇑P P 21 13 23.5 -0.5
baz=82,SNR=33
C08A Higginbotham F 82.04 327 ⇑P P 21 13 23.7 -0.5
baz=82,SNR=8.6
A10A Northport 82.09 329 ⇑P P 21 13 23.6 -0.8
baz=82,SNR=24
F05A White Salmon 82.10 325 ⇊P P 21 13 24.8 +0.3
baz=82,SNR=28
D07A Quincy 82.14 326 ⇊P P 21 13 25.1 +0.4
baz=82,SNR=28
EBER Berja 82.14 46 P P 21 13 24.9 0.0
comp=Z,27nm,0.6s,mb5.2
EBAN Banos Encina 82.20 45 P P 21 13 25.6 +0.4
EBAN pmax pmax
comp=Z,54nm,0.8s,mb5.3
EBAN Banos Encina 82.20 45 P P 21 13 25.6 +0.4
comp=Z,54nm,0.8s,mb5.3
BOSA Boshof 82.21 117 P P 21 13 25.7 0.0
comp=Z,56nm,0.6s,mb5.5,baz=260,slow=4.3,SNR=124
G04A Mulino 82.24 324 ⇑P P 21 13 25.2 0.0
baz=82,SNR=12
E06A Yakima 82.25 325 ⇑P P 21 13 25.6 +0.3
baz=82,SNR=53
I02A Mapleton 82.28 322 ⇑P P 21 13 25.6 +0.2
baz=82,SNR=5.2
COR Corvallis 82.33 323 eP P 21 13 25.5 -0.2
H03A Soap Creek Ran 82.37 323 ⇑P P 21 13 26.3 +0.4
baz=83,SNR=10
ECAL Calabor 82.41 41 P P 21 13 26.8 +0.7
comp=Z,138nm,1.2s,mb5.6
ERUA La Rua 82.42 40 P P 21 13 27.1 +0.9
ERUA pmax pmax
comp=Z,93nm,1.1s,mb5.4
ERUA La Rua 82.42 40 P P 21 13 27.1 +0.8
comp=Z,93nm,1.1s,mb5.4
TBM Table Mountain 82.45 326 P P 21 13 26.5 +0.3
WTV Waterville 82.45 327 P P 21 13 26.1 -0.2
EQES Quesada 82.49 46 P P 21 13 26.5 -0.2
comp=Z,59nm,1.1s,mb5.2
C07A Waterville 82.50 327 ⇊P P 21 13 26.5 0.0
baz=83,SNR=48
B08A Colville Reser 82.56 328 ⇊P P 21 13 26.1 -0.7
baz=83,SNR=15
PAB San Pablo 82.58 44 eP P 21 13 27.8 +0.7
PAB pmax pmax
comp=Z,32nm,0.7s,mb5.3
PAB San Pablo 82.58 44 eP P 21 13 27.8 +0.6
comp=Z,32nm,0.7s,mb5.3
ETW Entiat 82.59 327 eP P 21 13 27.1 +0.1

A09A Danville 82.59 328 ⇊P P 21 13 26.2 -0.8
baz=83,SNR=24
D06A Cle Elum 82.59 326 ⇑P P 21 13 27.0 -0.1
baz=83,SNR=17
F04A Amboy 82.65 324 ⇊P P 21 13 27.1 -0.2
baz=83,SNR=33
E05A Randle 82.68 325 ⇑P P 21 13 27.1 -0.4
baz=83,SNR=10
G03A Yamhill 82.75 323 ⇑P P 21 13 28.1 +0.2
baz=83,SNR=8.8
H02A Toledo 82.78 323 ⇊P P 21 13 27.6 -0.4
baz=83
EHUE Huescar 82.82 46 ⇑P P 21 13 27.8 -0.6
EHUE pmax pmax
comp=Z,16nm,0.4s,mb5.2
EHUE Huescar 82.82 46 ⇑P P 21 13 27.8 -0.6
comp=Z,16nm,0.4s,mb5.2
ESDC Sonseca Array 82.90 44 P P 21 13 29.4 +0.6
comp=Z,19nm,0.8s,mb5.0,baz=245,slow=5.2,SNR=64
ESDC pP pP 21 14 32.4 +0.2
comp=Z,14nm,1.0s,baz=243,slow=5.3,SNR=5.6
A08A Turner Farm, O 82.92 328 ⇊P P 21 13 28.4 -0.3
baz=83,SNR=49
EPON Pontenova 82.95 39 P P 21 13 29.4 +0.5
comp=Z,26nm,0.6s,mb5.2
B07A Winthrop 83.03 327 ⇑P P 21 13 28.7 -0.5
baz=83,SNR=32
C06A Tall Timber Ra 83.08 327 ⇊P P 21 13 28.7 -0.8
baz=83
EDM Edmonton 83.14 334 eP P 21 13 28.3 -1.4
D05A Enumclaw 83.20 325 ⇊P P 21 13 29.9 -0.2
baz=83,SNR=35
E04A Onalaska 83.22 325 ⇊P P 21 13 30.4 +0.1
baz=83
F03A Seaside 83.28 324 ⇊P P 21 13 30.4 -0.2
baz=84,SNR=5.7
GUD Guadarrama 83.30 43 ⇑P P 21 13 31.7 +0.9
GUD pmax pmax
comp=Z,27nm,0.6s,mb5.2
GUD Guadarrama 83.30 43 ⇑P P 21 13 31.7 +0.9
comp=Z,27nm,0.6s,mb5.2
EVIA Vianos 83.31 45 ⇊P P 21 13 31.6 +0.7
EVIA pmax pmax
comp=Z,32nm,0.8s,mb5.2
EVIA Vianos 83.31 45 ⇊P P 21 13 31.6 +0.7
comp=Z,32nm,0.8s,mb5.2
C05A Tolt Reservoir 83.35 326 ⇊P P 21 13 29.6 -1.3
baz=84,SNR=16
BMW Boistfort Moun 83.43 324 eP P 21 13 31.0 -0.3
A07A Ashnola River, 83.54 328 ⇊P P 21 13 31.8 0.0
baz=84,SNR=46
D04A Dobbs Creek Ra 83.59 325 ⇊P P 21 13 32.4 +0.4
baz=84
LBTB Lobatse 83.63 114 P P 21 13 33.3 +0.3
comp=Z,159nm,0.7s,mb6.0,baz=269,slow=5.7,SNR=277
E03A Lebam 83.66 324 ⇊P P 21 13 32.5 +0.1
baz=84,SNR=15
RPW Rockport 83.73 327 eP P 21 13 32.0 -0.8
EMUR La Murta 83.75 46 P P 21 13 32.9 -0.3
comp=Z,28nm,1.0s,mb5.0
B06A Marblemount 83.76 327 ⇑P P 21 13 31.9 -1.0
baz=84,SNR=8.1
JCW Jim Creek 83.79 326 eP P 21 13 32.0 -1.1
GNW Green Mountain 83.88 325 eP P 21 13 32.9 -0.6
comp=Z,65nm,0.7s,mb5.6
B05A Bryant 83.92 326 ⇊P P 21 13 32.8 -0.9
baz=84,SNR=23
C04A Brinnon 84.05 325 ⇑P P 21 13 34.4 0.0
baz=84,SNR=39
EARI Arriondas 84.10 40 P P 21 13 35.7 +0.9
comp=Z,167nm,2.0s,mb5.5
D03A Wishkah Elem. 84.11 325 ⇑P P 21 13 35.2 +0.5
baz=84,SNR=8.0
A06A Chilliwack 84.13 327 ⇑P P 21 13 33.8 -1.0
baz=84,SNR=7.7
ETRT Tiaret 84.31 49 P P 21 13 37.0 +1.0
NLWA Neilton Lookou 84.33 325 ⇑P P 21 13 36.1 +0.3
baz=84,SNR=36
NLWA Neilton Lookou 84.33 325 eP P 21 13 35.8 0.0
comp=Z,81nm,0.9s,mb5.6
A05A Maple Falls 84.38 327 ⇊P P 21 13 35.2 -0.8
baz=85,SNR=12
EANR 'Ain N'Sour 84.44 49 P P 21 13 37.5 +0.8
A04A Legoe Bay, Lum 84.52 326 ⇊P P 21 13 36.4 -0.3
baz=85,SNR=14
B04A Port Angeles 84.54 326 ⇊P P 21 13 37.1 +0.2
baz=85,SNR=18
ECHA Ech Chlef 84.72 49 P P 21 13 40.0 +1.9
ETOR Torete 84.74 43 ⇑P P 21 13 39.0 +1.0
ETOR pmax pmax
comp=Z,74nm,0.8s,mb5.6
ETOR Torete 84.74 43 ⇑P P 21 13 39.0 +0.9
comp=Z,74nm,0.8s,mb5.6
EBEN Beniarda 84.87 46 P P 21 13 38.9 +0.1
comp=Z,311nm,1.9s,mb5.8
EBNR Beni Rached 84.91 49 P P 21 13 41.0 +2.0
C03A Quillayute Air 85.04 325 ⇑P P 21 13 40.1 +0.7
baz=85
MAW Mawson 85.38 163 P P 21 13 40.7 -0.1
comp=Z,15nm,0.8s,mb4.9,baz=220,slow=6.4,SNR=25
MAW pP pP 21 14 44.9 +0.3
comp=Z,18nm,0.8s,baz=231,slow=4.7,SNR=5.2
EMOS Mosqueruela 85.54 44 P P 21 13 42.6 +0.5
comp=Z,36nm,1.0s,mb5.2
EMHD Djebel Mahouad 85.88 49 P P 21 13 44.0 +0.2
ETSF Etsaut 86.77 42⇑iP P 21 13 48.3 +0.4
comp=Z,18nm,0.6s,mb4.8
ETSF Etsaut 86.77 42⇑iP P 21 13 48.3 +0.4
ETSF pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
ETSF Etsaut 86.77 42⇑iP P 21 13 48.3 +0.4
comp=Z,8.8nm,0.6s,mb4.8
EPF Esparros 87.41 42⇑iP P 21 13 51.1 +0.2
comp=Z,34nm,1.0s,mb4.8
EPF Esparros 87.41 42⇑iP P 21 13 51.1 +0.2
EPF pmax pmax
comp=Z,17nm,1.0s,mb4.8
EPF Esparros 87.41 42⇑iP P 21 13 51.1 +0.2
comp=Z,17nm,1.0s,mb4.8
QUIF Quistinic 87.84 37⇑iP P 21 13 52.1 -0.7
comp=Z,126nm,1.2s,mb5.3
QUIF Quistinic 87.84 37⇑iP P 21 13 52.1 -0.7
QUIF pmax pmax
comp=Z,63nm,1.2s,mb5.3
QUIF Quistinic 87.84 37⇑iP P 21 13 52.1 -0.7
comp=Z,63nm,1.2s,mb5.3
SGMF Saint Gilles 88.36 37 epP pP 21 14 57.6 -2.1
LFF La Frestale 88.61 41⇑iP P 21 13 56.3 -0.2
comp=Z,52nm,0.6s,mb5.2
LFF La Frestale 88.61 41⇑iP P 21 13 56.3 -0.2
LFF pmax pmax
comp=Z,26nm,0.6s,mb5.2
LFF La Frestale 88.61 41⇑iP P 21 13 56.3 -0.2
comp=Z,26nm,0.6s,mb5.2
MTLF Montolieu 88.76 43 eP P 21 13 56.8 -0.5
comp=Z,30nm,1.1s,mb4.8
MTLF Montolieu 88.76 43 eP P 21 13 56.8 -0.5
MTLF pmax pmax
comp=Z,15nm,1.0s,mb4.8
MTLF Montolieu 88.76 43 eP P 21 13 56.8 -0.5
comp=Z,15nm,1.0s,mb4.8
MFF Saint Martin d 88.90 39⇑iP P 21 13 57.6 -0.3
comp=Z,101nm,0.8s,mb5.4
MFF Saint Martin d 88.90 39⇑iP P 21 13 57.6 -0.3
MFF pmax pmax
comp=Z,50nm,0.8s,mb5.4
MFF Saint Martin d 88.90 39⇑iP P 21 13 57.6 -0.3
comp=Z,50nm,0.8s,mb5.4
LSZ Lusaka 89.15 106 P P 21 14 01.3 +1.5
comp=Z,44nm,1.1s,mb5.2,baz=250,slow=4.6,SNR=52
LSZ pP pP 21 15 04.7 +0.5
comp=Z,6.7nm,0.7s,baz=228,slow=2.2,SNR=2.3
RJF Les Rejaudoux 89.26 41⇑iP P 21 13 59.0 -0.6
comp=Z,18nm,0.8s,mb4.7
RJF Les Rejaudoux 89.26 41⇑iP P 21 13 59.0 -0.6
RJF pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
RJF Les Rejaudoux 89.26 41⇑iP P 21 13 59.0 -0.6
comp=Z,9.1nm,0.8s,mb4.7
BBB Bella Bella 89.36 327 P P 21 13 59.6 -0.2
comp=Z,21nm,1.1s,mb4.9,baz=117,slow=2.5,SNR=6.3
BBB pP pP 21 15 04.7 +0.4
comp=Z,18nm,1.1s,baz=36,slow=1.4,SNR=3.2
GRR Gorron 89.40 37 eP P 21 13 59.3 -0.8
comp=Z,46nm,0.8s,mb5.0
GRR Gorron 89.40 37 eP P 21 13 59.3 -0.8
GRR pmax pmax

comp=Z,23nm,0.8s,mb5.1
GRR Gorron 89.40 37 *e*P **P 21 13 59.3 -0.8**
comp=Z,23nm,0.8s,mb5.1
CAF Calviac 89.42 41⇑*i*P **P 21 14 00.0 -0.3**
comp=Z,21nm,0.6s,mb4.8
CAF Calviac 89.42 41⇑*i*P **P 21 14 00.0 -0.3**
CAF pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
CAF Calviac 89.42 41⇑*i*P **P 21 14 00.0 -0.3**
comp=Z,10nm,0.6s,mb4.8
LDF La Druitiere 89.92 37 *e*P **P 21 14 01.8 -0.8**
comp=Z,37nm,0.8s,mb5.0
LDF La Druitiere 89.92 37 *e*P **P 21 14 01.8 -0.8**
LDF pmax pmax
comp=Z,18nm,0.8s,mb5.0
LDF La Druitiere 89.92 37 *e*P **P 21 14 01.8 -0.8**
comp=Z,18nm,0.8s,mb5.0
TCF Toulx Ste Croi 90.17 40⇑*i*P **P 21 14 03.1 -0.7**
comp=Z,46nm,0.9s,mb5.0
TCF *e*pP pP 21 15 06.7 -1.6
TCF Toulx Ste Croi 90.17 40⇑*i*P **P 21 14 03.1 -0.7**
TCF pmax pmax
comp=Z,23nm,0.9s,mb5.0
TCF Toulx Ste Croi 90.17 40⇑*i*P **P 21 14 03.1 -0.7**
comp=Z,23nm,0.9s,mb5.0
TCF *e*pP pP 21 15 06.7 -1.6
YKA Yellowknife Ar 90.28 340 P **P 21 14 03.2 -0.7**
comp=Z,51nm,0.7s,mb5.5,baz=128,slow=4.5,SNR=312
YKA pP pP 21 15 08.1 -0.3
comp=Z,18nm,0.9s,baz=132,slow=4.7,SNR=4.9
YKA Yellowknife Ar 90.28 340 P **P 21 14 03.2 -0.7**
YKA pP pP 21 15 08.1 -0.3
KEST Kesra 90.34 52 P **P 21 14 05.0 +0.2**
comp=Z,2.6nm,0.5s,mb4.3,baz=316,slow=3.3,SNR=14
BGF Bois d'Agland 90.68 40⇑*i*P **P 21 14 05.7 -0.5**
comp=Z,86nm,0.9s,mb5.3
BGF Bois d'Agland 90.68 40⇑*i*P **P 21 14 05.7 -0.5**
BGF pmax pmax
comp=Z,43nm,0.9s,mb5.3
BGF Bois d'Agland 90.68 40⇑*i*P **P 21 14 05.7 -0.5**
comp=Z,43nm,0.9s,mb5.3
HYF Humbligny 90.89 39⇑*i*P **P 21 14 06.7 -0.4**
VIVF Saint-Julien-l 91.03 42 *e*P **P 21 14 07.8 0.0**
comp=Z,18nm,1.0s,mb4.5
VIVF *e*pP pP 21 15 11.6 -0.7
VIVF Saint-Julien-l 91.03 42 *e*P **P 21 14 07.8 0.0**
VIVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
VIVF Saint-Julien-l 91.03 42 *e*P **P 21 14 07.8 0.0**
comp=Z,9.1nm,1.0s,mb4.6
VIVF *e*pP pP 21 15 11.6 -0.7
AVF Avril sur Loir 91.10 40⇑*i*P **P 21 14 07.3 -0.8**
comp=Z,42nm,1.0s,mb4.9
AVF Avril sur Loir 91.10 40⇑*i*P **P 21 14 07.3 -0.8**
AVF pmax pmax
comp=Z,21nm,1.0s,mb4.9
AVF Avril sur Loir 91.10 40⇑*i*P **P 21 14 07.3 -0.8**
comp=Z,21nm,1.0s,mb4.9
SMRF Simiane la Rot 91.21 43 *e*P **P 21 14 09.1 +0.4**
SSF Saint Saulge 91.32 40⇑*i*P **P 21 14 08.2 -0.9**
comp=Z,27nm,0.8s,mb4.8
SSF *e*pP pP 21 15 11.9 -1.7
SSF Saint Saulge 91.32 40⇑*i*P **P 21 14 08.2 -0.9**
SSF pmax pmax
comp=Z,13nm,0.8s,mb4.8
SSF Saint Saulge 91.32 40⇑*i*P **P 21 14 08.2 -0.9**
comp=Z,13nm,0.8s,mb4.8
SSF *e*pP pP 21 15 11.9 -1.7
SMF Signal de Mont 91.33 40⇑*i*P **P 21 14 08.7 -0.5**
comp=Z,82nm,1.1s,mb5.2
SMF *e*pP pP 21 15 12.5 -1.2
SMF Signal de Mont 91.33 40⇑*i*P **P 21 14 08.7 -0.5**
SMF pmax pmax
comp=Z,41nm,1.1s,mb5.2
SMF Signal de Mont 91.33 40⇑*i*P **P 21 14 08.7 -0.5**
comp=Z,41nm,1.1s,mb5.2
SMF *e*pP pP 21 15 12.5 -1.2
LMR La Mourre 91.54 44⇑*i*P **P 21 14 10.2 0.0**
comp=Z,49nm,0.8s,mb5.2
LMR La Mourre 91.54 44⇑*i*P **P 21 14 10.2 0.0**
LMR pmax pmax
comp=Z,25nm,0.8s,mb5.2
LMR La Mourre 91.54 44⇑*i*P **P 21 14 10.2 0.0**
comp=Z,24nm,0.8s,mb5.2
LOR Lormes 91.63 40⇑*i*P **P 21 14 09.6 -0.9**
comp=Z,23nm,0.7s,mb4.9
LOR Lormes 91.63 40⇑*i*P **P 21 14 09.6 -0.9**
LOR pmax pmax
comp=Z,12nm,0.7s,mb4.9
LOR Lormes 91.63 40⇑*i*P **P 21 14 09.6 -0.9**
comp=Z,12nm,0.7s,mb4.9
FRF La Foret Royal 91.73 44⇑*i*P **P 21 14 11.0 -0.1**
comp=Z,16nm,0.7s,mb4.8
FRF La Foret Royal 91.73 44⇑*i*P **P 21 14 11.0 -0.1**
FRF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
FRF La Foret Royal 91.73 44⇑*i*P **P 21 14 11.0 -0.1**
comp=Z,8.1nm,0.7s,mb4.8
ORIF Oris-en-Rattie 91.82 43⇑*i*P **P 21 14 12.0 +0.5**
comp=Z,28nm,0.8s,mb4.9
ORIF Oris-en-Rattie 91.82 43⇑*i*P **P 21 14 12.0 +0.5**
ORIF pmax pmax
comp=Z,14nm,0.8s,mb4.9
ORIF Oris-en-Rattie 91.82 43⇑*i*P **P 21 14 12.0 +0.5**
comp=Z,14nm,0.8s,mb4.9
MBDF Montbardon 92.31 43 *e*P **P 21 14 14.1 +0.3**
comp=Z,40nm,1.1s,mb4.9
MBDF Montbardon 92.31 43 *e*P **P 21 14 14.1 +0.3**
MBDF pmax pmax
comp=Z,20nm,1.1s,mb5.0
MBDF Montbardon 92.31 43 *e*P **P 21 14 14.1 +0.3**
comp=Z,20nm,1.1s,mb5.0
SBF Sospel 92.37 44⇑*i*P **P 21 14 14.1 0.0**
comp=Z,50nm,0.8s,mb5.2
SBF Sospel 92.37 44⇑*i*P **P 21 14 14.1 0.0**
SBF pmax pmax
comp=Z,25nm,0.8s,mb5.2
SBF Sospel 92.37 44⇑*i*P **P 21 14 14.1 0.0**
comp=Z,25nm,0.8s,mb5.2
LPL La Plagne 92.63 42⇑*i*P **P 21 14 15.7 +0.5**
comp=Z,36nm,1.2s,mb4.9
LPL La Plagne 92.63 42⇑*i*P **P 21 14 15.7 +0.5**
LPL pmax pmax
comp=Z,18nm,1.2s,mb4.9
LPL La Plagne 92.63 42⇑*i*P **P 21 14 15.7 +0.5**
comp=Z,18nm,1.2s,mb4.9
LPG La Plagne 92.63 42⇑*i*P **P 21 14 15.9 +0.7**
comp=Z,36nm,1.0s,mb5.0
LPG La Plagne 92.63 42⇑*i*P **P 21 14 15.9 +0.7**
LPG pmax pmax
comp=Z,18nm,1.0s,mb5.0
LPG La Plagne 92.63 42⇑*i*P **P 21 14 15.9 +0.7**
comp=Z,18nm,1.0s,mb5.0
CABF La Chapelle 92.70 41 *e*P **P 21 14 15.2 -0.3**
comp=Z,36nm,1.1s,mb4.9
CABF La Chapelle 92.70 41 *e*P **P 21 14 15.2 -0.3**
CABF pmax pmax
comp=Z,18nm,1.1s,mb4.9
CABF La Chapelle 92.70 41 *e*P **P 21 14 15.2 -0.3**
comp=Z,18nm,1.1s,mb4.9
PGF Pioggiola 92.87 46 *e*P **P 21 14 16.3 -0.1**
MEZF Maizieres J'vi 92.90 39⇑*i*P **P 21 14 15.7 -0.7**
comp=Z,44nm,1.0s,mb5.0
MEZF Maizieres J'vi 92.90 39⇑*i*P **P 21 14 15.7 -0.7**
comp=Z,44nm,1.0s,mb5.3
DOU Dourbes 93.35 38 P **P 21 14 18.0 -0.4**
GIVF Givet 93.49 38⇑*i*P **P 21 14 18.5 -0.5**
comp=Z,31nm,0.9s,mb5.0
GIVF Givet 93.49 38⇑*i*P **P 21 14 18.5 -0.5**
GIVF pmax pmax
comp=Z,16nm,0.9s,mb5.0
GIVF Givet 93.49 38⇑*i*P **P 21 14 18.5 -0.5**
comp=Z,16nm,0.9s,mb4.9
HINF Hinteralfeld 93.69 40 *e*P **P 21 14 19.1 -0.9**
comp=Z,9.5nm,0.8s,mb4.5
HINF Hinteralfeld 93.69 40 *e*P **P 21 14 19.1 -0.9**
HINF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
HINF Hinteralfeld 93.69 40 *e*P **P 21 14 19.1 -0.9**
comp=Z,4.8nm,0.8s,mb4.6
DLBC Dease Lake 93.70 332 P **P 21 14 19.7 -0.1**
baz=135,slow=4.7
DLBC Dease Lake 93.70 332 *e*P **P 21 14 19.6 -0.2**
BCLA Clavier 93.90 38 P **P 21 14 20.9 0.0**
comp=Z,20nm,2.7s,mb4.7
SUMG Summit 93.92 8 *e*P **P 21 14 21.2 +0.7**
comp=Z,6.5nm,1.1s,mb4.6

WLF Walferdange 94.06 38 P **P 21 14 21.4 -0.2**
comp=Z,22nm,2.2s,mb4.8
WLF Walferdange 94.06 38 *e*P **P 21 14 20.0 -1.7**
comp=Z,38nm,1.3s,mb5.3
CDF Champ du Feu 94.20 40 *e*P **P 21 14 21.7 -0.6**
comp=Z,34nm,1.3s,mb4.9
CDF *e*pP pP 21 15 25.5 -1.4
CDF Champ du Feu 94.20 40 *e*P **P 21 14 21.7 -0.6**
CDF pmax pmax
comp=Z,17nm,1.3s,mb4.9
CDF Champ du Feu 94.20 40 *e*P **P 21 14 21.7 -0.6**
comp=Z,17nm,1.3s,mb4.9
CDF *e*pP pP 21 15 25.5 -1.4
MEM Membach 94.39 38 P **P 21 14 22.9 -0.3**
TUE Stuetta 94.68 42 *e*P **P 21 14 24.6 0.0**
comp=Z,5.9nm,0.7s,mb4.8
DAVA Damuels 95.34 42⇑*i*P **P 21 14 28.6 +1.1**
comp=Z,16nm,1.2s,mb5.0
DAVA Damuels 95.34 42⇑*i*PcP PcP 21 14 28.6 +0.9
comp=Z,16nm,1.2s
FETA Feichten 95.77 42⇑*i*P **P 21 14 29.3 -0.2**
comp=Z,14nm,1.2s,mb5.0
AQU L'Aquila 95.80 47 *e*P **P 21 14 29.6 -0.2**
AQU pmax pmax
comp=Z,23nm,1.0s,mb5.3
AQU L'Aquila 95.80 47 *e*P **P 21 14 29.6 -0.2**
comp=Z,23nm,1.0s,mb5.3
MOTA Moosalm 96.13 42⇑*i*P **P 21 14 30.8 -0.4**
comp=Z,12nm,1.0s,mb5.0,SNR=7.7
MOTA Moosalm 96.13 42⇑*i*P **P 21 14 30.8 -0.4**
MOTA pmax pmax
comp=Z,12nm,1.0s,mb5.0
WTTA Wattenberg 96.44 42⇑*i*P **P 21 14 32.5 0.0**
comp=Z,43nm,1.2s,mb5.5
WTTA Wattenberg 96.44 42⇑*i*P **P 21 14 32.5 0.0**
WTTA pmax pmax
comp=Z,43nm,1.2s,mb5.5
UBBA Unterbreizbach 96.79 38 *e*P **P 21 14 33.1 -1.0**
comp=Z,15nm,1.3s,mb5.1
ABTA Abfaltersbach 96.80 43⇑*i*P **P 21 14 34.0 -0.2**
comp=Z,20nm,1.2s,mb5.2,SNR=6.7
GRA1 Grafenberg Arr 97.09 40 *e*P **P 21 14 35.3 -0.1**
comp=Z,17nm,1.4s,mb5.1
GRA1 *e*pP pP 21 15 39.5 -0.6
GRF Grafenberg Arr 97.09 40 *e*P **P 21 14 35.3 -0.1**
GRF pmax pmax
comp=Z,17nm,1.4s,mb5.1
GRF Grafenberg Arr 97.09 40 *e*P **P 21 14 35.3 -0.1**
GRF pmax pmax
comp=Z,17nm,1.4s,mb5.1
GRF Grafenberg Arr 97.09 40 *e*P **P 21 14 35.3 -0.1**
comp=Z,17nm,1.4s,mb5.1
GRF *e*pP pP 21 15 39.5 -0.6
SKDS Skadanscina 97.35 44 *i*P **P 21 14 36.5 -0.2**
CLZ Clausthal 97.40 38 *e*P **P 21 14 36.7 -0.1**
CLZ pmax pmax
comp=Z,22nm,1.5s,mb5.2
CLZ Clausthal 97.40 38 *e*P **P 21 14 36.7 -0.1**
comp=Z,22nm,1.5s,mb5.2
NRDL Niedersach Rie 97.50 37 *e*P **P 21 14 37.6 +0.4**
comp=Z,10.0nm,1.0s,mb5.0
JAVS Javornik 97.50 44 *i*P **P 21 14 37.3 0.0**
MOX Moxa 97.68 39 *e*P **P 21 14 38.2 +0.2**
comp=Z,14nm,1.4s,mb5.1
CEY Cerknica 97.69 44 *i*P **P 21 14 38.1 -0.1**
ROTZ Rotzenmuhle 97.71 40 *e*P **P 21 14 37.6 -0.6**
comp=Z,45nm,2.4s,mb5.4
ROTZ *e* 21 18 05.5
ROTZ *e*PP PP 21 18 05.5 -35
MANZ Manzenberg 97.73 40 *e*P **P 21 14 37.6 -0.7**
comp=Z,115nm,3.0s
WET Wettzell 97.89 41 *e*P **P 21 14 38.5 -0.6**
WET pmax pmax
comp=Z,8.0nm,1.3s,mb4.9
WET Wettzell 97.89 41 *e*P **P 21 14 38.5 -0.6**
comp=Z,8.0nm,1.3s,mb4.9
WET *e*PP PP 21 18 07.7 -34
NKC Novy Kostel 98.02 40 *e*P **P 21 14 50.3 +11**
OBKA Obir 98.03 44⇑*i*P **P 21 14 39.6 -0.1**
comp=Z,29nm,1.3s,mb5.5,SNR=10.0
GEC2 GERESS Array S 98.30 41 *e*P **P 21 14 40.5 -0.4**
GEC2 pmax pmax
comp=Z,15nm,1.6s,mb5.1
GEC2 GERESS Array S 98.30 41 *e*P **P 21 14 40.5 -0.4**
comp=Z,15nm,1.6s,mb5.1
GERES GERESS Array B 98.30 41 P **P 21 14 40.0 -0.9**
comp=Z,1.7nm,0.9s,mb4.3,baz=249,slow=3.7,SNR=10
MOA Molln 98.31 42⇑*i*P **P 21 14 41.4 +0.5**
comp=Z,10nm,0.9s,mb5.2
KHC Kasperske Hory 98.32 41 *e*P **P 21 14 40.6 -0.4**
PERS Pernice 98.44 44 *i*P **P 21 14 41.1 -0.5**
CLL Collm 98.73 39 *e*P **P 21 14 42.0 -0.7**
CLL pmax pmax
comp=Z,7.0nm,1.4s,mb4.8
CLL Collm 98.73 39 *e*P **P 21 14 42.4 -0.3**
comp=Z,4.0nm,0.9s,mb4.8
CLL *e*PP PP 21 18 13.3 -35
CLL Collm 98.73 39 *e*Pdif **P 21 14 42.0 -0.7**
comp=Z,7.0nm,1.4s,mb4.8
CLL *e*SKSac SKSac 21 24 58.0 +3.7
CLL *es*SKKSac 21 27 08.0
CLL *e*PS PS 21 27 40.0 -10
CLL *e*SS SS 21 32 40.0 -1.6
CLL *e*(SSSS) 21 40 24.0
PRU Pruhonice 99.20 40 *e*PDIF Pdif 21 14 47.1 +2.1
DAWY Dawson 100.33 335 *e*Pdif Pdif 21 14 48.8 -1.2
MODS Modra-Piesok 100.39 42 *e*P Pdif 21 14 49.7 -0.6
MODS pmax pmax
comp=Z,3.0nm,0.9s
MODS Modra-Piesok 100.39 42 PDIF Pdif 21 14 49.7 -0.6
MODS Modra-Piesok 100.39 42 *e*P Pdif 21 14 49.7 -0.6
comp=Z,2.8nm,0.9s
DPC Dobruska-Polom 100.40 40 *e*PDIF Pdif 21 14 50.9 +0.5
KECS Kecovo 102.47 43 PDIF Pdif 21 14 59.7 +0.2
KECS Kecovo 102.47 43 *i*P Pdif 21 14 59.7 +0.2
TRF Thorofare Moun 104.71 332 *e*Pdif Pdif 21 15 07.9 -1.6
MALT Malatya 113.35 56 *e*PKIKP PKiKP 21 19 39.9 -0.1
BILL Bilibino 121.67 339 *e*PKIKP PKPdf 21 19 55.2 +0.1
BILL *e* 21 21 29.2
BILL pmax pmax
comp=Z,5.0nm,1.1s
STKA Stephens Creek 122.14 208 *e*P PKPdf 21 19 56.5 -0.8
comp=Z,4.7nm,0.8s
STKA Stephens Creek 122.14 208 PKP PKPdf 21 19 56.9 -0.4
comp=Z,5.9nm,0.8s,baz=6.6,slow=2.4,SNR=10
ARU Arti 125.33 34 *i*PKIKP PKPdf 21 20 02.8 +0.3
ARU 21 21 53.1
ARU 21 26 47.0
ARU SS SS 21 38 31.8 -0.7
ARU Arti 125.33 34 *e*PKP PKPdf 21 20 03.1 +0.6
SEY Seymchan 129.32 338⇑*i*PKIKP PKPdf 21 20 10.6 +0.7
PETK Petropavlovsk- 132.46 325 PKP PKPdf 21 20 14.4 -1.7
comp=Z,13nm,0.9s,baz=95,slow=6.4,SNR=16
PETK PP PP 21 22 41.1 -1.8
comp=Z,2.2nm,0.8s,baz=86,slow=7.2,SNR=3.7
PETK SKPbc SKPbc 21 23 17.4 -0.2
comp=Z,17nm,1.0s,baz=81,slow=9.2,SNR=11
PETK Petropavlovsk- 132.46 325 PKIKP PKPdf 21 20 14.4 -1.7
PETK 21 22 41.1
ASAR Alice Springs 132.59 206 PKHKP 21 20 01.0
comp=Z,0.3nm,0.6s,baz=123,slow=2.0,SNR=4.8
ASAR PKP PKPdf 21 20 16.4 -1.0
comp=Z,3.9nm,0.7s,baz=139,slow=2.2,SNR=5.8
ASAR pPKP pPKPdf 21 21 25.6 +0.4
comp=Z,2.2nm,0.8s,baz=159,slow=3.2,SNR=4.0
ASAR SKPbc SKPbc 21 23 18.7 -0.3
comp=Z,13nm,0.9s,baz=145,slow=5.1,SNR=33
ASAR Alice Springs 132.59 206 PKHKP 21 20 01.0
ASAR 21 20 16.4
WB2 Warramunga Arr 135.68 209 *e*P 21 20 08.1
WB2 *e*PKPdf PKPdf 21 20 22.5 -0.7
WRA Warramunga Arr 135.69 208 PKhKP 21 20 09.9
comp=Z,1.5nm,0.8s,baz=154,slow=3.2,SNR=8.0
WRA PKP PKPdf 21 20 22.3 -1.0
comp=Z,10.0nm,0.8s,baz=159,slow=1.6,SNR=24
WRA SKPbc SKPbc 21 23 28.7 -0.5
comp=Z,47nm,0.8s,baz=149,slow=2.6,SNR=48
WRA Warramunga Arr 135.69 208 PKHKP 21 20 09.9
WRA 21 20 22.3
WRAB Tennant Creek 135.69 209 *e*PKIKP PKPdf 21 20 22.4 -0.9
YAK Yakutsk 136.22 349 *i*PKIKP PKPdf 21 20 22.5 -0.4
YAK Yakutsk 136.22 349 *e*PKP PKPdf 21 20 22.6 -0.3
NVS Novosibirsk 138.02 26 *e*PKIKP PKPdf 21 20 26.5 +0.1
NVS pmax pmax
comp=Z,21nm,1.0s

NVS pmax pmax
comp=E,7.0nm,1.2s
KURK Kurchatov 138.53 33⇑*i*PKIKP PKPdf 21 20 28.8 +1.3
ZAA0 Zalesovo Array 139.31 26 *e*PKPdf PKPdf 21 20 28.8 -0.1
ZAL Zalesovo 139.31 26 PKIKP PKPdf 21 20 26.6 -2.2
ZALV Zalesovo Beam 139.31 26 PKP PKPdf 21 20 26.6 -2.2
comp=E,12nm,0.7s,baz=306,slow=2.4,SNR=13
ZALV SKPbc SKPbc 21 23 39.8 +1.2
comp=E,56nm,0.9s,baz=301,slow=3.6,SNR=39
TKM2 Tokmak 2 140.59 45 *e*PKIKP PKPdf 21 20 31.5 0.0
FITZ Fitzroy Crossi 140.64 198 *e*P PKPdf 21 20 24.8 -7.6
comp=E,8.8nm,0.8s
FITZ Fitzroy Crossi 140.64 198 PKhKP 21 20 24.4
comp=E,5.3nm,1.1s,baz=185,slow=6.3,SNR=8.7
FITZ PKP PKPdf 21 20 32.2 -0.2
comp=E,3.8nm,0.6s,baz=172,slow=8.1,SNR=10
FITZ SKPbc SKPbc 21 23 44.0 +0.7
comp=E,14nm,0.9s,baz=188,slow=5.0,SNR=12
FITZ Fitzroy Crossi 140.64 198 *e*P PKPdf 21 20 24.8 -7.6
FITZ PKP PKPdf 21 20 32.2 -0.2
FITZ SKPbc SKPbc 21 23 44.0 +0.7
BOD Bodaibo 141.91 360 *e*PKHKP 21 20 27.4
BOD pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 142.79 36 *e*PKIKP PKPdf 21 20 33.2 -2.1
MKAR Makanchi Array 142.79 36 PKP PKPdf 21 20 32.7 -2.6
comp=Z,6.3nm,0.8s,baz=323,slow=3.9,SNR=18
MKAR pPKP pPKPdf 21 21 43.5 +0.2
comp=Z,2.9nm,0.7s,baz=267,slow=2.1,SNR=2.8
MKAR SKPbc SKPbc 21 23 49.3 +1.6
comp=Z,22nm,0.7s,baz=330,slow=2.5,SNR=31
MKAR Makanchi Array 142.79 36 PKP PKPdf 21 20 32.7 -2.6
MKAR pPKP pPKPdf 21 21 43.5 +0.2
MKAR SKPbc SKPbc 21 23 49.3 +1.6
KAKA Kakadu 142.85 211 *e*P PKPdf 21 20 32.4 -4.0
comp=Z,12nm,0.5s
YSS Yuzh-Sakhalins 143.86 326 *e*PKIKP PKPdf 21 20 33.4 -3.8
YSS Yuzh-Sakhalins 143.86 326 *e*PKPdf PKPdf 21 20 35.3 -1.9
SMLA Simla 145.32 64 *i*P PKPdf 21 20 40.8 +0.6
SMLA *ex* x 21 20 43.6
comp=Z,510nm,0.6s
SMLA *i*S 21 30 27.3
MOY Mondy 146.58 14 *e*PKP2 PKPab 21 20 44.5 -0.8
MOY pmax pmax
comp=Z,52nm,1.2s
IRK Irkutsk 146.69 10 *e*PKIKP PKPdf 21 20 42.1 +0.2
IRK pmax pmax
comp=Z,141nm,1.2s
HYB Hyderabad 146.74 88 *i*PKP PKPdf 21 20 44.0 +1.0
HYB *e* 21 20 45.5
HYB Hyderabad 146.74 88 *e*PKP PKPdf 21 20 44.0 +1.0
HYB *e* 21 20 45.5
KLR Kul'dur 147.11 338 *e*PKHKP 21 20 39.0
KLR pmax pmax
comp=Z,64nm,1.2s
TLY Talaya 147.12 11 *e*PKP2 PKPab 21 20 44.9 -2.5
TLY pmax pmax
comp=Z,11nm,0.6s
TLY Talaya 147.12 11 *e*PKPdf PKPdf 21 20 43.3 +0.7
WMQ Urumqi 147.62 36 *e*PKP PKPdf 21 20 40.5 -3.2
ZAK Zakamensk 148.28 13 *e*PKIKP PKPdf 21 20 45.2 +0.6
ZAK pmax pmax
comp=Z,19nm,1.0s
BATI Baumata 148.69 199 PKPbc PKPbc 21 20 48.2 -2.2
comp=Z,34nm,0.7s,baz=245,slow=3.5,SNR=4.1
GUMO Guam 149.46 263 PKPbc PKPbc 21 20 50.9 -1.4
comp=Z,305nm,0.6s,baz=161,slow=6.6,SNR=17
HIA Hailar 150.07 352 *e*PKIKP PKPbc 21 20 52.5 -0.2
SONM Songino Array 151.31 10 PKP PKPdf 21 20 50.4 +1.0
comp=Z,6.3nm,0.9s,baz=320,slow=1.0,SNR=39
SONM PKPbc PKPbc 21 20 56.3 +0.7
comp=Z,21nm,0.6s,baz=295,slow=1.3,SNR=82
SONM pPKPbc pPKPbc 21 22 04.5 +1.3
comp=Z,12nm,0.9s,baz=341,slow=1.1,SNR=3.0
KOLN Koldanda 151.44 68 *e*P PKPbc 21 20 56.3 -0.3
DANN Dangsing 151.47 67 *e*P PKPbc 21 20 55.2 -1.5
MDJ Mudanjiang 151.79 335 PKP PKPdf 21 20 50.3 +0.1
MDJ PP PP
comp=Z,43nm,9.6s
MDJ Mudanjiang 151.79 335 *e*PKPdf PKPdf 21 20 49.8 -0.4
MDJ *e*PKPbc PKPbc 21 20 55.8 -1.1
GKN Gorkha 152.30 67 *e*P PKPbc 21 20 58.5 0.0
MJAR Matsushiro Arr 152.67 313 PKP PKPdf 21 20 51.0 -0.7
comp=Z,1.1nm,0.6s,baz=70,slow=2.5,SNR=4.7
MJAR PKPbc PKPbc 21 20 58.3 -0.8
comp=Z,9.1nm,0.7s,baz=112,slow=1.6,SNR=29
MJAR PKPab PKPab 21 21 09.6 -1.3
comp=Z,28nm,0.9s,baz=65,slow=3.3,SNR=21
MJAR pPKPbc pPKPbc 21 22 06.8 +0.2
comp=Z,3.6nm,0.7s,baz=57,slow=1.0,SNR=2.3
MJAR pPKPab pPKPab 21 22 14.3 -1.8
comp=Z,10nm,1.1s,baz=48,slow=1.8,SNR=3.2
MJAR PP PP 21 24 41.9 -2.9
comp=Z,0.9nm,0.5s,baz=42,slow=4.9,SNR=4.3
MJAR Matsushiro Arr 152.67 313 PKIKP PKPdf 21 20 51.1 -0.7
MJAR 21 21 09.6
MJAR 21 22 14.3
MJAR 21 24 41.9
MAJO Matsushiro 152.67 313 *e*PKPdf PKPdf 21 20 52.7 +0.9
MAJO *e*PKPbc PKPbc 21 20 58.6 -0.5
MAJO *e*PKPab PKPab 21 21 09.9 -1.0
MAT Matsushiro 152.67 313 X PKPbc 21 20 58.2 -0.9
DMN Daman 152.78 68 *e*P PKPbc 21 20 59.4 -0.2
CBIJ Chichi jima 152.78 291 PKPab PKPab 21 21 11.2 -0.4
comp=Z,58nm,0.8s,baz=282,slow=16,SNR=3.8
KKN Kakani 152.90 67 *e*P PKPbc 21 20 59.8 -0.1
PKI Pulchoki 153.05 68 *e*P PKPbc 21 20 59.9 -0.3
JHJ Hachijo jima 2 153.08 305 PKPbc PKPbc 21 20 56.9 -3.3
comp=Z,75nm,0.9s,baz=271,slow=18,SNR=3.8
GUN Gumba 153.39 67 *e*P PKPbc 21 21 01.7 +0.8
JIRN Jiri 153.71 67 *e*P PKPbc 21 21 02.2 +0.6
RAMN Ramite 154.21 69 *e*P PKPbc 21 21 02.2 -0.5
ODAN Odare 154.92 69 *e*P PKPbc 21 21 03.2 -1.0
TAPN Taplejung 155.10 67 *e*P PKPdf 21 21 04.4 +8.9
GTA Gaotai 157.02 28 *e*PKP PKPdf 21 20 58.4 +0.8
GTA PP PP
comp=Z,48nm,6.6s
GTA LR LR
comp=N,325nm,16.5s
GTA LR LR
comp=E,178nm,15.9s
GTA LR LR
comp=Z,378nm,16.2s
LSA Lhasa 157.33 60 *e*PKIKP PKPdf 21 21 00.2 +1.9
PSI Prapat 157.94 138 PKPab PKPab 21 21 33.9 -0.1
comp=Z,7.1nm,0.7s,baz=200,slow=10,SNR=3.7
KSRS Korea Array 158.32 328 PKP PKPdf 21 20 59.9 +0.5
comp=Z,5.8nm,1.0s,baz=59,slow=1.3,SNR=23
KSRS PKPab PKPab 21 21 33.8 -1.3
comp=Z,12nm,0.9s,baz=45,slow=3.9,SNR=20
KSRS pPKP pPKPdf 21 22 10.2 +2.7
comp=Z,4.8nm,1.1s,baz=56,slow=1.6,SNR=2.3
KSRS PP PP 21 25 13.9 -1.6
comp=Z,0.6nm,0.6s,baz=124,slow=26,SNR=2.9
HHC Hu-ho-hao-te 158.83 4 *e*PKP PKPdf 21 21 00.9 +1.1
HHC PKS 21 24 34.3
HHC PP PP 21 25 21.9 +4.3
HHC PP PP
comp=Z,115nm,9.5s
HHC LR LR
comp=N,217nm,22.6s
HHC LR LR
comp=E,209nm,23.8s
HHC LR LR
comp=Z,293nm,25.0s
SHL Shillong 159.13 70 *e*P PKPab 21 21 42.0 +3.0
LZH Lanzhou 161.54 26 PKP PKPdf 21 21 02.1 -0.9
LZH APKP 21 22 01.8
LZH XPKP 21 22 22.8
LZH PP PP 21 25 38.1 +5.5
LZH PP PP
comp=Z,151nm,4.1s
LZH LR LR
comp=N,2μm,19.5s
LZH LR LR
comp=Z,3μm,20.8s
JOW Kunigami 164.75 301 PKP PKPdf 21 21 07.5 +1.2
comp=Z,11nm,0.9s,baz=242,slow=5.8,SNR=4.7
JOW PKPab PKPab 21 22 02.5 -1.2
comp=Z,8.4nm,0.7s,baz=130,slow=5.0,SNR=5.4
XAN Xi'an 165.10 15 PKP PKPdf 21 21 06.5 +0.1
XAN PP PP
comp=Z,51nm,7.0s
CD2 Chengdu 165.72 37 *e*PKP PKPdf 21 21 07.3 +0.3
CD2 PKP2 PKPab 21 22 08.3 +0.7

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CD2                                     PP      PP      21 25 57.3 +2.5
CD2                                     PP      PP
        comp=Z,180nm,10.2s
CD2                                     LR      LR
        comp=N,260nm,18.4s
CD2                                     LR      LR
        comp=Z,310nm,19.2s
CMAR  Chiang Mai Arr   166.09  93  PKP     PKPdf   21 21 07.8 +0.3
        comp=Z,1.0nm,0.8s,baz=260,slow=2.8,SNR=7.3
CMAR                                    PKPab   PKPab   21 22 09.2 -0.6
        comp=Z,17nm,0.9s,baz=259,slow=5.8,SNR=50
CMAR                                    PP      PP      21 26 00.6 +2.3
        comp=Z,2.3nm,0.8s,baz=278,slow=5.9,SNR=5.3
NJ2   Nanjing          166.80 340 ePKP     PKPdf   21 21 05.3 -2.5
KMI   Kunming          168.59  60  PKP     PKPdf   21 21 08.6 -0.6
KMI                                     APKP            21 22 02.3
KMI                                     PKP2    PKPab   21 22 20.4 -0.2
KMI                                     PP      PP      21 26 10.5 +0.1
KMI                                     PP      PP
        comp=Z,84nm,7.1s
KMI                                     LR      LR
        comp=Z,55nm,37.0s
GYA   Guiyang          170.71  42  PKP     PKPdf   21 21 10.6 +0.2
GYA                                     APKP            21 22 03.8
GYA                                     XPKP            21 22 24.3
GYA                                     PKP2    PKPab   21 22 30.8 +0.9
GYA                                     PKS             21 24 40.9
GYA                                     PP      PP      21 26 22.6 +2.3
GYA                                     SKS     SKSdf   21 27 51.0 +2.6
GYA                                     PPP             21 30 30.4
GYA                                     SKKS    SKKSac  21 32 46.5 +5.4
GYA                                     PP      PP
        comp=Z,180nm,9.4s
GYA                                     LR      LR
        comp=N,240nm,24.8s
GYA                                     LR      LR
        comp=E,320nm,25.4s
GYA                                     LR      LR
        comp=Z,280nm,24.0s
```

*DJA **20** 21:04:07, 751N×12929E, h10km, mb5.1/7*
*BJI **20** 21:04:11.3, 620N×12740E, h10km, mB4.7, mb4.7*
*NEIC **20** 21:04:12.4±0.2, 620N×12742E, h10km, mb4.7/17, Error ellipse: s-maj=7.6km s-min=4.6km az=76.0*
*MAN **20** 21:04:13, 623N×12748E, h1km, mb5.2, ML4.1, MS4.3*
*IDC **20** 21:04:15.8±2.7, 614N×12735E, h34km±20km, mb4.3/18, mb1 4.3/18, mb1mx4.3/23, mbtmp4.3/18, MS3.5/4, Ms1 3.5/4, ms1mx3.2/33, Error ellipse: s-maj=18.3km s-min=10.3km az=76.0*
*ISCJB **20** 21:04:16.4±0.9, 619N±004×12742E±006, h57km±7km, mb4.5/38, MS3.5/3, Error ellipse: s-maj=10.9km s-min=6.1km az=167.2*

ISC 20 21:04:17.8±0.8, 616N±004×12743E±006, h53km±7km, h17km±4.6km: pP-P, n91, σ0=98/92, mb4.5/38, MS3.5/3, 4D, Philippine Islands region

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Code  Station Name      Δ°   AZ°      Phase ID        Time      Res
                                     Op      ISC     h m s     ISC
MATI  Mati             1.40 304  eP      Pn      21 04 39.1  -1.8
MATI                                 eS      Sn      21 04 58.9  +0.6
DAV   Davao City (W)   2.05 296  Pn      Pn      21 04 48.5  -1.4
        baz=354,slow=5.1,SNR=9.4
DAV                                  Sn      Sn      21 05 10.3  -3.8
        140nm,0.3s,baz=72,slow=4.7,SNR=9.3
DAV                                  Lg              21 05 19.7
        201nm,0.3s,baz=72,slow=18,SNR=5.7
DAV                                  LR      LR      21 05 22.5
        comp=Z,611nm,19.9s,baz=122,slow=34
DAV   Davao City (W)   2.05 296  ePg     Pn      21 04 51.0  +1.2
DAV                                  eSg     Sn      21 05 20.0  +5.8
DMPH  Davao City--Mi   2.12 296  ||eP    Pn      21 04 51.1  +0.3
DMPH                                 i S     Sn      21 05 20.2  +4.3
BIPH  Bislig           2.27 332  ||eP    Pn      21 04 49.4  -3.5
BIPH                                 eS      Sn      21 05 16.6  -3.1
KCP   Kidapawan        2.47 290  ||eP    Pn      21 05 03.1  +7.5
KCP                                  i S     Sn      21 05 28.6  +4.0
BUKP  Musuan           2.91 306  eP      Pn      21 05 01.7  +0.2
BUKP                                 eS      Sn      21 05 37.8  +2.6
BUTP  Butuan           3.32 327  eP      Pn      21 05 06.6  -0.6
BUTP                                 eS      Sn      21 05 47.9  +2.4
SCPH  Surigao          4.08 332  eP      Pn      21 05 19.0  +1.3
PAGZ  Pagadian         4.35 293  eP      Pn      21 05 22.8  +1.3
MSLP  Maasin           4.70 327  eP      Pn      21 05 25.5  -0.6
MSLP                                 eS      Sn      21 06 16.6  -2.8
TBP   Tagbilaran       4.98 315  eP      Pn      21 05 28.8  -1.2
TBP                                  eS      Sn      21 06 24.8  -1.5
GUIM  Jordan           6.53 313  eP      Pn      21 05 57.3  +6.0
CUYO  Cuyo Island      7.87 307  eP      Pn      21 06 10.3  +0.7
BATI  Baumata         16.68 193  Pn      Pn      21 08 14.2  +6.1
        2.3nm,0.3s,baz=306,slow=12,SNR=3.6
KSM   Kuching         17.70 255  Pn      Pn      21 08 20.3  -0.4
GUMO  Guam            18.69  65  LR      LR      21 15 11.1
        comp=Z,88nm,19.3s,baz=241,slow=35
KAKA  Kakadu          19.40 165  ||iP    Pn      21 08 39.4  -1.7
        23nm,1.1s
JOW   Kunigami        20.57   2  P       P       21 08 52.9  +0.6
        32nm,0.8s,baz=187,slow=9.1,SNR=17
FITZ  Fitzroy Crossi  24.17 184  eP      P       21 09 30.3  +1.0
        5.1nm,0.9s,mb4.0
FITZ  Fitzroy Crossi  24.17 184  P       P       21 09 29.8  +0.5
        2.5nm,0.6s,mb3.9,baz=44,slow=14,SNR=8.6
FITZ  Fitzroy Crossi  24.17 184  eP      P       21 09 29.7  +0.4
        9.7nm,0.9s,mb4.2
CBIJ  Chichi jima     25.11  32  P       P       21 09 39.0  +1.2
        26nm,0.5s,mb5.0,baz=258,slow=22,SNR=6.2
WRAB  Tennant Creek   26.81 165  eP      P       21 09 54.2  +1.1
WRA   Warramunga Arr  26.81 165  P       P       21 09 52.2  -1.0
        9.7nm,0.8s,mb4.4,baz=342,slow=11,SNR=30
WRA                                  PcP     PcP     21 13 15.9  +0.7
        1.6nm,0.7s,baz=338,slow=3.1,SNR=6.3
WB2   Warramunga Arr  26.82 165  eP      P       21 09 52.2  -1.0
WB2   Warramunga Arr  26.82 165  eP      P       21 09 52.6  -0.6
ASAR  Alice Springs   30.31 168  P       P       21 10 23.9  -0.4
        2.5nm,0.7s,mb4.0,baz=12,slow=9.4,SNR=22
ASAR                                 PcP     PcP     21 13 24.5  +0.7
        1.6nm,0.6s,baz=350,slow=2.7,SNR=12
ASAR                                 ScP     ScP     21 17 04.3  +2.4
        0.7nm,1.0s,baz=190,slow=2.2,SNR=4.2
CM31  Chiang Mai Arr  30.34 296  eP      P       21 10 24.2  -0.4
        1.2nm,0.5s,mb3.9
CMAR  Chiang Mai Arr  30.34 296  P       P       21 10 25.6  +0.9
        0.4nm,0.8s,mb3.2,baz=188,slow=29,SNR=3.5
KS15  Wonju Array Si  31.14   1  eP      P       21 10 32.4  +0.8
KSRS  Korea Array     31.15   1  P       P       21 10 31.5  -0.1
        1.4nm,0.7s,mb3.9,baz=176,slow=9.9,SNR=4.2
KSRS                                 LR      LR      21 24 32.0
        comp=Z,79nm,18.8s,MS3.4,baz=288,slow=39
MJAR  Matsushiro Arr  31.81  17  P       P       21 10 37.2  -0.2
        1.3nm,0.8s,mb3.8,baz=192,slow=9.1,SNR=3.6
MJAR                                 LR      LR      21 21 14.3
        comp=Z,147nm,20.8s,MS3.6,baz=190,slow=32
CTA   Charters Tower  31.99 145  LR      LR      21 22 59.8
        comp=Z,88nm,18.4s,MS3.5,baz=53,slow=35
XAN   Xi'an           32.61 331  P       P       21 10 43.0  -1.5
XAN                                  AP      pP      21 10 49.9  -8.1
XAN                                  XP      sP      21 10 53.0  -11
XAN                                  AMB     AMB
        comp=Z,6.0nm,0.7s,mb4.6
XAN                                  AMB     AMB
        comp=Z,24nm,4.3s
BJI   Beijing         35.22 345  PKP     PKiKP   21 20 56.9  -1.8
FORT  Forrest         36.73 179  eP      P       21 11 20.5  +0.5
        comp=Z,15nm,0.8s,mb4.9
LZH   Lanzhou         36.81 327  eP      P       21 11 22.1  +1.4
LZH                                  AP      pP      21 11 27.5  -6.8
LZH                                  XP      sP      21 11 29.8  -11
LZH                                  AMB     AMB
        comp=Z,18nm,1.4s,mb4.7
MDJ   Mudanjiang      38.35   2  eP      P       21 11 34.3  +0.7
        comp=Z,14nm,1.0s,mb4.6
KLBR  Kellerberrin    38.66 193  eP      P       21 11 37.6  +1.3
        comp=Z,69nm,1.6s,mb5.1
MUN   Mundaring       39.40 195  eP      P       21 11 43.6  +1.1
NWAO  Narrogin (SRO)  40.06 193  P       P       21 11 47.5  -0.4
        comp=Z,11nm,0.8s,mb4.6,baz=49,slow=5.8,SNR=9.3
NWAO  Narrogin (SRO)  40.06 193  eP      P       21 11 49.1  +1.2
        comp=Z,20nm,1.0s,mb4.8
STKA  Stephens Creek  40.16 161  eP      P       21 11 48.3  -0.6
        comp=Z,2.1nm,0.4s,mb4.2
STKA  Stephens Creek  40.16 161  P       P       21 11 48.1  -0.7
        comp=Z,1.8nm,0.3s,mb4.2,baz=308,slow=7.1,SNR=11
GTA   Gaotai          41.41 327  P       P       21 11 59.5  +0.4
GTA                                  AP      pP      21 12 05.3  -7.6
GTA                                  XP      sP      21 12 07.5  -12
GTA                                  AMB     AMB
        comp=Z,10.0nm,0.9s,mb4.5
LSA   Lhasa           41.41 309  eP      P       21 11 58.9  -0.4
YSS   Yuzh-Sakhalins  42.73  15  eP      P       21 12 08.6  -1.1
HIA   Hailar          43.45 353  eP      P       21 12 15.3  -0.2
SONM  Songino Array   45.25 340  P       P       21 12 29.4  -0.5
        comp=Z,1.2nm,0.6s,mb3.9,baz=143,slow=4.5,SNR=11
SONM                                 PcP     PcP     21 14 08.8  -0.3
        comp=Z,0.9nm,0.7s,baz=145,slow=4.4,SNR=4.5
TLY   Talaya          49.47 341  eP      P       21 13 02.4  -0.2
PETK  Petropavlovsk-  52.93  22  P       P       21 13 29.4  +0.9
        comp=Z,2.2nm,0.6s,mb4.3,baz=178,slow=2.3,SNR=7.7
YAK   Yakutsk         55.78   1  eP      P       21 13 49.4  +0.3
        comp=Z,28nm,1.0s,mb5.2
MK31  Makanchi Array  55.99 324  eP      P       21 13 51.2  +0.3
MKAR  Makanchi Array  55.99 324  P       P       21 13 50.1  -0.8
        comp=Z,2.3nm,0.5s,mb4.5,baz=114,slow=8.3,SNR=17
MKAR                                 PcP     PcP     21 14 48.1  -0.6
        comp=Z,2.5nm,0.7s,baz=129,slow=3.9,SNR=6.5
TKM2  Tokmak 2        58.42 317  P       P       21 14 08.6  +0.4
ZAA0  Zalesovo Array  58.77 332  eP      P       21 14 09.1  -1.3
ZALV  Zalesovo Beam   58.77 332  P       P       21 14 09.6  -0.7
        comp=Z,9.3nm,0.8s,mb4.9,baz=116,slow=6.5,SNR=36
UCH   Uchtor          58.89 316  eP      P       21 14 11.0  -0.4
        comp=Z,1.9nm,0.6s,mb4.3
AML   Almayashu       59.42 316  P       P       21 14 15.6  +0.5
EKS2  Erkin-Say       59.56 316  eP      P       21 14 17.2  +1.2
        comp=Z,3.8nm,0.7s,mb4.5
KURK  Kurchatov       60.10 327  eP      P       21 14 19.7  +0.2
KBL   Kabul           60.63 306  eP      P       21 14 23.4  -0.1
        comp=Z,3.8nm,0.7s,mb4.6
BVAR  Borovoye Array  65.69 326  P       P       21 14 57.0  +0.3
        comp=Z,8.5nm,0.7s,mb4.9,baz=120,slow=8.8,SNR=70
BRVK  Borovoye        65.76 326  eP      P       21 14 57.0  -0.1
BILL  Bilibino        67.04  15  P       P       21 15 05.2  +0.2
ARU   Arti            73.28 327  eP      P       21 15 43.1  -0.4
        comp=Z,6.4nm,0.6s,mb4.7
RDF   Al-Radifah      78.20 298  eP      P       21 16 11.1  -1.1
        baz=300
RDF                                  AMb     AMB     21 16 12.9
        comp=Z,13nm,1.0s,mb4.8,baz=300
SVW2  Sparrevohn      78.35  29  eP      P       21 16 13.9  +1.6
MIB   Mutribah        78.38 299  eP      P       21 16 12.9  -0.3
        baz=301
MIB                                  AMb     AMB     21 16 14.2
        comp=Z,23nm,0.8s,mb5.2,baz=301
NAY   Al-Naaiem       78.47 298  eP      P       21 16 12.7  -0.9
        baz=300
NAY                                  AMb     AMB     21 16 14.2
        comp=Z,9.0nm,0.8s,mb4.8,baz=300
RST   Umm Al-Ruwaisa  78.68 299  eP      P       21 16 14.0  -0.8
        baz=300
RST                                  AMb     AMB     21 16 15.2
        comp=Z,0.7nm,0.8s,mb3.6,baz=300
KDAK  Kodiak Island   79.48  32  P       P       21 16 19.4  +0.9
        comp=Z,11nm,0.6s,mb4.9,baz=267,slow=3.5,SNR=12
TRF   Thorofare Moun  81.07  27  eP      P       21 16 27.6  +0.7
        comp=Z,9.1nm,0.9s,mb4.7
MCK   McKinley        81.69  27  eP      P       21 16 30.4  +0.2
        comp=Z,15nm,0.9s,mb4.9
KIV   Kislovodsk      81.98 313  eP      P       21 16 31.8  -0.4
        comp=Z,6.9nm,0.7s,mb4.7
COLA  College         82.22  25  P       P       21 16 32.6  -0.4
MALT  Malatya         85.44 308  eP      P       21 16 51.7  +1.6
        comp=Z,6.9nm,0.8s,mb4.8
OBN   Obninsk         85.49 325  eP      P       21 16 49.7  -0.2
VNDA  Vanda           85.73 173  P       P       21 16 51.2  +0.6
        comp=Z,2.1nm,0.8s,mb4.4,baz=301,slow=6.2,SNR=4.4
VNDA  Vanda           85.73 173  P       P       21 16 51.2  +0.6
ARCES ARCESS Array B  88.42 340  P       P       21 17 02.5  -1.4
        comp=Z,1.1nm,0.6s,mb4.3,baz=64,slow=5.5,SNR=4.4
AKASG Malin Array Be  90.46 321  P       P       21 17 12.9  -0.9
        comp=Z,3.0nm,0.8s,mb4.7,baz=69,slow=4.0,SNR=7.5
SUW   Suwalki         93.35 325  eP      P       21 17 26.5  -0.6
PSZ   Piszkesteto     97.05 320  P       P       21 17 43.6  -0.5
GERES GERESS Array B 100.62 322  P       Pdif    21 17 58.3  -1.6
        comp=Z,0.5nm,0.5s,baz=96,slow=1.3,SNR=4.8
STU   Stuttgart      103.37 323  ePdif   Pdif    21 18 12.1  -0.1
PAHR  Pah Rah Range  103.55  47  ePdif   Pdif    21 18 11.0  -1.9
PLCA  Paso Flores    142.00 158  PKP     PKPdf   21 23 49.2  +4.9
        comp=Z,1.8nm,0.9s,baz=17,slow=1.0,SNR=4.2
CFAA  Coronel Fontan 150.75 152  PKPbc   PKPbc   21 24 05.6  +0.8
        comp=Z,0.8nm,0.8s,baz=235,slow=2.6,SNR=17
LPAZ  La Paz         161.73 125  PKPbc   PKPdf   21 24 20.9  +6.9
        comp=Z,1.2nm,0.8s,baz=5.7,slow=3.6,SNR=3.6
```

*ISCJB **20** 21:06:43.0±0.6, 1975S±004×6666W±009, h257km±6km, mb4.1/19, Error ellipse: s-maj=13.3km s-min=7.0km az=175.5*
*IDC **20** 21:06:43.3±0.9, 1977S×6662W, h246km±8km, mb3.8/11, mb1 4.0/14, mb1mx3.8/24, mbtmp3.8/14, Error ellipse: s-maj=17.9km s-min=9.0km az=90.0*
*NEIC **20** 21:06:43.6±0.6, 1976S×6661W, h249km±5km, mb4.3/9, Error ellipse: s-maj=10.2km s-min=6.2km az=86.0*

ISC 20 21:06:43.9±0.6, 1976S±004×6663W±009, h249km±6km, n46, σ0=90/47, mb4.1/19, Southern Bolivia

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Code  Station Name      Δ°   AZ°      Phase ID        Time      Res
                                     Op      ISC     h m s     ISC
LVC   Limon Verde     3.55 217  P       Pn      21 07 42.6  +0.3
        11nm,0.3s,baz=44,slow=7.3,SNR=14
LVC                                  S       S       21 08 27.8  -1.0
        69nm,0.3s,baz=266,slow=23,SNR=13
LPAZ  La Paz          3.74 337  P       Pn      21 07 46.7  +2.1
        17nm,0.3s,baz=148,slow=7.8,SNR=17
LPAZ                                 S       S       21 08 33.6  +0.8
        1.4nm,0.3s,baz=250,slow=23,SNR=5.0
ARE   Arequipa        5.67 305  eP      Pn      21 08 07.0  -0.9
ARE                                  eS      S       21 09 10.0  -5.1
SIV   San Ignacio     6.48  56  P       Pn      21 08 18.2  +0.1
        9.2nm,0.3s,baz=252,slow=15,SNR=9.3
LCO   Las Campanas    9.93 201  ePn     Pn      21 09 00.5  -1.0
CFAA  Coronel Fontan 11.88 187  P       Pn      21 09 30.5  +4.6
        0.5nm,0.3s,baz=352,slow=12,SNR=5.8
CFAA                                 S       S       21 11 30.1  -8.4
        0.6nm,0.3s,baz=302,slow=23,SNR=11
PLCA  Paso Flores    21.17 188  P       P       21 11 10.1  -0.1
        9.8nm,0.7s,mb4.5,baz=5.5,slow=9.8,SNR=6.9
PLCA  Paso Flores    21.17 188  eP      P       21 11 10.0  -0.1
        7.2nm,0.5s,mb4.5
EFI   East Falkland  32.55 170  eP      P       21 12 51.6  0.0
        7.4nm,0.6s,mb4.4
BBGH  Gun Hill       33.43  13  P       P       21 12 59.1  -0.4
AOPR  Arecibo Observ 37.87 360  eP      P       21 13 35.6  -1.6
        8.2nm,0.7s,mb4.4
PMSA  Palmer Station 45.02 178  eP      P       21 14 34.0  -0.5
        6.8nm,0.8s,mb4.0
TEIG  Tepich         45.04 331  P       P       21 14 28.8  -6.4
        42nm,1.0s,mb4.7,baz=146,slow=6.7,SNR=7.8
TEIG  Tepich         45.04 331  eP      P       21 14 29.0  -6.3
        68nm,1.1s,mb4.9
CMIG  Matias Romero  45.95 321  P       P       21 14 32.1  -10
        4.6nm,1.0s,mb3.8,baz=192,slow=4.2,SNR=4.2
DWPF  Disney         49.70 343  P       P       21 15 09.3  -1.5
BBSR  BB Station     51.87   2  P       P       21 15 26.3  -0.6
BLA   Blacksburg     58.14 347  eP      P       21 16 07.0  -4.6
TXAR  Lajitas Array  60.48 323  P       P       21 16 27.7  -0.1
        0.6nm,0.5s,mb3.5,baz=152,slow=7.9,SNR=6.0
VNA3  Neumayer Olymp 61.04 162  e       P       21 16 31.6  +0.7
VNA3                                 e               21 16 34.1
VNA1  Neumayer--Stat 61.22 161  e       P       21 16 33.6  +1.5
VNA2  Neumayer--Watz 61.59 161  e       P       21 16 35.5  +0.9
VNA2                                 e               21 16 38.0
FVM   French Village 61.64 339  eP      P       21 16 34.3  -1.0
        5.3nm,0.6s,mb4.3
SNAA  Sanae          63.23 161  e       P       21 16 45.9  +0.5
SNAA                                 e               21 16 48.3
SNAA  Sanae          63.23 161  P       P       21 16 46.0  +0.6
        1.0nm,0.6s,mb3.6,baz=278,slow=6.6,SNR=5.0
SNAA  Sanae          63.23 161  eP      P       21 16 45.5  +0.1
        2.3nm,0.6s,mb4.0
DBIC  Dimbokro       66.19  73  eP      P       21 17 04.2  -1.2
        9.4nm,0.9s,mb4.4
QSPA  South Pole Qui 70.42 180  P       P       21 17 31.1  +0.5
        3.2nm,0.5s,mb4.2,baz=242,slow=1.5,SNR=6.1
MSU   Marysvale      72.00 324  eP      P       21 17 42.3  +1.8
PDAR  Pinedale Array 73.71 328  P       P       21 17 50.0  -0.5
        1.1nm,0.5s,mb3.8,baz=124,slow=7.6,SNR=6.8
BGU   Big Grassy Mou 74.17 325  eP      P       21 17 53.3  +0.2
ULM   Lac du Bonnet  74.34 341  P       P       21 17 53.4  -0.5
        7.5nm,0.7s,mb4.5,baz=142,slow=4.0,SNR=5.9
TORD  Torodi Ar. Bea 74.75  70  P       P       21 17 55.7  -1.4
        5.5nm,0.5s,mb4.4,baz=254,slow=5.4,SNR=9.7
TORD  Torodi Ar. Bea 74.75  70  P       P       21 17 55.7  -1.4
ELK   Elko           75.25 324  P       P       21 18 00.5  +1.1
        1.2nm,0.7s,mb3.6,baz=124,slow=4.2,SNR=3.7
ELK   Elko           75.25 324  P       P       21 18 00.5  +1.1
NVAR  Mina Array Bea 75.48 320  P       P       21 18 01.1  +0.4
        2.1nm,0.9s,mb3.8,baz=158,slow=7.2,SNR=5.1
HLID  Hailey         76.75 326  eP      P       21 18 08.4  +0.7
TSUM  Tsumeb         78.48 106  eP      P       21 18 18.3  +0.4
        1.7nm,0.6s,mb3.9
BMO   Blue Mountains 79.15 326  eP      P       21 18 21.7  +0.8
YBH   Yreka Blue Hor 80.18 321  P       P       21 18 26.1  -0.4
        0.7nm,0.3s,mb3.7,baz=192,slow=2.9,SNR=4.1
YKA   Yellowknife Ar 90.28 340  P       P       21 19 15.8  -0.1
        2.8nm,0.5s,mb4.4,baz=129,slow=4.7,SNR=23
CASY  Casey          94.20 179  eP      P       21 19 34.8  +0.7
SONM  Songino Array 151.43  10  PKPbc   PKPbc   21 26 08.6  +0.6
        3.2nm,0.5s,baz=294,slow=1.1,SNR=22
MJAR  Matsushiro Arr 152.57 313  PKPbc   PKPbc   21 26 11.0  0.0
        0.5nm,0.3s,baz=111,slow=2.7,SNR=3.1
MJAR                                 PKPab   PKPab   21 26 22.2  -0.3
        1.3nm,0.4s,baz=62,slow=2.6,SNR=4.0
MJAR  Matsushiro Arr 152.57 313  PKPbc   PKPbc   21 26 11.0  0.0
MJAR                                 PKPab   PKPab   21 26 22.2  -0.3
```

MAN 20 21:19:06, 967N×12628E, h11km, mb4.4, ML3.3, MS3.1, 2C-2D, Mindanao

```
Code  Station Name      Δ°   AZ°      Phase ID        Time      Res
                                     Op      ISC     h m s     ISC
SCPH  Surigao          0.79 278  ||eP    Pg      21 19 21.0  -0.2
SCPH                                 i S     Sg      21 19 31.5  0.0
BUTP  Butuan           0.95 223  eP      Pg      21 19 24.1  -0.2
BUTP                                 eS      Sg      21 19 38.3  +1.6
MSLP  Maasin           1.47 288  eP      Pn      21 19 31.9  -0.6
MSLP                                 eS      Sn      21 19 52.6  +0.8
BIPH  Bislig           1.48 177  ||eP    Pn      21 19 32.0  -0.6
BIPH                                 eS      Sn      21 19 50.8  -1.1
PLP   Palo             1.96 319  ||eP    Pn      21 19 38.3  -0.9
PLP                                  eS      Sn      21 20 02.9  -0.9
BESP  Borongan         2.09 337  eP      Pn      21 19 42.1  +1.1
BUKP  Musuan           2.15 214  eP      Pn      21 19 43.6  +1.8
LLP   Lapu-Lapu        2.37 286  eP      Pn      21 19 44.0  -0.8
LLP                                  eS      Sn      21 20 13.4  -0.5
TBP   Tagbilaran       2.38 271  eP      Pn      21 19 45.1  +0.1
TBP                                  eS      Sn      21 20 12.2  -2.0
CNP   Catarman         3.24 331  eP      Pn      21 19 57.4  +0.6
PAGZ  Pagadian         3.39 238  eP      Pn      21 20 00.0  +1.2
GUIM  Jordan           3.75 285  eP      Pn      21 20 04.4  +0.5
RCP   Roxas            3.95 299  ||eP    Pn      21 20 12.5  +6.0
IPIL  Ipil             4.11 243  eP      Pn      21 20 12.1  +3.2
PVCP  Virac            4.42 332  eP      Pn      21 20 18.4  +5.3
```

*ISCJB **20** 21:21:01.3±2.4, 787S±008×1301E±01, h128km±26km, mb4.7/6, Error ellipse: s-maj=16.8km s-min=12.4km az=169.1*
*IDC **20** 21:21:02.2±12.0, 790S×13009E, h115km±142km, mb3.9/1, mb1 3.4/4, mb1mx3.2/16, mbtmp3.3/4, ML3.4/3, Error ellipse: s-maj=84.3km s-min=48.6km az=9.0*
*NEIC **20** 21:21:02.3±2.1, 791S×13006E, h120km±22km, mb4.5/3, Error ellipse: s-maj=15.9km s-min=12.3km az=76.0*

ISC 20 21:21:02.2±2.4, 790S±009×1301E±01, h119km±25km, n21, σ1=03/24, mb4.7/6, Tanimbar Islands region

```
Code  Station Name      Δ°   AZ°      Phase ID        Time      Res
                                     Op      ISC     h m s     ISC
FITZ  Fitzroy Crossi  11.05 203  eP      Pn      21 23 43.3  +6.5
        19nm,0.8s
FITZ  Fitzroy Crossi  11.05 203  P       Pn      21 23 37.0  +0.2
        0.2nm,0.3s,baz=33,slow=15,SNR=9.4
FITZ                                 S       Sn      21 25 39.8  +1.2
        0.2nm,0.3s,baz=174,slow=19,SNR=2.8
FITZ  Fitzroy Crossi  11.05 203  ePn     Pn      21 23 37.4  +0.6
FITZ                                 S       Sn      21 25 39.8  +1.2
WRA   Warramunga Arr  12.65 162  P       Pn      21 23 57.0  -0.9
        0.3nm,0.3s,baz=343,slow=13,SNR=5.9
WRA                                  S       Sn      21 26 16.6  -0.7
        0.5nm,0.3s,baz=336,slow=23,SNR=7.5
WB2   Warramunga Arr  12.65 162  Pn      Pn      21 23 57.5  -0.5
ASAR  Alice Springs   16.09 167  P       Pn      21 24 43.2  +1.6
        0.1nm,0.3s,baz=1.2,slow=13,SNR=4.6
MBWA  Marble Bar      16.58 216  Pn      Pn      21 24 47.1  -0.6
GUMO  Guam            25.87  35  eP      P       21 26 24.1  +1.1
        202nm,1.8s,mb5.2
STKA  Stephens Creek  26.14 157  P       P       21 26 25.0  -0.3
NWAO  Narrogin (SRO)  27.63 204  eP      P       21 26 39.1  +0.5
        16nm,1.2s,mb4.4
COCO  West Island     33.05 260  P       P       21 27 24.3  -2.4
YHNB  Yeheng          33.48 345  eP      P       21 27 29.6  -0.5
        141nm,1.7s,mb5.5
CHTO  Chiang Mai      40.63 311  P       P       21 28 30.2  -0.5
ENH   Enshi           42.82 333  eP      P       21 28 47.9  -0.5
MK31  Makanchi Array  69.04 327  eP      P       21 31 55.8  +0.8
MKAR  Makanchi Array  69.04 327  P       P       21 31 55.5  +0.5
        1.5nm,0.5s,mb4.1,baz=118,slow=7.8,SNR=18
KBL   Kabul           71.44 310  P       P       21 32 10.2  +0.3
EKS2  Erkin-Say       71.78 320  eP      P       21 32 12.8  +1.1
        21nm,1.5s,mb4.7
SBA   Scott Base      72.44 172  P       P       21 32 14.7  -0.4
KURK  Kurchatov       73.35 329  P       P       21 32 18.9  -1.9
BRVK  Borovoye        78.96 328  eP      P       21 32 55.8  +3.2
        1.3nm,0.4s,mb4.1
```

*IDC **20** 21:23:54.2±0.5, 1375S×7650W, h0km, mb4.8/18, mb1 4.9/21, mb1mx4.8/25, mbtmp4.8/21, ML3.9/2, MS4.2/15, Ms1 4.2/15, ms1mx4.0/33, Error ellipse: s-maj=20.4km s-min=9.6km az=73.0*
*ISCJB **20** 21:23:57.2±0.2, 1371S±003×7634W±004, h30km, mb5.1/72, MS4.5/11, Error ellipse: s-maj=7.1km s-min=3.4km az=145.7*
*MOS **20** 21:23:57.9±1.0, 1368S×7645W, h33km, mb5.4/19, Error ellipse: s-maj=13.5km s-min=6.8km az=116.4*
*NEIC **20** 21:23:59.0±0.2, 1374S×7640W, mb5.2/57, ML4.7(LIM), Error ellipse: s-maj=6.7km s-min=3.5km az=56.0*
NEIC Felt [V] at Lima and [III] at Ica and Pisco. Also felt at Oyon.
*BJI **20** 21:23:59.0, 1370S×7640W, h29km, mB5.5, Ms5.3, Msz5.1*

ISC 20 21:23:59.6±0.2, 1370S±003×7626W±004, h31km, h31km±.4km: pP-P, n556, σ0=58/541, mb5.1/72, MS4.5/11, 165C-161D, Near coast of Peru

```
Code  Station Name      Δ°   AZ°      Phase ID        Time      Res
                                     Op      ISC     h m s     ISC
NNA   Nana            1.79 342  Pn      Pn      21 24 27.0  -1.4
        745nm,0.3s,baz=169,slow=13,SNR=150
NNA                                  Lg              21 24 51.9
        3µm,0.3s,baz=178,slow=17,SNR=19
NNA   Nana            1.79 342  ePn     Pn      21 24 27.1  -1.3
ATAH  Atahualpa       6.98 342  Pn      Pn      21 25 39.5  -0.2
        30nm,0.3s,baz=190,slow=3.9,SNR=111
ATAH                                 Sn      Sn      21 26 56.8  -1.3
        baz=197,slow=20,SNR=1.4
ATAH                                 LR      LR      21 27 51.4
        comp=Z,770nm,18.6s,baz=184,slow=35
LPAZ  La Paz          8.27 109  Pn      Pn      21 26 03.9  +6.5
        4.6nm,0.3s,baz=295,slow=12,SNR=52
LPAZ                                 Sn      Sn      21 27 36.7  +7.0
        baz=209,slow=20,SNR=1.1
LPAZ                                 LR      LR      21 28 56.5
        comp=Z,216nm,21.1s,baz=284,slow=36
LPAZ  La Paz          8.27 109  eP      Pn      21 26 03.4  +6.0
LPAZ                                 pmax    pmax
        comp=Z,89nm,0.8s
LPAZ  La Paz          8.27 109  ePn     Pn      21 26 03.4  +6.1
        comp=Z,89nm,0.8s
LVC   Limon Verde    11.28 143  Pn      Pn      21 26 39.6  +0.9
        comp=Z,3.9nm,0.3s,baz=314,slow=11,SNR=6.8
LVC                                  Sn      Sn      21 28 43.9  +0.2
        comp=Z,1.5nm,0.3s,baz=261,slow=23,SNR=4.8
LVC                                  Lg              21 29 38.3
        comp=Z,1.7nm,0.3s,baz=247,slow=22,SNR=9.1
LVC                                  LR      LR      21 31 36.6
        comp=Z,956nm,18.0s,baz=140,slow=41
LVC   Limon Verde    11.28 143  Pn      Pn      21 26 39.6  +0.9
LVC                                  Sn      Sn      21 28 43.9  +0.2
LVC                                  Lg              21 29 38.3
LVC                                  LR      LR      21 31 36.6
OTAV  Otavalo        14.02 351  ePn     Pn      21 27 19.9  +3.8
SIV   San Ignacio    14.86 101  Pn      Pn      21 27 28.1  +0.5
        comp=Z,0.6nm,0.3s,baz=274,slow=15,SNR=19
```

SIV Sn **Sn** **21 30 17.1 +5.8**
comp=Z,0.2nm,0.3s,baz=18,slow=17,SNR=3.0
SIV Lg 21 31 42.0
comp=Z,0.6nm,0.3s,baz=55,slow=22,SNR=3.5
SIV LR LR 21 33 54.1
comp=Z,3µm,21.5s,baz=287,slow=40
LCO Las Campanas 16.09 162 *e*Pn **Pn** **21 27 44.6 +1.1**
comp=Z,25nm,0.9s
ROSC El Rosal 18.54 6 P **Pn** **21 28 17.3 +3.2**
comp=Z,1.1nm,0.3s,baz=120,slow=5.8,SNR=9.5
ROSC LR LR 21 36 23.9
comp=Z,1µm,18.3s,baz=193,slow=40
ROSC El Rosal 18.54 6 *e*P **Pn** **21 28 17.0 +2.9**
CFAA Coronel Fontan 19.28 159 P **Pn** **21 28 21.9 -1.0**
comp=Z,0.2nm,0.3s,baz=333,slow=11,SNR=38
CFAA LR LR 21 34 37.9
comp=Z,124nm,20.9s,baz=339,slow=33
FCH Farellones 20.28 165 *e*P **P** **21 28 33.5 +0.8**
LMEL Las Melosas 20.80 166 *e*P **P** **21 28 36.8 -1.4**
BCIP Isla Barro Col 22.99 351 *e*P **P** **21 29 01.3 -0.6**
comp=Z,79nm,1.0s,mb5.1
SDV Santo Domingo 23.12 14 P **P** **21 29 03.5 +0.3**
comp=Z,26nm,0.7s,mb4.8,baz=223,slow=8.0,SNR=18
SDV LR LR 21 39 11.3
comp=Z,930nm,19.2s,MS4.2,baz=238,slow=40
SDV Santo Domingo 23.12 14 *e*P **P** **21 29 03.1 -0.2**
comp=Z,74nm,1.0s,mb5.1
PCRV Puerto La Cruz 26.38 27 P **P** **21 29 35.1 +1.8**
comp=Z,18nm,0.8s,mb4.6,baz=90,slow=4.4,SNR=3.6
PCRV LR LR 21 41 07.2
comp=Z,2µm,18.5s,MS4.8,baz=226,slow=39
TRQA Tornquist 27.38 155 *e*P **P** **21 29 40.7 -1.4**
comp=Z,5.3nm,0.8s,mb4.1
BDFB Brasilia 27.39 98 P **P** **21 29 45.3 +2.9**
comp=Z,2.3nm,0.7s,baz=242,slow=18,SNR=2.5
BDFB LR LR 21 41 47.2
comp=Z,682nm,18.6s,MS4.2,baz=258,slow=39
BDFB Brasilia 27.39 98 *e*P **P** **21 29 42.5 +0.1**
BDFB LR LR 21 41 47.2
PLCA Paso Flores 27.39 171 P **P** **21 29 40.9 -1.3**
comp=Z,16nm,0.7s,mb4.7,baz=342,slow=10,SNR=49
PLCA LR LR 21 38 19.3
comp=Z,441nm,21.8s,MS4.0,baz=332,slow=32
SPB Sao Paulo 28.98 114 P **P** **21 29 59.8 +3.2**
GRGR Grenville 29.47 30 *e*P **P** **21 30 00.9 0.0**
comp=Z,179nm,0.8s,mb5.8
TGUH Tegucigalpa,Un 29.66 338 P **P** **21 30 01.2 -1.3**
TGUH *e*PP PP 21 31 09.6 -0.3
BBGH Gun Hill 31.39 33 *e*P **P** **21 30 17.6 -0.2**
SJG San Juan 33.15 18 P **P** **21 30 34.1 +0.8**
comp=Z,10nm,0.3s,mb5.2,baz=309,slow=19,SNR=3.1
SJG LR LR 21 46 17.1
comp=Z,681nm,18.9s,MS4.4,baz=273,slow=40
SJG San Juan 33.15 18 *e*P **P** **21 30 33.1 -0.1**
SJG LR LR 21 46 17.1
AOPR Arecibo Observ 33.20 17 *e*P **P** **21 30 35.8 +2.2**
CMIG Matias Romero 35.70 328 LR LR 21 43 05.7
comp=Z,398nm,19.4s,MS4.2,baz=344,slow=32
TEIG Tepich 35.73 340 P **P** **21 30 55.4 -0.1**
comp=Z,40nm,0.7s,mb5.5,baz=167,slow=14,SNR=18
TEIG LR LR 21 44 38.9
comp=Z,490nm,21.4s,MS4.2,baz=324,slow=35
TEIG Tepich 35.73 340 *e*P **P** **21 30 55.5 -0.1**
EFI East Falkland 40.62 163 *e*P **P** **21 31 35.4 -1.0**
EFI pmax pmax
comp=Z,55nm,1.0s,mb5.1
EFI East Falkland 40.62 163 *e*P **P** **21 31 35.4 -1.0**
comp=Z,55nm,1.0s,mb5.1
USHA Ushuaia 41.49 173 P **P** **21 31 42.5 -1.1**
comp=Z,35nm,0.9s,mb5.0,baz=327,slow=4.8,SNR=10
SWET Sewanee 49.50 350 *e*P **P** **21 32 45.9 -1.3**
SWET *e*pP pP 21 32 54.0 -2.6
PLAL Pickwick Lake 49.70 347 *e*P **P** **21 32 47.5 -1.1**
comp=Z,12nm,0.8s,mb5.0
TXAR Lajitas Array 50.30 329 P **P** **21 32 52.9 -0.5**
comp=Z,5.9nm,0.9s,mb4.6,baz=149,slow=9.0,SNR=53
TZTN Tazewell 50.44 352 *e*P **P** **21 32 52.8 -1.5**
comp=Z,34nm,0.7s,mb5.5
UALR University of 50.57 343 *e*P **P** **21 32 54.9 -0.4**
comp=Z,33nm,1.2s,mb5.1
MIAR Mount Ida 50.72 341 *e*P **P** **21 32 56.1 -0.3**
MIAR pmax pmax
comp=Z,17nm,0.7s,mb5.1
MIAR Mount Ida 50.72 341 *e*P **P** **21 32 56.1 -0.3**
comp=Z,17nm,0.7s,mb5.1
BLA Blacksburg 50.79 356 *e*P **P** **21 32 56.1 -0.8**
BLA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BLA Blacksburg 50.79 356 *e*P **P** **21 32 56.1 -0.8**
comp=Z,7.5nm,0.8s,mb4.7
ELN Prospectdale 50.83 355 *e*P **P** **21 32 57.0 -0.1**
PMSA Palmer Station 51.70 173 P **P** **21 33 03.4 0.0**
comp=Z,15nm,0.7s,mb5.0,baz=360,slow=5.1,SNR=8.8
PMSA Palmer Station 51.70 173 *e*P **P** **21 33 03.1 -0.3**
comp=Z,31nm,1.0s,mb5.2
USIN University of 52.49 349 *e*P **P** **21 33 05.1 -4.5**
WCI Wyandotte Cave 52.50 350 *e*P **P** **21 33 06.0 -3.7**
WCI *e* 21 34 18.0
WCI pmax pmax
comp=Z,32nm,0.8s,mb5.3
WCI Wyandotte Cave 52.50 350 *e*P **P** **21 33 06.0 -3.7**
comp=Z,32nm,0.8s,mb5.3
WCI *e*PcP PcP 21 34 18.0 -1.9
SIUC Southern Illin 52.57 347 *e*P **P** **21 33 09.2 -1.0**
comp=Z,23nm,0.6s,mb5.3
WMOK Wichita Mounta 52.71 337 *e*P **P** **21 33 10.2 -1.1**
GDL2 Guadalupe Moun 52.98 330 *e*P **P** **21 33 13.6 +0.2**
FVM French Village 53.10 346 *e*P **P** **21 33 13.2 -0.9**
BLO Bloomington 53.46 350 *e*P **P** **21 33 14.1 -2.6**
ACSO Alum Creek Sta 54.02 354 *e*P **P** **21 33 20.8 0.0**
comp=Z,40nm,1.3s,mb5.2
BRNJ Basking Ridge 54.13 2 *e*P **P** **21 33 20.7 -0.9**
comp=Z,22nm,0.6s,mb5.3
319A Douglas 54.89 325 ⇓P **P** **21 33 27.6 +0.3**
baz=55,SNR=12
318A Bisbee 55.34 325 ⇑P **P** **21 33 30.7 +0.1**
baz=55,SNR=26
219A White Tail Can 55.36 326 ⇓P **P** **21 33 30.7 +0.1**
baz=55,SNR=18
BINY Binghamton 55.62 0 *e*P **P** **21 33 33.3 +1.0**
comp=Z,19nm,0.8s,mb5.2
BINY *e*pP pP 21 33 40.8 -1.1
BNM Barren Site 55.67 329 *e*P **P** **21 33 32.8 -0.1**
BNM PcP PcP 21 34 31.7 -0.4
Y22C IRIS PASSCAL I 55.76 329 ⇓P **P** **21 33 34.1 +0.6**
baz=56
218A Dragoon 55.77 325 ⇓P **P** **21 33 33.9 +0.3**
baz=56,SNR=19
LPM Los Pinos Moun 55.80 330 *e*P **P** **21 33 33.5 -0.3**
KSU1 Kansas State U 55.86 341 P **P** **21 33 33.2 -1.0**
119A Ashpeak Ranch, 55.97 326 ⇓P **P** **21 33 35.5 +0.5**
baz=56
217A Green Valley 56.05 324 ⇑P **P** **21 33 35.9 +0.3**
baz=56,SNR=16
LAZ Ladron 56.13 329 *e*P **P** **21 33 36.2 0.0**
RKT Rikitea 56.18 251 *e*S **S** **21 41 25.1 +0.6**
comp=Z,164nm,29.5s
RKT *e*LR LR 21 49 39.5
comp=Z,1µm,31.5s
RKT Rikitea 56.18 251 *e*T 22 33 44.6
comp=Z,22nm,0.3s
118A Homack Ranch, 56.23 326 ⇑P **P** **21 33 37.0 +0.1**
baz=56,SNR=14
ANMO Albuquerque 56.23 330 *e*P **P** **21 33 36.8 -0.1**
ANMO 21 34 34.4
ANMO pmax pmax
comp=Z,21nm,1.1s
ANMO Albuquerque 56.23 330 *e*P **P** **21 33 36.8 -0.1**
comp=Z,21nm,1.1s,mb5.1
ANMO PcP PcP 21 34 34.4 +0.2
Z19A T-Link Ranch, 56.35 327 ⇓P **P** **21 33 38.4 +0.6**
baz=56
TUC Tucson 56.43 325 *e*P **P** **21 33 38.2 -0.2**
TUC pmax pmax
comp=Z,13nm,1.0s,mb4.9
TUC Tucson 56.43 325 *e*P **P** **21 33 38.2 -0.2**
comp=Z,14nm,1.0s,mb4.9
216A Three Points, 56.59 324 ⇓P **P** **21 33 39.6 +0.1**
baz=57,SNR=8.3
117A Oracle 56.61 325 ⇑P **P** **21 33 39.4 -0.2**
baz=57,SNR=20
Z18A Geronimo 56.61 326 ⇓P **P** **21 33 39.8 +0.2**
baz=57
Y19A Nutrioso 56.86 327 ⇓P **P** **21 33 41.8 +0.4**
baz=57,SNR=23
Z17A San Carlos Hig 57.01 326 ⇑P **P** **21 33 42.4 0.0**
baz=57
Y18A Canyon Day Jun 57.13 327 ⇓P **P** **21 33 43.5 +0.1**
baz=57
116A Eloy 57.14 324 ⇑P **P** **21 33 43.3 -0.1**
baz=57,SNR=7.7
HNH Hanover 57.24 3 *e*P **P** **21 33 44.8 +1.0**
comp=Z,20nm,0.9s,mb5.1
X19A St. Johns 57.24 328 ⇑P **P** **21 33 44.5 +0.5**
baz=57
214A Organ Pipe Nat 57.33 323 ⇑P **P** **21 33 44.9 +0.1**
baz=57,SNR=13
NCB Newcomb 57.42 2 *e*P **P** **21 33 46.0 +0.9**
Y17A Roosevelt 57.51 326 ⇓P **P** **21 33 46.1 +0.1**
baz=58,SNR=6.4
Z16A Peralta Trail, 57.56 325 ⇓P **P** **21 33 46.3 0.0**
baz=58
X18A Snowflake 57.66 327 ⇓P **P** **21 33 47.2 +0.2**
baz=58
LBNH Lisbon 57.79 4 *e*P **P** **21 33 48.3 +0.6**
W19A Sanders 57.82 328 ⇑P **P** **21 33 48.6 +0.5**
baz=58,SNR=5.9
Z15A Gila River Ind 57.93 325 ⇑P **P** **21 33 49.0 +0.1**
baz=58
X17A Forest Lakes 57.97 326 ⇑P **P** **21 33 49.8 +0.5**
baz=58,SNR=8.2
Y16A Circle Bar Ran 57.99 326 ⇓P **P** **21 33 49.9 +0.5**
baz=58,SNR=14
W18A Petrified Fore 58.01 328 ⇓P **P** **21 33 49.9 +0.5**
baz=58
LONY Lake Ozonia 58.06 1 *e*P **P** **21 33 50.2 +0.6**
V19A Window Rock 58.12 329 ⇑P **P** **21 33 50.5 +0.3**
baz=58
FRNY Flat Rock 58.30 2 *e*P **P** **21 33 51.8 +0.5**
X16A Lo Mia Camp, P 58.38 326 ⇓P **P** **21 33 52.3 +0.3**
baz=58,SNR=20
Z14A Wintersburg 58.43 324 ⇑P **P** **21 33 52.4 -0.1**
baz=58
113A Mohawk Valley, 58.48 323 ⇑P **P** **21 33 52.8 0.0**
baz=58
W17A Winslow 58.49 327 ⇑P **P** **21 33 52.9 +0.1**
baz=59
Y15A Casa Rosa Ranc 58.52 325 ⇓P **P** **21 33 53.0 0.0**
baz=59,SNR=10
V18A Ganado 58.57 328 ⇓P **P** **21 33 53.3 0.0**
baz=59
112A Yuma 58.79 322 ⇑P **P** **21 33 54.9 0.0**
baz=59
X15A Humboldt 58.87 325 ⇑P **P** **21 33 55.8 +0.4**
baz=59,SNR=12
Y14A Wickenburg 58.89 324 ⇑P **P** **21 33 55.7 +0.1**
baz=59,SNR=9.1
W16A Flagstaff 58.94 326 ⇑P **P** **21 33 56.4 +0.4**
baz=59,SNR=5.7
T19A Beclabito 58.98 330 ⇑P **P** **21 33 56.0 -0.2**
baz=59,SNR=5.9
MVCO Mesa Verde 59.03 330 ⇓P **P** **21 33 56.4 -0.1**
baz=59
MVCO Mesa Verde 59.03 330 *e*P **P** **21 33 56.6 +0.1**
comp=Z,17nm,1.1s,mb5.0
U18A Rough Rock, Ch 59.08 329 ⇓P **P** **21 33 57.2 +0.3**
baz=59
WUAZ Wupatki 59.17 327 ⇑P **P** **21 33 58.2 +0.7**
baz=59
WUAZ Wupatki 59.17 327 *e*P **P** **21 33 58.1 +0.5**
X14A Yava 59.21 325 ⇑P **P** **21 33 58.5 +0.6**
baz=59,SNR=16
Y13A Salome 59.27 324 ⇓P **P** **21 33 58.5 +0.3**
baz=59,SNR=8.4
GLA Glamis 59.30 322 *e*P **P** **21 33 58.9 +0.4**
GLA pmax pmax
comp=Z,26nm,1.6s,mb5.0
GLA Glamis 59.30 322 ⇑P **P** **21 33 59.0 +0.5**
baz=59
GLA Glamis 59.30 322 *e*P **P** **21 33 58.9 +0.3**
comp=Z,26nm,1.6s,mb5.0
W15A Williams 59.40 326 ⇓P **P** **21 34 00.0 +0.9**
baz=60,SNR=5.1
Y12C Blythe 59.62 323 ⇑P **P** **21 34 01.0 +0.3**
baz=60,SNR=5.2
U17A Shonto 59.63 328 ⇑P **P** **21 34 01.1 +0.4**
baz=60,SNR=6.5
T18A Mexican Hat 59.64 329 ⇑P **P** **21 34 00.4 -0.4**
baz=60,SNR=33
S19A Harvey Farm, M 59.76 330 ⇓P **P** **21 34 01.4 -0.1**
baz=60,SNR=12
DVTC Desert V Tower 59.79 321 ⇑P **P** **21 34 02.5 +0.6**
baz=60
PV01 Paradox Valley 59.80 331 *e*P **P** **21 34 01.6 -0.2**
PV01 *e*pP pP 21 34 10.5 -1.0
SWSC Sam W. Stewart 59.80 322 ⇓P **P** **21 34 02.2 +0.2**
baz=60
V15A Kaibab Nationa 59.83 327 ⇓P **P** **21 34 02.6 +0.6**
baz=60,SNR=10
ISCO Idaho Springs 59.83 334 *e*P **P** **21 34 02.2 +0.2**
X13A Yucca 59.83 324 ⇓P **P** **21 34 02.2 +0.1**
baz=60,SNR=11
W14A Seligman 59.87 325 ⇓P **P** **21 34 03.0 +0.6**
baz=60,SNR=9.4
SMCO Snowmass 59.91 333 *e*pP pP 21 34 11.1 -1.1
T17A Navajo Res., N 60.01 328 ⇑P **P** **21 34 03.9 +0.7**
baz=60,SNR=6.1
BC3 Big Chuckw Mtn 60.10 323 ⇑P **P** **21 34 04.2 +0.2**
baz=60,SNR=9.8
ECSD EROS,Sioux Fal 60.10 343 *e*P **P** **21 34 02.8 -1.0**
comp=Z,29nm,1.3s,mb5.2
S18A Hurst Farm, Bl 60.14 329 ⇓P **P** **21 34 04.4 +0.2**
baz=60,SNR=13
MONP Monument Peak 60.15 321 ⇑P **P** **21 34 04.8 +0.5**
baz=60
BAR Barrett 60.16 321 *e*P **P** **21 34 04.7 +0.3**
comp=Z,8.4nm,0.8s,mb4.8
V14A Boquillas Ranc 60.19 326 ⇑P **P** **21 34 05.1 +0.5**
baz=60,SNR=18
PV10 Paradox Valley 60.21 331 *e*P **P** **21 34 03.7 -1.0**
W13A Hualapai Mount 60.23 325 ⇑P **P** **21 34 05.3 +0.5**
baz=60,SNR=9.0
R19A Curley Farm, L 60.25 330 ⇓P **P** **21 34 04.9 0.0**
baz=60
U15A North Rim 60.35 327 ⇑P **P** **21 34 06.1 +0.5**
baz=60,SNR=11
T16A Glen Canyon Da 60.35 328 ⇓P **P** **21 34 06.2 +0.5**
baz=60
NEE2 Needles Airpor 60.41 324 ⇓P **P** **21 34 06.4 +0.3**
baz=60
S17A Black Ridge (B 60.50 329 ⇑P **P** **21 34 06.9 +0.3**
baz=61
109C Camp Elliot, M 60.56 321 ⇑P **P** **21 34 07.1 -0.1**
baz=61
R18A Canyonlands Na 60.63 330 ⇑P **P** **21 34 07.2 -0.4**
baz=61
BELC Belle Mtn. 60.66 322 ⇑P **P** **21 34 08.1 +0.3**
baz=61,SNR=8.5
PFO Pinyon Flat Ob 60.66 322 LR LR 21 55 49.8
comp=Z,139nm,19.2s,MS4.1,baz=136,slow=32
PFO Pinyon Flat Ob 60.66 322 *e*P **P** **21 34 08.2 +0.3**
PFO pmax pmax
comp=Z,23nm,1.1s,mb5.2
PFO Pinyon Flat Ob 60.66 322 ⇓P **P** **21 34 08.1 +0.3**
baz=61,SNR=8.0
PFO Pinyon Flat Ob 60.66 322 *e*P **P** **21 34 08.2 +0.4**
comp=Z,23nm,1.1s,mb5.2
Q19A Hogan Spring (60.78 331 ⇓P **P** **21 34 08.3 -0.2**
baz=61,SNR=6.2
U14A Mt Trumbull 60.81 326 ⇓P **P** **21 34 09.6 +0.8**
baz=61,SNR=16
V13A Grand Canyon W 60.84 325 ⇓P **P** **21 34 09.4 +0.4**
baz=61,SNR=12
T15A Red Dirt Ranch 60.84 327 ⇑P **P** **21 34 09.5 +0.5**
baz=61
W12A Cal Nev Ari 60.93 324 ⇑P **P** **21 34 09.7 +0.1**
baz=61
S16A Wepner Ranch, 60.97 328 ⇓P **P** **21 34 09.5 -0.3**
baz=61,SNR=5.6
GMRC Granite Mounta 61.02 323 ⇑P **P** **21 34 10.4 +0.2**
baz=61,SNR=9.5
PHWY Pilot Hill 61.02 335 *e*P **P** **21 34 07.5 -2.6**
R17A Hanksville Air 61.06 329 ⇑P **P** **21 34 10.4 0.0**
baz=61,SNR=17
MURC Murrieta 61.11 321 ⇓P **P** **21 34 11.2 +0.3**
baz=61
V12A Nelson 61.23 325 ⇓P **P** **21 34 11.4 -0.2**
baz=61,SNR=7.9
U13A Pakoon Wash 61.24 326 ⇓P **P** **21 34 11.9 +0.2**
baz=61,SNR=5.4
T14A Hurricane 61.24 327 ⇑P **P** **21 34 12.4 +0.7**
baz=61
Q18A Rafter H Ranch 61.31 330 ⇓P **P** **21 34 12.2 0.0**
baz=61,SNR=7.8
S15A Panguitch 61.32 328 ⇓P **P** **21 34 12.6 +0.4**
baz=61
BBRC Big Bear Sol-O 61.40 322 ⇑P **P** **21 34 13.4 +0.6**
baz=61
HEC Hector,Ludlow 61.44 323 ⇓P **P** **21 34 13.5 +0.4**
baz=62,SNR=20
SRU San Rafael 61.51 330 *e*P **P** **21 34 13.2 -0.2**
SRU *e*PP pP 21 34 22.5 -0.6
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
SRU San Rafael 61.51 330 ⇓P **P** **21 34 13.2 -0.2**
baz=62
SRU San Rafael 61.51 330 *e*P **P** **21 34 13.2 -0.2**
comp=Z,7.5nm,0.9s,mb4.8
SRU *e*pP pP 21 34 22.5 -0.7
SCI San Clemente I 61.52 320 ⇓P **P** **21 34 13.8 +0.1**
baz=62
U12A Valley of Fire 61.56 325 ⇓P **P** **21 34 14.4 +0.5**
baz=62
TUQ Turquoise Mtn. 61.63 324 ⇓P **P** **21 34 14.8 +0.5**
baz=62
V11A Goodsprings 61.64 324 ⇓P **P** **21 34 14.6 +0.2**
baz=62
T13A Saint George 61.65 326 ⇑P **P** **21 34 15.0 +0.6**
baz=62
Q16A Castle Valley 61.67 330 ⇑P **P** **21 34 14.8 +0.2**
baz=62
R15A Junction 61.69 328 ⇑P **P** **21 34 14.9 +0.2**
baz=62
CIS Catalina Islan 61.72 320 ⇓P **P** **21 34 15.3 +0.3**
baz=62
P18A Preston Nutter 61.78 331 ⇓P **P** **21 34 15.4 +0.2**
baz=62
S14A Cedar City 61.81 327 ⇑P **P** **21 34 16.1 +0.6**
baz=62
BFSC Mount Baldy St 61.82 322 ⇓P **P** **21 34 15.7 0.0**
baz=62,SNR=12
FMP Fort Macarthur 61.85 321 ⇓P **P** **21 34 16.0 +0.1**
baz=62
MSU Marysvale 61.86 329 *e*P **P** **21 34 16.2 +0.3**
RRX Edison Barstow 61.87 323 ⇑P **P** **21 34 16.4 +0.4**
baz=62
T12A Moapa 61.88 325 ⇑P **P** **21 34 16.3 +0.3**
baz=62
P17A Butcher Ranch, 61.89 330 ⇑P **P** **21 34 15.7 -0.3**
baz=62,SNR=6.7
SHPR Sheep Range 61.96 325 *e*P **P** **21 34 16.8 +0.3**
U11A Corn Creek 62.03 325 ⇓P **P** **21 34 17.7 +0.6**
baz=62
S13A Holt Ranch, En 62.04 327 ⇓P **P** **21 34 17.7 +0.6**
baz=62,SNR=15
GSC Goldstone 62.05 323 ⇓P **P** **21 34 17.5 +0.3**
baz=62
GSC Goldstone 62.05 323 *e*P **P** **21 34 17.6 +0.4**
MWC Mount Wilson 62.05 321 *e*P **P** **21 34 18.0 +0.8**
R14A James Farms, M 62.13 328 ⇑P **P** **21 34 18.2 +0.5**
baz=62
SHOC Shoshone 62.16 324 ⇑P **P** **21 34 18.0 +0.1**
baz=62
O18A Roosevelt 62.17 331 ⇓P **P** **21 34 18.1 +0.2**
baz=62
DECC Green Verdugo 62.24 321 ⇓P **P** **21 34 18.7 +0.2**
baz=62
Q15A Fillmore 62.34 329 ⇑P **P** **21 34 19.7 +0.7**
baz=62
P16A Fountain Green 62.45 330 ⇓P **P** **21 34 20.3 +0.5**
baz=62
EDW2 Edwards Air Fo 62.46 322 ⇑P **P** **21 34 19.7 -0.2**
baz=62,SNR=8.4
T11A Corn Creek, Al 62.53 326 ⇑P **P** **21 34 20.5 +0.2**
baz=63,SNR=20
R13A O'Grain Ranch, 62.54 327 ⇑P **P** **21 34 21.2 +0.8**
baz=63,SNR=14
U10A Ash Meadows, A 62.56 324 ⇓P **P** **21 34 21.1 +0.5**
baz=63
N18A Larsen Ranch, 62.58 332 ⇑P **P** **21 34 20.1 -0.5**
baz=63,SNR=9.3
S12A Delamar Landin 62.59 326 ⇓P **P** **21 34 20.7 0.0**
baz=63
BLG Laguna Peak 62.59 321 ⇑P **P** **21 34 21.2 +0.3**
baz=63
TAOE Nuku Hiva Isla 62.69 267 *e*S **S** **21 42 49.5 +0.6**
comp=Z,785nm,34.3s
TAOE Nuku Hiva Isla 62.69 267 *e*LR LR 21 53 03.0
comp=Z,3µm,23.4s
P15A Leamington 62.72 329 ⇑P **P** **21 34 21.7 +0.1**
baz=63
Q14A Sevier Lake (B 62.78 328 ⇑P **P** **21 34 22.5 +0.4**
baz=63,SNR=20
O16A Springville 62.83 330 ⇓P **P** **21 34 22.7 +0.4**
baz=63
RSSD Black Hills 62.87 338 *e*P **P** **21 34 21.7 -0.7**
RSSD pmax pmax
comp=Z,17nm,1.4s,mb5.0
RSSD Black Hills 62.87 338 *e*P **P** **21 34 21.7 -0.7**
comp=Z,17nm,1.4s,mb5.0
DAU Daniels Canyon 62.87 331 *e*P **P** **21 34 23.2 +0.6**
TPNV Topopah Spring 62.89 325 *e*P **P** **21 34 23.3 +0.5**
TPNV pmax pmax
comp=Z,20nm,1.1s,mb5.2
TPNV Topopah Spring 62.89 325 ⇓P **P** **21 34 23.2 +0.4**
baz=63
TPNV Topopah Spring 62.89 325 *e*P **P** **21 34 23.3 +0.5**
comp=Z,20nm,1.1s,mb5.2
FURC Furnace Creek, 62.90 324 ⇓P **P** **21 34 22.8 0.0**
baz=63,SNR=13
MPMC Manual Prospec 62.98 323 ⇑P **P** **21 34 23.2 -0.2**
baz=63,SNR=16
R12A Pony Springs, 62.99 327 ⇑P **P** **21 34 23.9 +0.5**
baz=63,SNR=15
N17A Moffit Pass 63.09 331 ⇓P **P** **21 34 24.6 +0.6**
baz=63
S11A Rachel 63.11 326 ⇑P **P** **21 34 24.8 +0.6**
baz=63
JLU Jordanelle 63.11 331 *e*P **P** **21 34 24.5 +0.4**
ARVC Arvin 63.13 322 ⇑P **P** **21 34 24.6 +0.1**
baz=63
P14A Drum Mountains 63.13 329 ⇑P **P** **21 34 24.8 +0.5**
baz=63,SNR=16
Q13A Wheeler Ranch, 63.14 328 ⇓P **P** **21 34 24.7 +0.3**
baz=63,SNR=15
ISA Isabella 63.28 322 ⇓P **P** **21 34 25.3 -0.1**
baz=63,SNR=5.8
ISA Isabella 63.28 322 *e*P **P** **21 34 25.7 +0.3**
N16A Rees Ranch, Co 63.33 331 ⇑P **P** **21 34 26.0 +0.5**
baz=63
O15A The Old Anders 63.36 330 ⇑P **P** **21 34 26.1 +0.3**
baz=64
DUG Dugway 63.46 329 *e*P **P** **21 34 26.8 +0.3**
P13A Bates Ranch, G 63.51 328 ⇑P **P** **21 34 27.3 +0.4**
baz=64,SNR=14
R11A Troy Canyon, C 63.53 326 ⇑P **P** **21 34 27.3 +0.4**
baz=64,SNR=22
GRAC Grapevine Rang 63.56 324 ⇓P **P** **21 34 27.4 +0.2**
baz=64
PKM Peak Mountain 63.58 321 ⇑P **P** **21 34 27.6 +0.2**
baz=64,SNR=12
CWC Cottonwood Cre 63.58 323 ⇓P **P** **21 34 27.5 +0.1**
baz=64,SNR=6.2
Q12A Willow Creek R 63.63 327 ⇑P **P** **21 34 27.5 -0.1**
baz=64,SNR=7.9
M16A Huntsville 63.75 331 ⇑P **P** **21 34 28.2 -0.2**
baz=64
VES Vestal, Richgr 63.77 322 ⇓P **P** **21 34 28.8 +0.2**
baz=64
S10A Tonopah Range, 63.78 325 ⇑P **P** **21 34 28.7 +0.1**
baz=64,SNR=24
N15A Stansbury Isla 63.85 330 ⇓P **P** **21 34 28.7 -0.3**
baz=64
R10A Warm Springs 63.88 326 ⇓P **P** **21 34 30.1 +0.8**
baz=64
Q11A Duckwater 63.93 327 ⇑P **P** **21 34 29.8 +0.3**
baz=64,SNR=24
HWUT Hardware Ranch 63.95 331 *e*P **P** **21 34 29.2 -0.4**
comp=Z,25nm,0.9s,mb5.2
BW06 Boulder Array 63.96 333 *e*P **P** **21 34 29.1 -0.6**
PDAR Pinedale Array 63.96 333 P **P** **21 34 29.1 -0.6**
comp=Z,5.0nm,1.0s,mb4.5,baz=142,slow=7.4,SNR=24
SMMC Simmler 63.97 321 ⇓P **P** **21 34 30.3 +0.4**
baz=64,SNR=7.0
S09A Goldfield 63.99 325 ⇓P **P** **21 34 30.2 +0.2**
baz=64
O13A Hicks Ranch, I 64.00 329 ⇑P **P** **21 34 30.2 +0.1**
baz=64
TIN Tinemaha 64.09 324 ⇓P **P** **21 34 31.1 +0.4**
baz=64
BGU Big Grassy Mou 64.13 330 *e*P **P** **21 34 29.6 -1.2**
BGU *e*pP pP 21 34 39.7 -0.9

AGMN	Agassiz Refuge	64.14	346	eP	P	21 34 29.8 -1.0
	comp=Z,17nm,0.7s,mb5.2					
N14A	Grayback Hills	64.15	330	⇓P	P	21 34 30.8 -0.2
	baz=64,SNR=7.1					
TPH	Tonopah	64.23	325	eP	P	21 34 32.3 +0.7
TPH				pmax	pmax	
	comp=Z,31nm,1.3s,mb5.2					
TPH	Tonopah	64.23	325	eP	P	21 34 32.3 +0.7
	comp=Z,31nm,1.3s,mb5.2					
M15A	Larsen Ranch,	64.26	330	⇓P	P	21 34 31.0 -0.7
	baz=64,SNR=8.7					
R09A	Tonopah	64.27	325	⇑P	P	21 34 31.7 -0.2
	baz=64,SNR=14					
V05C	Boulder Hill,	64.28	322	⇑P	P	21 34 31.6 -0.4
	baz=64					
HELL	Mitchell Peak	64.30	323	⇓P	P	21 34 32.0 0.0
	baz=64,SNR=16					
S08C	White Mtn Res	64.37	324	⇓P	P	21 34 32.8 +0.3
	baz=64,SNR=17					
MTUM	Tungsten Hills	64.49	324	eP	P	21 34 33.7 +0.4
O12A	Currie	64.49	328	⇑P	P	21 34 33.4 +0.1
	baz=65,SNR=9.2					
L15A	Malad City	64.64	331	⇓P	P	21 34 33.5 -0.8
	baz=65,SNR=6.4					
HVU	Hansel Valley	64.66	330	eP	P	21 34 34.2 -0.1
V04C	Ramage Ranch,	64.72	321	⇓P	P	21 34 34.6 -0.3
	baz=65					
PKD	Parkfield	64.72	321	⇓P	P	21 34 34.3 -0.5
	baz=65					
M14A	Sheep Mountain	64.72	330	⇑P	P	21 34 34.2 -0.6
	baz=65,SNR=14					
Q09A	Carvers	64.75	326	⇑P	P	21 34 35.6 +0.6
	baz=65					
O11A	Cowboy Ranch,	64.86	327	⇑P	P	21 34 35.9 +0.2
	baz=65,SNR=8.6					
KCC	Kaiser Creek	64.91	323	⇑P	P	21 34 36.2 +0.1
	baz=65,SNR=9.9					
K16A	Soda Springs	64.92	332	⇑P	P	21 34 36.1 +0.2
	baz=65					
P10A	Eureka	64.92	327	⇓P	P	21 34 36.5 +0.4
	baz=65					
T06C	Millerton Lake	64.92	323	⇓P	P	21 34 35.6 -0.5
	baz=65					
REDW	Red Top Meadow	65.01	333	eP	P	21 34 36.4 -0.1
	comp=Z,10nm,1.1s,mb4.8					
REDW				epP	pP	21 34 45.4 -0.9
L14A	Malta	65.08	330	⇓P	P	21 34 36.1 -0.9
	baz=65,SNR=9.0					
N12A	Clover Valley,	65.08	328	⇓P	P	21 34 37.2 +0.1
	baz=65					
NVAR	Mina Array Bea	65.09	325	P	P	21 34 36.6 -0.5
	comp=Z,6.3nm,0.7s,mb4.7,baz=145,slow=6.8,SNR=39					
LOHW	Long Hollow	65.09	333	eP	P	21 34 36.8 -0.3
	comp=Z,7.7nm,0.7s,mb4.8					
LOHW				epP	pP	21 34 46.2 -0.6
ELK	Elko	65.10	328	eP	P	21 34 37.3 +0.1
ELK				pmax	pmax	
	comp=Z,9.0nm,0.9s					
ELK	Elko	65.10	328	eP	P	21 34 37.3 0.0
	comp=Z,9.4nm,0.9s,mb4.8					
U04C	Hernandez Rese	65.14	321	⇑P	P	21 34 37.6 0.0
	baz=65,SNR=7.8					
TPAW	Teton Pass	65.15	333	eP	P	21 34 37.7 +0.2
V03C	Hunter Liggett	65.19	321	⇓P	P	21 34 38.4 +0.5
	baz=65					
RRI2	Red Ridge	65.20	333	eP	P	21 34 37.8 0.0
P09A	Austin	65.23	326	⇓P	P	21 34 38.4 +0.3
	baz=65					
MOOW	Moose Ponds	65.27	333	eP	P	21 34 37.9 -0.3
R07C	Lee Vining	65.28	324	⇑P	P	21 34 38.8 +0.4
	baz=65,SNR=13					
J16A	Bone	65.28	332	⇓P	P	21 34 38.1 -0.2
	baz=65					
O10A	Cortez Mining,	65.42	327	⇑P	P	21 34 39.5 +0.2
	baz=66,SNR=5.8					
M12A	Wells	65.43	329	⇓P	P	21 34 38.9 -0.5
	baz=66					
K14A	Jones Ranch, D	65.44	331	⇑P	P	21 34 38.7 -0.6
	baz=66,SNR=7.7					
L13A	Double Diamond	65.46	330	⇓P	P	21 34 39.2 -0.3
	baz=66,SNR=8.5					
IMW	Indian Meadow	65.47	333	eP	P	21 34 39.0 -0.5
	comp=Z,17nm,1.1s,mb5.0					
FLWY	Flagg Ranch	65.51	333	eP	P	21 34 37.9 -1.9
S05C	Merced	65.52	322	⇓P	P	21 34 39.8 -0.2
	baz=66					
S06C	San Francisco	65.60	323	⇑P	P	21 34 40.4 -0.1
	baz=66,SNR=16					
HAST	Hastings Reser	65.62	321	⇑P	P	21 34 40.5 -0.2
	baz=66					
O09A	Fish Creek Ran	65.70	327	⇓P	P	21 34 41.3 +0.2
	baz=66,SNR=6.7					
R06C	Coleville	65.80	324	⇑P	P	21 34 42.5 +0.6
	baz=66,SNR=5.8					
P08A	Dixie Valley	65.85	326	⇑P	P	21 34 42.6 +0.5
	baz=66					
PACP	Pacheco Peak	65.87	322	⇑P	P	21 34 42.3 0.0
	baz=66					
M11A	Holland Ranch,	65.89	328	⇑P	P	21 34 42.2 -0.1
	baz=66,SNR=9.6					
BMN	Battle Mountai	65.91	327	eP	P	21 34 42.9 +0.5
ULM	Lac du Bonnet	65.96	346	P	P	21 34 41.3 -1.3
	comp=Z,12nm,0.6s,mb5.1,baz=154,slow=7.0,SNR=15					
CMB	Columbia Colle	66.02	323	⇓P	P	21 34 42.8 -0.4
	baz=66					
CMB	Columbia Colle	66.02	323	eP	P	21 34 43.3 +0.1
L12A	House Creek Ra	66.03	329	⇓P	P	21 34 43.3 +0.2
	baz=66,SNR=5.6					
S04C	Ingram Canyon,	66.22	322	⇓P	P	21 34 44.6 +0.1
	baz=66					
R05C	Kirkwood Meado	66.28	324	⇓P	P	21 34 45.4 +0.5
	baz=66,SNR=5.9					
K12A	Draper Farm, C	66.34	330	⇓P	P	21 34 45.1 -0.1
	baz=66,SNR=15					
M10A	I.L. Ranch, Tu	66.34	328	⇑P	P	21 34 45.0 -0.1
	baz=66					
N09A	Rock Creek Ran	66.37	327	⇑P	P	21 34 45.3 -0.1
	baz=66					
L11A	Cat Creek Ranc	66.41	329	⇑P	P	21 34 45.3 -0.3
	baz=66,SNR=19					
R04C	Big Horse Ranc	66.48	323	⇑P	P	21 34 46.6 +0.4
	baz=66					
J13A	Cove Ranch, Pi	66.56	331	⇓P	P	21 34 46.7 +0.1
	baz=67,SNR=5.9					
PAHR	Pah Rah Range	66.58	325	eP	P	21 34 47.8 +1.0
O07A	Toulon	66.61	326	⇑P	P	21 34 46.7 -0.3
	baz=67,SNR=10.0					
DGMT	Dagmar	66.69	340	eP	P	21 34 47.5 +0.3
	comp=Z,23nm,0.9s,mb5.2					
DGMT				epP	pP	21 34 56.6 -0.4
LAVA	Lava Cap Winer	66.70	323	⇓P	P	21 34 47.5 -0.1
	baz=67					
L10A	Juniper Basin	66.71	328	⇓P	P	21 34 47.2 -0.4
	baz=67,SNR=17					
M09A	Marrel Ranch,	66.74	327	⇑P	P	21 34 47.8 +0.1
	baz=67					
HLID	Hailey	66.80	331	⇓P	P	21 34 48.1 0.0
	baz=67					
HLID	Hailey	66.80	331	eP	P	21 34 48.4 +0.3
BDM	Black Diamond	66.83	322	⇑P	P	21 34 48.6 +0.2
	baz=67					
J12A	Stokes Ranch,	66.89	330	⇓P	P	21 34 48.5 -0.2
	baz=67,SNR=7.2					
I13A	Wildhorse Cree	66.92	331	⇑P	P	21 34 49.0 +0.1
	baz=67,SNR=22					
K11A	Parker Ranch,	66.99	329	⇓P	P	21 34 49.1 -0.2
	baz=67,SNR=6.4					
P05C	Yuba Gap, Truc	67.00	324	⇓P	P	21 34 49.7 +0.3
	baz=67,SNR=8.0					
MCMT	McKenzie Canyo	67.05	333	eP	P	21 34 50.0 +0.3
MCMT				epP	pP	21 34 59.2 -0.2
N07B	Gerlach	67.09	326	⇑P	P	21 34 49.8 -0.2
	baz=67,SNR=8.5					
Q04C	Lincoln	67.13	323	⇑P	P	21 34 50.5 +0.2
	baz=67					
O06A	Flanigan	67.14	325	⇓P	P	21 34 50.1 -0.3
	baz=67					
G15A	Dillon	67.15	333	⇑P	P	21 34 50.4 +0.1
	baz=67,SNR=6.4					
BOZ	Bozeman (W)	67.16	334	⇓P	P	21 34 49.8 -0.5
	baz=67					
BOZ	Bozeman (W)	67.16	334	eP	P	21 34 49.8 -0.6
BOZ				epP	pP	21 34 59.3 -0.8
M08A	Happy Creek Ra	67.25	327	⇓P	P	21 34 50.7 -0.3
	baz=67					
L09A	Wilkinson Ranc	67.28	328	⇓P	P	21 34 51.3 +0.1
	baz=67,SNR=6.5					
DLMT	Dillon	67.35	333	eP	P	21 34 51.5 0.0
	comp=Z,20nm,1.1s,mb5.0					
DLMT				epP	pP	21 35 00.7 -0.7
FARB	Farallon Islan	67.35	321	⇓P	P	21 34 51.8 0.0
	baz=67					
MFID	Camas Ranch	67.37	330	⇑P	P	21 34 51.7 -0.1
	baz=68,SNR=15					
K10A	MacKenzie Ranc	67.42	329	⇓P	P	21 34 52.1 0.0
	baz=68,SNR=14					
CVS	Carmenet Viney	67.44	322	⇑P	P	21 34 52.1 -0.2
	baz=68					
H13A	Challis	67.48	332	⇑P	P	21 34 52.2 -0.2
	baz=68,SNR=9.7					
OHCM	Honcut	67.52	323	eP	P	21 34 52.8 0.0
N06A	Buffalo Meadow	67.55	325	⇑P	P	21 34 52.9 0.0
	baz=68,SNR=20					
MCCM	Marconi Confer	67.57	322	⇑P	P	21 34 53.3 +0.2
	baz=68					
O05C	Quincy	67.62	324	⇑P	P	21 34 53.8 +0.4
	baz=68					
SUTB	Sutter Butte	67.63	323	⇑P	P	21 34 53.1 -0.4
	baz=68					
G14A	Jackson	67.64	332	⇑P	P	21 34 53.3 -0.1
	baz=68					
NSHM	Saint Helena R	67.65	322	eP	P	21 34 53.6 0.0
LRM	Limekiln Ridge	67.65	333	eP	P	21 34 53.6 +0.1
LRM				epP	pP	21 35 02.4 -0.9
ORV	Oroville	67.68	324	⇑P	P	21 34 53.9 +0.2
	baz=68,SNR=23					
F15A	Butte	67.68	333	⇓P	P	21 34 53.4 -0.3
	baz=68,SNR=5.8					
H12A	Diamond D Ranc	67.75	331	⇑P	P	21 34 54.1 0.0
	baz=68,SNR=8.9					
L08A	Fields	67.75	327	⇑P	P	21 34 54.0 -0.2
	baz=68,SNR=7.9					
MNRC	McLaughlin Nat	67.78	323	⇓P	P	21 34 54.5 +0.1
	baz=68					
K09A	Rome	67.80	328	⇓P	P	21 34 54.3 -0.1
	baz=68,SNR=6.6					
G13A	Cobalt	67.88	332	⇓P	P	21 34 54.9 0.0
	baz=68,SNR=13					
O04C	Chester	67.95	324	⇓P	P	21 34 55.7 +0.2
	baz=68					
L07A	Adell	68.16	327	⇑P	P	21 34 57.0 +0.3
	baz=68					
E15A	Deer Lodge	68.20	334	⇓P	P	21 34 56.8 -0.1
	baz=68					
K08A	Mann Creek Ran	68.21	328	⇑P	P	21 34 56.8 -0.3
	baz=68					
M06C	Likely Place G	68.21	325	⇓P	P	21 34 57.2 +0.1
	baz=68					
HOPS	Hopland	68.23	322	⇓P	P	21 34 57.2 0.0
	baz=68					
J09A	Fry Pan Ranch,	68.28	329	⇑P	P	21 34 58.0 +0.5
	baz=68,SNR=5.7					
EGMT	Eagleton	68.30	337	⇓P	P	21 34 57.7 +0.2
	baz=68					
EGMT	Eagleton	68.30	337	eP	P	21 34 55.0 -2.5
	comp=Z,23nm,1.0s,mb5.2					
H11A	Donnelly	68.42	331	⇓P	P	21 34 57.1 -1.1
	baz=68					
GASB	Alder Springs	68.45	323	⇑P	P	21 34 59.0 +0.4
	baz=68,SNR=14					
F13A	Darby	68.45	332	⇓P	P	21 34 58.3 -0.2
	baz=69,SNR=14					
HATC	Hat Creek Radi	68.50	325	⇓P	P	21 34 58.7 -0.2
	baz=69					
E14A	Clinton	68.56	333	⇑P	P	21 34 59.3 +0.1
	baz=69,SNR=6.4					
K07A	Rock Creek Ran	68.58	327	⇑P	P	21 34 59.6 +0.2
	baz=69					
MOD	Modoc	68.59	326	⇑P	P	21 34 59.0 -0.5
	baz=69,SNR=12					
MOD	Modoc	68.59	326	eP	P	21 34 59.5 0.0
D15A	Lincoln	68.64	334	⇓P	P	21 34 59.6 0.0
	baz=69					
J08A	Circle Bar Ran	68.65	328	⇓P	P	21 34 59.2 -0.6
	baz=69					
H10A	Noah's Angus R	68.68	330	⇑P	P	21 34 59.8 -0.2
	baz=69					
M05C	Lookout	68.69	325	⇓P	P	21 35 00.0 0.0
	baz=69,SNR=15					
P01C	Double 8 Ranch	68.69	323	⇓P	P	21 35 00.5 +0.4
	baz=69,SNR=6.0					
I09A	Lost Marbles R	68.72	329	⇑P	P	21 34 59.5 -0.7
	baz=69					
SCHQ	Schefferville	68.73	6	P	P	21 34 59.1 -0.8
	comp=Z,3.2nm,0.7s,mb4.3,baz=124,slow=0.8,SNR=3.8					
SCHQ	Schefferville	68.73	6	eP	P	21 34 59.9 -0.1
CHMT	Chamberlain Mo	68.85	334	eP	P	21 35 01.2 +0.2
F12A	Elk City	68.85	332	⇑P	P	21 35 00.4 -0.6
	baz=69,SNR=8.1					
E13A	Victor	68.89	333	⇓P	P	21 35 01.4 +0.2
	baz=69,SNR=12					
WDC	Whiskeytown Da	68.95	324	eP	P	21 34 59.9 -1.8
WDC				pmax	pmax	
	comp=Z,20nm,1.7s,mb4.8					
WDC	Whiskeytown Da	68.95	324	⇓P	P	21 35 00.0 -1.7
	baz=69					
WDC	Whiskeytown Da	68.95	324	eP	P	21 34 59.9 -1.9
	comp=Z,20nm,1.7s,mb4.8					
L05A	Lakeview	68.98	326	⇓P	P	21 35 01.9 0.0
	baz=69					
G11A	Walters Elk Ra	69.05	331	⇓P	P	21 35 01.7 -0.5
	baz=69,SNR=9.5					
MSO	Missoula	69.08	333	eP	P	21 35 02.9 +0.5
	comp=Z,15nm,1.3s,mb4.8					
D14A	Greenough	69.09	334	⇑P	P	21 35 02.2 -0.2
	baz=69					
I08A	Drewsey	69.09	329	⇑P	P	21 35 02.0 -0.5
	baz=69,SNR=6.6					
J07A	Hines	69.09	328	⇓P	P	21 35 02.6 +0.1
	baz=69					
BMO	Blue Mountains	69.15	330	eP	P	21 35 02.5 -0.3
K06A	Valley Falls	69.19	327	⇑P	P	21 35 03.3 +0.2
	baz=69,SNR=23					
M04C	Macdoel	69.36	325	⇓P	P	21 35 03.9 -0.3
	baz=69					
F11A	Grangeville	69.36	331	⇓P	P	21 35 03.6 -0.6
	baz=70,SNR=14					
G10A	Bishop Farm, J	69.38	330	⇓P	P	21 35 04.1 -0.1
	baz=70,SNR=16					
O01C	Eel River Cons	69.41	323	⇓P	P	21 35 04.7 +0.1
	baz=70					
J06A	Christmas Vall	69.45	327	⇑P	P	21 35 04.4 -0.3
	baz=70,SNR=19					
K05A	Summer Lake	69.48	326	⇑P	P	21 35 05.3 +0.4
	baz=70,SNR=6.7					
D13A	Huson	69.51	333	⇓P	P	21 34 04.8 -0.3
	baz=70,SNR=6.7					
N02C	Big Bar	69.55	324	⇑P	P	21 35 05.2 -0.2
	baz=70,SNR=19					
H08A	Prairie City	69.58	329	⇑P	P	21 35 05.5 0.0
	baz=70,SNR=18					
L04A	Klamath Falls	69.65	325	⇑P	P	21 35 05.7 -0.2
	baz=70					
VNA3	Neumayer Olymp	69.66	162	eP	P	21 35 05.5 -0.2
VNA3				e		21 35 09.9
VNA3				e	pP	21 35 15.2 -0.3
VNA3				e		21 35 17.6
VNA3				e		21 35 27.2
M02C	Callahan	69.67	324	⇑P	P	21 35 05.3 -0.8
	baz=70					
G09A	Cove	69.69	330	⇑P	P	21 35 05.9 -0.3
	baz=70,SNR=29					
I07A	Izee	69.69	328	⇓P	P	21 35 06.5 +0.3
	baz=70,SNR=16					
E11A	Bogner Ranch,	69.74	332	⇑P	P	21 35 05.6 -0.8
	baz=70,SNR=8.3					
YBH	Yreka Blue Hor	69.81	325	⇓P	P	21 35 05.6 -1.4
	baz=70,SNR=7.2					
YBH	Yreka Blue Hor	69.81	325	eP	P	21 35 05.6 -1.4
KHMM	Horse Mountain	69.83	323	eP	P	21 35 07.9 +0.8
VNA1	Neumayer--Stat	69.92	161	eP	P	21 35 07.6 +0.3
VNA1				e	pP	21 35 17.8 +0.7
VNA1				e		21 35 20.2
F10A	Beach Ranch, E	69.93	331	⇓P	P	21 35 07.6 0.0
	baz=70,SNR=9.7					
I06A	Prineville	69.96	328	⇑P	P	21 35 08.5 +0.6
	baz=70					
JCC	Jacoby Creek	69.97	323	⇓P	P	21 35 08.4 +0.4
	baz=70					
C13A	Hot Springs	70.01	334	⇑P	P	21 35 08.2 +0.1
	baz=70,SNR=7.4					
J05A	Fort Rock	70.04	327	⇓P	P	21 35 08.3 -0.1
	baz=70					
F09A	S2 Ranch, Elgi	70.06	330	⇑P	P	21 35 08.4 0.0
	baz=70,SNR=12					
H07A	Lands Inn, Kim	70.08	329	⇑P	P	21 35 08.7 +0.2
	baz=70					
TIAR	Tiarei	70.10	256	eT		22 51 15.3
	comp=Z,210nm,0.2s					
E10A	Myers Farm, Un	70.25	331	⇓P	P	21 35 09.5 -0.1
	baz=70					
G08A	Pilot Rock	70.27	329	⇓P	P	21 35 09.6 -0.2
	baz=70,SNR=13					
VNA2	Neumayer--Watz	70.28	161	eP	P	21 35 09.1 -0.4
VNA2				e		21 35 13.6
VNA2				e	pP	21 35 17.8 -1.5
VNA2				e		21 35 21.1
VNA2				e		21 35 28.8
KTRM	Thompson Ridge	70.30	324	P	P	21 35 10.1 +0.1
LNOR	Lincton Mounta	70.36	330	eP	P	21 35 09.0 -1.3
LNOR				e*PP	pP	21 35 19.2 -0.9
J04A	Umpqua Nationa	70.48	326	⇓P	P	21 35 11.2 +0.2
	baz=70					
HUMO	Hull Mountain	70.52	325	P	P	21 35 10.3 -1.0
F08A	Pendleton	70.55	330	⇓P	P	21 35 11.5 +0.1
	baz=71					
VIPM	Ingram Point	70.56	328	P	P	21 35 11.9 +0.4
H06A	Lindquist Farm	70.57	328	⇓P	P	21 35 12.0 +0.4
	baz=71,SNR=13					
L02A	Cave Junction	70.59	325	⇓P	P	21 35 11.6 -0.2
	baz=71					
G07A	Ruggs Ranch, H	70.61	329	⇓P	P	21 35 12.2 +0.4
	baz=71,SNR=6.5					
D10A	Wagner Farm, O	70.75	332	⇓P	P	21 35 12.2 -0.5
	baz=71,SNR=6.6					
E09A	Wood Farm, Sta	70.76	331	⇓P	P	21 35 12.2 -0.5
	baz=71,SNR=5.8					
WALA	Waterton Lakes	70.80	335	eP	P	21 35 12.6 -0.2
	comp=Z,8.4nm,0.8s,mb4.7					
WALA				epP	pP	21 35 21.9 -0.7
K02A	Glendale	70.92	325	⇑P	P	21 35 13.4 -0.4
	baz=71,SNR=6.6					
I04A	Tendick Farm,	71.02	326	⇓P	P	21 35 13.8 -0.6
	baz=71					
G06A	Carlson Farm,	71.08	329	⇓P	P	21 35 15.0 +0.4
	baz=71					
CROR	Criterion Ridg	71.08	328	P	P	21 35 15.2 +0.6
E08A	Dider Farm, El	71.18	330	⇓P	P	21 35 14.9 -0.4
	baz=71					
D09A	Jones Farm, Ri	71.24	331	⇓P	P	21 35 15.3 -0.2
	baz=71					
HAWA	Hanford	71.34	330	eP	P	21 35 16.7 +0.5
	comp=Z,24nm,1.4s,mb4.9					
J02A	Umpqua	71.36	326	⇑P	P	21 35 16.5 0.0
	baz=71,SNR=5.9					
B11A	Sandpoint	71.37	333	⇑P	P	21 35 16.2 -0.1
	baz=72					
RSW	Rattlesnake Hi	71.37	330	eP	P	21 35 16.5 +0.1
G05A	Wamic	71.43	328	⇑P	P	21 35 17.0 +0.3
	baz=72					
A12A	Yaak River Ran	71.43	334	⇑P	P	21 35 17.1 +0.4
	baz=72					
H04A	Detroit Lake	71.50	327	⇑P	P	21 35 16.9 -0.3
	baz=72					
F06A	Goldendale	71.52	329	⇑P	P	21 35 17.5 +0.2
	baz=72					
D08A	Wollman Farm,	71.52	331	⇑P	P	21 35 17.2 -0.1
	baz=72					
I03A	Eugene	71.60	326	⇑P	P	21 35 17.9 0.0
	baz=72,SNR=6.3					
E07A	Sunnyside	71.61	330	⇑P	P	21 35 18.3 +0.5
	baz=72					
OD2	Odessa Site #2	71.66	331	eP	P	21 35 18.0 -0.1
OD2				epP	pP	21 35 27.7 -0.3
A11A	Hall Mountain,	71.76	333	⇑P	P	21 35 18.7 0.0
	baz=72,SNR=6.0					
SNAA	Sanae	71.88	161	eP	P	21 35 18.7 -0.5
SNAA				e		21 35 23.0
SNAA				e	pP	21 35 27.7 -1.3
SNAA				e		21 35 30.6
SNAA				e		21 35 38.7
SNAA	Sanae	71.88	161	eP	P	21 35 18.7 -0.5
SNAA				pmax	pmax	
	comp=Z,41nm,0.9s					
SNAA	Sanae	71.88	161	eP	P	21 35 18.7 -0.4
	comp=Z,41nm,0.9s,mb5.4					
H03A	Soap Creek Ran	72.08	327	⇓P	P	21 35 20.6 -0.1
	baz=72					
C08A	Higginbotham F	72.11	331	⇓P	P	21 35 21.2 +0.4
	baz=72					
D07A	Quincy	72.12	330	⇑P	P	21 35 21.1 +0.2
	baz=72					
B09A	Rice	72.16	332	⇑P	P	21 35 21.1 +0.1
	baz=72					
E06A	Yakima	72.16	329	⇑P	P	21 35 21.4 +0.3
	baz=72					
F04A	Amboy	72.46	328	⇑P	P	21 35 22.6 -0.4
	baz=72,SNR=5.3					
WTV	Waterville	72.47	331	P	P	21 35 23.5 +0.5
ETW	Entiat	72.58	330	eP	P	21 35 24.3 +0.6
B08A	Colville Reser	72.65	331	⇑P	P	21 35 23.7 -0.3
	baz=73					
LON	Longmire	72.71	329	eP	P	21 35 24.1 -0.3
LON				pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.4					
LON	Longmire	72.71	329	eP	P	21 35 24.1 -0.3
	comp=Z,3.7nm,0.8s,mb4.4					
A09A	Danville	72.76	332	⇑P	P	21 35 24.3 -0.3
	baz=73					
A08A	Turner Farm, O	73.05	332	⇓P	P	21 35 26.4 +0.1
	baz=73					
B07A	Winthrop	73.09	331	⇓P	P	21 35 26.3 -0.4
	baz=73					
D05A	Enumclaw	73.10	329	⇑P	P	21 35 26.6 -0.2
	baz=73					
LIC	Lamto	73.41	79	eP	P	21 35 29.3 0.0
	comp=Z,80nm,1.1s,mb5.3,baz=263					
LIC	Lamto	73.41	79	eP	P	21 35 29.2 -0.1
	comp=Z,98nm,1.1s,mb5.7					
LIC	Lamto	73.41	79	eP	P	21 35 29.3 0.0
	comp=Z,40nm,1.1s,mb5.3					
E03A	Lebam	73.46	328	⇓P	P	21 35 28.9 0.0
	baz=74					
TIC	Toumodi	73.53	79	eP	P	21 35 31.5 +1.5
	comp=Z,194nm,1.2s,mb5.9					
TIC	Toumodi	73.53	79	eP	P	21 35 31.5 +1.5
TIC				pmax	pmax	
	comp=Z,194nm,1.2s,mb5.9					
A07A	Ashnola River,	73.63	331	⇓P	P	21 35 30.0 +0.2
	baz=74,SNR=8.4					
FCC	Fort Churchill	73.66	350	eP	P	21 35 28.9 -0.8
FCC				e*PP	pP	21 35 37.7 -1.9
DBIC	Dimbokro	73.70	79	P	P	21 35 31.2 +0.2
	comp=Z,12nm,0.6s,mb5.0,baz=240,slow=5.8,SNR=37					
DBIC				LR	LR	22 05 16.7
	comp=Z,425nm,19.8s,MS4.7,baz=67,slow=34					
KIC	Kosan Boka	73.72	79	eP	P	21 35 31.4 +0.3
	comp=Z,219nm,1.0s,mb6.1					
RPW	Rockport	73.74	330	eP	P	21 35 29.4 -1.1
RPW				epP	pP	21 35 39.5 -0.8
JCW	Jim Creek	73.77	330	eP	P	21 35 29.9 -0.7
EDM	Edmonton	73.85	338	eP	P	21 35 30.0 -1.0
EDM				e*PP	pP	21 35 39.4 -1.5
B05A	Bryant	73.90	330	⇑P	P	21 35 31.1 -0.3
	baz=74					
C04A	Brinnon	73.95	329	⇑P	P	21 35 31.3 -0.4
	baz=74					
CMW	Cultus Mountai	74.02	330	P	P	21 35 31.8 -0.3
NLWA	Neilton

comp=Z,2.0nm,0.9s
VNDA Vanda 83.22 191 *e*P **P 21 36 22.0 -0.4**
comp=Z,2.3nm,0.9s,mb4.2
DLBC Dease Lake 84.14 335 *e*P **P 21 36 26.9 -0.3**
ESDC Sonseca Array 85.50 48 P **P 21 36 34.5 -0.1**
comp=Z,1.0nm,0.7s,mb4.2,baz=263,slow=4.7,SNR=4.4
SYO Syowa Base 86.17 161⇑*e*P **P 21 36 35.0 -2.4**
SYO Syowa Base 86.17 161⇓*e*P **P 21 36 37.8 +0.4**
TAM Tamanrasset 87.85 66 *e*P **P 21 36 47.5 +1.1**
TAM *e*PP pP 21 36 56.4 -0.1
BORG Borgarnes 88.46 21 *e*P **P 21 36 48.5 +0.2**
SJPF Ste Jean 88.65 45 *e*P **P 21 36 49.4 -0.4**
comp=Z,208nm,1.6s,mb5.9
SJPF Ste Jean 88.65 45 *e*P **P 21 36 49.4 -0.4**
SJPF pmax pmax
comp=Z,104nm,1.6s,mb5.9
SJPF Ste Jean 88.65 45 *e*P **P 21 36 49.4 -0.4**
comp=Z,104nm,1.6s,mb5.9
ETSF Etsaut 89.04 45 *e*P **P 21 36 51.0 -0.6**
QUIF Quistinic 89.08 40 *e*P **P 21 36 50.9 -0.8**
comp=Z,232nm,1.6s,mb6.0
QUIF Quistinic 89.08 40 *e*P **P 21 36 50.9 -0.8**
QUIF pmax pmax
comp=Z,116nm,1.6s,mb6.0
QUIF Quistinic 89.08 40 *e*P **P 21 36 50.9 -0.8**
comp=Z,116nm,1.6s,mb6.0
TSUM Tsumeb 89.12 109 *e*P **P 21 36 52.9 +0.3**
SUMG Summit 89.60 11 *e*P **P 21 36 54.3 +0.8**
comp=Z,11nm,0.9s,mb5.2
SUMG *e*pP pP 21 37 03.9 +0.3
DAWY Dawson 91.04 337 *e*P **P 21 36 59.6 -0.8**
DAWY *e*pP pP 21 37 09.5 -1.0
VIVF Saint-Julien-l 93.24 45 *e*P **P 21 37 09.2 -1.8**
comp=Z,73nm,1.6s,mb5.6
VIVF Saint-Julien-l 93.24 45 *e*P **P 21 37 09.2 -1.8**
VIVF pmax pmax
comp=Z,36nm,1.6s,mb5.5
VIVF Saint-Julien-l 93.24 45 *e*P **P 21 37 09.2 -1.8**
comp=Z,36nm,1.6s,mb5.6
LOR Lormes 93.37 42 *e*P **P 21 37 09.8 -1.8**
comp=Z,67nm,1.8s,mb5.5
LOR Lormes 93.37 42 *e*P **P 21 37 09.8 -1.8**
LOR pmax pmax
comp=Z,33nm,1.8s,mb5.5
LOR Lormes 93.37 42 *e*P **P 21 37 09.8 -1.8**
comp=Z,34nm,1.8s,mb5.5
MAW Mawson 93.69 165 *e*P **P 21 37 03.2 -10**
MAW pmax pmax
comp=Z,10.0nm,1.1s
MAW Mawson 93.69 165 *e*P **P 21 37 03.2 -10**
comp=Z,10.0nm,1.1s,mb5.2
COLA College 94.69 336 *e*P **P 21 37 16.4 -0.8**
COLA *e*PP pP 21 37 26.0 -1.3
MCK McKinley 94.70 335 P **P 21 37 16.2 -1.1**
LBTB Lobatse 94.72 117 *e*P **P 21 37 19.2 +0.8**
MOTA Moosalm 98.17 43⇓*i*P **P 21 37 34.9 +1.4**
comp=Z,7.1nm,1.0s,mb5.2
MOTA Moosalm 98.17 43⇓*i*P **P 21 37 34.9 +1.4**
MOTA pmax pmax
comp=Z,7.0nm,1.0s,mb5.2
WTTA Wattenberg 98.51 43⇑*i*P **P 21 37 36.9 +1.9**
comp=Z,13nm,1.0s,mb5.4
WTTA Wattenberg 98.51 43⇑*i*P **P 21 37 36.9 +1.9**
WTTA pmax pmax
comp=Z,13nm,1.0s,mb5.4
AKTK Aktyubinsk 127.94 35 PKP PKPdf 21 43 01.9 -0.3
AKTO Aktyubinsk 127.94 35 PKP PKPdf 21 43 01.9 -0.3
comp=Z,1.2nm,0.7s,baz=258,slow=4.2,SNR=5.8
MDJ Mudanjiang 142.13 330 PKP PKPdf 21 43 29.1 +0.3
MDJ PP PP
comp=Z,290nm,5.9s
CN2 Changchun 144.70 332 *e*PKP PKPdf 21 43 32.9 -0.4
SONM Songino Array 145.90 357 PKPbc PKPbc 21 43 35.7 -0.2
comp=Z,7.1nm,0.6s,baz=334,slow=2.7,SNR=17
WMQ Urumqi 146.98 22 *e*PKP PKPdf 21 43 36.3 -0.9
KSRS Korea Array 148.00 322 PKPbc PKPbc 21 43 38.9 -3.3
comp=Z,4.3nm,0.7s,baz=18,slow=2.2,SNR=6.5
HHC Hu-ho-hao-te 152.10 347 *e*PKP PKPdf 21 43 43.9 -1.6
HHC APKP 21 43 53.8
HHC XPKP 21 43 58.4
HHC PKS 21 47 17.0
HHC PP PP 21 47 33.8 +1.4
HHC SKS SKSdf 21 50 45.3 -5.4
HHC SKKS SKKSac 21 54 19.3 -2.4
HHC SS SS 22 06 57.3 -0.1
HHC LR LR
comp=N,250nm,22.6s,MS5.3
HHC LR LR
comp=E,421nm,20.2s,MS5.3
HHC LR LR
comp=Z,245nm,19.0s,MS5.0
NJ2 Nanjing 157.08 325 *e*PKP PKPdf 21 43 51.3 -1.4
LZH Lanzhou 157.71 360 *e*PKP PKPdf 21 43 52.4 -0.9
LZH APKP 21 44 07.3
LZH SKKS SKKSac 21 54 50.4 -1.5
LZH SS SS 22 07 58.4 +0.4
LZH PP PP
comp=Z,288nm,7.6s
LZH LR LR
comp=E,282nm,18.9s
LZH LR LR
comp=Z,323nm,19.7s,MS5.2
CD2 Chengdu 162.87 360 *e*PKP PKPdf 21 43 55.8 -3.4
GYA Guiyang 167.01 348 PKP PKPdf 21 44 02.4 -0.5
GYA XPKP 21 44 12.6
GYA PKP2 PKPab 21 45 08.0 +1.5
GYA PKS 21 47 34.3
GYA PP PP 21 48 56.8 +3.6
GYA SKS SKSdf 21 51 02.0 -2.9
GYA SKKS SKKSac 21 55 40.3 +0.5
GYA SS SS 22 09 36.8 +1.9
GYA PP PP
comp=Z,110nm,8.4s
GYA LR LR
comp=N,140nm,24.8s
GYA LR LR
comp=E,120nm,22.4s
GYA LR LR
comp=Z,180nm,21.0s
KMI Kunming 168.60 5 PKP PKPdf 21 44 04.0 0.0
KMI APKP 21 44 12.8
KMI XPKP 21 44 17.1

BJI ***20*** *21:30:43.9, 547S×141.29E, h25km, mB6.1, mb5.6, Ms5.4, Msz5.2*
ISCJB ***20*** *21:30:45.1±0.1, 539S±002×14082E±002, h16km, mb5.7/128, MS5.4/207, Error ellipse: s-maj=3.4km s-min=3.3km az=19.0*
GCMT ***20*** *21:30:45.5±0.1, 531S×14.094E, h14km, MW5.7/101, Moment Tensor Solution. s96,c164; s101,c243; Duration: 1s8 Moment tensor: Scale 1017Nm; Mrr3.43±.06; Mθθ-1.89±.05; Mφφ-1.55±.06; Mrθ-0.90±.13; Mθφ3.58±.04; Mφr1.27±.14; Best double couple: M0 4.64900×1017 NP1:φs123.00000°, δ36.00000°, λ75.00000°. NP2:φs322.00000°, δ55.00000°, λ101.00000°. Principal axes: T 3.7360, Plg77.0000°, Azm267.0000°; N 1.8170, Plg9.0000°, Azm136.0000°; P -5.5630, Plg10.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***20*** *21:30:45.8±0.1, 540S×140.87E, h12km, mb5.9/72, ME6.1, MS5.5/158 Error ellipse: s-maj=3.9km s-min=3.2km az=100.0 Broadband fault plane solution: P waves. NP1:φs140.00000°, δ15.00000°, λ90.00000°. NP2: φs320.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm230.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm50.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] Tanah Merah and [III] at Asmat and Wamena. Felt at Jayapura. Also felt at Kiunga, Mount Hagen and Vanimo, Papua New Guinea.
MOS ***20*** *21:30:46.7±0.8, 537S×140.91E, h33km, mb6.0/37, MS5.3/68 Error ellipse: s-maj=9.3km s-min=5.9km az=102.8*
IDC ***20*** *21:30:46.8±5.2, 540S×140.87E, h18km±32km, mb5.2/21, mb1 5.1/29, mb1mx5.1/30, mbtmp5.3/29, ML5.4/8, MS5.1/17, Ms1 5.2/17, ms1mx5.1/20, Error ellipse: s-maj=15.2km s-min=9.2km az=89.0*
DJA ***20*** *21:30:51, 524S×140.84E, h33km, mB6.6/7*
ISC 20 21:30:46.9±0.1, 539S±002×14087E±002, h17km, h17km±1.7km:pP-P, n769, σ1⇑01/472, mb5.7/127, MS5.4/207, 138C-87D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COEN	**Coen**	**8.81**	**165**	*e*Pn		**Pn**	**Pn**	**21 32 53.6**	**+0.1**
	586nm,0.9s								
COEN				*e*Sn		**Sn**	**Sn**	**21 34 31.1**	**-1.3**
KAKA	**Kakadu**	**11.05**	**228**	*e*P		**Pn**	**Pn**	**21 33 22.6**	**-1.7**
	675nm,0.5s								
KAKA	**Kakadu**	**11.05**	**228**	*e*Pn		**Pn**	**Pn**	**21 33 23.8**	**-0.5**
KAKA				*e*Sn		**Sn**	**Sn**	**21 35 25.1**	**-2.5**
CTA	**Charters Tower**	**15.52**	**161**	*e*P		**Pn**	**Pn**	**21 34 25.9**	**+0.9**
	79nm,1.2s								
CTA				*e*S		**Sn**	**Sn**	**21 37 26.4**	**+10**
CTA	**Charters Tower**	**15.52**	**161**	Pn		**Pn**	**Pn**	**21 34 24.6**	**-0.4**
	2.7nm,0.3s,baz=337,slow=13,SNR=20								
CTA				Sn		**Sn**	**Sn**	**21 37 11.6**	**-5.1**
	1.8nm,0.3s,baz=25,slow=16,SNR=1.7								
CTA				Lg				21 38 46.0	
	3.6nm,0.3s,baz=280,slow=18,SNR=3.6								
CTA				LR		LR		21 40 29.2	
	comp=Z,13μm,19.6s,baz=346,slow=38								
CTA	**Charters Tower**	**15.52**	**161**	P		**Pn**	**Pn**	**21 34 24.6**	**-0.4**
CTA								21 37 11.6	
CTA				pmax		pmax			
	comp=Z,3.0nm,0.3s								
CTA				smax					
	comp=N,2.0nm,0.3s								
CTA				MLR		MLR			
	comp=Z,13μm,19.6s								
CTAO	**Charters Tower**	**15.52**	**161⇑**	*e*Pn		**Pn**	**Pn**	**21 34 25.5**	**+0.4**
CTAO				*e*Sn		**Sn**	**Sn**	**21 37 27.1**	**+10**
WRAB	**Tennant Creek**	**15.79**	**203⇑**	*e*P		**Pn**	**Pn**	**21 34 25.4**	**-3.1**
WRAB				*e*				21 37 25.3	
WRAB				pmax		pmax			
	comp=Z,950nm,0.8s								
WRAB	**Tennant Creek**	**15.79**	**203⇑**	*e*Pn		**Pn**	**Pn**	**21 34 25.4**	**-3.1**
	comp=Z,950nm,0.8s								
WRAB				*e*Sn		**Sn**	**Sn**	**21 37 25.3**	**+2.1**
WB2	**Warramunga Arr**	**15.80**	**203**	*e*P		**Pn**	**Pn**	**21 34 25.6**	**-3.0**
WB2				*e*S		**Sn**	**Sn**	**21 37 38.9**	**+15**
WRA	**Warramunga Arr**	**15.80**	**203**	Pn		**Pn**	**Pn**	**21 34 26.5**	**-2.2**
	comp=Z,9.0nm,0.3s,baz=18,slow=13,SNR=96								
WRA				Sn		**Sn**	**Sn**	**21 37 27.6**	**+4.1**
	comp=Z,7.9nm,0.3s,baz=22,slow=22,SNR=5.6								
WRA				Lg				21 39 02.5	
	comp=Z,15nm,0.3s,baz=27,slow=33,SNR=4.6								
WRA	**Warramunga Arr**	**15.80**	**203**	P		**Pn**	**Pn**	**21 34 26.5**	**-2.2**
WRA								21 37 27.6	
BATI	**Baumata**	**17.71**	**253**	P		**Pn**	**Pn**	**21 34 51.4**	**-1.4**
	comp=Z,51nm,0.3s,baz=107,slow=4.9,SNR=38								
BATI				S		**Sn**	**Sn**	**21 38 06.6**	**-3.3**
	comp=Z,14nm,0.3s,baz=100,slow=19,SNR=4.3								
MATI	**Mati**	**19.05**	**310**	*e*P		**Pn**	**Pn**	**21 35 08.7**	**-0.5**
GUMO	**Guam**	**19.27**	**12**	P		**Pn**	**Pn**	**21 35 10.6**	**-1.2**
	comp=Z,7.3nm,0.3s,baz=177,slow=10,SNR=6.5								
GUMO				S		**Sn**	**Sn**	**21 38 47.1**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=200,slow=23,SNR=1.7								
GUMO				LR		LR		21 41 35.0	
	comp=Z,4μm,20.6s,baz=26,slow=34								
GUMO	**Guam**	**19.27**	**12**	*e*P		**Pn**	**Pn**	**21 35 10.1**	**-1.7**
GUMO				*e*S		**Sn**	**Sn**	**21 38 45.8**	**-1.8**
GUMO				pmax		pmax			
	comp=Z,931nm,1.3s								
GUMO	**Guam**	**19.27**	**12**	*e*P		**Pn**	**Pn**	**21 35 10.1**	**-1.7**
	comp=Z,931nm,1.3s								
GUMO				*e*S		**Sn**	**Sn**	**21 38 45.8**	**-1.8**
HNR	**Honiara**	**19.33**	**103**	P		**Pn**	**Pn**	**21 35 12.7**	**0.0**
	comp=Z,32nm,0.3s,baz=290,slow=1.8,SNR=23								
HNR	**Honiara**	**19.33**	**103**	P		**Pn**	**Pn**	**21 35 12.0**	**-0.7**
HNR				pmax		pmax			
	comp=Z,970nm,0.8s								
HNR	**Honiara**	**19.33**	**103**	P		**Pn**	**Pn**	**21 35 12.7**	**0.0**
HNR				*e*S		**Sn**	**Sn**	**21 38 41.4**	**-7.8**
ASAR	**Alice Springs**	**19.37**	**200**	P		**Pn**	**Pn**	**21 35 11.8**	**-1.2**
	comp=Z,7.0nm,0.3s,baz=33,slow=8.4,SNR=248								
ASAR				S		**Sn**	**Sn**	**21 39 05.2**	**+15**
	comp=Z,5.7nm,0.3s,baz=42,slow=21,SNR=4.3								
ASAR				Lg				21 41 02.4	
	comp=Z,4.2nm,0.3s,baz=18,slow=28,SNR=4.4								
FITZ	**Fitzroy Crossi**	**19.52**	**228**	*e*P		**Pn**	**Pn**	**21 35 12.8**	**-2.1**
	comp=Z,498nm,1.0s								
FITZ				*e*S		**Sn**	**Sn**	**21 38 42.7**	**-11**
FITZ	**Fitzroy Crossi**	**19.52**	**228**	P		**Pn**	**Pn**	**21 35 12.9**	**-2.0**
	comp=Z,5.9nm,0.3s,baz=60,slow=13,SNR=108								
FITZ				S		**Sn**	**Sn**	**21 38 45.2**	**-8.6**
	comp=Z,11nm,0.3s,baz=142,slow=14,SNR=4.3								
FITZ				Lg				21 41 01.2	
	comp=Z,3.5nm,0.3s,baz=33,slow=22,SNR=2.1								
FITZ				LR		LR		21 44 23.4	
	comp=Z,7μm,18.3s,baz=41,slow=42								
DAV	**Davao City (W)**	**19.65**	**309**	⇓P		**Pn**	**Pn**	**21 35 17.8**	**+1.4**
	SNR=15								
DAV	**Davao City (W)**	**19.65**	**309**	P		**Pn**	**Pn**	**21 35 16.4**	**-0.1**
	comp=Z,43nm,0.3s,baz=281,slow=5.0,SNR=4.3								
DAV				LR		LR		21 43 01.5	
	comp=Z,4μm,20.9s,baz=146,slow=37								
DAV	**Davao City (W)**	**19.65**	**309**	⇓*e*P		**Pn**	**Pn**	**21 35 13.6**	**-2.8**
DAV	**Davao City (W)**	**19.65**	**309**	*e*P		**Pn**	**Pn**	**21 35 16.9**	**+0.4**
	comp=Z,638nm,1.2s								
DAV				LR		LR		21 43 01.5	
BIPH	**Bislig**	**19.78**	**313⇑**	*i*P		**Pn**	**Pn**	**21 35 14.8**	**-3.2**
BIPH				*i* S		**Sn**	**Sn**	**21 39 03.4**	**+3.3**
BUKP	**Musuan**	**20.55**	**310**	*e*P		**P**	**P**	**21 35 25.8**	**+0.9**
CTBH	**Cotabato--PC H**	**20.79**	**307**	*e*P		**P**	**P**	**21 35 26.9**	**-0.5**
BUTP	**Butuan**	**20.85**	**313**	*e*P		**P**	**P**	**21 35 34.1**	**+6.1**
KAPI	**Kappang**	**21.04**	**270**	⇑P		**P**	**P**	**21 35 32.9**	**+2.8**
	SNR=35								
KAPI	**Kappang**	**21.04**	**270**	⇑*i*P		**P**	**P**	**21 35 29.8**	**-0.4**
KAPI				*e*S		**S**	**S**	**21 39 32.9**	**+8.9**
KAPI				LR		LR			
	comp=Z,11μm,20.0s,MS5.2								
SCPH	**Surigao**	**21.50**	**314**	*e*P		**P**	**P**	**21 35 35.3**	**+0.2**
PAGZ	**Pagadian**	**21.85**	**307**	*e*P		**P**	**P**	**21 35 39.1**	**+0.3**
MSLP	**Maasin**	**22.19**	**314**	*e*P		**P**	**P**	**21 35 42.4**	**0.0**
IPIL	**Ipil**	**22.47**	**305**	*e*P		**P**	**P**	**21 35 47.0**	**+1.5**
TBP	**Tagbilaran**	**22.62**	**311**	*e*P		**P**	**P**	**21 35 49.2**	**+2.1**
BESP	**Borongan**	**22.82**	**318**	*e*P		**P**	**P**	**21 35 49.8**	**+0.7**
PLP	**Palo**	**22.82**	**316**	⇓*e*P		**P**	**P**	**21 35 47.4**	**-1.7**
LLP	**Lapu-Lapu**	**22.96**	**313**	*e*P		**P**	**P**	**21 35 49.5**	**-1.1**
OCLP	**Ormoc**	**23.00**	**315**	*e*P		**P**	**P**	**21 35 51.3**	**+0.2**
CNP	**Catarman**	**24.00**	**318**	*e*P		**P**	**P**	**21 35 59.5**	**-1.4**
GUIM	**Jordan**	**24.18**	**311**	*e*P		**P**	**P**	**21 36 02.3**	**-0.3**
RCP	**Roxas**	**24.68**	**313**	⇓*e*P		**P**	**P**	**21 36 12.1**	**+5.0**
MYLDM	**Lahad Datu**	**24.69**	**295**	⇑P		**P**	**P**	**21 36 12.2**	**+4.9**
TSM	**Tawau**	**24.91**	**292**	⇑P		**P**	**P**	**21 36 10.9**	**+1.7**
PVCP	**Virac**	**25.13**	**319**	⇑*i*P		**P**	**P**	**21 36 10.1**	**-1.1**
CUYO	**Cuyo Island**	**25.52**	**309**	*e*P		**P**	**P**	**21 36 14.3**	**-0.4**
OTRP	**Odiongan**	**25.73**	**313**	*e*P		**P**	**P**	**21 36 16.1**	**-0.6**
MBWA	**Marble Bar**	**25.81**	**231**	⇑P		**P**	**P**	**21 36 19.2**	**+1.9**
	SNR=11								
MBWA	**Marble Bar**	**25.81**	**231**	⇑*e*P		**P**	**P**	**21 36 16.4**	**-0.9**
	comp=Z,193nm,1.0s,mb5.6								
MBWA				*e*S		**S**	**S**	**21 40 54.4**	**+8.2**
MBWA				LR		LR			
	comp=Z,11μm,21.0s,MS5.4								
SDKM	**Sandakan**	**26.06**	**295**	⇓P		**P**	**P**	**21 36 20.4**	**+0.7**
STKA	**Stephens Creek**	**26.36**	**179**	*e*P		**P**	**P**	**21 36 21.1**	**-1.1**
	comp=Z,42nm,0.9s,mb5.0								
STKA				*e*S		**S**	**S**	**21 41 07.3**	**+13**
STKA	**Stephens Creek**	**26.36**	**179**	P		**P**	**P**	**21 36 20.8**	**-1.4**
	comp=Z,3.8nm,0.4s,mb4.3,baz=338,slow=11,SNR=12								
STKA				LR		LR		21 48 28.5	
	comp=Z,10μm,21.2s,MS5.3,baz=353,slow=40								
STKA	**Stephens Creek**	**26.36**	**179**	*e*P		**P**	**P**	**21 36 21.4**	**-0.8**
STKA				*e*S		**S**	**S**	**21 41 07.3**	**+13**
SJMP	**San Jose**	**26.46**	**312**	*e*P		**P**	**P**	**21 36 22.9**	**-0.4**
BUSP	**Coron**	**26.86**	**310**	*e*P		**P**	**P**	**21 36 25.3**	**-1.6**
ARMA	**Armidale**	**26.88**	**159**	*e*P		**P**	**P**	**21 36 29.8**	**+2.9**
ARMA	**Armidale**	**26.88**	**159**	*e*P		**P**	**P**	**21 36 26.6**	**-0.3**
KDM	**Kudat**	**26.93**	**297**	⇓P		**P**	**P**	**21 36 29.1**	**+1.5**
ENPP	**El Nido**	**26.97**	**308**	*e*P		**P**	**P**	**21 36 27.4**	**-0.5**
BATP	**Bataraza**	**26.98**	**301**	*e*P		**P**	**P**	**21 36 27.6**	**-0.3**
KKM	**Kota Kinabalu**	**27.11**	**294**	⇓P		**P**	**P**	**21 36 29.1**	**-0.2**
KKM	**Kota Kinabalu**	**27.11**	**294**	⇑*i*P		**P**	**P**	**21 36 29.2**	**0.0**
	comp=Z,301nm,0.9s,mb5.8								
KKM				PcP		PcP		21 40 02.4	+12
KKM				S		S		21 41 32.6	+26
KKM				LR		LR			
	comp=Z,4μm,20.0s,MS5.0								
LUBP	**Lubang**	**27.93**	**313**	*e*P		**P**	**P**	**21 36 35.0**	**-1.5**
FORT	**Forrest**	**27.98**	**204**	*e*P		**P**	**P**	**21 36 37.5**	**+0.7**
	comp=Z,82nm,0.7s,mb5.5								
FORT				*e*S		**S**	**S**	**21 41 32.8**	**+12**
BALP	**Baler**	**28.39**	**318**	*e*P		**P**	**P**	**21 36 39.6**	**-1.0**
BTM	**Bintulu**	**29.04**	**286**	⇓P		**P**	**P**	**21 36 48.4**	**+1.9**
ADE	**Adelaide**	**29.50**	**184**	P		**P**	**P**	**21 36 49.8**	**-0.4**
BCPH	**Baguio City Da**	**29.51**	**317**	⇓*e*P		**P**	**P**	**21 36 41.9**	**-8.7**
SBUM	**Sibu**	**29.66**	**285**	⇓P		**P**	**P**	**21 36 53.8**	**+1.8**
DZM	**Mont Dzumac**	**29.78**	**126**	*e*P		**P**	**P**	**21 36 51.7**	**-1.2**
	comp=Z,176nm,1.7s,mb5.5								
APYP	**Conner**	**30.15**	**320**	*e*P		**P**	**P**	**21 36 54.8**	**-1.4**
CAN	**Canberra**	**30.71**	**167**	*e*P		**P**	**P**	**21 37 07.8**	**+6.8**
CAN				*e*S		**S**	**S**	**21 42 11.9**	**+8.7**
CNB	**Canberra Magne**	**30.79**	**166**	*e*P		**P**	**P**	**21 37 06.3**	**+4.6**
CNB				*e*S		**S**	**S**	**21 42 08.9**	**+4.5**
KSM	**Kuching**	**31.28**	**282**	⇑*i*P		**P**	**P**	**21 37 06.2**	**-0.1**
	comp=Z,139nm,1.0s,mb5.7								
KSM				*e*PP		PP		21 38 16.4	-0.6
KSM				*e*PcP		PcP		21 40 20.1	+19
KSM				S		**S**		**21 42 19.9**	**+7.3**
TOO	**Toolangi**	**32.31**	**173**	*e*P		**P**	**P**	**21 37 19.6**	**+4.6**
TOO				*e*S		**S**	**S**	**21 42 40.6**	**+13**
CBIJ	**Chichi jima**	**32.32**	**2**	P		**P**	**P**	**21 37 15.3**	**+0.1**
	comp=Z,52nm,0.5s,mb5.6,baz=272,slow=20,SNR=4.9								
KLBR	**Kellerberrin**	**33.90**	**217**	*e*P		**P**	**P**	**21 37 28.6**	**-0.4**
	comp=Z,31nm,0.9s,mb5.2								
JOW	**Kunigami**	**34.27**	**340**	P		**P**	**P**	**21 37 32.0**	**-0.3**
	comp=Z,111nm,1.1s,mb5.7,baz=161,slow=8.4,SNR=36								
JOW				LR		LR		21 49 29.5	
	comp=Z,3μm,18.2s,MS5.0,baz=154,slow=33								
NACB	**Ninganchiao**	**34.88**	**328**	⇑*e*P		**P**	**P**	**21 37 36.8**	**-0.8**
	comp=Z,27nm,1.1s,mb5.1								
NACB				*e*PP		PP		21 38 54.6	-2.2
NACB				PcP		PcP		21 39 49.0	-21
NACB				*e*S		**S**		**21 43 00.1**	**-8.1**
MUN	**Mundaring**	**35.10**	**218**	*e*P		**P**	**P**	**21 37 39.9**	**+0.5**
MUN				*e*S		**S**	**S**	**21 43 24.8**	**+13**
NWAO	**Narrogin (SRO)**	**35.16**	**216**	P		**P**	**P**	**21 37 39.4**	**-0.5**
	comp=Z,20nm,0.8s,mb5.1,baz=46,slow=6.6,SNR=11								
NWAO	**Narrogin (SRO)**	**35.16**	**216**	*e*P		**P**	**P**	**21 37 39.9**	**0.0**
NWAO				*e*PP		PP		21 39 01.3	+1.5
NWAO				*e*S		**S**	**S**	**21 43 16.6**	**+4.3**
NWAO				LR		LR			
	comp=Z,8μm,19.0s,MS5.5								
XMIS	**Christmas Isla**	**35.23**	**260**	*e*P		**P**	**P**	**21 37 41.3**	**+0.5**
YHNB	**Yeheng**	**35.40**	**328**	*e*P		**P**	**P**	**21 37 39.3**	**-2.7**
YHNB				*e*PP		PP		21 39 04.2	+1.6
YHNB				*e*S		**S**	**S**	**21 43 11.5**	**-4.6**
YHNB				LR		LR			
	comp=Z,5μm,19.0s,MS5.2								
TATO	**Taipei**	**35.59**	**329**	*e*P		**P**	**P**	**21 37 43.7**	**0.0**
TATO				*e*PP		PP		21 39 02.2	-2.5
TATO				*e*PcP		PcP		21 40 11.8	-0.7
TATO				S		S		21 43 48.7	+30
TATO				LR		LR			
	comp=Z,5μm,21.0s,MS5.3								
QZH	**Quanzhou**	**37.13**	**325**	⇑*i*P		**P**	**P**	**21 37 56.8**	**-0.1**
QZH				S		**S**	**S**	**21 43 44.8**	**+2.1**
QZH				AMB		AMB			
	comp=Z,170nm,0.8s,mb5.9								
QZH				AMB		AMB			
	comp=Z,3μm,4.2s								
QZH				LR		LR			
	comp=N,3μm,12.9s,MS5.3								
QZH				LR		LR			
	comp=E,2μm,12.4s,MS5.3								
QZH				LR		LR			
	comp=Z,2μm,21.6s								
MYKOM	**Kota Tinggi**	**37.66**	**280**	⇓P		**P**	**P**	**21 38 02.6**	**+1.1**
TAU	**Tasmania Unive**	**37.80**	**172**	*e*P		**P**	**P**	**21 38 00.9**	**-1.4**
TAU				*e*				21 39 25.3	
TAU				*e*S		**S**	**S**	**21 43 57.9**	**+5.5**
TAU				MLR		MLR			
	comp=Z,13μm,19.0s,MS5.8								
HKC	**Hong Kong Obse**	**37.95**	**317**	⇑*i*P		**P**	**P**	**21 38 04.0**	**+0.2**
KGM	**Kluang**	**38.23**	**280**	⇓P		**P**	**P**	**21 38 02.6**	**-3.7**
JHJ	**Hachijo jima 2**	**38.31**	**359**	P		**P**	**P**	**21 38 07.0**	**+0.3**
	comp=Z,75nm,0.8s,mb5.5,baz=256,slow=17,SNR=3.2								
JHJ				LR		LR		21 51 36.1	
	comp=Z,6μm,19.0s,MS5.4,baz=201,slow=33								
QIZ	**Qiongzhong**	**39.03**	**309**	P		**P**	**P**	**21 38 12.8**	**-0.1**
QIZ				S		**S**	**S**	**21 44 13.0**	**+1.5**
QIZ				SS		SS		21 47 04.6	+0.6
QIZ				AMB		AMB			
	comp=Z,52nm,1.9s,mb4.9								
QIZ				AMB		AMB			
	comp=Z,899nm,7.2s								
QIZ				LR		LR			
	comp=E,2μm,18.0s								
QIZ				LR		LR			
	comp=Z,4μm,22.0s,MS5.2								
QIZ	**Qiongzhong**	**39.03**	**309**	*e*P		**P**	**P**	**21 38 12.2**	**-0.7**
	comp=Z,38nm,0.8s,mb5.2								
QIZ				*e*PP		PP		21 39 47.0	+4.4
QIZ				LR		LR			
	comp=Z,3μm,19.0s,MS5.1								
SSE	**Sheshan**	**40.87**	**334**	⇑P		**P**	**P**	**21 38 28.4**	**+0.4**
SSE				S		**S**	**S**	**21 44 40.4**	**+1.6**
SSE				SCS		ScS		21 48 33.5	+0.7
SSE				AMB		AMB			
	comp=Z,198nm,1.2s,mb5.6								
SSE				AMB		AMB			
	comp=Z,1μm,5.5s								
SSE				LR		LR			
	comp=N,2μm,20.8s,MS5.1								
SSE				LR		LR			
	comp=E,1μm,20.7s,MS5.1								
SSE				LR		LR			
	comp=Z,3μm,25.5s,MS5.0								
KULM	**Kulim**	**41.54**	**284**	⇓P		**P**	**P**	**21 38 35.0**	**+1.1**
MJAR	**Matsushiro Arr**	**41.79**	**357**	P		**P**	**P**	**21 38 33.3**	**-

comp=Z,285nm,1.3s,mb5.8
COCO MLR MLR
comp=Z,998nm,19.0s,MS4.8
COCO West Island 44.00 258 *e*P **P** **21 38 53.5 -0.4**
comp=Z,527nm,1.3s,mb6.1
COCO *e*PP PP 21 40 42.6 +6.1
COCO *e*S **S** **21 45 20.0 -5.5**
COCO LR LR
comp=Z,2μm,19.0s,MS5.0
KS15 Wonju Array Si 44.30 345 *e*P **P** **21 38 56.3 +0.5**
KSRS Korea Array 44.30 345 P **P** **21 38 56.2 +0.4**
comp=Z,46nm,0.9s,mb5.2,baz=157,slow=7.6,SNR=114
KSRS PcP PcP 21 40 39.2 -0.8
comp=Z,8.5nm,1.0s,baz=157,slow=6.1,SNR=4.5
KSRS LR LR 21 58 29.0
comp=Z,1μm,18.2s,MS4.8,baz=165,slow=38
KSRS Korea Array 44.30 345 P **P** **21 38 56.3 +0.5**
KSRS 21 40 39.2
KSRS pmax pmax
comp=Z,46nm,0.9s,mb5.2
KSRS MLR MLR
comp=Z,1μm,18.2s,MS4.8
INCN Inchon 44.67 344 ⇑P **P** **21 38 59.8 +1.0**
SNR=32
INCN Inchon 44.67 344 ⇑*i*P **P** **21 38 59.0 +0.2**
INCN *e*PcP PcP 21 40 42.6 +1.3
INCN *e*S **S** **21 45 35.1 +0.6**
INCN LR LR
comp=Z,2μm,19.0s,MS5.1
RAO Raoul Island 45.58 126 P **P** **21 39 06.5 +0.3**
RAO MLR MLR
comp=Z,2μm,19.0s,MS5.1
GYA Guiyang 45.83 315 ⇑*i*P **P** **21 39 11.6 +3.4**
GYA PCP PcP 21 40 48.3 +2.7
GYA PP PP 21 40 58.6 +2.7
GYA PPP 21 41 41.9
GYA AMB AMB
comp=Z,80nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,670nm,8.4s
GYA LR LR
comp=N,15μm,16.8s,MS6.2
GYA LR LR
comp=E,17μm,16.4s,MS6.2
GYA LR LR
comp=Z,18μm,17.0s,MS6.1
SNZO South Karori 46.81 145 *e*P **P** **21 39 15.9 +0.2**
comp=Z,164nm,1.1s,mb5.9
SNZO *e*PcP PcP 21 40 49.7 +0.9
SNZO *e*S **S** **21 46 10.0 +4.6**
SNZO LR LR
comp=Z,6μm,21.0s,MS5.5
TIA Tai'an 46.99 334 *e*P **P** **21 39 16.0 -1.2**
TIA S **S** **21 46 08.0 0.0**
TIA AMB AMB
comp=Z,131nm,1.7s,mb5.6
TIA LR LR
comp=E,548nm,14.0s
AFI Afiamalu 47.36 104 P **P** **21 39 21.0 +0.6**
comp=E,36nm,0.8s,mb5.4,baz=142,slow=16,SNR=5.1
AFI Afiamalu 47.36 104 *e*P **P** **21 39 19.9 -0.6**
DL2 Dalian 47.54 340 ⇑*i*P **P** **21 39 21.4 0.0**
DL2 PP PP 21 41 11.1 -1.9
DL2 S **S** **21 46 16.5 +0.7**
DL2 SS SS 21 49 36.6 -7.5
DL2 AMB AMB
comp=Z,80nm,0.9s,mb5.8
DL2 AMB AMB
comp=Z,710nm,5.9s
DL2 LR LR
comp=N,640nm,17.4s,MS5.0
DL2 LR LR
comp=E,1μm,17.7s,MS5.0
DL2 LR LR
comp=Z,900nm,19.0s,MS4.8
CM31 Chiang Mai Arr 47.65 301 PFAKE 21 39 30.0 +7.4
CM31 LR LR
comp=Z,2μm,21.0s,MS5.0
CMAR Chiang Mai Arr 47.65 301 P **P** **21 39 22.6 0.0**
comp=Z,40nm,0.8s,mb5.5,baz=124,slow=6.0,SNR=161
CMAR LR LR 21 59 26.6
comp=Z,2μm,19.5s,MS5.1,baz=272,slow=36
CHTO Chiang Mai 47.80 301 P **P** **21 39 23.8 +0.1**
SNR=21
CHTO Chiang Mai 47.80 301 *e*P **P** **21 39 23.6 -0.2**
CHTO Chiang Mai 47.80 301 ⇑*i*P **P** **21 39 23.3 -0.5**
CHTO *e*PcP PcP 21 40 50.5 -2.2
CHTO *e*S **S** **21 46 16.3 -3.8**
CHTO LR LR
comp=Z,1μm,20.0s,MS4.9
KMI Kunming 47.89 311 P **P** **21 39 25.3 +0.9**
KMI PCP PcP 21 40 51.9 -1.0
KMI PP PP 21 41 17.8 +1.3
KMI PPP 21 42 09.0
KMI AMB AMB
comp=Z,38nm,1.0s,mb5.4
KMI AMB AMB
comp=Z,1μm,7.3s
KMI LR LR
comp=N,941nm,22.5s,MS5.0
KMI LR LR
comp=E,2μm,24.7s,MS5.0
KMI LR LR
comp=Z,4μm,26.1s,MS5.3
VLA Vladivostok 48.96 351 *d i*P **P** **21 39 32.7 +0.4**
VLA *e* 21 41 25.8
VLA *e*S **S** **21 46 37.4 +1.7**
VLA pmax pmax
comp=Z,319nm,1.7s,mb6.1
ASAJ Asahikawa 49.30 2 P **P** **21 39 34.5 -0.4**
comp=Z,28nm,0.8s,mb5.4,baz=227,slow=12,SNR=27
ASAJ LR LR 21 57 59.7
comp=Z,2μm,20.8s,MS5.0,baz=193,slow=33
ASAJ Asahikawa 49.30 2 P **P** **21 39 34.5 -0.4**
ASAJ pmax pmax
comp=Z,28nm,0.8s
ASAJ MLR MLR
comp=Z,2μm,20.8s
YUK Yuzh-Kuril'sk 49.40 5 *e*P **P** **21 39 33.0 -2.6**
YUK *e* 21 41 31.0
YUK *e*S **S** **21 46 40.0 -1.9**
YUK pmax pmax
comp=N,4μm,3.0s
YUK pmax pmax
comp=Z,4μm,3.0s
YUK smax
comp=N,2μm,8.0s
YUK smax
comp=E,2μm,8.0s
XAN Xi'an 49.49 325 P **P** **21 39 36.4 -0.2**
XAN AP pP 21 39 44.9 +2.9
XAN XP sP 21 39 49.4 +5.3
XAN S **S** **21 46 40.3 -3.2**
XAN SS SS 21 50 08.8 -7.0
XAN AMB AMB
comp=Z,112nm,1.7s,mb5.6
XAN AMB AMB
comp=Z,1μm,7.0s
XAN LR LR
comp=E,1μm,19.8s
XAN LR LR
comp=Z,2μm,25.4s
SNY Shenyang 49.57 343 ⇑P **P** **21 39 37.3 +0.3**
SNY S **S** **21 46 42.3 -2.0**
SNY SS SS 21 50 10.4 -6.4
SNY AMB AMB
comp=Z,113nm,1.7s,mb5.6
SNY LR LR
comp=E,2μm,21.6s
SNY LR LR
comp=Z,2μm,20.6s,MS5.1
TIY Taiyuan 50.40 331 ⇑*i*P **P** **21 39 43.0 -0.3**
TIY XP sP 21 39 55.8 +5.0
TIY PP PP 21 41 37.8 -1.3
TIY S **S** **21 46 51.1 -4.9**
TIY XS sS 21 47 15.8 +11
TIY SCS ScS 21 49 26.4 -7.5
TIY AMB AMB
comp=Z,1μm,4.6s
TIY LR LR
comp=N,3μm,18.2s,MS5.4
TIY LR LR
comp=E,756nm,14.5s,MS5.4
TIY LR LR
comp=Z,3μm,20.8s

BJT Baijiatuau 50.59 335 ⇑*i*P **P** **21 39 44.5 -0.3**
BJT *e* 21 41 40.8
BJT *e*S **S** **21 46 51.8 -6.8**
BJT pmax pmax
comp=Z,70nm,0.8s
BJT MLR MLR
comp=Z,4μm,21.0s
BJT Baijiatuau 50.59 335 ⇑*i*P **P** **21 39 44.5 -0.3**
comp=Z,70nm,0.8s,mb5.6
BJT *e*PP PP 21 41 40.8 0.0
BJT *e*S **S** **21 46 51.8 -6.8**
BJT LR LR
comp=Z,4μm,21.0s,MS5.4
CD2 Chengdu 50.60 318 P **P** **21 39 45.3 +0.3**
CD2 AP pP 21 39 49.0 -1.5
CD2 XP sP 21 39 54.0 +1.5
CD2 PCP PcP 21 41 03.3 +0.7
CD2 PP PP 21 41 42.5 +1.4
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,2μm,5.6s
CD2 LR LR
comp=N,2μm,16.2s,MS5.3
CD2 LR LR
comp=E,2μm,18.0s,MS5.3
CD2 LR LR
comp=Z,2μm,19.2s,MS5.2
BJI Beijing 50.61 335 P **P** **21 39 44.9 0.0**
BJI S **S** **21 46 59.5 +0.7**
BJI AMB AMB
comp=Z,95nm,1.5s,mb5.5
BJI AMB AMB
comp=Z,2μm,3.3s
BJI LR LR
comp=N,3μm,20.1s,MS5.3
BJI LR LR
comp=E,2μm,20.1s,MS5.3
BJI LR LR
comp=Z,3μm,25.5s
MDJ Mudanjiang 50.80 350 P **P** **21 39 46.4 +0.1**
MDJ AP pP 21 39 49.5 -2.2
MDJ AMB AMB
comp=Z,92nm,1.0s,mb5.7
MDJ AMB AMB
comp=Z,863nm,5.5s
MDJ LR LR
comp=N,1μm,21.8s,MS5.0
MDJ LR LR
comp=E,1μm,23.4s,MS5.0
MDJ LR LR
comp=Z,1μm,22.6s,MS4.9
MDJ Mudanjiang 50.80 350 ⇑*i*P **P** **21 39 46.2 -0.1**
comp=Z,103nm,1.0s,mb5.7
MDJ *e*PP PP 21 41 41.6 -1.1
MDJ *e*S **S** **21 47 04.6 +3.2**
MDJ LR LR
comp=Z,2μm,20.0s,MS5.1
CN2 Changchun 50.91 346 ⇑P **P** **21 39 46.8 -0.3**
CN2 *e*XP sP 21 40 01.3 +6.7
CN2 AMB AMB
comp=Z,120nm,1.2s,mb5.7
CN2 AMB AMB
comp=Z,950nm,4.0s
CN2 LR LR
comp=N,1μm,19.0s,MS5.2
CN2 LR LR
comp=E,2μm,19.0s,MS5.2
CN2 LR LR
comp=Z,2μm,21.0s,MS5.1
YSS Yuzh-Sakhalins 52.14 2 ⇑*i*P **P** **21 39 55.0 -1.2**
YSS *e*S **S** **21 47 15.0 -4.8**
YSS pmax pmax
comp=Z,90nm,0.7s,mb5.8
YSS MLR MLR
comp=N,900nm,17.0s,MS5.0
YSS MLR MLR
comp=E,700nm,17.0s,MS5.0
YSS MLR MLR
comp=Z,1μm,17.0s,MS5.0
YSS Yuzh-Sakhalins 52.14 2 *e*P **P** **21 39 55.4 -0.8**
comp=Z,92nm,0.8s,mb5.8
YSS *e*PcP PcP 21 41 08.0 0.0
MIDW Midway 52.30 48 P **P** **21 39 57.1 -0.7**
HHC Hu-ho-hao-te 53.29 332 *e*P **P** **21 40 05.5 +0.6**
HHC PCP PcP 21 41 10.3 -2.1
HHC PP PP 21 42 08.4 +3.1
HHC AMB AMB
comp=Z,86nm,1.9s,mb5.4
HHC LR LR
comp=N,2μm,21.4s,MS5.2
HHC LR LR
comp=E,1μm,20.2s,MS5.2
HHC LR LR
comp=Z,3μm,22.6s,MS5.3
LZH Lanzhou 53.91 323 *e*P **P** **21 40 10.8 +1.3**
LZH AP pP 21 40 17.0 +2.1
LZH XP sP 21 40 19.1 +2.1
LZH AMB AMB
comp=Z,18nm,1.1s,mb4.9
LZH LR LR
comp=N,1μm,14.2s
LZH LR LR
comp=Z,1μm,16.2s,MS5.1
IMP Imphal 54.62 305 *e*P **P** **21 40 15.0 +0.1**
IMP *e*x x 21 41 17.0
KLR Kul'dur 54.97 353 *e*P **P** **21 40 13.2 -3.8**
KLR *e* 21 42 16.0
KLR *e*S **S** **21 47 51.5 -6.6**
KLR pmax pmax
comp=Z,300nm,1.4s,mb6.1
KLR pmax pmax
comp=N,1μm,5.5s
KLR pmax pmax
comp=Z,2μm,5.5s
KLR smax
comp=N,2μm,9.0s
KLR smax
comp=E,2μm,9.0s
SHL Shillong 56.63 305 *i* P **P** **21 40 31.5 +2.1**
SHL *e*S **S** **21 48 25.0 +3.9**
SKR Severo-Kuril's 57.38 11 *e*P **P** **21 40 32.4 -1.7**
SKR *e* 21 40 43.5
SKR *e* 21 41 30.0
SKR *e*S **S** **21 48 20.0 -10**
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR pmax pmax
comp=Z,2μm,4.0s
SKR pmax pmax
comp=N,2μm,3.0s
SKR pmax pmax
comp=E,2μm,3.0s
SKR MLR MLR
comp=Z,3μm,18.0s,MS5.4
HIA Hailar 57.46 344 *c i*P **P** **21 40 34.6 -0.2**
HIA Hailar 57.46 344 ⇑*i*P **P** **21 40 34.7 -0.1**
GTA Gaotai 58.49 323 ⇑P **P** **21 40 43.4 +1.2**
GTA AP pP 21 40 48.1 +0.4
GTA XP sP 21 40 50.3 +0.5
GTA PP PP 21 42 56.1 +4.2
GTA S **S** **21 48 48.8 +3.7**
GTA XS sS 21 48 56.9 +2.8
GTA SS SS 21 52 44.8 +6.9
GTA AMB AMB
comp=Z,70nm,1.8s,mb5.4
GTA AMB AMB
comp=Z,2μm,6.6s
GTA LR LR
comp=N,1μm,18.6s,MS5.2
GTA LR LR
comp=E,1μm,18.9s,MS5.2
GTA LR LR
comp=Z,2μm,18.3s,MS5.3
LSA Lhasa 59.07 309 P **P** **21 40 48.0 +1.6**
LSA AP pP 21 41 01.0 +9.1
LSA S **S** **21 48 50.0 -2.9**
LSA AMB AMB
comp=Z,340nm,1.0s,mb6.3
LSA AMB AMB
comp=Z,1μm,6.0s
LSA LR LR
comp=N,640nm,23.0s,MS5.0
LSA LR LR
comp=E,1μm,25.0s,MS5.0

LSA LR LR
comp=Z,2μm,20.0s,MS5.2
LSA Lhasa 59.07 309 ⇑*i*P **P** **21 40 47.6 +1.2**
LSA *e* 21 42 56.7
LSA *e*S **S** **21 49 00.4 +7.5**
LSA pmax pmax
comp=Z,107nm,1.3s,mb5.7
LSA MLR MLR
comp=Z,928nm,19.0s,MS4.9
LSA Lhasa 59.07 309 ⇑*i*P **P** **21 40 47.6 +1.2**
comp=Z,107nm,1.3s,mb5.7
LSA *e*PP PP 21 42 56.7 -0.4
LSA *e*S **S** **21 49 00.4 +7.5**
LSA LR LR
comp=Z,928nm,19.0s,MS4.9
PEA0B Petropavlovsk- 59.99 12 ⇑*e*P **P** **21 40 52.0 -0.3**
PEA0B PcP PcP 21 41 36.8 -1.5
PEA0B *e*PP PP 21 43 20.2 +15
PEA0B *e*ScP ScP 21 45 45.6 +6.8
PEA0B *e*S **S** **21 49 04.2 +0.3**
PETK Petropavlovsk- 59.99 12 P **P** **21 40 52.0 -0.3**
comp=Z,50nm,0.8s,mb5.6,baz=165,slow=7.3,SNR=87
PETK LR LR 22 05 48.2
comp=Z,884nm,19.2s,MS4.9,baz=196,slow=35
PET Petropavlovsk 60.11 12 *e*P **P** **21 40 52.5 -0.6**
PET *e* 21 41 38.8
PET *e* 21 43 12.2
PET *i* S **S** **21 49 05.8 +0.3**
PET *e*PS 21 49 26.7
PET *e* 21 50 37.9
PET *e*SSS 21 55 37.4
PET pmax pmax
comp=Z,500nm,6.5s
PET pmax pmax
comp=Z,1μm,3.4s
PET pmax pmax
comp=Z,126nm,1.3s,mb5.8
PET pmax pmax
comp=Z,300nm,8.8s
PET MLR MLR
comp=Z,700nm,19.0s,MS4.8
PET Petropavlovsk 60.11 12 *e*P **P** **21 40 52.8 -0.3**
PET *e*PcP PcP 21 41 41.9 +3.1
PET *e*PP PP 21 43 20.9 +15
PET *e*S **S** **21 48 55.8 -10**
PET LR LR
comp=Z,811nm,20.0s,MS4.9
TAPN Taplejung 60.77 305 *e*P **P** **21 40 58.4 +0.2**
comp=Z,532nm,1.5s,mb6.4
ODAN Odare 60.84 305 *e*P **P** **21 40 59.1 +0.5**
comp=Z,78nm,0.9s,mb5.8
BOK Bokaro 60.93 301 ⇑*i*P **P** **21 40 59.4 0.0**
BOK *i* x x 21 44 38.6
SONM Songino Array 61.05 334 P **P** **21 41 00.4 +0.7**
comp=Z,9.4nm,0.6s,mb5.1,baz=151,slow=6.5,SNR=64
SONM LR LR 22 06 04.0
comp=Z,3μm,21.4s,MS5.4,baz=144,slow=35
SONM PKPPKP 22 10 18.7
comp=Z,0.6nm,0.9s,baz=354,slow=1.5,SNR=3.6
DRV Dumont d'Urvil 61.17 180 P **P** **21 41 02.0 +1.8**
DRV S **S** **21 49 30.0 +11**
DRV L 21 56 00.0
DRV R 22 00 00.0
VIS Vishakhapatnam 61.25 293 ⇑*i*P **P** **21 41 01.6 0.0**
VIS *i* x x 21 49 28.9
PALK Pallekele 61.34 281 *e*P **P** **21 41 03.3 +1.0**
PALK pmax pmax
comp=Z,72nm,0.9s,mb5.8
PALK MLR MLR
comp=Z,1μm,21.0s,MS5.0
PALK Pallekele 61.34 281 *e*P **P** **21 41 03.3 +0.9**
comp=Z,90nm,0.9s,mb5.9
PALK LR LR
comp=Z,1μm,21.0s,MS5.0
RAMN Ramite 61.52 304 *e*P **P** **21 41 03.9 +0.6**
comp=Z,232nm,1.1s,mb6.2
CIT Chita 61.75 341 ⇑*i*P **P** **21 41 05.0 +0.7**
CIT pmax pmax
comp=Z,1μm,2.7s,mb6.5
JIRN Jiri 62.13 305 *e*P **P** **21 41 08.4 +1.0**
GUN Gumba 62.48 305 *e*P **P** **21 41 10.5 +0.8**
comp=Z,148nm,0.7s,mb6.2
PKI Pulchoki 62.74 305 *e*P **P** **21 41 11.9 +0.5**
comp=Z,163nm,1.2s,mb6.0
PKI Pulchoki 62.74 305 *e*P **P** **21 41 11.9 +0.5**
PKI pmax pmax
comp=Z,163nm,1.2s,mb6.0
KKN Kakani 62.92 305 *e*P **P** **21 41 13.2 +0.5**
comp=Z,306nm,1.2s,mb6.3
KKN Kakani 62.92 305 *e*P **P** **21 41 13.2 +0.5**
KKN pmax pmax
comp=Z,306nm,1.2s,mb6.3
DMN Daman 63.00 305 *e*P **P** **21 41 13.9 +0.7**
comp=Z,250nm,0.9s,mb6.3
CLNS Chul'man 63.38 350 *e*P **P** **21 41 15.5 +0.4**
CLNS *e* 21 41 51.1
CLNS *e* 21 43 35.7
CLNS *e*PPP 21 45 05.8
CLNS *e*S **S** **21 49 48.4 +1.7**
CLNS *e*SS SS 21 53 58.5 +4.7
CLNS pmax pmax
comp=Z,334nm,1.7s,mb6.2
CLNS pmax pmax
comp=N,289nm,1.7s
CLNS pmax pmax
comp=E,59nm,1.6s
CLNS pmax pmax
comp=Z,52nm,1.8s,mb5.4
CLNS smax
comp=N,497nm,12.7s
CLNS smax
comp=E,664nm,11.5s
CLNS MLR MLR
comp=Z,893nm,19.0s,MS5.0
GKN Gorkha 63.53 305 *e*P **P** **21 41 17.1 +0.4**
BLSP Bilaspur 63.63 298 ⇑*i*P **P** **21 41 17.1 -0.4**
KOLN Koldanda 64.30 304 *e*P **P** **21 41 22.4 +0.7**
comp=Z,388nm,1.2s,mb6.3
ZAK Zakamensk 64.32 334 ⇓*i*P **P** **21 41 21.7 +0.3**
ZAK *e* 21 50 01.9
ZAK pmax pmax
comp=Z,97nm,1.7s,mb5.6
CASY Casey 64.34 193 *e*P **P** **21 41 22.1 +0.8**
CASY Casey 64.34 193 *e*P **P** **21 41 21.7 +0.3**
SMY Shemya 64.38 22 *e*P **P** **21 41 21.8 +0.1**
SMY *e* 21 43 49.5
SMY *e*S **S** **21 49 53.5 -5.8**
SMY MLR MLR
comp=Z,2μm,20.0s,MS5.3
DANN Dangsing 64.38 305 *e*P **P** **21 41 22.8 +0.5**
KOD Kodaikanal 65.03 284 *e*P **P** **21 41 27.4 +0.6**
TLY Talaya 65.13 335 P **P** **21 41 27.5 +0.8**
SNR=54
TLY Talaya 65.13 335 *e*P **P** **21 41 26.6 -0.1**
TLY pmax pmax
comp=Z,90nm,1.2s,mb5.7
TLY Talaya 65.13 335 *e*P **P** **21 41 27.7 +1.0**
TLY *e*PP PP 21 43 51.0 +0.8
TLY *e*S S 21 50 12.0 +3.4
TLY LR LR
comp=Z,1μm,20.0s,MS5.2
TRD Trivandrum 65.21 282 ⇑*i*P **P** **21 41 28.9 +1.0**
IRK Irkutsk 65.30 336 ⇑*i*P **P** **21 41 27.9 +0.2**
IRK *e* 21 41 54.6
IRK *e* 21 50 16.4
IRK *e* 21 50 22.3
IRK pmax pmax
comp=Z,48nm,3.0s
AMKA Amchitka 65.41 25 *e*P **P** **21 41 28.5 +0.1**
AMKA *e*PcP PcP 21 41 59.6 -0.8
HON Honolulu 65.51 64 P **P** **21 41 29.8 0.0**
KIP Kipapa 65.53 64 *e*P **P** **21 41 30.3 +0.4**
KIP *e*PP PP 21 44 08.6 +14
KIP *e*S S 21 50 08.0 -6.6
KIP LR LR
comp=Z,2μm,19.0s,MS5.2
HYB Hyderabad 65.56 292 *i* P **P** **21 41 29.5 -0.6**
HYB Hyderabad 65.56 292 *e*P **P** **21 41 29.5 -0.6**
NGP Nagpur 66.09 296 *e*P **P** **21 41 30.2 -3.3**
BOD Bodaibo 66.64 345 *e*P **P** **21 41 35.6 -0.7**
BOD pmax pmax
comp=Z,129nm,1.7s,mb5.7
HKL Haleakala 66.90 65 *e*P **P** **21 41 41.9 +3.2**
KHU Kahuku 67.11 67 *e*P **P** **21 41 40.2 +0.2**

KHU 21 42 07.9
POHA Pohakuloa 67.31 66 PFAKE 21 41 50.0 +8.7
POHA LR LR
comp=Z,3μm,20.0s,MS5.5
ADK Adak 67.53 27 *e*P **P** **21 41 41.2 -0.8**
ADK 21 42 11.9
ADK *e* 21 44 10.1
ADK *e*S S 21 50 24.8 -13
ADK MLR MLR
comp=Z,2μm,20.0s,MS5.3
LATR Latur 67.64 292 *e*P **P** **21 41 42.8 -0.7**
PTH Pithoragarh 67.71 305 *e*P **P** **21 41 44.5 +0.8**
PTH *e*x x 21 44 11.0
YAK Yakutsk 67.78 354 *e*P **P** **21 41 42.2 -1.2**
YAK *e**PP pP 21 41 47.2 -1.8
YAK *e* 21 42 10.4
YAK *e* 21 44 14.2
YAK *e*S S 21 50 42.7 +2.3
YAK *e**SS sS 21 51 00.0 +10
YAK *e* 21 51 38.7
YAK *e*SS SS 21 54 59.2 -2.9
YAK pmax pmax
comp=Z,102nm,1.5s,mb5.6
YAK pmax pmax
comp=N,56nm,1.4s
YAK pmax pmax
comp=E,17nm,1.7s
YAK pmax pmax
comp=Z,154nm,2.0s,mb5.7
YAK pmax pmax
comp=N,105nm,1.9s
YAK pmax pmax
comp=E,46nm,1.9s
YAK smax
comp=N,2μm,6.0s
YAK smax
comp=E,513nm,3.8s
YAK Yakutsk 67.78 354⇑ *e*P **P** **21 41 42.9 -0.5**
YAK *e*PP PP 21 44 12.0 -1.0
YAK *e*S S 21 50 38.3 -2.0
YAK LR LR
comp=Z,1μm,21.0s,MS5.1
AKL Akola 67.80 295 *e*P **P** **21 41 44.1 -0.3**
WMQ Urumqi 68.44 321 P **P** **21 41 48.3 +0.4**
WMQ AP pP 21 41 52.9 -0.6
WMQ PCP PcP 21 42 13.8 +0.6
WMQ AMB AMB
comp=Z,167nm,1.4s,mb5.9
WMQ AMB AMB
comp=Z,262nm,5.8s
WMQ LR LR
comp=N,1μm,23.0s,MS5.2
WMQ LR LR
comp=E,691nm,21.8s,MS5.2
WMQ LR LR
comp=Z,935nm,21.4s,MS5.0
SEY Seymchan 68.69 6*c i*P **P** **21 41 49.0 -0.1**
SEY Seymchan 68.69 6⇑ *i*P **P** **21 41 49.1 0.0**
PPT Papeete 68.91 107 *e*S S 21 50 49.5 -6.0
comp=Z,2μm,29.5s
PPT Papeete 68.91 107 *e*LR LR 22 02 49.0
comp=Z,3μm,25.2s
PPT Papeete 68.91 107 LR LR 22 07 30.9
comp=Z,966nm,19.7s,MS5.0,baz=272,slow=32
HVS Khovu-Aksy 69.27 330*d i*P **P** **21 41 56.5 +3.5**
MIR Mirnyy 69.34 198*c i*P **P** **21 41 54.0 +0.9**
MIR *i* 21 42 15.0
MIR *e*S S 21 51 30.0 +31
MIR pmax pmax
comp=Z,200nm,1.4s,mb5.8
MIR pmax pmax
comp=Z,2μm,5.0s
KAD Karad 69.59 291⇑ *i*P **P** **21 41 55.1 -0.6**
KAD AMb AMB 21 42 08.8
comp=Z,82nm,1.2s,mb5.5
NDI New Delhi 69.90 303 *e*P **P** **21 41 54.5 -2.9**
POO Poona 70.17 292⇑ *i*P **P** **21 41 58.6 -0.6**
POO AMb AMB 21 42 01.3
comp=Z,125nm,1.0s,mb5.8
POO *i* x x 21 42 11.6
SMLA Simla 70.72 305 *i* P **P** **21 42 03.0 +0.6**
SMLA *e*x x 21 42 11.3
comp=Z,174nm,0.6s
SMLA *i* S S 21 51 17.2 +0.8
AJM Ajmer 71.44 300 *i* P **P** **21 42 06.0 -0.8**
NIKO Nikolski 71.91 29 *e*P **P** **21 42 08.0 -1.0**
comp=Z,511nm,1.4s,mb6.3
THN Thein Dam 72.31 306 *e*P **P** **21 42 11.0 -0.9**
KRAR Krasnoyarsk 72.72 334 *e*P **P** **21 42 13.6 -0.2**
KRAR pmax pmax
comp=Z,107nm,1.7s,mb5.5
VNDA Vanda 72.94 175 P **P** **21 42 14.9 0.0**
comp=Z,17nm,0.7s,mb5.1,baz=324,slow=6.6,SNR=92
VNDA LR LR 22 11 23.5
comp=Z,4μm,19.6s,MS5.8,baz=347,slow=33
VNDA Vanda 72.94 175 *e*P **P** **21 42 15.0 +0.1**
VNDA 21 42 32.1
VNDA Vanda 72.94 175 *e*P **P** **21 42 15.0 +0.2**
VNDA PcP PcP 21 42 32.1 +0.3
VNDA LR LR 22 11 23.5
MK31 Makanchi Array 73.22 322 *e*P **P** **21 42 17.5 +0.6**
MK31 21 42 33.0
MK31 *e*S S 21 51 41.4 -3.0
MK31 Makanchi Array 73.22 322 *e*P **P** **21 42 17.4 +0.5**
MK31 PcP PcP 21 42 33.0 -0.4
MK31 *e*PP PP 21 44 49.8 -10
MK31 *e*S S 21 51 41.4 -3.0
MKAR Makanchi Array 73.22 322 P **P** **21 42 17.6 +0.7**
comp=Z,61nm,0.9s,mb5.5,baz=112,slow=6.8,SNR=167
MKAR LR LR 22 16 37.7
comp=Z,1μm,20.1s,MS5.2,baz=131,slow=38
PAF Port-aux-Franc 73.37 220 P **P** **21 42 16.7 -1.1**
SBA Scott Base 73.68 174 *e*P **P** **21 42 18.6 -0.6**
SBA *e* 21 44 58.2
SBA pmax pmax
comp=Z,327nm,2.4s,mb5.8
SBA MLR MLR
comp=Z,3μm,19.0s,MS5.6
SBA Scott Base 73.68 174 *e*P **P** **21 42 18.6 -0.6**
comp=Z,327nm,2.4s,mb5.8
SBA *e*PP PP 21 44 58.2 -5.3
SBA LR LR
comp=Z,3μm,19.0s,MS5.6
AKUT Akutan 74.08 29 *e*P **P** **21 42 21.7 -0.1**
AKUT PP PP 21 44 43.6 -24
AKUT *e*S S 21 51 49.0 -4.9
KSH Kashi 74.48 313 P **P** **21 42 26.5 +2.0**
KSH AP pP 21 42 31.3 +1.1
KSH XP sP 21 42 33.8 +1.6
KSH PCP PcP 21 42 41.6 +2.6
KSH PP PP 21 45 16.0 +4.8
KSH PPP 21 47 00.5
KSH S S 21 52 00.3 +1.3
KSH SKS 21 52 29.1
KSH SCS ScS 21 52 34.3 -0.9
KSH SS SS 21 56 49.6 +3.6
KSH AMB AMB
comp=Z,221nm,1.0s,mb6.0
KSH AMB AMB
comp=Z,3μm,3.1s
KSH LR LR
comp=N,646nm,8.7s
KSH LR LR
comp=E,2μm,14.2s
KSH LR LR
comp=Z,3μm,21.1s
BHJ Bhuj 75.04 296 *e*P **P** **21 42 28.7 +0.6**
BHJ AMb AMB 21 42 31.6
comp=Z,117nm,1.0s,mb5.8
ZAA0 Zalesovo Array 75.32 330 *e*P **P** **21 42 28.3 -0.8**
ZAA0 *e*PP PP 21 45 17.7 -0.3
ZAA0 *e*S S 21 52 00.6 -7.2
ZALV Zalesovo Beam 75.32 330 P **P** **21 42 28.3 -0.8**
comp=Z,23nm,0.8s,mb5.1,baz=109,slow=4.8,SNR=45
ZALV PKKPbc PKKPbc 22 01 49.7 -3.4
comp=Z,0.7nm,0.3s,baz=277,slow=8.0,SNR=4.1
ZALV LR LR 22 15 20.7
comp=Z,1μm,20.6s,MS5.1,baz=348,slow=36
ZAL Zalesovo 75.33 330 P **P** **21 42 28.3 -0.8**
BILL Bilibino 75.41 10*c i*PKIKP **P** **21 42 28.7 -0.6**
BILL pmax pmax
comp=Z,139nm,1.7s,mb5.6
BILL Bilibino 75.41 10*c i*P **P** **21 42 28.7 -0.6**
BILL *e*S S 21 52 08.3 0.0
BILL *e*SS SS 21 56 55.5 -3.4
BILL pmax pmax
comp=Z,139nm,1.7s,mb5.6
BILL MLR MLR
comp=Z,700nm,19.0s,MS5.0
BILL Bilibino 75.41 10 *e*P **P** **21 42 28.9 -0.4**
comp=Z,14nm,0.4s,mb5.2
FALS False Pass 75.63 30 *e*P **P** **21 42 35.4 +4.6**
KZA Kyzart 75.90 316 P **P** **21 42 36.5 +3.8**
SNR=15
TKM2 Tokmak 2 75.96 317 *e*P **P** **21 42 33.8 +0.8**
TKM2 *e* 21 42 43.9
TKM2 *e* 21 45 17.7
TKM2 *e*S S 21 52 17.0 +1.7
TKM2 pmax pmax
comp=Z,83nm,1.1s,mb5.6
TKM2 MLR MLR
comp=Z,1μm,20.0s,MS5.2
TKM2 Tokmak 2 75.96 317 P **P** **21 42 35.6 +2.6**
SNR=11
TKM2 Tokmak 2 75.96 317 *e*P **P** **21 42 33.8 +0.8**
comp=Z,83nm,1.1s,mb5.6
TKM2 *e*PcP PcP 21 42 43.9 -1.4
TKM2 *e*PP PP 21 45 17.7 -5.9
TKM2 *e*S S 21 52 17.0 +1.7
TKM2 LR LR
comp=Z,1μm,20.0s,MS5.2
KBK Karagaybulak 76.31 316 P **P** **21 42 35.9 +0.9**
SNR=14
CHMS Chumysh 76.57 316 P **P** **21 42 38.7 +2.2**
SNR=24
NVS Novosibirsk 76.58 330⇑ *i*P **P** **21 42 35.2 -1.0**
NVS *e*S S 21 52 20.8 -0.8
NVS pmax pmax
comp=N,180nm,1.6s
NVS pmax pmax
comp=E,228nm,1.6s
NVS pmax pmax
comp=Z,298nm,1.6s,mb6.0
NVS smax
comp=E,151nm,3.6s
FRU Bishkek 76.60 316 *e*P **P** **21 42 36.0 -0.6**
FRU *e* 21 45 30.0
FRU pmax pmax
comp=Z,1μm,4.0s
FRU MLR MLR
comp=Z,800nm,18.0s,MS5.1
AAK Ala-Archa 76.62 316 P **P** **21 42 37.7 +1.0**
SNR=21
USP Ospenovka 76.84 317 P **P** **21 42 38.6 +0.7**
SNR=26
AML Almayashu 77.00 315 P **P** **21 42 40.7 +1.8**
SNR=17
AML Almayashu 77.00 315 *e*P **P** **21 42 40.4 +1.5**
comp=Z,162nm,1.1s,mb5.9
AML *e*PcP PcP 21 42 50.5 +0.6
AML *e*PP PP 21 45 28.3 -4.1
AML *e*S S 21 52 24.6 -2.2
AML LR LR
comp=Z,694nm,20.0s,MS5.0
EKS2 Erkin-Say 77.12 316 P **P** **21 42 40.8 +1.2**
SNR=18
EKS2 Erkin-Say 77.12 316 *e*P **P** **21 42 40.4 +0.8**
comp=Z,168nm,1.5s,mb5.8
EKS2 *e*PcP PcP 21 42 50.9 +0.5
KURK Kurchatov 77.14 325 P **P** **21 42 39.8 +0.4**
SNR=106
KURK Kurchatov 77.14 325 P **P** **21 42 39.3 -0.1**
KURK pmax pmax
comp=Z,915nm,2.3s,mb6.3
KURK Kurchatov 77.14 325⇑ *i*P **P** **21 42 39.5 +0.1**
TIXI Tiksi 77.29 356*c i*PKIKP **P** **21 42 37.7 -2.2**
TIXI pmax pmax
comp=Z,102nm,1.5s,mb5.5
TIXI Tiksi 77.29 356*c i*P **P** **21 42 37.7 -2.2**
TIXI *e* 21 45 31.5
TIXI *e*PPP 21 47 19.2
TIXI *e*S S 21 52 26.6 -2.2
TIXI *e* 21 52 46.5
TIXI *e*SS SS 21 57 28.5 +1.2
TIXI pmax pmax
comp=Z,102nm,1.5s,mb5.5
TIXI MLR MLR
comp=Z,799nm,17.0s,MS5.1
TIXI Tiksi 77.29 356 *e*P **P** **21 42 39.1 -0.8**
TIXI *e*PP PP 21 45 41.6 +7.4
TIXI *e*S S 21 52 17.9 -11
TIXI LR LR
comp=Z,1μm,20.0s,MS5.2
SDPT Sand Point 77.33 30 *e*P **P** **21 42 39.8 -0.7**
SDPT LR LR
comp=Z,1μm,19.0s,MS5.2
KBL Kabul 78.25 307 *e*P **P** **21 42 45.8 -0.3**
KBL 21 42 56.7
KBL *e* 21 45 43.0
KBL *e*S S 21 52 49.6 +9.0
KBL pmax pmax
comp=Z,57nm,0.9s,mb5.5
KBL Kabul 78.25 307 *e*P **P** **21 42 45.8 -0.2**
comp=Z,57nm,0.9s,mb5.5
KBL PcP PcP 21 42 56.7 +1.2
KBL *e*PP PP 21 45 43.0 -0.1
KBL *e*S S 21 52 49.6 +9.0
TAOE Nuku Hiva Isla 78.32 98 *e*LR LR 22 07 02.1
comp=Z,5μm,23.3s
CHGN Chignik 78.81 30 *e*P **P** **21 42 47.6 -1.0**
KK31 Karatay Array 79.54 315 *i* P **P** **21 42 52.3 -0.6**
KK31 pmax pmax
comp=Z,343nm,1.7s,mb6.0
TNA Tin City 79.94 19 *e*P **P** **21 42 54.6 0.0**
MAW Mawson 80.47 202 *e*P **P** **21 42 58.7 +1.2**
comp=Z,16nm,0.9s,mb5.0
MAW Mawson 80.47 202 P **P** **21 42 56.8 -0.8**
comp=Z,5.5nm,0.8s,mb4.6,baz=98,slow=9.7,SNR=8.3
MAW Mawson 80.47 202 *e*P **P** **21 42 56.2 -1.3**
MAW *e*S S 21 52 59.8 -3.2
MAW pmax pmax
comp=Z,42nm,1.1s
MAW MLR MLR
comp=Z,4μm,19.0s
MAW Mawson 80.47 202 *e*P **P** **21 42 56.2 -1.3**
comp=Z,8.2nm,1.1s,mb4.6
MAW *e*PP PP 21 45 19.0 -42
MAW *e*S S 21 52 59.8 -3.2
MAW LR LR
comp=Z,4μm,19.0s,MS5.8
OHAK Old Harbor 81.76 30 *e*P **P** **21 43 04.4 -0.1**
comp=Z,244nm,0.8s,mb6.2
OHAK *e*PcP PcP 21 43 09.0 -1.2
OHAK LR LR
comp=Z,1μm,23.0s,MS5.2
VOSK Vostochnaya 82.29 325 PKIKP **P** **21 43 06.7 -0.7**
VOSK pmax pmax
comp=Z,395nm,2.2s,mb6.0
VOSK Vostochnaya 82.29 325 P **P** **21 43 06.7 -0.7**
VOSK pmax pmax
comp=Z,395nm,2.2s,mb6.0
SVW2 Sparrevohn 82.30 26 *e*P **P** **21 43 06.7 -0.6**
KDAK Kodiak Island 82.33 30 P **P** **21 43 07.4 -0.1**
comp=Z,48nm,0.6s,mb5.6,baz=244,slow=3.8,SNR=45
KDAK Kodiak Island 82.33 30 *e*P **P** **21 43 07.3 -0.2**
KDAK pmax pmax
comp=Z,237nm,1.1s,mb6.0
KDAK MLR MLR
comp=Z,532nm,20.0s,MS4.9
KDAK Kodiak Island 82.33 30 *e*P **P** **21 43 07.3 -0.2**
comp=Z,237nm,1.1s,mb6.0
KDAK *e*PcP PcP 21 43 11.6 -1.1
KDAK *e*S S 21 53 05.5 -17
KDAK LR LR
comp=Z,532nm,20.0s,MS4.9
RKT Rikitea 82.54 113 *e*LR LR 22 08 56.6
comp=Z,1μm,26.8s
BVA0 Borovoye Array 82.73 325 *i* PKIKP **P** **21 43 09.9 +0.2**
BVA0 pmax pmax
comp=Z,333nm,2.2s,mb6.0
BVA0 Borovoye Array 82.73 325 *i* P **P** **21 43 09.9 +0.2**
BVA0 pmax pmax
comp=Z,333nm,2.2s,mb6.0
BVAR Borovoye Array 82.73 325 P **P** **21 43 10.0 +0.3**
comp=Z,23nm,0.6s,mb5.4,baz=115,slow=6.3,SNR=130
BRVK Borovoye 82.80 325 P **P** **21 43 10.5 +0.5**
SNR=94
BRVK Borovoye 82.80 325 P **P** **21 43 09.4 -0.7**
BRVK pmax pmax
comp=Z,250nm,1.4s,mb6.0
BRVK Borovoye 82.80 325⇑ *i*P **P** **21 43 10.0 -0.1**
TTA Tatalina 82.93 24 *e*P **P** **21 43 09.2 -1.3**
TTA Tatalina 82.93 24 *e*P **P** **21 43 10.5 0.0**
comp=Z,259nm,1.5s,mb6.0
TTA *e*PcP PcP 21 43 14.8 -0.5
RER Riviere de l'E 83.55 249 *e*P **P** **21 43 15.2 +0.6**
comp=Z,186nm,1.1s,mb6.1
RER PP PP 21 46 27.3 +0.1
RER *e*S S 21 53 36.7 +0.3
SLKM Skilak Lake 84.48 28 *e*P **P** **21 43 17.6 -0.9**
SLKM *e*PcP PcP 21 43 22.1 0.0
PPLA Purkeypile 84.51 25 *e*P **P** **21 43 18.2 -0.4**
PPLA *e*PcP PcP 21 43 22.2 0.0
WBK Wadi Bani Khal 84.61 293 ⇑P **P** **21 43 20.4 +0.4**
SNR=5.0
SEW Seward 84.69 28 *e*P **P** **21 43 18.9 -0.7**
comp=Z,198nm,1.1s,mb6.2
SEW *e*PcP PcP 21 43 22.8 -0.3
CHUM Lake Minchumin 84.84 24 *e*P **P** **21 43 20.1 -0.1**
comp=Z,353nm,0.9s,mb6.5
CHUM *e*PcP PcP 21 43 24.8 +1.2
RC01 Rabbit Creek A 84.91 27 *e*P **P** **21 43 19.8 -0.8**
comp=Z,354nm,1.3s,mb6.3
RC01 *e*PcP PcP 21 43 24.2 +0.3
MSEY Mahe Island 85.00 266 PFAKE 21 43 30.0 +7.8
MSEY LR LR
comp=Z,1μm,20.0s,MS5.3
IMA2 Indian Mountai 85.20 22 *e*P **P** **21 43 21.6 -0.4**
PMR Palmer 85.36 27 *e*P **P** **21 43 21.4 -1.5**
PMR *e*PcP PcP 21 43 26.0 +0.1
PMR LR LR
comp=Z,3μm,20.0s,MS5.6
BIDO Bidbid 85.51 294 P **P** **21 43 25.5 +1.0**
SNR=20
SMDO Samad 85.52 294 ⇑P **P** **21 43 24.9 +0.4**
SNR=9.3
TRF Thorofare Moun 85.52 25 *e*P **P** **21 43 22.6 -1.0**
comp=Z,134nm,1.1s,mb6.1
TRF *e*PcP PcP 21 43 27.2 +0.6
MCK McKinley 86.18 25 *e*P **P** **21 43 25.2 -1.7**
MCK *e*PcP PcP 21 43 29.7 +0.2
BSY Bisya 86.25 293 ⇓P **P** **21 43 28.3 +0.1**
SNR=6.2
HOQ Hogain 86.26 294 P **P** **21 43 28.8 +0.6**
SNR=18
EYAK Cordova Ski Ar 86.58 28 *e*P **P** **21 43 28.8 -0.2**
comp=Z,108nm,0.8s,mb6.1
EYAK *e*PcP PcP 21 43 31.6 +0.3
EYAK *e*PP PP 21 47 04.9 +14
EYAK *e*S S 21 53 55.0 -10
DIV Divide 86.74 28 *e*P **P** **21 43 29.3 -0.4**
comp=Z,252nm,1.1s,mb6.4
DIV *e*PcP PcP 21 43 34.4 +2.4
COLD Coldfoot 86.94 21 *e*P **P** **21 43 31.2 +0.7**
comp=Z,366nm,1.6s,mb6.4
COLD PcP PcP 21 43 34.5 +1.7
COLA College 87.01 24*c i*P **P** **21 43 29.2 -1.8**
COLA College 87.01 24 *e*P **P** **21 43 30.0 -1.0**
COLA *e*PcP PcP 21 43 33.9 +0.7
BMRM Bremner River 87.24 28 *e*P **P** **21 43 32.2 0.0**
comp=Z,250nm,1.2s,mb6.3
AB31 Akbulak array 88.15 320 *i* P **P** **21 43 35.1 -1.7**
AB31 pmax pmax
comp=Z,57nm,1.0s,mb5.8
MENT Mentasta 88.18 26 *e*P **P** **21 43 36.3 -0.3**
SYO Syowa Base 89.03 201⇓*e*P **P** **21 43 39.0 -1.6**
SVE Sverdlovsk 89.15 327⇓*e*P **P** **21 43 40.5 -0.8**
SVE *e* 21 47 10.6
SVE *e*S S 21 54 06.9 -23
SVE pmax pmax
comp=Z,97nm,1.6s,mb5.9
SVE MLR MLR
comp=Z,1μm,18.0s,MS5.4
AKTK Aktyubinsk 89.57 321 P **P** **21 43 42.2 -1.3**
AKTO Aktyubinsk 89.57 321 P **P** **21 43 42.2 -1.3**
comp=Z,8.3nm,0.8s,mb5.1,baz=102,slow=4.9,SNR=19
EGAK Eagle 89.73 25 *e*P **P** **21 43 43.9 0.0**
comp=Z,177nm,1.1s,mb6.3
EGAK *e*S S 21 54 14.1 -21
EGAK LR LR
comp=Z,1μm,22.0s,MS5.3
ARU Arti 90.20 327 P **P** **21 43 44.5 -1.8**
comp=Z,368nm,1.1s,mb6.6,SNR=23
ARU Arti 90.20 327*c i*P **P** **21 43 44.7 -1.6**
ARU 21 47 19.0
ARU PPP 21 49 18.1
ARU SP SP 21 55 43.4 -1.9
ARU PS PS 21 55 51.8 +3.9
ARU SS SS 22 00 36.2 -2.5
ARU pmax pmax
comp=Z,99nm,1.7s,mb5.9
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.3
ARU Arti 90.20 327⇑ *i*P **P** **21 43 44.8 -1.5**
DAWY Dawson 90.33 26 *e*P **P** **21 43 46.5 -0.2**
HYT Haines Junctio 90.59 29 *e*P **P** **21 43 48.5 +0.5**
SIT Sitka 91.11 33 P **P** **21 43 47.0 -3.5**
SIT pmax pmax
comp=Z,140nm,1.5s,mb6.1
SIT Sitka 91.11 33 *e*P **P** **21 43 46.3 -4.2**
comp=Z,113nm,1.5s,mb6.0
SIT LR LR
comp=Z,1μm,20.0s,MS5.3
SKAG Skagway 91.45 31 *e*P **P** **21 43 52.1 +0.1**
comp=Z,59nm,0.7s,mb6.0
SKAG LR LR
comp=Z,2μm,22.0s,MS5.4
SOKR Solikamsk 91.61 330*c i*P **P** **21 43 51.1 -1.6**
SOKR S S 21 54 54.9 +2.9
SOKR pmax pmax
comp=Z,40nm,1.6s,mb5.5
SOKR MLR MLR
comp=Z,2μm,25.0s,MS5.4
ABPO Ambohimpanom 91.70 251 P **P** **21 43 56.1 +2.0**
ABPO *e*S S 21 54 57.6 +3.0
ABPO MLR MLR
comp=Z,2μm,20.0s,MS5.5
OPO Ambohidratompo 91.79 251 P **P** **21 43 54.1 -0.4**
comp=Z,4.7nm,0.9s,mb4.8,baz=112,slow=5.5,SNR=2.8
CRAG Craig 92.13 35 P **P** **21 43 53.5 -1.8**
CRAG LR LR
comp=Z,2μm,20.0s,MS5.5
WRAK Wrangell Islan 92.67 34 *e*P **P** **21 43 58.0 +0.3**
comp=Z,108nm,1.3s,mb6.1
WRAK *e*S S 21 54 33.7 -28
WRAK LR LR
comp=Z,2μm,20.0s,MS5.5
DLBC Dease Lake 94.08 32 *e*P **P** **21 44 04.6 +0.4**
BBB Bella Bella 94.84 38 P **P** **21 44 07.6 -0.2**
comp=Z,6.0nm,0.7s,mb5.1,baz=293,slow=23,SNR=4.8
BBB PKKPbc PKKPbc 22 01 03.0 -3.3
comp=Z,3.3nm,0.8s,baz=191,slow=16,SNR=5.1
BBB Bella Bella 94.84 38 P **P** **21 44 07.6 -0.2**
BBB PKKPbc PKKPbc 22 01 03.0 -3.3
UMR Umm Al-Rimmam 95.37 299 *e*P **P** **21 44 10.0 -0.8**
baz=299
RDF Al-Radifah 95.48 298 *e*P **P** **21 44 10.6 -0.7**
baz=298
RDF AMb AMB 21 44 21.9
comp=Z,35nm,1.3s,mb5.6,baz=298
MIB Mutribah 95.71 299 *e*P **P** **21 44 11.6 -0.8**
baz=299
MIB AMb AMB 21 44 20.4
comp=Z,45nm,1.2s,mb5.8,baz=299
NAY Al-Naaiem 95.77 299 *e*P **P** **21 44 11.6 -1.0**
baz=299
NAY AMb AMB 21 44 16.5
comp=Z,28nm,1.3s,mb5.5,baz=299
RST Umm Al-Ruwaisa 95.99 299 AMb AMB 21 44 20.8
comp=Z,2.0nm,1.5s,mb4.3,baz=299
MAK Makhachkala 96.10 313 *e*P **P** **21 44 12.2 -1.6**
MAK *i* 21 48 07.5
MAK *e*PPP 21 50 18.4
MAK *i* S SKSac 21 54 47.2 -2.6
MAK *i* 21 55 28.4
MAK pmax pmax
comp=Z,343nm,1.9s,mb6.5
NVL N'lazarevskaya 96.88 195 P **P** **21 44 18.6 +1.8**
NVL pmax pmax
comp=Z,26nm,1.5s,mb5.4
MAIT Maitri 96.90 195 *e*P **P** **21 44 17.1 +0.2**
M01C Crescent City 97.29 49 ⇓P **P** **21 44 20.1 +0.9**
baz=97
NLWA Neilton Lookou 97.50 43 ⇑P **P** **21 44 20.7 +0.7**

baz=98
NLWA Neilton Lookou 97.50 43 eP P 21 44 20.9 +0.9
comp=Z,43nm,1.2s,mb5.8
NLWA ePP PP 21 48 17.2 -0.1
NLWA eS S 21 55 37.0 -7.1
NLWA LR LR
comp=Z,759nm,19.0s,MS5.2
I02A Mapleton 97.52 46 ⇓P P 21 44 20.9 +0.7
baz=98
STW Striped Peak 97.62 42 P P 21 44 25.8 +5.3
DGRG David-gareji 97.66 311 P P 21 44 20.1 -0.8
DGRG S PP 21 48 26.6 +7.9
L02A Cave Junction 97.68 48 ⇓P P 21 44 22.3 +1.4
baz=98
E03A Lebam 97.71 44 ⇓P P 21 44 22.2 +1.2
baz=98
B04A Port Angeles 97.74 42 ⇓P P 21 44 21.8 +0.7
baz=98
KIPM Iron Peak 97.75 51 eP P 21 44 22.2 +0.8
K02A Glendale 97.77 48 ⇓P P 21 44 22.5 +1.1
baz=98
PGC Sidney 97.77 42 eP P 21 44 21.3 +0.1
comp=Z,39nm,1.0s,mb5.9
N02C Big Bar 97.90 50 ⇓P P 21 44 23.2 +1.2
baz=98
COR Corvallis 97.90 46 eP P 21 44 19.2 -2.7
COR eS S 21 56 01.5 +14
COR LR LR
comp=Z,2μm,21.0s,MS5.5
H03A Soap Creek Ran 97.91 46 ⇓P P 21 44 23.0 +1.0
baz=98
I03A Eugene 97.92 46 ⇓P P 21 44 23.3 +1.3
baz=98
BMW Boistfort Moun 97.94 44 P P 21 44 22.2 +0.2
HOPS Hopland 98.06 52 eP P 21 44 24.2 +1.4
comp=Z,139nm,2.0s,mb6.1
HOPS LR LR
comp=Z,2μm,20.0s,MS5.7
MTA Mtatsminda 98.10 311 P P 21 44 22.5 -0.3
MTA S PP 21 48 25.3 +3.2
C04A Brinnon 98.10 43 ⇑P P 21 44 23.6 +0.8
baz=98
GNI Garni 98.13 310 eP P 21 44 22.9 -0.2
GNI e 21 48 22.5
TBLG Delisi 98.14 311 P P 21 44 22.0 -1.0
HUMO Hull Mountain 98.16 48 ⇓P P 21 44 24.0 +0.9
baz=98,SNR=24
HUMO Hull Mountain 98.16 48 eP P 21 44 23.4 +0.3
comp=Z,30nm,0.9s,mb5.8
HUMO eS S 21 56 25.6 +36
HUMO LR LR
comp=Z,2μm,20.0s,MS5.6
GNW Green Mountain 98.20 43 eP P 21 44 23.8 +0.6
comp=Z,17nm,1.1s,mb5.5
MCCM Marconi Confer 98.21 52 P P 21 44 22.6 -0.9
MCCM eS SKSac 21 54 60.0 -0.9
MCCM LR LR
comp=Z,2μm,19.0s,MS5.7
M02C Callahan 98.24 49 ⇑P P 21 44 24.7 +1.2
baz=98,SNR=14
O02C Red Bluff 98.29 50 ⇑P P 21 44 24.4 +0.7
baz=98
GASB Alder Springs 98.34 51 ⇓P P 21 44 24.8 +0.8
baz=98
YBH Yreka Blue Hor 98.35 49 eP P 21 44 24.9 +0.9
YBH e 21 48 20.1
YBH pmax pmax
comp=Z,67nm,1.6s
YBH MLR MLR
comp=Z,1μm,20.0s
YBH Yreka Blue Hor 98.35 49 ⇑P P 21 44 24.9 +1.0
baz=98,SNR=16
YBH Yreka Blue Hor 98.35 49 eP P 21 44 24.9 +0.9
comp=Z,67nm,1.6s,mb5.9
YBH ePP PP 21 48 20.1 -4.0
YBH eS SKSac 21 54 39.4 -22
YBH LR LR
comp=Z,1μm,20.0s,MS5.5
WDC Whiskeytown Da 98.48 50 P P 21 44 25.6 +1.0
WDC pmax pmax
comp=Z,92nm,1.9s,mb6.0
WDC Whiskeytown Da 98.48 50 ⇓P P 21 44 25.1 +0.5
baz=99
WDC Whiskeytown Da 98.48 50 eP P 21 44 24.9 +0.3
comp=Z,92nm,1.9s,mb6.0
WDC ePP PP 21 48 18.2 -6.8
WDC eS S 21 56 08.2 +15
WDC LR LR
comp=Z,2μm,20.0s,MS5.6
CVS Carmenet Viney 98.54 52 ⇓P P 21 44 25.6 +0.6
baz=99
I04A Tendick Farm, 98.55 47 ⇓P P 21 44 25.6 +0.7
baz=99
MNRC McLaughlin Nat 98.56 52 ⇑P P 21 44 25.7 +0.8
baz=99
TDL Tradedollar La 98.64 44 P P 21 44 26.2 +1.0
IRO Indian Ridge 98.66 46 P P 21 44 25.8 +0.5
H04A Detroit Lake 98.70 46 ⇑P P 21 44 25.8 +0.4
baz=99
LHEM Herd Peak 98.72 49 P P 21 44 26.6 +1.0
J04A Umpqua Nationa 98.78 47 ⇑P P 21 44 26.6 +0.7
baz=99
JCW Jim Creek 98.79 42 eP P 21 44 25.5 -0.3
O03C Acorn Hollow, 98.87 50 ⇑P P 21 44 27.1 +0.8
baz=99
E05A Randle 98.95 44 ⇓P P 21 44 26.8 +0.3
baz=99
L04A Klamath Falls 98.95 48 ⇑P P 21 44 27.4 +0.7
baz=99
C05A Tolt Reservoir 98.97 43 ⇓P P 21 44 27.0 +0.4
baz=99
M04C Macdoel 99.00 49 ⇑P P 21 44 27.2 +0.3
baz=99
BDM Black Diamond 99.01 53 ⇓P P 21 44 27.3 +0.2
baz=99
RPW Rockport 99.06 42 eP P 21 44 26.6 -0.4
comp=Z,6.7nm,0.9s,mb5.2
HOOD Mount Hood Mea 99.06 45 P P 21 44 25.9 -1.2
ONI Oni 99.09 312 P P 21 44 24.8 -2.4
ONI S PP 21 48 34.7 +5.1
F05A White Salmon 99.18 45 ⇑P P 21 44 28.7 +1.1
baz=99
HAST Hastings Reser 99.27 54 ⇑P P 21 44 28.5 +0.3
baz=99
LTIM Timbered Crate 99.27 49 P P 21 44 33.3 +5.2
ORV Oroville 99.28 51 ⇓P P 21 44 28.3 +0.1
baz=99
HATC Hat Creek Radi 99.30 50 ⇓P P 21 44 28.8 +0.5
baz=99
SAO San Andreas Ge 99.35 54 eP P 21 44 29.2 +0.6
SAO MLR MLR
comp=Z,3μm,20.0s,MS5.7
LBCM Butte Creek Ri 99.38 50 P P 21 44 33.6 +5.0
H05A Madras 99.38 46 ⇑P P 21 44 28.9 +0.3
baz=100
J05A Fort Rock 99.41 47 ⇓P P 21 44 29.5 +0.8
baz=100
S04C Ingram Canyon, 99.44 53 ⇑P P 21 44 29.3 +0.3
baz=100
PACP Pacheco Peak 99.48 54 ⇑P P 21 44 29.3 +0.2
baz=100
E06A Yakima 99.49 44 ⇓P P 21 44 29.5 +0.5
baz=100
SNAA Sanae 99.52 191 ePdiff P 21 44 29.1 +0.5
SNAA e 21 44 40.0
SNAA Sanae 99.52 191 eP P 21 44 29.3 +0.7
SNAA pmax pmax
comp=Z,10.0nm,1.1s
SNAA Sanae 99.52 191 eP P 21 44 29.3 +0.7
comp=Z,9.8nm,1.1s,mb5.2
V03C Hunter Liggett 99.52 55 ⇑P P 21 44 29.7 +0.3
baz=100
M05C Lookout 99.53 49 ⇑P P 21 44 29.5 +0.3
baz=100,SNR=9.9
O04C Chester 99.59 50 ⇑P P 21 44 30.1 +0.5
baz=100
KIV Kislovodsk 99.61 314 P 21 44 29.0
KIV i 21 48 40.0
KIV e 21 50 38.4
KIV e 21 55 08.6
KIV ePS PS 21 57 34.3 +2.6
KIV i SS SS 22 03 03.5 +10
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,500nm,21.0s,MS5.0

KIV Kislovodsk 99.61 314 eP 21 44 28.0
KIV LR LR
comp=Z,528nm,21.0s,MS5.0
F06A Goldendale 99.66 45 ⇓P Pdif 21 44 30.2 +0.7
baz=100
K05A Summer Lake 99.68 48 ⇑P Pdif 21 44 30.6 +0.9
baz=100,SNR=13
O05C Quincy 99.73 51 ⇑P Pdif 21 44 30.2 +0.3
baz=100
L05A Lakeview 99.74 48 ⇑P Pdif 21 44 31.0 +1.1
baz=100
A07A Ashnola River, 99.78 41 ⇑P Pdif 21 44 30.7 +0.7
baz=100
G06A Carlson Farm, 99.78 45 ⇓P Pdif 21 44 30.5 +0.4
baz=100
VIPM Ingram Point 99.82 46 P Pdif 21 44 31.6 +1.3
V04C Ramage Ranch, 99.82 55 ⇓P Pdif 21 44 30.7 +0.5
baz=100
U04C Hernandez Rese 99.89 54 ⇓P Pdif 21 44 31.5 +1.0
baz=100
LAVA Lava Cap Winer 99.89 52 ⇑P Pdif 21 44 31.0 +0.5
baz=100
ETW Entiat 99.89 43 ePdif Pdif 21 44 30.3 -0.2
comp=Z,9.8nm,0.9s
P05C Yuba Gap, Truc 99.98 51 ⇑P Pdif 21 44 32.0 +1.1
baz=100
VRHR Novokhopersk 99.98 321 eP Pdif 21 44 28.9 -2.1
VRHR e 21 48 37.5
VRHR MLR MLR
comp=Z,820nm,19.0s,MS5.2
VRHR MLR MLR
comp=N,570nm,21.0s,MS5.2
VRHR MLR MLR
comp=E,450nm,20.0s,MS5.2
B07A Winthrop 99.98 42 ⇑P Pdif 21 44 31.6 +0.7
baz=100
H06A Lindquist Farm 100.02 46 ⇑P Pdif 21 44 32.0 +0.9
baz=100
M06C Likely Place G 100.03 49 ⇑P Pdif 21 44 32.1 +0.9
baz=100
PKD Parkfield 100.09 55 ⇓P Pdif 21 44 32.5 +1.1
baz=100
I06A Prineville 100.14 46 ⇓P Pdif 21 44 32.5 +0.8
baz=100
MOD Modoc 100.14 49 ⇓P Pdif 21 44 32.6 +0.9
baz=100
MOD Modoc 100.14 49 ePdif Pdif 21 44 32.8 +1.1
comp=E,49nm,1.4s
MOD LR LR
comp=Z,1μm,20.0s,MS5.3
K06A Valley Falls 100.15 48 ⇑P Pdif 21 44 32.3 +0.6
baz=100,SNR=13
D07A Quincy 100.15 43 ⇓P Pdif 21 44 32.8 +1.0
baz=100
CMB Columbia Colle 100.18 52 eP Pdif 21 44 32.5 +0.7
CMB pmax pmax
comp=Z,18nm,1.5s
CMB MLR MLR
comp=Z,2μm,19.0s,MS5.6
CMB Columbia Colle 100.18 52 ⇑P Pdif 21 44 32.7 +0.8
baz=100
CMB Columbia Colle 100.18 52 ePdif Pdif 21 44 32.5 +0.6
comp=Z,18nm,1.5s
CMB LR LR
comp=Z,2μm,19.0s,MS5.6
J06A Christmas Vall 100.20 47 ⇑P Pdif 21 44 32.5 +0.6
baz=100,SNR=18
KLMR Klimovskoe 100.21 331 P Pdif 21 44 29.6 -2.4
KLMR eSP SP 21 57 36.2 +1.6
KLMR ePS PS 21 57 36.6 -0.8
F07A Phinny Hill Vi 100.25 44 ⇓P Pdif 21 44 32.7 +0.5
baz=100
R05C Kirkwood Meado 100.41 52 ⇑P Pdif 21 44 33.7 +0.8
baz=100
RSW Rattlesnake Hi 100.46 44 ePdif Pdif 21 44 33.5 +0.4
G07A Ruggs Ranch, H 100.46 45 ⇓P Pdif 21 44 34.4 +1.3
baz=100
HAWA Hanford 100.50 44 ePdif Pdif 21 44 32.4 -0.8
HAWA LR LR
comp=Z,830nm,20.0s,MS5.2
A08A Turner Farm, O 100.51 41 ⇑P Pdif 21 44 34.1 +0.8
baz=101
B08A Colville Reser 100.51 42 ⇓P Pdif 21 44 33.9 +0.5
baz=101
N06A Buffalo Meadow 100.53 50 ⇓P Pdif 21 44 34.5 +1.1
baz=101
O06A Flanigan 100.56 50 ⇑P Pdif 21 44 34.5 +0.9
baz=101
H07A Lands Inn, Kim 100.57 46 ⇑P Pdif 21 44 34.6 +1.0
baz=101
S06C San Francisco 100.61 53 ⇓P Pdif 21 44 34.6 +0.8
baz=101
I07A Izee 100.64 46 ⇑P Pdif 21 44 34.4 +0.5
baz=101,SNR=13
T06C Millerton Lake 100.74 53 ⇓P Pdif 21 44 35.2 +0.8
baz=101
J07A Hines 100.81 47 ⇑P Pdif 21 44 35.8 +1.2
baz=101,SNR=15
E08A Dider Farm, El 100.82 44 ⇓P Pdif 21 44 35.8 +1.1
baz=101
K07A Rock Creek Ran 100.89 48 ⇓P Pdif 21 44 36.2 +1.2
baz=101,SNR=17
SNCC San Nicolas Is 100.96 57 PFAKE 21 44 50.0 +15
SNCC LR LR
comp=Z,1μm,20.0s,MS5.5
G08A Pilot Rock 100.96 45 ⇓P Pdif 21 44 36.4 +1.0
baz=101
A09A Danville 100.97 41 ⇓P Pdif 21 44 36.2 +0.9
baz=101
VNA2 Neumayer--Watz 100.97 190 ePdiff Pdif 21 44 36.1 +0.7
VNA2 e 21 44 46.7
OD2 Odessa Site #2 101.00 43 ePdif Pdif 21 44 35.5 +0.1
comp=Z,26nm,1.6s
M07A Soldier Meadow 101.01 49 ⇑P Pdif 21 44 36.6 +1.1
baz=101
KCC Kaiser Creek 101.04 53 ⇓P Pdif 21 44 36.6 +0.9
baz=101
LVZ Lovozero 101.05 338 PFAKE 21 44 50.0 +14
LVZ LR LR
comp=Z,1μm,21.0s,MS5.4
F08A Pendleton 101.06 45 ⇓P Pdif 21 44 36.5 +0.8
baz=101
VNA3 Neumayer Olymp 101.08 189 ePdiff Pdif 21 44 35.6 -0.2
VNA3 e 21 44 47.0
N07B Gerlach 101.19 50 ⇑P Pdif 21 44 37.6 +1.3
baz=101
H08A Prairie City 101.21 46 ⇓P Pdif 21 44 37.5 +1.0
baz=101
O07A Toulon 101.29 50 ⇑P Pdif 21 44 37.7 +0.9
baz=101
B09A Rice 101.30 42 ⇓P Pdif 21 44 37.8 +1.0
baz=101
WVOR Wild Horse Val 101.36 48 ePdif Pdif 21 44 37.6 +0.5
WVOR ePP PP 21 49 20.4 +34
WVOR LR LR
comp=Z,1μm,19.0s,MS5.5
J08A Circle Bar Ran 101.42 47 ⇑P Pdif 21 44 38.2 +0.8
baz=102,SNR=11
E09A Wood Farm, Sta 101.45 44 ⇓P Pdif 21 44 38.4 +0.9
baz=102
K08A Mann Creek Ran 101.45 48 ⇓P Pdif 21 44 38.7 +1.2
baz=102
YKA Yellowknife Ar 101.45 27 P Pdif 21 44 36.4 -1.1
comp=Z,5.0nm,0.9s,baz=283,slow=5.0,SNR=22
PKKPbc PKKPbc 22 00 46.8 -1.4
YKA
comp=Z,1.1nm,0.8s,baz=96,slow=2.4,SNR=6.6
YKA Yellowknife Ar 101.45 27 P Pdif 21 44 36.4 -1.1
YKA PKKPbc PKKPbc 22 00 46.8 -1.4
VRSR Storozhevoye 101.50 321 eP Pdif 21 44 35.5 -2.2
VRSR e 21 48 47.3
VRSR MLR MLR
comp=Z,150nm,23.0s,MS4.5
VRSR MLR MLR
comp=N,90nm,16.0s
VRSR MLR MLR
comp=E,110nm,22.0s
L08A Fields 101.59 48 ⇓P Pdif 21 44 39.3 +1.2
baz=102
APA Apatity 101.59 338 ⇓P Pdif 21 44 41.0 +2.9
APA i 21 48 50.0
APA i S Sdif 21 56 18.0 -0.2
APA pmax pmax
comp=Z,29nm,1.2s
APA MLR MLR
comp=Z,2μm,20.0s,MS5.6
M08A Happy Creek Ra 101.60 49 ⇑P Pdif 21 44 39.5 +1.3
baz=102

A10A Northport 101.64 41 ⇑P Pdif 21 44 39.2 +0.9
baz=102
ISA Isabella 101.77 55 ⇓P Pdif 21 44 40.0 +1.1
baz=102
SOC Sochi 101.78 313 eP Pdif 21 44 44.0 +5.1
SOC e 21 48 48.1
SOC eS SKSac 21 55 16.2 -1.9
SOC eSS SS 22 03 28.5 +5.2
SOC eSSS 22 07 16.0
SOC MLR MLR
comp=Z,268nm,22.0s,MS4.7
G09A Cove 101.79 45 ⇑P Pdif 21 44 39.7 +0.6
baz=102,SNR=13
NVAR Mina Array Bea 101.81 52 P Pdif 21 44 39.8 +0.7
comp=Z,1.0nm,0.6s,baz=262,slow=5.6,SNR=9.2
N08A GE Springer Mi 101.82 50 ⇑P Pdif 21 44 40.3 +1.2
baz=102
MOS Moscow 101.89 326 eP Pdif 21 44 35.3 -4.1
MOS e 21 48 48.0
MOS eS Sdif 21 56 13.2 -7.5
MOS MLR MLR
comp=Z,900nm,24.0s,MS5.2
I09A Lost Marbles R 101.92 46 ⇑P Pdif 21 44 40.7 +1.1
baz=102
J09A Fry Pan Ranch, 101.95 47 ⇓P Pdif 21 44 40.4 +0.6
baz=102,SNR=13
NEW Newport 101.99 42 eP Pdif 21 44 40.0 +0.1
D10A Wagner Farm, O 102.00 43 ⇑P Pdif 21 44 40.7 +0.7
baz=102
K09A Rome 102.01 48 ⇑P Pdif 21 44 41.1 +1.1
baz=102
L09A Wilkinson Ranc 102.10 48 ⇑P Pdif 21 44 41.7 +1.3
baz=102
F10A Beach Ranch, E 102.12 44 ⇓P Pdif 21 44 41.4 +0.9
baz=102
MWC Mount Wilson 102.16 56 P Pdif 21 44 41.4 +0.8
MWC MLR MLR
comp=Z,2μm,20.0s,MS5.6
BMO Blue Mountains 102.16 45 eP Pdif 21 44 41.0 +0.3
BMO pmax pmax
comp=Z,7.0nm,0.8s
BMO MLR MLR
comp=Z,1μm,21.0s,MS5.4
BMO Blue Mountains 102.16 45 ePdif Pdif 21 44 41.0 +0.3
comp=Z,7.1nm,0.8s
BMO LR LR
comp=Z,1μm,21.0s,MS5.4
G10A Bishop Farm, J 102.26 45 ⇓P Pdif 21 44 41.6 +0.5
baz=102,SNR=25
KBS Kingsbay 102.27 351 ePP PP 21 48 57.1 +4.4
A11A Hall Mountain, 102.42 41 ⇑P Pdif 21 44 42.7 +0.8
baz=102
DAC Darwin (Calif) 102.46 54 PFAKE 21 44 50.0 +8.0
DAC LR LR
comp=Z,3μm,20.0s,MS5.8
BMN Battle Mountai 102.54 50 PFAKE 21 44 50.0 +7.7
BMN LR LR
comp=Z,1μm,19.0s,MS5.5
MPMC Manual Prospec 102.56 54 ⇓P Pdif 21 44 43.6 +1.2
baz=103
OBN Obninsk 102.58 325⇑ eP Pdif 21 44 42.5 0.0
OBN e 21 48 56.9
OBN e 21 56 26.2
OBN ePS PS 21 57 53.4 -9.4
OBN ePPS 21 59 01.5
OBN eSS SS 22 03 35.2 +1.6
OBN pmax pmax
comp=Z,37nm,2.0s
OBN MLR MLR
comp=Z,1μm,21.0s,MS5.3
OBN Obninsk 102.58 325 PFAKE 21 44 50.0 +7.5
OBN LR LR
comp=Z,701nm,19.0s,MS5.2
H10A Noah's Angus R 102.58 46 ⇓P Pdif 21 44 42.6 +0.1
baz=103,SNR=6.2
K10A MacKenzie Ranc 102.64 48 ⇓P Pdif 21 44 43.5 +0.8
baz=103,SNR=12
J10A Berg Farm, Mel 102.66 47 ⇑P Pdif 21 44 43.5 +0.6
baz=103
Q09A Carvers 102.66 52 ⇑P Pdif 21 44 43.8 +0.9
baz=103
TPH Tonopah 102.67 52 PFAKE 21 44 50.0 +7.1
TPH LR LR
comp=Z,2μm,20.0s,MS5.6
R09A Tonopah 102.78 52 ⇑P Pdif 21 44 44.1 +0.7
baz=103
E11A Bogner Ranch, 102.79 44 ⇑P Pdif 21 44 44.2 +0.7
baz=103
G11A Walters Elk Ra 102.84 45 ⇓P Pdif 21 44 44.6 +0.9
baz=103
L10A Juniper Basin 102.98 48 ⇑P Pdif 21 44 45.4 +1.1
baz=103
MALT Malatya 103.09 308 eP Pdif 21 44 44.9 +0.1
MALT pmax pmax
comp=Z,9.0nm,1.4s
MALT MLR MLR
comp=Z,716nm,20.0s,MS5.2
MALT Malatya 103.09 308 ePdif Pdif 21 44 44.9 +0.1
comp=Z,9.2nm,1.4s
MALT LR LR
comp=Z,716nm,20.0s,MS5.2
H11A Donnelly 103.09 45 ⇑P Pdif 21 44 45.8 +1.0
baz=103,SNR=5.8
GSC Goldstone 103.15 55 PFAKE 21 45 00.0 +15
GSC LR LR
comp=Z,2μm,22.0s,MS5.6
KEV Kevo 103.16 341 PFAKE 21 44 50.0 +4.9
KEV LR LR
comp=Z,938nm,20.0s,MS5.3
K11A Parker Ranch, 103.25 47 ⇑P Pdif 21 44 46.2 +0.7
baz=103
D12A Red Ives Fores 103.31 43 ⇑P Pdif 21 44 46.5 +0.7
baz=103
ANN Anapa 103.31 315 eP Pdif 21 44 44.8 -1.0
ANN e 21 48 58.6
ANN e 21 55 21.6
ANN pmax pmax
comp=Z,37nm,1.2s
MFID Camas Ranch 103.34 47 ⇑P Pdif 21 44 46.9 +1.0
baz=103
BAR Barrett 103.37 58 PFAKE 21 45 00.0 +14
BAR LR LR
comp=Z,1μm,20.0s,MS5.5
L11A Cat Creek Ranc 103.51 48 ⇑P Pdif 21 44 47.6 +1.0
baz=104
TPNV Topopah Spring 103.51 53 eP Pdif 21 44 47.6 +0.9
TPNV pmax pmax
comp=Z,24nm,1.9s
TPNV MLR MLR
comp=Z,3μm,20.0s,MS5.8
TPNV Topopah Spring 103.51 53 ePdif Pdif 21 44 47.6 +0.9
comp=Z,24nm,1.9s
TPNV LR LR
comp=Z,3μm,20.0s,MS5.8
PFO Pinyon Flat Ob 103.51 57 eP Pdif 21 44 44.0 -2.7
PFO MLR MLR
comp=Z,2μm,20.0s,MS5.5
M11A Holland Ranch, 103.54 49 ⇓P Pdif 21 44 47.6 +0.8
baz=104
MONP Monument Peak 103.57 58 ⇓P Pdif 21 44 47.9 +0.9
baz=104
EDM Edmonton 103.73 37 eP Pdif 21 44 47.2 -0.4
ARCES ARCESS Array B 103.73 341 Pdiff Pdif 21 44 45.4 -2.3
comp=Z,6.3nm,0.8s,baz=9.2,slow=16,SNR=7.0
O11A Cowboy Ranch, 103.75 50 ⇓P Pdif 21 44 48.7 +1.0
baz=104
RES Resolute Bay 103.81 13 eP Pdif 21 44 47.5 -0.5
BELC Belle Mtn. 103.88 56 ⇑P Pdif 21 44 49.4 +1.2
baz=104
J12A Stokes Ranch, 103.89 47 ⇑P Pdif 21 44 49.6 +1.2
baz=104
D13A Huson 103.91 43 ⇓P Pdif 21 44 49.1 +0.7
baz=104
H12A Diamond D Ranc 103.93 46 ⇓P Pdif 21 44 49.2 +0.7
baz=104
R11A Troy Canyon, C 103.94 52 ⇓P Pdif 21 44 49.7 +1.1
baz=104
ELK Elko 104.02 49 eP Pdif 21 44 49.8 +0.9
ELK pmax pmax
comp=Z,42nm,1.9s
ELK MLR MLR
comp=Z,2μm,19.0s
ELK Elko 104.02 49 ePdif Pdif 21 44 49.8 +0.8
comp=Z,42nm,1.9s
ELK LR LR
comp=Z,2μm,19.0s,MS5.7

K12A Draper Farm, C 104.09 48 ⇑P Pdif 21 44 50.5 +1.2
baz=104
GMRC Granite Mounta 104.11 56 ⇓P Pdif 21 44 51.0 +1.7
baz=104
F13A Darby 104.16 44 ⇑P Pdif 21 44 50.2 +0.7
baz=104,SNR=6.9
MSO Missoula 104.29 43 PFAKE 21 45 00.0 +10
MSO LR LR
comp=Z,660nm,20.0s,MS5.2
C14A Swan Lake 104.30 42 ⇑P Pdif 21 44 51.2 +1.1
baz=104
G13A Cobalt 104.31 45 ⇓P Pdif 21 44 50.5 +0.3
baz=104,SNR=5.8
T11A Corn Creek, Al 104.31 53 ⇑P Pdif 21 44 51.5 +1.3
baz=104
HLID Hailey 104.35 47 ⇓P Pdif 21 44 51.6 +1.2
baz=104
HLID Hailey 104.35 47 *e*Pdif Pdif 21 44 51.8 +1.4
comp=Z,6.4nm,0.9s
HLID LR LR
comp=Z,2μm,20.0s,MS5.6
H13A Challis 104.35 45 ⇓P Pdif 21 44 50.9 +0.5
baz=104,SNR=6.8
I13A Wildhorse Cree 104.53 46 ⇑P Pdif 21 44 51.9 +0.7
baz=105
CHMT Chamberlain Mo 104.75 43 *e*Pdif Pdif 21 44 53.6 +1.4
comp=Z,13nm,1.8s
M13A Montello 104.77 49 ⇓P Pdif 21 44 54.1 +1.8
baz=105
GLA Glamis 104.90 57 PFAKE 21 45 00.0 +7.2
GLA LR LR
comp=Z,2μm,19.0s,MS5.6
H14A Leadore 104.98 45 ⇓P Pdif 21 44 55.0 +1.8
baz=105
I14A Mackay 105.00 46 ⇑P Pdif 21 44 55.8 +2.6
baz=105
E15A Deer Lodge 105.24 43 ⇓P Pdif 21 44 58.8 +4.5
baz=105
MCMT McKenzie Canyo 105.32 45 *e*Pdif Pdif 21 44 55.9 +1.2
comp=Z,8.8nm,0.9s
K14A Jones Ranch, D 105.37 47 ⇓P Pdif 21 44 57.4 +2.4
baz=105
V13A Grand Canyon W 105.41 54 ⇑P Pdif 21 44 54.1 -1.0
baz=106
SIM Simferopol' 105.64 315 *e*P Pdif 21 44 55.0 -1.1
SIM *e* 21 49 20.0
SIM *e*S Sdif 21 56 46.0 -6.0
SIM MLR MLR
comp=Z,650nm,22.0s,MS5.1
TRO Tromso 105.77 342 *e*PP PP 21 49 14.7 -4.2
TRO *e*SKS SKSac 21 55 35.7 +0.2
TRO *e*SS SS 22 04 18.4 +1.8
TRO Tromso 105.77 342 *e*PP PP 21 49 14.7 -4.2
DUG Dugway 105.91 50 PFAKE 21 49 20.0 +10
DUG LR LR
comp=Z,1μm,19.0s,MS5.5
BOZ Bozeman (W) 106.05 44 PFAKE 21 49 20.0 +10
BOZ LR LR
comp=Z,719nm,20.0s,MS5.2
MVU Marysvale 106.57 52 PFAKE 21 49 20.0 +8.6
MVU LR LR
comp=Z,2μm,20.0s,MS5.7
HWUT Hardware Ranch 106.68 48 PFAKE 21 49 20.0 +8.5
HWUT LR LR
comp=Z,2μm,20.0s,MS5.6
MPU Maple Canyon 106.83 50 PFAKE 21 49 20.0 +8.1
MPU LR LR
comp=Z,1μm,19.0s,MS5.5
AHID Auburn Hatcher 106.86 47 PFAKE 21 49 20.0 +8.2
AHID LR LR
comp=Z,2μm,20.0s,MS5.6
EGMT Eagleton 106.91 41 PFAKE 21 49 20.0 +8.2
EGMT LR LR
comp=Z,794nm,20.0s,MS5.3
LKWY Lake 107.08 45 PFAKE 21 49 20.0 +7.8
LKWY LR LR
comp=Z,2μm,20.0s,MS5.7
ANTO Ankara 107.30 310 PFAKE 21 49 20.0 +7.2
ANTO LR LR
comp=Z,451nm,22.0s,MS5.0
CSS Prodhromos 107.44 305 PFAKE 21 49 20.0 +6.8
CSS LR LR
comp=Z,278nm,21.0s,MS4.8
WUAZ Wupatki 107.55 55 PKiKP PKiKP 21 49 13.0 -0.4
WUAZ LR LR
comp=Z,2μm,21.0s,MS5.6
PMSA Palmer Station 107.62 169 *e*PKiKP PKiKP 21 49 12.8 +0.2
RLMT Red Lodge 107.78 44 PFAKE 21 49 20.0 +6.5
RLMT LR LR
comp=Z,675nm,20.0s,MS5.2
AKASG Malin Array Be 107.79 322 Pdiff Pdif 21 45 03.8 -1.9
comp=Z,0.5nm,0.4s,baz=64,slow=3.9,SNR=8.4
KIEV Kiev 107.81 322 P Pdif 21 45 07.9 +2.1
KIEV pmax pmax
comp=Z,5.0nm,1.0s
KIEV Kiev 107.81 322 *e*Pdif Pdif 21 45 05.4 -0.3
comp=Z,5.3nm,1.0s
KIEV PKiKP PKiKP 21 49 10.6 -2.8
KIEV *e*PP PP 21 49 34.9 +0.5
KIEV LR LR
comp=Z,4μm,22.0s,MS5.9
BW06 Boulder Array 107.98 47 PFAKE 21 49 20.0 +6.1
BW06 LR LR
comp=Z,2μm,19.0s,MS5.6
PDAR Pinedale Array 107.98 47 Pdiff Pdif 21 45 06.6 +0.1
comp=Z,0.2nm,0.5s,baz=267,slow=3.0,SNR=2.5
TUC Tucson 108.36 58 PFAKE 21 49 20.0 +5.0
TUC LR LR
comp=Z,830nm,19.0s,MS5.3
ISP Isparta 109.35 308 PFAKE 21 49 30.0 +13
ISP LR LR
comp=Z,353nm,21.0s,MS4.9
BOSA Boshof 109.51 237 PFAKE 21 49 30.0 +13
BOSA LR LR
comp=Z,2μm,20.0s,MS5.7
LAO LASA Array 109.54 42 PFAKE 21 49 30.0 +13
LAO LR LR
comp=Z,914nm,20.0s,MS5.3
FFC Flin Flon 109.85 33 PFAKE 21 49 30.0 +13
FFC LR LR
comp=Z,2μm,22.0s,MS5.6
RWWY Rawlins 109.89 48 PKiKP PKiKP 21 49 17.9 +0.4
LSZ Lusaka 110.25 252 *e*PKIKP PKiKP 21 49 19.7 +0.8
LSZ MLR MLR
comp=Z,2μm,21.0s,MS5.7
LBTB Lobatse 110.27 241 PFAKE 21 49 30.0 +11
LBTB LR LR
comp=Z,2μm,19.0s,MS5.6
SUW Suwalki 110.39 326 P Pdif 21 45 17.5 +0.3
SUW Suwalki 110.39 326 *e*Pdif Pdif 21 45 17.4 +0.2
DGMT Dagmar 110.42 40 PFAKE 21 49 30.0 +12
DGMT LR LR
comp=Z,1μm,21.0s,MS5.5
ISCO Idaho Springs 111.44 49 PFAKE 21 49 30.0 +9.5
ISCO LR LR
comp=Z,2μm,19.0s,MS5.7
BNM Barren Site 111.60 55 *e*PKiKP PKiKP 21 49 21.6 +0.5
ANMO Albuquerque 111.62 55 *e*PKIKP PKiKP 21 49 21.5 +0.5
ANMO MLR MLR
comp=Z,1μm,21.0s
RSSD Black Hills 111.64 45 *e*PKIKP PKiKP 21 49 20.9 +0.1
RSSD MLR MLR
comp=Z,950nm,20.0s,MS5.4
JMIC Jan Mayen 111.65 350 *e*PP PP 21 50 02.7 +1.2
JMIC *e*SS SS 22 05 37.4 +1.9
SZH Strazhica 111.74 315 *e*P PP 21 50 06.6 +3.4
SUR Sutherland 111.86 232 PFAKE 21 49 30.0 +8.4
SUR LR LR
comp=Z,2μm,19.0s,MS5.8
SDCO Great Sand Dun 111.91 52 PFAKE 21 49 30.0 +8.5
SDCO LR LR
comp=Z,2μm,20.0s,MS5.8
KWP Kalwaria 112.12 322 *e*P Pdif 21 45 24.3 -0.6
KWP MLR MLR
comp=Z,924nm,22.0s,MS5.3
FCC Fort Churchill 112.18 27 *e*PKIKP PKiKP 21 49 21.2 -0.1
UZH Uzhgorod 112.69 321 *e*P Pdif 21 45 28.8 +1.3
UZH *e*PS PKiKP 21 49 18.2 -4.4
UZH *e* PP 21 50 05.0 -4.7
UZH *e* 21 56 00.0
UZH *e*SS SS 22 05 43.0 -7.8
NB2 NORSAR Subarra113.00 336 PP PP 21 50 07.1 -4.3
comp=Z,70nm,2.0s,baz=56,slow=7.4
NB2 NORSAR Subarra113.00 336 PP PP 21 50 07.1 -4.3
baz=56,slow=7.4

NAO01 NORSAR Array S 113.25 336 PFAKE 21 49 30.0 +6.7
NAO01 LR LR
comp=Z,450nm,22.0s,MS5.0
SANT Santorini 113.58 307 PFAKE 21 49 30.0 +5.3
SANT LR LR
comp=Z,286nm,22.0s,MS4.8
MMB Musomiste 113.73 313 *e*P PP 21 50 18.4 +1.0
VTS Vitosha 113.85 314 *e*P PP 21 50 24.5 +6.3
PSZ Piszkesteto 114.44 321 *e*PKIKP PKiKP 21 49 24.5 -1.5
PSZ MLR MLR
comp=Z,5μm,20.0s,MS6.1
KONO Kongsberg 114.45 335 *e*PP PP 21 50 20.1 -1.6
TXAR Lajitas Array 114.78 60 PKP PKiKP 21 49 26.7 -0.5
comp=Z,2.9nm,0.9s,baz=318,slow=1.7,SNR=11
TXAR PKKPbc PKKPbc 22 00 05.6 +0.7
comp=Z,1.9nm,0.9s,baz=97,slow=3.1,SNR=9.1
OKC Ostrava-Krasne 114.81 323 *e*SDIF Sdif 21 58 15.9 +7.4
OKC *e*SP SP 22 00 01.9 +0.8
OKC AMS AMS 22 38 30.0
comp=Z,600nm,22.0s
ULM Lac du Bonnet 114.96 36 *e*PKiKP PKiKP 21 49 25.3 -1.6
ULM LR LR
comp=Z,3μm,21.0s,MS5.9
MORC Moravsky Berou 115.20 323 *e*PKIKP PKiKP 21 49 27.8 +0.4
DPC Dobruska-Polom 115.68 324 *e*PP PP 21 50 29.3 -1.5
DPC *e*SDIF Sdif 21 58 23.1 +7.3
DPC *e*SP SP 22 00 11.0 +2.0
DPC AMS AMS 22 40 30.0
comp=Z,900nm,23.8s
BER Bergen 115.72 337 *e*PP PP 21 50 24.4 -6.1
AGMN Agassiz Refuge 115.73 38 PFAKE 21 49 40.0 +12
AGMN LR LR
comp=Z,1μm,20.0s,MS5.5
CBKS Cedar Bluff 116.10 49 PFAKE 21 49 40.0 +11
CBKS LR LR
comp=Z,892nm,19.0s,MS5.4
TREC Trest 116.62 323 *e*PP PP 21 50 40.3 +3.0
TREC *e*SDIF Sdif 21 58 34.7 +11
TREC *e*SP SP 22 00 14.9 -2.6
TREC AMS AMS 22 40 50.0
comp=Z,1μm,26.4s
BRG Berggiesshubel 116.82 325 *e*PKIKP PKPdf 21 49 31.7 +1.2
BRG *e* 21 49 41.0
BRG *i* 21 53 07.0
BRG MLR MLR
comp=Z,440nm,19.2s,MS5.1
BRG Berggiesshubel 116.82 325 *e*PKP PKPdf 21 49 31.7 +1.2
comp=Z,19nm,1.9s
BRG *e* 21 49 41.0
comp=Z,7.0nm,1.2s
BRG *i* 21 53 07.0
BRG *i* 21 58 34.0
BRG
comp=N,969nm,21.9s
BRG
comp=E,681nm,21.3s
BRG
comp=Z,730nm,19.2s
BRG Berggiesshubel 116.82 325 *e*PKP PKPdf 21 49 31.7 +1.2
BRG *e* 21 49 41.0
BRG *i* 21 53 07.0
BRG *i* 21 58 34.0
BRG LR LR
comp=Z,440nm,19.2s,MS5.1
PRU Pruhonice 116.87 324 *e*PP PP 21 50 39.8 +0.7
PRU *e*SDIF Sdif 21 58 31.9 +6.2
PRU *e*SP SP 22 00 26.7 +6.9
PRU AMS AMS 22 45 00.0
comp=Z,800nm,18.7s
ECSD EROS,Sioux Fal 116.88 43 *e*PKPdf PKPdf 21 49 30.3 -0.6
ECSD LR LR
comp=Z,1μm,21.0s,MS5.5
CLL Collm 117.15 326 *e*SP PP 21 50 46.0 +5.1
CLL *e*PPS 21 51 32.0
KHC Kasperske Hory 117.82 324 *e*PKIKP PKPdf 21 49 30.5 -2.0
KHC *e* 21 50 44.2
KHC *e*SP SP 22 00 31.0 +2.6
KHC MLR MLR
comp=Z,900nm,18.7s,MS5.4
KHC Kasperske Hory 117.82 324 *e*PKP PKPdf 21 49 30.5 -2.0
KHC *e*pPKP pPKPdf 21 49 32.5 -5.8
KHC *ex* x 21 49 48.5
KHC *e*PP PP 21 50 44.2 -1.5
KHC *e*SDIF Sdif 21 58 37.7 +4.1
KHC *e*SP SP 22 00 31.0 +2.6
KHC AMS AMS 22 43 00.0
comp=Z,900nm,18.7s
WMOK Wichita Mounta 117.85 53 *e*PKIKP PKPdf 21 49 32.5 -0.5
WMOK MLR MLR
comp=Z,1μm,22.0s,MS5.5
GERES GERESS Array B 117.87 323 PKP PKPdf 21 49 31.2 -1.4
comp=Z,1.8nm,0.8s,baz=100,slow=1.5,SNR=9.3
JCT Junction City 117.91 58 *e*PKIKP PKPdf 21 49 32.6 -0.6
JCT MLR MLR
comp=Z,975nm,20.0s,MS5.4
NKC Novy Kostel 117.96 325 *e*PP PP 21 50 49.5 +2.8
NKC AMS AMS 22 46 10.0
comp=Z,1μm,18.5s
SFJD Kangerlussuaq 117.99 5 PFAKE 21 49 40.0 +7.7
SFJD LR LR
comp=Z,3μm,19.0s,MS5.9
BOJS Bojanci 118.30 320 *i* PKPdf PKPdf 21 49 33.3 -0.2
BOJS *i* 21 49 38.6
KSU1 Kansas State U 118.36 48 PFAKE 21 49 40.0 +6.2
KSU1 LR LR
comp=Z,2μm,20.1s,MS5.7
EYMN Ely 118.54 37 PFAKE 21 49 40.0 +6.1
EYMN LR LR
comp=Z,2μm,21.0s,MS5.8
GRF Grafenberg Arr 118.92 325 *e*PP PP 21 50 47.3 -6.0
GRF *e*Sdiff Sdif 21 58 42.2 -0.6
GRF *e*L 22 52 46.4
comp=Z,3μm,19.3s
TSUM Tsumeb 119.08 245 *e*PKPdf PKPdf 21 49 36.5 +0.7
SKDS Skadanscina 119.08 320 *i* PKPdf PKPdf 21 49 36.1 +1.1
SKDS *i* 21 49 38.6
ABTA Abfaltersbach 119.52 322 ⇑*i*P PKPdf 21 49 35.6 -0.2
comp=Z,6.0nm,1.3s
TIP Timpagrande 119.52 312 PFAKE 21 49 50.0 +14
TIP LR LR
comp=Z,564nm,21.3s,MS5.2
WTTA Wattenberg 119.82 323 ⇑*i*P PKPdf 21 49 36.2 -0.1
comp=Z,21nm,1.2s
SCIA State Center 119.87 44 PFAKE 21 49 50.0 +13
SCIA LR LR
comp=Z,1μm,20.6s,MS5.5
KVTX Kingsville 120.09 61 PFAKE 21 49 50.0 +13
KVTX LR LR
comp=Z,669nm,18.9s,MS5.3
MOTA Moosalm 120.10 323 ⇑*i*P PKPdf 21 49 36.3 -0.6
comp=Z,7.9nm,1.0s
FETA Feichten 120.48 323 ⇑*i*P PKPdf 21 49 39.1 +1.5
comp=Z,7.4nm,0.9s
FETA Feichten 120.48 323 ⇑*i*pPKPdf pPKPdf 21 49 39.1 -4.4
comp=Z,7.4nm,0.9s
AQU L'Aquila 120.77 317 PKIKP PKPdf 21 49 37.5 -0.9
AQU MLR MLR
comp=Z,430nm,22.0s,MS5.0
COWI Conover 120.81 38 PFAKE 21 49 50.0 +12
COWI LR LR
comp=Z,2μm,20.6s,MS5.8
BFO Black Forest 121.25 325 PFAKE 21 49 50.0 +11
BFO LR LR
comp=Z,782nm,19.2s,MS5.4
HKT Hockley 121.38 58 P Pdif 21 46 01.0 -5.1
HKT Hockley 121.38 58 PFAKE 21 49 50.0 +10
HKT LR LR
comp=Z,1μm,19.3s,MS5.6
JFWS Jewell Farm 121.49 42 *e*PKIKP PKPdf 21 49 38.5 -1.2
JFWS MLR MLR
comp=Z,926nm,20.8s,MS5.4
TUE Stuetta 121.58 323 *e*PKPdf PKPdf 21 49 39.5 -0.3
WLF Walferdange 121.75 327 PFAKE 21 49 50.0 +10
WLF LR LR
comp=Z,1μm,22.8s,MS5.5
NATX Nacogdoches 121.93 56 PFAKE 21 49 50.0 +9.1
NATX LR LR
comp=Z,942nm,21.0s,MS5.4
MIAR Mount Ida 122.04 52 *e*PKIKP PKPdf 21 49 40.6 -0.5
MIAR MLR MLR
comp=Z,2μm,21.7s,MS5.7
GIVF Givet 122.21 328 *e*PKIKP PKPdf 21 49 41.6 +0.7
HINF Hinteralfeld 122.36 325 *e*PKIKP PKPdf 21 49 40.6 -0.6
comp=Z,28nm,1.2s

HAU Haudompre 122.55 325 *e*PKIKP PKPdf 21 49 41.1 -0.5
comp=Z,48nm,1.3s
HAU *e*MLR MLR
comp=Z,1μm,22.2s,MS5.1
HAU Haudompre 122.55 325 *e*PKPdf PKPdf 21 49 41.1 -0.5
HAU LR LR
comp=Z,1μm,22.3s,MS5.4
BAIF Baives 122.56 328 *e*PKIKP PKPdf 21 49 42.4 +0.9
comp=Z,20nm,1.1s
UALR University of 122.94 52 *e*PKPdf PKPdf 21 49 41.6 -1.2
MEZF Maizieres J'vi 123.00 326 *e*PKIKP PKPdf 21 49 43.1 +0.7
FVM French Village 123.31 48 *e*PKIKP PKPdf 21 49 41.4 -2.0
CABF La Chapelle 123.44 324 *e*PKIKP PKPdf 21 49 44.1 +0.7
LPG La Plagne 123.63 323 *e*PKIKP PKPdf 21 49 43.6 -0.2
LPL La Plagne 123.63 323 *e*PKIKP PKPdf 21 49 43.5 -0.3
BNI Bardonecchia 123.90 322 PKIKP PKPdf 21 49 45.1 +0.8
BNI MLR MLR
comp=Z,705nm,19.0s,MS5.3
MBDF Montbardon 124.01 322 *e*PKIKP PKPdf 21 49 45.0 +0.5
SBF Sospel 124.03 321 *e*PKIKP PKPdf 21 49 44.7 +0.1
GLMI Grayling 124.21 38 PFAKE 21 49 50.0 +5.1
GLMI LR LR
comp=Z,3μm,22.1s,MS5.8
CMIG Matias Romero 124.27 73 PKP PKPdf 21 49 44.7 -1.1
comp=Z,3.4nm,0.6s,baz=355,slow=3.1,SNR=9.0
CMIG Matias Romero 124.27 73 PKP PKPdf 21 49 44.7 -1.1
LOR Lormes 124.36 326 *e*PKIKP PKPdf 21 49 45.8 +0.7
comp=Z,62nm,1.6s
LOR *e*MLR MLR
comp=Z,861nm,23.0s,MS5.0
LOR Lormes 124.36 326 *e*PKPdf PKPdf 21 49 45.8 +0.7
LOR LR LR
comp=Z,860nm,23.0s,MS5.3
ORIF Oris-en-Rattie 124.46 322 *e*PKIKP PKPdf 21 49 45.7 +0.3
ORIF *e*MLR MLR
comp=Z,578nm,21.0s,MS4.9
SSF Saint Saulge 124.67 326 *e*PKIKP PKPdf 21 49 46.3 +0.6
comp=Z,32nm,1.2s
OLIL Olney 124.70 46 *e*PKPdf PKPdf 21 49 45.4 -0.6
SMF Signal de Mont 124.72 325 *e*PKIKP PKPdf 21 49 46.1 +0.3
AVF Avril sur Loir 124.91 326 *e*PKIKP PKPdf 21 49 46.4 +0.2
SSB Saint Sauveur 125.07 323 *e*PKIKP PKPdf 21 49 46.7 +0.2
SMRF Simiane la Rot 125.13 322 *e*PKIKP PKPdf 21 49 47.7 +1.0
VBMS Vicksburg 125.18 54 PFAKE 21 50 00.0 +13
VBMS LR LR
comp=Z,1μm,19.1s,MS5.6
VIVF Saint-Julien-l 125.22 323 *e*PKIKP PKPdf 21 49 47.3 +0.5
OXF Oxford 125.31 51 *e*PKIKP PKPdf 21 49 47.3 0.0
OXF MLR MLR
comp=Z,1μm,21.9s,MS5.6
BLO Bloomington 125.63 45 *e*PKIKP PKPdf 21 49 47.6 -0.2
LDF La Druitiere 125.69 329 *e*PKIKP PKPdf 21 49 48.0 +0.4
FLN La Foliniere 125.77 329 *e*PKIKP PKPdf 21 49 48.4 +0.6
comp=Z,37nm,1.0s
FLN *e*MLR MLR
comp=Z,2μm,20.8s,MS5.4
FLN La Foliniere 125.77 329 *e*PKPdf PKPdf 21 49 48.4 +0.6
FLN LR LR
comp=Z,2μm,20.8s,MS5.7
PLCA Paso Flores 125.80 151 PKP PKPdf 21 49 48.9 +0.7
comp=Z,7.0nm,0.9s,baz=189,slow=2.6,SNR=12
PLCA Paso Flores 125.80 151 PKP PKPdf 21 49 48.9 +0.7
PLCA LR LR
comp=Z,887nm,19.0s,MS5.5
TCF Toulx Ste Croi 125.85 326 *e*PKIKP PKPdf 21 49 48.6 +0.6
comp=Z,43nm,1.1s
SCHQ Schefferville 125.88 19 PKP PKPdf 21 49 47.2 -0.6
comp=Z,7.0nm,0.7s,baz=207,slow=4.7,SNR=5.4
SCHQ Schefferville 125.88 19 *e*PKPdf PKPdf 21 49 47.0 -0.8
SCHQ PKP PKPdf 21 49 47.2 -0.6
SCHQ LR LR
comp=Z,862nm,18.5s,MS5.5
AAM Ann Arbor 126.09 40 PFAKE 21 50 00.0 +11
AAM LR LR
comp=Z,1μm,19.7s,MS5.6
PLAL Pickwick Lake 126.17 50 *e*PKPdf PKPdf 21 49 48.6 -0.3
PLAL LR LR
comp=Z,2μm,20.3s,MS5.7
WCI Wyandotte Cave 126.20 46 *e*PKIKP PKPdf 21 49 47.8 -1.1
WCI MLR MLR
comp=Z,758nm,18.7s,MS5.4
GRR Gorron 126.20 329 *e*PKIKP PKPdf 21 49 49.1 +0.5
KEST Kesra 126.25 311 PKP PKPdf 21 49 50.1 +1.0
comp=Z,1.8nm,1.0s,baz=215,slow=12,SNR=3.4
ACSO Alum Creek Sta 127.56 42 *e*PKPdf PKPdf 21 49 51.3 -0.2
ACSO LR LR
comp=Z,926nm,19.9s,MS5.5
SWET Sewanee 127.70 49 *e*PKPdf PKPdf 21 49 51.2 -0.7
BRAL Brewton 128.36 54 PFAKE 21 50 00.0 +6.7
BRAL LR LR
comp=Z,899nm,19.5s,MS5.5
TZTN Tazewell 128.90 46 *e*PKPdf PKPdf 21 49 54.3 +0.1
TZTN LR LR
comp=Z,1μm,19.7s,MS5.7
TKL Tuckaleechee C 129.12 48 *e*PKIKP PKPdf 21 49 54.3 -0.3
MCWV Mont Chateau 129.93 41 *e*PKPdf PKPdf 21 49 54.5 -1.5
MCWV LR LR
comp=Z,1μm,20.0s,MS5.6
LONY Lake Ozonia 130.13 33 *e*PKPdf PKPdf 21 49 56.5 +0.3
LONY LR LR
comp=Z,1μm,20.3s,MS5.6
GOGA Godfrey 130.30 50 *e*PKIKP PKPdf 21 49 55.7 -1.2
GOGA MLR MLR
comp=Z,1μm,21.3s,MS5.6
FRNY Flat Rock 130.51 32 *e*PKPdf PKPdf 21 49 56.4 -0.6
NCB Newcomb 130.75 33 *e*PKPdf PKPdf 21 49 56.8 -0.6
NCB LR LR
comp=Z,1μm,20.0s,MS5.6
BLA Blacksburg 130.80 44 *e*PKIKP PKPdf 21 49 57.8 +0.1
BLA MLR MLR
comp=Z,1μm,20.4s,MS5.6
BINY Binghamton 130.87 36 *e*PKPdf PKPdf 21 49 57.2 -0.4
BINY LR LR
comp=Z,3μm,21.1s,MS5.9
TRIS Tristan da Cun 130.90 209 PFAKE 21 50 10.0 +12
TRIS LR LR
comp=Z,2μm,18.3s,MS5.8
LBNH Lisbon 131.79 31 PFAKE 21 50 10.0 +11
LBNH LR LR
comp=Z,1μm,19.0s,MS5.7
TRQA Tornquist 131.84 156 *e*PKPdf PKPdf 21 49 59.7 0.0
TRQA LR LR
comp=Z,967nm,21.7s,MS5.5
TGUH Tegucigalpa,Un 131.85 76 PFAKE 21 50 10.0 +10
TGUH LR LR
comp=Z,581nm,21.5s,MS5.2
HNH Hanover 131.97 32 *e*PKPdf PKPdf 21 50 00.0 +0.3
MVL Millersville 131.97 39 PKP PKPdf 21 49 54.1 -5.7
PKME Peaks-Kenny Pk 132.38 29 *e*PKPdf PKPdf 21 49 59.0 -1.4
PKME LR LR
comp=Z,1μm,19.7s,MS5.7
NHSC New Hope 132.91 49 PFAKE 21 50 10.0 +8.2
NHSC LR LR
comp=Z,2μm,19.2s,MS5.8
HRV Adam Dziewonsk 133.17 33 *e*PKIKP PKPdf 21 50 02.0 0.0
HRV MLR MLR
comp=Z,1μm,20.6s,MS5.5
WES Weston 133.38 33 *e*PKIKP PKPdf 21 50 01.8 -0.6
ESDC Sonseca Array 133.44 322 PKP PKPdf 21 50 03.5 +0.9
comp=Z,0.6nm,0.6s,baz=8.5,slow=21,SNR=2.8
CNNC Cliffs of the 133.56 45 PFAKE 21 50 10.0 +7.0
CNNC LR LR
comp=Z,1μm,18.3s,MS5.7
TAM Tamanrasset 133.60 296 *e*PKIKP PKPdf 21 50 03.9 +0.5
DWPF Disney 133.96 56 PFAKE 21 50 10.0 +6.0
DWPF LR LR
comp=Z,789nm,19.2s,MS5.4
LCO Las Campanas 134.26 140 PFAKE 21 50 10.0 +5.5
LCO LR LR
comp=Z,498nm,18.8s,MS5.3
MVO Moncorvo 134.27 326 *e*LR LR 22 40 22.5
MTE Manteigas 135.07 326 *e*LQ 22 35 06.1
MTE *e*LR LR 22 39 13.8
PCBR Castelo Branco 135.41 325 *e*PKPdf PKPdf 21 50 07.0 +0.7
PMRV Marv??o 135.63 324 *e*LQ 22 36 31.0
PMRV *e*LR LR 22 44 28.5
PESTR Estremoz 136.12 324 *e*LQ 22 37 33.7
PESTR *e*LR LR 22 46 03.9
PBAR Barrancos 136.24 323 *e*PKPdf PKPdf 21 50 08.0 +0.1
PBAR Barrancos 136.24 323 *e*LR LR 22 39 28.1
PMAFR Mafra 137.04 325 *e*LR LR 22 42 10.2
PVAQ Vaqueiros 137.15 322 *e*LQ 22 37 52.4
PVAQ *e*LR LR 22 46 03.9
PBDV Barranco-do-Ve 137.38 322 *e*LR LR 22 46 28.7

PFVI	Vila Bisbo	138.00 323	eLR	LR	22 44 23.7	
NNA	Nana	138.71 115	PKP	PKPdf	21 50 12.1	-1.0
comp=Z,11nm,0.4s,baz=161,slow=7.2,SNR=6.9						
NNA	Nana	138.71 115	PKP	PKPdf	21 50 12.1	-1.0
NNA			LR	LR		
comp=Z,837nm,19.9s,MS5.5						
RTC	Rabat Centre	138.71 318	PFAKE		21 50 20.0	+7.4
RTC			LR	LR		
comp=Z,421nm,20.6s,MS5.2						
TOA0	Torodi Ar. Sit	139.03 284	PKP	PKPdf	21 50 12.1	-1.6
TORD	Torodi Ar. Bea	139.03 284	PKhKP		21 50 01.7	
comp=Z,0.5nm,0.4s,baz=68,slow=2.4,SNR=18						
BCIP	Isla Barro Col	139.46 82	PFAKE		21 50 20.0	+5.5
BCIP			LR	LR		
comp=Z,1μm,20.3s,MS5.6						
LVC	Limon Verde	139.71 135	PKP	PKPdf	21 50 15.1	+0.3
comp=Z,4.7nm,0.7s,baz=229,slow=4.9,SNR=4.5						
OTAV	Otavalo	140.41 96	PFAKE		21 50 30.0	+14
OTAV			LR	LR		
comp=Z,426nm,19.5s,MS5.2						
SHEL	Horse Pasture	140.74 237	PFAKE		21 50 30.0	+13
SHEL			LR	LR		
comp=Z,585nm,19.7s,MS5.3						
BBSR	BB Station	144.07 38	ePKPdf	PKPdf	21 50 21.6	-0.7
BBSR			LR	LR		
comp=Z,1μm,21.7s,MS5.6						
LPAZ	La Paz	144.12 127	PKP	PKPdf	21 50 22.2	-0.5
comp=Z,6.3nm,0.5s,baz=335,slow=2.5,SNR=17						
ROSC	El Rosal	144.94 89	PKP	PKPdf	21 50 23.6	-0.7
comp=Z,18nm,0.6s,baz=93,slow=5.6,SNR=20						
ROSC	El Rosal	144.94 89	PKP	PKPdf	21 50 23.6	-0.7
ROSC			ePKPdf	PKPdf	21 50 24.5	+0.2
CMLA	Cha da Macela	145.47 341	ePKIKP	PKPdf	21 50 24.8	+0.3
KIC	Kosan Boka	145.79 273	ePKP1	PKPbc	21 50 26.1	-0.1
comp=Z,1μm,1.3s						
KIC			ePKP			
comp=Z,1μm,1.3s						
PMAR	Madeira	145.81 325	ePKPab	PKPab	21 50 26.5	+0.4
DBIC	Dimbokro	145.90 274	PKPbc	PKPbc	21 50 25.9	-0.6
comp=Z,26nm,0.4s,baz=74,slow=3.4,SNR=70						
DBIC	Dimbokro	145.90 274	PKP2	PKPab	21 50 25.9	-1.1
DBIC			pmax	pmax		
comp=Z,26nm,0.4s						
DBIC	Dimbokro	145.90 274	ePKP	PKPdf	21 50 26.1	+0.1
TIC	Toumodi	146.06 274	ePKP1	PKPbc	21 50 26.8	-0.3
comp=Z,167nm,0.5s						
TIC			ePKP			
comp=Z,167nm,0.5s						
LIC	Lamto	146.07 273	⇑iPKIKP	PKPdf	21 50 26.8	+0.6
comp=Z,234nm,1.0s						
LIC	Lamto	146.07 273	ePKP1	PKPbc	21 50 26.8	-0.3
comp=Z,424nm,1.3s						
LIC			ePKP			
comp=Z,424nm,1.3s						
SDV	Santo Domingo	148.55 82	ePKPdf	PKPdf	21 50 30.3	-0.1
SDV			ePKPbc	PKPbc	21 50 33.8	-0.2
SDV			LR	LR		
comp=Z,280nm,21.5s,MS5.0						
SIV	San Ignacio	149.62 135	PKPbc	PKPbc	21 50 33.5	-3.0
comp=Z,18nm,0.9s,baz=226,slow=6.0,SNR=7.8						
SJG	San Juan	150.73 62	ePKIKP	PKPdf	21 50 33.9	+0.2
SJG			e		21 50 38.5	
HUMP	Col San Antoni	150.99 62	ePKPdf	PKPdf	21 50 33.5	-0.5
HUMP			ePKPbc	PKPbc	21 50 39.5	-0.3
PCRV	Puerto La Cruz	154.29 78	PKP	PKPdf	21 50 41.8	+2.7
comp=Z,12nm,0.9s,baz=73,slow=11,SNR=3.1						
BDFB	Brasilia	157.33 157	PKP	PKPdf	21 50 44.2	+1.2
comp=Z,1.0nm,0.4s,baz=198,slow=25,SNR=3.3						
BDFB			PKPab	PKPab	21 51 13.6	-0.3
comp=Z,3.7nm,0.7s,baz=30,slow=16,SNR=3.5						

*ISCJB **20** 21:31:02.4±0.7, 665N±009×729W±0.1, h174km±7km, mb3.7/7, Error ellipse: s-maj=20.2km s-min=9.5km az=41.4*
*IDC **20** 21:31:02.8±0.7, 663N×7293W, h162km±7km, mb3.6/6, mb1 3.7/8, mb1mx3.4/20, mbtmp3.6/8, Error ellipse: s-maj=23.1km s-min=7.8km az=134.0*
*NEIC **20** 21:31:03.8±0.7, 667N×7292W, h170km±7km, mb4.1/2, Error ellipse: s-maj=12.4km s-min=10.8km az=118.0*

ISC 20 21:31:03.5±0.7, 667N±009×7294W±010, h167km±7km, n11, σ0§49/12, mb3.7/7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.27 218		P	Pn	21 31 43.9	+1.1
39nm,0.3s,baz=226,slow=1.4,SNR=72							
ROSC				S	Sn	21 32 12.4	-0.8
53nm,0.3s,baz=105,slow=15,SNR=13							
SDV	Santo Domingo	3.17 46		P	Pn	21 31 54.1	+0.4
28nm,0.3s,baz=246,slow=4.3,SNR=47							
SDV				S	Sn	21 32 32.4	-0.3
27nm,0.3s,baz=84,slow=20,SNR=14							
TEIG	Tepich	20.08 314		eP	P	21 35 24.2	0.0
7.3nm,0.8s							
LVC	Limon Verde	29.36 172		eP	P	21 36 51.1	+0.2
1.4nm,0.6s,mb3.9							
TXAR	Lajitas Array	36.70 312		P	P	21 37 54.4	-0.2
0.4nm,0.6s,mb3.2,baz=125,slow=9.1,SNR=4.5							
SCHQ	Schefferville	48.28 5		P	P	21 39 28.0	+0.5
3.3nm,0.7s,mb4.1,baz=167,slow=4.1,SNR=6.4							
YKA	Yellowknife Ar	63.47 340		P	P	21 41 14.9	-0.5
0.7nm,0.6s,mb3.7,baz=132,slow=6.8,SNR=5.7							
DBIC	Dimbokro	67.56 86		P	P	21 41 42.5	-0.1
1.8nm,0.6s,mb4.0,baz=248,slow=5.4,SNR=4.2							
TORD	Torodi Ar. Bea	73.59 78		P	P	21 42 18.5	-0.5
0.3nm,0.5s,mb3.3,baz=286,slow=6.8,SNR=10							
ARCES	ARCESS Array B	86.75 20		P	P	21 43 28.7	+0.3
2.0nm,0.9s,mb3.9,baz=263,slow=3.5,SNR=3.3							
CMAR	Chiang Mai Arr	153.78 18		PKPbc	PKPbc	21 50 44.5	+0.7
0.7nm,0.6s,baz=317,slow=3.2,SNR=6.4							

*ATH **20** 21:37:00.0, 3991N×2492E, h10km, MD3.5/3*
*ISCJB **20** 21:37:07.2±0.4, 4004N±003×2445E±003, h23km±5km, Error ellipse: s-maj=4.9km s-min=3.3km az=4.0*
*THE **20** 21:37:07.3, 4004N×2446E, h17km, ML2.4*
*CSEM **20** 21:37:07.1±0.1, 4008N×2452E, h20km, ML2.4, Error ellipse: s-maj=1.9km s-min=1.2km az=16.0*

ISC 20 21:37:06.4±0.4, 4007N±003×2446E±002, h18km±3km, n21, σ0§76/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.45 307		ePg	Pg	21 37 16.9	+1.2
OUR				eSg	Sg	21 37 22.7	+0.8
LOS	Limnos	0.50 105		ePg	Pg	21 37 16.9	+0.5
LOS				eSg	Sg	21 37 23.2	+0.1
PAIG	Paliouri	0.61 257		ePg	Pg	21 37 19.5	+0.9
PAIG				eSg	Sg	21 37 27.6	+0.9
PLG	Polygyros	0.83 292		ePg	Pg	21 37 23.6	+0.9
PLG				eSg	Sg	21 37 34.2	+0.5
PLG	Polygyros	0.83 292		ePb	Pb	21 37 22.6	+0.3
PLG	Polygyros	0.83 292		ePg	Pg	21 37 23.6	+0.9
PLG				eSg	Sg	21 37 34.2	+0.5
AOS	Alonnisos	1.00 207		ePg	Pg	21 37 25.9	+0.2
AOS				eSg	Sg	21 37 39.9	+1.0
GADA	Gvkgeada	1.11 83		ePG	Pg	21 37 27.8	-0.1
GADA				eSG	Sg	21 37 42.1	-0.3
SOH	Sokhos	1.13 312		ePg	Pg	21 37 28.5	+0.2
SOH				eSg	Sg	21 37 43.3	+0.1
HORT	Hortiatis	1.17 298		ePg	Pg	21 37 28.6	-0.4
HORT				eSg	Sg	21 37 44.2	-0.1
XOR	Xorichti	1.20 235		ePg	Pg	21 37 27.7	-1.9
XOR				eSg	Sg	21 37 43.4	-1.9
NEO	Neokhori	1.22 232		ePB	Pb	21 37 27.0	-1.8
SRS	Serrai	1.24 328		ePg	Pg	21 37 29.5	-0.9
SRS				eSg	Sg	21 37 46.6	0.0
THE	Thessaloniki	1.27 297		ePg	Pg	21 37 30.4	-0.6
THE				eSg	Sg	21 37 47.3	-0.4
NVR	Nevrokopi	1.36 341		ePB	Pb	21 37 30.9	-0.4
ENEZ	Enez	1.46 62		ePN	Pg	21 37 34.2	-0.3
ENEZ				eSN	Sg	21 37 52.9	-0.6
ALN	Alexandroupoli	1.47 55		ePg	Pn	21 37 32.2	+0.3
ALN				eSg	Sn	21 37 51.0	+0.3
LIT	Litokhoron	1.51 272		ePg	Pn	21 37 31.7	-0.8
LIT				eSg	Sn	21 37 52.2	+0.5
PRK	Paraskevi	1.62 120		ePg	Pn	21 37 34.1	+0.1
PRK				eSg	Sn	21 37 55.3	+0.9
GRG	Griva	1.80 300		ePb	Pb	21 37 38.1	-0.8
AGG	Agios Georgios	1.95 238		ePb	Pn	21 37 39.2	+0.7
AGG				eSb	Sn	21 38 02.7	+0.2

*IDC **20** 21:52:41.7±2.2, 4044S×7181W, h46km±19km, mb4.2/13, mb1 4.3/15, mb1mx4.3/19, mbtmp4.2/15, ML4.5/2, MS4.1/4, Ms1 4.1/4, ms1mx3.9/21, Error ellipse: s-maj=22.2km s-min=13.1km az=79.0*
*NEIC **20** 21:52:41.9±1.2, 4041S×7178W, h50km±10km, mb4.8/16, Error ellipse: s-maj=13.2km s-min=6.1km az=75.0*
*ISCJB **20** 21:52:42.0±1.2, 4040S±005×717W±0.1, h64km±10km, mb4.6/26, Error ellipse: s-maj=13.9km s-min=8.0km az=169.9*

ISC 20 21:52:42.4±1.4, 4043S±005×718W±01, h53km±12km, h34km±2.1km: pP-P, n69, σ0§81/56, mb4.6/26, 1D, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	0.97 108		P	Pn	21 52 59.3	-0.5
3.9nm,0.3s,baz=292,slow=10,SNR=3.1							
PLCA				S	Sn	21 53 13.0	+0.4
65nm,0.3s,baz=294,slow=14,SNR=5.4							
TRQA	Tornquist	7.95 76		ePn	Pn	21 54 37.1	+1.8
32nm,0.9s							
TRQA				eSn	Sn	21 56 04.0	+0.1
CFAA	Coronel Fontan	9.26 19		P	Pn	21 54 52.3	-0.9
0.9nm,0.3s,baz=204,slow=11,SNR=47							
CFAA				LR	LR	21 58 44.2	
comp=Z,254nm,21.2s,baz=194,slow=39							
USHA	Ushuaia	14.58 172		LR	LR	22 02 14.3	
comp=Z,878nm,19.9s,baz=324,slow=39							
EFI	East Falkland	14.70 144		eP	Pn	21 56 06.3	-0.7
60nm,1.0s							
LVC	Limon Verde	17.93 9		P	Pn	21 56 48.4	+0.4
0.8nm,0.3s,baz=199,slow=9.1,SNR=10							
LVC				LR	LR	22 04 00.2	
comp=Z,1μm,20.1s,baz=325,slow=38							
LVC	Limon Verde	17.93 9		ePn	Pn	21 56 45.8	-2.1
12nm,0.7s							
LVC				LR	LR	22 04 00.2	
LPAZ	La Paz	24.26 9		P	P	21 57 55.3	+0.8
6.2nm,0.8s,mb4.1,baz=122,slow=13,SNR=9.0							
PMSA	Palmer Station	24.79 172		LR	LR	22 07 20.9	
comp=Z,654nm,18.6s,baz=156,slow=36							
SIV	San Ignacio	26.07 24		P	P	21 58 11.2	+0.3
9.8nm,0.8s,mb4.4,baz=213,slow=7.8,SNR=13							
NNA	Nana	28.68 350		eP	P	21 58 34.4	0.0
7.7nm,0.4s,mb4.8							
BDFB	Brasilia	32.19 47		P	P	21 59 04.7	-0.8
2.5nm,0.8s,mb4.1,baz=243,slow=15,SNR=3.8							
VNA3	Neumayer Olymp	43.38 155		e	P	22 00 38.9	-0.2
VNA3				e		22 00 41.9	
VNA3				e	pP	22 00 48.9	-4.0
VNA3				e		22 02 27.1	
VNA1	Neumayer--Stat	43.73 154		e	P	22 00 42.5	+0.6
VNA2	Neumayer--Watz	44.06 155		e	P	22 00 44.3	-0.2
VNA2				e		22 00 47.4	
VNA2				e	pP	22 00 53.1	-5.3
VNA2				e		22 02 29.2	
SNAA	Sanae	45.60 156		e	P	22 00 56.2	-0.6
SNAA				e		22 00 59.6	
SNAA				e	pP	22 01 06.7	-4.0
SNAA				e		22 02 37.7	
SNAA	Sanae	45.60 156		P	P	22 00 56.4	-0.4
13nm,1.2s,mb4.8,baz=286,slow=6.9,SNR=24							
SNAA	Sanae	45.60 156		eP	P	22 00 56.4	-0.4
25nm,1.0s,mb5.1							
SDV	Santo Domingo	49.08 1		eP	P	22 01 23.8	-0.7
5.5nm,0.8s,mb4.6							
QSPA	South Pole Qui	49.82 180		P	P	22 01 29.7	+0.3
9.9nm,0.9s,mb4.8,baz=137,slow=3.6,SNR=20							
VNDA	Vanda	57.86 192		P	P	22 02 28.9	+0.8
3.1nm,1.1s,mb4.3,baz=144,slow=5.1,SNR=6.6							
AOPR	Arecibo Observ	58.66 6		eP	P	22 02 34.2	-0.1
7.7nm,0.6s,mb4.9							
SYO	Syowa Base	59.84 157	⇓	eP	P	22 02 40.0	-1.9
MAW	Mawson	66.97 163		eP	P	22 03 29.0	0.0
2.8nm,0.7s,mb4.4							
BBSR	BB Station	72.73 6		P	P	22 04 02.7	-2.0
CASY	Casey	73.61 181		eP	P	22 04 09.5	-0.1
18nm,1.2s,mb4.9							
GOGA	Godfrey	74.27 350		eP	P	22 04 12.9	-0.7
8.6nm,0.8s,mb4.7							
JCT	Junction City	75.19 335		eP	P	22 04 20.3	+1.2
TXAR	Lajitas Array	75.47 332		P	P	22 04 20.4	-0.3
1.1nm,0.7s,mb3.9,baz=159,slow=8.1,SNR=8.2							
SWET	Sewanee	76.40 348		eP	P	22 04 26.1	+0.2
CPCT	Cooper Cave	76.42 349		eP	P	22 04 25.9	-0.1
TKL	Tuckaleechee C	76.52 350		eP	P	22 04 25.9	-0.6
BOSA	Boshof	76.95 116		P	P	22 04 28.7	-0.7
7.2nm,1.0s,mb4.6,baz=239,slow=3.1,SNR=6.2							
DBIC	Dimbokro	77.12 70		P	P	22 04 31.6	+1.2
6.8nm,0.7s,mb4.7,baz=198,slow=6.0,SNR=9.8							
DBIC	Dimbokro	77.12 70		eP	P	22 04 31.6	+1.1
13nm,1.1s,mb4.8							
TSUM	Tsumeb	77.32 104		eP	P	22 04 32.5	+0.9
3.0nm,1.0s,mb4.2							
TZTN	Tazewell	77.36 350		eP	P	22 04 31.5	+0.2
ACSO	Alum Creek Sta	80.93 351		eP	P	22 04 50.5	-0.2
ANMO	Albuquerque	81.54 332		eP	P	22 04 54.0	0.0
6.8nm,0.9s,mb4.6							
PV01	Paradox Valley	85.14 332		eP	P	22 05 12.2	-0.3
SMCO	Snowmass	85.51 333		eP	P	22 05 11.1	-3.2
TORD	Torodi Ar. Bea	86.23 69		P	P	22 05 17.4	-1.0
1.8nm,0.9s,mb4.3,baz=231,slow=3.8,SNR=4.9							
SHPR	Sheep Range	86.32 326		eP	P	22 05 19.8	+1.5
ECSD	EROS,Sioux Fal	86.73 342		eP	P	22 05 19.8	-0.3
15nm,0.9s,mb5.2							
MSU	Marysvale	86.83 329		eP	P	22 05 22.1	+1.4
DUG	Dugway	88.53 330		eP	P	22 05 29.7	+0.8
7.1nm,1.1s,mb4.9							
NVAR	Mina Array Bea	89.28 325		P	P	22 05 33.0	+0.5
1.9nm,1.1s,mb4.3,baz=160,slow=4.7,SNR=6.2							
NVAR	Mina Array Bea	89.28 325		P	P	22 05 33.0	+0.5
HWUT	Hardware Ranch	89.29 331		eP	P	22 05 32.5	0.0
12nm,1.0s,mb5.2							
SPUT	South Promonto	89.36 331		eP	P	22 05 33.9	+1.1
PDAR	Pinedale Array	89.59 333		P	P	22 05 33.6	-0.2
2.1nm,0.9s,mb4.4,baz=130,slow=4.6,SNR=9.5							
IMW	Indian Meadow	91.06 333		eP	P	22 05 40.6	0.0
8.2nm,0.9s,mb5.1							
HLID	Hailey	92.03 330		eP	P	22 05 45.2	+0.1
7.1nm,1.3s,mb4.8							
MCMT	McKenzie Canyo	92.55 332		eP	P	22 05 47.6	+0.1
ULM	Lac du Bonnet	92.75 345		P	P	22 05 48.4	+0.2
4.6nm,0.9s,mb4.9,baz=240,slow=2.7,SNR=4.0							
ULM	Lac du Bonnet	92.75 345		P	P	22 05 48.4	+0.2
GERES	GERESS Array B	116.43 47		PKP	PKPdf	22 11 17.4	-2.0
0.5nm,0.8s,baz=174,slow=1.2,SNR=4.4							
NOA	NORSAR Array B	121.26 34		PKP	PKPdf	22 11 28.6	+0.2
1.0nm,0.8s,baz=237,slow=1.9,SNR=3.2							
AKASG	Malin Array Be	126.23 51		PKP	PKPdf	22 11 38.8	+0.5
0.4nm,0.4s,baz=262,slow=3.1,SNR=4.6							
MALT	Malatya	127.31 68		ePKPdf	PKPdf	22 11 41.0	+0.3
ARU	Arti	144.25 46		ePKPdf	PKPdf	22 12 10.5	-0.9
PETK	Petropavlovsk-	144.54 308		PKP	PKPdf	22 12 11.6	-0.5
5.3nm,1.0s,baz=72,slow=6.4,SNR=4.7							
HYB	Hyderabad	145.62 123		iP	PKPdf	22 12 16.5	+1.4
HYB	Hyderabad	145.62 123		eP	PKPdf	22 12 16.5	+1.4
MJAR	Matsushiro Arr	156.28 270		PKPab	PKPab	22 12 57.4	-1.8
3.1nm,0.9s,baz=153,slow=3.7,SNR=6.4							
KURK	Kurchatov	157.00 54		ePKPdf	PKPdf	22 12 30.9	-0.4
ZALV	Zalesovo Beam	159.24 42		PKP	PKPdf	22 12 33.2	-0.7
1.3nm,0.7s,baz=282,slow=2.9,SNR=9.0							
MKAR	Makanchi Array	160.22 63		PKP	PKPdf	22 12 36.0	+0.7
1.6nm,1.1s,baz=297,slow=5.3,SNR=5.9							
MKAR				PKPab	PKPab	22 13 16.8	+0.9
1.5nm,0.9s,baz=282,slow=5.9,SNR=6.1							
MKAR				PP	PP	22 17 00.6	+1.8
0.6nm,0.9s,baz=141,slow=2.3,SNR=3.7							
SONM	Songino Array	172.48 10		PKPab	PKPab	22 14 12.1	+2.3
1.3nm,0.9s,baz=321,slow=2.1,SNR=5.0							

*NEIC **20** 22:06:23.5, 1341N×9282W, h48km, MD4.3(MEX), After MEX.*

MEX 20 22:06:24.2±1.2, 1365N×9242W, h20km±99km, MD4.3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.26 7		iP	Pn	22 06 42.7	-4.0
THIG				iS	Sn	22 06 58.4	-4.6
CCIG	Comitan	2.63 6		iP	Pn	22 07 04.5	-1.1
CCIG				iS	Sn	22 07 33.6	-3.2
CCIG	Comitan	2.63 6		iP	Pn	22 07 07.0	+1.5
CCIG				iS	Sn	22 07 39.8	+3.0
SCX	San Cristobal	3.07 356		eP	Pn	22 07 09.2	-2.5
SCX				iS	Sn	22 07 45.1	-2.8
SCX	San Cristobal	3.07 356		iP	Pn	22 07 16.5	+4.9
SCX				iS	Sn	22 07 49.5	+1.7
TGIG		3.18 348		iP	Pn	22 07 12.4	-0.7
TGIG				iS	Sn	22 07 47.4	-3.1
CMIG	Matias Romero	4.17 325		iP	Pn	22 07 23.8	-2.9
CMIG				iS	Sn	22 08 11.2	-3.7
CMIG	Matias Romero	4.17 325		iP	Pn	22 07 23.8	-2.9
CMIG				iS	Sn	22 08 12.7	-2.1
VHO	Vista Hermosa	5.38 310		eP	Pn	22 07 46.5	+3.2
VHO				iS	Sn	22 08 46.6	+1.9
VHO	Vista Hermosa	5.38 310		iS	Sn	22 08 36.1	-8.6
UTMO	Huajuapan	6.64 309		eP	Pn	22 08 00.0	-0.2
UTMO				iS	Sn	22 09 11.6	-4.3

IDC 20 22:13:16.0±2.0, 1021N×9196E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=69.9km s-min=21.1km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.63 39		Pn	Pn	22 15 49.8	+0.1
0.2nm,0.3s,baz=234,slow=15,SNR=5.5							
MKAR	Makanchi Array	37.37 349		P	P	22 20 29.6	-0.8
0.5nm,0.6s,baz=161,slow=9.0,SNR=3.7							
SONM	Songino Array	39.43 15		P	P	22 20 47.9	+0.2
0.2nm,0.3s,baz=190,slow=6.0,SNR=4.0							
ZALV	Zalesovo Beam	43.99 354		P	P	22 21 25.5	+0.5
0.3nm,0.3s,baz=155,slow=4.9,SNR=4.6							
WRA	Warramunga Arr	51.37 126		P	P	22 22 21.3	-1.6
1.2nm,0.7s,baz=303,slow=8.6,SNR=5.7							
ASAR	Alice Springs	53.06 130		P	P	22 22 36.7	+1.3
0.6nm,1.0s,baz=311,slow=8.5,SNR=5.7							
STKA	Stephens Creek	63.27 133		P	P	22 23 46.9	+0.1
1.3nm,0.8s,baz=312,slow=12,SNR=3.2							

*IDC **20** 22:27:21.0±3.3, 536S×14103E, h0km, mb3.9/2, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=107.7km s-min=25.0km az=100.0*
*NEIC **20** 22:27:22.7±0.9, 534S×14091E, h10km, mb4.2/3, Error ellipse: s-maj=23.5km s-min=9.2km az=92.0*
*ISCJB **20** 22:27:26.3±0.8, 551S±006×1405E±0.1, h33km, mb3.9/3, Error ellipse: s-maj=16.4km s-min=7.3km az=15.9*

ISC 20 22:27:27.7±0.9, 550S±007×1406E±01, h35km, n16, σ1§10/22, mb3.9/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.79 228		eP	Pn	22 30 02.6	+2.8
12nm,0.4s							
KAKA				eS	Sn	22 31 59.0	-0.4
WRAB	Tennant Creek	15.59 202		ePn	Pn	22 31 06.8	+1.9
9.5nm,0.8s							
WRAB				eSn	Sn	22 33 49.6	-7.0
WB2	Warramunga Arr	15.60 202		eP	Pn	22 31 04.8	-0.2
WB2	Warramunga Arr	15.60 202		ePn	Pn	22 31 06.4	+1.4
WRA	Warramunga Arr	15.60 202		Pn	Pn	22 31 05.3	+0.3
0.4nm,0.3s,baz=10,slow=11,SNR=5.8							
WRA				Sn	Sn	22 33 54.1	-2.7
0.4nm,0.3s,baz=23,slow=23,SNR=3.6							
WRA				Lg		22 35 46.4	
0.4nm,0.3s,baz=28,slow=25,SNR=5.2							
ASAR	Alice Springs	19.18 199		P	Pn	22 31 50.8	+1.2
0.5nm,0.3s,baz=32,slow=9.8,SNR=23							
ASAR				S	S	22 35 17.5	-6.7
0.1nm,0.3s,baz=97,slow=29,SNR=2.8							
ASAR				Lg		22 37 43.5	
0.1nm,0.3s,baz=22,slow=31,SNR=4.6							
FITZ	Fitzroy Crossi	19.26 228		P	Pn	22 31 50.4	-0.1
0.2nm,0.3s,baz=315,slow=22,SNR=2.4							
FITZ				S	S	22 35 18.4	-7.4
0.4nm,0.3s,baz=218,slow=20,SNR=4.9							
FITZ				Lg		22 37 38.6	
0.1nm,0.3s,baz=132,slow=18,SNR=1.9							
FITZ	Fitzroy Crossi	19.26 228		eP	Pn	22 31 51.1	+0.6
23nm,1.5s							
FITZ				S	S	22 35 18.4	-7.4
FITZ				Lg		22 37 38.6	
STKA	Stephens Creek	26.26 178		P	P	22 32 59.5	-0.2
KKM	Kota Kinabalu	26.92 295		eP	P	22 33 06.0	0.0
KSM	Kuching	31.05 282		P	P	22 33 43.6	+0.9
NWAO	Narrogin (SRO)	34.92 216		eP	P	22 34 15.3	-0.9
MKAR	Makanchi Array	73.14 322		P	P	22 38 54.7	0.0
0.3nm,0.3s,mb3.8,baz=107,slow=5.8,SNR=5.1							
KURK	Kurchatov	77.08 325		eP	P	22 39 16.2	-1.1
2.1nm,0.9s,mb4.1							
BVAR	Borovoye Array	82.67 325		P	P	22 39 46.9	-0.6
0.7nm,0.6s,mb3.9,baz=108,slow=9.3,SNR=5.4							
KIV	Kislovodsk	99.50 314		ePdif	P	22 41 06.6	-0.6

*CSEM **20** 22:29:01.6, 6450N×1768W, h6km, ML3.5, After REY*

REY 20 22:29:01.6, 6450N×1768W, h6km, ML3.5, ML2.9, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRF	Grimsfjall	0.20 119		P	Pg	22 29 05.7	+0.1
IGRF				S	Sg	22 29 08.9	+0.6
ISKR	Skrokkalda	0.31 281		P	Pg	22 29 07.5	-0.2
ISKR				S	Sg	22 29 12.4	+0.6
IKAL	Kalfafell	0.56 181		P	Pg	22 29 11.6	-0.7
IKAL				S	Sg	22 29 19.4	-0.2
IBRU	Bruarjokull	0.76 64		P	Pg	22 29 14.9	-1.2
IFAG	Fagurholsmyri	0.77 144		P	Pg	22 29 15.1	-1.3
IFAG				S	Sg	22 29 25.8	-0

KWP eSn **Sn** **22 33 53.9 +2.7**
KWP eSg **Sg** **22 34 03.5 +4.3**
KOLS Kolonicke sedl 2.63 120 ePG **Pg** **22 33 24.1 -2.1**
KOLS eSN **Sn** **22 33 50.4 -1.6**
PRU Pruhonice 2.77 265 ePG **Pg** **22 33 26.1 -2.8**
PRU eSG **Sg** **22 34 04.0 -0.8**
comp=Z,3.8nm,0.3s
BRG Berggiesshubel 3.16 282 PG **Pg** **22 33 34.9 -1.5**
BRG SG **Sg** **22 34 17.4 +0.1**
comp=Z,3.5nm,0.5s
KHC Kasperske Hory 3.60 253 ePN **Pn** **22 33 31.5 -1.3**
KHC ePG **Pg** **22 33 40.7 -4.1**
KHC eSG **Sg** **22 34 30.2 -1.3**
comp=Z,14nm,1.1s
CLL Collm 3.83 287 eSg **Sg** **22 34 40.0 +1.4**
NKC Novy Kostel 4.09 271 eSG **Sg** **22 34 46.1 -1.0**
comp=Z,4.1nm,0.5s

IDC ***20*** *22:42:26.8±0.3, 808N×3927W, h0km, mb5.5/39, mb1 5.6/39, mb1mx5.6/39, mbtmp5.5/39, MS6.4/31, Ms1 6.4/31, ms1mx6.3/34, Error ellipse: s-maj=10.2km s-min=6.3km az=142.0*
MOS ***20*** *22:42:27.0±0.8, 805N×3923W, h10km, mb6.4/103, MS6.4/90, Error ellipse: s-maj=6.9km s-min=3.3km az=51.8*
CSEM ***20*** *22:42:27.4±0.0, 807N×3926W, h10km, mb6.4/99, Ms6.5, Mw6.5, Error ellipse: s-maj=1.9km s-min=0.9km az=166.0*
ISCJB ***20*** *22:42:28.0±0.1, 813N±002×3922W±001, h10km, mb6.2/383, MS6.4/254, Error ellipse: s-maj=3.4km s-min=1.4km az=170.8*
NEIC ***20*** *22:42:28.5±0.1, 804N×3925W, h6km, mb6.3/242, ME7.0, MS6.4/192, Error ellipse: s-maj=3.7km s-min=1.8km az=168.0 Broadband fault plane solution: P waves. NP1:φs179.00000°, δ85.00000°, λ-10.00000°. NP2: φs270.00000°, δ80.00000°, λ-175.00000°. Principal axes: T Plg4.0000°, Azm225.0000°; N Plg0.0000°, Azm0.0000°; P Plg11.0000°, Azm134.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
IGIL ***20*** *22:42:29.2, 802N×3927W, h10km, MS6.6*
GCMT ***20*** *22:42:29.2±0.1, 819N×3917W, h12km, MW6.5/109, Moment Tensor Solution. s109,c253; s109,c491; Duration: 4s6 Moment tensor: Scale 1018Nm; Mrr0.03±.04; Mθθ-0.21±.04; Mφφ0.18±.04; Mrθ-0.56±.10; Mrφ-7.91±.03; Mθφ1.91±.11; Best double couple: Ms8.15600×1018 NP1:φs270.00000°, δ77.00000°, λ176.00000°. NP2:φs1.00000°, δ86.00000°, λ13.00000°. Principal axes: T 8.2760, Plg12.0000°, Azm226.0000°; N -0.2380, Plg76.0000°, Azm16.0000°; P -8.0370, Plg7.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SZGRF ***20*** *22:42:29.9, 744N×3885W, h33km, mb6.2, MS6.3, Central Mid-Atlantic Ridge*
PDA ***20*** *22:42:29.0, 802N×3927W, h10km, Mw6.5*
BJI ***20*** *22:42:29.1, 800N×3920W, h10km, mB6.4, Ms6.8, Msz6.6*
DJA ***20*** *22:42:36, 740N×3858W, h10km, mB6.7/4*
BGS ***20*** *22:42:39.9±1.7, 963N×3876W, h10km, mb6.0*
ISC 20 22:42:28.4±0.5, 813N±002×3925W±001, h1km±3km, n2487, σ0.95/2398, mb6.2/383, MS6.4/254, 627C-235D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**20.46**	**286**	*e*	**P**	**22 47 10.4**	**+2.6**
BBGH	**Gun Hill**	**20.57**	**286**	*eP*	**P**	**22 47 08.0**	**-0.9**
	6μm,1.6s						
BBGH				*e*S	**S**	**22 51 01.8**	**+1.9**
BBGH				LR	LR		
	comp=Z,112μm,20.0s,MS6.2						
TPR	**Prospect**	**21.44**	**280**	*eP*	**P**	**22 47 19.6**	**+1.3**
TBH	**Brigand Hill**	**21.66**	**278**	*eP*	**P**	**22 47 21.7**	**+1.0**
TPP	**Pointe-a-Pierr**	**22.02**	**277**	*eP*	**P**	**22 47 25.6**	**+1.0**
SLW	**Petit Monier**	**22.07**	**287**	*eP*	**P**	**22 47 24.6**	**-0.5**
BHS	**Barnard House**	**22.10**	**285**	*e*	**P**	**22 47 26.4**	**+1.1**
SLB	**Belfond**	**22.12**	**287**	*e*	**P**	**22 47 26.2**	**+0.6**
SSV	**Crater Summit**	**22.16**	**285**	*e*	**P**	**22 47 26.2**	**+0.1**
FCV	**Fort Charlotte**	**22.18**	**285**	*e*	**P**	**22 47 26.8**	**+0.5**
ALNG	**Atlantic LNG**	**22.25**	**277**	*e*	**P**	**22 47 26.2**	**-0.8**
TCE	**Chacachacare**	**22.35**	**278**	*eP*	**P**	**22 47 22.0**	**-6.0**
GRIC	**Isle de Caille**	**22.36**	**283**	*e*	**P**	**22 47 28.4**	**+0.2**
GRSS	**Sisters**	**22.39**	**283**	*e*	**P**	**22 47 28.9**	**+0.4**
GRGR	**Grenville**	**22.41**	**282**	⇑*iP*	**P**	**22 47 27.8**	**-0.9**
	comp=Z,4μm,1.4s,mb6.7						
GRGR				*e*S	**S**	**22 51 30.6**	**-5.5**
GRGR				LR	LR		
	comp=Z,48μm,20.0s,MS5.9						
GRHS	**Sauteurs**	**22.41**	**282**	*e*	**P**	**22 47 29.0**	**+0.3**
GRW	**Mount Saint Ca**	**22.42**	**282**	*eP*	**P**	**22 47 28.8**	**-0.1**
FDF	**Fort de France**	**22.44**	**289**	*eP*	**P**	**22 47 28.6**	**-0.4**
FDF	**Fort de France**	**22.44**	**289**	⇑*iP*	**P**	**22 47 28.5**	**-0.5**
	comp=Z,5μm,1.4s,mb6.8						
FDF				*e*S	**S**	**22 51 35.8**	**-0.8**
FDF	**Fort de France**	**22.44**	**289**	⇑*iP*	**P**	**22 47 28.5**	**-0.5**
	comp=Z,5μm,1.4s,mb6.8						
FDF				*e*S	**S**	**22 51 35.8**	**-0.9**
DEG	**La Desirade**	**22.80**	**293**	⇑*eP*	**P**	**22 47 31.4**	**-1.5**
DWS	**Wesley**	**22.81**	**291**	*e*	**P**	**22 47 32.7**	**-0.3**
MGG	**Marie-Galante**	**22.91**	**292**	⇑*eP*	**P**	**22 47 33.5**	**-0.6**
BBTS	**Babate**	**23.18**	**72**	P	**P**	**22 47 36.7**	**-0.2**
	comp=Z,589nm,1.1s,mb6.0,baz=264,slow=1.0,SNR=33						
BBTS				S	**S**	**22 51 53.3**	**+3.6**
	comp=Z,15nm,0.3s,baz=92,slow=21,SNR=5.6						
BBTS				LR	LR	22 54 19.7	
	comp=Z,193μm,20.5s,MS6.5,baz=255,slow=31						
BBTS	**Babate**	**23.18**	**72**	P	**P**	**22 47 36.7**	**-0.2**
BBTS				S	**S**	**22 51 53.3**	**+3.6**
TBG	**Guadaloupe-3**	**23.20**	**291**	*eP*	**P**	**22 47 36.3**	**-0.7**
BCG	**Bois Riant Cap**	**23.24**	**292**	*eP*	**P**	**22 47 36.6**	**-1.0**
SCG	**Saint Claude**	**23.28**	**292**	*eP*	**P**	**22 47 38.2**	**+0.2**
HMG	**Houelmont**	**23.29**	**292**	⇓*eP*	**P**	**22 47 38.8**	**+0.8**
LZG	**Guadaloupe-1**	**23.40**	**292**	⇓*eP*	**P**	**22 47 39.3**	**+0.1**
BPA	**Boggy Peak**	**23.76**	**294**	*e*	**P**	**22 47 42.3**	**-0.4**
PCRV	**Puerto La Cruz**	**25.14**	**277**	P	**P**	**22 47 54.7**	**-0.7**
	comp=Z,192nm,1.0s,mb5.8,baz=44,slow=3.0,SNR=24						
PCRV				S	**S**	**22 52 21.9**	**+0.4**
	comp=Z,22nm,1.1s,baz=133,slow=13,SNR=1.9						
PCRV				LR	LR	22 57 58.8	
	comp=Z,51μm,21.4s,MS6.0,baz=254,slow=37						
PCRV	**Puerto La Cruz**	**25.14**	**277**	P	**P**	**22 47 54.7**	**-0.7**
PCRV				S	**S**	**22 52 21.9**	**+0.4**
BDFB	**Brasilia**	**25.16**	**200**	P	**P**	**22 47 54.8**	**-0.6**
	comp=Z,89nm,0.9s,mb5.5,baz=12,slow=17,SNR=76						
BDFB				S	**S**	**22 52 12.8**	**-8.8**
	comp=Z,32nm,1.0s,baz=353,slow=16,SNR=2.4						
BDFB				LR	LR	22 57 42.4	
	comp=Z,69μm,19.1s,MS6.2,baz=174,slow=36						
BDFB	**Brasilia**	**25.16**	**200**	P	**P**	**22 47 54.8**	**-0.7**
BDFB				S	**S**	**22 52 12.8**	**-8.7**
BDFB				pmax	pmax		
	comp=Z,89nm,0.9s						
BDFB				smax			
	comp=N,32nm,1.0s						
BDFB				MLR	MLR		
	comp=Z,69μm,19.1s						
BDFB	**Brasilia**	**25.16**	**200**	⇑*iP*	**P**	**22 47 54.2**	**-1.3**
	comp=Z,396nm,0.8s,mb6.2						
BDFB				S	**S**	**22 52 12.8**	**-8.7**
	comp=Z,69μm,19.1s						
BDFB	**Brasilia**	**25.16**	**200**	⇑*iP*	**P**	**22 47 54.2**	**-1.3**
	comp=Z,396nm,0.8s,mb6.2						
BDFB				S	**S**	**22 52 12.8**	**-8.8**
BDFB				LR	LR	22 57 42.4	
STMA	**St. Maarten, A**	**25.21**	**295**	*e*	**P**	**22 47 56.2**	**+0.2**
HUMP	**Col San Antoni**	**27.71**	**294**	⇑*iP*	**P**	**22 48 18.3**	**-0.3**
HUMP				*e*S	**S**	**22 52 58.3**	**-3.8**
HUMP	**Col San Antoni**	**27.71**	**294**	⇑*iP*	**P**	**22 48 18.3**	**-0.3**
HUMP				*e*S	**S**	**22 52 58.3**	**-3.8**
SJG	**San Juan**	**27.98**	**293**	P	**P**	**22 48 20.7**	**-0.3**
	comp=Z,435nm,1.2s,mb6.2,baz=85,slow=5.1,SNR=23						
SJG				S	**S**	**22 52 59.6**	**-6.7**
	comp=Z,4.5nm,0.3s,baz=358,slow=21,SNR=2.6						
SJG				LR	LR	22 56 55.1	
	comp=Z,65μm,21.8s,MS6.2,baz=111,slow=31						
SJG	**San Juan**	**27.98**	**293**	P	**P**	**22 48 20.7**	**-0.3**
SJG				S	**S**	**22 52 59.6**	**-6.6**
SJG				pmax	pmax		
	comp=Z,435nm,1.2s						
SJG				smax			
	comp=N,5.0nm,0.3s						
SJG				MLR	MLR		
	comp=Z,65μm,21.8s						
SJG	**San Juan**	**27.98**	**293**	P	**P**	**22 48 20.7**	**-0.3**
	comp=Z,435nm,1.2s,mb6.2						
SJG				S	**S**	**22 52 59.6**	**-6.6**
	comp=Z,65μm,21.8s						
SJG	**San Juan**	**27.98**	**293**	⇑*iP*	**P**	**22 48 20.5**	**-0.5**
SJG				*e*S	**S**	**22 52 56.5**	**-10**
SJG				LR	LR		
	comp=Z,57μm,21.0s,MS6.1						
CHIE	**El Hierro**	**28.02**	**43**	P	**P**	**22 48 20.1**	**-1.1**
	comp=Z,622nm,1.6s,mb6.2						
CHIE	**El Hierro**	**28.02**	**43**	P	**P**	**22 48 20.1**	**-1.1**
	comp=Z,622nm,1.6s,mb6.2						
AOPR	**Arecibo Observ**	**28.59**	**294**	⇑*iP*	**P**	**22 48 25.4**	**-1.1**
	comp=Z,516nm,1.3s,mb6.2						
AOPR				*e*S	**S**	**22 53 16.5**	**+0.5**
AOPR	**Arecibo Observ**	**28.59**	**294**	⇑*iP*	**P**	**22 48 25.4**	**-1.1**
	comp=Z,516nm,1.3s,mb6.2						
AOPR				*e*S	**S**	**22 53 16.5**	**+0.5**
EHIG	**Higuera**	**28.66**	**42**	P	**P**	**22 48 26.2**	**-0.8**
	comp=Z,2μm,2.0s,mb6.5						
CAM3	**Guarapari**	**28.70**	**182**	⇑*iP*	**P**	**22 48 27.3**	**0.0**
CAM3				*i*		22 48 28.5	
CAM3				*i*		22 48 30.5	
CAM3				*i*		22 48 39.1	
CAM3				*i*		22 48 48.6	
CAM3				*i*		22 48 54.9	
CAM3				*i*		22 49 00.0	
CAM3				*i*		22 49 58.1	
EGOM	**La Gomera**	**28.81**	**43**	⇑P	**P**	**22 48 26.8**	**-1.4**
	comp=Z,4μm,2.6s,mb6.8						
EGOM	**La Gomera**	**28.81**	**43**	⇑P	**P**	**22 48 26.8**	**-1.4**
	comp=Z,4μm,2.6s,mb6.8						
MPR	**Mayaguez**	**28.91**	**293**	*eP*	**P**	**22 48 28.8**	**-0.4**
MPR	**Mayaguez**	**28.91**	**293**	*eP*	**P**	**22 48 28.8**	**-0.5**
AGPR	**Aguadilla, PR**	**28.95**	**294**	⇑*iP*	**P**	**22 48 28.5**	**-1.2**
	comp=Z,1μm,1.2s,mb6.5						
AGPR	**Aguadilla, PR**	**28.95**	**294**	*e*PcP	PcP	22 51 34.6	-4.2
AGPR	**Aguadilla, PR**	**28.95**	**294**	⇑*iP*	**P**	**22 48 28.5**	**-1.2**
	comp=Z,1μm,1.2s,mb6.5						
AGPR				*e*PcP	PcP	22 51 34.6	-4.2
AGPR				*e*S	**S**	**22 53 11.4**	**-10**
CCAN	**Las Canadas**	**29.26**	**44**	P	**P**	**22 48 32.9**	**+0.6**
	comp=Z,600nm,1.9s,mb6.1						
ASCN	**Ascension**	**29.49**	**122**	⇓*eP*	**P**	**22 48 33.1**	**-1.4**
	comp=Z,245nm,1.2s,mb5.9						
ASCN	**Ascension**	**29.49**	**122**	*e*PP	PP	22 49 24.2	-17
ASCN	**Ascension**	**29.49**	**122**	⇓*eP*	**P**	**22 48 33.1**	**-1.4**
	comp=Z,245nm,1.2s,mb5.9						
ASCN				*e*PP	PP	22 49 24.2	-17
ASCN				PcP	PcP	22 51 41.9	+1.6
ASCN				*e*S	**S**	**22 53 30.1**	**0.0**
ASCN				LR	LR		
	comp=Z,51μm,21.0s,MS6.1						
EBAJ	**Bajamar**	**29.64**	**44**	P	**P**	**22 48 35.3**	**-0.3**
	comp=Z,4μm,2.7s,mb6.8						
EBAJ	**Bajamar**	**29.64**	**44**	P	**P**	**22 48 35.3**	**-0.3**
	comp=Z,4μm,2.7s,mb6.8						
EOSO	**Osorio**	**29.90**	**45**	⇑P	**P**	**22 48 36.9**	**-1.1**
	comp=Z,6μm,2.5s,mb7.0						
EOSO	**Osorio**	**29.90**	**45**	⇑P	**P**	**22 48 36.9**	**-1.0**
	comp=Z,6μm,2.5s,mb7.0						
SDV	**Santo Domingo**	**31.04**	**274**	⇑*iP*	**P**	**22 48 48.0**	**-0.2**
SDV	**Santo Domingo**	**31.04**	**274**	*e*PP	PP	22 49 58.7	+0.5
SDV	**Santo Domingo**	**31.04**	**274**	⇑*iP*	**P**	**22 48 48.0**	**-0.2**
SDV				*e*PP	PP	22 49 58.7	+0.5
SDV				*e*PcP	PcP	22 51 41.8	-2.6
SDV				*e*S	**S**	**22 53 52.2**	**-2.4**
SDV				LR	LR		
	comp=Z,13μm,20.0s,MS5.6						
CFTV	**Fuerteventura**	**31.15**	**46**	P	**P**	**22 48 47.1**	**-1.9**
	comp=Z,1μm,2.5s,mb6.4						
CFTV	**Fuerteventura**	**31.15**	**46**	P	**P**	**22 48 47.1**	**-1.9**
	comp=Z,1μm,2.5s,mb6.4						
PSMN	**Pico do Norte,**	**31.50**	**22**	*eP*	**P**	**22 48 51.4**	**-0.6**
CALA	**Caldeira**	**31.78**	**16**	*eP*	**P**	**22 48 55.4**	**+1.0**
PICO	**Pico**	**31.78**	**16**	*eP*	**P**	**22 48 56.2**	**+1.8**
PDA	**Ponta Delgada**	**31.95**	**21**	*i P*	**P**	**22 48 57.0**	**+1.1**
PDA				*i* pP		22 49 19.0	
PDA				*i* S	**S**	**22 54 10.0**	**+1.8**
PDA				*i* LQ		22 55 27.0	
PDA				*i* LR	LR	22 57 11.0	
EFAM	**Famara**	**31.96**	**46**	P	**P**	**22 48 54.6**	**-1.5**
	comp=Z,8μm,2.9s,mb7.2						
EFAM	**Famara**	**31.96**	**46**	P	**P**	**22 48 54.6**	**-1.5**
	comp=Z,8μm,2.9s,mb7.2						
CMLA	**Cha da Macela**	**32.02**	**21**	*eP*	**P**	**22 48 56.7**	**+0.2**
	comp=Z,406nm,1.2s,mb6.2						
CMLA	**Cha da Macela**	**32.02**	**21**	*e*PP	PP	22 50 05.1	-3.7
CMLA				*e*S	**S**	**22 54 09.4**	**+0.2**
CMLA				*e*LQ		22 55 10.6	
CMLA				*e*LR	LR	22 56 38.6	
CMLA	**Cha da Macela**	**32.02**	**21**	*eP*	**P**	**22 48 56.1**	**-0.4**
CMLA				*e*S	**S**	**22 54 04.3**	**-4.9**
CMLA				pmax	pmax		
	comp=Z,500nm,1.3s,mb6.3						
CMLA				MLR	MLR		
	comp=Z,69μm,20.0s,MS6.3						
CMLA	**Cha da Macela**	**32.02**	**21**	*e*PP	PP	22 50 05.1	-3.7
CMLA				*e*S	**S**	**22 54 09.4**	**+0.2**
CMLA	**Cha da Macela**	**32.02**	**21**	*eP*	**P**	**22 48 56.1**	**-0.4**
	comp=Z,500nm,1.3s,mb6.3						
CMLA				*e*PP	PP	22 49 51.6	-17
CMLA				*e*S	**S**	**22 54 04.2**	**-4.9**
CMLA				LR	LR		
	comp=Z,69μm,20.0s,MS6.3						
ROSA	**Rosais**	**32.03**	**16**	*eP*	**P**	**22 48 56.9**	**+0.3**
PMAR	**Madeira**	**32.06**	**37**	*eP*	**P**	**22 48 58.5**	**+1.6**
	comp=Z,674nm,1.6s,mb6.3						
SIV	**San Ignacio**	**32.27**	**222**	P	**P**	**22 48 57.2**	**-1.7**
	comp=Z,456nm,0.9s,mb6.4						
SIV				S	**S**	**22 54 14.0**	**+0.6**
	comp=Z,33nm,1.1s,baz=298,slow=15,SNR=1.8						
SRBC	**Serra Branca**	**32.38**	**16**	*eP*	**P**	**22 49 00.4**	**+0.7**
SPB	**Sao Paulo**	**32.52**	**194**	⇑*iP*	**P**	**22 49 00.9**	**-0.1**
	comp=Z,213nm,1.3s,mb5.9						
SPB	**Sao Paulo**	**32.52**	**194**	*e*PP	PP	22 50 13.2	-1.4
SPB	**Sao Paulo**	**32.52**	**194**	⇑*iP*	**P**	**22 49 00.9**	**-0.1**
	comp=Z,213nm,1.3s,mb5.9						
SPB				*e*PP	PP	22 50 13.2	-1.4
SPB				*e*S	**S**	**22 54 29.7**	**+12**
PMPS	**Porto Santo**	**32.64**	**37**	*eP*	**P**	**22 49 04.4**	**+2.4**
	comp=Z,732nm,1.7s,mb6.3						
PMPS	**Porto Santo**	**32.64**	**37**	*e*PP	PP	22 50 16.8	+1.1
PMPS	**Porto Santo**	**32.64**	**37**	*e*PP	PP	22 50 16.8	+1.1
BBSR	**BB Station**	**33.76**	**319**	*eP*	**P**	**22 49 12.3**	**+0.4**
	comp=Z,977nm,1.9s,mb6.4						
BBSR	**BB Station**	**33.76**	**319**	*e*PP	PP	22 50 25.3	-2.9
BBSR	**BB Station**	**33.76**	**319**	*eP*	**P**	**22 49 12.3**	**+0.4**
	comp=Z,977nm,1.9s,mb6.4						
BBSR				*e*PP	PP	22 50 25.3	-2.9
BBSR				*e*S	**S**	**22 54 35.0**	**-1.5**
BBSR				LR	LR		
	comp=Z,75μm,20.0s,MS6.4						
TIC	**Toumodi**	**33.97**	**90**	*eP*	**P**	**22 49 12.1**	**-1.8**
	comp=Z,6μm,2.3s,mb7.1						
LIC	**Lamto**	**34.00**	**91**	⇑*iP*	**P**	**22 49 11.3**	**-2.9**
	comp=Z,1μm,1.5s,mb6.3,baz=273						
LIC				*e*MLR	MLR		
	comp=Z,67μm,19.0s,MS6.1						
LIC	**Lamto**	**34.00**	**91**	*eP*	**P**	**22 49 12.4**	**-1.8**
	comp=Z,938nm,1.5s,mb6.5						
LIC	**Lamto**	**34.00**	**91**	⇑*iP*	**P**	**22 49 11.3**	**-2.9**
	comp=Z,558nm,1.5s,mb6.3						
LIC				LR	LR		
	comp=Z,33μm,19.0s,MS6.1						
DBIC	**Dimbokro**	**34.13**	**90**	P	**P**	**22 49 12.9**	**-2.4**
	comp=Z,65nm,0.6s,mb5.7,baz=261,slow=10,SNR=61						
DBIC				S	**S**	**22 54 35.4**	**-7.2**
	comp=Z,19nm,1.2s,baz=245,slow=21,SNR=1.6						
DBIC				LR	LR	22 58 56.4	
	comp=Z,50μm,21.0s,MS6.2,baz=250,slow=29						
DBIC	**Dimbokro**	**34.13**	**90**	P	**P**	**22 49 12.9**	**-2.4**
DBIC				S	**S**	**22 54 35.4**	**-7.3**
DBIC	**Dimbokro**	**34.13**	**90**	P	**P**	**22 49 12.9**	**-2.4**
DBIC				S	**S**	**22 54 35.4**	**-7.2**
DBIC				LR	LR	22 58 56.4	
KIC	**Kosan Boka**	**34.27**	**91**	*eP*	**P**	**22 49 14.9**	**-1.6**
	comp=Z,4μm,2.1s,mb7.0						
ROSC	**El Rosal**	**35.00**	**267**	P	**P**	**22 49 22.7**	**-0.2**
	comp=Z,172nm,0.8s,mb6.0,baz=85,slow=3.5,SNR=131						
ROSC				S	**S**	**22 54 47.8**	**-8.3**
	comp=Z,2.4nm,0.3s,baz=94,slow=21,SNR=2.0						
ROSC				LR	LR	23 03 21.2	
	comp=Z,59μm,20.8s,MS6.3,baz=284,slow=36						
ROSC	**El Rosal**	**35.00**	**267**	⇑*iP*	**P**	**22 49 24.1**	**+1.3**
ROSC	**El Rosal**	**35.00**	**267**	*e*PP	PP	22 50 40.8	-1.3
ROSC	**El Rosal**	**35.00**	**267**	⇑*iP*	**P**	**22 49 24.1**	**+1.2**
ROSC				*e*PP	PP	22 50 40.8	-1.3
ROSC				*e*S	**S**	**22 54 52.4**	**-3.6**
JHA	**Jbel Lahdid**	**36.33**	**46**	*i P*	**P**	**22 49 30.0**	**-4.1**
CIA	**Chichaoua**	**36.73**	**46**	*i P*	**P**	**22 49 38.0**	**+0.5**
OUK	**Oukaimeden**	**37.19**	**48**	*i P*	**P**	**22 49 40.0**	**-1.4**
LPAZ	**La Paz**	**37.49**	**230**	P	**P**	**22 49 43.8**	**-0.2**
	comp=Z,325nm,1.0s,mb6.0,baz=48,slow=7.9,SNR=237						
LPAZ				PP	PP	22 51 06.5	-3.1
	comp=Z,37nm,1.0s,baz=328,slow=10,SNR=0.9						
LPAZ				S	**S**	**22 55 29.2**	**-4.8**
	comp=Z,9.5nm,1.0s,baz=203,slow=17,SNR=2.1						
LPAZ				LR	LR	23 04 32.3	
	comp=Z,57μm,21.5s,MS6.3,baz=50,slow=35						
LPAZ	**La Paz**	**37.49**	**230**	P	**P**	**22 49 43.8**	**-0.3**
LPAZ						22 51 06.5	
LPAZ				S	**S**	**22 55 29.2**	**-4.8**
LPAZ	**La Paz**	**37.49**	**230**	PP	PP	22 51 06.5	-3.1
LPAZ				S	**S**	**22 55 29.2**	**-4.8**
AVE	**Averroes**	**38.63**	**45**	P	**P**	**22 49 52.5**	**-1.0**
TZC	**Tazercounte**	**38.68**	**47**	*i P*	**P**	**22 49 54.0**	**0.0**
KIB	**El Ksiba**	**39.23**	**47**	*i P*	**P**	**22 49 58.5**	**0.0**
RTC	**Rabat Centre**	**39.40**	**45**	PFAKE		22 50 10.0	+10
RTC				LR	LR		
	comp=Z,93μm,22.0s,MS6.6						
OTAV	**Otavalo**	**39.84**	**261**	⇑*iP*	**P**	**22 50 03.9**	**0.0**
OTAV	**Otavalo**	**39.84**	**261**	*e*PP	PP	22 51 32.1	-3.3
OTAV	**Otavalo**	**39.84**	**261**	⇑*iP*	**P**	**22 50 03.9**	**-0.1**
OTAV				*e*PP	PP	22 51 32.1	-3.3
OTAV				*e*S	**S**	**22 56 13.7**	**+3.9**
OTAV				LR	LR		
	comp=Z,25μm,19.0s,MS6.1						
PFVI	**Vila Bisbo**	**39.94**	**39**	*eP*	**P**	**22 50 03.9**	**-0.5**
	comp=Z,414nm,1.8s,mb5.8						
PFVI	**Vila Bisbo**	**39.94**	**39**	*e*PP	PP	22 51 39.1	+3.0
PFVI				*e*S	**S**	**22 56 11.1**	**+0.5**
PFVI	**Vila Bisbo**	**39.94**	**39**	*e*PP	PP	22 51 39.1	+3.0
PFVI				*e*S	**S**	**22 56 11.1**	**+0.5**
BCIP	**Isla Barro Col**	**40.13**	**275**	*eP*	**P**	**22 50 06.7**	**+0.4**
BCIP	**Isla Barro Col**	**40.13**	**275**	*e*PP	PP	22 51 38.5	0.0
BCIP	**Isla Barro Col**	**40.13**	**275**	*eP*	**P**	**22 50 06.7**	**+0.4**
BCIP				*e*PP	PP	22 51 38.5	0.0
BCIP				*e*ScP	ScP	22 56 05.4	+3.8
BCIP				LR	LR		
	comp=Z,19μm,21.0s,MS5.9						
MORF	**Marmelete**	**40.16**	**39**	*eP*	**P**	**22 50 06.4**	**+0.2**
	comp=Z,328nm,1.6s,mb5.7						
MORF	**Marmelete**	**40.16**	**39**	*e*PP	PP	22 51 39.9	+1.4
MORF				*e*S	**S**	**22 56 18.4**	**+4.5**
MORF	**Marmelete**	**40.16**	**39**	*e*PP	PP	22 51 39.9	+1.4
MORF				*e*S	**S**	**22 56 18.4**	**+4.5**
CZD	**Col de Zad**	**40.18**	**47**	*i P*	**P**	**22 50 05.0**	**-1.5**
ARE	**Arequipa**	**40.18**	**233**	*eP*	**P**	**22 50 04.0**	**-2.7**
ZFT	**Errachidia**	**40.20**	**49**	*i P*	**P**	**22 50 07.0**	**+0.4**
PTEO	**Sao Teotonio**	**40.26**	**39**	*eP*	**P**	**22 50 07.7**	**+0.6**
	comp=Z,306nm,1.6s,mb5.7						
PTEO				*e*S	**S**	**22 56 17.9**	**+2.5**
IFR	**Ifrane**	**40.37**	**46**	P	**P**	**22 50 06.0**	**-2.0**
MDT	**Midelt**	**40.38**	**48**	P	**P**	**22 50 08.0**	**-0.2**
	comp=Z,60nm,1.0s,mb5.2,baz=244,slow=8.5,SNR=40						
MDT				PP	PP	22 51 38.5	-2.6
	comp=Z,10nm,1.0s,baz=192,slow=2.9,SNR=1.6						
MDT				S	**S**	**22 56 13.1**	**-4.3**
	comp=Z,11nm,1.3s,baz=296,slow=15,SNR=1.7						
MDT	**Midelt**	**40.38**	**48**	PP	PP	22 51 38.5	-2.6
TOA0	**Torodi Ar. Sit**	**40.51**	**79**	*eP*	**P**	**22 50 06.8**	**-2.7**
TOA0				*e*PP	PP	22 51 40.5	-2.2
TOA0				*e*PcP	PcP	22 52 13.8	+1.6
TOA0				*e*S	**S**	**22 56 17.3**	**-2.4**
TORD	**Torodi Ar. Bea**	**40.51**	**79**	P	**P**	**22 50 06.6**	**-2.9**
	comp=Z,121nm,0.7s,mb5.8,baz=271,slow=8.1,SNR=145						
TORD				S	**S**	**22 56 03.6**	**-16**
	comp=Z,9.5nm,1.1s,baz=256,slow=24,SNR=4.4						
TORD				LR	LR	23 04 15.7	
	comp=Z,86μm,20.6s,MS6.6,baz=275,slow=32						
TORD	**Torodi Ar. Bea**	**40.51**	**79**	P	**P**	**22 50 06.6**	**-2.9**
TORD				S	**S**	**22 56 03.7**	**-16**
TORD	**Torodi Ar. Bea**	**40.51**	**79**	P	**P**	**22 50 06.6**	**-2.9**
TORD				S	**S**	**22 56 03.6**	**-16**
TORD				LR	LR	23 04 15.7	
PBDV	**Barranco-do-Ve**	**40.57**	**

comp=Z,2μm,2.4s,mb6.4
PTOM Tomar 41.77 36 *e*P **P 22 50 19.5 0.0**
comp=Z,532nm,1.6s,mb6.0
PTOM *e*S **S 22 56 43.6 +5.8**
PESTR Estremoz 41.78 38 *e*P **P 22 50 19.1 -0.5**
comp=Z,263nm,2.1s,mb5.6
PESTR *e*S **S 22 56 41.5 +3.5**
ATAH Atahualpa 41.82 250 LR LR 23 08 51.4
comp=Z,63μm,20.4s,MS6.5,baz=71,slow=38
EBAD Badajoz 42.07 38 P **P 22 50 22.3 +0.4**
comp=Z,6μm,4.2s
EBAD Badajoz 42.07 38 P **P 22 50 22.3 +0.3**
comp=Z,6μm,4.2s
LVC Limon Verde 42.16 223 P **P 22 50 20.2 -2.6**
comp=Z,163nm,1.0s,mb5.7,baz=56,slow=9.1,SNR=80
LVC S **S 22 56 24.7 -19**
comp=Z,3.3nm,0.4s,baz=186,slow=9.6,SNR=6.1
LVC LR LR 23 08 31.7
comp=Z,57μm,19.3s,MS6.5,baz=41,slow=37
LVC Limon Verde 42.16 223 P **P 22 50 20.2 -2.6**
LVC S **S 22 56 24.7 -19**
LVC Limon Verde 42.16 223 P **P 22 50 20.2 -2.7**
LVC S **S 22 56 24.7 -19**
LVC LR LR 23 08 31.7
EMIJ Mijas 42.23 43 P **P 22 50 23.0 -0.3**
comp=Z,4μm,4.1s
EMIJ Mijas 42.23 43 P **P 22 50 23.0 -0.3**
comp=Z,4μm,4.1s
PMRV Marv??o 42.26 37 *e*P **P 22 50 23.5 0.0**
comp=Z,675nm,1.7s,mb6.1
PMRV *e*S **S 22 56 46.8 +1.8**
NNA Nana 42.38 242 P **P 22 50 23.0 -1.8**
comp=Z,888nm,1.2s,mb6.4,SNR=23
NNA Nana 42.38 242 P **P 22 50 23.2 -1.6**
comp=Z,94nm,1.0s,mb5.5,baz=50,slow=7.0,SNR=23
NNA PP PP 22 52 00.9 -2.1
comp=Z,58nm,1.1s,baz=253,slow=4.8,SNR=2.3
NNA S **S 22 56 33.5 -14**
comp=Z,2.7nm,0.3s,baz=127,slow=4.3,SNR=2.2
NNA LR LR 23 09 10.9
comp=Z,64μm,18.5s,MS6.5,baz=47,slow=38
NNA Nana 42.38 242 PP PP 22 52 00.9 -2.1
PCBR Castelo Branco 42.47 37 *e*P **P 22 50 25.7 +0.5**
comp=Z,231nm,2.0s,mb5.6
PCBR *e*S **S 22 56 50.2 +2.1**
ECAB El Cabril 42.66 40 P **P 22 50 26.9 +0.1**
comp=Z,7μm,3.3s
ECAB El Cabril 42.66 40 P **P 22 50 26.9 +0.1**
comp=Z,7μm,3.3s
MTE Manteigas 42.78 36 *e*P **P 22 50 27.6 -0.1**
comp=Z,322nm,1.6s,mb5.8
MTE Manteigas 42.78 36 *e*PP PP 22 52 10.8 +3.9
MTE *e*S **S 22 56 52.8 +0.1**
MTE Manteigas 42.78 36 *e*PP PP 22 52 11.7 +4.8
MTE Manteigas 42.78 36⇑ *e*P **P 22 50 27.4 -0.3**
comp=Z,204nm,1.2s,mb5.7
MTE *e*PP PP 22 52 11.7 +4.8
MTE *e*S **S 22 56 55.9 +3.1**
MTE LR LR
comp=Z,94μm,22.0s,MS6.6
PVIS Viseu 42.78 36 *e*P **P 22 50 27.9 +0.2**
comp=Z,285nm,1.5s,mb5.8
PVIS *e*S **S 22 56 57.5 +4.8**
ZAI Zaio 42.80 46 *i*P **P 22 50 26.0 -2.0**
ELOJ Sierra Loja 42.97 42 P **P 22 50 29.8 +0.5**
ELOJ pmax pmax
comp=Z,380nm,1.9s,mb5.8
ELOJ Sierra Loja 42.97 42 P **P 22 50 29.8 +0.5**
comp=Z,380nm,1.9s,mb5.8
ELOJ Sierra Loja 42.97 42 P **P 22 50 29.8 +0.5**
comp=Z,380nm,1.9s,mb5.8
EALB Alboran 43.09 45 P **P 22 50 29.7 -0.6**
comp=Z,5μm,3.0s
EALB Alboran 43.09 45 P **P 22 50 29.7 -0.6**
comp=Z,5μm,3.0s
ELUQ Luque 43.12 42 P **P 22 50 30.8 +0.3**
ELUQ pmax pmax
comp=Z,1μm,2.2s,mb6.2
ELUQ Luque 43.12 42 P **P 22 50 30.8 +0.3**
comp=Z,1μm,2.2s,mb6.2
ERON Agron 43.13 43 P **P 22 50 30.8 +0.2**
comp=Z,235nm,1.8s,mb5.6
ERON Agron 43.13 43 P **P 22 50 30.8 +0.2**
comp=Z,235nm,1.8s,mb5.6
EGUA Guajares 43.19 43 P **P 22 50 29.6 -1.5**
EGUA pmax pmax
comp=Z,229nm,0.9s,mb5.9
EGUA Guajares 43.19 43 P **P 22 50 29.6 -1.5**
comp=Z,229nm,0.9s,mb5.9
EGUA Guajares 43.19 43 P **P 22 50 29.6 -1.5**
comp=Z,229nm,0.9s,mb5.9
EADA Adamuz 43.26 41 P **P 22 50 31.1 -0.5**
comp=Z,4μm,4.6s
EADA Adamuz 43.26 41 P **P 22 50 31.1 -0.5**
comp=Z,4μm,4.6s
PCAB Cabril 43.36 34 *e*P **P 22 50 32.7 +0.3**
comp=Z,352nm,1.6s,mb5.8
PCAB *e*S **S 22 57 02.1 +0.9**
ECOG Cogollos-Vega 43.43 43 P **P 22 50 32.8 -0.3**
ECOG pmax pmax
comp=Z,222nm,1.0s,mb5.8
ECOG Cogollos-Vega 43.43 43 P **P 22 50 32.8 -0.3**
comp=Z,222nm,1.0s,mb5.8
ECOG Cogollos-Vega 43.43 43 P **P 22 50 32.8 -0.3**
comp=Z,222nm,1.0s,mb5.8
ELOB Lobios 43.45 34 P **P 22 50 33.3 +0.2**
comp=Z,3μm,3.1s
ELOB Lobios 43.45 34 P **P 22 50 33.3 +0.2**
comp=Z,3μm,3.1s
CEN1 Los Morros 43.55 223⇑ *i*P **P 22 50 34.5 +0.3**
MVO Moncorvo 43.57 36 *e*P **P 22 50 33.7 -0.4**
comp=Z,224nm,1.5s,mb5.7
MVO *e*S **S 22 57 06.7 +2.4**
EMAZ Mazaricos 43.68 32 P **P 22 50 37.0 +2.0**
comp=Z,4μm,3.5s
EMAZ Mazaricos 43.68 32 P **P 22 50 37.0 +2.0**
comp=Z,4μm,3.5s
EBER Berja 43.69 43 P **P 22 50 35.1 0.0**
comp=Z,7μm,4.3s
EBER Berja 43.69 43 P **P 22 50 35.1 0.0**
comp=Z,7μm,4.3s
EBAN Banos Encina 43.77 41 P **P 22 50 35.6 -0.2**
EBAN pmax pmax
comp=Z,298nm,1.5s,mb5.8
EBAN Banos Encina 43.77 41 P **P 22 50 35.6 -0.2**
comp=Z,298nm,1.5s,mb5.8
EBAN Banos Encina 43.77 41 P **P 22 50 35.6 -0.2**
comp=Z,298nm,1.5s,mb5.8
STS Santiago 43.87 33 P **P 22 50 37.7 +1.2**
STS pmax pmax
comp=Z,245nm,1.4s,mb5.7
STS Santiago 43.87 33 P **P 22 50 37.7 +1.2**
comp=Z,245nm,1.4s,mb5.7
STS Santiago 43.87 33 P **P 22 50 37.6 +1.2**
comp=Z,245nm,1.4s,mb5.7
EMMW East Machias 43.90 331 *e*P **P 22 50 36.7 0.0**
EMMW East Machias 43.90 331 *e*P **P 22 50 36.7 +0.1**
EQES Quesada 44.05 42 P **P 22 50 37.6 -0.4**
comp=Z,5μm,3.2s
EQES Quesada 44.05 42 P **P 22 50 37.6 -0.4**
comp=Z,5μm,3.2s
BRYW Bryant College 44.10 325 *e*P **P 22 50 38.4 +0.1**
BRYW Bryant College 44.10 325 *e*PP PP 22 52 19.9 -1.1
BRYW Bryant College 44.10 325 *e*P **P 22 50 38.4 0.0**
BRYW *e*PP PP 22 52 19.9 -1.2
BRYW *e*S **S 22 57 13.9 +1.9**
PAB San Pablo 44.20 39⇑ *e*P **P 22 50 38.5 -0.7**
PAB *e* 22 52 29.7
PAB *e*S **S 22 57 17.3 +3.8**
PAB pmax pmax
comp=Z,83nm,1.1s,mb5.4
PAB MLR MLR
comp=Z,128μm,20.0s,MS6.8
PAB San Pablo 44.20 39 *e*P **P 22 50 38.5 -0.7**
comp=Z,83nm,1.1s,mb5.4
PAB San Pablo 44.20 39 *e*PcP PcP 22 52 29.7 +5.7
comp=Z,28μm,20.0s
PAB *e*S **S 22 57 17.3 +3.8**
PAB San Pablo 44.20 39⇑ *e*P **P 22 50 38.5 -0.7**
comp=Z,83nm,1.1s,mb5.4
PAB *e*PP PP 22 52 29.7 +7.5
PAB *e*S **S 22 57 17.3 +3.7**
PAB LR LR
comp=Z,128μm,20.0s,MS6.8
ECAL Calabor 44.24 35 P **P 22 50 39.7 +0.2**
comp=Z,4μm,3.3s
ECAL Calabor 44.24 35 P **P 22 50 39.7 +0.3**
comp=Z,4μm,3.3s
WES Weston 44.28 326 *i*P **P 22 50 41.2 +1.4**
comp=Z,16μm,21.0s
WES *e*S **S 22 57 20.4 +5.7**
WES Weston 44.28 326⇓ *i*P **P 22 50 41.2 +1.4**
WES *e*S **S 22 57 20.4 +5.8**
WES LR LR
comp=Z,16μm,21.0s,MS5.9
ERUA La Rua 44.31 34 P **P 22 50 40.4 +0.4**
ERUA pmax pmax
comp=Z,512nm,1.8s,mb6.0
ERUA La Rua 44.31 34 P **P 22 50 40.4 +0.4**
comp=Z,512nm,1.8s,mb6.0
ERUA La Rua 44.31 34 P **P 22 50 40.4 +0.4**
comp=Z,512nm,1.8s,mb6.0
EHUE Huescar 44.37 43 P **P 22 50 39.6 -1.0**
EHUE pmax pmax
comp=Z,467nm,1.5s,mb6.0
EHUE Huescar 44.37 43 P **P 22 50 39.6 -1.0**
comp=Z,467nm,1.5s,mb6.0
EHUE Huescar 44.37 43 P **P 22 50 39.6 -1.0**
comp=Z,467nm,1.5s,mb6.0
DWPF Disney 44.45 302 *e*P **P 22 50 42.0 +0.6**
comp=Z,905nm,1.3s,mb6.3
DWPF Disney 44.45 302 *e*PcP PcP 22 52 32.2 +7.1
DWPF Disney 44.45 302 *e*P **P 22 50 42.0 +0.7**
comp=Z,905nm,1.3s,mb6.3
DWPF *e*PcP PcP 22 52 32.2 +7.1
DWPF *e*S **S 22 57 17.3 -0.2**
DWPF LR LR
comp=Z,14μm,22.0s,MS5.8
CNNC Cliffs of the 44.47 313⇓ *i*P **P 22 50 42.1 +0.7**
comp=Z,835nm,1.5s,mb6.2
CNNC Cliffs of the 44.47 313 *e*PcP PcP 22 52 18.2 -6.8
CNNC Cliffs of the 44.47 313⇓ *i*P **P 22 50 42.1 +0.7**
comp=Z,835nm,1.5s,mb6.2
CNNC *e*PcP PcP 22 52 18.2 -6.9
CNNC *e*S **S 22 57 14.0 -3.5**
CNNC LR LR
comp=Z,69μm,22.0s,MS6.5
HRV Adam Dziewonsk 44.50 326 *e*P **P 22 50 41.8 +0.3**
HRV *e* 22 52 20.3
HRV *e*S **S 22 57 14.9 -2.8**
HRV pmax pmax
comp=Z,2μm,2.0s,mb6.4
HRV MLR MLR
comp=Z,26μm,21.0s,MS6.1
HRV Adam Dziewonsk 44.50 326 *e*P **P 22 50 41.8 +0.3**
comp=Z,2μm,2.0s,mb6.4
HRV Adam Dziewonsk 44.50 326 *e*PcP PcP 22 52 20.3 -4.7
comp=Z,26μm,21.0s
HRV *e*S **S 22 57 14.9 -2.8**
HRV Adam Dziewonsk 44.50 326 *e*P **P 22 50 41.8 +0.3**
comp=Z,2μm,2.0s,mb6.4
HRV *e*PcP PcP 22 52 20.3 -4.7
HRV *e*S **S 22 57 14.9 -2.9**
HRV LR LR
comp=Z,26μm,21.0s,MS6.1
ESDC Sonseca Array 44.52 39 P **P 22 50 40.7 -1.1**
comp=Z,34nm,1.0s,mb5.2,baz=236,slow=8.7,SNR=27
ESDC PP PP 22 52 25.3 -0.2
comp=Z,9.0nm,1.1s,baz=243,slow=6.5,SNR=2.1
ESDC LR LR 23 05 47.9
comp=Z,102μm,20.2s,MS6.7,baz=240,slow=31
ESDC Sonseca Array 44.52 39 P **P 22 50 41.2 -0.5**
comp=Z,540nm,3.1s
ESDC Sonseca Array 44.52 39 P **P 22 50 41.2 -0.5**
comp=Z,540nm,3.1s
USTO Oran 44.74 46 P **P 22 50 48.0 +4.4**
QUA2 Belchertown 44.80 325⇓ *e*P **P 22 50 44.3 +0.4**
comp=Z,1μm,1.4s,mb6.7
QUA2 Belchertown 44.80 325 *e*PcP PcP 22 52 23.8 -2.2
QUA2 Belchertown 44.80 325⇓ *e*P **P 22 50 44.3 +0.3**
comp=Z,1μm,1.4s,mb6.7
QUA2 *e*PcP PcP 22 52 23.8 -2.2
QUA2 *e*S **S 22 57 18.1 -4.0**
CPNY Central Park 44.82 322⇓ *i*P **P 22 50 45.7 +1.6**
comp=Z,869nm,1.6s,mb6.4
CPNY Central Park 44.82 322 *e*PcP PcP 22 52 25.5 -0.6
CPNY Central Park 44.82 322⇓ *i*P **P 22 50 45.7 +1.6**
comp=Z,869nm,1.6s,mb6.4
CPNY *e*PcP PcP 22 52 25.5 -0.7
EVIA Vianos 44.88 42 P **P 22 50 46.2 +1.6**
EVIA pmax pmax
comp=Z,232nm,1.0s,mb6.1
EVIA Vianos 44.88 42 P **P 22 50 46.2 +1.6**
comp=Z,232nm,1.0s,mb6.1
EVIA Vianos 44.88 42 P **P 22 50 46.2 +1.6**
comp=Z,232nm,1.0s,mb6.1
PAL Palisades 44.92 322 *e*P **P 22 50 45.5 +0.6**
PAL Palisades 44.92 322⇓ *i*P **P 22 50 45.3 +0.4**
PAL Palisades 44.92 322 *e*PcP PcP 22 52 23.9 -2.6
PAL Palisades 44.92 322⇓ *i*P **P 22 50 45.3 +0.4**
PAL *e*PcP PcP 22 52 23.9 -2.6
EPON Pontenova 44.92 33 P **P 22 50 47.0 +2.1**
comp=Z,4μm,2.9s,mb6.8
EPON Pontenova 44.92 33 P **P 22 50 47.0 +2.1**
comp=Z,4μm,2.9s,mb6.8
GUD Guadarrama 44.97 38 P **P 22 50 45.2 -0.1**
GUD pmax pmax
comp=Z,183nm,1.2s,mb5.9
GUD Guadarrama 44.97 38 P **P 22 50 45.2 -0.1**
comp=Z,183nm,1.2s,mb5.9
GUD Guadarrama 44.97 38 P **P 22 50 45.2 0.0**
comp=Z,183nm,1.2s,mb5.9
BRNJ Basking Ridge 45.12 322⇓ *i*P **P 22 50 48.1 +1.5**
comp=Z,1μm,1.9s,mb6.5
BRNJ Basking Ridge 45.12 322 *e*PcP PcP 22 52 29.4 +2.2
BRNJ Basking Ridge 45.12 322⇓ *i*P **P 22 50 48.1 +1.6**
comp=Z,1μm,1.9s,mb6.5
BRNJ *e*PcP PcP 22 52 29.4 +2.2
FFD Franklin Falls 45.18 327 *e*P **P 22 50 47.6 +0.6**
comp=Z,9μm,2.1s,mb7.3
FFD Franklin Falls 45.18 327 *e*PcP PcP 22 52 28.8 +1.5
FFD Franklin Falls 45.18 327 *e*P **P 22 50 47.6 +0.7**
comp=Z,9μm,2.1s,mb7.3
FFD *e*PcP PcP 22 52 28.8 +1.5
FFD *e*S **S 22 57 25.2 -2.5**
PKME Peaks-Kenny Pk 45.20 330⇓ *i*P **P 22 50 47.8 +0.8**
comp=Z,1μm,1.8s,mb6.5
PKME PcP PcP 22 52 35.6 +8.3
PKME *e*S **S 22 57 15.1 -13**
PKME LR LR
comp=Z,33μm,20.0s,MS6.3
NHSC New Hope 45.24 309 *e*P **P 22 50 48.6 +1.0**
comp=Z,1μm,1.4s,mb6.7
NHSC New Hope 45.24 309 *e*PcP PcP 22 52 29.8 +2.1
NHSC New Hope 45.24 309 *e*P **P 22 50 48.6 +1.0**
comp=Z,1μm,1.4s,mb6.7
NHSC *e*PcP PcP 22 52 29.8 +2.1
NHSC *e*S **S 22 57 30.9 +2.1**
NHSC LR LR
comp=Z,41μm,22.0s,MS6.3
EMUR La Murta 45.30 43 P **P 22 50 46.9 -1.1**
comp=Z,3μm,4.9s
EMUR La Murta 45.30 43 P **P 22 50 46.9 -1.1**
comp=Z,3μm,4.9s
CART Cartagena 45.33 44⇑ *e*P **P 22 50 46.6 -1.7**
comp=Z,216nm,1.1s,mb6.0
CART Cartagena 45.33 44 *e*PcP PcP 22 52 33.8 +5.8
CART Cartagena 45.33 44⇑ *e*P **P 22 50 46.6 -1.7**
comp=Z,216nm,1.1s,mb6.0
CART *e*PcP PcP 22 52 33.8 +5.8
CART *e*S **S 22 57 23.7 -6.3**
URVA University of 45.35 316 *e*P **P 22 50 48.4 0.0**
URVA University of 45.35 316 *e*PcP PcP 22 52 28.8 +0.8
URVA University of 45.35 316 *e*P **P 22 50 48.4 -0.1**
URVA *e*PcP PcP 22 52 28.8 +0.7
URVA *e*S **S 22 57 29.8 -0.5**
TAM Tamanrasset 45.35 66 *e*P **P 22 50 49.7 +1.0**
comp=Z,318nm,1.6s,mb6.0
TAM *e*PcP PcP 22 52 47.3 +19
TAM *e*S **S 22 57 36.6 +5.9**
ETOB Tobarra 45.51 42 P **P 22 50 49.8 +0.1**
comp=Z,6μm,5.0s
ETOB Tobarra 45.51 42 P **P 22 50 49.8 +0.1**
comp=Z,6μm,5.0s
HNH Hanover 45.68 326 *e*P **P 22 50 51.5 +0.6**
HNH Hanover 45.68 326 *e*PcP PcP 22 52 31.0 +1.9
HNH Hanover 45.68 326 *e*P **P 22 50 51.5 +0.5**
HNH *e*PcP PcP 22 52 30.9 +1.9
HNH *e*ScP ScP 22 56 27.8 +4.4
HNH *e*S **S 22 57 43.8 +8.8**
MADN Villa Maderas 45.70 278 *e*P **P 22 50 51.7 +0.2**
COW Cow Castle Cre 45.75 309 *e*P **P 22 50 52.4 +0.8**
COW Cow Castle Cre 45.75 309 *e*P **P 22 50 52.4 +0.8**
CONN Concepcion 45.78 278 *e*P **P 22 50 52.6 +0.4**
CONN AMb AMB 22 51 01.8
comp=Z,2μm,1.6s,mb6.9
LBNH Lisbon 45.84 327 *e*P **P 22 50 52.8 +0.6**
LBNH *e* 22 52 30.6
LBNH *e* 22 52 39.6
LBNH *e*S **S 22 57 34.2 -3.0**
LBNH MLR MLR
comp=Z,19μm,19.0s,MS6.0
LBNH Lisbon 45.84 327 *e*PcP PcP 22 52 30.6 +1.0
LBNH *e*S **S 22 57 34.2 -3.0**
SDMD Soldier's Deli 45.85 319 *e*P **P 22 50 53.1 +0.8**
comp=Z,1μm,1.4s,mb6.7
SDMD Soldier's Deli 45.85 319 *e*PP PP 22 52 43.1 +3.4
SDMD Soldier's Deli 45.85 319 *e*P **P 22 50 53.1 +0.8**
comp=Z,1μm,1.4s,mb6.7
SDMD *e*PP PP 22 52 43.1 +3.4
SDMD *e*S **S 22 57 32.9 -4.6**
MVL Millersville 45.85 320 *e*P **P 22 50 47.9 -4.5**
comp=Z,1μm,1.5s,mb6.8
MVL *e*S **S 22 57 35.6 -1.9**
MVL Millersville 45.85 320 *e*P **P 22 50 47.9 -4.4**
comp=Z,1μm,1.5s,mb6.8
MVL *e*S **S 22 57 35.6 -1.9**
ETRT Tiaret 45.92 48 P **P 22 50 53.5 +0.5**
EARI Arriondas 45.98 35 P **P 22 50 56.3 +3.0**
comp=Z,4μm,3.6s
EARI Arriondas 45.98 35 P **P 22 50 56.3 +3.1**
comp=Z,4μm,3.6s
EANR 'Ain N'Sour 46.03 47 P **P 22 50 54.0 +0.2**
APON Apoyo 46.22 279 *e*P **P 22 50 56.1 +0.5**
ECHA Ech Chlef 46.31 47 P **P 22 50 57.0 +1.0**
HUEN 46.32 279 *e*P **P 22 50 57.2 +0.8**
ETOR Torete 46.37 39 P **P 22 50 56.6 +0.2**
ETOR pmax pmax
comp=Z,89nm,1.9s,mb5.5
ETOR Torete 46.37 39 P **P 22 50 56.6 +0.2**
comp=Z,89nm,1.9s,mb5.5
ETOR Torete 46.37 39 P **P 22 50 56.6 +0.2**
comp=Z,89nm,1.9s,mb5.5
MGAN Managua 46.39 279 *e*P **P 22 50 57.8 +0.8**
TISN Laguna Tiscapa 46.42 279 *e*P **P 22 50 57.9 +0.7**
EBEN Beniarda 46.43 43 P **P 22 50 56.7 -0.2**
comp=Z,3μm,3.0s
EBEN Beniarda 46.43 43 P **P 22 50 56.7 -0.2**
comp=Z,3μm,3.0s
EBNR Beni Rached 46.49 47 P **P 22 51 00.0 +2.6**
APYN Apoyeque 46.49 279 *e*P **P 22 50 57.3 -0.5**
JSC Jenkinsville 46.54 310 *e*P **P 22 50 57.6 -0.2**
CSAN 46.57 279 *e*P **P 22 50 59.1 +0.8**
COPN Copaltepe 46.73 279 *e*P **P 22 50 59.7 +0.1**
BINY Binghamton 46.88 322 *e*P **P 22 51 01.0 +0.6**
comp=Z,1μm,1.5s,mb6.8
BINY Binghamton 46.88 322 *e*PP PP 22 52 59.5 +9.0
BINY Binghamton 46.88 322 *e*P **P 22 51 01.0 +0.6**
comp=Z,1μm,1.5s,mb6.8
BINY *e*PP PP 22 52 59.5 +9.0
BINY *e*ScP ScP 22 56 26.7 -1.7
BINY *e*S **S 22 57 50.4 -1.7**
BINY LR LR
comp=Z,36μm,22.0s,MS6.3
NCB Newcomb 46.93 325 *e*P **P 22 51 01.1 +0.4**
comp=Z,905nm,1.6s,mb6.7
NCB *e*PcP PcP 22 52 29.3 -4.1
NCB *e*PP PP 22 52 51.7 +0.7
NCB *e*ScP ScP 22 56 25.5 -3.1
NCB *e*S **S 22 57 47.5 -5.2**
NCB LR LR
comp=Z,13μm,19.0s,MS5.9
ELAN Lanestosa 46.95 36 P **P 22 51 01.0 +0.1**
comp=Z,4μm,3.5s
TELN Telica 46.97 280 *e*P **P 22 51 02.1 +0.7**
TEL3 Telica 3 46.98 280 *e*P **P 22 51 01.6 0.0**
EMOS Mosqueruela 47.13 41 P **P 22 51 02.8 +0.4**
comp=Z,4μm,3.1s
EMOS Mosqueruela 47.13 41 P **P 22 51 02.8 +0.5**
comp=Z,4μm,3.1s
FRNY Flat Rock 47.13 327 *e*P **P 22 51 02.1 -0.2**
FRNY Flat Rock 47.13 327 *e*PP PP 22 52 52.1 -1.0
FRNY Flat Rock 47.13 327 *e*P **P 22 51 02.1 -0.2**
FRNY *e*PP PP 22 52 52.1 -1.0
BLA Blacksburg 47.19 314⇑ *e*P **P 22 51 03.6 +0.7**
BLA *e* 22 52 53.9
BLA *e*S **S 22 57 49.7 -7.1**
BLA pmax pmax
comp=Z,1μm,1.5s,mb6.9
BLA MLR MLR
comp=Z,57μm,21.0s,MS6.5
BLA Blacksburg 47.19 314⇑ *e*P **P 22 51 03.6 +0.7**
comp=Z,1μm,1.5s,mb6.9
BLA Blacksburg 47.19 314 *e*PP PP 22 52 53.9 0.0
BLA *e*S **S 22 57 49.7 -7.1**
BLA Blacksburg 47.19 314⇑ *e*P **P 22 51 03.6 +0.6**
comp=Z,1μm,1.5s,mb6.9
BLA *e*PP PP 22 52 53.9 0.0
BLA *e*S **S 22 57 49.7 -7.0**
BLA LR LR
comp=Z,57μm,21.0s,MS6.5
TGUH Tegucigalpa,Un 47.43 282⇑ *e*P **P 22 51 05.5 +0.4**
TGUH Tegucigalpa,Un 47.43 282 PcP PcP 22 52 39.4 +3.6
TGUH Tegucigalpa,Un 47.43 282⇑ *e*P **P 22 51 05.5 +0.4**
TGUH PcP PcP 22 52 39.4 +3.6
TGUH *e*PP PP 22 53 01.9 +5.6
TGUH *e*S **S 22 57 51.7 -9.0**
TGUH LR LR
comp=Z,29μm,21.0s,MS6.2
ELN Prospectdale 47.43 314 *e*P **P 22 51 04.8 0.0**
ELN Prospectdale 47.43 314 *e*P **P 22 51 04.8 0.0**
EMHD Djebel Mahouad 47.48 47 P **P 22 51 06.0 +0.8**
LONY Lake Ozonia 47.54 326 *e*P **P 22 51 06.1 +0.6**
LONY Lake Ozonia 47.54 326 *e*PP PP 22 52 55.9 -1.0
LONY Lake Ozonia 47.54 326 *e*P **P 22 51 06.1 +0.6**
LONY *e*PP PP 22 52 55.9 -1.0
LONY *e*ScP ScP 22 56 38.3 +7.1
LONY *e*S **S 22 58 01.2 -0.2**
LONY LR LR
comp=Z,15μm,21.0s,MS5.9
EIBI Ibiza 47.65 43 P **P 22 51 06.2 -0.2**
comp=Z,3μm,3.4s
EIBI Ibiza 47.65 43 P **P 22 51 06.2 -0.3**
comp=Z,3μm,3.4s
LCO Las Campanas 47.77 218 *e*P **P 22 51 06.1 -1.4**
comp=Z,366nm,1.5s,mb6.3
LCO Las Campanas 47.77 218 *e*PP PP 22 52 58.2 -1.2
LCO Las Campanas 47.77 218 *e*P **P 22 51 06.1 -1.4**
comp=Z,366nm,1.5s,mb6.3
LCO *e*PP PP 22 52 58.2 -1.2
LCO *e*S **S 22 58 02.5 -2.7**
LCO LR LR
comp=Z,100μm,20.0s,MS6.8
ESAC San Caprasio 47.86 39 P **P 22 51 08.5 +0.4**
comp=Z,5μm,3.5s
ESAC San Caprasio 47.86 39 P **P 22 51 08.5 +0.5**
comp=Z,5μm,3.5s
GOGA Godfrey 47.90 308 *e*P **P 22 51 07.6 -0.9**
GOGA 22 52 35.2
GOGA *e* 22 52 58.7
GOGA *e*S **S 22 58 05.6 -1.3**
GOGA MLR MLR
comp=Z,34μm,21.0s,MS6.3
GOGA Godfrey 47.90 308 *e*P **P 22 51 07.6 -0.8**
GOGA PcP PcP 22 52 35.2 -1.9
GOGA *e*PP PP 22 52 58.7 -1.6
GOGA *e*ScP ScP 22 56 17.8 -15
GOGA *e*S **S 22 58 05.6 -1.3**
GOGA LR LR
comp=Z,34μm,21.0s,MS6.3
ERTA Horta de San J 47.96 41 P **P 22 51 08.7 -0.1**
comp=Z,5μm,3.2s
ERTA Horta de San J 47.96 41 P **P 22 51 08.7 -0.2**
comp=Z,5μm,3.2s
MCWV Mont Chateau 47.96 317 *e*P **P 22 51 09.9 +1.0**
comp=Z,789nm,1.4s,mb6.7
MCWV Mont Chateau 47.96 317 *e*PP PP 22 53 07.3 +6.4
MCWV Mont Chateau 47.96 317 *e*P **P 22 51 09.9 +1.0**
comp=Z,789nm,1.4s,mb6.7
MCWV *e*PP PP 22 53 07.3 +6.4
MCWV *e*S **S 22 58 05.8 -1.8**
MCWV LR LR
comp=Z,83μm,22.0s,MS6.7
ELIZ Elizondo 48.03 37 P **P 22 51 09.4 +0.1**
ELIZ pmax pmax

comp=Z,33nm,0.7s,mb5.6
ELIZ Elizondo 48.03 37 P **P 22 51 09.4 +0.1**
comp=Z,33nm,0.7s,mb5.6
ELIZ Elizondo 48.03 37 P **P 22 51 09.4 0.0**
comp=Z,33nm,0.7s,mb5.6
EALK Alkurruntz 48.07 37 P **P 22 51 10.9 +1.2**
comp=Z,2μm,2.9s,mb6.7
EALK Alkurruntz 48.07 37 P **P 22 51 10.9 +1.2**
comp=Z,2μm,2.9s,mb6.7
SJPF Ste Jean 48.18 37⇑ *iP* **P 22 51 10.7 +0.2**
comp=Z,491nm,1.3s,mb6.2
SJPF Ste Jean 48.18 37⇑ *iP* **P 22 51 10.7 +0.2**
SJPF pmax pmax
comp=Z,245nm,1.3s,mb6.2
SJPF Ste Jean 48.18 37⇑ *iP* **P 22 51 10.7 +0.2**
comp=Z,245nm,1.3s,mb6.2
CFAA Coronel Fontan 48.26 214 S **S 22 58 01.2 -11**
comp=Z,0.1nm,0.4s,baz=233,slow=22,SNR=2.4
CFAA LR LR 23 12 12.9
comp=Z,5μm,19.5s,MS5.5,baz=43,slow=37
LARF Larrau 48.28 37 *eP* **P 22 51 11.4 +0.1**
ETSF Etsaut 48.46 38⇑ *iP* **P 22 51 13.1 +0.4**
comp=Z,1000nm,1.8s,mb6.3
ETSF Etsaut 48.46 38⇑ *iP* **P 22 51 13.1 +0.4**
ETSF pmax pmax
comp=Z,500nm,1.8s,mb6.3
ETSF Etsaut 48.46 38⇑ *iP* **P 22 51 13.1 +0.4**
comp=Z,500nm,1.8s,mb6.3
EPOB Poblet 48.65 40 P **P 22 51 13.6 -0.5**
comp=Z,4μm,3.3s
EPOB Poblet 48.65 40 P **P 22 51 13.6 -0.5**
comp=Z,4μm,3.3s
REYF Montagne du Re 48.66 38 *eP* **P 22 51 14.7 +0.5**
TLL Tololo Astrono 48.66 217⇑ *iP* **P 22 51 13.8 -0.6**
TLL *i* 22 53 07.2
EBIE Bielsa 48.77 38 P **P 22 51 15.4 +0.3**
comp=Z,1μm,2.9s,mb6.3
EBIE Bielsa 48.77 38 P **P 22 51 15.4 +0.4**
comp=Z,1μm,2.9s,mb6.3
VIEF Viey 48.81 38 *eP* **P 22 51 16.0 +0.7**
TEIG Tepich 48.86 290 *eP* **P 22 51 14.8 -1.3**
TEIG Tepich 48.86 290 *ePP* PP 22 53 08.4 -1.0
TEIG Tepich 48.86 290 *eP* **P 22 51 14.8 -1.3**
TEIG *ePP* PP 22 53 08.4 -1.0
TEIG *eS* **S 22 58 19.1 -1.8**
TEIG LR LR
comp=Z,16μm,20.0s,MS6.0
LABF Labassere 48.93 38 *eP* **P 22 51 19.1 +2.8**
RESF Ens 48.96 38 *eP* **P 22 51 16.9 +0.4**
TKL Tuckaleechee C 48.98 311 LR LR 23 08 08.8
comp=Z,31μm,19.9s,MS6.3,baz=143,slow=32
TKL Tuckaleechee C 48.98 311 *eP* **P 22 51 16.2 -0.6**
TKL *e* 22 52 39.7
TKL *e* 22 53 09.1
TKL *eS* **S 22 58 16.1 -6.1**
TKL Tuckaleechee C 48.98 311 *ePcP* PcP 22 52 39.7 -1.3
TKL *eS* **S 22 58 16.1 -6.1**
ETOS Mallorca 49.00 43 P **P 22 51 16.6 -0.3**
comp=Z,3μm,3.3s
ETOS Mallorca 49.00 43 P **P 22 51 16.6 -0.2**
comp=Z,3μm,3.3s
EPF Esparros 49.08 38⇑ *iP* **P 22 51 18.1 +0.7**
comp=Z,940nm,1.4s,mb6.3
EPF Esparros 49.08 38⇑ *iP* **P 22 51 18.1 +0.7**
EPF pmax pmax
comp=Z,470nm,1.4s,mb6.3
EPF Esparros 49.08 38 *iP* **P 22 51 18.1 +0.7**
comp=Z,470nm,1.4s,mb6.3
TZTN Tazewell 49.16 312 *eP* **P 22 51 17.8 -0.4**
comp=Z,1μm,1.4s,mb6.7
TZTN Tazewell 49.16 312 *ePcP* PcP 22 52 40.4 -1.2
TZTN Tazewell 49.16 312 *eP* **P 22 51 17.8 -0.4**
comp=Z,1μm,1.4s,mb6.7
TZTN *ePcP* PcP 22 52 40.4 -1.2
TZTN *ePP* PP 22 53 10.9 -1.0
TZTN *eS* **S 22 58 19.9 -4.8**
TZTN LR LR
comp=Z,41μm,20.0s,MS6.4
EMIR Miracle 49.23 40 P **P 22 51 17.8 -0.8**
comp=Z,4μm,3.4s
MELF Melles 49.26 39 *eP* **P 22 51 20.2 +1.4**
SET Setif 49.28 49 P **P 22 51 20.0 +0.9**
MLS Moulis 49.51 39 *eP* **P 22 51 21.7 +1.0**
DFRA Djebel Bou Aff 49.77 48 P **P 22 51 24.0 +1.2**
VALF Valcebollere 49.79 40 *eP* **P 22 51 23.3 +0.4**
CTEI Djebel Teioual 49.98 49 P **P 22 51 27.0 +2.6**
BRAL Brewton 49.99 304 *eP* **P 22 51 26.4 +1.8**
BRAL Brewton 49.99 304 *ePP* PP 22 53 20.1 +0.6
BRAL Brewton 49.99 304 *eP* **P 22 51 26.4 +1.8**
BRAL *ePP* PP 22 53 20.1 +0.6
BRAL *eS* **S 22 58 38.7 +2.2**
BRAL LR LR
comp=Z,22μm,19.0s,MS6.2
CARF Carcanieres 50.01 39 *eP* **P 22 51 27.5 +3.0**
QUIF Quistinic 50.05 31⇑ *iP* **P 22 51 24.1 -0.6**
comp=Z,722nm,1.8s,mb6.0
QUIF Quistinic 50.05 31⇑ *iP* **P 22 51 24.1 -0.6**
QUIF pmax pmax
comp=Z,361nm,1.8s,mb6.0
QUIF Quistinic 50.05 31 *iP* **P 22 51 24.1 -0.6**
comp=Z,361nm,1.8s,mb6.0
CASM Ain Smara 50.12 49 P **P 22 51 26.0 +0.5**
FILF Fillols 50.22 40 *eP* **P 22 51 25.7 -0.4**
ROSF Rostrenen 50.27 31⇑ *iP* **P 22 51 26.0 -0.4**
comp=Z,546nm,1.4s,mb6.0
ROSF Rostrenen 50.27 31⇑ *iP* **P 22 51 26.0 -0.4**
ROSF pmax pmax
comp=Z,273nm,1.4s,mb6.0
ROSF Rostrenen 50.27 31 *iP* **P 22 51 26.0 -0.4**
comp=Z,273nm,1.4s,mb6.0
CKFL Kef-Lekhel 50.34 49 P **P 22 51 27.0 -0.2**
ACSO Alum Creek Sta 50.35 317 *eP* **P 22 51 27.5 +0.3**
comp=Z,1μm,1.4s,mb6.7
ACSO Alum Creek Sta 50.35 317 *ePcP* PcP 22 52 49.4 +3.5
ACSO Alum Creek Sta 50.35 317 *eP* **P 22 51 27.5 +0.3**
comp=Z,1μm,1.4s,mb6.7
ACSO *ePcP* PcP 22 52 49.4 +3.5
ACSO *ePP* PP 22 53 24.9 +2.2
ACSO *eS* **S 22 58 37.6 -3.7**
ACSO LR LR
comp=Z,70μm,22.0s,MS6.6
EJON La Jonquera 50.37 40 P **P 22 51 27.3 0.0**
comp=Z,2μm,3.3s
EJON La Jonquera 50.37 40 P **P 22 51 27.3 0.0**
comp=Z,2μm,3.3s
SJAF Saint Jean de 50.38 40 *eP* **P 22 51 27.7 +0.3**
LFF La Frestale 50.39 36⇑ *iP* **P 22 51 27.1 -0.2**
comp=Z,698nm,1.4s,mb6.1
LFF La Frestale 50.39 36⇑ *iP* **P 22 51 27.1 -0.2**
LFF pmax pmax
comp=Z,349nm,1.4s,mb6.1
LFF La Frestale 50.39 36 *iP* **P 22 51 27.1 -0.2**
comp=Z,349nm,1.4s,mb6.1
LRDF Laroque-de-Fa 50.40 39 *eP* **P 22 51 27.2 -0.3**
MTLF Montolieu 50.41 39⇑ *iP* **P 22 51 27.0 -0.5**
comp=Z,668nm,1.7s,mb6.0
MTLF Montolieu 50.41 39⇑ *iP* **P 22 51 27.0 -0.5**
MTLF pmax pmax
comp=Z,334nm,1.7s,mb6.0
MTLF Montolieu 50.41 39 *iP* **P 22 51 27.0 -0.5**
comp=Z,334nm,1.7s,mb6.0
LGHD Ghdames 50.45 58 *iP* **P 22 51 31.3 +3.2**
SNR=23
SWET Sewanee 50.45 309 *eP* **P 22 51 27.1 -0.9**
SWET Sewanee 50.45 309 *ePcP* PcP 22 52 48.2 +1.9
SWET Sewanee 50.45 309 *eP* **P 22 51 27.1 -0.9**
SWET *ePcP* PcP 22 52 48.2 +1.9
SWET *ePP* PP 22 53 21.7 -2.0
CCA1 Carnmenellis 50.57 28⇑ *eP* **P 22 51 26.9 -1.7**
SGMF Saint Gilles 50.58 31⇑ *iP* **P 22 51 28.5 -0.2**
comp=Z,991nm,1.4s,mb6.2
SGMF Saint Gilles 50.58 31⇑ *iP* **P 22 51 28.5 -0.2**
SGMF pmax pmax
comp=Z,495nm,1.4s,mb6.2
SGMF Saint Gilles 50.58 31 *iP* **P 22 51 28.5 -0.2**
comp=Z,495nm,1.4s,mb6.2
CAEH 'Ain El Ouahch 50.59 48 P **P 22 51 30.0 +1.0**
TRQA Tornquist 50.60 203 *eP* **P 22 51 27.8 -1.2**
comp=Z,109nm,1.3s,mb5.6
TRQA Tornquist 50.60 203 *ePP* PP 22 53 20.5 -4.5
TRQA Tornquist 50.60 203 *eP* **P 22 51 27.8 -1.2**
comp=Z,109nm,1.3s,mb5.6
TRQA *ePP* PP 22 53 20.5 -4.5
TRQA *eScP* ScP 22 56 57.0 +13
TRQA *eS* **S 22 58 46.9 +2.3**
TRQA LR LR
comp=Z,176μm,20.0s,MS7.1
FCH Farellones 50.70 214⇑ *iP* **P 22 51 29.8 0.0**
PEL Peldehue 50.78 214⇓ *iP* **P 22 51 27.7 -2.7**
PEL *i* 22 53 26.8
MFF Saint Martin d 50.84 34 *eP* **P 22 51 30.3 -0.5**
comp=Z,580nm,1.4s,mb6.0
MFF Saint Martin d 50.84 34 *eP* **P 22 51 30.3 -0.5**
MFF pmax pmax
comp=Z,290nm,1.4s,mb6.0
MFF Saint Martin d 50.84 34 *eP* **P 22 51 30.3 -0.5**
comp=Z,290nm,1.4s,mb6.0
CSA1 St Austell 50.84 28 *eP* **P 22 51 28.1 -2.6**
CSA1 St Austell 50.84 28 *eP* **P 22 51 28.1 -2.6**
comp=Z,285nm,1.9s,mb5.9
ABSA Djebel Ababsia 50.86 49 P **P 22 51 34.0 +2.9**
CMAH Djebel Manchou 50.95 49 P **P 22 51 32.0 +0.2**
LMEL Las Melosas 51.04 213⇑ *iP* **P 22 51 31.9 -0.5**
LMEL *i* 22 53 30.3
RJF Les Rejaudoux 51.05 36 *eP* **P 22 51 31.6 -0.7**
comp=Z,573nm,1.6s,mb6.0
RJF *eMLR* MLR
comp=Z,125μm,23.0s,MS6.6
RJF Les Rejaudoux 51.05 36 *eP* **P 22 51 31.6 -0.7**
RJF pmax pmax
comp=Z,287nm,1.6s,mb6.0
RJF MLR MLR
comp=Z,125μm,23.0s,MS6.9
RJF Les Rejaudoux 51.05 36 *eP* **P 22 51 31.6 -0.7**
comp=Z,287nm,1.6s,mb6.0
RJF LR LR
comp=Z,125μm,23.0s,MS6.9
CAF Calviac 51.16 37⇑ *iP* **P 22 51 32.8 -0.4**
comp=Z,445nm,1.2s,mb6.0
CAF Calviac 51.16 37⇑ *iP* **P 22 51 32.8 -0.4**
CAF pmax pmax
comp=Z,223nm,1.2s,mb6.0
CAF Calviac 51.16 37 *iP* **P 22 51 32.8 -0.4**
comp=Z,223nm,1.2s,mb6.0
DYA Yadsworthy 51.35 28 *eP* **P 22 51 32.8 -1.7**
JSA Saint Aubin 51.38 30 *eP* **P 22 51 32.7 -2.0**
HTL Hartland 51.48 27 *eP* **P 22 51 32.0 -3.4**
HTL AMb AMB 22 51 42.0
comp=Z,285nm,1.9s,mb5.9
SCHQ Schefferville 51.52 340 P **P 22 51 35.4 -0.3**
comp=Z,89nm,0.9s,mb5.7,baz=130,slow=7.2,SNR=34
SCHQ S **S 22 58 48.0 -8.9**
comp=Z,3.9nm,0.9s,baz=190,slow=18,SNR=1.9
SCHQ LR LR 23 09 25.6
comp=Z,40μm,21.5s,MS6.4,baz=152,slow=31
SCHQ Schefferville 51.52 340 P **P 22 51 35.4 -0.3**
SCHQ S **S 22 58 48.0 -8.9**
SCHQ Schefferville 51.52 340 P **P 22 51 35.4 -0.3**
SCHQ S **S 22 58 48.0 -8.9**
SCHQ LR LR 23 09 25.6
GRR Gorron 51.54 32 *eP* **P 22 51 35.3 -0.7**
TRIS Tristan da Cun 51.55 152 PFAKE 22 51 40.0 +3.8
TRIS LR LR
comp=Z,38μm,22.0s,MS6.4
AAM Ann Arbor 51.77 319 *eP* **P 22 51 38.2 +0.4**
AAM Ann Arbor 51.77 319 PFAKE 22 51 50.0 +12
AAM LR LR
comp=Z,78μm,22.0s,MS6.7
LASF Ste Croix 51.80 39⇑ *iP* **P 22 51 38.0 0.0**
comp=Z,869nm,1.5s,mb6.2
LASF Ste Croix 51.80 39⇑ *iP* **P 22 51 38.0 0.0**
comp=Z,434nm,1.5s,mb6.2
WCI Wyandotte Cave 51.84 313 *eP* **P 22 51 38.4 0.0**
WCI *e* 22 52 46.1
WCI *e* 22 53 35.6
WCI *eS* **S 22 59 03.6 +1.7**
WCI MLR MLR
comp=Z,39μm,20.0s,MS6.4
WCI Wyandotte Cave 51.84 313 *eP* **P 22 51 38.4 0.0**
WCI *ePcP* PcP 22 52 46.1 -5.4
WCI *ePP* PP 22 53 35.6 -0.6
WCI *eScP* ScP 22 56 41.7 -8.0
WCI *eS* **S 22 59 03.6 +1.7**
WCI LR LR
comp=Z,39μm,20.0s,MS6.4
FLN La Foliniere 51.97 32⇑ *iP* **P 22 51 38.6 -0.6**
comp=Z,1μm,1.9s,mb6.1
FLN *eMLR* MLR
comp=Z,93μm,22.0s,MS6.5
FLN La Foliniere 51.97 32⇑ *iP* **P 22 51 38.6 -0.6**
FLN pmax pmax
comp=Z,512nm,1.9s,mb6.1
FLN MLR MLR
comp=Z,93μm,22.0s,MS6.8
FLN La Foliniere 51.97 32⇑ *iP* **P 22 51 38.6 -0.6**
comp=Z,512nm,1.9s,mb6.1
FLN LR LR
comp=Z,93μm,22.0s,MS6.8
DCN Croghan 51.98 24 *eP* **P 22 51 38.4 -0.7**
TCF Toulx Ste Croi 52.00 36⇑ *iP* **P 22 51 39.1 -0.3**
comp=Z,840nm,1.5s,mb6.1
TCF Toulx Ste Croi 52.00 36⇑ *iP* **P 22 51 39.1 -0.3**
TCF pmax pmax
comp=Z,420nm,1.5s,mb6.2
TCF Toulx Ste Croi 52.00 36 *iP* **P 22 51 39.1 -0.3**
comp=Z,420nm,1.5s,mb6.2
PLAL Pickwick Lake 52.02 308 *eP* **P 22 51 38.2 -1.6**
PLAL Pickwick Lake 52.02 308 *ePcP* PcP 22 52 51.5 -0.7
PLAL *eS* **S 22 58 51.4 -13**
PLAL Pickwick Lake 52.02 308 *eP* **P 22 51 38.2 -1.7**
PLAL *ePcP* PcP 22 52 51.5 -0.7
PLAL *ePP* PP 22 53 28.7 -9.2
PLAL *eScP* ScP 22 56 53.1 +2.5
PLAL *eS* **S 22 58 51.4 -13**
PLAL LR LR
comp=Z,30μm,21.0s,MS6.3
LBL Lubilhac 52.03 37 *eP* **P 22 51 39.8 +0.1**
LDF La Druitiere 52.05 32 *eP* **P 22 51 39.1 -0.7**
comp=Z,580nm,1.6s,mb6.0
LDF La Druitiere 52.05 32 *eP* **P 22 51 39.1 -0.7**
LDF pmax pmax
comp=Z,290nm,1.6s,mb6.0
LDF La Druitiere 52.05 32 *eP* **P 22 51 39.1 -0.7**
comp=Z,290nm,1.6s,mb6.0
KEST Kesra 52.09 51 P **P 22 51 39.6 -0.7**
comp=Z,73nm,1.0s,mb5.6,baz=202,slow=3.4,SNR=59
KEST S **S 22 58 57.7 -7.8**
comp=Z,0.4nm,0.7s,baz=278,slow=11,SNR=3.1
KEST LR LR 23 13 34.8
comp=Z,41μm,18.6s,MS6.5,baz=223,slow=36
PYM Petit Puy Mans 52.17 37 *eP* **P 22 51 40.5 -0.2**
CCIG Comitan 52.20 284 *iP* **P 22 51 40.3 -1.1**
CCIG Comitan 52.20 284 *iP* **P 22 51 40.3 -1.2**
DLF Lyons Farm 52.24 24 *eP* **P 22 51 40.4 -0.7**
BLO Bloomington 52.37 314 *eP* **P 22 51 41.8 -0.6**
BLO *e* 22 52 47.2
BLO *e* 22 53 39.8
BLO *eS* **S 22 59 13.0 +3.8**
BLO pmax pmax
comp=Z,1μm,1.6s,mb6.6
BLO Bloomington 52.37 314 *eP* **P 22 51 41.8 -0.6**
comp=Z,1μm,1.6s,mb6.6
BLO Bloomington 52.37 314 *ePcP* PcP 22 52 47.2 -6.2
BLO *eS* **S 22 59 13.0 +3.8**
BLO Bloomington 52.37 314 *eP* **P 22 51 41.8 -0.6**
comp=Z,1μm,1.6s,mb6.6
BLO *ePcP* PcP 22 52 47.2 -6.2
BLO *ePP* PP 22 53 39.8 -1.2
BLO *eS* **S 22 59 13.0 +3.8**
AGO Saint Agoulin 52.40 36 *eP* **P 22 51 42.1 -0.3**
NICH Los Niches 52.46 213⇑ *iP* **P 22 51 42.0 -1.0**
BGF Bois d'Agland 52.51 36⇑ *iP* **P 22 51 43.0 -0.2**
comp=Z,957nm,1.3s,mb6.2
BGF Bois d'Agland 52.51 36⇑ *iP* **P 22 51 43.0 -0.2**
BGF pmax pmax
comp=Z,479nm,1.3s,mb6.3
BGF Bois d'Agland 52.51 36 *iP* **P 22 51 43.0 -0.2**
comp=Z,479nm,1.3s,mb6.3
DMUB Kingscourt 52.54 24 *eP* **P 22 51 42.8 -0.5**
PLDF La Plantade 52.65 37 *eP* **P 22 51 44.4 +0.1**
HGH Gray Hill 52.69 28⇑ *eP* **P 22 51 44.1 -0.4**
SCX San Cristobal 52.70 285 *iP* **P 22 51 43.3 -1.8**
VIVF Saint-Julien-l 52.70 38⇑ *iP* **P 22 51 45.1 +0.4**
comp=Z,1μm,1.4s,mb6.3
VIVF Saint-Julien-l 52.70 38⇑ *iP* **P 22 51 45.1 +0.4**
VIVF pmax pmax
comp=Z,516nm,1.4s,mb6.3
VIVF Saint-Julien-l 52.70 38 *iP* **P 22 51 45.1 +0.4**
comp=Z,516nm,1.4s,mb6.3
USIN University of 52.74 312 *eP* **P 22 51 45.4 +0.3**
USIN University of 52.74 312 *ePcP* PcP 22 52 54.6 -0.2
USIN University of 52.74 312 *eP* **P 22 51 45.4 +0.3**
USIN *ePcP* PcP 22 52 54.6 -0.2
USIN *ePP* PP 22 53 44.2 -0.2
USIN *eS* **S 22 59 20.1 +5.8**
HTR Trewern Hill 52.77 27⇑ *eP* **P 22 51 44.4 -0.7**
HTR Trewern Hill 52.77 27⇑ *eP* **P 22 51 44.4 -0.7**
comp=Z,747nm,1.5s,mb6.4
HYF Humbligny 52.79 35⇑ *iP* **P 22 51 45.2 -0.1**
SMRF Simiane la Rot 52.83 40⇑ *iP* **P 22 51 46.1 +0.4**
comp=Z,940nm,1.8s,mb6.1
SMRF Simiane la Rot 52.83 40⇑ *iP* **P 22 51 46.1 +0.4**
comp=Z,940nm,1.8s,mb6.4
SSB Saint Sauveur 52.84 38 *eP* **P 22 51 46.4 +0.7**
SSB Saint Sauveur 52.84 38 *eP* **P 22 51 46.4 +0.7**
comp=Z,510nm,1.6s,mb6.2
MCH1 Michaelchurch 52.84 27 *eP* **P 22 51 44.2 -1.4**
MCH1 AMb AMB 22 51 49.4
comp=Z,466nm,1.5s,mb6.2
OXF Oxford 52.92 307 *eP* **P 22 51 45.3 -1.2**
OXF *e* 22 52 55.7
OXF *e* 22 53 44.8
OXF *eS* **S 22 59 14.0 -2.8**
OXF pmax pmax
comp=Z,1μm,1.2s,mb6.7
OXF MLR MLR
comp=Z,15μm,20.0s,MS6.0
OXF Oxford 52.92 307 *eP* **P 22 51 45.3 -1.2**
comp=Z,1μm,1.2s,mb6.7
OXF Oxford 52.92 307 *ePcP* PcP 22 52 55.7 +0.1
OXF *eS* **S 22 59 14.0 -2.8**
OXF Oxford 52.92 307 *eP* **P 22 51 45.3 -1.2**
comp=Z,1μm,1.2s,mb6.7
OXF *ePcP* PcP 22 52 55.7 +0.1
OXF *ePP* PP 22 53 44.8 -1.2
OXF *eScP* ScP 22 56 51.9 -2.6
OXF *eS* **S 22 59 14.0 -2.8**
OXF LR LR
comp=Z,15μm,20.0s,MS6.0
AVF Avril sur Loir 52.93 36⇑ *iP* **P 22 51 45.9 -0.4**
comp=Z,743nm,1.5s,mb6.1
AVF Avril sur Loir 52.93 36⇑ *iP* **P 22 51 45.9 -0.4**
AVF pmax pmax
comp=Z,372nm,1.5s,mb6.1
AVF Avril sur Loir 52.93 36 *iP* **P 22 51 45.9 -0.4**
comp=Z,372nm,1.5s,mb6.1
ALAS Alassa 53.00 55 *iP* **P 22 51 50.0 +2.9**
SNR=23
ALAS *eS* **S 22 59 22.3 +4.4**
SNR=24
SWN1 Swindon 53.07 28 *eP* **P 22 51 45.4 -1.9**
SWN1 AMb AMB 22 51 51.4
comp=Z,710nm,1.5s,mb6.4
UTMT University of 53.07 310 *eP* **P 22 51 47.2 -0.4**
UTMT University of 53.07 310 *ePcP* PcP 22 52 55.5 -0.6
UTMT University of 53.07 310 *eP* **P 22 51 47.2 -0.4**
UTMT *ePcP* PcP 22 52 55.5 -0.6
UTMT *eS* **S 22 59 09.9 -8.9**
LMR La Mourre 53.13 41 *eP* **P 22 51 47.2 -0.6**
comp=Z,844nm,1.8s,mb6.1
LMR La Mourre 53.13 41 *eP* **P 22 51 47.2 -0.6**
LMR pmax pmax
comp=Z,422nm,1.8s,mb6.1
LMR La Mourre 53.13 41 *eP* **P 22 51 47.2 -0.6**
comp=Z,422nm,1.8s,mb6.1
SMF Signal de Mont 53.14 36⇑ *iP* **P 22 51 47.6 -0.3**
comp=Z,864nm,1.8s,mb6.1
SMF Signal de Mont 53.14 36⇑ *iP* **P 22 51 47.6 -0.3**
SMF pmax pmax
comp=Z,432nm,1.8s,mb6.1
SMF Signal de Mont 53.14 36 *iP* **P 22 51 47.6 -0.3**
comp=Z,432nm,1.8s,mb6.1
VBMS Vicksburg 53.16 304 *eP* **P 22 51 49.0 +0.7**
VBMS *eS* **S 22 59 19.0 -1.2**
VBMS LR LR
comp=Z,23μm,19.0s,MS6.2
SSF Saint Saulge 53.17 35⇑ *iP* **P 22 51 47.6 -0.5**
comp=Z,874nm,1.7s,mb6.1
SSF Saint Saulge 53.17 35⇑ *iP* **P 22 51 47.6 -0.5**
SSF pmax pmax
comp=Z,437nm,1.7s,mb6.1
SSF Saint Saulge 53.17 35 *iP* **P 22 51 47.6 -0.5**
comp=Z,437nm,1.7s,mb6.1
WOL Wolverton 53.22 29 *eP* **P 22 51 47.8 -0.6**
WOL AMb AMB 22 51 52.6
comp=Z,747nm,1.5s,mb6.4
HLM1 Long Mynd 53.25 27⇑ *eP* **P 22 51 47.5 -1.1**
HALT Halls 53.30 309⇑ *iP* **P 22 51 48.6 -0.7**
HALT Halls 53.30 309 *ePcP* PcP 22 52 58.9 +1.9
HALT Halls 53.30 309⇑ *iP* **P 22 51 48.6 -0.7**
HALT *ePcP* PcP 22 52 58.9 +1.9
HALT *ePP* PP 22 53 49.5 0.0
FRF La Foret Royal 53.32 41 *eP* **P 22 51 48.7 -0.6**
comp=Z,792nm,1.6s,mb6.1
FRF La Foret Royal 53.32 41 *eP* **P 22 51 48.7 -0.6**
FRF pmax pmax
comp=Z,396nm,1.6s,mb6.1
FRF La Foret Royal 53.32 41 *eP* **P 22 51 48.7 -0.6**
comp=Z,396nm,1.6s,mb6.1
OLIL Olney 53.34 313 *eP* **P 22 51 49.3 -0.2**
comp=Z,2μm,1.3s,mb6.8
OLIL Olney 53.34 313 *ePcP* PcP 22 52 56.6 -0.5
OLIL Olney 53.34 313 *eP* **P 22 51 49.3 -0.2**
comp=Z,2μm,1.3s,mb6.8
OLIL *ePcP* PcP 22 52 56.6 -0.5
OLIL ScP ScP 22 56 59.0 +2.8
OLIL *eS* **S 22 59 26.2 +3.8**
SBD1 Bryn Du 53.35 26⇑ *eP* **P 22 51 48.6 -0.7**
GLAT Glass 53.37 309⇑ *iP* **P 22 51 49.0 -0.8**
GLAT *eS* **S 22 59 15.2 -7.8**
GLAT Glass 53.37 309⇑ *iP* **P 22 51 49.0 -0.8**
GLAT *eS* **S 22 59 15.2 -7.8**
ORIF Oris-en-Rattie 53.48 39⇑ *iP* **P 22 51 50.9 +0.5**
ORIF *eMLR* MLR
comp=Z,124μm,19.8s,MS6.7
LOR Lormes 53.48 35⇑ *iP* **P 22 51 49.9 -0.5**
comp=Z,720nm,1.4s,mb6.1
LOR *eMLR* MLR
comp=Z,68μm,22.8s,MS6.3
LOR Lormes 53.48 35⇑ *iP* **P 22 51 49.9 -0.5**
LOR pmax pmax
comp=Z,360nm,1.4s,mb6.1
LOR MLR MLR
comp=Z,68μm,22.8s,MS6.6
LOR Lormes 53.48 35⇑ *iP* **P 22 51 49.9 -0.5**
comp=Z,360nm,1.4s,mb6.1
LOR LR LR
comp=Z,68μm,22.8s,MS6.6
MET Memphis--Engin 53.51 308 *eP* **P 22 51 50.8 -0.1**
MET *eS* **S 22 59 25.1 +0.2**
MET Memphis--Engin 53.51 308 *eP* **P 22 51 50.8 -0.1**
MET *eS* **S 22 59 25.1 +0.2**
GRN Grenoble 53.56 38 *eP* **P 22 51 51.7 +0.7**
CALN Calern 53.56 40 *eP* **P 22 51 51.4 +0.3**
GLMI Grayling 53.58 321 *eP* **P 22 51 51.5 +0.3**
GLMI Grayling 53.58 321 *ePP* PP 22 53 50.4 -1.4
GLMI Grayling 53.58 321 *eP* **P 22 51 51.5 +0.3**
GLMI *ePP* PP 22 53 50.4 -1.5
GLMI *eS* **S 22 59 22.4 -3.1**
GLMI LR LR
comp=Z,47μm,22.0s,MS6.5
GDM Grand'Maison 53.77 39 *eP* **P 22 51 52.9 +0.4**
MVIF Mont Vial 53.80 40 *eP* **P 22 51 53.5 +0.7**
SIUC Southern Illin 53.80 311 *eP* **P 22 51 51.5 -1.4**
SIUC Southern Illin 53.80 311 *ePcP* PcP 22 53 01.5 +2.6
SIUC Southern Illin 53.80 311 *eP* **P 22 51 51.5 -1.5**
SIUC *ePcP* PcP 22 53 01.5 +2.6
SIUC *ePP* PP 22 53 52.9 -1.1
SIUC *eS* **S 22 59 28.7 0.0**
GIM North Isle of 53.81 24 *eP* **P 22 51 51.9 -0.8**
GNAR Gosnell 53.84 309 *eP* **P 22 51 53.2 0.0**
GNAR Gosnell 53.84 309 *ePP* PP 22 53 50.0 -4.3
GNAR Gosnell 53.84 309 *eP* **P 22 51 53.2 0.0**
GNAR *ePP* PP 22 53 50.0 -4.3
GNAR *eS* **S 22 59 27.4 -1.8**
PARMO Parma 53.85 310 *eP* **P 22 51 52.3 -1.0**
PARMO Parma 53.85 310 *eP* **P 22 51 52.3 -1.0**
SURF Saint Ours 53.85 40 *eP* **P 22 51 53.7 +0.5**
REVF Revere 53.87 41 *eP* **P 22 51 53.2 -0.1**
TOUF Mont Tournerai 53.91 40 *eP* **P 22 51 54.1 +0.5**
LUCF Luceram 53.92 41 *eP* **P 22 51 53.8 +0.1**
STNC Stoke 53.94 27 *eP* **P 22 51 53.0 -0.6**
MBDF Montbardon 53.95 39⇑ *iP* **P 22 51 54.2 +0.4**
comp=Z,729nm,1.6s,mb6.2

MBDF	**Montbardon**	**53.95**	**39⇑**	*i* P	**P**	**22 51 54.2**	**+0.4**
MBDF				pmax	pmax		
	comp=Z,365nm,1.6s,mb6.2						
MBDF	**Montbardon**	**53.95**	**39⇑**	*i* P	**P**	**22 51 54.2**	**+0.4**
	comp=Z,365nm,1.6s,mb6.2						
SBF	**Sospel**	**53.97**	**41⇑**	*i* P	**P**	**22 51 53.8**	**-0.2**
	comp=Z,1μm,1.4s,mb6.5						
SBF	**Sospel**	**53.97**	**41⇑**	*i* P	**P**	**22 51 53.8**	**-0.2**
SBF				pmax	pmax		
	comp=Z,645nm,1.4s,mb6.5						
SBF	**Sospel**	**53.97**	**41**	*i* P	**P**	**22 51 53.8**	**-0.2**
	comp=Z,645nm,1.4s,mb6.5						
GHAR	**Gharyan**	**54.01**	**56**	*i* P	**P**	**22 51 56.0**	**+1.4**
	SNR=22						
GHAR				*e*S	**S**	**22 59 37.6**	**+5.9**
	SNR=24						
AUTN	**L'Aution**	**54.02**	**40**	*e*P	**P**	**22 51 55.3**	**+0.9**
BNI	**Bardonecchia**	**54.04**	**39⇑**	*e*P	**P**	**22 51 55.1**	**+0.6**
BNI				*e*S	**S**	**22 59 32.3**	**+0.6**
BNI				pmax	pmax		
	comp=Z,380nm,1.4s,mb6.2						
BNI				MLR	MLR		
	comp=Z,133μm,20.0s,MS7.0						
BNI	**Bardonecchia**	**54.04**	**39**	*e*S	**S**	**22 59 32.3**	**+0.6**
	comp=Z,33μm,20.0s						
BNI	**Bardonecchia**	**54.04**	**39⇑**	*e*P	**P**	**22 51 55.1**	**+0.6**
	comp=Z,380nm,1.4s,mb6.2						
BNI				*e*S	**S**	**22 59 32.3**	**+0.6**
BNI				LR	LR		
	comp=Z,133μm,20.0s,MS7.0						
RRL	**Rocca Remolon**	**54.04**	**39**	P	**P**	**22 51 55.0**	**+0.4**
RRL	**Rocca Remolon**	**54.04**	**39**	P	**P**	**22 51 55.0**	**+0.5**
KWE	**Weaver Farm**	**54.05**	**27⇑**	*e*P	**P**	**22 51 53.8**	**-0.7**
KWE	**Weaver Farm**	**54.05**	**27⇑**	*e*P	**P**	**22 51 53.8**	**-0.7**
	comp=Z,384nm,1.7s,mb6.2						
STV	**Sant Anna di V**	**54.07**	**40**	P	**P**	**22 51 54.8**	**0.0**
STV	**Sant Anna di V**	**54.07**	**40**	P	**P**	**22 51 54.8**	**+0.1**
SAOF	**Saorge**	**54.10**	**41**	*e*P	**P**	**22 51 54.9**	**-0.1**
CWF	**Charnwood Fore**	**54.11**	**27**	*e*P	**P**	**22 51 53.2**	**-1.7**
CWF				AMb	AMB	22 51 58.5	
	comp=Z,288nm,1.5s,mb6.1						
CCHI	**Chillan**	**54.12**	**213⇑**	*i* P	**P**	**22 51 54.3**	**-0.9**
GAL1	**Galloway**	**54.12**	**24**	*e*P	**P**	**22 51 53.2**	**-1.8**
GAL1				AMb	AMB	22 51 53.2	
	comp=Z,228nm,1.7s,mb5.9						
NEGI	**Seborga**	**54.13**	**41**	P	**P**	**22 51 53.9**	**-1.3**
NEGI	**Seborga**	**54.13**	**41**	P	**P**	**22 51 53.9**	**-1.4**
DOI	**San Damiano**	**54.14**	**40**	P	**P**	**22 51 55.8**	**+0.5**
HBAR	**Harrisburg**	**54.21**	**308⇑**	*i* P	**P**	**22 51 55.6**	**-0.3**
HBAR	**Harrisburg**	**54.21**	**308⇑**	*i* P	**P**	**22 51 55.6**	**-0.3**
LUMB	**Murzuk**	**54.22**	**64**	*i* P	**P**	**22 51 57.5**	**+1.3**
	SNR=22						
LUMB				*e*S	**S**	**22 59 35.2**	**+0.4**
	SNR=24						
TFO1	**Folkestone**	**54.24**	**30**	*e*P	**P**	**22 51 54.6**	**-1.3**
TFO1				AMb	AMB	22 52 00.7	
	comp=Z,384nm,1.7s,mb6.2						
LPL	**La Plagne**	**54.30**	**39⇑**	*i* P	**P**	**22 51 56.9**	**+0.5**
	comp=Z,456nm,1.5s,mb6.0						
LPL	**La Plagne**	**54.30**	**39⇑**	*i* P	**P**	**22 51 56.9**	**+0.5**
LPL				pmax	pmax		
	comp=Z,228nm,1.5s,mb6.0						
LPL	**La Plagne**	**54.30**	**39**	*i* P	**P**	**22 51 56.9**	**+0.5**
	comp=Z,228nm,1.5s,mb6.0						
LPG	**La Plagne**	**54.30**	**39⇑**	*i* P	**P**	**22 51 57.1**	**+0.7**
	comp=Z,672nm,1.6s,mb6.1						
LPG	**La Plagne**	**54.30**	**39⇑**	*i* P	**P**	**22 51 57.1**	**+0.7**
LPG				pmax	pmax		
	comp=Z,336nm,1.6s,mb6.1						
LPG	**La Plagne**	**54.30**	**39**	*i* P	**P**	**22 51 57.1**	**+0.7**
	comp=Z,336nm,1.6s,mb6.1						
BHB	**Bricherasio**	**54.31**	**39**	P	**P**	**22 51 56.2**	**-0.3**
BHB	**Bricherasio**	**54.31**	**39**	P	**P**	**22 51 56.2**	**-0.3**
KBI1	**Birley Grange**	**54.35**	**27⇑**	*e*P	**P**	**22 51 55.6**	**-1.0**
LHO	**Holmfirth**	**54.40**	**26⇑**	*e*P	**P**	**22 51 56.3**	**-0.7**
CORF	**Corte**	**54.42**	**43**	*e*P	**P**	**22 51 58.0**	**+0.6**
MENF	**Mencas**	**54.42**	**31**	*e*P	**P**	**22 51 54.0**	**-3.2**
PGF	**Pioggiola**	**54.42**	**43⇑**	*i* P	**P**	**22 51 56.5**	**-0.9**
	comp=Z,104nm,0.8s,mb5.6						
PGF	**Pioggiola**	**54.42**	**43⇑**	*i* P	**P**	**22 51 56.5**	**-0.9**
PGF				pmax	pmax		
	comp=Z,52nm,0.8s,mb5.6						
PGF	**Pioggiola**	**54.42**	**43**	*i* P	**P**	**22 51 56.5**	**-0.9**
	comp=Z,52nm,0.8s,mb5.6						
GCD	**Castle Douglas**	**54.43**	**24⇑**	*e*P	**P**	**22 51 56.3**	**-0.9**
GCD	**Castle Douglas**	**54.43**	**24⇑**	*e*P	**P**	**22 51 56.3**	**-0.9**
	comp=Z,407nm,1.5s,mb6.2						
ROB	**Robourent**	**54.44**	**40**	P	**P**	**22 51 57.2**	**-0.3**
ROB	**Robourent**	**54.44**	**40**	P	**P**	**22 51 57.2**	**-0.2**
CABF	**La Chapelle**	**54.44**	**37⇑**	*i* P	**P**	**22 51 57.5**	**+0.1**
	comp=Z,1μm,1.5s,mb6.4						
CABF	**La Chapelle**	**54.44**	**37⇑**	*i* P	**P**	**22 51 57.5**	**+0.1**
CABF				pmax	pmax		
	comp=Z,575nm,1.5s,mb6.4						
CABF	**La Chapelle**	**54.44**	**37**	*i* P	**P**	**22 51 57.5**	**+0.1**
	comp=Z,575nm,1.5s,mb6.4						
RSP	**Reno Superiore**	**54.45**	**39**	P	**P**	**22 51 57.7**	**+0.2**
RSP	**Reno Superiore**	**54.45**	**39**	P	**P**	**22 51 57.7**	**+0.2**
TUIG	**Tuzandepetl**	**54.47**	**286**	*i* P	**P**	**22 51 57.0**	**-1.1**
TUIG	**Tuzandepetl**	**54.47**	**286**	*i* P	**P**	**22 51 57.0**	**-1.1**
RORO	**Rocca Rossa**	**54.48**	**41**	P	**P**	**22 51 57.4**	**-0.4**
RORO	**Rocca Rossa**	**54.48**	**41**	P	**P**	**22 51 57.4**	**-0.4**
LSHF	**Shwairf**	**54.49**	**59**	*i* P	**P**	**22 52 00.2**	**+2.1**
	SNR=22						
LSHF				*e*S	**S**	**22 59 41.8**	**+3.5**
	SNR=24						
GIMEL	**St. Georges /**	**54.51**	**37⇑**	*i* P	**P**	**22 51 58.1**	**+0.2**
	comp=Z,2μm,2.9s,mb6.6						
LSD	**Lago del Serru**	**54.53**	**39**	P	**P**	**22 51 58.4**	**+0.3**
LSD	**Lago del Serru**	**54.53**	**39**	P	**P**	**22 51 58.4**	**+0.3**
FIN	**Finale Ligure**	**54.62**	**41**	P	**P**	**22 51 58.1**	**-0.7**
FIN	**Finale Ligure**	**54.62**	**41**	P	**P**	**22 51 58.1**	**-0.7**
EMV	**Vieux Emosson**	**54.66**	**38⇑**	*i* P	**P**	**22 51 59.3**	**+0.3**
	comp=Z,2μm,2.9s,mb6.6						
SALAN	**Lac Salanfe**	**54.75**	**38⇑**	*i* P	**P**	**22 51 59.7**	**0.0**
	comp=Z,835nm,2.2s,mb6.4						
QLNO	**Quiliano**	**54.76**	**40**	P	**P**	**22 52 02.3**	**+2.5**
HPK	**Haverah Park**	**54.78**	**26**	*e*P	**P**	**22 51 58.0**	**-1.8**
HPK				AMb	AMB	22 52 04.4	
	comp=Z,400nm,1.4s,mb6.3						
FVM	**French Village**	**54.79**	**311⇑**	*i* P	**P**	**22 51 59.5**	**-0.7**
FVM				*e*		22 53 02.9	
FVM				*e*		22 53 58.6	
FVM				*e*S	**S**	**22 59 42.8**	**+0.7**
FVM	**French Village**	**54.79**	**311**	*e*PcP	PcP	22 53 02.9	+0.3
FVM				*e*S	**S**	**22 59 42.8**	**+0.7**
MEZF	**Maizieres J'vi**	**54.82**	**35⇑**	*i* P	**P**	**22 51 59.5**	**-0.6**
	comp=Z,1μm,1.7s,mb6.3						
MEZF	**Maizieres J'vi**	**54.82**	**35⇑**	*i* P	**P**	**22 51 59.5**	**-0.6**
	comp=Z,1μm,1.7s,mb6.6						
AIGLE	**Aigle**	**54.83**	**38⇑**	*i* P	**P**	**22 52 00.2**	**-0.1**
	comp=Z,2μm,2.9s,mb6.6						
BRANT	**Les Verrieres**	**54.84**	**37⇑**	*i* P	**P**	**22 52 00.3**	**0.0**
	comp=Z,2μm,2.9s,mb6.7						
CMIG	**Matias Romero**	**54.87**	**285**	*i* P	**P**	**22 51 56.0**	**-5.0**
CMIG	**Matias Romero**	**54.87**	**285**	*i* P	**P**	**22 51 56.0**	**-5.0**
SLM	**Saint Louis**	**54.87**	**312**	*e*P	**P**	**22 52 00.6**	**-0.1**
SLM				*e*S	**S**	**22 59 38.8**	**-4.3**
SLM	**Saint Louis**	**54.87**	**312⇑**	*i* P	**P**	**22 51 59.7**	**-1.0**
SLM				*e*S	**S**	**22 59 38.8**	**-4.3**
GRYON	**Gryon**	**54.88**	**38⇑**	*i* P	**P**	**22 52 00.7**	**+0.1**
	comp=Z,1μm,2.5s,mb6.5						
PGBU	**Glenifferbraes**	**54.90**	**23**	*e*P	**P**	**22 51 59.6**	**-1.0**
PGBU				AMb	AMB	22 52 04.4	
	comp=Z,407nm,1.5s,mb6.2						
DIX	**Grande Dixence**	**54.98**	**38⇑**	*i* P	**P**	**22 52 02.0**	**+0.6**
	comp=Z,2μm,2.5s,mb6.8						
PCP	**Piancastagn**	**54.98**	**40**	P	**P**	**22 52 00.5**	**-0.9**
PCP	**Piancastagn**	**54.98**	**40**	P	**P**	**22 52 00.5**	**-0.9**
ECK	**Cauldkaine Hil**	**54.99**	**24⇑**	*e*P	**P**	**22 51 59.6**	**-1.7**
ECK	**Cauldkaine Hil**	**54.99**	**24⇑**	*e*P	**P**	**22 51 59.6**	**-1.6**
	comp=Z,114nm,1.9s,mb5.6						
TORNY	**Torny/Romont**	**55.04**	**37⇑**	*i* P	**P**	**22 52 02.3**	**+0.5**
	comp=Z,2μm,2.8s,mb6.7						
SENIN	**Lac Senin/Sane**	**55.05**	**38⇑**	*i* P	**P**	**22 52 02.0**	**+0.1**
	comp=Z,2μm,2.8s,mb6.6						
ESK	**Eskdalemuir**	**55.05**	**24⇑**	*e*P	**P**	**22 52 00.2**	**-1.5**
ESK				*e*		22 53 02.6	
ESK				*e*		22 53 59.7	
ESK				*e*S	**S**	**22 59 44.1**	**-0.9**
ESK				pmax	pmax		
	comp=Z,301nm,1.9s,mb6.0						
ESK				MLR	MLR		
	comp=Z,46μm,19.0s,MS6.6						
ESK	**Eskdalemuir**	**55.05**	**24**	*e*P	**P**	**22 52 00.2**	**-1.5**
	comp=Z,301nm,1.9s,mb6.0						
ESK	**Eskdalemuir**	**55.05**	**24⇑**	*e*PcP	PcP	22 53 02.6	-0.6
ESK				*e*S	**S**	**22 59 44.1**	**-0.9**
	comp=Z,46μm,19.0s						
ESK	**Eskdalemuir**	**55.05**	**24⇑**	*e*P	**P**	**22 52 00.2**	**-1.5**
	comp=Z,301nm,1.9s,mb6.0						
ESK				*e*PcP	PcP	22 53 02.6	-0.6
ESK				*e*PP	PP	22 53 59.7	-5.1
ESK				*e*S	**S**	**22 59 44.1**	**-0.9**
ESK				LR	LR		
	comp=Z,46μm,19.0s,MS6.6						
ORO	**Oropa**	**55.12**	**39**	P	**P**	**22 52 01.9**	**-0.5**
ORO				pmax	pmax		
	comp=Z,208nm,1.2s,mb6.0						
ORO	**Oropa**	**55.12**	**39**	P	**P**	**22 52 01.9**	**-0.5**
	comp=Z,208nm,1.2s,mb6.0						
XAL	**Allendale**	**55.14**	**25**	*e*P	**P**	**22 52 00.4**	**-1.9**
KAR1	**Arisaig**	**55.21**	**22**	*e*P	**P**	**22 52 02.0**	**-0.8**
THEF	**They Montfort**	**55.21**	**35**	*e*P	**P**	**22 52 02.2**	**-0.7**
BAIF	**Baives**	**55.21**	**33⇑**	*i* P	**P**	**22 52 02.1**	**-0.8**
	comp=Z,1μm,1.6s,mb6.3						
BAIF	**Baives**	**55.21**	**33⇑**	*i* P	**P**	**22 52 02.1**	**-0.8**
BAIF				pmax	pmax		
	comp=Z,523nm,1.6s,mb6.3						
BAIF	**Baives**	**55.21**	**33**	*i* P	**P**	**22 52 02.1**	**-0.8**
	comp=Z,523nm,1.6s,mb6.3						
EAB	**Aberfoyle**	**55.23**	**23**	*e*P	**P**	**22 52 02.0**	**-0.9**
LOMF	**Lomont**	**55.25**	**37**	*e*P	**P**	**22 52 03.1**	**-0.2**
LKBD	**Leukerbad**	**55.26**	**38⇑**	*i* P	**P**	**22 52 03.6**	**+0.2**
	comp=Z,2μm,2.2s,mb6.7						
HAU	**Haudompre**	**55.30**	**36⇑**	*i* P	**P**	**22 52 02.9**	**-0.7**
	comp=Z,842nm,1.3s,mb6.3						
HAU				*e*MLR	MLR		
	comp=Z,59μm,21.2s,MS6.3						
HAU	**Haudompre**	**55.30**	**36⇑**	*i* P	**P**	**22 52 02.9**	**-0.7**
HAU				pmax	pmax		
	comp=Z,421nm,1.3s,mb6.3						
HAU				MLR	MLR		
	comp=Z,59μm,21.3s,MS6.6						
HAU	**Haudompre**	**55.30**	**36⇑**	*i* P	**P**	**22 52 02.9**	**-0.7**
	comp=Z,421nm,1.3s,mb6.3						
HAU				LR	LR		
	comp=Z,59μm,21.3s,MS6.6						
ERC	**Erice**	**55.30**	**49**	P	**P**	**22 52 04.2**	**+0.4**
	comp=Z,1μm,1.0s,mb6.9						
MMK	**Mattmark**	**55.31**	**38⇑**	*i* P	**P**	**22 52 04.3**	**+0.6**
	comp=Z,2μm,2.5s,mb6.7						
UALR	**University of**	**55.31**	**307⇑**	*i* P	**P**	**22 52 03.4**	**-0.5**
UALR				*e*PcP	PcP	22 53 05.7	+1.0
UALR				*e*S	**S**	**22 59 50.1**	**+1.0**
EAU	**Auchinoon**	**55.33**	**24**	*e*P	**P**	**22 52 02.8**	**-0.8**
WIMIS	**Wimmis**	**55.39**	**38⇑**	*i* P	**P**	**22 52 04.4**	**+0.1**
	comp=Z,2μm,3.0s						
DOU	**Dourbes**	**55.44**	**33**	P	**P**	**22 52 04.5**	**-0.1**
	comp=Z,139nm,1.7s,mb5.7						
EBL	**Broad Law**	**55.44**	**24⇑**	*e*P	**P**	**22 52 03.3**	**-1.2**
EBL	**Broad Law**	**55.44**	**24⇑**	*e*P	**P**	**22 52 03.3**	**-1.2**
	comp=Z,154nm,1.5s,mb5.8						
EDI	**Edinburgh**	**55.49**	**24**	*e*P	**P**	**22 52 03.5**	**-1.3**
EDI				AMb	AMB	22 52 08.3	
	comp=Z,154nm,1.5s,mb5.8						
EDI				*e*S	**S**	**22 59 40.0**	**-11**
HINF	**Hinteralfeld**	**55.50**	**36⇑**	*i* P	**P**	**22 52 04.5**	**-0.6**
	comp=Z,1μm,1.5s,mb6.3						
HINF	**Hinteralfeld**	**55.50**	**36⇑**	*i* P	**P**	**22 52 04.5**	**-0.6**
HINF				pmax	pmax		
	comp=Z,512nm,1.5s,mb6.3						
HINF	**Hinteralfeld**	**55.50**	**36**	*i* P	**P**	**22 52 04.5**	**-0.6**
	comp=Z,512nm,1.5s,mb6.3						
BOURR	**Bourrignon**	**55.51**	**37⇑**	*i* P	**P**	**22 52 04.9**	**-0.2**
	comp=Z,2μm,2.8s,mb6.7						
SC2M	**Scurtabo**	**55.56**	**41**	P	**P**	**22 52 04.9**	**-0.7**
SC2M	**Scurtabo**	**55.56**	**41**	P	**P**	**22 52 04.9**	**-0.7**
GIVF	**Givet**	**55.56**	**33⇑**	*i* P	**P**	**22 52 04.6**	**-0.9**
	comp=Z,926nm,1.5s,mb6.3						
GIVF	**Givet**	**55.56**	**33⇑**	*i* P	**P**	**22 52 04.6**	**-0.9**
GIVF				pmax	pmax		
	comp=Z,463nm,1.5s,mb6.3						
GIVF	**Givet**	**55.56**	**33**	*i* P	**P**	**22 52 04.6**	**-0.9**
	comp=Z,463nm,1.5s,mb6.3						
XSO	**Sourhope Farm**	**55.56**	**25**	*e*P	**P**	**22 52 05.0**	**-0.4**
XSO	**Sourhope Farm**	**55.56**	**25**	*e*P	**P**	**22 52 05.0**	**-0.4**
	comp=Z,364nm,1.5s,mb6.2						
KSB	**Sheil Bridge**	**55.57**	**22⇑**	*e*P	**P**	**22 52 04.4**	**-1.0**
KPL	**Plockton**	**55.59**	**21**	*e*P	**P**	**22 52 04.1**	**-1.4**
KPL				AMb	AMB	22 52 12.2	
	comp=Z,364nm,1.5s,mb6.2						
EBH	**Black Hill**	**55.59**	**23**	*e*P	**P**	**22 52 04.8**	**-0.8**
LMSR	**Misrath**	**55.64**	**56**	*i* P	**P**	**22 52 08.4**	**+2.0**
	SNR=22						
LJFR	**Jufra**	**55.66**	**60**	*i* P	**P**	**22 52 08.0**	**+1.5**
	SNR=22						
LJFR				*e*S	**S**	**22 59 55.6**	**+1.6**
	SNR=24						
MOF	**Molkenrain**	**55.68**	**36**	*e*P	**P**	**22 52 05.5**	**-0.9**
UCC	**Uccle**	**55.70**	**32**	P	**P**	**22 52 06.3**	**-0.2**
	comp=Z,291nm,2.2s,mb5.9						
BBS	**Basel-Blauen**	**55.71**	**37**	*e*P	**P**	**22 52 06.1**	**-0.5**
HASLI	**Hasliberg/Brie**	**55.76**	**38⇑**	*i* P	**P**	**22 52 06.7**	**-0.2**
	comp=Z,2μm,2.6s,mb6.8						
BALST	**Balsthal**	**55.76**	**37⇑**	*i* P	**P**	**22 52 06.7**	**-0.2**
	comp=Z,3μm,2.7s,mb6.8						
CODM	**Codolo**	**55.76**	**41**	P	**P**	**22 52 06.0**	**-1.0**
CODM	**Codolo**	**55.76**	**41**	P	**P**	**22 52 06.0**	**-1.0**
MAON	**Monte Argentar**	**55.82**	**44**	P	**P**	**22 52 09.8**	**+2.4**
KAC	**Achnashellach**	**55.83**	**21⇑**	*e*P	**P**	**22 52 05.8**	**-1.5**
VINC	**Vinca**	**55.85**	**41**	P	**P**	**22 52 06.7**	**-1.0**
VINC	**Vinca**	**55.85**	**41**	P	**P**	**22 52 06.7**	**-1.0**
VINC	**Vinca**	**55.85**	**41**	P	**P**	**22 52 06.7**	**-0.9**
BACM	**Baccana**	**55.86**	**41**	P	**P**	**22 52 06.8**	**-0.9**
BACM	**Baccana**	**55.86**	**41**	P	**P**	**22 52 06.8**	**-0.9**
ECH	**Echery**	**55.88**	**36**	*e*P	**P**	**22 52 07.0**	**-0.8**
MUGIO	**Muggio**	**55.92**	**39⇑**	*i* P	**P**	**22 52 07.0**	**-1.1**
	comp=Z,646nm,1.3s,mb6.5						
PII	**Pisa**	**55.92**	**42**	P	**P**	**22 52 10.2**	**+2.0**
PII				pmax	pmax		
	comp=Z,1μm,2.5s,mb6.5						
PII	**Pisa**	**55.92**	**42**	P	**P**	**22 52 10.2**	**+2.0**
	comp=Z,1μm,2.5s,mb6.5						
FUSIO	**Fusio**	**55.93**	**38⇑**	*i* P	**P**	**22 52 08.2**	**0.0**
	comp=Z,3μm,3.4s						
GRAM	**Graiana**	**55.94**	**41**	P	**P**	**22 52 08.2**	**-0.1**
GRAM	**Graiana**	**55.94**	**41**	P	**P**	**22 52 08.2**	**-0.1**
MAIM	**Mastiano**	**55.98**	**42**	P	**P**	**22 52 07.8**	**-0.8**
MAIM	**Mastiano**	**55.98**	**42**	P	**P**	**22 52 07.8**	**-0.8**
BCLA	**Clavier**	**55.99**	**33**	P	**P**	**22 52 08.1**	**-0.5**
	comp=Z,157nm,2.4s,mb5.6						
HUIG	**Huatulco**	**56.01**	**283**	*i* P	**P**	**22 52 07.5**	**-1.7**
HUIG	**Huatulco**	**56.01**	**283**	*i* P	**P**	**22 52 07.5**	**-1.7**
VLC	**Villacollemand**	**56.01**	**41⇑**	*i* P	**P**	**22 52 08.0**	**-0.8**
	comp=Z,166nm,1.3s,mb5.9						
VLC	**Villacollemand**	**56.01**	**41**	*e*PP	PP	22 54 11.2	-2.5
VLC	**Villacollemand**	**56.01**	**41⇑**	*i* P	**P**	**22 52 08.0**	**-0.9**
	comp=Z,166nm,1.3s,mb5.9						
VLC				*e*PP	PP	22 54 11.2	-2.4
VLC				*e*S	**S**	**22 59 58.0**	**-0.2**
VLC				LR	LR		
	comp=Z,26μm,22.0s,MS6.3						
SARO	**Sassorosso**	**56.03**	**41**	P	**P**	**22 52 08.4**	**-0.6**
SARO	**Sassorosso**	**56.03**	**41**	P	**P**	**22 52 08.4**	**-0.6**
SARO	**Sassorosso**	**56.03**	**41**	P	**P**	**22 52 08.3**	**-0.6**
CDF	**Champ du Feu**	**56.04**	**36⇑**	*i* P	**P**	**22 52 08.2**	**-0.7**
	comp=Z,746nm,1.5s,mb6.2						
CDF	**Champ du Feu**	**56.04**	**36⇑**	*i* P	**P**	**22 52 08.2**	**-0.7**
CDF				pmax	pmax		
	comp=Z,373nm,1.5s,mb6.2						
CDF	**Champ du Feu**	**56.04**	**36**	*i* P	**P**	**22 52 08.2**	**-0.7**
	comp=Z,373nm,1.5s,mb6.2						
WLF	**Walferdange**	**56.05**	**34**	P	**P**	**22 52 08.6**	**-0.4**
	comp=Z,140nm,2.4s,mb5.6						
WLF	**Walferdange**	**56.05**	**34⇑**	*i* P	**P**	**22 52 10.6**	**+1.6**
WLF						22 53 11.8	
WLF				*e*		22 54 10.6	
WLF				*e*S	**S**	**22 59 58.6**	**+0.1**
WLF				pmax	pmax		
	comp=Z,237nm,1.5s,mb6.0						
WLF				MLR	MLR		
	comp=Z,79μm,20.0s,MS6.8						
WLF	**Walferdange**	**56.05**	**34**	*e*P	**P**	**22 52 08.1**	**-0.9**
	comp=Z,322nm,1.6s,mb6.1						
WLF				*e*S	**S**	**22 59 58.6**	**+0.1**
WLF	**Walferdange**	**56.05**	**34**	*i* P	**P**	**22 52 10.6**	**+1.6**
	comp=Z,237nm,1.5s,mb6.0						
WLF	**Walferdange**	**56.05**	**34**	PcP	PcP	22 53 11.8	+4.6
WLF				*e*S	**S**	**22 59 58.6**	**+0.1**
	comp=Z,79μm,20.0s						
WLF	**Walferdange**	**56.05**	**34⇑**	*i* P	**P**	**22 52 10.6**	**+1.6**
	comp=Z,237nm,1.5s,mb6.0						
WLF				PcP	PcP	22 53 11.8	+4.5
WLF				*e*PP	PP	22 54 10.6	-3.2
WLF				*e*S	**S**	**22 59 58.6**	**+0.1**
WLF				LR	LR		
	comp=Z,79μm,20.0s,MS6.8						
SULZ	**Cheisacher**	**56.10**	**37⇑**	*i* P	**P**	**22 52 09.0**	**-0.4**
	comp=Z,2μm,2.9s,mb6.7						
LIBD	**Limburg**	**56.10**	**36**	*e*P	**P**	**22 52 09.6**	**+0.2**
MDO	**Dochfour**	**56.13**	**22⇑**	*e*P	**P**	**22 52 08.2**	**-1.2**
ERBM	**Eremo**	**56.14**	**41**	P	**P**	**22 52 10.2**	**+0.5**
MUO	**Muotathal**	**56.15**	**38⇑**	*i* P	**P**	**22 52 09.9**	**+0.2**
	comp=Z,4μm,2.7s,mb6.9						
FELD	**Feldberg im Sc**	**56.20**	**37**	*e*P	**P**	**22 52 09.6**	**-0.5**
MIAR	**Mount Ida**	**56.23**	**306**	*e*P	**P**	**22 52 08.4**	**-2.1**
MIAR				*e*		22 54 11.2	
MIAR				*e*S	**S**	**23 00 03.3**	**+1.9**
MIAR				MLR	MLR		
	comp=Z,14μm,20.0s,MS6.0						
MIAR	**Mount Ida**	**56.23**	**306**	*e*PP	PP	22 54 11.2	-4.6
ZUR	**Degenried**	**56.30**	**37⇑**	*i* P	**P**	**22 52 10.7**	**-0.1**
	comp=Z,3μm,2.6s,mb6.9						
LLS	**Linth-Limmern**	**56.32**	**38⇑**	*i* P	**P**	**22 52 10.9**	**-0.1**
	comp=Z,2μm,2.8s,mb6.6						
CSNT	**Castellina Chi**	**56.33**	**42**	P	**P**	**22 52 11.0**	**-0.1**
TUE	**Stuetta**	**56.35**	**39⇑**	*e*P	**P**	**22 52 10.4**	**-0.8**
	comp=Z,198nm,1.4s,mb6.0						
TUE				*e*S	**S**	**23 00 03.5**	**+0.8**
TUE	**Stuetta**	**56.35**	**39⇑**	*e*P	**P**	**22 52 10.4**	**-0.8**
	comp=Z,198nm,1.4s,mb6.0						
TUE				*e*S	**S**	**23 00 03.5**	**+0.8**
TUE				LR	LR		
	comp=Z,110μm,21.0s,MS6.9						
CSLB	**Castelbuono**	**56.38**	**50**	P	**P**	**22 52 13.6**	**+2.1**
	comp=Z,1μm,2.4s,mb6.5						
FLACH	**Flaach**	**56.39**	**37⇑**	*i* P	**P**	**22 52 11.0**	**-0.5**
	comp=Z,3μm,2.9s,mb6.8						
BEBN	**Eben Emael**	**56.40**	**33**	P	**P**	**22 52 11.4**	**-0.1**
STR	**Strasbourg**	**56.41**	**36**	*e*P	**P**	**22 52 11.3**	**-0.3**
VDL	**Val di Lei**	**56.42**	**39⇑**	*i* P	**P**	**22 52 11.0**	**-0.7**
	comp=Z,1μm,3.0s,mb6.4						
JFWS	**Jewell Farm**	**56.43**	**317⇑**	*i* P	**P**	**22 52 11.1**	**-0.7**
JFWS				*e*S	**S**	**23 00 00.3**	**-3.4**
JFWS				pmax	pmax		
	comp=Z,785nm,1.3s,mb6.6						
JFWS				MLR	MLR		
	comp=Z,71μm,21.0s,MS6.7						
JFWS	**Jewell Farm**	**56.43**	**317**	*i* P	**P**	**22 52 11.1**	**-0.7**
	comp=Z,785nm,1.3s,mb6.6						
JFWS				*e*S	**S**	**23 00 00.3**	**-3.4**
JFWS	**Jewell Farm**	**56.43**	**317⇑**	*i* P	**P**	**22 52 11.1**	**-0.7**
	comp=Z,785nm,1.3s,mb6.6						
JFWS				*e*S	**S**	**23 00 00.3**	**-3.5**
JFWS				LR	LR		
	comp=Z,71μm,21.0s,MS6.7						
SLE	**Schleitheim**	**56.44**	**37⇑**	*i* P	**P**	**22 52 11.2**	**-0.6**
	comp=Z,1μm,2.2s,mb6.5						
LVIG	**Laguna Verde**	**56.44**	**288**	*i* P	**P**	**22 52 09.5**	**-2.8**
LVIG	**

STU e 22 53 07.9
STU e 22 54 20.2
STU eS **S** **23 00 07.9 -7.6**
STU pmax pmax
comp=Z,275nm,1.2s,mb6.2
STU Stuttgart 57.33 36 eP **P** **22 52 16.9 -1.2**
comp=Z,290nm,1.2s,mb6.2
STU Stuttgart 57.33 36 i P **P** **22 52 16.3 -1.8**
comp=Z,275nm,1.2s,mb6.2
STU Stuttgart 57.33 36 ePcP PcP 22 53 07.9 -4.3
STU Stuttgart 57.33 36⇑ i P **P** **22 52 16.3 -1.8**
comp=Z,274nm,1.2s,mb6.2
STU ePcP PcP 22 53 07.9 -4.4
STU ePP PP 22 54 20.2 -5.1
STU eS **S** **23 00 07.9 -7.6**
AQU L'Aquila 57.35 44⇑ eP **P** **22 52 17.9 -0.5**
AQU eS **S** **23 00 24.7 +8.7**
AQU pmax pmax
comp=Z,1µm,2.0s,mb6.6
AQU MLR MLR
comp=Z,22µm,19.0s,MS6.3
AQU L'Aquila 57.35 44⇓ i P **P** **22 52 18.1 -0.3**
AQU eS **S** **23 00 24.7 +8.7**
AQU L'Aquila 57.35 44⇑ eP **P** **22 52 17.9 -0.4**
comp=Z,1µm,2.0s,mb6.6
AQU eS **S** **23 00 24.7 +8.7**
AQU LR LR
comp=Z,22µm,19.0s,MS6.3
FETA Feichten 57.45 38 i P **P** **22 52 18.3 -0.7**
SNR=58
TOD Tromm 57.51 35 eP **P** **22 52 18.2 -1.1**
APPI Appiano 57.53 39 P **P** **22 52 20.0 +0.5**
BUG Bochum--Univer 57.59 33 eP **P** **22 52 19.1 -0.8**
comp=Z,473nm,1.6s,mb6.3
BUG eS **S** **23 00 20.5 +1.7**
WTSB Winterswijk 57.62 32⇑ i P **P** **22 52 19.7 -0.4**
comp=Z,458nm,2.0s,mb6.2
RETA Reutte 57.67 38 i P **P** **22 52 19.8 -0.8**
SNR=76
MIDA Miranda 57.70 45 P **P** **22 52 21.1 +0.2**
MOTA Moosalm 57.82 38 i P **P** **22 52 20.8 -0.8**
SNR=52
MOTA Moosalm 57.82 38 P **P** **22 52 20.8 -0.8**
comp=Z,52nm,5.0s
SQTA Sankt Quirin 57.83 38 i P **P** **22 52 21.2 -0.5**
SNR=63
SQTA Sankt Quirin 57.83 38 P **P** **22 52 21.2 -0.5**
comp=Z,63nm,3.0s
CEL Celeste 57.85 50⇑ i P **P** **22 52 21.8 -0.2**
comp=Z,97nm,1.2s,mb5.7
CEL Celeste 57.85 50 ePP PP 22 54 33.3 +3.1
CEL Celeste 57.85 50⇑ i P **P** **22 52 21.8 -0.2**
comp=Z,97nm,1.2s,mb5.7
CEL ePP PP 22 54 33.3 +3.1
CEL eS **S** **23 00 15.7 -7.1**
CEL LR LR
comp=Z,60µm,22.0s,MS6.7
AOI Ancona 57.92 43 P **P** **22 52 23.3 +0.9**
BORG Borgarnes 57.93 9 P **P** **22 52 21.7 -0.4**
comp=Z,58nm,1.2s,mb5.5,baz=106,slow=2.2,SNR=4.0
BORG S S 22 59 53.9 -29
comp=Z,20nm,1.1s,baz=349,slow=6.7,SNR=1.8
BORG LR LR 23 11 28.6
comp=Z,35µm,19.0s,MS6.5,baz=214,slow=30
BORG Borgarnes 57.93 9 P **P** **22 52 21.7 -0.3**
BORG S S 22 59 53.9 -29
PNIG Pinotepa 57.96 284 i P **P** **22 52 22.3 -0.8**
PNIG Pinotepa 57.96 284 i P **P** **22 52 22.3 -0.8**
WATA Walderalm 58.11 38 i P **P** **22 52 22.8 -0.8**
SNR=7.1
WATA Walderalm 58.11 38 P **P** **22 52 22.8 -0.8**
comp=Z,7.0nm,1.0s
WATA Walderalm 58.11 38 i P **P** **22 52 22.8 -0.8**
WTTA Wattenberg 58.11 38 i P **P** **22 52 22.8 -0.8**
SNR=58
WTTA Wattenberg 58.11 38 P **P** **22 52 22.8 -0.8**
comp=Z,58nm,2.0s,mb5.3
SCIA State Center 58.12 315⇑ i P **P** **22 52 22.5 -1.3**
SCIA State Center 58.12 315 ePP PP 22 54 39.9 +7.5
SCIA State Center 58.12 315⇑ i P **P** **22 52 22.5 -1.3**
SCIA ePP PP 22 54 39.9 +7.4
SCIA eS **S** **23 00 23.9 -2.1**
SCIA LR LR
comp=Z,53µm,21.0s,MS6.6
SEST Monte Rota 58.26 39 P **P** **22 52 24.9 +0.2**
FUR Furstenfeldbru 58.28 37 eP **P** **22 52 24.1 -0.7**
FUR pmax pmax
comp=Z,674nm,1.3s,mb6.5
FUR Furstenfeldbru 58.28 37 eP **P** **22 52 24.1 -0.7**
comp=Z,674nm,1.3s,mb6.5
CUC Castrocucco 58.30 48⇑ i P **P** **22 52 23.4 -1.7**
comp=Z,534nm,0.8s,mb6.6
CUC Castrocucco 58.30 48 ePcP PcP 22 53 16.8 +0.5
CUC Castrocucco 58.30 48⇑ i P **P** **22 52 23.4 -1.7**
comp=Z,534nm,0.8s,mb6.6
CUC ePcP PcP 22 53 16.8 +0.5
CUC eS **S** **23 00 34.2 +5.7**
CUC LR LR
comp=Z,53µm,20.0s,MS6.7
IBBN Ibbenburen 58.31 32 eP **P** **22 52 24.3 -0.6**
comp=Z,676nm,1.8s,mb6.4
IBBN eS **S** **23 00 29.9 +1.7**
ABTA Abfaltersbach 58.44 39 i P **P** **22 52 25.1 -0.9**
SNR=54
PPM Popocatepetl 58.49 287 i P **P** **22 52 27.6 +0.8**
PPM Popocatepetl 58.49 287 i P **P** **22 52 27.6 +0.8**
KVTX Kingsville 58.53 297⇑ i P **P** **22 52 28.0 +1.1**
comp=Z,2µm,1.3s,mb7.0
KVTX PcP PcP 22 53 17.6 +0.1
KVTX eS **S** **23 00 29.4 -2.5**
KVTX LR LR
comp=Z,19µm,22.0s,MS6.2
PTRP Pietrapertosa 58.64 47 P **P** **22 52 29.4 +1.9**
TIP Timpagrande 58.76 49⇑ eP **P** **22 52 26.1 -2.2**
comp=Z,10µm,0.6s
TIP Timpagrande 58.76 49 ePP PP 22 54 36.7 -1.5
TIP Timpagrande 58.76 49⇑ eP **P** **22 52 26.1 -2.2**
comp=Z,46µm,0.6s
TIP ePP PP 22 54 36.7 -1.5
TIP eS **S** **23 00 32.5 -2.1**
TIP LR LR
comp=Z,48µm,22.0s
UBBA Unterbreizbach 58.77 34 eP **P** **22 52 27.6 -0.5**
comp=Z,405nm,1.9s,mb6.1
UBBA eS **S** **23 00 32.6 -1.6**
PTCC Patocco-Chiusa 58.84 40 P **P** **22 52 27.9 -0.8**
comp=Z,267nm,1.4s,mb6.1
YAIG Yautepec 58.90 287 i P **P** **22 52 29.2 -0.5**
YAIG Yautepec 58.90 287 i P **P** **22 52 29.2 -0.4**
GRA1 Grafenberg Arr 58.93 36 eP **P** **22 52 28.5 -0.8**
comp=Z,599nm,1.5s,mb6.4
GRA1 eS **S** **23 00 35.5 -0.9**
GRA1 Grafenberg Arr 58.93 36 eP **P** **22 52 28.5 -0.8**
comp=Z,599nm,1.5s,mb6.4
GRA1 eS **S** **23 00 35.5 -0.9**
GRA1 eSS SS 23 04 28.7 -1.3
GRA1 LR LR
comp=Z,22µm,21.3s,MS6.2
GRF Grafenberg Arr 58.93 36 eP **P** **22 52 28.5 -0.8**
GRF eS **S** **23 00 35.5 -0.9**
GRF eSS SS 23 04 28.7 -1.3
GRF pmax pmax
comp=Z,599nm,1.5s,mb6.4
GRF MLR MLR
comp=Z,22µm,21.3s,MS6.2
GRF Grafenberg Arr 58.93 36 eP **P** **22 52 28.5 -0.8**
GRF eS **S** **23 00 35.5 -0.9**
GRF eSS SS 23 04 28.7 -1.3
GRF pmax pmax
comp=Z,599nm,1.5s,mb6.4
GRF MLR MLR
comp=Z,22µm,21.3s,MS6.2
GRF Grafenberg Arr 58.93 36 eP **P** **22 52 28.5 -0.8**
comp=Z,599nm,1.5s,mb6.4
GRF eS **S** **23 00 35.5 -0.9**
GRF eSS SS 23 04 28.7 -1.3
GRF eL 23 13 39.7
comp=Z,22µm,21.3s
GRF Grafenberg Arr 58.93 36 eP **P** **22 52 28.5 -0.8**
comp=Z,599nm,1.5s,mb6.4
GRF eS **S** **23 00 35.5 -0.9**
PBVM Pinon 58.94 288 i P **P** **22 52 29.1 -0.8**
PBVM Pinon 58.94 288 i P **P** **22 52 29.1 -0.8**
UNM Universidad Na 59.02 288 eP **P** **22 52 31.0 +0.5**
VOY Vojsko 59.04 41 eP **P** **22 52 29.8 -0.3**

JAVS Javornik 59.09 41 i P **P** **22 52 29.8 -0.7**
KBA Koelnbreinsper 59.10 39 i P **P** **22 52 29.8 -0.8**
SNR=92
KBA Koelnbreinsper 59.10 39 P **P** **22 52 29.8 -0.7**
comp=Z,92nm,3.0s
NVLJ Novalja 59.14 42 P **P** **22 52 32.7 +1.9**
NVLJ Novalja 59.14 42 i P **P** **22 52 32.7 +1.9**
NVLJ Novalja 59.14 42 i P **P** **22 52 32.7 +1.9**
EYMN Ely 59.24 322 eP **P** **22 52 30.4 -1.1**
EYMN Ely 59.24 322 ePP PP 22 54 45.1 +2.9
EYMN Ely 59.24 322 eP **P** **22 52 30.4 -1.0**
EYMN ePP PP 22 54 45.1 +2.9
EYMN eS **S** **23 00 28.6 -12**
EYMN LR LR
comp=Z,34µm,22.0s,MS6.4
SFJD Kangerlussuaq 59.30 355 P **P** **22 52 30.2 -1.3**
comp=Z,26nm,0.7s,mb5.4,baz=153,slow=9.7,SNR=9.0
SFJD S **S** **23 00 21.9 -19**
comp=Z,25nm,0.6s,baz=25,slow=9.0,SNR=3.9
SFJD LR LR 23 12 57.6
comp=Z,16µm,18.5s,MS6.2,baz=146,slow=31
SFJD Kangerlussuaq 59.30 355 P **P** **22 52 30.2 -1.3**
SFJD S **S** **23 00 21.9 -19**
PLIG Platanillo 59.30 287 i P **P** **22 52 32.6 +0.2**
PLIG Platanillo 59.30 287 i P **P** **22 52 32.6 +0.1**
LJU Ljubljana 59.45 41 i P **P** **22 52 32.6 -0.3**
LJU i 22 52 35.4
LJU ePP PP 22 54 43.7 -0.5
LJU eS **S** **23 00 46.0 +2.8**
CLZ Clausthal 59.47 33 eP **P** **22 52 32.2 -0.8**
CLZ eS **S** **23 00 40.0 -3.2**
CLZ pmax pmax
comp=Z,1µm,3.0s
CLZ Clausthal 59.47 33 eP **P** **22 52 32.2 -0.8**
comp=Z,1µm,3.0s
CLZ eS **S** **23 00 40.0 -3.2**
ROTZ Rotzenmuhle 59.54 36 eP **P** **22 52 32.8 -0.7**
comp=Z,422nm,1.5s,mb6.2
ROTZ eS **S** **23 00 42.4 -1.9**
MANZ Manzenberg 59.58 36 eP **P** **22 52 33.0 -0.8**
comp=Z,356nm,1.6s,mb6.2
MANZ eS **S** **23 00 43.5 -1.3**
MOX Moxa 59.59 35c i P **P** **22 52 33.6 -0.3**
comp=Z,375nm,1.7s,mb6.1
MOX
comp=Z,44µm,20.0s
MOX Moxa 59.59 35 i P **P** **22 52 33.6 -0.3**
MOX pmax pmax
comp=Z,375nm,1.7s,mb6.1
MOX MLR MLR
comp=Z,44µm,20.0s,MS6.6
MOX Moxa 59.59 35 eP **P** **22 52 33.2 -0.7**
comp=Z,393nm,1.6s,mb6.2
MOX Moxa 59.59 35 i Pu **P** **22 52 33.6 -0.3**
comp=Z,375nm,1.7s,mb6.1
MOX LR LR
comp=Z,44µm,20.0s,MS6.6
OBKA Obir 59.64 40 i P **P** **22 52 33.3 -0.9**
SNR=81
OBKA Obir 59.64 40 P **P** **22 52 33.3 -1.0**
comp=Z,80nm,7.0s
NRDL Niedersach Rie 59.64 33 eP **P** **22 52 33.9 -0.3**
comp=Z,528nm,1.5s,mb6.3
NRDL eS **S** **23 00 44.5 -1.0**
WET Wettzell 59.67 37 eP **P** **22 52 33.3 -1.1**
WET eS **S** **23 00 45.1 -0.8**
WET pmax pmax
comp=Z,217nm,1.5s,mb6.0
WET Wettzell 59.67 37 eP **P** **22 52 33.3 -1.1**
comp=Z,217nm,1.5s,mb6.0
WET eS **S** **23 00 45.1 -0.8**
ACX Acapulco 59.67 285 i P **P** **22 52 33.2 -1.9**
LJBD Adjabya 59.71 59 i P **P** **22 52 37.7 +2.6**
SNR=21
BOJS Bojanci 59.73 42 i P **P** **22 52 34.4 -0.5**
BOJS e 22 52 37.1
BOJS eS **S** **23 00 49.5 +2.7**
KSU1 Kansas State U 59.75 311 eP **P** **22 52 32.6 -2.6**
KSU1 Kansas State U 59.75 311 ePP PP 22 54 43.2 -3.8
KSU1 Kansas State U 59.75 311 eP **P** **22 52 32.6 -2.7**
KSU1 ePP PP 22 54 43.2 -3.8
KSU1 eS **S** **23 00 40.8 -6.7**
KSU1 LR LR
comp=Z,26µm,20.0s,MS6.4
NKC Novy Kostel 59.88 36 eP **P** **22 52 35.5 -0.4**
NKC epP 22 52 38.4
NKC eS **S** **23 00 51.6 +2.9**
NKC Novy Kostel 59.88 36 eP **P** **22 52 35.5 -0.4**
NKC epP 22 52 38.4
NKC ex x 22 54 34.1
NKC eS **S** **23 00 51.6 +2.9**
NKC ex x 23 07 30.0
NKC AMS AMS 23 13 50.0
comp=Z,41µm,22.3s
NKC Novy Kostel 59.88 36 eP **P** **22 52 35.5 -0.4**
NKC epP 22 52 38.4
NKC ePP PP 22 54 34.1 -14
NKC eS **S** **23 00 51.6 +2.9**
NKC e 23 07 30.0
MOA Molln 59.98 39 i P **P** **22 52 35.3 -1.3**
SNR=81
MOA Molln 59.98 39 P **P** **22 52 35.3 -1.3**
comp=Z,80nm,6.0s
CAIG El Cayaco 60.01 285 i P **P** **22 52 36.8 -0.5**
CAIG El Cayaco 60.01 285 i P **P** **22 52 36.8 -0.6**
GEC2 GERESS Array S 60.03 37 eP **P** **22 52 35.9 -1.0**
GEC2 eS **S** **23 00 48.3 -2.4**
GEC2 pmax pmax
comp=Z,252nm,1.6s,mb6.0
GEC2 GERESS Array S 60.03 37 eP **P** **22 52 35.9 -1.0**
comp=Z,252nm,1.6s,mb6.0
GEC2 eS **S** **23 00 48.3 -2.4**
GERES GERESS Array B 60.03 37 P **P** **22 52 35.7 -1.2**
comp=Z,30nm,1.0s,mb5.3,baz=254,slow=5.0,SNR=47
GERES LR LR 23 17 10.7
comp=Z,42µm,19.0s,MS6.6,baz=242,slow=35
GERES PKPPKP 23 21 57.0
comp=Z,0.4nm,0.8s,baz=151,slow=3.0,SNR=3.7
GERES PKP2bc 23 22 14.3
comp=Z,1.1nm,0.9s,baz=104,slow=0.6,SNR=4.1
GERES GERESS Array B 60.03 37 P **P** **22 52 35.7 -1.2**
GERES LR LR 23 17 10.7
GERES P'P' 23 21 57.0
GERES ⇑e 23 22 14.3
PERS Pernice 60.05 40 i P **P** **22 52 36.1 -1.0**
KHC Kasperske Hory 60.08 37 eP **P** **22 52 36.3 -0.9**
KHC e*PP 22 52 39.1
KHC e 22 54 44.2
KHC eS **S** **23 00 50.6 -0.6**
KHC Kasperske Hory 60.08 37 eP **P** **22 52 36.3 -0.9**
KHC epP 22 52 39.1
KHC eS **S** **23 00 50.6 -0.6**
KHC Kasperske Hory 60.08 37 eP **P** **22 52 36.3 -0.9**
KHC epP 22 52 39.1
KHC ePP PP 22 54 44.2 -5.5
KHC eS **S** **23 00 50.6 -0.6**
KHC ex x 23 07 26.2
KHC AMS AMS 23 10 30.0
comp=Z,57µm,34.6s
LUJL Ujela 60.40 61 i P **P** **22 52 42.2 +2.3**
SNR=21
LUJL eS **S** **23 00 59.4 +3.3**
SNR=23
SISC Sisak 60.45 42 i P **P** **22 52 42.6 +2.7**
WMOK Wichita Mounta 60.46 305⇑ i P **P** **22 52 38.4 -1.7**
WMOK pmax pmax
comp=Z,396nm,1.5s,mb6.2
WMOK MLR MLR
comp=Z,18µm,20.0s,MS6.2
WMOK Wichita Mounta 60.46 305 i P **P** **22 52 38.4 -1.7**
comp=Z,18µm,20.0s
WMOK Wichita Mounta 60.46 305 ePcP PcP 22 53 32.8 +7.8
WMOK Wichita Mounta 60.46 305⇑ i P **P** **22 52 38.4 -1.7**
comp=Z,396nm,1.5s,mb6.2
WMOK ePcP PcP 22 53 32.8 +7.8
WMOK ePP PP 22 54 47.5 -5.9
WMOK eS **S** **23 00 42.3 -14**
WMOK LR LR
comp=Z,18µm,20.0s,MS6.2
BSEG Bad Segeberg 60.47 31 eP **P** **22 52 39.0 -0.8**
comp=Z,718nm,1.5s,mb6.5
BSEG eS **S** **23 00 54.0 -2.0**
STON Ston 60.52 45 P **P** **22 52 41.8 +1.4**
STON Ston 60.52 45 i P **P** **22 52 41.8 +1.4**

STON Ston 60.52 45 i P **P** **22 52 41.8 +1.4**
ARSA Arzberg 60.54 40 i P **P** **22 52 39.1 -1.3**
SNR=35
ARSA Arzberg 60.54 40 P **P** **22 52 39.1 -1.3**
comp=Z,35nm,2.0s,mb5.1
MARJ Al Marj 60.55 57 i P **P** **22 52 42.8 +2.0**
SNR=21
JCT Junction City 60.59 300⇑ i P **P** **22 52 40.0 -1.1**
JCT eS **S** **23 00 55.7 -2.8**
JCT pmax pmax
comp=Z,602nm,1.3s,mb6.6
JCT MLR MLR
comp=Z,8µm,19.0s,MS5.9
JCT Junction City 60.59 300 i P **P** **22 52 40.0 -1.1**
comp=Z,602nm,1.3s,mb6.6
JCT eS **S** **23 00 55.7 -2.8**
JCT Junction City 60.59 300⇑ i P **P** **22 52 40.0 -1.1**
comp=Z,602nm,1.3s,mb6.6
JCT eS **S** **23 00 55.7 -2.7**
JCT LR LR
comp=Z,8µm,19.0s,MS5.9
CLL Collm 60.67 35 i P **P** **22 52 40.3 -1.0**
CLL i 22 52 48.9
CLL eS **S** **23 01 02.0 +3.2**
CLL pmax pmax
comp=Z,194nm,1.4s,mb6.0
CLL MLR MLR
comp=Z,62µm,18.9s,MS6.8
CLL Collm 60.67 35 eP **P** **22 52 40.6 -0.7**
comp=Z,195nm,1.4s,mb6.0
CLL eS **S** **23 00 57.5 -1.3**
CLL Collm 60.67 35 i P **P** **22 52 40.3 -1.0**
comp=Z,194nm,1.4s,mb6.0
CLL i x x 22 52 48.9
CLL ePP PP 22 54 48.0 -6.9
CLL eS **S** **23 01 02.0 +3.2**
comp=N,17µm,27.0s
CLL eS **S** **23 01 02.0 +3.2**
comp=E,23µm,27.1s
CLL eSS SS 23 04 52.0 -5.2
CLL eSSS 23 07 45.0
CLL ex x 23 09 24.0
CLL Lm 23 17 00.0
comp=N,28µm,19.0s
CLL Lm 23 17 00.0
comp=E,52µm,18.9s
CLL Lm 23 17 00.0
comp=Z,62µm,18.9s
CLL Lm(360 23 32 00.0
comp=N,600nm,21.5s
CLL Lm(360 23 32 00.0
comp=E,500nm,21.8s
CLL Lm(360 23 32 00.0
comp=Z,1µm,21.7s
CLL Collm 60.67 35 i P **P** **22 52 40.3 -1.0**
comp=Z,194nm,1.4s,mb6.0
CLL i 22 52 48.9
CLL eS **S** **23 01 02.0 +3.2**
CLL LR LR
comp=Z,62µm,18.9s,MS6.8
MOIG Morelia 60.93 288 i P **P** **22 52 43.1 -0.5**
MOIG Morelia 60.93 288 i P **P** **22 52 43.1 -0.5**
HCY Herceg Novi 60.95 46⇑ i P **P** **22 52 43.1 -0.3**
CONA Conrad Observa 61.00 39 i P **P** **22 52 42.7 -0.8**
SNR=66
CONA Conrad Observa 61.00 39 P **P** **22 52 42.7 -0.9**
comp=Z,65nm,6.0s
PRU Pruhonice 61.00 37 eP **P** **22 52 42.9 -0.6**
PRU e*PP 22 52 45.6
PRU eS **S** **23 01 06.2 +3.2**
PRU MLR MLR
comp=Z,34µm,18.8s,MS6.5
PRU Pruhonice 61.00 37 eP **P** **22 52 42.9 -0.6**
PRU epP 22 52 45.6
PRU eS **S** **23 01 06.2 +3.2**
PRU Pruhonice 61.00 37 eP **P** **22 52 42.9 -0.6**
PRU epP 22 52 45.6
PRU ePP PP 22 54 51.3 -6.5
PRU eS **S** **23 01 06.2 +3.2**
PRU ex x 23 07 49.1
PRU AMS AMS 23 16 30.0
comp=Z,34µm,18.8s
BRG Berggiesshubel 61.02 35⇑ i P **P** **22 52 43.2 -0.4**
BRG S **S** **23 01 08.0 +4.7**
BRG SS SS 23 05 06.0 +3.3
BRG pmax pmax
comp=Z,190nm,1.6s,mb6.0
BRG MLR MLR
comp=Z,25µm,21.8s,MS6.3
BRG Berggiesshubel 61.02 35 eP **P** **22 52 43.1 -0.5**
comp=Z,317nm,1.6s,mb6.2
BRG eS **S** **23 01 01.5 -1.8**
BRG Berggiesshubel 61.02 35⇑ i P **P** **22 52 43.2 -0.5**
comp=Z,317nm,1.6s,mb6.2
BRG S **S** **23 01 08.0 +4.7**
BRG SS SS 23 05 06.0 +3.3
BRG PKPPKP 23 21 48.1
comp=Z,47nm,2.0s
BRG
comp=N,40µm,19.6s
BRG
comp=E,29µm,20.6s
BRG
comp=Z,42µm,21.8s
BRG Berggiesshubel 61.02 35⇑ i P **P** **22 52 43.2 -0.5**
comp=Z,190nm,1.6s,mb6.0
BRG S **S** **23 01 08.0 +4.7**
BRG SS SS 23 05 06.0 +3.3
BRG P'P' 23 21 48.1
BRG LR LR
comp=Z,25µm,21.8s,MS6.3
ECSD EROS,Sioux Fal 61.07 316⇑ i P **P** **22 52 42.4 -1.7**
comp=Z,573nm,1.4s,mb6.5
ECSD ePP PP 22 55 05.5 +6.9
ECSD eS **S** **23 00 57.5 -6.6**
ECSD LR LR
comp=Z,48µm,20.0s,MS6.7
STAV Stavanger 61.09 25 eP **P** **22 52 43.8 -0.2**
STAV AMb AMB 22 53 01.5
comp=Z,357nm,1.8s,mb6.2
BRY Bratogost 61.12 45⇑ i P **P** **22 52 43.1 -1.4**
ZIIG Zihuatanejo 61.16 286 i P **P** **22 52 44.0 -1.2**
ZIIG Zihuatanejo 61.16 286 i P **P** **22 52 44.0 -1.1**
KEK Kerkira 61.17 49 eP **P** **22 52 45.0 +0.1**
BUM Brajici-Budva 61.20 46⇑ i P **P** **22 52 45.3 +0.3**
MUD Monsted U'grnd 61.21 28 i P **P** **22 52 47.0 +2.2**
MUD i S **S** **23 01 06.5 +1.0**
MUD
comp=Z,28µm,20.0s
MUD Monsted U'grnd 61.21 28 i P **P** **22 52 47.0 +2.2**
MUD i S **S** **23 01 06.5 +1.0**
PVCC Panska Ves 61.24 36 eP **P** **22 52 44.6 -0.5**
PVCC epP 22 52 47.5
PVCC eS **S** **23 01 06.6 +0.6**
PVCC Panska Ves 61.24 36 eP **P** **22 52 44.6 -0.5**
PVCC epP 22 52 47.5
PVCC ePP PP 22 54 57.0 -2.9
PVCC eS **S** **23 01 06.6 +0.6**
PVCC AMS AMS 23 16 30.0
comp=Z,50µm,17.7s
TREC Trest 61.29 38 eP **P** **22 52 44.5 -1.0**
TREC epP 22 52 47.7
TREC ex x 22 54 38.7
TREC eS **S** **23 01 07.9 +1.2**
TREC ex x 23 07 50.6
TREC AMS AMS 23 17 30.0
comp=Z,50µm,17.9s
ULC Ulcinj 61.35 46⇑ i P **P** **22 52 46.6 +0.5**
SRN Sarande 61.37 49 ePN **P** **22 52 49.5 +3.3**
NKY Niksic 61.41 45⇑ i P **P** **22 52 46.4 -0.1**
VLS Valsamata 61.41 51 eP **P** **22 52 45.9 -0.7**
VLS Valsamata 61.41 51 eP **P** **22 52 48.0 +1.4**
UPM Unac-Piva 61.46 45⇑ i P **P** **22 52 46.2 -0.6**
PDG Podgorica 61.49 46⇑ i P **P** **22 52 47.3 +0.3**
TTG Podgorica 61.49 46⇑ i P **P** **22 52 47.3 +0.3**
KFL Anninata 61.55 51 eP **P** **22 52 45.9 -1.6**
LKD Levkas 61.58 50 eP **P** **22 52 47.5 -0.2**
LKFR Kufra 61.62 67 i P **P** **22 52 49.4 +1.2**
SNR=21
RUE Ruedersdorf 61.62 34⇑ eP **P** **22 52 47.5 -0.2**
comp=Z,543nm,1.4s,mb6.6
RUE Ruedersdorf 61.62 34 ePP PP 22 54 57.9 -5.3
RUE Ruedersdorf 61.62 34⇑ eP **P** **22 52 47.5 -0.2**
comp=Z,543nm,1.4s,mb6.6

RUE				*e*PP	PP	22 54 57.9	-5.3
RUE				*e*S	**S**	**23 00 59.9**	**-11**
TIR	**Tirane**	**61.64**	**47**	*e*P	**P**	**22 52 47.3**	**-0.7**
TIR	**Tirane**	**61.64**	**47**	*e*P	**P**	**22 52 47.7**	**-0.3**
	comp=Z,53µm,22.0s						
TIR	**Tirane**	**61.64**	**47**	*e*PP	PP	22 55 19.8	+16
TIR	**Tirane**	**61.64**	**47**	*e*P	**P**	**22 52 47.7**	**-0.3**
TIR				*e*PP	PP	22 55 19.8	+16
TIR				*e*ScP	ScP	22 57 21.1	-12
TIR				*e*S	**S**	**23 01 16.1**	**+4.7**
TIR				LR	LR		
	comp=Z,53µm,22.0s,MS6.7						
QSH	**Qafa e Shtames**	**61.71**	**47**	*e*PN	**P**	**22 52 53.0**	**+4.5**
EFI	**East Falkland**	**61.72**	**193⇑**	*e*P	**P**	**22 52 47.5**	**-0.8**
EFI				*e*S	**S**	**23 01 21.1**	**+9.1**
EFI				pmax	pmax		
	comp=Z,374nm,1.4s,mb6.4						
EFI				MLR	MLR		
	comp=Z,38µm,20.0s,MS6.5						
EFI	**East Falkland**	**61.72**	**193**	*c i*P	**P**	**22 52 47.9**	**-0.4**
EFI	**East Falkland**	**61.72**	**193**	*i*P	**P**	**22 52 47.9**	**-0.4**
EFI				*e*S	**S**	**23 01 21.1**	**+9.1**
EFI	**East Falkland**	**61.72**	**193⇑**	*e*P	**P**	**22 52 47.5**	**-0.8**
	comp=Z,374nm,1.4s,mb6.4						
EFI				*e*S	**S**	**23 01 21.1**	**+9.1**
EFI				LR	LR		
	comp=Z,38µm,20.0s,MS6.5						
BER	**Bergen**	**61.83**	**23**	*e*P	**P**	**22 52 48.8**	**-0.1**
BER				*e*		23 01 16.9	
BER				AMS	AMS	23 15 08.5	
	comp=Z,38µm,19.3s,MS6.6						
RHK3	**Tenkes**	**61.83**	**42**	*e*P	**P**	**22 52 48.4**	**-0.8**
PLE	**Pljevlja**	**61.84**	**45**	*e*P	**P**	**22 52 51.3**	**+2.0**
PUK	**Puka**	**61.84**	**46**	*e*PN	**P**	**22 52 54.0**	**+4.6**
ZST	**Bratislava**	**61.87**	**39**	*i*P	**P**	**22 52 48.5**	**-1.0**
ZST				*i*S	**S**	**23 01 12.5**	**-1.7**
ZST	**Bratislava**	**61.87**	**39**	*i*P	**P**	**22 52 48.5**	**-1.0**
ZST				*i*S	**S**	**23 01 12.6**	**-1.6**
JAN	**Janina**	**61.95**	**49**	*e*P	**P**	**22 52 50.5**	**+0.4**
VRAC	**Vranov**	**61.97**	**38⇑**	*i*P	**P**	**22 52 49.4**	**-0.7**
VRAC	**Vranov**	**61.97**	**38**	P	**P**	**22 52 49.5**	**-0.6**
VRAC	**Vranov**	**61.97**	**38**	P	**P**	**22 52 49.5**	**-0.6**
PVY	**Plav**	**62.04**	**46⇑**	*i*P	**P**	**22 52 51.1**	**+0.4**
MODS	**Modra-Piesok**	**62.05**	**39**	*i*P	**P**	**22 52 49.4**	**-1.2**
MODS				*e*		22 55 08.8	
MODS				*i*S	**S**	**23 01 11.1**	**-5.3**
MODS				pmax	pmax		
	comp=Z,143nm,1.5s,mb6.0						
MODS	**Modra-Piesok**	**62.05**	**39**	*i*P	**P**	**22 52 49.4**	**-1.2**
MODS				*e*PP	PP	22 55 08.8	+1.7
MODS				*i*S	**S**	**23 01 11.1**	**-5.3**
MODS				*i*SS	SS	23 05 08.6	-10
MODS	**Modra-Piesok**	**62.05**	**39**	*i*P	**P**	**22 52 49.4**	**-1.2**
	comp=Z,143nm,1.5s,mb6.0						
MODS				*e*PP	PP	22 55 08.8	+1.7
MODS				*i*S	**S**	**23 01 11.1**	**-5.3**
MODS				*i*SS	SS	23 05 01.2	-18
MODS				*i*SS	SS	23 05 08.6	-10
BCI	**Bajram Curri**	**62.05**	**46**	*e*PN	**P**	**22 52 54.5**	**+3.7**
CBKS	**Cedar Bluff**	**62.05**	**310⇑**	*i*P	**P**	**22 52 50.3**	**-0.6**
CBKS				*e*		22 55 06.3	
CBKS				*e*S	**S**	**23 01 18.8**	**+2.0**
CBKS				pmax	pmax		
	comp=Z,1µm,1.3s,mb7.0						
CBKS				MLR	MLR		
	comp=Z,29µm,21.0s,MS6.4						
CBKS	**Cedar Bluff**	**62.05**	**310**	*i*P	**P**	**22 52 50.3**	**-0.6**
	comp=Z,1µm,1.3s,mb7.0						
CBKS	**Cedar Bluff**	**62.05**	**310**	*e*PP	PP	22 55 06.3	-1.0
CBKS	**Cedar Bluff**	**62.05**	**310⇑**	*i*P	**P**	**22 52 50.2**	**-0.6**
	comp=Z,1µm,1.3s,mb7.0						
CBKS				*e*PP	PP	22 55 06.3	-1.0
CBKS				*e*S	**S**	**23 01 18.8**	**+2.0**
CBKS				LR	LR		
	comp=Z,29µm,21.0s,MS6.4						
RLS	**Riolos of Patr**	**62.06**	**51**	*e*P	**P**	**22 52 51.5**	**+0.5**
BEY	**Berane**	**62.06**	**46⇑**	*i*P	**P**	**22 52 51.8**	**+0.9**
IVA	**Berane**	**62.06**	**46⇑**	*i*P	**P**	**22 52 51.8**	**+0.9**
AGMN	**Agassiz Refuge**	**62.07**	**321⇑**	*e*P	**P**	**22 52 49.0**	**-1.8**
	comp=Z,624nm,1.6s,mb6.6						
AGMN				*e*S	**S**	**23 01 16.7**	**0.0**
AGMN	**Agassiz Refuge**	**62.07**	**321⇑**	*e*P	**P**	**22 52 49.0**	**-1.8**
	comp=Z,624nm,1.6s,mb6.6						
AGMN				*e*S	**S**	**23 01 16.7**	**-0.1**
AGMN				LR	LR		
	comp=Z,35µm,22.0s,MS6.5						
UPC	**Upice**	**62.08**	**36**	*e*P	**P**	**22 52 50.2**	**-0.6**
UPC				*e*pP		22 52 53.0	
PHP	**Peshkopia**	**62.14**	**47**	*e*PN	**P**	**22 52 56.8**	**+5.4**
PKSM	**Moragy**	**62.19**	**42**	*e*P	**P**	**22 52 50.8**	**-0.9**
PKSM	**Moragy**	**62.19**	**42⇓**	*i*P	**P**	**22 52 51.2**	**-0.5**
PKSM	**Moragy**	**62.19**	**42**	P	**P**	**22 52 51.4**	**-0.3**
PKSM	**Moragy**	**62.19**	**42**	P	**P**	**22 52 51.4**	**-0.3**
DPC	**Dobruska-Polom**	**62.20**	**37**	*e*P	**P**	**22 52 50.8**	**-0.8**
DPC				*e*pP		22 52 54.5	
DPC				*e*S	**S**	**23 01 22.1**	**+3.9**
DPC	**Dobruska-Polom**	**62.20**	**37**	*e*P	**P**	**22 52 50.8**	**-0.8**
DPC				*e*pP		22 52 54.5	
DPC				*e*PP	PP	22 55 03.9	-4.5
DPC				*e*S	**S**	**23 01 22.1**	**+3.9**
DPC				*e*x	x	23 08 10.2	
DPC				AMS	AMS	23 11 40.0	
	comp=Z,46µm,32.5s						
SJES	**Sjenica**	**62.23**	**45**	*e*P	**P**	**22 52 53.9**	**+2.0**
TSUM	**Tsumeb**	**62.23**	**117⇓**	*i*P	**P**	**22 52 52.2**	**-0.1**
	comp=Z,331nm,1.5s,mb6.3						
TSUM				*e*S	**S**	**23 01 19.3**	**-0.2**
TSUM	**Tsumeb**	**62.23**	**117⇓**	*i*P	**P**	**22 52 52.2**	**-0.1**
	comp=Z,331nm,1.5s,mb6.3						
TSUM				*e*S	**S**	**23 01 19.3**	**-0.1**
TSUM				LR	LR		
	comp=Z,79µm,22.0s,MS6.8						
ITM	**Ithomi**	**62.24**	**52**	*e*P	**P**	**22 52 52.5**	**+0.3**
OHR	**Ohrid**	**62.26**	**48**	*e*P	**P**	**22 52 51.8**	**-0.4**
OHR	**Ohrid**	**62.26**	**48**	*i*P	**P**	**22 52 51.7**	**-0.5**
OHR				*i* 1		23 01 18.4	
MEV	**Metsovon**	**62.26**	**49**	*e*P	**P**	**22 52 53.5**	**+1.2**
RGN	**Rugen**	**62.31**	**32**	*e*P	**P**	**22 52 53.9**	**+1.6**
	comp=Z,422nm,1.4s,mb6.5						
RGN				*e*S	**S**	**23 01 17.9**	**-1.5**
RGN	**Rugen**	**62.31**	**32**	*e*P	**P**	**22 52 53.9**	**+1.7**
	comp=Z,422nm,1.4s,mb6.5						
RGN				*e*S	**S**	**23 01 17.9**	**-1.5**
KSP	**Ksiaz**	**62.37**	**36**	*e*P	**P**	**22 52 52.4**	**-0.4**
KSP				*e*pP		22 52 55.0	
COP	**Copenhagen**	**62.39**	**30**	*i*P	**P**	**22 52 52.2**	**-0.6**
COP				*i*S	**S**	**23 01 24.1**	**+3.6**
COP				pmax	pmax		
	comp=Z,108nm,1.1s,mb6.0						
COP				MLR	MLR		
	comp=Z,22µm,22.0s,MS6.3						
COP	**Copenhagen**	**62.39**	**30**	*i*P	**P**	**22 52 52.2**	**-0.6**
	comp=Z,108nm,1.1s,mb6.0						
COP				*i*		22 55 22.3	
COP				*i*S	**S**	**23 01 24.1**	**+3.6**
COP				*i*		23 07 47.8	
COP							
	comp=Z,22µm,22.0s						
DIVS	**Divibare**	**62.47**	**44**	*e*P	**P**	**22 52 52.9**	**-0.7**
DIVS	**Divibare**	**62.47**	**44⇓**	*i*P	**P**	**22 52 55.8**	**+2.2**
FNA	**Florina**	**62.60**	**48**	*e*P	**P**	**22 52 54.3**	**-0.2**
BIA	**Bitola**	**62.62**	**48**	*e*P	**P**	**22 52 53.7**	**-1.0**
BIA	**Bitola**	**62.62**	**48**	*i*P	**P**	**22 52 53.9**	**-0.7**
VLX	**Vlachokerasia**	**62.63**	**52**	*e*P	**P**	**22 52 55.8**	**+1.0**
KRUS	**Krusevo**	**62.65**	**48**	*i*P	**P**	**22 52 54.9**	**+0.1**
FGSL	**Fruska Gora**	**62.65**	**43**	*e*P	**P**	**22 52 55.9**	**+1.2**
SFJM	**Santa Fe**	**62.69**	**289**	*i*P	**P**	**22 52 53.7**	**-1.8**
SFJM	**Santa Fe**	**62.69**	**289**	*i*P	**P**	**22 52 53.7**	**-1.8**
MORC	**Moravsky Berou**	**62.71**	**38⇑**	*i*P	**P**	**22 52 54.6**	**-0.5**
MORC	**Moravsky Berou**	**62.71**	**38**	*e*P	**P**	**22 52 53.5**	**-1.6**
MORC	**Moravsky Berou**	**62.71**	**38**	P	**P**	**22 52 54.9**	**-0.2**
KZN	**Kozani**	**62.78**	**49**	*e*P	**P**	**22 52 55.5**	**-0.2**
ULM	**Lac du Bonnet**	**62.79**	**323**	P	**P**	**22 52 53.3**	**-2.2**
	comp=Z,209nm,1.1s,mb6.2,baz=110,slow=6.5,SNR=69						
ULM				S	**S**	**23 01 10.1**	**-16**
	comp=Z,5.8nm,1.0s,baz=152,slow=10.0,SNR=2.1						
ULM				LR	LR	23 15 37.5	
	comp=Z,24µm,21.0s,MS6.3,baz=110,slow=32						
ULM				PKP2bc		23 22 03.9	
	comp=Z,3.9nm,0.7s,baz=115,slow=2.0,SNR=4.2						
ULM	**Lac du Bonnet**	**62.79**	**323**	P	**P**	**22 52 53.3**	**-2.2**
ULM				S	**S**	**23 01 10.1**	**-16**
ULM	**Lac du Bonnet**	**62.79**	**323**	P	**P**	**22 52 53.3**	**-2.2**
ULM				S	**S**	**23 01 10.1**	**-16**
ULM				LR	LR	23 15 37.5	
ULM				⇑*e*		23 22 03.9	
THL	**Klokotos Trika**	**62.80**	**50**	*e*P	**P**	**22 52 55.5**	**-0.4**
THL	**Klokotos Trika**	**62.80**	**50**	*e*P	**P**	**22 52 56.0**	**+0.1**
GRUS	**Gruza**	**62.91**	**45**	*e*P	**P**	**22 52 56.4**	**-0.1**
AGG	**Agios Georgios**	**62.93**	**50**	*e*P	**P**	**22 52 55.9**	**-0.9**
SKO	**Skopje**	**62.94**	**47**	*i*P	**P**	**22 52 56.0**	**-0.7**
SKO				*i* 1		23 01 25.6	
SKO	**Skopje**	**62.94**	**47**	*e*P	**P**	**22 52 55.9**	**-0.8**
VLI	**Veliai**	**62.95**	**53**	*e*P	**P**	**22 53 02.0**	**+5.1**
LTBQ	**Tobruq**	**63.02**	**58**	*i*P	**P**	**22 52 59.7**	**+2.2**
	SNR=20						
OKC	**Ostrava-Krasne**	**63.10**	**38**	*e*P	**P**	**22 52 57.0**	**-0.6**
OKC				*e*PP		22 53 00.1	
OKC				*e*S	**S**	**23 01 31.5**	**+1.9**
OKC	**Ostrava-Krasne**	**63.10**	**38**	*e*P	**P**	**22 52 57.0**	**-0.6**
OKC				*e*pP		22 53 00.1	
OKC	**Ostrava-Krasne**	**63.10**	**38**	*e*P	**P**	**22 52 57.0**	**-0.6**
OKC				*e*pP		22 53 00.1	
OKC				*e*S	**S**	**23 01 31.5**	**+1.9**
OKC				*e*x	x	23 08 46.7	
OKC				AMS	AMS	23 18 00.0	
	comp=Z,34µm,19.2s						
OKC	**Ostrava-Krasne**	**63.10**	**38**	*e*P	**P**	**22 52 57.0**	**-0.6**
OKC				*e*pP		22 53 00.1	
OKC				*e*S	**S**	**23 01 31.5**	**+1.9**
OKC				*e*		23 08 46.7	
PENC	**Penc**	**63.11**	**40**	*e*P	**P**	**22 52 57.5**	**-0.3**
KONO	**Kongsberg**	**63.14**	**25**	*e*P	**P**	**22 52 57.6**	**-0.1**
KONO				*e*		23 01 30.5	
KONO				AMS	AMS	23 14 58.6	
	comp=Z,32µm,21.2s,MS6.5						
KONO	**Kongsberg**	**63.14**	**25**	*e*P	**P**	**22 52 57.6**	**-0.1**
	comp=Z,32µm,21.2s						
PKSN	**Nyarlorinc**	**63.21**	**41**	*e*P	**P**	**22 53 01.3**	**+2.9**
LTK	**Loutraki**	**63.22**	**52**	*e*P	**P**	**22 52 57.0**	**-1.7**
LIT	**Litokhoron**	**63.28**	**49**	*e*P	**P**	**22 52 58.1**	**-0.9**
COLM	**Colima**	**63.28**	**287**	*i*P	**P**	**22 52 58.0**	**-1.4**
COLM	**Colima**	**63.28**	**287**	*i*P	**P**	**22 52 58.0**	**-1.4**
DID	**Didima**	**63.33**	**52**	*e*P	**P**	**22 52 58.8**	**-0.6**
LKR	**Lokris**	**63.36**	**51**	*e*P	**P**	**22 52 59.3**	**-0.3**
LKR	**Lokris**	**63.36**	**51**	*e*P	**P**	**22 52 59.0**	**-0.6**
SVIS	**Svilajnac**	**63.36**	**44**	*e*P	**P**	**22 52 59.7**	**+0.2**
GRG	**Griva**	**63.40**	**48**	*e*P	**P**	**22 52 59.4**	**-0.4**
BARS	**Barje**	**63.41**	**46**	*e*P	**P**	**22 52 58.7**	**-1.2**
KARN	**Karanos**	**63.51**	**55**	*e*P	**P**	**22 53 00.0**	**-0.6**
PSZ	**Piszkesteto**	**63.55**	**40⇑**	*e*P	**P**	**22 53 00.2**	**-0.4**
PSZ	**Piszkesteto**	**63.55**	**40⇑**	*i*P	**P**	**22 53 00.3**	**-0.3**
PSZ	**Piszkesteto**	**63.55**	**40**	*e*P	**P**	**22 53 00.5**	**-0.1**
	comp=Z,52µm,22.0s						
PSZ				*e*S	**S**	**23 01 28.9**	**-6.3**
PSZ	**Piszkesteto**	**63.55**	**40**	*e*P	**P**	**22 53 00.5**	**-0.1**
PSZ				*e*S	**S**	**23 01 28.9**	**-6.3**
PSZ				LR	LR		
	comp=Z,52µm,22.0s,MS6.7						
VAY	**Valandovo**	**63.60**	**48**	*e*P	**P**	**22 53 00.5**	**-0.7**
VAY	**Valandovo**	**63.60**	**48**	*i*P	**P**	**22 53 00.2**	**-0.9**
VAY				*i*		23 00 51.6	
VAY				*i* 1		23 01 33.1	
VAY				*i* 1		23 01 36.2	
XOR	**Xorichti**	**63.65**	**50**	*e*P	**P**	**22 53 01.0**	**-0.6**
VAM	**Vamos**	**63.73**	**55**	*e*P	**P**	**22 53 03.5**	**+1.4**
THE	**Thessaloniki**	**63.75**	**49**	*e*P	**P**	**22 53 00.4**	**-1.7**
BOLS	**Boljevac**	**63.76**	**45**	*e*P	**P**	**22 53 01.4**	**-0.8**
TIM	**Timisoara**	**63.77**	**43⇑**	*i*P	**P**	**22 53 02.2**	**0.0**
TIM	**Timisoara**	**63.77**	**43⇑**	P	**P**	**22 53 02.2**	**+0.1**
TXAR	**Lajitas Array**	**63.78**	**299**	P	**P**	**22 53 00.6**	**-2.0**
	comp=Z,18nm,0.8s,mb5.4,baz=95,slow=6.3,SNR=103						
TXAR				PcP	PcP	22 53 35.7	-2.9
	comp=Z,8.2nm,0.8s,baz=156,slow=6.8,SNR=5.6						
TXAR				S	**S**	**23 01 21.7**	**-17**
	comp=Z,0.5nm,0.9s,baz=37,slow=31,SNR=2.5						
TXAR				LR	LR	23 19 00.9	
	comp=Z,6µm,21.0s,MS5.7,baz=170,slow=34						
TXAR				PKPPKP		23 21 52.3	
	comp=Z,0.1nm,0.4s,baz=174,slow=5.0,SNR=4.6						
TXAR				PKP2bc		23 22 12.2	
	comp=Z,2.0nm,1.1s,baz=212,slow=4.4,SNR=6.1						
TXAR	**Lajitas Array**	**63.78**	**299**	P	**P**	**22 53 00.6**	**-2.0**
TXAR						22 53 35.7	
TXAR	**Lajitas Array**	**63.78**	**299**	PcP	PcP	22 53 35.7	-2.9
TXAR	**Lajitas Array**	**63.78**	**299**	P	**P**	**22 53 00.6**	**-2.0**
TXAR				PcP	PcP	22 53 35.7	-2.9
TXAR				S	**S**	**23 01 21.7**	**-17**
TXAR				LR	LR	23 19 00.9	
TXAR				P'P'		23 21 52.3	
TXAR				⇑*e*		23 22 12.2	
ATH	**Athens Observa**	**63.79**	**52**	*e*P	**P**	**22 53 02.0**	**-0.4**
HORT	**Hortiatis**	**63.84**	**49**	*e*P	**P**	**22 53 01.1**	**-1.7**
HORT	**Hortiatis**	**63.84**	**49**	*e*P	**P**	**22 53 01.0**	**-1.7**
GKP	**Gorka Klasztor**	**63.86**	**34**	*e*P	**P**	**22 53 02.4**	**-0.2**
GKP				*e*		22 53 05.1	
GKP				*e*S	**S**	**23 01 41.2**	**+2.3**
GKP				LMZ		23 18 34.5	
	comp=Z,82µm,19.1s						
GKP	**Gorka Klasztor**	**63.86**	**34**	*e*P	**P**	**22 53 02.4**	**-0.2**
GKP				*e*		22 53 05.1	
GKP				*e*S	**S**	**23 01 41.2**	**+2.3**
GKP				LR	LR		
	comp=Z,82µm,19.1s,MS6.9						
BZS	**Buzias**	**64.00**	**43**	*e*P	**P**	**22 53 05.0**	**+1.3**
BZS	**Buzias**	**64.00**	**43⇑**	*i*P	**P**	**22 53 03.6**	**-0.1**
BZS	**Buzias**	**64.00**	**43**	P	**P**	**22 53 04.1**	**+0.4**
MOL	**Molde**	**64.00**	**22**	*e*P	**P**	**22 53 05.1**	**+1.7**
MOL				*e*S	**S**	**23 01 41.1**	**+0.7**
MOL				AMS	AMS	23 16 30.3	
	comp=Z,41µm,19.7s,MS6.6						
MOL	**Molde**	**64.00**	**22**	*e*P	**P**	**22 53 05.1**	**+1.7**
MOL				*e*S	**S**	**23 01 41.1**	**+0.7**
	SNR=22						
MOL	**Molde**	**64.00**	**22**	*e*P	**P**	**22 53 05.1**	**+1.7**
MOL				*i*		23 01 48.2	
MOL				LR	LR		
	comp=Z,41µm,19.7s,MS6.6						
PLG	**Polygyros**	**64.05**	**49**	*e*P	**P**	**22 53 03.7**	**-0.4**
PLG	**Polygyros**	**64.05**	**49**	*e*P	**P**	**22 53 03.5**	**-0.6**
SOH	**Sokhos**	**64.08**	**49**	*e*P	**P**	**22 53 04.2**	**0.0**
KECS	**Kecovo**	**64.10**	**40**	*i*P	**P**	**22 53 04.5**	**+0.2**
KECS				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.5						
KECS	**Kecovo**	**64.10**	**40**	*i*P	**P**	**22 53 04.5**	**+0.2**
	comp=Z,41nm,1.4s,mb5.5						
KKB	**Krupnik**	**64.10**	**47**	P	**P**	**22 53 05.2**	**+0.8**
ZAPS	**Zavoj**	**64.11**	**46**	*e*P	**P**	**22 53 05.4**	**+1.0**
PAIG	**Paliouri**	**64.14**	**50**	*e*P	**P**	**22 53 04.0**	**-0.7**
AOS	**Alonnisos**	**64.14**	**50**	*e*P	**P**	**22 53 04.3**	**-0.4**
SIVA	**Sivas**	**64.17**	**55**	*e*P	**P**	**22 53 06.0**	**+1.0**
OJC	**Ojcow**	**64.23**	**38**	*i*P	**P**	**22 53 07.8**	**+2.7**
OJC				*i*S	**S**	**23 01 42.2**	**-1.4**
OJC				L		23 19 16.4	
	comp=Z,25nm,20.0s						
OJC	**Ojcow**	**64.23**	**38**	*i*P	**P**	**22 53 07.8**	**+2.7**
	comp=Z,25µm,20.0s						
OJC				*i*S	**S**	**23 01 42.2**	**-1.4**
OJC	**Ojcow**	**64.23**	**38⇑**	*i*P	**P**	**22 53 07.8**	**+2.7**
OJC				*i*S	**S**	**23 01 42.2**	**-1.4**
OJC				LR	LR		
	comp=Z,25µm,20.0s,MS6.4						
NIE	**Niedzica**	**64.28**	**39**	*e*P	**P**	**22 53 05.8**	**+0.3**
NAO01	**NORSAR Array S**	**64.33**	**25**	PFAKE		22 53 20.0	+14
NAO01				LR	LR		
	comp=Z,37µm,19.0s,MS6.6						
VTS	**Vitosha**	**64.36**	**47**	P	**P**	**22 53 06.7**	**+0.6**
VTS	**Vitosha**	**64.36**	**47⇑**	*i*P	**P**	**22 53 06.5**	**+0.4**
VTS	**Vitosha**	**64.36**	**47**	P	**P**	**22 53 06.0**	**-0.1**
DJES	**Djerdap**	**64.37**	**44⇓**	*i*P	**P**	**22 53 08.0**	**+1.9**
SUMG	**Summit**	**64.40**	**0**	*e*P	**P**	**22 53 05.4**	**-0.4**
	comp=Z,164nm,1.2s,mb6.1						
SUMG				*e*S	**S**	**23 01 36.1**	**-8.9**
SUMG	**Summit**	**64.40**	**0**	*e*P	**P**	**22 53 05.4**	**-0.4**
	comp=Z,164nm,1.2s,mb6.1						
SUMG				*e*S	**S**	**23 01 36.1**	**-8.9**
OUR	**Ouranopolis**	**64.44**	**49**	*e*P	**P**	**22 53 06.6**	**-0.1**
MMB	**Musomiste**	**64.51**	**48**	P	**P**	**22 53 07.5**	**+0.4**
NVR	**Nevrokopi**	**64.56**	**48**	*e*P	**P**	**22 53 07.5**	**0.0**
NB2	**NORSAR Subarra**	**64.57**	**25**	P	**P**	**22 53 06.6**	**-0.5**
	comp=Z,823nm,2.0s,mb6.6,baz=238,slow=6.9						
NOA	**NORSAR Array B**	**64.57**	**25**	P	**P**	**22 53 05.3**	**-1.8**
	comp=Z,30nm,1.0s,mb5.5,baz=238,slow=6.8,SNR=18						
NOA				S	**S**	**23 01 44.5**	**-2.9**
	comp=Z,0.8nm,0.8s,baz=338,slow=21,SNR=2.5						
NOA				LR	LR	23 18 18.0	
	comp=Z,36µm,18.4s,MS6.6,baz=240,slow=33						
NOA	**NORSAR Array B**	**64.57**	**25**	P	**P**	**22 53 05.3**	**-1.8**
NOA				S	**S**	**23 01 44.5**	**-2.9**
NOA	**NORSAR Array B**	**64.57**	**25**	P	**P**	**22 53 05.3**	**-1.8**
NOA				S	**S**	**23 01 44.5**	**-2.9**
NOA				LR	LR	23 18 18.0	
LAST	**Lasithi**	**64.73**	**55**	*e*P	**P**	**22 53 08.8**	**+0.1**
THR6	**Thira Island,**	**64.84**	**54**	*e*P	**P**	**22 53 08.5**	**-0.9**
THR3	**Thira Island,**	**64.85**	**54**	*e*P	**P**	**22 53 03.9**	**-5.6**
NPS	**Neapolis**	**64.86**	**55**	*e*P	**P**	**22 53 08.5**	**-1.0**
THR4	**Thira Island,**	**64.86**	**54**	*e*P	**P**	**22 53 08.7**	**-0.8**
STHS	**Stebnicka Huta**	**64.86**	**39**	*i*P	**P**	**22 53 11.1**	**+1.9**
STHS				*i*S	**S**	**23 01 57.0**	**+5.5**
STHS				pmax	pmax		
	comp=Z,86nm,2.0s,mb5.6						
STHS	**Stebnicka Huta**	**64.86**	**39**	*i*P	**P**	**22 53 11.1**	**+1.9**
	comp=Z,86nm,2.0s,mb5.6						
STHS				*i*S	**S**	**23 01 57.0**	**+5.5**
STHS	**Stebnicka Huta**	**64.86**	**39**	*i*P	**P**	**22 53 11.1**	**+1.9**
	comp=Z,86nm,2.0s,mb5.6						
STHS				*i*S	**S**	**23 01 57.0**	**+5.5**
SANT	**Santorini**	**64.89**	**54**	*e*P	**P**	**22 53 09.0**	**-0.7**
THR1	**Thera Island**	**64.89**	**54**	*e*P	**P**	**22 53 13.2**	**+3.5**
DRGR		**65.05**	**42⇑**	*i*P	**P**	**22 53 10.5**	**0.0**
DRGR		**65.05**	**42**	P	**P**	**22 53 10.5**	**0.0**
APE	**Apeiranthos**	**65.06**	**53**	*e*P	**P**	**22 53 13.5**	**+2.8**
APE	**Apeiranthos**	**65.06**	**53**	*e*P	**P**	**22 53 09.5**	**-1.3**
APE	**Apeiranthos**	**65.06**	**53⇑**	*i*P	**P**	**22 53 12.3**	**+1.5**
CRAR	**CRAIOVA**	**65.17**	**45⇓**	*i*P	**P**	**22 53 11.6**	**+0.2**
CRAR	**CRAIOVA**	**65.17**	**45**	P	**P**	**22 53 12.1**	**+0.7**
LOS	**Limnos**	**65.19**	**50**	*e*P	**P**	**22 53 11.1**	**-0.5**
RZN	**Rozhen**	**65.26**	**48**	P	**P**	**22 53 12.5**	**+0.5**
UZH	**Uzhgorod**	**65.29**	**40**	*d i*P	**P**	**22 53 11.0**	**-1.0**
UZH				*i*		22 53 14.0	
UZH				*e*		22 53 20.2	
UZH				*i*		22 53 40.2	
UZH				*e*PPP		22 57 14.0	
UZH				*e*S	S	23 01 53.0	-3.7
UZH				*e*		23 02 25.0	
UZH	**Uzhgorod**	**65.29**	**40**	*i*P	**P**	**22 53 11.0**	**-1.0**
UZH	**Uzhgorod**	**65.29**	**40**	*i* PcP	PcP	22 53 40.2	-4.2
ZKR	**Zakros**	**65.33**	**55**	*e*P	**P**	**22 53 12.8**	**+0.2**
PLD	**Plovdiv**	**65.33**	**47**	*e*P	**P**	**22 53 12.8**	**+0.3**
FCC	**Fort Churchill**	**65.36**	**332**	*e*P	**P**	**22 53 11.2**	**-1.1**
FCC				*e*		22 53 42.1	
FCC				*e*		22 55 35.1	
FCC				pmax	pmax		
	comp=Z,719nm,1.4s,mb6.7						
FCC	**Fort Churchill**	**65.36**	**332**	*e*P	**P**	**22 53 11.2**	**-1.1**
	comp=Z,719nm,1.4s,mb6.7						
FCC	**Fort Churchill**	**65.36**	**332**	*e*PcP	PcP	22 53 42.1	-2.3
FCC	**Fort Churchill**	**65.36**	**332**	*e*P	**P**	**22 53 11.2**	**-1.1**
	comp=Z,719nm,1.4s,mb6.7						
FCC				*e*PcP	PcP	22 53 42.1	-2.3
FCC				*e*PP	PP	22 55 35.1	-0.8
KOLS	**Kolonicke sedl**	**65.36**	**40**	*i*P	**P**	**22 53 10.5**	**-2.0**
KOLS				*e*PP	PP	22 55 33.5	-2.7
KOLS				*i*S	S	23 01 56.6	-1.0
WAR	**Warsaw**	**65.63**	**36**	*e*P	**P**	**22 53 16.9**	**+2.7**
WAR				*e*S	S	23 02 02.7	+1.9
WAR				*e*S	S	23 02 04.3	+3.5
WAR				LMZ		23 17 33.8	
	comp=Z,36µm,22.6s						
WAR	**Warsaw**	**65.63**	**36**	*e*P	**P**	**22 53 16.9**	**+2.7**
WAR				*e*S	S	23 02 02.7	+1.9

ANMO e 22 55 43.7
ANMO eS S 23 02 08.0 -6.8
ANMO pmax pmax
comp=Z,545nm,1.8s
ANMO MLR MLR
comp=Z,12µm,20.0s
ANMO Albuquerque 66.73 304 *i* P **P 22 53 21.4 -0.2**
comp=Z,545nm,1.8s,mb6.5
ANMO Albuquerque 66.73 304 ePP PP 22 55 43.7 -4.8
ANMO Albuquerque 66.73 304⇑*i*P **P 22 53 21.4 -0.2**
comp=Z,545nm,1.8s,mb6.5
ANMO ePP PP 22 55 43.7 -4.8
ANMO eS S 23 02 08.0 -6.8
ANMO LR LR
comp=Z,12µm,20.0s,MS6.1
BUC1 Bucharest 66.74 45⇑*i*P **P 22 53 22.1 +0.6**
BUC1 Bucharest 66.74 45 P **P 22 53 24.3 +2.8**
BUC1 Bucharest 66.74 45 P **P 22 53 24.3 +2.8**
NSS Namsos 66.75 22 *e*P **P 22 53 20.4 -0.8**
NSS eS S 23 02 13.2 -0.7
NSS AMS AMS 23 15 52.9
comp=Z,9µm,23.6s,MS5.9
NSS Namsos 66.75 22 *e*P **P 22 53 20.4 -0.7**
NSS eS S 23 02 13.2 -0.8
SNR=21
NSS Namsos 66.75 22 *e*P **P 22 53 20.4 -0.8**
NSS *e* 23 02 22.9
NSS LR LR
comp=Z,9µm,23.6s,MS5.9
JMB Yambol 66.77 47 *e*P **P 22 53 21.1 -0.6**
JMB Yambol 66.77 47 P **P 22 53 22.1 +0.4**
BNM Barren Site 66.78 304 *e*P **P 22 53 20.9 -1.0**
comp=Z,142nm,1.4s,mb6.0
BNM Barren Site 66.78 304 *e*P **P 22 53 20.9 -1.1**
comp=Z,142nm,1.4s,mb6.0
LPM Los Pinos Moun 66.80 304 *e*P **P 22 53 21.5 -0.6**
comp=Z,254nm,1.6s,mb6.2
LPM Los Pinos Moun 66.80 304 *e*P **P 22 53 21.5 -0.5**
comp=Z,254nm,1.6s,mb6.2
PHWY Pilot Hill 66.84 311⇑*i*P **P 22 53 21.9 -0.3**
comp=Z,843nm,1.1s,mb6.9
PHWY Pilot Hill 66.84 311 ePP PP 22 55 42.5 -6.8
PHWY Pilot Hill 66.84 311⇑*i*P **P 22 53 21.9 -0.4**
comp=Z,843nm,1.1s,mb6.9
PHWY ePP PP 22 55 42.5 -6.8
PHWY eS S 23 02 20.3 +4.3
MLSB Milas 66.86 53 *e*P **P 22 53 22.7 +0.3**
RKY Sarkoy-Tekirda 66.90 49 *e*P **P 22 53 22.7 +0.1**
SART Tekirdag 66.91 49 *i*P **P 22 53 21.9 -0.7**
BURAR Bucovina Array 66.91 42⇓*i*P **P 22 53 22.3 -0.2**
BURAR Bucovina Array 66.91 42 P **P 22 53 22.6 +0.1**
MLR Muntele Rosu 66.92 44⇑*i*P **P 22 53 23.1 +0.5**
MLR Muntele Rosu 66.92 44 P **P 22 53 23.0 +0.4**
AYDN Tasoluk 66.99 53 *i*P **P 22 53 23.9 +0.7**
MFT Murefte 67.00 49 *e*P **P 22 53 22.9 -0.3**
ARG Arkhangelos 67.01 54 *e*P **P 22 53 22.5 -0.9**
Y22C IRIS PASSCAL I 67.01 303⇓P **P 22 53 23.6 +0.1**
baz=67
LENM Lemitar 67.07 304 *e*P **P 22 53 23.1 -0.7**
comp=Z,112nm,1.3s,mb5.9
LENM Lemitar 67.07 304 *e*P **P 22 53 23.1 -0.7**
comp=Z,112nm,1.3s,mb5.9
BALY Balya 67.09 50 *i*P **P 22 53 23.4 -0.4**
AKS Akhisar 67.11 51 *e*P **P 22 53 25.0 +1.1**
AKHS Akhisar 67.11 51⇑*i*P **P 22 53 23.4 -0.6**
TKR Tekirdag 67.22 49 *e*P **P 22 53 25.9 +1.3**
LAZ Ladron 67.23 304 *e*P **P 22 53 23.9 -0.9**
comp=Z,352nm,1.6s,mb6.3
LAZ Ladron 67.23 304 *e*P **P 22 53 23.9 -0.9**
comp=Z,352nm,1.6s,mb6.3
YER Yerkesik 67.25 53 *e*P **P 22 53 24.5 -0.3**
ISR Istrita 67.26 44⇑*i*P **P 22 53 25.7 +1.0**
ISR Istrita 67.26 44⇑P **P 22 53 25.7 +0.9**
BALB Balikesir 67.27 50 *e*P **P 22 53 26.4 +1.4**
USHA Ushuaia 67.32 198 P **P 22 53 23.7 -1.2**
comp=Z,9.9nm,0.9s,mb5.1,baz=38,slow=6.5,SNR=4.3
USHA PcP PcP 22 53 47.5 -5.0
comp=Z,37nm,1.1s,baz=12,slow=4.4,SNR=4.3
USHA S S 23 01 50.5 -30
comp=Z,7.2nm,0.8s,baz=49,slow=9.1,SNR=2.0
USHA Ushuaia 67.32 198 PcP PcP 22 53 47.5 -5.0
CRLT Corlu 67.39 49 *e*P **P 22 53 25.5 -0.2**
BTOK Tokmak 67.41 50 *i*P **P 22 53 27.5 +1.7**
DGMT Dagmar 67.43 319⇑*i*P **P 22 53 25.4 -0.4**
comp=Z,2µm,1.6s,mb7.2
DGMT ePP PP 22 55 51.8 -2.5
DGMT eS S 23 02 21.6 -1.1
DGMT LR LR
comp=Z,49µm,22.0s,MS6.7
SUW Suwalki 67.43 35 *e*P **P 22 53 25.1 -0.5**
SUW *e* 22 53 27.4
SUW epP 22 53 32.8
SUW eS S 23 02 24.8 +2.3
SUW LMZ 23 19 50.8
comp=Z,58µm,19.9s
SUW Suwalki 67.43 35 *e*P **P 22 53 25.1 -0.6**
SUW *e* 22 53 27.4
SUW epP 22 53 32.8
SUW eS S 23 02 24.8 +2.2
TURN Turunc 67.47 54 *i*P **P 22 53 22.5 -3.7**
PLOR Plostina 67.48 44 P **P 22 53 25.9 -0.2**
PLOR Plostina 67.48 44⇓*i*P **P 22 53 27.4 +1.3**
DALT Dalyan (Mudla) 67.48 54 *e*P **P 22 53 25.9 -0.4**
VRI Vrincioaia 67.54 44⇑*i*P **P 22 53 26.7 +0.2**
VRI Vrincioaia 67.54 44 P **P 22 53 28.3 +1.8**
VRI Vrincioaia 67.54 44 P **P 22 53 28.3 +1.8**
KULA Kula-Manisa 67.72 52 *e*P **P 22 53 27.8 0.0**
SLVT Silivri 67.76 49 *e*P **P 22 53 27.8 -0.3**
FFC Flin Flon 67.82 326 P **P 22 53 27.0 -1.1**
comp=Z,2µm,1.3s,mb7.3,SNR=63
FFC Flin Flon 67.82 326⇑*i*P **P 22 53 27.4 -0.7**
FFC *e* 22 55 55.0
FFC pmax pmax
comp=Z,861nm,1.4s,mb6.8
FFC MLR MLR
comp=Z,16µm,22.0s,MS6.2
FFC Flin Flon 67.82 326 *i*P **P 22 53 27.4 -0.7**
comp=Z,861nm,1.4s,mb6.8
FFC Flin Flon 67.82 326 ePP PP 22 55 55.0 -2.5
FFC Flin Flon 67.82 326⇑*i*P **P 22 53 27.4 -0.7**
comp=Z,861nm,1.4s,mb6.8
FFC ePP PP 22 55 55.0 -2.6
FFC eS S 23 02 09.7 -17
FFC LR LR
comp=Z,16µm,22.0s,MS6.2
DEMI Demirci 67.83 51 *i*P **P 22 53 29.0 +0.5**
DST Dursunbey 67.84 51 *e*P **P 22 53 27.3 -1.2**
CTT Catalca 67.91 49 *e*P **P 22 53 28.2 -0.7**
ELBA Catalca 67.91 49 *i*P **P 22 53 29.4 +0.4**
DNZL Cakiroluk 67.92 53 *i*P **P 22 53 28.0 -1.0**
BGKT Bogazkoy 68.17 49 *e*P **P 22 53 31.9 +1.3**
AKAS Kas 68.20 54⇑*i*P **P 22 53 31.7 +0.8**
RWWY Rawlins 68.20 312⇑*e*P **P 22 53 30.6 -0.2**
comp=Z,960nm,1.8s,mb6.7
RWWY Rawlins 68.20 312 ePP PP 22 55 59.4 -1.8
RWWY Rawlins 68.20 312⇑*e*P **P 22 53 30.6 -0.2**
comp=Z,960nm,1.8s,mb6.7
RWWY ePP PP 22 55 59.4 -1.8
RWWY eS S 23 02 27.5 -4.8
GOLH Golhisar 68.27 53 *i*P **P 22 53 30.6 -0.7**
ULDT Uludag 68.30 50 *i*P **P 22 53 30.8 -0.6**
KHL Karahalli 68.37 52 *e*P **P 22 53 31.0 -0.9**
ISK Istanbul-Kandi 68.37 49 *e*P **P 22 53 30.6 -1.3**
GEMT Gemlik 68.38 50 *e*P **P 22 53 33.8 +1.8**
LAO LASA Array 68.38 317⇑*i*P **P 22 53 31.6 -0.2**
comp=Z,1µm,1.5s,mb6.9
LAO LASA Array 68.38 317 ePP PP 22 55 58.8 -3.8
LAO LASA Array 68.38 317⇑*i*P **P 22 53 31.6 -0.2**
comp=Z,1µm,1.5s,mb6.9
LAO ePP PP 22 55 58.8 -3.8
LAO eS S 23 02 24.4 -10
LAO LR LR
comp=Z,45µm,20.0s,MS6.7
KLYT Kilyos 68.39 49 *e*P **P 22 53 31.0 -0.9**
GDZ Gediz 68.43 51 *i*P **P 22 53 30.0 -2.3**
TIRR Tirgusor 68.44 45⇑*i*P **P 22 53 31.7 -0.5**
TIRR Tirgusor 68.44 45 P **P 22 53 32.1 -0.1**
TIRR Tirgusor 68.44 45 P **P 22 53 32.1 -0.1**
ELL Elmali 68.49 54 *e*P **P 22 53 36.2 +3.5**
YLV Yalova 68.54 50 *e*P **P 22 53 32.7 -0.2**
MVCO Mesa Verde 68.62 307⇑P **P 22 53 34.1 +0.6**
baz=69
MVCO Mesa Verde 68.62 307⇑*i*P **P 22 53 33.7 +0.2**
comp=Z,580nm,1.4s,mb6.6
MVCO eS S 23 02 39.4 +2.0
MVCO Mesa Verde 68.62 307⇑*i*P **P 22 53 33.7 +0.2**
comp=Z,580nm,1.4s,mb6.6
MVCO eS S 23 02 39.4 +2.0
PV01 Paradox Valley 68.77 308 *e*P **P 22 53 33.9 -0.5**
comp=Z,6µm,1.2s
319A Douglas 68.78 300⇓P **P 22 53 35.1 +0.5**
baz=69
HRT Hereke 68.79 49 *e*P **P 22 53 33.7 -0.8**
ADVT Abdulvahap 68.80 50 *e*P **P 22 53 36.6 +2.1**
219A White Tail Can 68.80 301⇓P **P 22 53 35.5 +0.7**
baz=69
SILT Sile 68.82 49 *e*P **P 22 53 33.8 -0.9**
TLCR 68.85 45 P **P 22 53 36.4 +1.6**
TLCR 68.85 45 P **P 22 53 36.4 +1.7**
119A Ashpeak Ranch, 68.89 302⇑P **P 22 53 35.9 +0.6**
baz=69
Z19A T-Link Ranch, 68.89 302⇓P **P 22 53 35.9 +0.7**
baz=69
ALT Altintas 68.91 51 *e*P **P 22 53 37.0 +1.8**
V19A Window Rock 68.91 305⇑P **P 22 53 35.5 +0.1**
baz=69
Y19A Nutrioso 68.93 303⇑P **P 22 53 36.5 +1.0**
baz=69
TKTP Tekketepe 68.96 52 *i*P **P 22 53 36.7 +1.1**
T19A Beclabito 69.00 306⇑P **P 22 53 36.3 +0.4**
baz=69
X19A St. Johns 69.00 304⇓P **P 22 53 36.5 +0.6**
baz=69
ISP Isparta 69.08 53 *e*P **P 22 53 35.8 -0.6**
ISP Isparta 69.08 53 *e*P **P 22 53 35.6 -0.8**
ISP Isparta 69.08 53⇑*i*P **P 22 53 37.9 +1.5**
ISP Isparta 69.08 53 P **P 22 53 37.9 +1.5**
ISP eS S 23 02 37.7 -5.2
ISP Isparta 69.08 53⇑*i*P **P 22 53 37.1 +0.7**
ISP eS S 23 02 37.7 -5.2
ISP LR LR
comp=Z,28µm,19.0s,MS6.5
ANTB Antalya 69.10 54 *e*P **P 22 53 37.5 +1.0**
BCK Bucak 69.11 53 *e*P **P 22 53 36.6 0.0**
W19A Sanders 69.14 304⇑P **P 22 53 37.3 +0.5**
baz=69
PV10 Paradox Valley 69.17 308 *e*P **P 22 53 36.9 0.0**
comp=Z,10µm,0.9s
PV10 Paradox Valley 69.17 308 *e*P **P 22 53 36.9 +0.1**
comp=Z,21µm,0.9s
KIS Kishinev 69.18 43⇑*i*P **P 22 53 37.2 +0.4**
KIS Kishinev 69.18 43 *i* PcP PcP 22 53 57.0 -3.6
KIS eS S 23 02 39.0 -4.7
KIS eSS SS 23 07 02.0 -7.8
KIS Kishinev 69.18 43⇑P **P 22 53 37.2 +0.5**
S19A Harvey Farm, M 69.18 307⇑P **P 22 53 37.3 +0.4**
baz=69
SHUT Suhut-Afyon 69.19 52 *e*P **P 22 53 35.6 -1.4**
LOF Lofoten 69.24 19 *e*P **P 22 53 38.5 +1.7**
LOF AMb AMB 22 53 50.5
comp=Z,436nm,1.6s,mb6.4
LOF Lofoten 69.24 19 *e*P **P 22 53 39.2 +2.5**
LOF Lofoten 69.24 19 *e*P **P 22 53 39.2 +2.5**
R19A Curley Farm, L 69.33 308⇑P **P 22 53 38.7 +0.7**
baz=70
318A Bisbee 69.39 300⇓P **P 22 53 38.8 +0.4**
baz=70
Q19A Hogan Spring (69.41 308⇓P **P 22 53 38.7 +0.4**
baz=70
W18A Petrified Fore 69.42 304⇓P **P 22 53 38.6 0.0**
baz=70
118A Homack Ranch, 69.44 302⇑P **P 22 53 39.2 +0.5**
baz=70
218A Dragoon 69.47 301⇑P **P 22 53 39.1 +0.2**
baz=70
LPIG La Paz 69.47 293 *i*P **P 22 53 38.6 -0.4**
LPIG La Paz 69.47 293 *i*P **P 22 53 38.6 -0.5**
DAG Danmarks Havn 69.51 5⇑*i*P **P 22 53 37.8 -0.5**
DAG pmax pmax
comp=Z,323nm,1.6s,mb6.2
DAG MLR MLR
comp=Z,39µm,23.0s,MS6.6
DAG Danmarks Havn 69.51 5⇑*i*P **P 22 53 37.8 -0.5**
comp=Z,323nm,1.6s,mb6.2
DAG
comp=Z,39µm,23.0s
IIGN Ignalina 69.51 34 *e*P **P 22 53 38.4 -0.2**
IIGN AMb AMB 22 53 51.4
comp=Z,89nm,1.6s,mb5.6
IIGN Ignalina 69.51 34 *e*P **P 22 53 38.4 -0.3**
comp=Z,89nm,1.6s,mb5.6,SNR=18
BOLV Bolvadin 69.52 52 *i*P **P 22 53 40.7 +1.7**
Z18A Geronimo 69.52 302⇑P **P 22 53 39.7 +0.5**
baz=70
ESKT Eskisehir 69.53 51 *i*P **P 22 53 38.7 -0.4**
SEYT Eskypehyr 69.53 51 *i*P **P 22 53 38.7 -0.4**
X18A Snowflake 69.55 304⇑P **P 22 53 39.8 +0.5**
baz=70
N19A John Jarvie Ra 69.56 311⇑P **P 22 53 38.9 -0.4**
baz=70
Y18A Canyon Day Jun 69.57 303⇑P **P 22 53 40.0 +0.6**
baz=70
V18A Ganado 69.63 305⇓P **P 22 53 39.9 +0.1**
baz=70
IZAR Zarasai 69.64 33 *e*P **P 22 53 39.1 -0.3**
IZAR AMb AMB 22 53 52.0
comp=Z,83nm,1.5s,mb5.6
IZAR Zarasai 69.64 33 *e*P **P 22 53 39.1 -0.3**
comp=Z,83nm,1.5s,mb5.6,SNR=18
U18A Rough Rock, Ch 69.64 306⇓P **P 22 53 40.3 +0.5**
baz=70
T18A Mexican Hat 69.70 307⇓P **P 22 53 40.5 +0.3**
baz=70
HENT Hendek 69.72 50 *i*P **P 22 53 41.7 +1.4**
IDID Didziasalis 69.79 34 *e*P **P 22 53 40.0 -0.3**
IDID AMb AMB 22 53 52.9
comp=Z,99nm,1.4s,mb5.8
IDID Didziasalis 69.79 34 *e*P **P 22 53 40.0 -0.4**
comp=Z,99nm,1.4s,mb5.8,SNR=18
R18A Canyonlands Na 69.84 308⇑P **P 22 53 41.2 +0.2**
baz=70
S18A Hurst Farm, Bl 69.85 307⇓P **P 22 53 41.5 +0.4**
baz=70
Z17A San Carlos Hig 69.90 302⇓P **P 22 53 42.2 +0.6**
baz=70
MDU Mudurnu 69.92 50 *e*P **P 22 53 42.1 +0.7**
SUR Sutherland 69.92 129 P **P 22 53 42.1 +0.5**
SNR=6.0
SUR Sutherland 69.92 129 S S 23 02 36.1 -17
comp=Z,10nm,1.2s,baz=147,slow=10,SNR=3.7
SUR Sutherland 69.92 129 PFAKE 22 53 50.0 +8.4
SUR LR LR
comp=Z,22µm,21.0s,MS6.4
N18A Larsen Ranch, 69.95 311⇑P **P 22 53 41.6 -0.1**
baz=70
BW06 Boulder Array 70.08 312⇑*i*P **P 22 53 41.5 -1.0**
comp=Z,283nm,1.4s,mb6.2
BW06 Boulder Array 70.08 312 ePP PP 22 56 13.0 -4.4
BW06 Boulder Array 70.08 312⇑*i*P **P 22 53 41.5 -0.9**
comp=Z,283nm,1.4s,mb6.2
BW06 ePP PP 22 56 13.0 -4.4
BW06 eS S 23 02 33.9 -21
BW06 LR LR
comp=Z,55µm,22.0s,MS6.8
PDAR Pinedale Array 70.08 312 P **P 22 53 40.9 -1.6**
comp=Z,79nm,1.1s,mb5.7,baz=104,slow=6.3,SNR=98
PDAR S S 23 02 44.2 -10
comp=Z,0.2nm,0.4s,baz=136,slow=56,SNR=1.8
PDAR LR LR 23 20 46.4
comp=Z,35µm,21.9s,MS6.6,baz=115,slow=33
PDAR PKP2ab 23 21 42.2
comp=Z,1.4nm,1.0s,baz=222,slow=2.0,SNR=8.4
PDAR Pinedale Array 70.08 312 P **P 22 53 40.8 -1.6**
PDAR S S 23 02 44.2 -10
117A Oracle 70.08 302⇑P **P 22 53 42.9 +0.2**
baz=70
Q18A Rafter H Ranch 70.09 309⇑P **P 22 53 42.9 +0.3**
baz=70
TUC Tucson 70.11 301⇑*i*P **P 22 53 42.5 -0.3**
TUC eS S 23 02 47.5 -7.7
TUC pmax pmax
comp=Z,196nm,1.4s,mb6.0
TUC MLR MLR
comp=Z,12µm,20.0s,MS6.1
TUC Tucson 70.11 301 *i*P **P 22 53 42.5 -0.3**
comp=Z,12µm,20.0s
TUC Tucson 70.11 301 ePP PP 22 56 27.3 +9.4
TUC Tucson 70.11 301⇑*i*P **P 22 53 42.5 -0.4**
comp=Z,196nm,1.4s,mb6.0
TUC ePP PP 22 56 27.3 +9.4
TUC eS S 23 02 47.5 -7.7
TUC LR LR
comp=Z,12µm,20.0s,MS6.1
217A Green Valley 70.11 301⇑P **P 22 53 43.0 +0.2**
baz=70
O18A Roosevelt 70.12 310⇑P **P 22 53 43.1 +0.4**
baz=70
KIEV Kiev 70.15 39⇑*e*P **P 22 53 41.6 -1.1**
KIEV *e* 22 56 12.3
KIEV eS S 23 02 53.6 -1.4
KIEV pmax pmax
comp=Z,193nm,1.4s,mb6.0
KIEV Kiev 70.15 39 *e*P **P 22 53 41.6 -1.1**
comp=Z,193nm,1.4s,mb6.0
KIEV Kiev 70.15 39 ePP PP 22 56 12.3 -5.5
KIEV Kiev 70.15 39⇑*e*P **P 22 53 41.6 -1.1**
comp=Z,193nm,1.4s,mb6.0
KIEV ePP PP 22 56 12.3 -5.5
KIEV eS S 23 02 53.6 -1.4
AKASG Malin Array Be 70.16 39 P **P 22 53 40.5 -2.2**
comp=Z,47nm,0.7s,mb5.7,baz=259,slow=6.1,SNR=40
AKASG S S 23 02 42.3 -13
comp=Z,0.3nm,0.4s,baz=153,slow=34,SNR=2.4
AKASG LR LR 23 21 53.5
comp=Z,45µm,20.8s,MS6.7,baz=255,slow=34
AKASG PKP2bc 23 21 54.6
comp=Z,0.4nm,0.4s,baz=63,slow=1.9,SNR=5.8
AKASG Malin Array Be 70.16 39 P **P 22 53 40.5 -2.2**
AKASG S S 23 02 42.3 -13
AKASG Malin Array Be 70.16 39 P **P 22 53 40.5 -2.2**
AKASG S S 23 02 42.3 -13
AKASG LR LR 23 21 53.5
AKASG ⇑*e* 23 21 54.6
AKBB Malin Array Si 70.16 39 *e*P **P 22 53 41.7 -1.0**
AKBB *e* 22 56 15.9
AKBB eS S 23 02 50.3 -4.8
AKBB Malin Array Si 70.16 39 ePP PP 22 56 15.9 -2.0
KDZE Karadeniz Ereo 70.19 49 *e*P **P 22 53 43.5 +0.4**
MNK Minsk 70.19 35⇓*e*P **P 22 53 40.0 -2.8**
MNK pmax pmax
comp=Z,590nm,1.5s,mb6.5
MNK Minsk 70.19 35 *e*P **P 22 53 40.0 -2.8**
comp=Z,590nm,1.5s,mb6.5
RLMT Red Lodge 70.20 315⇑*i*P **P 22 53 43.0 -0.1**
comp=Z,366nm,0.9s,mb6.5
RLMT Red Lodge 70.20 315 ePP PP 22 56 13.6 -4.8
RLMT Red Lodge 70.20 315⇑*i*P **P 22 53 43.0 -0.1**
comp=Z,366nm,0.9s,mb6.5
RLMT ePP PP 22 56 13.6 -4.8
RLMT eS S 23 02 43.5 -12
RLMT LR LR
comp=Z,35µm,22.0s,MS6.6
W17A Winslow 70.22 304⇑P **P 22 53 44.1 +0.7**
baz=70
P18A Preston Nutter 70.23 309⇑P **P 22 53 43.9 +0.4**
baz=70
Y17A Roosevelt 70.24 303⇓P **P 22 53 44.2 +0.6**
baz=70
X17A Forest Lakes 70.24 303⇓P **P 22 53 44.4 +0.8**
baz=70
KIZT Kizilcal 70.26 52 *e*P **P 22 53 44.0 +0.4**
U17A Shonto 70.29 306⇑P **P 22 53 44.4 +0.6**
baz=70
PPCY Paphos 70.31 56⇑*i*P **P 22 53 45.7 +1.7**
JAWL J.Aulia 70.35 77 *i*P **P 22 53 36.3 -8.3**
JAWL AMb AMB 22 53 41.5
comp=Z,132nm,1.5s,mb5.8
SRU San Rafael 70.40 309⇑*i*P **P 22 53 43.8 -0.7**
SRU pmax pmax
comp=Z,397nm,1.6s,mb6.3
SRU San Rafael 70.40 309⇑P **P 22 53 44.5 0.0**
baz=71
SRU San Rafael 70.40 309 *i*P **P 22 53 43.8 -0.7**
comp=Z,397nm,1.6s,mb6.3
SRU San Rafael 70.40 309⇑*i*P **P 22 53 43.8 -0.7**
comp=Z,589nm,1.6s,mb6.5
KDHN Kadinhani 70.41 52 *i*P **P 22 53 45.5 +0.9**
T17A Navajo Res., N 70.43 306⇑P **P 22 53 45.8 +1.1**
baz=71
R17A Hanksville Air 70.48 308⇑P **P 22 53 45.0 +0.1**
baz=71
S17A Black Ridge (B 70.48 307⇑P **P 22 53 45.5 +0.5**
baz=71
SLAT Slait 70.51 76 *i*P **P 22 53 45.4 -0.2**
SLAT AMb AMB 22 53 50.7
comp=Z,171nm,1.9s,mb5.9
SLAT *i*S S 23 03 00.0 -0.4
ALFC Alevga 70.53 56 P **P 22 53 46.9 +1.5**
comp=Z,1.3nm,0.8s
KONT Konya--Tatoy 70.55 53 *e*P **P 22 53 45.4 -0.1**
SGKT Sivrigoynuk 70.57 50 *i*P **P 22 53 44.1 -1.4**
HDMB Hadim 70.57 54 *e*P **P 22 53 43.5 -2.0**
LADK Ladik-KONYA 70.58 52 *e*P **P 22 53 44.9 -0.7**
GCMT Greycliff 70.58 316 *e*P **P 22 53 45.8 +0.4**
comp=Z,511nm,1.7s,mb6.4
GCMT Greycliff 70.58 316 *e*P **P 22 53 45.8 +0.4**
comp=Z,511nm,1.7s,mb6.4
P17A Butcher Ranch, 70.60 309⇑P **P 22 53 46.0 +0.3**
baz=71
VSU Vasula 70.66 31 *e*P **P 22 53 44.2 -1.4**
216A Three Points, 70.67 301⇑P **P 22 53 46.5 +0.3**
baz=71
Z16A Peralta Trail, 70.70 302⇑P **P 22 53 47.0 +0.6**
baz=71
LSZ Lusaka 70.74 109 P **P 22 53 47.5 +0.6**
SNR=44
LSZ Lusaka 70.74 109 *e*P **P 22 53 46.2 -0.7**
LSZ eS S 23 02 57.4 -5.6
LSZ pmax pmax
comp=Z,261nm,1.5s,mb6.1
LSZ MLR MLR
comp=Z,30µm,20.0s,MS6.5
LSZ Lusaka 70.74 109 P **P 22 53 47.5 +0.6**
SNR=44
LSZ eS S 23 02 57.4 -5.6
LSZ Lusaka 70.74 109 *e*P **P 22 53 46.2 -0.7**
comp=Z,261nm,1.5s,mb6.1
LSZ eS S 23 02 57.4 -5.5
LSZ LR LR
comp=Z,30µm,20.0s,MS6.5
LEF Lefka 70.77 56 *e*P **P 22 53 44.5 -2.4**
X16A Lo Mia Camp, P 70.77 304⇓P **P 22 53 47.9 +1.1**
baz=71
Y16A Circle Bar Ran 70.77 303⇓P **P 22 53 47.8 +0.9**
baz=71
WUAZ Wupatki 70.78 305⇑P **P 22 53 47.7 +0.8**
baz=71
WUAZ Wupatki 70.78 305 *e*P **P 22 53 46.3 -0.6**
comp=Z,279nm,0.9s,mb6.4
WUAZ Wupatki 70.78 305 ePP PP 22 56 39.5 +16
WUAZ Wupatki 70.78 305 *e*P **P 22 53 46.3 -0.6**
comp=Z,279nm,0.9s,mb6.4
WUAZ ePP PP 22 56 39.5 +16
WUAZ eS S 23 03 01.0 -2.0
WUAZ LR LR
comp=Z,8µm,19.0s,MS6.0
N17A Moffit Pass 70.82 310⇓P **P 22 53 47.0 0.0**
baz=71
Q16A Castle Valley 70.88 308⇓P **P 22 53 47.6 +0.2**
baz=71
W16A Flagstaff 70.89 304⇓P **P 22 53 48.6 +1.1**
baz=71
ERMK Ermenek 70.89 54 *i*P **P 22 53 50.6 +3.1**
116A Eloy 70.90 302⇓P **P 22 53 47.8 +0.1**
baz=71
LKWY Lake 70.92 314⇑*i*P **P 22 53 48.5 +1.0**
LKWY *e* 22 56 22.8
LKWY eS S 23 03 07.4 +3.1
LKWY pmax pmax
comp=Z,809nm,1.9s,mb6.5
LKWY MLR MLR
comp=Z,76µm,22.0s,MS6.9
LKWY Lake 70.92 314 *i*P **P 22 53 48.5 +1.0**
comp=Z,809nm,1.9s,mb6.5
LKWY Lake 70.92 314 ePP PP 22 56 22.8 -1.8
LKWY Lake 70.92 314⇑*i*P **P 22 53 48.5 +0.9**
comp=Z,1µm,1.9s,mb6.6
LKWY ePP PP 22 56 22.8 -1.8
LKWY eS S 23 03 07.4 +3.1
LKWY LR LR
comp=Z,85µm,22.0s,MS7.0
TMUT Trail Mountain 70.94 309⇑*e*P **P 22 53 47.8 0.0**
comp=Z,128nm,0.6s,mb6.2
TMUT Trail Mountain 70.94 309⇑*e*P **P 22 53 47.8 0.0**
comp=Z,128nm,0.6s,mb6.2

LOHW **Long Hollow 70.95 313⇑iP P 22 53 47.6 -0.1**
comp=Z,639nm,1.9s,mb6.4
LOHW **Long Hollow 70.95 313** ePP PP 22 56 21.1 -3.7
LOHW **Long Hollow 70.95 313⇑iP P 22 53 47.6 -0.2**
comp=Z,639nm,1.9s,mb6.4
LOHW ePP PP 22 56 21.1 -3.7
LOHW eS S 23 03 07.0 +2.4
EGMT Eagleton 70.98 318⇓iP P 22 53 47.8 0.0
baz=71
EGMT Eagleton 70.98 318⇑iP P 22 53 47.4 -0.4
comp=Z,732nm,1.6s,mb6.6
EGMT ePP PP 22 56 24.1 -0.9
EGMT eS S 23 02 49.0 -16
EGMT LR LR
comp=Z,63µm,22.0s,MS6.8
T16A Glen Canyon Da 70.99 306⇑P P 22 53 49.0 +0.9
baz=71
LOD Lodumlu 71.04 51 eP **P 22 53 46.8 -1.6**
SNOW Snow King Moun 71.04 313⇑iP P 22 53 48.0 -0.3
comp=Z,494nm,1.5s,mb6.4
SNOW ePP PP 22 56 22.8 -2.8
SNOW eS S 23 03 02.8 -2.9
MAMC Mammari 71.04 56 P **P 22 53 50.7 +2.2**
ANTO Ankara 71.06 51 eP **P 22 53 50.8 +2.3**
ANTO Ankara 71.06 51 P **P 22 53 51.6 +3.1**
SNR=95
ANTO Ankara 71.06 51⇑iP P 22 53 50.2 +1.7
ANTO Ankara 71.06 51 ePP PP 22 56 33.3 +7.4
ANTO Ankara 71.06 51 eP **P 22 53 49.0 +0.5**
ANTO ePP PP 22 56 33.3 +7.4
ANTO eS S 23 02 55.8 -10
ANTO LR LR
comp=Z,20µm,20.0s,MS6.4
MOOW Moose Ponds 71.07 313⇑iP P 22 53 48.0 -0.4
comp=Z,377nm,1.5s,mb6.3
MOOW Moose Ponds 71.07 313 ePP PP 22 56 22.3 -3.6
MOOW Moose Ponds 71.07 313⇑iP P 22 53 48.0 -0.4
comp=Z,377nm,1.5s,mb6.3
MOOW ePP PP 22 56 22.3 -3.5
MOOW eS S 23 03 05.1 -0.9
FLWY Flagg Ranch 71.08 314⇑iP P 22 53 48.6 +0.1
comp=Z,2µm,1.6s,mb7.0
FLWY Flagg Ranch 71.08 314 ePP PP 22 56 23.2 -2.7
FLWY Flagg Ranch 71.08 314⇑iP P 22 53 48.6 +0.1
comp=Z,2µm,1.6s,mb7.0
FLWY ePP PP 22 56 23.2 -2.8
FLWY eS S 23 03 04.2 -1.8
DAU Daniels Canyon 71.08 310 eP **P 22 53 47.8 -0.8**
DAU Daniels Canyon 71.08 310 eP **P 22 53 47.8 -0.9**
comp=Z,1µm,1.7s,mb6.7
REDW Red Top Meadow 71.10 313⇑iP P 22 53 48.4 -0.2
comp=Z,920nm,1.6s,mb6.7
REDW ePP PP 22 56 24.6 -1.6
REDW eS S 23 02 59.3 -7.0
SAFT Safranbolu 71.11 49 eP **P 22 53 49.5 +0.8**
S16A Weppner Ranch, 71.12 307⇑P P 22 53 49.2 +0.4
baz=71
CSS Prodhromos 71.12 56 P **P 22 53 49.4 +0.4**
comp=Z,2.4nm,1.6s
CSS Prodhromos 71.12 56 eP **P 22 53 49.5 +0.6**
LBTB Lobatse 71.17 120⇓iP P 22 53 48.5 -0.9
LBTB e 22 54 06.6
LBTB e 22 56 31.8
LBTB eS S 23 02 58.9 -8.8
LBTB pmax pmax
comp=Z,654nm,1.9s,mb6.4
LBTB MLR MLR
comp=Z,56µm,22.0s,MS6.8
LBTB Lobatse 71.17 120 iP **P 22 53 48.5 -0.9**
comp=Z,654nm,1.9s,mb6.4
LBTB Lobatse 71.17 120 ePcP PcP 22 54 06.6 -2.9
LBTB Lobatse 71.17 120⇓iP P 22 53 48.5 -0.9
comp=Z,654nm,1.9s,mb6.4
LBTB ePcP PcP 22 54 06.6 -2.9
LBTB ePP PP 22 56 31.8 +4.5
LBTB eS S 23 02 58.9 -8.9
LBTB LR LR
comp=Z,56µm,22.0s,MS6.8
TPAW Teton Pass 71.19 313⇑iP P 22 53 49.2 0.0
comp=Z,736nm,1.5s,mb6.6
TPAW Teton Pass 71.19 313 ePP PP 22 56 26.8 -0.1
TPAW Teton Pass 71.19 313⇑iP P 22 53 49.2 0.0
comp=Z,736nm,1.5s,mb6.6
TPAW ePP PP 22 56 26.8 -0.1
TPAW eS S 23 03 15.0 +7.7
AHID Auburn Hatcher 71.21 312⇑iP P 22 53 49.0 -0.3
comp=Z,591nm,1.6s,mb6.5
AHID Auburn Hatcher 71.21 312 ePP PP 22 56 28.1 +1.0
AHID Auburn Hatcher 71.21 312⇑iP P 22 53 49.0 -0.3
comp=Z,591nm,1.6s,mb6.5
AHID ePP PP 22 56 28.1 +1.0
AHID eS S 23 03 04.5 -3.2
AHID LR LR
comp=Z,61µm,22.0s,MS6.8
YFT Old Faithful 71.22 314⇑iP P 22 53 50.4 +1.1
comp=Z,907nm,1.5s,mb6.7
YFT Old Faithful 71.22 314 ePP PP 22 56 28.7 +1.6
YFT Old Faithful 71.22 314⇑iP P 22 53 50.4 +1.1
comp=Z,907nm,1.5s,mb6.7
YFT ePP PP 22 56 28.7 +1.5
YFT eS S 23 03 12.3 +4.6
IMW Indian Meadow 71.22 314⇑iP P 22 53 49.3 -0.1
comp=Z,905nm,1.6s,mb6.7
IMW Indian Meadow 71.22 314 ePP PP 22 56 22.4 -4.8
IMW Indian Meadow 71.22 314⇑iP P 22 53 49.3 0.0
comp=Z,905nm,1.6s,mb6.7
IMW ePP PP 22 56 22.4 -4.8
IMW eS S 23 03 08.8 +1.0
JLU Jordanelle 71.25 310⇑iP P 22 53 49.7 +0.1
comp=Z,1µm,1.7s,mb6.8
JLU Jordanelle 71.25 310 ePP PP 22 56 23.7 -3.8
JLU Jordanelle 71.25 310⇑iP P 22 53 49.7 +0.1
comp=Z,1µm,1.7s,mb6.8
JLU ePP PP 22 56 23.7 -3.8
O16A Springville 71.25 310⇓P P 22 53 50.0 +0.3
baz=72
N16A Rees Ranch, Co 71.27 310⇓P P 22 53 50.1 +0.4
baz=72
LFK Lefkose 71.31 56 eP **P 22 53 48.6 -1.4**
Z15A Gila River Ind 71.31 302⇑P P 22 53 50.5 +0.4
baz=72
P16A Fountain Green 71.32 309⇓P P 22 53 50.5 +0.4
baz=72
MPU Maple Canyon 71.33 309⇑iP P 22 53 49.8 -0.3
comp=Z,495nm,1.7s,mb6.4
MPU Maple Canyon 71.33 309 ePP PP 22 56 27.0 -1.3
MPU Maple Canyon 71.33 309⇑iP P 22 53 49.8 -0.3
comp=Z,495nm,1.7s,mb6.4
MPU ePP PP 22 56 27.1 -1.2
MPU eS S 23 03 04.8 -4.4
MPU LR LR
comp=Z,19µm,20.0s,MS6.4
YMR Madison River 71.34 314⇑iP P 22 53 50.8 +0.7
comp=Z,2µm,1.5s,mb7.0
YMR Madison River 71.34 314 ePP PP 22 56 26.5 -1.7
YMR Madison River 71.34 314⇑iP P 22 53 50.8 +0.7
comp=Z,2µm,1.5s,mb7.0
YMR ePP PP 22 56 26.5 -1.6
YMR eS S 23 03 18.8 +10
YMR LR LR
comp=Z,33µm,19.0s,MS6.6
L16A Fish Haven 71.38 312⇓P P 22 53 50.5 +0.1
baz=72
HWUT Hardware Ranch 71.43 311⇑iP P 22 53 50.5 -0.2
comp=Z,424nm,1.0s,mb6.5
HWUT Hardware Ranch 71.43 311 ePP PP 22 56 27.1 -2.0
HWUT Hardware Ranch 71.43 311⇑iP P 22 53 50.5 -0.2
comp=Z,424nm,1.0s,mb6.5
HWUT ePP PP 22 56 27.1 -1.9
HWUT eS S 23 03 05.4 -4.9
HWUT LR LR
comp=Z,44µm,21.0s,MS6.7
X15A Humboldt 71.43 304⇓P P 22 53 52.0 +1.1
baz=72
RRI2 Red Ridge 71.44 313⇑iP P 22 53 50.7 0.0
comp=Z,981nm,1.4s,mb6.8
RRI2 Red Ridge 71.44 313 ePP PP 22 56 26.8 -2.2
RRI2 Red Ridge 71.44 313⇑iP P 22 53 50.7 0.0
comp=Z,981nm,1.4s,mb6.8
RRI2 ePP PP 22 56 26.8 -2.3
RRI2 eS S 23 03 14.7 +4.5
M16A Huntsville 71.45 311⇑P P 22 53 50.8 0.0
baz=72
V15A Kaibab Nationa 71.45 305⇓P P 22 53 52.0 +1.0
baz=72

CTU Camp Tracy 71.48 310⇑eP P 22 53 50.8 -0.2
comp=Z,666nm,1.6s,mb6.5
CTU Camp Tracy 71.48 310 ePP PP 22 56 29.4 -0.1
CTU Camp Tracy 71.48 310⇑eP P 22 53 50.8 -0.2
comp=Z,666nm,1.6s,mb6.5
CTU ePP PP 22 56 29.4 -0.1
IKL Isikli 71.48 55 eP **P 22 53 50.9 -0.2**
Y15A Casa Rosa Ranc 71.49 303⇑P P 22 53 51.6 +0.4
baz=72
W15A Williams 71.49 304⇓P P 22 53 52.5 +1.3
baz=72
KAF Kangasniemi 71.54 27 ep **P 22 53 49.5 -1.4**
comp=Z,18nm,0.7s,mb5.3,baz=252,slow=6.0
KAF Kangasniemi 71.54 27 eP **P 22 53 49.5 -1.4**
KAF pmax pmax
comp=Z,18nm,0.7s,mb5.3
K16A Soda Springs 71.58 312⇑P P 22 53 51.6 +0.1
baz=72
U15A North Rim 71.58 306⇓P P 22 53 52.8 +1.0
baz=72
ELDT Eldivan 71.60 50 iP **P 22 53 52.9 +1.2**
ELDT iP 22 53 52.9
I16A Newdale 71.61 313⇑P P 22 53 51.9 +0.1
baz=72
MSU Marysvale 71.63 308 eP **P 22 53 51.7 -0.3**
comp=Z,450nm,1.6s,mb6.3
MSU ePcP PcP 22 54 10.4 -0.9
J16A Bone 71.64 313⇓P P 22 53 52.1 +0.2
baz=72
MVU Marysvale 71.66 308 PFAKE 22 54 00.0 +7.9
MVU LR LR
comp=Z,13µm,20.0s,MS6.2
BALT Daday 71.66 49 iP **P 22 53 52.2 +0.1**
NLU North Lily Min 71.67 309⇑iP P 22 53 52.5 +0.3
comp=Z,598nm,1.5s,mb6.5
NLU North Lily Min 71.67 309 ePP PP 22 56 27.6 -3.5
NLU North Lily Min 71.67 309⇑iP P 22 53 52.5 +0.4
comp=Z,598nm,1.5s,mb6.5
NLU ePP PP 22 56 27.6 -3.6
TRO Tromso 71.68 18 eP **P 22 53 51.9 +0.2**
TRO eS S 23 03 11.6 -0.6
TRO eSS SS 23 07 48.5 +1.2
TRO AMS AMS 23 20 24.2
comp=Z,13µm,19.4s,MS6.2
TRO Tromso 71.68 18 eP **P 22 53 51.9 +0.3**
comp=Z,13µm,19.4s
TRO eS S 23 03 11.6 -0.5
SNR=20
TRO eSS SS 23 07 48.5 +1.1
SNR=28
TRO Tromso 71.68 18 eP **P 22 53 51.9 +0.2**
TRO e 23 03 17.7
TRO LR LR
comp=Z,13µm,19.4s,MS6.2
QLMT Earthquake Lak 71.69 314 eP **P 22 53 53.0 +0.8**
comp=Z,741nm,1.9s,mb6.5
QLMT Earthquake Lak 71.69 314 ePP PP 22 56 31.0 -0.1
QLMT Earthquake Lak 71.69 314 eP **P 22 53 53.0 +0.8**
comp=Z,741nm,1.9s,mb6.5
QLMT ePP PP 22 56 31.0 -0.2
R15A Junction 71.69 307⇑P P 22 53 53.0 +0.7
baz=72
T15A Red Dirt Ranch 71.69 306⇓P P 22 53 52.8 +0.4
baz=72
PHNC Paralimni 71.70 56 P **P 22 53 55.6 +3.2**
comp=Z,2.5nm,1.2s
S15A Panguitch 71.72 307⇓P P 22 53 52.9 +0.4
baz=72
KAMT Kaman 71.72 51 eP **P 22 53 51.4 -1.1**
CANT Cankiri 71.75 50 eP **P 22 53 51.9 -0.8**
NOQ North Oquirrh 71.76 310⇑iP P 22 53 52.8 +0.1
comp=Z,1µm,1.5s,mb6.7
NOQ North Oquirrh 71.76 310 ePP PP 22 56 29.0 -2.9
NOQ North Oquirrh 71.76 310⇑iP P 22 53 52.8 +0.1
comp=Z,1µm,1.5s,mb6.7
NOQ ePP PP 22 56 29.0 -2.9
P15A Leamington 71.79 309⇑P P 22 53 53.1 +0.1
baz=72
214A Organ Pipe Nat 71.81 301⇓P P 22 53 53.8 +0.6
baz=72
Q15A Fillmore 71.83 308⇓P P 22 53 53.6 +0.5
baz=72
EREN Erenkoy 71.84 55 eP **P 22 53 54.2 +0.9**
MEST Erdemli 71.88 54 iP **P 22 55.8 +2.3**
BOZ Bozeman (W) 71.92 315⇑iP P 22 53 53.5 -0.1
BOZ pmax pmax
comp=Z,134nm,1.0s,mb6.0
BOZ MLR MLR
comp=Z,21µm,20.0s,MS6.4
BOZ Bozeman (W) 71.92 315⇓P P 22 53 53.5 0.0
baz=72
BOZ Bozeman (W) 71.92 315 iP **P 22 53 53.5 -0.1**
comp=Z,21µm,20.0s
BOZ Bozeman (W) 71.92 315 ePP PP 22 56 26.0 -7.2
BOZ Bozeman (W) 71.92 315⇑iP P 22 53 53.5 -0.1
comp=Z,134nm,1.0s,mb6.0
BOZ ePP PP 22 56 26.0 -7.1
BOZ eS S 23 03 31.5 +16
BOZ LR LR
comp=Z,21µm,20.0s,MS6.4
X14A Yava 71.97 304⇑P P 22 53 55.2 +1.1
baz=72
Z14A Wintersburg 71.97 302⇑P P 22 53 54.6 +0.5
baz=72
O15A The Old Anders 72.00 310⇓P P 22 53 54.4 +0.3
baz=72
Y14A Wickenburg 72.05 303⇑P P 22 53 55.1 +0.5
baz=72
SPUT South Promonto 72.07 311⇑iP P 22 53 54.2 -0.3
comp=Z,1µm,1.5s,mb6.9
SPUT South Promonto 72.07 311 ePP PP 22 56 33.6 -0.9
SPUT South Promonto 72.07 311⇑iP P 22 53 54.2 -0.3
comp=Z,1µm,1.5s,mb6.9
SPUT ePP PP 22 56 33.6 -0.9
BOSA Boshof 72.07 123 P **P 22 53 54.0 -0.7**
comp=Z,126nm,1.0s,mb6.0,baz=292,slow=5.4,SNR=69
BOSA S S 23 03 09.8 -8.3
comp=Z,2.4nm,1.0s,baz=268,slow=20,SNR=2.0
BOSA LR LR 23 18 50.3
comp=Z,36µm,21.8s,MS6.6,baz=290,slow=30
BOSA Boshof 72.07 123 P **P 22 53 54.1 -0.7**
BOSA S S 23 03 09.8 -8.2
M15A Larsen Ranch, 72.08 311⇑P P 22 53 54.7 +0.1
baz=72
L15A Malad City 72.08 311⇓P P 22 53 54.6 0.0
baz=72
N15A Stansbury Isla 72.08 310⇑P P 22 53 54.7 +0.1
baz=72
TOS Tosya 72.10 50 eP **P 22 53 54.6 -0.1**
BZK Bozkurt 72.16 49 eP **P 22 53 52.8 -2.3**
W14A Seligman 72.16 304⇑P P 22 53 56.5 +1.3
baz=72
MERS Mersin 72.19 54 eP **P 22 53 56.5 +1.1**
V14A Boquillas Ranc 72.20 305⇑P P 22 53 56.6 +1.1
baz=72
J15A Blackfoot 72.25 313⇓P P 22 53 55.7 +0.2
baz=72
K15A Arbon 72.25 312⇓P P 22 53 55.5 0.0
baz=72
CDAG Cicekdag 72.25 51 iP **P 22 53 55.6 -0.1**
DUG Dugway 72.25 310⇑iP P 22 53 55.8 +0.1
DUG eS S 23 03 19.1 -0.7
DUG pmax pmax
comp=Z,970nm,1.6s,mb6.7
DUG MLR MLR
comp=Z,20µm,21.0s,MS6.4
DUG Dugway 72.25 310⇓P P 22 53 55.8 +0.1
baz=72
DUG Dugway 72.25 310 iP **P 22 53 55.8 +0.1**
comp=Z,970nm,1.6s,mb6.7
DUG eS S 23 03 19.1 -0.7
DUG Dugway 72.25 310⇑iP P 22 53 55.8 +0.2
comp=Z,970nm,1.6s,mb6.7
DUG eS S 23 03 19.1 -0.7
DUG LR LR
comp=Z,20µm,21.0s,MS6.4
T14A Hurricane 72.26 306⇑P P 22 53 55.7 0.0
baz=72
R14A James Farms, M 72.28 308⇓P P 22 53 56.8 +0.9
baz=72
U14A Mt Trumbull 72.30 306⇑P P 22 53 57.1 +1.1
baz=72
EIL Elat 72.32 62 P **P 22 53 55.0 -1.3**
comp=Z,51nm,1.1s,mb5.6,baz=306,slow=3.7,SNR=16
EIL PP PP 22 56 33.5 -3.5
comp=Z,12nm,1.1s,baz=299,slow=2.6,SNR=4.2

EIL Elat 72.32 62 PP PP 22 56 33.5 -3.4
NIG Nigde 72.34 53 eP **P 22 53 56.5 +0.3**
HVU Hansel Valley 72.35 311⇑iP P 22 53 55.5 -0.7
HVU e 22 56 33.7
HVU pmax pmax
comp=Z,417nm,0.8s,mb6.6
HVU Hansel Valley 72.35 311 iP **P 22 53 55.5 -0.7**
comp=Z,417nm,0.8s,mb6.6
HVU Hansel Valley 72.35 311 ePP PP 22 56 33.7 -3.2
HVU Hansel Valley 72.35 311⇑iP P 22 53 55.5 -0.7
comp=Z,417nm,0.8s,mb6.6
HVU ePP PP 22 56 33.7 -3.2
GLFJ 72.36 62 eP **P 22 53 57.7 +1.2**
SNR=16
S14A Cedar City 72.36 307⇓P P 22 53 56.9 +0.5
baz=73
P14A Drum Mountains 72.40 309⇓P P 22 53 57.3 +0.7
baz=73
G15A Dillon 72.47 315⇑P P 22 53 57.5 +0.6
baz=73
BGU Big Grassy Mou 72.47 310⇑iP P 22 53 57.2 +0.2
comp=Z,1µm,1.4s,mb6.9
BGU Big Grassy Mou 72.47 310 ePP PP 22 56 34.5 -3.5
BGU Big Grassy Mou 72.47 310⇑iP P 22 53 57.2 +0.3
comp=Z,1µm,1.4s,mb6.9
BGU ePP PP 22 56 34.5 -3.4
CORM Corum 72.49 51 eP **P 22 53 57.4 +0.3**
H15A Lima 72.52 314⇓P P 22 53 57.8 +0.6
baz=73
Q14A Sevier Lake (B 72.52 308⇑P P 22 53 58.2 +0.8
baz=73
SIM Simferopol' 72.53 46 ceP **P 22 53 58.2 +1.0**
SIM eS S 23 03 18.0 -4.8
SIM pmax pmax
comp=Z,1µm,11.0s
SIM MLR MLR
comp=Z,21µm,19.0s,MS6.4
SIM Simferopol' 72.53 46 eP **P 22 53 58.2 +1.0**
comp=Z,1µm,11.0s
F15A Butte 72.55 315⇓P P 22 53 57.8 +0.5
baz=73
DLMT Dillon 72.57 315⇑iP P 22 53 57.9 +0.5
comp=Z,1µm,1.4s,mb6.9
DLMT Dillon 72.57 315 ePP PP 22 56 36.7 -2.0
DLMT Dillon 72.57 315⇑iP P 22 53 57.9 +0.4
comp=Z,1µm,1.4s,mb6.9
DLMT ePP PP 22 56 36.7 -1.9
DLMT eS S 23 03 27.5 +4.3
AVNT Avonos 72.57 52 iP **P 22 53 56.5 -1.1**
N14A Grayback Hills 72.58 310⇓P P 22 53 57.9 +0.2
baz=73
KARA Karaisali 72.64 54 eP **P 22 53 57.9 -0.2**
CTKT Corum 72.64 50 iP **P 22 53 59.6 +1.6**
113A Mohawk Valley, 72.64 302⇑P P 22 53 58.4 +0.2
baz=73
MCMT McKenzie Canyo 72.69 314 eP **P 22 53 57.4 -0.8**
comp=Z,540nm,1.4s,mb6.5
MCMT McKenzie Canyo 72.69 314 ePP PP 22 56 40.0 +0.3
MCMT McKenzie Canyo 72.69 314 eP **P 22 53 57.4 -0.7**
comp=Z,540nm,1.4s,mb6.5
MCMT ePP PP 22 56 40.0 +0.2
BYBT Boyabat 72.69 49 eP **P 22 53 57.4 -0.8**
D15A Lincoln 72.70 317⇑P P 22 53 58.4 +0.2
baz=73
K14A Jones Ranch, D 72.71 312⇑P P 22 53 58.1 -0.2
baz=73
E15A Deer Lodge 72.71 316⇓P P 22 53 58.3 +0.1
baz=73
L14A Malta 72.72 311⇑P P 22 53 58.2 -0.2
baz=73
Y13A Salome 72.72 303⇓P P 22 53 59.2 +0.6
baz=73
X13A Yucca 72.75 304⇓P P 22 53 59.5 +0.7
baz=73
M14A Sheep Mountain 72.76 311⇓P P 22 53 58.4 -0.2
baz=73
MMAI Mount Meron Ar 72.76 58 P **P 22 53 58.3 -0.6**
comp=Z,59nm,0.9s,mb5.7,baz=261,slow=3.3,SNR=32
PUL Pulkovo 72.78 30 eP **P 22 53 59.5 +1.1**
W13A Hualapai Mount 72.81 304⇓P P 22 54 00.1 +1.0
baz=73
KRTS Karatas 72.86 54 eP **P 22 54 06.7 +7.3**
S13A Holt Ranch, En 72.90 307⇓P P 22 54 00.6 +1.0
baz=73
T13A Saint George 72.91 306⇓P P 22 54 00.7 +1.0
baz=73
V13A Grand Canyon W 72.92 305⇑P P 22 54 00.6 +0.8
baz=73
U13A Pakoon Wash 72.93 306⇓P P 22 54 00.7 +0.9
baz=73
BHL Bhannes 73.00 57 eP **P 22 54 01.8 +1.6**
R13A O'Grain Ranch, 73.02 307⇑P P 22 54 01.1 +0.9
baz=73
I14A Mackay 73.03 313⇑P P 22 54 00.4 +0.2
baz=73
H14A Leadore 73.04 314⇑P P 22 54 00.6 +0.3
baz=73
DIKM Dikmen 73.07 49 eP **P 22 54 01.1 +0.6**
YURE YUREGIR 73.08 54 iP **P 22 54 00.9 +0.2**
Q13A Wheeler Ranch, 73.10 308⇓P P 22 54 01.5 +0.8
baz=73
P13A Bates Ranch, G 73.13 309⇑P P 22 54 01.8 +0.9
baz=73
O13A Hicks Ranch, I 73.14 309⇑P P 22 54 01.6 +0.7
baz=73
F14A Wisdom 73.15 315⇓P P 22 54 01.4 +0.5
baz=73
G14A Jackson 73.16 315⇑P P 22 54 01.4 +0.5
baz=73
CEYT Ceyhan 73.18 54 eP **P 22 54 01.1 -0.1**
CHMT Chamberlain Mo 73.19 316 eP **P 22 54 00.3 -0.8**
comp=Z,444nm,1.5s,mb6.4
CHMT Chamberlain Mo 73.19 316 PcP PcP 22 54 17.0 -0.7
CHMT Chamberlain Mo 73.19 316 eP **P 22 54 00.3 -0.7**
comp=Z,444nm,1.5s,mb6.4
CHMT PcP PcP 22 54 17.0 -0.7
CHMT ePP PP 22 56 42.0 -1.9
L13A Double Diamond 73.25 311⇓P P 22 54 01.7 +0.2
baz=74
HWQ Hawqa 73.25 57 eP **P 22 53 54.8 -6.9**
KOZT Kozan 73.27 53 eP **P 22 54 02.5 +0.8**
E14A Clinton 73.30 316⇑P P 22 54 01.8 0.0
baz=74
Y12C Blythe 73.30 303⇓P P 22 54 02.7 +0.7
baz=74
112A Yuma 73.33 301⇑P P 22 54 02.5 +0.3
baz=74
BNN Bunyan 73.35 52 eP **P 22 54 01.6 -0.6**
M13A Montello 73.36 311⇓P P 22 54 02.3 +0.1
baz=74
D14A Greenough 73.38 317⇓P P 22 54 02.2 0.0
baz=74
K13A Stover Farm, H 73.39 312⇓P P 22 54 02.4 +0.1
baz=74
U12A Valley of Fire 73.39 306⇑P P 22 54 03.3 +0.8
baz=74
NEE2 Needles Airpor 73.41 304⇑P P 22 54 03.3 +0.7
baz=74
YAYL Yayladag 73.43 55 iP **P 22 54 02.7 -0.1**
HTY Hatay 73.46 55 eP **P 22 54 05.3 +2.4**
I13A Wildhorse Cree 73.51 313⇓P P 22 54 03.5 +0.5
baz=74
J13A Cove Ranch, Pi 73.51 313⇓P P 22 54 03.5 +0.4
baz=74
RES Resolute Bay 73.51 347⇑eP P 22 54 02.0 -0.5
comp=Z,8µm,1.6s,mb7.5
R12A Pony Springs, 73.53 307⇑P P 22 54 04.2 +0.9
baz=74
GLA Glamis 73.54 302⇑P P 22 54 04.1 +0.6
baz=74,SNR=49
GLA Glamis 73.54 302 PFAKE 22 54 10.0 +6.5
GLA LR LR
comp=Z,7µm,20.0s,MS5.9
T12A Moapa 73.55 306⇓P P 22 54 03.7 +0.3
baz=74
COBT Iskenderun 73.57 54 iP **P 22 54 06.2 +2.6**
V12A Nelson 73.62 305⇓P P 22 54 04.2 +0.3
baz=74
KVT Kavak 73.63 50 eP **P 22 54 02.0 -1.7**
W12A Cal Nev Ari 73.63 304⇓P P 22 54 04.2 +0.3
baz=74
MSO Missoula 73.65 316⇑iP P 22 54 03.2 -0.6
comp=Z,196nm,1.4s,mb6.0
MSO Missoula 73.65 316 ePP PP 22 56 44.4 -3.5
MSO Missoula 73.65 316⇑iP P 22 54 03.2 -0.6
comp=Z,196nm,1.4s,mb6.0

MSO ePP PP 22 56 44.4 -3.5
MSO eS S 23 03 38.1 +2.7
MSO LR LR
comp=Z,34µm,20.0s,MS6.6
H13A Challis 73.66 314 ⇑P **P 22 54 04.0 +0.1**
baz=74
S12A Delamar Landin 73.69 307 ⇑P **P 22 54 05.4 +1.2**
baz=74
G13A Cobalt 73.69 315 ⇓P **P 22 54 04.5 +0.4**
baz=74
HLID Hailey 73.70 313 ⇓P **P 22 54 04.6 +0.4**
baz=74
HLID Hailey 73.70 313 ⇑iP **P 22 54 04.4 +0.2**
comp=Z,419nm,1.4s,mb6.3
HLID Hailey 73.70 313 ePP PP 22 56 40.7 -7.7
HLID Hailey 73.70 313 ⇑iP **P 22 54 04.4 +0.2**
comp=Z,419nm,1.4s,mb6.3
HLID ePP PP 22 56 40.7 -7.7
HLID eS S 23 03 25.2 -11
HLID LR LR
comp=Z,59µm,22.0s,MS6.8
O12A Currie 73.73 309 ⇑P **P 22 54 04.9 +0.4**
baz=74
Q12A Willow Creek R 73.73 308 ⇓P **P 22 54 05.1 +0.6**
baz=74
ARCES ARCESS Array B 73.74 19 P **P 22 54 02.5 -1.4**
comp=Z,12nm,0.8s,mb5.0,baz=233,slow=3.4,SNR=22
ARCES S S 23 03 24.2 -12
comp=Z,4.4nm,1.0s,baz=320,slow=24,SNR=2.9
ARCES LR LR 23 21 51.0
comp=Z,29µm,19.8s,MS6.6,baz=250,slow=32
ARCES ARCESS Array B 73.74 19 P **P 22 54 02.5 -1.4**
ARCES S S 23 03 24.2 -11
ARCES ARCESS Array B 73.74 19 P **P 22 54 02.5 -1.4**
ARCES S S 23 03 24.1 -12
ARCES ARCESS Array B 73.74 19 P **P 22 54 02.5 -1.4**
ARCES S S 23 03 24.1 -12
ARCES LR LR 23 21 51.0
ARE0 ARCESS Array S 73.74 19⇑eP **P 22 54 02.4 -1.5**
ARE0 ARCESS Array S 73.74 19 ePP PP 22 56 45.3 -2.8
ARE0 ARCESS Array S 73.74 19⇑eP **P 22 54 02.4 -1.5**
ARE0 ePP PP 22 56 45.3 -2.8
ARE0 eS S 23 03 32.0 -3.6
PINB Pinarbasi 73.77 52 iP **P 22 54 06.4 +1.7**
E13A Victor 73.78 316 ⇓P **P 22 54 04.7 +0.1**
baz=74
LDFC Landfair 73.82 304 eP **P 22 54 06.0 +0.9**
comp=Z,411nm,1.1s,mb6.4
LDFC Landfair 73.82 304 ePP PP 22 56 56.0 +6.4
LDFC Landfair 73.82 304 eP **P 22 54 06.0 +0.9**
comp=Z,411nm,1.1s,mb6.4
LDFC ePP PP 22 56 56.0 +6.4
LDFC eS S 23 03 33.1 -4.7
F13A Darby 73.82 315 ⇓P **P 22 54 05.1 +0.3**
baz=74
WALA Waterton Lakes 73.86 319⇑iP **P 22 54 04.4 -0.6**
comp=Z,993nm,1.6s,mb6.6
WALA ePP PP 22 56 49.5 -0.1
WALA eS S 23 03 40.5 +2.8
M12A Wells 73.93 311 ⇓P **P 22 54 05.8 +0.2**
baz=74
TOKT Tokat 73.96 50 eP **P 22 53 56.5 -9.3**
T11A Corn Creek, Al 73.97 306 ⇓P **P 22 54 06.9 +1.0**
baz=74
N12A Clover Valley, 73.99 310 ⇓P **P 22 54 06.4 +0.5**
baz=74
K12A Draper Farm, C 73.99 312 ⇓P **P 22 54 06.4 +0.5**
baz=74
SARI SarD1z-Kayseri 74.00 52 eP **P 22 54 03.9 -2.2**
ASF Jabal al Asfar 74.01 59 P **P 22 54 05.5 -0.7**
comp=Z,45nm,1.1s,mb5.4,baz=142,slow=3.3,SNR=23
ASF PP PP 22 56 45.9 -5.4
comp=Z,2.6nm,0.8s,baz=343,slow=5.6,SNR=2.3
ASF S S 23 03 30.2 -10
comp=Z,0.7nm,0.6s,baz=38,slow=23,SNR=2.1
ASF Jabal al Asfar 74.01 59 PP PP 22 56 45.9 -5.4
BJO1 Bjornoya 74.02 14 eP **P 22 54 10.0 +4.5**
BJO1 Bjornoya 74.02 14 eP **P 22 54 10.0 +4.6**
BJO1 e 23 03 39.7
BJO1 LR LR
comp=Z,12µm,22.1s,MS6.1
EDM Edmonton 74.02 323⇑iP **P 22 54 05.2 -0.6**
EDM e 22 54 19.0
EDM Edmonton 74.02 323 ePcP PcP 22 54 19.0 -2.1
D13A Huson 74.03 317 ⇓P **P 22 54 05.9 -0.1**
baz=74
L12A House Creek Ra 74.04 311 ⇓P **P 22 54 06.6 +0.4**
baz=74
BJO Bjornoya 74.06 14 eP **P 22 54 10.0 +4.3**
BJO eS S 23 03 40.7 +1.5
BJO eSS SS 23 08 26.7 +3.1
BJO AMS AMS 23 18 58.5
comp=Z,12µm,22.1s,MS6.1
BJO Bjornoya 74.06 14 eP **P 22 54 10.0 +4.3**
SNR=18
BJO eS S 23 03 40.7 +1.5
SNR=20
BJO eSS SS 23 08 26.7 +3.1
SNR=27
BC3 Big Chuckw Mtn 74.08 303 ⇑P **P 22 54 07.0 +0.4**
baz=74,SNR=100
U11A Corn Creek 74.08 305 ⇑P **P 22 54 07.4 +0.9**
baz=74
H12A Diamond D Ranc 74.09 314 ⇑P **P 22 54 06.8 +0.4**
baz=74
V11A Goodsprings 74.10 305 ⇑P **P 22 54 07.3 +0.7**
baz=74
KMRS Kahramanmaras 74.12 53 eP **P 22 54 09.0 +2.2**
ELK Elko 74.13 310⇑iP **P 22 54 06.6 -0.2**
ELK 22 54 20.9
ELK e 22 56 53.3
ELK eS S 23 03 35.0 -6.1
ELK pmax pmax
comp=Z,700nm,1.6s
ELK MLR MLR
comp=Z,29µm,20.0s
ELK Elko 74.13 310 iP **P 22 54 06.6 -0.2**
comp=Z,700nm,1.6s,mb6.4
ELK Elko 74.13 310 PcP PcP 22 54 20.9 -1.0
ELK Elko 74.13 310⇑iP **P 22 54 06.6 -0.2**
comp=Z,700nm,1.6s,mb6.4
ELK PcP PcP 22 54 20.9 -1.0
ELK ePP PP 22 56 53.3 +1.1
ELK eS S 23 03 35.0 -6.1
ELK LR LR
comp=Z,29µm,20.0s,MS6.6
B13A Whitefish 74.15 318 ⇑P **P 22 54 06.7 0.0**
baz=74
C13A Hot Springs 74.16 317 ⇑P **P 22 54 06.8 0.0**
baz=74
J12A Stokes Ranch, 74.17 313 ⇑P **P 22 54 07.3 +0.3**
baz=74
GMRC Granite Mounta 74.26 304 ⇓P **P 22 54 08.2 +0.5**
baz=74,SNR=132
SVSK Karacayir 74.29 51 eP **P 22 54 07.6 -0.1**
R11A Troy Canyon, C 74.30 307 ⇑P **P 22 54 08.5 +0.8**
baz=74
KEV Kevo 74.31 19 ep **P 22 54 07.0 -0.2**
comp=Z,24nm,0.8s,mb5.3
KEV Kevo 74.31 19 eP **P 22 54 07.0 -0.2**
KEV pmax pmax
comp=Z,24nm,0.8s,mb5.3
SWSC Sam W. Stewart 74.36 302 ⇑P **P 22 54 08.7 +0.5**
baz=75,SNR=96
GAZ Gaziantep 74.36 54 eP **P 22 54 11.1 +2.9**
Q11A Duckwater 74.37 308 ⇑P **P 22 54 08.6 +0.4**
baz=75
S11A Rachel 74.40 307 ⇓P **P 22 54 09.7 +1.3**
baz=75
O11A Cowboy Ranch, 74.42 309 ⇑P **P 22 54 09.2 +0.7**
baz=75
F12A Elk City 74.46 315 ⇑P **P 22 54 08.9 +0.3**
baz=75
P11A Circle Ranch, 74.47 309 ⇑P **P 22 54 09.6 +0.8**
baz=75
TUQ Turquoise Mtn. 74.49 304 ⇓P **P 22 54 09.5 +0.6**
baz=75,SNR=111
N11A Elko Archery C 74.51 310 ⇓P **P 22 54 09.4 +0.4**
baz=75
BELC Belle Mtn. 74.53 303 ⇓P **P 22 54 10.0 +0.8**
baz=75,SNR=152
RSDY Resadiye-TOKAT 74.56 50 eP **P 22 54 09.5 +0.2**
M11A Holland Ranch, 74.58 311 ⇑P **P 22 54 10.1 +0.7**
baz=75
L11A Cat Creek Ranc 74.59 311 ⇑P **P 22 54 10.1 +0.6**
baz=75

DVTC Desert V Tower 74.61 302 ⇓P **P 22 54 10.4 +0.7**
baz=75,SNR=31
GZT Gaziantep 74.64 54 iP **P 22 54 10.3 +0.4**
MFID Camas Ranch 74.72 313 ⇓P **P 22 54 10.3 +0.2**
baz=75
TPNV Topopah Spring 74.78 306⇑iP **P 22 54 10.9 +0.3**
TPNV e 22 54 24.7
TPNV e 22 57 01.8
TPNV eS S 23 03 48.7 +0.1
TPNV pmax pmax
comp=Z,665nm,1.6s,mb6.4
TPNV MLR MLR
comp=Z,17µm,22.0s,MS6.3
TPNV Topopah Spring 74.78 306 ⇑P **P 22 54 11.8 +1.1**
baz=75
TPNV Topopah Spring 74.78 306 iP **P 22 54 10.9 +0.3**
comp=Z,665nm,1.6s,mb6.4
TPNV Topopah Spring 74.78 306 ePcP PcP 22 54 24.7 -0.1
TPNV Topopah Spring 74.78 306⇑iP **P 22 54 10.8 +0.2**
comp=Z,665nm,1.6s,mb6.4
TPNV ePcP PcP 22 54 24.7 0.0
TPNV ePP PP 22 57 01.8 +4.0
TPNV eS S 23 03 48.7 +0.2
TPNV LR LR
comp=Z,17µm,22.0s,MS6.3
SHOC Shoshone 74.79 305 ⇓P **P 22 54 11.0 +0.3**
baz=75,SNR=54
HEC Hector,Ludlow 74.82 304 ⇑P **P 22 54 11.3 +0.4**
baz=75,SNR=138
K11A Parker Ranch, 74.83 312 ⇑P **P 22 54 11.3 +0.5**
baz=75
I11A Placerville 74.84 313 ⇓P **P 22 54 10.5 -0.3**
baz=75
U10A Ash Meadows, A 74.84 305 ⇑P **P 22 54 11.9 +0.9**
baz=75
R10A Warm Springs 74.86 307 ⇓P **P 22 54 11.9 +0.9**
baz=75
ANN Anapa 74.87 46c iP **P 22 54 10.0 -1.0**
ANN i *PP 22 54 20.3
ANN i 22 57 02.8
ANN i S S 23 03 46.3 -2.9
ANN i SS SS 23 08 37.5 +0.4
ANN pmax pmax
comp=Z,322nm,1.7s,mb6.1
ANN pmax pmax
comp=N,79nm,1.8s
ANN pmax pmax
comp=E,80nm,1.8s
ANN Anapa 74.87 46 iP **P 22 54 10.0 -1.0**
comp=E,322nm,1.7s,mb6.1
ANN Anapa 74.87 46 iPcP PcP 22 54 20.3 -4.7
DARE Darende-Malaty 74.88 52 eP **P 22 54 07.2 -4.0**
MONP Monument Peak 74.88 302 ⇑P **P 22 54 12.4 +1.1**
baz=75,SNR=91
B12A Libby 74.91 318 ⇓P **P 22 54 11.3 +0.2**
baz=75
PFO Pinyon Flat Ob 74.91 303 ⇑P **P 22 54 12.1 +0.6**
baz=75,SNR=54
PFO Pinyon Flat Ob 74.91 303 PFAKE 22 54 20.0 +8.6
PFO LR LR
comp=Z,8µm,22.0s,MS6.0
H11A Donnelly 74.92 314 ⇓P **P 22 54 11.0 -0.3**
baz=75
Q10A Clear Creek Ra 74.95 308 ⇑P **P 22 54 11.8 +0.3**
baz=75
A12A Yaak River Ran 74.99 318 ⇑P **P 22 54 11.5 0.0**
baz=75
P10A Eureka 75.03 309 ⇑P **P 22 54 13.0 +1.0**
baz=75
PMSA Palmer Station 75.03 191 P **P 22 54 09.0 -2.4**
comp=Z,115nm,1.0s,mb5.9,baz=22,slow=5.6,SNR=15
PMSA S S 23 03 36.8 -13
comp=Z,4.0nm,0.9s,baz=41,slow=9.1,SNR=1.8
PMSA LR LR 23 27 21.6
comp=Z,11µm,18.1s,MS6.2,baz=146,slow=36
PMSA Palmer Station 75.03 191 P **P 22 54 09.0 -2.4**
PMSA S S 23 03 36.8 -13
KBS Kingsbay 75.06 9 eP **P 22 54 12.9 +1.5**
KBS e 23 04 04.0
KBS AMS AMS 23 18 23.5
comp=Z,10µm,21.9s,MS6.1
KBS Kingsbay 75.06 9 eP **P 22 54 13.0 +1.5**
comp=Z,10µm,21.9s
O10A Cortez Mining, 75.07 309 ⇑P **P 22 54 12.6 +0.3**
baz=75
S10A Tonopah Range, 75.08 307 ⇓P **P 22 54 13.1 +0.8**
baz=75
BAR Barrett 75.09 302⇑iP **P 22 54 13.1 +0.6**
comp=Z,306nm,1.3s,mb6.2
BAR Barrett 75.09 302 ePcP PcP 22 54 26.3 +0.1
BAR Barrett 75.09 302⇑iP **P 22 54 13.1 +0.6**
comp=Z,306nm,1.3s,mb6.2
BAR ePcP PcP 22 54 26.3 +0.1
BAR PP PP 22 57 01.3 +0.8
BAR eS S 23 03 49.6 -2.6
BAR LR LR
comp=Z,12µm,22.0s,MS6.1
N10A Dunphy 75.10 310 ⇑P **P 22 54 12.6 +0.3**
baz=75
F11A Grangeville 75.10 315 ⇑P **P 22 54 11.8 -0.5**
baz=75
L10A Juniper Basin 75.12 311 ⇓P **P 22 54 13.2 +0.7**
baz=75
G11A Walters Elk Ra 75.15 315 ⇓P **P 22 54 11.8 -0.8**
baz=75
M10A I.L. Ranch, Tu 75.15 311 ⇓P **P 22 54 13.2 +0.5**
baz=75
E11A Bogner Ranch, 75.17 316 ⇑P **P 22 54 12.3 -0.3**
baz=75
GSC Goldstone 75.21 304⇓iP **P 22 54 13.7 +0.6**
GSC e 22 54 24.2
GSC e 22 57 02.2
GSC eS S 23 03 56.2 +2.8
GSC pmax pmax
comp=Z,398nm,1.6s,mb6.2
GSC MLR MLR
comp=Z,14µm,20.0s,MS6.2
GSC Goldstone 75.21 304 ⇑P **P 22 54 13.6 +0.4**
baz=75,SNR=77
GSC Goldstone 75.21 304 iP **P 22 54 13.7 +0.6**
comp=Z,398nm,1.6s,mb6.2
GSC Goldstone 75.21 304 ePcP PcP 22 54 24.2 -2.4
GSC Goldstone 75.21 304⇓iP **P 22 54 13.7 +0.6**
comp=Z,398nm,1.6s,mb6.2
GSC ePcP PcP 22 54 24.2 -2.4
GSC ePP PP 22 57 02.2 +0.8
GSC eS S 23 03 56.2 +2.8
GSC LR LR
comp=Z,14µm,20.0s,MS6.2
ATAB Bozova 75.23 53 iP **P 22 54 15.2 +2.0**
FURC Furnace Creek, 75.27 306 ⇓P **P 22 54 14.4 +1.0**
baz=76,SNR=119
OBN Obninsk 75.27 35⇓eP **P 22 54 12.1 -0.9**
OBN i *PP 22 54 15.1
OBN e 22 54 17.6
OBN e 22 54 27.4
OBN e 22 57 03.5
OBN i S S 23 03 53.0 -0.2
OBN i 23 04 24.3
OBN pmax pmax
comp=Z,100nm,1.6s,mb5.6
OBN pmax pmax
comp=Z,620nm,1.7s,mb6.4
OBN MLR MLR
comp=Z,31µm,18.0s,MS6.7
OBN Obninsk 75.27 35 ePcP PcP 22 54 27.4 +1.0
OBN Obninsk 75.27 35 eP **P 22 54 12.2 -0.8**
OBN LR LR
comp=Z,31µm,18.0s,MS6.7
GRSN GIRESUNGRSN 75.30 50 iP **P 22 54 15.0 +1.5**
BBRC Big Bear Sol-O 75.30 303 ⇓P **P 22 54 14.4 +0.7**
baz=76
D11A Klaveano Farm, 75.30 316 ⇓P **P 22 54 12.6 -0.8**
baz=76
MYA Malataya 75.35 53 eP **P 22 54 15.9 +2.1**
MALT Malatya 75.35 53 eP **P 22 54 12.4 -1.5**
MALT Malatya 75.35 53 eP **P 22 54 14.9 +1.0**
MALT e 22 57 04.5
MALT eS S 23 03 55.6 +0.8
MALT MLR MLR
comp=Z,15µm,20.0s,MS6.3
MALT Malatya 75.35 53 ePP PP 22 57 04.5 +2.0
SPB4 Spitsbergen Ar 75.36 10 eP **P 22 54 12.3 -0.9**
SPB4 Spitsbergen Ar 75.36 10 ePcP PcP 22 54 25.6 -0.8
SPB4 Spitsbergen Ar 75.36 10 eP **P 22 54 12.3 -0.9**

SPB4 ePcP PcP 22 54 25.6 -0.8
SPB4 eS S 23 04 04.4 +11
SPITS Spitsbergen Ar 75.36 10 LR LR 23 21 18.9
comp=Z,14µm,18.3s,MS6.3,baz=220,slow=31
RRX Edison Barstow 75.37 304 ⇓P **P 22 54 14.7 +0.6**
baz=76,SNR=12
J10A Berg Farm, Mel 75.40 313 ⇓P **P 22 54 13.8 -0.2**
baz=76
B11A Sandpoint 75.42 318 ⇓P **P 22 54 13.9 -0.2**
baz=76
H10A Noah's Angus R 75.44 314 ⇑P **P 22 54 13.9 -0.4**
baz=76
K10A MacKenzie Ranc 75.45 312 ⇓P **P 22 54 14.3 0.0**
baz=76
109C Camp Elliot, M 75.46 302 ⇓P **P 22 54 15.0 +0.4**
baz=76
A11A Hall Mountain, 75.46 318 ⇓P **P 22 54 14.5 +0.2**
baz=76
I10A Payette 75.46 313 ⇑P **P 22 54 14.5 +0.1**
baz=76
R09A Tonopah 75.46 307 ⇓P **P 22 54 15.0 +0.5**
baz=76
MURC Murrieta 75.53 303 ⇑P **P 22 54 15.6 +0.6**
baz=76,SNR=64
P09A Austin 75.55 309 ⇑P **P 22 54 15.5 +0.6**
baz=76
Q09A Carvers 75.56 308 ⇓P **P 22 54 15.3 +0.3**
baz=76
S09A Goldfield 75.58 307 ⇑P **P 22 54 15.7 +0.5**
baz=76
TPH Tonopah 75.58 307 PFAKE 22 54 30.0 +15
TPH LR LR
comp=Z,11µm,20.0s,MS6.2
O09A Fish Creek Ran 75.60 309 ⇓P **P 22 54 15.9 +0.6**
baz=76
BMN Battle Mountai 75.63 310⇑iP **P 22 54 15.8 +0.4**
BMN e 22 57 01.5
BMN eS S 23 03 56.5 -1.3
BMN pmax pmax
comp=Z,603nm,1.4s,mb6.5
BMN MLR MLR
comp=Z,26µm,21.0s,MS6.5
BMN Battle Mountai 75.63 310 iP **P 22 54 15.8 +0.4**
comp=Z,603nm,1.4s,mb6.5
BMN Battle Mountai 75.63 310 ePP PP 22 57 01.5 -3.4
BMN Battle Mountai 75.63 310⇑iP **P 22 54 15.8 +0.3**
comp=Z,603nm,1.4s,mb6.5
BMN ePP PP 22 57 01.5 -3.3
BMN eS S 23 03 56.5 -1.3
BMN LR LR
comp=Z,26µm,21.0s,MS6.5
ESPY Espiye-Giresun 75.65 50 eP **P 22 54 15.5 0.0**
URFA Urfa 75.65 54 eP **P 22 54 18.4 +2.8**
GRAC Grapevine Rang 75.68 306 ⇑P **P 22 54 16.4 +0.6**
baz=76,SNR=39
G10A Bishop Farm, J 75.74 315 ⇑P **P 22 54 15.6 -0.4**
baz=76
MPMC Manual Prospec 75.77 305 ⇓P **P 22 54 17.0 +0.7**
baz=76,SNR=150
ELZG Elazig 75.79 52 iP **P 22 54 17.4 +1.0**
E10A Myers Farm, Un 75.80 316 ⇑P **P 22 54 15.7 -0.6**
baz=76
M09A Marrel Ranch, 75.83 311 ⇓P **P 22 54 17.3 +0.7**
baz=76
BMO Blue Mountains 75.85 314⇑iP **P 22 54 16.1 -0.5**
BMO e 22 57 08.9
BMO pmax pmax
comp=Z,446nm,1.6s,mb6.3
BMO MLR MLR
comp=Z,16µm,19.0s,MS6.3
BMO Blue Mountains 75.85 314⇑iP **P 22 54 16.1 -0.5**
comp=Z,446nm,1.6s,mb6.3
BMO Blue Mountains 75.85 314 ePP PP 22 57 08.9 +2.3
BMO Blue Mountains 75.85 314⇑iP **P 22 54 16.1 -0.5**
comp=Z,446nm,1.6s,mb6.3
BMO ePP PP 22 57 08.9 +2.3
BMO eS S 23 03 45.3 -15
BMO LR LR
comp=Z,16µm,19.0s,MS6.3
F10A Beach Ranch, E 75.85 315 ⇑P **P 22 54 16.0 -0.6**
baz=76
DAC Darwin (Calif) 75.86 305 PFAKE 22 54 30.0 +13
DAC LR LR
comp=Z,10µm,21.0s,MS6.1
N09A Rock Creek Ran 75.87 310 ⇓P **P 22 54 17.4 +0.6**
baz=76
BFSC Mount Baldy St 75.91 303 ⇓P **P 22 54 17.7 +0.5**
baz=76,SNR=25
LRMC Laurel Mountai 75.93 304 ⇑P **P 22 54 17.7 +0.4**
baz=76,SNR=38
MOS Moscow 75.94 35α iP **P 22 54 17.5 +0.6**
MOS e 22 57 04.3
MOS eS S 23 04 02.8 +2.2
MOS eSS SS 23 08 55.5 +2.7
MOS pmax pmax
comp=Z,2µm,2.2s,mb6.9
MOS pmax pmax
comp=Z,724nm,1.5s,mb6.6
MOS MLR MLR
comp=Z,12µm,16.0s,MS6.3
MOS Moscow 75.94 35 iP **P 22 54 17.5 +0.6**
comp=Z,724nm,1.5s,mb6.6
APA Apatity 75.94 22⇑iP **P 22 54 16.4 -0.3**
APA i 22 54 25.0
APA eS S 23 04 00.0 -0.2
APA eSS SS 23 09 00.0 +7.7
APA eSSS 23 12 04.0
APA pmax pmax
comp=Z,202nm,1.6s,mb6.0
APA Apatity 75.94 22 iP **P 22 54 16.4 -0.3**
comp=Z,202nm,1.6s,mb6.0
APA Apatity 75.94 22 iPcP PcP 22 54 25.0 -4.1
D10A Wagner Farm, O 75.94 316 ⇓P **P 22 54 16.3 -0.8**
baz=76
B10A Chitwood Farm, 75.98 318 ⇑P **P 22 54 16.3 -1.0**
baz=76
C10A Spilker Farm, 76.01 317 ⇓P **P 22 54 16.7 -0.8**
baz=76
L09A Wilkinson Ranc 76.01 311 ⇓P **P 22 54 18.2 +0.6**
baz=76
SVRC Sivrice-ELAZID 76.04 53 eP **P 22 54 18.7 +0.9**
K09A Rome 76.07 312 ⇓P **P 22 54 18.5 +0.6**
baz=76
YKA Yellowknife Ar 76.08 332 P **P 22 54 15.5 -2.0**
comp=Z,28nm,0.8s,mb5.5,baz=97,slow=5.9,SNR=96
YKA S S 23 03 51.2 -11
comp=Z,0.3nm,0.7s,baz=301,slow=42,SNR=2.2
YKA PKP2bc 23 21 33.9
comp=Z,0.8nm,0.8s,baz=293,slow=2.4,SNR=4.0
YKA LR LR 23 25 19.6
comp=Z,14µm,18.6s,MS6.3,baz=155,slow=34
YKA Yellowknife Ar 76.08 332 P **P 22 54 15.5 -2.0**
YKA S S 23 03 51.3 -11
YKA Yellowknife Ar 76.08 332 P **P 22 54 15.5 -2.0**
YKA S S 23 03 51.2 -11
YKA Yellowknife Ar 76.08 332 P **P 22 54 15.5 -2.1**
YKA S S 23 03 51.2 -11
YKA ⇑e 23 21 33.9
YKA LR LR 23 25 19.6
H09A Durkee 76.10 314 ⇑P **P 22 54 18.3 +0.3**
baz=76
PTK Pertek 76.11 52 eP **P 22 54 19.7 +1.4**
J09A Fry Pan Ranch, 76.12 313 ⇑P **P 22 54 18.2 +0.1**
baz=76
I09A Lost Marbles R 76.13 313 ⇓P **P 22 54 18.5 +0.3**
baz=76
Q08A Gabbs 76.15 308 ⇑P **P 22 54 18.5 +0.1**
baz=76
EDW2 Edwards Air Fo 76.18 304 ⇓P **P 22 54 18.6 -0.1**
baz=76,SNR=149
G09A Cove 76.21 315 ⇑P **P 22 54 18.9 +0.3**
baz=76
GUMT Gumushane 76.21 50 eP **P 22 54 19.2 +0.4**
MWC Mount Wilson 76.24 303 eP **P 22 54 18.8 -0.3**
MWC e 22 57 08.2
MWC eS S 23 04 01.1 -3.7
MWC pmax pmax
comp=Z,612nm,1.8s,mb6.4
MWC MLR MLR
comp=Z,12µm,20.0s,MS6.2
MWC Mount Wilson 76.24 303 eP **P 22 54 18.8 -0.3**
comp=Z,612nm,1.8s,mb6.4
MWC Mount Wilson 76.24 303 ePP PP 22 57 08.2 -2.0
MWC Mount Wilson 76.24 303 eP **P 22 54 18.8 -0.3**
comp=Z,612nm,1.8s,mb6.4
MWC ePP PP 22 57 08.2 -2.0

MWC eS S 23 04 01.1 -3.7
MWC LR LR
comp=Z,12µm,20.0s,MS6.2
A10A Northport 76.24 318 ⇓P P 22 54 18.3 -0.5
baz=76
CWC Cottonwood Cre 76.25 305 ⇑P P 22 54 19.7 +0.7
baz=76,SNR=18
P08A Dixie Valley 76.27 309 ⇑P P 22 54 19.2 +0.1
baz=76
R08A Mina 76.28 307 ⇓P P 22 54 19.4 +0.2
baz=76
RPN Rapa Nui 76.30 240 eP **P 22 54 18.5 -1.0**
RPN e 22 57 13.1
RPN pmax pmax
comp=Z,190nm,1.0s,mb6.2
RPN MLR MLR
comp=Z,16µm,21.0s,MS6.3
RPN Rapa Nui 76.30 240 eP **P 22 54 18.5 -1.0**
comp=Z,190nm,1.0s,mb6.2
RPN ePP PP 22 57 13.1 +2.1
RPN eS S 23 04 15.3 +10
RPN LR LR
comp=Z,16µm,21.0s,MS6.3
F09A S2 Ranch, Elgi 76.31 315 ⇓P P 22 54 18.9 -0.3
baz=76
S08C White Mtn Res 76.33 307 ⇑P P 22 54 20.8 +1.3
baz=76
N08A GE Springer Mi 76.33 310 ⇑P P 22 54 19.9 +0.4
baz=77
O08A Rochester Mine 76.34 309 ⇑P P 22 54 19.7 +0.2
baz=77
TIN Tinemaha 76.37 306 ⇓P P 22 54 20.2 +0.5
baz=77
KTUT Trabzon 76.43 50 eP **P 22 54 21.1 +1.0**
MACK Trabzon 76.44 50 i P **P 22 54 21.3 +1.3**
NVAR Mina Array Bea 76.44 308 P **P 22 54 19.0 -1.1**
comp=Z,63nm,1.1s,mb5.7,baz=89,slow=4.9,SNR=128
NVAR S S 23 03 55.9 -11
comp=Z,0.1nm,0.4s,baz=11,slow=16,SNR=2.0
NVAR PKP2bc 23 21 30.1
comp=Z,0.1nm,0.3s,baz=262,slow=25,SNR=3.0
NVAR Mina Array Bea 76.44 308 P **P 22 54 19.0 -1.1**
NVAR S S 23 03 55.9 -11
NVAR Mina Array Bea 76.44 308 P **P 22 54 19.0 -1.1**
NVAR S S 23 03 55.9 -11
NVAR ⇑e 23 21 30.1
FMP Fort Macarthur 76.44 303 ⇓P P 22 54 20.3 +0.1
baz=77
EZC Erzincan 76.45 51 eP **P 22 54 18.3 -1.9**
SOC Sochi 76.46 47 eP **P 22 54 20.2 +0.1**
SOC e 22 54 26.9
SOC e 22 57 08.2
SOC eS S 23 04 06.4 -0.4
SOC e 23 04 37.2
SOC eSS SS 23 09 06.5 +5.3
SOC pmax pmax
comp=Z,325nm,1.5s,mb6.2
SOC pmax pmax
comp=Z,1µm,5.8s
SOC MLR MLR
comp=Z,3µm,18.0s,MS5.7
SOC Sochi 76.46 47 i P **P 22 54 22.4 +2.3**
SOC Sochi 76.46 47 ePcP PcP 22 54 26.9 -4.9
DECC Green Verdugo 76.47 303 ⇓P P 22 54 20.3 0.0
baz=77
VRSR Storozhevoye 76.47 39 eP **P 22 54 18.5 -1.5**
VRSR e*PP 22 54 27.2
VRSR eS S 23 04 04.0 -2.7
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.4
VRSR pmax pmax
comp=N,4.0nm,0.7s
VRSR pmax pmax
comp=E,30nm,1.4s
VRSR Storozhevoye 76.47 39 eP **P 22 54 18.5 -1.5**
comp=E,4.0nm,0.7s
VRSR Storozhevoye 76.47 39 ePcP PcP 22 54 27.2 -4.5
LVZ Lovozero 76.47 22 PFAKE 22 54 30.0 +10
LVZ LR LR
comp=Z,25µm,19.0s,MS6.5
E09A Wood Farm, Sta 76.51 316 ⇑P P 22 54 20.0 -0.4
baz=77
L08A Fields 76.52 311 ⇓P P 22 54 20.8 +0.4
baz=77
M08A Happy Creek Ra 76.53 311 ⇓P P 22 54 21.0 +0.5
baz=77
CIS Catalina Islan 76.54 302 ⇑P P 22 54 21.3 +0.5
baz=77,SNR=12
ISA Isabella 76.57 305⇑eP **P 22 54 21.5 +0.6**
ISA e 22 54 32.0
ISA e 22 57 15.2
ISA pmax pmax
comp=Z,759nm,1.6s,mb6.6
ISA MLR MLR
comp=Z,10µm,22.0s,MS6.1
ISA Isabella 76.57 305 ⇓P P 22 54 21.8 +0.9
baz=77,SNR=122
ISA Isabella 76.57 305 eP **P 22 54 21.5 +0.6**
comp=Z,759nm,1.6s,mb6.6
ISA Isabella 76.57 305 ePcP PcP 22 54 32.0 -0.5
ISA Isabella 76.57 305⇑eP **P 22 54 21.5 +0.6**
comp=Z,758nm,1.6s,mb6.6
ISA ePcP PcP 22 54 32.0 -0.5
ISA ePP PP 22 57 15.2 +2.2
ISA eS S 23 04 17.3 +8.9
ISA LR LR
comp=Z,10µm,22.0s,MS6.1
LNOR Lincton Mounta 76.58 315 eP **P 22 54 19.8 -1.0**
comp=Z,175nm,1.5s,mb6.0
LNOR ePcP PcP 22 54 31.7 -0.6
B09A Rice 76.60 318 ⇑P P 22 54 19.8 -1.1
baz=77
K08A Mann Creek Ran 76.64 312 ⇑P P 22 54 21.7 +0.6
baz=77
MTUM Tungsten Hills 76.64 306 eP **P 22 54 21.7 +0.4**
MTUM Tungsten Hills 76.64 306 ePP PP 22 57 22.0 +8.6
MTUM Tungsten Hills 76.64 306 eP **P 22 54 21.7 +0.4**
MTUM ePP PP 22 57 21.9 +8.5
J08A Circle Bar Ran 76.64 313 ⇑P P 22 54 21.4 +0.3
baz=77
D09A Jones Farm, Ri 76.65 316 ⇓P P 22 54 20.7 -0.4
baz=77
SCI San Clemente I 76.67 302 ⇓P P 22 54 20.9 -0.6
baz=77,SNR=16
DIYA Diyarbakir 76.68 53 i P **P 22 54 24.0 +2.5**
I08A Drewsey 76.72 313 ⇑P P 22 54 22.1 +0.5
baz=77
WVOR Wild Horse Val 76.74 312 P **P 22 54 22.1 +0.4**
DIY Diyarbakir 76.76 53 eP **P 22 54 17.8 -4.1**
KMBO Kilima Mbogo 76.80 93 P **P 22 54 22.6 0.0**
comp=Z,20nm,1.0s,mb5.2,baz=277,slow=4.1,SNR=21
KMBO S S 23 04 06.2 -5.4
comp=Z,2.9nm,0.3s,baz=56,slow=23,SNR=1.3
KMBO LR LR 23 25 50.0
comp=Z,36µm,18.1s,MS6.7,baz=268,slow=34
KMBO Kilima Mbogo 76.80 93 P **P 22 54 22.7 +0.1**
KMBO S S 23 04 06.3 -5.4
KMBO Kilima Mbogo 76.80 93 P **P 22 54 22.7 +0.1**
KMBO S S 23 04 06.2 -5.5
H08A Prairie City 76.81 314 ⇑P P 22 54 22.4 +0.3
baz=77
Q07A Schurz 76.83 308 ⇑P P 22 54 22.2 -0.1
baz=77
MLAC Mammoth Lakes 76.85 307 ⇑P P 22 54 22.9 +0.4
baz=77
ARVC Arvin 76.87 304 ⇑P P 22 54 23.3 +0.7
baz=77,SNR=14
O07A Toulon 76.89 309 ⇑P P 22 54 22.7 +0.1
baz=77
P07A Fallon 76.90 309 ⇓P P 22 54 21.9 -0.8
baz=77
A09A Danville 76.92 318 ⇑P P 22 54 21.7 -0.8
baz=77
F08A Pendleton 76.93 315 ⇑P P 22 54 21.8 -0.9
baz=77
FURI Furi 76.93 83 eP **P 22 54 25.3 +2.0**
OD2 Odessa Site #2 76.94 317 P **P 22 54 21.6 -1.1**
OD2 Odessa Site #2 76.94 317 P **P 22 54 21.6 -1.1**
N07B Gerlach 76.97 310 ⇓P P 22 54 22.8 -0.2
baz=77
KOPT Kop Dagi 76.98 51 i P **P 22 54 26.3 +3.2**
HELL Mitchell Peak 77.01 306 ⇑P P 22 54 23.6 +0.3
baz=77
R07C Lee Vining 77.02 307 ⇓P P 22 54 24.5 +1.1
baz=77
G08A Pilot Rock 77.04 315 ⇓P P 22 54 22.8 -0.6
baz=77
VES Vestal, Richgr 77.06 305 ⇑P P 22 54 23.5 -0.2
baz=77,SNR=38
D08A Wollman Farm, 77.07 316 ⇑P P 22 54 22.9 -0.5
baz=77
BLG Laguna Peak 77.08 303 ⇓P P 22 54 23.8 -0.1
baz=77,SNR=17
M07A Soldier Meadow 77.12 311 ⇓P P 22 54 23.9 0.0
baz=77
E08A Dider Farm, El 77.14 316 ⇓P P 22 54 23.4 -0.5
baz=77
C08A Higginbotham F 77.18 317 ⇓P P 22 54 23.1 -1.0
baz=77
RCTC Rector, Farmer 77.19 305 ⇓P P 22 54 24.2 -0.2
baz=77,SNR=21
K07A Rock Creek Ran 77.19 312 ⇓P P 22 54 25.1 +0.8
baz=77
MARD Mardin 77.21 54 i P **P 22 54 25.7 +1.2**
KCC Kaiser Creek 77.24 306 ⇑P P 22 54 24.7 +0.1
baz=77,SNR=62
J07A Hines 77.25 313 ⇑P P 22 54 24.9 +0.3
baz=78
L07A Adell 77.26 311 ⇑P P 22 54 25.6 +0.9
baz=78
PAHR Pah Rah Range 77.28 309⇑eP **P 22 54 24.4 -0.4**
comp=Z,167nm,1.4s,mb6.0
PAHR Pah Rah Range 77.28 309 PP PP 22 57 16.0 -2.8
PAHR Pah Rah Range 77.28 309⇑eP **P 22 54 24.4 -0.5**
comp=Z,167nm,1.4s,mb6.0
PAHR PP PP 22 57 16.1 -2.7
PZAR Pazar-Rize 77.29 50 eP **P 22 54 25.2 +0.4**
R06C Coleville 77.33 308 ⇓P P 22 54 26.3 +1.1
baz=78
A08A Turner Farm, O 77.37 318 ⇓P P 22 54 24.6 -0.5
baz=78
B08A Colville Reser 77.39 318 ⇑P P 22 54 23.9 -1.3
baz=78
I07A Izee 77.40 313 ⇑P P 22 54 25.2 -0.2
baz=78
GBL Gable Mountain 77.42 316 P **P 22 54 25.8 +0.3**
GBL Gable Mountain 77.42 316 P **P 22 54 25.8 +0.3**
H07A Lands Inn, Kim 77.45 314 ⇑P P 22 54 25.8 +0.1
baz=78
HAWA Hanford 77.47 316 P **P 22 54 25.0 -0.7**
HAWA Hanford 77.47 316 P **P 22 54 25.0 -0.7**
KLMR Klimovskoe 77.48 29c i P **P 22 54 24.8 -0.7**
KLMR i S S 23 04 16.9 -0.4
KLMR i SS SS 23 09 14.6 -1.2
KLMR pmax pmax
comp=Z,868nm,1.5s,mb6.7
KLMR Klimovskoe 77.48 29 i P **P 22 54 24.8 -0.7**
comp=Z,868nm,1.5s,mb6.7
SNCC San Nicolas Is 77.48 302 ⇓P P 22 54 25.0 -1.1
baz=78
SNCC San Nicolas Is 77.48 302 PFAKE 22 54 40.0 +14
SNCC LR LR
comp=Z,7µm,19.0s,MS6.0
BNGL BINGOL 77.49 52 i P **P 22 54 28.8 +2.8**
RSW Rattlesnake Hi 77.51 316 eP **P 22 54 25.3 -0.7**
comp=Z,655nm,1.5s,mb6.5
RSW Rattlesnake Hi 77.51 316 ePP PP 22 57 19.7 -0.8
RSW Rattlesnake Hi 77.51 316 eP **P 22 54 25.3 -0.6**
comp=Z,655nm,1.5s,mb6.5
RSW ePP PP 22 57 19.7 -0.8
G07A Ruggs Ranch, H 77.54 315 ⇓P P 22 54 26.0 -0.1
baz=78
BSC Santa Cruz Isl 77.55 303 ⇑P P 22 54 26.5 0.0
baz=78,SNR=5.9
T06C Millerton Lake 77.56 306 ⇓P P 22 54 25.7 -0.7
baz=78
WCN Washoe City 77.57 308 ⇓P P 22 54 26.6 +0.1
baz=78,SNR=17
SBC Santa Barbara 77.61 303 ⇓P P 22 54 27.1 +0.3
baz=78
PNT Penticton 77.61 319 P **P 22 54 26.0 -0.5**
O06A Flanigan 77.62 309 ⇑P P 22 54 26.8 +0.1
baz=78
N06A Buffalo Meadow 77.62 310 ⇑P P 22 54 26.8 +0.1
baz=78
EZM Erzurum 77.64 51 eP **P 22 54 27.5 +0.7**
ERZM Erzurum 77.65 51 i P **P 22 54 29.0 +2.2**
S06C San Francisco 77.66 307 ⇑P P 22 54 27.5 +0.6
baz=78
P06A Stead Airport, 77.68 309 ⇓P P 22 54 27.1 +0.1
baz=78
PKM Peak Mountain 77.68 304 ⇓P P 22 54 28.2 +1.0
baz=78,SNR=93
E07A Sunnyside 77.69 316 ⇑P P 22 54 27.0 +0.1
baz=78
V05C Boulder Hill, 77.73 305 ⇑P P 22 54 27.3 -0.1
baz=78
WTV Waterville 77.79 317 P **P 22 54 26.5 -1.0**
WTV Waterville 77.79 317 P **P 22 54 26.5 -1.0**
D07A Quincy 77.79 316 ⇑P P 22 54 27.2 -0.3
baz=78
R05C Kirkwood Meado 77.82 308 ⇑P P 22 54 28.7 +0.9
baz=78
SMMC Simmler 77.82 304 ⇑P P 22 54 28.8 +0.8
baz=78,SNR=40
BCA Borcka 77.84 49 eP **P 22 54 26.6 -1.3**
C07A Waterville 77.86 317 ⇓P P 22 54 26.5 -1.3
baz=78
J06A Christmas Vall 77.86 312 ⇓P P 22 54 28.4 +0.3
baz=78
U05C Westside ANR, 77.90 305 ⇑P P 22 54 27.6 -0.8
baz=78
I06A Prineville 77.91 313 ⇑P P 22 54 28.5 +0.2
baz=78
B07A Winthrop 77.92 318 ⇑P P 22 54 27.1 -1.0
baz=78
K06A Valley Falls 77.94 312 ⇑P P 22 54 29.0 +0.6
baz=78
MOD Modoc 77.97 311 ⇑P P 22 54 29.6 +0.9
baz=78,SNR=307
MOD Modoc 77.97 311 i P **P 22 54 29.4 +0.7**
comp=Z,1µm,1.4s,mb6.8
MOD Modoc 77.97 311 ePcP PcP 22 54 39.0 +0.6
MOD Modoc 77.97 311 i P **P 22 54 29.4 +0.8**
comp=Z,1µm,1.4s,mb6.8
MOD ePcP PcP 22 54 39.0 +0.6
MOD ePP PP 22 57 27.0 +2.5
MOD LR LR
comp=Z,26µm,21.0s,MS6.5
VRHR Novokhopersk 78.00 40 eP **P 22 54 28.2 -0.4**
VRHR e*PP 22 54 36.2
VRHR eS S 23 04 21.3 -2.0
VRHR pmax pmax
comp=Z,140nm,0.7s,mb6.2
VRHR pmax pmax
comp=N,60nm,1.6s
VRHR pmax pmax
comp=E,220nm,1.3s
VRHR Novokhopersk 78.00 40 eP **P 22 54 28.2 -0.4**
comp=E,60nm,1.6s,mb5.5
VRHR Novokhopersk 78.00 40 ePcP PcP 22 54 36.2 -2.1
H06A Lindquist Farm 78.00 314 ⇑P P 22 54 29.1 +0.4
baz=78
ETW Entiat 78.04 317 eP **P 22 54 28.0 -0.9**
comp=E,246nm,1.4s,mb6.1
ETW Entiat 78.04 317 ePP PP 22 57 23.8 -1.1
ETW Entiat 78.04 317 eP **P 22 54 28.0 -0.9**
comp=E,246nm,1.4s,mb6.1
ETW ePP PP 22 57 23.8 -1.1
S05C Merced 78.05 306 ⇑P P 22 54 29.3 +0.2
baz=78
HOMI Horasan 78.06 51 i P **P 22 54 31.8 +2.6**
CMB Columbia Colle 78.08 307 ⇓P P 22 54 29.7 +0.4
baz=78,SNR=51
CMB Columbia Colle 78.08 307 PFAKE 22 54 40.0 +11
CMB LR LR
comp=Z,14µm,20.0s,MS6.3
A07A Ashnola River, 78.11 318 ⇓P P 22 54 29.0 -0.2
baz=78
M06C Likely Place G 78.11 310 ⇑P P 22 54 30.1 +0.7
baz=78
EBG Ellensburg 78.19 316 P **P 22 54 29.5 -0.2**
EBG Ellensburg 78.19 316 P **P 22 54 29.5 -0.3**
VIPM Ingram Point 78.21 314 P **P 22 54 30.9 +1.0**
TBM Table Mountain 78.21 316 P **P 22 54 29.5 -0.4**
TBM Table Mountain 78.21 316 P **P 22 54 29.5 -0.3**
G06A Carlson Farm, 78.22 314 ⇓P P 22 54 30.8 +0.8
baz=78
P05C Yuba Gap, Truc 78.23 308 ⇑P P 22 54 30.8 +0.7
baz=78
PKD Parkfield 78.25 305 ⇓P P 22 54 29.9 -0.4
baz=78,SNR=21
LTY Liberty 78.27 317 P **P 22 54 29.0 -1.1**
LTY Liberty 78.27 317 P **P 22 54 29.0 -1.2**
ELFS Eagle Lake Fie 78.30 310 ⇑P P 22 54 30.9 +0.4
baz=78
F06A Goldendale 78.33 315 ⇑P P 22 54 30.5 0.0
baz=79
T05C Eagle Field, D 78.33 306 ⇑P P 22 54 31.5 +0.8
baz=78
LAVA Lava Cap Winer 78.34 308 ⇓P P 22 54 31.3 +0.5
baz=78
L05A Lakeview 78.37 311 ⇓P P 22 54 32.2 +1.4
baz=79
D06A Cle Elum 78.38 316 ⇓P P 22 54 30.0 -0.8
baz=79
K05A Summer Lake 78.41 312 ⇑P P 22 54 31.8 +0.8
baz=79
C06A Tall Timber Ra 78.42 317 ⇑P P 22 54 29.6 -1.4
baz=79
U04C Hernandez Rese 78.43 305 ⇑P P 22 54 32.0 +0.7
baz=79
O05C Quincy 78.46 309 ⇓P P 22 54 31.7 +0.3
baz=79
E06A Yakima 78.47 316 ⇑P P 22 54 31.1 -0.2
baz=79
CROR Criterion Ridg 78.47 314 P **P 22 54 31.9 +0.6**
CROR Criterion Ridg 78.47 314 P **P 22 54 31.9 +0.5**
R04C Big Horse Ranc 78.51 307 ⇓P P 22 54 32.4 +0.7
baz=79
V04C Ramage Ranch, 78.52 305 ⇓P P 22 54 32.5 +0.7
baz=79,SNR=41
O04C Chester 78.58 309 ⇓P P 22 54 32.4 +0.3
baz=79
M05C Lookout 78.61 311 ⇓P P 22 54 32.8 +0.6
baz=79
KIV Kislovodsk 78.61 47αeP **P 22 54 32.6 +0.5**
KIV i *PP 22 54 35.2
KIV e 22 54 36.9
KIV e 22 54 39.9
KIV i 22 57 33.0
KIV i 23 04 29.8
KIV i PS 23 05 13.0
KIV i SS SS 23 09 38.8 +5.1
KIV pmax pmax
comp=Z,100nm,1.3s,mb5.7
KIV pmax pmax
comp=Z,271nm,1.3s,mb6.1
KIV MLR MLR
comp=Z,8µm,22.0s,MS6.0
KIV Kislovodsk 78.61 47 P **P 22 54 34.5 +2.4**
SNR=61
KIV Kislovodsk 78.61 47 ePcP PcP 22 54 39.9 -1.3
KIV Kislovodsk 78.61 47⇑iP **P 22 54 32.7 +0.6**
H05A Madras 78.64 314 ⇑P P 22 54 33.1 +0.8
baz=79
J05A Fort Rock 78.66 312 ⇓P P 22 54 33.2 +0.8
baz=79
I05A Bend 78.67 313 ⇑P P 22 54 33.6 +1.2
baz=79
G05A Wamic 78.70 314 ⇓P P 22 54 33.0 +0.4
baz=79
LBCM Butte Creek Ri 78.77 310 P **P 22 54 33.5 +0.4**
LBCM Butte Creek Ri 78.77 310 P **P 22 54 33.5 +0.4**
F05A White Salmon 78.80 315 ⇓P P 22 54 33.6 +0.5
baz=79
V03C Hunter Liggett 78.81 305 ⇑P P 22 54 34.2 +0.8
baz=79
PACP Pacheco Peak 78.82 306 ⇑P P 22 54 34.2 +0.7
baz=79,SNR=34
B06A Marblemount 78.83 318 ⇑P P 22 54 31.4 -1.8
baz=79
A06A Chilliwack 78.83 318 ⇓P P 22 54 32.2 -1.0
baz=79
S04C Ingram Canyon, 78.84 307 ⇓P P 22 54 34.0 +0.5
baz=79
Q04C Lincoln 78.84 308 ⇓P P 22 54 34.5 +1.0
baz=79
RPW Rockport 78.84 318 eP **P 22 54 30.2 -3.1**
comp=Z,147nm,1.6s,mb5.8
RPW Rockport 78.84 318 ePcP PcP 22 54 41.2 -0.9
RPW Rockport 78.84 318 eP **P 22 54 30.2 -3.1**
comp=Z,147nm,1.6s,mb5.8
RPW ePcP PcP 22 54 41.2 -0.9
RPW ePP PP 22 57 28.1 -3.5
HATC Hat Creek Radi 78.86 310 ⇑P P 22 54 34.1 +0.5
baz=79
AGRB Hanur-Agry 78.91 51 eP **P 22 54 35.9 +2.0**
OHCM Honcut 78.91 308 eP **P 22 54 33.6 -0.3**
OHCM Honcut 78.91 308 eP **P 22 54 33.6 -0.3**
ORV Oroville 78.92 309 ⇑P P 22 54 33.4 -0.6
baz=79,SNR=181
SAO San Andreas Ge 78.95 306 PFAKE 22 54 40.0 +5.8
SAO LR LR
comp=Z,9µm,19.0s,MS6.2
C05A Tolt Reservoir 78.96 317 ⇑P P 22 54 32.2 -1.7
baz=79
KARS Kars 78.96 50 eP **P 22 54 33.6 -0.6**
E05A Randle 79.01 316 ⇑P P 22 54 33.5 -0.8
baz=79
HOG Hogback Mounta 79.02 311 P **P 22 54 35.1 +0.7**
HOG Hogback Mounta 79.02 311 P **P 22 54 35.1 +0.7**
K04A Chilquin 79.03 312 ⇓P P 22 54 34.7 +0.3
baz=79
LON Longmire 79.04 316 eP **P 22 54 32.9 -1.5**
LON e 22 57 35.9
LON pmax pmax
comp=Z,71nm,1.3s,mb5.5
LON Longmire 79.04 316 eP **P 22 54 32.9 -1.5**
comp=Z,71nm,1.3s,mb5.5
LON ePP PP 22 57 35.9 +2.6
HAST Hastings Reser 79.05 305 ⇓P P 22 54 35.2 +0.4
baz=79
WIFE Three Sisters- 79.07 313 P **P 22 54 35.6 +0.9**
MSL Mosul 79.08 55 ex x 22 54 38.0
MSL Mosul 79.08 55 i x x 23 04 40.0
JCW Jim Creek 79.12 317 eP **P 22 54 32.2 -2.6**
JCW Jim Creek 79.12 317 ePcP PcP 22 54 42.3 -1.0
JCW Jim Creek 79.12 317 eP **P 22 54 32.2 -2.6**
JCW ePcP PcP 22 54 42.3 -0.9
M04C Macdoel 79.12 311 ⇑P P 22 54 35.4 +0.4
baz=79
SUTB Sutter Butte 79.15 308 ⇓P P 22 54 34.6 -0.6
baz=79,SNR=10
L04A Klamath Falls 79.15 311 ⇓P P 22 54 35.3 +0.2
baz=79
D05A Enumclaw 79.16 316 ⇑P P 22 54 33.5 -1.6
baz=79
WENL Wente Brothers 79.17 307 ⇑P P 22 54 36.2 +0.9
baz=79,SNR=18
ONI Oni 79.19 48 P **P 22 54 36.5 +1.2**
ONI S S 23 04 37.8 +1.4
A05A Maple Falls 79.22 318 ⇑P P 22 54 34.1 -1.3
baz=80
B05A Bryant 79.23 318 ⇑P P 22 54 33.4 -2.1
baz=80
VANT Van 79.25 52 eP **P 22 54 39.1 +3.4**
BDM Black Diamond 79.25 307 ⇓P P 22 54 36.9 +1.1
baz=80,SNR=17
J04A Umpqua Nationa 79.29 312 ⇑P P 22 54 35.7 -0.2
baz=80
O03C Acorn Hollow, 79.31 309 ⇑P P 22 54 35.2 -0.9
baz=80
H04A Detroit Lake 79.33 314 ⇑P P 22 54 35.5 -0.5
baz=80
Q03C Winters 79.34 308 ⇑P P 22 54 37.2 +0.9
baz=80
M03C McCloud 79.35 310 ⇓P P 22 54 36.2 0.0
baz=80
DYDN Diyadin 79.45 51 i P **P 22 54 39.4 +2.6**
F04A Amboy 79.47 315 ⇑P P 22 54 35.4 -1.4
baz=80
I04A Tendick Farm, 79.50 313 ⇑P P 22 54 36.3 -0.7
baz=80
BNLO Ben Lomond (Sa 79.52 306 ⇑P P 22 54 36.8 -0.4
baz=80
G04A Mulino 79.52 314 ⇑P P 22 54 36.7 -0.4
baz=80
HAKT HAKKARI 79.53 53 i P **P 22 54 38.3 +1.0**
JRSC Jasper Ridge 79.56 307 ⇑P P 22 54 37.7 +0.2
baz=80,SNR=23
A04A Legoe Bay, Lum 79.64 318 ⇑P P 22 54 36.4 -1.3
baz=80
CLDR Caldiran 79.64 52 eP **P 22 54 39.1 +1.2**
MNRC McLaughlin Nat 79.67 308 ⇑P P 22 54 39.1 +1.0
baz=80,SNR=63
E04A Onalaska 79.67 316 ⇓P P 22 54 37.4 -0.4
baz=80

WDC	**Whiskeytown Da**	**79.69 310**	⇑	*e*P	**P**	**22 54 36.3**	**-1.8**
WDC						22 54 45.3	
WDC				pmax	pmax		
	comp=Z,200nm,1.4s,mb5.8						
WDC	**Whiskeytown Da**	**79.69 310**	⇓	P	**P**	**22 54 36.7**	**-1.4**
	baz=80,SNR=56						
WDC	**Whiskeytown Da**	**79.69 310**		*e*P	**P**	**22 54 36.3**	**-1.8**
	comp=Z,200nm,1.4s,mb5.8						
WDC	**Whiskeytown Da**	**79.69 310**		PcP	PcP	22 54 45.3	-0.6
WDC	**Whiskeytown Da**	**79.69 310**	⇑	*e*P	**P**	**22 54 36.3**	**-1.8**
	comp=Z,200nm,1.4s,mb5.9						
WDC				PcP	PcP	22 54 45.3	-0.6
GOR	**Gori**	**79.69 49**		P	**P**	**22 54 41.4**	**+3.3**
CVS	**Carmenet Viney**	**79.70 307**	⇑	P	**P**	**22 54 38.1**	**-0.1**
	baz=80,SNR=42						
D04A	**Dobbs Creek Ra**	**79.72 316**	⇓	P	**P**	**22 54 37.2**	**-0.9**
	baz=80						
GNW	**Green Mountain**	**79.73 317**	⇑	*i*P	**P**	**22 54 36.3**	**-1.9**
	comp=Z,123nm,1.3s,mb5.7						
GNW	**Green Mountain**	**79.73 317**		*e*PcP	PcP	22 54 45.9	0.0
GNW	**Green Mountain**	**79.73 317**	⇑	*i*P	**P**	**22 54 36.3**	**-1.8**
	comp=Z,123nm,1.3s,mb5.7						
GNW				*e*PcP	PcP	22 54 45.9	-0.1
GNW				*e*PP	PP	22 57 36.1	-2.9
YBH	**Yreka Blue Hor**	**79.78 311**	⇓	P	**P**	**22 54 37.8**	**-0.8**
	baz=80,SNR=73						
YBH	**Yreka Blue Hor**	**79.78 311**		PFAKE		22 54 50.0	+11
YBH				LR	LR		
	comp=Z,12μm,20.0s,MS6.2						
NSHM	**Saint Helena R**	**79.81 308**		*e*P	**P**	**22 54 39.0**	**+0.2**
NSHM	**Saint Helena R**	**79.81 308**		*e*P	**P**	**22 54 39.0**	**+0.2**
C04A	**Brinnon**	**79.83 317**	⇓	P	**P**	**22 54 37.7**	**-1.0**
	baz=80						
GASB	**Alder Springs**	**79.85 309**	⇓	P	**P**	**22 54 38.2**	**-0.8**
	baz=80,SNR=23						
M02C	**Callahan**	**79.89 311**	⇓	P	**P**	**22 54 38.6**	**-0.6**
	baz=80						
HUMO	**Hull Mountain**	**79.93 312**	⇓	P	**P**	**22 54 38.7**	**-0.7**
	baz=80,SNR=55						
HUMO	**Hull Mountain**	**79.93 312**		PFAKE		22 54 50.0	+11
HUMO				LR	LR		
	comp=Z,50μm,22.0s,MS6.8						
BMW	**Boistfort Moun**	**80.02 316**		*e*P	**P**	**22 54 39.1**	**-0.7**
BMW	**Boistfort Moun**	**80.02 316**		*e*P	**P**	**22 54 39.1**	**-0.7**
MCCM	**Marconi Confer**	**80.04 307**	⇑	P	**P**	**22 54 40.9**	**+0.8**
	baz=80,SNR=13						
MCCM	**Marconi Confer**	**80.04 307**		PFAKE		22 54 50.0	+10
MCCM				LR	LR		
	comp=Z,7μm,19.0s,MS6.0						
G03A	**Yamhill**	**80.09 315**	⇑	P	**P**	**22 54 40.4**	**+0.2**
	baz=80						
H03A	**Soap Creek Ran**	**80.11 314**	⇑	P	**P**	**22 54 40.7**	**+0.4**
	baz=80						
COR	**Corvallis**	**80.12 314**	⇑	*i*P	**P**	**22 54 40.6**	**+0.2**
COR				*e*		22 57 41.7	
COR				*e*S	S	23 04 45.9	-0.3
COR				pmax	pmax		
	comp=Z,679nm,1.5s,mb6.4						
COR				MLR	MLR		
	comp=Z,20μm,22.0s,MS6.4						
COR	**Corvallis**	**80.12 314**		*i* P	**P**	**22 54 40.6**	**+0.2**
	comp=Z,679nm,1.5s,mb6.4						
COR	**Corvallis**	**80.12 314**		*e*PP	PP	22 57 41.7	-0.7
COR	**Corvallis**	**80.12 314**	⇑	*i*P	**P**	**22 54 40.5**	**+0.2**
	comp=Z,679nm,1.5s,mb6.4						
COR				*e*PP	PP	22 57 41.7	-0.6
COR				*e*S	S	23 04 45.9	-0.3
COR				LR	LR		
	comp=Z,20μm,22.0s,MS6.4						
I03A	**Eugene**	**80.12 313**	⇓	P	**P**	**22 54 40.1**	**-0.3**
	baz=80						
HOPS	**Hopland**	**80.15 308**	⇓	P	**P**	**22 54 41.9**	**+1.2**
	baz=80,SNR=67						
HOPS	**Hopland**	**80.15 308**	⇑	*i*P	**P**	**22 54 41.7**	**+1.0**
	comp=Z,1μm,1.4s,mb6.6						
HOPS	**Hopland**	**80.15 308**	⇑	*i*P	**P**	**22 54 41.7**	**+1.1**
	comp=Z,1μm,1.4s,mb6.6						
HOPS				LR	LR		
	comp=Z,10μm,22.0s,MS6.1						
FARB	**Farallon Islan**	**80.16 307**	⇑	P	**P**	**22 54 41.2**	**+0.4**
	baz=80,SNR=18						
TBLG	**Delisi**	**80.17 49**		P	**P**	**22 54 41.1**	**+0.4**
TBLG				S	S	23 04 48.8	+2.0
B04A	**Port Angeles**	**80.18 317**	⇓	P	**P**	**22 54 40.7**	**+0.1**
	baz=80						
MTA	**Mtatsminda**	**80.21 49**		P	**P**	**22 54 42.3**	**+1.4**
MTA				S	S	23 04 50.0	+2.7
GNI	**Garni**	**80.23 51**		P	**P**	**22 54 42.0**	**+1.0**
	comp=Z,46nm,0.9s,mb5.4,baz=198,slow=3.2,SNR=11						
GNI				S	S	23 04 25.5	-22
	comp=Z,1.8nm,0.4s,baz=70,slow=9.1,SNR=3.1						
GNI	**Garni**	**80.23 51**		P	**P**	**22 54 43.8**	**+2.7**
	SNR=94						
GNI	**Garni**	**80.23 51**		*e*PP	PP	22 57 45.9	+2.5
GNI	**Garni**	**80.23 51**		*e*P	**P**	**22 54 40.0**	**-1.1**
GNI				*e*PP	PP	22 57 45.9	+2.4
GNI				*e*S	S	23 04 46.7	-0.9
GNI				LR	LR		
	comp=Z,15μm,21.0s,MS6.3						
E03A	**Lebam**	**80.25 316**	⇑	P	**P**	**22 54 41.0**	**0.0**
	baz=80						
N02C	**Big Bar**	**80.26 310**	⇑	P	**P**	**22 54 41.3**	**+0.1**
	baz=80						
F03A	**Seaside**	**80.27 315**	⇓	P	**P**	**22 54 41.4**	**+0.3**
	baz=80						
K02A	**Glendale**	**80.32 312**	⇑	P	**P**	**22 54 41.7**	**+0.2**
	baz=80						
P01C	**Double 8 Ranch**	**80.34 309**	⇓	P	**P**	**22 54 42.7**	**+1.1**
	baz=80						
J02A	**Umpqua**	**80.36 313**	⇑	P	**P**	**22 54 41.7**	**0.0**
	baz=81						
D03A	**Wishkah Elem.**	**80.38 316**	⇑	P	**P**	**22 54 42.3**	**+0.6**
	baz=81						
L02A	**Cave Junction**	**80.43 311**	⇓	P	**P**	**22 54 42.1**	**0.0**
	baz=81						
KIPM	**Iron Peak**	**80.43 309**		*e*P	**P**	**22 54 41.7**	**-0.5**
	comp=Z,948nm,1.5s,mb6.5						
KIPM	**Iron Peak**	**80.43 309**		*e*P	**P**	**22 54 41.7**	**-0.5**
	comp=Z,948nm,1.5s,mb6.5						
NLWA	**Neilton Lookou**	**80.44 317**	⇓	P	**P**	**22 54 42.7**	**+0.7**
	baz=81,SNR=63						
NLWA	**Neilton Lookou**	**80.44 317**	⇑	*i*P	**P**	**22 54 42.0**	**0.0**
	comp=Z,477nm,1.4s,mb6.2						
NLWA	**Neilton Lookou**	**80.44 317**		*e*PP	PP	22 57 52.9	+8.0
NLWA	**Neilton Lookou**	**80.44 317**	⇑	*i*P	**P**	**22 54 42.0**	**0.0**
	comp=Z,477nm,1.4s,mb6.2						
NLWA				*e*PP	PP	22 57 52.9	+8.0
NLWA				*e*S	S	23 04 56.8	+7.3
NLWA				LR	LR		
	comp=Z,39μm,20.0s,MS6.8						
I02A	**Mapleton**	**80.52 313**	⇑	P	**P**	**22 54 43.0**	**+0.5**
	baz=81						
H02A	**Toledo**	**80.62 314**	⇑	P	**P**	**22 54 43.5**	**+0.5**
	baz=81						
DGRG	**David-gareji**	**80.66 49**		P	**P**	**22 54 44.0**	**+0.7**
DGRG				S	S	23 04 59.6	+7.7
O01C	**Eel River Cons**	**80.68 309**	⇓	P	**P**	**22 54 44.4**	**+0.9**
	baz=81						
KRMB	**Red Mountain**	**80.68 311**	⇑	*i*P	**P**	**22 54 43.9**	**+0.4**
	comp=Z,2μm,1.7s,mb6.8						
KRMB	**Red Mountain**	**80.68 311**		*e*PP	PP	22 57 45.5	-1.6
KRMB	**Red Mountain**	**80.68 311**	⇑	*i*P	**P**	**22 54 43.9**	**+0.5**
	comp=Z,2μm,1.7s,mb6.8						
KRMB				*e*PP	PP	22 57 45.5	-1.6
JCC	**Jacoby Creek**	**80.81 310**	⇓	P	**P**	**22 54 45.0**	**+0.9**
	baz=81,SNR=23						
M01C	**Crescent City**	**80.83 311**	⇑	P	**P**	**22 54 44.8**	**+0.6**
	baz=81						
NAX	**Nakhchivan**	**80.86 52**		P	**P**	**22 54 44.8**	**+0.3**
	SNR=105						
KBO	**Bosley Butte**	**80.89 311**	⇑	*i*P	**P**	**22 54 45.0**	**+0.5**
	comp=Z,1μm,1.6s,mb6.7						
KBO				*e*PP	PP	22 57 48.3	-0.5
C03A	**Quillayute Air**	**80.89 317**	⇓	P	**P**	**22 54 45.3**	**+0.8**
	baz=81						
KEBM	**Edson Butte**	**80.94 312**	⇑	*i*P	**P**	**22 54 45.0**	**+0.2**
	comp=Z,653nm,1.3s,mb6.5						
KEBM	**Edson Butte**	**80.94 312**		*e*PP	PP	22 57 48.0	-1.2
KEBM	**Edson Butte**	**80.94 312**	⇑	*i*P	**P**	**22 54 45.0**	**+0.2**
	comp=Z,653nm,1.3s,mb6.5						
KEBM				*e*PP	PP	22 57 48.0	-1.1
K01A	**Sixes**	**81.04 312**	⇓	P	**P**	**22 54 45.7**	**+0.4**
	baz=81						
VNA1	**Neumayer--Stat**	**81.34 170**		*e*P	**P**	**22 54 46.0**	**-0.3**
VNA1				*e*		22 54 51.4	
VNA1				*e*		22 55 00.1	
VNA1				*e*		22 55 08.3	
GANJ	**Ganja**	**81.41 50**		P	**P**	**22 54 47.7**	**+0.3**
	SNR=103						
VNA3	**Neumayer Olymp**	**81.62 171**		*e*P	**P**	**22 54 47.1**	**-0.6**
VNA3				*e*		22 54 52.7	
VNA3				*e*		22 55 00.8	
VNA3				*e*		22 55 09.9	
VNA2	**Neumayer--Watz**	**81.73 170**		*e*P	**P**	**22 54 48.1**	**-0.2**
VNA2				*e*		22 54 53.2	
VNA2				*e*		22 55 01.3	
VNA2				*e*		22 55 10.7	
BRDA	**Brd**	**82.09 50**		P	**P**	**22 54 52.7**	**+1.7**
	SNR=51						
MAK	**Makhachkala**	**82.16 48**		*c i*P	**P**	**22 54 53.8**	**+2.6**
MAK				*i*		22 54 57.8	
MAK				*i* S	S	23 05 08.1	+0.7
MAK				*e*SS	SS	23 10 32.3	+5.6
MAK				pmax	pmax		
	comp=N,108nm,1.3s						
MAK				pmax	pmax		
	comp=Z,503nm,1.9s,mb6.3						
MAK				pmax	pmax		
	comp=E,180nm,1.4s						
MAK				pmax	pmax		
	comp=Z,1628μm,2.3s						
MAK				pmax	pmax		
	comp=N,139μm,1.2s						
MAK				pmax	pmax		
	comp=E,286μm,1.5s						
MAK				MLR	MLR		
	comp=Z,20μm,22.0s,MS6.4						
MAK	**Makhachkala**	**82.16 48**		*i* P	**P**	**22 54 53.8**	**+2.6**
	comp=Z,139μm,1.2s						
NAY	**Al-Naaiem**	**83.04 61**		*e*P	**P**	**22 54 55.9**	**-0.2**
	comp=Z,92nm,1.6s,mb5.8						
NAY	**Al-Naaiem**	**83.04 61**		*e*P	**P**	**22 54 55.9**	**-0.2**
	baz=61						
NAY				AMb	AMB	22 55 08.5	
	comp=Z,92nm,1.6s,mb5.8,baz=61						
MIB	**Mutribah**	**83.07 61**		*e*P	**P**	**22 54 56.1**	**-0.2**
	comp=Z,250nm,1.7s,mb6.2						
MIB	**Mutribah**	**83.07 61**		*e*P	**P**	**22 54 56.1**	**-0.2**
	baz=61						
MIB				AMb	AMB	22 55 07.9	
	comp=Z,250nm,1.7s,mb6.2,baz=61						
SNAA	**Sanae**	**83.17 169**		*e*P	**P**	**22 54 55.4**	**-0.4**
SNAA				*e*		22 55 00.2	
SNAA				*e*		22 55 08.4	
SNAA	**Sanae**	**83.17 169**		P	**P**	**22 54 54.3**	**-1.5**
	comp=Z,23nm,0.9s,mb5.4,baz=339,slow=5.7,SNR=75						
SNAA				S	S	23 04 58.8	-18
	comp=Z,0.2nm,1.0s,baz=76,slow=15,SNR=2.1						
SNAA	**Sanae**	**83.17 169**		*e*P	**P**	**22 54 55.3**	**-0.5**
SIZA	**Siyzn**	**83.33 50**		P	**P**	**22 55 01.6**	**+4.2**
	SNR=11						
RDF	**Al-Radifah**	**83.34 62**		*e*P	**P**	**22 54 58.1**	**+0.4**
	comp=Z,284nm,1.9s,mb6.2						
RDF	**Al-Radifah**	**83.34 62**		*e*P	**P**	**22 54 58.1**	**+0.4**
	baz=62						
RDF				AMb	AMB	22 55 09.6	
	comp=Z,284nm,1.9s,mb6.2,baz=62						
UMR	**Umm Al-Rimmam**	**83.42 61**		*e*P	**P**	**22 54 57.6**	**-0.5**
	comp=Z,470nm,1.7s,mb6.5						
UMR	**Umm Al-Rimmam**	**83.42 61**		*e*P	**P**	**22 54 57.6**	**-0.5**
	baz=61						
UMR				AMb	AMB	22 55 10.0	
	comp=Z,470nm,1.7s,mb6.4,baz=61						
ALIB	**Ii-Bayraml**	**83.51 51**		P	**P**	**22 55 03.0**	**+4.6**
	SNR=30						
DLBC	**Dease Lake**	**83.55 328**	⇑	*e*P	**P**	**22 54 58.8**	**+0.7**
DLBC	**Dease Lake**	**83.55 328**	⇑	*e*P	**P**	**22 54 58.8**	**+0.7**
GOBA	**Gobu**	**84.03 50**		P	**P**	**22 55 06.8**	**+5.8**
	SNR=4.8						
NDR	**Nardaran**	**84.20 50**		P	**P**	**22 55 07.4**	**+5.5**
	SNR=9.6						
GALA	**Gala**	**84.34 50**		P	**P**	**22 55 08.5**	**+5.9**
	SNR=10						
WRAK	**Wrangell Islan**	**85.01 326**	⇑	*e*P	**P**	**22 55 05.9**	**+0.3**
	comp=Z,292nm,1.6s,mb6.3						
WRAK				*e*PP	PP	22 58 26.4	+4.2
WRAK				LR	LR		
	comp=Z,14μm,21.0s,MS6.3						
CRAG	**Craig**	**85.56 325**		*e*P	**P**	**22 55 08.1**	**-0.3**
CRAG	**Craig**	**85.56 325**		*e*PP	PP	22 58 27.7	+1.0
CRAG	**Craig**	**85.56 325**		*e*P	**P**	**22 55 08.1**	**-0.3**
CRAG				*e*PP	PP	22 58 27.7	+1.0
CRAG				*e*S	S	23 05 17.3	-24
MAIT	**Maitri**	**85.76 165**		*e*P	**P**	**22 55 07.7**	**-1.2**
NVL	**N'lazarevskaya**	**85.78 165**		*d i*P	**P**	**22 55 10.1**	**+1.1**
NVL				*i* S	S	23 05 44.5	+1.9
NVL				pmax	pmax		
	comp=Z,77nm,2.0s,mb5.5						
NVL	**N'lazarevskaya**	**85.78 165**		*i* P	**P**	**22 55 10.1**	**+1.1**
	comp=Z,77nm,2.0s,mb5.5						
SOKR	**Solikamsk**	**86.11 30**		*c i*P	**P**	**22 55 11.4**	**+0.4**
SOKR						22 58 26.0	
SOKR				S	S	23 05 41.1	-5.4
SOKR				SS	SS	23 11 24.5	+0.3
SOKR				pmax	pmax		
	comp=Z,460nm,1.6s,mb6.4						
SOKR				MLR	MLR		
	comp=Z,19μm,17.0s,MS6.6						
SOKR	**Solikamsk**	**86.11 30**		*i* P	**P**	**22 55 11.4**	**+0.4**
	comp=Z,460nm,1.6s,mb6.4						
SKAG	**Skagway**	**86.15 329**	⇑	*i*P	**P**	**22 55 11.6**	**+0.4**
	comp=Z,538nm,0.9s,mb6.7						
SKAG	**Skagway**	**86.15 329**		*e*PP	PP	22 58 32.8	+1.5
SKAG	**Skagway**	**86.15 329**	⇑	*i*P	**P**	**22 55 11.6**	**+0.3**
	comp=Z,538nm,0.9s,mb6.7						
SKAG				*e*PP	PP	22 58 32.8	+1.5
SKAG				*e*S	S	23 05 54.8	+8.0
SKAG				LR	LR		
	comp=Z,16μm,20.0s,MS6.4						
SIT	**Sitka**	**86.54 327**		*e*P	**P**	**22 55 14.3**	**+1.1**
SIT				pmax	pmax		
	comp=Z,294nm,1.6s,mb6.3						
SIT				MLR	MLR		
	comp=Z,16μm,23.0s,MS6.4						
SIT	**Sitka**	**86.54 327**		*e*P	**P**	**22 55 14.3**	**+1.1**
	comp=Z,294nm,1.6s,mb6.3						
SIT				LR	LR		
	comp=Z,16μm,23.0s,MS6.4						
HYT	**Haines Junctio**	**86.98 331**		*e*P	**P**	**22 55 15.2**	**0.0**
HYT	**Haines Junctio**	**86.98 331**		*e*P	**P**	**22 55 15.2**	**0.0**
DAWY	**Dawson**	**87.17 334**	⇑	*i*P	**P**	**22 55 15.8**	**-0.3**
DAWY	**Dawson**	**87.17 334**	⇑	*i*P	**P**	**22 55 15.8**	**-0.3**
ARU	**Arti**	**87.59 33**		P	**P**	**22 55 18.2**	**-0.1**
	comp=Z,725nm,1.9s,mb6.7,SNR=35						
ARU	**Arti**	**87.59 33**		*c i*P	**P**	**22 55 17.9**	**-0.4**
ARU						22 58 39.7	
ARU				*e*S	S	23 05 42.8	-18
ARU				SSS		23 15 19.9	
ARU				pmax	pmax		
	comp=Z,145nm,1.2s,mb6.2						
ARU				pmax	pmax		
	comp=Z,726nm,5.8s						
ARU				smax			
	comp=N,2μm,18.5s						
ARU				MLR	MLR		
	comp=Z,35μm,18.0s,MS6.8						
ARU	**Arti**	**87.59 33**		*i* P	**P**	**22 55 17.9**	**-0.4**
	comp=Z,726nm,5.8s						
ARU	**Arti**	**87.59 33**		*e*PP	PP	22 58 42.0	-1.0
ARU	**Arti**	**87.59 33**		*e*P	**P**	**22 55 26.6**	**+8.3**
ARU				*e*PP	PP	22 58 42.0	-1.1
ARU				*e*S	S	23 05 36.1	-25
ARU				LR	LR		
	comp=Z,36μm,20.0s,MS6.8						
EGAK	**Eagle**	**87.75 335**	⇑	*e*P	**P**	**22 55 18.0**	**-0.9**
	comp=Z,168nm,1.6s,mb6.1						
EGAK	**Eagle**	**87.75 335**		*e*PP	PP	22 58 41.4	-2.6
EGAK	**Eagle**	**87.75 335**	⇑	*e*P	**P**	**22 55 18.0**	**-0.9**
	comp=Z,168nm,1.6s,mb6.1						
EGAK				*e*PP	PP	22 58 41.4	-2.6
EGAK				*e*S	S	23 05 47.1	-15
EGAK				LR	LR		
	comp=Z,13μm,19.0s,MS6.4						
AKTK	**Aktyubinsk**	**88.40 39**		P	**P**	**22 55 20.9**	**-1.4**
AKTK	**Aktyubinsk**	**88.40 39**		P	**P**	**22 55 20.9**	**-1.4**
AKTO	**Aktyubinsk**	**88.40 39**		P	**P**	**22 55 20.9**	**-1.4**
	comp=Z,55nm,1.1s,mb5.8,baz=285,slow=5.0,SNR=35						
SVE	**Sverdlovsk**	**88.63 33**	⇓	*e*P	**P**	**22 55 23.9**	**+0.6**
SVE				*e*		22 58 46.8	
SVE				*e*S	S	23 05 52.2	-19
SVE				*e*SS	SS	23 12 01.8	+0.6
SVE				*e*SSS		23 15 28.3	
SVE				pmax	pmax		
	comp=Z,271nm,1.7s,mb6.2						
SVE				pmax	pmax		
	comp=Z,840nm,8.9s						
SVE				MLR	MLR		
	comp=Z,48μm,19.0s,MS6.9						
SVE	**Sverdlovsk**	**88.63 33**		*e*P	**P**	**22 55 23.9**	**+0.6**
	comp=Z,840nm,8.9s						
ABPO	**Ambohimpanom**	**89.31 109**	⇓	*e*P	**P**	**22 55 28.8**	**+1.6**
ABPO				*e*S	S	23 05 55.1	-23
ABPO				pmax	pmax		
	comp=Z,103nm,1.4s,mb5.9						
ABPO				MLR	MLR		
	comp=Z,31μm,22.0s,MS6.7						
ABPO	**Ambohimpanom**	**89.31 109**		*e*P	**P**	**22 55 28.8**	**+1.6**
	comp=Z,103nm,1.4s,mb5.9						
ABPO				*e*S	S	23 05 55.1	-23
ABPO	**Ambohimpanom**	**89.31 109**	⇓	*e*P	**P**	**22 55 28.8**	**+1.6**
	comp=Z,103nm,1.4s,mb5.9						
ABPO				*e*S	S	23 05 55.1	-23
ABPO				LR	LR		
	comp=Z,31μm,22.0s,MS6.7						
COLA	**College**	**90.45 336**		*i* P	**P**	**22 55 30.8**	**-0.8**
ASUD	**Al Ashush, Dub**	**90.79 65**		P	**P**	**22 55 35.9**	**+1.8**
	SNR=5.4						
DIV	**Divide**	**90.80 332**		*e*P	**P**	**22 55 32.8**	**-0.5**
	comp=Z,89nm,1.4s,mb5.9						
DIV	**Divide**	**90.80 332**		*e*PP	PP	22 59 07.5	-0.9
DIV	**Divide**	**90.80 332**		*e*P	**P**	**22 55 32.9**	**-0.4**
	comp=Z,89nm,1.4s,mb5.9						
DIV				*e*PP	PP	22 59 07.5	-0.9
EYAK	**Cordova Ski Ar**	**90.97 332**		*e*P	**P**	**22 55 31.1**	**-3.0**
	comp=Z,99nm,0.9s,mb6.1						
EYAK	**Cordova Ski Ar**	**90.97 332**		*e*PP	PP	22 59 07.7	-2.1
EYAK	**Cordova Ski Ar**	**90.97 332**		*e*P	**P**	**22 55 31.1**	**-3.0**
	comp=Z,99nm,0.9s,mb6.1						
EYAK				*e*PP	PP	22 59 07.7	-2.1
EYAK				*e*S	SP	23 07 28.6	-11
FAQ	**Al Faqa, Dubai**	**91.00 65**		P	**P**	**22 55 35.0**	**-0.1**
	SNR=17						
NAZ	**Nazwa, Dubai**	**91.03 65**		P	**P**	**22 55 36.8**	**+1.6**
	SNR=15						
MCK	**McKinley**	**91.30 335**		*e*P	**P**	**22 55 34.8**	**-0.8**
MCK	**McKinley**	**91.30 335**		*e*P	**P**	**22 55 34.8**	**-0.7**
HATD	**Hatta, Dubai**	**91.47 65**		P	**P**	**22 55 38.2**	**+1.0**
	SNR=14						
HATD	**Hatta, Dubai**	**91.47 65**		P	**P**	**22 55 38.2**	**+0.9**
	SNR=14						
TRF	**Thorofare Moun**	**91.97 335**		*e*P	**P**	**22 55 37.9**	**-0.8**
	comp=Z,443nm,2.1s,mb6.4						
TRF	**Thorofare Moun**	**91.97 335**		*e*P	**P**	**22 55 37.9**	**-0.8**
	comp=Z,443nm,2.1s,mb6.4						
PMR	**Palmer**	**92.16 333**		*e*P	**P**	**22 55 38.8**	**-0.8**
PMR				pmax	pmax		
	comp=Z,134nm,1.8s,mb6.0						
PMR				MLR	MLR		
	comp=Z,14μm,19.0s,MS6.4						
PMR	**Palmer**	**92.16 333**		*e*P	**P**	**22 55 38.8**	**-0.8**
	comp=Z,14μm,19.0s						
PMR	**Palmer**	**92.16 333**		*e*PP	PP	22 59 13.8	-5.4
PMR	**Palmer**	**92.16 333**		*e*P	**P**	**22 55 38.8**	**-0.8**
	comp=Z,136nm,1.8s,mb6.0						
PMR				*e*PP	PP	22 59 13.8	-5.4
PMR				LR	LR		
	comp=Z,14μm,19.0s,MS6.4						
IMA2	**Indian Mountai**	**92.23 338**		*e*P	**P**	**22 55 39.2**	**-0.6**
HOQ	**Hoqain**	**92.75 66**		P	**P**	**22 55 42.9**	**-0.2**
	SNR=22						
BSY	**Bisya**	**92.79 67**	⇑	P	**P**	**22 55 43.5**	**+0.1**
	SNR=15						
BSYO	**Bisya**	**92.83 67**		P	**P**	**22 55 43.5**	**-0.1**
	SNR=15						
SEW	**Seward**	**92.85 332**		*e*P	**P**	**22 55 43.4**	**+0.6**
	comp=Z,5μm,0.9s						
SEW	**Seward**	**92.85 332**		*e*PP	PP	22 59 22.0	-2.7
SEW	**Seward**	**92.85 332**		*e*P	**P**	**22 55 43.4**	**+0.5**
	comp=Z,5μm,0.9s						
SEW				*e*PP	PP	22 59 22.0	-2.7
PPLA	**Purkeypile**	**92.98 335**	⇑	*e*P	**P**	**22 55 42.2**	**-1.2**
	comp=Z,333nm,1.6s,mb6.5						
PPLA	**Purkeypile**	**92.98 335**	⇑	*e*P	**P**	**22 55 42.2**	**-1.1**
	comp=Z,333nm,1.6s,mb6.5						
SLKM	**Skilak Lake**	**93.06 332**		*e*P	**P**	**22 55 43.6**	**-0.2**
SLKM				*e*		22 59 27.0	
SLKM	**Skilak Lake**	**93.06 332**		*e*PP	PP	22 59 27.0	+0.7
BIDO	**Bidbid**	**93.49 66**	⇓	P	**P**	**22 55 47.0**	**+0.4**
	SNR=6.7						
SMDO	**Samad**	**93.51 66**		P	**P**	**22 55 47.1**	**+0.5**
	SNR=18						
SYO	**Syowa Base**	**93.55 159**	⇑	*e*P	**P**	**22 55 43.9**	**-1.9**
SYO	**Syowa Base**	**93.55 159**	⇑	*e*P	**P**	**22 55 53.0**	**+7.2**
JMDO	**Jabal Madar**	**93.68 67**		P	**P**	**22 55 47.1**	**-0.3**
	SNR=8.4						
PTCN	**Pitcairn Islan**	**94.15 245**		PFAKE		22 56 00.0	+10
PTCN				LR	LR		
	comp=Z,11μm,20.0s,MS6.3						
WBK	**Wadi Bani Khal**	**94.42 67**		P	**P**	**22 55 51.3**	**+0.4**
	SNR=9.0						
TTA	**Tatalina**	**94.54 336**		*e*P	**P**	**22 55 49.9**	**-0.6**
TTA				pmax	pmax		
	comp=Z,122nm,2.1s,mb6.0						
TTA	**Tatalina**	**94.54 336**		*e*P	**P**	**22 55 49.9**	**-0.6**
	comp=Z,122nm,2.1s,mb6.0						
TTA	**Tatalina**	**94.54 336**		*e*P	**P**	**22 55 49.9**	**-0.7**

comp=Z,33µm,19.0s,MS6.9
NVS Novosibirsk 101.13 30 *e*P Pdif 22 56 22.3 +1.9
NVS pmax pmax
comp=Z,29nm,1.6s
NVS pmax pmax
comp=N,8.0nm,1.7s
NVS Novosibirsk 101.13 30 *e*P Pdif 22 56 22.3 +1.9
comp=N,8.0nm,1.7s
AML Almayashu 101.14 44 *e*Pdif Pdif 22 56 22.0 +1.6
comp=N,53nm,1.5s
AML LR LR
comp=Z,14µm,20.0s,MS6.5
FRU Bishkek 101.51 43 *e*P Pdif 22 56 26.0 +3.9
FRU *e* 23 07 00.0
BILL Bilibino 101.89 350 *e*P Pdif 22 56 24.0 +0.3
BILL *e* 23 00 33.5
BILL *e* 23 07 02.1
BILL *e*PS PS 23 09 40.1 +1.6
BILL *e*SS SS 23 15 10.9 +2.5
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,12µm,18.0s,MS6.5
BILL Bilibino 101.89 350 *e*P Pdif 22 56 24.0 +0.3
comp=Z,5.0nm,1.1s
BILL Bilibino 101.89 350 PFAKE 22 56 30.0 +6.3
BILL LR LR
comp=Z,13µm,19.0s,MS6.5
TAOE Nuku Hiva Isla 101.92 263 *e*PP PP 23 00 29.5 -6.6
comp=Z,3µm,25.2s
TAOE Nuku Hiva Isla 101.92 263 *e*SS SS 23 15 03.4 -9.2
comp=Z,29µm,29.0s
TAOE Nuku Hiva Isla 101.92 263 *e*LQ 23 25 23.1
TAOE comp=Z,175µm,32.0s *e*LR LR 23 29 47.3
comp=Z,23µm,25.7s
MAW Mawson 102.08 157 PFAKE 22 56 30.0 +5.4
MAW LR LR
comp=Z,32µm,21.0s,MS6.8
TKM2 Tokmak 2 102.14 43 P Pdif 22 56 23.4 -1.5
TKM2 pmax pmax
comp=Z,29nm,1.8s
TKM2 MLR MLR
comp=Z,23µm,21.0s,MS6.7
TKM2 Tokmak 2 102.14 43 P Pdif 22 56 23.4 -1.5
comp=Z,23µm,21.0s
TKM2 Tokmak 2 102.14 43 Pdif Pdif 22 56 23.4 -1.5
comp=Z,29nm,1.8s
TKM2 LR LR
comp=Z,23µm,21.0s,MS6.7
ZAL Zalesovo 102.39 30 P Pdif 22 56 27.2 +1.2
ZAL 23 00 34.0
ZAA0 Zalesovo Array 102.39 30 *e*Pdif Pdif 22 56 26.4 +0.4
ZAA0 *e*PP PP 23 00 37.4 -0.6
ZALV Zalesovo Beam 102.39 30 Pdiff Pdif 22 56 27.2 +1.2
comp=Z,0.3nm,0.3s,baz=126,slow=30,SNR=3.5
ZALV PP PP 23 00 34.0 -4.0
comp=Z,5.0nm,1.0s,baz=294,slow=8.1,SNR=3.6
ZALV Zalesovo Beam 102.39 30 Pdif Pdif 22 56 27.2 +1.2
ZALV PP PP 23 00 34.0 -4.0
AAA Alma-Ata 102.91 42 *e*P Pdif 22 56 27.1 -1.2
AAA *e*S Sdif 23 08 02.1 -13
AAA pmax pmax
comp=Z,1µm,11.7s
AAA smax
comp=E,5µm,18.5s
AAA Alma-Ata 102.91 42 *e*P Pdif 22 56 27.1 -1.2
comp=E,1µm,11.7s
BHJ Bhuj 103.88 64 *i* PP PP 23 00 50.1 -0.2
MK31 Makanchi Array 104.70 37 *e*P Pdif 22 56 37.5 +1.3
MK31 Makanchi Array 104.70 37 *e*Pdif Pdif 22 56 37.5 +1.3
MKAR Makanchi Array 104.70 37 Pdiff Pdif 22 56 36.0 -0.2
comp=E,0.1nm,0.2s,baz=50,slow=42,SNR=2.6
MKAR PP PP 23 00 51.3 -4.2
comp=E,0.8nm,0.8s,baz=305,slow=4.3,SNR=3.0
MKAR PKKPbc PKKPbc 23 12 20.3 -1.9
comp=E,2.0nm,0.9s,baz=134,slow=3.5,SNR=6.9
MKAR Makanchi Array 104.70 37 P Pdif 22 56 36.0 -0.2
MKAR 23 00 51.3
AJM Ajmer 107.29 59 *e*P Pdif 22 56 45.2 -2.6
AJM *i* PP PP 23 01 13.7 -1.6
NDI New Delhi 108.70 56 *e*P PP 23 01 28.0 +2.4
NDI *e*S SP 23 10 40.0 -11
POO Poona 108.92 67 *e*PP PP 23 01 26.2 -1.4
SBA Scott Base 109.01 186 PFAKE 23 01 10.0 +11
SBA LR LR
comp=Z,7µm,20.0s,MS6.2
WMQ Urumqi 109.50 38 PDIF Pdif 22 56 58.3 +0.7
WMQ PP PP 23 01 35.9 +5.2
WMQ S Sdif 23 09 04.0 -6.3
WMQ PS PS 23 10 57.8 -0.7
WMQ PP PP
comp=Z,1µm,9.7s
WMQ LR LR
comp=Z,38µm,21.5s,MS6.9
YAK Yakutsk 109.53 6 PFAKE 23 01 10.0 +9.4
YAK LR LR
comp=Z,8µm,20.0s,MS6.3
KAD Karad 109.55 68 *e*PP PP 23 01 30.8 -1.4
VNDA Vanda 109.75 185 PP PP 23 01 33.2 +1.2
comp=Z,3.5nm,1.1s,baz=164,slow=4.3,SNR=4.9
VNDA Vanda 109.75 185 PFAKE 23 01 10.0 +9.3
VNDA LR LR
comp=Z,13µm,22.0s,MS6.4
JOSI Joshimath 109.91 54 *e*x x 23 01 52.4
ADK Adak 109.99 334 PFAKE 23 01 10.0 +8.2
ADK LR LR
comp=Z,10µm,20.0s,MS6.4
AKL Akola 111.15 64 *e*x PP 23 01 43.5 -0.2
AKL *i* x x 23 08 54.1
POHA Pohakuloa 111.45 295 PFAKE 23 01 20.0 +15
POHA LR LR
comp=Z,5µm,20.0s,MS6.1
PPT Papeete 111.73 254 *e*PP PP 23 01 39.9 -8.3
comp=Z,1µm,25.2s
PPT *e*SKSac SKSac 23 07 46.9 -2.3
comp=Z,2µm,26.0s
PPT *e*SP SP 23 11 17.9 -3.0
comp=Z,5µm,26.5s
PPT *e*SS SS 23 17 23.2 -2.7
comp=Z,12µm,28.0s
PPT Papeete 111.73 254 *e*LQ 23 28 37.0
comp=Z,16µm,27.5s
PPT *e*LR LR 23 34 17.8
comp=Z,20µm,24.5s,baz=98
IRK Irkutsk 112.26 23⇑ *i*PKIKP PKiKP 23 01 05.5 -0.6
IRK *e* 23 01 51.2
IRK pmax pmax
comp=Z,251nm,1.0s
DGAR Diego Garcia 112.40 95 PFAKE 23 01 20.0 +13
DGAR LR LR
comp=Z,11µm,22.0s,MS6.4
TLY Talaya 112.44 24 PFAKE 23 01 20.0 +14
TLY LR LR
comp=Z,21µm,20.0s,MS6.7
NGP Nagpur 112.82 63 *e*x PP 23 01 54.1 -1.5
NGP *i* x x 23 11 26.3
NGP *e*x x 23 53 32.2
SMY Shemya 113.05 339 PFAKE 23 01 20.0 +12
SMY LR LR
comp=Z,10µm,22.0s,MS6.3
KIP Kipapa 113.14 297 PFAKE 23 01 20.0 +11
KIP LR LR
comp=Z,4µm,20.0s,MS6.0
HYB Hyderabad 113.52 67 *i* P PKiKP 23 01 08.0 -1.5
HYB *e*PP PP 23 02 00.0 -0.7
HYB *e*SP SP 23 11 30.0 -7.2
HYB LR LR 23 51 26.0
comp=Z,19nm,20.0s
HYB Hyderabad 113.52 67 *e*PKPdf PKiKP 23 01 05.0 -4.5
HYB *e*PP PP 23 02 00.0 -0.7
HYB *e*SP SP 23 11 30.0 -7.2
TRD Trivandrum 114.32 77 *i* PP PP 23 02 04.8 -1.8
BLSP Bilaspur 115.18 61 *i* PP PP 23 02 13.2 +0.9
SONM Songino Array 116.55 25 PKP PKPdf 23 01 14.7 +0.2
comp=Z,1.8nm,0.7s,baz=280,slow=1.9,SNR=7.6
SONM PP PP 23 02 17.4 -3.1
comp=Z,8.7nm,1.2s,baz=311,slow=4.1,SNR=5.3
SONM PKKPbc PKKPbc 23 11 45.5 +1.8
comp=Z,2.9nm,1.1s,baz=142,slow=2.6,SNR=6.1
SONM Songino Array 116.55 25 PKIKP PKPdf 23 01 14.7 +0.2
SONM 23 02 17.4
PET Petropavlovsk 117.21 348 PFAKE 23 01 20.0 +4.4
PET LR LR
comp=Z,11µm,21.0s,MS6.5
PETK Petropavlovsk- 117.32 349 PKP PKPdf 23 01 15.0 -0.8
comp=Z,2.5nm,0.9s,baz=254,slow=3.7,SNR=3.2
PETK PKKPbc PKKPbc 23 11 46.6 +5.6
comp=Z,2.4nm,0.8s,baz=180,slow=7.4,SNR=3.7
VIS Vishakhapatnam 117.75 65 *e*PP PP 23 02 28.4 -2.0
PALK Pallekele 118.21 77 PFAKE 23 01 30.0 +11
PALK LR LR
comp=Z,16µm,20.0s,MS6.6
CASY Casey 118.33 167 PFAKE 23 01 30.0 +13
CASY LR LR
comp=Z,22µm,21.0s,MS6.8
LSA Lhasa 119.28 49 PKP PKPdf 23 01 20.0 -0.3
LSA PKP2 PKPdf 23 02 12.0 +52
LSA PPP 23 12 25.0
LSA LR LR
comp=N,8µm,36.0s,MS6.3
LSA LR LR
comp=E,10µm,40.0s,MS6.3
LSA LR LR
comp=Z,16µm,36.0s,MS6.4
LSA Lhasa 119.28 49 *e*PKPdf PKPdf 23 01 20.7 +0.4
LSA LR LR
comp=Z,11µm,20.0s,MS6.5
GTA Gaotai 119.38 36 PKP PKPdf 23 01 22.0 +1.8
GTA PKS 23 04 57.3
GTA PPP 23 05 08.8
GTA SKS SKSdf 23 08 29.0 -4.7
GTA PP PP
comp=Z,1µm,6.9s
GTA LR LR
comp=Z,24µm,20.4s,MS6.8
HIA Hailar 119.96 16 *e*PKIKP PKPdf 23 01 18.8 -2.2
HIA *e* 23 02 44.3
HIA Hailar 119.96 16 *e*PKPdf PKPdf 23 01 18.8 -2.2
HIA *e*PP PP 23 02 44.3 +0.4
HIA LR LR
comp=Z,24µm,20.0s,MS6.8
CAL Calcutta 120.31 58 *ex* PP 23 02 39.2 -8.7
CAL *ex* x 23 07 47.3
CAL *ex* x 23 18 40.1
SHL Shillong 121.87 53 *e*P PKPdf 23 01 26.5 +1.2
SHL *ex* x 23 12 57.5
KLR Kul'dur 122.35 7 *e*PKIKP PKPdf 23 01 21.0 -4.6
BTO Baotou 123.84 28 *e*PKP PKPdf 23 01 26.5 -2.2
LZH Lanzhou 123.98 36 PKP PKPdf 23 01 29.8 +0.7
LZH PP PP 23 03 17.0 +5.1
LZH SKKS SKKSac 23 10 09.3 -3.7
LZH PP PP
comp=Z,2µm,7.8s
LZH LR LR
comp=Z,18µm,20.7s,MS6.7
HHC Hu-ho-hao-te 124.35 27 *e*PKP PKPdf 23 01 28.9 -0.8
HHC PKS 23 05 04.5
HHC SKS SKSdf 23 08 35.0 -8.0
HHC SKKS SKKSac 23 10 06.6 -8.5
HHC PP PP
comp=Z,1µm,12.3s
HHC LR LR
comp=N,18µm,20.2s,MS6.9
HHC LR LR
comp=E,16µm,19.0s,MS6.9
HHC LR LR
comp=Z,28µm,21.4s,MS6.9
YSS Yuzh-Sakhalins 125.14 358 PFAKE 23 01 40.0 +9.0
YSS LR LR
comp=Z,3µm,20.0s,MS5.9
CN2 Changchun 126.49 14 *e*PKP PKPdf 23 01 32.8 -0.9
CN2 SS SS 23 20 34.8 +2.1
CN2 PP PP
comp=Z,590nm,8.0s
CN2 LR LR
comp=N,10µm,20.0s,MS6.6
CN2 LR LR
comp=E,7µm,20.0s,MS6.6
CN2 LR LR
comp=Z,7µm,22.0s,MS6.3
MDJ Mudanjiang 126.55 10 PKP PKPdf 23 01 31.8 -2.0
MDJ SKS SKSdf 23 08 41.9 -5.0
MDJ PP PP
comp=Z,611nm,13.2s
MDJ LR LR
comp=N,7µm,25.1s
MDJ LR LR
comp=E,6µm,17.9s
MDJ LR LR
comp=Z,9µm,26.9s,MS6.3
MDJ Mudanjiang 126.55 10 PFAKE 23 01 40.0 +6.2
MDJ LR LR
comp=Z,8µm,21.0s,MS6.4
BJI Beijing 126.96 24 PKP PKPdf 23 01 34.8 +0.1
BJI PP PP 23 03 31.6 +0.3
BJI PP PP
comp=Z,2µm,9.0s
BJI LR LR
comp=N,18µm,19.4s,MS6.9
BJI LR LR
comp=E,15µm,19.4s,MS6.9
BJI LR LR
comp=Z,24µm,19.1s,MS6.9
BJT Baijiatuau 126.98 24 *e*PKPdf PKPdf 23 01 34.7 0.0
BJT LR LR
comp=Z,33µm,20.0s,MS7.0
CD2 Chengdu 127.44 41 PKP PKPdf 23 01 35.0 -0.9
CD2 XPKP 23 01 42.3
CD2 PP PP 23 03 39.0 +3.9
CD2 PKS 23 05 10.3
CD2 SKS SKSdf 23 08 41.3 -7.9
CD2 SKKS SKKSac 23 10 28.4 -6.7
CD2 PP PP
comp=Z,130nm,8.4s
CD2 LR LR
comp=N,15µm,24.0s,MS6.8
CD2 LR LR
comp=E,18µm,20.4s,MS6.8
CD2 LR LR
comp=Z,24µm,23.4s,MS6.8
SNY Shenyang 127.86 16⇑ PKP PKPdf 23 01 35.6 -0.8
SNY PP PP
comp=Z,878nm,9.2s
SNY LR LR
comp=E,9µm,22.6s
SNY LR LR
comp=Z,11µm,25.5s,MS6.4
XAN Xi'an 128.34 34 PKP PKPdf 23 01 36.1 -1.4
XAN SKKS SKKSac 23 10 33.8 -6.8
XAN PP PP
comp=Z,2µm,12.1s
XAN LR LR
comp=E,11µm,20.9s
XAN LR LR
comp=Z,15µm,20.9s,MS6.6
VLA Vladivostok 128.37 8 PKIKP PKPdf 23 01 44.0 +6.7
VLA 23 03 39.0
VLA MLR MLR
comp=Z,11µm,21.5s,MS6.5
KMI Kunming 130.38 47 PKP PKPdf 23 01 41.8 +0.2
KMI XPKP 23 01 46.3
KMI PP PP 23 03 57.3 +2.6
KMI PKS 23 05 11.6
KMI PPP 23 06 45.3
KMI SKS SKSdf 23 08 50.8 -4.0
KMI PP PP
comp=Z,1µm,12.4s
KMI LR LR
comp=N,7µm,21.0s,MS6.6
KMI LR LR
comp=E,8µm,18.6s,MS6.6
KMI LR LR
comp=Z,9µm,21.9s,MS6.4
TIA Tai'an 130.62 25 PKP PKPdf 23 01 41.0 -0.8
TIA PPP 23 06 44.0
TIA LR LR
comp=N,3µm,17.0s,MS6.3
TIA LR LR
comp=E,4µm,16.0s,MS6.3
JOT Ohata 130.74 360 P PKPdf 23 01 49.4 +7.5
CHTO Chiang Mai 130.85 57 *e*PKIKP PKPdf 23 01 42.3 -0.4
CHTO Chiang Mai 130.85 57 P PKPdf 23 01 44.1 +1.4
SNR=16
CHTO Chiang Mai 130.85 57 *e*PKPdf PKPdf 23 01 42.3 -0.3
CHTO LR LR
comp=Z,10µm,22.0s,MS6.5
CM31 Chiang Mai Arr 131.02 57 *e*PKIKP PKPdf 23 01 42.6 -0.4
CM31 Chiang Mai Arr 131.02 57 *e*PKPdf PKPdf 23 01 42.6 -0.4
CM31 LR LR
comp=Z,9µm,19.0s,MS6.5
CMAR Chiang Mai Arr 131.02 57 PKP PKPdf 23 01 42.5 -0.5
comp=Z,4.2nm,0.6s,baz=289,slow=4.0,SNR=17
CMAR PP PP 23 03 54.9 -4.3
comp=Z,2.1nm,0.4s,baz=347,slow=32,SNR=4.7
CMAR Chiang Mai Arr 131.02 57 PP PP 23 03 54.9 -4.3
GYA Guiyang 132.29 43 PKP PKPdf 23 01 44.0 -1.2
GYA PP PP 23 04 09.6 +2.8
GYA PKS 23 05 18.6
GYA PPP 23 07 01.8
GYA SKS SKSdf 23 08 52.0 -6.2
GYA PP PP
comp=Z,2µm,11.4s
GYA LR LR
comp=N,8µm,20.0s,MS6.7
GYA LR LR
comp=E,12µm,21.3s,MS6.7
GYA LR LR
comp=Z,19µm,19.5s,MS6.8
INCN Inchon 132.75 15 PFAKE 23 02 00.0 +14
INCN LR LR
comp=Z,13µm,19.0s,MS6.7
KSRS Korea Array 133.10 14 PKP PKPdf 23 01 43.2 -3.2
comp=Z,0.7nm,0.3s,baz=345,slow=1.9,SNR=10
KSRS PP PP 23 04 11.3 +0.3
comp=Z,0.7nm,0.3s,baz=339,slow=5.5,SNR=3.8
AFI Afiamalu 133.11 259 PFAKE 23 02 00.0 +13
AFI LR LR
comp=Z,4µm,19.0s,MS6.1
WHN Wuhan 133.96 32 ⇑PKP PKPdf 23 01 49.8 +1.6
WHN PP PP 23 04 17.3 +0.3
WHN PKS 23 05 18.9
WHN LR LR
comp=N,43µm,18.6s,MS7.2
WHN LR LR
comp=E,22µm,18.9s,MS7.2
WHN LR LR
comp=Z,61µm,20.2s,MS7.3
JMM Marumori 134.25 360 P PKPdf 23 01 56.5 +7.9
NJ2 Nanjing 134.91 27 *e*PKP PKPdf 23 01 45.1 -4.9
NJ2 PP PP 23 04 25.0 +2.1
NJ2 PKS 23 05 19.5
NJ2 PPP 23 07 21.0
NJ2 PP PP
comp=Z,670nm,11.0s
NJ2 LR LR
comp=N,6µm,23.9s,MS6.5
NJ2 LR LR
comp=E,9µm,21.6s,MS6.5
NJ2 LR LR
comp=Z,9µm,21.6s,MS6.5
SNZO South Karori 135.32 217 PFAKE 23 02 00.0 +10
SNZO LR LR
comp=Z,10µm,20.0s,MS6.5
MAJO Matsushiro 135.51 3 *e*PKIKP PKPdf 23 01 50.4 -0.6
MAJO MLR MLR
comp=Z,7µm,19.0s,MS6.4
MAT Matsushiro 135.51 3 APKP PKPdf 23 01 50.4 -0.6
MJAR Matsushiro Arr 135.51 3 PKP PKPdf 23 01 48.3 -2.7
comp=Z,5.2nm,0.9s,baz=352,slow=2.1,SNR=4.2
MJAR PP PP 23 04 28.2 +2.0
comp=Z,0.4nm,0.4s,baz=15,slow=20,SNR=2.4
MJAR Matsushiro Arr 135.51 3 PP PP 23 04 28.2 +2.0
URZ Urewera 135.58 222 PKP PKPdf 23 01 50.3 -0.7
comp=Z,11nm,0.9s,baz=347,slow=23,SNR=2.9
RPZ Rata Peaks 135.77 212 PKP PKPdf 23 01 52.4 +1.2
comp=Z,12nm,0.8s,baz=13,slow=8.5,SNR=4.8
RAO Raoul Island 135.89 236 PFAKE 23 02 00.0 +8.2
RAO LR LR
comp=Z,8µm,22.0s,MS6.4
JRY Ryogami san 136.06 2 P PKPdf 23 01 52.3 +0.3
JGF Kuroka 136.39 4 P PKPdf 23 01 53.2 +0.5
JHS Saijyo 136.51 9 P PKPdf 23 01 58.2 +5.3
JWT Wachi 136.53 6 P PKPdf 23 01 50.7 -2.2
COCO West Island 136.62 99 PFAKE 23 02 00.0 +6.4
COCO LR LR
comp=Z,9µm,20.0s,MS6.5
SSE Sheshan 136.73 25 *e*PKP PKPdf 23 01 52.8 -0.6
SSE PP PP 23 04 36.1 +1.8
SSE PKS 23 05 25.1
SSE PP PP
comp=Z,1µm,10.6s
SSE LR LR
comp=N,18µm,20.5s,MS6.8
SSE LR LR
comp=E,3µm,20.5s,MS6.8
SSE LR LR
comp=Z,20µm,19.6s,MS6.9
JOD2 Odawara 2 136.82 2 P PKPdf 23 01 54.4 +0.9
PSI Prapat 136.89 77 PKP PKPdf 23 01 53.6 -0.6
comp=Z,12nm,0.7s,baz=303,slow=3.1,SNR=7.4
JIE Ise 137.54 5 P PKPdf 23 02 02.7 +7.9
JMN Monobe 137.87 9 P PKPdf 23 01 59.9 +4.5
JWZ Kozaga 138.30 6 P PKPdf 23 02 04.2 +8.0
QIZ Qiongzhong 139.30 48 *e*PKIKP PKPdf 23 01 57.6 -0.8
QIZ Qiongzhong 139.30 48 *e*PKPdf PKPdf 23 01 57.6 -0.8
QIZ LR LR
comp=Z,14µm,21.0s,MS6.7
JAM Amami Oshima 142.12 16 P PKPdf 23 02 06.6 +3.3
TATO Taipei 142.12 29 PFAKE 23 02 10.0 +6.6
TATO LR LR
comp=Z,13µm,22.0s,MS6.7
YHNB Yeheng 142.32 30 PFAKE 23 02 10.0 +6.2
YHNB LR LR
comp=Z,15µm,22.0s,MS6.7
JOW Kunigami 143.20 19 P PKPdf 23 02 03.4 -1.9
TAU Tasmania Unive 144.88 188 PFAKE 23 02 20.0 +12
TAU LR LR
comp=Z,13µm,22.0s,MS6.7
CBIJ Chichi jima 144.96 358 P PKPdf 23 02 06.3 -2.0
CBIJ Chichi jima 144.96 358 PKPbc PKPdf 23 02 05.7 -2.7
comp=Z,90nm,0.7s,baz=88,slow=2.1,SNR=11
JMZ Minamidaito 2 145.01 15 P PKPab 23 02 08.6 +1.0
XMIS Christmas Isla 145.29 97 *e*PKIKP PKPdf 23 02 07.7 -1.5
XMIS Christmas Isla 145.29 97 *e*PKP PKPdf 23 02 07.7 -1.5
MUN Mundaring 147.08 139 *e*PKP PKPdf 23 02 11.0 -0.8
NWAO Narrogin (SRO) 147.09 142 PKPbc PKPbc 23 02 10.7 -3.1
comp=Z,49nm,1.0s,baz=231,slow=2.5,SNR=8.4
NWAO Narrogin (SRO) 147.09 142 P PKPdf 23 02 13.4 +1.7
SNR=11
KSM Kuching 148.18 74 *e*PKIKP PKPdf 23 02 14.8 +0.7
KSM Kuching 148.18 74 *e*PKPbc PKPbc 23 02 17.0 -0.4
KSM Kuching 148.18 74 *e*PKPdf PKPdf 23 02 14.8 +0.7
KSM *e*PKPbc PKPbc 23 02 17.0 -0.4
KLBR Kellerberrin 148.32 141 *e*PKP PKPdf 23 02 15.5 +1.7
comp=Z,119nm,1.1s
TOO Toolangi 150.37 188 *e*PKP PKPbc 23 02 20.5 -1.6
DZM Mont Dzumac 151.65 238 *e*P PKPdf 23 02 20.5 +1.2
DZM Mont Dzumac 151.65 238 *e*PKIKP PKPdf 23 02 20.4 +1.1
DZM Mont Dzumac 151.65 238 *e*PKPdf PKPdf 23 02 20.4 +1.1
KKM Kota Kinabalu 151.77 61 *e*PKIKP PKPdf 23 02 18.6 -1.2
KKM Kota Kinabalu 151.77 61 *e*PKPbc PKPbc 23 02 25.6 -0.5
KKM Kota Kinabalu 151.77 61 *e*PKPdf PKPdf 23 02 18.6 -1.2
KKM *e*PKPbc PKPbc 23 02 25.6 -0.5
KKM *e*PKPab PKPab 23 02 34.1 -0.8
KKM LR LR
comp=Z,12µm,21.0s,MS6.7
CNB Canberra Magne 151.81 195 *e*PKP PKPdf 23 02 20.6 +1.4
RCP Roxas 153.48 43⇑ *e*P PKPbc 23 02 29.2 -0.6
FORT Forrest 154.53 154 *e*PKP PKPdf 23 02 23.3 0.0
comp=Z,40nm,0.9s
ARMA Armidale 155.59 203 *e*PKP PKPab 23 02 50.3 -0.2
MBWA Marble Bar 155.93 125 *e*PKIKP PKPdf 23 02 24.9 -0.5
MBWA Marble Bar 155.93 125 *e*PKPdf PKPdf 23 02 24.9 -0.6
MBWA LR LR
comp=Z,13µm,19.0s,MS6.8
STKA Stephens Creek 156.35 182 *e*PKP PKPdf 23 02 25.8 +0.1
comp=Z,27nm,1.6s
STKA Stephens Creek 156.35 182 PKPbc PKPdf 23 02 25.0 -0.7
comp=Z,19nm,1.1s,baz=83,slow=1.1,SNR=11
GUMO Guam 158.04 349 PFAKE 23 02 40.0 +12
GUMO LR LR
comp=Z,5µm,20.0s,MS6.4
DAV Davao City (W) 158.63 45 PFAKE 23 02 40.0 +11
DAV LR LR
comp=Z,21µm,21.0s,MS7.0
KAPI Kappang 158.91 83 *e*PKIKP PKPdf 23 02 26.8 -2.6
KAPI Kappang 158.91 83 *e*PKPdf PKPdf 23 02 26.8 -2.6
KAPI LR LR
comp=Z,15µm,22.0s,MS6.8
HNR Honiara 160.99 265 PFAKE 23 02 40.0 +8.3
HNR LR LR
comp=Z,8µm,20.0s
FITZ Fitzroy Crossi 162.27 125 *e*PKP PKPdf 23 02 32.3 -0.6
comp=Z,57nm,1.5s

FITZ Fitzroy Crossi 162.27 125 PKP PKPdf 23 02 32.2 -0.7
comp=Z,10nm,1.1s,baz=302,slow=2.0,SNR=11
ASAR Alice Springs 163.21 158 PKP PKPdf 23 02 32.8 -1.0
comp=Z,6.6nm,0.9s,baz=163,slow=2.7,SNR=20
ASAR PKPab PKPab 23 03 22.4 -1.3
comp=Z,3.6nm,0.8s,baz=189,slow=4.1,SNR=5.6
ASAR PP PP 23 07 09.2 +1.9
comp=Z,3.3nm,0.9s,baz=187,slow=5.8,SNR=2.7
ASAR Alice Springs 163.21 158 PKPab PKPab 23 03 22.4 -1.3
WRA Warramunga Arr 166.71 153 PKP PKPdf 23 02 35.8 -1.0
comp=Z,18nm,1.1s,baz=247,slow=0.9,SNR=27
WRA PKPab PKPab 23 03 36.1 -3.1
comp=Z,1.3nm,0.4s,baz=24,slow=11,SNR=9.2
WRA PP PP 23 07 27.5 +1.7
comp=Z,4.6nm,1.0s,baz=213,slow=3.5,SNR=4.5
WRA Warramunga Arr 166.71 153 PKPab PKPab 23 03 36.1 -3.1
WB2 Warramunga Arr 166.72 153 *e*PKP PKPdf 23 02 36.0 -0.8
WB2 *e*PP PP 23 07 26.5 +0.7
WRAB Tennant Creek 166.72 153 *e*PKIKP PKPdf 23 02 35.2 -1.6
WRAB MLR MLR
comp=Z,16μm,19.0s
CTA Charters Tower 166.97 204 *e*PKP PKPdf 23 02 36.7 -0.3
comp=Z,14nm,1.1s
CTA Charters Tower 166.97 204 PKP PKPdf 23 02 37.0 0.0
comp=Z,16nm,1.1s,baz=257,slow=1.7,SNR=4.1
CTAO Charters Tower 166.97 204 *e*PKIKP PKPdf 23 02 36.4 -0.6
CTAO MLR MLR
comp=Z,17μm,21.0s
KAKA Kakadu 170.64 120 *e*PKP PKPdf 23 02 38.6 -0.9
comp=Z,135nm,1.6s
KAKA Kakadu 170.64 120 *e*PKPdf PKPdf 23 02 38.4 -1.1
KAKA *e*PKP PKPdf 23 02 38.6 -0.9
PMG Port Moresby 173.54 258 PFAKE 23 02 50.0 +9.1
PMG LR LR
comp=Z,2μm,19.0s

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*ISCJB **20** 23:03:53.4±0.5, 79N±01×3898W±008, h10km, mb4.2/11, Error ellipse: s-maj=17.4km s-min=11.0km az=164.9*
*IDC **20** 23:03:54.0±0.9, 777N×3892W, h0km, mb4.1/8, mb1 4.3/8, mb1mx3.9/22, mbtmp4.1/8, Error ellipse: s-maj=35.6km s-min=17.1km az=150.0*
*NEIC **20** 23:03:55.0±0.4, 785N×3896W, h10km, mb4.3/5, Error ellipse: s-maj=13.7km s-min=9.3km az=171.0*
ISC 20 23:03:55.3±0.5,**78N**±01×**3897W**±008,**h10**km,**n19**, σ0**f78**/**19**,**mb4.2**/11,**Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**28.96**	**294**	*e*P	**P**	**23 09 53.7**	**-1.5**
	3.8nm,0.5s,mb4.4						
SDV	**Santo Domingo**	**31.34**	**274**	P	**P**	**23 10 16.9**	**+0.5**
SIV	**San Ignacio**	**32.24**	**223**	P	**P**	**23 10 24.6**	**+0.4**
	8.1nm,0.8s,mb4.6,baz=88,slow=8.5,SNR=5.2						
DBIC	**Dimbokro**	**33.85**	**90**	P	**P**	**23 10 37.6**	**-0.7**
	4.6nm,0.9s,mb4.4,baz=297,slow=4.6,SNR=5.5						
DBIC	**Dimbokro**	**33.85**	**90**	*e*P	**P**	**23 10 38.2**	**-0.1**
	4.7nm,0.8s,mb4.5						
LPAZ	**La Paz**	**37.52**	**230**	P	**P**	**23 11 10.9**	**+1.2**
	6.3nm,0.8s,mb4.4,baz=22,slow=6.9,SNR=13						
LPAZ	**La Paz**	**37.52**	**230**	*e*P	**P**	**23 11 10.8**	**+1.0**
	8.0nm,0.9s,mb4.5						
OTAV	**Otavalo**	**40.07**	**261**	*e*P	**P**	**23 11 31.7**	**+0.4**
	2.0nm,0.6s,mb4.0						
TOA0	**Torodi Ar. Sit**	**40.29**	**79**	*e*P	**P**	**23 11 32.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**40.29**	**79**	P	**P**	**23 11 32.9**	**-0.2**
	4.9nm,0.7s,mb4.3,baz=271,slow=9.2,SNR=40						
LVC	**Limon Verde**	**42.14**	**223**	*e*P	**P**	**23 11 46.6**	**-1.5**
	2.4nm,0.6s,mb4.0						
NNA	**Nana**	**42.50**	**243**	P	**P**	**23 11 51.3**	**+0.1**
CFAA	**Coronel Fontan**	**48.18**	**214**	P	**P**	**23 12 36.0**	**-0.1**
	0.5nm,0.8s,mb3.6,baz=40,slow=6.6,SNR=8.4						
TEIG	**Tepich**	**49.22**	**290**	*e*P	**P**	**23 12 44.5**	**+0.3**
SWET	**Sewanee**	**50.84**	**309**	P	**P**	**23 12 56.9**	**+0.5**
KEST	**Kesra**	**52.06**	**50**	P	**P**	**23 13 06.7**	**+1.3**
	1.7nm,0.9s,mb4.0,baz=204,slow=7.5,SNR=5.2						
PLCA	**Paso Flores**	**56.41**	**209**	P	**P**	**23 13 37.0**	**+0.1**
	3.5nm,0.8s,mb4.4,baz=5.0,slow=6.0,SNR=7.5						
WMOK	**Wichita Mounta**	**60.84**	**305**	P	**P**	**23 14 06.9**	**-1.3**
TXAR	**Lajitas Array**	**64.16**	**299**	P	**P**	**23 14 31.1**	**+0.6**
	0.3nm,0.7s,mb3.4,baz=106,slow=9.5,SNR=3.3						

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*MOS **20** 23:04:23.6±1.0, 494N×12431E, h33km, mb5.1/22, MS5.7/4, Error ellipse: s-maj=11.4km s-min=6.2km az=113.1*
*ISCJB **20** 23:04:25.4±0.5, 489N±002×12424E±003, h47km±4km, mb4.9/82, MS5.2/11, Error ellipse: s-maj=5.2km s-min=3.5km az=14.8*
*BJI **20** 23:04:26.3, 472N×12466E, h75km, mB5.4, mb5.0, Ms5.2, Msz4.9*
*NEIC **20** 23:04:27.7±0.9, 488N×12422E, h54km±8km, mb4.9/31, Error ellipse: s-maj=6.9km s-min=4.7km az=73.0*
NEIC Felt [I PIVS] at General Santos and Zamboanga, Philippines.
*MAN **20** 23:04:27, 503N×12396E, h42km, mb5.0, ML4.0, MS4.0*
MAN INTENSITY I - GENERAL SANTOS CITY.
*IDC **20** 23:04:29.0±1.8, 485N×12427E, h68km±16km, mb4.5/26, mb1 4.6/28, mb1mx4.6/30, mbtmp4.5/28, MS4.2/1, Ms1 4.2/1, ms1mx3.8/37, Error ellipse: s-maj=16.3km s-min=8.6km az=82.0*
*DJA **20** 23:04:30, 471N×12453E, h100km, ML5.5/4*
ISC 20 23:04:27.1±0.4,**490N**±002×**12426E**±003,**h47**km±3km, **h39**km±6.5km:**pP-P**,**n241**,σ1§**19**/235,**mb4.9**/81,**MS5.2**/11, **17C-19D**,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.25**	**22**	⇑*e*P	**Pn**	**23 05 03.3**	**+1.4**
KCP				*i* S	**Sn**	**23 05 32.7**	**+4.2**
CTBH	**Cotabato--PC H**	**2.30**	**360**	*e*P	**Pn**	**23 05 02.2**	**-0.5**
CTBH				*i* S	**Sn**	**23 05 28.6**	**-1.2**
DMPH	**Davao City--Mi**	**2.50**	**30**	⇓*i*P	**Pn**	**23 05 07.8**	**+2.5**
DMPH				*i* S	**Sn**	**23 05 43.4**	**+8.8**
DAV	**Davao City (W)**	**2.52**	**31**	P	**Pn**	**23 05 08.6**	**+2.9**
	768nm,0.3s,baz=225,slow=2.3,SNR=82						
DAV				S	**Sn**	**23 05 39.5**	**+4.3**
	810nm,0.3s,baz=216,slow=16,SNR=7.3						
DAV				LR	LR	23 06 26.6	
	comp=Z,5μm,21.8s,baz=244,slow=46						
DAV	**Davao City (W)**	**2.52**	**31**	*e*Pn	**Pn**	**23 05 08.4**	**+2.7**
DAV				Sn	**Sn**	**23 05 30.7**	**-4.5**
MATI	**Mati**	**2.84**	**44**	*e*P	**Pn**	**23 05 10.6**	**+0.6**
MATI				*e*S	**Sn**	**23 05 46.8**	**+3.7**
PAGZ	**Pagadian**	**3.05**	**344**	*e*P	**Pn**	**23 05 11.6**	**-1.4**
PAGZ				*e*S	**Sn**	**23 05 45.9**	**-2.3**
BUKP	**Musuan**	**3.06**	**15**	*e*P	**Pn**	**23 05 13.6**	**+0.5**
BUKP				*e*S	**Sn**	**23 05 50.3**	**+1.8**
IPIL	**Ipil**	**3.32**	**330**	*e*P	**Pn**	**23 05 14.8**	**-1.8**
IPIL				*e*S	**Sn**	**23 05 51.1**	**-3.7**
MNI	**Manado**	**3.49**	**170**	P	**Pn**	**23 05 17.3**	**-1.6**
	0.0nm,0.0s						
BUTP	**Butuan**	**4.26**	**18**	*e*P	**Pn**	**23 05 31.5**	**+1.9**
TBP	**Tagbilaran**	**4.77**	**355**	*e*P	**Pn**	**23 05 36.7**	**+0.1**
MSLP	**Maasin**	**5.23**	**7**	*e*P	**Pn**	**23 05 51.4**	**+8.5**
LLP	**Lapu-Lapu**	**5.39**	**357**	*e*P	**Pn**	**23 05 41.5**	**-3.5**
LLP				*e*S	**Sn**	**23 06 43.5**	**-2.3**
MYLDM	**Lahad Datu**	**5.74**	**273**	⇑P	**Pn**	**23 05 48.3**	**-1.6**
GUIM	**Jordan**	**5.92**	**344**	*e*P	**Pn**	**23 05 52.3**	**0.0**
GUIM				*e*S	**Sn**	**23 06 56.5**	**-2.4**
TSM	**Tawau**	**6.39**	**265**	⇑P	**Pn**	**23 05 55.1**	**-3.7**
CUYO	**Cuyo Island**	**6.72**	**332**	*e*P	**Pn**	**23 06 03.3**	**0.0**
RCP	**Roxas**	**6.78**	**347**	⇑*e*P	**Pn**	**23 06 10.6**	**+6.4**
SDKM	**Sandakan**	**7.07**	**276**	⇓P	**Pn**	**23 06 06.3**	**-1.8**
PCI	**Palu**	**7.26**	**218**	P	**Pn**	**23 06 06.6**	**-4.2**
	0.0nm,0.0s						
KDM	**Kudat**	**7.65**	**286**	⇑P	**Pn**	**23 06 16.9**	**+0.9**
OTRP	**Odiongan**	**7.73**	**344**	*e*P	**Pn**	**23 06 09.1**	**-8.1**
ENPP	**El Nido**	**7.88**	**323**	*e*P	**Pn**	**23 06 22.8**	**+3.6**
KKM	**Kota Kinabalu**	**8.08**	**278**	⇓P	**Pn**	**23 06 20.8**	**-1.3**
KKM	**Kota Kinabalu**	**8.08**	**278**	*e*Pn	**Pn**	**23 06 20.8**	**-1.2**
KKM				*e*Sn	**Sn**	**23 07 47.9**	**-4.2**
KDI	**Kendari**	**8.95**	**191**	P	**Pn**	**23 06 33.0**	**-0.9**
	0.0nm,0.0s						
BBSI	**Bau Bau**	**10.46**	**189**	P	**Pn**	**23 06 54.0**	**-0.6**
	0.0nm,0.0s						
KAPI	**Kappang**	**10.83**	**205**	Pn	**Pn**	**23 06 57.8**	**-1.8**
	216nm,0.7s,SNR=11						
KAPI	**Kappang**	**10.83**	**205**	*e*Pn	**Pn**	**23 06 57.7**	**-1.9**
BTM	**Bintulu**	**11.27**	**262**	⇓P	**Pn**	**23 07 06.4**	**+0.7**
SBUM	**Sibu**	**12.26**	**259**	⇓P	**Pn**	**23 07 20.1**	**+0.9**
BBKI	**Banjar Baru**	**12.55**	**229**	P	**Pn**	**23 07 23.7**	**+0.5**
	0.0nm,0.0s						
STKI	**Sintang**	**13.64**	**250**	P	**Pn**	**23 07 40.3**	**+2.3**
	0.0nm,0.0s						
KSM	**Kuching**	**14.33**	**257**	*e*Pn	**Pn**	**23 07 48.4**	**+0.9**
BATI	**Baumata**	**15.02**	**182**	P	**Pn**	**23 07 57.8**	**+1.3**
	1.9nm,0.3s,baz=72,slow=20,SNR=3.4						
KMMI	**Kalianget**	**15.70**	**221**	P	**Pn**	**23 08 03.2**	**-2.1**
	0.0nm,0.0s						
SJI	**Sawahan**	**17.69**	**225**	P	**Pn**	**23 08 31.7**	**+1.5**
	172nm,0.7s						
TPI	**Tanjungpandan**	**18.25**	**246**	P	**Pn**	**23 08 36.4**	**-0.7**
	0.0nm,0.0s						
BJII	**Banjamegara**	**18.93**	**230**	P	**Pn**	**23 08 46.9**	**+1.6**
	291nm,1.6s						
KAKA	**Kakadu**	**19.30**	**155**	*e*P	**Pn**	**23 08 48.7**	**-1.0**
	25nm,0.6s						
PPBI	**Pangkal Pinang**	**19.41**	**249**	P	**Pn**	**23 08 50.1**	**-1.0**
	0.0nm,0.0s						
QIZ	**Qiongzhong**	**19.87**	**316**	*e*P	**Pn**	**23 08 55.2**	**-1.3**
	14nm,0.9s						
LEM	**Lembang**	**20.29**	**235**	P	**P**	**23 09 00.6**	**+1.5**
	0.0nm,0.0s						
MYKOM	**Kota Tinggi**	**20.60**	**262**	⇑P	**P**	**23 09 03.6**	**+1.0**
CBJI	**Citeko**	**20.70**	**237**	P	**P**	**23 09 05.7**	**+2.1**
	0.0nm,0.0s						
DBJI	**Dramaga**	**20.85**	**237**	P	**P**	**23 09 05.7**	**+0.4**
	0.0nm,0.0s						
KTGM	**Kuala Trenggan**	**21.04**	**272**	⇓P	**P**	**23 09 09.1**	**+1.8**
KGM	**Kluang**	**21.09**	**263**	⇓P	**P**	**23 09 08.8**	**+1.0**
SBJI	**Serang**	**21.15**	**239**	P	**P**	**23 09 08.6**	**+0.1**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**21.26**	**236**	P	**P**	**23 09 11.1**	**+1.5**
	0.0nm,0.0s						
KLI	**Kotabumi**	**21.67**	**244**	P	**P**	**23 09 14.2**	**+0.2**
	0.0nm,0.0s						
GUMO	**Guam**	**22.08**	**66**	P	**P**	**23 09 17.7**	**-0.7**
JOW	**Kunigami**	**22.14**	**10**	P	**P**	**23 09 19.9**	**+1.0**
	21nm,0.7s,mb4.7,baz=218,slow=6.6,SNR=12						
FRIM	**Kepong**	**22.63**	**267**	⇓P	**P**	**23 09 24.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**22.90**	**177**	*e*P	**P**	**23 09 27.4**	**+0.4**
	37nm,0.6s,mb5.0						
FITZ				*e*S	**S**	**23 13 32.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**22.90**	**177**	P	**P**	**23 09 26.6**	**-0.4**
	11nm,0.6s,mb4.5,baz=3.2,slow=10,SNR=17						
IPM	**Ipoh**	**23.16**	**270**	⇓P	**P**	**23 09 29.5**	**-0.3**
KSI	**Kapahiang**	**23.25**	**249**	P	**P**	**23 09 31.4**	**+0.6**
	0.0nm,0.0s						
KULM	**Kulim**	**23.52**	**272**	⇓P	**P**	**23 09 33.1**	**-0.2**
PPI	**Padang Panjang**	**24.42**	**258**	P	**P**	**23 09 41.3**	**-0.2**
	0.0nm,0.0s						
PSI	**Prapat**	**25.36**	**266**	P	**P**	**23 09 50.2**	**+0.1**
	80nm,0.8s,mb5.3,baz=80,slow=6.6,SNR=48						
SSE	**Sheshan**	**26.21**	**354**	*e*P	**P**	**23 09 58.0**	**+0.4**
SSE				S	**S**	**23 14 30.5**	**+4.0**
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,261nm,7.2s						
SSE				LR	LR		
	comp=N,3μm,20.5s,MS5.0						
SSE				LR	LR		
	comp=E,3μm,20.5s,MS5.0						
SSE				LR	LR		
	comp=Z,2μm,19.9s,MS4.5						
MBWA	**Marble Bar**	**26.28**	**190**	*e*P	**P**	**23 09 58.8**	**+0.5**
	comp=Z,20nm,1.1s,mb4.6						
WRAB	**Tennant Creek**	**26.60**	**158**	P	**P**	**23 10 00.0**	**-1.2**
	comp=Z,250nm,0.6s,mb5.9,SNR=10						
WRAB	**Tennant Creek**	**26.60**	**158**	*e*P	**P**	**23 10 00.7**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,26nm,0.7s,mb4.9						
WRAB	**Tennant Creek**	**26.60**	**158**	*e*P	**P**	**23 10 00.7**	**-0.5**
	comp=Z,26nm,0.7s,mb4.9						
WRA	**Warramunga Arr**	**26.61**	**158**	P	**P**	**23 10 00.4**	**-0.8**
	comp=Z,22nm,0.7s,mb4.8,baz=338,slow=9.6,SNR=39						
WB2	**Warramunga Arr**	**26.61**	**158**	*e*P	**P**	**23 10 00.7**	**-0.6**
WHN	**Wuhan**	**27.16**	**341**	⇓P	**P**	**23 10 08.3**	**+2.2**
GYA	**Guiyang**	**27.24**	**324**	⇑*i*P	**P**	**23 10 11.3**	**+4.4**
GYA				PP		23 10 58.6	
GYA				PCP	PcP	23 13 29.8	+3.7
GYA				S	**S**	**23 14 47.9**	**+5.0**
GYA				SS		23 16 04.3	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=N,1μm,17.8s,MS4.7						
GYA				LR	LR		
	comp=E,1μm,18.4s,MS4.7						
GYA				LR	LR		
	comp=Z,1μm,18.0s,MS4.5						
NJ2	**Nanjing**	**27.48**	**350**	*e*P	**P**	**23 10 12.3**	**+3.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
CMAR	**Chiang Mai Arr**	**28.15**	**301**	P	**P**	**23 10 15.9**	**+0.8**
	comp=Z,1.5nm,0.4s,mb4.0,baz=197,slow=15,SNR=4.1						
CMAR	**Chiang Mai Arr**	**28.15**	**301**	*i* P	**P**	**23 10 20.3**	**+5.1**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**28.31**	**301**	*e*P	**P**	**23 10 17.2**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
CHTO	**Chiang Mai**	**28.31**	**301**	*e*P	**P**	**23 10 17.2**	**+0.7**
	comp=Z,4.5nm,0.8s,mb4.2						
KMI	**Kunming**	**28.82**	**316**	P	**P**	**23 10 23.4**	**+2.4**
KMI				AMB	AMB		
	comp=Z,9.0nm,2.0s,mb4.2						
ASAR	**Alice Springs**	**29.91**	**162**	P	**P**	**23 10 29.4**	**-1.3**
	comp=Z,4.3nm,0.7s,mb4.3,baz=348,slow=7.4,SNR=23						
ASAR				PcP	PcP	23 13 32.9	+0.1
	comp=Z,2.3nm,0.7s,baz=2.1,slow=1.8,SNR=5.9						
CD2	**Chengdu**	**32.27**	**326**	*e*P	**P**	**23 10 52.3**	**+0.9**
CD2				PP	PP	23 12 01.9	-3.1
CD2				S	**S**	**23 16 04.5**	**+2.8**
CD2				SS	SS	23 18 00.3	-21
CD2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.5						
XAN	**Xi'an**	**32.30**	**336**	P	**P**	**23 10 52.0**	**+0.4**
XAN				AMB	AMB		
	comp=Z,25nm,0.9s,mb5.0						
XAN				AMB	AMB		
	comp=Z,615nm,10.1s						
KSRS	**Korea Array**	**32.57**	**5**	P	**P**	**23 10 52.8**	**-1.1**
	comp=Z,6.8nm,0.8s,mb4.6,baz=184,slow=10,SNR=24						
CTA	**Charters Tower**	**32.93**	**140**	*e*P	**P**	**23 10 58.8**	**+1.5**
	comp=Z,23nm,1.2s,mb5.0						
CTA	**Charters Tower**	**32.93**	**140**	P	**P**	**23 10 55.7**	**-1.6**
	comp=Z,31nm,1.1s,mb5.2,baz=322,slow=12,SNR=9.0						
CTA	**Charters Tower**	**32.93**	**140**	P	**P**	**23 10 55.7**	**-1.6**
CTAO	**Charters Tower**	**32.93**	**140**	*e*P	**P**	**23 10 57.1**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.2						
CTAO	**Charters Tower**	**32.93**	**140**	*e*P	**P**	**23 10 57.1**	**-0.2**
	comp=Z,39nm,1.1s,mb5.2						
DL2	**Dalian**	**33.93**	**356**	⇓P	**P**	**23 11 06.5**	**+0.7**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
MAJO	**Matsushiro**	**33.99**	**20**	*e*P	**P**	**23 11 05.5**	**-0.9**
MAJO				*e**PP	pP	23 11 13.3	-5.6
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
MAJO	**Matsushiro**	**33.99**	**20**	*e*P	**P**	**23 11 05.5**	**-0.9**
	comp=Z,6.2nm,0.7s,mb4.7						
MAJO				*e*pP	pP	23 11 13.2	-5.7
MAT	**Matsushiro**	**33.99**	**20**	P	**P**	**23 11 05.3**	**-1.1**
MJAR	**Matsushiro Arr**	**33.99**	**20**	P	**P**	**23 11 04.9**	**-1.5**
	comp=Z,3.5nm,0.6s,mb4.4,baz=193,slow=9.6,SNR=15						
MJAR				PcP	PcP	23 13 44.9	+1.2
	comp=Z,3.0nm,0.8s,baz=214,slow=3.5,SNR=5.1						
FORT	**Forrest**	**35.67**	**174**	*e*P	**P**	**23 11 20.9**	**+0.1**
	comp=Z,20nm,0.7s,mb5.2						
BJT	**Baijiatuau**	**35.71**	**349**	*e*P	**P**	**23 11 20.4**	**-0.7**
BJT				pmax	pmax		
	comp=Z,40nm,1.0s						
BJT	**Baijiatuau**	**35.71**	**349**	*e*P	**P**	**23 11 20.4**	**-0.7**
	comp=Z,40nm,1.0s,mb5.3						
BJI	**Beijing**	**35.73**	**349**	P	**P**	**23 11 21.0**	**-0.3**
BJI				AMB	AMB		
	comp=Z,55nm,1.2s,mb5.4						
BJI				LR	LR		
	comp=N,1μm,24.7s,MS4.9						
BJI				LR	LR		
	comp=E,2μm,22.5s,MS4.9						
BJI				LR	LR		
	comp=Z,2μm,28.6s						
LZH	**Lanzhou**	**36.27**	**331**	*e*P	**P**	**23 11 27.8**	**+1.8**
LZH				*e*S	**S**	**23 17 09.0**	**+5.6**
LZH				SS	SS	23 19 37.0	-6.3
LZH				AMB	AMB		
	comp=Z,41nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,245nm,6.4s						
LZH				LR	LR		
	comp=N,6μm,14.3s						
LZH				LR	LR		
	comp=Z,10μm,16.0s,MS5.7						
HHC	**Hu-ho-hao-te**	**37.56**	**344**	*e*P	**P**	**23 11 37.3**	**+0.4**
HHC				PP	PP	23 13 07.6	+4.3
HHC				SS	SS	23 19 56.8	-12
HHC				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.8						
HHC				LR	LR		
	comp=N,2μm,26.2s,MS5.2						
HHC				LR	LR		
	comp=E,4μm,28.5s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,27.4s,MS4.8						
NWAO	**Narrogin (SRO)**	**38.21**	**190**	*e*P	**P**	**23 11 41.6**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,14nm,1.0s						
NWAO	**Narrogin (SRO)**	**38.21**	**190**	*e*P	**P**	**23 11 41.6**	**-0.9**
	comp=Z,14nm,1.0s,mb4.6						
EIDS	**Eidsvold**	**39.80**	**140**	*e*P	**P**	**23 11 56.2**	**+0.2**
LSA	**Lhasa**	**39.82**	**312**	*e*P	**P**	**23 11 58.0**	**+2.0**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**39.82**	**312**	*e*P	**P**	**23 11 58.0**	**+1.9**
	comp=Z,5.3nm,0.6s,mb4.5						
MDJ	**Mudanjiang**	**39.83**	**6**	P	**P**	**23 11 55.6**	**-0.2**
MDJ				PP	PP	23 13 26.6	-1.5
MDJ				S	**S**	**23 17 58.8**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,185nm,5.3s						
MDJ				LR	LR		
	comp=N,2μm,22.3s						
MDJ				LR	LR		
	comp=E,4μm,32.4s						
MDJ				LR	LR		
	comp=Z,870nm,25.3s,MS4.5						
MDJ	**Mudanjiang**	**39.83**	**6**	*e*P	**P**	**23 11 56.2**	**+0.3**
	comp=Z,19nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**40.13**	**157**	*e*P	**P**	**23 11 59.2**	**+0.7**
	comp=Z,27nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**40.13**	**157**	P	**P**	**23 11 58.8**	**+0.2**
	comp=Z,35nm,0.8s,mb5.1,baz=328,slow=8.2,SNR=42						
STKA	**Stephens Creek**	**40.13**	**157**	*e*P	**P**	**23 11 59.2**	**+0.6**
	comp=Z,34nm,0.8s,mb5.1						
GTA	**Gaotai**	**40.85**	**331**	P	**P**	**23 12 05.6**	**+1.2**
GTA				PP	PP	23 13 44.3	+5.0
GTA				S	**S**	**23 18 17.1**	**+4.7**
GTA				SS	SS	23 21 15.8	+0.7
GTA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,269nm,4.8s						
GTA				LR	LR		
	comp=N,2μm,21.6s,MS5.0						
GTA				LR	LR		
	comp=E,2μm,23.4s,MS5.0						
GTA				LR	LR		
	comp=Z,2μm,22.8s,MS4.9						
PALK	**Pallekele**	**43.36**	**275**	*e*P	**P**	**23 12 24.3**	**-0.9**
HIA	**Hailar**	**44.37**	**356**	⇑*i*P	**P**	**23 12 32.7**	**-0.1**
SONM	**Songino Array**	**45.44**	**343**	P	**P**	**23 12 42.3**	**+1.0**
	comp=Z,6.9nm,0.8s,mb4.5,baz=154,slow=9.4,SNR=17						
SONM				PcP	PcP	23 14 19.7	-0.1
	comp=Z,3.4nm,0.9s,baz=151,slow=5.9,SNR=5.0						
CAN	**Canberra**	**46.28**	**152**	*e*P	**P**	**23 12 50.2**	**+2.1**
CNB	**Canberra Magne**	**46.45**	**151**	*e*P	**P**	**23 12 50.9**	**+1.5**
TOO	**Toolangi**	**46.65**	**157**	*e*P	**P**	**23 12 53.0**	**+2.0**
TLY	**Talaya**	**49.68**	**343**	*e*P	**P**	**23 13 15.5**	**+1.4**
WMQ	**Urumqi**	**50.37**	**326**	P	**P**	**23 13 21.3**	**+1.8**
WMQ				PCP	PcP	23 14 39.8	+2.2
WMQ				PP	PP	23 15 17.8	+2.4
WMQ				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0						
BOD	**Bodaibo**	**53.38**	**353**	*e*P	**P**	**23 13 41.0**	**-0.7**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
MK31	**Makanchi Array**	**55.20**	**326**	*e*P	**P**	**23 13 56.3**	**+1.2**
MKAR	**Makanchi Array**	**55.20**	**326**	P	**P**	**23 13 55.8**	**+0.7**
	comp=Z,8.4nm,0.4s,mb5.1,baz=117,slow=7.0,SNR=76						
MKAR				PcP	PcP	23 14 55.2	-0.5
	comp=Z,6.8nm,0.7s,baz=117,slow=4.4,SNR=5.6						
MKAR	**Makanchi Array**	**55.20**	**326**	P	**P**	**23 13 55.8**	**+0.7**
MKAR				PcP	PcP	23 14 55.2	-0.5
PETK	**Petropavlovsk-**	**55.32**	**24**	P	**P**	**23 13 56.0**	**+0.1**
	comp=Z,6.7nm,0.6s,mb4.8,baz=191,slow=4.7,SNR=17						
PET	**Petropavlovsk**	**55.65**	**24**	*e*P	**P**	**23 13 57.2**	**-1.0**
PET				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
YAK	**Yakutsk**	**57.14**	**3**	*e*P	**P**	**23 14 07.9**	**-0.8**
YAK				*e*		23 14 56.4	
YAK				*e*		23 16 22.9	
YAK				*e

BILL e 23 15 50.5
BILL eSS SS 23 28 56.3 +0.4
BILL pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BILL MLR MLR
comp=Z,6μm,20.0s,MS5.8
SVE Sverdlovsk 71.68 329 eP **P 23 15 44.0 +0.1**
SVE pmax pmax
comp=Z,31nm,0.9s,mb5.2
CASY Casey 71.70 186 eP **P 23 15 42.1 -1.6**
ARU Arti 72.64 328 eP **P 23 15 49.4 -0.2**
ARU e 23 18 32.9
ARU ePPP 23 20 20.3
ARU eS S 23 25 13.4 +2.4
ARU Arti 72.64 328 eP **P 23 15 49.7 +0.1**
MIR Mirnyy 74.75 192⇑ iP **P 23 16 03.0 +1.3**
MIR i S S 23 25 30.0 -4.3
MIR i SSS 23 33 40.0
MIR pmax pmax
comp=Z,100nm,1.0s,mb5.7
MIR MLR MLR
comp=Z,12μm,19.0s,MS6.2
RDF Al-Radifah 76.01 298 eP **P 23 16 08.3 -1.5**
baz=298
RDF AMb AMB 23 16 24.4
comp=Z,46nm,1.2s,mb5.3,baz=298
MIB Mutribah 76.23 299 eP **P 23 16 10.0 -1.1**
baz=299
MIB AMb AMB 23 16 25.4
comp=Z,52nm,0.9s,mb5.5,baz=299
NAY Al-Naaiem 76.29 299 eP **P 23 16 10.0 -1.5**
baz=299
NAY AMb AMB 23 16 25.6
comp=Z,26nm,1.1s,mb5.1,baz=299
RST Umm Al-Ruwaisa 76.52 299 eP **P 23 16 10.8 -1.9**
baz=299
RST AMb AMB 23 16 27.3
comp=Z,2.0nm,1.0s,mb4.0,baz=299
GNI Garni 78.84 310 eP **P 23 16 26.9 +1.5**
GNI e*PP pP 23 16 34.7 -4.6
GNI pmax pmax
comp=Z,5.0nm,0.9s
GNI Garni 78.84 310 eP **P 23 16 26.9 +1.4**
comp=Z,5.4nm,0.9s,mb4.5
GNI epP pP 23 16 34.7 -4.5
CHGN Chignik 78.91 34 eP **P 23 16 25.5 0.0**
KIV Kislovodsk 80.55 314⇑ eP **P 23 16 35.6 +1.0**
KIV e 23 16 41.5
KIV e pP 23 16 49.8 +1.3
KIV pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KIV Kislovodsk 80.55 314 eP **P 23 16 32.8 -1.9**
comp=Z,6.0nm,0.7s,mb4.6
SVW2 Sparrevohn 80.97 29 eP **P 23 16 37.4 +0.9**
TTA Tatalina 80.98 27 eP **P 23 16 36.8 +0.3**
VRHR Novokhopersk 81.58 321 eP **P 23 16 39.5 -0.4**
VRHR pmax pmax
comp=N,40nm,0.7s
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.5
VRHR pmax pmax
comp=E,30nm,0.6s
KDAK Kodiak Island 82.23 32 P **P 23 16 42.3 -0.9**
comp=E,11nm,0.6s,mb4.9,baz=252,slow=5.6,SNR=15
IMA2 Indian Mountai 82.32 24 eP **P 23 16 44.4 +0.9**
CHUM Lake Minchumin 82.73 26 eP **P 23 16 46.2 +0.6**
comp=E,101nm,1.8s,mb5.5
VRSR Storozhevoye 83.11 321 eP **P 23 16 46.8 -1.1**
VRSR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
VRSR pmax pmax
comp=N,3.0nm,1.7s
VRSR pmax pmax
comp=E,6.0nm,0.8s
KLMR Klimovskoe 83.18 331 eP **P 23 16 47.4 -0.7**
KLMR pmax pmax
comp=Z,94nm,1.5s,mb5.6
KTH Kantishna Hill 83.33 27 eP **P 23 16 49.2 +0.5**
comp=Z,2μm,0.7s
TRF Thorofare Moun 83.61 27 eP **P 23 16 50.2 -0.1**
comp=Z,2μm,0.6s
MALT Malatya 83.72 308 eP **P 23 16 51.8 +0.5**
MALT pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
MALT Malatya 83.72 308 eP **P 23 16 51.8 +0.5**
comp=Z,4.2nm,1.1s,mb4.5
SEW Seward 83.93 30 eP **P 23 16 52.5 +0.5**
MAW Mawson 84.00 200 P **P 23 16 51.5 -0.6**
comp=Z,4.6nm,0.9s,mb4.6,baz=22,slow=4.0,SNR=6.7
MOS Moscow 84.08 325 eP **P 23 16 51.1 -1.7**
MOS pmax pmax
comp=Z,45nm,1.0s,mb5.5
PMR Palmer 84.10 29 eP **P 23 16 53.1 +0.3**
PMR pmax pmax
comp=Z,18nm,1.0s,mb5.2
PMR Palmer 84.10 29 eP **P 23 16 53.1 +0.3**
comp=Z,18nm,1.0s,mb5.2
MCK McKinley 84.22 27 eP **P 23 16 53.4 +0.1**
MCK pmax pmax
comp=Z,117nm,1.4s,mb5.8
MCK McKinley 84.22 27 eP **P 23 16 53.4 0.0**
comp=Z,117nm,1.4s,mb5.8
OBN Obninsk 84.69 325αeP **P 23 16 55.4 -0.5**
OBN e pP 23 17 07.0 -2.8
OBN e pP 23 17 10.9 +1.1
OBN PPP 23 22 02.0
OBN pmax pmax
comp=Z,100nm,1.8s,mb5.6
OBN Obninsk 84.69 325 eP **P 23 16 55.7 -0.2**
COLA College 84.70 25 eP **P 23 16 54.9 -0.8**
VNDA Vanda 84.90 172 P **P 23 16 55.9 -0.6**
comp=Z,1.9nm,0.9s,mb4.2,baz=314,slow=6.7,SNR=6.6
VNDA Vanda 84.90 172 eP **P 23 16 56.4 -0.1**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 84.90 172 eP **P 23 16 56.4 -0.1**
comp=Z,2.9nm,0.9s,mb4.4
APA Apatity 85.83 337⇓ iP **P 23 17 08.5 +7.2**
APA i pP 23 17 18.0 +2.7
APA pmax pmax
comp=Z,12nm,0.5s,mb5.4
JOF Joensuu 87.02 333 ep **P 23 17 06.1 -1.1**
comp=Z,4.4nm,0.6s,mb4.9
KMBO Kilima Mbogo 87.11 269 i P **P 23 17 11.3 +2.5**
KMBO pmax pmax
comp=Z,5.0nm,0.3s
DAWY Dawson 88.41 26 eP **P 23 17 14.5 +0.7**
ARCES ARCESS Array B 88.50 340 P **P 23 17 13.6 -0.6**
comp=Z,8.0nm,0.8s,mb5.1,baz=60,slow=7.4,SNR=8.6
SPITS Spitsbergen Ar 88.86 349 P **P 23 17 15.4 -0.3**
comp=Z,18nm,0.8s,mb5.4,baz=356,slow=16,SNR=5.5
KAF Kangasniemi 89.42 332 ep **P 23 17 17.2 -1.5**
comp=Z,3.3nm,0.8s,mb4.7
KAF Kangasniemi 89.42 332 eP **P 23 17 17.2 -1.5**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
AKASG Malin Array Be 89.43 321 P **P 23 17 17.7 -1.2**
comp=Z,3.6nm,0.7s,mb4.8,baz=69,slow=4.6,SNR=11
HYT Haines Junctio 89.77 29 eP **P 23 17 22.1 +1.8**
VRI Vrincioaia 91.75 316⇓ iP **P 23 17 29.9 0.0**
VRI Vrincioaia 91.75 316⇓ P **P 23 17 29.9 +0.1**
MLR Muntele Rosu 92.35 316⇓ iP **P 23 17 32.2 -0.5**
MLR Muntele Rosu 92.35 316⇓ P **P 23 17 32.2 -0.4**
BURAR Bucovina Array 92.49 318⇑ iP **P 23 17 33.1 -0.2**
BURAR Bucovina Array 92.49 318⇑ P **P 23 17 33.1 -0.2**
SUW Suwalki 92.55 325 eP **P 23 17 32.3 -1.1**
SUW pmax pmax
comp=Z,38nm,1.0s,mb5.8
SUW Suwalki 92.55 325 eP **P 23 17 32.3 -1.1**
comp=Z,38nm,1.0s,mb5.8
DLBC Dease Lake 94.00 31 eP **P 23 17 40.8 +0.8**
UZH Uzhgorod 94.21 319c iP **P 23 17 41.0 -0.2**
UZH i 23 17 47.2
UZH i pP 23 17 55.0 -0.2
DRGR 94.32 318⇑ iP **P 23 17 40.9 -0.8**
DRGR 94.32 318⇑ P **P 23 17 40.9 -0.8**
CRVS Cervenica-Dubn 94.69 320 i P **P 23 17 43.0 -0.4**
CRVS e 23 21 56.2
QSPA South Pole Qui 94.80 180 P **P 23 17 42.5 -0.7**
comp=Z,2.0nm,0.9s,mb4.6,baz=43,slow=0.7,SNR=3.9
KECS Kecovo 95.42 320 i P **P 23 17 46.0 -0.7**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
KECS Kecovo 95.42 320 i P **P 23 17 46.0 -0.7**
comp=Z,2.7nm,1.0s,mb4.6

OKC Ostrava-Krasne 96.56 321 ePP PP 23 22 03.9 +18
NOA NORSAR Array B 96.64 333 P **P 23 17 49.9 -2.1**
comp=Z,0.8nm,0.8s,mb4.2,baz=66,slow=4.6,SNR=3.6
DPC Dobruska-Polom 97.55 322 ePP PP 23 22 03.7 +10
UPC Upice 97.69 322 ePP PP 23 22 04.4 +9.5
TREC Trest 98.38 321 ePP PP 23 22 12.8 +13
PVCC Panska Ves 98.56 323 ePP PP 23 21 53.7 -7.9
PRU Pruhonice 98.75 322 ePP PP 23 22 03.0 0.0
BRG Berggiesshubel 98.83 323 eP **P 23 18 01.9 -0.1**
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.8
BRG Berggiesshubel 98.83 323 eP **P 23 18 01.9 -0.1**
comp=Z,5.3nm,1.0s,mb5.0
CLL Collm 99.24 324 eP **P 23 18 01.0 -2.9**
CLL e 23 22 01.0
CLL MLR MLR
comp=Z,1μm,21.7s,MS5.3
CLL Collm 99.24 324 ePP PP 23 22 01.0 -5.8
YKA Yellowknife Ar 99.44 24 P **P 23 18 02.7 -1.8**
comp=Z,1.5nm,0.8s,mb4.5,baz=297,slow=4.6,SNR=8.1
YKA Yellowknife Ar 99.44 24 P **P 23 18 02.7 -1.8**
MOA Molln 99.59 320⇓ iP PP 23 22 10.0 +0.4
comp=Z,9.6nm,1.5s
MOA Molln 99.59 320⇓ iP PP 23 22 10.0 +0.4
comp=Z,9.6nm,1.5s
KHC Kasperske Hory 99.62 321 ePP PP 23 22 01.1 -8.6
KHC ex x 23 22 18.8
GERES GERESS Array B 99.63 321 P Pdif 23 18 05.3 -0.3
comp=Z,1.2nm,0.9s,baz=58,slow=5.2,SNR=8.4
LBTB Lobatse 99.89 246 eP Pdif 23 18 07.0 +0.3
NKC Novy Kostel 99.94 323 ePP PP 23 22 12.3 +0.2
SSB Saint Sauveur 106.77 320 ePKP PKiKP 23 22 49.4 +1.8
NVAR Mina Array Bea 107.94 47 Pdiff Pdif 23 18 41.9 -0.6
comp=Z,1.2nm,0.9s,baz=263,slow=5.5,SNR=6.5
TOA0 Torodi Ar. Sit 120.21 288 PKPdf PKPdf 23 23 13.3 -0.7
TORD Torodi Ar. Bea 120.21 288 PKP PKPdf 23 23 13.3 -0.7
comp=Z,1.5nm,0.9s,baz=58,slow=2.2,SNR=5.2
TXAR Lajitas Array 122.80 50 PKP PKPdf 23 23 19.4 +0.8
comp=Z,1.9nm,0.7s,baz=220,slow=1.1,SNR=8.9
TKL Tuckaleechee C 131.83 31 PKP PKPdf 23 23 35.9 +0.2
comp=Z,6.6nm,0.8s,baz=170,slow=2.0,SNR=8.4
PLCA Paso Flores 141.93 162 PKP PKPdf 23 23 55.4 +1.3
comp=Z,2.4nm,0.7s,baz=239,slow=3.7,SNR=5.3
PLCA Paso Flores 141.93 162 PKP PKPdf 23 23 55.4 +1.2
LCO Las Campanas 152.15 151 ePKPbc PKPbc 23 24 18.9 +0.7
SDV Santo Domingo 159.80 47 ePKPdf PKPdf 23 24 21.9 -0.1
LPAZ La Paz 163.40 134 PKP PKPdf 23 24 27.3 +1.6
comp=Z,2.4nm,1.0s,baz=12,slow=5.3,SNR=6.6
LPAZ La Paz 163.40 134 PKPdf PKPdf 23 24 27.3 +1.6
SIV San Ignacio 167.80 155 PKP PKPdf 23 24 29.7 +0.4
comp=Z,2.6nm,1.0s,baz=118,slow=1.2,SNR=6.3

*ISCJB **20** 23:47:08.8±1.2, 37.17N±004×2054E±007, h9km±5km, Error ellipse: s-maj=10.2km s-min=5.3km az=144.5*
*CSEM **20** 23:47:09.2±0.4, 37.17N×2047E, h8km, ML3.2, Error ellipse: s-maj=7.6km s-min=3.6km az=61.0*
*THE **20** 23:47:10.3, 37.19N×2053E, h10km, ML3.2*
*NEIC **20** 23:47:11.4, 3722N×2062E, h15km, MD3.6(ATH), ML3.1(THE), After THE.*
*ATH **20** 23:47:15.5, 3780N×2126E, h10km, MD3.6/3*
ISC 20 23:47:09.3±1.2, 3716N±005×2051E±007, h10km±5km, n20, σ0°69/39, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.97**	**13**	ePg	**Pg**	**23 47 27.9**	**-0.1**
KFL				eSg	**Sg**	**23 47 41.5**	**+0.8**
VLS	**Valsamata**	**1.02**	**4**	ePg	**Pg**	**23 47 28.1**	**-0.7**
VLS				eSg	**Sg**	**23 47 42.8**	**+0.7**
VLS	**Valsamata**	**1.02**	**4**	ePB	**Pb**	**23 47 28.2**	**-0.8**
ITM	**Ithomi**	**1.13**	**89**	ePB	**Pb**	**23 47 31.1**	**+0.1**
VLX	**Vlachokerasia**	**1.51**	**81**	ePg	**Pg**	**23 47 36.6**	**-1.7**
VLX				eSg	**Sg**	**23 47 58.1**	**+0.4**
LKD	**Levkas**	**1.55**	**4**	ePg	**Pn**	**23 47 37.4**	**+0.4**
LKD				eSg	**Sn**	**23 47 57.2**	**0.0**
LTK	**Loutraki**	**2.13**	**65**	ePn	**Pn**	**23 47 44.9**	**-0.1**
LTK				eSn	**Sn**	**23 48 11.7**	**+0.1**
DID	**Didima**	**2.20**	**80**	ePn	**Pn**	**23 47 45.6**	**-0.3**
DID				eSn	**Sn**	**23 48 14.3**	**+1.0**
AGG	**Agios Georgios**	**2.35**	**37**	ePn	**Pn**	**23 47 48.0**	**0.0**
AGG				eSn	**Sn**	**23 48 16.4**	**-0.5**
AGG	**Agios Georgios**	**2.35**	**37**	ePn	**Pn**	**23 47 48.0**	**0.0**
AGG				S	**Sn**	**23 48 15.5**	**-1.4**
AGG				eSn	**Sn**	**23 48 16.4**	**-0.5**
AGG	**Agios Georgios**	**2.35**	**37**	P	**Pn**	**23 47 48.0**	**0.0**
AGG				S	**Sn**	**23 48 15.5**	**-1.4**
IGT	**Igoumenitsa**	**2.37**	**357**	ePn	**Pn**	**23 47 48.9**	**+0.6**
LKR	**Lokris**	**2.47**	**52**	ePn	**Pn**	**23 47 49.7**	**+0.1**
LKR				eSn	**Sn**	**23 48 20.9**	**+1.1**
LKR	**Lokris**	**2.47**	**52**	ePb	**Pn**	**23 47 45.8**	**-3.8**
LKR				P	**Pn**	**23 47 49.7**	**+0.1**
LKR				S	**Sn**	**23 48 19.8**	**0.0**
THL	**Klokotos Trika**	**2.67**	**26**	ePn	**Pn**	**23 47 53.2**	**+0.7**
THL				eSn	**Sn**	**23 48 24.0**	**-1.0**
MEV	**Metsovon**	**2.68**	**12**	ePn	**Pn**	**23 47 52.5**	**-0.1**
MEV				eSn	**Sn**	**23 48 25.4**	**+0.3**
MEV	**Metsovon**	**2.68**	**12**	ePn	**Pn**	**23 47 52.5**	**0.0**
MEV				S	**Sn**	**23 48 23.9**	**-1.2**
MEV				eSn	**Sn**	**23 48 25.4**	**+0.3**
MEV	**Metsovon**	**2.68**	**12**	P	**Pn**	**23 47 52.5**	**-0.1**
MEV				S	**Sn**	**23 48 23.9**	**-1.2**
KARN	**Karanos**	**3.27**	**122**	ePn	**Pn**	**23 48 01.6**	**+1.0**
KARN				eSn	**Sn**	**23 48 39.1**	**-0.5**
KRUS	**Krusevo**	**4.24**	**8**	i Pn	**Pn**	**23 48 14.3**	**+0.3**

*ISCJB **20** 23:54:43.8±0.3, 4831N±002×660E±002, h11km±4km, Error ellipse: s-maj=3.5km s-min=2.7km az=175.1*
*NEIC **20** 23:54:45.8, 4832N×666E, h12km, ML2.2(SZGRF), ML2.5(LDG), After LDG.*
*CSEM **20** 23:54:45.7±0.1, 4832N×666E, h10km, ML2.5/13, Error ellipse: s-maj=1.4km s-min=1.1km az=21.0*
*STR **20** 23:54:45.4±0.3, 4834N×670E, h10km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **20** 23:54:45.8±0.1, 4832N×666E, h12km, Md2.8/4, Ml2.5/14, Error ellipse: s-maj=1.3km s-min=1.0km az=159.0*
*BGR **20** 23:54:46.5±1.5, 4836N×675E, h10km, ML2.2/4, Error ellipse: s-maj=20.0km s-min=6.7km az=34.0*
ISC 20 23:54:44.8±0.3, 4831N±002×665E±002, h18km±4km, n57, σ0°87/107, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.35**	**105**	Pg	**Pg**	**23 54 52.7**	**+0.5**
ECH				Sg	**Sg**	**23 54 57.3**	**+0.1**
HAU	**Haudompre** SNR=1.0	**0.36**	**214**	ePg	**Pg**	**23 54 53.5**	**+1.1**
HAU				eSg	**Sg**	**23 54 58.3**	**+0.8**
HAU	**Haudompre** SNR=1.0	**0.36**	**214**	ePg	**Pg**	**23 54 53.5**	**+1.1**
HAU				eSg	**Sg**	**23 54 58.3**	**+0.8**
CDF	**Champ du Feu** SNR=1.0	**0.43**	**76**	ePg	**Pg**	**23 54 53.8**	**+0.2**
CDF				eSg	**Sg**	**23 54 59.5**	**0.0**
CDF	**Champ du Feu** SNR=1.0	**0.43**	**76**	ePg	**Pg**	**23 54 53.8**	**+0.2**
CDF				eSg	**Sg**	**23 54 59.5**	**0.0**
THEF	**They Montfort**	**0.45**	**260**	Pg	**Pg**	**23 54 54.5**	**+0.6**
HINF	**Hinteralfeld** SNR=1.0	**0.51**	**164**	ePg	**Pg**	**23 54 55.9**	**+0.9**
HINF				eSg	**Sg**	**23 55 02.9**	**+1.0**
HINF	**Hinteralfeld** SNR=1.0	**0.51**	**164**	ePg	**Pg**	**23 54 55.9**	**+0.9**
HINF				eSg	**Sg**	**23 55 02.9**	**+1.0**
MOF	**Molkenrain**	**0.56**	**145**	Pg	**Pg**	**23 54 57.1**	**+1.2**
RFYF	**Reffroy** baz=112	**0.84**	**293**	eP	**Pb**	**23 55 03.0**	**+2.1**
RFYF				eSn	**Sn**	**23 55 13.4**	**-0.3**
RFYF	**Reffroy** baz=112	**0.84**	**293**	eP	**Pb**	**23 55 03.0**	**+2.1**
RFYF				eSn	**Sn**	**23 55 13.4**	**-0.3**
RFYF	**Reffroy**	**0.84**	**293**	ePg	**Pg**	**23 55 01.8**	**+0.5**
RFYF				eP		23 55 03.0	
RFYF				eSn	**Sn**	**23 55 13.4**	**-0.3**
LOMF	**Lomont**	**0.97**	**173**	Pg	**Pg**	**23 55 04.7**	**+1.2**
LOMF				Sg	**Sg**	**23 55 17.5**	**+1.3**
FELD	**Feldberg im Sc**	**1.01**	**115**	Pg	**Pg**	**23 55 04.3**	**0.0**
FELD				Sg	**Sg**	**23 55 18.0**	**+0.5**
LANF	**Langenberg**	**1.02**	**48**	Pg	**Pg**	**23 55 03.8**	**-0.7**
MEZF	**Maizieres J'vi** baz=101,SNR=1.0	**1.08**	**281**	ePg	**Pg**	**23 55 06.6**	**+0.9**
MEZF				eSg	**Sg**	**23 55 20.4**	**+0.5**
MEZF	**Maizieres J'vi** 15nm,0.3s,SNR=1.0 baz=101,SNR=1.0	**1.08**	**281**	ePg	**Pg**	**23 55 06.6**	**+0.9**
MEZF				eSg	**Sg**	**23 55 20.4**	**+0.5**
MEZF	**Maizieres J'vi** 7.7nm,0.3s,SNR=1.0	**1.08**	**281**	ePn	**Pn**	**23 55 05.9**	**+0.9**
MEZF				ePg	**Pg**	**23 55 06.6**	**+0.9**
MEZF				eSg	**Sg**	**23 55 20.4**	**+0.5**
SFTF	**Sexfontaines** baz=80	**1.08**	**265**	ePg	**Pg**	**23 55 06.7**	**+1.0**
SFTF				eSg	**Sg**	**23 55 20.6**	**+0.7**
SFTF	**Sexfontaines** 18nm,0.2s baz=80	**1.08**	**265**	ePg	**Pg**	**23 55 06.7**	**+1.0**
SFTF				eSg	**Sg**	**23 55 20.6**	**+0.7**
SFTF	**Sexfontaines** 9.1nm,0.2s	**1.08**	**265**	ePn	**Pn**	**23 55 05.8**	**+0.8**
SFTF				ePg	**Pg**	**23 55 06.7**	**+1.0**
SFTF				eSg	**Sg**	**23 55 20.6**	**+0.7**
BFO	**Black Forest**	**1.12**	**88**	ePg	**Pg**	**23 55 05.4**	**-1.1**
BFO				eSg	**Sg**	**23 55 19.5**	**-1.7**
BFO	**Black Forest**	**1.12**	**88**	ePg	**Pg**	**23 55 05.4**	**-1.1**
BFO				eSg	**Sg**	**23 55 19.5**	**-1.7**
WLF	**Walferdange**	**1.40**	**347**	eSg	**Sg**	**23 55 29.8**	**-0.1**
CABF	**La Chapelle**	**1.74**	**193**	ePg	**Pg**	**23 55 19.0**	**+0.8**
CABF				eSg	**Sg**	**23 55 40.7**	**-0.2**
CABF	**La Chapelle** 15nm,0.6s,SNR=1.0	**1.74**	**193**	ePg	**Pg**	**23 55 19.0**	**+0.8**
CABF				eSg	**Sg**	**23 55 40.7**	**-0.2**
CABF	**La Chapelle** 7.3nm,0.6s,SNR=1.0	**1.74**	**193**	ePn	**Pn**	**23 55 15.0**	**+0.9**
CABF				ePg	**Pg**	**23 55 19.0**	**+0.8**
CABF				eSg	**Sg**	**23 55 40.7**	**-0.2**
STU	**Stuttgart**	**1.75**	**74**	eSg	**Sg**	**23 55 40.9**	**-0.4**
LOR	**Lormes** baz=68,SNR=1.0	**2.15**	**242**	ePn	**Pn**	**23 55 19.9**	**+0.2**
LOR	**Lormes** baz=68,SNR=1.0	**2.15**	**242**	ePg	**Pg**	**23 55 25.0**	**-1.0**
LOR				eSg	**Sg**	**23 55 53.7**	**-0.3**
LOR	**Lormes** 10nm,0.2s,baz=63 baz=68,SNR=1.0	**2.15**	**242**	ePg	**Pg**	**23 55 25.0**	**-1.0**
LOR				eSg	**Sg**	**23 55 53.7**	**-0.3**
LOR	**Lormes** 5.2nm,0.2s,baz=63	**2.15**	**242**	ePn	**Pn**	**23 55 19.9**	**+0.2**
LOR				ePg	**Pg**	**23 55 25.0**	**-1.0**
LOR				eSg	**Sg**	**23 55 53.7**	**-0.3**
GIVF	**Givet**	**2.16**	**327**	ePg	**Pg**	**23 55 25.7**	**-0.5**
BAIF	**Baives**	**2.37**	**318**	ePg	**Pg**	**23 55 29.5**	**-0.8**
SSF	**Saint Saulge**	**2.46**	**241**	ePg	**Pg**	**23 55 32.4**	**+0.4**
SSF				eSg	**Sg**	**23 56 03.5**	**-0.5**
SSF	**Saint Saulge** 3.8nm,0.2s,SNR=1.0	**2.46**	**241**	ePg	**Pg**	**23 55 32.4**	**+0.4**
SSF				eSg	**Sg**	**23 56 03.5**	**-0.5**
SSF	**Saint Saulge** 1.9nm,0.2s,SNR=1.0	**2.46**	**241**	ePn	**Pn**	**23 55 24.3**	**+0.3**
SSF				ePg	**Pg**	**23 55 32.4**	**+0.4**
SSF				eSg	**Sg**	**23 56 03.5**	**-0.5**
SMF	**Signal de Mont**	**2.53**	**230**	ePg	**Pg**	**23 55 33.7**	**+0.4**
SMF				eSg	**Sg**	**23 56 05.3**	**-0.8**
SMF	**Signal de Mont** 4.0nm,0.2s,SNR=1.0	**2.53**	**230**	ePg	**Pg**	**23 55 33.7**	**+0.4**
SMF				eSg	**Sg**	**23 56 05.3**	**-0.8**
SMF	**Signal de Mont** 2.0nm,0.2s,SNR=1.0	**2.53**	**230**	ePn	**Pn**	**23 55 24.9**	**0.0**
SMF				ePg	**Pg**	**23 55 33.7**	**+0.4**
SMF				eSg	**Sg**	**23 56 05.3**	**-0.8**
AVF	**Avril sur Loir**	**2.70**	**237**	ePg	**Pg**	**23 55 35.5**	**-1.0**
AVF				eSg	**Sg**	**23 56 10.7**	**-0.8**
AVF	**Avril sur Loir** 1.9nm,0.2s,SNR=1.0	**2.70**	**237**	ePg	**Pg**	**23 55 35.5**	**-1.0**
AVF				eSg	**Sg**	**23 56 10.7**	**-0.8**
AVF	**Avril sur Loir** 0.9nm,0.2s,SNR=1.0	**2.70**	**237**	ePn	**Pn**	**23 55 27.4**	**+0.1**
AVF				ePg	**Pg**	**23 55 35.5**	**-1.0**
AVF				eSg	**Sg**	**23 56 10.7**	**-0.8**
LPL	**La Plagne** 0.9nm,0.3s	**2.79**	**179**	eSg	**Sg**	**23 56 14.1**	**-0.4**
LPL	**La Plagne** 0.4nm,0.3s	**2.79**	**179**	eSg	**Sg**	**23 56 14.1**	**-0.4**
HYF	**Humbligny**	**2.90**	**250**	eSg	**Sg**	**23 56 16.9**	**-0.9**
BGF	**Bois d'Agland** SNR=1.0	**3.12**	**237**	ePg	**Pg**	**23 55 43.6**	**-0.9**
BGF				eSg	**Sg**	**23 56 23.8**	**-1.2**
BGF	**Bois d'Agland** 8.5nm,0.3s,SNR=1.0 SNR=1.0	**3.12**	**237**	ePg	**Pg**	**23 55 43.6**	**-0.9**
BGF				eSg	**Sg**	**23 56 23.8**	**-1.2**
BGF	**Bois d'Agland** 4.2nm,0.3s,SNR=1.0	**3.12**	**237**	ePn	**Pn**	**23 55 33.0**	**0.0**
BGF				ePg	**Pg**	**23 55 43.6**	**-0.9**
BGF				eSg	**Sg**	**23 56 23.8**	**-1.2**
GRA1	**Grafenberg Arr**	**3.31**	**64**	Sg	**Sg**	**23 56 28.0**	**-3.1**
GRF	**Grafenberg Arr**	**3.31**	**64**	eSg	**Sg**	**23 56 28.0**	**-3.1**
ORIF	**Oris-en-Rattie** 0.8nm,0.3s	**3.43**	**189**	eSg	**Sg**	**23 56 33.3**	**-1.7**
ORIF	**Oris-en-Rattie** 0.4nm,0.3s	**3.43**	**189**	eSg	**Sg**	**23 56 33.3**	**-1.7**
TCF	**Toulx Ste Croi** SNR=1.0	**3.63**	**238**	ePn	**Pn**	**23 55 39.9**	**-0.2**
TCF				eSg	**Sg**	**23 56 40.4**	**-1.1**
TCF	**Toulx Ste Croi** 2.3nm,0.3s,SNR=1.0	**3.63**	**238**	ePn	**Pn**	**23 55 39.9**	**-0.2**
TCF				eSg	**Sg**	**23 56 40.4**	**-1.1**
VIVF	**Saint-Julien-l** 1.1nm,0.3s,SNR=1.0	**3.71**	**202**	eSg	**Sg**	**23 56 42.4**	**-1.6**
VIVF	**Saint-Julien-l** 3.4nm,0.6s,SNR=1.0 1.7nm,0.6s,SNR=1.0	**3.71**	**202**	eSg	**Sg**	**23 56 42.4**	**-1.6**

IDC 20 23:55:59.8±3.8, 399S×15080E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.4/16, mbtmp3.5/2, Error ellipse: s-maj=161.4km s-min=44.8km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.8nm,0.5s,baz=51,slow=10,SNR=2.8	**22.56**	**224**	P	P	00 01 01.2	-0.5
ASAR	**Alice Springs** 0.7nm,0.6s,baz=49,slow=9.4,SNR=8.0	**25.47**	**218**	P	P	00 01 30.4	+0.6
TORD	**Torodi Ar. Bea** 1.2nm,0.6s,baz=84,slow=2.1,SNR=21	**148.16**	**289**	PKPbc	PKPbc	00 15 48.0	-0.7

*ATH **20** 23:57:11.8, 3596N×2705E, h10km, MD3.4/3*
*ISCJB **20** 23:57:13.9±1.8, 356N±02×275E±02, h33km, Error ellipse: s-maj=30.7km s-min=11.5km az=146.3*
*CSEM **20** 23:57:14.7±0.1, 3571N×2735E, h20km, MD3.4, Error ellipse: s-maj=8.4km s-min=3.6km az=144.0*
ISC 20 23:57:14.0±1.7, 356N±02×275E±02, h21km±15km, n9, σ0°76/9, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.26**	**253**	ePB	**Pb**	**23 57 20.1**	**0.0**
ARG	**Arkhangelos**	**0.80**	**42**	ePB	**Pb**	**23 57 29.2**	**0.0**
ZKR	**Zakros**	**1.14**	**244**	eP	**Pn**	**23 57 34.9**	**+0.2**
NPS	**Neapolis**	**1.55**	**257**	ePB	**Pb**	**23 57 37.1**	**-5.0**
LAST	**Lasithi**	**1.69**	**255**	eP	**Pn**	**23 57 43.0**	**+0.7**
THR6	**Thira Island,**	**1.83**	**294**	eP	**Pn**	**23 57 45.2**	**+1.0**
THR3	**Thira Island,**	**1.84**	**296**	eP	**Pn**	**23 57 44.1**	**-0.4**
SIVA	**Sivas**	**2.25**	**255**	eP	**Pn**	**23 57 55.4**	**+5.3**
KARN	**Karanos**	**2.90**	**267**	eP	**Pn**	**23 57 57.4**	**-1.6**

*IDC **20** 23:58:29.9±1.2, 585N×12402E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=38.8km s-min=20.5km az=76.0*
*ISCJB **20** 23:58:36.1±1.4, 602N±0.10×12426E±008, h66km±16km,*

mb3.5/5, Error ellipse: s-maj=17.5km s-min=11.8km az=28.9

ISC 20 23:58:36.9±1.4, 60N±01×12426E±008, h54km±17km, n10, σ0°78/13, mb3.5/5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.29**	**40**	⇑*eP*	**Pn**	**23 58 58.7**	**+0.1**
KCP				*i* S	**Sn**	**23 59 14.9**	**0.0**
DAV	**Davao City (W)**	**1.68**	**51**	Pn	**Pn**	**23 59 04.8**	**+0.9**
	133nm,0.3s,baz=216,slow=4.7,SNR=16						
BUKP	**Musuan**	**2.02**	**23**	*eP*	**Pn**	**23 59 08.6**	**0.0**
BUKP				*eS*	**Sn**	**23 59 32.2**	**-0.5**
PAGZ	**Pagadian**	**2.02**	**335**	*eP*	**Pn**	**23 59 08.4**	**-0.2**
PAGZ				*eS*	**Sn**	**23 59 32.0**	**-0.8**
IPIL	**Ipil**	**2.44**	**317**	*eP*	**Pn**	**23 59 15.0**	**+0.8**
WRA	**Warramunga Arr**	**27.63**	**159**	P	**P**	**00 04 17.0**	**-2.6**
	0.7nm,0.5s,mb3.5,baz=343,slow=9.8,SNR=4.7						
ASAR	**Alice Springs**	**30.96**	**163**	P	**P**	**00 04 49.0**	**-0.1**
	0.2nm,0.5s,mb3.2,baz=341,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**41.14**	**157**	P	**P**	**00 06 16.6**	**+0.6**
	1.7nm,0.8s,mb3.7,baz=349,slow=9.8,SNR=3.5						
SONM	**Songino Array**	**44.39**	**343**	P	**P**	**00 06 42.9**	**+0.8**
	0.2nm,0.4s,mb3.2,baz=163,slow=4.2,SNR=3.9						
MKAR	**Makanchi Array**	**54.29**	**326**	P	**P**	**00 07 57.7**	**+0.1**
	0.4nm,0.5s,mb3.6,baz=129,slow=6.7,SNR=5.2						

IDC 20 23:59:59.1±54.0, 1608S×17610W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/17, mbtmp4.4/3, Error ellipse: s-maj=1007.0km s-min=167.2km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.45**	**240**	P	P	00 07 47.7	0.0
	2.8nm,0.5s,baz=90,slow=12,SNR=8.5						
WRA	**Warramunga Arr**	**47.16**	**258**	P	P	00 08 33.6	-0.1
	1.5nm,0.6s,baz=93,slow=7.1,SNR=7.0						
ASAR	**Alice Springs**	**47.43**	**252**	P	P	00 08 35.6	-0.1
	7.9nm,0.6s,baz=88,slow=8.6,SNR=47						

IDC 21 00:02:52.4±2.2, 483S×13044E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, ML3.6/3, Error ellipse: s-maj=63.9km s-min=30.7km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**8.58**	**231**	Pn	Pn	00 04 57.6	-0.4
	4.5nm,0.3s,baz=83,slow=17,SNR=3.2						
WRA	**Warramunga Arr**	**15.49**	**166**	Pn	Pn	00 06 31.3	-1.1
	0.1nm,0.3s,baz=353,slow=13,SNR=3.2						
ASAR	**Alice Springs**	**19.02**	**170**	P	Pn	00 07 16.7	+0.1
	0.2nm,0.3s,baz=345,slow=11,SNR=8.1						
MKAR	**Makanchi Array**	**66.67**	**326**	P	P	00 13 45.2	+0.1
	0.2nm,0.5s,baz=108,slow=7.9,SNR=4.1						

MDD 21 00:05:31.0±1.1, 2796N×1519W, h32km±11km, mb3.9/3, mbLg1.9/3, 1D, Error ellipse: s-maj=21.1km s-min=3.3km az=171.0, PRIMO TT-MODEL: CANARY, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOSO	**Osorio**	**0.34**	**289**	⇓P	Pb	00 05 38.3	-0.8
	27nm,0.1s,SNR=18						
EOSO				S	Sb	00 05 43.6	-1.0
	13nm,0.1s,SNR=6.8						
CFTV	**Fuerteventura**	**1.08**	**65**	P	Pn	00 05 48.2	-1.6
	0.8nm,0.1s,SNR=7.9						
CFTV				S	Sn	00 06 00.3	-3.3
	2.6nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**1.27**	**282**	S	Sn	00 06 05.7	-2.8
	0.4nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**1.30**	**58**	P	Pn	00 05 50.9	-2.0
	2.7nm,0.1s,SNR=7.9						
CFUE				S	Sn	00 06 06.4	-2.8
	9.2nm,0.1s,SNR=7.9						

ISK 21 00:06:30.6, 3668N×2913E, h24km, MD2.8
CSEM 21 00:06:30.7±0.2, 3660N×2913E, h20km, MD2.8, Error ellipse: s-maj=8.0km s-min=3.7km az=18.0
ISCJB 21 00:06:31.9±0.6, 3659N±006×2909E±005, h28km±6km, Error ellipse: s-maj=10.1km s-min=5.5km az=23.7
DDA 21 00:06:31.2, 3661N×2902E, h7km±1km, Md3.0

ISC 21 00:06:32.0±0.7, 3659N±006×2909E±005, h23km±7km, n11, σ1°06/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.40**	**296**	*e*PG	**Pb**	**00 06 39.6**	**-1.0**
DALT				*e*SG	**Sb**	**00 06 46.3**	**-0.1**
TURN	**Turunc**	**0.48**	**306**	*i* P	**Pb**	**00 06 44.5**	**+2.7**
TURN				*i* S	**Sb**	**00 06 54.4**	**+5.9**
AKAS	**Kas**	**0.55**	**130**	*i* P	**Pb**	**00 06 42.9**	**-0.1**
AKAS				*i* S	**Sb**	**00 06 52.0**	**+1.5**
ELL	**Elmali**	**0.68**	**76**	*e*PG	**Pb**	**00 06 43.9**	**-1.3**
GOLH	**Golhisar**	**0.75**	**30**	*i* P	**Pb**	**00 06 46.2**	**-0.2**
GOLH				*i* S	**Sb**	**00 06 57.1**	**+0.9**
YER	**Yerkesik**	**0.84**	**310**	*e*PG	**Pb**	**00 06 46.6**	**-1.4**
YER				*e*SG	**Sb**	**00 06 59.2**	**+0.3**
MLSB	**Milas**	**1.26**	**304**	*e*PN	**Pn**	**00 06 52.3**	**-1.9**
BDRM	**Kayabasi**	**1.40**	**290**	*i* P	**Pn**	**00 06 56.6**	**+0.5**
BDRM				*i* S	**Sn**	**00 07 15.1**	**+1.2**
AYDN	**Tasoluk**	**1.44**	**318**	*i* P	**Pn**	**00 06 57.0**	**+0.3**
AYDN				*i* S	**Sn**	**00 07 15.5**	**+0.7**
BODT	**Bodrum**	**1.50**	**289**	*e*PN	**Pn**	**00 06 56.7**	**-0.8**
HDMB	**Hadim**	**2.75**	**81**	*e*PN	**Pn**	**00 07 14.2**	**-0.5**

ISK 21 00:19:09.5, 3924N×2914E, h5km, MD2.7
CSEM 21 00:19:09.7±0.1, 3922N×2912E, h8km, MD2.9, Error ellipse: s-maj=2.8km s-min=1.9km az=68.0
ISCJB 21 00:19:10.8±0.5, 3925N±003×2914E±004, h10km, Error ellipse: s-maj=4.5km s-min=3.4km az=149.0
DDA 21 00:19:10.6, 3927N×2915E, h7km±5km, Md2.9

ISC 21 00:19:10.9±0.5, 3926N±003×2915E±004, h4km±8km, n13, σ0°68/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.31**	**124**	*i* P	**Pg**	**00 19 17.4**	**+0.4**
GDZ				*i* S	**Sg**	**00 19 21.8**	**+0.8**
DEMI	**Demirci**	**0.40**	**237**	*i* P	**Pg**	**00 19 19.2**	**+0.6**
DEMI				*i* S	**Sg**	**00 19 24.8**	**+0.9**
DEMI	**Demirci**	**0.40**	**237**	*i* P	**Pg**	**00 19 19.2**	**+0.5**
DST	**Dursunbey**	**0.53**	**310**	*e*PG	**Pg**	**00 19 20.9**	**-0.1**
DST				*e*SG	**Sg**	**00 19 28.1**	**+0.1**
DURS	**Dursunbey**	**0.62**	**303**	*i* P	**Pg**	**00 19 22.9**	**0.0**
DURS				*i* S	**Sg**	**00 19 31.1**	**+0.2**
ALT	**Altintas**	**0.78**	**105**	*e*PG	**Pg**	**00 19 24.1**	**-1.7**
KULA	**Kula-Manisa**	**0.84**	**207**	*e*PG	**Pg**	**00 19 25.6**	**-1.5**
KULA				*e*SG	**Sg**	**00 19 37.4**	**-0.5**
ULDT	**Uludag**	**0.88**	**359**	*i* P	**Pg**	**00 19 28.0**	**+0.3**
ULDT				*i* S	**Sg**	**00 19 39.1**	**0.0**
KHAL	**Karahalli**	**0.93**	**163**	*i* P	**Pg**	**00 19 29.1**	**+0.3**
KHAL				*i* S	**Sg**	**00 19 41.4**	**+0.5**
BALB	**Balikesir**	**1.05**	**291**	*e*PG	**Pg**	**00 19 30.2**	**-0.9**
BALY	**Balya**	**1.27**	**292**	*i* P	**Pg**	**00 19 36.2**	**+0.8**
BALY				*i* S	**Sg**	**00 19 51.7**	**-0.3**
YLV	**Yalova**	**1.31**	**7**	*e*PN	**Pn**	**00 19 35.5**	**-0.5**
YLV				*e*SN	**Sn**	**00 19 54.8**	**+0.7**
EDC	**Edincik**	**1.47**	**318**	*e*PN	**Pn**	**00 19 38.0**	**-0.2**

ISCJB 21 00:24:12.0±0.6, 6209N±002×14788W±005, h28km±5km, mb3.4/3, Error ellipse: s-maj=3.7km s-min=3.5km az=135.2
NEIC 21 00:24:13.6, 6205N×14783W, h20km, ML3.5(AEIC), ML3.7(PMR), After AEIC.
NEIC Felt at Palmer.
IDC 21 00:24:14.2±1.4, 6142N×14677W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/22, mbtmp3.5/4, Error ellipse: s-maj=29.3km s-min=21.4km az=158.0

ISC 21 00:24:12.0±0.8, 6206N±002×14785W±005, h16km±5km, n39, σ0°84/59, mb3.4/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	**Glory Hole Cre**	**0.58**	**241**	P	**Pg**	**00 24 24.0**	**+0.5**
GHO				S	**Sg**	**00 24 33.0**	**+1.8**
KNK	**Knik Glacier**	**0.71**	**204**	P	**Pb**	**00 24 26.3**	**+0.4**
KNK				S	**Sb**	**00 24 35.9**	**+0.6**
PMR	**Palmer**	**0.77**	**233**	P	**Pb**	**00 24 26.1**	**-0.7**
PMR				S	**Sb**	**00 24 36.9**	**-0.1**
HARP	**HAARP**	**1.31**	**73**	P	**Pn**	**00 24 35.5**	**0.0**
HARP				S	**Sn**	**00 24 51.8**	**-0.8**
RC01	**Rabbit Creek A**	**1.32**	**224**	P	**Pn**	**00 24 35.3**	**-0.4**
RC01				*e*S	**Sn**	**00 24 52.5**	**-0.5**
DIV	**Divide**	**1.36**	**132**	P	**Pn**	**00 24 34.5**	**-1.7**
FIB	**Fire Island**	**1.43**	**232**	P	**Pn**	**00 24 37.6**	**+0.5**
SKT	**Skwentna**	**1.74**	**269**	P	**Pn**	**00 24 41.2**	**-0.2**
MCK	**McKinley**	**1.76**	**344**	P	**Pn**	**00 24 41.7**	**+0.1**
TRF	**Thorofare Moun**	**1.80**	**322**	P	**Pn**	**00 24 41.9**	**-0.3**
TRF				Sn	**Sn**	**00 25 06.3**	**+1.7**
EYAK	**Cordova Ski Ar**	**1.82**	**145**	P	**Pn**	**00 24 42.5**	**0.0**
EYAK				*e*Sn	**Sn**	**00 25 06.2**	**+1.1**
BMRM	**Bremner River**	**1.90**	**124**	P	**Pn**	**00 24 43.2**	**-0.4**
BMRM				*e*Sn	**Sn**	**00 25 07.8**	**+0.6**
SLKM	**Skilak Lake**	**1.93**	**217**	P	**Pn**	**00 24 44.0**	**0.0**
SLKM				*e*Sn	**Sn**	**00 25 07.9**	**+0.1**
KTH	**Kantishna Hill**	**2.06**	**318**	P	**Pn**	**00 24 45.7**	**-0.2**
KTH				*e*Sn	**Sn**	**00 25 11.7**	**+0.5**
SEW	**Seward**	**2.11**	**202**	P	**Pn**	**00 24 46.3**	**-0.2**
SEW				*e*Sn	**Sn**	**00 25 13.9**	**+1.7**
MENT	**Mentasta**	**2.11**	**63**	P	**Pn**	**00 24 46.6**	**+0.1**
PPLA	**Purkeypile**	**2.19**	**295**	P	**Pn**	**00 24 47.8**	**+0.2**
RAGM	**Ragged Mountai**	**2.27**	**136**	P	**Pn**	**00 24 48.8**	**+0.1**
RAGM				*e*Sn	**Sn**	**00 25 16.7**	**+0.4**
BPAW	**Bear Paw Mtn.**	**2.50**	**327**	P	**Pn**	**00 24 51.1**	**-0.8**
CHUM	**Lake Minchumin**	**2.74**	**314**	*e*Pn	**Pn**	**00 24 55.1**	**-0.1**
CHUM				*e*Sn	**Sn**	**00 25 27.3**	**-0.6**
IL1	**Eielson Array**	**2.76**	**9**	P	**Pn**	**00 24 55.7**	**+0.2**
COLA	**College**	**2.83**	**360**	P	**Pn**	**00 24 56.1**	**-0.2**
BCA3	**Beaver Creek A**	**2.98**	**67**	P	**Pn**	**00 24 58.5**	**0.0**
SVW2	**Sparrevohn**	**3.82**	**259**	*e*P	**Pn**	**00 25 09.0**	**-1.0**
SVW2				*e*Sn	**Sn**	**00 25 55.2**	**+0.8**
TT01	**Tatalina**	**3.89**	**286**	P	**Pn**	**00 25 10.0**	**-0.9**
TTA	**Tatalina**	**3.89**	**287**	*e*P	**Pn**	**00 25 10.0**	**-0.9**
TTA				*e*Sn	**Sn**	**00 25 56.1**	**0.0**
EGAK	**Eagle**	**4.06**	**45**	*e*Pn	**Pn**	**00 25 13.4**	**+0.1**
EGAK				*e*Sn	**Sn**	**00 26 01.7**	**+1.3**
DAWY	**Dawson**	**4.34**	**59**	P	**Pn**	**00 25 17.4**	**+0.2**
DAWY				*e*Sn	**Sn**	**00 26 10.2**	**+2.9**
IM3	**Indian Mountai**	**4.72**	**329**	P	**Pn**	**00 25 22.0**	**-0.3**
IMA2	**Indian Mountai**	**4.78**	**330**	*e*P	**Pn**	**00 25 22.9**	**-0.2**
IMA2				*e*Sn	**Sn**	**00 26 16.7**	**-1.3**
KDAK	**Kodiak Island**	**4.90**	**211**	Pn	**Pn**	**00 25 23.1**	**-1.8**
	0.6nm,0.3s,baz=54,slow=11,SNR=10						
KDAK				Sn	**Sn**	**00 26 15.3**	**-5.8**
	6.8nm,0.3s,baz=166,slow=21,SNR=17						
KDAK	**Kodiak Island**	**4.90**	**211**	P	**Pn**	**00 25 24.4**	**-0.4**
COLD	**Coldfoot**	**5.29**	**350**	P	**Pn**	**00 25 30.3**	**+0.1**
COLD				*e*Sn	**Sn**	**00 26 31.8**	**+1.1**
BM3	**Burnt Mountain**	**5.56**	**13**	P	**Pn**	**00 25 34.1**	**+0.2**
OHAK	**Old Harbor**	**5.58**	**212**	Pn	**Pn**	**00 25 32.3**	**-1.8**
TNA	**Tin City**	**9.53**	**300**	*e*Pn	**Pn**	**00 26 29.6**	**+1.3**
PDAR	**Pinedale Array**	**29.65**	**113**	P	**P**	**00 30 14.8**	**-1.5**
	0.6nm,1.0s,mb3.3,baz=330,slow=5.6,SNR=4.0						
TXAR	**Lajitas Array**	**43.54**	**118**	P	**P**	**00 32 13.4**	**-1.1**
	0.4nm,0.6s,mb3.3,baz=324,slow=6.2,SNR=4.6						
SONM	**Songino Array**	**55.55**	**308**	P	**P**	**00 33 56.6**	**+11**
	0.2nm,0.3s,mb3.6,baz=17,slow=7.5,SNR=3.3						

NEIC 21 00:35:25.0, 2965S×6773W, h10km, mb4.0/1, MD3.5(SJA), After SJA., La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**2.67**	**283**	*e*Pn	Pn	00 36 11.3	+3.2
LCO				*e*Sn	Sn	00 36 40.7	+0.2
LVC	**Limon Verde**	**7.09**	**351**	Pn	Pn	00 37 09.0	+0.2
LVC				Sn	Sn	00 38 37.2	+7.8
TRQA	**Tornquist**	**9.65**	**152**	*e*Pn	Pn	00 37 44.0	+0.1
TRQA				*e*Sn	Sn	00 39 32.8	+0.4
LPAZ	**La Paz**	**13.30**	**358**	Pn	Pn	00 38 35.1	+1.1
NNA	**Nana**	**19.51**	**332**	P	Pn	00 39 52.6	-1.2
EFI	**East Falkland**	**23.15**	**165**	*e*P	P	00 40 32.8	+1.4
OTAV	**Otavalo**	**31.43**	**339**	*e*P	P	00 41 45.9	-0.7
	1.0nm,0.4s						

ISCJB 21 00:51:05.7±1.3, 820S±006×12882E±005, h133km±13km, mb3.8/3, Error ellipse: s-maj=11.1km s-min=7.4km az=37.9
IDC 21 00:51:07.4±5.7, 826S×12877E, h129km±58km, mb3.6/1, mb1 3.8/5, mb1mx3.5/17, mbtmp3.7/5, Error ellipse: s-maj=53.7km s-min=26.3km az=33.0
NEIC 21 00:51:07.7±1.9, 823S×12883E, h138km±19km, mb4.0/6, Error ellipse: s-maj=15.3km s-min=13.4km az=181.0

ISC 21 00:51:07.5±1.4, 829S±007×12880E±006, h133km±14km, n21, σ0°97/30, mb3.8/3, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.41**	**249**	P	**Pn**	**00 52 25.1**	**-1.1**
	21nm,0.3s,baz=109,slow=2.1,SNR=15						
BATI				S	**Sn**	**00 53 28.1**	**+0.5**
	20nm,0.3s,baz=4.8,slow=0.8,SNR=8.8						
KAKA	**Kakadu**	**5.67**	**141**	*e*P	**Pn**	**00 52 31.4**	**+1.8**
	46nm,0.5s						
KAKA				*e*S	**Sn**	**00 53 38.7**	**+5.1**
FITZ	**Fitzroy Crossi**	**10.22**	**197**	*e*P	**Pn**	**00 53 31.3**	**+0.5**
	4.2nm,0.6s						
FITZ				*e*S	**Sn**	**00 55 24.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**10.22**	**197**	P	**Pn**	**00 53 31.4**	**+0.6**
	1.0nm,0.3s,baz=21,slow=14,SNR=20						
FITZ				S	**Sn**	**00 55 23.8**	**+0.1**
	1.1nm,0.3s,baz=28,slow=9.7,SNR=5.2						
WRAB	**Tennant Creek**	**12.76**	**156**	*e*Pn	**Pn**	**00 54 04.6**	**+0.4**
WRAB				*e*Sn	**Sn**	**00 56 23.7**	**-1.3**
WRA	**Warramunga Arr**	**12.76**	**156**	P	**Pn**	**00 54 04.3**	**0.0**
	1.0nm,0.3s,baz=335,slow=12,SNR=11						
WRA				S	**Sn**	**00 56 24.5**	**-0.6**
	2.1nm,0.3s,baz=330,slow=24,SNR=12						
WB2	**Warramunga Arr**	**12.77**	**156**	*e*P	**Pn**	**00 54 03.7**	**-0.6**
WB2				*e*S	**Sn**	**00 56 24.3**	**-0.9**
MBWA	**Marble Bar**	**15.50**	**213**	*e*Pn	**Pn**	**00 54 40.1**	**+1.2**
	9.5nm,1.0s						
MBWA				*e*Sn	**Sn**	**00 57 29.4**	**-1.7**
ASAR	**Alice Springs**	**16.05**	**163**	P	**Pn**	**00 54 47.6**	**+1.9**
	0.8nm,0.3s,baz=341,slow=10,SNR=45						
ASAR				S	**S**	**00 57 48.7**	**+3.9**
	0.4nm,0.3s,baz=348,slow=24,SNR=5.9						
CTAO	**Charters Tower**	**20.56**	**127**	P	**P**	**00 55 35.1**	**-0.7**
STKA	**Stephens Creek**	**26.31**	**155**	*e*P	**P**	**00 56 31.6**	**+0.8**
	3.0nm,1.1s,mb3.8						
STKA	**Stephens Creek**	**26.31**	**155**	P	**P**	**00 56 31.4**	**+0.6**
	0.9nm,0.4s,mb3.8,baz=335,slow=10.0,SNR=4.5						
STKA	**Stephens Creek**	**26.31**	**155**	*e*P	**P**	**00 56 31.4**	**+0.6**
	1.3nm,0.5s,mb3.8						
NWAO	**Narrogin (SRO)**	**26.75**	**202**	*e*P	**P**	**00 56 35.3**	**+0.6**
COCO	**West Island**	**31.68**	**260**	P	**P**	**00 57 18.5**	**-0.1**
YSS	**Yuzh-Sakhalins**	**56.39**	**11**	P	**P**	**01 00 34.7**	**-0.1**
UCH	**Uchtor**	**70.54**	**320**	P	**P**	**01 02 06.8**	**-1.2**
KURK	**Kurchatov**	**73.00**	**329**	*e*P	**P**	**01 02 22.0**	**-0.5**
	1.3nm,0.4s,mb4.0						
BRVK	**Borovoye**	**78.59**	**328**	*e*P	**P**	**01 02 54.0**	**-0.3**
	0.6nm,0.5s,mb3.5						
MALT	**Malatya**	**95.37**	**308**	P	**P**	**01 04 16.4**	**-0.6**
BOSA	**Boshof**	**97.79**	**240**	*e*P	**P**	**01 04 29.8**	**+1.6**
	14nm,1.3s						

THE 21 01:04:33.5, 3746N×2084E, h0km, ML2.4
CSEM 21 01:04:33.7±0.3, 3746N×2082E, h1km±1km, ML2.4, Error ellipse: s-maj=6.6km s-min=2.5km az=44.0
ATH 21 01:04:34.8, 3760N×2097E, h10km, MD3.3/3

ISC 21 01:04:32.0±1.5, 3740N±007×2075E±008, h1km±6km, n13, σ0°80/23, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.71**	**3**	*e*Pg	**Pg**	**01 04 45.5**	**-0.1**
KFL				*e*Sg	**Sg**	**01 04 54.9**	**+0.1**
KFL	**Anninata**	**0.71**	**3**	*e*Pg	**Pg**	**01 04 45.5**	**-0.1**
KFL				*e*Sg	**Sg**	**01 04 54.8**	**0.0**
VLS	**Valsamata**	**0.79**	**351**	*e*Pg	**Pg**	**01 04 47.4**	**+0.4**
VLS				*e*Sg	**Sg**	**01 04 57.7**	**+0.4**
VLS	**Valsamata**	**0.79**	**351**	*e*PB	**Pg**	**01 04 47.5**	**+0.4**
RLS	**Riolos of Patr**	**0.87**	**41**	*e*PB	**Pg**	**01 04 46.5**	**-2.2**
ITM	**Ithomi**	**0.97**	**103**	*e*PB	**Pg**	**01 04 51.3**	**+0.8**
VLX	**Vlachokerasia**	**1.30**	**91**	*e*Pg	**Pn**	**01 04 55.9**	**-1.4**
VLX				*e*Sg	**Sg**	**01 05 14.3**	**+0.5**
LKD	**Levkas**	**1.31**	**357**	*e*Pg	**Pn**	**01 04 56.3**	**-1.1**
LKD				*e*Sg	**Sn**	**01 05 16.1**	**+0.6**
AGG	**Agios Georgios**	**2.04**	**37**	*e*Pb	**Pn**	**01 05 08.1**	**+0.5**
AGG				*e*Sb	**Sn**	**01 05 33.8**	**+0.1**
IGT	**Igoumenitsa**	**2.15**	**351**	*e*Pn	**Pn**	**01 05 09.7**	**+0.7**
IGT				*e*Sn	**Sb**	**01 05 38.0**	**-1.0**
LKR	**Lokris**	**2.17**	**54**	*e*Pn	**Pn**	**01 05 09.5**	**+0.2**
LKR				*e*Sn	**Sn**	**01 05 36.4**	**-0.5**
LKR	**Lokris**	**2.17**	**54**	*e*Pn	**Pn**	**01 05 09.5**	**+0.2**
LKR				*e*Sn	**Sn**	**01 05 36.3**	**-0.5**
THL	**Klokotos Trika**	**2.38**	**24**	*e*Pn	**Pn**	**01 05 12.8**	**+0.7**
THL				*e*Sn	**Sn**	**01 05 42.6**	**+0.6**

ISCJB 21 01:10:04.8±1.1, 4038N±006×257E±0.1, h29km±11km, Error ellipse: s-maj=13.9km s-min=10.0km az=175.4
ISK 21 01:10:04.4, 4037N×2580E, h27km, MD2.4
ATH 21 01:10:04.9, 4032N×2545E, h10km, MD3.0/3
CSEM 21 01:10:04.8±0.1, 4039N×2577E, h20km, MD2.4, Error ellipse: s-maj=1.9km s-min=1.5km az=79.0

ISC 21 01:10:04.7±1.1, 4038N±006×257E±01, h28km±11km, n6, σ1°03/8, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.23**	**144**	*e*PG	**Pb**	**01 10 10.7**	**-0.4**
GADA				*e*SG	**Sb**	**01 10 15.0**	**-0.4**
ENEZ	**Enez**	**0.49**	**43**	*e*PG	**Pb**	**01 10 14.5**	**-0.4**
ENEZ				*e*SG	**Sb**	**01 10 22.0**	**+0.3**
RDO	**Rodhopi**	**0.78**	**350**	*e*PB	**Pb**	**01 10 20.7**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.15**	**74**	*e*PN	**Pn**	**01 10 24.4**	**-0.7**
PRK	**Paraskevi**	**1.21**	**159**	*e*PB	**Pb**	**01 10 28.3**	**+1.3**
NVR	**Nevrokopi**	**1.71**	**305**	*e*PB	**Pb**	**01 10 34.7**	**-0.7**

ISCJB 21 01:15:50.1±0.5, 3427N±004×7352E±006, h10km, mb3.7/7, Error ellipse: s-maj=8.5km s-min=4.1km az=149.8
IDC 21 01:15:50.0±1.0, 3421N×7352E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.7/25, mbtmp3.7/10, ML3.8/2, Error ellipse: s-maj=24.8km s-min=21.0km az=53.0
NEIC 21 01:15:52.0±0.9, 3421N×7365E, h10km, Error ellipse: s-maj=16.1km s-min=13.8km az=123.0
NNC 21 01:15:55.1±3.9, 3453N×7309E, h0km, mb3.5, mpv4.0, Error ellipse: s-maj=47.5km s-min=30.4km az=120.0
NDI 21 01:15:55.3±2.7, 3404N×7336E, h10km, ML3.7

ISC 21 01:15:51.9±0.4, 3423N±004×7344E±006, h10km, n32, σ1°17/41, mb3.7/7, 4C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.59**	**194**	⇑P	**Sg**	**01 16 07.1**	**-4.0**
CEP	**Cherat**	**1.33**	**253**	P	**Pg**	**01 16 22.0**	**+4.5**
CEP				S	**Sg**	**01 16 44.0**	**+9.2**
THW	**Thamme Wali**	**2.02**	**225**	P	**Pg**	**01 16 31.1**	**+0.5**
DLH	**Dalhousie**	**2.71**	**128**	*e*P	**Pn**	**01 16 38.0**	**+2.6**
DLH				*e*S	**Sn**	**01 17 11.0**	**+2.8**
PONG	**Pong**	**3.10**	**136**	*e*S	**Sn**	**01 17 15.0**	**-3.0**
KBL	**Kabul**	**3.65**	**276**	*e*Pn	**Pn**	**01 16 53.3**	**+5.1**
SDNR	**Sundarnagar**	**4.03**	**132**	*e*P	**Pn**	**01 16 55.0**	**+1.3**
SDNR				*e*S	**Sn**	**01 17 39.6**	**-1.4**
SMLA	**Simla**	**4.41**	**134**	*i* P	**Pn**	**01 17 00.7**	**+1.8**
SMLA				*i* S	**Sn**	**01 17 50.0**	**-0.3**
SMLA				*i* S	**Sn**	**01 17 50.4**	**+0.1**
SMLA				*i* S	**Sn**	**01 17 50.7**	**+0.4**
SMLA				*ex*	x	01 17 53.6	
	comp=E,716nm,0.2s						
SMLA				*ex*	x	01 17 54.6	
	comp=N,597nm,0.3s						
KLP	**Kalpa**	**4.86**	**122**	*e*P	**Pn**	**01 17 09.6**	**+4.5**
KLP				*e*S	**Sn**	**01 18 01.0**	**-0.4**
KLP				AML	AML	01 18 30.4	
	comp=N,187nm,0.4s						
KLP				AML	AML	01 18 33.1	
	comp=E,204nm,0.6s						
KUDL	**Kundal**	**6.61**	**156**	*e*S	**Sn**	**01 18 38.6**	**-5.9**
SONA	**Sohna**	**6.73**	**151**	*e*S	**Sn**	**01 18 43.1**	**-4.4**
SONA				AML	AML	01 19 30.5	
	comp=N,19nm,0.3s						
SONA				AML	AML	01 19 30.6	
	comp=E,28nm,0.5s						
AML	**Almayashu**	**7.89**	**1**	*e*Pn	**Pn**	**01 17 47.0**	**+0.4**
	comp=E,11nm,0.6s						
EKS2	**Erkin-Say**	**8.42**	**2**	*e*Pn	**Pn**	**01 17 55.0**	**+1.1**
	comp=E,8.9nm,0.6s						
TKM2	**Tokmak 2**	**8.84**	**10**	⇑Pn	**Pn**	**01 18 01.0**	**+1.3**
	comp=E,4.5nm,0.6s						
TKM2				⇓Sn	**Sn**	**01 19 39.3**	**0.0**
	comp=E,6.7nm,0.7s						
TKM2	**Tokmak 2**	**8.84**	**10**	*e*Pn	**Pn**	**01 18 00.8**	**+1.2**
	comp=E,2.8nm,0.5

PCPH Palayan 2.33 24⇓eP Pn 01 51 10.7 -0.4
PCPH eS Sn 01 51 39.5 0.0
GQP Guinayangan 2.33 78⇓iP Pn 01 51 11.8 +0.7
GQP eS Sn 01 51 41.1 +1.6
SCZP Santa Cruz 2.34 356 eP Pn 01 51 13.1 +1.9
CUYO Cuyo Island 2.71 160 eP Pn 01 51 16.5 +0.2
BOLP Bolinao 2.94 357 eP Pn 01 51 20.4 +0.9
RCP Roxas 3.19 125⇑eP Pn 01 51 28.2 +5.4
GUIM Jordan 3.70 138 eP Pn 01 51 31.2 +1.3
DAV Davao City (W) 8.31 139 LR LR 01 56 25.5
comp=Z,868nm,20.6s,baz=271,slow=42
CMAR Chiang Mai Arr 20.94 287 P **P 01 55 19.7 +4.1**
6.5nm,0.9s,baz=96,slow=9.0,SNR=31
BATI Baumata 23.74 171 P **P 01 55 45.4 +0.3**
83nm,0.5s,mb5.4,baz=11,slow=12,SNR=7.8
CBIJ Chichi jima 24.73 53 LR LR 02 04 35.2
comp=Z,176nm,18.1s,MS3.6,baz=208,slow=34
KSRS Korea Array 24.93 15 LR LR 02 05 39.9
comp=Z,93nm,21.0s,MS3.3,baz=200,slow=36
WRAB Tennant Creek 36.00 157 eP **P 01 57 32.8 -1.0**
WRAB pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
WRAB Tennant Creek 36.00 157 eP **P 01 57 32.8 -1.0**
comp=Z,3.9nm,0.3s,mb4.8
WRA Warramunga Arr 36.00 157 P **P 01 57 32.8 -1.0**
comp=Z,12nm,0.5s,mb5.1,baz=335,slow=9.8,SNR=56
WB2 Warramunga Arr 36.01 157 eP **P 01 57 32.8 -1.1**
SONM Songino Array 36.16 344 P **P 01 57 35.1 +0.3**
comp=Z,1.8nm,0.8s,mb4.0,baz=160,slow=9.2,SNR=8.7
SONM LR LR 02 12 14.1
comp=Z,203nm,20.5s,MS3.9,baz=349,slow=36
ASAR Alice Springs 39.26 160 P **P 01 58 01.1 -0.3**
comp=Z,4.4nm,0.5s,mb4.4,baz=340,slow=7.3,SNR=78
MKAR Makanchi Array 45.90 324 P **P 01 58 56.3 +1.1**
comp=Z,0.3nm,0.3s,mb3.6,baz=127,slow=9.3,SNR=3.3
MKAR PcP PcP 02 00 31.5 -0.6
comp=Z,0.2nm,0.3s,baz=111,slow=3.6,SNR=3.6
STKA Stephens Creek 49.54 156 P **P 01 59 22.0 -1.5**
comp=Z,1.8nm,0.7s,mb4.2,baz=310,slow=7.9,SNR=3.3
KURK Kurchatov 50.09 327 eP **P 01 59 27.9 +0.4**
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
KURK Kurchatov 50.09 327 eP **P 01 59 27.9 +0.4**
comp=Z,1.8nm,0.6s,mb4.3
ARCES ARCESS Array B 79.13 339 P **P 02 02 35.3 -1.6**
comp=Z,5.5nm,1.0s,mb4.5,baz=80,slow=7.5,SNR=7.7
NOA NORSAR Array B 87.23 333 P **P 02 03 17.4 -1.4**
comp=Z,1.9nm,0.9s,mb4.3,baz=68,slow=4.9,SNR=4.2

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*NEIC **21** 02:40:23.5, 1402N×9236W, h23km, MD4.1(MEX), After MEX.*
MEX 21 02:40:23.5±1.3, 1402N×9235W, h23km±104km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.89**	**5**	*i* P	Pb	02 40 36.8	-3.5
THIG				*i* S	Sb	02 40 48.8	-2.9
CCIG	**Comitan**	**2.26**	**5**	*i* P	Pn	02 40 58.4	-1.1
CCIG				*i* S	Sn	02 41 22.9	-3.8
CCIG	**Comitan**	**2.26**	**5**	*i* P	Pn	02 40 58.4	-1.1
CCIG				*i* S	Sn	02 41 22.9	-3.8
CCIG				*i* S	Sn	02 41 26.0	-0.7
SCX	**San Cristobal**	**2.72**	**354**	*i* P	Pn	02 41 04.2	-1.6
SCX				*i* S	Sn	02 41 35.4	-2.5
SCX	**San Cristobal**	**2.72**	**354**	*i* P	Pn	02 41 02.5	-3.3
SCX				*i* S	Sn	02 41 38.1	+0.2
TGIG		**2.84**	**345**	*i* P	Pn	02 41 03.8	-3.8
TGIG				*i* S	Sn	02 41 37.8	-3.2
CMIG	**Matias Romero**	**3.91**	**322**	*i* P	Pn	02 41 20.7	-1.5
CMIG				*i* S	Sn	02 42 05.5	-1.8
VHO	**Vista Hermosa**	**5.20**	**306**	*i* S	Sn	02 42 39.2	0.0
UTMO	**Huajuapan**	**6.47**	**307**	*i* P	Pn	02 42 02.1	+4.7
PPM	**Popocatepetl**	**7.83**	**311**	*i* P	Pn	02 42 19.9	+3.7
PPM				*i* S	Sn	02 43 50.1	+6.0

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*MOS **21** 03:13:25.9±1.8, 4879N×15462E, h69km, mb4.0/2, Error ellipse: s-maj=35.7km s-min=15.6km az=64.1*
*ISCJB **21** 03:13:26.7±1.8, 489N±02×1546E±02, h72km±17km, mb3.5/8, Error ellipse: s-maj=34.9km s-min=11.5km az=140.9*
*NEIC **21** 03:13:27.0±2.6, 4868N×15437E, h66km±24km, mb4.1/1, Error ellipse: s-maj=27.5km s-min=17.7km az=152.0*
*IDC **21** 03:13:29.4±2.9, 4875N×15452E, h90km±27km, mb3.3/7, mb1 3.6/9, mb1mx3.4/24, mbtmp3.4/9, Error ellipse: s-maj=29.2km s-min=17.3km az=137.0*
ISC 21 03:13:29.0±1.6, 489N±02×1545E±02, h78km±15km, n14, σ1§20/15, mb3.5/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.05**	**30**	*e*PN	**Pn**	**03 13 57.5**	**-4.0**
SKR				*e*S	**Sn**	**03 14 24.5**	**-1.8**
SKR				pmax	pmax		
comp=Z,60nm,0.5s
SKR smax
comp=N,230nm,0.5s
SKR smax
comp=E,220nm,0.5s
SKR smax
comp=Z,80nm,0.5s
PETK Petropavlovsk- 4.66 25 P **Pn 03 14 38.1 +1.3**
comp=Z,0.5nm,0.3s,baz=176,slow=10.0,SNR=5.4
ASAJ Asahikawa 9.50 244 P **Pn 03 15 43.9 +0.9**
comp=Z,1.4nm,0.3s,baz=72,slow=14,SNR=9.8
ASAJ Asahikawa 9.50 244 PN **Pn 03 15 43.9 +1.0**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 22.39 249 P **P 03 18 20.7 -0.1**
comp=Z,0.9nm,0.6s,mb3.3,baz=54,slow=9.4,SNR=4.4
KSRS Korea Array 22.39 249 P **P 03 18 20.7 -0.1**
KSRS pmax pmax
comp=Z,1.0nm,0.6s,mb3.3
SONM Songino Array 31.55 287 P **P 03 19 43.3 -0.3**
comp=Z,0.3nm,0.3s,mb3.5,baz=82,slow=10,SNR=4.7
LON Longmire 53.45 58 eP **P 03 22 42.7 +1.9**
LON pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
LON Longmire 53.45 58 eP **P 03 22 42.7 +1.9**
comp=Z,1.1nm,0.6s,mb4.1
PDAR Pinedale Array 62.73 55 P **P 03 23 46.1 +0.5**
comp=Z,0.4nm,0.8s,mb3.4,baz=347,slow=3.7,SNR=3.5
WRA Warramunga Arr 70.87 200 P **P 03 24 34.2 -3.2**
comp=Z,0.6nm,0.6s,mb3.6,baz=11,slow=6.0,SNR=4.7
ASAR Alice Springs 74.56 200 P **P 03 24 58.0 -1.2**
comp=Z,0.6nm,1.0s,mb3.3,baz=19,slow=5.9,SNR=3.2
TXAR Lajitas Array 75.63 62 P **P 03 25 05.8 +0.2**
comp=Z,0.2nm,0.6s,mb3.0,baz=300,slow=4.5,SNR=5.6
VRAC Vranov 75.65 333 P **P 03 25 05.3 0.0**
comp=Z,1.5nm,0.5s,mb4.0,baz=0.0,slow=6.1,SNR=2.9

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*NEIC **21** 03:22:58.6±0.6, 6.17N×12777E, h10km, mb4.3/5, Error ellipse: s-maj=25.3km s-min=10.4km az=70.0*
*ISCJB **21** 03:23:03.2±2.7, 6.12N±008×1277E±02, h62km±26km, mb4.1/13, Error ellipse: s-maj=30.4km s-min=10.0km az=161.4*
*IDC **21** 03:23:06.2±3.2, 606N×12751E, h70km±30km, mb3.8/11, mb1 3.9/12, mb1mx3.8/21, mbtmp3.8/12, ML4.1/1, Error ellipse: s-maj=32.7km s-min=11.7km az=75.0*
ISC 21 03:23:04.2±2.5, 610N±008×1277E±02, h53km±24km, n22, σ0§89/23, mb4.1/13, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.28**	**295**	P	**Pn**	**03 23 39.0**	**-0.3**
DAV				S	**Sn**	**03 24 06.8**	**+0.5**
KAKA	**Kakadu**	**19.28**	**166**	*e*P	**Pn**	**03 27 25.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**24.12**	**185**	*e*P	**P**	**03 28 16.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.12**	**185**	P	**P**	**03 28 15.8**	**+0.6**
WRAB	**Tennant Creek**	**26.69**	**166**	*e*P	**P**	**03 28 38.6**	**+0.1**
WRA	**Warramunga Arr**	**26.70**	**166**	P	**P**	**03 28 38.2**	**-0.3**
WB2	**Warramunga Arr**	**26.70**	**166**	*e*P	**P**	**03 28 38.2**	**-0.4**
ASAR	**Alice Springs**	**30.20**	**169**	P	**P**	**03 29 09.8**	**+0.1**
ASAR				PcP	PcP	03 32 10.4	+0.6
KSRS	**Korea Array**	**31.21**	**0**	P	**P**	**03 29 18.6**	**0.0**
STKA	**Stephens Creek**	**40.03**	**161**	*e*P	**P**	**03 30 34.4**	**+0.2**
STKA	**Stephens Creek**	**40.03**	**161**	P	**P**	**03 30 34.2**	**0.0**
NWAO	**Narrogin (SRO)**	**40.05**	**194**	P	**P**	**03 30 35.2**	**+1.0**
SONM	**Songino Array**	**45.38**	**340**	P	**P**	**03 31 18.9**	**+1.6**
PETK	**Petropavlovsk-**	**52.91**	**22**	P	**P**	**03 32 16.7**	**+1.9**
MKAR	**Makanchi Array**	**56.17**	**324**	P	**P**	**03 32 37.7**	**-0.9**
MKAR	**Makanchi Array**	**56.17**	**324**	P	**P**	**03 32 37.7**	**-0.9**
ZALV	**Zalesovo Beam**	**58.93**	**332**	P	**P**	**03 32 56.2**	**-1.6**
KURK	**Kurchatov**	**60.27**	**326**	*e*P	**P**	**03 33 06.0**	**-1.1**
VNDA	**Vanda**	**85.64**	**173**	P	**P**	**03 35 37.0**	**+0.4**
INK	**Inuvik**	**87.64**	**22**	*e*P	**P**	**03 35 46.0**	**-0.6**
INK				*e*pP	pP	03 36 00.3	-1.5
TORD	**Torodi Ar. Bea**	**123.02**	**290**	PKP	PKPdf	03 41 54.4	-1.3

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*ISCJB **21** 03:27:43.9±1.1, 1501N±003×12037E±004, h3km±7km, mb4.2/8, MS3.4/5, Error ellipse: s-maj=6.4km s-min=4.5km az=155.7*
*MAN **21** 03:27:45, 1493N×12046E, h10km, mb4.8, ML3.7, MS3.7*
MAN INTENSITY IV - FLORIDABLANCA, PAMPANGA, SUBIC, ZAMBALES; INTENSITY III - MAKATI, PASIG, MANILA, SBMA, OLONGAPO; INTENSITY II - CLARK, CABUYAO, LAGUNA; INTENSITY I - QC.
*NEIC **21** 03:27:58.4±2.6, 1473N×12049E, h132km±26km, mb4.5/3, Error ellipse: s-maj=17.5km s-min=9.9km az=66.0*
NEIC Felt [IV PIVS] at Floridablanca and Subic; [III PIVS] at Makati, Manila, Olongapo, Pasig and San Fernando; [II PIVS] at Cabuyao and Clark Field; [I PIVS] at Quezon City. Also felt at Angeles and Malolos.
*IDC **21** 03:27:59.0±5.5, 1475N×12051E, h141km±56km, mb3.5/6, mb1 3.7/7, mb1mx3.4/21, mbtmp3.6/7, MS3.5/5, Ms1 3.6/5, ms1mx3.1/28, Error ellipse: s-maj=34.4km s-min=15.0km az=65.0*
ISC 21 03:27:45.2±0.8, 1501N±003×12039E±004, h8km±5km, n35, σ1§36/40, mb4.2/8, MS3.4/5, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QVPH	**Quezon City--P**	**0.73**	**119⇑**	*e*P	**Pg**	**03 27 58.8**	**-0.6**
QVPH				*e*S	**Sg**	**03 28 09.7**	**+0.8**
PCPH	**Palayan**	**0.88**	**51⇓**	*e*P	**Pg**	**03 28 01.7**	**-0.4**
PCPH				*e*S	**Sg**	**03 28 13.5**	**+0.1**
SCZP	**Santa Cruz**	**0.90**	**329**	*e*P	**Pg**	**03 28 03.5**	**+1.0**
TGY	**Tagaytay City**	**1.04**	**150⇑**	*e*P	**Pg**	**03 28 04.8**	**-0.4**
TGY				*i* S	**Sg**	**03 28 19.6**	**+0.9**
LUBP	**Lubang**	**1.27**	**186**	*e*P	**Pn**	**03 28 06.5**	**-2.8**
BALP	**Baler**	**1.35**	**57**	*e*P	**Pn**	**03 28 09.0**	**-1.5**
BALP				*e*S	**Sb**	**03 28 27.2**	**-1.2**
BCPH	**Baguio City Da**	**1.38**	**7⇓**	*e*P	**Pn**	**03 28 08.6**	**-2.2**
BOLP	**Bolinao**	**1.45**	**341**	*e*P	**Pn**	**03 28 12.1**	**+0.3**
POLP	**Polilio Island**	**1.52**	**100**	*e*P	**Pn**	**03 28 11.1**	**-1.7**
POLP				*e*S	**Sn**	**03 28 33.8**	**+1.0**
GQP	**Guinayangan**	**2.27**	**119⇑**	*e*P	**Pn**	**03 28 22.2**	**-0.9**
GQP				*e*S	**Sn**	**03 28 52.4**	**+1.1**
CAUP	**Cauayan**	**2.37**	**35**	*e*P	**Pn**	**03 28 25.9**	**+1.4**
SJMP	**San Jose**	**2.62**	**164**	*e*P	**Pn**	**03 28 28.1**	**+0.2**
SJMP				*e*S	**Sn**	**03 29 02.3**	**+2.2**
ABRA	**Dolores**	**2.65**	**7**	*e*P	**Pn**	**03 28 27.5**	**-0.8**
SIPP	**Brgy, Tapao**	**2.90**	**1⇓**	*i*P	**Pn**	**03 28 37.8**	**+6.0**
SIPP				*e*S	**Sn**	**03 28 49.2**	**-18**
APYP	**Conner**	**2.96**	**16**	*e*P	**Pn**	**03 28 35.1**	**+2.5**
BUSP	**Coron**	**2.99**	**184**	*e*P	**Pn**	**03 28 32.3**	**-0.7**
OTRP	**Odiongan**	**3.07**	**149**	*e*P	**Pn**	**03 28 37.9**	**+3.9**
PVCP	**Virac**	**3.91**	**111**	*e*P	**Pn**	**03 28 47.1**	**+1.5**
JOW	**Kunigami**	**13.87**	**31**	P	**Pn**	**03 31 11.8**	**+9.5**
CMAR	**Chiang Mai Arr**	**20.82**	**282**	P	**P**	**03 32 31.4**	**+4.0**
CMAR				LR	LR	03 40 57.7	
comp=Z,96nm,18.3s,MS3.2,baz=100,slow=37
KSRS Korea Array 23.34 15 LR LR 03 43 00.9
comp=Z,105nm,19.6s,MS3.3,baz=185,slow=38
GUMO Guam 23.76 90 LR LR 03 41 00.9
comp=Z,92nm,19.4s,MS3.3,baz=268,slow=33
SONM Songino Array 34.73 343 P **P 03 34 38.3 +2.5**
0.5nm,0.6s,mb3.6,baz=134,slow=8.3,SNR=2.7
WRA Warramunga Arr 37.34 158 P **P 03 34 55.6 -2.8**
1.9nm,0.6s,mb4.1,baz=338,slow=9.4,SNR=8.5
WRA Warramunga Arr 37.34 158 P **P 03 34 55.6 -2.8**
WB2 Warramunga Arr 37.34 158 eP **P 03 34 56.4 -2.0**
ASAR Alice Springs 40.64 161 P **P 03 35 23.1 -3.0**
0.9nm,0.6s,mb3.6,baz=340,slow=6.3,SNR=11
HNR Honiara 46.11 119 LR LR 03 54 09.4
comp=Z,76nm,18.7s,MS3.7,baz=176,slow=34
ZAA0 Zalesovo Array 47.77 332 eP **P 03 36 24.2 +1.3**
ZALV Zalesovo Beam 47.77 332 P **P 03 36 23.3 +0.5**
1.7nm,0.5s,mb4.3,baz=109,slow=7.8,SNR=7.7
KURK Kurchatov 48.95 326 eP **P 03 36 32.9 +0.9**
21nm,1.3s,mb5.0
BRVK Borovoye 54.61 325 eP **P 03 37 14.5 +0.3**
7.2nm,1.0s,mb4.7
BPAW Bear Paw Mtn. 76.03 27 eP **P 03 39 32.9 0.0**
2.5nm,0.8s,mb4.2
NB2 NORSAR Subarra 85.97 333 P **P 03 40 24.7 -1.3**
comp=Z,1.8nm,0.8s,mb4.3,baz=68,slow=4.4
NOA NORSAR Array B 85.97 333 P **P 03 40 24.8 -1.2**
comp=Z,0.8nm,0.6s,mb4.2,baz=68,slow=4.8,SNR=4.2
NOA LR LR 04 24 24.5
comp=Z,36nm,20.2s,MS3.8,baz=20,slow=39

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*NEIC **21** 03:27:49.6, 3955N×1572E, h266km, mb3.6/8, After ROM.*
*ROM **21** 03:27:49.6±0.2, 3955N×1572E, h266km±2km, Ml3.3/42, Error ellipse: s-maj=3.6km s-min=2.1km az=90.0*
*CSEM **21** 03:27:49.3±0.1, 3956N×1572E, h266km, mb3.6/3, ML3.6/7, Error ellipse: s-maj=1.8km s-min=1.4km az=69.0*
*ISCJB **21** 03:27:50.7±0.3, 3959N±003×1568E±004, h261km±2km, mb3.5/8, Error ellipse: s-maj=5.4km s-min=4.2km az=44.6*
*MOS **21** 03:27:50.7±1.5, 3964N×1569E, h263km, mb4.0/4, Error ellipse: s-maj=12.6km s-min=5.9km az=121.8*
*IDC **21** 03:27:52.7±0.8, 3977N×1554E, h271km±10km, mb3.3/9, mb1 3.3/16, mb1mx3.2/29, mbtmp3.2/16, Error ellipse: s-maj=14.8km s-min=11.9km az=73.0*
*THE **21** 03:27:52.6, 3960N×1581E, h216km*
*ATH **21** 03:28:32.7, 3935N×2061E, h10km, MD3.3/3*
ISC 21 03:27:51.5±0.3, 3959N±003×1569E±004, h256km±2km, n128, σ1§02/142, mb3.5/8, 17C-19D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.42**	**14⇓**	*i*Pg	**Pn**	**03 28 24.8**	**-0.1**
CUC				Sg	**S**	**03 28 50.1**	**-1.1**
173nm,0.7s
CARO Carolei 0.53 129⇓ *i*Pg **Pn 03 28 24.8 -0.5**
CARO Sg **S 03 28 50.4 -1.3**
1μm,0.7s
BULG Bulgheria - Ca 0.55 334 Pg **Pn 03 28 25.4 +0.2**
BULG Sg **S 03 28 51.7 -0.1**
SIRI Monte Sirino - 0.61 13⇓ *e*Pg **Pn 03 28 25.5 +0.1**
96nm,0.2s
SCHR S. Chirico Rap 0.68 26⇓ *e*Pg **Pn 03 28 26.2 +0.5**
SCHR Sg **S 03 28 53.0 +0.4**
91nm,0.8s
MCEL Monticello 0.74 7 Pg **Pn 03 28 26.7 +0.8**
MCEL Sg **S 03 28 53.8 +0.7**
676nm,1.2s
ORI Oriolo Calabro 0.76 51⇓ *e*Pg **Pn 03 28 26.3 +0.3**
329nm,0.4s
CMPR Campora 0.79 338⇑ *i*Pg **Pn 03 28 26.2 +0.1**
CMPR Sg **S 03 28 53.0 -0.4**
106nm,0.9s
TIP Timpagrande 0.93 116⇓ *i*Pg **Pn 03 28 27.2 +0.4**
95nm,0.3s
CDRU Civita di Ruta 0.95 342⇑ *i*Pg **Pn 03 28 27.0 +0.1**
25nm,0.8s
GRI Girifalco 0.95 143⇓ *e*Pg **Pn 03 28 27.1 +0.1**
GRI Sg **S 03 28 54.5 -0.4**
280nm,0.3s
SERS Sersale 0.95 125⇓ *i*Pg **Pn 03 28 27.3 +0.3**
SERS Sg **S 03 28 54.2 -0.7**
227nm,0.3s
CRAC Craco 0.97 36⇓ *i*Pg **Pn 03 28 27.0 0.0**
178nm,0.4s
JOPP Joppolo 0.99 171⇓ *e*Pg **Pn 03 28 26.6 -0.6**
JOPP Sg **S 03 28 53.2 -2.1**
296nm,0.3s
SGO Sicignano 1.01 344⇑ *i*Pg **Pn 03 28 27.6 +0.4**
52nm,0.3s
MRLC Muro Lucano 1.18 353 Pg **Pn 03 28 28.6 +0.4**
100nm,2.4s
SLNA Salina 1.22 213 Pg **Pn 03 28 28.9 +0.4**
94nm,0.4s
MCRV Calabrutti - M 1.26 342⇑ *i*Pg **Pn 03 28 28.9 +0.2**
213nm,0.7s
LLI Lipari 1.28 207⇓ *i*Pg **Pn 03 28 29.6 +0.7**
386nm,0.5s
PLAC Placanica 1.28 152⇓ *i*Pg **Pn 03 28 28.5 -0.4**
PLAC Sg **S 03 28 56.8 -1.6**
63nm,0.3s
VPL Vulcano Piano 1.32 205⇓ *i*Pg **Pn 03 28 29.3 +0.1**
287nm,0.4s
SCLL Scilla 1.33 179 Pg **Pn 03 28 28.1 -1.2**
22nm,0.3s
MSRU Castanea 1.33 186 Pg **Pn 03 28 28.2 -1.1**
54nm,0.4s
CEL Celeste 1.33 173 Pg **Pn 03 28 28.3 -1.0**
54nm,0.2s
MILZ Milazzo 1.36 195⇓ *i*Pg **Pn 03 28 28.9 -0.6**
MILZ Sg **S 03 28 57.8 -1.6**
123nm,0.6s
CSSN Cassano Irpino 1.37 339⇑ *i*Pg **Pn 03 28 29.7 +0.3**
17nm,0.4s
SG1 Sgolgore (BA) 1.47 31 *i* P **Pn 03 28 29.6 -0.5**
SOI Samo 1.54 169 Pg **Pn 03 28 30.0 -0.8**
79nm,0.3s
MTTG Motta San Giov 1.58 180⇓ *i*Pg **Pn 03 28 30.7 -0.4**
139nm,0.4s
MPAZ Palizzi 1.65 171⇓ *e*Pg **Pn 03 28 31.1 -0.5**
220nm,0.4s
MMME Monguiffi-Meli 1.68 192⇓ *e*Pg **Pn 03 28 31.8 -0.1**
201nm,0.8s
FG5 Orsara di Pugl 1.72 349 Pg **Pn 03 28 32.4 +0.3**
15nm,0.4s
BAI Bari 1.77 31 *i* P **Pn 03 28 31.8 -0.7**
PE1 Pezze di Greco 1.80 47 *i* P **Pn 03 28 32.5 -0.2**
PTRJ Pietraroja 1.98 334⇑ *i*Pg **Pn 03 28 34.5 +0.2**
39nm,0.5s
GIB Gibilmanna 2.06 220 Pg **Pn 03 28 35.5 +0.5**
82nm,0.6s
SGG Gregorio Mates 2.06 331⇑ *i*Pg **Pn 03 28 35.5 +0.6**
49nm,0.5s
GALF Gagliano Caste 2.07 205 Pg **Pn 03 28 37.4 +2.2**
CSLB Castelbuono 2.08 218⇑ *i*Pg **Pn 03 28 35.7 +0.4**
34nm,0.5s
RGNG Rignano Grg 2.09 358⇑ *i*Pg **Pn 03 28 34.5 -0.7**
ECNV Catenanuova 2.13 201 Pg **Pn 03 28 37.0 +1.3**
VAGA Valle Agricola 2.14 329⇑ *i*Pg **Pn 03 28 36.2 +0.6**
54nm,0.6s
SCTE Santa Cesarea 2.20 76⇓ *i*Pg **Pn 03 28 36.4 +0.1**
164nm,1.0s
MIDA Miranda 2.32 333⇑ *i*Pg **Pn 03 28 37.8 +0.4**
35nm,0.7s
VAE Valguarnera 2.33 206 P **Pn 03 28 40.0 +2.4**
2.6nm,0.3s,baz=228,slow=2.5,SNR=4.4
VAE S **S 03 29 21.1 +7.1**
1.7nm,0.3s,baz=47,slow=23,SNR=2.3
AGST Augusta-Monte 2.35 189 Pg **Pn 03 28 36.8 -1.1**
56nm,0.4s
CERA Filignano 2.38 328⇑ *i*Pg **Pn 03 28 38.3 +0.4**
67nm,0.6s
RNI2 Rionero Sannit 2.41 332⇑ *i*Pg **Pn 03 28 39.4 +1.1**
136nm,1.4s
CORL Corleone 2.51 229⇑ *i*Pg **Pn 03 28 40.2 +0.8**
HVZN Vizzini 2.52 198⇓ *i*Pg **Pn 03 28 39.8 +0.3**
121nm,0.8s
SDI San Donato 2.56 327⇑ *i*Pg **Pn 03 28 40.0 +0.3**
21nm,0.4s
POFI Posta Fibreno 2.60 325⇑ *i*Pg **Pn 03 28 40.8 +0.6**
107nm,1.9s
HMDC Modica 2.72 195 Pg **Pn 03 28 41.4 -0.1**
146nm,1.5s
VVLD Villa Vallelon 2.77 326 Pg **Pn 03 28 42.3 +0.4**
39nm,0.5s
ERC Erice 2.87 238 Pg **Pn 03 28 44.2 +1.2**
113nm,0.9s
PTQR Pietraquaria 2.99 325 Pg **Pn 03 28 44.9 +0.7**
21nm,0.4s
FAGN Fagnano 3.11 330 Pg **Pn 03 28 46.6 +1.1**
35nm,0.6s
KEK Kerkira 3.18 86 Pg **Pn 03 28 46.6 +0.3**
77nm,1.0s
KEK Kerkira 3.18 86 *e*Pb **Pn 03 28 46.5 +0.2**
KEK Kerkira 3.18 86 Pg **Pn 03 28 46.6 +0.3**
77nm,1.0s
AQU L'Aquila 3.26 329 Pg **Pn 03 28 48.3 +1.2**
52nm,0.1s
AQU L'Aquila 3.26 329 *e*Pn **Pn 03 28 48.0 +0.9**
AQU L'Aquila 3.26 329 Pg **Pn 03 28 48.3 +1.2**
52nm,0.1s
AQU L'Aquila 3.26 329 *e*Pn **Pn 03 28 48.0 +0.9**
FIAM Fiamignano 3.31 325⇑ *i*Pg **Pn 03 28 48.8 +1.1**
24nm,0.6s
IGT Igoumenitsa 3.59 89 *e*Pn **Pn 03 28 51.0 +0.1**
TIR Tirane 3.64 60 *e*Pn **Pn 03 28 51.2 -0.1**
TIR Tirane 3.64 60 *e*Pn **Pn 03 28 51.2 -0.2**
LKD Levkas 3.96 101 *e*Pn **Pn 03 28 55.6 +0.5**
LKD *e*Sn **S 03 29 44.6 -1.1**
VLS Valsamata 4.08 109 *e*Pn **Pn 03 28 56.7 +0.2**
VLS Valsamata 4.08 109 *e*Pb **Pn 03 28 55.0 -1.5**
VLS Valsamata 4.08 109 *e*Pn **Pn 03 28 56.7 +0.2**
KFL Anninata 4.25 109 *e*Pn **Pn 03 28 58.9 +0.4**
MEV Metsovon 4.28 86 *e*Pn **Pn 03 29 00.6 +1.8**
FNA Florina 4.52 73 *e*Pn **Pn 03 29 02.5 +0.8**
FNA *e*Sn **S 03 29 57.2 -0.3**
AGG Agios Georgios 5.19 94 *e*Pn **Pn 03 29 11.3 +1.6**
ITM Ithomi 5.46 114 *e*PN **Pn 03 29 14.8 +1.7**
DAVOX Davos/Dischmat 8.35 331 P **Pn 03 29 48.5 -0.5**
0.4nm,0.3s,baz=189,slow=10,SNR=5.7
MBDF Montbardon 8.38 311 *e*P **Pn 03 29 49.6 +0.2**
DAVOS Davos 8.43 331 P **Pn 03 29 48.5 -1.5**
LPG La Plagne 8.85 315 *e*P **Pn 03 29 56.5 +1.1**
LPL La Plagne 8.87 315 *e*P **Pn 03 29 56.5 +0.8**
GERES GERESS Array B 9.37 352 P **Pn 03 30 01.2 -0.6**
0.3nm,0.3s,baz=167,slow=12,SNR=11
CABF La Chapelle 9.92 318 *e*P **Pn 03 30 06.7 -2.2**
4.7nm,0.5s
CABF La Chapelle 9.92 318 *e*P **Pn 03 30 06.7 -2.2**
CABF pmax pmax
comp=Z,2.0nm,0.5s
CABF La Chapelle 9.92 318 *e*P **Pn 03 30 06.7 -2.2**
comp=Z,2.3nm,0.5s
HINF Hinteralfeld 10.41 325 *e*P **Pn 03 30 12.9 -2.1**
comp=Z,3.8nm,0.4s
HINF Hinteralfeld 10.41 325 *e*P **Pn 03 30 12.9 -2.1**
HINF pmax pmax
comp=Z,2.0nm,0.4s
HINF Hinteralfeld 10.41 325 *e*P **Pn 03 30 12.9 -2.1**
comp=Z,1.9nm,0.4s
CDF Champ du Feu 10.69 328 *e*P **Pn 03 30 17.7 -0.8**
comp=Z,3.5nm,0.4s
CDF Champ du Feu 10.69 328 *e*P **Pn 03 30 17.7 -0.8**
CDF pmax pmax
comp=Z,2.0nm,0.4s
CDF Champ du Feu 10.69 328 *e*P **Pn 03 30 17.7 -0.8**
comp=Z,1.8nm,0.4s
HAU Haudompre 10.78 324 *e*P **Pn 03 30 17.2 -2.4**
SMF Signal de Mont 11.16 313 *e*P **Pn 03 30 21.3 -3.0**
comp=Z,4.0nm,0.6s
SMF Signal de Mont 11.16 313 *e*P **Pn 03 30 21.3 -3.0**
SMF pmax pmax
comp=Z,2.0nm,0.6s
SMF Signal de Mont 11.16 313 *e*P **Pn 03 30 21.3 -3.0**
comp=Z,2.0nm,0.6s
AVF Avril sur Loir 11.52 313 *e*P **Pn 03 30 30.4 +1.6**
comp=Z,1.9nm,0.3s
AVF Avril sur Loir 11.52 313 *e*P **Pn 03 30 30.4 +1.6**
AVF pmax pmax
comp=Z,1.0nm,0.3s
AVF Avril sur Loir 11.52 313 *e*P **Pn 03 30 30.4 +1.6**

comp=Z,0.9nm,0.3s
SSF Saint Saulge 11.59 314 *e*P **Pn 03 30 31.1 +1.4**
BGF Bois d'Agland 11.68 311 *e*P **Pn 03 30 32.5 +1.6**
comp=Z,17nm,0.9s
BGF Bois d'Agland 11.68 311 *e*P **Pn 03 30 32.5 +1.6**
BGF pmax pmax
comp=Z,9.0nm,0.9s
BGF Bois d'Agland 11.68 311 *e*P **Pn 03 30 32.5 +1.6**
comp=Z,8.7nm,0.9s
TCF Toulx Ste Croi 11.92 309 *e*P **Pn 03 30 35.6 +1.8**
ETSF Etsaut 12.67 290 *e*P **Pn 03 30 43.9 +0.9**
comp=Z,11nm,0.7s
ETSF Etsaut 12.67 290 *e*P **Pn 03 30 43.9 +0.9**
ETSF pmax pmax
comp=Z,6.0nm,0.7s
ETSF Etsaut 12.67 290 *e*P **Pn 03 30 43.9 +0.9**
comp=Z,5.6nm,0.7s
LDF La Druitiere 14.47 314 *e*P **Pn 03 31 03.1 -1.8**
comp=Z,2.9nm,0.4s
LDF La Druitiere 14.47 314 *e*P **Pn 03 31 03.1 -1.8**
LDF pmax pmax
comp=Z,1.0nm,0.4s
LDF La Druitiere 14.47 314 *e*P **Pn 03 31 03.1 -1.8**
comp=Z,1.5nm,0.4s
ESDC Sonseca Array 15.14 277 P **Pn 03 31 12.0 -1.1**
comp=Z,0.5nm,0.3s,baz=75,slow=11,SNR=32
MMAI Mount Meron Ar 17.18 106 P **P 03 31 37.0 +2.2**
comp=Z,1.2nm,0.3s,baz=332,slow=12,SNR=5.0
EIL Elat 18.66 116 P **P 03 31 52.4 +1.6**
comp=Z,0.3nm,0.3s,baz=289,slow=7.7,SNR=3.5
EKA Eskdalemuir Ar 20.16 328 P **P 03 32 03.4 -3.1**
comp=Z,0.4nm,0.3s,baz=144,slow=11,SNR=8.4
HFS Hagfors 20.61 357 P **P 03 32 08.6 -2.5**
comp=Z,4.4nm,0.5s,baz=161,slow=9.4,SNR=32
HFS Hagfors 20.61 357 P **P 03 32 08.6 -2.6**
HFS pmax pmax
comp=Z,4.0nm,0.5s
NB2 NORSAR Subarra 21.66 354 P **P 03 32 20.4 -1.1**
comp=Z,0.7nm,0.4s,mb3.3,baz=163,slow=9.3
NOA NORSAR Array B 21.66 354 P **P 03 32 20.2 -1.2**
comp=Z,0.8nm,0.6s,mb3.3,baz=157,slow=8.3,SNR=4.3
NOA NORSAR Array B 21.66 354 P **P 03 32 20.3 -1.1**
NOA pmax pmax
comp=Z,1.0nm,0.6s
TORD Torodi Ar. Bea 29.09 209 P **P 03 33 28.3 -0.3**
comp=Z,0.3nm,0.5s,mb3.0,baz=17,slow=9.5,SNR=6.4
ARCES ARCESS Array B 30.46 7 P **P 03 33 38.4 -1.8**
comp=Z,4.4nm,0.9s,mb4.0,baz=189,slow=8.0,SNR=13
ARCES ARCESS Array B 30.46 7 P **P 03 33 38.4 -1.7**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 47.78 58 P **P 03 36 03.2 +0.2**
comp=Z,0.6nm,0.3s,mb3.3,baz=283,slow=6.8,SNR=7.9
MKAR Makanchi Array 47.78 58 P **P 03 36 03.2 +0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
SCHQ Schefferville 54.84 315 P **P 03 36 53.0 -2.1**
comp=Z,2.0nm,0.3s,mb4.0,baz=67,slow=4.2,SNR=15
YKA Yellowknife Ar 70.72 338 P **P 03 38 38.3 -1.0**
comp=Z,0.3nm,0.5s,mb3.2,baz=45,slow=6.3,SNR=3.6
ULM Lac du Bonnet 72.28 321 P **P 03 38 47.8 -1.1**
comp=Z,2.8nm,0.5s,mb4.1,baz=8.8,slow=6.4,SNR=6.6
TXAR Lajitas Array 91.23 310 P **P 03 40 28.4 +0.6**
comp=Z,0.2nm,0.7s,mb3.1,baz=42,slow=5.5,SNR=3.6

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*IDC **21** 03:36:59.2±2.5, 3423S×17847W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.9/16, mbtmp4.1/3, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/24, Error ellipse: s-maj=48.2km s-min=42.2km az=64.0*

ISC 21 03:37:03.4±7.3, 342S±01×1785W±02, h28km±51km, n7, σ0§29/6, mb4.0/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.37**	**220**		Pn	**Pn**	**03 38 21.7**	**0.0**
	2.3nm,0.3s,baz=26,slow=3.4,SNR=10							
URZ					Sn	**Sn**	**03 39 22.5**	**0.0**
	2.5nm,0.3s,baz=147,slow=22,SNR=3.7							
CTA	**Charters Tower**	**34.19**	**285**	LR		LR	03 56 32.6	
	comp=Z,88nm,19.8s,baz=233,slow=34							
ASAR	**Alice Springs**	**42.62**	**271**	P		**P**	**03 44 57.6**	**+0.2**
	2.1nm,0.8s,mb3.9,baz=116,slow=7.8,SNR=18							
WRA	**Warramunga Arr**	**43.96**	**276**	P		**P**	**03 45 08.0**	**-0.2**
	2.6nm,0.8s,mb4.0,baz=119,slow=7.6,SNR=10							
VNA3	**Neumayer Olymp**	**74.53**	**176**	*e*		**P**	**03 48 38.8**	**-0.2**
VNA3				*e*			03 48 41.2	
VNA2	**Neumayer--Watz**	**74.96**	**177**	*e*		**P**	**03 48 41.7**	**+0.2**
VNA2				*e*			03 48 44.0	
TORD	**Torodi Ar. Bea**	**159.02**	**181**	PKPab		PKPab	03 57 35.4	-0.2
	0.4nm,0.5s,baz=185,slow=4.5,SNR=9.8							

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*CSEM **21** 03:39:03.4±0.1, 3725N×2847E, h15km, MD2.8, Error ellipse: s-maj=2.2km s-min=1.8km az=168.0*
*ISK **21** 03:39:03.2, 3729N×2847E, h6km, MD2.8*
*ISCJB **21** 03:39:04.0±0.7, 3729N±004×2846E±004, h7km±8km, Error ellipse: s-maj=7.4km s-min=4.7km az=26.2*
*DDA **21** 03:39:04.4, 3729N×2847E, h7km±3km, Md2.8*

ISC 21 03:39:04.5±0.5, 3727N±005×2846E±004, h14km±8km, n11, σ0§68/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.19**	**226**	*e*PG		**Pg**	**03 39 08.4**	**-0.5**
YER				*e*SG		**Sg**	**03 39 11.6**	**-0.3**
TURN	**Turunc**	**0.41**	**163**	*i* P		**Pg**	**03 39 13.7**	**+1.0**
TURN				*i* S		**Sg**	**03 39 22.2**	**+4.0**
DALT	**Dalyan (Mudla)**	**0.52**	**164**	*e*PG		**Pg**	**03 39 13.6**	**-1.1**
DALT				*e*SG		**Sg**	**03 39 21.9**	**+0.3**
MLSB	**Milas**	**0.54**	**273**	*e*PG		**Pg**	**03 39 13.6**	**-1.5**
MLSB				*e*SG		**Sg**	**03 39 22.3**	**0.0**
AYDN	**Tasoluk**	**0.60**	**311**	*i* P		**Pg**	**03 39 16.6**	**+0.3**
AYDN				*i* S		**Sg**	**03 39 25.0**	**+0.7**
BDRM	**Kayabasi**	**0.83**	**256**	*i* P		**Pg**	**03 39 20.5**	**-0.1**
BDRM				*i* S		**Sg**	**03 39 32.5**	**+0.9**
GOLH	**Golhisar**	**0.88**	**92**	*i* P		**Pg**	**03 39 20.8**	**-0.8**
GOLH				*i* S		**Sg**	**03 39 33.8**	**+0.7**
BODT	**Bodrum**	**0.94**	**258**	*e*PG		**Pg**	**03 39 22.3**	**-0.3**
BODT				*e*SG		**Sg**	**03 39 35.1**	**+0.3**
KULA	**Kula-Manisa**	**1.25**	**7**	*e*PN		**Pn**	**03 39 27.4**	**-0.2**
ELL	**Elmali**	**1.27**	**114**	*e*PN		**Pn**	**03 39 28.2**	**+0.4**
KHL	**Karahalli**	**1.35**	**38**	*e*PN		**Pn**	**03 39 28.7**	**-0.2**

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*ISCJB **21** 03:57:46.7±0.3, 1569N±002×6120W±005, h102km±1km, mb4.3/40, Error ellipse: s-maj=7.5km s-min=2.9km az=164.4*
*IDC **21** 03:57:46.3±0.7, 1561N×6125W, h84km±5km, mb3.9/17, mb1 4.1/20, mb1mx3.9/27, mbtmp3.9/20, MS3.4/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=11.0km s-min=10.6km az=153.0*
*TRN **21** 03:57:46.7, 1568N×6117W, h91km, MD4.3, M3.8(FDF), M4.0(FDF)*
TRN Felt II Martinique.
*BJI **21** 03:57:47.4, 1560N×6120W, h86km, mB4.8, Ms4.7, Msz4.3*
*NEIC **21** 03:57:48.4, 1558N×6124W, h86km, mb4.5/22, MD4.3(TRN), After TRN.*

ISC 21 03:57:47.9±0.3, 1569N±002×6119W±005, h94km±2km, n269, σ0§66/285, mb4.3/40, 94C-84D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.16**	**224**	⇑*i*P		**Pn**	**03 58 01.9**	**+0.6**
DWS				*e*S		**Sn**	**03 58 11.0**	**-0.2**
DVCT	**Vielle Casse P**	**0.22**	**250**	⇑*i*P		**Pn**	**03 58 02.3**	**+0.8**
MGG	**Marie-Galante**	**0.26**	**333**	⇓*i*P		**Pn**	**03 58 01.6**	**0.0**
TBG	**Guadaloupe-3**	**0.47**	**291**	⇓*e*P		**Pn**	**03 58 03.0**	**+0.2**
TBG				⇓*e*S		**Sn**	**03 58 14.4**	**+0.5**
SFG	**Saint Francois**	**0.56**	**360**	*e*P		**Pn**	**03 58 03.3**	**-0.3**
BCG	**Bois Riant Cap**	**0.57**	**314**	*e*P		**Pn**	**03 58 03.8**	**+0.1**
HMG	**Houelmont**	**0.57**	**301**	⇑*i*P		**Pn**	**03 58 03.9**	**+0.3**
HMG				⇑*i*S		**Sn**	**03 58 16.2**	**+0.8**
SCG	**Saint Claude**	**0.58**	**306**	⇑*i*P		**Pn**	**03 58 04.0**	**+0.2**
DEG	**La Desirade**	**0.64**	**12**	⇑*i*P		**Pn**	**03 58 03.6**	**-0.7**
LZG	**Guadaloupe-1**	**0.72**	**309**	⇑*i*P		**Pn**	**03 58 05.2**	**+0.3**
FDF	**Fort de France**	**0.95**	**177**	⇓*i*P		**Pn**	**03 58 07.1**	**-0.3**
FDF				⇓*i*S		**Sn**	**03 58 19.0**	**-2.9**
FDF	**Fort de France**	**0.95**	**177**	*e*Pn		**Pn**	**03 58 07.2**	**-0.2**
FDF				*e*Sn		**Sn**	**03 58 21.3**	**-0.7**
BPA	**Boggy Peak**	**1.49**	**335**	⇓*i*P		**Pn**	**03 58 13.4**	**-0.4**
BPA				*e*S		**Sn**	**03 58 32.6**	**-0.8**
SLW	**Petit Monier**	**1.68**	**172**	*e*P		**Pn**	**03 58 15.8**	**-0.4**
SLW				*e*S		**Sn**	**03 58 37.1**	**-0.4**
SLB	**Belfond**	**1.85**	**175**	⇓*i*P		**Pn**	**03 58 18.7**	**+0.3**
SLB				*e*S		**Sn**	**03 58 42.1**	**+0.5**
SLB	**Belfond**	**1.85**	**175**	⇓*i*P		**Pn**	**03 58 18.7**	**+0.3**
SLB				*e*S		**Sn**	**03 58 42.0**	**+0.4**
SSV	**Crater Summit**	**2.35**	**180**	*e*P		**Pn**	**03 58 24.4**	**-0.5**
SSV				*e*S		**Sn**	**03 58 52.1**	**-1.0**
SVV	**Soufriere Volc**	**2.36**	**181**	⇓*i*P		**Pn**	**03 58 25.8**	**+0.8**
SVV				*e*S		**Sn**	**03 58 53.9**	**+0.5**
SVV	**Soufriere Volc**	**2.36**	**181**	⇓*i*P		**Pn**	**03 58 25.8**	**+0.8**
SVV				*e*S		**Sn**	**03 58 52.0**	**-1.4**
BHS	**Barnard House**	**2.38**	**178**	*e*P		**Pn**	**03 58 25.4**	**+0.1**
BHS				*e*S		**Sn**	**03 58 52.4**	**-1.5**
BHS	**Barnard House**	**2.38**	**178**	*e*P		**Pn**	**03 58 25.4**	**+0.1**
BHS				*e*S		**Sn**	**03 58 52.4**	**-1.5**
SVB	**Belmont**	**2.40**	**181**	*e*P		**Pn**	**03 58 25.5**	**-0.1**
SVB				*e*S		**Sn**	**03 58 55.0**	**+0.5**
FCV	**Fort Charlotte**	**2.52**	**181**	⇑*i*P		**Pn**	**03 58 27.1**	**0.0**
FCV				*e*S		**Sn**	**03 58 56.7**	**-0.5**
FCV	**Fort Charlotte**	**2.52**	**181**	⇑*i*P		**Pn**	**03 58 27.1**	**0.0**
FCV				*e*S		**Sn**	**03 58 56.7**	**-0.5**
STMA	**St. Maarten, A**	**2.97**	**322**	*e*S		**Sn**	**03 59 06.8**	**-1.3**
BBGH	**Gun Hill**	**2.98**	**148**	*e*Pn		**Pn**	**03 58 34.2**	**+0.8**
GRSS	**Sisters**	**3.39**	**187**	⇓*e*P		**Pn**	**03 58 39.0**	**+0.2**
GRSS				*e*S		**Sn**	**03 59 18.6**	**+0.4**
GRSS	**Sisters**	**3.39**	**187**	⇓*e*P		**Pn**	**03 58 39.0**	**+0.2**
GRSS				*e*S		**Sn**	**03 59 14.4**	**-3.8**
GRIC	**Isle de Caille**	**3.40**	**186**	*e*P		**Pn**	**03 58 41.6**	**+2.6**
GRIC				*e*S		**Sn**	**03 59 18.0**	**-0.5**
GRHS	**Sauteurs**	**3.47**	**187**	*e*P		**Pn**	**03 58 39.1**	**-0.8**
GRHS				*e*S		**Sn**	**03 59 18.3**	**-1.8**
GRHS	**Sauteurs**	**3.47**	**187**	*e*P		**Pn**	**03 58 40.7**	**+0.8**
GRHS				*e*S		**Sn**	**03 59 18.3**	**-1.8**
GRW	**Mount Saint Ca**	**3.54**	**187**	*e*P		**Pn**	**03 58 41.2**	**+0.4**
GRGR	**Grenville**	**3.56**	**187**	*e*Pn		**Pn**	**03 58 41.3**	**+0.2**
GRGR				*e*Sn		**Sn**	**03 59 24.2**	**+1.9**
TOSP	**Speyside**	**4.41**	**172**	*e*P		**Pn**	**03 58 53.0**	**+0.4**
TOSP				*e*S		**Sn**	**03 59 34.0**	**-8.9**
TPR	**Prospect**	**4.49**	**175**	*e*P		**Pn**	**03 58 54.3**	**+0.6**
TCE	**Chacachacare**	**4.99**	**186**	*e*		**Sn**	**03 59 58.9**	**+1.9**
TRN	**Trinidad (W)**	**5.01**	**182**	*e*P		**Pn**	**03 59 02.7**	**+1.9**
TRN	**Trinidad (W)**	**5.01**	**182**	*e*P		**Pn**	**03 59 02.3**	**+1.5**
HUMP	**Col San Antoni**	**5.08**	**299**	*e*Pn		**Pn**	**03 59 02.0**	**+0.3**
TBH	**Brigand Hill**	**5.17**	**179**	*e*P		**Pn**	**03 59 03.9**	**+0.9**
TBH	**Brigand Hill**	**5.17**	**179**	*e*		**Sn**	**03 59 58.1**	**-3.3**
TBH	**Brigand Hill**	**5.17**	**179**	*e*P		**Pn**	**03 59 03.9**	**+1.0**
SJG	**San Juan**	**5.32**	**298**	P		**Pn**	**03 59 04.6**	**-0.3**
	6.1nm,0.3s,baz=53,slow=12,SNR=13							
SJG					S	**Sn**	**04 00 03.8**	**-1.2**
	0.4nm,0.3s,baz=70,slow=22,SNR=2.7							
SJG	**San Juan**	**5.32**	**298**	*e*Pn		**Pn**	**03 59 04.5**	**-0.5**
AOPR	**Arecibo Observ**	**5.94**	**297**	*e*Pn		**Pn**	**03 59 14.3**	**+0.9**
PCRV	**Puerto La Cruz**	**6.42**	**212**	P		**Pn**	**03 59 18.9**	**-1.1**
	3.1nm,0.3s,baz=2.7,slow=5.2,SNR=14							
SDV	**Santo Domingo**	**11.43**	**235**	P		**Pn**	**04 00 27.6**	**-0.6**
	0.8nm,0.3s,baz=57,slow=7.0,SNR=12							
SDV	**Santo Domingo**	**11.43**	**235**	*e*Pn		**Pn**	**04 00 27.8**	**-0.4**
ROSC	**El Rosal**	**16.81**	**232**	*e*Pn		**Pn**	**04 01 37.8**	**+0.2**
BBSR	**BB Station**	**16.91**	**350**	*e*Pn		**Pn**	**04 01 36.6**	**-2.1**
OTAV	**Otavalo**	**22.93**	**230**	*e*P		**P**	**04 02 42.7**	**-1.6**
	1.2nm,0.5s,mb3.5							
TEIG	**Tepich**	**26.14**	**284**	*e*P		**P**	**04 03 13.0**	**-0.4**
	68nm,1.4s,mb4.9							
ELN	**Prospectdale**	**27.58**	**325**	*e*P		**P**	**04 03 25.7**	**-0.4**
ATAH	**Atahualpa**	**28.26**	**218**	P		**P**	**04 03 31.4**	**-1.0**
	8.2nm,0.8s,mb4.3,baz=48,slow=1.7,SNR=5.1							
TKL	**Tuckaleechee C**	**28.33**	**319**	P		**P**	**04 03 32.0**	**-0.9**
	0.7nm,0.3s,mb3.7,baz=111,slow=11,SNR=3.7							
TKL					LR	LR	04 13 14.5	
	comp=Z,79nm,20.2s,baz=299,slow=33							
PLAL	**Pickwick Lake**	**30.82**	**314**	*e*P		**P**	**04 03 54.8**	**-0.1**
SIV	**San Ignacio**	**31.48**	**180**	P		**P**	**04 03 59.3**	**-1.4**
	4.1nm,0.7s,mb4.3,baz=25,slow=9.6,SNR=28							
SIUC	**Southern Illin**	**33.07**	**317**	*e*P		**P**	**04 04 14.5**	**-0.1**
	9.6nm,0.7s,mb4.7							
FVM	**French Village**	**34.02**	**316**	*e*P		**P**	**04 04 22.7**	**-0.1**
	61nm,2.7s,mb5.0							
MIAR	**Mount Ida**	**34.60**	**309**	*e*P		**P**	**04 04 27.4**	**-0.5**
	1.6nm,0.5s,mb4.1							
JCT	**Junction City**	**38.24**	**300**	*e*P		**P**	**04 04 58.0**	**-0.9**
	14nm,1.0s,mb4.8							
WMOK	**Wichita Mounta**	**38.65**	**306**	*e*P		**P**	**04 05 01.1**	**-1.2**
	6.7nm,0.4s,mb4.8							
KSU1	**Kansas State U**	**38.78**	**314**	*e*P		**P**	**04 05 02.2**	**-1.1**
SCHQ	**Schefferville**	**39.31**	**355**	P		**P**	**04 05 08.0**	**+0.5**
	2.1nm,0.4s,mb4.3,baz=196,slow=7.7,SNR=12							
SCHQ	**Schefferville**	**39.31**	**355**	P		**P**	**04 05 08.0**	**+0.5**
CBKS	**Cedar Bluff**	**40.86**	**312**	*e*P		**P**	**04 05 19.9**	**-0.6**
	11nm,0.7s,mb4.8							
ECSD	**EROS,Sioux Fal**	**41.05**	**320**	*e*P		**P**	**04 05 21.5**	**-0.5**
TXAR	**Lajitas Array**	**41.29**	**297**	P		**P**	**04 05 23.4**	**-0.9**
	1.2nm,0.4s,mb4.1,baz=118,slow=8.2,SNR=56							
TXAR					PcP	PcP	04 07 22.1	+0.8
	0.2nm,0.7s,baz=109,slow=6.6,SNR=4.2							
AGMN	**Agassiz Refuge**	**43.20**	**326**	*e*P		**P**	**04 05 38.6**	**-0.8**
	6.6nm,0.5s,mb4.6							
ULM	**Lac du Bonnet**	**44.40**	**329**	P		**P**	**04 05 47.7**	**-1.2**
	7.1nm,0.5s,mb4.7,baz=132,slow=9.2,SNR=15							
ULM	**Lac du Bonnet**	**44.40**	**329**	P		**P**	**04 05 47.7**	**-1.2**
SDCO	**Great Sand Dun**	**44.75**	**308**	*e*P		**P**	**04 05 51.5**	**-0.5**
	3.6nm,1.0s,mb4.1							
ANMO	**Albuquerque**	**44.76**	**304**	*e*P		**P**	**04 05 51.6**	**-0.5**
	1.0nm,0.5s,mb3.8							
319A	**Douglas**	**46.41**	**298**	⇓P		**P**	**04 06 05.9**	**+0.7**
	baz=46							
219A	**White Tail Can**	**46.48**	**299**	⇓P		**P**	**04 06 06.4**	**+0.7**
	baz=46,SNR=5.3							
119A	**Ashpeak Ranch,**	**46.64**	**300**	⇑P		**P**	**04 06 07.6**	**+0.6**
	baz=47							
Y19A	**Nutrioso**	**46.80**	**302**	⇓P		**P**	**04 06 09.3**	**+1.0**
	baz=47,SNR=6.4							
X19A	**St. Johns**	**46.92**	**303**	⇑P		**P**	**04 06 09.6**	**+0.4**
	baz=47							
318A	**Bisbee**	**47.02**	**298**	⇓P		**P**	**04 06 10.4**	**+0.4**
	baz=47,SNR=7.6							
218A	**Dragoon**	**47.14**	**299**	⇓P		**P**	**04 06 11.7**	**+0.8**
	baz=47							
118A	**Homack Ranch,**	**47.17**	**300**	⇑P		**P**	**04 06 11.7**	**+0.6**
	baz=47							
PV01	**Paradox Valley**	**47.19**	**308**	*e*P		**P**	**04 06 11.0**	**-0.2**
T19A	**Beclabito**	**47.22**	**306**	⇓P		**P**	**04 06 11.5**	**0.0**
	baz=47							
Y18A	**Canyon Day Jun**	**47.41**	**302**	⇓P		**P**	**04 06 13.9**	**+0.9**
	baz=47							
X18A	**Snowflake**	**47.48**	**303**	⇑P		**P**	**04 06 14.3**	**+0.8**
	baz=48							
CFAA	**Coronel Fontan**	**47.50**	**188**	P		**P**	**04 06 11.5**	**-2.1**
	0.3nm,0.9s,mb3.1,baz=338,slow=7.4,SNR=3.8							
S19A	**Harvey Farm, M**	**47.52**	**307**	⇓P		**P**	**04 06 13.7**	**-0.1**
	baz=48							
PV10	**Paradox Valley**	**47.61**	**308**	*e*P		**P**	**04 06 13.6**	**-0.8**
217A	**Green Valley**	**47.76**	**299**	⇑P		**P**	**04 06 15.9**	**+0.2**
	baz=48							
U18A	**Rough Rock, Ch**	**47.79**	**305**	⇑P		**P**	**04 06 16.1**	**+0.2**
	baz=48							
117A	**Oracle**	**47.80**	**300**	⇓P		**P**	**04 06 16.0**	**0.0**
	baz=48,SNR=5.6							
Q19A	**Hogan Spring (**	**47.92**	**309**	⇓P		**P**	**04 06 17.2**	**+0.4**
	baz=48							
T18A	**Mexican Hat**	**47.95**	**306**	⇑P		**P**	**04 06 16.9**	**-0.2**
	baz=48,SNR=7.1							
Y17A	**Roosevelt**	**48.06**	**301**	⇑P		**P**	**04 06 18.6**	**+0.6**
	baz=48							
S18A	**Hurst Farm, Bl**	**48.17**	**307**	⇓P		**P**	**04 06 18.9**	**+0.2**
	baz=48							
R18A	**Canyonlands Na**	**48.26**	**308**	⇓P		**P**	**04 06 19.3**	**-0.2**
	baz=48							
N19A	**John Jarvie Ra**	**48.39**	**311**	⇑P		**P**	**04 06 20.0**	**-0.4**
	baz=48							
Z16A	**Peralta Trail,**	**48.49**	**301**	⇑P		**P**	**04 06 21.8**	**+0.5**
	baz=48							
Y16A	**Circle Bar Ran**	**48.61**	**301**	⇑P		**P**	**04 06 22.7**	**+0.5**
	baz=49							
T17A	**Navajo Res., N**	**48.65**	**306**	⇑P		**P**	**04 06 23.3**	**+0.9**
	baz=49							
X16A	**Lo Mia Camp, P**	**48.67**	**302**	⇓P		**P**	**04 06 23.4**	**+0.8**
	baz=49							
S17A	**Black Ridge (B**	**48.78**	**307**	⇑P		**P**	**04 06 23.9**	**+0.4**
	baz=49							
WUAZ	**Wupatki**	**48.81**	**304**	⇓P		**P**	**04 06 24.4**	**+0.7**
	baz=49							
W16A	**Flagstaff**	**48.86**	**303**	⇑P		**P**	**04 06 24.9**	**+0.8**
	baz=49							
R17A	**Hanksville Air**	**48.89**	**308**	⇓P		**P**	**04 06 24.7**	**+0.4**
	baz=49							
SRU	**San Rafael**	**48.91**	**308**	⇓P		**P**	**04 06 24.8**	**+0.3**
	baz=49							
T16A	**Glen Canyon Da**	**49.19**	**306**	⇓P		**P**	**04 06 26.8**	**+0.2**
	baz=49							
PDAR	**Pinedale Array**	**49.23**	**313**	P		**P**	**04 06 26.6**	**-0.2**
	4.8nm,0.7s,mb4.5,baz=116,slow=10.0,SNR=38							
PDAR					PcP	PcP	04 07 49.5	+1.0
	0.2nm,0.5s,baz=86,slow=9.1,SNR=2.1							
Y15A	**Casa Rosa Ranc**	**49.33**	**301**	⇓P		**P**	**04 06 27.9**	**+0.2**
	baz=49							
X15A	**Humboldt**	**49.33**	**302**	⇑P		**P**	**04 06 28.4**	**+0.7**
	baz=49							
O17A	**Robinson Place**	**49.35**	**310**	⇑P		**P**	**04 06 28.3**	**+0.6**
	baz=49							
FCC	**Fort Churchill**	**49.40**	**338**	*e*P		**P**	**04 06 27.1**	**-0.6**
	13nm,1.2s,mb4.7							
V15A	**Kaibab Nationa**	**49.50**	**304**	⇑P		**P**	**04 06 29.8**	**+0.8**
	baz=50							
N17A	**Moffit Pass**	**49.61**	**311**	⇓P		**P**	**04 06 29.9**	**+0.1**
	baz=50							
U15A	**North Rim**	**49.70**	**305**	⇑P		**P**	**04 06 31.3**	**+0.8**
	baz=50							
RLMT	**Red Lodge**	**49.80**	**316**	*e*P		**P**	**04 06 30.8**	**-0.3**
	2.9nm,0.4s,mb4.6							
Y14A	**Wickenburg**	**49.88**	**301**	⇑P		**P**	**04 06 32.3**	**+0.5**
	baz=50							
T15A	**Red Dirt Ranch**	**49.89**	**305**	⇓P		**P**	**04 06 32.5**	**+0.6**
	baz=50,SNR=5.5							
S15A	**Panguitch**	**50.00**	**306**	⇑P		**P**	**04 06 33.2**	**+0.5**
	baz=50							
N16A	**Rees Ranch, Co**	**50.04**	**310**	⇑P		**P**	**04 06 33.3**	**+0.4**
	baz=50							
V14A	**Boquillas Ranc**	**50.22**	**303**	⇓P		**P**	**04 06 35.2**	**+0.8**
	baz=50							
M16A	**Huntsville**	**50.29**	**311**	⇑P		**P**	**04 06 34.5**	**-0.4**
	baz=50,SNR=6.1							
REDW	**Red Top Meadow**	**50.31**	**314**	*e*P		**P**	**04 06 35.0**	**0.0**
	4.3nm,0.7s,mb4.5							
HWUT	**Hardware Ranch**	**50.32**	**311**	*e*P		**P**	**04 06 34.5**	**-0.5**
	2.2nm,0.8s,mb4.1							
L16A	**Fish Haven**	**50.34**	**312**	⇑P		**P**	**04 06 35.0**	**-0.2**
	baz=50,SNR=5.5							
U14A	**Mt Trumbull**	**50.41**	**304**	⇑P		**P**	**04 06 36.1**	**+0.3**
	baz=50							
TPAW	**Teton Pass**	**50.42**	**314**	*e*P		**P**	**04 06 35.7**	**-0.1**
	3.2nm,0.6s,mb4.4							
S14A	**Cedar City**	**50.65**	**306**	⇑P		**P**	**04 06 37.7**	**+0.1**
	baz=51							
X13A	**Yucca**	**50.65**	**302**	⇓P		**P**	**04 06 38.0**	**+0.3**
	baz=51							
W13A	**Hualapai Mount**	**50.76**	**303**	⇑P		**P**	**04 06 39.3**	**+0.7**
	baz=51							
DUG	**Dugway**	**50.89**	**309**	⇓P		**P**	**04 06 39.4**	**+0.1**
	baz=51							
I16A	**Newdale**	**50.91**	**314**	⇑P		**P**	**04 06 39.5**	**+0.1**
	baz=51							
M15A	**Larsen Ranch,**	**50.92**	**311**	⇓P		**P**	**04 06 39.6**	**0.0**
	baz=51							
P14A	**Drum Mountains**	**50.94**	**308**	⇓P		**P**	**04 06 40.7**	**+0.9**
	baz=51							
V13A	**Grand Canyon W**	**50.96**	**304**	⇑P		**P**	**04 06 40.5**	**+0.5**
	baz=51							
Q14A	**Sevier Lake (B**	**50.97**	**308**	⇑P		**P**	**04 06 40.7**	**+0.6**
	baz=51							
L15A	**Malad City**	**51.02**	**312**	⇓P		**P**	**04 06 40.2**	**-0.1**
	baz=51,SNR=5.4							
S13A	**Holt Ranch, En**	**51.15**	**306**	⇓P		**P**	**04 06 42.1**	**+0.7**
	baz=51							
EGMT	**Eagleton**	**51.16**	**320**	⇑P		**P**	**04 06 41.8**	**+0.5**
	baz=51							
BGU	**Big Grassy Mou**	**51.22**	**310**	*e*P		**P**	**04 06 41.4**	**-0.5**
K15A	**Arbon**	**51.30**	**312**	⇓P		**P**	**04 06 43.1**	**+0.7**
	baz=51							
N14A	**Grayback Hills**	**51.32**	**

M10A	I.L. Ranch, Tu	53.93	310	⇑P	P	04 07 01.8	-0.1
	baz=54						
L10A	Juniper Basin	53.99	311	⇑P	P	04 07 02.3	+0.1
	baz=54						
F12A	Elk City	54.01	316	⇑P	P	04 07 02.3	0.0
	baz=54						
I11A	Placerville	54.03	313	⇑P	P	04 07 02.4	-0.1
	baz=54						
WALA	Waterton Lakes	54.11	320	eP	P	04 07 02.5	-0.5
	2.3nm,0.7s,mb4.3						
O09A	Fish Creek Ran	54.17	308	⇑P	P	04 07 03.7	+0.1
	baz=54,SNR=7.3						
B13A	Whitefish	54.25	319	⇑P	P	04 07 03.7	-0.3
	baz=54						
H11A	Donnelly	54.26	314	⇑P	P	04 07 04.3	+0.2
	baz=54						
CIS	Catalina Islan	54.30	300	⇑P	P	04 07 04.6	-0.1
	baz=54						
A13A	Flathead Natio	54.39	319	⇓P	P	04 07 05.1	+0.1
	baz=54						
K10A	MacKenzie Ranc	54.43	312	⇓P	P	04 07 05.6	+0.2
	baz=54						
S08C	White Mtn Res	54.52	305	⇓P	P	04 07 07.1	+0.9
	baz=54						
Q08A	Gabbs	54.52	307	⇑P	P	04 07 06.4	+0.2
	baz=54						
G11A	Walters Elk Ra	54.60	315	⇑P	P	04 07 06.5	-0.2
	baz=55						
H10A	Noah's Angus R	54.74	314	⇓P	P	04 07 06.4	-1.2
	baz=55,SNR=6.0						
NVAR	Mina Array Bea	54.75	306	P	P	04 07 08.0	+0.2
	2.0nm,0.7s,mb4.3,baz=91,slow=7.1,SNR=19						
N08A	GE Springer Mi	54.98	309	⇓P	P	04 07 09.1	-0.4
	baz=55						
K09A	Rome	55.03	311	⇑P	P	04 07 09.8	+0.1
	baz=55						
D11A	Klaveano Farm,	55.07	317	⇑P	P	04 07 09.6	-0.4
	baz=55						
HELL	Mitchell Peak	55.10	304	⇓P	P	04 07 10.6	+0.2
	baz=55						
G10A	Bishop Farm, J	55.16	315	⇓P	P	04 07 09.8	-0.8
	baz=55						
M08A	Happy Creek Ra	55.28	310	⇓P	P	04 07 11.6	0.0
	baz=55						
R07C	Lee Vining	55.29	306	⇑P	P	04 07 12.3	+0.6
	baz=55						
L08A	Fields	55.38	311	⇑P	P	04 07 13.0	+0.6
	baz=55						
O07A	Toulon	55.44	308	⇑P	P	04 07 12.5	-0.3
	baz=56						
B11A	Sandpoint	55.47	318	⇓P	P	04 07 13.0	+0.1
	baz=56						
G09A	Cove	55.61	314	⇑P	P	04 07 13.5	-0.4
	baz=56						
A11A	Hall Mountain,	55.62	319	⇑P	P	04 07 14.2	+0.3
	baz=56						
R06C	Coleville	55.66	306	⇑P	P	04 07 15.0	+0.6
	baz=56						
D10A	Wagner Farm, O	55.70	317	⇑P	P	04 07 13.6	-0.9
	baz=56						
J08A	Circle Bar Ran	55.70	312	⇓P	P	04 07 14.2	-0.3
	baz=56						
DBIC	Dimbokro	55.85	93	P	P	04 07 16.0	-0.1
	3.4nm,1.1s,mb4.3,baz=18,slow=20,SNR=3.9						
M07A	Soldier Meadow	55.85	310	⇓P	P	04 07 15.3	-0.4
	baz=56						
NEW	Newport	55.91	318	eP	P	04 07 15.1	-0.8
	5.9nm,0.6s,mb4.8						
H08A	Prairie City	56.07	313	⇑P	P	04 07 17.3	+0.1
	baz=56,SNR=10						
L07A	Adell	56.08	310	⇑P	P	04 07 17.3	0.0
	baz=56						
O06A	Flanigan	56.16	308	⇑P	P	04 07 17.1	-0.8
	baz=56						
R05C	Kirkwood Meado	56.16	306	⇑P	P	04 07 18.6	+0.6
	baz=56,SNR=5.9						
CMB	Columbia Colle	56.33	305	eP	P	04 07 18.7	-0.4
	4.8nm,1.8s,mb4.2						
G08A	Pilot Rock	56.43	314	⇓P	P	04 07 19.2	-0.5
	baz=56						
B09A	Rice	56.61	318	⇓P	P	04 07 20.2	-0.8
	baz=57						
LAVA	Lava Cap Winer	56.69	306	⇓P	P	04 07 21.5	-0.1
	baz=57						
H07A	Lands Inn, Kim	56.71	313	⇓P	P	04 07 21.2	-0.5
	baz=57						
PLCA	Paso Flores	56.80	188	P	P	04 07 20.6	-1.6
	1.8nm,0.8s,mb4.2,baz=356,slow=5.8,SNR=4.6						
J06A	Christmas Vall	56.88	312	⇑P	P	04 07 22.4	-0.6
	baz=57						
G07A	Ruggs Ranch, H	56.91	314	⇓P	P	04 07 22.4	-0.8
	baz=57						
A09A	Danville	57.03	319	⇑P	P	04 07 23.6	-0.4
	baz=57						
C08A	Higginbotham F	57.04	317	⇑P	P	04 07 23.3	-0.7
	baz=57						
M05C	Lookout	57.32	309	⇑P	P	04 07 25.7	-0.4
	baz=57						
OHCM	Honcut	57.33	307	eP	P	04 07 25.8	-0.4
K05A	Summer Lake	57.33	311	⇑P	P	04 07 26.7	+0.5
	baz=57						
ORV	Oroville	57.36	307	⇓P	P	04 07 26.4	0.0
	baz=57						
M04C	Macdoel	57.89	310	⇓P	P	04 07 30.4	+0.3
	baz=58						
B07A	Winthrop	57.90	318	⇓P	P	04 07 29.5	-0.6
	baz=58,SNR=7.0						
A07A	Ashnola River,	58.20	318	⇑P	P	04 07 32.2	+0.1
	baz=58						
YBH	Yreka Blue Hor	58.53	310	⇑P	P	04 07 33.0	-1.6
	baz=58						
H04A	Detroit Lake	58.57	313	⇑P	P	04 07 34.3	-0.5
	baz=59						
M02C	Callahan	58.60	309	⇓P	P	04 07 34.0	-1.1
	baz=59						
N02C	Big Bar	58.88	308	⇑P	P	04 07 36.0	-1.0
	baz=59						
EKA	Eskdalemuir Ar	59.21	34	P	P	04 07 39.0	0.0
	0.7nm,0.8s,mb3.8,baz=336,slow=42,SNR=4.2						
E04A	Onalaska	59.25	315	⇑P	P	04 07 38.4	-1.0
	baz=59						
YKA	Yellowknife Ar	59.70	334	P	P	04 07 41.1	-1.1
	3.7nm,0.6s,mb4.6,baz=105,slow=7.4,SNR=13						
B04A	Port Angeles	60.03	317	⇑P	P	04 07 44.4	-0.4
	baz=60						
TORD	Torodi Ar. Bea	60.77	84	P	P	04 07 50.0	-0.3
	0.3nm,0.5s,mb3.5,baz=282,slow=6.8,SNR=9.4						
TORD				pP	pP	04 08 14.8	+0.9
	0.8nm,0.7s,baz=266,slow=7.0,SNR=3.6						
TORD	Torodi Ar. Bea	60.77	84	P	P	04 07 50.0	-0.4
TORD				pP	pP	04 08 14.8	+0.9
KEST	Kesra	65.33	58	P	P	04 08 21.2	+0.9
	1.9nm,0.7s,mb4.0,baz=259,slow=5.5,SNR=9.3						
DAVOX	Davos/Dischmat	65.80	45	P	P	04 08 24.2	+1.1
	1.2nm,0.6s,mb3.9,baz=0.9,slow=17,SNR=3.8						
NB2	NORSAR Subarra	67.89	30	P	P	04 08 36.9	+0.9
	comp=Z,1.1nm,0.6s,mb3.9,baz=261,slow=6.5						
NOA	NORSAR Array B	67.89	30	P	P	04 08 36.9	+0.9
	comp=Z,1.5nm,0.7s,mb3.9,baz=262,slow=6.4,SNR=5.7						
DAWY	Dawson	70.85	333	eP	P	04 08 54.3	+0.1
ARCES	ARCESS Array B	74.27	21	P	P	04 09 14.6	+0.2
	comp=Z,2.5nm,0.7s,mb4.1,baz=328,slow=4.3,SNR=6.5						
PMR	Palmer	75.37	330	eP	P	04 09 19.4	-1.5
	comp=Z,1.1nm,0.5s,mb3.8						
WMQ	Urumqi	114.30	24	ePKP	PKiKP	04 16 15.5	-1.2
HHC	Hu-ho-hao-te	123.35	7	ePKP	PKPdf	04 16 32.1	-2.1
HHC				XPKP		04 17 09.5	
HHC				PP	PP	04 18 17.5	+2.9
HHC				SKS	SKSdf	04 23 32.8	-5.0
HHC				SKKS	SKKSac	04 24 59.1	-6.8
HHC				PP	PP		
	comp=Z,42nm,4.8s						
HHC				LR	LR		
	comp=N,62nm,20.2s						
HHC				LR	LR		
	comp=E,56nm,19.0s						
HHC				LR	LR		
	comp=Z,79nm,19.0s						
BJI	Beijing	124.51	2	PKP	PKPdf	04 16 34.8	-1.7
CD2	Chengdu	131.46	17	ePKP	PKPdf	04 16 47.8	-2.2
CD2				XPKP		04 17 27.8	
CD2				PP	PP	04 19 11.3	+3.1
CD2				SKKS	SKKSac	04 25 51.1	-6.2
CD2				PP	PP		
	comp=Z,80nm,10.2s						
NJ2	Nanjing	132.53	360	ePKP	PKPdf	04 16 51.3	-0.7
GYA	Guiyang	136.48	16	ePDIF	Pdif	04 14 03.4	-1.1
GYA				PKP	PKPdf	04 16 59.0	-0.5
GYA				XPKP		04 17 36.5	
GYA				PP	PP	04 19 43.3	+3.3
GYA				PKS		04 20 32.3	
GYA				PP	PP		
	comp=Z,90nm,8.4s						
KMI	Kunming	136.52	21	PKP	PKPdf	04 16 57.3	-2.3
KMI				XPKP		04 17 36.3	
KMI				LR	LR		
	comp=N,65nm,15.4s						
KMI				LR	LR		
	comp=E,75nm,14.9s						
KMI				LR	LR		
	comp=Z,43nm,17.6s						
ASAR	Alice Springs	163.73	238	PKP	PKPdf	04 17 40.0	-0.6
	comp=Z,0.3nm,0.8s,baz=246,slow=35,SNR=3.4						
WRA	Warramunga Arr	164.62	252	PKP	PKPdf	04 17 40.5	-1.0
	comp=Z,0.3nm,0.6s,baz=56,slow=0.6,SNR=3.8						

*ISCJB **21** 03:59:04.1±0.8, 5138N±004×16.10E±004, h0km, Error ellipse: s-maj=5.6km s-min=3.0km az=17.8*
*CSEM **21** 03:59:05.7±2.0, 5145N×1598E, h1km, ML2.6/4, Error ellipse: s-maj=27.1km s-min=11.4km az=136.0, Suspected Mining induced.*
*PRU **21** 03:59:06.7, 5141N×1609E, h0km*
*WAR **21** 03:59:06, 5146N×1610E, ML2.4, Mining Induced*
*VIE **21** 03:59:07.6±0.5, 5125N×1605E, h0km, mb2.0/2, ML2.6/4, Error ellipse: s-maj=3.2km s-min=2.6km az=172.0 69 km WNW of Wroclaw Suspected Mining induced.*

ISC 21 03:59:05.7±0.8, 5142N±004×1609E±004, h0km, n17, σ0°86/29, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.59	167	i Sg	Sg	03 59 26.0	+1.3
UPC	Upice	0.92	183	ePG	Pg	03 59 23.5	+0.3
DPC	Dobruska-Polom	1.08	172	ePG	Pg	03 59 26.4	0.0
DPC				eSG	Sg	03 59 40.9	+0.5
	comp=Z,19nm,0.4s						
PVCC	Panska Ves	1.31	228	ePG	Pg	03 59 31.2	+0.4
PVCC				eSG	Sg	03 59 49.1	+1.4
	comp=Z,81nm,0.2s						
PRU	Pruhonice	1.74	215	ePG	Pg	03 59 38.2	-0.8
PRU				eSG	Sg	04 00 00.4	-1.1
	comp=Z,14nm,0.3s						
MORC	Moravsky Berou	1.89	150	eSg	Sg	04 00 04.8	-1.5
CLL	Collm	1.94	268	ePn	Pn	03 59 39.0	-0.8
CLL				i Pg	Pg	03 59 42.6	-0.1
CLL				eSg	Sg	04 00 08.0	+0.2
	comp=Z,14nm,0.4s						
OKC	Ostrava-Krasne	2.06	140	eSG	Sg	04 00 10.1	-1.6
	comp=Z,20nm,0.5s						
VRAC	Vranov	2.14	171	eSg	Sg	04 00 14.5	+0.1
NKC	Novy Kostel	2.59	244	ePN	Pn	03 59 49.3	+0.5
NKC				ePG	Pg	03 59 55.0	-0.4
NKC				eSG	Sg	04 00 29.7	+0.7
	comp=Z,20nm,0.3s						
OJC	Ojcow	2.64	116	ePg	Pg	03 59 57.0	+0.7
OJC				eSg	Sg	04 00 31.0	+0.4
KHC	Kasperske Hory	2.80	216	ePN	Pn	03 59 51.8	+0.1
KHC				ePG	Pg	03 59 57.6	-1.7
KHC				eSN	Sn	04 00 25.5	-0.6
KHC				eSG	Sg	04 00 35.0	-0.6
	comp=Z,5.7nm,0.4s						
MOX	Moxa	2.93	256	ePG	Pg	04 00 01.3	-0.4
MOX				i SG	Sg	04 00 40.8	+1.2
MODS	Modra-Piesok	3.15	165	eSG	Sg	04 00 48.6	+1.9
CONA	Conrad Observa	3.50	182	⇑i Sg	Sg	04 00 57.8	-0.3
	comp=Z,7.0nm,0.3s						
MOA	Molln	3.77	199	⇓i Sg	Sg	04 01 06.1	-0.4
	comp=Z,5.3nm,0.4s						
STHS	Stebnicka Huta	3.86	119	eSG	Sg	04 01 10.1	+0.5

*MOS **21** 04:23:36.1±1.5, 5276N×10732E, h24km, mb4.2/1, Error ellipse: s-maj=34.7km s-min=18.6km az=59.6*

BYKL 21 04:23:36.5±0.2, 5278N×10734E, h17km±4km, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRHB	Zarechye	0.25	207	ePg	Pg	04 23 41.8	-0.3
ZRHB				eSg	Sg	04 23 46.0	0.0
ZRHB				Pmax			
	221nm,0.2s						
ZRHB				Smax			
	9μm,0.4s						
TRG	Tyrgan	0.60	268	ePg	Pg	04 23 48.8	+0.4
TRG				ePb	Pb	04 23 51.0	+2.4
TRG				eSg	Sg	04 23 56.9	+0.5
TRG				max			
	62nm,0.2s						
TRG				Smax			
	726nm,0.2s						
FFNB	Fofonovo	0.81	206	ePg	Pg	04 23 51.9	-0.5
FFNB				eSg	Sg	04 24 02.0	-1.1
FFNB				Pmax			
	298nm,0.1s						
FFNB				Smax			
	3μm,0.3s						
KAB	Kabansk	0.84	210	ePG	Pg	04 23 51.4	-1.5
KAB				e		04 24 03.4	
KAB				pmax	pmax		
	comp=Z,469nm,0.2s						
KAB				smax			
	comp=N,1μm,0.5s						
KAB	Kabansk	0.84	210	eSg	Sg	04 24 03.3	-0.7
KAB				Smax			
	comp=N,1μm,0.5s						
OGRR	Ongureny	0.88	10	ePG	Pg	04 23 52.0	-1.6
OGRR				e		04 24 04.8	
OGRR				pmax	pmax		
	comp=Z,76nm,0.3s						
OGRR				smax			
	comp=E,343nm,0.3s						
OGRR	Ongureny	0.88	10	ePg	Pg	04 23 52.9	-0.7
OGRR				eSg	Sg	04 24 04.8	-0.3
OGRR				Pmax			
	comp=E,76nm,0.2s						
OGRR				Smax			
	comp=E,345nm,0.3s						
UUDB	Ulan-Yde	0.94	168	ePg	Pg	04 23 53.2	-1.4
UUDB				ePb	Pb	04 23 55.8	+1.6
UUDB				eSg	Sg	04 24 05.1	-1.8
UUDB				e		04 24 11.1	
UUDB				max			
	comp=E,131nm,0.2s						
UUDB				max			
	comp=E,901nm,0.2s						
MXMB	Maximikha	0.98	60	ePg	Pg	04 23 54.1	-1.3
MXMB				ePb	Pb	04 23 55.5	+0.6
MXMB				eSg	Sg	04 24 07.6	-0.7
MXMB				eSb	Sb	04 24 11.1	+3.6
MXMB				max			
	comp=E,114nm,0.1s						
MXMB				max			
	comp=E,988nm,0.2s						
HRMR	Khuramsha	1.18	192	ePg	Pg	04 23 57.7	-1.5
HRMR				ePb	Pb	04 23 59.9	+1.5
HRMR				eSg	Sg	04 24 13.3	-1.3
HRMR				eSb	Sb	04 24 16.6	+3.3
HRMR				max			
	comp=E,357nm,0.2s						
HRMR				max			
	comp=E,2μm,0.2s						
IRK	Irkutsk	1.95	255	ePN	Pn	04 24 11.5	+2.7
IRK				e		04 24 35.7	
IRK				pmax	pmax		
	comp=Z,108nm,0.2s						
IRK				smax			
	comp=N,1μm,0.5s						
IRK	Irkutsk	1.95	255	eSg	Sg	04 24 37.5	-1.7
IRK				Smax			
	comp=N,2μm,0.5s						
TLY	Talaya	2.53	246	ePg	Pg	04 24 20.9	-4.0
TLY				eSg	Sg	04 24 54.5	-3.1
TLY				Pmax			
	comp=N,14nm,0.2s						
TLY				Smax			
	comp=N,101nm,0.5s						
YLYR	Ulyunkhan	3.09	46	ePg	Pg	04 24 30.8	-4.8
YLYR				eSg	Sg	04 25 12.0	-3.6
YLYR				Pmax			
	comp=N,13nm,0.5s						
YLYR				Smax			
	comp=N,36nm,0.3s						
ARS	Arshan	3.14	256	ePN	Pn	04 24 15.1	-10
ARS				e		04 24 33.6	
ARS				e		04 25 12.4	
ARS				pmax	pmax		
	comp=Z,52nm,0.4s						
ARS				smax			
	comp=E,265nm,0.4s						
ARS	Arshan	3.14	256	ePg	Pg	04 24 33.5	-3.0
ARS				eSg	Sg	04 25 12.5	-4.7
ARS				Pmax			
	comp=E,53nm,0.5s						
ARS				Smax			
	comp=E,265nm,0.5s						
NIZ	Nizh Angarsk	3.27	22	ePN	Pn	04 24 27.9	+1.1
NIZ				e		04 24 34.9	
NIZ				eS	Sn	04 25 07.5	+2.2
NIZ				e		04 25 16.9	
NIZ				pmax	pmax		
	comp=Z,18nm,1.2s						
NIZ				smax			
	comp=E,78nm,0.5s						
NIZ	Nizh Angarsk	3.27	22	ePn	Pn	04 24 28.1	+1.3
NIZ				ePg	Pg	04 24 35.8	-3.2
NIZ				eSg	Sg	04 25 17.0	-4.3
NIZ				Pmax			
	comp=E,17nm,0.4s						
NIZ				Smax			
	comp=E,78nm,0.6s						
ZAK	Zakamensk	3.49	228	ePn	Pn	04 24 29.4	-0.5
ZAK				ePg	Pg	04 24 40.0	-3.3
ZAK				eSg	Sg	04 25 24.5	-4.0
ZAK				Pmax			
	comp=E,6.0nm,0.3s						
ZAK				Smax			
	comp=E,43nm,0.5s						
KMO	Kumora	3.85	34	e	Pn	04 24 40.2	+5.4
KMO				eSg	Sg	04 25 35.1	-4.8
KMO				Smax			
	comp=E,55nm,0.7s						
CIT	Chita	3.88	99	eSg	Sg	04 25 36.3	-4.7
CIT				Smax			
	comp=E,218nm,0.2s						
MOY	Mondy	4.06	257	ePn	Pn	04 24 39.7	+2.0
MOY				ePg	Pg	04 24 49.0	-5.2
MOY				e		04 25 30.2	
MOY				eSg	Sg	04 25 40.7	-6.0
MOY				Pmax			
	comp=E,22nm,0.5s						
MOY				Smax			
	comp=E,71nm,0.5s						
KPC	Khapcheranga	4.42	132	ePn	Pn	04 24 43.5	+0.9
KPC				ePg	Pg	04 24 56.0	-5.0
KPC				e		04 25 35.8	
KPC				eSg	Sg	04 25 52.7	-5.5
KPC				Pmax			
	comp=E,39nm,0.6s						
KPC				Smax			
	comp=E,113nm,0.5s						
UKT	Uakit	4.59	51	ePg	Pg	04 24 59.2	-5.0
UKT				eSg	Sg	04 25 58.8	-4.8
UKT				Pmax			
	comp=E,100nm,0.6s						
UKT				Smax			
	comp=E,34nm,1.0s						
ORL	Orlik	4.59	270	ePN	Pn	04 24 47.3	+2.3
ORL				e		04 24 59.7	
ORL				eS	Sn	04 25 39.7	+1.8
ORL				e		04 25 58.5	
ORL				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ORL				smax			
	comp=N,65nm,0.5s						
ORL	Orlik	4.59	270	ePn	Pn	04 24 47.3	+2.3
ORL				e		04 25 03.4	
ORL				e		04 25 43.3	
ORL				eSg	Sg	04 25 57.7	-6.1
ORL				Smax			
	comp=N,68nm,0.6s						
TUP	Tupik	7.69	73	ePN	Pn	04 25 29.5	+2.0
TUP				e		04 25 55.2	
TUP				eS	Sn	04 26 55.3	+1.3
TUP				e		04 27 34.8	
TUP				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TUP				smax			
	comp=N,36nm,0.9s						

*ISCJB **21** 05:00:03.5±1.5, 141S±01×760W±02, h76km±17km, mb3.5/2, Error ellipse: s-maj=39.9km s-min=9.8km az=148.6*
*IDC **21** 05:00:05.0±1.9, 1409S×7589W, h69km±18km, mb3.2/2, mb1 3.5/7, mb1mx3.4/20, mbtmp3.3/7, Error ellipse: s-maj=52.6km s-min=11.5km az=58.0*

ISC 21 05:00:05.0±1.2, 141S±01×760W±02, h73km±15km, n7, σ0°86/10, mb3.5/2, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.25	339	P	Pn	05 00 39.1	-1.0
	19nm,0.3s,baz=126,slow=13,SNR=29						
NNA				S	Sn	05 01 08.8	+1.8
	36nm,0.3s,baz=192,slow=21,SNR=18						
ATAH	Atahualpa	7.44	341	P	Pn	05 01 50.1	-0.7
	0.3nm,0.3s,baz=322,slow=12,SNR=2.6						
ATAH				S	Sn	05 03 13.0	-0.8
	0.7nm,0.3s,baz=155,slow=20,SNR=3.7						
LPAZ	La Paz	7.91	107	P	Pn	05 01 57.9	+0.6
	0.3nm,0.3s,baz=285,slow=11,SNR=15						
LVC	Limon Verde	10.81	143	P	Pn	05 02 36.9	-0.1
	0.6nm,0.3s,baz=329,slow=11,SNR=6.7						
LVC				S	Sn	05 04 31.9	-4.5
	0.2nm,0.3s,baz=65,slow=18,SNR=2.7						
CFAA	Coronel Fontan	18.82	159	P	Pn	05 04 20.3	+0.1
	0.0nm,0.3s,baz=335,slow=9.9,SNR=8.1						
TXAR	Lajitas Array	50.77	328	P	P	05 08 58.8	+0.9
	0.3nm,0.6s,mb3.5,baz=146,slow=9.1,SNR=4.4						
TORD	Torodi Ar. Bea	81.57	74	P	P	05 12 15.0	-0.5
	0.7nm,1.1s,mb3.4,baz=250,slow=6.6,SNR=5.4						

*IDC **21** 05:43:14.8±4.2, 560S×14076E, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.7/4, ML3.7/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/17, Error ellipse: s-maj=124.0km s-min=32.5km az=97.0*
*ISCJB **21** 05:43:16.8±2.9, 57S±01×1403E±02, h14km±23km, mb3.7/1, Error ellipse: s-maj=32.5km s-min=18.0km az=13.0*
*NEIC **21** 05:43:16.6±2.3, 571S×14073E, h10km, mb3.8/2, Error ellipse: s-maj=50.7km s-min=20.6km az=95.0*

ISC 21 05:43:18.7±4.1, 57S±01×1405E±02, h19km±31km, n9, σ0°98/12, mb3.7/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.58	228	eP	Pn	05 45 50.8	+1.4
	12nm,0.4s						
KAKA				eS	Sn	05 47 46.6	-0.9
WRAB	Tennant Creek	15.37	202	ePn	Pn	05 46 53.9	-0.9
	4.1nm,0.6s						
WRAB				e		05 47 00.5	
WB2	Warramunga Arr	15.38	202	eP	Pn	05 46 53.4	-1.4
WB2	Warramunga Arr	15.38	202	ePn	Pn	05 46 54.1	-0.7
WB2				e		05 47 00.7	
WRA	Warramunga Arr	15.38	202	Pn	Pn	05 46 53.8	-1.1
	0.3nm,0.3s,baz=29,slow=13,SNR=11						
WRA				Sn	Sn	05 49 45.7	+0.8
	0.3nm,0.3s,baz=12,slow=26,SNR=4.1						
ASAR	Alice Springs	18.97	199	P	Pn	05 47 41.0	+1.2
	0.3nm,0.3s,baz=29,slow=10,SNR=10						
FITZ	Fitzroy Crossi	19.05	228	eP	Pn	05 47 41.8	+1.0
	4.1nm,0.9s						
FITZ				eS	Sn	05 51 08.1	-5.7
FITZ	Fitzroy Crossi	19.05	228	P	Pn	05 47 41.1	+0.3
	0.2nm,0.3s,baz=49,slow=16,SNR=8.2						
FITZ				LR	LR	05 56 32.7	
	comp=Z,36nm,18.4s,baz=324,slow=41						
MKAR	Makanchi Array	73.22	322	P	P	05 54 48.4	-0.1
	0.6nm,0.6s,mb3.7,baz=101,slow=7.8,SNR=4.3						

*ISCJB **21** 05:56:52.5±3.8, 78N±0.1×939E±03, h77km±32km, mb3.9/7, Error ellipse: s-maj=56.1km s-min=16.1km az=159.6*
*IDC **21** 05:56:54.0±4.8, 786N×9390E, h72km±39km, mb3.6/7, mb1 3.8/9, mb1mx3.5/24, mbtmp3.6/9, ML3.8/2, Error ellipse: s-maj=67.7km s-min=16.8km az=62.0*
ISC 21 05:56:54.7±3.2,**79N**±02×**939E**±03,**h80**km±26km,**n10,**
σ0°**73**/9,**mb3.9**/7,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.09**	**135**	P	**Pn**	**05 58 35.6**	**-0.2**
	0.5nm,0.3s,baz=308,slow=5.8,SNR=3.7						
CMAR	**Chiang Mai Arr**	**11.62**	**24**	P	**Pn**	**05 59 38.0**	**+0.3**
	0.4nm,0.3s,baz=212,slow=15,SNR=6.5						
MKAR	**Makanchi Array**	**40.05**	**348**	P	**P**	**06 04 20.1**	**-1.9**
	0.5nm,0.5s,mb3.6,baz=155,slow=7.7,SNR=4.5						
SONM	**Songino Array**	**41.23**	**13**	P	**P**	**06 04 31.8**	**+0.1**
	0.6nm,0.5s,mb3.7,baz=194,slow=12,SNR=4.5						
ZALV	**Zalesovo Beam**	**46.54**	**353**	P	**P**	**06 05 14.1**	**0.0**
	1.9nm,0.4s,mb4.2,baz=177,slow=6.7,SNR=9.5						
WRA	**Warramunga Arr**	**48.44**	**125**	P	**P**	**06 05 29.5**	**+0.1**
	0.9nm,0.5s,mb3.9,baz=302,slow=9.5,SNR=7.1						
ASAR	**Alice Springs**	**50.09**	**130**	P	**P**	**06 05 42.0**	**+0.1**
	0.7nm,0.7s,mb3.7,baz=303,slow=7.5,SNR=8.3						
AKTO	**Aktyubinsk**	**51.85**	**332**	P	**P**	**06 05 55.9**	**+1.2**
	0.8nm,0.4s,mb4.1,baz=101,slow=5.9,SNR=4.4						
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**06 08 28.4**	**+0.1**
	3.4nm,0.9s,mb4.1,baz=103,slow=5.5,SNR=3.9						
PDAR	**Pinedale Array**	**125.27**	**21**	PKP	PKPdf	06 15 46.7	+0.2
	0.4nm,0.7s,baz=29,slow=3.4,SNR=4.0						

*ISCJB **21** 06:12:53.3±0.9, 3287N±006×4793E±009, h10km, Error ellipse: s-maj=12.2km s-min=7.6km az=153.1*
*CSEM **21** 06:12:56.7, 3290N×4816E, h14km, ML2.8, After THR*
*THR **21** 06:12:56.7±0.6, 3290N×4816E, h14km±8km, ML2.8*
ISC 21 06:12:53.9±1.4,**3288N**±006×**480E**±01,**h4**km±15km,**n10,**
σ1°**06**/10,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.05**	**137**	*e*Pg	**Pg**	**06 13 14.5**	**+0.4**
SHGR				*e*Sg	**Sg**	**06 13 27.9**	**+0.2**
SHGR				AML	AML	06 13 34.8	
	comp=N,276nm,0.4s						
SHGR				AML	AML	06 13 39.6	
	comp=E,268nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.05**	**137**	*e*Sg	**Sg**	**06 13 14.5**	**+0.4**
	SNR=90						
SHGR				*e*Sg	**Sg**	**06 13 27.9**	**+0.2**
	comp=E,268nm,0.5s,SNR=90						
SNGE	**Sanandaj**	**2.26**	**347**	*e*Pg	**Pg**	**06 13 38.4**	**+1.1**
SNGE				AML	AML	06 14 18.4	
	comp=E,45nm,0.5s						
SNGE				AML	AML	06 14 20.2	
	comp=N,45nm,0.5s						
ASAO	**Ashtian**	**2.39**	**45**	*e*Pg	**Pg**	**06 13 37.7**	**-2.1**
ASAO				AML	AML	06 14 20.0	
	comp=E,49nm,0.7s						
ASAO				AML	AML	06 14 20.7	
	comp=N,54nm,0.5s						
BHD	**Baghdad**	**3.03**	**278**	*e*x	x	06 13 45.0	
BHD				*e*x	x	06 14 22.0	
MIB	**Mutribah**	**3.12**	**190**	*e*P	**Pn**	**06 13 43.4**	**-0.5**
	baz=191						
MIB				AML	AML	06 14 24.9	
	comp=Z,9.0nm,0.3s,baz=191						
NAY	**Al-Naaiem**	**3.67**	**190**	*e*P	**Pn**	**06 13 50.8**	**-0.7**
	baz=191						
NAY				AML	AML	06 14 34.9	
	comp=Z,4.0nm,0.4s,baz=191						
RDF	**Al-Radifah**	**3.96**	**185**	*e*P	**Pn**	**06 13 55.5**	**0.0**
	baz=185						
RDF				AML	AML	06 14 47.4	
	comp=Z,9.0nm,0.4s,baz=185						
NASN	**Na'in**	**4.08**	**90**	*e*Pn	**Pn**	**06 13 58.9**	**+1.8**
MSL	**Mosul**	**5.26**	**312**	*e*x	x	06 14 17.0	
MSL				*e*x	x	06 15 21.0	

IDC 21 06:14:49.6±2.6,**3032S**×**13840E**,**h0**km,**mb1 3.4**/4,
mb1mx3.3/16,**mbtmp3.2**/4,**ML3.1**/4,**Error ellipse:**
s-maj=64.1km s-min=14.2km az=42.0,**South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.15**	**120**	Pn	Pn	06 15 39.2	-1.3
	0.7nm,0.3s,baz=304,slow=12,SNR=16						
STKA				Pg	Pg	06 15 47.8	-2.2
	3.5nm,0.3s,baz=304,slow=12,SNR=27						
STKA				Sn	Sn	06 16 18.4	-0.4
	5.1nm,0.3s,baz=297,slow=17,SNR=6.9						
STKA				Lg		06 16 30.9	
	8.5nm,0.3s,baz=212,slow=22,SNR=6.6						
ASAR	**Alice Springs**	**7.75**	**328**	Pn	Pn	06 16 45.6	+2.0
	0.3nm,0.3s,baz=151,slow=12,SNR=9.7						
ASAR				Sn	Sn	06 18 13.5	+1.4
	0.4nm,0.3s,baz=152,slow=22,SNR=7.0						
WRA	**Warramunga Arr**	**10.97**	**340**	Pn	Pn	06 17 28.4	+0.5
	0.2nm,0.3s,baz=158,slow=12,SNR=14						
WRA				Sn	Sn	06 19 31.1	-0.2
	0.1nm,0.3s,baz=156,slow=21,SNR=3.4						
FITZ	**Fitzroy Crossi**	**16.82**	**313**	Pn	Pn	06 18 44.6	-2.0
	0.1nm,0.3s,baz=210,slow=20,SNR=2.9						

IDC 21 06:21:30.3±14.0,**2293S**×**17354W**,**h0**km,**mb4.2**/6,
mb1 4.3/6,**mb1mx3.9**/20,**mbtmp4.2**/6,**Error ellipse:**
s-maj=273.4km s-min=50.2km az=65.0,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**24.32**	**208**	P	P	06 26 49.0	-0.6
	11nm,0.9s,baz=12,slow=9.3,SNR=3.1						
CTA	**Charters Tower**	**37.43**	**267**	P	P	06 28 45.4	-0.1
	5.8nm,0.4s,baz=93,slow=9.9,SNR=9.9						
STKA	**Stephens Creek**	**40.58**	**247**	P	P	06 29 11.6	-0.2
	1.0nm,0.5s,baz=184,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**48.04**	**258**	P	P	06 30 11.2	-0.4
	0.4nm,0.3s,baz=96,slow=7.0,SNR=11						
WRA	**Warramunga Arr**	**48.40**	**263**	P	P	06 30 14.0	-0.5
	1.4nm,0.3s,baz=98,slow=8.4,SNR=45						
FITZ	**Fitzroy Crossi**	**56.83**	**263**	P	P	06 31 18.4	+1.4
	1.2nm,0.5s,baz=122,slow=9.5,SNR=4.7						

*NEIC **21** 06:27:15.0, 19.12N×6874W, h2km, MD3.5(RSPR), After RSPR.*
RSPR 21 06:27:15.0,**1911N**×**6874W**,**h2**km±3km,**MD3.5**/6,**MD3.5**/6,
6C-1D,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDO	**Santo Domingo**	**1.30**	**240**	*e*P	Pg	06 27 36.2	-3.8
STDO				*e*S	Sg	06 27 54.3	-2.6
AGPR	**Aguadilla, PR**	**1.67**	**112**	*e*P	Pn	06 27 41.8	-3.5
AGPR				*e*S	Sn	06 28 03.4	-3.9
LSP	**Las Mesas**	**1.83**	**120**	*e*P	Pn	06 27 44.3	-3.2
LSP				*e*S	Sn	06 28 08.1	-3.0
CRPR	**Cabo Rojo, PR**	**1.90**	**125**	*e*P	Pn	06 27 45.7	-2.7
CRPR				*e*S	Sn	06 28 08.7	-4.3
LRS	**Lares**	**1.98**	**114**	*e*P	Pn	06 27 47.4	-2.1
AOPR	**Arecibo Observ**	**2.03**	**112**	*e*P	Pn	06 27 47.1	-3.2
AOPR				*e*S	Sn	06 28 12.7	-3.6
CELP	**Cerrillos**	**2.30**	**116**	*e*P	Pn	06 27 51.6	-2.3
CELP				*e*S	Sn	06 28 19.1	-3.7

*ISCJB **21** 06:38:29.4±1.4, 3756N±003×2678E±008, h1km±7km, Error ellipse: s-maj=11.3km s-min=5.2km az=167.2*
*ISK **21** 06:38:30.8, 3754N×2695E, h5km, MD2.9*
*CSEM **21** 06:38:30.5±0.4, 3758N×2691E, h12km, MD2.6, Error ellipse: s-maj=9.5km s-min=4.4km az=76.0*
*DDA **21** 06:38:30.7, 3756N×2684E, h7km±3km, Md2.6*
ISC 21 06:38:30.5±1.4,**3755N**±003×**2679E**±009,**h7**km±7km,**n10,**
σ0°**86**/18,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.38**	**66**	*i* P	**Pg**	**06 38 38.1**	**+0.2**
GCAM				*i* S	**Sg**	**06 38 43.7**	**+0.8**
BODT	**Bodrum**	**0.64**	**139**	*e*PG	**Pg**	**06 38 42.5**	**-0.3**
BODT				*e*SG	**Sg**	**06 38 52.0**	**+1.1**
BDRM	**Kayabasi**	**0.71**	**133**	*i* P	**Pg**	**06 38 44.1**	**0.0**
BDRM				*i* S	**Sg**	**06 38 54.7**	**+1.4**
MLSB	**Milas**	**0.82**	**107**	*e*PG	**Pg**	**06 38 45.0**	**-1.2**
MLSB				*e*SG	**Sg**	**06 38 55.7**	**-1.3**
AYDN	**Tasoluk**	**0.87**	**82**	*i* P	**Pg**	**06 38 46.9**	**-0.3**
AYDN				*i* S	**Sg**	**06 38 58.0**	**-0.5**
KDAG	**Bornova**	**0.93**	**23**	*i* P	**Pg**	**06 38 47.9**	**-0.5**
KDAG				*i* S	**Sg**	**06 39 01.2**	**+0.7**
YER	**Yerkesik**	**1.25**	**109**	*e*PN	**Pn**	**06 38 53.9**	**-0.6**
YER				*e*SN	**Sn**	**06 39 11.1**	**-0.5**
DALT	**Dalyan (Mudla)**	**1.66**	**117**	*e*PN	**Pn**	**06 39 00.4**	**+0.3**
KULA	**Kula-Manisa**	**1.76**	**56**	*e*PN	**Pn**	**06 39 02.9**	**+1.5**
BALY	**Balya**	**2.28**	**16**	*i* P	**Pg**	**06 39 12.8**	**-1.5**
BALY				*i* S	**Sg**	**06 39 44.6**	**+0.7**

*IDC **21** 07:04:38.0±1.0, 529S×1408E, h0km, mb4.0/6, mb1 4.1/9, mb1mx4.0/15, mbtmp4.0/9, ML4.0/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/16, Error ellipse: s-maj=41.8km s-min=12.5km az=98.0*
*NEIC **21** 07:04:39.6±0.8, 532S×1406E, h10km, mb4.2/3, Error ellipse: s-maj=21.4km s-min=12.4km az=91.0*
*ISCJB **21** 07:04:40.9±0.7, 542S±006×1406 3E±009, h33km, mb4.0/6, Error ellipse: s-maj=13.6km s-min=8.3km az=23.7*
ISC 21 07:04:43.0±0.7,**540S**±007×**14071E**±010,**h35**km,**n19,**
σ1°**16**/22,**mb4.0**/6,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**8.84**	**164**	*e*Pn	**Pn**	**07 06 48.1**	**-0.2**
	8.2nm,0.6s						
KAKA	**Kakadu**	**10.92**	**228**	*e*P	**Pn**	**07 07 17.7**	**+0.8**
	20nm,0.4s						
KAKA				*e*S	**Sn**	**07 09 19.0**	**+1.1**
CTA	**Charters Tower**	**15.56**	**160**	Pn	**Pn**	**07 08 21.2**	**+1.4**
	0.2nm,0.3s,baz=48,slow=11,SNR=3.1						
CTA				LR	LR	07 14 15.0	
	comp=Z,97nm,21.4s,baz=208,slow=37						
WRAB	**Tennant Creek**	**15.71**	**203**	*e*Pn	**Pn**	**07 08 19.8**	**-2.0**
	31nm,0.7s						
WB2	**Warramunga Arr**	**15.72**	**203**	*e*P	**Pn**	**07 08 20.5**	**-1.4**
WB2				*e*		07 08 27.5	
WB2				*e*S	**S**	**07 11 10.4**	**-19**
WRA	**Warramunga Arr**	**15.72**	**203**	Pn	**Pn**	**07 08 19.5**	**-2.4**
	0.8nm,0.3s,baz=17,slow=13,SNR=28						
ASAR	**Alice Springs**	**19.30**	**199**	P	**Pn**	**07 09 07.3**	**+1.0**
	0.6nm,0.3s,baz=32,slow=9.3,SNR=62						
ASAR				S	**S**	**07 12 47.0**	**+5.2**
	0.2nm,0.3s,baz=19,slow=26,SNR=4.1						
FITZ	**Fitzroy Crossi**	**19.39**	**228**	*e*P	**Pn**	**07 09 07.3**	**-0.1**
	6.4nm,0.7s						
FITZ				*e*S	**S**	**07 12 25.5**	**-18**
FITZ	**Fitzroy Crossi**	**19.39**	**228**	P	**Pn**	**07 09 06.7**	**-0.7**
	0.4nm,0.3s,baz=58,slow=17,SNR=12						
FITZ				S	**S**	**07 12 35.9**	**-7.8**
	0.3nm,0.3s,baz=37,slow=23,SNR=4.9						
FITZ				LR	LR	07 18 25.4	
	comp=Z,39nm,18.3s,baz=234,slow=42						
STKA	**Stephens Creek**	**26.35**	**178**	*e*P	**P**	**07 10 18.9**	**+3.1**
	4.6nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**26.35**	**178**	P	**P**	**07 10 17.8**	**+2.0**
	2.2nm,0.6s,mb3.8,baz=25,slow=12,SNR=4.8						
STKA				LR	LR	07 22 04.6	
	comp=Z,171nm,18.7s,baz=21,slow=40						
KSRS	**Korea Array**	**44.27**	**345**	P	**P**	**07 12 49.5**	**+0.2**
	1.3nm,0.6s,mb3.8,baz=159,slow=8.3,SNR=5.8						
PETK	**Petropavlovsk-**	**60.04**	**12**	P	**P**	**07 14 45.5**	**-0.7**
	2.9nm,0.7s,mb4.4,baz=232,slow=1.7,SNR=5.1						
PETK	**Petropavlovsk-**	**60.04**	**12**	P	**P**	**07 14 45.5**	**-0.7**
SONM	**Songino Array**	**60.99**	**334**	P	**P**	**07 14 52.6**	**-0.2**
	0.4nm,0.6s,mb3.7,baz=134,slow=8.3,SNR=3.5						
VNDA	**Vanda**	**72.94**	**175**	P	**P**	**07 16 08.3**	**0.0**
	1.0nm,0.9s,mb3.8,baz=9.5,slow=6.1,SNR=2.4						
BVAR	**Borovoye Array**	**78.21**	**295**	P	**P**	**07 17 03.4**	**+0.7**
	1.1nm,0.6s,mb4.1,baz=117,slow=7.6,SNR=4.0						
DBIC	**Dimbokro**	**145.74**	**274**	PKPbc	PKPbc	07 24 19.3	-0.1
	4.3nm,0.9s,baz=122,slow=11,SNR=4.5						
DBIC	**Dimbokro**	**145.74**	**274**	PKPbc	PKPbc	07 24 19.3	-0.1

IDC 21 07:05:48.6±1.8,**290S**×**3668E**,**h0**km,**mb4.3**/3,**mb1 4.4**/3,
mb1mx3.7/19,**mbtmp4.3**/3,**MS3.6**/7,**Ms1 3.7**/7,
ms1mx3.4/21,**Error ellipse: s-maj=77.6km**
s-min=15.1km az=107.0,**Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.85**	**18**	Pg	Pg	07 06 22.6	-1.4
	80nm,0.3s,baz=208,slow=12,SNR=52						
KMBO				Lg		07 06 47.1	
	221nm,0.3s,baz=266,slow=23,SNR=14						
BOSA	**Boshof**	**27.80**	**202**	P	P	07 11 39.6	+0.1
	3.8nm,0.8s,baz=28,slow=12,SNR=4.4						
TORD	**Torodi Ar. Bea**	**38.21**	**295**	LR	LR	07 28 38.8	
	comp=Z,198nm,18.5s,baz=315,slow=36						
DBIC	**Dimbokro**	**42.54**	**283**	LR	LR	07 31 37.1	
	comp=Z,158nm,18.5s,baz=111,slow=36						
KEST	**Kesra**	**46.15**	**329**	LR	LR	07 36 04.5	
	comp=Z,34nm,19.9s,baz=198,slow=39						
ESDC	**Sonseca Array**	**56.42**	**323**	LR	LR	07 41 21.8	
	comp=Z,58nm,21.8s,baz=265,slow=38						
MKAR	**Makanchi Array**	**63.67**	**33**	P	P	07 16 21.8	+0.1
	2.4nm,0.8s,baz=230,slow=6.5,SNR=5.1						
CMAR	**Chiang Mai Arr**	**64.83**	**68**	P	P	07 16 29.9	0.0
	1.1nm,0.4s,baz=256,slow=7.5,SNR=6.0						
CMAR				LR	LR	07 41 40.0	
	comp=Z,23nm,19.7s,baz=108,slow=33						
NOA	**NORSAR Array B**	**66.73**	**347**	LR	LR	07 50 06.6	
	comp=Z,12nm,21.2s,baz=270,slow=40						
VNDA	**Vanda**	**94.37**	**170**	LR	LR	08 01 11.6	
	comp=Z,91nm,19.9s,baz=255,slow=35						

*ISCJB **21** 07:10:23.3±0.5, 6076S±009×266W±02, h10km, mb4.5/16, MS3.8/7, Error ellipse: s-maj=18.7km s-min=8.3km az=144.3*
*IDC **21** 07:10:25.4±0.5, 6033S×2652W, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.4/16, mbtmp4.4/12, MS3.7/8, Ms1 3.7/8, ms1mx3.6/22, Error ellipse: s-maj=19.8km s-min=16.5km az=65.0*
*NEIC **21** 07:10:31.4±0.5, 6068S×2656W, h55km, mb4.8/4, Error ellipse: s-maj=20.3km s-min=12.5km az=215.0*
ISC 21 07:10:25.6±0.5,**6067S**±008×**264W**±02,**h10**km,**n37,**
σ1°**00**/29,**mb4.5**/16,**MS3.8**/7,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.43**	**151**	*e*	**Pn**	**07 13 22.1**	**-0.2**
VNA1				*e*		07 13 24.4	
VNA1				*e*		07 13 34.6	
VNA1				*e*S	**Sn**	**07 15 31.3**	**-9.3**
VNA1				*e*		07 15 37.4	
VNA1				*e*		07 15 40.4	
VNA3	**Neumayer Olymp**	**12.55**	**155**	*e*	**Pn**	**07 13 23.4**	**-0.5**
VNA3				*e*		07 13 26.2	
VNA3				*e*		07 13 36.4	
VNA3				*e*S	**Sn**	**07 15 31.2**	**-12**
VNA3				*e*		07 15 37.3	
VNA3				*e*		07 15 41.5	
VNA2	**Neumayer--Watz**	**12.83**	**151**	*e*	**Pn**	**07 13 27.2**	**-0.5**
VNA2				*e*		07 13 30.4	
VNA2				*e*		07 13 39.7	
VNA2				*e*S	**Sn**	**07 15 40.9**	**-9.5**
VNA2				*e*		07 15 46.5	
VNA2				*e*		07 15 49.7	
SNAA	**Sanae**	**14.43**	**149**	*e*	**Pn**	**07 13 48.7**	**-0.9**
SNAA				*e*		07 13 50.7	
SNAA				*e*		07 14 11.3	
SNAA				*e*S	**Sn**	**07 16 20.7**	**-8.7**
SNAA				*e*		07 16 26.5	
SNAA				*e*		07 16 29.8	
SNAA	**Sanae**	**14.43**	**149**	Pn	**Pn**	**07 13 49.0**	**-0.5**
	0.6nm,0.3s,baz=312,slow=14,SNR=80						
SNAA				Sn	**Sn**	**07 16 18.1**	**-11**
	0.1nm,0.3s,baz=345,slow=17,SNR=3.7						
SNAA				LR	LR	07 18 25.1	
	comp=Z,98nm,21.2s,baz=324,slow=32						
USHA	**Ushuaia**	**22.83**	**266**	P	**P**	**07 15 30.4**	**+2.1**
	11nm,0.8s,mb4.3,baz=209,slow=2.8,SNR=4.7						
USHA				LR	LR	07 21 57.1	
	comp=Z,241nm,19.9s,MS3.6,baz=334,slow=30						
QSPA	**South Pole Qui**	**29.56**	**180**	P	**P**	**07 16 34.7**	**+4.9**
	16nm,0.9s,mb4.7,baz=198,slow=6.2,SNR=58						
QSPA				LR	LR	07 28 11.2	
	comp=Z,73nm,21.1s,MS3.3,baz=10,slow=36						
TRQA	**Tornquist**	**31.73**	**299**	*e*P	**P**	**07 16 48.7**	**-0.6**
	7.3nm,0.6s,mb4.7						
PLCA	**Paso Flores**	**33.45**	**286**	P	**P**	**07 17 03.0**	**-1.3**
	2.4nm,0.7s,mb4.2,baz=137,slow=9.5,SNR=11						
PLCA				LR	LR	07 28 21.3	
	comp=Z,200nm,21.6s,MS3.8,baz=152,slow=32						
MAW	**Mawson**	**36.27**	**140**	P	**P**	**07 17 31.4**	**+3.0**
	2.4nm,0.7s,mb4.2,baz=237,slow=7.7,SNR=7.0						
MAW				LR	LR	07 30 45.7	
	comp=Z,164nm,18.8s,MS3.8,baz=141,slow=33						
VNDA	**Vanda**	**41.96**	**183**	P	**P**	**07 18 20.8**	**+4.9**
	3.4nm,0.9s,mb4.0,baz=196,slow=6.6,SNR=11						
VNDA				LR	LR	07 35 52.6	
	comp=Z,74nm,19.2s,MS3.6,baz=60,slow=36						
BOSA	**Boshof**	**46.92**	**71**	P	**P**	**07 18 56.2**	**+0.1**
	4.1nm,0.7s,mb4.5,baz=225,slow=12,SNR=6.1						
BOSA	**Boshof**	**46.92**	**71**	P	**P**	**07 18 56.2**	**+0.1**
BDFB	**Brasilia**	**47.60**	**331**	P	**P**	**07 19 00.9**	**-0.5**
	1.2nm,0.6s,mb4.1,baz=214,slow=26,SNR=4.3						
LVC	**Limon Verde**	**48.06**	**303**	*e*P	**P**	**07 19 04.8**	**-0.2**
	10nm,0.8s,mb4.9						
LPAZ	**La Paz**	**53.44**	**307**	P	**P**	**07 19 45.4**	**-0.2**
	7.2nm,0.5s,mb4.9,baz=144,slow=5.4,SNR=88						
DBIC	**Dimbokro**	**69.25**	**23**	P	**P**	**07 21 31.9**	**-0.6**
	3.1nm,0.8s,mb4.3,baz=163,slow=17,SNR=3.0						
OTAV	**Otavalo**	**72.58**	**304**	*e*P	**P**	**07 21 53.7**	**+1.0**
	19nm,1.5s,mb4.8						
TOA0	**Torodi Ar. Sit**	**76.93**	**28**	*e*P	**P**	**07 22 18.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**76.93**	**28**	P	**P**	**07 22 18.6**	**+0.7**
	14nm,0.5s,mb5.1,baz=199,slow=6.3,SNR=259						
SDV	**Santo Domingo**	**77.57**	**315**	*e*P	**P**	**07 22 20.0**	**-1.5**
	6.3nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**87.27**	**170**	P	**P**	**07 23 16.3**	**+4.2**
	3.3nm,1.2s,mb4.5,baz=190,slow=11,SNR=2.3						
STKA				LR	LR	07 59 42.2	
	comp=Z,117nm,19.0s,MS4.3,baz=21,slow=34						
STKA	**Stephens Creek**	**87.27**	**170**	P	**P**	**07 23 16.3**	**+4.2**
STKA				LR	LR	07 59 42.2	
ASAR	**Alice Springs**	**94.45**	**162**	P	**P**	**07 23 46.9**	**+1.2**
	0.5nm,0.6s,mb4.1,baz=180,slow=3.5,SNR=6.1						
CTA	**Charters Tower**	**99.31**	**173**	LR	LR	08 10 51.1	
	comp=Z,60nm,19.7s,MS4.1,baz=90,slow=36						
PDAR	**Pinedale Array**	**123.05**	**299**	PKP	PKPdf	07 29 20.9	-0.2
	0.3nm,0.5s,baz=104,slow=6.3,SNR=4.6						
NVAR	**Mina Array Bea**	**123.46**	**290**	PKP	PKPdf	07 29 24.2	+2.1
	0.5nm,0.6s,baz=122,slow=3.0,SNR=7.9						
NVAR	**Mina Array Bea**	**123.46**	**290**	PKP	PKPdf	07 29 24.2	+2.1
NOA	**NORSAR Array B**	**124.80**	**21**	PKP	PKPdf	07 29 26.5	+2.7
	1.0nm,0.8s,baz=169,slow=1.4,SNR=2.7						
AKTK	**Aktyubinsk**	**129.70**	**56**	PKP	PKPdf	07 29 32.9	-0.7
AKTO	**Aktyubinsk**	**129.70**	**56**	PKP	PKPdf	07 29 32.9	-0.7
	1.9nm,0.9s,baz=259,slow=5.2,SNR=2.4						
ARCES	**ARCESS Array B**	**135.08**	**23**	PKP	PKPdf	07 29 45.2	+2.0
	1.8nm,0.6s,baz=207,slow=1.4,SNR=8.2						
ARCES	**ARCESS Array B**	**135.08**	**23**	PKP	PKPdf	07 29 45.2	+2.0
YKA	**Yellowknife Ar**	**139.78**	**314**	PKP	PKPdf	07 29 51.1	-0.9
	0.8nm,0.6s,baz=122,slow=2.6,SNR=4.8						
ZALV	**Zalesovo Beam**	**143.86**	**69**	PKP	PKPdf	07 29 59.7	+0.1
	1.5nm,0.4s,baz=227,slow=2.9,SNR=5.3						
ZALV	**Zalesovo Beam**	**143.86**	**69**	PKP	PKPdf	07 29 59.7	+0.1
SONM	**Songino Array**	**150.31**	**94**	PKPbc	PKPbc	07 30 17.1	+1.3
	2.6nm,0.7s,baz=207,slow=3.9,SNR=13						

*ISCJB **21** 07:55:54.0±1.1, 3729N±005×3862E±004, h1km±7km, Error ellipse: s-maj=8.6km s-min=4.9km az=161.9*
*CSEM **21** 07:55:53.8±0.2, 3730N×3861E, h8km, MD3.0, Error ellipse: s-maj=4.9km s-min=2.2km az=130.0*
*ISK **21** 07:55:53.9, 3730N×3864E, h7km, MD3.0*
*DDA **21** 07:55:55.1, 3736N×3861E, h6km±2km, Md2.9*
ISC 21 07:55:54.3±1.2,**3728N**±006×**3862E**±004,**h4**km±8km,**n17,**
σ0°**73**/26,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.23**	**44**	*e*PG	**Pg**	**07 55 58.0**	**-0.8**
ATAB	**Bozova**	**0.33**	**306**	*i* P	**Pg**	**07 56 00.6**	**0.0**
ATAB				*i* S	**Sg**	**07 56 05.3**	**+0.4**
GZT	**Gaziantep**	**0.85**	**276**	*i* P	**Pg**	**07 56 10.9**	**+0.3**
GZT				*i* S	**Sg**	**07 56 25.3**	**+3.7**
MALT	**Malatya**	**1.05**	**352**	*e*PG	**Pg**	**07 56 13.9**	**-0.5**
MALT				*e*SG	**Sg**	**07 56 28.4**	**+0.4**
MYA	**Malataya**	**1.06**	**352**	*e*PG	**Pg**	**07 56 14.3**	**-0.4**
MYA				*e*SG	**Sg**	**07 56 29.0**	**+0.6**
GAZ	**Gaziantep**	**1.13**	**265**	*e*PN	**Pn**	**07 56 16.5**	**-0.5**
GAZ				*e*SN	**Sn**	**07 56 32.5**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.23**	**26**	*e*PN	**Pn**	**07 56 17.4**	**-0.8**
ELZG	**Elazig**	**1.25**	**13**	*i* P	**Pg**	**07 56 18.0**	**-0.4**
ELZG				*i* S	**Sg**	**07 56 34.5**	**0.0**
ELZG	**Elazig**	**1.25**	**13**	*i* P	**Pg**	**07 56 18.0**	**-0.3**
ELZG				*i* S	**Sg**	**07 56 34.5**	**-0.1**

SDV	Santo Domingo	23.10	16	P	P	08 02 08.3	-0.5
	2.3nm,0.4s,mb3.9,baz=202,slow=13,SNR=5.6						
PCRV	Puerto La Cruz	26.48	28	P	P	08 02 40.7	+0.8
	6.5nm,0.7s,mb4.3,baz=0.0,slow=1.0,SNR=3.3						
PLCA	Paso Flores	27.67	170	P	P	08 02 49.8	-0.7
	2.1nm,0.9s,mb3.8,baz=336,slow=14,SNR=4.7						
BDFB	Brasilia	27.98	98	LR	LR	08 15 02.8	
	comp=Z,68nm,19.1s,MS3.2,baz=108,slow=39						
USHA	Ushuaia	41.75	173	P	P	08 04 49.5	-2.0
	7.2nm,1.0s,mb4.3,baz=353,slow=14,SNR=9.4						
TXAR	Lajitas Array	49.85	329	P	P	08 05 55.5	-0.2
	0.2nm,0.6s,mb3.4,baz=149,slow=7.6,SNR=6.4						
PDAR	Pinedale Array	63.54	334	P	P	08 07 33.0	+0.2
	0.4nm,0.8s,mb3.5,baz=111,slow=8.1,SNR=4.0						
NVAR	Mina Array Bea	64.60	325	P	P	08 07 41.5	+1.6
	0.2nm,0.5s,mb3.4,baz=145,slow=6.9,SNR=3.5						
ULM	Lac du Bonnet	65.65	347	P	P	08 07 46.1	-0.2
	7.6nm,0.9s,mb4.7,baz=160,slow=6.0,SNR=6.3						
SCHQ	Schefferville	68.61	6	P	P	08 08 04.0	-1.0
	4.3nm,0.8s,mb4.4,baz=189,slow=1.8,SNR=4.5						
VNA1	Neumayer--Stat	70.29	161	*e*	P	08 08 17.0	+1.7
VNA1				*e*		08 08 20.2	
VNA2	Neumayer--Watz	70.64	161	*e*	P	08 08 18.6	+1.1
VNA2				*e*		08 08 21.4	
VNA2				*e*	pP	08 08 25.9	-2.4
VNA2				*e*	pP	08 08 29.1	+0.8
SNAA	Sanae	72.24	161	*e*	P	08 08 27.8	+0.7
SNAA				*e*		08 08 30.6	
SNAA				*e*	pP	08 08 35.9	-2.1
SNAA				*e*	pP	08 08 38.6	+0.6
SNAA	Sanae	72.24	161	*e*P	P	08 08 27.9	+0.8
SNAA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SNAA	Sanae	72.24	161	*e*P	P	08 08 27.9	+0.8
	comp=Z,4.3nm,0.8s,mb4.4						
DBIC	Dimbokro	74.23	79	P	P	08 08 38.4	-1.5
	comp=Z,1.5nm,0.5s,mb4.2,baz=221,slow=12,SNR=5.3						
DBIC				LR	LR	08 40 00.2	
	comp=Z,60nm,18.5s,MS3.9,baz=168,slow=35						
TORD	Torodi Ar. Bea	82.21	75	P	P	08 09 24.8	+0.7
	comp=Z,5.9nm,0.9s,mb4.5,baz=259,slow=4.7,SNR=21						
BOSA	Boshof	93.95	120	LR	LR	08 50 15.5	
	comp=Z,96nm,18.4s,MS4.3,baz=63,slow=34						
ASAR	Alice Springs	132.35	219	PKP	PKPdf	08 16 18.3	+1.1
	comp=Z,0.2nm,0.5s,baz=152,slow=1.9,SNR=4.3						
WRA	Warramunga Arr	134.75	223	PKP	PKPdf	08 16 21.8	0.0
	comp=Z,0.4nm,0.4s,baz=126,slow=1.8,SNR=13						
ZALV	Zalesovo Beam	137.15	16	PKP	PKPdf	08 16 25.8	+0.6
	comp=Z,0.8nm,0.6s,baz=267,slow=3.0,SNR=3.9						
ZALV	Zalesovo Beam	137.15	16	PKP	PKPdf	08 16 25.8	+0.6
ZAL	Zalesovo	137.15	16	PKIKP	PKPdf	08 16 25.8	+0.6
SONM	Songino Array	145.68	356	PKPbc	PKPbc	08 16 41.3	+0.4
	comp=Z,2.8nm,0.9s,baz=337,slow=2.4,SNR=11						

*ISCJB **21** 08:00:43.5±1.1,2986N±004×3624E±006,h0km, Error ellipse: s-maj=7.4km s-min=5.3km az=169.4*
*SGS **21** 08:00:43.9,3008N×3618E,h7km*
*CSEM **21** 08:00:43.9,3008N×3618E,h7km,ML2.6,After SNSN*
*GII **21** 08:00:44.6±1.4,2987N×3615E,h0km,ML2.4/5, EXPLOSION*

ISC 21 08:00:43.6±1.2,2985N±004×3628E±006,h0km,n12, σ0§90/21,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.10	280	Pg	Pg	08 01 03.8	-0.9
HRFI				Sg	Sg	08 01 18.6	-0.3
EIL	Elat	1.17	261	Pg	Pg	08 01 05.8	-0.3
EIL				Sg	Sg	08 01 22.1	+0.9
ZFRI	Zfri	1.19	306	Pg	Pg	08 01 05.4	-0.9
ZFRI				Sg	Sg	08 01 22.2	+0.6
MBRI	Mt Berech	1.19	268	Pg	Pg	08 01 06.0	-0.4
MBRI				Sg	Sg	08 01 22.7	+0.8
HQLS		1.20	243	P	Pg	08 01 05.8	-0.8
HQLS		1.20	243	P	Pg	08 01 05.8	-0.7
HQLS				S	Sg	08 01 22.0	-0.1
PRNI	Paran	1.22	294	Pg	Pg	08 01 05.7	-1.2
PRNI				Sg	Sg	08 01 22.1	-0.5
JLOS		1.31	212	P	Pg	08 01 08.8	+0.1
JLOS				S	Sg	08 01 27.5	+1.8
KRMI	Paran Flat	1.38	281	Pg	Pg	08 01 08.7	-1.3
KRMI				Sg	Sg	08 01 28.2	+0.3
DSI	Dead Sea	1.88	336	Pn	Pn	08 01 18.1	+1.2
DSI				Sn	Sn	08 01 43.4	+2.0
KZIT	Kziot	1.94	303	Sn	Sn	08 01 43.0	+0.1
RSHS		2.02	220	P	Pn	08 01 18.1	-0.8

IDC 21 08:01:55.2±2.1,1785S×12621E,h0km,mb1 3.8/3, mb1mx3.5/15,mbtmp3.7/3,ML3.4/2,Error ellipse: s-maj=22.3km s-min=9.9km az=179.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	0.60	245	Pg	Pg	08 02 06.9	+0.2
	16nm,0.3s,baz=67,slow=17,SNR=227.5						
FITZ				Lg		08 02 14.4	
	108nm,0.3s,baz=330,slow=20,SNR=54						
WRA	Warramunga Arr	7.97	106	Pn	Pn	08 03 51.1	-1.3
	0.3nm,0.3s,baz=283,slow=14,SNR=9.2						
WRA				Sn	Sn	08 05 19.0	-4.5
	2.0nm,0.3s,baz=282,slow=24,SNR=8.2						
WRA				Lg		08 06 06.4	
	2.2nm,0.3s,baz=287,slow=29,SNR=8.3						
ASAR	Alice Springs	9.24	130	Pn	Pn	08 04 11.8	+2.0
	1.2nm,0.3s,baz=311,slow=12,SNR=30						
ASAR				Sn	Sn	08 05 54.0	-0.4
	0.9nm,0.3s,baz=304,slow=20,SNR=7.7						
ASAR				Lg		08 06 49.0	
	0.4nm,0.3s,baz=297,slow=29,SNR=5.0						
STKA	Stephens Creek	19.72	138	P	Pn	08 06 26.9	-0.8
	0.2nm,0.3s,baz=310,slow=12,SNR=3.0						

IDC 21 08:11:35.8±29.0,2143S×17511W,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.7/19,mbtmp3.9/4,Error ellipse: s-maj=537.9km s-min=153.3km az=77.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.09	265	P	P	08 18 40.6	+1.0
	2.4nm,0.6s,baz=90,slow=7.1,SNR=5.9						
STKA	Stephens Creek	39.84	246	P	P	08 19 10.3	-0.8
	1.1nm,0.5s,baz=83,slow=8.1,SNR=4.2						
ASAR	Alice Springs	46.94	257	P	P	08 20 08.0	-0.7
	0.2nm,0.4s,baz=94,slow=7.8,SNR=5.3						
WRA	Warramunga Arr	47.15	262	P	P	08 20 10.5	+0.2
	0.3nm,0.3s,baz=96,slow=8.5,SNR=31						

*ISK **21** 08:21:12.9,3580N×2738E,h6km,MD3.2*
*NEIC **21** 08:21:12.1,3572N×2738E,h27km,MD3.3(ATH),After ATH.*
*ATH **21** 08:21:12.1,3572N×2738E,h27km±2km,MD3.3/3*
*ISCJB **21** 08:21:13.4±0.7,3563N±008×2736E±007,h27km±9km, Error ellipse: s-maj=13.2km s-min=9.2km az=0.5*
*CSEM **21** 08:21:13.3±0.1,3574N×2736E,h18km,MD3.3,Error ellipse: s-maj=2.8km s-min=1.2km az=140.0*
*DDA **21** 08:21:15.2,3592N×2771E,h7km±4km,Md2.9*

ISC 21 08:21:13.9±0.7,3564N±008×2735E±007,h25km±10km, n18,σ0§99/27,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.17	240	*e*PB	Pb	08 21 19.0	-0.2
KARP				*e*SB	Sb	08 21 23.1	+0.4
ARG	Arkhangelos	0.86	47	*e*PN	Pn	08 21 27.9	-2.5
ARG				*e*SN	Sn	08 21 38.5	-3.6
BODT	Bodrum	1.42	359	*e*PN	Pn	08 21 37.6	-0.5
BODT	Bodrum	1.42	359	*e*Pn	Pn	08 21 37.6	-0.5
BODT				*e*Sn	Sn	08 21 55.5	-0.6
BDRM	Kayabasi	1.43	3	*i* P	Pn	08 21 37.5	-0.7
BDRM				*i* S	Sn	08 21 57.5	+1.2
NPS	Neapolis	1.46	256	*e*PN	Pn	08 21 39.4	+0.7
DALT	Dalyan (Mudla)	1.54	42	*e*PN	Pn	08 21 39.3	-0.5
DALT	Dalyan (Mudla)	1.54	42	*e*PN	Pn	08 21 39.7	0.0
DALT	Dalyan (Mudla)	1.54	42	*e*SN	Sn	08 22 00.1	+1.1
DALT	Dalyan (Mudla)	1.54	42	*e*Pn	Pn	08 21 39.7	0.0
DALT				*e*Sn	Sn	08 21 59.4	+0.5
TURN	Turunc	1.60	39	*i* P	Pn	08 21 35.6	-4.9
TURN				*i* S	Sn	08 21 55.2	-5.2
YER	Yerkesik	1.68	27	*e*PN	Pn	08 21 40.9	-0.8
YER	Yerkesik	1.68	27	*e*PN	Pn	08 21 43.8	+2.2
YER	Yerkesik	1.68	27	*e*SN	Sn	08 22 03.5	+1.2
YER	Yerkesik	1.68	27	*e*Pn	Pn	08 21 40.9	-0.7
YER				*e*Sn	Sn	08 22 02.0	-0.3
AKAS	Kas	1.93	71	*i* P	Pn	08 21 44.9	-0.2
AKAS				*i* S	Sn	08 22 08.7	+0.2
APE	Apeiranthos	2.05	315	*e*PN	Pn	08 21 46.2	-0.5
GOLH	Golhisar	2.40	48	*i* P	Pn	08 21 52.7	+1.2
GOLH				*i* S	Sn	08 22 23.9	+3.8

*IDC **21** 08:23:26.7±6.6,3987S×17744E,h43km±30km,mb3.5/3, mb1 3.7/4,mb1mx3.5/14,mbtmp3.6/4,ML3.8/1,Error ellipse: s-maj=120.0km s-min=18.1km az=98.0*
*ISCJB **21** 08:23:27.1±0.7,3991S±004×177.11E±008,h54km±9km, mb3.6/3,Error ellipse: s-maj=11.6km s-min=4.9km az=22.6*
*NEIC **21** 08:23:29.7,3979S×17700E,h43km,ML4.0(WEL),After WEL.*

ISC 21 08:23:28.3±0.6,3987S±003×17707E±008,h37km±11km, n49,σ0§85/52,mb3.6/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	0.83	327	P	Pn	08 23 42.0	-1.5
TSZ	Takapari Road	0.87	257	P	Pn	08 23 44.6	+0.5
KNZ	Kokohu	0.97	29	P	Pn	08 23 46.8	+1.4
MOVZ	Moawhango	1.12	294	P	Pn	08 23 47.0	-0.4
HATZ	Hinemaiaia	1.24	322	P	Pn	08 23 48.8	-0.3
TUVZ	Tukino	1.25	298	P	Pn	08 23 49.4	+0.2
WNVZ	Wahianoa	1.26	295	P	Pn	08 23 49.4	0.0
RITZ	Rihia Road	1.29	313	P	Pn	08 23 49.8	-0.1
DRZ	Dome Shelter	1.31	297	P	Pn	08 23 50.9	+0.9
FWVZ	Far West T-bar	1.32	297	P	Pn	08 23 50.1	-0.2
NGZ	Ngauruhoe	1.33	301	P	Pn	08 23 50.3	-0.1
WPVZ	Whakapapa	1.35	299	P	Pn	08 23 50.5	-0.2
MRZ	Mangatainoka R	1.39	235	P	Pn	08 23 52.2	+1.1
KATZ	Kakaramea	1.39	310	P	Pn	08 23 51.1	-0.1
RATZ	Rangitukua	1.42	314	P	Pn	08 23 51.2	-0.4
TWVZ	Taurewa	1.49	302	P	Pn	08 23 52.8	+0.2
WATZ	Wairara	1.56	318	P	Pn	08 23 53.0	-0.5
MWZ	Matawai	1.57	13	P	Pn	08 23 54.1	+0.4
URZ	Urewera	1.61	1	P	Pn	08 23 54.1	-0.1
	28nm,0.3s,baz=208,slow=11,SNR=186						
URZ				S	Sn	08 24 12.4	-1.3
	132nm,0.3s,baz=354,slow=19,SNR=27						
URZ	Urewera	1.61	1	P	Pn	08 23 54.0	-0.2
WAZ	Wanganui	1.61	273	P	Pn	08 23 55.4	+1.2
TAZ	Tarawera	1.69	345	P	Pn	08 23 55.6	+0.3
MTW	Mount Morrison	1.76	222	P	Pn	08 23 57.0	+0.8
PAWZ	Paruwai Farm	1.96	219	P	Pn	08 23 59.9	+0.9
CAW	Cannon Point	1.96	230	P	Pn	08 23 59.5	+0.4
PUZ	Puketiti	2.02	28	P	Pn	08 23 59.6	-0.2
MSWZ	Moikau Station	2.07	221	P	Pn	08 24 00.9	+0.3
RAEZ	Rainy Point	2.15	285	P	Pn	08 24 04.7	+3.1
WEL	Wellington	2.25	230	P	Pn	08 24 03.5	+0.5
SNZO	South Karori	2.30	231	*e*Pn	Pn	08 24 04.8	+1.1
SNZO				*e*Sn	Sn	08 24 32.0	+1.1
NEZ	North Egmont	2.37	284	P	Pn	08 24 05.9	+1.2
MXZ	Matakaoa Point	2.50	23	P	Pn	08 24 07.3	+0.9
TCW	Tory Channel	2.52	237	P	Pn	08 24 06.6	0.0
NNZ	Nelson	3.12	243	P	Pn	08 24 14.7	-0.2
KHZ	Kahutara	3.68	225	P	Pn	08 24 22.3	-0.4
DSZ	Denniston Nort	4.41	243	P	Pn	08 24 30.9	-1.8
CRLZ	Canterbury Las	4.98	221	P	Pn	08 24 40.6	+0.1
MQZ	McQueen's Vall	5.06	219	P	Pn	08 24 40.6	-1.0
WVZ	Waitaha Valley	5.73	234	P	Pn	08 24 50.1	-0.8
RPZ	Rata Peaks	5.91	228	P	Pn	08 24 53.7	+0.4
	2.2nm,0.3s,baz=42,slow=12,SNR=26						
RPZ				S	Sn	08 25 54.3	-5.4
	7.2nm,0.3s,baz=6.5,slow=20,SNR=24						
RPZ	Rata Peaks	5.91	228	P	Pn	08 24 52.6	-0.7
FOZ	Fox Glacier	6.64	234	P	Pn	08 25 01.2	-2.1
LBZ	Lake Benmore	6.82	226	P	Pn	08 25 05.0	-0.8
ODZ	Otahua Downs	7.02	220	P	Pn	08 25 07.4	-1.1
JCZ	Jackson Bay	7.48	233	P	Pn	08 25 13.0	-1.8
TUZ	Tuapeka	8.17	219	P	Pn	08 25 23.8	-0.4
STKA	Stephens Creek	29.68	274	P	P	08 29 31.4	+0.8
	3.0nm,1.1s,mb4.0,baz=128,slow=12,SNR=3.2						
ASAR	Alice Springs	39.69	281	P	P	08 30 57.0	0.0
	0.3nm,0.3s,mb3.5,baz=123,slow=7.2,SNR=8.8						
WRA	Warramunga Arr	41.55	286	P	P	08 31 12.2	-0.2
	0.4nm,0.3s,mb3.5,baz=129,slow=6.7,SNR=43						

*MOS **21** 08:36:02.9±1.1,4693N×15220E,h124km,mb3.7/3,Error ellipse: s-maj=53.9km s-min=31.0km az=89.3*
*ISCJB **21** 08:36:03.9±4.0,470N±002×1523E±03,h126km±36km, mb3.5/6,Error ellipse: s-maj=38.4km s-min=28.8km az=15.5*
*IDC **21** 08:36:05.5±4.5,4699N×15232E,h126km±40km,mb3.4/6, mb1 3.4/7,mb1mx3.2/22,mbtmp3.3/7,Error ellipse: s-maj=31.6km s-min=27.7km az=41.0*

ISC 21 08:36:05.5±3.5,470N±002×1523E±03,h125km±31km,n12, σ0§39/12,mb3.5/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	7.04	28	P	Pn	08 37 45.9	0.0
	0.2nm,0.3s,baz=191,slow=12,SNR=4.6						
ZALV	Zalesovo Beam	42.01	305	P	P	08 43 44.2	+0.2
	0.4nm,0.3s,mb3.7,baz=74,slow=6.0,SNR=2.1						
ZAL	Zalesovo	42.02	305	P	P	08 43 44.2	0.0
MKAR	Makanchi Array	46.33	297	P	P	08 44 17.8	-0.7
	0.6nm,0.7s,mb3.5,baz=65,slow=6.6,SNR=4.2						
MKAR	Makanchi Array	46.33	297	P	P	08 44 17.8	-0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	NORSAR Subarra	67.81	341	P	P	08 46 49.9	+0.5
	comp=Z,0.8nm,0.5s,mb3.8,baz=27,slow=6.5						
NOA	NORSAR Array B	67.81	341	P	P	08 46 50.2	+0.8
	comp=Z,0.9nm,0.5s,mb3.8,baz=28,slow=6.5,SNR=4.2						
NOA	NORSAR Array B	67.81	341	P	P	08 46 50.2	+0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	71.03	326	P	P	08 47 09.3	0.0
	comp=Z,0.8nm,0.4s,mb3.9,baz=38,slow=5.7,SNR=4.5						
AKASG	Malin Array Be	71.03	326	P	P	08 47 09.4	0.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	Alice Springs	72.26	198	P	P	08 47 17.2	+0.3
	comp=Z,0.3nm,0.5s,mb3.3,baz=10,slow=5.7,SNR=6.1						
TXAR	Lajitas Array	77.86	60	P	P	08 47 48.9	-0.4
	comp=Z,0.2nm,0.6s,mb3.0,baz=318,slow=3.9,SNR=3.9						

*IDC **21** 08:40:38.9±9.1,2564N×12393E,h152km±110km,mb3.3/5, mb1 3.5/7,mb1mx3.3/24,mbtmp3.4/7,Error ellipse: s-maj=119.0km s-min=15.5km az=63.0*
*ISCJB **21** 08:40:40.3±0.4,2577N±006×12422E±005,h188km±5km, mb3.6/5,Error ellipse: s-maj=11.2km s-min=4.4km az=150.7*
*NEIC **21** 08:40:41.1±0.8,2577N×124.17E,h183km±8km, MG3.7(JMA),Error ellipse: s-maj=14.9km s-min=12.6km az=165.0*
*JMA **21** 08:40:42.5±0.3,2583N×124.12E,h168km,M3.7*

ISC 21 08:40:41.2±0.4,2579N±006×12421E±005,h183km±5km, n26,σ0§94/44,mb3.6/5,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	1.23	159	P	Pn	08 41 12.0	+1.0
JTJ				*e*S	Sn	08 41 34.2	+0.2
JMJ	Miyako jima 2	1.38	134	P	Pn	08 41 13.8	+1.5
JMJ				S	Sn	08 41 37.2	+0.9
JIJ	Ishigaki jima	1.42	182	P	Pn	08 41 12.9	+0.2
JIJ				S	Sn	08 41 35.6	-1.4
JOGS	Gusukube	1.49	133	*e*S	Sn	08 41 39.7	+1.6
IRIF	Iriomote-Funau	1.51	197	P	Pn	08 41 14.0	+0.4
IRIF				*e*S	Sn	08 41 38.1	-0.4
JKRS	Kuro-shima	1.56	187	P	Pn	08 41 14.3	+0.3
JKRS				*e*S	Sn	08 41 38.4	-0.9
YOJ	Yonaguni jima	1.71	220	P	Pn	08 41 15.9	+0.4
YOJ				*e*S	Sn	08 41 41.5	-0.4
HATJ	Hateruma jima	1.77	192	P	Pn	08 41 16.7	+0.6
HATJ				*e*S	Sn	08 41 41.9	-1.1
JKE	Kume jima 2	2.38	76	P	Pn	08 41 23.8	+1.2
JKE				*e*S	Sn	08 41 54.4	-0.4
YHNB	Yeheng	2.80	247	*e*Pn	Pn	08 41 27.1	-0.4
YHNB				*e*Sn	Sn	08 42 03.7	+0.2
JAGN	Aguni-jima	2.84	73	P	Pn	08 41 28.7	+0.7
JAGN				S	Sn	08 42 03.6	-0.8
NACB	Ninganchiao	2.87	236	*e*Pn	Pn	08 41 27.6	-0.8
NACB				*e*Sn	Sn	08 42 05.1	0.0
JJT2	Tamagusuku 2	3.21	83	P	Pn	08 41 33.8	+1.3
JJT2				*e*S	Sn	08 42 12.3	-0.1
JIH	Iheya	3.59	69	P	Pn	08 41 37.8	+0.6
JIH				*e*S	Sn	08 42 20.6	-0.4
JOW	Kunigami	3.79	73	P	Pn	08 41 39.7	-0.1
JOW				S	Sn	08 42 22.3	-3.2
JOW	Kunigami	3.79	73	P	Pn	08 41 40.2	+0.4
	18nm,0.3s,baz=286,slow=19,SNR=130						
JOW				S	Sn	08 42 22.4	-3.2
	50nm,0.3s,baz=3.3,slow=18,SNR=32						
JTK	Tokunoshima	4.68	64	P	Pn	08 41 50.2	-0.9
JTK				*e*S	Sn	08 42 42.4	-3.5
JAM	Amami Oshima	5.47	60	P	Pn	08 41 59.9	-1.4
JAM				*e*S	Sn	08 43 00.4	-3.9
JMZ	Minamidaito 2	6.32	88	P	Pn	08 42 12.3	-0.1
JMZ				*e*S	Sn	08 43 18.3	-6.0
KSRS	Korea Array	12.05	14	P	Pn	08 43 29.2	+2.1
	0.4nm,0.3s,baz=201,slow=12,SNR=8.8						
MKAR	Makanchi Array	39.17	313	P	P	08 47 51.8	+0.7
	0.5nm,0.5s,mb3.4,baz=107,slow=9.6,SNR=3.8						
ZALV	Zalesovo Beam	40.46	325	P	P	08 48 00.6	-1.1
	1.0nm,0.5s,mb3.7,baz=119,slow=8.1,SNR=4.1						
ZALV	Zalesovo Beam	40.46	325	P	P	08 48 00.6	-1.1
FITZ	Fitzroy Crossi	43.65	178	P	P	08 48 26.9	-0.9
	0.6nm,0.7s,mb3.4,baz=27,slow=9.0,SNR=2.5						
WRA	Warramunga Arr	46.51	167	P	P	08 48 49.9	-0.4
	1.4nm,0.5s,mb3.9,baz=349,slow=8.3,SNR=23						
ASAR	Alice Springs	50.05	168	P	P	08 49 18.1	+0.7
	0.6nm,0.5s,mb3.5,baz=357,slow=12,SNR=10						

MAN 21 08:40:48,687N×12497E,h84km,mb4.5,ML3.4,MS3.3, 2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.18	41⇑	*i*P	Pg	08 40 52.8	-7.4
KCP				*i* S	Sn	08 40 55.7	-14
DMPH	Davao City--Mi	0.57	69⇓	*i*P	Pn	08 40 59.4	-3.4
DMPH				*i* S	Sn	08 41 10.5	-3.3
GSPH	General Santos	0.78	181⇑	*e*P	Pn	08 41 06.8	+2.0
GSPH				*e*S	Sn	08 41 19.9	+2.5
CTBH	Cotabato--PC H	0.80	296⇓	*i*P	Pn	08 41 06.6	+1.6
CTBH				*i* S	Sn	08 41 19.9	+2.2
BUKP	Musuan	1.00	5	*e*P	Pn	08 41 08.1	+0.8
BUKP				*e*S	Sn	08 41 23.6	+1.7
MATI	Mati	1.28	87	*e*P	Pn	08 41 11.1	+0.4

*NEIC **21** 08:50:42.0±3.1,6.17S×13062E,h114km±30km,mb3.7/2, Error ellipse: s-maj=41.0km s-min=20.8km az=61.0*
*IDC **21** 08:50:42.9±8.0,6.17S×13062E,h123km±77km,mb3.7/3, mb1 3.9/7,mb1mx3.6/16,mbtmp3.8/7,Error ellipse: s-maj=64.4km s-min=20.7km az=49.0*
*ISCJB **21** 08:50:48.1±1.7,663S±009×13059E±008,h204km±18km, mb3.7/3,Error ellipse: s-maj=16.4km s-min=9.8km az=40.7*

ISC 21 08:50:48.2±1.6,660S±009×13057E±009,h184km±14km, n15,σ1§00/25,mb3.8/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.35	163	*e*P	Pn	08 52 19.3	-0.5
	28nm,0.6s						
KAKA				*e*S	Sn	08 53 30.8	-1.4
KAKA	Kakadu	6.35	163	*e*Pn	Pn	08 52 19.4	-0.4
KAKA				*e*S	Sn	08 53 30.8	-1.4
KAKA				*e*Sn	Sn	08 53 31.2	-1.0
BATI	Baumata	7.72	242	P	Pn	08 52 37.5	-0.3
	8.7nm,0.3s,baz=83,slow=8.1,SNR=5.0						
BATI				S	Sn	08 54 05.1	+0.4
	14nm,0.3s,baz=37,slow=20,SNR=5.2						
FITZ	Fitzroy Crossi	12.41	202	*e*P	Pn	08 53 38.5	-0.2
	8.0nm,1.4s						
FITZ				*e*		08 53 40.1	
FITZ				*e*S	Sn	08 55 51.8	-5.0
FITZ	Fitzroy Crossi	12.41	202	P	Pn	08 53 39.0	+0.2
	2.1nm,0.3s,baz=32,slow=13,SNR=41						
FITZ				S	Sn	08 55 54.0	-2.7
	0.8nm,0.3s,baz=41,slow=20,SNR=4.0						
FITZ	Fitzroy Crossi	12.41	202	*e*P	Pn	08 53 40.1	+1.4
FITZ				*e*S	Sn	08 55 51.8	-5.0
WRAB	Tennant Creek	13.76	165	*e*Pn	Pn	08 53 57.2	+1.5
	2.9nm,0.4s						
WRA	Warramunga Arr	13.76	165	P	Pn	08 53 56.4	+0.6
	0.9nm,0.3s,baz=346,slow=13,SNR=53						
WRA				S	Sn	08 56 22.9	-6.3
	1.9nm,0.3s,baz=342,slow=23,SNR=7.5						
WB2	Warramunga Arr	13.77	165	*e*P	Pn	08 53 56.2	+0.4
WB2				*e*S	Sn	08 56 22.8	-6.4
ASAR	Alice Springs	17.27	170	P	Pn	08 54 41.6	+3.1
	0.7nm,0.3s,baz=352,slow=10,SNR=46						
ASAR				S	S	08 57 47.0	-0.5
	0.3nm,0.3s,baz=351,slow=23,SNR=9.1						
STKA	Stephens Creek	27.18	159	*e*P	P	08 56 19.0	+4.4
	1.7nm,1.1s,mb3.6						
STKA	Stephens Creek	27.18	159	P	P	08 56 18.7	+4.1
	0.7nm,0.3s,mb3.8,baz=338,slow=9.6,SNR=6.2						
MKAR	Makanchi Array	68.20	326

*IDC **21** 10:00:57.3±2.9, 1390S×7685W, h14km±17km, mb4.4/13, mb1 4.6/17, mb1mx4.5/22, mbtmp4.4/17, ML4.3/4, MS3.8/14, Ms1 3.8/14, ms1mx3.6/28, Error ellipse: s-maj=25.6km s-min=10.6km az=74.0*

*MOS **21** 10:00:58.9±1.3, 1380S×7682W, h33km, mb4.7/14, Error ellipse: s-maj=19.9km s-min=8.9km az=127.6*

*NEIC **21** 10:01:00.5±2.1, 1394S×7684W, h35km±14km, mb4.8/43, Error ellipse: s-maj=10.9km s-min=4.4km az=61.0*

ISC 21 10:00:56.4±1.7, 1387S±004×7680W±006, h5km±10km, h6km±2km: pP-P, n132, σ0°78/114, mb4.7/56, MS3.9/10, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.87**	**359**	Pn	**Pn**	**10 01 28.5**	**-0.6**
	109nm,0.3s,baz=169,slow=13,SNR=68						
NNA				Pg	**Pg**	**10 01 31.8**	**-0.5**
	316nm,0.3s,baz=184,slow=14,SNR=117						
NNA				Sn	**Sn**	**10 01 52.7**	**-0.4**
	715nm,0.3s,baz=224,slow=17,SNR=11						
NNA				Lg		10 01 58.1	
	2μm,0.3s,baz=108,slow=19,SNR=20						
ARE	**Arequipa**	**5.73**	**117**	*e*P	**Pn**	**10 02 22.0**	**-0.2**
ARE				*e*S	**Sb**	**10 03 46.0**	**+0.1**
ATAH	**Atahualpa**	**7.01**	**347**	Pn	**Pn**	**10 02 40.2**	**+0.5**
	9.1nm,0.3s,baz=187,slow=4.8,SNR=33						
ATAH				Sn	**Sn**	**10 03 59.4**	**-0.5**
	10nm,0.3s,baz=106,slow=20,SNR=1.9						
ATAH				Lg		10 04 28.9	
	7.3nm,0.3s,baz=30,slow=20,SNR=3.5						
ATAH				LR	LR	10 05 05.2	
	comp=Z,313nm,21.5s,baz=292,slow=36						
LPAZ	**La Paz**	**8.71**	**107**	Pn	**Pn**	**10 03 07.2**	**+4.1**
	0.5nm,0.3s,baz=298,slow=12,SNR=24						
LVC	**Limon Verde**	**11.47**	**140**	Pn	**Pn**	**10 03 41.2**	**+0.3**
	2.2nm,0.3s,baz=302,slow=10,SNR=42						
LVC				Sn	**Sn**	**10 05 45.4**	**-4.1**
	3.3nm,0.3s,baz=240,slow=20,SNR=7.2						
LVC				Lg		10 06 51.6	
	0.5nm,0.3s,baz=183,slow=14,SNR=7.2						
LVC				LR	LR	10 07 46.7	
	comp=Z,202nm,18.1s,baz=346,slow=36						
LVC	**Limon Verde**	**11.47**	**140**	Pn	**Pn**	**10 03 41.2**	**+0.3**
LVC				Sn	**Sn**	**10 05 45.4**	**-4.1**
LVC				Lg		10 06 51.6	
LVC				LR	LR	10 07 46.7	
OTAV	**Otavalo**	**14.11**	**353**	*e*P	**Pn**	**10 04 21.5**	**+4.4**
	24nm,0.9s						
SIV	**San Ignacio**	**15.34**	**100**	Pn	**Pn**	**10 04 34.7**	**+1.0**
	0.2nm,0.3s,baz=280,slow=13,SNR=6.5						
ROSC	**El Rosal**	**18.77**	**8**	P	**Pn**	**10 05 20.7**	**+3.8**
	0.5nm,0.3s,baz=352,slow=7.1,SNR=2.8						
ROSC				LR	LR	10 13 49.6	
	comp=Z,859nm,20.3s,baz=232,slow=41						
CFAA	**Coronel Fontan**	**19.32**	**157**	P	**Pn**	**10 05 23.3**	**-0.1**
	0.1nm,0.3s,baz=330,slow=12,SNR=35						
CFAA				LR	LR	10 12 01.8	
	comp=Z,40nm,18.5s,baz=332,slow=34						
SDV	**Santo Domingo**	**23.42**	**15**	P	**P**	**10 06 08.2**	**+1.6**
	13nm,0.7s,mb4.5,baz=220,slow=7.6,SNR=13						
SDV				LR	LR	10 15 39.7	
	comp=Z,161nm,19.3s,MS3.5,baz=252,slow=38						
PCRV	**Puerto La Cruz**	**26.76**	**27**	LR	LR	10 17 41.8	
	comp=Z,313nm,19.9s,MS3.9,baz=229,slow=37						
PLCA	**Paso Flores**	**27.31**	**170**	P	**P**	**10 06 41.1**	**-0.9**
	8.1nm,0.9s,mb4.3,baz=342,slow=11,SNR=18						
PLCA				LR	LR	10 15 25.5	
	comp=Z,181nm,20.0s,MS3.6,baz=338,slow=32						
BDFB	**Brasilia**	**27.88**	**97**	P	**P**	**10 06 47.2**	**-0.2**
	1.3nm,0.7s,mb3.7,baz=249,slow=11,SNR=3.4						
BDFB				LR	LR	10 17 36.0	
	comp=Z,120nm,20.3s,MS3.5,baz=254,slow=36						
USHA	**Ushuaia**	**41.39**	**173**	P	**P**	**10 08 42.2**	**-1.2**
	13nm,1.0s,mb4.5,baz=351,slow=15,SNR=2.7						
JCT	**Junction City**	**49.34**	**334**	*e*P	**P**	**10 09 43.8**	**-3.0**
JCT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
JCT	**Junction City**	**49.34**	**334**	*e*P	**P**	**10 09 43.8**	**-2.9**
	comp=Z,3.6nm,0.8s,mb4.5						
SWET	**Sewanee**	**49.58**	**350**	*e*P	**P**	**10 09 48.0**	**-0.5**
PLAL	**Pickwick Lake**	**49.75**	**348**	P	**P**	**10 09 49.0**	**-0.8**
	comp=Z,12nm,1.3s,mb4.8						
TXAR	**Lajitas Array**	**50.18**	**329**	P	**P**	**10 09 53.1**	**0.0**
	comp=Z,3.1nm,0.8s,mb4.4,baz=148,slow=9.3,SNR=38						
ELN	**Prospectdale**	**50.96**	**356**	*e*P	**P**	**10 09 58.1**	**-0.8**
URVA	**University of**	**51.17**	**359**	*e*P	**P**	**10 09 59.9**	**-0.5**
WMOK	**Wichita Mounta**	**52.66**	**337**	*e*P	**P**	**10 10 10.2**	**-1.5**
WMOK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
WMOK	**Wichita Mounta**	**52.66**	**337**	*e*P	**P**	**10 10 10.2**	**-1.5**
	comp=Z,7.3nm,1.4s,mb4.4						
ACSO	**Alum Creek Sta**	**54.13**	**354**	*e*P	**P**	**10 10 19.3**	**-3.0**
	comp=Z,11nm,0.8s,mb4.8						
BNM	**Barren Site**	**55.56**	**330**	*e*P	**P**	**10 10 33.1**	**+0.3**
LAZ	**Ladron**	**56.01**	**330**	*e*P	**P**	**10 10 36.6**	**+0.6**
ANMO	**Albuquerque**	**56.12**	**331**	*e*P	**P**	**10 10 37.2**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ANMO	**Albuquerque**	**56.12**	**331**	*e*P	**P**	**10 10 37.2**	**+0.3**
	comp=Z,8.2nm,1.0s,mb4.7						
TUC	**Tucson**	**56.28**	**325**	*e*P	**P**	**10 10 38.3**	**+0.3**
TUC				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
TUC	**Tucson**	**56.28**	**325**	*e*P	**P**	**10 10 38.3**	**+0.3**
	comp=Z,8.7nm,1.3s,mb4.6						
SDCO	**Great Sand Dun**	**57.99**	**333**	*e*P	**P**	**10 10 50.3**	**+0.2**
	comp=Z,11nm,1.2s,mb4.8						
FRNY	**Flat Rock**	**58.50**	**3**	*e*P	**P**	**10 10 53.8**	**+0.3**
	comp=Z,14nm,1.0s,mb5.0						
MVCO	**Mesa Verde**	**58.92**	**331**	*e*P	**P**	**10 10 56.6**	**+0.1**
	comp=Z,6.9nm,1.0s,mb4.6						
WUAZ	**Wupatki**	**59.03**	**327**	*e*P	**P**	**10 10 58.3**	**+0.9**
	comp=Z,14nm,1.1s,mb4.9						
PV01	**Paradox Valley**	**59.70**	**331**	*e*P	**P**	**10 11 02.4**	**+0.5**
ISCO	**Idaho Springs**	**59.76**	**335**	*e*P	**P**	**10 11 02.5**	**+0.2**
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ISCO	**Idaho Springs**	**59.76**	**335**	*e*P	**P**	**10 11 02.5**	**+0.2**
	comp=Z,4.1nm,0.9s,mb4.5						
ECSD	**EROS,Sioux Fal**	**60.12**	**344**	*e*P	**P**	**10 11 03.4**	**-1.3**
	comp=Z,8.7nm,1.0s,mb4.7						
TPNV	**Topopah Spring**	**62.73**	**325**	*e*P	**P**	**10 11 23.6**	**+1.1**
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
TPNV	**Topopah Spring**	**62.73**	**325**	*e*P	**P**	**10 11 23.6**	**+1.1**
	comp=Z,4.7nm,0.9s,mb4.6						
DAU	**Daniels Canyon**	**62.77**	**331**	*e*P	**P**	**10 11 23.0**	**+0.3**
RSSD	**Black Hills**	**62.83**	**338**	*e*P	**P**	**10 11 23.0**	**0.0**
RSSD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
RSSD	**Black Hills**	**62.83**	**338**	*e*P	**P**	**10 11 23.0**	**0.0**
	comp=Z,4.8nm,1.0s,mb4.6						
DUG	**Dugway**	**63.35**	**330**	*e*P	**P**	**10 11 27.2**	**+0.6**
DUG				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.2						
DUG	**Dugway**	**63.35**	**330**	*e*P	**P**	**10 11 27.2**	**+0.6**
	comp=Z,23nm,1.3s,mb5.2						
HWUT	**Hardware Ranch**	**63.85**	**332**	*e*P	**P**	**10 11 29.7**	**-0.1**
	comp=Z,15nm,1.0s,mb5.0						
PDAR	**Pinedale Array**	**63.88**	**334**	P	**P**	**10 11 29.5**	**-0.5**
	comp=Z,2.3nm,0.7s,mb4.3,baz=127,slow=8.2,SNR=20						
PDAR				PcP	PcP	10 12 05.0	-0.7
	comp=Z,1.2nm,0.8s,baz=157,slow=4.9,SNR=3.5						
AGMN	**Agassiz Refuge**	**64.17**	**346**	*e*P	**P**	**10 11 31.2**	**-0.6**
	comp=Z,11nm,0.8s,mb5.0						
REDW	**Red Top Meadow**	**64.92**	**333**	*e*P	**P**	**10 11 37.0**	**+0.2**
	comp=Z,26nm,1.7s,mb5.0						
NVAR	**Mina Array Bea**	**64.93**	**325**	P	**P**	**10 11 37.6**	**+0.7**
	comp=Z,3.3nm,0.7s,mb4.5,baz=140,slow=6.5,SNR=35						
ELK	**Elko**	**64.97**	**329**	*e*P	**P**	**10 11 37.9**	**+0.7**
ELK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ELK	**Elko**	**64.97**	**329**	*e*P	**P**	**10 11 37.9**	**+0.6**
	comp=Z,4.5nm,1.0s,mb4.5						
LOHW	**Long Hollow**	**65.01**	**334**	*e*P	**P**	**10 11 37.4**	**-0.1**
	comp=Z,2.5nm,0.6s,mb4.4						
RRI2	**Red Ridge**	**65.11**	**333**	*e*P	**P**	**10 11 38.4**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0						
MOOW	**Moose Ponds**	**65.18**	**334**	*e*P	**P**	**10 11 36.5**	**-2.1**
	comp=Z,5.7nm,1.4s,mb4.4						
DCID1	**Drake Creek**	**65.25**	**333**	*e*P	**P**	**10 11 39.4**	**+0.4**
IMW	**Indian Meadow**	**65.39**	**333**	*e*P	**P**	**10 11 40.0**	**+0.1**
	comp=Z,16nm,1.4s,mb4.8						
FLWY	**Flagg Ranch**	**65.43**	**334**	*e*P	**P**	**10 11 40.4**	**+0.3**
	comp=Z,19nm,0.9s,mb5.1						
RLMT	**Red Lodge**	**65.68**	**335**	*e*P	**P**	**10 11 41.8**	**+0.1**
	comp=Z,12nm,1.1s,mb4.8						
LAO	**LASA Array**	**65.82**	**338**	*e*P	**P**	**10 11 42.2**	**-0.4**
	comp=Z,6.2nm,0.9s,mb4.6						
ULM	**Lac du Bonnet**	**66.01**	**347**	P	**P**	**10 11 43.0**	**-0.8**
	comp=Z,14nm,0.7s,mb5.1,baz=157,slow=5.6,SNR=25						
PAHR	**Pah Rah Range**	**66.42**	**325**	*e*P	**P**	**10 11 47.8**	**+1.2**
	comp=Z,4.8nm,0.6s,mb4.7						
DGMT	**Dagmar**	**66.67**	**341**	*e*P	**P**	**10 11 48.4**	**+0.4**
	comp=Z,24nm,1.2s,mb5.1						
HLID	**Hailey**	**66.69**	**331**	*e*P	**P**	**10 11 48.9**	**+0.7**
	comp=Z,2.8nm,0.8s,mb4.3						
MCMT	**McKenzie Canyo**	**66.96**	**333**	P	**P**	**10 11 50.6**	**+0.7**
BOZ	**Bozeman (W)**	**67.08**	**334**	*e*P	**P**	**10 11 50.7**	**0.0**
BOZ				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
BOZ	**Bozeman (W)**	**67.08**	**334**	*e*P	**P**	**10 11 50.6**	**0.0**
	comp=Z,9.0nm,1.3s,mb4.6						
DLMT	**Dillon**	**67.27**	**333**	*e*P	**P**	**10 11 52.1**	**+0.2**
	comp=Z,9.2nm,1.0s,mb4.8						
OHCM	**Honcut**	**67.35**	**324**	*e*P	**P**	**10 11 52.8**	**+0.2**
WVOR	**Wild Horse Val**	**67.94**	**328**	*e*P	**P**	**10 11 55.9**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
WVOR	**Wild Horse Val**	**67.94**	**328**	*e*P	**P**	**10 11 55.9**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.2						
EGMT	**Eagleton**	**68.25**	**337**	*e*P	**P**	**10 11 58.6**	**+0.6**
MOD	**Modoc**	**68.45**	**326**	*e*P	**P**	**10 11 59.4**	**0.0**
	comp=Z,17nm,1.4s,mb4.9						
LTIM	**Timbered Crate**	**68.60**	**325**	P	**P**	**10 12 01.1**	**+0.8**
SCHQ	**Schefferville**	**68.95**	**6**	P	**P**	**10 12 01.6**	**-0.6**
	comp=Z,5.2nm,0.9s,mb4.5,baz=234,slow=8.7,SNR=4.3						
MSO	**Missoula**	**69.00**	**334**	*e*P	**P**	**10 12 03.2**	**+0.5**
	comp=Z,10nm,1.3s,mb4.6						
YBH	**Yreka Blue Hor**	**69.65**	**325**	*e*P	**P**	**10 12 04.6**	**-2.3**
YBH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
YBH	**Yreka Blue Hor**	**69.65**	**325**	*e*P	**P**	**10 12 04.6**	**-2.3**
	comp=Z,4.8nm,1.1s,mb4.3						
VNA3	**Neumayer Olymp**	**69.66**	**161**	*e*P	**P**	**10 12 06.6**	**0.0**
VNA3				*e*	pP	10 12 08.4	+0.2
VNA3				*e*		10 12 12.5	
VNA3				*e*		10 12 25.6	
VNA1	**Neumayer--Stat**	**69.94**	**161**	*e*P	**P**	**10 12 08.7**	**+0.5**
VNA1				*e*	pP	10 12 10.6	+0.7
VNA1				*e*		10 12 15.0	
VNA1				*e*		10 12 27.8	
KTRM	**Thompson Ridge**	**70.14**	**325**	P	**P**	**10 12 10.9**	**+1.1**
VNA2	**Neumayer--Watz**	**70.29**	**161**	*e*P	**P**	**10 12 10.1**	**-0.3**
VNA2				*e*	pP	10 12 12.2	+0.1
VNA2				*e*		10 12 16.4	
VNA2				*e*		10 12 28.5	
WALA	**Waterton Lakes**	**70.73**	**335**	*e*P	**P**	**10 12 13.7**	**+0.4**
	comp=Z,12nm,1.2s,mb4.7						
HAWA	**Hanford**	**71.23**	**330**	*e*P	**P**	**10 12 17.0**	**+0.6**
	comp=Z,2.8nm,0.8s,mb4.2						
RSW	**Rattlesnake Hi**	**71.26**	**330**	*e*P	**P**	**10 12 17.6**	**+1.1**
NEW	**Newport**	**71.49**	**333**	*e*P	**P**	**10 12 17.6**	**-0.3**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NEW	**Newport**	**71.49**	**333**	*e*P	**P**	**10 12 17.6**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.2						
OD2	**Odessa Site #2**	**71.56**	**331**	P	**P**	**10 12 19.5**	**+1.1**
SNAA	**Sanae**	**71.89**	**161**	*e*P	**P**	**10 12 19.7**	**-0.4**
SNAA				*e*	pP	10 12 21.5	-0.2
SNAA				*e*		10 12 26.2	
SNAA				*e*		10 12 38.3	
SNAA				*e*		10 12 44.8	
SNAA	**Sanae**	**71.89**	**161**	*e*P	**P**	**10 12 19.7**	**-0.4**
SNAA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SNAA	**Sanae**	**71.89**	**161**	*e*P	**P**	**10 12 19.7**	**-0.4**
	comp=Z,9.1nm,0.9s,mb4.7						
WTV	**Waterville**	**72.37**	**331**	P	**P**	**10 12 24.5**	**+1.2**
EDM	**Edmonton**	**73.81**	**338**	*e*P	**P**	**10 12 30.9**	**-0.8**
LIC	**Lamto**	**73.95**	**79**	*e*P	**P**	**10 12 33.1**	**-0.3**
	comp=Z,134nm,2.2s,mb5.5						
TIC	**Toumodi**	**74.08**	**79**	*e*P	**P**	**10 12 36.0**	**+1.9**
	comp=Z,328nm,1.9s						
KIC	**Kosan Boka**	**74.26**	**79**	*e*P	**P**	**10 12 35.2**	**0.0**
	comp=Z,81nm,0.9s,mb5.7						
YKA	**Yellowknife Ar**	**81.65**	**343**	P	**P**	**10 13 14.3**	**-0.9**
	comp=Z,4.1nm,0.8s,mb4.4,baz=140,slow=4.6,SNR=7.7						
TOA0	**Torodi Ar. Sit**	**82.25**	**74**	*e*P	**P**	**10 13 19.3**	**0.0**
TORD	**Torodi Ar. Bea**	**82.25**	**74**	P	**P**	**10 13 19.3**	**-0.1**
	comp=Z,5.7nm,0.7s,mb4.6,baz=269,slow=5.1,SNR=39						
VNDA	**Vanda**	**82.96**	**191**	P	**P**	**10 13 22.4**	**+0.4**
	comp=Z,2.1nm,0.9s,mb4.2,baz=128,slow=3.4,SNR=9.8						
VNDA				LR	LR	10 44 45.4	
	comp=Z,53nm,18.5s,MS3.9,baz=89,slow=32						
VNDA	**Vanda**	**82.96**	**191**	P	**P**	**10 13 22.4**	**+0.4**
VNDA				LR	LR	10 44 45.4	
DLBC	**Dease Lake**	**84.08**	**335**	*e*P	**P**	**10 13 28.2**	**+0.3**
DAWY	**Dawson**	**91.00**	**337**	*e*P	**P**	**10 14 00.5**	**-0.7**
AFI	**Afiamalu**	**91.43**	**255**	LR	LR	10 48 07.6	
	comp=Z,79nm,19.7s,MS4.2,baz=223,slow=31						
EGAK	**Eagle**	**92.02**	**337**	*e*P	**P**	**10 14 05.0**	**-0.9**
	comp=Z,9.3nm,1.2s,mb5.0						
MAW	**Mawson**	**93.65**	**166**	P	**P**	**10 14 12.8**	**-0.7**
	comp=Z,1.9nm,0.9s,mb4.5,baz=220,slow=7.9,SNR=5.0						
MAW				LR	LR	10 51 54.4	
	comp=Z,88nm,19.6s,MS4.2,baz=65,slow=33						
MAW	**Mawson**	**93.65**	**166**	P	**P**	**10 14 12.8**	**-0.7**
MAW				LR	LR	10 51 54.4	
BOSA	**Boshof**	**93.72**	**120**	LR	LR	10 53 24.1	
	comp=Z,73nm,19.1s,MS4.2,baz=152,slow=34						
COLA	**College**	**94.63**	**336**	*e*P	**P**	**10 14 16.9**	**-1.1**
COLA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb5.0						
COLA	**College**	**94.63**	**336**	*e*P	**P**	**10 14 16.9**	**-1.0**
	comp=Z,5.6nm,1.0s,mb5.0						
KEST	**Kesra**	**94.89**	**55**	LR	LR	10 58 27.5	
	comp=Z,22nm,20.2s,MS3.6,baz=251,slow=36						
DAVOX	**Davos/Dischmat**	**97.72**	**44**	LR	LR	10 58 10.6	
	comp=Z,83nm,18.2s,MS4.3,baz=268,slow=35						
OBN	**Obninsk**	**114.60**	**35**	*e*PKIKP	PKiKP	10 19 35.6	-1.9
OBN				*e*		10 20 30.3	
OBN				*e*SS	SS	10 36 21.8	-6.7
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ANN	**Anapa**	**116.81**	**47**	*e*PKIKP	PKPdf	10 19 47.9	+5.8
STKA	**Stephens Creek**	**121.50**	**218**	PKP	PKPdf	10 19 49.9	-1.8
	comp=Z,1.2nm,0.7s,baz=90,slow=1.0,SNR=2.9						
PETK	**Petropavlovsk-**	**122.01**	**325**	PKP	PKPdf	10 19 51.8	0.0
	comp=Z,1.2nm,0.7s,baz=104,slow=3.0,SNR=2.5						
CTA	**Charters Tower**	**125.86**	**232**	PKP	PKPdf	10 19 59.0	-1.3
	comp=Z,3.2nm,0.8s,baz=111,slow=8.6,SNR=3.1						
NWAO	**Narrogin (SRO)**	**131.57**	**196**	PKP	PKPdf	10 20 10.1	-0.7
	comp=Z,4.2nm,0.9s,baz=90,slow=7.1,SNR=2.6						
ASAR	**Alice Springs**	**132.12**	**219**	PKP	PKPdf	10 20 11.1	-1.0
	comp=Z,1.5nm,0.9s,baz=147,slow=4.4,SNR=10						
WB2	**Warramunga Arr**	**134.52**	**223**	*e*P	PKPdf	10 20 16.0	-0.7
WRA	**Warramunga Arr**	**134.53**	**223**	PKP	PKPdf	10 20 16.1	-0.6
	comp=Z,3.3nm,0.8s,baz=133,slow=1.7,SNR=26						
ZAA0	**Zalesovo Array**	**137.47**	**16**	*e*PKPdf	PKPdf	10 20 21.1	0.0
ZALV	**Zalesovo Beam**	**137.47**	**16**	PKP	PKPdf	10 20 21.1	0.0
	comp=Z,7.6nm,0.9s,baz=304,slow=2.7,SNR=15						
ZAL	**Zalesovo**	**137.47**	**16**	PKIKP	PKPdf	10 20 21.1	0.0
FITZ	**Fitzroy Crossi**	**141.28**	**215**	PKP	PKPdf	10 20 28.4	-0.8
	comp=Z,1.4nm,0.7s,baz=164,slow=7.4,SNR=3.8						
MJAR	**Matsushiro Arr**	**141.43**	**312**	PKhKP		10 20 21.6	
	comp=Z,1.6nm,0.6s,baz=64,slow=2.9,SNR=4.3						
MKAR	**Makanchi Array**	**142.79**	**24**	PKhKP		10 20 24.8	
	comp=Z,4.0nm,1.2s,baz=355,slow=1.7,SNR=4.1						
MKAR				PKP	PKPdf	10 20 30.8	-0.2
	comp=Z,0.8nm,0.7s,baz=0.6,slow=2.8,SNR=4.7						
ZAK	**Zakamensk**	**143.59**	**360**	*e*PKIKP	PKPdf	10 20 29.0	-3.3
SONM	**Songino Array**	**146.03**	**356**	PKPbc	PKPbc	10 20 37.6	+0.2
	comp=Z,9.1nm,0.8s,baz=327,slow=1.6,SNR=34						
KSRS	**Korea Array**	**147.82**	**321**	PKPbc	PKPbc	10 20 40.4	-2.4
	comp=Z,6.1nm,1.0s,baz=59,slow=2.2,SNR=17						
CMAR	**Chiang Mai Arr**	**173.87**	**41**	PKP	PKPdf	10 21 08.0	0.0
	comp=Z,1.2nm,0.9s,baz=291,slow=2.3,SNR=6.3						

*JMA **21** 10:01:31.9±0.4, 3728N×135.15E, h395km±4km, M3.1*

*ISCJB **21** 10:01:32.4±0.6, 3717N±009×135.19E±008, h396km±7km, mb3.1/4, Error ellipse: s-maj=14.4km s-min=10.2km az=164.3*

*IDC **21** 10:01:33.2±0.8, 3726N×13521E, h386km±13km, mb2.8/4, mb1 3.1/6, mb1mx2.9/24, mbtmp2.9/6, Error ellipse: s-maj=34.5km s-min=15.6km az=49.0*

ISC 21 10:01:33.3±0.6, 3718N±009×13523E±008, h389km±7km, n18, σ0°75/27, mb3.1/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSZ	**Suzu**	**1.73**	**80**	P	**Pn**	**10 02 26.3**	**-0.2**
JWT	**Wachi**	**1.89**	**176**	P	**Pn**	**10 02 27.8**	**+0.2**
JWT				S	**S**	**10 03 10.4**	**-1.0**
JGM	**Miyama**	**1.90**	**140**	P	**Pn**	**10 02 27.6**	**0.0**
JGM				S	**S**	**10 03 11.0**	**-0.4**
MAT	**Matsushiro**	**2.47**	**104**	P	**Pn**	**10 02 31.7**	**+0.3**
MAT				S	**S**	**10 03 18.7**	**+0.3**
MAT	**Matsushiro**	**2.47**	**104**	P	**Pn**	**10 02 31.6**	**+0.2**
MAT				S	**S**	**10 03 18.7**	**+0.3**
MJAR	**Matsushiro Arr**	**2.48**	**104**	P	**Pn**	**10 02 32.2**	**+0.7**
	11nm,0.3s,baz=282,slow=9.1,SNR=134						
MJAR				S	**S**	**10 03 19.1**	**+0.7**
	baz=274,slow=19,SNR=2.6						
JSD	**Sado**	**2.56**	**69**	P	**Pn**	**10 02 32.1**	**+0.1**
JSD				*e*S	**S**	**10 03 19.6**	**+0.1**
JHS	**Saijyo**	**2.76**	**219**	P	**Pn**	**10 02 33.5**	**-0.2**
JIE	**Ise**	**3.03**	**156**	P	**Pn**	**10 02 36.9**	**+1.0**
JRY	**Ryogami san**	**3.18**	**110**	P	**Pn**	**10 02 37.8**	**+0.7**
JRY				S	**S**	**10 03 30.0**	**+1.3**
JOD2	**Odawara 2**	**3.66**	**120**	P	**Pn**	**10 02 40.8**	**-0.6**
JMK	**Ichinoseki**	**5.05**	**68**	P	**Pn**	**10 02 53.7**	**-1.4**
JMK				S	**S**	**10 04 01.7**	**0.0**
BSO1	**Boso 1**	**5.30**	**117**	P	**Pn**	**10 02 57.6**	**-0.3**
BSO1				S	**S**	**10 04 04.8**	**-1.9**
KSRS	**Korea Array**	**5.83**	**275**	P	**Pn**	**10 03 03.2**	**-0.2**
	0.5nm,0.3s,baz=94,slow=12,SNR=19						
SONM	**Songino Array**	**23.64**	**306**	P	**P**	**10 06 12.2**	**+0.9**
	0.2nm,0.4s,mb2.9,baz=132,slow=8.7,SNR=2.5						
MKAR	**Makanchi Array**	**39.83**	**301**	P	**P**	**10 08 29.6**	**-0.9**
	0.3nm,0.4s,mb2.9,baz=100,slow=8.1,SNR=2.1						
WRA	**Warramunga Arr**	**56.81**	**181**	P	**P**	**10 10 39.6**	**+0.9**
	1.1nm,0.4s,mb3.5,baz=357,slow=7.5,SNR=29						
AKASG	**Malin Array Be**	**71.08**	**320**	P	**P**	**10 12 09.9**	**-0.2**
	0.2nm,0.3s,mb3.1,baz=51,slow=7.3,SNR=2.2						

KRSC 21 10:21:03.3±0.8, 5208N×15939E, h26km±25km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.65**	**304**	*e*P	Pb	10 21 16.0	+0.1
RUS				*i* S	Sb	10 21 25.4	+0.9
GRL	**Gorelyy**	**0.94**	**301**	*e*P	Pn	10 21 21.4	+0.7
GRL				*i* S	Sb	10 21 35.1	+2.3
PET	**Petropavlovsk**	**1.05**	**335**	*e*P	Pn	10 21 22.4	+0.1
PET				*i* S	Sn	10 21 36.7	+0.7
SPN	**Mys Shipunski**	**1.09**	**20**	*e*P	Pn	10 21 24.0	+1.1
SPN				*i* S	Sn	10 21 39.4	+2.3
NLC	**Nalytchevo**	**1.09**	**359**	*e*P	Pn	10 21 22.7	-0.2
NLC				*i* S	Sn	10 21 37.2	+0.1
AVH	**Avacha**	**1.25**	**342**	*e*P	Pn	10 21 26.7	+1.6
AVH				*i* S	Sn	10 21 43.7	+2.7
MIPR	**Malaya Ipel'ka**	**1.63**	**278**	*e*P	Pn	10 21 30.6	+0.3
MIPR				*i* S	Sn	10 21 50.5	+0.1
GNL	**Ganaly**	**1.84**	**332**	*e*P	Pn	10 21 34.4	+1.2
GNL				*i* S	Sn	10

2.2nm,0.3s,mb4.2,baz=70,slow=8.6,SNR=37
MBWA Marble Bar 30.69 237 *e*P **P 10 48 31.0 0.0**
4.4nm,0.8s,mb4.1
VNDA Vanda 72.55 177 P **P 10 53 37.8 -1.1**
1.5nm,0.3s,mb4.1,baz=351,slow=7.1,SNR=23
MKAR Makanchi Array 76.97 320 P **P 10 54 04.9 +0.1**
0.3nm,0.5s,mb3.2,baz=110,slow=7.3,SNR=4.1

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*ISK **21** 10:49:40.9, 3960N×2737E, h5km, MD2.9*
*CSEM **21** 10:49:40.9±0.1, 3960N×2737E, h5km, MD2.7, Error ellipse: s-maj=1.7km s-min=1.6km az=58.0*
*ISCJB **21** 10:49:41.5±0.4, 3962N±002×2738E±003, h3km±4km, Error ellipse: s-maj=3.8km s-min=3.3km az=2.0*
*DDA **21** 10:49:41.9, 3962N×2742E, h7km±4km, Md2.7*
ISC 21 10:49:42.1±0.4, 3962N±002×**2739E**±003, **h7**km±4km**, n29,** σ0§**82**/41**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.22**	**56**	*i* P	**Pg**	**10 49 46.9**	**+0.4**
BALY				*i* S	**Sg**	**10 49 50.6**	**+1.2**
BALB	**Balikesir**	**0.38**	**87**	*e*PG	**Pg**	**10 49 49.1**	**-0.5**
BALB				*e*SG	**Sg**	**10 49 54.5**	**-0.1**
BTOK	**Tokmak**	**0.52**	**74**	*i* P	**Pg**	**10 49 51.9**	**-0.2**
BTOK				*i* S	**Sg**	**10 49 58.1**	**-0.8**
AYVA	**Ayvalik**	**0.62**	**240**	*i* P	**Pg**	**10 49 55.0**	**+0.9**
AYVA				*i* S	**Sg**	**10 50 03.7**	**+1.5**
AKHS	**Akhisar**	**0.81**	**156**	*i* P	**Pg**	**10 49 57.2**	**-0.5**
AKHS				*i* S	**Sg**	**10 50 08.7**	**+0.5**
AKS	**Akhisar**	**0.81**	**156**	*e*PG	**Pg**	**10 49 56.8**	**-0.9**
AKS				*e*SG	**Sg**	**10 50 07.9**	**-0.3**
EDC	**Edincik**	**0.81**	**27**	*e*PG	**Pg**	**10 49 57.5**	**-0.3**
BNT	**Bandirma**	**0.84**	**29**	*e*PG	**Pg**	**10 49 57.8**	**-0.5**
BNT				*e*SG	**Sg**	**10 50 09.4**	**+0.1**
EZN	**Ezine**	**0.84**	**285**	*e*PG	**Pg**	**10 49 57.5**	**-0.8**
EZN				*e*SG	**Sg**	**10 50 09.1**	**-0.2**
DST	**Dursunbey**	**0.96**	**90**	*e*PG	**Pg**	**10 50 00.1**	**-0.4**
KCT	**Karacabey**	**0.99**	**49**	*e*PG	**Pg**	**10 50 00.5**	**-0.5**
BOZC	**Bozcaada**	**1.05**	**283**	*i* P	**Pg**	**10 50 02.5**	**+0.2**
BOZC				*i* S	**Sg**	**10 50 16.6**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.08**	**352**	*e*PN	**Pn**	**10 50 02.2**	**-1.4**
SART	**Tekirdag**	**1.08**	**352**	*i* P	**Pg**	**10 50 03.2**	**+0.3**
MFT	**Murefte**	**1.17**	**356**	*e*PN	**Pn**	**10 50 04.5**	**-0.4**
DEMI	**Demirci**	**1.18**	**119**	*i* P	**Pg**	**10 50 04.5**	**-0.2**
DEMI				*i* S	**Sg**	**10 50 20.1**	**0.0**
IZM	**Izmir**	**1.22**	**185**	*e*PN	**Pn**	**10 50 04.7**	**-0.8**
IZM				*e*SN	**Sn**	**10 50 20.7**	**-1.6**
BLCB	**Balcova**	**1.26**	**192**	*e*PN	**Pn**	**10 50 05.6**	**-0.5**
GADA	**Gvkgeada**	**1.28**	**297**	*e*PN	**Pn**	**10 50 05.8**	**-0.6**
ULDT	**Uludag**	**1.45**	**68**	*i* P	**Pn**	**10 50 07.2**	**-1.4**
ENEZ	**Enez**	**1.46**	**320**	*e*PN	**Pn**	**10 50 08.8**	**-0.1**
KULA	**Kula-Manisa**	**1.48**	**138**	*e*PN	**Pn**	**10 50 09.7**	**+0.6**
GDZ	**Gediz**	**1.71**	**107**	*i* P	**Pn**	**10 50 14.4**	**+2.2**
GDZ				*i* S	**Sn**	**10 50 36.1**	**+1.8**
SLVT	**Silivri**	**1.73**	**21**	*e*PN	**Pn**	**10 50 13.3**	**+0.8**
YLV	**Yalova**	**1.79**	**58**	*e*PN	**Pn**	**10 50 12.7**	**-0.8**
ADVT	**Abdulvahap**	**1.98**	**65**	*e*PN	**Pn**	**10 50 17.0**	**+1.0**
KLYT	**Kilyos**	**2.06**	**37**	*e*PN	**Pn**	**10 50 17.9**	**+0.7**
KHL	**Karahalli**	**2.11**	**127**	*e*PN	**Pn**	**10 50 18.3**	**+0.6**
ALT	**Altintas**	**2.19**	**104**	*e*PN	**Pn**	**10 50 19.7**	**+0.9**

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*GII **21** 10:52:32.9±1.7, 3460N×3359E, h9km±1km, ML2.3/2*
*ISK **21** 10:54:32.3, 3450N×3349E, h14km, MD3.1*
*CSEM **21** 10:54:34.0±0.3, 3460N×3345E, h8km, Mw2.9, Error ellipse: s-maj=5.4km s-min=4.2km az=157.0*
*ISCJB **21** 10:54:34.1±0.6, 3451N±003×3350E±005, h24km±8km, Error ellipse: s-maj=6.3km s-min=5.4km az=158.5*
*NIC **21** 10:54:35.2±0.3, 3465N×3344E, h3km, ML3.0, MW2.9*
*NEIC **21** 10:54:35.2, 3465N×3344E, h3km, ML3.0(NIC), After NIC.*
ISC 21 10:54:34.1±0.6, 3453N±003×**3351E**±004**, h16**km±5km**, n21,** σ0§**88**/33**, 1C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSS	**Prodhromos**	**0.46**	**341**	⇑P	**Pg**	**10 54 41.5**	**-1.8**
	7.2nm,0.2s						
CSS				S	**Sg**	**10 54 47.7**	**-1.7**
CSS	**Prodhromos**	**0.46**	**341**	*e*Pg	**Pg**	**10 54 41.7**	**-1.6**
CSS				*e*Sg	**Sg**	**10 54 48.6**	**-0.8**
SZAC	**Souni-Zanaja**	**0.56**	**294**	P	**Pg**	**10 54 45.0**	**-0.2**
SZAC				S	**Sg**	**10 54 53.0**	**+0.2**
PHNC	**Paralimni**	**0.64**	**42**	P	**Pg**	**10 54 47.5**	**+0.8**
	9.5nm,0.5s						
PHNC				S	**Sg**	**10 54 57.1**	**+1.9**
MAMC	**Mammari**	**0.68**	**340**	P	**Pg**	**10 54 47.0**	**-0.5**
LFK	**Lefkose**	**0.75**	**1**	*e*PG	**Pg**	**10 54 47.8**	**-1.0**
LFK				*e*SG	**Sg**	**10 54 59.9**	**+1.3**
LEF	**Lefka**	**0.78**	**319**	*e*PG	**Pg**	**10 54 49.2**	**0.0**
LEF				*e*SG	**Sg**	**10 55 00.6**	**+1.0**
ALFC	**Alevga**	**0.98**	**310**	P	**Pb**	**10 54 52.4**	**-0.2**
	4.2nm,0.3s						
ALFC				S	**Sb**	**10 55 04.9**	**-0.4**
PPCY	**Paphos**	**1.02**	**291**	P	**Pb**	**10 54 52.9**	**-0.5**
PPCY				S	**Sb**	**10 55 08.3**	**+1.7**
EREN	**Erenkoy**	**1.14**	**28**	*e*PN	**Pn**	**10 54 55.6**	**+0.3**
IKL	**Isikli**	**1.71**	**5**	*e*PN	**Pn**	**10 55 03.0**	**-0.3**
IKL				*e*SN	**Sn**	**10 55 24.9**	**+0.1**
MMC7	**Mount Meron ar**	**2.17**	**133**	Sn	**Sn**	**10 55 35.9**	**-0.3**
MMC1	**Mount Meron ar**	**2.17**	**133**	Sn	**Sn**	**10 55 35.1**	**-1.1**
MMB1	**Mount Meron ar**	**2.19**	**133**	Sn	**Sn**	**10 55 36.0**	**-0.6**
KSDI	**Kefar Szold**	**2.23**	**126**	Sn	**Sn**	**10 55 36.5**	**-1.2**
HDMB	**Hadim**	**2.57**	**341**	*e*PN	**Pn**	**10 55 14.2**	**-0.8**
MMLI	**Mount Malkishu**	**2.63**	**142**	Sn	**Sn**	**10 55 48.0**	**+0.6**
HMDT	**Nahal Hemdat**	**2.83**	**143**	Pn	**Pn**	**10 55 17.5**	**-1.1**
HMDT				Sn	**Sn**	**10 55 52.7**	**+0.3**
DSI	**Dead Sea**	**3.34**	**151**	Pn	**Pn**	**10 55 25.9**	**+0.2**
DSI				Sn	**Sn**	**10 56 05.5**	**+0.4**
PRNI	**Paran**	**4.35**	**163**	Pn	**Pn**	**10 55 39.4**	**-0.2**
PRNI				Sn	**Sn**	**10 56 31.2**	**+1.2**
MBRI	**Mt Berech**	**4.87**	**165**	Sn	**Sn**	**10 56 44.0**	**+1.2**

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*MOS **21** 11:05:00.0±1.2, 4336N×14668E, h95km, mb4.7/3, Error ellipse: s-maj=16.5km s-min=13.8km az=104.0*
*NIED **21** 11:05:00, 4360N×146.10E, h65km, Mw3.9 Best double couple: M0=7.21000×10^14 NP1:φs=66.00000°, δ73.00000°, λ-118.00000°. NP2:φs=306.00000°, δ32.00000°, λ-34.00000°.*
*NEIC **21** 11:05:02.9±2.1, 4375N×14602E, h55km±23km, mb5.1/10, Error ellipse: s-maj=25.6km s-min=8.5km az=165.0*
*ISCJB **21** 11:05:03.6±0.6, 4359N±006×14621E±006, h87km±3km, mb4.4/18, Error ellipse: s-maj=11.2km s-min=5.7km az=148.8*
*JMA **21** 11:05:05.9±0.1, 4357N×14609E, h80km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=319.00000°, δ25.00000°, λ-27.00000°. NP2:φs=74.00000°, δ79.00000°, λ-113.00000°. Principal axes: T Plg30.0000°, Azm182.0000°; N Plg22.0000°, Azm78.0000°; P Plg51.0000°, Azm318.0000°;*
JMA Felt II J1.
*IDC **21** 11:05:06.4±2.3, 4352N×14604E, h100km±19km, mb3.6/9, mb1 3.7/12, mb1mx3.6/24, mbtmp3.6/12 Error ellipse: s-maj=32.2km s-min=17.9km az=3.0*
ISC 21 11:05:04.7±0.6, 4360N±006×**14621E**±006**, h80**km±3km**, n43,** σ0§**88**/54**, mb4.4**/18**, 7C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.42**	**236**	⇓P	**Pn**	**11 05 18.5**	**+0.8**
NEM2				*e*S	**Sn**	**11 05 27.7**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**0.50**	**330**	⇑*i*PN	**Pn**	**11 05 18.7**	**+0.3**
YUK				*i* S	**Sn**	**11 05 28.7**	**+0.1**
YUK				pmax	pmax		
	comp=Z,7μm,0.5s						
YUK				pmax	pmax		
	comp=N,650nm,0.3s						
YUK				pmax	pmax		
	comp=E,470nm,0.3s						
YUK				pmax	pmax		
	comp=Z,11μm,0.6s						
YUK				smax			
	comp=N,12μm,0.4s						
YUK				smax			
	comp=E,14μm,0.5s						
YUK				smax			
	comp=E,26μm,0.4s						
JRA	**Rausu**	**0.86**	**293**	⇑P	**Pn**	**11 05 22.7**	**+0.7**
JRA				*e*S	**Sn**	**11 05 35.4**	**+0.4**
JNK	**Nakash**	**1.09**	**270**	⇑P	**Pn**	**11 05 24.7**	**0.0**
JNK				*e*S	**Sn**	**11 05 38.5**	**-1.2**
JAK	**Akkeshi**	**1.26**	**242**	P	**Pn**	**11 05 27.0**	**+0.1**
JAK				*e*S	**Sn**	**11 05 42.9**	**-0.7**
JTKR	**Abashiri--Toko**	**1.71**	**283**	⇑P	**Pn**	**11 05 33.2**	**+0.5**
JAR	**Ashorobuto**	**1.81**	**261**	P	**Pn**	**11 05 34.7**	**+0.8**
JAR				*e*S	**Sn**	**11 05 55.9**	**-0.3**
JOB	**Onbets**	**1.87**	**249**	⇑P	**Pn**	**11 05 35.4**	**+0.6**
JOB				*e*S	**Sn**	**11 05 57.1**	**-0.7**
KUR	**Kuril'sk**	**2.02**	**35**	⇑*i*PN	**Pn**	**11 05 35.0**	**-1.7**
KUR				*e*S	**Sn**	**11 05 59.8**	**-1.4**
KUR				pmax	pmax		
	comp=Z,430nm,0.7s						
KUR				smax			
	comp=N,740nm,0.5s						
KUR				smax			
	comp=E,530nm,0.5s						
JMP	**Maruseppu**	**2.10**	**282**	⇓P	**Pn**	**11 05 38.6**	**+0.7**
JMP				*e*S	**Sn**	**11 06 03.1**	**-0.2**
ASAJ	**Asahikawa**	**2.67**	**282**	P	**Pn**	**11 05 46.7**	**+1.3**
	comp=E,24nm,0.3s,baz=107,slow=8.1,SNR=209						
ASAJ				S	**Sn**	**11 06 17.9**	**+1.1**
	comp=E,13nm,0.3s,baz=86,slow=19,SNR=6.0						
ASAJ	**Asahikawa**	**2.67**	**282**	PN	**Pn**	**11 05 46.7**	**+1.3**
ASAJ				S	**Sn**	**11 06 17.9**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,24nm,0.3s						
ASAJ				smax			
	comp=N,13nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.15**	**325**	*e*PN	**Pn**	**11 06 09.0**	**+3.5**
MJAR	**Matsushiro Arr**	**9.34**	**224**	P	**Pn**	**11 07 14.7**	**-1.7**
	comp=N,0.8nm,0.3s,baz=28,slow=14,SNR=9.9						
KSRS	**Korea Array**	**15.19**	**252**	P	**Pn**	**11 08 32.9**	**-1.7**
	comp=N,0.2nm,0.3s,baz=68,slow=11,SNR=5.2						
BILL	**Bilibino**	**26.70**	**17**	*e*P	**P**	**11 10 30.5**	**-5.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BILL				MLR	MLR		
	comp=Z,200nm,22.0s						
SONM	**Songino Array**	**27.90**	**293**	P	**P**	**11 10 46.4**	**-0.5**
	comp=Z,1.7nm,0.6s,mb3.8,baz=88,slow=9.2,SNR=11						
KDAK	**Kodiak Island**	**39.85**	**47**	P	**P**	**11 12 30.2**	**+0.3**
	comp=Z,3.7nm,0.7s,mb4.3,baz=251,slow=5.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**40.55**	**307**	P	**P**	**11 12 34.7**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.8,baz=72,slow=9.3,SNR=3.0						
ZALV				PcP	PcP	11 14 36.2	-0.2
	comp=Z,1.5nm,0.6s,baz=76,slow=3.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**40.55**	**307**	P	**P**	**11 12 34.7**	**-1.0**
ZALV				PcP	PcP	11 14 36.2	-0.2
ZAL	**Zalesovo**	**40.56**	**307**	P	**P**	**11 12 34.7**	**-1.1**
ZAL						11 14 36.2	
MKAR	**Makanchi Array**	**44.05**	**297**	P	**P**	**11 13 03.1**	**-1.1**
	comp=Z,1.6nm,0.7s,mb3.9,baz=81,slow=9.4,SNR=10						
MKAR				PcP	PcP	11 14 48.1	-0.1
	comp=Z,0.3nm,0.4s,baz=46,slow=4.2,SNR=3.2						
KURK	**Kurchatov**	**45.05**	**304**	*e*P	**P**	**11 13 07.4**	**-4.7**
HYT	**Haines Junctio**	**46.89**	**41**	*e*P	**P**	**11 13 29.6**	**+3.2**
TAPN	**Taplejung**	**49.34**	**271**	*e*P	**P**	**11 13 46.3**	**+0.6**
	comp=Z,7.4nm,0.4s,mb5.0						
ODAN	**Odare**	**49.85**	**271**	*e*P	**P**	**11 13 49.8**	**+0.1**
	comp=Z,6.1nm,0.6s,mb4.7						
JIRN	**Jiri**	**50.26**	**272**	*e*P	**P**	**11 13 53.5**	**+0.7**
	comp=Z,5.5nm,0.2s,mb5.1						
GUN	**Gumba**	**50.34**	**273**	*e*P	**P**	**11 13 53.7**	**+0.3**
	comp=Z,31nm,0.6s						
RAMN	**Ramite**	**50.37**	**271**	*e*P	**P**	**11 13 53.5**	**-0.1**
	comp=Z,19nm,0.4s						
KKN	**Kakani**	**50.85**	**273**	*e*P	**P**	**11 13 57.2**	**0.0**
	comp=Z,5.0nm,0.3s,mb5.0						
KKN	**Kakani**	**50.85**	**273**	*e*P	**P**	**11 13 57.2**	**0.0**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb5.0						
PKI	**Pulchoki**	**50.88**	**273**	*e*P	**P**	**11 13 57.3**	**-0.1**
	comp=Z,2.0nm,0.2s,mb4.8						
PKI	**Pulchoki**	**50.88**	**273**	*e*P	**P**	**11 13 57.3**	**-0.1**
PKI				pmax	pmax		
	comp=Z,2.0nm,0.2s,mb4.8						
DMN	**Daman**	**51.08**	**273**	*e*P	**P**	**11 13 59.2**	**+0.3**
	comp=Z,13nm,0.8s,mb5.0						
GKN	**Gorkha**	**51.19**	**274**	*e*P	**P**	**11 14 00.0**	**+0.2**
DANN	**Dangsing**	**51.63**	**275**	*e*P	**P**	**11 14 03.7**	**+0.7**
	comp=Z,12nm,0.3s,mb5.4						
KOLN	**Koldanda**	**52.08**	**274**	*e*P	**P**	**11 14 06.4**	**0.0**
	comp=Z,9.0nm,0.7s,mb4.9						
NVAR	**Mina Array Bea**	**68.23**	**57**	P	**P**	**11 15 57.8**	**+1.2**
	comp=Z,0.3nm,0.6s,mb3.3,baz=292,slow=7.8,SNR=4.2						
NOA	**NORSAR Array B**	**69.50**	**338**	P	**P**	**11 16 03.2**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.5,baz=33,slow=6.4,SNR=3.0						
PDAR	**Pinedale Array**	**70.52**	**49**	P	**P**	**11 16 11.6**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.5,baz=211,slow=1.7,SNR=5.7						
AKASG	**Malin Array Be**	**71.30**	**323**	P	**P**	**11 16 13.8**	**-1.3**
	comp=Z,3.2nm,0.4s,mb4.5,baz=43,slow=6.2,SNR=4.5						
CLL	**Collm**	**77.13**	**332**	⇑*i*P	**P**	**11 16 48.6**	**-0.5**
	comp=Z,5.0nm,0.8s,mb4.3						
TXAR	**Lajitas Array**	**83.30**	**56**	P	**P**	**11 17 23.9**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=292,slow=3.3,SNR=3.9						

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*ISCJB **21** 11:24:54.1±0.8, 3576N±005×13771E±004, h9km±11km, Error ellipse: s-maj=9.5km s-min=5.6km az=160.7*
*JMA **21** 11:24:54.5, 3575N×13772E, h6km±1km, M2.7*
JMA Felt I J1.
ISC 21 11:24:54.5±1.5, 3577N±004×**13771E**±004**, h7**km±52km**, n6,** σ0§**24**/11**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**0.33**	**240**	P	**Pg**	**11 25 01.0**	**+0.1**
JGF				S	**Sg**	**11 25 05.5**	**+0.2**
JNT	**Takato**	**0.37**	**73**	P	**Pg**	**11 25 01.5**	**-0.1**
JNT				S	**Sg**	**11 25 06.4**	**0.0**
JNY	**Yasuok**	**0.43**	**163**	P	**Pg**	**11 25 02.5**	**-0.3**
JNY				S	**Sg**	**11 25 08.0**	**-0.4**
JYN	**Shimob**	**0.73**	**111**	P	**Pg**	**11 25 08.6**	**0.0**
JYN				S	**Sg**	**11 25 18.7**	**+0.6**
JGM	**Miyama**	**0.81**	**265**	P	**Pg**	**11 25 10.0**	**0.0**
MAT	**Matsushiro**	**0.87**	**28**	P	**Pg**	**11 25 11.2**	**0.0**
MAT				S	**Sg**	**11 25 22.4**	**-0.2**

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*ISCJB **21** 11:32:22.1±1.0, 2979N±004×3621E±005, h0km, Error ellipse: s-maj=6.7km s-min=5.1km az=17.5*
*CSEM **21** 11:32:22.6, 3005N×3615E, h7km, ML3.0, After SNSN*
*SGS **21** 11:32:22.6, 3005N×3615E, h7km*
*GII **21** 11:32:22.4±1.0, 2980N×3616E, h0km, ML2.4/7, EXPLOSION*
ISC 21 11:32:22.2±1.1, 2978N±004×**3625E**±006**, h0**km**, n15,** σ0§**83**/23**, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.09**	**284**	Pg	**Pg**	**11 32 42.0**	**-1.0**
HRFI				Sg	**Sg**	**11 32 57.9**	**+0.8**
EIL	**Elat**	**1.14**	**265**	Pg	**Pg**	**11 32 43.5**	**-0.6**
EIL				Sg	**Sg**	**11 32 59.1**	**+0.3**
HQLS		**1.14**	**246**	P	**Pg**	**11 32 44.0**	**-0.2**
HQLS		**1.14**	**246**	P	**Pg**	**11 32 44.0**	**-0.1**
HQLS				S	**Sg**	**11 32 59.9**	**+0.9**
MBRI	**Mt Berech**	**1.17**	**271**	Pg	**Pg**	**11 32 44.0**	**-0.6**
MBRI				Sg	**Sg**	**11 33 00.8**	**+1.2**
ZFRI	**Zfri**	**1.21**	**310**	Sg	**Sg**	**11 33 01.1**	**0.0**
PRNI	**Paran**	**1.22**	**298**	Pg	**Pg**	**11 32 44.4**	**-1.3**
PRNI				Sg	**Sg**	**11 33 01.0**	**-0.6**
JLOS		**1.23**	**213**	P	**Pg**	**11 32 47.1**	**+1.2**
KRMI	**Paran Flat**	**1.37**	**285**	Pg	**Pg**	**11 32 47.0**	**-1.5**
KRMI				Sg	**Sg**	**11 33 05.6**	**-0.7**
MZDA	**Masada**	**1.71**	**333**	Pn	**Pn**	**11 32 52.5**	**-0.8**
MZDA				Sn	**Sn**	**11 33 15.9**	**+0.1**
DSI	**Dead Sea**	**1.94**	**337**	Pn	**Pn**	**11 32 56.7**	**+0.3**
DSI				Sn	**Sn**	**11 33 22.7**	**+1.2**
RSHS		**1.95**	**221**	P	**Pn**	**11 32 56.2**	**-0.3**
RSHS		**1.95**	**221**	P	**Pn**	**11 32 56.2**	**-0.4**
KZIT	**Kziot**	**1.96**	**305**	Sn	**Sn**	**11 33 22.3**	**+0.4**
HMDT	**Nahal Hemdat**	**2.54**	**346**	Sn	**Sn**	**11 33 37.7**	**+1.2**

MAN 21 11:35:48, 1094N×12415E, h1km**, mb3.9, ML2.6, MS2.2, 1C, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.46**	**76**	*e*P	Pg	11 35 57.5	+0.6
LLP	**Lapu-Lapu**	**0.65**	**196**	*e*P	Pg	11 36 01.1	+0.7
LLP				*e*S	Sg	11 36 11.7	+2.9
MSLP	**Maasin**	**1.06**	**139**	*e*P	Pg	11 36 09.6	+1.1
MSLP				*e*S	Sg	11 36 27.2	+5.0
RCP	**Roxas**	**1.51**	**294**	⇑*e*P	Pn	11 36 17.1	+0.9
RCP				*e*S	Sb	11 36 37.2	+0.7
GUIM	**Jordan**	**1.57**	**259**	*e*P	Pn	11 36 14.5	-2.5

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*IDC **21** 11:44:49.8±6.0, 567S×15079E, h170km±55km, mb3.7/6, mb1 3.8/7, mb1mx3.5/17, mbtmp3.7/7, Error ellipse: s-maj=48.2km s-min=19.3km az=105.0*
*NEIC **21** 11:44:49.4±5.4, 537S×15033E, h156km±57km, mb4.0/3, Error ellipse: s-maj=56.6km s-min=23.4km az=131.0*
*ISCJB **21** 11:44:54.1±4.6, 57S±02×1508E±03, h235km±53km, mb4.0/7, Error ellipse: s-maj=54.2km s-min=24.5km az=24.0.*
ISC 21 11:44:48.3±3.7, 56S±02×**1507E**±03**, h149**km±43km**, n12,** σ0§**98**/12**, mb4.0/7, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.05**	**196**	*e*P	**Pn**	**11 48 15.9**	**+2.4**
	3.4nm,0.7s						
CTA	**Charters Tower**	**15.05**	**196**	P	**Pn**	**11 48 15.1**	**+1.6**
	0.4nm,0.3s,baz=19,slow=12,SNR=6.9						
WRAB	**Tennant Creek**	**21.34**	**227**	*e*P	**P**	**11 49 23.0**	**-0.8**
	5.8nm,0.8s,mb4.0						
WRAB				*e*		11 49 37.7	
WB2	**Warramunga Arr**	**21.34**	**227**	*e*P	**P**	**11 49 23.1**	**-0.7**
WB2				*e*S	**S**	**11 53 13.6**	**+1.2**
WRA	**Warramunga Arr**	**21.35**	**227**	P	**P**	**11 49 22.8**	**-1.1**
	4.7nm,0.8s,mb3.9,baz=50,slow=10,SNR=19						
WRA				PcP	PcP	11 53 19.8	-2.3
	2.3nm,0.9s,baz=48,slow=16,SNR=7.0						
ASAR	**Alice Springs**	**24.16**	**220**	P	**P**	**11 49 51.2**	**+0.3**
	5.0nm,0.5s,mb4.3,baz=59,slow=8.8,SNR=96						
FITZ	**Fitzroy Crossi**	**27.42**	**241**	P	**P**	**11 50 20.3**	**+0.1**
	1.6nm,0.5s,mb3.9,baz=87,slow=9.2,SNR=7.8						
STKA	**Stephens Creek**	**27.51**	**197**	P	**P**	**11 50 20.2**	**-0.7**
	2.1nm,0.6s,mb4.1,baz=27,slow=12,SNR=7.4						
STKA	**Stephens Creek**	**27.51**	**197**	P	**P**	**11 50 20.2**	**-0.7**
KSRS	**Korea Array**	**47.76**	**335**	P	**P**	**11 53 11.7**	**+1.3**
	1.0nm,0.7s,mb3.5,baz=158,slow=8.0,SNR=4.7						
PETK	**Petropavlovsk-**	**58.76**	**5**	P	**P**	**11 54 29.8**	**-0.6**
	2.0nm,0.6s,mb4.1,baz=163,slow=5.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**148.48**	**286**	PKPbc	PKPbc	12 04 17.8	-0.7
	0.4nm,0.6s,baz=71,slow=2.9,SNR=4.2						

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*ISCJB **21** 11:58:56.1±0.7, 3934N±003×20.11E±005, h10km, Error ellipse: s-maj=5.8km s-min=3.7km az=179.7*
*NEIC **21** 11:58:57.6, 3933N×2024E, h27km, MD3.4(ATH), After ATH.*
*ATH **21** 11:58:57.6, 3933N×2024E, h27km±3km, MD3.4/5*
*THE **21** 11:58:57.4, 3931N×2017E, h0km, ML3.1*
*CSEM **21** 11:58:58.3±0.1, 3934N×2028E, h10km, ML3.1, Error ellipse: s-maj=2.4km s-min=1.6km az=82.0*
ISC 21 11:58:58.2±0.6, 3932N±002×**2023E**±005**, h5**km±6km**, n15,** σ0§**88**/27**, 2C, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**20**	*e*Pg	**Pg**	**11 59 02.0**	**-0.6**
IGT				*e*Sg	**Sg**	**11 59 05.6**	**-0.1**
KEK	**Kerkira**	**0.52**	**320**	*e*PN	**Pg**	**11 59 08.5**	**+0.4**
KEK				*e*SN	**Sg**	**11 59 15.8**	**+0.9**
JAN	**Janina**	**0.59**	**55**	⇑*i*PN	**Pg**	**11 59 08.9**	**-0.6**
JAN				*e*SN	**Sg**	**11 59 17.8**	**+0.6**
LKD	**Levkas**	**0.69**	**151**	*e*Pg	**Pg**	**11 59 10.1**	**-1.3**
LKD				*e*Sg	**Sg**	**11 59 22.0**	**+1.6**
MEV	**Metsovon**	**0.90**	**58**	*e*Pg	**Pg**	**11 59 14.4**	**-1.1**
VLS	**Valsamata**	**1.17**	**166**	*e*Pg	**Pg**	**11 59 20.4**	**-0.2**
VLS				*e*Sg	**Sg**	**11 59 35.9**	**+0.2**
VLS	**Valsamata**	**1.17**	**166**	⇑*i*Pn	**Pn**	**11 59 20.7**	**-0.5**
VLS				*e*Sg	**Sg**	**11 59 35.9**	**+0.1**
VLS				*e*Sb	**Sb**	**11 59 36.6**	**+0.3**
KFL	**Anninata**	**1.28**	**160**	*e*Pg	**Pg**	**11 59 22.1**	**-0.6**
KFL				*e*Sg	**Sg**	**11 59 40.1**	**+0.8**
THL	**Klokotos Trika**	**1.41**	**79**	*e*Pg	**Pg**	**11 59 24.4**	**-0.7**
THL				*e*Sg	**Sg**	**11 59 44.7**	**+1.4**
THL	**Klokotos Trika**	**1.41**	**79**	*e*Pn	**Pn**	**11 59 23.2**	**-1.2**
THL	**Klokotos Trika**	**1.41**	**79**	*e*Pg	**Pg**	**11 59 24.4**	**-0.7**
THL				*e*Sg	**Sg**	**11 59 44.7**	**+1.4**
RLS	**Riolos of Patr**	**1.59**	**142**	*e*PN	**Pn**	**11 59 26.8**	**-0.1**
AGG	**Agios Georgios**	**1.66**	**99**	*e*Pb	**Pb**	**11 59 28.4**	**-0.8**
AGG				*e*Sb	**Sb**	**11 59 51.0**	**+0.5**
LIT	**Litokhoron**	**1.91**	**65**	*e*Pb	**Pb**	**11 59 32.5**	**-1.1**
LIT				*

KSM Kuching 11.37 17 ⇑P Pn 12 39 22.6 +8.3
KSM Kuching 11.37 17 P Pn 12 39 13.1 -1.2
MYKOM Kota Tinggi 11.68 344 ⇓P Pn 12 39 22.4 +3.9
KGM Kluang 12.05 342 ⇑P Pn 12 39 28.4 +4.9
SBUM Sibu 12.93 24 ⇓P Pn 12 39 38.1 +2.5
KAPI Kappang 13.33 71 *eP* **Pn 12 39 41.9 +0.9**
54nm,1.1s
FRIM Kepong 13.78 336 ⇓P Pn 12 39 53.0 +5.8
BTM Bintulu 13.96 26 ⇑P Pn 12 39 57.4 +7.6
PSI Prapat 14.69 326 Pn **Pn 12 40 02.5 +2.9**
0.6nm,0.3s,baz=147,slow=4.3,SNR=4.4
PSI LR LR 12 46 23.0
comp=Z,220nm,20.3s,baz=141,slow=41
PCI Palu 15.29 57 P Pn 12 40 06.6 -1.1
0.0nm,0.0s
BATI Baumata 16.34 94 Pn **Pn 12 40 21.2 0.0**
1.7nm,0.3s,baz=257,slow=18,SNR=2.6
MBWA Marble Bar 16.80 135 *eP* **Pn 12 40 24.7 -2.3**
10nm,0.8s
TSM Tawau 17.42 39 ⇑P Pn 12 40 36.5 +1.7
SDKM Sandakan 18.11 34 ⇑P Pn 12 40 41.8 -1.4
MYLDM Lahad Datu 18.50 38 ⇑P Pn 12 40 49.3 +1.2
BSI Banda Aceh 18.98 321 P **Pn 12 40 53.0 -0.9**
0.0nm,0.0s
KDM Kudat 18.98 31 ⇑P Pn 12 40 55.3 +1.4
FITZ Fitzroy Crossi 19.92 117 *eP* **Pn 12 41 05.8 +0.7**
15nm,0.8s
FITZ Fitzroy Crossi 19.92 117 P **Pn 12 41 05.2 +0.1**
0.1nm,0.3s,baz=280,slow=12,SNR=5.0
NWAO Narrogin (SRO) 25.12 160 LR LR 12 50 02.1
comp=Z,156nm,21.7s,MS3.5,baz=290,slow=32
RCP Roxas 26.08 37⇓*eP* **P 12 42 10.7 +5.6**
WRA Warramunga Arr 28.28 115 P **P 12 42 25.5 +0.7**
1.8nm,0.9s,mb3.7,baz=288,slow=10,SNR=8.9
WB2 Warramunga Arr 28.29 115 *eP* **P 12 42 22.7 -2.2**
QIZ Qiongzhong 28.48 5 P **P 12 42 22.0 -4.6**
QIZ LR LR
comp=N,284nm,11.3s
QIZ LR LR
comp=Z,271nm,15.4s,MS4.0
CMAR Chiang Mai Arr 28.93 344 P **P 12 42 29.4 -1.2**
comp=Z,11nm,0.8s,mb4.6,baz=178,slow=8.6,SNR=45
CMAR LR LR 12 54 00.5
comp=Z,84nm,19.6s,MS3.4,baz=158,slow=36
ASAR Alice Springs 29.23 122 P **P 12 42 33.6 +0.4**
comp=Z,0.9nm,1.0s,mb3.5,baz=285,slow=6.3,SNR=6.4
CHTO Chiang Mai 29.27 344 *eP* **P 12 42 31.9 -1.6**
CHTO pmax pmax
comp=Z,30nm,1.1s,mb4.9
CHTO Chiang Mai 29.27 344 *eP* **P 12 42 31.9 -1.6**
comp=Z,30nm,1.1s,mb4.9
KMI Kunming 34.68 353 P **P 12 43 23.1 +2.1**
KMI AP pP 12 43 32.1 +3.1
KMI XP sP 12 43 36.1 +3.8
KMI AMB AMB
comp=Z,28nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,94nm,3.1s
KMI LR LR
comp=N,417nm,12.3s,MS4.5
KMI LR LR
comp=E,198nm,11.2s,MS4.5
KMI LR LR
comp=Z,401nm,11.8s,MS4.4
STKA Stephens Creek 38.94 130 *eP* **P 12 43 58.6 +1.3**
comp=Z,7.0nm,0.9s,mb4.4
STKA Stephens Creek 38.94 130 P **P 12 43 58.9 +1.6**
comp=Z,5.3nm,0.9s,mb4.3,baz=282,slow=10.0,SNR=7.7
CTA Charters Tower 39.20 110 P **P 12 43 59.4 -0.3**
comp=Z,4.1nm,1.0s,mb4.1,baz=349,slow=9.7,SNR=4.2
CD2 Chengdu 40.31 356 *eP* **P 12 44 08.8 +0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
WHN Wuhan 40.42 10 ⇓P **P 12 44 10.1 +0.5**
WHN AMB AMB
comp=Z,45nm,0.9s,mb5.2
ODAN Odare 40.90 333 *eP* **P 12 44 14.1 +0.6**
comp=Z,18nm,0.6s,mb4.9
TAPN Taplejung 41.17 333 *eP* **P 12 44 17.2 +1.4**
comp=Z,60nm,1.0s,mb5.2
RAMN Ramite 41.34 332 *eP* **P 12 44 17.9 +0.8**
comp=Z,30nm,1.1s,mb4.8
JOW Kunigami 41.56 29 P **P 12 44 18.4 -0.7**
comp=Z,6.8nm,0.7s,mb4.4,baz=191,slow=4.8,SNR=8.4
JOW LR LR 13 04 55.1
comp=Z,49nm,18.0s,MS3.4,baz=180,slow=41
LSA Lhasa 41.89 339 P **P 12 44 23.1 +1.4**
LSA Lhasa 41.89 339 *eP* **P 12 44 23.3 +1.6**
LSA pmax pmax
comp=Z,15nm,0.6s,mb4.8
LSA Lhasa 41.89 339 *eP* **P 12 44 23.3 +1.6**
comp=Z,15nm,0.6s,mb4.8
PKI Pulchoki 42.42 331 *eP* **P 12 44 26.8 +0.8**
GUN Gumba 42.49 332 *eP* **P 12 44 27.4 +0.9**
comp=Z,33nm,0.6s,mb5.1
DMN Daman 42.60 331 *eP* **P 12 44 28.0 +0.5**
KKN Kakani 42.67 331 *eP* **P 12 44 28.5 +0.5**
comp=Z,37nm,0.9s,mb5.1
KKN Kakani 42.67 331 *eP* **P 12 44 28.5 +0.5**
KKN pmax pmax
comp=Z,37nm,0.9s,mb5.1
GKN Gorkha 43.16 330 *eP* **P 12 44 33.0 +1.0**
comp=Z,31nm,1.1s,mb4.9
XAN Xi'an 43.34 2 P **P 12 44 32.8 -0.5**
XAN AP pP 12 44 42.3 +0.8
XAN AMB AMB
comp=Z,29nm,1.2s,mb4.9
XAN AMB AMB
comp=Z,37nm,5.7s
XAN LR LR
comp=N,81nm,15.4s,MS4.0
XAN LR LR
comp=E,115nm,11.9s,MS4.0
XAN LR LR
comp=Z,306nm,12.2s,MS4.4
KOLN Koldanda 43.48 329 *eP* **P 12 44 35.2 +0.6**
comp=Z,40nm,0.8s,mb5.2
DANN Dangsing 43.88 330 *eP* **P 12 44 38.5 +0.7**
LZH Lanzhou 45.45 356 ⇑P P 12 44 51.5 +1.3
LZH AP pP 12 45 00.0 +1.6
LZH XP sP 12 45 05.0 +3.4
LZH AMB AMB
comp=Z,31nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,210nm,7.1s
LZH LR LR
comp=N,237nm,17.2s
LZH LR LR
comp=Z,520nm,18.4s,MS4.5
NDI New Delhi 47.68 324 *eP* **P 12 45 05.5 -2.4**
GTA Gaotai 49.13 353 ⇓P **P 12 45 20.4 +1.6**
GTA AP pP 12 45 26.5 -0.5
GTA XP sP 12 45 29.8 -0.5
GTA AMB AMB
comp=Z,13nm,1.2s,mb4.8
GTA AMB AMB
comp=Z,44nm,4.8s
GTA LR LR
comp=N,121nm,17.1s,MS4.0
GTA LR LR
comp=E,92nm,17.7s,MS4.0
GTA LR LR
comp=Z,126nm,17.4s,MS4.0
CBIJ Chichi jima 49.82 42 LR LR 13 08 24.6
comp=Z,43nm,18.8s,MS3.5,baz=218,slow=39
BTO Baotou 49.93 3 *eP* **P 12 45 23.5 -1.4**
KSRS Korea Array 50.63 21 P **P 12 45 28.6 -1.6**
comp=Z,3.2nm,0.9s,mb4.2,baz=215,slow=9.1,SNR=12
MJAR Matsushiro Arr 54.35 31 P **P 12 45 55.0 -2.9**
comp=Z,5.8nm,1.1s,mb4.4,baz=211,slow=8.1,SNR=10
CN2 Changchun 55.62 16 *eP* **P 12 46 05.5 -1.4**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
WMQ Urumqi 55.92 343 *eP* **P 12 46 09.5 +0.4**
WMQ AP pP 12 46 14.3 -3.1
WMQ AMB AMB
comp=Z,19nm,1.2s,mb5.0
WMQ LR LR
comp=N,35nm,16.0s,MS3.7
WMQ LR LR
comp=E,37nm,19.0s,MS3.7
WMQ LR LR
comp=Z,37nm,18.0s,MS3.5
SONM Songino Array 57.09 359 P **P 12 46 17.2 -0.1**
comp=Z,2.3nm,0.6s,mb4.4,baz=178,slow=7.6,SNR=20
TKM2 Tokmak 2 59.56 334 *eP* **P 12 46 34.2 -0.5**
TKM2 pmax pmax
comp=Z,11nm,1.0s,mb4.8
TKM2 Tokmak 2 59.56 334 *eP* **P 12 46 34.2 -0.5**
comp=Z,11nm,1.0s,mb4.8
ZAK Zakamensk 59.73 357 *eP* **P 12 46 36.0 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
AML Almayashu 59.80 332 *eP* **P 12 46 36.7 +0.3**
EKS2 Erkin-Say 60.18 332 *eP* **P 12 46 39.5 +0.6**
comp=Z,5.0nm,0.8s,mb4.6
MK31 Makanchi Array 60.26 341 *eP* **P 12 46 38.8 -0.6**
MKAR Makanchi Array 60.26 341 P **P 12 46 39.4 0.0**
comp=Z,6.1nm,0.6s,mb4.8,baz=141,slow=7.7,SNR=39
TLY Talaya 61.01 358 *eP* **P 12 46 43.7 -0.7**
TLY *eS* **S 12 54 51.2 -10**
TLY pmax pmax
comp=Z,7.0nm,1.3s,mb4.6
TLY MLR MLR
comp=Z,56nm,14.0s,MS3.9
MOY Mondy 61.15 356 *eP* **P 12 46 46.2 +0.9**
MOY pmax pmax
comp=Z,19nm,1.8s,mb4.9
KLR Kul'dur 62.37 18 *eP* **P 12 46 48.8 -4.8**
KURK Kurchatov 64.87 340 *eP* **P 12 47 10.1 0.0**
KURK pmax pmax
comp=Z,16nm,1.0s,mb5.0
KURK Kurchatov 64.87 340 *eP* **P 12 47 10.1 0.0**
comp=Z,16nm,1.0s,mb5.0
MAW Mawson 65.01 197 P **P 12 47 12.0 +1.2**
comp=Z,2.9nm,0.8s,mb4.4,baz=41,slow=9.3,SNR=9.2
ZAL Zalesovo 65.96 346 P **P 12 47 16.0 -1.1**
ZAA0 Zalesovo Array 65.97 346 *eP* **P 12 47 16.4 -0.7**
ZALV Zalesovo Beam 65.97 346 P **P 12 47 15.9 -1.2**
comp=Z,1.7nm,0.6s,mb4.2,baz=117,slow=5.6,SNR=6.5
ZALV LR LR 13 20 39.6
comp=Z,43nm,18.6s,MS3.7,baz=71,slow=40
BOD Bodaibo 67.33 4 *eP* **P 12 47 25.2 -0.5**
BOD pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
BVAR Borovoye Array 69.70 337 P **P 12 47 40.7 +0.1**
comp=Z,5.3nm,0.7s,mb4.6,baz=134,slow=8.4,SNR=18
BRVK Borovoye 69.76 337 *eP* **P 12 47 41.0 0.0**
BRVK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BRVK Borovoye 69.76 337 *eP* **P 12 47 41.0 0.0**
comp=Z,4.6nm,0.7s,mb4.5
VNDA Vanda 73.50 169 P **P 12 48 04.8 +1.6**
comp=Z,0.6nm,0.8s,mb3.5,baz=43,slow=6.3,SNR=3.5
PETK Petropavlovsk- 75.73 29 P **P 12 48 15.7 -0.8**
comp=Z,2.6nm,0.8s,mb4.2,baz=250,slow=18,SNR=6.5
SVE Sverdlovsk 76.32 336 *eP* **P 12 48 21.4 +1.6**
SVE pmax pmax
comp=Z,12nm,1.0s,mb4.8
ARU Arti 76.91 335 *eP* **P 12 48 23.6 +0.5**
ARU pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ARU Arti 76.91 335 *eP* **P 12 48 23.6 +0.5**
comp=Z,7.0nm,1.1s,mb4.5
KIV Kislovodsk 78.80 318 *eP* pP 12 48 45.3 +2.8
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
VRSR Storozhevoye 83.92 324 *eP* **P 12 49 01.2 +0.3**
VRSR pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=E,2.0nm,0.8s
OBN Obninsk 86.86 327⇓*eP* pP 12 49 16.3 -7.9
OBN *e* 12 49 26.0
OBN pmax pmax
comp=Z,18nm,1.2s,mb5.2
SNAA Sanae 87.17 197 *eP* pP 12 49 27.7 +2.2
SNAA *e* 12 49 35.5
SNAA *e* 12 49 40.8
KLMR Klimovskoe 87.64 333 *eP* **P 12 49 16.8 -2.3**
KLMR pmax pmax
comp=Z,22nm,1.5s,mb5.2
BILL Bilibino 87.82 19 *eP* **P 12 49 20.5 +0.6**
BILL pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
VNA2 Neumayer--Watz 88.82 197 *eP* pP 12 49 35.7 +2.3
VNA2 *e* 12 49 43.8
VNA2 *e* 12 49 47.3
VNA1 Neumayer--Stat 89.20 198 *eP* pP 12 49 37.4 +2.2
VNA1 *e* 12 49 45.9
VNA1 *e* 12 49 50.5
VNA3 Neumayer Olymp 89.34 197 *eP* pP 12 49 37.8 +2.0
VNA3 *e* 12 49 46.0
VNA3 *e* 12 49 51.0
AKASG Malin Array Be 89.70 322 P **P 12 49 30.0 +0.9**
comp=Z,0.2nm,0.2s,mb4.0,baz=85,slow=3.9,SNR=4.0
LONY Lake Ozonia 144.99 2 *eP*KPdf PKPdf 12 56 08.2 -0.2
TXAR Lajitas Array 145.10 51 PKP PKPdf 12 56 09.9 +0.8
comp=Z,2.1nm,0.9s,baz=262,slow=1.3,SNR=16
WMOK Wichita Mounta 145.49 39 *eP*KIKP PKPdf 12 56 10.1 +0.4
NCB Newcomb 145.65 2 *eP*KPKPdf PKPdf 12 56 09.2 -0.5
JCT Junction City 147.39 46 *eP*KPP2 PKPab 12 56 16.5 -0.8
MIAR Mount Ida 148.71 34 *eP*KPP2 PKPab 12 56 19.6 -2.8
PLAL Pickwick Lake 151.10 26 *eP*KPbc PKPbc 12 56 24.6 -0.1

MAN 21 12:39:35, 1091N×12417E, h1km, mb4.0, ML2.8, MS2.5, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.45**	**72**	*eP*	Pg	12 39 43.6	0.0
LLP	**Lapu-Lapu**	**0.63**	**199**	*eP*	Pg	12 39 48.5	+1.4
LLP				*eS*	Sg	12 40 00.4	+5.2
PLP	**Palo**	**0.83**	**72**⇓	*eP*	Pg	12 39 53.5	+2.6
PLP				*eS*	Sg	12 40 05.5	+3.9
MSLP	**Maasin**	**1.03**	**139**	*eP*	Pg	12 39 56.6	+1.9
MSLP				*eS*	Sg	12 40 15.8	+7.8
RCP	**Roxas**	**1.54**	**295**⇑	*eP*	Pn	12 40 05.6	+2.0
RCP				*eS*	Sn	12 40 25.5	+1.2
GUIM	**Jordan**	**1.58**	**260**	*eP*	Pn	12 40 03.5	-0.7
KALP	**Kalibo**	**1.95**	**293**⇓	*eP*	Sg	12 40 46.1	+8.2

IDC 21 12:46:36.5±10.0, 108S×13862E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/15, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=191.8km s-min=114.7km az=141.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.21**	**192**	P	Pn	12 51 00.7	-2.4
	0.2nm,0.3s,baz=14,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**22.92**	**191**	P	P	12 51 42.0	-0.2
	0.2nm,0.5s,baz=34,slow=10,SNR=4.5						
STKA	**Stephens Creek**	**30.76**	**175**	P	P	12 52 54.7	+1.0
	0.6nm,0.4s,baz=330,slow=8.1,SNR=2.8						

*NEIC **21** 13:24:32.6±0.8, 479S×151.19E, h100km, mb4.0/6, Error ellipse: s-maj=26.0km s-min=12.8km az=109.0*
*IDC **21** 13:24:37.6±1.3, 502S×151.17E, h148km±10km, mb3.8/11, mb1 3.9/12, mb1mx3.7/19, mbtmp3.8/12, MS3.5/1, Ms1 3.5/1, ms1mx2.7/19, Error ellipse: s-maj=25.1km s-min=14.0km az=102.0*
*ISCJB **21** 13:24:41.3±5.7, 5.1S±02×1512E±02, h198km±55km, mb4.0/13, Error ellipse: s-maj=26.4km s-min=24.5km az=12.7*
ISC 21 13:24:43.7±5.2, 51S±01×1511E±02, h207km±51km, n24, σ0=72/22, mb4.0/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**15.63**	**197**	*eP*	Pn	13 28 14.2	+0.9
	4.8nm,1.1s						
CTA	**Charters Tower**	**15.63**	**197**	P	Pn	13 28 12.5	-0.8
	0.3nm,0.3s,baz=16,slow=12,SNR=6.4						
CTAO	**Charters Tower**	**15.63**	**197**	*eP*	Pn	13 28 14.1	+0.8
KAKA	**Kakadu**	**19.92**	**246**	*eP*	P	13 28 59.9	0.0
	4.9nm,0.6s						
KAKA				*e*PCP	S	13 32 43.6	+11
WRAB	**Tennant Creek**	**21.98**	**226**	*eP*	P	13 29 20.8	-0.5
	5.2nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**21.99**	**226**	*eP*	P	13 29 20.8	-0.5
WB2				*e*PCP	PcP	13 33 15.7	+3.9
WB2	**Warramunga Arr**	**21.99**	**226**	*eP*	P	13 29 20.7	-0.6
WB2				*e*PcP	PcP	13 33 15.7	+3.9
WRA	**Warramunga Arr**	**22.00**	**226**	P	P	13 29 21.0	-0.4
	3.2nm,0.5s,mb4.1,baz=55,slow=10.0,SNR=77						
WRA				pP		13 29 47.3	
	1.4nm,0.6s,baz=51,slow=10.0,SNR=2.9						
WRA				PcP	PcP	13 33 13.7	+1.9
	1.3nm,1.1s,baz=58,slow=1.7,SNR=4.8						
WRA				ScP	ScP	13 36 35.5	+5.9
	1.5nm,0.8s,baz=50,slow=2.8,SNR=18						
ASAR	**Alice Springs**	**24.81**	**220**	P	P	**13 29 47.3**	**+0.3**
	3.7nm,0.5s,mb4.2,baz=56,slow=9.1,SNR=127						
ASAR				pP		13 30 17.4	
	0.2nm,0.4s,baz=155,slow=12,SNR=1.3						
ASAR				ScP	ScP	13 36 43.1	+6.0
	1.1nm,0.7s,baz=40,slow=2.8,SNR=15						
FITZ	**Fitzroy Crossi**	**28.04**	**240**	*eP*	P	**13 30 16.1**	**+0.2**
	2.7nm,0.6s,mb4.0						
FITZ				*e*PCP	PcP	13 33 09.9	-15
FITZ	**Fitzroy Crossi**	**28.04**	**240**	P	P	**13 30 16.0**	**+0.1**
	1.4nm,0.5s,mb3.8,baz=84,slow=8.6,SNR=7.8						
FITZ				pP	pP	13 30 48.0	-10
	2.7nm,0.8s,baz=55,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**28.09**	**197**	*eP*	P	**13 30 15.9**	**-0.3**
	1.7nm,0.8s,mb3.7						
STKA	**Stephens Creek**	**28.09**	**197**	P	P	**13 30 16.0**	**-0.2**
	1.8nm,0.9s,mb3.7,baz=308,slow=17,SNR=4.1						
CBIJ	**Chichi jima**	**33.15**	**345**	LR	LR	13 41 36.5	
	comp=Z,85nm,21.8s,baz=131,slow=31						
RPZ	**Rata Peaks**	**42.29**	**158**	P	P	**13 32 17.5**	**+0.6**
	21nm,0.9s,mb4.6,baz=34,slow=8.6,SNR=5.7						
PETK	**Petropavlovsk-**	**58.26**	**5**	P	P	**13 34 15.4**	**-0.9**
	2.8nm,0.8s,mb3.9,baz=171,slow=7.2,SNR=8.1						
SONM	**Songino Array**	**65.69**	**329**	P	P	**13 35 07.7**	**+1.8**
	1.6nm,0.6s,mb3.8,baz=148,slow=5.3,SNR=8.8						
MKAR	**Makanchi Array**	**79.44**	**319**	P	P	**13 36 27.9**	**+0.8**
	0.5nm,0.5s,mb3.5,baz=86,slow=10,SNR=5.0						
ZALV	**Zalesovo Beam**	**80.47**	**327**	P	P	**13 36 31.5**	**-0.9**
	1.0nm,0.5s,mb3.7,baz=106,slow=5.4,SNR=5.6						
COLA	**College**	**82.76**	**22**	*eP*	P	**13 36 43.1**	**-1.0**
	1.7nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**88.47**	**323**	P	P	**13 37 12.8**	**+0.3**
	0.6nm,0.4s,mb3.8,baz=108,slow=4.7,SNR=3.3						
NVAR	**Mina Array Bea**	**93.60**	**52**	P	P	**13 37 36.9**	**+0.3**
	1.5nm,0.8s,mb4.0,baz=257,slow=6.8,SNR=9.5						
PDAR	**Pinedale Array**	**100.30**	**48**	P	Pdif	13 38 06.2	-0.3
	0.6nm,0.6s,baz=240,slow=4.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**148.78**	**287**	PKPbc	PKPbc	13 44 07.5	-0.2
	2.9nm,0.7s,baz=77,slow=2.2,SNR=9.4						

*MOS **21** 13:35:35.9±1.1, 8.10N×39.36W, h10km, mb5.0/32, MS4.0/4, Error ellipse: s-maj=8.6km s-min=8.5km az=15.1*
*SZGRF **21** 13:35:35.1, 779N×39.54W, h10km, mb4.6, MS3.9, Central Mid-Atlantic Ridge*
*IDC **21** 13:35:35.7±0.4, 8.14N×39.31W, h0km, mb4.5/26, mb1 4.6/26, mb1mx4.6/28, mbtmp4.5/26, MS4.0/22, Ms1 4.0/22, ms1mx3.9/28, Error ellipse: s-maj=15.0km s-min=11.0km az=139.0*
*ISCJB **21** 13:35:36.4±0.2, 805N±005×3927W±003, h14km, mb4.7/91, MS4.1/31, Error ellipse: s-maj=7.4km s-min=4.8km az=175.1*
*BJI **21** 13:35:37.2, 8.10N×39.30W, h10km, mB5.3, Ms4.9, Msz4.5*
*GCMT **21** 13:35:37.2±0.3, 8.19N×39.16W, h29km±1km, MW5.1/73, Moment Tensor Solution. s28,c33; s73,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.20±.22; $M_{\theta\theta}$-1.38±.20; $M_{\phi\phi}$1.58±.21; $M_{r\theta}$-1.27±.29; $M_{\theta\phi}$-5.25±.17; $M_{\phi r}$1.17±.29; Best double couple: $M_0$5.69700×10^{16} NP1:ϕ_s9.00000°, δ77.00000°, λ8.00000°. NP2: ϕ_s277.00000°, δ82.00000°, λ167.00000°. Principal axes: T 6.0190, Plg15.0000°, Azm232.0000°; N -0.6480, Plg74.0000°, Azm66.0000°; P -5.3740, Plg4.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 13:35:37.2±3.5, 805N×3928W, h10km, mb4.9/58 Error ellipse: s-maj=8.8km s-min=5.8km az=171.0*
ISC 21 13:35:37.2±3.5, 804N±005×3927W±003, h8km±21km, n371, σ0=76/357, mb4.7/91, MS4.1/31, 98C-90D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDF	**Fort de France**	**22.45**	**289**	*eP*	P	**13 40 37.0**	**+0.2**
BBTS	**Babate**	**23.23**	**72**	P	P	**13 40 45.0**	**-0.1**
	28nm,0.7s,mb4.8,baz=190,slow=5.1,SNR=4.3						
BBTS				LR	LR	13 47 21.0	
	comp=Z,695nm,21.1s,MS4.1,baz=228,slow=30						
BBTS	**Babate**	**23.23**	**72**	P	P	**13 40 45.0**	**-0.1**
BBTS				LR	LR	13 47 21.0	
BDFB	**Brasilia**	**25.07**	**200**	P	P	**13 41 03.2**	**+0.8**
	8.9nm,0.7s,mb4.4,baz=22,slow=17,SNR=20						
BDFB				LR	LR	13 49 55.7	
	comp=Z,169nm,18.2s,MS3.6,baz=8.9,slow=34						
PCRV	**Puerto La Cruz**	**25.13**	**277**	LR	LR	13 51 07.7	
	comp=Z,246nm,20.8s,MS3.7,baz=269,slow=37						
SJG	**San Juan**	**27.99**	**294**	P	P	**13 41 29.6**	**+0.9**
	12nm,0.4s,mb4.8,baz=283,slow=23,SNR=5.8						
SJG				LR	LR	13 50 10.8	
	comp=Z,296nm,20.2s,MS3.9,baz=117,slow=31						
SDV	**Santo Domingo**	**31.03**	**274**	*eP*	P	**13 41 55.2**	**-0.6**
	7.2nm,0.8s,mb4.5						
SIV	**San Ignacio**	**32.19**	**222**	P	P	**13 42 07.3**	**+1.4**
	31nm,0.9s,mb5.2,baz=61,slow=11,SNR=123						
LIC	**Lamto**	**34.02**	**91**	*eP*	P	**13 42 20.2**	**-1.8**
	36nm,1.1s,mb4.9,baz=274						
LIC				*e*MLR	MLR		
	comp=Z,316nm,18.2s,MS3.8						
LIC	**Lamto**	**34.02**	**91**	*eP*	P	**13 42 20.2**	**-1.8**
	comp=Z,18nm,1.1s,mb4.9						
LIC				LR	LR		
	comp=Z,160nm,18.3s,MS3.8						
DBIC	**Dimbokro**	**34.15**	**90**	P	P	**13 42 19.6**	**-3.6**
	comp=Z,16nm,1.0s,mb4.9,baz=258,slow=12,SNR=8.0						
ROSC	**El Rosal**	**34.97**	**267**	P	P	**13 42 30.5**	**+0.2**
	comp=Z,18nm,0.6s,mb5.1,baz=95,slow=23,SNR=7.4						
ROSC				LR	LR	13 57 15.9	
	comp=Z,125nm,18.7s,MS3.7,baz=29,slow=37						
LPAZ	**La Paz**	**37.42**	**230**	P	P	**13 42 52.8**	**+1.6**
	comp=Z,24nm,0.9s,mb5.0,baz=44,slow=7.7,SNR=87						
LPAZ				LR	LR	13 57 52.3	
	comp=Z,114nm,20.9s,MS3.6,baz=0.1,slow=36						
OTAV	**Otavalo**	**39.81**	**261**	*eP*	P	**13 43 11.2**	**-0.1**
	comp=Z,9.2nm,1.1s,mb4.4						
MDT	**Midelt**	**40.46**	**48**	P	P	**13 43 15.9**	**-0.5**
	comp=Z,3.7nm,0.8s,mb4.2,baz=240,slow=7.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**40.55**	**79**	P	P	**13 43 13.8**	**-3.7**
	comp=Z,20nm,0.9s,mb4.8,baz=273,slow=9.3,SNR=54						
TORD				LR	LR	13 58 18.8	
	comp=Z,444nm,19.1s,MS4.3,baz=265,slow=34						
EVO	**Evora**	**41.40**	**38**	*eP*	P	**13 43 23.9**	**-0.2**
	comp=Z,38nm,1.1s,mb4.6						
EVO				*e*MLR	MLR		
	comp=Z,394nm,21.2s,MS4.0						
LVC	**Limon Verde**	**42.08**	**223**	P	P	**13 43 29.2**	**-0.7**
	comp=Z,10nm,0.9s,mb4.5,baz=51,slow=6.4,SNR=8.2						
LVC	**Limon Verde**	**42.08**	**223**	*eP*	P	**13 43 28.3**	**-1.5**
	comp=Z,4.1nm,0.6s,mb4.2						
ESDC	**Sonseca Array**	**44.59**	**39**	P	P	**13 43 47.8**	**-2.2**
	comp=Z,0.8nm,0.5s,mb3.8,baz=241,slow=8.8,SNR=5.8						
ESDC				LR	LR	13 58 49.4	
	comp=Z,275nm,20.1s,MS4.2,baz=240,slow=31						
TAM	**Tamanrasset**	**45.41**	**66**	*eP*	P	**13 43 57.5**	**+0.8**
MVL	**Millersville**	**45.90**	**320**	*eP*	P	**13 43 54.2**	**-6.2**
	comp=Z,30nm,1.0s,mb5.2						
BLA	**Blacksburg**	**47.23**	**314**	*eP*	P	**13 44 08.7**	**-2.2**
BLA				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
BLA	**Blacksburg**	**47.23**	**314**	*eP*	P	**13 44 08.7**	**-2.2**
	comp=Z,26nm,1.1s,mb5.1						
ELN	**Prospectdale**	**47.48**	**314**	P	P	**13 44 14.6**	**+1.9**
CFAA	**Coronel Fontan**	**48.18**	**214**	P	P	**13 44 17.3**	**-0.9**
	comp=Z,2.8nm,0.8s,mb4.4,baz=35,slow=7.1,SNR=14						
CFAA	**Coronel Fontan**	**48.18**	**214**	P	P	**13 44 17.3**	**-0.9**
SJPF	**Ste Jean**	**48.26**	**37**	*eP*	P	**13 44 19.7**	**+1.0**
ETSF	**Etsaut**	**48.54**	**38**	*eP*	P	**13 44 22.0**	**+1.1**
	comp=Z,70nm,1.5s,mb5.2						
ETSF	**Etsaut**	**48.54**	**38**	*eP*	P	**13 44 22.0**	**+1.1**
ETSF				pmax	pmax		
	comp=Z,35nm,1.5s,mb5.2						
ETSF	**Etsaut**	**48.54**	**38**	*eP*	P	**13 44 22.0**	**+1.1**
	comp=Z,35nm,1.5s,mb5.2						
TKL	**Tuckaleechee C**	**49.02**	**311**	P	P	**13 44 24.4**	**-0.4**
	comp=Z,2.3nm,0.5s,mb4.5,baz=129,slow=13,SNR=3.5						
EPF	**Esparros**	**49.16**	**38**	*eP*	P	**13 44 27.0**	**+1.3**
TZTN	**Tazewell**	**49.21**	**312**	*eP*	P	**13 44 27.1**	**+0.9**
	comp=Z,37nm,1.4s,mb5.2						

SWET **Sewanee** 50.49 309 eP P 13 44 36.1 +0.2
CAF **Calviac** 51.24 37 eP P 13 44 41.9 +0.5
comp=Z,28nm,1.0s,mb4.8
CAF **Calviac** 51.24 37 eP P 13 44 41.9 +0.5
CAF pmax pmax
comp=Z,14nm,1.0s,mb4.8
CAF **Calviac** 51.24 37 eP P 13 44 41.9 +0.5
comp=Z,14nm,1.0s,mb4.9
SCHQ **Schefferville** 51.59 340 P P 13 44 43.4 -0.5
comp=Z,3.5nm,0.7s,mb4.4,baz=32,slow=8.9,SNR=4.1
SCHQ LR LR 14 01 55.3
comp=Z,162nm,18.9s,MS4.1,baz=150,slow=31
LASF **Ste Croix** 51.88 39 eP P 13 44 46.9 +0.7
comp=Z,15nm,0.9s,mb4.6
PLAL **Pickwick Lake** 52.06 308 eP P 13 44 49.4 +1.7
comp=Z,17nm,1.3s,mb4.8
TCF **Toulx Ste Croi** 52.08 36 eP P 13 44 48.1 +0.5
comp=Z,30nm,1.1s,mb4.8
TCF **Toulx Ste Croi** 52.08 36 eP P 13 44 48.1 +0.5
TCF pmax pmax
comp=Z,15nm,1.1s,mb4.8
TCF **Toulx Ste Croi** 52.08 36 eP P 13 44 48.1 +0.5
comp=Z,15nm,1.1s,mb4.8
KEST **Kesra** 52.16 51 P P 13 44 48.4 -0.1
comp=Z,2.5nm,0.7s,mb4.3,baz=225,slow=6.3,SNR=5.9
KEST LR LR 14 06 45.9
comp=Z,95nm,19.0s,MS3.9,baz=210,slow=36
BGF **Bois d'Agland** 52.59 36 eP P 13 44 52.0 +0.6
VIVF **Saint-Julien-I** 52.78 38 eP P 13 44 54.1 +1.2
comp=Z,50nm,1.1s,mb5.0
VIVF **Saint-Julien-I** 52.78 38 eP P 13 44 54.1 +1.2
VIVF pmax pmax
comp=Z,25nm,1.1s,mb5.1
VIVF **Saint-Julien-I** 52.78 38 eP P 13 44 54.1 +1.2
comp=Z,25nm,1.1s,mb5.1
OXF **Oxford** 52.95 307 eP P 13 44 54.8 +0.5
OXF pmax pmax
comp=Z,39nm,0.9s,mb5.3
OXF **Oxford** 52.95 307 eP P 13 44 54.8 +0.5
comp=Z,39nm,0.9s,mb5.3
AVF **Avril sur Loir** 53.01 36 eP P 13 44 54.8 +0.3
SSF **Saint Saulge** 53.25 35 eP P 13 44 56.6 +0.3
comp=Z,23nm,1.2s,mb4.7
SSF **Saint Saulge** 53.25 35 eP P 13 44 56.6 +0.3
SSF pmax pmax
comp=Z,12nm,1.2s,mb4.7
SSF **Saint Saulge** 53.25 35 eP P 13 44 56.6 +0.3
comp=Z,12nm,1.2s,mb4.7
OLIL **Olney** 53.38 313 eP P 13 44 57.0 -0.5
comp=Z,13nm,0.5s,mb5.1
MBDF **Montbardon** 54.02 39 eP P 13 45 02.9 +0.9
comp=Z,22nm,1.1s,mb4.7
MBDF **Montbardon** 54.02 39 eP P 13 45 02.9 +0.9
MBDF pmax pmax
comp=Z,11nm,1.1s,mb4.7
MBDF **Montbardon** 54.02 39 eP P 13 45 02.9 +0.9
comp=Z,11nm,1.1s,mb4.7
CABF **La Chapelle** 54.52 37 eP P 13 45 06.3 +0.7
comp=Z,132nm,1.8s,mb5.4
CABF **La Chapelle** 54.52 37 eP P 13 45 06.3 +0.7
CABF pmax pmax
comp=Z,66nm,1.8s,mb5.4
CABF **La Chapelle** 54.52 37 eP P 13 45 06.3 +0.7
comp=Z,66nm,1.8s,mb5.4
FVM **French Village** 54.83 311 eP P 13 45 07.3 -0.7
FVM pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
FVM **French Village** 54.83 311 eP P 13 45 07.3 -0.7
comp=Z,5.4nm,0.7s,mb4.7
MIAR **Mount Ida** 56.26 306 eP P 13 45 19.4 +1.0
MIAR pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
MIAR **Mount Ida** 56.26 306 eP P 13 45 19.4 +1.0
comp=Z,9.3nm,0.9s,mb4.8
PLCA **Paso Flores** 56.44 208 P P 13 45 18.8 -0.7
comp=Z,14nm,0.9s,mb5.0,baz=34,slow=8.9,SNR=25
PLCA LR LR 14 10 46.7
comp=Z,387nm,18.6s,MS4.5,baz=135,slow=37
JFWS **Jewell Farm** 56.47 317 eP P 13 45 21.2 +1.5
JFWS pmax pmax
comp=Z,13nm,0.7s,mb5.1
JFWS **Jewell Farm** 56.47 317 eP P 13 45 21.2 +1.5
comp=Z,13nm,0.7s,mb5.1
DAVA **Damuels** 57.13 38⇓iP P 13 45 24.5 +0.2
comp=Z,7.2nm,0.8s,mb4.8
DAVA **Damuels** 57.13 38⇓iP P 13 45 24.5 +0.2
comp=Z,7.2nm,0.8s,mb4.8
GRA1 **Grafenberg Arr** 59.01 36 eP P 13 45 34.8 -2.7
comp=Z,6.0nm,0.9s,mb4.6
GRA1 epP pP 13 45 37.7 -2.4
GRA1 LR LR
comp=Z,100nm,19.4s,MS4.0
GRF **Grafenberg Arr** 59.01 36 eP P 13 45 34.8 -2.7
GRF e*PP pP 13 45 37.7 -2.4
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
GRF MLR MLR
comp=Z,100nm,19.4s,MS4.0
GRF **Grafenberg Arr** 59.01 36 eP P 13 45 34.8 -2.7
GRF e*PP pP 13 45 37.7 -2.4
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
GRF MLR MLR
comp=Z,100nm,19.4s,MS4.0
GRF **Grafenberg Arr** 59.01 36 eP P 13 45 34.8 -2.7
comp=Z,6.0nm,0.9s,mb4.6
GRF epP pP 13 45 37.7 -2.4
GRF eL 14 06 52.5
comp=Z,82nm,19.4s
GERES **GERESS Array B** 60.11 37 P P 13 45 44.8 -0.3
comp=Z,0.9nm,0.8s,mb3.9,baz=260,slow=3.7,SNR=4.8
GERES LR LR 14 10 02.9
comp=Z,98nm,19.8s,MS4.0,baz=258,slow=34
WMOK **Wichita Mounta** 60.49 305 eP P 13 45 47.6 -0.3
WMOK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WMOK **Wichita Mounta** 60.49 305 eP P 13 45 47.6 -0.4
comp=Z,6.3nm,0.8s,mb4.7
JCT **Junction City** 60.61 300 eP P 13 45 47.5 -1.4
JCT pmax pmax
comp=Z,17nm,0.9s,mb5.2
JCT **Junction City** 60.61 300 eP P 13 45 47.5 -1.4
comp=Z,17nm,0.9s,mb5.2
CLL **Collm** 60.76 35 eP P 13 45 49.0 -0.4
CLL eS S 13 54 07.0 +0.4
CLL **Collm** 60.76 35 eP P 13 45 49.0 -0.4
CLL eS S 13 54 07.0 +0.4
CLL LR LR
comp=Z,200nm,18.8s,MS4.3
ECSD **EROS,Sioux Fal** 61.12 316 eP P 13 45 50.2 -1.8
comp=Z,5.4nm,0.7s,mb4.8
CBKS **Cedar Bluff** 62.09 310 eP P 13 45 57.6 -1.1
CBKS pmax pmax
comp=Z,20nm,0.8s,mb5.3
CBKS **Cedar Bluff** 62.09 310 eP P 13 45 57.6 -1.1
comp=Z,20nm,0.8s,mb5.3
AGMN **Agassiz Refuge** 62.13 321 eP P 13 45 59.1 +0.4
comp=Z,5.4nm,0.6s,mb4.8
TSUM **Tsumeb** 62.20 117 eP P 13 45 58.6 -1.2
ULM **Lac du Bonnet** 62.84 323 P P 13 46 00.6 -2.9
comp=Z,12nm,0.6s,mb5.2,baz=116,slow=6.4,SNR=19
ULM LR LR 14 08 44.5
comp=Z,77nm,19.1s,MS3.9,baz=91,slow=32
TXAR **Lajitas Array** 63.81 299 P P 13 46 09.3 -1.1
comp=Z,1.8nm,0.6s,mb4.3,baz=103,slow=5.9,SNR=18
TXAR **Lajitas Array** 63.81 299 P P 13 46 09.3 -1.1
IDI **Anoyia** 64.34 55 P P 13 46 13.8 +0.1
comp=Z,13nm,0.9s,mb5.0,baz=279,slow=6.7,SNR=8.9
SUMG **Summit** 64.48 0 eP P 13 46 13.5 -0.4
comp=Z,4.1nm,0.7s,mb4.6
NB2 **NORSAR Subarra** 64.66 25 P P 13 46 15.3 +0.1
comp=Z,1.2nm,0.7s,mb4.0,baz=245,slow=9.3
NOA **NORSAR Array B** 64.66 25 P P 13 46 14.8 -0.5
comp=Z,0.6nm,0.7s,mb3.8,baz=231,slow=10,SNR=3.1
NOA LR LR 14 11 29.3
comp=Z,107nm,18.4s,MS4.1,baz=260,slow=33
SDCO **Great Sand Dun** 66.35 308 eP P 13 46 26.8 +0.1
comp=Z,9.7nm,0.7s,mb4.9
ISCO **Idaho Springs** 66.75 310 eP P 13 46 28.8 -0.4
ISCO pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ISCO **Idaho Springs** 66.75 310 eP P 13 46 28.8 -0.5
comp=Z,9.3nm,0.9s,mb4.8
BNM **Barren Site** 66.81 304 eP P 13 46 31.2 +1.5
LPM **Los Pinos Moun** 66.83 304 P P 13 46 31.7 +1.9
USHA **Ushuaia** 67.23 198 LR LR 14 12 59.7
comp=Z,197nm,20.8s,MS4.3,baz=223,slow=33

LAZ **Ladron** 67.26 304 eP P 13 46 32.2 -0.3
FFC **Flin Flon** 67.88 326 eP P 13 46 33.8 -2.2
FFC pmax pmax
comp=Z,15nm,1.0s,mb5.0
FFC **Flin Flon** 67.88 326 eP P 13 46 33.8 -2.2
comp=Z,15nm,1.0s,mb5.0
MVCO **Mesa Verde** 68.65 307 P P 13 46 41.2 0.0
baz=69
MVCO **Mesa Verde** 68.65 307 eP P 13 46 41.3 0.0
comp=Z,9.1nm,1.0s,mb4.7
319A **Douglas** 68.81 300 ⇓P P 13 46 42.8 +0.4
baz=69,SNR=5.1
PV01 **Paradox Valley** 68.81 308 P P 13 46 42.4 +0.2
219A **White Tail Can** 68.83 301 ⇑P P 13 46 42.9 +0.4
baz=69
Z19A **T-Link Ranch,** 68.92 302 ⇓P P 13 46 43.3 +0.3
baz=69
Y19A **Nutrioso** 68.96 303 ⇓P P 13 46 43.7 +0.4
baz=69
X19A **St. Johns** 69.03 304 ⇑P P 13 46 44.5 +0.8
baz=69
T19A **Beclabito** 69.03 306 ⇓P P 13 46 43.6 0.0
baz=69,SNR=6.9
W19A **Sanders** 69.17 304 ⇑P P 13 46 44.8 +0.3
baz=69
S19A **Harvey Farm, M** 69.21 307 ⇑P P 13 46 44.6 -0.1
baz=69
R19A **Curley Farm, L** 69.37 308 ⇓P P 13 46 45.9 +0.2
baz=69
318A **Bisbee** 69.42 300 ⇑P P 13 46 46.6 +0.5
baz=69
W18A **Petrified Fore** 69.45 304 ⇓P P 13 46 46.2 -0.1
baz=70
118A **Homack Ranch,** 69.47 302 ⇓P P 13 46 46.3 -0.2
baz=70
218A **Dragoon** 69.49 301 ⇓P P 13 46 47.1 +0.5
baz=70
Z18A **Geronimo** 69.55 302 ⇑P P 13 46 46.6 -0.3
baz=70
X18A **Snowflake** 69.58 304 ⇑P P 13 46 47.3 +0.2
baz=70
N19A **John Jarvie Ra** 69.60 311 ⇑P P 13 46 46.5 -0.6
baz=70
U18A **Rough Rock, Ch** 69.67 306 ⇑P P 13 46 47.5 -0.1
baz=70
T18A **Mexican Hat** 69.74 307 ⇑P P 13 46 47.8 -0.2
baz=70
R18A **Canyonlands Na** 69.87 308 ⇓P P 13 46 48.9 0.0
baz=70,SNR=14
S18A **Hurst Farm, Bl** 69.88 307 ⇑P P 13 46 48.9 0.0
baz=70
N18A **Larsen Ranch,** 69.99 311 ⇓P P 13 46 49.3 -0.1
baz=70,SNR=6.5
PDAR **Pinedale Array** 70.12 313 P P 13 46 49.5 -0.8
comp=Z,2.4nm,1.0s,mb4.1,baz=93,slow=7.4,SNR=9.7
PDAR LR LR 14 12 29.6
comp=Z,142nm,20.5s,MS4.2,baz=107,slow=32
Q18A **Rafter H Ranch** 70.13 309 ⇑P P 13 46 50.7 +0.3
baz=70,SNR=6.7
217A **Green Valley** 70.14 301 ⇓P P 13 46 50.9 +0.4
baz=70,SNR=6.0
TUC **Tucson** 70.14 301 eP P 13 46 52.7 +2.1
TUC pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TUC **Tucson** 70.14 301 eP P 13 46 52.7 +2.1
comp=Z,4.5nm,0.9s,mb4.4
O18A **Roosevelt** 70.16 310 ⇓P P 13 46 50.4 -0.1
baz=70
AKASG **Malin Array Be** 70.24 39 P P 13 46 47.7 -3.1
comp=Z,4.2nm,0.9s,mb4.4,baz=256,slow=6.3,SNR=15
AKASG LR LR 14 14 23.0
comp=Z,132nm,21.3s,MS4.2,baz=270,slow=33
RLMT **Red Lodge** 70.25 315 P P 13 46 50.5 -0.5
comp=Z,10nm,1.3s,mb4.6
Y17A **Roosevelt** 70.27 303 ⇓P P 13 46 51.4 +0.1
baz=70
X17A **Forest Lakes** 70.27 304 ⇑P P 13 46 51.7 +0.4
baz=70
U17A **Shonto** 70.32 306 ⇑P P 13 46 51.5 -0.1
baz=70
R17A **Hanksville Air** 70.51 308 ⇑P P 13 46 52.8 +0.1
baz=70
S17A **Black Ridge (B** 70.52 307 ⇑P P 13 46 53.6 +0.8
baz=70,SNR=6.1
O17A **Robinson Place** 70.71 310 ⇓P P 13 46 54.0 +0.1
baz=71
LSZ **Lusaka** 70.73 109 P P 13 46 53.4 -1.0
comp=Z,5.7nm,1.0s,mb4.5,baz=268,slow=3.1,SNR=3.9
LSZ **Lusaka** 70.73 109 eP P 13 46 53.6 -0.8
LSZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LSZ **Lusaka** 70.73 109 eP P 13 46 53.6 -0.8
comp=Z,5.3nm,1.0s,mb4.4
X16A **Lo Mia Camp, P** 70.80 304 ⇓P P 13 46 54.4 -0.2
baz=71,SNR=6.1
Y16A **Circle Bar Ran** 70.80 303 ⇑P P 13 46 55.3 +0.7
baz=71
WUAZ **Wupatki** 70.82 305 ⇑P P 13 46 55.4 +0.7
baz=71,SNR=11
WUAZ **Wupatki** 70.82 305 eP P 13 46 54.6 -0.1
comp=Z,26nm,0.7s,mb5.3
W16A **Flagstaff** 70.92 304 ⇑P P 13 46 56.3 +1.0
baz=71,SNR=6.0
TMUT **Trail Mountain** 70.98 309 P P 13 46 53.0 -2.6
LOHW **Long Hollow** 70.99 313 eP P 13 46 54.0 -1.6
comp=Z,12nm,1.3s,mb4.7
MOOW **Moose Ponds** 71.11 313 eP P 13 46 55.2 -1.0
comp=Z,6.6nm,1.1s,mb4.5
FLWY **Flagg Ranch** 71.12 314 eP P 13 46 55.4 -0.9
comp=Z,36nm,1.3s,mb5.1
DAU **Daniels Canyon** 71.12 310 eP P 13 46 56.3 -0.1
LBTB **Lobatse** 71.14 120 P P 13 46 57.4 +0.6
comp=Z,4.9nm,0.9s,mb4.5,baz=255,slow=8.8,SNR=3.6
LBTB **Lobatse** 71.14 120 P P 13 46 57.4 +0.6
S16A **Weppner Ranch,** 71.15 307 ⇑P P 13 46 56.9 +0.2
baz=71
TPAW **Teton Pass** 71.23 313 eP P 13 46 58.3 +1.4
comp=Z,14nm,1.1s,mb4.8
IMW **Indian Meadow** 71.27 314 eP P 13 46 56.5 -0.8
comp=Z,11nm,0.9s,mb4.8
YMR **Madison River** 71.38 314 eP P 13 46 58.4 +0.5
comp=Z,54nm,1.3s,mb5.3
DCID1 **Drake Creek** 71.41 313 P P 13 46 59.2 +1.1
L16A **Fish Haven** 71.42 312 ⇑P P 13 46 58.1 0.0
baz=72
X15A **Humboldt** 71.46 304 ⇑P P 13 46 59.2 +0.6
baz=72,SNR=7.3
HWUT **Hardware Ranch** 71.47 311 eP P 13 46 55.3 -3.2
comp=Z,16nm,0.9s,mb5.0
RRI2 **Red Ridge** 71.48 313 eP P 13 46 57.7 -0.8
comp=Z,15nm,0.9s,mb4.9
V15A **Kaibab Nationa** 71.48 305 ⇑P P 13 46 58.8 +0.1
baz=72,SNR=6.8
M16A **Huntsville** 71.49 311 ⇓P P 13 46 58.1 -0.6
baz=72,SNR=6.6
Y15A **Casa Rosa Ranc** 71.52 303 ⇑P P 13 46 59.2 +0.3
baz=72
W15A **Williams** 71.52 304 ⇑P P 13 46 58.8 -0.2
baz=72
K16A **Soda Springs** 71.62 312 ⇑P P 13 46 59.2 -0.2
baz=72
U15A **North Rim** 71.62 306 ⇓P P 13 46 59.6 +0.1
baz=72
MSU **Marysvale** 71.67 308 P P 13 47 00.2 +0.4
QLMT **Earthquake Lak** 71.73 314 eP P 13 47 00.5 +0.5
BOZ **Bozeman (W)** 71.97 315 eP P 13 47 00.5 -0.9
BOZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BOZ **Bozeman (W)** 71.97 315 ⇑P P 13 47 01.1 -0.3
baz=72
BOZ **Bozeman (W)** 71.97 315 eP P 13 47 00.5 -0.9
comp=Z,4.7nm,0.9s,mb4.4
X14A **Yava** 72.00 304 ⇑P P 13 47 02.8 +0.9
baz=72,SNR=8.7
BOSA **Boshof** 72.04 123 LR LR 14 13 10.0
comp=Z,127nm,19.3s,MS4.2,baz=95,slow=31
Y14A **Wickenburg** 72.07 303 ⇑P P 13 47 03.1 +0.8
baz=72
M15A **Larsen Ranch,** 72.12 311 ⇑P P 13 47 02.3 -0.1
baz=72
L15A **Malad City** 72.12 311 ⇑P P 13 47 01.8 -0.6
baz=72,SNR=9.0
W14A **Seligman** 72.19 304 ⇓P P 13 47 03.4 +0.4
baz=72
V14A **Boquillas Ranc** 72.23 305 ⇑P P 13 47 04.0 +0.8
baz=72
DUG **Dugway** 72.29 310 P P 13 47 00.7 -2.8
DUG pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
DUG **Dugway** 72.29 310 ⇓P P 13 47 03.5 0.0
baz=72
DUG **Dugway** 72.29 310 P P 13 47 00.7 -2.7
comp=Z,8.9nm,1.1s,mb4.6
J15A **Blackfoot** 72.29 313 ⇑P P 13 47 02.8 -0.6
baz=72
K15A **Arbon** 72.29 312 ⇑P P 13 47 03.3 -0.1
baz=72
U14A **Mt Trumbull** 72.33 306 ⇑P P 13 47 04.5 +0.7
baz=72,SNR=8.6
I15A **Monteview** 72.39 314 ⇓P P 13 47 04.0 0.0
baz=72
HVU **Hansel Valley** 72.39 311 eP P 13 46 57.8 -6.2
P14A **Drum Mountains** 72.44 309 ⇑P P 13 47 04.4 +0.1
baz=72,SNR=7.9
BGU **Big Grassy Mou** 72.51 310 eP P 13 47 04.5 -0.3
G15A **Dillon** 72.51 315 ⇓P P 13 47 04.8 +0.1
baz=73
Q14A **Sevier Lake (B** 72.56 308 ⇑P P 13 47 05.3 +0.2
baz=73,SNR=19
H15A **Lima** 72.57 314 ⇓P P 13 47 04.9 -0.1
baz=73
F15A **Butte** 72.59 315 ⇑P P 13 47 05.1 0.0
baz=73
DLMT **Dillon** 72.61 315 eP P 13 47 04.9 -0.4
comp=Z,31nm,1.2s,mb5.1
N14A **Grayback Hills** 72.62 310 ⇑P P 13 47 05.6 +0.2
baz=73,SNR=6.2
MCMT **McKenzie Canyo** 72.73 314 P P 13 47 07.6 +1.6
D15A **Lincoln** 72.75 317 ⇓P P 13 47 06.0 0.0
baz=73
K14A **Jones Ranch, D** 72.75 312 ⇑P P 13 47 06.0 -0.1
baz=73
Y13A **Salome** 72.75 303 ⇑P P 13 47 06.9 +0.5
baz=73
L14A **Malta** 72.76 311 ⇑P P 13 47 05.3 -0.9
baz=73
X13A **Yucca** 72.78 304 ⇑P P 13 47 07.1 +0.6
baz=73,SNR=5.8
M14A **Sheep Mountain** 72.80 311 ⇓P P 13 47 05.3 -1.1
baz=73
W13A **Hualapai Mount** 72.84 304 ⇓P P 13 47 07.2 +0.3
baz=73
S13A **Holt Ranch, En** 72.94 307 ⇓P P 13 47 08.3 +0.9
baz=73,SNR=7.8
T13A **Saint George** 72.95 306 ⇓P P 13 47 08.0 +0.5
baz=73
V13A **Grand Canyon W** 72.96 305 ⇓P P 13 47 07.6 +0.1
baz=73
U13A **Pakoon Wash** 72.96 306 ⇑P P 13 47 07.9 +0.4
baz=73
PDMCI **Parker Dam,Lak** 73.03 303 ⇑P P 13 47 08.2 +0.2
baz=73
R13A **O'Grain Ranch,** 73.05 307 ⇓P P 13 47 08.5 +0.4
baz=73 LR LR
J14A **Carey** 73.07 313 ⇑P P 13 47 08.0 -0.1
baz=73
I14A **Mackay** 73.08 313 ⇓P P 13 47 08.0 -0.1
baz=73
H14A **Leadore** 73.08 314 ⇓P P 13 47 07.9 -0.1
baz=73
P13A **Bates Ranch, G** 73.16 309 ⇓P P 13 47 09.0 +0.4
baz=73,SNR=17
CHMT **Chamberlain Mo** 73.23 317 eP P 13 47 07.6 -1.4
L13A **Double Diamond** 73.28 311 ⇑P P 13 47 09.0 -0.4
baz=73,SNR=6.1
Y12C **Blythe** 73.33 303 ⇓P P 13 47 10.3 +0.5
baz=73
M13A **Montello** 73.40 311 ⇓P P 13 47 09.7 -0.3
baz=73,SNR=7.1
D14A **Greenough** 73.42 317 ⇓P P 13 47 09.7 -0.3
baz=74
U12A **Valley of Fire** 73.43 306 ⇑P P 13 47 11.2 +0.9
baz=73
I13A **Wildhorse Cree** 73.55 313 ⇓P P 13 47 10.7 -0.2
baz=74,SNR=6.5
R12A **Pony Springs,** 73.56 308 ⇓P P 13 47 11.0 -0.1
baz=74,SNR=8.3
C14A **Swan Lake** 73.66 317 ⇑P P 13 47 10.8 -0.6
baz=74
H13A **Challis** 73.71 314 ⇓P P 13 47 11.4 -0.4
baz=74,SNR=6.5
S12A **Delamar Landin** 73.72 307 ⇑P P 13 47 12.8 +0.8
baz=74
G13A **Cobalt** 73.74 315 ⇓P P 13 47 11.3 -0.6
baz=74,SNR=7.6
HLID **Hailey** 73.74 313 ⇓P P 13 47 11.6 -0.4
baz=74,SNR=6.0
HLID **Hailey** 73.74 313 eP P 13 47 10.9 -1.0
comp=Z,6.7nm,1.1s,mb4.5
O12A **Currie** 73.77 310 ⇑P P 13 47 11.8 -0.4
baz=74,SNR=6.6
Q12A **Willow Creek R** 73.77 308 ⇑P P 13 47 12.6 +0.4
baz=74,SNR=7.1
E13A **Victor** 73.83 316 ⇑P P 13 47 12.1 -0.3
baz=74
ARCES **ARCESS Array B** 73.83 19 P P 13 47 09.2 -2.8
comp=Z,3.8nm,0.8s,mb4.4,baz=322,slow=7.7,SNR=4.8
ARCES LR LR 14 14 33.5
comp=Z,76nm,19.8s,MS4.0,baz=260,slow=32
IRM **Iron Mountain** 73.86 303 ⇓P P 13 47 13.0 +0.1
baz=74
F13A **Darby** 73.87 315 ⇑P P 13 47 12.5 -0.2
baz=74
T11A **Corn Creek, Al** 74.00 306 ⇑P P 13 47 14.2 +0.6
baz=74
N12A **Clover Valley,** 74.03 310 ⇑P P 13 47 13.8 +0.1
baz=74,SNR=8.7
K12A **Draper Farm, C** 74.03 312 ⇑P P 13 47 13.7 0.0
baz=74
ASF **Jabal al Asfar** 74.07 59 P P 13 47 14.4 +0.3
comp=Z,1.6nm,0.6s,mb4.1,baz=45,slow=7.1,SNR=3.1
D13A **Huson** 74.07 317 ⇓P P 13 47 13.2 -0.7
baz=74
L12A **House Creek Ra** 74.08 311 ⇓P P 13 47 14.3 +0.3
baz=74
BC3 **Big Chuckw Mtn** 74.10 303 ⇓P P 13 47 15.0 +0.7
baz=74,SNR=8.1
ELK **Elko** 74.17 310 eP P 13 47 14.5 -0.1
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK **Elko** 74.17 310 eP P 13 47 14.5 -0.1
comp=Z,6.2nm,0.9s,mb4.5
B13A **Whitefish** 74.20 318 ⇓P P 13 47 14.6 0.0
baz=74
C13A **Hot Springs** 74.20 317 ⇑P P 13 47 14.3 -0.3
baz=74
J12A **Stokes Ranch,** 74.22 313 ⇓P P 13 47 14.7 -0.1
baz=74,SNR=7.5
GMRC **Granite Mounta** 74.29 304 ⇓P P 13 47 15.6 +0.2
baz=74,SNR=6.2
R11A **Troy Canyon, C** 74.33 307 ⇓P P 13 47 15.8 +0.2
baz=74,SNR=6.0
SWSC **Sam W. Stewart** 74.38 302 ⇑P P 13 47 15.7 -0.3
baz=74
Q11A **Duckwater** 74.41 308 ⇓P P 13 47 15.9 -0.1
baz=74
S11A **Rachel** 74.44 307 ⇑P P 13 47 16.7 +0.5
baz=74
O11A **Cowboy Ranch,** 74.46 309 ⇑P P 13 47 16.9 +0.6
baz=74,SNR=6.3
F12A **Elk City** 74.51 315 ⇓P P 13 47 16.3 -0.1
baz=74,SNR=8.3
BELC **Belle Mtn.** 74.56 303 ⇑P P 13 47 17.8 +0.8
baz=75
M11A **Holland Ranch,** 74.62 311 ⇑P P 13 47 17.6 +0.4
baz=75
L11A **Cat Creek Ranc** 74.63 311 ⇑P P 13 47 17.2 0.0
baz=75,SNR=5.7
D12A **Red Ives Fores** 74.68 317 ⇓P P 13 47 16.7 -0.7
baz=75
MFID **Camas Ranch** 74.76 313 ⇓P P 13 47 17.5 -0.4
baz=75
TPNV **Topopah Spring** 74.82 306 eP P 13 47 18.1 -0.3
TPNV pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
TPNV **Topopah Spring** 74.82 306 ⇑P P 13 47 18.7 +0.3
baz=75,SNR=7.1
TPNV **Topopah Spring** 74.82 306 eP P 13 47 18.1 -0.3
comp=Z,7.5nm,0.9s,mb4.6
K11A **Parker Ranch,** 74.87 312 ⇑P P 13 47 18.0 -0.6
baz=75
U10A **Ash Meadows, A** 74.87 305 ⇓P P 13 47 19.0 +0.2
baz=75
MONP **Monument Peak** 74.91 302 ⇑P P 13 47 19.2 +0.2
baz=75,SNR=5.7
PFO **Pinyon Flat Ob** 74.94 303 ⇑P P 13 47 20.1 +0.9

	baz=75						
H11A	Donnelly	74.97	314	⇑P		P	13 47 18.7 -0.4
	baz=75						
P10A	Eureka	75.06	309	⇑P		P	13 47 19.6 -0.2
	baz=75						
S10A	Tonopah Range,	75.11	307	⇓P		P	13 47 20.1 0.0
	baz=75,SNR=20						
BAR	Barrett	75.12	302	eP		P	13 47 20.1 -0.2
	comp=Z,7.4nm,0.9s,mb4.6						
F11A	Grangeville	75.14	315	⇓P		P	13 47 19.6 -0.5
	baz=75						
L10A	Juniper Basin	75.16	311	⇑P		P	13 47 20.2 -0.1
	baz=75						
E11A	Bogner Ranch,	75.21	316	⇑P		P	13 47 19.9 -0.5
	baz=75						
GSC	Goldstone	75.24	304	eP		P	13 47 20.7 -0.2
GSC				pmax		pmax	
	comp=Z,6.0nm,0.8s,mb4.6						
GSC	Goldstone	75.24	304	⇑P		P	13 47 20.6 -0.2
	baz=75						
GSC	Goldstone	75.24	304	eP		P	13 47 20.7 -0.1
	comp=Z,5.7nm,0.8s,mb4.5						
OBN	Obninsk	75.35	35	⇑eP		P	13 47 24.8 +3.7
OBN				e			13 47 34.0
OBN				pmax		pmax	
	comp=Z,8.0nm,0.4s,mb5.0						
OBN				MLR		MLR	
	comp=Z,100nm,24.0s,MS4.0						
MALT	Malatya	75.42	53	eP		P	13 47 22.8 +1.0
MALT				pmax		pmax	
	comp=Z,4.0nm,0.8s,mb4.4						
MALT	Malatya	75.42	53	eP		P	13 47 22.8 +1.0
	comp=Z,4.0nm,0.8s,mb4.4						
H10A	Noah's Angus R	75.48	314	⇓P		P	13 47 21.0 -1.1
	baz=76						
R09A	Tonopah	75.50	307	⇓P		P	13 47 22.5 +0.2
	baz=76,SNR=8.3						
A11A	Hall Mountain,	75.51	318	⇑P		P	13 47 21.4 -0.7
	baz=76						
S09A	Goldfield	75.61	307	⇑P		P	13 47 22.7 -0.2
	baz=76						
TPH	Tonopah	75.61	307	P		P	13 47 22.1 -0.9
TPH				pmax		pmax	
	comp=Z,8.0nm,0.9s,mb4.7						
TPH	Tonopah	75.61	307	P		P	13 47 22.1 -0.9
	comp=Z,8.5nm,0.9s,mb4.7						
O09A	Fish Creek Ran	75.64	309	⇑P		P	13 47 23.4 +0.3
	baz=76,SNR=6.7						
GRAC	Grapevine Rang	75.72	306	⇓P		P	13 47 24.1 +0.5
	baz=76						
MPMC	Manual Prospec	75.80	305	⇓P		P	13 47 24.7 +0.6
	baz=76						
E10A	Myers Farm, Un	75.84	316	⇓P		P	13 47 24.2 +0.2
	baz=76						
M09A	Marrel Ranch,	75.87	311	⇑P		P	13 47 24.8 +0.5
	baz=76						
BMO	Blue Mountains	75.90	314	eP		P	13 47 24.0 -0.4
BMO				pmax		pmax	
	comp=Z,6.0nm,1.3s,mb4.4						
BMO	Blue Mountains	75.90	314	eP		P	13 47 24.0 -0.4
	comp=Z,5.9nm,1.3s,mb4.4						
N09A	Rock Creek Ran	75.91	310	⇓P		P	13 47 24.8 +0.2
	baz=76						
BFSC	Mount Baldy St	75.94	303	⇑P		P	13 47 25.1 +0.2
	baz=76						
LRMC	Laurel Mountai	75.96	304	⇓P		P	13 47 25.2 +0.2
	baz=76						
D10A	Wagner Farm, O	75.99	316	⇓P		P	13 47 24.6 -0.3
	baz=76						
K09A	Rome	76.11	312	⇓P		P	13 47 25.8 +0.1
	baz=76,SNR=13						
H09A	Durkee	76.14	314	⇑P		P	13 47 25.4 -0.4
	baz=76						
YKA	Yellowknife Ar	76.14	332	P		P	13 47 24.8 -0.7
	comp=Z,1.8nm,0.6s,mb4.2,baz=96,slow=6.2,SNR=5.8						
YKA				LR		LR	14 19 07.0
	comp=Z,53nm,18.2s,MS3.9,baz=115,slow=34						
J09A	Fry Pan Ranch,	76.16	313	⇑P		P	13 47 25.7 -0.3
	baz=76						
I09A	Lost Marbles R	76.17	313	⇓P		P	13 47 25.4 -0.6
	baz=76						
EDW2	Edwards Air Fo	76.21	304	⇓P		P	13 47 25.6 -0.8
	baz=76						
G09A	Cove	76.25	315	⇑P		P	13 47 25.7 -0.7
	baz=76,SNR=6.8						
S08C	White Mtn Res	76.36	307	⇓P		P	13 47 28.5 +1.3
	baz=76,SNR=15						
N08A	GE Springer Mi	76.37	310	⇓P		P	13 47 26.7 -0.5
	baz=76						
NVAR	Mina Array Bea	76.47	308	P		P	13 47 27.5 -0.3
	comp=Z,1.1nm,0.6s,mb3.9,baz=103,slow=6.8,SNR=10						
NVAR	Mina Array Bea	76.47	308	P		P	13 47 27.5 -0.3
L08A	Fields	76.56	311	⇑P		P	13 47 28.0 -0.3
	baz=77,SNR=5.9						
K08A	Mann Creek Ran	76.68	312	⇓P		P	13 47 28.7 -0.3
	baz=77						
J08A	Circle Bar Ran	76.68	313	⇑P		P	13 47 28.3 -0.7
	baz=77						
I08A	Drewsey	76.77	313	⇓P		P	13 47 28.9 -0.5
	baz=77						
H08A	Prairie City	76.86	314	⇓P		P	13 47 29.6 -0.3
	baz=77						
OD2	Odessa Site #2	76.98	317	P		P	13 47 28.8 -1.8
N07B	Gerlach	77.01	310	⇑P		P	13 47 30.3 -0.6
	baz=77						
HELL	Mitchell Peak	77.04	306	⇓P		P	13 47 30.7 -0.4
	baz=77,SNR=6.0						
G08A	Pilot Rock	77.08	315	⇓P		P	13 47 30.7 -0.5
	baz=77						
E08A	Dider Farm, El	77.19	316	⇓P		P	13 47 31.2 -0.5
	baz=77						
K07A	Rock Creek Ran	77.24	312	⇓P		P	13 47 31.4 -0.6
	baz=77						
J07A	Hines	77.29	313	⇑P		P	13 47 31.9 -0.5
	baz=77						
L07A	Adell	77.30	311	⇓P		P	13 47 31.7 -0.7
	baz=77,SNR=5.0						
KLMR	Klimovskoe	77.56	29	eP		P	13 47 33.4 -0.1
KLMR				pmax		pmax	
	comp=Z,28nm,1.4s,mb5.0						
G07A	Ruggs Ranch, H	77.58	315	⇓P		P	13 47 34.4 +0.4
	baz=78						
N06A	Buffalo Meadow	77.66	310	⇓P		P	13 47 34.7 +0.2
	baz=78						
S06C	San Francisco	77.69	307	⇑P		P	13 47 35.2 +0.5
	baz=78						
R05C	Kirkwood Meado	77.86	308	⇑P		P	13 47 35.7 0.0
	baz=78						
J06A	Christmas Vall	77.91	312	⇑P		P	13 47 34.9 -0.9
	baz=78,SNR=6.0						
K06A	Valley Falls	77.98	312	⇓P		P	13 47 36.0 -0.2
	baz=78						
MOD	Modoc	78.01	311	⇓P		P	13 47 36.9 +0.5
	baz=78,SNR=5.4						
MOD	Modoc	78.01	311	eP		P	13 47 36.6 +0.1
	comp=Z,15nm,0.8s,mb5.0						
H06A	Lindquist Farm	78.05	314	⇑P		P	13 47 36.2 -0.4
	baz=78						
M06C	Likely Place G	78.15	310	⇓P		P	13 47 37.4 +0.2
	baz=78						
A07A	Ashnola River,	78.15	318	⇑P		P	13 47 36.4 -0.7
	baz=78						
G06A	Carlson Farm,	78.27	314	⇓P		P	13 47 37.5 -0.2
	baz=78						
L05A	Lakeview	78.41	311	⇑P		P	13 47 38.7 +0.1
	baz=78,SNR=5.3						
K05A	Summer Lake	78.45	312	⇓P		P	13 47 39.2 +0.3
	baz=78						
U04C	Hernandez Rese	78.46	305	⇑P		P	13 47 39.4 +0.3
	baz=78,SNR=6.9						
O04C	Chester	78.62	309	⇓P		P	13 47 39.6 -0.2
	baz=79						
KIV	Kislovodsk	78.69	47	⇑eP		P	13 47 42.0 +1.9
KIV				pmax		pmax	
	comp=Z,10.0nm,0.9s,mb4.8						
J05A	Fort Rock	78.70	312	⇑P		P	13 47 40.2 0.0
	baz=79						
M04C	Macdoel	79.16	311	⇓P		P	13 47 42.6 -0.2
	baz=79						
L04A	Klamath Falls	79.19	311	⇓P		P	13 47 43.4 +0.4
	baz=79						
J04A	Umpqua Nationa	79.34	312	⇓P		P	13 47 44.4 +0.7
	baz=79						
YBH	Yreka Blue Hor	79.82	311	⇓P		P	13 47 46.5 +0.1
	baz=80						
M02C	Callahan	79.93	311	⇑P		P	13 47 47.7 +0.8
	baz=80						
N02C	Big Bar	80.30	310	⇑P		P	13 47 49.1 +0.1
	baz=80						
VNA1	Neumayer--Stat	81.26	170	eP		P	13 47 53.0 -0.4
VNA1				e			13 47 59.1
VNA1				e			13 48 02.6
VNA3	Neumayer Olymp	81.54	171	eP		P	13 47 54.6 -0.3
VNA3				e			13 47 59.5
VNA3				e			13 48 03.1
VNA2	Neumayer--Watz	81.65	170	eP		P	13 47 55.9 +0.5
VNA2				e			13 48 00.8
VNA2				e			13 48 04.0
SNAA	Sanae	83.09	169	eP		P	13 48 02.5 -0.5
SNAA				e			13 48 07.6
SNAA				e			13 48 11.1
SNAA	Sanae	83.09	169	LR		LR	14 21 06.7
	comp=Z,29nm,20.0s,MS3.6,baz=299,slow=33						
SNAA	Sanae	83.09	169	eP		P	13 48 02.0 -1.0
SNAA				pmax		pmax	
	comp=Z,7.0nm,0.9s						
SNAA	Sanae	83.09	169	eP		P	13 48 02.0 -1.0
	comp=Z,7.4nm,0.9s,mb4.7						
DLBC	Dease Lake	83.61	328	eP		P	13 48 07.9 +1.9
DAWY	Dawson	87.23	334	eP		P	13 48 25.4 +1.4
ARU	Arti	87.67	33	c iP		P	13 48 27.7 +1.4
ARU				e			13 51 52.8
ARU				eS		S	13 58 55.1 -13
ARU				SS		SS	14 04 51.1 -3.0
ARU				pmax		pmax	
	comp=Z,4.0nm,1.0s,mb4.6						
AKTK	Aktyubinsk	88.48	39	P		P	13 48 31.1 +0.9
AKTO	Aktyubinsk	88.48	39	P		P	13 48 31.1 +0.9
	comp=Z,4.7nm,0.8s,mb4.8,baz=290,slow=6.3,SNR=9.3						
BVAR	Borovoye Array	95.19	35	LR		LR	14 31 40.2
	comp=Z,143nm,18.5s,MS4.5,baz=122,slow=35						
LZH	Lanzhou	124.06	36	ePKP		PKPdf	13 54 31.0 -5.8
LZH				XPKP			13 54 44.5
LZH				PP		PP	
	comp=Z,79nm,4.4s						
HHC	Hu-ho-hao-te	124.43	27	ePKP		PKPdf	13 54 34.8 -2.6
HHC				PP		PP	13 56 23.3 +1.1
HHC				SKS		SKSdf	14 01 46.0 -3.8
HHC				SKKS		SKKSac	14 03 15.3 -7.0
HHC				PP		PP	
	comp=Z,59nm,6.8s						
HHC				LR		LR	
	comp=N,126nm,20.2s,MS4.7						
HHC				LR		LR	
	comp=E,101nm,22.6s,MS4.7						
HHC				LR		LR	
	comp=Z,92nm,19.0s,MS4.5						
CN2	Changchun	126.57	14	ePKP		PKPdf	13 54 42.3 +0.9
CD2	Chengdu	127.52	41	ePKP		PKPdf	13 54 41.1 -2.4
CD2				XPKP			13 54 50.3
CD2				PP		PP	13 56 46.1 +2.9
CD2				PKS			13 58 16.3
CD2				SKS		SKSdf	14 01 47.8 -8.2
CD2				SKKS		SKKSac	14 03 32.3 -10
CD2				PP		PP	
	comp=Z,90nm,10.2s						
CD2				LR		LR	
	comp=N,210nm,18.6s						
CD2				LR		LR	
	comp=Z,180nm,21.0s,MS4.7						
KMI	Kunming	130.45	47	PKP		PKPdf	13 54 47.9 -1.4
KMI				XPKP			13 54 52.9
KMI				PP		PP	13 57 06.1 +3.4
KMI				SS		SS	14 14 29.9 -0.9
KMI				PP		PP	
	comp=Z,73nm,3.8s						
KMI				LR		LR	
	comp=N,90nm,18.4s,MS4.6						
KMI				LR		LR	
	comp=E,64nm,19.3s,MS4.6						
KMI				LR		LR	
	comp=Z,86nm,17.5s,MS4.5						
CMAR	Chiang Mai Arr	131.08	57	PKP		PKPdf	13 54 51.0 +0.4
	comp=Z,0.4nm,0.5s,baz=264,slow=3.0,SNR=4.5						
GYA	Guiyang	132.36	43	ePDIF		Pdif	13 51 44.8 -2.0
GYA				PKP		PKPdf	13 54 51.6 -1.3
GYA				PP		PP	13 57 18.0 +3.1
GYA				PKS			13 58 26.3
GYA				SKS		SKSdf	14 02 01.8 -3.2
GYA				SKKS		SKKSac	14 04 08.0 -4.5
GYA				SS		SS	14 14 52.9 -0.9
GYA				PP		PP	
	comp=Z,120nm,8.4s						
GYA				LR		LR	
	comp=N,120nm,22.4s,MS4.7						
GYA				LR		LR	
	comp=E,110nm,23.8s,MS4.7						
GYA				LR		LR	
	comp=Z,90nm,25.0s,MS4.4						
NJ2	Nanjing	134.99	27	ePKP		PKPdf	13 54 53.3 -4.4
KSM	Kuching	148.22	74	ePKPbc		PKPbc	13 55 25.6 +0.5
ASAR	Alice Springs	163.14	158	PKP		PKPdf	13 55 42.9 +1.7
	comp=Z,0.4nm,0.8s,baz=112,slow=1.0,SNR=4.5						
ASAR				PKPab		PKPab	13 56 31.1 +0.2
	comp=Z,0.4nm,0.8s,baz=187,slow=5.6,SNR=3.2						
WRA	Warramunga Arr	166.65	153	PKP		PKPdf	13 55 44.0 -0.2
	comp=Z,1.2nm,1.0s,baz=245,slow=1.1,SNR=5.3						

*THE **21** 14:13:40.9, 3432N×2564E, h6km*
*CSEM **21** 14:13:40.6±1.2, 3425N×2572E, h40km, MD3.6, Error ellipse: s-maj=27.1km s-min=10.9km az=166.0*
*ATH **21** 14:13:46.8, 3478N×2556E, h46km±6km, MD3.6/3*

ISC 21 14:13:40.2±2.5,343N±01×2561E±006,h19km±9km,n7, σ1§18/13,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	Lasithi	0.89	353	ePg	Pg	14 13 56.5	-1.0
LAST				eSg	Sg	14 14 10.7	+1.4
ZKR	Zakros	0.97	31	ePg	Pg	14 13 57.3	-1.8
ZKR				eSg	Sg	14 14 12.5	+0.5
NPS	Neapolis	0.98	0	eP	Pb	14 13 57.9	-0.7
NPS				eS	Sb	14 14 06.1	-5.1
SIVA	Sivas	0.99	318	ePg	Pg	14 13 59.7	+0.2
SIVA				eSg	Sg	14 14 12.7	+0.2
VAM	Vamos	1.62	315	eP	Pn	14 14 09.5	+1.8
KARN	Karanos	1.79	309	ePb	Pb	14 14 12.1	-0.3
KARN				eSb	Sb	14 14 33.3	-1.2
KARP	Karpathos	1.80	45	eP	Pn	14 14 12.9	+2.7
KARP				eS	Sn	14 14 31.7	-0.8

IDC 21 14:41:48.3±16.0,558S×15419E,h170km±140km,mb3.2/6, mb1 3.4/7,mb1mx3.3/17,mbtmp3.3/7,ML3.8/1,Error ellipse: s-maj=71.4km s-min=24.6km az=70.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	16.35	207	P	Pn	14 45 28.9	+0.6
	0.2nm,0.3s,baz=35,slow=13,SNR=5.3						
WRA	Warramunga Arr	24.00	232	P	P	14 46 47.4	-0.1
	1.4nm,0.6s,baz=54,slow=9.6,SNR=19						
ASAR	Alice Springs	26.54	225	P	P	14 47 10.0	-0.4
	0.3nm,0.4s,baz=59,slow=9.6,SNR=13						
CMAR	Chiang Mai Arr	59.46	295	P	P	14 51 34.6	+1.0
	1.0nm,1.0s,baz=116,slow=6.7,SNR=4.4						
SONM	Songino Array	67.72	327	P	P	14 52 27.3	+0.1
	0.4nm,0.4s,baz=141,slow=5.5,SNR=5.1						
VNDA	Vanda	72.00	178	P	P	14 52 53.2	+0.3
	0.5nm,0.6s,baz=332,slow=7.5,SNR=4.5						
ZALV	Zalesovo Beam	82.57	326	P	P	14 53 51.6	-0.4
	0.4nm,0.4s,baz=99,slow=6.6,SNR=2.7						

*NEIC **21** 14:56:16.7, 1586N×9289W, h160km, MD4.0(MEX), After MEX.*

MEX 21 14:56:16.7±1.3,1586N×9289W,h160km±13km,MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.84	60	i P	Pn	14 56 39.7	-1.5
CCIG				i S	Sn	14 56 58.5	-1.4
SCX	San Cristobal	0.91	16	i P	Pn	14 56 39.9	-1.8
SCX				i S	Sn	14 56 59.0	-1.9
TGIG		0.94	346	i P	Pn	14 56 40.7	-1.3
TGIG				i S	Sn	14 56 59.4	-2.0
THIG		1.12	147	i P	Pn	14 56 42.2	-1.2
THIG				i S	Sn	14 57 02.1	-1.7
CMIG	Matias Romero	2.27	303	i P	Pn	14 56 54.8	-0.8
CMIG				i S	Sn	14 57 24.1	-1.5
HUIG	Huatulco	3.10	269	i P	Pn	14 57 03.5	-2.2
HUIG				i S	Sn	14 57 40.8	-2.7
VHO	Vista Hermosa	3.88	289	i P	Pn	14 57 16.4	+0.8
VHO				i S	Sn	14 57 59.5	-2.0
PNIG	Pinotepa	5.06	277	i P	Pn	14 57 29.3	-1.8
UTMO	Huajuapan	5.10	293	i P	Pn	14 57 37.7	+6.1
UTMO				i S	Sn	14 58 28.8	-1.2
PPM	Popocatepetl	6.33	301	i S	Sn	14 59 01.0	+1.5

*CNRM **21** 14:58:27.8, 36.11N×268W, h30km, MD4.3*
*IDC **21** 14:58:41.3±1.1, 3599N×275E, h0km, mb3.5/6, mb1 3.8/11, mb1mx3.7/29, mbtmp3.7/11, ML3.8/5, MS3.0/3, Ms1 3.1/3, ms1mx2.6/38, Error ellipse: s-maj=23.3km s-min=17.2km az=145.0*
*NEIC **21** 14:58:41.6±0.6, 3607N×269E, h10km, MG4.4(MDD), Error ellipse: s-maj=8.3km s-min=4.6km az=149.0*
*ISCJB **21** 14:58:41.8±0.5, 3620N±003×270E±002, h26km±5km, mb3.5/6, MS2.8/2, Error ellipse: s-maj=4.7km s-min=3.1km az=4.5*
*CSEM **21** 14:58:42.0±0.1, 3616N×281E, h10km, ML3.6/15, Error ellipse: s-maj=2.6km s-min=1.4km az=8.0*
*CRAAG **21** 14:58:42.9, 3623N×291E, Ml4.7*
*MDD **21** 14:58:43.2±0.2, 3609N×272E, h0km, mb4.4/22, Error ellipse: s-maj=1.9km s-min=1.2km az=159.0, PRIMO*
*LDG **21** 14:58:44.4±0.3, 3606N×278E, h20km, Ml3.7/5, Error ellipse: s-maj=6.8km s-min=3.0km az=150.0*

ISC 21 14:58:42.9±0.6,3615N±003×273E±002,h19km±4km,n136, σ1§25/195,mb3.5/6,MS2.8/2,1D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	Djebel Mahouad	0.19	75	P	Pg	14 58 46.0	-1.8
ADJB	Djebel Djouab	0.58	89	P	Pg	14 58 52.8	-1.6
ABA	Alger-Bouzarea	0.70	21	P	Pb	14 58 55.7	-0.7
ABMS	Boumerdes	0.85	45	P	Pb	14 58 58.5	-0.6
AKET	Djebel Ketaf	0.94	96	P	Pb	14 59 00.2	-0.4
EBNR	Beni Rached	0.98	279	P	Pb	14 58 59.0	-2.2
ECHA	Ech Chlef	1.10	270	P	Pb	14 59 02.0	-1.3
ECHF	Ech Chlef	1.12	271	P	Pn	14 59 02.0	-1.5
ATAF	Djebel Tarf	1.29	102	P	Pn	14 59 05.8	0.0
EANR	'Ain N'Sour	1.33	262	P	Pn	14 59 09.0	+2.6
ETRT	Tiaret	1.39	237	P	Pn	14 59 06.0	-1.2
AKF	Akfadou	1.56	72	P	Pg	14 59 21.3	+8.3
SET	Setif	2.17	88	P	Pn	14 59 19.0	+1.1
CKHR	Kef el Ahmar	2.26	93	P	Pn	14 59 20.0	+0.8
ODJA	Bouhanifia	2.48	252	P	Pg	14 59 31.0	+0.6
DFRA	Djebel Bou Aff	2.58	80	P	Pn	14 59 23.0	-0.5
USTO	Oran	2.69	262	P	Pg	14 59 36.0	+1.5
CTEI	Djebel Teioual	2.98	91	P	Pn	14 59 27.0	-2.1
CASM	Ain Smara	3.05	87	P	Pn	14 59 29.0	-1.0
EIBI	Ibiza	3.07	339	⇓P	Pn	14 59 30.6	+0.3
	31nm,0.2s,SNR=18						
EIBI				S	Sn	15 00 04.8	-1.8
	113nm,0.3s,SNR=4.7						
EIBI	Ibiza	3.07	339	Pn	Pn	14 59 30.6	+0.2
	31nm,0.2s,SNR=18						
EIBI				Sn	Sn	15 00 04.8	-1.8
	113nm,0.3s,SNR=4.7						
CKFL	Kef-Lekhel	3.24	84	P	Pn	14 59 33.0	+0.3
ODZI	Dzioua	3.33	256	P	Pn	14 59 40.0	+6.1
EBEN	Beniarda	3.46	318	P	Pn	14 59 35.3	-0.5
	1.6nm,0.2s,SNR=12						
EBEN				S	Sn	15 00 15.1	-1.1
	14nm,0.3s,SNR=5.0						
EBEN	Beniarda	3.46	318	Pn	Pn	14 59 35.3	-0.5
	1.6nm,0.2s,SNR=12						
EBEN				Sn	Sn	15 00 15.1	-1.2
	14nm,0.3s,SNR=5.0						
EMUR	La Murta	3.59	299	P	Pn	14 59 36.6	-1.0
	4.0nm,0.3s,SNR=4.9						
EMUR				S	Sn	15 00 18.8	-0.7
	17nm,0.4s,SNR=4.0						
EMUR	La Murta	3.59	299	Pn	Pn	14 59 36.6	-1.0
	4.0nm,0.3s,SNR=4.9						
EMUR				Sn	Sn	15 00 18.8	-0.7
	17nm,0.4s,SNR=4.0						
EMUR	La Murta	3.59	299	Pn	Pn	14 59 36.6	-1.0
EMUR				Sn	Sn	15 00 18.8	-0.7
ETOS	Mallorca	3.61	1	P	Pn	14 59 37.8	0.0
	5.9nm,0.2s,SNR=29						
ETOS				S	Sn	15 00 17.9	-2.0
	38nm,0.4s						
ETOS	Mallorca	3.61	1	Pn	Pn	14 59 37.8	0.0
	5.9nm,0.2s,SNR=29						
ETOS				Sn	Sn	15 00 17.9	-2.0
	38nm,0.4s						
CMAH	Djebel Manchou	3.82	82	P	Pn	14 59 40.0	-0.6
ABSA	Djebel Ababsia	3.84	87	P	Pn	14 59 40.0	-1.0
CABS	Djebel Ababsia	3.84	87	P	Pn	14 59 40.0	-1.0
ETOB	Tobarra	4.21	307	P	Pn	14 59 47.0	+0.9
	5.7nm,0.2s,SNR=25						
ETOB				S	Sn	15 00 35.2	+0.4
	5.5nm,0.2s						
ETOB	Tobarra	4.21	307	Pn	Pn	14 59 47.0	+0.9
	5.7nm,0.2s,SNR=25						
ETOB				Sn	Sn	15 00 35.2	+0.4
	5.5nm,0.2s						
EHUE	Huescar	4.57	293	P	Pn	14 59 51.8	+0.8
	0.9nm,0.3s,SNR=7.9						
EHUE				S	Sn	15 00 44.8	+1.3
	2.5nm,0.2s,SNR=7.9						
EBER	Berja	4.58	281	P	Pn	14 59 49.2	-2.0
	8.5nm,0.3s,SNR=16						
EBER				S	Sn	15 00 44.2	+0.4
	6.8nm,0.3s,SNR=4.0						
EBER	Berja	4.58	281	Pn	Pn	14 59 49.2	-1.9
	8.5nm,0.3s,SNR=16						
EBER				Sn	Sn	15 00 44.2	+0.4
	6.8nm,0.3s,SNR=4.0						
ZAI	Zaio	4.61	257	eP	Pn	14 59 35.0	-17
ZAI				i S	Sn	15 00 23.0	-22
EALB	Alboran	4.67	269	P	Pn	14 59 49.2	-3.1
	0.6nm,0.2s,SNR=7.9						
EALB				S	Sn	15 00 41.6	-4.5
	9.8nm,0.3s,SNR=7.9						
EALB	Alboran	4.67	269	Pn	Pn	14 59 49.2	-3.2
	0.6nm,0.2s,SNR=7.9						
EVIA	Vianos	4.85	302	P	Pn	14 59 54.8	+0.1
	2.7nm,0.3s,SNR=6.9						
EVIA				S	Sn	15 00 53.5	+3.2
	7.2nm,0.3s,SNR=7.9						
EVIA	Vianos	4.85	302	Pn	Pn	14 59 54.8	0.0
	2.7nm,0.3s,SNR=6.9						
EVIA				Sn	Sn	15 00 53.5	+3.2
	7.2nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	4.90	330	P	Pn	14 59 56.3	+0.8
	19nm,0.4s,SNR=15						
EMOS				S	Sn	15 00 49.3	-2.3
	21nm,0.4s						
EMOS	Mosqueruela	4.90	330	Pn	Pn	14 59 56.3	+0.8
	19nm,0.4s,SNR=15						
EMOS				Sn	Sn	15 00 49.3	-2.4
	21nm,0.4s						
EQES	Quesada	4.92	291	P	Pn	14 59 51.8	-4.1
	26nm,0.7s,SNR=10						
EQES				S	Sn	15 00 54.2	+1.9
	7.7nm,0.3s						
EQES	Quesada	4.92	291	Pn	Pn	14 59 51.8	-4.0
	26nm,0.7s,SNR=10						
EQES				Sn	Sn	15 00 54.2	+1.9
	7.7nm,0.3s						
EQUE

EPOB				S	Sn	15 00 58.5	-4.2
	2.3nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.35 347**		Pn	Pn	15 00 02.4	+0.7
	1.2nm,0.1s,SNR=7.1						
KEST	**Kesra**	**5.39 93**		Pn	Pn	15 00 01.3	-0.9
	0.9nm,0.3s,baz=233,slow=4.1,SNR=26						
KEST				Sn	Sn	15 01 04.5	+0.8
	0.5nm,0.3s,baz=21,slow=14,SNR=2.6						
TOU	**Touzarine**	**5.41 259**		*e*P	Pn	14 59 45.0	-18
TOU				*e*S	Sn	15 00 43.0	-21
MPAL	**Palemas**	**5.50 262**		*e*P	Pn	14 59 46.0	-18
MPAL				*e*S	Sn	15 00 44.0	-23
ELUQ	**Luque**	**5.78 286**		Pn	Pn	15 00 08.1	+0.5
ELUQ	**Luque**	**5.78 286**		Pn	Pn	15 00 08.1	+0.6
EMIR	**Miracle**	**5.83 351**		P	Pn	15 00 09.6	+1.3
	2.0nm,0.1s,SNR=9.1						
EMIR				S	Sn	15 01 12.8	-1.8
	3.4nm,0.3s,SNR=6.3						
EMIR	**Miracle**	**5.83 351**		Pn	Pn	15 00 09.6	+1.3
	2.0nm,0.1s,SNR=9.1						
EMIR				Sn	Sn	15 01 12.8	-1.8
	3.4nm,0.3s,SNR=6.3						
ETOR	**Torete**	**5.98 323**		P	Pn	15 00 13.5	+3.2
	9.6nm,0.3s,SNR=7.5						
ETOR				S	Sn	15 01 23.3	+5.0
	8.5nm,0.3s,SNR=4.0						
TZK	**Tazeka**	**6.02 252**		*e*P	Pn	14 59 53.0	-18
TZK				*i*S	Sn	15 00 56.0	-23
EMIJ	**Mijas**	**6.07 276**		P	Pn	15 00 08.7	-2.8
	3.6nm,0.2s,SNR=5.0						
EMIJ				S	Sn	15 01 15.2	-5.1
	4.8nm,0.3s						
ESAC	**San Caprasio**	**6.09 337**		P	Pn	15 00 12.1	+0.3
	5.5nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**6.09 337**		Pn	Pn	15 00 12.1	+0.2
	5.5nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**6.17 291**		P	Pn	15 00 13.9	+1.0
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	15 01 23.3	+0.3
	1.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.17 291**		Pn	Pn	15 00 13.9	+1.0
	0.5nm,0.1s,SNR=7.9						
EADA				Sn	Sn	15 01 23.2	+0.3
EJON	**La Jonquera**	**6.29 1**		P	Pn	15 00 15.6	+1.1
	3.3nm,0.2s,SNR=7.9						
EJON				S	Sn	15 01 22.5	-3.4
	1.8nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**6.29 1**		Pn	Pn	15 00 15.6	+1.0
	3.3nm,0.2s,SNR=7.9						
EJON				Sn	Sn	15 01 22.5	-3.4
ESDC	**Sonseca Array**	**6.35 306**		Pn	Pn	15 00 15.6	+0.2
	2.7nm,0.3s,baz=120,slow=14,SNR=27						
ESDC				Sn	Sn	15 01 36.9	+10
	1.4nm,0.3s,baz=123,slow=26,SNR=5.8						
ESDC	**Sonseca Array**	**6.35 306**		P	Pn	15 00 16.0	+0.6
	2.5nm,0.2s,baz=114,slow=13,SNR=16						
ESDC				S	Sn	15 01 25.9	-1.4
	1.5nm,0.2s,baz=117,slow=25,SNR=4.3						
ESDC	**Sonseca Array**	**6.35 306**		Pn	Pn	15 00 16.0	+0.6
ESDC				Sn	Sn	15 01 25.9	-1.5
PAB	**San Pablo**	**6.54 303**		*e*Pn	Pn	15 00 18.2	+0.2
	7.2nm,0.8s						
PAB	**San Pablo**	**6.54 303**		*e*Pn	Pn	15 00 18.2	+0.2
	7.2nm,0.8s						
EJIF	**Jimena Fronter**	**6.62 275**		P	Pn	15 00 20.2	+1.0
	3.0nm,0.3s,SNR=4.0						
ECAB	**El Cabril**	**6.78 289**		P	Pn	15 00 19.8	-1.6
	9.8nm,0.7s,SNR=5.0						
ECAB				S	Sn	15 01 36.9	-1.2
	SNR=7.9						
ECAB	**El Cabril**	**6.78 289**		Pn	Pn	15 00 19.8	-1.6
ECAB				Sn	Sn	15 01 36.8	-1.3
EBIE	**Bielsa**	**6.83 344**		P	Pn	15 00 23.0	+1.0
	0.7nm,0.2s,SNR=7.9						
EBIE				S	Sn	15 01 37.3	-1.7
	1.3nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**6.83 344**		Pn	Pn	15 00 23.0	+1.1
EBIE				Sn	Sn	15 01 37.3	-1.7
MDT	**Midelt**	**6.91 243**		Pn	Pn	15 00 22.9	-0.2
	1.0nm,0.3s,baz=71,slow=16,SNR=16						
MDT				Lg		15 02 20.4	
	3.2nm,0.3s,baz=215,slow=22,SNR=5.0						
MDT				LR	LR	15 03 23.6	
	comp=Z,146nm,18.2s,baz=345,slow=41						
GUD	**Guadarrama**	**7.02 312**		P	Pn	15 00 25.1	+0.5
	2.5nm,0.2s,SNR=8.4						
GUD				S	Sn	15 01 45.5	+1.6
	5.9nm,0.5s,SNR=4.0						
MIF	**Mishlifen**	**7.09 250**		*e*P	Pn	15 00 08.5	-17
MIF				*i*S	Sn	15 01 26.0	-20
EPF	**Esparros**	**7.11 346**		*e*Pn	Pn	15 00 26.1	+0.2
EPF				*e*Sn	Sn	15 01 44.0	-2.1
	3.3nm,0.3s						
EPF	**Esparros**	**7.11 346**		*e*Pn	Pn	15 00 26.1	+0.2
EPF				*e*Sn	Sn	15 01 44.0	-2.1
	1.6nm,0.3s						
ZFT	**Errachidia**	**7.16 237**		*e*P	Pn	15 00 08.0	-19
ZFT				*i*S	Sn	15 01 25.0	-22
MTLF	**Montolieu**	**7.19 357**		*e*P	Pn	15 00 32.1	+5.2
ETSF	**Etsaut**	**7.20 340**		*e*Pn	Pn	15 00 27.4	+0.3
EORO	**Oroz-Betelu**	**7.42 336**		P	Pn	15 00 30.9	+0.8
	SNR=4.0						
IZUN	**Zunzarren**	**7.44 336**		P	Pn	15 00 32.0	+1.6
	0.5nm,0.1s,SNR=4.0						
SJPF	**Ste Jean**	**7.59 338**		*e*Pn	Pn	15 00 33.4	+1.0
EMIN	**Mina Concepcio**	**7.69 285**		P	Pn	15 00 32.3	-1.6
	0.7nm,0.2s,SNR=7.9						
EMIN				S	Sn	15 01 57.7	-2.7
	1.1nm,0.4s,SNR=4.0						
EMIN	**Mina Concepcio**	**7.69 285**		Pn	Pn	15 00 32.3	-1.6
EMIN				Sn	Sn	15 01 57.8	-2.7
LMR	**La Mourre**	**7.74 21**		*e*Pn	Pn	15 00 35.3	+0.8
LMR				*e*Sn	Sn	15 01 56.1	-5.5
	6.2nm,0.3s						
LMR	**La Mourre**	**7.74 21**		*e*Pn	Pn	15 00 35.3	+0.8
LMR				*e*Sn	Sn	15 01 56.1	-5.5
	3.1nm,0.3s						
EALK	**Alkurruntz**	**7.78 337**		P	Pn	15 00 36.1	+1.2
	1.1nm,0.2s,SNR=4.6						
EALK				S	Sn	15 02 00.9	-1.6
	7.7nm,0.4s						
LASF	**Ste Croix**	**7.96 6**		*e*Pn	Pn	15 00 36.2	-1.3
LASF				*e*Sn	Sn	15 02 02.3	-4.7
	3.6nm,0.4s						
LASF	**Ste Croix**	**7.96 6**		*e*Pn	Pn	15 00 36.2	-1.3
LASF				*e*Sn	Sn	15 02 02.3	-4.7
	1.8nm,0.4s						
FRF	**La Foret Royal**	**7.99 21**		*e*Pn	Pn	15 00 37.5	-0.4
FRF				*e*Sn	Sn	15 02 03.5	-4.2
	15nm,0.5s						
FRF	**La Foret Royal**	**7.99 21**		*e*Pn	Pn	15 00 37.5	-0.4
FRF				*e*Sn	Sn	15 02 03.5	-4.2
	7.5nm,0.5s						
PGF	**Pioggiola**	**8.03 35**		*e*Pn	Pn	15 00 38.5	+0.1
PGF				*e*Sn	Sn	15 02 03.4	-5.2
	5.5nm,0.3s						
KIB	**El Ksiba**	**8.07 246**		*e*P	Pn	15 00 23.0	-16
KIB				*e*S	Sn	15 01 45.0	-25
EBAD	**Badajoz**	**8.17 291**		Pn	Pn	15 00 41.1	+0.7
EBAD	**Badajoz**	**8.17 291**		Pn	Pn	15 00 41.1	+0.7
ELAN	**Lanestosa**	**8.51 328**		P	Pn	15 00 47.3	+2.2
	3.3nm,0.2s,SNR=4.6						
ELAN				S	Sn	15 02 25.4	+4.8
	125nm,1.5s,SNR=4.0						
ELAN	**Lanestosa**	**8.51 328**		Pn	Pn	15 00 47.3	+2.2
CAF	**Calviac**	**8.78 357**		*e*Pn	Pn	15 00 49.2	+0.5
VIVF	**Saint-Julien-l**	**8.82 9**		*e*Pn	Pn	15 00 49.9	+0.6
ORIF	**Oris-en-Rattie**	**9.08 14**		*e*Pn	Pn	15 00 53.0	+0.2
MBDF	**Montbardon**	**9.10 19**		*e*P	Pn	15 00 59.0	+5.8
ECAL	**Calabor**	**9.36 311**		P	Pn	15 00 57.6	+0.9
	8.3nm,0.3s,SNR=8.9						
ECAL	**Calabor**	**9.36 311**		Pn	Pn	15 00 57.6	+1.0
EARI	**Arriondas**	**9.39 322**		P	Pn	15 00 59.8	+2.6
	1.6nm,0.3s,SNR=13						
EARI	**Arriondas**	**9.39 322**		Pn	Pn	15 00 59.8	+2.6
EARI	**Arriondas**	**9.39 322**		Pn	Pn	15 00 59.8	+2.6
ERUA	**La Rua**	**9.86 312**		P	Pn	15 01 04.6	+1.1
	7.5nm,0.3s,SNR=7.9						
TCF	**Toulx Ste Croi**	**10.13 358**		*e*Pn	Pn	15 01 07.3	0.0
ELOB	**Lobios**	**10.15 307**		Pn	Pn	15 01 08.3	+0.8
ELOB	**Lobios**	**10.15 307**		Pn	Pn	15 01 08.3	+0.8
EPON	**Pontenova**	**10.44 316**		Pn	Pn	15 01 12.1	+0.6
	0.7nm,0.2s						
EPON	**Pontenova**	**10.44 316**		Pn	Pn	15 01 12.1	+0.6
	0.7nm,0.2s						
ECH	**Echery**	**12.49 14**		*e*Pn	Pn	15 01 41.7	+2.2
QUIF	**Quistinic**	**12.54 341**		*e*Pn	Pn	15 01 40.1	-0.1
SGMF	**Saint Gilles**	**12.71 344**		*e*Pn	Pn	15 01 42.4	-0.1
FLN	**La Foliniere**	**12.82 350**		*e*Pn	Pn	15 01 43.9	-0.1
GERES	**GERESS Array B**	**15.03 29**		Pn	Pn	15 02 14.7	+0.7
	0.1nm,0.3s,baz=209,slow=12,SNR=7.6						
KHC	**Kasperske Hory**	**15.21 28**		*e*P	Pn	15 02 17.5	+1.0
KHC				x	x	15 02 25.0	
KHC	**Kasperske Hory**	**15.21 28**		*e*P	Pn	15 02 17.5	+1.0
KHC				*e*		15 02 25.0	
EKA	**Eskdalemuir Ar**	**19.61 350**		P	Pn	15 03 13.9	+2.7
	0.1nm,0.3s,baz=159,slow=8.7,SNR=4.6						
EKA	**Eskdalemuir Ar**	**19.61 350**		P	Pn	15 03 13.9	+2.7
TORD	**Torodi Ar. Bea**	**22.92 183**		P	P	15 03 44.6	-1.2
	0.9nm,1.0s,mb3.2,baz=3.2,slow=9.0,SNR=3.7						
TORD				LR	LR	15 11 56.0	
	comp=Z,61nm,19.5s,MS3.0,baz=135,slow=35						
AKASG	**Malin Array Be**	**23.95 44**		P	P	15 03 56.4	+0.7
	0.4nm,0.3s,mb3.3,baz=242,slow=11,SNR=5.0						
HFS	**Hagfors**	**25.02 13**		P	P	15 04 07.3	+2.0
	1.9nm,0.7s,mb3.8,baz=175,slow=17,SNR=2.7						
NOA	**NORSAR Array B**	**25.49 10**		P	P	15 04 12.4	+2.8
	0.7nm,0.7s,mb3.3,baz=182,slow=8.4,SNR=2.9						
NOA				LR	LR	15 14 35.5	
	comp=Z,18nm,18.2s,MS2.6,baz=235,slow=37						
ZALV	**Zalesovo Beam**	**57.35 44**		P	P	15 08 32.7	+3.2
	0.3nm,0.3s,mb3.9,baz=282,slow=7.2,SNR=2.5						
MKAR	**Makanchi Array**	**58.17 53**		P	P	15 08 39.2	+3.8
	0.3nm,0.4s,mb3.7,baz=289,slow=4.4,SNR=3.3						

NIED ***21*** *14:59:00, 3300N×13650E, h11km, Mw3.5 Best double couple: M0=1.98000×10^14 NP1:φ=92.00000°, δ=48.00000°, λ=84.00000°. NP2:φ=281.00000°, δ=42.00000°, λ=97.00000°.*
IDC ***21*** *14:59:48.8±1.3, 3288N×13661E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/24, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=31.9km s-min=26.2km az=84.0*
ISCJB ***21*** *14:59:51.3±0.8, 3300N±005×13658E±003, h37km±12km, mb3.4/3, Error ellipse: s-maj=8.5km s-min=4.9km az=178.0*
JMA ***21*** *14:59:52.1±0.1, 3304N×13652E, h41km±2km, M3.7*

ISC 21 14:59:51.9±1.3, 3303N±004×13656E±004, h29km±10km, n18, σ0=84/31, mb3.4/3, 9D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.87**	**306**	⇓P	**Pn**	**15 00 07.5**	**-0.6**
JWZ				S	**Sb**	**15 00 18.6**	**-1.0**
TK01	**Tokai 1**	**1.14**	**49**	S	**Sn**	**15 00 25.1**	**-1.4**
JKN2	**Miekihoku**	**1.23**	**349**	⇓P	**Pn**	**15 00 13.1**	**-0.1**
JKN2				S	**Sn**	**15 00 28.2**	**-0.7**
JWM	**Minabe**	**1.30**	**310**	⇓P	**Pn**	**15 00 13.9**	**-0.2**
JWM				S	**Sn**	**15 00 29.6**	**-0.8**
JIE	**Ise**	**1.37**	**5**	⇓P	**Pn**	**15 00 15.3**	**+0.2**
JWY	**Kouya**	**1.44**	**326**	⇓P	**Pn**	**15 00 16.6**	**+0.6**
JWY				S	**Sn**	**15 00 33.7**	**-0.1**
TSUJ	**Tsu 2**	**1.68**	**356**	⇓P	**Pn**	**15 00 19.7**	**+0.3**
TSUJ				S	**Sn**	**15 00 40.2**	**+0.2**
TK04	**Tokai 4**	**1.75**	**39**	P	**Pn**	**15 00 20.1**	**-0.1**
TK04				S	**Sn**	**15 00 40.8**	**-0.7**
JHE	**Heguri**	**1.78**	**336**	⇓P	**Pn**	**15 00 21.3**	**+0.6**
JHE				S	**Sn**	**15 00 42.8**	**+0.5**
JAI	**Aioi**	**1.92**	**294**	⇓P	**Pn**	**15 00 22.7**	**+0.1**
JAI				S	**Sn**	**15 00 44.6**	**-1.2**
JAJ2	**Tsuna**	**1.97**	**315**	⇓P	**Pn**	**15 00 24.0**	**+0.7**
JAJ2				S	**Sn**	**15 00 47.7**	**+0.7**
JMN	**Monobe**	**2.35**	**288**	P	**Pn**	**15 00 28.6**	**+0.1**
JMN				S	**Sn**	**15 00 55.1**	**-1.2**
JHJ	**Hachijo jima 2**	**2.71**	**87**	Pn	**Pn**	**15 00 33.5**	**0.0**
	3.6nm,0.3s,baz=252,slow=20,SNR=3.2						
JHJ				Sn	**Sn**	**15 01 03.4**	**-1.9**
	14nm,0.3s,baz=40,slow=23,SNR=5.6						
MAT	**Matsushiro**	**3.76**	**21**	P	**Pn**	**15 00 49.2**	**+1.2**
MAT				S	**Sn**	**15 01 31.4**	**+0.1**
MJAR	**Matsushiro Arr**	**3.76**	**21**	Pn	**Pn**	**15 00 49.4**	**+1.4**
	8.9nm,0.3s,baz=205,slow=15,SNR=66						
MJAR				Sn	**Sn**	**15 01 31.9**	**+0.6**
	4.0nm,0.3s,baz=210,slow=25,SNR=8.6						
MKAR	**Makanchi Array**	**43.01**	**305**	P	**P**	**15 07 50.9**	**+2.3**
	0.7nm,0.6s,mb3.6,baz=90,slow=8.6,SNR=2.8						
WRA	**Warramunga Arr**	**52.71**	**183**	P	**P**	**15 09 03.8**	**-0.1**
	0.2nm,0.4s,mb3.4,baz=359,slow=7.7,SNR=6.1						
ASAR	**Alice Springs**	**56.43**	**183**	P	**P**	**15 09 31.4**	**+0.5**
	0.3nm,0.8s,mb3.4,baz=359,slow=5.7,SNR=3.8						

MAN 21 15:08:39, 1101N×12407E, h1km, mb4.0, ML2.8, MS2.5, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.53**	**85**	*e*P	Pg	15 08 50.0	+0.7
LLP	**Lapu-Lapu**	**0.69**	**188**	*e*P	Pg	15 08 53.2	+0.9
LLP				*e*S	Sg	15 09 04.3	+3.0
MSLP	**Maasin**	**1.17**	**138**	*e*P	Pg	15 09 02.1	+0.7
MSLP				*e*S	Sg	15 09 20.1	+3.6
RCP	**Roxas**	**1.41**	**293**	⇑*e*P	Pn	15 09 10.7	+4.8
RCP				*e*S	Sg	15 09 30.2	+5.9
GUIM	**Jordan**	**1.50**	**255**	*e*P	Pn	15 09 07.2	+0.1
GUIM				*e*S	Sb	15 09 27.7	+0.5

NEIC ***21*** *15:50:51.5, 1957N×6943W, h40km, MD3.8(RSPR), After RSPR.*

RSPR 21 15:50:51.5, 1957N×6943W, h40km±79km, MD3.8/5, MD3.8/5, 9C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDO	**Santo Domingo**	**1.21**	**203**	⇑*e*P	Pn	15 51 11.3	-0.7
STDO				*e*S	Sn	15 51 24.2	-2.9
AGPR	**Aguadilla, PR**	**2.46**	**116**	*e*S	Sn	15 51 55.6	-2.2
LSP	**Las Mesas**	**2.62**	**122**	⇑*e*P	Pn	15 51 29.1	-2.2
LSP				*e*S	Sn	15 51 59.1	-2.7
CRPR	**Cabo Rojo, PR**	**2.69**	**125**	⇑*e*P	Pn	15 51 32.6	+0.3
CRPR				*e*S	Sn	15 52 04.2	+0.5
LRS	**Lares**	**2.76**	**117**	⇑*e*P	Pn	15 51 32.5	-0.7
LRS				*e*S	Sn	15 52 04.8	-0.5
AOPR	**Arecibo Observ**	**2.81**	**115**	⇑*e*P	Pn	15 51 33.2	-0.7
AOPR				*e*S	Sn	15 52 05.4	-1.2
GBPR	**Guanica, Bosqu**	**2.89**	**123**	*e*S	Sn	15 52 06.8	-1.8
ICM	**Isla Caja Muer**	**3.22**	**121**	⇑*e*P	Pn	15 51 40.0	+0.4
ICM				*e*S	Sn	15 52 17.8	+1.0
SJG	**San Juan**	**3.43**	**115**	⇑*e*P	Pn	15 51 39.3	-3.2
SJG				*e*S	Sn	15 52 21.6	-0.3
SJG	**San Juan**	**3.43**	**115**	⇑*e*P	Pn	15 51 41.0	-1.4
SJG				*e*S	Sn	15 52 20.9	-0.9
HUMP	**Col San Antoni**	**3.68**	**112**	⇑*e*P	Pn	15 51 45.9	0.0
HUMP				*e*S	Sn	15 52 29.5	+1.5

IDC 21 15:54:48.5±1.9, 577N×12664E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=155.8km s-min=27.1km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.65**	**164**	P	P	16 00 28.6	-0.6
	1.8nm,0.8s,baz=343,slow=10,SNR=15						
ASAR	**Alice Springs**	**30.11**	**167**	P	P	16 01 00.6	+0.6
	0.5nm,0.7s,baz=353,slow=7.5,SNR=13						
ASAR				PcP	PcP	16 04 01.9	+0.1
	0.3nm,0.6s,baz=358,slow=2.5,SNR=7.6						
MKAR	**Makanchi Array**	**55.84**	**325**	P	P	16 04 27.6	-0.1
	0.3nm,0.6s,baz=123,slow=8.8,SNR=4.2						

MOS 21 16:12:16.3±1.4, 4307N×4692E, h27km, mb3.7/1, Error ellipse: s-maj=34.9km s-min=13.7km az=104.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRNR	**Karanay**	**0.24**	**182**	*e*PG	Pb	16 12 21.7	-0.9
KRNR				*e*S	Sb	16 12 26.0	-0.9
KRNR				pmax	pmax		
	comp=Z,172nm,0.2s						
MAK	**Makhachkala**	**0.44**	**104**	PG	Pb	16 12 26.7	+1.1
MAK				*e*		16 12 32.6	
MAK				pmax	pmax		
	comp=Z,51nm,0.1s						
MAK				smax			
	comp=N,667nm,0.2s						
MAK				smax			
	comp=E,995nm,0.2s						
XNZR	**Khunzakh**	**0.55**	**197**	*i*PG	Pb	16 12 29.5	+2.1
XNZR				*e*S	Sb	16 12 36.5	+1.7
XNZR				pmax	pmax		
	comp=Z,220nm,0.2s						
GNBR	**Gunib**	**0.68**	**177**	*e*PG	Pb	16 12 30.7	+1.2
GNBR				*i*S	Sb	16 12 38.7	+0.2
SGKR	**Sergokala**	**0.81**	**138**	PG	Pb	16 12 32.0	+0.2
SGKR				*i*S	Sb	16 12 42.0	-0.4
URKR	**Urkarakh**	**1.04**	**149**	*e*PG	Pn	16 12 35.0	-0.1
URKR				*e*S	Sn	16 12 48.5	-0.3
KSMR	**Kasumkent**	**1.71**	**148**	*e*PN	Pn	16 12 45.5	+1.1

MAN 21 16:17:28, 1736N×12013E, h32km, mb4.4, ML3.3, MS3.2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.62**	**62**	*e*P	Pb	16 17 40.8	+0.3
ABRA				*e*S	Sb	16 17 50.8	+1.7
SIPP	**Brgy, Tapao**	**0.64**	**29**	⇑*i*P	Pb	16 17 41.9	+1.1
SIPP				*i*S	Sb	16 17 50.6	+1.0
BOLP	**Bolinao**	**0.99**	**192**	*e*P	Pn	16 17 45.8	0.0
BCPH	**Baguio City Da**	**1.06**	**156**	⇓*i*P	Pn	16 17 46.6	-0.1
BCPH				*i*S	Sn	16 17 59.0	-1.3
APYP	**Conner**	**1.17**	**65**	*e*P	Pn	16 17 48.4	+0.2
APYP				*e*S	Sn	16 18 03.5	+0.4
CAUP	**Cauayan**	**1.67**	**104**	*e*P	Pn	16 17 57.0	+2.0
BALP	**Baler**	**2.12**	**139**	*e*P	Pn	16 18 01.6	+0.3
PALP	**Palanan**	**2.21**	**97**	*e*P	Pn	16 18 03.6	+1.1

ISCJB ***21*** *16:20:25.9±0.6, 608S±01×268W±02, h10km, mb4.2/7, Error ellipse: s-maj=21.0km s-min=9.3km az=142.4*
IDC ***21*** *16:20:27.7±1.0, 6036S×2677W, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.0/14, mbtmp4.1/5, Error ellipse: s-maj=30.0km s-min=27.2km az=12.0*
NEIC ***21*** *16:20:32.7±0.6, 6037S×2679W, h35km, mb4.5/1, Error ellipse: s-maj=19.0km s-min=13.3km az=192.0*

ISC 21 16:20:28.0±0.6, 607S±01×268W±02, h10km, n15, σ0=43/17, mb4.2/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.48**	**151**	*e*	**Pn**	**16 23 25.8**	**+0.5**
VNA1				*e*		16 23 26.9	
VNA1				*e*		16 23 29.7	
VNA3	**Neumayer Olymp**	**12.59**	**154**	*e*	**Pn**	**16 23 27.1**	**+0.3**
VNA3				*e*		16 23 28.4	
VNA3				*e*		16 23 30.6	
VNA3				*e*S	**Sn**	**16 25 31.6**	**-15**
VNA2	**Neumayer--Watz**	**12.88**	**151**	*e*	**Pn**	**16 23 30.7**	**-0.1**
VNA2				*e*		16 23 32.0	
VNA2				*e*		16 23 33.6	
VNA2				*e*S	**Sn**	**16 25 41.0**	**-13**
SNAA	**Sanae**	**14.48**	**149**	*e*	**Pn**	**16 23 52.1**	**-0.6**
SNAA				*e*		16 23 54.1	
SNAA				*e*		16 23 56.0	
SNAA				*e*S	**Sn**	**16 26 20.5**	**-13**
SNAA	**Sanae**	**14.48**	**149**	*e*P	**Pn**	**16 23 52.0**	**-0.7**
	3.3nm,0.5s						
TRQA	**Tornquist**	**31.61**	**300**	*e*P	**P**	**16 26 50.4**	**-0.3**
	4.5nm,0.6s,mb4.5						
PLCA	**Paso Flores**	**33.31**	**287**	P	**P**	**16 27 05.0**	**-0.5**
	2.1nm,1.0s,mb4.0,baz=145,slow=8.2,SNR=3.5						
VNDA	**Vanda**	**41.92**	**183**	P	**P**	**16 28 22.2**	**+4.2**
	0.9nm,1.0s,mb3.4,baz=189,slow=4.6,SNR=3.4						
VNDA	**Vanda**	**41.92**	**183**	P	**P**	**16 28 22.2**	**+4.2**
LCO	**Las Campanas**	**43.09**	**297**	*e*P	**P**	**16 28 28.3**	**+0.3**
	15nm,0.3s,mb5.2						
BOSA	**Boshof**	**47.08**	**71**	P	**P**	**16 28 59.5**	**-0.2**
	2.0nm,0.9s,mb4.1,baz=210,slow=8.1,SNR=4.2						
LPAZ	**La Paz**	**53.34**	**308**	P	**P**	**16 29 47.8**	**+0.6**
	1.3nm,0.4s,mb4.2,baz=162,slow=4.7,SNR=13						
TOA0	**Torodi Ar. Sit**	**77.03**	**28**	*e*P	**P**	**16 32 20.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**77.03**	**28**	P	**P**	**16 32 21.1**	**+0.2**
	3.6nm,0.7s,mb4.4,baz=197,slow=6.3,SNR=22						
SONM	**Songino Array**	**150.46**	**94**	PKPbc	PKPbc	16 40 19.6	+1.0
	0.7nm,0.7s,baz=253,slow=2.4,SNR=5.0						

SZGRF ***21*** *16:36:41.1, 760N×3971W, h14km, mb5.0, MS4.2, Central Mid-Atlantic Ridge*
IDC ***21*** *16:36:43.8±0.4, 804N×3898W, h0km, mb4.7/24, mb1 4.8/24, mb1mx4.8/25, mbtmp4.7/24, MS4.5/30, Ms1 4.5/30, ms1mx4.4/35, Error ellipse: s-maj=14.3km s-min=10.8km az=140.0*
ISCJB ***21*** *16:36:43.6±0.2, 803N±004×3897W±002, h10km, mb5.0/172, MS4.5/48, Error ellipse: s-maj=6.1km s-min=2.7km az=168.5*
MOS ***21*** *16:36:44.0±1.4, 8.12N×3900W, h10km, mb5.2/66, MS4.4/11, Error ellipse: s-maj=7.3km s-min=4.2km az=53.0*
GCMT ***21*** *16:36:45.4±0.1, 823N×3907W, h18km, MW5.3/94, Moment Tensor Solution. s

ROSC El Rosal 35.24 267 P **P** **16 43 41.7 +1.1**
comp=Z,14nm,0.6s,mb5.1,baz=108,slow=23,SNR=5.5
ROSC LR LR 16 57 30.6
comp=Z,962nm,21.0s,MS4.5,baz=199,slow=35
LPAZ La Paz 37.60 230 P **P** **16 44 02.2 +1.6**
comp=Z,10nm,0.7s,mb4.7,baz=45,slow=7.8,SNR=40
LPAZ LR LR 16 59 02.1
comp=Z,454nm,20.1s,MS4.3,baz=49,slow=36
LPAZ La Paz 37.60 230 P **P** **16 44 02.2 +1.6**
LPAZ LR LR 16 59 02.1
PFVI Vila Bisbo 39.88 39 *e*LR LR 16 54 51.0
comp=Z,942nm,22.0s
OTAV Otavalo 40.07 261 *e*P **P** **16 44 21.8 +0.3**
comp=Z,64nm,2.1s,mb5.0
MORF Marmelete 40.10 39 *e*P **P** **16 44 21.5 +0.1**
comp=Z,67nm,2.1s,mb5.0
MORF *e*S **S** **16 50 32.1 +4.4**
MORF *e*LR LR 16 55 06.5
comp=Z,992nm,22.0s
TOA0 Torodi Ar. Sit 40.29 79 *e*P **P** **16 44 22.5 -0.8**
TORD Torodi Ar. Bea 40.29 79 P **P** **16 44 22.6 -0.6**
comp=Z,70nm,0.9s,mb5.4,baz=274,slow=9.5,SNR=268
TORD LR LR 16 59 07.4
comp=Z,2µm,19.7s,MS4.8,baz=270,slow=33
PBDV Barranco-do-Ve 40.51 39 *e*P **P** **16 44 25.1 +0.3**
comp=Z,95nm,1.2s,mb5.3
PBDV *e*S **S** **16 50 37.4 +3.6**
PBDV *e*LR LR 16 55 09.4
comp=Z,1µm,22.0s
PVAQ Vaqueiros 40.74 39 *e*S **S** **16 50 42.2 +4.9**
PVAQ *e*LR LR 16 55 17.3
comp=Z,974nm,20.0s
PMAFR Mafra 40.78 36 *e*LR LR 16 55 10.9
comp=Z,631nm,22.0s
EGRO El Granado 40.97 39 P **P** **16 44 31.4 +2.8**
comp=Z,18nm,0.6s,mb4.9
PBEJ Beja 41.04 38 *e*P **P** **16 44 29.2 +0.1**
comp=Z,48nm,1.3s,mb5.0
EVO Evora 41.27 38 *e*P **P** **16 44 30.4 -0.6**
comp=Z,114nm,1.2s,mb5.1
EVO *e*MLR MLR
comp=Z,1µm,21.5s,MS4.5
EVO Evora 41.27 38 *e*P **P** **16 44 33.3 +2.3**
comp=Z,68nm,1.2s,mb5.2
ESPR Espera 41.62 41 P **P** **16 44 32.9 -1.0**
comp=Z,14nm,0.6s,mb4.8
EMIN Mina Concepcio 41.62 40 P **P** **16 44 33.4 -0.6**
comp=Z,9.5nm,0.7s,mb4.5
PBAR Barrancos 41.64 39 *e*P **P** **16 44 34.4 +0.3**
comp=Z,68nm,1.3s,mb5.1
PBAR Barrancos 41.64 39 *e*LR LR 16 55 57.7
comp=Z,950nm,22.0s
PESTR Estremoz 41.73 38 *e*S **S** **16 50 55.1 +3.1**
PESTR *e*LR LR 16 55 49.5
comp=Z,736nm,22.0s
EBAD Badajoz 42.02 38 P **P** **16 44 36.7 -0.4**
comp=Z,11nm,0.5s,mb4.8
PMRV Marv??o 42.21 37 *e*P **P** **16 44 39.6 +0.9**
comp=Z,93nm,1.4s,mb5.2
PMRV *e*S **S** **16 51 02.1 +3.1**
PMRV *e*LR LR 16 55 58.6
comp=Z,572nm,20.0s
LVC Limon Verde 42.23 223 P **P** **16 44 38.7 -0.4**
comp=Z,6.5nm,0.7s,mb4.4,baz=54,slow=5.8,SNR=7.7
LVC LR LR 17 02 40.3
comp=Z,538nm,19.2s,MS4.5,baz=37,slow=37
LVC Limon Verde 42.23 223 *e*P **P** **16 44 37.6 -1.5**
NNA Nana 42.55 243 LR LR 17 02 31.1
comp=Z,615nm,20.9s,MS4.5,baz=51,slow=36
ECAB El Cabril 42.60 40 P **P** **16 44 40.5 -1.4**
comp=Z,29nm,0.8s,mb5.1
MTE Manteigas 42.74 36 *e*P **P** **16 44 45.2 +2.2**
comp=Z,52nm,1.3s,mb5.1
MTE *e*S **S** **16 51 08.7 +1.9**
MTE *e*LR LR 16 55 57.4
comp=Z,713nm,22.0s
MTE Manteigas 42.74 36 *e*P **P** **16 44 42.9 -0.2**
ELOJ Sierra Loja 42.90 42 P **P** **16 44 48.1 +3.8**
ELOJ pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
ELOJ Sierra Loja 42.90 42 P **P** **16 44 48.1 +3.8**
comp=Z,2.3nm,0.3s,mb4.4
ELUQ Luque 43.05 42 P **P** **16 44 48.7 +3.1**
ELUQ pmax pmax
comp=Z,16nm,0.8s,mb4.8
ELUQ Luque 43.05 42 P **P** **16 44 48.7 +3.1**
comp=Z,16nm,0.8s,mb4.8
ELOB Lobios 43.42 34 P **P** **16 44 47.7 -0.7**
comp=Z,72nm,1.3s,mb5.2
MVO Moncorvo 43.53 35 *e*P **P** **16 44 51.8 +2.4**
comp=Z,38nm,1.2s,mb5.0
MVO *e*S **S** **16 51 23.7 +5.3**
MVO *e*LR LR 16 56 32.3
comp=Z,563nm,20.0s
EBER Berja 43.61 43 P **P** **16 44 49.6 -0.5**
comp=Z,28nm,0.9s,mb5.0
EQES Quesada 43.98 42 P **P** **16 44 51.8 -1.2**
comp=Z,10nm,0.7s,mb4.7
PAB San Pablo 44.14 39 *e*P **P** **16 44 55.3 +1.0**
PAB pmax pmax
comp=Z,22nm,1.1s,mb4.8
PAB San Pablo 44.14 39 *e*P **P** **16 44 55.3 +1.0**
comp=Z,22nm,1.1s,mb4.8
ECAL Calabor 44.20 35 P **P** **16 44 54.0 -0.8**
comp=Z,1.0nm,1.0s
EHUE Huescar 44.30 42 P **P** **16 44 58.7 +3.1**
EHUE pmax pmax
comp=Z,31nm,1.2s
EHUE Huescar 44.30 42 P **P** **16 44 58.7 +3.1**
comp=Z,31nm,1.2s,mb4.9
ESDC Sonseca Array 44.46 39 P **P** **16 44 56.3 -0.6**
comp=Z,4.5nm,0.7s,mb4.3,baz=240,slow=8.8,SNR=13
ESDC LR LR 16 59 48.5
comp=Z,800nm,20.6s,MS4.6,baz=240,slow=31
EVIA Vianos 44.81 41 P **P** **16 44 59.2 -0.5**
EVIA pmax pmax
comp=Z,29nm,1.0s,mb5.1
EVIA Vianos 44.81 41 P **P** **16 44 59.2 -0.5**
comp=Z,29nm,1.0s,mb5.1
EPON Pontenova 44.90 33 P **P** **16 45 02.5 +2.3**
comp=Z,83nm,1.4s,mb5.4
GUD Guadarrama 44.91 38 P **P** **16 44 59.8 -0.7**
GUD pmax pmax
comp=Z,13nm,0.7s,mb4.9
GUD Guadarrama 44.91 38 P **P** **16 44 59.8 -0.7**
comp=Z,13nm,0.7s,mb4.9
TAM Tamanrasset 45.18 66 *e*P **P** **16 45 03.8 +0.9**
ETOB Tobarra 45.44 42 P **P** **16 45 05.2 +0.5**
comp=Z,36nm,1.4s,mb5.0
URVA University of 45.62 316 *e*P **P** **16 45 07.5 +1.3**
HNH Hanover 45.94 326 P **P** **16 45 10.3 +1.8**
MVL Millersville 46.12 320 *e*P **P** **16 45 08.7 -1.4**
comp=Z,72nm,1.5s,mb5.4
ETOR Torete 46.31 39 P **P** **16 45 11.1 -0.5**
ETOR pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
ETOR Torete 46.31 39 P **P** **16 45 11.1 -0.4**
comp=Z,10.0nm,1.3s,mb4.6
EMOS Mosqueruela 47.06 41 P **P** **16 45 19.1 +1.6**
comp=Z,43nm,1.2s,mb5.3
NCB Newcomb 47.18 325 *e*P **P** **16 45 20.4 +2.1**
FRNY Flat Rock 47.38 327 *e*P **P** **16 45 22.1 +2.3**
BLA Blacksburg 47.47 314 *e*P **P** **16 45 20.4 -0.3**
BLA pmax pmax
comp=Z,76nm,1.4s,mb5.4
BLA Blacksburg 47.47 314 *e*P **P** **16 45 20.4 -0.2**
comp=Z,76nm,1.4s,mb5.4
TGUH Tegucigalpa,Un 47.70 282 *e*P **P** **16 45 22.6 -0.2**
ESAC San Caprasio 47.81 39 P **P** **16 45 22.8 -0.4**
comp=Z,78nm,1.2s,mb5.6
ERTA Horta de San J 47.90 40 P **P** **16 45 23.1 -0.8**
comp=Z,65nm,1.1s,mb5.6
SJPF Ste Jean 48.13 37 *e*P **P** **16 45 25.6 -0.1**
comp=Z,58nm,1.1s,mb5.2
SJPF Ste Jean 48.13 37 *e*P **P** **16 45 25.6 -0.1**
SJPF pmax pmax
comp=Z,29nm,1.0s,mb5.3
SJPF Ste Jean 48.13 37 *e*P **P** **16 45 25.6 -0.1**
comp=Z,29nm,1.0s,mb5.3
GOGA Godfrey 48.18 308 P **P** **16 45 25.3 -0.9**
GOGA pmax pmax
comp=Z,25nm,1.3s,mb5.1
GOGA Godfrey 48.18 308 P **P** **16 45 25.3 -0.9**
comp=Z,25nm,1.3s,mb5.1
CFAA Coronel Fontan 48.29 214 P **P** **16 45 27.1 0.0**
comp=Z,2.1nm,0.8s,mb4.2,baz=37,slow=7.1,SNR=33
CFAA LR LR 17 07 08.8
comp=Z,48nm,19.7s,MS3.5,baz=48,slow=38
ETSF Etsaut 48.41 38 *e*P **P** **16 45 28.2 +0.3**
comp=Z,24nm,0.9s,mb4.9
ETSF Etsaut 48.41 38 *e*P **P** **16 45 28.2 +0.3**
ETSF pmax pmax
comp=Z,12nm,0.9s,mb4.9
ETSF Etsaut 48.41 38 *e*P **P** **16 45 28.2 +0.3**
comp=Z,12nm,0.9s,mb4.9
EPOB Poblet 48.59 40 P **P** **16 45 27.5 -1.7**
comp=Z,124nm,1.7s,mb5.7
TLL Tololo Astrono 48.71 217 *e*P **P** **16 45 30.0 -0.4**
EBIE Bielsa 48.72 38 P **P** **16 45 29.7 -0.5**
comp=Z,68nm,1.9s,mb5.4
EPF Esparros 49.03 38 *e*P **P** **16 45 33.0 +0.4**
comp=Z,145nm,1.3s,mb5.5
EPF Esparros 49.03 38 *e*P **P** **16 45 33.0 +0.4**
EPF pmax pmax
comp=Z,73nm,1.3s,mb5.5
EPF Esparros 49.03 38 *e*P **P** **16 45 33.0 +0.4**
comp=Z,73nm,1.3s,mb5.5
MELF Melles 49.20 38 *e*P **P** **16 45 35.5 +1.6**
TKL Tuckaleechee C 49.26 311 P **P** **16 45 36.0 +1.4**
comp=Z,13nm,1.1s,mb4.9,baz=117,slow=8.4,SNR=6.5
TKL Tuckaleechee C 49.26 311 *e*P **P** **16 45 36.2 +1.7**
TZTN Tazewell 49.44 312 *e*P **P** **16 45 36.1 +0.1**
comp=Z,50nm,1.3s,mb5.4
VALF Valcebollere 49.73 40 *e*P **P** **16 45 40.6 +2.6**
CPCT Cooper Cave 49.74 310 *e*P **P** **16 45 39.4 +1.2**
ROSF Rostrenen 50.25 30 *e*P **P** **16 45 41.3 -0.6**
EJON La Jonquera 50.31 40 P **P** **16 45 41.9 -0.5**
comp=Z,87nm,1.4s,mb5.6
LFF La Frestale 50.34 36 *e*P **P** **16 45 42.3 -0.3**
comp=Z,42nm,0.8s,mb5.2
LFF La Frestale 50.34 36 *e*P **P** **16 45 42.3 -0.3**
LFF pmax pmax
comp=Z,21nm,0.8s,mb5.2
LFF La Frestale 50.34 36 *e*P **P** **16 45 42.3 -0.3**
comp=Z,21nm,0.8s,mb5.2
MTLF Montolieu 50.35 39 *e*P **P** **16 45 42.0 -0.7**
comp=Z,19nm,0.8s,mb4.8
MTLF Montolieu 50.35 39 *e*P **P** **16 45 42.0 -0.7**
MTLF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MTLF Montolieu 50.35 39 *e*P **P** **16 45 42.0 -0.7**
comp=Z,9.6nm,0.8s,mb4.9
SGMF Saint Gilles 50.56 31 *e*P **P** **16 45 43.8 -0.4**
comp=Z,93nm,1.2s,mb5.3
SGMF Saint Gilles 50.56 31 *e*P **P** **16 45 43.8 -0.4**
SGMF pmax pmax
comp=Z,46nm,1.2s,mb5.3
SGMF Saint Gilles 50.56 31 *e*P **P** **16 45 43.8 -0.4**
comp=Z,46nm,1.2s,mb5.3
TRQA Tornquist 50.58 204 *e*P **P** **16 45 44.8 +0.4**
comp=Z,32nm,1.5s,mb5.0
ACSO Alum Creek Sta 50.63 317 *e*P **P** **16 45 44.4 -0.4**
comp=Z,31nm,0.5s,mb5.5
SWET Sewanee 50.73 309 *e*P **P** **16 45 45.3 -0.4**
MFF Saint Martin d 50.81 34 *e*P **P** **16 45 45.4 -0.7**
comp=Z,12nm,0.7s,mb4.6
MFF Saint Martin d 50.81 34 *e*P **P** **16 45 45.4 -0.7**
MFF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MFF Saint Martin d 50.81 34 *e*P **P** **16 45 45.4 -0.7**
comp=Z,6.1nm,0.7s,mb4.6
RJF Les Rejaudoux 51.00 36 *e*P **P** **16 45 46.9 -0.7**
RJF *e*MLR MLR
comp=Z,1µm,22.8s,MS4.5
RJF Les Rejaudoux 51.00 36 *e*P **P** **16 45 46.9 -0.7**
RJF LR LR
comp=Z,1µm,22.8s,MS4.8
CAF Calviac 51.12 37 *e*P **P** **16 45 47.9 -0.5**
comp=Z,36nm,0.8s,mb5.0
CAF Calviac 51.12 37 *e*P **P** **16 45 47.9 -0.5**
CAF pmax pmax
comp=Z,18nm,0.8s,mb5.0
CAF Calviac 51.12 37 *e*P **P** **16 45 47.9 -0.5**
comp=Z,18nm,0.8s,mb5.1
SCHQ Schefferville 51.73 340 P **P** **16 45 54.2 +1.4**
comp=Z,11nm,0.9s,mb4.8,baz=142,slow=5.7,SNR=9.6
SCHQ LR LR 17 03 40.3
comp=Z,354nm,21.2s,MS4.4,baz=120,slow=31
LASF Ste Croix 51.75 39 *e*P **P** **16 45 53.1 -0.1**
comp=Z,77nm,1.3s,mb5.2
TCF Toulx Ste Croi 51.96 35 *e*P **P** **16 45 54.2 -0.5**
comp=Z,36nm,1.0s,mb5.0
TCF Toulx Ste Croi 51.96 35 *e*P **P** **16 45 54.2 -0.5**
TCF pmax pmax
comp=Z,18nm,1.0s,mb5.0
TCF Toulx Ste Croi 51.96 35 *e*P **P** **16 45 54.2 -0.5**
comp=Z,18nm,1.0s,mb5.0
KEST Kesra 51.98 50 P **P** **16 45 55.5 +0.5**
comp=Z,7.7nm,0.9s,mb4.6,baz=210,slow=6.9,SNR=7.6
KEST LR LR 17 07 44.8
comp=Z,272nm,18.4s,MS4.3,baz=348,slow=36
LBL Lubilhac 51.99 37 *e*P **P** **16 45 54.3 -0.6**
DCN Croghan 52.00 24 *e*P **P** **16 45 56.8 +1.9**
AAM Ann Arbor 52.03 319 *e*P **P** **16 45 54.4 -1.0**
PLAL Pickwick Lake 52.30 308 *e*P **P** **16 45 56.3 -1.2**
comp=Z,49nm,1.5s,mb5.2
BGF Bois d'Agland 52.47 35 *e*P **P** **16 45 58.0 -0.5**
comp=Z,46nm,0.8s,mb5.2
BGF Bois d'Agland 52.47 35 *e*P **P** **16 45 58.0 -0.5**
BGF pmax pmax
comp=Z,24nm,0.8s,mb5.2
BGF Bois d'Agland 52.47 35 *e*P **P** **16 45 58.0 -0.5**
comp=Z,24nm,0.8s,mb5.2
DMUB Kingscourt 52.56 23 *e*P **P** **16 45 59.0 0.0**
PLDF La Plantade 52.60 36 *e*P **P** **16 45 59.0 -0.5**
VIVF Saint-Julien-l 52.65 38 *e*P **P** **16 46 00.3 +0.4**
comp=Z,71nm,1.0s,mb5.2
VIVF Saint-Julien-l 52.65 38 *e*P **P** **16 46 00.3 +0.4**
VIVF pmax pmax
comp=Z,36nm,1.0s,mb5.3
VIVF Saint-Julien-l 52.65 38 *e*P **P** **16 46 00.3 +0.4**
comp=Z,36nm,1.0s,mb5.2
HYF Humbligny 52.75 35 *e*P **P** **16 46 00.2 -0.4**
SMRF Simiane la Rot 52.77 40 *e*P **P** **16 46 00.3 -0.5**
comp=Z,87nm,1.5s,mb5.2
SMRF Simiane la Rot 52.77 40 *e*P **P** **16 46 00.3 -0.5**
comp=Z,87nm,1.5s,mb5.5
SSB Saint Sauveur 52.79 38 *e*P **P** **16 46 01.5 +0.6**
AVF Avril sur Loir 52.89 35 *e*P **P** **16 46 00.9 -0.7**
comp=Z,19nm,0.8s,mb4.8
AVF Avril sur Loir 52.89 35 *e*P **P** **16 46 00.9 -0.7**
AVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AVF Avril sur Loir 52.89 35 *e*P **P** **16 46 00.9 -0.7**
comp=Z,9.4nm,0.8s,mb4.8
USIN University of 53.02 312 *e*P **P** **16 46 02.9 +0.1**
LMR La Mourre 53.06 41 *e*P **P** **16 46 02.5 -0.5**
comp=Z,16nm,0.8s,mb4.7
LMR La Mourre 53.06 41 *e*P **P** **16 46 02.5 -0.5**
LMR pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LMR La Mourre 53.06 41 *e*P **P** **16 46 02.5 -0.5**
comp=Z,8.1nm,0.8s,mb4.7
SMF Signal de Mont 53.09 36 *e*P **P** **16 46 02.5 -0.6**
SSF Saint Saulge 53.13 35 *e*P **P** **16 46 02.9 -0.5**
comp=Z,28nm,1.1s,mb4.8
SSF Saint Saulge 53.13 35 *e*P **P** **16 46 02.9 -0.5**
SSF pmax pmax
comp=Z,14nm,1.1s,mb4.8
SSF Saint Saulge 53.13 35 *e*P **P** **16 46 02.9 -0.5**
comp=Z,14nm,1.1s,mb4.8
OXF Oxford 53.20 307 *e*P **P** **16 46 05.4 +1.3**
OXF pmax pmax
comp=Z,68nm,1.1s,mb5.5
OXF Oxford 53.20 307 *e*P **P** **16 46 05.4 +1.3**
comp=Z,68nm,1.1s,mb5.5
FRF La Foret Royal 53.26 40 *e*P **P** **16 46 04.9 +0.5**
comp=Z,35nm,0.9s,mb5.0
FRF La Foret Royal 53.26 40 *e*P **P** **16 46 04.9 +0.5**
FRF pmax pmax
comp=Z,17nm,0.9s,mb5.0
FRF La Foret Royal 53.26 40 *e*P **P** **16 46 04.9 +0.5**
comp=Z,17nm,0.9s,mb5.0
ORIF Oris-en-Rattie 53.42 39 *e*P **P** **16 46 05.9 +0.3**
ORIF *e*MLR MLR
comp=Z,882nm,21.2s,MS4.5
LOR Lormes 53.44 35 *e*P **P** **16 46 04.8 -0.9**
comp=Z,31nm,0.8s,mb5.0
LOR *e*MLR MLR
comp=Z,289nm,18.8s,MS4.1
LOR Lormes 53.44 35 *e*P **P** **16 46 04.8 -0.9**
LOR pmax pmax
comp=Z,16nm,0.8s,mb5.0
LOR MLR MLR
comp=Z,290nm,18.8s,MS4.4
LOR Lormes 53.44 35 *e*P **P** **16 46 04.8 -0.9**
comp=Z,16nm,0.8s,mb5.0
LOR LR LR
comp=Z,290nm,18.8s,MS4.4
CALN Calern 53.50 40 *e*P **P** **16 46 08.4 +2.2**
OLIL Olney 53.62 313 *e*P **P** **16 46 07.3 +0.2**
comp=Z,122nm,1.2s,mb5.7
TOUF Mont Tournerai 53.85 40 *e*P **P** **16 46 09.8 +1.0**
LUCF Luceram 53.86 40 *e*P **P** **16 46 11.0 +2.2**
MBDF Montbardon 53.89 39 *e*P **P** **16 46 09.3 +0.3**
comp=Z,50nm,1.1s,mb5.0
MBDF Montbardon 53.89 39 *e*P **P** **16 46 09.3 +0.3**
MBDF pmax pmax
comp=Z,25nm,1.1s,mb5.1
MBDF Montbardon 53.89 39 *e*P **P** **16 46 09.3 +0.3**
comp=Z,25nm,1.1s,mb5.1
SBF Sospel 53.90 40 *e*P **P** **16 46 08.9 -0.2**
BNI Bardonecchia 53.98 39 *e*P **P** **16 46 10.0 +0.3**
SIUC Southern Illin 54.08 311 *e*P **P** **16 46 11.7 +1.1**
LPL La Plagne 54.24 38 *e*P **P** **16 46 11.9 +0.3**
comp=Z,17nm,0.9s,mb4.7
LPL La Plagne 54.24 38 *e*P **P** **16 46 11.9 +0.3**
LPL pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LPL La Plagne 54.24 38 *e*P **P** **16 46 11.9 +0.3**
comp=Z,8.4nm,0.9s,mb4.7
LPG La Plagne 54.25 38 *e*P **P** **16 46 12.2 +0.6**
comp=Z,40nm,1.3s,mb4.9
LPG La Plagne 54.25 38 *e*P **P** **16 46 12.2 +0.6**
LPG pmax pmax
comp=Z,20nm,1.3s,mb4.9
LPG La Plagne 54.25 38 *e*P **P** **16 46 12.2 +0.6**
comp=Z,20nm,1.3s,mb4.9
PGF Pioggiola 54.35 43 *e*P **P** **16 46 11.6 -0.8**
CABF La Chapelle 54.40 37 *e*P **P** **16 46 12.5 -0.2**
comp=Z,40nm,1.2s,mb4.9
CABF La Chapelle 54.40 37 *e*P **P** **16 46 12.5 -0.2**
CABF pmax pmax
comp=Z,20nm,1.2s,mb4.9
CABF La Chapelle 54.40 37 *e*P **P** **16 46 12.5 -0.2**
comp=Z,20nm,1.2s,mb4.9
MENF Mencas 54.40 31 *e*P **P** **16 46 10.3 -2.4**
MEZF Maizieres J'vi 54.79 34 *e*P **P** **16 46 14.6 -0.9**
comp=Z,29nm,0.9s,mb5.0
MEZF Maizieres J'vi 54.79 34 *e*P **P** **16 46 14.6 -0.9**
comp=Z,29nm,0.9s,mb5.3
BAIF Baives 55.19 33 *e*P **P** **16 46 17.5 -0.8**
HAU Haudompre 55.26 36 *e*P **P** **16 46 18.0 -0.9**
comp=Z,34nm,0.8s,mb5.1
HAU *e*MLR MLR
comp=Z,471nm,21.5s,MS4.2
HAU Haudompre 55.26 36 *e*P **P** **16 46 18.0 -0.9**
HAU pmax pmax
comp=Z,17nm,0.8s,mb5.1
HAU MLR MLR
comp=Z,470nm,21.5s,MS4.5
HAU Haudompre 55.26 36 *e*P **P** **16 46 18.0 -0.9**
comp=Z,17nm,0.8s,mb5.1
HAU LR LR
comp=Z,470nm,21.5s,MS4.5
DOU Dourbes 55.41 33 P **P** **16 46 22.0 +2.0**
comp=Z,12nm,1.3s,mb4.8
HINF Hinteralfeld 55.46 36 *e*P **P** **16 46 19.6 -0.7**
comp=Z,108nm,1.5s,mb5.3
HINF Hinteralfeld 55.46 36 *e*P **P** **16 46 19.6 -0.7**
HINF pmax pmax
comp=Z,54nm,1.5s,mb5.4
HINF Hinteralfeld 55.46 36 *e*P **P** **16 46 19.6 -0.7**
comp=Z,54nm,1.5s,mb5.3
GIVF Givet 55.54 33 *e*P **P** **16 46 19.9 -1.0**
comp=Z,49nm,1.1s,mb5.1
GIVF Givet 55.54 33 *e*P **P** **16 46 19.9 -1.0**
GIVF pmax pmax
comp=Z,24nm,1.1s,mb5.1
GIVF Givet 55.54 33 *e*P **P** **16 46 19.9 -1.0**
comp=Z,24nm,1.1s,mb5.1
UALR University of 55.59 307 *e*P **P** **16 46 20.7 -0.8**
MOF Molkenrain 55.64 36 *e*P **P** **16 46 20.1 -1.5**
ECH Echery 55.84 36 *e*P **P** **16 46 21.5 -1.6**
ECH Echery 55.84 36 *e*P **P** **16 46 22.0 -1.0**
BCLA Clavier 55.97 33 P **P** **16 46 23.1 -0.8**
BCLA AP pP 16 46 27.3 +0.1
comp=Z,14nm,1.6s
CDF Champ du Feu 56.00 36 *e*P **P** **16 46 23.3 -0.9**
comp=Z,12nm,0.8s,mb4.7
CDF Champ du Feu 56.00 36 *e*P **P** **16 46 23.3 -0.9**
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
CDF Champ du Feu 56.00 36 *e*P **P** **16 46 23.3 -0.9**
comp=Z,5.9nm,0.8s,mb4.7
FELD Feldberg im Sc 56.16 36 *e*P **P** **16 46 24.8 -0.6**
MEM Membach 56.45 33 P **P** **16 46 27.3 -0.1**
comp=Z,11nm,1.4s,mb4.7
MIAR Mount Ida 56.51 306 *e*P **P** **16 46 28.5 +0.3**
MIAR pmax pmax
comp=Z,27nm,1.2s,mb5.2
MIAR Mount Ida 56.51 306 *e*P **P** **16 46 28.5 +0.4**
comp=Z,27nm,1.2s,mb5.2
PLCA Paso Flores 56.52 208 P **P** **16 46 28.1 +0.1**
comp=Z,7.6nm,0.8s,mb4.8,baz=36,slow=7.3,SNR=20
PLCA LR LR 17 11 49.1
comp=Z,1µm,18.2s,MS5.0,baz=39,slow=37
BFO Black Forest 56.57 36 P **P** **16 46 28.4 +0.1**
comp=Z,102nm,0.9s,mb5.9,SNR=5.9
BFO Black Forest 56.57 36 *e*P **P** **16 46 27.4 -0.9**
BFO *e**PP pP 16 46 30.9 -0.6
BFO pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BFO Black Forest 56.57 36 *e*P **P** **16 46 27.4 -0.9**
comp=Z,24nm,1.0s,mb5.2
BFO *e*pP pP 16 46 30.9 -0.6
JFWS Jewell Farm 56.70 317 *e*P **P** **16 46 30.3 +1.0**
SPAK Spaichingen-Ko 56.73 36 *e*P **P** **16 46 28.2 -1.2**
NATX Nacogdoches 56.76 303 P **P** **16 46 29.7 -0.2**
comp=Z,49nm,0.8s,mb5.6
DAVA Damuels 57.00 38⇑ *i*P **P** **16 46 30.9 -0.4**
comp=Z,26nm,1.0s,mb5.2
COWI Conover 57.26 321 *e*P **P** **16 46 35.2 +1.9**
FETA Feichten 57.40 38⇑ *i*P **P** **16 46 32.9 -1.3**
comp=Z,18nm,1.1s,mb5.0
HKT Hockley 57.40 300 P **P** **16 46 34.0 -0.5**
HKT pmax pmax
comp=Z,23nm,0.8s,mb5.3
HKT Hockley 57.40 300 P **P** **16 46 34.0 -0.5**
comp=Z,23nm,0.8s,mb5.2
RETA Reutte 57.62 38⇑ *i*P **P** **16 46 34.8 -1.0**
comp=Z,30nm,1.3s,mb5.2
WTTA Wattenberg 58.06 38⇑ *i*P **P** **16 46 37.6 -1.3**
comp=Z,14nm,0.8s,mb5.0
WTTA Wattenberg 58.06 38⇑ *i*P **P** **16 46 37.6 -1.2**
WTTA pmax pmax
comp=Z,14nm,0.8s,mb5.0
SCIA State Center 58.39 315 *e*P **P** **16 46 43.3 +2.0**
ROBS Robic 58.81 40 *e*P **P** **16 46 46.7 +2.6**
GRA1 Grafenberg Arr 58.89 36 *e*P **P** **16 46 42.5 -2.1**
comp=Z,19nm,0.8s,mb5.2
GRA1 *e*pP pP 16 46 47.0 -0.8
GRA1 *e*S **S** **16 54 57.7 +7.2**
GRA1 LR LR
comp=Z,200nm,21.9s,MS4.2
GRF Grafenberg Arr 58.89 36 *e*P **P** **16 46 42.5 -2.1**
GRF *e**PP pP 16 46 47.0 -0.8
GRF *e*S **S** **16 54 57.7 +7.2**
GRF pmax pmax
comp=Z,19nm,0.8s,mb5.2
GRF MLR MLR
comp=Z,200nm,21.9s,MS4.2
GRF Grafenberg Arr 58.89 36 *e*P **P** **16 46 42.5 -2.1**
GRF *e**PP pP 16 46 47.0 -0.8
GRF *e*S **S** **16 54 57.7 +7.2**
GRF Grafenberg Arr 58.89 36 *e*P **P** **16 46 42.5 -2.1**
comp=Z,19nm,0.8s,mb5.2
GRF *e*pP pP 16 46 47.0 -0.8
GRF *e*S **S** **16 54 57.7 +7.2**
GRF *e*L 17 06 09.4
comp=Z,180nm,21.9s
VOY Vojsko 58.97 40 *e*P **P** **16 46 47.8 +2.5**
VOY *e* 16 46 57.8
KBA Koelnbreinsper 59.04 39⇑ *i*P **P** **16 46 44.6 -1.1**
comp=Z,44nm,1.4s,mb5.3
KBA Koelnbreinsper 59.04 39⇑ *i*P **P** **16 46 44.6 -1.1**
KBA pmax pmax
comp=Z,44nm,1.4s,mb5.3
MYKA Terra Mystica 59.05 40⇑ *i*P **P** **16 46 45.0 -0.8**

comp=Z,27nm,0.8s,mb5.3
GORS Gorjuse 59.15 40 *e*P **P 16 46 49.4 +3.0**
LJU Ljubljana 59.39 41 *e*P **P 16 46 51.1 +3.0**
ROTZ Rotzenmuhle 59.50 36 *e*P **P 16 46 47.8 -1.0**
comp=Z,40nm,1.7s,mb5.2
ROTZ *e*pP pP 16 46 51.4 -0.6
MOX Moxa 59.56 35 *e*(P) **P 16 46 48.4 -0.8**
MOX
comp=Z,400nm,20.0s
MOX Moxa 59.56 35 *e*P **P 16 46 48.3 -0.9**
comp=Z,9.0nm,0.9s,mb4.8
MOX *e*pP pP 16 46 52.0 -0.4
OBKA Obir 59.58 40⇓*i*P **P 16 46 49.3 -0.1**
comp=Z,46nm,1.5s,mb5.3
NRDL Niedersach Rie 59.62 32 *e*P **P 16 46 49.2 -0.4**
comp=Z,36nm,1.6s,mb5.2
NRDL *e*pP pP 16 46 52.7 -0.1
NKC Novy Kostel 59.84 36 *e*P **P 16 46 50.5 -0.7**
NKC *e*pP pP 16 46 53.8 -0.6
MOA Molln 59.92 39⇑*i*P **P 16 46 50.1 -1.6**
comp=Z,33nm,1.4s,mb5.2
SOKA Soboth 59.95 40⇑*i*P **P 16 46 51.1 -0.9**
comp=Z,23nm,1.9s,mb4.9
GEC2 GERESS Array S 59.99 37 *e*P **P 16 46 49.6 -2.6**
GEC2 *e**PP pP 16 46 54.1 -1.3
GEC2 pmax pmax
comp=Z,59nm,1.5s,mb5.4
GEC2 GERESS Array S 59.99 37 *e*P **P 16 46 49.6 -2.6**
comp=Z,15nm,1.5s,mb4.8
GEC2 *e*pP pP 16 46 54.1 -1.3
GERES GERESS Array B 59.99 37 P **P 16 46 51.0 -1.2**
comp=Z,1.3nm,0.6s,mb4.2,baz=251,slow=4.1,SNR=9.4
GERES LR LR 17 11 21.5
comp=Z,321nm,18.4s,MS4.5,baz=247,slow=35
PERS Pernice 59.99 40 *e*P **P 16 46 51.1 -1.1**
KHC Kasperske Hory 60.03 37 *e*P **P 16 46 51.2 -1.3**
KHC *e*pP pP 16 46 54.3 -1.4
KHC *e*S **S 16 55 08.0 +2.8**
KHC AMS AMS 17 10 40.0
comp=Z,300nm,19.6s
KSU1 Kansas State U 60.03 311 P **P 16 46 50.1 -2.6**
BSEG Bad Segeberg 60.45 31 *e*P **P 16 46 57.7 +2.4**
BSEG pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BSEG Bad Segeberg 60.45 31 *e*P **P 16 46 57.7 +2.4**
comp=Z,30nm,1.1s,mb5.2
ARSA Arzberg 60.48 40⇑*i*P **P 16 46 54.1 -1.5**
comp=Z,6.4nm,0.6s,mb4.8
CLL Collm 60.64 35 *e*P **P 16 46 56.0 -0.6**
CLL *i* pP pP 16 46 59.2 -0.6
comp=Z,29nm,1.8s
CLL *e*x x 16 47 15.0
CLL *e*PP PP 16 49 26.0 +16
CLL *e*S **S 16 55 15.0 +2.0**
comp=N,200nm,28.0s
CLL *e*S **S 16 55 15.0 +2.0**
comp=E,300nm,28.8s
CLL *e*x x 16 58 14.0
CLL *e*SS SS 16 59 05.0 -6.4
CLL *e*SSS 17 01 55.0
CLL Lm 17 11 00.0
comp=N,200nm,18.5s
CLL Lm 17 11 00.0
comp=E,400nm,19.1s
CLL Lm 17 11 00.0
comp=Z,500nm,18.7s
CLL Collm 60.64 35 *e*P **P 16 46 56.0 -0.6**
CLL *i* pP 16 46 59.2 -0.6
CLL *e*S **S 16 55 15.0 +2.0**
CLL LR LR
comp=Z,500nm,18.7s,MS4.7
WMOK Wichita Mounta 60.74 305 *e*P **P 16 46 58.4 +0.8**
JCT Junction City 60.88 300 *e*P **P 16 46 56.9 -1.7**
JCT pmax pmax
comp=Z,31nm,0.9s,mb5.4
JCT Junction City 60.88 300 *e*P **P 16 46 56.9 -1.7**
comp=Z,31nm,0.9s,mb5.4
CSNA Conrad Observa 60.94 39⇑*i*P **P 16 46 57.9 -0.8**
comp=Z,20nm,1.6s,mb5.0
CONA Conrad Observa 60.95 39⇑*i*P **P 16 46 57.9 -0.9**
comp=Z,10nm,0.8s,mb5.0
PRU Pruhonice 60.96 36 *e*P **P 16 46 58.0 -0.8**
PRU *e*pP pP 16 47 01.2 -0.8
PRU *e*S **S 16 55 18.4 +1.3**
PRU AMS AMS 17 10 20.0
comp=Z,300nm,18.2s
BRG Berggiesshubel 60.98 35 *e*P **P 16 47 01.7 +2.7**
BRG S **S 16 55 19.0 +1.6**
BRG SS SS 16 59 14.0 -2.8
BRG pmax pmax
comp=Z,17nm,1.5s,mb5.0
BRG MLR MLR
comp=N,10µm,16.1s
BRG MLR MLR
comp=E,212nm,22.5s
BRG MLR MLR
comp=Z,163nm,20.8s,MS4.2
BRG Berggiesshubel 60.98 35 *e*P **P 16 47 01.5 +2.5**
comp=Z,15nm,1.4s,mb4.9
BRG Berggiesshubel 60.98 35 *e*P **P 16 47 01.7 +2.7**
comp=Z,16nm,1.5s,mb4.9
BRG S **S 16 55 19.0 +1.6**
BRG SS SS 16 59 14.0 -2.8
BRG
comp=N,354nm,16.1s
BRG
comp=E,272nm,22.5s
BRG
comp=Z,354nm,20.8s
PVCC Panska Ves 61.20 36 AMS AMS 17 10 20.0
comp=Z,400nm,17.0s
TREC Trest 61.24 37 AMS AMS 17 11 20.0
comp=Z,500nm,21.3s
ECSD EROS,Sioux Fal 61.34 316 *e*P **P 16 46 59.8 -1.8**
comp=Z,24nm,1.2s,mb5.2
ZST Bratislava 61.82 39 *e*P **P 16 47 07.3 +2.6**
ZST pmax pmax
comp=Z,43nm,1.7s,mb5.3
ZST Bratislava 61.82 39 *e*P **P 16 47 07.3 +2.6**
comp=Z,43nm,1.7s,mb5.3
VRAC Vranov 61.91 38⇓*i*P **P 16 47 03.5 -1.8**
VRAC Vranov 61.91 38 ⇓P **P 16 47 03.5 -1.8**
TSUM Tsumeb 61.94 117 *e*P **P 16 47 07.2 +1.3**
MODS Modra-Piesok 61.99 39 *e*P **P 16 47 07.1 +1.3**
MODS pmax pmax
comp=Z,14nm,1.7s,mb4.8
MODS Modra-Piesok 61.99 39 *e*P **P 16 47 07.1 +1.3**
comp=Z,14nm,1.7s,mb4.8
MODS *e*PcP PcP 16 47 42.9 -3.5
UPC Upice 62.03 36 *e*P **P 16 47 05.3 -0.8**
UPC *e*pP pP 16 47 09.2 -0.1
PKSM Moragy 62.12 42⇑*i*P **P 16 47 05.7 -1.1**
PKSM Moragy 62.12 42 ⇑P **P 16 47 05.7 -1.1**
DPC Dobruska-Polom 62.15 37 *e*P **P 16 47 06.0 -0.9**
DPC *e*pP pP 16 47 10.1 0.0
DPC *e*S **S 16 55 35.8 +3.6**
DPC AMS AMS 17 05 50.0
comp=Z,400nm,26.8s
KSP Ksiaz 62.33 36 *e*P **P 16 47 11.8 +3.7**
KSP Ksiaz 62.33 36 *e*P **P 16 47 10.5 +2.5**
KSP *e*S **S 16 55 38.0 +3.6**
CBKS Cedar Bluff 62.33 310 *e*P **P 16 47 09.4 +1.1**
AGMN Agassiz Refuge 62.34 321 *e*P **P 16 47 08.4 +0.3**
MORC Moravsky Berou 62.66 38⇑*i*P **P 16 47 14.0 +3.7**
MORC Moravsky Berou 62.66 38 *e*P **P 16 47 10.0 -0.3**
THL Klokotos Trika 62.70 50 *e*P **P 16 47 10.6 -0.1**
VLI Veliai 62.83 53 *e*P **P 16 47 06.6 -5.1**
ULM Lac du Bonnet 63.05 323 P **P 16 47 13.1 +0.3**
comp=Z,20nm,0.9s,mb5.2,baz=109,slow=6.6,SNR=15
ULM LR LR 17 09 30.2
comp=Z,264nm,20.1s,MS4.4,baz=88,slow=31
OKC Ostrava-Krasne 63.05 38 *e*P **P 16 47 14.9 +2.0**
OKC *e*S **S 16 55 45.8 +2.3**
OKC AMS AMS 17 09 20.0
comp=Z,400nm,25.9s
OKC Ostrava-Krasne 63.05 38 *e*P **P 16 47 14.9 +2.0**
OKC *e*S **S 16 55 45.8 +2.3**
PSZ Piszkesteto 63.48 40⇑*i*P **P 16 47 14.2 -1.6**
BZS Buzias 63.93 43⇓*i*P **P 16 47 18.9 +0.1**
PLG Polygyros 63.95 49 *e*P **P 16 47 18.7 -0.3**
KECS Kecovo 64.04 40 *e*P **P 16 47 14.8 -4.6**
KECS pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
KECS Kecovo 64.04 40 *e*P **P 16 47 14.8 -4.6**
comp=Z,2.8nm,1.2s,mb4.2

TXAR Lajitas Array 64.07 299 P **P 16 47 18.3 -1.7**
comp=Z,2.7nm,0.8s,mb4.3,baz=99,slow=6.6,SNR=13
NVR Nevrokopi 64.46 48 *e*P **P 16 47 22.4 0.0**
SUMG Summit 64.53 0 *e*P **P 16 47 22.1 -0.1**
NOA NORSAR Array B 64.59 24 P **P 16 47 22.3 -0.5**
comp=Z,6.3nm,1.0s,mb4.6,baz=238,slow=6.7,SNR=6.0
NOA LR LR 17 12 38.9
comp=Z,322nm,18.2s,MS4.5,baz=235,slow=33
NOA NORSAR Array B 64.59 24 P **P 16 47 22.3 -0.5**
NOA LR LR 17 12 38.9
CPRX Cap Rock 64.65 303 *e*P **P 16 47 26.4 +2.6**
SANT Santorini 64.77 54 *e*P **P 16 47 23.1 -1.4**
comp=Z,29nm,0.9s,mb5.3
CRVS Cervenica-Dubn 64.78 39 *e*P **P 16 47 27.1 +2.8**
CRVS pmax pmax
comp=Z,17nm,1.5s,mb4.8
CRVS Cervenica-Dubn 64.78 39 *e*P **P 16 47 27.1 +2.8**
comp=Z,17nm,1.5s,mb4.9
STHS Stebnicka Huta 64.81 39 *e*P **P 16 47 25.2 +0.8**
STHS pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
STHS Stebnicka Huta 64.81 39 *e*P **P 16 47 25.2 +0.8**
comp=Z,2.0nm,0.9s,mb4.2
GDL2 Guadalupe Moun 64.97 302 *e*P **P 16 47 25.7 -0.2**
UZH Uzhgorod 65.23 40⇓*i*P **P 16 47 30.0 +2.8**
KOLS Kolonicke sedl 65.30 40 *e*P **P 16 47 30.8 +3.1**
RDO Rodhopi 65.66 48 *e*P **P 16 47 28.3 -1.9**
KWP Kalwaria 65.78 39 *e*P **P 16 47 31.0 +0.2**
KWP Kalwaria 65.78 39 ⇓P **P 16 47 31.1 +0.3**
KWP Kalwaria 65.78 39⇓*i*P **P 16 47 31.0 +0.2**
KWP Kalwaria 65.78 39 *e*P **P 16 47 31.0 +0.2**
KARP Karpathos 66.02 55 *e*P **P 16 47 35.5 +2.9**
VOIR 66.22 44⇓*i*P **P 16 47 39.0 +5.4**
VOIR 66.22 44 ⇓P **P 16 47 39.0 +5.3**
SDCO Great Sand Dun 66.60 308 *e*P **P 16 47 34.6 -1.7**
comp=Z,16nm,1.1s,mb5.0
LVV L'vov 66.66 39 *e*P **P 16 47 35.8 -0.6**
LVV *e* 16 48 10.8
LVV MLR MLR
comp=Z,350nm,20.8s,MS4.5
LVV MLR MLR
comp=N,100nm,19.1s,MS4.5
LVV MLR MLR
comp=E,250nm,21.0s,MS4.5
MLR Muntele Rosu 66.84 44⇓*i*P **P 16 47 37.8 +0.1**
MLR Muntele Rosu 66.84 44 ⇓P **P 16 47 37.8 +0.2**
BURAR Bucovina Array 66.84 41⇑*i*P **P 16 47 37.5 -0.1**
BURAR Bucovina Array 66.84 41 ⇑P **P 16 47 37.5 -0.2**
ISCO Idaho Springs 66.99 310 *e*P **P 16 47 38.7 0.0**
ISCO pmax pmax
comp=Z,21nm,1.2s,mb5.0
ISCO Idaho Springs 66.99 310 *e*P **P 16 47 38.7 -0.1**
comp=Z,21nm,1.2s,mb5.0
ANMO Albuquerque 67.01 304 *e*P **P 16 47 38.5 -0.5**
ANMO pmax pmax
comp=Z,12nm,1.4s
ANMO Albuquerque 67.01 304 *e*P **P 16 47 38.5 -0.4**
comp=Z,12nm,1.4s,mb4.7
BNM Barren Site 67.06 304 *e*P **P 16 47 40.2 +0.9**
LPM Los Pinos Moun 67.08 304 *e*P **P 16 47 43.1 +3.7**
PLOR Plostina 67.40 44⇓*i*P **P 16 47 44.2 +3.0**
VRI Vrincioaia 67.46 44⇑*i*P **P 16 47 44.2 +2.6**
LAZ Ladron 67.51 304 *e*P **P 16 47 40.9 -1.3**
FFC Flin Flon 68.07 326 P **P 16 47 44.9 -0.3**
comp=Z,149nm,0.9s,mb6.0,SNR=5.8
FFC Flin Flon 68.07 326 *e*P **P 16 47 43.3 -1.9**
FFC pmax pmax
comp=Z,22nm,0.9s,mb5.2
FFC Flin Flon 68.07 326 *e*P **P 16 47 43.3 -2.0**
comp=Z,22nm,0.9s,mb5.2
TIRR Tirgusor 68.35 45 P **P 16 47 46.9 -0.3**
TIRR pmax pmax
comp=Z,13nm,1.1s,mb4.9
TIRR Tirgusor 68.35 45 P **P 16 47 46.9 -0.4**
comp=Z,14nm,1.1s,mb4.9
MVCO Mesa Verde 68.90 307 ⇑P **P 16 47 51.6 +0.8**
baz=69
PV01 Paradox Valley 69.06 308 *e*P **P 16 47 52.3 +0.6**
319A Douglas 69.07 300 ⇑P **P 16 47 52.8 +0.9**
baz=69,SNR=8.6
219A White Tail Can 69.09 301 ⇓P **P 16 47 53.0 +0.9**
baz=69,SNR=7.6
119A Ashpeak Ranch, 69.17 302 ⇑P **P 16 47 53.4 +0.8**
baz=69
Z19A T-Link Ranch, 69.18 302 ⇓P **P 16 47 53.3 +0.7**
baz=69
Y19A Nutrioso 69.22 303 ⇓P **P 16 47 53.5 +0.7**
baz=69,SNR=5.6
T19A Beclabito 69.28 306 ⇓P **P 16 47 53.7 +0.5**
baz=69
X19A St. Johns 69.28 304 ⇓P **P 16 47 54.2 +1.0**
baz=69
W19A Sanders 69.42 304 ⇑P **P 16 47 54.4 +0.4**
baz=69,SNR=8.1
PV10 Paradox Valley 69.45 308 *e*P **P 16 47 58.2 +4.0**
S19A Harvey Farm, M 69.46 307 ⇓P **P 16 47 54.6 +0.3**
baz=69
SUR Sutherland 69.64 129 LR LR 17 11 13.9
comp=Z,285nm,20.1s,MS4.5,baz=350,slow=30
318A Bisbee 69.68 300 ⇑P **P 16 47 57.4 +1.7**
baz=70,SNR=7.3
Q19A Hogan Spring (69.69 308 ⇓P **P 16 47 56.0 +0.3**
baz=70
W18A Petrified Fore 69.70 304 ⇓P **P 16 47 55.9 +0.1**
baz=70
118A Homack Ranch, 69.73 302 ⇑P **P 16 47 56.4 +0.4**
baz=70,SNR=9.7
218A Dragoon 69.75 301 ⇑P **P 16 47 57.2 +1.0**
baz=70,SNR=7.3
X18A Snowflake 69.84 304 ⇑P **P 16 47 57.5 +0.8**
baz=70,SNR=6.4
U18A Rough Rock, Ch 69.92 306 ⇑P **P 16 47 57.9 +0.8**
baz=70,SNR=5.8
T18A Mexican Hat 69.99 307 ⇓P **P 16 47 57.8 +0.3**
baz=70
KIEV Kiev 70.09 39 *e*P **P 16 48 00.0 +2.1**
KIEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KIEV Kiev 70.09 39 *e*P **P 16 48 00.0 +2.1**
comp=Z,4.6nm,0.8s,mb4.5
AKASG Malin Array Be 70.10 39 P **P 16 47 56.7 -1.3**
comp=Z,4.4nm,0.7s,mb4.5,baz=257,slow=6.1,SNR=12
AKASG LR LR 17 16 14.8
comp=Z,341nm,20.1s,MS4.6,baz=265,slow=34
AKASG Malin Array Be 70.10 39 P **P 16 47 56.7 -1.3**
AKASG LR LR 17 16 14.8
R18A Canyonlands Na 70.12 308 ⇑P **P 16 47 58.5 +0.2**
baz=70
S18A Hurst Farm, Bl 70.13 307 ⇓P **P 16 47 58.6 +0.2**
baz=70
N18A Larsen Ranch, 70.23 311 ⇓P **P 16 47 58.9 0.0**
baz=70
BW06 Boulder Array 70.36 312 *e*P **P 16 48 01.9 +2.2**
comp=Z,17nm,1.4s,mb4.8
PDAR Pinedale Array 70.36 312 P **P 16 47 59.1 -0.5**
comp=Z,2.8nm,1.1s,mb4.1,baz=101,slow=7.7,SNR=9.3
PDAR LR LR 17 14 50.2
comp=Z,447nm,22.0s,MS4.7,baz=109,slow=32
Q18A Rafter H Ranch 70.38 309 ⇑P **P 16 47 59.9 +0.1**
baz=70
TUC Tucson 70.39 301 *e*P **P 16 48 01.5 +1.4**
217A Green Valley 70.40 301 ⇑P **P 16 48 00.5 +0.4**
baz=70,SNR=10
LSZ Lusaka 70.45 109 LR LR 17 13 21.4
comp=Z,400nm,20.0s,MS4.7,baz=318,slow=31
LSZ Lusaka 70.45 109 *e*P **P 16 48 02.2 +1.5**
RLMT Red Lodge 70.48 315 *e*P **P 16 48 00.2 -0.2**
P18A Preston Nutter 70.52 309 ⇓P **P 16 48 01.2 +0.5**
baz=70
Y17A Roosevelt 70.52 303 ⇑P **P 16 48 01.4 +0.6**
baz=70,SNR=6.9
U17A Shonto 70.57 306 ⇑P **P 16 48 01.6 +0.5**
baz=70
SRU San Rafael 70.68 309 *e*P **P 16 48 01.1 -0.6**
SRU pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
SRU San Rafael 70.68 309 ⇑P **P 16 48 01.5 -0.2**
baz=71
SRU San Rafael 70.68 309 *e*P **P 16 48 01.1 -0.6**
comp=Z,9.8nm,1.2s,mb4.6
T17A Navajo Res., N 70.72 306 ⇓P **P 16 48 01.9 -0.1**
baz=71
R17A Hanksville Air 70.76 308 ⇑P **P 16 48 02.4 +0.2**
baz=71
S17A Black Ridge (B 70.77 307 ⇓P **P 16 48 02.3 0.0**
baz=71

P17A Butcher Ranch, 70.88 309 ⇑P **P 16 48 03.0 +0.1**
baz=71
LBTB Lobatse 70.88 120 LR LR 17 13 55.0
comp=Z,480nm,18.6s,MS4.8,baz=302,slow=32
O17A Robinson Place 70.95 310 ⇑P **P 16 48 03.3 0.0**
baz=71
Z16A Peralta Trail, 70.99 302 ⇓P **P 16 48 04.1 +0.4**
baz=71
X16A Lo Mia Camp, P 71.06 304 ⇓P **P 16 48 04.8 +0.7**
baz=71,SNR=8.3
Y16A Circle Bar Ran 71.06 303 ⇑P **P 16 48 04.1 -0.1**
baz=71
WUAZ Wupatki 71.07 305 ⇓P **P 16 48 04.1 0.0**
baz=71,SNR=11
WUAZ Wupatki 71.07 305 *e*P **P 16 48 04.1 -0.1**
comp=Z,28nm,0.9s,mb5.2
W16A Flagstaff 71.17 304 ⇓P **P 16 48 05.1 +0.3**
baz=71,SNR=7.6
116A Eloy 71.18 302 ⇑P **P 16 48 05.3 +0.4**
baz=71
LOHW Long Hollow 71.22 313 *e*P **P 16 48 06.9 +1.9**
TMUT Trail Mountain 71.22 309 *e*P **P 16 48 03.3 -1.7**
EGMT Eagleton 71.25 318 *e*P **P 16 48 04.3 -0.7**
comp=Z,15nm,0.8s,mb5.0
T16A Glen Canyon Da 71.28 306 ⇑P **P 16 48 05.0 -0.4**
baz=71
MOOW Moose Ponds 71.34 313 P **P 16 48 04.0 -1.7**
comp=Z,11nm,1.1s,mb4.7
FLWY Flagg Ranch 71.35 314 *e*P **P 16 48 05.5 -0.2**
comp=Z,143nm,1.7s,mb5.6
DAU Daniels Canyon 71.36 310 *e*P **P 16 48 05.7 -0.2**
TPAW Teton Pass 71.46 313 *e*P **P 16 48 05.5 -0.9**
comp=Z,36nm,1.4s,mb5.1
YFT Old Faithful 71.49 314 *e*P **P 16 48 08.0 +1.5**
IMW Indian Meadow 71.50 314 *e*P **P 16 48 05.8 -0.8**
comp=Z,94nm,1.8s,mb5.4
JLU Jordanelle 71.53 310 *e*P **P 16 48 09.7 +2.8**
O16A Springville 71.53 310 ⇓P **P 16 48 06.7 -0.2**
baz=72
YMR Madison River 71.61 314 *e*P **P 16 48 07.8 +0.6**
comp=Z,77nm,1.3s,mb5.5
115A Sonoran Desert 71.63 302 ⇓P **P 16 48 07.9 +0.3**
baz=72
L16A Fish Haven 71.65 312 ⇑P **P 16 48 07.7 +0.1**
baz=72
HWUT Hardware Ranch 71.71 311 *e*P **P 16 48 06.6 -1.3**
comp=Z,31nm,1.1s,mb5.2
RRI2 Red Ridge 71.71 313 *e*P **P 16 48 07.0 -0.9**
comp=Z,49nm,1.4s,mb5.2
X15A Humboldt 71.72 304 ⇓P **P 16 48 09.1 +0.9**
baz=72,SNR=6.8
V15A Kaibab Nationa 71.74 305 ⇑P **P 16 48 08.3 +0.1**
baz=72,SNR=7.7
CTU Camp Tracy 71.76 310 *e*P **P 16 48 09.4 +1.2**
comp=Z,23nm,1.2s,mb5.0
Y15A Casa Rosa Ranc 71.77 303 ⇓P **P 16 48 08.8 +0.3**
baz=72
W15A Williams 71.78 304 ⇑P **P 16 48 08.9 +0.4**
baz=72
BOSA Boshof 71.79 124 P **P 16 48 08.4 -0.2**
comp=Z,40nm,1.1s,mb5.3,baz=300,slow=3.9,SNR=19
BOSA LR LR 17 13 56.1
comp=Z,220nm,18.3s,MS4.5,baz=298,slow=31
K16A Soda Springs 71.85 312 ⇓P **P 16 48 09.4 +0.6**
baz=72
U15A North Rim 71.87 306 ⇓P **P 16 48 09.4 +0.4**
baz=72,SNR=6.3
J16A Bone 71.92 313 ⇑P **P 16 48 09.1 0.0**
baz=72
MSU Marysvale 71.92 308 *e*P **P 16 48 09.6 +0.4**
NLU North Lily Min 71.95 309 *e*P **P 16 48 12.9 +3.5**
QLMT Earthquake Lak 71.96 314 *e*P **P 16 48 09.9 +0.6**
214A Organ Pipe Nat 72.10 301 ⇓P **P 16 48 09.7 -0.7**
baz=72
EIL Elat 72.16 61 LR LR 17 21 21.3
comp=Z,684nm,18.1s,MS5.0,baz=278,slow=37
BOZ Bozeman (W) 72.20 315 *e*P **P 16 48 11.9 +1.1**
BOZ pmax pmax
comp=Z,11nm,1.3s,mb4.6
BOZ Bozeman (W) 72.20 315 ⇑P **P 16 48 10.7 0.0**
baz=72
BOZ Bozeman (W) 72.20 315 *e*P **P 16 48 11.9 +1.1**
comp=Z,11nm,1.3s,mb4.6
X14A Yava 72.26 304 ⇑P **P 16 48 11.2 -0.2**
baz=72,SNR=12
O15A The Old Anders 72.28 310 ⇓P **P 16 48 11.4 +0.1**
baz=72
Y14A Wickenburg 72.33 303 ⇑P **P 16 48 11.7 -0.1**
baz=72
M15A Larsen Ranch, 72.36 311 ⇑P **P 16 48 11.8 0.0**
baz=72,SNR=7.2
L15A Malad City 72.36 311 ⇑P **P 16 48 11.5 -0.3**
baz=72,SNR=8.2
N15A Stansbury Isla 72.36 310 ⇑P **P 16 48 11.3 -0.6**
baz=72
W14A Seligman 72.45 304 ⇑P **P 16 48 12.7 +0.2**
baz=72,SNR=8.7
V14A Boquillas Ranc 72.48 305 ⇑P **P 16 48 12.8 +0.1**
baz=72,SNR=7.9
J15A Blackfoot 72.52 313 ⇓P **P 16 48 12.4 -0.4**
baz=72
K15A Arbon 72.53 312 ⇑P **P 16 48 12.6 -0.2**
baz=72
DUG Dugway 72.53 310 *e*P **P 16 48 12.6 -0.3**
DUG pmax pmax
comp=Z,38nm,1.4s,mb5.1
DUG Dugway 72.53 310 ⇓P **P 16 48 12.7 -0.2**
baz=72
DUG Dugway 72.53 310 *e*P **P 16 48 12.6 -0.3**
comp=Z,38nm,1.4s,mb5.1
T14A Hurricane 72.54 306 ⇑P **P 16 48 13.0 0.0**
baz=72
U14A Mt Trumbull 72.58 306 ⇓P **P 16 48 14.0 +0.7**
baz=73,SNR=8.2
I15A Monteview 72.62 314 ⇓P **P 16 48 13.2 -0.1**
baz=73
HVU Hansel Valley 72.63 311 *e*P **P 16 48 15.6 +2.2**
P14A Drum Mountains 72.68 309 ⇑P **P 16 48 13.7 -0.1**
baz=73
G15A Dillon 72.74 315 ⇓P **P 16 48 14.0 -0.1**
baz=73
BGU Big Grassy Mou 72.75 310 *e*P **P 16 48 13.7 -0.5**
LRM Limekiln Ridge 72.79 315 *e*P **P 16 48 17.6 +3.3**
Q14A Sevier Lake (B 72.81 308 ⇓P **P 16 48 14.6 0.0**
baz=73,SNR=19
F15A Butte 72.82 315 ⇑P **P 16 48 14.5 +0.1**
baz=73
DLMT Dillon 72.84 315 *e*P **P 16 48 14.0 -0.6**
comp=Z,64nm,1.4s,mb5.4
N14A Grayback Hills 72.86 310 ⇓P **P 16 48 14.3 -0.5**
baz=73
113A Mohawk Valley, 72.93 302 ⇓P **P 16 48 14.8 -0.6**
baz=73
MCMT McKenzie Canyo 72.96 314 P **P 16 48 17.2 +1.9**
D15A Lincoln 72.97 317 ⇑P **P 16 48 15.2 -0.1**
baz=73
E15A Deer Lodge 72.99 316 ⇓P **P 16 48 15.2 -0.3**
baz=73
K14A Jones Ranch, D 72.99 312 ⇓P **P 16 48 15.3 -0.3**
baz=73
L14A Malta 73.00 311 ⇑P **P 16 48 15.3 -0.3**
baz=73
Y13A Salome 73.01 303 ⇑P **P 16 48 15.6 -0.2**
baz=73
M14A Sheep Mountain 73.03 311 ⇓P **P 16 48 15.9 +0.1**
baz=73
X13A Yucca 73.04 304 ⇓P **P 16 48 16.2 +0.2**
baz=73,SNR=8.1
W13A Hualapai Mount 73.10 304 ⇓P **P 16 48 16.9 +0.6**
baz=73,SNR=7.7
S13A Holt Ranch, En 73.19 307 ⇓P **P 16 48 17.4 +0.6**
baz=73,SNR=8.1
T13A Saint George 73.20 306 ⇓P **P 16 48 17.5 +0.6**
baz=73
V13A Grand Canyon W 73.21 305 ⇓P **P 16 48 17.7 +0.7**
baz=73
U13A Pakoon Wash 73.22 306 ⇑P **P 16 48 18.1 +1.0**
baz=73
PDMCI Parker Dam,Lak 73.28 303 ⇓P **P 16 48 17.6 +0.2**
baz=73
J14A Carey 73.31 313 ⇑P **P 16 48 17.8 +0.4**
baz=73
I14A Mackay 73.31 313 ⇑P **P 16 48 17.8 +0.4**
baz=73
H14A Leadore 73.31 314 ⇑P **P 16 48 17.8 +0.4**
baz=73
Q13A Wheeler Ranch, 73.38 308 ⇑P **P 16 48 18.2 +0.2**
baz=73

P13A **Bates Ranch, G** 73.41 309 ⇑P P 16 48 17.5 -0.6
baz=73,SNR=22
O13A **Hicks Ranch, I** 73.42 309 ⇑P P 16 48 18.2 0.0
baz=73
F14A **Wisdom** 73.43 315 ⇓P P 16 48 17.5 -0.6
baz=73
CHMT **Chamberlain Mo** 73.46 317 eP P 16 48 18.1 -0.1
L13A **Double Diamond** 73.52 311 ⇑P P 16 48 18.6 -0.2
baz=74
Y12C **Blythe** 73.59 303 ⇓P P 16 48 18.5 -0.7
baz=74
M13A **Montello** 73.64 311 ⇑P P 16 48 18.6 -0.8
baz=74,SNR=5.9
D14A **Greenough** 73.65 317 ⇓P P 16 48 18.8 -0.5
baz=74
K13A **Stover Farm, H** 73.67 312 ⇓P P 16 48 19.2 -0.4
baz=74
U12A **Valley of Fire** 73.68 306 ⇓P P 16 48 19.6 -0.2
baz=74
ARCES **ARCESS Array B** 73.78 19 P P 16 48 21.1 +1.4
comp=Z,5.2nm,0.7s,mb4.5,baz=242,slow=2.6,SNR=8.4
ARCES LR LR 17 15 53.3
comp=Z,232nm,19.0s,MS4.5,baz=35,slow=32
I13A **Wildhorse Cree** 73.79 313 ⇓P P 16 48 19.6 -0.6
baz=74,SNR=7.8
J13A **Cove Ranch, Pi** 73.79 313 ⇑P P 16 48 19.9 -0.4
baz=74
R12A **Pony Springs,** 73.81 308 ⇑P P 16 48 21.1 +0.6
baz=74,SNR=8.4
GLA **Glamis** 73.83 302 P P 16 48 20.9 +0.2
GLA pmax pmax
comp=Z,18nm,1.3s,mb4.8
GLA **Glamis** 73.83 302 ⇑P P 16 48 20.4 -0.2
baz=74
GLA **Glamis** 73.83 302 P P 16 48 20.9 +0.2
comp=Z,18nm,1.3s,mb4.8
ASF **Jabal al Asfar** 73.86 59 LR LR 17 21 32.4
comp=Z,116nm,19.3s,MS4.2,baz=117,slow=36
C14A **Swan Lake** 73.88 317 ⇑P P 16 48 20.2 -0.5
baz=74,SNR=16
V12A **Nelson** 73.91 305 ⇓P P 16 48 20.3 -0.8
baz=74
H13A **Challis** 73.94 314 ⇑P P 16 48 20.9 -0.2
baz=74
G13A **Cobalt** 73.97 315 ⇑P P 16 48 20.8 -0.5
baz=74,SNR=5.9
S12A **Delamar Landin** 73.97 307 ⇑P P 16 48 20.7 -0.8
baz=74
HLID **Hailey** 73.97 313 ⇓P P 16 48 21.0 -0.4
baz=74,SNR=6.3
HLID **Hailey** 73.97 313 eP P 16 48 20.5 -0.8
comp=Z,18nm,1.4s,mb4.8
O12A **Currie** 74.01 310 ⇑P P 16 48 21.5 -0.1
baz=74
Q12A **Willow Creek R** 74.02 308 ⇑P P 16 48 21.7 0.0
baz=74,SNR=8.0
E13A **Victor** 74.05 316 ⇑P P 16 48 20.8 -0.9
baz=74
F13A **Darby** 74.09 315 ⇓P P 16 48 21.2 -0.8
baz=74
LDFC **Landfair** 74.10 304 eP P 16 48 24.4 +2.2
IRM **Iron Mountain** 74.12 303 ⇓P P 16 48 22.0 -0.4
baz=74,SNR=6.7
WALA **Waterton Lakes** 74.13 319 eP P 16 48 21.2 -0.8
comp=Z,78nm,1.8s,mb5.3
SHPR **Sheep Range** 74.18 306 eP P 16 48 27.7 +5.0
T11A **Corn Creek, Al** 74.25 306 ⇓P P 16 48 22.9 -0.2
baz=74,SNR=8.4
N12A **Clover Valley,** 74.27 310 ⇑P P 16 48 23.2 +0.1
baz=74
K12A **Draper Farm, C** 74.27 312 ⇓P P 16 48 22.5 -0.5
baz=74
EDM **Edmonton** 74.28 323 eP P 16 48 22.4 -0.5
D13A **Huson** 74.30 317 ⇑P P 16 48 22.6 -0.5
baz=74
L12A **House Creek Ra** 74.32 311 ⇓P P 16 48 23.0 -0.4
baz=74
BC3 **Big Chuckw Mtn** 74.36 303 ⇓P P 16 48 22.9 -0.9
baz=74,SNR=5.5
ELK **Elko** 74.41 310 eP P 16 48 23.4 -0.5
ELK pmax pmax
comp=Z,57nm,1.9s
ELK **Elko** 74.41 310 eP P 16 48 23.4 -0.5
comp=Z,57nm,1.9s,mb5.2
B13A **Whitefish** 74.42 318 ⇑P P 16 48 23.4 -0.4
baz=74
C13A **Hot Springs** 74.43 317 ⇑P P 16 48 23.1 -0.8
baz=74
A13A **Flathead Natio** 74.44 319 ⇑P P 16 48 23.4 -0.5
baz=74
J12A **Stokes Ranch,** 74.45 313 ⇓P P 16 48 23.4 -0.8
baz=74,SNR=6.8
GMRC **Granite Mounta** 74.55 304 ⇑P P 16 48 24.5 -0.3
baz=74,SNR=6.7
R11A **Troy Canyon, C** 74.58 307 ⇑P P 16 48 24.3 -0.6
baz=74,SNR=6.7
Q11A **Duckwater** 74.65 308 ⇓P P 16 48 25.1 -0.3
baz=75
O11A **Cowboy Ranch,** 74.70 309 ⇑P P 16 48 25.0 -0.7
baz=75
F12A **Elk City** 74.73 315 ⇑P P 16 48 25.0 -0.7
baz=75,SNR=8.5
TUQ **Turquoise Mtn.** 74.78 304 ⇓P P 16 48 25.3 -0.8
baz=75
ANN **Anapa** 74.78 46 eP P 16 48 27.5 +1.5
ANN pmax pmax
comp=Z,24nm,1.1s,mb5.0
BELC **Belle Mtn.** 74.82 303 ⇑P P 16 48 25.8 -0.6
baz=75,SNR=6.4
M11A **Holland Ranch,** 74.86 311 ⇑P P 16 48 26.1 -0.4
baz=75
L11A **Cat Creek Ranc** 74.87 311 ⇑P P 16 48 26.1 -0.5
baz=75,SNR=7.5
DVTC **Desert V Tower** 74.90 302 ⇑P P 16 48 26.3 -0.6
baz=75
D12A **Red Ives Fores** 74.90 317 ⇑P P 16 48 26.0 -0.7
baz=75
TPNV **Topopah Spring** 75.07 306 eP P 16 48 27.6 -0.2
TPNV pmax pmax
comp=Z,14nm,1.0s,mb4.8
TPNV **Topopah Spring** 75.07 306 ⇓P P 16 48 27.0 -0.8
baz=75,SNR=8.5
TPNV **Topopah Spring** 75.07 306 eP P 16 48 27.6 -0.2
comp=Z,14nm,1.0s,mb4.8
MONP **Monument Peak** 75.17 302 ⇑P P 16 48 28.4 -0.1
baz=75
H11A **Donnelly** 75.20 314 ⇑P P 16 48 28.2 -0.2
baz=75
MALT **Malatya** 75.23 53⇑iP P 16 48 29.7 +1.0
MALT **Malatya** 75.23 53 eP P 16 48 29.2 +0.4
comp=Z,12nm,1.0s,mb4.8
OBN **Obninsk** 75.23 35ciP P 16 48 31.7 +3.3
OBN e 16 48 46.2
OBN eS S 16 58 01.4 -6.0
OBN pmax pmax
comp=Z,24nm,0.9s,mb5.1
P10A **Eureka** 75.31 309 ⇓P P 16 48 29.5 +0.3
baz=75
O10A **Cortez Mining,** 75.36 309 ⇓P P 16 48 29.1 -0.3
baz=75
S10A **Tonopah Range,** 75.36 307 ⇓P P 16 48 29.0 -0.5
baz=75,SNR=13
BAR **Barrett** 75.38 302 eP P 16 48 32.2 +2.5
L10A **Juniper Basin** 75.40 311 ⇑P P 16 48 29.8 +0.2
baz=75
E11A **Bogner Ranch,** 75.44 316 ⇑P P 16 48 29.3 -0.5
baz=75,SNR=6.7
GSC **Goldstone** 75.50 304 ⇓P P 16 48 29.4 -1.0
baz=76
GSC **Goldstone** 75.50 304 eP P 16 48 33.7 +3.4
A11A **Hall Mountain,** 75.72 318 ⇑P P 16 48 31.2 -0.1
baz=76
R09A **Tonopah** 75.75 307 ⇓P P 16 48 31.0 -0.6
baz=76,SNR=6.1
S09A **Goldfield** 75.86 307 ⇑P P 16 48 31.7 -0.7
baz=76
TPH **Tonopah** 75.86 307 eP P 16 48 33.2 +0.8
TPH pmax pmax
comp=Z,61nm,1.8s,mb5.2
TPH **Tonopah** 75.86 307 eP P 16 48 33.2 +0.8
comp=Z,61nm,1.8s,mb5.2
O09A **Fish Creek Ran** 75.88 309 ⇑P P 16 48 32.5 0.0
baz=76
MOS **Moscow** 75.90 35 eP P 16 48 34.2 +2.0
MOS e 16 48 41.2
MOS e 16 58 21.2
MOS pmax pmax
comp=Z,108nm,1.1s,mb5.7
BMN **Battle Mountai** 75.91 310 eP P 16 48 33.7 +1.1
GRAC **Grapevine Rang** 75.97 306 ⇑P P 16 48 33.7 +0.7
baz=76
APA **Apatity** 75.97 22⇓iP P 16 48 35.0 +2.6
APA iS S 16 58 22.0 +6.9
G10A **Bishop Farm, J** 76.02 315 ⇓P P 16 48 32.7 -0.4
baz=76
MPMC **Manual Prospec** 76.06 305 ⇓P P 16 48 33.4 -0.1
baz=76
M09A **Marrel Ranch,** 76.11 311 ⇑P P 16 48 33.5 -0.2
baz=76
BMO **Blue Mountains** 76.13 314 eP P 16 48 31.8 -1.9
BMO pmax pmax
comp=Z,16nm,1.4s,mb4.8
BMO **Blue Mountains** 76.13 314 eP P 16 48 31.8 -1.9
comp=Z,16nm,1.4s,mb4.7
N09A **Rock Creek Ran** 76.15 310 ⇑P P 16 48 33.9 -0.1
baz=76
BFSC **Mount Baldy St** 76.20 303 ⇓P P 16 48 34.0 -0.4
baz=76
D10A **Wagner Farm, O** 76.21 316 ⇓P P 16 48 33.5 -0.7
baz=76
LRMC **Laurel Mountai** 76.22 305 ⇑P P 16 48 34.2 -0.3
baz=76
YKA **Yellowknife Ar** 76.31 332 P P 16 48 32.5 -1.9
comp=Z,5.1nm,0.7s,mb4.5,baz=99,slow=5.0,SNR=8.0
YKA LR LR 17 20 18.3
comp=Z,180nm,18.9s,MS4.4,baz=80,slow=34
YKA **Yellowknife Ar** 76.31 332 P P 16 48 32.5 -1.9
YKA LR LR 17 20 18.4
K09A **Rome** 76.35 312 ⇓P P 16 48 34.5 -0.6
baz=76,SNR=23
H09A **Durkee** 76.37 314 ⇑P P 16 48 34.5 -0.6
baz=76
J09A **Fry Pan Ranch,** 76.39 313 ⇑P P 16 48 34.4 -0.9
baz=76
I09A **Lost Marbles R** 76.40 313 ⇑P P 16 48 34.0 -1.3
baz=76
VRSR **Storozhevoye** 76.41 39 eP P 16 48 38.1 +2.9
VRSR pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=E,3.0nm,0.8s
G09A **Cove** 76.48 315 ⇓P P 16 48 34.9 -0.9
baz=76
A10A **Northport** 76.51 318 ⇑P P 16 48 34.8 -1.0
baz=76
CWC **Cottonwood Cre** 76.53 305 ⇑P P 16 48 35.9 -0.3
baz=76
KMBO **Kilima Mbogo** 76.54 93 LR LR 17 20 21.4
comp=E,334nm,18.2s,MS4.7,baz=214,slow=34
P08A **Dixie Valley** 76.55 309 ⇓P P 16 48 36.7 +0.4
baz=76
F09A **S2 Ranch, Elgi** 76.59 315 ⇑P P 16 48 34.6 -1.8
baz=77
S08C **White Mtn Res** 76.61 307 ⇓P P 16 48 36.2 -0.4
baz=77,SNR=7.5
N08A **GE Springer Mi** 76.61 310 ⇓P P 16 48 36.0 -0.6
baz=77,SNR=7.3
O08A **Rochester Mine** 76.62 309 ⇓P P 16 48 37.1 +0.5
baz=77
NVAR **Mina Array Bea** 76.72 308 P P 16 48 37.0 -0.2
comp=E,4.0nm,1.0s,mb4.3,baz=93,slow=5.9,SNR=15
E09A **Wood Farm, Sta** 76.78 316 ⇓P P 16 48 36.5 -1.0
baz=77
L08A **Fields** 76.80 311 ⇓P P 16 48 37.3 -0.3
baz=77
M08A **Happy Creek Ra** 76.81 311 ⇓P P 16 48 37.3 -0.3
baz=77
ISA **Isabella** 76.86 305 eP P 16 48 39.3 +1.2
ISA pmax pmax
comp=Z,14nm,1.1s,mb4.8
ISA **Isabella** 76.86 305 P P 16 48 38.0 -0.1
baz=77
ISA **Isabella** 76.86 305 eP P 16 48 39.3 +1.2
comp=Z,14nm,1.1s,mb4.8
B09A **Rice** 76.87 318 ⇓P P 16 48 37.8 -0.1
baz=77
K08A **Mann Creek Ran** 76.91 312 ⇑P P 16 48 38.1 -0.2
baz=77
J08A **Circle Bar Ran** 76.92 313 ⇑P P 16 48 37.9 -0.3
baz=77
D09A **Jones Farm, Ri** 76.92 316 ⇑P P 16 48 37.2 -1.0
baz=77
I08A **Drewsey** 77.00 313 ⇓P P 16 48 37.9 -0.8
baz=77
WVOR **Wild Horse Val** 77.02 312 eP P 16 48 38.1 -0.7
H08A **Prairie City** 77.09 314 ⇓P P 16 48 38.5 -0.7
baz=77
O07A **Toulon** 77.17 309 ⇓P P 16 48 39.7 0.0
baz=77
OD2 **Odessa Site #2** 77.21 317 eP P 16 48 38.6 -1.1
N07B **Gerlach** 77.25 310 ⇑P P 16 48 40.0 -0.1
baz=77
HELL **Mitchell Peak** 77.29 306 ⇓P P 16 48 40.2 -0.3
baz=77
R07C **Lee Vining** 77.30 307 ⇑P P 16 48 40.5 -0.1
baz=77
G08A **Pilot Rock** 77.31 315 ⇑P P 16 48 39.5 -0.9
baz=77
KLMR **Klimovskoe** 77.47 29ciP P 16 48 43.9 +3.0
KLMR pmax pmax
comp=Z,93nm,1.4s,mb5.5
K07A **Rock Creek Ran** 77.47 312 ⇓P P 16 48 41.7 +0.3
baz=77
J07A **Hines** 77.53 313 ⇓P P 16 48 41.5 -0.1
baz=78
L07A **Adell** 77.53 311 ⇑P P 16 48 41.6 -0.1
baz=78
R06C **Coleville** 77.62 308 ⇑P P 16 48 42.2 0.0
baz=78
HAWA **Hanford** 77.74 316 P P 16 48 41.9 -0.9
N06A **Buffalo Meadow** 77.90 310 ⇓P P 16 48 44.3 +0.5
baz=78
S06C **San Francisco** 77.94 307 ⇓P P 16 48 44.5 +0.4
baz=78
PKM **Peak Mountain** 77.97 304 ⇓P P 16 48 44.5 +0.2
baz=78
R05C **Kirkwood Meado** 78.11 308 ⇑P P 16 48 45.2 +0.2
baz=78
SMMC **Simmler** 78.11 304 ⇓P P 16 48 45.3 +0.2
baz=78
J06A **Christmas Vall** 78.14 312 ⇑P P 16 48 45.2 +0.1
baz=78,SNR=11
K06A **Valley Falls** 78.21 312 ⇑P P 16 48 45.4 -0.1
baz=78
MOD **Modoc** 78.25 311 ⇑P P 16 48 46.1 +0.3
baz=78
MOD **Modoc** 78.25 311 eP P 16 48 45.5 -0.3
comp=Z,85nm,1.6s,mb5.4
H06A **Lindquist Farm** 78.28 314 ⇓P P 16 48 45.2 -0.6
baz=78
A07A **Ashnola River,** 78.37 318 ⇑P P 16 48 45.7 -0.6
baz=78
M06C **Likely Place G** 78.39 310 ⇓P P 16 48 46.0 -0.5
baz=78
G06A **Carlson Farm,** 78.50 314 ⇓P P 16 48 46.7 -0.3
baz=78
P05C **Yuba Gap, Truc** 78.51 308 ⇓P P 16 48 47.2 0.0
baz=78
KIV **Kislovodsk** 78.52 47⇑eP P 16 48 50.9 +3.7
KIV e 16 48 58.3
KIV eS S 16 58 42.5 -1.2
KIV eSS SS 17 03 42.3 -4.7
KIV pmax pmax
comp=Z,20nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.2
KIV **Kislovodsk** 78.52 47 eP P 16 48 50.6 +3.4
comp=Z,20nm,1.1s,mb5.0
ELFS **Eagle Lake Fie** 78.58 310 ⇑P P 16 48 47.3 -0.3
baz=78
L05A **Lakeview** 78.65 311 ⇑P P 16 48 47.6 -0.4
baz=79,SNR=6.4
K05A **Summer Lake** 78.69 312 ⇑P P 16 48 48.8 +0.7
baz=79,SNR=6.7
U04C **Hernandez Rese** 78.72 305 ⇑P P 16 48 48.2 -0.2
baz=79
E06A **Yakima** 78.74 316 ⇓P P 16 48 47.8 -0.5
baz=79
V04C **Ramage Ranch,** 78.81 305 ⇑P P 16 48 49.1 +0.1
baz=79
O04C **Chester** 78.86 309 ⇓P P 16 48 49.7 +0.5
baz=79
M05C **Lookout** 78.89 311 ⇓P P 16 48 49.1 -0.1
baz=79
LRV **Little Rabbit** 78.90 306 eP P 16 48 53.6 +4.1
J05A **Fort Rock** 78.93 312 ⇓P P 16 48 49.6 +0.2
baz=79
LBCM **Butte Creek Ri** 79.05 310 P P 16 48 50.7 +0.6
F05A **White Salmon** 79.07 315 ⇓P P 16 48 50.3 +0.1
baz=79
HATC **Hat Creek Radi** 79.14 310 ⇑P P 16 48 51.0 +0.3
baz=79
LTIM **Timbered Crate** 79.15 310 P P 16 48 54.2 +3.5
OHCM **Honcut** 79.19 308 eP P 16 48 49.0 -1.9
ORV **Oroville** 79.20 309 ⇓P P 16 48 50.8 -0.2
baz=79
M04C **Macdoel** 79.40 311 ⇑P P 16 48 51.9 -0.1
baz=79
I04A **Tendick Farm,** 79.78 313 ⇓P P 16 48 54.1 0.0
baz=80
YBH **Yreka Blue Hor** 80.06 311 eP P 16 48 55.6 0.0
GNI **Garni** 80.12 51 eP P 16 48 59.9 +3.9
GNI pmax pmax
comp=Z,27nm,1.2s
GNI **Garni** 80.12 51 eP P 16 48 59.9 +3.9
comp=Z,27nm,1.2s,mb5.0
HUMO **Hull Mountain** 80.21 312 ⇓P P 16 48 55.9 -0.5
baz=80
N02C **Big Bar** 80.54 310 ⇓P P 16 48 58.5 +0.3
baz=80
L02A **Cave Junction** 80.70 311 ⇑P P 16 48 59.6 +0.5
baz=81
KIPM **Iron Peak** 80.72 309 eP P 16 49 02.6 +3.4
KHMM **Horse Mountain** 80.86 310 eP P 16 49 03.6 +3.7
VNA1 **Neumayer--Stat** 81.17 170 eP P 16 49 00.4 -0.5
VNA1 e pP 16 49 04.0 -0.2
VNA1 e 16 49 09.3
VNA1 e 16 49 11.6
VNA3 **Neumayer Olymp** 81.45 171 eP P 16 49 02.0 -0.4
VNA3 e pP 16 49 06.3 +0.6
VNA3 e 16 49 10.6
VNA3 e 16 49 13.0
VNA2 **Neumayer--Watz** 81.55 170 eP P 16 49 02.3 -0.6
VNA2 e pP 16 49 05.8 -0.4
VNA2 e 16 49 11.2
VNA2 e 16 49 13.4
SNAA **Sanae** 82.99 169 eP P 16 49 09.9 -0.5
SNAA e pP 16 49 13.6 -0.2
SNAA e 16 49 18.3
SNAA e 16 49 20.5
SNAA **Sanae** 82.99 169 eP P 16 49 12.1 +1.7
DLBC **Dease Lake** 83.80 328 eP P 16 49 18.9 +3.9
MAIT **Maitri** 85.56 165 eP P 16 49 24.4 +0.9
SKAG **Skagway** 86.39 329 eP P 16 49 32.3 +4.4
comp=Z,3.8nm,0.4s,mb5.0
HYT **Haines Junctio** 87.22 331 eP P 16 49 36.1 +4.2
DAWY **Dawson** 87.40 334 eP P 16 49 32.9 +0.2
ARU **Arti** 87.56 33 P P 16 49 37.8 +4.1
comp=Z,112nm,1.2s,mb6.0,SNR=6.1
ARU **Arti** 87.56 33diP P 16 49 36.9 +3.2
ARU e 16 52 54.5
ARU eS S 17 00 00.4 -15
ARU pmax pmax
comp=Z,27nm,1.2s,mb5.3
EGAK **Eagle** 87.97 335 eP P 16 49 35.8 +0.3
SVE **Sverdlovsk** 88.61 33⇑eP P 16 49 43.3 +4.6
SVE pmax pmax
comp=Z,22nm,1.1s,mb5.4
SYO **Syowa Base** 93.34 159⇓epP pP 16 50 03.6 -0.1
BVAR **Borovoye Array** 95.08 35 LR LR 17 32 40.1
comp=Z,409nm,19.2s,MS4.9,baz=289,slow=35
RKT **Rikitea** 98.56 248 eLR LR 17 22 29.7
BILL **Bilibino** 102.06 351 eP Pdif 16 50 41.2 +1.2
BILL pmax pmax
comp=Z,2.0nm,0.7s
ZALV **Zalesovo Beam** 102.38 30 PP PP 16 54 56.1 +2.7
comp=Z,0.4nm,0.3s,baz=316,slow=8.3,SNR=3.8
WMQ **Urumqi** 109.45 38 ePDIF Pdif 16 51 14.6 +1.7
WMQ PP PP 16 55 51.6 +5.6
WMQ S Sdif 17 03 20.1 -4.3
WMQ SS SS 17 11 08.5 +0.9
WMQ PP PP
comp=Z,14nm,9.6s
WMQ LR LR
comp=Z,292nm,21.2s,MS4.8
PPT **Papeete** 111.94 254 ePS PS 17 05 37.6 -1.1
comp=Z,84nm,26.5s
PPT eSS SS 17 11 41.5 -1.8
comp=Z,98nm,25.8s
PPT **Papeete** 111.94 254 eLR LR 17 28 42.3
comp=Z,220nm,26.5s
SONM **Songino Array** 116.56 25 PKP PKPdf 16 55 31.0 +1.1
comp=Z,0.5nm,0.8s,baz=288,slow=1.4,SNR=2.8
LZH **Lanzhou** 123.94 36 ePKP PKPdf 16 55 39.3 -5.2
LZH XPKP 16 55 51.0
LZH PP PP 16 57 27.0 -0.2
LZH SKS SKSdf 17 02 48.1 -8.7
LZH PP PP
comp=Z,83nm,5.9s
LZH LR LR
comp=N,272nm,18.4s
LZH LR LR
comp=Z,383nm,19.4s,MS5.1
HHC **Hu-ho-hao-te** 124.36 27 ePKP PKPdf 16 55 43.4 -1.8
HHC PP PP 16 57 32.0 +2.4
HHC PKS 16 59 18.8
HHC SKS SKSdf 17 02 53.5 -3.9
HHC SKKS SKKSac 17 04 23.9 -5.6
HHC SS SS 17 14 18.9 -2.3
HHC LR LR
comp=Z,298nm,20.0s,MS5.0
CN2 **Changchun** 126.56 14 ePKP PKPdf 16 55 50.1 +0.8
CN2 PP PP 16 57 49.4 +5.5
CN2 LR LR
comp=Z,200nm,16.0s,MS4.9
BJI **Beijing** 126.98 24 PKP PKPdf 16 55 48.5 -1.7
BJI SS SS 17 14 52.8 -1.2
BJI LR LR
comp=N,123nm,19.4s,MS4.8
BJI LR LR
comp=E,157nm,23.0s,MS4.8
BJI LR LR
comp=Z,342nm,42.9s
CD2 **Chengdu** 127.37 41 ePKP PKPdf 16 55 49.5 -1.7
CD2 XPKP 16 55 57.3
CD2 PP PP 16 57 52.6 +2.3
CD2 PKS 16 59 24.8
CD2 SKS SKSdf 17 02 56.1 -7.4
CD2 SKKS SKKSac 17 04 42.8 -6.4
CD2 SS SS 17 15 00.8 +0.8
CD2 PP PP
comp=Z,150nm,10.8s
CD2 LR LR
comp=Z,210nm,18.8s,MS4.8
KMI **Kunming** 130.28 47 PKP PKPdf 16 55 55.1 -1.8
KMI XPKP 16 56 00.5
KMI PP PP 16 58 13.4 +3.8
KMI SKKS SKKSac 17 05 02.4 -5.2
KMI SS SS 17 15 35.8 -0.8
KMI PP PP
comp=Z,80nm,4.7s
KMI LR LR
comp=N,141nm,16.1s
KMI LR LR
comp=E,152nm,22.7s
KMI LR LR
comp=Z,158nm,22.7s
CMAR **Chiang Mai Arr** 130.88 57 PKP PKPdf 16 55 58.0 -0.1
comp=Z,2.7nm,1.1s,baz=298,slow=3.6,SNR=8.2
GYA **Guiyang** 132.21 43 ePDIF Pdif 16 52 51.6 -2.5
GYA PKP PKPdf 16 55 59.0 -1.5
GYA PP PP 16 58 24.3 +2.4
GYA PKS 16 59 34.6
GYA SKS SKSdf 17 03 08.4 -4.1
GYA SKKS SKKSac 17 05 14.8 -4.6
GYA SS SS 17 15 59.5 -0.3
GYA PP PP
comp=Z,120nm,8.4s
GYA LR LR
comp=N,160nm,22.4s,MS4.8
GYA LR LR
comp=E,120nm,20.0s,MS4.8
GYA LR LR
comp=Z,140nm,21.6s,MS4.6
NJ2 **Nanjing** 134.91 27 ePKP PKPdf 16 56 01.3 -4.2
JOW **Kunigami** 143.25 19 PKP PKPdf 16 56 21.6 +0.7
comp=Z,10.0nm,0.9s,baz=247,slow=7.8,SNR=5.5

MUN	Mundaring	146.81	139	*e*PKP	PKPbc	16 56 29.6	+1.1
KSM	Kuching	147.97	74	*e*PKPbc	PKPbc	16 56 32.0	-0.3
KSM				*e*PKPab	PKPab	16 56 35.7	+0.8
KLBR	Kellerberrin	148.05	140	*e*PKP	PKPbc	16 56 32.2	+0.2
	comp=Z,26nm,1.2s						
TOO	Toolangi	150.27	187	*e*PKP	PKPab	16 56 40.4	-3.0
CNB	Canberra Magne	151.75	195	*e*PKP	PKPab	16 56 45.0	-4.6
ASAR	Alice Springs	162.99	157	PKP	PKPdf	16 56 49.0	0.0
	comp=Z,1.2nm,0.9s,baz=158,slow=2,1,SNR=8.8						
ASAR				PKPab	PKPab	16 57 38.9	+0.7
	comp=Z,0.6nm,0.8s,baz=191,slow=4.4,SNR=2.8						
WRA	Warramunga Arr	166.48	152	PKP	PKPdf	16 56 51.6	-0.5
	comp=Z,2.7nm,0.9s,baz=264,slow=1.2,SNR=12						

*MAN **21** 16:38:44, 19.11N×12106E, h5km, mb5.1, ML4.1, MS4.2*
*ISCJB **21** 16:38:46.7±0.7, 19.15N±005×121.11E±006, h51km±10km, mb3.4/5, Error ellipse: s-maj=9.4km s-min=8.9km az=31.2*
*NEIC **21** 16:38:46.7±0.6, 1896N×12123E, h35km, mb3.6/1, Error ellipse: s-maj=12.7km s-min=10.3km az=113.0*
*IDC **21** 16:38:46.6±7.5, 1902N×12122E, h34km±63km, mb3.3/6, mb1 3.5/8, mb1mx3.4/21, mbtmp3.5/8, ML3.9/2, MS2.7/2, Ms1 2.7/2, ms1mx2.6/15, Error ellipse: s-maj=27.0km s-min=19.1km az=76.0*

ISC 21 16:38:48.2±0.7, 1910N±005×12113E±006, h48km±11km, n20, σ1§27/26, mb3.4/6, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.91	212⇓	*e*P	Pn	16 39 02.1	-2.5
PIP				*e*S	Sn	16 39 15.6	-1.0
SGCP	Mt. Cagua	1.22	134	*e*P	Pn	16 39 08.0	-0.8
SGCP				*e*S	Sn	16 39 23.8	-0.3
APYP	Conner	1.23	175	*e*P	Pn	16 39 08.2	-0.8
SIPP	Brgy, Tapao	1.33	209	⇓*i*P	Pn	16 39 09.0	-1.3
SIPP				*i*S	Sn	16 39 10.8	-16
ABRA	Dolores	1.49	195	*e*P	Pn	16 39 11.6	-1.0
ABRA				*e*S	Sn	16 39 32.3	+1.4
CAUP	Cauayan	2.24	163	*e*P	Pn	16 39 25.3	+2.5
PALP	Palanan	2.37	148	*e*P	Pn	16 39 25.7	+1.1
PALP				*e*S	Sn	16 39 55.8	+3.4
BCPH	Baguio City Da	2.75	191	⇑*i*P	Pn	16 39 31.6	+1.7
BCPH				*i*S	Sn	16 40 06.7	+4.8
BOLP	Bolinao	2.94	203	*e*P	Pn	16 39 32.1	-0.4
BALP	Baler	3.36	173	*e*P	Pn	16 39 39.6	+1.4
YHNB	Yeheng	5.55	2	*e*Pn	Pn	16 40 09.9	+1.6
	54nm,0.4s						
JOW	Kunigami	10.13	39	Pn	Pn	16 41 10.3	-0.6
	1.8nm,0.3s,baz=233,slow=11,SNR=12						
JOW				LR	LR	16 45 23.9	
	comp=Z,30nm,21.0s,baz=309,slow=39						
KSRS	Korea Array	19.23	17	P	Pn	16 43 07.8	-1.9
	0.5nm,0.3s,baz=198,slow=11,SNR=14						
KSRS				LR	LR	16 50 59.1	
	comp=Z,31nm,19.6s,baz=175,slow=38						
CHTO	Chiang Mai	20.99	273	*e*P	P	16 43 28.7	+1.1
	2.3nm,0.9s						
CMAR	Chiang Mai Arr	21.02	272	P	P	16 43 28.2	+0.2
	1.0nm,0.6s,mb3.3,baz=84,slow=8.0,SNR=9.1						
SONM	Songino Array	31.08	341	P	P	16 45 03.0	+1.3
	0.6nm,0.6s,mb3.6,baz=163,slow=9.7,SNR=4.5						
WRA	Warramunga Arr	40.90	161	P	P	16 46 24.6	-1.3
	0.2nm,0.4s,mb3.1,baz=341,slow=9.2,SNR=6.3						
WRA				PcP	PcP	16 48 25.7	-0.2
	0.2nm,0.5s,baz=346,slow=3.4,SNR=5.5						
MKAR	Makanchi Array	42.07	320	P	P	16 46 35.9	+0.6
	0.2nm,0.5s,mb3.0,baz=111,slow=8.0,SNR=2.9						
PETK	Petropavlovsk-	44.16	31	P	P	16 46 51.6	-0.5
	1.7nm,0.8s,mb3.9,baz=210,slow=4.6,SNR=4.1						
ASAR	Alice Springs	44.29	163	P	P	16 46 52.5	-1.0
	0.2nm,0.4s,mb3.2,baz=349,slow=6.7,SNR=10						

*IDC **21** 16:45:05.0±1.6, 3402N×14172E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.6/21, mbtmp3.5/7, ML3.3/1, Error ellipse: s-maj=33.3km s-min=19.3km az=68.0*
*ISCJB **21** 16:45:06.3±1.4, 3406N±004×14182E±007, h25km±9km, mb3.5/6, Error ellipse: s-maj=10.0km s-min=7.2km az=172.0*
*JMA **21** 16:45:06.1±0.3, 3404N×14181E, h26km±3km, M3.1*
*NEIC **21** 16:45:09.4±8.0, 3387N×14127E, h18km±50km, MG3.1(JMA), Error ellipse: s-maj=55.7km s-min=15.5km az=66.0*

ISC 21 16:45:07.0±1.3, 3407N±004×14173E±007, h14km±7km, n21, σ0§68/28, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.85	313	P	Pg	16 45 22.9	-0.6
BSO1				*e*S	Sg	16 45 35.3	+0.5
BSO3	Boso 3	1.25	306	P	Pn	16 45 29.4	-0.5
BSO4	Boso 4	1.47	309	P	Pn	16 45 32.6	-0.5
KTR	Katsuura	1.59	313	*e*S	Sn	16 45 55.3	+0.3
CHOJ	Chosi	1.78	336	P	Pn	16 45 36.7	-0.6
CHOJ				*e*S	Sn	16 45 58.9	-0.8
TATJ	Tateyama 2	1.80	303	P	Pn	16 45 37.7	+0.2
TATJ				*e*S	Sn	16 46 00.4	+0.3
JMY	Miyakejima3	1.84	271	*e*S	Sn	16 46 00.8	-0.4
JHJ2	Mitsune	1.86	240	P	Pn	16 45 38.9	+0.5
JHJ2				*e*S	Sn	16 46 01.6	-0.1
JHJ	Hachijo jima 2	1.88	240	Pn	Pn	16 45 39.0	+0.3
	96nm,0.3s,baz=246,slow=24,SNR=43						
JHJ				Sn	Sn	16 46 02.1	-0.1
	56nm,0.3s,baz=76,slow=24,SNR=9.0						
JIZS	Izushimoda	2.45	286	P	Pn	16 45 46.0	-0.5
MJAR	Matsushiro Arr	3.79	312	Pn	Pn	16 46 06.0	+1.0
	2.3nm,0.3s,baz=159,slow=13,SNR=14						
MJAR				Sn	Sn	16 46 50.2	+0.9
	1.4nm,0.3s,baz=180,slow=14,SNR=4.7						
MAJO	Matsushiro	3.79	312	*e*P	Pn	16 46 04.4	-0.6
MAT	Matsushiro	3.79	312	P	Pn	16 46 05.5	+0.5
MAT				S	Sn	16 46 45.9	-3.5
KSRS	Korea Array	11.72	291	Pn	Pn	16 48 00.8	+7.2
	0.1nm,0.3s,baz=112,slow=14,SNR=4.2						
SONM	Songino Array	29.74	308	P	P	16 51 13.7	+1.0
	0.7nm,0.6s,mb3.6,baz=108,slow=9.8,SNR=5.2						
CMAR	Chiang Mai Arr	41.09	259	P	P	16 52 48.9	-1.5
	0.3nm,0.7s,mb3.1,baz=45,slow=7.4,SNR=3.0						
ZALV	Zalesovo Beam	44.14	315	P	P	16 53 15.5	+0.7
	0.4nm,0.3s,mb3.6,baz=101,slow=7.7,SNR=4.3						
MKAR	Makanchi Array	45.96	305	P	P	16 53 29.6	+0.2
	0.3nm,0.4s,mb3.5,baz=81,slow=10,SNR=2.7						
WRAB	Tennant Creek	54.16	189	P	P	16 54 31.9	+0.1
WRA	Warramunga Arr	54.17	189	P	P	16 54 31.5	-0.4
	0.5nm,0.5s,mb3.7,baz=4.8,slow=7.6,SNR=12						
ASAR	Alice Springs	57.90	188	P	P	16 54 59.0	+0.6
	0.2nm,0.5s,mb3.5,baz=358,slow=6.2,SNR=9.5						

*ISCJB **21** 17:05:18.5±0.8, 25N±01×663E±01, h10km, mb4.0/7, Error ellipse: s-maj=20.5km s-min=14.3km az=151.9*
*IDC **21** 17:05:19.4±1.4, 255N×6629E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/23, mbtmp4.0/6, Error ellipse: s-maj=52.3km s-min=23.9km az=51.0*
*NEIC **21** 17:05:20.7±0.7, 249N×6628E, h10km, mb4.3/1, Error ellipse: s-maj=20.0km s-min=12.6km az=152.0*

ISC 21 17:05:20.7±0.8, 25N±01×663E±01, h10km, n11, σ0§92/10, mb4.0/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	Mahe Island	12.92	237	Pn	Pn	17 08 24.3	-0.2
	64nm,1.1s						
PALK	Pallekele	15.14	71	Pn	Pn	17 08 53.2	-1.5
LSA	Lhasa	35.92	39	P	P	17 12 23.7	+2.3
	5.2nm,1.0s,mb4.4						
AKTK	Aktyubinsk	48.28	353	P	P	17 14 01.8	-0.1
AKTO	Aktyubinsk	48.28	353	P	P	17 14 01.8	-0.1
	1.5nm,0.8s,mb4.1,baz=188,slow=10,SNR=5.2						
ZALV	Zalesovo Beam	53.51	14	P	P	17 14 40.1	-1.1
	1.1nm,0.5s,mb4.1,baz=217,slow=8.3,SNR=6.2						
SONM	Songino Array	56.87	31	P	P	17 15 06.3	+0.7
	0.2nm,0.3s,mb3.6,baz=232,slow=9.0,SNR=3.8						
WRA	Warramunga Arr	70.34	112	P	P	17 16 35.5	+0.3
	2.3nm,0.7s,mb4.2,baz=289,slow=5.6,SNR=16						
ASAR	Alice Springs	70.65	116	P	P	17 16 37.4	+0.3
	1.0nm,0.7s,mb3.9,baz=289,slow=5.7,SNR=20						
ESDC	Sonseca Array	73.25	311	P	P	17 16 52.1	-0.3
	0.2nm,0.3s,mb3.5,baz=104,slow=6.3,SNR=4.4						
TXAR	Lajitas Array	146.92	344	PKPbc	PKPbc	17 25 05.0	+0.8
	2.0nm,0.9s,baz=60,slow=3.0,SNR=14						

*IDC **21** 17:12:33.7±1.2, 2012S×17294E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.8/5, MS3.5/5, Ms1 3.5/5, ms1mx3.1/31, Error ellipse: s-maj=50.1km s-min=29.7km az=155.0*
*NEIC **21** 17:12:35.0±0.8, 1997S×17288E, h10km, mb4.5/2, Error ellipse: s-maj=37.8km s-min=20.0km az=154.0*
*ISCJB **21** 17:12:37.7±1.2, 202S±03×1728E±02, h33km, mb4.0/7, MS3.6/3, Error ellipse: s-maj=45.3km s-min=27.4km az=157.9*

ISC 21 17:12:39.4±1.2, 201S±03×1729E±02, h35km, n14, σ0§66/7, mb4.0/7, MS3.6/3, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	12.36	139	LR	LR	17 19 12.2	
	comp=Z,209nm,21.4s,baz=61,slow=32						
HNR	Honiara	16.39	309	LR	LR	17 21 53.4	
	comp=Z,89nm,20.9s,baz=178,slow=34						
STKA	Stephens Creek	30.32	241	LR	LR	17 28 41.0	
	comp=Z,98nm,19.9s,MS3.5,baz=205,slow=32						
WRA	Warramunga Arr	36.13	264	P	P	17 19 37.7	-0.7
	0.8nm,1.0s,mb3.6,baz=97,slow=8.8,SNR=4.2						
ASAR	Alice Springs	36.23	257	P	P	17 19 39.4	+0.1
	1.0nm,0.6s,mb3.9,baz=92,slow=9.1,SNR=28						
GUMO	Guam	43.37	318	LR	LR	17 37 40.2	
	comp=Z,47nm,18.6s,MS3.4,baz=70,slow=35						
SBA	Scott Base	57.84	182	P	P	17 22 34.7	+7.7
	7.1nm,1.0s,mb4.7						
MAW	Mawson	78.87	202	P	P	17 24 38.9	+0.2
	2.0nm,0.9s,mb4.0,baz=129,slow=5.5,SNR=4.2						
CMAR	Chiang Mai Arr	81.98	293	P	P	17 24 57.6	+1.3
	0.6nm,0.5s,mb3.8,baz=151,slow=3.2,SNR=5.6						
CHTO	Chiang Mai	82.12	293	P	P	17 24 56.5	-0.4
	4.6nm,1.3s,mb4.2						
NVAR	Mina Array Bea	86.87	47	P	P	17 25 20.2	-0.4
	0.4nm,0.7s,mb3.8,baz=219,slow=9.9,SNR=3.1						
TXAR	Lajitas Array	94.22	60	LR	LR	18 02 31.2	
	comp=Z,48nm,18.2s,MS4.0,baz=5.0,slow=32						
BRG	Berggiesshubel	145.10	337	*e*P	PKPbc	17 32 11.7	-0.8
	2.8nm,0.9s						
GERES	GERESS Array B	146.82	335	PKPbc	PKPbc	17 32 16.7	-1.1
	0.2nm,0.3s,baz=38,slow=3.7,SNR=4.9						

*NEIC **21** 17:17:08.8, 1629N×9942W, h20km, MD4.3(MEX), After MEX.*

MEX 21 17:17:08.8±1.1, 1629N×9942W, h16km±14km, MD4.3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.74	320	*i*P	Pg	17 17 19.4	-3.9
ACX				*i*S	Sg	17 17 29.6	-3.6
ACX	Acapulco	0.74	320	*i*P	Pg	17 17 19.3	-4.0
ACX				*i*S	Sg	17 17 29.6	-3.6
CAIG	El Cayaco	1.11	313	*i*P	Pb	17 17 26.8	-2.8
CAIG				*i*S	Sb	17 17 40.2	-3.6
CAIG	El Cayaco	1.11	313	*i*P	Pb	17 17 26.9	-2.7
CAIG				*i*S	Sb	17 17 40.2	-3.6
PNIG	Pinotepa	1.25	85	*i*P	Pn	17 17 28.4	-3.2
PNIG				*i*S	Sb	17 17 42.7	-5.2
MEIG	Mezcala	1.64	353	*i*P	Pn	17 17 34.0	-3.0
MEIG				*i*S	Sn	17 17 53.4	-4.3
PLIG	Platanillo	2.09	358	*e*P	Pn	17 17 41.0	-2.2
PLIG				*i*S	Sn	17 18 04.8	-4.2
PLIG	Platanillo	2.09	358	*i*P	Pn	17 17 44.2	+0.9
PLIG				*i*S	Sn	17 18 04.8	-4.2
UTMO	Huajuapan	2.18	45	*i*P	Pn	17 17 41.4	-3.0
UTMO				*i*S	Sn	17 18 07.4	-3.7
ZIIG	Zihuatanejo	2.35	304	*e*P	Pn	17 17 43.6	-3.2
ZIIG				*i*S	Sn	17 18 11.5	-3.9
ZIIG	Zihuatanejo	2.35	304	*i*P	Pn	17 17 48.7	+1.8
ZIIG				*i*S	Sn	17 18 20.5	+5.1
YAIG	Yautepec	2.58	7	*e*P	Pn	17 17 48.1	-1.9
YAIG				*i*S	Sn	17 18 17.2	-3.8
YAIG	Yautepec	2.58	7	*i*P	Pn	17 17 53.8	+3.8
YAIG				*i*S	Sn	17 18 20.5	-0.6
VHO	Vista Hermosa	2.69	73	*i*P	Pn	17 17 49.2	-2.3
VHO				*i*S	Sn	17 18 18.6	-5.2
VHO	Vista Hermosa	2.69	73	*i*P	Pn	17 17 42.1	-9.4
VHO				*i*S	Sn	17 18 23.5	-0.3
OXX	Oaxaca	2.70	73	*i*P	Pn	17 17 49.0	-2.7
OXX				*i*S	Sn	17 18 20.5	-3.6
OXX	Oaxaca	2.70	73	*i*P	Pn	17 17 45.0	-6.7
OXX				*i*S	Sn	17 18 18.5	-5.6
PPM	Popocatepetl	2.86	15	*i*P	Pn	17 17 52.0	-1.8
PPM				*i*P		17 17 53.3	
PPM				*i*S	Sn	17 18 24.6	-3.4
PPM	Popocatepetl	2.86	15	*i*P	Pn	17 17 53.3	-0.5
PPM				*i*P		17 17 53.6	
PPM				*i*S	Sn	17 18 27.8	-0.2
UNM	Universidad Na	3.03	4	*e*P	Pn	17 17 50.0	-6.2
PBVM	Pinon	3.15	6	*e*P	Pn	17 17 55.6	-2.2
PBVM				*i*S	Sn	17 18 32.5	-2.6
PBVM	Pinon	3.15	6	*i*S	Sn	17 18 29.3	-5.8
HUIG	Huatulco	3.23	99	*i*P	Pn	17 18 02.4	+3.5
HUIG				*i*S	Sn	17 18 30.2	-6.8
HUIG	Huatulco	3.23	99	*i*P	Pn	17 18 03.1	+4.2
HUIG				*i*S	Sn	17 18 30.0	-7.0
MOIG	Morelia	3.77	334	*i*S	Sn	17 18 47.7	-2.6
MOIG	Morelia	3.77	334	*i*S	Sn	17 18 40.9	-9.4
MOIG				*i*S	Sn	17 18 57.7	+7.4
DEIG	Demacu	4.01	5	*i*P	Pn	17 18 10.2	+0.6
DEIG				*i*S	Sn	17 18 53.2	-3.1
CMIG	Matias Romero	4.42	79	*i*P	Pn	17 18 13.3	-2.0
CMIG				*i*S	Sn	17 19 04.2	-2.3
CMIG	Matias Romero	4.42	79	*i*P	Pn	17 18 13.3	-2.0
CMIG				*i*S	Sn	17 18 57.2	-9.3
EZ5V		5.09	309	*e*P	Pn	17 18 27.4	+3.0
EZ5V				*i*S	Sn	17 19 20.2	-2.7
R15V		5.21	304	*e*P	Pn	17 18 31.2	+5.1
R15V				*i*S	Sn	17 19 25.5	-0.4
SFJM	Santa Fe	5.41	321	*i*P	Pn	17 18 27.8	-1.0
TGIG		6.06	85	*e*P	Pn	17 18 36.7	-1.2
TGIG				*i*S	Sn	17 19 46.0	-0.9

IDC 21 17:21:01.6±33.0, 564N×12730E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/31, Error ellipse: s-maj=549.9km s-min=102.8km az=158.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	16.16	193	LR	LR	17 31 44.5	
	comp=Z,165nm,18.4s,baz=111,slow=40						
FITZ	Fitzroy Crossi	23.65	184	P	P	17 26 16.5	+1.6
	1.4nm,0.9s,baz=1.0,slow=9.2,SNR=2.8						
WRA	Warramunga Arr	26.35	165	P	P	17 26 38.4	-1.1
	1.2nm,0.6s,baz=343,slow=10,SNR=23						
ASAR	Alice Springs	29.84	168	P	P	17 27 10.2	-0.4
	0.3nm,0.6s,baz=353,slow=7.7,SNR=15						
STKA	Stephens Creek	39.72	161	P	P	17 28 36.5	+0.5
	1.1nm,0.7s,baz=338,slow=11,SNR=3.1						

MAN 21 17:23:33, 1103N×12407E, h1km, mb4.2, ML3.0, MS2.7, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.53	87	*e*P	Pg	17 23 43.7	+0.5
LLP	Lapu-Lapu	0.71	188	*e*P	Pg	17 23 47.3	+0.6
LLP				*e*S	Sg	17 23 58.0	+2.1
PLP	Palo	0.90	81⇓	*e*P	Pg	17 23 51.5	+1.1
PLP				*e*S	Sg	17 24 04.4	+2.3
MSLP	Maasin	1.18	139	*e*P	Pg	17 23 55.7	+0.1
MSLP				*e*S	Sg	17 24 14.5	+3.6
TBP	Tagbilaran	1.34	189	*e*P	Pg	17 23 58.7	-0.1
TBP				*e*S	Sg	17 24 17.6	+1.5
RCP	Roxas	1.40	292⇑	*e*P	Pn	17 24 05.3	+5.6
RCP				*e*S	Sg	17 24 23.7	+5.5
GUIM	Jordan	1.51	255	*e*P	Pn	17 24 00.9	-0.2
GUIM				*e*S	Sb	17 24 21.8	+0.4
CNP	Cataman	1.59	21	*e*P	Pn	17 24 01.9	-0.3
CNP				*e*S	Sn	17 24 24.0	+0.6
KALP	Kalibo	1.82	291⇑	*e*P	Sn	17 24 34.0	+4.8

MAN 21 17:27:15, 1105N×12406E, h1km, mb3.5, ML2.2, MS1.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.54	90	*e*P	Pg	17 27 25.6	+0.2
OCLP				*e*S	Sg	17 27 34.0	+1.7
LLP	Lapu-Lapu	0.73	187	*e*P	Pg	17 27 29.6	+0.6
LLP				*e*S	Sg	17 27 40.0	+1.5
MSLP	Maasin	1.20	139	*e*P	Pg	17 27 40.2	+2.1
MSLP				*e*S	Sg	17 27 56.2	+2.6
RCP	Roxas	1.39	292⇑	*e*P	Pn	17 27 46.6	+5.1
RCP				*e*S	Sg	17 28 05.9	+6.3
GUIM	Jordan	1.50	254	*e*P	Pn	17 27 42.7	-0.4
GUIM				*e*S	Sb	17 28 03.5	+0.2

*IDC **21** 17:30:00.3±0.9, 3909N×7479E, h0km, mb3.7/8, mb1 3.9/12, mb1mx3.8/26, mbtmp3.7/12, ML3.7/3, MS3.4/3, Ms1 3.4/3, ms1mx3.0/35, Error ellipse: s-maj=22.6km s-min=18.0km az=44.0*
*NNC **21** 17:30:03.8±1.9, 3927N×7451E, h0km, mb4.1, mpv4.2, Error ellipse: s-maj=15.2km s-min=9.7km az=166.0*
*MOS **21** 17:30:03.5±1.0, 3917N×7467E, h33km, mb4.3/4, Error ellipse: s-maj=15.3km s-min=7.6km az=95.2*
*NEIC **21** 17:30:04.8±1.7, 3917N×7473E, h30km±14km, mb4.3/2, Error ellipse: s-maj=9.6km s-min=3.6km az=65.0*
*ISCJB **21** 17:30:06.0±0.5, 3926N±003×7485E±006, h59km±6km, mb3.8/11, MS3.6/3, Error ellipse: s-maj=8.0km s-min=3.9km az=162.0*
*BJI **21** 17:30:05.1, 3944N×7491E, h18km, mB4.4, mb4.4, ML4.2, Ms3.6, Msz3.6*

ISC 21 17:30:07.3±0.4, 3924N±003×7485E±006, h58km±6km, n78, σ1§30/95, mb3.8/11, MS3.6/3, 7C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.92	72⇑	*i*PG	Pn	17 30 20.6	-3.6
KSH				SG	Sn	17 30 36.3	-0.3
KSH				Smax			
	comp=N,17μm,0.9s						
KSH				Smax			
	comp=E,19μm,0.7s						
KZA	Kyzart	2.85	6	P	Pn	17 30 50.7	+0.4
	SNR=15						
UCH	Uchtor	2.99	355	P	Pn	17 30 51.2	-1.1
AML	Almayashu	3.01	343	P	Pn	17 30 52.5	-0.1
	SNR=95						
AML	Almayashu	3.01	343	*e*Pn	Pn	17 30 52.1	-0.5
ULHL	Ulahol	3.18	19	P	Pn	17 30 56.8	+2.0
	SNR=12						
AAK	Ala-Archa	3.40	356	P	Pn	17 30 58.4	+0.6
	SNR=35						
KBK	Karagaybulak	3.41	1	P	Pn	17 30 59.0	+1.0
	SNR=66						
EKS2	Erkin-Say	3.51	347	P	Pn	17 30 59.6	+0.3
	SNR=19						
EKS2	Erkin-Say	3.51	347	*e*Pn	Pn	17 30 59.4	0.0
EKS2				*e*Sg	Sn	17 31 51.8	+12
FRU	Bishkek	3.59	357	*e*PN	Pn	17 31 06.0	+5.5
FRU				*i*S	Sn	17 31 54.0	+12
FRU				pmax	pmax		
	comp=Z,240nm,1.0s						
FRU				smax			
	comp=E,1μm,1.6s						
TKM2	Tokmak 2	3.72	9	⇑Pn	Pn	17 31 03.4	+1.2
	comp=E,85nm,0.8s						
TKM2				⇑Sn	Sn	17 31 49.2	+4.5
	comp=E,259nm,0.9s						
TKM2	Tokmak 2	3.72	9	PN	Pn	17 31 03.4	+1.2
TKM2				S	Sn	17 31 49.2	+4.5
TKM2				pmax	pmax		
	comp=Z,69nm,0.3s						
TKM2				smax			
	comp=N,436nm,1.2s						
TKM2	Tokmak 2	3.72	9	P	Pn	17 31 03.2	+1.1
	SNR=42						
TKM2	Tokmak 2	3.72	9	*e*Pn	Pn	17 31 02.0	-0.1
TKM2				*e*Sn	Sn	17 31 50.6	+5.9
CHMS	Chumysh	3.75	359	P	Pn	17 31 03.3	+0.7
	SNR=39						
KK31	Karatay Array	5.05	321	⇑Pn	Pn	17 31 18.8	-1.7
	comp=N,7.7nm,0.5s,baz=139,slow=14,SNR=218						
KK31				⇓Sn	Sn	17 32 16.4	-1.1
	comp=N,15nm,0.5s,baz=140,slow=21						
KK31				⇓Lg		17 32 40.2	
	comp=N,27nm,0.6s,baz=134,slow=27						
KK31	Karatay Array	5.05	321	*e*PN	Pn	17 31 19.1	-1.4
KK31				pmax	pmax		
	comp=Z,5.0nm,0.2s						
CHCP	Chirah Chowk	5.72	193	P	Pn	17 31 35.3	+5.7
CEP	Cherat	5.90	204	P	Pn	17 31 36.8	+4.6
CEP				S	Sn	17 32 46.0	+7.6
DLH	Dalhousie	6.75	172	*e*P	Pn	17 31 46.0	+2.2
DLH				*e*x	Sn	17 33 03.0	+3.8
THN	Thein Dam	6.83	174	*e*P	Pn	17 31 47.6	+2.7
THN				*e*x	Sn	17 33 09.9	+8.6
THW	Thamme Wali	6.91	202	P	Pn	17 31 51.2	+5.3
SDNR	Sundarnagar	7.92	167	*e*P	Pn	17 32 01.0	+1.2
SDNR				*e*x	Sn	17 33 35.0	+7.1
KLP	Kalpa	8.18	159	*e*P	Pn	17 32 06.8	+3.5
KLP				*e*x	Sn	17 33 40.3	+6.0
KLP				AML	AML	17 33 59.9	
	comp=E,84nm,0.6s						
KLP				AML	AML	17 34 00.7	
	comp=N,108nm,0.8s						
SMLA	Simla	8.32	166	*e*P	Pn	17 32 06.8	+1.5
SMLA				*e*S	Sn	17 33 37.0	-0.6
SMLA				*e*x	x	17 33 54.5	
	comp=N,592nm,0.3s						
SMLA				*e*x	x	17 33 55.0	
	comp=E,390nm,0.3s						
MK31	Makanchi Array	9.30	33	P	Pn	17 32 20.6	+1.9
	comp=E,2.9nm,0.7s,baz=191,slow=12,SNR=11						
MK31	Makanchi Array	9.30	33	*i*P	Pn	17 32 20.5	+1.8
MK31				pmax	pmax		
	comp=Z,1.0nm,0

ZAL	**Zalesovo**	**16.18**	**22**	P	**Pn**	**17 33 50.4**	**-0.3**
ODAN	**Odare**	**16.20**	**136**	*e*P	**Pn**	**17 33 50.6**	**-0.5**
ODAN				*e*S	**S**	**17 36 42.5**	**-18**
ZAA0	**Zalesovo Array**	**16.20**	**22**	*e*Pn	**Pn**	**17 33 50.5**	**-0.4**
ZALV	**Zalesovo Beam**	**16.20**	**22**	Pn	**Pn**	**17 33 50.4**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=203,slow=13,SNR=8.4						
ZALV				Lg		17 38 28.6	
	comp=Z,0.7nm,0.3s,baz=332,slow=8.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**16.20**	**22**	Pn	**Pn**	**17 33 50.4**	**-0.6**
ZALV				Lg		17 38 28.6	
AKTK	**Aktyubinsk**	**16.32**	**319**	Pn	**Pn**	**17 33 50.1**	**-2.3**
AKTK				LR	LR	17 40 33.5	
AKTO	**Aktyubinsk**	**16.32**	**319**	⇑P	**Pn**	**17 33 50.3**	**-2.2**
	comp=Z,0.6nm,0.6s						
AKTO	**Aktyubinsk**	**16.32**	**319**	Pn	**Pn**	**17 33 50.1**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=122,slow=13,SNR=10.0						
AKTO				LR	LR	17 40 33.5	
	comp=Z,110nm,20.7s,baz=287,slow=39						
LSA	**Lhasa**	**16.45**	**120**	P	**Pn**	**17 33 50.6**	**-3.7**
NVS	**Novosibirsk**	**16.60**	**17**	*e*P	**Pn**	**17 33 56.9**	**+1.0**
NVS				*e*S	**S**	**17 37 04.5**	**-3.3**
NVS				pmax	pmax		
	comp=N,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
NVS				smax			
	comp=N,23nm,2.2s						
NVS				smax			
	comp=E,14nm,2.2s						
GTA	**Gaotai**	**19.31**	**82**	P	**Pn**	**17 34 30.5**	**+1.5**
GTA				AP	pP	17 34 35.9	-4.2
GTA				XP	sP	17 34 38.9	-8.5
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
GTA				AMB	AMB		
	comp=Z,65nm,3.9s						
GTA				LR	LR		
	comp=N,152nm,20.1s						
GTA				LR	LR		
	comp=E,122nm,18.9s						
GTA				LR	LR		
	comp=Z,219nm,18.9s						
ARU	**Arti**	**20.28**	**333**	*c iP*	**P**	**17 34 39.5**	**+1.6**
ARU				*e*		17 34 53.1	
ARU				*e*PPP		17 35 01.2	
ARU				*e*S	**S**	**17 38 26.5**	**+4.5**
ARU				*e*SS		17 38 38.6	
ARU				pmax	pmax		
	comp=Z,12nm,1.0s						
ARU	**Arti**	**20.28**	**333**	*e*P	**P**	**17 34 39.2**	**+1.3**
	comp=Z,7.4nm,0.7s						
ZAK	**Zakamensk**	**22.90**	**52**	*e*P	**P**	**17 35 00.2**	**-5.7**
ZAK				*e*		17 35 05.7	
GNI	**Garni**	**23.13**	**282**	LR	LR	17 45 38.0	
	comp=Z,80nm,18.7s,MS3.2,baz=337,slow=40						
GNI	**Garni**	**23.13**	**282**	P	**P**	**17 35 06.9**	**-1.6**
GNI				pmax	pmax		
	comp=Z,14nm,1.1s						
GNI	**Garni**	**23.13**	**282**	P	**P**	**17 35 06.8**	**-1.7**
	comp=Z,14nm,1.1s,mb4.3						
SONM	**Songino Array**	**24.29**	**59**	P	**P**	**17 35 19.5**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.1,baz=270,slow=9.8,SNR=3.3						
KIV	**Kislovodsk**	**24.41**	**292**	*e*P	**P**	**17 35 11.3**	**-8.9**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
OBN	**Obninsk**	**30.01**	**315**	*e*P	**P**	**17 36 02.2**	**-8.0**
OBN				*e*S	**S**	**17 40 58.4**	**-5.5**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
WHN	**Wuhan**	**33.33**	**93**	P	**P**	**17 36 45.9**	**+6.2**
WHN				LR	LR		
	comp=Z,525nm,20.6s,MS4.2						
ARCES	**ARCESS Array B**	**39.85**	**335**	P	**P**	**17 37 35.5**	**+0.8**
	comp=Z,2.0nm,0.5s,mb4.1,baz=109,slow=9.0,SNR=17						
GERES	**GERESS Array B**	**43.90**	**303**	P	**P**	**17 38 09.0**	**+1.0**
	comp=Z,0.6nm,0.5s,mb3.6,baz=78,slow=8.6,SNR=4.8						
NB2	**NORSAR Subarra**	**44.09**	**321**	P	**P**	**17 38 08.5**	**-0.8**
	comp=Z,1.2nm,0.6s,mb3.8,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**44.09**	**321**	P	**P**	**17 38 09.7**	**+0.4**
	comp=Z,0.8nm,0.7s,mb3.6,baz=91,slow=8.1,SNR=3.8						
NOA				LR	LR	17 57 08.1	
	comp=Z,43nm,18.3s,MS3.4,baz=90,slow=37						
TORD	**Torodi Ar. Bea**	**68.80**	**270**	P	**P**	**17 41 06.6**	**+0.9**
	comp=Z,0.5nm,0.8s,mb3.5,baz=58,slow=4.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**68.80**	**270**	P	**P**	**17 41 06.6**	**+0.9**
YKA	**Yellowknife Ar**	**78.33**	**4**	P	**P**	**17 42 01.9**	**+1.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=346,slow=5.2,SNR=3.5						
WRA	**Warramunga Arr**	**80.95**	**125**	P	**P**	**17 42 17.6**	**+2.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=327,slow=4.9,SNR=3.1						
ASAR	**Alice Springs**	**83.42**	**128**	P	**P**	**17 42 29.0**	**+0.6**
	comp=Z,0.2nm,0.3s,mb3.6,baz=328,slow=10.0,SNR=5.7						

NIED ***21*** *17:33:00.4150N×14400E,h17km,Mw3.9 Best double couple: M0=7.29000×10^14 NP1:φ=10.00000°,δ=79.00000°, λ=68.00000°. NP2:φ=255.00000°,δ=25.00000°,λ=153.00000°.*
ISCJB ***21*** *17:33:47.5±1.0,4144N±007×14408E±009,h33km, mb3.6/4,Error ellipse: s-maj=13.3km s-min=4.5km az=135.7*
JMA ***21*** *17:33:48.8±0.2,4150N×14396E,h53km±3km,M3.6*
IDC ***21*** *17:33:55.1±3.0,4170N×14223E,h0km,mb3.7/5, mb1 3.7/6,mb1mx3.5/22,mbtmp3.6/6,ML3.1/1,Error ellipse: s-maj=83.5km s-min=25.1km az=69.0*

ISC 21 17:33:49.3±1.0,4151N±007×14403E±009,h35km,n21, σ=66/25,mb3.6/4,3C-2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.83**	**308**	⇓P	**Pn**	**17 34 03.5**	**-0.9**
JCH	**Churui**	**1.21**	**336**	P	**Pn**	**17 34 09.4**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.23**	**309**	⇑P	**Pn**	**17 34 10.2**	**+0.3**
JOB	**Onbets**	**1.40**	**354**	P	**Pn**	**17 34 12.5**	**+0.2**
JAK	**Akkeshi**	**1.57**	**18**	P	**Pn**	**17 34 14.8**	**+0.2**
JBT2	**Biratori 2**	**1.77**	**316**	P	**Pn**	**17 34 17.5**	**+0.1**
JAR	**Ashorobuto**	**1.80**	**354**	⇑P	**Pn**	**17 34 17.4**	**-0.4**
JFR	**Furan**	**1.97**	**328**	P	**Pn**	**17 34 20.8**	**+0.7**
JNK	**Nakash**	**2.14**	**14**	P	**Pn**	**17 34 22.1**	**-0.3**
JNK				*e*S	**Sn**	**17 34 47.2**	**-0.5**
JANG	**Nango**	**2.21**	**240**	P	**Pn**	**17 34 22.9**	**-0.6**
JANG				*e*S	**Sn**	**17 34 48.8**	**-0.8**
JOT	**Ohata**	**2.24**	**268**	P	**Pn**	**17 34 24.0**	**+0.1**
JOT				*e*S	**Sn**	**17 34 50.2**	**-0.1**
NEM2	**Nemuro 2**	**2.25**	**34**	P	**Pn**	**17 34 23.7**	**-0.3**
NEM2				*e*S	**Sn**	**17 34 50.0**	**-0.5**
JKB	**Kayabe**	**2.28**	**281**	⇓P	**Pn**	**17 34 24.6**	**+0.3**
JEW	**Eniwo**	**2.33**	**306**	P	**Pn**	**17 34 26.2**	**+1.1**
JTM	**Tenmabayashi**	**2.35**	**253**	⇑P	**Pn**	**17 34 25.6**	**+0.3**
JTM				*e*S	**Sn**	**17 34 52.2**	**-0.7**
MJAR	**Matsushiro Arr**	**6.71**	**224**	Pn	**Pn**	**17 35 25.9**	**+0.6**
	0.5nm,0.3s,baz=26,slow=12,SNR=4.9						
SONM	**Songino Array**	**27.30**	**296**	P	**P**	**17 39 29.7**	**-0.7**
	0.3nm,0.4s,mb3.2,baz=106,slow=7.7,SNR=3.0						
ZALV	**Zalesovo Beam**	**40.55**	**309**	P	**P**	**17 41 25.6**	**+0.7**
	0.8nm,0.4s,mb3.7,baz=91,slow=8.6,SNR=3.4						
MKAR	**Makanchi Array**	**43.61**	**299**	P	**P**	**17 41 50.1**	**+0.2**
	0.4nm,0.4s,mb3.5,baz=80,slow=9.1,SNR=3.6						
BVAR	**Borovoye Array**	**49.16**	**310**	P	**P**	**17 42 36.3**	**+2.9**
	0.8nm,0.4s,mb4.1,baz=67,slow=8.8,SNR=5.5						
WRA	**Warramunga Arr**	**61.79**	**190**	P	pP	17 44 15.3	+0.2
	0.4nm,0.8s,baz=9.0,slow=7.6,SNR=3.1						

MAN 21 17:40:46,1102N×12408E,h1km,mb3.8,ML2.5,MS2.1, 1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.52**	**87**	*e*P	Pg	17 40 57.0	+1.1
OCLP				*e*S	Sg	17 41 05.0	+2.4
LLP	**Lapu-Lapu**	**0.71**	**189**	*e*P	Pg	17 41 00.6	+1.0
LLP				*e*S	Sg	17 41 11.6	+2.8
MSLP	**Maasin**	**1.16**	**139**	*e*P	Pg	17 41 09.3	+0.9
MSLP				*e*S	Sg	17 41 27.8	+4.3
RCP	**Roxas**	**1.42**	**292**	⇑*e*P	Pn	17 41 19.0	+6.1
RCP				*e*S	Sg	17 41 38.0	+6.4
GUIM	**Jordan**	**1.52**	**255**	*e*P	Pn	17 41 14.4	0.0
GUIM				*e*S	Sn	17 41 36.2	+1.5

ISCJB ***21*** *17:52:30.2±1.0,105S±0.1×1613E±0.1,h85km,mb3.8/9, Error ellipse: s-maj=23.2km s-min=9.4km az=141.2*
NEIC ***21*** *17:52:30.8±1.0,1028S×16150E,mb4.2/5,Error ellipse: s-maj=20.8km s-min=13.0km az=51.0*
IDC ***21*** *17:52:31.7±1.1,1039S×16135E,h85km±6km,mb3.6/7, mb1 3.8/7,mb1mx3.6/18,mbtmp3.6/7,Error ellipse: s-maj=25.0km s-min=10.3km az=49.0*

ISC 21 17:52:31.6±1.0,103S±01×1614E±01,h87km, h87km±1.3km:pP-P,n21,σ=78/23,mb3.8/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.69**	**302**	P	**Pn**	**17 52 59.0**	**-0.6**
	492nm,0.3s,baz=119,slow=2.7,SNR=358						
HNR				S	**Sn**	**17 53 20.8**	**-0.1**
	348nm,0.3s,baz=88,slow=23,SNR=13						
HNR	**Honiara**	**1.69**	**302**	*e*Pn	**Pn**	**17 52 58.7**	**-0.9**
HNR				P		17 52 59.0	
HNR				*e*Sn	**Sn**	**17 53 19.6**	**-1.3**
HNR				S	**Sn**	**17 53 20.8**	**-0.1**
DZM	**Mont Dzumac**	**12.63**	**158**	*e*Pn	**Pn**	**17 55 26.7**	**-1.2**
CTA	**Charters Tower**	**17.51**	**235**	*e*P	**Pn**	**17 56 32.9**	**+2.6**
	4.0nm,0.6s						
CTA	**Charters Tower**	**17.51**	**235**	P	**Pn**	**17 56 32.9**	**+2.7**
	0.7nm,0.3s,baz=54,slow=12,SNR=14						
CTA				pP	pP	17 56 47.2	+0.2
	0.4nm,0.3s,baz=84,slow=12,SNR=5.2						
CTAO	**Charters Tower**	**17.51**	**235**	*e*P	**Pn**	**17 56 33.2**	**+3.0**
	28nm,1.4s						
WRAB	**Tennant Creek**	**27.75**	**247**	*e*P	**P**	**17 58 11.9**	**-0.4**
	4.0nm,1.0s,mb3.9						
WB2	**Warramunga Arr**	**27.75**	**247**	*e*P	**P**	**17 58 12.6**	**+0.3**
WRA	**Warramunga Arr**	**27.76**	**247**	P	**P**	**17 58 12.9**	**+0.5**
	2.6nm,0.9s,mb3.8,baz=75,slow=9.2,SNR=17						
WRA				pP	pP	17 58 31.3	-0.9
	2.5nm,0.6s,baz=78,slow=9.2,SNR=6.2						
KAKA	**Kakadu**	**28.46**	**262**	*e*P	**P**	**17 58 18.6**	**-0.1**
	6.1nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**29.36**	**240**	P	**P**	**17 58 26.0**	**-0.6**
	0.7nm,0.8s,mb3.3,baz=75,slow=8.5,SNR=7.0						
ASAR				pP	pP	17 58 46.2	-0.2
	0.7nm,0.7s,baz=68,slow=11,SNR=3.9						
FITZ	**Fitzroy Crossi**	**35.45**	**253**	*e*P	**P**	**17 59 19.8**	**-0.1**
	6.6nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**35.45**	**253**	P	**P**	**17 59 19.6**	**-0.3**
	3.9nm,0.8s,mb4.3,baz=83,slow=10,SNR=9.1						
FITZ				pP	pP	17 59 39.4	-0.6
	1.9nm,0.5s,baz=64,slow=7.7,SNR=2.0						
MBWA	**Marble Bar**	**41.40**	**250**	*e*P	**P**	**18 00 08.8**	**-0.9**
KKM	**Kota Kinabalu**	**47.84**	**288**	*e*P	**P**	**18 01 01.6**	**+0.5**
VNDA	**Vanda**	**67.16**	**180**	P	**P**	**18 03 16.1**	**+0.3**
	0.4nm,0.8s,mb3.3,baz=12,slow=4.3,SNR=3.7						
CMAR	**Chiang Mai Arr**	**67.92**	**295**	pP	pP	18 03 43.8	0.0
	0.9nm,0.7s,baz=128,slow=4.9,SNR=4.7						
SONM	**Songino Array**	**75.61**	**325**	P	**P**	**18 04 07.6**	**+0.5**
	1.0nm,0.6s,mb3.7,baz=130,slow=5.9,SNR=5.7						
SONM				pP	pP	18 04 30.0	+0.3
	2.1nm,0.8s,baz=140,slow=4.9,SNR=6.6						
QSPA	**South Pole Qui**	**79.65**	**180**	P	**P**	**18 04 29.3**	**+0.3**
	1.6nm,0.8s,mb3.9,baz=248,slow=1.1,SNR=9.1						
QSPA				pP	pP	18 04 52.4	+0.5
	1.1nm,0.8s,baz=309,slow=8.9,SNR=2.2						
QSPA	**South Pole Qui**	**79.65**	**180**	P	**P**	**18 04 29.3**	**+0.3**
QSPA				pP	pP	18 04 52.4	+0.5
MKAR	**Makanchi Array**	**90.10**	**318**	P	**P**	**18 05 22.6**	**+0.7**
	0.2nm,0.5s,mb3.5,baz=89,slow=7.8,SNR=2.4						

MAN 21 17:54:02,1102N×12407E,h1km,mb4.4,ML3.2,MS3.1, 2C-1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.53**	**86**	*e*P	Pg	17 54 12.6	+0.4
OCLP				*e*S	Sg	17 54 20.7	+1.6
LLP	**Lapu-Lapu**	**0.70**	**188**	*e*P	Pg	17 54 16.6	+1.1
LLP				*e*S	Sg	17 54 27.2	+2.5
PLP	**Palo**	**0.91**	**81**	⇓*e*P	Pg	17 54 20.3	+1.0
PLP				*e*S	Sg	17 54 33.5	+2.4
MSLP	**Maasin**	**1.17**	**138**	*e*P	Pg	17 54 24.7	+0.2
MSLP				*e*S	Sg	17 54 43.4	+3.7
TBP	**Tagbilaran**	**1.33**	**189**	*e*P	Pg	17 54 27.6	0.0
TBP				*e*S	Sg	17 54 46.7	+1.8
RCP	**Roxas**	**1.41**	**293**	⇑*e*P	Pn	17 54 35.2	+6.4
RCP				*e*S	Sg	17 54 53.5	+6.2
BESP	**Borongan**	**1.46**	**67**	*e*P	Pn	17 54 30.3	+0.7
BESP				*e*S	Sg	17 54 48.2	-0.8
GUIM	**Jordan**	**1.50**	**255**	*e*P	Pn	17 54 29.8	-0.3
GUIM				*e*S	Sb	17 54 51.2	+0.9
CNP	**Cataman**	**1.59**	**21**	*e*P	Pn	17 54 31.0	-0.4
KALP	**Kalibo**	**1.82**	**291**	⇑*e*P	Pn	17 54 40.5	+6.0

IDC 21 17:58:21.7±5.6,1119S×16635E,h155km±43km,mb3.3/5, mb1 3.5/6,mb1mx3.3/18,mbtmp3.4/6,Error ellipse: s-maj=50.4km s-min=28.1km az=143.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.54**	**285**	P	Pn	17 59 55.6	0.0
	5.7nm,0.3s,baz=270,slow=0.7,SNR=10						
HNR				S	Sn	18 01 09.8	+0.5
	baz=91,slow=22,SNR=1.7						
WRA	**Warramunga Arr**	**31.99**	**250**	P	P	18 04 33.6	+0.1
	0.9nm,0.8s,baz=84,slow=9.3,SNR=7.4						
ASAR	**Alice Springs**	**33.26**	**244**	P	P	18 04 44.6	+0.1
	0.3nm,0.9s,baz=66,slow=9.8,SNR=4.0						
CMAR	**Chiang Mai Arr**	**72.72**	**293**	P	P	18 09 33.6	+0.2
	0.6nm,0.7s,baz=126,slow=4.9,SNR=4.8						
NVAR	**Mina Array Bea**	**85.66**	**50**	P	P	18 10 43.6	+0.4
	0.4nm,0.7s,baz=234,slow=7.5,SNR=3.2						
MKAR	**Makanchi Array**	**94.03**	**317**	P	P	18 11 21.8	-0.5
	0.7nm,0.7s,baz=91,slow=6.4,SNR=6.1						

ISCJB ***21*** *18:09:45.5±0.3,4719N±002×955E±002,h10km,Error ellipse: s-maj=2.8km s-min=1.9km az=7.5*
LDG ***21*** *18:09:45.7±0.3,4718N×966E,h10km,Ml2.4/3,Error ellipse: s-maj=6.5km s-min=3.6km az=51.0*
VIE ***21*** *18:09:46.4±0.3,4718N×958E,h9km±3km,mb1.8/5, ML2.4/7,Error ellipse: s-maj=1.3km s-min=0.7km az=129.0 6 km NNE of Vaduz*
PRU ***21*** *18:09:46.7,4740N×953E,h1km*
CSEM ***21*** *18:09:46.8±0.1,4717N×958E,h12km,ML2.5/7,Error ellipse: s-maj=1.4km s-min=0.8km az=16.0*
ZUR ***21*** *18:09:46.4,4719N×957E,h9km±1km,ML2.0/11*
BGR ***21*** *18:09:47.8±0.7,4720N×956E,h5km,ML2.1/3,Error ellipse: s-maj=6.7km s-min=2.2km az=168.0*
ROM ***21*** *18:09:49.3±1.2,4705N×956E,h10km,Md2.4/4,Ml2.1/2, Error ellipse: s-maj=13.2km s-min=7.1km az=172.0*

ISC 21 18:09:46.3±0.3,4717N±002×956E±002,h19km±2km,n52, σ=62/84,8C-13D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIENZ	**Kamor/St.Gall**	**0.13**	**340**	*e*Pg	**Pg**	**18 09 49.6**	**-0.9**
	SNR=52						
LIENZ				*e*Sg	**Sg**	**18 09 51.9**	**-1.3**
	SNR=18						
LIENZ	**Kamor/St.Gall**	**0.13**	**340**	⇓*i*Pg	**Pg**	**18 09 49.6**	**-0.9**
	1μm,0.1s						
LIENZ				*i* Sg	**Sg**	**18 09 51.9**	**-1.3**
	1μm,0.1s						
PLONS	**Plons/SG**	**0.17**	**224**	⇓*i*Pg	**Pg**	**18 09 50.7**	**-0.3**
	580nm,0.4s						
PLONS				*i* Sg	**Sg**	**18 09 53.7**	**-0.4**
	580nm,0.4s						
DAVA	**Damuels**	**0.25**	**63**	⇑*e*Pg	**Pg**	**18 09 51.4**	**-0.7**
	comp=Z,12nm,0.1s,SNR=37						
DAVA				⇑*i*Sg	**Sg**	**18 09 55.2**	**-0.8**
	comp=E,132nm,0.2s						
DAVOX	**Davos/Dischmat**	**0.45**	**151**	*i* Sg	**Pg**	**18 09 55.6**	**0.0**
	247nm,0.4s						
DAVOX	**Davos/Dischmat**	**0.45**	**151**	⇓*i*Pg	**Pg**	**18 10 02.4**	**+6.8**
	247nm,0.4s						
DAVOX	**Davos/Dischmat**	**0.45**	**151**	Pg	**Pg**	**18 09 55.6**	**0.0**
DAVOX				Sg	**Sg**	**18 10 02.3**	**+0.6**
LLS	**Linth-Limmern**	**0.50**	**229**	*e*Pg	**Pg**	**18 10 04.4**	**+8.0**
	71nm,0.2s						
WILA	**Wila**	**0.50**	**299**	*e*Pg	**Pg**	**18 09 57.0**	**+0.5**
	SNR=16						
WILA				*e*Sg	**Sg**	**18 10 04.3**	**+1.0**
	SNR=9.2						
WILA	**Wila**	**0.50**	**299**	⇓*i*Pg	**Pg**	**18 09 56.2**	**-0.3**
	393nm,0.2s						
WILA				*i* Sg	**Sg**	**18 09 57.0**	**-6.4**
	393nm,0.2s						
WEIN	**Weingarten**	**0.53**	**313**	⇓*i*P	**Pg**	**18 09 57.3**	**+0.4**
STEIN	**Stein am Rhein**	**0.68**	**317**	⇓*i*Pg	**Pg**	**18 10 00.3**	**+0.5**
	65nm,0.3s						
ZUR	**Degenried**	**0.69**	**287**	*e*Pg	**Pg**	**18 10 00.4**	**+0.4**
	SNR=9.2						
ZUR				*e*Sg	**Sg**	**18 10 10.3**	**+1.0**
	SNR=12						
ZUR	**Degenried**	**0.69**	**287**	⇓*i*Pg	**Pg**	**18 10 00.4**	**+0.4**
	271nm,0.2s						
ZUR				Sg	**Sg**	**18 10 10.3**	**+1.1**
	SNR=12						
TUE	**Stuetta**	**0.72**	**192**	Pg	**Pg**	**18 10 00.4**	**0.0**
TUE				Sg	**Sg**	**18 10 09.7**	**-0.3**
TRULL	**Truellikon**	**0.76**	**309**	⇓*i*Pg	**Pg**	**18 10 01.6**	**+0.3**
	79nm,0.5s						
FLACH	**Flaach**	**0.78**	**301**	⇓*i*Pg	**Pg**	**18 10 02.0**	**+0.3**
	75nm,0.2s						
FETA	**Feichten**	**0.81**	**100**	⇑*e*Pg	**Pg**	**18 10 02.1**	**-0.2**
	1.2nm,0.1s						
FETA				⇑*i*Sg	**Sg**	**18 10 12.9**	**-0.2**
	1.8nm,0.1s						
RETA	**Reutte**	**0.88**	**69**	⇑*i*Pg	**Pg**	**18 10 03.7**	**+0.2**
	1.2nm,0.1s						
RETA				⇑*i*Sg	**Sg**	**18 10 16.0**	**+0.9**
	11nm,0.2s						
SLE	**Schleitheim**	**0.93**	**310**	*e*Pg	**Pg**	**18 10 04.5**	**0.0**
	SNR=19						
SLE				*e*Sg	**Sg**	**18 10 17.1**	**+0.3**
	SNR=9.0						
SLE	**Schleitheim**	**0.93**	**310**	⇓*i*P	**Pb**	**18 10 04.5**	**+0.6**
	178nm,0.5s						
FUSIO	**Fusio**	**0.94**	**221**	⇓*i*Pg	**Pg**	**18 10 04.7**	**0.0**
	49nm,0.2s						
SULZ	**Cheisacher**	**1.04**	**290**	*e*Pg	**Pg**	**18 10 07.7**	**+1.0**
	SNR=5.1						
SULZ				*e*Sg	**Sg**	**18 10 21.2**	**+0.9**
	SNR=6.1						
MOTA	**Moosalm**	**1.07**	**80**	⇓*e*Pg	**Pg**	**18 10 06.8**	**-0.3**
	2.3nm,0.1s,SNR=12						
MOTA				⇑*i*Sg	**Sg**	**18 10 21.3**	**+0.2**
	13nm,0.1s						
BALST	**Balsthal**	**1.28**	**278**	*e*Pg	**Pg**	**18 10 11.7**	**+0.7**
	SNR=3.3						
BALST				*e*Sg	**Sg**	**18 10 28.6**	**+0.9**
	SNR=4.3						
BALST	**Balsthal**	**1.28**	**278**	Pg	**Pg**	**18 10 11.7**	**+0.7**
	SNR=3.3						
BALST				Sg	**Sg**	**18 10 28.6**	**+0.8**
	SNR=4.3						
MUGIO	**Muggio**	**1.30**	**196**	Pg	**Pg**	**18 10 11.7**	**+0.2**
APPI	**Appiano**	**1.34**	**121**	Pg	**Pg**	**18 10 13.5**	**+1.3**
	10.0nm,0.4s						
WTTA	**Wattenberg**	**1.42**	**86**	⇓*i*Pg	**Pg**	**18 10 13.4**	**-0.3**
	1.8nm,0.1s						
WTTA				⇑*i*Sg	**Sg**	**18 10 33.4**	**+1.1**
	10nm,0.3s						
WTTA	**Wattenberg**	**1.42**	**86**	Pg	**Pg**	**18 10 13.4**	**-0.3**
	1.8nm,0.1s						
WTTA				Sg	**Sg**	**18 10 33.4**	**+1.1**
	10nm,0.3s						
BFO	**Black Forest**	**1.42**	**325**	*e*Pg	**Pg**	**18 10 13.6**	**-0.2**
	SNR=5.4						
BFO				*e*Sg	**Sg**	**18 10 32.5**	**+0.1**
	SNR=1.8						
FUR	**Furstenfeldbru**	**1.53**	**49**	*e*Sg	**Sg**	**18 10 35.6**	**-0.1**
	SNR=2.3						
MAGA	**Magasa**	**1.58**	**152**	Pg	**Pg**	**18 10 17.1**	**+0.3**
	56nm,0.5s						
BOURR	**Bourrignon**	**1.60**	**279**	*e*Sg	**Sg**	**18 10 38.4**	**+0.4**
	SNR=3.8						
HINF	**Hinteralfeld**	**1.94**	**290**	*e*Pn	**Pn**	**18 10 17.8**	**-0.5**
HINF	**Hinteralfeld**	**1.94**	**290**	*e*Pg	**Pg**	**18 10 23.7**	**0.0**
HINF				*e*Sn	**Sn**	**18 10 41.6**	**-0.5**
HINF				*e*Sg	**Sg**	**18 10 49.0**	**+0.1**
	3.9nm,0.2s						
HINF	**Hinteralfeld**	**1.94**	**290**	*e*Pg	**Pg**	**18 10 23.7**	**0.0**
HINF				*e*Sn	**Sn**	**18 10 41.6**	**-0.5**
HINF				*e*Sg	**Sg**	**18 10 49.0**	**+0.1**
	2.0nm,0.2s						
CDF	**Champ du Feu**	**1.98**	**310**	*e*Pn	**Pn**	**18 10 19.6**	**+0.9**
CDF	**Champ du Feu**	**1.98**	**310**	*e*Pg	**Pg**	**18 10 23.8**	**-0.5**
CDF				*e*Sn	**Sn**	**18 10 42.2**	**-0.7**
CDF				*e*Sg	**Sg**	**18 10 49.5**	**-0.4**
	5.5nm,0.3s						
CDF	**Champ du Feu**	**1.98**	**310**	*e*Pg	**Pg**	**18 10 23.8**	**-0.5**
CDF				*e*Sn	**Sn**	**18 10 42.2**	**-0.7**
CDF				*e*Sg	**Sg**	**18 10 49.5**	**-0.4**
	2.8nm,0.3s						
HAU	**Haudompre**	**2.33**	**292**	*e*Pn	**Pn**	**18 10 23.3**	**-0.2**
HAU	**Haudompre**	**2.33**	**292**	*e*Pg	**Pg**	**18 10 29.9**	**-1.1**
HAU	**Haudompre**	**2.33**	**292**	*e*Pg	**Pg**	**18 10 29.9**	**-1.1**
CABF	**La Chapelle**	**2.44**	**258**	*e*Pn	**Pn**	**18 10 24.7**	**-0.5**
CABF	**La Chapelle**	**2.44**	**258**	*e*Pg	**Pg**	**18 10 32.3**	**-0.9**
CABF				*e*Sg	**Sg**	**18 11 04.5**	**-0.4**

SDV	**Santo Domingo**	**23.74**	**14**	P	**P**		**18 23 37.0**	**+0.5**
	4.4nm,0.4s,mb4.2,baz=278,slow=18,SNR=5.1							
SDV	**Santo Domingo**	**23.74**	**14**	*e*P	**P**		**18 23 36.4**	**0.0**
	13nm,0.9s,mb4.4							
PLCA	**Paso Flores**	**26.73**	**170**	P	**P**		**18 24 03.7**	**+0.3**
	2.8nm,1.1s,mb3.7,baz=343,slow=9.5,SNR=3.5							
PLCA	**Paso Flores**	**26.73**	**170**	P	**P**		**18 24 03.7**	**+0.3**
PCRV	**Puerto La Cruz**	**26.93**	**26**	LR	LR		18 34 34.7	
	comp=Z,148nm,21.3s,MS3.5,baz=200,slow=36							
BDFB	**Brasilia**	**27.23**	**96**	LR	LR		18 35 41.7	
	comp=Z,330nm,18.6s,MS3.9,baz=74,slow=38							
TXAR	**Lajitas Array**	**50.90**	**329**	P	**P**		**18 27 24.8**	**-0.3**
	0.9nm,0.8s,mb3.7,baz=149,slow=9.1,SNR=6.0							
TXAR				LR	LR		18 48 04.1	
	comp=Z,84nm,18.2s,MS3.8,baz=185,slow=35							
PDAR	**Pinedale Array**	**64.58**	**333**	P	**P**		**18 29 01.6**	**+0.7**
	0.3nm,0.6s,mb3.5,baz=142,slow=4.6,SNR=3.5							
NVAR	**Mina Array Bea**	**65.67**	**325**	P	**P**		**18 29 08.9**	**+0.8**
	0.2nm,0.4s,mb3.5,baz=140,slow=7.1,SNR=4.5							
ULM	**Lac du Bonnet**	**66.62**	**346**	P	**P**		**18 29 12.7**	**-1.3**
	1.3nm,0.3s,mb4.4,baz=207,slow=2.3,SNR=3.5							
SCHQ	**Schefferville**	**69.37**	**6**	LR	LR		19 00 03.5	
	comp=Z,58nm,20.2s,MS3.8,baz=274,slow=36							
PPT	**Papeete**	**70.23**	**256**	LR	LR		18 52 20.2	
	comp=Z,93nm,21.9s,MS4.0,baz=329,slow=29							
SNAA	**Sanae**	**71.24**	**161**	*e*P	**P**		**18 29 42.3**	**-0.1**
SNAA				pmax	pmax			
	comp=Z,2.0nm,0.4s							
SNAA	**Sanae**	**71.24**	**161**	*e*P	**P**		**18 29 42.3**	**-0.1**
	comp=Z,1.6nm,0.4s,mb4.3							
DBIC	**Dimbokro**	**73.75**	**79**	LR	LR		19 00 45.3	
	comp=Z,149nm,18.9s,MS4.3,baz=198,slow=34							
TOA0	**Torodi Ar. Sit**	**81.80**	**74**	*e*P	**P**		**18 30 43.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**81.80**	**74**	P	**P**		**18 30 43.5**	**+0.3**
	comp=Z,3.6nm,0.6s,mb4.5,baz=262,slow=3.6,SNR=34							
TORD				LR	LR		19 04 14.6	
	comp=Z,72nm,18.2s,MS4.1,baz=195,slow=34							
BORG	**Borgarnes**	**89.04**	**21**	LR	LR		19 11 52.5	
	comp=Z,52nm,18.2s,MS4.0,baz=105,slow=36							
MAW	**Mawson**	**93.03**	**165**	LR	LR		19 14 16.2	
	comp=Z,93nm,18.2s,MS4.3,baz=65,slow=36							
JMIC	**Jan Mayen**	**96.44**	**18**	LR	LR		19 11 13.4	
	comp=Z,44nm,21.0s,MS3.9,baz=206,slow=33							
DAVOX	**Davos/Dischmat**	**97.66**	**44**	LR	LR		19 14 38.2	
	comp=Z,78nm,19.4s,MS4.2,baz=85,slow=35							
ASAR	**Alice Springs**	**132.11**	**218**	PKP	PKPdf		18 37 38.0	-0.1
	comp=Z,0.3nm,0.7s,baz=130,slow=2.1,SNR=7.4							
WRA	**Warramunga Arr**	**134.58**	**222**	PKP	PKPdf		18 37 42.6	-0.2
	comp=Z,0.4nm,0.6s,baz=132,slow=1.9,SNR=8.1							
ZALV	**Zalesovo Beam**	**137.77**	**17**	PKP	PKPdf		18 37 46.9	-0.8
	comp=Z,0.3nm,0.2s,baz=341,slow=3.1,SNR=3.4							
ZAL	**Zalesovo**	**137.78**	**17**	PKIKP	PKPdf		18 37 46.9	-0.8
SONM	**Songino Array**	**146.56**	**357**	PKPbc	PKPbc		18 38 05.7	+0.7
	comp=Z,2.1nm,0.7s,baz=338,slow=2.2,SNR=9.8							

*ISCJB **21** 18:36:04.6±1.1,28S±03×36.1E±05,h10km,mb3.7/3,Error ellipse: s-maj=89.1km s-min=10.4km az=33.6*
*IDC **21** 18:36:05.3±1.6,255S×3605E,h0km,mb3.7/3,mb1 3.8/4, mb1mx3.5/21,mbtmp3.7/4,ML3.4/1,Error ellipse: s-maj=59.6km s-min=18.2km az=129.0*
*NEIC **21** 18:36:06.4±0.9,268S×36.10E,h10km,ML3.7,Error ellipse: s-maj=75.4km s-min=12.2km az=124.0*
ISC 21 18:36:06.5±1.1,27S±04×361E±05,h10km,n6,σ0§60/7, mb3.7/3,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.91**	**37**	Pg	**Pg**	**18 36 39.5**	**-3.6**
	76nm,0.3s,baz=224,slow=18,SNR=259						
KMBO				Lg		18 37 03.7	
	274nm,0.3s,baz=227,slow=24,SNR=21						
KMBO	**Kilima Mbogo**	**1.91**	**37**	*e*Pn	**Pn**	**18 36 38.9**	**-0.2**
KMBO				*e*Sn	**Sn**	**18 37 03.3**	**0.0**
LSZ	**Lusaka**	**14.76**	**211**	Pn	**Pn**	**18 39 35.0**	**-0.4**
	0.2nm,0.3s,baz=28,slow=20,SNR=2.2						
LSZ				Lg		18 43 42.6	
	0.5nm,0.3s,baz=124,slow=13,SNR=7.1						
MKAR	**Makanchi Array**	**63.80**	**34**	P	**P**	**18 46 39.3**	**+0.5**
	0.8nm,0.8s,mb3.8,baz=229,slow=6.5,SNR=5.3						
CMAR	**Chiang Mai Arr**	**65.27**	**68**	P	**P**	**18 46 49.2**	**+0.3**
	0.7nm,0.8s,mb3.7,baz=260,slow=8.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**69.37**	**28**	P	**P**	**18 47 14.6**	**+0.3**
	0.2nm,0.3s,mb3.6,baz=266,slow=5.6,SNR=2.5						

*MOS **21** 19:07:01.4±0.9,7.15N×12397E,h33km,mb5.1/31, MS4.3/11,Error ellipse: s-maj=12.4km s-min=6.1km az=119.6*
*MAN **21** 19:07:02,708N×12355E,h24km,mb5.6,ML4.6,MS5.0*
MAN INTENSITY IV - COTABATO CITY; INTENSITY II - PAGADIAN CITY.
*IDC **21** 19:07:03.9±0.5,706N×12374E,h39km±4km,mb4.5/23, mb1 4.6/24,mb1mx4.5/27,mbtmp4.5/24,ML5.1/1,MS4.3/26, Ms1 4.3/26,ms1mx4.3/30,Error ellipse: s-maj=13.7km s-min=9.5km az=72.0*
*NEIC **21** 19:07:04.0±0.2,7.10N×12386E,mb5.0/49,MS4.5/2,Error ellipse: s-maj=6.5km s-min=4.7km az=58.0*
NEIC Felt [IV PIVS] at Cotabato and [III PIVS] at Pagadian.
*ISCJB **21** 19:07:03.2±0.2,7.10N±002×12381E±002,h45km, mb4.8/97,MS4.4/47,Error ellipse: s-maj=3.4km s-min=3.3km az=171.3*
*BJI **21** 19:07:04.5,688N×12391E,h65km,mB4.9,mb4.6,Ms4.5, Msz4.4*
*GCMT **21** 19:07:04.0±0.2,7.14N×12371E,h38km±1km,MW5.3/84, Moment Tensor Solution. s58,c82; s84,c161; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.27±.02; $M_{\theta\theta}$0.69±.02; $M_{\phi\phi}$-0.96±.02; $M_{r\theta}$-0.52±.03; $M_{\theta\phi}$0.55±.02; $M_{\phi r}$-0.12±.03; Best double couple: $M_0$1.14500×10^{17} NP1:ϕ_s204.00000°,δ68.00000°,λ159.00000°. NP2: ϕ_s303.00000°,δ70.00000°,λ24.00000°. Principal axes: T 1.1650, Plg31.0000°, Azm164.0000°; N -0.0400, Plg59.0000°, Azm340.0000°; P -1.1250, Plg2.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **21** 19:07:06,7.16N×12392E,h49km,ML5.4/6*
ISC 21 19:07:05.1±0.2,712N±002×12384E±002,h47km, h47km±1.7km:pP-P,n257,σ1§22/266,mb4.8/97,MS4.4/47, 27C-21D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.42**	**76**	⇓*i*P	**Pn**	**19 07 13.2**	**-1.9**
CTBH				*i* S	**Sn**	**19 07 21.7**	**-0.6**
PAGZ	**Pagadian**	**0.86**	**328**	*e*P	**Pn**	**19 07 17.4**	**-3.4**
KCP	**Kidapawan**	**1.25**	**95**	⇓*i*P	**Pn**	**19 07 35.9**	**+10**
KCP				*i* S	**Sn**	**19 07 51.8**	**+10**
IPIL	**Ipil**	**1.42**	**298**	⇓*e*P	**Pn**	**19 07 26.6**	**-1.9**
IPIL				*i* S	**Sn**	**19 07 43.0**	**-3.0**
BUKP	**Musuan**	**1.43**	**58**	*e*P	**Pn**	**19 07 28.7**	**+0.1**
GSPH	**General Santos**	**1.50**	**133**	⇓*e*P	**Pn**	**19 07 34.0**	**+4.4**
GSPH				*e*S	**Sn**	**19 07 59.0**	**+11**
DMPH	**Davao City--Mi**	**1.66**	**91**	⇓*i*P	**Pn**	**19 07 33.5**	**+1.8**
DMPH				*i* S	**Sn**	**19 07 59.0**	**+7.2**
DAV	**Davao City (W)**	**1.73**	**91**	Pn	**Pn**	**19 07 34.8**	**+2.1**
	877nm,0.3s,baz=247,slow=3.1,SNR=143						
DAV				Sn	**Sn**	**19 07 56.8**	**+3.2**
	559nm,0.3s,baz=115,slow=23,SNR=16						
DAV				LR	LR	19 08 26.9	
	comp=Z,19μm,18.5s,baz=64,slow=45						
DAV	**Davao City (W)**	**1.73**	**91**	*e*Pn	**Pn**	**19 07 34.7**	**+2.0**
SNPH	**Sibulan**	**2.29**	**345**	*e*P	**Pn**	**19 07 40.0**	**-0.4**
MATI	**Mati**	**2.41**	**94**	*e*P	**Pn**	**19 07 41.7**	**-0.3**
BUTP	**Butuan**	**2.55**	**44**	*e*P	**Pn**	**19 07 45.6**	**+1.6**
TBP	**Tagbilaran**	**2.56**	**1**	*e*P	**Pn**	**19 07 43.6**	**-0.4**
TBP				*e*S	**Sn**	**19 08 11.0**	**-3.0**
BIPH	**Bislig**	**2.72**	**67**	⇑*e*P	**Pn**	**19 07 46.2**	**0.0**
BIPH				*e*S	**Sn**	**19 08 35.3**	**+17**
SCPH	**Surigao**	**3.11**	**32**	*e*P	**Pn**	**19 07 54.0**	**+2.3**
SCPH				*e*S	**Sn**	**19 08 18.1**	**-10**
MSLP	**Maasin**	**3.16**	**19**	*e*P	**Pn**	**19 07 52.0**	**-0.4**
MSLP				*e*S	**Sn**	**19 08 36.7**	**+7.8**
LLP	**Lapu-Lapu**	**3.18**	**2**	⇑*i*P	**Pn**	**19 07 52.3**	**-0.4**
LLP				*e*S	**Sn**	**19 08 28.0**	**-1.4**
GUIM	**Jordan**	**3.70**	**341**	*e*P	**Pn**	**19 07 58.8**	**-1.0**
AAP	**Anini-y**	**3.78**	**330**	⇓*e*P	**Pn**	**19 08 00.5**	**-0.4**
OCLP	**Ormoc**	**3.98**	**11**	*e*P	**Pn**	**19 08 05.2**	**+1.5**
PLP	**Palo**	**4.18**	**16**	⇓*e*P	**Pn**	**19 08 06.6**	**+0.3**
RCP	**Roxas**	**4.54**	**346**	⇓*e*P	**Pn**	**19 08 16.9**	**+5.5**
RCP				*e*S	**Sn**	**19 09 09.2**	**+6.3**
CUYO	**Cuyo Island**	**4.64**	**323**	*e*P	**Pn**	**19 08 10.4**	**-2.2**
KALP	**Kalibo**	**4.77**	**342**	⇓*e*P	**Pn**	**19 08 17.8**	**+3.4**
CNP	**Catarman**	**5.42**	**9**	*e*P	**Pn**	**19 08 24.4**	**+1.0**
OTRP	**Odiongan**	**5.51**	**341**	*e*P	**Pn**	**19 08 24.9**	**+0.2**
MYLDM	**Lahad Datu**	**5.65**	**250**	⇓P	**Pn**	**19 08 27.6**	**+1.1**
SJMP	**San Jose**	**5.95**	**333**	*e*P	**Pn**	**19 08 29.8**	**-0.9**
ENPP	**El Nido**	**5.96**	**313**	*e*P	**Pn**	**19 08 28.3**	**-2.4**
BUSP	**Coron**	**6.04**	**324**	*e*P	**Pn**	**19 08 29.4**	**-2.4**
BATP	**Bataraza**	**6.21**	**286**	*e*P	**Pn**	**19 08 30.5**	**-3.8**
TSM	**Tawau**	**6.56**	**245**	⇑P	**Pn**	**19 08 38.6**	**-0.5**
SDKM	**Sandakan**	**6.76**	**258**	⇑P	**Pn**	**19 08 43.0**	**+1.2**
KDM	**Kudat**	**6.96**	**269**	⇑P	**Pn**	**19 08 45.1**	**+0.6**
LUBP	**Lubang**	**7.46**	**332**	*e*P	**Pn**	**19 08 51.5**	**+0.1**
KKM	**Kota Kinabalu**	**7.65**	**262**	⇑P	**Pn**	**19 08 54.8**	**+0.8**
KKM	**Kota Kinabalu**	**7.65**	**262**	*e*Pn	**Pn**	**19 08 54.1**	**+0.1**
APYP	**Conner**	**10.98**	**347**	*e*P	**Pn**	**19 09 46.8**	**+7.3**
BTM	**Bintulu**	**11.39**	**251**	⇑P	**Pn**	**19 09 46.1**	**+0.7**
SBUM	**Sibu**	**12.47**	**249**	⇓P	**Pn**	**19 10 01.6**	**+1.6**
KSM	**Kuching**	**14.61**	**248**	⇑P	**Pn**	**19 10 30.0**	**+1.0**
KSM	**Kuching**	**14.61**	**248**	*e*Pn	**Pn**	**19 10 28.7**	**-0.4**
BATI	**Baumata**	**17.21**	**181**	P	**Pn**	**19 11 02.6**	**+0.4**
	6.1nm,0.3s,baz=66,slow=3.6,SNR=15						
BATI				LR	LR	19 17 42.1	
	comp=Z,1μm,18.3s,baz=12,slow=37						
YHNB	**Yeheng**	**17.61**	**353**	*e*Pn	**Pn**	**19 11 09.8**	**+2.6**
	20nm,0.8s						
QIZ	**Qiongzhong**	**18.04**	**312**	P	**Pn**	**19 11 14.8**	**+2.4**
QIZ				AP	pP	19 11 25.8	+2.5
QIZ				XP	sP	19 11 33.8	+4.5
QIZ				S	**S**	**19 14 35.8**	**-1.2**
QIZ				AMB	AMB		
	comp=Z,295nm,7.3s						
QIZ				LR	LR		
	comp=E,808nm,15.2s						
QIZ				LR	LR		
	comp=Z,1μm,17.8s						
JOW	**Kunigami**	**20.06**	**12**	P	**P**	**19 11 36.1**	**+1.7**
	comp=Z,16nm,0.9s,baz=187,slow=12,SNR=9.2						
JOW				LR	LR	19 18 43.8	
	comp=Z,982nm,19.9s,MS4.2,baz=178,slow=35						
MYKOM	**Kota Tinggi**	**20.61**	**256**	⇓P	**P**	**19 11 41.7**	**+1.0**
KGM	**Kluang**	**21.07**	**257**	⇓P	**P**	**19 11 46.5**	**+0.9**
KAKA	**Kakadu**	**21.47**	**157**	*e*P	**P**	**19 11 48.8**	**-1.0**
	comp=Z,218nm,0.8s,mb5.5						
GUMO	**Guam**	**21.65**	**71**	P	**P**	**19 11 53.3**	**+1.5**
	comp=Z,83nm,1.2s,mb5.1,baz=158,slow=19,SNR=2.4						
GUMO				LR	LR	19 18 42.6	
	comp=Z,1μm,21.7s,MS4.2,baz=51,slow=32						
GUMO	**Guam**	**21.65**	**71**	P	**P**	**19 11 53.3**	**+1.5**
GUMO				pmax	pmax		
	comp=Z,83nm,1.2s,mb5.0						
GUMO				MLR	MLR		
	comp=Z,1μm,21.7s,MS4.2						
FRIM	**Kepong**	**22.45**	**261**	⇑P	**P**	**19 12 02.0**	**+1.7**
IPM	**Ipoh**	**22.84**	**265**	⇓P	**P**	**19 12 03.8**	**-0.7**
KULM	**Kulim**	**23.12**	**267**	⇓P	**P**	**19 12 09.0**	**+1.6**
SSE	**Sheshan**	**23.98**	**354**	P	**P**	**19 12 16.0**	**+0.7**
SSE				S	**S**	**19 16 30.8**	**+1.7**
SSE				XS	sS	19 16 57.0	+7.6
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,251nm,8.9s						
SSE				LR	LR		
	comp=N,514nm,24.5s,MS4.0						
SSE				LR	LR		
	comp=E,345nm,24.5s,MS4.0						
SSE				LR	LR		
	comp=Z,623nm,19.9s,MS4.1						
WHN	**Wuhan**	**24.95**	**340**	⇓P	**P**	**19 12 27.1**	**+3.0**
WHN				S	**S**	**19 16 51.8**	**+7.2**
WHN				LR	LR		
	comp=N,1μm,15.2s						
WHN				LR	LR		
	comp=E,496nm,9.8s						
WHN				LR	LR		
	comp=Z,3μm,23.4s						
FITZ	**Fitzroy Crossi**	**25.12**	**176**	*e*P	**P**	**19 12 24.5**	**-1.3**
	comp=Z,40nm,0.8s,mb5.0						
FITZ				*e*		19 13 03.0	
FITZ				*e*		19 14 59.7	
FITZ				*e*S	S	19 17 10.8	+23
FITZ	**Fitzroy Crossi**	**25.12**	**176**	P	**P**	**19 12 24.7**	**-1.1**
	comp=Z,22nm,0.7s,mb4.8,baz=7.6,slow=10.0,SNR=59						
PSI	**Prapat**	**25.18**	**261**	P	**P**	**19 12 26.8**	**+0.3**
	comp=Z,19nm,0.9s,mb4.6,baz=79,slow=3.5,SNR=9.9						
GYA	**Guiyang**	**25.24**	**322**	⇑*i*P	**P**	**19 12 26.5**	**-0.4**
GYA				AP	pP	19 12 45.6	+6.6
GYA				XP	sP	19 12 52.8	+8.2
GYA				PP		19 13 09.4	
GYA				PCP	PcP	19 16 01.3	+1.8
GYA				S	**S**	**19 16 47.6**	**-1.8**
GYA				XS	sS	19 17 15.8	+5.9
GYA				SCP	ScP	19 19 32.0	-3.1
GYA				PCS	PcS	19 19 40.8	+0.8
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,460nm,16.4s,MS4.2						
GYA				LR	LR		
	comp=E,420nm,17.0s,MS4.2						
GYA				LR	LR		
	comp=Z,440nm,17.6s,MS4.0						
CBIJ	**Chichi jima**	**26.43**	**39**	P	**P**	**19 12 37.1**	**-0.4**
	comp=Z,32nm,0.5s,mb5.1,baz=232,slow=19,SNR=4.3						
CBIJ				LR	LR	19 21 16.2	
	comp=Z,729nm,21.5s,MS4.2,baz=250,slow=32						
CMAR	**Chiang Mai Arr**	**26.73**	**297**	P	**P**	**19 12 40.0**	**-0.3**
	comp=Z,5.6nm,0.8s,mb4.1,baz=116,slow=7.6,SNR=18						
CMAR				LR	LR	19 23 26.4	
	comp=Z,1μm,18.6s,MS4.4,baz=115,slow=37						
CHTO	**Chiang Mai**	**26.86**	**298**	*e*P	**P**	**19 12 41.0**	**-0.6**
CHTO				*e*		19 12 58.0	
CHTO				pmax	pmax		
	comp=Z,45nm,1.5s,mb4.8						
CHTO	**Chiang Mai**	**26.86**	**298**	*e*P	**P**	**19 12 41.0**	**-0.6**
	comp=Z,45nm,1.5s,mb4.8						
CHTO				*e*		19 12 58.0	
KMI	**Kunming**	**26.97**	**314**	P	**P**	**19 12 44.9**	**+2.4**
KMI				PP		19 13 32.8	
KMI				S	**S**	**19 17 17.0**	**+0.3**
KMI				SS		19 18 30.3	
KMI				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb3.9						
KMI				AMB	AMB		
	comp=Z,89nm,3.2s						
KMI				LR	LR		
	comp=N,687nm,20.6s,MS4.3						
KMI				LR	LR		
	comp=E,737nm,23.8s,MS4.3						
KMI				LR	LR		
	comp=Z,1μm,23.2s,MS4.4						
MBWA	**Marble Bar**	**28.39**	**188**	*e*P	**P**	**19 12 54.0**	**-1.2**
	comp=Z,42nm,1.0s,mb5.0						
COEN	**Coen**	**28.40**	**137**	*e*P	**P**	**19 12 54.5**	**-0.9**
	comp=Z,18nm,1.2s,mb4.6						
WRAB	**Tennant Creek**	**28.80**	**159**	P	**P**	**19 12 57.8**	**-1.1**
	comp=Z,406nm,1.0s,mb6.1,SNR=13						
WRAB	**Tennant Creek**	**28.80**	**159**	*e*P	**P**	**19 12 57.3**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,91nm,1.1s,mb5.4						
WRAB	**Tennant Creek**	**28.80**	**159**	*e*P	**P**	**19 12 57.3**	**-1.6**
	comp=Z,91nm,1.1s,mb5.4						
WRA	**Warramunga Arr**	**28.81**	**159**	P	**P**	**19 12 57.4**	**-1.5**
	comp=Z,48nm,1.0s,mb5.2,baz=337,slow=9.7,SNR=143						
WB2	**Warramunga Arr**	**28.81**	**159**	*e*P	**P**	**19 12 57.1**	**-1.8**
WB2				*e*		19 13 21.7	
WB2				*e*		19 13 42.1	
WB2				*e*		19 14 55.7	
JHJ	**Hachijo jima 2**	**29.80**	**28**	P	**P**	**19 13 05.7**	**-2.0**
	comp=Z,83nm,0.8s,mb5.5,baz=73,slow=20,SNR=3.3						
JHJ				LR	LR	19 22 57.2	
	comp=Z,764nm,21.8s,MS4.3,baz=200,slow=32						
XAN	**Xi'an**	**30.13**	**335**	P	**P**	**19 13 12.5**	**+2.0**
XAN				AP	pP	19 13 27.5	+4.7
XAN				PP	PP	19 14 16.5	-2.7
XAN				S	**S**	**19 18 14.1**	**+7.9**
XAN				PCS	PcS	19 19 48.3	-6.4
XAN				SCS	ScS	19 23 38.5	-7.0
XAN				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
XAN				AMB	AMB		
	comp=Z,103nm,12.2s						
XAN				LR	LR		
	comp=N,157nm,17.5s,MS4.3						
XAN				LR	LR		
	comp=E,556nm,18.0s,MS4.3						
XAN				LR	LR		
	comp=Z,1μm,18.5s,MS4.5						
CD2	**Chengdu**	**30.23**	**324**	P	**P**	**19 13 14.4**	**+2.9**
CD2				AP	pP	19 13 29.5	+5.8
CD2				XP	sP	19 13 36.8	+7.5
CD2				PP	PP	19 14 15.8	-4.6
CD2				PCP	PcP	19 16 13.3	+1.8
CD2				S	**S**	**19 18 09.5**	**+1.6**
CD2				XS	sS	19 18 33.8	+5.3
CD2				SS	SS	19 19 50.3	-28
CD2				SCS	ScS	19 23 44.5	-1.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,3.8s						
CD2				LR	LR		
	comp=N,1μm,18.6s,MS4.7						
CD2				LR	LR		
	comp=E,1μm,19.2s,MS4.7						
CD2				LR	LR		
	comp=Z,1μm,20.4s,MS4.5						
KSRS	**Korea Array**	**30.43**	**6**	P	**P**	**19 13 13.3**	**+0.3**
	comp=Z,1.5nm,0.7s,mb3.8,baz=187,slow=9.1,SNR=7.9						
KSRS				LR	LR	19 28 29.5	
	comp=Z,479nm,18.5s,MS4.2,baz=185,slow=42						
KSRS	**Korea Array**	**30.43**	**6**	P	**P**	**19 13 13.4**	**+0.3**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
KSRS				MLR	MLR		
	comp=Z,479nm,18.5s,MS4.2						
MAJO	**Matsushiro**	**32.09**	**22**	*e*P	**P**	**19 13 26.3**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
MAJO	**Matsushiro**	**32.09**	**22**	*e*P	**P**	**19 13 26.3**	**-1.5**
	comp=Z,8.2nm,0.7s,mb4.7						
MAT	**Matsushiro**	**32.09**	**22**	P	**P**	**19 13 26.8**	**-1.0**
MAT				S	**S**	**19 18 31.0**	**-5.9**
MJAR	**Matsushiro Arr**	**32.09**	**22**	P	**P**	**19 13 26.8**	**-1.0**
	comp=Z,4.4nm,0.9s,mb4.3,baz=192,slow=8.3,SNR=8.4						
MJAR				LR	LR	19 25 05.7	
	comp=Z,776nm,21.4s,MS4.4,baz=205,slow=34						
ASAR	**Alice Springs**	**32.14**	**162**	P	**P**	**19 13 28.0**	**-0.3**
	comp=Z,11nm,0.6s,mb4.9,baz=340,slow=7.3,SNR=137						
ASAR				PcP	PcP	19 16 15.9	-0.7
	comp=Z,3.5nm,0.7s,baz=351,slow=2.1,SNR=8.1						
BJI	**Beijing**	**33.49**	**349**	P	**P**	**19 13 41.1**	**+1.1**
BJI				S	**S**	**19 18 53.1**	**-5.5**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
BJI				AMB	AMB		
	comp=Z,108nm,4.7s						
BJI				LR	LR		
	comp=N,412nm,23.6s,MS4.3						
BJI				LR	LR		
	comp=E,506nm,23.6s,MS4.3						
BJI				LR	LR		
	comp=Z,942nm,29.0s						
CTA	**Charters Tower**	**34.89**	**141**	*e*P	**P**	**19 13 52.5**	**+0.2**
	comp=Z,12nm,1.2s,mb4.7						
CTA				*e*		19 15 05.9	
CTA	**Charters Tower**	**34.89**	**141**	P	**P**	**19 13 51.9**	**-0.4**
	comp=Z,9.1nm,0.7s,mb4.8,baz=327,slow=12,SNR=12						
CTA				LR	LR	19 30 37.9	
	comp=Z,380nm,18.7s,MS4.2,baz=326,slow=40						
CTA	**Charters Tower**	**34.89**	**141**	*e*P	**P**	**19 13 52.5**	**+0.2**
CTA				*e*		19 15 05.9	
CTA				pmax	pmax		
	comp=Z,12nm,1.2s						
CTAO	**Charters Tower**	**34.89**	**141**	*e*P	**P**	**19 13 51.3**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
CTAO	**Charters Tower**	**34.89**	**141**	*e*P	**P**	**19 13 51.3**	**-1.0**
	comp=Z,32nm,1.3s,mb5.1						
HHC	**Hu-ho-hao-te**	**35.33**	**344**	*e*P	**P**	**19 13 58.8**	**+2.9**
HHC				AP	pP	19 14 13.9	+5.6
HHC				XP	sP	19 14 21.0	+7.2
HHC				PP	PP	19 15 20.4	+3.6
HHC				PCP	PcP	19 16 26.9	+1.4
HHC				S	**S**	**19 19 28.9**	**+2.0**
HHC				XS	sS	19 19 56.3	+8.6
HHC				PCS	PcS	19 20 12.9	+0.5
HHC				SS	SS	19 21 52.1	-10
HHC				SCS	ScS	19 24 09.3	-2.5
HHC				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
HHC				AMB	AMB		
	comp=Z,44nm,5.1s						
HHC				LR	LR		
	comp=N,589nm,20.7s,MS4.4						
HHC				LR	LR		
	comp=E,464nm,21.9s,MS4.4						
HHC				LR	LR		
	comp=Z,631nm,22.0s,MS4.3						
SHL	**Shillong**	**35.58**	**305**	*e*P	**P**	**19 13 58.0**	**-0.2**
SHL				*e*x	x	19 19 44.0	
CN2	**Changchun**	**36.57**	**2**	*e*P	**P**	**19 14 08.1**	**+1.7**
CN2				*e*AP	pP	19 14 22.9	+4.0
CN2				*e*S	**S**	**

NWAO Narrogin (SRO) 40.31 189 *e*P **P** **19 14 37.3 -0.7**
comp=Z,54nm,1.2s,mb5.2
NWAO *e* pP 19 14 53.8 +3.2
RAMN Ramite 40.47 304 *e*P **P** **19 14 40.3 +0.8**
comp=Z,14nm,0.8s,mb4.8
JIRN Jiri 41.08 304 *e*P **P** **19 14 46.5 +2.0**
GUN Gumba 41.43 305 *e*P **P** **19 14 48.9 +1.5**
comp=Z,62nm,0.8s,mb5.3
PKI Pulchoki 41.69 304 *e*P **P** **19 14 50.8 +1.3**
KKN Kakani 41.88 304 *e*P **P** **19 14 52.1 +1.1**
DMN Daman 41.95 304 *e*P **P** **19 14 52.3 +0.7**
STKA Stephens Creek 42.32 157 *e*P **P** **19 14 54.2 -0.3**
comp=Z,68nm,0.9s,mb5.3
STKA *e* 19 15 19.7
STKA Stephens Creek 42.32 157 P **P** **19 14 54.2 -0.3**
comp=Z,99nm,0.9s,mb5.4,baz=330,slow=7.9,SNR=102
STKA LR LR 19 33 26.8
comp=Z,513nm,21.8s,MS4.4,baz=154,slow=37
KLR Kul'dur 42.50 8 *e*P **P** **19 14 52.8 -2.9**
SONM Songino Array 43.21 343 P **P** **19 15 02.4 +0.9**
comp=Z,2.1nm,1.1s,mb3.8,baz=165,slow=10.0,SNR=8.7
SONM pP pP 19 15 12.4 -1.8
comp=Z,4.7nm,0.7s,baz=160,slow=7.3,SNR=14
SONM PcP PcP 19 16 49.8 -0.4
comp=Z,1.8nm,0.8s,baz=159,slow=6.2,SNR=3.3
SONM LR LR 19 34 16.6
comp=Z,395nm,21.1s,MS4.3,baz=151,slow=38
SONM Songino Array 43.21 343 P **P** **19 15 02.4 +0.9**
SONM *PP pP 19 15 12.4 -1.8
SONM 19 16 49.8
SONM Songino Array 43.21 343 P **P** **19 15 02.4 +0.9**
SONM pP pP 19 15 12.4 -1.8
SONM PcP PcP 19 16 49.8 -0.4
SONM LR LR 19 34 16.6
KOLN Koldanda 43.25 303 *e*P **P** **19 15 03.0 +0.8**
comp=Z,26nm,0.8s,mb5.0
DANN Dangsing 43.33 304 *e*P **P** **19 15 04.9 +2.1**
comp=Z,44nm,0.7s,mb5.3
HYB Hyderabad 45.31 287 *i* P **P** **19 15 20.0 +1.2**
HYB Hyderabad 45.31 287 *e*P **P** **19 15 20.5 +1.7**
ARMA Armidale 45.86 146 *e*P **P** **19 15 24.0 +1.1**
ZAK Zakamensk 46.41 342 *e*P **P** **19 15 36.9 +10**
ZAK *e* 19 17 01.0
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
TLY Talaya 47.45 343 *e*P pP 19 15 45.8 -2.1
TLY *e* 19 15 54.0
TLY *e*S **S** **19 22 33.5 +7.4**
TLY pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
TLY MLR MLR
comp=Z,326nm,20.0s,MS4.3
MOY Mondy 48.25 341 *e*P **P** **19 15 47.1 +5.9**
MOY pmax pmax
comp=Z,30nm,2.5s,mb4.9
RIV Riverview 48.26 149 *e*P **P** **19 15 44.2 +2.7**
WMQ Urumqi 48.32 325 P **P** **19 15 43.9 +2.0**
WMQ AP pP 19 15 59.4 +4.7
WMQ XP sP 19 16 06.5 +6.3
WMQ PCP PcP 19 17 09.9 +1.8
WMQ PP PP 19 17 36.8 +2.0
WMQ S **S** **19 22 38.9 +0.2**
WMQ SCS ScS 19 25 28.1 -2.8
WMQ SS SS 19 26 04.3 -4.4
WMQ AMB AMB
comp=Z,13nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,49nm,8.1s
WMQ LR LR
comp=N,475nm,18.5s,MS4.6
WMQ LR LR
comp=E,426nm,21.8s,MS4.6
WMQ LR LR
comp=Z,582nm,22.3s,MS4.5
CNB Canberra Magne 48.58 152 *e*P **P** **19 15 46.3 +2.3**
TOO Toolangi 48.84 157 *e*P **P** **19 15 47.3 +1.4**
CLNS Chul'man 49.60 1 *e*P pP 19 16 07.7 +3.4
CLNS pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,3.0nm,0.9s
CLNS MLR MLR
comp=Z,141nm,18.0s,MS4.0
CLNS MLR MLR
comp=N,110nm,18.0s,MS4.2
CLNS MLR MLR
comp=E,174nm,17.0s,MS4.2
BOD Bodaibo 51.15 353 *e*P **P** **19 16 03.7 +0.5**
BOD pmax pmax
comp=Z,7.0nm,1.8s,mb4.3
MK31 Makanchi Array 53.15 325 P **P** **19 16 18.8 +0.6**
MK31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MKAR Makanchi Array 53.15 325 P **P** **19 16 18.8 +0.6**
comp=Z,2.3nm,0.9s,mb4.1,baz=126,slow=8.3,SNR=13
MKAR PcP PcP 19 17 25.3 -0.6
comp=Z,3.5nm,0.8s,baz=104,slow=5.1,SNR=2.9
MKAR LR LR 19 40 07.9
comp=Z,677nm,19.5s,MS4.7,baz=122,slow=37
MKAR Makanchi Array 53.15 325 P **P** **19 16 18.8 +0.6**
MKAR 19 17 25.3
PETK Petropavlovsk- 53.49 25 P **P** **19 16 21.5 +0.9**
comp=Z,3.3nm,0.7s,mb4.4,baz=183,slow=2.7,SNR=4.7
PETK sP sP 19 16 36.3 -2.7
comp=Z,9.3nm,0.7s,baz=191,slow=4.7,SNR=7.6
PETK LR LR 19 37 17.3
comp=Z,327nm,21.6s,MS4.3,baz=219,slow=34
PETK Petropavlovsk- 53.49 25 P **P** **19 16 21.5 +0.9**
PETK sP sP 19 16 36.3 -2.7
PETK LR LR 19 37 17.3
PET Petropavlovsk 53.83 25 *e*P **P** **19 16 23.2 +0.1**
PET pmax pmax
comp=Z,20nm,1.0s,mb5.0
PET Petropavlovsk 53.83 25 *e*P **P** **19 16 23.2 +0.2**
comp=Z,20nm,1.0s,mb5.0
YAK Yakutsk 54.97 3 *e*P **P** **19 16 30.2 -1.0**
YAK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
YAK Yakutsk 54.97 3 *e*P **P** **19 16 30.2 -1.1**
comp=Z,6.3nm,0.6s,mb4.8
TKM2 Tokmak 2 55.32 318 *e*P **P** **19 16 34.9 +0.8**
TKM2 *e* pP 19 16 46.7 -0.5
TKM2 pmax pmax
comp=Z,29nm,1.4s,mb5.1
TKM2 Tokmak 2 55.32 318 *e*P **P** **19 16 34.9 +0.8**
comp=Z,29nm,1.4s,mb5.1
TKM2 *e* pP 19 16 46.7 -0.4
AML Almayashu 56.27 317 *e*P **P** **19 16 40.2 -0.7**
comp=Z,16nm,0.9s,mb5.0
ZAA0 Zalesovo Array 56.29 333 *e*P **P** **19 16 38.2 -2.7**
ZALV Zalesovo Beam 56.29 333 P **P** **19 16 39.9 -0.9**
comp=Z,1.1nm,0.5s,mb4.1,baz=117,slow=6.9,SNR=5.9
ZALV pP pP 19 16 52.8 -1.2
comp=Z,3.7nm,0.7s,baz=126,slow=7.4,SNR=14
ZALV LR LR 19 41 38.5
comp=Z,253nm,20.5s,MS4.3,baz=322,slow=37
ZALV PKP2bc 19 46 48.3
comp=Z,1.0nm,0.7s,baz=294,slow=4.7,SNR=5.3
ZALV Zalesovo Beam 56.29 333 P **P** **19 16 39.9 -0.9**
ZALV pP pP 19 16 52.8 -1.2
ZALV LR LR 19 41 38.5
ZALV ⇑*e* 19 46 48.3
ZAL Zalesovo 56.29 333 P **P** **19 16 39.9 -0.9**
ZAL *PP pP 19 16 52.8 -1.1
EKS2 Erkin-Say 56.42 317 *e*P **P** **19 16 42.6 +0.6**
comp=Z,9.4nm,0.9s,mb4.8
EKS2 *e* pP 19 16 55.1 0.0
KBL Kabul 57.20 307 *e*P **P** **19 16 47.3 -0.4**
comp=Z,11nm,0.8s,mb4.9
KURK Kurchatov 57.36 328 P **P** **19 16 49.2 +0.7**
comp=Z,110nm,1.4s,mb5.7,SNR=11
KURK Kurchatov 57.36 328 *e*P **P** **19 16 49.0 +0.5**
KURK pmax pmax
comp=Z,17nm,0.9s,mb5.1
KURK Kurchatov 57.36 328 *e*P **P** **19 16 49.0 +0.5**
comp=Z,17nm,0.9s,mb5.1
NVS Novosibirsk 57.57 334 *e*P **P** **19 16 59.5 +10**
NVS *e*S **S** **19 25 01.6 +17**
NVS pmax pmax
comp=N,12nm,1.1s
NVS pmax pmax
comp=E,10.0nm,1.1s
NVS pmax pmax
comp=Z,18nm,1.1s,mb5.0
KK31 Karatay Array 58.81 317 P **P** **19 16 59.0 +0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BRVK Borovoye 63.00 327 *e*P **P** **19 17 26.7 -0.4**
BRVK *e* pP 19 17 39.3 -1.0
BRVK pmax pmax
comp=Z,22nm,1.1s,mb5.2
BRVK Borovoye 63.00 327 *e*P **P** **19 17 26.7 -0.4**
comp=Z,22nm,1.1s,mb5.2
BRVK *e* pP 19 17 39.3 -1.1
TIXI Tiksi 64.54 2 *e*P pP 19 17 47.7 -2.5
TIXI pmax pmax
comp=Z,14nm,1.0s,mb5.0
TIXI MLR MLR
comp=Z,208nm,18.0s,MS4.4
TIXI MLR MLR
comp=Z,147nm,19.0s
RPZ Rata Peaks 66.17 144 LR LR 19 45 26.5
comp=Z,251nm,19.4s,MS4.4,baz=302,slow=35
URZ Urewera 66.96 137 LR LR 19 44 54.0
comp=Z,245nm,20.1s,MS4.4,baz=210,slow=34
AB31 Akbulak array 67.72 321 P **P** **19 17 57.1 -0.6**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
SVE Sverdlovsk 69.59 328⇑*e*P **P** **19 18 09.3 +0.1**
SVE pmax pmax
comp=Z,56nm,1.5s,mb5.3
SVE MLR MLR
comp=Z,179nm,19.0s,MS4.3
ARU Arti 70.55 328 P **P** **19 18 14.2 -0.9**
comp=Z,120nm,0.7s,mb5.9,SNR=6.5
ARU Arti 70.55 328*c i*P **P** **19 18 14.3 -0.8**
ARU *e**PP pP 19 18 26.5 -2.1
ARU *e* 19 20 52.2
ARU PPP 19 22 37.0
ARU *e*S S 19 27 26.9 +1.8
ARU *e*SS SS 19 31 56.8 -0.2
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.8
ARU MLR MLR
comp=Z,283nm,21.0s,MS4.5
NIKO Nikolski 70.76 36 *e*P **P** **19 18 12.5 -3.9**
UNV Unalaska Valle 72.33 36 P **P** **19 18 31.3 +5.5**
comp=Z,47nm,0.8s,mb5.5
UMR Umm Al-Rimmam 74.47 299 *e*P **P** **19 18 37.7 -1.3**
baz=299
UMR AMb AMB 19 18 54.2
comp=Z,27nm,0.8s,mb5.2,baz=299
RDF Al-Radifah 74.61 298 *e*P **P** **19 18 38.7 -1.1**
baz=298
RDF AMb AMB 19 19 00.7
comp=Z,31nm,1.4s,mb5.0,baz=298
MIB Mutribah 74.80 299 *e*P **P** **19 18 39.8 -1.1**
baz=299
MIB AMb AMB 19 18 56.4
comp=Z,49nm,0.7s,mb5.5,baz=299
NAY Al-Naaiem 74.88 298 *e*P **P** **19 18 39.5 -1.8**
baz=298
NAY AMb AMB 19 18 56.5
comp=Z,14nm,0.9s,mb4.9,baz=298
GNI Garni 77.12 309 P **P** **19 18 53.4 -0.5**
GNI pmax pmax
comp=Z,52nm,1.8s
GNI Garni 77.12 309 P **P** **19 18 53.4 -0.5**
comp=Z,52nm,1.8s,mb5.2
KIV Kislovodsk 78.73 313⇓*e*P **P** **19 19 03.8 +1.0**
KIV *e**PP pP 19 19 15.1 -1.3
KIV *e**SP sP 19 19 22.3 +0.6
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KIV MLR MLR
comp=Z,100nm,22.0s,MS4.1
KIV Kislovodsk 78.73 313 *e*P **P** **19 19 03.4 +0.7**
comp=Z,12nm,0.8s,mb4.9
SVW2 Sparrevohn 79.25 29 P **P** **19 19 04.8 -0.5**
OHAK Old Harbor 80.20 33 *e*P **P** **19 19 12.0 +1.5**
comp=Z,28nm,0.8s,mb5.2
KDAK Kodiak Island 80.60 33 *e*P **P** **19 19 11.8 -0.8**
comp=Z,23nm,1.0s,mb5.1
SOC Sochi 80.89 313 *e*P **P** **19 19 13.6 -0.8**
SOC *e* 19 22 15.3
SOC *e*PPP 19 24 08.7
SOC *e*S S 19 29 20.5 +0.8
PPLA Purkeypile 80.96 27 P **P** **19 19 16.4 +2.0**
comp=Z,8.1nm,0.9s,mb4.7
KLMR Klimovskoe 81.06 330 *e*P **P** **19 19 15.6 +0.6**
KLMR pmax pmax
comp=Z,87nm,1.5s,mb5.5
VRSR Storozhevoye 81.15 321 *e*P **P** **19 19 14.7 -1.0**
VRSR pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
VRSR pmax pmax
comp=N,1.0nm,0.7s
VRSR pmax pmax
comp=E,2.0nm,0.6s
TRF Thorofare Moun 81.83 27 *e*P **P** **19 19 18.5 -0.6**
comp=E,15nm,0.9s,mb4.9
TRF *e* pP 19 19 30.6 -2.1
SLKM Skilak Lake 81.85 30 P **P** **19 19 18.9 -0.3**
MALT Malatya 82.04 308 *e*P **P** **19 19 21.0 +0.3**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MALT Malatya 82.04 308⇓*i*P **P** **19 19 21.7 +1.0**
MALT Malatya 82.04 308 *e*P **P** **19 19 21.0 +0.3**
comp=Z,3.2nm,0.9s,mb4.2
RC01 Rabbit Creek A 82.09 29 P **P** **19 19 19.3 -1.1**
comp=Z,15nm,0.8s,mb5.0
SEW Seward 82.24 30 P **P** **19 19 19.9 -1.3**
MCK McKinley 82.44 27 *e*P **P** **19 19 19.8 -2.4**
comp=Z,10μm,0.6s
MCK *e* pP 19 19 33.1 -2.8
ANN Anapa 82.49 314 *e*P **P** **19 19 23.0 +0.1**
ANN pmax pmax
comp=Z,15nm,0.8s,mb5.0
OBN Obninsk 82.65 325⇑*e*P **P** **19 19 23.4 -0.1**
OBN *e**PP pP 19 19 36.5 -0.7
OBN pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
OBN MLR MLR
comp=Z,400nm,24.0s,MS4.7
OBN Obninsk 82.65 325 *e*P **P** **19 19 22.0 -1.5**
comp=Z,41nm,1.4s,mb5.3
OBN *e* pP 19 19 35.1 -2.1
APA Apatity 83.64 337 *e*P **P** **19 19 29.0 +0.7**
APA pmax pmax
comp=Z,36nm,1.2s,mb5.4
APA MLR MLR
comp=Z,600nm,16.0s,MS5.1
DIV Divide 84.01 29 *e*P **P** **19 19 28.3 -2.0**
comp=Z,25μm,1.2s
DIV *e* pP 19 19 42.3 -1.8
SIM Simferopol' 84.83 315*c i*P **P** **19 19 34.0 -0.9**
SIM *i* pP 19 19 45.0 -3.6
SIM pmax pmax
comp=Z,29nm,0.8s,mb5.5
SIM MLR MLR
comp=Z,190nm,20.1s,MS4.5
JOF Joensuu 84.87 333 *e*p **P** **19 19 34.5 -0.2**
comp=Z,5.0nm,0.6s,mb4.8
JOF Joensuu 84.87 333 *e*P **P** **19 19 34.5 -0.2**
JOF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
EGAK Eagle 85.75 25 *e*P **P** **19 19 39.3 +0.3**
comp=Z,8.5nm,0.8s,mb5.0
EGAK *e* pP 19 19 50.6 -2.2
MAW Mawson 85.94 200 P **P** **19 19 38.4 -1.4**
comp=Z,5.7nm,1.2s,mb4.7,baz=72,slow=3.2,SNR=5.2
MAW LR LR 19 51 49.2
comp=Z,100nm,21.3s,MS4.2,baz=185,slow=31
ARCES ARCESS Array B 86.30 340 P **P** **19 19 40.6 -1.1**
comp=Z,8.2nm,1.1s,mb4.9,baz=35,slow=4.4,SNR=3.5
ARCES pP pP 19 19 54.4 -1.0
comp=Z,3.6nm,0.7s,baz=79,slow=5.8,SNR=2.5
ARCES LR LR 20 04 25.4
comp=Z,194nm,20.2s,MS4.5,baz=69,slow=40
ARCES ARCESS Array B 86.30 340 P **P** **19 19 40.6 -1.0**
ARCES *PP pP 19 19 54.4 -1.0
ARCES ARCESS Array B 86.30 340 P **P** **19 19 40.5 -1.1**
ARCES pP pP 19 19 54.4 -1.0
ARCES LR LR 20 04 25.4
DAWY Dawson 86.61 26 P **P** **19 19 43.6 +0.3**
KMBO Kilima Mbogo 86.75 268 LR LR 20 00 16.4
comp=Z,163nm,18.1s,MS4.5,baz=102,slow=37
KMBO Kilima Mbogo 86.75 268 P **P** **19 19 44.9 -0.1**
KMBO pmax pmax
comp=Z,14nm,1.1s
KMBO Kilima Mbogo 86.75 268 P **P** **19 19 44.9 -0.1**
comp=Z,14nm,1.1s,mb5.1
VNDA Vanda 87.14 172 P **P** **19 19 44.8 -0.7**
comp=Z,7.6nm,0.9s,mb4.9,baz=315,slow=6.0,SNR=37
VNDA LR LR 19 56 54.4
comp=Z,157nm,19.1s,MS4.4,baz=324,slow=34
KAF Kangasniemi 87.28 332 *e*p **P** **19 19 45.5 -1.1**
comp=Z,5.4nm,0.7s,mb4.9,baz=76,slow=4.3
KAF Kangasniemi 87.28 332 *e*P **P** **19 19 45.5 -1.1**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
AKASG Malin Array Be 87.47 321 P **P** **19 19 46.3 -1.4**
comp=Z,4.7nm,0.7s,mb4.8,baz=70,slow=4.7,SNR=26
AKASG pP pP 19 19 58.1 -3.4
comp=Z,4.3nm,0.8s,baz=78,slow=4.1,SNR=6.0
AKASG LR LR 20 03 59.7
comp=Z,109nm,21.0s,MS4.2,baz=80,slow=39
AKASG Malin Array Be 87.47 321 P **P** **19 19 46.3 -1.4**
AKASG *PP pP 19 19 58.1 -3.4
HYT Haines Junctio 88.05 29 *e*P **P** **19 19 51.8 +1.5**
PPT Papeete 88.89 108 *e*LR LR 19 48 23.1
comp=Z,352nm,25.2s
PPT Papeete 88.89 108 LR LR 19 58 12.8
comp=Z,178nm,18.3s,MS4.5,baz=267,slow=34
TIRR Tirgusor 88.93 315⇓*i*P **P** **19 19 54.3 -0.5**
TIRR Tirgusor 88.93 315 ⇓P **P** **19 19 54.3 -0.5**
VRI Vrincioaia 89.87 316⇑*i*P **P** **19 19 59.6 +0.4**
PLOR Plostina 89.93 316⇑*i*P **P** **19 19 59.5 0.0**
MLR Muntele Rosu 90.48 316⇑*i*P **P** **19 20 02.0 0.0**
MLR Muntele Rosu 90.48 316 ⇑P **P** **19 20 02.0 0.0**
SUW Suwalki 90.51 325 *e*P **P** **19 20 00.3 -1.7**
SUW *e* pP 19 20 13.7 -2.2
SUW pmax pmax
comp=Z,26nm,1.0s,mb5.5
SUW Suwalki 90.51 325 *e*P **P** **19 20 00.3 -1.7**
comp=Z,26nm,1.0s,mb5.5
SUW *e* pP 19 20 13.7 -2.2
BURAR Bucovina Array 90.58 318⇓*i*P **P** **19 20 02.6 +0.2**
BURAR Bucovina Array 90.58 318 ⇓P **P** **19 20 02.6 +0.1**
KOLS Kolonicke sedl 92.22 320 *e*P **P** **19 20 10.1 +0.1**
APE Apeiranthos 92.34 308⇑*i*P pP 19 20 24.7 0.0
CRVS Cervenica-Dubn 92.75 320 *e*P **P** **19 20 12.8 +0.4**
STHS Stebnicka Huta 92.76 320 *e*P **P** **19 20 13.2 +0.7**
STHS *e* pP 19 20 24.4 -2.0
STHS pmax pmax
comp=Z,1.0nm,0.8s,mb4.3
STHS Stebnicka Huta 92.76 320 *e*P **P** **19 20 13.2 +0.7**
comp=Z,1.3nm,0.8s,mb4.4
STHS *e* pP 19 20 24.4 -2.0
BZS Buzias 93.43 317⇑*i*P **P** **19 20 14.9 -0.8**
BZS Buzias 93.43 317 ⇑P **P** **19 20 14.9 -0.8**
KECS Kecovo 93.47 320 *e*P **P** **19 20 15.7 -0.1**
KECS *e* pP 19 20 29.6 -0.1
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
KECS Kecovo 93.47 320 *e*P **P** **19 20 15.7 -0.1**
comp=Z,2.5nm,0.9s,mb4.6
KECS *e* pP 19 20 29.6 -0.1
DAG Danmarks Havn 93.53 352⇑*i*P **P** **19 20 14.8 -0.7**
DAG pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
DAG Danmarks Havn 93.53 352⇑*i*P **P** **19 20 14.8 -0.7**
comp=Z,2.2nm,0.8s,mb4.6
NOA NORSAR Array B 94.49 333 P **P** **19 20 18.8 -1.4**
comp=Z,4.6nm,1.0s,mb4.8,baz=67,slow=4.6,SNR=6.4
NOA pP pP 19 20 32.5 -1.6
comp=Z,3.6nm,1.0s,baz=65,slow=4.6,SNR=4.9
NOA LR LR 20 05 49.8
comp=Z,214nm,20.7s,MS4.6,baz=75,slow=37
NOA NORSAR Array B 94.49 333 P **P** **19 20 18.8 -1.4**
NOA *PP pP 19 20 32.5 -1.6
NOA NORSAR Array B 94.49 333 P **P** **19 20 18.8 -1.4**
NOA pP pP 19 20 32.5 -1.6
NOA LR LR 20 05 49.8
MORC Moravsky Berou 94.98 321 *e*P **P** **19 20 20.5 -2.2**
MORC pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
MORC Moravsky Berou 94.98 321 *e*P **P** **19 20 20.5 -2.2**
comp=Z,1.9nm,0.9s,mb4.5
PKSM Moragy 95.28 318⇑*i*P **P** **19 20 23.0 -1.2**
PKSM Moragy 95.28 318 ⇑P **P** **19 20 23.0 -1.1**
BRG Berggiesshubel 96.82 323 *e*P **P** **19 20 30.6 -0.4**
BRG *e* pP 19 20 44.9 0.0
BRG pmax pmax
comp=Z,4.0nm,1.5s,mb4.6
BRG MLR MLR
comp=N,6μm,22.7s,MS6.1
BRG MLR MLR
comp=E,91nm,18.3s,MS6.1
BRG MLR MLR
comp=Z,113nm,18.1s,MS4.4
BRG Berggiesshubel 96.82 323 *e*P **P** **19 20 30.6 -0.4**
comp=Z,6.3nm,1.5s,mb4.8
BRG *e* pP 19 20 44.9 0.0
comp=Z,10nm,1.6s
BRG
comp=N,152nm,22.7s
BRG
comp=E,189nm,18.3s
BRG
comp=Z,229nm,18.1s
BRG Berggiesshubel 96.82 323 *e*P **P** **19 20 30.6 -0.4**
comp=Z,3.8nm,1.5s,mb4.6
BRG *e* pP 19 20 44.9 0.0
BRG LR LR
comp=Z,140nm,18.1s,MS4.5
CLL Collm 97.22 324 *e*P **P** **19 20 33.0 +0.1**
comp=Z,5.0nm,1.2s,mb4.8
CLL LmV 19 07 00.0
comp=Z,200nm,20.4s
CLL *i* pP pP 19 20 44.5 -2.3
comp=Z,8.0nm,1.3s
CLL *e*(sS) 19 32 14.0
CLL *e*PS PS 19 33 21.0 +0.6
CLL Collm 97.22 324 *e*P **P** **19 20 33.0 +0.1**
comp=Z,5.0nm,1.2s,mb4.8
CLL *i* pP pP 19 20 44.5 -2.3
CLL LR LR
comp=Z,200nm,20.4s,MS4.6
YKA Yellowknife Ar 97.59 24 LR LR 20 05 38.0
comp=Z,68nm,21.6s,MS4.1,baz=195,slow=36
GERES GERESS Array B 97.66 321 P **P** **19 20 33.9 -1.0**
comp=Z,0.6nm,0.7s,mb4.2,baz=72,slow=4.3,SNR=5.4
GERES pP pP 19 20 45.7 -3.1
comp=Z,0.5nm,0.6s,baz=64,slow=3.1,SNR=3.6
GERES LR LR 20 10 48.6
comp=Z,159nm,19.8s,MS4.5,baz=78,slow=39
GERES GERESS Array B 97.66 321 P **P** **19 20 33.9 -1.0**
GERES *PP pP 19 20 45.7 -3.1
TORD Torodi Ar. Bea 119.11 289 PKP PKPdf 19 25 47.7 -2.2
comp=Z,0.6nm,0.7s,baz=89,slow=1.7,SNR=5.9
TORD Torodi Ar. Bea 119.11 289 PKP PKPdf 19 25 47.7 -2.2
TXAR Lajitas Array 121.69 49 PKP PKPdf 19 25 55.0 +0.4
comp=Z,0.1nm,0.5s,baz=340,slow=6.6,SNR=3.4
TXAR PKKPbc PKKPbc 19 35 52.6 -1.6
comp=Z,0.5nm,0.8s,baz=144,slow=4.5,SNR=3.7
PLCA Paso Flores 144.14 161 PKP PKPdf 19 26 33.9 -2.2
comp=Z,6.1nm,0.8s,baz=194,slow=3.2,SNR=10
PLCA Paso Flores 144.14 161 PKP PKPdf 19 26 33.9 -2.2
TRQA Tornquist 148.75 171 *e*PKPbc PKPbc 19 26 46.7 -1.1
TRQA *e* 19 27 02.5
CFAA Coronel Fontan 153.15 157 PKP PKPdf 19 26 50.5 -0.4
comp=Z,0.4nm,0.5s,baz=282,slow=0.8,SNR=6.9
CFAA PKPbc PKPbc 19 26 57.4 -1.0
comp=Z,1.1nm,0.6s,baz=213,slow=3.0,SNR=14
LPAZ La Paz 165.16 129 PKP PKPdf 19 27 05.6 +0.4
comp=Z,3.7nm,1.0s,baz=27,slow=3.7,SNR=11
LPAZ PKPab PKPab 19 28 03.1 +0.7
comp=Z,2.9nm,0.8s,baz=199,slow=2.3,SNR=6.7
SIV San Ignacio 169.96 152 PKP PKPdf 19 27 07.6 -1.1
comp=Z,1.3nm,1.0s,baz=73,slow=2.8,SNR=4.0
SIV PKPab PKPab 19 28 22.5 -0.9
comp=Z,1.3nm,0.9s,baz=288,slow=20,SNR=2.8

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*ISCJB **21** 19:24:48.8±1.6, 7679N±007×24.1E±06, h3km±9km, Error ellipse: s-maj=26.2km s-min=7.4km az=157.8*
*CSEM **21** 19:24:53.5±0.4, 7666N×2335E, h2km, ML2.9, Error ellipse: s-maj=15.9km s-min=3.4km az=68.0*
*BER **21** 19:24:55.0±4.0, 7679N×2458E, h18km±28km, MD3.0, ML2.9*
*NAO **21** 19:24:55.2±2.0, 7652N×22.19E, h16km±12km*
ISC 21 19:24:52.1±1.7**,7680N**±007×**239E**±06**, h11**km±9km**, n9,**

σ0§95/23, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar** baz=146,slow=16	**2.15**	**314**	Pn	**Pn**	**19 25 29.1**	**+1.3**
SPA0	baz=141,slow=18			Pg	**Pg**	**19 25 33.8**	**+0.6**
SPA0	baz=134,slow=28			Sn	**Sn**	**19 25 54.9**	**+0.5**
SPA0	baz=163,slow=37			Lg		19 26 01.5	
SPA0	**Spitsbergen Ar** SNR=118	**2.15**	**314**	Pg	**Pg**	**19 25 33.8**	**+0.6**
SPA0	SNR=7.3			Sn	**Sn**	**19 25 54.8**	**+0.4**
BJO	**Bjornoya**	**2.59**	**209**	*e*P	**Pn**	**19 25 37.6**	**+3.8**
BJO				*e*S	**Sn**	**19 26 05.5**	**+0.3**
BJO	comp=Z,310nm,0.5s			AML	AML	19 26 10.9	
BJO	**Bjornoya** SNR=55	**2.59**	**209**	*e*P	**Pn**	**19 25 37.6**	**+3.8**
BJO	comp=Z,310nm,0.5s,SNR=55			*e*S	**Sn**	**19 26 05.5**	**+0.3**
KBS	**Kingsbay**	**3.30**	**316**	Pn	**Pn**	**19 25 44.8**	**+1.1**
KBS				Pg	**Pg**	**19 25 54.7**	**-0.7**
KBS				Sn	**Sn**	**19 26 21.2**	**-1.7**
KBS				Lg		19 26 35.4	
KBS	**Kingsbay**	**3.30**	**316**	*e*P	**Pn**	**19 25 44.6**	**+1.0**
KBS				*e*Pg	**Pg**	**19 25 54.7**	**-0.6**
KBS				*e*S	**Sn**	**19 26 20.9**	**-1.9**
KBS				*e*Sg	**Sg**	**19 26 37.6**	**-0.4**
KBS	comp=Z,135nm,0.3s			AML	AML	19 26 42.0	
KBS	**Kingsbay**	**3.30**	**316**	Pg	**Pg**	**19 25 54.7**	**-0.6**
KBS				Sn	**Sn**	**19 26 21.2**	**-1.6**
KBS				*e*Sg	**Sg**	**19 26 37.6**	**-0.4**
ARA0	**ARCESS Array S** baz=351,slow=12	**7.32**	**176**	Pn	**Pn**	**19 26 37.8**	**-1.0**
ARA0	baz=6.7,slow=22			Sn	**Sn**	**19 27 52.5**	**-9.2**
KTK1	**Kautokeino**	**7.83**	**182**	*e*P	**Pn**	**19 26 45.5**	**-0.3**
KTK1				*e*S	**Sn**	**19 28 04.1**	**-10**
KTK1	comp=Z,4.0nm,0.6s			AML	AML	19 28 05.0	

*ISCJB **21** 19:33:05.4±1.0, 14.1S±02×7026W±008, h106km±14km, mb3.8/4, Error ellipse: s-maj=27.5km s-min=7.6km az=22.3*
*IDC **21** 19:33:05.4±2.1, 1397S×7028W, h74km±19km, mb3.5/2, mb1 4.0/5, mb1mx3.6/21, mbtmp3.9/5, MS3.3/2, Ms1 3.3/2, ms1mx2.8/22, Error ellipse: s-maj=51.1km s-min=16.4km az=29.0*
*NEIC **21** 19:33:06.0±1.2, 1436S×7039W, h88km±12km, mb3.9/2, Error ellipse: s-maj=21.8km s-min=13.1km az=204.0*

ISC 21 19:33:06.7±0.9, 142S±02×7029W±008, h99km±12km, n15, σ1§04/13, mb3.8/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.56**	**207**	*e*P	**Pn**	**19 33 41.0**	**-5.5**
LPAZ	**La Paz** 11nm,0.3s,baz=312,slow=11,SNR=134	**2.96**	**136**	P	**Pn**	**19 33 52.2**	**+0.4**
LPAZ	19nm,0.3s,baz=197,slow=19,SNR=3.5			S	**Sn**	**19 34 34.0**	**+7.3**
NNA	**Nana** 602nm,0.4s	**6.74**	**288**	*e*Pn	**Pn**	**19 34 44.0**	**+0.8**
NNA				*e*Sn	**Sn**	**19 36 00.5**	**+2.0**
SIV	**San Ignacio** 3.8nm,0.3s,baz=298,slow=12,SNR=42	**9.08**	**103**	P	**Pn**	**19 35 14.6**	**-0.4**
SIV	1.8nm,0.3s,baz=196,slow=20,SNR=5.7			S	**Sn**	**19 36 55.8**	**+0.3**
ATAH	**Atahualpa** 0.7nm,0.3s,baz=150,slow=14,SNR=4.2	**10.69**	**311**	P	**Pn**	**19 35 34.9**	**-1.9**
ATAH	0.6nm,0.3s,baz=75,slow=20,SNR=4.2			S	**Sn**	**19 37 28.1**	**-6.4**
ATAH	comp=Z,36nm,21.2s,baz=23,slow=42			LR	LR	19 40 25.7	
TRQA	**Tornquist** 3.4nm,0.9s,mb3.8	**24.91**	**164**	P	**P**	**19 38 19.3**	**-1.1**
TXAR	**Lajitas Array** 0.3nm,0.6s,mb3.5,baz=149,slow=10,SNR=4.2	**53.94**	**324**	P	**P**	**19 42 19.8**	**-0.5**
SDCO	**Great Sand Dun** 1.4nm,0.8s,mb4.0	**61.32**	**329**	*e*P	**P**	**19 43 12.3**	**+0.4**
TORD	**Torodi Ar. Bea** 1.6nm,0.7s,mb3.8,baz=266,slow=4.3,SNR=10	**76.27**	**72**	P	**P**	**19 44 46.3**	**+1.1**
TORD	comp=Z,91nm,20.2s,baz=135,slow=33			LR	LR	20 14 43.8	
ASAR	**Alice Springs** 0.5nm,0.8s,baz=113,slow=1.9,SNR=5.3	**135.57**	**212**	PKP	PKPdf	19 52 17.4	+1.3
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=240,slow=2.8,SNR=3.0	**135.75**	**21**	PKP	PKPdf	19 52 17.1	+1.6
WRA	**Warramunga Arr** 1.4nm,1.0s,baz=145,slow=1.7,SNR=7.3	**138.34**	**216**	PKP	PKPdf	19 52 23.4	+2.0
MJAR	**Matsushiro Arr** 1.6nm,0.7s,baz=64,slow=3.3,SNR=5.1	**146.17**	**316**	PKPbc	PKPbc	19 52 36.8	+0.9
SONM	**Songino Array** 0.5nm,0.7s,baz=325,slow=1.7,SNR=4.6	**146.32**	**4**	PKPbc	PKPbc	19 52 37.3	+1.4
KSRS	**Korea Array** 0.7nm,0.7s,baz=45,slow=1.6,SNR=4.0	**151.71**	**328**	PKPbc	PKPbc	19 52 51.2	+1.2

*NEIC **21** 19:57:41.1, 3239N×11525W, h4km, ML3.0(ECX), After ECX.*

ECX 21 19:57:41.1±0.6, 3239N×11525W, h4km±2km, MD2.9, ML3.0, 2C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.05**	**305**	⇑*e*P	Pg	19 57 42.2	-0.2
CPBX				*e*S	Sg	19 57 43.8	+0.6
CPBX	comp=E,54μm,0.3s			⇑*e*		19 57 49.9	
EMX	**El Mayor**	**0.40**	**179**	*e*P	Pg	19 57 54.5	+5.7
EMX				*e*S	Sg	19 58 00.2	+6.3
EMX	comp=E,1μm,0.5s			⇓*e*		19 58 01.0	
SGL	**Mount Signal**	**0.48**	**303**	⇓*e*P	Pg	19 57 49.4	-0.8
COA	**Coachella**	**0.49**	**13**	⇓*e*P	Pg	19 57 50.0	-0.5
COK	**Cook Ranch**	**0.61**	**319**	⇓*e*P	Pg	19 57 51.9	-0.9
YUH	**Yuha Desert**	**0.62**	**295**	⇓*e*P	Pg	19 57 51.9	-1.2
RMX	**La Rumorosa**	**0.73**	**287**	*e*P	Pg	19 57 54.1	-1.0
RMX				*e*S	Sg	19 58 04.4	-0.2
GLA	**Glamis**	**0.75**	**28**	*e*Pg	Pg	19 57 53.6	-2.0
GLA				*e*Sg	Sg	19 58 03.5	-1.9
ECBX	**El Chinero**	**0.93**	**169**	*e*P	Pg	19 58 03.5	+4.6
ECBX				*e*S	Sg	19 58 16.4	+5.5
BAR	**Barrett**	**1.23**	**284**	*e*Pg	Pg	19 58 01.6	-3.2
BAR				*e*Sg	Sg	19 58 18.8	-2.0
ENX	**Ensenada**	**1.30**	**248**	*e*P	Pn	19 58 03.6	-2.4
ENX				*e*S	Sg	19 58 21.1	-1.7
ENX	comp=N,172nm,0.6s			⇓*e*		19 58 27.3	
ECNX	**Esteban Cantu**	**1.35**	**238**	*e*P	Pn	19 58 04.3	-2.4
ECNX				*e*P		19 58 03.6	
ECNX				*e*S	Sg	19 58 21.5	-3.1
ECNX				*e*S	Sg	19 58 22.7	-1.9
PBX	**Punta Banda**	**1.41**	**243**	*e*P	Pn	19 58 05.5	-1.9
PBX				*e*S	Sb	19 58 24.3	-1.8
PFO	**Pinyon Flat Ob**	**1.58**	**321**	*e*Pn	Pn	19 58 05.3	-4.6
LDFC	**Landfair**	**2.69**	**3**	*e*Pn	Pn	19 58 30.8	+5.7
GSC	**Goldstone**	**3.18**	**336**	*e*Pg	Pg	19 58 41.9	-0.2
TPNV	**Topopah Spring**	**4.62**	**350**	*e*Pg	Pg	19 59 10.4	+0.7

*ISCJB **21** 20:25:52.6±0.9, 3935N±003×20.10E±008, h10km±6km, Error ellipse: s-maj=10.3km s-min=4.6km az=0.1*
*THE **21** 20:25:53.4, 3936N×2009E, h7km, ML2.7*
*CSEM **21** 20:25:54.7±0.4, 3933N×2022E, h15km, ML2.7, Error ellipse: s-maj=7.8km s-min=5.4km az=83.0*
*ATH **21** 20:25:54.4, 3932N×2024E, h20km±9km, MD3.2/4*

ISC 21 20:25:54.8±0.6, 3933N±003×2021E±006, h11km±7km, n10, σ1§08/20, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**25**	*e*Pg	**Pg**	**20 25 58.7**	**-0.8**
IGT				*e*Sg	**Sg**	**20 26 02.1**	**-0.5**
KEK	**Kerkira**	**0.50**	**321**	*e*PN	**Pg**	**20 26 05.0**	**+0.4**
KEK				*e*SN	**Sg**	**20 26 12.5**	**+1.3**
JAN	**Janina**	**0.60**	**56**	*e*PN	**Pg**	**20 26 05.2**	**-1.1**
JAN				*e*SN	**Sg**	**20 26 14.3**	**+0.1**
LKD	**Levkas**	**0.71**	**151**	*e*Pg	**Pg**	**20 26 07.7**	**-0.7**
LKD				*e*Sg	**Sg**	**20 26 19.7**	**+2.0**
MEV	**Metsovon**	**0.91**	**59**	*e*Pg	**Pg**	**20 26 11.9**	**-0.5**
MEV				*e*Sg	**Sg**	**20 26 25.9**	**+1.7**
VLS	**Valsamata**	**1.18**	**165**	*e*Pg	**Pg**	**20 26 15.6**	**-2.0**
VLS				*e*Sg	**Sg**	**20 26 34.5**	**+1.6**
VLS	**Valsamata**	**1.18**	**165**	*e*PN	**Pn**	**20 26 16.5**	**-0.8**
VLS				*e*SN	**Sn**	**20 26 33.7**	**+0.3**
VLS	**Valsamata**	**1.18**	**165**	*e*Pn	**Pn**	**20 26 16.5**	**-0.8**
VLS				*e*Sn	**Sn**	**20 26 33.7**	**+0.3**
VLS				*e*Sg	**Sg**	**20 26 34.5**	**+1.6**
KFL	**Anninata**	**1.29**	**159**	*e*Pg	**Pg**	**20 26 18.4**	**-1.2**
KFL				*e*Sg	**Sg**	**20 26 36.4**	**0.0**
THL	**Klokotos Trika**	**1.42**	**80**	*e*PN	**Pn**	**20 26 21.1**	**+0.6**

*MOS **21** 20:37:47.3±1.3, 1355S×7635W, h33km, mb5.1/4, Error ellipse: s-maj=18.4km s-min=12.4km az=44.2*
*BJI **21** 20:37:47.6, 1358S×7702W, h33km, mB4.9, Ms5.0, Msz4.8*
*ISCJB **21** 20:37:48.0±0.2, 1369S±004×7630W±005, h40km, mb4.7/41, MS4.4/19, Error ellipse: s-maj=8.4km s-min=3.5km az=141.7*
*NEIC **21** 20:37:49.0±0.3, 1369S×7626W, h35km, mb4.9/29, ML5.1(LIM), Error ellipse: s-maj=10.7km s-min=4.9km az=62.0*
NEIC Felt [IV] at Pisco, [III] at Chincha Alta and [II] at Lima.
*GCMT **21** 20:37:49.0±0.2, 1363S×7638W, h24km, MW5.3/57, Moment Tensor Solution. s46,c63; s57,c72; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.21±.02; $M_{\theta\theta}$0.07±.01; $M_{\phi\phi}$-0.27±.02; $M_{r\theta}$0.15±.02; $M_{\theta\phi}$0.13±.01; $M_{\phi r}$-0.93±.02; Best double couple: $M_0$0.98200×10^{17} NP1:ϕ_s171.00000°, δ9.00000°, λ63.00000°. NP2: ϕ_s171.00000°, δ82.00000°, λ94.00000°. Principal axes: T 0.9290, Plg52.0000°, Azm86.0000°; N 0.1050, Plg4.0000°, Azm350.0000°; P -1.0340, Plg37.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **21** 20:37:50.9±1.5, 1370S×7628W, h52km±12km, mb4.2/16, mb1 4.3/22, mb1mx4.3/27, mbtmp4.2/22, ML4.2/6, MS4.3/20, Ms1 4.2/20, ms1mx4.2/21 Error ellipse: s-maj=18.9km s-min=8.1km az=58.0*

ISC 21 20:37:50.3±0.2, 1367S±004×7618W±006, h42km, h42km±1.0km: pP-P, n255, σ0§67/219, mb4.7/41, MS4.4/19, 61C-70D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana** 140nm,0.3s,baz=167,slow=13,SNR=82	**1.79**	**339**	P	**Pn**	**20 38 17.4**	**-1.3**
NNA	587nm,0.3s,baz=218,slow=18,SNR=9.2			S	**Sn**	**20 38 41.4**	**+1.1**
NNA	comp=Z,4μm,19.4s,baz=132,slow=41			LR	LR	20 39 04.7	
NNA	**Nana**	**1.79**	**339**	*e*Pn	**Pn**	**20 38 17.2**	**-1.5**
NNA				*e*Sn	**Sn**	**20 38 41.9**	**+1.6**
ARE	**Arequipa**	**5.31**	**122**	*e*P	**Pn**	**20 39 09.0**	**+1.9**
ARE				*e*S	**Sn**	**20 40 13.0**	**+5.9**
ATAH	**Atahualpa** 4.1nm,0.3s,baz=126,slow=3.2,SNR=24	**6.98**	**342**	P	**Pn**	**20 39 28.7**	**-1.3**
ATAH	5.2nm,0.3s,baz=305,slow=19,SNR=1.9			S	**Sn**	**20 40 47.2**	**-0.9**
ATAH	comp=Z,2μm,19.7s,baz=168,slow=37			LR	LR	20 42 04.4	
LPAZ	**La Paz** 4.2nm,0.3s,baz=295,slow=14,SNR=133	**8.20**	**110**	P	**Pn**	**20 39 50.9**	**+4.1**
LPAZ	1.3nm,0.3s,baz=215,slow=19,SNR=1.7			S	**Sn**	**20 41 23.9**	**+5.7**
CEN1	**Los Morros**	**11.21**	**150**	*e*P	**Pn**	**20 40 27.7**	**-0.2**
LVC	**Limon Verde** 3.7nm,0.3s,baz=314,slow=9.9,SNR=24	**11.26**	**143**	P	**Pn**	**20 40 28.7**	**+0.1**
LVC	comp=Z,1μm,19.0s,baz=312,slow=38			LR	LR	20 45 05.1	
LVC	**Limon Verde** 100nm,0.8s	**11.26**	**143**	*e*Pn	**Pn**	**20 40 28.3**	**-0.3**
OTAV	**Otavalo** 22nm,0.8s	**14.00**	**351**	*e*Pn	**Pn**	**20 41 07.9**	**+1.7**
SIV	**San Ignacio** 0.5nm,0.3s,baz=276,slow=14,SNR=15	**14.79**	**101**	P	**Pn**	**20 41 16.4**	**-0.4**
LCO	**Las Campanas** 56nm,1.1s	**16.09**	**162**	*e*Pn	**Pn**	**20 41 33.7**	**+0.2**
TLL	**Tololo Astrono**	**17.15**	**164**	*e*P	**Pn**	**20 41 49.9**	**+3.0**
ROSC	**El Rosal** 2.7nm,0.3s,baz=107,slow=20,SNR=2.5	**18.50**	**6**	P	**Pn**	**20 42 04.4**	**+0.9**
ROSC	comp=Z,1μm,19.1s,baz=199,slow=41			LR	LR	20 50 31.7	
ROSC	**El Rosal**	**18.50**	**6**	P	**Pn**	**20 41 57.5**	**-6.0**
ROSC				P		20 42 04.4	
ROSC				LR	LR	20 50 31.7	
CFAA	**Coronel Fontan** 0.1nm,0.3s,baz=332,slow=12,SNR=16	**19.28**	**159**	P	**Pn**	**20 42 12.3**	**-0.5**
CFAA	comp=Z,50nm,19.3s,baz=330,slow=34			LR	LR	20 48 44.4	
CFAA	**Coronel Fontan**	**19.28**	**159**	P	**Pn**	**20 42 12.3**	**-0.5**
CFAA				LR	LR	20 48 44.4	
LMEL	**Las Melosas**	**20.81**	**166**	*e*P	**P**	**20 42 29.2**	**+1.0**
BCIP	**Isla Barro Col** 73nm,1.3s,mb5.0	**22.98**	**351**	*e*P	**P**	**20 42 51.4**	**0.0**
SDV	**Santo Domingo** 27nm,0.3s,mb5.1,baz=8.1,slow=8.7,SNR=3.5	**23.07**	**14**	P	**P**	**20 42 54.0**	**+1.5**
PCRV	**Puerto La Cruz** 11nm,0.8s,mb4.5,baz=348,slow=18,SNR=3.6	**26.32**	**26**	P	**P**	**20 43 23.4**	**+1.1**
PCRV	comp=Z,2μm,18.8s,MS4.7,baz=42,slow=39			LR	LR	20 54 51.4	
BDFB	**Brasilia** 0.9nm,0.6s,baz=270,slow=20,SNR=2.8	**27.31**	**98**	P	**P**	**20 43 32.6**	**+1.3**
BDFB	comp=Z,811nm,19.2s,MS4.3,baz=264,slow=38			LR	LR	20 54 59.0	
TRQA	**Tornquist** 9.8nm,0.9s,mb4.3	**27.37**	**155**	*e*P	**P**	**20 43 29.0**	**-2.6**
PLCA	**Paso Flores** 8.5nm,1.0s,mb4.2,baz=337,slow=11,SNR=10.0	**27.41**	**171**	P	**P**	**20 43 31.4**	**-0.5**
PLCA	comp=Z,272nm,18.4s,MS3.9,baz=344,slow=33			LR	LR	20 52 45.3	
PLCA	**Paso Flores**	**27.41**	**171**	P	**P**	**20 43 31.4**	**-0.5**
PLCA				LR	LR	20 52 45.4	
SPB	**Sao Paulo**	**28.92**	**114**	P	**P**	**20 43 48.1**	**+2.5**
CMIG	**Matias Romero** 1.1nm,0.6s,mb4.0,baz=140,slow=7.9,SNR=3.7	**35.71**	**328**	P	**P**	**20 44 45.4**	**+0.4**
CMIG	**Matias Romero**	**35.71**	**328**	P	**P**	**20 44 45.4**	**+0.4**
TEIG	**Tepich** 12nm,0.6s,mb5.0,baz=185,slow=13,SNR=7.1	**35.72**	**340**	P	**P**	**20 44 44.9**	**-0.2**
TEIG	**Tepich** 52nm,1.0s,mb5.4	**35.72**	**340**	*e*P	**P**	**20 44 44.3**	**-0.8**
USHA	**Ushuaia** 16nm,0.9s,mb4.7,baz=316,slow=5.2,SNR=4.3	**41.51**	**173**	P	**P**	**20 45 31.8**	**-1.5**
TXAR	**Lajitas Array** 2.1nm,0.8s,mb4.2,baz=148,slow=7.3,SNR=12	**50.32**	**328**	P	**P**	**20 46 43.6**	**+0.6**
TXAR	comp=Z,274nm,19.3s,MS4.3,baz=295,slow=35			LR	LR	21 07 04.4	
TZTN	**Tazewell** 9.0nm,0.8s,mb4.8	**50.42**	**352**	P	**P**	**20 46 38.2**	**-5.4**
MIAR	**Mount Ida** 14nm,1.1s,mb4.8	**50.72**	**341**	*e*P	**P**	**20 46 44.9**	**-1.0**
OLIL	**Olney**	**53.31**	**348**	*e*P	**P**	**20 47 01.2**	**-3.9**
319A	**Douglas** baz=55	**54.91**	**325**	⇑P	**P**	**20 47 16.4**	**-0.6**
318A	**Bisbee** baz=56,SNR=6.9	**55.36**	**325**	⇓P	**P**	**20 47 20.4**	**+0.2**
219A	**White Tail Can** baz=56	**55.38**	**326**	⇑P	**P**	**20 47 20.1**	**-0.2**
218A	**Dragoon** baz=56	**55.79**	**325**	⇓P	**P**	**20 47 23.5**	**+0.2**
119A	**Ashpeak Ranch,** baz=56	**55.98**	**326**	⇓P	**P**	**20 47 24.7**	**0.0**
217A	**Green Valley** baz=56,SNR=5.7	**56.07**	**324**	⇓P	**P**	**20 47 26.2**	**+0.9**
LAZ	**Ladron**	**56.14**	**329**	*e*P	**P**	**20 47 26.2**	**+0.5**
ANMO	**Albuquerque** 8.8nm,1.1s,mb4.7	**56.25**	**330**	*e*P	**P**	**20 47 26.5**	**0.0**
ANMO				*e*	pP	20 47 37.9	-0.6
118A	**Homack Ranch,** baz=56	**56.25**	**326**	⇑P	**P**	**20 47 26.7**	**+0.2**
RKT	**Rikitea** 1μm,28.2s	**56.27**	**251**	*e*LR	LR	21 04 02.2	
Z19A	**T-Link Ranch,** baz=57	**56.37**	**327**	⇓P	**P**	**20 47 27.7**	**+0.3**
TUC	**Tucson** 4.4nm,0.9s,mb4.5	**56.45**	**325**	*e*P	**P**	**20 47 27.6**	**-0.4**
216A	**Three Points,** baz=57	**56.61**	**324**	⇓P	**P**	**20 47 28.8**	**-0.3**
117A	**Oracle** baz=57,SNR=5.4	**56.63**	**325**	⇓P	**P**	**20 47 28.9**	**-0.4**
Y19A	**Nutrioso** baz=57,SNR=5.3	**56.87**	**327**	⇑P	**P**	**20 47 31.1**	**+0.2**
116A	**Eloy** baz=57	**57.16**	**324**	⇑P	**P**	**20 47 33.8**	**+0.7**
X19A	**St. Johns** baz=58	**57.26**	**328**	⇓P	**P**	**20 47 34.4**	**+0.7**
214A	**Organ Pipe Nat** baz=58	**57.36**	**323**	⇑P	**P**	**20 47 34.5**	**+0.1**
MDV	**Middlebury**	**57.45**	**3**	*e*P	**P**	**20 47 33.8**	**-1.0**
Y17A	**Roosevelt** baz=58	**57.53**	**326**	⇓P	**P**	**20 47 35.2**	**-0.4**
Y16A	**Circle Bar Ran** baz=58	**58.01**	**325**	⇑P	**P**	**20 47 38.9**	**-0.1**
LONY	**Lake Ozonia** 10nm,1.1s,mb4.8	**58.03**	**1**	*e*P	**P**	**20 47 38.2**	**-0.7**
SDCO	**Great Sand Dun** 6.2nm,1.1s,mb4.5	**58.08**	**333**	*e*P	**P**	**20 47 38.6**	**-0.8**
FRNY	**Flat Rock** 31nm,1.0s,mb5.3	**58.27**	**2**	*e*P	**P**	**20 47 40.0**	**-0.5**
X16A	**Lo Mia Camp, P** baz=59,SNR=5.4	**58.40**	**326**	⇑P	**P**	**20 47 41.4**	**-0.2**
Y15A	**Casa Rosa Ranc** baz=59	**58.54**	**325**	⇑P	**P**	**20 47 42.8**	**+0.1**
X15A	**Humboldt** baz=59	**58.88**	**325**	⇑P	**P**	**20 47 45.1**	**0.0**
Y14A	**Wickenburg** baz=59	**58.91**	**324**	⇓P	**P**	**20 47 45.7**	**+0.5**
W16A	**Flagstaff** baz=59	**58.95**	**326**	⇑P	**P**	**20 47 46.0**	**+0.4**
T19A	**Beclabito** baz=59	**59.00**	**329**	⇓P	**P**	**20 47 45.3**	**-0.5**
MVCO	**Mesa Verde** baz=59	**59.04**	**330**	⇑P	**P**	**20 47 45.8**	**-0.3**
WUAZ	**Wupatki** baz=59	**59.19**	**327**	⇓P	**P**	**20 47 47.5**	**+0.3**
WUAZ	**Wupatki** 11nm,1.0s,mb4.8	**59.19**	**327**	*e*P	**P**	**20 47 47.8**	**+0.6**
X14A	**Yava** baz=60,SNR=5.3	**59.23**	**325**	⇑P	**P**	**20 47 48.4**	**+0.9**
T18A	**Mexican Hat** baz=60,SNR=6.7	**59.66**	**329**	⇓P	**P**	**20 47 50.3**	**-0.1**
S19A	**Harvey Farm, M** baz=60	**59.77**	**330**	⇑P	**P**	**20 47 50.5**	**-0.7**
PV01	**Paradox Valley**	**59.81**	**331**	*e*P	**P**	**20 47 49.2**	**-2.1**
V15A	**Kaibab Nationa** baz=60	**59.84**	**326**	⇑P	**P**	**20 47 52.1**	**+0.5**
X13A	**Yucca** baz=60	**59.85**	**324**	⇓P	**P**	**20 47 51.9**	**+0.1**
W14A	**Seligman** baz=60	**59.89**	**325**	⇓P	**P**	**20 47 52.3**	**+0.3**
ECSD	**EROS,Sioux Fal** 13nm,1.1s,mb4.9	**60.10**	**343**	*e*P	**P**	**20 47 50.9**	**-2.3**
BC3	**Big Chuckw Mtn** baz=60	**60.12**	**322**	⇑P	**P**	**20 47 53.8**	**+0.2**
S18A	**Hurst Farm, Bl** baz=60,SNR=6.6	**60.15**	**329**	⇑P	**P**	**20 47 53.1**	**-0.6**
V14A	**Boquillas Ranc** baz=60	**60.21**	**326**	⇓P	**P**	**20 47 54.5**	**+0.3**
W13A	**Hualapai Mount** baz=60	**60.25**	**325**	⇑P	**P**	**20 47 54.5**	**0.0**
IRM	**Iron Mountain** baz=60	**60.30**	**323**	⇑P	**P**	**20 47 55.3**	**+0.4**
U15A	**North Rim** baz=61	**60.36**	**327**	⇓P	**P**	**20 47 55.1**	**-0.1**
R18A	**Canyonlands Na** baz=61	**60.65**	**330**	⇓P	**P**	**20 47 57.0**	**-0.1**
BELC	**Belle Mtn.** baz=61	**60.69**	**322**	⇑P	**P**	**20 47 57.3**	**-0.2**
Q19A	**Hogan Spring (** baz=61	**60.79**	**331**	⇓P	**P**	**20 47 58.4**	**+0.3**
U14A	**Mt Trumbull** baz=61	**60.83**	**326**	⇓P	**P**	**20 47 58.6**	**+0.2**
V13A	**Grand Canyon W** baz=61	**60.86**	**325**	⇑P	**P**	**20 47 58.5**	**-0.1**
S16A	**Weppner Ranch,** baz=61	**60.98**	**328**	⇑P	**P**	**20 47 59.1**	**-0.3**
GMRC	**Granite Mounta** baz=61	**61.04**	**323**	⇑P	**P**	**20 47 59.7**	**-0.1**
R17A	**Hanksville Air** baz=61,SNR=6.9	**61.07**	**329**	⇑P	**P**	**20 47 59.8**	**-0.2**
U13A	**Pakoon Wash** baz=62	**61.26**	**326**	⇓P	**P**	**20 48 01.3**	**0.0**
Q18A	**Rafter H Ranch** baz=62,SNR=5.0	**61.32**	**330**	⇓P	**P**	**20 48 01.4**	**-0.3**
HEC	**Hector,Ludlow** baz=62	**61.46**	**323**	⇑P	**P**	**20 48 02.9**	**+0.2**
SRU	**San Rafael** baz=62	**61.52**	**330**	⇑P	**P**	**20 48 02.8**	**-0.2**
S13A	**Holt Ranch, En** baz=62	**62.06**	**327**	⇓P	**P**	**20 48 07.1**	**+0.5**
O17A	**Robinson Place** baz=63	**62.47**	**331**	⇑P	**P**	**20 48 09.8**	**+0.5**
T11A	**Corn Creek, Al** baz=63	**62.55**	**325**	⇑P	**P**	**20 48 09.9**	**-0.1**
R13A	**O'Grain Ranch,** baz=63	**62.56**	**327**	⇓P	**P**	**20 48 10.3**	**+0.3**
N18A	**Larsen Ranch,** baz=63	**62.59**	**332**	⇑P	**P**	**20 48 10.4**	**+0.3**
TAOE	**Nuku Hiva Isla** 567nm,26.6s	**62.77**	**267**	*e*S	**S**	**20 56 48.2**	**+10**
TAOE	**Nuku Hiva Isla** 5μm,25.6s,baz=109	**62.77**	**267**	*e*LR	LR	21 06 59.6	
Q14A	**Sevier Lake (B** baz=63,SNR=8.4	**62.80**	**328**	⇑P	**P**	**20 48 12.6**	**+1.0**
TPNV	**Topopah Spring** baz=63	**62.91**	**325**	⇓P	**P**	**20 48 12.8**	**+0.4**
MPMC	**Manual Prospec** baz=63	**63.00**	**323**	⇑P	**P**	**20 48 13.6**	**+0.6**
R12A	**Pony Springs,** baz=63	**63.01**	**327**	⇑P	**P**	**20 48 13.0**	**0.0**
P14A	**Drum Mountains** baz=63,SNR=6.2	**63.15**	**329**	⇑P	**P**	**20 48 14.2**	**+0.3**
DUG	**Dugway** baz=64	**63.48**	**329**	⇓P	**P**	**20 48 16.7**	**+0.7**
DUG	**Dugway** 17nm,1.1s,mb5.1	**63.48**	**329**	*e*P	**P**	**20 48 16.6**	**+0.5**
P13A	**Bates Ranch, G** baz=64	**63.53**	**328**	⇓P	**P**	**20 48 16.9**	**+0.5**
R11A	**Troy Canyon, C** baz=64,SNR=5.1	**63.55**	**326**	⇓P	**P**	**20 48 16.3**	**-0.2**
PKM	**Peak Mountain** baz=64	**63.61**	**321**	⇑P	**P**	**20 48 16.8**	**-0.2**
Q12A	**Willow Creek R** baz=64	**63.65**	**327**	⇓P	**P**	**20 48 17.4**	**+0.2**
S10A	**Tonopah Range,** baz=64,SNR=6.7	**63.80**	**325**	⇑P	**P**	**20 48 18.8**	**+0.5**
Q11A	**Duckwater** baz=64,SNR=7.3	**63.94**	**326**	⇓P	**P**	**20 48 19.7**	**+0.5**
HWUT	**Hardware Ranch** 12nm,1.0s,mb4.9	**63.96**	**331**	*e*P	**P**	**20 48 17.9**	**-1.3**
PDAR	**Pinedale Array** 0.9nm,0.6s,mb4.0,baz=139,slow=7.0,SNR=9.9	**63.97**	**333**	P	**P**	**20 48 17.9**	**-1.3**
PDAR	comp=Z,156nm,18.0s,MS4.2,baz=345,slow=37			LR	LR	21 17 32.3	
PDAR	**Pinedale Array**	**63.97**	**333**	P	**P**	**20 48 17.9**	**-1.3**
PDAR				LR	LR	21 17 32.3	
S09A	**Goldfield** baz=64	**64.01**	**325**	⇑P	**P**	**20 48 20.3**	**+0.7**
AGMN	**Agassiz Refuge** 12nm,0.8s,mb5.0	**64.13**	**346**	*e*P	**P**	**20 48 18.5**	**-1.6**
M15A	**Lars

FLWY Flagg Ranch 65.52 333 *e*P **P 20 48 29.1 -0.3**
37nm,1.3s,mb5.3
S06C San Francisco 65.62 323 ⇑P **P 20 48 29.7 -0.4**
baz=66
RLMT Red Lodge 65.75 335 *e*P **P 20 48 31.0 +0.2**
8.4nm,1.0s,mb4.7
ULM Lac du Bonnet 65.95 346 P **P 20 48 30.4 -1.5**
8.0nm,0.6s,mb4.9,baz=165,slow=6.5,SNR=15
ULM LR LR 21 19 23.7
comp=Z,148nm,21.3s,MS4.2,baz=156,slow=38
J14A Carey 66.20 331 ⇑P **P 20 48 33.7 0.0**
baz=66
K12A Draper Farm, C 66.35 330 ⇓P **P 20 48 35.1 +0.4**
baz=67
O07A Toulon 66.63 326 ⇑P **P 20 48 36.8 +0.3**
baz=67
I14A Mackay 66.64 332 ⇓P **P 20 48 37.0 +0.5**
baz=67
L10A Juniper Basin 66.72 328 ⇑P **P 20 48 37.3 +0.2**
baz=67,SNR=6.2
H15A Lima 66.80 332 ⇓P **P 20 48 38.0 +0.5**
baz=67
HLID Hailey 66.81 331 ⇑P **P 20 48 37.8 +0.2**
baz=67
HLID Hailey 66.81 331 *e*P **P 20 48 36.6 -1.0**
4.1nm,0.9s,mb4.5
I13A Wildhorse Cree 66.94 331 ⇓P **P 20 48 39.1 +0.7**
baz=67
K11A Parker Ranch, 67.01 329 ⇓P **P 20 48 39.1 +0.2**
baz=67
P05C Yuba Gap, Truc 67.02 324 ⇑P **P 20 48 39.2 +0.2**
baz=67
H14A Leadore 67.13 332 ⇑P **P 20 48 39.7 +0.1**
baz=67
G15A Dillon 67.16 333 ⇓P **P 20 48 39.8 0.0**
baz=67
BOZ Bozeman (W) 67.16 334 ⇑P **P 20 48 39.5 -0.3**
baz=67
BOZ Bozeman (W) 67.16 334 *e*P **P 20 48 38.6 -1.2**
2.0nm,0.7s,mb4.3
MFID Camas Ranch 67.38 330 ⇓P **P 20 48 41.8 +0.5**
baz=68
K10A MacKenzie Ranc 67.43 329 ⇑P **P 20 48 41.8 +0.3**
baz=68
H13A Challis 67.50 332 ⇓P **P 20 48 42.0 +0.1**
baz=68
N06A Buffalo Meadow 67.56 325 ⇓P **P 20 48 42.6 +0.2**
baz=68,SNR=5.3
F15A Butte 67.69 333 ⇓P **P 20 48 43.0 -0.1**
baz=68
ORV Oroville 67.70 324 ⇑P **P 20 48 43.7 +0.3**
baz=68
K09A Rome 67.81 328 ⇑P **P 20 48 44.4 +0.4**
baz=68,SNR=8.8
I11A Placerville 67.81 330 ⇑P **P 20 48 44.0 +0.1**
baz=68
G13A Cobalt 67.89 332 ⇓P **P 20 48 44.6 +0.2**
baz=68
F13A Darby 68.46 332 ⇑P **P 20 48 47.9 -0.1**
baz=69,SNR=5.6
E14A Clinton 68.57 333 ⇓P **P 20 48 48.9 +0.3**
baz=69
SCHQ Schefferville 68.69 6 LR LR 21 20 37.7
comp=Z,156nm,20.4s,MS4.2,baz=233,slow=37
M05C Lookout 68.71 325 ⇓P **P 20 48 49.6 0.0**
baz=69
F12A Elk City 68.86 332 ⇓P **P 20 48 50.6 +0.2**
baz=69
E13A Victor 68.90 333 ⇓P **P 20 48 51.1 +0.4**
baz=69
G11A Walters Elk Ra 69.06 331 ⇓P **P 20 48 52.1 +0.4**
baz=69
MSO Missoula 69.09 333 *e*P **P 20 48 52.4 +0.6**
1.1nm,0.8s,mb3.8
MSO *e* pP 20 49 03.0 -1.2
K06A Valley Falls 69.20 327 ⇓P **P 20 48 52.8 +0.2**
baz=70,SNR=7.7
F11A Grangeville 69.38 331 ⇓P **P 20 48 53.7 +0.1**
baz=70
G10A Bishop Farm, J 69.39 330 ⇓P **P 20 48 54.3 +0.5**
baz=70
J06A Christmas Vall 69.46 327 ⇑P **P 20 48 54.6 +0.3**
baz=70,SNR=8.4
N02C Big Bar 69.57 324 ⇓P **P 20 48 55.1 +0.1**
baz=70
H08A Prairie City 69.59 329 ⇓P **P 20 48 54.9 -0.2**
baz=70,SNR=9.0
VNA3 Neumayer Olymp 69.66 162 *e*P **P 20 48 54.8 -0.3**
VNA3 *e* pP 20 49 07.2 -0.2
VNA3 *e* 20 49 10.9
VNA3 *e* 20 49 21.2
G09A Cove 69.70 330 ⇑P **P 20 48 55.7 0.0**
baz=70,SNR=12
I07A Izee 69.71 328 ⇓P **P 20 48 56.3 +0.6**
baz=70
C14A Swan Lake 69.73 334 ⇑P **P 20 48 56.2 +0.4**
baz=70
E11A Bogner Ranch, 69.75 332 ⇑P **P 20 48 55.9 -0.1**
baz=70
D12A Red Ives Fores 69.88 333 ⇑P **P 20 48 56.6 -0.1**
baz=70
VNA1 Neumayer--Stat 69.93 161 *e*P **P 20 48 56.8 0.0**
VNA1 *e* pP 20 49 09.0 -0.1
VNA1 *e* 20 49 12.1
VNA1 *e* 20 49 21.3
F10A Beach Ranch, E 69.94 331 ⇓P **P 20 48 57.3 +0.2**
baz=70
C13A Hot Springs 70.02 333 ⇑P **P 20 48 57.4 -0.2**
baz=70
F09A S2 Ranch, Elgi 70.08 330 ⇓P **P 20 48 58.0 0.0**
baz=70
VNA2 Neumayer--Watz 70.28 161 *e*P **P 20 48 58.7 -0.2**
VNA2 *e* pP 20 49 10.7 -0.6
VNA2 *e* 20 49 13.7
VNA2 *e* 20 49 22.9
G08A Pilot Rock 70.29 329 ⇓P **P 20 48 59.9 +0.6**
baz=70
PPT Papeete 70.40 256 *e*S S 20 58 20.0 +9.2
146nm,24.2s
PPT Papeete 70.40 256 *e*LR LR 21 10 28.4
678nm,28.0s
PPT Papeete 70.40 256 LR LR 21 12 38.3
comp=Z,113nm,21.1s,MS4.1,baz=124,slow=30
H06A Lindquist Farm 70.59 328 ⇓P **P 20 49 01.6 +0.5**
baz=71
G07A Ruggs Ranch, H 70.62 329 ⇑P **P 20 49 01.9 +0.6**
baz=71
D10A Wagner Farm, O 70.76 332 ⇓P **P 20 49 01.7 -0.4**
baz=71
D09A Jones Farm, Ri 71.25 331 ⇓P **P 20 49 04.6 -0.4**
baz=72
OD2 Odessa Site #2 71.67 331 *e*P **P 20 49 08.2 +0.6**
A11A Hall Mountain, 71.77 333 ⇓P **P 20 49 07.8 -0.4**
baz=72
SNAA Sanae 71.89 161 *e*P **P 20 49 08.0 -0.6**
SNAA *e* pP 20 49 19.8 -1.2
SNAA *e* 20 49 23.6
SNAA *e* 20 49 30.2
SNAA Sanae 71.89 161 *e*P **P 20 49 07.9 -0.7**
SNAA pmax pmax
comp=Z,9.0nm,0.8s
SNAA Sanae 71.89 161 *e*P **P 20 49 07.9 -0.7**
comp=Z,8.8nm,0.8s,mb4.7
B09A Rice 72.17 332 ⇑P **P 20 49 10.3 -0.3**
baz=72
A09A Danville 72.77 332 ⇓P **P 20 49 14.3 +0.2**
baz=73
A08A Turner Farm, O 73.06 332 ⇓P **P 20 49 16.3 +0.4**
baz=73
LIC Lamto 73.33 79 *e*P **P 20 49 17.3 -1.0**
comp=Z,42nm,1.0s,mb5.3
TIC Toumodi 73.45 79 *e*P **P 20 49 18.2 -0.8**
comp=Z,196nm,1.6s,mb5.8
DBIC Dimbokro 73.61 79 P **P 20 49 19.4 -0.6**
comp=Z,10nm,0.7s,mb4.9,baz=232,slow=4.5,SNR=14
DBIC LR LR 21 19 00.7
comp=Z,367nm,21.0s,MS4.6,baz=220,slow=34
DBIC Dimbokro 73.61 79 *e*P **P 20 49 19.2 -0.7**
DBIC LR LR 21 19 00.7
KIC Kosan Boka 73.64 79 *e*P **P 20 49 19.4 -0.7**
comp=Z,159nm,1.0s
A07A Ashnola River, 73.64 331 ⇓P **P 20 49 19.8 +0.5**
baz=74
EDM Edmonton 73.85 338 *e*P **P 20 49 19.2 -1.2**
TOA0 Torodi Ar. Sit 81.61 74 *e*P **P 20 50 04.0 -0.6**
TOA0 *e* pP 20 50 16.0 -1.1
TORD Torodi Ar. Bea 81.61 74 P **P 20 50 04.2 -0.3**
comp=Z,16nm,0.9s,mb5.0,baz=246,slow=4.5,SNR=95
TORD LR LR 21 27 19.7
comp=Z,309nm,18.1s,MS4.7,baz=250,slow=36
YKA Yellowknife Ar 81.63 343 P **P 20 50 02.0 -1.6**
comp=Z,4.1nm,1.0s,mb4.3,baz=138,slow=5.7,SNR=4.0
YKA LR LR 21 28 22.4
comp=Z,71nm,19.2s,MS4.0,baz=175,slow=37
SBA Scott Base 82.19 191 *e*P **P 20 50 06.9 +0.4**
SBA *e* pP 20 50 17.9 -1.1
SBA pmax pmax
comp=Z,27nm,1.5s,mb5.0
SBA Scott Base 82.19 191 *e*P **P 20 50 06.8 +0.4**
comp=Z,27nm,1.5s,mb5.0
SBA *e* pP 20 50 17.9 -1.1
VNDA Vanda 83.27 191 P **P 20 50 12.2 +0.2**
comp=Z,1.2nm,1.0s,mb3.9,baz=131,slow=3.8,SNR=4.9
VNDA LR LR 21 20 10.5
comp=Z,246nm,18.6s,MS4.6,baz=123,slow=30
VNDA Vanda 83.27 191 *e*P **P 20 50 12.1 +0.1**
VNDA *e* pP 20 50 23.9 -0.7
VNDA pmax pmax
comp=Z,16nm,1.6s
VNDA Vanda 83.27 191 *e*P **P 20 50 12.1 +0.1**
comp=Z,16nm,1.6s,mb4.8
VNDA *e* pP 20 50 23.9 -0.8
VNDA LR LR 21 20 10.5
ESDC Sonseca Array 85.42 48 P **P 20 50 23.4 -0.2**
comp=Z,0.4nm,0.6s,mb3.7,baz=212,slow=6.1,SNR=3.9
ESDC LR LR 21 25 12.8
comp=Z,203nm,19.9s,MS4.5,baz=250,slow=33
SYO Syowa Base 86.17 161‖*e*P PcP 20 50 36.6 +7.2
SYO Syowa Base 86.17 161‖*e*P pP 20 50 41.4 +2.0
TAM Tamanrasset 87.77 66 *e*P **P 20 50 36.0 +0.6**
SUMG Summit 89.56 11 *e*P **P 20 50 42.0 -0.7**
comp=Z,14nm,1.2s,mb5.2
DAWY Dawson 91.05 337 *e*P **P 20 50 48.4 -1.5**
DAWY *e* pP 20 51 01.9 -0.6
BOSA Boshof 93.30 120 LR LR 21 31 03.8
comp=Z,406nm,20.5s,MS4.9,baz=264,slow=34
MAW Mawson 93.69 165 LR LR 21 30 14.3
comp=Z,246nm,21.8s,MS4.6,baz=340,slow=34
KEST Kesra 94.29 54 LR LR 21 35 26.7
comp=Z,66nm,19.3s,MS4.1,baz=198,slow=37
CLL Collm 100.03 40 *e*P Pdif 20 51 33.0 +1.9
CLL *e* 21 02 12.0
CLL MLR MLR
comp=Z,200nm,23.8s,MS4.5
CLL Collm 100.03 40 *e*Pdif Pdif 20 51 33.0 +1.9
CLL *e*PP PP 20 55 36.0 -0.8
CLL *e*SKSac SKSac 21 02 12.0 +5.7
CLL *e*sSdiff 21 03 23.0
CLL *e*(PS) 21 04 27.0
CLL *e*PPS 21 05 26.0
CLL *e*SS SS 21 09 54.0 -2.7
CLL *e*SSS 21 13 54.0
CLL *e*x x 21 15 42.0
CLL Collm 100.03 40 *e*Pdif Pdif 20 51 33.0 +1.9
CLL *e*SKS 21 02 12.0
CLL *e*Sdif Sdif 21 03 23.0 +20
CLL LR LR
comp=Z,200nm,23.8s,MS4.5
GERES GERESS Array B 100.08 42 P Pdif 20 51 30.9 -0.4
comp=Z,0.5nm,0.9s,baz=224,slow=5.6,SNR=4.5
BILL Bilibino 112.75 339 *e*PKIKP PKiKP 20 56 29.0 +7.2
BILL pmax pmax
comp=Z,3.0nm,1.0s
OBN Obninsk 114.09 35 *e*PKIKP PKiKP 20 56 38.4 +14
OBN pmax pmax
comp=Z,4.0nm,1.1s
KIV Kislovodsk 120.09 47 *e*PKIKP PKPdf 20 56 43.6 +6.9
KIV pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 132.65 219 PKP PKPdf 20 57 00.1 -1.2
comp=Z,1.4nm,1.0s,baz=161,slow=3.4,SNR=8.6
WRA Warramunga Arr 135.09 223 PKP PKPdf 20 57 05.1 -0.9
comp=Z,1.0nm,0.6s,baz=134,slow=2.0,SNR=17
ZALV Zalesovo Beam 137.11 16 PKP PKPdf 20 57 07.7 -1.0
comp=Z,3.2nm,0.9s,baz=304,slow=2.7,SNR=11
ZALV Zalesovo Beam 137.11 16 PKP PKPdf 20 57 07.7 -1.0
ZAL Zalesovo 137.12 16 PKIKP PKPdf 20 57 07.7 -1.0
MK31 Makanchi Array 142.36 24 *e*PKIKP PKPdf 20 57 14.6 -3.9
MKAR Makanchi Array 142.36 24 PKP PKPdf 20 57 15.2 -3.3
comp=Z,0.2nm,0.3s,baz=2.9,slow=2.4,SNR=6.7
ZAK Zakamensk 143.39 1 *e*PKHKP 20 57 02.4
ZAK pmax pmax
comp=Z,3.0nm,1.4s
CN2 Changchun 144.71 332 *e*PKP PKPdf 20 57 23.3 +0.6
SONM Songino Array 145.87 357 PKPbc PKPbc 20 57 25.0 -0.1
comp=Z,2.8nm,0.5s,baz=315,slow=0.9,SNR=25
WMQ Urumqi 146.92 22 PKP PKPdf 20 57 26.0 -0.5
WMQ LR LR
comp=N,77nm,18.3s
WMQ LR LR
comp=E,77nm,24.8s
WMQ LR LR
comp=Z,84nm,22.8s,MS4.5
KSRS Korea Array 148.03 322 PKPbc PKPbc 20 57 30.8 -0.8
comp=Z,2.3nm,0.8s,baz=47,slow=2.6,SNR=12
THN Thein Dam 148.26 49 *e*P PKPdf 20 57 31.6 +2.6
DDI Dehra Dun 151.03 51 *e*x x 20 57 38.0
BJI Beijing 151.58 340 PKP PKPdf 20 57 34.1 +0.1
HHC Hu-ho-hao-te 152.09 347 *e*PKP PKPdf 20 57 34.3 -0.5
HHC APKP 20 57 45.0
HHC XPKP 20 57 48.6
HHC PKS 21 01 07.4
HHC PP PP 21 01 26.1 +4.4
HHC SKS SKSdf 21 04 36.4 -2.5
HHC SKKS SKKSac 21 08 09.3 -0.7
HHC SS SS 21 20 47.3 +1.5
HHC PP PP
comp=Z,43nm,4.8s
HHC LR LR
comp=N,96nm,23.8s,MS4.6
HHC LR LR
comp=E,61nm,20.2s,MS4.6
HHC LR LR
comp=Z,181nm,22.6s,MS4.8
GTA Gaotai 154.12 7 *e*PKP PKPdf 20 57 38.1 +0.3
GTA APKP 20 57 48.9
GTA XPKP 20 57 52.6
GTA PKP2 PKPab 20 58 02.5 +3.1
NJ2 Nanjing 157.10 326 *e*PKP PKPdf 20 57 41.3 -0.7
LZH Lanzhou 157.68 360 *e*PKP PKPdf 20 57 41.8 -0.8
LZH APKP 20 57 53.5
LZH PP PP
comp=Z,56nm,4.1s
CD2 Chengdu 162.84 0 *e*PKP PKPdf 20 57 46.9 -1.6
CD2 APKP 20 57 55.0
CD2 XPKP 20 58 02.3
CD2 PP PP 21 02 23.8 +3.1
CD2 SKKS SKKSac 21 09 06.6 -0.3
CD2 SS SS 21 22 41.8 +1.3
CD2 PP PP
comp=Z,80nm,10.2s
CD2 LR LR
comp=N,130nm,20.2s
CD2 LR LR
comp=Z,150nm,22.4s
GYA Guiyang 167.00 349 PKP PKPdf 20 57 49.3 -2.9
GYA XPKP 20 58 09.0
GYA PKP2 PKPab 20 58 57.9 +2.1
GYA PKS 21 01 22.8
GYA PP PP 21 02 46.0 +3.5
GYA SKS SKSdf 21 04 50.8 -2.3
GYA SKKS SKKSac 21 09 28.6 +0.5
GYA SS SS 21 23 25.8 +2.6
GYA LR LR
comp=N,160nm,25.4s
GYA LR LR
comp=E,120nm,24.0s
GYA LR LR
comp=Z,130nm,25.6s
KMI Kunming 168.56 5 PKP PKPdf 20 57 52.1 -1.2
KMI APKP 20 58 04.6
KMI XPKP 20 58 08.9
KMI PKP2 PKPab 20 59 03.8 +1.1
KMI PP PP 21 02 53.6 +3.2
KMI SS SS 21 23 39.4 +0.7
KMI PP PP
comp=Z,62nm,5.8s
KMI LR LR
comp=N,113nm,21.3s
KMI LR LR
comp=E,170nm,14.2s
KMI LR LR
comp=Z,146nm,19.7s
CMAR Chiang Mai Arr 173.32 44 PKPab PKPab 20 59 23.4 -0.7
comp=Z,2.1nm,1.1s,baz=310,slow=5.7,SNR=8.0

NEIC ***21*** *21:05:10.8, 38.17N×2267E, h17km, MD2.9(ATH), After ATH.*
THE ***21*** *21:05:10.5, 38.14N×2267E, h11km, ML2.6*
ATH ***21*** *21:05:10.8, 38.17N×2267E, h17km±2km, MD2.9/9, ML2.8*
ISCJB ***21*** *21:05:11.1±0.5, 38.14N±003×2271E±004, h22km±5km, Error ellipse: s-maj=5.6km s-min=4.3km az=0.3*
CSEM ***21*** *21:05:11.3±0.1, 38.15N×2271E, h20km, ML2.6, Error ellipse: s-maj=2.5km s-min=1.9km az=94.0*
ISC 21 21:05:10.5±0.5, 3815N±002×2271E±004, h16km±4km, n16, σ0678/26, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.24**	**123**	*e*Pg	**Pg**	**21 05 16.1**	**+0.3**
LTK				*e*Sg	**Sg**	**21 05 20.2**	**+0.7**
LKR	**Lokris**	**0.55**	**25**	*e*Pg	**Pg**	**21 05 21.0**	**-0.3**
LKR				*e*Sg	**Sg**	**21 05 30.0**	**+1.4**
LKR	**Lokris**	**0.55**	**25**	*e*PN	**Pg**	**21 05 21.0**	**-0.3**
LKR				*e*SN	**Sg**	**21 05 29.4**	**+0.8**
NAIG	**Nisos Aigina**	**0.73**	**122**	*e*PN	**Pn**	**21 05 25.5**	**-0.7**
DID	**Didima**	**0.77**	**147**	*e*Pg	**Pg**	**21 05 25.4**	**0.0**
DID				*e*Sg	**Sg**	**21 05 36.2**	**+0.6**
ATH	**Athens Observa**	**0.81**	**103**	*e*PN	**Pn**	**21 05 27.2**	**-0.1**
ATH				*e*SN	**Sn**	**21 05 38.6**	**-0.5**
VLX	**Vlachokerasia**	**0.82**	**199**	*e*Pg	**Pg**	**21 05 26.3**	**-0.3**
VLX				*e*Sg	**Sg**	**21 05 36.9**	**-0.5**
KVR	**Kavouri**	**0.90**	**111**	*e*PN	**Pn**	**21 05 29.0**	**+0.5**
AGG	**Agios Georgios**	**0.92**	**341**	*e*Pg	**Pg**	**21 05 28.5**	**+0.2**
AGG				*e*Sg	**Sg**	**21 05 40.5**	**+0.2**
PTL	**Penteli**	**0.92**	**96**	*e*PN	**Pn**	**21 05 29.0**	**+0.3**
RLS	**Riolos of Patr**	**0.99**	**265**	*e*PN	**Pn**	**21 05 29.0**	**-0.7**
RLS				*e*SN	**Sn**	**21 05 43.1**	**-0.2**
ITM	**Ithomi**	**1.16**	**213**	*e*PN	**Pn**	**21 05 32.4**	**+0.4**
NEO	**Neokhori**	**1.22**	**19**	*e*PN	**Pn**	**21 05 33.6**	**+0.7**
XOR	**Xorichti**	**1.27**	**17**	*e*Pg	**Pg**	**21 05 33.3**	**-1.6**
XOR				*e*Sg	**Sg**	**21 05 51.8**	**+0.3**
AOS	**Alonnisos**	**1.37**	**42**	*e*Pg	**Pg**	**21 05 35.3**	**-1.5**
AOS				*e*Sg	**Sg**	**21 05 53.7**	**-0.9**
THL	**Klokotos Trika**	**1.51**	**339**	*e*PN	**Pn**	**21 05 39.1**	**+2.2**

TIR ***21*** *21:28:42.0±4.2, 3895N×2027E, h43km±100km*
CSEM ***21*** *21:28:45.8±0.2, 3929N×2015E, h8km, ML3.4, Error ellipse: s-maj=4.7km s-min=2.0km az=94.0*
ISCJB ***21*** *21:28:45.8±0.6, 3925N±002×2021E±004, h4km±4km, Error ellipse: s-maj=5.7km s-min=3.4km az=173.3*
THE ***21*** *21:28:46.3, 3925N×2021E, h3km, ML3.4*
ATH ***21*** *21:28:46.9, 3924N×2030E, h15km±3km, MD3.5/8*
NEIC ***21*** *21:28:46.9, 3924N×2030E, h15km, MD3.5(ATH), ML3.4(THE), After ATH.*
ISC 21 21:28:47.0±0.5, 3926N±002×2028E±004, h4km±4km, n34, σ1820/58, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**8**	*e*Pg	**Pg**	**21 28 51.4**	**-0.9**
IGT				*e*Sg	**Sg**	**21 28 56.1**	**+0.2**
IGT	**Igoumenitsa**	**0.28**	**8**	*i* PG	**Pg**	**21 28 51.4**	**-0.9**
KEK	**Kerkira**	**0.59**	**321**	*e*PB	**Pg**	**21 28 58.1**	**-0.2**
KEK				*e*SN	**Sg**	**21 29 07.7**	**+1.8**
KEK	**Kerkira**	**0.59**	**321**	*e*Sn	**Sg**	**21 29 07.7**	**+1.8**
JAN	**Janina**	**0.59**	**48**	*e*PN	**Pg**	**21 28 57.8**	**-0.6**
JAN				*e*SN	**Sg**	**21 29 06.4**	**+0.3**
LKD	**Levkas**	**0.62**	**152**	*e*Pg	**Pg**	**21 28 57.6**	**-1.2**
LKD				*e*Sg	**Sg**	**21 29 08.6**	**+1.6**
MEV	**Metsovon**	**0.90**	**54**	*e*Pg	**Pg**	**21 29 03.7**	**-0.6**
MEV				*e*Sg	**Sg**	**21 29 19.1**	**+3.1**
MEV	**Metsovon**	**0.90**	**54**	*i* PG	**Pg**	**21 29 03.7**	**-0.6**
MEV				*i* SG	**Sg**	**21 29 19.1**	**+3.1**
TPE	**Tepelena**	**1.06**	**349**	*e*Pg	**Pg**	**21 29 09.0**	**+1.7**
TPE				*i* SG	**Sg**	**21 29 25.7**	**+4.7**
VLS	**Valsamata**	**1.11**	**167**	*e*Pg	**Pg**	**21 29 06.3**	**-1.9**
VLS				*e*Sg	**Sg**	**21 29 23.7**	**+1.2**
VLS	**Valsamata**	**1.11**	**167**	*e*Pn	**Pn**	**21 29 07.9**	**-1.4**
VLS				*e*Sg	**Sg**	**21 29 23.7**	**+1.2**
KFL	**Anninata**	**1.21**	**161**	*e*Pg	**Pg**	**21 29 09.3**	**-0.9**
KFL				*e*Sg	**Sg**	**21 29 26.5**	**+0.5**
THL	**Klokotos Trika**	**1.38**	**77**	*e*Pg	**Pg**	**21 29 11.7**	**-1.6**
THL				*e*Sg	**Sg**	**21 29 33.0**	**+1.7**
THL	**Klokotos Trika**	**1.38**	**77**	*e*Pn	**Pn**	**21 29 12.9**	**-0.1**
THL				*e*Sg	**Sg**	**21 29 33.0**	**+1.8**
RLS	**Riolos of Patr**	**1.52**	**142**	*e*PN	**Pn**	**21 29 15.0**	**+0.1**
KZN	**Kozani**	**1.55**	**47**	*e*PN	**Pn**	**21 29 16.6**	**+1.1**
AGG	**Agios Georgios**	**1.61**	**98**	*e*Pb	**Pb**	**21 29 15.9**	**-1.4**
AGG				*e*Sb	**Sb**	**21 29 38.3**	**+0.3**
FNA	**Florina**	**1.74**	**29**	*e*Pb	**Pb**	**21 29 18.2**	**-1.3**
FNA				*e*Sb	**Sb**	**21 29 41.6**	**-0.1**
FNA	**Florina**	**1.74**	**29**	*i* PG	**Pb**	**21 29 18.2**	**-1.3**
FNA				*i* SG	**Sb**	**21 29 41.6**	**-0.1**
FNA	**Florina**	**1.74**	**29**	*e*Pb	**Pb**	**21 29 18.2**	**-1.3**
FNA				*e*Sb	**Sb**	**21 29 41.6**	**-0.1**
LIT	**Litokhoron**	**1.90**	**63**	*e*Pb	**Pb**	**21 29 20.1**	**-2.1**
LIT				*e*Sb	**Sb**	**21 29 46.0**	**-0.4**
BIA	**Bitola**	**1.93**	**24**	*e*Pb	**Pb**	**21 29 20.3**	**-2.5**
BIA				*e*Sb	**Sb**	**21 29 46.4**	**-0.9**
BIA	**Bitola**	**1.93**	**24**	*i* Pn	**Pn**	**21 29 23.2**	**+2.5**
BIA				*i* Sn	**Sn**	**21 29 48.4**	**+3.0**
BIA	**Bitola**	**1.93**	**24**	*i* Pn	**Pn**	**21 29 23.1**	**+2.4**
BIA				*i* Sn	**Sn**	**21 29 48.4**	**+3.0**
TIR	**Tirane**	**2.11**	**351**	*e*Pn	**Pn**	**21 29 22.6**	**-0.5**
TIR				*e*Sn	**Sn**	**21 29 49.2**	**-0.6**
TIR	**Tirane**	**2.11**	**351**	*i* PG	**Pn**	**21 29 22.6**	**-0.5**
TIR	**Tirane**	**2.11**	**351**	*e*Pn	**Pn**	**21 29 22.6**	**-0.5**
TIR				*e*Sn	**Sn**	**21 29 49.2**	**-0.6**
KRUS	**Krusevo**	**2.23**	**19**	⇓*i* Pn	**Pn**	**21 29 25.9**	**+1.1**
NEO	**Neokhori**	**2.28**	**88**	*e*PN	**Pn**	**21 29 26.2**	**+0.7**
LTK	**Loutraki**	**2.44**	**120**	*e*Pn	**Pn**	**21 29 27.2**	**-0.4**
LTK				*e*Sn	**Sn**	**21 29 58.6**	**+0.8**
ITM	**Ithomi**	**2.45**	**147**	*e*PN	**Pn**	**21 29 29.2**	**+1.5**
PLG	**Polygyros**	**2.68**	**64**	*e*Pn	**Pn**	**21 29 30.2**	**-0.8**
PLG				*e*Sn	**Sn**	**21 30 03.8**	**0.0**
PLG	**Polygyros**	**2.68**	**64**	*e*PN	**Pn**	**21 29 31.0**	**+0.1**
VLI	**Velíai**	**3.29**	**140**	*e*PN	**Pn**	**21 29 39.5**	**+0.2**

IDC ***21*** *21:32:20.4±0.6, 1354S×7698W, h0km, mb4.6/16, mb1 4.7/21, mb1mx4.6/24, mbtmp4.5/21, ML4.1/5, MS4.6/20, Ms1 4.5/20, ms1mx4.5/24, Error ellipse: s-maj=21.0km s-min=12.0km az=61.0*
ISCJB ***21*** *21:32:21.4±2.2, 1358S±004×7695W±004, h15km±14km, mb5.0/55, MS4.7/25, Error ellipse: s-maj=8.0km s-min=4.4km az=144.0*
BJI ***21*** *21:32:23.9, 1401S×7665W, h29km, mB5.3, Ms5.2, Msz5.0*
GCMT ***21*** *21:32:24.9±0.2, 1349S×7723W, h12km, MW5.3/77, Moment Tensor Solution. s54,c81; s77,c125; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.52±.01; $M_{\theta\theta}$0.23±.01; $M_{\phi\phi}$-0.75±.01; $M_{r\theta}$-0.53±.03; $M_{\theta\phi}$0.04±.01; $M_{\phi r}$-0.50±.04; Best double couple: $M_0$0.98500×10^{17} NP1:ϕ_s329.00000°, δ34.00000°, λ34.00000°. NP2: ϕ_s210.00000°, δ72.00000°, λ120.00000°. Principal axes: T 1.0290, Plg54.0000°, Azm156.0000°; N -0.0860, Plg28.0000°, Azm20.0000°; P -0.9420, Plg21.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***21*** *21:32:24.1±1.0, 1349S×7692W, h33km, mb5.2/18, MS4.5/4 Error ellipse: s-maj=15.3km s-min=6.8km az=115.6*
NEIC ***21*** *21:32:24.9±1.8, 1362S×7694W, h29km±13km, mb5.2/43, ML4.9(LIM), Error ellipse: s-maj=8.5km s-min=4.1km az=65.0*
NEIC Felt [IV] at Lima and [III] at Chincha Alta.
ISC 21 21:32:23.2±2.5, 1361S±004×7695W±005, h16km±15km, h12km±.6km: pP-P, n554, σ0564/519, mb5.0/55, MS4.7/25, 148C-178D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.62**	**4**	Pn	**Pn**	**21 32 49.0**	**-2.2**
	50μm,0.6s						
NNA	**Nana**	**1.62**	**4**	Pn	**Pn**	**21 32 49.9**	**-1.3**

343nm,0.3s,baz=194,slow=12,SNR=119
NNA Sn **Sn** **21 33 07.0 -4.7**
1µm,0.3s,baz=270,slow=6.6,SNR=13
NNA Nana 1.62 4 *e*P **Pn** **21 32 49.0 -2.2**
NNA *e*S **Sn** **21 33 07.4 -4.4**
ATAH Atahualpa 6.72 348 Pn **Pn** **21 33 59.8 -1.6**
10nm,0.3s,baz=172,slow=8.5,SNR=93
ATAH Sn **Sn** **21 35 21.8 +4.1**
28nm,0.3s,baz=222,slow=19,SNR=4.1
ATAH LR LR 21 36 29.7
comp=Z,9µm,19.4s,baz=302,slow=38
LPAZ La Paz 8.93 108 Pn **Pn** **21 34 33.5 +1.8**
0.4nm,0.3s,baz=289,slow=13,SNR=18
LPAZ Sn **Sn** **21 36 13.8 +1.6**
0.2nm,0.3s,baz=263,slow=18,SNR=1.2
LPAZ LR LR 21 38 42.2
comp=Z,5µm,21.7s,baz=104,slow=42
LPAZ La Paz 8.93 108 P **Pn** **21 34 33.6 +1.8**
LPAZ 21 36 13.8
LPAZ La Paz 8.93 108 Pn **Pn** **21 34 33.5 +1.8**
LPAZ Sn **Sn** **21 36 13.8 +1.6**
LPAZ LR LR 21 38 42.2
LVC Limon Verde 11.77 141 Pn **Pn** **21 35 10.2 -0.4**
1.2nm,0.3s,baz=308,slow=11,SNR=24
LVC LR LR 21 39 16.6
comp=Z,3µm,19.6s,baz=312,slow=35
LVC Limon Verde 11.77 141 *e*Pn **Pn** **21 35 10.3 -0.3**
28nm,0.8s
LVC *e*Sn **Sn** **21 37 18.3 -3.4**
OTAV Otavalo 13.84 354 *e*Pn **Pn** **21 35 39.8 +0.8**
SIV San Ignacio 15.54 101 Pn **Pn** **21 36 02.4 +0.6**
0.4nm,0.3s,baz=278,slow=11,SNR=12
LCO Las Campanas 16.39 160 *e*Pn **Pn** **21 36 12.5 -0.2**
469nm,2.3s
TLL Tololo Astrono 17.43 162 *e*P **Pn** **21 36 25.9 +0.1**
ROSC El Rosal 18.53 8 P **Pn** **21 36 42.2 +2.7**
2.5nm,0.3s,baz=85,slow=22,SNR=7.0
ROSC S **Sn** **21 40 14.4 +7.9**
1.3nm,0.3s,baz=269,slow=23,SNR=1.9
CFAA Coronel Fontan 19.62 157 P **Pn** **21 36 52.0 -0.5**
0.1nm,0.3s,baz=335,slow=11,SNR=27
CFAA LR LR 21 43 21.1
comp=Z,331nm,18.3s,baz=344,slow=34
FCH Farellones 20.55 164 *e*P **P** **21 37 02.5 +1.3**
LMEL Las Melosas 21.06 164 *e*P **P** **21 37 07.6 +0.9**
BCIP Isla Barro Col 22.81 353 *e*P **P** **21 37 26.1 +0.6**
225nm,1.3s,mb5.4
SDV Santo Domingo 23.21 16 *e*P **P** **21 37 30.1 +0.2**
89nm,0.9s,mb5.2
PLCA Paso Flores 27.59 169 P **P** **21 38 07.6 -2.2**
4.0nm,0.8s,mb4.1,baz=339,slow=9.8,SNR=15
PLCA LR LR 21 46 50.4
comp=Z,903nm,20.5s,MS4.3,baz=340,slow=31
PLCA Paso Flores 27.59 169 P **P** **21 38 07.6 -2.2**
PLCA LR LR 21 46 50.4
BDFB Brasilia 28.07 98 P **P** **21 38 14.8 +0.4**
3.0nm,0.9s,mb3.9,baz=268,slow=19,SNR=4.8
BDFB LR LR 21 49 33.4
comp=Z,879nm,20.5s,MS4.3,baz=39,slow=37
BDFB Brasilia 28.07 98 P **P** **21 38 15.0 +0.7**
BDFB pmax pmax
comp=Z,24nm,1.1s
BDFB Brasilia 28.07 98 P **P** **21 38 15.0 +0.7**
comp=Z,24nm,1.1s,mb4.7
TGUH Tegucigalpa,Un 29.33 339 *e*P **P** **21 38 25.2 -0.2**
comp=Z,60nm,1.1s,mb5.2
SJG San Juan 33.27 19 P **P** **21 38 58.5 -1.7**
comp=Z,9.1nm,0.6s,mb4.9,baz=296,slow=7.4,SNR=3.1
CPD Cerro la Pandu 33.28 19 P **P** **21 38 58.6 -1.6**
AOPR Arecibo Observ 33.31 18 P **P** **21 39 00.4 -0.1**
comp=Z,26nm,1.1s,mb5.1
CMIG Matias Romero 35.27 329 P **P** **21 39 17.7 +0.1**
comp=Z,8.0nm,1.0s,mb4.6,baz=139,slow=7.7,SNR=6.6
CMIG Matias Romero 35.27 329 P **P** **21 39 17.7 +0.1**
TEIG Tepich 35.42 341 P **P** **21 39 18.4 -0.4**
comp=Z,47nm,1.2s,mb5.3,baz=183,slow=3.0,SNR=5.9
TEIG Tepich 35.42 341 *e*P **P** **21 39 18.2 -0.5**
comp=Z,30nm,0.8s,mb5.3
PNIG Pinotepa 36.42 324 *i*P **P** **21 39 29.4 +2.0**
CAIG El Cayaco 38.19 322 *i*P **P** **21 39 46.3 +3.9**
PPM Popocatepetl 38.86 326 *i*P **P** **21 39 51.9 +3.8**
ZIIG Zihuatanejo 39.34 321 *i*P **P** **21 39 55.1 +3.1**
USHA Ushuaia 41.66 173 P **P** **21 40 10.5 -0.4**
comp=Z,9.6nm,0.9s,mb4.4,baz=319,slow=7.0,SNR=3.8
SFJM Santa Fe 42.50 322 *i*P **P** **21 40 18.5 +0.4**
HKT Hockley 46.98 337 *e*P **P** **21 40 53.6 -0.1**
HKT pmax pmax
comp=Z,57nm,1.8s,mb5.2
HKT Hockley 46.98 337 *e*P **P** **21 40 53.6 -0.1**
comp=Z,56nm,1.8s,mb5.2
VBMS Vicksburg 47.38 344 *e*P **P** **21 40 56.1 -0.7**
NATX Nacogdoches 48.20 340 *e*P **P** **21 41 03.2 0.0**
comp=Z,86nm,1.3s,mb5.6
JCT Junction City 49.04 334 *e*P **P** **21 41 09.2 -0.5**
JCT *e* 21 42 35.4
JCT pmax pmax
comp=Z,20nm,1.4s,mb5.0
JCT MLR MLR
comp=Z,250nm,19.0s,MS4.2
JCT Junction City 49.04 334 *e*P **P** **21 41 09.2 -0.5**
comp=Z,20nm,1.4s,mb5.0
JCT *e*PcP PcP 21 42 35.4 +2.0
JCT LR LR
comp=Z,250nm,19.0s,MS4.2
OXF Oxford 49.30 346 *e*P **P** **21 41 11.0 -0.6**
SWET Sewanee 49.30 350 *e*P **P** **21 41 11.0 -0.6**
PLAL Pickwick Lake 49.46 348 *e*P **P** **21 41 11.1 -1.7**
comp=Z,36nm,1.6s,mb5.2
LPIG La Paz 49.67 319 LR LR 21 57 42.2
comp=Z,462nm,20.5s,MS4.5,baz=309,slow=31
TXAR Lajitas Array 49.88 329 P **P** **21 41 15.4 -0.7**
comp=Z,1.3nm,0.6s,mb4.2,baz=146,slow=9.1,SNR=21
TXAR LR LR 22 00 19.1
comp=Z,344nm,18.5s,MS4.4,baz=170,slow=34
TZTN Tazewell 50.27 353 *e*P **P** **21 41 18.5 -0.4**
comp=Z,17nm,1.2s,mb4.9
MIAR Mount Ida 50.43 342 *e*P **P** **21 41 19.3 -0.9**
HBAR Harrisburg 50.59 346 *e*P **P** **21 41 18.5 -2.8**
ELN Prospectdale 50.69 356 *e*P **P** **21 41 22.1 0.0**
SIUC Southern Illin 52.34 348 *e*P **P** **21 41 33.7 -0.7**
WMOK Wichita Mounta 52.36 337 *e*P **P** **21 41 33.6 -1.1**
GDL2 Guadalupe Moun 52.57 331 *e*P **P** **21 41 36.8 +0.5**
MVL Millersville 53.33 1 *e*P **P** **21 41 35.3 -6.4**
comp=Z,69nm,1.6s,mb5.3
ACSO Alum Creek Sta 53.86 354 *e*P **P** **21 41 45.0 -0.6**
comp=Z,62nm,1.4s,mb5.1
319A Douglas 54.44 326 ⇑P **P** **21 41 49.8 -0.2**
baz=55,SNR=8.4
318A Bisbee 54.88 325 ⇓P **P** **21 41 53.4 +0.2**
baz=55,SNR=14
219A White Tail Can 54.91 326 ⇑P **P** **21 41 53.3 0.0**
baz=55,SNR=9.5
218A Dragoon 55.31 326 ⇑P **P** **21 41 56.4 0.0**
baz=56
Y22C IRIS PASSCAL I 55.34 330 ⇑P **P** **21 41 55.6 -0.9**
baz=56
LPM Los Pinos Moun 55.39 330 *e*P **P** **21 41 58.0 +1.2**
BRYW Bryant College 55.47 5 *e*P **P** **21 41 58.4 +1.1**
119A Ashpeak Ranch, 55.52 327 ⇓P **P** **21 41 57.6 -0.2**
baz=56
BINY Binghamton 55.54 1 *e*P **P** **21 41 58.5 +0.8**
KSU1 Kansas State U 55.56 341 *e*P **P** **21 41 56.5 -1.5**
RKT Rikitea 55.57 251 *e*S **S** **21 49 49.9 +6.0**
comp=Z,967nm,26.2s
RKT *e*LR LR 21 58 10.6
comp=Z,1µm,27.2s
217A Green Valley 55.59 325 ⇑P **P** **21 41 58.1 -0.2**
baz=56,SNR=8.9
118A Homack Ranch, 55.78 326 ⇓P **P** **21 41 59.2 -0.5**
baz=56,SNR=7.9
ANMO Albuquerque 55.82 331 *e*P **P** **21 41 59.8 -0.1**
ANMO pmax pmax
comp=Z,32nm,1.4s
ANMO MLR MLR
comp=Z,334nm,21.0s
ANMO Albuquerque 55.82 331 *e*P **P** **21 41 59.8 -0.2**
comp=Z,32nm,1.4s,mb5.2
ANMO LR LR
comp=Z,334nm,21.0s,MS4.4
Z19A T-Link Ranch, 55.91 327 ⇓P **P** **21 41 59.4 -1.1**
baz=56
WES Weston 55.95 5 *e*P **P** **21 42 02.9 +2.2**
TUC Tucson 55.98 325 *e*P **P** **21 42 00.9 -0.2**
HRV Adam Dziewonsk 56.06 5 *e*P **P** **21 42 02.1 +0.7**
216A Three Points, 56.12 325 ⇓P **P** **21 42 01.8 -0.3**
baz=56

117A Oracle 56.15 326 ⇑P **P** **21 42 01.6 -0.7**
baz=56,SNR=13
Y19A Nutrioso 56.42 328 ⇓P **P** **21 42 03.7 -0.6**
baz=57,SNR=14
Z17A San Carlos Hig 56.55 326 ⇓P **P** **21 42 04.4 -0.8**
baz=57
116A Eloy 56.68 325 ⇑P **P** **21 42 05.9 -0.2**
baz=57,SNR=6.0
Y18A Canyon Day Jun 56.69 327 ⇑P **P** **21 42 05.8 -0.4**
baz=57
X19A St. Johns 56.81 328 ⇓P **P** **21 42 06.7 -0.2**
baz=57
214A Organ Pipe Nat 56.86 324 ⇑P **P** **21 42 07.3 -0.1**
baz=57,SNR=7.8
Y17A Roosevelt 57.06 326 ⇑P **P** **21 42 08.4 -0.4**
baz=57
HNH Hanover 57.19 4 *e*P **P** **21 42 11.1 +1.6**
X18A Snowflake 57.23 328 ⇓P **P** **21 42 09.6 -0.3**
baz=58
NCB Newcomb 57.35 2 *e*P **P** **21 42 11.7 +1.0**
comp=Z,26nm,1.3s,mb5.1
W19A Sanders 57.39 329 ⇓P **P** **21 42 10.8 -0.3**
baz=58
MDV Middlebury 57.43 3 *e*P **P** **21 42 11.8 +0.6**
X17A Forest Lakes 57.53 327 ⇓P **P** **21 42 11.7 -0.3**
baz=58
Y16A Circle Bar Ran 57.54 326 ⇑P **P** **21 42 11.9 -0.2**
baz=58,SNR=9.3
W18A Petrified Fore 57.57 328 ⇑P **P** **21 42 12.5 +0.1**
baz=58
SDCO Great Sand Dun 57.69 333 *e*P **P** **21 42 12.8 -0.3**
V19A Window Rock 57.69 329 ⇑P **P** **21 42 12.5 -0.7**
baz=58
LBNH Lisbon 57.75 4 *e*P **P** **21 42 15.1 +1.7**
X16A Lo Mia Camp, P 57.93 326 ⇓P **P** **21 42 14.7 -0.2**
baz=58,SNR=12
Z14A Wintersburg 57.97 325 ⇑P **P** **21 42 15.0 -0.2**
baz=58
LONY Lake Ozonia 57.99 2 *e*P **P** **21 42 15.6 +0.5**
113A Mohawk Valley, 58.00 323 ⇓P **P** **21 42 15.0 -0.4**
baz=58
W17A Winslow 58.05 328 ⇓P **P** **21 42 15.2 -0.5**
baz=58
Y15A Casa Rosa Ranc 58.06 325 ⇓P **P** **21 42 15.7 -0.2**
baz=58,SNR=6.6
V18A Ganado 58.14 329 ⇓P **P** **21 42 15.8 -0.5**
baz=58
FRNY Flat Rock 58.24 3 *e*P **P** **21 42 17.7 +0.9**
112A Yuma 58.31 323 ⇓P **P** **21 42 17.3 -0.3**
baz=58
X15A Humboldt 58.41 326 ⇑P **P** **21 42 18.4 +0.2**
baz=59,SNR=8.3
Y14A Wickenburg 58.43 325 ⇓P **P** **21 42 18.3 -0.1**
baz=59
W16A Flagstaff 58.49 327 ⇑P **P** **21 42 19.0 +0.2**
baz=59,SNR=6.2
T19A Beclabito 58.57 330 ⇓P **P** **21 42 18.8 -0.5**
baz=59
MVCO Mesa Verde 58.62 331 ⇓P **P** **21 42 19.6 -0.1**
baz=59
MVCO Mesa Verde 58.62 331 *e*P **P** **21 42 20.1 +0.4**
comp=Z,51nm,1.6s,mb5.3
U18A Rough Rock, Ch 58.66 329 ⇑P **P** **21 42 19.8 -0.2**
baz=59
WUAZ Wupatki 58.73 327 ⇓P **P** **21 42 20.8 +0.3**
baz=59
WUAZ Wupatki 58.73 327 *e*P **P** **21 42 21.2 +0.7**
X14A Yava 58.76 325 ⇑P **P** **21 42 21.1 +0.5**
baz=59,SNR=15
Y13A Salome 58.80 324 ⇓P **P** **21 42 21.0 0.0**
baz=59
GLA Glamis 58.83 323 ⇓P **P** **21 42 21.2 0.0**
baz=59
W15A Williams 58.95 326 ⇑P **P** **21 42 22.5 +0.5**
baz=59
PKME Peaks-Kenny Pk 59.00 6 *e*P **P** **21 42 22.3 +0.1**
Y12C Blythe 59.15 324 ⇑P **P** **21 42 23.1 -0.3**
baz=59
U17A Shonto 59.20 329 ⇓P **P** **21 42 23.6 -0.1**
baz=60
T18A Mexican Hat 59.22 330 ⇑P **P** **21 42 23.7 -0.2**
baz=60,SNR=26
DVTC Desert V Tower 59.30 322 ⇑P **P** **21 42 24.8 +0.2**
baz=60
SWSC Sam W. Stewart 59.32 322 ⇓P **P** **21 42 24.5 -0.1**
baz=60
PDMCI Parker Dam,Lak 59.33 324 ⇓P **P** **21 42 24.8 +0.1**
baz=60
S19A Harvey Farm, M 59.35 331 ⇑P **P** **21 42 24.0 -0.7**
baz=60,SNR=8.1
X13A Yucca 59.37 325 ⇓P **P** **21 42 25.4 +0.4**
baz=60,SNR=8.1
V15A Kaibab Nationa 59.38 327 ⇑P **P** **21 42 24.9 -0.1**
baz=60,SNR=7.7
PV01 Paradox Valley 59.39 331 *e*P **P** **21 42 25.1 +0.1**
W14A Seligman 59.41 326 ⇓P **P** **21 42 25.3 +0.1**
baz=60,SNR=14
ISCO Idaho Springs 59.46 335 *e*P **P** **21 42 25.5 +0.1**
SMCO Snowmass 59.52 333 *e*P **P** **21 42 20.4 -5.4**
T17A Navajo Res., N 59.58 329 ⇓P **P** **21 42 26.0 -0.4**
baz=60
BC3 Big Chuckw Mtn 59.62 323 ⇑P **P** **21 42 27.0 +0.3**
baz=60,SNR=7.1
S18A Hurst Farm, Bl 59.72 330 ⇓P **P** **21 42 27.0 -0.3**
baz=60,SNR=16
V14A Boquillas Ranc 59.74 326 ⇓P **P** **21 42 27.6 +0.1**
baz=60,SNR=22
W13A Hualapai Mount 59.77 325 ⇑P **P** **21 42 28.3 +0.6**
baz=60,SNR=8.3
IRM Iron Mountain 59.81 324 ⇑P **P** **21 42 28.1 +0.2**
baz=60,SNR=12
PV10 Paradox Valley 59.81 331 P **P** **21 42 27.3 -0.6**
ECSD EROS,Sioux Fal 59.83 344 *e*P **P** **21 42 27.3 -0.6**
R19A Curley Farm, L 59.84 331 ⇑P **P** **21 42 27.5 -0.7**
baz=60
U15A North Rim 59.91 327 ⇓P **P** **21 42 29.2 +0.7**
baz=60,SNR=12
T16A Glen Canyon Da 59.92 328 ⇓P **P** **21 42 28.7 0.0**
baz=60
109C Camp Elliot, M 60.07 321 ⇑P **P** **21 42 29.9 +0.1**
baz=60
S17A Black Ridge (B 60.07 329 ⇓P **P** **21 42 29.6 -0.1**
baz=60
PFO Pinyon Flat Ob 60.18 322 *e*P **P** **21 42 30.5 0.0**
PFO pmax pmax
comp=Z,26nm,1.4s,mb5.1
PFO Pinyon Flat Ob 60.18 322 ⇑P **P** **21 42 31.0 +0.4**
baz=60
PFO Pinyon Flat Ob 60.18 322 *e*P **P** **21 42 30.5 -0.1**
comp=Z,26nm,1.4s,mb5.1
BELC Belle Mtn. 60.19 323 ⇓P **P** **21 42 30.8 +0.2**
baz=60
R18A Canyonlands Na 60.22 331 ⇓P **P** **21 42 30.2 -0.5**
baz=60
U14A Mt Trumbull 60.37 327 ⇑P **P** **21 42 32.0 +0.2**
baz=61,SNR=20
Q19A Hogan Spring (60.38 331 ⇑P **P** **21 42 31.2 -0.5**
baz=61
V13A Grand Canyon W 60.38 326 ⇓P **P** **21 42 32.0 +0.1**
baz=61,SNR=13
T15A Red Dirt Ranch 60.40 328 ⇓P **P** **21 42 32.2 +0.3**
baz=61
W12A Cal Nev Ari 60.47 325 ⇑P **P** **21 42 32.3 -0.2**
baz=61
S16A Weppner Ranch, 60.54 329 ⇑P **P** **21 42 32.7 -0.2**
baz=61,SNR=7.5
GMRC Granite Mounta 60.54 324 ⇑P **P** **21 42 33.5 +0.5**
baz=61,SNR=9.1
MURC Murrieta 60.62 322 ⇑P **P** **21 42 33.1 -0.5**
baz=61
R17A Hanksville Air 60.64 330 ⇑P **P** **21 42 33.2 -0.4**
baz=61,SNR=19
PHWY Pilot Hill 60.66 336 *e*P **P** **21 42 30.2 -3.4**
V12A Nelson 60.77 325 ⇓P **P** **21 42 34.8 +0.3**
baz=61
U13A Pakoon Wash 60.79 326 ⇑P **P** **21 42 34.7 +0.1**
baz=61
T14A Hurricane 60.80 327 ⇑P **P** **21 42 35.0 +0.3**
baz=61
S15A Panguitch 60.89 328 ⇓P **P** **21 42 34.9 -0.4**
baz=61
Q18A Rafter H Ranch 60.90 331 ⇓P **P** **21 42 35.3 -0.1**
baz=61,SNR=15
HEC Hector,Ludlow 60.97 323 ⇓P **P** **21 42 36.4 +0.5**
baz=61
SRU San Rafael 61.09 331 ⇓P **P** **21 42 36.0 -0.7**
baz=61,SNR=11
SRU San Rafael 61.09 331 *e*P **P** **21 42 36.8 +0.1**

U12A Valley of Fire 61.11 326 ⇓P **P** **21 42 36.9 +0.1**
baz=61
TUQ Turquoise Mtn. 61.16 324 ⇑P **P** **21 42 37.5 +0.3**
baz=61
V11A Goodsprings 61.17 325 ⇑P **P** **21 42 38.0 +0.7**
baz=61
T13A Saint George 61.20 327 ⇑P **P** **21 42 37.6 +0.1**
baz=61
CIS Catalina Islan 61.22 321 ⇓P **P** **21 42 38.3 +0.7**
baz=61
Q16A Castle Valley 61.26 330 ⇓P **P** **21 42 37.9 +0.1**
baz=62
BFSC Mount Baldy St 61.34 322 ⇓P **P** **21 42 38.6 +0.2**
baz=62
FMP Fort Macarthur 61.36 321 ⇑P **P** **21 42 38.5 -0.1**
baz=62
S14A Cedar City 61.37 328 ⇑P **P** **21 42 39.0 +0.4**
baz=62
P18A Preston Nutter 61.37 331 ⇓P **P** **21 42 38.3 -0.2**
baz=62
MSU Marysvale 61.44 329 *e*P **P** **21 42 39.8 +0.8**
P17A Butcher Ranch, 61.48 331 ⇓P **P** **21 42 38.7 -0.6**
baz=62
SHPR Sheep Range 61.51 325 *e*P **P** **21 42 39.9 +0.4**
MWC Mount Wilson 61.57 322 *e*P **P** **21 42 41.4 +1.4**
TMUT Trail Mountain 61.57 330 *e*P **P** **21 42 42.4 +2.5**
GSC Goldstone 61.57 323 ⇓P **P** **21 42 40.3 +0.3**
baz=62
GSC Goldstone 61.57 323 *e*P **P** **21 42 40.8 +0.8**
S13A Holt Ranch, En 61.60 327 ⇓P **P** **21 42 40.0 -0.1**
baz=62,SNR=11
RWWY Rawlins 61.70 335 *e*P **P** **21 42 41.5 +0.9**
R14A James Farms, M 61.70 328 ⇑P **P** **21 42 40.3 -0.5**
baz=62
N19A John Jarvie Ra 61.90 333 ⇓P **P** **21 42 41.4 -0.6**
baz=62
EDW2 Edwards Air Fo 61.98 322 ⇑P **P** **21 42 42.7 0.0**
baz=62,SNR=11
TAOE Nuku Hiva Isla 62.03 267 *e*S **S** **21 51 18.1 +10**
comp=Z,2µm,27.9s
TAOE *e*LR LR 22 01 06.7
comp=Z,7µm,26.2s
P16A Fountain Green 62.03 330 ⇑P **P** **21 42 43.0 0.0**
baz=62
O17A Robinson Place 62.05 331 ⇓P **P** **21 42 42.9 -0.2**
baz=62
T11A Corn Creek, Al 62.08 326 ⇓P **P** **21 42 43.6 +0.2**
baz=62,SNR=11
U10A Ash Meadows, A 62.09 325 ⇑P **P** **21 42 44.4 +0.9**
baz=62
BLG Laguna Peak 62.10 321 ⇓P **P** **21 42 43.7 +0.2**
baz=62
R13A O'Grain Ranch, 62.10 328 ⇓P **P** **21 42 43.8 +0.3**
baz=62,SNR=9.2
S12A Delamar Landin 62.14 327 ⇑P **P** **21 42 43.8 +0.1**
baz=62
N18A Larsen Ranch, 62.19 332 ⇓P **P** **21 42 43.7 -0.3**
baz=62
LRMC Laurel Mountai 62.21 323 ⇓P **P** **21 42 44.7 +0.4**
baz=62
P15A Leamington 62.30 330 ⇓P **P** **21 42 45.2 +0.4**
baz=63
Q14A Sevier Lake (B 62.35 329 ⇓P **P** **21 42 44.8 -0.4**
baz=63,SNR=28
O16A Springville 62.42 331 ⇓P **P** **21 42 45.8 +0.2**
baz=63
TPNV Topopah Spring 62.43 325 *e*P **P** **21 42 45.4 -0.3**
TPNV pmax pmax
comp=Z,17nm,1.3s,mb5.0
TPNV Topopah Spring 62.43 325 ⇓P **P** **21 42 46.3 +0.6**
baz=63
TPNV Topopah Spring 62.43 325 *e*P **P** **21 42 45.4 -0.3**
comp=Z,17nm,1.3s,mb5.0
FURC Furnace Creek, 62.43 324 ⇓P **P** **21 42 46.2 +0.4**
baz=63
DAU Daniels Canyon 62.47 331 *e*P **P** **21 42 46.7 +0.8**
NLU North Lily Min 62.50 330 *e*P **P** **21 42 46.5 +0.3**
MPMC Manual Prospec 62.50 324 ⇓P **P** **21 42 46.2 0.0**
baz=63
RSSD Black Hills 62.53 338 *e*P **P** **21 42 45.0 -1.2**
RSSD pmax pmax
comp=Z,22nm,1.3s,mb5.1
RSSD Black Hills 62.53 338 *e*P **P** **21 42 45.0 -1.2**
comp=Z,22nm,1.3s,mb5.1
R12A Pony Springs, 62.55 327 ⇓P **P** **21 42 46.8 +0.4**
baz=63,SNR=15
EYMN Ely 62.64 349 *e*P **P** **21 42 48.2 +1.4**
ARVC Arvin 62.65 322 ⇓P **P** **21 42 47.6 +0.4**
baz=63
S11A Rachel 62.66 326 ⇑P **P** **21 42 47.8 +0.6**
baz=63
N17A Moffit Pass 62.69 332 ⇓P **P** **21 42 47.3 0.0**
baz=63
JLU Jordanelle 62.71 331 *e*P **P** **21 42 48.7 +1.2**
P14A Drum Mountains 62.71 329 ⇓P **P** **21 42 48.1 +0.6**
baz=63,SNR=15
Q13A Wheeler Ranch, 62.71 328 ⇓P **P** **21 42 47.6 +0.1**
baz=63
N16A Rees Ranch, Co 62.92 331 ⇓P **P** **21 42 48.8 -0.2**
baz=63
O15A The Old Anders 62.94 330 ⇓P **P** **21 42 48.6 -0.5**
baz=63
DUG Dugway 63.05 330 *e*P **P** **21 42 49.8 +0.1**
DUG pmax pmax
comp=Z,53nm,1.4s,mb5.5
DUG Dugway 63.05 330 ⇑P **P** **21 42 49.8 0.0**
baz=63
DUG Dugway 63.05 330 *e*P **P** **21 42 49.8 +0.1**
comp=Z,53nm,1.4s,mb5.5
R11A Troy Canyon, C 63.08 327 ⇑P **P** **21 42 50.4 +0.3**
baz=63,SNR=15
P13A Bates Ranch, G 63.08 328 ⇓P **P** **21 42 50.1 0.0**
baz=63,SNR=22
PKM Peak Mountain 63.09 321 ⇑P **P** **21 42 50.6 +0.5**
baz=63
CWC Cottonwood Cre 63.11 324 ⇓P **P** **21 42 50.0 -0.3**
baz=63
Q12A Willow Creek R 63.19 328 ⇓P **P** **21 42 50.7 0.0**
baz=63,SNR=11
VES Vestal, Richgr 63.28 322 ⇑P **P** **21 42 51.8 +0.4**
baz=64
S10A Tonopah Range, 63.32 326 ⇓P **P** **21 42 51.8 +0.2**
baz=64,SNR=19
M16A Huntsville 63.35 331 ⇑P **P** **21 42 51.6 -0.1**
baz=64
R10A Warm Springs 63.42 326 ⇓P **P** **21 42 52.8 +0.5**
baz=64
N15A Stansbury Isla 63.44 330 ⇓P **P** **21 42 51.9 -0.5**
baz=64
SMMC Simmler 63.48 321 ⇑P **P** **21 42 52.8 +0.1**
baz=64
Q11A Duckwater 63.48 327 ⇑P **P** **21 42 52.7 +0.1**
baz=64,SNR=26
S09A Goldfield 63.53 325 ⇑P **P** **21 42 53.3 +0.3**
baz=64
HWUT Hardware Ranch 63.55 332 *e*P **P** **21 42 52.3 -0.8**
comp=Z,50nm,1.4s,mb5.3
O13A Hicks Ranch, I 63.58 329 ⇓P **P** **21 42 53.5 +0.3**
baz=64
PDAR Pinedale Array 63.58 334 P **P** **21 42 52.2 -1.0**
comp=Z,5.2nm,1.0s,mb4.5,baz=158,slow=4.8,SNR=20
PDAR LR LR 22 12 03.2
comp=Z,251nm,18.2s,MS4.4,baz=146,slow=38
TIN Tinemaha 63.62 324 ⇑P **P** **21 42 54.2 +0.5**
baz=64
BGU Big Grassy Mou 63.71 330 *e*P **P** **21 42 53.2 -1.0**
SPUT South Promonto 63.73 331 *e*P **P** **21 42 55.0 +0.7**
N14A Grayback Hills 63.73 330 ⇓P **P** **21 42 54.4 +0.1**
baz=64
TPH Tonopah 63.77 325 *e*P **P** **21 42 55.5 +0.9**
V05C Boulder Hill, 63.79 322 ⇑P **P** **21 42 54.8 0.0**
baz=64
R09A Tonopah 63.81 326 ⇑P **P** **21 42 55.4 +0.6**
baz=64,SNR=14
L16A Fish Haven 63.81 332 ⇓P **P** **21 42 54.2 -0.5**
baz=64
HELL Mitchell Peak 63.82 323 ⇓P **P** **21 42 54.7 -0.2**
baz=64,SNR=9.4
PTRM Twissleman Ran 63.83 322 *e*P **P** **21 42 54.6 -0.4**
M15A Larsen Ranch, 63.85 331 ⇑P **P** **21 42 54.6 -0.5**
baz=64,SNR=9.0
Q10A Clear Creek Ra 63.87 326 ⇓P **P** **21 42 56.3 +1.1**
baz=64,SNR=7.0
AGMN Agassiz Refuge 63.89 346 *e*P **P** **21 42 54.6 -0.5**
comp=Z,12nm,0.8s,mb5.0
S08C White Mtn Res 63.90 324 ⇑P **P** **21 42 56.1 +0.6**
baz=64,SNR=19

MTUM **Tungsten Hills** 64.02 324 eP P 21 42 57.1 +0.8
P11A **Circle Ranch,** 64.05 327 ⇓P P 21 42 56.5 +0.1
baz=64
O12A **Currie** 64.06 329 ⇑P P 21 42 56.7 +0.2
baz=64,SNR=14
V04C **Ramage Ranch,** 64.22 321 ⇓P P 21 42 57.6 0.0
baz=64
L15A **Malad City** 64.24 331 ⇑P P 21 42 57.0 -0.6
baz=64,SNR=10.0
HVU **Hansel Valley** 64.25 331 eP P 21 42 58.0 +0.3
AHID **Auburn Hatcher** 64.25 333 eP P 21 42 56.7 -1.0
comp=Z,29nm,1.5s,mb5.1
Q09A **Carvers** 64.30 326 ⇓P P 21 42 58.0 0.0
baz=64
M14A **Sheep Mountain** 64.31 330 ⇓P P 21 42 57.9 -0.2
baz=65,SNR=24
MLAC **Mammoth Lakes** 64.37 324 ⇓P P 21 42 59.1 +0.6
baz=65
O11A **Cowboy Ranch,** 64.43 328 ⇑P P 21 42 59.4 +0.5
baz=65
KCC **Kaiser Creek** 64.44 323 ⇓P P 21 42 59.2 +0.2
baz=65,SNR=6.6
T06C **Millerton Lake** 64.45 323 ⇓P P 21 42 59.3 +0.2
baz=65
R08A **Mina** 64.46 325 ⇑P P 21 42 59.0 -0.1
baz=65
P10A **Eureka** 64.48 327 ⇑P P 21 42 59.8 +0.6
baz=65
K16A **Soda Springs** 64.53 332 ⇑P P 21 42 59.3 -0.1
baz=65
M13A **Montello** 64.60 330 ⇓P P 21 42 59.2 -0.7
baz=65
NVAR **Mina Array Bea** 64.63 325 P P 21 43 00.4 +0.2
comp=Z,3.0nm,0.9s,mb4.3,baz=145,slow=7.8,SNR=21
N12A **Clover Valley,** 64.65 329 ⇓P P 21 43 00.3 0.0
baz=65
L14A **Malta** 64.67 331 ⇑P P 21 43 00.1 -0.3
baz=65
ELK **Elko** 64.67 329 eP P 21 43 00.2 -0.2
ELK pmax pmax
comp=Z,76nm,2.0s
ELK **Elko** 64.67 329 eP P 21 43 00.2 -0.3
comp=Z,76nm,2.0s,mb5.4
V03C **Hunter Liggett** 64.70 321 ⇑P P 21 43 00.7 0.0
baz=65
LOHW **Long Hollow** 64.71 334 eP P 21 43 01.2 +0.5
Q08A **Gabbs** 64.72 326 ⇓P P 21 43 01.5 +0.6
baz=65
TPAW **Teton Pass** 64.77 333 eP P 21 43 02.1 +1.1
P09A **Austin** 64.79 327 ⇓P P 21 43 01.5 +0.3
baz=65
R07C **Lee Vining** 64.81 324 ⇓P P 21 43 01.8 +0.4
baz=65,SNR=8.6
RRI2 **Red Ridge** 64.81 333 eP P 21 43 01.2 -0.1
K15A **Arbon** 64.84 332 ⇑P P 21 43 01.5 0.0
baz=65
MOOW **Moose Ponds** 64.88 334 eP P 21 43 01.7 -0.1
J16A **Bone** 64.89 333 ⇓P P 21 43 01.7 -0.1
baz=65
O10A **Cortez Mining,** 64.98 327 ⇓P P 21 43 01.5 -1.0
baz=65
M12A **Wells** 65.01 329 ⇑P P 21 43 02.6 -0.1
baz=65
K14A **Jones Ranch, D** 65.03 331 ⇓P P 21 43 02.1 -0.7
baz=65
S05C **Merced** 65.04 323 ⇑P P 21 43 03.2 +0.2
baz=65
L13A **Double Diamond** 65.05 330 ⇑P P 21 43 02.7 -0.1
baz=65
IMW **Indian Meadow** 65.09 334 eP P 21 43 03.2 +0.2
S06C **San Francisco** 65.12 324 ⇑P P 21 43 03.4 0.0
baz=65,SNR=13
FLWY **Flagg Ranch** 65.13 334 eP P 21 43 03.8 +0.4
HAST **Hastings Reser** 65.13 321 ⇓P P 21 43 05.0 +1.4
baz=65
Q07A **Schurz** 65.26 325 ⇑P P 21 43 04.4 +0.1
baz=66
N10A **Dunphy** 65.30 328 ⇓P P 21 43 04.6 +0.1
baz=66
I16A **Newdale** 65.31 333 ⇑P P 21 43 04.1 -0.4
baz=66
R06C **Coleville** 65.34 324 ⇑P P 21 43 04.8 0.0
baz=66,SNR=8.0
J15A **Blackfoot** 65.35 332 ⇑P P 21 43 05.0 +0.2
baz=66
RLMT **Red Lodge** 65.38 335 eP P 21 43 05.0 0.0
PACP **Pacheco Peak** 65.38 322 ⇓P P 21 43 05.0 -0.1
baz=66
P08A **Dixie Valley** 65.40 326 ⇑P P 21 43 05.8 +0.6
baz=66
M11A **Holland Ranch,** 65.46 329 ⇑P P 21 43 05.6 0.0
baz=66
BMN **Battle Mountai** 65.47 327 eP P 21 43 05.1 -0.5
BMN pmax pmax
comp=Z,19nm,1.3s,mb5.0
BMN **Battle Mountai** 65.47 327 eP P 21 43 05.0 -0.6
comp=Z,18nm,1.3s,mb5.0
YFT **Old Faithful** 65.49 334 eP P 21 43 05.3 -0.3
CMB **Columbia Colle** 65.54 323 ⇑P P 21 43 06.7 +0.6
baz=66
CMB **Columbia Colle** 65.54 323 eP P 21 43 07.0 +0.8
K13A **Stover Farm, H** 65.54 331 ⇓P P 21 43 06.8 +0.8
baz=66
L12A **House Creek Ra** 65.61 330 ⇓P P 21 43 06.9 +0.4
baz=66,SNR=9.7
YNR **Norris Junctio** 65.63 334 eP P 21 43 02.4 -4.2
ULM **Lac du Bonnet** 65.72 347 P P 21 43 05.4 -1.6
comp=Z,23nm,1.1s,mb5.1,baz=170,slow=6.8,SNR=13
P07A **Fallon** 65.73 325 ⇓P P 21 43 07.8 +0.4
baz=66
S04C **Ingram Canyon,** 65.74 322 ⇑P P 21 43 08.0 +0.6
baz=66
J14A **Carey** 65.79 332 ⇑P P 21 43 08.1 +0.5
baz=66
R05C **Kirkwood Meado** 65.82 324 ⇓P P 21 43 08.5 +0.6
baz=66,SNR=7.3
I15A **Monteview** 65.85 333 ⇑P P 21 43 08.3 +0.3
baz=66
O08A **Rochester Mine** 65.86 326 ⇓P P 21 43 08.1 0.0
baz=66
K12A **Draper Farm, C** 65.92 330 ⇑P P 21 43 08.8 +0.3
baz=66,SNR=17
N09A **Rock Creek Ran** 65.93 327 ⇓P P 21 43 08.7 +0.1
baz=66
L11A **Cat Creek Ranc** 65.99 329 ⇓P P 21 43 08.8 -0.1
baz=66,SNR=21
BNLO **Ben Lomond (Sa** 66.00 322 ⇑P P 21 43 09.3 +0.2
baz=66
R04C **Big Horse Ranc** 66.01 323 ⇓P P 21 43 08.3 -0.9
baz=66
QLMT **Earthquake Lak** 66.04 334 eP P 21 43 11.1 +1.9
WCN **Washoe City** 66.05 325 ⇓P P 21 43 09.9 +0.5
baz=66
WENL **Wente Brothers** 66.07 322 ⇑P P 21 43 09.1 -0.5
baz=66
PAHR **Pah Rah Range** 66.12 325 eP P 21 43 10.6 +0.7
J13A **Cove Ranch, Pi** 66.16 331 ⇑P P 21 43 09.8 -0.2
baz=66
O07A **Toulon** 66.16 326 ⇓P P 21 43 09.9 -0.2
baz=66,SNR=11
JRSC **Jasper Ridge** 66.21 322 ⇓P P 21 43 09.8 -0.7
baz=66
I14A **Mackay** 66.23 332 ⇑P P 21 43 09.9 -0.5
baz=66
L10A **Juniper Basin** 66.28 329 ⇑P P 21 43 10.4 -0.5
baz=66,SNR=20
M09A **Marrel Ranch,** 66.30 328 ⇓P P 21 43 10.6 -0.4
baz=66
BDM **Black Diamond** 66.35 322 ⇑P P 21 43 11.2 -0.2
baz=67
DGMT **Dagmar** 66.37 341 eP P 21 43 13.0 +1.7
P06A **Stead Airport,** 66.39 325 ⇓P P 21 43 11.5 -0.1
baz=67
HLID **Hailey** 66.39 331 ⇓P P 21 43 11.4 -0.1
baz=67
HLID **Hailey** 66.39 331 eP P 21 43 12.0 +0.4
comp=Z,46nm,1.7s,mb5.2
H15A **Lima** 66.40 333 ⇓P P 21 43 11.5 -0.1
baz=67
J12A **Stokes Ranch,** 66.48 331 ⇓P P 21 43 12.3 +0.2
baz=67
I13A **Wildhorse Cree** 66.52 332 ⇑P P 21 43 12.1 -0.2
baz=67,SNR=18
P05C **Yuba Gap, Truc** 66.53 324 ⇓P P 21 43 12.8 +0.4
baz=67,SNR=10
K11A **Parker Ranch,** 66.57 330 ⇑P P 21 43 12.7 0.0
baz=67

N07B **Gerlach** 66.65 326 ⇓P P 21 43 13.1 -0.1
baz=67,SNR=13
Q04C **Lincoln** 66.66 323 ⇓P P 21 43 12.8 -0.5
baz=67
O06A **Flanigan** 66.68 325 ⇓P P 21 43 13.8 +0.4
baz=67
H14A **Leadore** 66.72 333 ⇑P P 21 43 13.4 -0.2
baz=67
G15A **Dillon** 66.77 333 ⇓P P 21 43 13.9 +0.1
baz=67,SNR=10
BOZ **Bozeman (W)** 66.78 334 ⇑P P 21 43 13.2 -0.7
baz=67
BOZ **Bozeman (W)** 66.78 334 eP P 21 43 13.8 -0.2
M08A **Happy Creek Ra** 66.81 327 ⇓P P 21 43 13.7 -0.5
baz=67
L09A **Wilkinson Ranc** 66.84 328 ⇑P P 21 43 14.4 0.0
baz=67,SNR=7.7
MFID **Camas Ranch** 66.95 330 ⇓P P 21 43 15.1 0.0
baz=67,SNR=14
CVS **Carmenet Viney** 66.96 322 ⇑P P 21 43 15.2 -0.1
baz=67
DLMT **Dillon** 66.97 333 eP P 21 43 15.0 -0.1
comp=Z,41nm,1.3s,mb5.3
K10A **MacKenzie Ranc** 66.99 329 ⇑P P 21 43 15.9 +0.6
baz=67,SNR=19
OHCM **Honcut** 67.05 324 eP P 21 43 16.5 +0.6
N06A **Buffalo Meadow** 67.09 326 ⇑P P 21 43 15.9 -0.2
baz=67,SNR=26
O05C **Quincy** 67.15 325 ⇓P P 21 43 16.5 +0.1
baz=67
M07A **Soldier Meadow** 67.18 327 ⇓P P 21 43 16.4 -0.2
baz=67
ORV **Oroville** 67.21 324 ⇓P P 21 43 17.2 +0.4
baz=67,SNR=17
G14A **Jackson** 67.25 333 ⇑P P 21 43 17.1 +0.1
baz=68
LRM **Limekiln Ridge** 67.27 334 eP P 21 43 17.2 +0.2
F15A **Butte** 67.30 334 ⇓P P 21 43 17.2 0.0
baz=68,SNR=11
L08A **Fields** 67.32 328 ⇓P P 21 43 17.5 0.0
baz=68,SNR=10
K09A **Rome** 67.37 329 ⇑P P 21 43 17.7 0.0
baz=68,SNR=18
I11A **Placerville** 67.39 330 ⇓P P 21 43 18.0 +0.1
baz=68
J10A **Berg Farm, Mel** 67.42 330 ⇓P P 21 43 17.6 -0.5
baz=68
G13A **Cobalt** 67.48 332 ⇓P P 21 43 18.4 0.0
baz=68,SNR=12
O04C **Chester** 67.49 325 ⇑P P 21 43 18.9 +0.3
baz=68
WVOR **Wild Horse Val** 67.64 328 eP P 21 43 18.8 -0.7
WVOR pmax pmax
comp=Z,26nm,1.7s,mb5.0
WVOR **Wild Horse Val** 67.64 328 eP P 21 43 18.8 -0.7
comp=Z,26nm,1.7s,mb5.0
F14A **Wisdom** 67.66 333 ⇓P P 21 43 19.1 -0.4
baz=68
L07A **Adell** 67.72 327 ⇑P P 21 43 20.3 +0.4
baz=68
M06C **Likely Place G** 67.76 326 ⇓P P 21 43 20.6 +0.4
baz=68
K08A **Mann Creek Ran** 67.78 328 ⇓P P 21 43 20.3 -0.1
baz=68
E15A **Deer Lodge** 67.83 334 ⇓P P 21 43 20.8 +0.2
baz=68
J09A **Fry Pan Ranch,** 67.85 329 ⇓P P 21 43 21.0 +0.2
baz=68
GASB **Alder Springs** 67.97 323 ⇑P P 21 43 21.8 +0.2
baz=68
HATC **Hat Creek Radi** 68.04 325 ⇓P P 21 43 21.6 -0.4
baz=68
F13A **Darby** 68.06 333 ⇓P P 21 43 21.9 -0.2
baz=68,SNR=16
K07A **Rock Creek Ran** 68.14 328 ⇓P P 21 43 22.9 +0.2
baz=68
MOD **Modoc** 68.15 326 ⇓P P 21 43 22.6 0.0
baz=68,SNR=16
MOD **Modoc** 68.15 326 eP P 21 43 22.7 0.0
comp=Z,40nm,1.4s,mb5.3
E14A **Clinton** 68.18 334 ⇑P P 21 43 23.4 +0.6
baz=68
P01C **Double 8 Ranch** 68.22 323 ⇓P P 21 43 23.3 +0.2
baz=68
J08A **Circle Bar Ran** 68.22 329 ⇑P P 21 43 23.7 +0.5
baz=68
M05C **Lookout** 68.23 326 ⇑P P 21 43 22.6 -0.6
baz=68
D15A **Lincoln** 68.27 335 ⇑P P 21 43 23.3 0.0
baz=68
H10A **Noah's Angus R** 68.27 331 ⇑P P 21 43 22.8 -0.6
baz=68
I09A **Lost Marbles R** 68.30 329 ⇓P P 21 43 23.8 +0.2
baz=69
O02C **Red Bluff** 68.36 324 ⇓P P 21 43 23.9 -0.2
baz=69
F12A **Elk City** 68.45 332 ⇓P P 21 43 24.2 -0.3
baz=69,SNR=8.3
CHMT **Chamberlain Mo** 68.47 334 eP P 21 43 25.7 +1.1
WDC **Whiskeytown Da** 68.49 324 ⇓P P 21 43 24.7 -0.2
baz=69
E13A **Victor** 68.51 333 ⇑P P 21 43 25.4 +0.5
baz=69,SNR=13
L05A **Lakeview** 68.53 326 ⇓P P 21 43 24.8 -0.3
baz=69
G11A **Walters Elk Ra** 68.65 331 ⇓P P 21 43 25.6 -0.1
baz=69,SNR=18
J07A **Hines** 68.66 328 ⇓P P 21 43 25.4 -0.5
baz=69
I08A **Drewsey** 68.67 329 ⇑P P 21 43 25.4 -0.5
baz=69
MSO **Missoula** 68.70 334 eP P 21 43 25.9 -0.1
comp=Z,36nm,1.4s,mb5.1
D14A **Greenough** 68.71 334 ⇓P P 21 43 26.2 +0.2
baz=69
SCHQ **Schefferville** 68.71 6 P P 21 43 24.2 -1.7
comp=Z,7.8nm,1.0s,mb4.6,baz=185,slow=3.6,SNR=5.6
SCHQ LR LR 22 13 53.1
comp=Z,279nm,19.4s,MS4.5,baz=97,slow=36
SCHQ **Schefferville** 68.71 6 P P 21 43 24.2 -1.7
SCHQ LR LR 22 13 53.1
K06A **Valley Falls** 68.74 327 ⇓P P 21 43 26.8 +0.4
baz=69,SNR=23
M04C **Macdoel** 68.90 326 ⇑P P 21 43 26.9 -0.5
baz=69
F11A **Grangeville** 68.97 332 ⇑P P 21 43 27.5 -0.2
baz=69,SNR=9.1
G10A **Bishop Farm, J** 68.97 331 ⇓P P 21 43 27.9 +0.2
baz=69
J06A **Christmas Vall** 69.01 328 ⇓P P 21 43 28.3 +0.3
baz=69,SNR=29
K05A **Summer Lake** 69.03 327 ⇑P P 21 43 28.9 +0.7
baz=69,SNR=11
N02C **Big Bar** 69.08 324 ⇓P P 21 43 28.6 +0.1
baz=69,SNR=7.4
D13A **Huson** 69.13 334 ⇑P P 21 43 29.0 +0.3
baz=69,SNR=6.8
H08A **Prairie City** 69.16 329 ⇑P P 21 43 28.9 -0.1
baz=69,SNR=19
L04A **Klamath Falls** 69.19 326 ⇑P P 21 43 28.9 -0.3
baz=69
M02C **Callahan** 69.20 325 ⇑P P 21 43 29.5 +0.2
baz=69
I07A **Izee** 69.26 329 ⇓P P 21 43 29.6 0.0
baz=70,SNR=18
G09A **Cove** 69.28 330 ⇓P P 21 43 29.3 -0.4
baz=70,SNR=22
E11A **Bogner Ranch,** 69.34 332 ⇑P P 21 43 29.6 -0.5
baz=70,SNR=9.5
YBH **Yreka Blue Hor** 69.35 325 eP P 21 43 28.5 -1.7
YBH pmax pmax
comp=Z,30nm,1.8s
YBH **Yreka Blue Hor** 69.35 325 ⇑P P 21 43 29.2 -0.9
baz=70
YBH **Yreka Blue Hor** 69.35 325 eP P 21 43 28.5 -1.6
comp=Z,30nm,1.8s,mb4.9
F10A **Beach Ranch, E** 69.53 331 ⇓P P 21 43 31.5 +0.3
baz=70,SNR=10
J05A **Fort Rock** 69.60 327 ⇓P P 21 43 31.8 +0.1
baz=70
C13A **Hot Springs** 69.63 334 ⇓P P 21 43 31.9 +0.1
baz=70,SNR=8.3
F09A **S2 Ranch, Elgi** 69.65 331 ⇑P P 21 43 32.0 0.0
baz=70
H07A **Lands Inn, Kim** 69.66 329 ⇓P P 21 43 32.2 +0.2
baz=70
PPT **Papeete** 69.69 256 eS S 21 52 49.7 +8.3
comp=Z,270nm,24.2s

PPT **Papeete** 69.69 256 eLR LR 22 04 36.6
comp=Z,984nm,28.8s,baz=102
PPT **Papeete** 69.69 256 LR LR 22 04 49.7
comp=Z,248nm,21.7s,MS4.4,baz=107,slow=28
E10A **Myers Farm, Un** 69.85 332 ⇑P P 21 43 33.4 +0.2
baz=70
G08A **Pilot Rock** 69.86 330 ⇑P P 21 43 33.8 +0.6
baz=70,SNR=7.0
LNOR **Lincton Mounta** 69.95 331 eP P 21 43 32.7 -1.1
VNA3 **Neumayer Olymp** 69.96 161 eP P 21 43 33.3 -0.2
VNA3 e pP 21 43 36.9 -1.7
VNA3 e 21 43 42.8
VNA3 e 21 43 55.8
L02A **Cave Junction** 70.13 325 ⇑P P 21 43 34.7 -0.3
baz=70
H06A **Lindquist Farm** 70.14 329 ⇑P P 21 43 34.9 -0.1
baz=70,SNR=18
G07A **Ruggs Ranch, H** 70.19 329 ⇑P P 21 43 35.6 +0.3
baz=70,SNR=9.7
VNA1 **Neumayer--Stat** 70.23 161 eP P 21 43 35.5 +0.3
VNA1 e pP 21 43 38.9 -1.4
VNA1 e 21 43 45.0
VNA1 e 21 43 57.8
D10A **Wagner Farm, O** 70.35 332 ⇑P P 21 43 36.3 +0.1
baz=71
E09A **Wood Farm, Sta** 70.36 331 ⇓P P 21 43 36.4 +0.1
baz=71
WALA **Waterton Lakes** 70.43 335 eP P 21 43 36.6 -0.1
comp=Z,7.4nm,0.9s,mb4.6
K02A **Glendale** 70.47 325 ⇑P P 21 43 37.2 +0.1
baz=71
I04A **Tendick Farm,** 70.57 327 ⇓P P 21 43 37.7 +0.1
baz=71
VNA2 **Neumayer--Watz** 70.58 161 eP P 21 43 36.7 -0.7
VNA2 e pP 21 43 40.7 -1.7
VNA2 e 21 43 44.3
VNA2 e 21 43 46.8
VNA2 e 21 43 59.4
IRO **Indian Ridge** 70.63 327 P P 21 43 38.3 +0.3
G06A **Carlson Farm,** 70.65 329 ⇓P P 21 43 38.3 +0.3
baz=71
D09A **Jones Farm, Ri** 70.83 331 ⇓P P 21 43 39.3 +0.2
baz=71,SNR=7.9
J02A **Umpqua** 70.91 326 ⇑P P 21 43 39.7 -0.1
baz=71
HAWA **Hanford** 70.93 330 eP P 21 43 39.4 -0.4
comp=Z,32nm,1.4s,mb5.1
C10A **Spilker Farm,** 70.94 333 ⇑P P 21 43 39.3 -0.5
baz=71
RSW **Rattlesnake Hi** 70.96 330 eP P 21 43 39.8 -0.2
B11A **Sandpoint** 70.99 333 ⇑P P 21 43 40.6 +0.6
baz=71
H04A **Detroit Lake** 71.06 328 ⇓P P 21 43 40.9 +0.3
baz=71
D08A **Wollman Farm,** 71.12 331 ⇑P P 21 43 40.8 -0.1
baz=71
I03A **Eugene** 71.16 327 ⇓P P 21 43 41.4 +0.2
baz=71
NEW **Newport** 71.19 333 eP P 21 43 39.6 -1.7
NEW pmax pmax
comp=Z,22nm,1.3s
NEW **Newport** 71.19 333 eP P 21 43 39.6 -1.7
comp=Z,22nm,1.3s,mb4.9
E07A **Sunnyside** 71.20 330 ⇑P P 21 43 41.5 0.0
baz=72
OD2 **Odessa Site #2** 71.26 331 eP P 21 43 41.9 +0.1
C09A **Chrisman Ranch** 71.36 332 ⇓P P 21 43 43.3 +0.9
baz=72
A11A **Hall Mountain,** 71.38 334 ⇓P P 21 43 42.5 +0.1
baz=72,SNR=12
H03A **Soap Creek Ran** 71.64 327 ⇓P P 21 43 43.6 -0.5
baz=72
C08A **Higginbotham F** 71.70 332 ⇑P P 21 43 44.9 +0.5
baz=72
D07A **Quincy** 71.71 331 ⇑P P 21 43 44.5 +0.1
baz=72
E06A **Yakima** 71.74 330 ⇓P P 21 43 45.0 +0.4
baz=72
B09A **Rice** 71.76 332 ⇑P P 21 43 44.6 -0.1
baz=72,SNR=12
F04A **Amboy** 72.03 328 ⇓P P 21 43 46.3 -0.2
baz=72
C07A **Waterville** 72.11 331 ⇓P P 21 43 46.7 -0.2
baz=72
E05A **Randle** 72.14 329 ⇑P P 21 43 46.9 -0.1
baz=72
ETW **Entiat** 72.18 331 eP P 21 43 45.9 -1.4
SNAA **Sanae** 72.18 161 eP P 21 43 45.5 -1.5
SNAA e pP 21 43 48.6 -3.5
SNAA e 21 43 53.8
SNAA e 21 43 57.9
SNAA **Sanae** 72.18 161 eP P 21 43 46.8 -0.2
SNAA pmax pmax
comp=Z,8.0nm,0.9s
SNAA **Sanae** 72.18 161 eP P 21 43 46.8 -0.2
comp=Z,7.7nm,0.9s,mb4.6
B08A **Colville Reser** 72.25 332 ⇓P P 21 43 48.3 +0.6
baz=72
A09A **Danville** 72.37 333 ⇑P P 21 43 49.1 +0.7
baz=73
A08A **Turner Farm, O** 72.66 332 ⇓P P 21 43 49.8 -0.3
baz=73
D05A **Emmclaw** 72.68 330 ⇑P P 21 43 50.4 +0.1
baz=73
B07A **Winthrop** 72.69 332 ⇓P P 21 43 49.6 -0.7
baz=73
C05A **Tolt Reservoir** 72.89 330 ⇑P P 21 43 51.7 +0.1
baz=73
E03A **Lebam** 73.03 328 ⇑P P 21 43 52.6 +0.2
baz=73
A07A **Ashnola River,** 73.23 332 ⇓P P 21 43 53.9 +0.4
baz=74,SNR=16
RPW **Rockport** 73.33 331 eP P 21 43 53.5 -0.6
JCW **Jim Creek** 73.36 330 eP P 21 52.3 -2.0
B05A **Bryant** 73.48 330 ⇑P P 21 43 55.7 +0.6
baz=74
EDM **Edmonton** 73.52 338 eP P 21 43 53.9 -1.2
C04A **Brinnon** 73.53 330 ⇑P P 21 43 56.1 +0.8
baz=74
CMW **Cultus Mountai** 73.61 331 P P 21 43 55.3 -0.4
NLWA **Neilton Lookou** 73.76 329 ⇓P P 21 43 57.5 +0.9
baz=74
A06A **Chilliwack** 73.78 331 ⇑P P 21 43 57.0 +0.2
baz=74
A05A **Maple Falls** 73.99 331 ⇑P P 21 43 57.9 -0.1
baz=74
LIC **Lamto** 74.06 79 eP P 21 43 57.5 -1.7
comp=Z,97nm,1.7s,mb5.5
A04A **Legoe Bay, Lum** 74.09 330 ⇑P P 21 43 58.3 -0.3
baz=74
TIC **Toumodi** 74.18 79 eP P 21 43 57.6 -2.3
comp=Z,289nm,1.8s,mb5.9
DBIC **Dimbokro** 74.34 79 P P 21 44 00.9 +0.1
comp=Z,19nm,1.2s,mb4.9,baz=204,slow=4.4,SNR=5.2
DBIC LR LR 22 15 31.7
comp=Z,865nm,18.4s,MS5.1,baz=231,slow=35
KIC **Kosan Boka** 74.37 79 eP P 21 44 00.1 -0.9
comp=Z,393nm,1.6s,mb6.1
RAR **Rarotonga** 78.61 251 LR LR 22 09 33.3
comp=Z,513nm,21.8s,MS4.8,baz=161,slow=28
YKA **Yellowknife Ar** 81.35 343 P P 21 44 37.9 -0.9
comp=Z,8.0nm,1.0s,mb4.6,baz=138,slow=5.4,SNR=10
YKA LR LR 22 24 34.3
comp=Z,237nm,19.9s,MS4.5,baz=150,slow=39
YKA **Yellowknife Ar** 81.35 343 P P 21 44 37.9 -0.9
YKA LR LR 22 24 34.3
TOA0 **Torodi Ar. Sit** 82.32 75 eP P 21 44 44.2 -0.8
TORD **Torodi Ar. Bea** 82.32 75 P P 21 44 44.5 -0.4
comp=Z,22nm,1.1s,mb5.0,baz=264,slow=3.8,SNR=45
TORD PP PP 21 47 58.8 +4.9
comp=Z,2.8nm,1.2s,baz=245,slow=5.7,SNR=3.7
TORD LR LR 22 21 37.0
comp=Z,616nm,18.5s,MS5.0,baz=185,slow=36
VNDA **Vanda** 83.18 191 P P 21 44 49.7 +1.4
comp=Z,1.9nm,0.9s,mb4.1,baz=125,slow=5.6,SNR=12
VNDA LR LR 22 17 28.2
comp=Z,209nm,19.2s,MS4.5,baz=122,slow=32
VNDA **Vanda** 83.18 191 eP P 21 44 49.2 +0.9
VNDA pmax pmax
comp=Z,18nm,1.6s
VNDA **Vanda** 83.18 191 eP P 21 44 49.2 +0.9
comp=Z,18nm,1.6s,mb4.9
DLBC **Dease Lake** 83.78 335 P P 21 44 48.4 -3.1
ESDC **Sonseca Array** 85.94 48 P P 21 45 02.9 0.0
comp=Z,0.7nm,0.7s,mb4.0,baz=247,slow=5.5,SNR=3.9
ESDC LR LR 22 19 46.0
comp=Z,327nm,19.9s,MS4.7,baz=245,slow=33

SYO	**Syowa Base**	**86.47**	**161**	*e*P	**P**	**21 45 03.0**	**-2.0**
SYO	**Syowa Base**	**86.47**	**161**	*e*PcP	PcP	21 45 04.2	-3.2
HYT	**Haines Junctio**	**88.26**	**335**	*e*P	**P**	**21 45 09.0**	**-4.5**
TAM	**Tamanrasset**	**88.43**	**66**	*e*P	**P**	**21 45 15.9**	**+0.6**
SUMG	**Summit**	**89.64**	**11**	*e*P	**P**	**21 45 20.6**	**+0.7**
	comp=Z,12nm,1.3s,mb5.1						
DAWY	**Dawson**	**90.70**	**337**	*e*P	**P**	**21 45 25.1**	**+0.2**
EGAK	**Eagle**	**91.72**	**337**	*e*P	**P**	**21 45 29.1**	**-0.6**
	comp=Z,35nm,1.5s,mb5.5						
MAW	**Mawson**	**93.94**	**166**	P	**P**	**21 45 39.6**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.8,baz=244,slow=3.7,SNR=13						
MAW				LR	LR	22 24 50.6	
	comp=Z,302nm,19.1s,MS4.8,baz=234,slow=34						
MAW	**Mawson**	**93.94**	**166**	*e*P	**P**	**21 45 39.9**	**-0.1**
MAW				pmax	pmax		
	comp=Z,17nm,1.5s						
MAW	**Mawson**	**93.94**	**166**	*e*P	**P**	**21 45 39.9**	**-0.1**
	comp=Z,17nm,1.5s,mb5.2						
MAW				LR	LR	22 24 50.6	
BOSA	**Boshof**	**93.98**	**121**	LR	LR	22 28 31.0	
	comp=Z,496nm,18.4s,MS5.0,baz=263,slow=36						
COLA	**College**	**94.33**	**336**	*e*P	**P**	**21 45 42.0**	**+0.3**
COLA				MLR	MLR		
	comp=Z,251nm,19.0s,MS4.7						
KEST	**Kesra**	**94.87**	**55**	LR	LR	22 29 49.4	
	comp=Z,132nm,18.3s,MS4.4,baz=193,slow=36						
CLL	**Collm**	**100.46**	**40**	*e*SKSac	SKSac	21 56 52.0	+4.0
CLL				*e*(Sdif)		21 57 52.0	
CLL				*e*SS	SS	22 04 53.0	+11
CLL				*e*x	x	22 05 53.0	
CLL				*e*x	x	22 10 12.0	
BILL	**Bilibino**	**112.42**	**339**	*e*PKIKP	PKiKP	21 50 56.0	-2.1
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASAR	**Alice Springs**	**132.22**	**219**	PKP	PKPdf	21 51 36.0	-1.4
	comp=Z,0.2nm,0.5s,baz=145,slow=3.4,SNR=3.9						
WRAB	**Tennant Creek**	**134.62**	**223**	*e*PKIKP	PKPdf	21 51 41.5	-0.5
WRA	**Warramunga Arr**	**134.62**	**223**	PKP	PKPdf	21 51 40.8	-1.1
	comp=Z,1.2nm,0.7s,baz=132,slow=1.8,SNR=14						
NVS	**Novosibirsk**	**136.04**	**16**	*e*PKIKP	PKPdf	21 51 41.9	-1.6
NVS				pmax	pmax		
	comp=Z,23nm,2.4s						
NVS				pmax	pmax		
	comp=N,3.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.4s						
ZAA0	**Zalesovo Array**	**137.26**	**16**	*e*PKPdf	PKPdf	21 51 45.3	-0.5
ZALV	**Zalesovo Beam**	**137.26**	**16**	PKP	PKPdf	21 51 45.6	-0.2
	comp=E,2.8nm,0.9s,baz=318,slow=2.0,SNR=8.6						
ZAL	**Zalesovo**	**137.27**	**16**	PKIKP	PKPdf	21 51 45.6	-0.2
MAT	**Matsushiro**	**141.15**	**312**	PKP	PKPdf	21 51 55.0	+1.5
FITZ	**Fitzroy Crossi**	**141.41**	**216**	*e*PKPdf	PKPdf	21 51 54.1	-0.4
MK31	**Makanchi Array**	**142.61**	**24**	*e*PKIKP	PKPdf	21 51 53.9	-1.9
MKAR	**Makanchi Array**	**142.61**	**24**	PKP	PKPdf	21 51 55.0	-0.7
	comp=E,1.0nm,0.7s,baz=336,slow=2.7,SNR=8.6						
ZAK	**Zakamensk**	**143.33**	**360**	*e*PKIKP	PKPdf	21 51 55.8	-1.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.9s						
CN2	**Changchun**	**144.31**	**332**	*e*PKP	PKPdf	21 51 59.3	+0.5
SONM	**Songino Array**	**145.77**	**356**	PKPbc	PKPbc	21 52 01.5	-0.1
	comp=Z,26nm,1.2s,baz=334,slow=1.5,SNR=63						
SNY	**Shenyang**	**146.71**	**331**	PKPR	PKPdf	21 52 04.4	+1.4
SNY				PP	PP	21 55 30.6	+3.0
SNY				SS	SS	22 14 28.0	+2.4
SNY				LR	LR		
	comp=N,448nm,34.8s						
SNY				LR	LR		
	comp=E,166nm,21.6s						
SNY				LR	LR		
	comp=Z,137nm,21.0s						
WMQ	**Urumqi**	**147.14**	**21**	PKP	PKPdf	21 52 03.5	-0.2
WMQ				LR	LR		
	comp=N,123nm,20.8s,MS4.8						
WMQ				LR	LR		
	comp=E,108nm,23.2s,MS4.8						
WMQ				LR	LR		
	comp=Z,109nm,24.4s,MS4.5						
KSRS	**Korea Array**	**147.52**	**321**	PKPbc	PKPbc	21 52 04.9	-2.2
	comp=Z,0.9nm,0.6s,baz=45,slow=2.2,SNR=4.4						
BJI	**Beijing**	**151.25**	**339**	PKP	PKPdf	21 52 10.1	-0.3
BJI				SS	SS	22 15 15.8	-0.3
BJI				LR	LR		
	comp=N,100nm,21.9s,MS4.9						
BJI				LR	LR		
	comp=E,162nm,17.2s,MS4.9						
BJT	**Baijiatuan**	**151.28**	**339**	PKIKP	PKPdf	21 52 11.4	+1.0
DDI	**Dehra Dun**	**151.58**	**50**	*ex*	PKPdf	21 52 10.2	-1.0
HHC	**Hu-ho-hao-te**	**151.86**	**346**	*e*PKP	PKPdf	21 52 10.8	-0.5
HHC				APKP		21 52 21.3	
HHC				XPKP		21 52 25.3	
HHC				PKS		21 55 43.8	
HHC				PP	PP	21 56 00.8	+3.7
HHC				SKS	SKSdf	21 59 12.9	-5.4
HHC				SKKS	SKKSac	22 02 45.3	-2.9
HHC				SS	SS	22 15 22.0	-0.4
HHC				PP	PP		
	comp=Z,101nm,10.3s						
HHC				LR	LR		
	comp=N,144nm,17.8s,MS5.0						
HHC				LR	LR		
	comp=E,148nm,19.0s,MS5.0						
HHC				LR	LR		
	comp=Z,244nm,23.2s,MS4.9						
BTO	**Baotou**	**152.42**	**348**	*e*PKP	PKPdf	21 52 14.8	+2.7
GTA	**Gaotai**	**154.14**	**6**	*e*PKP	PKPdf	21 52 16.3	+1.6
GTA				APKP		21 52 27.0	
GTA				XPKP		21 52 30.8	
GTA				PKP2	PKPab	21 52 41.9	+5.6
GTA				PP	PP	21 56 18.8	+8.9
GTA				PP	PP		
	comp=Z,105nm,5.7s						
GTA				LR	LR		
	comp=N,255nm,19.8s,MS5.2						
GTA				LR	LR		
	comp=E,265nm,18.6s,MS5.2						
GTA				LR	LR		
	comp=Z,158nm,18.6s,MS4.9						
SSE	**Sheshan**	**155.89**	**319**	PKP	PKPdf	21 52 16.9	-0.4
SSE				PP	PP	21 56 24.4	+3.7
SSE				SS	SS	22 16 06.0	-2.1
SSE				PP	PP		
	comp=Z,65nm,12.0s						
SSE				LR	LR		
	comp=N,113nm,21.0s,MS4.9						
SSE				LR	LR		
	comp=E,133nm,21.0s,MS4.9						
SSE				LR	LR		
	comp=Z,191nm,20.7s,MS4.9						
NJ2	**Nanjing**	**156.62**	**324**	*e*PKP	PKPdf	21 52 17.3	-1.0
LZH	**Lanzhou**	**157.61**	**358**	*e*PKP	PKPdf	21 52 20.3	+0.9
LZH				APKP		21 52 31.9	
LZH				PP	PP	21 56 36.0	+6.9
LZH				SKKS	SKKSac	22 03 19.3	+0.1
LZH				PP	PP		
	comp=Z,120nm,5.0s						
LZH				LR	LR		
	comp=E,145nm,18.9s						
LZH				LR	LR		
	comp=Z,263nm,19.0s,MS5.1						
LSA	**Lhasa**	**160.57**	**33**	PKP	PKPdf	21 52 21.3	-1.7
LSA	**Lhasa**	**160.57**	**33**	*e*PKPdf	PKPdf	21 52 23.8	+0.8
LSA				LR	LR		
	comp=Z,191nm,21.0s						
CD2	**Chengdu**	**162.77**	**358**	*e*PKP	PKPdf	21 52 23.9	-1.4
CD2				APKP		21 52 33.0	
CD2				XPKP		21 52 37.8	
CD2				PKP2	PKPab	21 53 15.3	+1.5
CD2				PP	PP	21 56 59.9	+2.9
CD2				SKS	SKSdf	21 59 23.5	-6.2
CD2				SKKS	SKKSac	22 03 42.8	-3.3
CD2				PP	PP		
	comp=Z,120nm,10.2s						
CD2				LR	LR		
	comp=N,230nm,22.4s						
CD2				LR	LR		
	comp=E,180nm,18.2s						
CD2				LR	LR		
	comp=Z,210nm,20.4s						
GYA	**Guiyang**	**166.78**	**346**	PKP	PKPdf	21 52 28.9	0.0
GYA				XPKP		21 52 43.8	
GYA				PKP2	PKPab	21 53 32.5	+1.0
GYA				PKS		21 55 58.6	
GYA				PP	PP	21 57 21.0	+2.9
GYA				SKS	SKSdf	21 59 26.3	-6.4
GYA				SKKS	SKKSac	22 04 06.0	-0.5
GYA				SS	SS	22 17 59.0	-1.2
GYA				LR	LR		
	comp=N,280nm,25.8s						
GYA				LR	LR		
	comp=E,260nm,24.6s						
GYA				LR	LR		
	comp=Z,190nm,25.4s						
KMI	**Kunming**	**168.54**	**1**	PKP	PKPdf	21 52 28.8	-1.4
KMI				APKP		21 52 40.3	
KMI				XPKP		21 52 44.4	
KMI				PKP2	PKPab	21 53 40.4	+1.1
KMI				PP	PP	21 57 28.0	+1.0
KMI				SKKS	SKKSac	22 04 10.8	-4.4
KMI				PP	PP		
	comp=Z,112nm,4.6s						
KMI				LR	LR		
	comp=N,131nm,19.7s						
KMI				LR	LR		
	comp=E,147nm,19.7s						
KMI				LR	LR		
	comp=Z,207nm,19.7s						
CMAR	**Chiang Mai Arr**	**173.77**	**39**	PKP	PKPdf	21 52 31.3	-1.7
	comp=Z,0.8nm,0.9s,baz=338,slow=35,SNR=5.7						
CMAR				PKPab	PKPab	21 54 03.3	+0.5
	comp=Z,0.9nm,0.9s,baz=323,slow=4.9,SNR=4.7						

*NEIC **21** 21:48:03.6±0.8, 1790S×17820W, h312km±8km, mb4.5/16, Error ellipse: s-maj=13.2km s-min=7.7km az=145.0*
*ISCJB **21** 21:48:27.5±1.2, 180S±01×17856W±008, h585km±15km, mb4.3/23, Error ellipse: s-maj=18.0km s-min=7.8km az=149.8*
*IDC **21** 21:48:28.7±1.9, 1751S×17872W, h570km±25km, mb3.8/11, mb1 4.0/12, mb1mx3.7/20, mbtmp3.8/12, Error ellipse: s-maj=23.8km s-min=12.2km az=150.0*

ISC 21 21:48:28.3±1.2, 180S±01×17850W±008, h581km±14km, n69, σ0=93/63, mb4.3/23, 8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.63**	**59**	P		**P**	**21 50 22.9**	**-0.6**
	7.6nm,0.3s,baz=128,slow=22,SNR=6.1						
FUNA	**Funafuti**	**9.67**	**346**	Pn		Px	21 50 18.1	
RAO	**Raoul Island**	**11.22**	**177**	P		Px	21 50 36.9	
URZ	**Urewera**	**20.56**	**190**	P		**P**	**21 52 33.4**	**+5.7**
	6.2nm,0.4s,baz=289,slow=4.6,SNR=6.4						
EIDS	**Eidsvold**	**29.16**	**250**	*e*pP		Px	21 54 36.7	
ARMA	**Armidale**	**29.82**	**240**	*e*P		**P**	**21 53 51.0**	**+1.4**
CNB	**Canberra Magne**	**33.31**	**232**	⇓*i*P		**P**	**21 54 20.2**	**+1.1**
CTA	**Charters Tower**	**33.35**	**261**	⇓*i*P		**P**	**21 54 20.0**	**+0.4**
	12nm,0.6s,mb4.7						
CTA	**Charters Tower**	**33.35**	**261**	P		**P**	**21 54 19.9**	**+0.3**
	18nm,0.6s,mb4.9,baz=88,slow=10.0,SNR=27						
CTAO	**Charters Tower**	**33.35**	**261**	*e*P		**P**	**21 54 19.9**	**+0.3**
	18nm,0.7s,mb4.8						
PMG	**Port Moresby**	**34.39**	**280**	*e*P		**P**	**21 54 29.9**	**+1.4**
TOO	**Toolangi**	**37.05**	**231**	*e*P		**P**	**21 54 51.0**	**+0.9**
STKA	**Stephens Creek**	**38.51**	**241**	⇓*i*P		**P**	**21 55 03.0**	**+0.9**
	18nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**38.51**	**241**	P		**P**	**21 55 03.0**	**+1.0**
	22nm,0.8s,mb4.7,baz=86,slow=9.7,SNR=38						
STKA	**Stephens Creek**	**38.51**	**241**	*e*P		**P**	**21 55 03.0**	**+0.9**
	20nm,0.7s,mb4.8						
HKL	**Haleakala**	**44.21**	**31**	*e*pP		Px	21 56 44.6	
WB2	**Warramunga Arr**	**44.52**	**260**	⇓*i*P		**P**	**21 55 48.9**	**-0.6**
WRAB	**Tennant Creek**	**44.52**	**260**	*e*P		**P**	**21 55 49.0**	**-0.5**
	16nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**44.53**	**260**	P		**P**	**21 55 49.0**	**-0.6**
	16nm,0.7s,mb4.7,baz=95,slow=7.2,SNR=261						
ASAR	**Alice Springs**	**44.69**	**254**	P		**P**	**21 55 50.9**	**+0.2**
	60nm,0.6s,mb5.3,baz=87,slow=8.7,SNR=452						
KAKA	**Kakadu**	**47.49**	**269**	⇓*i*P		**P**	**21 56 11.6**	**-0.5**
	25nm,0.4s,mb5.1						
FORT	**Forrest**	**49.89**	**245**	⇓*i*P		**P**	**21 56 29.0**	**-0.6**
	31nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**52.93**	**261**	⇓*i*P		**P**	**21 56 51.6**	**-0.1**
	4.5nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.93**	**261**	*e*P		**P**	**21 56 51.7**	**+0.1**
	4.6nm,0.4s,mb4.2						
MBWA	**Marble Bar**	**57.97**	**256**	*e*P		**P**	**21 57 26.1**	**-0.5**
	12nm,0.9s,mb4.0						
KLBR	**Kellerberrin**	**58.72**	**244**	⇓*i*P		**P**	**21 57 30.5**	**-0.9**
	15nm,0.6s,mb4.3						
MUN	**Mundaring**	**60.01**	**243**	*e*P		**P**	**21 57 39.9**	**-0.1**
VNDA	**Vanda**	**60.36**	**185**	*e*P		**P**	**21 57 40.0**	**-1.5**
	0.4nm,0.6s						
MJAR	**Matsushiro Arr**	**67.92**	**323**	P		**P**	**21 58 28.3**	**-1.6**
	0.8nm,0.5s,mb3.4,baz=139,slow=6.4,SNR=3.4						
KKM	**Kota Kinabalu**	**68.68**	**284**	*e*P		**P**	**21 58 35.1**	**+0.1**
KSM	**Kuching**	**72.61**	**277**	*e*P		**P**	**21 58 57.9**	**-0.3**
PETK	**Petropavlovsk-**	**73.73**	**345**	P		**P**	**21 59 02.5**	**-1.1**
	2.3nm,0.8s,mb3.8,baz=155,slow=6.3,SNR=3.4						
CMB	**Columbia Colle**	**77.96**	**43**	*e*P		**P**	**21 59 27.4**	**+0.1**
	6.6nm,0.9s,mb4.1						
LHEM	**Herd Peak**	**78.88**	**39**	P		**P**	**21 59 32.8**	**+0.7**
NVAR	**Mina Array Bea**	**79.54**	**44**	P		**P**	**21 59 36.1**	**+0.4**
	3.6nm,0.7s,mb3.8,baz=223,slow=9.0,SNR=25						
TPNV	**Topopah Spring**	**80.14**	**46**	*e*P		**P**	**21 59 37.8**	**-1.1**
MOD	**Modoc**	**80.20**	**40**	*e*P		**P**	**21 59 39.7**	**+0.6**
VIPM	**Ingram Point**	**81.51**	**38**	P		**P**	**21 59 46.1**	**+0.3**
WVOR	**Wild Horse Val**	**81.52**	**40**	P		**P**	**21 59 46.1**	**+0.2**
TUC	**Tucson**	**81.82**	**52**	*e*P		**P**	**21 59 48.9**	**+1.3**
	5.3nm,1.1s,mb4.0						
PMR	**Palmer**	**82.70**	**14**	P		**P**	**21 59 53.4**	**+2.0**
ELK	**Elko**	**82.77**	**43**	*e*P		**P**	**21 59 52.7**	**+0.5**
WUAZ	**Wupatki**	**82.86**	**49**	*e*P		**P**	**21 59 53.6**	**+0.8**
	4.7nm,0.8s,mb4.1						
BMO	**Blue Mountains**	**83.66**	**39**	*e*P		**P**	**21 59 56.0**	**-0.5**
KTH	**Kantishna Hill**	**84.07**	**12**	*e*P		**P**	**21 59 56.3**	**-1.8**
	3.7nm,0.8s,mb4.0						
TRF	**Thorofare Moun**	**84.11**	**12**	*e*P		**P**	**21 59 56.4**	**-1.9**
	8.8nm,0.8s,mb4.3						
BPAW	**Bear Paw Mtn.**	**84.55**	**12**	*e*P		**P**	**21 59 58.2**	**-2.2**
HLID	**Hailey**	**84.75**	**41**	*e*P		**P**	**22 00 02.8**	**+0.9**
HWUT	**Hardware Ranch**	**85.61**	**44**	*e*P		**P**	**22 00 05.8**	**-0.3**
TXAR	**Lajitas Array**	**86.11**	**58**	P		**P**	**22 00 09.8**	**+1.0**
	3.9nm,0.7s,mb4.1,baz=219,slow=6.1,SNR=54						
TXAR	**Lajitas Array**	**86.11**	**58**	P		**P**	**22 00 09.8**	**+1.0**
ANMO	**Albuquerque**	**86.22**	**52**	*e*P		**P**	**22 00 08.6**	**-0.6**
HIA	**Hailar**	**86.38**	**325**	*e*P		**P**	**22 00 12.2**	**+2.6**
AHID	**Auburn Hatcher**	**86.46**	**43**	P		**P**	**22 00 06.8**	**-3.4**
RRI2	**Red Ridge**	**86.60**	**42**	*e*P		**P**	**22 00 11.6**	**+0.9**
	9.4nm,0.9s,mb4.5						
BW06	**Boulder Array**	**87.47**	**43**	*e*P		**P**	**22 00 15.0**	**+0.2**
	3.1nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**87.47**	**43**	P		**P**	**22 00 14.8**	**0.0**
	2.3nm,0.6s,mb4.1,baz=222,slow=3.0,SNR=21						
BOZ	**Bozeman (W)**	**87.51**	**40**	*e*P		**P**	**22 00 15.4**	**+0.5**
SMCO	**Snowmass**	**87.63**	**48**	*e*PKKPbc	PKKPbc	22 18 10.5	+9.2
SDCO	**Great Sand Dun**	**88.08**	**49**	*e*P		**P**	**22 00 18.0**	**+0.1**
RWWY	**Rawlins**	**88.55**	**45**	*e*P		**P**	**22 00 19.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**88.83**	**290**	P		**P**	**22 00 22.3**	**+0.6**
	1.6nm,0.8s,mb3.9,baz=103,slow=2.8,SNR=9.8						
PHWY	**Pilot Hill**	**89.58**	**46**	*e*P		**P**	**22 00 24.9**	**+0.2**
PHWY				*e*PKKPbc	PKKPbc	22 18 03.8	+7.2
SNAA	**Sanae**	**90.52**	**179**	*e*P		**P**	**22 00 27.6**	**-0.9**
VNA3	**Neumayer Olymp**	**90.67**	**176**	*e*		**P**	**22 00 28.7**	**-0.5**
VNA3				*e*			22 00 30.8	
VNA2	**Neumayer--Watz**	**91.10**	**177**	*e*		**P**	**22 00 31.3**	**0.0**
VNA2				*e*			22 00 33.3	
MIAR	**Mount Ida**	**95.96**	**56**	*e*P		**P**	**22 00 54.8**	**+0.8**
NNA	**Nana**	**97.17**	**105**	*e*P		**P**	**22 00 59.8**	**-0.2**
GERES	**GERESS Array B**	**147.67**	**345**	PKPbc	PKPbc	22 07 07.5	-0.7
	0.3nm,0.5s,baz=358,slow=3.3,SNR=4.1						

NEIC 21 22:48:37.5, 4117S×17307E, h152km, MG3.7(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.24**	**102**	P		Pn	22 48 57.8	-0.2
NNZ				S		Sn	22 49 12.2	-1.5
THZ	**Tophouse**	**0.61**	**192**	P		Pn	22 48 59.6	0.0
THZ				S		Sn	22 49 15.2	-1.3
BSWZ	**Blackbirch Sta**	**0.81**	**132**	P		Pn	22 49 01.1	+0.2
TCW	**Tory Channel**	**0.91**	**93**	P		Pn	22 49 01.9	+0.2
DSZ	**Denniston Nort**	**1.11**	**238**	P		Pn	22 49 03.0	-0.4
MRW	**Makara Radio**	**1.23**	**93**	P		Pn	22 49 04.4	-0.1
SNZO	**South Karori**	**1.24**	**97**	P		Pn	22 49 04.4	-0.2
WEL	**Wellington**	**1.29**	**96**	P		Pn	22 49 04.9	-0.1
KHZ	**Kahutara**	**1.30**	**164**	P		Pn	22 49 05.3	+0.2
BHW	**Baring Head**	**1.38**	**101**	P		Pn	22 49 05.7	-0.2
KIW	**Kapiti Island**	**1.43**	**78**	P		Pn	22 49 06.4	0.0
CAW	**Cannon Point**	**1.51**	**88**	P		Pn	22 49 07.0	-0.3
MSWZ	**Moikau Station**	**1.66**	**99**	P		Pn	22 49 08.6	-0.3
LTZ	**Lake Taylor**	**1.72**	**200**	P		Pn	22 49 09.5	0.0
PAWZ	**Paruwai Farm**	**1.79**	**98**	P		Pn	22 49 10.0	-0.3
MTW	**Mount Morrison**	**1.84**	**90**	P		Pn	22 49 10.5	-0.3
MRZ	**Mangatainoka R**	**1.97**	**76**	P		Pn	22 49 11.8	-0.5
NWEZ	**Newall Road**	**1.99**	**18**	P		Pn	22 49 12.6	0.0
WAZ	**Wanganui**	**2.03**	**47**	P		Pn	22 49 13.5	+0.4
NEZ	**North Egmont**	**2.05**	**23**	P		Pn	22 49 13.2	-0.1
PKE	**Pukeiti**	**2.09**	**20**	P		Pn	22 49 13.6	-0.2
VRZ	**Vera Road**	**2.42**	**33**	P		Pn	22 49 17.3	-0.4
TSZ	**Takapari Road**	**2.46**	**64**	P		Pn	22 49 17.4	-0.8
MOZ	**McQueen's Vall**	**2.56**	**187**	P		Pn	22 49 18.3	-1.0
WVZ	**Waitaha Valley**	**2.58**	**222**	P		Pn	22 49 19.0	-0.6
WNVZ	**Wahianoa**	**2.67**	**47**	P		Pn	22 49 20.4	-0.4
MOVZ	**Moawhango**	**2.70**	**50**	P		Pn	22 49 20.3	-0.9
TUVZ	**Tukino**	**2.74**	**47**	P		Pn	22 49 21.2	-0.5
TWVZ	**Taurewa**	**2.77**	**42**	P		Pn	22 49 21.7	-0.3
NGZ	**Ngauruhoe**	**2.78**	**45**	P		Pn	22 49 22.4	+0.3
WTVZ	**West Tongariro**	**2.82**	**44**	P		Pn	22 49 22.3	-0.3
RPZ	**Rata Peaks**	**2.95**	**210**	P		Pn	22 49 23.6	-0.6
HIZ	**Hauiti**	**2.99**	**28**	P		Pn	22 49 23.7	-1.1
BKZ	**Black Stump Fm**	**3.30**	**54**	P		Pn	22 49 27.4	-1.3
FOZ	**Fox Glacier**	**3.46**	**225**	P		Pn	22 49 28.5	-2.3
LBZ	**Lake Benmore**	**3.85**	**212**	P		Pn	22 49 34.6	-1.2
KNZ	**Kokohu**	**4.13**	**60**	P		Pn	22 49 37.3	-2.2
ODZ	**Otahua Downs**	**4.26**	**204**	P		Pn	22 49 40.6	-0.5
JCZ	**Jackson Bay**	**4.31**	**226**	P		Pn	22 49 40.4	-1.3
MWZ	**Matawai**	**4.45**	**52**	P		Pn	22 49 40.9	-2.8
MLZ	**Mavora Lakes**	**5.50**	**219**	P		Pn	22 49 56.7	-0.7

*ISCJB **21** 22:49:36.1±0.8, 4181N±004×2284E±004, h10km, Error ellipse: s-maj=5.4km s-min=3.6km az=161.8*
*SKO **21** 22:49:36.7, 4184N×2283E, h15km, M2.0, ML2.3*
*CSEM **21** 22:49:37.4±0.2, 4185N×2282E, h25km, ML2.6, Error ellipse: s-maj=3.1km s-min=2.0km az=157.0*
*THE **21** 22:49:38.0, 4177N×2286E, h4km, ML2.6*
*ATH **21** 22:49:42.5, 4154N×2305E, h18km, MD3.1/3*

ISC 21 22:49:36.8±0.8, 4183N±004×2285E±004, h2km±8km, n18, σ0=84/36, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.55**	**203**	*e*Pg	**Pg**	**22 49 48.0**	**+0.7**
VAY				*e*Sg	**Sg**	**22 49 54.6**	**+0.3**
VAY	**Valandovo**	**0.55**	**203**	*i* Pg	**Pg**	**22 49 48.4**	**+1.1**
VAY				*i* Sg	**Sg**	**22 49 55.3**	**+1.0**
VAY				*e*Lg		22 49 56.1	
	comp=N,67nm,0.2s						
VAY				*e*Lg		22 49 56.2	
	comp=E,100nm,0.2s						
VAY	**Valandovo**	**0.55**	**203**	*i* Pg	**Pg**	**22 49 48.3**	**+1.0**
VAY				*i* Sg	**Sg**	**22 49 55.3**	**+1.0**
NVR	**Nevrokopi**	**0.89**	**122**	*e*PB	**Pb**	**22 49 54.3**	**-0.7**
NVR				*e*SN	**Sn**	**22 50 04.8**	**-5.1**
SRS	**Serrai**	**0.90**	**142**	*e*Pg	**Pg**	**22 49 54.0**	**0.0**
SRS				*e*Sg	**Sg**	**22 50 06.3**	**+0.6**
GRG	**Griva**	**0.93**	**202**	*e*Pg	**Pg**	**22 49 54.9**	**+0.2**
GRG				*e*Sg	**Sg**	**22 50 07.5**	**+0.8**
GRG	**Griva**	**0.93**	**202**	*e*Pg	**Pg**	**22 49 54.8**	**+0.1**
GRG				*e*Sg	**Sg**	**22 50 07.5**	**+0.8**
SOH	**Sokhos**	**1.07**	**159**	*e*Pg	**Pg**	**22 49 57.3**	**0.0**
SOH				*e*Sg	**Sg**	**22 50 11.3**	**+0.1**
THE	**Thessaloniki**	**1.20**	**176**	*e*Pg	**Pg**	**22 49 58.7**	**-1.0**
THE				*e*Sg	**Sg**	**22 50 15.5**	**+0.3**
HORT	**Hortiatis**	**1.24**	**171**	*e*Pg	**Pg**	**22 50 00.6**	**0.0**
HORT				*e*Sg	**Sg**	**22 50 17.5**	**+0.9**
KRUS	**Krusevo**	**1.29**	**250**	*i* Pg	**Pg**	**22 50 01.8**	**+0.3**
KRUS				*e*Sg	**Sg**	**22 50 19.4**	**+1.2**
KRUS				*e*Lg		22 50 20.0	
	comp=N,2.4nm,0.3s						
KRUS				*e*Lg		22 50 20.2	
	comp=E,2.3nm,0.5s						
KRUS	**Krusevo**	**1.29**	**250**	*i* Pg	**Pg**	**22 50 01.7**	**+0.2**
KRUS				*e*Sg	**Sg**	**22 50 19.3**	**+1.2**
PLD	**Plovdiv**	**1.41**	**78**	*e*Pg	**Pg**	**22 50 03.6**	**-0.2**
PLD				*e*Sg	**Sg**	**22 50 22.9**	**+0.8**
PLG	**Polygyros**	**1.52**	**163**	*e*Pg	**Pg**	**22 50 04.5**	**-1.4**
PLG				*e*Sg	**Sg**	**22 50 24.8**	**-0.7**
PLG	**Polygyros**	**1.52**	**163**

CBYP	Canovanas	13.28	30	*e*P		Pn	22 57 57.8 +4.1
FDF	Fort de France	13.94	55	*e*Pn		Pn	22 58 02.8 +0.7
ATAH	Atahualpa	14.79	202	P		Pn	22 58 13.2 +0.5
	0.2nm,0.3s,baz=354,slow=9.2,SNR=2.3						
TEIG	Tepich	20.02	313	P		P	22 59 11.1 -0.4
	28nm,0.5s,baz=138,slow=6.0,SNR=24						
LPAZ	La Paz	23.43	168	P		P	22 59 46.5 +0.7
	0.8nm,0.3s,mb3.6,baz=339,slow=9.2,SNR=8.0						
SIV	San Ignacio	25.50	153	P		P	23 00 03.0 -1.6
	0.6nm,0.5s,mb3.5,baz=334,slow=8.3,SNR=12						
GOGA	Godfrey	28.22	341	*e*P		P	23 00 30.1 +1.4
CPCT	Cooper Cave	30.44	341	*e*P		P	23 00 50.1 +1.8
PLAL	Pickwick Lake	31.33	336	*e*P		P	23 00 56.7 +0.6
	20nm,0.9s,mb4.8						
BDFB	Brasilia	33.24	132	P		P	23 01 13.4 +0.4
	2.9nm,0.5s,mb4.3,baz=283,slow=16,SNR=5.5						
WCI	Wyandotte Cave	33.55	341	*e*P		P	23 01 15.1 -0.3
	16nm,0.7s,mb4.9						
MIAR	Mount Ida	33.55	328	*e*P		P	23 01 14.9 -0.6
USIN	University of	33.78	339	*e*P		P	23 01 18.2 +0.7
SIUC	Southern Illin	34.15	337	*e*P		P	23 01 21.1 +0.4
ACSO	Alum Creek Sta	34.48	346	*e*P		P	23 01 25.0 +1.6
	13nm,1.0s,mb4.6						
BLO	Bloomington	34.48	341	*e*P		P	23 01 23.6 +0.2
FVM	French Village	34.87	335	*e*P		P	23 01 26.8 0.0
WMOK	Wichita Mounta	36.62	323	*e*P		P	23 01 40.7 -1.2
	8.3nm,0.7s,mb4.5						
TXAR	Lajitas Array	36.64	312	P		P	23 01 41.4 -0.7
	3.9nm,0.6s,mb4.2,baz=127,slow=9.3,SNR=56						
TXAR				PcP		PcP	23 04 02.5 +1.0
	1.6nm,0.8s,baz=125,slow=2.8,SNR=7.5						
FRNY	Flat Rock	37.87	359	*e*P		P	23 01 52.9 +0.7
KSU1	Kansas State U	38.61	330	*e*P		P	23 01 57.2 -1.3
	26nm,0.6s,mb5.0						
JFWS	Jewell Farm	39.08	340	*e*P		P	23 02 01.8 -0.4
SCIA	State Center	39.33	336	*e*P		P	23 02 04.0 -0.4
COWI	Conover	41.58	343	*e*P		P	23 02 23.1 +0.3
	13nm,0.9s,mb4.5						
ANMO	Albuquerque	41.68	317	*e*P		P	23 02 24.2 +0.4
ECSD	EROS,Sioux Fal	42.25	334	*e*P		P	23 02 27.0 -1.3
	13nm,1.0s,mb4.5						
SDCO	Great Sand Dun	42.70	321	*e*P		P	23 02 32.8 +0.8
TUC	Tucson	43.43	311	*e*P		P	23 02 37.7 -0.2
EYMN	Ely	43.94	342	*e*P		P	23 02 41.2 -0.5
ISCO	Idaho Springs	44.05	323	*e*P		P	23 02 43.5 +0.7
	9.3nm,0.9s,mb4.4						
PV01	Paradox Valley	44.88	319	*e*P		P	23 02 49.9 +0.5
PHWY	Pilot Hill	44.93	325	*e*P		P	23 02 50.1 +0.4
WUAZ	Wupatki	45.39	314	*e*P		P	23 02 54.2 +0.8
	19nm,0.9s,mb4.7						
RSSD	Black Hills	46.06	329	*e*P		P	23 02 59.4 +0.8
SRU	San Rafael	46.70	319	*e*P		P	23 03 04.0 +0.4
GLA	Glamis	46.82	310	*e*P		P	23 03 04.9 +0.2
	9.0nm,0.6s,mb4.6						
TMUT	Trail Mountain	47.24	319	*e*P		P	23 03 08.8 +0.9
ULM	Lac du Bonnet	47.37	340	P		P	23 03 07.7 -1.0
	12nm,0.4s,mb4.9,baz=147,slow=7.1,SNR=28						
MSU	Marysvale	47.47	318	*e*P		P	23 03 10.1 +0.5
DAU	Daniels Canyon	47.89	320	*e*P		P	23 03 12.0 -0.8
SCHQ	Schefferville	48.12	5	P		P	23 03 15.1 +0.8
	7.5nm,0.8s,mb4.4,baz=192,slow=5.8,SNR=17						
NLU	North Lily Min	48.16	319	*e*P		P	23 03 15.5 +0.6
BW06	Boulder Array	48.22	324	*e*P		P	23 03 14.9 -0.4
	9.8nm,1.3s,mb4.3						
PDAR	Pinedale Array	48.22	324	P		P	23 03 14.9 -0.4
	3.8nm,0.6s,mb4.2,baz=126,slow=8.9,SNR=28						
SHPR	Sheep Range	48.56	314	*e*P		P	23 03 17.6 -0.5
HWUT	Hardware Ranch	48.75	321	*e*P		P	23 03 19.3 -0.1
	6.3nm,0.6s,mb4.4						
DUG	Dugway	48.77	319	*e*P		P	23 03 20.1 +0.5
	7.3nm,0.9s,mb4.3						
GSC	Goldstone	49.24	311	*e*P		P	23 03 23.5 +0.3
	7.6nm,0.8s,mb4.4						
DGMT	Dagmar	49.26	333	*e*P		P	23 03 23.8 +0.7
BGU	Big Grassy Mou	49.30	320	*e*P		P	23 03 23.3 -0.3
REDW	Red Top Meadow	49.34	324	*e*P		P	23 03 23.7 -0.1
	15nm,0.7s,mb4.7						
LOHW	Long Hollow	49.34	324	*e*P		P	23 03 23.7 -0.1
	8.4nm,0.6s,mb4.5						
TPAW	Teton Pass	49.47	324	*e*P		P	23 03 25.1 +0.3
	7.6nm,0.6s,mb4.5						
MOOW	Moose Ponds	49.50	324	*e*P		P	23 03 24.9 -0.2
	5.3nm,0.8s,mb4.2						
RLMT	Red Lodge	49.51	326	*e*P		P	23 03 25.2 +0.1
TPNV	Topopah Spring	49.54	314	*e*P		P	23 03 26.0 +0.5
	7.9nm,1.0s,mb4.3						
HVU	Hansel Valley	49.60	321	*e*P		P	23 03 25.7 -0.1
RRI2	Red Ridge	49.60	323	*e*P		P	23 03 25.6 -0.3
IMW	Indian Meadow	49.70	324	*e*P		P	23 03 26.9 +0.3
	8.4nm,0.6s,mb4.5						
QLMT	Earthquake Lak	50.54	325	*e*P		P	23 03 34.3 +1.4
ELK	Elko	50.64	319	*e*P		P	23 03 33.7 0.0
BOZ	Bozeman (W)	51.15	326	*e*P		P	23 03 37.4 0.0
DLMT	Dillon	51.52	325	*e*P		P	23 03 39.4 -0.8
	6.2nm,0.8s,mb4.3						
HLID	Hailey	51.59	322	*e*P		P	23 03 41.0 +0.3
NVAR	Mina Array Bea	51.66	314	P		P	23 03 41.4 +0.1
	2.9nm,0.7s,mb4.0,baz=125,slow=7.2,SNR=21						
NVAR				PcP		PcP	23 04 52.9 +0.2
	0.8nm,0.5s,baz=129,slow=4.6,SNR=4.4						
NVAR	Mina Array Bea	51.66	314	P		P	23 03 41.4 +0.1
NVAR				PcP		PcP	23 04 52.9 +0.2
LRM	Limekiln Ridge	51.71	325	*e*P		P	23 03 41.8 +0.2
WVOR	Wild Horse Val	53.69	319	P		P	23 03 55.8 -0.4
OHCM	Honcut	54.29	314	*e*P		P	23 04 00.7 +0.1
MOD	Modoc	54.55	318	*e*P		P	23 04 02.2 -0.2
LTIM	Timbered Crate	55.04	316	P		P	23 04 05.9 0.0
EPH	Ephrata	56.67	324	P		P	23 04 17.6 +0.2
EDM	Edmonton	56.74	332	*e*P		P	23 04 16.8 -0.9
TDH	Tom, Dick, Har	57.03	321	P		P	23 04 20.6 +0.6
ETW	Entiat	57.23	324	*e*P		P	23 04 20.3 -1.1
YKA	Yellowknife Ar	63.35	340	P		P	23 05 02.1 -0.5
	10nm,0.6s,mb4.8,baz=132,slow=6.5,SNR=28						
DBIC	Dimbokro	67.49	86	P		P	23 05 29.6 -0.6
	4.2nm,0.7s,mb4.4,baz=343,slow=3.6,SNR=7.4						
SUMG	Summit	68.94	11	*e*P		P	23 05 38.7 +0.7
TORD	Torodi Ar. Bea	73.50	78	P		P	23 06 06.0 -0.6
	0.2nm,0.3s,mb3.4,baz=286,slow=6.4,SNR=18						
EGAK	Eagle	74.69	336	*e*P		P	23 06 12.5 0.0
KTH	Kantishna Hill	78.60	333	*e*P		P	23 06 34.3 -0.2
	4.4nm,0.8s,mb4.1						
KTH				*e*PcP		PcP	23 06 44.1 +1.3
CHUM	Lake Minchumin	79.26	334	*e*P		P	23 06 37.7 -0.3
SVW2	Sparrevohn	80.54	331	*e*P		P	23 06 44.2 -0.8
NB2	NORSAR Subarra	81.21	29	P		P	23 06 49.4 +0.9
	comp=Z,0.6nm,0.5s,mb3.5,baz=266,slow=5.3						
NOA	NORSAR Array B	81.21	29	P		P	23 06 49.5 +1.0
	comp=Z,0.7nm,0.5s,mb3.5,baz=268,slow=5.3,SNR=3.7						
ARCES	ARCESS Array B	86.59	20	P		P	23 07 16.1 +0.5
	comp=Z,4.1nm,0.9s,mb4.2,baz=291,slow=3.8,SNR=5.7						
VNA3	Neumayer Olymp	88.10	163	*e*		P	23 07 21.6 -1.1
VNA3				*e*			23 07 23.9
VNA2	Neumayer--Watz	88.62	163	*e*		P	23 07 24.1 -1.1
VNA2				*e*			23 07 26.4
ZALV	Zalesovo Beam	116.61	15	PKP		PKPdf	23 13 15.5 -0.2
	comp=Z,0.9nm,0.3s,baz=314,slow=1.8,SNR=4.7						
ZALV	Zalesovo Beam	116.61	15	PKP		PKPdf	23 13 15.5 -0.2
MKAR	Makanchi Array	122.24	20	PKP		PKPdf	23 13 26.2 -0.6
	comp=Z,0.2nm,0.3s,baz=339,slow=2.5,SNR=3.2						
ASAR	Alice Springs	149.31	234	PKPbc		PKPbc	23 14 20.1 -1.3
	comp=Z,2.1nm,0.6s,baz=114,slow=3.9,SNR=26						
WB2	Warramunga Arr	150.54	241	*e*PKPbc		PKPbc	23 14 23.3 -1.2
WRAB	Tennant Creek	150.54	241	*e*PKPbc		PKPbc	23 14 23.3 -1.2
WRA	Warramunga Arr	150.55	241	PKPbc		PKPbc	23 14 23.3 -1.2
	comp=Z,9.9nm,0.4s,baz=109,slow=2.4,SNR=71						
CMAR	Chiang Mai Arr	153.62	18	PKPbc		PKPbc	23 14 31.6 +0.2
	comp=Z,0.9nm,0.4s,baz=320,slow=3.3,SNR=4.9						

*ISCJB **21** 23:50:39.8±0.5,51.31N×005.7×17948E±003,h46km±3km, mb4.8/74,MS4.4/41,Error ellipse: s-maj=8.3km s-min=2.8km az=5.6*

*SZGRF **21** 23:50:39.3,51.16N×178.33W,h33km, mb4.5,MS4.1, Andreanof Islands, Aleutian Islands, United States*

*IDC **21** 23:50:40.9±2.4,5124N×17950E,h50km±21km,mb4.2/23, mb1 4.4/24,mb1mx4.3/28,mbtmp4.2/24,ML3.9/1,MS4.3/25, Ms1 4.3/25,ms1mx4.2/34,Error ellipse: s-maj=17.5km s-min=10.8km az=164.0*

*MOS **21** 23:50:40.3±1.1,5125N×17939E,h56km,mb4.9/26, MS4.4/18,Error ellipse: s-maj=10.0km s-min=9.1km az=106.0*

*BJI **21** 23:50:40.1,5130N×17940E,h47km,mB5.0,mb4.8,Ms4.7, Msz4.5*

*NEIC **21** 23:50:41.1±0.5,5125N×17941E,h48km±4km,mb4.8/50, MS4.3/4,Error ellipse: s-maj=7.7km s-min=3.2km az=181.0*

*GCMT **21** 23:50:41.1±0.2,5106N×17954E,h20km,MW5.1/74, Moment Tensor Solution. s56,c82; s74,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.30±.17; $M_{\theta\theta}$-3.99±.11; $M_{\phi\phi}$-0.31±.10; $M_{r\theta}$3.77±.26; $M_{\theta\phi}$-1.02±.07; $M_{\phi r}$1.64±.23; Best double couple: $M_0$5.93200×10^{16} NP1:ϕ_s261.00000°,δ23.00000°,λ101.00000°. NP2: ϕ_s69.00000°,δ67.00000°,λ85.00000°. Principal axes: T 5.9800, Plg68.0000°, Azm330.0000°; N -0.0990, Plg4.0000°, Azm71.0000°; P -5.8840, Plg22.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 23:50:41.5±0.5,5134N±005×17946E±003,h45km±3km, n496,σ0°74/488,mb4.8/74,MS4.4/41,130C-132D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.11	291	*e*P	Pn	23 50 46.2	-2.6
AMKA				*e*S	Sn	23 50 53.1	-0.8
SMY	Shemya	3.59	295	P	Pn	23 51 34.8	+0.2
SMY				S	Sn	23 52 19.4	+3.7
FX1	Attu Island--F	4.18	294	P	Pn	23 51 43.3	+0.6
NIKO	Nikolski	7.37	73	*e*Pn	Pn	23 52 26.6	+0.1
OKCD	Okmok Cone D	7.89	70	P	Pn	23 52 34.2	+0.7
SPIA	Saint Paul Isl	8.39	42	P	Pn	23 52 43.9	+3.5
SPIA				S	Sn	23 54 20.5	+6.8
UNV	Unalaska Valle	8.91	68	P	Pn	23 52 48.4	+0.9
AKGG	Akutan Green G	9.27	66	P	Pn	23 52 54.0	+1.6
AKUT	Akutan	9.38	67	*e*P	Pn	23 52 54.8	+0.8
	5.7nm,0.3s						
AKUT				Sn	Sn	23 54 36.2	-1.8
SDPT	Sand Point	12.63	64	*e*Pn	Pn	23 53 38.5	+0.3
PET	Petropavlovsk	12.88	286	*e*P	Pn	23 53 43.0	+1.3
PET				*i* S	Sn	23 56 03.4	0.0
PET				pmax	pmax		
	comp=Z,100nm,14.6s						
PET				pmax	pmax		
	comp=Z,11nm,0.6s						
PET				smax			
	comp=N,1μm,27.1s						
PET				smax			
	comp=E,2μm,29.2s						
PETK	Petropavlovsk-	13.45	286	P	Pn	23 53 51.1	+1.6
	comp=E,0.6nm,0.3s,baz=95,slow=16,SNR=8.8						
CHGN	Chignik	13.95	61	*e*Pn	Pn	23 53 54.8	-1.5
SKR	Severo-Kuril's	14.70	277	*e*P	Pn	23 54 05.0	-1.4
SKR				MLR	MLR		
	comp=E,3μm,16.0s						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s						
TNA	Tin City	15.66	20	*e*Pn	Pn	23 54 27.4	+8.7
SVW2	Sparrevohn	16.86	45	*e*P	Pn	23 54 35.7	+1.7
OHAK	Old Harbor	16.89	59	*e*P	Pn	23 54 33.1	-1.3
	comp=Z,41nm,0.6s						
OHAK				*e*Sn	Sn	23 57 37.5	-3.4
KDAK	Kodiak Island	17.36	57	*e*Pn	Pn	23 54 37.0	-3.2
	comp=Z,16nm,0.6s						
KDAK				*e*Sn	Sn	23 57 48.0	-4.2
TTA	Tatalina	17.52	39	*e*P	Pn	23 54 44.8	+2.7
BILL	Bilibino	17.95	344	⇓*e*P	Pn	23 54 51.7	+4.4
BILL				pmax	pmax		
	comp=Z,15nm,0.8s						
BILL				MLR	MLR		
	comp=Z,900nm,14.0s						
BILL	Bilibino	17.95	344	*e*P	Pn	23 54 47.2	-0.1
	comp=Z,17nm,0.4s						
PPLA	Purkeypile	19.06	42	*e*P	Pn	23 55 01.4	+0.6
	comp=Z,72nm,1.0s						
CHUM	Lake Minchumin	19.44	39	*e*P	Pn	23 55 04.2	-1.2
	comp=Z,43nm,1.0s						
RC01	Rabbit Creek A	19.53	48	*e*P	Pn	23 55 04.0	-2.4
KTH	Kantishna Hill	19.86	41	*e*P	Pn	23 55 08.4	-1.9
	comp=Z,111nm,1.1s						
PMR	Palmer	19.95	47	P	Pn	23 55 05.7	-5.6
IMA2	Indian Mountai	20.06	32	*e*P	P	23 55 11.4	+0.9
TRF	Thorofare Moun	20.08	41	*e*P	P	23 55 06.3	-4.5
	comp=Z,3.3nm,0.7s						
MCK	McKinley	20.74	41	*e*P	P	23 55 20.3	+2.3
DIV	Divide	21.41	49	*e*Pn	P	23 55 26.4	+1.3
COLA	College	21.62	39	*e*P	P	23 55 26.9	-0.4
COLA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
COLA	College	21.62	39	*e*P	P	23 55 26.9	-0.4
	comp=Z,12nm,0.8s,mb4.4						
COLD	Coldfoot	21.86	32	P	P	23 55 28.3	-1.5
	comp=Z,12nm,0.8s,mb4.4						
BMRM	Bremner River	21.93	50	*e*P	P	23 55 30.3	-0.4
YSS	Yuzh-Sakhalins	24.24	274	*e*P	P	23 55 55.0	+1.1
YSS				MLR	MLR		
	comp=E,400nm,18.0s						
YSS				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.1						
EGAK	Eagle	24.30	41	*e*P	P	23 55 54.2	0.0
DAWY	Dawson	24.88	43	*e*P	P	23 56 00.3	+0.7
HYT	Haines Junctio	25.37	51	*e*P	P	23 56 03.7	-0.3
ASAJ	Asahikawa	25.62	268	P	P	23 56 06.3	-0.1
	comp=Z,34nm,0.8s,mb4.9,baz=36,slow=8.3,SNR=13						
ASAJ				LR	LR	00 06 16.1	
	comp=Z,434nm,19.7s,MS4.0,baz=74,slow=36						
ASAJ	Asahikawa	25.62	268	P	P	23 56 06.3	-0.1
ASAJ				pmax	pmax		
	comp=Z,34nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,434nm,19.7s						
MJAR	Matsushiro Arr	32.70	259	P	P	23 57 07.0	-2.4
	comp=Z,1.5nm,0.5s,mb4.2,baz=50,slow=6.6,SNR=5.1						
MJAR				LR	LR	00 08 53.9	
	comp=Z,365nm,20.7s,MS4.1,baz=70,slow=33						
MDJ	Mudanjiang	33.50	278	P	P	23 57 18.4	+2.1
MDJ				PP	PP	23 58 33.8	+1.3
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,83nm,4.3s						
MDJ				LR	LR		
	comp=N,121nm,18.4s,MS4.2						
MDJ				LR	LR		
	comp=E,459nm,21.7s,MS4.2						
MDJ				LR	LR		
	comp=Z,636nm,20.6s,MS4.3						
YKA	Yellowknife Ar	36.05	46	P	P	23 57 37.4	-0.7
	comp=Z,2.5nm,0.4s,mb4.5,baz=282,slow=7.9,SNR=14						
YKA				PcP	PcP	00 00 03.5	+0.3
	comp=Z,2.6nm,0.8s,baz=271,slow=4.1,SNR=3.9						
YKA				LR	LR	00 14 02.9	
	comp=Z,1μm,18.5s,MS4.7,baz=230,slow=39						
YKA	Yellowknife Ar	36.05	46	P	P	23 57 37.4	-0.7
YKA						00 00 03.6	
B04A	Port Angeles	36.24	72	⇑P	P	23 57 40.2	+0.3
	baz=36						
NLWA	Neilton Lookou	36.33	73	⇓P	P	23 57 41.0	+0.4
	baz=36						
A04A	Legoe Bay, Lum	36.42	71	⇑P	P	23 57 41.8	+0.4
	baz=37						
A05A	Maple Falls	36.66	70	⇓P	P	23 57 43.9	+0.4
	baz=37						
C04A	Brinnon	36.72	72	⇓P	P	23 57 44.3	+0.4
	baz=37,SNR=6.6						
MBW	Mount Baker	36.87	70	P	P	23 57 46.3	+1.1
GNW	Green Mountain	36.88	73	*e*P	P	23 57 46.2	+0.9
	comp=Z,16nm,0.9s,mb4.9						
CMW	Cultus Mountai	36.90	71	P	P	23 57 46.2	+0.8
E03A	Lebam	36.92	74	⇑P	P	23 57 46.2	+0.5
	baz=37						
B05A	Bryant	36.99	71	⇓P	P	23 57 46.4	+0.1
	baz=37,SNR=8.7						
JCW	Jim Creek	37.12	71	*e*P	P	23 57 43.6	-3.7
BOD	Bodaibo	37.12	306	⇓*i*P	P	23 57 46.3	-1.0
BOD				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
C05A	Tolt Reservoir	37.49	72	⇓P	P	23 57 51.4	+0.9
	baz=37						
D05A	Enumclaw	37.55	73	⇑P	P	23 57 52.0	+0.9
	baz=38,SNR=5.7						
A07A	Ashnola River,	37.64	69	⇑P	P	23 57 52.4	+0.7
	baz=38,SNR=6.6						
FL2	Flat Top 2	37.82	74	P	P	23 57 53.7	+0.4
FMW	Mount Fremont	37.87	73	P	P	23 57 54.5	+0.8
F04A	Amboy	37.91	75	⇓P	P	23 57 54.9	+0.8
	baz=38						
E05A	Randle	38.00	73	⇑P	P	23 57 55.4	+0.6
	baz=38						
B07A	Winthrop	38.06	70	⇓P	P	23 57 55.4	+0.1
	baz=38,SNR=9.2						
G04A	Mulino	38.24	76	⇑P	P	23 57 57.6	+0.7
	baz=38						
A08A	Turner Farm, O	38.33	69	⇑P	P	23 57 57.4	-0.2
	baz=38						
ETW	Entiat	38.34	71	*e*P	P	23 57 58.1	+0.4
ETW				*e*PP	PP	23 59 25.0	-0.8
ETW				*e*PcP	PcP	00 00 10.9	+0.4
TBM	Table Mountain	38.40	72	P	P	23 57 58.3	+0.1
C07A	Waterville	38.46	71	⇓P	P	23 57 58.9	+0.2
	baz=38						
E06A	Yakima	38.47	73	⇓P	P	23 57 59.4	+0.6
	baz=38						
F05A	White Salmon	38.51	74	⇓P	P	23 57 59.5	+0.4
	baz=38						
J02A	Umpqua	38.53	79	⇑P	P	23 58 00.4	+1.1
	baz=38						
EBG	Ellensburg	38.54	72	P	P	23 57 59.9	+0.5
KSRS	Korea Array	38.55	269	P	P	23 57 59.5	-0.1
	comp=Z,6.2nm,0.9s,mb4.3,baz=58,slow=8.4,SNR=13						
KSRS				PcP	PcP	00 00 10.7	-0.7
	comp=Z,1.8nm,0.7s,baz=53,slow=2.6,SNR=6.0						
KSRS				LR	LR	00 14 39.6	
	comp=Z,202nm,18.8s,MS4.0,baz=58,slow=37						
KSRS	Korea Array	38.55	269	P	P	23 57 59.5	0.0
KSRS						00 00 10.7	
KSRS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
KSRS				MLR	MLR		
	comp=Z,202nm,18.8s,MS4.0						
B08A	Colville Reser	38.57	70	⇑P	P	23 57 59.6	0.0
	baz=38,SNR=6.7						
H04A	Detroit Lake	38.69	76	⇑P	P	23 58 01.0	+0.4
	baz=39,SNR=6.3						
A09A	Danville	38.72	68	⇑P	P	23 58 01.2	+0.4
	baz=39						
D07A	Quincy	38.76	72	⇓P	P	23 58 01.0	-0.2
	baz=39						
VFP	Flag Point	38.80	75	P	P	23 58 02.0	+0.5
EPH	Ephrata	38.90	71	P	P	23 58 02.0	-0.3
G05A	Wamic	38.93	75	⇑P	P	23 58 02.9	+0.2
	baz=39						
C08A	Higginbotham F	39.02	70	⇑P	P	23 58 03.6	+0.2
	baz=39						
I04A	Tendick Farm,	39.02	78	⇑P	P	23 58 03.7	+0.3
	baz=39						
B09A	Rice	39.24	69	⇑P	P	23 58 05.0	-0.1
	baz=39,SNR=5.6						
HUMO	Hull Mountain	39.32	80	⇓P	P	23 58 06.5	+0.5
	baz=39						
RSW	Rattlesnake Hi	39.38	72	P	P	23 58 06.7	+0.3
OD2	Odessa Site #2	39.41	71	*e*P	P	23 58 06.1	-0.5
HAWA	Hanford	39.42	72	*e*P	P	23 58 06.9	+0.2
F07A	Phinny Hill Vi	39.43	73	⇓P	P	23 58 06.7	-0.1
	baz=39						
D08A	Wollman Farm,	39.45	71	⇓P	P	23 58 07.3	+0.4
	baz=39						
C09A	Chrisman Ranch	39.47	70	⇓P	P	23 58 07.2	+0.2
	baz=39						
EDM	Edmonton	39.78	60	*e*P	P	23 58 08.6	-1.0
H06A	Lindquist Farm	39.79	75	⇑P	P	23 58 10.0	+0.2
	baz=40						
D09A	Jones Farm, Ri	39.81	71	⇑P	P	23 58 10.1	+0.2
	baz=40						
G07A	Ruggs Ranch, H	39.91	74	⇑P	P	23 58 11.3	+0.5
	baz=40						
NEW	Newport	39.91	69	*e*P	P	23 58 10.3	-0.5
NEW				pmax	pmax		
	comp=Z,16nm,1.3s						
NEW	Newport	39.91	69	*e*P	P	23 58 10.3	-0.5
	comp=Z,16nm,1.3s,mb4.6						
YBH	Yreka Blue Hor	39.96	81	LR	LR	00 11 18.4	
	comp=Z,513nm,22.0s,MS4.3,baz=299,slow=31						
YBH	Yreka Blue Hor	39.96	81	⇓P	P	23 58 11.9	+0.6
	baz=40						
J05A	Fort Rock	40.01	78	⇓P	P	23 58 12.5	+0.9
	baz=40,SNR=5.7						
A11A	Hall Mountain,	40.02	67	⇓P	P	23 58 11.7	0.0
	baz=40,SNR=8.4						
E09A	Wood Farm, Sta	40.18	72	⇑P	P	23 58 13.0	0.0
	baz=40						
I06A	Prineville	40.28	76	⇓P	P	23 58 14.2	+0.3
	baz=40						
G08A	Pilot Rock	40.33	74	⇓P	P	23 58 13.8	-0.4
	baz=40						
H07A	Lands Inn, Kim	40.33	75	⇑P	P	23 58 14.3	+0.1
	baz=40						
D10A	Wagner Farm, O	40.42	70	⇑P	P	23 58 14.5	-0.5
	baz=40,SNR=6.9						
A12A	Yaak River Ran	40.44	67	⇑P	P	23 58 14.8	-0.4
	baz=40						
M04C	Macdoel	40.47	80	⇑P	P	23 58 16.6	+1.1
	baz=40						
K05A	Summer Lake	40.53	78	⇓P	P	23 58 16.8	+0.8
	baz=40						
I07A	Izee	40.64	76	⇑P	P	23 58 16.9	+0.1
	baz=41,SNR=9.9						
J06A	Christmas Vall	40.69	77	⇓P	P	23 58 17.6	+0.3
	baz=41,SNR=5.1

F12A Elk City 42.29 71 ⇓P P 23 58 30.3 0.0
baz=42,SNR=37
N06A Buffalo Meadow 42.30 80 ⇑P P 23 58 31.0 +0.5
baz=42,SNR=5.6
M07A Soldier Meadow 42.34 79 ⇑P P 23 58 31.1 +0.3
baz=42,SNR=8.3
L08A Fields 42.39 77 ⇑P P 23 58 31.8 +0.6
baz=42,SNR=7.2
H11A Donnelly 42.41 73 ⇓P P 23 58 31.1 -0.2
baz=42
K09A Rome 42.48 76 ⇑P P 23 58 32.1 +0.2
baz=42
MSO Missoula 42.50 69 eP P 23 58 31.4 -0.6
E13A Victor 42.56 69 ⇑P P 23 58 32.0 -0.6
baz=42,SNR=9.1
D14A Greenough 42.62 68 ⇓P P 23 58 32.5 -0.5
baz=43,SNR=15
M08A Happy Creek Ra 42.79 78 ⇑P P 23 58 35.1 +0.6
baz=43,SNR=7.8
N07B Gerlach 42.82 79 ⇓P P 23 58 35.3 +0.6
baz=43
F13A Darby 42.82 70 ⇑P P 23 58 34.4 -0.3
baz=43,SNR=8.9
CHMT Chamberlain Mo 42.86 68 eP P 23 58 34.4 -0.6
LAVA Lava Cap Winer 42.92 83 ⇓P P 23 58 36.0 +0.5
baz=43
K10A MacKenzie Ranc 42.96 76 ⇑P P 23 58 35.8 0.0
baz=43,SNR=7.4
E14A Clinton 42.98 69 ⇑P P 23 58 35.6 -0.4
baz=43
PAHR Pah Rah Range 43.20 81 eP P 23 58 38.7 +1.0
comp=Z,9.9nm,0.9s,mb4.5
D15A Lincoln 43.22 68 ⇑P P 23 58 37.3 -0.5
baz=43,SNR=5.4
MFID Camas Ranch 43.23 74 ⇑P P 23 58 38.2 +0.2
baz=43
O07A Toulon 43.24 80 ⇑P P 23 58 38.7 +0.5
baz=43
G13A Cobalt 43.26 71 ⇓P P 23 58 37.6 -0.6
baz=43,SNR=28
N08A GE Springer Mi 43.33 79 ⇑P P 23 58 39.2 +0.4
baz=43
F14A Wisdom 43.38 70 ⇑P P 23 58 38.7 -0.5
baz=43
M09A Marrel Ranch, 43.38 78 ⇓P P 23 58 39.0 -0.2
baz=43
K11A Parker Ranch, 43.47 75 ⇑P P 23 58 39.8 -0.1
baz=43
E15A Deer Lodge 43.48 69 ⇓P P 23 58 39.2 -0.7
baz=43,SNR=8.8
L10A Juniper Basin 43.60 76 ⇓P P 23 58 41.1 +0.1
baz=44,SNR=8.6
O08A Rochester Mine 43.61 79 ⇓P P 23 58 41.2 +0.1
baz=44
G14A Jackson 43.63 71 ⇑P P 23 58 40.6 -0.6
baz=44
N09A Rock Creek Ran 43.67 78 ⇓P P 23 58 42.1 +0.5
baz=44
J12A Stokes Ranch, 43.76 74 ⇑P P 23 58 42.3 0.0
baz=44,SNR=5.2
R06C Coleville 43.87 82 ⇓P P 23 58 43.5 +0.3
baz=44
F15A Butte 43.88 69 ⇓P P 23 58 42.8 -0.3
baz=44,SNR=6.8
M10A I.L. Ranch, Tu 43.88 77 ⇑P P 23 58 43.5 +0.3
baz=44
LRM Limekiln Ridge 43.91 69 eP P 23 58 42.9 -0.6
I13A Wildhorse Cree 43.98 73 ⇑P P 23 58 43.7 -0.3
baz=44,SNR=21
L11A Cat Creek Ranc 43.98 76 ⇓P P 23 58 43.9 -0.1
baz=44,SNR=13
HLID Hailey 44.00 73 ⇓P P 23 58 44.2 +0.1
baz=44
HLID Hailey 44.00 73 eP P 23 58 44.2 +0.1
comp=Z,11nm,1.0s,mb4.5
S06C San Francisco 44.01 83 ⇓P P 23 58 44.7 +0.4
baz=44
H14A Leadore 44.03 71 ⇓P P 23 58 44.0 -0.4
baz=44
BMN Battle Mountai 44.10 79 eP P 23 58 49.8 +4.8
BMN pmax pmax
comp=Z,12nm,1.0s,mb4.6
BMN Battle Mountai 44.10 79 eP P 23 58 49.8 +4.7
comp=Z,12nm,1.0s,mb4.6
K12A Draper Farm, C 44.23 75 ⇑P P 23 58 45.9 -0.1
baz=44
J13A Cove Ranch, Pi 44.23 73 ⇓P P 23 58 45.6 -0.4
baz=44,SNR=5.8
G15A Dillon 44.25 70 ⇓P P 23 58 45.5 -0.7
baz=44,SNR=15
O09A Fish Creek Ran 44.27 79 ⇑P P 23 58 46.8 +0.4
baz=44
BJI Beijing 44.31 281 P P 23 58 46.8 +0.1
BJI AMB AMB
comp=Z,18nm,1.0s,mb4.8
I14A Mackay 44.37 72 ⇑P P 23 58 46.8 -0.3
baz=44
R07C Lee Vining 44.38 82 ⇓P P 23 58 47.9 +0.5
baz=44
M11A Holland Ranch, 44.39 76 ⇓P P 23 58 47.7 +0.4
baz=44
L12A House Creek Ra 44.44 75 ⇓P P 23 58 47.8 0.0
baz=44,SNR=9.2
H15A Lima 44.46 71 ⇑P P 23 58 47.7 -0.1
baz=44
BOZ Bozeman (W) 44.49 69 eP P 23 58 47.8 -0.3
BOZ pmax pmax
comp=Z,13nm,0.8s,mb4.7
BOZ Bozeman (W) 44.49 69 ⇑P P 23 58 47.6 -0.4
baz=44
BOZ Bozeman (W) 44.49 69 eP P 23 58 47.8 -0.3
comp=Z,13nm,0.8s,mb4.7
Q08A Gabbs 44.60 81 ⇓P P 23 58 49.3 +0.2
baz=44
O10A Cortez Mining, 44.63 78 ⇑P P 23 58 49.7 +0.4
baz=44
NVAR Mina Array Bea 44.64 82 P P 23 58 49.2 -0.1
comp=Z,3.2nm,0.9s,mb4.2,baz=290,slow=8.2,SNR=16
NVAR PcP PcP 00 00 31.9 +0.6
comp=Z,2.6nm,0.8s,baz=284,slow=3.6,SNR=3.9
NVAR ScP ScP 00 04 20.6 +1.0
comp=Z,1.1nm,0.8s,baz=286,slow=3.3,SNR=4.4
T06C Millerton Lake 44.64 84 ⇑P P 23 58 49.7 +0.3
baz=45
J14A Carey 44.67 73 ⇑P P 23 58 49.8 +0.2
baz=45
KCC Kaiser Creek 44.69 83 ⇓P P 23 58 50.0 +0.2
baz=45
M12A Wells 44.93 76 ⇑P P 23 58 51.6 0.0
baz=45
P10A Eureka 45.05 79 ⇓P P 23 58 53.2 +0.6
baz=45
QLMT Earthquake Lak 45.06 70 eP P 23 58 52.8 +0.2
L13A Double Diamond 45.12 75 ⇑P P 23 58 53.9 +0.7
baz=45
ELK Elko 45.13 77 eP P 23 58 52.7 -0.5
ELK pmax pmax
comp=Z,8.0nm,0.8s
ELK Elko 45.13 77 eP P 23 58 52.6 -0.6
comp=Z,8.3nm,0.8s,mb4.6
MTUM Tungsten Hills 45.14 83 eP P 23 58 54.3 +1.0
TLY Talaya 45.16 302 eP P 23 58 53.4 +0.1
TLY pmax pmax
comp=Z,14nm,1.3s,mb4.6
TLY MLR MLR
comp=Z,1μm,18.0s,MS4.8
TLY Talaya 45.16 302 eP P 23 58 51.8 -1.6
comp=Z,12nm,1.2s,mb4.6
N12A Clover Valley, 45.19 77 ⇓P P 23 58 53.4 -0.3
baz=45,SNR=10
HELL Mitchell Peak 45.27 84 ⇑P P 23 58 54.1 -0.3
baz=45,SNR=6.8
J15A Blackfoot 45.27 72 ⇓P P 23 58 54.8 +0.5
baz=45
S08C White Mtn Res 45.29 82 ⇑P P 23 58 55.0 +0.5
baz=45
M13A Montello 45.42 76 ⇑P P 23 58 55.4 -0.2
baz=45
R09A Tonopah 45.52 81 ⇑P P 23 58 56.3 0.0
baz=45,SNR=7.4
TPH Tonopah 45.52 81 eP P 23 58 57.2 +0.8
TPH pmax pmax
comp=Z,11nm,0.9s,mb4.8
TPH Tonopah 45.52 81 eP P 23 58 57.2 +0.8
comp=Z,11nm,0.9s,mb4.8
I16A Newdale 45.57 71 ⇓P P 23 58 56.3 -0.4
baz=46
YNR Norris Junctio 45.57 70 eP P 23 58 57.6 +1.0

Q10A Clear Creek Ra 45.57 80 ⇓P P 23 58 57.5 +0.7
baz=46
L14A Malta 45.58 74 ⇑P P 23 58 56.8 0.0
baz=46
YFT Old Faithful 45.62 70 eP P 23 58 58.5 +1.4
K15A Arbon 45.63 73 ⇑P P 23 58 57.4 +0.3
baz=46
SONM Songino Array 45.69 296 P P 23 58 58.1 +0.6
comp=Z,4.2nm,0.8s,mb4.4,baz=57,slow=9.9,SNR=17
SONM LR LR 00 19 56.1
comp=Z,1μm,18.3s,MS4.9,baz=69,slow=38
O12A Currie 45.72 77 ⇑P P 23 58 58.2 +0.3
baz=46,SNR=12
S09A Goldfield 45.74 82 ⇑P P 23 58 58.5 +0.4
baz=46
J16A Bone 45.84 72 ⇑P P 23 58 58.6 -0.2
baz=46,SNR=5.7
IMW Indian Meadow 45.88 71 eP P 23 58 59.4 +0.3
comp=Z,13nm,0.9s,mb4.9
FLWY Flagg Ranch 45.91 70 eP P 23 58 59.9 +0.5
R10A Warm Springs 45.96 80 ⇓P P 23 58 59.4 -0.4
baz=46
RRI2 Red Ridge 45.97 72 eP P 23 59 00.9 +1.1
comp=Z,20nm,1.0s,mb5.0
S10A Tonopah Range, 46.01 81 ⇑P P 23 59 00.3 +0.1
baz=46
HVU Hansel Valley 46.01 74 eP P 23 59 00.7 +0.5
Q11A Duckwater 46.02 79 ⇑P P 23 59 00.0 -0.3
baz=46
ZAK Zakamensk 46.04 300 eP P 23 58 59.8 -0.5
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
MOOW Moose Ponds 46.08 71 eP P 23 59 00.7 0.0
TPAW Teton Pass 46.11 71 eP P 23 59 01.1 +0.2
K16A Soda Springs 46.11 72 ⇓P P 23 59 01.2 +0.3
baz=46,SNR=8.6
L15A Malad City 46.12 74 ⇓P P 23 59 00.9 -0.1
baz=46
REDW Red Top Meadow 46.24 71 eP P 23 59 02.8 +0.8
comp=Z,11nm,1.0s,mb4.8
LOHW Long Hollow 46.24 71 eP P 23 59 02.0 0.0
N14A Grayback Hills 46.32 75 ⇑P P 23 59 02.4 -0.2
baz=46
R11A Troy Canyon, C 46.37 80 ⇓P P 23 59 03.1 +0.1
baz=46,SNR=5.5
M15A Larsen Ranch, 46.40 74 ⇑P P 23 59 03.1 -0.1
baz=46,SNR=9.6
Q12A Willow Creek R 46.41 79 ⇓P P 23 59 03.6 +0.3
baz=46
SPUT South Promonto 46.49 75 eP P 23 59 05.4 +1.5
MPMC Manual Prospec 46.62 84 ⇓P P 23 59 05.3 +0.3
baz=46
P13A Bates Ranch, G 46.65 78 ⇑P P 23 59 05.4 +0.1
baz=47,SNR=7.9
L16A Fish Haven 46.68 73 ⇓P P 23 59 05.3 -0.2
baz=47
N15A Stansbury Isla 46.70 75 ⇑P P 23 59 05.3 -0.3
baz=47
FURC Furnace Creek, 46.76 83 ⇓P P 23 59 06.2 +0.1
baz=47
TPNV Topopah Spring 46.83 82 ⇑P P 23 59 06.7 0.0
baz=47
DUG Dugway 46.94 76 ⇓P P 23 59 07.1 -0.4
baz=47
DUG Dugway 46.94 76 eP P 23 59 07.9 +0.5
Q13A Wheeler Ranch, 46.96 78 ⇑P P 23 59 07.5 -0.1
baz=47,SNR=8.8
M16A Huntsville 46.98 74 ⇓P P 23 59 07.6 -0.2
baz=47
R12A Pony Springs, 46.98 79 ⇓P P 23 59 07.6 -0.2
baz=47
U10A Ash Meadows, A 47.12 82 ⇓P P 23 59 09.2 +0.3
baz=47
P14A Drum Mountains 47.15 77 ⇑P P 23 59 08.8 -0.3
baz=47,SNR=13
T11A Corn Creek, Al 47.29 81 ⇓P P 23 59 09.9 -0.3
baz=47,SNR=15
BW06 Boulder Array 47.36 71 eP P 23 59 10.5 -0.1
PDAR Pinedale Array 47.36 71 P P 23 59 10.2 -0.5
comp=Z,23nm,0.9s,mb5.1,baz=315,slow=3.1,SNR=98
PDAR LR LR 00 16 50.4
comp=Z,230nm,21.2s,MS4.1,baz=315,slow=33
Q14A Sevier Lake (B 47.39 78 ⇑P P 23 59 10.8 -0.2
baz=47,SNR=13
R13A O'Grain Ranch, 47.47 79 ⇑P P 23 59 11.8 +0.2
baz=47
SHOC Shoshone 47.48 83 ⇓P P 23 59 12.2 +0.4
baz=47
NLU North Lily Min 47.53 76 eP P 23 59 12.9 +0.8
GSC Goldstone 47.54 84 ⇓P P 23 59 12.1 -0.1
baz=48,SNR=6.8
GSC Goldstone 47.54 84 eP P 23 59 11.6 -0.6
P15A Leamington 47.65 76 ⇓P P 23 59 13.0 +0.1
baz=48
BFSC Mount Baldy St 47.70 86 ⇓P P 23 59 13.7 +0.2
baz=48
NJ2 Nanjing 47.72 271 eP P 23 59 18.3 +4.6
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.6
O16A Springville 47.73 75 ⇑P P 23 59 13.7 +0.1
baz=48
BTO Baotou 47.73 286 eP P 23 59 13.6 0.0
S13A Holt Ranch, En 47.91 79 ⇑P P 23 59 15.1 +0.1
baz=48
Q15A Fillmore 47.94 77 ⇓P P 23 59 15.4 +0.2
baz=48
TUQ Turquoise Mtn. 48.00 83 ⇓P P 23 59 15.4 -0.4
baz=48
V11A Goodsprings 48.05 82 ⇑P P 23 59 16.0 -0.2
baz=48
HEC Hector,Ludlow 48.14 84 ⇑P P 23 59 16.9 0.0
baz=48
S14A Cedar City 48.23 79 ⇑P P 23 59 17.9 +0.4
baz=48
T13A Saint George 48.24 80 ⇓P P 23 59 17.4 -0.2
baz=48,SNR=6.1
MSU Marysvale 48.36 77 eP P 23 59 19.7 +1.2
N18A Larsen Ranch, 48.36 73 ⇓P P 23 59 17.8 -0.7
baz=48
TMUT Trail Mountain 48.47 76 eP P 23 59 20.3 +1.0
V12A Nelson 48.48 82 ⇓P P 23 59 19.1 -0.3
baz=48
R15A Junction 48.49 78 ⇓P P 23 59 19.8 +0.3
baz=48
U13A Pakoon Wash 48.59 81 ⇓P P 23 59 20.0 -0.3
baz=48,SNR=7.2
GMRC Granite Mounta 48.59 84 ⇓P P 23 59 19.8 -0.6
baz=48
O18A Roosevelt 48.59 74 ⇑P P 23 59 20.1 -0.2
baz=48
P17A Butcher Ranch, 48.64 75 ⇑P P 23 59 19.9 -0.7
baz=49
N19A John Jarvie Ra 48.71 73 ⇓P P 23 59 20.4 -0.8
baz=49
T14A Hurricane 48.72 79 ⇑P P 23 59 21.2 -0.1
baz=49
Q16A Castle Valley 48.72 76 ⇓P P 23 59 21.3 0.0
baz=49
W12A Cal Nev Ari 48.74 82 ⇓P P 23 59 21.5 0.0
baz=49
P18A Preston Nutter 48.84 75 ⇓P P 23 59 21.7 -0.5
baz=49,SNR=8.4
PFO Pinyon Flat Ob 48.86 85 ⇓P P 23 59 22.5 +0.1
baz=49
BELC Belle Mtn. 48.89 85 ⇑P P 23 59 22.6 -0.1
baz=49
V13A Grand Canyon W 48.94 81 ⇑P P 23 59 22.8 -0.2
baz=49,SNR=5.3
SRU San Rafael 49.00 76 ⇑P P 23 59 23.8 +0.4
baz=49
SRU San Rafael 49.00 76 eP P 23 59 25.1 +1.7
U14A Mt Trumbull 49.07 80 ⇑P P 23 59 24.4 +0.4
baz=49
T15A Red Dirt Ranch 49.18 79 ⇓P P 23 59 24.8 -0.1
baz=49,SNR=7.4
S16A Weppner Ranch, 49.22 78 ⇓P P 23 59 25.2 +0.1
baz=49,SNR=12
Q18A Rafter H Ranch 49.24 75 ⇑P P 23 59 25.2 0.0
baz=49,SNR=6.6
IRM Iron Mountain 49.31 84 ⇓P P 23 59 24.8 -1.1
baz=49
R17A Hanksville Air 49.32 76 ⇑P P 23 59 25.8 -0.1
baz=49,SNR=12
BAR Barrett 49.34 86 eP P 23 59 25.0 -1.1
MONP Monument Peak 49.36 86 ⇓P P 23 59 25.6 -0.7
baz=49
RWWY Rawlins 49.40 71 eP P 23 59 26.4 -0.1

BC3 Big Chuckw Mtn 49.46 85 ⇑P P 23 59 26.5 -0.5
baz=49
W13A Hualapai Mount 49.49 82 ⇑P P 23 59 26.4 -0.8
baz=49,SNR=5.4
U15A North Rim 49.61 80 ⇓P P 23 59 27.9 -0.2
baz=50,SNR=13
V14A Boquillas Ranc 49.62 81 ⇑P P 23 59 27.7 -0.5
baz=50,SNR=6.5
DVTC Desert V Tower 49.72 86 ⇑P P 23 59 28.5 -0.4
baz=50
S17A Black Ridge (B 49.76 77 ⇓P P 23 59 28.8 -0.4
baz=50,SNR=10
KBS Kingsbay 49.78 357 eP P 23 59 29.6 +0.7
KBS pmax pmax
comp=Z,18nm,0.8s,mb5.2
KBS Kingsbay 49.78 357 eP P 23 59 29.6 +0.7
comp=Z,18nm,0.8s,mb5.2
R18A Canyonlands Na 49.84 76 ⇑P P 23 59 29.0 -0.8
baz=50,SNR=7.7
PDMCI Parker Dam,Lak 49.85 83 ⇓P P 23 59 29.4 -0.6
baz=50
X13A Yucca 49.85 82 ⇓P P 23 59 29.3 -0.7
baz=50
Q19A Hogan Spring (49.86 75 ⇓P P 23 59 28.9 -1.1
baz=50
W14A Seligman 49.91 81 ⇓P P 23 59 29.8 -0.6
baz=50
Y12C Blythe 49.98 84 ⇓P P 23 59 30.5 -0.4
baz=50
V15A Kaibab Nationa 50.08 80 ⇓P P 23 59 31.3 -0.3
baz=50
T17A Navajo Res., N 50.16 78 ⇓P P 23 59 31.8 -0.4
baz=50
S18A Hurst Farm, Bl 50.22 77 ⇑P P 23 59 32.2 -0.5
baz=50,SNR=20
GLA Glamis 50.25 85 eP P 23 59 32.2 -0.8
GLA pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
GLA Glamis 50.25 85 ⇑P P 23 59 32.4 -0.6
baz=50
GLA Glamis 50.25 85 eP P 23 59 32.2 -0.8
comp=Z,9.5nm,0.7s,mb4.9
R19A Curley Farm, L 50.28 76 ⇓P P 23 59 32.4 -0.7
baz=50
SPITS Spitsbergen Ar 50.33 356 LR LR 00 20 36.9
comp=Z,291nm,20.2s,MS4.3,baz=70,slow=36
Y13A Salome 50.37 83 ⇓P P 23 59 33.2 -0.7
baz=50
W15A Williams 50.44 81 ⇓P P 23 59 34.6 +0.2
baz=50
X14A Yava 50.52 82 ⇑P P 23 59 34.7 -0.3
baz=50,SNR=5.6
ULM Lac du Bonnet 50.61 56 P P 23 59 33.4 -2.1
comp=Z,1.2nm,0.4s,mb4.2,baz=291,slow=8.0,SNR=3.9
ULM LR LR 00 21 12.2
comp=Z,480nm,21.3s,MS4.5,baz=31,slow=36
T18A Mexican Hat 50.64 77 ⇓P P 23 59 35.3 -0.7
baz=51,SNR=16
S19A Harvey Farm, M 50.70 76 ⇑P P 23 59 35.8 -0.6
baz=51,SNR=14
112A Yuma 50.75 85 ⇑P P 23 59 36.6 -0.2
baz=51
WUAZ Wupatki 50.77 80 ⇓P P 23 59 36.8 -0.1
baz=51
WUAZ Wupatki 50.77 80 eP P 23 59 37.1 +0.2
Y14A Wickenburg 50.80 82 ⇓P P 23 59 36.6 -0.5
baz=51,SNR=5.6
X15A Humboldt 50.91 81 ⇓P P 23 59 38.0 0.0
baz=51
W16A Flagstaff 50.95 80 ⇑P P 23 59 38.1 -0.1
baz=51
113A Mohawk Valley, 51.10 84 ⇓P P 23 59 39.2 -0.2
baz=51
Y15A Casa Rosa Ranc 51.20 82 ⇓P P 23 59 40.1 -0.1
baz=51
T19A Beclabito 51.36 77 ⇓P P 23 59 40.7 -0.6
baz=51,SNR=20
X16A Lo Mia Camp, P 51.45 81 ⇓P P 23 59 41.8 -0.2
baz=51,SNR=6.2
ISCO Idaho Springs 51.52 72 eP P 23 59 43.3 +0.8
V18A Ganado 51.53 79 ⇓P P 23 59 42.3 -0.3
baz=51
W18A Petrified Fore 52.04 79 ⇓P P 23 59 46.4 -0.1
baz=52
X18A Snowflake 52.30 80 ⇓P P 23 59 48.4 +0.1
baz=52
Y17A Roosevelt 52.30 81 ⇓P P 23 59 48.2 -0.1
baz=52
Y18A Canyon Day Jun 52.75 81 ⇑P P 23 59 51.2 -0.4
baz=53
X19A St. Johns 52.77 79 ⇓P P 23 59 51.2 -0.7
baz=53
SDCO Great Sand Dun 52.91 74 eP P 23 59 53.9 +1.1
ZALV Zalesovo Beam 53.26 313 P P 23 59 54.6 -0.6
comp=Z,2.2nm,0.3s,mb4.5,baz=54,slow=6.9,SNR=15
ZALV PcP PcP 00 01 02.3 0.0
comp=Z,4.2nm,0.8s,baz=26,slow=3.7,SNR=5.1
ZALV ScP ScP 00 04 51.7 -4.3
comp=Z,1.0nm,0.6s,baz=5.7,slow=4.3,SNR=3.6
ZALV LR LR 00 24 15.2
comp=Z,369nm,19.2s,MS4.5,baz=49,slow=38
ZALV Zalesovo Beam 53.26 313 P P 23 59 54.6 -0.6
ZALV PcP PcP 00 01 02.3 0.0
ZALV ScP ScP 00 04 51.7 -4.3
ZALV LR LR 00 24 15.2
ZAL Zalesovo 53.28 313 P P 23 59 54.6 -0.7
ZAL 00 01 02.3
NVS Novosibirsk 53.42 314 ⇑iP P 23 59 55.3 -1.0
NVS pmax pmax
comp=N,12nm,1.4s
NVS pmax pmax
comp=E,15nm,1.4s
NVS pmax pmax
comp=Z,25nm,1.4s,mb5.0
118A Homack Ranch, 53.55 82 ⇑P P 23 59 57.4 -0.2
baz=54
217A Green Valley 53.61 83 ⇓P P 23 59 57.8 -0.2
baz=54
119A Ashpeak Ranch, 53.88 81 ⇑P P 00 00 00.0 0.0
baz=54
LZH Lanzhou 54.34 285 eP P 00 00 03.3 0.0
LZH eS S 00 07 37.4 -0.6
LZH eSS SS 00 11 18.0 -2.0
LZH AMB AMB
comp=Z,34nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,158nm,4.0s
LZH LR LR
comp=N,692nm,16.6s
LZH LR LR
comp=Z,899nm,17.7s,MS4.9
318A Bisbee 54.35 83 ⇑P P 00 00 03.1 -0.3
baz=54
219A White Tail Can 54.43 82 ⇑P P 00 00 03.7 -0.3
baz=54
GTA Gaotai 54.57 291 eP P 00 00 05.1 +0.2
GTA PP PP 00 02 08.8 +1.6
GTA S S 00 07 40.5 -0.3
GTA SS SS 00 11 21.8 -1.6
GTA AMB AMB
comp=Z,8.0nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,101nm,4.2s
GTA LR LR
comp=N,652nm,17.7s,MS4.9
GTA LR LR
comp=E,886nm,20.7s,MS4.9
GTA LR LR
comp=Z,572nm,18.0s,MS4.7
319A Douglas 54.84 82 ⇑P P 00 00 06.7 -0.2
baz=55
JMIC Jan Mayen 57.84 3 LR LR 00 26 35.4
comp=Z,113nm,21.2s,MS4.0,baz=59,slow=37
ARCES ARCESS Array B 57.94 350 P P 00 00 27.7 -0.8
comp=Z,11nm,1.1s,mb4.8,baz=23,slow=7.5,SNR=8.9
ARCES LR LR 00 27 41.0
comp=Z,294nm,19.2s,MS4.4,baz=27,slow=38
ARCES ARCESS Array B 57.94 350 P P 00 00 27.7 -0.8
ARCES pmax pmax
comp=Z,11nm,1.1s
ARCES MLR MLR
comp=Z,294nm,19.3s
ARCES ARCESS Array B 57.94 350 P P 00 00 27.7 -0.8
ARCES LR LR 00 27 41.0
MKAR Makanchi Array 59.20 307 P P 00 00 37.0 -0.6
comp=Z,2.7nm,0.3s,mb4.7,baz=54,slow=8.2,SNR=39
MKAR LR LR 00 27 41.7

comp=Z,414nm,19.8s,MS4.6,baz=42,slow=38
MKAR Makanchi Array 59.20 307 P **P** **00 00 37.0 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.3s
MKAR MLR MLR
comp=Z,414nm,19.8s
GYA Guiyang 59.24 275 P **P** **00 00 42.3 +4.1**
GYA AP pP 00 00 48.6 -2.4
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,120nm,5.4s
GYA LR LR
comp=N,580nm,19.8s,MS4.8
GYA LR LR
comp=E,460nm,18.6s,MS4.8
GYA LR LR
comp=Z,590nm,19.4s,MS4.7
TXAR Lajitas Array 59.73 80 P **P** **00 00 40.5 -1.1**
comp=Z,1.4nm,0.6s,mb4.1,baz=297,slow=4.9,SNR=23
TXAR LR LR 00 26 59.6
comp=Z,276nm,18.6s,MS4.4,baz=0.0,slow=36
TXAR Lajitas Array 59.73 80 P **P** **00 00 40.5 -1.0**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR MLR MLR
comp=Z,276nm,18.6s
TXAR Lajitas Array 59.73 80 P **P** **00 00 40.5 -1.1**
TXAR LR LR 00 26 59.6
BRVK Borovoye 60.23 319 *eP* **P** **00 00 45.1 +0.6**
comp=Z,21nm,0.8s,mb5.2
SCHQ Schefferville 60.70 37 P **P** **00 00 45.4 -2.4**
comp=Z,5.2nm,0.8s,mb4.7,baz=330,slow=8.3,SNR=6.5
SCHQ LR LR 00 28 48.6
comp=Z,456nm,20.3s,MS4.6,baz=204,slow=38
SVE Sverdlovsk 61.03 327⇑ *eP* **P** **00 00 50.7 +0.7**
SVE pmax pmax
comp=Z,14nm,1.0s,mb5.0
SVE MLR MLR
comp=Z,535nm,19.0s,MS4.7
ARU Arti 62.06 327 *c iP* **P** **00 00 57.7 +0.8**
ARU *e* 00 01 33.7
ARU *e* 00 03 16.7
ARU *e*PPP 00 04 45.1
ARU *e*S **S** **00 09 24.0 +6.1**
ARU *e*SS SS 00 13 16.6 -3.5
ARU pmax pmax
comp=Z,19nm,1.0s,mb5.2
ARU MLR MLR
comp=Z,530nm,21.0s,MS4.7
SIUC Southern Illin 62.42 63 *eP* **P** **00 00 58.0 -1.7**
comp=Z,27nm,0.5s,mb5.6
KMI Kunming 62.65 277 P **P** **00 01 04.9 +3.6**
KMI XP sP 00 01 15.8 -3.6
KMI PP PP 00 03 24.6 +5.4
KMI S **S** **00 09 27.9 +1.7**
KMI XS sS 00 09 42.3 -5.5
KMI AMB AMB
comp=Z,62nm,3.9s
KMI LR LR
comp=N,193nm,19.5s,MS4.4
KMI LR LR
comp=E,136nm,15.8s,MS4.4
KMI LR LR
comp=Z,183nm,24.3s
BORG Borgarnes 63.13 10 LR LR 00 26 45.6
comp=Z,163nm,20.3s,MS4.2,baz=100,slow=34
KLMR Klimovskoe 63.64 339 *eP* **P** **00 01 06.2 -1.1**
KLMR pmax pmax
comp=Z,17nm,2.0s,mb4.7
TKM2 Tokmak 2 65.29 308 P **P** **00 01 19.2 +0.8**
SNR=16
USP Ospenovka 65.57 309 P **P** **00 01 21.4 +1.2**
SNR=8.7
CHMS Chumysh 65.65 309 P **P** **00 01 21.3 +0.6**
SNR=7.4
KBK Karagaybulak 65.81 308 P **P** **00 01 22.6 +0.9**
SNR=9.5
AAK Ala-Archa 66.05 309 P **P** **00 01 24.1 +0.9**
SNR=8.4
EKS2 Erkin-Say 66.38 309 P **P** **00 01 26.5 +1.1**
SNR=20
LSA Lhasa 66.42 288 P **P** **00 01 27.5 +1.6**
AML Almayashu 66.81 309 P **P** **00 01 29.7 +1.5**
SNR=15
NB2 NORSAR Subarra 67.58 354 P **P** **00 01 32.2 -0.5**
comp=Z,18nm,0.9s,mb5.1,baz=8.6,slow=6.5
NOA NORSAR Array B 67.58 354 P **P** **00 01 32.4 -0.3**
comp=Z,11nm,0.8s,mb4.9,baz=8.5,slow=6.3,SNR=36
NOA LR LR 00 35 44.1
comp=Z,139nm,19.2s,MS4.2,baz=355,slow=40
NOA NORSAR Array B 67.58 354 P **P** **00 01 32.4 -0.3**
NOA pmax pmax
comp=Z,11nm,0.8s
NOA MLR MLR
comp=Z,139nm,19.2s
HFS Hagfors 68.29 352 P **P** **00 01 35.7 -1.5**
comp=Z,3.7nm,0.4s,mb4.8,baz=28,slow=3.8,SNR=31
HFS Hagfors 68.29 352 P **P** **00 01 35.7 -1.5**
HFS pmax pmax
comp=Z,4.0nm,0.4s
SHL Shillong 69.01 285 *eP* **P** **00 01 42.7 +0.5**
TAOE Nuku Hiva Isla 69.33 137 *eLR* LR 00 22 50.1
comp=Z,3μm,22.4s
OBN Obninsk 69.51 338⇑ *eP* **P** **00 01 45.6 +0.7**
OBN pmax pmax
comp=Z,23nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,700nm,18.0s,MS5.0
OBN Obninsk 69.51 338 *eP* **P** **00 01 43.7 -1.1**
CMAR Chiang Mai Arr 69.93 275 P **P** **00 01 47.4 -0.6**
comp=Z,1.5nm,0.3s,mb4.4,baz=29,slow=7.2,SNR=15
CMAR LR LR 00 36 53.4
comp=Z,123nm,18.9s,MS4.2,baz=265,slow=40
CMAR Chiang Mai Arr 69.93 275 P **P** **00 01 47.4 -0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR MLR MLR
comp=Z,123nm,18.9s
EKA Eskdalemuir Ar 73.67 2 P **P** **00 02 09.7 -0.2**
comp=Z,7.8nm,1.0s,mb4.6,baz=360,slow=5.6,SNR=9.2
EKA Eskdalemuir Ar 73.67 2 P **P** **00 02 09.7 -0.2**
EKA pmax pmax
comp=Z,8.0nm,1.0s
PPT Papeete 73.77 149 *eS* S 00 11 40.5 +2.0
comp=Z,619nm,28.5s
PPT *e*SS SS 00 16 17.7 -5.8
comp=Z,106nm,23.8s
PPT *e*LR LR 00 24 44.1
comp=Z,625nm,25.2s,baz=337
PPT Papeete 73.77 149 LR LR 00 26 27.8
comp=Z,313nm,20.0s,MS4.6,baz=238,slow=29
WAR Warsaw 75.20 346 *eP* **P** **00 02 24.9 +6.0**
WAR Warsaw 75.20 346 *eP* **P** **00 02 24.8 +6.0**
AKASG Malin Array Be 75.24 341 P **P** **00 02 17.9 -1.2**
comp=Z,1.1nm,0.3s,mb4.2,baz=23,slow=5.8,SNR=12
AKASG LR LR 00 39 20.8
comp=Z,344nm,21.0s,MS4.6,baz=10.0,slow=39
AKASG Malin Array Be 75.24 341 P **P** **00 02 17.9 -1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG MLR MLR
comp=Z,344nm,21.0s
AKASG Malin Array Be 75.24 341 P **P** **00 02 17.9 -1.2**
AKASG LR LR 00 39 20.8
CLL Collm 77.09 351 *eP* **P** **00 02 28.0 -1.5**
CLL *e*SKSac SKSac 00 12 38.0 0.0
CLL *e*PS 00 13 02.0
CLL *e*SS SS 00 17 24.0 +13
CLL LmH 00 39 00.0
comp=N,100nm,20.8s
CLL LmH 00 39 00.0
comp=E,200nm,18.9s
KWP Kalwaria 77.47 345 *eP* **P** **00 02 32.2 +0.4**
KWP LMZ 00 36 20.0
comp=E,400nm,24.1s
KWP Kalwaria 77.47 345⇓ *iP* **P** **00 02 32.1 +0.4**
KIV Kislovodsk 77.96 330 *c iP* **P** **00 02 36.0 +1.4**
KIV *e* pP 00 02 44.0 -3.8
KIV *e* 00 05 33.2
KIV *e*S S 00 12 36.5 +12
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KIV MLR MLR
comp=Z,200nm,19.0s,MS4.5
KIV Kislovodsk 77.96 330⇓ *iP* **P** **00 02 34.2 -0.4**
KIV Kislovodsk 77.96 330 *eP* **P** **00 02 33.7 -0.8**
comp=Z,4.8nm,0.8s,mb4.5
ANN Anapa 78.76 333 *eP* **P** **00 02 42.5 +3.5**
ANN MLR MLR
comp=Z,222nm,21.0s,MS4.5
GIVF Givet 78.83 356 *eP* **P** **00 02 39.7 +0.4**
GRA1 Grafenberg Arr 78.85 352 *eP* **P** **00 02 39.3 0.0**
comp=Z,6.0nm,1.0s,mb4.5
GRA1 LR LR
comp=Z,100nm,21.4s,MS4.1
GRF Grafenberg Arr 78.85 352 *eP* **P** **00 02 39.3 0.0**
comp=Z,6.0nm,1.0s,mb4.5
GRF *e*L 00 40 21.4
comp=Z,105nm,21.4s
GRF Grafenberg Arr 78.85 352 *eP* **P** **00 02 39.3 0.0**
comp=Z,6.0nm,1.0s,mb4.5
GRF LR LR
comp=Z,100nm,21.4s,MS4.1
BAIF Baives 78.90 357 *eP* **P** **00 02 39.2 -0.4**
BURAR Bucovina Array 78.97 343⇓ *iP* **P** **00 02 40.6 +0.5**
GERES GERESS Array B 79.45 350 P **P** **00 02 41.8 -0.8**
comp=Z,0.8nm,0.7s,mb3.8,baz=343,slow=8.7,SNR=5.5
GERES LR LR 00 41 40.9
comp=Z,254nm,20.4s,MS4.5,baz=8.8,slow=38
GERES GERESS Array B 79.45 350 P **P** **00 02 41.8 -0.9**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,254nm,20.4s
SIM Simferopol' 79.52 336 P **P** **00 02 41.0 -2.1**
PSZ Piszkesteto 79.58 346⇓ *iP* **P** **00 02 45.2 +1.8**
DRGR 80.22 344⇓ *iP* **P** **00 02 47.8 +0.9**
FLN La Foliniere 80.28 360 *eP* **P** **00 02 47.0 -0.1**
comp=Z,37nm,1.1s,mb4.9
FLN *e*MLR MLR
comp=Z,203nm,20.5s,MS4.2
FLN La Foliniere 80.28 360 *eP* **P** **00 02 47.0 -0.1**
comp=Z,18nm,1.1s,mb4.9
FLN LR LR
comp=Z,200nm,20.5s,MS4.5
CDF Champ du Feu 80.40 355 *eP* **P** **00 02 47.7 -0.1**
LDF La Druitiere 80.45 360 *eP* **P** **00 02 47.0 -1.0**
GRR Gorron 80.65 0 *eP* **P** **00 02 49.0 -0.1**
MLR Muntele Rosu 80.87 341⇑ *iP* **P** **00 02 51.7 +1.3**
LOR Lormes 81.70 357 *eP* **P** **00 02 54.0 -0.7**
LOR *e*MLR MLR
comp=Z,196nm,19.8s,MS4.2
LOR Lormes 81.70 357 *eP* **P** **00 02 54.0 -0.7**
LOR LR LR
comp=Z,200nm,19.8s,MS4.5
DAVOX Davos/Dischmat 81.85 353 P **P** **00 02 55.2 -0.3**
comp=Z,3.9nm,1.0s,mb4.3,baz=340,slow=14,SNR=4.0
SSF Saint Saulge 81.92 357 *eP* **P** **00 02 56.2 +0.3**
AVF Avril sur Loir 82.19 357 *eP* **P** **00 02 57.5 +0.2**
comp=Z,27nm,1.3s,mb4.7
AVF Avril sur Loir 82.19 357 *eP* **P** **00 02 57.5 +0.2**
comp=Z,13nm,1.3s,mb4.7
CABF La Chapelle 82.26 355 *eP* **P** **00 02 57.4 -0.3**
comp=Z,17nm,1.1s,mb4.6
CABF La Chapelle 82.26 355 *eP* **P** **00 02 57.4 -0.3**
comp=Z,8.4nm,1.1s,mb4.6
SMF Signal de Mont 82.32 357 *eP* **P** **00 02 58.3 +0.3**
comp=Z,8.2nm,0.8s,mb4.4
SMF Signal de Mont 82.32 357 *eP* **P** **00 02 58.3 +0.3**
comp=Z,4.1nm,0.8s,mb4.4
MFF Saint Martin d 82.44 360 *eP* **P** **00 02 57.9 -0.7**
HYB Hyderabad 83.20 289 *eP* **P** **00 03 02.5 -0.5**
LPL La Plagne 83.32 355 *eP* **P** **00 03 02.9 -0.3**
ORIF Oris-en-Rattie 83.96 355 *eP* **P** **00 03 05.6 -0.9**
comp=Z,27nm,1.3s,mb4.9
ORIF *e*MLR MLR
comp=Z,146nm,22.2s,MS4.0
ORIF Oris-en-Rattie 83.96 355 *eP* **P** **00 03 05.6 -0.9**
comp=Z,13nm,1.3s,mb4.9
VIVF Saint-Julien-l 84.08 356 *eP* **P** **00 03 06.6 -0.5**
comp=Z,19nm,1.2s,mb4.8
VIVF Saint-Julien-l 84.08 356 *eP* **P** **00 03 06.6 -0.5**
comp=Z,9.7nm,1.2s,mb4.8
LFF La Frestale 84.10 359 *eP* **P** **00 03 06.5 -0.7**
comp=Z,37nm,1.2s,mb5.1
LFF La Frestale 84.10 359 *eP* **P** **00 03 06.5 -0.7**
comp=Z,18nm,1.2s,mb5.1
RKT Rikitea 84.25 139 *eLR* LR 00 29 37.8
comp=Z,473nm,26.0s,baz=334
MALT Malatya 84.42 330⇓ *iP* **P** **00 03 10.4 +1.4**
ASAR Alice Springs 84.73 221 P **P** **00 03 08.1 -2.3**
comp=Z,1.2nm,0.7s,mb4.1,baz=32,slow=4.8,SNR=11
ASAR Alice Springs 84.73 221 P **P** **00 03 08.1 -2.4**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
SMRF Simiane la Rot 84.92 356 *eP* **P** **00 03 11.5 +0.1**
comp=Z,39nm,1.2s,mb5.1
SMRF Simiane la Rot 84.92 356 *eP* **P** **00 03 11.5 +0.1**
comp=Z,39nm,1.2s,mb5.4
SBF Sospel 84.93 354 *eP* **P** **00 03 11.5 +0.1**
FRF La Foret Royal 85.28 355 *eP* **P** **00 03 13.1 0.0**
comp=Z,18nm,1.1s,mb4.8
FRF La Foret Royal 85.28 355 *eP* **P** **00 03 13.1 0.0**
comp=Z,8.9nm,1.0s,mb4.8
LMR La Mourre 85.51 355 *eP* **P** **00 03 14.5 +0.2**
comp=Z,37nm,1.3s,mb5.2
LMR La Mourre 85.51 355 *eP* **P** **00 03 14.5 +0.2**
comp=Z,18nm,1.3s,mb5.2
MIB Mutribah 88.89 320 *eP* **P** **00 03 29.1 -1.7**
baz=320
MIB AMb AMB 00 03 32.6
comp=Z,52nm,1.0s,mb5.8,baz=320
STKA Stephens Creek 89.31 211 P **P** **00 03 29.7 -2.8**
comp=Z,2.8nm,0.8s,mb4.6,baz=59,slow=8.9,SNR=5.7
STKA LR LR 00 41 60.0
comp=Z,304nm,18.0s,MS4.8,baz=25,slow=34
STKA Stephens Creek 89.31 211 P **P** **00 03 29.7 -2.8**
STKA LR LR 00 41 60.0
NAY Al-Naaiem 89.42 320 *eP* **P** **00 03 31.3 -2.0**
baz=320
NAY AMb AMB 00 03 35.0
comp=Z,14nm,1.0s,mb5.2,baz=320
RDF Al-Radifah 89.58 319 *eP* **P** **00 03 32.7 -1.4**
baz=319
RDF AMb AMB 00 03 36.0
comp=Z,45nm,1.0s,mb5.8,baz=319
CPD Cerro la Pandu 90.52 60 *eP* **P** **00 03 37.9 -0.7**
comp=Z,48nm,0.9s,mb5.8
ASF Jabal al Asfar 90.56 329 LR LR 00 50 14.7
comp=Z,217nm,20.0s,MS4.6,baz=266,slow=39
KEST Kesra 92.87 352 LR LR 00 52 15.1
comp=Z,46nm,18.6s,MS4.0,baz=228,slow=40
ROSC El Rosal 96.26 74 LR LR 00 44 51.6
comp=Z,56nm,19.9s,MS4.0,baz=48,slow=34
TORD Torodi Ar. Bea 115.76 358 PKP PKPdf 00 09 17.3 -1.8
comp=Z,0.4nm,0.4s,baz=347,slow=2.4,SNR=24
TORD Torodi Ar. Bea 115.76 358 PKP PKPdf 00 09 17.3 -1.8
TSUM Tsumeb 144.89 329 *e*PKP PKPdf 00 10 12.5 -1.0
MAW Mawson 145.79 218 PKPbc PKPbc 00 10 13.7 -0.4
comp=Z,2.1nm,0.7s,baz=103,slow=8.0,SNR=5.0
MAW Mawson 145.79 218 PKP2 PKPab 00 10 13.7 -0.9
MAW pmax pmax
comp=Z,2.0nm,0.7s
LBTB Lobatse 146.97 313 *e*PKP PKPbc 00 10 19.2 +0.3
BOSA Boshof 150.18 310 PKPbc PKPbc 00 10 26.9 -0.2
comp=Z,7.5nm,0.8s,baz=206,slow=2.1,SNR=10
BOSA Boshof 150.18 310 PKIKP PKPbc 00 10 26.9 -0.2
BOSA pmax pmax
comp=Z,8.0nm,0.8s

*ISCJB **21** 23:54:29.0±1.1,51.1N±0.1×17950E±006,h55km±8km, mb4.3/21, Error ellipse: s-maj=17.2km s-min=6.3km az=175.3*
*MOS **21** 23:54:28.4±1.1,51.30N×179.69E,h49km,mb4.7/4, Error ellipse: s-maj=24.5km s-min=14.2km az=129.7*
*NEIC **21** 23:54:31.9±1.0,51.14N×179.47E,h66km±7km,mb4.4/3, Error ellipse: s-maj=17.9km s-min=6.1km az=177.0*
*IDC **21** 23:54:42.0±4.9,51.23N×179.57E,h160km±47km,mb3.7/15, mb1 3.9/16,mb1mx3.7/28,mbtmp3.7/16, Error ellipse: s-maj=24.3km s-min=12.2km az=0.0*

ISC 21 23:54:32.8±1.1,513N±01×17951E±006,h69km±8km,n47, σ0§95/49,mb4.3/21,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.18**	**316**	P	**Pn**	**23 54 35.6**	**-7.5**
AMKA				S	**Sn**	**23 54 40.2**	**-11**
SMY	**Shemya**	**3.66**	**296**	P	**Pn**	**23 55 25.1**	**-1.8**
SMY				S	**Sn**	**23 56 09.5**	**+0.8**
FX1	**Attu Island--F**	**4.24**	**295**	P	**Pn**	**23 55 34.1**	**-0.7**
NIKO	**Nikolski**	**7.38**	**72**	P	**Pn**	**23 56 15.6**	**-2.0**
OKCE	**Okmok Cone E**	**7.86**	**69**	P	**Pn**	**23 56 25.5**	**+1.2**
SPIA	**Saint Paul Isl**	**8.44**	**41**	P	**Pn**	**23 56 33.8**	**+1.6**
SPIA				S	**Sn**	**23 58 10.7**	**+4.9**
UNV	**Unalaska Valle**	**8.92**	**68**	P	**Pn**	**23 56 37.9**	**-0.8**
AKGG	**Akutan Green G**	**9.29**	**66**	P	**Pn**	**23 56 45.2**	**+1.5**
PETK	**Petropavlovsk-**	**13.50**	**286**	P	**Pn**	**23 57 48.0**	**+6.9**
	0.6nm,0.3s,baz=88,slow=14,SNR=5.5						
PPLA	**Purkeypile**	**19.12**	**42**	*eP*	**Pn**	**23 58 51.5**	**+0.3**
	14nm,0.8s						
IMA2	**Indian Mountai**	**20.12**	**32**	*eP*	**P**	**23 59 00.9**	**+0.2**
EGAK	**Eagle**	**24.35**	**41**	*eP*	**P**	**23 59 43.3**	**-0.5**
ASAJ	**Asahikawa**	**25.64**	**268**	P	**P**	**23 59 57.9**	**+2.2**
	14nm,0.9s,mb4.4,baz=47,slow=23,SNR=4.7						
ASAJ	**Asahikawa**	**25.64**	**268**	P	**P**	**23 59 57.9**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.9s						
KLR	**Kul'dur**	**30.19**	**285**	*eP*	**P**	**00 00 31.9**	**-4.3**
YKA	**Yellowknife Ar**	**36.09**	**46**	P	**P**	**00 01 26.6**	**-0.8**
	comp=Z,1.4nm,0.4s,mb4.2,baz=282,slow=7.4,SNR=5.3						
YKA	**Yellowknife Ar**	**36.09**	**46**	P	**P**	**00 01 26.6**	**-0.8**
BOD	**Bodaibo**	**37.20**	**306**	*eP*	**P**	**00 01 35.9**	**-1.0**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KSRS	**Korea Array**	**38.58**	**270**	P	**P**	**00 01 49.1**	**+0.4**
	comp=Z,3.2nm,1.0s,mb4.1,baz=72,slow=8.9,SNR=5.3						
KSRS	**Korea Array**	**38.58**	**270**	P	**P**	**00 01 49.2**	**+0.5**
KSRS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
NVAR	**Mina Array Bea**	**44.62**	**81**	P	**P**	**00 02 38.6**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.5,baz=289,slow=6.6,SNR=3.8						
SONM	**Songino Array**	**45.75**	**296**	P	**P**	**00 02 47.5**	**+0.5**
	comp=Z,1.3nm,0.7s,mb3.8,baz=59,slow=9.8,SNR=4.7						
FLWY	**Flagg Ranch**	**45.92**	**70**	*eP*	**P**	**00 02 49.2**	**+0.9**
	comp=Z,5.2nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**47.36**	**71**	P	**P**	**00 02 59.5**	**-0.1**
	comp=Z,6.6nm,0.8s,mb4.4,baz=313,slow=3.7,SNR=12						
ZALV	**Zalesovo Beam**	**53.35**	**313**	P	**P**	**00 03 43.8**	**-0.8**
	comp=Z,0.9nm,0.4s,mb4.1,baz=41,slow=7.9,SNR=3.9						
ZAL	**Zalesovo**	**53.36**	**313**	P	**P**	**00 03 43.8**	**-0.9**
MKAR	**Makanchi Array**	**59.28**	**308**	P	**P**	**00 04 26.3**	**-0.5**
	comp=Z,1.6nm,0.4s,mb4.4,baz=50,slow=6.9,SNR=6.8						
TXAR	**Lajitas Array**	**59.73**	**80**	P	**P**	**00 04 29.7**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.7,baz=314,slow=4.4,SNR=5.7						
TKM2	**Tokmak 2**	**65.37**	**308**	*eP*	**P**	**00 05 08.5**	**+0.9**
TKM2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
TKM2	**Tokmak 2**	**65.37**	**308**	*eP*	**P**	**00 05 08.5**	**+0.9**
	comp=Z,4.3nm,1.0s,mb4.2						
AKTK	**Aktyubinsk**	**67.17**	**324**	P	**P**	**00 05 19.2**	**+0.3**
AKTO	**Aktyubinsk**	**67.17**	**324**	P	**P**	**00 05 19.2**	**+0.3**
	comp=Z,9.4nm,0.8s,mb4.7,baz=50,slow=6.2,SNR=15						
NB2	**NORSAR Subarra**	**67.67**	**354**	P	**P**	**00 05 21.5**	**-0.5**
	comp=Z,7.5nm,1.0s,mb4.5,baz=6.6,slow=6.5						
NOA	**NORSAR Array B**	**67.67**	**354**	P	**P**	**00 05 21.8**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.2,baz=8.1,slow=6.3,SNR=9.1						
HFS	**Hagfors**	**68.39**	**352**	P	**P**	**00 05 25.0**	**-1.4**
	comp=Z,1.3nm,0.5s,mb4.0,baz=352,slow=5.1,SNR=9.6						
TAPN	**Taplejung**	**70.25**	**289**	*eP*	**P**	**00 05 38.0**	**-0.5**
	comp=Z,21nm,0.8s,mb5.0						
GUN	**Gumba**	**70.92**	**291**	*eP*	**P**	**00 05 43.4**	**+0.9**
RAMN	**Ramite**	**71.21**	**290**	*eP*	**P**	**00 05 44.5**	**+0.2**
	comp=Z,45nm,0.9s,mb5.3						
KKN	**Kakani**	**71.36**	**291**	*eP*	**P**	**00 05 46.0**	**+0.8**
PKI	**Pulchoki**	**71.44**	**291**	*eP*	**P**	**00 05 46.2**	**+0.5**
GKN	**Gorkha**	**71.57**	**292**	*eP*	**P**	**00 05 47.3**	**+0.8**
DMN	**Daman**	**71.59**	**291**	*eP*	**P**	**00 05 47.4**	**+0.8**
DANN	**Dangsing**	**71.82**	**293**	*eP*	**P**	**00 05 48.8**	**+0.8**
	comp=Z,28nm,0.8s,mb5.1						
EKA	**Eskdalemuir Ar**	**73.77**	**2**	P	**P**	**00 05 58.2**	**-0.9**
	comp=Z,1.7nm,0.8s,mb3.9,baz=338,slow=6.3,SNR=4.0						
AKASG	**Malin Array Be**	**75.34**	**341**	P	**P**	**00 06 07.8**	**-0.5**
	comp=Z,0.7nm,0.4s,mb3.7,baz=22,slow=5.9,SNR=4.1						
WRA	**Warramunga Arr**	**81.19**	**222**	P	**P**	**00 06 38.7**	**-2.0**
	comp=Z,0.7nm,1.0s,mb3.4,baz=37,slow=6.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**115.85**	**358**	PKP	PKPdf	00 13 06.0	-1.6
	comp=Z,0.2nm,0.5s,baz=344,slow=2.4,SNR=3.4						

MAN 22 00:19:02,745N×12680E,h1km,mb4.5,ML3.4,MS3.3, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.74**	**227**	*eP*	Pg	00 19 17.3	+1.2
MATI				*eS*	Sg	00 19 31.3	+5.6
BIPH	**Bislig**	**0.85**	**329⇑**	*iP*	Pg	00 19 17.9	-0.4
BIPH				*i S*	Sg	00 19 34.3	+5.0
DMPH	**Davao City--Mi**	**1.33**	**254⇓**	*iP*	Pg	00 19 30.0	+2.4
DMPH				*i S*	Sg	00 19 35.5	-9.4
BUKP	**Musuan**	**1.77**	**284**	*eP*	Pn	00 19 35.3	+1.5
BUTP	**Butuan**	**1.91**	**322**	*eP*	Pn	00 19 35.4	-0.3
SCPH	**Surigao**	**2.66**	**331**	*eP*	Pn	00 19 47.5	+1.5
SCPH				*eS*	Sn	00 20 20.2	+1.4
MSLP	**Maasin**	**3.29**	**324**	*eP*	Pn	00 19 59.4	+4.8
PAGZ	**Pagadian**	**3.41**	**277**	*eP*	Pn	00 19 58.9	+2.5

*NEIC **22** 00:27:42.7,3820N×2033E,h5km,MD3.4(ATH), After ATH.*
*ATH **22** 00:27:42.7,3820N×2033E,h5km±4km,MD3.4/6*
*ISCJB **22** 00:27:43.1±1.0,3830N±004×2039E±007,h0km±6km, Error ellipse: s-maj=9.8km s-min=4.7km az=151.0*
*CSEM **22** 00:27:43.4±0.1,3825N×2036E,h1km±1km,MD3.4, Error ellipse: s-maj=3.4km s-min=1.2km az=54.0*
*THE **22** 00:27:43.2,3828N×2035E,h0km,ML2.6*

ISC 22 00:27:43.6±1.1,3828N±004×2037E±007,h1km±6km,n13, σ0§58/23,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**121**	*eP*g	**Pg**	**00 27 47.0**	**-0.4**
VLS				*eS*g	**Sg**	**00 27 50.3**	**+0.2**
KFL	**Anninata**	**0.37**	**117**	*eP*g	**Pg**	**00 27 50.1**	**-0.6**
KFL				*eS*g	**Sg**	**00 27 56.5**	**+1.0**
LKD	**Levkas**	**0.48**	**27**	*eP*g	**Pg**	**00 27 51.9**	**-0.9**
LKD				*eS*g	**Sg**	**00 27 59.3**	**+0.3**
RLS	**Riolos of Patr**	**0.89**	**104**	*eP*B	**Pg**	**00 28 00.3**	**-0.4**
RLS				*eS*B	**Sg**	**00 28 12.1**	**-0.2**
IGT	**Igoumenitsa**	**1.25**	**359**	*eP*g	**Pg**	**00 28 07.3**	**-0.2**
IGT				*eS*g	**Sg**	**00 28 24.5**	**+0.8**
KEK	**Kerkira**	**1.50**	**343**	*eP*G	**Pg**	**00 28 11.9**	**-0.4**
ITM	**Ithomi**	**1.65**	**131**	*eP*B	**Pn**	**00 28 13.9**	**+0.1**
ITM				*eS*B	**Sn**	**00 28 35.9**	**+0.3**
AGG	**Agios Georgios**	**1.70**	**64**	*eP*b	**Pn**	**00 28 14.1**	**-0.3**
AGG				*eS*b	**Sg**	**00 28 38.4**	**+0.1**
THL	**Klokotos Trika**	**1.81**	**45**	*eP*N	**Pg**	**00 28 19.2**	**+0.9**
VLX	**Vlachokerasia**	**1.83**	**119**	*eP*b	**Pn**	**00 28 15.9**	**-0.3**
VLX				*eS*b	**Sn**	**00 28 40.2**	**+0.2**
LTK	**Loutraki**	**2.06**	**96**	*eP*n	**Pn**	**00 28 19.0**	**-0.4**
LTK				*eS*n	**Sb**	**00 28 47.1**	**-0.9**
DID	**Didima**	**2.40**	**108**	*eP*n	**Pn**	**00 28 23.8**	**-0.1**
DID				*eS*n	**Sn**	**00 28 53.9**	**-0.1**
VLI	**Veliai**	**2.57**	**127**	*eP*N	**Pn**	**00 28 27.9**	**+1.5**

*ISCJB **22** 00:35:31.8±1.3,14N±0.1×994E±0.1,h108km±9km, mb4.0/12, Error ellipse: s-maj=28.3km s-min=10.8km az=142.4*
*IDC **22** 00:35:33.3±3.0,133N×9940E,h104km±14km,mb3.5/5, mb1 3.6/5,mb1mx3.3/20,mbtmp3.5/5, Error ellipse: s-maj=108.7km s-min=19.3km az=61.0*
*NEIC **22** 00:35:33.0±1.2,132N×9938E,h107km±10km,mb4.1/7, Error ellipse: s-maj=20.0km s-min=7.6km az=53.0*

ISC 22 00:35:32.4±1.4,13N±01×994E±01,h98km±10km,n21, σ0§49/23,mb4.0/12,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.52**	**344**	P	**Pn**	**00 35 59.3**	**+0.4**
	14nm,0.3s,baz=205,slow=14,SNR=42						

PSI				S	Sn	00 36 18.5	-0.4
	4.4nm,0.3s,baz=340,slow=16,SNR=7.1						
PSI	**Prapat**	**1.52**	**344**	P	**Pn**	**00 35 59.3**	**+0.4**
PSI				S	**Sn**	**00 36 18.5**	**-0.4**
KSM	**Kuching**	**10.95**	**89**	Pn	**Pn**	**00 38 06.3**	**+0.2**
QIZ	**Qiongzhong**	**20.37**	**30**	P	**P**	**00 40 01.3**	**-0.1**
ENH	**Enshi**	**30.35**	**18**	*e*P	**P**	**00 41 34.7**	**-0.3**
	0.5nm,0.4s,mb3.5						
FITZ	**Fitzroy Crossi**	**32.28**	**128**	P	**P**	**00 41 48.8**	**-3.3**
NWAO	**Narrogin (SRO)**	**38.02**	**155**	*e*P	**P**	**00 42 41.3**	**+0.1**
	28nm,1.3s,mb4.9						
WRA	**Warramunga Arr**	**40.29**	**123**	P	**P**	**00 43 00.1**	**-0.2**
	1.1nm,0.5s,mb4.0,baz=302,slow=9.0,SNR=5.0						
WRAB	**Tennant Creek**	**40.29**	**123**	*e*P	**P**	**00 43 00.4**	**+0.1**
	2.7nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	**40.30**	**123**	*e*P	**P**	**00 43 01.0**	**+0.6**
UCH	**Uchtor**	**46.43**	**334**	P	**P**	**00 43 49.8**	**+0.4**
TKM2	**Tokmak 2**	**46.55**	**336**	*e*P	**P**	**00 43 50.2**	**0.0**
	2.7nm,0.7s,mb4.1						
SONM	**Songino Array**	**46.72**	**7**	P	**P**	**00 43 52.1**	**+0.6**
	0.5nm,0.6s,mb3.4,baz=333,slow=5.7,SNR=2.5						
EKS2	**Erkin-Say**	**47.10**	**334**	*e*P	**P**	**00 43 53.9**	**-0.6**
	1.5nm,0.8s,mb3.8						
MKAR	**Makanchi Array**	**47.67**	**344**	P	**P**	**00 43 58.9**	**0.0**
	0.8nm,0.5s,mb3.8,baz=157,slow=7.2,SNR=9.2						
MKAR				pP	pP	00 44 21.6	-0.5
	0.3nm,0.4s,baz=141,slow=8.3,SNR=5.0						
MKAR	**Makanchi Array**	**47.67**	**344**	P	**P**	**00 43 58.9**	**0.0**
MKAR				pP	pP	00 44 21.6	-0.5
CTAO	**Charters Tower**	**50.64**	**117**	*e*P	**P**	**00 44 22.0**	**0.0**
	2.2nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**51.86**	**133**	P	**P**	**00 44 30.8**	**-0.1**
	1.0nm,0.6s,mb4.0,baz=333,slow=16,SNR=3.2						
STKA	**Stephens Creek**	**51.86**	**133**	P	**P**	**00 44 30.8**	**-0.1**
KURK	**Kurchatov**	**52.25**	**343**	*e*P	**P**	**00 44 33.5**	**0.0**
	1.2nm,0.7s,mb4.0						
ZALV	**Zalesovo Beam**	**53.80**	**349**	P	**P**	**00 44 44.9**	**+0.1**
	1.3nm,0.6s,mb4.1,baz=163,slow=5.7,SNR=5.7						

NEIC ***22*** *01:05:41.0±1.1,4803N×15493E,h10km,mb3.8/1,Error ellipse: s-maj=28.4km s-min=12.5km az=132.0*
ISCJB ***22*** *01:05:42.1±2.4,481N±0.1×1550E±02,h26km±17km, mb4.0/8,Error ellipse: s-maj=32.1km s-min=8.1km az=36.5*
MOS ***22*** *01:05:43.7±1.4,4812N×15485E,h38km,mb4.1/4,Error ellipse: s-maj=20.7km s-min=10.8km az=72.7*
IDC ***22*** *01:05:45.8±3.0,4808N×15500E,h45km±27km,mb3.7/6, mb1 3.9/9,mb1mx3.6/24,mbtmp3.8/9,ML4.0/3,MS3.2/3, Ms1 3.2/3,ms1mx2.6/36,Error ellipse: s-maj=42.3km s-min=21.4km az=144.0*

ISC 22 01:05:45.4±1.4,481N±01×1550E±02,h37km±9km,n21, σ0°96/23,mb4.0/8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.69**	**16**	*e*PN	**Pn**	**01 06 25.5**	**-0.6**
SKR				*e*S	**Sn**	**01 06 57.0**	**-0.5**
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				smax			
	comp=N,280nm,0.7s						
SKR				smax			
	comp=E,220nm,0.7s						
SKR				smax			
	comp=Z,90nm,0.5s						
PETK	**Petropavlovsk-**	**5.31**	**18**	P	**Pn**	**01 07 02.0**	**0.0**
	comp=Z,2.0nm,0.3s,baz=197,slow=10,SNR=31						
PETK				LR	LR	01 09 26.2	
	comp=Z,129nm,19.6s,baz=192,slow=41						
PET	**Petropavlovsk**	**5.46**	**24**	*e*PN	**Pn**	**01 07 05.5**	**+1.4**
PET				pmax	pmax		
	comp=Z,18nm,0.4s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
KUR	**Kuril'sk**	**5.66**	**242**	*e*PN	**Pn**	**01 07 05.5**	**-1.3**
KUR				*e*S	**Sn**	**01 08 22.5**	**+12**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,80nm,0.6s						
KUR				smax			
	comp=E,90nm,0.6s						
ASAJ	**Asahikawa**	**9.46**	**250**	P	**Pn**	**01 08 01.4**	**+2.5**
	comp=E,3.0nm,0.3s,baz=75,slow=16,SNR=12						
ASAJ				LR	LR	01 11 27.7	
	comp=E,99nm,18.2s,baz=187,slow=36						
MJAR	**Matsushiro Arr**	**16.89**	**233**	P	**Pn**	**01 09 37.2**	**-1.5**
	comp=E,0.5nm,0.3s,baz=173,slow=37,SNR=3.6						
BILL	**Bilibino**	**20.80**	**12**	*e*P	**P**	**01 10 29.2**	**+6.2**
BILL				*e*PP		01 10 43.5	
BILL				*e*S	**S**	**01 14 11.8**	**-1.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSRS	**Korea Array**	**22.40**	**252**	P	**P**	**01 10 40.8**	**+0.4**
	comp=Z,3.5nm,0.6s,mb4.0,baz=49,slow=9.9,SNR=10.0						
KSRS	**Korea Array**	**22.40**	**252**	P	**P**	**01 10 40.8**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
SONM	**Songino Array**	**32.08**	**288**	LR	LR	01 26 18.2	
	comp=Z,87nm,18.7s,baz=263,slow=38						
MKAR	**Makanchi Array**	**47.44**	**297**	P	**P**	**01 14 15.6**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.2,baz=62,slow=9.1,SNR=13						
BRVK	**Borovoye**	**51.01**	**309**	*e*P	**P**	**01 14 42.5**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**51.01**	**309**	*e*P	**P**	**01 14 42.5**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.8						
OBN	**Obninsk**	**64.89**	**326**	*e*P	**P**	**01 16 21.3**	**+0.9**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
NOA	**NORSAR Array B**	**67.34**	**342**	P	**P**	**01 16 36.0**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=27,slow=6.4,SNR=3.2						
AKASG	**Malin Array Be**	**71.11**	**327**	P	**P**	**01 16 58.4**	**-1.1**
	comp=Z,0.7nm,0.4s,mb3.9,baz=36,slow=6.5,SNR=4.9						
AKASG	**Malin Array Be**	**71.11**	**327**	P	**P**	**01 16 58.4**	**-1.1**
CLL	**Collm**	**75.74**	**336**	*e*P	**P**	**01 17 27.0**	**+0.3**
TXAR	**Lajitas Array**	**75.75**	**62**	P	**P**	**01 17 26.9**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=324,slow=4.5,SNR=6.2						
KHC	**Kasperske Hory**	**77.55**	**335**	*e*P	**P**	**01 17 38.0**	**+1.0**
GERES	**GERESS Array B**	**77.78**	**335**	P	**P**	**01 17 39.1**	**+0.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=36,slow=6.2,SNR=12						

ISCJB ***22*** *01:11:42.9±0.3,4014N±002×28.18E±002,h6km±3km, Error ellipse: s-maj=3.2km s-min=2.7km az=43.9*
CSEM ***22*** *01:11:42.4±0.0,4013N×28.18E,h10km,MD2.9,Error ellipse: s-maj=1.0km s-min=1.0km az=141.0*
ISK ***22*** *01:11:42.6,4014N×28.18E,h11km,MD2.9*
DDA ***22*** *01:11:43.1,4011N×28.16E,h5km±3km,Md2.8*

ISC 22 01:11:43.4±0.3,4014N±002×2818E±002,h10km±2km,n37, σ0°71/59,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCT	**Karacabey**	**0.19**	**46**	PG	**Pg**	**01 11 47.2**	**-0.2**
KCT				*e*SG	**Sg**	**01 11 50.3**	**+0.2**
BNT	**Bandirma**	**0.30**	**318**	*e*PG	**Pg**	**01 11 49.3**	**-0.1**
EDC	**Edincik**	**0.32**	**311**	*e*PG	**Pg**	**01 11 49.5**	**-0.3**
BTOK	**Tokmak**	**0.39**	**197**	*i* P	**Pg**	**01 11 50.7**	**-0.4**
BTOK				*i* S	**Sg**	**01 11 56.3**	**-0.1**
BALB	**Balikesir**	**0.55**	**205**	*e*PG	**Pg**	**01 11 53.5**	**-0.5**
BALB				*e*SG	**Sg**	**01 12 01.3**	**0.0**
BALY	**Balya**	**0.59**	**228**	*i* P	**Pg**	**01 11 54.3**	**-0.5**
BALY				*i* S	**Sg**	**01 12 02.5**	**0.0**
DST	**Dursunbey**	**0.63**	**147**	*e*PG	**Pg**	**01 11 55.4**	**-0.3**
ULDT	**Uludag**	**0.73**	**89**	*i* P	**Pg**	**01 11 57.5**	**-0.1**
ULDT				*i* S	**Sg**	**01 12 07.4**	**+0.2**
GEMT	**Gemlik**	**0.83**	**69**	*e*PG	**Pg**	**01 11 59.3**	**-0.1**
GEMT				*e*SG	**Sg**	**01 12 11.2**	**+1.0**
SART	**Tekirdag**	**0.94**	**306**	*i* P	**Pg**	**01 12 02.0**	**+0.5**
SART				*i* S	**Sg**	**01 12 15.5**	**+1.7**
SART	**Tekirdag**	**0.94**	**306**	*i* P	**Pg**	**01 12 02.0**	**+0.4**
SART				*i* S	**Sg**	**01 12 15.5**	**+1.7**
RKY	**Sarkoy-Tekirda**	**0.94**	**306**	*e*PG	**Pg**	**01 12 01.1**	**-0.5**
RKY				*e*SG	**Sg**	**01 12 15.2**	**+1.3**
YLV	**Yalova**	**1.01**	**64**	*e*PG	**Pg**	**01 12 02.4**	**-0.4**
CTT	**Catalca**	**1.03**	**11**	*e*PG	**Pg**	**01 12 02.8**	**-0.4**
ELBA	**Catalca**	**1.03**	**11**	*i* P	**Pg**	**01 12 03.3**	**+0.1**
ELBA				*i* S	**Sg**	**01 12 17.7**	**+1.2**
CRLT	**Corlu**	**1.05**	**341**	*e*PG	**Pg**	**01 12 03.0**	**-0.5**
SLVT	**Silivri**	**1.09**	**1**	*e*PN	**Pn**	**01 12 03.9**	**-0.9**
SLVT				*e*SN	**Sn**	**01 12 19.4**	**-0.5**
LPK	**Lapseki**	**1.11**	**283**	*e*PN	**Pn**	**01 12 04.5**	**-0.5**
BGKT	**Bogazkoy**	**1.14**	**23**	*e*PN	**Pn**	**01 12 04.3**	**-1.1**
ISK	**Istanbul-Kandi**	**1.14**	**36**	*e*PN	**Pn**	**01 12 05.1**	**-0.4**
ISK				*e*SN	**Sn**	**01 12 21.0**	**-0.2**
DEMI	**Demirci**	**1.17**	**159**	*i* P	**Pb**	**01 12 05.9**	**+0.2**
DEMI				*i* S	**Sb**	**01 12 20.8**	**-0.1**
ADVT	**Abdulvahap**	**1.23**	**76**	*e*PN	**Pn**	**01 12 06.6**	**-0.1**
ADVT				*e*SN	**Sn**	**01 12 23.4**	**+0.1**
AKS	**Akhisar**	**1.29**	**193**	*e*PN	**Pn**	**01 12 07.0**	**-0.4**
KLYT	**Kilyos**	**1.29**	**30**	*e*PN	**Pn**	**01 12 07.2**	**-0.3**
KLYT				*e*SN	**Sn**	**01 12 24.9**	**0.0**
AYVA	**Ayvalik**	**1.42**	**235**	*e*P	**Pn**	**01 12 06.7**	**-2.5**
AYVA				*i* S	**Sn**	**01 12 28.8**	**+0.8**
GDZ	**Gediz**	**1.45**	**136**	*i* P	**Pn**	**01 12 11.0**	**+1.3**
GDZ				*i* S	**Sn**	**01 12 30.8**	**+2.0**
EZN	**Ezine**	**1.46**	**258**	*e*PN	**Pn**	**01 12 09.3**	**-0.5**
EZN				*e*SN	**Sn**	**01 12 28.9**	**-0.1**
SILT	**Sile**	**1.51**	**47**	*e*PN	**Pn**	**01 12 10.4**	**-0.1**
SILT				*e*SN	**Sn**	**01 12 29.9**	**-0.2**
ENEZ	**Enez**	**1.66**	**292**	*e*PN	**Pn**	**01 12 12.5**	**0.0**
BOZC	**Bozcaada**	**1.66**	**260**	*e*P	**Pn**	**01 12 12.3**	**-0.3**
BOZC				*i* S	**Sn**	**01 12 36.0**	**+2.0**
KULA	**Kula-Manisa**	**1.66**	**167**	*e*PN	**Pn**	**01 12 12.1**	**-0.6**
KULA				*e*SN	**Sn**	**01 12 34.8**	**+0.8**
GADA	**Gvkgeada**	**1.75**	**272**	*e*PN	**Pn**	**01 12 13.4**	**-0.4**
ALT	**Altintas**	**1.84**	**125**	*e*PN	**Pn**	**01 12 14.8**	**-0.2**
BLCB	**Balcova**	**1.96**	**207**	*e*PN	**Pn**	**01 12 16.7**	**-0.1**
EDRB	**Edirne**	**2.02**	**328**	*e*PN	**Pn**	**01 12 17.6**	**0.0**
ESKT	**Eskisehir**	**2.15**	**106**	*e*P	**Pn**	**01 12 19.9**	**+0.7**
ESKT				*i* S	**Sn**	**01 12 52.8**	**+6.9**
SEYT	**Eskypehyr**	**2.15**	**106**	*e*P	**Pn**	**01 12 19.9**	**+0.6**

IDC ***22*** *01:16:44.7±0.9,5124N×17949E,h0km,mb4.0/13, mb1 4.1/15,mb1mx4.0/27,mbtmp4.0/15,ML4.1/2,MS3.5/6, Ms1 3.5/6,ms1mx3.1/31,Error ellipse: s-maj=29.7km s-min=14.6km az=174.0*
BJI ***22*** *01:16:45.0,5090N×17950E,h9km,mB5.0,mb4.5,Ms4.6, Msz4.4*
NEIC ***22*** *01:16:46.3,5091N×17947E,h10km,mb4.4/23, ML4.2(AEIC),After AEIC.*
ISCJB ***22*** *01:16:49.5±0.9,512N±0.1×17950E±005,h45km±5km, mb4.2/37,MS3.7/8,Error ellipse: s-maj=17.6km s-min=5.3km az=179.3*
MOS ***22*** *01:16:49.8±1.0,5118N×17941E,h48km,mb4.5/15,Error ellipse: s-maj=14.2km s-min=11.7km az=118.1*

ISC 22 01:16:50.0±1.2,5109N±010×17947E±005,h34km±6km, h27km±4.4km:pP-P,n76,σ0°97/77,mb4.2/37,MS3.7/8,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.31**	**340**	P	**Pb**	**01 16 56.8**	**-1.1**
AMKA				S	**Sb**	**01 17 03.4**	**+0.2**
SMY	**Shemya**	**3.71**	**298**	P	**Pn**	**01 17 44.8**	**0.0**
SMY				S	**Sn**	**01 18 28.3**	**+1.1**
FX1	**Attu Island--F**	**4.29**	**297**	P	**Pn**	**01 17 53.6**	**+0.8**
NIKO	**Nikolski**	**7.45**	**71**	*e*Pn	**Pn**	**01 18 36.4**	**+0.3**
SPIA	**Saint Paul Isl**	**8.58**	**41**	P	**Pn**	**01 18 51.5**	**-0.1**
UNV	**Unalaska Valle**	**9.00**	**67**	*e*Pn	**Pn**	**01 18 58.3**	**+0.9**
	19nm,0.7s						
AKUT	**Akutan**	**9.48**	**66**	*e*Pn	**Pn**	**01 19 06.7**	**+2.7**
PETK	**Petropavlovsk-**	**13.53**	**287**	Pn	**Pn**	**01 19 55.6**	**-3.6**
	0.6nm,0.3s,baz=132,slow=20,SNR=5.5						
PETK				LR	LR	01 24 56.5	
	comp=Z,86nm,20.7s,baz=275,slow=36						
OHAK	**Old Harbor**	**17.02**	**58**	*e*Pn	**Pn**	**01 20 42.5**	**-2.6**
KDAK	**Kodiak Island**	**17.49**	**57**	Pn	**Pn**	**01 20 47.5**	**-3.5**
	1.0nm,0.3s,baz=324,slow=8.4,SNR=9.6						
KDAK	**Kodiak Island**	**17.49**	**57**	Pn	**Pn**	**01 20 47.5**	**-3.5**
TTA	**Tatalina**	**17.71**	**39**	*e*P	**Pn**	**01 20 54.8**	**+1.2**
TTA				pmax	pmax		
	comp=Z,17nm,1.3s						
TTA	**Tatalina**	**17.71**	**39**	*e*P	**Pn**	**01 20 54.8**	**+1.2**
	comp=Z,17nm,1.3s						
PPLA	**Purkeypile**	**19.25**	**41**	*e*P	**Pn**	**01 21 12.9**	**+0.7**
	comp=Z,24nm,1.2s						
KTH	**Kantishna Hill**	**20.04**	**40**	*e*P	**P**	**01 21 19.8**	**+0.1**
	comp=Z,27nm,1.1s						
TRF	**Thorofare Moun**	**20.26**	**41**	*e*P	**P**	**01 21 23.1**	**+1.0**
	comp=Z,8.9nm,0.9s						
IMA2	**Indian Mountai**	**20.27**	**32**	*e*P	**P**	**01 21 22.1**	**-0.1**
MCK	**McKinley**	**20.93**	**41**	*e*P	**P**	**01 21 31.2**	**+1.9**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MCK	**McKinley**	**20.93**	**41**	*e*P	**P**	**01 21 31.2**	**+1.9**
	comp=Z,4.1nm,0.9s						
ASAJ	**Asahikawa**	**25.61**	**269**	P	**P**	**01 22 16.7**	**+0.8**
	comp=Z,12nm,0.8s,mb4.5,baz=121,slow=6.6,SNR=4.4						
ASAJ				LR	LR	01 30 41.5	
	comp=Z,66nm,19.8s,MS3.2,baz=107,slow=33						
KLR	**Kul'dur**	**30.21**	**285**	*e*P	**P**	**01 22 53.2**	**-3.8**
YKA	**Yellowknife Ar**	**36.22**	**46**	P	**P**	**01 23 47.7**	**-1.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=280,slow=9.1,SNR=4.5						
YKA				LR	LR	01 40 12.8	
	comp=Z,84nm,18.7s,MS3.5,baz=230,slow=39						
YKA	**Yellowknife Ar**	**36.22**	**46**	P	**P**	**01 23 47.7**	**-1.4**
YKA				LR	LR	01 40 12.8	
CN2	**Changchun**	**36.53**	**280**	*e*P	**P**	**01 23 53.1**	**+1.1**
BOD	**Bodaibo**	**37.27**	**307**	*e*P	**P**	**01 23 57.3**	**-0.9**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
KSRS	**Korea Array**	**38.55**	**270**	P	**P**	**01 24 10.6**	**+1.4**
	comp=Z,2.3nm,0.8s,mb3.9,baz=56,slow=8.6,SNR=6.4						
KSRS	**Korea Array**	**38.55**	**270**	P	**P**	**01 24 10.6**	**+1.4**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
NEW	**Newport**	**40.00**	**68**	*e*P	**P**	**01 24 20.5**	**-0.7**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NEW	**Newport**	**40.00**	**68**	*e*P	**P**	**01 24 20.4**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.0						
BMO	**Blue Mountains**	**41.62**	**73**	*e*P	**P**	**01 24 34.8**	**+0.3**
WVOR	**Wild Horse Val**	**42.13**	**77**	*e*P	**P**	**01 24 39.4**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
WVOR	**Wild Horse Val**	**42.13**	**77**	*e*P	**P**	**01 24 39.4**	**+0.7**
	comp=Z,1.4nm,0.6s,mb3.8						
HLID	**Hailey**	**44.07**	**73**	*e*P	**P**	**01 24 54.4**	**0.0**
	comp=Z,4.9nm,1.3s,mb4.1						
BOZ	**Bozeman (W)**	**44.58**	**69**	*e*P	**P**	**01 24 58.1**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BOZ	**Bozeman (W)**	**44.58**	**69**	*e*P	**P**	**01 24 58.1**	**-0.3**
	comp=Z,3.6nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**44.67**	**81**	P	**P**	**01 25 00.1**	**+0.9**
	comp=Z,0.6nm,0.9s,mb3.4,baz=298,slow=6.0,SNR=3.2						
ELK	**Elko**	**45.18**	**77**	*e*P	**P**	**01 25 04.8**	**+1.5**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ELK	**Elko**	**45.18**	**77**	*e*P	**P**	**01 25 04.8**	**+1.5**
	comp=Z,1.3nm,0.7s,mb3.9						
TLY	**Talaya**	**45.30**	**302**	*e*P	**P**	**01 25 04.3**	**+0.3**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
TLY				MLR	MLR		
	comp=Z,103nm,22.0s,MS3.7						
TLY	**Talaya**	**45.30**	**302**	*e*P	**P**	**01 25 03.0**	**-1.1**
	comp=Z,5.5nm,0.8s,mb4.4						
SONM	**Songino Array**	**45.80**	**296**	P	**P**	**01 25 08.1**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=62,slow=10,SNR=7.2						
SONM				LR	LR	01 46 24.7	
	comp=Z,87nm,18.5s,MS3.7,baz=82,slow=39						
MOOW	**Moose Ponds**	**46.16**	**71**	*e*P	**P**	**01 25 10.4**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.8						
ZAK	**Zakamensk**	**46.17**	**300**	*e*P	**P**	**01 25 10.5**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
RLMT	**Red Lodge**	**46.25**	**68**	*e*P	**P**	**01 25 11.0**	**-0.7**
	comp=Z,7.6nm,1.1s,mb4.5						
REDW	**Red Top Meadow**	**46.32**	**71**	*e*P	**P**	**01 25 10.8**	**-1.4**
	comp=Z,4.0nm,1.0s,mb4.3						
TPNV	**Topopah Spring**	**46.87**	**82**	*e*P	**P**	**01 25 17.0**	**+0.4**
TPNV				*e*PP	pP	01 25 28.4	+1.8
TPNV				*e*SP	sP	01 25 33.9	+3.2
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TPNV	**Topopah Spring**	**46.87**	**82**	*e*P	**P**	**01 25 17.0**	**+0.4**
	comp=Z,3.5nm,0.8s,mb4.3						
TPNV				*e*pP	pP	01 25 28.4	+1.7
TPNV				*e*sP	sP	01 25 33.9	+3.2
DUG	**Dugway**	**47.00**	**76**	*e*P	**P**	**01 25 18.2**	**+0.6**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
DUG	**Dugway**	**47.00**	**76**	*e*P	**P**	**01 25 18.2**	**+0.7**
	comp=Z,3.3nm,1.0s,mb4.2						
BW06	**Boulder Array**	**47.43**	**71**	*e*P	**P**	**01 25 20.5**	**-0.4**
	comp=Z,4.0nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**47.43**	**71**	P	**P**	**01 25 20.8**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.3,baz=322,slow=3.6,SNR=23						
SPITS	**Spitsbergen Ar**	**50.58**	**356**	P	**P**	**01 25 43.4**	**-1.2**
	comp=Z,7.5nm,0.6s,mb4.8,baz=66,slow=4.7,SNR=15						
ZALV	**Zalesovo Beam**	**53.43**	**313**	P	**P**	**01 26 04.9**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=28,slow=6.5,SNR=3.2						
ZALV				PcP	PcP	01 27 12.4	-0.4
	comp=Z,0.8nm,0.6s,baz=17,slow=1.5,SNR=3.7						
ZAL	**Zalesovo**	**53.45**	**313**	P	**P**	**01 26 04.9**	**-1.3**
ZAL						01 27 12.4	
LZH	**Lanzhou**	**54.41**	**285**	*e*P	**P**	**01 26 14.5**	**+1.0**
LZH				AP	pP	01 26 22.0	-1.7
LZH				XP	sP	01 26 27.5	-0.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
GTA	**Gaotai**	**54.66**	**291**	*e*P	**P**	**01 26 15.8**	**+0.6**
GTA				AP	pP	01 26 24.0	-1.4
GTA				XP	sP	01 26 26.8	-2.6
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**58.43**	**313**	*e*P	**P**	**01 26 41.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
KURK	**Kurchatov**	**58.43**	**313**	*e*P	**P**	**01 26 41.6**	**-0.3**
	comp=Z,12nm,1.2s,mb4.8						
GYA	**Guiyang**	**59.27**	**275**	P	**P**	**01 26 52.3**	**+4.2**
GYA				AP	pP	01 26 59.8	+1.5
GYA				PCP	PcP	01 27 39.6	+3.6
GYA				PP	PP	01 29 04.0	+5.1
GYA				SCP	ScP	01 31 36.5	+2.6
GYA				S	**S**	**01 34 54.3**	**+0.5**
GYA				SCS	ScS	01 36 35.0	-0.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,5.4s						
GYA				LR	LR		
	comp=N,280nm,19.5s,MS4.6						
GYA				LR	LR		
	comp=E,360nm,18.0s,MS4.6						
GYA				LR	LR		
	comp=Z,290nm,19.7s,MS4.4						
MKAR	**Makanchi Array**	**59.35**	**308**	P	**P**	**01 26 47.5**	**-0.8**
	comp=Z,1.6nm,0.7s,mb4.2,baz=47,slow=8.8,SNR=8.4						
MKAR				LR	LR	01 54 52.7	
	comp=Z,41nm,19.3s,MS3.6,baz=358,slow=39						
TXAR	**Lajitas Array**	**59.78**	**80**	P	**P**	**01 26 50.8**	**-0.7**
	comp=Z,0.2nm,0.6s,mb3.3,baz=294,slow=5.0,SNR=4.5						
TXAR				LR	LR	01 52 06.4	
	comp=Z,38nm,19.2s,MS3.5,baz=5.0,slow=36						
BRVK	**Borovoye**	**60.42**	**319**	*e*P	**P**	**01 26 55.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
BRVK	**Borovoye**	**60.42**	**319**	*e*P	**P**	**01 26 55.8**	**+0.2**
	comp=Z,1.9nm,0.4s,mb4.5						
ARU	**Arti**	**62.27**	**327**	*e*P	**P**	**01 27 07.8**	**-0.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
ARU	**Arti**	**62.27**	**327**	*e*P	**P**	**01 27 07.8**	**-0.2**
	comp=Z,3.6nm,0.8s,mb4.5						
KMI	**Kunming**	**62.68**	**277**	P	**P**	**01 27 11.0**	**-0.3**
KMI				AP	pP	01 27 15.6	-6.0
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.7						
KMI				LR	LR		
	comp=Z,33nm,20.3s,MS3.5						
TKM2	**Tokmak 2**	**65.45**	**308**	*e*P	**P**	**01 27 29.7**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
TKM2	**Tokmak 2**	**65.45**	**308**	*e*P	**P**	**01 27 29.7**	**+0.5**
	comp=Z,3.6nm,0.9s,mb4.4						
EKS2	**Erkin-Say**	**66.53**	**309**	*e*P	**P**	**01 27 36.2**	**+0.1**
	comp=Z,2.9nm,0.8s,mb4.4						
AML	**Almayashu**	**66.97**	**309**	*e*P	**P**	**01 27 40.0

PRU *e*SG **Sg** **01 18 31.0 -1.7**
comp=Z,10nm,0.5s
PVCC Panska Ves 2.58 283 *e*SG **Sg** **01 18 33.1 -0.4**
KOLS Kolonicke sedl 2.68 112 *e*PN **Pg** **01 18 00.2 -1.8**
CONA Conrad Observa 2.70 221 ⇊*i*Pg **Pg** **01 17 59.1 -3.4**
CSNA Conrad Observa 2.71 221 ⇊*i*Pg **Pg** **01 17 59.4 -3.1**
KWP Kalwaria 2.75 96 *e*Pn **Pn** **01 17 58.7 +2.7**
BRG Berggiesshubel 3.04 288 Pg **Pg** **01 18 07.5 -1.5**
BRG Sg **Sg** **01 18 48.5 +0.1**
BRG SG **Sg** **01 18 48.5 +0.1**
comp=Z,11nm,0.6s
BRG Berggiesshubel 3.04 288 PG **Pg** **01 18 07.5 -1.5**
KHC Kasperske Hory 3.32 257 *e*Pg **Pg** **01 18 11.8 -2.5**
KHC Kasperske Hory 3.32 257 *e*PN **Pn** **01 18 04.1 +0.3**
KHC *e*PG **Pg** **01 18 11.8 -2.5**
KHC *e*SG **Sg** **01 18 55.4 -1.9**
comp=Z,9.1nm,0.4s
MOA Molln 3.52 234 ⇑*i*Sg **Sg** **01 19 02.1 -1.7**
comp=Z,8.4nm,0.5s
CLL Collm 3.74 293 *e*Pg **Pg** **01 18 23.0 +0.8**
CLL *e*Sg **Sg** **01 19 13.0 +2.4**
comp=Z,8.0nm,0.6s
NKC Novy Kostel 3.90 276 *e*SG **Sg** **01 19 15.4 -0.6**
comp=Z,6.5nm,0.5s

ISCJB ***22*** *01:44:09.7±0.2, 4564N×001×677E±003, h12km±3km, Error ellipse: s-maj=3.1km s-min=2.0km az=171.2*
ROM ***22*** *01:44:10.9±0.3, 4563N×693E, h12km±2km, Md2.1/7, Ml1.7/5, Error ellipse: s-maj=3.9km s-min=1.7km az=87.0*
NEIC ***22*** *01:44:11.1, 4563N×689E, h2km, ML1.7(ROM), ML2.4(GEN), ML2.5(LDG), After LDG.*
LDG ***22*** *01:44:11.1±0.0, 4563N×689E, h2km, Md2.6/2, Ml2.5/18, Error ellipse: s-maj=0.9km s-min=0.5km az=96.0*
ZUR ***22*** *01:44:11.6, 4563N×691E, h2km±2km, ML1.5/6*
CSEM ***22*** *01:44:11.0±0.0, 4562N×689E, h10km, ML2.5/18, Error ellipse: s-maj=1.1km s-min=0.7km az=83.0*
GEN ***22*** *01:44:11.3, 4563N×691E, h2km, ML2.0*
ISC 22 01:44:10.7±0.2, 4563N±001×685E±003, h13km±2km, n73, σ0s87/139, 8C-1D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.14**	**215**	*e*Pg	**Pg**	**01 44 14.8**	**+0.7**
LPL				*e*Sg	**Sg**	**01 44 16.5**	**0.0**
114nm,0.2s							
LPL	**La Plagne**	**0.14**	**215**	*e*Pg	**Pg**	**01 44 14.8**	**+0.7**
LPL				*e*Sg	**Sg**	**01 44 16.5**	**0.0**
57nm,0.2s							
LPG	**La Plagne**	**0.15**	**207**	*e*Pg	**Pg**	**01 44 14.9**	**+0.7**
LPG				*e*Sg	**Sg**	**01 44 17.2**	**+0.5**
242nm,0.2s							
LPG	**La Plagne**	**0.15**	**207**	*e*Pg	**Pg**	**01 44 14.9**	**+0.7**
LPG				*e*Sg	**Sg**	**01 44 17.2**	**+0.5**
121nm,0.2s							
MRGE	**Morge**	**0.20**	**47**	Pg	**Pg**	**01 44 15.2**	**+0.1**
MRGE				Sg	**Sg**	**01 44 17.9**	**-0.3**
138nm,0.1s							
LSD	**Lago del Serru**	**0.28**	**128**	⇑*i*Pg	**Pg**	**01 44 16.3**	**-0.1**
LSD				Sg	**Sg**	**01 44 19.4**	**-0.8**
139nm,0.3s							
LSD	**Lago del Serru**	**0.28**	**128**	P	**Pg**	**01 44 16.3**	**-0.1**
LSD				Sg	**Sg**	**01 44 19.4**	**-0.8**
LSD				S	**Sg**	**01 44 19.5**	**-0.7**
EMV	**Vieux Emosson**	**0.43**	**5**	⇑*i*Pg	**Pg**	**01 44 19.9**	**+0.7**
89nm,0.4s							
EMV				*e*Sg	**Sg**	**01 44 25.6**	**+0.5**
89nm,0.4s							
EMV	**Vieux Emosson**	**0.43**	**5**	⇑*i*Pg	**Pg**	**01 44 19.8**	**+0.6**
EMV				Sg	**Sg**	**01 44 25.5**	**+0.4**
EMV	**Vieux Emosson**	**0.43**	**5**	⇑*i*Pg	**Pg**	**01 44 19.8**	**+0.6**
EMV				*e*Sg	**Sg**	**01 44 25.6**	**+0.5**
89nm,0.4s							
SALAN	**Lac Salanfe**	**0.52**	**10**	⇑*i*Pg	**Pg**	**01 44 21.4**	**+0.5**
13nm,0.6s							
SALAN				*e*Sg	**Sg**	**01 44 28.2**	**+0.4**
13nm,0.6s							
RSP	**Reno Superiore**	**0.56**	**149**	Pg	**Pg**	**01 44 21.9**	**+0.3**
RSP				Sg	**Sg**	**01 44 29.1**	**+0.1**
70nm,0.2s							
RSP	**Reno Superiore**	**0.56**	**149**	P	**Pg**	**01 44 21.9**	**+0.4**
RSP				Sg	**Sg**	**01 44 29.1**	**+0.1**
RSP				S	**Sg**	**01 44 29.2**	**+0.2**
BNI	**Bardonecchia**	**0.59**	**192**	Pg	**Pg**	**01 44 22.6**	**+0.4**
BNI				Sg	**Sg**	**01 44 30.5**	**+0.5**
18nm,0.3s							
BNI	**Bardonecchia**	**0.59**	**192**	*e*Pg	**Pg**	**01 44 22.4**	**+0.3**
BNI				*e*Sg	**Sg**	**01 44 30.4**	**+0.4**
DIX	**Grande Dixence**	**0.60**	**41**	*e*Sg	**Pg**	**01 44 22.5**	**+0.2**
71nm,0.3s							
DIX	**Grande Dixence**	**0.60**	**41**	⇊*i*Pg	**Pg**	**01 44 29.9**	**+7.6**
71nm,0.3s							
DIX	**Grande Dixence**	**0.60**	**41**	Pg	**Pg**	**01 44 22.5**	**+0.2**
DIX				Sg	**Sg**	**01 44 29.8**	**-0.4**
GRYON	**Gryon**	**0.65**	**17**	⇑*i*Pg	**Pg**	**01 44 23.7**	**+0.5**
8.9nm,0.3s							
RRL	**Rocca Remolon**	**0.71**	**184**	P	**Pg**	**01 44 25.0**	**+0.5**
RRL				S	**Sg**	**01 44 34.5**	**+0.7**
RRL	**Rocca Remolon**	**0.71**	**184**	P	**Pg**	**01 44 25.0**	**+0.5**
RRL				S	**Sg**	**01 44 34.5**	**+0.7**
AIGLE	**Aigle**	**0.71**	**6**	⇑*i*Pg	**Pg**	**01 44 25.0**	**+0.5**
49nm,0.5s							
SENIN	**Lac Senin/Sane**	**0.80**	**23**	⇑*i*Pg	**Pg**	**01 44 26.4**	**+0.3**
22nm,0.4s							
BHB	**Bricherasio**	**0.84**	**159**	P	**Pg**	**01 44 27.2**	**+0.3**
BHB				S	**Sg**	**01 44 38.3**	**+0.4**
BHB	**Bricherasio**	**0.84**	**159**	P	**Pg**	**01 44 27.2**	**+0.3**
BHB				S	**Sg**	**01 44 38.3**	**+0.4**
MBDF	**Montbardon**	**0.91**	**183**	*e*Pg	**Pg**	**01 44 28.4**	**+0.3**
MBDF				*e*Sg	**Sg**	**01 44 40.0**	**+0.1**
26nm,0.5s							
MBDF	**Montbardon**	**0.91**	**183**	*e*Pg	**Pg**	**01 44 28.4**	**+0.3**
MBDF				*e*Sg	**Sg**	**01 44 40.0**	**+0.1**
13nm,0.5s							
ORIF	**Oris-en-Rattie**	**0.99**	**224**	*e*Pg	**Pg**	**01 44 30.2**	**+0.5**
ORIF				*e*Sg	**Sg**	**01 44 43.4**	**+0.9**
17nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.99**	**224**	*e*Pg	**Pg**	**01 44 30.2**	**+0.5**
ORIF				*e*Sg	**Sg**	**01 44 43.4**	**+0.9**
8.3nm,0.2s							
CABF	**La Chapelle**	**1.11**	**332**	*e*P	**Pb**	**01 44 34.1**	**+2.3**
CABF				*e*Sg	**Sg**	**01 44 47.2**	**+0.6**
20nm,0.3s							
CABF	**La Chapelle**	**1.11**	**332**	*e*P	**Pb**	**01 44 34.1**	**+2.3**
CABF				*e*Sg	**Sg**	**01 44 47.2**	**+0.6**
10nm,0.3s							
CABF	**La Chapelle**	**1.11**	**332**	*e*Pg	**Pg**	**01 44 32.5**	**+0.4**
CABF				*e*P		01 44 34.1	
CABF				*e*Sg	**Sg**	**01 44 47.2**	**+0.6**
STV	**Sant Anna di V**	**1.43**	**166**	P	**Pn**	**01 44 36.8**	**+0.5**
STV				S	**Sn**	**01 44 53.5**	**-1.4**
STV	**Sant Anna di V**	**1.43**	**166**	P	**Pn**	**01 44 36.5**	**+0.2**
STV				S	**Sn**	**01 44 53.5**	**-1.5**
ENR	**Entracque**	**1.46**	**164**	P	**Pn**	**01 44 37.0**	**+0.2**
ENR				S	**Sn**	**01 44 54.5**	**-1.3**
ENR	**Entracque**	**1.46**	**164**	P	**Pn**	**01 44 37.0**	**+0.3**
ROB	**Robourent**	**1.52**	**151**	P	**Pn**	**01 44 38.2**	**+0.6**
ROB				S	**Sn**	**01 44 56.4**	**-0.8**
ROB	**Robourent**	**1.52**	**151**	P	**Pn**	**01 44 38.2**	**+0.6**
ROB				S	**Sn**	**01 44 56.4**	**-0.8**
VIVF	**Saint-Julien-I**	**1.72**	**244**	*e*Pg	**Pg**	**01 44 43.8**	**+0.2**
VIVF				*e*Sg	**Sg**	**01 45 06.4**	**+0.5**
6.6nm,0.3s							
VIVF	**Saint-Julien-I**	**1.72**	**244**	*e*Pg	**Pg**	**01 44 43.8**	**+0.2**
VIVF				*e*Sg	**Sg**	**01 45 06.4**	**+0.5**
3.3nm,0.3s							
SBF	**Sospel**	**1.82**	**166**	*e*Pg	**Pg**	**01 44 44.7**	**-0.8**
SBF				*e*Sg	**Sg**	**01 45 08.1**	**-1.0**
6.1nm,0.3s							
SBF	**Sospel**	**1.82**	**166**	*e*Pg	**Pg**	**01 44 44.7**	**-0.8**
SBF				*e*Sg	**Sg**	**01 45 08.1**	**-1.0**
3.0nm,0.3s							
SMRF	**Simiane la Rot**	**1.89**	**209**	*e*Pg	**Pg**	**01 44 46.5**	**-0.3**
SMRF				*e*Sg	**Sg**	**01 45 11.0**	**-0.3**
2.8nm,0.4s							
SMRF	**Simiane la Rot**	**1.89**	**209**	*e*Pg	**Pg**	**01 44 46.5**	**-0.3**
SMRF				*e*Sg	**Sg**	**01 45 11.0**	**-0.3**
1.4nm,0.4s							
FRF	**La Foret Royal**	**2.08**	**184**	*e*Pg	**Pg**	**01 44 49.9**	**-0.5**
FRF				*e*Sg	**Sg**	**01 45 16.5**	**-0.8**
3.5nm,0.2s							
FRF	**La Foret Royal**	**2.08**	**184**	*e*Pg	**Pg**	**01 44 49.9**	**-0.5**
FRF				*e*Sg	**Sg**	**01 45 16.5**	**-0.8**
1.8nm,0.2s							
HINF	**Hinteralfeld**	**2.19**	**0**	*e*Pn	**Pn**	**01 44 47.0**	**+0.3**
HINF				*e*Sn	**Sn**	**01 45 12.6**	**-1.1**
HINF				*e*Sg	**Sg**	**01 45 20.0**	**-0.9**
2.9nm,0.3s							
HINF	**Hinteralfeld**	**2.19**	**0**	*e*Pn	**Pn**	**01 44 47.0**	**+0.3**
HINF				*e*Sn	**Sn**	**01 45 12.6**	**-1.1**
HINF				*e*Sg	**Sg**	**01 45 20.0**	**-0.9**
1.5nm,0.3s							
LMR	**La Mourre**	**2.31**	**186**	*e*Pg	**Pg**	**01 44 53.9**	**-1.0**
LMR				*e*Sg	**Sg**	**01 45 24.0**	**-0.8**
2.4nm,0.2s							
LMR	**La Mourre**	**2.31**	**186**	*e*Pg	**Pg**	**01 44 53.9**	**-1.0**
LMR				*e*Sg	**Sg**	**01 45 24.0**	**-0.8**
1.2nm,0.2s							
SMF	**Signal de Mont**	**2.32**	**297**	*e*P	**Pn**	**01 44 51.3**	**+2.7**
SMF	**Signal de Mont**	**2.32**	**297**	*e*Pg	**Pg**	**01 44 54.7**	**-0.5**
SMF				*e*Sg	**Sg**	**01 45 25.6**	**+0.3**
6.0nm,0.2s							
SMF	**Signal de Mont**	**2.32**	**297**	*e*P	**Pn**	**01 44 51.3**	**+2.7**
SMF	**Signal de Mont**	**2.32**	**297**	*e*Pg	**Pg**	**01 44 54.7**	**-0.5**
SMF				*e*Sg	**Sg**	**01 45 25.6**	**+0.3**
3.0nm,0.2s							
SMF	**Signal de Mont**	**2.32**	**297**	*e*Pn	**Pn**	**01 44 48.8**	**+0.2**
SMF				*e*P		01 44 51.3	
SMF				*e*Pg	**Pg**	**01 44 54.7**	**-0.5**
SMF				*e*Sg	**Sg**	**01 45 25.6**	**+0.3**
HAU	**Haudompre**	**2.40**	**352**	*e*P	**Pn**	**01 44 51.4**	**+1.7**
HAU				*e*Sg	**Sg**	**01 45 26.9**	**-0.8**
5.3nm,0.3s							
HAU	**Haudompre**	**2.40**	**352**	*e*P	**Pn**	**01 44 51.4**	**+1.7**
HAU				*e*Sg	**Sg**	**01 45 26.9**	**-0.8**
2.7nm,0.3s							
LOR	**Lormes**	**2.64**	**309**	*e*Pg	**Pg**	**01 45 00.4**	**-0.8**
LOR				*e*Sg	**Sg**	**01 45 34.0**	**-1.3**
3.2nm,0.3s							
LOR	**Lormes**	**2.64**	**309**	*e*Pg	**Pg**	**01 45 00.4**	**-0.8**
LOR				*e*Sg	**Sg**	**01 45 34.0**	**-1.3**
1.6nm,0.3s							
LOR	**Lormes**	**2.64**	**309**	*e*P	**Pn**	**01 44 56.2**	**+3.3**
LOR				*e*Pg	**Pg**	**01 45 00.4**	**-0.8**
LOR				*e*Sg	**Sg**	**01 45 34.0**	**-1.3**
AVF	**Avril sur Loir**	**2.69**	**297**	*e*Pg	**Pg**	**01 45 01.4**	**-0.8**
AVF				*e*Sg	**Sg**	**01 45 36.1**	**-0.9**
3.4nm,0.3s							
AVF	**Avril sur Loir**	**2.69**	**297**	*e*Pg	**Pg**	**01 45 01.4**	**-0.8**
AVF				*e*Sg	**Sg**	**01 45 36.1**	**-0.9**
1.7nm,0.3s							
AVF	**Avril sur Loir**	**2.69**	**297**	*e*P	**Pn**	**01 44 57.0**	**+3.4**
AVF				*e*Pg	**Pg**	**01 45 01.4**	**-0.8**
AVF				*e*Sg	**Sg**	**01 45 36.1**	**-0.9**
SSF	**Saint Saulge**	**2.72**	**303**	*e*Pg	**Pg**	**01 45 01.7**	**-1.1**
SSF				*e*Sg	**Sg**	**01 45 37.4**	**-0.6**
2.1nm,0.3s							
SSF	**Saint Saulge**	**2.72**	**303**	*e*Pg	**Pg**	**01 45 01.7**	**-1.1**
SSF				*e*Sg	**Sg**	**01 45 37.4**	**-0.6**
1.0nm,0.3s							
CDF	**Champ du Feu**	**2.80**	**6**	*e*Pn	**Pn**	**01 44 55.9**	**+0.8**
SFTF	**Sexfontaines**	**2.86**	**335**	*e*Sg	**Sg**	**01 45 41.2**	**-1.2**
3.3nm,0.3s							
SFTF	**Sexfontaines**	**2.86**	**335**	*e*Sg	**Sg**	**01 45 41.2**	**-1.2**
1.6nm,0.3s							
BGF	**Bois d'Agland**	**2.93**	**290**	*e*P	**Pn**	**01 45 00.3**	**+3.3**
BGF				*e*Sg	**Sg**	**01 45 44.0**	**-0.8**
9.3nm,0.3s							
BGF	**Bois d'Agland**	**2.93**	**290**	*e*P	**Pn**	**01 45 00.3**	**+3.3**
BGF				*e*Sg	**Sg**	**01 45 44.0**	**-0.8**
4.7nm,0.3s							
MEZF	**Maizieres J'vi**	**3.12**	**338**	*e*Sg	**Sg**	**01 45 49.5**	**-1.4**
5.2nm,0.4s							
MEZF	**Maizieres J'vi**	**3.12**	**338**	*e*Sg	**Sg**	**01 45 49.5**	**-1.4**
2.6nm,0.4s							
CAF	**Calviac**	**3.45**	**260**	*e*P	**Pn**	**01 45 07.4**	**+3.3**

NEIC ***22*** *01:54:07.9±0.6, 624N×12780E, h10km, mb4.5/4, Error ellipse: s-maj=24.4km s-min=11.1km az=68.0*
ISCJB ***22*** *01:54:14.9±2.6, 6.16N±009×1275E±02, h83km±25km, mb4.0/14, Error ellipse: s-maj=34.9km s-min=11.3km az=162.6*
IDC ***22*** *01:54:15.6±3.2, 6.15N×12748E, h70km±29km, mb3.7/10, mb1 3.8/11, mb1mx3.7/20, mbtmp3.8/11, ML4.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/31, Error ellipse: s-maj=33.0km s-min=12.4km az=72.0*
ISC 22 01:54:15.9±2.5, 613N±009×1275E±02, h74km±24km, n20, σ0s52/17, mb4.0/14, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.10**	**297**	P	**Pn**	**01 54 49.0**	**0.0**
114nm,0.3s,baz=326,slow=18,SNR=2.5							
DAV				S	**Sn**	**01 55 14.3**	**+0.1**
60nm,0.3s,baz=289,slow=22,SNR=12							
GUMO	**Guam**	**18.66**	**65**	LR	LR	02 05 51.6	
comp=Z,56nm,18.5s,baz=72,slow=37							
FITZ	**Fitzroy Crossi**	**24.14**	**184**	P	**P**	**01 59 25.0**	**-0.2**
1.4nm,0.6s,mb3.4,baz=80,slow=11,SNR=4.3							
WRAB	**Tennant Creek**	**26.77**	**166**	*e*P	**P**	**01 59 48.9**	**-0.1**
4.9nm,0.8s,mb4.1							
WRA	**Warramunga Arr**	**26.77**	**166**	P	**P**	**01 59 48.8**	**-0.2**
3.5nm,0.6s,mb4.1,baz=342,slow=10,SNR=15							
WRA	**Warramunga Arr**	**26.77**	**166**	P	**P**	**01 59 48.8**	**-0.2**
ASAR	**Alice Springs**	**30.27**	**168**	P	**P**	**02 00 20.1**	**0.0**
1.2nm,0.7s,mb3.6,baz=9.6,slow=12,SNR=14							
ASAR				PcP	PcP	02 03 21.1	+1.8
0.8nm,0.5s,baz=352,slow=2.2,SNR=8.6							
KSRS	**Korea Array**	**31.18**	**1**	P	**P**	**02 00 28.1**	**+0.1**
2.1nm,0.7s,mb4.0,baz=176,slow=9.4,SNR=8.5							
STKA	**Stephens Creek**	**40.12**	**161**	P	**P**	**02 01 44.3**	**-0.3**
3.1nm,0.8s,mb4.2,baz=342,slow=9.6,SNR=3.6							
SONM	**Songino Array**	**45.29**	**340**	P	**P**	**02 02 27.2**	**+0.9**
0.4nm,0.5s,mb3.4,baz=152,slow=13,SNR=3.7							
PETK	**Petropavlovsk-**	**52.94**	**22**	P	**P**	**02 03 24.4**	**-0.2**
5.5nm,0.9s,mb4.6,baz=251,slow=4.4,SNR=6.9							
MKAR	**Makanchi Array**	**56.04**	**324**	P	**P**	**02 03 46.0**	**-1.1**
0.7nm,0.6s,mb3.9,baz=123,slow=10,SNR=4.9							
MKAR				PcP	PcP	02 04 44.6	0.0
0.3nm,0.3s,baz=103,slow=5.5,SNR=3.8							
ZALV	**Zalesovo Beam**	**58.81**	**332**	P	**P**	**02 04 05.8**	**-0.7**
1.4nm,0.4s,mb4.3,baz=122,slow=7.4,SNR=8.8							
KURK	**Kurchatov**	**60.14**	**326**	*e*P	**P**	**02 04 15.9**	**+0.2**
3.2nm,0.8s,mb4.4							
BRVK	**Borovoye**	**65.81**	**326**	*e*P	**P**	**02 04 53.5**	**+0.2**
3.7nm,0.7s,mb4.3							
MCK	**McKinley**	**81.70**	**27**	*e*P	**P**	**02 06 26.1**	**+0.1**
3.6nm,0.8s,mb4.2							
VNDA	**Vanda**	**85.70**	**173**	P	**P**	**02 06 47.4**	**+1.2**
0.9nm,0.7s,mb3.8,baz=329,slow=5.7,SNR=6.2							
TOA0	**Torodi Ar. Sit**	**122.84**	**290**	*e*PKPdf	PKPdf	02 13 04.4	-0.2
TORD	**Torodi Ar. Bea**	**122.84**	**290**	PKP	PKPdf	02 13 04.3	-0.2
0.6nm,0.7s,baz=53,slow=1.9,SNR=4.9							
TORD	**Torodi Ar. Bea**	**122.84**	**290**	PKP	PKPdf	02 13 04.3	-0.2

ISCJB ***22*** *01:55:04.6±0.4, 5020S±007×1147E±02, h10km, mb4.4/22, MS4.0/7, Error ellipse: s-maj=16.4km s-min=7.7km az=25.0*
IDC ***22*** *01:55:05.1±0.6, 5020S×11466E, h0km, mb4.4/16, mb1 4.5/17, mb1mx4.4/19, mbtmp4.4/17, ML2.0/1, MS4.0/8, Ms1 4.0/8, ms1mx3.8/23, Error ellipse: s-maj=24.5km s-min=13.3km az=108.0*
NEIC ***22*** *01:55:06.6±0.3, 5018S×11466E, h10km, mb4.7/10, Error ellipse: s-maj=13.5km s-min=7.4km az=113.0*
ISC 22 01:55:06.6±0.4, 5020S±007×1147E±02, h10km, n58, σ0s93/34, mb4.4/22, MS4.0/7, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	**Casey**	**16.27**	**186**	*e*P	**Pn**	**01 58 59.0**	**+4.1**
150nm,1.9s							
NWAO	**Narrogin (SRO)**	**17.36**	**7**	P	**Pn**	**01 59 10.4**	**+1.6**
0.2nm,0.3s,baz=158,slow=18,SNR=2.2							
NWAO				LR	LR	02 04 14.4	
comp=Z,661nm,18.0s,baz=182,slow=32							
FORT	**Forrest**	**21.83**	**32**	*e*P	**P**	**01 59 59.6**	**+0.7**
12nm,1.4s,mb4.2							
STKA	**Stephens Creek**	**27.09**	**58**	P	**P**	**02 00 50.2**	**+0.9**
5.5nm,0.9s,mb4.1,baz=198,slow=10,SNR=7.1							
STKA				LR	LR	02 09 37.0	
comp=Z,204nm,19.0s,MS3.7,baz=205,slow=32							
STKA	**Stephens Creek**	**27.09**	**58**	P	**P**	**02 00 50.2**	**+0.9**
STKA				LR	LR	02 09 37.0	
ASAR	**Alice Springs**	**30.43**	**37**	P	**P**	**02 01 19.1**	**+0.1**
4.2nm,0.9s,mb4.2,baz=204,slow=9.1,SNR=18							
MAW	**Mawson**	**30.70**	**216**	P	**P**	**02 01 20.7**	**-0.3**
2.1nm,0.6s,mb4.1,baz=82,slow=12,SNR=6.4							
MAW				LR	LR	02 11 31.3	
comp=Z,104nm,18.6s,MS3.5,baz=70,slow=32							
VNDA	**Vanda**	**32.55**	**163**	P	**P**	**02 01 37.8**	**+0.5**
1.5nm,1.0s,mb3.9,baz=297,slow=9.7,SNR=4.9							
VNDA				LR	LR	02 13 51.6	
comp=Z,407nm,19.8s,MS4.1,baz=305,slow=35							
FITZ	**Fitzroy Crossi**	**33.20**	**19**	*e*P	**P**	**02 01 42.3**	**-1.1**
12nm,1.0s,mb4.8							
FITZ	**Fitzroy Crossi**	**33.20**	**19**	P	**P**	**02 01 43.6**	**+0.2**
5.5nm,0.8s,mb4.5,baz=189,slow=9.7,SNR=7.4							
FITZ				LR	LR	02 15 14.8	
comp=Z,153nm,18.6s,MS3.7,baz=7.2,slow=36							
WRA	**Warramunga Arr**	**33.98**	**34**	P	**P**	**02 01 49.9**	**-0.4**
11nm,0.9s,mb4.8,baz=204,slow=8.6,SNR=22							
WB2	**Warramunga Arr**	**33.98**	**34**	*e*P	**P**	**02 01 48.8**	**-1.5**
WRAB	**Tennant Creek**	**33.99**	**34**	*e*P	**P**	**02 01 49.2**	**-1.1**
37nm,1.4s,mb5.1							
CTA	**Charters Tower**	**39.07**	**51**	LR	LR	02 18 18.8	
comp=Z,126nm,19.7s,MS3.8,baz=5.7,slow=36							
CTAO	**Charters Tower**	**39.07**	**51**	*e*P	**P**	**02 02 32.1**	**-1.5**
9.1nm,1.2s,mb4.4							
QSPA	**South Pole Qui**	**39.93**	**180**	P	**P**	**02 02 41.2**	**+1.0**
4.3nm,0.6s,mb4.3,baz=290,slow=1.3,SNR=21							
COEN	**Coen**	**42.94**	**43**	*e*P	**P**	**02 03 05.9**	**+0.4**
14nm,1.3s,mb4.5							
URZ	**Urewera**	**45.02**	**100**	P	**P**	**02 03 23.3**	**+1.2**
7.8nm,0.8s,mb4.6,baz=317,slow=11,SNR=3.4							
PMG	**Port Moresby**	**48.74**	**45**	*e*P	**P**	**02 03 52.3**	**+0.9**
11nm,0.8s,mb5.0							
SNAA	**Sanae**	**50.75**	**201**	*e*	**P**	**02 04 05.6**	**-0.4**
SNAA				*e*		02 04 11.5	
SNAA				*e*		02 04 17.1	
SNAA	**Sanae**	**50.75**	**201**	P	**P**	**02 04 05.4**	**-0.6**
1.7nm,0.8s,mb4.1,baz=138,slow=11,SNR=14							
SNAA	**Sanae**	**50.75**	**201**	*e*P	**P**	**02 04 05.7**	**-0.3**
3.9nm,0.7s,mb4.5							
VNA2	**Neumayer--Watz**	**52.32**	**201**	*e*	**P**	**02 04 17.8**	**+0.1**
VNA2				*e*		02 04 23.5	
VNA2				*e*		02 04 29.2	
VNA3	**Neumayer Olymp**	**52.59**	**200**	*e*	**P**	**02 04 18.5**	**-1.2**
VNA3				*e*		02 04 24.3	
VNA3				*e*		02 04 28.8	
VNA1	**Neumayer--Stat**	**52.72**	**201**	*e*	**P**	**02 04 21.1**	**+0.4**
VNA1				*e*		02 04 26.5	
PSI	**Prapat**	**54.51**	**341**	P	**P**	**02 04 35.8**	**+1.3**
7.3nm,0.8s,mb4.8,baz=179,slow=12,SNR=5.6							
BOSA	**Boshof**	**68.26**	**251**	P	**P**	**02 06 08.8**	**+1.3**
4.3nm,1.0s,mb4.4,baz=154,slow=9.4,SNR=3.4							
BOSA	**Boshof**	**68.26**	**251**	*e*P	**P**	**02 06 08.4**	**+0.9**
7.4nm,1.1s,mb4.6							
CMAR	**Chiang Mai Arr**	**69.76**	**344**	P	**P**	**02 06 16.2**	**-0.4**
1.1nm,0.3s,mb4.2,baz=187,slow=5.6,SNR=7.7							
CMAR				LR	LR	02 30 20.0	
comp=Z,104nm,21.9s,MS4.0,baz=310,slow=30							
LSZ	**Lusaka**	**76.22**	**263**	*e*P	**P**	**02 06 55.4**	**+0.2**
5.4nm,1.0s,mb4.4							
KSRS	**Korea Array**	**88.05**	**10**	P	**P**	**02 07 56.5**	**-0.1**
0.6nm,0.3s,mb4.2,baz=184,slow=4.8,SNR=4.0							
MJAR	**Matsushiro Arr**	**88.83**	**19**	P	**P**	**02 07 59.2**	**-1.0**
2.4nm,0.8s,mb4.6,baz=180,slow=6.1,SNR=6.0							
PLCA	**Paso Flores**	**89.33**	**176**	P	**P**	**02 08 01.7**	**-1.2**
1.1nm,0.7s,mb4.3,baz=198,slow=5.4,SNR=3.9							
PLCA				LR	LR	02 44 52.7	
comp=Z,340nm,20.7s,MS4.8,baz=184,slow=33							
PLCA	**Paso Flores**	**89.33**	**176**	P	**P**	**02 08 01.7**	**-1.2**
PLCA				LR	LR	02 44 52.7	
SONM	**Songino Array**	**97.91**	**354**	P	**P**	**02 08 40.7**	**-1.1**
0.2nm,0.3s,mb4.1,baz=177,slow=2.9,SNR=2.1							
NOA	**NORSAR Array B**	**137.92**	**315**	PKP	PKPdf	02 14 29.0	-1.0
0.5nm,0.8s,baz=145,slow=10,SNR=2.5							
WUAZ	**Wupatki**	**143.78**	**96**	*e*PKPdf	PKPdf	02 14 40.4	-1.0
ELK	**Elko**	**144.32**	**86**	*e*PKPdf	PKPdf	02 14 42.4	+0.2
TXAR	**Lajitas Array**	**144.42**	**111**	PKP	PKPdf	02 14 42.4	-0.4
1.6nm,0.9s,baz=200,slow=5.5,SNR=15							
BMO	**Blue Mountains**

LBPH				eS	Sn	02 07 05.1	+0.1
POLP	**Polilio Island**	**1.68**	**339**	eP	Pn	02 06 43.0	-0.7
POLP				eS	Sn	02 07 05.5	+0.2
CNP	**Catarman**	**2.15**	**107**	eP	Pn	02 06 51.1	+0.9
LUBP	**Lubang**	**2.32**	**285**	eP	Pn	02 06 50.9	-1.6
LUBP				eS	Sn	02 07 21.1	+0.1
GUIM	**Jordan**	**2.51**	**179**	eP	Pn	02 06 55.1	0.0
BUSP	**Coron**	**2.56**	**244**	eP	Pn	02 06 55.0	-0.9
BUSP				eS	Sn	02 07 28.7	+1.5
NBP	**Mount Natib**	**2.61**	**308⇓**	eP	Pn	02 06 56.3	-0.2
NBP				eS	Sn	02 07 27.8	-0.4
BALP	**Baler**	**2.74**	**340**	eP	Pn	02 06 58.9	+0.6
BALP				eS	Sn	02 07 30.7	-0.9
PCPH	**Palayan**	**2.78**	**330⇓**	eP	Pn	02 06 59.2	+0.3
PCPH				eS	Sn	02 07 32.5	0.0
OCLP	**Ormoc**	**2.90**	**136**	eP	Pn	02 07 06.0	+5.6
PLP	**Palo**	**3.08**	**129⇓**	eP	Pn	02 07 01.0	-2.1
LLP	**Lapu-Lapu**	**3.14**	**154**	eP	Pn	02 07 05.4	+1.6
ENPP	**El Nido**	**3.62**	**238**	eP	Pn	02 07 10.2	-0.2
SCZP	**Santa Cruz**	**3.66**	**316**	eP	Pn	02 07 11.7	+0.8
TBP	**Tagbilaran**	**3.67**	**159**	eP	Pg	02 07 31.6	+7.0
BCPH	**Baguio City Da**	**3.74**	**330⇓**	eP	Pn	02 07 13.1	+1.1
MSLP	**Maasin**	**3.75**	**143**	eP	Pn	02 07 09.9	-2.4
CAUP	**Cauayan**	**3.84**	**350**	eP	Pn	02 07 14.3	+0.9
PALP	**Palanan**	**3.89**	**358**	eP	Pn	02 07 22.9	+8.7
BOLP	**Bolinao**	**4.10**	**322**	eP	Pn	02 07 18.2	+1.2
ABRA	**Dolores**	**4.81**	**339**	eP	Pn	02 07 25.3	-1.5
APYP	**Conner**	**4.85**	**345**	eP	Pn	02 07 30.9	+3.5
PPR	**Puerto Princes**	**5.03**	**229**	eP	Pg	02 07 52.0	+1.4
BATP	**Bataraza**	**6.36**	**228**	eP	Pn	02 07 49.1	+1.0
DAV	**Davao City (W)**	**6.74**	**153**	LR	LR	02 10 49.5	
	comp=Z,1μm,21.4s,baz=332,slow=40						
JOW	**Kunigami**	**14.63**	**21**	LR	LR	02 14 14.6	
	comp=Z,328nm,22.0s,baz=119,slow=32						
WHN	**Wuhan**	**18.90**	**338**	P	Pn	**02 10 39.5**	**+3.9**
WHN				LR	LR		
	comp=N,2μm,22.7s						
WHN				LR	LR		
	comp=E,3μm,19.3s						
WHN				LR	LR		
	comp=Z,2μm,14.0s						
GUMO	**Guam**	**21.72**	**86**	LR	LR	02 17 38.3	
	comp=Z,476nm,21.9s,MS3.9,baz=269,slow=31						
KMI	**Kunming**	**22.15**	**305**	P	P	**02 11 12.8**	**+2.4**
KMI				AP		02 11 18.6	
KMI				PP		02 11 38.9	
KMI				S	S	**02 15 10.1**	**-4.5**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.2						
KMI				AMB	AMB		
	comp=Z,116nm,4.6s						
KMI				LR	LR		
	comp=N,405nm,13.3s,MS4.2						
KMI				LR	LR		
	comp=E,564nm,13.3s,MS4.2						
KMI				LR	LR		
	comp=Z,628nm,15.2s,MS4.2						
CBIJ	**Chichi jima**	**23.02**	**50**	LR	LR	02 20 08.2	
	comp=Z,359nm,18.6s,MS3.9,baz=163,slow=36						
BATI	**Baumata**	**23.23**	**177**	P	P	**02 11 21.4**	**-0.5**
	comp=Z,18nm,0.5s,mb4.8,baz=317,slow=3.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**23.31**	**286**	P	P	**02 11 22.8**	**0.0**
	comp=Z,7.5nm,1.1s,mb4.0,baz=96,slow=7.5,SNR=20						
CMAR				LR	LR	02 21 17.6	
	comp=Z,265nm,18.6s,MS3.7,baz=358,slow=38						
CHTO	**Chiang Mai**	**23.37**	**287**	eP	P	**02 11 22.1**	**-1.3**
	comp=Z,3.6nm,0.7s,mb3.9						
XAN	**Xi'an**	**24.21**	**331**	P	P	**02 11 32.6**	**+1.5**
XAN				AP		02 11 40.9	
XAN				XP	sP	02 11 45.5	+10
XAN				PP		02 12 13.1	
XAN				S	S	**02 15 57.6**	**+8.1**
XAN				SCP	ScP	02 18 35.6	-15
XAN				SCS	ScS	02 22 23.4	-14
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.1						
XAN				AMB	AMB		
	comp=Z,102nm,9.3s						
XAN				LR	LR		
	comp=N,307nm,16.1s,MS4.4						
XAN				LR	LR		
	comp=E,999nm,18.0s,MS4.4						
XAN				LR	LR		
	comp=Z,1μm,16.6s,MS4.4						
KSRS	**Korea Array**	**24.67**	**10**	P	P	**02 11 35.1**	**-0.2**
	comp=Z,0.5nm,0.3s,mb3.5,baz=251,slow=23,SNR=3.2						
KSRS				LR	LR	02 21 43.8	
	comp=Z,261nm,18.3s,MS3.8,baz=186,slow=38						
PSI	**Prapat**	**25.53**	**248**	P	P	**02 11 45.7**	**+2.4**
	comp=Z,3.0nm,0.3s,mb4.4,baz=162,slow=13,SNR=6.1						
MJAR	**Matsushiro Arr**	**27.20**	**28**	P	P	**02 11 57.3**	**-0.9**
	comp=Z,0.8nm,0.4s,mb3.6,baz=226,slow=9.9,SNR=3.1						
GTA	**Gaotai**	**32.97**	**327**	eP	P	**02 12 50.6**	**+1.3**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
WRAB	**Tennant Creek**	**34.87**	**160**	eP	P	**02 13 04.4**	**-1.4**
	comp=Z,2.4nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**34.87**	**160**	P	P	**02 13 04.1**	**-1.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=336,slow=9.7,SNR=7.0						
ASAJ	**Asahikawa**	**35.32**	**25**	LR	LR	02 28 49.3	
	comp=Z,178nm,19.0s,MS3.8,baz=80,slow=38						
SONM	**Songino Array**	**37.11**	**342**	LR	LR	02 30 33.7	
	comp=Z,465nm,18.1s,MS4.3,baz=152,slow=39						
ASAR	**Alice Springs**	**38.24**	**163**	P	P	**02 13 34.5**	**-0.1**
	comp=Z,1.4nm,0.6s,mb3.9,baz=351,slow=7.7,SNR=24						
CTAO	**Charters Tower**	**40.43**	**144**	eP	P	**02 13 52.5**	**-0.5**
	comp=Z,1.3nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**47.55**	**323**	P	P	**02 14 49.6**	**-0.2**
	comp=Z,1.3nm,0.9s,mb4.0,baz=106,slow=7.7,SNR=7.5						
STKA	**Stephens Creek**	**48.35**	**158**	P	P	**02 14 55.3**	**-0.9**
	comp=Z,1.2nm,0.6s,mb4.1,baz=356,slow=9.7,SNR=4.6						
PETK	**Petropavlovsk-**	**48.66**	**28**	P	P	**02 14 58.0**	**-0.4**
	comp=Z,4.7nm,0.9s,mb4.5,baz=258,slow=6.9,SNR=3.1						
PETK				LR	LR	02 34 43.7	
	comp=Z,74nm,18.2s,MS3.7,baz=63,slow=35						
ZALV	**Zalesovo Beam**	**50.38**	**332**	P	P	**02 15 11.5**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.8,baz=101,slow=6.0,SNR=2.4						
ZALV				LR	LR	02 37 12.9	
	comp=Z,193nm,20.6s,MS4.1,baz=119,slow=37						
ZALV	**Zalesovo Beam**	**50.38**	**332**	P	P	**02 15 11.5**	**0.0**
ZALV				LR	LR	02 37 12.8	
EKS2	**Erkin-Say**	**51.23**	**315**	eP	P	**02 15 18.9**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.2						
KURK	**Kurchatov**	**51.65**	**326**	eP	P	**02 15 20.8**	**-0.3**
	comp=Z,9.1nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**57.24**	**325**	P	P	**02 16 01.5**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.9,baz=130,slow=8.3,SNR=5.6						
BVAR				LR	LR	02 40 06.1	
	comp=Z,167nm,19.0s,MS4.2,baz=302,slow=35						
BRVK	**Borovoye**	**57.31**	**325**	eP	P	**02 16 03.5**	**+1.2**
	comp=Z,13nm,1.1s,mb4.9						
ARCES	**ARCESS Array B**	**80.24**	**339**	P	P	**02 18 24.4**	**-0.3**
	comp=Z,2.2nm,0.9s,mb4.1,baz=50,slow=6.5,SNR=3.8						
ARCES				LR	LR	02 56 16.3	
	comp=Z,176nm,19.4s,MS4.4,baz=168,slow=37						
AKASG	**Malin Array Be**	**82.04**	**320**	P	P	**02 18 33.7**	**-1.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=68,slow=5.0,SNR=4.2						
KMBO	**Kilima Mbogo**	**85.68**	**268**	P	P	**02 18 52.0**	**-2.1**
	comp=Z,2.1nm,0.2s,mb4.9,baz=168,slow=17,SNR=4.8						
KMBO				LR	LR	02 54 38.8	
	comp=Z,104nm,20.3s,MS4.2,baz=230,slow=34						
KMBO	**Kilima Mbogo**	**85.68**	**268**	P	P	**02 18 52.0**	**-2.1**
KMBO				LR	LR	02 54 38.8	
NOA	**NORSAR Array B**	**88.57**	**333**	LR	LR	03 01 54.3	
	comp=Z,219nm,19.5s,MS4.6,baz=55,slow=38						
PPT	**Papeete**	**91.91**	**107**	LR	LR	02 53 10.5	
	comp=Z,114nm,19.2s,MS4.3,baz=182,slow=31						
GERES	**GERESS Array B**	**92.19**	**321**	LR	LR	03 03 36.2	
	comp=Z,132nm,20.4s,MS4.4,baz=274,slow=37						
YKA	**Yellowknife Ar**	**92.58**	**23**	LR	LR	03 07 52.0	
	comp=Z,34nm,19.1s,MS3.8,baz=175,slow=40						

MAN 22 02:17:59, 1321N×12243E, h3km, mb5.5, ML4.5, MS4.8, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.70**	**1⇓**	eP	Pg	02 18 12.7	+0.3
GQP				eS	Sg	02 18 24.5	+3.1
OTRP	**Odiongan**	**0.93**	**206**	eP	Pg	02 18 16.8	0.0
OTRP				eS	Sg	02 18 29.9	+1.0
MMPH	**Masbate**	**1.44**	**126⇑**	eP	Pn	02 18 36.6	+11
MMPH				i S	Sb	02 18 42.6	-2.4
SJMP	**San Jose**	**1.48**	**240**	eP	Pn	02 18 26.3	-0.3

POLP	**Polilio Island**	**1.59**	**342**	eP	Pn	02 18 28.1	0.0
POLP				eS	Sn	02 18 49.1	0.0
RCP	**Roxas**	**1.66**	**169⇑**	eP	Pn	02 18 32.4	+3.4
PVCP	**Virac**	**1.72**	**77**	eP	Pn	02 18 29.5	-0.3
PVCP				eS	Sn	02 18 53.3	+0.9
LUBP	**Lubang**	**2.19**	**284**	eP	Pn	02 18 36.6	+0.3
GUIM	**Jordan**	**2.57**	**177**	eP	Pn	02 18 42.0	+0.5
BALP	**Baler**	**2.65**	**342**	eP	Pn	02 18 43.6	+0.9

ISCJB ***22*** *02:25:54.5±1.9, 294S±005×12971E±008, h24km±13km, mb4.3/14, Error ellipse: s-maj=14.4km s-min=6.7km az=152.5*
IDC ***22*** *02:25:59.5±2.8, 306S×12965E, h49km±28km, mb4.0/11, mb1 4.1/14, mb1mx4.0/21, mbtmp4.0/14, ML4.1/3, MS3.5/3, Ms1 3.5/3, ms1mx3.2/20, Error ellipse: s-maj=27.6km s-min=10.4km az=69.0*
DJA ***22*** *02:26:00, 288S×12937E, h11km, mb4.6/14*
NEIC ***22*** *02:26:02.8±1.7, 315S×12947E, h78km±17km, mb4.3/9, Error ellipse: s-maj=16.4km s-min=8.2km az=48.0*
ISC 22 02:25:56.3±2.3, 298S±006×12971E±008, h22km±16km, n39, σ1§12/40, mb4.3/13, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.86**	**245**	P	Pb	**02 26 10.6**	**-2.0**
	0.0nm,0.0s						
AAI	**Ambon**	**1.67**	**245**	P	Pn	**02 26 25.0**	**+0.8**
	0.0nm,0.0s						
LBMI	**Labuha**	**3.21**	**316**	P	Pn	**02 26 43.1**	**-2.3**
	0.0nm,0.0s						
KDI	**Kendari**	**7.14**	**262**	P	Pn	**02 27 39.3**	**-0.3**
	0.0nm,0.0s						
BATI	**Baumata**	**9.36**	**220**	P	Pn	**02 28 11.4**	**+1.5**
	2.4nm,0.3s,baz=347,slow=6.9,SNR=1.8						
BATI				LR	LR	02 31 53.7	
	comp=Z,583nm,20.5s,baz=7.9,slow=38						
KAKA	**Kakadu**	**10.04**	**165**	eP	Pn	**02 28 23.3**	**+4.0**
	8.8nm,0.4s						
PCI	**Palu**	**10.08**	**282**	P	Pn	**02 28 20.9**	**+1.0**
	0.0nm,0.0s						
KAPI	**Kappang**	**10.13**	**258**	ePn	Pn	**02 28 22.9**	**+2.2**
	50nm,1.1s						
FITZ	**Fitzroy Crossi**	**15.55**	**195**	eP	Pn	**02 29 34.1**	**-0.2**
	12nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.55**	**195**	P	Pn	**02 29 34.8**	**+0.5**
	0.3nm,0.3s,baz=12,slow=19,SNR=6.9						
FITZ				LR	LR	02 35 38.4	
	comp=Z,86nm,20.1s,baz=22,slow=38						
KMMI	**Kalianget**	**16.19**	**255**	P	Pn	**02 29 42.4**	**-0.3**
	0.0nm,0.0s						
COEN	**Coen**	**17.20**	**130**	eP	Pn	**02 30 00.2**	**+4.8**
	15nm,1.3s						
WRAB	**Tennant Creek**	**17.45**	**165**	eP	Pn	**02 29 59.1**	**+0.6**
	36nm,1.3s						
WRA	**Warramunga Arr**	**17.45**	**165**	P	Pn	**02 29 59.4**	**+0.8**
	1.0nm,0.3s,baz=344,slow=11,SNR=18						
WRA				S	Sn	**02 33 09.7**	**-2.6**
	0.2nm,0.3s,baz=327,slow=16,SNR=3.2						
WB2	**Warramunga Arr**	**17.46**	**165**	eP	Pn	**02 29 58.2**	**-0.4**
SJI	**Sawahan**	**18.47**	**254**	P	Pn	**02 30 11.4**	**+0.3**
	0.0nm,0.0s						
BJII	**Banjamegara**	**20.38**	**257**	P	P	**02 30 32.3**	**+0.5**
	0.0nm,0.0s						
MBWA	**Marble Bar**	**20.51**	**207**	eP	P	**02 30 31.3**	**-1.9**
	36nm,1.0s						
ASAR	**Alice Springs**	**20.96**	**169**	P	P	**02 30 39.4**	**+1.3**
	25nm,0.8s,baz=351,slow=10,SNR=156						
ASAR				S	S	**02 34 28.7**	**-2.0**
	4.1nm,1.1s,baz=353,slow=17,SNR=5.6						
CTA	**Charters Tower**	**23.45**	**138**	eP	P	**02 31 07.6**	**+3.0**
	6.7nm,0.9s,mb4.1						
CTA	**Charters Tower**	**23.45**	**138**	P	P	**02 31 06.2**	**+1.7**
	5.6nm,0.8s,mb4.1,baz=330,slow=14,SNR=6.5						
CTAO	**Charters Tower**	**23.45**	**138**	eP	P	**02 31 07.3**	**+2.7**
	20nm,1.3s,mb4.4						
PPBI	**Pangkal Pinang**	**23.56**	**271**	P	P	**02 31 06.3**	**+0.6**
	0.0nm,0.0s						
FORT	**Forrest**	**27.69**	**183**	eP	P	**02 31 41.9**	**-1.0**
	3.6nm,1.0s,mb4.0						
PPI	**Padang Panjang**	**29.40**	**274**	P	P	**02 31 58.1**	**-0.3**
	0.0nm,0.0s						
STKA	**Stephens Creek**	**30.85**	**160**	P	P	**02 32 09.5**	**-1.5**
	1.6nm,0.7s,mb4.0,baz=330,slow=16,SNR=2.5						
PSI	**Prapat**	**31.30**	**280**	P	P	**02 32 13.5**	**-1.7**
	4.4nm,0.6s,mb4.5,baz=141,slow=3.5,SNR=5.4						
PSI	**Prapat**	**31.30**	**280**	P	P	**02 32 13.5**	**-1.7**
CMAR	**Chiang Mai Arr**	**37.03**	**306**	P	P	**02 33 05.5**	**+0.7**
	1.5nm,0.4s,mb4.1,baz=133,slow=7.5,SNR=12						
CHTO	**Chiang Mai**	**37.22**	**307**	eP	P	**02 33 07.0**	**+0.5**
	5.6nm,0.9s,mb4.4						
CHTO				e	pP	02 33 13.9	+0.8
SONM	**Songino Array**	**54.56**	**341**	P	P	**02 35 23.0**	**+0.2**
	0.6nm,0.7s,mb3.8,baz=153,slow=7.4,SNR=4.2						
PETK	**Petropavlovsk-**	**60.63**	**19**	P	P	**02 36 05.3**	**-0.1**
	3.8nm,0.5s,mb4.8,baz=155,slow=4.8,SNR=6.6						
PETK				LR	LR	02 59 14.1	
	comp=Z,45nm,19.9s,baz=158,slow=33						
MKAR	**Makanchi Array**	**64.74**	**326**	P	P	**02 36 32.8**	**-0.1**
	2.6nm,0.8s,mb4.3,baz=116,slow=8.2,SNR=9.1						
ZAA0	**Zalesovo Array**	**67.88**	**333**	eP	P	**02 36 52.6**	**-0.3**
ZALV	**Zalesovo Beam**	**67.88**	**333**	P	P	**02 36 52.5**	**-0.4**
	5.4nm,1.0s,mb4.5,baz=85,slow=4.9,SNR=5.6						
KURK	**Kurchatov**	**68.97**	**328**	eP	P	**02 36 59.4**	**-0.4**
	12nm,1.0s,mb4.8						
BVAR	**Borovoye Array**	**74.53**	**327**	P	P	**02 37 33.7**	**+0.4**
	0.5nm,0.3s,mb3.9,baz=101,slow=12,SNR=7.9						
MAW	**Mawson**	**78.57**	**201**	P	P	**02 37 56.0**	**+0.1**
	3.0nm,0.9s,mb4.2,baz=107,slow=2.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**127.64**	**284**	PKP	PKPdf	02 45 00.9	-0.1
	0.9nm,1.1s,baz=44,slow=2.0,SNR=3.4						

IDC 22 02:59:17.3±3.3, 617S×14643E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=61.1km s-min=52.0km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.04**	**220**	P	Pn	03 03 29.3	-0.3
	0.2nm,0.3s,baz=43,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**21.16**	**213**	P	Pn	03 04 02.4	-1.9
	0.5nm,0.3s,baz=48,slow=9.2,SNR=6.5						
FITZ	**Fitzroy Crossi**	**23.50**	**238**	P	P	03 04 29.9	+0.7
	1.3nm,0.5s,baz=70,slow=16,SNR=7.1						
STKA	**Stephens Creek**	**25.98**	**189**	P	P	03 04 52.1	+0.4
	1.6nm,0.4s,baz=353,slow=18,SNR=6.3						
TORD	**Torodi Ar. Bea**	**144.58**	**284**	PKP	PKPdf	03 18 57.0	0.0
	0.1nm,0.4s,baz=62,slow=3.3,SNR=3.6						

ISK ***22*** *03:20:53.3, 3764N×2916E, h10km, MD2.9*
CSEM ***22*** *03:20:53.4±0.1, 3764N×2914E, h15km, MD2.8, Error ellipse: s-maj=2.4km s-min=1.7km az=136.0*
ISCJB ***22*** *03:20:55.1±0.4, 3763N±003×2914E±004, h22km±5km, Error ellipse: s-maj=5.8km s-min=4.9km az=22.4*
DDA ***22*** *03:20:55.6, 3766N×2923E, h7km±6km, Md2.8*
ISC 22 03:20:54.9±0.4, 3763N±003×2914E±004, h18km±4km, n18, σ1§05/29, 1C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.09**	**309⇓**	iP	Pg	**03 20 59.5**	**+1.0**
DNZL				i S	Sg	03 21 02.5	+1.6
GOLH	**Golhisar**	**0.52**	**139⇑**	iP	Pg	03 21 04.3	-1.0
GOLH				i S	Sg	03 21 12.3	0.0
GOLH	**Golhisar**	**0.52**	**139**	iP	Pg	03 21 04.3	-1.0
KHL	**Karahalli**	**0.75**	**24**	ePG	Pg	03 21 08.3	-1.4
KHAL	**Karahalli**	**0.79**	**21**	eP	Pb	03 21 08.2	-1.9
KHAL				i S	Sb	03 21 20.9	+0.5
KHAL	**Karahalli**	**0.79**	**21**	eP	Pb	03 21 08.1	-2.0
KHAL				i S	Sb	03 21 20.9	+0.5
YER	**Yerkesik**	**0.84**	**234**	ePG	Pg	03 21 10.1	-1.2
DALT	**Dalyan (Mudla)**	**0.95**	**205**	ePG	Pg	03 21 12.0	-1.3
DALT				eSG	Sg	03 21 26.2	+0.3
KULA	**Kula-Manisa**	**0.96**	**337**	ePG	Pg	03 21 12.2	-1.4
KULA				eSG	Sg	03 21 25.9	-0.2
AYDN	**Tasoluk**	**1.00**	**272⇓**	iP	Pb	03 21 16.5	+2.9
AYDN				i S	Sb	03 21 31.9	+5.5
TKTP	**Tekketepe**	**1.02**	**66**	eP	Pb	03 21 13.8	-0.2
TKTP				eS	Sb	03 21 29.0	+1.9
ISP	**Isparta**	**1.11**	**79**	ePN	Pn	03 21 15.1	-0.4
BCK	**Bucak**	**1.17**	**98**	ePN	Pn	03 21 15.6	-0.7

BCK				eSN	Sn	**03 21 32.1**	**+0.4**
AKAS	**Kas**	**1.45**	**165**	eP	Pg	**03 21 24.0**	**+1.3**
AKAS				eS	Sg	**03 21 47.0**	**+5.4**
SHUT	**Suhut-Afyon**	**1.45**	**50**	ePN	Pn	**03 21 20.0**	**-0.2**
SHUT				eSN	Sn	**03 21 39.5**	**+0.9**
BODT	**Bodrum**	**1.56**	**249**	ePN	Pn	**03 21 22.0**	**+0.2**
ALT	**Altintas**	**1.61**	**28**	ePN	Pn	**03 21 22.3**	**-0.2**
BLCB	**Balcova**	**1.82**	**295**	ePN	Pn	**03 21 25.5**	**+0.3**

ISCJB ***22*** *03:23:49.9±0.5, 1068S±008×16167E±007, h43km, mb4.2/16, MS3.7/12, Error ellipse: s-maj=11.0km s-min=9.4km az=9.9*
IDC ***22*** *03:23:51.7±0.9, 1053S×16173E, h44km±7km, mb3.8/9, mb1 4.0/11, mb1mx3.9/18, mbtmp3.9/11, ML4.6/2, MS3.6/13, Ms1 3.6/13, ms1mx3.5/23, Error ellipse: s-maj=19.6km s-min=10.5km az=42.0*
NEIC ***22*** *03:23:51.7±0.5, 1056S×16162E, mb4.5/10, Error ellipse: s-maj=14.5km s-min=9.5km az=147.0*
ISC 22 03:23:51.9±0.5, 1059S±008×16168E±007, h45km, h45km±1.7km:pP-P, n40, σ1§01/30, mb4.2/16, MS3.7/12, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.06**	**304**	P	Pn	**03 24 24.4**	**+0.4**
	233nm,0.3s,baz=126,slow=3.8,SNR=89						
HNR				S	Sn	**03 24 49.5**	**+1.0**
	3μm,0.3s,baz=252,slow=11,SNR=30						
HNR	**Honiara**	**2.06**	**304**	P	Pn	**03 24 24.4**	**+0.4**
HNR				S	Sn	**03 24 49.5**	**+1.0**
PMG	**Port Moresby**	**14.35**	**273**	ePn	Pn	**03 27 12.8**	**+0.3**
	18nm,1.1s						
CTA	**Charters Tower**	**17.60**	**236⇓**	iP	Pn	**03 27 57.3**	**+3.3**
	16nm,0.8s						
CTA	**Charters Tower**	**17.60**	**236**	P	Pn	**03 27 56.0**	**+2.0**
	1.1nm,0.3s,baz=63,slow=13,SNR=36						
CTA				LR	LR	03 33 35.9	
	comp=Z,146nm,21.7s,baz=49,slow=33						
CTAO	**Charters Tower**	**17.60**	**236**	eP	Pn	**03 27 57.2**	**+3.2**
	24nm,0.8s						
COEN	**Coen**	**18.38**	**258**	eP	Pn	**03 28 06.9**	**+3.3**
	9.5nm,0.8s						
AFI	**Afiamalu**	**26.14**	**100**	LR	LR	03 37 27.0	
	comp=Z,196nm,20.9s,MS3.6,baz=185,slow=31						
WRAB	**Tennant Creek**	**27.91**	**247**	eP	P	**03 29 37.9**	**-0.2**
	2.4nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**27.91**	**247**	eP	P	**03 29 37.1**	**-1.0**
WB2	**Warramunga Arr**	**27.91**	**247**	eP	P	**03 29 37.5**	**-0.5**
WRA	**Warramunga Arr**	**27.92**	**247**	P	P	**03 29 37.7**	**-0.4**
	1.9nm,0.7s,mb3.8,baz=77,slow=9.4,SNR=9.1						
WRA				LR	LR	03 40 10.7	
	comp=Z,112nm,18.9s,MS3.5,baz=75,slow=35						
STKA	**Stephens Creek**	**28.16**	**218**	P	P	**03 29 40.1**	**-0.1**
	1.7nm,0.7s,mb3.8,baz=100,slow=18,SNR=2.8						
STKA				LR	LR	03 39 57.1	
	comp=Z,160nm,20.1s,MS3.6,baz=24,slow=34						
KAKA	**Kakadu**	**28.70**	**263**	eP	P	**03 29 43.5**	**-1.7**
	8.8nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**29.48**	**240**	P	P	**03 29 51.2**	**-0.7**
	0.9nm,0.8s,mb3.5,baz=65,slow=9.4,SNR=8.0						
URZ	**Urewera**	**30.83**	**156**	LR	LR	03 40 15.4	
	comp=Z,119nm,18.7s,MS3.6,baz=44,slow=32						
FITZ	**Fitzroy Crossi**	**35.65**	**254**	eP	P	**03 30 44.3**	**-1.7**
	17nm,1.8s,mb4.7						
PPT	**Papeete**	**47.69**	**104**	eLR	LR	03 46 14.5	
	142nm,27.2s						
PPT	**Papeete**	**47.69**	**104**	LR	LR	03 47 34.7	
	comp=Z,81nm,21.3s,MS3.7,baz=328,slow=30						
KSRS	**Korea Array**	**57.32**	**328**	P	P	**03 33 35.4**	**0.0**
	1.1nm,0.9s,mb3.9,baz=272,slow=34,SNR=4.8						
KSRS				LR	LR	03 54 46.3	
	comp=Z,29nm,18.1s,MS3.4,baz=241,slow=32						
RKT	**Rikitea**	**61.49**	**111**	eLR	LR	03 52 37.1	
	152nm,29.8s						
VNDA	**Vanda**	**66.91**	**180**	P	P	**03 34 41.2**	**+2.0**
	0.7nm,0.8s,mb3.8,baz=337,slow=6.7,SNR=5.0						
VNDA	**Vanda**	**66.91**	**180**	P	P	**03 34 41.2**	**+2.0**
CMAR	**Chiang Mai Arr**	**68.28**	**295**	pP	pP	03 35 00.3	-1.4
	0.6nm,0.3s,baz=117,slow=5.2,SNR=1.8						
CMAR				LR	LR	04 02 54.0	
	comp=Z,48nm,18.6s,MS3.8,baz=87,slow=34						
SONM	**Songino Array**	**75.98**	**325**	P	P	**03 35 33.8**	**-0.4**
	2.9nm,0.9s,mb4.2,baz=141,slow=6.0,SNR=10						
SONM				pP	pP	03 35 47.0	-0.3
	6.4nm,0.6s,baz=139,slow=5.6,SNR=17						
SONM				LR	L

JUA2	San Juan 2	2.67	21	⇑P		Pn	03 39 48.2 +0.3
PINO	Pino	2.72	20	⇑P		Pn	03 39 48.9 +0.3
CAYA	Cayambe	3.19	29	⇑P		Pn	03 39 56.1 +1.2
LAV3	Lava3-Reventad	3.25	36	P		Pn	03 39 59.3 +3.6
CONE	Cono NE Rev Vo	3.26	36	⇓P		Pn	03 39 57.4 +1.6
COTA	Cotacachi	3.28	22	⇑P		Pn	03 39 56.5 +0.5
ATAH	Atahualpa	4.40	165	P		Pn	03 40 12.8 +1.6
	29nm,0.3s,baz=6.3,slow=8.7,SNR=108						
ATAH				S		Sn	03 41 07.4 +6.1
	128nm,0.3s,baz=345,slow=14,SNR=8.5						
ATAH				LR	LR		03 42 10.4
	comp=Z,1μm,21.2s,baz=24,slow=40						
ROSC	El Rosal	9.17	35	P		Pn	03 41 15.3 -1.0
	1.1nm,0.3s,baz=275,slow=14,SNR=2.1						
ROSC				LR	LR		03 45 13.4
	comp=Z,390nm,19.9s,baz=5.1,slow=41						
NNA	Nana	9.58	164	P		Pn	03 41 20.5 -1.5
	23nm,0.3s,baz=320,slow=11,SNR=18						
NNA				S		Sn	03 43 01.6 -6.4
	21nm,0.3s,baz=180,slow=18,SNR=5.7						
NNA	Nana	9.58	164	ePn		Pn	03 41 20.3 -1.6
NNA				eSn		Sn	03 43 02.2 -5.7
BCIP	Isla Barro Col	11.82	359	ePn		Pn	03 41 51.2 -1.3
ARE	Arequipa	15.78	150	eP		Pn	03 42 48.0 +3.7
LPAZ	La Paz	17.54	141	P		Pn	03 43 06.3 +0.3
	1.1nm,0.3s,baz=324,slow=2.9,SNR=23						
LPAZ				LR	LR		03 51 02.8
	comp=Z,148nm,21.9s,baz=310,slow=41						
PCRV	Puerto La Cruz	19.62	49	P		Pn	03 43 27.1 -3.8
	0.4nm,0.3s,baz=338,slow=19,SNR=2.0						
LVC	Limon Verde	22.30	153	P		P	03 43 56.5 -0.9
	5.1nm,0.8s,mb3.9,baz=277,slow=7.5,SNR=3.6						
LVC				LR	LR		03 54 04.2
	comp=Z,165nm,21.2s,baz=346,slow=40						
LVC	Limon Verde	22.30	153	eP		P	03 43 58.8 +1.4
	22nm,1.3s,mb4.3						
LVC				LR	LR		03 54 04.2
SIV	San Ignacio	22.46	127	P		P	03 43 59.0 -0.2
	8.0nm,0.7s,mb4.2,baz=304,slow=10,SNR=38						
TEIG	Tepich	24.37	340	P		P	03 44 16.5 -0.7
	10nm,0.5s,mb4.4,baz=128,slow=9.4,SNR=11						
SJG	San Juan	24.56	32	P		P	03 44 18.4 -0.6
	8.1nm,0.5s,mb4.4,baz=230,slow=5.8,SNR=5.4						
SJG				LR	LR		03 54 51.8
	comp=Z,49nm,19.1s,baz=273,slow=39						
CMIG	Matias Romero	24.84	323	LR	LR		03 53 00.4
	comp=Z,19nm,18.5s,baz=187,slow=34						
CFAA	Coronel Fontan	30.64	161	P		P	03 45 13.5 +0.3
	0.5nm,0.7s,mb3.4,baz=328,slow=8.7,SNR=12						
BDFB	Brasilia	33.60	114	P		P	03 45 39.1 -0.3
	2.0nm,0.7s,mb4.1,baz=255,slow=19,SNR=6.4						
BDFB				LR	LR		03 59 34.3
	comp=Z,68nm,18.3s,baz=288,slow=37						
TRQA	Tornquist	38.67	158	eP		P	03 46 21.7 -0.6
	6.5nm,1.0s,mb4.4						
PLCA	Paso Flores	38.70	169	P		P	03 46 22.3 -0.2
	1.3nm,0.5s,mb4.0,baz=313,slow=5.7,SNR=10						
TXAR	Lajitas Array	39.37	326	P		P	03 46 28.0 -0.3
	0.2nm,0.6s,mb3.1,baz=157,slow=10,SNR=4.6						
TXAR				pP	pP		03 46 46.6 -1.8
	0.5nm,0.7s,baz=128,slow=10,SNR=3.1						
WMOK	Wichita Mounta	41.42	336	eP		P	03 46 45.1 0.0
	1.1nm,0.5s,mb3.9						
ANMO	Albuquerque	45.19	328	eP		P	03 47 15.5 +0.1
	4.2nm,0.8s,mb4.2						
TUC	Tucson	45.73	322	eP		P	03 47 19.6 -0.1
	1.2nm,0.8s,mb3.7						
SDCO	Great Sand Dun	46.91	332	eP		P	03 47 31.1 +2.2
	2.2nm,0.8s,mb3.9						
ECSD	EROS,Sioux Fal	48.73	344	eP		P	03 47 41.6 -1.2
	2.4nm,0.6s,mb4.3						
USHA	Ushuaia	52.72	172	P		P	03 48 13.3 +0.6
	12nm,1.0s,mb4.9,baz=350,slow=6.1,SNR=3.2						
PDAR	Pinedale Array	52.77	332	P		P	03 48 13.3 0.0
	0.5nm,0.6s,mb3.7,baz=130,slow=6.6,SNR=3.5						
PDAR				pP	pP		03 48 30.2 -4.0
	1.0nm,0.7s,baz=142,slow=5.6,SNR=5.8						
HWUT	Hardware Ranch	52.85	330	eP		P	03 48 13.1 -0.8
	2.8nm,0.8s,mb4.3						
LOHW	Long Hollow	53.91	332	eP		P	03 48 21.6 0.0
	1.3nm,0.7s,mb4.1						
ELK	Elko	54.15	327	eP		P	03 48 24.3 +0.9
	0.9nm,0.5s,mb4.1						
NVAR	Mina Array Bea	54.37	323	P		P	03 48 26.7 +1.7
	1.1nm,0.8s,mb4.0,baz=136,slow=6.7,SNR=8.2						
NVAR				pP	pP		03 48 44.5 -1.6
	1.7nm,0.7s,baz=141,slow=7.1,SNR=4.8						
ULM	Lac du Bonnet	54.61	347	P		P	03 48 24.4 -2.1
	2.2nm,0.6s,mb4.4,baz=173,slow=5.3,SNR=5.7						
ULM				pP	pP		03 48 45.5 -2.1
	4.4nm,0.8s,baz=139,slow=5.0,SNR=4.0						
HLID	Hailey	55.71	330	eP		P	03 48 33.8 -0.8
	1.6nm,0.8s,mb4.1						
BOZ	Bozeman (W)	55.94	333	eP		P	03 48 36.4 +0.2
	1.9nm,1.2s,mb4.0						
WVOR	Wild Horse Val	57.17	326	eP		P	03 48 45.4 +0.4
	4.0nm,1.0s,mb4.4						
LIC	Lamto	74.94	83	eP		P	03 50 39.4 -0.1
	95nm,2.0s,mb5.2						
TIC	Toumodi	74.98	82	eP		P	03 50 39.6 -0.1
	120nm,1.4s						
DBIC	Dimbokro	75.14	82	P		P	03 50 40.8 +0.2
	5.8nm,0.5s,mb4.5,baz=250,slow=5.2,SNR=17						
DBIC	Dimbokro	75.14	82	eP		P	03 50 40.4 -0.3
	6.0nm,0.6s,mb4.5						
KIC	Kosan Boka	75.23	83	eP		P	03 50 41.3 +0.1
	58nm,0.6s						
ESDC	Sonseca Array	80.69	49	P		P	03 51 11.2 +0.3
	0.1nm,0.3s,mb3.1,baz=281,slow=6.9,SNR=4.7						
VNA3	Neumayer Olymp	81.03	162	e		P	03 51 12.1 +0.1
VNA3				e			03 51 21.1
VNA3				e	pP		03 51 32.9 -1.6
VNA2	Neumayer--Watz	81.64	162	e		P	03 51 15.3 0.0
VNA2				e			03 51 23.9
VNA2				e	pP		03 51 35.3 -2.5
TORD	Torodi Ar. Bea	82.10	76	P		P	03 51 18.4 -0.4
	2.2nm,0.6s,mb4.2,baz=274,slow=6.0,SNR=60						
TORD				pP	pP		03 51 37.2 -4.1
	1.2nm,0.9s,baz=274,slow=5.1,SNR=2.4						
SNAA	Sanae	83.25	162	e		P	03 51 23.2 -0.5
SNAA				e			03 51 31.4
SNAA				e	pP		03 51 44.7 -1.5
SNAA	Sanae	83.25	162	P		P	03 51 23.6 0.0
	0.6nm,0.5s,mb3.7,baz=271,slow=6.3,SNR=9.5						
SNAA				pP	pP		03 51 42.8 -3.4
	0.7nm,0.6s,baz=277,slow=7.3,SNR=3.9						
SNAA	Sanae	83.25	162	eP		P	03 51 23.2 -0.5
	3.4nm,0.9s,mb4.2						
SNAA				pP	pP		03 51 42.8 -3.4
TAM	Tamanrasset	86.51	67	eP		P	03 51 41.9 +0.9
VNDA	Vanda	93.31	191	P		P	03 52 12.2 +0.3
	0.3nm,0.7s,mb3.7,baz=154,slow=4.2,SNR=4.6						
ZALV	Zalesovo Beam	127.36	12	PKP	PKPdf		03 58 01.3 -0.4
	2.1nm,0.5s,baz=250,slow=3.0,SNR=7.9						
ZALV	Zalesovo Beam	127.36	12	PKP	PKPdf		03 58 01.3 -0.4
KURK	Kurchatov	128.76	18	ePKPdf	PKPdf		03 58 04.2 -0.3
MKAR	Makanchi Array	133.35	17	PKP	PKPdf		03 58 12.5 -0.8
	0.4nm,0.3s,baz=27,slow=3.0,SNR=4.1						
MKAR	Makanchi Array	133.35	17	PKP	PKPdf		03 58 12.5 -0.8
ASAR	Alice Springs	138.18	229	PKP	PKPdf		03 58 21.5 -1.5
	0.4nm,0.6s,baz=107,slow=2.4,SNR=5.3						
WRAB	Tennant Creek	139.81	234	ePKPdf	PKPdf		03 58 25.5 -0.6
WRA	Warramunga Arr	139.82	234	PKhKP			03 58 16.3
	0.7nm,0.6s,baz=116,slow=2.5,SNR=7.7						
WRA				PKP	PKPdf		03 58 25.3 -0.8
	0.9nm,0.4s,baz=112,slow=2.1,SNR=14						
KAKA	Kakadu	144.72	244	eP		P	03 58 32.6 -2.3
	14nm,0.6s						
KAKA	Kakadu	144.72	244	eP		PKPdf	03 58 32.6 -2.3
KAKA				ePKPdf		PKPdf	03 58 32.7 -2.3
FITZ	Fitzroy Crossi	147.68	229	eP		PKPdf	03 58 41.3 +1.4
	10nm,1.1s						
MBWA	Marble Bar	149.66	218	ePKPbc	PKPbc		03 58 46.5 -1.2
CMAR	Chiang Mai Arr	164.30	5	PKP	PKPdf		03 59 00.6 -1.0
	0.8nm,0.3s,baz=310,slow=1.7,SNR=6.7						

IDC 22 04:06:06.6±14.0, 2340S×17946W, h468km±108km, mb3.3/5, mb1 3.4/6, mb1mx3.1/19, mbtmp3.3/6, Error ellipse: s-maj=239.1km s-min=40.4km az=57.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	15.10	190	P	P	04 09 17.7	-0.6
	1.2nm,0.3s,baz=54,slow=3.8,SNR=6.4						
RPZ	Rata Peaks	21.72	199	P	P	04 10 22.8	+0.3
	15nm,1.1s,baz=39,slow=6.5,SNR=2.1						
CTA	Charters Tower	31.98	269	P	P	04 11 54.2	+1.1
	4.9nm,0.4s,baz=92,slow=11,SNR=8.2						
STKA	Stephens Creek	35.37	248	P	P	04 12 20.7	-1.0
	1.1nm,0.5s,baz=82,slow=7.1,SNR=4.3						
ASAR	Alice Springs	42.61	260	P	P	04 13 20.1	-0.6
	0.2nm,0.4s,baz=109,slow=8.1,SNR=5.2						
WRA	Warramunga Arr	42.94	265	P	P	04 13 23.2	-0.1
	0.7nm,0.3s,baz=97,slow=8.4,SNR=24						

*ISCJB **22** 04:50:23.1±4.2, 1188S±0.1×166.1E±0.2, h61km±34km, mb3.9/7, Error ellipse: s-maj=28.2km s-min=24.7km az=168.6*
*IDC **22** 04:50:24.7±5.4, 1179S×166.12E, h65km±44km, mb3.6/7, mb1 3.9/8, mb1mx3.7/18, mbtmp3.8/8, ML5.3/1, MS3.5/13, Ms1 3.5/13, ms1mx3.3/30, Error ellipse: s-maj=33.6km s-min=26.5km az=77.0*
*NEIC **22** 04:50:24.1±3.2, 1181S×166.18E, h59km±25km, mb3.9/1, Error ellipse: s-maj=26.6km s-min=18.9km az=117.0*
ISC 22 04:50:24.8±3.7, 1188S±01×1661E±02, h62km±30km, n21, σ0°65/10, mb3.9/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.50	291	P	Pn	04 51 58.1	+0.2
	62nm,0.3s,baz=100,slow=5.3,SNR=12						
HNR				S	Sn	04 53 10.4	-0.3
	baz=256,slow=15,SNR=2.7						
CTA	Charters Tower	20.78	244	LR	LR	05 02 01.0	
	comp=Z,126nm,20.4s,baz=54,slow=34						
CTAO	Charters Tower	20.78	244	eP	P	04 55 01.1	+0.2
	7.4nm,1.1s						
AFI	Afiamalu	21.66	98	LR	LR	05 01 26.5	
	comp=Z,136nm,19.3s,baz=194,slow=31						
RAO	Raoul Island	22.87	142	LR	LR	05 01 27.0	
	comp=Z,41nm,20.1s,baz=347,slow=29						
URZ	Urewera	28.13	161	LR	LR	05 06 10.9	
	comp=Z,61nm,18.8s,baz=54,slow=34						
STKA	Stephens Creek	30.15	225	LR	LR	05 08 01.2	
	comp=Z,129nm,18.7s,baz=26,slow=35						
WRA	Warramunga Arr	31.57	251	P	P	04 56 41.7	0.0
	1.0nm,0.7s,mb3.8,baz=84,slow=9.4,SNR=6.3						
WRA				PcP	PcP	04 59 29.9	-3.3
	0.5nm,0.8s,baz=74,slow=3.0,SNR=4.7						
WRA				LR	LR	05 08 07.7	
	comp=Z,92nm,18.9s,baz=335,slow=34						
ASAR	Alice Springs	32.78	244	P	P	04 56 51.8	-0.5
	0.7nm,0.6s,mb3.8,baz=67,slow=10,SNR=13						
GUMO	Guam	32.86	320	LR	LR	05 08 08.4	
	comp=Z,65nm,19.5s,baz=94,slow=32						
RAR	Rarotonga	33.96	110	LR	LR	05 07 36.3	
	comp=Z,133nm,18.3s,baz=14,slow=30						
FITZ	Fitzroy Crossi	39.54	256	LR	LR	05 13 54.8	
	comp=Z,74nm,18.5s,baz=279,slow=36						
JOW	Kunigami	53.14	317	LR	LR	05 17 20.0	
	comp=Z,58nm,21.9s,baz=121,slow=30						
KSRS	Korea Array	60.69	326	LR	LR	05 22 26.4	
	comp=Z,16nm,19.7s,baz=215,slow=32						
VNDA	Vanda	65.75	181	P	P	05 01 02.8	0.0
	0.6nm,0.6s,mb3.8,baz=353,slow=6.1,SNR=8.8						
CMAR	Chiang Mai Arr	72.74	294	P	P	05 01 48.1	+1.2
	1.1nm,0.4s,mb4.1,baz=124,slow=4.2,SNR=6.3						
CMAR				LR	LR	05 28 60.0	
	comp=Z,21nm,20.7s,baz=180,slow=32						
SONM	Songino Array	79.48	324	P	P	05 02 25.3	+0.7
	0.4nm,0.6s,mb3.5,baz=121,slow=3.4,SNR=3.0						
NVAR	Mina Array Bea	86.23	50	P	P	05 02 59.6	-0.3
	0.2nm,0.6s,mb3.5,baz=292,slow=4.8,SNR=3.0						
MKAR	Makanchi Array	94.31	317	P	P	05 03 36.1	-1.4
	1.4nm,0.6s,mb4.6,baz=95,slow=6.5,SNR=13						
TXAR	Lajitas Array	95.87	61	LR	LR	05 42 43.2	
	comp=Z,42nm,19.7s,baz=185,slow=33						
LPAZ	La Paz	119.53	116	PKP	PKPdf	05 09 08.2	-0.3
	0.7nm,0.3s,baz=268,slow=5.5,SNR=7.7						

*IDC **22** 05:28:17.3±0.9, 1431S×7664W, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.9/18, mbtmp3.9/10, ML3.8/3, MS3.7/7, Ms1 3.7/7, ms1mx3.4/22, Error ellipse: s-maj=31.8km s-min=14.2km az=72.0*
*ISCJB **22** 05:28:18.3±3.3, 1431S±008×767W±0.1, h18km±24km, mb4.0/10, MS3.9/6, Error ellipse: s-maj=25.2km s-min=7.4km az=151.6*
*NEIC **22** 05:28:22.3±0.6, 1458S×7685W, h35km, mb4.5/3, Error ellipse: s-maj=20.6km s-min=9.6km az=47.0*
*BJI **22** 05:28:28.2, 1460S×7680W, h35km, mB4.6, Ms4.8, Msz4.5*
ISC 22 05:28:18.1±3.9, 1440S±007×768W±01, h4km±24km, n31, σ1°35/23, mb4.0/10, MS3.9/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.40	359	Pn	Pn	05 28 55.6	-2.6
	20nm,0.3s,baz=172,slow=13,SNR=23						
NNA				Lg		05 29 28.6	
	156nm,0.3s,baz=192,slow=17,SNR=21						
NNA	Nana	2.40	359	ePn	Pn	05 28 55.5	-2.6
NNA				Sn	Sn	05 29 30.7	+2.7
ATAH	Atahualpa	7.52	348	Pn	Pn	05 30 07.2	-1.4
	3.0nm,0.3s,baz=71,slow=2.9,SNR=14						
ATAH				Sn	Sn	05 31 33.2	-1.2
	1.4nm,0.3s,baz=61,slow=15,SNR=2.5						
ATAH				LR	LR	05 32 35.6	
	comp=Z,233nm,21.1s,baz=199,slow=35						
LPAZ	La Paz	8.56	104	Pn	Pn	05 30 26.6	+3.7
	0.4nm,0.3s,baz=355,slow=18,SNR=11						
LVC	Limon Verde	11.07	139	Pn	Pn	05 31 01.8	+4.5
	0.3nm,0.3s,baz=311,slow=13,SNR=3.2						
LVC				Lg		05 34 09.2	
	0.1nm,0.3s,baz=286,slow=19,SNR=4.2						
LVC	Limon Verde	11.07	139	ePn	Pn	05 30 57.0	-0.2
LVC				eSn	Sn	05 33 01.0	-0.6
LVC				Lg		05 34 09.2	
OTAV	Otavalo	14.63	353	Pn	Pn	05 31 51.2	+5.2
	6.5nm,0.8s						
OTAV				eSn	Sn	05 34 39.7	+11
SIV	San Ignacio	15.25	98	Pn	Pn	05 31 54.3	-0.1
	0.1nm,0.3s,baz=275,slow=13,SNR=6.8						
CFAA	Coronel Fontan	18.83	157	P	Pn	05 32 42.3	+2.9
	baz=353,slow=8.1,SNR=3.4						
ROSC	El Rosal	19.28	7	LR	LR	05 41 08.2	
	comp=Z,263nm,20.0s,baz=351,slow=40						
SDV	Santo Domingo	23.93	15	LR	LR	05 43 53.1	
	comp=Z,258nm,21.2s,MS3.7,baz=4.5,slow=39						
PLCA	Paso Flores	26.80	169	P	P	05 33 58.0	-1.2
	2.1nm,1.1s,mb3.6,baz=313,slow=20,SNR=2.1						
PCRV	Puerto La Cruz	27.23	27	LR	LR	05 44 41.2	
	comp=Z,138nm,19.7s,MS3.5,baz=38,slow=36						
BDFB	Brasilia	27.81	96	LR	LR	05 46 49.3	
	comp=Z,122nm,18.7s,MS3.5,baz=74,slow=40						
TXAR	Lajitas Array	50.63	329	P	P	05 37 19.5	+1.0
	0.6nm,0.6s,mb3.7,baz=146,slow=9.1,SNR=4.6						
SDCO	Great Sand Dun	58.46	333	eP	P	05 38 17.4	+2.1
	4.0nm,1.0s,mb4.4						
ECSD	EROS,Sioux Fal	60.62	344	eP	P	05 38 29.4	-0.7
	3.0nm,0.7s,mb4.5						
PDAR	Pinedale Array	64.35	334	P	P	05 38 55.0	0.0
	0.2nm,0.5s,mb3.4,baz=126,slow=7.5,SNR=3.6						
NVAR	Mina Array Bea	65.36	325	P	P	05 39 02.5	+0.8
	0.2nm,0.7s,mb3.3,baz=198,slow=5.6,SNR=2.6						
ULM	Lac du Bonnet	66.52	347	P	P	05 39 07.8	-1.1
	2.1nm,0.6s,mb4.3,baz=169,slow=6.4,SNR=4.6						
BOZ	Bozeman (W)	67.56	334	eP	P	05 39 22.7	+7.2
	16nm,2.1s,mb4.7						
DBIC	Dimbokro	74.33	79	P	P	05 39 56.4	-1.1
	4.2nm,1.1s,mb4.3,baz=157,slow=15,SNR=5.7						
DBIC				LR	LR	06 09 43.5	
	comp=Z,92nm,18.1s,MS4.1,baz=187,slow=34						
TORD	Torodi Ar. Bea	82.38	74	P	P	05 40 41.5	-0.5
	1.1nm,0.6s,mb4.0,baz=257,slow=3.4,SNR=18						
TORD				LR	LR	06 16 11.1	
	comp=Z,59nm,18.4s,MS4.0,baz=225,slow=35						
WRA	Warramunga Arr	134.15	223	PKP	PKPdf	05 47 37.2	-0.7
	0.4nm,0.6s,baz=133,slow=1.6,SNR=6.2						
CN2	Changchun	145.07	331	ePKP	PKPdf	05 48 04.4	+7.4
SONM	Songino Array	146.56	356	PKPbc	PKPbc	05 48 01.1	+0.2
	0.8nm,0.5s,baz=349,slow=1.1,SNR=4.1						
WMQ	Urumqi	147.81	21	ePKP	PKPdf	05 48 06.9	+5.3
HHC	Hu-ho-hao-te	152.66	346	ePKP	PKPdf	05 48 15.1	+5.8
HHC				APKP		05 48 25.9	
HHC				XPKP		05 48 29.5	
HHC				PKS		05 51 48.3	
HHC				PP	PP	05 52 07.0	+8.7
HHC				SKS	SKSdf	05 55 17.4	-0.1
HHC				SKKS	SKKSac	05 58 50.3	-0.4
HHC				PP	PP		
	comp=Z,54nm,5.4s						
HHC				LR	LR		
	comp=N,82nm,20.2s,MS4.6						
HHC				LR	LR		
	comp=E,55nm,21.4s,MS4.6						
HHC				LR	LR		
	comp=Z,45nm,21.4s,MS4.2						
LZH	Lanzhou	158.40	359	ePKP	PKPdf	05 48 22.3	+5.1
LZH				APKP		05 48 33.0	
LZH				XPKP		05 48 37.0	
CD2	Chengdu	163.56	358	ePKP	PKPdf	05 48 27.9	+5.0
GYA	Guiyang	167.57	345	ePKP	PKPdf	05 48 33.8	+7.5
GYA				XPKP		05 48 49.8	
GYA				PKP2	PKPab	05 49 39.5	+7.7
GYA				PKS		05 52 04.3	
GYA				PP	PP	05 53 27.0	+8.1
GYA				PP	PP		
	comp=Z,60nm,8.9s						

IDC 22 06:32:36.4±2.5, 2347S×6655W, h263km±35km, mb3.1/2, mb1 3.0/5, mb1mx2.9/19, mbtmp3.0/5, Error ellipse: s-maj=35.9km s-min=18.6km az=118.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	7.30	348	P	Pn	06 34 21.4	+0.4
	0.4nm,0.3s,baz=171,slow=8.9,SNR=11						
LPAZ				S	S	06 35 47.0	+1.7
	0.0nm,0.3s,baz=14,slow=25,SNR=2.2						
PLCA	Paso Flores	17.54	190	P	P	06 36 24.1	+1.0
	0.3nm,0.3s,baz=0.8,slow=11,SNR=7.1						
BDFB	Brasilia	19.11	69	P	P	06 36 40.1	-0.2
	0.1nm,0.3s,baz=233,slow=16,SNR=5.8						
QSPA	South Pole Qui	66.73	180	P	P	06 42 58.7	-0.2
	0.5nm,0.5s,baz=269,slow=3.2,SNR=6.0						
TORD	Torodi Ar. Bea	75.99	69	P	P	06 43 55.8	+0.6
	0.4nm,0.6s,baz=255,slow=5.9,SNR=8.2						

*ISCJB **22** 06:36:46.0±0.7, 1839N±006×14529E±007, h478km±9km, mb4.1/36, Error ellipse: s-maj=9.8km s-min=9.7km az=13.8*
*IDC **22** 06:36:46.8±1.0, 1836N×14538E, h477km±11km, mb3.5/15, mb1 3.7/18, mb1mx3.6/24, mbtmp3.6/18, Error ellipse: s-maj=15.7km s-min=9.2km az=74.0*
*MOS **22** 06:36:46.0±0.9, 1838N×14531E, h483km, mb4.2/10, Error ellipse: s-maj=15.4km s-min=9.8km az=108.4*
*NEIC **22** 06:36:47.3±0.8, 1835N×14535E, h483km±9km, mb4.3/16, Error ellipse: s-maj=7.1km s-min=6.8km az=109.0*
ISC 22 06:36:46.5±0.8, 1838N±006×14535E±007, h470km±10km, n85, σ0°77/76, mb4.1/35, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.78	186	P	P	06 38 11.1	+1.1
	41nm,0.3s,baz=352,slow=1.9,SNR=18						
GUMO				S	S	06 39 17.1	-0.8
	21nm,0.3s,baz=188,slow=23,SNR=8.4						
GUMO	Guam	4.78	186	eP	P	06 38 11.0	+1.0
GUMO				eS	S	06 39 16.7	-1.2
JOW	Kunigami	17.86	301	P	P	06 40 28.1	+0.9
	3.2nm,0.3s,baz=127,slow=11,SNR=15						
MJAR	Matsushiro Arr	19.16	342	P	P	06 40 38.7	-0.3
	1.0nm,0.3s,baz=169,slow=10,SNR=8.9						
MAJO	Matsushiro	19.16	342	P	P	06 40 37.0	-2.0
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MAJO	Matsushiro	19.16	342	P	P	06 40 37.0	-2.0
	comp=Z,6.0nm,0.4s						
KSRS	Korea Array	24.39	325	P	P	06 41 26.6	+0.4
	comp=Z,9.0nm,0.6s,mb4.3,baz=146,slow=9.0,SNR=44						
KLR	Kul'dur	32.68	343	eP	P	06 42 34.6	-3.9
KAKA	Kakadu	33.41	203	eP	P	06 42 44.7	-0.4
	comp=Z,12nm,0.9s,mb4.3						
PETK	Petropavlovsk-	35.98	13	PcP	PcP	06 45 18.3	-2.0
	comp=Z,3.2nm,0.9s,baz=247,slow=3.1,SNR=3.6						
WRAB	Tennant Creek	39.57	196	eP	P	06 43 36.0	-0.1
WB2	Warramunga Arr	39.58	196	eP	P	06 43 36.0	-0.2
WRA	Warramunga Arr	39.58	196	P	P	06 43 36.2	0.0
	comp=Z,1.0nm,0.3s,mb3.7,baz=14,slow=8.2,SNR=22						
WRA				PcP	PcP	06 45 31.5	-0.7
	comp=Z,0.8nm,0.5s,baz=17,slow=3.6,SNR=7.8						
WRA				ScP	ScP	06 48 33.1	-2.7
	comp=Z,1.4nm,0.7s,baz=12,slow=4.2,SNR=12						
WRA	Warramunga Arr	39.58	196	P	P	06 43 36.2	0.0
WRA						06 45 31.5	
SMY	Shemya	40.97	26	eP	P	06 43 48.9	+2.0
FITZ	Fitzroy Crossi	41.10	209	eP	P	06 43 48.5	0.0
	comp=Z,2.1nm,0.3s,mb4.0						
SONM	Songino Array	43.19	322	P	P	06 44 05.4	+0.8
	comp=Z,2.5nm,0.7s,mb3.8,baz=136,slow=6.9,SNR=17						
SONM				PcP	PcP	06 45 43.6	-0.2
	comp=Z,1.5nm,0.7s,baz=143,slow=2.9,SNR=6.3						
ASAR

DAWY Dawson 67.19 27 *eP* **P 06 46 53.1 +0.6**
HYT Haines Junctio 67.87 31 *eP* **P 06 46 58.5 +1.7**
AB31 Akbulak array 73.35 317 *i* P **P 06 47 28.5 -1.0**
AB31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
AKTK Aktyubinsk 74.39 318 P **P 06 47 34.2 -1.2**
AKTO Aktyubinsk 74.39 318 P **P 06 47 34.2 -1.2**
comp=Z,2.2nm,0.6s,mb3.9,baz=105,slow=8.5,SNR=11
GNW Green Mountain 77.87 44 *eP* **P 06 47 55.5 +0.7**
comp=Z,4.4nm,0.9s,mb3.9
JCW Jim Creek 78.31 43 *eP* **P 06 47 57.8 +0.7**
YKA Yellowknife Ar 78.43 28 P **P 06 47 56.8 -0.7**
comp=Z,1.4nm,0.4s,mb3.7,baz=286,slow=5.4,SNR=6.8
YKA Yellowknife Ar 78.43 28 P **P 06 47 56.8 -0.7**
CMB Columbia Colle 82.15 53 *eP* **P 06 48 17.0 -0.5**
CMB pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
CMB Columbia Colle 82.15 53 *eP* **P 06 48 17.0 -0.5**
comp=Z,2.6nm,0.8s,mb3.8
BMO Blue Mountains 82.31 45 *eP* **P 06 48 18.1 0.0**
ARCES ARCESS Array B 82.70 342 P **P 06 48 18.5 -1.1**
comp=Z,5.0nm,0.7s,mb4.2,baz=86,slow=7.7,SNR=19
ARCES ARCESS Array B 82.70 342 P **P 06 48 18.5 -1.1**
NVAR Mina Array Bea 83.60 52 P **P 06 48 25.2 +0.4**
comp=Z,4.5nm,0.7s,mb4.1,baz=264,slow=6.0,SNR=39
NVAR Mina Array Bea 83.60 52 P **P 06 48 25.2 +0.4**
HLID Hailey 84.69 46 *eP* **P 06 48 30.1 0.0**
comp=Z,2.5nm,0.9s,mb3.8
ELK Elko 85.08 49 *eP* **P 06 48 32.2 +0.1**
ELK *ep*P pP 06 50 12.8 -3.8
LRM Limekiln Ridge 85.20 43 *eP* **P 06 48 32.7 +0.2**
TPNV Topopah Spring 85.62 53 *eP* **P 06 48 35.0 +0.3**
TPNV pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
TPNV Topopah Spring 85.62 53 *eP* **P 06 48 35.0 +0.2**
comp=Z,3.2nm,0.8s,mb4.0
FLWY Flagg Ranch 87.01 44 *eP* **P 06 48 42.2 +1.0**
NAY Al-Naaiem 87.98 300 *eP* **P 06 48 42.3 -3.8**
NAY AMb AMB 06 48 53.3
comp=Z,8.0nm,1.2s,mb4.3
PDAR Pinedale Array 88.29 45 P **P 06 48 47.5 +0.2**
comp=Z,0.3nm,0.5s,mb3.3,baz=229,slow=1.6,SNR=4.1
SRU San Rafael 89.05 49 *eP* **P 06 48 50.2 -0.7**
TXAR Lajitas Array 98.29 55 P Pdif 06 49 32.1 -0.6
comp=Z,0.1nm,0.6s,baz=226,slow=6.1,SNR=2.6
SNAA Sanae 123.54 192 *e* PKPdf 06 54 47.5 -1.5
SNAA *e* 06 54 50.1
VNA2 Neumayer--Watz 124.99 191 *e* PKPdf 06 54 51.1 -0.7
VNA2 *e* 06 54 53.9
VNA3 Neumayer Olymp 125.10 190 *e* PKPdf 06 54 51.1 -0.9
VNA3 *e* 06 54 53.7
TORD Torodi Ar. Bea 132.40 309 PKP PKPdf 06 55 06.7 -0.9
comp=Z,0.4nm,0.4s,baz=25,slow=1.3,SNR=14
PLCA Paso Flores 142.02 134 PKP PKPdf 06 55 21.4 -3.1
comp=Z,1.3nm,1.0s,baz=224,slow=1.9,SNR=3.5
PLCA Paso Flores 142.02 134 PKP PKPdf 06 55 21.4 -3.1
CFAA Coronel Fontan 146.97 120 PKPbc PKPbc 06 55 35.1 -1.0
comp=Z,0.6nm,0.7s,baz=263,slow=6.5,SNR=12
LVC Limon Verde 147.67 103 PKPbc PKPbc 06 55 38.8 +0.6
comp=Z,5.4nm,0.6s,baz=279,slow=2.3,SNR=8.0
LPAZ La Paz 148.00 91 PKPbc PKPbc 06 55 40.1 +1.0
comp=Z,4.5nm,0.8s,baz=261,slow=4.7,SNR=7.5

*ISCJB **22** 06:47:18.0±2.8, 1338S±005×7721W±008, h15km±20km, mb3.9/6, Error ellipse: s-maj=14.8km s-min=7.5km az=156.2*
*IDC **22** 06:47:18.1±0.9, 1334S×7709W, h0km, mb3.8/6, mb1 4.1/9, mb1mx3.9/19, mbtmp3.8/9, ML3.9/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/25, Error ellipse: s-maj=32.6km s-min=15.1km az=74.0*
*NEIC **22** 06:47:24.7±1.8, 1336S×77.11W, h48km±17km, mb4.2/1, Error ellipse: s-maj=30.2km s-min=10.3km az=64.0*
ISC 22 06:47:19.2±3.5,**1335S**±005×**7723W**±008,**h10**km±22km,
n23,σ1§**06**/28,**mb3.9**/6,**Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.40**	**16**	Pn	**Pn**	**06 47 44.7**	**-0.2**
	541nm,0.3s,baz=188,slow=13,SNR=537						
NNA				Sn	**Sn**	**06 48 02.8**	**-0.5**
	995nm,0.3s,baz=266,slow=17,SNR=18						
NNA	**Nana**	**1.40**	**16**	*e*Pn	**Pn**	**06 47 45.6**	**+0.8**
NNA				*e*Sn	**Sn**	**06 48 05.5**	**+2.1**
ARE	**Arequipa**	**6.36**	**120**	*eP*	**Pb**	**06 49 04.0**	**-6.0**
ARE				*e*S	**Sn**	**06 50 15.0**	**+9.3**
ATAH	**Atahualpa**	**6.41**	**350**	Pn	**Pn**	**06 48 53.5**	**-0.2**
	3.8nm,0.3s,baz=139,slow=6.2,SNR=13						
ATAH				Sn	**Sn**	**06 50 04.6**	**-2.3**
	2.3nm,0.3s,baz=96,slow=10,SNR=2.3						
LPAZ	**La Paz**	**9.28**	**110**	Pn	**Pn**	**06 49 37.6**	**+4.5**
	0.5nm,0.3s,baz=279,slow=9.9,SNR=17						
LPAZ				Sn	**Sn**	**06 51 18.1**	**+0.6**
	baz=196,slow=24,SNR=1.6						
LPAZ				LR	LR	06 53 31.5	
	comp=Z,82nm,19.2s,baz=340,slow=41						
LVC	**Limon Verde**	**12.15**	**141**	Pn	**Pn**	**06 50 13.1**	**+0.7**
	0.2nm,0.3s,baz=324,slow=11,SNR=3.3						
LVC				Sn	**Sn**	**06 52 22.0**	**-5.9**
	0.2nm,0.3s,baz=212,slow=19,SNR=3.5						
LVC	**Limon Verde**	**12.15**	**141**	Pn	**Pn**	**06 50 14.0**	**+1.6**
LVC				Sn	**Sn**	**06 52 22.0**	**-5.9**
OTAV	**Otavalo**	**13.55**	**355**	*e*Pn	**Pn**	**06 50 36.6**	**+5.0**
	10.0nm,0.8s						
OTAV				Sn	**Sn**	**06 53 01.9**	**-0.4**
SIV	**San Ignacio**	**15.86**	**102**	Pn	**Pn**	**06 51 01.4**	**-1.2**
	0.1nm,0.3s,baz=267,slow=18,SNR=6.0						
ROSC	**El Rosal**	**18.31**	**9**	P	**Pn**	**06 51 28.3**	**-5.2**
	1.1nm,0.3s,baz=108,slow=14,SNR=3.6						
ROSC				LR	LR	06 59 47.8	
	comp=Z,243nm,18.9s,baz=356,slow=41						
CFAA	**Coronel Fontan**	**19.97**	**157**	P	**Pn**	**06 51 52.0**	**-1.3**
	0.0nm,0.3s,baz=331,slow=10,SNR=7.1						
PCRV	**Puerto La Cruz**	**26.50**	**29**	LR	LR	07 04 19.0	
	comp=Z,255nm,19.5s,baz=220,slow=39						
PLCA	**Paso Flores**	**27.91**	**169**	P	**P**	**06 53 08.5**	**-0.9**
	1.5nm,0.9s,mb3.6,baz=301,slow=6.2,SNR=4.0						
PLCA	**Paso Flores**	**27.91**	**169**	*eP*	**P**	**06 53 08.8**	**-0.5**
	16nm,2.4s,mb4.2						
TXAR	**Lajitas Array**	**49.51**	**329**	P	**P**	**06 56 11.7**	**+1.5**
	0.4nm,0.7s,mb3.6,baz=153,slow=7.2,SNR=6.1						
PDAR	**Pinedale Array**	**63.22**	**334**	P	**P**	**06 57 48.6**	**+0.9**
	0.3nm,0.6s,mb3.6,baz=159,slow=5.4,SNR=3.1						
NVAR	**Mina Array Bea**	**64.25**	**325**	P	**P**	**06 57 56.4**	**+1.8**
	0.6nm,0.7s,mb3.7,baz=143,slow=6.6,SNR=6.1						
ULM	**Lac du Bonnet**	**65.40**	**347**	P	**P**	**06 58 01.6**	**-0.2**
	1.8nm,0.7s,mb4.2,baz=159,slow=8.6,SNR=2.6						
VNA3	**Neumayer Olymp**	**70.30**	**161**	*e*	**P**	**06 58 32.1**	**-0.3**
VNA3				*e*		06 58 40.6	
SNAA	**Sanae**	**72.52**	**161**	*e*	**P**	**06 58 45.2**	**-0.7**
SNAA				*e*		06 58 53.4	
TORD	**Torodi Ar. Bea**	**82.52**	**75**	P	**P**	**06 59 42.8**	**0.0**
	1.8nm,0.7s,mb4.2,baz=273,slow=5.5,SNR=15						
MKAR	**Makanchi Array**	**142.48**	**23**	PKP	PKPdf	07 06 52.8	+0.4
	0.9nm,0.4s,baz=173,slow=12,SNR=5.0						
SONM	**Songino Array**	**145.48**	**356**	PKPbc	PKPbc	07 06 58.2	+0.5
	1.6nm,0.8s,baz=333,slow=1.7,SNR=8.4						

*ISCJB **22** 06:54:08.3±1.6, 18N±01×1228E±02, h476km±23km, mb3.9/9, Error ellipse: s-maj=37.2km s-min=11.2km az=157.9*
*IDC **22** 06:54:09.6±2.9, 171N×12260E, h468km±34km, mb3.3/7, mb1 3.5/9, mb1mx3.3/21, mbtmp3.4/9, Error ellipse: s-maj=46.9km s-min=13.8km az=69.0*
*NEIC **22** 06:54:09.4±1.0, 169N×12263E, h470km±13km, mb4.3/5, Error ellipse: s-maj=26.8km s-min=8.2km az=61.0*
ISC 22 06:54:09.6±1.4,**18N**±01×**1227E**±02,**h473**km±20km,**n20**,
σ0§**73**/19,**mb3.9**/9,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**7.77**	**303**	*e*Pn	**P**	**06 56 02.6**	**-0.5**
BATI	**Baumata**	**11.92**	**176**	P	**P**	**06 56 49.0**	**+1.4**
	5.9nm,0.3s,baz=68,slow=4.0,SNR=4.2						
BATI				S	**S**	**06 58 58.3**	**+0.6**
	6.8nm,0.3s,baz=122,slow=5.7,SNR=4.5						
KAKA	**Kakadu**	**17.31**	**146**	*eP*	**P**	**06 57 43.9**	**-0.7**
	4.7nm,0.5s						
KAKA	**Kakadu**	**17.31**	**146**	*eP*	**P**	**06 57 44.2**	**-0.4**
	42nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.94**	**172**	*eP*	**P**	**06 58 08.7**	**-0.5**
	4.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.94**	**172**	P	**P**	**06 58 09.2**	**0.0**
	0.7nm,0.3s,baz=11,slow=8.7,SNR=24						
WRAB	**Tennant Creek**	**24.39**	**153**	*eP*	**P**	**06 58 48.9**	**-0.3**
	7.8nm,1.7s,mb3.9						
WRA	**Warramunga Arr**	**24.39**	**153**	P	**P**	**06 58 48.6**	**-0.7**
	3.2nm,0.3s,mb4.2,baz=336,slow=9.6,SNR=80						
WB2	**Warramunga Arr**	**24.39**	**153**	*eP*	**P**	**06 58 48.5**	**-0.9**
ASAR	**Alice Springs**	**27.51**	**157**	P	**P**	**06 59 16.9**	**+0.1**
	0.9nm,0.4s,mb3.5,baz=336,slow=7.8,SNR=21						
ASAR				PcP	PcP	07 02 20.9	+0.6
	0.7nm,0.4s,baz=349,slow=2.5,SNR=6.7						
KLBR	**Kellerberrin**	**33.50**	**188**	*eP*	**P**	**07 00 07.9**	**-0.7**
	18nm,0.9s,mb4.5						
NWAO	**Narrogin (SRO)**	**34.89**	**188**	P	**P**	**07 00 19.5**	**-0.8**
	3.6nm,0.3s,mb4.2,baz=69,slow=9.0,SNR=6.7						
STKA	**Stephens Creek**	**37.94**	**153**	*eP*	**P**	**07 00 46.6**	**+1.0**
	3.4nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**37.94**	**153**	P	**P**	**07 00 46.6**	**+1.1**
	5.6nm,0.6s,mb4.1,baz=324,slow=7.8,SNR=13						
SONM	**Songino Array**	**48.03**	**345**	P	**P**	**07 02 05.5**	**+1.0**
	0.6nm,0.6s,mb3.1,baz=163,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**56.99**	**328**	P	**P**	**07 03 09.0**	**-0.1**
	0.9nm,0.4s,mb3.5,baz=128,slow=8.3,SNR=11						
VNDA	**Vanda**	**82.01**	**172**	P	**P**	**07 05 39.5**	**+0.7**
	1.7nm,0.6s,mb3.7,baz=312,slow=4.5,SNR=12						
VNDA	**Vanda**	**82.01**	**172**	P	**P**	**07 05 39.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**119.68**	**286**	PKP	PKPdf	07 12 05.8	-0.3
	0.3nm,0.5s,baz=94,slow=1.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**119.68**	**286**	PKP	PKPdf	07 12 05.8	-0.3

*NEIC **22** 06:55:22.6±0.5, 6.15N×12695E, h10km, mb4.4/2, Error ellipse: s-maj=20.6km s-min=10.2km az=75.0*
*IDC **22** 06:55:29.9±2.6, 6.18N×12720E, h71km±23km, mb4.0/12, mb1 4.1/13, mb1mx3.9/23, mbtmp4.0/13, Error ellipse: s-maj=30.3km s-min=10.7km az=69.0*
*ISCJB **22** 06:55:35.3±0.7, 563N±006×12594E±010, h119km±6km, mb4.1/13, Error ellipse: s-maj=16.0km s-min=10.6km az=178.5*
ISC 22 06:55:36.3±0.7,**564N**±006×**12597E**±010,**h111**km±7km,
n30,σ1§**39**/34,**mb4.1**/13,**3D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.11**	**294**	‖ *i*P	**Pn**	**06 55 57.7**	**-1.0**
GSPH				*i* S	**Sn**	**06 56 14.7**	**-1.0**
MATI	**Mati**	**1.33**	**12**	*eP*	**Pn**	**06 55 59.1**	**-2.2**
DAV	**Davao City (W)**	**1.48**	**345**	P	**Pn**	**06 56 00.9**	**-2.0**
	127nm,0.3s,baz=260,slow=4.2,SNR=4.6						
DAV				S	**Sn**	**06 56 21.9**	**-1.2**
	193nm,0.3s,baz=70,slow=24,SNR=7.2						
DAV	**Davao City (W)**	**1.48**	**345**	*e*Pn	**Pn**	**06 56 02.7**	**-0.2**
DAV				*e*Sn	**Sn**	**06 56 24.2**	**+1.1**
KCP	**Kidapawan**	**1.62**	**327**	‖ *eP*	**Pn**	**06 56 05.1**	**+0.4**
KCP				*e*S	**Sn**	**06 56 26.2**	**0.0**
BUKP	**Musuan**	**2.40**	**338**	*eP*	**Pn**	**06 56 15.7**	**+1.1**
BIPH	**Bislig**	**2.56**	**9**	‖ *eP*	**Pn**	**06 56 15.6**	**-1.0**
BIPH				*e*S	**Sn**	**06 56 50.6**	**+3.1**
BUTP	**Butuan**	**3.33**	**354**	*eP*	**Sn**	**06 57 12.3**	**+6.7**
PAGZ	**Pagadian**	**3.38**	**311**	*eP*	**Pn**	**06 56 29.7**	**+2.3**
MSLP	**Maasin**	**4.60**	**346**	*eP*	**Pn**	**06 56 46.7**	**+2.9**
BATI	**Baumata**	**15.90**	**188**	P	**Pn**	**06 59 18.1**	**+4.2**
	10.0nm,0.3s,baz=173,slow=20,SNR=8.2						
FITZ	**Fitzroy Crossi**	**23.59**	**181**	*eP*	**P**	**07 00 38.8**	**+1.8**
	6.3nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.59**	**181**	P	**P**	**07 00 38.9**	**+1.9**
	3.9nm,0.5s,mb4.0,baz=11,slow=3.3,SNR=15						
WRAB	**Tennant Creek**	**26.71**	**162**	P	**P**	**07 01 04.9**	**-0.4**
	11nm,1.5s,mb4.2						
WRA	**Warramunga Arr**	**26.72**	**162**	P	**P**	**07 01 03.0**	**-2.4**
	1.0nm,0.5s,mb3.6,baz=346,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**30.14**	**165**	P	**P**	**07 01 36.5**	**+0.7**
	1.4nm,0.5s,mb3.8,baz=350,slow=7.5,SNR=14						
NWAO	**Narrogin (SRO)**	**39.24**	**192**	P	**P**	**07 02 56.2**	**+2.3**
	3.9nm,0.5s,mb4.5,baz=348,slow=7.2,SNR=5.6						
STKA	**Stephens Creek**	**40.17**	**159**	P	**P**	**07 03 01.5**	**-0.1**
	6.0nm,0.8s,mb4.5,baz=340,slow=7.9,SNR=12						
STKA	**Stephens Creek**	**40.17**	**159**	P	**P**	**07 03 01.5**	**-0.1**
MKAR	**Makanchi Array**	**55.57**	**325**	P	**P**	**07 05 00.6**	**+0.5**
	2.4nm,0.4s,mb4.6,baz=120,slow=8.5,SNR=13						
ZALV	**Zalesovo Beam**	**58.56**	**333**	P	**P**	**07 05 20.3**	**-0.8**
	1.1nm,0.4s,mb4.2,baz=142,slow=7.5,SNR=4.3						
BVAR	**Borovoye Array**	**65.32**	**327**	P	**P**	**07 06 06.3**	**-0.1**
	1.5nm,0.5s,mb4.0,baz=138,slow=10,SNR=8.5						
AKTK	**Aktyubinsk**	**71.71**	**321**	P	**P**	**07 06 46.0**	**-0.1**
AKTO	**Aktyubinsk**	**71.71**	**321**	P	**P**	**07 06 46.0**	**-0.1**
	1.7nm,0.6s,mb4.1,baz=101,slow=10,SNR=9.2						
VNDA	**Vanda**	**85.40**	**173**	P	**P**	**07 08 01.8**	**+1.1**
	0.5nm,0.6s,mb3.6,baz=325,slow=7.5,SNR=4.6						
VNDA	**Vanda**	**85.40**	**173**	P	**P**	**07 08 01.8**	**+1.1**
ARCES	**ARCESS Array B**	**88.41**	**340**	P	**P**	**07 08 13.3**	**-2.1**
	4.8nm,1.1s,mb4.5,baz=72,slow=7.8,SNR=4.7						
ARCES	**ARCESS Array B**	**88.41**	**340**	P	**P**	**07 08 13.3**	**-2.1**
NOA	**NORSAR Array B**	**96.75**	**334**	P	**P**	**07 08 51.7**	**-2.4**
	0.7nm,0.6s,mb4.2,baz=64,slow=4.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**121.60**	**289**	PKP	PKPdf	07 14 18.5	+0.6
	1.1nm,0.6s,baz=56,slow=1.6,SNR=13						

*ISCJB **22** 06:59:30.3±1.8, 1281N±009×1453E±02, h58km±13km, mb4.0/10, Error ellipse: s-maj=37.5km s-min=15.4km az=174.2*
*IDC **22** 06:59:30.5±2.1, 1283N×14530E, h42km±17km, mb3.7/9, mb1 3.9/9, mb1mx3.7/21, mbtmp3.7/9, MS3.8/1, Ms1 3.8/1, ms1mx3.0/33, Error ellipse: s-maj=33.1km s-min=15.5km az=82.0*
*NEIC **22** 06:59:32.4±1.5, 1281N×145.16E, h58km±11km, mb4.7/1, Error ellipse: s-maj=30.6km s-min=11.1km az=86.0*
*MOS **22** 06:59:36.9±0.6, 1274N×14396E, h86km, mb4.7/1, Error ellipse: s-maj=36.1km s-min=19.2km az=70.0*
ISC 22 06:59:30.5±2.3,**1283N**±009×**1454E**±02,**h46**km±18km,**n25**,
σ0§**66**/17,**mb4.0**/10,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.90**	**327**	P	**Pn**	**06 59 45.9**	**-0.9**
	260nm,0.3s,baz=157,slow=9.9,SNR=74						
GUMO				S	**Sn**	**06 59 58.8**	**+0.2**
	738nm,0.3s,baz=4.0,slow=18,SNR=15						
GUMO				LR	LR	07 00 08.2	
	comp=Z,2μm,18.0s,baz=118,slow=43						
GUMO	**Guam**	**0.90**	**327**	P	**Sn**	**06 59 59.7**	**+1.1**
GUMO	**Guam**	**0.90**	**327**	*eP*	**Pn**	**06 59 45.8**	**-1.0**
GUMO				LR	LR	07 00 08.2	
GUMO	**Guam**	**0.90**	**327**	Sn	**Sn**	**06 59 59.7**	**+1.1**
MJAR	**Matsushiro Arr**	**24.47**	**346**	LR	LR	07 12 59.1	
	comp=Z,226nm,20.7s,baz=145,slow=33						
KSRS	**Kosrae Array**	**29.06**	**331**	P	**P**	**07 05 26.6**	**+0.1**
	0.4nm,0.3s,mb3.6,baz=144,slow=12,SNR=4.1						
WRAB	**Tennant Creek**	**34.32**	**199**	*eP*	**P**	**07 06 13.3**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,18nm,1.8s,mb4.7						
WRAB	**Tennant Creek**	**34.32**	**199**	*eP*	**P**	**07 06 13.3**	**+0.5**
	comp=Z,18nm,1.8s,mb4.7						
WRA	**Warramunga Arr**	**34.33**	**199**	P	**P**	**07 06 12.7**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=22,slow=9.8,SNR=17						
ASAR	**Alice Springs**	**37.97**	**197**	P	**P**	**07 06 44.2**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.6,baz=24,slow=9.1,SNR=8.3						
STKA	**Stephens Creek**	**44.60**	**185**	P	**P**	**07 07 38.4**	**+0.1**
	comp=Z,1.8nm,0.8s,mb3.9,baz=318,slow=13,SNR=3.1						
STKA	**Stephens Creek**	**44.60**	**185**	P	**P**	**07 07 38.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**44.96**	**283**	P	**P**	**07 07 40.9**	**-0.6**
	comp=Z,1.1nm,0.4s,mb4.0,baz=83,slow=6.6,SNR=5.8						
MKAR	**Makanchi Array**	**62.37**	**316**	P	**P**	**07 09 49.1**	**+0.7**
	comp=Z,0.4nm,0.4s,mb3.9,baz=99,slow=8.9,SNR=2.9						
BVAR	**Borovoye Array**	**70.82**	**322**	P	**P**	**07 10 40.9**	**-1.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=102,slow=6.3,SNR=5.1						
NVAR	**Mina Array Bea**	**87.01**	**51**	P	**P**	**07 12 11.2**	**-0.1**
	comp=Z,0.4nm,0.9s,mb3.7,baz=205,slow=6.6,SNR=3.2						
ARCES	**ARCESS Array B**	**87.95**	**342**	P	**P**	**07 12 15.9**	**+0.8**
	comp=Z,2.4nm,0.8s,mb4.5,baz=40,slow=7.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**135.69**	**304**	PKP	PKPdf	07 18 49.0	+2.1
	comp=Z,0.9nm,1.2s,baz=24,slow=2.6,SNR=6.2						
DBIC	**Dimbokro**	**144.63**	**302**	PKP	PKPdf	07 19 03.0	-0.2
	comp=Z,7.9nm,0.9s,baz=52,slow=3.4,SNR=7.6						
DBIC	**Dimbokro**	**144.63**	**302**	PKP	PKPdf	07 19 03.0	-0.2
KIC	**Kosan Boka**	**144.71**	**301**	*eP*	PKPdf	07 19 03.4	+0.1
	comp=Z,279nm,2.0s						
TIC	**Toumodi**	**144.78**	**302**	*eP*	PKPdf	07 19 02.1	-1.3
	comp=Z,104nm,1.4s						
LIC	**Lamto**	**145.02**	**301**	*eP*	PKPbc	07 19 04.3	+1.1
	comp=Z,42nm,0.9s						
LPAZ	**La Paz**	**147.42**	**100**	PKPbc	PKPbc	07 19 12.3	+2.0
	comp=Z,1.0nm,0.7s,baz=38,slow=2.9,SNR=5.4						
LPAZ	**La Paz**	**147.42**	**100**	PKPbc	PKPbc	07 19 12.3	+2.0

*ISCJB **22** 07:07:08.7±0.3, 4144N±002×1581E±002, h12km±3km, Error ellipse: s-maj=3.1km s-min=2.8km az=172.0*
*NEIC **22** 07:07:08.3, 4145N×1579E, h2km, ML2.8(ROM), After ROM.*
*CSEM **22** 07:07:08.5±0.1, 4147N×1578E, h15km, ML3.9/2, Error ellipse: s-maj=1.0km s-min=0.9km az=96.0*
*ROM **22** 07:07:08.3±0.1, 4145N×1579E, h2km, Md2.8/44, Ml2.8/34, Error ellipse: s-maj=1.2km s-min=0.9km az=105.0*
ISC 22 07:07:09.2±0.3,**4146N**±002×**1581E**±002,**h14**km±3km,**n52**,
σ0§**71**/66,**1D**,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAG	**Monte S. Angel**	**0.27**	**17**	Pg	**Pg**	**07 07 14.9**	**0.0**
MSAG				Sg	**Sg**	**07 07 19.1**	**+0.3**
	3μm,0.2s						
MS1	**Monte Sant'Ang**	**0.27**	**22**	*e*Pg	**Pg**	**07 07 15.2**	**+0.3**
MS1				*e*Sg	**Sg**	**07 07 19.2**	**+0.4**
RGNG	**Rignano Grg**	**0.27**	**323**	‖ *i*Pg	**Pg**	**07 07 14.5**	**-0.5**
FGMS	**Monte Sant'Ang**	**0.28**	**24**	Pg	**Pg**	**07 07 15.2**	**+0.2**
FGMS				Sg	**Sg**	**07 07 19.5**	**+0.5**
SGRT	**San Giovanni R**	**0.30**	**351**	Pg	**Pg**	**07 07 15.2**	**-0.3**
SGRT				Sg	**Sg**	**07 07 19.6**	**-0.2**
	2μm,0.3s						
FG4	**Candela**	**0.39**	**214**	Pg	**Pg**	**07 07 16.9**	**-0.2**
FG5	**Orsara di Pugl**	**0.44**	**247**	Pg	**Pg**	**07 07 17.8**	**-0.2**
	180nm,0.2s						
SGTA	**Sant Agata di**	**0.46**	**226**	Pg	**Pg**	**07 07 18.0**	**-0.4**
SGTA				Sg	**Sg**	**07 07 25.1**	**+0.5**
	580nm,0.3s						
MRVN	**Minervino Murg**	**0.49**	**143**	Pg	**Pg**	**07 07 18.4**	**-0.5**
	323nm,0.3s						
CDT	**Castel del Mon**	**0.51**	**137**	*e*Pg	**Pg**	**07 07 15.2**	**-4.1**
VULT	**Monte Vulture**	**0.52**	**196**	Pg	**Pg**	**07 07 19.6**	**+0.1**
VULT				Sg	**Sg**	**07 07 27.7**	**+1.3**
	1μm,0.3s						
PALZ	**Palazzo San Ge**	**0.52**	**167**	Pg	**Pg**	**07 07 19.1**	**-0.4**
	587nm,0.2s						
FG2	**Serracapriola**	**0.60**	**306**	Pg	**Pg**	**07 07 20.1**	**-0.8**
	691nm,0.2s						
CAFE	**Carife**	**0.61**	**225**	Pg	**Pg**	**07 07 21.2**	**+0.1**
CAFE				Sg	**Sg**	**07 07 30.8**	**+1.7**
	397nm,0.3s						
ACER	**Acerenza**	**0.68**	**171**	Pg	**Pg**	**07 07 22.7**	**+0.3**
	7.0nm,0.2s						
SNAL	**S. Angelo Dei**	**0.70**	**221**	Pg	**Pg**	**07 07 21.9**	**-0.9**
SNAL				Sg	**Sg**	**07 07 33.2**	**+1.3**
	554nm,0.6s						
CIGN	**Sant'Elia a Pi**	**0.70**	**287**	Pg	**Pg**	**07 07 22.7**	**-0.2**
	406nm,0.5s						
MRLC	**Muro Lucano**	**0.74**	**199**	Pg	**Pg**	**07 07 23.7**	**+0.1**
MRLC				Sg	**Sg**	**07 07 35.0**	**+1.7**
	556nm,0.5s						
PSB1	**Pescosannita**	**0.79**	**253**	Pg	**Pg**	**07 07 23.7**	**-0.8**
	95nm,0.6s						
AMUR	**Altamura**	**0.81**	**132**	Pg	**Pg**	**07 07 24.4**	**-0.6**
	494nm,0.3s						
MCRV	**Calabrutti - M**	**0.83**	**216**	Pg	**Pg**	**07 07 24.1**	**-1.2**
	655nm,0.4s						
SACR	**S. Croce Del S**	**0.83**	**266**	Pg	**Pg**	**07 07 25.6**	**+0.3**
	413nm,0.8s						
CSSN	**Cassano Irpino**	**0.84**	**225**	Pg	**Pg**	**07 07 24.6**	**-0.9**
	153nm,0.4s						
BAI	**Bari**	**0.88**	**113**	*i* Pg	**Pg**	**07 07 27.0**	**+0.7**
BAI				*e*Sg	**Sg**	**07 07 39.5**	**+1.7**
SG1	**Sgolgore (BA)**	**0.90**	**133**	*e*Pg	**Pg**	**07 07 26.7**	**0.0**
SG1				*e*Sg	**Sg**	**07 07 37.2**	**-1.3**
BSSO	**Busso**	**0.92**	**276**	Pg	**Pg**	**07 07 27.3**	**+0.4**
BSSO				Sg	**Sg**	**07 07 40.5**	**+1.6**
	294nm,0.2s						
PTRJ	**Pietrarojа**	**0.96**	**265**	Pg	**Pg**	**07 07 27.5**	**-0.4**
	322nm

λ156.00000°. NP2:φ=223.00000°, δ77.00000°, λ58.00000°.
Principal axes: T 3.0330, Plg48.0000°, Azm99.0000°; N 0.1560, Plg31.0000°, Azm231.0000°; P -3.1790, Plg25.0000°, Azm338.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BGS **22** 07:26:29.1±1.6, 42.32N×13.826E, h124km, mb5.3

SZGRF **22** 07:26:29.0, 43.24N×140.94E, h125km, mb5.7, Hokkaido, Japan, region

DJA **22** 07:26:40, 41.77N×140.73E, h272km, mb5.5/44

ISC 22 07:26:24.1±0.1, **4201N**002×**14069E**±001, **h124**km, **h124**km±.8km:**pP-P, n1524**, ∘0**577**/1544, **mb5.5**/324, **310C-296D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYM2	**Yakumo 2**	**0.26**	**295**	⇑P	**Pn**	**07 26 40.8**	**-0.6**
JKB	**Kayabe**	**0.29**	**115**	⇑P	**Pn**	**07 26 40.2**	**-1.3**
JKB				*e*S	**Sn**	**07 26 52.9**	**-1.6**
JSR	**Shiriuchi**	**0.52**	**203**	⇑P	**Pn**	**07 26 41.7**	**-0.9**
JSR				*e*S	**Sn**	**07 26 55.5**	**-1.1**
JNB	**Noboribetsu**	**0.53**	**30**	⇑P	**Pn**	**07 26 41.5**	**-1.2**
JNB				*e*S	**Sn**	**07 26 55.5**	**-1.2**
JOT	**Ohata**	**0.68**	**156**	⇓P	**Pn**	**07 26 42.3**	**-1.5**
JSH	**Shimam**	**0.79**	**323**	⇑P	**Pn**	**07 26 44.7**	**+0.1**
JSH				*e*S	**Sn**	**07 27 00.7**	**+0.6**
JOSM	**Okushiri--Mats**	**0.90**	**275**	⇑P	**Pn**	**07 26 45.2**	**-0.4**
JOSM				*e*S	**Sn**	**07 27 02.1**	**+0.3**
JSI2	**Shiura 2**	**0.97**	**192**	⇓P	**Pn**	**07 26 45.5**	**-0.7**
JEW	**Eniwo**	**1.01**	**34**	⇑P	**Pn**	**07 26 46.0**	**-0.5**
JEW				*e*S	**Sn**	**07 27 03.0**	**-0.5**
JTM	**Tenmabayashi**	**1.25**	**167**	⇓P	**Pn**	**07 26 47.7**	**-1.4**
JSK	**Shakotan**	**1.35**	**354**	⇓P	**Pn**	**07 26 50.3**	**+0.2**
JSK				*e*S	**Sn**	**07 27 10.8**	**+0.9**
JIW	**Iwasaki**	**1.50**	**200**	⇓P	**Pn**	**07 26 51.5**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.56**	**79**	⇓P	**Pn**	**07 26 50.7**	**-1.8**
JANG	**Nango**	**1.75**	**159**	⇓P	**Pn**	**07 26 52.3**	**-2.4**
JAH	**Hinai**	**1.82**	**181**	⇓P	**Pn**	**07 26 54.9**	**-0.7**
JFR	**Furan**	**1.82**	**50**	P	**Pn**	**07 26 54.1**	**-1.5**
JHR	**Hokuryu**	**1.89**	**23**	⇓P	**Pn**	**07 26 56.8**	**+0.4**
JCH	**Churui**	**2.08**	**72**	⇑P	**Pn**	**07 26 57.4**	**-1.3**
JCH				*e*S	**Sn**	**07 27 23.2**	**-1.9**
JKZ	**Kuzumaki**	**2.08**	**166**	⇓P	**Pn**	**07 26 57.2**	**-1.6**
JTH	**Tanohata**	**2.25**	**156**	⇓P	**Pn**	**07 26 57.8**	**-3.1**
JYW	**Yuwa**	**2.49**	**189**	⇓P	**Pn**	**07 27 03.9**	**-0.1**
ASAJ	**Asahikawa**	**2.53**	**33**	P	**Pn**	**07 27 04.0**	**-0.4**
	337nm,0.3s,baz=229,slow=13,SNR=585						
ASAJ				S	**Sn**	**07 27 32.1**	**-3.2**
	145nm,0.3s,baz=165,slow=24,SNR=3.8						
ASAJ				LR	LR	07 27 51.7	
	comp=Z,6μm,18.9s,baz=198,slow=35						
ASAJ	**Asahikawa**	**2.53**	**33**	PN	**Pn**	**07 27 04.1**	**-0.3**
ASAJ				S	**Sn**	**07 27 32.2**	**-3.2**
ASAJ				pmax	pmax		
	comp=Z,337nm,0.3s						
ASAJ				smax			
	comp=N,145nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,6μm,18.9s						
JOM	**Ohasama**	**2.58**	**169**	⇓P	**Pn**	**07 27 03.2**	**-1.8**
JRG	**Rokugo**	**2.61**	**181**	⇓P	**Pn**	**07 27 04.9**	**-0.6**
JYK	**Kaneyama**	**3.10**	**185**	⇓P	**Pn**	**07 27 10.7**	**-1.1**
JYA	**Atsumi**	**3.49**	**193**	⇓P	**Pn**	**07 27 16.6**	**-0.4**
JOU	**Okura**	**3.64**	**180**	⇓P	**Pn**	**07 27 17.3**	**-1.7**
JYS	**Shiratake**	**3.81**	**187**	⇓P	**Pn**	**07 27 20.5**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**4.30**	**60**	*i*PN	**Pn**	**07 27 25.8**	**-1.9**
YUK				*i*S	**Sn**	**07 28 13.0**	**-4.1**
YUK				pmax	pmax		
	comp=N,5μm,0.4s						
YUK				pmax	pmax		
	comp=Z,7μm,0.4s						
YUK				smax			
	comp=N,26μm,0.7s						
YUK				smax			
	comp=E,9μm,0.7s						
YUK				smax			
	comp=N,65μm,2.2s						
YUK				smax			
	comp=E,26μm,1.0s						
YUK				MLR	MLR		
	comp=Z,8μm,13.0s						
JSD	**Sado**	**4.38**	**206**	⇓P	**Pn**	**07 27 29.1**	**+0.3**
YSS	**Yuzh-Sakhalins**	**5.16**	**16**κ	*i*PN	**Pn**	**07 27 39.0**	**-0.2**
YSS				*i*S	**Sn**	**07 28 37.0**	**-0.7**
YSS				pmax	pmax		
	comp=N,6μm,8.0s						
YSS				pmax	pmax		
	comp=Z,6μm,8.0s						
YSS				pmax	pmax		
	comp=E,4μm,5.0s						
YSS				smax			
	comp=N,14μm,14.0s						
YSS				smax			
	comp=E,12μm,12.0s						
YSS				MLR	MLR		
	comp=N,10μm,12.0s						
YSS				MLR	MLR		
	comp=Z,9μm,12.0s						
YSS	**Yuzh-Sakhalins**	**5.16**	**16**	*e*Pn	**Pn**	**07 27 39.5**	**+0.3**
YSS				Sn	**Sn**	**07 28 36.7**	**-0.9**
MAJO	**Matsushiro**	**5.79**	**200**	*e*Pn	**Pn**	**07 27 47.4**	**-0.3**
MAJO				*e*Sn	**Sn**	**07 28 55.3**	**+2.5**
MAT	**Matsushiro**	**5.79**	**200**	P	**Pn**	**07 27 47.4**	**-0.3**
MAT				*e*S	**Sn**	**07 28 56.2**	**+3.3**
MJAR	**Matsushiro Arr**	**5.79**	**200**	P	**Pn**	**07 27 47.9**	**+0.1**
	comp=Z,68nm,0.3s,baz=18,slow=15,SNR=225						
MJAR				S	**Sn**	**07 28 48.3**	**-4.6**
	comp=Z,40nm,0.3s,baz=32,slow=7.6,SNR=4.6						
MJAR				ScP	ScP	07 38 00.1	-0.1
	comp=Z,0.3nm,0.3s,baz=75,slow=0.4,SNR=6.0						
MJAR	**Matsushiro Arr**	**5.79**	**200**	PN	**Pn**	**07 27 47.9**	**+0.2**
MJAR				S	**Sn**	**07 28 48.3**	**-4.6**
JNG	**Nsakai**	**5.94**	**201**	⇓P	**Pn**	**07 27 49.9**	**+0.1**
KUR	**Kuril'sk**	**6.13**	**56**	⇑*i*PN	**Pn**	**07 27 47.5**	**-4.7**
KUR				pmax	pmax		
	comp=N,540nm,0.8s						
KUR				pmax	pmax		
	comp=E,860nm,0.8s						
KUR				pmax	pmax		
	comp=Z,4μm,0.8s						
KUR				pmax	pmax		
	comp=N,5μm,2.0s						
KUR				pmax	pmax		
	comp=E,5μm,2.0s						
KUR				pmax	pmax		
	comp=Z,5μm,2.0s						
JGN	**Niukaw**	**6.34**	**205**	P	**Pn**	**07 27 56.0**	**+0.8**
VLA	**Vladivostok**	**6.59**	**283***c*	*i*PN	**Pn**	**07 27 59.9**	**+1.5**
VLA				*i*		07 29 14.8	
VLA				pmax	pmax		
	comp=Z,474nm,0.7s						
VLA				MLR	MLR		
	comp=Z,2μm,10.7s						
VLA	**Vladivostok**	**6.59**	**283**	⇑*i*P	**Pn**	**07 27 59.8**	**+1.4**
MDJ	**Mudanjiang**	**8.50**	**292**	P	**Pn**	**07 28 25.5**	**+1.2**
MDJ				S	**Sn**	**07 30 00.0**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,394nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,2μm,7.2s						
MDJ				LR	LR		
	comp=N,3μm,9.1s						
MDJ				LR	LR		
	comp=E,3μm,6.1s						
MDJ				LR	LR		
	comp=Z,4μm,9.1s						
MDJ	**Mudanjiang**	**8.50**	**292**	*e*Pn	**Pn**	**07 28 25.8**	**+1.6**
	comp=Z,580nm,1.2s						
MDJ				*e*Sn	**Sn**	**07 30 05.9**	**+7.5**
MDJ				*e*ScP	ScP	07 38 02.7	+0.2
JHJ	**Hachijo jima 2**	**8.90**	**185**	P	**Pn**	**07 28 24.4**	**-5.4**
	comp=Z,360nm,0.3s,baz=8.0,slow=8.2,SNR=51						
JHJ				S	**Sn**	**07 29 58.0**	**-10**
	comp=Z,408nm,0.3s,baz=194,slow=23,SNR=11						
KLR	**Kul'dur**	**9.55**	**322**α	*i*PN	**Pn**	**07 28 34.4**	**-4.0**
KLR				pmax	pmax		
	comp=N,430nm,2.2s						
KLR				pmax	pmax		
	comp=E,1μm,2.2s						
KLR				pmax	pmax		
	comp=Z,1μm,2.2s						
KLR				pmax	pmax		
	comp=N,4μm,10.5s						
KLR				pmax	pmax		
	comp=E,3μm,10.5s						
KLR				pmax	pmax		
	comp=Z,4μm,10.5s						
KLR				MLR	MLR		
	comp=E,5μm,11.0s						
KLR				MLR	MLR		
	comp=Z,7μm,11.0s						
KSRS	**Korea Array**	**10.83**	**249**	P	**Pn**	**07 28 55.8**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=63,slow=13,SNR=46						
KSRS				LR	LR	07 32 48.6	
	comp=Z,785nm,20.5s,baz=75,slow=36						
KSRS				PcP	PcP	07 34 45.5	+1.0
	baz=107,slow=1.4,SNR=4.2						
KSRS				ScP	ScP	07 38 05.8	+0.4
	comp=Z,1.1nm,0.3s,baz=74,slow=0.5,SNR=75						
CN2	**Changchun**	**11.32**	**284**	*e*P	**Pn**	**07 29 01.4**	**-0.6**
CN2				*e*XP		07 29 34.3	
CN2				*e*S	**Sn**	**07 31 04.8**	**-1.9**
CN2				AMB	AMB		
	comp=Z,40nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,6μm,15.0s						
CN2				LR	LR		
	comp=E,4μm,15.0s						
CN2				LR	LR		
	comp=Z,3μm,16.0s						
INCN	**Inchon**	**11.72**	**252**	Pn	**Pn**	**07 29 09.7**	**+2.4**
	comp=Z,41nm,0.8s						
SNY	**Shenyang**	**12.75**	**275**	⇓P	**Pn**	**07 29 21.6**	**+0.8**
SNY				XP		07 29 53.8	
SNY				S	**Sn**	**07 31 48.1**	**+6.9**
SNY				SCS	ScS	07 41 42.5	-1.8
SNY				AMB	AMB		
	comp=Z,79nm,1.8s						
SNY				AMB	AMB		
	comp=Z,1μm,9.0s						
SNY				LR	LR		
	comp=N,1μm,8.7s						
SNY				LR	LR		
	comp=E,2μm,10.2s						
SNY				LR	LR		
	comp=Z,2μm,9.6s						
SKR	**Severo-Kuril's**	**13.72**	**46**	*e*P	**Pn**	**07 29 28.4**	**-4.9**
SKR				pmax	pmax		
	comp=Z,360nm,0.8s						
SKR				pmax	pmax		
	comp=N,170μm,0.8s						
SKR				pmax	pmax		
	comp=E,120μm,0.8s						
SKR				MLR	MLR		
	comp=N,3μm,16.0s						
SKR				MLR	MLR		
	comp=E,5μm,16.0s						
SKR				MLR	MLR		
	comp=Z,4μm,16.0s						
DL2	**Dalian**	**14.84**	**264**	*i*P	**Pn**	**07 29 47.9**	**+0.4**
DL2				S	**Sn**	**07 32 33.5**	**+1.9**
DL2				SCS	ScS	07 41 47.4	-2.0
DL2				AMB	AMB		
	comp=Z,110nm,0.9s						
DL2				AMB	AMB		
	comp=Z,380nm,5.8s						
CBIJ	**Chichi jima**	**14.93**	**175**	P	**Pn**	**07 29 43.6**	**-5.2**
	comp=Z,176nm,0.3s,baz=31,slow=7.4,SNR=75						
CBIJ				S	**Sn**	**07 32 19.2**	**-15**
	comp=Z,56nm,0.3s,baz=76,slow=23,SNR=5.7						
PETK	**Petropavlovsk-**	**15.93**	**40**	P	**Pn**	**07 29 58.5**	**-2.5**
	comp=Z,4.1nm,0.3s,baz=213,slow=8.4,SNR=30						
PETK				ScP	ScP	07 38 13.2	-0.2
	comp=Z,0.2nm,0.3s,baz=118,slow=2.4,SNR=7.0						
PETK	**Petropavlovsk-**	**15.93**	**40**	P	**Pn**	**07 29 58.5**	**-2.5**
PETK				ScP	ScP	07 38 13.2	-0.2
HIA	**Hailar**	**16.32**	**304**	*e*P	**Pn**	**07 30 04.1**	**-1.7**
HIA				*e*		07 33 06.6	
HIA				pmax	pmax		
	comp=Z,110nm,0.8s						
HIA	**Hailar**	**16.32**	**304**	*e*Pn	**Pn**	**07 30 04.1**	**-1.7**
	comp=Z,110nm,0.8s						
HIA				*e*Sn	**Sn**	**07 33 06.6**	**-0.4**
PET	**Petropavlovsk**	**16.34**	**41**	*e*P	**Pn**	**07 30 02.1**	**-4.0**
PET				*i*S	**S**	**07 32 55.1**	**-13**
PET				pmax	pmax		
	comp=Z,47nm,0.7s						
PET				pmax	pmax		
	comp=Z,300nm,5.2s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PET				MLR	MLR		
	comp=Z,2μm,16.0s						
PET	**Petropavlovsk**	**16.34**	**41**	*e*Pn	**Pn**	**07 30 04.7**	**-1.4**
	comp=Z,31nm,0.6s						
CLNS	**Chul'man**	**17.98**	**331**	*e*P	**Pn**	**07 30 23.2**	**-2.6**
CLNS				*e*S	**S**	**07 33 44.7**	**+0.4**
CLNS				pmax	pmax		
	comp=Z,495nm,2.1s						
CLNS				pmax	pmax		
	comp=N,327nm,1.3s						
CLNS				pmax	pmax		
	comp=E,127nm,1.5s						
CLNS				smax			
	comp=N,923nm,19.3s						
CLNS				smax			
	comp=E,824nm,13.3s						
CLNS				MLR	MLR		
	comp=Z,2μm,12.0s						
CLNS				MLR	MLR		
	comp=N,1μm,12.0s						
CLNS				MLR	MLR		
	comp=Z,734nm,12.0s						
JOW	**Kunigami**	**18.24**	**218**	P	**P**	**07 30 26.4**	**-1.4**
	comp=E,3.5nm,0.3s,baz=30,slow=8.2,SNR=14						
JOW				ScP	ScP	07 38 17.8	-0.8
	comp=E,3.2nm,0.3s,baz=324,slow=0.3,SNR=15						
BJI	**Beijing**	**18.59**	**272**	P	**P**	**07 30 30.8**	**-0.7**
BJI				S	**S**	**07 33 49.0**	**-7.8**
BJI				PCS	PcS	07 38 31.6	-0.3
BJT	**Baijiatuau**	**18.60**	**272**	*e*P	**P**	**07 30 30.1**	**-1.5**
BJT				*e*S	**S**	**07 33 53.6**	**-3.4**
BJT				pmax	pmax		
	comp=Z,227nm,1.1s						
BJT	**Baijiatuau**	**18.60**	**272**	*e*P	**P**	**07 30 30.1**	**-1.5**
	comp=Z,227nm,1.1s						
BJT				*e*S	**S**	**07 33 53.6**	**-3.4**
BJT				*e*ScP	ScP	07 38 19.9	+0.7
SSE	**Sheshan**	**19.04**	**241**	P	**P**	**07 30 34.4**	**-2.0**
SSE				S	**S**	**07 34 06.1**	**+0.2**
SSE				AMB	AMB		
	comp=Z,36nm,0.7s						
SSE				AMB	AMB		
	comp=Z,491nm,9.0s						
SSE				LR	LR		
	comp=N,2μm,17.5s						
SSE				LR	LR		
	comp=E,2μm,17.5s						
SSE				LR	LR		
	comp=Z,1μm,13.7s						
TIA	**Tai'an**	**19.15**	**260**	*e*P	**P**	**07 30 36.8**	**-0.9**
TIA				S	**S**	**07 34 04.0**	**-4.1**
TIA				AMB	AMB		
	comp=Z,72nm,1.0s						
TIA				LR	LR		
	comp=N,876nm,10.0s						
NJ2	**Nanjing**	**20.01**	**247**	*e*P	**P**	**07 30 49.9**	**+2.9**
NJ2				PP		07 31 13.3	
NJ2				S	**S**	**07 34 25.0**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s						
NJ2				LR	LR		
	comp=N,2μm,17.5s						
NJ2				LR	LR		
	comp=E,1μm,25.3s						
NJ2				LR	LR		
	comp=Z,1μm,26.0s						
CIT	**Chita**	**20.92**	**308**	*e*P	**P**	**07 30 52.8**	**-3.8**
CIT				*e*		07 31 18.6	
CIT				*e*		07 34 35.7	
CIT				*e*		07 35 08.2	
CIT				pmax	pmax		
	comp=Z,307nm,2.7s						
YAK	**Yakutsk**	**21.11**	**346***d*	*i*P	**P**	**07 30 54.6**	**-3.8**
YAK				*e**PP		07 31 21.1	
YAK				*e*S	**S**	**07 34 36.3**	**-10**
YAK				*e*		07 34 56.2	
YAK				*e**SS	sS	07 35 18.7	-5.5
YAK				*e*		07 42 03.9	
YAK				pmax	pmax		
	comp=Z,281nm,0.8s,mb5.7						
YAK				pmax	pmax		
	comp=N,143nm,1.1s						
YAK				pmax	pmax		
	comp=E,80nm,1.8s						
YAK				smax			
	comp=N,251nm,2.8s						
YAK				smax			
	comp=E,608nm,2.1s						
YAK	**Yakutsk**	**21.11**	**346**	*e*P	**P**	**07 30 54.8**	**-3.6**
	comp=E,372nm,0.8s,mb5.8						
HHC	**Hu-ho-hao-te**	**21.82**	**277**	*e*P	**P**	**07 31 03.0**	**-3.3**
HHC				AP		07 31 28.1	
HHC				PP		07 31 34.8	
HHC				S	**S**	**07 34 50.4**	**-9.3**
HHC				PCP	PcP	07 35 00.3	-0.8
HHC				SS		07 35 39.1	
HHC				SCP	ScP	07 38 23.5	-3.2
HHC				PCS	PcS	07 38 36.3	-3.3
HHC				AMB	AMB		
	comp=Z,379nm,6.3s						
HHC				LR	LR		
	comp=N,2μm,9.8s						
HHC				LR	LR		
	comp=E,1μm,8.3s						
HHC				LR	LR		
	comp=Z,1μm,10.5s						
TIY	**Taiyuan**	**22.06**	**268**	P	**P**	**07 31 05.1**	**-3.7**
TIY				S	**S**	**07 34 59.6**	**-4.0**
TIY				LR	LR		
	comp=N,851nm,11.5s						
TIY				LR	LR		
	comp=E,546nm,10.7s						
TIY				LR	LR		
	comp=Z,444nm,13.7s						
SEY	**Seymchan**	**22.07**	**14**	*i*P	**P**	**07 31 05.1**	**-3.5**
SEY	**Seymchan**	**22.07**	**14**	*i*P	**P**	**07 31 05.1**	**-3.5**
BTO	**Baotou**	**23.02**	**277**	*e*P	**P**	**07 31 16.6**	**-1.6**
BOD	**Bodaibo**	**23.13**	**322**	*e*P	**P**	**07 31 15.6**	**-3.4**
BOD				pmax	pmax		
	comp=Z,155nm,0.9s,mb5.3						
TATO	**Taipei**	**23.26**	**229**	*e*P	**P**	**07 31 21.0**	**+0.5**
	comp=Z,172nm,0.8s,mb5.4						
YHNB	**Yeheng**	**23.56**	**229**	*e*P	**P**	**07 31 22.3**	**-0.9**
	comp=Z,56nm,0.6s,mb5.1						
NACB	**Ninganchiao**	**23.83**	**228**	*e*P	**P**	**07 31 23.0**	**-2.8**
	comp=Z,17nm,1.1s,mb4.3						
WHN	**Wuhan**	**24.02**	**250**	⇓P	**P**	**07 31 25.9**	**-1.5**
WHN				AP		07 31 50.8	
WHN				S	**S**	**07 35 28.6**	**-6.9**
WHN				SCP	ScP	07 38 32.8	+0.1
WHN				AMB	AMB		
	comp=Z,319nm,5.8s						
WHN				LR	LR		
	comp=N,2μm,9.8s						
WHN				LR	LR		
	comp=E,1μm,8.0s						
WHN				LR	LR		
	comp=Z,2μm,12.1s						
SMY	**Shemya**	**24.82**	**53**	*e*P	**P**	**07 31 34.7**	**+0.2**
SMY				pmax	pmax		
	comp=Z,309nm,1.6s,mb5.5						
SMY				MLR	MLR		
	comp=Z,400nm,21.0s						
SMY	**Shemya**	**24.82**	**53**	*e*P	**P**	**07 31 34.7**	**+0.2**
	comp=Z,309nm,1.6s,mb5.5						
SMY				LR	LR		
	comp=Z,400nm,21.0s						
SONM	**Songino Array**	**24.83**	**295**	P	**P**	**07 31 33.3**	**-1.3**
	comp=Z,18nm,0.5s,mb4.8,baz=106,slow=9.4,SNR=77						
SONM				ScP	ScP	07 38 34.3	-0.3
	comp=Z,25nm,0.9s,baz=112,slow=2.1,SNR=25						
SONM				LR	LR	07 42 12.3	
	comp=Z,589nm,18.6s,baz=92,slow=38						
QZH	**Quanzhou**	**24.97**	**234**	P	**P**	**07 31 37.3**	**+1.2**
QZH				S	**S**	**07 35 51.3**	**+0.6**
QZH				XS	sS	07 36 33.0	-4.1
QZH				LR	LR		
	comp=N,1μm,14.2s						
QZH				LR	LR		
	comp=E,1μm,10.7s						
QZH				LR	LR		
	comp=Z,690nm,12.2s						
XAN	**Xi'an**	**26.14**	**263**	P	**P**	**07 31 45.6**	**-1.0**
XAN				AP	pP	07 32 12.3	-0.9
XAN				XP	sP	07 32 27.0	-0.6
XAN				PP		07 32 31.6	
XAN				PCP	PcP	07 35 13.3	+2.7
XAN				S	**S**	**07 36 03.1**	**-6.0**
XAN				SCP	ScP	07 38 38.3	-0.4
XAN				PCS	PcS	07 38 52.1	+0.5
XAN				SCS	ScS	07 42 27.5	-1.2
XAN				AMB	AMB		
	comp=Z,55nm,0.7s,mb5.1						
XAN				AMB	AMB		
	comp=Z,311nm,13.0s						
XAN				LR	LR		
	comp=N,136nm,13.9s						
XAN				LR	LR		
	comp=E,657nm,17.6s						
XAN				LR	LR		
	comp=Z,790nm,13.7s						
IRK	**Irkutsk**	**26.54**	**305**	⇓*i*P	**P**	**07 31 49.6**	**-0.4**
IRK				*e*		07 32 31.4	
IRK				*e*S	**S**	**07 36 17.5**	**+2.5**
IRK				pmax	pmax		
	comp=Z,452nm,2.0s,mb5.7						
TLY	**Talaya**	**26.86**	**304**	P	**P**	**07 31 53.7**	**+0.9**
	comp=Z,573nm,1.1s,mb6.0,SNR=20						
TLY	**Talaya**	**26.86**	**304***d*	*i*P	**P**	**07 31 51.2**	**-1.6**
TLY				*e*PPP		07 32 49.4	
TLY				*e*S	**S**	**07 36 19.7**	**-0.3**
TLY				pmax	pmax		
	comp=Z,136nm,1.3s,mb5.3						
TLY				MLR	MLR		
	comp=Z,1μm,14.0s						
TLY	**Talaya**	**26.86**	**304**	*e*P	**P**	**07 31 52.1**	**-0.8**
	comp=Z,145nm,1.2s,mb5.4						
TLY				pP	pP	07 32 18.5	-1.0
TLY				*e*sP	sP	07 32 30.1	-3.8
ZAK	**Zakamensk**	**26.97**	**301**	⇓*i*P	**P**	**07 31 53.1**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,55nm,1.5s,mb4.9						
AMKA	**Amchitka**	**27.81**	**57**	P	**P**	**07 31 59.8**	**-1.5**
AMKA				*e*PP	PP	07 33 04.9	-1.4
MOY	**Mondy**	**28.50**	**304**	*e*P	**P**	**07 32 07.2**	**-0.3**
MOY				pmax	pmax		
	comp=Z,416nm,1.7s,mb5.7						
GUMO	**Guam**	**28.55**	**171**	P	**P**	**07 32 08.5**	**+0.3**
	comp=Z,88nm,0.9s,mb5.4,baz=204,slow=11,SNR=4.5						
GUMO	**Guam**	**28.55**	**171**	*e*P	**P**	**07 32 08.4**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,103nm,1.0s,mb5.4						
GUMO	**Guam**	**28.55**	**171**	*e*P	**P**	**07 32 08.4**	**+0.2**
	comp=Z,103nm,1.0s,mb5.4						
LZH	**Lanzhou**	**29.06**	**271**	⇓P	**P**	**07 32 12.5**	**-0.1**
LZH				XS	sS	07 37 41.4	-0.5
LZH				SCS	ScS	07 42 41.0	-0.8
LZH				AMB	AMB		
	comp=Z,94nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,320nm,4.9s						
LZH				LR	LR		
	comp=E,959nm,13.1s						
LZH				LR	LR		
	comp=Z,1μm,14.3s						
BILL	**Bilibino**	**29.47**	**19***d*	*i*P	**P**	**07 32 12.9**	**-2.9**
BILL				*e**PP	pP	07 32 41.9	-0.8
BILL				*e**SP	sP	07 32 53.4	-3.7
BILL				*e*		07 35 16.9	
BILL				*e*S	**S**	**07 36 58.2**	**-2.5**
BILL				*e*SS	SS	07 38 43.5	-27
BILL				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.8						
BILL				MLR	MLR		
	comp=Z,1μm,21.0s						
BILL	**Bilibino**	**29.47**	**19**	*e*P	**P**	**07 32 15.9**	**+0.1**
	comp=Z,28nm,0.8s,mb5.0						
BILL				*e*pP	pP	07 32 41.9	-0.8
BILL				*e*ScP	ScP	07 38 49.7	+1.4
TIXI	**Tiksi**	**30.29**	**353***d*	*i*P	**P**	**07 32 19.8**	**-3.3**
TIXI				*e*		07 33 21.7	
TIXI				*e*S	**S**	**07 37 07.5**	**-6.0**
TIXI				*e*		07 42 42.6	

TIXI pmax pmax
comp=Z,66nm,1.8s,mb5.0
TIXI MLR MLR
comp=Z,937nm,9.0s
TIXI Tiksi 30.29 353 *e*P **P 07 32 21.2 -1.9**
comp=Z,95nm,1.8s,mb5.1
GTA Gaotai 30.89 279 P **P 07 32 27.9 -0.8**
GTA AP pP 07 32 54.9 -0.7
GTA PP PP 07 33 33.6 -7.0
GTA PCP PcP 07 35 22.9 +0.6
GTA S **S 07 37 20.6 -2.9**
GTA SS SS 07 39 12.9 -27
GTA AMB AMB
comp=Z,29nm,1.3s,mb4.8
GTA AMB AMB
comp=Z,192nm,7.2s
GTA LR LR
comp=N,2μm,17.4s
GTA LR LR
comp=E,652nm,17.7s
GTA LR LR
comp=Z,1μm,17.1s
CD2 Chengdu 31.48 262 *e*P **P 07 32 33.3 -0.6**
CD2 AP pP 07 32 59.0 -1.9
CD2 PP PP 07 33 41.1 -6.2
CD2 PCP PcP 07 35 24.3 +0.3
CD2 S **S 07 37 31.4 -1.4**
CD2 PCS PcS 07 39 07.5 -1.1
CD2 SS SS 07 39 26.6 -26
CD2 SCS ScS 07 42 52.3 -1.3
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CD2 AMB AMB
comp=Z,300nm,8.4s
CD2 LR LR
comp=N,1μm,15.6s
CD2 LR LR
comp=E,570nm,14.4s
CD2 LR LR
comp=Z,700nm,14.4s
GYA Guiyang 31.87 252⇑ *i*P **P 07 32 40.3 +2.8**
GYA AP pP 07 33 07.9 +3.4
GYA XP sP 07 33 21.6 +2.9
GYA PP PP 07 33 49.3 -2.5
GYA PCP PcP 07 35 27.6 +2.4
GYA S **S 07 37 41.0 +1.9**
GYA XS sS 07 38 26.4 +0.2
GYA SCP ScP 07 38 58.5 +1.5
GYA SCS ScS 07 42 55.1 -0.6
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,170nm,5.7s
GYA LR LR
comp=N,2μm,17.5s
GYA LR LR
comp=E,1μm,16.0s
GYA LR LR
comp=Z,1μm,16.7s
QIZ Qiongzhong 34.77 238 P **P 07 33 03.5 +0.8**
QIZ AP pP 07 33 27.8 -2.1
QIZ S **S 07 38 26.9 +2.9**
QIZ XS sS 07 39 09.8 -1.7
QIZ LR LR
comp=N,809nm,17.8s
QIZ LR LR
comp=E,1μm,18.6s
QIZ LR LR
comp=Z,628nm,14.6s
QIZ Qiongzhong 34.77 238 *e*P **P 07 33 04.5 +1.8**
comp=Z,39nm,1.7s,mb5.0
NIKO Nikolski 35.12 54 *e*P **P 07 33 03.8 -1.5**
comp=Z,37nm,1.0s,mb5.2
KMI Kunming 35.48 254 P **P 07 33 08.6 -0.1**
KMI AP pP 07 33 34.8 -1.3
KMI XP sP 07 33 53.6 +3.4
KMI PP PP 07 34 30.8 -0.9
KMI S **S 07 38 30.6 -4.2**
KMI SCP ScP 07 39 10.4 +0.7
KMI XS sS 07 39 21.9 -0.5
KMI SS SS 07 40 54.5 -16
KMI AMB AMB
comp=Z,27nm,1.2s,mb5.0
KMI AMB AMB
comp=Z,142nm,5.9s
KMI LR LR
comp=N,613nm,16.9s
KMI LR LR
comp=E,710nm,16.1s
KMI LR LR
comp=Z,519nm,12.5s
UNV Unalaska Valle 36.48 53 *e*P **P 07 33 14.9 -2.0**
comp=Z,14nm,0.7s,mb5.0
UNV *e*PcP PcP 07 35 37.7 -0.3
MIDW Midway 36.60 98 *e*P **P 07 33 18.2 0.0**
comp=Z,114nm,0.8s,mb5.8
TNA Tin City 36.89 33 *e*P **P 07 33 20.3 +0.1**
comp=Z,214nm,1.1s,mb6.0
DAV Davao City (W) 37.28 205 *e*P **P 07 33 24.6 +0.5**
comp=Z,251nm,1.0s,mb6.1
ZAA0 Zalesovo Array 38.28 308 *e*P **P 07 33 31.6 -0.5**
ZAA0 *e*PcP PcP 07 35 44.2 +0.8
ZALV Zalesovo Beam 38.28 308 P **P 07 33 31.6 -0.4**
comp=Z,213nm,0.7s,mb6.1,baz=88,slow=7.6,SNR=337
ZALV PcP PcP 07 35 42.4 -1.1
comp=Z,12nm,0.3s,baz=97,slow=2.4,SNR=9.0
ZALV ScP ScP 07 39 19.9 +0.3
comp=Z,20nm,0.8s,baz=83,slow=3.3,SNR=17
ZALV Zalesovo Beam 38.28 308 P **P 07 33 31.6 -0.4**
ZALV PcP PcP 07 35 42.4 -1.1
ZALV ScP ScP 07 39 19.9 +0.3
ZAL Zalesovo 38.29 308 P **P 07 33 31.6 -0.6**
ZAL 07 35 42.4
ZAL 07 39 19.9
WMQ Urumqi 38.30 291 P **P 07 33 33.0 +0.6**
WMQ AP pP 07 34 01.0 +1.0
WMQ XP sP 07 34 15.8 +1.7
WMQ PP PP 07 35 07.8 +5.5
WMQ PCP PcP 07 35 44.8 +1.1
WMQ S **S 07 39 17.5 +0.3**
WMQ SCP ScP 07 39 19.4 -0.5
WMQ SS SS 07 42 05.0 -5.5
WMQ AMB AMB
comp=Z,198nm,0.9s,mb5.9
WMQ AMB AMB
comp=Z,178nm,10.0s
WMQ LR LR
comp=N,3μm,21.8s
WMQ LR LR
comp=E,496nm,16.0s
WMQ LR LR
comp=Z,702nm,16.0s
NVS Novosibirsk 39.12 309⇓ *i*P **P 07 33 38.2 -0.8**
NVS pmax pmax
comp=N,32nm,0.9s
NVS pmax pmax
comp=E,102nm,0.9s
NVS pmax pmax
comp=Z,167nm,0.9s,mb5.9
SDPT Sand Point 39.87 50 *e*P **P 07 33 43.7 -1.5**
comp=Z,177nm,0.6s,mb6.1
SDPT LR LR
comp=Z,400nm,21.0s
KDM Kudat 40.84 218 ⇓P **P 07 33 57.1 +3.4**
CHGN Chignik 40.92 48 *e*P **P 07 33 53.4 -0.5**
MK31 Makanchi Array 41.17 297 *i* P **P 07 33 55.9 -0.1**
MK31 pmax pmax
comp=Z,25nm,0.3s,mb5.5
MKAR Makanchi Array 41.17 297 P **P 07 33 55.9 -0.1**
comp=Z,27nm,0.4s,mb5.4,baz=82,slow=9.9,SNR=99
MKAR ScP ScP 07 39 30.6 -0.4
comp=Z,19nm,0.9s,baz=64,slow=5.5,SNR=13
LSA Lhasa 41.45 269 P **P 07 34 00.6 +2.0**
LSA S **S 07 39 58.3 -6.2**
LSA AMB AMB
comp=Z,60nm,1.2s,mb5.3
LSA LR LR
comp=N,480nm,27.1s
LSA Lhasa 41.45 269 *e*P **P 07 34 00.5 +1.9**
LSA *e**PP pP 07 34 27.5 +1.0
LSA pmax pmax
comp=Z,94nm,1.2s,mb5.5
LSA Lhasa 41.45 269 *e*P **P 07 34 00.5 +1.9**
comp=Z,94nm,1.2s,mb5.5
LSA *e*pP pP 07 34 27.4 +0.9
LSA *e*ScP ScP 07 39 35.5 +3.1
MYLDM Lahad Datu 41.66 214⇑P **P 07 34 03.0 +2.6**
TTA Tatalina 41.75 38 *e*P **P 07 34 01.4 +0.8**
SDKM Sandakan 41.81 217⇑P **P 07 34 02.7 +1.1**
KKM Kota Kinabalu 41.90 218⇑P **P 07 34 02.3 0.0**
KKM Kota Kinabalu 41.90 218 *e*P **P 07 34 02.3 0.0**
SVW2 Sparrevohn 42.01 41 *e*P **P 07 34 02.9 +0.2**
IMP Imphal 42.09 261 *e*P **P 07 34 02.0 -1.8**
CHTO Chiang Mai 42.23 250 *e*P **P 07 34 05.6 +0.6**
CHTO pmax pmax
comp=Z,83nm,1.7s,mb5.2
CHTO Chiang Mai 42.23 250 *e*P **P 07 34 05.6 +0.6**
comp=Z,82nm,1.7s,mb5.2
CMAR Chiang Mai Arr 42.47 249 P **P 07 34 08.0 +1.0**
comp=Z,6.7nm,0.7s,mb4.5,baz=38,slow=7.1,SNR=38
CMAR ScP ScP 07 39 37.5 +0.8
comp=Z,26nm,0.9s,baz=17,slow=3.4,SNR=33
CMAR LR LR 07 52 56.6
comp=Z,224nm,19.0s,baz=49,slow=38
KURK Kurchatov 42.55 304 P **P 07 34 06.0 -1.3**
comp=Z,2μm,1.1s,mb6.8
KURK Kurchatov 42.55 304⇓P **P 07 34 07.1 -0.2**
SNR=165
KURK Kurchatov 42.55 304 *e*P **P 07 34 06.8 -0.5**
KURK *e**PP pP 07 34 33.6 -1.7
KURK Kurchatov 42.55 304 *e*P **P 07 34 06.8 -0.5**
KURK *e*pP pP 07 34 33.6 -1.7
KURK *e*ScP ScP 07 39 37.8 +1.3
TSM Tawau 42.72 215⇓P **P 07 34 10.1 +1.1**
IMA2 Indian Mountai 42.76 33 *e*P **P 07 34 07.9 -0.8**
SHL Shillong 43.15 264 *e*P **P 07 34 13.0 +0.6**
CHUM Lake Minchumin 43.38 36 *e*P **P 07 34 15.1 +1.4**
comp=Z,109nm,0.9s,mb5.6
PPLA Purkeypile 43.50 38 *e*P **P 07 34 16.2 +1.5**
comp=Z,455nm,1.5s,mb6.0
OHAK Old Harbor 43.60 46 *e*P **P 07 34 14.6 -1.0**
comp=Z,159nm,0.8s,mb5.8
KDAK Kodiak Island 43.89 45 P **P 07 34 17.3 -0.5**
comp=Z,1μm,0.7s,mb6.7,SNR=49
KDAK Kodiak Island 43.89 45 LR LR 07 52 30.9
comp=Z,483nm,21.0s,baz=14,slow=36
KDAK Kodiak Island 43.89 45 *e*P **P 07 34 17.2 -0.7**
comp=Z,149nm,0.8s,mb5.8
BPAW Bear Paw Mtn. 43.96 36 *e*P **P 07 34 19.0 +0.6**
comp=Z,45nm,0.7s,mb5.3
BPAW *e*pP pP 07 34 47.9 +1.4
KTH Kantishna Hill 44.02 37 *e*P **P 07 34 20.1 +1.3**
comp=Z,6.2nm,0.2s,mb5.0
COLD Coldfoot 44.14 31 *e*P **P 07 34 19.6 -0.1**
comp=Z,40nm,1.2s,mb5.0
COLD *e*ScP ScP 07 39 44.2 +1.6
TRF Thorofare Moun 44.32 37 *e*P **P 07 34 21.8 +0.6**
comp=Z,95nm,0.8s,mb5.6
TRF *e*pP pP 07 34 49.4 -0.1
FIB Fire Island 44.62 40 P **P 07 34 25.2 +1.6**
FIB pmax pmax
comp=Z,139nm,0.5s,mb5.9
FIB Fire Island 44.62 40 P **P 07 34 25.2 +1.6**
comp=Z,140nm,0.5s,mb6.0
SLKM Skilak Lake 44.68 41 *e*P **P 07 34 24.0 -0.2**
SLKM *e*S **S 07 40 51.9 +1.0**
RC01 Rabbit Creek A 44.84 40 *e*P **P 07 34 25.5 +0.1**
comp=Z,121nm,0.8s,mb5.7
MCK McKinley 44.89 36 *e*P **P 07 34 26.2 +0.5**
MCK pmax pmax
comp=Z,137nm,1.0s,mb5.6
MCK McKinley 44.89 36 *e*P **P 07 34 26.2 +0.4**
comp=Z,136nm,1.0s,mb5.6
MCK *e*ScP ScP 07 39 46.5 +0.7
PMR Palmer 45.06 39 *e*P **P 07 34 26.8 -0.3**
PMR pmax pmax
comp=Z,116nm,0.9s,mb5.6
PMR MLR MLR
comp=Z,300nm,20.0s
PMR Palmer 45.06 39 *e*P **P 07 34 26.8 -0.3**
comp=Z,116nm,0.9s,mb5.6
PMR LR LR
comp=Z,300nm,20.0s
SEW Seward 45.12 42 *e*P **P 07 34 27.4 -0.2**
COLA College 45.24 35⇑ *i*P **P 07 34 29.0 +0.5**
COLA College 45.24 35 *e*P **P 07 34 29.2 +0.6**
comp=Z,206nm,1.0s,mb5.8
TAPN Taplejung 45.26 269 *e*P **P 07 34 29.9 +0.7**
ODAN Odare 45.77 268 *e*P **P 07 34 33.6 +0.4**
comp=Z,420nm,1.1s,mb6.1
BTM Bintulu 45.86 220⇓P **P 07 34 34.4 +0.5**
AAA Alma-Ata 45.87 294 *i* P **P 07 34 34.1 +0.3**
AAA pmax pmax
comp=Z,2μm,9.1s
JIRN Jiri 46.23 270 *e*P **P 07 34 38.1 +1.3**
comp=Z,48nm,0.2s,mb5.8
RAMN Ramite 46.31 269 *e*P **P 07 34 37.4 0.0**
comp=Z,581nm,1.0s,mb6.3
GUN Gumba 46.32 271 *e*P **P 07 34 38.6 +1.1**
DIV Divide 46.73 40 *e*P **P 07 34 40.9 +0.6**
comp=Z,100nm,0.8s,mb5.6
DIV *e*S **S 07 41 24.1 +3.9**
ULHL Ulahol 46.74 293 P **P 07 34 42.0 +1.4**
SNR=71
MID Middleton Isla 46.80 42 *e*P **P 07 34 42.5 +1.7**
KKN Kakani 46.83 271 *e*P **P 07 34 42.2 +0.7**
comp=Z,623nm,1.0s,mb6.3
KKN Kakani 46.83 271 *e*P **P 07 34 42.2 +0.7**
KKN pmax pmax
comp=Z,623nm,1.0s,mb6.3
EYAK Cordova Ski Ar 46.86 41 *e*P **P 07 34 41.9 +0.7**
comp=Z,81nm,0.4s,mb5.8
EYAK *e*S **S 07 41 25.8 +3.7**
PKI Pulchoki 46.86 270 *e*P **P 07 34 42.3 +0.6**
BVA0 Borovoye Array 46.91 309 *i* P **P 07 34 41.0 -0.7**
BVA0 pmax pmax
comp=Z,12nm,0.4s,mb5.0
BVAR Borovoye Array 46.91 309 P **P 07 34 41.6 -0.2**
comp=Z,41nm,0.3s,mb5.6,baz=77,slow=9.7,SNR=212
BVAR ScP ScP 07 39 54.5 +0.1
comp=Z,32nm,0.8s,baz=85,slow=3.4,SNR=23
TKM2 Tokmak 2 46.92 294 *e*P **P 07 34 42.7 +0.7**
TKM2 pmax pmax
comp=Z,249nm,0.8s,mb6.0
TKM2 Tokmak 2 46.92 294 P **P 07 34 42.7 +0.7**
SNR=296
TKM2 Tokmak 2 46.92 294 *e*P **P 07 34 42.7 +0.7**
comp=Z,249nm,0.8s,mb6.0
SBUM Sibu 46.93 221⇑P **P 07 34 43.0 +0.7**
BRVK Borovoye 46.96 309 P **P 07 34 42.8 +0.7**
comp=Z,903nm,1.1s,mb6.4,SNR=30
BRVK Borovoye 46.96 309 *e*P **P 07 34 42.0 -0.1**
BRVK pmax pmax
comp=Z,148nm,0.9s,mb5.7
BRVK Borovoye 46.96 309 *e*P **P 07 34 42.0 -0.1**
comp=Z,148nm,0.9s,mb5.7
DMN Daman 47.06 271 *e*P **P 07 34 44.0 +0.7**
comp=Z,386nm,1.0s,mb6.1
GKN Gorkha 47.20 271 *e*P **P 07 34 44.7 +0.4**
BMRM Bremner River 47.32 40 *e*P **P 07 34 45.4 +0.6**
BMRM *e*PcP PcP 07 36 15.8 +2.2
MENT Mentasta 47.34 37 *e*P **P 07 34 46.7 +1.8**
KBK Karagaybulak 47.46 294 P **P 07 34 46.6 +0.5**
SNR=115
CHMS Chumysh 47.47 295 P **P 07 34 46.7 +0.5**
SNR=19
KZA Kyzart 47.48 293 P **P 07 34 47.8 +1.4**
SNR=53
USP Ospenovka 47.53 295 P **P 07 34 46.9 +0.2**
SNR=68
FRU Bishkek 47.62 294⇓ *e*P **P 07 34 48.0 +0.6**
FRU *i* S **S 07 41 35.0 +1.6**
FRU pmax pmax
comp=Z,370nm,2.0s,mb5.9
FRU smax
comp=N,2μm,7.5s
DANN Dangsing 47.67 272 *e*P **P 07 34 49.2 +1.3**
comp=N,1μm,0.6s,mb6.9
KSH Kashi 48.02 290 P **P 07 34 52.4 +1.8**
KSH AP pP 07 35 17.3 -1.9
KSH PCP PcP 07 36 19.3 +2.7
KSH PP PP 07 36 44.3 +0.8
KSH PCS PcS 07 40 13.8 +1.4
KSH S **S 07 41 39.8 +0.6**
KSH SCS ScS 07 44 31.3 +0.4
KSH SS SS 07 45 03.8 -5.5
KSH LR LR
comp=N,2μm,7.8s
KSH LR LR
comp=E,3μm,5.6s
KSH LR LR
comp=Z,2μm,12.3s
EGAK Eagle 48.09 34 *e*P **P 07 34 51.1 +0.4**
comp=Z,154nm,1.1s,mb5.8
KOLN Koldanda 48.10 272 *e*P **P 07 34 51.3 0.0**
comp=Z,385nm,1.0s,mb6.2
EKS2 Erkin-Say 48.26 295 P **P 07 34 52.4 +0.2**
SNR=51
EKS2 Erkin-Say 48.26 295 *e*P **P 07 34 52.7 +0.4**
comp=Z,59nm,0.9s,mb5.4
AML Almayashu 48.52 294 P **P 07 34 55.3 +1.0**
SNR=84
AML Almayashu 48.52 294 *e*P **P 07 34 55.3 +1.0**
comp=Z,168nm,1.2s,mb5.8
BOK Bokaro 48.62 266⇓ *i*P **P 07 34 55.2 -0.1**
BOK AMb AMB 07 34 58.2
comp=Z,83nm,1.5s,mb5.5
KSM Kuching 48.72 222⇑P **P 07 34 57.4 +1.3**
KSM Kuching 48.72 222 *e*P **P 07 34 57.0 +1.0**
DAWY Dawson 48.99 35 *e*P **P 07 34 58.0 +0.4**
KTGM Kuala Trenggan 49.47 233⇓P **P 07 35 03.4 +1.5**
KK31 Karatay Array 50.28 296 *i* P **P 07 35 07.3 -0.3**
KK31 pmax pmax
comp=Z,103nm,0.9s,mb5.8
KAPI Kappang 50.54 207 P **P 07 35 09.7 -0.2**
comp=Z,2μm,0.7s,mb7.2,SNR=27
KAPI Kappang 50.54 207 *e*P **P 07 35 09.0 -0.8**
comp=Z,323nm,1.1s,mb6.3
HYT Haines Junctio 50.71 39 *e*P **P 07 35 13.8 +3.2**
DDI Dehra Dun 50.86 278 *e*P **P 07 35 11.0 -1.2**
KULM Kulim 51.00 236⇑P **P 07 35 14.5 +1.1**
SMLA Simla 51.10 279 *i* P **P 07 35 14.0 0.0**
SMLA *e*x x 07 35 17.4
comp=Z,1μm,1.3s
SMLA *i* S **S 07 42 21.5 -0.7**
SVE Sverdlovsk 51.12 316⇑ *e*P **P 07 35 13.9 +0.2**
SVE *e* 07 37 09.6
SVE *e*PPP 07 38 21.7
SVE *e*S **S 07 42 25.2 +3.5**
SVE *e*SSS 07 47 46.4
SVE pmax pmax
comp=Z,325nm,0.9s,mb6.4
SVE MLR MLR
comp=Z,3μm,17.0s
DLH Dalhousie 51.26 282 *e*P **P 07 35 15.0 -0.2**
THN Thein Dam 51.50 282 *e*P **P 07 35 16.7 -0.2**
PMG Port Moresby 51.51 172 *e*P **P 07 35 16.5 -0.5**
PMG *e* 07 36 28.8
PMG pmax pmax
comp=Z,43nm,1.2s
PMG Port Moresby 51.51 172 *e*P **P 07 35 16.5 -0.5**
comp=Z,43nm,1.2s,mb5.3
PMG *e*PcP PcP 07 36 28.8 -0.7
PMG *e*ScP ScP 07 40 14.7 +0.3
MYKOM Kota Tinggi 51.91 230⇓P **P 07 35 20.8 +0.7**
KGM Kluang 52.03 230⇑P **P 07 35 22.1 +1.1**
FRIM Kepong 52.03 233⇓P **P 07 35 21.1 0.0**
SKAG Skagway 52.18 40 *e*P **P 07 35 22.6 +1.0**
comp=Z,79nm,1.0s,mb5.7
SKAG LR LR
comp=Z,300nm,17.0s
ARU Arti 52.33 316 P **P 07 35 22.7 0.0**
comp=Z,749nm,1.0s,mb6.7,SNR=27
ARU Arti 52.33 316 *d i* P **P 07 35 22.3 -0.4**
ARU *e**PP pP 07 35 50.8 -1.0
ARU *e**SP sP 07 36 03.0 -2.6
ARU *e* 07 36 26.0
ARU *e*PPP 07 38 24.9
ARU *e*S **S 07 42 40.5 +2.2**
ARU *e* 07 44 54.9
ARU *e*SS SS 07 46 14.0 -3.0
ARU *e*SSS 07 48 12.6
ARU pmax pmax
comp=Z,207nm,1.2s,mb6.0
ARU Arti 52.33 316 *e*P **P 07 35 22.6 -0.2**
comp=Z,168nm,0.9s,mb6.1
ARU *e*pP pP 07 35 52.3 +0.6
ARU *e*PP PP 07 37 22.2 0.0
ARU *e*ScP ScP 07 40 18.0 +0.5
ARU *e*S **S 07 42 45.9 +7.6**
NDI New Delhi 52.35 277 *e*P **P 07 35 22.0 -1.3**
NDI *e*S **S 07 42 38.0 -1.3**
BLSP Bilaspur 52.39 267⇓ *i*P **P 07 35 22.6 -1.1**
BLSP AMb AMB 07 35 26.0
comp=Z,85nm,0.9s,mb5.8
SIT Sitka 53.05 43 *e*P **P 07 35 29.7 +1.7**
SIT pmax pmax
comp=Z,123nm,1.3s,mb5.8
SIT MLR MLR
comp=Z,200nm,20.0s
SIT Sitka 53.05 43 *e*P **P 07 35 29.7 +1.7**
comp=Z,123nm,1.3s,mb5.8
SIT LR LR
comp=Z,200nm,20.0s
PSI Prapat 54.01 235 P **P 07 35 36.0 +0.4**
comp=Z,55nm,0.8s,mb5.6,baz=17,slow=5.9,SNR=48
PSI Prapat 54.01 235 P **P 07 35 36.0 +0.4**
HNR Honiara 54.15 156 P **P 07 35 36.0 -0.5**
comp=Z,124nm,0.7s,mb6.1,baz=257,slow=2.4,SNR=15
HNR LR LR 07 57 18.4
comp=Z,412nm,18.5s,baz=356,slow=34
HNR Honiara 54.15 156 *e*P **P 07 35 36.6 +0.1**
comp=Z,363nm,0.9s,mb6.4
VIS Vishakhapatnam 54.20 262⇓ *i*P **P 07 35 37.1 +0.1**
VIS AMb AMB 07 35 40.5
comp=Z,40nm,0.7s,mb5.5
BATI Baumata 54.26 201 P **P 07 35 36.8 -0.5**
comp=Z,167nm,0.7s,mb6.2,baz=345,slow=0.8,SNR=22
AB31 Akbulak array 54.39 307 *i* P **P 07 35 37.8 -0.1**
AB31 pmax pmax
comp=Z,10.0nm,0.2s,mb5.5
CRAG Craig 54.81 44 *e*P **P 07 35 41.7 +0.9**
comp=Z,175nm,2.2s,mb5.7
CRAG LR LR
comp=Z,300nm,20.0s
WRAK Wrangell Islan 54.81 43 *e*P **P 07 35 42.7 +1.9**
comp=Z,37nm,0.8s,mb5.5
KIP Kipapa 54.86 92 *e*P **P 07 35 42.5 +0.8**
KIP pmax pmax
comp=Z,247nm,0.8s,mb6.3
KIP Kipapa 54.86 92 *e*P **P 07 35 42.5 +0.8**
comp=Z,247nm,0.8s,mb6.3
HON Honolulu 54.93 92 *e*P **P 07 35 43.2 +1.0**
KAKA Kakadu 54.97 190 *e*P **P 07 35 41.4 -1.0**
comp=Z,247nm,0.9s,mb6.2
AKTK Aktyubinsk 55.01 309 P **P 07 35 41.8 -0.6**
AKTK PP PP 07 37 47.4 +1.0
AKTK ScP ScP 07 40 29.1 -0.3
AKTO Aktyubinsk 55.01 309 P **P 07 35 41.8 -0.6**
comp=Z,63nm,0.8s,mb5.7,baz=64,slow=7.0,SNR=88
AKTO PP PP 07 37 47.4 +1.0
comp=Z,15nm,0.8s,baz=81,slow=2.0,SNR=4.8
AKTO ScP ScP 07 40 29.1 -0.3
comp=Z,26nm,0.8s,baz=53,slow=3.2,SNR=13
AKTO Aktyubinsk 55.01 309 P **P 07 35 41.8 -0.6**
AKTO 07 37 47.4
DLBC Dease Lake 55.12 40 *e*P **P 07 35 44.3 +1.3**
AJM Ajmer 55.46 276⇓ *i*P **P 07 35 46.0 0.0**
AJM AMb AMB 07 35 48.9
comp=Z,93nm,1.1s,mb5.7
KBS Kingsbay 55.67 349 *e*P **P 07 35 45.7 -1.0**
KBS *e*S **S 07 43 23.5 +0.8**
KBS Kingsbay 55.67 349 *e*P **P 07 35 46.7 0.0**
KBS pmax pmax
comp=Z,99nm,0.9s,mb5.8
KBS Kingsbay 55.67 349 *e*P **P 07 35 46.7 0.0**
comp=Z,99nm,0.9s,mb5.8
COEN Coen 55.73 177 *e*P **P 07 35 47.9 +0.1**
comp=Z,71nm,1.0s,mb5.7
COEN *e*pP pP 07 36 18.6 +1.4
COEN *e*sP sP 07 36 33.0 +2.2
AKL Akola 57.06 269 *e*P **P 07 35 57.6 +0.3**
AKL AMb AMB 07 35 59.5
comp=Z,138nm,0.4s,mb6.4
LVZ Lovozero 57.37 334 P **P 07 35 58.4 -0.4**
comp=Z,370nm,0.9s,mb6.4,SNR=7.9
LVZ Lovozero 57.37 334⇑ *e*P **P 07 35 58.6 -0.2**
POHA Pohakuloa 57.71 92 *e*P **P 07 36 03.1 +1.2**
comp=Z,614nm,0.9s,mb6.6
HYB Hyderabad 57.93 265 *i* P **P 07 36 04.0 +0.5**
HYB Hyderabad 57.93 265 *e*P **P 07 36 04.0 +0.5**
RES Resolute Bay 57.94 15 *e*P **P 07 36 03.3 +0.6**
comp=Z,4μm,1.0s
APA Apatity 57.95 334⇑ *i*P **P 07 36 02.0 -0.8**
APA *i **PP pP 07 36 26.0 -6.4

APA *i* 07 36 52.5
APA *i* PPP 07 39 43.5
APA *i* S **S** **07 43 44.0 -8.8**
APA *i* PS 07 44 10.0
APA *i* 07 45 38.0
APA *i* SS SS 07 47 48.0 +3.1
APA pmax pmax
comp=Z,94nm,1.2s,mb5.7
APA MLR MLR
comp=Z,600nm,12.0s
KHU Kahuku 57.96 92 *e*P **P 07 36 04.5 +0.8**
STCH Steam Cracks 58.24 92 *e*P **P 07 36 06.3 +0.6**
KEV Kevo 58.61 338 *e*p **P 07 36 06.8 -0.6**
comp=Z,5.5nm,0.3s,mb5.1
KEV Kevo 58.61 338 *e*P **P 07 36 06.8 -0.6**
KEV pmax pmax
comp=Z,6.0nm,0.3s,mb5.1
LATR Latur 58.79 267 *e*P **P 07 36 09.5 +0.1**
LATR AMb AMB 07 36 13.5
comp=Z,78nm,0.0s
ARCES ARCESS Array B 59.16 338 P **P 07 36 10.8 -0.5**
comp=Z,22nm,0.7s,mb5.3,baz=52,slow=7.5,SNR=107
ARCES LR LR 08 07 02.8
comp=Z,416nm,19.1s,baz=49,slow=41
ARE0 ARCESS Array S 59.16 338 *e*P **P 07 36 11.3 0.0**
YKW3 Yellowknife Ar 59.78 31 *e*P **P 07 36 15.7 +0.1**
YKA Yellowknife Ar 59.82 31 P **P 07 36 15.8 0.0**
comp=Z,35nm,0.8s,mb5.4,baz=307,slow=6.3,SNR=52
YKA PKP2bc 08 05 50.9
comp=Z,2.0nm,0.8s,baz=122,slow=2.2,SNR=4.3
KTK1 Kautokeino 60.12 338 *e*P **P 07 36 17.2 -0.6**
KTK1 AMb AMB 07 36 19.6
comp=Z,129nm,1.3s,mb5.8
KTK1 *e*pP pP 07 36 46.8 -0.8
KTK1 Kautokeino 60.12 338 *e*P **P 07 36 17.2 -0.6**
comp=Z,129nm,1.3s,mb5.8
POO Poona 60.74 269⇑*i*P **P 07 36 20.5 -2.3**
comp=Z,50nm,1.0s,mb5.5
POO *e*P 07 36 22.3
POO AMb AMB 07 36 23.9
comp=Z,41nm,0.8s,mb5.5
DAG Danmarks Havn 60.78 355⇑*i*P **P 07 36 21.4 -0.8**
DAG pmax pmax
comp=Z,69nm,0.8s,mb5.7
DAG Danmarks Havn 60.78 355⇑*i*P **P 07 36 21.4 -0.8**
comp=Z,69nm,0.8s,mb5.7
TRO Tromso 60.84 340 *e*P **P 07 36 22.4 -0.3**
TRO *e*S **S 07 44 32.6 +2.6**
TRO AMS AMS 07 59 16.3
comp=Z,101nm,19.6s
TRO Tromso 60.84 340 *e*P **P 07 36 22.4 -0.3**
TRO *i* 07 44 33.2
TRO LR LR
comp=Z,100nm,19.6s
KAD Karad 61.25 268 *e*P **P 07 36 24.6 -1.7**
KAD *i* P 07 36 24.9
KAD AMb AMB 07 36 25.4
comp=Z,70nm,1.1s,mb5.6
JOF Joensuu 61.34 331 *e*p **P 07 36 25.5 -0.6**
comp=Z,47nm,0.3s,mb6.0
JOF Joensuu 61.34 331 *e*P **P 07 36 25.5 -0.6**
JOF pmax pmax
comp=Z,47nm,0.3s,mb6.0
FITZ Fitzroy Crossi 61.40 196⇓*i*P **P 07 36 26.8 -0.3**
comp=Z,87nm,0.9s,mb5.8
FITZ Fitzroy Crossi 61.40 196 P **P 07 36 26.8 -0.2**
comp=Z,65nm,1.0s,mb5.6,baz=14,slow=8.2,SNR=57
WRAB Tennant Creek 61.91 187 P **P 07 36 24.0 -6.4**
comp=Z,650nm,0.6s,mb6.8,SNR=9.5
WRAB Tennant Creek 61.91 187 *e*P **P 07 36 28.9 -1.5**
WB2 Warramunga Arr 61.91 187⇓*i*P **P 07 36 24.0 -6.5**
WB2 *e* 07 36 29.1
WB2 *e*pP pP 07 36 59.5 -0.9
WB2 *e*S **S 07 44 40.0 -4.6**
WB2 Warramunga Arr 61.91 187 *e*P **P 07 36 29.2 -1.2**
WB2 *e*pP pP 07 36 59.8 -0.6
WB2 Warramunga Arr 61.91 187⇓*i*P **P 07 36 24.0 -6.5**
WB2 *e*pP pP 07 36 59.5 -0.9
WB2 *e*S **S 07 44 40.0 -4.6**
WRA Warramunga Arr 61.91 187 P **P 07 36 28.5 -1.9**
comp=Z,60nm,0.6s,mb5.8,baz=5.3,slow=6.8,SNR=285
WRA pP pP 07 36 58.5 -1.9
comp=Z,59nm,0.8s,baz=2.2,slow=6.9,SNR=7.4
WRA PKP2bc 08 05 45.6
comp=Z,2.0nm,1.0s,baz=190,slow=2.8,SNR=7.7
WRA Warramunga Arr 61.91 187 pP pP 07 36 58.5 -1.9
CTA Charters Tower 61.99 174⇓*i*P **P 07 36 30.0 -1.0**
comp=Z,19nm,0.6s,mb5.3
CTA Charters Tower 61.99 174 P **P 07 36 29.9 -1.1**
comp=Z,22nm,0.5s,mb5.4,baz=355,slow=7.0,SNR=29
CTA LR LR 08 02 00.1
comp=Z,174nm,21.4s,baz=339,slow=34
CTA Charters Tower 61.99 174⇓*i*P **P 07 36 30.0 -1.0**
CTA pmax pmax
comp=Z,19nm,0.6s
CTAO Charters Tower 61.99 174 *e*P **P 07 36 30.5 -0.5**
CTAO pmax pmax
comp=Z,20nm,0.6s,mb5.3
CTAO Charters Tower 61.99 174 *e*P **P 07 36 30.5 -0.5**
comp=Z,20nm,0.6s,mb5.3
MOS Moscow 62.96 322 *e*P **P 07 36 35.0 -2.1**
MOS *e**PP pP 07 37 05.5 -1.6
MOS *e* 07 38 53.9
MOS *e*S **S 07 44 53.7 -3.3**
MOS *e* 07 46 14.0
MOS pmax pmax
comp=Z,163nm,1.6s,mb5.7
MOS pmax pmax
comp=Z,400nm,1.8s,mb6.0
MOS MLR MLR
comp=Z,900nm,17.0s
LOF Lofoten 63.28 340 *e*P **P 07 36 40.6 +1.6**
LOF AMb AMB 07 36 44.0
comp=Z,122nm,1.6s,mb5.6
PGC Sidney 63.35 48 *e*P **P 07 36 40.0 +0.2**
comp=Z,57nm,0.8s,mb5.5
KOD Kodaikanal 63.37 259 *e*P **P 07 36 40.4 0.0**
KOD AMb AMB 07 36 42.7
comp=Z,33nm,0.9s,mb5.2
B04A Port Angeles 63.65 48⇓P **P 07 36 41.8 0.0**
baz=63,SNR=20
KAF Kangasniemi 63.65 331 *e*p **P 07 36 40.6 -0.9**
comp=Z,19nm,0.4s,mb5.3,baz=48,slow=6.2
KAF Kangasniemi 63.65 331 *e*P **P 07 36 40.6 -0.9**
KAF pmax pmax
comp=Z,19nm,0.4s,mb5.3
PUL Pulkovo 63.65 328 *e*P **P 07 36 41.7 +0.1**
OSD Olympics--Snow 63.67 48 P **P 07 36 42.9 +1.0**
A04A Legoe Bay, Lum 63.72 47⇑P **P 07 36 42.2 0.0**
baz=64,SNR=12
OBN Obninsk 63.81 322 P **P 07 36 42.0 -0.7**
comp=Z,532nm,0.6s,mb6.5,SNR=7.4
OBN Obninsk 63.81 322*d i*P **P 07 36 41.7 -1.0**
OBN *e**PP pP 07 37 10.7 -2.1
OBN *e**SP sP 07 37 23.2 -3.1
OBN *e* 07 39 04.5
OBN *e*S **S 07 45 07.5 -0.2**
OBN pmax pmax
comp=Z,200nm,1.7s,mb5.7
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 63.81 322 *e*P **P 07 36 42.0 -0.7**
comp=Z,36nm,0.6s,mb5.4
OBN *e*pP pP 07 37 12.3 -0.5
NLWA Neilton Lookou 63.82 49⇓P **P 07 36 43.4 +0.4**
baz=64,SNR=22
NLWA Neilton Lookou 63.82 49 *e*P **P 07 36 43.9 +1.0**
comp=Z,69nm,0.9s,mb5.5
A05A Maple Falls 63.90 47⇓P **P 07 36 42.9 -0.5**
baz=64,SNR=17
D03A Wishkah Elem. 64.03 49⇓P **P 07 36 44.8 +0.5**
baz=64,SNR=7.7
C04A Brinnon 64.14 48⇓P **P 07 36 45.0 0.0**
baz=64,SNR=15
A06A Chilliwack 64.17 46⇓P **P 07 36 44.2 -1.0**
baz=64,SNR=18
GNW Green Mountain 64.31 48 *e*P **P 07 36 46.8 +0.7**
comp=Z,105nm,2.0s,mb5.3
B05A Bryant 64.31 47⇓P **P 07 36 45.8 -0.3**
baz=64,SNR=35
JCW Jim Creek 64.44 47 P **P 07 36 47.6 +0.7**
E03A Lebam 64.47 50⇓P **P 07 36 47.3 +0.2**
baz=64,SNR=22
B06A Marblemount 64.50 47⇓P **P 07 36 46.9 -0.4**
baz=64,SNR=17

MOR8 Moi Rana 64.52 339 *e*P **P 07 36 44.7 -2.4**
MOR8 AMb AMB 07 36 47.4
comp=Z,237nm,0.8s,mb6.1
MOR8 Moi Rana 64.52 339 *e*P **P 07 36 44.7 -2.4**
comp=Z,237nm,0.8s,mb6.1
D04A Dobbs Creek Ra 64.58 49⇓P **P 07 36 48.6 +0.8**
baz=64
BMW Boistfort Moun 64.70 49 *e*P **P 07 36 49.2 +0.5**
STOK Stokkvaagen 64.78 339 *e*P **P 07 36 48.4 -0.4**
STOK AMb AMB 07 36 50.3
comp=Z,115nm,1.2s,mb5.6
STOK Stokkvaagen 64.78 339 *e*P **P 07 36 48.4 -0.4**
comp=Z,115nm,1.2s,mb5.6
A07A Ashnola River, 64.79 46⇓P **P 07 36 48.8 -0.4**
baz=65,SNR=29
F03A Seaside 64.83 50⇓P **P 07 36 50.1 +0.6**
baz=65,SNR=5.6
VRSR Storozhevoye 64.85 317 *e*P **P 07 36 48.8 -0.7**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.6s
VRSR MLR MLR
comp=Z,130nm,14.0s
VRSR MLR MLR
comp=N,110nm,16.0s
VRSR MLR MLR
comp=E,250nm,18.0s
C05A Tolt Reservoir 64.86 48⇑P **P 07 36 49.6 0.0**
baz=65,SNR=17
E04A Onalaska 64.92 49⇑P **P 07 36 50.5 +0.4**
baz=65,SNR=14
D05A Enumclaw 64.99 48⇑P **P 07 36 51.0 +0.5**
baz=65,SNR=14
MAK Makhachkala 65.01 306*d i*P **P 07 36 48.0 -2.7**
MAK *e**PP pP 07 37 17.5 -3.4
MAK *e**SP sP 07 37 30.9 -3.5
MAK *e* 07 39 13.5
MAK *i* S S 07 45 20.6 -2.2
MAK *e* 07 46 29.6
MAK *e*SS SS 07 49 37.4 +1.1
MAK pmax pmax
comp=Z,179nm,1.2s,mb5.8
MAK MLR MLR
comp=Z,611nm,15.0s
HEBO Mount Hebo 65.13 51 P **P 07 36 52.2 +0.7**
comp=Z,124nm,1.3s,mb5.6
JMIC Jan Mayen 65.16 349 *e*P **P 07 36 51.6 +0.4**
JMIC *e*S S 07 45 27.2 +3.4
JMIC Jan Mayen 65.16 349 *e*P **P 07 36 52.1 +0.9**
C06A Tall Timber Ra 65.17 47⇑P **P 07 36 51.3 -0.3**
baz=65
B07A Winthrop 65.27 46⇓P **P 07 36 52.0 -0.3**
baz=65,SNR=38
G03A Yamhill 65.34 51⇓P **P 07 36 53.0 +0.2**
baz=65,SNR=6.1
A08A Turner Farm, O 65.44 46⇓P **P 07 36 53.3 0.0**
baz=65,SNR=37
F04A Amboy 65.48 50⇑P **P 07 36 53.6 -0.1**
baz=65,SNR=28
E05A Randle 65.48 49⇓P **P 07 36 53.5 -0.2**
baz=65,SNR=13
D06A Cle Elum 65.62 48⇓P **P 07 36 54.5 0.0**
baz=65,SNR=16
TWW Teanaway 65.64 48 P **P 07 36 55.7 +1.0**
ASAR Alice Springs 65.64 187 P **P 07 36 54.2 -0.6**
comp=Z,33nm,0.8s,mb5.2,baz=8.4,slow=6.0,SNR=138
ASAR pP pP 07 37 24.1 -1.0
comp=Z,37nm,0.8s,baz=11,slow=6.0,SNR=8.4
ETW Entiat 65.66 47 *e*P **P 07 36 55.2 +0.4**
H03A Soap Creek Ran 65.71 51⇑P **P 07 36 55.9 +0.7**
baz=66,SNR=9.6
SUMG Summit 65.72 360 *e*P **P 07 36 55.2 +0.4**
COR Corvallis 65.75 51 *e*P **P 07 36 56.9 +1.4**
COR pmax pmax
comp=Z,74nm,0.9s,mb5.5
COR Corvallis 65.75 51 *e*P **P 07 36 56.9 +1.4**
comp=Z,74nm,0.9s,mb5.5
B08A Colville Reser 65.76 46⇑P **P 07 36 55.1 -0.3**
baz=66,SNR=20
C07A Waterville 65.76 47⇓P **P 07 36 55.0 -0.5**
baz=66,SNR=18
MBWA Marble Bar 65.77 201 *e*P **P 07 36 55.4 -0.3**
comp=Z,36nm,0.9s,mb5.2
A09A Danville 65.79 45⇑P **P 07 36 55.6 0.0**
baz=66,SNR=41
EDM Edmonton 65.83 39 *e*P **P 07 36 55.1 -0.7**
G04A Mulino 65.87 50⇑P **P 07 36 56.3 +0.1**
baz=66,SNR=7.2
VSU Vasula 65.91 328 *i* P **P 07 36 55.5 -0.7**
VSU Vasula 65.91 328 *i* P **P 07 36 55.5 -0.7**
E06A Yakima 65.93 48⇑P **P 07 36 56.6 +0.1**
baz=66,SNR=20
F05A White Salmon 66.05 49⇓P **P 07 36 57.5 +0.2**
baz=66,SNR=6.7
D07A Quincy 66.10 47⇓P **P 07 36 57.4 -0.3**
baz=66,SNR=7.6
K01A Sixes 66.10 53⇑P **P 07 36 58.2 +0.5**
baz=66
I03A Eugene 66.13 52⇓P **P 07 36 58.6 +0.8**
baz=66,SNR=9.4
KEBM Edson Butte 66.14 53 *e*P **P 07 36 59.5 +1.5**
C08A Higginbotham F 66.25 46⇑P **P 07 36 58.1 -0.5**
baz=66,SNR=29
HOOD Mount Hood Mea 66.27 50 *e*P **P 07 36 59.6 +0.9**
comp=Z,93nm,1.0s,mb5.6
J02A Umpqua 66.31 52⇑P **P 07 36 59.5 +0.4**
baz=66,SNR=14
A10A Northport 66.33 45⇓P **P 07 36 58.8 -0.3**
baz=66,SNR=32
H04A Detroit Lake 66.34 51⇓P **P 07 36 59.0 -0.2**
baz=66,SNR=25
B09A Rice 66.35 46⇑P **P 07 36 59.2 0.0**
baz=66,SNR=24
NSS Namsos 66.45 338 *e*P **P 07 36 57.6 -1.9**
NSS *e*P 07 36 57.6
NSS AMb AMB 07 37 00.1
comp=Z,81nm,1.4s,mb5.4
NSS Namsos 66.45 338 *e*P **P 07 36 57.6 -1.9**
comp=Z,81nm,1.4s,mb5.4
F06A Goldendale 66.50 49⇑P **P 07 37 00.4 +0.2**
baz=66,SNR=6.2
G05A Wamic 66.51 50⇓P **P 07 37 00.5 +0.3**
baz=66,SNR=15
E07A Sunnyside 66.55 48⇓P **P 07 37 00.6 +0.1**
baz=66,SNR=5.7
C09A Chrisman Ranch 66.66 46⇓P **P 07 37 00.7 -0.5**
baz=66,SNR=22
OD2 Odessa Site #2 66.67 47 P **P 07 37 01.1 -0.2**
K02A Glendale 66.71 53⇑P **P 07 37 01.5 -0.1**
baz=66,SNR=9.8
I04A Tendick Farm, 66.74 51⇑P **P 07 37 01.8 0.0**
baz=66,SNR=26
D08A Wollman Farm, 66.76 47⇓P **P 07 37 01.6 -0.3**
baz=66,SNR=18
RSW Rattlesnake Hi 66.79 48 *e*P **P 07 37 02.7 +0.7**
HAWA Hanford 66.82 48 *e*P **P 07 37 02.6 +0.4**
comp=Z,116nm,1.8s,mb5.4
M01C Crescent City 66.87 54⇓P **P 07 37 02.6 -0.1**
baz=67
G06A Carlson Farm, 66.90 49⇓P **P 07 37 02.5 -0.3**
baz=67,SNR=24
F07A Phinny Hill Vi 66.90 49⇑P **P 07 37 02.8 0.0**
baz=67,SNR=12
B10A Chitwood Farm, 66.92 45⇑P **P 07 37 02.4 -0.4**
baz=67
H05A Madras 66.92 50⇑P **P 07 37 02.8 -0.1**
baz=67,SNR=11
A11A Hall Mountain, 66.96 44⇑P **P 07 37 03.2 +0.1**
baz=67,SNR=42
NEW Newport 66.99 45 *e*P **P 07 37 03.5 +0.2**
NEW pmax pmax
comp=Z,20nm,0.8s
NEW Newport 66.99 45 *e*P **P 07 37 03.5 +0.2**
comp=Z,20nm,0.8s,mb5.0
L02A Cave Junction 67.00 53⇑P **P 07 37 03.8 +0.3**
baz=67,SNR=7.8
E08A Dider Farm, El 67.02 48⇓P **P 07 37 03.3 -0.3**
baz=67,SNR=20
D09A Jones Farm, Ri 67.09 47⇓P **P 07 37 03.7 -0.3**
baz=67,SNR=6.2
HUMO Hull Mountain 67.12 53⇑P **P 07 37 04.6 +0.4**
baz=67,SNR=10.0
HUMO Hull Mountain 67.12 53 *e*P **P 07 37 04.7 +0.5**
comp=Z,28nm,1.3s,mb4.9

C10A Spilker Farm, 67.17 46⇓P **P 07 37 03.7 -0.7**
baz=67,SNR=12
DGRG David-gareji 67.18 306 P **P 07 37 05.1 +0.5**
DGRG S S 07 45 43.7 -5.4
I05A Bend 67.18 51⇓P **P 07 37 04.7 +0.1**
baz=67,SNR=8.3
J04A Umpqua Nationa 67.24 52⇓P **P 07 37 05.4 +0.4**
baz=67,SNR=18
KIV Kislovodsk 67.28 309 P **P 07 37 06.9 +1.7**
comp=Z,3μm,0.8s,SNR=30
KIV Kislovodsk 67.28 309 P **P 07 37 05.7 +0.6**
SNR=77
KIV Kislovodsk 67.28 309*d i*P **P 07 37 05.2 0.0**
KIV *e**PP pP 07 37 36.0 +0.5
KIV *e**SP sP 07 37 48.0 -1.0
KIV *e*S S 07 45 51.3 +1.1
KIV pmax pmax
comp=Z,498nm,1.0s,mb6.3
KIV Kislovodsk 67.28 309⇓*i*P **P 07 37 05.5 +0.3**
KIV Kislovodsk 67.28 309 *e*P **P 07 37 06.2 +1.0**
comp=Z,512nm,1.0s,mb6.3
B11A Sandpoint 67.28 45⇑P **P 07 37 04.9 -0.2**
baz=67,SNR=8.8
A12A Yaak River Ran 67.35 44⇑P **P 07 37 05.9 +0.3**
baz=67
H06A Lindquist Farm 67.37 50⇑P **P 07 37 05.2 -0.5**
baz=67,SNR=28
MTA Mtatsminda 67.39 306 P **P 07 37 06.1 +0.2**
MTA S S 07 45 52.6 +1.0
TBLG Delisi 67.40 306 P **P 07 37 06.8 +0.9**
TBLG S S 07 45 50.7 -1.0
G07A Ruggs Ranch, H 67.43 49⇑P **P 07 37 05.9 -0.2**
baz=67,SNR=18
E09A Wood Farm, Sta 67.51 47⇑P **P 07 37 06.0 -0.6**
baz=67,SNR=35
JCC Jacoby Creek 67.54 55⇓P **P 07 37 07.4 +0.6**
baz=67
F08A Pendleton 67.60 48⇓P **P 07 37 07.3 +0.2**
baz=67,SNR=14
GOR Gori 67.62 307 P **P 07 37 08.6 +1.2**
D10A Wagner Farm, O 67.65 46⇑P **P 07 37 06.2 -1.3**
baz=67,SNR=29
B12A Libby 67.67 44⇓P **P 07 37 07.5 0.0**
baz=67
KHMM Horse Mountain 67.69 55 *e*P **P 07 37 09.6 +1.8**
J05A Fort Rock 67.73 51⇑P **P 07 37 08.3 +0.3**
baz=68,SNR=30
YBH Yreka Blue Hor 67.79 53 *e*P **P 07 37 09.6 +1.2**
YBH pmax pmax
comp=Z,44nm,1.2s
YBH Yreka Blue Hor 67.79 53⇑P **P 07 37 08.7 +0.3**
baz=68,SNR=22
YBH Yreka Blue Hor 67.79 53 *e*P **P 07 37 09.6 +1.1**
comp=Z,44nm,1.2s,mb5.2
G08A Pilot Rock 67.81 49⇓P **P 07 37 07.7 -0.8**
baz=68,SNR=24
LNOR Lincton Mounta 67.83 48 *e*P **P 07 37 09.2 +0.6**
K04A Chilquin 67.84 52⇓P **P 07 37 08.7 -0.1**
baz=68
H07A Lands Inn, Kim 67.89 49⇑P **P 07 37 09.0 -0.1**
baz=68,SNR=24
M02C Callahan 67.91 54⇑P **P 07 37 09.5 +0.3**
baz=68,SNR=11
I06A Prineville 67.92 50⇓P **P 07 37 09.2 0.0**
baz=68,SNR=26
N02C Big Bar 67.98 55⇓P **P 07 37 09.5 -0.1**
baz=68,SNR=6.1
A13A Flathead Natio 67.99 43⇓P **P 07 37 09.3 -0.3**
baz=68
XMAS Kiritimati 67.99 108 *e*P **P 07 37 10.2 +0.1**
comp=Z,248nm,1.2s,mb5.9
L04A Klamath Falls 68.01 53⇓P **P 07 37 09.8 -0.1**
baz=68,SNR=21
O01C Eel River Cons 68.07 55⇑P **P 07 37 10.5 +0.3**
baz=68
E10A Myers Farm, Un 68.09 47⇑P **P 07 37 09.9 -0.3**
baz=68,SNR=19
MNK Minsk 68.11 325⇑*i*P **P 07 37 08.0 -2.2**
MNK *e**PP pP 07 37 38.0 -2.7
MNK *e* 07 39 38.0
MNK *e*S S 07 45 54.0 -5.8
MNK pmax pmax
comp=Z,310nm,1.0s,mb6.1
F09A S2 Ranch, Elgi 68.14 48⇑P **P 07 37 10.6 +0.1**
baz=68,SNR=9.4
LHEM Herd Peak 68.15 53 P **P 07 37 11.6 +1.0**
D11A Klaveano Farm, 68.16 46⇓P **P 07 37 09.8 -0.9**
baz=68,SNR=43
WALA Waterton Lakes 68.16 43 *e*P **P 07 37 10.8 +0.2**
comp=Z,40nm,0.9s,mb5.2
I07A Izee 68.24 50⇓P **P 07 37 11.5 +0.3**
baz=68,SNR=23
K05A Summer Lake 68.27 52⇓P **P 07 37 11.8 +0.4**
baz=68,SNR=60
M04C Macdoel 68.28 53⇑P **P 07 37 11.9 +0.5**
baz=68,SNR=37
B13A Whitefish 68.31 44⇓P **P 07 37 11.7 +0.2**
baz=68,SNR=66
GNI Garni 68.34 305⇓P **P 07 37 12.6 +0.7**
SNR=27
GNI Garni 68.34 305 *e*P **P 07 37 12.6 +0.7**
GNI pmax pmax
comp=Z,159nm,1.5s
GNI Garni 68.34 305 *e*P **P 07 37 12.6 +0.7**
comp=Z,159nm,1.5s,mb5.6
F10A Beach Ranch, E 68.35 47⇑P **P 07 37 11.6 -0.3**
baz=68,SNR=16
J06A Christmas Vall 68.38 51⇑P **P 07 37 12.4 +0.4**
baz=68,SNR=27
M03C McCloud 68.42 54⇑P **P 07 37 12.5 +0.1**
baz=68,SNR=15
H08A Prairie City 68.44 49⇑P **P 07 37 12.4 -0.1**
baz=68,SNR=42
G09A Cove 68.47 48⇑P **P 07 37 12.5 -0.2**
baz=68,SNR=43
KIPM Iron Peak 68.48 55 *e*P **P 07 37 14.1 +1.3**
KCPM Cahto Peak 68.49 56 *e*P **P 07 37 14.1 +1.3**
WDC Whiskeytown Da 68.59 54 *e*P **P 07 37 14.0 +0.6**
WDC pmax pmax
comp=Z,42nm,1.1s,mb5.2
WDC Whiskeytown Da 68.59 54⇑P **P 07 37 13.0 -0.4**
baz=68,SNR=12
WDC Whiskeytown Da 68.59 54 *e*P **P 07 37 14.0 +0.5**
comp=Z,42nm,1.1s,mb5.2
K06A Valley Falls 68.60 51⇓P **P 07 37 13.5 +0.1**
baz=68,SNR=54
E11A Bogner Ranch, 68.66 46⇓P **P 07 37 13.1 -0.7**
baz=68,SNR=40
O02C Red Bluff 68.68 55⇓P **P 07 37 14.2 +0.2**
baz=68,SNR=22
C13A Hot Springs 68.70 45⇑P **P 07 37 13.9 -0.1**
baz=68
L05A Lakeview 68.72 52⇑P **P 07 37 14.6 +0.5**
baz=68,SNR=25
J07A Hines 68.79 50⇓P **P 07 37 15.1 +0.4**
baz=69,SNR=100
G10A Bishop Farm, J 68.83 48⇓P **P 07 37 14.8 -0.1**
baz=69,SNR=34
I08A Drewsey 68.88 50⇑P **P 07 37 15.5 +0.4**
baz=69,SNR=72
H09A Durkee 68.92 49⇓P **P 07 37 15.5 +0.1**
baz=69,SNR=15
M05C Lookout 68.95 53⇓P **P 07 37 15.7 0.0**
baz=69,SNR=11
F11A Grangeville 68.98 47⇓P **P 07 37 14.8 -1.0**
baz=69,SNR=16
BMO Blue Mountains 69.00 48 *e*P **P 07 37 16.5 +0.5**
comp=Z,42nm,1.0s,mb5.2
GASB Alder Springs 69.04 55⇓P **P 07 37 16.5 +0.2**
baz=69,SNR=17
KARS Kars 69.06 306 *e*P **P 07 37 18.0 +1.6**
C14A Swan Lake 69.07 44⇑P **P 07 37 16.4 +0.1**
baz=69
HATC Hat Creek Radi 69.09 54⇓P **P 07 37 16.7 +0.1**
baz=69,SNR=16
MOD Modoc 69.12 52⇑P **P 07 37 16.5 -0.1**
baz=69,SNR=15
MOD Modoc 69.12 52 *e*P **P 07 37 17.2 +0.5**
comp=Z,21nm,0.7s,mb5.1
D13A Huson 69.13 45⇑P **P 07 37 16.4 -0.3**
baz=69,SNR=56
SOC Sochi 69.21 310 *e*P **P 07 37 16.7 -0.5**
SOC *e**PP pP 07 37 47.4 -0.3
SOC *e**SP sP 07 38 01.0 -0.1
SOC *e*PPP 07 41 32.2
SOC *e*S S 07 46 13.2 +0.1
SOC *e**SS sS 07 47 05.2 -0.4

SOC pmax pmax
comp=Z,82nm,0.8s,mb5.6
SOC Sochi 69.21 310 *i* P **P 07 37 17.6 +0.4**
MOL Molde 69.21 339 *e*P **P 07 37 17.0 +0.1**
DOMB Dombas 69.22 338 *e*P **P 07 37 16.8 -0.1**
DOMB AMb AMB 07 37 18.8
comp=Z,110nm,1.1s,mb5.6
DOMB Dombas 69.22 338 *e*P **P 07 37 16.8 -0.1**
comp=Z,110nm,1.1s,mb5.6
HOPS Hopland 69.23 56 ⇑P **P 07 37 17.5 +0.1**
baz=69
G11A Walters Elk Ra 69.23 47 ⇓P **P 07 37 16.6 -0.7**
baz=69,SNR=132
K07A Rock Creek Ran 69.25 51 ⇓P **P 07 37 17.7 +0.3**
baz=69,SNR=62
O03C Acorn Hollow, 69.25 55 ⇓P **P 07 37 16.7 -0.8**
baz=69,SNR=10.0
WBK Wadi Bani Khal 69.26 282 ⇑P **P 07 37 19.3 +1.4**
SNR=10.0
J08A Circle Bar Ran 69.28 50 ⇓P **P 07 37 17.9 +0.3**
baz=69,SNR=68
I09A Lost Marbles R 69.31 49 ⇑P **P 07 37 17.7 -0.1**
baz=69,SNR=21
BIDO Bidbid 69.32 283 ⇑P **P 07 37 19.6 +1.4**
SNR=14
NB2 NORSAR Subarra 69.40 336 P **P 07 37 17.4 -0.7**
comp=Z,173nm,1.0s,mb5.8,baz=39,slow=6.2
NOA NORSAR Array B 69.40 336 P **P 07 37 17.7 -0.4**
comp=Z,81nm,0.8s,mb5.6,baz=38,slow=6.2,SNR=226
NOA pP pP 07 37 47.3 -1.3
comp=Z,16nm,0.8s,baz=38,slow=6.1,SNR=2.8
NOA LR LR 08 13 04.7
comp=Z,305nm,18.6s,baz=35,slow=40
NOA NORSAR Array B 69.40 336 P **P 07 37 17.7 -0.4**
NOA *PP pP 07 37 47.3 -1.3
ARTV Artvin 69.41 307 *i* P **P 07 37 18.0 -0.4**
BCA Borcka 69.43 308 *e*P **P 07 37 17.3 -1.3**
M06C Likely Place G 69.44 53 ⇓P **P 07 37 18.8 +0.1**
baz=69,SNR=6.9
CLDR Caldiran 69.46 304 *e*P **P 07 37 18.3 -0.5**
H10A Noah's Angus R 69.48 48 ⇓P **P 07 37 18.6 -0.3**
baz=69,SNR=67
F12A Elk City 69.56 46 ⇓P **P 07 37 19.0 -0.3**
baz=69,SNR=90
MSO Missoula 69.57 45 *e*P **P 07 37 19.4 0.0**
comp=Z,16nm,1.3s,mb4.7
L07A Adell 69.61 52 ⇓P **P 07 37 20.2 +0.5**
baz=69,SNR=74
O04C Chester 69.62 54 ⇓P **P 07 37 20.2 +0.4**
baz=69,SNR=46
D14A Greenough 69.64 45 ⇑P **P 07 37 19.1 -0.7**
baz=69,SNR=48
NAO01 NORSAR Array S 69.65 336 *e*P **P 07 37 19.6 0.0**
comp=Z,75nm,1.0s,mb5.5
ELFS Eagle Lake Fie 69.66 53 ⇑P **P 07 37 20.4 +0.4**
baz=69,SNR=24
SMDO Samad 69.66 283 ⇓P **P 07 37 21.9 +1.6**
SNR=9.3
K08A Mann Creek Ran 69.66 51 ⇑P **P 07 37 20.4 +0.4**
baz=69,SNR=60
MNRC McLaughlin Nat 69.69 56 ⇑P **P 07 37 20.4 +0.1**
baz=70,SNR=20
E13A Victor 69.69 45 ⇑P **P 07 37 19.3 -0.8**
baz=69,SNR=21
J09A Fry Pan Ranch, 69.69 50 ⇓P **P 07 37 20.4 +0.2**
baz=70,SNR=70
ANN Anapa 69.72 312 *e*P **P 07 37 19.3 -1.0**
ANN *e**PP pP 07 37 49.1 -1.8
ANN *e*S S 07 46 18.0 -1.1
ANN pmax pmax
comp=Z,88nm,0.8s,mb5.6
ANN MLR MLR
comp=Z,593nm,21.0s
WVOR Wild Horse Val 69.76 51 *e*P **P 07 37 20.7 +0.1**
WVOR pmax pmax
comp=Z,39nm,1.0s,mb5.2
WVOR Wild Horse Val 69.76 51 *e*P **P 07 37 20.7 +0.1**
comp=Z,39nm,1.0s,mb5.2
AGRB Hanur-Agry 69.76 305 *e*P **P 07 37 21.6 +0.9**
I10A Payette 69.76 49 ⇑P **P 07 37 20.8 +0.2**
baz=70,SNR=31
H11A Donnelly 69.81 48 ⇓P **P 07 37 20.2 -0.7**
baz=70,SNR=31
FCC Fort Churchill 69.82 27 *e*P **P 07 37 20.5 -0.2**
FCC pmax pmax
comp=Z,27nm,0.9s,mb5.1
FCC Fort Churchill 69.82 27 *e*P **P 07 37 20.5 -0.1**
comp=Z,27nm,0.9s,mb5.1
FFC Flin Flon 69.84 33 P **P 07 37 20.9 0.0**
comp=Z,392nm,0.8s,mb6.3,SNR=21
FFC Flin Flon 69.84 33 *e*P **P 07 37 20.7 -0.2**
FFC pmax pmax
comp=Z,51nm,0.8s,mb5.4
FFC Flin Flon 69.84 33 *e*P **P 07 37 20.7 -0.2**
comp=Z,51nm,0.8s,mb5.4
ORV Oroville 69.85 55 ⇓P **P 07 37 20.2 -1.0**
baz=70,SNR=44
HOQ Hoqain 69.87 284 ⇓P **P 07 37 22.6 +1.0**
SNR=17
CHMT Chamberlain Mo 69.88 45 *e*P **P 07 37 20.4 -0.8**
O05C Quincy 69.95 54 ⇑P **P 07 37 21.6 -0.2**
baz=70,SNR=25
HATD Hatta, Dubai 69.96 286 ⇑P **P 07 37 23.2 +1.1**
SNR=11
OHCM Honcut 69.99 55 *e*P **P 07 37 22.1 0.0**
CVS Carmenet Viney 70.00 56 ⇑P **P 07 37 22.0 -0.2**
baz=70
F13A Darby 70.03 46 ⇓P **P 07 37 21.0 -1.2**
baz=70,SNR=16
JMDO Jabal Madar 70.04 282 P **P 07 37 23.8 +1.1**
SNR=9.9
AKASG Malin Array Be 70.05 321 P **P 07 37 21.2 -1.0**
comp=Z,12nm,0.3s,mb5.2,baz=43,slow=6.4,SNR=179
AKASG PP PP 07 39 58.6 +0.4
comp=Z,3.1nm,0.7s,baz=44,slow=8.7,SNR=6.3
AKASG PKP2bc 08 05 18.0
comp=Z,3.9nm,0.8s,baz=242,slow=3.6,SNR=15
AKASG LR LR 08 10 20.4
comp=Z,389nm,19.2s,baz=30,slow=38
AKASG Malin Array Be 70.05 321 P **P 07 37 21.2 -1.1**
AKASG 07 39 58.6
AKASG Malin Array Be 70.05 321 P **P 07 37 21.2 -1.0**
AKASG PP PP 07 39 58.6 +0.4
AKASG ⇑*e* 08 05 18.0
AKASG LR LR 08 10 20.4
E14A Clinton 70.07 45 ⇓P **P 07 37 21.9 -0.6**
baz=70,SNR=28
L08A Fields 70.08 51 ⇓P **P 07 37 22.8 +0.2**
baz=70,SNR=27
ASHO Ashiyiah 70.10 286 ⇓P **P 07 37 24.0 +1.0**
SNR=13
M07A Soldier Meadow 70.10 52 ⇓P **P 07 37 23.1 +0.4**
baz=70,SNR=94
Q03C Winters 70.10 56 ⇓P **P 07 37 23.6 +0.8**
baz=70,SNR=8.3
N06A Buffalo Meadow 70.11 53 ⇓P **P 07 37 22.6 -0.1**
baz=70,SNR=40
K09A Rome 70.11 50 ⇑P **P 07 37 23.0 +0.2**
baz=70,SNR=29
VANB Van 70.12 304 *e*P **P 07 37 22.7 -0.2**
HOMI Horasan 70.13 306 *i* P **P 07 37 23.2 +0.3**
D15A Lincoln 70.17 44 ⇓P **P 07 37 22.8 -0.3**
baz=70,SNR=19
J10A Berg Farm, Mel 70.20 49 ⇑P **P 07 37 22.7 -0.6**
baz=70,SNR=9.2
I11A Placerville 70.34 48 ⇓P **P 07 37 23.7 -0.5**
baz=70,SNR=21
Q04C Lincoln 70.36 55 ⇓P **P 07 37 24.3 -0.1**
baz=70,SNR=5.9
SUW Suwalki 70.42 326 *e*P **P 07 37 24.1 -0.4**
SUW *e*pP pP 07 37 55.1 +0.1
SUW *e*PP PP 07 40 00.1 -1.2
SUW *e*S S 07 46 25.7 -1.2
SUW *e*SKSac SKSac 07 47 09.8 -4.4
SUW Suwalki 70.42 326 *e*P **P 07 37 24.1 -0.3**
SUW *e*pP pP 07 37 55.1 +0.1
SUW *e*PP PP 07 40 00.1 -1.2
SUW *e*S S 07 46 25.7 -1.2
SUW *e*SKSac SKSac 07 47 09.8 -4.4
BSY Bisya 70.47 283 ⇑P **P 07 37 26.3 +1.0**
SNR=16
O06A Flanigan 70.47 53 ⇓P **P 07 37 25.2 +0.2**
baz=70,SNR=40
E15A Deer Lodge 70.52 45 ⇓P **P 07 37 24.5 -0.6**
baz=70,SNR=53
M08A Happy Creek Ra 70.53 52 ⇑P **P 07 37 25.3 0.0**
baz=70,SNR=22
F14A Wisdom 70.53 46 ⇑P **P 07 37 24.6 -0.7**
baz=70,SNR=16
G13A Cobalt 70.53 47 ⇓P **P 07 37 24.8 -0.5**
baz=70,SNR=27
ERZM Erzurum 70.54 306 *i* P **P 07 37 27.4 +2.0**
EZM Erzurum 70.54 306 *e*P **P 07 37 25.7 +0.3**
P05C Yuba Gap, Truc 70.54 54 ⇓P **P 07 37 25.2 -0.2**
baz=70,SNR=28
K10A MacKenzie Ranc 70.55 50 ⇑P **P 07 37 25.5 0.0**
baz=70,SNR=37
HAKT HAKKARI 70.56 303 *i* P **P 07 37 25.4 -0.3**
L09A Wilkinson Ranc 70.58 51 ⇑P **P 07 37 25.9 +0.3**
baz=70,SNR=13
N07B Gerlach 70.60 52 ⇑P **P 07 37 25.8 0.0**
baz=70
BDM Black Diamond 70.61 56 ⇓P **P 07 37 25.4 -0.5**
baz=70
MFID Camas Ranch 70.73 49 ⇓P **P 07 37 26.5 -0.1**
baz=70,SNR=10
P06A Stead Airport, 70.74 54 ⇑P **P 07 37 26.7 0.0**
baz=70,SNR=7.5
AFI Afiamalu 70.77 131 P **P 07 37 27.8 +0.8**
comp=Z,114nm,0.8s,mb5.8,baz=168,slow=4.2,SNR=16
AFI Afiamalu 70.77 131 *e*P **P 07 37 27.8 +0.8**
AFI pmax pmax
comp=Z,117nm,0.8s,mb5.8
AFI Afiamalu 70.77 131 *e*P **P 07 37 27.8 +0.8**
comp=Z,117nm,0.8s,mb5.8
LAVA Lava Cap Winer 70.81 55 ⇓P **P 07 37 26.6 -0.5**
baz=71,SNR=36
G14A Jackson 70.85 46 ⇓P **P 07 37 26.4 -0.8**
baz=71
H13A Challis 70.86 47 ⇓P **P 07 37 27.0 -0.3**
baz=71,SNR=29
WENL Wente Brothers 70.89 56 ⇓P **P 07 37 27.3 -0.3**
baz=71
EGMT Eagleton 70.93 42 ⇓P **P 07 37 27.2 -0.4**
baz=71,SNR=48
EGMT Eagleton 70.93 42 *e*P **P 07 37 27.8 +0.2**
comp=Z,67nm,0.9s,mb5.5
F15A Butte 70.97 45 ⇑P **P 07 37 27.9 -0.1**
baz=71,SNR=80
SFJD Kangerlussuaq 70.98 5 *e*P **P 07 37 28.0 +0.4**
SFJD pmax pmax
comp=Z,52nm,1.0s,mb5.3
SFJD Kangerlussuaq 70.98 5 *e*P **P 07 37 28.0 +0.4**
comp=Z,52nm,1.0s,mb5.3
KONO Kongsberg 71.00 336 *e*P **P 07 37 28.1 +0.3**
KONO *e*pP pP 07 37 58.2 -0.3
KONO *e*S S 07 46 34.0 +0.6
KONO Kongsberg 71.00 336 *e*P **P 07 37 27.8 0.0**
R04C Big Horse Ranc 71.00 55 ⇑P **P 07 37 27.5 -0.7**
baz=71
LRM Limekiln Ridge 71.01 45 *e*P **P 07 37 28.3 +0.2**
PAHR Pah Rah Range 71.03 53 *e*P **P 07 37 29.0 +0.6**
comp=Z,76nm,0.9s,mb5.5
K11A Parker Ranch, 71.03 49 ⇑P **P 07 37 28.3 -0.1**
baz=71,SNR=30
O07A Toulon 71.04 53 ⇑P **P 07 37 28.6 +0.1**
baz=71,SNR=72
WCN Washoe City 71.06 54 ⇑P **P 07 37 28.5 0.0**
baz=71,SNR=32
M09A Marrel Ranch, 71.08 51 ⇑P **P 07 37 28.9 +0.2**
baz=71,SNR=14
N08A GE Springer Mi 71.09 52 ⇓P **P 07 37 28.9 +0.1**
baz=71,SNR=38
S04C Ingram Canyon, 71.22 56 ⇑P **P 07 37 29.2 -0.4**
baz=71,SNR=5.3
L10A Juniper Basin 71.23 50 ⇓P **P 07 37 29.6 +0.1**
baz=71,SNR=40
DLMT Dillon 71.23 45 *e*P **P 07 37 29.9 +0.4**
comp=Z,63nm,0.7s,mb5.5
R05C Kirkwood Meado 71.24 55 ⇑P **P 07 37 29.7 0.0**
baz=71,SNR=19
J12A Stokes Ranch, 71.25 48 ⇑P **P 07 37 29.5 -0.2**
baz=71,SNR=29
GUMT Gumushane 71.31 308 *e*P **P 07 37 31.1 +1.0**
H14A Leadore 71.31 46 ⇑P **P 07 37 29.5 -0.5**
baz=71
I13A Wildhorse Cree 71.36 47 ⇑P **P 07 37 30.6 +0.3**
baz=71
O08A Rochester Mine 71.39 52 ⇓P **P 07 37 30.8 +0.3**
baz=71,SNR=68
N09A Rock Creek Ran 71.40 52 ⇓P **P 07 37 31.0 +0.4**
baz=71,SNR=20
G15A Dillon 71.42 46 ⇓P **P 07 37 30.2 -0.4**
baz=71,SNR=204
HLID Hailey 71.43 48 ⇑P **P 07 37 31.0 +0.3**
baz=71,SNR=34
HLID Hailey 71.43 48 *e*P **P 07 37 31.4 +0.7**
comp=Z,29nm,1.1s,mb5.0
SIM Simferopol' 71.43 314 *ce*P **P 07 37 30.7 0.0**
SIM *e**PP pP 07 38 01.0 -0.4
SIM *e*S S 07 46 38.0 -0.8
SIM pmax pmax
comp=Z,94nm,0.9s,mb5.6
SIM MLR MLR
comp=Z,500nm,17.0s
P07A Fallon 71.43 53 ⇑P **P 07 37 30.8 0.0**
baz=71,SNR=6.6
CMB Columbia Colle 71.47 55 *e*P **P 07 37 31.5 +0.4**
CMB *e**PP pP 07 38 01.5 -0.3
CMB pmax pmax
comp=Z,53nm,0.9s,mb5.4
CMB Columbia Colle 71.47 55 ⇓P **P 07 37 30.7 -0.4**
baz=71,SNR=33
CMB Columbia Colle 71.47 55 *e*P **P 07 37 31.5 +0.4**
comp=Z,53nm,0.9s,mb5.4
CMB *e*pP pP 07 38 01.5 -0.2
M10A I.L. Ranch, Tu 71.55 51 ⇑P **P 07 37 32.0 +0.5**
baz=71,SNR=45
BOZ Bozeman (W) 71.56 45 *e*P **P 07 37 32.0 +0.5**
BOZ pmax pmax
comp=Z,28nm,0.8s,mb5.1
BOZ Bozeman (W) 71.56 45 ⇑P **P 07 37 31.6 +0.2**
baz=71
BOZ Bozeman (W) 71.56 45 *e*P **P 07 37 32.0 +0.6**
comp=Z,28nm,0.8s,mb5.2
PACP Pacheco Peak 71.56 57 ⇑P **P 07 37 31.5 -0.1**
baz=71,SNR=9.3
EZC Erzincan 71.56 307 *e*P **P 07 37 34.6 +3.0**
L11A Cat Creek Ranc 71.58 50 ⇑P **P 07 37 31.9 +0.3**
baz=71,SNR=64
BER Bergen 71.62 338 *e*P **P 07 37 31.6 +0.1**
BER *e*S S 07 46 40.0 -0.5
BER *e*SKS 07 47 22.4
BER AMS AMS 08 12 45.9
comp=Z,260nm,19.4s
BER Bergen 71.62 338 *e*P **P 07 37 30.1 -1.4**
J13A Cove Ranch, Pi 71.67 48 ⇓P **P 07 37 32.5 +0.4**
baz=71,SNR=58
H15A Lima 71.70 46 ⇓P **P 07 37 31.9 -0.4**
baz=72
I14A Mackay 71.72 47 ⇓P **P 07 37 32.5 +0.1**
baz=72
GRSN GIRESUNGRSN 71.72 309 *i* P **P 07 37 32.6 +0.1**
R06C Coleville 71.74 54 ⇑P **P 07 37 32.8 +0.1**
baz=72,SNR=39
MSL Mosul 71.74 303 *i* x x 07 37 34.0
MSL *ex* x 07 46 38.0
MSL *ex* x 07 47 24.0
K12A Draper Farm, C 71.75 49 ⇑P **P 07 37 32.8 +0.1**
baz=72,SNR=45
HAST Hastings Reser 71.78 57 ⇑P **P 07 37 32.6 -0.4**
baz=72,SNR=7.1
P08A Dixie Valley 71.81 53 ⇓P **P 07 37 33.8 +0.7**
baz=72,SNR=6.5
BMN Battle Mountai 71.85 52 *e*P **P 07 37 34.2 +0.9**
BMN pmax pmax
comp=Z,56nm,1.1s,mb5.3
BMN Battle Mountai 71.85 52 *e*P **P 07 37 34.2 +0.9**
comp=Z,56nm,1.1s,mb5.3
Q07A Schurz 71.86 54 ⇓P **P 07 37 33.6 +0.2**
baz=72
S06C San Francisco 71.90 55 ⇑P **P 07 37 33.5 -0.1**
baz=72,SNR=5.7
S05C Merced 71.94 56 ⇓P **P 07 37 33.1 -0.8**
baz=72,SNR=12
L12A House Creek Ra 72.01 49 ⇑P **P 07 37 34.4 +0.2**
baz=72,SNR=27
M11A Holland Ranch, 72.03 50 ⇓P **P 07 37 34.7 +0.4**
baz=72,SNR=73
O09A Fish Creek Ran 72.03 52 ⇓P **P 07 37 34.6 +0.2**
baz=72,SNR=48
J14A Carey 72.08 48 ⇑P **P 07 37 35.1 +0.5**
baz=72
N10A Dunphy 72.08 51 ⇓P **P 07 37 34.9 +0.2**
baz=72,SNR=23
I15A Monteview 72.19 47 ⇑P **P 07 37 35.4 +0.1**
baz=72
K13A Stover Farm, H 72.20 48 ⇑P **P 07 37 35.2 -0.2**
baz=72,SNR=15
QLMT Earthquake Lak 72.20 45 *e*P **P 07 37 35.8 +0.5**
V03C Hunter Liggett 72.21 57 ⇓P **P 07 37 35.5 0.0**
baz=72
R07C Lee Vining 72.26 55 ⇓P **P 07 37 35.9 +0.1**
baz=72,SNR=48
U04C Hernandez Rese 72.28 57 ⇓P **P 07 37 35.9 -0.1**
baz=72,SNR=5.5
O10A Cortez Mining, 72.36 52 ⇑P **P 07 37 36.7 +0.4**
baz=72,SNR=28
PTK Pertek 72.36 307 *e*P **P 07 37 37.2 +0.8**
Q08A Gabbs 72.44 53 ⇓P **P 07 37 36.5 -0.3**
baz=72,SNR=65
P09A Austin 72.46 52 ⇑P **P 07 37 37.3 +0.3**
baz=72,SNR=14
N11A Elko Archery C 72.46 51 ⇑P **P 07 37 37.0 0.0**
baz=72,SNR=14
NVAR Mina Array Bea 72.49 54 P **P 07 37 38.0 +0.8**
comp=Z,43nm,0.8s,mb5.3,baz=286,slow=6.0,SNR=108
NVAR Mina Array Bea 72.49 54 P **P 07 37 38.0 +0.8**
MARD Mardin 72.53 305 *i* P **P 07 37 37.4 0.0**
T06C Milleton Lake 72.54 56 ⇑P **P 07 37 36.4 -1.1**
baz=72,SNR=13
M12A Wells 72.54 50 ⇓P **P 07 37 38.0 +0.6**
baz=72,SNR=50
KCC Kaiser Creek 72.58 55 ⇓P **P 07 37 37.6 -0.1**
baz=72,SNR=26
WAR Warsaw 72.60 326 *e*P **P 07 37 38.1 +0.6**
WAR *e*pP pP 07 38 08.3 -0.1
WAR *e*S S 07 46 51.5 -0.5
WAR *e*SKSac SKSac 07 47 30.6 -0.1
WAR Warsaw 72.60 326 *e*P **P 07 37 38.1 +0.5**
WAR *e*pP pP 07 38 08.3 0.0
WAR *e*S S 07 46 51.5 -0.5
WAR *e*SKSac SKSac 07 47 30.6 -0.1
RSDY Resadiye-TOKAT 72.61 309 *e*P **P 07 37 38.9 +1.0**
J15A Blackfoot 72.62 47 ⇓P **P 07 37 38.1 +0.3**
baz=72
BORG Borgarnes 72.65 352 P **P 07 37 38.0 +0.4**
comp=Z,37nm,0.9s,mb5.2
L13A Double Diamond 72.65 49 ⇓P **P 07 37 38.0 0.0**
baz=72,SNR=29
R08A Mina 72.66 54 ⇑P **P 07 37 38.2 +0.1**
baz=72,SNR=8.4
MLAC Mammoth Lakes 72.68 55 ⇓P **P 07 37 39.1 +0.8**
baz=72
YNR Norris Junctio 72.68 45 *e*P **P 07 37 39.8 +1.7**
YNR *e*PcP PcP 07 37 55.0 +0.1
V04C Ramage Ranch, 72.69 58 ⇑P **P 07 37 38.7 +0.3**
baz=72
PKD Parkfield 72.70 57 ⇓P **P 07 37 38.2 -0.2**
baz=72,SNR=5.6
SVRC Sivrice-ELAZID 72.74 306 *e*P **P 07 37 39.2 +0.6**
ARMA Armidale 72.77 170 *e*P **P 07 37 39.6 +1.0**
ARMA *e*pP pP 07 38 17.1 +7.6
YFT Old Faithful 72.78 45 *e*P **P 07 37 41.0 +2.3**
YFT *e*PcP PcP 07 37 55.2 -0.2
K14A Jones Ranch, D 72.78 48 ⇑P **P 07 37 39.2 +0.4**
baz=72,SNR=45
KIS Kishinev 72.78 318 ⇓*i* P **P 07 37 38.5 -0.2**
KIS *e**PP pP 07 38 08.0 -1.5
KIS *e* 07 38 22.0
KIS *e* 07 40 22.0
KIS *e*PPP 07 42 06.0
KIS *e*S S 07 46 53.0 -1.2
KIS *e*PS 07 47 31.0
KIS pmax pmax
comp=Z,300nm,1.8s,mb5.8
KIS pmax pmax
comp=Z,600nm,5.0s
KIS MLR MLR
comp=Z,800nm,16.0s
KIS MLR MLR
comp=Z,900nm,16.0s
KIS Kishinev 72.78 318 ⇓*i* P **P 07 37 38.5 -0.2**
comp=Z,300nm,1.8s,mb5.8
KIS *e*pP pP 07 38 08.0 -1.5
KIS *e*sP sP 07 38 22.0 -0.8
KIS Kishinev 72.78 318 *e*PP PP 07 40 22.0 +0.4
comp=Z,600nm,5.0s
KIS Kishinev 72.78 318 *e*PPP Px 07 42 06.0
KIS *e*S S 07 46 53.0 -1.2
KIS Kishinev 72.78 318 *e*PS 07 47 31.0
KIS *e*L 08 00 30.0
KIS LRM 08 12 36.0
comp=Z,800nm,16.0s
ELK Elko 72.80 50 *e*P **P 07 37 39.7 +0.8**
ELK pmax pmax
comp=Z,28nm,0.8s
ELK Elko 72.80 50 *e*P **P 07 37 39.7 +0.8**
comp=Z,28nm,0.8s,mb5.1
I16A Newdale 72.81 46 ⇓P **P 07 37 39.7 +0.8**
baz=73
BHD Baghdad 72.81 299 *ex* x 07 37 38.0
BHD *ex* x 07 46 50.0
P10A Eureka 72.82 52 ⇑P **P 07 37 39.3 +0.2**
baz=73,SNR=32
N12A Clover Valley, 72.84 50 ⇓P **P 07 37 39.5 +0.3**
baz=73,SNR=46
ELZG Elazig 72.86 306 *i* P **P 07 37 38.4 -1.0**
KVT Kavak 72.90 310 *e*P **P 07 37 40.1 +0.6**
Q09A Carvers 72.90 53 ⇑P **P 07 37 39.7 +0.1**
baz=73,SNR=5.7
LKWY Lake 72.93 45 *e*P **P 07 37 40.5 +0.9**
LKWY pmax pmax
comp=Z,24nm,0.9s,mb5.0
LKWY Lake 72.93 45 *e*P **P 07 37 40.5 +0.8**
comp=Z,24nm,0.9s,mb5.0
UMR Umm Al-Rimmam 72.93 294 *e*P **P 07 37 38.9 -1.0**
baz=294
UMR AMb AMB 07 37 40.6
comp=Z,92nm,0.5s,mb5.9,baz=294
O11A Cowboy Ranch, 72.95 51 ⇑P **P 07 37 40.2 +0.3**
baz=73,SNR=36
DIKM Dikmen 72.97 311 *e*P **P 07 37 39.9 -0.1**
M13A Montello 73.00 49 ⇑P **P 07 37 40.2 0.0**
baz=73,SNR=12
MIB Mutribah 73.03 295 *e*P **P 07 37 39.6 -0.9**
baz=295
MIB AMb AMB 07 37 41.2
comp=Z,211nm,0.9s,mb6.0,baz=295
K15A Arbon 73.04 48 ⇓P **P 07 37 40.7 +0.4**
baz=73,SNR=23
LVV L'vov 73.06 323 ⇑*i* P **P 07 37 40.7 +0.4**
LVV *i* pP 07 38 11.3 +0.2
LVV *e* 07 40 24.7
LVV *i* S S 07 46 57.3 0.0
LVV MLR MLR
comp=N,600nm,15.0s
LVV MLR MLR
comp=E,400nm,15.0s
LVV MLR MLR
comp=Z,600nm,15.0s
L14A Malta 73.08 48 ⇑P **P 07 37 40.8 +0.2**
baz=73,SNR=66
PTRM Twissleman Ran 73.09 57 *e*P **P 07 37 41.5 +0.8**
IMW Indian Meadow 73.09 46 P **P 07 37 41.9 +1.3**
comp=Z,44nm,0.8s,mb5.3
FLWY Flagg Ranch 73.09 46 *e*P **P 07 37 41.8 +1.2**
comp=Z,167nm,1.9s,mb5.5
TOKT Tokat 73.11 309 *e*P **P 07 37 42.0 +1.2**
SVSK Karacayir 73.11 309 *e*P **P 07 37 40.5 -0.3**
RLMT Red Lodge 73.14 44 *e*P **P 07 37 41.2 +0.3**
comp=Z,101nm,1.8s,mb5.3
RLMT *e*PcP PcP 07 37 57.0 +0.1
RLMT *e*PP PP 07 40 27.3 +2.5
V05C Boulder Hill, 73.15 57 ⇑P **P 07 37 41.4 +0.3**
baz=73
J16A Bone 73.15 47 ⇓P **P 07 37 41.3 +0.3**
baz=73,SNR=34
DCID1 Drake Creek 73.17 46 *e*P **P 07 37 42.3 +1.2**
S08C White Mtn Res 73.17 55 ⇓P **P 07 37 41.5 +0.3**
baz=73,SNR=32
HELL Mitchell Peak 73.17 56 ⇑P **P 07 37 40.3 -0.9**
baz=73,SNR=40
COP Copenhagen 73.25 332 *i* P **P 07 37 41.8 +0.5**
COP *e* pP 07 38 12.4 +0.3
COP *i* S S 07 47 00.0 +0.8
COP pmax pmax
comp=Z,89nm,0.9s,mb5.6

COP MLR MLR
comp=Z,230nm,18.0s
COP Copenhagen 73.25 332 *i* P **P 07 37 41.8 +0.5**
comp=Z,89nm,0.9s,mb5.6
COP *e* pP 07 38 12.4 +0.3
COP *i* S S 07 47 00.0 +0.8
COP
comp=Z,220nm,18.0s
DARE Darende-Malaty 73.27 307 *e*P **P 07 37 45.6 +3.8**
RCTC Rector, Farmer 73.28 56 ⇓P **P 07 37 41.0 -0.8**
baz=73
P11A Circle Ranch, 73.28 52 ⇓P **P 07 37 41.9 +0.1**
baz=73,SNR=18
MOOW Moose Ponds 73.30 46 *e*P **P 07 37 42.8 +0.9**
comp=Z,63nm,1.3s,mb5.3
MYA Malataya 73.31 307 *e*P **P 07 37 43.6 +1.7**
MALT Malatya 73.31 307 *e*P **P 07 37 41.9 -0.1**
MALT Malatya 73.31 307 *e*P **P 07 37 42.6 +0.6**
MALT *e* 07 37 56.8
MALT *e* 07 40 22.1
MALT pmax pmax
comp=Z,111nm,1.1s,mb5.6
MALT Malatya 73.31 307 ⇓*i*P **P 07 37 43.0 +1.0**
MALT Malatya 73.31 307 *e*P **P 07 37 42.5 +0.6**
comp=Z,111nm,1.1s,mb5.6
MALT *e*PcP PcP 07 37 56.8 -1.0
MALT *e*PP PP 07 40 22.1 -4.4
DGMT Dagmar 73.32 39 *e*P **P 07 37 41.5 -0.3**
R09A Tonopah 73.35 53 ⇑P **P 07 37 42.2 0.0**
baz=73,SNR=59
FORT Forrest 73.36 191 *e*P **P 07 37 41.5 -0.6**
comp=Z,104nm,0.6s,mb5.8
FORT *e*pP pP 07 38 13.8 +0.9
TPAW Teton Pass 73.36 46 *e*P **P 07 37 43.5 +1.4**
comp=Z,41nm,1.2s,mb5.1
GKP Gorka Klasztor 73.36 328 *e*P **P 07 37 42.3 +0.3**
GKP *e*pP pP 07 38 13.3 +0.5
GKP *e*S S 07 47 00.6 0.0
GKP Gorka Klasztor 73.36 328 *e*P **P 07 37 42.3 +0.3**
GKP *e*pP pP 07 38 13.3 +0.5
GKP *e*S S 07 47 00.6 0.0
TPH Tonopah 73.37 54 *e*P **P 07 37 43.1 +0.8**
TPH pmax pmax
comp=Z,55nm,0.9s,mb5.4
TPH Tonopah 73.37 54 *e*P **P 07 37 43.1 +0.8**
comp=Z,55nm,0.9s,mb5.4
Q10A Clear Creek Ra 73.37 53 ⇓P **P 07 37 42.1 -0.2**
baz=73,SNR=30
M14A Sheep Mountain 73.37 49 ⇑P **P 07 37 42.7 +0.4**
baz=73,SNR=35
O12A Currie 73.39 51 ⇑P **P 07 37 42.6 +0.1**
baz=73,SNR=83
TIN Tinemaha 73.42 55 ⇓P **P 07 37 43.0 +0.3**
baz=73,SNR=7.4
RDF Al-Radifah 73.44 294 *e*P **P 07 37 42.3 -0.6**
baz=294
RDF AMb AMB 07 37 44.0
comp=Z,227nm,0.9s,mb6.0,baz=294
SMMC Simmler 73.44 57 ⇓P **P 07 37 42.6 -0.2**
baz=73
K16A Soda Springs 73.46 47 ⇓P **P 07 37 43.6 +0.8**
baz=73,SNR=48
LOHW Long Hollow 73.46 46 *e*P **P 07 37 43.6 +0.8**
comp=Z,84nm,1.8s,mb5.3
BZK Bozkurt 73.47 312 *e*P **P 07 37 41.4 -1.4**
SNOW Snow King Moun 73.48 46 *e*P **P 07 37 44.2 +1.3**
comp=Z,84nm,1.4s,mb5.4
REDW Red Top Meadow 73.50 46 *e*P **P 07 37 44.1 +1.1**
comp=Z,122nm,1.7s,mb5.5
HVU Hansel Valley 73.51 48 *e*P **P 07 37 44.1 +1.0**
WAL1 Walls 73.51 341 ⇑*e*P **P 07 37 42.5 -0.2**
LRW Lerwick 73.51 341 *e*P **P 07 37 42.4 -0.4**
LRW AMb AMB 07 37 45.1
comp=Z,102nm,1.3s,mb5.4
STKA Stephens Creek 73.53 179 *e*P **P 07 37 43.0 0.0**
comp=Z,24nm,0.7s,mb5.0
STKA Stephens Creek 73.53 179 P **P 07 37 43.1 +0.1**
comp=Z,39nm,0.9s,mb5.1,baz=343,slow=7.5,SNR=54
STKA pP pP 07 38 12.3 -1.6
comp=Z,15nm,0.9s,baz=349,slow=7.2,SNR=4.0
STKA LR LR 08 06 03.5
comp=Z,399nm,21.1s,baz=6.6,slow=32
L15A Malad City 73.58 48 ⇓P **P 07 37 43.7 +0.2**
baz=73,SNR=23
S09A Goldfield 73.59 54 ⇑P **P 07 37 43.5 -0.2**
baz=73,SNR=49
LAO LASA Array 73.60 41 *e*P **P 07 37 43.7 +0.2**
comp=Z,36nm,1.3s,mb4.9
URFA Urfa 73.64 306 *e*P **P 07 37 44.4 +0.5**
VES Vestal, Richgr 73.68 56 ⇓P **P 07 37 43.0 -1.1**
baz=74,SNR=14
MUD Monsted U'grnd 73.72 334 *i* P **P 07 37 44.0 0.0**
MUD *i* S S 07 47 05.3 +0.8
MUD Monsted U'grnd 73.72 334 *e*P **P 07 37 44.0 0.0**
MUD *i* S S 07 47 05.3 +0.8
AHID Auburn Hatcher 73.77 47 *e*P **P 07 37 44.9 +0.3**
comp=Z,22nm,1.1s,mb4.8
R10A Warm Springs 73.78 53 ⇓P **P 07 37 44.9 +0.1**
baz=74,SNR=13
KWP Kalwaria 73.79 323 *e*P **P 07 37 44.7 +0.2**
KWP *e*PcP PcP 07 37 57.3 -2.2
KWP *e*pP pP 07 38 17.1 +1.7
KWP *e*S S 07 47 06.8 +1.4
KWP *e*SKSac SKSac 07 47 42.3 +2.5
KWP *es*S sS 07 47 54.7 -3.9
KWP LMZ 08 12 57.8
comp=Z,800nm,16.6s
KWP Kalwaria 73.79 323 *e*P **P 07 37 44.7 +0.1**
KWP *e*PcP PcP 07 37 57.3 -2.3
KWP *e*pP pP 07 38 17.1 +1.7
KWP *e*S S 07 47 06.8 +1.3
KWP *e*SKSac SKSac 07 47 42.3 +2.6
KWP *es*S sS 07 47 54.7 -3.9
Q11A Duckwater 73.80 52 ⇓P **P 07 37 44.9 0.0**
baz=74,SNR=24
PKM Peak Mountain 73.82 58 ⇑P **P 07 37 45.0 0.0**
baz=74,SNR=8.6
RGN Rugen 73.84 331 *e*P **P 07 37 44.8 0.0**
S10A Tonopah Range, 73.84 53 ⇑P **P 07 37 44.9 -0.2**
baz=74,SNR=59
N14A Grayback Hills 73.90 49 ⇓P **P 07 37 45.3 -0.1**
baz=74,SNR=38
M15A Larsen Ranch, 73.90 48 ⇓P **P 07 37 45.4 0.0**
baz=74,SNR=11
CWC Cottonwood Cre 73.91 55 ⇓P **P 07 37 45.4 -0.1**
baz=74,SNR=13
CTKT Corum 73.92 310 *i* P **P 07 37 46.2 +0.8**
O13A Hicks Ranch, I 73.92 50 ⇑P **P 07 37 45.5 -0.1**
baz=74,SNR=11
GRAC Grapevine Rang 73.98 55 ⇓P **P 07 37 45.9 0.0**
baz=74,SNR=115
TLCR 74.03 317 P **P 07 37 46.6 +0.5**
TOS Tosya 74.07 311 *e*P **P 07 37 47.8 +1.4**
BURAR Bucovina Array 74.09 321 ⇓*i*P **P 07 37 46.4 0.0**
BURAR Bucovina Array 74.09 321 ⇓P **P 07 37 46.4 0.0**
L16A Fish Haven 74.09 48 ⇑P **P 07 37 46.3 -0.2**
baz=74,SNR=28
BALT Daday 74.09 312 *i* P **P 07 37 47.0 +0.5**
SARI SarD1z-Kayseri 74.10 308 *e*P **P 07 37 47.8 +1.2**
Q12A Willow Creek R 74.15 52 ⇓P **P 07 37 47.0 +0.1**
baz=74,SNR=51
R11A Troy Canyon, C 74.16 53 ⇑P **P 07 37 46.8 -0.2**
baz=74,SNR=45
N15A Stansbury Isla 74.25 49 ⇓P **P 07 37 47.7 +0.3**
baz=74,SNR=9.5
PINB Pinarbasi 74.27 308 *i* P **P 07 37 48.1 +0.5**
ARVC Arvin 74.29 57 ⇑P **P 07 37 47.3 -0.4**
baz=74
HWUT Hardware Ranch 74.30 48 *e*P **P 07 37 48.3 +0.6**
comp=Z,32nm,0.9s,mb5.1
HWUT *e*PcP PcP 07 38 01.7 -0.2
CORM Corum 74.30 310 *e*P **P 07 37 48.6 +0.8**
P13A Bates Ranch, G 74.35 51 ⇑P **P 07 37 48.2 +0.2**
baz=74,SNR=42
GZT Gaziantep 74.45 306 *i* P **P 07 37 50.1 +1.5**
M16A Huntsville 74.46 48 ⇑P **P 07 37 48.5 -0.1**
baz=74,SNR=42
BNN Bunyan 74.48 308 *e*P **P 07 37 46.4 -2.5**
KOLS Kolonicke sedl 74.49 323 *e*P **P 07 37 48.8 +0.1**
KOLS *e*S S 07 47 09.0 -4.4
MPMC Manual Prospec 74.52 55 ⇑P **P 07 37 49.0 0.0**
baz=74,SNR=69
S11A Rachel 74.53 53 ⇓P **P 07 37 49.3 +0.1**
baz=74,SNR=55
DUG Dugway 74.55 50 *e*P **P 07 37 49.4 +0.3**

DUG *e* 07 38 03.0
DUG pmax pmax
comp=Z,72nm,1.4s,mb5.2
DUG Dugway 74.55 50 ⇑P **P 07 37 49.3 +0.1**
baz=74,SNR=50
DUG Dugway 74.55 50 *e*P **P 07 37 49.4 +0.2**
comp=Z,72nm,1.4s,mb5.2
DUG *e*PcP PcP 07 38 03.0 0.0
CANT Cankiri 74.59 311 *e*P **P 07 37 49.3 -0.1**
STHS Stebnicka Huta 74.59 324 *e*P **P 07 37 50.0 +0.8**
STHS pmax pmax
comp=Z,36nm,0.5s,mb5.4
STHS Stebnicka Huta 74.59 324 *e*P **P 07 37 50.0 +0.8**
comp=Z,36nm,0.5s,mb5.4
BW06 Boulder Array 74.60 46 *e*P **P 07 37 49.1 -0.3**
PDAR Pinedale Array 74.60 46 P **P 07 37 49.0 -0.4**
comp=Z,36nm,0.8s,mb5.2,baz=302,slow=1.3,SNR=231
PDAR LR LR 08 14 18.7
comp=Z,108nm,18.6s,baz=165,slow=39
VRI Vrincioaia 74.60 319 ⇓*i*P **P 07 37 50.0 +0.6**
VRI Vrincioaia 74.60 319 ⇓P **P 07 37 50.0 +0.6**
OJC Ojcow 74.62 325 *e*P **P 07 37 49.2 -0.2**
OJC *e*pP pP 07 38 19.0 -1.3
OJC *e*S S 07 47 14.0 -0.8
OJC *e*SKSac SKSac 07 47 45.8 -0.2
OJC L 08 13 04.8
comp=Z,0.5nm,19.0s
NOQ North Oquirrh 74.63 49 *e*P **P 07 37 50.6 +0.9**
FURC Furnace Creek, 74.63 55 ⇓P **P 07 37 49.4 -0.4**
baz=74,SNR=104
PLOR Plostina 74.65 319 P **P 07 37 50.4 +0.7**
Q13A Wheeler Ranch, 74.68 51 ⇓P **P 07 37 50.5 +0.6**
baz=74,SNR=55
SAFT Safranbolu 74.68 312 *e*P **P 07 37 49.8 -0.1**
O15A The Old Anders 74.68 49 ⇑P **P 07 37 50.1 +0.1**
baz=74,SNR=17
TPNV Topopah Spring 74.69 54 *e*P **P 07 37 50.4 +0.4**
TPNV pmax pmax
comp=Z,91nm,0.9s,mb5.5
TPNV Topopah Spring 74.69 54 ⇓P **P 07 37 49.6 -0.5**
baz=74
TPNV Topopah Spring 74.69 54 *e*P **P 07 37 50.4 +0.4**
comp=Z,91nm,0.9s,mb5.5
UZH Uzhgorod 74.70 323 ⇓*i*P **P 07 37 50.4 +0.5**
UZH *i* 07 37 59.8
UZH *i* pP 07 38 21.0 +0.2
UZH *i* 07 38 30.4
UZH *i* S S 07 47 14.4 -1.4
UZH *e* 07 47 48.0
UZH *i* 07 48 09.0
UZH MLR MLR
comp=N,420nm,14.0s
UZH MLR MLR
comp=Z,230nm,14.0s
TIRR Tirgusor 74.75 317 *e*P **P 07 37 50.2 0.0**
TIRR *e* 07 40 38.5
TIRR pmax pmax
comp=Z,41nm,1.0s,mb5.1
TIRR Tirgusor 74.75 317 ⇑*i*P **P 07 37 50.7 +0.5**
TIRR Tirgusor 74.75 317 *e*P **P 07 37 50.2 0.0**
comp=Z,42nm,1.0s,mb5.1
TIRR *e*PP PP 07 40 38.5 +0.1
KMRS Kahramanmaras 74.75 307 *e*P **P 07 37 50.3 -0.1**
R12A Pony Springs, 74.75 52 ⇑P **P 07 37 50.2 -0.2**
baz=74,SNR=44
LRMC Laurel Mountai 74.77 56 ⇓P **P 07 37 50.0 -0.5**
baz=75,SNR=7.1
GAZ Gaziantep 74.79 306 *e*P **P 07 37 51.5 +1.0**
BLG Laguna Peak 74.80 58 ⇑P **P 07 37 49.9 -0.8**
baz=75
P14A Drum Mountains 74.81 50 ⇑P **P 07 37 50.7 0.0**
baz=75,SNR=57
CTU Camp Tracy 74.81 49 *e*P **P 07 37 51.7 +1.0**
CDAG Cicekdag 74.82 310 *i* P **P 07 37 50.4 -0.4**
N16A Rees Ranch, Co 74.85 48 ⇑P **P 07 37 51.0 +0.1**
baz=75,SNR=16
CRVS Cervenica-Dubn 74.88 323 *e*P **P 07 37 51.4 +0.5**
CRVS *e*S S 07 47 17.9 +0.2
EDW2 Edwards Air Fo 74.98 57 ⇓P **P 07 37 51.6 -0.1**
baz=75,SNR=24
U10A Ash Meadows, A 74.99 54 ⇑P **P 07 37 51.9 +0.2**
baz=75,SNR=31
NIE Niedzica 75.00 324 *e*P **P 07 37 52.6 +1.0**
JLU Jordanelle 75.04 49 *e*P **P 07 37 52.7 +0.7**
Q14A Sevier Lake (B 75.09 51 ⇓P **P 07 37 52.6 +0.3**
baz=75,SNR=71
S12A Delamar Landin 75.09 53 ⇑P **P 07 37 52.7 +0.4**
baz=75,SNR=24
AVNT Avonos 75.11 309 *i* P **P 07 37 51.7 -0.8**
T11A Corn Creek, Al 75.11 53 ⇓P **P 07 37 52.5 +0.1**
baz=75,SNR=79
NLU North Lily Min 75.13 49 *e*P **P 07 37 52.5 0.0**
N17A Moffit Pass 75.15 48 ⇓P **P 07 37 52.6 -0.1**
baz=75,SNR=60
DECC Green Verdugo 75.17 57 ⇓P **P 07 37 52.4 -0.4**
baz=75,SNR=5.3
R13A O'Grain Ranch, 75.23 52 ⇑P **P 07 37 52.9 -0.2**
baz=75,SNR=15
MLR Muntele Rosu 75.26 319 P **P 07 37 53.9 +0.8**
MLR Muntele Rosu 75.26 319 ⇓*i*P **P 07 37 53.0 -0.1**
P15A Leamington 75.27 50 ⇓P **P 07 37 53.4 0.0**
baz=75,SNR=34
DAU Daniels Canyon 75.28 49 *e*P **P 07 37 54.0 +0.7**
O16A Springville 75.28 49 ⇓P **P 07 37 53.4 0.0**
baz=75,SNR=22
RUE Ruedersdorf 75.30 330 *e*P **P 07 37 52.9 -0.3**
RUE *e*pP pP 07 38 24.8 +0.6
RUE Ruedersdorf 75.30 330 *e*P **P 07 37 53.7 +0.5**
comp=Z,141nm,1.0s,mb5.7
RUE *e*pP pP 07 38 25.5 +1.3
MPU Maple Canyon 75.33 49 *e*P **P 07 37 54.6 +0.9**
SHOC Shoshone 75.36 55 ⇓P **P 07 37 53.5 -0.4**
baz=75,SNR=21
MWC Mount Wilson 75.36 57 *e*P **P 07 37 54.1 +0.2**
MWC pmax pmax
comp=Z,22nm,0.9s,mb4.9
MWC Mount Wilson 75.36 57 *e*P **P 07 37 54.1 +0.1**
comp=Z,22nm,0.9s,mb4.9
KAMT Kaman 75.37 310 *e*P **P 07 37 54.0 +0.1**
BSEG Bad Segeberg 75.39 332 *e*P **P 07 37 53.6 -0.1**
BSEG pmax pmax
comp=Z,30nm,0.9s,mb5.0
BSEG Bad Segeberg 75.39 332 *e*P **P 07 37 53.6 -0.1**
comp=Z,122nm,0.9s,mb5.6
KOZT Kozan 75.41 307 *e*P **P 07 37 56.2 +2.1**
PSN Preselentsi 75.41 316 P **P 07 37 54.9 +0.9**
GSC Goldstone 75.43 56 *e*P **P 07 37 54.7 +0.4**
GSC pmax pmax
comp=Z,28nm,0.8s,mb5.0
GSC Goldstone 75.43 56 ⇓P **P 07 37 54.0 -0.3**
baz=75,SNR=26
GSC Goldstone 75.43 56 *e*P **P 07 37 54.6 +0.3**
comp=Z,28nm,0.8s,mb5.0
SGKT Sivrigoynuk 75.49 312 *i* P **P 07 37 54.8 +0.3**
FMP Fort Macarthur 75.55 58 ⇑P **P 07 37 54.4 -0.6**
baz=75
ANTO Ankara 75.55 311 *e*P **P 07 37 55.1 +0.2**
ANTO Ankara 75.55 311 ⇓P **P 07 37 55.3 +0.4**
SNR=25
ANTO Ankara 75.55 311 ⇓*i*P **P 07 37 55.6 +0.7**
ANTO Ankara 75.55 311 *e*P **P 07 37 55.1 +0.2**
comp=Z,98nm,0.9s,mb5.5
ANTO *e*PcP PcP 07 38 08.2 +0.8
LOD Lodumlu 75.56 311 *e*P **P 07 37 52.3 -2.7**
U11A Corn Creek 75.56 54 ⇑P **P 07 37 55.3 +0.2**
baz=75,SNR=16
RRX Edison Barstow 75.59 56 ⇑P **P 07 37 54.8 -0.5**
baz=75
P16A Fountain Green 75.60 49 ⇓P **P 07 37 55.0 -0.1**
baz=75,SNR=16
KSP Ksiaz 75.60 327 *e*P **P 07 37 55.1 +0.1**
KSP *e*pP pP 07 38 27.2 +1.2
KSP *e*S S 07 47 27.0 +1.4
KSP *e*SKSac SKSac 07 47 52.1 -1.1
KSP LMZ 08 14 16.2
comp=Z,1μm,16.3s
KSP Ksiaz 75.60 327 ⇓*e*P **P 07 37 54.9 -0.1**
KSP *e**PP pP 07 38 23.7 -2.3
KSP *e*S S 07 47 24.0 -1.6
KSP Ksiaz 75.60 327 ⇓*e*P **P 07 37 54.9 -0.1**
KSP *e*pP pP 07 38 23.7 -2.3
KSP *e*PP PP 07 40 40.3 -5.0
KSP *e*S S 07 47 24.0 -1.6
Q15A Fillmore 75.60 50 ⇑P **P 07 37 55.0 -0.2**
baz=75,SNR=39

BFSC Mount Baldy St 75.60 57 ⇓P **P 07 37 54.8 -0.5**
baz=75,SNR=19
OKC Ostrava-Krasne 75.61 326 *e*P **P 07 37 55.4 +0.3**
OKC *e*S S 07 47 26.8 +1.1
OKC AMS AMS 08 13 30.0
comp=Z,500nm,17.3s
OKC Ostrava-Krasne 75.61 326 *e*P **P 07 37 55.4 +0.3**
OKC *e*S S 07 47 26.8 +1.1
KECS Kecovo 75.62 324 *e*P **P 07 37 55.2 0.0**
KECS pmax pmax
comp=Z,17nm,1.0s,mb4.7
KECS Kecovo 75.62 324 *e*P **P 07 37 55.2 0.0**
comp=Z,17nm,1.0s,mb4.7
KECS *e*PP PP 07 40 44.1 -1.5
SHPR Sheep Range 75.64 54 *e*P **P 07 37 55.9 +0.5**
MLA1 Latheron 75.66 341 *e*P **P 07 37 55.2 0.0**
ULM Lac du Bonnet 75.67 34 P **P 07 37 54.7 -0.7**
comp=Z,37nm,0.8s,mb5.1,baz=316,slow=6.7,SNR=46
ULM LR LR 08 14 30.4
comp=Z,194nm,18.4s,baz=27,slow=38
ULM Lac du Bonnet 75.67 34 P **P 07 37 54.7 -0.7**
ULM LR LR 08 14 30.4
CIS Catalina Islan 75.68 58 ⇑P **P 07 37 55.3 -0.4**
baz=76
S13A Holt Ranch, En 75.69 52 ⇑P **P 07 37 55.6 -0.2**
baz=76,SNR=52
NIG Nigde 75.70 309 *e*P **P 07 37 57.5 +1.7**
R14A James Farms, M 75.70 51 ⇓P **P 07 37 55.6 -0.2**
baz=76,SNR=7.6
O17A Robinson Place 75.72 49 ⇓P **P 07 37 56.0 +0.1**
baz=76
VOIR 75.73 319 ⇑*i*P **P 07 37 56.5 +0.6**
VOIR 75.73 319 ⇑P **P 07 37 56.5 +0.7**
T12A Moapa 75.76 53 ⇑P **P 07 37 56.1 0.0**
baz=76
CEYT Ceyhan 75.77 307 *e*P **P 07 37 55.2 -1.0**
N18A Larsen Ranch, 75.77 47 ⇓P **P 07 37 55.4 -0.8**
baz=76,SNR=14
DRGR 75.86 321 ⇓*i*P **P 07 37 57.3 +0.7**
DRGR 75.86 321 ⇓P **P 07 37 57.3 +0.7**
TUQ Turquoise Mtn. 75.88 55 ⇑P **P 07 37 56.8 -0.1**
baz=76,SNR=42
MORC Moravsky Berou 75.91 326 ⇓*i*P **P 07 37 56.9 +0.1**
MORC Moravsky Berou 75.91 326 *e*P **P 07 37 57.0 +0.3**
comp=Z,110nm,1.1s,mb5.5
MORC *e*pP pP 07 38 27.7 0.0
V11A Goodsprings 75.92 54 ⇑P **P 07 37 57.0 -0.1**
baz=76,SNR=32
HENT Hendek 75.95 313 *i* P **P 07 37 57.7 +0.5**
YURE YUREGIR 75.96 307 *i* P **P 07 37 58.2 +0.9**
DPC Dobruska-Polom 75.97 327 *e*P **P 07 37 57.4 +0.3**
DPC *ex* x 07 38 04.4
DPC *e*S S 07 47 28.9 -0.7
DPC AMS AMS 08 14 00.0
comp=Z,500nm,14.6s
UPC Upice 75.97 327 *e*P **P 07 37 57.1 0.0**
S14A Cedar City 75.98 52 ⇓P **P 07 37 57.2 -0.2**
baz=76,SNR=22
KARA Karaisali 76.01 308 *e*P **P 07 37 57.7 +0.1**
MDU Mudurnu 76.03 312 *e*P **P 07 37 58.2 +0.6**
HEC Hector,Ludlow 76.04 56 ⇓P **P 07 37 57.3 -0.4**
baz=76,SNR=24
T13A Saint George 76.04 53 ⇓P **P 07 37 58.2 +0.5**
baz=76,SNR=66
MSU Marysvale 76.05 51 *e*P **P 07 37 58.5 +0.7**
BBRC Big Bear Sol-O 76.05 56 ⇑P **P 07 37 57.8 0.0**
baz=76,SNR=32
U12A Valley of Fire 76.06 53 ⇑P **P 07 37 57.9 +0.1**
baz=76,SNR=16
TMUT Trail Mountain 76.06 49 *e*P **P 07 37 58.7 +0.9**
O18A Roosevelt 76.07 48 ⇑P **P 07 37 58.1 +0.2**
baz=76,SNR=56
N19A John Jarvie Ra 76.10 47 ⇑P **P 07 37 57.4 -0.6**
baz=76
HTY Hatay 76.13 306 *e*P **P 07 37 59.2 +0.9**
R15A Junction 76.19 51 ⇑P **P 07 37 59.1 +0.5**
baz=76,SNR=22
MVH1 Achvaich 76.19 342 *e*P **P 07 37 58.0 -0.2**
YAYL Yayladag 76.20 306 *i* P **P 07 37 58.8 +0.1**
P17A Butcher Ranch, 76.21 49 ⇓P **P 07 37 58.9 +0.2**
baz=76,SNR=37
KLBR Kellerberrin 76.22 200 *e*P **P 07 37 57.4 -1.2**
comp=Z,52nm,1.4s,mb5.1
KLBR *e*pP pP 07 38 29.1 -0.5
PSZ Piszkesteto 76.31 324 ⇓*e*P **P 07 37 59.4 +0.3**
PSZ Piszkesteto 76.31 324 ⇓*i*P **P 07 37 59.5 +0.4**
PSZ Piszkesteto 76.31 324 *e*P **P 07 37 59.5 +0.4**
comp=Z,115nm,1.3s,mb5.5
PSZ *e*pP pP 07 38 31.3 +1.2
PSZ *e*PP PP 07 40 53.0 +1.7
MURC Murrieta 76.31 57 ⇑P **P 07 37 58.8 -0.6**
baz=76,SNR=17
V12A Nelson 76.34 54 ⇓P **P 07 37 59.6 +0.2**
baz=76,SNR=36
Q16A Castle Valley 76.34 50 ⇑P **P 07 37 59.5 0.0**
baz=76,SNR=20
P18A Preston Nutter 76.38 49 ⇓P **P 07 37 59.9 +0.3**
baz=76,SNR=39
U13A Pakoon Wash 76.41 53 ⇑P **P 07 38 00.3 +0.4**
baz=76,SNR=102
MME1 Meikle Cairn 76.45 341 *e*P **P 07 37 58.9 -0.8**
KOLL Kolacno 76.46 325 *e*P **P 07 37 59.8 -0.1**
GMRC Granite Mounta 76.48 55 ⇑P **P 07 38 00.2 -0.1**
baz=76,SNR=62
T14A Hurricane 76.50 52 ⇓P **P 07 38 00.4 +0.1**
baz=76,SNR=14
S15A Panguitch 76.50 51 ⇑P **P 07 38 01.2 +0.8**
baz=76,SNR=31
BRG Berggiesshubel 76.51 329 ⇑*i*P **P 07 38 00.2 +0.1**
BRG *PP pP 07 38 31.2 0.0
BRG *SP sP 07 38 46.0 +1.5
BRG 07 40 50.9
BRG S S 07 47 36.0 +0.5
BRG *i* 07 48 14.9
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
BRG pmax pmax
comp=Z,16nm,1.2s,mb4.6
BRG MLR MLR
comp=N,430nm,16.6s
BRG MLR MLR
comp=E,340nm,15.9s
BRG MLR MLR
comp=Z,244nm,13.0s
BRG Berggiesshubel 76.51 329 *e*P **P 07 37 59.8 -0.3**
comp=Z,54nm,1.0s,mb5.2
BRG *e*PP PP 07 40 50.9 -2.0
BRG Berggiesshubel 76.51 329 ⇑*i*P **P 07 38 00.2 +0.1**
comp=Z,54nm,1.0s,mb5.2
BRG pP pP 07 38 31.2 0.0
comp=Z,27nm,1.1s
BRG sP sP 07 38 46.0 +1.5
BRG PP PP 07 40 50.9 -2.0
comp=Z,14nm,1.2s
BRG S S 07 47 36.0 +0.5
BRG *i* 07 48 14.9
comp=Z,7.2nm,0.5s
BRG
comp=N,568nm,16.6s
BRG
comp=E,407nm,15.9s
BRG
comp=Z,746nm,13.0s
BRG Berggiesshubel 76.51 329 ⇑*i*P **P 07 38 00.2 +0.1**
comp=Z,33nm,1.0s,mb5.0
BRG pP pP 07 38 31.2 0.0
BRG sP sP 07 38 46.0 +1.5
BRG PP PP 07 40 50.9 -2.0
BRG S S 07 47 36.0 +0.5
BRG LR LR
comp=Z,450nm,13.0s
RSSD Black Hills 76.51 42 *e*P **P 07 38 00.4 +0.1**
RSSD pmax pmax
comp=Z,13nm,0.6s,mb4.8
RSSD Black Hills 76.51 42 *e*P **P 07 38 00.4 +0.2**
comp=Z,13nm,0.6s,mb4.8
CLL Collm 76.52 329 *e*P **P 07 37 59.5 -0.7**
comp=Z,104nm,0.9s,mb5.6
CLL *e*pP pP 07 38 31.5 +0.2
CLL Collm 76.52 329 *i* P **P 07 38 00.0 -0.2**
comp=Z,104nm,0.9s,mb5.6
CLL *i* pP pP 07 38 31.7 +0.4
CLL *ex* x 07 38 38.0
CLL *e*PP PP 07 40 54.0 +0.9
CLL *e*pPP 07 41 19.0

CLL eS S 07 47 32.0 -3.7
CLL eSP 07 48 08.0
CLL ePS 07 48 29.0
CLL e(sPS) 07 49 05.0
CLL eSS SS 07 52 40.0 +8.1
CLL e(sSSP) 07 53 20.0
CLL ex x 07 57 22.0
CLL Collm 76.52 329 *i* P **P 07 38 00.0 -0.2**
comp=Z,104nm,0.9s,mb5.6
CLL *i* pP pP 07 38 31.7 +0.4
CLL eS S 07 47 32.0 -3.7
CLL LR LR
comp=Z,600nm,17.6s
PVCC Panska Ves 76.53 328 *eP* **P 07 38 00.4 +0.1**
PVCC ePCP PcP 07 38 08.8 -2.6
PVCC eS S 07 47 36.1 +0.3
PVCC AMS AMS 08 15 40.0
comp=Z,600nm,15.3s
SRU San Rafael 76.58 49 ⇑P **P 07 38 00.9 +0.1**
baz=76,SNR=93
SRU San Rafael 76.58 49 *eP* **P 07 38 00.8 +0.1**
MERS Mersin 76.59 308 *eP* **P 07 38 00.6 -0.3**
RWWY Rawlins 76.60 46 *eP* **P 07 38 01.2 +0.3**
comp=Z,70nm,0.8s,mb5.4
W12A Cal Nev Ari 76.61 55 ⇑P **P 07 38 00.9 -0.1**
baz=76,SNR=8.1
LDFC Landfair 76.62 55 *eP* **P 07 38 01.6 +0.5**
comp=Z,104nm,1.0s,mb5.5
NRDL Niedersach Rie 76.63 331 *eP* **P 07 38 00.5 -0.3**
comp=Z,51nm,1.0s,mb5.2
NRDL ePP PP 07 40 51.5 -2.5
KLYT Kilyos 76.66 314 *eP* **P 07 38 00.6 -0.5**
VRAC Vranov 76.66 326 P **P 07 38 01.5 +0.5**
VRAC Vranov 76.66 326 ⇓*i*P **P 07 38 01.4 +0.4**
VRAC Vranov 76.66 326 ⇓P **P 07 38 01.4 +0.4**
MDO Dochfour 76.67 341 *eP* **P 07 38 00.5 -0.4**
KIZT Kizilcal 76.75 311 *eP* **P 07 38 01.7 0.0**
PFO Pinyon Flat Ob 76.77 57 P **P 07 38 02.0 +0.1**
comp=Z,201nm,0.8s,mb5.9,SNR=14
PFO Pinyon Flat Ob 76.77 57 *eP* **P 07 38 02.1 +0.2**
PFO pmax pmax
comp=Z,17nm,0.8s,mb4.8
PFO Pinyon Flat Ob 76.77 57 ⇑P **P 07 38 01.5 -0.4**
baz=77,SNR=18
PFO Pinyon Flat Ob 76.77 57 *eP* **P 07 38 02.1 +0.2**
comp=Z,17nm,0.8s,mb4.8
V13A Grand Canyon W 76.78 54 ⇑P **P 07 38 01.9 0.0**
baz=77,SNR=74
ISK Istanbul-Kandi 76.78 314 *eP* **P 07 37 59.2 -2.7**
BELC Belle Mtn. 76.79 56 ⇑P **P 07 38 01.0 -1.0**
baz=77,SNR=32
Q18A Rafter H Ranch 76.80 49 ⇑P **P 07 38 01.5 -0.6**
baz=77,SNR=21
KAC Achnashellach 76.84 342⇑*eP* **P 07 38 02.3 +0.5**
109C Camp Elliot, M 76.84 58 ⇓P **P 07 38 01.6 -0.7**
baz=77
SZH Strazhica 76.86 317 P **P 07 38 02.0 -0.2**
KDHN Kadinhani 76.86 310 *i* P **P 07 38 01.1 -1.2**
ADVT Abdulvahap 76.86 313 *eP* **P 07 38 02.0 -0.3**
ZIMR 76.86 318 P **P 07 38 02.4 +0.1**
U14A Mt Trumbull 76.88 53 ⇑P **P 07 38 02.7 +0.2**
baz=77,SNR=78
ESKT Eskisehir 76.88 312 *i* P **P 07 38 02.3 -0.1**
S16A Weppner Ranch, 76.92 51 ⇑P **P 07 38 02.6 0.0**
baz=77,SNR=85
LADK Ladik-KONYA 76.94 310 *eP* **P 07 38 02.4 -0.4**
T15A Red Dirt Ranch 76.94 52 ⇑P **P 07 38 03.1 +0.3**
baz=77,SNR=17
R17A Hanksville Air 76.95 50 ⇓P **P 07 38 02.5 -0.4**
baz=77,SNR=61
YLV Yalova 76.96 313 *eP* **P 07 38 01.7 -1.2**
PRU Pruhonice 76.97 328 *eP* **P 07 38 03.0 +0.3**
PRU eS S 07 47 41.3 +0.8
PRU AMS AMS 08 14 50.0
comp=Z,500nm,15.6s
MEST Erdemli 77.00 308 *i* P **P 07 38 03.8 +0.6**
BUD Budapest 77.02 324⇓*eP* **P 07 38 04.2 +1.1**
KPL Plockton 77.06 342⇑*eP* **P 07 38 03.2 0.0**
KPL AMb AMB 07 38 04.9
comp=Z,118nm,1.3s,mb5.5
CLZ Clausthal 77.07 331 *eP* **P 07 38 03.3 0.0**
CLZ e*PP pP 07 38 34.3 0.0
CLZ pmax pmax
comp=Z,26nm,1.0s,mb4.9
CLZ Clausthal 77.07 331 *eP* **P 07 38 03.3 0.0**
comp=Z,118nm,1.0s,mb5.6
CLZ epP pP 07 38 34.3 0.0
JMB Yambol 77.10 316 *eP* **P 07 38 04.6 +1.0**
JMB Yambol 77.10 316 P **P 07 38 04.7 +1.1**
MODS Modra-Piesok 77.10 325 *eP* **P 07 38 04.6 +1.1**
MODS ePP PP 07 40 57.7 -0.3
MODS eS S 07 47 40.8 -1.2
SLVT Silivri 77.12 314 *eP* **P 07 38 04.9 +1.1**
NEE2 Needles Airpor 77.12 55 ⇓P **P 07 38 03.0 -0.9**
baz=77
KSB Sheil Bridge 77.13 342⇑*eP* **P 07 38 03.2 -0.3**
TREC Trest 77.13 327 *eP* **P 07 38 04.3 +0.7**
TREC AMS AMS 08 15 00.0
comp=Z,700nm,17.6s
GEMT Gemlik 77.16 313 *eP* **P 07 38 03.4 -0.6**
AGMN Agassiz Refuge 77.17 35 *eP* **P 07 38 03.1 -0.9**
comp=Z,23nm,0.9s,mb4.9
IRM Iron Mountain 77.21 56 ⇑P **P 07 38 04.1 -0.3**
baz=77
BZS Buzias 77.25 321 P **P 07 38 04.8 +0.4**
BZS Buzias 77.25 321 ⇓*i*P **P 07 38 04.0 -0.4**
BZS Buzias 77.25 321 ⇓P **P 07 38 04.0 -0.4**
BAR Barrett 77.25 58 *eP* **P 07 38 04.4 -0.3**
comp=Z,33nm,1.2s,mb4.9
MONP Monument Peak 77.27 57 ⇑P **P 07 38 04.0 -0.7**
baz=77,SNR=8.2
ZST Bratislava 77.31 325 *eP* **P 07 38 05.6 +0.9**
ZST pmax pmax
comp=Z,55nm,1.1s,mb5.2
ZST Bratislava 77.31 325 *eP* **P 07 38 05.6 +0.9**
comp=Z,55nm,1.1s,mb5.2
ZST ePP PP 07 40 59.1 -0.7
ZST eS S 07 47 44.6 +0.3
CAN Canberra 77.33 173 P **P 07 38 05.5 +0.8**
W13A Hualapai Mount 77.35 54 ⇑P **P 07 38 04.9 -0.3**
baz=77,SNR=74
BC3 Big Chuckw Mtn 77.36 56 ⇓P **P 07 38 04.5 -0.8**
baz=77,SNR=24
CNB Canberra Magne 77.36 173 *eP* **P 07 38 05.8 +0.9**
BOLV Bolvadin 77.38 311 *i* P **P 07 38 05.3 +0.1**
ULDT Uludag 77.39 313 *i* P **P 07 38 05.2 -0.1**
Q19A Hogan Spring (77.39 49 ⇓P **P 07 38 04.5 -0.8**
baz=77,SNR=76
U15A North Rim 77.40 52 ⇓P **P 07 38 05.9 +0.5**
baz=77,SNR=138
R18A Canyonlands Na 77.43 49 ⇑P **P 07 38 04.7 -0.8**
baz=77,SNR=45
S17A Black Ridge (B 77.44 50 ⇑P **P 07 38 04.9 -0.6**
baz=77,SNR=77
V14A Boquillas Ranc 77.45 53 ⇓P **P 07 38 06.1 +0.4**
baz=77,SNR=157
EDRB Edirne 77.46 316 *eP* **P 07 38 05.9 +0.3**
T16A Glen Canyon Da 77.47 51 ⇓P **P 07 38 04.8 -1.1**
baz=77,SNR=11
KAR1 Arisaig 77.49 342⇑*eP* **P 07 38 06.1 +0.6**
IKL Isikli 77.51 308 *eP* **P 07 38 05.5 -0.6**
EBH Black Hill 77.54 340⇑*eP* **P 07 38 05.3 -0.5**
WERN Wernitzgruen 77.58 329 *eP* **P 07 38 05.8 -0.3**
MOX Moxa 77.58 330⇑*iP* **P 07 38 06.7 +0.6**
comp=Z,69nm,1.3s,mb5.2
MOX *e* pP 07 38 37.5 +0.2
MOX *e* 07 41 00.0
MOX
comp=Z,300nm,20.0s
MOX Moxa 77.58 330⇑*iP* **P 07 38 06.7 +0.6**
MOX *e* pP 07 38 37.5 +0.2
MOX *e* 07 41 00.0
MOX Moxa 77.58 330 *eP* **P 07 38 05.8 -0.3**
comp=Z,70nm,1.2s,mb5.3
MOX epP pP 07 38 37.2 -0.1
NKC Novy Kostel 77.59 329 *eP* **P 07 38 06.6 +0.4**
NKC AMS AMS 08 17 10.0
comp=Z,500nm,13.3s
IBBN Ibbenburen 77.61 333 *eP* **P 07 38 05.8 -0.5**
comp=Z,114nm,1.1s,mb5.5
DVTC Desert V Tower 77.62 57 ⇑P **P 07 38 06.0 -0.7**
baz=77
NWAO Narrogin (SRO) 77.62 200 *eP* **P 07 38 06.1 -0.3**
NWAO pmax pmax
comp=Z,45nm,0.9s
NWAO Narrogin (SRO) 77.62 200 *eP* **P 07 38 06.1 -0.3**
comp=Z,45nm,0.9s,mb5.2
SWSC Sam W. Stewart 77.62 57 ⇓P **P 07 38 06.1 -0.6**
baz=77,SNR=7.8
EREN Erenkoy 77.71 307 *eP* **P 07 38 07.0 -0.1**
HDMB Hadim 77.72 309 *eP* **P 07 38 03.1 -4.0**
SHUT Suhut-Afyon 77.72 311 *eP* **P 07 38 06.1 -1.1**
X13A Yucca 77.72 54 ⇓P **P 07 38 06.9 -0.3**
baz=78,SNR=150
PDMCI Parker Dam,Lak 77.73 55 ⇓P **P 07 38 06.8 -0.4**
baz=78
W14A Seligman 77.75 54 ⇓P **P 07 38 07.8 +0.4**
baz=78,SNR=91
EAB Aberfoyle 77.80 341⇑*eP* **P 07 38 07.2 0.0**
PHWY Pilot Hill 77.80 45 *eP* **P 07 38 07.6 +0.1**
EBL Broad Law 77.84 340 *eP* **P 07 38 07.1 -0.4**
R19A Curley Farm, L 77.86 49 ⇓P **P 07 38 07.6 -0.3**
baz=78,SNR=25
S18A Hurst Farm, Bl 77.86 50 ⇑P **P 07 38 07.8 -0.1**
baz=78,SNR=56
Y12C Blythe 77.87 55 ⇑P **P 07 38 07.9 -0.2**
baz=78,SNR=26
T17A Navajo Res., N 77.87 51 ⇑P **P 07 38 07.4 -0.6**
baz=78,SNR=14
V15A Kaibab Nationa 77.88 53 ⇑P **P 07 38 08.6 +0.5**
baz=78,SNR=53
EAU Auchinoon 77.88 340⇑*eP* **P 07 38 08.3 +0.6**
XSO Sourhope Farm 77.89 339⇑*eP* **P 07 38 07.0 -0.7**
BHL Bhannes 77.91 305 *eP* **P 07 38 08.3 0.0**
MANZ Manzenberg 77.92 329 *eP* **P 07 38 07.9 -0.1**
comp=Z,49nm,1.0s,mb5.2
MFT Murefte 77.93 315 *eP* **P 07 38 09.2 +0.9**
GDZ Gediz 77.94 312 *i* P **P 07 38 08.1 -0.2**
KHC Kasperske Hory 78.03 328 *eP* **P 07 38 08.6 -0.1**
KHC PCP PcP 07 38 18.5 +0.6
KHC epP pP 07 38 40.0 +0.2
KHC eS S 07 47 50.3 -1.7
KHC AMS AMS 08 15 20.0
comp=Z,600nm,16.5s
KHC Kasperske Hory 78.03 328 *eP* **P 07 38 08.6 -0.1**
KHC *e* 07 38 18.5
KHC *e* pP 07 38 40.0 +0.2
KHC eS S 07 47 50.3 -1.7
KHC LR LR
comp=Z,600nm,16.5s
UBBA Unterbreizbach 78.04 331 *eP* **P 07 38 08.2 -0.5**
comp=Z,31nm,1.1s,mb5.0
CONA Conrad Observa 78.04 326⇓*iP* **P 07 38 09.4 +0.6**
comp=Z,166nm,1.6s,mb5.5,SNR=26
CSNA Conrad Observa 78.04 326⇑*iP* **P 07 38 09.2 +0.5**
comp=Z,163nm,1.6s,mb5.5
SART Tekirdag 78.06 315 *i* P **P 07 38 08.7 -0.2**
RKY Sarkoy-Tekirda 78.06 315 *eP* **P 07 38 07.7 -1.3**
ROTZ Rotzenmuhle 78.06 329 *eP* **P 07 38 09.1 +0.3**
comp=Z,73nm,1.0s,mb5.4
ROTZ epP pP 07 38 40.0 0.0
ROTZ ePP PP 07 41 04.1 -1.9
GLA Glamis 78.15 56 ⇑P **P 07 38 09.3 -0.3**
baz=78,SNR=24
PKSM Moragy 78.16 323⇓*iP* **P 07 38 09.1 -0.3**
PKSM Moragy 78.16 323 ⇓P **P 07 38 09.1 -0.4**
GEC2 GERESS Array S 78.21 327 *eP* **P 07 38 09.4 -0.2**
GEC2 *e* 07 41 05.2
GEC2 pmax pmax
comp=Z,15nm,1.0s,mb4.7
GEC2 GERESS Array S 78.21 327 *eP* **P 07 38 09.4 -0.2**
comp=Z,36nm,1.0s,mb5.1
GEC2 ePP PP 07 41 05.2 -2.0
GERES GERESS Array B 78.21 327 P **P 07 38 09.8 +0.2**
comp=Z,17nm,0.7s,mb4.9,baz=36,slow=5.3,SNR=97
GERES pP pP 07 38 39.6 -1.2
comp=Z,3.2nm,0.7s,baz=183,slow=5.3,SNR=1.8
GERES PKKPbc PKKPbc 07 57 05.5 -0.3
comp=Z,0.8nm,0.6s,baz=298,slow=2.9,SNR=5.8
GERES LR LR 08 16 24.8
comp=Z,432nm,18.2s,baz=217,slow=38
GERES GERESS Array B 78.21 327 P **P 07 38 09.8 +0.2**
GERES *PP pP 07 38 39.6 -1.2
TKTP Tekketepe 78.21 311 *i* P **P 07 38 08.5 -1.4**
WTSB Winterswijk 78.22 333 *eP* **P 07 38 09.4 -0.2**
comp=Z,82nm,1.1s,mb5.4
U17A Shonto 78.23 51 ⇑P **P 07 38 09.9 -0.1**
baz=78,SNR=42
ISP Isparta 78.24 311 *eP* **P 07 38 08.4 -1.7**
ISP Isparta 78.24 311 *eP* **P 07 38 09.3 -0.7**
ISP Isparta 78.24 311 P **P 07 38 10.8 +0.8**
ISP Isparta 78.24 311 ⇓*iP* **P 07 38 10.1 +0.1**
Y13A Salome 78.25 55 ⇓P **P 07 38 09.7 -0.4**
baz=78,SNR=12
LFK Lefkose 78.26 307 *eP* **P 07 38 10.6 +0.4**
BTOK Tokmak 78.26 313 *i* P **P 07 38 10.7 +0.6**
W15A Williams 78.26 53 ⇑P **P 07 38 10.6 +0.4**
baz=78,SNR=31
PGB Panagyurishte 78.27 318 P **P 07 38 11.3 +1.2**
ESK Eskdalemuir 78.29 340 P **P 07 38 10.1 +0.1**
comp=Z,217nm,0.8s,mb5.9,SNR=6.6
ESK Eskdalemuir 78.29 340 *eP* **P 07 38 09.1 -0.9**
ESK AMb AMB 07 38 16.1
comp=Z,67nm,1.1s,mb5.3
ESK Eskdalemuir 78.29 340 *eP* **P 07 38 10.2 +0.2**
WET Wettzell 78.30 328 *eP* **P 07 38 10.3 +0.2**
WET pmax pmax
comp=Z,52nm,1.1s,mb5.2
WET Wettzell 78.30 328 *eP* **P 07 38 10.3 +0.2**
comp=Z,85nm,1.1s,mb5.4
S19A Harvey Farm, M 78.31 49 ⇑P **P 07 38 09.9 -0.5**
baz=78,SNR=57
T18A Mexican Hat 78.31 50 ⇓P **P 07 38 09.7 -0.7**
baz=78,SNR=60
PLD Plovdiv 78.32 317 *eP* **P 07 38 10.2 -0.1**
X14A Yava 78.37 54 ⇓P **P 07 38 10.9 +0.1**
baz=78,SNR=115
ECK Cauldkaine Hil 78.40 340⇑*eP* **P 07 38 10.2 -0.3**
BALB Balikesir 78.43 313 *eP* **P 07 38 09.0 -2.0**
KHAL Karahalli 78.44 312 *i* P **P 07 38 10.6 -0.5**
XAL Allendale 78.44 339⇑*eP* **P 07 38 09.8 -1.0**
BALY Balya 78.50 314 *i* P **P 07 38 11.1 -0.3**
BUG Bochum--Univer 78.50 332 *eP* **P 07 38 10.5 -0.7**
comp=Z,76nm,1.0s,mb5.4
BUG epP pP 07 38 42.0 -0.4
GRA1 Grafenberg Arr 78.50 329 *eP* **P 07 38 11.4 +0.2**
comp=Z,163nm,0.9s,mb5.8
GRA1 epP pP 07 38 43.6 +1.2
GRA1 ePP PP 07 41 07.3 -2.3
GRA1 eS S 07 47 55.9 -1.1
GRF Grafenberg Arr 78.50 329 *eP* **P 07 38 11.4 +0.2**
GRF e*PP pP 07 38 43.6 +1.2
GRF *e* 07 41 07.3
GRF eS S 07 47 55.9 -1.1
GRF pmax pmax
comp=Z,163nm,0.9s,mb5.8
GRF Grafenberg Arr 78.50 329 *eP* **P 07 38 11.4 +0.2**
comp=Z,163nm,0.9s,mb5.8
GRF epP pP 07 38 43.6 +1.2
GRF ePP PP 07 41 07.3 -2.3
GRF eS S 07 47 55.9 -1.1
ALN Alexandroupoli 78.50 315 *eP* **P 07 38 10.6 -0.8**
SMCO Snowmass 78.50 47 *eP* **P 07 38 16.1 +4.7**
WUAZ Wupatki 78.56 52 ⇑P **P 07 38 12.2 +0.4**
baz=78
WUAZ Wupatki 78.56 52 *eP* **P 07 38 12.8 +1.0**
comp=Z,70nm,0.9s,mb5.5
ENEZ Enez 78.56 315 *eP* **P 07 38 11.0 -0.8**
RDO Rodhopi 78.59 316 *ePN* **P 07 38 13.0 +1.1**
RDO Rodhopi 78.59 316 *eP* **P 07 38 13.0 +1.1**
CSS Prodhromos 78.59 307 *eP* **P 07 38 11.5 -0.5**
112A Yuma 78.65 56 ⇓P **P 07 38 12.1 -0.3**
baz=78
Y14A Wickenburg 78.67 54 ⇓P **P 07 38 12.4 -0.1**
baz=78,SNR=59
ARSA Arzberg 78.72 325⇑*iP* **P 07 38 11.6 -0.8**
comp=Z,129nm,2.0s,mb5.4,SNR=17
VTS Vitosha 78.72 318 P **P 07 38 13.6 +1.0**
VTS Vitosha 78.72 318⇑*iP* **P 07 38 13.0 +0.4**
VTS Vitosha 78.72 318 ⇑P **P 07 38 13.0 +0.5**
LEF Lefka 78.75 307 *eP* **P 07 38 11.0 -1.9**
X15A Humboldt 78.76 54 ⇓P **P 07 38 13.3 +0.3**
baz=78,SNR=125
W16A Flagstaff 78.76 53 ⇑P **P 07 38 13.3 +0.4**
baz=78,SNR=25
MOA Molln 78.77 326⇓*iP* **P 07 38 13.1 +0.4**
comp=Z,146nm,2.2s,mb5.4
ISCO Idaho Springs 78.80 46 *eP* **P 07 38 14.0 +1.0**
ISCO pmax pmax
comp=Z,49nm,1.8s,mb5.0
ISCO Idaho Springs 78.80 46 *eP* **P 07 38 14.0 +0.9**
comp=Z,49nm,1.8s,mb5.0
KULA Kula-Manisa 78.80 312 *eP* **P 07 38 12.5 -0.6**
U18A Rough Rock, Ch 78.81 51 ⇓P **P 07 38 13.3 +0.1**
baz=79,SNR=37
113A Mohawk Valley, 79.00 56 ⇑P **P 07 38 13.6 -0.7**
baz=79,SNR=24
AKHS Akhisar 79.01 313 *i* P **P 07 38 13.8 -0.4**
T19A Beclabito 79.01 50 ⇓P **P 07 38 14.1 -0.2**
baz=79,SNR=46
MVCO Mesa Verde 79.05 49 ⇓P **P 07 38 14.6 +0.1**
baz=79,SNR=27
MVCO Mesa Verde 79.05 49 *eP* **P 07 38 15.0 +0.6**
comp=Z,48nm,1.4s,mb5.1
Y15A Casa Rosa Ranc 79.06 54 ⇑P **P 07 38 14.7 +0.1**
baz=79,SNR=99
GAL1 Galloway 79.08 340⇑*eP* **P 07 38 13.5 -0.8**
GAL1 AMb AMB 07 38 16.2
comp=Z,111nm,1.7s,mb5.4
HPK Haverah Park 79.09 338 *eP* **P 07 38 14.1 -0.2**
HPK AMb AMB 07 38 14.9
comp=Z,128nm,1.8s,mb5.5
GADA Gvkgeada 79.09 315 *eP* **P 07 38 12.9 -1.7**
Z14A Wintersburg 79.10 55 ⇑P **P 07 38 14.4 -0.4**
baz=79
DIVS Divibare 79.15 321 *eP* **P 07 38 13.8 -1.1**
MMB Musomiste 79.19 317 P **P 07 38 15.8 +0.6**
GOLH Golhisar 79.20 311 *i* P **P 07 38 14.6 -0.7**
W17A Winslow 79.25 52 ⇓P **P 07 38 15.6 0.0**
baz=79,SNR=6.0
EYMN Ely 79.26 33 *eP* **P 07 38 15.1 -0.3**
comp=Z,36nm,0.9s,mb5.2
BOZC Bozcaada 79.26 315 *i* P **P 07 38 14.3 -1.2**
V18A Ganado 79.27 51 ⇑P **P 07 38 15.9 +0.2**
baz=79,SNR=68
X16A Lo Mia Camp, P 79.28 53 ⇑P **P 07 38 16.4 +0.6**
baz=79,SNR=110
KKB Krupnik 79.32 318 P **P 07 38 16.6 +0.8**
TOO Toolangi 79.32 176 *eP* **P 07 38 16.4 +0.8**
PERS Pernice 79.37 325 *i* P **P 07 38 16.3 +0.3**
SOKA Soboth 79.37 325⇑*iP* **P 07 38 15.8 -0.2**
TOD Tromm 79.47 330 *eP* **P 07 38 16.7 +0.2**
HGN Heimansgroeve 79.53 333 *eP* **P 07 38 16.4 -0.4**
comp=Z,55nm,1.3s,mb5.2
HGN Heimansgroeve 79.53 333 *ePP* PP 07 41 19.6 +1.5
HGN Heimansgroeve 79.53 333 *eS* S 07 48 02.7 -5.2
GIM North Isle of 79.54 340 *eP* **P 07 38 16.5 -0.3**
PRK Paraskevi 79.58 314 *eP* **P 07 38 16.5 -0.8**
BEBN Eben Emael 79.58 333 P **P 07 38 17.5 +0.4**
comp=Z,23nm,1.3s,mb4.8
Z15A Gila River Ind 79.62 54 ⇓P **P 07 38 17.5 -0.2**
baz=79,SNR=8.5
Y16A Circle Bar Ran 79.63 54 ⇑P **P 07 38 18.0 +0.3**
baz=79,SNR=54
MEM Membach 79.63 333 P **P 07 38 17.2 -0.2**
IZM Izmir 79.65 313 *eP* **P 07 38 18.2 +0.5**
KBI1 Birley Grange 79.69 338 *eP* **P 07 38 17.3 -0.3**
LOS Limnos 79.71 315 *eP* **P 07 38 17.7 -0.3**
OBKA Obir 79.71 325⇓*iP* **P 07 38 17.6 -0.3**
comp=Z,85nm,1.2s,mb5.4,SNR=9.6
X17A Forest Lakes 79.71 53 ⇓P **P 07 38 18.5 +0.4**
baz=80,SNR=62
FUR Furstenfeldbru 79.72 328 *eP* **P 07 38 17.9 0.0**
FUR pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
FUR Furstenfeldbru 79.72 328 *eP* **P 07 38 17.9 0.0**
comp=Z,158nm,0.9s,mb5.8
KBA Koelnbreinsper 79.76 326⇑*iP* **P 07 38 17.5 -0.7**
comp=Z,119nm,1.3s,mb5.6,SNR=59
KBA Koelnbreinsper 79.76 326⇑*iP* **P 07 38 17.5 -0.6**
KBA pmax pmax
comp=Z,119nm,1.3s,mb5.6
BLCB Balcova 79.78 313 *eP* **P 07 38 16.9 -1.5**
V19A Window Rock 79.78 51 ⇓P **P 07 38 18.8 +0.3**
baz=80,SNR=8.3
W18A Petrified Fore 79.80 52 ⇓P **P 07 38 18.8 +0.2**
baz=80,SNR=14
AYDN Tasoluk 79.84 312 *i* P **P 07 38 19.2 +0.5**
PDKS Podkum 79.87 325 *eP* **P 07 38 19.1 +0.4**
AKAS Kas 79.88 310 *i* P **P 07 38 17.7 -1.3**
SOH Sokhos 79.95 317 *eP* **P 07 38 16.5 -2.8**
VAY Valandovo 79.98 318 *eP* **P 07 38 19.1 -0.4**
VAY Valandovo 79.98 318 *eP* **P 07 38 19.0 -0.4**
KWE Weaver Farm 79.98 338 *eP* **P 07 38 19.5 +0.2**
115A Sonoran Desert 79.99 55 ⇑P **P 07 38 19.6 0.0**
baz=80,SNR=27
OUR Ouranopolis 79.99 316 *eP* **P 07 38 19.6 +0.1**
YER Yerkesik 79.99 311 *eP* **P 07 38 20.0 +0.4**
MYKA Terra Mystica 80.00 326⇓*iP* **P 07 38 19.1 -0.3**
comp=Z,179nm,1.3s,mb5.7
TURN Turunc 80.00 311 *i* P **P 07 38 21.1 +1.4**
W19A Sanders 80.01 52 ⇓P **P 07 38 20.3 +0.6**
baz=80,SNR=5.6
STU Stuttgart 80.02 330 *eP* **P 07 38 19.6 +0.1**
STU e*PP pP 07 38 51.1 +0.3
STU pmax pmax
comp=Z,106nm,1.1s,mb5.6
STU Stuttgart 80.02 330 *eP* **P 07 38 19.1 -0.4**
comp=Z,102nm,0.9s,mb5.7
STU Stuttgart 80.02 330 *eP* **P 07 38 19.6 +0.1**
comp=Z,106nm,1.1s,mb5.6
STU epP pP 07 38 51.1 +0.3
RUP Ruppelstein 80.03 331 *eP* **P 07 38 19.1 -0.4**
UCC Uccle 80.03 334 P **P 07 38 19.8 +0.3**
Z16A Peralta Trail, 80.03 54 ⇓P **P 07 38 19.7 -0.2**
baz=80,SNR=25
BCLA Clavier 80.03 333 P **P 07 38 19.5 0.0**
comp=Z,22nm,1.3s,mb4.8
DALT Dalyan (Mudla) 80.05 311 *eP* **P 07 38 19.9 0.0**
SKO Skopje 80.05 319 *eP* **P 07 38 19.9 0.0**
SKO Skopje 80.05 319 *eP* **P 07 38 20.7 +0.8**
CWF Charnwood Fore 80.08 338 *eP* **P 07 38 19.8 +0.1**
CWF AMb AMB 07 38 21.9
comp=Z,99nm,1.4s,mb5.4
X18A Snowflake 80.09 52 ⇓P **P 07 38 20.3 +0.2**
baz=80,SNR=22
LJU Ljubljana 80.09 325 *i* P **P 07 38 19.9 0.0**
LJU *i* 07 38 26.1
Y17A Roosevelt 80.14 53 ⇑P **P 07 38 20.8 +0.4**
baz=80,SNR=64
214A Organ Pipe Nat 80.14 56 ⇑P **P 07 38 19.7 -0.8**
baz=80,SNR=28
MLSB Milas 80.16 312 *eP* **P 07 38 18.4 -2.1**
BOJS Bojanci 80.20 324 *i* P **P 07 38 20.6 0.0**
PLG Polygyros 80.24 316 *eP* **P 07 38 20.1 -0.7**
PLG Polygyros 80.24 316 *ePN* **P 07 38 21.0 +0.2**
PLG Polygyros 80.24 316 *eP* **P 07 38 21.0 +0.2**
HORT Hortiatis 80.25 317 *eP* **P 07 38 19.7 -1.2**
WATA Walderalm 80.27 328⇑*iP* **P 07 38 20.8 -0.1**
comp=Z,28nm,0.8s,mb5.2,SNR=14
WATA Walderalm 80.27 328⇑*iP* **P 07 38 20.8 -0.1**
WATA pmax pmax
comp=Z,28nm,0.8s,mb5.1
THE Thessaloniki 80.29 317 *eP* **P 07 38 20.5 -0.6**
PTCC Patocco-Chiusa 80.30 326 P **P 07 38 20.4 -0.6**
comp=Z,70nm,1.0s,mb5.5
WTTA Wattenberg 80.31 328⇓*iP* **P 07 38 21.2 +0.2**
comp=Z,139nm,1.4s,mb5.6
WTTA Wattenberg 80.31 328⇓*iP* **P 07 38 21.2 +0.1**
WTTA pmax pmax
comp=Z,139nm,1.4s,mb5.6
CHOS Chios island 80.32 314 *eP* **P 07 38 20.8 -0.5**
GRG Griva 80.33 317 *eP* **P 07 38 20.6 -0.8**
SDCO Great Sand Dun 80.33 47 *eP* **P 07 38 21.9 +0.5**
comp=Z,16nm,0.9s,mb4.8
LANF Langenberg 80.36 331 *eP* **P 07 38 21.3 0.0**
ECSD EROS,Sioux Fal 80.36 38 *eP* **P 07 38 20.8 -0.6**
comp=Z,41nm,1.0s,mb5.2
ABTA Abfaltersbach 80.37 327⇓*iP* **P 07 38 21.2 -0.2**
comp=Z,62nm,1.5s,mb5.2,SNR=11
VOY Vojsko 80.37 326 *eP* **P 07 38 20.7 -0.7**
VOY *e* 07 38 29.7
WLF Walferdange 80.38 332 P **P 07 38 22.1 +0.7**
WLF Walferdange 80.38 332 *eP* **P 07 38 21.7 +0.3**
comp=Z,38nm,1.2s,mb5.1
WLF epP pP 07 38 52.3 -0.4
WLF ePP PP 07 41 22.4 -2.8
116A Eloy 80.40 55 ⇓P **P 07 38 21.8 -0.1**
baz=80,SNR=27
JAVS Javornik 80.41 325 *i* P **P 07 38 21.0 -0.6**
PAIG Paliouri 80.44 316 *eP* **P 07 38 21.8 -0.1**
GMNA Gemona 80.45 326 P **P 07 38 21.6 -0.2**
comp=Z,226nm,0.8s,mb6.0

MOTA Moosalm 80.45 328⇓iP P 07 38 21.7 -0.2
comp=Z,90nm,0.9s,mb5.6,SNR=18
MOTA Moosalm 80.45 328⇓iP P 07 38 21.7 -0.1
MOTA pmax pmax
comp=Z,90nm,0.9s,mb5.6
GIVF Givet 80.46 333 eP P 07 38 21.4 -0.5
RETA Reutte 80.47 328⇓iP P 07 38 22.1 +0.2
comp=Z,172nm,1.3s,mb5.7,SNR=19
SBD1 Bryn Du 80.47 339 eP P 07 38 21.9 +0.1
DMUB Kingscourt 80.50 341 eP P 07 38 22.5 +0.5
BDRM Kayabasi 80.51 312 iP P 07 38 22.7 +0.4
X19A St. Johns 80.55 52 ⇑P P 07 38 23.1 +0.5
baz=80,SNR=97
DOU Dourbes 80.55 333 P P 07 38 21.9 -0.4
Y18A Canyon Day Jun 80.56 53 ⇓P P 07 38 23.1 +0.4
baz=80,SNR=69
BODT Bodrum 80.58 312 eP P 07 38 22.6 -0.2
KRUS Krusevo 80.60 318 eP P 07 38 23.1 +0.4
Z17A San Carlos Hig 80.64 53 ⇓P P 07 38 23.6 +0.5
baz=80,SNR=28
SKDS Skadanscina 80.70 325 iP P 07 38 22.5 -0.7
BFO Black Forest 80.71 330 P P 07 38 23.0 -0.2
comp=Z,340nm,1.4s,mb6.0,SNR=15
BFO Black Forest 80.71 330 eP P 07 38 22.9 -0.3
BFO e*PP pP 07 38 54.0 -0.5
BFO e 07 41 24.7
BFO pmax pmax
comp=Z,24nm,1.5s,mb4.8
BFO Black Forest 80.71 330 eP P 07 38 22.9 -0.3
comp=Z,130nm,1.5s,mb5.5
BFO epP pP 07 38 54.0 -0.5
BFO ePP PP 07 41 24.7 -3.2
BAIF Baives 80.71 333 eP P 07 38 22.6 -0.6
comp=Z,48nm,1.1s,mb4.9
BAIF Baives 80.71 333 eP P 07 38 22.6 -0.6
BAIF pmax pmax
comp=Z,24nm,1.1s,mb4.9
BAIF Baives 80.71 333 eP P 07 38 22.6 -0.6
comp=Z,24nm,1.1s,mb4.9
SCHQ Schefferville 80.71 16 P P 07 38 21.4 -1.7
comp=Z,8.3nm,0.5s,mb4.8,baz=337,slow=6.4,SNR=17
SPAK Spaichingen-Ko 80.72 330 eP P 07 38 23.7 +0.4
BIA Bitola 80.83 318 eP P 07 38 23.4 -0.5
FETA Feichten 80.86 328⇓iP P 07 38 24.1 +0.1
comp=Z,80nm,1.1s,mb5.5,SNR=23
Y19A Nutrioso 80.90 52 ⇑P P 07 38 24.9 +0.4
baz=81,SNR=27
AOS Alonnisos 80.90 315 eP P 07 38 24.5 +0.1
LIT Litokhoron 80.93 317 eP P 07 38 24.2 -0.4
216A Three Points, 80.94 55 ⇑P P 07 38 24.5 -0.2
baz=81,SNR=24
DLF Lyons Farm 80.96 341 eP P 07 38 24.9 +0.5
DAVA Damuels 80.98 329⇓iP P 07 38 24.6 -0.1
comp=Z,143nm,1.2s,mb5.7,SNR=29
FNA Florina 80.98 318 eP P 07 38 23.8 -1.0
117A Oracle 80.98 54 ⇑P P 07 38 24.9 -0.1
baz=81,SNR=46
OHR Ohrid 81.02 318 eP P 07 38 24.6 -0.4
OHR Ohrid 81.02 318 eP P 07 38 24.5 -0.5
CDF Champ du Feu 81.03 331⇑iP P 07 38 24.7 -0.2
comp=Z,124nm,1.1s,mb5.3
CDF Champ du Feu 81.03 331⇑iP P 07 38 24.7 -0.2
CDF pmax pmax
comp=Z,62nm,1.1s,mb5.3
CDF Champ du Feu 81.03 331⇑iP P 07 38 24.7 -0.2
comp=Z,62nm,1.1s,mb5.3
Z18A Geronimo 81.05 53 ⇑P P 07 38 25.6 +0.3
baz=81
DCN Croghan 81.10 341 eP P 07 38 25.7 +0.6
APPI Appiano 81.11 327 P P 07 38 24.5 -0.8
TUC Tucson 81.14 54 eP P 07 38 26.1 +0.3
TUC pmax pmax
comp=Z,20nm,0.9s,mb5.0
TUC Tucson 81.14 54 eP P 07 38 26.1 +0.4
comp=Z,20nm,0.9s,mb5.0
FELD Feldberg im Sc 81.21 330 eP P 07 38 25.8 0.0
MCH1 Michaelchurch 81.21 338 P P 07 38 25.2 -0.5
MCH1 AMb AMB 07 38 29.6
comp=Z,123nm,1.7s,mb5.5
MCH1 Michaelchurch 81.21 338 eP P 07 38 25.2 -0.6
MCH1 ⇑eP 07 38 25.2
MCH1 AMb AMB 07 38 29.6
comp=Z,123nm,1.7s,mb5.5
HTR Trewern Hill 81.22 338 eP P 07 38 25.5 -0.3
ECH Echery 81.23 331 eP P 07 38 25.8 -0.2
CTI Castel Tesino 81.28 327 P P 07 38 25.4 -0.9
CTI pmax pmax
comp=Z,134nm,1.0s,mb5.7
CTI Castel Tesino 81.28 327 P P 07 38 25.4 -0.9
comp=Z,134nm,1.0s,mb5.7
TIR Tirane 81.30 319 eP P 07 38 26.4 -0.1
Z19A T-Link Ranch, 81.36 53 ⇓P P 07 38 27.1 +0.2
baz=81,SNR=8.4
118A Homack Ranch, 81.40 54 ⇑P P 07 38 27.1 0.0
baz=81,SNR=58
HGH Gray Hill 81.48 338 eP P 07 38 26.9 -0.3
217A Green Valley 81.49 55 ⇓P P 07 38 27.5 -0.2
baz=81,SNR=56
MOF Molkenrain 81.55 330 eP P 07 38 27.5 -0.2
APE Apeiranthos 81.56 313 eP P 07 38 26.5 -1.4
THL Klokotos Trika 81.57 317 eP P 07 38 25.8 -2.2
THEF They Montfort 81.65 331 eP P 07 38 27.8 -0.4
HINF Hinterlalfeld 81.68 331⇑iP P 07 38 27.8 -0.5
comp=Z,30nm,0.9s,mb4.8
HINF Hinterlalfeld 81.68 331⇑iP P 07 38 27.8 -0.5
HINF pmax pmax
comp=Z,15nm,0.9s,mb4.8
HINF Hinterlalfeld 81.68 331⇑iP P 07 38 27.8 -0.5
comp=Z,15nm,0.9s,mb4.8
COWI Conover 81.70 32 eP P 07 38 27.6 -0.9
comp=Z,13nm,0.9s,mb4.8
COWI ePcP PcP 07 38 34.0 +0.1
HAU Haudompre 81.71 331⇑iP P 07 38 28.0 -0.5
comp=Z,67nm,0.9s,mb5.2
HAU eMLR MLR
comp=Z,428nm,17.8s
HAU Haudompre 81.71 331⇑iP P 07 38 28.0 -0.5
HAU pmax pmax
comp=Z,33nm,0.9s,mb5.2
HAU MLR MLR
comp=Z,430nm,17.8s
HAU Haudompre 81.71 331⇑iP P 07 38 28.0 -0.5
comp=Z,33nm,0.9s,mb5.2
HAU LR LR
comp=Z,430nm,17.8s
119A Ashpeak Ranch, 81.71 53 ⇑P P 07 38 28.8 0.0
baz=82,SNR=27
BBS Basel-Blauen 81.73 330 eP P 07 38 28.6 0.0
MABI Malga Bissina 81.74 327 P P 07 38 28.3 -0.4
LKR Lokris 81.75 316 eP P 07 38 27.6 -1.2
MEZF Maizieres J'vi 81.75 332 eP P 07 38 28.6 -0.1
comp=Z,168nm,1.2s,mb5.4
MEZF Maizieres J'vi 81.75 332 eP P 07 38 28.6 -0.1
comp=Z,168nm,1.2s,mb5.8
KARP Karpathos 81.76 311 P P 07 38 30.6 +1.6
MEV Metsovon 81.81 317 eP P 07 38 30.4 +1.3
ANMO Albuquerque 81.81 50 eP P 07 38 29.7 +0.4
ANMO e*SP sP 07 39 13.1 -0.8
ANMO pmax pmax
comp=Z,33nm,1.1s
ANMO Albuquerque 81.81 50 eP P 07 38 29.7 +0.4
comp=Z,32nm,1.1s,mb5.1
ANMO esP sP 07 39 13.1 -0.8
AGG Agios Georgios 81.81 316 eP P 07 38 22.1 -7.1
218A Dragoon 81.82 54 ⇓P P 07 38 29.5 +0.1
baz=82,SNR=22
TUE Stuetta 81.86 328 P P 07 38 30.1 +0.8
LENM Lemitar 82.08 51 eP P 07 38 31.3 +0.6
LOMF Lomont 82.08 330 eP P 07 38 30.4 -0.1
SANT Santorini 82.11 313 eP P 07 38 27.8 -3.0
LPM Los Pinos Moun 82.17 50 eP P 07 38 31.7 +0.6
Y22C IRIS PASSCAL I 82.17 51 ⇑P P 07 38 31.5 +0.3
baz=82
318A Bisbee 82.23 54 ⇑P P 07 38 31.6 +0.1
baz=82,SNR=49
LTK Loutraki 82.23 315 eP P 07 38 28.7 -2.7
219A White Tail Can 82.27 54 ⇓P P 07 38 31.7 0.0
baz=82,SNR=21
IGT Igoumenitsa 82.45 318 eP P 07 38 32.1 -0.4
DID Didima 82.47 315 eP P 07 38 30.0 -2.6
CBKS Cedar Bluff 82.60 43 eP P 07 38 32.6 -0.7
CBKS pmax pmax
comp=Z,40nm,1.2s,mb5.1
CBKS Cedar Bluff 82.60 43 eP P 07 38 32.6 -0.7
comp=Z,40nm,1.2s,mb5.1

ZKR Zakros 82.60 311 eP P 07 38 32.6 -0.8
319A Douglas 82.70 54 ⇑P P 07 38 34.1 +0.1
baz=82,SNR=23
DYA Yadsworthy 82.88 338 eP P 07 38 34.0 -0.5
DYA AMb AMB 07 38 35.4
comp=Z,86nm,1.1s,mb5.5
FGMS Monte Sant'Ang 82.88 322 P P 07 38 34.9 +0.2
comp=Z,174nm,0.9s,mb5.9
LKD Levkas 82.91 317 eP P 07 38 34.8 -0.2
CABF La Chapelle 82.98 330⇑iP P 07 38 34.9 -0.2
comp=Z,23nm,0.8s,mb4.8
CABF La Chapelle 82.98 330⇑iP P 07 38 34.9 -0.2
CABF pmax pmax
comp=Z,11nm,0.8s,mb4.7
CABF La Chapelle 82.98 330⇑iP P 07 38 34.9 -0.2
comp=Z,11nm,0.8s,mb4.8
LAST Lasithi 82.98 312 eP P 07 38 34.1 -1.3
OG01 Vacheresse 83.00 330 eP P 07 38 35.2 0.0
SNTG Esanatoglia 83.00 324 P P 07 38 35.9 +0.6
comp=Z,51nm,0.3s,mb5.8
VLX Viachokerasia 83.03 315 eP P 07 38 34.3 -1.3
FNVD Fontana Vidola 83.03 326 P P 07 38 36.9 +1.5
BADI Badiali 83.09 325 P P 07 38 37.0 +1.2
GRAM Graiana 83.20 327 P P 07 38 36.4 0.0
CSA1 St Austell 83.22 339 eP P 07 38 36.4 +0.1
VLI Veliai 83.22 314 ePB P 07 38 35.0 -1.5
VLI Veliai 83.22 314 eP P 07 38 35.0 -1.5
LOR Lormes 83.22 332⇑iP P 07 38 35.9 -0.4
comp=Z,174nm,0.9s,mb5.6
LOR eMLR MLR
comp=Z,419nm,20.8s
LOR Lormes 83.22 332⇑iP P 07 38 35.9 -0.4
LOR pmax pmax
comp=Z,87nm,0.9s,mb5.6
LOR MLR MLR
comp=Z,420nm,20.8s
LOR Lormes 83.22 332⇑iP P 07 38 35.9 -0.4
comp=Z,87nm,0.9s,mb5.6
LOR LR LR
comp=Z,420nm,20.8s
BOB Bobbio (Coli) 83.22 327 P P 07 38 37.1 +0.7
KFL Anninata 83.30 316 eP P 07 38 36.3 -0.6
SARO Sassorosso 83.31 326 P P 07 38 37.4 +0.5
VLC Villacollemand 83.34 326 P P 07 38 37.3 +0.3
SCIA State Center 83.34 37 eP P 07 38 36.8 -0.3
comp=Z,53nm,0.8s,mb5.4
VLS Valsamata 83.35 317 eP P 07 38 36.9 -0.3
FLN La Foliniere 83.35 335 eP P 07 38 36.4 -0.6
comp=Z,78nm,1.1s,mb5.2
FLN eMLR MLR
comp=Z,287nm,19.8s
FLN La Foliniere 83.35 335 eP P 07 38 36.4 -0.6
FLN pmax pmax
comp=Z,39nm,1.1s,mb5.2
FLN MLR MLR
comp=Z,290nm,19.8s
FLN La Foliniere 83.35 335 eP P 07 38 36.4 -0.6
comp=Z,39nm,1.1s,mb5.2
FLN LR LR
comp=Z,290nm,19.8s
CODM Codolo 83.37 327 P P 07 38 37.1 -0.1
BACM Baccana 83.37 327 P P 07 38 37.1 -0.1
LDF La Druitiere 83.39 335 eP P 07 38 36.6 -0.6
ITM Ithomi 83.41 315 ePN P 07 38 37.0 -0.5
ITM Ithomi 83.41 315 eP P 07 38 37.0 -0.5
ITM Ithomi 83.41 315 P P 07 38 37.8 +0.3
VINC Vinca 83.45 327 P P 07 38 37.0 -0.6
SIVA Sivas 83.46 312 eP P 07 38 36.9 -0.9
SC2M Scurtabo 83.49 327 P P 07 38 37.4 -0.4
KYTH Kithira 83.49 314 ePB P 07 38 45.0 +7.0
KYTH Kithira 83.49 314 eP P 07 38 45.0 +7.0
MAIM Mastiano 83.50 326 P P 07 38 37.1 -0.8
VAM Vamos 83.51 313 ePN P 07 38 38.0 -0.1
VAM Vamos 83.51 313 eP P 07 38 38.0 -0.1
AQU L'Aquila 83.52 324⇑iP P 07 38 38.9 +0.9
AQU L'Aquila 83.52 324 ⇑P P 07 38 38.9 +1.0
SSF Saint Saulge 83.52 332⇑iP P 07 38 37.5 -0.4
comp=Z,87nm,0.9s,mb5.3
SSF Saint Saulge 83.52 332⇑iP P 07 38 37.5 -0.4
SSF pmax pmax
comp=Z,43nm,0.9s,mb5.3
SSF Saint Saulge 83.52 332⇑iP P 07 38 37.5 -0.4
comp=Z,44nm,0.9s,mb5.3
CSNT Castellina Chi 83.53 326 P P 07 38 37.6 -0.4
RAR Rarotonga 83.53 126 P P 07 38 38.3 +0.1
comp=Z,32nm,0.8s,mb5.2,baz=247,slow=9.2,SNR=5.8
FG4 Candela 83.53 322 P P 07 38 39.2 +1.1
comp=Z,580nm,1.2s,mb6.3
LSD Lago del Serru 83.55 329 P P 07 38 39.0 +0.9
HYF Humbligny 83.64 333 eP P 07 38 38.6 +0.1
PII Pisa 83.64 326 P P 07 38 38.0 -0.6
PII pmax pmax
comp=Z,63nm,0.8s,mb5.5
PII Pisa 83.64 326 P P 07 38 38.0 -0.6
comp=Z,63nm,0.8s,mb5.5
LPL La Plagne 83.66 329⇑iP P 07 38 39.0 +0.4
KARN Karanos 83.67 313 eP P 07 38 36.6 -2.3
LPG La Plagne 83.67 329⇑iP P 07 38 39.1 +0.4
comp=Z,75nm,0.7s,mb5.3
LPG La Plagne 83.67 329⇑iP P 07 38 39.1 +0.4
LPG pmax pmax
comp=Z,38nm,0.7s,mb5.3
LPG La Plagne 83.67 329⇑iP P 07 38 39.1 +0.4
comp=Z,38nm,0.7s,mb5.3
MIDA Miranda 83.71 323 P P 07 38 39.8 +0.9
PTRP Pietrapertosa 83.76 321 P P 07 38 40.5 +1.3
SMF Signal de Mont 83.76 332⇑iP P 07 38 38.9 -0.2
comp=Z,168nm,1.0s,mb5.5
SMF Signal de Mont 83.76 332⇑iP P 07 38 38.9 -0.2
SMF pmax pmax
comp=Z,84nm,1.0s,mb5.5
SMF Signal de Mont 83.76 332⇑iP P 07 38 38.9 -0.2
comp=Z,84nm,1.0s,mb5.5
RSP Reno Superiore 83.77 329 P P 07 38 38.5 -0.7
PCP Piancastagn 83.77 328 P P 07 38 38.5 -0.7
PTQR Pietraquaria 83.78 323 P P 07 38 40.3 +1.0
comp=Z,67nm,0.7s,mb5.6
GRR Gorron 83.80 335 eP P 07 38 39.0 -0.3
comp=Z,74nm,0.8s,mb5.3
GRR Gorron 83.80 335 eP P 07 38 39.0 -0.3
GRR pmax pmax
comp=Z,37nm,0.8s,mb5.3
GRR Gorron 83.80 335 eP P 07 38 39.0 -0.3
comp=Z,37nm,0.8s,mb5.3
AVF Avril sur Loir 83.81 332⇑iP P 07 38 39.2 -0.2
comp=Z,221nm,0.8s,mb5.7
AVF Avril sur Loir 83.81 332⇑iP P 07 38 39.2 -0.2
AVF pmax pmax
comp=Z,110nm,0.8s,mb5.7
AVF Avril sur Loir 83.81 332⇑iP P 07 38 39.2 -0.2
comp=Z,110nm,0.8s,mb5.7
ORI Oriolo Calabro 83.94 320 P P 07 38 41.6 +1.5
KSU1 Kansas State U 83.95 41 eP P 07 38 39.7 -0.5
comp=Z,33nm,0.8s,mb5.2
GVD Gavdhos 83.99 312 ePN P 07 38 40.5 0.0
GVD Gavdhos 83.99 312 eP P 07 38 40.5 0.0
BHB Bricherasio 84.02 329 P P 07 38 38.9 -1.6
RFI Roccamonfina 84.10 323 P P 07 38 42.5 +1.5
comp=Z,94nm,2.0s,mb5.3
RRL Rocca Remolon 84.14 329 P P 07 38 41.4 +0.3
GDM Grand'Maison 84.16 330 eP P 07 38 41.5 +0.3
FIN Finale Ligure 84.18 328 P P 07 38 40.5 -0.8
BGF Bois d'Agland 84.18 332⇑iP P 07 38 41.1 -0.2
comp=Z,87nm,1.0s,mb5.2
BGF Bois d'Agland 84.18 332⇑iP P 07 38 41.1 -0.2
BGF pmax pmax
comp=Z,44nm,1.0s,mb5.2
BGF Bois d'Agland 84.18 332⇑iP P 07 38 41.1 -0.2
comp=Z,44nm,1.0s,mb5.2
ROB Robourent 84.25 328 P P 07 38 41.1 -0.5
GRN Grenoble 84.27 330 eP P 07 38 42.3 +0.6
MBDF Montbardon 84.31 329 eP P 07 38 41.6 -0.3
comp=Z,123nm,0.8s,mb5.5
MBDF Montbardon 84.31 329 eP P 07 38 41.6 -0.3
MBDF pmax pmax
comp=Z,62nm,0.8s,mb5.5
MBDF Montbardon 84.31 329 eP P 07 38 41.6 -0.3
comp=Z,62nm,0.8s,mb5.5
RORO Rocca Rossa 84.32 328 P P 07 38 41.6 -0.4
PLDF La Plantade 84.42 331 eP P 07 38 43.1 +0.6
SGMF Saint Gilles 84.44 336 eP P 07 38 42.5 0.0
comp=Z,165nm,1.2s,mb5.4
SGMF Saint Gilles 84.44 336 eP P 07 38 42.5 0.0
SGMF pmax pmax
comp=Z,83nm,1.2s,mb5.4

SGMF Saint Gilles 84.44 336 eP P 07 38 42.5 0.0
comp=Z,83nm,1.2s,mb5.4
ENR Entracque 84.48 328 P P 07 38 41.2 -1.6
TIP Timpagrande 84.48 320 P P 07 38 43.8 +0.9
ORIF Oris-en-Rattie 84.49 330⇑iP P 07 38 43.0 +0.2
comp=Z,143nm,0.8s,mb5.5
ORIF eMLR MLR
comp=Z,418nm,17.5s
ORIF Oris-en-Rattie 84.49 330⇑iP P 07 38 43.0 +0.2
ORIF pmax pmax
comp=Z,71nm,0.8s,mb5.5
ORIF Oris-en-Rattie 84.49 330⇑iP P 07 38 43.0 +0.2
comp=Z,71nm,0.8s,mb5.5
STV Sant Anna di V 84.50 328 P P 07 38 41.0 -1.9
SURF Saint Ours 84.50 329 eP P 07 38 43.4 +0.5
AGO Saint Agoulin 84.52 332 eP P 07 38 44.2 +1.2
GLMI Grayling 84.53 31 eP P 07 38 42.9 -0.1
comp=Z,66nm,0.8s,mb5.6
ROSF Rostrenen 84.58 337 eP P 07 38 43.3 +0.1
comp=Z,105nm,1.0s,mb5.4
ROSF Rostrenen 84.58 337 eP P 07 38 43.3 +0.1
ROSF pmax pmax
comp=Z,52nm,1.0s,mb5.4
ROSF Rostrenen 84.58 337 eP P 07 38 43.3 +0.1
comp=Z,52nm,1.0s,mb5.4
SAOF Saorge 84.63 328 eP P 07 38 43.0 -0.6
TCF Toulx Ste Croi 84.64 332⇑iP P 07 38 43.6 0.0
comp=Z,140nm,1.3s,mb5.4
TCF Toulx Ste Croi 84.64 332⇑iP P 07 38 43.6 0.0
TCF pmax pmax
comp=Z,70nm,1.3s,mb5.4
TCF Toulx Ste Croi 84.64 332⇑iP P 07 38 43.6 0.0
comp=Z,70nm,1.3s,mb5.4
AUTN L'Aution 84.67 328 eP P 07 38 43.6 -0.2
SSB Saint Sauveur 84.68 331 eP P 07 38 43.9 +0.1
NEGI Seborga 84.69 328 P P 07 38 41.4 -2.5
TOUF Mont Tournerai 84.72 328 eP P 07 38 44.3 +0.3
TAU Tasmania Unive 84.75 175 eP P 07 38 42.7 -1.1
TAU e*PP pP 07 39 14.7 -0.7
TAU pmax pmax
comp=Z,75nm,1.2s,mb5.5
TAU Tasmania Unive 84.75 175 eP P 07 38 42.7 -1.1
comp=Z,74nm,1.2s,mb5.5
TAU ePcP PcP 07 38 46.5 -0.5
TAU epP pP 07 39 14.7 -0.7
SBF Sospel 84.78 328⇑iP P 07 38 43.6 -0.7
comp=Z,199nm,0.9s,mb5.8
SBF Sospel 84.78 328⇑iP P 07 38 43.6 -0.7
SBF pmax pmax
comp=Z,100nm,0.9s,mb5.8
SBF Sospel 84.78 328⇑iP P 07 38 43.6 -0.7
comp=Z,100nm,0.9s,mb5.7
COLF Collangettes 84.78 331 eP P 07 38 44.6 +0.3
LUCF Luceram 84.79 328 eP P 07 38 44.1 -0.3
PYM Petit Puy Mans 84.83 332 eP P 07 38 45.7 +1.2
MVIF Mont Vial 84.86 328 eP P 07 38 44.3 -0.4
REVF Revere 84.91 328 eP P 07 38 44.3 -0.7
QUIF Quistinic 84.92 337 eP P 07 38 44.7 -0.3
comp=Z,68nm,0.9s,mb5.3
QUIF Quistinic 84.92 337 eP P 07 38 44.7 -0.3
QUIF pmax pmax
comp=Z,34nm,0.9s,mb5.3
QUIF Quistinic 84.92 337 eP P 07 38 44.7 -0.3
comp=Z,34nm,0.9s,mb5.3
VIVF Saint-Julien-l 84.99 330 eP P 07 38 45.5 +0.1
comp=Z,200nm,1.0s,mb5.7
VIVF Saint-Julien-l 84.99 330 eP P 07 38 45.5 +0.1
VIVF pmax pmax
comp=Z,100nm,1.0s,mb5.7
VIVF Saint-Julien-l 84.99 330 eP P 07 38 45.5 +0.1
comp=Z,100nm,1.0s,mb5.7
OCF Saint Nazaire 85.00 330 eP P 07 38 45.8 +0.4
OG26 St.-Nazaire-De 85.00 330 eP P 07 38 45.8 +0.4
GDL2 Guadalupe Moun 85.01 50 eP P 07 38 46.3 +0.6
CALN Calern 85.08 328 eP P 07 38 45.9 0.0
MFF Saint Martin d 85.15 334 eP P 07 38 46.3 +0.2
comp=Z,160nm,1.1s,mb5.6
MFF Saint Martin d 85.15 334 eP P 07 38 46.3 +0.2
MFF pmax pmax
comp=Z,80nm,1.1s,mb5.6
MFF Saint Martin d 85.15 334 eP P 07 38 46.3 +0.2
comp=Z,80nm,1.1s,mb5.6
LBL Lubilhac 85.19 331 eP P 07 38 47.5 +1.2
PGF Pioggiola 85.24 326⇑iP P 07 38 46.0 -0.7
comp=Z,91nm,1.1s,mb5.3
PGF Pioggiola 85.24 326⇑iP P 07 38 46.0 -0.7
PGF pmax pmax
comp=Z,45nm,1.1s,mb5.3
PGF Pioggiola 85.24 326⇑iP P 07 38 46.0 -0.7
comp=Z,45nm,1.1s,mb5.3
FRNF Fournols 85.30 332 eP P 07 38 47.8 +0.9
FRF La Foret Royal 85.34 328 eP P 07 38 46.4 -0.7
comp=Z,115nm,1.1s,mb5.4
FRF La Foret Royal 85.34 328 eP P 07 38 46.4 -0.7
FRF pmax pmax
comp=Z,57nm,1.1s,mb5.4
FRF La Foret Royal 85.34 328 eP P 07 38 46.4 -0.7
comp=Z,57nm,1.1s,mb5.4
CORF Corte 85.39 326 eP P 07 38 47.2 -0.2
SMRF Simiane la Rot 85.40 329⇑iP P 07 38 48.3 +0.9
comp=Z,72nm,1.0s,mb5.2
SMRF Simiane la Rot 85.40 329⇑iP P 07 38 48.3 +0.9
comp=Z,72nm,1.0s,mb5.6
LMR La Mourre 85.59 328⇑iP P 07 38 47.8 -0.6
comp=Z,200nm,0.9s,mb5.7
LMR La Mourre 85.59 328⇑iP P 07 38 47.8 -0.6
LMR pmax pmax
comp=Z,100nm,0.9s,mb5.8
LMR La Mourre 85.59 328⇑iP P 07 38 47.8 -0.6
comp=Z,100nm,0.9s,mb5.8
CEL Celeste 85.62 320 P P 07 38 48.8 +0.2
RJF Les Rejaudoux 85.73 332 eP P 07 38 49.3 +0.3
comp=Z,148nm,1.1s,mb5.5
RJF eMLR MLR
comp=Z,375nm,22.2s
RJF Les Rejaudoux 85.73 332 eP P 07 38 49.3 +0.3
RJF pmax pmax
comp=Z,74nm,1.1s,mb5.5
RJF MLR MLR
comp=Z,380nm,22.3s
RJF Les Rejaudoux 85.73 332 eP P 07 38 49.3 +0.3
comp=Z,74nm,1.1s,mb5.5
RJF LR LR
comp=Z,380nm,22.3s
CAF Calviac 85.87 332 eP P 07 38 50.5 +0.8
comp=Z,211nm,0.9s,mb5.8
CAF Calviac 85.87 332 eP P 07 38 50.5 +0.8
CAF pmax pmax
comp=Z,105nm,0.9s,mb5.8
CAF Calviac 85.87 332 eP P 07 38 50.5 +0.8
comp=Z,105nm,0.9s,mb5.8
OSPF L'Ospedale 85.90 326 eP P 07 38 49.1 -0.8
LASF Ste Croix 85.96 330 eP P 07 38 50.5 +0.3
comp=Z,126nm,1.1s,mb5.5
WMOK Wichita Mounta 86.19 45 eP P 07 38 51.2 -0.3
WMOK e*PP pP 07 39 24.3 +1.1
WMOK pmax pmax
comp=Z,24nm,1.0s,mb5.1
WMOK Wichita Mounta 86.19 45 eP P 07 38 51.2 -0.3
comp=Z,24nm,1.0s,mb5.1
WMOK epP pP 07 39 24.3 +1.1
LFF La Frestale 86.32 333 eP P 07 38 52.5 +0.6
comp=Z,268nm,1.0s,mb5.8
LFF La Frestale 86.32 333 eP P 07 38 52.5 +0.6
LFF pmax pmax
comp=Z,134nm,1.0s,mb5.8
LFF La Frestale 86.32 333 eP P 07 38 52.5 +0.6
comp=Z,134nm,1.0s,mb5.8
URZ Urewera 86.51 152 P P 07 38 51.7 -0.9
comp=Z,56nm,0.8s,mb5.5,baz=320,slow=2.1,SNR=24
MTLF Montolieu 87.19 331 eP P 07 38 56.7 +0.5
comp=Z,106nm,1.1s,mb5.4
MTLF Montolieu 87.19 331 eP P 07 38 56.7 +0.5
MTLF pmax pmax
comp=Z,53nm,1.1s,mb5.4
MTLF Montolieu 87.19 331 eP P 07 38 56.7 +0.5
comp=Z,53nm,1.1s,mb5.4
SLM Saint Louis 87.33 37 eP P 07 38 56.4 -0.5
SLM pmax pmax
comp=Z,53nm,1.0s,mb5.4
SLM Saint Louis 87.33 37 eP P 07 38 56.4 -0.5
comp=Z,53nm,1.0s,mb5.4
SLM ePP PP 07 42 15.4 -6.6
PPT Papeete 87.35 116 eP P 07 38 58.9 +1.7
comp=Z,109nm,1.3s,mb5.6
PPT Papeete 87.35 116 eS S 07 49 23.2 -4.1

comp=Z,551nm,19.2s
PPT Papeete 87.35 116 P **P 07 38 57.3 +0.1**
comp=Z,77nm,1.0s,mb5.6,baz=28,slow=2.9,SNR=6.1
PPT LR LR 08 18 18.5
comp=Z,211nm,18.8s,baz=311,slow=36
PAE Paea 87.42 116 *eP* **P 07 38 59.2 +1.7**
comp=Z,585nm,1.2s,mb6.4
TIAR Tiarei 87.50 116 *eP* **P 07 38 59.6 +1.7**
comp=Z,1μm,1.0s,mb6.8
TXAR Lajitas Array 87.52 52 P **P 07 38 57.3 -0.7**
comp=Z,9.5nm,0.8s,mb4.9,baz=288,slow=2.7,SNR=112
TXAR PKKPbc PKKPbc 07 56 45.9 +1.5
comp=Z,1.2nm,0.8s,baz=153,slow=4.9,SNR=16
TVO Taravao 87.72 116 *eP* **P 07 39 01.0 +2.0**
comp=Z,1μm,1.1s,mb6.9
FVM French Village 87.77 38 *eP* **P 07 38 58.4 -0.7**
MLS Moulis 87.93 332 *eP* **P 07 39 00.8 +1.1**
EPF Esparros 88.13 332 *eP* **P 07 39 01.6 +0.9**
comp=Z,34nm,0.9s,mb5.1
EPF Esparros 88.13 332 *eP* **P 07 39 01.6 +0.9**
EPF pmax pmax
comp=Z,17nm,0.9s,mb5.1
EPF Esparros 88.13 332 *eP* **P 07 39 01.6 +0.9**
comp=Z,17nm,0.9s,mb5.1
RESF Ens 88.33 332 *eP* **P 07 39 03.4 +1.8**
BLO Bloomington 88.52 35 *eP* **P 07 39 02.0 -0.6**
BLO pmax pmax
comp=Z,12nm,0.7s,mb5.0
BLO Bloomington 88.52 35 *eP* **P 07 39 02.0 -0.5**
comp=Z,12nm,0.7s,mb5.0
SIUC Southern Illin 88.54 37 *eP* **P 07 39 02.5 -0.2**
comp=Z,113nm,0.8s,mb6.0
ETSF Etsaut 88.56 333 *eP* **P 07 39 03.4 +0.7**
comp=Z,42nm,0.9s,mb5.2
ETSF Etsaut 88.56 333 *eP* **P 07 39 03.4 +0.7**
ETSF pmax pmax
comp=Z,21nm,0.9s,mb5.2
ETSF Etsaut 88.56 333 *eP* **P 07 39 03.4 +0.7**
comp=Z,21nm,0.9s,mb5.2
MEH Mehetia 88.58 116 *eP* **P 07 39 04.9 +1.9**
comp=Z,3μm,1.0s
JCT Junction City 88.88 49 *eP* **P 07 39 04.1 -0.3**
JCT pmax pmax
comp=Z,18nm,0.7s,mb5.2
JCT Junction City 88.88 49 *eP* **P 07 39 04.1 -0.3**
comp=Z,18nm,0.7s,mb5.2
USIN University of 89.03 36 *eP* **P 07 39 05.0 0.0**
ACSO Alum Creek Sta 89.07 32 *eP* **P 07 39 05.0 -0.1**
comp=Z,50nm,0.8s,mb5.6
RPZ Rata Peaks 89.59 158 P **P 07 39 06.7 -0.5**
comp=Z,14nm,0.5s,mb5.3,baz=346,slow=9.8,SNR=16
HBAR Harrisburg 89.64 40 *eP* **P 07 39 08.3 +0.5**
NATX Nacogdoches 90.67 44 *eP* **P 07 39 13.6 +0.8**
comp=Z,40nm,0.8s,mb5.6
KEST Kesra 90.74 322 P **P 07 39 12.5 -0.5**
comp=Z,5.6nm,0.9s,mb4.7,baz=291,slow=3.1,SNR=8.0
KEST LR LR 08 24 16.0
comp=Z,154nm,18.5s,baz=344,slow=38
OXF Oxford 91.08 39 *eP* **P 07 39 14.4 -0.2**
OXF pmax pmax
comp=Z,48nm,0.9s,mb5.6
OXF Oxford 91.08 39 *eP* **P 07 39 14.4 -0.2**
comp=Z,48nm,0.9s,mb5.6
PLAL Pickwick Lake 91.31 38 *eP* **P 07 39 15.3 -0.3**
comp=Z,9.5nm,0.8s,mb5.0
MVO Moncorvo 92.21 336 *eP* **P 07 39 20.2 +0.5**
comp=Z,51nm,2.3s,mb5.3
VBMS Vicksburg 92.41 41 *eP* **P 07 39 21.2 +0.4**
comp=Z,53nm,0.9s,mb5.8
ELN Prospectdale 92.54 32 *eP* **P 07 39 21.3 0.0**
ESDC Sonseca Array 92.59 333 P **P 07 39 22.0 +0.5**
comp=Z,3.5nm,0.7s,mb4.8,baz=21,slow=3.9,SNR=11
ESDC PP PP 07 43 03.0 -0.6
comp=Z,0.6nm,0.4s,baz=27,slow=7.6,SNR=5.1
ESDC PKKPbc PKKPbc 07 56 32.2 0.0
comp=Z,0.2nm,0.3s,baz=256,slow=3.1,SNR=4.2
ESDC LR LR 08 22 08.5
comp=Z,240nm,21.9s,baz=45,slow=36
TKL Tuckaleechee C 92.65 35 *eP* **P 07 39 21.3 -0.6**
MTE Manteigas 93.06 336 *eP* **P 07 39 23.7 0.0**
comp=Z,61nm,1.4s,mb5.7
KMBO Kilima Mbogo 100.73 278 P Pdif 07 39 58.3 -0.1
comp=Z,2.8nm,0.8s,baz=261,slow=23,SNR=3.9
TORD Torodi Ar. Bea 113.40 316 PKiKP PKiKP 07 44 46.4 -1.3
comp=Z,1.8nm,0.4s,baz=19,slow=1.5,SNR=24
TORD PP PP 07 45 36.6 -2.9
comp=Z,19nm,1.0s,baz=17,slow=4.8,SNR=24
TORD PKKPbc PKKPbc 07 55 24.4 -6.4
comp=Z,0.8nm,0.8s,baz=236,slow=4.3,SNR=3.7
VNDA Vanda 119.97 175 PKP PKPdf 07 44 58.4 0.0
comp=Z,8.2nm,0.8s,baz=309,slow=3.9,SNR=32
VNDA Vanda 119.97 175 PKP PKPdf 07 44 58.4 0.0
SBA Scott Base 120.65 174 *e*PKIKP PKPdf 07 45 00.5 +0.8
SDV Santo Domingo 121.79 37 *e*PKPdf PKPdf 07 45 03.8 -0.1
DBIC Dimbokro 122.24 318 PKP PKPdf 07 45 03.9 -0.8
comp=Z,4.8nm,0.6s,baz=339,slow=2.6,SNR=13
DBIC PKKPab PKKPab 07 54 58.8 -4.7
comp=Z,8.9nm,0.9s,baz=228,slow=5.0,SNR=10
DBIC Dimbokro 122.24 318 PKP PKPdf 07 45 03.9 -0.8
DBIC PKKPab PKKPab 07 54 58.8 -4.7
TIC Toumodi 122.34 319 *e*PKIKP PKPdf 07 45 03.8 -1.2
comp=Z,16nm,0.3s
TIC Toumodi 122.34 319 *e*PKIKP PKKPbc 07 54 54.8 -4.2
comp=Z,84nm,1.2s
KIC Kosan Boka 122.45 318 *e*PKIKP PKPdf 07 45 03.9 -1.3
comp=Z,33nm,0.8s
KIC Kosan Boka 122.45 318 *e*PKIKP PKKPbc 07 54 55.1 -3.5
comp=Z,74nm,1.1s
LIC Lamto 122.71 318 *e*PKIKP PKPdf 07 45 04.5 -1.2
LIC *e*MLR MLR
comp=Z,130nm,21.8s
LIC Lamto 122.71 318 *e*PKIKP PKPdf 07 45 04.5 -1.2
comp=Z,30nm,0.8s
LIC Lamto 122.71 318 *e*PKIKP PKKPbc 07 54 54.7 -2.9
comp=Z,41nm,1.3s
LIC Lamto 122.71 318 *e*PKPdf PKPdf 07 45 04.5 -1.2
LIC LR LR
comp=Z,60nm,21.8s
ROSC El Rosal 123.52 43 PKP PKPdf 07 45 07.5 +0.3
comp=Z,3.4nm,0.5s,baz=99,slow=20,SNR=4.0
MAW Mawson 123.75 207 PKP PKPdf 07 45 04.8 -1.0
comp=Z,36nm,0.8s,baz=18,slow=0.9,SNR=95
LBTB Lobatse 124.55 266 PKPdf PKPdf 07 45 08.8 0.0
LBTB *e*SKPdf SKPdf 07 48 33.7 +1.2
OTAV Otavalo 125.12 51 *e*PKPdf PKPdf 07 45 11.2 +1.0
BOSA Boshof 126.80 263 PKP PKPdf 07 45 12.6 -0.4
comp=Z,5.0nm,0.7s,baz=102,slow=4.8,SNR=5.5
SYO Syowa Base 132.35 209‖ *e*X 07 45 20.6
SYO Syowa Base 132.35 209‖ *e*PKiKP PKiKP 07 45 23.8 +0.5
NNA Nana 135.72 59 *e*PKPdf PKPdf 07 45 30.4 +0.1
LPAZ La Paz 144.39 53 PKP PKPdf 07 45 44.4 -1.5
comp=Z,11nm,0.8s,baz=353,slow=5.8,SNR=30
SNAA Sanae 145.30 199 *e*PKPdf PKPdf 07 45 44.4 -1.4
SNAA *e* 07 45 46.3
SNAA *e* 07 45 49.9
SNAA *e* 07 46 19.8
SNAA *e* 07 46 23.6
SNAA *e* 07 49 13.5
SNAA *e* 07 57 10.7
VNA2 Neumayer--Watz 146.89 199 *e*PKPdf PKPdf 07 45 48.2 -0.3
VNA2 *e* 07 45 50.4
VNA2 *e* 07 45 53.8
VNA2 *e* 07 46 23.7
VNA2 *e* 07 46 29.1
VNA2 *e* 07 49 16.6
VNA3 Neumayer Olymp 147.19 197 *e*PKPdf PKPdf 07 45 48.0 -1.0
VNA3 *e* 07 45 50.2
VNA3 *e* 07 45 54.3
VNA3 *e* 07 46 27.4
VNA3 *e* 07 46 31.3
VNA3 *e* 07 49 17.0
VNA1 Neumayer--Stat 147.29 199 *e*PKPdf PKPdf 07 45 49.3 +0.1
VNA1 *e* 07 45 51.5
VNA1 *e* 07 45 55.2
VNA1 *e* 07 46 25.4
VNA1 *e* 07 46 29.4
VNA1 *e* 07 49 18.2
CEN1 Los Morros 148.30 64 *e*P PKPdf 07 45 54.1 +1.8
LVC Limon Verde 148.62 61 PKPdf PKPdf 07 45 55.1 +2.3
LCO Las Campanas 151.52 73 *e*P PKPbc 07 46 02.8 -0.6
TLL Tololo Astrono 152.10 75 *e*P PKPbc 07 46 05.1 +0.4
BDFB Brasilia 152.68 19 PKP PKPdf 07 45 58.3 -1.0
comp=Z,4.0nm,1.0s,baz=4.4,slow=5.4,SNR=8.2
BDFB PKPbc PKPbc 07 46 06.8 +0.4
comp=Z,11nm,0.9s,baz=8.6,slow=1.4,SNR=21

LMEL Las Melosas 154.41 82 *eP* PKPbc 07 46 09.8 +0.1
PLCA Paso Flores 156.59 97 PKP PKPdf 07 46 03.8 -0.1
comp=Z,4.9nm,0.9s,baz=172,slow=1.0,SNR=9.5
PLCA PKPab PKPab 07 46 34.7 +1.0
comp=Z,87nm,0.8s,baz=270,slow=3.8,SNR=74
PLCA PP PP 07 50 13.2 +0.4
comp=Z,4.0nm,1.1s,baz=268,slow=8.1,SNR=3.8
PLCA Paso Flores 156.59 97 PKP PKPdf 07 46 03.8 -0.1
PLCA PKPab PKPab 07 46 34.6 +1.0
PLCA PP PP 07 50 13.2 +0.5

*ISCJB **22** 07:29:19.1±1.8, 2422S±008×1794E±0.1, h515km±26km, mb4.1/10, Error ellipse: s-maj=21.0km s-min=12.5km az=13.7*
*IDC **22** 07:29:19.7±2.7, 2424S×17944E, h511km±29km, mb3.7/10, mb1 3.8/12, mb1mx3.6/20, mbtmp3.8/12, Error ellipse: s-maj=21.7km s-min=17.7km az=105.0*
*NEIC **22** 07:29:20.6±2.5, 2418S×17945E, h528km±28km, mb4.2/1, Error ellipse: s-maj=23.9km s-min=18.3km az=224.0*
ISC 22 07:29:19.9±1.5, 2422S±01×1794E±02, h511km±23km, n23, σ0§70/18, mb4.1/10, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**13.16**	**41**	P		**P**		**07 32 10.7**	**-0.1**
4.0nm,0.3s,baz=41,slow=17,SNR=7.0									
URZ	**Urewera**	**14.20**	**187**	P		**P**		**07 32 21.7**	**+0.3**
2.1nm,0.3s,baz=35,slow=4.5,SNR=13									
URZ				S		**S**		**07 34 45.1**	**-5.8**
0.7nm,0.3s,baz=191,slow=21,SNR=8.3									
HNR	**Honiara**	**23.65**	**305**	P		**P**		**07 33 50.4**	**-0.6**
26nm,0.4s,mb5.2,baz=94,slow=4.1,SNR=3.5									
HNR	**Honiara**	**23.65**	**305**	P		**P**		**07 33 50.4**	**-0.6**
CTA	**Charters Tower**	**30.94**	**271**	P		**P**		**07 34 55.5**	**+0.7**
18nm,0.4s,mb5.0,baz=95,slow=11,SNR=62									
CTAO	**Charters Tower**	**30.94**	**271**	*eP*		**P**		**07 34 55.5**	**+0.7**
3.7nm,0.5s,mb4.2									
STKA	**Stephens Creek**	**34.12**	**248**	P		**P**		**07 35 21.6**	**-0.1**
1.1nm,0.5s,mb3.6,baz=97,slow=10,SNR=4.7									
ASAR	**Alice Springs**	**41.46**	**261**	P		**P**		**07 36 21.6**	**-0.3**
3.7nm,0.6s,mb4.1,baz=97,slow=7.8,SNR=25									
WRA	**Warramunga Arr**	**41.85**	**267**	P		**P**		**07 36 24.1**	**-0.9**
14nm,0.7s,mb4.6,baz=1.2,slow=6.9,SNR=49									
WRA	**Warramunga Arr**	**41.85**	**267**	P		**P**		**07 36 24.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.27**	**266**	P		**P**		**07 37 29.2**	**+0.1**
7.9nm,0.8s,mb4.2,baz=82,slow=7.1,SNR=2.9									
MJAR	**Matsushiro Arr**	**71.80**	**326**	P		**P**		**07 39 50.5**	**+0.1**
2.0nm,0.6s,mb3.7,baz=155,slow=5.9,SNR=7.1									
MAW	**Mawson**	**77.32**	**201**	P		**P**		**07 40 20.9**	**-0.1**
1.6nm,0.6s,mb3.6,baz=164,slow=5.4,SNR=7.0									
KSRS	**Korea Array**	**78.10**	**320**	P		**P**		**07 40 26.9**	**+1.2**
1.1nm,0.3s,mb3.6,baz=136,slow=5.8,SNR=4.5									
PETK	**Petropavlovsk-**	**79.22**	**347**	P		**P**		**07 40 32.4**	**+1.1**
3.4nm,0.6s,mb3.8,baz=114,slow=7.7,SNR=4.8									
PETK	**Petropavlovsk-**	**79.22**	**347**	P		**P**		**07 40 32.4**	**+1.1**
EGAK	**Eagle**	**93.75**	**16**	P		**P**		**07 41 39.8**	**-1.4**
ARCES	**ARCESS Array B**	**132.03**	**348**	PKP		PKPdf		07 47 33.1	-1.1
2.2nm,0.7s,baz=30,slow=2.9,SNR=6.4									
NB2	**NORSAR Subarra**	**142.25**	**351**	PKP		PKPdf		07 47 49.8	-3.5
comp=Z,1.3nm,0.7s,baz=17,slow=3.1									
NOA	**NORSAR Array B**	**142.25**	**351**	PKP		PKPdf		07 47 50.3	-3.0
comp=Z,2.0nm,0.7s,baz=16,slow=4.8,SNR=6.5									
AKASG	**Malin Array Be**	**144.89**	**327**	PKP		PKPdf		07 47 58.1	-0.1
comp=Z,5.1nm,0.6s,baz=42,slow=4.4,SNR=28									
CLL	**Collm**	**150.94**	**342**‖	*j*PKPbc		PKPbc		07 48 14.7	+0.4
comp=Z,11nm,0.7s									
TORD	**Torodi Ar. Bea**	**168.84**	**192**	PKPab		PKPab		07 49 41.5	-1.3
comp=Z,0.8nm,0.6s,baz=166,slow=3.5,SNR=4.7									

*ISCJB **22** 07:40:57.7±3.2, 509N±02×1794E±0.1, h27km±20km, mb3.5/6, Error ellipse: s-maj=34.0km s-min=11.5km az=179.7*
*NEIC **22** 07:40:59.7, 5098N×17936E, h18km, ML3.5(AEIC), ML4.1(PMR), After AEIC.*
*IDC **22** 07:41:17.2±6.5, 5100N×17937E, h188km±62km, mb3.2/5, mb1 3.4/6, mb1mx3.2/23, mbtmp3.2/6, Error ellipse: s-maj=37.9km s-min=19.5km az=177.0*
ISC 22 07:40:57.8±4.0, 508N±02×1794E±01, h12km±23km, n13, σ1§02/14, mb3.5/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.55**	**357**	*e*Pg		**Pg**		**07 41 08.4**	**-0.1**
AMKA				*e*Sg		**Sg**		**07 41 14.9**	**-0.9**
SMY	**Shemya**	**3.78**	**302**	P		**Pn**		**07 41 57.4**	**+1.6**
FX1	**Attu Island--F**	**4.35**	**301**	P		**Pn**		**07 42 04.8**	**+1.1**
NIKO	**Nikolski**	**7.61**	**69**	*e*Pn		**Pn**		**07 42 48.6**	**+0.3**
SPIA	**Saint Paul Isl**	**8.82**	**40**	P		**Pn**		**07 43 07.0**	**+2.0**
UNV	**Unalaska Valle**	**9.17**	**65**	*e*Pn		**Pn**		**07 43 09.4**	**-0.4**
KDAK	**Kodiak Island**	**17.70**	**56**	*e*Pn		**Pn**		**07 45 04.6**	**+0.7**
16nm,0.7s									
NVAR	**Mina Array Bea**	**44.78**	**81**	P		**P**		**07 49 16.4**	**+5.2**
0.1nm,0.4s,mb3.0,baz=272,slow=7.1,SNR=2.3									
PDAR	**Pinedale Array**	**47.59**	**71**	P		**P**		**07 49 33.0**	**-0.2**
1.6nm,0.6s,mb4.2,baz=306,slow=3.5,SNR=14									
MKAR	**Makanchi Array**	**59.45**	**308**	P		**P**		**07 50 58.9**	**-1.3**
0.4nm,0.3s,mb3.9,baz=54,slow=6.2,SNR=4.3									
TXAR	**Lajitas Array**	**59.90**	**80**	P		**P**		**07 51 03.2**	**-0.3**
0.1nm,0.5s,mb3.1,baz=326,slow=7.7,SNR=3.0									
NOA	**NORSAR Array B**	**68.08**	**354**	P		**P**		**07 51 55.1**	**-1.6**
0.7nm,0.6s,mb3.8,baz=348,slow=7.3,SNR=3.3									
WRA	**Warramunga Arr**	**80.81**	**222**	P		**P**		**07 53 10.4**	**-0.8**
0.2nm,0.5s,mb3.3,baz=30,slow=5.7,SNR=5.1									

*GII **22** 07:53:55.9±1.3, 2985N×3624E, h0km, ML2.3/2, EXPLOSION*
*SGS **22** 07:53:56.6, 3004N×3623E, h8km*
*CSEM **22** 07:53:56.6, 3004N×3623E, h8km, ML2.7, After SNSN*
ISC 22 07:53:55.0±1.2, 2982N±005×3636E±007, h0km, n14, σ0§68/19, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.17**	**281**	Pg		**Pg**		**07 54 16.7**	**-0.7**
EIL	**Elat**	**1.24**	**263**	Pg		**Pg**		**07 54 18.7**	**0.0**
EIL				Sg		**Sg**		**07 54 35.7**	**+1.0**
HQLS		**1.25**	**246**	P		**Pg**		**07 54 18.5**	**-0.4**
HQLS		**1.25**	**246**	P		**Pg**		**07 54 18.5**	**-0.4**
HQLS				S		**Sg**		**07 54 34.9**	**-0.2**
ZFRI	**Zfri**	**1.26**	**306**	Pg		**Pg**		**07 54 18.4**	**-0.7**
MBRI	**Mt Berech**	**1.26**	**269**	Pg		**Pg**		**07 54 18.5**	**-0.7**
MBRI				Sg		**Sg**		**07 54 35.7**	**+0.2**
PRNI	**Paran**	**1.29**	**294**	Pg		**Pg**		**07 54 18.4**	**-1.3**
PRNI				Sg		**Sg**		**07 54 37.1**	**+0.6**
JLOS		**1.32**	**215**	P		**Pg**		**07 54 21.2**	**+0.8**
KRMI	**Paran Flat**	**1.45**	**282**	Pn		**Pn**		**07 54 21.7**	**-0.7**
RMNI	**Mount Ramon**	**1.59**	**299**	Pn		**Pn**		**07 54 24.7**	**+0.4**
MZDA	**Masada**	**1.71**	**330**	Pn		**Pn**		**07 54 26.2**	**+0.1**
MZDA				Sn		**Sn**		**07 54 49.0**	**+0.3**
DSI	**Dead Sea**	**1.94**	**334**	Pn		**Pn**		**07 54 30.4**	**+1.3**
RSHS		**2.05**	**222**	P		**Pn**		**07 54 30.6**	**0.0**
RSHS		**2.05**	**222**	P		**Pn**		**07 54 30.6**	**0.0**

*ISCJB **22** 07:56:05.2±4.0, 204N±009×1264E±02, h5km±25km, mb4.1/14, Error ellipse: s-maj=41.8km s-min=10.5km az=164.8*
*NEIC **22** 07:56:11.0±0.5, 208N×12667E, h35km, mb4.1/4, Error ellipse: s-maj=31.4km s-min=8.1km az=73.0*
*IDC **22** 07:56:11.1±3.9, 202N×12652E, h33km±29km, mb3.9/13, mb1 4.0/13, mb1mx3.9/20, mbtmp3.9/13, MS3.3/2, Ms1 3.4/2, ms1mx3.0/30, Error ellipse: s-maj=44.7km s-min=11.2km az=74.0*
ISC 22 07:56:12.2±2.6, 204N±009×1266E±02, h43km±25km, n20, σ0§98/21, mb4.1/14, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**5.11**	**348**	LR		LR		07 59 05.8	
comp=Z,281nm,18.2s,baz=190,slow=34									
KAKA	**Kakadu**	**15.75**	**159**	*e*P		**Pn**		**07 59 56.2**	**+5.1**
7.4nm,0.4s									
KAKA	**Kakadu**	**15.75**	**159**	*e*P		**Pn**		**07 59 55.7**	**+4.6**
11nm,1.0s									
FITZ	**Fitzroy Crossi**	**20.03**	**183**	*e*P		**P**		**08 00 42.1**	**+0.5**
3.9nm,0.5s									
FITZ	**Fitzroy Crossi**	**20.03**	**183**	P		**P**		**08 00 42.8**	**+1.1**
2.0nm,0.5s,baz=25,slow=11,SNR=14									
WRAB	**Tennant Creek**	**23.11**	**161**	*e*P		**P**		**08 01 14.5**	**-0.1**
6.9nm,0.8s,mb4.1									
WRA	**Warramunga Arr**	**23.12**	**161**	P		**P**		**08 01 13.5**	**-1.2**
4.7nm,0.4s,mb4.2,baz=339,slow=10,SNR=81									
WRA				PcP		PcP		08 05 01.9	-0.6
0.6nm,0.6s,baz=324,slow=2.3,SNR=6.3									
WRA				S		**S**		**08 05 25.3**	**+2.4**
0.9nm,0.7s,baz=342,slow=18,SNR=5.5									
WB2	**Warramunga Arr**	**23.12**	**161**	*e*P		**P**		**08 01 14.1**	**-0.6**
WB2				*e*S		**S**		**08 05 21.7**	**-1.2**
JOW	**Kunigami**	**24.70**	**4**	P		**P**		**08 01 30.3**	**+0.9**
10nm,0.8s,mb4.4,baz=90,slow=15,SNR=5.9									
ASAR	**Alice Springs**	**26.51**	**165**	P		**P**		**08 01 45.8**	**0.0**
0.6nm,0.4s,mb3.5,baz=347,slow=7.6,SNR=17									
ASAR				PcP		PcP		08 05 09.9	0.0
1.0nm,0.5s,baz=354,slow=2.2,SNR=11									
CTA	**Charters Tower**	**29.23**	**140**	P		**P**		**08 02 09.5**	**-0.6**
1.0nm,0.3s,mb4.0,baz=293,slow=5.5,SNR=3.2									
FORT	**Forrest**	**32.66**	**178**	*e*P		**P**		**08 02 41.0**	**+0.8**
12nm,0.7s,mb4.9									
KSRS	**Korea Array**	**35.27**	**2**	P		**P**		**08 03 04.5**	**+1.7**
1.9nm,0.8s,mb4.1,baz=182,slow=9.8,SNR=9.5									
STKA	**Stephens Creek**	**36.60**	**158**	P		**P**		**08 03 14.8**	**+0.5**
4.4nm,0.6s,mb4.5,baz=330,slow=9.6,SNR=9.2									
SONM	**Songino Array**	**48.86**	**342**	P		**P**		**08 04 51.7**	**-1.7**
0.5nm,0.5s,mb3.8,baz=159,slow=6.7,SNR=3.0									
MKAR	**Makanchi Array**	**58.88**	**326**	P		**P**		**08 06 07.3**	**+0.6**
0.9nm,0.4s,mb4.1,baz=127,slow=8.4,SNR=6.0									
ZALV	**Zalesovo Beam**	**62.04**	**334**	P		**P**		**08 06 27.0**	**-1.1**
0.8nm,0.4s,mb4.2,baz=138,slow=8.5,SNR=2.5									
BVAR	**Borovoye Array**	**68.67**	**327**	P		**P**		**08 07 10.0**	**-1.0**
0.9nm,0.5s,mb4.0,baz=154,slow=9.3,SNR=4.0									
VNDA	**Vanda**	**81.77**	**173**	P		**P**		**08 08 25.8**	**-0.2**
1.5nm,0.9s,mb3.9,baz=328,slow=6.2,SNR=7.3									
MAW	**Mawson**	**82.14**	**200**	P		**P**		**08 08 28.7**	**+0.7**
1.6nm,0.9s,mb4.0,baz=30,slow=8.1,SNR=4.5									

JMA 22 08:14:44.7±0.3, 4327N×14766E, h25km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.40**	**275**	P		**Pn**		08 15 09.2	+0.6
NEM2				*e*S		Sn		08 15 27.1	+0.8
JRA	**Rausu**	**1.96**	**291**	P		Pn		08 15 17.2	+0.9
JRA				*e*S		Sn		08 15 41.5	+1.4
JNK	**Nakash**	**2.17**	**279**	P		Pn		08 15 19.8	+0.7
JNK				*e*S		Sn		08 15 46.1	+1.0
JAK	**Akkeshi**	**2.19**	**264**	P		Pn		08 15 20.5	+1.1
JAK				*e*S		Sn		08 15 46.5	+0.8
JTKR	**Abashiri--Toko**	**2.81**	**286**	P		Pn		08 15 30.0	+2.0
JOB	**Onbets**	**2.83**	**264**	P		Pn		08 15 29.4	+1.2
JOB				*e*S		Sn		08 16 02.2	+0.8
JAR	**Ashorobuto**	**2.84**	**272**	P		Pn		08 15 29.9	+1.5
JAR				*e*S		Sn		08 16 03.3	+1.5
JMP	**Maruseppu**	**3.21**	**285**	P		Pn		08 15 35.7	+2.3
JCH	**Churui**	**3.22**	**260**	P		Pn		08 15 34.8	+1.1
JEM	**Erimo**	**3.55**	**251**	P		Pn		08 15 41.1	+2.9
JNBK	**Urakawa-nobuka**	**3.75**	**256**	P		Pn		08 15 42.2	+1.4

*IDC **22** 08:26:51.6±0.8, 2979S×17740W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/18, mbtmp4.1/9, ML3.5/2, Error ellipse: s-maj=21.2km s-min=18.6km az=85.0*
*ISCJB **22** 08:26:55.9±1.0, 2990S±004×1776W±02, h33km, mb4.2/8, Error ellipse: s-maj=20.4km s-min=5.8km az=1.2*
*NEIC **22** 08:26:56.7±1.9, 2978S×17749W, h34km±11km, mb4.7/1, Error ellipse: s-maj=20.4km s-min=10.8km az=104.0*
ISC 22 08:26:57.5±1.0, 2981S±005×1776W±02, h35km, n20, σ0§71/16, mb4.2/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.63**	**332**	Pn		**Pn**		**08 27 09.8**	**-0.1**
2μm,0.3s,baz=53,slow=23,SNR=236									
RAO				Sn		**Sn**		**08 27 18.4**	**-0.3**
6μm,0.3s,baz=286,slow=23,SNR=54									
RAO	**Raoul Island**	**0.63**	**332**	*e*Pg		**Pn**		**08 27 09.7**	**-0.2**
RAO				Sg		**Sn**		**08 27 18.9**	**+0.2**
URZ	**Urewera**	**9.51**	**206**	Pn		**Pn**		**08 29 12.1**	**+0.3**
0.2nm,0.3s,baz=330,slow=20,SNR=4.7									
URZ				Sn		**Sn**		**08 30 57.2**	**-0.2**
1.8nm,0.3s,baz=284,slow=23,SNR=10									
RPZ	**Rata Peaks**	**16.57**	**210**	Pn		**Pn**		**08 30 46.1**	**-1.0**
0.4nm,0.3s,baz=17,slow=19,SNR=3.6									
RPZ				Sn		**Sn**		**08 33 35.4**	**-15**
0.3nm,0.3s,baz=105,slow=18,SNR=2.5									
CTA	**Charters Tower**	**34.06**	**278**	P		**P**		**08 33 39.8**	**+1.2**
3.7nm,0.7s,mb4.5,baz=104,slow=10,SNR=6.4									
STKA	**Stephens Creek**	**34.97**	**256**	P		**P**		**08 33 47.4**	**+1.0**
0.9nm,0.3s,mb4.2,baz=122,slow=7.1,SNR=5.8									
ASAR	**Alice Springs**	**43.50**	**266**	P		**P**		**08 34 57.2**	**-0.5**
1.2nm,0.6s,mb3.8,baz=100,slow=7.5,SNR=19									
WRAB	**Tennant Creek**	**44.43**	**271**	*e*P		**P**		**08 35 05.1**	**-0.1**
25nm,2.1s,mb4.6									
WRA	**Warramunga Arr**	**44.44**	**271**	P		**P**		**08 35 04.9**	**-0.3**
2.6nm,0.6s,mb4.2,baz=112,slow=6.3,SNR=30									
MAW	**Mawson**	**72.99**	**200**	P		**P**		**08 38 24.0**	**+0.9**
1.2nm,0.9s,mb3.8,baz=162,slow=13,SNR=4.5									
PETK	**Petropavlovsk-**	**85.33**	**345**	P		**P**		**08 39 29.1**	**-1.3**
5.4nm,1.0s,mb4.6,baz=180,slow=7.1,SNR=3.1									
NVAR	**Mina Array Bea**	**87.56**	**43**	P		**P**		**08 39 42.2**	**+0.4**
0.2nm,0.6s,mb3.5,baz=215,slow=6.2,SNR=3.4									
ARCES	**ARCESS Array B**	**138.09**	**348**	PKP		PKPdf		08 46 19.5	+1.8
1.4nm,0.7s,baz=352,slow=7.5,SNR=3.7									
NB2	**NORSAR Subarra**	**148.22**	**352**	PKP		PKPbc		08 46 38.4	-0.7
comp=Z,0.9nm,0.6s,baz=14,slow=2.9									
NOA	**NORSAR

IDI Sn **Sn** **08 32 16.8 +7.7**
12nm,0.3s,baz=79,slow=19,SNR=5.6
PTL Penteli 2.53 37 *eP* **Pn** **08 31 37.5 -2.6**
LKR Lokris 2.74 17 *eP* **Pn** **08 31 40.9 -2.2**
THR5 Thira Island, 2.77 81 *ePn* **Pn** **08 31 43.6 +0.1**
LKD Levkas 2.87 339 *ePn* **Pn** **08 31 46.4 +1.6**
LKD *eSn* **Sn** **08 32 18.7 +0.6**
AGG Agios Georgios 3.00 6 *ePn* **Pn** **08 31 48.0 +1.3**
AGG *eSn* **Sn** **08 32 23.2 +1.9**
LAST Lasithi 3.00 106 *ePn* **Pn** **08 31 46.9 +0.3**
LAST *eSn* **Sn** **08 32 22.4 +1.1**
APE Apeiranthos 3.06 69 *eP* **Pn** **08 31 44.5 -2.9**
THL Klokotos Trika 3.53 1 *eP* **Pn** **08 31 53.2 -0.6**
JAN Janina 3.72 347 *eP* **Pn** **08 31 56.0 -0.5**
KEK Kerkira 4.05 336 *eP* **Pn** **08 32 03.4 +2.4**
BOZC Bozcaada 4.99 39 *i P* **Pn** **08 32 17.8 +3.9**
SOI Samo 5.14 295 Pn **Pn** **08 32 16.9 +1.0**
OHR Ohrid 5.15 350 *ePn* **Pn** **08 32 16.1 +0.1**
OHR *eSn* **Sn** **08 33 08.1 -6.0**
TIP Timpagrande 5.18 309 *ePn* **Pn** **08 32 16.6 0.0**
16nm,0.6s
TIP *eSn* **Sn** **08 33 10.9 -4.1**
SLUM 5.28 148 P **Pn** **08 32 16.8 -1.1**
CEL Celeste 5.33 296 *ePn* **Pn** **08 32 18.9 +0.4**
25nm,0.7s
CEL *eSn* **Sn** **08 33 16.1 -2.5**
KRUS Krusevo 5.36 354 *ePn* **Pn** **08 32 18.6 -0.2**
KRUS *eSn* **Sn** **08 33 15.0 -4.2**
HAVL Avola 5.58 282 Pn **Pn** **08 32 21.9 -0.1**
170nm,0.3s
PE1 Pezze di Greco 5.95 325 *ePn* **Pn** **08 32 26.0 -1.0**
AKAS Kas 6.19 86 *i P* **Pn** **08 32 30.2 -0.2**
VAE Valguarnera 6.23 286 Sn **Sn** **08 33 39.3 -1.3**
3.8nm,0.3s,baz=300,slow=0.9,SNR=3.2
CUC Castrocucco 6.25 311 *ePn* **Pn** **08 32 33.4 +2.2**
CUC *eSn* **Sn** **08 33 41.9 +0.6**
CUC Castrocucco 6.25 311 *ePn* **Pn** **08 32 33.4 +2.2**
28nm,0.6s
CUC *eSn* **Sn** **08 33 41.9 +0.6**
HMAT Matruh 6.53 137 ⇓P **Pn** **08 32 36.1 +1.1**
HMAT S **Sn** **08 33 41.8 -6.3**
BARS Barje 6.78 359 *ePn* **Pn** **08 32 37.5 -0.8**
GRUS Gruza 7.90 353 *ePn* **Pn** **08 32 55.6 +1.9**
DIVS Divibare 8.20 350 *ePn* **Pn** **08 32 55.7 -2.0**
KEST Kesra 10.24 272 Sn **Sn** **08 35 19.4 +0.4**
0.1nm,0.3s,baz=46,slow=22,SNR=3.6
HFRF Wahat Farafira 10.38 147 P **Pn** **08 33 26.5 -1.2**
HDK1 Dakhla 12.25 147 P **Pn** **08 33 53.0 -0.3**
HDK2 Wahat Dakhilah 13.14 151 ⇓P **Pn** **08 34 04.3 -1.1**
HDK2 Wahat Dakhilah 13.14 151⇓*eP* **Pn** **08 34 04.2 -1.2**
AKASG Malin Array Be 15.57 17 Pn **Pn** **08 34 30.3 -7.0**
0.1nm,0.3s,baz=207,slow=12,SNR=2.6
AKASG Malin Array Be 15.57 17 Pn **Pn** **08 34 30.3 -7.0**
GNI Garni 18.39 70 LR LR 08 43 18.8
comp=Z,60nm,19.7s,baz=359,slow=41
HFS Hagfors 24.70 350 P **P** **08 36 17.0 0.0**
0.6nm,0.3s,mb3.6,baz=156,slow=11,SNR=5.6
NOA NORSAR Array B 25.95 348 P **P** **08 36 28.1 -0.1**
0.4nm,0.5s,mb3.2,baz=155,slow=9.0,SNR=3.3
NOA NORSAR Array B 25.95 348 P **P** **08 36 28.1 -0.2**
TORD Torodi Ar. Bea 29.18 224 P **P** **08 37 04.0 +6.4**
0.6nm,0.8s,mb3.4,baz=32,slow=8.5,SNR=4.5
ARCES ARCESS Array B 33.62 2 P **P** **08 37 36.0 -0.1**
0.8nm,0.6s,mb3.9,baz=194,slow=9.5,SNR=8.9
MKAR Makanchi Array 45.48 57 P **P** **08 39 14.0 -0.9**
0.4nm,0.3s,mb3.8,baz=283,slow=7.0,SNR=8.9
ZALV Zalesovo Beam 46.30 47 P **P** **08 39 21.6 +0.4**
0.5nm,0.3s,mb3.9,baz=276,slow=7.3,SNR=2.2
SONM Songino Array 60.94 50 P **P** **08 41 09.4 +0.9**
0.2nm,0.3s,mb3.7,baz=277,slow=7.2,SNR=2.3

NEIC 22 08:32:59.0,5103N×17939E,h12km,ML3.3(AEIC), **ML3.9**(PMR), **After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.36**	**352**	P	Pg	08 33 06.2	+0.1
AMKA				S	Sg	08 33 12.7	+1.7
SMY	**Shemya**	**3.69**	**300**	*ePn*	Pn	08 33 56.0	+0.2
SMY				Sn	Sn	08 34 38.7	-0.5
FXI	**Attu Island--F**	**4.27**	**298**	P	Pn	08 34 03.1	-0.6
NIKO	**Nikolski**	**7.52**	**70**	*ePn*	Pn	08 34 47.9	-0.4
UNV	**Unalaska Valle**	**9.07**	**66**	*ePn*	Pn	08 35 09.7	+0.1

IDC 22 08:46:53.1±4.0,1957S×17818W,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.6/16,mbtmp3.6/3,Error ellipse: s-maj=287.0km s-min=36.3km az=155.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.57**	**261**	P	P	08 55 07.4	+0.3
	0.8nm,1.1s,baz=96,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**44.58**	**256**	P	P	08 55 06.8	-0.4
	0.7nm,0.8s,baz=96,slow=8.1,SNR=6.7						
PDAR	**Pinedale Array**	**88.40**	**43**	P	P	08 59 47.4	+0.3
	0.3nm,0.8s,baz=204,slow=3.3,SNR=3.9						

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*ATH **22** 08:52:08.3,3943N×2024E,h76km±6km*
*CSEM **22** 08:52:09.5±0.2,3929N×2011E,h8km,ML2.9,Error ellipse: s-maj=3.0km s-min=1.5km az=92.0*
*THE **22** 08:52:09.5,3926N×2011E,h0km,ML2.9*
*ISCJB **22** 08:52:10.3±0.6,3926N±002×2023E±005,h10km,Error ellipse: s-maj=6.1km s-min=3.3km az=176.4*
ISC 22 08:52:10.0±0.9,3928N±003×2015E±007,h6km±9km,n11, σ1§03/22,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.29**	**30**	*ePg*	**Pg**	**08 52 15.3**	**-0.4**
IGT				*eSg*	**Sg**	**08 52 19.8**	**+0.2**
KEK	**Kerkira**	**0.51**	**328**	*eP*	**Pg**	**08 52 21.5**	**+1.6**
KEK				*eS*	**Sg**	**08 52 31.6**	**+5.1**
JAN	**Janina**	**0.66**	**55**	*eP*	**Pg**	**08 52 22.3**	**-0.4**
LKD	**Levkas**	**0.69**	**145**	*ePg*	**Pg**	**08 52 22.4**	**-0.9**
LKD				*eSg*	**Sg**	**08 52 32.6**	**+0.3**
MEV	**Metsovon**	**0.98**	**59**	*ePg*	**Pg**	**08 52 28.4**	**-0.4**
MEV				*eSg*	**Sg**	**08 52 44.0**	**+2.6**
VLS	**Valsamata**	**1.16**	**162**	*ePg*	**Pg**	**08 52 30.4**	**-1.7**
VLS				*eSg*	**Sg**	**08 52 48.0**	**+0.8**
VLS	**Valsamata**	**1.16**	**162**	*eP*	**Pg**	**08 52 32.1**	**-0.1**
VLS				*eSg*	**Sg**	**08 52 48.0**	**+0.9**
VLS				*eS*	**Sg**	**08 52 49.0**	**+1.9**
KFL	**Anninata**	**1.27**	**157**	*ePg*	**Pg**	**08 52 34.1**	**-0.3**
KFL				*eSg*	**Sg**	**08 52 51.6**	**+0.7**
THL	**Klokotos Trika**	**1.47**	**78**	*ePg*	**Pg**	**08 52 36.6**	**-1.7**
THL				*eSg*	**Sg**	**08 52 57.2**	**-0.2**
AGG	**Agios Georgios**	**1.72**	**98**	*ePb*	**Pb**	**08 52 41.1**	**-0.9**
AGG				*eSb*	**Sb**	**08 53 04.9**	**+1.1**
FNA	**Florina**	**1.77**	**32**	*ePb*	**Pb**	**08 52 41.6**	**-1.4**
FNA				*eSb*	**Sb**	**08 53 06.0**	**+0.6**

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*ISCJB **22** 09:06:50.3±0.3,8.15N±006×3952W±004,h10km,mb4.5/50, MS4.0/26,Error ellipse: s-maj=8.3km s-min=6.2km az=172.3*
*MOS **22** 09:06:50.2±1.0,8.13N×3949W,h10km,mb5.0/10,Error ellipse: s-maj=18.5km s-min=11.1km az=55.9*
*IDC **22** 09:06:50.1±0.5,8.12N×3950W,h0km,mb4.3/22, mb1 4.4/22,mb1mx4.4/23,mbtmp4.3/22,MS3.9/21, Ms1 3.9/21,ms1mx3.7/35,Error ellipse: s-maj=16.5km s-min=11.5km az=137.0*
*NEIC **22** 09:06:51.9±0.3,8.10N×3952W,h10km,mb4.7/23,Error ellipse: s-maj=9.8km s-min=6.8km az=154.0*
*BJI **22** 09:06:51.9,8.10N×3950W,h10km,mB5.2,Ms5.1,Msz4.7*
*SZGRF **22** 09:06:52.3,7.13N×3883W,h28km,mb4.9,MS3.7,Central Mid-Atlantic Ridge*
ISC 22 09:06:52.1±0.3,813N±006×3953W±004,h10km, (h29km±2.7km:pP-P),n198,σ0§62/180,mb4.5/50,MS4.0/26, 66C-50D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**23.45**	**72**	LR	LR	09 18 45.9	
	comp=Z,455nm,20.7s,MS3.9,baz=34,slow=31						
PCRV	**Puerto La Cruz**	**24.87**	**277**	LR	LR	09 22 11.9	
	comp=Z,136nm,19.3s,MS3.5,baz=250,slow=37						
BDFB	**Brasilia**	**25.07**	**200**	P	**P**	**09 12 17.6**	**+0.6**
	6.4nm,0.8s,mb4.2,baz=17,slow=16,SNR=14						
BDFB				LR	LR	09 21 46.7	
	comp=Z,198nm,18.2s,MS3.7,baz=3.3,slow=36						
SJG	**San Juan**	**27.72**	**294**	LR	LR	09 21 18.7	
	comp=Z,109nm,20.8s,MS3.4,baz=95,slow=31						
SDV	**Santo Domingo**	**30.77**	**274**	*eP*	**P**	**09 13 08.7**	**+0.6**
SIV	**San Ignacio**	**32.08**	**222**	P	**P**	**09 13 20.2**	**+0.6**
	16nm,0.9s,mb4.9,baz=59,slow=11,SNR=85						
DBIC	**Dimbokro**	**34.41**	**90**	P	**P**	**09 13 39.7**	**-0.3**
	6.8nm,0.8s,mb4.6,baz=272,slow=9.0,SNR=7.0						
ROSC	**El Rosal**	**34.72**	**267**	P	**P**	**09 13 43.9**	**+1.1**
	26nm,0.6s,mb5.3,baz=114,slow=7.7,SNR=18						
ROSC				LR	LR	09 29 45.4	
	comp=Z,164nm,18.9s,MS3.8,baz=173,slow=40						
LPAZ	**La Paz**	**37.28**	**229**	P	**P**	**09 14 06.1**	**+1.6**
	7.9nm,0.6s,mb4.7,baz=45,slow=7.7,SNR=53						
LPAZ				LR	LR	09 28 58.3	
	comp=Z,154nm,18.3s,MS3.8,baz=111,slow=36						
OTAV	**Otavalo**	**39.57**	**260**	*eP*	**P**	**09 14 25.5**	**+1.6**
	12nm,1.0s,mb4.6						
MDT	**Midelt**	**40.59**	**48**	P	**P**	**09 14 32.9**	**+0.7**
	3.1nm,0.9s,mb3.9,baz=214,slow=7.8,SNR=3.8						
MDT				LR	LR	09 28 01.4	
	comp=Z,208nm,20.7s,MS4.0,baz=64,slow=31						
TORD	**Torodi Ar. Bea**	**40.78**	**79**	P	**P**	**09 14 32.1**	**-1.9**
	9.4nm,0.9s,mb4.4,baz=273,slow=8.0,SNR=29						
TORD				LR	LR	09 28 31.8	
	comp=Z,181nm,20.5s,MS3.9,baz=255,slow=32						
ATAH	**Atahualpa**	**41.56**	**250**	LR	LR	09 33 57.5	
	comp=Z,124nm,18.5s,MS3.8,baz=52,slow=39						
LVC	**Limon Verde**	**41.97**	**223**	P	**P**	**09 14 42.4**	**-1.2**
	11nm,0.9s,mb4.5,baz=56,slow=6.8,SNR=7.5						
LVC	**Limon Verde**	**41.97**	**223**	*eP*	**P**	**09 14 42.8**	**-0.8**
	37nm,1.4s,mb4.8						
ESDC	**Sonseca Array**	**44.69**	**40**	P	**P**	**09 15 06.5**	**+1.1**
	0.2nm,0.3s,mb3.4,baz=329,slow=46,SNR=2.9						
ESDC				LR	LR	09 31 17.5	
	comp=Z,191nm,18.0s,MS4.1,baz=235,slow=33						
CFAA	**Coronel Fontan**	**48.11**	**213**	LR	LR	09 36 24.7	
	comp=Z,24nm,19.8s,MS3.2,baz=48,slow=37						
TKL	**Tuckaleechee C**	**48.77**	**311**	LR	LR	09 31 34.7	
	comp=Z,105nm,19.6s,MS3.8,baz=258,slow=30						
SCHQ	**Schefferville**	**51.42**	**340**	P	**P**	**09 15 56.7**	**-0.5**
	4.4nm,0.8s,mb4.5,baz=123,slow=7.0,SNR=6.9						
SCHQ				LR	LR	09 34 16.9	
	comp=Z,156nm,19.8s,MS4.0,baz=43,slow=32						
SCHQ	**Schefferville**	**51.42**	**340**	P	**P**	**09 15 56.7**	**-0.5**
SCHQ				LR	LR	09 34 16.9	
KEST	**Kesra**	**52.30**	**51**	P	**P**	**09 16 04.0**	**-0.1**
	1.4nm,0.7s,mb4.0,baz=74,slow=5.6,SNR=3.7						
KEST				LR	LR	09 37 57.8	
	comp=Z,78nm,18.2s,MS3.8,baz=226,slow=36						
PLCA	**Paso Flores**	**56.39**	**208**	P	**P**	**09 16 33.1**	**-0.6**
	14nm,0.8s,mb5.0,baz=30,slow=9.1,SNR=41						
PLCA				LR	LR	09 41 51.5	
	comp=Z,405nm,21.4s,MS4.5,baz=30,slow=37						
DAVA	**Damuels**	**57.22**	**38**⇑*iP*		**P**	**09 16 40.9**	**+1.3**
	comp=Z,12nm,1.3s,mb4.8						
FETA	**Feichten**	**57.62**	**39**⇑*iP*		**P**	**09 16 43.2**	**+0.8**
	comp=Z,10nm,1.1s,mb4.8						
WTTA	**Wattenberg**	**58.28**	**39**⇑*iP*		**P**	**09 16 46.8**	**-0.3**
	comp=Z,12nm,0.9s,mb4.9						
WTTA	**Wattenberg**	**58.28**	**39**⇑*iP*		**P**	**09 16 46.8**	**-0.3**
WTTA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
GRA1	**Grafenberg Arr**	**59.09**	**36**	*eP*	**P**	**09 16 52.9**	**+0.3**
	comp=Z,6.0nm,0.5s,mb4.9						
GRA1				*ep*P	pP	09 17 00.7	+4.8
GRA1				LR	LR		
	comp=Z,100nm,20.4s,MS3.9						
GRF	**Grafenberg Arr**	**59.09**	**36**	*eP*	**P**	**09 16 52.9**	**+0.3**
GRF				*e**PP	pP	09 17 00.7	+4.8
GRF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
GRF				MLR	MLR		
	comp=Z,100nm,20.4s,MS3.9						
GRF	**Grafenberg Arr**	**59.09**	**36**	*eP*	**P**	**09 16 52.9**	**+0.3**
GRF				*e**PP	pP	09 17 00.7	+4.8
GRF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
GRF				MLR	MLR		
	comp=Z,100nm,20.4s,MS3.9						
GRF	**Grafenberg Arr**	**59.09**	**36**	*eP*	**P**	**09 16 52.9**	**+0.3**
	comp=Z,6.0nm,0.5s,mb4.9						
GRF				*ep*P	pP	09 17 00.7	+4.8
GRF				*e*L		09 41 33.1	
	comp=Z,61nm,20.4s						
KBA	**Koelnbreinsper**	**59.27**	**39**⇑*iP*		**P**	**09 16 54.7**	**+0.8**
	comp=Z,11nm,1.4s,mb4.7						
KBA	**Koelnbreinsper**	**59.27**	**39**⇑*iP*		**P**	**09 16 54.7**	**+0.8**
KBA				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
MYKA	**Terra Mystica**	**59.28**	**40**⇑*iP*		**P**	**09 16 55.4**	**+1.4**
	comp=Z,51nm,1.6s,mb5.3						
OBKA	**Obir**	**59.82**	**40**⇑*iP*		**P**	**09 16 58.7**	**+1.0**
	comp=Z,15nm,1.1s,mb4.9						
MOA	**Molln**	**60.15**	**39**⇑*iP*		**P**	**09 16 59.3**	**-0.7**
	comp=Z,8.9nm,1.0s,mb4.8						
GERES	**GERESS Array B**	**60.20**	**38**	P	**P**	**09 16 59.0**	**-1.3**
	comp=Z,0.3nm,0.3s,mb3.8,baz=210,slow=5.7,SNR=2.9						
GERES				LR	LR	09 41 23.2	
	comp=Z,102nm,18.9s,MS4.0,baz=22,slow=34						
CLL	**Collm**	**60.83**	**35**	*e*(P)	**P**	**09 17 07.0**	**+2.5**
CLL				*e*PP	PP	09 19 20.0	+1.4
CLL				*e*SSS		09 32 12.0	
CLL				Lm		09 41 00.0	
	comp=N,100nm,18.2s						
CLL				Lm		09 41 00.0	
	comp=E,100nm,18.4s						
CLL				Lm		09 41 00.0	
	comp=Z,100nm,19.4s						
ECSD	**EROS,Sioux Fal**	**60.87**	**316**	*eP*	**P**	**09 17 04.4**	**-0.6**
ULM	**Lac du Bonnet**	**62.62**	**323**	P	**P**	**09 17 15.6**	**-1.0**
	comp=Z,3.2nm,1.0s,mb4.4,baz=120,slow=7.8,SNR=2.8						
ULM				LR	LR	09 39 54.9	
	comp=Z,103nm,20.8s,MS4.0,baz=44,slow=32						
TXAR	**Lajitas Array**	**63.54**	**299**	P	**P**	**09 17 22.3**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.8,baz=106,slow=6.1,SNR=10						
TXAR	**Lajitas Array**	**63.54**	**299**	P	**P**	**09 17 22.3**	**-0.9**
SUMG	**Summit**	**64.39**	**0**	*eP*	**P**	**09 17 28.3**	**+0.3**
	comp=Z,4.8nm,0.8s,mb4.6						
GDL2	**Guadalupe Moun**	**64.44**	**302**	*eP*	**P**	**09 17 29.4**	**+0.4**
NOA	**NORSAR Array B**	**64.68**	**25**	P	**P**	**09 17 30.8**	**+0.7**
	comp=Z,1.4nm,0.9s,mb4.0,baz=236,slow=6.7,SNR=2.4						
NOA				LR	LR	09 41 41.0	
	comp=Z,94nm,19.6s,MS4.0,baz=235,slow=32						
SDCO	**Great Sand Dun**	**66.10**	**308**	*eP*	**P**	**09 17 40.2**	**+0.6**
	comp=Z,2.5nm,0.8s,mb4.3						
ISCO	**Idaho Springs**	**66.50**	**310**	*eP*	**P**	**09 17 43.1**	**+0.9**
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ISCO	**Idaho Springs**	**66.50**	**310**	*eP*	**P**	**09 17 43.1**	**+0.9**
	comp=Z,3.4nm,0.9s,mb4.4						
SMCO	**Snowmass**	**67.45**	**309**	*eP*	**P**	**09 17 45.9**	**-2.3**
	comp=Z,7.2nm,0.8s,mb4.8						
TIRR	**Tirgusor**	**68.63**	**45**	*eP*	**P**	**09 17 56.7**	**+1.1**
TIRR				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
TIRR	**Tirgusor**	**68.63**	**45**	*eP*	**P**	**09 17 56.7**	**+1.0**
	comp=Z,9.3nm,1.3s,mb4.5						
LPIG	**La Paz**	**69.21**	**293**	LR	LR	09 46 13.9	
	comp=Z,29nm,20.9s,MS3.5,baz=197,slow=34						
X18A	**Snowflake**	**69.32**	**304**	⇓P	**P**	**09 18 00.2**	**+0.1**
	baz=69						
Y18A	**Canyon Day Jun**	**69.33**	**303**	⇓P	**P**	**09 18 00.7**	**+0.5**
	baz=69						
R18A	**Canyonlands Na**	**69.62**	**308**	⇓P	**P**	**09 18 02.0**	**+0.1**
	baz=70						
N18A	**Larsen Ranch,**	**69.73**	**311**	⇓P	**P**	**09 18 02.5**	**0.0**
	baz=70						
Q18A	**Rafter H Ranch**	**69.88**	**309**	⇑P	**P**	**09 18 03.2**	**-0.2**
	baz=70						
PDAR	**Pinedale Array**	**69.88**	**313**	P	**P**	**09 18 02.7**	**-0.7**
	comp=Z,0.6nm,0.9s,mb3.5,baz=91,slow=5.9,SNR=3.8						
PDAR				LR	LR	09 43 30.4	
	comp=Z,65nm,21.4s,MS3.9,baz=198,slow=32						
O18A	**Roosevelt**	**69.91**	**310**	⇑P	**P**	**09 18 03.5**	**-0.1**
	baz=70						
Y17A	**Roosevelt**	**70.00**	**303**	⇑P	**P**	**09 18 04.9**	**+0.6**
	baz=70						
X17A	**Forest Lakes**	**70.01**	**303**	⇑P	**P**	**09 18 04.0**	**-0.4**
	baz=70						
T17A	**Navajo Res., N**	**70.21**	**306**	⇓P	**P**	**09 18 05.7**	**+0.2**
	baz=70						
S17A	**Black Ridge (B**	**70.26**	**307**	⇑P	**P**	**09 18 06.1**	**+0.2**
	baz=70						
AKASG	**Malin Array Be**	**70.33**	**39**	P	**P**	**09 18 05.5**	**-0.4**
	comp=Z,5.0nm,0.8s,mb4.5,baz=256,slow=6.4,SNR=14						
X16A	**Lo Mia Camp, P**	**70.54**	**304**	⇓P	**P**	**09 18 07.7**	**+0.1**
	baz=70						
WUAZ	**Wupatki**	**70.56**	**305**	⇑P	**P**	**09 18 07.6**	**-0.1**
	baz=70						
WUAZ	**Wupatki**	**70.56**	**305**	*eP*	**P**	**09 18 09.1**	**+1.4**
	comp=Z,5.3nm,0.9s,mb4.5						
W16A	**Flagstaff**	**70.66**	**304**	⇓P	**P**	**09 18 08.2**	**-0.1**
	baz=71						
FLWY	**Flagg Ranch**	**70.87**	**314**	*eP*	**P**	**09 18 10.1**	**+0.7**
	comp=Z,5.8nm,0.9s,mb4.5						
IMW	**Indian Meadow**	**71.02**	**314**	*eP*	**P**	**09 18 10.7**	**+0.3**
	comp=Z,4.7nm,0.8s,mb4.5						
O16A	**Springville**	**71.04**	**310**	⇑P	**P**	**09 18 10.3**	**-0.2**
	baz=71						
L16A	**Fish Haven**	**71.17**	**312**	⇑P	**P**	**09 18 10.9**	**-0.4**
	baz=71						
X15A	**Humboldt**	**71.20**	**304**	⇓P	**P**	**09 18 12.0**	**+0.4**
	baz=71						
HWUT	**Hardware Ranch**	**71.22**	**311**	*eP*	**P**	**09 18 11.9**	**+0.3**
	comp=Z,8.6nm,1.0s,mb4.6						
V15A	**Kaibab Nationa**	**71.22**	**305**	⇓P	**P**	**09 18 11.9**	**+0.1**
	baz=71						
RRI2	**Red Ridge**	**71.23**	**313**	*eP*	**P**	**09 18 11.7**	**+0.1**
	comp=Z,4.8nm,0.9s,mb4.4						
M16A	**Huntsville**	**71.24**	**311**	⇑P	**P**	**09 18 11.1**	**-0.7**
	baz=71,SNR=5.5						
U15A	**North Rim**	**71.36**	**306**	⇑P	**P**	**09 18 13.3**	**+0.8**
	baz=71						
BOZ	**Bozeman (W)**	**71.73**	**315**	*eP*	**P**	**09 18 14.7**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BOZ	**Bozeman (W)**	**71.73**	**315**	⇑P	**P**	**09 18 14.3**	**-0.3**
	baz=72						
BOZ	**Bozeman (W)**	**71.73**	**315**	*eP*	**P**	**09 18 14.7**	**+0.2**
	comp=Z,1.5nm,0.9s,mb3.9						
X14A	**Yava**	**71.74**	**304**	⇓P	**P**	**09 18 14.9**	**0.0**
	baz=72						
L15A	**Malad City**	**71.87**	**311**	⇑P	**P**	**09 18 14.6**	**-0.9**
	baz=72,SNR=7.5						
V14A	**Boquillas Ranc**	**71.97**	**305**	⇑P	**P**	**09 18 16.6**	**+0.4**
	baz=72						
P14A	**Drum Mountains**	**72.19**	**309**	⇑P	**P**	**09 18 17.5**	**0.0**
	baz=72						
G15A	**Dillon**	**72.27**	**315**	⇑P	**P**	**09 18 17.7**	**-0.2**
	baz=72						
BOSA	**Boshof**	**72.31**	**123**	P	**P**	**09 18 17.4**	**-0.9**
	comp=Z,4.3nm,0.9s,mb4.4,baz=234,slow=10,SNR=3.9						
BOSA				LR	LR	09 43 00.3	
	comp=Z,154nm,21.9s,MS4.2,baz=347,slow=30						
Q14A	**Sevier Lake (B**	**72.31**	**308**	⇓P	**P**	**09 18 18.2**	**0.0**
	baz=72						
DLMT	**Dillon**	**72.37**	**315**	*eP*	**P**	**09 18 19.2**	**+0.8**
	comp=Z,8.0nm,1.0s,mb4.6						
K14A	**Jones Ranch, D**	**72.50**	**312**	⇑P	**P**	**09 18 19.2**	**-0.1**
	baz=72						
L14A	**Malta**	**72.51**	**311**	⇑P	**P**	**09 18 18.9**	**-0.4**
	baz=72						
X13A	**Yucca**	**72.52**	**304**	⇓P	**P**	**09 18 19.5**	**0.0**
	baz=72						
S13A	**Holt Ranch, En**	**72.68**	**307**	⇓P	**P**	**09 18 20.9**	**+0.4**
	baz=73						
U13A	**Pakoon Wash**	**72.70**	**306**	⇓P	**P**	**09 18 20.8**	**+0.2**
	baz=73						
J14A	**Carey**	**72.82**	**313**	⇑P	**P**	**09 18 21.2**	**0.0**
	baz=73						
I14A	**Mackay**	**72.83**	**313**	⇑P	**P**	**09 18 21.1**	**-0.1**
	baz=73						
P13A	**Bates Ranch, G**	**72.91**	**309**	⇓P	**P**	**09 18 21.8**	**0.0**
	baz=73						
L13A	**Double Diamond**	**73.03**	**311**	⇑P	**P**	**09 18 22.6**	**+0.1**
	baz=73						
M13A	**Montello**	**73.15**	**311**	⇓P	**P**	**09 18 22.3**	**-0.8**
	baz=73,SNR=5.7						
D14A	**Greenough**	**73.18**	**317**	⇓P	**P**	**09 18 22.9**	**-0.4**
	baz=73						
J13A	**Cove Ranch, Pi**	**73.31**	**313**	⇓P	**P**	**09 18 24.7**	**+0.6**
	baz=73						
R12A	**Pony Springs,**	**73.31**	**307**	⇓P	**P**	**09 18 24.6**	**+0.5**
	baz=73						
I13A	**Wildhorse Cree**	**73.31**	**313**	⇓P	**P**	**09 18 23.3**	**-0.7**
	baz=73						
V12A	**Nelson**	**73.39**	**305**	⇑P	**P**	**09 18 24.5**	**-0.2**
	baz=73						
C14A	**Swan Lake**	**73.42**	**317**	⇓P	**P**	**09 18 23.8**	**-0.8**
	baz=73						
H13A	**Challis**	**73.46**	**314**	⇑P	**P**	**09 18 25.1**	**+0.2**
	baz=73						
S12A	**Delamar Landin**	**73.47**	**307**	⇓P	**P**	**09 18 25.2**	**+0.1**
	baz=73						
G13A	**Cobalt**	**73.49**	**315**	⇓P	**P**	**09 18 24.4**	**-0.7**
	baz=73,SNR=10						
HLID	**Hailey**	**73.49**	**313**	⇓P	**P**	**09 18 25.3**	**+0.1**
	baz=73						
HLID	**Hailey**	**73.49**	**313**	*eP*	**P**	**09 18 25.8**	**+0.6**
	comp=Z,14nm,1.8s,mb4.6						
O12A	**Currie**	**73.52**	**310**	⇓P	**P**	**09 18 25.4**	**0.0**
	baz=73						
E13A	**Victor**	**73.58**	**316**	⇑P	**P**	**09 18 25.6**	**0.0**
	baz=74						
IRM	**Iron Mountain**	**73.60**	**303**	⇑P	**P**	**09 18 26.4**	**+0.4**
	baz=74						
F13A	**Darby**	**73.62**	**315**

baz=75
A11A Hall Mountain, 75.27 318 ⇑P **P 09 18 35.7 +0.3**
baz=75
O09A Fish Creek Ran 75.38 309 ⇑P **P 09 18 36.1 -0.1**
baz=75
OBN Obninsk 75.42 35 *eP* **P 09 18 35.8 -0.3**
OBN *e* 09 18 47.0
OBN pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
G10A Bishop Farm, J 75.54 315 ⇓P **P 09 18 37.7 +0.7**
baz=76
NEW Newport 75.72 318 *eP* **P 09 18 38.0 0.0**
NEW 09 21 24.4
NEW pmax pmax
comp=Z,2.0nm,1.0s
NEW Newport 75.72 318 *eP* **P 09 18 38.0 0.0**
comp=Z,2.5nm,1.0s,mb4.1
NEW PP PP 09 21 24.4 -3.3
D10A Wagner Farm, O 75.75 316 ⇓P **P 09 18 37.9 -0.3**
baz=76
L09A Wilkinson Ranc 75.80 311 ⇓P **P 09 18 38.9 +0.3**
baz=76
K09A Rome 75.86 312 ⇑P **P 09 18 38.9 -0.1**
baz=76,SNR=5.5
H09A Durkee 75.90 314 ⇑P **P 09 18 39.0 -0.1**
baz=76
Q08A Gabbs 75.93 308 ⇓P **P 09 18 38.8 -0.5**
baz=76
YKA Yellowknife Ar 75.95 332 P **P 09 18 39.4 +0.4**
comp=Z,0.8nm,0.7s,mb3.8,baz=41,slow=7.7,SNR=3.3
G09A Cove 76.01 315 ⇓P **P 09 18 38.7 -1.0**
baz=76,SNR=6.9
S08C White Mtn Res 76.10 307 ⇑P **P 09 18 40.4 0.0**
baz=76
O08A Rochester Mine 76.12 309 ⇑P **P 09 18 40.6 +0.1**
baz=76
NVAR Mina Array Bea 76.21 308 P **P 09 18 40.5 -0.5**
comp=Z,0.3nm,0.6s,mb3.4,baz=73,slow=4.3,SNR=3.6
NVAR Mina Array Bea 76.21 308 P **P 09 18 40.5 -0.5**
L08A Fields 76.31 311 ⇑P **P 09 18 41.4 -0.1**
baz=76
K08A Mann Creek Ran 76.43 312 ⇓P **P 09 18 42.4 +0.3**
baz=76
H08A Prairie City 76.61 314 ⇑P **P 09 18 43.1 0.0**
baz=76
SOC Sochi 76.66 47 *eP* **P 09 18 42.7 -0.7**
SOC *eS* S 09 28 32.8 +2.6
SOC pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
OD2 Odessa Site #2 76.74 317 *eP* **P 09 18 43.2 -0.7**
HELL Mitchell Peak 76.78 306 ⇑P **P 09 18 44.4 +0.1**
baz=77
K07A Rock Creek Ran 76.99 312 ⇓P **P 09 18 45.3 +0.1**
baz=77
J07A Hines 77.05 313 ⇑P **P 09 18 45.9 +0.3**
baz=77
L07A Adell 77.05 311 ⇓P **P 09 18 45.9 +0.3**
baz=77
KLMR Klimovskoe 77.61 29 *eP* **P 09 18 47.7 -0.7**
KLMR pmax pmax
comp=Z,19nm,1.3s,mb4.9
J06A Christmas Vall 77.66 312 ⇑P **P 09 18 49.5 +0.4**
baz=78
MOD Modoc 77.76 311 ⇑P **P 09 18 50.2 +0.5**
baz=78
H06A Lindquist Farm 77.80 314 ⇓P **P 09 18 50.5 +0.7**
baz=78
A07A Ashnola River, 77.92 318 ⇑P **P 09 18 50.4 0.0**
baz=78
G06A Carlson Farm, 78.02 314 ⇓P **P 09 18 50.9 -0.1**
baz=78
ELFS Eagle Lake Fie 78.09 310 ⇓P **P 09 18 52.0 +0.5**
baz=78
L05A Lakeview 78.16 311 ⇑P **P 09 18 52.6 +0.8**
baz=78
R04C Big Horse Ranc 78.28 307 ⇓P **P 09 18 53.0 +0.4**
baz=78
KIV Kislovodsk 78.81 47 *eP* **P 09 18 55.1 -0.3**
KIV *e**PP pP 09 19 05.4 +6.7
KIV pmax pmax
comp=Z,11nm,1.2s,mb4.7
J04A Umpqua Nationa 79.09 312 ⇑P **P 09 18 57.2 +0.3**
baz=79
VNA1 Neumayer--Stat 81.39 170 *eP* **P 09 19 09.1 +0.4**
VNA1 *e* 09 19 17.0
VNA1 *e* 09 19 23.1
VNA3 Neumayer Olymp 81.67 171 *eP* **P 09 19 09.8 -0.4**
VNA3 *e* 09 19 18.0
VNA3 *e* 09 19 23.3
VNA2 Neumayer--Watz 81.78 170 *eP* **P 09 19 10.4 -0.3**
VNA2 *e* 09 19 18.3
VNA2 *e* 09 19 22.9
SNAA Sanae 83.23 169 *eP* **P 09 19 17.6 -0.7**
SNAA *e* 09 19 25.5
SNAA *e* 09 19 30.8
BILL Bilibino 101.84 350 P Pdif 09 20 44.7 -1.0
BILL pmax pmax
comp=Z,2.0nm,0.6s
GTA Gaotai 119.54 35 *e*PKP PKPdf 09 25 46.3 +3.7
LZH Lanzhou 124.14 36 *e*PKP PKPdf 09 25 47.5 -4.0
LZH XPKP 09 25 56.8
LZH PP PP 09 27 42.4 +7.2
LZH *e*SS SS 09 44 23.0 -2.7
LZH PP PP
comp=Z,110nm,8.0s
LZH LR LR
comp=N,209nm,18.3s
LZH LR LR
comp=Z,371nm,19.2s,MS5.1
HHC Hu-ho-hao-te 124.47 26 *e*PKP PKPdf 09 25 53.3 +1.3
HHC PP PP 09 27 44.9 +7.9
HHC PKS 09 29 28.3
HHC SKS SKSdf 09 33 00.8 -3.5
HHC SKKS SKKSac 09 34 32.4 -4.5
HHC SS SS 09 44 31.0 +1.7
HHC PP PP
comp=Z,45nm,9.2s
HHC LR LR
comp=N,109nm,19.0s,MS4.7
HHC LR LR
comp=E,113nm,17.8s,MS4.7
HHC LR LR
comp=Z,128nm,19.6s,MS4.6
CN2 Changchun 126.55 14 *e*PKP PKPdf 09 25 57.1 +1.2
CD2 Chengdu 127.62 40 *e*PKP PKPdf 09 25 57.3 -1.0
CD2 XPKP 09 26 05.3
CD2 PP PP
comp=Z,80nm,10.2s
KMI Kunming 130.58 47 PKP PKPdf 09 26 03.1 -1.0
KMI XPKP 09 26 07.4
KMI LR LR
comp=Z,47nm,18.7s,MS4.2
GYA Guiyang 132.47 43 *e*PDIF Pdif 09 23 02.4 +0.5
GYA PKP PKPdf 09 26 07.3 -0.4
GYA PP PP 09 28 33.6 +3.4
GYA PKS 09 29 42.5
GYA SKS SKSdf 09 33 15.3 -4.3
GYA SKKS SKKSac 09 35 24.6 -3.0
GYA PP PP
comp=Z,80nm,7.6s
GYA LR LR
comp=N,180nm,21.5s,MS4.9
GYA LR LR
comp=E,160nm,20.0s,MS4.9
GYA LR LR
comp=Z,190nm,21.7s,MS4.8
NJ2 Nanjing 135.03 26 *e*PKP PKPdf 09 26 08.3 -4.0
ASAR Alice Springs 163.32 159 PKP PKPdf 09 26 54.6 -1.3
comp=Z,0.4nm,0.9s,baz=350,slow=22,SNR=3.8
ASAR PKPab PKPab 09 27 44.6 -1.7
comp=Z,0.6nm,0.9s,baz=202,slow=5.1,SNR=7.5
WRA Warramunga Arr 166.84 154 PKP PKPdf 09 26 56.9 -2.1
comp=Z,0.6nm,1.0s,baz=242,slow=1.1,SNR=7.2

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*IDC **22** 09:17:33.0±0.6, 831N×39.36W, h0km, mb4.0/18, mb1 4.1/18, mb1mx4.1/22, mbtmp4.0/18, MS3.6/4, Ms1 3.6/4, ms1mx3.1/30, Error ellipse: s-maj=19.9km s-min=13.9km az=144.0*
*MOS **22** 09:17:32.8±1.2, 822N×39.29W, h10km, mb4.8/2, Error ellipse: s-maj=25.3km s-min=17.7km az=58.6*
*ISCJB **22** 09:17:33.0±0.5, 827N±009×3929W±009, h10km, mb4.0/24, MS3.6/4, Error ellipse: s-maj=14.6km s-min=11.3km az=146.2*

*NEIC **22** 09:17:34.6±0.4, 824N×3929W, h10km, mb4.6/6, Error ellipse: s-maj=12.9km s-min=10.0km az=144.0*
ISC 22 09:17:34.9±0.5, 825N±009×3928W±009, h10km, n33, σ0=97/30, mb4.0/24, MS3.6/4, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**25.27 200**		P	P	**09 23 02.0**	**+0.6**
	0.8nm,0.5s,mb3.5,baz=38,slow=19,SNR=4.9						
BDFB				LR	LR	09 31 57.0	
	comp=Z,78nm,21.6s,MS3.2,baz=211,slow=34						
SIV	**San Ignacio**	**32.34 222**		P	P	**09 24 04.9**	**+0.3**
	2.4nm,1.0s,mb4.0,baz=32,slow=5.2,SNR=5.8						
DBIC	**Dimbokro**	**34.16 90**		P	P	**09 24 20.3**	**-0.3**
	4.1nm,1.0s,mb4.3,baz=198,slow=3.2,SNR=2.4						
DBIC	**Dimbokro**	**34.16 90**		P	P	**09 24 20.3**	**-0.3**
ROSC	**El Rosal**	**34.98 267**		P	P	**09 24 26.9**	**-0.7**
	2.0nm,0.4s,mb4.4,baz=104,slow=19,SNR=4.2						
LPAZ	**La Paz**	**37.55 229**		P	P	**09 24 50.1**	**+0.5**
	1.0nm,0.6s,mb3.7,baz=56,slow=6.6,SNR=5.7						
MDT	**Midelt**	**40.32 48**		P	P	**09 25 12.2**	**-0.5**
	2.3nm,0.8s,mb4.0,baz=332,slow=19,SNR=1.9						
TORD	**Torodi Ar. Bea**	**40.52 79**		P	P	**09 25 15.2**	**+0.7**
	5.8nm,0.7s,mb4.3,baz=274,slow=9.2,SNR=39						
TKL	**Tuckaleechee C**	**48.88 31**		LR	LR	09 43 11.9	
	comp=Z,39nm,19.6s,MS3.4,baz=87,slow=32						
SCHQ	**Schefferville**	**51.39 340**		P	P	**09 26 39.4**	**-0.3**
	3.9nm,0.8s,mb4.4,baz=81,slow=3.5,SNR=4.7						
SCHQ				LR	LR	09 44 03.9	
	comp=Z,83nm,18.2s,MS3.8,baz=93,slow=31						
PLCA	**Paso Flores**	**56.62 208**		P	P	**09 27 16.0**	**-2.1**
	1.6nm,0.9s,mb4.0,baz=35,slow=6.8,SNR=4.4						
GERES	**GERESS Array B**	**59.95 38**		P	P	**09 27 42.1**	**+0.8**
	1.2nm,0.9s,mb3.9,baz=237,slow=4.6,SNR=4.6						
ULM	**Lac du Bonnet**	**62.67 323**		P	P	**09 27 57.6**	**-2.1**
	1.2nm,0.5s,mb4.2,baz=128,slow=5.3,SNR=2.9						
TXAR	**Lajitas Array**	**63.70 299**		P	P	**09 28 05.8**	**-1.2**
	0.2nm,0.6s,mb3.4,baz=98,slow=6.3,SNR=3.8						
NOA	**NORSAR Array B**	**64.47 25**		P	P	**09 28 09.5**	**-1.9**
	0.5nm,0.7s,mb3.6,baz=130,slow=19,SNR=2.4						
PDAR	**Pinedale Array**	**69.98 312**		P	P	**09 28 46.3**	**-0.5**
	0.3nm,0.7s,mb3.4,baz=99,slow=11,SNR=3.3						
AKASG	**Malin Array Be**	**70.08 39**		P	P	**09 28 48.4**	**+1.2**
	2.6nm,0.6s,mb4.3,baz=254,slow=6.7,SNR=9.6						
AKASG	**Malin Array Be**	**70.08 39**		P	P	**09 28 48.4**	**+1.2**
RLMT	**Red Lodge**	**70.09 315**		*eP*	P	**09 28 48.7**	**+1.3**
	11nm,1.7s,mb4.5						
IMW	**Indian Meadow**	**71.12 314**		*eP*	P	**09 28 54.6**	**+1.0**
	2.9nm,0.8s,mb4.3						
HWUT	**Hardware Ranch**	**71.33 311**		*eP*	P	**09 28 55.6**	**+0.6**
	1.9nm,0.8s,mb4.1						
BOSA	**Boshof**	**72.17 124**		LR	LR	09 54 25.6	
	comp=Z,87nm,19.4s,MS4.0,baz=184,slow=31						
DLMT	**Dillon**	**72.46 315**		*eP*	P	**09 29 03.0**	**+1.3**
	10nm,1.3s,mb4.6						
ARCES	**ARCESS Array B**	**73.63 19**		P	P	**09 29 07.5**	**-0.7**
	3.2nm,0.9s,mb4.3,baz=267,slow=2.4,SNR=7.4						
EDM	**Edmonton**	**73.90 323**		*eP*	P	**09 29 10.6**	**+0.5**
KBS	**Kingsbay**	**74.94 9**		*eP*	P	**09 29 20.0**	**+4.3**
KBS				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
KBS	**Kingsbay**	**74.94 9**		*eP*	P	**09 29 20.0**	**+4.3**
	comp=Z,10nm,0.5s,mb5.0						
BMO	**Blue Mountains**	**75.74 314**		*eP*	P	**09 29 21.4**	**+0.5**
BMO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BMO	**Blue Mountains**	**75.74 314**		*eP*	P	**09 29 21.4**	**+0.5**
	comp=Z,1.5nm,0.9s,mb3.9						
YKA	**Yellowknife Ar**	**75.95 332**		P	P	**09 29 21.1**	**-0.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=178,slow=35,SNR=3.7						
NVAR	**Mina Array Bea**	**76.33 307**		P	P	**09 29 25.1**	**+0.6**
	comp=Z,0.1nm,0.5s,mb3.0,baz=193,slow=2.8						
OD2	**Odessa Site #2**	**76.82 317**		*eP*	P	**09 29 27.1**	**+0.1**
SONM	**Songino Array**	**116.45 25**		PKP	PKPdf	09 36 19.0	-0.1
	comp=Z,0.2nm,0.4s,baz=324,slow=8.9,SNR=2.2						

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*NEIC **22** 09:29:52.2±7.6, 972S×128.41E, h112km±24km, Error ellipse: s-maj=95.1km s-min=24.4km az=163.0*
IDC 22 09:29:28.9±6.7, 832S×128.44E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=85.9km s-min=59.7km az=134.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.88 138**		*e*Pn	Pn	09 31 04.0	+6.6
FITZ	**Fitzroy Crossi**	**10.10 195**		Pn	Pn	09 31 55.9	+0.6
	0.4nm,0.3s,baz=35,slow=15,SNR=11						
FITZ				Sn	Sn	09 33 49.8	+0.4
	0.1nm,0.3s,baz=261,slow=13,SNR=2.7						
WRA	**Warramunga Arr**	**12.89 154**		Pn	Pn	09 32 34.4	+0.9
	0.6nm,0.3s,baz=329,slow=14,SNR=31						
WRA				Sn	Sn	09 34 59.0	+1.2
	0.5nm,0.3s,baz=217,slow=19,SNR=9.4						
ASAR	**Alice Springs**	**16.14 162**		Pn	Pn	09 33 17.0	-0.2
	0.2nm,0.3s,baz=346,slow=12,SNR=14						
STKA	**Stephens Creek**	**26.45 154**		P	P	09 35 07.4	-0.3
	1.5nm,1.0s,baz=354,slow=10,SNR=3.6						

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*IDC **22** 09:34:43.3±0.5, 702S×15476E, h0km, mb4.8/17, mb1 4.9/17, mb1mx4.8/20, mbtmp4.8/17, MS3.9/11, Ms1 3.9/11, ms1mx3.6/24, Error ellipse: s-maj=19.2km s-min=12.6km az=120.0*
*ISCJB **22** 09:34:46.2±1.5, 697S±005×15473E±003, h23km±10km, mb5.0/70, MS4.1/21, Error ellipse: s-maj=8.8km s-min=4.8km az=167.8*
*MOS **22** 09:34:48.0±1.2, 683S×15477E, h33km, mb5.2/18, Error ellipse: s-maj=11.3km s-min=9.0km az=49.1*
*BJI **22** 09:34:48.7, 651S×15505E, h36km, mB5.0, mb5.0, Ms4.7, Msz4.2*
*NEIC **22** 09:34:50.7±1.1, 704S×15479E, h50km±9km, mb5.0/40, Error ellipse: s-maj=7.8km s-min=5.9km az=156.0*
ISC 22 09:34:50.4±0.9, 703S±005×15478E±003, h44km±8km, h46km±2.8km: pP-P, n271, σ0=79/263, mb5.0/70, MS4.1/21, 66C-68D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.65 115**		Pn	**Pn**	**09 36 11.7**	**-0.2**
	4.3nm,0.3s,baz=262,slow=4.4,SNR=5.2						
HNR				Sn	**Sn**	**09 37 26.6**	**+11**
	3.6nm,0.3s,baz=267,slow=15,SNR=2.3						
HNR	**Honiara**	**5.65 115**		*eP*	**Pn**	**09 36 12.3**	**+0.4**
HNR				pmax	pmax		
	comp=Z,408nm,0.9s						
HNR	**Honiara**	**5.65 115**		*e*Pn	**Pn**	**09 36 12.3**	**+0.4**
	comp=Z,408nm,0.9s						
PMG	**Port Moresby**	**7.90 252**		*e*Pn	**Pn**	**09 36 43.5**	**+0.7**
PMG				*e*Sn	**Sn**	**09 38 09.7**	**-1.3**
COEN	**Coen**	**13.32 238**		*e*Pn	**Pn**	**09 37 58.5**	**+1.4**
	comp=Z,2.9nm,0.8s						
CTA	**Charters Tower**	**15.39 212**		*eP*	**Pn**	**09 38 28.4**	**+3.7**
	comp=Z,32nm,0.9s						
CTA	**Charters Tower**	**15.39 212**		Pn	**Pn**	**09 38 27.6**	**+2.9**
	comp=Z,0.9nm,0.3s,baz=37,slow=12,SNR=42						
CTA				LR	LR	09 43 18.3	
	comp=Z,488nm,20.8s,baz=24,slow=34						
CTA	**Charters Tower**	**15.39 212**		*eP*	**Pn**	**09 38 28.4**	**+3.7**
	comp=Z,32nm,0.9s						
CTAO	**Charters Tower**	**15.39 212**		*eP*	**Pn**	**09 38 29.3**	**+4.6**
	comp=Z,52nm,1.0s						
DZM	**Mont Dzumac**	**18.72 144**		*eP*	**Pn**	**09 39 05.8**	**-0.4**
KAKA	**Kakadu**	**22.71 254**		*eP*	**P**	**09 39 46.5**	**-2.2**
	comp=Z,49nm,1.0s,mb4.9						
ARMA	**Armidale**	**23.46 187**		*eP*	**P**	**09 39 56.6**	**+0.5**
WRAB	**Tennant Creek**	**23.61 235**		P	**P**	**09 39 56.0**	**-1.7**
	comp=Z,428nm,0.8s,mb5.9,SNR=23						
WRAB	**Tennant Creek**	**23.61 235**		*eP*	**P**	**09 39 56.5**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**23.61 235**		*eP*	**P**	**09 39 56.5**	**-1.2**
	comp=Z,64nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**23.61 235**		⇓*i*P	**P**	**09 39 56.3**	**-1.4**
WB2				*i* S	**S**	**09 44 09.0**	**-0.1**
WRA	**Warramunga Arr**	**23.62 235**		P	**P**	**09 39 56.6**	**-1.2**
	comp=Z,54nm,0.8s,mb5.0,baz=60,slow=9.8,SNR=139						
WRA				PcP	PcP	09 43 41.0	-0.8
	comp=Z,1.6nm,0.5s,baz=58,slow=2.3,SNR=9.0						
WRA				S	**S**	**09 44 11.7**	**+2.4**
	comp=Z,1.7nm,1.0s,baz=60,slow=14,SNR=4.6						
WRA				ScP	ScP	09 47 19.8	+3.0
	comp=Z,3.2nm,1.0s,baz=56,slow=2.7,SNR=7.1						
WRA				LR	LR	09 48 47.2	
	comp=Z,248nm,20.6s,MS3.7,baz=55,slow=36						

WRA	**Warramunga Arr**	**23.62 235**		P	**P**	**09 39 56.6**	**-1.2**
WRA				S	**S**	**09 44 11.7**	**+2.4**
ASAR	**Alice Springs**	**25.99 228**		P	**P**	**09 40 18.4**	**-0.9**
	comp=Z,7.4nm,0.7s,mb4.3,baz=61,slow=9.5,SNR=82						
ASAR				ScP	ScP	09 47 26.6	+3.3
	comp=Z,3.2nm,0.9s,baz=77,slow=3.6,SNR=12						
STKA	**Stephens Creek**	**27.61 205**		*eP*	**P**	**09 40 32.7**	**-1.1**
	comp=Z,14nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**27.61 205**		P	**P**	**09 40 32.6**	**-1.2**
	comp=Z,27nm,0.9s,mb4.9,baz=14,slow=9.8,SNR=28						
STKA				LR	LR	09 51 15.2	
	comp=Z,384nm,20.8s,MS4.0,baz=30,slow=36						
FITZ	**Fitzroy Crossi**	**30.45 246**		*eP*	**P**	**09 40 57.6**	**-1.5**
	comp=Z,16nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**30.45 246**		P	**P**	**09 40 57.6**	**-1.6**
	comp=Z,15nm,0.9s,mb4.7,baz=80,slow=9.0,SNR=22						
AFI	**Afiamalu**	**33.56 105**		LR	LR	09 54 10.5	
	comp=Z,250nm,18.4s,MS4.0,baz=192,slow=35						
FORT	**Forrest**	**34.42 223**		*eP*	**P**	**09 41 32.5**	**-1.3**
	comp=Z,30nm,0.8s,mb5.3						
TAU	**Tasmania Unive**	**36.34 189**		*eP*	**P**	**09 41 51.4**	**+1.3**
MBWA	**Marble Bar**	**36.67 244**		*eP*	**P**	**09 41 52.7**	**-0.6**
	comp=Z,18nm,1.0s,mb4.9						
KLBR	**Kellerberrin**	**42.30 230**		*eP*	**P**	**09 42 38.1**	**-2.0**
	comp=Z,14nm,0.6s,mb4.8						
JOW	**Kunigami**	**42.34 324**		P	**P**	**09 42 39.5**	**-0.9**
	comp=Z,7.4nm,0.9s,mb4.3,baz=180,slow=10.0,SNR=3.8						
NACB	**Ninganchiao**	**44.83 315**		*eP*	**P**	**09 43 01.1**	**+0.6**
	comp=Z,40nm,0.8s,mb5.3						
KSRS	**Korea Array**	**50.87 332**		P	**P**	**09 43 45.0**	**-1.9**
	comp=Z,4.1nm,0.9s,mb4.3,baz=150,slow=8.7,SNR=16						
KSRS				LR	LR	10 04 57.4	
	comp=Z,45nm,18.3s,MS3.5,baz=325,slow=36						
NJ2	**Nanjing**	**51.80 321**		*eP*	**P**	**09 43 55.3**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
WHN	**Wuhan**	**53.81 316**		P	**P**	**09 44 08.5**	**-0.5**
PPT	**Papeete**	**55.20 106**		*e*LR	LR	10 00 22.0	
	comp=Z,93nm,21.5s						
PPT	**Papeete**	**55.20 106**		LR	LR	10 03 54.8	
	comp=Z,93nm,21.3s,MS3.8,baz=261,slow=32						
CN2	**Changchun**	**57.13 335**		*eP*	**P**	**09 44 34.3**	**+1.7**
CN2				*e*S	**S**	**09 52 23.5**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s,MS4.5						
CN2				LR	LR		
	comp=E,200nm,14.0s,MS4.5						
CN2				LR	LR		
	comp=Z,300nm,15.0s,MS4.5						
GYA	**Guiyang**	**57.30 308**		P	**P**	**09 44 35.8**	**+1.6**
GYA				PCP	PcP	09 45 30.3	+2.3
GYA				PP	PP	09 46 45.8	+4.0
GYA				SCP	ScP	09 49 22.1	-2.4
GYA				S	**S**	**09 52 27.0**	**-0.6**
GYA				SCS	ScS	09 54 16.8	-3.6
GYA				SS	SS	09 56 18.3	+0.6
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,5.8s						
GYA				LR	LR		
	comp=N,480nm,18.5s,MS4.8						
GYA				LR	LR		
	comp=E,460nm,18.0s,MS4.8						
GYA				LR	LR		
	comp=Z,490nm,17.7s,MS4.7						
BJI	**Beijing**	**58.83 326**		P	**P**	**09 44 43.3**	**-1.3**
BJI				S	**S**	**09 52 47.3**	**+0.3**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.9						
BJI				AMB	AMB		
	comp=Z,162nm,3.8s						
KLR	**Kul'dur**	**59.53 343**		*eP*	**P**	**09 44 44.8**	**-4.4**
XAN	**Xi'an**	**59.58 316**		P	**P**	**09 44 49.4**	**-0.5**
XAN				AP	pP	09 45 03.9	+1.5
XAN				XP	sP	09 45 10.3	+2.8
XAN				PCP	PcP	09 45 32.8	-4.1
XAN				PP	PP	09 47 04.5	+2.6
XAN				SCP	ScP	09 49 28.1	-6.3
XAN				PCS	PcS	09 49 35.6	-3.4
XAN				S	**S**	**09 52 56.6**	**-0.4**
XAN				SCS	ScS	09 54 32.1	-4.7
XAN				SS	SS	09 56 56.5	+3.2
XAN				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
XAN				AMB	AMB		
	comp=Z,69nm,10.3s						
XAN				LR	LR		
	comp=N,51nm,17.7s,MS3.9						
XAN				LR	LR		
	comp=E,77nm,22.0s,MS3.9						
XAN				LR	LR		
	comp=Z,134nm,18.1s,MS4.1						
KMI	**Kunming**	**59.86 304**		P	**P**	**09 44 53.3**	**+1.3**
KMI				AP	pP	09 45 04.5	0.0
KMI				XP	sP	09 45 12.4	+2.9
KMI				PP	PP	09 47 08.4	+3.9
KMI				S	**S**	**09 52 59.0**	**-1.9**
KMI				XS	sS	09 53 22.4	+0.7
KMI				SS	SS	09 56 56.3	-1.6
KMI				AMB	AMB		
	comp=Z,23nm,1.4s,mb5.0						
KMI				AMB	AMB		
	comp=Z,97nm,3.1s						
KMI				LR	LR		
	comp=N,146nm,22.6s,MS4.2						
KMI				LR	LR		
	comp=E,98nm,18.3s,MS4.2						
KMI				LR	LR		
	comp=Z,113nm,18.1s,MS4.0						
PETK	**Petropavlovsk-**	**59.95 2**		P	**P**	**09 44 50.7**	**-1.3**
	comp=Z,5.5nm,0.8s,mb4.7,baz=181,slow=8.7,SNR=4.1						
PETK				LR	LR	10 07 47.6	
	comp=Z,68nm,20.0s,MS3.8,baz=170,slow=33						
PETK	**Petropavlovsk-**	**59.95 2**		P	**P**	**09 44 50.7**	**-1.3**
PETK				LR	LR	10 07 47.6	
CMAR	**Chiang Mai Arr**	**60.60 296**		P	**P**	**09 44 58.0**	**+0.8**
	comp=Z,11nm,0.7s,mb5.1,baz=118,slow=4.9,SNR=36						
CHTO	**Chiang Mai**	**60.72 296**		*eP*	**P**	**09 44 59.1**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
CHTO	**Chiang Mai**	**60.72 296**		*eP*	**P**	**09 44 59.1**	**+1.1**
	comp=Z,11nm,1.0s,mb4.9						
CD2	**Chengdu**	**61.67 311**		P	**P**	**09 45 04.8**	**+0.6**
CD2				AP	pP	09 45 19.5	+2.7
CD2				XP	sP	09 45 24.8	+3.0
CD2				PCP	PcP	09 45 45.3	-0.1
CD2				PP	PP	09 47 23.3	+2.8
CD2				PCS	PcS	09 49 46.8	-1.7
CD2				S	**S**	**09 53 23.0**	**-0.9**
CD2				XS	sS	09 53 44.6	-0.2
CD2				SCS	ScS	09 54 48.8	-3.8
CD2				SS	SS	09 57 26.9	+0.7
CD2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.7						
CD2				AMB	AMB		
	comp=Z,60nm,6.2s						
CD2				LR	LR		
	comp=N,200nm,13.2s,MS4.5						
CD2				LR	LR		
	comp=E,180nm,15.6s,MS4.5						
CD2				LR	LR		
	comp=Z,120nm,14.4s,MS4.2						
HHC	**Hu-ho-hao-te**	**61.99 324**		*eP*	**P**	**09 45 08.5**	**+2.3**
HHC				PCP	PcP	09 45 47.8	+1.4
HHC				PP	PP	09 47 27.6	+4.5
HHC				SCP	ScP	09 49 44.1	-0.9
HHC				PCS	PcS	09 49 49.6	+0.1
HHC				S	**S**	**09 53 28.0**	**+0.5**
HHC				SCS	ScS	09 54 51.6	-3.0
HHC				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.2						
HHC				AMB	AMB		
	comp=Z,25nm,5.2s						
HHC				LR	LR		
	comp=N,93nm,15.5s,MS4.2						
HHC				LR	LR		
	comp=E,88nm,16.7s,MS4.2						
HHC				LR	LR		
	comp=Z,121nm,15.5s,MS4.2						

LZH Lanzhou 64.19 316 ⇓P **P** **09 45 22.0 +1.2**
LZH AP pP 09 45 32.3 -1.2
LZH XP sP 09 45 38.5 0.0
LZH *e*S **S** **09 53 56.3 +1.1**
LZH SS SS 09 58 06.4 +1.0
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,179nm,5.0s
LZH LR LR
comp=N,1µm,15.6s
LZH LR LR
comp=Z,1µm,16.9s,MS5.2
GTA Gaotai 68.61 317 P **P** **09 45 50.8 +1.7**
GTA AP pP 09 46 05.8 +3.9
GTA PP PP 09 48 26.5 +5.4
GTA S S 09 54 51.5 +2.7
GTA AMB AMB
comp=Z,26nm,0.7s,mb5.3
GTA AMB AMB
comp=Z,98nm,4.2s
GTA LR LR
comp=N,244nm,18.3s,MS4.7
GTA LR LR
comp=E,304nm,18.3s,MS4.7
GTA LR LR
comp=Z,101nm,17.7s,MS4.1
SHL Shillong 69.12 301 *e*P **P** **09 45 53.5 +0.9**
SONM Songino Array 69.25 327 P **P** **09 45 52.9 0.0**
comp=Z,12nm,1.0s,mb4.8,baz=135,slow=5.6,SNR=40
SONM LR LR 10 17 51.7
comp=Z,96nm,18.7s,MS4.1,baz=259,slow=37
VNDA Vanda 70.56 178 P **P** **09 46 00.9 +0.4**
comp=Z,2.5nm,0.9s,mb4.1,baz=353,slow=5.8,SNR=7.6
LSA Lhasa 71.11 305 P **P** **09 46 07.0 +2.3**
LSA Lhasa 71.11 305 *e*P **P** **09 46 05.8 +1.1**
LSA *e**PP pP 09 46 17.2 -0.3
LSA pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
LSA Lhasa 71.11 305 *e*P **P** **09 46 05.8 +1.1**
comp=Z,7.6nm,0.4s,mb5.0
LSA *e*pP pP 09 46 17.2 -0.3
YAK Yakutsk 71.54 348 *e*P **P** **09 46 05.9 -0.6**
YAK pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
ZAK Zakamensk 72.41 328 *e*P **P** **09 46 11.0 -1.0**
ZAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BOD Bodaibo 72.56 339 *e*P **P** **09 46 08.7 -4.1**
TLY Talaya 72.98 330 *e*P **P** **09 46 11.9 -3.5**
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TLY MLR MLR
comp=Z,63nm,20.0s,MS3.9
TAPN Taplejung 73.23 301 *e*P **P** **09 46 18.6 +1.2**
comp=Z,57nm,0.9s,mb5.5
ODAN Odare 73.36 301 *e*P **P** **09 46 18.9 +0.7**
comp=Z,101nm,0.7s,mb5.8
CHGN Chignik 73.87 25 *e*P **P** **09 46 20.2 -0.3**
RAMN Ramite 74.06 300 *e*P **P** **09 46 23.3 +1.0**
comp=Z,21nm,0.8s,mb5.2
GUN Gumba 74.95 301 *e*P **P** **09 46 28.9 +1.5**
comp=Z,82nm,0.7s,mb5.8
PKI Pulchoki 75.25 301 *e*P **P** **09 46 30.2 +1.0**
BILL Bilibino 75.33 4 *e*P **P** **09 46 28.0 -0.7**
BILL *e* pP 09 46 38.6 -3.0
BILL *e* 09 49 16.7
BILL pmax pmax
comp=Z,15nm,0.8s,mb5.0
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.1
KKN Kakani 75.42 301 *e*P **P** **09 46 31.3 +1.1**
comp=Z,44nm,0.7s,mb5.5
KKN Kakani 75.42 301 *e*P **P** **09 46 31.3 +1.1**
KKN pmax pmax
comp=Z,44nm,0.7s,mb5.5
DMN Daman 75.52 301 *e*P **P** **09 46 31.4 +0.7**
comp=Z,60nm,0.8s,mb5.6
GKN Gorkha 76.03 301 *e*P **P** **09 46 34.5 +0.9**
comp=Z,23nm,1.0s,mb5.1
KOLN Koldanda 76.85 301 *e*P **P** **09 46 39.1 +0.8**
comp=Z,40nm,0.9s,mb5.3
DANN Dangsing 76.87 301 *e*P **P** **09 46 39.0 +0.6**
comp=Z,39nm,0.9s,mb5.3
KDAK Kodiak Island 77.29 26 P **P** **09 46 39.1 -0.9**
comp=Z,8.6nm,0.9s,mb4.7,baz=286,slow=3.1,SNR=8.8
SVW2 Sparrevohn 78.11 22 *e*P **P** **09 46 44.5 0.0**
WMQ Urumqi 78.70 317 *e*P **P** **09 46 49.0 +0.8**
WMQ AP pP 09 47 04.0 +2.8
WMQ AMB AMB
comp=Z,18nm,0.8s,mb5.0
WMQ LR LR
comp=N,71nm,20.8s
WMQ LR LR
comp=Z,71nm,21.2s,MS4.0
TTA Tatalina 79.13 21 *e*P **P** **09 46 49.1 -1.0**
RC01 Rabbit Creek A 80.38 24 *e*P **P** **09 46 56.1 -0.8**
comp=Z,21nm,1.1s,mb5.0
PPLA Purkeypile 80.48 22 *e*P **P** **09 46 55.7 -1.8**
comp=Z,20nm,1.5s,mb4.8
PMR Palmer 80.90 24 *e*P **P** **09 46 58.7 -1.0**
PMR pmax pmax
comp=Z,15nm,1.0s,mb4.9
PMR Palmer 80.90 24 *e*P **P** **09 46 58.7 -1.0**
comp=Z,15nm,1.0s,mb4.9
CHUM Lake Minchumin 81.03 21 *e*P **P** **09 47 00.1 -0.2**
comp=Z,13nm,1.1s,mb4.8
CHUM *e*pP pP 09 47 13.0 -0.4
KTH Kantishna Hill 81.33 22 *e*P **P** **09 47 00.7 -1.3**
comp=Z,7.7nm,1.0s,mb4.6
KTH *e*pP pP 09 47 16.0 +1.0
IMA2 Indian Mountai 81.90 19 *e*P **P** **09 47 04.3 -0.6**
DIV Divide 82.03 25 *e*P **P** **09 47 05.4 -0.3**
comp=Z,17nm,1.0s,mb4.9
MCK McKinley 82.17 22 *e*P **P** **09 47 05.0 -1.4**
MCK *e* 09 47 11.7
MCK pmax pmax
comp=Z,25nm,1.1s,mb5.1
MCK McKinley 82.17 22 *e*P **P** **09 47 05.0 -1.4**
comp=Z,25nm,1.1s,mb5.0
MCK *e*PcP PcP 09 47 11.7 +0.1
BMRM Bremner River 82.45 25 *e*P **P** **09 47 07.6 -0.2**
QSPA South Pole Qui 82.95 180 P **P** **09 47 11.0 +0.7**
comp=Z,9.6nm,1.1s,mb4.8,baz=326,slow=2.4,SNR=6.7
COLA College 83.19 21 *e*P **P** **09 47 09.9 -1.8**
COLA pmax pmax
comp=Z,11nm,0.9s,mb4.9
COLA College 83.19 21 *e*P **P** **09 47 09.9 -1.7**
comp=Z,11nm,0.9s,mb4.9
MKAR Makanchi Array 83.28 319 P **P** **09 47 12.2 -0.4**
comp=Z,7.3nm,0.7s,mb4.8,baz=99,slow=5.4,SNR=58
ZALV Zalesovo Beam 84.08 326 P **P** **09 47 14.8 -1.7**
comp=Z,1.8nm,0.5s,mb4.5,baz=120,slow=5.0,SNR=8.4
ZALV Zalesovo Beam 84.08 326 P **P** **09 47 14.8 -1.7**
ZAL Zalesovo 84.09 326 P **P** **09 47 14.8 -1.7**
MAW Mawson 84.28 203 *e*P **P** **09 47 17.5 +0.2**
comp=Z,4.2nm,1.0s,mb4.5
MAW Mawson 84.28 203 LR LR 10 22 01.8
comp=Z,84nm,18.6s,MS4.2,baz=246,slow=34
MAW Mawson 84.28 203 *e*P **P** **09 47 17.5 +0.2**
MAW pmax pmax
comp=Z,4.0nm,1.0s
HYT Haines Junctio 85.50 27 *e*P **P** **09 47 24.8 +1.4**
HYT *es*P sP 09 47 42.3 +0.9
EGAK Eagle 85.63 23 *e*P **P** **09 47 24.2 +0.2**
comp=Z,8.2nm,0.8s,mb5.0
KSH Kashi 85.87 310 P **P** **09 47 27.8 +2.0**
KSH PP PP 09 50 51.8 +5.8
KSH SKS 09 57 46.1
KSH S S 09 57 57.8 +1.7
KSH LR LR
comp=Z,228nm,5.1s
SKAG Skagway 86.00 29 *e*P **P** **09 47 26.1 +0.1**
comp=Z,19nm,1.1s,mb5.2
DAWY Dawson 86.01 24 *e*P **P** **09 47 25.3 -0.6**
WRAK Wrangell Islan 86.48 32 *e*P **P** **09 47 28.9 +0.5**
comp=Z,17nm,1.1s,mb5.2
TKM2 Tokmak 2 86.88 314 *e*P **P** **09 47 31.0 +0.3**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
TKM2 Tokmak 2 86.88 314 *e*P **P** **09 47 31.0 +0.3**
comp=Z,3.9nm,0.6s,mb4.8
AML Almayashu 88.10 313 *e*P **P** **09 47 37.6 +1.1**
comp=Z,8.2nm,0.9s,mb5.0
AML *e*pP pP 09 47 48.5 -1.2
EKS2 Erkin-Say 88.14 313 *e*P **P** **09 47 37.0 +0.3**
comp=Z,137nm,1.0s,mb6.1
ORV Oroville 89.61 50 ⇑P **P** **09 47 43.5 -0.2**
baz=90
GNW Green Mountain 90.03 42 *e*P **P** **09 47 45.1 -0.4**
comp=Z,4.8nm,0.9s,mb4.8
P05C Yuba Gap, Truc 90.25 51 ⇑P **P** **09 47 47.0 +0.3**
baz=90
A04A Legoe Bay, Lum 90.31 41 ⇓P **P** **09 47 47.6 +0.8**
baz=90
J05A Fort Rock 90.41 47 ⇓P **P** **09 47 47.1 -0.2**
baz=90,SNR=5.2
S06C San Francisco 90.63 52 ⇑P **P** **09 47 48.2 -0.4**
baz=91
MOD Modoc 90.87 48 ⇑P **P** **09 47 49.2 -0.4**
baz=91
WCN Washoe City 90.90 51 ⇑P **P** **09 47 49.8 0.0**
baz=91
VES Vestal, Richgr 90.95 54 ⇓P **P** **09 47 50.1 0.0**
baz=91
KCC Kaiser Creek 90.97 53 ⇑P **P** **09 47 50.8 +0.7**
baz=91
O06A Flanigan 90.97 50 ⇑P **P** **09 47 49.8 -0.3**
baz=91
R06C Coleville 91.03 51 ⇓P **P** **09 47 50.6 +0.2**
baz=91
K06A Valley Falls 91.04 47 ⇑P **P** **09 47 50.5 +0.1**
baz=91
N06A Buffalo Meadow 91.05 49 ⇓P **P** **09 47 50.4 -0.1**
baz=91,SNR=5.3
E06A Yakima 91.10 43 ⇑P **P** **09 47 50.0 -0.5**
baz=91
HELL Mitchell Peak 91.11 53 ⇓P **P** **09 47 51.2 +0.4**
baz=91
J06A Christmas Vall 91.18 47 ⇓P **P** **09 47 50.6 -0.4**
baz=91
I06A Prineville 91.24 46 ⇓P **P** **09 47 51.8 +0.5**
baz=91
MWC Mount Wilson 91.57 56 *e*P **P** **09 47 53.9 +0.9**
MWC pmax pmax
comp=Z,15nm,1.1s,mb5.2
MWC Mount Wilson 91.57 56 *e*P **P** **09 47 53.9 +0.9**
comp=Z,15nm,1.1s,mb5.2
L07A Adell 91.60 48 ⇑P **P** **09 47 53.0 +0.1**
baz=92,SNR=5.7
M07A Soldier Meadow 91.64 49 ⇑P **P** **09 47 53.5 +0.3**
baz=92,SNR=7.1
O07A Toulon 91.69 50 ⇓P **P** **09 47 53.5 0.0**
baz=92
EDW2 Edwards Air Fo 91.71 55 ⇑P **P** **09 47 54.1 +0.5**
baz=92,SNR=5.3
N07B Gerlach 91.71 49 ⇓P **P** **09 47 53.9 +0.4**
baz=92,SNR=8.2
K07A Rock Creek Ran 91.76 47 ⇓P **P** **09 47 53.6 0.0**
baz=92
H07A Lands Inn, Kim 91.80 45 ⇑P **P** **09 47 53.8 0.0**
baz=92
G07A Ruggs Ranch, H 91.82 45 ⇑P **P** **09 47 53.7 -0.2**
baz=92
A07A Ashnola River, 91.88 41 ⇑P **P** **09 47 53.7 -0.4**
baz=92
D07A Quincy 91.88 43 ⇓P **P** **09 47 53.3 -0.8**
baz=92
S08C White Mtn Res 91.89 53 ⇑P **P** **09 47 55.1 +0.7**
baz=92
BFSC Mount Baldy St 91.90 56 ⇑P **P** **09 47 54.5 0.0**
baz=92
NVAR Mina Array Bea 91.91 52 P **P** **09 47 54.6 +0.2**
comp=Z,4.3nm,0.8s,mb4.8,baz=251,slow=6.6,SNR=32
LRMC Laurel Mountai 92.03 55 ⇓P **P** **09 47 55.4 +0.3**
baz=92
WVOR Wild Horse Val 92.17 48 *e*P **P** **09 47 55.3 -0.3**
WVOR pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
WVOR Wild Horse Val 92.17 48 *e*P **P** **09 47 55.3 -0.3**
comp=Z,4.2nm,1.0s,mb4.7
M08A Happy Creek Ra 92.24 49 ⇓P **P** **09 47 56.3 +0.4**
baz=92
Q08A Gabbs 92.25 51 ⇓P **P** **09 47 56.1 +0.1**
baz=92,SNR=7.1
MPMC Manual Prospec 92.26 54 ⇑P **P** **09 47 56.3 +0.1**
baz=92,SNR=8.6
O08A Rochester Mine 92.26 50 ⇑P **P** **09 47 56.6 +0.5**
baz=92,SNR=10.0
G08A Pilot Rock 92.32 45 ⇓P **P** **09 47 55.7 -0.5**
baz=92
K08A Mann Creek Ran 92.32 47 ⇑P **P** **09 47 56.0 -0.3**
baz=92
N08A GE Springer Mi 92.34 49 ⇑P **P** **09 47 56.2 -0.2**
baz=92,SNR=8.4
L08A Fields 92.36 48 ⇓P **P** **09 47 56.3 -0.2**
baz=92
E08A Dider Farm, El 92.41 44 ⇓P **P** **09 47 55.9 -0.7**
baz=92
J08A Circle Bar Ran 92.41 47 ⇑P **P** **09 47 56.4 -0.3**
baz=92,SNR=6.4
H08A Prairie City 92.42 46 ⇑P **P** **09 47 56.7 0.0**
baz=92
GRAC Grapevine Rang 92.47 53 ⇑P **P** **09 47 57.6 +0.6**
baz=92
B08A Colville Reser 92.47 42 ⇓P **P** **09 47 55.4 -1.4**
baz=92
C08A Higginbotham F 92.58 42 ⇑P **P** **09 47 56.6 -0.8**
baz=93
A08A Turner Farm, O 92.59 41 ⇑P **P** **09 47 56.6 -0.8**
baz=93
S09A Goldfield 92.67 52 ⇑P **P** **09 47 58.2 +0.2**
baz=93,SNR=13
GSC Goldstone 92.72 55 *e*P **P** **09 47 58.5 +0.2**
GSC pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
GSC Goldstone 92.72 55 ⇓P **P** **09 47 58.5 +0.2**
baz=93
GSC Goldstone 92.72 55 *e*P **P** **09 47 58.5 +0.2**
comp=Z,5.3nm,1.0s,mb4.9
OD2 Odessa Site #2 92.76 43 *e*P **P** **09 47 57.8 -0.4**
N09A Rock Creek Ran 92.81 49 ⇑P **P** **09 47 58.9 +0.4**
baz=93
FURC Furnace Creek, 92.81 54 ⇓P **P** **09 47 58.7 0.0**
baz=93,SNR=9.9
PFO Pinyon Flat Ob 92.82 57 ⇑P **P** **09 47 58.7 -0.1**
baz=93
L09A Wilkinson Ranc 92.84 48 ⇓P **P** **09 47 58.8 +0.2**
baz=93
R09A Tonopah 92.85 52 ⇑P **P** **09 47 58.6 -0.2**
baz=93,SNR=8.7
J09A Fry Pan Ranch, 92.93 47 ⇓P **P** **09 47 58.8 -0.3**
baz=93
O09A Fish Creek Ran 92.98 50 ⇑P **P** **09 47 59.4 0.0**
baz=93,SNR=10
D09A Jones Farm, Ri 92.99 43 ⇑P **P** **09 47 58.4 -0.8**
baz=93
E09A Wood Farm, Sta 93.03 44 ⇑P **P** **09 47 58.7 -0.7**
baz=93
A09A Danville 93.04 41 ⇑P **P** **09 47 58.8 -0.7**
baz=93
HEC Hector,Ludlow 93.06 55 ⇑P **P** **09 48 00.3 +0.4**
baz=93
G09A Cove 93.14 45 ⇑P **P** **09 47 59.5 -0.5**
baz=93
S10A Tonopah Range, 93.19 52 ⇑P **P** **09 48 00.7 +0.3**
baz=93,SNR=13
SHOC Shoshone 93.21 54 ⇑P **P** **09 48 00.9 +0.4**
baz=93,SNR=5.0
U10A Ash Meadows, A 93.23 54 ⇓P **P** **09 48 01.0 +0.4**
baz=93
BELC Belle Mtn. 93.24 56 ⇓P **P** **09 48 00.6 -0.1**
baz=93,SNR=5.1
TPNV Topopah Spring 93.35 53 *e*P **P** **09 48 01.9 +0.7**
TPNV pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
TPNV Topopah Spring 93.35 53 ⇓P **P** **09 48 00.9 -0.2**
baz=93,SNR=6.8
TPNV Topopah Spring 93.35 53 *e*P **P** **09 48 01.9 +0.7**
comp=Z,7.8nm,1.1s,mb5.0
Q10A Clear Creek Ra 93.44 51 ⇓P **P** **09 48 01.4 -0.1**
baz=94
TUQ Turquoise Mtn. 93.45 55 ⇑P **P** **09 48 02.3 +0.6**
baz=94
P10A Eureka 93.47 51 ⇓P **P** **09 48 02.1 +0.5**
baz=94
K10A MacKenzie Ranc 93.51 48 ⇓P **P** **09 48 01.3 -0.5**
baz=94
N10A Dunphy 93.56 50 ⇑P **P** **09 48 02.2 +0.2**
baz=94
GMRC Granite Mounta 93.60 56 ⇓P **P** **09 48 02.8 +0.4**
baz=94
F10A Beach Ranch, E 93.60 44 ⇑P **P** **09 48 01.4 -0.8**
baz=94
G10A Bishop Farm, J 93.61 45 ⇓P **P** **09 48 01.2 -0.9**
baz=94
BC3 Big Chuckw Mtn 93.65 57 ⇑P **P** **09 48 03.5 +0.9**
baz=94
D10A Wagner Farm, O 93.69 43 ⇑P **P** **09 48 02.0 -0.5**
baz=94
A10A Northport 93.71 41 ⇓P **P** **09 48 02.0 -0.6**
baz=94
L10A Juniper Basin 93.73 48 ⇑P **P** **09 48 02.8 0.0**
baz=94
H10A Noah's Angus R 93.79 46 ⇓P **P** **09 48 02.3 -0.7**
baz=94
S11A Rachel 93.82 53 ⇑P **P** **09 48 03.5 +0.1**
baz=94
V11A Goodsprings 93.89 55 ⇓P **P** **09 48 04.0 +0.3**
baz=94
IRM Iron Mountain 93.95 56 ⇓P **P** **09 48 04.1 +0.1**
baz=94,SNR=6.4
Q11A Duckwater 94.02 52 ⇓P **P** **09 48 04.5 +0.3**
baz=94,SNR=9.8
R11A Troy Canyon, C 94.02 52 ⇑P **P** **09 48 04.4 +0.1**
baz=94,SNR=7.9
K11A Parker Ranch, 94.12 48 ⇓P **P** **09 48 04.5 -0.1**
baz=94
O11A Cowboy Ranch, 94.14 50 ⇑P **P** **09 48 05.0 +0.3**
baz=94,SNR=6.4
M11A Holland Ranch, 94.17 49 ⇑P **P** **09 48 05.0 +0.2**
baz=94
T11A Corn Creek, Al 94.20 53 ⇓P **P** **09 48 05.2 +0.1**
baz=94,SNR=5.4
G11A Walters Elk Ra 94.21 45 ⇑P **P** **09 48 05.0 +0.1**
baz=94
L11A Cat Creek Ranc 94.27 48 ⇑P **P** **09 48 05.0 -0.3**
baz=94
I11A Placerville 94.29 46 ⇓P **P** **09 48 05.0 -0.3**
baz=94
D11A Klaveano Farm, 94.33 43 ⇑P **P** **09 48 04.4 -1.0**
baz=94
E11A Bogner Ranch, 94.35 44 ⇓P **P** **09 48 04.7 -0.8**
baz=94
V12A Nelson 94.35 55 ⇑P **P** **09 48 05.6 -0.2**
baz=94
A11A Hall Mountain, 94.49 41 ⇓P **P** **09 48 06.0 -0.1**
baz=95
Q12A Willow Creek R 94.68 51 ⇓P **P** **09 48 08.0 +0.8**
baz=95
N12A Clover Valley, 94.68 50 ⇓P **P** **09 48 07.5 +0.3**
baz=95,SNR=5.3
R12A Pony Springs, 94.78 52 ⇑P **P** **09 48 08.1 +0.4**
baz=95,SNR=8.9
L12A House Creek Ra 94.81 48 ⇓P **P** **09 48 08.0 +0.2**
baz=95
M12A Wells 94.82 49 ⇑P **P** **09 48 08.0 +0.2**
baz=95
J12A Stokes Ranch, 94.85 47 ⇑P **P** **09 48 07.6 -0.3**
baz=95
O12A Currie 94.85 50 ⇓P **P** **09 48 08.3 +0.3**
baz=95
D12A Red Ives Fores 95.00 43 ⇑P **P** **09 48 07.7 -0.8**
baz=95
V13A Grand Canyon W 95.06 55 ⇓P **P** **09 48 09.5 +0.4**
baz=95,SNR=9.6
W13A Hualapai Mount 95.08 55 ⇓P **P** **09 48 09.4 +0.3**
baz=95,SNR=5.2
X13A Yucca 95.08 56 ⇑P **P** **09 48 09.5 +0.4**
baz=95
U13A Pakoon Wash 95.13 54 ⇑P **P** **09 48 09.9 +0.5**
baz=95
T13A Saint George 95.23 53 ⇑P **P** **09 48 10.5 +0.7**
baz=95,SNR=5.3
R13A O'Grain Ranch, 95.27 52 ⇓P **P** **09 48 10.3 +0.3**
baz=95
Q13A Wheeler Ranch, 95.30 52 ⇓P **P** **09 48 10.3 +0.2**
baz=95
S13A Holt Ranch, En 95.31 53 ⇓P **P** **09 48 10.5 +0.3**
baz=95,SNR=5.7
M13A Montello 95.38 49 ⇓P **P** **09 48 10.4 0.0**
baz=95
O13A Hicks Ranch, I 95.42 50 ⇑P **P** **09 48 10.2 -0.4**
baz=96
F13A Darby 95.60 45 ⇑P **P** **09 48 11.0 -0.2**
baz=96
I13A Wildhorse Cree 95.61 47 ⇓P **P** **09 48 11.1 -0.3**
baz=96
G13A Cobalt 95.62 45 ⇓P **P** **09 48 11.7 +0.4**
baz=96
U14A Mt Trumbull 95.76 54 ⇓P **P** **09 48 13.0 +0.8**
baz=96,SNR=9.8
V14A Boquillas Ranc 95.76 55 ⇑P **P** **09 48 12.6 +0.4**
baz=96
S14A Cedar City 95.87 53 ⇓P **P** **09 48 13.0 +0.3**
baz=96
Q14A Sevier Lake (B 95.88 52 ⇑P **P** **09 48 12.8 +0.1**
baz=96
T14A Hurricane 95.89 53 ⇓P **P** **09 48 13.3 +0.5**
baz=96
P14A Drum Mountains 96.08 51 ⇑P **P** **09 48 14.2 +0.6**
baz=96
I14A Mackay 96.09 47 ⇓P **P** **09 48 13.9 +0.3**
baz=96
L14A Malta 96.12 48 ⇓P **P** **09 48 14.0 +0.3**
baz=96
T15A Red Dirt Ranch 96.44 54 ⇓P **P** **09 48 16.3 +1.0**
baz=96
YKA Yellowknife Ar 96.47 28 P **P** **09 48 14.2 -0.5**
comp=Z,8.4nm,0.9s,mb5.2,baz=266,slow=4.5,SNR=14
YKA LR LR 10 29 10.4
comp=Z,36nm,18.0s,MS3.9,baz=100,slow=34
YKA Yellowknife Ar 96.47 28 P **P** **09 48 14.2 -0.5**
YKA LR LR 10 29 10.4
U15A North Rim 96.47 54 ⇓P **P** **09 48 16.3 +0.9**
baz=96
EDM Edmonton 96.70 37 *e*P **P** **09 48 14.9 -1.1**
S16A Weppner Ranch, 97.11 53 ⇓P **P** **09 48 18.9 +0.6**
baz=97
R17A Hanksville Air 97.85 52 ⇓P **P** **09 48 22.2 +0.6**
baz=98
O17A Robinson Place 97.91 50 ⇓P **P** **09 48 21.8 0.0**
baz=98
R18A Canyonlands Na 98.49 52 ⇑P **P** **09 48 24.7 +0.2**
baz=98
N18A Larsen Ranch, 98.75 50 ⇑P **P** **09 48 25.3 -0.3**
baz=99
PDAR Pinedale Array 98.88 48 P **P** **09 48 25.4 -0.7**
comp=Z,1.4nm,0.9s,mb4.5,baz=224,slow=2.2,SNR=11
PDAR LR LR 10 29 32.2
comp=Z,78nm,18.2s,MS4.2,baz=123,slow=33
S19A Harvey Farm, M 99.06 53 ⇓P **P** **09 48 27.7 +0.6**
baz=99
ARU Arti 99.25 326 *d iP* **P** **09 48 24.7 -2.7**
ARU PP 09 52 27.8 -2.8
ARU *e*S SKSac 09 58 58.4 -3.8
ARU PS PS 10 01 23.3 -4.6
ARU SS SS 10 06 48.0 +2.8
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb5.3
VNA3 Neumayer Olymp 101.21 185 *e* Pdif 09 48 35.0 -1.2
VNA2 Neumayer--Watz 101.30 186 *e* Pdif 09 48 37.1 +0.5
VNA1 Neumayer--Stat 101.65 186 *e*Pdiff Pdif 09 48 35.9 -2.3
VNA1 *e* 09 48 40.3
AKASG Malin Array Be 117.44 324 PKP PKPdf 09 53 29.3 -2.1
comp=Z,1.0nm,0.5s,baz=68,slow=2.0,SNR=4.6
NORSAR Array B 119.66 341 PKP PKPdf 09 53 34.5 -0.8
comp=Z,0.9nm,0.7s,baz=41,slow=1.9,SNR=3.0
BRG Berggiesshubel 125.56 331 *e*P PKPdf 09 53 46.3 -0.6
comp=Z,3.0nm,0.6s
CLL Collm 125.74 331 *i* PKIKP PKPdf 09 53 47.5 +0.2
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 125.74 331 *i* PKPdf PKPdf 09 53 47.5 +0.2
comp=Z,8.0nm,1.1s
GERES GERESS Array B 126.97 329 PKP PKPdf 09 53 49.5 -0.2
comp=Z,1.5nm,0.6s,baz=75,slow=1.5,SNR=12
GRA1 Grafenberg Arr 127.66 331 *e*PKP PKPdf 09 53 52.0 +1.0
GRF Grafenberg Arr 127.66 331 *e*PKPdf PKPdf 09 53 52.0 +1.0
WTTA Wattenberg 129.04 328 ⇓ *iP* PKPdf 09 53 54.1 +0.3
comp=Z,12nm,1.2s
LPAZ La Paz 131.63 119 SKPbc SKPbc 09 57 27.0 +5.3
comp=Z,2.3nm,1.0s,baz=162,slow=3.2,SNR=6.1
SIV San Ignacio 137.78 123 PKP PKPdf 09 54 10.5 -0.6
comp=Z,1.9nm,0.8s,baz=272,slow=7.6,SNR=6.5
SIV SKPbc SKPbc 09 57 45.5 +4.0
comp=Z,1.1nm,0.6s,baz=259,slow=6.1,SNR=5.7
TAM Tamanrasset 146.52 301 *e*PKP2 PKPab 09 54 30.4 +1.5
BDFB Brasilia 148.11 135 PKPbc PKPbc 09 54 30.2 -2.2
comp=Z,5.6nm,0.9s,baz=239,slow=6.0,SNR=10
TORD Torodi Ar. Bea 152.83 285 PKP PKPdf 09 54 35.4 -1.2
comp=Z,1.4nm,0.8s,baz=22,slow=0.7,SNR=6.2

TORD PKPbc PKPbc 09 54 43.4 -0.4
comp=Z,7.4nm,0.7s,baz=66,slow=2.3,SNR=33

*IDC **22** 09:36:31.9±0.8, 3312S×179.18W, h0km, mb4.3/8, mb1 4.5/10, mb1mx4.2/20, mbtmp4.4/10, ML4.6/2, Error ellipse: s-maj=22.8km s-min=19.8km az=114.0*
*ISCJB **22** 09:36:35.6±0.5, 3326S±005×1793W±0.1, h33km, mb4.2/7, Error ellipse: s-maj=17.8km s-min=4.8km az=21.3*
*NEIC **22** 09:36:36.1±2.5, 3316S×17925W, h28km±20km, mb4.6/1, Error ellipse: s-maj=20.7km s-min=8.2km az=112.0*
ISC 22 09:36:37.2±0.5, 3319S±006×1793W±0.1, h35km, n49, σ1§13/43, mb4.2/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.08**	**17**	Pn	**Pn**	**09 37 36.3**	**-0.9**
	83nm,0.3s,baz=113,slow=20,SNR=6.0						
RAO				Sn	**Sn**	**09 38 28.1**	**+4.4**
	95nm,0.3s,baz=76,slow=21,SNR=4.1						
RAO	**Raoul Island**	**4.08**	**17**	*e*Pn	**Pn**	**09 37 37.3**	**+0.2**
RAO				Sn	**Sn**	**09 38 28.1**	**+4.4**
MXZ	**Matakaoa Point**	**4.80**	**204**	*e*P	**Pn**	**09 37 47.2**	**+0.2**
PUZ	**Puketiti**	**5.28**	**202**	P	**Pn**	**09 37 53.3**	**-0.3**
PUZ				S	**Sn**	**09 38 54.0**	**+0.8**
KUZ	**Kuaotunu**	**5.45**	**228**	P	**Pn**	**09 38 00.3**	**+4.4**
MWZ	**Matawai**	**5.77**	**206**	P	**Pn**	**09 38 00.0**	**-0.2**
MWZ				S	**Sn**	**09 39 06.1**	**+0.9**
URZ	**Urewera**	**5.87**	**209**	Pn	**Pn**	**09 38 00.6**	**-1.0**
	7.7nm,0.3s,baz=31,slow=1.7,SNR=49						
URZ				Sn	**Sn**	**09 39 07.4**	**-0.1**
	10nm,0.3s,baz=302,slow=24,SNR=6.5						
URZ	**Urewera**	**5.87**	**209**	P	**Pn**	**09 38 01.1**	**-0.5**
WCZ	**Waipu Caves**	**5.96**	**241**	P	**Pn**	**09 38 07.6**	**+4.7**
OUZ	**Omahuta**	**6.27**	**249**	*e*P	**Pn**	**09 38 11.8**	**+4.7**
KNZ	**Kokohu**	**6.33**	**202**	P	**Pn**	**09 38 06.8**	**-1.2**
BKZ	**Black Stump Fm**	**6.89**	**209**	P	**Pn**	**09 38 14.6**	**-1.1**
FWVZ	**Far West T-bar**	**7.37**	**213**	P	**Pn**	**09 38 23.2**	**+0.9**
MOVZ	**Moawhango**	**7.40**	**212**	P	**Pn**	**09 38 22.8**	**+0.1**
WNVZ	**Wahianoa**	**7.41**	**213**	P	**Pn**	**09 38 24.1**	**+1.3**
TSZ	**Takapari Road**	**7.87**	**208**	P	**Pn**	**09 38 26.9**	**-2.1**
MRZ	**Mangatainoka R**	**8.53**	**208**	P	**Pn**	**09 38 34.5**	**-3.7**
KIW	**Kapiti Island**	**8.97**	**210**	P	**Pn**	**09 38 40.5**	**-3.7**
CAW	**Cannon Point**	**9.11**	**208**	P	**Pn**	**09 38 42.4**	**-3.8**
TCW	**Tory Channel**	**9.53**	**211**	P	**Pn**	**09 38 47.9**	**-3.9**
NNZ	**Nelson**	**9.94**	**214**	P	**Pn**	**09 38 53.8**	**-3.6**
THZ	**Tophouse**	**10.59**	**214**	P	**Pn**	**09 39 02.0**	**-4.3**
LTZ	**Lake Taylor**	**11.68**	**212**	P	**Pn**	**09 39 15.6**	**-5.7**
RPZ	**Rata Peaks**	**12.96**	**213**	Pn	**Pn**	**09 39 32.6**	**-6.2**
	0.3nm,0.3s,baz=29,slow=19,SNR=2.9						
RPZ				Sn	**Sn**	**09 41 49.0**	**-13**
	1.4nm,0.3s,baz=24,slow=21,SNR=5.7						
AFI	**Afiamalu**	**20.36**	**21**	P	**P**	**09 41 09.1**	**-1.6**
	19nm,0.7s,baz=116,slow=20,SNR=2.4						
AFI				S	**S**	**09 44 49.2**	**-7.9**
	21nm,0.9s,baz=286,slow=19,SNR=2.7						
PAE	**Paea**	**30.80**	**67**	*e*T		10 14 48.5	
	229nm,0.2s						
PPT	**Papeete**	**30.85**	**67**	*e*LR	LR	09 50 36.9	
	139nm,27.0s						
PPT	**Papeete**	**30.85**	**67**	*e*T		10 14 53.4	
	16nm,0.3s						
TVO	**Taravao**	**30.98**	**68**	*e*T		10 15 03.4	
	35nm,0.3s						
TIAR	**Tiarei**	**31.04**	**67**	*e*T		10 15 07.5	
	86nm,0.3s						
MEH	**Mehetia**	**31.85**	**69**	*e*T		10 16 11.0	
	2μm,0.3s						
CTA	**Charters Tower**	**33.32**	**284**	*e*P	**P**	**09 43 14.8**	**+3.0**
	3.8nm,0.5s,mb4.6						
CTA	**Charters Tower**	**33.32**	**284**	P	**P**	**09 43 12.8**	**+1.0**
	4.0nm,0.5s,mb4.6,baz=112,slow=9.8,SNR=11						
RKT	**Rikitea**	**40.05**	**87**	*e*T		10 26 46.6	
	4.8nm,0.3s						
ASAR	**Alice Springs**	**41.98**	**271**	P	**P**	**09 44 25.8**	**+0.7**
	1.6nm,0.6s,mb3.8,baz=111,slow=7.8,SNR=12						
WRA	**Warramunga Arr**	**43.23**	**276**	P	**P**	**09 44 34.8**	**-0.3**
	2.3nm,0.6s,mb4.1,baz=115,slow=8.2,SNR=16						
QSPA	**South Pole Qui**	**56.93**	**180**	P	**P**	**09 46 19.4**	**+1.2**
	1.1nm,0.5s,mb4.1,baz=356,slow=3.2,SNR=14						
QSPA	**South Pole Qui**	**56.93**	**180**	P	**P**	**09 46 19.4**	**+1.2**
VNA3	**Neumayer Olymp**	**75.60**	**177**	*e*Pdiff	**P**	**09 48 18.2**	**+0.3**
VNA3				*e*		09 48 22.8	
VNA2	**Neumayer--Watz**	**76.02**	**177**	*e*Pdiff	**P**	**09 48 21.1**	**+0.8**
VNA2				*e*		09 48 25.7	
PLCA	**Paso Flores**	**81.38**	**133**	P	**P**	**09 48 52.1**	**+1.7**
	1.3nm,0.7s,mb4.0,baz=217,slow=10,SNR=4.9						
PETK	**Petropavlovsk-**	**88.25**	**346**	P	**P**	**09 49 25.1**	**+0.8**
	3.3nm,0.8s,mb4.6,baz=116,slow=6.6,SNR=3.1						
NVAR	**Mina Array Bea**	**90.99**	**43**	P	**P**	**09 49 36.9**	**-0.6**
	0.6nm,0.8s,mb4.0,baz=240,slow=20,SNR=2.4						
ARCES	**ARCESS Array B 141.06 346**			PKhKP		09 55 57.7	
	2.1nm,0.9s,baz=9.9,slow=7.3,SNR=3.5						
ARCES	**ARCESS Array B 141.06 346**			PKP		09 55 57.7	
NB2	**NORSAR Subarra151.31 349**			PKP	PKPbc	09 56 25.6	-0.6
	comp=Z,2.2nm,0.7s,baz=16,slow=2.5						
NOA	**NORSAR Array B151.31 349**			PKPbc	PKPbc	09 56 24.5	-1.7
	comp=Z,2.1nm,0.7s,baz=17,slow=4.6,SNR=13						
NOA	**NORSAR Array B151.31 349**			PKPbc	PKPbc	09 56 24.5	-1.7
TORD	**Torodi Ar. Bea**	**160.03**	**183**	PKPab	PKPab	09 57 12.1	-0.7
	comp=Z,1.7nm,0.7s,baz=181,slow=3.9,SNR=4.9						

*ATH **22** 09:51:13.3, 3921N×2028E, h19km±2km, MD3.3/4*
*TIR **22** 09:51:13.7±1.0, 3942N×2013E, h23km±6km*
*NEIC **22** 09:51:13.9, 3925N×2023E, h10km, MD3.3(ATH), ML3.1(THE), After THE.*
*ISCJB **22** 09:51:13.5±0.6, 3924N±002×2030E±005, h10km, Error ellipse: s-maj=5.3km s-min=3.2km az=170.6*
*THE **22** 09:51:13.9, 3925N×2023E, h10km, ML3.1*
*CSEM **22** 09:51:14.1±0.1, 3925N×2031E, h0km±1km, ML3.1, Error ellipse: s-maj=3.2km s-min=1.8km az=78.0*
ISC 22 09:51:14.1±0.6, 3928N±002×2035E±005, h1km±7km, n18, σ1§00/31, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**357**	*e*Pg	**Pg**	**09 51 19.0**	**-0.1**
IGT				*e*Sg	**Sg**	**09 51 23.4**	**+1.0**
IGT	**Igoumenitsa**	**0.26**	**357**	*i* PG	**Pg**	**09 51 19.0**	**-0.1**
IGT				*i* SG	**Sg**	**09 51 23.4**	**+1.0**
JAN	**Janina**	**0.54**	**45**	*e*PB	**Pg**	**09 51 25.0**	**+0.5**
KEK	**Kerkira**	**0.61**	**316**	*e*PN	**Pg**	**09 51 25.5**	**-0.4**
KEK				*e*SN	**Sg**	**09 51 34.8**	**+1.0**
LKD	**Levkas**	**0.61**	**158**	*e*Pg	**Pg**	**09 51 25.8**	**-0.1**
LKD				*e*Sg	**Sg**	**09 51 36.2**	**+2.4**
MEV	**Metsovon**	**0.85**	**53**	*e*Pg	**Pg**	**09 51 31.2**	**+0.8**
MEV				*e*Sg	**Sg**	**09 51 44.9**	**+3.5**
MEV	**Metsovon**	**0.85**	**53**	*i* PG	**Pg**	**09 51 31.2**	**+0.8**
MEV				*i* SG	**Sg**	**09 51 44.9**	**+3.5**
VLS	**Valsamata**	**1.11**	**170**	*e*Pg	**Pg**	**09 51 33.8**	**-1.6**
VLS				*e*Sg	**Sg**	**09 51 50.2**	**+0.4**
KFL	**Anninata**	**1.21**	**164**	*e*Pg	**Pg**	**09 51 36.2**	**-1.2**
KFL				*e*Sg	**Sg**	**09 51 52.7**	**-0.4**
THL	**Klokotos Trika**	**1.32**	**77**	*e*Pg	**Pg**	**09 51 39.2**	**-0.2**
THL				*e*Sg	**Sg**	**09 51 57.4**	**+0.8**
THL	**Klokotos Trika**	**1.32**	**77**	*e*Pn	**Pn**	**09 51 39.7**	**0.0**
THL				*e*Sg	**Sg**	**09 51 57.3**	**+0.8**
KZN	**Kozani**	**1.50**	**46**	*e*PN	**Pn**	**09 51 42.7**	**+0.5**
AGG	**Agios Georgios**	**1.56**	**99**	*e*Pb	**Pb**	**09 51 42.6**	**-1.1**
AGG				*e*Sb	**Sb**	**09 52 04.0**	**0.0**
FNA	**Florina**	**1.70**	**27**	*e*Pb	**Pb**	**09 51 45.4**	**-0.8**
FNA				*e*Sb	**Sb**	**09 52 07.0**	**-1.0**
FNA	**Florina**	**1.70**	**27**	*i* PG	**Pg**	**09 51 45.4**	**-1.3**
FNA				*i* SG	**Sg**	**09 52 07.0**	**-1.8**
KRUS	**Krusevo**	**2.20**	**18**	*e*Pn	**Pn**	**09 51 53.2**	**+1.4**
KRUS	**Krusevo**	**2.20**	**18**	*e*Pn	**Pn**	**09 51 53.1**	**+1.3**
XOR	**Xorichti**	**2.21**	**87**	*e*Pn	**Pn**	**09 51 52.6**	**+0.8**

*ATH **22** 09:57:53.5, 3649N×2259E, h173km±2km*
*CSEM **22** 09:57:58.8±0.2, 3598N×2184E, h25km, ML3.1, Error ellipse: s-maj=3.7km s-min=1.4km az=59.0*
*NEIC **22** 09:58:01.9, 3612N×2208E, h13km, ML3.1(THE), After THE.*
*THE **22** 09:58:01.9, 3612N×2208E, h12km, ML3.1*
ISC 22 09:57:59.5±1.9, 3607N±006×220E±01, h14km±8km, n13, σ1§13/19, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.89**	**76**	*e*P	**Pg**	**09 58 17.5**	**+0.9**
VLI	**Veliai**	**1.01**	**50**	*e*P	**Pb**	**09 58 17.5**	**-1.3**
VLI				*e*S	**Sg**	**09 58 35.0**	**+2.8**
ITM	**Ithomi**	**1.10**	**358**	⇓*i*P	**Pb**	**09 58 20.2**	**-0.2**
VLX	**Vlachokerasia**	**1.33**	**14**	*e*Pg	**Pg**	**09 58 24.2**	**-0.9**
VLX				*e*Sg	**Sg**	**09 58 42.2**	**-0.3**
KARN	**Karanos**	**1.72**	**112**	*e*Pb	**Pb**	**09 58 29.5**	**-1.3**
KARN				*e*Sb	**Sb**	**09 58 52.2**	**-0.1**
DID	**Didima**	**1.75**	**35**	*e*Pb	**Pb**	**09 58 30.1**	**-1.3**
DID				*e*Sb	**Sb**	**09 58 52.0**	**-1.4**
DID	**Didima**	**1.75**	**35**	*e*Pb	**Pb**	**09 58 30.1**	**-1.3**
DID				*e*Sb	**Sb**	**09 58 52.0**	**-1.3**
VAM	**Vamos**	**1.93**	**110**	*e*P	**Pn**	**09 58 27.8**	**-4.1**
LTK	**Loutraki**	**2.10**	**22**	*e*Pn	**Pn**	**09 58 35.7**	**+1.4**
LTK				*e*Sn	**Sn**	**09 59 00.5**	**+0.3**
THR5	**Thira Island,**	**2.75**	**82**	*e*Pn	**Pn**	**09 58 43.5**	**+0.3**
AGG	**Agios Georgios**	**2.96**	**5**	*e*Pn	**Pn**	**09 58 47.4**	**+1.3**
AGG	**Agios Georgios**	**2.96**	**5**	*e*Pn	**Pn**	**09 58 47.3**	**+1.3**
APE	**Apeiranthos**	**3.03**	**70**	*e*Pn	**Pn**	**09 58 48.3**	**+1.2**

*ISCJB **22** 09:59:27.7±1.7, 2375S±01×1798W±0.2, h493km±22km, mb4.1/7, Error ellipse: s-maj=25.5km s-min=19.4km az=170.5*
*IDC **22** 09:59:28.1±3.7, 2366S×17979W, h486km±49km, mb3.4/4, mb1 3.7/6, mb1mx3.3/17, mbtmp3.6/6, Error ellipse: s-maj=56.1km s-min=25.0km az=171.0*
ISC 22 09:59:30.0±1.7, 239S±01×1797W±0.2, h511km±24km, n11, σ0§79/12, mb4.2/7, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.56**	**163**	P	**P**	**10 01 01.9**	**-0.7**
	47nm,0.3s,baz=253,slow=19,SNR=3.9						
URZ	**Urewera**	**14.55**	**190**	P	**P**	**10 02 37.1**	**+1.9**
	0.9nm,0.3s,baz=70,slow=4.3,SNR=9.5						
URZ				S	**S**	**10 05 07.3**	**-0.5**
	0.8nm,0.3s,baz=51,slow=21,SNR=6.7						
CTA	**Charters Tower**	**31.71**	**270**	⇓*i*P	**P**	**10 05 12.3**	**+0.7**
	10nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**34.94**	**248**	*e*P	**P**	**10 05 39.4**	**+0.7**
	1.2nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**34.94**	**248**	P	**P**	**10 05 38.9**	**+0.2**
	2.4nm,0.6s,mb3.9,baz=84,slow=9.2,SNR=10						
ASAR	**Alice Springs**	**42.27**	**261**	P	**P**	**10 06 38.2**	**-0.1**
	4.4nm,0.7s,mb4.1,baz=97,slow=7.7,SNR=91						
WB2	**Warramunga Arr**	**42.63**	**266**	⇓*i*P	**P**	**10 06 40.7**	**-0.6**
WRA	**Warramunga Arr**	**42.64**	**266**	P	**P**	**10 06 40.7**	**-0.6**
	6.2nm,0.3s,mb4.6,baz=96,slow=8.4,SNR=435						
FORT	**Forrest**	**46.53**	**250**	*e*P	**P**	**10 07 10.2**	**-1.0**
	27nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.06**	**266**	*e*P	**P**	**10 07 45.7**	**+0.6**
	4.4nm,0.6s,mb4.0						
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**10 11 36.1**	**0.0**
	0.2nm,0.6s,mb3.1,baz=228,slow=5.9,SNR=4.2						

*NEIC **22** 10:27:20.1±0.7, 6635×15435E, h35km, Error ellipse: s-maj=19.0km s-min=13.4km az=151.0*
*ISCJB **22** 10:27:25.4±3.5, 7.1S±02×1546E±0.2, h99km±37km, mb3.8/9, Error ellipse: s-maj=39.2km s-min=15.4km az=146.3*
*IDC **22** 10:27:26.7±4.0, 7.14S×15466E, h97km±39km, mb3.7/9, mb1 3.9/11, mb1mx3.7/19, mbtmp3.7/11, Error ellipse: s-maj=34.3km s-min=19.8km az=140.0*
ISC 22 10:27:27.4±3.1, 71S±02×1547E±02, h104km±34km, n15, σ0§93/17, mb3.8/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.69**	**114**	P	**Pn**	**10 28 48.9**	**-0.7**
	2.3nm,0.3s,baz=262,slow=4.2,SNR=5.4						
HNR				S	**Sn**	**10 30 03.0**	**+9.3**
	3.6nm,0.3s,baz=256,slow=2.7,SNR=1.9						
HNR	**Honiara**	**5.69**	**114**	*e*Pn	**Pn**	**10 28 49.6**	**0.0**
HNR				S	**Sn**	**10 30 03.0**	**+9.3**
HNR				*e*Sn	**Sn**	**10 30 04.6**	**+11**
CTA	**Charters Tower**	**15.24**	**212**	P	**Pn**	**10 30 58.1**	**+1.1**
	0.1nm,0.3s,baz=39,slow=12,SNR=4.9						
WB2	**Warramunga Arr**	**23.46**	**235**	*e*P	**P**	**10 32 26.6**	**-1.1**
WRA	**Warramunga Arr**	**23.47**	**235**	P	**P**	**10 32 26.4**	**-1.3**
	5.3nm,0.9s,mb3.9,baz=61,slow=9.8,SNR=22						
WRA				PcP	PcP	10 36 12.0	+1.0
	0.4nm,0.8s,baz=60,slow=2.3,SNR=4.7						
ASAR	**Alice Springs**	**25.84**	**228**	P	**P**	**10 32 48.6**	**-0.6**
	1.0nm,0.9s,mb3.2,baz=61,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**27.47**	**205**	P	**P**	**10 33 05.2**	**+1.5**
	1.2nm,0.4s,mb3.8,baz=13,slow=14,SNR=3.7						
FITZ	**Fitzroy Crossi**	**30.30**	**246**	P	**P**	**10 33 28.6**	**-0.5**
	1.8nm,0.8s,mb3.7,baz=72,slow=20,SNR=3.5						
CMAR	**Chiang Mai Arr**	**60.56**	**296**	P	**P**	**10 37 28.6**	**+1.3**
	1.6nm,0.6s,mb4.2,baz=112,slow=5.4,SNR=8.4						
SONM	**Songino Array**	**69.29**	**327**	P	**P**	**10 38 24.0**	**+0.7**
	1.1nm,0.6s,mb3.8,baz=148,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**83.30**	**319**	P	**P**	**10 39 42.4**	**-0.3**
	0.7nm,0.6s,mb3.7,baz=98,slow=5.0,SNR=7.0						
NVAR	**Mina Array Bea**	**92.06**	**52**	P	**P**	**10 40 25.5**	**+0.5**
	0.3nm,0.6s,mb3.7,baz=240,slow=3.0,SNR=2.9						
YKA	**Yellowknife Ar**	**96.61**	**28**	P	**P**	**10 40 44.3**	**-1.0**
	0.5nm,0.5s,mb4.2,baz=267,slow=5.3,SNR=4.4						
YKA	**Yellowknife Ar**	**96.61**	**28**	P	**P**	**10 40 44.3**	**-1.0**
TORD	**Torodi Ar. Bea**	**152.75**	**285**	PKPbc	PKPbc	10 47 12.9	-0.2
	1.1nm,0.7s,baz=81,slow=1.9,SNR=6.1						
TORD				PKPab	PKPab	10 47 23.5	-0.8
	0.8nm,0.6s,baz=56,slow=2.0,SNR=4.8						

IGQ 22 10:54:27.5, 243S×7700W, h12km±7km, Mb4.1, Ms3.9, 5C-10D, Error ellipse: s-maj=13.4km s-min=2.7km az=103.5, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.71**	**303**	⇓P	Pn	10 54 59.6	+2.6
PATA	**Patacocha**	**1.71**	**303**	⇓S	Sn	10 55 23.3	+4.4
ULBA	**Ulba**	**1.71**	**305**	⇓P	Pn	10 54 59.6	+2.4
ULBA	**Ulba**	**1.71**	**305**	⇓S	Sn	10 55 22.9	+3.8
ARRY	**Arrayan**	**1.72**	**302**	⇓P	Pn	10 54 59.6	+2.3
ARRY	**Arrayan**	**1.72**	**302**	⇓S	Sn	10 55 22.0	+2.8
RETU	**Refugio**	**1.75**	**304**	P	Pn	10 54 59.7	+2.1
RUN5	**Runtun**	**1.75**	**305**	⇓P	Pn	10 54 60.0	+2.3
RUN5	**Runtun**	**1.75**	**305**	⇓S	Sn	10 55 22.6	+2.8
JUI6	**Juive**	**1.78**	**304**	⇑P	Pn	10 55 00.6	+2.5
BILB	**Tungurahua vol**	**1.80**	**303**	P	Pn	10 55 02.1	+3.8
PISA	**Pisayambo**	**1.95**	**314**	⇑P	Pn	10 55 03.0	+2.6
PISA	**Pisayambo**	**1.95**	**314**	⇑S	Sn	10 55 28.8	+4.1
TAMB	**Tambo**	**2.20**	**321**	⇑P	Pn	10 55 06.9	+3.0
VC1	**Cotopaxi 1**	**2.27**	**322**	⇓P	Pn	10 55 08.2	+3.4
ANTI	**Antisana**	**2.29**	**329**	⇓P	Pn	10 55 07.6	+2.5
CAMI	**Rancho Maria**	**2.30**	**319**	⇑P	Pn	10 55 09.0	+3.7

*ISCJB **22** 11:46:30.0±0.8, 3926N±003×20.12E±007, h10km, Error ellipse: s-maj=8.1km s-min=4.7km az=171.8*
*ATH **22** 11:46:29.8, 3938N×2031E, h68km*
*THE **22** 11:46:30.3, 3926N×2011E, h0km, ML2.8*
*CSEM **22** 11:46:31.7±0.2, 3925N×2030E, h15km, ML2.8, Error ellipse: s-maj=5.3km s-min=3.1km az=79.0*
ISC 22 11:46:32.0±0.8, 3927N±003×2032E±008, h10km±14km, n9, σ0§68/14, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**1**	*e*Pg	**Pg**	**11 46 37.1**	**-0.2**
IGT				*e*Sg	**Sg**	**11 46 40.8**	**0.0**
JAN	**Janina**	**0.56**	**47**	*e*P	**Pg**	**11 46 42.8**	**-0.1**
KEK	**Kerkira**	**0.60**	**317**	*e*Pn	**Pg**	**11 46 43.2**	**-0.4**
KEK				*e*Sn	**Sg**	**11 46 52.2**	**+0.7**
LKD	**Levkas**	**0.62**	**156**	*e*Pg	**Pg**	**11 46 42.9**	**-1.1**
LKD				*e*Sg	**Sg**	**11 46 53.1**	**+1.0**
MEV	**Metsovon**	**0.87**	**54**	*e*Pg	**Pg**	**11 46 48.9**	**+0.2**
MEV				*e*Sg	**Sg**	**11 47 05.0**	**+5.0**
VLS	**Valsamata**	**1.11**	**169**	*e*P	**Pg**	**11 46 52.2**	**-1.2**
VLS				*e*S	**Sg**	**11 47 08.6**	**+0.8**
VLS	**Valsamata**	**1.11**	**169**	*e*Pg	**Pg**	**11 46 52.0**	**-1.4**
VLS	**Valsamata**	**1.11**	**169**	*e*Pn	**Pg**	**11 46 52.2**	**-1.2**
THL	**Klokotos Trika**	**1.34**	**77**	*e*Pg	**Pn**	**11 46 56.9**	**+0.2**

*ISCJB **22** 11:57:35.2±1.6, 5685±008×14631E±009, h73km±17km, mb4.2/12, Error ellipse: s-maj=14.7km s-min=12.4km az=27.3*
*NEIC **22** 11:57:37.7±1.5, 5665×14629E, h84km±15km, mb4.5/5, Error ellipse: s-maj=14.3km s-min=12.3km az=118.0*
*IDC **22** 11:57:38.3±3.5, 5705×14627E, h87km±32km, mb3.8/10, mb1 4.0/14, mb1mx3.9/20, mbtmp3.9/14, MS3.3/8, Ms1 3.3/8, ms1mx3.1/18, Error ellipse: s-maj=22.7km s-min=14.1km az=81.0*
ISC 22 11:57:36.5±1.3, 567S±007×14629E±008, h70km±14km, n29, σ0§87/26, mb4.2/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.81**	**167**	*e*Pn	**Pn**	**11 58 32.4**	**-0.5**
COEN	**Coen**	**8.79**	**200**	*e*Pn	**Pn**	**11 59 41.8**	**+0.9**
	7.9nm,0.7s						
HNR	**Honiara**	**14.04**	**106**	P	**Pn**	**12 00 51.9**	**-0.3**
	3.1nm,0.3s,baz=106,slow=7.0,SNR=5.2						
HNR				LR	LR	12 06 04.2	
	comp=Z,37nm,20.6s,baz=178,slow=36						
CTA	**Charters Tower**	**14.33**	**180**	*e*P	**Pn**	**12 00 59.2**	**+3.2**
	3.7nm,0.4s						
CTA	**Charters Tower**	**14.33**	**180**	P	**Pn**	**12 00 58.1**	**+2.1**
	1.6nm,0.3s,baz=5.8,slow=14,SNR=14						
CTA				LR	LR	12 05 43.5	
	comp=Z,140nm,21.8s,baz=46,slow=34						
CTAO	**Charters Tower**	**14.33**	**180**	*e*Pn	**Pn**	**12 00 59.2**	**+3.2**
	6.9nm,0.7s						
KAKA	**Kakadu**	**15.35**	**242**	*e*P	**Pn**	**12 01 10.5**	**+1.3**
	30nm,0.5s						
WRAB	**Tennant Creek**	**18.33**	**218**	*e*P	**Pn**	**12 01 45.0**	**-1.0**
	6.8nm,0.7s						
WB2	**Warramunga Arr**	**18.33**	**218**	*e*P	**Pn**	**12 01 44.9**	**-1.2**
WB2	**Warramunga Arr**	**18.33**	**218**	*e*P	**Pn**	**12 01 45.0**	**-1.1**
WRA	**Warramunga Arr**	**18.34**	**218**	P	**Pn**	**12 01 43.9**	**-2.3**
	0.6nm,0.3s,baz=55,slow=10,SNR=44						
WRA				PcP	PcP	12 06 15.0	+0.4
	0.1nm,0.3s,baz=24,slow=1.8,SNR=4.6						
WRA				LR	LR	12 09 35.1	
	comp=Z,75nm,19.8s,baz=280,slow=39						
GUMO	**Guam**	**19.18**	**356**	P	**Pn**	**12 01 55.7**	**-0.6**
	2.0nm,0.3s,baz=186,slow=19,SNR=1.7						
GUMO				LR	LR	12 07 14.9	
	comp=Z,59nm,20.3s,baz=81,slow=30						
ASAR	**Alice Springs**	**21.50**	**212**	P	**P**	**12 02 20.1**	**+0.4**
	2.3nm,0.6s,mb3.7,baz=52,slow=8.7,SNR=29						
ASAR				PcP	PcP	12 06 17.6	-2.7
	0.4nm,0.7s,baz=53,slow=3.6,SNR=3.3						
BATI	**Baumata**	**22.85**	**257**	P	**P**	**12 02 35.1**	**+1.0**
	71nm,0.7s,mb5.1,baz=127,slow=3.7,SNR=10						
FITZ	**Fitzroy Crossi**	**23.65**	**237**	*e*P	**P**	**12 02 41.4**	**-0.3**
	27nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**23.65**	**237**	P	**P**	**12 02 40.9**	**-0.8**
	12nm,0.6s,mb4.4,baz=74,slow=10,SNR=46						
FITZ				LR	LR	12 12 59.8	
	comp=Z,71nm,20.9s,baz=243,slow=39						
STKA	**Stephens Creek**	**26.44**	**189**	*e*P	**P**	**12 03 07.0**	**+0.1**
	2.0nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**26.44**	**189**	P	**P**	**12 03 06.5**	**-0.4**
	1.0nm,0.4s,mb3.6,baz=346,slow=12,SNR=6.1						
STKA				LR	LR	12 14 55.8	
	comp=Z,119nm,19.0s,baz=26,slow=39						
KLBR	**Kellerberrin**	**37.13**	**222**	*e*P	**P**	**12 04 40.2**	**-0.4**
	12nm,0.6s,mb5.0						
RPZ	**Rata Peaks**	**43.71**	**154**	P	**P**	**12 05 35.6**	**+0.9**
	14nm,0.7s,mb4.8,baz=324,slow=8.4,SNR=7.0						
KSRS	**Korea Array**	**46.20**	**340**	P	**P**	**12 05 54.5**	**0.0**
	2.7nm,1.0s,mb3.9,baz=157,slow=8.6,SNR=12						
KSRS				LR	LR	12 21 51.8	
	comp=Z,24nm,21.4s,baz=344,slow=31						
CMAR	**Chiang Mai Arr**	**52.47**	**298**	P	**P**	**12 06 42.9**	**+0.2**
	1.2nm,0.5s,mb4.2,baz=127,slow=5.8,SNR=5.4						
SONM	**Songino Array**	**63.77**	**331**	P	**P**	**12 08 01.1**	**+0.1**
	0.4nm,0.5s,mb3.5,baz=146,slow=3.5,SNR=4.2						
VNDA	**Vanda**	**72.28**	**176**	P	**P**	**12 08 53.8**	**-0.2**
	2.7nm,0.6s,mb4.2,baz=326,slow=6.9,SNR

VHO				*i* S	Sn	13 12 46.1	+6.6
PNIG	**Pinotepa**	**6.23**	**289**	*i* P	Pn	13 11 53.8	+0.5
PNIG				*i* S	Sn	13 13 01.8	-1.3
UTMO	**Huajuapan**	**6.52**	**302**	*e*P	Pn	13 11 57.5	+0.2
UTMO				*i* S	Sn	13 13 09.8	-0.6
TEIG	**Tepich**	**6.77**	**31**	P	Pn	13 11 58.3	-2.4
	57nm,0.3s,baz=320,slow=0.9,SNR=162						
TEIG				S	Sn	13 13 10.4	-6.0
	6.3nm,0.3s,baz=20,slow=24,SNR=9.4						
TEIG	**Tepich**	**6.77**	**31**	*e*P	Pn	13 12 00.0	-0.7
TEIG				*i* S	Sn	13 13 13.9	-2.5
TEIG	**Tepich**	**6.77**	**31**	*e*Pn	Pn	13 11 58.8	-1.9
TEIG				*e*Sn	Sn	13 13 11.8	-4.5
TXAR	**Lajitas Array**	**18.34**	**326**	P	Pn	13 14 33.5	+0.6
	0.1nm,0.3s,baz=151,slow=11,SNR=7.6						
TXAR	**Lajitas Array**	**18.34**	**326**	P	Pn	13 14 33.5	+0.6
NVAR	**Mina Array Bea**	**33.34**	**321**	P	P	13 16 56.3	+2.1
	2.9nm,0.6s,mb4.3,baz=132,slow=8.5,SNR=29						
SIV	**San Ignacio**	**42.98**	**134**	P	P	13 18 15.4	0.0
	1.1nm,0.8s,mb3.6,baz=327,slow=8.3,SNR=5.0						
WRA	**Warramunga Arr**	**135.50**	**256**	PKP	PKPdf	13 29 36.3	+0.9
	0.4nm,1.1s,baz=80,slow=2.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**145.59**	**341**	PKPbc	PKPbc	13 29 53.0	-0.9
	1.1nm,0.7s,baz=336,slow=3.9,SNR=7.2						

SKHL 22 13:14:40.8±0.6, 4688N×14188E, h10km, mb4.8/1, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.60**	**83**	↓*i*Pg	Pg	13 14 53.0	+0.5
YSS				AMB	AMB	13 14 55.0	
	780nm,0.4s						
YSS				*e*Sg	Sg	13 15 01.0	+0.6
YSS				A		13 15 02.9	
	700nm,0.3s						

IDC 22 13:37:06.7±1.0, 3043S×17857W, h0km, mb4.3/6, mb1 4.3/6, mb1mx4.0/17, mbtmp4.3/6, Error ellipse: s-maj=29.9km s-min=17.3km az=128.0
NEIC 22 13:37:08.6±8.6, 3043S×17856W, h13km±53km, mb4.2/4, Error ellipse: s-maj=28.6km s-min=16.3km az=150.0
ISCJB 22 13:37:09.8±1.0, 305S±01×178.6W±02, h33km, mb4.2/7, Error ellipse: s-maj=27.0km s-min=6.9km az=39.8
ISC 22 13:37:07.5±2.1, 304S±01×1786W±02, h5km±12km, n17, σ0°74/18, mb4.2/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.29**	**29**	Pn	Pn	13 37 32.8	+0.6
	133nm,0.3s,baz=260,slow=23,SNR=14						
RAO				Sn	Sn	13 37 49.8	0.0
	328nm,0.3s,baz=138,slow=24,SNR=7.3						
RAO	**Raoul Island**	**1.29**	**29**	*e*P	Pg	13 37 32.3	+0.1
RAO				*e*S	Sg	13 37 48.6	-0.3
URZ	**Urewera**	**8.61**	**203**	Pn	Pn	13 39 04.3	-8.5
	0.7nm,0.3s,baz=151,slow=23,SNR=5.4						
URZ				Sn	Sn	13 40 38.2	-12
	1.4nm,0.3s,baz=190,slow=22,SNR=7.8						
CTA	**Charters Tower**	**33.25**	**280**	*e*P	P	13 43 48.2	+2.3
	2.5nm,0.8s,mb4.2						
CTA	**Charters Tower**	**33.25**	**280**	P	P	13 43 48.4	+2.5
	3.0nm,0.7s,mb4.3,baz=100,slow=9.9,SNR=7.8						
CTAO	**Charters Tower**	**33.25**	**280**	*e*P	P	13 43 48.1	+2.2
	2.8nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**33.95**	**257**	*e*P	P	13 43 52.6	+0.8
	2.5nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**33.95**	**257**	P	P	13 43 52.0	+0.1
	0.9nm,0.3s,mb4.2,baz=109,slow=15,SNR=4.7						
ASAR	**Alice Springs**	**42.56**	**267**	P	P	13 45 04.0	-0.5
	1.5nm,0.6s,mb3.9,baz=106,slow=7.4,SNR=35						
WB2	**Warramunga Arr**	**43.54**	**272**	*e*P	P	13 45 12.2	-0.2
WB2	**Warramunga Arr**	**43.54**	**272**	*e*P	P	13 45 11.7	-0.7
WRAB	**Tennant Creek**	**43.54**	**272**	*e*P	P	13 45 11.5	-1.0
	1.8nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**43.55**	**272**	P	P	13 45 12.2	-0.3
	1.6nm,0.3s,mb4.2,baz=111,slow=8.1,SNR=84						
QSPA	**South Pole Qui**	**59.73**	**180**	P	P	13 47 12.7	0.0
	1.8nm,0.6s,mb4.3,baz=57,slow=0.5,SNR=15						
PETK	**Petropavlovsk-**	**85.66**	**346**	P	P	13 49 46.3	-0.4
	4.4nm,0.8s,mb4.7,baz=145,slow=5.3,SNR=3.0						
NOA	**NORSAR Array B**	**148.65**	**351**	PKPbc	PKPbc	13 56 55.5	+0.5
	0.9nm,0.7s,baz=17,slow=4.2,SNR=4.2						
AKASG	**Malin Array Be**	**150.95**	**322**	PKPbc	PKPbc	13 57 01.1	+0.1
	1.8nm,0.6s,baz=53,slow=2.5,SNR=6.7						

ISCJB 22 13:38:36.4±0.4, 4828N±003×661E±002, h12km±4km, Error ellipse: s-maj=5.1km s-min=2.8km az=178.5
NEIC 22 13:38:36.8, 4834N×666E, h10km, ML2.0(STR), ML2.5(LDG), After STR.
STR 22 13:38:36.8±0.6, 4834N×666E, h10km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
LDG 22 13:38:37.6±0.1, 4832N×667E, h9km, Md2.3/4, Ml2.5/9, Error ellipse: s-maj=2.0km s-min=1.3km az=172.0
CSEM 22 13:38:37.5±0.1, 4832N×668E, h12km, ML2.4/6, Error ellipse: s-maj=1.9km s-min=1.0km az=1.0
ISC 22 13:38:36.9±0.4, 4831N±003×664E±002, h15km±5km, n32, σ0°67/68, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.36**	**105**	Pg	Pg	13 38 44.4	+0.1
ECH				Sg	Sg	13 38 49.1	-0.1
HAU	**Haudompre**	**0.36**	**213**	*e*Pg	Pg	13 38 45.0	+0.6
HAU				*e*Sg	Sg	13 38 50.2	+0.8
	19nm,0.3s						
HAU	**Haudompre**	**0.36**	**213**	*e*Pg	Pg	13 38 45.0	+0.6
HAU				*e*Sg	Sg	13 38 50.2	+0.8
	9.4nm,0.3s						
CDF	**Champ du Feu**	**0.43**	**76**	*e*Pg	Pg	13 38 45.4	-0.3
CDF				*e*Sg	Sg	13 38 51.2	-0.3
	15nm,0.2s						
CDF	**Champ du Feu**	**0.43**	**76**	*e*Pg	Pg	13 38 45.4	-0.3
CDF				*e*Sg	Sg	13 38 51.2	-0.3
	7.4nm,0.2s						
THEF	**They Montfort**	**0.45**	**259**	Pg	Pg	13 38 45.9	0.0
THEF				Sg	Sg	13 38 52.1	+0.2
HINF	**Hinteralfeld**	**0.52**	**164**	*e*Pg	Pg	13 38 47.6	+0.5
HINF				*e*Sg	Sg	13 38 54.5	+0.5
	34nm,0.2s						
HINF				*e*Sn	Sg	13 38 57.5	+3.5
HINF	**Hinteralfeld**	**0.52**	**164**	*e*Pg	Pg	13 38 47.6	+0.5
HINF				*e*Sg	Sg	13 38 54.5	+0.5
	17nm,0.2s						
HINF				*e*Sn	Sg	13 38 57.5	+3.5
MOF	**Molkenrain**	**0.57**	**144**	Pg	Pg	13 38 48.6	+0.5
RFYF	**Reffroy**	**0.84**	**293**	*e*Pg	Pg	13 38 54.3	+1.1
	baz=118						
RFYF				*e*Sn	Sn	13 39 06.0	-0.2
	19nm,0.2s						
RFYF	**Reffroy**	**0.84**	**293**	*e*Pg	Pg	13 38 54.3	+1.1
	baz=118						
RFYF				*e*Sn	Sn	13 39 06.0	-0.2
	9.7nm,0.2s						
FELD	**Feldberg im Sc**	**1.01**	**115**	Pg	Pg	13 38 56.5	0.0
FELD				Sg	Sg	13 39 09.7	0.0
MEZF	**Maizieres J'vi**	**1.08**	**281**	*e*Pg	Pg	13 38 58.4	+0.7
MEZF				*e*Sg	Sg	13 39 12.0	+0.2
	7.3nm,0.3s						
MEZF	**Maizieres J'vi**	**1.08**	**281**	*e*Pg	Pg	13 38 58.4	+0.7
MEZF				*e*Sg	Sg	13 39 12.0	+0.2
	3.7nm,0.3s						
SFTF	**Sexfontaines**	**1.08**	**265**	*e*Pg	Pg	13 38 58.4	+0.7
	baz=93						
SFTF				*e*Sg	Sg	13 39 12.1	+0.3
	6.5nm,0.2s						
SFTF	**Sexfontaines**	**1.08**	**265**	*e*Pg	Pg	13 38 58.4	+0.7
	baz=93						
SFTF				*e*Sg	Sg	13 39 12.1	+0.3
	3.2nm,0.2s						
SFTF	**Sexfontaines**	**1.08**	**265**	*e*Pn	Pn	13 38 57.6	+0.2
SFTF				*e*Pg	Pg	13 38 58.4	+0.7
SFTF				*e*Sg	Sg	13 39 12.1	+0.3
BFO	**Black Forest**	**1.13**	**88**	*e*Pg	Pg	13 38 58.3	-0.4
	SNR=3.2						
BFO				*e*Sg	Sg	13 39 11.1	-2.3
	SNR=8.4						
BFO	**Black Forest**	**1.13**	**88**	*e*P	Pb	13 38 58.2	+0.2
BFO				*e*S	Sb	13 39 13.4	+0.9
BFO	**Black Forest**	**1.13**	**88**	*e*P	Pb	13 38 58.2	+0.1
BFO				*e*S	Sb	13 39 13.4	+0.9
CABF	**La Chapelle**	**1.74**	**193**	*e*Pg	Pg	13 39 10.6	+0.2
CABF				*e*Sg	Sg	13 39 33.5	+0.5
	4.2nm,0.3s						
CABF	**La Chapelle**	**1.74**	**193**	*e*Pg	Pg	13 39 10.6	+0.2
CABF				*e*Sg	Sg	13 39 33.5	+0.5
	2.1nm,0.3s						
CABF	**La Chapelle**	**1.74**	**193**	*e*Pn	Pn	13 39 06.9	+0.3
CABF				*e*Pg	Pg	13 39 10.6	+0.2
CABF				*e*Sg	Sg	13 39 33.5	+0.5
LOR	**Lormes**	**2.15**	**242**	*e*Pg	Pg	13 39 17.9	-0.2
	baz=67						
LOR				*e*Sg	Sg	13 39 45.0	-1.0
	4.8nm,0.2s,baz=61						
LOR	**Lormes**	**2.15**	**242**	*e*Pg	Pg	13 39 17.9	-0.2
	baz=67						
LOR				*e*Sg	Sg	13 39 45.0	-1.0
	2.4nm,0.2s,baz=61						
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pg	Pg	13 39 23.6	-0.5
SSF				*e*Sg	Sg	13 39 55.4	-0.6
	3.1nm,0.2s						
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pg	Pg	13 39 23.6	-0.5
SSF				*e*Sg	Sg	13 39 55.4	-0.6
	1.5nm,0.2s						
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pn	Pn	13 39 16.1	-0.3
SSF				*e*Pg	Pg	13 39 23.6	-0.5
SSF				*e*Sg	Sg	13 39 55.4	-0.6
SMF	**Signal de Mont**	**2.53**	**230**	*e*Pg	Pg	13 39 25.1	-0.3
SMF				*e*Sg	Sg	13 39 57.3	-0.8
	8.5nm,0.3s						
SMF	**Signal de Mont**	**2.53**	**230**	*e*Pg	Pg	13 39 25.1	-0.3
SMF				*e*Sg	Sg	13 39 57.3	-0.8
	4.2nm,0.3s						
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pg	Pg	13 39 28.5	-0.1
AVF				*e*Sg	Sg	13 40 01.9	-1.7
	2.6nm,0.2s						
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pg	Pg	13 39 28.5	-0.1
AVF				*e*Sg	Sg	13 40 01.9	-1.7
	1.3nm,0.2s						

ISK 22 13:38:46.9, 4105N×3345E, h14km, MD2.7
CSEM 22 13:38:46.9±0.1, 4104N×3345E, h8km, MD2.8, Error ellipse: s-maj=2.2km s-min=1.7km az=17.0
ISCJB 22 13:38:47.8±0.5, 4104N±003×3344E±004, h11km±5km, Error ellipse: s-maj=5.5km s-min=4.5km az=36.6
DDA 22 13:38:48.2, 4097N×3348E, h7km±6km, Md2.8
ISC 22 13:38:48.3±0.5, 4105N±003×3346E±004, h13km±5km, n11, σ0°87/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILGA	**Ilgaz**	**0.19**	**88**	*i* P	Pg	13 38 52.3	-0.3
ILGA				*i* S	Sg	13 38 56.9	+1.3
TOS	**Tosya**	**0.43**	**91**	PG	Pg	13 38 55.9	-0.9
TOS				SG	Sg	13 39 02.6	+0.2
CANT	**Cankiri**	**0.46**	**165**	*e*PG	Pg	13 38 56.4	-0.8
CANT				*e*SG	Sg	13 39 03.6	+0.2
BALT	**Daday**	**0.49**	**353**	*i* P	Pg	13 38 58.3	+0.3
BALT				*i* S	Sg	13 39 05.7	+1.2
ELDT	**Eldivan**	**0.56**	**183**	*i* P	Pg	13 38 58.6	-0.6
ELDT				*i* S	Sg	13 39 07.5	+0.9
SAFT	**Safranbolu**	**0.61**	**289**	*e*PG	Pg	13 38 59.4	-0.9
SAFT				*e*SG	Sg	13 39 08.2	-0.2
BYBT	**Boyabat**	**1.07**	**66**	*e*PG	Pg	13 39 08.1	-0.9
CTKT	**Corum**	**1.09**	**112**	*i* P	Pb	13 39 08.5	-0.6
CTKT				*i* S	Sb	13 39 23.6	+0.4
SGKT	**Sivrigoynuk**	**1.17**	**247**	*i* P	Pb	13 39 09.5	-0.8
SGKT				*i* S	Sb	13 39 28.0	+2.6
CDAG	**Cicekdag**	**1.58**	**154**	*i* P	Pn	13 39 15.6	-0.4
CDAG				*i* S	Sn	13 39 37.4	+1.0
KAMT	**Kaman**	**1.69**	**173**	*e*PN	Pn	13 39 16.8	-0.7

ISCJB 22 14:32:19.3±1.0, 28S±01×362E±02, h10km, mb3.7/3, MS3.3/4, Error ellipse: s-maj=31.0km s-min=10.4km az=34.9
IDC 22 14:32:20.0±1.6, 269S×3618E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/35, Error ellipse: s-maj=36.1km s-min=17.2km az=138.0
NEIC 22 14:32:21.1±0.8, 272S×3618E, h10km, ML4.3, Error ellipse: s-maj=27.7km s-min=14.9km az=130.0
ISC 22 14:32:21.2±1.0, 28S±01×362E±02, h10km, n11, σ0°89/8, mb3.7/3, MS3.3/4, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.93**	**33**	Pg	Pg	14 32 55.0	-3.3
	81nm,0.3s,baz=217,slow=16,SNR=192						
KMBO				Lg		14 33 19.9	
	632nm,0.3s,baz=302,slow=19,SNR=26						
KMBO	**Kilima Mbogo**	**1.93**	**33**	*e*Pn	Pn	14 32 53.8	-0.3
KMBO				*e*Pg	Pg	14 32 56.6	-1.7
KMBO				*e*S	Sn	14 33 19.8	+1.3
KMBO				Lg		14 33 19.9	
LSZ	**Lusaka**	**14.73**	**212**	LR	LR	14 40 36.4	
	comp=Z,96nm,20.9s,baz=338,slow=34						
LBTB	**Lobatse**	**24.38**	**204**	LR	LR	14 47 18.8	
	comp=Z,69nm,18.5s,MS3.2,baz=104,slow=37						
BOSA	**Boshof**	**27.75**	**201**	LR	LR	14 48 43.2	
	comp=Z,113nm,21.2s,MS3.4,baz=184,slow=35						
BOSA	**Boshof**	**27.75**	**201**	*e*P	P	14 38 10.2	+0.1
TORD	**Torodi Ar. Bea**	**37.71**	**296**	P	P	14 39 37.6	+0.3
	0.8nm,1.1s,mb3.4,baz=131,slow=8.2,SNR=2.7						
DAVOX	**Davos/Dischmat**	**54.50**	**338**	LR	LR	15 08 20.5	
	comp=Z,26nm,18.5s,MS3.3,baz=84,slow=40						
AKTO	**Aktyubinsk**	**56.20**	**17**	LR	LR	15 07 12.8	
	comp=Z,22nm,18.1s,MS3.3,baz=72,slow=37						
MKAR	**Makanchi Array**	**63.82**	**33**	P	P	14 42 53.0	-0.7
	0.2nm,0.2s,mb3.7,baz=237,slow=5.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**65.22**	**68**	P	P	14 43 04.1	+0.6
	0.7nm,0.3s,mb4.1,baz=262,slow=6.9,SNR=7.1						

IDC 22 14:49:47.9±5.2, 4122N×12692W, h0km, mb2.8/1, mb1 3.5/4, mb1mx3.4/24, mbtmp3.1/4, ML4.0/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/10, Error ellipse: s-maj=63.3km s-min=35.0km az=132.0
NEIC 22 14:49:47.3±4.5, 4129N×12698W, h10km, ML2.9, Error ellipse: s-maj=54.6km s-min=17.8km az=83.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**2.25**	**65**	*e*Pn	Pn	14 50 24.3	-0.3
KCPM	**Cahto Peak**	**3.04**	**121**	Pn	Pn	14 50 33.4	-2.1
YBH	**Yreka Blue Hor**	**3.23**	**81**	Pn	Pn	14 50 39.3	+1.2
	3.5nm,0.3s,baz=263,slow=12,SNR=46						
YBH				Sn	Sn	14 51 18.9	+2.2
	baz=277,slow=19,SNR=2.7						
YBH				LR	LR	14 52 07.8	
	comp=Z,400nm,18.9s,baz=346,slow=44						
YBH	**Yreka Blue Hor**	**3.23**	**81**	*e*Pn	Pn	14 50 39.1	+1.1
HUMO	**Hull Mountain**	**3.27**	**65**	*e*Pn	Pn	14 50 38.4	-0.3
WDC	**Whiskeytown Da**	**3.43**	**101**	Pn	Pn	14 50 39.6	-1.2
MOD	**Modoc**	**5.04**	**81**	*e*P	Pn	14 51 03.7	+0.8
	21nm,1.1s						
WVOR	**Wild Horse Val**	**6.33**	**77**	*e*P	Pn	14 51 20.4	-0.2
	4.9nm,0.8s						
LON	**Longmire**	**6.60**	**33**	*e*P	Pn	14 51 24.3	-0.1
	4.2nm,0.7s						
NVAR	**Mina Array Bea**	**7.26**	**110**	Pn	Pn	14 51 35.7	+2.3
	0.1nm,0.3s,baz=289,slow=15,SNR=4.9						
NVAR	**Mina Array Bea**	**7.26**	**110**	Pn	Pn	14 51 35.7	+2.3
ELK	**Elko**	**8.89**	**90**	LR	LR	14 55 42.5	
	comp=Z,118nm,18.5s,baz=304,slow=40						
PDAR	**Pinedale Array**	**13.04**	**78**	Pn	Pn	14 53 00.5	+8.1
	0.1nm,0.3s,baz=260,slow=14,SNR=3.0						
ANMO	**Albuquerque**	**17.32**	**105**	LR	LR	15 00 02.8	
	comp=Z,52nm,18.3s,baz=247,slow=36						
TXAR	**Lajitas Array**	**22.38**	**115**	P	P	14 54 46.9	+1.3
	0.4nm,0.9s,baz=281,slow=9.1,SNR=3.6						
TXAR	**Lajitas Array**	**22.38**	**115**	P	P	14 54 46.9	+1.3

ISCJB 22 14:53:23.4±1.1, 3519N±005×3232E±007, h12km±5km, Error ellipse: s-maj=10.0km s-min=7.6km az=139.6
NEIC 22 14:53:23.0, 3517N×3228E, h20km, ML3.1(NIC), After NIC.
CSEM 22 14:53:23.2±0.2, 3514N×3237E, h15km, Mw2.9, Error ellipse: s-maj=3.8km s-min=3.0km az=87.0
NIC 22 14:53:23.0±0.1, 3517N×3228E, h20km, ML3.1, MW2.9
ISK 22 14:53:24.4, 3533N×3248E, h2km, MD3.3
ISC 22 14:53:24.0±1.1, 3516N±006×3233E±007, h17km±5km, n15, σ0°91/24, 1C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alevga**	**0.22**	**89**	⇑P	Pg	14 53 29.2	+0.1
ALFC				S	Sg	14 53 34.1	+1.5
PPCY	**Paphos**	**0.27**	**178**	P	Pg	14 53 29.7	-0.2
LEF	**Lefka**	**0.46**	**94**	*e*PG	Pg	14 53 32.4	-0.8
LEF				*e*SG	Sg	14 53 37.9	-1.6
SZAC	**Souni-Zanaja**	**0.60**	**131**	P	Pg	14 53 35.7	-0.2
	20nm,0.2s						
SZAC				S	Sg	14 53 45.1	+1.1
MAMC	**Mammari**	**0.73**	**88**	P	Pg	14 53 37.7	-0.5
CSS	**Prodhromos**	**0.84**	**103**	P	Pb	14 53 39.4	-0.8
	3.2nm,0.5s						
CSS				S	Sb	14 53 51.5	+0.3
CSS	**Prodhromos**	**0.84**	**103**	*e*PG	Pg	14 53 40.7	+0.3
CSS				*e*SG	Sg	14 53 52.7	+1.2
CSS	**Prodhromos**	**0.84**	**103**	*e*Pg	Pg	14 53 40.7	+0.3
CSS				S	Sb	14 53 51.5	+0.3
CSS				*e*Sg	Sg	14 53 52.7	+1.2
LFK	**Lefkose**	**0.99**	**82**	*e*PG	Pg	14 53 41.6	-1.6
PHNC	**Paralimni**	**1.40**	**96**	P	Pn	14 53 47.0	-1.8
PHNC				S	Sn	14 54 07.1	+0.2
IKL	**Isikli**	**1.54**	**45**	*e*PN	Pn	14 53 50.7	0.0
IKL				*e*SN	Sn	14 54 10.1	-0.3
EREN	**Erenkoy**	**1.55**	**75**	*e*PN	Pn	14 53 51.7	+0.8
HDMB	**Hadim**	**1.81**	**4**	*e*PN	Pn	14 53 55.3	+0.8
MERS	**Mersin**	**2.46**	**45**	*e*PN	Pn	14 54 04.0	+0.6
KARA	**Karaisali**	**3.04**	**46**	*e*PN	Pn	14 54 12.2	+0.8

ATH 22 15:12:59.5, 3976N×2084E, h39km±1km, MD3.0/4
ISCJB 22 15:13:03.2±1.4, 3928N±003×201E±0.1, h1km±11km, Error ellipse: s-maj=14.1km s-min=5.0km az=175.8
CSEM 22 15:13:04.7±0.5, 3945N×2041E, h32km±3km, ML2.4, Error ellipse: s-maj=16.0km s-min=3.3km az=59.0
THE 22 15:13:05.3, 3928N×2023E, h1km, ML2.4
ISC 22 15:13:04.9±0.9, 3928N±004×2019E±009, h10km±9km, n6, σ0°65/12, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.27**	**24**	*e*Pg	Pg	15 13 10.1	-0.4
IGT				*e*Sg	Sg	15 13 14.6	+0.4
KEK	**Kerkira**	**0.52**	**325**	*e*PN	Pg	15 13 15.6	+0.5
KEK				*e*SN	Sg	15 13 27.0	+5.0
LKD	**Levkas**	**0.68**	**148**	*e*Pg	Pg	15 13 17.1	-1.0
LKD				*e*Sg	Sg	15 13 27.3	+0.4
MEV	**Metsovon**	**0.95**	**58**	*e*Pg	Pg	15 13 21.9	-1.3
MEV				*e*Sg	Sg	15 13 36.3	+0.7
VLS	**Valsamata**	**1.15**	**164**	*e*Pg	Pn	15 13 27.2	+0.2
VLS				*e*Sg	Sn	15 13 42.9	+0.1
KFL	**Anninata**	**1.26**	**158**	*e*Pg	Pg	15 13 28.6	-0.5
KFL				*e*Sg	Sg	15 13 46.3	+0.8

IDC 22 15:27:36.2±14.0, 4117N×12536W, h0km, mb3.1/1, mb1 3.5/5, mb1mx3.4/25, mbtmp3.1/5, ML3.2/3, MS2.9/2, Ms1 2.9/2, ms1mx2.3/12, Error ellipse: s-maj=163.7km s-min=33.8km az=99.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**2.06**	**73**	Pn	Pn	15 28 11.9	-0.2
	5.4nm,0.3s,baz=267,slow=12,SNR=54						
NVAR	**Mina Array Bea**	**6.08**	**114**	Pn	Pn	15 29 08.2	+1.0
	0.1nm,0.3s,baz=287,slow=15,SNR=6.9						
ELK	**Elko**	**7.67**	**90**	Pn	Pn	15 29 30.4	+1.3
	0.2nm,0.3s,baz=249,slow=14,SNR=2.7						
ELK				LR	LR	15 33 02.2	
	comp=Z,79nm,19.5s,baz=310,slow=42						
PFO	**Pinyon Flat Ob**	**10.35**	**134**	LR	LR	15 33 54.6	
	comp=Z,56nm,18.1s,baz=182,slow=37						
PDAR	**Pinedale Array**	**11.87**	**77**	Pn	Pn	15 30 32.0	+5.4
	0.1nm,0.3s,baz=264,slow=14,SNR=2.5						
TXAR	**Lajitas Array**	**21.23**	**117**	P	P	15 32 23.6	0.0
	0.9nm,0.9s,baz=293,slow=10,SNR=4.1						

IDC 22 15:35:13.9±3.0, 3047N×14051E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, ML3.2/2, MS4.0/1, Ms1 4.0/1, ms1mx2.2/27, Error ellipse: s-maj=207.1km s-min=20.1km az=83.0
JMA 22 15:35:13.7±0.4, 3110N×14186E, h0km, M3.9
ISCJB 22 15:35:16.7±3.0, 310N±0.1×1418E±03, h81km±37km, mb3.6/2, Error ellipse: s-maj=39.3km s-min=21.5km az=14.1
ISC 22 15:35:18.2±2.9, 310N±02×1417E±03, h69km±38km, n9, σ0°70/10, mb3.6/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.70**	**324**	P	Pn	15 35 58.9	-0.4
JHJ	**Hachijo jima 2**	**2.72**	**323**	Pn	Pn	15 35 58.5	-1.1
	5.7nm,0.3s,baz=59,slow=20,SNR=4.9						
JHJ				Sn	Sn	15 36 31.4	0.0
	11nm,0.3s,baz=64,slow=23,SNR=6.9						
JRY	**Ryogami san**	**5.58**	**336**	P	Pn	15 36 40.0	+1.4
JHO	**Hitachi**	**5.73**	**351**	P	Pn	15 36 40.3	-0.4
JHO				*e*S	Sn	15 37 44.6	-0.4
MJAR	**Matsushiro Arr**	**6.30**	**333**	Pn	Pn	15 36 49.6	+1.2
	0.9nm,0.3s,baz=158,slow=12,SNR=7.3						
JMM	**Marumori**	**6.95**	**354**	P	Pn	15 36 57.2	-0.1
BATI	**Baumata**	**44.44**	**206**	LR	LR	16 01 55.5	
	comp=Z,165nm,18.9s,baz=172,slow=37						
WRA	**Warramunga Arr**	**51.09**	**189**	P	P	15 44 13.6	-0.2
	0.3nm,0.2s,mb3.9,baz=5.5,slow=7.6,SNR=16						
ASAR	**Alice Spring

NLC				*i* S	Sb	16 05 20.3	+0.2
PET	**Petropavlovsk**	**0.86**	**320**	*e*P	Pb	16 05 10.0	-0.1
PET				*i* S	Sb	16 05 21.1	-0.3
GRL	**Gorelyy**	**0.93**	**282**	*e*P	Pb	16 05 12.0	+0.6
GRL				*i* S	Sb	16 05 24.8	+1.3
AVH	**Avacha**	**1.03**	**331**	*e*P	Pb	16 05 12.9	-0.1
AVH				*i* S	Sb	16 05 27.2	+0.9
GNL	**Ganaly**	**1.65**	**324**	*e*P	Pn	16 05 22.1	+0.2
GNL				*i* S	Sn	16 05 43.2	+0.5
MIPR	**Malaya Ipel'ka**	**1.73**	**268**	*e*P	Pn	16 05 24.4	+1.5
MIPR				*i* S	Sn	16 05 46.9	+2.3
MKZ	**Mys Kozlova**	**2.54**	**30**	*e*P	Pn	16 05 33.8	-0.3
MKZ				*i* S	Sn	16 06 03.7	-1.0
TUMR	**Tumrok**	**2.94**	**6**	*e*P	Pn	16 05 41.8	+2.2
TUMR				*i* S	Sn	16 06 17.5	+3.0
KMNR	**Kamenistaya**	**3.42**	**6**	P	Pn	16 05 49.3	+3.2
BZMR	**Bezymyannaya**	**3.61**	**8**	*e*P	Pn	16 05 52.3	+3.5
KIRR	**Kirishev**	**3.62**	**7**	P	Pn	16 05 51.3	+2.4
ZLN	**Zelenaya**	**3.73**	**11**	*e*P	Pn	16 05 53.5	+3.1
KRSR	**Krestovskiy**	**3.90**	**8**	P	Pn	16 05 55.2	+2.5
SRDR	**Sredinnyy**	**3.96**	**1**	*e*P	Pn	16 05 56.8	+3.3
KLY	**Klyuchi**	**4.00**	**9**	*e*P	Pn	16 05 56.1	+1.9
KBTR	**Krutoberegovo**	**4.29**	**25**	P	Pn	16 05 59.8	+1.7
KBTR				*i* S	Sn	16 06 48.6	+0.8
SMKR	**Semkarok**	**4.36**	**14**	*e*P	Pn	16 06 02.3	+3.2
SRKR	**Sorokina**	**4.39**	**12**	*e*P	Pn	16 06 02.5	+3.0

CSEM ***22*** *16:05:12.7, 3605N×273E, h0km, ML3.7, After ALG*
CRAAG 22 16:05:12.7, 3605N×273E, Ml3.7, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.24**	**50**	P	Pg	16 05 19.3	+2.1
ADJB	**Djebel Djouab**	**0.58**	**79**	P	Pg	16 05 25.7	+1.8
ABA	**Alger-Bouzarea**	**0.79**	**18**	P	Pg	16 05 29.8	+1.9
EBNR	**Beni Rached**	**1.00**	**284**	P	Pg	16 05 35.0	+3.1
ECHA	**Ech Chlef**	**1.11**	**276**	P	Pg	16 05 36.5	+2.5
ATAF	**Djebel Tarf**	**1.27**	**97**	P	Pg	16 05 38.9	+1.9
EANR	**'Ain N'Sour**	**1.32**	**266**	P	Pg	16 05 38.5	+0.4
ETRT	**Tiaret**	**1.34**	**241**	P	Pg	16 05 39.0	+0.7
AKF	**Akfadou**	**1.59**	**68**	P	Pn	16 05 45.0	+2.9
OKGL	**Djebel Kef Gue**	**1.69**	**270**	P	Pn	16 05 50.0	+6.5
OJGS	**Djebel Guires**	**1.70**	**252**	P	Pn	16 05 45.0	+1.4
OJBR	**Djebel Berber**	**1.99**	**257**	P	Pn	16 05 52.0	+4.4
SET	**Setif**	**2.17**	**85**	P	Pn	16 05 57.0	+7.0
CKHR	**Kef el Ahmar**	**2.25**	**90**	P	Pn	16 05 58.2	+7.0
DFRA	**Djebel Bou Aff**	**2.59**	**78**	P	Pn	16 06 05.0	+9.2

IDC 22 16:34:40.7±7.3, 1900S×17695W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/17, mbtmp3.7/2, Error ellipse: s-maj=285.4km s-min=117.8km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.81**	**260**	P	P	16 43 05.0	+0.4
	0.5nm,0.3s,baz=96,slow=7.4,SNR=39						
ASAR	**Alice Springs**	**45.84**	**255**	P	P	16 43 04.3	-0.5
	0.7nm,0.9s,baz=91,slow=9.1,SNR=9.0						
AKASG	**Malin Array Be**	**142.16**	**333**	PKP	PKPdf	16 54 14.1	-0.8
	1.7nm,0.5s,baz=44,slow=4.8,SNR=4.5						

BJI ***22*** *17:14:01.1, 3109N×14081E, h61km, mB4.7, mb4.6, Ms4.1, Msz3.8*
ISCJB ***22*** *17:14:02.3±2.1, 3128N±004×14038E±007, h29km±15km, mb4.5/32, MS3.8/5, Error ellipse: s-maj=9.4km s-min=7.2km az=179.9*
MOS ***22*** *17:14:02.6±1.7, 3124N×140.17E, h33km, mb5.0/9, Error ellipse: s-maj=15.8km s-min=8.1km az=105.7*
IDC ***22*** *17:14:07.0±2.3, 3136N×14033E, h62km±21km, mb3.8/12, mb1 4.0/16, mb1mx3.9/25, mbtmp3.9/16, MS3.4/6, Ms1 3.4/6, ms1mx3.1/34, Error ellipse: s-maj=23.6km s-min=13.2km az=78.0*
NEIC ***22*** *17:14:08.1±1.7, 3139N×140.10E, h62km±14km, mb4.9/9, Error ellipse: s-maj=15.8km s-min=9.6km az=119.0*
ISC 22 17:14:07.0±0.9, 3135N±005×14029E±007, h51km±8km, n62, σ1°34/66, mb4.5/32, MS3.8/5, 2C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.82**	**346**	P	**Pn**	**17 14 30.4**	**-5.4**
	82nm,0.3s,baz=216,slow=20,SNR=63						
JHJ				S	**Sn**	**17 14 48.8**	**-8.8**
	72nm,0.3s,baz=221,slow=19,SNR=7.8						
CBIJ	**Chichi jima**	**4.55**	**158**	P	**Pn**	**17 15 13.7**	**+0.4**
	10nm,0.3s,baz=300,slow=6.3,SNR=6.3						
CBIJ				S	**Sn**	**17 15 59.9**	**-5.0**
	7.8nm,0.3s,baz=313,slow=19,SNR=2.4						
CBIJ				LR	LR	17 17 02.0	
	comp=Z,204nm,18.0s,baz=27,slow=39						
MJAR	**Matsushiro Arr**	**5.46**	**342**	P	**Pn**	**17 15 24.9**	**-0.8**
	2.4nm,0.3s,baz=164,slow=11,SNR=48						
MAJO	**Matsushiro**	**5.46**	**342**	*e*P	**Pn**	**17 15 25.4**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,53nm,0.8s						
MAJO	**Matsushiro**	**5.46**	**342**	*e*P	**Pn**	**17 15 25.4**	**-0.3**
	comp=Z,53nm,0.8s						
MAT	**Matsushiro**	**5.46**	**342**	P	**Pn**	**17 15 24.2**	**-1.6**
MAT				S	Sn	17 17 06.0	+39
JOW	**Kunigami**	**11.43**	**250**	P	**Pn**	**17 16 48.0**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=106,slow=17,SNR=7.2						
KSRS	**Korea Array**	**11.89**	**304**	P	**Pn**	**17 16 54.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=108,slow=16,SNR=4.3						
KSRS				LR	LR	17 21 23.0	
	comp=Z,86nm,20.9s,baz=321,slow=36						
ASAJ	**Asahikawa**	**12.87**	**7**	LR	LR	17 22 12.3	
	comp=Z,140nm,19.4s,baz=132,slow=38						
YSS	**Yuzh-Sakhalins**	**15.70**	**6**	*e*P	**Pn**	**17 17 44.0**	**-0.6**
DL2	**Dalian**	**17.01**	**301**	P	**Pn**	**17 18 03.4**	**+2.1**
DL2				S	**S**	**17 21 21.8**	**+4.7**
DL2				AMB	AMB		
	comp=Z,40nm,1.1s						
DL2				AMB	AMB		
	comp=Z,100nm,5.3s						
DL2				LR	LR		
	comp=N,160nm,14.1s						
DL2				LR	LR		
	comp=E,150nm,12.3s						
DL2				LR	LR		
	comp=Z,110nm,12.2s						
GUMO	**Guam**	**18.17**	**166**	LR	LR	17 24 22.6	
	comp=Z,223nm,18.6s,baz=16,slow=34						
NJ2	**Nanjing**	**18.26**	**278**	*e*P	**Pn**	**17 18 20.4**	**+3.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
KLR	**Kul'dur**	**18.99**	**343**	*e*P	**Pn**	**17 18 27.8**	**+2.5**
KLR				MLR	MLR		
	comp=N,900nm,12.0s						
BJT	**Baijiatuau**	**21.37**	**301**	*e*P	**P**	**17 18 48.5**	**-1.6**
BJT				pmax	pmax		
	comp=Z,104nm,1.3s						
BJT	**Baijiatuau**	**21.37**	**301**	*e*P	**P**	**17 18 48.5**	**-1.6**
	comp=Z,104nm,1.3s,mb5.0						
BJI	**Beijing**	**21.37**	**301**	P	**P**	**17 18 48.8**	**-1.3**
BJI				S	**S**	**17 22 46.1**	**+1.7**
BJI				AMB	AMB		
	comp=Z,68nm,1.3s,mb4.8						
BJI				LR	LR		
	comp=N,277nm,13.9s						
BJI				LR	LR		
	comp=E,176nm,19.1s						
BJI				LR	LR		
	comp=Z,354nm,28.9s						
WHN	**Wuhan**	**22.25**	**275**	⇑P	**P**	**17 19 00.8**	**+1.2**
WHN				S	**S**	**17 22 59.3**	**-2.4**
WHN				LR	LR		
	comp=N,391nm,13.5s,MS4.2						
WHN				LR	LR		
	comp=E,334nm,10.4s,MS4.2						
WHN				LR	LR		
	comp=Z,580nm,18.5s						
PVCP	**Virac**	**23.07**	**224**	*e*P	**P**	**17 19 09.4**	**+1.1**
PETK	**Petropavlovsk-**	**25.15**	**25**	P	**P**	**17 19 26.1**	**-1.1**
	comp=Z,14nm,1.1s,mb4.4,baz=154,slow=11,SNR=4.9						
MSLP	**Maasin**	**25.51**	**217**	*e*P	**P**	**17 19 30.7**	**-0.1**
BTO	**Baotou**	**26.08**	**299**	*e*P	**P**	**17 19 37.9**	**+2.2**
XAN	**Xi'an**	**26.48**	**284**	P	**P**	**17 19 40.8**	**+1.3**
XAN				PP		17 20 21.1	
XAN				S	**S**	**17 24 15.3**	**+5.3**
XAN				AMB	AMB		
	comp=Z,27nm,1.7s,mb4.5						
XAN				LR	LR		
	comp=E,163nm,13.7s						
XAN				LR	LR		
	comp=Z,185nm,14.2s,MS3.8						
CLNS	**Chul'man**	**27.64**	**342**	*e*P	**P**	**17 19 49.3**	**-0.3**
CLNS				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.7						
CLNS				pmax	pmax		
	comp=N,20nm,1.4s						
CLNS				pmax	pmax		
	comp=E,14nm,1.3s						
CLNS				MLR	MLR		
	comp=Z,131nm,15.0s,MS3.6						
CLNS				MLR	MLR		
	comp=N,99nm,14.0s,MS3.8						
CLNS				MLR	MLR		
	comp=E,137nm,13.0s,MS3.8						
LZH	**Lanzhou**	**30.57**	**289**	*e*P	**P**	**17 20 16.5**	**+0.7**
LZH				AP	pP	17 20 26.5	-2.3
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,61nm,7.3s						
SONM	**Songino Array**	**30.57**	**312**	P	**P**	**17 20 15.4**	**-0.2**
	comp=Z,2.4nm,1.1s,mb3.9,baz=116,slow=6.8,SNR=9.6						
CD2	**Chengdu**	**31.19**	**279**	*e*P	**P**	**17 20 21.5**	**+0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
YAK	**Yakutsk**	**31.46**	**350**	*e*P	**P**	**17 20 21.5**	**-1.8**
ZAK	**Zakamensk**	**33.38**	**316**	*e*P	**P**	**17 20 36.7**	**-3.6**
GTA	**Gaotai**	**33.74**	**295**	*e*P	**P**	**17 20 45.9**	**+2.3**
GTA				AP	pP	17 20 53.3	-3.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.1						
CHTO	**Chiang Mai**	**39.26**	**261**	*e*P	**P**	**17 21 30.1**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.1						
CHTO	**Chiang Mai**	**39.26**	**261**	*e*P	**P**	**17 21 30.1**	**-0.7**
	comp=Z,50nm,1.3s,mb5.1						
CMAR	**Chiang Mai Arr**	**39.42**	**261**	P	**P**	**17 21 32.0**	**-0.1**
	comp=Z,4.7nm,0.8s,mb4.3,baz=51,slow=7.4,SNR=27						
BILL	**Bilibino**	**39.74**	**15**	*e*P	**P**	**17 21 35.0**	**+0.8**
BILL				*e*		17 23 08.6	
BILL				*e*SS	SS	17 30 24.8	-6.2
BILL				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.5						
KSM	**Kuching**	**41.06**	**230**	*e*P	**P**	**17 21 46.5**	**+0.8**
ZALV	**Zalesovo Beam**	**45.23**	**317**	P	**P**	**17 22 17.6**	**-1.4**
	comp=Z,0.7nm,0.7s,mb3.6,baz=90,slow=6.5,SNR=4.3						
ZALV				LR	LR	17 41 45.1	
	comp=Z,45nm,19.3s,MS3.4,baz=61,slow=37						
ZAL	**Zalesovo**	**45.24**	**317**	P	**P**	**17 22 17.7**	**-1.4**
MKAR	**Makanchi Array**	**46.56**	**307**	P	**P**	**17 22 27.6**	**-1.9**
	comp=Z,1.0nm,0.5s,mb4.0,baz=94,slow=8.9,SNR=4.3						
PSI	**Prapat**	**48.21**	**242**	P	**P**	**17 22 41.8**	**-1.0**
	comp=Z,2.8nm,0.5s,mb4.6,baz=346,slow=17,SNR=5.0						
KURK	**Kurchatov**	**48.87**	**312**	*e*P	**P**	**17 22 44.9**	**-2.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
KURK	**Kurchatov**	**48.87**	**312**	*e*P	**P**	**17 22 44.9**	**-2.5**
	comp=Z,7.2nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**51.32**	**187**	P	**P**	**17 23 04.9**	**-1.2**
	comp=Z,2.8nm,0.9s,mb4.2,baz=3.8,slow=7.6,SNR=19						
CTA	**Charters Tower**	**51.46**	**173**	P	**P**	**17 23 05.3**	**-2.0**
	comp=Z,3.0nm,0.9s,mb4.2,baz=42,slow=14,SNR=3.2						
PPLA	**Purkeypile**	**52.41**	**32**	*e*P	**P**	**17 23 16.1**	**+2.2**
	comp=Z,16nm,1.2s,mb4.8						
KTH	**Kantishna Hill**	**53.02**	**32**	*e*P	**P**	**17 23 19.1**	**+0.7**
	comp=Z,17nm,1.6s,mb4.7						
BPAW	**Bear Paw Mtn.**	**53.03**	**31**	*e*P	**P**	**17 23 19.9**	**+1.5**
	comp=Z,12nm,1.5s,mb4.6						
MCK	**McKinley**	**53.91**	**31**	*e*P	**P**	**17 23 27.5**	**+2.6**
MCK				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
MCK	**McKinley**	**53.91**	**31**	*e*P	**P**	**17 23 27.5**	**+2.5**
	comp=Z,20nm,1.3s,mb4.9						
ASAR	**Alice Springs**	**55.04**	**187**	P	**P**	**17 23 33.1**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.6,baz=8.7,slow=6.7,SNR=12						
BMRM	**Bremner River**	**56.00**	**35**	*e*P	**P**	**17 23 41.4**	**+1.4**
ARCES	**ARCESS Array B**	**68.99**	**340**	P	**P**	**17 25 06.6**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.2,baz=58,slow=8.6,SNR=6.5						
ARCES				LR	LR	17 58 44.3	
	comp=Z,78nm,18.9s,MS4.0,baz=81,slow=39						
DAG	**Danmarks Havn**	**71.34**	**355**	*i* P	**P**	**17 25 18.0**	**-2.9**
DAG	**Danmarks Havn**	**71.34**	**355**	*e*P	**P**	**17 25 18.0**	**-2.9**
OBN	**Obninsk**	**72.11**	**324**	*e*P	**P**	**17 25 25.9**	**+0.1**
OBN				*e*		17 25 48.8	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
KIV	**Kislovodsk**	**73.96**	**312**	*e*P	**P**	**17 25 38.5**	**+1.5**
KIV				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.7						
SUMG	**Summit**	**76.35**	**360**	*e*P	**P**	**17 25 51.0**	**+0.8**
	comp=Z,2.8nm,1.0s,mb4.2						
AKASG	**Malin Array Be**	**78.23**	**323**	P	**P**	**17 25 59.5**	**-1.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=48,slow=5.5,SNR=7.1						
NOA	**NORSAR Array B**	**79.06**	**337**	P	**P**	**17 26 04.3**	**-1.2**
	comp=Z,1.4nm,0.9s,mb3.9,baz=47,slow=5.2,SNR=3.5						
KWP	**Kalwaria**	**82.20**	**324**	*e*P	**P**	**17 26 22.2**	**-0.3**
KWP				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.9						
KWP	**Kalwaria**	**82.20**	**324**	*e*P	**P**	**17 26 22.2**	**-0.3**
	comp=Z,23nm,1.4s,mb4.9						
CLL	**Collm**	**85.55**	**330**	*e*P	**P**	**17 26 39.0**	**-0.5**
	comp=Z,10.0nm,1.5s,mb4.8						
TXAR	**Lajitas Array**	**94.34**	**52**	P	**P**	**17 27 23.4**	**+2.1**
	comp=Z,1.2nm,1.0s,mb4.3,baz=276,slow=3.4,SNR=6.0						

MOS ***22*** *17:25:31.3±1.2, 1427S×7627W, h33km, mb4.8/4, Error ellipse: s-maj=22.6km s-min=13.0km az=32.8*
ISCJB ***22*** *17:25:32.3±1.1, 1426S±006×7625W±008, h46km±9km, mb4.5/27, MS4.0/8, Error ellipse: s-maj=15.1km s-min=5.1km az=145.5*
NEIC ***22*** *17:25:32.6±0.3, 1425S×7630W, h35km, mb4.7/15, Error ellipse: s-maj=10.3km s-min=5.1km az=50.0*
BJI ***22*** *17:25:32.6, 1420S×7630W, h45km, mB4.8, Ms4.9, Msz4.4*
IDC ***22*** *17:25:34.3±1.6, 1427S×7623W, h48km±13km, mb4.1/13, mb1 4.2/19, mb1mx4.1/24, mbtmp4.1/19, ML3.9/5, MS3.8/13, Ms1 3.8/13, ms1mx3.6/32, Error ellipse: s-maj=22.4km s-min=10.1km az=60.0*
ISC 22 17:25:34.4±0.9, 1426S±006×7618W±008, h46km±8km, h34km±.5km: pP-P, n218, σ0s54/199, mb4.5/27, MS4.0/8, 71C-71D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.35**	**344**	P	**Pn**	**17 26 09.8**	**-0.7**
	69nm,0.3s,baz=170,slow=14,SNR=39						
NNA				S	**Sn**	**17 26 38.8**	**+0.6**
	258nm,0.3s,baz=152,slow=17,SNR=7.4						
NNA				LR	LR	17 27 23.5	
	comp=Z,1μm,20.1s,baz=285,slow=46						
ARE	**Arequipa**	**5.03**	**116**	*e*P	**Pn**	**17 26 47.0**	**-0.3**
ARE				*e*S	**Sn**	**17 28 00.0**	**+16**
ATAH	**Atahualpa**	**7.53**	**343**	P	**Pn**	**17 27 20.3**	**-1.5**
	7.3nm,0.3s,baz=147,slow=5.8,SNR=14						
ATAH				S	**Sn**	**17 28 46.0**	**+0.2**
	5.6nm,0.3s,baz=196,slow=20,SNR=2.9						
ATAH				LR	LR	17 30 16.6	
	comp=Z,659nm,18.1s,baz=28,slow=38						
LPAZ	**La Paz**	**8.03**	**106**	P	**Pn**	**17 27 31.3**	**+2.8**
	0.8nm,0.3s,baz=293,slow=8.1,SNR=46						
LPAZ				S	**Sn**	**17 29 14.7**	**+17**
	baz=42,slow=9.1,SNR=4.0						
LPAZ				LR	LR	17 31 17.9	
	comp=Z,443nm,19.5s,baz=285,slow=43						
LPAZ	**La Paz**	**8.03**	**106**	P	**Pn**	**17 27 31.3**	**+2.8**
LPAZ				S	**Sn**	**17 29 14.7**	**+17**
LPAZ				LR	LR	17 31 17.9	
LVC	**Limon Verde**	**10.80**	**141**	P	**Pn**	**17 28 06.1**	**-0.4**
	1.4nm,0.3s,baz=311,slow=10,SNR=6.0						
LVC				S	**Sn**	**17 30 11.8**	**+5.9**
	0.3nm,0.3s,baz=180,slow=20,SNR=2.6						
LVC				LR	LR	17 31 52.1	
	comp=Z,359nm,20.6s,baz=309,slow=35						
OTAV	**Otavalo**	**14.58**	**351**	*e*P	**Pn**	**17 29 00.4**	**+2.4**
	12nm,0.8s						
SIV	**San Ignacio**	**14.69**	**99**	P	**Pn**	**17 28 59.8**	**+0.4**
	0.1nm,0.3s,baz=262,slow=14,SNR=8.3						
CFAA	**Coronel Fontan**	**18.74**	**158**	P	**Pn**	**17 29 49.6**	**-0.6**
	0.1nm,0.3s,baz=330,slow=11,SNR=6.6						
CFAA				LR	LR	17 36 12.0	
	comp=Z,29nm,18.6s,baz=184,slow=34						
CFAA	**Coronel Fontan**	**18.74**	**158**	P	**Pn**	**17 29 49.6**	**-0.6**
CFAA				LR	LR	17 36 12.0	
ROSC	**El Rosal**	**19.08**	**6**	LR	LR	17 38 05.9	
	comp=Z,383nm,21.0s,baz=207,slow=39						
SDV	**Santo Domingo**	**23.64**	**14**	P	**P**	**17 30 41.8**	**0.0**
	9.7nm,0.5s,mb4.5,baz=194,slow=22,SNR=12						
SDV	**Santo Domingo**	**23.64**	**14**	*e*P	**P**	**17 30 40.9**	**-0.8**
	11nm,0.6s,mb4.5						
PLCA	**Paso Flores**	**26.83**	**170**	P	**P**	**17 31 08.8**	**-1.7**
	4.5nm,1.0s,mb3.9,baz=348,slow=11,SNR=5.8						
PLCA				LR	LR	17 40 23.4	
	comp=Z,97nm,20.5s,MS3.4,baz=172,slow=33						
PCRV	**Puerto La Cruz**	**26.84**	**26**	P	**P**	**17 31 10.7**	**-0.1**
	14nm,0.9s,mb4.5,baz=318,slow=14,SNR=5.3						
PCRV				LR	LR	17 43 09.2	
	comp=Z,354nm,19.2s,MS3.9,baz=200,slow=39						
BDFB	**Brasilia**	**27.24**	**97**	P	**P**	**17 31 13.9**	**-0.6**
	2.0nm,0.6s,mb3.8,baz=229,slow=16,SNR=5.8						
BDFB				LR	LR	17 43 00.8	
	comp=Z,372nm,19.6s,MS4.0,baz=191,slow=38						
TEIG	**Tepich**	**36.27**	**341**	*e*P	**P**	**17 32 31.3**	**-2.2**
CPCT	**Cooper Cave**	**50.06**	**351**	*e*P	**P**	**17 34 21.3**	**-3.3**
TXAR	**Lajitas Array**	**50.82**	**329**	P	**P**	**17 34 30.0**	**-0.5**
	2.2nm,0.6s,mb4.2,baz=147,slow=8.6,SNR=25						
TXAR				LR	LR	17 54 44.8	
	comp=Z,97nm,18.1s,MS3.9,baz=5.0,slow=34						
319A	**Douglas**	**55.39**	**325**	⇑P	**P**	**17 35 04.4**	**+0.3**
	baz=55						
318A	**Bisbee**	**55.83**	**325**	⇓P	**P**	**17 35 07.1**	**-0.2**
	baz=56,SNR=8.0						
219A	**White Tail Can**	**55.86**	**326**	⇑P	**P**	**17 35 07.5**	**0.0**
	baz=56						
RKT	**Rikitea**	**56.08**	**252**	*e*T		18 35 22.1	
	4.9nm,0.2s						
218A	**Dragoon**	**56.27**	**325**	⇑P	**P**	**17 35 10.3**	**-0.1**
	baz=56,SNR=5.5						
119A	**Ashpeak Ranch,**	**56.47**	**326**	⇓P	**P**	**17 35 12.0**	**+0.2**
	baz=56						
217A	**Green Valley**	**56.55**	**325**	⇑P	**P**	**17 35 12.2**	**-0.2**
	baz=56						
118A	**Homack Ranch,**	**56.73**	**326**	⇓P	**P**	**17 35 13.6**	**-0.1**
	baz=57						
ANMO	**Albuquerque**	**56.75**	**330**	*e*P	**P**	**17 35 11.7**	**-2.1**
ANMO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ANMO	**Albuquerque**	**56.75**	**330**	*e*P	**P**	**17 35 11.7**	**-2.0**
	comp=Z,4.0nm,0.9s,mb4.5						
216A	**Three Points,**	**57.08**	**324**	⇑P	**P**	**17 35 16.1**	**0.0**
	baz=57						
117A	**Oracle**	**57.10**	**325**	⇑P	**P**	**17 35 15.8**	**-0.5**
	baz=57,SNR=7.3						
Y19A	**Nutrioso**	**57.37**	**327**	⇑P	**P**	**17 35 18.5**	**+0.4**
	baz=57,SNR=5.0						
116A	**Eloy**	**57.64**	**324**	⇑P	**P**	**17 35 20.4**	**+0.3**
	baz=58						
Y17A	**Roosevelt**	**58.01**	**326**	⇑P	**P**	**17 35 22.5**	**-0.2**
	baz=58						
W19A	**Sanders**	**58.33**	**328**	⇓P	**P**	**17 35 24.9**	**0.0**
	baz=58						
Y16A	**Circle Bar Ran**	**58.50**	**326**	⇑P	**P**	**17 35 26.4**	**+0.3**
	baz=58						
SDCO	**Great Sand Dun**	**58.60**	**333**	*e*P	**P**	**17 35 26.1**	**-0.6**
	comp=Z,10nm,1.4s,mb4.7						
X16A	**Lo Mia Camp, P**	**58.88**	**326**	⇓P	**P**	**17 35 28.9**	**+0.2**
	baz=59						
Y15A	**Casa Rosa Ranc**	**59.02**	**325**	⇑P	**P**	**17 35 30.2**	**+0.5**
	baz=59						
X15A	**Humboldt**	**59.37**	**326**	⇑P	**P**	**17 35 32.6**	**+0.5**
	baz=59						
Y14A	**Wickenburg**	**59.38**	**325**	⇑P	**P**	**17 35 32.4**	**+0.2**
	baz=59						
T19A	**Beclabito**	**59.50**	**330**	⇓P	**P**	**17 35 32.9**	**0.0**
	baz=59						
X14A	**Yava**	**59.71**	**325**	⇓P	**P**	**17 35 34.9**	**+0.4**
	baz=60,SNR=6.2						
T18A	**Mexican Hat**	**60.16**	**329**	⇑P	**P**	**17 35 36.8**	**-0.7**
	baz=60,SNR=5.5						
S19A	**Harvey Farm, M**	**60.28**	**330**	⇓P	**P**	**17 35 37.9**	**-0.4**
	baz=60						
V15A	**Kaibab Nationa**	**60.33**	**327**	⇑P	**P**	**17 35 39.0**	**+0.3**
	baz=60						
T17A	**Navajo Res., N**	**60.52**	**328**	⇓P	**P**	**17 35 40.2**	**+0.2**
	baz=60						
BC3	**Big Chuckw Mtn**	**60.59**	**323**	⇓P	**P**	**17 35 40.7**	**+0.2**
	baz=60						
S18A	**Hurst Farm, Bl**	**60.65**	**330**	⇑P	**P**	**17 35 40.5**	**-0.4**
	baz=61						
ECSD	**EROS,Sioux Fal**	**60.66**	**343**	*e*P	**P**	**17 35 38.8**	**-1.9**
	comp=Z,3.8nm,0.8s,mb4.6						
V14A	**Boquillas Ranc**	**60.69**	**326**	⇑P	**P**	**17 35 41.5**	**+0.4**
	baz=61,SNR=6.0						
IRM	**Iron Mountain**	**60.77**	**323**	⇑P	**P**	**17 35 41.7**	**0.0**
	baz=61,SNR=6.1						
U15A	**North Rim**	**60.85**	**327**	⇓P	**P**	**17 35 42.6**	**+0.4**
	baz=61						
BELC	**Belle Mtn.**	**61.15**	**323**	⇑P	**P**	**17 35 44.9**	**+0.6**
	baz=61						
Q19A	**Hogan Spring (**	**61.30**	**331**	⇑P	**P**	**17 35 45.2**	**0.0**
	baz=61						
U14A	**Mt Trumbull**	**61.32**

N14A **Grayback Hills** 64.67 330 ⇓P P 17 36 07.1 -0.4
baz=65
R09A **Tonopah** 64.77 325 ⇓P P 17 36 08.2 0.0
baz=65
HELL **Mitchell Peak** 64.79 323 ⇓P P 17 36 08.3 -0.1
baz=65
Q10A **Clear Creek Ra** 64.82 326 ⇓P P 17 36 09.1 +0.6
baz=65
S08C **White Mtn Res** 64.86 324 ⇓P P 17 36 09.8 +0.9
baz=65
MTUM **Tungsten Hills** 64.98 324 *e*P P 17 36 09.8 +0.1
L15A **Malad City** 65.17 331 ⇑P P 17 36 09.9 -0.9
baz=65
M14A **Sheep Mountain** 65.24 330 ⇑P P 17 36 10.7 -0.6
baz=65,SNR=8.9
O11A **Cowboy Ranch,** 65.37 328 ⇑P P 17 36 11.7 -0.4
baz=65
NVAR **Mina Array Bea** 65.58 325 P P 17 36 13.7 +0.2
comp=Z,1.6nm,0.7s,mb4.2,baz=139,slow=6.8,SNR=15
RRI2 **Red Ridge** 65.73 333 *e*P P 17 36 14.0 -0.4
comp=Z,8.4nm,1.0s,mb4.7
J16A **Bone** 65.80 332 ⇑P P 17 36 14.4 -0.5
baz=66
O10A **Cortez Mining,** 65.93 327 ⇓P P 17 36 16.0 +0.2
baz=66
L13A **Double Diamond** 65.98 330 ⇓P P 17 36 16.0 0.0
baz=66
S06C **San Francisco** 66.09 323 ⇑P P 17 36 17.1 +0.4
baz=66
J15A **Blackfoot** 66.28 332 ⇓P P 17 36 17.8 0.0
baz=66
RLMT **Red Lodge** 66.28 335 *e*P P 17 36 16.9 -0.9
comp=Z,4.2nm,0.9s,mb4.5
M11A **Holland Ranch,** 66.40 328 ⇑P P 17 36 18.8 +0.1
baz=66
ULM **Lac du Bonnet** 66.52 346 P P 17 36 17.4 -1.9
comp=Z,3.2nm,0.5s,mb4.6,baz=149,slow=6.2,SNR=5.6
ULM LR LR 18 07 29.7
comp=Z,81nm,18.7s,MS4.0,baz=98,slow=38
ULM **Lac du Bonnet** 66.52 346 P P 17 36 17.4 -1.9
ULM LR LR 18 07 29.7
J14A **Carey** 66.72 331 ⇑P P 17 36 20.6 -0.1
baz=67
K12A **Draper Farm, C** 66.86 330 ⇓P P 17 36 21.7 +0.2
baz=67
L11A **Cat Creek Ranc** 66.92 329 ⇑P P 17 36 22.3 +0.2
baz=67
J13A **Cove Ranch, Pi** 67.08 331 ⇓P P 17 36 23.3 +0.3
baz=67
O07A **Toulon** 67.11 326 ⇓P P 17 36 23.3 0.0
baz=67
N08A **GE Springer Mi** 67.15 327 ⇑P P 17 36 23.3 -0.2
baz=67
I14A **Mackay** 67.15 332 ⇑P P 17 36 23.8 +0.4
baz=67
L10A **Juniper Basin** 67.22 329 ⇓P P 17 36 23.9 0.0
baz=67,SNR=6.9
M09A **Marrel Ranch,** 67.25 327 ⇓P P 17 36 24.3 +0.2
baz=67
HLID **Hailey** 67.32 331 ⇑P P 17 36 24.6 +0.1
baz=67
HLID **Hailey** 67.32 331 *e*P P 17 36 24.4 -0.2
comp=Z,1.5nm,0.7s,mb4.1
J12A **Stokes Ranch,** 67.41 330 ⇑P P 17 36 25.2 +0.1
baz=67
I13A **Wildhorse Cree** 67.45 331 ⇑P P 17 36 25.2 -0.1
baz=67,SNR=6.7
G15A **Dillon** 67.68 333 ⇑P P 17 36 27.2 +0.4
baz=68
BOZ **Bozeman (W)** 67.69 334 ⇓P P 17 36 26.4 -0.4
baz=68
MFID **Camas Ranch** 67.89 330 ⇑P P 17 36 27.9 -0.2
baz=68,SNR=6.5
K10A **MacKenzie Ranc** 67.93 329 ⇑P P 17 36 28.3 -0.1
baz=68
H13A **Challis** 68.01 332 ⇓P P 17 36 29.0 +0.2
baz=68
N06A **Buffalo Meadow** 68.05 326 ⇑P P 17 36 28.7 -0.4
baz=68,SNR=5.4
ORV **Oroville** 68.17 324 ⇓P P 17 36 30.4 +0.5
baz=68
K09A **Rome** 68.31 328 ⇓P P 17 36 30.6 -0.1
baz=68,SNR=8.1
G13A **Cobalt** 68.40 332 ⇓P P 17 36 31.1 -0.2
baz=68,SNR=5.7
ELFS **Eagle Lake Fie** 68.45 325 ⇓P P 17 36 32.3 +0.6
baz=68
L07A **Adell** 68.66 327 ⇑P P 17 36 33.2 +0.2
baz=69
E15A **Deer Lodge** 68.73 334 ⇓P P 17 36 33.1 -0.2
baz=69
J09A **Fry Pan Ranch,** 68.79 329 ⇓P P 17 36 33.4 -0.3
baz=69
F13A **Darby** 68.98 332 ⇑P P 17 36 34.9 0.0
baz=69
K07A **Rock Creek Ran** 69.09 327 ⇑P P 17 36 35.5 -0.1
baz=69
E14A **Clinton** 69.09 333 ⇓P P 17 36 35.3 -0.3
baz=69
MOD **Modoc** 69.10 326 ⇓P P 17 36 35.5 -0.2
baz=69
VNA3 **Neumayer Olymp** 69.11 161 *e* P 17 36 35.7 +0.3
VNA3 *e* 17 36 38.2
VNA3 *e* pP 17 36 46.0 -2.6
M05C **Lookout** 69.19 325 ⇓P P 17 36 36.4 +0.1
baz=69
F12A **Elk City** 69.38 332 ⇑P P 17 36 37.1 -0.2
baz=69
VNA1 **Neumayer--Stat** 69.38 161 *e* P 17 36 38.1 +1.1
VNA1 *e* 17 36 40.3
VNA1 *e* pP 17 36 48.0 -2.3
E13A **Victor** 69.42 333 ⇑P P 17 36 37.7 +0.1
baz=69
G11A **Walters Elk Ra** 69.58 331 ⇑P P 17 36 38.3 -0.2
baz=70
D14A **Greenough** 69.62 334 ⇓P P 17 36 38.8 0.0
baz=70
BMO **Blue Mountains** 69.67 330 *e*P P 17 36 38.5 -0.7
K06A **Valley Falls** 69.69 327 ⇑P P 17 36 39.8 +0.4
baz=70,SNR=6.8
VNA2 **Neumayer--Watz** 69.73 161 *e* P 17 36 39.3 +0.1
VNA2 *e* 17 36 41.8
VNA2 *e* pP 17 36 49.5 -3.0
M04C **Macdoel** 69.86 325 ⇓P P 17 36 40.2 -0.1
baz=70
F11A **Grangeville** 69.89 331 ⇓P P 17 36 40.2 -0.3
baz=70
G10A **Bishop Farm, J** 69.90 330 ⇓P P 17 36 40.6 +0.1
baz=70
J06A **Christmas Vall** 69.95 327 ⇑P P 17 36 41.1 +0.2
baz=70
D13A **Huson** 70.04 333 ⇓P P 17 36 41.1 -0.3
baz=70
N02C **Big Bar** 70.04 324 ⇑P P 17 36 41.9 +0.4
baz=70
H08A **Prairie City** 70.09 329 ⇓P P 17 36 41.7 -0.1
baz=70,SNR=6.0
L04A **Klamath Falls** 70.15 326 ⇓P P 17 36 42.3 +0.1
baz=70
I07A **Izee** 70.20 328 ⇓P P 17 36 42.7 +0.2
baz=70
G09A **Cove** 70.21 330 ⇓P P 17 36 42.5 +0.1
baz=70
C14A **Swan Lake** 70.26 334 ⇓P P 17 36 43.0 +0.3
baz=70
PPT **Papeete** 70.26 256 *e*LR LR 17 58 01.5
comp=Z,84nm,27.2s
E11A **Bogner Ranch,** 70.26 332 ⇓P P 17 36 42.6 -0.2
baz=70
D12A **Red Ives Fores** 70.40 333 ⇓P P 17 36 43.7 +0.1
baz=70
F10A **Beach Ranch, E** 70.45 331 ⇓P P 17 36 44.0 0.0
baz=70
C13A **Hot Springs** 70.54 334 ⇓P P 17 36 44.3 -0.1
baz=70,SNR=5.1
J05A **Fort Rock** 70.55 327 ⇓P P 17 36 44.5 -0.1
baz=70
G08A **Pilot Rock** 70.79 329 ⇓P P 17 36 46.2 +0.2
baz=71
H06A **Lindquist Farm** 71.08 328 ⇓P P 17 36 47.9 +0.1
baz=71,SNR=5.3
G07A **Ruggs Ranch, H** 71.12 329 ⇑P P 17 36 48.6 +0.6
baz=71
D10A **Wagner Farm, O** 71.27 332 ⇓P P 17 36 48.8 -0.1
baz=71
E09A **Wood Farm, Sta** 71.28 331 ⇑P P 17 36 48.9 -0.1
baz=71
SNAA **Sanae** 71.33 161 *e*P P 17 36 48.8 -0.2
SNAA pmax pmax
comp=Z,7.0nm,0.9s
SNAA **Sanae** 71.33 161 *e*P P 17 36 48.8 -0.2
comp=Z,7.2nm,0.9s,mb4.6
K02A **Glendale** 71.42 325 ⇑P P 17 36 50.0 +0.1
baz=71
A13A **Flathead Natio** 71.44 335 ⇓P P 17 36 50.5 +0.7
baz=71
B12A **Libby** 71.58 334 ⇑P P 17 36 51.1 +0.4
baz=72
G06A **Carlson Farm,** 71.59 329 ⇑P P 17 36 51.2 +0.3
baz=72
D09A **Jones Farm, Ri** 71.76 331 ⇑P P 17 36 51.6 -0.2
baz=72
OD2 **Odessa Site #2** 72.19 331 *e*P P 17 36 54.3 -0.1
A11A **Hall Mountain,** 72.29 333 ⇓P P 17 36 55.2 +0.3
baz=72
B09A **Rice** 72.68 332 ⇓P P 17 36 58.4 +1.1
baz=73
B08A **Colville Reser** 73.18 332 ⇑P P 17 37 00.4 +0.1
baz=73
LIC **Lamto** 73.44 79 *e*P P 17 37 02.3 -0.3
comp=Z,51nm,1.7s,mb5.2
TIC **Toumodi** 73.57 79 *e*P P 17 37 03.4 +0.1
comp=Z,88nm,1.3s,mb5.5
A08A **Turner Farm, O** 73.58 332 ⇑P P 17 37 02.4 -0.2
baz=74
B07A **Winthrop** 73.61 331 ⇓P P 17 37 03.1 +0.3
baz=74
DBIC **Dimbokro** 73.73 79 P P 17 37 04.6 +0.3
comp=Z,5.4nm,0.9s,mb4.5,baz=200,slow=4.9,SNR=6.3
DBIC **Dimbokro** 73.73 79 P P 17 37 04.6 +0.3
KIC **Kosan Boka** 73.75 79 *e*P P 17 37 04.2 -0.2
comp=Z,102nm,1.5s,mb5.5
A07A **Ashnola River,** 74.16 332 ⇑P P 17 37 06.0 +0.1
baz=74
NLWA **Neilton Lookou** 74.70 329 ⇑P P 17 37 09.8 +0.7
baz=75
RAR **Rarotonga** 79.10 251 LR LR 18 06 42.1
comp=Z,101nm,18.6s,MS4.2,baz=187,slow=31
TORD **Torodi Ar. Bea** 81.78 74 P P 17 37 49.5 +0.4
comp=Z,16nm,0.6s,mb5.1,baz=275,slow=4.0,SNR=63
TORD **Torodi Ar. Bea** 81.78 74 P P 17 37 49.5 +0.4
YKA **Yellowknife Ar** 82.19 343 P P 17 37 49.4 -0.8
comp=Z,0.8nm,0.6s,mb3.8,baz=148,slow=5.5,SNR=3.4
VNDA **Vanda** 82.69 191 P P 17 37 53.4 +0.6
comp=Z,0.8nm,0.8s,mb3.8,baz=225,slow=1.4,SNR=2.7
VNDA LR LR 18 06 51.4
comp=Z,64nm,21.2s,MS4.0,baz=37,slow=30
SYO **Syowa Base** 85.62 161 ⇓*e*X 17 38 06.0
SYO **Syowa Base** 85.62 161 ⇓*e*PcP PcP 17 38 11.6 +1.0
SUMG **Summit** 90.14 11 *e*P P 17 38 29.4 +0.3
comp=Z,1.1nm,0.4s,mb4.5
MAW **Mawson** 93.13 165 P P 17 38 43.2 0.0
comp=Z,1.2nm,0.7s,mb4.5,baz=255,slow=7.7,SNR=4.7
ASAR **Alice Springs** 132.19 218 PKP PKPdf 17 44 43.2 -0.9
comp=Z,0.5nm,0.6s,baz=128,slow=2.2,SNR=14
WRA **Warramunga Arr** 134.65 222 PKP PKPdf 17 44 48.4 -0.4
comp=Z,1.4nm,0.7s,baz=137,slow=1.7,SNR=14
ZAA0 **Zalesovo Array** 137.68 17 PKPdf PKPdf 17 44 51.9 -1.4
ZALV **Zalesovo Beam** 137.68 17 PKP PKPdf 17 44 52.4 -1.0
comp=Z,2.5nm,0.8s,baz=318,slow=2.0,SNR=9.4
ZAL **Zalesovo** 137.68 17 PKIKP PKPdf 17 44 52.4 -0.9
KURK **Kurchatov** 138.30 24 *e*PKIKP PKPdf 17 44 54.6 0.0
MKAR **Makanchi Array** 142.90 25 PKhKP 17 44 59.7
comp=Z,0.2nm,0.2s,baz=28,slow=3.4,SNR=3.8
MKAR PKP PKPdf 17 45 02.6 -0.4
comp=Z,0.2nm,0.2s,baz=0.0,slow=2.5,SNR=4.2
ZAK **Zakamensk** 143.97 1 *e*PKIKP PKPdf 17 45 02.3 -2.5
CN2 **Changchun** 145.23 332 *e*PKP PKPdf 17 45 07.4 +0.2
SONM **Songino Array** 146.46 357 PKPbc PKPbc 17 45 10.6 +0.1
comp=Z,6.5nm,0.6s,baz=335,slow=2.3,SNR=34
KSRS **Korea Array** 148.49 322 PKPbc PKPbc 17 45 15.4 -1.0
comp=Z,3.1nm,0.9s,baz=22,slow=2.5,SNR=14
HHC **Hu-ho-hao-te** 152.66 347 *e*PKP PKPdf 17 45 19.5 +0.3
HHC APKP 17 45 30.4
HHC XPKP 17 45 33.9
HHC PKS 17 48 52.8
HHC PP PP 17 49 11.8 +3.2
HHC SKS SKSdf 17 52 22.3 -0.5
HHC SKKS SKKSac 17 55 56.4 +0.1
HHC PP PP
comp=Z,90nm,5.7s
HHC LR LR
comp=N,104nm,19.0s,MS4.9
HHC LR LR
comp=E,153nm,20.2s,MS4.9
HHC LR LR
comp=Z,52nm,19.0s,MS4.4
GTA **Gaotai** 154.70 7 *e*PKP PKPdf 17 45 23.0 +0.8
GTA APKP 17 45 33.9
GTA XPKP 17 45 37.5
GTA PKP2 PKPab 17 45 49.9 +4.3
NJ2 **Nanjing** 157.58 325 *e*PKP PKPdf 17 45 25.3 -0.9
LZH **Lanzhou** 158.26 360 *e*PKP PKPdf 17 45 28.0 +1.1
LZH APKP 17 45 39.3
LZH XPKP 17 45 44.0
CD2 **Chengdu** 163.43 0 *e*PKP PKPdf 17 45 32.1 -0.6
GYA **Guiyang** 167.57 348 *e*PKP PKPdf 17 45 36.4 +0.2
GYA XPKP 17 45 51.8
GYA PKS 17 49 07.8
GYA PP PP 17 50 31.6 +2.5
GYA PP PP
comp=Z,80nm,7.8s
KMI **Kunming** 169.15 5 PKP PKPdf 17 45 34.5 -2.8
KMI APKP 17 45 48.8
KMI XPKP 17 45 52.4
KMI LR LR
comp=Z,49nm,18.6s
CMAR **Chiang Mai Arr** 173.73 48 PKP PKPdf 17 45 39.4 -0.3
comp=Z,0.5nm,0.9s,baz=294,slow=0.9,SNR=4.1
CMAR PKPab PKPab 17 47 07.8 -1.8
comp=Z,0.3nm,0.8s,baz=311,slow=3.5,SNR=3.2

ISCJB ***22*** *17:46:06.3±0.6,592S±01×282W±03,h250km,mb4.1/10, Error ellipse: s-maj=19.0km s-min=12.9km az=153.8*
IDC ***22*** *17:46:11.9±1.8,5933S×2835W,h292km±16km,mb3.3/6, mb1 3.3/7,mb1mx3.2/17,mbtmp3.2/7,Error ellipse: s-maj=19.5km s-min=13.4km az=52.0*
NEIC ***22*** *17:46:11.5±3.0,5931S×2831W,h292km±31km,mb4.9/2, Error ellipse: s-maj=18.2km s-min=11.9km az=46.0*

ISC 22 17:46:08.1±0.6,592S±01×282W±03,h250km,n19, σ0§67/14,mb4.1/10,South Sandwich Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SNAA Sanae 16.14 151 P P 17 49 39.8 -0.2
0.1nm,0.3s,baz=323,slow=15,SNR=6.3
QSPA South Pole Qui 31.02 180 P P 17 52 02.4 +0.5
0.5nm,0.5s,mb3.4,baz=206,slow=12,SNR=7.1
QSPA PcP PcP 17 54 49.3 -1.4
0.5nm,0.5s,baz=298,slow=3.9,SNR=2.9
QSPA South Pole Qui 31.02 180 P P 17 52 02.4 +0.5
QSPA PcP PcP 17 54 49.3 -1.4
PLCA Paso Flores 32.18 286 P P 17 52 12.2 -0.2
0.8nm,0.7s,mb3.4,baz=173,slow=13,SNR=3.2
PLCA ScP ScP 17 58 08.7 -5.0
1.6nm,0.9s,baz=242,slow=23,SNR=3.2
MAW Mawson 37.97 141 P P 17 53 01.0 -0.3
1.2nm,0.8s,mb3.5,baz=246,slow=6.5,SNR=3.3
CFAA Coronel Fontan 38.43 298 P P 17 53 04.4 -1.3
0.4nm,0.6s,mb3.1,baz=154,slow=8.5,SNR=8.0
CFAA ScP ScP 17 58 31.8 -4.8
0.2nm,0.6s,baz=143,slow=9.1,SNR=4.2
CFAA Coronel Fontan 38.43 298 P P 17 53 04.4 -1.2
CFAA ScP ScP 17 58 31.8 -4.9
LPAZ La Paz 51.84 308 P P 17 54 52.2 +1.5
3.0nm,0.5s,mb4.0,baz=112,slow=6.6,SNR=25
LPAZ La Paz 51.84 308 P P 17 54 52.2 +1.5
LIC Lamto 67.81 25 *e*P P 17 56 38.7 -0.4
38nm,0.7s,mb5.2
KIC Kosan Boka 68.01 25 *e*P P 17 56 39.8 -0.5
11nm,0.6s,mb4.7
TIC Toumodi 68.22 25 *e*P P 17 56 41.6 0.0
25nm,0.6s,mb5.0
DBIC Dimbokro 68.28 25 P P 17 56 42.3 +0.3
5.2nm,0.5s,mb4.4,baz=173,slow=6.9,SNR=21
TORD Torodi Ar. Bea 76.09 30 P P 17 57 28.7 +0.7
8.4nm,0.4s,mb4.7,baz=196,slow=6.3,SNR=144
ARCES ARCESS Array B 134.09 23 PKP PKPdf 18 04 52.5 -1.3
1.9nm,0.8s,baz=202,slow=1.3,SNR=9.1
YKA Yellowknife Ar 138.12 316 PKP PKPdf 18 05 00.2 -1.2
0.6nm,0.4s,baz=133,slow=2.0,SNR=6.1
MKAR Makanchi Array 138.33 75 SKPbc SKPbc 18 08 07.0 -5.5
0.7nm,0.7s,baz=245,slow=2.6,SNR=5.9
ZALV Zalesovo Beam 144.17 68 PKP PKPdf 18 05 09.9 -2.7
2.6nm,0.5s,baz=252,slow=3.5,SNR=13
ZALV SKPbc SKPbc 18 08 21.1 -6.1
1.0nm,0.7s,baz=251,slow=4.5,SNR=4.3
SONM Songino Array 151.30 93 PKPbc PKPbc 18 05 29.5 -1.2
1.2nm,0.5s,baz=247,slow=1.1,SNR=5.7

IDC 22 17:47:44.2±2.4,582S×15427E,h0km,mb3.2/2,mb1 3.4/2, mb1mx3.2/16,mbtmp3.2/2,MS2.6/1,Ms1 2.6/1, ms1mx2.5/16,Error ellipse: s-maj=116.5km s-min=42.6km az=126.0,Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 6.68 123 LR LR 17 51 30.0
comp=Z,54nm,19.6s,baz=187,slow=34
WRA Warramunga Arr 23.92 232 P P 17 53 01.1 +1.0
0.5nm,0.7s,baz=59,slow=9.9,SNR=8.9
WRA PcP PcP 17 56 43.3 +0.2
0.2nm,0.5s,baz=54,slow=2.1,SNR=7.7
ASAR Alice Springs 26.43 226 P P 17 53 22.3 -0.7
0.3nm,0.8s,baz=63,slow=8.8,SNR=4.5
TORD Torodi Ar. Bea 152.00 287 PKPbc PKPbc 18 07 42.9 +0.3
0.7nm,0.8s,baz=100,slow=2.4,SNR=4.8
TORD PKPab PKPab 18 07 49.9 -1.9
0.3nm,0.5s,baz=50,slow=2.2,SNR=4.2

BJI ***22*** *18:08:29.9,3600N×260E,h12km,mB4.5,mb4.6,Ms4.5, Msz3.9*
SZGRF ***22*** *18:08:32.8,3621N×2.15E,h33km,mb3.3,Northern Algeria*
IDC ***22*** *18:08:32.8±0.7,3603N×269E,h0km,mb4.0/13, mb1 4.2/21,mb1mx4.1/31,mbtmp4.1/21,ML4.1/7,MS3.7/15, Ms1 3.7/15,ms1mx3.4/34,Error ellipse: s-maj=16.6km s-min=13.1km az=175.0*
ISCJB ***22*** *18:08:33.1±0.2,3613N±002×260E±001,h10km,mb4.4/47, MS3.8/20,Error ellipse: s-maj=2.5km s-min=1.6km az=168.9*
SFS ***22*** *18:08:33.0,3600N×260E,h0km,ML4.4*
MDD ***22*** *18:08:34.2±0.4,3607N×273E,h0km,mb4.7/47,Error ellipse: s-maj=5.3km s-min=2.9km az=167.0,PRIMO*
NEIC ***22*** *18:08:34.9±2.1,3603N×262E,h12km±14km,mb4.6/27, Error ellipse: s-maj=6.6km s-min=3.3km az=158.0*
CRAAG ***22*** *18:08:35.3,3626N×286E,Ml5.2*
INMG ***22*** *18:08:35.1±0.8,3599N×291E,h48km±6km,ML3.4,Error ellipse: s-maj=5.6km s-min=3.1km az=128.0*
MOS ***22*** *18:08:35.3±1.5,3625N×257E,h17km,mb4.6/9,Error ellipse: s-maj=5.7km s-min=2.4km az=77.9*
LDG ***22*** *18:08:35.6±0.2,3604N×249E,h28km,Ml4.2/12,ms3.3/8, Error ellipse: s-maj=6.3km s-min=3.9km az=166.0*
CSEM ***22*** *18:08:36.4±0.1,3613N×252E,h35km,mb4.9/18,ML4.1/9, Error ellipse: s-maj=1.6km s-min=1.0km az=156.0*
CNRM ***22*** *18:08:40.2,3599N×245W,h40km,MD4.9*

ISC 22 18:08:35.0±0.2,3608N±002×262E±001,h10km, (h18km±2.2km:pP-P),n461,σ1§27/557,mb4.4/47,MS3.8/20, 12C-12D,Northern Algeria

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
EMHD Djebel Mahouad 0.30 65 P Pg 18 08 38.4 -2.5
ADJB Djebel Djouab 0.67 83 P Pg 18 08 45.2 -2.7
ABA Alger-Bouzarea 0.80 25 P Pg 18 08 48.4 -2.0
EBNR Beni Rached 0.91 284 P Pg 18 08 52.0 -0.4
ABMS Boumerdes 0.97 46 P Pg 18 08 51.1 -2.5
ECHA Ech Chlef 1.02 275 P Pg 18 08 54.5 0.0
ECHF Ech Chlef 1.04 275 P Pg 18 08 54.5 -0.5
EANR 'Ain N'Sour 1.24 265 P Pn 18 08 57.6 -0.7
ETRT Tiaret 1.27 238 P Pn 18 08 59.5 +0.7
OKGL Djebel Kef Gue 1.60 269 P Pn 18 09 02.0 -1.3
OJGS Djebel Guires 1.62 250 P Pn 18 09 01.0 -2.6
OJBR Djebel Berber 1.91 256 P Pn 18 09 03.0 -4.6
SET Setif 2.25 86 P Pn 18 09 11.0 -1.3
CKHR Kef el Ahmar 2.34 91 P Pn 18 09 12.0 -1.5
ODJA Bouhanifia 2.37 253 P Pn 18 09 11.0 -2.9
USTO Oran 2.60 263 P Pg 18 09 25.0 +0.3
DFRA Djebel Bou Aff 2.67 79 P Pn 18 09 15.5 -2.5
CTEI Djebel Teioual 3.07 89 P Pn 18 09 22.0 -1.5
EIBI Ibiza 3.12 341 ⇓P Pn 18 09 23.6 -0.6
68nm,0.3s,SNR=18
EIBI S Sn 18 09 57.6 -3.8
242nm,0.4s,SNR=7.9
EIBI Ibiza 3.12 341 P Pn 18 09 23.6 -0.5
68nm,0.3s,SNR=18
EIBI S Sn 18 09 57.6 -3.8
242nm,0.4s,SNR=7.9
CASM Ain Smara 3.14 86 P Pn 18 09 22.0 -2.4
CART Cartagena 3.27 299 P Pn 18 09 27.1 +0.8
CART S Sn 18 10 08.0 +2.7
CART Cartagena 3.27 299 *e*P Pn 18 09 24.2 -2.1
CKFL Kef-Lekhel 3.33 83 P Pn 18 09 25.0 -2.1
EBEN Beniarda 3.47 320 P Pn 18 09 28.2 -0.7
16nm,0.4s,SNR=22
EBEN S Sn 18 10 10.2 +0.2
82nm,0.4s,SNR=7.9
EBEN Beniarda 3.47 320 P Pn 18 09 28.2 -0.8
16nm,0.4s,SNR=22
EBEN S Sn 18 10 10.2 +0.2
82nm,0.4s,SNR=7.9
CAEH 'Ain El Ouahch 3.48 77 P Pn 18 09 25.0 -4.2
EMUR La Murta 3.56 301 P Pn 18 09 29.2 -1.0
19nm,0.3s,SNR=22
EMUR S Sn 18 10 11.8 -0.6
46nm,0.5s,SNR=4.7
EMUR La Murta 3.56 301 P Pn 18 09 29.2 -1.0
19nm,0.3s,SNR=22
EMUR S Sn 18 10 11.8 -0.5
46nm,0.5s,SNR=4.7
ETOS Mallorca 3.69 2 P Pn 18 09 30.6 -1.5
189nm,0.6s,SNR=86
ETOS S Sn 18 10 11.8 -3.8
74nm,0.4s,SNR=7.9
ETOS Mallorca 3.69 2 P Pn 18 09 30.6 -1.4
189nm,0.6s,SNR=86
ETOS S Sn 18 10 11.8 -3.7
74nm,0.4s,SNR=7.9
CMAH Djebel Manchou 3.91 81 P Pn 18 09 32.5 -2.6
ABSA Djebel Ababsia 3.94 86 P Pn 18 09 33.0 -2.4
CABS Djebel Ababsia 3.94 86 P Pn 18 09 33.0 -2.4
ENIJ Nijar 3.99 284 P Pn 18 09 36.3 +0.2
20nm,0.3s,SNR=12
ENIJ S Sn 18 10 23.3 +0.4
82nm,0.6s,SNR=7.9
MAHO Mahon 4.03 18 P Pn 18 09 33.6 -3.1
MAHO S Sn 18 10 19.8 -4.1
MAHO Mahon 4.03 18 *e*P Pn 18 09 33.6 -3.1
MAHO *e*S Sn 18 10 19.8 -4.1
ETOB Tobarra 4.20 309 P Pn 18 09 40.0 +1.0
34nm,0.3s,SNR=39
ETOB S Sn 18 10 26.8 -1.2
71nm,0.5s
ETOB Tobarra 4.20 309 P Pn 18 09 40.0 +1.0
34nm,0.3s,SNR=39
ETOB S Sn 18 10 26.8 -1.2
71nm,0.5s
ZAI Zaio 4.51 257 *i*P Pn 18 09 43.0 -0.4
ZAI *i*S Sn 18 10 31.0 -4.9
EBER Berja 4.51 282 P Pn 18 09 42.5 -0.9
24nm,0.4s,SNR=36
EBER S Sn 18 10 36.5 +0.6
49nm,0.4s,SNR=7.9
EBER Berja 4.51 282 P Pn 18 09 42.5 -0.9
24nm,0.4s,SNR=36
EBER S Sn 18 10 36.5 +0.6
49nm,0.4s,SNR=7.9
EHUE Huescar 4.52 294 P Pn 18 09 44.3 +0.8
3.2nm,0.2s,SNR=7.9
EHUE S Sn 18 10 31.6 -4.5
26nm,0.7s,SNR=7.9
EVIA Vianos 4.82 304 P Pn 18 09 47.2 -0.3
6.4nm,0.2s,SNR=7.9
EVIA S Sn 18 10 43.8 +0.5
58nm,0.6s,SNR=7.9
EQES Quesada 4.87 292 P Pn 18 09 49.8 +1.5
42nm,0.7s,SNR=37
EQES S Sn 18 10 45.1 +0.4
41nm,0.4s
EQES Quesada 4.87 292 P Pn 18 09 49.8 +1.5
42nm,0.7s,SNR=37

EQES			S	Sn	18 10 45.1	+0.3
	41nm,0.4s					
EMOS	**Mosqueruela**	**4.92 331**	P	Pn	18 09 49.3	+0.3
	19nm,0.2s,SNR=62					
EMOS			S	Sn	18 10 42.4	-3.6
	85nm,0.7s,SNR=7.9					
EMOS	**Mosqueruela**	**4.92 331**	P	Pn	18 09 49.3	+0.3
	19nm,0.2s,SNR=62					
EMOS			S	Sn	18 10 41.3	-4.7
	85nm,0.7s,SNR=7.9					
EMOS	**Mosqueruela**	**4.92 331**	P	Pn	18 09 49.3	+0.3
EMOS			S	Sn	18 10 41.3	-4.7
EQUE	**Quentar**	**5.00 285**	P	Pn	18 09 49.9	-0.2
	70nm,0.6s,SNR=63					
EQUE			S	Sn	18 10 50.0	+2.1
	26nm,0.4s,SNR=7.9					
ECOG	**Cogollos-Vega**	**5.12 285**	P	Pn	18 09 52.6	+0.9
	26nm,0.5s,SNR=23					
ECOG			S	Sn	18 10 48.1	-2.7
	13nm,0.4s					
ERTA	**Horta de San J**	**5.19 340**	P	Pn	18 09 51.5	-1.2
	19nm,0.5s,SNR=21					
ERTA			S	Sn	18 10 49.4	-3.2
	25nm,0.5s,SNR=7.9					
ERTA	**Horta de San J**	**5.19 340**	P	Pn	18 09 51.5	-1.2
	19nm,0.5s,SNR=21					
ERTA			S	Sn	18 10 49.4	-3.2
	25nm,0.5s,SNR=7.9					
ERON	**Agron**	**5.26 282**	P	Pn	18 09 54.3	+0.7
	18nm,0.4s,SNR=7.9					
TOU	**Touzarine**	**5.32 260**	*e*P	Pn	18 09 56.0	+1.6
TOU			*i* S	Sn	18 10 49.0	-6.7
EPOB	**Poblet**	**5.41 348**	P	Pn	18 09 55.3	-0.3
	4.5nm,0.3s,SNR=21					
EPOB			S	Sn	18 10 55.0	-2.9
	24nm,0.7s,SNR=7.9					
EPOB	**Poblet**	**5.41 348**	P	Pn	18 09 55.3	-0.3
	4.5nm,0.3s,SNR=21					
EPOB			S	Sn	18 10 55.0	-2.8
	24nm,0.7s,SNR=7.9					
MPAL	**Palemas**	**5.41 263**	*e*P	Pn	18 09 58.0	+2.3
MPAL			*e*S	Sn	18 10 53.0	-5.0
KEST	**Kesra**	**5.47 92**	Pn	Pn	18 09 55.6	-0.9
	2.6nm,0.3s,baz=242,slow=2.7,SNR=70					
KEST			Lg		18 11 22.2	
	0.3nm,0.3s,baz=108,slow=20,SNR=2.0					
EBAN	**Banos Encina**	**5.53 294**	P	Pn	18 09 57.8	+0.6
	3.9nm,0.3s,SNR=9.8					
EBAN			S	Sn	18 10 58.9	-2.0
	8.5nm,0.5s					
ELOJ	**Sierra Loja**	**5.55 283**	P	Pn	18 09 58.5	+0.8
	27nm,0.5s,SNR=41					
ELOJ			S	Sn	18 11 02.5	+1.0
	12nm,0.5s,SNR=4.8					
ELUQ	**Luque**	**5.72 287**	P	Pn	18 10 00.6	+0.7
	7.6nm,0.4s,SNR=10.0					
ELUQ			S	Sn	18 11 04.8	-0.8
	21nm,0.7s					
EMAL	**Malaga-Limoner**	**5.72 279**	P	Pn	18 10 00.3	+0.2
EMAL			S	Sn	18 11 03.1	-2.7
EMAL	**Malaga-Limoner**	**5.72 279**	*e*P	Pn	18 10 00.3	+0.3
EMAL			*e*S	Sn	18 11 03.1	-2.7
TZK	**Tazeka**	**5.92 252**	*i* P	Pn	18 10 03.5	+0.8
TZK			*i* S	Sn	18 11 06.0	-4.6
EMIJ	**Mijas**	**5.99 277**	P	Pn	18 10 01.5	-2.1
	3.3nm,0.2s,SNR=11					
EMIJ			S	Sn	18 11 03.4	-8.9
	17nm,0.6s,SNR=7.9					
ETOR	**Torete**	**5.99 324**	P	Pn	18 10 05.3	+1.7
	23nm,0.4s,SNR=16					
ETOR			S	Sn	18 11 11.2	-1.1
	19nm,0.5s,SNR=7.9					
EADA	**Adamuz**	**6.12 292**	P	Pn	18 10 05.3	-0.1
	2.5nm,0.4s,SNR=10.0					
EADA			S	Sn	18 11 14.1	-1.3
	24nm,0.7s,SNR=11					
EADA	**Adamuz**	**6.12 292**	P	Pn	18 10 05.3	-0.1
	2.5nm,0.4s,SNR=10.0					
EADA			S	Sn	18 11 14.1	-1.3
	24nm,0.7s,SNR=11					
ESAC	**San Caprasio**	**6.13 338**	P	Pn	18 10 06.6	+1.0
	34nm,0.4s,SNR=15					
ESAC			S	Sn	18 11 12.4	-3.3
	78nm,0.4s					
ESAC	**San Caprasio**	**6.13 338**	P	Pn	18 10 06.6	+1.0
	34nm,0.4s,SNR=15					
ESAC			S	Sn	18 11 12.4	-3.3
	78nm,0.4s					
ESDC	**Sonseca Array**	**6.33 307**	Pn	Pn	18 10 08.1	-0.2
	5.3nm,0.3s,baz=121,slow=13,SNR=51					
ESDC			Sn	Sn	18 11 26.2	+5.7
	1.5nm,0.3s,baz=118,slow=24,SNR=3.5					
ESDC	**Sonseca Array**	**6.33 307**	P	Pn	18 10 08.8	+0.5
	16nm,0.4s,baz=121,slow=13,SNR=37					
ESDC			S	Sn	18 11 19.1	-1.4
	SNR=7.9					
ESDC	**Sonseca Array**	**6.33 307**	P	Pn	18 10 08.8	+0.6
	16nm,0.4s,SNR=37					
ESDC			S	Sn	18 11 19.1	-1.4
	SNR=7.9					
VALF	**Valcebollere**	**6.33 356**	P	Pn	18 10 08.6	+0.2
REAL	**Reales**	**6.34 276**	P	Pn	18 10 09.0	+0.6
REAL			S	Sn	18 11 16.0	-4.8
REAL	**Reales**	**6.34 276**	*e*P	Pn	18 10 09.0	+0.6
EJON	**La Jonquera**	**6.37 2**	P	Pn	18 10 09.0	+0.2
	9.0nm,0.3s,SNR=9.7					
EJON			S	Sn	18 11 15.9	-5.6
	11nm,0.4s,SNR=7.9					
EJON	**La Jonquera**	**6.37 2**	P	Pn	18 10 09.0	+0.2
	9.0nm,0.3s,SNR=9.7					
SJAF	**Saint Jean de**	**6.40 2**	P	Pn	18 10 08.6	-0.7
FILF	**Fillols**	**6.48 360**	P	Pn	18 10 09.7	-0.6
ECEU	**Ceuta**	**6.49 271**	P	Pn	18 10 09.1	-1.4
	3.3nm,0.3s,SNR=6.2					
ECEU			S	Sn	18 11 21.8	-2.7
	10.0nm,0.4s,SNR=7.9					
ECEU	**Ceuta**	**6.49 271**	P	Pn	18 10 09.1	-1.4
	3.3nm,0.3s,SNR=6.2					
ECEU			S	Sn	18 11 25.9	+1.4
	10.0nm,0.4s,SNR=7.9					
PAB	**San Pablo**	**6.51 304**	*e*P	Pn	18 10 10.0	-0.8
PAB			pmax	pmax		
	comp=Z,18nm,0.6s					
PAB	**San Pablo**	**6.51 304**	*e*P	Pn	18 10 10.0	-0.8
	comp=Z,18nm,0.6s					
DKH	**Dar Kharkhour**	**6.51 267**	*i* P	Pn	18 10 11.0	+0.2
DKH			*i* S	Sn	18 11 18.0	-7.2
LIJA	**Lijar**	**6.52 280**	P	Pn	18 10 14.0	+3.1
LIJA			S	Sn	18 11 30.0	+4.7
LIJA	**Lijar**	**6.52 280**	*e*P	Pn	18 10 14.0	+3.1
EJIF	**Jimena Fronter**	**6.55 276**	P	Pn	18 10 13.2	+1.9
	comp=Z,19nm,0.6s,SNR=7.9					
EJIF			S	Sn	18 11 22.4	-3.6
	comp=Z,4.8nm,0.4s,SNR=7.9					
EJIF	**Jimena Fronter**	**6.55 276**	P	Pn	18 10 13.2	+1.9
EJIF			S	Sn	18 11 27.9	+1.9
TGT	**Taghat**	**6.60 255**	*i* P	Pn	18 10 13.0	+0.9
TGT			*i* S	Sn	18 11 21.0	-6.4
CARF	**Carcanieres**	**6.64 357**	P	Pn	18 10 12.4	-0.2
ECAB	**El Cabril**	**6.73 290**	P	Pn	18 10 14.5	+0.7
	comp=Z,9.8nm,0.3s,SNR=14					
ECAB			S	Sn	18 11 29.6	-0.9
	comp=Z,33nm,0.8s					
ECAB	**El Cabril**	**6.73 290**	P	Pn	18 10 14.5	+0.7
	comp=Z,9.8nm,0.3s,SNR=14					
ECAB			S	Sn	18 11 29.6	-0.9
	comp=Z,33nm,0.8s					
MDT	**Midelt**	**6.80 244**	Pn	Pn	18 10 15.2	+0.4
	comp=Z,3.4nm,0.3s,baz=73,slow=16,SNR=60					
MDT			Lg		18 12 09.7	
	comp=Z,5.9nm,0.3s,baz=217,slow=20,SNR=2.6					
LRDF	**Laroque-de-Fa**	**6.85 360**	P	Pn	18 10 15.2	-0.3
IFR	**Ifrane**	**6.87 250**	P	Pn	18 10 16.5	+0.8
EBIE	**Bielsa**	**6.87 345**	P	Pn	18 10 16.3	+0.5
	comp=Z,9.6nm,0.5s,SNR=16					
EBIE			S	Sn	18 11 30.3	-3.7
	comp=Z,10nm,0.6s					
EBIE	**Bielsa**	**6.87 345**	P	Pn	18 10 16.3	+0.5
	comp=Z,9.6nm,0.5s,SNR=16					
ESPR	**Espera**	**6.88 279**	P	Pn	18 10 17.1	+1.3
	comp=Z,5.6nm,0.5s,SNR=5.7					
ESPR	**Espera**	**6.88 279**	P	Pn	18 10 17.1	+1.3
	comp=Z,5.6nm,0.5s,SNR=5.7					
MELF	**Melles**	**6.94 349**	P	Pn	18 10 16.8	+0.2
MLS	**Moulis**	**6.97 351**	P	Pn	18 10 17.5	+0.4
MIF	**Mishlifen**	**6.99 250**	*i* P	Pn	18 10 17.0	-0.4
MIF			*i* S	Sn	18 11 30.0	-6.9
RSA	**Sarsar**	**7.00 263**	*i* P	Pn	18 10 18.0	+0.5
RSA			*i* S	Sn	18 11 31.0	-6.1
GUD	**Guadarrama**	**7.01 313**	P	Pn	18 10 19.0	+1.4
	comp=Z,29nm,0.5s,SNR=36					
CZD	**Col de Zad**	**7.01 247**	*i* P	Pn	18 10 20.0	+2.3
CZD			*i* S	Sn	18 11 32.0	-5.5
ZFT	**Errachidia**	**7.05 237**	*i* P	Pn	18 10 18.0	-0.2
ZFT			*i* S	Sn	18 11 32.0	-6.4
VIEF	**Viey**	**7.09 344**	P	Pn	18 10 18.9	+0.2
EPF	**Esparros**	**7.17 346**	*e*P	Pn	18 10 20.6	+0.8
	SNR=1.0					
EPF			*e*Sn	Sn	18 11 32.7	-8.5
	comp=Z,31nm,0.6s					
EPF	**Esparros**	**7.17 346**	*e*P	Pn	18 10 20.6	+0.8
	SNR=1.0					
EPF			*e*Sn	Sn	18 11 32.7	-8.5
	comp=Z,16nm,0.6s					
LABF	**Labassere**	**7.23 345**	P	Pn	18 10 21.3	+0.6
ETSF	**Etsaut**	**7.24 341**	*e*P	Pn	18 10 21.9	+1.1
	SNR=1.0					
ETSF			*e*Sn	Sn	18 11 34.3	-8.8
	comp=Z,82nm,1.0s,SNR=1.0					
ETSF	**Etsaut**	**7.24 341**	*e*P	Pn	18 10 21.9	+1.1
	SNR=1.0					
ETSF			*e*Sn	Sn	18 11 34.3	-8.8
	comp=Z,41nm,1.0s,SNR=1.0					
MTLF	**Montolieu**	**7.26 358**	*e*Pn	Pn	18 10 19.3	-1.8
MTLF			*e*P		18 10 23.2	
IPRE	**Itoiz**	**7.39 337**	P	Pn	18 10 23.8	+0.9
	comp=Z,1.4nm,0.2s,SNR=7.7					
IPRE	**Itoiz**	**7.39 337**	P	Pn	18 10 23.8	+0.9
	comp=Z,1.4nm,0.2s,SNR=7.7					
IUNC	**Unciti**	**7.39 336**	P	Pn	18 10 24.4	+1.5
	comp=Z,4.4nm,0.2s,SNR=7.9					
EARA	**Aranguren**	**7.43 335**	P	Pn	18 10 23.5	+0.1
	comp=Z,4.1nm,0.2s,SNR=7.3					
ATE	**Arette**	**7.45 341**	P	Pn	18 10 24.0	+0.3
EORO	**Oroz-Betelu**	**7.45 337**	P	Pn	18 10 23.6	-0.1
	comp=Z,16nm,0.5s,SNR=15					
EORO	**Oroz-Betelu**	**7.45 337**	P	Pn	18 10 23.6	-0.1
	comp=Z,16nm,0.5s,SNR=15					
IZUN	**Zunzarren**	**7.47 336**	P	Pn	18 10 25.4	+1.5
	comp=Z,6.6nm,0.3s,SNR=7.9					
IZUN	**Zunzarren**	**7.47 336**	P	Pn	18 10 25.4	+1.4
	comp=Z,6.6nm,0.3s,SNR=7.9					
LARF	**Larrau**	**7.49 339**	P	Pn	18 10 24.9	+0.7
OSPF	**L'Ospedale**	**7.57 41**	P	Pn	18 10 23.3	-2.1
IUSE	**Utxeti**	**7.58 336**	P	Pn	18 10 26.6	+1.2
	comp=Z,4.9nm,0.4s,SNR=7.8					
IUSE	**Utxeti**	**7.58 336**	P	Pn	18 10 26.6	+1.2
	comp=Z,4.9nm,0.4s,SNR=7.8					
SJPF	**Ste Jean**	**7.63 338**	*e*P	Pn	18 10 27.2	+1.1
	SNR=1.0					
SJPF			*e*Sn	Sn	18 11 44.1	-8.5
	comp=Z,47nm,0.8s					
SJPF	**Ste Jean**	**7.63 338**	*e*P	Pn	18 10 27.2	+1.1
	SNR=1.0					
SJPF			*e*Sn	Sn	18 11 44.1	-8.5
	comp=Z,23nm,0.8s					
EMIN	**Mina Concepcio**	**7.63 286**	P	Pn	18 10 25.1	-1.1
	comp=Z,11nm,0.7s,SNR=11					
EMIN			S	Sn	18 11 50.1	-2.6
	comp=Z,4.4nm,0.5s,SNR=7.9					
EMIN	**Mina Concepcio**	**7.63 286**	P	Pn	18 10 25.1	-1.1
	comp=Z,11nm,0.7s,SNR=11					
EMIN			S	Sn	18 11 50.1	-2.6
	comp=Z,4.4nm,0.5s,SNR=7.9					
ELIZ	**Elizondo**	**7.77 337**	P	Pn	18 10 28.7	+0.7
	comp=Z,17nm,0.4s,SNR=12					
ELIZ			S	Sn	18 11 51.9	-4.1
	comp=Z,3.4nm,0.4s					
EALK	**Alkurruntz**	**7.81 337**	P	Pn	18 10 29.6	+1.0
	comp=Z,75nm,0.7s,SNR=18					
EALK			S	Sn	18 11 53.0	-4.0
	comp=Z,32nm,0.5s,SNR=7.9					
LMR	**La Mourre**	**7.84 21**	*e*Pn	Pn	18 10 27.1	-2.0
	SNR=1.0					
LMR			*e*Sn	Sn	18 11 50.3	-7.5
	comp=Z,28nm,0.5s,SNR=1.0					
LMR	**La Mourre**	**7.84 21**	*e*Pn	Pn	18 10 27.1	-2.0
	SNR=1.0					
LMR			*e*Sn	Sn	18 11 50.3	-7.5
	comp=Z,14nm,0.5s,SNR=1.0					
KIB	**El Ksiba**	**7.97 247**	*i* P	Pn	18 10 31.0	+0.2
KIB			*i* S	Sn	18 11 54.0	-7.0
PBAR	**Barrancos**	**8.00 288**	*e*P	Pn	18 10 30.6	-0.6
PBAR			A		18 12 37.2	
	comp=Z,12nm,0.7s					
PBAR	**Barrancos**	**8.00 288**	*e*P	Pn	18 10 30.6	-0.6
	comp=Z,12nm,0.7s					
CORF	**Corte**	**8.02 37**	P	Pn	18 10 30.4	-1.1
LASF	**Ste Croix**	**8.05 6**	*e*Pn	Pn	18 10 30.7	-1.2
	SNR=1.0					
LASF			*e*Sn	Sn	18 11 54.5	-8.4
	comp=Z,42nm,0.8s,SNR=1.0					
LASF	**Ste Croix**	**8.05 6**	*e*Pn	Pn	18 10 30.7	-1.2
	SNR=1.0					
LASF			*e*Sn	Sn	18 11 54.5	-8.4
	comp=Z,21nm,0.8s,SNR=1.0					
FRF	**La Foret Royal**	**8.09 21**	*e*Pn	Pn	18 10 31.2	-1.3
	SNR=1.0					
FRF			*e*Sn	Sn	18 11 55.9	-8.0
	comp=Z,30nm,0.5s,SNR=1.0					
FRF	**La Foret Royal**	**8.09 21**	*e*Pn	Pn	18 10 31.2	-1.3
	SNR=1.0					
FRF			*e*Sn	Sn	18 11 55.9	-8.0
	comp=Z,15nm,0.5s,SNR=1.0					
EBAD	**Badajoz**	**8.12 292**	P	Pn	18 10 32.8	-0.1
	comp=Z,1.9nm,0.3s,SNR=7.4					
EBAD			S	Sn	18 12 00.5	-4.1
	comp=Z,4.2nm,0.5s					
EBAD	**Badajoz**	**8.12 292**	P	Pn	18 10 32.8	-0.1
PGF	**Pioggiola**	**8.13 35**	*e*Pn	Pn	18 10 30.4	-2.7
	SNR=1.0					
PGF			*e*Sn	Sn	18 11 56.7	-8.3
	comp=Z,23nm,0.6s,SNR=1.0					
PGF	**Pioggiola**	**8.13 35**	*e*Pn	Pn	18 10 30.4	-2.7
	SNR=1.0					
PGF			*e*Sn	Sn	18 11 56.7	-8.3
	comp=Z,12nm,0.6s,SNR=1.0					
SMRF	**Simiane la Rot**	**8.21 15**	*e*Pn	Pn	18 10 34.0	-0.1
	SNR=1.0					
SMRF			*e*Sn	Sn	18 11 58.1	-8.7
	comp=Z,16nm,0.7s					
SMRF	**Simiane la Rot**	**8.21 15**	P	Pn	18 10 34.0	-0.1
SMRF			S	Sn	18 11 58.1	-8.7
	comp=Z,16nm,0.7s					
EGRO	**El Granado**	**8.23 283**	P	Pn	18 10 34.4	0.0
	comp=Z,7.5nm,0.4s,SNR=9.1					
EGRO			S	Sn	18 12 03.7	-3.8
	comp=Z,2.5nm,0.3s,SNR=7.9					
EGRO	**El Granado**	**8.23 283**	P	Pn	18 10 34.4	-0.1
CALN	**Calern**	**8.34 22**	P	Pn	18 10 36.9	+1.1
PVAQ	**Vaqueiros**	**8.40 282**	*e*P	Pn	18 10 35.8	-1.0
TZC	**Tazercounte**	**8.51 245**	*i* P	Pn	18 10 38.0	-0.2
TZC			*i* S	Sn	18 12 07.0	-7.3
ELAN	**Lanestosa**	**8.53 329**	P	Pn	18 10 39.7	+1.2
	comp=Z,6.2nm,0.3s,SNR=23					
ELAN	**Lanestosa**	**8.53 329**	P	Pn	18 10 39.7	+1.2
MVIF	**Mont Vial**	**8.55 23**	P	Pn	18 10 39.4	+0.7
PBDV	**Barranco-do-Ve**	**8.56 281**	*e*P	Pn	18 10 38.3	-0.6
PESTR	**Estremoz**	**8.58 292**	*e*P	Pn	18 10 39.0	-0.2
PESTR			A		18 12 57.9	
	comp=Z,16nm,0.7s					
PESTR	**Estremoz**	**8.58 292**	*e*P	Pn	18 10 39.0	-0.2
	comp=Z,16nm,0.7s					
PMRV	**Marv??o**	**8.61 296**	*e*P	Pn	18 10 39.4	-0.1
PMRV			A		18 12 55.7	
	comp=Z,15nm,0.6s					
PMRV	**Marv??o**	**8.61 296**	*e*P	Pn	18 10 39.4	-0.1
	comp=Z,15nm,0.6s					
PBEJ	**Beja**	**8.61 286**	*e*P	Pn	18 10 38.5	-1.1
SBF	**Sospel**	**8.61 24**	*e*Pn	Pn	18 10 37.6	-2.0
	SNR=1.0					
SBF			*e*Sn	Sn	18 12 08.8	-7.9
	comp=Z,34nm,0.5s,SNR=1.0					
SBF	**Sospel**	**8.61 24**	*e*Pn	Pn	18 10 37.6	-2.0
	SNR=1.0					
SBF			*e*Sn	Sn	18 12 08.8	-7.9
	comp=Z,17nm,0.5s,SNR=1.0					
TOUF	**Mont Tournerai**	**8.68 23**	P	Pn	18 10 41.2	+0.6
NEGI	**Seborga**	**8.69 25**	P	Pn	18 10 39.7	-1.0
AUTN	**L'Aution**	**8.72 24**	P	Pn	18 10 41.6	+0.4
OCF	**Saint Nazaire**	**8.73 13**	P	Pn	18 10 41.4	+0.1
OG26	**St.-Nazaire-De**	**8.73 13**	P	Pn	18 10 41.4	+0.1
SAOF	**Saorge**	**8.76 24**	P	Pn	18 10 41.5	-0.1
PCBR	**Castelo Branco**	**8.81 298**	*e*P	Pn	18 10 42.6	+0.2
PCBR			*e*S	Sn	18 12 17.2	-4.6
PCBR			A		18 13 06.8	
	comp=Z,13nm,0.7s					
PCBR	**Castelo Branco**	**8.81 298**	P	Pn	18 10 42.6	+0.2
PCBR			S	Sn	18 12 17.2	-4.6
	comp=Z,6.5nm,0.7s					
EVO	**Evora**	**8.82 289**	*e*Pn	Pn	18 10 38.8	-3.7
EVO			*e*Sn	Sn	18 12 11.4	-11
	comp=Z,36nm,0.8s					
EVO			*e*MLR	MLR		
	comp=Z,1µm,14.8s					
EVO	**Evora**	**8.82 289**	*e*P	Pn	18 10 41.9	-0.6
CAF	**Calviac**	**8.85 357**	*e*Pn	Pn	18 10 42.6	-0.3
	SNR=1.0					
EVOP	**Sao Brissos**	**8.90 289**	*e*Pn	Pn	18 10 38.8	-4.8
EVOP			*e*Sn	Sn	18 12 11.4	-13
	comp=Z,18nm,0.8s					
VIVF	**Saint-Julien-l**	**8.91 9**	*e*Pn	Pn	18 10 42.8	-0.9
	SNR=1.0					
VIVF			*e*Sn	Sn	18 12 14.9	-9.1
	comp=Z,22nm,0.6s,SNR=1.0					
VIVF	**Saint-Julien-l**	**8.91 9**	*e*Pn	Pn	18 10 42.8	-0.9
	SNR=1.0					
VIVF			*e*Sn	Sn	18 12 14.9	-9.1
	comp=Z,11nm,0.6s,SNR=1.0					
STV	**Sant Anna di V**	**8.92 22**	P	Pn	18 10 44.0	+0.2
STV	**Sant Anna di V**	**8.92 22**	P	Pn	18 10 44.0	+0.2
LFF	**La Frestale**	**8.97 351**	*e*Pn	Pn	18 10 42.4	-2.1
	SNR=1.0					
RORO	**Rocca Rossa**	**9.04 26**	P	Pn	18 10 46.0	+0.5
RORO	**Rocca Rossa**	**9.04 26**	P	Pn	18 10 46.0	+0.4
MTE	**Manteigas**	**9.09 301**	*e*P	Pn	18 10 47.6	+1.5
MTE			A		18 13 32.7	
	comp=Z,17nm,0.6s					
MTE	**Manteigas**	**9.09 301**	*e*P	Pn	18 10 46.9	+0.8
	comp=Z,22nm,0.8s					
MTE	**Manteigas**	**9.09 301**	*e*P	Pn	18 10 46.9	+0.7
	comp=Z,22nm,0.8s					
MVO	**Moncorvo**	**9.10 307**	*e*P	Pn	18 10 46.6	+0.3
MVO			A		18 13 09.7	
	comp=Z,12nm,0.6s					
MVO	**Moncorvo**	**9.10 307**	*e*P	Pn	18 10 46.6	+0.3
	comp=Z,12nm,0.6s					
DOI	**San Damiano**	**9.13 21**	P	Pn	18 10 46.6	-0.1
DOI			pmax	pmax		
	comp=Z,38nm,0.8s					
DOI	**San Damiano**	**9.13 21**	P	Pn	18 10 46.6	-0.1
	comp=Z,38nm,0.8s					
MORF	**Marmelete**	**9.14 281**	*e*P	Pn	18 10 46.9	+0.1
ROB	**Robourent**	**9.14 24**	P	Pn	18 10 46.8	0.0
ROB	**Robourent**	**9.14 24**	P	Pn	18 10 46.8	0.0
LBL	**Lubilhac**	**9.16 3**	P	Pn	18 10 47.2	+0.1
ORIF	**Oris-en-Rattie**	**9.17 15**	*e*Pn	Pn	18 10 47.6	+0.3
	SNR=1.0					
ORIF			*e*MLR	MLR		
	comp=Z,174nm,19.2s					
FIN	**Finale Ligure**	**9.18 26**	P	Pn	18 10 46.8	-0.6
MBDF	**Montbardon**	**9.20 19**	*e*Pn	Pn	18 10 46.9	-0.8
	SNR=1.0					
MBDF			*e*Sn	Sn	18 12 23.3	-7.9
	comp=Z,24nm,0.7s					
MBDF	**Montbardon**	**9.20 19**	*e*Pn	Pn	18 10 46.9	-0.8
	SNR=1.0					
MBDF			*e*Sn	Sn	18 12 23.3	-7.9
	comp=Z,12nm,0.7s					
PTEO	**Sao Teotonio**	**9.22 283**	*e*P	Pn	18 10 47.5	-0.4
RJF	**Les Rejaudoux**	**9.26 355**	*e*Pn	Pn	18 10 46.2	-2.2
	SNR=1.0					
RJF			*e*MLR	MLR		
	comp=Z,421nm,23.0s					
PBRG	**Braganca**	**9.27 311**	*e*P	Pn	18 10 49.3	+0.7
PFVI	**Vila Bisbo**	**9.27 280**	*e*P	Pn	18 10 48.3	-0.3
FRNF	**Fournols**	**9.30 360**	P	Pn	18 10 49.1	+0.1
SSB	**Saint Sauveur**	**9.31 8**	P	Pn	18 10 48.9	-0.2
SSB	**Saint Sauveur**	**9.31 8**	*e*P	Pn	18 10 48.9	-0.2
ECAL	**Calabor**	**9.34 312**	P	Pn	18 10 50.3	+0.7
	comp=Z,22nm,0.4s,SNR=23					
ECAL	**Calabor**	**9.34 312**	P	Pn	18 10 50.3	+0.7
RRL	**Rocca Remolon**	**9.38 18**	P	Pn	18 10 52.2	+2.0
RRL	**Rocca Remolon**	**9.38 18**	P	Pn	18 10 52.2	+2.0
EARI	**Arriondas**	**9.40 322**	P	Pn	18 10 51.2	+0.8
	comp=Z,17nm,0.6s,SNR=25					
EARI	**Arriondas**	**9.40 322**	P	Pn	18 10 51.2	+0.8
BHB	**Bricherasio**	**9.44 21**	P	Pn	18 10 52.6	+1.6
BHB	**Bricherasio**	**9.44 21**	P	Pn	18 10 52.6	+1.7
PVIS	**Viseu**	**9.46 302**	*e*P	Pn	18 10 51.8	+0.5
COLF	**Collangettes**	**9.47 5**	P	Pn	18 10 51.5	+0.2
VAE	**Valguarnera**	**9.56 78**	LR	LR	18 14 50.2	
	comp=Z,305nm,20.5s,baz=94,slow=40					
PCP	**Piancastagn**	**9.59 26**	P	Pn	18 10 55.4	+2.4
PCP	**Piancastagn**	**9.59 26**	P	Pn	18 10 55.4	+2.4
VERF	**Verneugheol**	**9.66 359**	P	Pn	18 10 54.1	+0.1
PYM	**Petit Puy Mans**	**9.67 2**	P	Pn	18 10 55.1	+1.0
RSP	**Reno Superiore**	**9.72 20**	P	Pn	18 10 57.1	+2.2
RSP	**Reno Superiore**	**9.72 20**	P	Pn	18 10 57.1	+2.2
MAIM	**Mastiano**	**9.88 35**	P	Pn	18 10 57.2	+0.2
PLDF	**La Plantade**	**9.91 4**	P	Pn	18 10 57.2	-0.2
LPG	**La Plagne**	**9.92 17**	*e*P	Pn	18 10 59.5	+2.0
	SNR=1.0					
LPL	**La Plagne**	**9.93 17**	*e*P	Pn	18 10 59.6	+1.9
	SNR=1.0					
LSD	**Lago del Serru**	**9.98 19**	P

SNR=1.0
CDF Champ du Feu 12.80 14 *e*Pn **Pn 18 11 35.3 -1.6**
SNR=1.0
FLN La Foliniere 12.88 351 *e*P **Pn 18 11 39.1 +1.1**
baz=178
FLN *e*MLR MLR
comp=Z,286nm,24.5s
MOTA Moosalm 12.91 27⇑ *i*P **Pn 18 11 43.0 +4.6**
comp=Z,14nm,1.0s
MOTA Moosalm 12.91 27⇑ *i*P **Pn 18 11 43.0 +4.6**
MOTA pmax pmax
comp=Z,14nm,1.0s
BFO Black Forest 12.95 17 *e*P **Pn 18 11 38.1 -0.9**
BFO pmax pmax
comp=Z,130nm,0.8s
BFO Black Forest 12.95 17 *e*P **Pn 18 11 38.1 -0.9**
comp=Z,20nm,0.8s
ROSF Rostrenen 13.00 342 *e*Pn **Pn 18 11 37.7 -1.9**
SNR=1.0
TAM Tamanrasset 13.48 168 P **Pn 18 11 42.9 -3.4**
TAM *e*P 18 11 54.1
KBA Koelnbreinsper 13.60 33⇑ *i*P **Pn 18 11 49.8 +2.0**
comp=Z,11nm,1.2s
KBA Koelnbreinsper 13.60 33⇑ *i*P **Pn 18 11 49.8 +2.0**
KBA pmax pmax
comp=Z,11nm,1.2s
FUR Furstenfeldbru 13.67 25 *e*P **Pn 18 11 51.5 +2.7**
FUR pmax pmax
comp=Z,158nm,0.8s
FUR Furstenfeldbru 13.67 25 *e*P **Pn 18 11 51.5 +2.7**
comp=Z,54nm,0.8s
WLF Walferdange 13.82 10 P **Pn 18 11 53.9 +3.0**
comp=Z,25nm,1.2s
WLF Walferdange 13.82 10 *e*P **Pn 18 11 53.0 +2.1**
WLF pmax pmax
comp=Z,13nm,0.8s
WLF Walferdange 13.82 10 *e*P **Pn 18 11 53.0 +2.1**
comp=Z,13nm,0.8s
BAIF Baives 14.02 4 *e*Pn **Pn 18 11 51.9 -1.7**
SNR=1.0
DOU Dourbes 14.09 5 P **Pn 18 11 55.8 +1.3**
comp=Z,12nm,1.2s
GIVF Givet 14.11 6 *e*P **Pn 18 11 56.8 +2.0**
ARSA Arzberg 14.73 37⇑ *i*P **Pn 18 12 07.7 +4.5**
comp=Z,18nm,1.1s
MEM Membach 14.73 9 P **Pn 18 12 04.7 +1.4**
comp=Z,9.9nm,1.0s
UCC Uccle 14.77 4 P **Pn 18 12 07.2 +3.4**
GRA1 Grafenberg Arr 14.98 22 *e*P **Pn 18 12 08.0 +1.3**
comp=Z,22nm,1.0s
GRF Grafenberg Arr 14.98 22 *e*P **Pn 18 12 08.0 +1.3**
comp=Z,22nm,1.0s
GRF *e*L 18 17 05.7
comp=Z,208nm,18.4s
WET Wettzell 15.07 27 *e*P **Pn 18 12 08.5 +0.7**
WET pmax pmax
comp=Z,85nm,1.0s
WET Wettzell 15.07 27 *e*P **Pn 18 12 08.5 +0.7**
comp=Z,8.0nm,1.0s
GEC2 GERESS Array S 15.13 29 *e*P **Pn 18 12 09.4 +0.7**
GEC2 pmax pmax
comp=Z,36nm,0.9s
GEC2 GERESS Array S 15.13 29 *e*P **Pn 18 12 09.4 +0.7**
comp=Z,14nm,0.9s
GERES GERESS Array B 15.13 29 Pn **Pn 18 12 08.5 -0.2**
comp=Z,0.3nm,0.3s,baz=212,slow=12,SNR=46
GERES LR LR 18 17 27.6
comp=Z,73nm,18.6s,baz=225,slow=35
KHC Kasperske Hory 15.32 28 *e*P **Pn 18 12 11.7 +0.6**
comp=Z,200nm,10.5s
KHC Kasperske Hory 15.32 28 *e*P **Pn 18 12 11.7 +0.6**
KHC *e*pP pP 18 12 18.6 -0.1
KHC AMS AMS 18 20 50.0
comp=Z,200nm,10.5s
KHC Kasperske Hory 15.32 28 *e*P **Pn 18 12 11.7 +0.6**
KHC *e* 18 12 18.6
ROTZ Rotzenmuhle 15.36 24 *e*P **Pn 18 12 13.1 +1.4**
comp=Z,12nm,1.5s
MANZ Manzenberg 15.52 23 *e*P **Pn 18 12 14.6 +0.9**
comp=Z,12nm,1.2s
PKSM Moragy 15.73 45⇑ *i*P **Pn 18 12 18.9 +2.5**
PKSM Moragy 15.73 45⇓ *e*P **Pn 18 12 17.6 +1.2**
MOX Moxa 15.94 21 *e*(P) **Pn 18 12 23.9 +4.6**
MOX *e* 18 12 32.2
MOX
comp=Z,200nm,13.0s
MOX Moxa 15.94 21 *e*P **Pn 18 12 21.0 +1.7**
comp=Z,23nm,1.6s
MOX Moxa 15.94 21 P **Pn 18 12 23.9 +4.6**
MOX *e* 18 12 32.2
ZST Bratislava 16.15 37 *e*P **Pn 18 12 24.9 +2.9**
ZST MLR MLR
comp=Z,100nm,16.0s
ZST Bratislava 16.15 37 *e*P **Pn 18 12 24.9 +2.9**
comp=Z,100nm,16.0s
TREC Trest 16.22 31 AMS AMS 18 21 50.0
comp=Z,300nm,9.5s
BARS Barje 16.27 60 *e*P **Pn 18 12 25.1 +1.6**
MODS Modra-Piesok 16.36 37 *e*P **Pn 18 12 27.1 +2.5**
PRU Pruhonice 16.38 28 *e*P **Pn 18 12 26.2 +1.4**
PRU AMS AMS 18 21 00.0
comp=Z,200nm,11.9s
PRU Pruhonice 16.38 28 *e*P **Pn 18 12 26.2 +1.4**
comp=Z,2.7nm,0.6s
CLZ Clausthal 16.70 17 *e*P **Pn 18 12 31.0 +2.1**
CLZ pmax pmax
comp=Z,118nm,1.2s
CLZ Clausthal 16.70 17 *e*P **Pn 18 12 31.0 +2.1**
comp=Z,8.0nm,1.2s
VRAC Vranov 16.71 33 Pn **Pn 18 12 30.6 +1.6**
baz=227,slow=12,SNR=4.5
VRAC LR LR 18 18 30.4
comp=Z,162nm,19.4s,baz=221,slow=36
VRAC Vranov 16.71 33⇑ *i*P **Pn 18 12 35.1 +6.1**
VRAC Vranov 16.71 33 *e*P **Pn 18 12 30.5 +1.5**
VRAC Vranov 16.71 33 Pn **Pn 18 12 30.6 +1.6**
VRAC ⇑P 18 12 35.1
VRAC LR LR 18 18 30.4
PVCC Panska Ves 16.83 27 AMS AMS 18 19 10.0
comp=Z,300nm,12.9s
BRG Berggiesshubel 16.89 25 *e*P **Pn 18 12 38.7 +7.4**
BRG pmax pmax
comp=Z,16nm,1.2s
BRG MLR MLR
comp=N,4μm,14.2s
BRG MLR MLR
comp=E,295nm,17.0s
BRG MLR MLR
comp=Z,421nm,19.0s
CLL Collm 16.95 23 *e*P **Pn 18 12 35.1 +3.1**
comp=Z,8.0nm,1.1s
CLL Collm 16.95 23 *i*P **Pn 18 12 34.0 +2.0**
comp=Z,12nm,1.6s
CLL *i*PP pP 18 12 36.0 -0.8
comp=Z,13nm,1.3s
CLL *i*PP 18 12 43.9
CLL *i*x x 18 14 37.4
CLL *e*S **Sn 18 15 40.0 -0.3**
comp=N,100nm,31.5s
CLL *e*S **Sn 18 15 40.0 -0.3**
comp=E,200nm,35.2s
CLL LmV 18 18 12.0
comp=Z,100nm,19.0s
CLL Collm 16.95 23 *i*P **Pn 18 12 34.0 +2.0**
comp=Z,12nm,1.6s
CLL *i* 18 12 36.0
CLL *i* 18 12 43.9
CLL *e*S **Sn 18 15 40.0 -0.3**
VTS Vitosha 17.19 62⇑ *i*P **Pn 18 12 33.8 -1.3**
VTS Vitosha 17.19 62⇑ P **Pn 18 12 33.8 -1.3**
NRDL Niedersach Rie 17.25 16 *e*P **Pn 18 12 38.7 +2.9**
comp=Z,47nm,1.8s
UPC Upice 17.37 30 *e*P **Pn 18 12 38.5 +1.2**
DPC Dobruska-Polom 17.37 31 *e*P **Pn 18 12 38.6 +1.2**
comp=Z,200nm,10.2s
DPC Dobruska-Polom 17.37 31 *e*P **Pn 18 12 38.6 +1.2**
DPC AMS AMS 18 21 20.0
comp=Z,200nm,10.2s
PSZ Piszkesteto 17.41 42⇓ *es*SKS/p **Pn 18 12 37.6 -0.3**
PSZ Piszkesteto 17.41 42⇑ *i*P **Pn 18 12 32.0 -5.9**
PSZ Piszkesteto 17.41 42⇑ P **Pn 18 12 32.0 -5.9**
MORC Moravsky Berou 17.47 34⇓ *i*P **Pn 18 12 34.4 -4.2**
MORC Moravsky Berou 17.47 34⇓ P **Pn 18 12 34.4 -4.2**
OKC Ostrava-Krasne 17.79 35 *e*P **Pn 18 12 44.7 +2.2**
comp=Z,200nm,12.9s
OKC Ostrava-Krasne 17.79 35 *e*P **Pn 18 12 44.7 +2.2**
OKC AMS AMS 18 20 10.0
comp=Z,200nm,12.9s
KECS Kecovo 18.07 41 *e*P **Pn 18 12 48.8 +2.8**
KECS pmax pmax
comp=Z,5.0nm,1.1s
KECS Kecovo 18.07 41 *e*P **Pn 18 12 48.8 +2.8**
comp=Z,4.7nm,1.1s
IDI Anoyia 18.11 86 P **Pn 18 12 46.5 -0.1**
comp=Z,0.5nm,0.3s,baz=286,slow=13,SNR=5.3
NIE Niedzica 18.56 39 *e*P **Pn 18 12 53.2 +1.3**
BSEG Bad Segeberg 18.65 14 *e*P **Pn 18 12 56.0 +3.0**
BSEG pmax pmax
comp=Z,122nm,1.4s
BSEG Bad Segeberg 18.65 14 *e*P **Pn 18 12 56.0 +3.0**
comp=Z,26nm,1.4s
CRVS Cervenica-Dubn 18.84 41 *e*P **Pn 18 12 52.7 -2.7**
STHS Stebnicka Huta 19.03 40 *e*P **Pn 18 12 58.8 +1.1**
STHS pmax pmax
comp=Z,8.0nm,0.8s
STHS Stebnicka Huta 19.03 40 *e*P **Pn 18 12 58.8 +1.1**
comp=Z,8.1nm,0.8s
UZH Uzhgorod 19.14 43 *e*P **Pn 18 13 00.0 +1.0**
UZH *e*S **Sn 18 16 37.0 +3.8**
UZH MLR MLR
comp=Z,100nm,12.0s
UZH Uzhgorod 19.14 43 *e*P **Pn 18 13 00.0 +1.0**
comp=Z,100nm,12.0s
KOLS Kolonicke sedl 19.29 42 *e*P **Pn 18 12 59.8 -1.1**
KOLS *e* 18 13 06.4
VOIR 19.34 54⇓ *i*P **Pn 18 13 03.3 +1.8**
VOIR 19.34 54⇓ P **Pn 18 13 03.4 +1.9**
EKA Eskdalemuir Ar 19.66 350 P **Pn 18 13 04.8 -0.5**
comp=Z,0.3nm,0.3s,baz=161,slow=11,SNR=16
KWP Kalwaria 19.93 41 *e*P **Pn 18 13 07.4 -1.0**
KWP pmax pmax
comp=Z,26nm,1.1s
KWP Kalwaria 19.93 41 *e*P **Pn 18 13 07.4 -1.0**
comp=Z,26nm,1.1s
KWP Kalwaria 19.93 41 *e*P **Pn 18 13 07.4 -1.0**
comp=Z,26nm,1.1s
MLR Muntele Rosu 19.95 55⇓ *i*P **Pn 18 13 04.7 -4.0**
MLR Muntele Rosu 19.95 55⇓ P **Pn 18 13 04.7 -4.0**
BALY Balya 20.04 72 *i*P **P 18 13 08.6 +0.5**
BURAR Bucovina Array 20.32 48⇓ *i*P **P 18 13 13.6 +2.5**
BURAR Bucovina Array 20.32 48⇓ P **P 18 13 13.7 +2.6**
LVV L'vov 20.74 42 *e*P **P 18 13 23.1 +7.5**
GDZ Gediz 21.47 74 *i*P **P 18 13 25.2 +1.6**
GOLH Golhisar 21.62 79 *i*P **P 18 13 26.0 +0.8**
KIS Kishinev 22.34 53 *e*P **P 18 13 41.0 +8.2**
KIS *e* 18 13 44.0
KIS *e* 18 13 48.0
KIS *e* 18 14 04.0
KIS MLR MLR
comp=Z,400nm,13.0s,MS4.0
KIS Kishinev 22.34 53 *e*PP 18 14 04.0
KIS *e*LQ 18 20 10.0
comp=Z,300nm,18.0s
KIS LRM 18 23 42.0
comp=Z,400nm,13.0s
ESKT Eskisehir 22.53 73 *i*P **P 18 13 34.5 -0.4**
SEYT Eskypehyr 22.53 73 *i*P **P 18 13 34.5 -0.4**
TORD Torodi Ar. Bea 22.84 182 P **P 18 13 36.7 -1.6**
comp=Z,3.5nm,0.7s,mb3.9,baz=359,slow=7.7,SNR=22
TORD LR LR 18 21 47.5
comp=Z,260nm,18.9s,MS3.7,baz=5.0,slow=35
TORD Torodi Ar. Bea 22.84 182 P **P 18 13 36.7 -1.6**
TORD LR LR 18 21 47.5
SGKT Sivrigoynuk 23.47 70 *i*P **P 18 13 44.4 -0.4**
KIEV Kiev 24.05 44 *e*P **P 18 13 47.3 -2.8**
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
KIEV Kiev 24.05 44 *e*P **P 18 13 47.3 -2.8**
comp=Z,7.6nm,0.8s,mb4.2
AKASG Malin Array Be 24.07 44 P **P 18 13 46.8 -3.5**
comp=Z,3.2nm,0.5s,mb4.0,baz=242,slow=10,SNR=9.6
ERMK Ermenek 24.36 80 *i*P **P 18 13 54.4 +1.3**
BALT Daday 24.51 68 *i*P **P 18 13 54.2 -0.2**
HFS Hagfors 25.11 13 P **P 18 13 57.9 -1.8**
comp=Z,1.6nm,0.5s,mb3.8,baz=204,slow=9.3,SNR=9.9
HFS LR LR 18 23 54.8
comp=Z,135nm,18.9s,MS3.5,baz=206,slow=37
CDAG Cicekdag 25.25 72 *i*P **P 18 14 01.5 +0.3**
MEST Erdemli 25.35 79 *i*P **P 18 14 02.1 0.0**
NB2 NORSAR Subarra 25.58 10 P **P 18 14 04.5 +0.6**
comp=Z,4.1nm,0.9s,mb4.0,baz=198,slow=9.3
NOA NORSAR Array B 25.58 10 P **P 18 14 04.0 +0.1**
comp=Z,2.6nm,0.8s,mb3.8,baz=197,slow=9.1,SNR=7.7
MMAI Mount Meron Ar 27.11 87 P **P 18 14 18.4 +0.4**
comp=Z,2.0nm,0.5s,mb3.9,baz=276,slow=8.9,SNR=4.0
BBTS Babate 27.36 224 LR LR 18 24 51.9
comp=Z,232nm,18.6s,MS3.8,baz=137,slow=36
ANN Anapa 27.72 61 *e*P **P 18 14 26.4 +3.0**
ANN *e*S **S 18 19 12.1 +6.5**
ANN pmax pmax
comp=Z,17nm,1.3s,mb4.5
ANN MLR MLR
comp=N,189nm,20.0s
ANN MLR MLR
comp=Z,154nm,20.0s,MS3.6
GZT Gaziantep 27.95 77 *i*P **P 18 14 25.5 0.0**
MALT Malatya 28.50 75 *e*P **P 18 14 31.6 +1.2**
MALT pmax pmax
comp=Z,34nm,1.4s,mb4.9
MALT Malatya 28.50 75 *e*P **P 18 14 31.6 +1.2**
comp=Z,34nm,1.4s,mb4.9
MALT Malatya 28.50 75 *e*P **P 18 14 31.6 +1.1**
comp=Z,34nm,1.4s,mb4.9
OBN Obninsk 30.01 40 *e*P **P 18 14 45.2 +1.6**
OBN *e**PP pP 18 14 51.8 +5.1
OBN *e*S **S 18 19 40.7 -0.7**
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.5
DBIC Dimbokro 30.06 195 P **P 18 14 48.5 +4.2**
comp=Z,2.2nm,0.7s,mb4.0,baz=15,slow=13,SNR=4.5
DBIC Dimbokro 30.06 195 P **P 18 14 48.5 +4.1**
LIC Lamto 30.53 195 *e*P **P 18 14 47.8 -0.7**
comp=Z,17nm,1.1s,mb4.5
LIC *e*MLR MLR
comp=Z,242nm,19.5s,MS3.6
LIC Lamto 30.53 195 *e*P **P 18 14 47.8 -0.7**
comp=Z,8.6nm,1.1s,mb4.5
LIC LR LR
comp=Z,120nm,19.5s,MS3.5
KIV Kislovodsk 31.43 63 *e*P **P 18 14 57.2 +0.9**
KIV *e**PP pP 18 15 05.5 +6.1
KIV *e*S **S 18 20 03.1 -0.8**
KIV pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
ARCES ARCESS Array B 35.78 14 P **P 18 15 33.8 0.0**
comp=Z,1.3nm,0.7s,mb4.0,baz=202,slow=9.2,SNR=6.6
ARCES LR LR 18 30 14.1
comp=Z,83nm,18.7s,MS3.5,baz=42,slow=36
ARU Arti 42.31 43 *d*P **P 18 16 27.3 -1.3**
ARU *e*PPP 18 18 30.4
ARU *e*S **S 18 22 46.0 -3.2**
ARU *e*SS SS 18 25 50.8 -6.6
ARU pmax pmax
comp=Z,13nm,1.7s,mb4.3
ARU Arti 42.31 43 *e*P **P 18 16 27.6 -1.0**
comp=Z,6.5nm,0.9s,mb4.3
ARU Arti 42.31 43 *e*P **P 18 16 27.6 -1.0**
comp=Z,6.5nm,0.9s,mb4.3
SVE Sverdlovsk 43.48 43 *e*P **P 18 16 38.2 +0.1**
SCHQ Schefferville 50.01 315 P **P 18 17 28.5 -0.7**
comp=Z,5.5nm,0.9s,mb4.6,baz=67,slow=14,SNR=5.5
EKS2 Erkin-Say 53.92 60 *e*P **P 18 17 58.7 +0.1**
comp=Z,4.9nm,0.9s,mb4.4
EKS2 Erkin-Say 53.92 60 *e*P **P 18 17 58.7 +0.1**
comp=Z,4.9nm,0.9s,mb4.4
KURK Kurchatov 54.75 49 *e*P **P 18 18 03.0 -1.5**
KURK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
KURK Kurchatov 54.75 49 *e*P **P 18 18 03.0 -1.5**
comp=Z,5.3nm,0.9s,mb4.6
KURK Kurchatov 54.75 49 *e*P **P 18 18 03.0 -1.5**
comp=Z,5.3nm,0.9s,mb4.6
NVS Novosibirsk 56.31 43 *e*P **P 18 18 16.3 +0.6**
ZAL Zalesovo 57.45 44 P **P 18 18 22.5 -1.2**
ZALV Zalesovo Beam 57.46 44 P **P 18 18 22.5 -1.3**
comp=Z,1.5nm,0.6s,mb4.2,baz=283,slow=7.8,SNR=6.9
ZALV LR LR 18 41 49.4
comp=Z,34nm,19.8s,MS3.5,baz=24,slow=35
MKAR Makanchi Array 58.28 53 P **P 18 18 28.6 -1.1**
comp=Z,3.2nm,0.7s,mb4.5,baz=293,slow=5.5,SNR=16
MKAR LR LR 18 43 38.2
comp=Z,29nm,20.9s,MS3.4,baz=158,slow=36
WMQ Urumqi 62.95 54 *e*P **P 18 19 01.6 0.0**
WMQ AP pP 18 19 06.3 +1.5
WMQ XP sP 18 19 08.6 +2.6
WMQ AMB AMB
comp=Z,5.0nm,1.2s,mb4.5
WMQ LR LR
comp=N,118nm,19.2s,MS4.2
WMQ LR LR
comp=E,103nm,21.4s,MS4.2
WMQ LR LR
comp=Z,41nm,20.0s,MS3.6
DANN Dangsing 67.24 71 *e*P **P 18 19 31.2 +1.5**
comp=Z,20nm,0.8s,mb5.2
KOLN Koldanda 67.40 71 *e*P **P 18 19 29.8 -1.0**
comp=Z,12nm,0.7s,mb5.0
BOSA Boshof 67.78 159 LR LR 18 50 36.9
comp=Z,150nm,19.9s,MS4.2,baz=231,slow=37
ULM Lac du Bonnet 68.12 317 LR LR 18 46 09.7
comp=Z,68nm,18.1s,MS3.9,baz=21,slow=33
DMN Daman 68.64 71 *e*P **P 18 19 38.0 -0.5**
comp=Z,67nm,1.0s,mb5.5
KKN Kakani 68.68 71 *e*P **P 18 19 38.7 -0.1**
comp=Z,27nm,0.6s,mb5.3
KKN Kakani 68.68 71 *e*P **P 18 19 38.7 -0.1**
KKN pmax pmax
comp=Z,27nm,0.6s,mb5.3
TLY Talaya 68.76 41 *e*P **P 18 19 37.0 -1.9**
TLY pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
TLY MLR MLR
comp=Z,90nm,19.0s,MS4.0
PKI Pulchoki 68.89 71 *e*P **P 18 19 39.2 -0.9**
comp=Z,16nm,0.8s,mb5.0
PKI Pulchoki 68.89 71 *e*P **P 18 19 39.2 -0.9**
PKI pmax pmax
comp=Z,16nm,0.8s,mb5.0
GUN Gumba 69.08 70 *e*P **P 18 19 42.6 +1.3**
comp=Z,42nm,0.8s,mb5.4
ZAK Zakamensk 69.24 42 *e*P **P 18 19 35.7 -6.2**
ZAK pmax pmax
comp=Z,2.0nm,1.7s,mb3.8
JIRN Jiri 69.44 70 *e*P **P 18 19 44.9 +1.4**
comp=Z,16nm,0.6s,mb5.1
YKA Yellowknife Ar 69.69 334 P **P 18 19 45.3 +0.9**
comp=Z,1.9nm,0.7s,mb4.2,baz=51,slow=6.2,SNR=6.9
YKA LR LR 18 47 35.3
comp=Z,34nm,20.2s,MS3.6,baz=165,slow=34
YKA Yellowknife Ar 69.69 334 P **P 18 19 45.3 +0.9**
RAMN Ramite 70.12 71 *e*P **P 18 19 46.5 -1.2**
comp=Z,14nm,0.7s,mb5.0
TAPN Taplejung 70.76 70 *e*P **P 18 19 52.7 +1.1**
comp=Z,16nm,0.9s,mb5.0
ODAN Odare 70.77 70 *e*P **P 18 19 49.7 -2.0**
comp=Z,6.1nm,0.5s,mb4.8
LSA Lhasa 72.12 66 P **P 18 20 00.1 +0.3**
LSA Lhasa 72.12 66 *e*P **P 18 19 59.9 +0.1**
LSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LSA Lhasa 72.12 66 *e*P **P 18 19 59.9 +0.1**
comp=Z,7.7nm,0.8s,mb4.7
LSA Lhasa 72.12 66 *e*P **P 18 19 59.9 +0.1**
comp=Z,7.7nm,0.8s,mb4.7
SONM Songino Array 72.35 43 P **P 18 20 01.3 +0.5**
comp=Z,0.3nm,0.3s,mb3.7,baz=341,slow=18,SNR=3.6
SONM Songino Array 72.35 43 P **P 18 20 01.3 +0.5**
GTA Gaotai 73.02 53 *e*P **P 18 20 05.8 +0.8**
GTA AP pP 18 20 09.8 +1.5
GTA S S 18 29 35.6 +3.6
GTA XS sS 18 29 43.6 +6.2
GTA AMB AMB
comp=Z,2.0nm,0.9s,mb4.0
GTA AMB AMB
comp=Z,18nm,5.1s
GTA LR LR
comp=N,87nm,17.1s,MS4.2
GTA LR LR
comp=E,77nm,16.8s,MS4.2
GTA LR LR
comp=Z,63nm,16.5s,MS4.0
SHL Shillong 74.87 69 *e*P **P 18 20 21.0 +4.9**
EGAK Eagle 75.54 345 P **P 18 20 19.1 -0.1**
comp=Z,2.3nm,0.9s,mb4.1
EGAK Eagle 75.54 345 P **P 18 20 19.1 -0.1**
comp=Z,2.3nm,0.9s,mb4.1
DAWY Dawson 75.77 344 *e*P **P 18 20 21.0 +0.4**
DAWY Dawson 75.77 344 *e*P **P 18 20 21.1 +0.5**
IMA2 Indian Mountai 76.55 350 *e*P **P 18 20 25.2 +0.3**
IMA2 Indian Mountai 76.55 350 *e*P **P 18 20 25.2 +0.3**
LZH Lanzhou 77.52 54 *e*P **P 18 20 29.4 -1.6**
LZH AP pP 18 20 33.0 -1.3
LZH XP sP 18 20 35.5 0.0
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.8
TNA Tin City 78.42 356 *e*P **P 18 20 34.2 -1.2**
comp=Z,10μm,1.2s
TNA Tin City 78.42 356 *e*P **P 18 20 34.2 -1.2**
comp=Z,21μm,1.2s
TRF Thorofare Moun 78.48 348 *e*P **P 18 20 36.2 +0.4**
comp=Z,2.7nm,0.8s,mb4.2
TRF Thorofare Moun 78.48 348 *e*P **P 18 20 36.1 +0.3**
comp=Z,2.7nm,0.8s,mb4.2
KTH Kantishna Hill 78.50 348 *e*P **P 18 20 35.2 -0.7**
comp=Z,3.9nm,0.8s,mb4.4
KTH Kantishna Hill 78.50 348 *e*P **P 18 20 35.2 -0.7**
comp=Z,3.9nm,0.8s,mb4.4
PHWY Pilot Hill 78.69 313 *e*P **P 18 20 36.7 -0.7**
PHWY Pilot Hill 78.69 313 *e*P **P 18 20 36.7 -0.6**
BOZ Bozeman (W) 79.37 319 *e*P **P 18 20 41.5 +0.5**
BOZ pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BOZ Bozeman (W) 79.37 319 *e*P **P 18 20 41.5 +0.5**
comp=Z,1.0nm,0.6s,mb3.9
HHC Hu-ho-hao-te 79.49 47 *e*P **P 18 20 39.5 -2.2**
HHC AP pP 18 20 44.3 -0.7
HHC XP sP 18 20 46.6 +0.4
HHC PCP PcP 18 20 48.3 -1.5
HHC PP PP 18 23 40.6 -0.9
HHC S S 18 30 37.6 -5.5
HHC XS sS 18 30 46.3 -2.3
HHC SKS 18 30 49.9
HHC SCS ScS 18 30 59.4 -5.9
HHC SS SS 18 35 47.0 -2.7
HHC AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
HHC AMB AMB
comp=Z,101nm,5.6s
HHC LR LR
comp=N,135nm,21.4s,MS4.5
HHC LR LR
comp=E,179nm,22.6s,MS4.5
HHC LR LR
comp=Z,60nm,22.6s,MS3.9
PDAR Pinedale Array 80.13 316 P **P 18 20 44.5 -0.6**
comp=Z,0.4nm,0.7s,baz=89,slow=5.9,SNR=3.6
CD2 Chengdu 80.49 59 *e*P **P 18 20 45.3 -2.1**
CD2 AP pP 18 20 51.3 +0.6
CD2 XP sP 18 20 53.4 +1.5
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,20nm,6.2s
KMI Kunming 83.19 64 P **P 18 21 02.9 +1.2**
KMI AMB AMB
comp=Z,3.0nm,1.3s,mb4.2
CMAR Chiang Mai Arr 84.27 71 P **P 18 21 06.8 -0.5**
comp=Z,0.4nm,0.8s,mb3.6,baz=316,slow=7.2,SNR=4.4
CMAR LR LR 19 03 06.8
comp=Z,58nm,18.3s,MS4.0,baz=286,slow=39
LPAZ La Paz 84.66 246 LR LR 18 56 03.2
comp=Z,46nm,18.7s,MS3.9,baz=106,slow=34
TXAR Lajitas Array 84.99 303 P **P 18 21 10.7 0.0**
comp=Z,0.3nm,0.7s,mb3.5,baz=41,slow=8.4,SNR=3.5
TXAR LR LR 18 56 18.8
comp=Z,63nm,19.7s,MS4.0,baz=5.0,slow=34
GYA Guiyang 85.21 61 P **P 18 21 12.4 +0.5**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
WRA Warramunga Arr 134.91 83 PKP PKPdf 18 27 54.5 -0.1
comp=Z,0.2nm,0.7s,baz=314,slow=2.6,SNR=3.2
ASAR Alice Springs 136.39 87 PKhKP 18 27 53.0
comp=Z,0.2nm,0.8s,baz=320,slow=1.9,SNR=3.1
ASAR PKP PKPdf 18 27 57.4 +0.1
comp=Z,0.2nm,0.7s,baz=319,slow=1.9,SNR=4.1

ASAR	**Alice Springs**	**136.39**	**87**	PKIKP	PKPdf	18 27 53.0	-4.2
ASAR						18 27 57.4	
CTA	**Charters Tower**	**144.42**	**73**	PKP	PKPdf	18 28 09.9	-2.0
	comp=Z,0.9nm,0.3s,baz=243,slow=5.5,SNR=3.8						
CTA	**Charters Tower**	**144.42**	**73**	PKIKP	PKPdf	18 28 09.9	-1.9
CTA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
STKA	**Stephens Creek**	**145.90**	**95**	PKPbc	PKPbc	18 28 13.1	-1.6
	comp=Z,2.1nm,0.8s,baz=256,slow=7.9,SNR=7.1						

ISCJB ***22*** *18:19:27.7±1.1,3571N±007×275E±0.1,h15km±15km, Error ellipse: s-maj=17.2km s-min=7.5km az=40.7*
ATH ***22*** *18:19:27.6,3572N×2738E,h24km±3km,MD3.1/3*
CSEM ***22*** *18:19:28.8±0.1,3575N×2733E,h15km,MD2.9, Error ellipse: s-maj=11.9km s-min=2.8km az=141.0*
DDA ***22*** *18:19:33.2,3604N×2782E,h7km±5km, Md2.9*
ISC 22 18:19:27.5±0.9,357N±01×2750E±010,h18km±8km,n7,
σ1º05/12,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.31**	**244**	*e*PB	**Pg**	**18 19 34.0**	**-0.1**
KARP				*e*SB	**Sg**	**18 19 38.3**	**-0.3**
ARG	**Arkhangelos**	**0.73**	**43**	*e*PN	**Pn**	**18 19 43.3**	**+0.4**
ARG				*e*SN	**Sn**	**18 19 53.9**	**+0.2**
BDRM	**Kayabasi**	**1.38**	**358**	*i* P	**Pn**	**18 19 54.0**	**+2.2**
BDRM				*i* S	**Sn**	**18 20 09.4**	**-0.2**
TURN	**Turunc**	**1.48**	**37**	*i* P	**Pn**	**18 19 51.9**	**-1.4**
TURN				*i* S	**Sn**	**18 20 09.3**	**-2.9**
NPS	**Neapolis**	**1.60**	**255**	*e*PN	**Pn**	**18 19 54.8**	**0.0**
AKAS	**Kas**	**1.79**	**72**	*i* P	**Pn**	**18 20 01.2**	**+3.7**
GOLH	**Golhisar**	**2.27**	**46**	*i* P	**Pb**	**18 20 08.0**	**+0.1**
GOLH				*i* S	**Sg**	**18 20 40.6**	**+0.1**

TIR ***22*** *18:25:02.5±1.4,3937N×2003E,h18km±15km*
NEIC ***22*** *18:25:03.6,3931N×2009E,h0km,ML3.1(THE),After THE.*
THE ***22*** *18:25:03.6,3931N×2009E,h0km,ML3.1*
ATH ***22*** *18:25:03.5,3942N×2027E,h62km±4km*
CSEM ***22*** *18:25:04.3±0.3,3931N×2018E,h10km,ML3.1, Error ellipse: s-maj=6.9km s-min=4.4km az=88.0*
ISCJB ***22*** *18:25:04.2±0.8,3930N±002×2018E±006,h10km, Error ellipse: s-maj=6.8km s-min=3.0km az=7.0*
ISC 22 18:25:04.3±0.9,3932N±002×2013E±007,h1km±7km,n18,
σ1º24/35,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**36**	*e*Pg	**Pg**	**18 25 09.5**	**+0.1**
IGT				*e*Sg	**Sg**	**18 25 13.5**	**+0.7**
IGT	**Igoumenitsa**	**0.26**	**36**	*i* PG	**Pg**	**18 25 09.5**	**+0.2**
IGT				*i* SG	**Sg**	**18 25 13.5**	**+0.7**
KEK	**Kerkira**	**0.47**	**327**	*e*P	**Pg**	**18 25 15.8**	**+2.5**
JAN	**Janina**	**0.65**	**59**	*e*P	**Pg**	**18 25 15.8**	**-0.9**
JAN				*e*S	**Sg**	**18 25 25.5**	**+0.3**
LKD	**Levkas**	**0.73**	**146**	*e*Pg	**Pg**	**18 25 16.3**	**-2.0**
LKD				*e*Sg	**Sg**	**18 25 29.2**	**+1.4**
MEV	**Metsovon**	**0.97**	**61**	*e*Pg	**Pg**	**18 25 21.2**	**-1.6**
MEV				*e*Sg	**Sg**	**18 25 37.1**	**+1.7**
MEV	**Metsovon**	**0.97**	**61**	*i* PG	**Pg**	**18 25 21.2**	**-1.6**
MEV				*i* SG	**Sg**	**18 25 37.1**	**+1.7**
VLS	**Valsamata**	**1.20**	**162**	*e*Pg	**Pg**	**18 25 25.4**	**-1.8**
VLS				*e*Sg	**Sg**	**18 25 43.2**	**+0.5**
VLS	**Valsamata**	**1.20**	**162**	*e*P	**Pg**	**18 25 26.6**	**-0.6**
VLS				*e*S	**Sg**	**18 25 43.0**	**+0.4**
VLS	**Valsamata**	**1.20**	**162**	*e*P	**Pg**	**18 25 26.6**	**-0.6**
VLS				*e*S	**Sg**	**18 25 43.0**	**+0.4**
VLS				*e*Sg	**Sg**	**18 25 43.2**	**+0.6**
KFL	**Anninata**	**1.31**	**157**	*e*Pg	**Pg**	**18 25 28.8**	**-0.6**
KFL				*e*Sg	**Sg**	**18 25 48.2**	**+1.8**
THL	**Klokotos Trika**	**1.48**	**80**	*e*Pg	**Pg**	**18 25 31.7**	**-0.9**
THL				*e*Sg	**Sg**	**18 25 52.4**	**+0.6**
THL	**Klokotos Trika**	**1.48**	**80**	*e*P	**Pn**	**18 25 27.4**	**-4.6**
THL	**Klokotos Trika**	**1.48**	**80**	*e*Pg	**Pg**	**18 25 31.7**	**-0.9**
THL				*e*Sg	**Sg**	**18 25 52.4**	**+0.6**
AGG	**Agios Georgios**	**1.73**	**99**	*e*Pb	**Pb**	**18 25 34.8**	**-2.1**
AGG				*e*Sb	**Sb**	**18 25 59.6**	**+0.5**
FNA	**Florina**	**1.75**	**33**	*e*Pb	**Pb**	**18 25 36.0**	**-1.1**
FNA				*e*Sb	**Sb**	**18 25 59.4**	**-0.1**
FNA	**Florina**	**1.75**	**33**	*i* PG	**Pb**	**18 25 36.0**	**-1.1**
FNA				*i* SG	**Sg**	**18 25 59.4**	**-1.0**
KRUS	**Krusevo**	**2.22**	**22**	*e*Pn	**Pn**	**18 25 45.6**	**+3.5**
KRUS				*e*Sn	**Sn**	**18 26 11.0**	**+0.8**

ISCJB ***22*** *18:27:50.7±0.2,4935N±001×682E±002,h0km, Error ellipse: s-maj=2.0km s-min=1.8km az=167.0*
PRU ***22*** *18:27:51.5,4936N×678E,h0km*
BGR ***22*** *18:27:52.7±0.3,4937N×682E,h1km,ML2.5/4, Error ellipse: s-maj=4.4km s-min=3.3km az=37.0*
NEIC ***22*** *18:27:52.5,4936N×684E,h1km,ML2.8(STR), ML3.2(LDG),After STR.*
CSEM ***22*** *18:27:52.9±0.0,4938N×686E,h1km,ML3.0/20, Error ellipse: s-maj=0.9km s-min=0.7km az=102.0*
LDG ***22*** *18:27:52.9±0.1,4938N×686E,h1km,Md3.1/1,Ml3.2/18, Error ellipse: s-maj=1.2km s-min=1.0km az=93.0, Suspected Mining induced.*
STR ***22*** *18:27:52.5±0.3,4936N×684E,h1km,Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
BNS ***22*** *18:27:53.3±0.4,4939N×688E,h1km,ML1.8*
ISC 22 18:27:51.8±0.2,4936N±001×680E±002,h0km,n105,
σ1º01/194,3C-5D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.38**	**26**	*e*Pg	**Pg**	**18 27 59.6**	**+0.5**
	SNR=25						
RUP	**Ruppelstein**	**0.38**	**26**	Pg	**Pg**	**18 27 59.6**	**+0.5**
	SNR=25						
RUP				Sg	**Sg**	**18 28 04.6**	**+0.5**
WLF	**Walferdange**	**0.52**	**306**	*e*Pg	**Pg**	**18 28 03.4**	**+1.6**
	SNR=8.1						
WLF				*e*Sg	**Sg**	**18 28 08.9**	**+0.4**
	SNR=4.9						
WLF	**Walferdange**	**0.52**	**306**	P	**Pg**	**18 28 03.4**	**+1.6**
WLF	**Walferdange**	**0.52**	**306**	*e*P	**Pg**	**18 28 02.9**	**+1.1**
WLF	**Walferdange**	**0.52**	**306**	Pg	**Pg**	**18 28 03.4**	**+1.6**
	SNR=8.1						
WLF				Sg	**Sg**	**18 28 08.9**	**+0.3**
	SNR=4.9						
WLF	**Walferdange**	**0.52**	**306**	*e*P	**Pg**	**18 28 02.9**	**+1.1**
LANF	**Langenberg**	**0.76**	**120**	*e*Pg	**Pg**	**18 28 06.8**	**+0.3**
	SNR=20						
LANF	**Langenberg**	**0.76**	**120**	Pg	**Pg**	**18 28 06.7**	**+0.3**
KTD	**Kalmit**	**0.84**	**92**	*e*Pg	**Pg**	**18 28 09.0**	**+1.0**
	SNR=9.2						
BGG	**Burgeitz**	**0.91**	**22**	*e*Pg	**Pg**	**18 28 09.7**	**+0.3**
HILG	**Hillesheim**	**0.94**	**355**	*e*Pg	**Pg**	**18 28 10.6**	**+0.9**
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**18 28 12.1**	**-1.0**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**18 28 25.4**	**+1.5**
	51nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**18 28 12.1**	**-1.0**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**18 28 25.4**	**+1.5**
	26nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pg	**Pg**	**18 28 11.3**	**+0.3**
CDF				*e*Pn	**Pn**	**18 28 12.1**	**-1.0**
CDF				*e*Sg	**Sg**	**18 28 25.4**	**+1.5**
RFYF	**Reffroy**	**1.14**	**231**	*e*Pg	**Pg**	**18 28 15.1**	**+1.4**
	baz=51						
RFYF				*e*Sg	**Sg**	**18 28 30.4**	**+1.9**
	77nm,0.2s						
RFYF	**Reffroy**	**1.14**	**231**	*e*Pg	**Pg**	**18 28 15.1**	**+1.4**
RFYF				*e*Sg	**Sg**	**18 28 30.4**	**+1.9**
	38nm,0.2s						
ECH	**Echery**	**1.17**	**168**	Pg	**Pg**	**18 28 15.3**	**+1.0**
ECH				Sg	**Sg**	**18 28 30.5**	**+1.1**
ECH	**Echery**	**1.17**	**168**	*e*Pg	**Pg**	**18 28 15.1**	**+0.8**
	SNR=16						
ECH	**Echery**	**1.17**	**168**	Pg	**Pg**	**18 28 15.1**	**+0.8**
	SNR=16						
ECH				Sg	**Sg**	**18 28 30.5**	**+1.1**
KOE	**Koeppel**	**1.22**	**29**	*e*Pg	**Pg**	**18 28 15.2**	**-0.1**
STB	**Steinbach**	**1.23**	**1**	*e*Pg	**Pg**	**18 28 15.5**	**0.0**
STB				*e*Sg	**Sg**	**18 28 32.0**	**+0.6**
	23nm,0.5s						
STB	**Steinbach**	**1.23**	**1**	Pg	**Pg**	**18 28 15.5**	**0.0**
STB				Sg	**Sg**	**18 28 32.0**	**+0.5**
	23nm,0.5s						
THEF	**They Montfort**	**1.26**	**206**	Pg	**Pg**	**18 28 16.6**	**+0.7**
THEF				Sg	**Sg**	**18 28 32.9**	**+0.7**
THEF	**They Montfort**	**1.26**	**206**	*e*Pg	**Pg**	**18 28 16.7**	**+0.8**
	SNR=12						
THEF	**They Montfort**	**1.26**	**206**	Pg	**Pg**	**18 28 16.7**	**+0.8**
	SNR=12						
THEF				Sg	**Sg**	**18 28 32.9**	**+0.7**
KLL	**Kalltalsperre**	**1.32**	**346**	*e*Pg	**Pg**	**18 28 16.7**	**-0.6**
TOD	**Tromm**	**1.33**	**79**	*e*Pg	**Pg**	**18 28 17.2**	**0.0**
	SNR=11						
TOD	**Tromm**	**1.33**	**79**	Pg	**Pg**	**18 28 17.2**	**-0.1**
	SNR=11						
TOD	**Tromm**	**1.33**	**79**	Pg	**Pg**	**18 28 16.2**	**-1.1**
MEM	**Membach**	**1.35**	**338**	P	**Pg**	**18 28 17.7**	**0.0**
MEM	**Membach**	**1.35**	**338**	P	**Pg**	**18 28 17.6**	**-0.1**
DREG	**Dreilaegerbach**	**1.35**	**344**	*e*Pg	**Pg**	**18 28 17.6**	**-0.2**
HAU	**Haudompre**	**1.39**	**193**	*e*Pg	**Pg**	**18 28 19.6**	**+1.1**
HAU				*e*Sn	**Sn**	**18 28 36.7**	**-0.8**
	78nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**1.39**	**193**	*e*Pg	**Pg**	**18 28 19.6**	**+1.1**
HAU				*e*Sn	**Sn**	**18 28 36.7**	**-0.8**
	39nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**1.39**	**193**	*e*Pn	**Pn**	**18 28 18.3**	**-0.1**
HAU				*e*Pg	**Pg**	**18 28 19.6**	**+1.1**
HAU				*e*Sn	**Sn**	**18 28 36.7**	**-0.8**
BCLA	**Clavier**	**1.44**	**318**	P	**Pn**	**18 28 21.0**	**+1.9**
BCLA	**Clavier**	**1.44**	**318**	P	**Pn**	**18 28 20.9**	**+1.8**
MEZF	**Maizieres J'vi**	**1.44**	**234**	*e*Pg	**Pg**	**18 28 20.5**	**+1.1**
	baz=54						
MEZF				*e*Sg	**Sg**	**18 28 39.7**	**+1.7**
	28nm,0.3s,baz=57,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.44**	**234**	*e*Pg	**Pg**	**18 28 20.5**	**+1.1**
MEZF				*e*Sg	**Sg**	**18 28 39.7**	**+1.7**
	14nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.44**	**234**	*e*Pn	**Pn**	**18 28 19.1**	**0.0**
MEZF				*e*Pg	**Pg**	**18 28 20.5**	**+1.1**
MEZF				*e*Sg	**Sg**	**18 28 39.7**	**+1.7**
BFO	**Black Forest**	**1.44**	**135**	*e*Pg	**Pg**	**18 28 19.9**	**+0.4**
	SNR=12						
BFO				*e*Sg	**Sg**	**18 28 38.5**	**+0.4**
	SNR=7.6						
BFO	**Black Forest**	**1.44**	**135**	Pg	**Pg**	**18 28 19.9**	**+0.4**
	SNR=12						
BFO				Sg	**Sg**	**18 28 38.5**	**+0.3**
	SNR=7.6						
BFO	**Black Forest**	**1.44**	**135**	*e*Pg	**Pg**	**18 28 18.3**	**-1.2**
BFO				*e*Sg	**Sg**	**18 28 38.5**	**+0.3**
GIVF	**Givet**	**1.48**	**301**	*e*Pg	**Pg**	**18 28 21.3**	**+1.1**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**18 28 40.1**	**+0.7**
	39nm,0.4s,SNR=1.0						
GIVF	**Givet**	**1.48**	**301**	*e*Pg	**Pg**	**18 28 21.3**	**+1.1**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**18 28 40.1**	**+0.7**
	20nm,0.4s,SNR=1.0						
GIVF	**Givet**	**1.48**	**301**	*e*Pn	**Pn**	**18 28 19.8**	**+0.1**
GIVF				*e*Pg	**Pg**	**18 28 21.3**	**+1.1**
GIVF				*e*Sg	**Sg**	**18 28 40.1**	**+0.7**
HGN	**Heimansgroeve**	**1.51**	**339**	*e*Pg	**Pg**	**18 28 20.1**	**-0.7**
	3.1nm,0.3s						
HGN				*e*Sg	**Sg**	**18 28 40.1**	**-0.3**
MOF	**Molkenrain**	**1.53**	**172**	Pg	**Pg**	**18 28 21.4**	**+0.3**
MOF				Sg	**Sg**	**18 28 41.4**	**+0.5**
MOF	**Molkenrain**	**1.53**	**172**	*e*Pg	**Pg**	**18 28 21.5**	**+0.4**
	SNR=12						
MOF	**Molkenrain**	**1.53**	**172**	Pg	**Pg**	**18 28 21.5**	**+0.4**
	SNR=12						
MOF				Sg	**Sg**	**18 28 41.4**	**+0.5**
HINF	**Hinteralfeld**	**1.55**	**179**	*e*Pg	**Pg**	**18 28 21.7**	**+0.2**
HINF				*e*Sg	**Sg**	**18 28 42.5**	**+1.0**
	124nm,0.3s						
HINF	**Hinteralfeld**	**1.55**	**179**	*e*Pg	**Pg**	**18 28 21.7**	**+0.2**
HINF				*e*Sg	**Sg**	**18 28 42.5**	**+1.0**
	62nm,0.3s						
HINF	**Hinteralfeld**	**1.55**	**179**	*e*Pn	**Pn**	**18 28 20.3**	**-0.3**
HINF				*e*Pg	**Pg**	**18 28 21.7**	**+0.2**
HINF				*e*Sg	**Sg**	**18 28 42.5**	**+1.0**
DOU	**Dourbes**	**1.61**	**298**	P	**Pn**	**18 28 21.8**	**+0.3**
SFTF	**Sexfontaines**	**1.64**	**226**	*e*Pg	**Pg**	**18 28 24.3**	**+1.0**
	baz=55						
SFTF				*e*Sg	**Sg**	**18 28 46.2**	**+1.6**
	20nm,0.2s						
SFTF	**Sexfontaines**	**1.64**	**226**	*e*Pg	**Pg**	**18 28 24.3**	**+1.0**
SFTF				*e*Sg	**Sg**	**18 28 46.2**	**+1.6**
	10nm,0.2s						
SFTF	**Sexfontaines**	**1.64**	**226**	*e*Pn	**Pn**	**18 28 21.8**	**-0.1**
SFTF				*e*Pg	**Pg**	**18 28 24.3**	**+1.0**
SFTF				*e*Sg	**Sg**	**18 28 46.2**	**+1.6**
FELD	**Feldberg im Sc**	**1.69**	**151**	*e*Pg	**Pg**	**18 28 24.3**	**+0.1**
	SNR=10						
FELD	**Feldberg im Sc**	**1.69**	**151**	Pg	**Pg**	**18 28 24.5**	**+0.3**
FELD				Sg	**Sg**	**18 28 46.3**	**+0.3**
SPAK	**Spaichingen-Ko**	**1.82**	**133**	*e*Pg	**Pg**	**18 28 27.1**	**+0.4**
	SNR=3.0						
SPAK	**Spaichingen-Ko**	**1.82**	**133**	Pg	**Pg**	**18 28 27.0**	**+0.3**
BAIF	**Baives**	**1.82**	**294**	*e*Pg	**Pg**	**18 28 27.1**	**+0.3**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**18 28 50.6**	**+0.2**
	24nm,0.4s,SNR=1.0						
BAIF	**Baives**	**1.82**	**294**	*e*Pg	**Pg**	**18 28 27.1**	**+0.3**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**18 28 50.6**	**+0.2**
	12nm,0.4s,SNR=1.0						
BAIF	**Baives**	**1.82**	**294**	*e*Pn	**Pn**	**18 28 24.0**	**-0.4**
BAIF				*e*Pg	**Pg**	**18 28 27.1**	**+0.3**
BAIF				*e*Sg	**Sg**	**18 28 50.6**	**+0.2**
CABF	**La Chapelle**	**2.79**	**190**	*e*Pg	**Pg**	**18 28 45.3**	**-0.1**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**18 29 10.4**	**-1.7**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**18 29 22.2**	**+0.7**
	21nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pg	**Pg**	**18 28 45.3**	**-0.1**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**18 29 10.4**	**-1.7**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**18 29 22.2**	**+0.7**
	10nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pn	**Pn**	**18 28 37.5**	**-0.2**
CABF				*e*Pg	**Pg**	**18 28 45.3**	**-0.1**
CABF				*e*Sn	**Sn**	**18 29 10.4**	**-1.7**
CABF				*e*Sg	**Sg**	**18 29 22.2**	**+0.7**
LOR	**Lormes**	**2.87**	**224**	*e*Pn	**Pn**	**18 28 38.0**	**-0.8**
	baz=42,SNR=1.0						
LOR				*e*Sn	**Sn**	**18 29 11.7**	**-2.3**
	baz=51,SNR=1.0						
LOR				*e*Sg	**Sg**	**18 29 22.7**	**-1.3**
	13nm,0.3s,baz=48,SNR=1.0						
LOR	**Lormes**	**2.87**	**224**	*e*Pn	**Pn**	**18 28 38.0**	**-0.8**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**18 29 11.7**	**-2.3**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**18 29 22.7**	**-1.3**
	6.4nm,0.3s,SNR=1.0						
GRA1	**Grafenberg Arr**	**2.90**	**82**	Pg	**Pg**	**18 28 46.2**	**-1.2**
GRA1				Sg	**Sg**	**18 29 25.2**	**+0.3**
	SNR=2.1						
GRF	**Grafenberg Arr**	**2.90**	**82**	*e*Pg	**Pg**	**18 28 46.2**	**-1.2**
GRF				*e*Sg	**Sg**	**18 29 25.2**	**+0.3**
	SNR=2.1						
DAVA	**Damuels**	**2.92**	**134**	⇓*i*Pn	**Pn**	**18 28 40.5**	**+1.0**
DAVA				⇓*i*Pg	**Pg**	**18 28 49.1**	**+1.3**
DAVA				⇑*i*Sn	**Sn**	**18 29 14.7**	**-0.6**
DAVA				⇑*i*Sg	**Sg**	**18 29 27.2**	**+1.6**
	7.1nm,0.3s						
SSF	**Saint Saulge**	**3.19**	**225**	*e*Pn	**Pn**	**18 28 42.0**	**-1.1**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**18 29 20.2**	**-1.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**18 29 34.1**	**-0.1**
	13nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.19**	**225**	*e*Pn	**Pn**	**18 28 42.0**	**-1.1**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**18 29 20.2**	**-1.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**18 29 34.1**	**-0.1**
	6.3nm,0.4s,SNR=1.0						
MOX	**Moxa**	**3.36**	**66**	*e*Sg	**Sg**	**18 29 40.9**	**+1.1**
SMF	**Signal de Mont**	**3.37**	**217**	*e*Pn	**Pn**	**18 28 45.0**	**-0.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**18 29 24.2**	**-2.1**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**18 29 39.1**	**-0.9**
	20nm,0.6s						
SMF	**Signal de Mont**	**3.37**	**217**	*e*Pn	**Pn**	**18 28 45.0**	**-0.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**18 29 24.2**	**-2.1**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**18 29 39.1**	**-0.9**
	9.9nm,0.6s						
AVF	**Avril sur Loir**	**3.46**	**223**	*e*Pn	**Pn**	**18 28 46.1**	**-0.8**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**18 29 26.2**	**-2.3**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**18 29 43.1**	**+0.2**
	7.0nm,0.4s						
AVF	**Avril sur Loir**	**3.46**	**223**	*e*Pn	**Pn**	**18 28 46.1**	**-0.8**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**18 29 26.2**	**-2.3**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**18 29 43.1**	**+0.2**
	3.5nm,0.4s						
MOTA	**Moosalm**	**3.51**	**123**	⇓*i*Pn	**Pn**	**18 28 48.7**	**+1.2**
MOTA				⇓*i*Sg	**Sg**	**18 29 45.0**	**+0.5**
	2.7nm,0.3s						
FETA	**Feichten**	**3.52**	**130**	⇓*i*Pn	**Pn**	**18 28 49.3**	**+1.5**
FETA				⇑*i*Sg	**Sg**	**18 29 46.2**	**+1.4**
	2.6nm,0.6s						
FETA	**Feichten**	**3.52**	**130**	Pn	**Pn**	**18 28 49.3**	**+1.6**
FETA				Sg	**Sg**	**18 29 46.2**	**+1.3**
	2.6nm,0.6s						
WERD	**Werda**	**3.72**	**71**	*e*Sg	**Sg**	**18 29 50.0**	**-1.3**
	SNR=3.6						
WERD	**Werda**	**3.72**	**71**	Sg	**Sg**	**18 29 50.0**	**-1.3**
	SNR=3.6						
NKC	**Novy Kostel**	**3.76**	**74**	*e*PG	**Pg**	**18 29 01.7**	**-2.2**
NKC				*e*SG	**Sg**	**18 29 51.7**	**-0.9**
	comp=Z,10nm,0.5s						
LPL	**La Plagne**	**3.85**	**181**	*e*Pg	**Pg**	**18 29 05.1**	**-0.4**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.86**	**225**	*e*Pn	**Pn**	**18 28 52.1**	**-0.4**
BGF				*e*Sn	**Sn**	**18 29 35.8**	**-2.7**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**18 29 55.6**	**-0.3**
	comp=Z,28nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.86**	**225**	*e*Pn	**Pn**	**18 28 52.1**	**-0.4**
BGF				*e*Sn	**Sn**	**18 29 35.8**	**-2.7**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**18 29 55.6**	**-0.3**
	comp=Z,14nm,0.4s,SNR=1.0						
CLL	**Collm**	**4.42**	**62**	*e*Sg	**Sg**	**18 30 12.0**	**-1.9**
KHC	**Kasperske Hory**	**4.45**	**90**	*e*Pn	**Pn**	**18 29 00.0**	**-0.4**
KHC				*e*Sn	**Sn**	**18 29 50.3**	**-2.5**
KHC	**Kasperske Hory**	**4.45**	**90**	*e*PN	**Pn**	**18 29 00.0**	**-0.4**
KHC				*e*SN	**Sn**	**18 29 50.3**	**-2.5**
KHC				*e*SG	**Sg**	**18 30 14.1**	**-0.5**
ORIF	**Oris-en-Rattie**	**4.49**	**188**	*e*Pg	**Pg**	**18 29 17.1**	**-0.7**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**18 30 14.9**	**-1.1**
	comp=Z,6.4nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.49**	**188**	*e*Pg	**Pg**	**18 29 17.1**	**-0.7**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**18 30 14.9**	**-1.1**
	comp=Z,3.2nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.49**	**188**	*e*Pn	**Pn**	**18 29 00.9**	**-0.2**
ORIF				*e*Pg	**Pg**	**18 29 17.1**	**-0.7**
ORIF				*e*Sg	**Sg**	**18 30 14.9**	**-1.1**
GEC2	**GERESS Array S**	**4.56**	**94**	*e*Pn	**Pn**	**18 29 02.4**	**+0.3**
	SNR=12						
GEC2	**GERESS Array S**	**4.56**	**94**	*e*P	**Pn**	**18 29 02.2**	**+0.1**
GEC2	**GERESS Array S**	**4.56**	**94**	Pn	**Pn**	**18 29 02.4**	**+0.3**
	SNR=12						
GEC2	**GERESS Array S**	**4.56**	**94**	*e*P	**Pn**	**18 29 02.2**	**+0.2**
VIVF	**Saint-Julien-I**	**4.74**	**199**	*e*Sg	**Sg**	**18 30 22.8**	**-1.1**
	comp=Z,4.9nm,0.4s						
VIVF	**Saint-Julien-I**	**4.74**	**199**	*e*Sg	**Sg**	**18 30 22.8**	**-1.1**
	comp=Z,2.5nm,0.4s						
PRU	**Pruhonice**	**5.07**	**80**	*e*SG	**Sg**	**18 30 33.4**	**-1.1**
	comp=Z,2.7nm,0.6s						
GRR	**Gorron**	**5.15**	**262**	*e*Pg	**Pg**	**18 29 29.7**	**-0.7**
	SNR=1.0						
LASF	**Ste Croix**	**5.66**	**202**	*e*Sg	**Sg**	**18 30 51.5**	**-2.1**
	comp=Z,6.4nm,0.6s						
LASF	**Ste Croix**	**5.66**	**202**	*e*Sg	**Sg**	**18 30 51.5**	**-2.1**
	comp=Z,3.2nm,0.6s						

ATH ***22*** *18:33:25.5,3589N×2184E,h92km±15km*
ISCJB ***22*** *18:33:27.6±1.3,3596N±004×2183E±009,h25km±9km, Error ellipse: s-maj=12.8km s-min=5.4km az=162.3*
CSEM ***22*** *18:33:27.2±0.2,3604N×2181E,h2km,ML3.1, Error ellipse: s-maj=5.9km s-min=2.9km az=61.0*
THE ***22*** *18:33:29.9,3605N×2181E,h20km,ML3.1*
HLW ***22*** *18:33:37.1,3524N×2172E,h26km,Mb3.4*
ISC 22 18:33:27.7±1.2,3603N±004×2187E±008,h8km±6km,n18,
σ1º00/26,2D,Southern Greece

| Code

JJT2	**Tamagusuku 2**	**3.61 214**	P		**Pn**	**18 42 23.4 +0.6**
JKE	**Kume jima 2**	**4.01 226**	P		**Pn**	**18 42 27.3 -1.0**
JKE			S		**Sn**	**18 43 13.8 -0.2**
KSRS	**Korea Array**	**8.46 349**	P		**Pn**	**18 43 32.9 +3.6**
	0.0nm,0.3s,baz=173,slow=15,SNR=8.1					
KSRS			LR		LR	18 46 59.8
	comp=Z,68nm,19.5s,baz=163,slow=39					
CBIJ	**Chichi jima**	**10.94 98**	LR		LR	18 47 46.0
	comp=Z,102nm,20.1s,baz=196,slow=34					
ASAJ	**Asahikawa**	**18.00 31**	P		**Pn**	**18 45 37.6 +1.7**
	0.2nm,0.3s,baz=190,slow=18,SNR=3.3					
ASAJ			LR		LR	18 51 17.6
	comp=Z,53nm,20.5s,baz=107,slow=32					
SONM	**Songino Array**	**26.09 322**	P		**P**	**18 46 58.0 -0.4**
	1.0nm,0.7s,mb3.5,baz=125,slow=9.0,SNR=2.8					
SONM			LR		LR	18 58 21.4
	comp=Z,66nm,21.3s,baz=252,slow=39					
MKAR	**Makanchi Array**	**40.85 309**	P		**P**	**18 49 06.5 +0.1**
	0.3nm,0.6s,mb3.1,baz=103,slow=9.2,SNR=3.7					
MKAR	**Makanchi Array**	**40.85 309**	P		**P**	**18 49 06.5 +0.1**
WRA	**Warramunga Arr**	**48.98 175**	P		**P**	**18 50 09.8 -1.4**
	0.7nm,0.6s,mb3.9,baz=354,slow=8.4,SNR=12					
BRVK	**Borovoye**	**49.27 317**	*eP*		**P**	**18 50 13.2 +0.1**
	2.9nm,0.6s,mb4.5					
ASAR	**Alice Springs**	**52.65 176**	P		**P**	**18 50 39.5 +0.9**
	0.6nm,0.6s,mb3.7,baz=360,slow=7.1,SNR=21					

*IDC **22** 18:56:59.0±3.2, 724S×12796E, h198km±35km, mb3.3/5, mb1 3.4/8, mb1mx3.3/16, mbtmp3.3/8, Error ellipse: s-maj=34.4km s-min=19.9km az=54.0*
*ISCJB **22** 18:56:59.2±1.4, 737S±008×12800E±007, h224km±16km, mb3.5/5, Error ellipse: s-maj=16.1km s-min=8.2km az=39.9*
*NEIC **22** 18:56:59.5±1.8, 724S×12800E, h204km±21km, mb4.7/3, Error ellipse: s-maj=19.4km s-min=12.6km az=225.0*
ISC 22 18:56:60.0±1.2, 734S±008×12796E±008, h211km±14km, n17, σ1§87/23, mb3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.11**	**236**	P	**Pn**	**18 58 17.1**	**+1.1**
	60nm,0.3s,baz=98,slow=1.3,SNR=128						
BATI				S	**S**	**18 59 15.7**	**-0.9**
	34nm,0.3s,baz=36,slow=4.3,SNR=6.1						
KAKA	**Kakadu**	**6.93**	**141**	*eP*	**Pn**	**18 58 38.6**	**-0.8**
	19nm,0.3s						
KAKA				*eS*	**S**	**18 59 53.0**	**-5.5**
FITZ	**Fitzroy Crossi**	**10.93**	**192**	*eP*	**Pn**	**18 59 29.4**	**-1.6**
	18nm,0.4s						
FITZ				*eS*	**S**	**19 01 25.2**	**-8.1**
FITZ	**Fitzroy Crossi**	**10.93**	**192**	P	**Pn**	**18 59 30.3**	**-0.7**
	2.9nm,0.3s,baz=29,slow=13,SNR=93						
FITZ				S	**S**	**19 01 29.3**	**-4.0**
	0.7nm,0.3s,baz=64,slow=23,SNR=3.8						
WRA	**Warramunga Arr**	**13.97**	**154**	P	**Pn**	**19 00 09.5**	**+0.2**
	0.4nm,0.3s,baz=333,slow=12,SNR=24						
WRA				S	**S**	**19 02 38.3**	**-6.4**
	0.6nm,0.3s,baz=330,slow=22,SNR=5.5						
WB2	**Warramunga Arr**	**13.98**	**154**	*eP*	**Pn**	**19 00 09.4**	**+0.1**
WB2				*eS*	**S**	**19 02 36.6**	**-8.2**
MBWA	**Marble Bar**	**15.87**	**209**	*eP*	**Pn**	**19 00 33.0**	**+0.6**
COEN	**Coen**	**16.33**	**115**	*eP*	**P**	**19 00 37.5**	**+0.5**
	9.4nm,0.8s						
ASAR	**Alice Springs**	**17.21**	**161**	P	**P**	**19 00 48.9**	**+2.4**
	0.3nm,0.3s,baz=344,slow=12,SNR=31						
ASAR				S	**S**	**19 03 54.4**	**-0.4**
	0.2nm,0.3s,baz=333,slow=20,SNR=4.5						
KSM	**Kuching**	**19.66**	**296**	*eP*	**P**	**19 01 13.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**38.42**	**312**	P	**P**	**19 04 01.2**	**-0.3**
	0.6nm,0.6s,mb3.3,baz=131,slow=6.6,SNR=7.2						
KSRS	**Korea Array**	**44.56**	**360**	P	**P**	**19 04 50.0**	**-0.9**
	1.2nm,0.5s,mb3.5,baz=179,slow=9.2,SNR=7.5						
SONM	**Songino Array**	**58.15**	**343**	P	**P**	**19 06 32.3**	**+0.8**
	1.2nm,0.8s,mb3.6,baz=165,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**67.41**	**328**	P	**P**	**19 07 32.5**	**-0.2**
	0.5nm,0.4s,mb3.5,baz=114,slow=8.5,SNR=12						
MKAR	**Makanchi Array**	**67.41**	**328**	P	**P**	**19 07 32.5**	**-0.2**
ZALV	**Zalesovo Beam**	**71.00**	**335**	P	**P**	**19 07 53.6**	**-1.0**
	0.9nm,0.7s,mb3.5,baz=123,slow=5.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**126.88**	**281**	PKP	PKPdf	19 15 39.5	-0.1
	0.4nm,0.8s,baz=44,slow=2.4,SNR=4.7						

IDC 22 19:07:31.9±2.1, 674S×15511E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/22, Error ellipse: s-maj=67.8km s-min=34.0km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.81**	**212**	LR	LR	19 16 34.9	
	comp=Z,69nm,19.6s,baz=257,slow=34						
WRA	**Warramunga Arr**	**24.05**	**235**	P	P	19 12 48.8	-0.3
	1.9nm,0.8s,baz=59,slow=9.3,SNR=11						
WRA				PcP	PcP	19 16 31.7	+0.7
	0.6nm,0.7s,baz=59,slow=2.2,SNR=9.8						
ASAR	**Alice Springs**	**26.43**	**228**	P	P	19 13 10.6	0.0
	0.4nm,0.6s,baz=60,slow=7.9,SNR=7.0						
CMAR	**Chiang Mai Arr**	**60.78**	**295**	P	P	19 17 46.9	+0.7
	0.7nm,0.6s,baz=117,slow=5.7,SNR=6.1						
MKAR	**Makanchi Array**	**83.29**	**319**	P	P	19 20 00.7	0.0
	0.2nm,0.3s,baz=100,slow=5.9,SNR=7.8						
TORD	**Torodi Ar. Bea**	**153.07**	**286**	PKPbc	PKPbc	19 27 31.7	-0.9
	1.1nm,0.7s,baz=51,slow=2.1,SNR=8.5						
TORD				PKPab	PKPab	19 27 43.2	-0.8
	0.5nm,0.6s,baz=79,slow=3.2,SNR=5.2						

*IDC **22** 19:22:29.7±0.8, 551S×12959E, h0km, mb4.0/8, mb1 4.2/12, mb1mx4.1/18, mbtmp4.1/12, ML3.8/4, MS3.4/13, Ms1 3.5/13, ms1mx3.3/21, Error ellipse: s-maj=31.3km s-min=15.6km az=73.0*
*ISCJB **22** 19:22:33.0±1.4, 565S±006×12948E±009, h38km±14km, mb4.2/15, MS3.5/10, Error ellipse: s-maj=16.4km s-min=7.5km az=154.2*
*BJI **22** 19:22:32.6, 560S×12940E, h38km, mB5.0, mb4.6*
*NEIC **22** 19:22:35.7±2.1, 557S×12942E, h38km±23km, mb4.2/9, Error ellipse: s-maj=20.3km s-min=10.3km az=217.0*
*DJA **22** 19:22:40, 509S×12922E, h20km, mb4.5/4*
ISC 22 19:22:34.9±1.2, 562S±006×12955E±009, h36km±13km, n43, σ1§06/36, mb4.2/15, MS3.5/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.35**	**325**	P	**Pn**	**19 23 05.7**	**-5.3**
	0.0nm,0.0s						
LBMI	**Labuha**	**5.36**	**337**	P	**Pn**	**19 23 52.6**	**+0.2**
	0.0nm,0.0s						
BATI	**Baumata**	**7.40**	**232**	Pn	**Pn**	**19 24 19.5**	**-0.9**
	0.3nm,0.3s,baz=113,slow=7.7,SNR=1.8						
BATI				LR	LR	19 27 34.7	
	comp=Z,281nm,20.0s,baz=155,slow=41						
KAKA	**Kakadu**	**7.60**	**158**	*eP*	**Pn**	**19 24 25.9**	**+2.7**
	13nm,0.6s						
FITZ	**Fitzroy Crossi**	**12.98**	**197**	*eP*	**Pn**	**19 25 36.1**	**-0.8**
	16nm,1.1s						
FITZ	**Fitzroy Crossi**	**12.98**	**197**	Pn	**Pn**	**19 25 37.4**	**+0.6**
	0.6nm,0.3s,baz=20,slow=16,SNR=16						
FITZ				LR	LR	19 31 20.3	
	comp=Z,76nm,20.0s,baz=11,slow=40						
DAV	**Davao City (W)**	**13.22**	**342**	LR	LR	19 30 37.5	
	comp=Z,96nm,19.9s,baz=332,slow=37						
WRAB	**Tennant Creek**	**14.97**	**162**	*eP*	**Pn**	**19 26 02.8**	**-1.2**
	26nm,1.3s						
WRA	**Warramunga Arr**	**14.98**	**162**	Pn	**Pn**	**19 26 02.4**	**-1.6**
	0.5nm,0.3s,baz=335,slow=13,SNR=29						
WRA				Sn	**Sn**	**19 28 48.5**	**-0.3**
	0.3nm,0.3s,baz=330,slow=23,SNR=3.4						
WB2	**Warramunga Arr**	**14.98**	**162**	*eP*	**Pn**	**19 26 02.6**	**-1.5**
COEN	**Coen**	**15.76**	**123**	*eP*	**Pn**	**19 26 16.1**	**+1.8**
	7.9nm,0.9s						
ASAR	**Alice Springs**	**18.42**	**167**	P	**Pn**	**19 26 48.4**	**+0.9**
	0.8nm,0.3s,baz=348,slow=10,SNR=54						
KSM	**Kuching**	**20.47**	**290**	*eP*	**P**	**19 27 10.6**	**+0.9**
CTA	**Charters Tower**	**21.69**	**133**	*eP*	**P**	**19 27 26.4**	**+3.7**
	6.4nm,0.9s,mb4.0						
CTA	**Charters Tower**	**21.69**	**133**	P	**P**	**19 27 23.5**	**+0.8**
	4.4nm,0.9s,mb3.9,baz=4.8,slow=12,SNR=2.4						
CTAO	**Charters Tower**	**21.69**	**133**	*eP*	**P**	**19 27 26.2**	**+3.5**
	8.1nm,0.8s,mb4.2						
GUMO	**Guam**	**24.40**	**38**	LR	LR	19 37 25.3	
	comp=Z,36nm,18.7s,MS2.9,baz=315,slow=37						
KLI	**Kotabumi**	**24.60**	**271**	P	**P**	**19 27 54.7**	**+2.7**
	0.0nm,0.0s						
STKA	**Stephens Creek**	**28.45**	**158**	*eP*	**P**	**19 28 30.1**	**+3.7**
	3.3nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**28.45**	**158**	P	**P**	**19 28 27.0**	**+0.6**
	2.0nm,0.8s,mb3.8,baz=348,slow=8.9,SNR=4.0						
STKA				LR	LR	19 40 58.0	
	comp=Z,129nm,18.1s,MS3.6,baz=200,slow=39						
STKA	**Stephens Creek**	**28.45**	**158**	P	**P**	**19 28 27.0**	**+0.6**
STKA				LR	LR	19 40 58.0	
NWAO	**Narrogin (SRO)**	**29.49**	**201**	LR	LR	19 39 37.1	
	comp=Z,144nm,20.6s,MS3.6,baz=14,slow=35						
PSI	**Prapat**	**31.71**	**285**	LR	LR	19 41 45.9	
	comp=Z,98nm,18.4s,MS3.5,baz=242,slow=36						
JOW	**Kunigami**	**32.28**	**358**	LR	LR	19 40 43.7	
	comp=Z,62nm,20.8s,MS3.3,baz=139,slow=34						
CMAR	**Chiang Mai Arr**	**38.52**	**309**	P	**P**	**19 29 54.2**	**+0.2**
	1.2nm,0.6s,mb3.8,baz=134,slow=6.9,SNR=12						
CMAR				LR	LR	19 44 49.5	
	comp=Z,63nm,18.9s,MS3.5,baz=142,slow=35						
CHTO	**Chiang Mai**	**38.72**	**310**	*eP*	**P**	**19 29 55.4**	**-0.4**
	2.8nm,1.0s,mb4.0						
MJAR	**Matsushiro Arr**	**42.72**	**10**	P	**P**	**19 30 27.2**	**-1.2**
	1.9nm,0.9s,mb3.8,baz=187,slow=9.1,SNR=5.8						
MAT	**Matsushiro**	**42.72**	**10**	P	**P**	**19 30 28.1**	**-0.4**
KSRS	**Korea Array**	**42.88**	**358**	P	**P**	**19 30 28.4**	**-1.4**
	0.9nm,0.8s,mb3.6,baz=190,slow=9.0,SNR=3.2						
KSRS				LR	LR	19 46 20.4	
	comp=Z,36nm,20.3s,MS3.3,baz=143,slow=34						
LZH	**Lanzhou**	**47.99**	**332**	*eP*	**P**	**19 31 12.0**	**+1.7**
LZH				AP	pP	19 31 20.8	-0.2
LZH				XP	sP	19 31 25.8	+0.5
LZH				AMB	AMB		
	comp=Z,23nm,1.6s,mb5.0						
LZH				AMB	AMB		
	comp=Z,89nm,4.5s						
GTA	**Gaotai**	**52.56**	**331**	*eP*	**P**	**19 31 44.5**	**-0.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
SONM	**Songino Array**	**57.00**	**342**	P	**P**	**19 32 17.3**	**+0.5**
	comp=Z,1.4nm,0.7s,mb4.1,baz=163,slow=7.0,SNR=4.1						
PETK	**Petropavlovsk-**	**63.16**	**19**	LR	LR	19 59 28.2	
	comp=Z,26nm,19.5s,MS3.4,baz=53,slow=35						
MK31	**Makanchi Array**	**66.84**	**327**	*eP*	**P**	**19 33 22.5**	**-0.5**
MKAR	**Makanchi Array**	**66.84**	**327**	P	**P**	**19 33 22.9**	**-0.1**
	comp=Z,3.0nm,0.7s,mb4.4,baz=117,slow=8.0,SNR=31						
AML	**Almayashu**	**69.48**	**319**	*eP*	**P**	**19 33 40.5**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.1						
EKS2	**Erkin-Say**	**69.68**	**319**	*eP*	**P**	**19 33 41.2**	**+0.3**
	comp=Z,3.3nm,1.1s,mb4.2						
ZAA0	**Zalesovo Array**	**70.16**	**334**	*eP*	**P**	**19 33 42.7**	**-0.9**
ZALV	**Zalesovo Beam**	**70.16**	**334**	P	**P**	**19 33 43.1**	**-0.4**
	comp=Z,3.4nm,0.8s,mb4.3,baz=108,slow=4.8,SNR=12						
KURK	**Kurchatov**	**71.12**	**329**	*eP*	**P**	**19 33 49.2**	**-0.2**
	comp=Z,7.7nm,0.9s,mb4.6						
VNDA	**Vanda**	**73.86**	**173**	LR	LR	20 07 09.8	
	comp=Z,53nm,19.6s,MS3.8,baz=331,slow=36						
MAW	**Mawson**	**76.06**	**201**	LR	LR	20 03 41.3	
	comp=Z,60nm,21.5s,MS3.9,baz=244,slow=32						
BRVK	**Borovoye**	**76.74**	**328**	*eP*	**P**	**19 34 22.1**	**-0.3**
	comp=Z,5.1nm,1.0s,mb4.4						

*CRAAG **22** 19:36:30.6, 3628N×264E, Ml3.2*
*MDD **22** 19:36:31.4±0.6, 3622N×276E, h28km±9km, mb3.7/8, Error ellipse: s-maj=12.5km s-min=7.6km az=154.0, PRIMO*
*ISCJB **22** 19:36:32.6±1.0, 3652N±006×26E±01, h33km±20km, Error ellipse: s-maj=17.5km s-min=6.9km az=27.3*
*CSEM **22** 19:36:32.6±0.1, 3654N×251E, h35km, ML3.2, Error ellipse: s-maj=3.9km s-min=2.8km az=113.0*
*NEIC **22** 19:36:33.3, 3660N×244E, h0km, MG3.6(MDD), After MDD.*
ISC 22 19:36:31.7±0.9, 3646N±006×262E±008, h24km±15km, n28, σ1§31/44, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.37**	**133**	P	**Pb**	**19 36 36.7**	**-3.1**
ABA	**Alger-Bouzarea**	**0.48**	**44**	P	**Pb**	**19 36 44.1**	**+2.6**
ADJB	**Djebel Djouab**	**0.73**	**114**	P	**Pb**	**19 36 41.5**	**-4.2**
ABMS	**Boumerdes**	**0.75**	**67**	P	**Pb**	**19 36 46.1**	**0.0**
EBNR	**Beni Rached**	**0.89**	**260**	P	**Pb**	**19 36 48.0**	**-0.5**
ECHA	**Ech Chlef**	**1.06**	**253**	P	**Pn**	**19 36 50.3**	**-0.7**
ECHF	**Ech Chlef**	**1.07**	**254**	P	**Pn**	**19 36 50.3**	**-1.0**
EANR	**'Ain N'Sour**	**1.33**	**248**	P	**Pn**	**19 36 55.0**	**+0.2**
ETRT	**Tiaret**	**1.51**	**225**	P	**Pn**	**19 36 58.0**	**+0.7**
EIBI	**Ibiza**	**2.76**	**339**	P	**Pn**	**19 37 15.6**	**+1.2**
	15nm,0.6s,SNR=7.9						
EIBI				S	**Sn**	**19 37 46.4**	**-0.5**
	7.9nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**2.76**	**339**	P	**Pn**	**19 37 14.3**	**-0.1**
	15nm,0.6s,SNR=7.9						
EIBI				S	**Sn**	**19 37 45.2**	**-1.7**
	7.9nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**2.76**	**339**	P	**Pn**	**19 37 14.3**	**-0.2**
EIBI				S	**Sn**	**19 37 45.2**	**-1.7**
EBEN	**Beniarda**	**3.18**	**316**	P	**Pn**	**19 37 21.0**	**+0.8**
	4.2nm,0.7s,SNR=6.6						
EBEN				S	**Sn**	**19 37 55.5**	**-2.0**
	4.8nm,0.6s						
EBEN	**Beniarda**	**3.18**	**316**	P	**Pn**	**19 37 19.9**	**-0.4**
EBEN				S	**Sn**	**19 37 55.5**	**-1.9**
	4.8nm,0.6s						
EBEN	**Beniarda**	**3.18**	**316**	P	**Pn**	**19 37 19.9**	**-0.4**
EBEN				S	**Sn**	**19 37 55.5**	**-2.0**
ETOS	**Mallorca**	**3.31**	**3**	P	**Pn**	**19 37 23.7**	**+1.7**
	3.0nm,0.2s,SNR=12						
ETOS				S	**Sn**	**19 37 59.9**	**-0.6**
	2.2nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.31**	**3**	P	**Pn**	**19 37 23.7**	**+1.7**
	3.0nm,0.2s,SNR=12						
ETOS				S	**Sn**	**19 37 59.9**	**-0.6**
	2.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.96**	**305**	P	**Pn**	**19 37 31.5**	**+0.5**
	1.5nm,0.5s,SNR=6.1						
ETOB				S	**Sn**	**19 38 17.3**	**+0.5**
	1.0nm,0.2s						
ETOB	**Tobarra**	**3.96**	**305**	P	**Pn**	**19 37 31.5**	**+0.5**
	1.5nm,0.5s,SNR=6.1						
ETOB				S	**Sn**	**19 38 15.3**	**-1.5**
	1.0nm,0.2s						
EBER	**Berja**	**4.45**	**277**	P	**Pn**	**19 37 37.7**	**0.0**
	2.2nm,0.3s,SNR=7.9						
EBER	**Berja**	**4.45**	**277**	P	**Pn**	**19 37 37.7**	**0.0**
	2.2nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.59**	**329**	P	**Pn**	**19 37 41.5**	**+1.9**
	1.0nm,0.1s,SNR=10						
EMOS				S	**Sn**	**19 38 31.8**	**-0.4**
	1.1nm,0.2s						
EMOS	**Mosqueruela**	**4.59**	**329**	P	**Pn**	**19 37 41.5**	**+1.9**
	1.0nm,0.1s,SNR=10						
EMOS				S	**Sn**	**19 38 30.0**	**-2.2**
	1.1nm,0.2s						
EMOS	**Mosqueruela**	**4.59**	**329**	P	**Pn**	**19 37 41.5**	**+1.9**
EMOS				S	**Sn**	**19 38 30.0**	**-2.3**
EQES	**Quesada**	**4.74**	**288**	P	**Pn**	**19 37 44.4**	**+2.7**
	0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**19 38 36.8**	**+0.9**
	0.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.74**	**288**	P	**Pn**	**19 37 44.4**	**+2.7**
	0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**19 38 38.1**	**+2.2**
	0.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.74**	**288**	P	**Pn**	**19 37 44.4**	**+2.7**
EQES				S	**Sn**	**19 38 38.1**	**+2.2**
EQUE	**Quentar**	**4.92**	**281**	P	**Pn**	**19 37 44.2**	**+0.1**
	0.8nm,0.3s,SNR=4.0						

IDC 22 19:46:41.8±1.4, 711S×15539E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.8/5, ML4.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/22, Error ellipse: s-maj=35.2km s-min=30.7km az=134.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.07**	**117**	Pn	Pn	19 47 58.9	-0.2
	5.0nm,0.3s,baz=263,slow=6.2,SNR=3.3						
HNR				Sn	Sn	19 48 52.0	-6.4
	4.6nm,0.3s,baz=90,slow=19,SNR=4.7						
HNR				LR	LR	19 49 36.5	
	comp=Z,67nm,18.6s,baz=185,slow=34						
WRA	**Warramunga Arr**	**24.07**	**236**	P	P	19 51 59.7	+0.6
	1.5nm,0.7s,baz=62,slow=9.8,SNR=16						
ASAR	**Alice Springs**	**26.39**	**229**	P	P	19 52 20.2	+0.1
	0.2nm,0.7s,baz=62,slow=8.8,SNR=4.1						
MKAR	**Makanchi Array**	**83.75**	**319**	P	P	19 59 13.5	+0.6
	0.8nm,0.7s,baz=103,slow=6.3,SNR=11						
ZALV	**Zalesovo Beam**	**84.49**	**326**	P	P	19 59 15.6	-0.9
	0.6nm,0.5s,baz=129,slow=5.0,SNR=2.9						

IDC 22 19:57:06.9±1.8, 550S×12917E, h0km, mb3.9/2, mb1 3.8/4, mb1mx3.5/16, mbtmp3.7/4, ML3.2/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/25, Error ellipse: s-maj=105.6km s-min=26.0km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.99**	**195**	Pn	Pn	20 00 12.4	-0.5
	0.1nm,0.3s,baz=27,slow=15,SNR=5.0						
FITZ				LR	LR	20 04 53.3	
	comp=Z,39nm,19.1s,baz=189,slow=36						
WRA	**Warramunga Arr**	**15.22**	**161**	Pn	Pn	20 00 39.0	-4.3
	0.1nm,0.3s,baz=335,slow=14,SNR=5.5						
ASAR	**Alice Springs**	**18.63**	**166**	P	Pn	20 01 26.9	+0.4
	0.1nm,0.3s,baz=348,slow=10,SNR=8.6						
STKA	**Stephens Creek**	**28.71**	**158**	P	P	20 03 05.6	-0.3
	2.3nm,1.0s,baz=340,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**66.52**	**327**	P	P	20 07 58.8	+0.2
	0.5nm,0.6s,baz=128,slow=7.6,SNR=7.6						

*NEIC **22** 20:15:33.8±1.9, 620S×12995E, h108km±26km, mb3.6/1, Error ellipse: s-maj=34.8km s-min=13.3km az=70.0*
*ISCJB **22** 20:15:35.9±2.1, 63S±01×13012E±009, h147km±22km, Error ellipse: s-maj=19.8km s-min=13.2km az=32.8*
*IDC **22** 20:15:36.5±8.3, 625S×13007E, h133km±87km, mb3.0/2, mb1 3.4/6, mb1mx3.2/18, mbtmp3.3/6, MS3.2/2, Ms1 3.3/2, ms1mx2.5/13, Error ellipse: s-maj=69.7km s-min=22.0km az=33.0*
ISC 22 20:15:40.4±1.7, 66S±01×13005E±010, h177km±17km, n12, σ1§06/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.56**	**159**	*eP*	**Pn**	**20 17 14.1**	**-0.6**
	19nm,0.3s						
BATI	**Baumata**	**7.29**	**240**	P	**Pn**	**20 17 23.8**	**-0.4**
	4.5nm,0.3s,baz=114,slow=18,SNR=13						
BATI				S	**Sn**	**20 18 47.1**	**+0.8**
	3.2nm,0.3s,baz=120,slow=20,SNR=3.6						
FITZ	**Fitzroy Crossi**	**12.26**	**200**	P	**Pn**	**20 18 28.7**	**-0.5**
	1.0nm,0.3s,baz=26,slow=13,SNR=46						
FITZ				S	**Sn**	**20 20 38.9**	**-6.5**
	0.7nm,0.3s,baz=92,slow=21,SNR=6.7						
WRAB	**Tennant Creek**	**13.94**	**163**	*eP*	**Pn**	**20 18 49.5**	**-1.0**
	1.6nm,0.4s						
WRA	**Warramunga Arr**	**13.95**	**163**	P	**Pn**	**20 18 50.2**	**-0.4**
	0.5nm,0.3s,baz=333,slow=14,SNR=30						
WRA				S	**Sn**	**20 21 18.7**	**-7.2**
	1.8nm,0.3s,baz=333,slow=24,SNR=12						
WRA	**Warramunga Arr**	**13.95**	**163**	P	**Pn**	**20 18 50.2**	**-0.4**
WRA				S	**Sn**	**20 21 18.7**	**-7.2**
DAV	**Davao City (W)**	**14.25**	**342**	*eP*	**Pn**	**20 18 45.6**	**-8.8**
	450nm,0.6s						
ASAR	**Alice Springs**	**17.42**	**168**	P	**Pn**	**20 19 35.0**	**+2.3**
	0.3nm,0.3s,baz=344,slow=10.0,SNR=16						
ASAR				S	**S**	**20 22 42.9**	**-0.5**
	0.3nm,0.3s,baz=355,slow=28,SNR=5.5						
CTA	**Charters Tower**	**20.70**	**132**	P	**P**	**20 20 09.0**	**+2.1**
	1.2nm,0.4s,baz=290,slow=8.7,SNR=3.5						
JOW	**Kunigami**	**33.23**	**357**	LR	LR	20 35 14.6	
	comp=Z,49nm,18.3s,baz=181,slow=36						
CMAR	**Chiang Mai Arr**	**39.48**	**310**	LR	LR	20 41 07.8	
	comp=Z,27nm,18.1s,baz=110,slow=39						
MKAR	**Makanchi Array**	**67.88**	**327**	P	**P**	**20 26 19.0**	**-0.6**
	0.1nm,0.5s,baz=115,slow=6.4,SNR=3.0						

*NEIC **22** 20:17:28.6±0.6, 5436N×3523W, h10km, Error ellipse: s-maj=23.8km s-min=10.8km az=188.0*
IDC 22 20:17:27.2±1.0, 5438N×3520W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.7/27, mbtmp3.7/8, ML2.5/1, MS3.4/17, Ms1 3.4/17, ms1mx3.1/43, Error ellipse: s-maj=36.7km s-min=20.3km az=7.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**12.52**	**28**	LR	LR	20 23 54.3	
	comp=Z,204nm,19.3s,baz=284,slow=31						
SCHQ	**Schefferville**	**18.25**	**284**	P	Pn	20 21 41.2	-0.4
	0.2nm,0.3s,baz=91,slow=7.7,SNR=5.0						
SCHQ				LR	LR	20 27 23.0	
	comp=Z,91nm,19.5s,baz=104,slow=33						
JMIC	**Jan Mayen**	**20.36**	**25**	LR	LR	20 27 52.1	
	comp=Z,78nm,18.8s,baz=101,slow=31						
NOA	**NORSAR Array B**	**25.21**	**56**	LR	LR	20 31 12.8	
	comp=Z,43nm,21.2s,baz=270,slow=33						
ESDC	**Sonseca Array**	**25.61**	**112**	P	P	20 22 59.0	+1.0
	0.9nm,0.6s,

az=145.1
*IDC **22** 20:31:16.7±1.4, 2606N×12535E, h124km±13km, mb3.8/18, mb1 3.9/20, mb1mx3.9/29, mbtmp3.8/20, Error ellipse: s-maj=14.4km s-min=11.3km az=75.0*
*JMA **22** 20:31:17.2±0.1, 2606N×12524E, h119km, M4.2*
*NEIC **22** 20:31:17.8±0.7, 2602N×12529E, h132km±6km, mb4.7/4, Error ellipse: s-maj=9.3km s-min=7.2km az=150.0*
*MOS **22** 20:31:18.0±0.8, 2603N×12527E, h153km, mb4.4/4, Error ellipse: s-maj=16.7km s-min=10.2km az=98.2*

ISC 22 20:31:17.0±0.2, 2599N±005×12534E±004, h125km±4km, n69, σ1°14/88, mb4.1/21, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.17**	**182**	P	**Pn**	**20 31 42.0**	**+0.8**
JMJ				S	**Sn**	**20 31 59.9**	**+6.0**
JOGS	**Gusukube**	**1.22**	**177**	P	**Pn**	**20 31 42.7**	**+0.9**
JOGS				S	**Sn**	**20 32 01.2**	**+6.0**
JKE	**Kume jima 2**	**1.34**	**75**	P	**Pn**	**20 31 43.9**	**+0.9**
JKE				S	**Sn**	**20 32 03.8**	**+5.7**
JTJ	**Tarama**	**1.46**	**203**	P	**Pn**	**20 31 44.6**	**+0.2**
JTJ				S	**Sn**	**20 32 04.6**	**+3.7**
JAGN	**Aguni-jima**	**1.81**	**70**	P	**Pn**	**20 31 49.2**	**+0.8**
JAGN				S	**Sn**	**20 32 12.7**	**+3.3**
JIJ	**Ishigaki jima**	**1.95**	**214**	P	**Pn**	**20 31 50.0**	**-0.1**
JIJ				S	**Sn**	**20 32 13.2**	**+0.5**
JKRS	**Kuro-shima**	**2.12**	**215**	P	**Pn**	**20 31 52.2**	**0.0**
JKRS				S	**Sn**	**20 32 18.6**	**+1.7**
NAH1	**Naha**	**2.13**	**84**	P	**Pn**	**20 31 53.4**	**+1.1**
NAH1				*e*S	**Sn**	**20 32 19.1**	**+2.1**
JJT2	**Tamagusuku 2**	**2.17**	**86**	P	**Pn**	**20 31 54.0**	**+1.1**
JJT2				*e*S	**Sn**	**20 32 21.3**	**+3.1**
IRIF	**Iriomote-Funau**	**2.20**	**222**	P	**Pn**	**20 31 53.2**	**0.0**
IRIF				S	**Sn**	**20 32 20.0**	**+1.2**
HATJ	**Hateruma jima**	**2.37**	**216**	P	**Pn**	**20 31 55.4**	**0.0**
HATJ				*e*S	**Sn**	**20 32 23.8**	**+0.7**
JIH	**Iheya**	**2.58**	**66**	P	**Pn**	**20 31 58.6**	**+0.6**
JIH				*e*S	**Sn**	**20 32 28.6**	**+0.7**
YOJ	**Yonaguni jima**	**2.60**	**235**	P	**Pn**	**20 31 59.0**	**+0.7**
YOJ				S	**Sn**	**20 32 29.8**	**+1.3**
JOW	**Kunigami**	**2.76**	**72**	P	**Pn**	**20 32 00.5**	**+0.1**
JOW				S	**Sn**	**20 32 32.3**	**-0.2**
JOW	**Kunigami**	**2.76**	**72**	P	**Pn**	**20 32 00.6**	**+0.1**
	60nm,0.3s,baz=220,slow=9.4,SNR=408						
JOW				S	**Sn**	**20 32 33.3**	**+0.8**
	129nm,0.3s,baz=129,slow=27,SNR=19						
TATO	**Taipei**	**3.62**	**255**	*e*P	**Pn**	**20 32 13.6**	**+1.9**
JTK	**Tokunoshima**	**3.69**	**60**	P	**Pn**	**20 32 12.1**	**-0.4**
JTK				S	**Sn**	**20 32 52.9**	**-2.0**
YHNB	**Yeheng**	**3.82**	**251**	*e*P	**Pn**	**20 32 16.1**	**+1.8**
NACB	**Ninganchiao**	**3.84**	**243**	*e*P	**Pn**	**20 32 14.2**	**-0.5**
JAM	**Amami Oshima**	**4.50**	**57**	P	**Pn**	**20 32 22.6**	**-0.8**
JAM				S	**Sn**	**20 33 12.0**	**-2.6**
JZK	**Kikaishima**	**4.73**	**60**	P	**Pn**	**20 32 26.0**	**-0.5**
JZK				*e*S	**Sn**	**20 33 18.4**	**-1.8**
JMZ	**Minamidaito 2**	**5.30**	**91**	P	**Pn**	**20 32 32.6**	**-1.5**
JMZ				*e*S	**Sn**	**20 33 28.0**	**-6.0**
JNN	**Nakanoshima**	**5.55**	**45**	P	**Pn**	**20 32 38.2**	**+0.7**
KSRS	**Korea Array**	**11.64**	**10**	P	**Pn**	**20 34 00.0**	**+0.9**
	0.3nm,0.3s,baz=191,slow=13,SNR=9.7						
MJAR	**Matsushiro Arr**	**15.21**	**43**	P	**Pn**	**20 34 46.0**	**+0.9**
	0.4nm,0.3s,baz=229,slow=9.5,SNR=9.3						
BJI	**Beijing**	**15.97**	**334**	P	**Pn**	**20 34 57.4**	**+2.9**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.0s						
CN2	**Changchun**	**17.77**	**0**	*e*P	**Pn**	**20 35 17.8**	**+1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
ASAJ	**Asahikawa**	**22.87**	**33**	P	**P**	**20 36 08.8**	**-0.9**
	comp=Z,4.4nm,0.5s,mb4.0,baz=338,slow=23,SNR=8.5						
ASAJ	**Asahikawa**	**22.87**	**33**	P	**P**	**20 36 08.8**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GTA	**Gaotai**	**25.20**	**308**	*e*P	**P**	**20 36 31.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**25.53**	**258**	P	**P**	**20 36 34.0**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.3,baz=61,slow=6.5,SNR=4.6						
SONM	**Songino Array**	**26.41**	**331**	P	**P**	**20 36 42.2**	**+0.4**
	comp=Z,2.4nm,0.6s,mb3.8,baz=140,slow=10,SNR=7.6						
PETK	**Petropavlovsk-**	**36.29**	**33**	P	**P**	**20 38 06.4**	**-1.7**
	comp=Z,1.1nm,0.5s,mb4.1,baz=147,slow=3.0,SNR=3.5						
MKAR	**Makanchi Array**	**39.77**	**313**	P	**P**	**20 38 37.2**	**-0.3**
	comp=Z,1.3nm,0.4s,mb4.1,baz=95,slow=10,SNR=44						
MKAR				PcP	PcP	20 40 41.7	+0.4
	comp=Z,0.4nm,0.6s,baz=109,slow=8.8,SNR=4.3						
MKAR				ScP	ScP	20 44 18.2	-0.4
	comp=Z,0.6nm,0.7s,baz=124,slow=3.9,SNR=6.3						
MKAR	**Makanchi Array**	**39.77**	**313**	P	**P**	**20 38 37.2**	**-0.3**
MKAR						20 40 41.7	
MKAR	**Makanchi Array**	**39.77**	**313**	P	**P**	**20 38 37.2**	**-0.3**
MKAR				PcP	PcP	20 40 41.7	+0.4
MKAR				ScP	ScP	20 44 18.2	-0.4
ZAA0	**Zalesovo Array**	**40.89**	**324**	*e*P	**P**	**20 38 44.9**	**-1.7**
ZALV	**Zalesovo Beam**	**40.89**	**324**	P	**P**	**20 38 45.7**	**-0.9**
	comp=Z,2.6nm,0.4s,mb4.5,baz=113,slow=8.4,SNR=21						
ZALV				PcP	PcP	20 40 44.5	-0.3
	comp=Z,0.4nm,0.3s,baz=105,slow=5.2,SNR=2.4						
ZALV				ScP	ScP	20 44 21.4	-1.5
	comp=Z,0.7nm,0.5s,baz=118,slow=3.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**40.89**	**324**	P	**P**	**20 38 45.7**	**-0.9**
ZALV				PcP	PcP	20 40 44.5	-0.3
ZALV				ScP	ScP	20 44 21.4	-1.5
ZAL	**Zalesovo**	**40.90**	**324**	P	**P**	**20 38 45.7**	**-0.9**
ZAL						20 40 44.5	
KURK	**Kurchatov**	**43.22**	**317**	*e*P	**P**	**20 39 05.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
KURK	**Kurchatov**	**43.22**	**317**	*e*P	**P**	**20 39 05.0**	**-0.6**
	comp=Z,3.4nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**43.83**	**180**	*e*P	**P**	**20 39 10.8**	**+0.1**
	comp=Z,7.2nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**43.83**	**180**	P	**P**	**20 39 10.9**	**+0.2**
	comp=Z,4.2nm,0.5s,mb4.5,baz=12,slow=8.7,SNR=21						
WRA	**Warramunga Arr**	**46.48**	**168**	P	**P**	**20 39 31.9**	**+0.3**
	comp=Z,3.2nm,0.6s,mb4.2,baz=350,slow=8.5,SNR=16						
WB2	**Warramunga Arr**	**46.49**	**168**	*e*P	**P**	**20 39 31.7**	**0.0**
BVAR	**Borovoye Array**	**48.73**	**319**	P	**P**	**20 39 48.3**	**-0.4**
	comp=Z,1.4nm,0.3s,mb4.4,baz=105,slow=8.8,SNR=15						
BVAR				ScP	ScP	20 44 55.0	-0.2
	comp=Z,0.3nm,0.5s,baz=99,slow=3.9,SNR=2.7						
BVAR	**Borovoye Array**	**48.73**	**319**	P	**P**	**20 39 48.3**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**48.73**	**319**	P	**P**	**20 39 48.4**	**-0.3**
ASAR	**Alice Springs**	**50.05**	**170**	P	**P**	**20 39 59.5**	**+0.5**
	comp=Z,1.7nm,0.5s,mb4.2,baz=358,slow=14,SNR=25						
AKTK	**Aktyubinsk**	**56.16**	**315**	P	**P**	**20 40 42.9**	**-0.6**
AKTO	**Aktyubinsk**	**56.16**	**315**	P	**P**	**20 40 42.9**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.1,baz=102,slow=14,SNR=8.3						
TTA	**Tatalina**	**62.06**	**31**	*e*P	**P**	**20 41 24.9**	**+1.0**
TTA				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
TTA	**Tatalina**	**62.06**	**31**	*e*P	**P**	**20 41 24.9**	**+0.9**
	comp=Z,4.7nm,0.4s,mb4.9						
SVW2	**Sparrevohn**	**62.37**	**33**	*e*P	**P**	**20 41 27.2**	**+1.1**
IMA2	**Indian Mountai**	**62.90**	**27**	*e*P	**P**	**20 41 30.4**	**+0.9**
BMRM	**Bremner River**	**67.67**	**32**	*e*P	**P**	**20 42 01.0**	**+0.7**
EGAK	**Eagle**	**68.27**	**27**	*e*P	**P**	**20 42 04.9**	**+0.9**
	comp=Z,9.0nm,0.6s,mb4.8						
SPITS	**Spitsbergen Ar**	**68.52**	**348**	P	**P**	**20 42 04.5**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.1,baz=68,slow=6.8,SNR=7.4						
DAWY	**Dawson**	**69.20**	**28**	*e*P	**P**	**20 42 11.2**	**+1.4**
ARCES	**ARCESS Array B**	**69.27**	**338**	P	**P**	**20 42 09.4**	**-0.7**
	comp=Z,0.4nm,0.3s,mb3.7,baz=248,slow=26,SNR=9.6						
HYT	**Haines Junctio**	**71.04**	**31**	*e*P	**P**	**20 42 23.5**	**+2.5**
AKASG	**Malin Array Be**	**74.02**	**319**	P	**P**	**20 42 37.9**	**-1.0**
	comp=Z,1.8nm,0.4s,mb4.1,baz=62,slow=6.3,SNR=8.6						
HFS	**Hagfors**	**77.81**	**332**	P	**P**	**20 42 59.0**	**-1.2**
	comp=Z,0.7nm,0.3s,mb3.9,baz=77,slow=5.0,SNR=15						
NB2	**NORSAR Subarra**	**78.37**	**333**	P	**P**	**20 43 02.3**	**-0.9**
	comp=Z,1.7nm,0.5s,mb4.0,baz=54,slow=5.6						
NOA	**NORSAR Array B**	**78.37**	**333**	P	**P**	**20 43 02.6**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.0,baz=53,slow=5.7,SNR=12						
YKA	**Yellowknife Ar**	**79.82**	**24**	P	**P**	**20 43 11.7**	**+0.5**
	comp=Z,4.0nm,0.6s,mb4.4,baz=299,slow=5.6,SNR=14						
YKA	**Yellowknife Ar**	**79.82**	**24**	P	**P**	**20 43 11.7**	**+0.5**
GERES	**GERESS Array B**	**83.80**	**322**	P	**P**	**20 43 32.5**	**+0.3**
	comp=Z,0.2nm,0.5s,mb3.2,baz=66,slow=5.3,SNR=3.1						

*ATH **22** 20:44:09.6, 3887N×2728E, h24km±1km, MD3.5/3*
*ISK **22** 20:44:09.4, 3888N×2715E, h5km, MD3.3*
*NEIC **22** 20:44:09.0, 3887N×2716E, h5km, MD3.3(ISK),*
MD3.5(ATH), ML3.6(THE), After ISK.
*DDA **22** 20:44:09.5, 3885N×2720E, h19km±1km, Md3.4*
*ISCJB **22** 20:44:10.1±0.4, 3886N±001×2715E±002, h9km±3km, Error ellipse: s-maj=2.8km s-min=2.4km az=166.9*
*CSEM **22** 20:44:10.1±0.1, 3887N×2717E, h12km, MD3.4, Error ellipse: s-maj=1.5km s-min=1.2km az=97.0*
*THE **22** 20:44:12.1, 3881N×2706E, h12km, ML3.6*

ISC 22 20:44:10.6±0.3, 3886N±001×2716E±002, h11km±2km, n58, σ0°87/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.46**	**169**	*i* P	**Pg**	**20 44 19.4**	**-0.1**
KDAG				*i* S	**Sg**	**20 44 25.8**	**+0.2**
IZM	**Izmir**	**0.46**	**170**	PG	**Pg**	**20 44 19.4**	**-0.2**
BLCB	**Balcova**	**0.48**	**191**	PG	**Pg**	**20 44 19.2**	**-0.6**
BLCB				*e*SG	**Sg**	**20 44 27.0**	**+0.8**
AKS	**Akhisar**	**0.51**	**87**	PG	**Pg**	**20 44 20.3**	**-0.2**
AKHS	**Akhisar**	**0.51**	**87**	*i* P	**Pg**	**20 44 20.0**	**-0.5**
AKHS				*i* S	**Sg**	**20 44 26.8**	**-0.5**
AYVA	**Ayvalik**	**0.58**	**321**	*i* P	**Pg**	**20 44 22.0**	**+0.1**
AYVA				*i* S	**Sg**	**20 44 30.7**	**+1.2**
PRK	**Paraskevi**	**0.79**	**300**	*e*Pg	**Pg**	**20 44 26.1**	**+0.2**
PRK				*e*Sg	**Sg**	**20 44 37.3**	**+1.0**
PRK	**Paraskevi**	**0.79**	**300**	*e*Pn	**Pn**	**20 44 26.5**	**-1.2**
PRK				*e*Sg	**Sg**	**20 44 37.3**	**+1.0**
PRK				*e*Sn	**Sn**	**20 44 38.7**	**-0.9**
BALY	**Balya**	**0.95**	**22**	*i* P	**Pg**	**20 44 28.3**	**-0.7**
BALY				*i* S	**Sg**	**20 44 41.4**	**+0.1**
BALB	**Balikesir**	**0.96**	**35**	PG	**Pg**	**20 44 28.6**	**-0.6**
BALB				*e*SG	**Sg**	**20 44 41.8**	**+0.1**
CHOS	**Chios island**	**0.98**	**242**	*e*Pg	**Pg**	**20 44 29.1**	**-0.4**
CHOS				*e*Sg	**Sg**	**20 44 42.9**	**+0.6**
CHOS	**Chios island**	**0.98**	**242**	*e*Pg	**Pg**	**20 44 29.0**	**-0.5**
CHOS				*e*Sg	**Sg**	**20 44 42.9**	**+0.6**
BTOK	**Tokmak**	**1.13**	**36**	*i* P	**Pb**	**20 44 31.5**	**-0.7**
BTOK				*i* S	**Sb**	**20 44 45.8**	**-1.1**
GCAM	**G?zelcaml?**	**1.15**	**177**	*i* P	**Pb**	**20 44 31.9**	**-0.7**
GCAM				*i* S	**Sb**	**20 44 47.1**	**-0.4**
EZN	**Ezine**	**1.17**	**327**	*e*PN	**Pn**	**20 44 31.8**	**-1.1**
EZN				*e*SN	**Sn**	**20 44 48.5**	**-0.3**
SMG	**Samos**	**1.17**	**193**	*e*PN	**Pn**	**20 44 32.6**	**-0.3**
SMG				*e*SN	**Sn**	**20 44 49.5**	**+0.6**
KULA	**Kula-Manisa**	**1.22**	**106**	*e*PN	**Pn**	**20 44 32.8**	**-0.8**
DEMI	**Demirci**	**1.23**	**81**	*i* P	**Pn**	**20 44 33.0**	**-0.7**
DEMI				*i* S	**Sb**	**20 44 48.3**	**-1.4**
BOZC	**Bozcaada**	**1.31**	**319**	*i* P	**Pn**	**20 44 34.4**	**-0.4**
BOZC				*i* S	**Sb**	**20 44 52.4**	**+0.5**
AYDN	**Tasoluk**	**1.32**	**154**	*i* P	**Pn**	**20 44 34.1**	**-0.8**
AYDN				*i* S	**Sb**	**20 44 50.5**	**-1.8**
DST	**Dursunbey**	**1.36**	**56**	*e*PN	**Pn**	**20 44 35.5**	**-0.1**
LPK	**Lapseki**	**1.55**	**349**	*e*PN	**Pn**	**20 44 38.0**	**-0.1**
EDC	**Edincik**	**1.59**	**20**	*e*PN	**Pn**	**20 44 38.0**	**-0.6**
BNT	**Bandirma**	**1.61**	**21**	*e*PN	**Pn**	**20 44 38.4**	**-0.6**
MLSB	**Milas**	**1.63**	**162**	*e*PN	**Pn**	**20 44 40.1**	**+0.8**
MLSB				*e*SN	**Sn**	**20 45 02.5**	**+2.3**
GADA	**Gvkgeada**	**1.65**	**324**	*e*PN	**Pn**	**20 44 39.7**	**+0.2**
GADA				*e*SN	**Sn**	**20 45 00.9**	**+0.1**
KCT	**Karacabey**	**1.69**	**33**	*e*PN	**Pn**	**20 44 39.2**	**-0.8**
BODT	**Bodrum**	**1.79**	**176**	*e*PN	**Pn**	**20 44 42.8**	**+1.3**
BDRM	**Kayabasi**	**1.80**	**173**	*e*P	**Pn**	**20 44 43.1**	**+1.6**
BDRM				*i* S	**Sn**	**20 45 08.2**	**+3.8**
GDZ	**Gediz**	**1.82**	**82**	*i* P	**Pn**	**20 44 42.5**	**+0.6**
GDZ				*i* S	**Sn**	**20 45 05.6**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.83**	**0**	*e*PN	**Pn**	**20 44 42.0**	**0.0**
RKY				*e*SN	**Sn**	**20 45 06.2**	**+1.0**
SART	**Tekirdag**	**1.83**	**0**	*i* P	**Pn**	**20 44 41.8**	**-0.2**
SART				*e*S	**Sn**	**20 45 03.6**	**-1.7**
KHL	**Karahalli**	**1.93**	**105**	*e*PN	**Pn**	**20 44 43.6**	**+0.3**
MFT	**Murefte**	**1.93**	**3**	*e*PN	**Pn**	**20 44 43.2**	**-0.2**
YER	**Yerkesik**	**1.93**	**152**	*e*PN	**Pn**	**20 44 44.2**	**+0.8**
LOS	**Limnos**	**1.94**	**304**	*e*Pb	**Pb**	**20 44 44.1**	**-1.8**
LOS				*e*Sb	**Sb**	**20 45 06.9**	**-3.2**
ULDT	**Uludag**	**2.00**	**49**	*i* P	**Pn**	**20 44 40.3**	**-4.0**
ULDT				*i* S	**Sn**	**20 45 08.2**	**-1.2**
ENEZ	**Enez**	**2.03**	**338**	*e*PN	**Pn**	**20 44 45.1**	**+0.3**
ENEZ				*e*SN	**Sn**	**20 45 11.2**	**+1.1**
TKR	**Tekirdag**	**2.15**	**8**	*e*PN	**Pn**	**20 44 46.5**	**0.0**
APE	**Apeiranthos**	**2.20**	**216**	*e*Pn	**Pn**	**20 44 45.2**	**-1.9**
APE				*e*Sn	**Sn**	**20 45 12.7**	**-1.6**
ALN	**Alexandroupoli**	**2.21**	**338**	*e*Pn	**Pn**	**20 44 47.5**	**+0.3**
ALN				*e*Sn	**Sn**	**20 45 15.9**	**+1.3**
GEMT	**Gemlik**	**2.22**	**44**	*e*PN	**Pn**	**20 44 47.9**	**+0.5**
ALT	**Altintas**	**2.31**	**84**	*e*PN	**Pn**	**20 44 49.2**	**+0.6**
CRLT	**Corlu**	**2.31**	**11**	*e*PN	**Pn**	**20 44 49.2**	**+0.6**
DALT	**Dalyan (Mudla)**	**2.39**	**150**	*e*PN	**Pn**	**20 44 52.6**	**+0.9**
YLV	**Yalova**	**2.42**	**44**	*e*PN	**Pn**	**20 44 51.3**	**+1.2**
CTT	**Catalca**	**2.49**	**23**	*e*PN	**Pn**	**20 44 51.0**	**0.0**
SLVT	**Silivri**	**2.51**	**18**	*e*PN	**Pn**	**20 44 52.0**	**+0.7**
ADVT	**Abdulvahap**	**2.54**	**51**	*e*PN	**Pn**	**20 44 52.9**	**+1.1**
AOS	**Alonnisos**	**2.57**	**278**	*e*Pn	**Pn**	**20 44 52.3**	**+0.1**
AOS				*e*Sn	**Sn**	**20 45 22.3**	**-1.2**
RDO	**Rodhopi**	**2.61**	**332**	*e*PN	**Pn**	**20 44 53.1**	**+0.5**
BGKT	**Bogazkoy**	**2.63**	**28**	*e*PN	**Pn**	**20 44 53.8**	**+0.8**
ISK	**Istanbul-Kandi**	**2.65**	**33**	*e*PN	**Pn**	**20 44 53.9**	**+0.7**
SHUT	**Suhut-Afyon**	**2.67**	**95**	*e*PN	**Pn**	**20 44 54.3**	**+0.7**
HRT	**Hereke**	**2.75**	**44**	*e*PN	**Pn**	**20 44 55.8**	**+1.1**
KLYT	**Kilyos**	**2.80**	**31**	*e*PN	**Pn**	**20 44 55.9**	**+0.6**
SILT	**Sile**	**2.98**	**39**	*e*PN	**Pn**	**20 44 58.4**	**+0.5**
EDRB	**Edirne**	**3.01**	**354**	*e*PN	**Pn**	**20 44 58.5**	**+0.4**

IDC 22 21:07:41.5±1.2, 022N×12339E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=47.2km s-min=21.4km az=70.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.34**	**173**	P	Pn	21 11 57.9	+0.3
	0.1nm,0.3s,baz=359,slow=12,SNR=5.4						
WRA	**Warramunga Arr**	**22.73**	**152**	P	P	21 12 44.5	-0.9
	0.5nm,0.4s,baz=332,slow=9.7,SNR=6.4						
CMAR	**Chiang Mai Arr**	**30.08**	**308**	P	P	21 13 54.4	+1.5
	0.3nm,0.2s,baz=140,slow=8.6,SNR=4.2						
MJAR	**Matsushiro Arr**	**38.66**	**19**	P	P	21 15 07.5	+0.5
	0.9nm,0.6s,baz=200,slow=8.9,SNR=3.6						
SONM	**Songino Array**	**49.67**	**345**	P	P	21 16 35.4	+0.4
	0.3nm,0.3s,baz=158,slow=7.6,SNR=3.0						
MKAR	**Makanchi Array**	**58.63**	**328**	P	P	21 17 39.1	-1.3
	0.2nm,0.6s,baz=129,slow=7.1,SNR=6.2						

*ISCJB **22** 21:08:21.1±0.6, 2080S±004×6883W±009, h125km±7km, mb4.6/12, Error ellipse: s-maj=14.7km s-min=6.9km az=5.5*
*IDC **22** 21:08:22.9±0.5, 2074S×6877W, h117km±4km, mb4.2/7, mb1 4.2/9, mb1mx4.0/17, mbtmp4.1/9, MS3.2/2, Ms1 3.2/2, ms1mx2.7/23, Error ellipse: s-maj=18.5km s-min=6.6km az=95.0*
*NEIC **22** 21:08:22.3±0.8, 2083S×6884W, h115km±8km, mb4.4/4, Error ellipse: s-maj=14.6km s-min=8.1km az=84.0*
*GUC **22** 21:08:23.3±0.6, 2136S×7206W, h20km, ML4.5*

ISC 22 21:08:22.3±0.6, 2077S±004×6884W±009, h116km±6km, h121km±4.0km; pP-P, n42, σ1°09/46, mb4.6/12, 1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.83**	**182**	P	**Pn**	**21 08 54.6**	**+1.2**
	66nm,0.3s,baz=3.0,slow=8.0,SNR=437						
LVC				S	**Sn**	**21 09 19.3**	**+2.1**
	497nm,0.3s,baz=234,slow=23,SNR=56						
LVC	**Limon Verde**	**1.83**	**182**	P	**Pn**	**21 08 54.6**	**+1.2**
LVC				S	**Sn**	**21 09 19.3**	**+2.1**
CEN1	**Los Morros**	**2.89**	**206**	↓*i* P	**Pn**	**21 09 08.2**	**+1.2**
CEN1				*i* S	**Sn**	**21 09 41.8**	**+0.2**
CEN1				AML	AML	21 09 46.0	
	comp=E,867nm,0.4s						
ANCH	**Antofagasta**	**3.24**	**206**	*e*P	**Pn**	**21 09 09.9**	**-1.8**
ANCH				*i* S	**Sn**	**21 09 44.2**	**-5.5**
ANCH				AML	AML	21 09 49.0	
	comp=E,4μm,0.7s						
ANCH	**Antofagasta**	**3.24**	**206**	*e*P	**Pn**	**21 09 09.9**	**-1.8**
ANCH				*i* S	**Sn**	**21 09 44.2**	**-5.5**
CPN1	**Cerro Paranal**	**4.10**	**200**	*e*P	**Pn**	**21 09 21.1**	**-2.0**
CPN1				*i* S	**Sn**	**21 10 04.9**	**-5.3**
CPN1				AML	AML	21 10 31.1	
	comp=E,785nm,0.2s						
LPAZ	**La Paz**	**4.51**	**9**	P	**Pn**	**21 09 30.9**	**+2.2**
	comp=E,5.6nm,0.3s,baz=197,slow=7.9,SNR=124						
LPAZ				S	**Sn**	**21 10 19.9**	**-0.3**
	comp=E,2.9nm,0.3s,baz=244,slow=20,SNR=5.4						
ARE	**Arequipa**	**4.97**	**329**	*e*P	**Pn**	**21 09 30.0**	**-4.8**
ARE				*e*S	**Sn**	**21 10 25.0**	**-6.3**
CDCH	**Caldera**	**6.53**	**196**	*e*P	**Pn**	**21 09 51.0**	**-4.9**
CDCH				*i* S	**Sn**	**21 10 58.1**	**-11**
LCO	**Las Campanas**	**8.37**	**191**	Pn	**Pn**	**21 10 19.6**	**-1.2**
SIV	**San Ignacio**	**8.77**	**58**	LR	LR	21 14 12.3	
	comp=E,160nm,20.0s,baz=176,slow=40						
CFAA	**Coronel Fontan**	**10.80**	**177**	P	**Pn**	**21 10 50.7**	**-2.8**
	comp=E,0.1nm,0.3s,baz=352,slow=14,SNR=6.1						
CFAA				S	**Sn**	**21 12 43.4**	**-9.1**
	comp=E,0.3nm,0.3s,baz=191,slow=14,SNR=5.2						
CFAA	**Coronel Fontan**	**10.80**	**177**	P	**Pn**	**21 10 50.7**	**-2.8**
CFAA				S	**Sn**	**21 12 43.4**	**-9.1**
NNA	**Nana**	**11.63**	**317**	*e*Pn	**Pn**	**21 11 05.2**	**+0.5**
TRQA	**Tornquist**	**18.22**	**162**	*e*P	**P**	**21 12 26.5**	**+0.2**
	comp=E,19nm,0.8s						
TRQA				*e*S	**S**	**21 15 50.1**	**+1.4**
PLCA	**Paso Flores**	**19.95**	**184**	P	**P**	**21 12 46.4**	**+1.3**
	comp=E,0.5nm,0.3s,baz=7.8,slow=13,SNR=18						
PLCA	**Paso Flores**	**19.95**	**184**	P	**P**	**21 12 46.4**	**+1.3**
BDFB	**Brasilia**	**20.42**	**79**	P	**P**	**21 12 50.6**	**+0.2**
	comp=E,13nm,0.4s,baz=246,slow=16,SNR=22						
BDFB				LR	LR	21 22 08.1	
	comp=E,73nm,22.0s,baz=70,slow=40						
EFI	**East Falkland**	**31.97**	**167**	P	**P**	**21 14 37.8**	**+0.7**
AOPR	**Arecibo Observ**	**38.93**	**3**	P	**P**	**21 15 33.2**	**-3.7**
	comp=E,16nm,1.0s,mb4.8						
MIAR	**Mount Ida**	**59.83**	**336**	*e*P	**P**	**21 18 15.0**	**-0.5**
	comp=E,1.2nm,0.4s,mb4.3						
TXAR	**Lajitas Array**	**60.07**	**325**	P	**P**	**21 18 17.4**	**+0.1**
	comp=E,0.2nm,0.5s,mb3.4,baz=153,slow=9.3,SNR=4.4						
TXAR				pP	pP	21 18 45.1	-0.2
	comp=E,0.3nm,0.5s,baz=153,slow=8.2,SNR=4.5						
BBTS	**Babate**	**62.28**	**60**	P	**P**	**21 18 32.7**	**+0.2**
	comp=E,26nm,0.7s,mb5.4,baz=200,slow=0.8,SNR=5.4						
LIC	**Lamto**	**68.12**	**74**	*e*P	**P**	**21 19 09.5**	**-0.8**
	comp=E,56nm,1.3s,mb5.2						
TIC	**Toumodi**	**68.31**	**74**	*e*P	**P**	**21 19 11.0**	**-0.5**
	comp=E,65nm,1.0s,mb5.4						
KIC	**Kosan Boka**	**68.44**	**74**	*e*P	**P**	**21 19 12.0**	**-0.3**
	comp=E,68nm,0.8s,mb5.5						
DBIC	**Dimbokro**	**68.47**	**74**	P	**P**	**21 19 12.2**	**-0.2**
	comp=E,16nm,0.7s,mb5.0,baz=216,slow=6.9,SNR=27						
PDAR	**Pinedale Array**	**73.52**	**330**	pP	pP	21 20 12.2	+0.9
	comp=E,0.6nm,0.7s,baz=144,slow=5.5,SNR=4.1						
NVAR	**Mina Array Bea**	**74.96**	**322**	P	**

EZN				*e*SG	**Sg**	**22 03 19.5**	**+1.6**
BLCB	**Balcova**	**0.82**	**146**	*e*PG	**Pg**	**22 03 08.9**	**-0.3**
BLCB				*e*SG	**Sg**	**22 03 20.0**	**+0.1**
BOZC	**Bozcaada**	**0.83**	**338**	*i* P	**Pg**	**22 03 08.7**	**-0.6**
BOZC				*i* S	**Sg**	**22 03 20.6**	**+0.5**
KDAG	**Bornova**	**0.92**	**136**	*i* P	**Pg**	**22 03 11.6**	**+0.6**
KDAG				*i* S	**Sg**	**22 03 24.4**	**+1.5**
IZM	**Izmir**	**0.92**	**136**	*e*PG	**Pg**	**22 03 09.3**	**-1.7**
AKS	**Akhisar**	**1.08**	**100**	*e*PG	**Pg**	**22 03 13.4**	**-0.5**
AKHS	**Akhisar**	**1.08**	**100**	*i* P	**Pb**	**22 03 13.9**	**0.0**
AKHS				*i* S	**Sb**	**22 03 28.7**	**+0.8**
BALY	**Balya**	**1.12**	**53**	*i* P	**Pb**	**22 03 15.0**	**+0.3**
BALY				*i* S	**Sb**	**22 03 31.3**	**+2.0**
GADA	**Gvkgeada**	**1.20**	**339**	*e*PN	**Pn**	**22 03 15.4**	**-0.5**
GADA				*e*SN	**Sn**	**22 03 32.1**	**0.0**
BALB	**Balikesir**	**1.24**	**62**	*e*PN	**Pn**	**22 03 15.8**	**-0.7**
BALB				*e*SN	**Sn**	**22 03 33.2**	**-0.1**
LPK	**Lapseki**	**1.32**	**10**	*e*PN	**Pn**	**22 03 17.1**	**-0.5**
LOS	**Limnos**	**1.37**	**310**	*e*Pg	**Pg**	**22 03 18.9**	**-0.7**
LOS				*e*Sg	**Sg**	**22 03 36.8**	**-0.5**
DURS	**Dursunbey**	**1.65**	**71**	*i* P	**Pn**	**22 03 22.0**	**-0.2**
DURS				*i* S	**Sn**	**22 03 43.7**	**+0.3**
ENEZ	**Enez**	**1.68**	**352**	*e*PN	**Pn**	**22 03 22.6**	**+0.1**
ENEZ				*e*SN	**Sn**	**22 03 44.4**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.71**	**19**	*e*PN	**Pn**	**22 03 22.7**	**-0.2**
DST	**Dursunbey**	**1.77**	**72**	*e*PN	**Pn**	**22 03 23.1**	**-0.7**
KULA	**Kula-Manisa**	**1.81**	**107**	*e*PN	**Pn**	**22 03 23.8**	**-0.5**
MFT	**Murefte**	**1.83**	**20**	*e*PN	**Pn**	**22 03 24.9**	**+0.3**
ALN	**Alexandroupoli**	**1.85**	**350**	*e*Pb	**Pb**	**22 03 24.7**	**-2.4**
ALN				*e*Sb	**Sb**	**22 03 49.8**	**-0.4**
KCT	**Karacabey**	**1.89**	**50**	*e*PN	**Pn**	**22 03 24.6**	**-0.8**
AOS	**Alonnisos**	**2.00**	**274**	*e*Pn	**Pn**	**22 03 26.8**	**-0.2**
AOS				*e*Sn	**Sn**	**22 03 52.8**	**+0.8**
MLSB	**Milas**	**2.06**	**149**	*e*PN	**Pn**	**22 03 27.0**	**-0.7**
APE	**Apeiranthos**	**2.13**	**200**	*e*Pn	**Pn**	**22 03 27.6**	**-1.1**
APE				*e*Sn	**Sn**	**22 03 56.2**	**+1.2**
OUR	**Ouranopolis**	**2.29**	**304**	*e*Pn	**Pn**	**22 03 31.0**	**+0.1**
PAIG	**Paliouri**	**2.31**	**293**	*e*Pn	**Pn**	**22 03 31.6**	**+0.4**
PAIG				*e*Sn	**Sn**	**22 04 00.7**	**+1.0**
PAIG	**Paliouri**	**2.31**	**293**	*e*Pn	**Pn**	**22 03 31.6**	**+0.4**
PAIG				*e*Sn	**Sn**	**22 04 00.6**	**+1.0**
EDRB	**Edirne**	**2.78**	**4**	*e*PN	**Pn**	**22 03 37.8**	**+0.1**

ATH ***22*** *22:07:46.7, 3774N×2363E, h23km±3km, MD2.7/6, ML2.5*
ISCJB ***22*** *22:07:47.7±0.6, 3780N±003×2372E±004, h10km, Error ellipse: s-maj=5.2km s-min=3.7km az=42.6*
CSEM ***22*** *22:07:48.7±0.2, 3777N×2374E, h10km, ML2.4, Error ellipse: s-maj=3.8km s-min=3.2km az=139.0*
THE ***22*** *22:07:49.2, 3780N×2368E, h0km*
ISC 22 22:07:47.9±0.6, 3778N±003×2373E±005, h19km±6km, n14, σ1§02/22, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVR	**Kavouri**	**0.06**	**30**	*e*PB	**Pg**	**22 07 51.3**	**-0.2**
NAIG	**Nisos Aigina**	**0.19**	**265**	*e*PB	**Pg**	**22 07 52.0**	**-0.9**
NAIG				*e*SB	**Sg**	**22 07 54.5**	**-1.8**
ATH	**Athens Observa**	**0.20**	**357**	*e*PB	**Pg**	**22 07 53.0**	**+0.1**
PTL	**Penteli**	**0.29**	**21**	*e*PB	**Pg**	**22 07 54.8**	**+0.4**
DID	**Didima**	**0.48**	**236**	*e*Pg	**Pg**	**22 07 58.2**	**+0.6**
DID				*e*Sg	**Sg**	**22 08 03.9**	**-0.3**
LTK	**Loutraki**	**0.65**	**292**	*e*Pg	**Pg**	**22 08 01.1**	**+0.2**
LTK				*e*Sg	**Sg**	**22 08 10.0**	**+0.4**
LKR	**Lokris**	**1.05**	**327**	*e*Pg	**Pg**	**22 08 07.7**	**-0.6**
LKR				*e*Sg	**Sg**	**22 08 23.8**	**+1.8**
LKR	**Lokris**	**1.05**	**327**	*e*PN	**Pn**	**22 08 06.0**	**-1.5**
VLX	**Vlachokerasia**	**1.15**	**250**	*e*Pg	**Pg**	**22 08 11.2**	**+1.0**
VLX				*e*Sg	**Sg**	**22 08 27.2**	**+2.0**
VLI	**Veliai**	**1.23**	**211**	*e*PN	**Pn**	**22 08 08.7**	**-1.3**
AOS	**Alonnisos**	**1.40**	**5**	*e*Pg	**Pg**	**22 08 14.5**	**-0.4**
AOS				*e*Sg	**Sg**	**22 08 34.3**	**+1.1**
APE	**Apeiranthos**	**1.60**	**116**	*e*Pb	**Pb**	**22 08 17.9**	**+1.2**
APE				*e*Sb	**Sb**	**22 08 42.0**	**+5.5**
XOR	**Xorichti**	**1.64**	**345**	*e*Pg	**Pg**	**22 08 17.9**	**-1.6**
XOR				*e*Sg	**Sg**	**22 08 40.5**	**-0.5**
CHOS	**Chios island**	**1.93**	**71**	*e*Pb	**Pb**	**22 08 22.8**	**+0.3**

IDC ***22*** *22:24:34.8±0.6, 1643S×17749W, h0km, mb4.5/15, mb1 4.7/16, mb1mx4.7/20, mbtmp4.6/16, ML4.0/1, MS4.8/21, Ms1 4.8/21, ms1mx4.6/26, Error ellipse: s-maj=20.2km s-min=16.4km az=121.0*
BJI ***22*** *22:24:35.7, 1640S×17750W, h10km, mB5.3, mb5.0, Ms5.1, Msz4.9*
ISCJB ***22*** *22:24:35.2±0.2, 1646S±005×17742W±004, h11km, mb4.8/53, MS4.8/41, Error ellipse: s-maj=7.3km s-min=5.3km az=140.7*
GCMT ***22*** *22:24:36.7±0.1, 1646S×17735W, h15km, MW5.4/101, Moment Tensor Solution. s74,c136; s101,c189; Duration: 1§2 Moment tensor: Scale 10^17^Nm; Mrr=0.02±.02; Mθθ=1.09±.02; Mφφ=1.11±.02; Mrθ=0.06±.03; Mrφ=0.82±.02; Mθφ=0.09±.03; Best double couple: M0=1.37700×10^17^ NP1:φs=333.00000°, δ=86.00000°, λ=178.00000°. NP2:φs=63.00000°, δ=88.00000°, λ=4.00000°. Principal axes: T 1.3910, Plg=4.0000°, Azm=288.0000°; N -0.0280, Plg=86.0000°, Azm=91.0000°; P -1.3640, Plg=1.0000°, Azm=198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *22:24:36.7±0.2, 1640S×17750W, h10km, mb4.9/25, MS4.9/10 Error ellipse: s-maj=10.7km s-min=6.8km az=133.0*
MOS ***22*** *22:24:39.6±1.5, 1640S×17767W, h33km, mb5.0/12, MS4.9/16, Error ellipse: s-maj=12.7km s-min=9.5km az=64.1*
DJA ***22*** *22:25:13, 1764S×17872W, h243km, mb4.8/16*
ISC 22 22:24:36.9±0.2, 1645S±005×17739W±004, h12km, h12km±1.8km: pP-P, n293, σ1§14/129, mb4.8/53, MS4.8/41, 23C-16D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.98**	**66**	Pn	**Pn**	**22 26 01.9**	**-3.4**
	5.1nm,0.3s,baz=137,slow=4.2,SNR=9.7						
AFI				LR	LR	22 27 56.2	
	comp=Z,2μm,18.4s,baz=72,slow=33						
RAO	**Raoul Island**	**12.76**	**182**	LR	LR	22 31 43.9	
	comp=Z,6μm,21.2s,baz=130,slow=34						
RAO	**Raoul Island**	**12.76**	**182**	*e*P	**Pn**	**22 27 40.0**	**+1.8**
RAR	**Rarotonga**	**17.33**	**109**	P	**Pn**	**22 28 37.7**	**-1.1**
	0.6nm,0.3s,baz=255,slow=9.2,SNR=5.5						
RAR				LR	LR	22 33 44.4	
	comp=Z,3μm,20.4s,baz=340,slow=32						
URZ	**Urewera**	**22.26**	**191**	P	**P**	**22 29 32.2**	**-1.6**
	53nm,0.9s,mb5.0,baz=15,slow=6.4,SNR=17						
URZ				LR	LR	22 36 38.5	
	comp=Z,5μm,19.8s,MS4.9,baz=53,slow=32						
HNR	**Honiara**	**23.15**	**285**	LR	LR	22 37 07.6	
	comp=Z,8μm,21.5s,MS5.2,baz=174,slow=33						
SNZO	**South Karori**	**25.70**	**194**	*e*P	**P**	**22 30 06.5**	**-0.5**
PPT	**Papeete**	**26.61**	**96**	*e*LQ		22 35 38.6	
	2μm,33.2s						
PPT				*e*LR	LR	22 36 53.5	
	6μm,27.2s,baz=261						
PPT	**Papeete**	**26.61**	**96**	LR	LR	22 37 57.5	
	comp=Z,1μm,19.3s,MS4.5,baz=257,slow=30						
RPZ	**Rata Peaks**	**28.90**	**197**	P	**P**	**22 30 37.1**	**+1.4**
	16nm,0.9s,mb4.7,baz=207,slow=2.3,SNR=4.4						
RPZ				LR	LR	22 40 28.8	
	comp=Z,3μm,21.8s,MS4.8,baz=298,slow=33						
ARMA	**Armidale**	**31.52**	**238**	*e*P	**P**	**22 30 58.9**	**-0.2**
CTA	**Charters Tower**	**34.67**	**258**	*e*P	**P**	**22 31 25.3**	**-1.4**
	26nm,1.1s,mb5.1						
CTA				*e*S	**S**	**22 36 55.0**	**-1.5**
CTA	**Charters Tower**	**34.67**	**258**	*e*P	**P**	**22 31 25.3**	**-1.4**
CTA				*e*S	**S**	**22 36 55.0**	**-1.5**
CTA				pmax	pmax		
	comp=Z,26nm,1.1s						
CTAO	**Charters Tower**	**34.67**	**258**	*e*P	**P**	**22 31 24.8**	**-1.9**
PMG	**Port Moresby**	**35.21**	**277**	*e*P	**P**	**22 31 29.7**	**-1.7**
PMG				pmax	pmax		
	comp=Z,11nm,0.6s						
PMG	**Port Moresby**	**35.21**	**277**	*e*P	**P**	**22 31 29.7**	**-1.7**
	comp=Z,11nm,0.6s,mb5.0						
TAOE	**Nuku Hiva Isla**	**37.06**	**83**	*e*LR	LR	22 41 41.0	
	comp=Z,11μm,25.2s,baz=262						
COEN	**Coen**	**38.10**	**268**	*e*P	**P**	**22 31 55.6**	**-0.5**
	comp=Z,10nm,1.1s,mb4.5						
TOO	**Toolangi**	**38.85**	**230**	*e*P	**P**	**22 32 00.2**	**-1.9**
TAU	**Tasmania Unive**	**39.97**	**221**	*e*P	**P**	**22 32 12.3**	**+0.9**
STKA	**Stephens Creek**	**40.19**	**240**	*e*P	**P**	**22 32 12.7**	**-0.7**
	comp=Z,15nm,1.2s,mb4.6						
STKA				*e*S	**S**	**22 38 22.0**	**+1.8**
STKA	**Stephens Creek**	**40.19**	**240**	P	**P**	**22 32 12.3**	**-1.1**
	comp=Z,21nm,1.1s,mb4.8,baz=70,slow=7.6,SNR=16						
STKA				LR	LR	22 46 16.5	
	comp=Z,1μm,21.7s,MS4.8,baz=67,slow=32						
RKT	**Rikitea**	**40.35**	**106**	*e*S	**S**	**22 38 22.4**	**-0.4**
	comp=Z,328nm,26.0s						
RKT				*e*LR	LR	22 43 18.9	
	comp=Z,5μm,28.0s,baz=276						
MIDW	**Midway**	**44.40**	**0**	P	**P**	**22 32 46.7**	**-0.9**
WB2	**Warramunga Arr**	**45.86**	**258**	*e*P	**P**	**22 32 58.7**	**-0.7**
WRAB	**Tennant Creek**	**45.86**	**258**	*e*P	**P**	**22 32 58.9**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,110nm,2.0s,mb5.4						
WRAB	**Tennant Creek**	**45.86**	**258**	*e*P	**P**	**22 32 58.9**	**-0.5**
	comp=Z,110nm,2.0s,mb5.4						
WRA	**Warramunga Arr**	**45.87**	**258**	P	**P**	**22 32 57.6**	**-2.0**
	comp=Z,4.9nm,1.0s,mb4.4,baz=91,slow=8.1,SNR=16						
WRA				LR	LR	22 50 52.9	
	comp=Z,1μm,19.1s,MS4.8,baz=85,slow=34						
ASAR	**Alice Springs**	**46.14**	**253**	P	**P**	**22 32 59.9**	**-1.7**
	comp=Z,12nm,0.9s,mb4.8,baz=92,slow=8.5,SNR=53						
KAKA	**Kakadu**	**48.60**	**267**	*e*P	**P**	**22 33 19.5**	**-1.4**
	comp=Z,32nm,1.2s,mb5.2						
FITZ	**Fitzroy Crossi**	**54.24**	**259**	*e*P	**P**	**22 34 02.0**	**-1.1**
	comp=Z,24nm,1.3s,mb5.0						
FITZ				*e*S	**S**	**22 41 41.9**	**+1.1**
MBWA	**Marble Bar**	**59.38**	**255**	*e*P	**P**	**22 34 38.7**	**-0.9**
	comp=Z,83nm,1.8s,mb5.5						
SBA	**Scott Base**	**61.93**	**184**	*e*P	**P**	**22 34 57.2**	**+1.1**
SBA				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.0						
SBA	**Scott Base**	**61.93**	**184**	*e*P	**P**	**22 34 57.2**	**+1.1**
	comp=Z,17nm,1.3s,mb5.0						
VNDA	**Vanda**	**61.98**	**185**	P	**P**	**22 34 57.7**	**+1.3**
	comp=Z,1.6nm,1.0s,mb4.1,baz=4.7,slow=8.1,SNR=5.7						
VNDA	**Vanda**	**61.98**	**185**	P	**P**	**22 34 57.7**	**+1.3**
KAPI	**Kappang**	**62.58**	**273**	*e*P	**P**	**22 35 01.3**	**-0.2**
MYLDM	**Lahad Datu**	**66.92**	**283**	⇓P	**P**	**22 35 32.1**	**+2.3**
TSM	**Tawau**	**67.20**	**282**	⇓P	**P**	**22 35 34.2**	**+2.6**
MJAR	**Matsushiro Arr**	**67.33**	**322**	P	**P**	**22 35 31.7**	**-0.3**
	comp=Z,4.5nm,1.0s,mb4.5,baz=152,slow=6.7,SNR=8.8						
MJAR				LR	LR	22 59 21.5	
	comp=Z,402nm,20.1s,MS4.6,baz=135,slow=31						
MJAR	**Matsushiro Arr**	**67.33**	**322**	P	**P**	**22 35 31.7**	**-0.3**
MJAR				LR	LR	22 59 21.5	
MAJO	**Matsushiro**	**67.34**	**322**	*e*P	**P**	**22 35 30.5**	**-1.4**
MAT	**Matsushiro**	**67.34**	**322**	P	**P**	**22 35 31.3**	**-0.6**
MAT				S	S	22 44 28.0	+0.7
CASY	**Casey**	**67.86**	**205**	*e*P	**P**	**22 35 33.3**	**-1.6**
KDM	**Kudat**	**69.07**	**284**	⇑P	**P**	**22 35 47.0**	**+3.7**
KKM	**Kota Kinabalu**	**69.35**	**283**	⇑P	**P**	**22 35 47.3**	**+2.3**
ASAJ	**Asahikawa**	**70.48**	**331**	LR	LR	23 05 31.9	
	comp=Z,856nm,19.2s,MS5.0,baz=174,slow=35						
BTM	**Bintulu**	**71.37**	**279**	⇑P	**P**	**22 35 56.3**	**-1.1**
SBUM	**Sibu**	**71.95**	**278**	⇑P	**P**	**22 36 02.9**	**+1.9**
PET	**Petropavlovsk**	**72.21**	**345**	*e*P	**P**	**22 35 56.7**	**-4.9**
PET				*e*S	S	22 45 18.0	-5.9
PET				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.6						
PETK	**Petropavlovsk-**	**72.53**	**345**	P	**P**	**22 36 02.8**	**-0.7**
	comp=Z,6.5nm,0.9s,mb4.5,baz=134,slow=6.4,SNR=4.1						
PETK				LR	LR	23 05 46.0	
	comp=Z,244nm,19.2s,MS4.5,baz=160,slow=34						
KSM	**Kuching**	**73.47**	**277**	⇓P	**P**	**22 36 11.9**	**+1.9**
KSM	**Kuching**	**73.47**	**277**	*e*P	**P**	**22 36 10.4**	**+0.4**
CHGN	**Chignik**	**74.20**	**11**	*e*P	**P**	**22 36 13.2**	**0.0**
KSRS	**Korea Array**	**74.27**	**318**	P	**P**	**22 36 14.1**	**-0.1**
	comp=Z,2.4nm,0.9s,mb4.1,baz=138,slow=6.9,SNR=11						
KSRS				LR	LR	23 03 31.5	
	comp=Z,400nm,20.8s,MS4.7,baz=118,slow=32						
MIR	**Mirnyy**	**74.90**	**204**	⇓*i*P	**P**	**22 36 20.0**	**+2.7**
MIR				*i*		22 36 33.0	
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.5						
MIR				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.3						
SSE	**Sheshan**	**75.57**	**309**	P	**P**	**22 36 21.8**	**0.0**
SSE				XP	sP	22 36 26.3	-0.8
SSE				S	S	22 46 02.1	-0.7
SSE				XS	sS	22 46 07.3	-1.8
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,100nm,9.6s						
SSE				LR	LR		
	comp=N,265nm,25.0s,MS4.5						
SSE				LR	LR		
	comp=E,161nm,25.0s,MS4.5						
SSE				LR	LR		
	comp=Z,322nm,25.0s,MS4.5						
CMB	**Columbia Colle**	**76.11**	**43**	*e*P	**P**	**22 36 24.6**	**-0.1**
CMB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
CMB	**Columbia Colle**	**76.11**	**43**	*e*P	**P**	**22 36 24.6**	**-0.1**
	comp=Z,6.6nm,0.9s,mb4.6						
YBH	**Yreka Blue Hor**	**76.78**	**39**	*e*P	**P**	**22 36 28.8**	**+0.4**
YBH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YBH	**Yreka Blue Hor**	**76.78**	**39**	*e*P	**P**	**22 36 28.8**	**+0.4**
	comp=Z,4.7nm,0.8s,mb4.5						
MTUM	**Tungsten Hills**	**76.95**	**44**	*e*P	**P**	**22 36 30.4**	**+1.0**
NVAR	**Mina Array Bea**	**77.70**	**44**	P	**P**	**22 36 33.9**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=231,slow=9.8,SNR=5.2						
NVAR	**Mina Array Bea**	**77.70**	**44**	P	**P**	**22 36 33.9**	**+0.2**
MOD	**Modoc**	**78.34**	**40**	*e*P	**P**	**22 36 37.3**	**+0.2**
	comp=Z,10.0nm,1.3s,mb4.6						
SVW2	**Sparrevohn**	**79.23**	**11**	*e*P	**P**	**22 36 41.0**	**-0.6**
CN2	**Changchun**	**79.47**	**322**	*e*P	**P**	**22 36 44.1**	**+0.8**
CN2				*e*XP	sP	22 36 51.1	+2.5
CN2				*e*S	S	22 46 43.3	-1.2
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,400nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=Z,300nm,19.0s,MS4.7						
SNY	**Shenyang**	**79.51**	**319**	⇓P	**P**	**22 36 45.0**	**+1.4**
SNY				AMB	AMB		
	comp=Z,20nm,2.1s,mb4.7						
MYKOM	**Kota Tinggi**	**79.73**	**275**	⇓P	**P**	**22 36 46.9**	**+1.5**
QIZ	**Qiongzhong**	**79.76**	**293**	*e*P	**P**	**22 36 44.4**	**-1.1**
QIZ				S	S	22 46 46.8	-1.7
QIZ				SS	SS	22 51 55.8	-2.0
QIZ				LR	LR		
	comp=E,375nm,19.3s						
QIZ				LR	LR		
	comp=Z,682nm,26.4s						
KGM	**Kluang**	**80.31**	**275**	⇓P	**P**	**22 36 50.7**	**+2.1**
WHN	**Wuhan**	**80.54**	**306**	*e*P	**P**	**22 36 50.5**	**+1.1**
WHN				S	S	22 46 50.8	-5.5
WHN				AMB	AMB		
	comp=Z,375nm,2.3s,mb5.9						
WHN				LR	LR		
	comp=Z,606nm,24.9s,MS4.8						
TTA	**Tatalina**	**80.87**	**10**	*e*P	**P**	**22 36 50.7**	**+0.3**
TTA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
TTA	**Tatalina**	**80.87**	**10**	*e*P	**P**	**22 36 50.7**	**+0.3**
	comp=Z,12nm,0.9s,mb4.8						
ELK	**Elko**	**80.93**	**43**	*e*P	**P**	**22 36 50.9**	**-0.4**
PMR	**Palmer**	**80.96**	**13**	P	**P**	**22 36 50.4**	**-0.5**
RSW	**Rattlesnake Hi**	**81.32**	**36**	*e*P	**P**	**22 36 53.9**	**+0.7**
HAWA	**Hanford**	**81.36**	**36**	*e*P	**P**	**22 36 53.3**	**-0.1**
	comp=Z,19nm,1.3s,mb4.9						
BMRM	**Bremner River**	**81.49**	**15**	*e*P	**P**	**22 36 52.7**	**-1.1**
ETW	**Entiat**	**81.61**	**35**	*e*P	**P**	**22 36 54.9**	**+0.2**
ETW				*e*PcP	PcP	22 37 01.9	+1.4
BMO	**Blue Mountains**	**81.80**	**39**	*e*P	**P**	**22 36 56.1**	**+0.3**
MSU	**Marysvale**	**81.89**	**46**	*e*P	**P**	**22 36 57.9**	**+1.5**
KTH	**Kantishna Hill**	**82.35**	**12**	*e*P	**P**	**22 36 56.2**	**-2.0**
TRF	**Thorofare Moun**	**82.39**	**12**	*e*P	**P**	**22 36 56.9**	**-1.6**
	comp=Z,8.7nm,0.8s,mb4.7						
OD2	**Odessa Site #2**	**82.39**	**36**	*e*P	**P**	**22 36 59.1**	**+0.3**
CHUM	**Lake Minchumin**	**82.39**	**11**	*e*P	**P**	**22 36 56.5**	**-1.9**
	comp=Z,6.6nm,0.9s,mb4.6						
HLID	**Hailey**	**82.89**	**41**	*e*P	**P**	**22 37 00.9**	**-0.6**
	comp=Z,15nm,1.4s,mb4.8						
HLID				*e*PcP	PcP	22 37 07.0	+0.8
MCK	**McKinley**	**82.91**	**12**	*e*P	**P**	**22 37 01.4**	**+0.2**
	comp=Z,10μm,0.6s						
TMUT	**Trail Mountain**	**82.92**	**46**	*e*P	**P**	**22 37 03.3**	**+1.5**
IPM	**Ipoh**	**83.21**	**277**	⇓P	**P**	**22 37 04.7**	**+0.8**
SRU	**San Rafael**	**83.31**	**46**	*e*P	**P**	**22 37 04.6**	**+0.8**
HYT	**Haines Junctio**	**83.37**	**18**	*e*P	**P**	**22 37 05.2**	**+1.6**
BJI	**Beijing**	**83.44**	**315**	P	**P**	**22 37 05.1**	**+0.6**
BJI				PP	PP	22 40 14.1	-2.7
BJI				S	S	22 47 29.5	+3.7
BJI				SS	SS	22 52 51.6	-0.4
BJI				AMB	AMB		
	comp=Z,19nm,2.3s,mb4.7						
BJI				LR	LR		
	comp=N,250nm,15.2s,MS4.8						
BJI				LR	LR		
	comp=E,282nm,19.4s,MS4.8						
BJI				LR	LR		
	comp=Z,401nm,32.2s						
KULM	**Kulim**	**83.81**	**277**	⇓P	**P**	**22 37 08.0**	**+1.0**
COLA	**College**	**84.14**	**12**	*e*P	**P**	**22 37 06.5**	**-1.0**
COLA				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
COLA	**College**	**84.14**	**12**	*e*P	**P**	**22 37 06.5**	**-0.9**
	comp=Z,14nm,0.8s,mb5.1						
COLA				*e*PcP	PcP	22 37 11.4	+0.1
IMA2	**Indian Mountai**	**84.17**	**9**	*e*P	**P**	**22 37 07.6**	**0.0**
IMA2				*e*PcP	PcP	22 37 11.9	+0.5
IMA2				*e*PP	PP	22 40 19.8	-2.4
TXAR	**Lajitas Array**	**84.39**	**57**	P	**P**	**22 37 10.3**	**+0.8**
	comp=Z,2.9nm,1.1s,mb4.3,baz=233,slow=5.8,SNR=14						
TXAR				LR	LR	23 07 34.6	
	comp=Z,315nm,18.7s,MS4.7,baz=185,slow=30						
ANMO	**Albuquerque**	**84.43**	**51**	*e*P	**P**	**22 37 09.7**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ANMO	**Albuquerque**	**84.43**	**51**	*e*P	**P**	**22 37 09.7**	**+0.1**
	comp=Z,9.4nm,1.2s,mb4.8						
RRI2	**Red Ridge**	**84.75**	**42**	*e*P	**P**	**22 37 10.9**	**-0.2**
	comp=Z,18nm,1.0s,mb5.2						
PMSA	**Palmer Station**	**84.76**	**157**	P	**P**	**22 37 11.1**	**+0.3**
DLMT	**Dillon**	**84.92**	**40**	*e*P	**P**	**22 37 11.8**	**-0.1**
	comp=Z,12nm,1.1s,mb4.9						
DLMT				*e*PP	PP	22 40 32.7	+3.9
GDL2	**Guadalupe Moun**	**84.93**	**54**	*e*P	**P**	**22 37 13.6**	**+1.4**
TPAW	**Teton Pass**	**85.05**	**42**	*e*P	**P**	**22 37 13.1**	**+0.5**
	comp=Z,11nm,1.0s,mb5.0						
BILL	**Bilibino**	**85.08**	**354**	*e*P	**P**	**22 37 11.5**	**-0.7**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.6						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.6						
GYA	**Guiyang**	**85.17**	**299**	P	**P**	**22 37 13.3**	**-0.3**
GYA				PP	PP	22 40 33.9	+2.6
GYA				SKS		22 47 37.8	
GYA				S	S	22 47 41.6	-2.1
GYA				SS	SS	22 53 19.3	+1.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,470nm,19.5s,MS5.0						
GYA				LR	LR		
	comp=E,450nm,20.0s,MS5.0						
GYA				LR	LR		
	comp=Z,460nm,19.7s,MS4.9						
LRM	**Limekiln Ridge**	**85.23**	**39**	*e*P	**P**	**22 37 19.6**	**+6.2**
CHMT	**Chamberlain Mo**	**85.29**	**38**	*e*P	**P**	**22 37 19.1**	**+5.4**
QLMT	**Earthquake Lak**	**85.38**	**41**	*e*P	**P**	**22 37 19.0**	**+4.8**
DAWY	**Dawson**	**85.42**	**16**	*e*P	**P**	**22 37 14.1**	**+0.2**
MAW	**Mawson**	**85.56**	**199**	P	**P**	**22 37 14.4**	**-0.4**
	comp=Z,3.1nm,1.1s,mb4.5,baz=124,slow=10,SNR=3.7						
MAW				LR	LR	23 15 22.4	
	comp=Z,1μm,18.4s,MS5.3,baz=97,slow=36						
EGAK	**Eagle**	**85.56**	**15**	*e*P	**P**	**22 37 13.9**	**-0.6**
	comp=Z,7.2nm,1.0s,mb4.9						
PDAR	**Pinedale Array**	**85.62**	**43**	P	**P**	**22 37 15.2**	**-0.2**
	comp=Z,3.5nm,1.0s,mb4.5,baz=212,slow=5.3,SNR=7.1						
PDAR				LR	LR	23 08 15.9	
	comp=Z,217nm,20.1s,MS4.5,baz=251,slow=31						
BOZ	**Bozeman (W)**	**85.65**	**40**	*e*P	**P**

LZH SS SS 22 54 43.0 +3.4
LZH AMB AMB
comp=Z,21nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,125nm,6.6s
LZH LR LR
comp=E,336nm,18.0s
LZH LR LR
comp=Z,445nm,20.3s,MS4.9
SYO Syowa Base 90.79 193⇑ *e*P **P 22 37 39.6 -0.1**
SYO Syowa Base 90.79 193⇑ *e*sP sP 22 37 45.3 +0.2
PLCA Paso Flores 91.62 133 P **P 22 37 44.1 -0.1**
comp=Z,3.8nm,1.0s,mb4.7,baz=244,slow=5.2,SNR=4.7
PLCA LR LR 23 10 10.0
comp=Z,314nm,20.5s,MS4.7,baz=233,slow=30
VNA3 Neumayer Olymp 92.13 176 *e*P **P 22 37 44.4 -1.5**
VNA3 *e* pP 22 37 46.5 -3.3
VNA3 *e* 22 37 51.1
VNA3 *e* 22 37 56.2
VNA3 *e* 22 37 59.8
VNA2 Neumayer--Watz 92.58 177 *e*P **P 22 37 46.7 -1.3**
VNA2 *e* pP 22 37 48.9 -3.0
VNA2 *e* 22 37 52.8
VNA2 *e* 22 37 58.4
VNA2 *e* 22 38 01.6
YKA Yellowknife Ar 92.60 24 LR LR 23 12 18.4
comp=Z,860nm,20.8s,MS5.2,baz=215,slow=31
SONM Songino Array 93.09 319 LR LR 23 19 04.6
comp=Z,245nm,18.5s,MS4.7,baz=264,slow=35
ZAK Zakamensk 95.88 321 *e*P **P 22 38 02.5 -0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.8s,mb4.2
ULM Lac du Bonnet 97.17 40 LR LR 23 15 40.1
comp=Z,603nm,19.8s,MS5.1,baz=15,slow=32
KURK Kurchatov 111.39 319 *e*PKIKP PKiKP 22 43 08.6 -2.3
BRVK Borovoye 116.38 321 *e*PKIKP PKPdf 22 43 18.7 -1.7
ARU Arti 122.17 327 *i* PKIKP PKPdf 22 43 29.6 -1.8
ARU 22 50 25.3
ARU SP SP 22 54 49.4 -9.0
ARU PS PS 22 54 59.4 -1.6
ARU Arti 122.17 327 *e*PKPdf PKPdf 22 43 30.0 -1.4
OBN Obninsk 133.44 334 *e*PKIKP PKPdf 22 43 51.7 -1.2
OBN *e* 22 46 21.6
OBN *e* 22 50 57.1
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,300nm,21.0s,MS5.0
KIV Kislovodsk 136.46 318 *e*PKIKP PKPdf 22 43 58.2 -0.7
KIV *e* 22 46 42.5
KIV pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 139.70 334 PKP PKPdf 22 44 04.3 -0.3
comp=Z,0.3nm,0.3s,baz=43,slow=1.3,SNR=5.3
BSEG Bad Segeberg 142.11 353 *e*PKPbc PKPdf 22 44 03.2 -5.7
NRDL Niedersach Rie 143.55 352 *e*PKPbc PKPdf 22 44 09.1 -2.4
BURAR Bucovina Array 143.76 334⇑ *i* P PKPdf 22 44 13.5 +1.5
STHS Stebnicka Huta 143.80 339 *e*PKP PKPdf 22 44 09.5 -2.5
KOLS Kolonicke sedl 143.84 338 *e*PKP PKPdf 22 44 09.6 -2.5
UZH Uzhgorod 144.09 338⇑ *i* PKIKP PKPdf 22 44 10.6 -2.0
UZH *i* 22 44 22.8
CLZ Clausthal 144.15 352 *e*PKPbc PKPdf 22 44 11.0 -1.6
CRVS Cervenica-Dubn 144.16 339 *e*PKP PKPdf 22 44 10.6 -2.1
CLL Collm 144.24 349 *e*PKIKP PKPdf 22 44 11.0 -1.8
CLL *i* 22 44 15.3
CLL MLR MLR
comp=Z,200nm,19.1s,MS4.9
CLL Collm 144.24 349 *e*PKPbc PKPdf 22 44 10.9 -1.9
CLL Collm 144.24 349 *e*PKPdf PKPdf 22 44 11.0 -1.8
comp=Z,5.0nm,1.0s
CLL *e*PSPS 22 07 06.0
CLL *e*SSS 22 11 24.0
CLL *i* pPKPdf pPKPdf 22 44 15.3 -1.5
CLL LmH 22 50 00.0
comp=N,300nm,21.2s
CLL LmH 22 50 00.0
comp=E,100nm,19.9s
CLL LmV 22 52 00.0
comp=Z,200nm,19.1s
CLL *e*SS SS 23 06 09.0 -2.3
CLL Collm 144.24 349 *e*PKP PKPdf 22 44 11.0 -1.8
CLL *i* 22 44 15.3
CLL *e*PP PP 22 46 58.0 -29
CLL LR LR
comp=Z,200nm,19.1s,MS4.9
UPC Upice 144.35 345 *e*PKP PKPdf 22 44 10.9 -2.1
OKC Ostrava-Krasne 144.40 343 *e*PKP PKPdf 22 44 11.7 -1.4
OKC AMS AMS 23 50 30.0
comp=Z,300nm,19.8s
DPC Dobruska-Polom 144.42 345 *e*PKP PKPdf 22 44 11.7 -1.4
DPC AMS AMS 23 47 30.0
comp=Z,200nm,16.6s
BRG Berggiesshubel 144.47 348 *e*(P) PKPdf 22 44 11.3 -1.9
comp=Z,2.2nm,0.8s
BRG *e* 22 44 55.7
comp=Z,21nm,1.9s
BRG *e* 22 46 55.0
BRG
comp=N,229nm,23.2s
BRG
comp=E,137nm,21.3s
BRG
comp=Z,264nm,21.9s
BRG Berggiesshubel 144.47 348 P PKPdf 22 44 11.3 -1.9
BRG *e* 22 44 55.7
BRG *e* 22 46 55.0
BRG LR LR
comp=Z,160nm,21.9s,MS4.8
TIRR Tirgusor 144.59 327⇑ *i* P PKPdf 22 44 11.5 -2.1
TIRR Tirgusor 144.59 327 *e*PKPdf PKPdf 22 44 12.2 -1.4
MORC Moravsky Berou 144.62 343⇑ *i* P PKPdf 22 44 12.6 -0.9
MORC Moravsky Berou 144.62 343 P PKPdf 22 44 12.4 -1.0
PVCC Panska Ves 144.66 347 AMS AMS 23 39 00.0
comp=Z,300nm,22.7s
HARR Harsova 144.68 328 PKIKP PKPdf 22 44 13.0 -0.7
KECS Kecovo 144.85 339 *i* PKP PKPdf 22 44 13.2 -0.7
ANTO Ankara 144.89 318⇑ *i* P PKPdf 22 44 12.4 -1.9
ANTO Ankara 144.89 318 P PKPdf 22 44 13.9 -0.3
MLR Muntele Rosu 145.06 331⇓ *i* P PKPbc 22 44 14.3 +0.5
MOX Moxa 145.12 350 *e*(PKP) PKPbc 22 44 13.3 -0.5
MOX
comp=Z,200nm,21.0s
MOX Moxa 145.12 350 *e*PKPbc PKPbc 22 44 12.6 -1.2
PRU Pruhonice 145.18 346 *e*PKP PKPdf 22 44 13.2 -1.2
PRU AMS AMS 23 47 00.0
comp=Z,200nm,18.2s
PSN Preselentsi 145.25 327 P PKPbc 22 44 17.7 +3.3
VRAC Vranov 145.30 344⇑ *i* P PKPbc 22 44 15.1 +0.7
VRAC Vranov 145.30 344 P PKPbc 22 44 14.7 +0.3
NKC Novy Kostel 145.37 349 *e*PKP PKPdf 22 44 14.5 -0.2
KOLL Kolacno 145.44 341 *e*PKP PKPdf 22 44 15.1 +0.2
DRGR 145.45 335⇓ *i* P PKPbc 22 44 14.3 -0.7
DRGR 145.45 335 P PKPbc 22 44 14.7 -0.2
VOIR 145.52 332⇓ *i* P PKPbc 22 44 18.0 +2.8
VOIR 145.52 332 P PKPbc 22 44 18.0 +2.8
PSZ Piszkesteto 145.54 339 *e*PKP PKPdf 22 44 14.9 -0.2
PSZ Piszkesteto 145.54 339⇑ *i* P PKPdf 22 44 15.2 +0.1
PSZ Piszkesteto 145.54 339 P PKPdf 22 44 15.4 +0.3
TREC Trest 145.60 345 *e*PKP PKPdf 22 44 15.3 +0.1
BHL Bhannes 145.61 307 *e*P PKPdf 22 44 15.8 +0.1
BEBN Eben Emael 145.65 357 PKP PKPbc 22 44 18.7 +3.2
MANZ Manzenberg 145.67 349 *e*PKPbc PKPbc 22 44 14.9 -0.7
UCC Uccle 145.70 358 PKP PKPbc 22 44 19.0 +3.3
ROTZ Rotzenmuhle 145.87 349 *e*PKPbc PKPbc 22 44 15.7 -0.5
MODS Modra-Piesok 145.96 342 *e*PKP PKPdf 22 44 16.6 +0.8
BCLA Clavier 146.04 357 PKP PKPdf 22 44 16.3 +0.4
GRA1 Grafenberg Arr 146.11 350 *e*PKPbc PKPbc 22 44 17.1 +0.2
GRA1 *e*SS SS 23 06 30.2 -2.5
GRA1 LR LR
comp=Z,200nm,19.5s,MS4.9
GRF Grafenberg Arr 146.11 350 *e*PKPbc PKPbc 22 44 17.1 +0.2
GRF *e*SS SS 23 06 30.2 -2.5
GRF *e*L 23 54 28.4
comp=Z,247nm,19.5s
ZST Bratislava 146.17 342 *e*PKIKP PKPdf 22 44 15.2 -1.0
ZST MLR MLR
comp=Z,100nm,19.4s,MS4.6
KHC Kasperske Hory 146.20 347 *e*PKP PKPdf 22 44 17.3 +1.1
KHC pPKP pPKPdf 22 44 21.5 +1.3
KHC AMS AMS 23 51 30.0
comp=Z,300nm,22.5s
KHC Kasperske Hory 146.20 347 *e*PKP PKPdf 22 44 17.3 +1.1
KHC *e* 22 44 21.5
KHC LR LR
comp=Z,300nm,22.5s,MS5.0
BUD Budapest 146.21 340⇑ *e*PKP PKPdf 22 44 15.7 -0.6
WET Wettzell 146.33 348 *e*PKPbc PKPbc 22 44 16.5 -1.1
GIVF Givet 146.38 357 *e*PKP1 PKPbc 22 44 16.1 -1.6
DOU Dourbes 146.40 358 PKP PKPdf 22 44 17.1 +0.6
GEC2 GERESS Array S 146.44 347 *e*PKPbc PKPbc 22 44 17.4 -0.5
GERES GERESS Array B 146.44 347 PKPbc PKPbc 22 44 17.9 -0.1
comp=Z,2.5nm,1.0s,baz=77,slow=2.9,SNR=17
BAIF Baives 146.45 358 *e*PKP1 PKPbc 22 44 16.4 -1.5
comp=Z,91nm,1.6s
TOD Tromm 146.55 353 PKP2 PKPab 22 44 18.7 -0.5
RUP Ruppelstein 146.63 355 PKP2 PKPab 22 44 18.0 -1.5
ZIMR 146.70 329 PKP2 PKPab 22 44 19.1 -0.9
SZH Strazhica 146.70 328 P PKPab 22 44 22.6 +2.6
WLF Walferdange 146.74 356 PKP PKPbc 22 44 19.3 +0.6
WLF Walferdange 146.74 356 *e*PKPbc PKPbc 22 44 18.6 -0.2
WLF Walferdange 146.74 356 *e*PKPdf PKPdf 22 44 17.1 0.0
WLF *e*PP PP 22 47 38.0 -3.6
CONA Conrad Observa 146.76 344⇑ *i* P PKPdf 22 44 17.0 -0.2
comp=Z,16nm,1.0s,SNR=8.8
CSNA Conrad Observa 146.76 344⇑ *i* P PKPdf 22 44 16.9 -0.3
comp=Z,15nm,1.0s
BZS Buzias 146.85 335⇓ *i* P PKPdf 22 44 18.4 +1.0
BZS Buzias 146.85 335 P PKPdf 22 44 18.2 +0.8
MOA Molln 147.25 345⇑ *i* P PKPbc 22 44 20.5 +0.2
comp=Z,18nm,1.1s
MOA Molln 147.25 345⇑ *i* pPKPdf pPKPdf 22 44 20.5 -1.6
comp=Z,18nm,1.1s
LANF Langenberg 147.28 354 PKP PKPdf 22 44 19.1 +1.1
PKSM Moragy 147.45 339⇓ *i* P PKPdf 22 44 19.9 +1.5
PKSM Moragy 147.45 339 P PKPbc 22 44 20.6 -0.3
FUR Furstenfeldbru 147.58 349 *e*PKPbc PKPbc 22 44 21.2 0.0
FLN La Foliniere 147.67 4 *e*PKP1 PKPbc 22 44 20.5 -0.9
comp=Z,69nm,1.1s
FLN *e*MLR MLR
comp=Z,577nm,21.8s,MS5.0
FLN La Foliniere 147.67 4 *e*PKP PKPdf 22 44 20.5 +1.8
FLN LR LR
comp=Z,580nm,21.8s,MS5.3
BFO Black Forest 147.86 353 *e*PKPbc PKPbc 22 44 20.0 -1.9
BFO Black Forest 147.86 353 *e*PKPdf PKPdf 22 44 19.9 +0.9
LDF La Druitiere 147.86 3 *e*PKP1 PKPbc 22 44 21.0 -0.9
CDF Champ du Feu 147.89 354 *e*PKP1 PKPbc 22 44 21.5 -0.5
comp=Z,24nm,1.0s
MEZF Maizieres J'vi 147.97 357 *e*PKP1 PKPbc 22 44 22.1 -0.1
comp=Z,66nm,1.3s
SGMF Saint Gilles 148.00 7 *e*PKP1 PKPbc 22 44 22.4 +0.1
comp=Z,167nm,1.4s
GRR Gorron 148.02 4 *e*PKP1 PKPbc 22 44 21.6 -0.7
comp=Z,32nm,1.0s
SPAK Spaichingen-Ko 148.03 352 PKP PKPbc 22 44 23.0 +0.6
ECH Echery 148.10 354 PKP PKPbc 22 44 22.6 0.0
THEF They Montfort 148.19 356 PKP PKPbc 22 44 22.8 0.0
QUIF Quistinic 148.26 7 *e*PKP1 PKPbc 22 44 23.0 0.0
RETA Reutte 148.32 349⇑ *i* P PKPbc 22 44 23.3 +0.2
comp=Z,15nm,1.1s
RETA Reutte 148.32 349⇑ *i* pPKPdf pPKPdf 22 44 23.3 -0.5
comp=Z,15nm,1.1s
FELD Feldberg im Sc 148.34 353 PKP PKPab 22 44 26.3 0.0
HAU Haudompre 148.38 355 *e*PKP1 PKPbc 22 44 22.7 -0.6
comp=Z,112nm,1.6s
HAU *e*MLR MLR
comp=Z,405nm,20.5s,MS4.9
HAU Haudompre 148.38 355 *e*PKP PKPbc 22 44 22.7 -0.6
HAU LR LR
comp=Z,400nm,20.5s,MS5.2
MOTA Moosalm 148.40 349⇑ *i* P PKPbc 22 44 22.4 -1.0
comp=Z,4.1nm,0.8s,SNR=6.3
MOF Molkenrain 148.46 354 PKP PKPab 22 44 27.1 +0.3
HINF Hinteralfeld 148.52 355 *e*PKP1 PKPbc 22 44 22.9 -0.8
VTS Vitosha 148.54 330 P PKPab 22 44 26.9 -0.4
DAVA Damuels 148.66 350⇑ *i* P PKPbc 22 44 23.6 -0.5
comp=Z,19nm,1.1s
ABTA Abfaltersbach 148.69 347⇓ *i* P PKPbc 22 44 22.6 -1.6
comp=Z,12nm,1.0s
ABTA Abfaltersbach 148.69 347⇓ *i* pPKPdf pPKPdf 22 44 22.6 -1.9
comp=Z,12nm,1.0s
FETA Feichten 148.78 349⇑ *i* P PKPdf 22 44 20.2 -0.4
comp=Z,13nm,1.2s
BBS Basel-Blauen 148.81 354 PKP2 PKPab 22 44 27.8 -0.4
PTCC Patocco-Chiusa 148.82 346 PKP PKPbc 22 44 25.3 +0.8
LOMF Lomont 148.99 354 PKP PKPbc 22 44 27.1 +2.2
LOR Lormes 149.25 358 *e*PKP1 PKPbc 22 44 25.1 -0.5
comp=Z,58nm,1.6s
LOR *e*MLR MLR
comp=Z,509nm,19.8s,MS5.0
LOR Lormes 149.25 358 *e*PKP PKPbc 22 44 25.1 -0.5
LOR LR LR
comp=Z,510nm,19.8s,MS5.3
BRMO Bormio 149.37 349 PKP PKPbc 22 44 25.4 -0.5
SSF Saint Saulge 149.46 359 *e*PKP1 PKPbc 22 44 25.7 -0.4
comp=Z,66nm,1.5s
CTI Castel Tesino 149.53 348 PKP2 PKPbc 22 44 25.6 -0.7
TUE Stuetta 149.54 351 *e*PKPdf PKPdf 22 44 21.7 -0.1
TUE PKP PKPdf 22 44 25.9 +4.1
TUE *e*PKPbc PKPbc 22 44 26.1 -0.2
AVF Avril sur Loir 149.74 359 *e*PKP1 PKPbc 22 44 25.8 -1.0
CABF La Chapelle 149.78 355 *e*PKP1 PKPbc 22 44 27.0 +0.1
comp=Z,43nm,1.0s
MFF Saint Martin d 149.84 4 *e*PKP1 PKPbc 22 44 27.3 +0.2
comp=Z,94nm,1.5s
SMF Saint de Mont 149.87 358 *e*PKP1 PKPbc 22 44 26.4 -0.7
comp=Z,44nm,1.3s
BGF Bois d'Agland 149.98 360 *e*PKP1 PKPbc 22 44 26.9 -0.5
comp=Z,26nm,1.1s
VAI Varese 150.22 351 PKIKP PKPbc 22 44 26.8 -1.2
TCF Toulx Ste Croi 150.25 1 *e*PKP1 PKPbc 22 44 27.4 -0.6
comp=Z,30nm,1.2s
KRUS Krusevo 150.42 331 *e*PKP PKPbc 22 44 27.7 -0.9
PLDF La Plantade 150.55 359 PKP PKPbc 22 44 27.0 -1.8
ORO Oropa 150.56 352 PKIKP PKPbc 22 44 28.2 -0.6
PYM Petit Puy Mans 150.78 359 PKP PKPbc 22 44 29.8 +0.5
LPL La Plagne 150.81 354 *e*PKP1 PKPbc 22 44 29.8 +0.4
comp=Z,38nm,1.1s
LPG La Plagne 150.83 354 *e*PKP1 PKPbc 22 44 30.0 +0.6
comp=Z,25nm,0.9s
SSB Saint Sauveur 151.21 357 *e*PKIKP PKPbc 22 44 28.9 -1.4
RJF Les Rejaudoux 151.22 2 *e*PKP1 PKPbc 22 44 29.7 -0.7
RJF *e*MLR MLR
comp=Z,603nm,19.8s,MS5.1
BNI Bardonecchia 151.28 354 *e*PKIKP PKPbc 22 44 31.0 +0.5
LBL Lubilhac 151.30 359 PKP PKPbc 22 44 30.0 -0.6
ORIF Oris-en-Rattie 151.48 355 *e*PKP1 PKPbc 22 44 29.8 -1.2
comp=Z,17nm,0.9s
ORIF *e*MLR MLR
comp=Z,378nm,18.2s,MS4.9
MBDF Montbardon 151.59 354 *e*PKP1 PKPbc 22 44 30.9 -0.3
comp=Z,30nm,1.0s
CAF Calviac 151.60 1 *e*PKP1 PKPbc 22 44 30.8 -0.5
comp=Z,18nm,1.0s
VIVF Saint-Julien-l 151.62 357 *e*PKP1 PKPbc 22 44 31.1 -0.2
comp=Z,20nm,1.0s
SAOF Saorge 152.23 352 PKP PKPbc 22 44 32.4 -0.3
AUTN L'Aution 152.24 353 PKP PKPbc 22 44 32.7 0.0
TOUF Mont Tournerai 152.24 353 PKP PKPbc 22 44 32.6 -0.1
LUCF Luceram 152.35 353 PKP PKPbc 22 44 32.4 -0.6
SBF Sospel 152.37 352 *e*PKP1 PKPbc 22 44 33.1 +0.1
comp=Z,61nm,1.4s
LASF Ste Croix 152.44 358 *e*PKP1 PKPbc 22 44 32.9 -0.3
comp=Z,32nm,1.2s
SMRF Simiane la Rot 152.44 355 *e*PKP1 PKPbc 22 44 33.1 -0.1
comp=Z,33nm,1.3s
FRF La Foret Royal 152.76 354 *e*PKP1 PKPbc 22 44 33.1 -0.8
comp=Z,33nm,1.2s
LMR La Mourre 153.00 354 *e*PKP1 PKPbc 22 44 34.7 +0.2
comp=Z,22nm,1.1s
MTLF Montolieu 153.19 1 *e*PKP1 PKPbc 22 44 34.8 -0.1
comp=Z,34nm,1.6s
PGF Pioggiola 153.42 349 *e*PKP1 PKPbc 22 44 35.5 +0.1
comp=Z,52nm,1.3s
EPF Esparros 153.43 4 *e*PKP1 PKPbc 22 44 34.8 -0.6
LIC Lamto 167.38 143 *e*PKIKP PKPdf 22 44 41.9 -2.1
comp=Z,64nm,1.5s
LIC *e*MLR MLR
comp=Z,548nm,20.5s
LIC Lamto 167.38 143 *e*PKPdf PKPdf 22 44 41.9 -2.1
LIC LR LR
comp=Z,270nm,20.5s
TORD Torodi Ar. Bea 176.60 165 PKP PKPdf 22 44 46.1 -2.1
comp=Z,1.1nm,1.0s,baz=183,slow=3.2,SNR=4.9
TORD PKPab PKPab 22 46 28.6 -1.0
comp=Z,1.1nm,1.1s,baz=206,slow=4.9,SNR=3.7
TORD PP PP 22 50 24.6 +3.5
comp=Z,1.8nm,1.4s,baz=223,slow=6.1,SNR=3.5
TORD Torodi Ar. Bea 176.60 165 PKP PKPdf 22 44 46.1 -2.1
TORD PKPab PKPab 22 46 28.6 -1.0
TORD PP PP 22 50 24.6 +3.5

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*ISCJB **22** 22:25:19.4±0.3,4302N±003×4576E±002,h1km±4km, mb3.5/2, Error ellipse: s-maj=5.1km s-min=2.3km az=16.8*
*TIF **22** 22:25:20.5,4298N×4575E,h17km±3km*
*MOS **22** 22:25:20.7±2.0,4293N×4579E,h20km,mb4.6/1, Error ellipse: s-maj=13.8km s-min=6.2km az=23.4*
*CSEM **22** 22:25:21.4±0.2,4294N×4574E,h5km,mb4.6, Error ellipse: s-maj=6.0km s-min=2.7km az=19.0*

ISC 22 22:25:20.4±0.3,4301N±003×4577E±002,h7km±3km,n46,
σ1⇕35/79,mb3.5/2,3C-2D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.48**	**136**	*i* PG	**Pg**	**22 25 28.2**	**-1.5**
BTLR				*i* S	**Sg**	**22 25 35.4**	**-0.5**
BTLR				pmax	pmax		
comp=Z,818nm,0.8s							
BTLR	**Botlikh**	**0.48**	**136**	*i* Pg	**Pg**	**22 25 28.2**	**-1.5**
comp=Z,818nm,0.8s							
BTLR				*i* Sg	**Sg**	**22 25 35.4**	**-0.5**
DLMR	**Dylym**	**0.64**	**84⇑**	*i* PG	**Pg**	**22 25 31.3**	**-1.3**
DLMR				*i* S	**Sg**	**22 25 41.1**	**+0.2**
DLMR				pmax	pmax		
comp=Z,1μm,0.5s							
DLMR	**Dylym**	**0.64**	**84**	*i* Pg	**Pg**	**22 25 31.3**	**-1.3**
comp=Z,1μm,0.5s							
DLMR				*i* Sg	**Sg**	**22 25 41.1**	**+0.2**
DBC	**Dubki**	**0.78**	**89**	PG	**Pg**	**22 25 34.0**	**-1.4**
XNZR	**Khunzakh**	**0.83**	**124**	**Pg**	**Pg**	**22 25 30.8**	**-5.6**
KRNR	**Karanay**	**0.86**	**102**	*i* PG	**Pg**	**22 25 38.3**	**+1.5**
KRNR				S	**Sg**	**22 25 49.7**	**+1.7**
KRNR				pmax	pmax		
comp=Z,343nm,0.2s							
KRNR	**Karanay**	**0.86**	**102**	*i* Pg	**Pg**	**22 25 38.3**	**+1.5**
comp=Z,343nm,0.2s							
KRNR				Sg	**Sg**	**22 25 49.7**	**+1.7**
BTKR	**Batakoyurt**	**0.97**	**293**	*i* Pg	**Pg**	**22 25 40.8**	**+1.8**
BTKR				*i* Sg	**Sg**	**22 25 56.5**	**+5.0**
BUJR	**Buynaksk**	**1.00**	**100**	Pg	**Pg**	**22 25 40.5**	**+0.9**
TRKR	**Terskaya**	**1.04**	**314**	*i* Pg	**Pg**	**22 25 42.3**	**+1.9**
TRKR				*i* Sg	**Sg**	**22 25 58.4**	**+4.5**
GNBR	**Gunib**	**1.08**	**125**	*i* Pg	**Pg**	**22 25 41.5**	**+0.4**
GNBR				*i* Sg	**Sg**	**22 25 55.5**	**+0.5**
ARNR	**Ardon**	**1.10**	**280**	*i* Pg	**Pg**	**22 25 42.1**	**+0.5**
ARNR				*i* Sg	**Sg**	**22 25 58.9**	**+3.0**
KMSR	**Komsomolskaya**	**1.14**	**289**	*e*Pg	**Pg**	**22 25 42.9**	**+0.7**
KMSR				*e*Sg	**Sg**	**22 25 59.9**	**+2.9**
KORR	**Kora**	**1.25**	**274**	*i* Pg	**Pg**	**22 25 43.7**	**-0.6**
KORR				*i* Sg	**Sg**	**22 26 01.6**	**+1.1**
MAK	**Makhachkala**	**1.28**	**92⇓**	*i* PG	**Pg**	**22 25 45.7**	**+0.8**
MAK				*i*		22 26 04.3	
MAK				pmax	pmax		
comp=Z,209nm,0.3s							
MAK				smax			
comp=E,3μm,0.5s							
MAK				smax			
comp=N,2μm,0.5s							
MAK	**Makhachkala**	**1.28**	**92**	*i* Pg	**Pg**	**22 25 45.7**	**+0.8**
comp=N,209nm,0.3s							
MAK				*i* Sg	**Sg**	**22 26 04.3**	**+2.9**
PRTR	**Priterechnaya**	**1.31**	**305**	*i* Pg	**Pg**	**22 25 45.1**	**-0.5**
PRTR				*i* Sg	**Sg**	**22 26 03.9**	**+1.3**
ZEI	**Tsey**	**1.39**	**261**	*i* Pg	**Pg**	**22 25 44.3**	**-2.8**
ZEI				*i* Sg	**Sg**	**22 26 03.5**	**-1.7**
LSNR	**Lesken**	**1.45**	**281**	*i* Pg	**Pg**	**22 25 46.4**	**-1.9**
LSNR				*e*Sg	**Sg**	**22 26 06.2**	**-0.9**
MNSR	**Manas**	**1.47**	**101**	PG	**Pg**	**22 25 46.0**	**-2.5**
TBLG	**Delisi**	**1.49**	**211**	Pg	**Pg**	**22 25 48.0**	**-0.9**
TBLG				Sg	**Sg**	**22 26 07.7**	**-0.5**
SGKR	**Sergokala**	**1.50**	**111**	*e*PG	**Pg**	**22 25 48.0**	**-1.1**
SGKR				*e*S	**Sg**	**22 26 10.0**	**+1.5**
SGKR				pmax	pmax		
comp=Z,186nm,0.2s							
SGKR	**Sergokala**	**1.50**	**111**	*e*Pg	**Pg**	**22 25 48.0**	**-1.1**
comp=Z,186nm,0.2s							
SGKR				*e*Sg	**Sg**	**22 26 10.0**	**+1.5**
MTA	**Mtatsminda**	**1.50**	**209**	P	**Pn**	**22 25 48.2**	**+0.5**
MTA				S	**Sn**	**22 26 07.7**	**+0.2**
DGRG	**David-gareji**	**1.58**	**191**	P	**Pn**	**22 25 50.4**	**+1.5**
DGRG				S	**Sn**	**22 26 13.7**	**+4.1**
GOR	**Gori**	**1.60**	**231**	P	**Pn**	**22 25 49.4**	**+0.4**
GOR				S	**Sn**	**22 26 10.9**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.61**	**267**	*i* Pn	**Pn**	**22 25 47.6**	**-1.7**
URKR	**Urkarakh**	**1.61**	**121**	*i* PG	**Pg**	**22 25 48.0**	**-3.3**
URKR				*e*S	**Sn**	**22 26 10.5**	**+0.1**
URKR				pmax	pmax		
comp=Z,167nm,0.2s							
URKR	**Urkarakh**	**1.61**	**121**	PG	**Pg**	**22 25 49.0**	**-2.3**
URKR	**Urkarakh**	**1.61**	**121**	Pg	**Pg**	**22 25 49.0**	**-2.3**
URKR				*e*Sg	**Sn**	**22 26 10.5**	**+0.1**
ONI	**Oni**	**1.76**	**257**	P	**Pn**	**22 25 51.4**	**+0.1**
ONI				S	**Sn**	**22 26 15.8**	**+1.8**
SEKA	**Sheki**	**2.09**	**149**	P	**Pn**	**22 25 56.7**	**+0.9**
SNR=12							
SEKA				S	**Sn**	**22 26 25.9**	**+3.8**
GANJ	**Ganja**	**2.40**	**170**	P	**Pn**	**22 26 00.5**	**+0.4**
SNR=12							
GANJ				S	**Sn**	**22 26 29.6**	**-0.1**
KIV	**Kislovodsk**	**2.43**	**294**	*e*PN	**Pn**	**22 25 58.3**	**-2.3**
KIV				*e*		22 26 06.9	
KIV				pmax	pmax		
comp=Z,13nm,0.9s							
KIV	**Kislovodsk**	**2.43**	**294**	*e*Pn	**Pn**	**22 25 58.3**	**-2.3**
comp=Z,13nm,0.9s							
BRDA	**Brd**	**2.94**	**158**	P	**Pn**	**22 26 10.9**	**+3.4**
SNR=10.0							
BRDA				S	**Sn**	**22 26 46.8**	**+3.7**
SIZA	**Siyzn**	**3.03**	**129**	P	**Pg**	**22 26 19.9**	**+1.5**
SNR=4.1							
SIZA				S	**Sg**	**22 27 05.8**	**+8.2**
PQL	**Pirkuli**	**3.06**	**135**	P	**Pg**	**22 26 18.7**	**-0.3**
SNR=13							
PQL				S	**Sg**	**22 27 03.9**	**+5.2**
NAX	**Nakhchivan**	**3.84**	**183**	P	**Pb**	**22 26 27.5**	**-0.9**
SNR=8.0							
NAX				S	**Sg**	**22 27 21.7**	**-1.9**
GALA	**Gala**	**4.19**	**127**	P	**Pb**	**22 26 34.7**	**+0.3**
SNR=4.4							
GLBA	**Clilabad**	**4.25**	**151**	P	**Pn**	**22 26 31.1**	**+5.5**
SNR=3.9							
AKTO	**Aktyubinsk**	**11.21**	**44**	⇑Pn	**Pn**	**22 27 59.4**	**-1.6**
comp=Z,0.5nm,0.9s							
AKTO				⇓Sn	**Sn**	**22 29 53.3**	**-13**
comp=Z,0.4nm,0.5s							
AB31	**Akbulak array**	**11.64**	**53**	Pn	**Pn**	**22 28 05.4**	**-1.5**
comp=Z,1.0nm,0.5s,baz=244,slow=14,SNR=27							
AB31				⇑Sn	**Sn**	**22 30 08.8**	**-8.3**
comp=Z,0.7nm,0.3s,baz=251,slow=37,SNR=4.5							
JOF	**Joensuu**	**21.66**	**342**	*ep*	**P**	**22 30 10.3**	**-0.9**
comp=Z,1.0nm,0.3s,mb3.7							
KAF	**Kangasniemi**	**22.33**	**336**	*ep*	**P**	**22 30 16.6**	**-1.8**
comp=Z,0.6nm,0.4s,mb3.4							

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*CSEM **22** 22:59:04.3±0.1,3609N×268E,h5km,ML2.9/4, Error ellipse: s-maj=3.3km s-min=1.6km az=8.0*
*ISCJB **22** 22:59:05.6±0.3,3626N±003×269E±002,h10km, Error ellipse: s-maj=3.7km s-min=2.8km az=2.0*
*CRAAG **22** 22:59:05.0,3608N×279E,Ml4.1*
*NEIC **22** 22:59:07.0,3612N×265E,h0km,MG4.1(MDD),After MDD.*
*MDD **22** 22:59:06.7±0.4,3612N×270E,h0km,mb4.1/10,Error ellipse: s-maj=5.8km s-min=3.3km az=176.0,PRIMO*
*CNRM **22** 22:59:08.0,3641N×272W,h30km,MD4.3*
*LDG **22** 22:59:08.8±0.3,3605N×280E,h20km,Ml3.0/7,Error ellipse: s-maj=6.6km s-min=3.1km az=151.0*

ISC 22 22:59:07.5±0.6,3618N±003×272E±003,h16km±6km,n106,
σ1⇕29/150,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.19**	**85**	P	**Pg**	**22 59 10.3**	**-1.8**
ADJB	**Djebel Djouab**	**0.58**	**92**	P	**Pg**	**22 59 17.1**	**-1.9**
ABA	**Alger-Bouzarea**	**0.67**	**22**	P	**Pg**	**22 59 21.3**	**+0.7**
ABMS	**Boumerdes**	**0.83**	**47**	P	**Pb**	**22 59 23.3**	**-0.3**
AKET	**Djebel Ketaf**	**0.95**	**98**	P	**Pb**	**22 59 25.0**	**-0.6**
EBNR	**Beni Rached**	**0.97**	**277**	P	**Pb**	**22 59 24.0**	**-1.8**

ECHA	Ech Chlef	1.09 269	P	Pb	22 59 25.8	-2.2
ECHF	Ech Chlef	1.12 269	P	Pb	22 59 25.8	-2.6
EANR	'Ain N'Sour	1.33 260	P	Pn	22 59 31.4	0.0
ETRT	Tiaret	1.40 236	P	Pn	22 59 32.0	-0.3
AKF	Akfadou	1.56 73	P	Pn	22 59 36.2	+1.7
SET	Setif	2.17 89	P	Pg	22 59 48.0	-1.1
CKHR	Kef el Ahmar	2.27 93	P	Pn	22 59 45.0	+0.8
DFRA	Djebel Bou Aff	2.58 81	P	Pn	22 59 48.0	-0.4
EIBI	Ibiza	3.04 339	P	Pn	22 59 55.4	+0.5
	10nm,0.3s,SNR=18					
EIBI			S	Sn	23 00 30.5	-0.4
	80nm,0.2s,SNR=4.6					
EIBI	Ibiza	3.04 339	P	Pn	22 59 55.4	+0.5
	10nm,0.3s,SNR=18					
EIBI			S	Sn	23 00 30.5	-0.4
	80nm,0.2s,SNR=4.6					
CASM	Ain Smara	3.05 87	P	Pn	22 59 55.0	0.0
CAEH	'Ain El Ouahch	3.38 79	P	Pb	23 00 08.0	+1.0
EBEN	Beniarda	3.44 318	P	Pn	23 00 00.1	-0.2
	0.9nm,0.2s,SNR=17					
EBEN			S	Sn	23 00 40.6	-0.1
	7.7nm,0.3s					
EBEN	Beniarda	3.44 318	P	Pn	23 00 00.1	-0.2
	0.9nm,0.2s,SNR=17					
EBEN			S	Sn	23 00 40.6	-0.1
	7.7nm,0.3s					
EMUR	La Murta	3.58 299	P	Pn	23 00 02.1	-0.1
	1.7nm,0.2s,SNR=7.2					
EMUR			S	Sn	23 00 43.1	-1.0
	3.3nm,0.3s					
EMUR	La Murta	3.58 299	P	Pn	23 00 02.1	-0.1
	1.7nm,0.2s,SNR=7.2					
EMUR			S	Sn	23 00 43.1	-1.0
	3.3nm,0.3s					
ETOS	Mallorca	3.58 1	P	Pn	23 00 02.5	+0.3
	10.0nm,0.3s,SNR=28					
ETOS			S	Sn	23 00 43.7	-0.5
	10nm,0.3s					
ETOS	Mallorca	3.58 1	P	Pn	23 00 02.5	+0.2
	10.0nm,0.3s,SNR=28					
ETOS			S	Sn	23 00 43.7	-0.5
	10nm,0.3s					
CMAH	Djebel Manchou	3.82 82	P	Pn	23 00 05.0	-0.5
ENIJ	Nijar	4.04 283	S	Sn	23 00 54.3	-1.3
	2.5nm,0.2s,SNR=7.9					
ETOB	Tobarra	4.19 307	P	Pn	23 00 11.5	+0.8
	3.9nm,0.2s,SNR=49					
ETOB			S	Sn	23 00 58.5	-0.8
	11nm,0.4s					
ETOB	Tobarra	4.19 307	P	Pn	23 00 11.5	+0.8
	3.9nm,0.2s,SNR=49					
ETOB			S	Sn	23 00 58.5	-0.8
	11nm,0.4s					
EHUE	Huescar	4.55 293	P	Pn	23 00 17.2	+1.5
	0.5nm,0.2s,SNR=7.9					
EHUE			S	Sn	23 01 10.9	+2.7
	0.8nm,0.2s,SNR=7.9					
EBER	Berja	4.57 281	P	Pn	23 00 14.2	-1.7
	3.5nm,0.3s,SNR=11					
EBER			S	Sn	23 01 09.2	+0.5
	4.1nm,0.3s,SNR=19					
EBER	Berja	4.57 281	P	Pn	23 00 14.2	-1.7
	3.5nm,0.3s,SNR=11					
EBER			S	Sn	23 01 09.2	+0.5
	4.1nm,0.3s,SNR=19					
ZAI	Zaio	4.62 256	eP	Pn	23 00 15.0	-1.5
ZAI			eS	Sn	23 01 05.0	-4.7
EVIA	Vianos	4.83 302	P	Pn	23 00 20.0	+0.7
	1.3nm,0.2s,SNR=7.9					
EMOS	Mosqueruela	4.87 330	P	Pn	23 00 20.9	+0.9
	5.1nm,0.2s,SNR=46					
EMOS			S	Sn	23 01 14.8	-1.2
	7.6nm,0.3s,SNR=7.9					
EMOS	Mosqueruela	4.87 330	P	Pn	23 00 20.9	+0.9
	5.1nm,0.2s,SNR=46					
EMOS			S	Sn	23 01 14.8	-1.2
	7.6nm,0.3s,SNR=7.9					
EQES	Quesada	4.91 291	P	Pn	23 00 21.1	+0.6
	1.2nm,0.3s,SNR=17					
EQES			S	Sn	23 01 19.6	+2.6
	12nm,0.5s,SNR=13					
EQES	Quesada	4.91 291	P	Pn	23 00 21.1	+0.6
	1.2nm,0.3s,SNR=17					
EQES			S	Sn	23 01 19.6	+2.7
	12nm,0.5s,SNR=13					
EQUE	Quentar	5.05 283	P	Pn	23 00 21.9	-0.6
	8.6nm,0.3s,SNR=25					
EQUE	Quentar	5.05 283	P	Pn	23 00 21.9	-0.6
	8.6nm,0.3s,SNR=25					
EGUA	Guajares	5.10 279	P	Pn	23 00 21.9	-1.4
	4.2nm,0.2s,SNR=7.9					
ERTA	Horta de San J	5.12 339	P	Pn	23 00 24.6	+1.2
	2.3nm,0.3s,SNR=8.5					
ERTA			S	Sn	23 01 20.8	-1.4
	3.5nm,0.3s,SNR=7.9					
ERTA	Horta de San J	5.12 339	P	Pn	23 00 24.6	+1.2
	2.3nm,0.3s,SNR=8.5					
ERTA			S	Sn	23 01 20.8	-1.3
	3.5nm,0.3s,SNR=7.9					
ECOG	Cogollos-Vega	5.17 284	P	Pn	23 00 26.7	+2.6
	0.9nm,0.2s,SNR=7.9					
ERON	Agron	5.32 281	P	Pn	23 00 26.0	-0.1
	2.9nm,0.4s,SNR=7.9					
EPOB	Poblet	5.32 347	P	Pn	23 00 28.1	+1.9
	0.9nm,0.2s,SNR=5.7					
EPOB			S	Sn	23 01 24.0	-3.1
	1.3nm,0.2s,SNR=7.9					
EPOB	Poblet	5.32 347	P	Pn	23 00 28.1	+1.9
	0.9nm,0.2s,SNR=5.7					
EBAN	Banos Encina	5.56 293	P	Pn	23 00 29.6	+0.2
	0.8nm,0.2s,SNR=7.9					
EBAN	Banos Encina	5.56 293	P	Pn	23 00 29.8	+0.4
EBAN	Banos Encina	5.56 293	P	Pn	23 00 29.8	+0.3
ELOJ	Sierra Loja	5.61 282	P	Pn	23 00 30.9	+0.8
	2.7nm,0.4s,SNR=4.9					
ETOR	Torete	5.95 322	P	Pn	23 00 38.1	+3.3
	3.9nm,0.4s,SNR=6.3					
ETOR			S	Sn	23 01 43.7	+1.0
	2.3nm,0.2s,SNR=6.8					
ETOR	Torete	5.95 322	P	Pn	23 00 38.1	+3.2
	3.9nm,0.4s,SNR=6.3					
ETOR	Torete	5.95 322	P	Pn	23 00 38.2	+3.3
ETOR			S	Sn	23 01 43.7	+1.0
	2.3nm,0.2s,SNR=6.8					
TZK	Tazeka	6.03 252	P	Pn	23 00 36.0	+0.1
TZK			S	Sn	23 01 40.0	-4.6
EMIJ	Mijas	6.06 276	P	Pn	23 00 33.3	-3.0
	0.9nm,0.2s,SNR=7.3					
EMIJ			S	Sn	23 01 40.4	-4.9
	2.3nm,0.3s					
EADA	Adamuz	6.15 291	P	Pn	23 00 37.5	-0.2
	0.2nm,0.2s,SNR=4.0					
EADA	Adamuz	6.15 291	P	Pn	23 00 37.5	-0.1
	0.2nm,0.2s,SNR=4.0					
EJON	La Jonquera	6.26 1	P	Pn	23 00 40.7	+1.7
	0.6nm,0.2s,SNR=7.9					
EJON			S	Sn	23 01 47.8	-2.4
	2.1nm,0.3s,SNR=7.9					
EJON	La Jonquera	6.26 1	P	Pn	23 00 40.7	+1.6
	0.6nm,0.2s,SNR=7.9					
ESDC	Sonseca Array	6.33 305	P	Pn	23 00 40.2	+0.2
	0.8nm,0.2s,baz=114,slow=13,SNR=12					
ESDC	Sonseca Array	6.33 305	P	Pn	23 00 40.2	+0.2
	0.8nm,0.2s,SNR=12					
ECAB	El Cabril	6.77 289	P	Pn	23 00 44.8	-1.3
	0.4nm,0.1s,SNR=7.9					
ECAB	El Cabril	6.77 289	P	Pn	23 00 44.8	-1.3
	0.4nm,0.1s,SNR=7.9					
EBIE	Bielsa	6.79 344	P	Pn	23 00 50.2	+3.8
	0.5nm,0.3s,SNR=7.9					
EBIE			S	Sn	23 02 01.7	-1.7
	0.9nm,0.4s,SNR=7.9					
EBIE	Bielsa	6.79 344	P	Pn	23 00 50.2	+3.8
	0.5nm,0.3s,SNR=7.9					
ESPR	Espera	6.94 278	P	Pn	23 00 50.9	+2.5
	0.6nm,0.2s,SNR=7.9					
ESPR	Espera	6.94 278	P	Pn	23 00 50.9	+2.5
GUD	Guadarrama	6.99 312	P	Pn	23 00 50.4	+1.2
	2.4nm,0.4s,SNR=7.9					
EPF	Esparros	7.08 346	ePn	Pn	23 00 51.3	+1.0
EPF			eSn	Sn	23 02 08.0	-2.4
	1.7nm,0.2s					
EPF	Esparros	7.08 346	ePn	Pn	23 00 51.3	+1.0
EPF			eSn	Sn	23 02 08.0	-2.4
	0.9nm,0.2s					
CZD	Col de Zad	7.13 246	P	Pn	23 00 52.5	+1.5
CZD			S	Sn	23 02 10.5	-1.2
MTLF	Montolieu	7.16 357	ePn	Pn	23 00 51.0	-0.4
MTLF			eSn	Sn	23 02 09.1	-3.3
	0.5nm,0.2s					
MTLF	Montolieu	7.16 357	P	Pn	23 00 51.0	-0.4
MTLF			S	Sn	23 02 09.1	-3.3
	0.2nm,0.2s					
ETSF	Etsaut	7.17 340	ePn	Pn	23 00 52.9	+1.4
ETSF			eSn	Sn	23 02 10.6	-2.0
	2.8nm,0.4s					
ETSF	Etsaut	7.17 340	ePn	Pn	23 00 52.9	+1.4
ETSF			eSn	Sn	23 02 10.6	-2.0
	1.4nm,0.4s					
ZFT	Errachidia	7.18 237	P	Pn	23 00 51.5	-0.2
ZFT			S	Sn	23 02 09.0	-3.9
EORO	Oroz-Betelu	7.39 336	P	Pn	23 00 56.8	+2.3
	0.8nm,0.4s,SNR=7.9					
SJPF	Ste Jean	7.56 337	ePn	Pn	23 00 57.4	+0.5
EMIN	Mina Concepcio	7.68 285	P	Pn	23 00 58.1	-0.5
	0.2nm,0.2s,SNR=7.9					
EMIN	Mina Concepcio	7.68 285	P	Pn	23 00 58.1	-0.5
LMR	La Mourre	7.71 21	ePn	Pn	23 00 59.0	0.0
LMR			eSn	Sn	23 02 22.0	-4.0
	1.5nm,0.2s					
LMR	La Mourre	7.71 21	ePn	Pn	23 00 59.0	0.0
LMR			eSn	Sn	23 02 22.0	-4.0
	0.8nm,0.2s					
EALK	Alkurruntz	7.74 336	P	Pn	23 01 02.0	+2.6
	1.1nm,0.3s,SNR=7.9					
EALK			S	Sn	23 02 25.4	-1.3
	4.7nm,0.4s,SNR=7.9					
LASF	Ste Croix	7.93 6	ePn	Pn	23 01 01.9	-0.1
LASF			eSn	Sn	23 02 27.6	-3.8
	0.6nm,0.3s					
LASF	Ste Croix	7.93 6	P	Pn	23 01 01.9	-0.1
LASF			S	Sn	23 02 27.6	-3.8
	0.3nm,0.3s					
FRF	La Foret Royal	7.96 21	ePn	Pn	23 01 02.2	-0.2
FRF			eSn	Sn	23 02 28.6	-3.5
	4.4nm,0.4s					
FRF	La Foret Royal	7.96 21	ePn	Pn	23 01 02.2	-0.2
FRF			eSn	Sn	23 02 28.6	-3.5
	2.2nm,0.4s					
PGF	Pioggiola	8.00 36	ePn	Pn	23 01 02.2	-0.8
PGF			eSn	Sn	23 02 28.2	-4.9
	0.5nm,0.2s					
PGF	Pioggiola	8.00 36	ePn	Pn	23 01 02.2	-0.8
PGF			eSn	Sn	23 02 28.2	-4.9
	0.2nm,0.2s					
SMRF	Simiane la Rot	8.09 15	ePn	Pn	23 01 04.8	+0.7
EBAD	Badajoz	8.15 291	P	Pn	23 01 04.8	-0.3
	0.1nm,0.1s,SNR=4.0					
ELAN	Lanestosa	8.48 328	P	Pn	23 01 12.0	+2.4
	0.8nm,0.2s,SNR=7.9					
ELAN	Lanestosa	8.48 328	P	Pn	23 01 12.0	+2.4
CAF	Calviac	8.75 357	ePn	Pn	23 01 15.5	+2.3
VIVF	Saint-Julien-l	8.79 9	ePn	Pn	23 01 13.2	-0.6
LFF	La Frestale	8.88 351	ePn	Pn	23 01 15.2	+0.3
ORIF	Oris-en-Rattie	9.05 14	ePn	Pn	23 01 17.2	-0.1
ECAL	Calabor	9.33 311	P	Pn	23 01 21.9	+0.7
	2.0nm,0.2s,SNR=15					
ECAL	Calabor	9.33 311	P	Pn	23 01 21.9	+0.7
EARI	Arriondas	9.37 322	P	Pn	23 01 24.2	+2.5
	1.8nm,0.4s,SNR=6.0					
EARI	Arriondas	9.37 322	P	Pn	23 01 24.2	+2.5
LPL	La Plagne	9.80 17	ePn	Pn	23 01 28.2	+0.5
ELOB	Lobios	10.12 307	P	Pn	23 01 32.7	+0.6
	0.8nm,0.4s					
ELOB	Lobios	10.12 307	P	Pn	23 01 32.7	+0.7
	0.8nm,0.4s					
QUIF	Quistinic	12.51 341	ePn	Pn	23 02 04.9	+0.3
ROSF	Rostrenen	12.92 342	ePn	Pn	23 02 10.5	+0.2

NEIC ***22*** *23:00:23.2, 3768N×2373E, h25km, ML2.7(ATH), After ATH.*
ATH ***22*** *23:00:23.2, 3768N×2373E, h25km±2km, MD2.9/7, ML2.7*
ISCJB ***22*** *23:00:24.2±0.6, 3779N±003×2381E±003, h1km±7km, Error ellipse: s-maj=5.6km s-min=4.3km az=11.4*
CSEM ***22*** *23:00:25.7±0.2, 3779N×2375E, h2km, ML2.7, Error ellipse: s-maj=4.2km s-min=3.5km az=155.0*
THE ***22*** *23:00:25.6, 3781N×2376E, h0km*
ISC 22 23:00:25.3±0.5,**3777N**±003×**2379E**±003,**h15**km±4km,**n18,** σ1°**03**/27,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVR	Kavouri	0.06	344	ePB	Pg	23 00 28.5	+0.3
ATH	Athens Observa	0.21	344	ePB	Pg	23 00 29.6	-0.5
ATH				eSB	Sg	23 00 35.0	+1.7
NAIG	Nisos Aigina	0.24	267	ePB	Pg	23 00 29.2	-1.4
PTL	Penteli	0.28	12	ePB	Pg	23 00 31.5	+0.2
DID	Didima	0.51	239	ePg	Pg	23 00 35.3	-0.1
DID				eSg	Sg	23 00 43.6	+1.2
LTK	Loutraki	0.70	291	ePg	Pg	23 00 37.4	-1.5
LTK				eSg	Sg	23 00 49.6	+1.4
LKR	Lokris	1.07	325	ePg	Pg	23 00 44.3	-1.8
LKR				eSg	Sg	23 00 59.6	-0.6
LKR	Lokris	1.07	325	ePN	Pn	23 00 44.2	-1.6
VLX	Vlachokerasia	1.19	251	ePg	Pg	23 00 47.4	-0.8
VLX				eSg	Sg	23 01 05.1	+1.3
VLI	Veliai	1.25	213	ePN	Pn	23 00 44.9	-3.3
AOS	Alonnisos	1.40	3	ePg	Pg	23 00 51.0	-1.2
AOS				eSg	Sg	23 01 10.6	+0.2
APE	Apeiranthos	1.55	116	ePg	Pg	23 00 54.6	-0.5
APE				eSg	Sg	23 01 16.1	+0.7
NEO	Neokhori	1.59	344	ePN	Pn	23 00 53.3	+0.4
XOR	Xorichti	1.66	344	ePg	Pn	23 00 54.7	+1.0
AGG	Agios Georgios	1.69	318	ePb	Pb	23 00 55.2	-0.9
AGG				eSb	Sb	23 01 18.0	+0.8
CHOS	Chios island	1.89	70	ePb	Pb	23 00 59.4	0.0
CHOS				eSb	Sb	23 01 23.4	+0.6
PAIG	Paliouri	2.15	358	ePn	Pn	23 01 01.4	+0.8
THL	Klokotos Trika	2.27	323	ePn	Pn	23 01 03.1	+0.9

IDC ***22*** *23:03:02.6±0.6, 5262N×14286E, h0km, mb4.1/20, mb1 4.2/23, mb1mx4.2/29, mbtmp4.1/23, ML3.7/3, MS4.0/1, Ms1 4.0/1, ms1mx2.6/33, Error ellipse: s-maj=16.4km s-min=15.9km az=18.0*
MOS ***22*** *23:03:03.1±0.8, 5258N×14281E, h14km, mb4.6/21, Error ellipse: s-maj=11.7km s-min=5.6km az=100.5*
MOS Felt (II) at Sabo, Nogliki.
NEIC ***22*** *23:03:04.1±0.1, 5258N×14283E, h10km, mb4.4/22, Error ellipse: s-maj=3.4km s-min=3.3km az=95.0*
ISCJB ***22*** *23:03:05.9±0.9, 5254N±004×14288E±008, h35km±8km, mb4.2/43, MS3.9/2, Error ellipse: s-maj=8.2km s-min=6.4km az=14.6*
ISC 22 23:03:07.0±1.3,**5255N**±004×**14281E**±007,**h28**km±9km, **n137,** σ0°**65**/141,**mb4.2**/43,**MS3.9**/2,**24C-9D,Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	Okha	1.00	4	ePN	Pn	23 03 24.0	-1.1
OKH				i S	Sb	23 03 39.0	+0.5
OKH				pmax	pmax		
	comp=Z,3.0nm,0.2s						
OKH				smax			
	comp=N,25nm,0.5s						
YSS	Yuzh-Sakhalins	5.60	180	ePN	Pn	23 04 28.5	+0.2
YSS				e		23 05 41.0	
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS				smax			
	comp=N,220nm,2.0s						
YSS	Yuzh-Sakhalins	5.60	180	ePn	Pn	23 04 27.7	-0.7
PETK	Petropavlovsk-	9.04	81	Pn	Pn	23 05 14.4	-1.0
	comp=N,0.6nm,0.3s,baz=196,slow=8.3,SNR=16						
PETK				Sn	Sn	23 06 51.8	-4.3
	comp=N,0.3nm,0.3s,baz=270,slow=16,SNR=3.4						
PET	Petropavlovsk	9.62	81	ePN	Pn	23 05 26.0	+2.7
PET				pmax	pmax		
	comp=Z,29nm,0.5s						
PET	Petropavlovsk	9.62	81	eP	Pn	23 05 22.1	-1.3
MAJO	Matsushiro	16.33	193	P	Pn	23 06 52.7	-1.4
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MAJO	Matsushiro	16.33	193	Pn	Pn	23 06 52.7	-1.4
	comp=Z,2.3nm,0.4s						
MJAR	Matsushiro Arr	16.33	193	Pn	Pn	23 06 54.7	+0.5
	comp=Z,0.5nm,0.3s,baz=342,slow=36,SNR=4.4						
KSRS	Korea Array	18.34	221	P	Pn	23 07 20.2	+1.1
	comp=Z,0.2nm,0.3s,baz=32,slow=10,SNR=14						
BILL	Bilibino	19.19	27	eP	Pn	23 07 29.9	+0.8
BILL				eS	Sn	23 11 04.5	+1.6
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	Tiksi	20.14	347	eP	P	23 07 37.5	-0.9
TIXI				pmax	pmax		
	comp=Z,13nm,1.0s						
TIXI	Tiksi	20.14	347	eP	P	23 07 37.6	-0.7
	comp=Z,11nm,0.9s						
BJT	Baijiatuau	22.12	246	eP	P	23 07 58.4	-1.6
SONM	Songino Array	23.61	273	P	P	23 08 15.6	+0.3
	comp=Z,0.7nm,0.4s,mb3.4,baz=86,slow=5.9,SNR=4.0						
TLY	Talaya	23.87	284	eP	P	23 08 18.2	+0.5
TLY				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.3						
TLY				MLR	MLR		
	comp=Z,278nm,20.0s,MS3.7						
TLY	Talaya	23.87	284	eP	P	23 08 18.2	+0.5
	comp=Z,18nm,1.3s,mb4.3						
ZAK	Zakamensk	24.51	281	eP	P	23 08 24.3	+0.7
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.2						
ZALV	Zalesovo Beam	33.89	296	P	P	23 09 46.7	-0.2
	comp=Z,0.3nm,0.3s,mb3.7,baz=64,slow=6.8,SNR=4.1						
ZALV				PcP	PcP	23 12 24.8	0.0
	comp=Z,0.5nm,0.4s,baz=70,slow=9.0,SNR=4.3						
ZALV	Zalesovo Beam	33.89	296	P	P	23 09 46.7	-0.2
ZALV				PcP	PcP	23 12 24.8	-0.1
ZAL	Zalesovo	33.91	296	P	P	23 09 46.7	-0.3
ZAL						23 12 24.8	
BPAW	Bear Paw Mtn.	34.95	45	eP	P	23 09 55.7	-0.2
TRF	Thorofare Moun	35.40	46	eP	P	23 09 59.0	-0.9
	comp=Z,3.1nm,0.9s,mb4.2						
MCK	McKinley	35.92	45	eP	P	23 10 04.7	+0.4
MCK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MCK	McKinley	35.92	45	eP	P	23 10 04.7	+0.5
	comp=Z,3.8nm,0.6s,mb4.5						
MKAR	Makanchi Array	38.57	286	P	P	23 10 27.1	+0.2
	comp=Z,2.5nm,0.8s,mb4.0,baz=62,slow=8.4,SNR=22						
MKAR				PcP	PcP	23 12 38.7	-0.2
	comp=Z,0.2nm,0.2s,baz=21,slow=1.2,SNR=3.1						
GUMO	Guam	38.90	177	eP	P	23 10 29.7	-0.2
HYT	Haines Junctio	41.94	46	eP	P	23 10 55.0	+0.4
BVAR	Borovoye Array	42.05	301	P	P	23 10 55.6	0.0
	comp=Z,1.1nm,0.7s,mb3.6,baz=60,slow=8.8,SNR=9.7						
BVAR				PcP	PcP	23 12 48.6	-1.4
	comp=Z,1.7nm,0.7s,baz=56,slow=2.9,SNR=7.3						
BVAR				LR	LR	23 30 54.1	
	comp=Z,183nm,19.2s,MS4.0,baz=104,slow=40						
BVAR	Borovoye Array	42.05	301	P	P	23 10 55.6	-0.1
BVAR						23 12 48.6	
BRVK	Borovoye	42.09	301	eP	P	23 10 55.8	-0.2
LSA	Lhasa	43.95	260	eP	P	23 11 12.8	+1.5
TKM2	Tokmak 2	44.68	286	eP	P	23 11 17.9	+0.9
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
TKM2	Tokmak 2	44.68	286	eP	P	23 11 17.9	+0.9
	comp=Z,0.7nm,0.4s,mb3.8						
UCH	Uchtor	45.73	285	P	P	23 11 25.7	+0.4
EKS2	Erkin-Say	45.90	286	eP	P	23 11 26.9	+0.2
	comp=Z,1.4nm,0.8s,mb3.9						
ARU	Arti	46.17	310	dP	P	23 11 26.6	-2.0
ARU				e		23 13 13.9	
ARU				ePPP		23 13 59.7	
ARU				eS	S	23 18 10.6	-2.0
ARU				eSS	SS	23 21 28.9	-8.5
ARU				pmax	pmax		
	comp=Z,11nm,2.5s,mb4.3						
ARU	Arti	46.17	310	eP	P	23 11 27.9	-0.7
	comp=Z,3.0nm,0.8s,mb4.3						
AML	Almayashu	46.27	286	eP	P	23 11 29.1	-0.5
	comp=Z,4.1nm,1.4s,mb4.2						
RES	Resolute Bay	47.41	18	P	P	23 11 36.4	-1.7
AKTK	Aktyubinsk	49.89	304	P	P	23 11 57.3	-0.1
AKTO	Aktyubinsk	49.89	304	P	P	23 11 57.3	-0.1
	comp=Z,0.7nm,0.6s,mb3.9,baz=76,slow=19,SNR=6.1						
ARCES	ARCESS Array B	50.00	336	P	P	23 11 57.6	-0.4
	comp=Z,2.0nm,0.8s,mb4.2,baz=42,slow=7.4,SNR=10						
JOF	Joensuu	53.01	328	ep	P	23 12 20.0	-0.6
	comp=Z,0.4nm,0.4s,mb3.7						
OBN	Obninsk	56.63	319	eP	P	23 12 46.8	-0.1
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
NB2	NORSAR Subarra	60.36	335	P	P	23 13 12.3	-0.5
	comp=Z,1.5nm,0.6s,mb4.2,baz=31,slow=6.5						
NOA	NORSAR Array B	60.36	335	P	P	23 13 12.6	-0.2
	comp=Z,2.1nm,0.7s,mb4.3,baz=32,slow=6.8,SNR=7.5						
HFS	Hagfors	60.48	333	P	P	23 13 13.1	-0.5
	comp=Z,3.4nm,0.6s,mb4.5,baz=74,slow=7.9,SNR=11						
AKASG	Malin Array Be	62.88	319	P	P	23 13 29.1	-0.8
	comp=Z,1.7nm,0.4s,mb4.5,baz=36,slow=7.4,SNR=20						
BOZ	Bozeman (W)	63.29	49	eP	P	23 13 33.5	+0.8
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BOZ	Bozeman (W)	63.29	49	eP	P	23 13 33.5	+0.7
	comp=Z,0.8nm,0.7s,mb4.0						
NVAR	Mina Array Bea	65.41	59	P	P	23 13 47.3	+0.5
	comp=Z,0.4nm,0.6s,mb3.6,baz=87,slow=6.1,SNR=3.7						
KIS	Kishinev	65.96	317	eP	P	23 13 49.5	-0.6
KIS				eL		23 35 10.0	
KIS				LQM		23 44 22.0	
	comp=Z,400nm,22.0s						
KIS				LRM		23 48 20.0	
	comp=Z,300nm,21.0s						
ULM	Lac du Bonnet	66.21	37	P	P	23 13 50.5	-1.2
	comp=Z,3.1nm,0.6s,mb4.5,baz=329,slow=7.9,SNR=4.0						
KWP	Kalwaria	66.26	322	eP	P	23 13 51.5	-0.5
KWP				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
KWP	Kalwaria	66.26	322	eP	P	23 13 51.5	-0.5
	comp=Z,9.9nm,1.0s,mb4.8						
PDAR	Pinedale Array	66.45	50	P	P	23 13 53.8	+0.4
	comp=Z,1.4nm,0.5s,mb4.3,baz=14,slow=2.2,SNR=10.0						
OJC	Ojcow	66.84	324	eP	P	23 13 55.7	0.0
BURAR	Bucovina Array	66.93	319	⇑iP	P	23 13 56.3	0.0
BURAR	Bucovina Array	66.93	319	⇑P	P	23 13 56.3	0.0
STHS	Stebnicka Huta	66.98	323	eP	P	23 13 56.9	+0.3
STHS				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
STHS	Stebnicka Huta	66.98	323	eP	P	23 13 56

comp=Z,1.1nm,0.7s,mb3.9,baz=38,slow=6.8,SNR=11
PKSM Moragy 70.63 322⇑iP P 23 14 18.9 -0.5
PKSM Moragy 70.63 322⇑P P 23 14 18.9 -0.5
KBA Koelnbreinsper 71.77 326⇑iP P 23 14 27.3 +1.0
comp=Z,5.6nm,0.6s,mb4.7
KBA Koelnbreinsper 71.77 326⇑iPP P 23 14 27.3 +1.0
comp=Z,5.6nm,0.6s,mb4.7
KBA Koelnbreinsper 71.77 326⇑iP P 23 14 27.3 +1.0
KBA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
VTS Vitosha 71.86 317⇓iP P 23 14 27.0 +0.1
VTS Vitosha 71.86 317⇓P P 23 14 27.0 +0.1
FITZ Fitzroy Crossi 71.92 197 eP P 23 14 27.8 +0.4
MOTA Moosalm 72.28 328⇑iP P 23 14 29.6 +0.3
comp=Z,4.4nm,1.0s,mb4.3
MOTA Moosalm 72.28 328⇑iPP P 23 14 29.6 +0.3
comp=Z,4.4nm,1.0s,mb4.3
MOTA Moosalm 72.28 328⇑iP P 23 14 29.6 +0.3
MOTA pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
CTAO Charters Tower 72.39 177 P P 23 14 30.5 +0.4
CDF Champ du Feu 72.53 331 eP P 23 14 30.7 -0.1
comp=Z,9.0nm,0.9s,mb4.4
CDF Champ du Feu 72.53 331 eP P 23 14 30.7 -0.1
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CDF Champ du Feu 72.53 331 eP P 23 14 30.7 -0.1
comp=Z,4.5nm,0.9s,mb4.4
WRAB Tennant Creek 72.55 188 eP P 23 14 31.4 +0.3
WRAB pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
WRAB Tennant Creek 72.55 188 eP P 23 14 31.4 +0.3
comp=Z,3.6nm,1.0s,mb4.3
WRA Warramunga Arr 72.56 188 P P 23 14 31.2 0.0
comp=Z,2.6nm,0.9s,mb4.2,baz=8.8,slow=6.5,SNR=9.5
MEZF Maizieres J'vi 73.10 332 eP P 23 14 34.2 0.0
DAVOX Davos/Dischmat 73.17 328 P P 23 14 35.2 +0.6
comp=Z,2.7nm,0.7s,mb4.3,baz=28,slow=7.4,SNR=5.1
HINF Hinteralfeld 73.19 331 eP P 23 14 34.6 -0.1
LOR Lormes 74.56 332 eP P 23 14 41.9 -0.8
SSF Saint Saulge 74.84 332 eP P 23 14 43.8 -0.6
AVF Avril sur Loir 75.14 332 eP P 23 14 45.6 -0.5
comp=Z,11nm,0.9s,mb4.5
AVF Avril sur Loir 75.14 332 eP P 23 14 45.6 -0.5
AVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
AVF Avril sur Loir 75.14 332 eP P 23 14 45.6 -0.5
comp=Z,5.3nm,0.9s,mb4.5
LPL La Plagne 75.29 330 eP P 23 14 47.5 +0.5
comp=Z,4.7nm,0.7s,mb4.2
LPL La Plagne 75.29 330 eP P 23 14 47.5 +0.5
LPL pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LPL La Plagne 75.29 330 eP P 23 14 47.5 +0.5
comp=Z,2.3nm,0.7s,mb4.2
LPG La Plagne 75.30 330 eP P 23 14 47.8 +0.7
TCF Toulx Ste Croi 75.91 333 eP P 23 14 50.4 -0.1
comp=Z,3.0nm,0.6s,mb4.1
TCF Toulx Ste Croi 75.91 333 eP P 23 14 50.4 -0.1
TCF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
TCF Toulx Ste Croi 75.91 333 eP P 23 14 50.4 -0.1
comp=Z,1.5nm,0.6s,mb4.1
MBDF Montbardon 75.99 329 eP P 23 14 50.8 -0.2
comp=Z,4.0nm,0.6s,mb4.2
MBDF Montbardon 75.99 329 eP P 23 14 50.8 -0.2
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MBDF Montbardon 75.99 329 eP P 23 14 50.8 -0.2
comp=Z,2.0nm,0.6s,mb4.2
ORIF Oris-en-Rattie 76.09 330 eP P 23 14 51.9 +0.3
comp=Z,6.8nm,0.8s,mb4.3
ORIF Oris-en-Rattie 76.09 330 eP P 23 14 51.9 +0.3
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ORIF Oris-en-Rattie 76.09 330 eP P 23 14 51.9 +0.3
comp=Z,3.4nm,0.8s,mb4.3
MFF Saint Martin d 76.26 335 eP P 23 14 52.6 +0.1
ASAR Alice Springs 76.29 188 P P 23 14 53.8 +1.1
comp=Z,1.3nm,0.6s,mb4.1,baz=3.4,slow=6.1,SNR=18
VIVF Saint-Julien-l 76.51 331 eP P 23 14 54.1 +0.1
RJF Les Rejaudoux 77.01 333 eP P 23 14 56.9 +0.1
PGF Pioggiola 77.22 327 eP P 23 14 57.5 -0.5
TXAR Lajitas Array 80.03 54 P P 23 15 13.2 -0.4
comp=Z,0.5nm,0.7s,mb3.6,baz=318,slow=5.4,SNR=5.2
ESDC Sonseca Array 83.72 335 P P 23 15 33.1 +0.1
comp=Z,0.7nm,0.6s,mb4.0,baz=28,slow=3.7,SNR=4.1

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*ISCJB **22** 23:22:42.7±0.8, 627N±005×9579E±007, h245km±7km, mb3.9/15, Error ellipse: s-maj=13.1km s-min=6.8km az=149.0*
*IDC **22** 23:22:42.6±1.2, 623N×9581E, h233km±11km, mb3.6/10, mb1 3.7/12, mb1mx3.5/24, mbtmp3.6/12, Error ellipse: s-maj=17.3km s-min=8.5km az=52.0*
*NEIC **22** 23:22:43.4±1.1, 626N×9580E, h239km±11km, mb4.1/7, Error ellipse: s-maj=11.5km s-min=6.7km az=61.0*
*DJA **22** 23:22:43, 622N×9556E, h219km, ML4.9/5*
ISC 22 23:22:43.6±0.7, 626N±005×9579E±007, h238km±7km, n48, σ0§90/51, mb3.9/15, 6C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.65**	**138**	P	**Pn**	**23 23 54.2**	**-0.5**
	5.7nm,0.3s,baz=286,slow=11,SNR=47						
PSI				S	**S**	**23 24 48.6**	**-2.6**
	4.2nm,0.3s,baz=309,slow=11,SNR=5.3						
PSI	**Prapat**	**4.65**	**138**	P	**Pn**	**23 23 54.2**	**-0.5**
PSI				S	**S**	**23 24 48.6**	**-2.6**
KULM	**Kulim**	**4.94**	**101**	⇑P	**Pn**	**23 23 58.5**	**+0.3**
IPM	**Ipoh**	**5.51**	**108**	⇑P	**Pn**	**23 24 05.5**	**+0.1**
FRIM	**Kepong**	**6.55**	**117**	⇑P	**Pn**	**23 24 18.8**	**+0.3**
KTGM	**Kuala Trenggan**	**7.37**	**97**	⇑P	**Pn**	**23 24 29.3**	**+0.4**
KGM	**Kluang**	**8.62**	**119**	⇓P	**Pn**	**23 24 45.1**	**+0.4**
MYKOM	**Kota Tinggi**	**9.19**	**119**	⇓P	**Pn**	**23 24 52.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**12.51**	**14**	P	**Pn**	**23 25 34.9**	**+1.1**
	0.9nm,0.3s,baz=203,slow=11,SNR=21						
CHTO	**Chiang Mai**	**12.85**	**14**	ePn	**Pn**	**23 25 38.9**	**+0.8**
	10.0nm,1.1s						
BTM	**Bintulu**	**17.50**	**99**	⇑P	**P**	**23 26 37.3**	**+5.6**
QIZ	**Qiongzhong**	**18.66**	**46**	P	**P**	**23 26 43.0**	**-1.3**
SHL	**Shillong**	**19.56**	**349**	eP	**P**	**23 26 53.0**	**-0.7**
HYB	**Hyderabad**	**20.16**	**305**	iP	**P**	**23 27 00.0**	**-0.2**
HYB	**Hyderabad**	**20.16**	**305**	eP	**P**	**23 27 00.0**	**-0.2**
HYB				e		23 27 04.5	
KKM	**Kota Kinabalu**	**20.31**	**90**	eP	**P**	**23 27 00.9**	**-1.0**
SDKM	**Sandakan**	**21.30**	**91**	⇑P	**P**	**23 27 14.7**	**+2.4**
MYLDM	**Lahad Datu**	**22.63**	**92**	⇓P	**P**	**23 27 27.9**	**+3.3**
LSA	**Lhasa**	**23.72**	**350**	eP	**P**	**23 27 35.2**	**+1.0**
	34nm,0.6s,mb5.2						
ENH	**Enshi**	**27.14**	**27**	P	**P**	**23 28 03.5**	**-1.5**
MBWA	**Marble Bar**	**35.99**	**140**	eP	**P**	**23 29 21.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**38.13**	**130**	eP	**P**	**23 29 39.9**	**-0.3**
	4.9nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**38.13**	**130**	eP	**P**	**23 29 40.2**	**0.0**
	6.7nm,0.8s,mb4.2						
TKM2	**Tokmak 2**	**40.63**	**337**	P	**P**	**23 30 00.9**	**+0.4**
EKS2	**Erkin-Say**	**41.15**	**335**	eP	**P**	**23 30 04.5**	**-0.2**
MK31	**Makanchi Array**	**42.02**	**346**	eP	**P**	**23 30 11.4**	**-0.3**
MKAR	**Makanchi Array**	**42.02**	**346**	P	**P**	**23 30 11.4**	**-0.2**
	0.9nm,0.6s,mb3.4,baz=159,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**46.00**	**125**	P	**P**	**23 30 44.0**	**+0.3**
	6.7nm,0.5s,mb4.2,baz=306,slow=9.0,SNR=34						
WRA				S	**S**	**23 37 10.3**	**-0.3**
	2.6nm,1.4s,baz=299,slow=18,SNR=2.6						
WRAB	**Tennant Creek**	**46.01**	**125**	eP	**P**	**23 30 44.2**	**+0.5**
	11nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**46.01**	**125**	eP	**P**	**23 30 44.1**	**+0.4**
KURK	**Kurchatov**	**46.57**	**345**	eP	**P**	**23 30 45.8**	**-1.8**
	0.7nm,0.4s,mb3.3						
ASAR	**Alice Springs**	**47.63**	**130**	P	**P**	**23 30 56.7**	**+0.5**
	2.9nm,0.5s,mb3.9,baz=302,slow=7.3,SNR=43						
ASAR				S	**S**	**23 37 32.7**	**-0.9**
	1.0nm,0.8s,baz=296,slow=13,SNR=9.9						
ZALV	**Zalesovo Beam**	**48.37**	**351**	P	**P**	**23 31 01.0**	**-0.3**
	0.8nm,0.4s,mb3.4,baz=171,slow=6.5,SNR=7.1						
ZALV				S	**S**	**23 37 42.7**	**-0.3**
	0.3nm,0.4s,baz=179,slow=12,SNR=3.7						
ZALV	**Zalesovo Beam**	**48.37**	**351**	P	**P**	**23 31 01.0**	**-0.3**
ZALV				S	**S**	**23 37 42.7**	**-0.3**
BVAR	**Borovoye Array**	**51.04**	**341**	P	**P**	**23 31 22.4**	**+1.0**
	0.3nm,0.4s,mb3.0,baz=148,slow=8.7,SNR=3.6						
OPO	**Ambohidratompo**	**53.89**	**242**	P	**P**	**23 31 43.9**	**+1.0**
	3.0nm,0.7s,mb3.9,baz=46,slow=3.6,SNR=4.2						
CTAO	**Charters Tower**	**56.10**	**119**	P	**P**	**23 31 59.1**	**+0.5**
	6.1nm,1.1s,mb4.0						
STKA	**Stephens Creek**	**57.82**	**134**	eP	**P**	**23 32 10.8**	**+0.3**
	2.4nm,0.9s,mb3.8						
STKA	**Stephens Creek**	**57.82**	**134**	P	**P**	**23 32 09.9**	**-0.6**
	3.0nm,0.9s,mb3.9,baz=318,slow=8.1,SNR=5.0						
LSZ	**Lusaka**	**70.29**	**251**	eP	**P**	**23 33 31.8**	**0.0**
BOSA	**Boshof**	**76.13**	**239**	P	**P**	**23 34 04.9**	**-0.8**
	3.5nm,0.6s,mb4.2,baz=108,slow=7.5,SNR=10						
ARCES	**ARCESS Array B**	**77.33**	**340**	P	**P**	**23 34 10.1**	**-1.5**
	1.8nm,1.0s,mb3.6,baz=91,slow=5.7,SNR=6.6						
SUR	**Sutherland**	**80.77**	**236**	P	**P**	**23 34 32.3**	**+1.3**
SYO	**Syowa Base**	**84.36**	**198**‖	eP	**P**	**23 34 49.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**92.56**	**283**	P	**P**	**23 35 28.4**	**-0.4**
	0.2nm,0.5s,mb3.4,baz=81,slow=5.8,SNR=7.2						
BDFB	**Brasilia**	**143.31**	**252**	PKP	PKPdf	23 41 48.5	-2.0
	0.6nm,0.4s,baz=142,slow=19,SNR=3.3						
PLCA	**Paso Flores**	**143.56**	**198**	PKP	PKPdf	23 41 48.2	-2.0
	2.1nm,0.8s,baz=104,slow=1.3,SNR=4.6						
LPAZ	**La Paz**	**161.36**	**236**	PKPab	PKPab	23 43 02.3	+0.3
	1.4nm,0.8s,baz=111,slow=3.0,SNR=9.3						

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*IDC **22** 23:44:06.2±4.0, 534S×14086E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.7/12, mbtmp3.7/4, ML3.9/2, Error ellipse: s-maj=103.6km s-min=32.0km az=93.0*
*ISCJB **22** 23:44:10.2±0.6, 560S±005×14061E±008, h33km, mb3.8/5, Error ellipse: s-maj=11.8km s-min=6.7km az=16.5*
*NEIC **22** 23:44:11.2±3.7, 556S×14067E, h27km±28km, mb4.0/6, Error ellipse: s-maj=14.2km s-min=10.9km az=93.0*
ISC 22 23:44:12.0±0.6, 560S±004×14070E±008, h35km, n20, σ0§75/25, mb3.8/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**8.65**	**164**	ePn	**Pn**	**23 46 15.4**	**+0.7**
	4.6nm,0.6s						
COEN				eSn	**Sn**	**23 47 49.8**	**-1.4**
KAKA	**Kakadu**	**10.78**	**229**	ePn	**Pn**	**23 46 44.1**	**+0.1**
	29nm,0.4s						
KAKA				eSn	**Sn**	**23 48 42.8**	**-0.7**
CTAO	**Charters Tower**	**15.38**	**160**	P	**Pn**	**23 47 46.8**	**+0.4**
WRAB	**Tennant Creek**	**15.52**	**203**	ePn	**Pn**	**23 47 49.2**	**+0.9**
	15nm,0.9s						
WRAB				eSn	**Sn**	**23 50 38.9**	**-0.4**
WRA	**Warramunga Arr**	**15.54**	**203**	Pn	**Pn**	**23 47 47.1**	**-1.4**
	0.4nm,0.3s,baz=23,slow=13,SNR=9.6						
ASAR	**Alice Springs**	**19.11**	**199**	P	**Pn**	**23 48 34.4**	**+1.4**
	0.4nm,0.3s,baz=30,slow=9.6,SNR=19						
FITZ	**Fitzroy Crossi**	**19.25**	**229**	P	**Pn**	**23 48 35.3**	**+0.6**
	0.2nm,0.3s,baz=59,slow=9.9,SNR=5.9						
FITZ				S	**S**	**23 52 03.6**	**-6.3**
	0.3nm,0.3s,baz=58,slow=22,SNR=3.8						
FITZ	**Fitzroy Crossi**	**19.25**	**229**	eP	**Pn**	**23 48 34.6**	**-0.1**
	5.6nm,0.8s						
FITZ				S	**S**	**23 52 03.6**	**-6.3**
GUMO	**Guam**	**19.51**	**12**	eP	**Pn**	**23 48 36.8**	**-1.0**
	72nm,0.9s						
STKA	**Stephens Creek**	**26.15**	**178**	eP	**P**	**23 49 43.6**	**+0.6**
	1.9nm,0.9s,mb3.6						
COCO	**West Island**	**43.78**	**258**	eP	**P**	**23 52 14.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**47.60**	**301**	P	**P**	**23 52 44.2**	**-0.6**
	0.6nm,0.4s,mb4.0,baz=127,slow=5.7,SNR=4.5						
CHTO	**Chiang Mai**	**47.76**	**302**	P	**P**	**23 52 46.7**	**+0.7**
MKAR	**Makanchi Array**	**73.28**	**322**	P	**P**	**23 55 38.9**	**-0.8**
	0.5nm,0.7s,mb3.6,baz=113,slow=5.7,SNR=5.3						
MKAR	**Makanchi Array**	**73.28**	**322**	P	**P**	**23 55 38.9**	**-0.8**
TKM2	**Tokmak 2**	**76.00**	**317**	P	**P**	**23 55 55.4**	**-0.2**
EKS2	**Erkin-Say**	**77.16**	**316**	P	**P**	**23 56 05.0**	**+0.8**
KURK	**Kurchatov**	**77.21**	**325**	eP	**P**	**23 56 02.4**	**+0.1**
	0.8nm,0.7s,mb3.8						
MAW	**Mawson**	**80.21**	**202**	P	**P**	**23 56 19.0**	**+0.5**
BRVK	**Borovoye**	**82.88**	**325**	eP	**P**	**23 56 32.4**	**-0.4**
	0.6nm,0.4s,mb4.0						

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*CSEM **23** 23:50:50.7±0.1, 3831N×3929E, h2km, MD3.0, Error ellipse: s-maj=2.9km s-min=1.8km az=111.0*
*ISCJB **22** 23:50:51.7±0.5, 3830N±003×3930E±004, h5km±6km, Error ellipse: s-maj=5.3km s-min=4.6km az=24.8*
*ISK **22** 23:50:51.0, 3830N×3927E, h2km, MD3.0*
*DDA **22** 23:50:51.7, 3835N×3930E, h7km±5km, Md2.9*
ISC 22 23:50:52.2±0.5, 3831N±003×3930E±004, h8km±4km, n13, σ0§98/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.07**	**3**	PG	**Pg**	**23 50 52.9**	**-1.3**
SVRC				SG	**Sg**	**23 50 54.9**	**-0.6**
ELZG	**Elazig**	**0.31**	**307**	iP	**Pg**	**23 50 57.9**	**-0.4**
ELZG				iS	**Sg**	**23 51 03.2**	**+0.7**
PTK	**Pertek**	**0.59**	**7**	ePG	**Pg**	**23 51 02.9**	**-0.7**
PTK				eSG	**Sg**	**23 51 12.6**	**+1.4**
MALT	**Malatya**	**0.69**	**271**	ePG	**Pg**	**23 51 04.2**	**-1.3**
MALT				eSG	**Sg**	**23 51 15.1**	**+0.7**
MYA	**Malataya**	**0.69**	**272**	ePG	**Pg**	**23 51 04.6**	**-0.9**
DIYA	**Diyarbakir**	**0.75**	**121**	iP	**Pg**	**23 51 06.8**	**+0.1**
DIYA				iS	**Sg**	**23 51 18.0**	**+1.6**
URFA	**Urfa**	**0.95**	**204**	ePG	**Pg**	**23 51 10.0**	**-0.4**
URFA				eSG	**Sg**	**23 51 23.5**	**+0.8**
ATAB	**Bozova**	**1.16**	**224**	iP	**Pg**	**23 51 14.6**	**+0.3**
ATAB				iS	**Sg**	**23 51 30.2**	**+0.8**
DARE	**Darende-Malaty**	**1.34**	**299**	ePN	**Pn**	**23 51 18.6**	**+1.5**
MARD	**Mardin**	**1.54**	**130**	iP	**Pn**	**23 51 19.4**	**-0.5**
MARD				iS	**Sn**	**23 51 39.1**	**-0.9**
GZT	**Gaziantep**	**1.67**	**236**	iP	**Pn**	**23 51 18.9**	**-2.8**
GZT				iS	**Sn**	**23 51 42.7**	**-0.6**
KMRS	**Kahramanmaras**	**2.06**	**248**	ePN	**Pn**	**23 51 27.3**	**+0.3**
SVSK	**Karacayir**	**2.41**	**313**	ePN	**Pn**	**23 51 32.8**	**+1.0**

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*NEIC **23** 00:03:03.4, 3764N×2367E, h20km, ML2.6(ATH), After ATH.*
*ATH **23** 00:03:03.4, 3764N×2367E, h20km, MD2.9/7, ML2.6*
*ISCJB **23** 00:03:05.3±0.5, 3783N±003×2362E±004, h10km, Error ellipse: s-maj=4.8km s-min=4.2km az=39.4*
*CSEM **23** 00:03:06.1±0.2, 3779N×2365E, h8km, ML2.6, Error ellipse: s-maj=4.0km s-min=3.2km az=150.0*
*THE **23** 00:03:06.8, 3778N×2363E, h10km*
ISC 23 00:03:05.8±0.6, 3781N±003×2364E±004, h13km±5km, n18, σ1§10/26, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVR	**Kavouri**	**0.11**	**80**	ePB	**Pg**	**00 03 08.5**	**-0.4**
NAIG	**Nisos Aigina**	**0.13**	**247**	ePB	**Pg**	**00 03 08.5**	**-0.6**
ATH	**Athens Observa**	**0.17**	**21**	ePB	**Pg**	**00 03 10.5**	**+0.6**
ATH				eSB	**Sg**	**00 03 15.5**	**+2.8**
PTL	**Penteli**	**0.30**	**37**	ePB	**Pg**	**00 03 12.0**	**0.0**
DID	**Didima**	**0.44**	**226**	ePg	**Pg**	**00 03 14.6**	**+0.1**
LTK	**Loutraki**	**0.57**	**292**	ePg	**Pg**	**00 03 17.7**	**+0.7**
LTK				eSg	**Sg**	**00 03 26.6**	**+2.1**
LKR	**Lokris**	**0.98**	**329**	ePg	**Pg**	**00 03 25.3**	**+0.6**
LKR				eSg	**Sg**	**00 03 40.8**	**+3.3**
LKR	**Lokris**	**0.98**	**329**	ePn	**Pn**	**00 03 24.9**	**-0.4**
LKR	**Lokris**	**0.98**	**329**	ePg	**Pg**	**00 03 25.3**	**+0.6**
LKR				eSg	**Sg**	**00 03 40.8**	**+3.3**
VLX	**Vlachokerasia**	**1.09**	**247**	ePg	**Pg**	**00 03 26.3**	**-0.5**
VLI	**Veliai**	**1.22**	**207**	ePN	**Pn**	**00 03 24.1**	**-4.5**
AOS	**Alonnisos**	**1.37**	**8**	ePg	**Pg**	**00 03 31.5**	**-0.8**
AOS				eSg	**Sg**	**00 03 49.9**	**-0.2**
NEO	**Neokhori**	**1.53**	**348**	ePN	**Pn**	**00 03 34.1**	**+1.3**
AGG	**Agios Georgios**	**1.59**	**320**	ePg	**Pg**	**00 03 34.8**	**-1.5**
AGG				eSg	**Sg**	**00 03 55.8**	**-1.2**
XOR	**Xorichti**	**1.59**	**348**	ePg	**Pg**	**00 03 34.8**	**-1.6**
XOR				eSg	**Sg**	**00 03 55.9**	**-1.2**
APE	**Apeiranthos**	**1.68**	**116**	ePb	**Pb**	**00 03 35.1**	**-1.5**
APE				eSb	**Sb**	**00 03 58.4**	**+0.8**
CHOS	**Chios island**	**1.99**	**72**	ePn	**Pn**	**00 03 39.9**	**+0.7**
THL	**Klokotos Trika**	**2.16**	**325**	ePn	**Pn**	**00 03 42.3**	**+0.7**

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*CSEM **23** 00:09:06.7±0.1, 3917N×2941E, h10km, MD2.9, Error ellipse: s-maj=2.7km s-min=1.6km az=14.0*
*ISK **23** 00:09:06.9, 3917N×2939E, h9km, MD2.9*
*ISCJB **23** 00:09:07.2±0.6, 3919N±003×2941E±003, h6km±5km, Error ellipse: s-maj=5.4km s-min=3.6km az=11.8*
*DDA **23** 00:09:07.5, 3918N×2937E, h10km±1km, Md2.9*
ISC 23 00:09:07.5±0.5, 3920N±003×2941E±003, h8km±4km, n17, σ0§49/30, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.13**	**154**⇑	iP	**Pg**	**00 09 10.7**	**+0.4**
GDZ				iS	**Sg**	**00 09 13.1**	**+0.9**
DEMI	**Demirci**	**0.56**	**254**⇑	iP	**Pg**	**00 09 18.3**	**-0.1**
DEMI				iS	**Sg**	**00 09 25.8**	**+0.1**
ALT	**Altintas**	**0.56**	**105**	ePG	**Pg**	**00 09 18.2**	**-0.2**
ALT				eSG	**Sg**	**00 09 26.0**	**+0.2**
DST	**Dursunbey**	**0.73**	**304**	ePG	**Pg**	**00 09 21.6**	**0.0**
KHAL	**Karahalli**	**0.83**	**176**	iP	**Pg**	**00 09 23.4**	**-0.1**
KHAL				iS	**Sg**	**00 09 34.6**	**+0.3**
KHL	**Karahalli**	**0.88**	**174**	ePG	**Pg**	**00 09 24.0**	**-0.5**
KULA	**Kula-Manisa**	**0.90**	**221**	ePG	**Pg**	**00 09 23.8**	**-1.0**
KULA				eSG	**Sg**	**00 09 36.1**	**-0.5**
ULDT	**Uludag**	**0.96**	**347**	iP	**Pg**	**00 09 25.1**	**-0.9**
ULDT				iS	**Sg**	**00 09 38.3**	**-0.2**
SHUT	**Suhut-Afyon**	**1.10**	**126**	ePN	**Pn**	**00 09 28.5**	**-0.7**
SHUT				eSN	**Sn**	**00 09 44.2**	**-0.5**
ESKT	**Eskisehir**	**1.16**	**74**	iP	**Pg**	**00 09 30.1**	**+0.4**
ESKT				iS	**Sg**	**00 09 45.1**	**+0.2**
SEYT	**Eskypehyr**	**1.16**	**74**	iP	**Pg**	**00 09 30.1**	**+0.3**
SEYT				iS	**Sg**	**00 09 45.1**	**+0.2**
BALB	**Balikesir**	**1.26**	**291**	ePN	**Pn**	**00 09 31.3**	**-0.2**
BALB				eSN	**Sn**	**00 09 48.8**	**+0.1**
AKHS	**Akhisar**	**1.28**	**256**	iP	**Pn**	**00 09 32.0**	**+0.2**
AKHS				iS	**Sb**	**00 09 49.0**	**+0.5**
AKS	**Akhisar**	**1.28**	**256**	ePN	**Pn**	**00 09 31.4**	**-0.4**
TKTP	**Tekketepe**	**1.36**	**148**	eP	**Pn**	**00 09 33.1**	**+0.3**
TKTP				iS	**Sb**	**00 09 57.5**	**+6.7**
BALY	**Balya**	**1.49**	**292**	iP	**Pn**	**00 09 35.0**	**+0.5**
BALY				iS	**Sn**	**00 09 55.3**	**+1.2**
BLCB	**Balcova**	**2.02**	**247**	ePN	**Pn**	**00 09 41.6**	**-0.3**

IDC 23 00:15:09.0±5.5, 442S×13250E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.5/13, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=353.1km s-min=32.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.54**	**174**	Pn	Pn	00 18 47.4	-2.1
	0.1nm,0.3s,baz=355,slow=13,SNR=2.4						
WRA				Sn	Sn	00 21 31.3	-11
	0.2nm,0.3s,baz=339,slow=22,SNR=3.7						
ASAR	**Alice Springs**	**19.19**	**176**	P	Pn	00 19 35.4	+0.2
	0.1nm,0.3s,baz=349,slow=10,SNR=6.7						
MKAR	**Makanchi Array**	**67.49**	**325**	P	P	00 26 06.9	+0.1
	0.1nm,0.4s,baz=120,slow=7.2,SNR=3.6						

IDC 23 00:21:15.2±9.4, 1394S×7672W, h0km, mb4.3/1, mb1 3.9/2, mb1mx3.6/17, mbtmp3.9/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/20, Error ellipse: s-maj=437.3km s-min=48.1km az=26.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.61**	**107**	Pn	Pn	00 23 21.8	+0.6
	0.3nm,0.3s,baz=264,slow=10,SNR=10						
LPAZ				Sn	Sn	00 25 08.1	+8.9
	0.1nm,0.3s,baz=0.0,slow=20,SNR=2.7						
LPAZ				LR	LR	00 26 46.5	
	comp=Z,94nm,19.7s,baz=212,slow=38						
SCHQ	**Schefferville**	**69.01**	**6**	LR	LR	01 04 15.6	
	comp=Z,58nm,18.6s,baz=40,slow=37						
TORD	**Torodi Ar. Bea**	**82.19**	**74**	P	P	00 33 38.8	+0.1
	1.6nm,0.6s,baz=262,slow=4.2,SNR=22						
SONM	**Songino Array**	**146.11**	**356**	PKPbc	PKPbc	00 40 56.6	-0.6
	0.5nm,0.6s,baz=33,slow=3.4,SNR=3.0						

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*IDC **23** 00:35:14.2±50.0, 2286S×17377W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/16, mbtmp4.1/3, Error ellipse: s-maj=939.9km s-min=173.3km az=87.0*
*ISCJB **23** 00:35:16.7±1.0, 2292S±010×1737W±02, h33km, mb4.5/8, Error ellipse: s-maj=21.8km s-min=12.7km az=17.2*
*NEIC **23** 00:35:18.9±0.8, 2292S×17371W, h35km, mb4.5/7, Error ellipse: s-maj=17.6km s-min=10.5km az=107.0*
ISC 23 00:35:14.8±5.6, 2292S±010×1737W±02, h5km±37km, n22, σ0§88/22, mb4.5/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.33**	**210**	ePn	**Pn**	**00 37 03.0**	**+0.3**
AFI	**Afiamalu**	**9.16**	**12**	P	**Pn**	**00 37 27.8**	**+0.1**
SNZO	**South Karori**	**20.75**	**205**	eP	**P**	**00 39 55.8**	**-0.6**
	22nm,1.0s						
HNR	**Honiara**	**28.54**	**294**	eP	**P**	**00 41 10.9**	**-0.9**
CTA	**Charters Tower**	**37.25**	**267**	eP	**P**	**00 42 28.9**	**+1.2**
	4.9nm,0.4s,mb4.7						
CTAO	**Charters Tower**	**37.25**	**267**	eP	**P**	**00 42 27.5**	**-0.3**
	5.9nm,0.3s,mb4.9						
TAU	**Tasmania Unive**	**37.85**	**229**	eP	**P**	**00 42 32.2**	**-0.4**
PMG	**Port Moresby**	**39.74**	**283**	P	**P**	**00 42 46.9**	**-1.9**
STKA	**Stephens Creek**	**40.41**	**247**	eP	**P**	**00 42 54.1**	**0.0**
	0.9nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**40.41**	**247**	P	**P**	**00 42 54.2**	**+0.1**
	1.0nm,0.3s,mb4.0,baz=93,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**47

VLX			*e*Sg	Sg	00 51 57.3	+0.6
VLI	**Veliai**	1.19 215	*e*PN	Pn	00 51 38.8	-1.8
AOS	**Alonnisos**	1.47 3	*e*Pg	Pg	00 51 46.0	-1.2
APE	**Apeiranthos**	1.53 114	*e*Pg	Pg	00 51 47.8	-0.5
NEO	**Neokhori**	1.66 345	*e*PN	Pn	00 51 48.1	+1.0
XOR	**Xorichti**	1.73 345	*e*Pb	Pb	00 51 49.6	-0.4
AGG	**Agios Georgios**	1.75 320	*e*Pb	Pb	00 51 50.1	-0.2
AGG			*e*Sb	Sb	00 52 11.3	-0.6
CHOS	**Chios island**	1.92 68	*e*Pb	Pb	00 51 54.5	+1.2
THL	**Klokotos Trika**	2.32 324	*e*Pn	Pn	00 51 57.8	+1.7

*IDC **23** 01:02:30.7±4.5, 4.35S×145.45E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.2/27, Error ellipse: s-maj=93.7km s-min=54.0km az=164.0*
*ISCJB **23** 01:02:38.6±4.0, 47S±02×145.4E±02, h54km±33km, mb3.7/5, Error ellipse: s-maj=33.2km s-min=25.3km az=32.9*
*NEIC **23** 01:02:38.5±3.4, 4.58S×145.36E, h43km±30km, mb3.7/2, Error ellipse: s-maj=30.2km s-min=23.9km az=142.0*

ISC 23 01:02:40.0±3.6, 47S±02×1454E±02, h55km±29km, n9, σ1§03/10, mb3.7/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 16nm,0.5s	**5.02**	**160**	*e*Pn	**Pn**	**01 03 52.6**	**-0.3**
PMG				*e*Sn	**Sn**	**01 04 49.0**	**-0.6**
COEN	**Coen**	**9.48**	**193**	*e*Pn	**Pn**	**01 04 56.6**	**+2.5**
WRAB	**Tennant Creek** 2.1nm,0.7s	**18.60**	**214**	*e*P	**Pn**	**01 06 53.2**	**-0.4**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=40,slow=12,SNR=7.6	**18.61**	**214**	P	**Pn**	**01 06 52.1**	**-1.7**
ASAR	**Alice Springs** 0.5nm,0.5s,mb3.2,baz=41,slow=7.7,SNR=6.3	**21.90**	**209**	P	**P**	**01 07 29.9**	**+1.3**
FITZ	**Fitzroy Crossi** 2.4nm,0.7s,mb3.8,baz=52,slow=11,SNR=7.6	**23.48**	**234**	P	**P**	**01 07 44.5**	**-0.5**
FITZ				LR	LR	01 18 54.5	
STKA	**Stephens Creek** 1.9nm,0.8s,mb3.7,baz=7.8,slow=7.1,SNR=3.1	**27.30**	**187**	P	**P**	**01 08 19.9**	**+0.4**
BRVK	**Borovoye** 0.6nm,0.6s,mb3.9	**84.83**	**324**	*e*P	**P**	**01 15 08.2**	**-0.4**
QSPA	**South Pole Qui** 0.8nm,0.7s,mb4.0,baz=5.3,slow=2.1,SNR=4.6	**85.29**	**180**	P	**P**	**01 15 10.9**	**+0.5**

*IDC **23** 01:07:53.3±2.3, 1.157S×118.36E, h0km, mb3.5/1, mb1 3.4/4, mb1mx3.3/16, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=115.3km s-min=18.4km az=42.0*
*ISCJB **23** 01:07:54.7±1.8, 12.1S±04×117.8E±04, h33km, Error ellipse: s-maj=76.3km s-min=12.9km az=40.5*

ISC 23 01:07:56.2±5.8, 115S±04×1184E±04, h17km±41km, n4, σ1§20/6, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=307,slow=12,SNR=4.2	**9.60**	**134**	Pn	**Pn**	**01 10 12.9**	**-0.8**
FITZ				Sn	**Sn**	**01 12 01.7**	**+0.5**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=292,slow=13,SNR=3.8	**17.48**	**121**	P	**Pn**	**01 12 00.7**	**+1.3**
WRA				S	**Sn**	**01 15 13.2**	**-0.6**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=302,slow=11,SNR=4.2	**19.08**	**131**	P	**Pn**	**01 12 18.6**	**-0.3**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=139,slow=7.1,SNR=3.4	**66.41**	**334**	P	**P**	**01 18 44.3**	**-0.1**

IDC 23 01:15:24.9±5.5, 3911N×11033E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=115.9km s-min=25.3km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.1nm,0.3s,baz=160,slow=15,SNR=7.8	**9.17**	**343**	Pn	Pn	01 17 40.1	+1.7
SONM	0.1nm,0.3s,baz=155,slow=18,SNR=3.0			Sn	Sn	01 19 20.1	-2.2
SONM	0.0nm,0.3s,baz=160,slow=27,SNR=3.7			Lg		01 20 12.4	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=101,slow=12,SNR=5.6	**21.83**	**300**	P	P	01 20 19.2	+0.5
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=14,slow=8.7,SNR=7.5	**22.84**	**209**	P	P	01 20 29.1	-0.5

*ISCJB **23** 01:15:34.8±0.5, 3.556N×104.16E±006, h75km±3km, mb3.5/10, Error ellipse: s-maj=9.2km s-min=5.3km az=146.0*
*JMA **23** 01:15:34.6±0.2, 3.565N×140.20E, h68km±2km, M3.0*
*MOS **23** 01:15:34.9±1.0, 3.549N×140.99E, h78km, mb4.2/2, Error ellipse: s-maj=50.6km s-min=14.1km az=132.1*
*IDC **23** 01:15:35.7±4.0, 3.555N×140.25E, h70km±29km, mb3.3/8, mb1 3.4/9, mb1mx3.4/22, mbtmp3.4/9, MS2.5/1, Ms1 2.5/1, ms1mx2.2/19, Error ellipse: s-maj=54.8km s-min=7.1km az=66.0*
*NEIC **23** 01:15:35.9±2.8, 3.555N×140.17E, h68km±17km, mb4.1/2, Error ellipse: s-maj=47.0km s-min=14.2km az=71.0*

ISC 23 01:15:35.8±0.5, 3557N±004×14016E±006, h68km±4km, n31, σ0§79/40, mb3.5/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.15**	**166**	P	**Pn**	**01 15 45.8**	**-0.2**
JCN				S	**Sn**	**01 15 54.7**	**+1.4**
TOK	**Tokyo**	**0.35**	**290**	S	**Sn**	**01 15 55.9**	**+0.6**
BSO3	**Boso 3**	**0.82**	**159**	P	**Pn**	**01 15 51.1**	**-0.8**
BSO3				S	**Sn**	**01 16 04.7**	**+0.9**
JOD2	**Odawara 2**	**0.93**	**251**	P	**Pn**	**01 15 52.8**	**-0.4**
JOD2				S	**Sn**	**01 16 05.9**	**-0.2**
JAG	**Ashikaga**	**1.03**	**326**	P	**Pn**	**01 15 53.3**	**-1.2**
JIM2	**Oshima 3**	**1.04**	**215**	P	**Pn**	**01 15 53.9**	**-0.7**
JIM2				S	**Sn**	**01 16 08.5**	**-0.1**
JRY	**Ryogami san**	**1.11**	**294**	P	**Pn**	**01 15 55.5**	**-0.1**
BSO1	**Boso 1**	**1.13**	**143**	P	**Pn**	**01 15 54.3**	**-1.6**
BSO1				S	**Sn**	**01 16 10.9**	**+0.1**
JYN	**Shimob**	**1.32**	**267**	P	**Pn**	**01 15 58.2**	**-0.1**
JIZS	**Izushimoda**	**1.35**	**231**	P	**Pn**	**01 15 58.4**	**-0.3**
JIZS				S	**Sn**	**01 16 16.0**	**+0.2**
JKT	**Katashina**	**1.40**	**329**	P	**Pn**	**01 15 58.8**	**-0.6**
MJAR	**Matsushiro Arr** 17nm,0.3s,baz=117,slow=12,SNR=50	**1.85**	**302**	P	**Pn**	**01 16 05.2**	**-0.2**
MJAR	9.4nm,0.3s,baz=304,slow=42,SNR=11			S	**Sn**	**01 16 29.4**	**+1.5**
MJAR	**Matsushiro Arr**	**1.85**	**302**	P	**Pn**	**01 16 05.2**	**-0.2**
MJAR				S	**Sn**	**01 16 29.4**	**+1.6**
MAJO	**Matsushiro**	**1.86**	**302**	*e*P	**Pn**	**01 16 06.3**	**+0.9**
MAT	**Matsushiro**	**1.86**	**302**	P	**Pn**	**01 16 05.2**	**-0.2**
MAT				*e*S	**Sn**	**01 16 25.1**	**-2.8**
JHJ	**Hachijo jima 2** 27nm,0.3s,baz=57,slow=14,SNR=12	**2.46**	**187**	P	**Pn**	**01 16 14.3**	**+0.6**
JHJ	62nm,0.3s,baz=118,slow=21,SNR=9.7			S	**Sn**	**01 16 42.8**	**+0.1**
KSRS	**Korea Array** comp=Z,27nm,19.8s,baz=230,slow=36	**10.03**	**284**	LR	LR	01 21 41.1	
SONM	**Songino Array** 0.2nm,0.5s,mb2.9,baz=72,slow=9.3,SNR=2.0	**27.80**	**307**	P	**P**	**01 21 18.0**	**-0.3**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,mb3.5,baz=104,slow=6.1,SNR=2.5	**42.17**	**314**	P	**P**	**01 23 22.3**	**+0.8**
ZAL	**Zalesovo**	**42.18**	**314**	P	**P**	**01 23 22.3**	**+0.7**
MKAR	**Makanchi Array** 0.9nm,0.8s,mb3.6,baz=96,slow=10.0,SNR=4.8	**44.05**	**303**	P	**P**	**01 23 37.2**	**+0.5**
MKAR	**Makanchi Array**	**44.05**	**303**	P	**P**	**01 23 37.2**	**+0.5**
KURK	**Kurchatov**	**46.05**	**309**	*e*P	**P**	**01 23 52.4**	**-0.2**
KURK	comp=Z,2.0nm,0.8s,mb3.9			pmax	pmax		
KURK	**Kurchatov** comp=Z,2.0nm,0.8s,mb3.9	**46.05**	**309**	*e*P	**P**	**01 23 52.4**	**-0.2**
KURK				*e*pP	pP	01 24 04.0	-5.6
TKM2	**Tokmak 2**	**49.45**	**299**	*e*P	**P**	**01 24 19.9**	**+1.0**
TKM2	comp=Z,2.0nm,0.9s,mb4.0			pmax	pmax		
TKM2	**Tokmak 2** comp=Z,1.5nm,0.9s,mb3.9	**49.45**	**299**	*e*P	**P**	**01 24 19.9**	**+1.0**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.4s,mb3.7,baz=1.9,slow=7.5,SNR=4.9	**55.48**	**187**	P	**P**	**01 25 02.9**	**-0.8**
ASAR	**Alice Springs** comp=Z,0.2nm,0.5s,mb3.5,baz=11,slow=10,SNR=3.1	**59.21**	**187**	P	**P**	**01 25 30.5**	**+0.7**
ARCES	**Array Array B** comp=Z,1.0nm,0.9s,mb3.6,baz=52,slow=9.4,SNR=3.0	**65.01**	**339**	P	**P**	**01 26 08.8**	**+0.6**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.4s,mb3.7,baz=44,slow=6.1,SNR=6.4	**74.83**	**322**	P	**P**	**01 27 07.7**	**-1.1**
NOA	**NORSAR Array B** comp=Z,0.2nm,0.5s,mb3.1,baz=34,slow=6.5,SNR=2.8	**75.14**	**337**	P	**P**	**01 27 10.6**	**+0.3**

BJI 23 01:24:10.2, 4497N×9186E, h13km, ML3.5, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.20**	**250**	*e*PG	Pg	01 25 08.6	-2.9
WMQ				SG	Sg	01 25 48.4	-4.5
WMQ	comp=N,158nm,0.6s			Smax			
WMQ	comp=E,224nm,0.6s			Smax			
MK31	**Makanchi Array** comp=E,5.5nm,1.0s,baz=100,slow=14,SNR=12	**6.92**	**289**	Pn	Pn	01 25 52.7	+1.4
MK31	comp=E,0.5nm,0.3s,baz=98,slow=26,SNR=6.7			Lg		01 27 44.3	

*TIR **23** 01:30:53.7±1.4, 3.936N×20.16E, h20km±8km*
*ATH **23** 01:30:54.5, 3.924N×2027E, h19km±1km, MD3.4/8*
*ISCJB **23** 01:30:54.7±0.4, 3.927N±002×2020E±003, h10km, Error ellipse: s-maj=3.5km s-min=2.7km az=174.4*
*NEIC **23** 01:30:55.5, 3.930N×2028E, h0km, MD3.4(ATH), ML3.2(THE), After THE.*
*THE **23** 01:30:55.5, 3.930N×2028E, h0km, ML3.2*
*CSEM **23** 01:30:56.3±0.1, 3.930N×2026E, h8km, ML3.2, Error ellipse: s-maj=2.4km s-min=2.0km az=31.0*

ISC 23 01:30:55.2±0.5, 3930N±002×2026E±003, h0km±3km, n50, σ0§94/90, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.24**	**13**	*e*Pg	**Pg**	**01 30 59.6**	**-0.3**
IGT				*e*Sg	**Sg**	**01 31 03.7**	**+0.6**
IGT	**Igoumenitsa**	**0.24**	**13**	*i* PG	**Pg**	**01 30 59.6**	**-0.3**
IGT				*i* SG	**Sg**	**01 31 03.7**	**+0.6**
KEK	**Kerkira**	**0.55**	**320**	*e*PN	**Pg**	**01 31 05.9**	**+0.1**
KEK				*e*SN	**Sg**	**01 31 14.9**	**+2.0**
JAN	**Janina**	**0.58**	**52**	⇓*i* PB	**Pg**	**01 31 06.0**	**-0.4**
JAN				*e*SN	**Sg**	**01 31 15.2**	**+1.2**
LKD	**Levkas**	**0.66**	**152**	*e*Pg	**Pg**	**01 31 07.6**	**-0.3**
LKD				*e*Sg	**Sg**	**01 31 17.9**	**+1.4**
MEV	**Metsovon**	**0.90**	**57**	*e*Pg	**Pg**	**01 31 11.7**	**-0.7**
MEV				*e*Sg	**Sg**	**01 31 24.8**	**+0.8**
MEV	**Metsovon**	**0.90**	**57**	*i* PG	**Pg**	**01 31 11.7**	**-0.7**
MEV				*i* SG	**Sg**	**01 31 24.8**	**+0.8**
VLS	**Valsamata**	**1.15**	**167**	*e*Pg	**Pg**	**01 31 16.0**	**-1.2**
VLS				*e*Sg	**Sg**	**01 31 33.3**	**+1.3**
VLS	**Valsamata**	**1.15**	**167**	*e*Pn	**Pg**	**01 31 15.7**	**-1.5**
VLS	**Valsamata**	**1.15**	**167**	*e*Pg	**Pg**	**01 31 16.0**	**-1.2**
VLS				*e*Sg	**Sg**	**01 31 33.3**	**+1.3**
KFL	**Anninata**	**1.25**	**161**	*e*Pg	**Pg**	**01 31 19.3**	**0.0**
KFL				*e*Sg	**Sg**	**01 31 37.5**	**+2.0**
THL	**Klokotos Trika**	**1.39**	**78**	*e*Pg	**Pg**	**01 31 20.0**	**-1.8**
THL				*e*Sg	**Sg**	**01 31 41.7**	**+1.9**
THL	**Klokotos Trika**	**1.39**	**78**	*e*Pn	**Pn**	**01 31 21.1**	**-0.7**
THL				*e*Sg	**Sg**	**01 31 41.7**	**+1.9**
KZN	**Kozani**	**1.54**	**49**	*e*PN	**Pn**	**01 31 23.7**	**-0.2**
KZN				*e*SN	**Sn**	**01 31 45.0**	**+0.4**
RLS	**Riolos of Patr**	**1.56**	**142**	*e*PN	**Pn**	**01 31 22.6**	**-1.5**
AGG	**Agios Georgios**	**1.63**	**99**	*e*Pg	**Pg**	**01 31 25.0**	**-1.5**
AGG				*e*Sg	**Sg**	**01 31 47.6**	**-0.1**
FNA	**Florina**	**1.72**	**30**	*e*Pb	**Pb**	**01 31 26.1**	**-1.5**
FNA				*e*Sb	**Sb**	**01 31 50.4**	**+0.6**
FNA	**Florina**	**1.72**	**30**	*i* PG	**Pb**	**01 31 26.1**	**-1.5**
FNA				*i* SG	**Sg**	**01 31 50.3**	**-0.1**
FNA	**Florina**	**1.72**	**30**	*e*Pb	**Pb**	**01 31 26.1**	**-1.5**
FNA				*e*Sb	**Sg**	**01 31 50.3**	**-0.1**
OHR	**Ohrid**	**1.86**	**13**	*e*Pb	**Pn**	**01 31 28.2**	**-0.1**
OHR				*e*Sb	**Sn**	**01 31 51.9**	**-0.6**
OHR	**Ohrid**	**1.86**	**13**	*i* PG	**Pn**	**01 31 28.2**	**-0.1**
OHR				*i* SG	**Sn**	**01 31 51.9**	**-0.6**
OHR	**Ohrid**	**1.86**	**13**	*e*Pn	**Pn**	**01 31 27.5**	**-0.8**
OHR				*e*Sn	**Sn**	**01 31 54.0**	**+1.5**
OHR	**Ohrid**	**1.86**	**13**	*e*Pn	**Pn**	**01 31 27.4**	**-0.9**
OHR				*e*Sn	**Sn**	**01 31 54.0**	**+1.5**
LIT	**Litokhoron**	**1.90**	**64**	*e*Pb	**Pb**	**01 31 28.8**	**-1.9**
LIT				*e*Sb	**Sb**	**01 31 53.9**	**-1.2**
LIT	**Litokhoron**	**1.90**	**64**	*e*Pb	**Pb**	**01 31 28.8**	**-1.9**
LIT				*e*Sb	**Sb**	**01 31 53.8**	**-1.2**
BIA	**Bitola**	**1.91**	**25**	*e*Pb	**Pb**	**01 31 29.0**	**-1.8**
BIA				*e*Sb	**Sb**	**01 31 54.8**	**-0.3**
BIA	**Bitola**	**1.91**	**25**	*e*Pn	**Pn**	**01 31 30.3**	**+1.4**
BIA				*e*Sn	**Sn**	**01 31 53.7**	**+0.1**
BIA	**Bitola**	**1.91**	**25**	*e*Pn	**Pn**	**01 31 30.3**	**+1.4**
BIA				*e*Sn	**Sn**	**01 31 53.6**	**0.0**
KRUS	**Krusevo**	**2.21**	**20**	*e*Pn	**Pn**	**01 31 34.0**	**+0.9**
KRUS				*e*Sn	**Sn**	**01 32 02.3**	**+1.3**
LKR	**Lokris**	**2.23**	**106**	*e*Pn	**Pn**	**01 31 33.0**	**-0.3**
LKR				*e*Sn	**Sn**	**01 32 02.6**	**+0.9**
LKR	**Lokris**	**2.23**	**106**	*e*PN	**Pn**	**01 31 32.7**	**-0.7**
LKR	**Lokris**	**2.23**	**106**	*e*Pn	**Pn**	**01 31 33.0**	**-0.4**
LKR				*e*Sn	**Sn**	**01 32 02.6**	**+1.0**
XOR	**Xorichti**	**2.28**	**87**	*e*Pn	**Pn**	**01 31 34.0**	**0.0**
XOR				*e*Sn	**Sn**	**01 32 03.1**	**+0.3**
GRG	**Griva**	**2.33**	**44**	*e*Pn	**Pn**	**01 31 35.2**	**+0.4**
GRG				*e*Sn	**Sn**	**01 32 05.6**	**+1.4**
LTK	**Loutraki**	**2.47**	**120**	*e*Pn	**Pn**	**01 31 35.5**	**-1.2**
LTK				*e*Sn	**Sn**	**01 32 08.6**	**+1.1**
THE	**Thessaloniki**	**2.47**	**56**	*e*Pn	**Pn**	**01 31 36.5**	**-0.2**
THE				*e*Sn	**Sn**	**01 32 07.8**	**+0.3**
HORT	**Hortiatis**	**2.54**	**58**	*e*Pn	**Pn**	**01 31 36.9**	**-0.8**
HORT				*e*Sn	**Sn**	**01 32 09.2**	**-0.1**
PLG	**Polygyros**	**2.68**	**65**	*e*Pn	**Pn**	**01 31 39.3**	**-0.2**
PLG				*e*Sn	**Sn**	**01 32 12.7**	**0.0**
PLG	**Polygyros**	**2.68**	**65**	*e*PN	**Pn**	**01 31 38.9**	**-0.7**
VAY	**Valandovo**	**2.69**	**40**	*e*Pn	**Pn**	**01 31 40.9**	**+1.2**
VAY				*e*Sn	**Sn**	**01 32 11.7**	**-1.2**
VAY	**Valandovo**	**2.69**	**40**	*e*Pn	**Pn**	**01 31 40.8**	**+1.1**
VAY				*e*Sn	**Sn**	**01 32 11.7**	**-1.2**
PAIG	**Paliouri**	**2.72**	**75**	*e*Pn	**Pn**	**01 31 39.8**	**-0.3**
PAIG				*e*Sn	**Sn**	**01 32 13.2**	**-0.4**
AOS	**Alonnisos**	**2.81**	**91**	*e*Pn	**Pn**	**01 31 40.9**	**-0.5**
SOH	**Sokhos**	**2.82**	**56**	*e*Pn	**Pn**	**01 31 41.8**	**+0.3**
SOH				*e*Sn	**Sn**	**01 32 16.3**	**+0.1**
OUR	**Ouranopolis**	**3.05**	**69**	*e*Pn	**Pn**	**01 31 44.5**	**-0.1**
OUR				*e*Sn	**Sn**	**01 32 22.4**	**+0.6**
OUR	**Ouranopolis**	**3.05**	**69**	*e*Pn	**Pn**	**01 31 44.5**	**-0.2**
SG1	**Sgolgore (BA)**	**3.15**	**300**	*e*Pn	**Pn**	**01 31 45.5**	**-0.5**
RGNG	**Rignano Grg**	**4.28**	**305**	Pn	**Pn**	**01 32 01.3**	**-0.3**
FG2	**Serracapriola**	**4.62**	**304**	Pn	**Pn**	**01 32 06.1**	**-0.2**
NRCA	**Norcia** 4.0nm,0.4s	**6.45**	**306**	Pn	**Pn**	**01 32 31.8**	**+0.4**

*MOS **23** 01:52:19.2±1.5, 4.056N×48.58E, h13km, mb4.9/30, Error ellipse: s-maj=5.2km s-min=3.1km az=126.9*
*CSEM **23** 01:52:21.0±0.1, 4.056N×48.62E, h20km, mb4.7/35, Ms3.2, Error ellipse: s-maj=2.8km s-min=1.8km az=8.0*
*TIF **23** 01:52:22.2, 4.053N×48.41E, h15km±2km*
*IDC **23** 01:52:22.8±3.4, 4.068N×48.50E, h22km±22km, mb4.2/23, mb1 4.3/28, mb1mx4.2/32, mbtmp4.2/28, ML4.2/4, MS3.6/25, Ms1 3.6/25, ms1mx3.5/40, Error ellipse: s-maj=14.1km s-min=8.5km az=149.0*
*BJI **23** 01:52:22.2, 4.098N×48.18E, h34km, mB4.9, mb4.8, Ms4.4, Msz4.2*
*NEIC **23** 01:52:23.8±1.6, 4.064N×48.52E, h28km±12km, mb4.6/50, ML4.5(TIF), Error ellipse: s-maj=8.0km s-min=4.0km az=173.0*
*ISCJB **23** 01:52:23.6±0.2, 4.078N±002×48.57E±002, h33km, mb4.5/88, MS3.8/35, Error ellipse: s-maj=3.5km s-min=2.1km az=171.3*
*NNC **23** 01:52:24.7±2.3, 4.093N×49.05E, h0km, mb4.4, Error ellipse: s-maj=41.3km s-min=14.1km az=101.0*

ISC 23 01:52:24.9±0.4, 4081N±002×4857E±002, h29km±3km, h35km±1.5km; pP-P, n422, σ1§30/458, mb4.5/88, MS3.8/35, 26C-18D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	**Pirkuli** SNR=1000	**0.03**	**138**	P	**Pb**	**01 52 27.3**	**-2.4**
PQL				S	**Sb**	**01 52 32.2**	**-0.9**
SIZA	**Siyzn** SNR=1000	**0.36**	**43**	P	**Pb**	**01 52 34.3**	**+1.1**
SIZA				S	**Sb**	**01 52 45.3**	**+6.5**
KSMR	**Kasumkent**	**0.86**	**337**	*e*Pg	**Pn**	**01 52 42.0**	**+1.0**
KSMR				*e*Sg	**Sb**	**01 52 57.0**	**+4.6**
ALIB	**Ii-Bayraml** SNR=222	**0.92**	**158**	P	**Pn**	**01 52 38.9**	**-2.8**
ALIB				S	**Sn**	**01 52 55.0**	**+1.1**
AKT	**Akhty**	**0.92**	**317**	⇓*i* PG	**Pn**	**01 52 39.0**	**-2.8**
AKT				*i* S	**Sn**	**01 52 54.0**	**-0.1**
GOBA	**Gobu** SNR=272	**0.98**	**114**	P	**Pn**	**01 52 44.0**	**+1.4**
GOBA				S	**Sn**	**01 53 02.9**	**+7.5**
NDR	**Nardaran** SNR=106	**1.10**	**102**	P	**Pn**	**01 52 46.0**	**+1.7**
NDR				S	**Sn**	**01 53 05.6**	**+7.0**
SEKA	**Sheki** SNR=785	**1.11**	**291**	P	**Pn**	**01 52 43.3**	**-1.1**
SEKA				S	**Sn**	**01 53 00.6**	**+1.9**
BRDA	**Brd** SNR=76	**1.19**	**243**	P	**Pn**	**01 52 43.2**	**-2.3**
BRDA				S	**Sn**	**01 53 01.0**	**+0.3**
DRN	**Derbent**	**1.23**	**352**	*e*PG	**Pn**	**01 52 48.0**	**+1.9**
GALA	**Gala** SNR=7.2	**1.27**	**108**	P	**Pn**	**01 52 48.4**	**+1.7**
URKR	**Urkarakh**	**1.52**	**333**	*e*Pn	**Pn**	**01 52 49.5**	**-0.6**
URKR				*i* Sg	**Sn**	**01 53 17.0**	**+8.0**
GLBA	**Cliilabad**	**1.57**	**185**	S	**Sn**	**01 53 08.1**	**-2.0**
GANJ	**Ganja** SNR=38	**1.71**	**265**	P	**Pn**	**01 52 50.5**	**-2.2**
GANJ				S	**Sn**	**01 53 13.6**	**0.0**
KMKR	**Kumukh**	**1.72**	**321**	⇓*i* PN	**Pn**	**01 52 54.0**	**+1.2**
KMKR				*i* S	**Sn**	**01 53 24.0**	**+10**
SGKR	**Sergokala**	**1.78**	**338**	*e*Pn	**Pn**	**01 52 56.0**	**+2.3**
SGKR				*e*Sg	**Sn**	**01 53 23.0**	**+7.6**
GNBR	**Gunib**	**1.98**	**323**	*e*Pn	**Pn**	**01 53 00.0**	**+3.6**
MNSR	**Manas**	**2.00**	**342**	PN	**Pn**	**01 53 05.9**	**+9.3**
ARKR	**Arakani**	**2.14**	**327**	*e*Pn	**Pn**	**01 53 00.0**	**+1.4**
XNZR	**Khunzakh**	**2.22**	**322**	Pn	**Pn**	**01 53 01.0**	**+1.3**
BUJR	**Buynaksk**	**2.29**	**332**	Pn	**Pn**	**01 53 04.5**	**+3.9**
MAK	**Makhachkala**	**2.29**	**340**	*e*PN	**Pn**	**01 53 05.7**	**+5.0**
MAK				*e*S	**Sn**	**01 53 42.1**	**+14**
MAK				*i*		01 53 47.0	
MAK	comp=Z,2μm,1.1s			pmax	pmax		
MAK	comp=Z,3μm,10.0s			MLR	MLR		
MAK	**Makhachkala** comp=Z,2μm,1.1s	**2.29**	**340**	*e*Pn	**Pn**	**01 53 05.7**	**+5.0**
MAK	comp=Z,3μm,10.0s			*i* Sg	**Sn**	**01 53 47.0**	**+19**
KRNR	**Karanay**	**2.37**	**329**	*e*PN	**Pn**	**01 53 10.0**	**+8.3**
DGRG	**David-gareji**	**2.50**	**286**	Pn	**Pn**	**01 53 05.1**	**+1.6**
DGRG				S	**Sn**	**01 53 39.5**	**+6.6**
DGRG	**David-gareji**	**2.50**	**286**	P	**Pn**	**01 53 05.1**	**+1.6**
DGRG				S	**Sn**	**01 53 39.5**	**+6.6**
DGRG	**David-gareji**	**2.50**	**286**	P	**Pn**	**01 53 05.1**	**+1.6**
DGRG				S	**Sn**	**01 53 39.5**	**+6.6**
DBC	**Dubki**	**2.56**	**330**	PN	**Pn**	**01 53 06.0**	**+1.6**
NAX	**Nakhchivan** SNR=109	**2.87**	**236**	P	**Pn**	**01 53 08.6**	**0.0**
NAX				S	**Sn**	**01 53 46.2**	**+4.0**
MTA	**Mtatsminda**	**2.98**	**288**	P	**Pn**	**01 53 11.1**	**+1.0**
MTA				S	**Sn**	**01 53 54.1**	**+9.2**
GNI	**Garni**	**2.99**	**259**	*e*P	**Pn**	**01 53 10.0**	**-0.3**
GNI	**Garni** comp=Z,8.6nm,0.3s,baz=345,slow=2.9,SNR=27	**2.99**	**259**	Pn	**Pn**	**01 53 10.0**	**-0.3**
GNI	comp=Z,51nm,0.3s,baz=236,slow=20,SNR=7.2			Lg		01 53 54.4	
GNI	comp=Z,790nm,19.3s,baz=82,slow=44			LR	LR	01 54 32.4	
GNI	**Garni**	**2.99**	**259**	*e*Pn	**Pn**	**01 53 10.1**	**-0.2**
GNI	**Garni**	**2.99**	**259**	*e*Pn	**Pn**	**01 53 10.1**	**-0.2**
TBLG	**Delisi**	**3.03**	**289**	P	**Pn**	**01 53 12.0**	**+1.2**
TBLG				S	**Sn**	**01 54 04.2**	**+18**
TBLG	**Delisi**	**3.03**	**289**	P	**Pn**	**01 53 12.0**	**+1.2**
GOR	**Gori**	**3.55**	**291**	P	**Pn**	**01 53 19.8**	**+1.8**
GOR				S	**Sn**	**01 54 04.6**	**+5.6**
CLDR	**Caldiran**	**3.94**	**247**	*e*P	**Pn**	**01 53 24.9**	**+1.6**
DYDN	**Diyadin**	**3.95**	**253**	*i* P	**Pb**	**01 53 33.6**	**0.0**
KARS	**Kars**	**4.17**	**269**	*e*P	**Pn**	**01 53 32.4**	**+6.0**
ONI	**Oni**	**4.22**	**296**	P	**Pn**	**01 53 29.3**	**+2.1**
ONI				S	Sn	01 54 46.2	+31
AGRB	**Hanur-Agry**	**4.45**	**256**	*e*P	**Pn**	**01 53 32.1**	**+1.9**
VANB	**Van**	**4.57**	**243**	*e*P	**Pn**	**01 53 39.9**	**+8.0**
VANT	**Van**	**4.64**	**241**	*e*P	**Pn**	**01 53 42.2**	**+9.2**
KUBR	**Kubataba**	**4.85**	**310**	*e*Pn	**Pn**	**01 53 34.4**	**-1.5**
HAKT	**HAKKARI**	**4.98**	**231**	*i* P	**Pn**	**01 53 44.6**	**+7.0**
ARTV	**Artvin**	**5.04**	**276**	*e*P	**Pn**	**01 53 41.5**	**+3.1**
HOMI	**Horasan**	**5.14**	**264**	*i* P	**Pn**	**01 53 46.6**	**+6.8**
PYA	**Pyatigorsk**	**5.20**	**310**	*e*PN	**Pn**	**01 53 39.1**	**-1.5**
SHAR	**Shatzhatmas**	**5.27**	**306**	*e*P	**Pn**	**01 53 42.7**	**+1.

AKTO LR LR 02 00 47.5
comp=N,202nm,21.4s,baz=54,slow=43
AKTO Aktyubinsk 11.67 31 *eP* **Pn 01 55 08.8 -0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.5s
AKTO Aktyubinsk 11.67 31 Pn **Pn 01 55 08.8 -0.4**
comp=Z,2.2nm,0.6s
AKTO Sn **Sn 01 57 16.5 -1.9**
comp=Z,2.9nm,0.7s
RDF Al-Radifah 11.89 184 *eP* **Pn 01 55 07.5 -4.8**
baz=185
RDF AMb AMB 01 55 13.1
comp=Z,32nm,1.1s,baz=185
VRSR Storozhevoye 12.27 331 *eP* **Pn 01 55 17.5 +0.1**
VRSR pmax pmax
comp=N,1.0nm,0.6s
VRSR pmax pmax
comp=Z,1.0nm,0.6s
VRSR pmax pmax
comp=E,3.0nm,1.1s
VOR Voronezh 12.69 333 *eP* **Pn 01 55 22.0 -1.2**
VOR pmax pmax
comp=N,140nm,1.2s
VOR Voronezh 12.69 333 *eP* **Pn 01 55 22.0 -1.2**
comp=N,140nm,1.2s
ASF Jabal al Asfar 12.74 231 Pn **Pn 01 55 25.2 +1.2**
comp=N,0.1nm,0.3s,baz=302,slow=13,SNR=3.9
ASF LR LR 02 00 46.6
comp=N,120nm,21.4s,baz=57,slow=40
MMAI Mount Meron Ar 13.09 238 Pn **Pn 01 55 30.7 +2.0**
comp=N,0.3nm,0.3s,baz=25,slow=3.8,SNR=2.8
MMAI LR LR 02 01 13.9
comp=N,220nm,18.4s,baz=25,slow=41
TLCR 15.09 293 ⇓*iP* **Pn 01 55 57.0 +1.1**
TLCR 15.09 293 ⇓P **Pn 01 55 57.0 +1.1**
TIRR Tirgusor 15.27 290 *eP* **Pn 01 55 57.4 -0.8**
TIRR pmax pmax
comp=Z,10.0nm,0.8s
TIRR Tirgusor 15.27 290 ⇓*iP* **Pn 01 55 58.0 -0.2**
TIRR Tirgusor 15.27 290 *e*Pn **Pn 01 55 57.4 -0.8**
comp=Z,9.8nm,0.8s
TIRR *e*P 01 56 02.6
PSN Preselentsi 15.36 287 P **Pn 01 56 04.3 +4.8**
KIS Kishinev 15.50 300 *eP* **Pn 01 56 00.0 -1.2**
KIS LRM 02 03 35.0
comp=Z,400nm,13.0s
KIS Kishinev 15.50 300 *eP* **Pn 01 56 00.0 -1.2**
comp=Z,400nm,13.0s
HARR Harsova 15.64 291 ⇑*iP* **Pn 01 56 04.7 +1.7**
HARR Harsova 15.64 291 ⇑P **Pn 01 56 04.7 +1.7**
EIL Elat 15.70 229 LR LR 02 02 29.9
comp=Z,155nm,19.4s,baz=50,slow=39
PRD Provadia 15.91 286 P **Pn 01 56 10.5 +3.9**
OBN Obninsk 16.38 335⇑*eP* **Pn 01 56 09.8 -2.6**
OBN pmax pmax
comp=Z,22nm,0.8s
OBN MLR MLR
comp=Z,400nm,22.0s
OBN Obninsk 16.38 335 *eP* **Pn 01 56 09.8 -2.6**
comp=Z,400nm,22.0s
OBN Obninsk 16.38 335 *e*Pn **Pn 01 56 10.4 -2.0**
comp=Z,48nm,1.0s
KK31 Karatay Array 16.48 75 ⇑P **Pn 01 56 12.1 -1.7**
comp=Z,5.4nm,0.5s,baz=289,slow=12,SNR=122
MOS Moscow 16.59 338⇑*iP* **Pn 01 56 17.8 +2.8**
MOS pmax pmax
comp=Z,199nm,1.1s
MOS Moscow 16.59 338 *i* P **Pn 01 56 17.8 +2.8**
comp=Z,199nm,1.1s
VRI Vrincioaia 16.66 295 ⇓*iP* **Pn 01 56 16.5 +0.5**
VRI Vrincioaia 16.66 295 ⇓P **Pn 01 56 16.5 +0.5**
AKASG Malin Array Be 16.69 313 Pn **Pn 01 56 14.2 -2.2**
comp=Z,0.8nm,0.3s,baz=118,slow=12,SNR=16
KIEV Kiev 16.69 313 *eP* **Pn 01 56 16.5 +0.1**
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 16.69 313 *eP* **Pn 01 56 16.5 +0.1**
comp=Z,11nm,0.8s
KIEV Kiev 16.69 313 *e*Pn **Pn 01 56 16.5 +0.1**
comp=Z,11nm,0.8s
PLOR Plostina 16.71 295⇑*iP* **Pn 01 56 17.6 +0.9**
ARU Arti 16.94 19*d iP* **Pn 01 56 17.1 -2.4**
ARU *e*S **Sn 01 59 25.2 -1.5**
ARU pmax pmax
comp=Z,24nm,0.8s
ARU MLR MLR
comp=Z,267nm,15.0s
ARU Arti 16.94 19 *i* P **Pn 01 56 17.1 -2.4**
comp=Z,24nm,0.8s
ARU *e*S **Sn 01 59 25.2 -1.5**
comp=Z,267nm,15.0s
ARU Arti 16.94 19 *e*Pn **Pn 01 56 16.7 -2.8**
comp=Z,43nm,0.8s
ARU *e*Sn **Sn 01 59 18.9 -7.8**
MLR Muntele Rosu 17.14 293⇑*iP* **Pn 01 56 23.4 +1.3**
MLR Muntele Rosu 17.14 293 ⇑P **Pn 01 56 23.4 +1.3**
KBL Kabul 17.36 105 *eP* **Pn 01 56 26.5 +1.6**
comp=Z,58nm,1.2s
KBL Kabul 17.36 105 *eP* **Pn 01 56 26.4 +1.6**
comp=Z,58nm,1.2s
VOIR 17.76 293⇑*iP* **Pn 01 56 31.3 +1.5**
VOIR 17.76 293 ⇑P **Pn 01 56 31.2 +1.5**
SVE Sverdlovsk 17.84 22⇓*eP* **Pn 01 56 29.6 -1.1**
SVE *e*S **Sn 01 59 41.5 -7.1**
SVE pmax pmax
comp=Z,164nm,0.7s
SVE MLR MLR
comp=Z,252nm,13.0s
SVE Sverdlovsk 17.84 22 *eP* **Pn 01 56 29.6 -1.1**
comp=Z,164nm,0.7s
SVE *e*S **Sn 01 59 41.5 -7.1**
comp=Z,252nm,13.0s
BURAR Bucovina Array 18.03 300 ⇓*iP* **Pn 01 56 33.3 +0.2**
BURAR Bucovina Array 18.03 300 ⇓P **Pn 01 56 33.3 +0.3**
OUR Ouranopolis 18.67 277 *eP* **Pn 01 56 38.0 -2.9**
SRS Serrai 18.85 279 *eP* **Pn 01 56 42.1 -1.1**
AML Almayashu 18.86 78 P **Pn 01 56 46.0 +2.8**
SNR=15
AML Almayashu 18.86 78 *eP* **Pn 01 56 43.0 -0.2**
comp=Z,10nm,0.8s
AML Almayashu 18.86 78 *eP* **Pn 01 56 43.0 -0.3**
comp=Z,10nm,0.8s
EKS2 Erkin-Say 18.89 76 P **Pn 01 56 43.2 -0.4**
SNR=54
EKS2 Erkin-Say 18.89 76 *eP* **Pn 01 56 42.9 -0.7**
comp=Z,40nm,0.8s
EKS2 Erkin-Say 18.89 76 *eP* **Pn 01 56 42.9 -0.6**
comp=Z,40nm,0.8s
PAIG Paliouri 18.97 275 *eP* **Pn 01 56 40.3 -4.3**
LAST Lasithi 19.03 260 *eP* **Pn 01 56 41.5 -3.8**
PLG Polygyros 19.07 277 *eP* **Pn 01 56 43.6 -2.1**
SOH Sokhos 19.07 278 *eP* **Pn 01 56 48.3 +2.5**
BRVK Borovoye 19.14 43 *eP* **Pn 01 56 44.7 -1.8**
KKB Krupnik 19.15 282 P **Pn 01 56 46.9 +0.2**
BVA0 Borovoye Array 19.18 43 P **Pn 01 56 45.8 -1.2**
comp=Z,3.4nm,0.9s,baz=230,slow=11,SNR=128
BVA0 Borovoye Array 19.18 43 *i* P **Pn 01 56 45.7 -1.3**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 19.18 43 P **Pn 01 56 45.7 -1.3**
comp=Z,1.2nm,0.3s,baz=226,slow=10,SNR=67
BVAR S **Sn 02 00 17.4 -3.5**
comp=Z,0.6nm,0.3s,baz=230,slow=24,SNR=4.2
BVAR LR LR 02 05 33.2
comp=Z,292nm,18.7s,baz=241,slow=41
BVAR Borovoye Array 19.18 43 P **Pn 01 56 45.7 -1.3**
BVAR S **Sn 02 00 17.4 -3.5**
HORT Hortiatis 19.30 278 *eP* **Pn 01 56 47.3 -1.2**
VOSK Vostochnaya 19.34 44 ⇓P **Pn 01 56 46.9 -2.0**
comp=Z,28nm,0.9s
THE Thessaloniki 19.39 278 *eP* **Pn 01 56 47.4 -2.2**
AAK Ala-Archa 19.42 76 P **Pn 01 56 49.2 -0.7**
SNR=14
IDI Anoyia 19.42 261 P **Pn 01 56 46.5 -3.5**
comp=Z,0.5nm,0.3s,baz=34,slow=11,SNR=7.3
IDI LR LR 02 05 38.9
comp=Z,153nm,21.5s,baz=64,slow=41
XOR Xorichti 19.45 274 *eP* **Pn 01 56 49.8 -0.5**
SOKR Solikamsk 19.48 13 *i* P **Pn 01 56 50.5 +0.1**
SOKR pmax pmax
comp=Z,80nm,0.9s
SOKR MLR MLR
comp=Z,320nm,19.0s
SOKR Solikamsk 19.48 13 *i* P **Pn 01 56 50.5 +0.1**
comp=Z,320nm,19.0s
FRU Bishkek 19.50 75 *eP* **Pn 01 56 51.0 +0.1**
FRU pmax pmax
comp=Z,100nm,2.0s
FRU Bishkek 19.50 75 *eP* **Pn 01 56 51.0 +0.1**
comp=Z,100nm,2.0s
DRGR 19.55 296⇑*iP* **Pn 01 56 50.4 -1.1**
DRGR 19.55 296 ⇑P **Pn 01 56 50.4 -1.0**
CHMS Chumysh 19.59 75 P **Pn 01 56 50.8 -1.1**
SNR=7.0
KBK Karagaybulak 19.75 76 P **Pn 01 56 55.5 +1.6**
SNR=8.0
LKR Lokris 19.77 272 *eP* **Pn 01 56 51.9 -2.2**
LKR Lokris 19.77 272 P **Pn 01 56 51.8 -2.3**
GRG Griva 19.77 279 *eP* **Pn 01 56 50.1 -4.0**
LIT Litokhoron 19.84 277 *eP* **Pn 01 56 49.8 -5.1**
DID Didima 19.90 269 *eP* **Pn 01 56 50.2 -5.4**
LTK Loutraki 19.95 270 *eP* **Pn 01 56 50.7 -5.6**
KARN Karanos 20.11 262 *eP* **P 01 56 50.9 -5.3**
KWP Kalwaria 20.16 305 *eP* **P 01 56 56.2 -0.4**
KWP *e* 01 56 59.5
KWP Kalwaria 20.16 305⇑*iP* **P 01 56 56.9 +0.3**
KWP Kalwaria 20.16 305 *eP* **P 01 56 56.2 -0.4**
KWP *e* 01 56 59.5
UZH Uzhgorod 20.17 302 *eP* **P 01 56 57.2 +0.4**
UZH *i* 01 57 01.6
UZH *i* 01 57 11.0
UZH *i* 01 57 24.8
UZH *e*S **S 02 00 40.0 -1.5**
BZS Buzias 20.18 293⇓*iP* **P 01 56 56.0 -0.9**
BZS Buzias 20.18 293 ⇓P **P 01 56 56.0 -0.8**
AGG Agios Georgios 20.18 274 *eP* **P 01 56 56.1 -0.9**
TKM2 Tokmak 2 20.21 75 ⇓P **P 01 56 57.2 -0.1**
comp=Z,21nm,1.0s
TKM2 Tokmak 2 20.21 75 *eP* **P 01 56 56.6 -0.7**
TKM2 pmax pmax
comp=Z,20nm,0.9s
TKM2 Tokmak 2 20.21 75 P **P 01 56 56.9 -0.3**
SNR=34
TKM2 Tokmak 2 20.21 75 *eP* **P 01 56 56.6 -0.7**
comp=Z,20nm,0.9s
KOLS Kolonicke sedl 20.25 302 *eP* **P 01 56 57.8 +0.1**
THL Klokotos Trika 20.30 275 *eP* **P 01 56 57.5 -0.8**
FNA Florina 20.56 279 *eP* **P 01 56 59.4 -1.7**
VLX Vlachokerasia 20.59 269 *eP* **P 01 57 00.4 -1.0**
ULHL Ulahol 20.74 77 P **P 01 57 04.6 +1.7**
SNR=21
CRVS Cervenica-Dubn 20.77 302 *eP* **P 01 57 03.0 -0.2**
CRVS *e*pP 01 57 08.3
KLMR Klimovskoe 20.83 347*c iP* **P 01 57 01.9 -1.9**
KLMR *i* S **S 02 00 50.0 -4.4**
KLMR MLR MLR
comp=Z,536nm,15.0s,MS4.0
KLMR Klimovskoe 20.83 347 *i* P **P 01 57 01.9 -1.9**
MEV Metsovon 20.85 276 *eP* **P 01 57 07.8 +3.5**
STHS Stebnicka Huta 21.02 303 *eP* **P 01 57 04.9 -1.1**
STHS *e* 01 57 22.5
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.0
STHS Stebnicka Huta 21.02 303 *eP* **P 01 57 04.9 -1.1**
comp=Z,6.2nm,0.7s,mb4.0
STHS *e* 01 57 22.5
DIVS Divibare 21.29 288 *eP* **P 01 57 08.7 -0.3**
KECS Kecovo 21.32 301 *eP* **P 01 57 08.9 -0.2**
KECS pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
KECS Kecovo 21.32 301 *eP* **P 01 57 08.9 -0.2**
comp=Z,9.2nm,0.8s,mb4.2
SUW Suwalki 21.52 316 *eP* **P 01 57 06.7 -4.6**
SUW Suwalki 21.52 316 *eP* **P 01 57 09.9 -1.4**
SUW pmax pmax
comp=Z,51nm,0.9s,mb5.0
SUW Suwalki 21.52 316 *eP* **P 01 57 09.9 -1.4**
comp=Z,51nm,0.9s,mb5.0
LKD Levkas 21.53 274 *eP* **P 01 57 07.2 -4.4**
IGT Igoumenitsa 21.58 276 *eP* **P 01 57 11.0 -1.0**
PSZ Piszkesteto 21.61 299⇓*eP* **P 01 57 14.9 +2.6**
PSZ Piszkesteto 21.61 299⇓*iP* **P 01 57 13.4 +1.1**
PSZ Piszkesteto 21.61 299 *eP* **P 01 57 14.0 +1.7**
comp=Z,13nm,1.0s,mb4.3
PSZ Piszkesteto 21.61 299 *eP* **P 01 57 14.0 +1.7**
comp=Z,13nm,1.0s,mb4.3
NIE Niedzica 21.62 303 *eP* **P 01 57 15.6 +3.2**
VLS Valsamata 21.72 272 *eP* **P 01 57 11.4 -2.1**
OJC Ojcow 22.13 305 *eP* **P 01 57 18.4 +0.6**
OJC *e* 01 57 21.6
OJC Ojcow 22.13 305 *eP* **P 01 57 18.4 +0.6**
OJC *e* 01 57 21.6
VSU Vasula 22.45 329*o iP* **P 01 57 19.8 -1.4**
VSU Vasula 22.45 329 *iP* **P 01 57 19.8 -1.4**
KOLL Kolacno 22.70 300 *eP* **P 01 57 24.1 +0.2**
KOLL *e*pP 01 57 34.2
KURBB Kurchatov Arra 22.96 55 ⇑P **P 01 57 26.7 0.0**
comp=Z,4.6nm,1.0s,mb3.9
KURK Kurchatov 23.04 54 ⇑P **P 01 57 28.3 +0.8**
comp=Z,44nm,1.0s,mb4.8
KURK Kurchatov 23.04 54 P **P 01 57 28.2 +0.7**
KURK pmax pmax
comp=Z,44nm,1.0s,mb4.8
KURK Kurchatov 23.04 54 *eP* **P 01 57 26.8 -0.7**
comp=Z,48nm,1.0s,mb4.9
KURK Kurchatov 23.04 54 *eP* **P 01 57 26.8 -0.7**
comp=Z,48nm,1.0s,mb4.9
OKC Ostrava-Krasne 23.08 303 *eP* **P 01 57 28.1 +0.2**
OKC AMS AMS 02 07 30.0
comp=Z,100nm,15.3s
MORC Moravsky Berou 23.45 303 *eP* **P 01 57 29.8 -2.0**
MORC pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
MORC Moravsky Berou 23.45 303 *eP* **P 01 57 29.8 -2.0**
comp=Z,6.7nm,1.0s,mb4.0
MORC Moravsky Berou 23.45 303 *eP* **P 01 57 29.8 -2.0**
comp=Z,6.7nm,1.0s,mb4.0
ZST Bratislava 23.50 299 *eP* **P 01 57 31.8 -0.5**
ZST pmax pmax
comp=Z,5.0nm,0.5s,mb4.2
ZST Bratislava 23.50 299 *eP* **P 01 57 31.8 -0.5**
comp=Z,4.5nm,0.5s,mb4.2
VRAC Vranov 23.99 302 P **P 01 57 37.1 +0.4**
comp=Z,1.2nm,0.7s,mb3.5,baz=80,slow=11,SNR=2.5
VRAC LR LR 02 08 46.0
comp=Z,145nm,18.1s,MS3.5,baz=90,slow=41
DPC Dobruska-Polom 24.33 304 *eP* **P 01 57 41.7 +1.9**
DPC *e*pP 01 57 50.1
DPC AMS AMS 02 11 10.0
comp=Z,100nm,12.4s
TIP Timpagrande 24.36 277 *eP* **P 01 57 41.0 +0.8**
comp=Z,18nm,1.2s,mb4.4
TIP Timpagrande 24.36 277 *eP* **P 01 57 41.0 +0.8**
comp=Z,18nm,1.2s,mb4.4
JOF Joensuu 24.41 341 *ep* **P 01 57 40.0 -0.4**
comp=Z,39nm,0.6s,mb5.0
JOF Joensuu 24.41 341 *eP* **P 01 57 40.0 -0.4**
JOF pmax pmax
comp=Z,39nm,0.6s,mb5.0
ARSA Arzberg 24.49 296⇑*iP* **P 01 57 42.1 +0.8**
comp=Z,5.5nm,0.9s,mb4.0
UPC Upice 24.56 304 *eP* **P 01 57 49.6 +7.7**
UPC Upice 24.56 304 *ep*P pP 01 57 49.6 -0.7
TREC Trest 24.70 301 AMS AMS 02 09 10.0
comp=Z,100nm,13.5s
PERS Pernice 24.74 295 *eP* **P 01 57 42.9 -0.7**
SOKA Soboth 24.80 295⇑*iP* **P 01 57 43.5 -0.7**
ZAVS Zavodnje 24.80 294 *eP* **P 01 57 43.4 -0.8**
MK31 Makanchi Array 24.93 65 ⇑P **P 01 57 45.8 +0.5**
comp=Z,13nm,0.6s,mb4.7,baz=263,slow=7.5,SNR=109
MK31 Makanchi Array 24.93 65 *i* P **P 01 57 45.6 +0.3**
MK31 pmax pmax
comp=Z,23nm,0.6s,mb4.9
MKAR Makanchi Array 24.93 65 P **P 01 57 46.0 +0.6**
comp=Z,12nm,0.5s,mb4.7,baz=262,slow=8.2,SNR=118
MKAR LR LR 02 08 42.0
comp=Z,62nm,18.5s,MS3.1,baz=72,slow=39
KAF Kangasniemi 25.19 335 *ep* **P 01 57 47.5 0.0**
comp=Z,18nm,0.6s,mb4.8
KAF Kangasniemi 25.19 335 *eP* **P 01 57 47.5 0.0**
KAF pmax pmax
comp=Z,18nm,0.6s,mb4.8
PRU Pruhonice 25.40 303 *eP* **P 01 57 50.6 +1.0**
PRU *ex* x 01 58 15.2
PRU AMS AMS 02 09 30.0
comp=Z,200nm,15.3s
SGG Gregorio Mates 25.68 283 P **P 01 57 53.6 +1.5**
GEC2 GERESS Array S 25.82 300 *eP* **P 01 57 52.4 -0.9**
GEC2 GERESS Array S 25.82 300 *eP* **P 01 57 52.4 -0.9**
GERES GERESS Array B 25.82 300 P **P 01 57 52.2 -1.1**
comp=Z,2.0nm,0.7s,mb3.8,baz=95,slow=8.6,SNR=14
GERES PcP PcP 02 01 22.2 +0.1
comp=Z,0.6nm,0.6s,baz=101,slow=1.4,SNR=5.3
GERES LR LR 02 09 56.4
comp=Z,106nm,18.2s,MS3.4,baz=275,slow=41
GERES GERESS Array B 25.82 300 P **P 01 57 52.2 -1.1**
GERES 02 01 22.2
GERES GERESS Array B 25.82 300 PcP PcP 02 01 22.2 +0.1
BRG Berggiesshubel 25.92 305 *e*(P) **P 01 57 57.2 +3.0**
comp=Z,2.7nm,1.0s,mb3.8
KHC Kasperske Hory 25.93 301 *eP* **P 01 57 55.2 +0.9**
KHC *ex* x 01 58 15.1
KHC AMS AMS 02 10 00.0
comp=Z,100nm,13.8s
AQU L'Aquila 26.24 285 *eP* **P 01 57 57.5 +0.3**
AQU pmax pmax
comp=Z,18nm,1.0s,mb4.6
AQU L'Aquila 26.24 285 *eP* **P 01 57 57.5 +0.3**
comp=Z,18nm,1.0s,mb4.5
AQU L'Aquila 26.24 285 *eP* **P 01 57 57.5 +0.3**
comp=Z,18nm,1.0s,mb4.5
PTQR Pietraquaria 26.29 284 P **P 01 57 58.4 +0.7**
comp=Z,15nm,0.7s,mb4.6
NDI New Delhi 26.34 108 *eP* **P 01 57 55.0 -3.3**
CLL Collm 26.57 305 *i* P **P 01 58 00.0 -0.1**
CLL *i* 01 58 03.5
CLL *e* pP 01 58 09.0 +0.4
CLL pmax pmax
comp=Z,5.0nm,1.2s,mb3.9
CLL MLR MLR
comp=Z,100nm,20.5s,MS3.4
CLL Collm 26.57 305 *i* P **P 01 58 00.0 -0.1**
comp=Z,5.0nm,1.2s,mb3.9
CLL *i* x x 01 58 03.5
CLL *e*pP pP 01 58 09.0 +0.4
CLL *i* x x 01 58 21.4
CLL *i* x x 01 58 28.1
CLL *i* PP 01 58 50.1
CLL *e*(S) S 02 03 00.0 +27
CLL *e*SS 02 03 36.0
CLL Collm 26.57 305 *i* P **P 01 58 00.0 -0.1**
comp=Z,5.0nm,1.2s,mb3.9
CLL *i* 01 58 03.5
CLL *e* pP 01 58 09.0 +0.4
CLL *i* PP 01 58 28.1
CLL LR LR
comp=Z,100nm,20.5s,MS3.4
NVS Novosibirsk 26.85 47⇑*iP* **P 01 58 02.2 -0.4**
NVS pmax pmax
comp=Z,15nm,1.3s,mb4.4
NVS pmax pmax
comp=N,7.0nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS Novosibirsk 26.85 47 *i* P **P 01 58 02.2 -0.4**
comp=E,7.0nm,1.4s,mb4.0
ZAL Zalesovo 27.49 49 P **P 01 58 08.5 +0.1**
ZAL 02 01 25.6
ZAA0 Zalesovo Array 27.51 49 *eP* **P 01 58 07.8 -0.7**
ZAA0 Zalesovo Array 27.51 49 *eP* **P 01 58 07.8 -0.7**
ZALV Zalesovo Beam 27.51 49 P **P 01 58 08.4 -0.1**
comp=E,1.6nm,0.4s,mb4.0,baz=270,slow=10,SNR=11
ZALV PcP PcP 02 01 25.6 -0.4
comp=E,1.2nm,0.5s,baz=251,slow=4.4,SNR=2.9
ZALV LR LR 02 10 44.1
comp=E,140nm,18.1s,MS3.6,baz=42,slow=40
APA Apatity 28.07 348⇑*iP* **P 01 58 16.0 +2.6**
APA *i* 01 59 10.0
APA pmax pmax
comp=Z,14nm,0.5s,mb4.8
APA MLR MLR
comp=Z,600nm,12.0s,MS4.4
APA Apatity 28.07 348 *i* P **P 01 58 16.0 +2.6**
comp=Z,14nm,0.5s,mb4.8
LVZ Lovozero 28.18 349 *eP* **P 01 58 14.9 +0.5**
LVZ pmax pmax
comp=Z,14nm,1.0s,mb4.5
LVZ MLR MLR
comp=Z,400nm,16.0s,MS4.1
LVZ Lovozero 28.18 349 *eP* **P 01 58 14.9 +0.5**
comp=Z,400nm,16.0s
DAVOX Davos/Dischmat 28.34 295 P **P 01 58 15.3 -0.8**
comp=Z,1.9nm,0.7s,mb3.9,baz=120,slow=9.1,SNR=4.4
DAVOX PcP PcP 02 01 28.5 +0.3
comp=Z,1.4nm,0.6s,baz=27,slow=4.5,SNR=4.0
DAVOX LR LR 02 11 35.4
comp=Z,76nm,19.2s,MS3.3,baz=84,slow=41
DAVOX Davos/Dischmat 28.34 295 PcP PcP 02 01 28.5 +0.3
WMQ Urumqi 28.91 71 P **P 01 58 22.9 +1.8**
WMQ AP pP 01 58 32.3 +2.7
WMQ XP sP 01 58 36.4 +3.2
WMQ PP PP 01 59 16.8 -10
WMQ PCP PcP 02 01 31.9 +2.3
WMQ *e*S **S 02 03 09.8 +0.2**
WMQ SS SS 02 04 37.3 -35
WMQ SCS ScS 02 09 01.9 -0.6
WMQ AMB AMB
comp=Z,14nm,0.9s,mb4.7
WMQ LR LR
comp=N,98nm,17.0s,MS3.6
WMQ LR LR
comp=E,98nm,16.0s,MS3.5
WMQ LR LR
comp=Z,105nm,17.0s,MS3.5
HFS Hagfors 28.92 324 P **P 01 58 20.7 -0.3**
comp=Z,16nm,0.6s,mb4.9,baz=116,slow=9.3,SNR=40
HFS LR LR 02 10 43.4
comp=Z,113nm,18.4s,MS3.5,baz=120,slow=38
PGF Pioggiola 29.42 287 *eP* **P 01 58 23.1 -2.6**
SBF Sospel 30.34 290 *eP* **P 01 58 32.7 -1.0**
comp=Z,24nm,1.0s,mb4.6
SBF Sospel 30.34 290 *eP* **P 01 58 32.7 -1.0**
SBF pmax pmax
comp=Z,12nm,1.0s,mb4.6
SBF Sospel 30.34 290 *eP* **P 01 58 32.7 -1.0**
comp=Z,12nm,1.0s,mb4.6
NB2 NORSAR Subarra 30.41 324 P **P 01 58 33.2 -1.0**
comp=Z,8.1nm,0.7s,mb4.6,baz=116,slow=8.6
NOA NORSAR Array B 30.41 324 P **P 01 58 33.5 -0.7**
comp=Z,9.4nm,0.7s,mb4.6,baz=118,slow=8.3,SNR=38
NOA LR LR 02 11 38.6
comp=Z,85nm,19.8s,MS3.4,baz=125,slow=38
LPG La Plagne 30.61 293 *eP* **P 01 58 35.3 -0.8**
comp=Z,4.7nm,0.8s,mb4.1
LPG La Plagne 30.61 293 *eP* **P 01 58 35.3 -0.8**
LPG pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
LPG La Plagne 30.61 293 *eP* **P 01 58 35.3 -0.8**
comp=Z,2.3nm,0.8s,mb4.0
LPL La Plagne 30.62 293 *eP* **P 01 58 34.7 -1.5**
MBDF Montbardon 30.69 291 *eP* **P 01 58 35.6 -1.2**
comp=Z,12nm,0.8s,mb4.5
MBDF Montbardon 30.69 291 *eP* **P 01 58 35.7 -1.1**
comp=Z,12nm,0.8s,mb4.5
MBDF Montbardon 30.69 291 *eP* **P 01 58 35.6 -1.2**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
MBDF Montbardon 30.69 291 *eP* **P 01 58 35.7 -1.1**
comp=Z,6.0nm,0.8s,mb4.5
MBDF Montbardon 30.69 291 *eP* **P 01 58 35.6 -1.2**
comp=Z,6.0nm,0.8s,mb4.5
HAU Haudompre 30.70 298 *eP* **P 01 58 36.0 -0.9**
HAU *e*MLR MLR
comp=Z,68nm,21.5s,MS3.0
HAU Haudompre 30.70 298 *eP* **P 01 58 36.0 -0.9**
HAU LR LR
comp=Z,70nm,21.5s,MS3.3
BNI Bardonecchia 30.71 292 *eP* **P 01 58 37.3 +0.3**
BNI pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
BNI Bardonecchia 30.71 292 *eP* **P 01 58 37.3 +0.3**
comp=Z,3.0nm,0.8s,mb4.2
BNI Bardonecchia 30.71 292 *eP* **P 01 58 37.3 +0.3**
comp=Z,2.9nm,0.8s,mb4.2
FRF La Foret Royal 30.95 289 *eP* **P 01 58 37.5 -1.7**
comp=Z,20nm,0.8s,mb4.7
FRF La Foret Royal 30.95 289 *eP* **P 01 58 37.5 -1.7**
FRF pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
FRF La Foret Royal 30.95 289 *eP* **P 01 58 37.5 -1.7**
comp=Z,10nm,0.8s,mb4.7
CABF La Chapelle 30.96 295 *eP* **P 01 58 38.0 -1.2**
LMR La Mourre 31.09 289 *eP* **P 01 58 39.6 -0.8**
comp=Z,23nm,1.3s,mb4.6
LMR La Mourre 31.09 289 *eP* **P 01 58 39.6 -0.8**
LMR pmax pmax

comp=Z,12nm,1.3s,mb4.6
LMR La Mourre 31.09 289 *e*P **P 01 58 39.6 -0.8**
comp=Z,12nm,1.3s,mb4.6
KEV Kevo 31.12 346 *e*p **P 01 58 40.7 +0.3**
comp=Z,1.3nm,0.3s,mb4.2
KEV Kevo 31.12 346 *e*P **P 01 58 40.7 +0.3**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
ARCES ARCESS Array B 31.23 345 P **P 01 58 42.1 +0.8**
comp=Z,1.1nm,0.3s,mb4.1,baz=152,slow=9.1,SNR=24
ARCES LR LR 02 13 02.3
comp=Z,239nm,20.0s,MS3.9,baz=355,slow=40
SMRF Simiane la Rot 31.65 290 *e*P **P 01 58 43.7 -1.6**
comp=Z,31nm,1.4s,mb4.6
SMRF Simiane la Rot 31.65 290 *e*P **P 01 58 43.7 -1.6**
comp=Z,15nm,1.4s,mb4.6
LOR Lormes 32.42 297 *e*P **P 01 58 50.7 -1.4**
comp=Z,3.4nm,0.7s,mb4.0
LOR *e*MLR MLR
comp=Z,78nm,22.8s,MS3.0
LOR Lormes 32.42 297 *e*P **P 01 58 50.7 -1.4**
LOR pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
LOR MLR MLR
comp=Z,80nm,22.8s,MS3.4
LOR Lormes 32.42 297 *e*P **P 01 58 50.7 -1.4**
comp=Z,1.7nm,0.7s,mb4.0
LOR LR LR
comp=Z,80nm,22.8s,MS3.4
AVF Avril sur Loir 32.82 296 *e*P **P 01 58 54.8 -0.7**
LASF Ste Croix 32.85 291 *e*P **P 01 58 53.7 -2.1**
comp=Z,49nm,1.6s,mb4.9
LASF Ste Croix 32.85 291 *e*P **P 01 58 53.7 -2.1**
comp=Z,24nm,1.6s,mb4.9
BGF Bois d'Agland 33.19 296 *e*P **P 01 58 57.5 -1.3**
MTLF Montolieu 34.16 290 *e*P **P 01 59 05.3 -1.9**
EKA Eskdalemuir Ar 36.59 311 p P **P 01 59 26.5 -1.5**
comp=Z,2.2nm,0.6s,mb4.2,baz=102,slow=8.5,SNR=11
ROSF Rostrenen 37.08 300 *e*P **P 01 59 29.4 -2.8**
ZAK Zakamensk 38.66 57 *e*P **P 01 59 46.0 +0.4**
ZAK *e* 02 01 53.7
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
ZAK Zakamensk 38.66 57 *e*P **P 01 59 46.0 +0.4**
comp=Z,4.0nm,1.2s,mb4.0
TLY Talaya 38.74 55 *e*P **P 01 59 48.0 +1.8**
TLY pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
TLY MLR MLR
comp=Z,56nm,11.0s,MS3.6
TLY Talaya 38.74 55 *e*P **P 01 59 48.0 +1.8**
comp=Z,56nm,11.0s
GTA Gaotai 38.76 75 P **P 01 59 47.8 +1.2**
GTA AP pP 01 59 55.0 -0.2
GTA XP sP 01 59 58.9 +0.2
GTA PP PP 02 01 20.3 +4.8
GTA S **S 02 05 40.0 -1.9**
GTA XS sS 02 05 55.9 -0.3
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,46nm,6.9s
GTA LR LR
comp=N,102nm,10.2s,MS4.0
GTA LR LR
comp=E,85nm,11.4s,MS4.0
GTA LR LR
comp=Z,141nm,13.8s,MS4.0
ESDC Sonseca Array 39.61 286 P **P 01 59 51.7 -2.0**
comp=Z,1.8nm,0.7s,mb3.9,baz=68,slow=8.7,SNR=11
SPITS Spitsbergen Ar 39.69 350 P **P 01 59 55.1 +1.2**
comp=Z,4.5nm,0.6s,mb4.4,baz=321,slow=12,SNR=8.5
SPITS LR LR 02 18 41.2
comp=Z,118nm,18.0s,MS3.8,baz=325,slow=40
TAM Tamanrasset 40.30 257 *e*P **P 01 59 58.7 -0.8**
TAM Tamanrasset 40.30 257 *e*P **P 01 59 58.7 -0.8**
SONM Songino Array 41.12 60 P **P 02 00 06.3 +0.3**
comp=Z,0.7nm,0.4s,mb3.7,baz=282,slow=8.2,SNR=6.0
SONM PcP PcP 02 02 05.0 -0.1
comp=Z,1.9nm,0.9s,baz=252,slow=3.0,SNR=6.5
SONM LR LR 02 17 59.4
comp=Z,77nm,18.2s,MS3.6,baz=77,slow=37
SONM Songino Array 41.12 60 P **P 02 00 06.3 +0.3**
SONM 02 02 05.0
JMIC Jan Mayen 41.39 335 LR LR 02 17 31.2
comp=Z,94nm,19.9s,MS3.7,baz=152,slow=36
LZH Lanzhou 42.95 78 *e*P **P 02 00 22.5 +1.4**
LZH AP pP 02 00 33.3 +3.5
LZH XP sP 02 00 36.5 +3.2
LZH AMB AMB
comp=Z,24nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,90nm,4.5s
LZH LR LR
comp=N,250nm,14.0s
LZH LR LR
comp=Z,410nm,15.2s,MS4.4
KMBO Kilima Mbogo 42.99 197 LR LR 02 19 11.3
comp=Z,101nm,21.4s,MS3.7,baz=263,slow=38
BOD Bodaibo 44.04 44 ∥ *i*P **P 02 00 29.9 +0.3**
BOD pmax pmax
comp=Z,26nm,0.9s,mb5.0
BOD Bodaibo 44.04 44 *i*P **P 02 00 29.9 +0.3**
comp=Z,26nm,0.9s,mb5.0
CD2 Chengdu 45.16 84 *e*P **P 02 00 45.1 +6.2**
CD2 AP pP 02 00 55.3 +7.7
CD2 XP sP 02 00 59.1 +8.0
CD2 S **S 02 07 25.8 +9.2**
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
CD2 AMB AMB
comp=Z,40nm,8.2s
CD2 LR LR
comp=N,190nm,13.2s,MS4.4
CD2 LR LR
comp=E,190nm,10.8s,MS4.4
CD2 LR LR
comp=Z,130nm,12.0s,MS4.1
HHC Hu-ho-hao-te 46.72 68 *e*P **P 02 00 51.6 +0.6**
HHC AP pP 02 01 01.5 +1.7
HHC XP sP 02 01 05.5 +2.2
HHC PCP PcP 02 02 26.0 +1.8
HHC PP PP 02 02 40.5 -0.4
HHC SCP ScP 02 06 15.8 +0.2
HHC PCS PcS 02 06 20.0 +1.0
HHC S **S 02 07 37.9 -0.9**
HHC XS sS 02 07 53.8 +0.6
HHC SCS ScS 02 10 40.6 -2.9
HHC SS SS 02 10 55.8 -9.1
HHC AMB AMB
comp=Z,12nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,57nm,4.3s
HHC LR LR
comp=N,154nm,17.8s,MS4.1
HHC LR LR
comp=E,119nm,16.6s,MS4.1
HHC LR LR
comp=Z,73nm,17.8s,MS3.7
KMI Kunming 47.34 92 P **P 02 00 56.0 -0.1**
KMI AMB AMB
comp=Z,15nm,1.0s,mb4.9
KMI LR LR
comp=N,91nm,20.3s,MS3.9
KMI LR LR
comp=E,74nm,15.9s,MS3.9
KMI LR LR
comp=Z,64nm,17.0s,MS3.7
XAN Xi'an 47.58 78 P **P 02 00 58.3 +0.4**
XAN AP pP 02 01 10.0 +3.3
XAN AMB AMB
comp=Z,12nm,0.9s,mb4.9
XAN AMB AMB
comp=Z,36nm,4.6s
CHTO Chiang Mai 48.15 102 *e*P **P 02 01 01.7 -0.7**
CHTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CHTO Chiang Mai 48.15 102 *e*P **P 02 01 01.7 -0.7**
comp=Z,3.8nm,0.8s,mb4.5
CHTO Chiang Mai 48.15 102 *e*P **P 02 01 01.7 -0.7**
comp=Z,3.9nm,0.8s,mb4.5
CMAR Chiang Mai Arr 48.37 102 P **P 02 01 03.3 -0.8**
comp=Z,1.9nm,0.4s,mb4.5,baz=302,slow=8.3,SNR=12
CMAR Chiang Mai Arr 48.37 102 *i*P **P 02 01 03.2 -0.9**
CMAR pmax pmax
comp=Z,2.0nm,0.4s

TIXI Tiksi 48.85 24 *e*P **P 02 01 06.4 -0.8**
TIXI pmax pmax
comp=Z,13nm,1.1s,mb4.9
TIXI Tiksi 48.85 24 *e*P **P 02 01 07.9 +0.7**
comp=Z,8.2nm,0.9s,mb4.8
TIXI Tiksi 48.85 24 *e*P **P 02 01 07.9 +0.8**
comp=Z,8.2nm,0.9s,mb4.8
TORD Torodi Ar. Bea 49.26 250 P **P 02 01 08.1 -2.9**
comp=Z,2.4nm,0.7s,mb4.3,baz=35,slow=7.7,SNR=18
TORD Torodi Ar. Bea 49.26 250 P **P 02 01 08.1 -2.9**
HIA Hailar 49.28 55 *e*P **P 02 01 10.8 +0.1**
GYA Guiyang 49.60 88 ∥ *i*P **P 02 01 14.8 +1.3**
GYA AP pP 02 01 26.4 +4.1
GYA XP sP 02 01 29.8 +4.0
GYA PCP PcP 02 02 37.9 +3.1
GYA PP PP 02 03 10.4 +2.5
GYA SCP ScP 02 06 28.9 +0.8
GYA S **S 02 08 18.3 -1.6**
GYA XS sS 02 08 36.4 +1.9
GYA SCS ScS 02 11 02.8 -0.4
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,90nm,4.9s
GYA LR LR
comp=N,460nm,18.8s,MS4.6
GYA LR LR
comp=E,410nm,17.6s,MS4.6
GYA LR LR
comp=Z,440nm,18.7s,MS4.5
BJI Beijing 50.27 67 P **P 02 01 18.5 +0.1**
BJI S **S 02 08 28.6 -0.3**
BJI AMB AMB
comp=Z,3.0nm,0.5s,mb4.6
BJI LR LR
comp=N,147nm,12.9s,MS4.3
BJI LR LR
comp=E,113nm,13.1s,MS4.3
BJI LR LR
comp=Z,996nm,38.0s
YAK Yakutsk 50.99 37 *e*P **P 02 01 23.0 -0.5**
CN2 Changchun 54.99 59 *e*P **P 02 01 56.4 +3.2**
CN2 *e*AP pP 02 02 06.5 +4.3
CN2 *e*S **S 02 09 34.5 +1.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.5
CN2 LR LR
comp=E,200nm,15.0s,MS4.5
CN2 LR LR
comp=Z,300nm,19.0s,MS4.4
NJ2 Nanjing 55.86 75 *e*P **P 02 02 03.8 +4.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
KLR Kul'dur 56.59 51 *e*P **P 02 02 02.2 -2.4**
MDJ Mudanjiang 57.30 57 P **P 02 02 09.8 +0.1**
MDJ AP pP 02 02 18.8 +0.1
MDJ S **S 02 10 05.3 +1.4**
MDJ SS SS 02 13 51.8 -1.1
MDJ AMB AMB
comp=Z,68nm,4.5s
MDJ LR LR
comp=N,79nm,23.4s,MS3.8
MDJ LR LR
comp=E,55nm,23.4s,MS3.8
MDJ LR LR
comp=Z,105nm,16.0s
DBIC Dimbokro 58.37 250 P **P 02 02 14.5 -3.1**
comp=Z,1.3nm,0.5s,mb4.2,baz=38,slow=8.5,SNR=6.1
DBIC Dimbokro 58.37 250 P **P 02 02 14.5 -3.1**
LIC Lamto 58.80 249 *e*P **P 02 02 18.8 -1.9**
LSZ Lusaka 58.92 203 P **P 02 02 19.8 -1.4**
comp=Z,0.4nm,0.3s,mb3.9,baz=84,slow=9.2,SNR=2.1
KSRS Korea Array 59.62 65 P **P 02 02 25.9 -0.2**
comp=Z,3.6nm,0.8s,mb4.4,baz=287,slow=6.8,SNR=13
KSRS LR LR 02 32 31.3
comp=Z,44nm,18.2s,MS3.6,baz=345,slow=40
KSRS Korea Array 59.62 65 P **P 02 02 25.9 -0.1**
KSRS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KSRS MLR MLR
comp=Z,44nm,18.2s,MS3.6
BILL Bilibino 61.94 22 *e*P **P 02 02 42.1 +0.8**
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
BILL Bilibino 61.94 22 *e*P **P 02 02 42.1 +0.8**
comp=Z,10.0nm,1.0s,mb4.9
MJAR Matsushiro Arr 67.06 61 P **P 02 03 15.4 +0.1**
comp=Z,1.8nm,0.7s,mb4.2,baz=270,slow=2.5,SNR=5.7
MJAR LR LR 02 35 13.8
comp=Z,78nm,20.0s,MS3.9,baz=110,slow=38
PETK Petropavlovsk- 68.32 38 LR LR 02 37 07.3
comp=Z,78nm,18.7s,MS4.0,baz=30,slow=39
SCHQ Schefferville 69.96 326 P **P 02 03 33.5 +0.4**
comp=Z,4.1nm,0.6s,mb4.5,baz=31,slow=6.0,SNR=10.0
SCHQ LR LR 02 36 07.6
comp=Z,52nm,18.0s,MS3.8,baz=33,slow=38
COLD Coldfoot 71.34 8 *e*P **P 02 03 42.3 +1.0**
comp=Z,16nm,0.9s,mb4.9
COLD Coldfoot 71.34 8 *e*P **P 02 03 42.3 +1.0**
comp=Z,16nm,0.9s,mb4.9
IMA2 Indian Mountai 72.07 9 *e*P **P 02 03 46.7 +1.0**
BOSA Boshof 72.38 201 P **P 02 03 45.6 -2.3**
comp=Z,2.3nm,0.8s,mb4.1,baz=9.8,slow=5.4,SNR=3.5
COLA College 73.87 7 *e*P **P 02 03 57.2 +0.8**
COLA pmax pmax
comp=Z,22nm,0.8s,mb5.1
COLA College 73.87 7 *e*P **P 02 03 57.2 +0.8**
comp=Z,22nm,0.8s,mb5.1
COLA College 73.87 7 *e*P **P 02 03 57.2 +0.8**
comp=Z,22nm,0.8s,mb5.1
EGAK Eagle 74.47 4 *e*P **P 02 04 00.7 +0.8**
comp=Z,17nm,1.0s,mb4.9
EGAK Eagle 74.47 4 *e*P **P 02 04 00.7 +0.8**
comp=Z,17nm,1.0s,mb4.9
TTA Tatalina 74.75 11 *e*P **P 02 04 02.3 +0.8**
TTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TTA Tatalina 74.75 11 *e*P **P 02 04 02.3 +0.8**
comp=Z,6.0nm,0.9s,mb4.5
TTA Tatalina 74.75 11 *e*P **P 02 04 02.3 +0.7**
comp=Z,6.0nm,0.9s,mb4.5
DAWY Dawson 75.28 4 *e*P **P 02 04 05.2 +0.6**
DAWY Dawson 75.28 4 *e*P **P 02 04 05.2 +0.6**
FCC Fort Churchill 76.05 341 *e*P **P 02 04 09.8 +0.8**
FCC pmax pmax
comp=Z,12nm,0.9s,mb4.8
FCC Fort Churchill 76.05 341 *e*P **P 02 04 09.8 +0.8**
comp=Z,12nm,0.9s,mb4.8
FCC Fort Churchill 76.05 341 *e*P **P 02 04 09.8 +0.7**
comp=Z,12nm,0.9s,mb4.8
MENT Mentasta 76.13 6 *e*P **P 02 04 10.7 +1.2**
YKA Yellowknife Ar 76.16 352 P **P 02 04 09.8 +0.2**
comp=Z,5.0nm,0.5s,mb4.7,baz=6.0,slow=5.3,SNR=59
YKA LR LR 02 45 27.1
comp=Z,26nm,18.6s,MS3.6,baz=75,slow=42
SVW2 Sparrevohn 76.55 12 *e*P **P 02 04 13.0 +1.1**
PMR Palmer 76.94 9 *e*P **P 02 04 14.4 +0.3**
PMR pmax pmax
comp=Z,12nm,0.7s,mb4.9
PMR Palmer 76.94 9 *e*P **P 02 04 14.4 +0.3**
comp=Z,12nm,0.7s,mb5.0
RC01 Rabbit Creek A 77.36 9 *e*P **P 02 04 17.0 +0.6**
comp=Z,37nm,0.9s,mb5.3
RC01 Rabbit Creek A 77.36 9 *e*P **P 02 04 17.0 +0.6**
comp=Z,37nm,0.9s,mb5.3
SLKM Skilak Lake 77.87 9 *e*P **P 02 04 19.4 +0.1**
SLKM Skilak Lake 77.87 9 *e*P **P 02 04 19.4 +0.1**
BMRM Bremner River 78.01 7 *e*P **P 02 04 20.4 +0.4**
BMRM Bremner River 78.01 7 *e*P **P 02 04 20.4 +0.4**
HYT Haines Junctio 78.60 3 *e*P **P 02 04 25.3 +2.0**
HYT Haines Junctio 78.60 3 *e*P **P 02 04 25.3 +2.0**
DLBC Dease Lake 81.11 359 *e*P **P 02 04 38.2 +1.3**
DLBC Dease Lake 81.11 359 *e*P **P 02 04 38.2 +1.2**
FFC Flin Flon 81.55 343 *e*P **P 02 04 39.1 -0.3**
FFC pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
FFC Flin Flon 81.55 343 *e*P **P 02 04 39.1 -0.3**
comp=Z,7.0nm,0.5s,mb4.8
FFC Flin Flon 81.55 343 *e*P **P 02 04 39.1 -0.3**
comp=Z,7.0nm,0.5s,mb4.8
WRAK Wrangell Islan 83.14 1 *e*P **P 02 04 48.9 +1.3**
comp=Z,11nm,0.9s,mb4.9

ULM Lac du Bonnet 84.11 338 P **P 02 04 53.0 +0.3**
comp=Z,1.2nm,0.4s,mb4.4,baz=0.0,slow=3.0,SNR=3.0
ULM LR LR 02 41 12.2
comp=Z,60nm,20.9s,MS4.0,baz=292,slow=35
ULM Lac du Bonnet 84.11 338 P **P 02 04 53.0 +0.3**
ULM LR LR 02 41 12.2
EDM Edmonton 85.05 349 *e*P **P 02 04 57.6 +0.2**
EDM Edmonton 85.05 349 *e*P **P 02 04 57.6 +0.2**
WALA Waterton Lakes 89.19 349 *e*P **P 02 05 17.9 +0.4**
comp=Z,5.6nm,1.1s,mb4.8
WALA Waterton Lakes 89.19 349 *e*P **P 02 05 17.9 +0.4**
comp=Z,5.6nm,1.1s,mb4.8
LAO LASA Array 90.03 343 *e*P **P 02 05 23.3 +1.8**
comp=Z,16nm,1.0s,mb5.3
LAO LASA Array 90.03 343 *e*P **P 02 05 23.3 +1.7**
comp=Z,16nm,1.0s,mb5.3
ECSD EROS,Sioux Fal 90.19 336 *e*P **P 02 05 22.7 +0.4**
comp=Z,7.1nm,1.0s,mb5.0
NEW Newport 90.41 350 *e*P **P 02 05 24.0 +0.8**
NEW pmax pmax
comp=Z,13nm,1.0s
NEW Newport 90.41 350 *e*P **P 02 05 24.0 +0.8**
comp=Z,13nm,1.0s,mb5.2
NEW Newport 90.41 350 *e*P **P 02 05 24.0 +0.7**
comp=Z,13nm,1.0s,mb5.2
RSSD Black Hills 91.93 341 *e*P **P 02 05 31.6 +1.2**
RSSD pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
RSSD Black Hills 91.93 341 *e*P **P 02 05 31.6 +1.2**
comp=Z,4.6nm,1.1s,mb4.7
RSSD Black Hills 91.93 341 *e*P **P 02 05 31.6 +1.2**
comp=Z,4.6nm,1.1s,mb4.7
BOZ Bozeman (W) 92.12 346 *e*P **P 02 05 32.1 +0.9**
BOZ pmax pmax
comp=Z,1.0nm,0.9s,mb4.2
BOZ Bozeman (W) 92.12 346 *e*P **P 02 05 32.1 +0.9**
comp=Z,1.2nm,0.9s,mb4.2
BOZ Bozeman (W) 92.12 346 *e*P **P 02 05 32.1 +0.8**
comp=Z,1.2nm,0.9s,mb4.2
DLMT Dillon 92.57 347 *e*P **P 02 05 33.8 +0.5**
comp=Z,5.2nm,1.2s,mb4.8
DLMT Dillon 92.57 347 *e*P **P 02 05 33.8 +0.4**
comp=Z,5.2nm,1.2s,mb4.8
LNOR Lincton Mounta 92.91 351 *e*P **P 02 05 35.2 +0.3**
LNOR Lincton Mounta 92.91 351 *e*P **P 02 05 35.2 +0.4**
MOOW Moose Ponds 93.79 345 *e*P **P 02 05 40.5 +1.5**
comp=Z,2.4nm,1.3s,mb4.5
PDAR Pinedale Array 94.49 344 P **P 02 05 43.0 +0.7**
comp=Z,0.1nm,0.3s,mb3.7,baz=129,slow=2.1,SNR=3.7
WVOR Wild Horse Val 96.33 351 *e*P **P 02 05 51.3 +0.7**
WVOR pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
WVOR Wild Horse Val 96.33 351 *e*P **P 02 05 51.3 +0.7**
comp=Z,4.2nm,1.0s,mb4.8
WVOR Wild Horse Val 96.33 351 *e*P **P 02 05 51.3 +0.6**
comp=Z,4.2nm,1.0s,mb4.8

CSEM ***23*** *01:55:54.7±0.2, 4068N×4847E, h2km, mb4.1, Error ellipse: s-maj=11.3km s-min=4.3km az=165.0*
NEIC ***23*** *01:55:58.5±0.8, 4078N×4850E, h10km, mb3.9/3, Error ellipse: s-maj=21.5km s-min=9.5km az=170.0*
MOS ***23*** *01:55:58.3±2.4, 4081N×4847E, h15km, mb4.1/1, Error ellipse: s-maj=20.4km s-min=18.4km az=63.0*
ISCJB ***23*** *01:56:00.9±2.0, 408N±02×485E±0.1, h43km±24km, mb3.8/6, Error ellipse: s-maj=30.1km s-min=14.3km az=174.6*
IDC ***23*** *01:56:00.5±6.0, 4051N×4844E, h31km±43km, mb3.6/5, mb1 3.7/7, mb1mx3.4/25, mbtmp3.6/7, ML4.0/1, MS3.3/1, Ms1 3.5/1, ms1mx2.5/41, Error ellipse: s-maj=34.9km s-min=26.1km az=150.0*

ISC 23 01:56:00.7±4.8, 408N±02×485E±01, h26km±39km, n16, σ0°79/15, mb3.8/6, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**2.96**	**258**	Pn	**Pn**	**01 56 46.6**	**+0.6**
	baz=307,slow=20,SNR=2.5						
GNI				Lg		01 57 31.3	
	16nm,0.3s,baz=299,slow=19,SNR=3.0						
GNI	**Garni**	**2.96**	**258**	Pn	**Pn**	**01 56 46.6**	**+0.6**
AKASG	**Malin Array Be**	**16.66**	**313**	Pn	**Pn**	**01 59 52.4**	**+0.1**
	0.6nm,0.3s,baz=122,slow=12,SNR=3.8						
EKS2	**Erkin-Say**	**18.92**	**76**	*e*P	**Pn**	**02 00 20.1**	**-0.1**
	4.6nm,0.6s						
EKS2	**Erkin-Say**	**18.92**	**76**	*e*P	**Pn**	**02 00 20.1**	**-0.1**
	4.6nm,0.6s						
BRVK	**Borovoye**	**19.17**	**43**	*e*P	**Pn**	**02 00 21.8**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BRVK	**Borovoye**	**19.17**	**43**	*e*P	**Pn**	**02 00 21.8**	**-1.3**
	comp=Z,7.8nm,0.7s						
BRVK	**Borovoye**	**19.17**	**43**	*e*P	**Pn**	**02 00 21.8**	**-1.3**
	comp=Z,7.8nm,0.7s						
KURK	**Kurchatov**	**23.07**	**54**	*e*P	**P**	**02 01 04.5**	**+0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
KURK	**Kurchatov**	**23.07**	**54**	*e*P	**P**	**02 01 04.5**	**+0.4**
	comp=Z,2.9nm,0.7s,mb3.8						
MKAR	**Makanchi Array**	**24.97**	**65**	P	**P**	**02 01 23.0**	**+1.0**
	comp=Z,1.5nm,0.5s,mb3.8,baz=258,slow=9.8,SNR=4.6						
HFS	**Hagfors**	**28.90**	**324**	P	**P**	**02 01 57.8**	**+0.6**
	comp=Z,1.9nm,0.7s,mb4.0,baz=112,slow=16,SNR=5.8						
NOA	**NORSAR Array B**	**30.40**	**324**	P	**P**	**02 02 09.7**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.6,baz=116,slow=8.0,SNR=3.2						
CMAR	**Chiang Mai Arr**	**48.40**	**102**	LR	LR	02 30 49.0	
	comp=Z,32nm,20.3s,baz=295,slow=43						
TORD	**Torodi Ar. Bea**	**49.23**	**250**	P	**P**	**02 04 45.8**	**-1.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=46,slow=8.3,SNR=4.4						
YKA	**Yellowknife Ar**	**76.16**	**352**	P	**P**	**02 07 46.6**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.9,baz=7.7,slow=5.5,SNR=9.6						

IDC ***23*** *02:00:16.8±1.1, 834S×15704E, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/16, mbtmp4.0/7, ML4.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/20, Error ellipse: s-maj=29.9km s-min=27.1km az=93.0*
NEIC ***23*** *02:00:18.1±0.6, 829S×15706E, h10km, mb4.1/3, Error ellipse: s-maj=17.3km s-min=14.2km az=174.0*
ISCJB ***23*** *02:00:19.8±0.7, 84S±01×157.1E±0.1, h33km, mb3.9/9, Error ellipse: s-maj=18.3km s-min=14.5km az=172.4*

ISC 23 02:00:22.5±0.7, 83S±01×15690E±007, h35km, n13, σ1°02/14, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.23**	**111**	Pn	**Pn**	**02 01 06.9**	**-3.8**
	60nm,0.3s,baz=263,slow=1.1,SNR=8.2						
HNR				Sn	**Sn**	**02 01 48.6**	**+0.5**
	54nm,0.3s,baz=77,slow=5.0,SNR=12						
HNR	**Honiara**	**3.23**	**111**	Pn	**Pn**	**02 01 06.9**	**-3.8**
HNR				Sn	**Sn**	**02 01 48.6**	**+0.5**
CTA	**Charters Tower**	**15.64**	**220**	LR	LR	02 09 07.0	
	comp=Z,86nm,19.2s,baz=228,slow=34						
WRAB	**Tennant Creek**	**24.72**	**240**	*e*P	**P**	**02 05 41.1**	**+0.4**
	2.0nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**24.73**	**240**	P	**P**	**02 05 40.5**	**-0.3**
	1.7nm,0.5s,mb3.8,baz=66,slow=9.6,SNR=8.2						
WRA				PcP	PcP	02 09 16.9	-0.5
	1.2nm,0.8s,baz=69,slow=2.2,SNR=5.2						
ASAR	**Alice Springs**	**26.83**	**233**	P	**P**	**02 05 58.8**	**-1.1**
	0.2nm,0.4s,mb3.0,baz=53,slow=9.4,SNR=4.0						
ASAR				PcP	PcP	02 09 21.9	-0.2
	0.3nm,0.5s,baz=64,slow=2.2,SNR=2.7						
STKA	**Stephens Creek**	**27.48**	**209**	P	**P**	**02 06 05.9**	**+0.4**
	2.6nm,0.7s,mb3.9,baz=28,slow=14,SNR=4.8						
STKA				LR	LR	02 15 47.9	
	comp=Z,55nm,21.4s,baz=23,slow=34						
CMAR	**Chiang Mai Arr**	**63.02**	**295**	P	**P**	**02 10 48.7**	**+2.2**
	1.2nm,0.3s,mb4.5,baz=126,slow=4.6,SNR=4.0						
SONM	**Songino Array**	**71.41**	**327**	P	**P**	**02 11 40.2**	**+1.1**
	0.7nm,0.9s,mb3.6,baz=129,slow=4.6,SNR=3.3						
MCK	**McKinley**	**82.52**	**21**	*e*P	**P**	**02 12 40.0**	**-1.2**
	1.5nm,0.7s,mb4.1						
MKAR	**Makanchi Array**	**85.59**	**318**	P	**P**	**02 12 56.4**	**-0.9**
	0.2nm,0.3s,mb3.8,baz=101,slow=6.3,SNR=5.4						
MKAR	**Makanchi Array**	**85.59**	**318**	P	**P**	**02 12 56.4**	**-0.9**
BRVK	**Borovoye**	**94.50**	**323**	*e*P	**P**	**02 13 38.8**	**-0.3**
	0.5nm,0.5s,mb4.2						

JMA ***23*** *02:09:22.2±0.1, 2454N×12276E, h92km±1km, M2.7*

TAP 23 02:09:21.9, 2452N×12268E, h97km, ML3.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.31**	**101**	P	Pn	02 09 35.7	-0.4
YOJ				eS	Sn	02 09 45.8	-1.0
IRIF	**Iriomote-Funau**	**0.97**	**101**	eS	Sn	02 09 55.4	-1.3
HATJ	**Hateruma jima**	**1.12**	**114**	P	Pn	02 09 42.9	-0.6
HATJ				eS	Sn	02 09 58.8	-0.9
JKRS	**Kuro-shima**	**1.24**	**103**	P	Pn	02 09 44.6	-0.2
JKRS				eS	Sn	02 10 01.2	-1.0
JIJ	**Ishigaki jima**	**1.34**	**96**	P	Pn	02 09 45.3	-0.7
JIJ				S	Sn	02 10 02.1	-2.2
JTJ	**Tarama**	**1.84**	**86**	P	Pn	02 09 52.1	-0.2
JTJ				eS	Sn	02 10 14.4	-1.1
JMJ	**Miyako jima 2**	**2.40**	**82**	eS	Sn	02 10 26.6	-1.7
JKE	**Kume jima 2**	**4.12**	**63**	P	Pn	02 10 21.9	-0.8
JKE				eS	Sn	02 11 07.4	-2.4

*ISCJB **23** 02:18:10.2±0.4, 3889N±001×2289E±002, h1km±3km, Error ellipse: s-maj=2.9km s-min=2.2km az=175.6*
*NEIC **23** 02:18:11.2, 3889N×2289E, h2km, ML3.6(THE), After THE.*
*CSEM **23** 02:18:11.0±0.1, 3887N×2284E, h2km, ML3.6, Error ellipse: s-maj=2.1km s-min=1.5km az=80.0*
*THE **23** 02:18:11.2, 3889N×2289E, h1km, ML3.6*
*ATH **23** 02:18:11.1, 3889N×2283E, h18km±1km, MD3.6/17, ML3.4*
*SOF **23** 02:18:21.8, 3987N×2371E, h2km, MD3.0*

ISC 23 02:18:11.0±0.4, 3889N±001×2288E±002, h3km±3km, n70, σ1°§13/115, 2C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.26**	**158**	ePg	**Pg**	**02 18 16.1**	**+0.2**
LKR				eSg	**Sg**	**02 18 20.1**	**+0.8**
LKR	**Lokris**	**0.26**	**158**	⇓iPB	**Pg**	**02 18 16.5**	**+0.6**
LKR	**Lokris**	**0.26**	**158**	⇓iPb	**Pg**	**02 18 16.4**	**+0.5**
LKR				eSg	**Sg**	**02 18 20.1**	**+0.8**
LKR	**Lokris**	**0.26**	**158**	⇓iPb	**Pg**	**02 18 16.4**	**+0.5**
AGG	**Agios Georgios**	**0.45**	**288**	ePg	**Pg**	**02 18 18.9**	**-0.6**
AGG				eSg	**Sg**	**02 18 25.9**	**+0.6**
NEO	**Neokhori**	**0.50**	**33**	ePN	**Pg**	**02 18 21.5**	**+1.0**
NEO				eSN	**Sg**	**02 18 29.0**	**+2.0**
XOR	**Xorichti**	**0.54**	**27**	ePg	**Pg**	**02 18 22.0**	**+0.8**
XOR				eSg	**Sg**	**02 18 29.7**	**+1.4**
AOS	**Alonnisos**	**0.83**	**70**	ePg	**Pg**	**02 18 27.2**	**+0.3**
AOS				eSg	**Sg**	**02 18 39.2**	**+1.5**
LTK	**Loutraki**	**0.87**	**175**	ePg	**Pg**	**02 18 26.8**	**-0.8**
LTK				eSg	**Sg**	**02 18 39.5**	**+0.7**
THL	**Klokotos Trika**	**0.95**	**316**	ePg	**Pg**	**02 18 28.2**	**-1.0**
THL				eSg	**Sg**	**02 18 43.0**	**+1.5**
THL	**Klokotos Trika**	**0.95**	**316**	ePN	**Pn**	**02 18 28.8**	**-2.3**
THL				eSN	**Sn**	**02 18 42.1**	**-3.1**
THL	**Klokotos Trika**	**0.95**	**316**	ePn	**Pn**	**02 18 28.8**	**-2.3**
THL				eSn	**Sn**	**02 18 42.1**	**-3.1**
THL				eSg	**Sg**	**02 18 43.0**	**+1.5**
ATH	**Athens Observa**	**1.13**	**144**	ePN	**Pn**	**02 18 33.3**	**-0.3**
ATH				eSN	**Sn**	**02 18 48.7**	**-0.8**
PTL	**Penteli**	**1.14**	**137**	ePN	**Pn**	**02 18 33.0**	**-0.8**
PAIG	**Paliouri**	**1.21**	**31**	ePg	**Pg**	**02 18 34.0**	**-0.2**
PAIG				eSg	**Sg**	**02 18 50.6**	**+0.7**
NAIG	**Nisos Aigina**	**1.23**	**157**	ePN	**Pn**	**02 18 34.5**	**-0.4**
NAIG	**Nisos Aigina**	**1.23**	**157**	ePn	**Pn**	**02 18 35.5**	**+0.6**
LIT	**Litokhoron**	**1.25**	**346**	ePg	**Pg**	**02 18 34.1**	**-0.8**
LIT				eSg	**Sg**	**02 18 52.1**	**+1.1**
KVR	**Kavouri**	**1.27**	**146**	ePN	**Pn**	**02 18 35.0**	**-0.5**
RLS	**Riolos of Patr**	**1.38**	**234**	ePN	**Pn**	**02 18 36.4**	**-0.7**
DID	**Didima**	**1.41**	**168**	ePg	**Pg**	**02 18 36.7**	**-1.3**
DID				eSg	**Sg**	**02 18 55.9**	**-0.3**
PLG	**Polygyros**	**1.55**	**16**	ePg	**Pg**	**02 18 38.5**	**-2.1**
PLG				eSg	**Sg**	**02 19 00.3**	**-0.4**
PLG	**Polygyros**	**1.55**	**16**	ePN	**Pn**	**02 18 39.0**	**-0.3**
PLG				eSN	**Sn**	**02 18 59.7**	**-0.2**
PLG	**Polygyros**	**1.55**	**16**	ePg	**Pg**	**02 18 38.5**	**-2.1**
PLG				eSn	**Sn**	**02 18 59.7**	**-0.2**
PLG				eSg	**Sg**	**02 19 00.3**	**-0.4**
PLG	**Polygyros**	**1.55**	**16**	ePb	**Pb**	**02 18 38.6**	**-1.6**
PLG				eSn	**Sn**	**02 18 59.7**	**-0.2**
VLX	**Vlachokerasia**	**1.57**	**195**	ePg	**Pg**	**02 18 39.2**	**-1.7**
VLX				eSg	**Sg**	**02 19 01.7**	**+0.4**
VLX	**Vlachokerasia**	**1.57**	**195**	ePg	**Pg**	**02 18 39.2**	**-1.8**
VLX				eSg	**Sg**	**02 19 01.7**	**+0.4**
KZN	**Kozani**	**1.65**	**329**	ePN	**Pn**	**02 18 40.7**	**-0.1**
OUR	**Ouranopolis**	**1.68**	**30**	ePb	**Pb**	**02 18 40.9**	**-1.6**
OUR				eSb	**Sb**	**02 19 03.7**	**-0.2**
OUR	**Ouranopolis**	**1.68**	**30**	ePb	**Pb**	**02 18 40.8**	**-1.6**
OUR				eSb	**Sb**	**02 19 03.7**	**-0.2**
HORT	**Hortiatis**	**1.71**	**6**	ePb	**Pb**	**02 18 40.8**	**-2.3**
HORT				eSb	**Sb**	**02 19 03.2**	**-1.8**
THE	**Thessaloniki**	**1.74**	**2**	ePb	**Pb**	**02 18 41.0**	**-2.5**
THE				eSb	**Sb**	**02 19 04.6**	**-1.2**
LKD	**Levkas**	**1.75**	**265**	ePb	**Pb**	**02 18 42.9**	**-0.7**
LKD				eSb	**Sb**	**02 19 07.2**	**+1.2**
JAN	**Janina**	**1.75**	**297**	ePN	**Pn**	**02 18 42.2**	**+0.1**
ITM	**Ithomi**	**1.86**	**204**	ePN	**Pn**	**02 18 44.5**	**+0.8**
VLS	**Valsamata**	**1.93**	**249**	ePb	**Pb**	**02 18 46.2**	**-0.5**
VLS				eSb	**Sb**	**02 19 10.8**	**-0.3**
VLS	**Valsamata**	**1.93**	**249**	ePn	**Pn**	**02 18 45.1**	**+0.5**
VLS	**Valsamata**	**1.93**	**249**	ePb	**Pb**	**02 18 46.2**	**-0.5**
VLS				eSb	**Sb**	**02 19 10.8**	**-0.3**
SOH	**Sokhos**	**1.96**	**11**	ePb	**Pb**	**02 18 45.3**	**-2.1**
SOH				eSb	**Sb**	**02 19 11.6**	**-0.6**
LOS	**Limnos**	**2.00**	**58**	ePn	**Pn**	**02 18 45.3**	**-0.3**
IGT	**Igoumenitsa**	**2.08**	**289**	ePn	**Pn**	**02 18 47.4**	**+0.8**
IGT				eSn	**Sn**	**02 19 14.3**	**+1.4**
GRG	**Griva**	**2.10**	**350**	ePn	**Pn**	**02 18 46.4**	**-0.5**
GRG				eSn	**Sn**	**02 19 13.6**	**+0.2**
VLI	**Veliai**	**2.17**	**179**	ePN	**Pn**	**02 18 48.5**	**+0.6**
VLI	**Veliai**	**2.17**	**179**	ePn	**Pn**	**02 18 49.0**	**+1.1**
FNA	**Florina**	**2.22**	**329**	ePn	**Pn**	**02 18 48.8**	**+0.3**
FNA				eSn	**Sn**	**02 19 17.1**	**+0.7**
SRS	**Serrai**	**2.29**	**14**	ePn	**Pn**	**02 18 49.2**	**-0.4**
SRS				eSn	**Sn**	**02 19 18.0**	**-0.3**
BIA	**Bitola**	**2.44**	**331**	ePn	**Pn**	**02 18 55.0**	**+3.4**
BIA				eSn	**Sn**	**02 19 28.1**	**+6.2**
BIA	**Bitola**	**2.44**	**331**	ePn	**Pn**	**02 18 55.0**	**+3.4**
BIA				eSn	**Sn**	**02 19 28.0**	**+6.1**
VAY	**Valandovo**	**2.44**	**355**	ePn	**Pn**	**02 18 50.8**	**-0.8**
VAY				eSn	**Sn**	**02 19 21.2**	**-0.7**
KEK	**Kerkira**	**2.52**	**290**	ePN	**Pn**	**02 18 52.9**	**+0.1**
CHOS	**Chios island**	**2.54**	**100**	ePn	**Pn**	**02 18 52.9**	**-0.1**
CHOS				eSn	**Sn**	**02 19 25.8**	**+1.4**
NVR	**Nevrokopi**	**2.57**	**17**	ePN	**Pn**	**02 18 53.6**	**+0.2**
PRK	**Paraskevi**	**2.67**	**81**	ePn	**Pn**	**02 18 53.9**	**-0.9**
PRK				eSn	**Sn**	**02 19 29.1**	**+1.6**
PRK	**Paraskevi**	**2.67**	**81**	ePN	**Pn**	**02 18 56.4**	**+1.7**
OHR	**Ohrid**	**2.73**	**325**	ePn	**Pn**	**02 18 57.2**	**+1.6**
OHR				eSn	**Sn**	**02 19 31.4**	**+2.2**
OHR	**Ohrid**	**2.73**	**325**	ePn	**Pn**	**02 18 57.2**	**+1.5**
OHR				eSn	**Sn**	**02 19 31.3**	**+2.1**
KRUS	**Krusevo**	**2.77**	**334**	ePn	**Pn**	**02 18 57.4**	**+1.2**
KRUS				eSn	**Sn**	**02 19 30.7**	**+0.6**
KRUS	**Krusevo**	**2.77**	**334**	ePn	**Pn**	**02 18 57.3**	**+1.1**
KRUS				eSn	**Sn**	**02 19 30.7**	**+0.6**
APE	**Apeiranthos**	**2.77**	**130**	ePn	**Pn**	**02 18 56.3**	**+0.1**
APE				eSn	**Sn**	**02 19 29.6**	**-0.6**
APE	**Apeiranthos**	**2.77**	**130**	⇑iP	**Pn**	**02 19 05.5**	**+9.3**
MMB	**Musomiste**	**2.77**	**13**	Pg	**Pg**	**02 18 56.4**	**-7.7**
KKB	**Krupnik**	**2.98**	**3**	P	**Pn**	**02 18 59.1**	**+0.1**
KKB				Pg	**Pg**	**02 19 00.6**	**-7.4**
RZN	**Rozhen**	**3.13**	**26**	Pg	**Pg**	**02 19 01.9**	**-9.0**
KDZ	**Kurdzhali**	**3.37**	**34**	Pg	**Pn**	**02 19 03.8**	**-0.7**
VTS	**Vitosha**	**3.71**	**4**	⇓iP	**Pn**	**02 19 11.6**	**+2.6**
SIVA	**Sivas**	**4.16**	**158**	P	**Pn**	**02 19 20.6**	**+5.3**
LAST	**Lasithi**	**4.26**	**150**	P	**Pn**	**02 19 20.0**	**+3.3**
TIP	**Timpagrande**	**4.77**	**275**	P	**Pn**	**02 19 27.3**	**+3.6**
MLR	**Muntele Rosu**	**6.98**	**18**	⇓iP	**Pn**	**02 19 56.9**	**+2.9**
PLOR	**Plostina**	**7.50**	**21**	⇑iP	**Pn**	**02 20 05.9**	**+4.8**

*IDC **23** 02:36:21.3±3.1, 4142N×12705W, h0km, mb2.9/2, mb1 3.6/5, mb1mx3.4/24, mbtmp3.2/5, MS3.4/4, Ms1 3.3/4, ms1mx2.9/15, Error ellipse: s-maj=37.8km s-min=28.2km az=49.0*
*NEIC **23** 02:36:22.2±2.0, 4128N×12709W, h10km, mb3.9/3, Error ellipse: s-maj=23.6km s-min=9.9km az=74.0*

ISC 23 02:36:22.9±1.4, 4128N±008×1270W±01, h10km, n33, σ1°§02/34, mb3.3/3, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTRM	**Thompson Ridge**	**2.80**	**76**	P	**Pn**	**02 37 06.9**	**-0.9**
KCPM	**Cahto Peak**	**3.06**	**120**	ePn	**Pn**	**02 37 09.4**	**-1.9**
YBH	**Yreka Blue Hor**	**3.27**	**81**	Pn	**Pn**	**02 37 14.6**	**+0.5**
YBH	11nm,0.3s,baz=268,slow=11,SNR=126			Sn	**Sn**	**02 37 54.3**	**+1.2**
YBH	baz=108,slow=20,SNR=1.0			LR	LR	02 38 43.1	
YBH	comp=Z,592nm,18.7s,baz=227,slow=43 **Yreka Blue Hor**	**3.27**	**81**	ePn	**Pn**	**02 37 14.2**	**0.0**
YBH				ePg	**Pg**	**02 37 24.1**	**-1.4**
HUMO	**Hull Mountain**	**3.31**	**65**	P	**Pn**	**02 37 13.8**	**-0.9**
WDC	**Whiskeytown Da**	**3.46**	**100**	ePn	**Pn**	**02 37 15.9**	**-1.0**
WDC				eSn	**Sn**	**02 37 56.6**	**-1.3**
RNO	**Roman Nose**	**3.58**	**41**	P	**Pn**	**02 37 18.0**	**-0.4**
BBOR	**Butler Butte**	**3.61**	**62**	P	**Pn**	**02 37 18.7**	**-0.2**
LHEM	**Herd Peak**	**3.62**	**83**	P	**Pn**	**02 37 19.7**	**+0.6**
BUOR	**Burton Butte**	**3.71**	**73**	P	**Pn**	**02 37 21.4**	**+1.2**
VSP	**Spence Mountai**	**3.93**	**73**	P	**Pn**	**02 37 24.7**	**+1.3**
HOG	**Hogback Mounta**	**4.09**	**75**	P	**Pn**	**02 37 26.0**	**+0.6**
LASM	**Arnica Sink**	**4.10**	**84**	P	**Pn**	**02 37 25.5**	**-0.2**
LTIM	**Timbered Crate**	**4.17**	**90**	P	**Pn**	**02 37 27.0**	**+0.4**
LBCM	**Butte Creek Ri**	**4.31**	**94**	P	**Pn**	**02 37 28.3**	**-0.2**
HBO	**Huckleberry Mo**	**4.32**	**52**	P	**Pn**	**02 37 29.6**	**+1.0**
IRO	**Indian Ridge**	**4.45**	**51**	P	**Pn**	**02 37 31.4**	**+1.0**
MOD	**Modoc**	**5.07**	**81**	ePn	**Pn**	**02 37 38.6**	**-0.4**
MOD	16nm,0.8s			eSg	**Sg**	**02 38 56.4**	**-9.4**
CMB	**Columbia Colle**	**6.06**	**120**	ePn	**Pn**	**02 37 52.2**	**-0.2**
WVOR	4.1nm,0.8s **Wild Horse Val**	**6.36**	**77**	ePn	**Pn**	**02 37 55.9**	**-0.8**
NVAR	2.4nm,0.6s **Mina Array Bea**	**7.28**	**110**	Pn	**Pn**	**02 38 11.1**	**+1.7**
ELK	0.1nm,0.3s,baz=289,slow=13,SNR=9.6 **Elko**	**8.92**	**90**	LR	LR	02 42 17.2	
DUG	comp=Z,148nm,19.4s,baz=308,slow=40 **Dugway**	**10.84**	**91**	ePn	**Pn**	**02 38 58.1**	**+0.1**
BOZ	16nm,1.6s **Bozeman (W)**	**12.00**	**64**	ePn	**Pn**	**02 39 12.9**	**-1.1**
PDAR	4.0nm,1.4s **Pinedale Array**	**13.07**	**78**	Pn	**Pn**	**02 39 32.4**	**+3.9**
LAO	baz=275,slow=12,SNR=3.0 **LASA Array**	**15.90**	**63**	eP	**Pn**	**02 40 06.3**	**-0.3**
SDCO	7.9nm,1.0s **Great Sand Dun**	**16.97**	**95**	eP	**Pn**	**02 40 23.1**	**+2.7**
ANMO	18nm,1.7s **Albuquerque**	**17.35**	**105**	LR	LR	02 47 48.0	
FFC	comp=Z,130nm,18.4s,baz=155,slow=39 **Flin Flon**	**21.34**	**42**	eP	**P**	**02 41 10.0**	**+0.1**
TXAR	5.0nm,0.8s,mb3.9 **Lajitas Array**	**22.40**	**115**	P	**P**	**02 41 22.7**	**+1.2**
TXAR	0.5nm,0.9s,mb2.9,baz=271,slow=9.8,SNR=3.8 **Lajitas Array**	**22.40**	**115**	P	**P**	**02 41 22.7**	**+1.2**
YKA	18nm,1.7s **Yellowknife Ar**	**22.51**	**15**	P	**P**	**02 41 20.9**	**-1.4**
ULM	0.2nm,0.3s,mb3.0,baz=207,slow=10,SNR=3.8 **Lac du Bonnet**	**23.36**	**57**	LR	LR	02 51 23.2	

IDC 23 02:54:03.7±2.0, 1334N×9319E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/20, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=63.8km s-min=27.0km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.51**	**47**	Pn	Pn	02 55 53.8	-0.8
MKAR	0.3nm,0.3s,baz=229,slow=14,SNR=3.0 **Makanchi Array**	**34.58**	**347**	P	P	03 00 54.1	0.0
WRA	0.1nm,0.2s,baz=167,slow=7.0,SNR=2.4 **Warramunga Arr**	**52.28**	**129**	P	P	03 03 17.3	+0.1
ASAR	0.6nm,0.5s,baz=301,slow=10.0,SNR=5.6 **Alice Springs**	**54.20**	**132**	P	P	03 03 31.5	+0.2
	0.4nm,0.5s,baz=312,slow=5.9,SNR=4.7						

*FUNV **23** 02:57:05.5, 657N×7321W, h158km, MW3.6*
*ISCJB **23** 02:57:07.1±0.6, 685N±005×7295W±006, h176km±6km, mb3.6/3, Error ellipse: s-maj=11.3km s-min=6.3km az=40.3*
*IDC **23** 02:57:08.1±0.8, 685N×7295W, h164km±21km, mb3.4/2, mb1 3.6/5, mb1mx3.2/21, mbtmp3.6/5, Error ellipse: s-maj=64.4km s-min=7.6km az=134.0*
*NEIC **23** 02:57:08.1±0.8, 691N×7312W, h162km±21km, mb3.6/1, Error ellipse: s-maj=46.0km s-min=12.1km az=143.0*

ISC 23 02:57:08.1±0.6, 684N±005×7294W±006, h170km±6km, n25, σ0°§65/35, mb3.6/3, 8C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**31**	⇑iP	**Pn**	**02 57 36.5**	**+0.1**
CAPV				eS	**Sn**	**02 57 58.5**	**+0.3**
ROSC	**El Rosal**	**2.41**	**215**	P	**Pn**	**02 57 48.7**	**-0.6**
ROSC	38nm,0.3s,baz=52,slow=0.9,SNR=96			S	**Sn**	**02 58 21.7**	**+0.6**
SOCV	45nm,0.3s,baz=94,slow=22,SNR=14 **Socops**	**2.51**	**55**	⇑iP	**Pn**	**02 57 51.1**	**+0.7**
SOCV				eS	**Sn**	**02 58 23.4**	**+0.2**
VIGV	**El Vigia**	**2.52**	**38**	⇑iP	**Pn**	**02 57 50.8**	**+0.2**
VIGV				eS	**Sn**	**02 58 24.0**	**+0.5**
SDV	**Santo Domingo**	**3.06**	**48**	P	**Pn**	**02 57 58.1**	**+1.0**
SDV	25nm,0.3s,baz=249,slow=12,SNR=67			S	**Sn**	**02 58 34.8**	**-0.2**
ELOV	14nm,0.3s,baz=25,slow=18,SNR=19 **Elorza**	**3.43**	**87**	eS	**Sn**	**02 58 41.4**	**-1.9**
VIRV	**Villa del Rosa**	**3.68**	**8**	⇑iP	**Pn**	**02 58 03.6**	**-1.3**
VIRV				eS	**Sn**	**02 58 48.0**	**-1.1**
QARV	**Quebrada Arrib**	**4.11**	**35**	⇑iP	**Pn**	**02 58 10.8**	**+0.4**
QARV				eS	**Sn**	**02 58 59.0**	**0.0**
SANV	**Sanarito**	**4.28**	**52**	⇑eP	**Pn**	**02 58 12.6**	**0.0**
SANV				eS	**Sn**	**02 59 03.3**	**+0.4**
CURV	**Curarigua**	**4.31**	**43**	⇑eP	**Pn**	**02 58 12.8**	**-0.1**
CURV				eS	**Sn**	**02 59 04.3**	**+0.7**
DABV	**Dabajuro**	**4.65**	**29**	eP	**Pn**	**02 58 17.4**	**+0.1**
DABV				eS	**Sn**	**02 59 11.5**	**0.0**
TEPV	**Terepaima**	**4.83**	**50**	eP	**Pn**	**02 58 19.7**	**0.0**
SIQV	**Siquisique**	**4.89**	**39**	eP	**Pn**	**02 58 20.2**	**-0.2**
BAUV	**El Baul**	**5.28**	**66**	⇑iP	**Pn**	**02 58 24.5**	**-1.1**
IMOV	**Isla Los Monje**	**5.84**	**20**	eP	**Pn**	**02 58 32.4**	**-0.5**
TURV	**Turiamo**	**6.18**	**54**	eP	**Pn**	**02 58 37.8**	**+0.3**
CAOV	**Caicara del Or**	**6.58**	**85**	eP	**Pn**	**02 58 42.4**	**-0.4**
BIRV	**Birongo**	**7.51**	**61**	eP	**Pn**	**02 58 54.8**	**-0.3**
CUPV	**Cœpira**	**7.76**	**65**	eP	**Pn**	**02 58 58.6**	**+0.3**
PCRV	**Puerto La Cruz**	**8.85**	**67**	P	**Pn**	**02 59 14.7**	**+2.0**
PCRV	**Puerto La Cruz**	**8.85**	**67**	eP	**Pn**	**02 59 13.3**	**+0.6**
SCHQ	**Schefferville**	**48.11**	**5**	P	**P**	**03 05 31.1**	**+0.6**
DUG	1.1nm,0.6s,mb3.7,baz=191,slow=4.5,SNR=4.2 **Dugway**	**48.72**	**319**	eP	**P**	**03 05 35.0**	**-0.4**
YKA	1.2nm,0.8s,mb3.6 **Yellowknife Ar**	**63.31**	**340**	P	**P**	**03 07 18.7**	**+0.1**
YKA	0.5nm,0.6s,mb3.5,baz=129,slow=6.5,SNR=6.1 **Yellowknife Ar**	**63.31**	**340**	P	**P**	**03 07 18.7**	**+0.1**

IDC 23 03:05:28.3±2.9, 1329S×7703W, h41km±26km, mb3.5/2, mb1 3.5/5, mb1mx3.3/17, mbtmp3.3/5, ML3.1/3, Error ellipse: s-maj=34.1km s-min=14.9km az=77.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.31**	**8**	P	Pn	03 05 49.3	-0.9
NNA	350nm,0.3s,baz=189,slow=13,SNR=608			S	Sn	03 06 06.7	+0.2
ATAH	751nm,0.3s,baz=111,slow=15,SNR=35 **Atahualpa**	**6.40**	**348**	P	Pn	03 06 59.6	-0.5
ATAH	3.5nm,0.3s,baz=130,slow=3.6,SNR=14			S	Sn	03 08 24.1	+12
LPAZ	0.9nm,0.3s,baz=81,slow=19,SNR=2.1 **La Paz**	**9.11**	**110**	P	Pn	03 07 37.9	+0.6
LPAZ	0.0nm,0.3s,baz=306,slow=8.7,SNR=2.2			S	Sn	03 09 28.9	+10
CFAA	baz=180,slow=20,SNR=1.9 **Coronel Fontan**	**19.94**	**158**	P	Pn	03 09 57.0	-1.7
NVAR	0.0nm,0.3s,baz=308,slow=12,SNR=3.9 **Mina Array Bea**	**64.33**	**325**	P	P	03 15 59.8	0.0
TORD	0.4nm,0.7s,baz=151,slow=5.8,SNR=3.6 **Torodi Ar. Bea**	**82.31**	**75**	P	P	03 17 46.1	-0.2
	1.3nm,0.8s,baz=254,slow=6.8,SNR=7.0						

SONM	**Songino Array**	**145.45**	**356**	PKPbc	PKPbc	03 25 01.9	-0.1
	1.4nm,0.8s,baz=342,slow=2.8,SNR=5.1						

*IDC **23** 03:09:16.3±18.0, 3615N×6898E, h88km±171km, mb3.0/2, mb1 3.1/4, mb1mx2.9/23, mbtmp3.1/4, ML3.3/2, Error ellipse: s-maj=150.9km s-min=69.2km az=152.0*
*ISCJB **23** 03:09:21.6±0.7, 3633N±006×6911E±01, h156km±12km, Error ellipse: s-maj=16.9km s-min=8.6km az=22.8*
*NEIC **23** 03:09:22.4±0.8, 3630N×6917E, h156km±19km, mb3.8/2, Error ellipse: s-maj=45.8km s-min=9.9km az=121.0*

ISC 23 03:09:22.3±0.7, 3639N±005×689E±01, h144km±11km, n20, σ0°§78/24, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.84**	**177**	ePn	**Pn**	**03 09 55.5**	**+0.2**
KBL				eSn	**Sn**	**03 10 19.9**	**-0.6**
KK31	**Karatay Array**	**6.82**	**10**	⇓Pn	**Pn**	**03 11 01.6**	**+1.9**
KK31	2.1nm,0.5s,baz=192,slow=13,SNR=33			⇓Sn	**Sn**	**03 12 16.3**	**+0.2**
AML	7.6nm,0.5s,baz=196,slow=24,SNR=8.6 **Almayashu**	**6.82**	**31**	P	**Pn**	**03 11 00.5**	**+0.6**
AML	SNR=55 **Almayashu**	**6.82**	**31**	ePn	**Pn**	**03 11 00.2**	**+0.4**
AML	38nm,0.7s			eSn	**Sn**	**03 12 15.5**	**-0.8**
EKS2	**Erkin-Say**	**7.30**	**29**	P	**Pn**	**03 11 07.1**	**+0.9**
EKS2	SNR=10 **Erkin-Say**	**7.30**	**29**	ePn	**Pn**	**03 11 06.8**	**+0.6**
KZA	10nm,0.7s **Kyzart**	**7.51**	**39**	P	**Pn**	**03 11 08.8**	**-0.2**
KBK	SNR=9.3 **Karagaybulak**	**7.80**	**35**	P	**Pn**	**03 11 14.0**	**+1.1**
CHMS	SNR=17 **Chumysh**	**7.98**	**32**	P	**Pn**	**03 11 15.7**	**+0.4**
USP	SNR=25 **Ospenovka**	**8.10**	**30**	P	**Pn**	**03 11 16.7**	**-0.2**
ULHL	SNR=5.3 **Ulahol**	**8.14**	**42**	P	**Pn**	**03 11 17.2**	**-0.3**
TKM2	SNR=16 **Tokmak 2**	**8.31**	**36**	P	**Pn**	**03 11 19.6**	**-0.1**
TKM2	SNR=28 **Tokmak 2**	**8.31**	**36**	ePn	**Pn**	**03 11 19.3**	**-0.3**
MKAR	22nm,0.6s **Makanchi Array**	**14.40**	**40**	P	**Pn**	**03 12 37.7**	**-1.6**
MKAR	0.0nm,0.3s,baz=230,slow=13,SNR=4.4 **Makanchi Array**	**14.40**	**40**	P	**Pn**	**03 12 37.7**	**-1.6**
AB31	**Akbulak array**	**14.44**	**336**	P	**Pn**	**03 12 44.0**	**+4.3**
AB31	0.1nm,0.3s,baz=145,slow=14,SNR=10			⇑S	**Sn**	**03 15 18.5**	**-1.0**
KURK	0.8nm,0.6s,baz=149,slow=25,SNR=4.2 **Kurchatov**	**15.93**	**23**	eP	**Pn**	**03 12 57.4**	**-0.8**
BVAR	1.1nm,0.7s **Borovoye Array**	**16.67**	**3**	P	**Pn**	**03 13 07.1**	**-0.1**
ZALV	0.3nm,0.3s,baz=175,slow=8.4,SNR=3.9 **Zalesovo Beam**	**20.75**	**27**	P	**P**	**03 13 51.6**	**+0.3**
TORD	0.4nm,0.3s,baz=217,slow=11,SNR=2.6 **Torodi Ar. Bea**	**64.04**	**267**	P	**P**	**03 19 41.2**	**+0.3**
	0.3nm,0.6s,baz=51,slow=6.0,SNR=4.9						

*SKHL **23** 03:14:28.9±2.1, 4780N×15538E, h57km±12km, mb5.2/2, Ms4.9/3, msh5.4/2*
*IDC **23** 03:14:28.6±0.5, 4795N×155.18E, h0km, mb4.3/21, mb1 4.4/23, mb1mx4.4/27, mbtmp4.3/23, ML3.7/1, MS4.4/29, Ms1 4.4/29, ms1mx4.1/45, Error ellipse: s-maj=18.0km s-min=11.9km az=154.0*
*ISCJB **23** 03:14:32.9±0.2, 4799N±004×155.40E±003, h36km, mb4.7/137, MS4.5/58, Error ellipse: s-maj=5.6km s-min=2.4km az=172.8*
*BJI **23** 03:14:33.2, 4833N×15529E, h38km, mB4.8, mb4.6, Ms4.7, Msz4.6*
*NEIC **23** 03:14:34.2±2.5, 4801N×15525E, h35km±17km, mb4.9/88, Error ellipse: s-maj=9.0km s-min=4.8km az=171.0*
*MOS **23** 03:14:34.9±1.5, 4803N×15529E, h55km, mb5.1/54, MS4.6/24, Error ellipse: s-maj=9.1km s-min=5.1km az=97.1*
*SZGRF **23** 03:14:42.5, 49.11N×155.13E, h38km, mb5.2, MS4.7, Kuril Islands, Russia*

ISC 23 03:14:35.2±0.2, 4801N±004×15532E±003, h38km, h38km±.7km:pP-P, n564, σ0°§82/566, mb4.7/137, MS4.5/58, 126C-138D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.73**	**11**	ePN	**Pn**	**03 15 15.0**	**-1.4**
SKR				eS	**Sn**	**03 15 48.0**	**-0.1**
SKR	comp=N,130nm,0.5s			pmax	pmax		
SKR	comp=E,100nm,0.5s			pmax	pmax		
SKR	comp=Z,220nm,0.5s			pmax	pmax		
SKR	comp=N,2μm,1.0s			pmax	pmax		
SKR	comp=E,1μm,1.0s			pmax	pmax		
SKR	comp=Z,1μm,1.0s			smax			
SKR	comp=N,2μm,0.7s			smax			
SKR	comp=E,2μm,0.7s			smax

comp=N,410nm,1.0s
KUR smax
comp=E,380nm,1.0s
KUR smax
comp=N,5μm,4.0s
KUR smax
comp=E,3μm,4.0s
KUR MLR MLR
comp=N,8μm,14.0s
KUR MLR MLR
comp=E,8μm,14.0s
KUR MLR MLR
comp=Z,8μm,14.0s
YSS Yuzh-Sakhalins 8.58 268 *e*P **Pn 03 16 35.5 -1.2**
YSS *e*S **Sn 03 18 12.0 -0.1**
YSS AMS AMS 03 19 47.0
comp=Z,2μm,15.0s
YSS AMS AMS 03 19 47.0
comp=Z,3μm,15.0s
YSS AMS AMS 03 19 47.0
comp=Z,3μm,15.0s
YSS Yuzh-Sakhalins 8.58 268 *e*Pn **Pn 03 16 35.8 -0.9**
ASAJ Asahikawa 9.66 251 Pn **Pn 03 16 50.0 -1.5**
comp=Z,1.5nm,0.3s,baz=104,slow=14,SNR=6.1
ASAJ LR LR 03 20 20.4
comp=Z,1μm,18.2s,baz=3.1,slow=37
ASAJ Asahikawa 9.66 251 PN **Pn 03 16 50.1 -1.4**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,1μm,18.2s
SEY Seymchan 15.05 355 *e*P **Pn 03 18 03.0 -1.7**
KLR Kul'dur 15.63 283 *e*P **Pn 03 18 12.8 +0.4**
KLR *e*S **S 03 21 06.0 -12**
KLR pmax pmax
comp=E,170nm,1.8s
KLR pmax pmax
comp=Z,120nm,1.8s
KLR MLR MLR
comp=Z,2μm,14.0s
AMKA Amchitka 15.86 69 *e*Pn **Pn 03 18 16.9 +1.6**
AMKA *e* 03 18 28.8
MJAR Matsushiro Arr 17.04 234 Pn **Pn 03 18 24.4 -5.9**
comp=Z,0.3nm,0.3s,baz=32,slow=12,SNR=7.3
MAJO Matsushiro 17.04 234 *e*P **Pn 03 18 29.5 -0.8**
MAJO pmax pmax
comp=Z,45nm,1.3s
MAJO Matsushiro 17.04 234 *e*P **Pn 03 18 29.4 -0.9**
comp=Z,45nm,1.3s
MAT Matsushiro 17.04 234 P **Pn 03 18 24.8 -5.5**
MAT S **S 03 21 43.0 -4.2**
MDJ Mudanjiang 18.07 269 P **Pn 03 18 41.6 -1.4**
MDJ AP pP 03 18 50.0 -2.7
MDJ XP sP 03 18 53.9 -3.7
MDJ S **S 03 22 01.8 -6.3**
MDJ PCS PcS 03 26 53.1 +1.1
MDJ AMB AMB
comp=Z,6.0nm,1.5s
MDJ AMB AMB
comp=Z,139nm,5.0s
MDJ LR LR
comp=E,820nm,15.7s
MDJ LR LR
comp=Z,1μm,14.7s
YAK Yakutsk 20.14 324 *e*P **P 03 19 13.7 +8.2**
YAK *e* 03 19 29.3
YAK *e*S **S 03 22 52.6 +3.3**
YAK *e*SS 03 23 14.2
YAK pmax pmax
comp=Z,50nm,1.2s
YAK pmax pmax
comp=N,23nm,1.2s
YAK pmax pmax
comp=E,45nm,1.5s
YAK pmax pmax
comp=Z,66nm,1.8s
YAK smax
comp=N,138nm,3.0s
YAK smax
comp=E,82nm,2.8s
YAK MLR MLR
comp=Z,2μm,17.0s,MS4.5
YAK MLR MLR
comp=N,1μm,18.0s,MS4.4
YAK MLR MLR
comp=E,1μm,18.0s,MS4.4
CLNS Chul'man 20.40 307 *e*P **P 03 19 13.1 +4.6**
CLNS *e* 03 19 28.1
CLNS *e*S **S 03 22 56.9 +2.2**
CLNS pmax pmax
comp=Z,71nm,1.5s
CLNS pmax pmax
comp=N,51nm,1.5s
CLNS pmax pmax
comp=E,42nm,1.2s
CLNS pmax pmax
comp=Z,43nm,1.0s
CLNS pmax pmax
comp=N,47nm,1.1s
CLNS pmax pmax
comp=E,45nm,1.2s
CLNS smax
comp=N,206nm,11.9s
CLNS smax
comp=E,177nm,11.5s
CLNS MLR MLR
comp=Z,2μm,18.0s,MS4.5
CLNS MLR MLR
comp=N,1μm,13.0s,MS4.4
CLNS MLR MLR
comp=E,888nm,18.0s,MS4.4
BILL Bilibino 20.84 12 *e*P **P 03 19 11.7 -1.4**
BILL pmax pmax
comp=Z,6.0nm,0.8s
BILL MLR MLR
comp=Z,1μm,20.0s,MS4.3
CN2 Changchun 21.14 270 *e*P **P 03 19 13.8 -2.8**
CN2 *e*XP sP 03 19 31.1 -0.1
CN2 *e*S **S 03 23 00.8 -8.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.3
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,16.0s,MS4.3
CN2 LR LR
comp=E,700nm,16.0s,MS4.3
CN2 LR LR
comp=Z,1μm,17.0s,MS4.3
KSRS Korea Array 22.61 252 P **P 03 19 30.1 -2.2**
comp=Z,13nm,1.1s,mb4.3,baz=55,slow=10,SNR=16
KSRS LR LR 03 27 27.2
comp=Z,349nm,18.5s,MS3.8,baz=184,slow=35
KSRS Korea Array 22.61 252 P **P 03 19 30.2 -2.1**
KSRS pmax pmax
comp=Z,13nm,1.1s,mb4.3
KSRS MLR MLR
comp=Z,349nm,18.5s,MS3.8
SNY Shenyang 23.20 266 P **P 03 19 40.5 +1.9**
SNY S **S 03 23 49.6 +2.2**
SNY AMB AMB
comp=Z,194nm,3.9s
SNY LR LR
comp=E,2μm,15.9s
SNY LR LR
comp=Z,2μm,17.3s,MS4.5
DL2 Dalian 25.92 262 P **P 03 20 05.4 +1.9**
DL2 *e*S **S 03 24 34.8 +3.8**
DL2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
DL2 AMB AMB
comp=Z,220nm,7.9s
DL2 LR LR
comp=N,310nm,13.5s,MS4.0
DL2 LR LR
comp=E,190nm,15.9s,MS4.0
DL2 LR LR
comp=Z,320nm,17.5s,MS3.9
BOD Bodaibo 26.38 307 *e*P **P 03 20 06.6 -0.9**
BOD pmax pmax
comp=Z,7.0nm,1.4s,mb4.0
TIXI Tiksi 26.71 342 *e*P **P 03 20 10.3 0.0**
TIXI pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
TIXI MLR MLR
comp=Z,1μm,16.0s,MS4.6

BJI Beijing 29.00 269 P **P 03 20 30.9 -0.2**
BJI AMB AMB
comp=Z,5.0nm,0.6s,mb4.4
BJI AMB AMB
comp=Z,395nm,13.8s
BJI LR LR
comp=N,933nm,20.1s,MS4.7
BJI LR LR
comp=E,1μm,16.1s,MS4.7
BJI LR LR
comp=Z,990nm,17.6s,MS4.5
TTA Tatalina 30.48 43 *e*P **P 03 20 43.8 -0.1**
SVW2 Sparrevohn 30.54 46 *e*P **P 03 20 44.3 -0.2**
SSE Sheshan 30.95 249 P **P 03 20 48.6 +0.2**
SSE XP sP 03 21 04.6 +0.9
SSE S **S 03 25 51.8 +1.6**
SSE XS sS 03 26 09.3 +1.4
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,84nm,4.4s
SSE LR LR
comp=N,423nm,17.0s,MS4.3
SSE LR LR
comp=E,355nm,17.0s,MS4.3
SSE LR LR
comp=Z,721nm,16.0s,MS4.4
HHC Hu-ho-hao-te 31.71 273 *e*P **P 03 20 55.4 +0.4**
HHC AP pP 03 21 04.9 -0.8
HHC XP sP 03 21 08.9 -1.4
HHC PP PP 03 22 00.3 -6.6
HHC PCP PcP 03 23 47.4 +1.5
HHC S **S 03 26 00.5 -1.4**
HHC XS sS 03 26 16.5 -3.1
HHC SCP ScP 03 27 27.3 +1.4
HHC PCS PcS 03 27 31.3 +1.0
HHC SS SS 03 27 51.0 -27
HHC SCS ScS 03 31 23.4 -0.6
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
HHC AMB AMB
comp=Z,109nm,5.3s
HHC LR LR
comp=N,620nm,15.1s,MS4.6
HHC LR LR
comp=E,764nm,13.4s,MS4.6
HHC LR LR
comp=Z,1μm,14.3s,MS4.7
NJ2 Nanjing 31.80 253 *e*P **P 03 20 57.8 +1.9**
NJ2 AP pP 03 21 09.5 +2.9
NJ2 XP sP 03 21 14.9 +3.8
NJ2 PP PP 03 22 04.3 -3.7
NJ2 S **S 03 26 03.5 0.0**
NJ2 XS sS 03 26 23.5 +2.3
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,40nm,6.2s
NJ2 LR LR
comp=N,1μm,20.7s
NJ2 LR LR
comp=E,710nm,15.4s
NJ2 LR LR
comp=Z,700nm,15.7s,MS4.4
IMA2 Indian Mountai 31.90 37 *e*P **P 03 20 56.3 -0.1**
KDAK Kodiak Island 32.14 53 P **P 03 20 56.7 -2.0**
comp=Z,7.2nm,0.9s,mb4.5,baz=201,slow=8.6,SNR=3.8
KDAK Kodiak Island 32.14 53 P **P 03 20 56.7 -2.0**
PPLA Purkeypile 32.22 43 *e*P **P 03 21 00.0 +0.7**
comp=Z,52nm,1.4s,mb5.2
SONM Songino Array 32.35 288 P **P 03 20 58.4 -2.1**
comp=Z,0.9nm,0.8s,mb3.6,baz=64,slow=6.6,SNR=3.3
SONM PcP PcP 03 23 46.8 -0.7
comp=Z,0.2nm,0.4s,baz=52,slow=2.6,SNR=3.0
SONM LR LR 03 35 12.9
comp=Z,1μm,18.4s,MS4.7,baz=74,slow=39
SONM Songino Array 32.35 288 P **P 03 20 58.4 -2.1**
SONM 03 23 46.8
KTH Kantishna Hill 32.82 42 *e*P **P 03 21 04.5 0.0**
comp=Z,32nm,1.2s,mb5.1
TLY Talaya 32.96 296 *e*P **P 03 21 13.8 +8.0**
TLY pmax pmax
comp=Z,15nm,1.4s,mb4.7
TLY MLR MLR
comp=Z,1μm,17.0s,MS4.8
TRF Thorofare Moun 33.10 42 *e*P **P 03 21 06.3 -0.6**
comp=Z,32nm,1.5s,mb5.0
COLD Coldfoot 33.44 35 *e*P **P 03 21 10.0 +0.2**
comp=Z,5.1nm,0.9s,mb4.5
MCK McKinley 33.72 41 *e*P **P 03 21 11.4 -0.8**
comp=Z,10μm,0.6s
COLA College 34.21 39 *e*P **P 03 21 16.6 0.0**
COLA pmax pmax
comp=Z,13nm,0.9s,mb4.9
COLA College 34.21 39 *e*P **P 03 21 16.6 0.0**
comp=Z,13nm,0.9s,mb4.8
BMRM Bremner River 35.88 46 *e*P **P 03 21 30.6 -0.4**
EGAK Eagle 37.08 40 *e*P **P 03 21 40.0 -1.1**
comp=Z,12nm,0.9s,mb4.7
XAN Xi'an 37.12 265 P **P 03 21 47.4 +5.6**
XAN XP sP 03 22 02.9 +5.7
XAN PP PP 03 23 09.1 +2.3
XAN S **S 03 27 22.5 -2.9**
XAN AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
XAN AMB AMB
comp=Z,33nm,4.4s
XAN LR LR
comp=N,322nm,14.8s,MS4.5
XAN LR LR
comp=E,524nm,16.0s,MS4.5
XAN LR LR
comp=Z,1μm,15.8s,MS4.7
DAWY Dawson 37.91 41 *e*P **P 03 21 47.8 -0.4**
KRAR Krasnoyarsk 38.05 306 *e*P **P 03 21 51.7 +2.3**
KRAR pmax pmax
comp=Z,11nm,0.8s,mb4.6
KRAR MLR MLR
comp=Z,1μm,17.0s,MS4.8
HVS Khovu-Aksy 39.06 298 *e*P **P 03 21 59.9 +1.9**
HVS pmax pmax
comp=Z,77nm,1.7s,mb5.2
HYT Haines Junctio 39.32 45 *e*P **P 03 22 01.7 +1.7**
LZH Lanzhou 39.35 272 *e*P **P 03 22 01.6 +1.0**
LZH AP pP 03 22 10.8 -0.6
LZH XP sP 03 22 14.5 -1.5
LZH PP PP 03 23 36.0 +4.8
LZH *e*S **S 03 27 59.3 +0.2**
LZH XS sS 03 28 22.0 +4.9
LZH SS SS 03 30 44.0 -10
LZH AMB AMB
comp=Z,20nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,90nm,4.0s
LZH LR LR
comp=N,785nm,14.4s
LZH LR LR
comp=Z,1μm,16.9s,MS4.8
GTA Gaotai 40.26 279 *e*P **P 03 22 10.0 +1.9**
GTA AP pP 03 22 17.5 -1.5
GTA XP sP 03 22 20.9 -2.6
GTA S **S 03 28 15.6 +3.0**
GTA XS sS 03 28 30.6 0.0
GTA SS SS 03 31 08.8 -2.8
GTA AMB AMB
comp=Z,129nm,7.2s
GTA LR LR
comp=N,777nm,15.6s,MS4.8
GTA LR LR
comp=E,832nm,15.9s,MS4.8
GTA LR LR
comp=Z,1μm,15.9s,MS4.9
SKAG Skagway 40.71 47 *e*P **P 03 22 12.7 +1.1**
comp=Z,18nm,1.1s,mb4.6
CD2 Chengdu 42.48 266 *e*P **P 03 22 26.0 -0.4**
CD2 AP pP 03 22 36.3 -1.0
CD2 XP sP 03 22 40.5 -1.4
CD2 PP PP 03 24 07.8 +2.6
CD2 S **S 03 28 45.0 -0.7**
CD2 XS sS 03 29 01.5 -2.3
CD2 SS SS 03 31 49.3 -6.5
CD2 AMB AMB
comp=Z,20nm,1.1s,mb4.7
CD2 AMB AMB
comp=Z,80nm,7.2s

CD2 LR LR
comp=N,640nm,16.8s,MS4.7
CD2 LR LR
comp=E,640nm,16.7s,MS4.7
CD2 LR LR
comp=Z,820nm,15.6s,MS4.7
ZALV Zalesovo Beam 43.10 305 P **P 03 22 28.6 -2.5**
comp=Z,0.9nm,0.3s,mb3.9,baz=62,slow=9.4,SNR=5.5
ZALV PcP PcP 03 24 20.9 +0.5
comp=Z,0.4nm,0.3s,baz=29,slow=3.3,SNR=3.2
ZALV LR LR 03 41 31.4
comp=Z,434nm,18.6s,MS4.4,baz=298,slow=38
ZAL Zalesovo 43.12 305 P **P 03 22 28.7 -2.6**
ZAL 03 24 20.9
WRAK Wrangell Islan 43.17 51 *e*P **P 03 22 32.7 +1.0**
comp=Z,24nm,1.4s,mb4.7
GYA Guiyang 43.45 258⇑*i*P **P 03 22 36.1 +1.8**
GYA AP pP 03 22 46.9 +1.6
GYA XP sP 03 22 51.3 +1.5
GYA PP PP 03 24 18.0 +2.3
GYA SCP ScP 03 28 11.6 +1.4
GYA S **S 03 28 59.8 -0.2**
GYA XS sS 03 29 18.4 +0.3
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,120nm,5.2s
GYA LR LR
comp=N,490nm,17.8s,MS4.6
GYA LR LR
comp=E,470nm,17.6s,MS4.6
GYA LR LR
comp=Z,480nm,18.7s,MS4.4
NVS Novosibirsk 43.62 307 *e*P **P 03 22 41.4 +6.0**
DLBC Dease Lake 43.64 47 P **P 03 22 35.5 +0.1**
baz=282,slow=8.8
DLBC Dease Lake 43.64 47 *e*P **P 03 22 36.5 +1.1**
WMQ Urumqi 45.87 291 *e*P **P 03 22 54.8 +1.4**
WMQ AP pP 03 23 04.8 +0.4
WMQ XP sP 03 23 08.8 -0.1
WMQ PCP PcP 03 24 32.4 +2.3
WMQ PP PP 03 24 42.4 +1.3
WMQ SCP ScP 03 28 21.4 +1.5
WMQ *e*S **S 03 29 35.5 +0.7**
WMQ SCS ScS 03 32 45.5 -0.3
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,28nm,10.0s
WMQ LR LR
comp=N,511nm,17.0s,MS4.6
WMQ LR LR
comp=E,333nm,16.2s,MS4.6
WMQ LR LR
comp=Z,622nm,16.2s,MS4.6
QIZ Qiongzhong 46.72 248 P **P 03 23 00.8 +0.5**
QIZ XP sP 03 23 13.6 -2.3
QIZ S **S 03 29 47.0 -0.4**
QIZ LR LR
comp=N,397nm,14.6s
QIZ LR LR
comp=Z,598nm,15.8s,MS4.7
KMI Kunming 46.94 260 P **P 03 23 05.5 +3.5**
KMI AP pP 03 23 12.3 -0.8
KMI XP sP 03 23 16.8 -0.8
KMI PP PP 03 24 53.8 +1.1
KMI S **S 03 29 50.6 +0.1**
KMI XS sS 03 30 07.3 -1.5
KMI SS SS 03 33 09.6 -7.8
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
KMI AMB AMB
comp=Z,59nm,3.9s
KMI LR LR
comp=N,481nm,18.5s,MS4.5
KMI LR LR
comp=E,257nm,19.2s,MS4.5
KMI LR LR
comp=Z,220nm,17.9s,MS4.2
MKAR Makanchi Array 47.70 297 P **P 03 23 05.5 -2.2**
comp=Z,2.9nm,0.8s,mb4.3,baz=71,slow=8.5,SNR=12
MKAR LR LR 03 44 46.9
comp=Z,783nm,18.1s,MS4.7,baz=37,slow=38
MKAR Makanchi Array 47.70 297 P **P 03 23 05.5 -2.2**
MKAR LR LR 03 44 47.0
KURK Kurchatov 47.92 304 *e*P **P 03 23 07.2 -2.1**
KURK pmax pmax
comp=Z,20nm,1.0s,mb5.1
KURK Kurchatov 47.92 304 *e*P **P 03 23 07.2 -2.1**
comp=Z,20nm,1.0s,mb5.1
YKA Yellowknife Ar 49.01 38 P **P 03 23 17.5 -0.1**
comp=Z,6.2nm,0.9s,mb4.6,baz=297,slow=7.6,SNR=16
RES Resolute Bay 49.16 19 *e*P **P 03 23 17.4 -1.1**
comp=Z,455nm,0.8s
BVAR Borovoye Array 51.22 309 P **P 03 23 32.4 -2.0**
comp=Z,3.5nm,0.5s,mb4.6,baz=57,slow=7.4,SNR=15
BVAR PcP PcP 03 24 49.2 0.0
comp=Z,1.6nm,0.7s,baz=56,slow=5.4,SNR=2.6
BRVK Borovoye 51.26 310 *e*P **P 03 23 33.1 -1.6**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BRVK Borovoye 51.26 310 *e*P **P 03 23 33.1 -1.6**
comp=Z,4.5nm,0.6s,mb4.6
A05A Maple Falls 52.08 56 ⇑P **P 03 23 40.4 -0.4**
baz=52
B05A Bryant 52.47 57 ⇓P **P 03 23 43.2 -0.5**
baz=52
A07A Ashnola River, 52.99 55 ⇑P **P 03 23 47.2 -0.4**
baz=53,SNR=5.7
C05A Tolt Reservoir 53.01 57 ⇓P **P 03 23 47.2 -0.5**
baz=53
B07A Winthrop 53.46 56 ⇓P **P 03 23 50.9 -0.2**
baz=53
F04A Amboy 53.57 59 ⇓P **P 03 23 51.4 -0.5**
baz=53
E05A Randle 53.60 58 ⇓P **P 03 23 51.3 -0.8**
baz=53
A08A Turner Farm, O 53.65 55 ⇑P **P 03 23 51.9 -0.6**
baz=53,SNR=5.8
D06A Cle Elum 53.76 57 ⇑P **P 03 23 53.1 -0.2**
baz=54
TKM2 Tokmak 2 53.79 296 *e*P **P 03 23 52.4 -1.2**
TKM2 pmax pmax
comp=Z,11nm,1.4s,mb4.6
TKM2 Tokmak 2 53.79 296 *e*P **P 03 23 52.4 -1.2**
comp=Z,11nm,1.4s,mb4.6
ETW Entiat 53.82 57 *e*P **P 03 23 53.3 -0.5**
CHTO Chiang Mai 53.86 258 *e*P **P 03 23 54.6 +0.2**
CHTO pmax pmax
comp=Z,39nm,1.4s,mb5.1
CHTO Chiang Mai 53.86 258 *e*P **P 03 23 54.6 +0.2**
comp=Z,39nm,1.4s,mb5.2
SHL Shillong 53.90 269 *e*P **P 03 23 53.0 -1.6**
C07A Waterville 53.92 56 ⇑P **P 03 23 54.0 -0.4**
baz=54
B08A Colville Reser 53.95 55 ⇑P **P 03 23 54.4 -0.3**
baz=54
A09A Danville 54.02 54 ⇑P **P 03 23 54.6 -0.6**
baz=54,SNR=6.4
E06A Yakima 54.05 58 ⇓P **P 03 23 55.3 -0.2**
baz=54
CMAR Chiang Mai Arr 54.12 257 P **P 03 23 56.5 +0.2**
comp=Z,1.3nm,0.3s,mb4.3,baz=29,slow=7.7,SNR=10
CMAR LR LR 03 48 39.4
comp=Z,307nm,18.1s,MS4.4,baz=269,slow=38
EDM Edmonton 54.36 48 *e*P **P 03 23 57.0 -0.6**
H04A Detroit Lake 54.42 60 ⇓P **P 03 23 57.9 -0.2**
baz=54
C08A Higginbotham F 54.44 56 ⇓P **P 03 23 57.6 -0.6**
baz=54
B09A Rice 54.57 55 ⇑P **P 03 23 58.9 -0.2**
baz=54
A10A Northport 54.57 54 ⇑P **P 03 23 58.6 -0.6**
baz=54
K02A Glendale 54.75 63 ⇓P **P 03 24 01.0 +0.4**
baz=55
I04A Tendick Farm, 54.80 61 ⇑P **P 03 24 01.2 +0.3**
baz=55
F07A Phinny Hill Vi 55.02 58 ⇓P **P 03 24 02.6 +0.1**
baz=55
ARU Arti 55.09 318*d*/P **P 03 24 05.1 +2.2**
ARU *e* 03 26 03.9
ARU *e*S **S 03 31 48.7 +6.2**
ARU pmax pmax
comp=Z,14nm,1.7s,mb4.7
HUMO Hull Mountain 55.17 63 ⇓P **P 03 24 03.1 -0.5**

baz=55
NEW **Newport** 55.22 54 eP P 03 24 03.3 -0.6
NEW e*PP pP 03 24 14.3 -0.8
NEW pmax pmax
comp=Z,8.0nm,1.3s
NEW **Newport** 55.22 54 eP P 03 24 03.3 -0.6
comp=Z,7.6nm,1.3s,mb4.6
NEW epP pP 03 24 14.3 -0.8
A11A **Hall Mountain,** 55.23 53 ⇓P P 03 24 04.2 +0.3
baz=55
J04A **Umpqua Nationa** 55.30 62 ⇓P P 03 24 05.0 +0.5
baz=55
H06A **Lindquist Farm** 55.46 59 ⇓P P 03 24 05.3 -0.4
baz=55
B11A **Sandpoint** 55.53 54 ⇑P P 03 24 06.0 -0.1
baz=55
E09A **Wood Farm, Sta** 55.67 57 ⇑P P 03 24 06.5 -0.7
baz=56,SNR=5.8
J05A **Fort Rock** 55.79 61 ⇓P P 03 24 08.2 +0.1
baz=56,SNR=8.2
YBH **Yreka Blue Hor** 55.83 64 P P 03 24 08.9 +0.5
comp=Z,7.9nm,1.0s,mb4.7,baz=233,slow=4.2,SNR=6.7
YBH **Yreka Blue Hor** 55.83 64 P P 03 24 08.9 +0.5
YBH pmax pmax
comp=Z,8.0nm,1.0s
YBH **Yreka Blue Hor** 55.83 64 ⇓P P 03 24 08.8 +0.4
baz=56
YBH **Yreka Blue Hor** 55.83 64 eP P 03 24 09.3 +0.9
comp=Z,8.2nm,1.1s,mb4.7
D10A **Wagner Farm, O** 55.84 56 ⇓P P 03 24 07.4 -0.9
baz=56
G08A **Pilot Rock** 55.93 58 ⇑P P 03 24 09.0 0.0
baz=56
M02C **Callahan** 55.95 64 ⇑P P 03 24 09.8 +0.6
baz=56
H07A **Lands Inn, Kim** 55.99 59 ⇑P P 03 24 09.9 +0.5
baz=56
I06A **Prineville** 56.00 60 ⇑P P 03 24 09.9 +0.4
baz=56
L04A **Klamath Falls** 56.06 63 ⇓P P 03 24 10.7 +0.7
baz=56
E10A **Myers Farm, Un** 56.27 56 ⇑P P 03 24 11.1 -0.3
baz=56
A13A **Flathead Natio** 56.29 52 ⇑P P 03 24 11.3 -0.3
baz=56,SNR=9.1
K05A **Summer Lake** 56.32 62 ⇑P P 03 24 12.4 +0.5
baz=56,SNR=6.0
M04C **Macdoel** 56.32 63 ⇓P P 03 24 12.2 +0.3
baz=56
I07A **Izee** 56.33 60 ⇑P P 03 24 12.0 +0.1
baz=56,SNR=6.2
D11A **Klaveano Farm,** 56.36 55 ⇑P P 03 24 11.1 -1.0
baz=56,SNR=7.8
J06A **Christmas Vall** 56.45 61 ⇓P P 03 24 13.2 +0.5
baz=56,SNR=10
M03C **McCloud** 56.46 64 ⇑P P 03 24 12.9 +0.1
baz=56
WALA **Waterton Lakes** 56.48 52 eP P 03 24 12.7 -0.2
comp=Z,8.4nm,1.0s,mb4.7
H08A **Prairie City** 56.55 59 ⇑P P 03 24 13.7 +0.2
baz=56
B13A **Whitefish** 56.59 53 ⇑P P 03 24 13.7 0.0
baz=56,SNR=15
G09A **Cove** 56.60 58 ⇓P P 03 24 13.7 -0.2
baz=56
WDC **Whiskeytown Da** 56.62 65 ⇑P P 03 24 13.6 -0.4
baz=56
K06A **Valley Falls** 56.66 61 ⇓P P 03 24 14.8 +0.5
baz=56,SNR=11
L05A **Lakeview** 56.77 62 ⇓P P 03 24 15.6 +0.5
baz=57
J07A **Hines** 56.86 60 ⇑P P 03 24 16.3 +0.6
baz=57
C13A **Hot Springs** 56.95 54 ⇓P P 03 24 16.5 +0.3
baz=57
G10A **Bishop Farm, J** 56.97 57 ⇑P P 03 24 16.2 -0.2
baz=57,SNR=9.5
I08A **Drewsey** 56.97 59 ⇓P P 03 24 16.6 +0.1
baz=57
M05C **Lookout** 56.99 63 ⇑P P 03 24 16.8 +0.2
baz=57
H09A **Durkee** 57.04 58 ⇓P P 03 24 17.1 +0.2
baz=57
HATC **Hat Creek Radi** 57.13 64 ⇓P P 03 24 18.0 +0.3
baz=57
ARCES **ARCESS Array B** 57.15 341 P P 03 24 17.1 -0.2
comp=Z,0.6nm,0.5s,mb3.9,baz=34,slow=7.7,SNR=5.8
ARCES LR LR 03 54 19.7
comp=Z,527nm,18.6s,MS4.7,baz=229,slow=42
F11A **Grangeville** 57.15 56 ⇓P P 03 24 17.6 -0.1
baz=57
MOD **Modoc** 57.17 62 ⇑P P 03 24 17.9 0.0
baz=57
MOD **Modoc** 57.17 62 eP P 03 24 18.1 +0.3
comp=Z,7.4nm,1.1s,mb4.6
K07A **Rock Creek Ran** 57.31 61 ⇑P P 03 24 19.0 +0.1
baz=57
HNR **Honiara** 57.33 175 LR LR 03 49 15.3
comp=Z,241nm,18.6s,MS4.3,baz=353,slow=36
C14A **Swan Lake** 57.34 53 ⇑P P 03 24 19.1 +0.1
baz=57
J08A **Circle Bar Ran** 57.36 60 ⇓P P 03 24 19.4 +0.2
baz=57
D13A **Huson** 57.36 54 ⇓P P 03 24 18.6 -0.6
baz=57
G11A **Walters Elk Ra** 57.38 57 ⇑P P 03 24 19.2 -0.2
baz=57
I09A **Lost Marbles R** 57.41 59 ⇓P P 03 24 19.5 0.0
baz=57
H10A **Noah's Angus R** 57.60 58 ⇑P P 03 24 20.7 -0.2
baz=57,SNR=5.5
O04C **Chester** 57.66 64 ⇓P P 03 24 21.5 +0.1
baz=58
L07A **Adell** 57.67 62 ⇑P P 03 24 21.7 +0.3
baz=58,SNR=5.3
K08A **Mann Creek Ran** 57.73 60 ⇓P P 03 24 22.2 +0.4
baz=58,SNR=5.1
F12A **Elk City** 57.73 56 ⇓P P 03 24 21.9 0.0
baz=58,SNR=9.4
J09A **Fry Pan Ranch,** 57.78 59 ⇑P P 03 24 22.7 +0.5
baz=58,SNR=9.3
MSO **Missoula** 57.81 54 eP P 03 24 22.1 -0.2
comp=Z,6.4nm,1.1s,mb4.6
WVOR **Wild Horse Val** 57.83 61 eP P 03 24 22.4 -0.1
WVOR pmax pmax
comp=Z,12nm,1.4s,mb4.7
WVOR **Wild Horse Val** 57.83 61 eP P 03 24 22.4 -0.1
comp=Z,12nm,1.4s,mb4.7
ORV **Oroville** 57.88 65 ⇓P P 03 24 22.0 -0.9
baz=58,SNR=5.0
D14A **Greenough** 57.89 54 ⇑P P 03 24 22.4 -0.5
baz=58,SNR=13
E13A **Victor** 57.91 55 ⇓P P 03 24 22.8 -0.2
baz=58
H11A **Donnelly** 57.95 57 ⇓P P 03 24 23.2 -0.2
baz=58,SNR=12
OHCM **Honcut** 58.03 65 eP P 03 24 23.4 -0.6
OHCM epP pP 03 24 35.1 -0.1
L08A **Fields** 58.15 61 ⇑P P 03 24 24.8 0.0
baz=58
N06A **Buffalo Meadow** 58.15 63 ⇑P P 03 24 24.7 -0.1
baz=58,SNR=7.0
M07A **Soldier Meadow** 58.15 62 ⇑P P 03 24 25.2 +0.4
baz=58
K09A **Rome** 58.20 60 ⇑P P 03 24 25.1 0.0
baz=58
F13A **Darby** 58.23 55 ⇓P P 03 24 24.9 -0.3
baz=58,SNR=5.6
E14A **Clinton** 58.30 54 ⇑P P 03 24 25.5 -0.2
baz=58
D15A **Lincoln** 58.45 53 ⇓P P 03 24 26.5 -0.2
baz=58,SNR=5.2
I11A **Placerville** 58.47 58 ⇓P P 03 24 26.9 0.0
baz=58
O06A **Flanigan** 58.52 64 ⇑P P 03 24 27.3 -0.1
baz=58,SNR=7.6
M08A **Happy Creek Ra** 58.59 62 ⇓P P 03 24 27.7 -0.1
baz=58
K10A **MacKenzie Ranc** 58.64 59 ⇓P P 03 24 28.2 0.0
baz=58
G13A **Cobalt** 58.71 56 ⇑P P 03 24 28.3 -0.3
baz=58,SNR=16
E15A **Deer Lodge** 58.76 54 ⇓P P 03 24 28.7 -0.2
baz=58,SNR=5.1
FFC **Flin Flon** 58.80 41 eP P 03 24 29.3 +0.2
FFC pmax pmax
comp=Z,18nm,1.3s,mb4.9
FFC **Flin Flon** 58.80 41 eP P 03 24 29.3 +0.2
comp=Z,18nm,1.3s,mb4.9
LAVA **Lava Cap Winer** 58.84 65 ⇓P P 03 24 29.4 -0.3
baz=59
MFID **Camas Ranch** 58.85 58 ⇓P P 03 24 29.6 0.0
baz=59
AKTK **Aktyubinsk** 59.00 312 P P 03 24 32.5 +1.9
AKTO **Aktyubinsk** 59.00 312 P P 03 24 32.5 +1.9
comp=Z,0.7nm,0.4s,mb4.0,baz=54,slow=6.1,SNR=5.3
H13A **Challis** 59.03 56 ⇑P P 03 24 31.0 +0.2
baz=59
O07A **Toulon** 59.09 63 ⇓P P 03 24 31.4 +0.1
baz=59,SNR=10
K11A **Parker Ranch,** 59.13 59 ⇑P P 03 24 31.6 0.0
baz=59
N08A **GE Springer Mi** 59.15 62 ⇓P P 03 24 32.0 +0.3
baz=59
F15A **Butte** 59.20 54 ⇓P P 03 24 32.7 +0.6
baz=59,SNR=7.6
R05C **Kirkwood Meado** 59.28 65 ⇓P P 03 24 32.6 0.0
baz=59
EGMT **Eagleton** 59.30 51 ⇓P P 03 24 32.8 +0.1
baz=59
EGMT **Eagleton** 59.30 51 eP P 03 24 32.2 -0.5
comp=Z,18nm,1.3s,mb4.9
EGMT epP pP 03 24 44.5 +0.5
L10A **Juniper Basin** 59.31 60 ⇑P P 03 24 32.8 0.0
baz=59
SUMG **Summit** 59.33 5 eP P 03 24 33.4 +0.8
comp=Z,50nm,1.8s,mb5.2
SUMG epP pP 03 24 44.8 +1.0
J12A **Stokes Ranch,** 59.37 58 ⇓P P 03 24 33.3 +0.1
baz=59
O08A **Rochester Mine** 59.44 62 ⇓P P 03 24 33.9 +0.2
baz=59,SNR=6.5
N09A **Rock Creek Ran** 59.46 62 ⇑P P 03 24 34.2 +0.3
baz=59,SNR=5.4
CMB **Columbia Colle** 59.51 66 ⇓P P 03 24 34.3 0.0
baz=59,SNR=5.4
I13A **Wildhorse Cree** 59.51 57 ⇓P P 03 24 35.0 +0.8
baz=59,SNR=11
HLID **Hailey** 59.56 57 ⇑P P 03 24 34.6 +0.1
baz=59,SNR=7.6
HLID **Hailey** 59.56 57 eP P 03 24 34.6 +0.1
comp=Z,7.7nm,1.3s,mb4.6
PACP **Pacheco Peak** 59.60 67 ⇑P P 03 24 35.1 +0.1
baz=59
M10A **I.L. Ranch, Tu** 59.62 60 ⇑P P 03 24 35.2 +0.3
baz=59,SNR=6.1
G15A **Dillon** 59.63 55 ⇑P P 03 24 34.9 -0.1
baz=59
L11A **Cat Creek Ranc** 59.67 59 ⇓P P 03 24 35.7 +0.4
baz=60,SNR=10
R06C **Coleville** 59.77 65 ⇑P P 03 24 36.2 +0.1
baz=60,SNR=6.0
BOZ **Bozeman (W)** 59.80 54 eP P 03 24 36.8 +0.7
BOZ e*PP pP 03 24 48.4 +0.9
BOZ pmax pmax
comp=Z,20nm,1.5s,mb4.9
BOZ **Bozeman (W)** 59.80 54 ⇑P P 03 24 36.5 +0.4
baz=60
BOZ **Bozeman (W)** 59.80 54 eP P 03 24 36.8 +0.6
comp=Z,20nm,1.5s,mb4.9
BOZ epP pP 03 24 48.4 +0.9
KLMR **Klimovskoe** 59.80 329 P P 03 24 44.9 +9.0
KLMR pmax pmax
comp=Z,18nm,1.3s,mb4.9
J13A **Cove Ranch, Pi** 59.80 57 ⇓P P 03 24 36.5 +0.3
baz=60
K12A **Draper Farm, C** 59.87 59 ⇓P P 03 24 36.9 +0.2
baz=60
I14A **Mackay** 59.87 57 ⇓P P 03 24 36.9 +0.2
baz=60
BMN **Battle Mountai** 59.90 62 eP P 03 24 37.4 +0.4
BMN pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BMN **Battle Mountai** 59.90 62 eP P 03 24 37.4 +0.4
comp=Z,6.1nm,0.9s,mb4.6
S06C **San Francisco** 59.94 66 ⇑P P 03 24 37.4 +0.2
baz=60
O09A **Fish Creek Ran** 60.09 62 ⇑P P 03 24 38.4 +0.2
baz=60,SNR=7.1
L12A **House Creek Ra** 60.11 59 ⇓P P 03 24 38.4 +0.1
baz=60,SNR=5.7
M11A **Holland Ranch,** 60.11 60 ⇓P P 03 24 39.1 +0.7
baz=60
J14A **Carey** 60.22 57 ⇓P P 03 24 39.4 +0.3
baz=60
O10A **Cortez Mining,** 60.42 62 ⇓P P 03 24 41.1 +0.7
baz=60
Q08A **Gabbs** 60.48 64 ⇑P P 03 24 40.7 -0.2
baz=60,SNR=6.8
NVAR **Mina Array Bea** 60.53 64 P P 03 24 41.5 +0.3
comp=Z,3.6nm,0.8s,mb4.5,baz=289,slow=7.4,SNR=23
T06C **Millerton Lake** 60.58 66 ⇑P P 03 24 41.1 -0.5
baz=60
KCC **Kaiser Creek** 60.61 66 ⇑P P 03 24 41.7 -0.1
baz=60
M12A **Wells** 60.63 60 ⇑P P 03 24 42.5 +0.6
baz=60
L13A **Double Diamond** 60.76 59 ⇑P P 03 24 43.3 +0.5
baz=60
J15A **Blackfoot** 60.78 57 ⇓P P 03 24 43.8 +0.9
baz=61
JOF **Joensuu** 60.86 334 ep P 03 24 37.0 -6.1
comp=Z,2.6nm,0.6s,mb4.5
JOF **Joensuu** 60.86 334 eP P 03 24 37.0 -6.1
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
ELK **Elko** 60.87 60 eP P 03 24 44.2 +0.6
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK **Elko** 60.87 60 eP P 03 24 44.2 +0.6
comp=Z,3.0nm,0.9s,mb4.4
K14A **Jones Ranch, D** 60.91 58 ⇑P P 03 24 44.6 +0.8
baz=61
N12A **Clover Valley,** 60.92 60 ⇓P P 03 24 44.6 +0.8
baz=61
I16A **Newdale** 61.00 56 ⇓P P 03 24 45.3 +0.9
baz=61
O11A **Cowboy Ranch,** 61.02 61 ⇓P P 03 24 45.1 +0.5
baz=61
M13A **Montello** 61.10 59 ⇑P P 03 24 45.3 +0.2
baz=61
K15A **Arbon** 61.18 57 ⇓P P 03 24 45.8 +0.2
baz=61
L14A **Malta** 61.20 58 ⇑P P 03 24 46.2 +0.5
baz=61
S08C **White Mtn Res** 61.20 65 ⇓P P 03 24 45.6 -0.3
baz=61
HELL **Mitchell Peak** 61.21 66 ⇓P P 03 24 45.1 -0.9
baz=61,SNR=6.4
IMW **Indian Meadow** 61.29 55 eP P 03 24 47.0 +0.7
comp=Z,15nm,1.3s,mb5.0
FLWY **Flagg Ranch** 61.30 55 eP P 03 24 47.2 +0.7
comp=Z,5.6nm,0.9s,mb4.7
FLWY epP pP 03 24 58.3 +0.5
J16A **Bone** 61.32 56 ⇑P P 03 24 46.9 +0.3
baz=61
R09A **Tonopah** 61.39 64 ⇓P P 03 24 46.7 -0.4
baz=61,SNR=10
TPH **Tonopah** 61.41 64 eP P 03 24 47.3 +0.1
TPH pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
TPH **Tonopah** 61.41 64 eP P 03 24 47.2 0.0
comp=Z,1.9nm,0.4s,mb4.6
RLMT **Red Lodge** 61.41 53 eP P 03 24 47.3 +0.2
comp=Z,18nm,1.3s,mb5.0
RLMT epP pP 03 24 59.5 +1.0
RRI2 **Red Ridge** 61.44 56 eP P 03 24 48.0 +0.7
comp=Z,25nm,1.4s,mb5.2
O12A **Currie** 61.47 61 ⇓P P 03 24 47.6 0.0
baz=61,SNR=11
M14A **Sheep Mountain** 61.48 59 ⇓P P 03 24 47.5 -0.1
baz=61
MOOW **Moose Ponds** 61.50 55 eP P 03 24 47.9 +0.2
comp=Z,8.9nm,1.4s,mb4.7
TPAW **Teton Pass** 61.55 56 eP P 03 24 48.9 +0.8
comp=Z,26nm,1.3s,mb5.2
TPAW epP pP 03 25 01.1 +1.7
K16A **Soda Springs** 61.62 57 ⇑P P 03 24 49.3 +0.7
baz=61,SNR=6.4
S09A **Goldfield** 61.63 64 ⇓P P 03 24 48.7 0.0
baz=61
LOHW **Long Hollow** 61.66 55 eP P 03 24 49.4 +0.6
comp=Z,20nm,1.4s,mb5.1
SNOW **Snow King Moun** 61.68 56 eP P 03 24 50.2 +1.3
comp=Z,17nm,1.3s,mb5.0
REDW **Red Top Meadow** 61.69 56 eP P 03 24 50.1 +1.1
comp=Z,29nm,1.4s,mb5.2
L15A **Malad City** 61.70 58 ⇑P P 03 24 49.9 +0.7
baz=62
VES **Vestal, Richgr** 61.72 67 ⇑P P 03 24 49.1 -0.2
baz=62
R10A **Warm Springs** 61.82 63 ⇓P P 03 24 49.8 -0.2
baz=62
Q11A **Duckwater** 61.85 62 ⇓P P 03 24 50.2 +0.1
baz=62
DGMT **Dagmar** 61.85 48 eP P 03 24 50.2 +0.1
comp=Z,20nm,1.1s,mb5.2
DGMT epP pP 03 25 01.7 +0.3
PKM **Peak Mountain** 61.87 68 ⇑P P 03 24 50.8 +0.4
baz=62
S10A **Tonopah Range,** 61.88 64 ⇓P P 03 24 50.0 -0.4
baz=62
CWC **Cottonwood Cre** 61.94 66 ⇓P P 03 24 50.2 -0.6
baz=62
LAO **LASA Array** 62.00 50 eP P 03 24 51.4 +0.3
comp=Z,97nm,1.8s,mb5.6
LAO epP pP 03 25 03.4 +0.9
GRAC **Grapevine Rang** 62.01 65 ⇓P P 03 24 50.8 -0.5
baz=62
R11A **Troy Canyon, C** 62.21 63 ⇓P P 03 24 52.2 -0.4
baz=62,SNR=11
P13A **Bates Ranch, G** 62.42 61 ⇑P P 03 24 53.9 -0.1
baz=62,SNR=5.9
HWUT **Hardware Ranch** 62.43 58 eP P 03 24 54.2 +0.2
comp=Z,19nm,1.7s,mb5.0
MPMC **Manual Prospec** 62.55 66 ⇑P P 03 24 54.7 -0.2
baz=62,SNR=5.7
S11A **Rachel** 62.57 63 ⇑P P 03 24 54.9 -0.2
baz=62,SNR=5.1
M16A **Huntsville** 62.58 58 ⇓P P 03 24 54.7 -0.4
baz=62
DUG **Dugway** 62.64 60 eP P 03 24 55.4 0.0
DUG pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
DUG **Dugway** 62.64 60 ⇓P P 03 24 55.2 -0.2
baz=62
DUG **Dugway** 62.64 60 eP P 03 24 55.4 0.0
comp=Z,8.9nm,1.1s,mb4.8
FURC **Furnace Creek,** 62.67 65 ⇑P P 03 24 55.6 -0.1
baz=62,SNR=6.8
TPNV **Topopah Spring** 62.73 64 eP P 03 24 56.1 0.0
TPNV pmax pmax
comp=Z,21nm,1.5s,mb5.0
TPNV **Topopah Spring** 62.73 64 ⇓P P 03 24 55.7 -0.4
baz=62
TPNV **Topopah Spring** 62.73 64 eP P 03 24 56.1 0.0
comp=Z,21nm,1.5s,mb5.0
Q13A **Wheeler Ranch,** 62.74 61 ⇑P P 03 24 56.1 -0.1
baz=62,SNR=6.1
BW06 **Boulder Array** 62.79 56 eP P 03 24 56.7 +0.2
comp=Z,12nm,1.2s,mb4.9
PDAR **Pinedale Array** 62.79 56 P P 03 24 56.9 +0.4
comp=Z,5.9nm,1.0s,mb4.7,baz=318,slow=2.0,SNR=35
R12A **Pony Springs,** 62.81 62 ⇑P P 03 24 56.8 +0.2
baz=63
P14A **Drum Mountains** 62.88 60 ⇓P P 03 24 57.1 0.0
baz=63,SNR=5.2
KAF **Kangasniemi** 62.92 336 ep P 03 24 56.1 -0.9
comp=Z,2.8nm,0.9s,mb4.4
KAF **Kangasniemi** 62.92 336 eP P 03 24 56.1 -0.9
KAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
EDW2 **Edwards Air Fo** 63.02 67 ⇑P P 03 24 57.6 -0.5
baz=63,SNR=6.0
U10A **Ash Meadows, A** 63.02 65 ⇓P P 03 24 58.2 +0.1
baz=63
S12A **Delamar Landin** 63.13 63 ⇑P P 03 24 59.0 +0.2
baz=63,SNR=8.9
T11A **Corn Creek, Al** 63.15 63 ⇑P P 03 24 58.7 -0.3
baz=63,SNR=8.7
Q14A **Sevier Lake (B** 63.16 61 ⇑P P 03 24 58.6 -0.3
baz=63,SNR=8.7
N17A **Moffit Pass** 63.28 58 ⇑P P 03 24 59.4 -0.3
baz=63
R13A **O'Grain Ranch,** 63.28 62 ⇓P P 03 24 59.8 +0.1
baz=63
O16A **Springville** 63.38 59 ⇑P P 03 25 00.4 0.0
baz=63
S13A **Holt Ranch, En** 63.74 62 ⇓P P 03 25 02.8 0.0
baz=64,SNR=5.0
O17A **Robinson Place** 63.83 58 ⇓P P 03 25 03.4 0.0
baz=64
V11A **Goodsprings** 63.95 65 ⇑P P 03 25 04.5 +0.3
baz=64
T13A **Saint George** 64.09 63 ⇑P P 03 25 05.2 +0.1
baz=64,SNR=6.2
O18A **Roosevelt** 64.20 58 ⇓P P 03 25 06.1 +0.4
baz=64
N19A **John Jarvie Ra** 64.25 57 ⇓P P 03 25 06.2 +0.1
baz=64
MURC **Murrieta** 64.35 68 ⇓P P 03 25 06.6 -0.3
baz=64
V12A **Nelson** 64.38 64 ⇑P P 03 25 07.0 0.0
baz=64
Q16A **Castle Valley** 64.43 60 ⇑P P 03 25 08.1 +0.8
baz=64
U13A **Pakoon Wash** 64.45 63 ⇓P P 03 25 07.7 +0.2
baz=64,SNR=7.9
P18A **Preston Nutter** 64.49 59 ⇓P P 03 25 08.4 +0.7
baz=64
GMRC **Granite Mounta** 64.52 66 ⇑P P 03 25 07.3 -0.6
baz=64
T14A **Hurricane** 64.55 62 ⇑P P 03 25 08.2 +0.1
baz=64,SNR=6.5
ULM **Lac du Bonnet** 64.58 42 P P 03 25 07.7 -0.4
comp=Z,2.0nm,0.8s,mb4.2,baz=291,slow=8.6,SNR=3.1
LDFC **Landfair** 64.65 65 eP P 03 25 08.5 -0.3
comp=Z,24nm,1.2s,mb5.1
SRU **San Rafael** 64.68 59 ⇓P P 03 25 08.7 -0.2
baz=64,SNR=7.4
V13A **Grand Canyon W** 64.82 64 ⇑P P 03 25 09.8 -0.1
baz=65,SNR=7.7
RSSD **Black Hills** 64.86 51 eP P 03 25 10.1 +0.1
RSSD pmax pmax
comp=Z,18nm,1.3s,mb4.9
RSSD **Black Hills** 64.86 51 eP P 03 25 10.1 0.0
comp=Z,18nm,1.3s,mb4.9
Q18A **Rafter H Ranch** 64.91 59 ⇓P P 03 25 10.3 -0.1
baz=65
U14A **Mt Trumbull** 64.92 63 ⇑P P 03 25 10.7 +0.1
baz=65,SNR=5.7
S16A **Weppner Ranch,** 64.99 61 ⇑P P 03 25 11.1 +0.2
baz=65,SNR=7.4
T15A **Red Dirt Ranch** 65.00 62 ⇓P P 03 25 11.5 +0.5
baz=65
R17A **Hanksville Air** 65.03 60 ⇓P P 03 25 11.2 -0.1
baz=65,SNR=9.1
OBN **Obninsk** 65.11 326 eP P 03 25 11.6 +0.2
OBN e*PP pP 03 25 22.1 -0.8
OBN e 03 27 32.8
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
OBN MLR MLR
comp=Z,500nm,23.0s,MS4.7
IRM **Iron Mountain** 65.24 66 ⇑P P 03 25 12.4 -0.3
baz=65
W13A **Hualapai Mount** 65.38 64 ⇓P P 03 25 13.6 0.0
baz=65
U15A **North Rim** 65.45 62 ⇓P P 03 25 14.7 +0.7
baz=65,SNR=6.0
V14A **Boquillas Ranc** 65.49 63 ⇓P P 03 25 14.0 -0.3
baz=65,SNR=7.9
Q19A **Hogan Spring (** 65.51 59 ⇓P P 03 25 13.9 -0.4
baz=65,SNR=10
S17A **Black Ridge (B** 65.51 61 ⇓P P 03 25 13.8 -0.6
baz=65,SNR=6.2
R18A **Canyonlands Na** 65.53 59 ⇑P P 03 25 14.1 -0.3
baz=65,SNR=7.0
X13A **Yucca** 65.76 65 ⇑P P 03 25 15.4 -0.6
baz=66,SNR=5.5
PDMCI **Parker Dam,Lak** 65.77 65 ⇑P P 03 25 15.8 -0.2
baz=66
W14A **Seligman** 65.79 64 ⇑P P 03 25 16.2 0.0
baz=66,SNR=8.2
Y12C **Blythe** 65.90 66 ⇓P P 03 25 16.7 -0.2
baz=66
V15A **Kaibab Nationa** 65.93 63 ⇓P P 03 25 17.3 +0.2
baz=66,SNR=6.3
T17A **Navajo Res., N** 65.94 61 ⇑P P 03 25 16.6 -0.6
baz=66
S18A **Hurst Farm, Bl** 65.94 60 ⇓P P 03 25 16.9 -0.2
baz=66,SNR=10
AGMN **Agassiz Refuge** 65.98 44 eP P 03 25 16.8 -0.4
comp=Z,6.5nm,1.0s,mb4.6

AGMN epP pP 03 25 28.5 -0.2
GLA Glamis 66.19 67 ⇓P P 03 25 18.2 -0.5
baz=66
U17A Shonto 66.29 61 ⇓P P 03 25 19.2 -0.2
baz=66
T18A Mexican Hat 66.39 60 ⇑P P 03 25 19.6 -0.4
baz=66,SNR=5.2
S19A Harvey Farm, M 66.40 59 ⇓P P 03 25 19.9 -0.2
baz=66,SNR=7.4
X14A Yava 66.41 64 ⇑P P 03 25 20.1 -0.1
baz=66,SNR=5.5
WUAZ Wupatki 66.61 63 ⇑P P 03 25 22.2 +0.7
baz=66
Y14A Wickenburg 66.70 65 ⇑P P 03 25 22.1 0.0
baz=66
X15A Humboldt 66.80 64 ⇑P P 03 25 22.6 0.0
baz=67,SNR=8.6
U18A Rough Rock, Ch 66.88 61 ⇓P P 03 25 22.9 -0.3
baz=67
ISCO Idaho Springs 66.99 56 *e*P P **03 25 24.4 +0.6**
ISCO *e**PP pP 03 25 36.0 +0.8
ISCO pmax pmax
comp=Z,14nm,1.3s,mb4.8
ISCO Idaho Springs 66.99 56 *e*P P **03 25 24.4 +0.6**
comp=Z,14nm,1.3s,mb4.8
ISCO epP pP 03 25 36.0 +0.7
T19A Beclabito 67.09 60 ⇓P P 03 25 24.2 -0.3
baz=67
Y15A Casa Rosa Ranc 67.10 64 ⇑P P 03 25 24.6 0.0
baz=67,SNR=5.3
MVCO Mesa Verde 67.14 59 ⇑P P 03 25 24.6 -0.2
baz=67
MVCO Mesa Verde 67.14 59 *e*P P **03 25 24.2 -0.6**
comp=Z,14nm,1.3s,mb4.8
X16A Lo Mia Camp, P 67.32 63 ⇑P P 03 25 25.9 -0.1
baz=67
V18A Ganado 67.33 62 ⇑P P 03 25 26.2 +0.2
baz=67,SNR=5.9
NB2 NORSAR Subarra 67.51 342 P **P 03 25 26.0 -0.7**
comp=Z,1.8nm,0.6s,mb4.3,baz=25,slow=6.5
NOA NORSAR Array B 67.51 342 P **P 03 25 26.4 -0.3**
comp=Z,4.0nm,0.8s,mb4.5,baz=25,slow=6.4,SNR=17
NOA LR LR 03 59 53.5
comp=Z,436nm,18.6s,MS4.7,baz=25,slow=40
Y16A Circle Bar Ran 67.67 64 ⇓P P 03 25 28.3 +0.1
baz=68
HFS Hagfors 67.79 340 LR LR 03 58 58.2
comp=Z,335nm,19.6s,MS4.6,baz=21,slow=39
V19A Window Rock 67.85 61 ⇑P P 03 25 29.9 +0.6
baz=68
115A Sonoran Desert 68.02 65 ⇓P P 03 25 30.4 -0.1
baz=68
W19A Sanders 68.07 62 ⇓P P 03 25 31.3 +0.6
baz=68
Z16A Peralta Trail, 68.07 64 ⇑P P 03 25 30.6 -0.1
baz=68
X18A Snowflake 68.14 62 ⇓P P 03 25 31.3 +0.2
baz=68
Y17A Roosevelt 68.18 64 ⇓P P 03 25 31.8 +0.4
baz=68
214A Organ Pipe Nat 68.18 66 ⇓P P 03 25 31.4 0.0
baz=68
AFI Afiamalu 68.25 145 LR LR 03 51 35.5
comp=Z,126nm,18.8s,MS4.2,baz=360,slow=33
CTA Charters Tower 68.27 189 LR LR 03 51 55.8
comp=Z,76nm,19.7s,MS3.9,baz=51,slow=33
SDCO Great Sand Dun 68.48 57 *e*P **P 03 25 33.2 0.0**
comp=Z,9.6nm,1.5s,mb4.6
X19A St. Johns 68.60 62 ⇓P P 03 25 34.1 +0.1
baz=68,SNR=5.7
Y18A Canyon Day Jun 68.61 63 ⇓P P 03 25 34.3 +0.3
baz=68
ECSD EROS,Sioux Fal 68.93 48 *e*P **P 03 25 35.3 -0.6**
comp=Z,11nm,1.1s,mb4.7
ECSD epP pP 03 25 46.6 -0.8
Y19A Nutrioso 68.95 62 ⇓P P 03 25 36.3 +0.1
baz=69
216A Three Points, 68.98 65 ⇑P P 03 25 36.5 +0.1
baz=69
KONO Kongsberg 69.11 342⇑ *e*P **P 03 25 37.2 +0.4**
TUC Tucson 69.17 65 *e*P **P 03 25 37.4 -0.2**
TUC pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
TUC Tucson 69.17 65 *e*P **P 03 25 37.4 -0.2**
comp=Z,0.7nm,0.7s,mb3.7
118A Homack Ranch, 69.44 64 ⇓P P 03 25 38.9 -0.3
baz=69,SNR=6.1
217A Green Valley 69.53 65 ⇑P P 03 25 40.0 +0.2
baz=69
119A Ashpeak Ranch, 69.75 63 ⇑P P 03 25 41.6 +0.4
baz=70
218A Dragoon 69.85 64 ⇑P P 03 25 42.2 +0.4
baz=70
ANMO Albuquerque 69.89 60⇑ *e*P **P 03 25 40.9 -1.1**
ANMO Albuquerque 69.89 60 *e*P **P 03 25 42.1 +0.1**
comp=Z,5.1nm,1.1s,mb4.4
ANMO epP pP 03 25 54.3 +0.7
ANMO *es*P sP 03 25 59.8 +1.8
WRAB Tennant Creek 70.20 201 *e*P **P 03 25 44.1 +0.3**
WRAB pmax pmax
comp=Z,21nm,1.4s,mb4.9
WRAB Tennant Creek 70.20 201 *e*P **P 03 25 44.1 +0.3**
comp=Z,21nm,1.4s,mb4.9
WRAB epP pP 03 25 54.2 -1.2
WRA Warramunga Arr 70.21 201 P **P 03 25 41.8 -2.1**
comp=Z,0.3nm,0.4s,mb3.5,baz=15,slow=6.3,SNR=6.8
WRA LR LR 03 52 35.1
comp=Z,63nm,19.4s,MS3.9,baz=75,slow=33
318A Bisbee 70.26 65 ⇓P P 03 25 44.4 +0.1
baz=70
319A Douglas 70.74 64 ⇑P P 03 25 47.4 +0.2
baz=70
FITZ Fitzroy Crossi 70.97 210 P **P 03 25 47.1 -1.5**
comp=Z,5.3nm,1.1s,mb4.4,baz=16,slow=8.6,SNR=3.9
KIV Kislovodsk 70.98 315 *e*P **P 03 25 51.5 +3.0**
KIV *e* 03 26 09.7
KIV pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
AKASG Malin Array Be 71.32 327 P **P 03 25 49.3 -1.1**
comp=Z,1.4nm,0.5s,mb4.1,baz=33,slow=6.2,SNR=11
AKASG LR LR 03 59 45.4
comp=Z,331nm,18.6s,MS4.6,baz=25,slow=38
SCHQ Schefferville 71.56 24 P **P 03 25 51.0 -0.8**
comp=Z,2.6nm,0.8s,mb4.2,baz=305,slow=9.2,SNR=3.6
SCHQ LR LR 04 02 46.5
comp=Z,175nm,19.0s,MS4.3,baz=35,slow=40
SOC Sochi 72.65 317 *e*P **P 03 25 57.5 -1.0**
SOC *e* 03 28 35.2
SOC *e*S S 03 35 23.1 +2.5
SOC MLR MLR
comp=Z,235nm,18.0s,MS4.5
GNI Garni 72.84 311 LR LR 04 01 49.9
comp=Z,373nm,19.0s,MS4.7,baz=87,slow=39
GNI Garni 72.84 311 *e*P **P 03 26 01.5 +1.8**
GNI pmax pmax
comp=Z,3.0nm,0.7s
GNI MLR MLR
comp=Z,400nm,20.0s
ASAR Alice Springs 73.89 200 P **P 03 26 04.8 -1.1**
comp=Z,1.1nm,1.0s,mb3.8,baz=31,slow=5.5,SNR=6.0
WMOK Wichita Mounta 74.40 55 *e*P **P 03 26 08.2 -0.8**
WMOK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
WMOK Wichita Mounta 74.40 55 *e*P **P 03 26 08.2 -0.8**
comp=Z,10.0nm,1.2s,mb4.6
KWP Kalwaria 74.50 330 *e*P **P 03 26 10.2 +0.9**
KWP Kalwaria 74.50 330⇑ *i*P **P 03 26 10.3 +1.1**
KWP Kalwaria 74.50 330 *e*P **P 03 26 10.2 +1.0**
KIS Kishinev 74.53 325 *e*P **P 03 26 11.0 +1.5**
KIS *e* pP 03 26 20.0 -1.1
KIS *e* 03 35 42.0
KIS MLR MLR
comp=Z,300nm,15.0s,MS4.7
KIS MLR MLR
comp=Z,300nm,16.0s
RUE Ruedersdorf 74.66 337 *e*P **P 03 26 11.2 +1.1**
comp=Z,37nm,1.1s,mb5.2
OJC Ojcow 74.93 332 *e*P **P 03 26 11.2 -0.5**
STHS Stebnicka Huta 75.16 331 *e*P **P 03 26 12.8 -0.3**
STHS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
STHS Stebnicka Huta 75.16 331 *e*P **P 03 26 12.8 -0.3**
comp=Z,7.1nm,1.0s,mb4.5
KOLS Kolonicke sedl 75.24 330 *e*P **P 03 26 13.1 -0.5**
BURAR Bucovina Array 75.35 328⇓ *i*P **P 03 26 15.0 +0.8**
BURAR Bucovina Array 75.35 328 ⇓P **P 03 26 15.0 +0.8**
KSP Ksiaz 75.43 335 *e*P **P 03 26 15.6 +1.0**
KSP Ksiaz 75.43 335 *e*P **P 03 26 14.9 +0.3**
KSP *e*pP pP 03 26 25.0 -1.2
KSP LR LR
comp=Z,1μm,19.0s,MS5.1
NIE Niedzica 75.46 332 *e*P **P 03 26 15.4 +0.6**
UZH Uzhgorod 75.50 330 *e*P **P 03 26 25.2 +10**
UZH *e* 03 26 47.6
UZH *e*S S 03 36 10.0 +18
CRVS Cervenica-Dubn 75.54 331 *e*P **P 03 26 15.5 +0.2**
TXAR Lajitas Array 75.57 62 P **P 03 26 15.5 -0.3**
comp=Z,5.6nm,0.8s,mb4.6,baz=296,slow=4.3,SNR=54
NRDL Niedersach Rie 75.57 339 *e*P **P 03 26 16.3 +0.9**
comp=Z,21nm,1.5s,mb4.8
OKC Ostrava-Krasne 75.77 333 *e*P **P 03 26 16.7 +0.1**
OKC *e*x x 03 26 20.5
OKC AMS AMS 04 04 50.0
comp=Z,500nm,19.0s
OKC Ostrava-Krasne 75.77 333 *e*P **P 03 26 16.7 +0.1**
OKC *e* 03 26 20.5
UPC Upice 75.81 335 *e*P **P 03 26 17.4 +0.6**
UPC *e*x x 03 26 20.6
UPC *e*pP pP 03 26 28.3 -0.1
DPC Dobruska-Polom 75.86 334 *e*P **P 03 26 17.6 +0.5**
DPC *e*x x 03 26 21.4
DPC *e*pP pP 03 26 28.2 -0.5
DPC AMS AMS 04 03 00.0
comp=Z,300nm,18.2s
CLL Collm 75.92 337 *i* P **P 03 26 16.7 -0.7**
CLL *i* *PP pP 03 26 28.0 -1.1
CLL *e*S S 03 35 56.0 -1.0
CLL pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
CLL MLR MLR
comp=Z,400nm,17.3s,MS4.8
CLL Collm 75.92 337 *e*P **P 03 26 17.2 -0.2**
comp=Z,49nm,1.6s,mb5.2
CLL Collm 75.92 337 *i* P **P 03 26 16.7 -0.7**
comp=Z,14nm,1.4s,mb4.7
CLL *i* P(2) 03 26 20.8
comp=Z,36nm,1.7s
CLL *i* pP pP 03 26 28.0 -1.1
comp=Z,49nm,1.6s
CLL *e*x x 03 29 30.0
CLL *e*S S 03 35 56.0 -1.0
CLL Lm 04 05 00.0
comp=N,200nm,18.3s
CLL Lm 04 05 00.0
comp=E,200nm,20.4s
CLL Collm 75.92 337 *i* P **P 03 26 16.7 -0.7**
comp=E,14nm,1.4s,mb4.7
CLL *i* 03 26 20.8
CLL *i* pP pP 03 26 28.0 -1.1
CLL *e*S S 03 35 56.0 -1.0
CLL LR LR
comp=Z,400nm,17.3s,MS4.8
MORC Moravsky Berou 76.01 333 *e*P **P 03 26 17.8 -0.1**
MORC *e**PP pP 03 26 29.2 -0.4
MORC pmax pmax
comp=Z,36nm,1.4s,mb5.1
MORC Moravsky Berou 76.01 333⇓ *i*P **P 03 26 18.6 +0.7**
MORC Moravsky Berou 76.01 333 *e*P **P 03 26 17.8 -0.1**
comp=Z,36nm,1.4s,mb5.1
MORC *e*pP pP 03 26 29.2 -0.3
BRG Berggiesshubel 76.06 336 *e*P **P 03 26 17.8 -0.4**
BRG *e* pP 03 26 28.8 -1.1
BRG pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BRG MLR MLR
comp=N,16μm,14.6s
BRG MLR MLR
comp=E,239nm,17.7s
BRG MLR MLR
comp=Z,106nm,21.1s,MS4.1
BRG Berggiesshubel 76.06 336 *e*P **P 03 26 17.7 -0.5**
comp=Z,21nm,1.5s,mb4.8
BRG *e*pP pP 03 26 28.7 -1.2
BRG Berggiesshubel 76.06 336 *e*P **P 03 26 17.8 -0.4**
comp=Z,2.0nm,0.7s,mb4.2
BRG *e* pP 03 26 28.8 -1.1
comp=Z,27nm,1.5s
BRG
comp=N,399nm,14.6s
BRG
comp=E,177nm,17.7s
BRG
comp=Z,539nm,21.1s
BRG Berggiesshubel 76.06 336 *e*P **P 03 26 17.8 -0.4**
comp=Z,1.2nm,0.6s,mb4.0
BRG *e* pP 03 26 28.8 -1.1
BRG LR LR
comp=Z,320nm,21.1s,MS4.6
FBE Freiberg 76.18 336 *e*P **P 03 26 19.1 +0.2**
comp=Z,22nm,1.2s,mb5.0
PVCC Panska Ves 76.20 335 *e*P **P 03 26 20.5 +1.5**
PVCC *e*pP pP 03 26 30.1 -0.6
PVCC AMS AMS 04 02 40.0
comp=Z,500nm,20.2s
KECS Kecovo 76.22 331 *e*P **P 03 26 21.7 +2.5**
KECS pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
KECS Kecovo 76.22 331 *e*P **P 03 26 21.7 +2.5**
comp=Z,5.2nm,1.3s,mb4.3
VRI Vrincioaia 76.27 326⇓ *i*P **P 03 26 19.6 +0.1**
VRI Vrincioaia 76.27 326 ⇓P **P 03 26 19.6 +0.2**
PRU Pruhonice 76.69 335 *e*P **P 03 26 21.9 +0.1**
PRU *e*x x 03 26 25.8
PRU *e*pP pP 03 26 32.9 -0.6
PRU AMS AMS 04 02 50.0
comp=Z,400nm,17.6s
VRAC Vranov 76.71 334 LR LR 04 00 57.2
comp=Z,108nm,20.5s,MS4.2,baz=17,slow=36
VRAC Vranov 76.71 334⇓ *i*P **P 03 26 22.7 +0.8**
VRAC Vranov 76.71 334 ⇓P **P 03 26 22.7 +0.8**
VRAC P pP 03 26 33.7 +0.2
TIRR Tirgusor 76.80 324 *e*P **P 03 26 21.9 -0.6**
TIRR *e**PP pP 03 26 33.4 -0.8
TIRR pmax pmax
comp=Z,31nm,1.4s,mb5.0
TIRR Tirgusor 76.80 324⇓ *i*P **P 03 26 23.2 +0.7**
TIRR Tirgusor 76.80 324 *e*P **P 03 26 21.9 -0.6**
comp=Z,31nm,1.4s,mb5.0
TIRR *e*pP pP 03 26 33.4 -0.8
MLR Muntele Rosu 76.88 326⇓ *i*P **P 03 26 24.1 +1.1**
MLR Muntele Rosu 76.88 326 ⇓P **P 03 26 24.1 +1.2**
MLR P pP 03 26 34.9 +0.3
WERD Werda 76.89 337 *e*P **P 03 26 23.2 +0.3**
comp=Z,37nm,1.6s,mb5.1
MOX Moxa 76.89 337 *e*(P) **P 03 26 26.4 +3.5**
MOX *e* 03 26 34.3
comp=Z,36nm,1.8s
MOX Moxa 76.89 337 *e*P **P 03 26 22.7 -0.2**
comp=Z,28nm,1.7s,mb4.9
MOX *e*pP pP 03 26 33.5 -1.1
MOX Moxa 76.89 337 P **P 03 26 26.4 +3.5**
comp=Z,36nm,1.8s,mb5.0
MOX *e* 03 26 34.3
PSZ Piszkesteto 76.91 331 *e*P **P 03 26 23.7 +0.6**
PSZ *e**PP pP 03 26 34.8 +0.1
PSZ pP 03 26 35.4 +0.7
PSZ pmax pmax
comp=Z,29nm,1.6s,mb5.0
PSZ Piszkesteto 76.91 331 *e*P **P 03 26 23.7 +0.6**
comp=Z,29nm,1.6s,mb5.0
PSZ *e*pP pP 03 26 34.8 0.0
PSZ P pP 03 26 35.4 +0.7
DRGR 76.94 329⇑ *i*P **P 03 26 23.5 +0.2**
DRGR 76.94 329 ⇑P **P 03 26 23.5 +0.3**
GUNZ Gunzen 76.96 337 *e*P **P 03 26 23.6 +0.3**
comp=Z,30nm,1.7s,mb5.0
GUNZ *e*pP pP 03 26 34.4 -0.6
JCT Junction City 76.99 59 *e*P **P 03 26 22.9 -0.9**
JCT *e**PP pP 03 26 34.9 -0.6
JCT pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
JCT Junction City 76.99 59 *e*P **P 03 26 22.9 -0.9**
comp=Z,3.5nm,0.6s,mb4.5
JCT *e*pP pP 03 26 34.9 -0.5
WERN Wernitzgruen 77.02 337 *e*pP pP 03 26 34.5 -0.8
NKC Novy Kostel 77.05 337 *e*P **P 03 26 21.0 -2.8**
TREC Trest 77.05 334 *e*P **P 03 26 24.3 +0.5**
TREC *e*x x 03 26 27.8
TREC AMS AMS 04 05 50.0
comp=Z,400nm,16.0s
UBBA Unterbreizbach 77.14 338 *e*pP pP 03 26 35.8 -0.2
VOIR 77.26 327⇓ *i*P **P 03 26 26.0 +0.9**
VOIR 77.26 327 ⇓P **P 03 26 25.9 +0.9**
MODS Modra-Piesok 77.33 333 *e*P **P 03 26 26.9 +1.4**
MANZ Manzenberg 77.36 337 *e*P **P 03 26 25.6 0.0**
comp=Z,21nm,1.6s,mb4.8
MIAR Mount Ida 77.37 52 *e*P **P 03 26 25.1 -0.8**
MIAR pmax pmax
comp=Z,13nm,1.1s,mb4.8
MIAR Mount Ida 77.37 52 *e*P **P 03 26 25.1 -0.8**
comp=Z,13nm,1.1s,mb4.8
MALT Malatya 77.38 314⇑ *i*P **P 03 26 27.7 +1.8**
MALT Malatya 77.38 314 *e*P **P 03 26 27.1 +1.2**
comp=Z,43nm,1.5s,mb5.2
MALT *e*pP pP 03 26 38.3 +0.7
ROTZ Rotzenmuhle 77.54 337 *e*P **P 03 26 27.1 +0.5**
comp=Z,35nm,1.5s,mb5.1
ROTZ *e*pP pP 03 26 37.6 -0.6
ZST Bratislava 77.55 333 *e*P **P 03 26 32.2 +5.6**
BUD Budapest 77.57 331 *e*P **P 03 26 30.9 +4.1**
KHC Kasperske Hory 77.74 335 *e*P **P 03 26 27.8 +0.1**
KHC *e*x x 03 26 31.9
KHC *e*pP pP 03 26 39.0 -0.4
KHC AMS AMS 04 03 50.0
comp=Z,600nm,21.2s
GRA1 Grafenberg Arr 77.87 337 *e*P **P 03 26 28.7 +0.3**
comp=Z,88nm,1.8s,mb5.4
GRA1 *e*pP pP 03 26 39.8 -0.3
GRA1 LR LR
comp=Z,400nm,18.7s,MS4.8
GRF Grafenberg Arr 77.87 337 *e*P **P 03 26 28.7 +0.3**
GRF *e**PP pP 03 26 39.8 -0.3
GRF Grafenberg Arr 77.87 337 *e*P **P 03 26 28.7 +0.3**
GRF *e**PP pP 03 26 39.8 -0.3
GRF pmax pmax
comp=Z,88nm,1.8s,mb5.4
GRF MLR MLR
comp=Z,400nm,18.7s,MS4.8
GRF Grafenberg Arr 77.87 337 *e*P **P 03 26 28.7 +0.3**
comp=Z,88nm,1.8s,mb5.4
GRF *e*pP pP 03 26 39.8 -0.3
GRF *e*L 04 04 21.2
comp=Z,380nm,18.7s
WET Wettzell 77.92 336 *e*P **P 03 26 28.6 -0.1**
WET pmax pmax
comp=Z,8.0nm,1.6s,mb4.4
WET Wettzell 77.92 336 *e*P **P 03 26 28.6 -0.1**
comp=Z,45nm,1.6s,mb5.2
GEC2 GERESS Array S 77.96 335 *e*P **P 03 26 28.7 -0.2**
GEC2 pmax pmax
comp=Z,14nm,1.6s,mb4.6
GEC2 GERESS Array S 77.96 335 *e*P **P 03 26 28.7 -0.2**
comp=Z,26nm,1.6s,mb4.9
GERES GERESS Array B 77.96 335 P **P 03 26 28.7 -0.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=38,slow=5.0,SNR=10
GERES LR LR 04 04 46.0
comp=Z,542nm,18.2s,MS4.9,baz=21,slow=39
WCI Wyandotte Cave 78.16 45 *e*P **P 03 26 29.5 -0.7**
WCI *e**PP pP 03 26 41.5 -0.4
WCI pmax pmax
comp=Z,18nm,1.2s,mb4.9
WCI Wyandotte Cave 78.16 45 *e*P **P 03 26 29.5 -0.7**
comp=Z,18nm,1.2s,mb4.9
WCI *e*pP pP 03 26 41.5 -0.4
BEBN Eben Emael 78.18 341 P **P 03 26 32.5 +2.4**
BEBN AP pP 03 26 40.4 -1.4
BZS Buzias 78.34 329⇑ *i*P **P 03 26 31.1 0.0**
BZS Buzias 78.34 329 ⇑P **P 03 26 31.1 0.0**
BCLA Clavier 78.61 341 E 03 26 36.5
BCLA AP pP 03 26 43.6 -0.6
ANTO Ankara 78.74 319 P **P 03 26 32.7 -0.7**
ANTO *e**PP pP 03 26 44.9 -0.2
ANTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ANTO Ankara 78.74 319 P **P 03 26 32.7 -0.7**
comp=Z,3.9nm,0.6s,mb4.5
ANTO *e*pP pP 03 26 44.9 -0.2
PKSM Moragy 78.82 331⇑ *i*P **P 03 26 35.0 +1.3**
PKSM Moragy 78.82 331 ⇑P **P 03 26 35.0 +1.2**
NATX Nacogdoches 78.91 55 *e*P **P 03 26 34.4 -0.1**
NATX *e*pP pP 03 26 46.3 +0.2
GIVF Givet 79.02 341 *e*P **P 03 26 31.1 -3.6**
BAIF Baives 79.19 342 *e*P **P 03 26 31.2 -4.5**
FUR Furstenfeldbru 79.25 336 *e*P **P 03 26 36.6 +0.6**
FUR pmax pmax
comp=Z,54nm,1.6s,mb5.2
FUR Furstenfeldbru 79.25 336 *e*P **P 03 26 36.6 +0.6**
comp=Z,59nm,1.6s,mb5.3
SOKA Soboth 79.53 333⇓ *i*P **P 03 26 37.2 -0.4**
KBA Koelnbreinsper 79.67 335⇓ *i*P **P 03 26 39.3 +1.0**
comp=Z,49nm,1.7s,mb5.2
KBA Koelnbreinsper 79.67 335⇓ *i*P **P 03 26 39.3 +1.0**
KBA pmax pmax
comp=Z,49nm,1.7s,mb5.2
BFO Black Forest 79.86 338 *e*P **P 03 26 39.3 -0.1**
BFO pmax pmax
comp=Z,20nm,1.3s,mb4.9
BFO Black Forest 79.86 338 *e*P **P 03 26 39.3 -0.1**
comp=Z,17nm,1.3s,mb4.8
PLAL Pickwick Lake 79.86 48 *e*P **P 03 26 38.3 -1.3**
comp=Z,7.4nm,1.3s,mb4.5
PLAL *e*pP pP 03 26 50.3 -1.0
WTTA Wattenberg 79.98 336⇑ *i*P **P 03 26 41.0 +0.9**
comp=Z,49nm,1.9s,mb5.1
WTTA Wattenberg 79.98 336⇑ *i*P **P 03 26 41.0 +1.0**
WTTA pmax pmax
comp=Z,49nm,1.9s,mb5.1
CDF Champ du Feu 80.04 339 *e*P **P 03 26 37.3 -3.0**
MOTA Moosalm 80.05 336⇓ *i*P **P 03 26 41.2 +0.8**
comp=Z,48nm,1.4s,mb5.2
MOTA Moosalm 80.05 336⇓ *i*P **P 03 26 41.2 +0.8**
MOTA pmax pmax
comp=Z,48nm,1.4s,mb5.2
FETA Feichten 80.45 336⇑ *i*P **P 03 26 44.3 +1.8**
comp=Z,24nm,1.3s,mb5.0
FETA Feichten 80.45 336⇑ *i*PcP PcP 03 26 44.3 -5.2
comp=Z,24nm,1.3s
HAU Haudompre 80.64 339 *e*P **P 03 26 40.3 -3.3**
comp=Z,72nm,1.6s,mb5.0
HAU *e*MLR MLR
comp=Z,296nm,23.0s,MS4.3
HAU Haudompre 80.64 339 *e*P **P 03 26 40.3 -3.3**
HAU pmax pmax
comp=Z,36nm,1.6s,mb5.0
HAU MLR MLR
comp=Z,300nm,23.0s,MS4.6
HAU Haudompre 80.64 339 *e*P **P 03 26 40.3 -3.3**
comp=Z,36nm,1.6s,mb5.0
HAU LR LR
comp=Z,300nm,23.0s,MS4.6
HINF Hinteralfeld 80.70 339 *e*P **P 03 26 40.5 -3.4**
DAVOX Davos/Dischmat 80.90 337 LR LR 04 05 14.2
comp=Z,106nm,20.1s,MS4.2,baz=11,slow=38
TUE Stuetta 81.32 337 *e*P **P 03 26 48.8 +1.6**
comp=Z,12nm,0.9s,mb4.8
PPT Papeete 81.71 128 LR LR 03 56 17.7
comp=Z,161nm,20.0s,MS4.4,baz=323,slow=31
GRR Gorron 81.79 344 *e*P **P 03 26 46.3 -3.3**
LOR Lormes 81.90 341 *e*P **P 03 26 47.1 -3.2**
comp=Z,87nm,1.8s,mb5.1
LOR *e*MLR MLR
comp=Z,466nm,20.2s,MS4.5
LOR Lormes 81.90 341 *e*P **P 03 26 47.1 -3.2**
LOR pmax pmax
comp=Z,43nm,1.8s,mb5.1
LOR MLR MLR
comp=Z,470nm,20.3s,MS4.8
LOR Lormes 81.90 341 *e*P **P 03 26 47.1 -3.2**
comp=Z,44nm,1.8s,mb5.1
LOR LR LR
comp=Z,470nm,20.3s,MS4.8
CABF La Chapelle 82.01 339 *e*P **P 03 26 48.1 -2.8**
comp=Z,82nm,1.7s,mb5.1
CABF La Chapelle 82.01 339 *e*P **P 03 26 48.1 -2.8**
CABF pmax pmax
comp=Z,41nm,1.7s,mb5.1
CABF La Chapelle 82.01 339 *e*P **P 03 26 48.1 -2.8**
comp=Z,41nm,1.7s,mb5.1
AVF Avril sur Loir 82.47 341 *e*P **P 03 26 50.2 -3.0**
comp=Z,33nm,1.4s,mb4.8
AVF Avril sur Loir 82.47 341 *e*P **P 03 26 50.2 -3.0**
AVF pmax pmax
comp=Z,16nm,1.4s,mb4.8
AVF Avril sur Loir 82.47 341 *e*P **P 03 26 50.2 -3.0**
comp=Z,16nm,1.4s,mb4.8
SMF Signal de Mont 82.50 341 *e*P **P 03 26 50.5 -2.9**

comp=Z,46nm,1.3s,mb5.0
SMF Signal de Mont 82.50 341 *e*P **P 03 26 50.5 -2.9**
SMF pmax pmax
comp=Z,23nm,1.3s,mb5.0
SMF Signal de Mont 82.50 341 *e*P **P 03 26 50.5 -2.9**
comp=Z,23nm,1.3s,mb5.0
BGF Bois d'Agland 82.80 341 *e*P **P 03 26 51.8 -3.2**
LPL La Plagne 82.88 338 *e*P **P 03 26 53.3 -2.1**
comp=Z,37nm,1.2s,mb5.0
LPL La Plagne 82.88 338 *e*P **P 03 26 53.3 -2.1**
LPL pmax pmax
comp=Z,19nm,1.2s,mb5.0
LPL La Plagne 82.88 338 *e*P **P 03 26 53.3 -2.1**
comp=Z,19nm,1.2s,mb5.0
LPG La Plagne 82.89 338 *e*P **P 03 26 53.5 -2.0**
comp=Z,57nm,1.3s,mb5.2
LPG La Plagne 82.89 338 *e*P **P 03 26 53.5 -2.0**
LPG pmax pmax
comp=Z,29nm,1.3s,mb5.2
LPG La Plagne 82.89 338 *e*P **P 03 26 53.5 -2.0**
comp=Z,29nm,1.3s,mb5.1
ASF Jabal al Asfar 83.02 311 LR LR 04 07 54.7
comp=Z,177nm,19.0s,MS4.5,baz=263,slow=39
MMAI Mount Meron Ar 83.08 313 LR LR 04 08 49.5
comp=Z,267nm,18.4s,MS4.7,baz=50,slow=39
BNI Bardonecchia 83.33 338 *e*P **P 03 26 58.7 +1.0**
BNI *e**PP pP 03 27 09.5 0.0
BNI pmax pmax
comp=Z,47nm,1.9s,mb5.2
BNI Bardonecchia 83.33 338 *e*P **P 03 26 58.7 +1.0**
comp=Z,47nm,1.9s,mb5.2
BNI *e*pP pP 03 27 09.5 0.0
MBDF Montbardon 83.61 338 *e*P **P 03 26 56.7 -2.5**
comp=Z,40nm,1.4s,mb5.0
MBDF Montbardon 83.61 338 *e*P **P 03 26 56.7 -2.5**
MBDF pmax pmax
comp=Z,20nm,1.4s,mb5.0
MBDF Montbardon 83.61 338 *e*P **P 03 26 56.7 -2.5**
comp=Z,20nm,1.4s,mb5.0
ORIF Oris-en-Rattie 83.65 339 *e*P **P 03 26 55.2 -4.2**
comp=Z,22nm,1.3s,mb4.8
ORIF *e*MLR MLR
comp=Z,217nm,23.0s,MS4.2
ORIF Oris-en-Rattie 83.65 339 *e*P **P 03 26 55.2 -4.2**
ORIF pmax pmax
comp=Z,11nm,1.3s,mb4.8
ORIF Oris-en-Rattie 83.65 339 *e*P **P 03 26 55.2 -4.2**
comp=Z,11nm,1.3s,mb4.8
LMR La Mourre 84.98 338 *e*P **P 03 27 03.2 -3.0**
comp=Z,50nm,1.5s,mb5.1
LMR La Mourre 84.98 338 *e*P **P 03 27 03.2 -3.0**
LMR pmax pmax
comp=Z,25nm,1.5s,mb5.1
LMR La Mourre 84.98 338 *e*P **P 03 27 03.2 -3.0**
comp=Z,25nm,1.5s,mb5.1
IDI Anoyia 86.00 321 LR LR 04 12 33.7
comp=Z,106nm,18.1s,MS4.3,baz=268,slow=40
EIL Elat 86.02 311 LR LR 04 09 18.6
comp=Z,225nm,20.5s,MS4.5,baz=100,slow=38
VAE Valguarnera 88.03 330 LR LR 04 11 17.2
comp=Z,255nm,19.8s,MS4.6,baz=117,slow=39
ESDC Sonseca Array 90.78 344 LR LR 04 13 08.9
comp=Z,251nm,19.4s,MS4.7,baz=330,slow=39
KEST Kesra 91.26 333 LR LR 04 13 37.7
comp=Z,165nm,19.1s,MS4.5,baz=333,slow=39
MDT Midelt 97.55 343 LR LR 04 21 04.7
comp=Z,114nm,18.4s,MS4.4,baz=6.5,slow=41
PLCA Paso Flores 146.82 95 PKPbc PKPbc 03 34 11.8 -0.7
comp=Z,8.8nm,1.1s,baz=297,slow=2.3,SNR=6.9
PLCA Paso Flores 146.82 95 PKPbc PKPbc 03 34 11.8 -0.7
TRQA Tornquist 151.23 84 *e*PKPdf PKPdf 03 34 17.4 -0.5
TRQA *e*PKPbc PKPbc 03 34 23.4 -0.4
TRQA *e*PKPab PKPab 03 34 32.8 +0.9

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*NEIC **23** 03:43:29.4, 1808N×10347W, h8km, MD4.0(MEX), After MEX.*

MEX 23 03:43:29.7±0.8, 1811N×10345W, h8km±10km, MD4.1, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLM	**Colima**	**1.09**	**348**	*i* P	Pg	03 43 46.9	-3.7
COLM				*i* S	Sg	03 44 00.3	-4.4
R15V		**1.17**	**335**	*i* P	Pg	03 43 48.6	-3.6
R15V				*i* S	Sg	03 44 03.7	-3.6
EZ5V		**1.37**	**354**	*i* P	Pn	03 43 51.9	-3.2
EZ5V				*i* S	Sb	03 44 09.2	-4.0
ZIIG	**Zihuatanejo**	**1.96**	**105**	*i* P	Pn	03 44 00.1	-3.1
ZIIG				*i* S	Sn	03 44 23.1	-4.9
SFJM	**Santa Fe**	**2.39**	**9**	*i* P	Pn	03 44 06.7	-2.6
SFJM				*i* S	Sn	03 44 35.6	-3.1
SFJM	**Santa Fe**	**2.39**	**9**	*i* P	Pn	03 44 07.3	-1.9
SFJM				*i* S	Sn	03 44 37.6	-1.1
MOIG	**Morelia**	**2.65**	**54**	*i* P	Pn	03 44 10.1	-2.6
MOIG				*i* S	Sn	03 44 41.2	-3.8
MOIG	**Morelia**	**2.65**	**54**	*i* P	Pn	03 44 05.6	-7.2
MOIG				*i* S	Sn	03 44 41.0	-4.1
ANIG	**Ahuacatlan**	**3.10**	**341**	*i* P	Pn	03 44 15.6	-3.2
ANIG				*i* S	Sn	03 44 53.1	-3.0
CAIG	**El Cayaco**	**3.22**	**109**	*i* P	Pn	03 44 17.7	-2.9
CAIG				*i* S	Sn	03 44 54.9	-4.2
CAIG	**El Cayaco**	**3.22**	**109**	*i* P	Pn	03 43 56.5	-24
CAIG				*i* S	Sn	03 45 01.8	+2.7
MEIG	**Mezcala**	**3.65**	**92**	*i* P	Pn	03 44 24.3	-2.2
MEIG				*i* S	Sn	03 45 06.1	-3.7
PLIG	**Platanillo**	**3.76**	**85**	*i* P	Pn	03 44 25.8	-2.3
PLIG				*i* S	Sn	03 45 09.3	-3.3
PLIG	**Platanillo**	**3.76**	**85**	*i* P	Pn	03 44 15.8	-12
PLIG				*i* S	Sn	03 44 55.0	-18
PPM	**Popocatepetl**	**4.67**	**78**	*i* P	Pn	03 44 44.5	+3.9
PPM				*i* S	Sn	03 45 33.3	-1.8
UTMO	**Huajuapan**	**5.38**	**92**	*i* P	Pn	03 44 51.6	+1.3
UTMO				*i* S	Sn	03 45 58.6	+6.0

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*IDC **23** 04:23:42.3±5.8, 1041S×161.15E, h44km±41km, mb3.7/6, mb1 3.9/7, mb1mx3.7/17, mbtmp3.8/7, ML4.2/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/26, Error ellipse: s-maj=49.7km s-min=20.7km az=84.0*

*NEIC **23** 04:23:46.0±4.4, 1023S×16086E, h64km±25km, mb3.9/3, Error ellipse: s-maj=53.4km s-min=16.2km az=107.0*

ISC 23 04:23:42.1±4.5, 104S±01×1611E±03, h41km±29km, n18, σ1§04/18, mb3.9/7, MS3.4/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.51**	**309**	P	**Pn**	**04 24 06.2**	**-0.6**
	126nm,0.3s,baz=140,slow=2.0,SNR=18						
HNR				S	**Sn**	**04 24 25.8**	**+0.6**
	2μm,0.3s,baz=317,slow=1.6,SNR=80						
HNR				LR	LR	04 24 54.5	
	comp=Z,1μm,18.1s,baz=12,slow=47						
HNR	**Honiara**	**1.51**	**309**	P	**Pn**	**04 24 06.2**	**-0.6**
HNR				S	**Sn**	**04 24 25.8**	**+0.6**
HNR				LR	LR	04 24 54.5	
PMG	**Port Moresby**	**13.81**	**273**	*e*Pn	**Pn**	**04 26 54.4**	**-1.1**
CTA	**Charters Tower**	**17.29**	**234**	P	**Pn**	**04 27 41.8**	**+1.2**
	0.5nm,0.3s,baz=64,slow=12,SNR=13						
CTA				LR	LR	04 32 11.4	
	comp=Z,80nm,19.7s,baz=233,slow=30						
CTAO	**Charters Tower**	**17.29**	**234**	*e*P	**Pn**	**04 27 43.4**	**+2.8**
	8.5nm,0.8s						
COEN	**Coen**	**17.92**	**257**	*e*P	**Pn**	**04 27 49.5**	**+1.2**
	2.1nm,0.8s						
AFI	**Afiamalu**	**26.70**	**100**	LR	LR	04 38 33.2	
	comp=Z,70nm,19.6s,MS3.2,baz=245,slow=33						
WB2	**Warramunga Arr**	**27.51**	**247**	*e*P	**P**	**04 29 22.8**	**-2.2**
WRA	**Warramunga Arr**	**27.52**	**247**	P	**P**	**04 29 24.3**	**-0.8**
	2.0nm,0.9s,mb3.7,baz=75,slow=9.5,SNR=6.7						
STKA	**Stephens Creek**	**28.01**	**217**	P	**P**	**04 29 30.4**	**+1.2**
	1.6nm,0.7s,mb3.8,baz=42,slow=9.2,SNR=3.0						
STKA				LR	LR	04 40 18.4	
	comp=Z,151nm,18.4s,MS3.6,baz=205,slow=36						
STKA	**Stephens Creek**	**28.01**	**217**	P	**P**	**04 29 30.4**	**+1.2**
STKA				LR	LR	04 40 18.4	
ASAR	**Alice Springs**	**29.13**	**240**	P	**P**	**04 29 38.4**	**-1.0**
	1.1nm,0.8s,mb3.6,baz=83,slow=10,SNR=8.8						
CMAR	**Chiang Mai Arr**	**67.72**	**295**	P	**P**	**04 34 36.4**	**+0.6**
	1.0nm,0.6s,mb4.0,baz=116,slow=4.7,SNR=3.1						
SONM	**Songino Array**	**75.51**	**325**	P	**P**	**04 35 22.7**	**+0.6**
	0.7nm,0.6s,mb3.8,baz=137,slow=5.7,SNR=4.6						
MKAR	**Makanchi Array**	**89.97**	**318**	P	**P**	**04 36 36.8**	**-0.4**
	0.2nm,0.2s,mb4.0,baz=108,slow=4.7,SNR=3.3						
MKAR	**Makanchi Array**	**89.97**	**318**	P	**P**	**04 36 36.8**	**-0.4**
TKM2	**Tokmak 2**	**93.75**	**313**	*e*P	**P**	**04 36 54.9**	**+0.2**
	0.8nm,0.6s,mb4.3						
TORD	**Torodi Ar. Bea**	**159.69**	**280**	PKPab	PKPab	04 44 15.4	-0.9
	0.4nm,1.0s,baz=91,slow=3.9,SNR=3.7						

IDC 23 04:37:45.5±8.5, 1391S×16715E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/16, mbtmp3.8/5, Error ellipse: s-maj=238.3km s-min=41.2km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.92**	**255**	P	P	04 44 12.5	-0.5
	0.2nm,0.5s,baz=86,slow=9.8,SNR=2.5						
ASAR	**Alice Springs**	**32.86**	**248**	P	P	04 44 21.9	+0.6
	0.2nm,0.5s,baz=75,slow=9.9,SNR=5.0						
CMAR	**Chiang Mai Arr**	**74.52**	**294**	P	P	04 49 27.0	+0.5
	0.8nm,0.3s,baz=134,slow=5.2,SNR=7.1						
SONM	**Songino Array**	**81.78**	**324**	P	P	04 50 06.9	+0.7
	0.4nm,0.5s,baz=133,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**96.54**	**316**	P	P	04 51 15.8	-1.2
	0.2nm,0.2s,baz=108,slow=4.7,SNR=3.0						

GUC 23 04:40:44.5±0.8, 3270S×7167W, h5km±2km, MD3.9, ML2.8, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.62**	**116**	*e*P	Pg	04 40 57.6	+1.2
ROCH				*i* S	Sg	04 41 06.8	+2.3
PTCH	**Petorca**	**0.77**	**55**	*e*P	Pg	04 41 00.2	+1.0
PTCH				*i* S	Sg	04 41 11.2	+2.1
PTCH				AML	AML	04 41 11.8	
	comp=E,237nm,0.1s						
CHNG	**Los Chungos**	**0.83**	**10**	*e*P	Pg	04 41 00.4	0.0
CHNG				*i* S	Sg	04 41 12.2	+1.0
JACH	**Jahuel**	**0.91**	**89**	*e*P	Pg	04 41 02.2	+0.2
JACH				*i* S	Sg	04 41 15.2	+1.4
PEL	**Peldehue**	**0.94**	**118**	⇑*i*P	Pg	04 41 02.5	0.0
PEL				*i* S	Sg	04 41 15.9	+1.2
PEL				AML	AML	04 41 18.1	
	comp=N,1μm,0.1s						
TACH	**Talagante**	**1.13**	**147**	*i* P	Pg	04 41 05.0	-1.2
TACH				*i* S	Sg	04 41 19.2	-1.7
ANTU	**Antumapu**	**1.23**	**135**	*e*P	Pg	04 41 07.0	-1.1
ANTU				*e*S	Sg	04 41 23.7	-0.3
ANTU				AML	AML	04 41 25.8	
	comp=N,313nm,0.2s						
PCH	**Pirque**	**1.34**	**134**	*i* P	Pn	04 41 08.8	-1.0
PCH				*i* S	Sb	04 41 27.5	+0.1
SJCH	**San Jose de Ma**	**1.45**	**131**	*e*P	Pn	04 41 10.0	-1.3
SJCH				*i* S	Sb	04 41 29.9	-0.7
LMEL	**Las Melosas**	**1.68**	**133**	*e*P	Pn	04 41 14.4	-0.1
LMEL				*i* S	Sn	04 41 37.3	+0.9
LMEL				AML	AML	04 41 38.5	
	comp=N,244nm,0.2s						

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*MOS **23** 04:49:17.8±1.0, 5593N×11344E, h18km, mb5.1/70, MS4.5/24, Error ellipse: s-maj=6.3km s-min=4.6km az=87.2*

MOS Felt (IV-V) at Severomuisk; (II-III) at Ulyunkhan, Bodaibo; (II) at Chita.

*SZGRF **23** 04:49:17.3, 5493N×113.17E, h19km, mb4.8, MS4.5, East of Lake Baykal, Russia*

*ISCJB **23** 04:49:18.4±0.1, 5595N±002×11341E±003, h19km, mb4.8/175, MS4.4/45, Error ellipse: s-maj=2.7km s-min=2.0km az=44.6*

*IDC **23** 04:49:19.2±0.3, 5590N×11356E, h18km±2km, mb4.4/25, mb1 4.5/27, mb1mx4.5/29, mbtmp4.4/27, ML3.8/2, MS4.2/20, Ms1 4.2/20, ms1mx4.0/33, Error ellipse: s-maj=10.2km s-min=9.3km az=48.0*

*BJI **23** 04:49:19.3, 5584N×11354E, h25km, mB4.7, mb4.8, Ms4.8, Msz4.6*

*GCMT **23** 04:49:19.6±0.3, 5601N×11369E, h24km, MW4.8/60, Moment Tensor Solution. s38,c50; s60,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.06±.12; $M_{\theta\theta}$1.62±.07; $M_{\phi\phi}$0.44±.08; $M_{r\theta}$0.10±.11; $M_{\theta\phi}$0.93±.06; $M_{\phi r}$-0.66±.14; Best double couple: $M_0$2.19700×10^{16} NP1:ϕ_s256.00000°, δ44.00000°, λ-67.00000°. NP2: ϕ_s46.00000°, δ50.00000°, λ-111.00000°. Principal axes: T 2.1420, Plg3.0000°, Azm150.0000°; N 0.1110, Plg16.0000°, Azm59.0000°; P -2.2510, Plg74.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **23** 04:49:19.6±0.1, 5590N×11348E, mb5.0/135 Error ellipse: s-maj=3.9km s-min=2.8km az=148.0*

*BYKL **23** 04:49:19.4±0.3, 5591N×11350E, h22km±3km, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 72.00 40.00 -91.00 22 0 IEC + 253.00 50.00 -89.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 343.00 5.00 73.00 0.00 168.00 85.00 IEC + 3.78 1.15 6.08 12.05 55.15 10.00 IEC FELT I=IV-V MSK at Severomuisk, Yanchukan, Taksimo, IV at Uakit, III-IV at Mamakan, III at Kuanda, Ulyunkhan, Bodaibo, Vitimskiy, II at Chita.*

*DJA **23** 04:49:19, 5739N×11486E, h40km, mb5.1/13*

*LDG **23** 04:49:20.3±0.9, 5577N×11288E, h10km, Mb5.1/21, Ms4.2/7, Error ellipse: s-maj=42.8km s-min=14.0km az=107.0*

ISC 23 04:49:20.3±0.1, 5593N±002×11347E±003, h20km, h20km±.3km: pP-P, n704, σ0§77/731, mb4.8/174, MS4.4/45, 150C-155D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.45**	**168**	⇑*i*PG	**Pb**	**04 49 27.8**	**-1.7**
UKT				*e*S	**Sb**	**04 49 35.1**	**-0.6**
UKT	**Uakit**	**0.45**	**168**	⇑*i*Pg	**Pb**	**04 49 27.8**	**-1.7**
UKT				Pmax		04 49 28.5	
	28μm,0.8s						
UKT				*e*Sg	**Sb**	**04 49 33.0**	**-2.7**
UKT				Smax		04 49 35.7	
	16μm,1.2s						
YOA	**Uoyan**	**1.00**	**283**	⇓*i*PG	**Pb**	**04 49 37.7**	**-1.2**
YOA				*i*		04 49 52.3	
YOA				pmax	pmax		
	comp=Z,30μm,0.4s						
YOA				smax			
	comp=E,230μm,1.0s						
YOA	**Uoyan**	**1.00**	**283**	⇓*i*Pg	**Pb**	**04 49 37.6**	**-1.3**
YOA				Pmax		04 49 42.9	
	comp=E,28μm,0.9s						
YOA				*i* Sg	**Sb**	**04 49 52.2**	**+0.6**
YOA				Smax		04 49 57.2	
	comp=E,49μm,1.5s						
YLYR	**Ulyunkhan**	**1.68**	**232**	*e*PN	**Pn**	**04 49 49.3**	**+0.8**
YLYR				*e*		04 49 50.1	
YLYR				*e*		04 50 12.6	
YLYR				pmax	pmax		
	comp=Z,6μm,0.8s						
YLYR				smax			
	comp=N,24μm,0.5s						
YLYR	**Ulyunkhan**	**1.68**	**232**	⇓*i*Pn	**Pn**	**04 49 49.0**	**+0.5**
YLYR				⇑*i*Pg	**Pn**	**04 49 49.8**	**+1.3**
YLYR				Pmax		04 49 50.2	
	comp=N,5μm,1.5s						
YLYR				*e*		04 49 56.6	
YLYR				*e*Sg	**Sn**	**04 50 12.7**	**+3.3**
YLYR				max		04 50 16.1	
	comp=N,22μm,0.8s						
BOD	**Bodaibo**	**1.92**	**9**	*e*PN	**Pn**	**04 49 51.8**	**0.0**
BOD				*e*		04 49 53.1	
BOD				*e*S	**Sn**	**04 50 18.4**	**+3.0**
BOD				pmax	pmax		
	comp=Z,4μm,0.4s						
BOD				smax			
	comp=E,48μm,0.8s						
BOD	**Bodaibo**	**1.92**	**9**	*e*Pn	**Pn**	**04 49 51.6**	**-0.2**
BOD				⇓*i*Pg	**Pn**	**04 49 53.1**	**+1.3**
BOD				*e*		04 49 58.6	
BOD				max		04 49 59.5	
	comp=E,11μm,1.0s						
BOD				*i* Sg	**Sn**	**04 50 18.0**	**+2.6**
BOD				Smax		04 50 19.1	
	comp=E,49μm,0.8s						
NIZ	**Nizh Angarsk**	**2.22**	**268**	*e*PN	**Pn**	**04 49 56.2**	**+0.3**
NIZ				*e*		04 49 58.9	
NIZ				*e*		04 50 29.5	
NIZ				pmax	pmax		
	comp=Z,9μm,1.1s						
NIZ				smax			
	comp=N,16μm,1.8s						
NIZ	**Nizh Angarsk**	**2.22**	**268**	⇓*i*Pn	**Pn**	**04 49 56.2**	**+0.3**
NIZ				*e*Pg	**Pn**	**04 49 59.6**	**+3.7**
NIZ				*e*		04 50 01.8	
NIZ				max		04 50 04.9	
	comp=N,9μm,0.8s						
NIZ				*e*		04 50 25.6	
NIZ				*e*Sg	**Sn**	**04 50 29.6**	**+7.0**
NIZ				Smax		04 50 52.7	
	comp=N,12μm,1.7s						
CRS	**Chara**	**2.84**	**68**	*e*PN	**Pn**	**04 50 04.1**	**-0.4**
CRS				*e*		04 50 11.3	
CRS				*e*		04 50 47.9	
CRS				pmax	pmax		
	comp=Z,9μm,1.0s						
CRS				smax			
	comp=N,24μm,1.6s						
CRS	**Chara**	**2.84**	**68**	⇓*i*Pn	**Pn**	**04 50 04.4**	**-0.1**
CRS				⇓*i*Pg	**Pn**	**04 50 10.9**	**+6.4**
CRS				*e*PgPg		04 50 13.7	
CRS				max		04 50 16.0	
	comp=N,9μm,0.8s						
CRS				*e*Sg	**Sn**	**04 50 48.5**	**+10**
CRS				Smax		04 50 53.0	
	comp=N,24μm,1.6s						
CRS				*e*		04 50 57.3	
SYVR	**Suvo**	**3.03**	**223**	*e*PN	**Pn**	**04 50 07.4**	**+0.3**
SYVR				*e*		04 50 14.2	
SYVR				*e*		04 50 53.4	
SYVR				pmax	pmax		
	comp=Z,2μm,1.1s						
SYVR				smax			
	comp=N,20μm,1.8s						
SYVR	**Suvo**	**3.03**	**223**	⇑*i*Pn	**Pn**	**04 50 07.0**	**-0.1**
	comp=N,131nm,0.8s						
SYVR				⇑*i*Pn	**Pn**	**04 50 07.0**	**-0.1**
	comp=N,204nm,0.8s						
SYVR				⇓*i*Pn	**Pn**	**04 50 07.0**	**-0.1**
	comp=N,292nm,0.8s						
SYVR				*e*Pg	**Pn**	**04 50 14.0**	**+6.9**
SYVR				Pmax		04 50 17.6	
	comp=N,2μm,1.3s						
SYVR				*e*PgPg		04 50 20.2	
SYVR				*i* Sg	**Sn**	**04 50 53.4**	**+11**
SYVR				Smax		04 51 02.1	
	comp=N,20μm,1.8s						
KHNR	**Khani**	**3.75**	**72**	*e*Pn	**Pn**	**04 50 17.8**	**+0.8**
KHNR				*e*Sg	**Sn**	**04 51 14.4**	**+14**
MXMB	**Maximikha**	**3.83**	**228**	⇓*i*Pn	**Pn**	**04 50 17.8**	**-0.2**
MXMB				⇓*i*Pg	**Pn**	**04 50 28.4**	**+10**
MXMB				*e*		04 50 36.8	
MXMB				max		04 50 39.1	
	comp=N,1μm,0.8s						
MXMB				*e*Sg	**Sn**	**04 51 18.2**	**+16**
MXMB				*e*		04 51 24.8	
MXMB				max		04 51 25.9	
	comp=N,17μm,1.0s						
CIT	**Chita**	**3.91**	**179**	*e*PN	**Pn**	**04 50 29.2**	**+10**
CIT				*e*		04 51 20.4	
CIT				pmax	pmax		
	comp=Z,3μm,1.5s						
CIT				smax			
	comp=N,22μm,0.7s						
CIT	**Chita**	**3.91**	**179**	*e*Pn	**Pn**	**04 50 17.5**	**-1.7**
CIT				*e*Pg	**Pn**	**04 50 29.3**	**+10**
CIT				Pmax		04 50 31.5	
	comp=N,3μm,1.6s						
CIT				*e*Sg	**Sn**	**04 51 20.5**	**+16**
CIT				Smax		04 51 36.1	
	comp=N,19μm,0.8s						
TUP	**Tupik**	**4.01**	**109**	*e*PN	**Pn**	**04 50 19.9**	**-0.6**
TUP				*e*		04 50 30.5	
TUP				*e*		04 51 23.7	
TUP				pmax	pmax		
	comp=Z,997nm,0.8s						
TUP				smax			
	comp=N,26μm,1.2s						
TUP	**Tupik**	**4.01**	**109**	⇓*i*Pn	**Pn**	**04 50 19.9**	**-0.6**
TUP				*e*		04 50 24.9	
TUP				*e*Pg	**Pn**	**04 50 29.4**	**+8.9**
TUP				Pmax		04 50 32.7	
	comp=N,980nm,1.5s						
TUP				*e*		04 51 09.5	
TUP				*e*Sg	**Sn**	**04 51 22.0**	**+15**
TUP				Smax		04 51 37.7	
	comp=N,24μm,1.2s						
OGRR	**Ongureny**	**4.10**	**239**	*e*PN	**Pn**	**04 50 21.7**	**0.0**
OGRR				*e*		04 50 32.2	
OGRR				*e*		04 51 24.8	
OGRR				pmax	pmax		
	comp=Z,1μm,1.9s						
OGRR				smax			
	comp=E,6μm,1.5s						
OGRR	**Ongureny**	**4.10**	**239**	⇓*i*Pn	**Pn**	**04 50 21.7**	**0.0**
OGRR				*e*		04 50 26.6	
OGRR				*e*		04 50 34.0	
OGRR				max		04 50 43.3	
	comp=E,933nm,0.8s						
OGRR				*e*		04 51 03.0	
OGRR				*e*Sg	**Sn**	**04 51 25.8**	**+17**
OGRR				Smax		04 51 38.4	
	comp=E,6μm,1.3s						
TRG	**Tyrgan**	**5.23**	**236**	*e*PN	**Pn**	**04 50 37.4**	**+0.1**
TRG				*e*S	Sn	04 51 59.8	+23
TRG				smax			
	comp=N,3μm,1.3s						
TRG	**Tyrgan**	**5.23**	**236**	⇑*i*Pn	**Pn**	**04 50 37.4**	**+0.1**
TRG				*e*Pg	**Pn**	**04 50 51.8**	**+15**
TRG				Pmax		04 50 59.2	
	comp=N,248nm,1.4s						
TRG				*e*Sg	Sn	04 52 00.8	+24
TRG				*e*		04 52 06.7	
TRG				max		04 52 17.6	
	comp=N,3μm,1.2s						
UUDB	**Ulan-Yde**	**5.32**	**223**	⇑*i*Pn	**Pn**	**04 50 38.7**	**+0.2**
UUDB				⇓*i*Pg	**Pn**	**04 50 54.9**	**+16**
UUDB				⇓*i*		04 51 04.5	
UUDB				max		04 51 27.7	
	comp=N,923nm,1.1s						
UUDB				*e*		04 51 45.5	
UUDB				*e*Sg	Sn	04 52 03.4	+24
UUDB				Smax		04 52 18.2	
	comp=N,8μm,1.5s						
FFNB	**Fofonovo**	**5.54**	**228**	*e*	**Pb**	**04 50 57.3**	**+1.0**
FFNB				*e*		04 51 00.1	
FFNB				max		04 51 19.1	
	comp=N,686nm,0.8s						
FFNB				*e*Sg	Sn	04 52 11.7	+27
FFNB				Smax		04 52 26.0	
	comp=N,7μm,0.6s						
KAB	**Kabansk**	**5.59**	**229**	*e*	**Pb**	**04 50 59.6**	**+2.6**
KAB				max		04 51 27.2	
	comp=N,2μm,1.2s						
KAB				*e*		04 52 02.9	
KAB				*e*Sg	Sn	04 52 13.6	+28
KAB				Smax		04 52 47.8	
	comp=N,16μm,1.3s						
KAB				*e*		04 53 01.5	
KPC	**Khapcheranga**	**6.27**	**186**	⇓*i*Pn	**Pn**	**04 50 50.1**	**-1.4**
KPC				*e*Pg	Pn	04 51 12.6	+21
KPC				Pmax		04 51 21.9	
	comp=N,320nm,1.1s						
KPC				*e*		04 52 17.0	
KPC				*e*Sg	Sn	04 52 33.4	+31
KPC				Smax		04 52 50.7	
	comp=N,5μm,1.4s						
CLNS	**Chul'man**	**6.41**	**77**	*e*PN	**Pn**	**04 51 04.2**	**+11**
CLNS				*e*		04 51 15.8	
CLNS				*e*		04 52 38.2	
CLNS				pmax	pmax		
	comp=N,8.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.2s						
CLNS				pmax	pmax		
	comp=Z,19nm,0.3s						

CLNS pmax pmax
comp=E,226nm,1.1s
CLNS pmax pmax
comp=N,261nm,1.0s
CLNS pmax pmax
comp=Z,289nm,0.9s
CLNS MLR MLR
comp=Z,3μm,13.4s
LSTR Listvyanka 6.55 235 *e*Pn **Pn 04 50 54.8 -0.2**
LSTR Pg Pn 04 51 17.7 +23
LSTR Pmax 04 51 24.3
comp=Z,184nm,1.8s
LSTR *e* 04 51 57.1
LSTR *e*Sg Sn 04 52 42.4 +34
LSTR Smax 04 52 48.0
comp=Z,3μm,1.6s
IRK Irkutsk 6.55 240 *e*PN **Pn 04 50 55.2 -0.1**
IRK *e* 04 51 18.6
IRK *e* 04 52 42.7
IRK pmax pmax
comp=Z,419nm,0.9s
IRK smax
comp=N,5μm,1.2s
IRK Irkutsk 6.55 240 *e* **Pb 04 51 11.4 -2.0**
IRK *e*Pg Pn 04 51 17.4 +22
IRK Pmax 04 51 25.9
comp=N,420nm,0.9s
IRK *e* 04 52 29.5
IRK *e*Sg Sn 04 52 41.0 +32
IRK *e* 04 53 01.4
IRK max 04 53 05.1
comp=N,6μm,1.1s
TLY Talaya 7.20 238 *e*PN **Pn 04 51 03.6 -0.7**
TLY *e* 04 51 29.0
TLY *e* 04 53 02.1
TLY pmax pmax
comp=Z,117nm,0.6s
TLY smax
comp=E,578nm,0.6s
TLY Talaya 7.20 238⇓*i*Pn **Pn 04 51 03.6 -0.7**
TLY *e* 04 51 11.4
TLY max 04 51 38.0
comp=E,181nm,0.8s
TLY *e*Sg Sn 04 53 03.5 +38
TLY Smax 04 53 29.4
comp=E,2μm,1.1s
TLY Talaya 7.20 238 *e*Pn **Pn 04 51 03.5 -0.8**
comp=E,136nm,0.6s
TLY *e*Pg Pn 04 51 33.3 +29
TLY *e*Sg Sn 04 53 02.8 +37
ARS Arshan 7.65 243 *e*Pn **Pn 04 51 11.2 +0.7**
ARS *e* 04 51 17.5
ARS *e* 04 51 30.1
ARS max 04 51 50.6
comp=E,299nm,0.5s
ARS *e* 04 52 50.0
ARS *e*Sg Sn 04 53 14.5 +38
ARS Smax 04 53 24.3
comp=E,6μm,0.9s
HIA Hailar 7.68 148 *e*PN **Pn 04 51 08.0 -2.9**
HIA *e* 04 52 35.2
HIA pmax pmax
comp=Z,136nm,0.6s
HIA Hailar 7.68 148 *e*Pn **Pn 04 51 07.9 -3.0**
HIA *e*Pg Pn 04 51 39.4 +28
HIA *e* 04 52 31.0
HIA *e*Sg Sn 04 53 17.4 +40
HIA Hailar 7.68 148 *e*Pn **Pn 04 51 08.0 -3.0**
comp=Z,136nm,0.6s
HIA *e*Sn **Sn 04 52 35.2 -2.0**
ZAK Zakamensk 8.26 232 *e*PN **Pn 04 51 21.6 +2.8**
ZAK *e* 04 51 49.9
ZAK *e* 04 53 34.8
ZAK pmax pmax
comp=Z,85nm,1.1s
ZAK smax
comp=E,2μm,1.3s
ZAK Zakamensk 8.26 232 *e*Pn **Pn 04 51 22.1 +3.3**
ZAK *e* 04 51 29.3
ZAK max 04 51 30.7
comp=E,116nm,1.6s
ZAK *e* 04 52 49.4
ZAK *e*Sg Sn 04 53 35.1 +44
ZAK Smax 04 53 59.3
comp=E,2μm,1.4s
MOY Mondy 8.52 245 *e*PN **Pn 04 51 22.5 +0.1**
MOY *e* 04 51 49.6
MOY pmax pmax
comp=Z,403nm,0.7s
MOY Mondy 8.52 245⇑*i*Pn **Pn 04 51 22.6 +0.2**
MOY *e* 04 51 27.7
MOY max 04 51 41.7
comp=Z,527nm,1.5s
MOY *e* 04 51 49.0
MOY *e*Sn **Sn 04 52 52.1 -5.8**
MOY *e* 04 53 17.9
MOY *e*Sg Sn 04 53 43.9 +46
MOY Smax 04 53 46.2
comp=Z,3μm,1.5s
ORL Orlik 8.69 253 *e*PN **Pn 04 51 24.6 -0.1**
ORL *e* 04 51 54.7
ORL *e* 04 53 49.3
ORL pmax pmax
comp=Z,278nm,1.2s
ORL smax
comp=N,3μm,1.4s
ORL Orlik 8.69 253⇓*i*Pn **Pn 04 51 24.5 -0.2**
comp=N,98nm,1.8s
ORL ⇓*i*Pn **Pn 04 51 24.5 -0.2**
comp=N,103nm,1.8s
ORL ⇑*i*Pn **Pn 04 51 24.5 -0.2**
comp=N,80nm,1.8s
ORL *e* 04 51 29.5
ORL *e* 04 51 40.2
ORL max 04 51 43.2
comp=N,294nm,1.6s
ORL *e*Pg Pn 04 51 55.9 +31
ORL *e*Sn **Sn 04 52 58.4 -3.5**
ORL *e*Sg Sn 04 53 46.9 +45
ORL Smax 04 53 58.9
comp=N,3μm,1.4s
SONM Songino Array 9.20 211 Pn **Pn 04 51 31.0 -0.7**
comp=N,1.9nm,0.3s,baz=21,slow=13,SNR=32
SONM Lg 04 54 09.1
comp=N,39nm,0.3s,baz=28,slow=26,SNR=12
SONM LR LR 04 55 20.3
comp=N,2μm,18.3s,baz=24,slow=39
YAK Yakutsk 10.35 47 *e*P **Pn 04 51 48.6 +1.2**
YAK *e* 04 53 48.8
YAK pmax pmax
comp=Z,29nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,9.0nm,0.8s
YAK smax
comp=N,138nm,1.0s
YAK smax
comp=E,196nm,1.1s
YAK MLR MLR
comp=Z,2μm,14.0s
YAK Yakutsk 10.35 47 *e*Pn **Pn 04 51 47.1 -0.2**
comp=Z,64nm,0.6s
KRAR Krasnoyarsk 11.54 279 *e*P **Pn 04 52 04.7 +1.1**
BLRR Bol'shaya Rech 12.56 265⇓*e*P **Pn 04 52 16.0 -1.6**
HVS Khovu-Aksy 12.68 256 *e*P **Pn 04 52 19.8 +0.5**
HVS pmax pmax
comp=Z,10.0nm,0.2s
KLR Kul'dur 12.96 113 *e*P **Pn 04 52 19.0 -4.1**
KLR MLR MLR
comp=E,4μm,8.0s
KLR MLR MLR
comp=Z,7μm,8.0s
CN2 Changchun 14.36 143 *e*P **Pn 04 52 44.0 +1.8**
CN2 *e*XP sP 04 52 53.0 -4.5
CN2 *e*S **Sn 04 55 22.8 +2.1**
CN2 AMB AMB
comp=Z,10.0nm,1.1s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,3μm,15.0s
CN2 LR LR
comp=E,3μm,15.0s
CN2 LR LR
comp=Z,3μm,17.0s
HHC Hu-ho-hao-te 15.14 186 *e*P **Pn 04 52 53.5 +0.7**
HHC AP pP 04 52 59.3 -4.2
HHC XP sP 04 53 03.4 -2.7
HHC PP 04 53 06.0
HHC S **Sn 04 55 40.6 +0.9**
HHC XS sS 04 55 50.9 -15
HHC SS 04 56 00.0
HHC PCS PcS 05 01 33.8 -0.2
HHC SCS ScS 05 05 07.5 -1.9
HHC AMB AMB
comp=Z,15nm,1.1s
HHC AMB AMB
comp=Z,125nm,5.3s
HHC LR LR
comp=N,2μm,9.9s
HHC LR LR
comp=E,4μm,10.8s
HHC LR LR
comp=Z,2μm,10.1s
MDJ Mudanjiang 15.26 131 P **Pn 04 52 56.5 +2.1**
MDJ AP pP 04 53 00.3 -4.5
MDJ XP sP 04 53 04.0 -3.5
MDJ PCP PcP 04 58 00.8 +1.8
MDJ AMB AMB
comp=Z,18nm,1.3s
MDJ AMB AMB
comp=Z,119nm,4.4s
MDJ LR LR
comp=N,2μm,8.8s
MDJ LR LR
comp=E,1μm,7.9s
MDJ LR LR
comp=Z,3μm,8.8s
MDJ Mudanjiang 15.26 131 *e*Pn **Pn 04 52 52.7 -1.7**
comp=Z,23nm,0.9s
BTO Baotou 15.50 190 *e*P **Pn 04 52 56.3 -1.2**
BJT Baijiatuau 16.02 172 *e*Pn **Pn 04 53 05.5 +1.4**
BJT *e*P 04 53 09.1
ZAA0 Zalesovo Array 16.53 275 *e*Pn **Pn 04 53 08.8 -1.9**
ZALV Zalesovo Beam 16.53 275 Pn **Pn 04 53 09.0 -1.6**
comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=16
ZALV Lg 04 57 55.9
comp=Z,0.4nm,0.3s,baz=64,slow=29,SNR=3.7
ZALV Zalesovo Beam 16.53 275 Pn **Pn 04 53 09.0 -1.6**
ZALV Lg 04 57 55.9
ZAL Zalesovo 16.54 275 P **Pn 04 53 09.0 -1.8**
TIXI Tiksi 17.09 17 *e*P **Pn 04 53 12.6 -4.9**
TIXI *e*SS 04 56 24.9
TIXI pmax pmax
comp=Z,69nm,0.7s
TIXI MLR MLR
comp=Z,2μm,13.0s
TIXI Tiksi 17.09 17 *e*Pn **Pn 04 53 12.1 -5.4**
comp=Z,104nm,0.9s
NVS Novosibirsk 17.15 279 *e*P **Pn 04 53 17.7 -0.7**
VLA Vladivostok 17.46 130 *e*P **Pn 04 53 23.5 +1.2**
VLA pmax pmax
comp=Z,37nm,0.7s
VLA MLR MLR
comp=Z,1μm,14.7s
DL2 Dalian 17.88 159 P **Pn 04 53 27.8 +0.2**
DL2 XP sP 04 53 37.0 +0.5
DL2 S **Sn 04 56 46.3 +0.2**
DL2 XS sS 04 56 54.4 -7.1
DL2 AMB AMB
comp=Z,20nm,0.8s
DL2 AMB AMB
comp=Z,230nm,6.2s
DL2 LR LR
comp=N,1μm,15.1s
DL2 LR LR
comp=E,680nm,11.1s
DL2 LR LR
comp=Z,2μm,10.6s
GTA Gaotai 18.85 214 P **Pn 04 53 38.9 -0.5**
GTA AP pP 04 53 45.4 +0.9
GTA XP sP 04 53 49.3 +2.1
GTA S **Sn 04 57 07.8 -1.8**
GTA XS sS 04 57 18.0 -3.2
GTA SS 04 57 33.0
GTA AMB AMB
comp=Z,16nm,1.1s
GTA AMB AMB
comp=Z,136nm,5.4s
GTA LR LR
comp=N,2μm,12.9s
GTA LR LR
comp=E,892nm,11.7s
GTA LR LR
comp=Z,2μm,13.5s
TIA Tai'an 19.88 171⇓P **Pn 04 53 51.0 -0.7**
TIA S **Sn 04 57 32.0 -2.4**
TIA AMB AMB
comp=Z,49nm,1.2s
TIA LR LR
comp=N,1μm,12.0s
TIA LR LR
comp=E,761nm,11.0s
YSS Yuzh-Sakhalins 20.21 104 *e*P **P 04 53 54.0 +0.4**
YSS MLR MLR
comp=Z,2μm,13.0s,MS4.5
YSS MLR MLR
comp=N,1μm,16.0s,MS4.6
YSS MLR MLR
comp=E,2μm,14.0s,MS4.6
WMQ Urumqi 20.41 244 P **P 04 53 56.8 +1.0**
WMQ AP 04 54 03.5
WMQ XP sP 04 54 07.3 +3.1
WMQ PP 04 54 17.6
WMQ S **S 04 57 39.1 -4.3**
WMQ SS 04 58 09.1
WMQ SCP ScP 05 01 42.1 -0.3
WMQ SCS ScS 05 05 23.8 -1.4
WMQ AMB AMB
comp=Z,31nm,1.0s
WMQ AMB AMB
comp=Z,172nm,3.1s
WMQ LR LR
comp=N,423nm,18.2s,MS4.2
WMQ LR LR
comp=E,811nm,18.4s,MS4.2
WMQ LR LR
comp=Z,414nm,16.8s,MS3.9
SEY Seymchan 20.72 54⇓*i*P **P 04 53 59.5 +0.5**
KSRS Korea Array 20.89 146 P **P 04 54 00.8 -0.2**
comp=Z,8.6nm,0.9s,baz=348,slow=8.2,SNR=18
KSRS Lg 05 00 16.4
comp=Z,4.5nm,0.8s,baz=341,slow=32,SNR=6.6
KSRS LR LR 05 03 02.7
comp=Z,977nm,18.9s,MS4.2,baz=335,slow=40
LZH Lanzhou 20.90 202 *e*P **P 04 54 02.5 +1.4**
LZH AP 04 54 09.6
LZH XP sP 04 54 12.6 +3.1
LZH PP 04 54 26.0
LZH *e*S **S 04 57 46.0 -7.0**
LZH XS sS 04 57 59.3 -3.0
LZH SS 04 58 19.0
LZH AMB AMB
comp=Z,30nm,1.2s
LZH AMB AMB
comp=Z,90nm,4.0s
LZH LR LR
comp=N,2μm,11.4s
LZH LR LR
comp=Z,3μm,12.4s,MS4.9
KURK Kurchatov 21.30 271 P **P 04 54 05.9 +0.5**
comp=Z,451nm,1.5s,mb5.6,SNR=34
KURK Kurchatov 21.30 271⇑*i*P **P 04 54 04.4 -1.0**
KURK pmax pmax
comp=Z,136nm,1.4s,mb5.1
KURK MLR MLR
comp=Z,800nm,16.0s,MS4.2
KURK Kurchatov 21.30 271 *e*P **P 04 54 04.7 -0.6**
comp=Z,125nm,1.2s,mb5.1
MK31 Makanchi Array 21.34 258 *i*P **P 04 54 05.5 -0.3**
MK31 pmax pmax
comp=Z,31nm,0.6s,mb4.8
MKAR Makanchi Array 21.34 258 P **P 04 54 05.5 -0.3**
comp=Z,13nm,0.8s,mb4.3,baz=61,slow=9.9,SNR=79
MKAR pPcP 04 58 14.5
comp=Z,6.4nm,0.8s,baz=53,slow=6.2,SNR=4.0
MKAR LR LR 05 02 43.5
comp=Z,1μm,19.7s,MS4.2,baz=46,slow=38
MKAR Makanchi Array 21.34 258 P **P 04 54 05.5 -0.3**
MKAR 04 58 14.5
ASAJ Asahikawa 21.95 110 P **P 04 54 10.9 -1.4**
comp=Z,9.7nm,0.7s,mb4.4,baz=297,slow=17,SNR=5.5
ASAJ LR LR 05 03 18.1
comp=Z,778nm,19.0s,MS4.1,baz=346,slow=38
ASAJ Asahikawa 21.95 110 P **P 04 54 11.0 -1.4**
ASAJ pmax pmax
comp=Z,10.0nm,0.7s
ASAJ MLR MLR
comp=Z,778nm,19.0s
XAN Xi'an 22.11 190 P **P 04 54 13.9 -0.2**
XAN AP 04 54 20.9
XAN XP sP 04 54 23.9 +1.3
XAN PP 04 54 39.3
XAN S **S 04 58 08.8 -8.0**
XAN PCP PcP 04 58 14.6 +3.7
XAN SS 04 58 46.9
XAN SCS ScS 05 05 31.8 +0.2
XAN AMB AMB
comp=Z,17nm,1.5s,mb4.2
XAN AMB AMB
comp=Z,81nm,6.9s
XAN LR LR
comp=N,920nm,11.8s
XAN LR LR
comp=E,403nm,8.2s
XAN LR LR
comp=Z,2μm,14.1s,MS4.7
NJ2 Nanjing 24.16 169 *e*P **P 04 54 35.8 +0.9**
NJ2 AP 04 54 42.3
NJ2 XP sP 04 54 45.3 +1.7
NJ2 PP 04 55 09.6
NJ2 S **S 04 58 47.5 -4.3**
NJ2 XS sS 04 58 59.4 -2.5
NJ2 AMB AMB
comp=Z,130nm,0.6s,mb5.5
NJ2 AMB AMB
comp=Z,310nm,5.4s
NJ2 LR LR
comp=N,1μm,15.6s,MS4.6
NJ2 LR LR
comp=E,570nm,14.2s,MS4.6
NJ2 LR LR
comp=Z,500nm,16.4s,MS4.1
VOSK Vostochnaya 24.70 280 P **P 04 54 42.8 +3.2**
VOSK pmax pmax
comp=Z,32nm,0.8s,mb4.9
BVA0 Borovoye Array 24.90 281 *i*P **P 04 54 40.4 -1.0**
BVA0 pmax pmax
comp=Z,12nm,1.3s,mb4.3
BVAR Borovoye Array 24.90 281 P **P 04 54 41.2 -0.2**
comp=Z,11nm,0.8s,mb4.4,baz=68,slow=8.2,SNR=38
BVAR S **S 04 59 09.9 +6.6**
comp=Z,3.2nm,0.7s,baz=63,slow=17,SNR=2.1
BRVK Borovoye 24.94 282 P **P 04 54 41.8 0.0**
comp=Z,309nm,0.8s,mb5.9,SNR=8.3
BRVK Borovoye 24.94 282 *e*P **P 04 54 41.5 -0.3**
BRVK pmax pmax
comp=Z,41nm,0.8s,mb5.0
BRVK Borovoye 24.94 282 *e*P **P 04 54 41.5 -0.3**
comp=Z,41nm,0.8s,mb5.0
WHN Wuhan 25.38 178 P **P 04 54 44.3 -1.7**
WHN AP pP 04 54 55.6 +3.5
WHN LR LR
comp=N,2μm,9.7s
WHN LR LR
comp=E,1μm,9.4s
WHN LR LR
comp=Z,2μm,17.2s,MS4.7
SSE Sheshan 25.41 164 P **P 04 54 46.4 +0.1**
SSE XP sP 04 54 55.1 +0.1
SSE S **S 04 59 12.8 +1.1**
SSE XS sS 04 59 23.3 +1.3
SSE AMB AMB
comp=Z,34nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,79nm,8.3s
SSE LR LR
comp=N,1μm,14.4s,MS4.6
SSE LR LR
comp=E,249nm,14.4s,MS4.6
SSE LR LR
comp=Z,2μm,13.8s,MS4.7
PETK Petropavlovsk- 25.50 78 P **P 04 54 45.9 -1.0**
comp=Z,23nm,1.0s,mb4.7,baz=277,slow=5.1,SNR=9.2
PETK LR LR 05 05 16.5
comp=Z,389nm,19.4s,MS3.9,baz=34,slow=38
MAT Matsushiro 25.62 129 P **P 04 54 44.5 -3.6**
MAT S **S 04 59 16.0 +1.0**
MJAR Matsushiro Arr 25.62 129 P **P 04 54 46.1 -2.0**
comp=Z,3.8nm,0.7s,mb4.0,baz=325,slow=10,SNR=11
MJAR LR LR 05 05 00.5
comp=Z,469nm,18.7s,MS4.0,baz=340,slow=37
CD2 Chengdu 25.93 199⇓*i*P **P 04 54 51.3 +0.4**
CD2 AP pP 04 54 58.6 +1.5
CD2 XP sP 04 55 02.1 +2.4
CD2 PP 04 55 33.8
CD2 PCP PcP 04 58 19.9 +0.7
CD2 S **S 04 59 18.5 -1.4**
CD2 XS sS 04 59 30.3 +0.2
CD2 SS 05 00 25.3
CD2 SCS ScS 05 05 44.8 -2.0
CD2 AMB AMB
comp=Z,30nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,150nm,7.8s
CD2 LR LR
comp=N,2μm,12.0s,MS5.0
CD2 LR LR
comp=E,2μm,14.4s,MS5.0
CD2 LR LR
comp=Z,2μm,12.0s,MS5.0
PET Petropavlovsk 26.06 77 *e*P **P 04 54 51.3 -0.7**
PET *e*S **S 04 59 15.3 -6.4**
PET pmax pmax
comp=Z,100nm,14.5s
PET MLR MLR
comp=Z,500nm,18.0s,MS4.1
PET MLR MLR
comp=Z,700nm,14.0s
BILL Bilibino 26.64 42 *e*P **P 04 54 56.8 -0.3**
BILL *e**PP pP 04 55 03.2 0.0
BILL pmax pmax
comp=Z,22nm,1.5s,mb4.5
BILL MLR MLR
comp=Z,400nm,19.0s,MS4.0
TKM2 Tokmak 2 27.47 258 *e*P **P 04 55 05.4 +0.6**
TKM2 pmax pmax
comp=Z,74nm,1.4s,mb5.0
TKM2 Tokmak 2 27.47 258 P **P 04 55 05.7 +0.9**
SNR=19
TKM2 Tokmak 2 27.47 258 *e*P **P 04 55 05.4 +0.6**
comp=Z,74nm,1.4s,mb5.0
ULHL Ulahol 27.57 256 P **P 04 55 06.8 +1.2**
SNR=14
USP Ospenovka 27.85 260 P **P 04 55 09.5 +1.4**
SNR=8.6
FRU Bishkek 28.07 259 *e*P **P 04 55 12.0 +1.9**
FRU *e* 04 55 58.0
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.0
KZA Kyzart 28.23 257 P **P 04 55 13.6 +2.0**
SNR=12
EKS2 Erkin-Say 28.65 259 P **P 04 55 16.4 +1.1**
SNR=13
EKS2 Erkin-Say 28.65 259 *e*P **P 04 55 16.3 +1.0**
comp=Z,14nm,0.9s,mb4.7
JHJ Hachijo jima 2 29.20 130 LR LR 05 07 30.7
comp=Z,408nm,18.8s,MS4.1,baz=67,slow=37
GYA Guiyang 29.85 192⇑*i*P **P 04 55 26.8 +0.8**
GYA AP pP 04 55 32.4 +0.1
GYA XP sP 04 55 38.8 +4.0
GYA PP PP 04 56 26.0 -7.5
GYA PCP PcP 04 58 32.4 +3.6
GYA S **S 05 00 24.0 +2.3**
GYA SS SS 05 01 59.6 -29
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,130nm,4.6s
GYA LR LR
comp=N,890nm,15.8s,MS4.6
GYA LR LR
comp=E,670nm,14.6s,MS4.6
GYA LR LR
comp=Z,880nm,15.7s,MS4.5

ARU Arti 29.88 294 *e*P **P** **04 55 24.0 -2.1**
ARU *e*PPP 04 56 27.2
ARU *e* 04 58 24.4
ARU *e*S **S** **05 00 20.2 -1.6**
ARU MLR MLR
comp=Z,2µm,16.0s,MS4.8
KK31 Karatay Array 30.18 263 *i* P **P** **04 55 28.5 -0.3**
KK31 pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
KMI Kunming 31.75 199 P **P** **04 55 42.4 -0.4**
KMI AP pP 04 55 49.9 +0.8
KMI XP sP 04 55 52.3 +0.7
KMI PP PP 04 56 50.6 -4.0
KMI S **S** **05 00 52.5 +1.0**
KMI XS sS 05 01 05.1 +3.3
KMI AMB AMB
comp=Z,33nm,0.8s,mb5.2
KMI AMB AMB
comp=Z,48nm,3.1s
KMI LR LR
comp=N,997nm,13.9s,MS4.9
KMI LR LR
comp=E,1µm,12.9s,MS4.9
KMI LR LR
comp=Z,2µm,13.9s,MS4.8
AB31 Akbulak array 32.47 281 *i* P **P** **04 55 48.3 -0.6**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
TAPN Taplejung 34.04 224 *e*P **P** **04 56 02.9 +0.1**
comp=Z,75nm,1.2s,mb5.5
SHL Shillong 34.16 216 *e*P **P** **04 56 05.0 +1.2**
GUN Gumba 34.27 227 *e*P **P** **04 56 05.5 +0.7**
comp=Z,58nm,1.0s,mb5.5
JIRN Jiri 34.37 226 *e*P **P** **04 56 06.1 +0.5**
comp=Z,35nm,0.7s,mb5.4
ODAN Odare 34.60 224 *e*P **P** **04 56 07.7 0.0**
comp=Z,81nm,1.0s,mb5.6
KKN Kakani 34.63 227 *e*P **P** **04 56 08.5 +0.6**
comp=Z,57nm,0.8s,mb5.6
KKN Kakani 34.63 227 *e*P **P** **04 56 08.5 +0.6**
KKN pmax pmax
comp=Z,57nm,0.8s,mb5.5
GKN Gorkha 34.71 228 *e*P **P** **04 56 09.4 +0.8**
comp=Z,62nm,1.0s,mb5.5
PKI Pulchoki 34.77 227 *e*P **P** **04 56 09.9 +0.8**
comp=Z,48nm,1.1s,mb5.3
PKI Pulchoki 34.77 227 *e*P **P** **04 56 09.9 +0.8**
PKI pmax pmax
comp=Z,48nm,1.1s,mb5.3
DANN Dangsing 34.78 230 *e*P **P** **04 56 10.3 +1.1**
RAMN Ramite 34.83 225 *e*P **P** **04 56 09.8 +0.1**
comp=Z,41nm,0.9s,mb5.3
DMN Daman 34.86 228 *e*P **P** **04 56 10.6 +0.7**
comp=Z,90nm,1.3s,mb5.5
KOLN Koldanda 35.35 230 *e*P **P** **04 56 14.8 +0.7**
comp=Z,69nm,0.9s,mb5.6
DDI Dehra Dun 35.72 239 *e*P **P** **04 56 16.3 -1.0**
APA Apatity 36.82 321 ⇓*i*P **P** **04 56 29.5 +3.2**
APA *i* 04 57 48.0
APA *i* 04 58 45.0
APA pmax pmax
comp=Z,18nm,1.2s,mb4.8
APA MLR MLR
comp=Z,500nm,18.0s,MS4.3
QIZ Qiongzhong 36.94 186 P **P** **04 56 28.9 +1.2**
QIZ AP pP 04 56 35.1 +1.1
QIZ S **S** **05 02 13.9 +2.3**
QIZ LR LR
comp=E,778nm,16.7s
QIZ LR LR
comp=Z,773nm,17.4s,MS4.5
KBL Kabul 37.03 254 *e*P **P** **04 56 27.9 -0.6**
comp=Z,7.4nm,0.9s,mb4.5
KBL *e* pP 04 56 34.8 +0.2
KLMR Klimovskoe 37.16 309 *e*P **P** **04 56 28.7 -0.6**
KLMR pmax pmax
comp=Z,33nm,1.1s,mb5.1
SPITS Spitsbergen Ar 37.40 340 P **P** **04 56 30.4 -0.7**
comp=Z,16nm,1.0s,mb4.8,baz=22,slow=13,SNR=3.7
SPITS pP pP 04 56 35.5 -1.9
comp=Z,9.0nm,0.6s,baz=357,slow=9.7,SNR=7.2
KBS Kingsbay 37.89 342⇑*e*P **P** **04 56 36.3 +1.0**
KBS Kingsbay 37.89 342 *e*P **P** **04 56 39.3 +4.0**
comp=Z,12nm,0.8s,mb4.7
KEV Kevo 38.10 326 *ep* **P** **04 56 36.4 -0.7**
comp=Z,6.1nm,0.8s,mb4.4
KEV Kevo 38.10 326 *e*P **P** **04 56 36.4 -0.7**
KEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
CHTO Chiang Mai 38.64 202 *e*P **P** **04 56 41.9 -0.2**
CHTO *e**PP pP 04 56 48.0 -0.4
CHTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
CHTO Chiang Mai 38.64 202 *e*P **P** **04 56 41.9 -0.2**
comp=Z,3.9nm,0.6s,mb4.3
CHTO *ep*P pP 04 56 48.0 -0.5
ARCES ARCESS Array B 38.67 326 P **P** **04 56 41.2 -0.7**
comp=Z,2.6nm,0.9s,mb4.0,baz=2.9,slow=7.3,SNR=4.3
ARCES LR LR 05 15 01.4
comp=Z,325nm,18.4s,MS4.2,baz=67,slow=40
ARCES ARCESS Array B 38.67 326 P **P** **04 56 41.2 -0.7**
ARCES LR LR 05 15 01.4
CMAR Chiang Mai Arr 38.98 202 P **P** **04 56 44.1 -0.9**
comp=Z,4.1nm,0.8s,mb4.2,baz=1.0,slow=7.7,SNR=31
CMAR PcP PcP 04 58 54.1 -1.0
comp=Z,1.3nm,0.6s,baz=340,slow=3.4,SNR=5.3
CMAR pPcP 04 59 00.9
comp=Z,1.8nm,0.7s,baz=343,slow=3.6,SNR=5.5
CMAR LR LR 05 12 25.5
comp=Z,186nm,20.1s,MS3.9,baz=138,slow=36
CMAR Chiang Mai Arr 38.98 202 P **P** **04 56 44.1 -0.9**
CMAR 04 58 54.2
JOF Joensuu 39.64 315 *ep* **P** **04 56 48.3 -1.8**
comp=Z,11nm,0.8s,mb4.6
JOF Joensuu 39.64 315 *e*P **P** **04 56 48.3 -1.8**
JOF pmax pmax
comp=Z,11nm,0.8s,mb4.6
MOS Moscow 40.58 303 *e*P **P** **04 56 59.4 +1.5**
OBN Obninsk 41.42 302 *e*P **P** **04 57 05.6 +0.7**
OBN *e* pP 04 57 09.4 -1.8
OBN *e* 04 58 40.1
OBN *e* 04 58 59.8
OBN pmax pmax
comp=Z,15nm,1.2s,mb4.5
IMA2 Indian Mountai 41.99 38 *e*P **P** **04 57 09.6 +0.2**
KAF Kangasniemi 42.05 315 *ep* **P** **04 57 08.0 -1.9**
comp=Z,5.1nm,0.6s,mb4.3
KAF Kangasniemi 42.05 315 *e*P **P** **04 57 08.0 -1.9**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
VRSR Storozhevoye 42.39 296 *e*P **P** **04 57 11.8 -1.1**
VRSR pmax pmax
comp=Z,4.0nm,1.2s,mb3.9
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,0.9s
VRSR MLR MLR
comp=Z,120nm,14.0s,MS3.9
VRSR MLR MLR
comp=N,90nm,15.0s,MS3.9
VRSR MLR MLR
comp=E,110nm,19.0s,MS3.9
COLD Coldfoot 42.51 35 *e*P **P** **04 57 14.1 +0.5**
comp=E,7.4nm,0.7s,mb4.5
TTA Tatalina 42.89 42 *e*P **P** **04 57 17.4 +0.6**
MAK Makhachkala 43.15 281 *e*P **P** **04 57 14.1 -5.0**
MAK *e*S **S** **05 03 44.0 -0.1**
MAK *i* 05 07 13.8
MAK *e*SSS 05 07 37.9
MAK pmax pmax
comp=Z,161nm,1.2s,mb5.6
MAK MLR MLR
comp=Z,391nm,12.0s,MS4.5
CHUM Lake Minchumin 43.71 40 *e*P **P** **04 57 24.2 +0.8**
comp=Z,18nm,0.8s,mb4.8
CHUM *ep*P pP 04 57 29.8 +0.1
SVW2 Sparrevohn 44.12 44 *e*P **P** **04 57 27.8 +1.1**
DAG Danmarks Havn 44.16 346 *i* P **P** **04 57 25.0 -1.8**
DAG Danmarks Havn 44.16 346 *e*P **P** **04 57 25.0 -1.8**
PPLA Purkeypile 44.34 41 *e*P **P** **04 57 29.5 +1.1**
comp=Z,30nm,1.4s,mb4.8
KTH Kantishna Hill 44.41 40 *e*P **P** **04 57 29.6 +0.7**
comp=Z,15nm,0.9s,mb4.7
COLA College 44.67 37 *d*iP **P** **04 57 31.8 +0.8**
COLA College 44.67 37 *e*P **P** **04 57 31.7 +0.7**
comp=Z,17nm,0.9s,mb4.9
TRF Thorofare Moun 44.70 39 *e*P **P** **04 57 32.1 +0.9**
comp=Z,29nm,0.9s,mb5.1
TRF *ep*P pP 04 57 37.9 +0.3
MCK McKinley 45.00 39 *e*P **P** **04 57 35.1 +1.4**
MCK *e**PP pP 04 57 40.2 +0.2
MCK pmax pmax
comp=Z,13nm,0.8s,mb4.8
MCK McKinley 45.00 39 *e*P **P** **04 57 35.1 +1.4**
comp=Z,13nm,0.8s,mb4.8
MCK *ep*P pP 04 57 40.2 +0.2
KIV Kislovodsk 45.13 286 P **P** **04 57 36.0 +1.1**
comp=Z,478nm,1.0s,mb6.3,SNR=5.2
KIV Kislovodsk 45.13 286 *d*iP **P** **04 57 35.5 +0.6**
KIV *e* 04 59 20.8
KIV pmax pmax
comp=Z,84nm,1.0s,mb5.5
KIV MLR MLR
comp=Z,500nm,19.0s,MS4.5
KIV Kislovodsk 45.13 286 *e*P **P** **04 57 35.7 +0.8**
comp=Z,92nm,1.0s,mb5.6
MNK Minsk 45.86 306 *e*P **P** **04 57 43.0 +2.4**
PMR Palmer 46.27 41 *e*P **P** **04 57 43.7 0.0**
PMR pmax pmax
comp=Z,35nm,1.3s,mb5.1
PMR Palmer 46.27 41 *e*P **P** **04 57 43.7 0.0**
comp=Z,35nm,1.3s,mb5.1
RC01 Rabbit Creek A 46.37 42 *e*P **P** **04 57 44.3 -0.2**
comp=Z,28nm,1.2s,mb5.1
RC01 *ep*P pP 04 57 49.9 -1.0
SLKM Skilak Lake 46.56 43 *e*P **P** **04 57 45.8 -0.2**
HYB Hyderabad 46.64 229 *i* P **P** **04 57 47.0 -0.1**
HYB Hyderabad 46.64 229 *e*P **P** **04 57 47.0 -0.1**
EGAK Eagle 46.93 34 *e*P **P** **04 57 49.1 +0.2**
comp=Z,26nm,1.0s,mb5.1
KDAK Kodiak Island 47.38 47 P **P** **04 57 52.5 +0.1**
comp=Z,6.9nm,0.7s,mb4.7,baz=62,slow=1.2,SNR=5.9
KDAK pP pP 04 57 58.2 -0.6
comp=Z,7.0nm,0.5s,baz=94,slow=0.8,SNR=4.3
OHAK Old Harbor 47.45 47 *e*P **P** **04 57 53.3 +0.3**
comp=Z,205nm,2.8s,mb5.6
AKASG Malin Array Be 47.64 301 P **P** **04 57 53.4 -1.1**
comp=Z,6.2nm,0.7s,mb4.7,baz=44,slow=8.3,SNR=32
AKASG pP pP 04 57 58.3 -2.6
comp=Z,7.9nm,0.7s,baz=44,slow=8.6,SNR=14
KIEV Kiev 47.65 301 *e*P **P** **04 57 52.9 -1.7**
KIEV pmax pmax
comp=Z,22nm,1.1s,mb5.1
KIEV Kiev 47.65 301 *e*P **P** **04 57 52.9 -1.7**
comp=Z,22nm,1.1s,mb5.1
DIV Divide 47.80 40 *e*P **P** **04 57 55.2 -0.4**
comp=Z,27nm,1.5s,mb5.0
DAWY Dawson 47.98 34 *e*P **P** **04 57 56.6 -0.4**
DAWY *e* pP 04 58 02.6 -0.8
EYAK Cordova Ski Ar 48.20 41 *e*P **P** **04 57 59.8 +1.0**
comp=Z,26nm,0.6s,mb5.4
EYAK *e* pP 04 58 05.3 +0.2
BMRM Bremner River 48.34 40 *e*P **P** **04 58 00.4 +0.6**
BMRM *e* pP 04 58 06.3 +0.1
NB2 NORSAR Subarra 48.40 321 P **P** **04 57 58.9 -1.4**
comp=Z,8.5nm,0.8s,mb4.8,baz=48,slow=7.9
NOA NORSAR Array B 48.40 321 P **P** **04 57 58.9 -1.4**
comp=Z,5.7nm,0.9s,mb4.6,baz=48,slow=7.4,SNR=14
NOA LR LR 05 19 53.5
comp=Z,305nm,19.3s,MS4.3,baz=40,slow=38
NOA NORSAR Array B 48.40 321 P **P** **04 57 58.9 -1.4**
NOA LR LR 05 19 53.5
GUMO Guam 48.69 138 LR LR 05 17 00.7
comp=Z,164nm,21.3s,MS4.0,baz=291,slow=34
KIS Kishinev 50.32 298 *e*P **P** **04 58 20.0 +4.9**
KIS LRM 05 21 10.0
comp=Z,1µm,16.0s
SUMG Summit 50.32 349 *e*P **P** **04 58 15.0 +0.2**
comp=Z,5.6nm,1.1s,mb4.5
HYT Haines Junctio 50.91 37 *e*P **P** **04 58 21.4 +2.1**
HYT *e* pP 04 58 26.8 +0.9
MALT Malatya 51.35 283 *e*P **P** **04 58 24.1 +1.1**
MALT *e* pP 04 58 30.0 +0.6
MALT pmax pmax
comp=Z,21nm,1.0s,mb5.0
MALT Malatya 51.35 283 ⇓*i*P **P** **04 58 24.4 +1.4**
MALT Malatya 51.35 283 *e*P **P** **04 58 24.1 +1.1**
comp=Z,21nm,1.0s,mb5.0
MALT *e* pP 04 58 30.0 +0.5
BURAR Bucovina Array 51.66 300⇑*i*P **P** **04 58 30.6 +5.4**
BURAR Bucovina Array 51.66 300⇑P **P** **04 58 30.6 +5.3**
VRI Vrincioaia 52.15 298⇓*i*P **P** **04 58 29.4 +0.6**
VRI Vrincioaia 52.15 298⇓P **P** **04 58 29.4 +0.6**
KOLS Kolonicke sedl 52.15 303 *e*P **P** **04 58 28.4 -0.4**
STHS Stebnicka Huta 52.29 304 *e*P **P** **04 58 29.9 0.0**
STHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
STHS Stebnicka Huta 52.29 304 *e*P **P** **04 58 29.9 0.0**
comp=Z,4.6nm,1.1s,mb4.3
STHS *e* 05 01 11.6
TIRR Tirgusor 52.29 296 *e*P **P** **04 58 29.0 -0.9**
TIRR *e* pP 04 58 35.0 -1.4
TIRR pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
TIRR Tirgusor 52.29 296⇑*i*P **P** **04 58 34.6 +4.7**
TIRR Tirgusor 52.29 296 *e*P **P** **04 58 29.0 -0.9**
comp=Z,7.3nm,1.1s,mb4.5
TIRR *e* pP 04 58 35.0 -1.4
CRVS Cervenica-Dubn 52.55 304 *e*P **P** **04 58 28.9 -2.9**
SKAG Skagway 52.65 37 *e*P **P** **04 58 33.6 +1.2**
comp=Z,12nm,0.8s,mb4.9
MLR Muntele Rosu 52.80 298⇓*i*P **P** **04 58 33.7 0.0**
MLR Muntele Rosu 52.80 298 ⇓P **P** **04 58 33.7 0.0**
VOIR 53.28 299⇓*i*P **P** **04 58 43.5 +6.3**
VOIR 53.28 299 ⇓P **P** **04 58 43.5 +6.3**
KECS Kecovo 53.30 304 *e*P **P** **04 58 33.4 -4.0**
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS Kecovo 53.30 304 *e*P **P** **04 58 33.4 -4.0**
comp=Z,4.9nm,0.9s,mb4.4
OKC Ostrava-Krasne 53.41 307 *e*P **P** **04 58 43.0 +4.9**
OKC MLR MLR
comp=Z,800nm,15.1s,MS4.9
OKC Ostrava-Krasne 53.41 307 *ep*P pP 04 58 43.0 -1.6
OKC AMS AMS 05 23 10.0
comp=Z,800nm,15.1s
DRGR 53.46 301⇑*i*P **P** **04 58 38.8 +0.3**
DRGR 53.46 301 ⇑P **P** **04 58 38.8 +0.3**
MORC Moravsky Berou 53.73 307 *e*P **P** **04 58 39.2 -1.2**
MORC *e* pP 04 58 45.4 -1.5
MORC pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
MORC Moravsky Berou 53.73 307 *e*P **P** **04 58 39.2 -1.3**
comp=Z,3.6nm,1.1s,mb4.2
MORC *e* pP 04 58 45.4 -1.5
DPC Dobruska-Polom 53.86 308 *e*P **P** **04 58 41.6 +0.2**
DPC *ep*P pP 04 58 46.3 -1.6
DPC AMS AMS 05 23 10.0
comp=Z,500nm,14.2s
UPC Upice 53.88 308 *e*P **P** **04 58 41.1 -0.5**
UPC *ep*P pP 04 58 46.2 -1.8
PSZ Piszkesteto 53.98 304 *e*P **P** **04 58 42.6 +0.2**
PSZ pmax pmax
comp=Z,20nm,1.3s,mb4.9
PSZ Piszkesteto 53.98 304⇓*e*P **P** **04 58 42.8 +0.4**
PSZ Piszkesteto 53.98 304 *e*P **P** **04 58 42.6 +0.3**
comp=Z,20nm,1.3s,mb4.9
KSM Kuching 54.34 184 *e*P **P** **04 58 45.5 +0.2**
PVCC Panska Ves 54.50 309 *e*P **P** **04 58 46.1 0.0**
PVCC *ep*P pP 04 58 51.6 -0.9
PVCC AMS AMS 05 23 50.0
comp=Z,800nm,14.2s
BRG Berggiesshubel 54.52 310 *e*P **P** **04 58 45.2 -1.0**
BRG *e* pP 04 58 51.0 -1.7
BRG *e* 05 06 39.0
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BRG MLR MLR
comp=N,8µm,15.3s,MS5.9
BRG MLR MLR
comp=E,399nm,14.9s,MS5.9
BRG MLR MLR
comp=Z,283nm,15.7s,MS4.4
BRG Berggiesshubel 54.52 310 *e*P **P** **04 58 45.3 -0.9**
comp=Z,13nm,0.9s,mb5.0
BRG *ep*P pP 04 58 50.8 -1.9
BRG Berggiesshubel 54.52 310 *e*P **P** **04 58 45.2 -1.0**
comp=Z,5.5nm,1.0s,mb4.5
BRG *e* pP 04 58 51.0 -1.7
comp=Z,13nm,0.9s
BRG *e* 05 06 39.0
BRG *i* 05 10 44.0
BRG
comp=N,666nm,15.3s
BRG
comp=E,473nm,14.9s
BRG
comp=Z,995nm,15.7s
BRG Berggiesshubel 54.52 310 *e*P **P** **04 58 45.2 -1.0**
comp=Z,3.3nm,1.0s,mb4.3
BRG *e* pP 04 58 51.0 -1.7
BRG *e* 05 06 39.0
BRG *i* 05 10 44.0
BRG LR LR
comp=Z,600nm,15.7s,MS4.8
CLL Collm 54.60 311 *i* P **P** **04 58 45.9 -0.9**
CLL *i* *PP pP 04 58 51.1 -2.2
CLL pmax pmax
comp=Z,14nm,0.7s,mb5.1
CLL MLR MLR
comp=Z,900nm,16.0s,MS4.9
CLL Collm 54.60 311 *e*P **P** **04 58 46.1 -0.7**
comp=Z,12nm,1.0s,mb4.9
CLL *ep*P pP 04 58 51.1 -2.2
CLL Collm 54.60 311 *i* P **P** **04 58 45.9 -0.9**
comp=Z,5.0nm,0.7s,mb4.7
CLL *i* pP pP 04 58 51.1 -2.2
comp=Z,12nm,1.0s
CLL *i* sP sP 04 58 54.0 -1.8
CLL *e*S **S** **05 06 36.0 +11**
CLL *e*SS SS 05 10 18.0 +11
CLL Collm 54.60 311 *i* P **P** **04 58 45.9 -0.9**
comp=Z,5.0nm,0.7s,mb4.7
CLL *i* pP pP 04 58 51.1 -2.2
BUD Budapest 54.70 304⇓*e*pP pP 04 58 54.8 +0.7
BZS Buzias 54.83 301⇓*i*P **P** **04 58 44.2 -4.3**
BZS Buzias 54.83 301 ⇓P **P** **04 58 44.1 -4.4**
MODS Modra-Piesok 54.86 306 *e*P **P** **04 58 41.7 -7.0**
PRU Pruhonice 54.91 309 *e*P **P** **04 58 49.1 +0.1**
PRU *ep*P pP 04 58 53.9 -1.6
PRU AMS AMS 05 24 10.0
comp=Z,600nm,14.1s
TREC Trest 55.00 308 *e*P **P** **04 58 49.2 -0.5**
TREC AMS AMS 05 24 00.0
comp=Z,600nm,16.9s
NKC Novy Kostel 55.63 310 AMS AMS 05 24 40.0
comp=Z,1µm,14.6s
MOX Moxa 55.68 311 *e*P **P** **04 58 54.3 -0.3**
comp=Z,21nm,1.6s,mb4.9
MOX *e* 04 59 08.8
MOX
comp=Z,500nm,16.0s
MOX Moxa 55.68 311 *e*P **P** **04 58 54.5 -0.1**
comp=Z,17nm,0.9s,mb5.1
MOX *ep*P pP 04 58 59.6 -1.5
PKSM Moragy 55.81 303⇑*i*P **P** **04 58 55.4 -0.2**
PKSM Moragy 55.81 303 ⇑P **P** **04 58 55.4 -0.2**
CONA Conrad Observa 55.83 306⇑*i*P **P** **04 58 56.5 +0.7**
comp=Z,9.7nm,1.1s,mb4.8
CSNA Conrad Observa 55.84 306⇑*i*P **P** **04 58 56.5 +0.7**
comp=Z,9.2nm,1.1s,mb4.7
KHC Kasperske Hory 55.96 309 *e*P **P** **04 58 56.5 -0.1**
KHC *ep*P pP 04 59 01.9 -1.2
KHC AMS AMS 05 24 50.0
comp=Z,600nm,15.6s
ROTZ Rotzenmuhle 56.09 310 *e*P **P** **04 58 57.2 -0.3**
comp=Z,11nm,1.0s,mb4.8
ROTZ *ep*P pP 04 59 02.8 -1.2
GEC2 GERESS Array S 56.12 308 *e*P **P** **04 58 57.8 0.0**
GEC2 pmax pmax
comp=Z,26nm,1.0s,mb5.2
GEC2 GERESS Array S 56.12 308 *e*P **P** **04 58 57.8 0.0**
comp=Z,5.0nm,1.0s,mb4.5
GERES GERESS Array B 56.12 308 P **P** **04 58 56.9 -0.9**
comp=Z,0.8nm,0.6s,mb3.9,baz=56,slow=7.2,SNR=9.0
GERES pP pP 04 59 02.6 -1.7
comp=Z,2.4nm,0.8s,baz=50,slow=7.1,SNR=8.7
GERES LR LR 05 24 60.0
comp=Z,353nm,18.9s,MS4.5,baz=33,slow=38
GERES GERESS Array B 56.12 308 P **P** **04 58 56.9 -0.9**
GERES *PP pP 04 59 02.6 -1.7
YKA Yellowknife Ar 56.12 25 P **P** **04 58 56.4 -1.2**
comp=Z,4.2nm,0.7s,mb4.6,baz=332,slow=7.0,SNR=14
YKA pP pP 04 59 01.6 -2.4
comp=Z,16nm,0.8s,baz=331,slow=7.2,SNR=45
YKA Yellowknife Ar 56.12 25 P **P** **04 58 56.4 -1.2**
YKA pP pP 04 59 01.6 -2.5
VTS Vitosha 56.26 297⇓*i*P **P** **04 59 04.3 +5.5**
VTS Vitosha 56.26 297 ⇓P **P** **04 59 04.3 +5.5**
WET Wettzell 56.26 309 *e*P **P** **04 58 58.4 -0.4**
WET pmax pmax
comp=Z,45nm,0.9s,mb5.5
WET Wettzell 56.26 309 *e*P **P** **04 58 58.4 -0.4**
comp=Z,9.0nm,0.9s,mb4.8
ARSA Arzberg 56.49 306⇑*i*P **P** **04 59 01.4 +1.0**
comp=Z,5.3nm,0.9s,mb4.6
GRA1 Grafenberg Arr 56.56 310 *e*P **P** **04 59 00.9 0.0**
comp=Z,8.0nm,1.0s,mb4.7
GRA1 *ep*P pP 04 59 06.2 -1.2
GRA1 LR LR
comp=Z,400nm,18.8s,MS4.5
GRF Grafenberg Arr 56.56 310 *e*P **P** **04 59 00.9 0.0**
GRF *e**PP pP 04 59 06.2 -1.2
GRF Grafenberg Arr 56.56 310 *e*P **P** **04 59 00.9 0.0**
GRF *e**PP pP 04 59 06.2 -1.2
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
GRF MLR MLR
comp=Z,400nm,18.8s,MS4.5
GRF Grafenberg Arr 56.56 310 *e*P **P** **04 59 00.9 0.0**
comp=Z,8.0nm,1.0s,mb4.7
GRF *ep*P pP 04 59 06.2 -1.2
GRF *e*L 05 25 15.8
comp=Z,405nm,18.8s
CSS Prodhromos 56.59 284 *e*P **P** **04 59 01.2 -0.1**
comp=Z,45nm,1.0s,mb5.5
CSS *e* pP 04 59 07.0 -0.8
MOA Molln 56.61 307⇓*i*P **P** **04 59 02.5 +1.2**
comp=Z,14nm,1.5s,mb4.8
SOKA Soboth 57.14 306⇑*i*P **P** **04 59 05.4 +0.3**
OBKA Obir 57.49 306⇓*i*P **P** **04 59 08.2 +0.7**
comp=Z,22nm,0.9s,mb5.2
KBA Koelnbreinsper 57.60 307⇑*i*P **P** **04 59 09.0 +0.7**
comp=Z,21nm,1.3s,mb5.0
KBA Koelnbreinsper 57.60 307⇑*i*P **P** **04 59 09.0 +0.7**
KBA pmax pmax
comp=Z,21nm,1.3s,mb5.0
MEM Membach 58.03 314 P **P** **04 59 11.3 0.0**
MEM AP pP 04 59 15.7 -2.1
comp=Z,13nm,1.2s
STU Stuttgart 58.13 311 *ep*P pP 04 59 17.4 -1.1
BFO Black Forest 58.84 311 *e*P **P** **04 59 16.4 -0.5**
BFO pmax pmax
comp=Z,17nm,1.1s,mb5.0
BFO Black Forest 58.84 311 *e*P **P** **04 59 16.4 -0.5**
comp=Z,8.0nm,1.1s,mb4.7
GIVF Givet 58.90 315 *e*P **P** **04 59 21.8 +4.5**
BAIF Baives 59.18 315 *e*P **P** **04 59 23.8 +4.5**
CDF Champ du Feu 59.22 312 *e*P **P** **04 59 24.3 +4.8**
DAVOX Davos/Dischmat 59.37 309 LR LR 05 27 19.9
comp=Z,296nm,19.2s,MS4.4,baz=79,slow=38
TUE Stuetta 59.84 309 *e*P **P** **04 59 23.7 -0.1**
comp=Z,8.8nm,0.8s,mb4.8
MEZF Maizieres J'vi 60.07 313 *e*P **P** **04 59 30.1 +4.7**
AQU L'Aquila 61.19 304 *e*P **P** **04 59 33.3 +0.1**
AQU pmax pmax
comp=Z,28nm,0.8s,mb5.4
AQU L'Aquila 61.19 304 *e*P **P** **04 59 33.3 +0.1**
comp=Z,28nm,0.8s,mb5.5
LOR Lormes 61.54 313 *e*P **P** **04 59 36.9 +1.5**
comp=Z,32nm,1.1s,mb5.0
LOR *e*MLR MLR
comp=Z,185nm,18.2s,MS4.0
LOR Lormes 61.54 313 *e*P **P** **04 59 36.9 +1.5**
LOR pmax pmax
comp=Z,16nm,1.1s,mb5.1
LOR MLR MLR
comp=Z,190nm,18.3s,MS4.3
LOR Lormes 61.54 313 *e*P **P** **04 59 36.9 +1.5**
comp=Z,16nm,1.1s,mb5.1
LOR LR LR
comp=Z,190nm,18.3s,MS4.3
LPL La Plagne 61.72 310 *e*P **P** **04 59 38.4 +1.7**
comp=Z,18nm,0.9s,mb4.9

LPL	La Plagne	61.72	310	eP	P	04 59 38.4	+1.7
LPL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
LPL	La Plagne	61.72	310	eP	P	04 59 38.4	+1.7
	comp=Z,9.3nm,0.9s,mb4.9						
LPG	La Plagne	61.73	310	eP	P	04 59 38.5	+1.8
SSF	Saint Saulge	61.85	313	eP	P	04 59 41.7	+4.2
	comp=Z,19nm,1.0s,mb4.9						
SSF	Saint Saulge	61.85	313	eP	P	04 59 41.7	+4.2
SSF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
SSF	Saint Saulge	61.85	313	eP	P	04 59 41.7	+4.2
	comp=Z,9.6nm,1.0s,mb4.9						
TIP	Timpagrande	62.03	299	eP	P	04 59 38.9	0.0
	comp=Z,6.4nm,0.8s,mb4.8						
LDF	La Druitiere	62.06	316	eP	P	04 59 42.7	+3.8
	comp=Z,24nm,0.6s,mb5.2						
LDF	La Druitiere	62.06	316	eP	P	04 59 42.7	+3.8
LDF				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.2						
LDF	La Druitiere	62.06	316	eP	P	04 59 42.7	+3.8
	comp=Z,12nm,0.6s,mb5.2						
FLN	La Foliniere	62.06	317	eP	P	04 59 42.7	+3.8
	comp=Z,38nm,0.8s,mb5.3						
FLN				eMLR	MLR		
	comp=Z,432nm,19.0s,MS4.3						
FLN	La Foliniere	62.06	317	eP	P	04 59 42.7	+3.8
FLN				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.3						
FLN				MLR	MLR		
	comp=Z,430nm,19.0s,MS4.6						
FLN	La Foliniere	62.06	317	eP	P	04 59 42.7	+3.8
	comp=Z,19nm,0.8s,mb5.3						
FLN				LR	LR		
	comp=Z,430nm,19.0s,MS4.6						
BNI	Bardonecchia	62.11	310	eP	P	04 59 39.2	-0.1
BNI				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.1						
BNI	Bardonecchia	62.11	310	eP	P	04 59 39.2	-0.1
	comp=Z,13nm,0.8s,mb5.1						
MBDF	Montbardon	62.33	310	eP	P	04 59 44.6	+3.8
	comp=Z,26nm,0.9s,mb5.0						
MBDF	Montbardon	62.33	310	eP	P	04 59 44.6	+3.8
MBDF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.1						
MBDF	Montbardon	62.33	310	eP	P	04 59 44.6	+3.8
	comp=Z,13nm,0.9s,mb5.0						
GRR	Gorron	62.51	317	eP	P	04 59 45.6	+3.7
SBF	Sospel	62.72	309	eP	P	04 59 47.7	+4.3
	comp=Z,44nm,1.1s,mb5.2						
SBF	Sospel	62.72	309	eP	P	04 59 47.7	+4.3
SBF				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.2						
SBF	Sospel	62.72	309	eP	P	04 59 47.7	+4.3
	comp=Z,22nm,1.1s,mb5.2						
TCF	Toulx Ste Croi	63.00	314	eP	P	04 59 49.7	+4.5
	comp=Z,20nm,1.1s,mb4.8						
TCF	Toulx Ste Croi	63.00	314	eP	P	04 59 49.7	+4.5
TCF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
TCF	Toulx Ste Croi	63.00	314	eP	P	04 59 49.7	+4.5
	comp=Z,10nm,1.1s,mb4.9						
PGF	Pioggiola	63.07	307	eP	P	04 59 50.4	+4.7
	comp=Z,13nm,0.7s,mb4.9						
PGF	Pioggiola	63.07	307	eP	P	04 59 50.4	+4.7
PGF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
PGF	Pioggiola	63.07	307	eP	P	04 59 50.4	+4.7
	comp=Z,6.5nm,0.7s,mb4.9						
CEL	Celeste	63.17	299	eP	P	04 59 47.1	+0.6
	comp=Z,24nm,1.1s,mb5.2						
SGMF	Saint Gilles	63.27	318	eP	P	04 59 51.2	+4.2
	comp=Z,69nm,1.2s,mb5.4						
SGMF	Saint Gilles	63.27	318	eP	P	04 59 51.2	+4.2
SGMF				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.4						
SGMF	Saint Gilles	63.27	318	eP	P	04 59 51.2	+4.2
	comp=Z,35nm,1.2s,mb5.4						
FRF	La Foret Royal	63.31	309	eP	P	04 59 51.6	+4.3
	comp=Z,16nm,0.9s,mb4.9						
FRF	La Foret Royal	63.31	309	eP	P	04 59 51.6	+4.3
FRF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
FRF	La Foret Royal	63.31	309	eP	P	04 59 51.6	+4.3
	comp=Z,8.1nm,0.9s,mb4.8						
SMRF	Simiane la Rot	63.44	310	eP	P	04 59 48.3	+0.1
	comp=Z,16nm,1.0s,mb4.8						
SMRF	Simiane la Rot	63.44	310	eP	P	04 59 48.3	+0.1
	comp=Z,16nm,1.0s,mb5.1						
ROSF	Rostrenen	63.47	318	eP	P	04 59 52.7	+4.4
	comp=Z,22nm,0.7s,mb5.1						
ROSF	Rostrenen	63.47	318	eP	P	04 59 52.7	+4.4
ROSF				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.1						
ROSF	Rostrenen	63.47	318	eP	P	04 59 52.7	+4.4
	comp=Z,11nm,0.7s,mb5.1						
FCC	Fort Churchill	63.55	16	eP	P	04 59 47.7	-1.0
FCC				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.5						
FCC	Fort Churchill	63.55	16	eP	P	04 59 47.7	-1.0
	comp=Z,49nm,1.0s,mb5.5						
MFF	Saint Martin d	63.69	315	eP	P	04 59 54.1	+4.3
	comp=Z,21nm,0.8s,mb4.9						
MFF	Saint Martin d	63.69	315	eP	P	04 59 54.1	+4.3
MFF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
MFF	Saint Martin d	63.69	315	eP	P	04 59 54.1	+4.3
	comp=Z,10nm,0.8s,mb4.9						
QUIF	Quistinic	63.78	318	eP	P	04 59 54.6	+4.2
	comp=Z,29nm,0.7s,mb5.1						
QUIF	Quistinic	63.78	318	eP	P	04 59 54.6	+4.2
QUIF				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
QUIF	Quistinic	63.78	318	eP	P	04 59 54.6	+4.2
	comp=Z,15nm,0.7s,mb5.1						
CAF	Calviac	64.16	313	eP	P	04 59 55.7	+2.8
EDM	Edmonton	64.61	29	eP	P	04 59 54.8	-0.9
A05A	Maple Falls	65.65	37	⇓P	P	05 00 01.6	-0.9
	baz=65						
A06A	Chilliwack	65.77	36	⇑P	P	05 00 02.5	-0.8
	baz=66						
FFC	Flin Flon	65.97	22	eP	P	05 00 03.3	-1.2
FFC				e	pP	05 00 09.4	-1.7
FFC				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2						
FFC	Flin Flon	65.97	22	eP	P	05 00 03.3	-1.2
	comp=Z,23nm,1.0s,mb5.2						
FFC				e	pP	05 00 09.4	-1.7
A07A	Ashnola River,	66.17	36	⇓P	P	05 00 05.6	-0.3
	baz=66						
B06A	Marblemount	66.27	36	⇓P	P	05 00 05.6	-0.9
	baz=66						
B05A	Bryant	66.28	37	⇑P	P	05 00 05.9	-0.7
	baz=66,SNR=5.2						
RPW	Rockport	66.32	37	eP	P	05 00 06.0	-0.9
JCW	Jim Creek	66.40	37	eP	P	05 00 06.8	-0.5
JCW				e	pP	05 00 13.1	-0.9
NLWA	Neilton Lookou	66.42	39	eP	P	05 00 07.6	+0.1
EPF	Esparros	66.43	313	eP	P	05 00 10.2	+2.6
	comp=Z,12nm,0.9s,mb4.6						
EPF	Esparros	66.43	313	eP	P	05 00 10.2	+2.6
EPF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
EPF	Esparros	66.43	313	eP	P	05 00 10.2	+2.6
	comp=Z,6.0nm,0.9s,mb4.6						
C04A	Brinnon	66.45	38	⇓P	P	05 00 07.2	-0.5
	baz=66						
A08A	Turner Farm, O	66.62	35	⇓P	P	05 00 08.2	-0.6
	baz=66						
A09A	Danville	66.82	34	⇑P	P	05 00 09.6	-0.4
	baz=66,SNR=7.4						
C05A	Tolt Reservoir	66.91	37	⇑P	P	05 00 10.0	-0.7
	baz=67						
B08A	Colville Reser	67.12	35	⇑P	P	05 00 11.9	-0.1
	baz=67,SNR=6.7						
A10A	Northport	67.14	34	⇑P	P	05 00 11.7	-0.3
	baz=67						
D05A	Enumclaw	67.25	38	⇑P	P	05 00 13.1	+0.3
	baz=67						
E03A	Lebam	67.25	39	⇑P	P	05 00 13.1	+0.2
	baz=67						
B09A	Rice	67.44	34	⇓P	P	05 00 13.5	-0.4
	baz=67,SNR=5.3						
ETW	Entiat	67.45	36	eP	P	05 00 13.4	-0.6
ETW				e	pP	05 00 19.5	-1.2
C07A	Waterville	67.46	36	⇓P	P	05 00 13.8	-0.3
	baz=67						
A11A	Hall Mountain,	67.53	33	⇑P	P	05 00 14.6	0.0
	baz=67,SNR=7.0						
LON	Longmire	67.69	38	eP	P	05 00 15.6	0.0
LON				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
LON	Longmire	67.69	38	eP	P	05 00 15.6	0.0
	comp=Z,4.5nm,0.7s,mb4.6						
C08A	Higginbotham F	67.71	35	⇑P	P	05 00 15.0	-0.7
	baz=67						
A12A	Yaak River Ran	67.77	33	⇑P	P	05 00 16.1	0.0
	baz=67,SNR=10						
TDL	Tradedollar La	67.89	38	P	P	05 00 17.3	+0.4
NEW	Newport	67.91	34	eP	P	05 00 16.5	-0.4
NEW				e	pP	05 00 22.4	-1.1
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW	Newport	67.91	34	eP	P	05 00 16.5	-0.4
	comp=Z,4.2nm,0.8s,mb4.5						
NEW				e	pP	05 00 22.4	-1.1
D07A	Quincy	67.92	36	⇑P	P	05 00 17.0	-0.1
	baz=68						
C09A	Chrisman Ranch	67.95	35	⇑P	P	05 00 17.0	-0.2
	baz=68,SNR=6.2						
B11A	Sandpoint	67.99	33	⇑P	P	05 00 17.5	0.0
	baz=68						
A13A	Flathead Natio	68.14	32	⇑P	P	05 00 18.4	0.0
	baz=68						
E06A	Yakima	68.15	37	⇓P	P	05 00 18.6	+0.1
	baz=68						
OD2	Odessa Site #2	68.17	35	eP	P	05 00 18.4	-0.2
OD2				e	pP	05 00 24.1	-1.1
WALA	Waterton Lakes	68.17	31	eP	P	05 00 18.2	-0.4
	comp=Z,21nm,1.1s,mb5.1						
WALA				e	pP	05 00 24.9	-0.3
F04A	Amboy	68.19	38	⇓P	P	05 00 18.9	+0.2
	baz=68						
KEST	Kesra	68.36	302	LR	LR	05 33 55.8	
	comp=Z,130nm,18.6s,MS4.2,baz=202,slow=39						
D08A	Wollman Farm,	68.39	36	⇓P	P	05 00 19.4	-0.6
	baz=68,SNR=5.8						
F05A	White Salmon	68.56	38	⇑P	P	05 00 21.4	+0.3
	baz=68						
D09A	Jones Farm, Ri	68.59	35	⇑P	P	05 00 20.9	-0.3
	baz=68,SNR=12						
B13A	Whitefish	68.62	32	⇑P	P	05 00 21.1	-0.3
	baz=68						
RSW	Rattlesnake Hi	68.75	36	eP	P	05 00 22.5	+0.3
D10A	Wagner Farm, O	68.93	35	⇓P	P	05 00 22.9	-0.4
	baz=69,SNR=10						
F07A	Phinny Hill Vi	69.08	37	⇓P	P	05 00 24.2	0.0
	baz=69						
E09A	Wood Farm, Sta	69.12	35	⇑P	P	05 00 24.5	-0.1
	baz=69						
C13A	Hot Springs	69.21	33	⇓P	P	05 00 25.0	-0.1
	baz=69,SNR=8.6						
D11A	Klaveano Farm,	69.23	34	⇓P	P	05 00 25.0	-0.2
	baz=69,SNR=6.9						
H04A	Detroit Lake	69.35	39	⇑P	P	05 00 26.1	+0.1
	baz=69						
C14A	Swan Lake	69.38	32	⇑P	P	05 00 26.3	+0.2
	baz=69,SNR=15						
G06A	Carlson Farm,	69.41	38	⇓P	P	05 00 26.0	-0.4
	baz=69						
E10A	Myers Farm, Un	69.48	35	⇓P	P	05 00 26.7	-0.1
	baz=69						
D12A	Red Ives Fores	69.53	33	⇑P	P	05 00 26.8	-0.3
	baz=69						
F08A	Pendleton	69.55	36	⇓P	P	05 00 26.8	-0.4
	baz=69						
SCHQ	Schefferville	69.61	0	P	P	05 00 26.6	-0.8
	comp=Z,27nm,0.9s,mb5.2,baz=5.8,slow=7.1,SNR=29						
SCHQ				pP	pP	05 00 32.4	-1.6
	comp=Z,33nm,0.8s,baz=9.8,slow=6.6,SNR=20						
LNOR	Lincton Mounta	69.64	36	eP	P	05 00 28.0	+0.2
G07A	Ruggs Ranch, H	69.71	37	⇓P	P	05 00 28.2	0.0
	baz=69						
H05A	Madras	69.72	38	⇓P	P	05 00 28.3	0.0
	baz=69						
D13A	Huson	69.77	33	⇑P	P	05 00 28.2	-0.3
	baz=69,SNR=8.4						
E11A	Bogner Ranch,	69.89	34	⇑P	P	05 00 28.9	-0.3
	baz=70,SNR=12						
F10A	Beach Ranch, E	69.90	35	⇓P	P	05 00 29.4	+0.1
	baz=70,SNR=25						
G08A	Pilot Rock	69.93	37	⇑P	P	05 00 29.4	-0.2
	baz=70,SNR=6.9						
H06A	Linquist Farm	69.95	38	⇓P	P	05 00 29.4	-0.3
	baz=70						
D14A	Greenough	70.07	32	⇓P	P	05 00 30.5	+0.2
	baz=70,SNR=62						
MSO	Missoula	70.16	33	eP	P	05 00 31.0	+0.1
	comp=Z,12nm,1.0s,mb4.8						
EGMT	Eagleton	70.29	29	⇑P	P	05 00 31.1	-0.6
	baz=70,SNR=7.5						
EGMT	Eagleton	70.29	29	eP	P	05 00 30.9	-0.8
	comp=Z,24nm,1.3s,mb5.0						
F11A	Grangeville	70.32	34	⇑P	P	05 00 31.9	-0.1
	baz=70,SNR=12						
G09A	Cove	70.33	36	⇓P	P	05 00 32.1	+0.1
	baz=70,SNR=7.6						
D15A	Lincoln	70.40	31	⇑P	P	05 00 32.0	-0.3
	baz=70,SNR=8.4						
E13A	Victor	70.44	33	⇓P	P	05 00 32.6	-0.1
	baz=70,SNR=29						
G10A	Bishop Farm, J	70.54	35	⇑P	P	05 00 33.2	0.0
	baz=70,SNR=10						
J04A	Umpqua Nationa	70.63	40	⇑P	P	05 00 33.8	-0.1
	baz=70						
E14A	Clinton	70.67	32	⇓P	P	05 00 33.6	-0.4
	baz=70,SNR=16						
I06A	Prineville	70.69	38	⇓P	P	05 00 34.2	0.0
	baz=70						
H08A	Prairie City	70.71	37	⇑P	P	05 00 34.4	+0.1
	baz=70,SNR=8.8						
G11A	Walters Elk Ra	70.72	35	⇑P	P	05 00 34.7	+0.3
	baz=70,SNR=20						
F12A	Elk City	70.72	34	⇓P	P	05 00 33.9	-0.4
	baz=70,SNR=7.3						
I07A	Izee	70.81	38	⇑P	P	05 00 35.2	+0.2
	baz=70,SNR=6.2						
J05A	Fort Rock	70.91	39	⇓P	P	05 00 35.7	+0.1
	baz=71						
H09A	Durkee	70.92	36	⇑P	P	05 00 35.5	0.0
	baz=71						
E15A	Deer Lodge	70.92	32	⇑P	P	05 00 35.2	-0.3
	baz=71,SNR=6.1						
F13A	Darby	70.98	33	⇑P	P	05 00 35.9	-0.1
	baz=71,SNR=6.7						
ESDC	Sonseca Array	71.01	314	P	P	05 00 36.0	-0.2
	comp=Z,4.0nm,0.9s,mb4.3,baz=28,slow=6.8,SNR=15						
ESDC				pP	pP	05 00 41.7	-1.2
	comp=Z,2.9nm,0.5s,baz=27,slow=6.5,SNR=8.4						
ESDC				LR	LR	05 35 14.2	
	comp=Z,157nm,18.9s,MS4.3,baz=335,slow=39						
F14A	Wisdom	71.25	33	⇑P	P	05 00 37.7	+0.1
	baz=71,SNR=5.8						
I08A	Drewsey	71.28	37	⇓P	P	05 00 37.8	0.0
	baz=71						
H10A	Noah's Angus R	71.28	35	⇓P	P	05 00 37.7	-0.2
	baz=71,SNR=6.2						
J06A	Christmas Vall	71.31	38	⇑P	P	05 00 38.2	+0.1
	baz=71,SNR=9.2						
ULM	Lac du Bonnet	71.42	19	pP	pP	05 00 42.3	-2.9
	comp=Z,13nm,1.2s,baz=355,slow=8.1,SNR=5.9						
ULM				LR	LR	05 34 52.0	
	comp=Z,169nm,18.0s,MS4.3,baz=342,slow=38						
H11A	Donnelly	71.42	35	⇑P	P	05 00 39.1	+0.5
	baz=71,SNR=12						
F15A	Butte	71.49	32	⇓P	P	05 00 38.7	-0.3
	baz=71,SNR=6.0						
J07A	Hines	71.50	38	⇓P	P	05 00 39.3	+0.1
	baz=71						
I09A	Lost Marbles R	71.50	36	⇓P	P	05 00 39.2	+0.1
	baz=71						
K05A	Summer Lake	71.52	39	⇓P	P	05 00 39.5	+0.3
	baz=71						
G13A	Cobalt	71.63	34	⇑P	P	05 00 39.5	-0.4
	baz=71,SNR=7.8						
LCCM	Lewis and Clar	71.67	32	P	P	05 00 40.1	0.0
K06A	Valley Falls	71.68	39	⇑P	P	05 00 40.2	0.0
	baz=71						
G14A	Jackson	71.74	33	⇑P	P	05 00 40.5	-0.1
	baz=71,SNR=10						
J08A	Circle Bar Ran	71.80	37	⇓P	P	05 00 41.2	+0.2
	baz=72,SNR=8.7						
DLMT	Dillon	71.89	32	eP	P	05 00 40.9	-0.6
	comp=Z,37nm,1.1s,mb5.2						
DLMT				e	pP	05 00 48.0	-0.1
BOZ	Bozeman (W)	71.92	32	eP	P	05 00 41.4	-0.2
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BOZ	Bozeman (W)	71.92	32	⇑P	P	05 00 41.4	-0.2
	baz=72,SNR=9.2						
BOZ	Bozeman (W)	71.92	32	eP	P	05 00 41.4	-0.3
	comp=Z,4.1nm,0.8s,mb4.4						
J09A	Fry Pan Ranch,	72.05	37	⇑P	P	05 00 42.5	0.0
	baz=72,SNR=5.4						
G15A	Dillon	72.10	32	⇓P	P	05 00 42.5	-0.2
	baz=72,SNR=13						
H13A	Challis	72.10	34	⇓P	P	05 00 42.7	-0.1
	baz=72						
K07A	Rock Creek Ran	72.12	38	⇓P	P	05 00 42.8	-0.1
	baz=72						
L05A	Lakeview	72.13	39	⇓P	P	05 00 43.2	+0.3
	baz=72						
I11A	Placerville	72.14	35	⇓P	P	05 00 42.5	-0.5
	baz=72,SNR=5.3						
H14A	Leadore	72.33	33	⇓P	P	05 00 44.4	+0.3
	baz=72						
K08A	Mann Creek Ran	72.35	38	⇑P	P	05 00 44.6	+0.4
	baz=72						
MOD	Modoc	72.45	39	⇑P	P	05 00 45.1	+0.3
	baz=72,SNR=6.5						
MOD	Modoc	72.45	39	eP	P	05 00 45.1	+0.3
	comp=Z,12nm,1.0s,mb4.8						
LAO	LASA Array	72.46	27	eP	P	05 00 44.3	-0.5
	comp=Z,13nm,1.0s,mb4.8						
LAO				e	pP	05 00 50.0	-1.5
H15A	Lima	72.55	33	⇑P	P	05 00 45.2	-0.2
	baz=72						
WVOR	Wild Horse Val	72.56	38	eP	P	05 00 45.9	+0.4
WVOR				e	pP	05 00 52.4	+0.2
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
WVOR	Wild Horse Val	72.56	38	eP	P	05 00 45.9	+0.4
	comp=Z,5.5nm,0.9s,mb4.5						
WVOR				e	pP	05 00 52.4	+0.2
M05C	Lookout	72.62	40	⇑P	P	05 00 46.0	+0.2
	baz=72						
MFID	Camas Ranch	72.63	35	⇓P	P	05 00 46.0	+0.1
	baz=72,SNR=9.2						
K09A	Rome	72.64	37	⇑P	P	05 00 46.2	+0.2
	baz=72,SNR=6.6						
L07A	Adell	72.68	38	⇑P	P	05 00 46.5	+0.3
	baz=72,SNR=5.9						
I13A	Wildhorse Cree	72.73	34	⇓P	P	05 00 46.6	+0.1
	baz=72,SNR=11						
K10A	MacKenzie Ranc	72.86	36	⇑P	P	05 00 47.2	0.0
	baz=72,SNR=7.5						
L08A	Fields	72.88	38	⇓P	P	05 00 47.4	0.0
	baz=73						
I14A	Mackay	72.92	34	⇑P	P	05 00 47.7	+0.1
	baz=73						
HLID	Hailey	72.95	34	⇓P	P	05 00 47.9	+0.1
	baz=73,SNR=7.3						
HLID	Hailey	72.95	34	eP	P	05 00 47.9	+0.1
	comp=Z,3.8nm,0.8s,mb4.4						
LBCM	Butte Creek Ri	73.00	40	P	P	05 00 48.5	+0.3
J12A	Stokes Ranch,	73.02	35	⇑P	P	05 00 48.5	+0.3
	baz=73,SNR=8.1						
RLMT	Red Lodge	73.08	30	eP	P	05 00 48.6	0.0
	comp=Z,17nm,1.0s,mb4.9						
K11A	Parker Ranch,	73.14	36	⇑P	P	05 00 48.8	-0.1
	baz=73						
I15A	Monteview	73.16	33	⇓P	P	05 00 49.0	-0.1
	baz=73						
J13A	Cove Ranch, Pi	73.18	34	⇑P	P	05 00 49.5	+0.3
	baz=73,SNR=8.3						
YFT	Old Faithful	73.24	31	eP	P	05 00 51.1	+1.6
YFT				e	pP	05 00 57.0	+0.8
L09A	Wilkinson Ranc	73.26	37	⇓P	P	05 00 49.9	+0.2
	baz=73						
LKWY	Lake	73.27	31	eP	P	05 00 51.3	+1.6
LKWY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
LKWY	Lake	73.27	31	eP	P	05 00 51.3	+1.6
	comp=Z,7.2nm,0.8s,mb4.7						
AGMN	Agassiz Refuge	73.29	20	eP	P	05 00 47.8	-1.9
	comp=Z,11nm,0.8s,mb4.8						
AGMN				e	pP	05 00 53.7	-2.7
M07A	Soldier Meadow	73.30	39	⇑P	P	05 00 50.3	+0.4
	baz=73,SNR=7.1						
J14A	Carey	73.45	34	⇑P	P	05 00 50.9	+0.1
	baz=73						
M08A	Happy Creek Ra	73.52	38	⇑P	P	05 00 51.6	+0.4
	baz=73						
O04C	Chester	73.55	40	⇓P	P	05 00 51.6	+0.2
	baz=73,SNR=9.2						
I16A	Newdale	73.57	32	⇑P	P	05 00 51.7	+0.2
	baz=73						
EVO	Evora	73.61	316	eP	P	05 00 55.6	+3.8
	comp=Z,36nm,1.2s,mb4.9						
EVO				eMLR	MLR		
	comp=Z,335nm,17.2s,MS4.4						
L10A	Juniper Basin	73.61	36	⇑P	P	05 00 52.1	+0.4
	baz=73						
FLWY	Flagg Ranch	73.62	32	eP	P	05 00 52.5	+0.7
	comp=Z,11nm,0.8s,mb4.8						
K12A	Draper Farm, C	73.63	35	⇓P	P	05 00 52.2	+0.3
	baz=73,SNR=6.2						
N06A	Buffalo Meadow	73.63	39	⇓P	P	05 00 51.9	0.0
	baz=73,SNR=5.8						
IMW	Indian Meadow	73.72	32	eP	P	05 00 52.9	+0.6
	comp=Z,13nm,1.2s,mb4.7						
J15A	Blackfoot	73.72	33	⇓P	P	05 00 52.7	+0.3
	baz=73						
L11A	Cat Creek Ranc	73.77	36	⇑P	P	05 00 53.4	+0.7
	baz=74						
K13A	Stover Farm, H	73.88	35	⇓P	P	05 00 53.9	+0.6
	baz=74,SNR=6.8						
N07B	Gerlach	73.91	39	⇓P	P	05 00 54.1	+0.6
	baz=74						
MOOW	Moose Ponds	73.91	32	eP	P	05 00 53.5	+0.1
	comp=Z,13nm,1.1s,mb4.8						
MOOW				e	pP	05 00 59.9	-0.2
DCID1	Drake Creek	73.92	32	eP	P	05 00 54.6	+1.1
DCID1				e	pP	05 01 00.4	+0.2
L12A	House Creek Ra	74.03	35	⇑P	P	05 00 54.8	+0.6
	baz=74,SNR=5.6						
ORV	Oroville	74.07	41	⇓P	P	05 00 54.2	-0.3
	baz=74						
LOHW	Long Hollow	74.08	32	eP	P	05 00 55.0	+0.5
	comp=Z,14nm,1.2s,mb4.8						
LOHW				e	pP	05 01 00.9	-0.2
J16A	Bone	74.08	33	⇓P	P	05 00 54.8	+0.3
	baz=74,SNR=8.6						
TPAW	Teton Pass

baz=74
M12A Wells 74.72 36 ⇑P P 05 00 59.0 +0.7
baz=74
Q04C Lincoln 74.75 41 ⇓P P 05 00 58.6 +0.2
baz=74
L15A Malad City 75.00 34 ⇓P P 05 00 59.5 -0.3
baz=75,SNR=7.0
LAVA Lava Cap Winer 75.06 41 ⇑P P 05 00 59.9 -0.3
baz=75
O09A Fish Creek Ran 75.07 38 ⇓P P 05 01 00.4 +0.2
baz=75
M14A Sheep Mountain 75.15 35 ⇑P P 05 01 00.6 -0.1
baz=75
BW06 Boulder Array 75.16 31 *e*P **P 05 00 59.7 -1.0**
comp=Z,4.2nm,0.9s,mb4.4
PDAR Pinedale Array 75.16 31 P P **05 00 59.6 -1.1**
comp=Z,2.6nm,1.0s,mb4.1,baz=21,slow=2.5,SNR=16
PDAR pP pP 05 01 05.7 -1.7
comp=Z,3.4nm,0.8s,baz=33,slow=3.6,SNR=12
PDAR LR LR 05 37 40.3
comp=Z,92nm,18.5s,MS4.1,baz=159,slow=39
N12A Clover Valley, 75.19 36 ⇑P P 05 01 01.1 +0.1
baz=75,SNR=5.4
ELK Elko 75.22 36 *e*P **P 05 01 01.7 +0.6**
ELK *e* pP 05 01 07.8 0.0
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 75.22 36 *e*P **P 05 01 01.6 +0.6**
comp=Z,8.9nm,1.0s,mb4.7
ELK *e* pP 05 01 07.8 0.0
L16A Fish Haven 75.28 33 ⇓P P 05 01 01.4 0.0
baz=75
R05C Kirkwood Meado 75.35 41 ⇑P P 05 01 02.3 +0.4
baz=75
RSSD Black Hills 75.42 27 *e*P **P 05 01 01.4 -0.8**
RSSD *e* pP 05 01 07.5 -1.4
RSSD pmax pmax
comp=Z,11nm,0.8s,mb4.8
RSSD Black Hills 75.42 27 *e*P **P 05 01 01.4 -0.8**
comp=Z,11nm,0.8s,mb4.8
RSSD *e* pP 05 01 07.5 -1.4
HWUT Hardware Ranch 75.61 33 *e*P **P 05 01 03.2 -0.2**
comp=Z,21nm,0.9s,mb5.1
HWUT *e* pP 05 01 09.4 -0.6
R06C Coleville 75.73 40 ⇑P P 05 01 04.4 +0.3
baz=75
N14A Grayback Hills 75.79 35 ⇓P P 05 01 04.6 +0.2
baz=76
O12A Currie 75.81 36 ⇓P P 05 01 04.8 +0.3
baz=76,SNR=5.4
P10A Eureka 75.81 38 ⇑P P 05 01 05.1 +0.5
baz=76
Q08A Gabbs 75.98 39 ⇓P P 05 01 05.4 -0.1
baz=76,SNR=6.1
S06C San Francisco 76.16 41 ⇑P P 05 01 06.3 -0.2
baz=76
O13A Hicks Ranch, I 76.19 36 ⇑P P 05 01 06.9 +0.3
baz=76
NVAR Mina Array Bea 76.23 39 P **P 05 01 07.4 +0.5**
comp=Z,3.8nm,0.9s,mb4.3,baz=307,slow=4.0,SNR=24
NVAR pP pP 05 01 13.3 -0.3
comp=Z,4.3nm,0.8s,baz=323,slow=4.4,SNR=14
R07C Lee Vining 76.26 40 ⇓P P 05 01 07.2 +0.1
baz=76
N17A Moffit Pass 76.45 33 ⇑P P 05 01 08.0 -0.1
baz=76
S05C Merced 76.45 41 ⇓P P 05 01 08.0 -0.2
baz=76
DUG Dugway 76.51 35 *e*P **P 05 01 08.8 +0.3**
DUG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DUG Dugway 76.51 35 ⇓P P 05 01 08.2 -0.2
baz=76
DUG Dugway 76.51 35 *e*P **P 05 01 08.8 +0.3**
comp=Z,7.4nm,0.9s,mb4.6
Q10A Clear Creek Ra 76.55 38 ⇑P P 05 01 08.5 -0.2
baz=76
COWI Conover 76.58 16 *e*P **P 05 01 06.7 -2.0**
comp=Z,19nm,1.3s,mb4.9
COWI *e* pP 05 01 13.6 -1.9
N18A Larsen Ranch, 76.77 32 ⇑P P 05 01 09.8 -0.2
baz=76
Q11A Duckwater 76.78 37 ⇓P P 05 01 10.0 -0.1
baz=76,SNR=11
P13A Bates Ranch, G 76.78 36 ⇑P P 05 01 09.7 -0.4
baz=76,SNR=9.2
R09A Tonopah 76.83 39 ⇑P P 05 01 10.3 -0.1
baz=76,SNR=11
KCC Kaiser Creek 76.84 41 ⇓P P 05 01 10.3 -0.2
baz=77
TPH Tonopah 76.93 39 *e*P **P 05 01 10.9 0.0**
TPH *e* pP 05 01 17.3 -0.3
MBWA Marble Bar 76.96 174 *e*P **P 05 01 10.0 -1.0**
comp=Z,25nm,1.3s,mb5.0
MBWA *e* pP 05 01 16.2 -1.5
P14A Drum Mountains 76.97 35 ⇓P P 05 01 11.1 0.0
baz=77
N19A John Jarvie Ra 76.99 32 ⇑P P 05 01 10.8 -0.4
baz=77
R10A Warm Springs 77.06 38 ⇑P P 05 01 11.7 +0.1
baz=77,SNR=6.7
S08C White Mtn Res 77.11 40 ⇑P P 05 01 12.2 +0.3
baz=77
O17A Robinson Place 77.16 33 ⇑P P 05 01 12.8 +0.6
baz=77
S09A Goldfield 77.24 39 ⇑P P 05 01 12.6 -0.1
baz=77,SNR=7.0
P15A Leamington 77.24 35 ⇑P P 05 01 12.9 +0.3
baz=77
R11A Troy Canyon, C 77.25 38 ⇑P P 05 01 12.9 +0.2
baz=77,SNR=6.2
S10A Tonopah Range, 77.29 38 ⇓P P 05 01 13.5 +0.6
baz=77,SNR=14
O18A Roosevelt 77.32 33 ⇑P P 05 01 13.4 +0.4
baz=77,SNR=5.2
Q14A Sevier Lake (B 77.45 36 ⇓P P 05 01 13.8 0.0
baz=77,SNR=6.9
ECSD EROS,Sioux Fal 77.51 22 *e*P **P 05 01 12.9 -1.1**
comp=Z,19nm,1.2s,mb4.9
ECSD *e* pP 05 01 19.0 -1.8
HELL Mitchell Peak 77.52 41 ⇓P P 05 01 14.0 -0.3
baz=77
WRAB Tennant Creek 77.60 160 *e*P **P 05 01 13.3 -1.4**
WRAB *e**PP pP 05 01 19.3 -2.1
WRAB *e**SP sP 05 01 22.0 -1.8
WRAB pmax pmax
comp=Z,24nm,1.1s,mb5.0
WRAB Tennant Creek 77.60 160 *e*P **P 05 01 13.3 -1.4**
comp=Z,24nm,1.1s,mb5.0
WRAB *e*pP pP 05 01 19.2 -2.1
WRAB *e*sP sP 05 01 22.0 -1.8
WRA Warramunga Arr 77.61 160 P **P 05 01 13.5 -1.2**
comp=Z,12nm,0.8s,mb4.8,baz=351,slow=6.6,SNR=86
WRA pP pP 05 01 19.2 -2.3
comp=Z,9.9nm,0.8s,baz=347,slow=6.4,SNR=20
PHWY Pilot Hill 77.67 29 *e*P **P 05 01 14.4 -0.6**
PHWY *e* pP 05 01 21.1 -0.6
Q15A Fillmore 77.73 35 ⇓P P 05 01 15.1 -0.2
baz=77
P17A Butcher Ranch, 77.82 34 ⇓P P 05 01 15.7 -0.1
baz=78
P18A Preston Nutter 77.83 33 ⇓P P 05 01 15.9 0.0
baz=78
R13A O'Grain Ranch, 77.95 36 ⇑P P 05 01 16.5 -0.1
baz=78
CWC Cottonwood Cre 78.08 40 ⇓P P 05 01 17.4 +0.1
baz=78
S12A Delamar Landin 78.17 37 ⇓P P 05 01 18.0 +0.2
baz=78
SRU San Rafael 78.22 34 ⇑P P 05 01 18.2 +0.1
baz=78
Q18A Rafter H Ranch 78.34 33 ⇑P P 05 01 18.1 -0.6
baz=78,SNR=7.3
SMMC Simmler 78.37 42 ⇓P P 05 01 18.7 -0.3
baz=78
T11A Corn Creek, Al 78.38 38 ⇑P P 05 01 18.8 -0.2
baz=78,SNR=6.9
R15A Junction 78.48 35 ⇑P P 05 01 19.9 +0.4
baz=78
FURC Furnace Creek, 78.49 39 ⇑P P 05 01 19.9 +0.2
baz=78
S13A Holt Ranch, En 78.53 37 ⇑P P 05 01 20.2 +0.4
baz=78
MPMC Manual Prospec 78.63 40 ⇓P P 05 01 20.1 -0.3
baz=78
Q19A Hogan Spring (78.75 33 ⇓P P 05 01 20.5 -0.5
baz=78,SNR=6.2

R17A Hanksville Air 78.79 34 ⇓P P 05 01 20.8 -0.5
baz=78,SNR=11
PKM Peak Mountain 78.81 42 ⇑P P 05 01 21.8 +0.4
baz=78
T13A Saint George 79.02 37 ⇓P P 05 01 22.3 -0.2
baz=79,SNR=7.4
ISCO Idaho Springs 79.03 30 *e*P **P 05 01 22.2 -0.3**
ISCO *e* pP 05 01 29.0 -0.2
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ISCO Idaho Springs 79.03 30 *e*P **P 05 01 22.2 -0.3**
comp=Z,3.8nm,0.8s,mb4.4
ISCO *e* pP 05 01 29.0 -0.3
R18A Canyonlands Na 79.08 33 ⇑P P 05 01 22.4 -0.4
baz=79
S16A Weppner Ranch, 79.15 35 ⇑P P 05 01 23.4 +0.1
baz=79,SNR=8.7
PKME Peaks-Kenny Pk 79.16 2 *e*P **P 05 01 22.6 -0.5**
comp=Z,20nm,1.0s,mb5.0
PKME *e*pP pP 05 01 29.5 -0.4
R19A Curley Farm, L 79.36 33 ⇑P P 05 01 24.3 0.0
baz=79
S17A Black Ridge (B 79.48 34 ⇓P P 05 01 24.7 -0.4
baz=79,SNR=9.8
EDW2 Edwards Air Fo 79.50 41 ⇓P P 05 01 25.2 0.0
baz=79
JFWS Jewell Farm 79.50 17 *e*P **P 05 01 23.3 -1.8**
JFWS *e* pP 05 01 30.5 -1.3
JFWS pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
JFWS Jewell Farm 79.50 17 *e*P **P 05 01 23.3 -1.7**
comp=Z,3.0nm,0.6s,mb4.4
JFWS *e* pP 05 01 30.4 -1.3
U13A Pakoon Wash 79.55 37 ⇑P P 05 01 25.1 -0.3
baz=79
GSC Goldstone 79.56 40 ⇑P P 05 01 25.5 0.0
baz=79
V11A Goodsprings 79.56 39 ⇑P P 05 01 25.8 +0.3
baz=79
LONY Lake Ozonia 79.60 6 *e*P **P 05 01 25.1 -0.4**
comp=Z,21nm,1.7s,mb4.8
LONY *e* pP 05 01 31.2 -1.0
S18A Hurst Farm, Bl 79.68 34 ⇓P P 05 01 25.5 -0.6
baz=79,SNR=12
U14A Mt Trumbull 79.81 37 ⇓P P 05 01 26.7 -0.2
baz=80
V12A Nelson 79.87 38 ⇓P P 05 01 27.5 +0.3
baz=80
S19A Harvey Farm, M 79.90 33 ⇓P P 05 01 27.2 -0.1
baz=80
V13A Grand Canyon W 80.05 37 ⇑P P 05 01 28.4 +0.2
baz=80
U15A North Rim 80.10 36 ⇓P P 05 01 28.8 +0.4
baz=80
LBNH Lisbon 80.10 4 *e*P **P 05 01 27.7 -0.6**
LBNH *e* pP 05 01 34.7 -0.3
LBNH pmax pmax
comp=Z,14nm,1.1s,mb4.8
LBNH Lisbon 80.10 4 *e*P **P 05 01 27.6 -0.6**
comp=Z,14nm,1.1s,mb4.8
LBNH *e* pP 05 01 34.7 -0.3
HEC Hector,Ludlow 80.15 40 ⇓P P 05 01 29.3 +0.6
baz=80
T18A Mexican Hat 80.23 34 ⇓P P 05 01 28.5 -0.6
baz=80,SNR=6.6
NCB Newcomb 80.27 6 *e*P **P 05 01 28.9 -0.2**
comp=Z,14nm,1.0s,mb4.8
NCB *e* pP 05 01 35.3 -0.6
MDV Middlebury 80.29 5 *e*P **P 05 01 28.2 -1.1**
MDV *e* pP 05 01 35.0 -1.0
LDFC Landfair 80.36 39 *e*P **P 05 01 29.8 -0.1**
comp=Z,22nm,1.3s,mb4.9
LDFC *e* pP 05 01 35.8 -0.8
U17A Shonto 80.47 35 ⇓P P 05 01 30.1 -0.3
baz=80
V14A Boquillas Ranc 80.55 37 ⇑P P 05 01 30.7 -0.2
baz=80,SNR=14
MVCO Mesa Verde 80.59 33 ⇓P P 05 01 30.9 -0.1
baz=80
MVCO Mesa Verde 80.59 33 *e*P **P 05 01 30.9 -0.1**
comp=Z,8.4nm,0.9s,mb4.7
MVCO *e* pP 05 01 37.2 -0.6
CTA Charters Tower 80.64 149 P **P 05 01 30.4 -0.9**
comp=Z,4.3nm,0.8s,mb4.4,baz=22,slow=6.4,SNR=3.9
CTA pP pP 05 01 36.5 -1.6
comp=Z,1.2nm,0.3s,baz=345,slow=8.8,SNR=2.1
CTA Charters Tower 80.64 149 P **P 05 01 30.4 -0.9**
CTA pP pP 05 01 36.5 -1.6
CTAO Charters Tower 80.64 149 *e*P **P 05 01 30.8 -0.5**
CTAO pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CTAO Charters Tower 80.64 149 *e*P **P 05 01 30.8 -0.6**
comp=Z,7.9nm,1.1s,mb4.6
V15A Kaibab Nationa 80.69 36 ⇑P P 05 01 31.9 +0.3
baz=80,SNR=8.0
W13A Hualapai Mount 80.77 38 ⇓P P 05 01 31.7 -0.3
baz=80
T19A Beclabito 80.78 33 ⇑P P 05 01 32.0 0.0
baz=80,SNR=11
U18A Rough Rock, Ch 80.89 34 ⇓P P 05 01 33.2 +0.5
baz=81
TAM Tamanrasset 80.89 297 *e*P **P 05 01 32.7 -0.1**
TAM *e* pP 05 01 39.0 -0.6
W14A Seligman 80.94 37 ⇑P P 05 01 33.0 +0.1
baz=81
SDCO Great Sand Dun 80.97 30 *e*P **P 05 01 32.5 -0.6**
comp=Z,11nm,1.1s,mb4.7
SDCO *e* pP 05 01 38.8 -1.0
BELC Belle Mtn. 81.02 40 ⇓P P 05 01 33.3 0.0
baz=81
ASAR Alice Springs 81.16 161 P **P 05 01 33.0 -1.0**
comp=Z,4.6nm,1.0s,mb4.4,baz=356,slow=4.6,SNR=24
IRM Iron Mountain 81.18 39 ⇑P P 05 01 34.5 +0.2
baz=81
WUAZ Wupatki 81.23 36 ⇑P P 05 01 34.8 +0.3
baz=81
WUAZ Wupatki 81.23 36 *e*P **P 05 01 34.8 +0.3**
comp=Z,4.9nm,0.8s,mb4.5
WUAZ *e* pP 05 01 40.7 -0.5
W15A Williams 81.25 36 ⇓P P 05 01 35.1 +0.6
baz=81
X13A Yucca 81.25 38 ⇑P P 05 01 34.3 -0.3
baz=81,SNR=10
PDMCI Parker Dam,Lak 81.41 38 ⇓P P 05 01 35.5 +0.1
baz=81
V18A Ganado 81.52 34 ⇑P P 05 01 35.8 -0.2
baz=81
BC3 Big Chuckw Mtn 81.52 39 ⇓P P 05 01 35.9 -0.1
baz=81
W16A Flagstaff 81.57 36 ⇓P P 05 01 36.6 +0.3
baz=81
X14A Yava 81.68 37 ⇓P P 05 01 37.0 +0.1
baz=81
Y12C Blythe 81.77 39 ⇓P P 05 01 37.6 +0.2
baz=82
X15A Humboldt 81.89 37 ⇓P P 05 01 38.0 +0.1
baz=82
BINY Binghamton 81.92 7 *e*P **P 05 01 37.2 -0.8**
comp=Z,35nm,1.0s,mb5.2
BINY *e* pP 05 01 43.7 -1.0
KSU1 Kansas State U 81.94 23 *e*P **P 05 01 36.9 -1.3**
comp=Z,8.8nm,1.0s,mb4.6
KSU1 *e* pP 05 01 43.1 -1.8
Y13A Salome 81.95 38 ⇓P P 05 01 38.8 +0.5
baz=82
Y14A Wickenburg 82.12 37 ⇓P P 05 01 39.2 0.0
baz=82
X16A Lo Mia Camp, P 82.22 36 ⇑P P 05 01 40.1 +0.4
baz=82
GLA Glamis 82.29 39 ⇑P P 05 01 40.3 +0.2
baz=82
Y15A Casa Rosa Ranc 82.34 37 ⇑P P 05 01 40.5 +0.2
baz=82
X17A Forest Lakes 82.50 36 ⇓P P 05 01 41.4 +0.2
baz=82,SNR=6.3
X18A Snowflake 82.60 35 ⇑P P 05 01 41.7 0.0
baz=82
Y16A Circle Bar Ran 82.69 36 ⇑P P 05 01 42.3 +0.1
baz=82,SNR=6.3
X19A St. Johns 82.91 34 ⇑P P 05 01 43.3 0.0
baz=83,SNR=7.1
Y17A Roosevelt 83.07 36 ⇓P P 05 01 44.2 +0.1
baz=83
ACSO Alum Creek Sta 83.20 13 *e*P **P 05 01 43.6 -1.1**
comp=Z,23nm,0.9s,mb5.2
ACSO *e* pP 05 01 50.2 -1.3
KMBO Kilima Mbogo 83.22 258 P **P 05 01 45.5 +0.3**
comp=Z,4.7nm,0.9s,mb4.5,baz=34,slow=7.9,SNR=5.8
KMBO pP pP 05 01 51.6 -0.3
comp=Z,7.9nm,0.9s,baz=12,slow=7.7,SNR=8.7
KMBO Kilima Mbogo 83.22 258 *i* P **P 05 01 46.0 +0.8**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
KMBO Kilima Mbogo 83.22 258 *e*P **P 05 01 45.3 +0.1**
comp=Z,2.0nm,0.8s,mb4.2
KMBO *e* pP 05 01 51.5 -0.4
Y18A Canyon Day Jun 83.26 35 ⇑P P 05 01 45.1 -0.1
baz=83,SNR=5.6
ANMO Albuquerque 83.30 32 *e*P **P 05 01 45.6 +0.3**
ANMO *e* pP 05 01 51.7 -0.3
ANMO pmax pmax
comp=Z,11nm,1.3s
ANMO Albuquerque 83.30 32 *e*P **P 05 01 45.6 +0.3**
comp=Z,11nm,1.3s,mb4.7
ANMO *e* pP 05 01 51.6 -0.4
Y19A Nutrioso 83.35 35 ⇓P P 05 01 45.9 +0.3
baz=83,SNR=5.3
Z17A San Carlos Hig 83.56 36 ⇓P P 05 01 47.0 +0.3
baz=83
116A Eloy 83.82 37 ⇓P P 05 01 48.5 +0.5
baz=84
118A Homack Ranch, 84.33 36 ⇑P P 05 01 50.4 -0.2
baz=84
WCI Wyandotte Cave 84.71 16 *e*P **P 05 01 52.0 -0.5**
WCI *e* pP 05 01 58.0 -1.2
WCI pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
WCI Wyandotte Cave 84.71 16 *e*P **P 05 01 52.0 -0.5**
comp=Z,7.2nm,0.8s,mb4.8
WCI *e* pP 05 01 58.0 -1.3
SIUC Southern Illin 84.74 18 *e*P **P 05 01 51.7 -1.0**
comp=Z,3.9nm,0.6s,mb4.7
SIUC *e* pP 05 01 58.0 -1.4
217A Green Valley 84.84 37 ⇑P P 05 01 53.4 +0.2
baz=84
218A Dragoon 84.92 36 ⇑P P 05 01 53.7 +0.1
baz=85,SNR=5.9
318A Bisbee 85.43 36 ⇑P P 05 01 56.7 +0.6
baz=85
WMOK Wichita Mounta 85.60 26 *e*P **P 05 01 56.6 -0.4**
WMOK pmax pmax
comp=Z,18nm,1.0s,mb5.3
WMOK Wichita Mounta 85.60 26 *e*P **P 05 01 56.6 -0.3**
comp=Z,18nm,1.0s,mb5.3
TKL Tuckaleechee C 87.60 14 *e*P **P 05 02 06.6 -0.1**
PLAL Pickwick Lake 87.60 18 *e*P **P 05 02 05.8 -1.0**
comp=Z,6.9nm,1.1s,mb4.8
CPCT Cooper Cave 87.70 15 *e*P **P 05 02 06.7 -0.5**
TXAR Lajitas Array 89.37 32 P **P 05 02 14.9 -0.3**
comp=Z,0.8nm,0.8s,mb4.1,baz=316,slow=1.8,SNR=7.6
TXAR pP pP 05 02 21.6 -0.4
comp=Z,0.8nm,0.8s,baz=325,slow=1.5,SNR=6.1
TXAR LR LR 05 46 18.2
comp=Z,111nm,18.1s,MS4.3,baz=10.0,slow=38
TXAR Lajitas Array 89.37 32 P **P 05 02 14.9 -0.3**
TXAR *PP pP 05 02 21.6 -0.4
JCT Junction City 89.38 28 *e*P **P 05 02 14.7 -0.5**
JCT pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
JCT Junction City 89.38 28 *e*P **P 05 02 14.7 -0.5**
comp=Z,4.6nm,0.7s,mb4.9
GOGA Godfrey 89.85 14 *e*P **P 05 02 16.6 -0.8**
GOGA *e**PP pP 05 02 22.8 -1.4
GOGA pmax pmax
comp=Z,14nm,1.0s,mb5.2
GOGA Godfrey 89.85 14 *e*P **P 05 02 16.6 -0.8**
comp=Z,14nm,1.0s,mb5.2
GOGA *e*pP pP 05 02 22.8 -1.4
TOA0 Torodi Ar. Sit 90.95 295 *e*P **P 05 02 21.8 -1.0**
TOA0 *e*pP pP 05 02 27.6 -1.9
TORD Torodi Ar. Bea 90.95 295 P **P 05 02 21.6 -1.2**
comp=Z,7.0nm,1.0s,mb5.0,baz=15,slow=4.8,SNR=31
TORD pP pP 05 02 27.3 -2.3
comp=Z,15nm,0.9s,baz=30,slow=3.4,SNR=35
TORD LR LR 05 45 21.3
comp=Z,74nm,18.3s,MS4.2,baz=20,slow=37
TORD Torodi Ar. Bea 90.95 295 P **P 05 02 21.6 -1.2**
TORD pP pP 05 02 27.3 -2.3
TORD LR LR 05 45 21.3
DBIC Dimbokro 99.78 297 P Pdif 05 03 01.2 -1.8
comp=Z,3.9nm,1.1s,baz=22,slow=5.4,SNR=2.5
DBIC LR LR 05 54 02.0
comp=Z,105nm,18.2s,MS4.4,baz=104,slow=39
DBIC Dimbokro 99.78 297 P Pdif 05 03 01.2 -1.8
DBIC LR LR 05 54 02.0
LPAZ La Paz 140.42 2 PKP PKPdf 05 08 46.5 -1.3
comp=Z,1.3nm,0.9s,baz=21,slow=9.5,SNR=4.5
LPAZ La Paz 140.42 2 PKP PKPdf 05 08 46.5 -1.3
NVL N'lazarevskaya 144.83 214 *e*PKIKP PKPdf 05 08 53.8 -0.1
NVL pmax pmax
comp=Z,36nm,1.3s
MAIT Maitri 144.86 214 *e*PKPdif 05 08 51.1
QSPA South Pole Qui 145.68 180 PKPbc PKPbc 05 08 54.7 -0.9
comp=Z,47nm,1.1s,baz=298,slow=1.6,SNR=56
QSPA pPKPbc pPKPbc 05 09 00.7 -1.8
comp=Z,38nm,0.9s,baz=311,slow=4.5,SNR=14
LVC Limon Verde 146.68 4 PKPbc PKPbc 05 08 59.7 -0.5
comp=Z,5.2nm,0.8s,baz=315,slow=5.7,SNR=7.0
LVC pPKPbc pPKPbc 05 09 06.1 -1.0
comp=Z,5.9nm,0.8s,baz=342,slow=2.6,SNR=7.0
LVC Limon Verde 146.68 4 *e*PKPbc PKPbc 05 08 59.8 -0.4
LVC *e* 05 09 06.2
SNAA Sanae 149.66 214 PKPbc PKPbc 05 09 05.6 -1.0
comp=Z,3.6nm,1.0s,baz=62,slow=2.5,SNR=20
SNAA pPKPbc pPKPbc 05 09 11.9 -1.6
comp=Z,5.3nm,1.0s,baz=57,slow=5.8,SNR=15
VNA2 Neumayer--Watz 151.11 216 *e*PKPdf PKPbc 05 09 09.3 -0.8
VNA2 *e* 05 09 15.3
VNA2 *e* 08 02 12.8
VNA1 Neumayer--Stat 151.40 216 *e*PKPdf PKPbc 05 09 10.6 -0.1
VNA1 *e* 05 09 16.4
VNA3 Neumayer Olymp 151.84 215 *e*PKPdf PKPbc 05 09 10.7 -1.1
VNA3 *e* 05 09 16.7
VNA3 *e* 08 02 12.9
CFAA Coronel Fontan 155.66 4 PKPab PKPab 05 09 37.4 -0.8
comp=Z,0.1nm,0.4s,baz=296,slow=5.4,SNR=3.8
PLCA Paso Flores 164.57 12 PKPab PKPab 05 10 15.9 -0.8
comp=Z,1.7nm,0.8s,baz=71,slow=23,SNR=4.0
PLCA pPKPab pPKPab 05 10 22.3 -1.3
comp=Z,1.8nm,0.8s,baz=296,slow=5.2,SNR=2.7

IDC 23 05:09:48.1±3.4,702S×15461E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.6/15,mbtmp3.6/4,MS3.4/1,Ms1 3.3/1, ms1mx2.6/17,Error ellipse: s-maj=113.4km s-min=32.2km az=114.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.49**	**235**	P	P	05 14 59.6	-0.3
	0.6nm,0.5s,baz=60,slow=10.0,SNR=6.5						
ASAR	**Alice Springs**	**25.87**	**228**	P	P	05 15 22.3	+0.6
	0.6nm,0.8s,baz=60,slow=9.5,SNR=4.9						
STKA	**Stephens Creek**	**27.55**	**204**	LR	LR	05 25 38.8	
	comp=Z,77nm,20.1s,baz=26,slow=34						
SONM	**Songino Array**	**69.15**	**327**	P	P	05 20 56.3	0.0
	0.4nm,0.7s,baz=122,slow=7.0,SNR=2.9						
MKAR	**Makanchi Array**	**83.17**	**319**	P	P	05 22 17.6	+1.5
	0.2nm,0.3s,baz=102,slow=6.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**152.66**	**285**	PKPbc	PKPbc	05 29 47.0	-0.9
	0.5nm,0.9s,baz=61,slow=2.1,SNR=2.7						
TORD				PKPab	PKPab	05 29 57.7	-0.8
	0.4nm,0.8s,baz=67,slow=2.1,SNR=3.3						

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*ISCJB **23** 05:11:06.5±0.8,3816N±005×2346E±007,h30km±9km, Error ellipse: s-maj=10.8km s-min=7.2km az=146.3*
*ATH **23** 05:11:06.8,38.19N×2349E,h23km±7km,MD2.5/4,ML2.2*
*THE **23** 05:11:07.2,38.15N×2346E,h7km*
*CSEM **23** 05:11:07.8±0.1,38.15N×2341E,h12km,ML2.2,Error ellipse: s-maj=3.5km s-min=1.8km az=62.0*

ISC 23 05:11:06.5±0.8,3816N±005×2346E±007,h30km±9km,n8, σ0557/15,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.28**	**133**	*e*PB	**Pb**	**05 11 12.8**	**-0.8**
ATH				*e*SB	**Sb**	**05 11 18.3**	**-0.1**
NAIG	**Nisos Aigina**	**0.40**	**177**	*e*PB	**Pb**	**05 11 15.5**	**+0.1**
LTK	**Loutraki**	**0.41**	**250**	*e*Pg	**Pb**	**05 11 14.7**	**-0.8**
LTK				*e*Sg	**Sb**	**05 11 21.2**	**-0.5**

KVR	Kavouri	0.41	144	ePB	Pb	05 11 16.0 +0.5
LKR	Lokris	0.61	324	ePg	Pb	05 11 18.9 +0.2
LKR				eSg	Sb	05 11 27.9 +1.0
LKR	Lokris	0.61	324	ePN	Pn	05 11 19.2 +0.1
LKR				eSN	Sn	05 11 27.3 -0.6
LKR	Lokris	0.61	324	ePn	Pn	05 11 19.2 +0.1
LKR				eSn	Sn	05 11 27.3 -0.6
LKR				eSg	Sb	05 11 27.9 +1.0
DID	Didima	0.68	195	ePg	Pb	05 11 19.9 +0.1
DID				eSg	Sb	05 11 29.8 +0.9

CSEM ***23*** *05:34:59.2±0.2, 4307N×1770E, h1km±1km, ML2.5/10, Error ellipse: s-maj=5.2km s-min=3.1km az=52.0*
BEO ***23*** *05:34:59.4, 4297N×1757E, h9km, ML2.5/2*
ISCJB ***23*** *05:35:00.8±0.5, 4304N±002×1776E±003, h10km, Error ellipse: s-maj=4.0km s-min=2.8km az=135.9*
NEIC ***23*** *05:35:01.2, 4301N×1778E, h7km, ML2.5(PDG), After PDG.*
PDG ***23*** *05:35:01.2±0.0, 4301N×1778E, h7km, ML2.5/10, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*

ISC 23 05:35:01.0±0.6, 4305N±003×1773E±004, h3km±4km, n26, σ1°08/50, 8C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.18	186	⇓iPg	Pg	05 35 05.0	+0.6
STON				Sg	Sg	05 35 08.2	+1.5
TREB	Trebinje	0.56	125	ePg	Pg	05 35 11.2	-0.6
TREB				eSg	Sg	05 35 19.6	+0.5
TREB	Trebinje	0.56	125	ePg	Pg	05 35 11.0	-0.8
TREB				eSg	Sg	05 35 19.6	+0.5
BRY	Bratogost	0.62	103	⇑iPg	Pg	05 35 11.7	-1.1
BRY				eSg	Sg	05 35 20.9	+0.1
HCY	Herceg Novi	0.82	136	⇓iPg	Pg	05 35 15.4	-1.4
HCY				eSg	Sg	05 35 27.9	+0.4
UPM	Unac-Piva	0.88	79	⇓iPg	Pg	05 35 16.9	-1.0
UPM				eSg	Sg	05 35 30.2	+0.9
NKY	Niksic	0.96	104	⇑iPg	Pg	05 35 18.1	-1.4
NKY				eSg	Sg	05 35 32.4	+0.5
BUM	Brajici-Budva	1.14	130	⇑iPg	Pg	05 35 21.2	-1.7
BUM				eSg	Sg	05 35 38.4	+0.7
PLE	Pljevlja	1.25	76	⇑iPg	Pg	05 35 23.7	-1.3
PLE				eSg	Sg	05 35 42.8	+1.6
PDG	Podgorica	1.29	118	⇓iPg	Pg	05 35 24.1	-1.6
PDG				eSg	Sg	05 35 43.3	+0.9
TTG	Podgorica	1.29	118	⇓iPg	Pg	05 35 24.1	-1.6
TTG				eSg	Sg	05 35 43.3	+0.9
ULC	Ulcinj	1.56	133	⇑iPg	Pn	05 35 28.9	-0.7
ULC				eSg	Sg	05 35 52.1	+0.9
BEY	Berane	1.60	96	⇑iPg	Pn	05 35 30.0	-0.2
BEY				eSg	Sg	05 35 53.4	+0.9
IVA	Berane	1.60	96	⇑iPg	Pn	05 35 30.0	-0.2
IVA				eSg	Sg	05 35 53.4	+0.9
SJES	Sjenica	1.66	82	ePn	Pn	05 35 30.2	-0.7
SJES				eSn	Sn	05 35 53.7	+1.0
PVY	Plav	1.71	104	⇑iPn	Pn	05 35 31.8	+0.1
PVY				eSn	Sn	05 35 56.3	+2.2
BLY	Banja Luka	1.75	347	ePg	Pn	05 35 32.1	-0.1
BLY				eSg	Sg	05 35 58.5	+1.4
BLY	Banja Luka	1.75	347	ePn	Pn	05 35 31.8	-0.4
BLY	Banja Luka	1.75	347	ePg	Pn	05 35 32.1	-0.1
BLY				eSn	Sn	05 35 56.0	+1.1
BLY				eSg	Sg	05 35 58.5	+1.4
DIVS	Divibare	1.95	57	⇓iPn	Pn	05 35 34.4	-0.6
DIVS				eSn	Sn	05 36 01.5	+1.5
SG1	Sgolgore (BA)	2.34	200	ePn	Pn	05 35 39.5	-0.8
NVLJ	Novalja	2.56	307	ePn	Pn	05 35 44.3	+0.9
NVLJ				Sn	Sn	05 36 16.2	+1.2
BARS	Barje	3.01	93	ePn	Pn	05 35 50.0	+0.5
BARS				eSn	Sn	05 36 26.2	+0.1
PKSM	Moragy	3.23	11	ePn	Pn	05 35 51.6	-1.0
PKSM				eSn	Sn	05 36 29.8	-1.7
ZAPS	Zavoj	3.60	85	ePn	Pn	05 35 56.5	-1.1
ZAPS				eSn	Sn	05 36 38.5	-2.1
ZAVS	Zavodnje	3.90	331	ePn	Pn	05 35 56.5	-5.2

NEIC ***23*** *05:41:13.5, 1897N×6859W, h38km, MD3.6(RSPR), After RSPR.*

RSPR 23 05:41:13.5, 1897N×6859W, h38km±29km, MD3.6/5, MD3.6/5, 5C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	1.48	109	⇑eP	Pn	05 41 35.8	-1.9
AGPR				eS	Sn	05 41 54.0	-1.9
LSP	Las Mesas	1.63	119	⇑eP	Pn	05 41 38.3	-1.4
LSP				eS	Sn	05 41 58.2	-1.2
CRPR	Cabo Rojo, PR	1.70	124	⇑eP	Pn	05 41 39.1	-1.6
CRPR				eS	Sn	05 42 00.1	-1.0
AOPR	Arecibo Observ	1.84	109	⇓eP	Pn	05 41 41.1	-1.6
CELP	Cerrillos	2.10	115	⇓eP	Pn	05 41 45.9	-0.3
CELP				eS	Sn	05 42 10.4	-0.7
MTP	Monte Pirata	3.01	106	⇑eP	Pn	05 41 58.7	0.0

ISCJB ***23*** *05:58:55.9±0.9, 893N±007×7735W±004, h52km±13km, mb3.8/7, Error ellipse: s-maj=12.4km s-min=6.3km az=9.4*
NEIC ***23*** *05:58:57.5±0.8, 898N×7740W, h45km±11km, mb4.7/1, Error ellipse: s-maj=11.2km s-min=8.6km az=165.0*
IDC ***23*** *05:58:58.6±3.0, 889N×7732W, h60km±34km, mb3.4/6, mb1 3.9/10, mb1mx3.7/22, mbtmp3.8/10, ML3.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/20, Error ellipse: s-maj=24.7km s-min=20.9km az=32.0*

ISC 23 05:58:57.5±0.7, 896N±007×7739W±004, h45km±11km, n16, σ0°76/20, mb3.8/7, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	Isla Barro Col	2.43	275	ePn	Pn	05 59 34.5	-0.2
BCIP				eSn	Sn	06 00 03.1	-0.1
ROSC	El Rosal	5.08	143	P	Pn	06 00 12.7	+1.5
	4.3nm,0.3s,baz=288,slow=12,SNR=18						
ROSC				S	Sn	06 01 07.9	-0.8
	3.4nm,0.3s,baz=90,slow=20,SNR=2.5						
SDV	Santo Domingo	6.67	90	P	Pn	06 00 34.5	+1.5
	3.4nm,0.3s,baz=303,slow=7.4,SNR=33						
SDV				S	Sn	06 01 48.5	+0.7
	34nm,0.3s,baz=315,slow=20,SNR=18						
OTAV	Otavalo	8.73	187	ePn	Pn	06 01 00.8	-0.5
	22nm,0.4s						
PCRV	Puerto La Cruz	12.63	83	P	Pn	06 01 54.5	-0.2
	0.5nm,0.3s,baz=307,slow=5.1,SNR=3.0						
PCRV				S	Sn	06 04 13.3	-0.7
	0.6nm,0.3s,baz=143,slow=20,SNR=3.5						
AOPR	Arecibo Observ	13.91	47	ePn	Pn	06 02 11.8	-0.3
	9.6nm,0.5s						
AOPR				eSn	Sn	06 04 29.4	-16
SJG	San Juan	14.21	49	P	Pn	06 02 15.2	-1.0
	3.2nm,0.3s,baz=240,slow=8.9,SNR=7.9						
ATAH	Atahualpa	15.89	184	LR	LR	06 08 25.9	
	comp=Z,82nm,19.8s,baz=211,slow=36						
TXAR	Lajitas Array	31.90	313	P	P	06 05 18.3	-0.6
	1.1nm,1.0s,mb3.6,baz=131,slow=8.5,SNR=6.1						
PDAR	Pinedale Array	43.90	326	P	P	06 07 00.7	+0.8
	0.3nm,0.7s,mb3.2,baz=104,slow=6.3,SNR=4.1						
ULM	Lac du Bonnet	43.93	343	P	P	06 06 59.7	-0.2
	1.1nm,0.5s,mb3.9,baz=136,slow=9.8,SNR=3.2						
REDW	Red Top Meadow	45.01	325	eP	P	06 07 08.3	-0.3
	24nm,1.9s,mb4.7						
NVAR	Mina Array Bea	46.99	315	P	P	06 07 25.3	+1.0
	0.7nm,0.9s,mb3.6,baz=120,slow=8.7,SNR=3.8						
YKA	Yellowknife Ar	59.84	341	P	P	06 08 58.7	+0.5
	1.3nm,0.5s,mb4.2,baz=130,slow=7.3,SNR=21						
YKA	Yellowknife Ar	59.84	341	P	P	06 08 58.7	+0.5
TORD	Torodi Ar. Bea	77.45	78	P	P	06 10 48.0	-0.9
	0.2nm,0.5s,mb3.3,baz=291,slow=6.7,SNR=4.9						

IDC ***23*** *05:58:57.2±2.3, 4727N×15397E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/23, mbtmp3.9/8, ML3.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.0/34, Error ellipse: s-maj=60.5km s-min=27.0km az=174.0*
NEIC ***23*** *05:58:60.0±1.4, 4734N×15394E, h15km, Error ellipse: s-maj=32.1km s-min=14.2km az=156.0*
ISCJB ***23*** *05:59:03.5±3.0, 481N±04×153.1E±03, h12km±22km, mb4.0/11, Error ellipse: s-maj=70.2km s-min=13.2km az=150.8*
MOS ***23*** *05:59:03.5±2.4, 4770N×15331E, h45km, mb4.6/8, Error ellipse: s-maj=16.9km s-min=11.6km az=99.0*

ISC 23 05:59:05.5±3.9, 480N±04×1531E±03, h13km±26km, n21, σ1°01/21, mb4.0/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.31	36	ePN	Pn	05 59 56.6	-0.3
SKR				e		06 00 36.5	
PETK	Petropavlovsk-	5.87	28	Pn	Pn	06 00 31.5	-0.5
	0.7nm,0.3s,baz=184,slow=12,SNR=18						
PETK	Petropavlovsk-	5.87	28	Pn	Pn	06 00 31.5	-0.5
YSS	Yuzh-Sakhalins	7.07	265	i PN	Pn	06 00 46.9	-1.6
BILL	Biiibino	21.14	14	i P	P	06 03 50.7	+1.0
BILL				e		06 07 57.0	
BILL				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.3						
SONM	Songino Array	30.89	287	P	P	06 05 22.9	+1.5
	comp=Z,0.4nm,0.5s,mb3.5,baz=76,slow=11,SNR=3.2						
TLY	Talaya	31.57	295	eP	P	06 05 19.0	-8.3
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
COLA	College	35.15	40	i P	P	06 05 58.1	-0.3
HVS	Khovu-Aksy	37.70	298	i P	P	06 06 19.1	-1.2
ZALV	Zalesovo Beam	41.84	305	P	P	06 06 55.1	+0.5
	comp=Z,0.6nm,0.4s,mb3.6,baz=65,slow=6.9,SNR=3.4						
ZAL	Zalesovo	41.85	305	P	P	06 06 55.1	+0.3
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	Makanchi Array	46.33	296	eP	P	06 07 31.5	+0.8
MKAR	Makanchi Array	46.33	296	P	P	06 07 31.8	+1.1
	comp=Z,0.7nm,0.7s,mb3.7,baz=63,slow=6.1,SNR=5.6						
KURK	Kurchatov	46.63	303	eP	P	06 07 33.7	+0.7
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
SPITS	Spitsbergen Ar	51.33	350	LR	LR	06 29 58.0	
	comp=Z,48nm,19.2s,baz=155,slow=36						
OBN	Obninsk	64.23	325	eP	P	06 09 36.9	-2.7
OBN				eS	S	06 18 14.2	-2.1
OBN				eSS	SS	06 22 21.0	-3.8
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
NOA	NORSAR Array B	66.99	341	P	P	06 09 57.8	+0.5
	comp=Z,1.5nm,0.5s,mb4.3,baz=26,slow=6.3,SNR=9.9						
HFS	Hagfors	67.23	339	P	P	06 09 58.6	-0.3
	comp=Z,3.0nm,0.5s,mb4.6,baz=75,slow=6.3,SNR=8.9						
AKASG	Malin Array Be	70.45	326	P	P	06 10 19.1	0.0
	comp=Z,1.1nm,0.5s,mb4.1,baz=33,slow=6.5,SNR=3.2						
TXAR	Lajitas Array	76.89	61	P	P	06 10 50.4	-6.8
	comp=Z,0.1nm,0.4s,mb3.1,baz=303,slow=5.0,SNR=3.4						
TXAR	Lajitas Array	76.89	61	P	P	06 10 50.4	-6.8

BJI ***23*** *06:03:27.6, 4070N×4850E, h10km, mB4.8, mb4.5, Ms4.1, Msz3.6*
CSEM ***23*** *06:03:28.0±0.1, 4073N×4870E, h10km, mb4.5/15, Error ellipse: s-maj=2.0km s-min=1.8km az=90.0*
MOS ***23*** *06:03:28.7±2.1, 4067N×4854E, h23km, mb4.5/9, Error ellipse: s-maj=7.3km s-min=4.2km az=107.7*
NEIC ***23*** *06:03:29.6±0.5, 4069N×4850E, h10km, mb4.4/15, Error ellipse: s-maj=12.2km s-min=6.2km az=172.0*
THR ***23*** *06:03:30.5±0.8, 4042N×4849E, h14km, ML4.2*
IDC ***23*** *06:03:31.2±4.7, 4063N×4848E, h25km±33km, mb3.9/13, mb1 4.0/18, mb1mx3.9/28, mbtmp3.9/18, ML4.1/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/24, Error ellipse: s-maj=20.0km s-min=10.3km az=158.0*
ISCJB ***23*** *06:03:31.2±0.8, 4068N±002×4866E±003, h31km±6km, mb4.2/37, MS3.7/1, Error ellipse: s-maj=4.1km s-min=3.5km az=33.1*
NNC ***23*** *06:03:33.7±2.1, 4095N×4911E, h0km, mb3.9, Error ellipse: s-maj=34.0km s-min=15.3km az=95.0*

ISC 23 06:03:32.0±0.5, 4069N±002×4860E±003, h25km±3km, h14km±1.1km: pP-P, n161, σ1°26/186, mb4.2/37, MS3.7/1, 13C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	Pirkuli	0.10	357	P	Pb	06 03 35.8	-0.8
	SNR=1000						
PQL				S	Sb	06 03 40.6	+0.9
SIZA	Siyzn	0.45	30	P	Pb	06 03 42.8	+1.4
	SNR=1000						
SIZA				S	Sb	06 03 53.6	+5.8
ALIB	Ii-Bayraml	0.79	157	P	Pb	06 03 47.4	+0.3
	SNR=46						
GOBA	Gobu	0.91	108	P	Pb	06 03 52.4	+3.3
	SNR=8.0						
AKT	Akhty	1.03	321	i PG	Pn	06 03 48.0	-2.9
AKT				i S	Sb	06 04 04.0	-0.2
NDR	Nardaran	1.06	95	P	Pn	06 03 54.0	+2.7
	SNR=8.8						
BRDA	Brd	1.16	249	P	Pn	06 03 52.1	-0.6
	SNR=24						
BRDA				S	Sn	06 04 11.0	+3.2
SEKA	Sheki	1.18	297	P	Pn	06 03 52.2	-0.8
	SNR=281						
SEKA				S	Sn	06 04 09.7	+1.4
DRN	Derbent	1.36	351	ePG	Pn	06 03 56.2	+0.8
GLBA	Clilabad	1.45	186	P	Pn	06 03 54.9	-1.8
	SNR=86						
GLBA				S	Sn	06 04 15.9	+1.0
GANJ	Ganja	1.73	269	P	Pn	06 03 59.7	-0.9
	SNR=102						
GANJ				S	Sn	06 04 22.2	+0.3
KMKR	Kumukh	1.83	322	i PN	Pn	06 04 02.0	+0.1
KMKR				i S	Sn	06 04 33.0	+8.7
KMKR	Kumukh	1.83	322	i Sg	Sn	06 04 33.0	+8.7
SGKR	Sergokala	1.91	339	i Pn	Pn	06 04 04.0	+1.0
SGKR				eSg	Sn	06 04 34.0	+7.8
GRMI	Germi	1.95	196	ePg	Pn	06 04 01.9	-1.7
GRMI				eSg	Sn	06 04 26.3	-1.0
GRMI				AML	AML	06 04 28.8	
	comp=N,2μm,0.4s						
GNBR	Gunib	2.10	325	ePn	Pn	06 04 08.6	+3.0
MNSR	Manas	2.12	342	ePN	Pn	06 04 06.6	+0.7
XNZR	Khunzakh	2.33	323	ePn	Pn	06 04 10.0	+1.2
XNZR				eSg	Sn	06 04 47.0	+10
BUJR	Buynaksk	2.41	333	ePN	Pn	06 04 14.4	+4.5
MAK	Makhachkala	2.42	341	ePN	Pn	06 04 14.5	+4.6
MAK				pmax	pmax		
	comp=Z,947nm,1.2s						
MAK				smax			
	comp=N,1μm,0.5s						
MAK				smax			
	comp=E,1μm,0.6s						
UNCR	Uncukul	2.43	327	ePn	Pn	06 04 10.0	-0.2
KRNR	Karanay	2.48	330	ePN	Pn	06 04 11.5	+0.6
DGRG	David-gareji	2.56	288	P	Pn	06 04 13.1	+1.3
DGRG				S	Sn	06 04 47.5	+5.3
BTLR	Botlikh	2.66	319	ePN	Pn	06 04 17.5	+4.2
DLMR	Dylym	2.80	329	ePN	Pn	06 04 16.0	+0.8
NAX	Nakhchivan	2.83	239	P	Pn	06 04 15.9	+0.3
	SNR=37						
GNI	Garni	2.99	261	Pn	Pn	06 04 19.1	+1.2
	comp=E,12nm,0.3s,baz=168,slow=7.3,SNR=18						
GNI	Garni	2.99	261	c iPN	Pn	06 04 19.9	+2.0
GNI	Garni	2.99	261	i Pn	Pn	06 04 19.9	+2.0
GNI	Garni	2.99	261	ePn	Pn	06 04 18.9	+1.0
MTA	Mtatsminda	3.04	291	P	Pn	06 04 19.4	+0.8
MTA				S	Sn	06 04 57.0	+2.8
TBLG	Delisi	3.09	291	Pn	Pn	06 04 20.5	+1.2
TBLG	Delisi	3.09	291	P	Pn	06 04 20.5	+1.2
MAKU	Maku	3.29	247	ePn	Pn	06 04 22.0	+0.1
GOR	Gori	3.62	292	P	Pn	06 04 28.3	+1.8
GOR				S	Sn	06 05 07.9	-0.6
ONI	Oni	4.30	298	P	Pn	06 04 38.2	+2.4
ONI				S	Sb	06 05 45.7	+7.5
KUBR	Kubataba	4.95	311	ePn	Pn	06 04 43.6	-1.2
THKV	Tehran--Karaj	5.09	159	ePn	Pn	06 04 46.3	-0.4
CHTH	Charan	5.17	157	ePn	Pn	06 04 47.3	-0.6
PYA	Pyatigorsk	5.29	311	i PN	Pn	06 04 47.4	-2.1
SHAR	Shatzhatmas	5.36	307	ePN	Pn	06 04 48.5	-1.9
KIV	Kislovodsk	5.46	309	eP	Pn	06 04 50.3	-1.6
KIV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIV	Kislovodsk	5.46	309	Pn	Pn	06 04 49.1	-2.8
KIV	Kislovodsk	5.46	309	Pn	Pn	06 04 49.1	-2.7
DAMV	Damavand	5.71	151	ePn	Pn	06 04 55.3	+0.1
DAMV				AML	AML	06 06 03.1	
	comp=N,144nm,0.7s						
ASAO	Ashtian	6.23	169	ePn	Pn	06 05 01.4	-1.0
SOC	Sochi	7.21	297	eP	Pn	06 05 12.2	-3.6
SOC				e		06 06 31.1	
SOC				MLR	MLR		
	comp=Z,2μm,10.0s						
MALT	Malatya	8.21	257	P	Pn	06 05 26.9	-2.7
AB31	Akbulak array	11.73	39	⇑Pn	Pn	06 06 16.2	-1.5
	comp=Z,2.5nm,0.5s,baz=225,slow=13,SNR=35						
AB31				⇑Sn	Sn	06 08 24.6	-3.2
	comp=Z,5.4nm,0.6s,baz=226,slow=24						
AKTK	Aktyubinsk	11.76	31	Pn	Pn	06 06 17.2	-0.9
AKTK	Aktyubinsk	11.76	31	Pn	Pn	06 06 17.2	-0.9
AKTK				Sn	Sn	06 08 21.4	-7.1
AKTO	Aktyubinsk	11.76	31	⇑Pn	Pn	06 06 16.6	-1.5
	comp=Z,0.8nm,0.6s						
AKTO				⇑Sn	Sn	06 08 25.3	-3.2
	comp=Z,2.3nm,1.2s						
AKTO	Aktyubinsk	11.76	31	Pn	Pn	06 06 17.2	-0.9
	comp=Z,1.0nm,0.3s,baz=218,slow=9.5,SNR=9.9						
AKTO				Sn	Sn	06 08 21.4	-7.1
	baz=162,slow=20,SNR=2.3						
AKTO	Aktyubinsk	11.76	31	Pn	Pn	06 06 16.6	-1.5
	comp=Z,0.8nm,0.6s						
AKTO				Sn	Sn	06 08 25.3	-3.2
	comp=Z,2.3nm,1.2s						
EIL	Elat	15.64	230	LR	LR	06 13 57.9	
	comp=Z,29nm,19.5s,baz=163,slow=40						
KK31	Karatay Array	16.49	74	⇓P	Pn	06 07 20.3	-1.2
	comp=Z,1.1nm,0.3s,baz=293,slow=11,SNR=23						
KK31	Karatay Array	16.49	74	i P	Pn	06 07 20.3	-1.3
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
OBN	Obninsk	16.50	335	eP	Pn	06 07 17.9	-3.7
OBN				eS	Sn	06 10 18.6	-5.2
OBN				pmax	pmax		
	comp=Z,14nm,0.8s						
MOS	Moscow	16.71	338	eP	Pn	06 07 25.2	+1.0
MOS				e		06 10 28.3	
MOS				pmax	pmax		
	comp=Z,66nm,0.8s						
MOS	Moscow	16.71	338	eP	Pn	06 07 25.2	+1.0
	comp=Z,66nm,0.8s						
MOS				eS	Sn	06 10 28.3	-0.6
AKASG	Malin Array Be	16.79	313	Pn	Pn	06 07 20.3	-5.0
	comp=Z,0.6nm,0.3s,baz=118,slow=13,SNR=3.7						
AKASG	Malin Array Be	16.79	313	Pn	Pn	06 07 20.3	-5.0
ARU	Arti	17.05	19	c iP	Pn	06 07 25.3	-3.2
ARU				eS	Sn	06 10 33.1	-4.0
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARU	Arti	17.05	19	ePn	Pn	06 07 25.5	-3.0
	comp=Z,21nm,0.7s						
KBL	Kabul	17.31	104	ePn	Pn	06 07 33.0	+1.1
	comp=Z,23nm,1.3s						
KBL	Kabul	17.31	104	ePn	Pn	06 07 33.0	+1.1
	comp=Z,23nm,1.3s						
SVE	Sverdlovsk	17.95	22	⇑eP	Pn	06 07 38.5	-1.2
SVE				eS	Sn	06 11 04.1	+5.2
SVE				pmax	pmax		
	comp=Z,61nm,0.7s						
SVE	Sverdlovsk	17.95	22	eP	Pn	06 07 38.5	-1.2
	comp=Z,61nm,0.7s						
BURAR	Bucovina Array	18.11	300	⇑i P	Pn	06 07 41.2	-0.5
EKS2	Erkin-Say	18.89	76	eP	Pn	06 07 51.8	+0.5
	comp=Z,17nm,0.7s						
EKS2	Erkin-Say	18.89	76	eP	Pn	06 07 51.8	+0.5
	comp=Z,17nm,0.7s						
BRVK	Borovoye	19.22	43	P	Pn	06 07 53.8	-1.3
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BRVK	Borovoye	19.22	43	P	Pn	06 07 53.8	-1.3
	comp=Z,10.0nm,0.9s						
BRVK	Borovoye	19.22	43	eP	Pn	06 07 53.5	-1.5
	comp=Z,8.6nm,0.7s						
BVA0	Borovoye Array	19.25	43	⇑P	Pn	06 07 54.3	-1.2
	comp=Z,1.3nm,0.9s,baz=252,slow=6.9,SNR=37						
BVA0	Borovoye Array	19.25	43	i P	Pn	06 07 54.3	-1.2
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	Borovoye Array	19.25	43	P	Pn	06 07 53.9	-1.6
	comp=Z,0.9nm,0.3s,baz=224,slow=10,SNR=25						
BVAR				S	Sn	06 11 31.0	+0.5
	comp=Z,0.4nm,0.3s,baz=239,slow=24,SNR=4.5						
VOSK	Vostochnaya	19.41	44	⇓P	Pn	06 07 55.3	-2.1
	comp=Z,6.6nm,0.7s						
VOSK	Vostochnaya	19.41	44	P	Pn	06 07 55.3	-2.1
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
IDI	Anoyia	19.43	262	P	Pn	06 07 53.7	-4.1
	comp=Z,0.5nm,0.3s,baz=27,slow=11,SNR=3.6						
SOKR	Solikamsk	19.59	12	eP	Pn	06 07 59.5	0.0
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s						
SOKR	Solikamsk	19.59	12	eP	Pn	06 07 59.5	0.0
	comp=Z,30nm,0.9s						
DRGR		19.63	297	⇓i P	Pn	06 07 59.7	-0.3
TKM2	Tokmak 2	20.22	75	⇑P	P	06 08 06.4	+1.3
	comp=Z,6.3nm,0.8s						
TKM2	Tokmak 2	20.22	75	eP	P	06 08 04.9	-0.2
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TKM2	Tokmak 2	20.22	75	eP	P	06 08 04.9	-0.2
	comp=Z,3.5nm,0.5s						
KWP	Kalwaria	20.25	305	eP	P	06 08 09.1	+3.7
KWP	Kalwaria	20.25	305	eP	P	06 08 09.1	+3.8
KLMR	Klimovskoe	20.95	348	i P	P	06 08 11.1	-1.7
KLMR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KLMR	Klimovskoe	20.95	348	i P	P	06 08 11.1	-1.7
	comp=Z,5.0nm,0.9s						
PSZ	Piszkesteto	21.69	299	P	P	06 08 21.6	+0.7
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
PSZ	Piszkesteto	21.69	299	P	P	06 08 21.6	+0.7
	comp=Z,5.2nm,0.9s,mb4.0						
PSZ	Piszkesteto	21.69	299	P	P	06 08 21.6	+0.7
	comp=Z,5.2nm,0.9s,mb4.0						
KURBB	Kurchatov Arra	23.02	54	⇓P	P	06 08 35.9	+1.0
	comp=Z,1.1nm,0.8s,mb3.3						
KURK	Kurchatov	23.09	54	⇓P	P	06 08 36.1

ZAK	**Zakamensk**	**38.71**	**57**	*e*P	**P**	**06 11 02.5**	**+8.7**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.5s,mb3.6							
ESDC	**Sonseca Array**	**39.67**	**286**	P	**P**	**06 11 00.0**	**-1.9**
comp=Z,0.4nm,0.5s,mb3.4,baz=71,slow=9.5,SNR=4.1							
SONM	**Songino Array**	**41.16**	**60**	P	**P**	**06 11 15.3**	**+1.2**
comp=Z,0.4nm,0.5s,mb3.3,baz=277,slow=9.1,SNR=4.6							
LZH	**Lanzhou**	**42.95**	**78**	*e*P	**P**	**06 11 31.0**	**+2.1**
LZH				AP	pP	06 11 34.1	-2.3
LZH				XP	sP	06 11 35.5	-3.9
LZH				AMB	AMB		
comp=Z,13nm,1.0s,mb4.6							
BOD	**Bodaibo**	**44.11**	**44**	⇑*i*P	**P**	**06 11 38.3**	**+0.3**
BOD				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.6							
BOD	**Bodaibo**	**44.11**	**44**	*i* P	**P**	**06 11 38.3**	**+0.3**
comp=Z,10.0nm,0.8s,mb4.6							
CD2	**Chengdu**	**45.14**	**84**	*e*P	**P**	**06 11 48.0**	**+1.4**
CD2				AP	pP	06 11 52.8	-1.3
CD2				XP	sP	06 11 55.3	-1.7
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.7							
CD2				AMB	AMB		
comp=Z,20nm,4.8s							
HHC	**Hu-ho-hao-te**	**46.74**	**68**	*e*P	**P**	**06 11 59.4**	**+0.4**
HHC				AP	pP	06 12 04.0	-2.5
HHC				XP	sP	06 12 06.5	-3.0
HHC				PCP	PcP	06 13 33.4	+1.2
HHC				PP	PP	06 13 48.6	-0.2
HHC				SCP	ScP	06 17 26.1	+2.0
HHC				PCS	PcS	06 17 27.9	+1.0
HHC				S	**S**	**06 18 47.6**	**+0.3**
HHC				XS	sS	06 18 54.8	-4.9
HHC				SCS	ScS	06 21 52.0	0.0
HHC				SS	SS	06 22 05.8	-7.7
HHC				AMB	AMB		
comp=Z,12nm,1.1s,mb4.7							
HHC				AMB	AMB		
comp=Z,53nm,3.9s							
HHC				LR	LR		
comp=N,106nm,16.6s,MS4.0							
HHC				LR	LR		
comp=E,108nm,17.8s,MS4.0							
HHC				LR	LR		
comp=Z,43nm,20.2s,MS3.4							
KMI	**Kunming**	**47.31**	**92**	P	**P**	**06 12 05.0**	**+1.3**
KMI				AP	pP	06 12 08.6	-2.6
KMI				XP	sP	06 12 10.3	-3.9
KMI				AMB	AMB		
comp=Z,8.0nm,1.2s,mb4.5							
CMAR	**Chiang Mai Arr**	**48.32**	**102**	P	**P**	**06 12 10.2**	**-1.3**
comp=Z,1.2nm,0.3s,mb4.4,baz=295,slow=8.7,SNR=6.9							
TORD	**Torodi Ar. Bea**	**49.24**	**250**	P	**P**	**06 12 16.4**	**-2.3**
comp=Z,0.7nm,0.7s,mb3.8,baz=25,slow=8.8,SNR=8.4							
GYA	**Guiyang**	**49.58**	**88**	P	**P**	**06 12 24.3**	**+3.1**
GYA				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.8							
BJI	**Beijing**	**50.30**	**67**	P	**P**	**06 12 25.8**	**-0.6**
BJI				AMB	AMB		
comp=Z,4.0nm,0.6s,mb4.6							
MDJ	**Mudanjiang**	**57.34**	**57**	P	**P**	**06 13 16.8**	**-1.1**
MDJ				AMB	AMB		
comp=Z,4.0nm,0.8s,mb4.5							
MDJ				AMB	AMB		
comp=Z,62nm,3.8s							
MDJ				LR	LR		
comp=E,19nm,24.4s							
MDJ				LR	LR		
comp=Z,33nm,17.8s							
KSRS	**Korea Array**	**59.65**	**65**	P	**P**	**06 13 34.2**	**+0.1**
comp=Z,0.5nm,0.3s,mb4.0,baz=296,slow=5.6,SNR=4.6							
KSRS	**Korea Array**	**59.65**	**65**	P	**P**	**06 13 34.2**	**+0.1**
KSRS				pmax	pmax		
comp=Z,1.0nm,0.3s,mb4.3							
BILL	**Bilibino**	**62.04**	**22**	*e*P	**P**	**06 13 51.3**	**+1.5**
BILL				*e*SS	SS	06 26 15.7	+1.3
BILL				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.3							
BILL	**Bilibino**	**62.04**	**22**	*e*P	**P**	**06 13 51.3**	**+1.5**
comp=Z,1.0nm,0.4s,mb4.3							
COLD	**Coldfoot**	**71.46**	**8**	*e*P	**P**	**06 14 50.4**	**+0.5**
comp=Z,4.7nm,0.9s,mb4.4							
COLD	**Coldfoot**	**71.46**	**8**	*e*P	**P**	**06 14 50.4**	**+0.5**
comp=Z,4.7nm,0.9s,mb4.4							
IMA2	**Indian Mountai**	**72.19**	**9**	*e*P	**P**	**06 14 55.3**	**+1.0**
IMA2	**Indian Mountai**	**72.19**	**9**	*e*P	**P**	**06 14 55.3**	**+1.0**
COLA	**College**	**73.99**	**7**	*c i*P	**P**	**06 15 05.8**	**+0.9**
COLA	**College**	**73.99**	**7**	*e*P	**P**	**06 15 05.1**	**+0.2**
comp=Z,7.4nm,0.8s,mb4.7							
COLA	**College**	**73.99**	**7**	*e*P	**P**	**06 15 05.1**	**+0.2**
comp=Z,7.4nm,0.8s,mb4.7							
BPAW	**Bear Paw Mtn.**	**74.41**	**9**	*e*P	**P**	**06 15 07.7**	**+0.3**
comp=Z,4.5nm,1.0s,mb4.3							
CHUM	**Lake Minchumin**	**74.46**	**9**	*e*P	**P**	**06 15 08.8**	**+1.1**
comp=Z,6.2nm,0.7s,mb4.7							
CHUM	**Lake Minchumin**	**74.46**	**9**	*e*P	**P**	**06 15 08.8**	**+1.1**
comp=Z,6.2nm,0.7s,mb4.7							
KTH	**Kantishna Hill**	**74.95**	**9**	*e*P	**P**	**06 15 11.2**	**+0.7**
comp=Z,4.5nm,0.8s,mb4.5							
KTH	**Kantishna Hill**	**74.95**	**9**	*e*P	**P**	**06 15 11.2**	**+0.7**
comp=Z,4.5nm,0.8s,mb4.5							
DAWY	**Dawson**	**75.40**	**4**	*e*P	**P**	**06 15 13.8**	**+0.7**
DAWY	**Dawson**	**75.40**	**4**	*e*P	**P**	**06 15 13.8**	**+0.7**
PPLA	**Purkeypile**	**75.43**	**10**	*e*P	**P**	**06 15 13.4**	**+0.1**
comp=Z,3.0nm,0.7s,mb4.3							
PPLA	**Purkeypile**	**75.43**	**10**	*e*P	**P**	**06 15 13.4**	**+0.2**
comp=Z,3.0nm,0.7s,mb4.3							
YKA	**Yellowknife Ar**	**76.28**	**352**	P	**P**	**06 15 18.3**	**+0.2**
comp=Z,2.3nm,0.5s,mb4.3,baz=7.3,slow=5.5,SNR=33							
YKA	**Yellowknife Ar**	**76.28**	**352**	P	**P**	**06 15 18.3**	**+0.1**
YKA				pmax	pmax		
comp=Z,2.0nm,0.5s							
YKA	**Yellowknife Ar**	**76.28**	**352**	P	**P**	**06 15 18.3**	**+0.1**
comp=Z,2.0nm,0.5s,mb4.3							
RC01	**Rabbit Creek A**	**77.48**	**9**	*e*P	**P**	**06 15 24.6**	**-0.3**
comp=Z,6.4nm,0.6s,mb4.7							
RC01	**Rabbit Creek A**	**77.48**	**9**	*e*P	**P**	**06 15 24.6**	**-0.4**
comp=Z,6.4nm,0.6s,mb4.7							
HYT	**Haines Junctio**	**78.72**	**3**	*e*P	**P**	**06 15 34.3**	**+2.5**
HYT	**Haines Junctio**	**78.72**	**3**	*e*P	**P**	**06 15 34.3**	**+2.5**
EDM	**Edmonton**	**85.17**	**349**	*e*P	**P**	**06 16 06.2**	**+0.3**
EDM	**Edmonton**	**85.17**	**349**	*e*P	**P**	**06 16 06.2**	**+0.3**

IDC ***23*** *06:04:08.8±1.2, 4056N×4841E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/22, mbtmp4.0/7, Error ellipse: s-maj=34.6km s-min=24.2km az=9.0*
MOS ***23*** *06:04:10.4±2.2, 4047N×4839E, h14km, mb4.0/1, Error ellipse: s-maj=29.3km s-min=19.1km az=113.6*
NEIC ***23*** *06:04:10.2±0.7, 4053N×4838E, h10km, mb3.9/1, Error ellipse: s-maj=20.3km s-min=11.3km az=189.0*
ISCJB ***23*** *06:04:12.5±2.2, 407N±02×485E±0.1, h36km±19km, mb4.0/7, Error ellipse: s-maj=28.8km s-min=15.2km az=3.4*
CSEM ***23*** *06:04:12.8±0.2, 4071N×4849E, h40km, mb4.0, Error ellipse: s-maj=10.6km s-min=3.4km az=34.0*

ISC 23 06:04:12.8±5.1, 407N±02×485E±01, h24km±37km, n15, σ0°74/15, mb4.0/7, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**2.40**	**342**	*e*Pn	**Pn**	**06 04 49.2**	**-1.4**
TBLG	**Delisi**	**3.03**	**292**	Pn	**Pn**	**06 05 00.5**	**+1.2**
TBLG	**Delisi**	**3.03**	**292**	S	**Pn**	**06 05 00.5**	**+1.2**
EKS2	**Erkin-Say**	**18.97**	**76**	*e*P	**Pn**	**06 08 33.3**	**+0.3**
3.8nm,0.5s							
EKS2	**Erkin-Say**	**18.97**	**76**	*e*P	**Pn**	**06 08 33.3**	**+0.3**
3.8nm,0.5s							
MK31	**Makanchi Array**	**25.04**	**65**	*e*P	**P**	**06 09 34.4**	**-0.5**
MKAR	**Makanchi Array**	**25.04**	**65**	P	**P**	**06 09 35.5**	**+0.6**
1.7nm,0.4s,mb3.9,baz=263,slow=8.1,SNR=6.6							
HFS	**Hagfors**	**29.00**	**324**	P	**P**	**06 10 10.5**	**+0.2**
2.9nm,0.7s,mb4.1,baz=114,slow=13,SNR=3.2							
ARCES	**ARCESS Array B**	**31.35**	**345**	P	**P**	**06 10 31.4**	**+0.4**
2.5nm,0.7s,mb4.2,baz=140,slow=12,SNR=5.3							
CMAR	**Chiang Mai Arr**	**48.39**	**102**	P	**P**	**06 12 52.9**	**-0.1**
1.0nm,0.3s,mb4.3,baz=281,slow=10.0,SNR=4.9							
TORD	**Torodi Ar. Bea**	**49.17**	**250**	P	**P**	**06 12 57.7**	**-1.2**
0.5nm,0.9s,mb3.5,baz=40,slow=8.9,SNR=2.9							
SCHQ	**Schefferville**	**70.05**	**326**	P	**P**	**06 15 22.5**	**+0.1**
0.8nm,0.5s,mb3.9,baz=45,slow=4.3,SNR=2.5							
YKA	**Yellowknife Ar**	**76.29**	**352**	P	**P**	**06 15 59.4**	**+0.4**
0.8nm,0.5s,mb3.9,baz=6.9,slow=5.5,SNR=7.8							
YKA	**Yellowknife Ar**	**76.29**	**352**	P	**P**	**06 15 59.4**	**+0.3**
YKA	**Yellowknife Ar**	**76.29**	**352**	P	**P**	**06 15 59.4**	**+0.4**

ISCJB ***23*** *06:06:49.9±3.7, 74S±03×1305E±02, h162km±38km, Error ellipse: s-maj=49.5km s-min=16.8km az=33.9*
NEIC ***23*** *06:06:50.1±3.4, 738S×13036E, h145km±32km, Error ellipse: s-maj=39.1km s-min=28.7km az=54.0*
IDC ***23*** *06:06:52.2±6.5, 748S×13037E, h164km±61km, mb3.1/1, mb1 3.8/5, mb1mx3.5/16, mbtmp3.6/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/12, Error ellipse: s-maj=60.9km s-min=23.0km az=37.0*

ISC 23 06:06:51.3±3.3, 74S±02×1305E±02, h158km±34km, n9, σ0°83/9, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.61**	**160**	*e*Pn	**Pn**	**06 08 12.7**	**-0.3**
74nm,0.6s							
KAKA				*e*Sn	**Sn**	**06 09 17.4**	**+0.6**
BATI	**Baumata**	**7.25**	**247**	P	**Pn**	**06 08 35.3**	**+0.5**
3.5nm,0.3s,baz=234,slow=15,SNR=3.4							
BATI				S	Sx	06 09 55.4	
6.2nm,0.3s,baz=200,slow=23,SNR=5.7							
BATI				LR	LR	06 11 33.7	
comp=Z,131nm,21.8s,baz=150,slow=39							
FITZ	**Fitzroy Crossi**	**11.61**	**203**	P	**Pn**	**06 09 31.3**	**-1.0**
1.6nm,0.3s,baz=36,slow=12,SNR=48							
FITZ				S	Sx	06 11 36.5	
1.6nm,0.3s,baz=223,slow=15,SNR=7.6							
WRAB	**Tennant Creek**	**13.00**	**163**	*e*Pn	**Pn**	**06 09 49.5**	**-0.8**
9.2nm,0.6s							
WRAB				*e*Sn	Sx	06 12 12.3	
WRA	**Warramunga Arr**	**13.01**	**164**	P	**Pn**	**06 09 49.7**	**-0.7**
1.7nm,0.3s,baz=347,slow=13,SNR=29							
WRA				S	Sx	06 12 13.6	
0.9nm,0.3s,baz=336,slow=23,SNR=5.3							
WRA	**Warramunga Arr**	**13.01**	**164**	P	**Pn**	**06 09 49.7**	**-0.7**
WRA				S	Sx	06 12 13.6	
ASAR	**Alice Springs**	**16.49**	**169**	P	**Pn**	**06 10 35.4**	**+1.7**
1.2nm,0.3s,baz=354,slow=11,SNR=42							
MKAR	**Makanchi Array**	**68.82**	**327**	P	**P**	**06 17 38.5**	**+0.1**
0.3nm,0.6s,baz=116,slow=5.3,SNR=4.0							
TORD	**Torodi Ar. Bea**	**129.33**	**281**	PKP	PKPdf	06 25 42.0	-0.1
0.5nm,0.7s,baz=84,slow=3.2,SNR=4.2							

IDC 23 06:32:12.3±2.9, 302S×13634E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.7/13, mbtmp3.9/3, ML3.4/1, Error ellipse: s-maj=119.6km s-min=29.4km az=80.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**16.93**	**186**	*e*P	Pn	06 36 08.5	-2.3
WB2				*e*S	Sn	06 39 05.2	-14
WRA	**Warramunga Arr**	**16.93**	**186**	Pn	Pn	06 36 09.4	-1.3
0.2nm,0.3s,baz=8.2,slow=12,SNR=5.1							
WRA				Sn	Sn	06 39 08.6	-11
0.2nm,0.3s,baz=4.8,slow=23,SNR=6.2							
ASAR	**Alice Springs**	**20.66**	**186**	P	P	06 36 54.5	+0.7
3.5nm,0.9s,baz=14,slow=11,SNR=34							
MKAR	**Makanchi Array**	**68.60**	**323**	P	P	06 43 17.2	+0.1
0.8nm,0.8s,baz=120,slow=7.1,SNR=7.9							

IDC ***23*** *06:53:35.5±1.1, 1321S×7686W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/16, mbtmp3.9/6, ML3.7/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/24, Error ellipse: s-maj=40.1km s-min=15.5km az=78.0*
ISCJB ***23*** *06:53:38.2±0.7, 1328S±006×770W±0.1, h33km, mb3.9/6, MS3.6/4, Error ellipse: s-maj=16.5km s-min=7.2km az=163.4*
NEIC ***23*** *06:53:40.2±0.8, 1325S×7702W, h35km, Error ellipse: s-maj=20.8km s-min=9.4km az=66.0*

ISC 23 06:53:40.4±0.7, 1328S±007×770W±01, h35km, n20, σ1°38/22, mb3.9/6, MS3.6/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.29**	**6**	Pn	**Pn**	**06 53 59.7**	**-2.3**
92nm,0.3s,baz=188,slow=15,SNR=439							
NNA				Sn	**Sn**	**06 54 15.9**	**-2.1**
368nm,0.3s,baz=198,slow=9.7,SNR=35							
ARE	**Arequipa**	**6.19**	**121**	*e*P	**Pn**	**06 55 16.0**	**+6.6**
ARE				*e*S	**Sn**	**06 56 33.0**	**+14**
ATAH	**Atahualpa**	**6.39**	**347**	Pn	**Pn**	**06 55 12.2**	**0.0**
3.1nm,0.3s,baz=117,slow=14,SNR=15							
ATAH				Sn	**Sn**	**06 56 34.0**	**+10**
1.8nm,0.3s,baz=48,slow=19,SNR=3.8							
ATAH				LR	LR	06 57 58.6	
comp=Z,95nm,19.5s,baz=95,slow=42							
LPAZ	**La Paz**	**9.08**	**110**	Pn	**Pn**	**06 55 51.8**	**+2.8**
0.9nm,0.3s,baz=305,slow=10,SNR=24							
LPAZ				Sn	**Sn**	**06 57 42.5**	**+12**
0.1nm,0.3s,baz=131,slow=20,SNR=3.8							
LPAZ				LR	LR	06 59 53.7	
comp=Z,129nm,19.3s,baz=145,slow=42							
LPAZ	**La Paz**	**9.08**	**110**	Pn	**Pn**	**06 55 51.8**	**+2.8**
LPAZ				Sn	**Sn**	**06 57 42.5**	**+12**
LPAZ				LR	LR	06 59 53.7	
LVC	**Limon Verde**	**12.05**	**142**	Pn	**Pn**	**06 56 28.5**	**-1.2**
0.4nm,0.3s,baz=313,slow=9.6,SNR=4.6							
LVC				Sn	**Sn**	**06 58 39.7**	**-3.2**
0.2nm,0.3s,baz=122,slow=8.6,SNR=3.3							
OTAV	**Otavalo**	**13.51**	**354**	Pn	**Pn**	**06 56 49.5**	**-0.2**
5.3nm,0.9s							
SIV	**San Ignacio**	**15.64**	**102**	Pn	**Pn**	**06 57 18.8**	**+0.5**
0.1nm,0.3s,baz=288,slow=15,SNR=4.8							
ROSC	**El Rosal**	**18.21**	**9**	LR	LR	07 06 00.4	
comp=Z,264nm,18.8s,baz=192,slow=41							
CFAA	**Coronel Fontan**	**19.94**	**158**	P	**Pn**	**06 58 09.9**	**-1.3**
0.0nm,0.3s,baz=338,slow=11,SNR=7.8							
SDV	**Santo Domingo**	**22.91**	**16**	P	**P**	**06 58 41.1**	**-0.2**
4.8nm,0.8s,mb4.0,baz=166,slow=16,SNR=7.7							
SDV				LR	LR	07 08 55.2	
comp=Z,117nm,19.4s,MS3.3,baz=192,slow=40							
PCRV	**Puerto La Cruz**	**26.33**	**28**	LR	LR	07 10 30.1	
comp=Z,357nm,19.0s,MS3.9,baz=197,slow=39							
PLCA	**Paso Flores**	**27.93**	**170**	P	**P**	**06 59 27.1**	**-0.3**
3.5nm,0.9s,mb4.0,baz=347,slow=10,SNR=4.9							
BDFB	**Brasilia**	**28.15**	**98**	LR	LR	07 11 32.3	
comp=Z,58nm,20.7s,MS3.2,baz=225,slow=38							
TXAR	**Lajitas Array**	**49.58**	**329**	P	**P**	**07 02 28.0**	**-0.2**
0.3nm,0.8s,mb3.4,baz=138,slow=11,SNR=2.7							
NVAR	**Mina Array Bea**	**64.33**	**325**	P	**P**	**07 04 14.1**	**+1.4**
0.2nm,0.3s,mb3.7,baz=163,slow=3.5,SNR=7.4							
ULM	**Lac du Bonnet**	**65.39**	**347**	P	**P**	**07 04 22.0**	**+2.8**
3.0nm,0.8s,mb4.4,baz=143,slow=7.5,SNR=3.0							
ULM	**Lac du Bonnet**	**65.39**	**347**	P	**P**	**07 04 22.0**	**+2.8**
DBIC	**Dimbokro**	**74.31**	**79**	LR	LR	07 36 35.2	
comp=Z,54nm,18.6s,MS3.9,baz=167,slow=35							
TORD	**Torodi Ar. Bea**	**82.27**	**75**	P	**P**	**07 05 58.6**	**-0.3**
2.0nm,0.7s,mb4.1,baz=263,slow=5.1,SNR=12							

ISCJB ***23*** *07:04:15.9±1.4, 1144S±005×16626E±005, h55km±12km, mb4.9/62, MS4.1/22, Error ellipse: s-maj=9.1km s-min=7.5km az=140.9*
IDC ***23*** *07:04:17.0±0.7, 1140S×16632E, h51km±6km, mb4.5/19, mb1 4.6/20, mb1mx4.6/21, mbtmp4.5/20, MS4.0/14, Ms1 4.0/14, ms1mx3.7/29, Error ellipse: s-maj=15.6km s-min=13.0km az=110.0*
MOS ***23*** *07:04:18.0±1.4, 1132S×16616E, h70km, mb5.1/16, Error ellipse: s-maj=11.0km s-min=9.8km az=146.9*
GCMT ***23*** *07:04:18.9±0.3, 1166S×16614E, h50km±1km, MW5.0/49, Moment Tensor Solution. s49,c60; s45,c55; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.80±.17; Mθθ0.14±.14; Mϕϕ-3.93±.12; Mrθ-0.37±.13; Mθϕ1.20±.14; Mϕr0.38±.13; Best double couple: Mo4.06600×10¹⁶ NP1:ϕs169.00000°, δ42.00000°, λ97.00000°. NP2: ϕs340.00000°, δ48.00000°, λ84.00000°. Principal axes: T 3.8470, Plg85.0000°, Azm202.0000°; N 0.4430, Plg4.0000°, Azm344.0000°; P -4.2850, Plg3.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *07:04:18.9±1.0, 1139S×16626E, h69km±9km, mb4.9/31 Error ellipse: s-maj=7.1km s-min=5.2km az=139.0*
BJI ***23*** *07:04:18.8, 1096S×16628E, h64km, mB5.0, mb4.9, Ms4.7, Msz4.4*
DJA ***23*** *07:04:22, 1151S×16635E, h93km, mb5.3/20*

ISC 23 07:04:18.6±1.2, 1143S±005×16628E±005, h65km±10km, h65km±2.6km: pP-P, n160, σ0°88/124, mb4.9/62, 8C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.54**	**287**	P	**Pn**	**07 05 51.5**	**-0.8**
54nm,0.3s,baz=139,slow=1.0,SNR=14							
HNR	**Honiara**	**6.54**	**287**	*e*P	**Pn**	**07 05 52.3**	**+0.1**
HNR				pmax	pmax		
comp=Z,1μm,0.8s							
HNR	**Honiara**	**6.54**	**287**	*e*Pn	**Pn**	**07 05 52.3**	**0.0**
comp=Z,1μm,0.8s							
FUNA	**Funafuti**	**13.04**	**78**	*e*Pn	**Pn**	**07 07 21.8**	**+0.6**
comp=Z,49nm,0.6s							
PMG	**Port Moresby**	**18.91**	**274**	*c i*P	**Pn**	**07 08 42.2**	**+6.6**
PMG	**Port Moresby**	**18.91**	**274**	Pn	**Pn**	**07 08 34.0**	**-1.6**
comp=Z,27nm,0.9s							
EIDS	**Eidsvold**	**19.97**	**224**	*e*P	**Pn**	**07 08 40.6**	**-7.4**
CTA	**Charters Tower**	**21.09**	**243**	*e*P	**P**	**07 08 59.5**	**+1.6**
comp=Z,21nm,0.9s,mb4.5							
CTA	**Charters Tower**	**21.09**	**243**	P	**P**	**07 08 59.1**	**+1.3**
comp=Z,28nm,0.8s,mb4.6,baz=77,slow=11,SNR=33							
CTA				LR	LR	07 15 47.0	
comp=Z,628nm,19.8s,baz=54,slow=33							
CTA	**Charters Tower**	**21.09**	**243**	*e*P	**P**	**07 08 59.5**	**+1.6**
CTA				pmax	pmax		
comp=Z,21nm,0.9s							
CTAO	**Charters Tower**	**21.09**	**243**	*e*P	**P**	**07 08 59.2**	**+1.3**
CTAO				pmax	pmax		
comp=Z,12nm,1.1s,mb4.1							
CTAO	**Charters Tower**	**21.09**	**243**	*e*P	**P**	**07 08 59.2**	**+1.3**
comp=Z,12nm,1.1s,mb4.2							
AFI	**Afiamalu**	**21.55**	**99**	LR	LR	07 16 02.2	
comp=Z,242nm,18.2s,baz=106,slow=33							
COEN	**Coen**	**22.68**	**261**	*e*P	**P**	**07 09 14.3**	**-0.6**
comp=Z,3.9nm,1.2s,mb3.7							
RAO	**Raoul Island**	**23.06**	**143**	LR	LR	07 16 36.4	
comp=Z,148nm,18.4s,baz=236,slow=32							
ARMA	**Armidale**	**23.28**	**214**	*e*P	**P**	**07 09 22.2**	**+1.4**
CNB	**Canberra Magne**	**28.31**	**210**	*e*P	**P**	**07 10 06.6**	**+0.4**
URZ	**Urewera**	**28.42**	**162**	P	**P**	**07 10 06.4**	**-0.8**
comp=Z,4.2nm,0.4s,mb4.4,baz=276,slow=7.2,SNR=5.8							
URZ				LR	LR	07 19 44.5	
comp=Z,357nm,21.7s,baz=22,slow=33							
URZ	**Urewera**	**28.42**	**162**	P	**P**	**07 10 06.4**	**-0.8**
URZ				LR	LR	07 19 44.5	
STKA	**Stephens Creek**	**30.53**	**224**	*e*P	**P**	**07 10 26.6**	**+0.7**
comp=Z,10nm,0.7s,mb4.8							
STKA				*e*PCP	PcP	07 13 23.7	0.0
STKA	**Stephens Creek**	**30.53**	**224**	P	**P**	**07 10 26.1**	**+0.1**
comp=Z,13nm,0.8s,mb4.8,baz=39,slow=8.8,SNR=29							
STKA				PcP	PcP	07 13 23.6	-0.1
comp=Z,8.6nm,0.9s,baz=52,slow=2.7,SNR=7.1							
STKA				LR	LR	07 21 37.6	
comp=Z,533nm,21.8s,baz=36,slow=34							
SNZO	**South Karori**	**30.67**	**168**	*e*P	**P**	**07 10 25.9**	**-1.1**
comp=Z,324nm,1.7s,mb5.9							
WRAB	**Tennant Creek**	**31.84**	**251**	*c i*P	**P**	**07 10 36.9**	**-0.7**
WRAB	**Tennant Creek**	**31.84**	**251**	*e*P	**P**	**07 10 36.8**	**-0.8**
comp=Z,32nm,1.1s,mb5.1							
WRAB				*e*PcP	PcP	07 13 27.6	+0.2
WB2	**Warramunga Arr**	**31.84**	**251**	⇑*i*P	**P**	**07 10 36.9**	**-0.7**
WB2				*i* PCP	PcP	07 13 27.9	+0.5
WB2				*e*S	ScP	07 17 10.4	+5.0
WB2	**Warramunga Arr**	**31.84**	**251**	⇑*i*P	**P**	**07 10 36.9**	**-0.7**
WB2				*i* PcP	PcP	07 13 27.9	+0.5
WRA	**Warramunga Arr**	**31.85**	**251**	P	**P**	**07 10 37.3**	**-0.4**
WRA				PcP	PcP	07 13 27.9	+0.5
comp=Z,5.7nm,0.8s,baz=77,slow=2.9,SNR=12							
WRA				ScP	ScP	07 17 07.4	+2.0
comp=Z,1.3nm,1.0s,baz=86,slow=3.3,SNR=4.6							
WRA				LR	LR	07 22 06.5	
comp=Z,267nm,21.2s,baz=80,slow=34							
WRA	**Warramunga Arr**	**31.85**	**251**	P	**P**	**07 10 37.3**	**-0.4**
WRA						07 13 27.9	
TOO	**Toolangi**	**32.02**	**212**	⇑*i*P	**P**	**07 10 39.6**	**+0.6**
RPZ	**Rata Peaks**	**32.43**	**174**	P	**P**	**07 10 42.3**	**-0.2**
comp=Z,24nm,0.5s,mb5.3,baz=322,slow=3.4,SNR=31							
GUMO	**Guam**	**32.69**	**319**	LR	LR	07 23 43.5	
comp=Z,63nm,19.2s,baz=256,slow=36							
ASAR	**Alice Springs**	**33.09**	**244**	P	**P**	**07 10 47.6**	**-1.0**
comp=Z,17nm,0.8s,mb5.0,baz=68,slow=10,SNR=192							
ASAR				PcP	PcP	07 13 30.3	-0.5
comp=Z,5.9nm,0.8s,baz=85,slow=2.8,SNR=18							
ASAR				ScP	ScP	07 17 11.6	+1.9
comp=Z,0.8nm,1.0s,baz=99,slow=5.8,SNR=2.8							
ASAR	**Alice Springs**	**33.09**	**244**	P	**P**	**07 10 47.6**	**-1.0**
ASAR						07 13 30.3	
KAKA	**Kakadu**	**33.10**	**264**	*e*P	**P**	**07 10 48.3**	**-0.5**
comp=Z,25nm,0.6s,mb5.3							
KAKA	**Kakadu**	**33.10**	**264**	*e*P	**P**	**07 10 48.6**	**-0.2**
comp=Z,278nm,0.6s,mb6.4							
KAKA				*e*PcP	PcP	07 13 31.7	+0.7
TAU	**Tasmania Unive**	**35.43**	**204**	*e

comp=N,63nm,31.5s
MDJ LR LR
comp=E,41nm,32.3s
MDJ LR LR
comp=Z,90nm,29.9s
MDJ Mudanjiang 64.93 332 P **P 07 14 51.4 0.0**
comp=Z,9.6nm,0.8s,mb4.9
DL2 Dalian 65.10 323 P **P 07 14 52.8 +0.2**
DL2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CASY Casey 66.21 201 *e*P **P 07 14 58.8 -0.6**
CN2 Changchun 66.34 329 *e*P **P 07 15 00.3 -0.2**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
SBA Scott Base 66.42 180 *e*P **P 07 15 01.5 +1.0**
SBA pmax pmax
comp=Z,17nm,0.9s,mb5.1
SBA Scott Base 66.42 180 *e*P **P 07 15 01.5 +1.0**
comp=Z,17nm,0.9s,mb5.1
GYA Guiyang 69.07 304⇑ *i*P **P 07 15 18.6 +0.6**
GYA AP pP 07 15 39.8 +4.4
GYA XP sP 07 15 43.8 +1.2
GYA PP PP 07 17 54.3 +2.8
GYA SCP 07 19 39.4
GYA PCS 07 19 47.8
GYA S S 07 24 17.6 -1.0
GYA SKS 07 25 08.8
GYA SS SS 07 28 46.3 +0.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,490nm,19.8s
GYA LR LR
comp=E,570nm,18.6s
GYA LR LR
comp=Z,480nm,19.7s
BJT Baijiatuau 69.10 321 P **P 07 15 17.8 -0.1**
BJT pmax pmax
comp=Z,15nm,1.1s
BJT Baijiatuau 69.10 321 P **P 07 15 17.8 -0.1**
comp=Z,15nm,1.1s,mb4.8
BJI Beijing 69.11 321 P **P 07 15 18.3 +0.3**
BJI S S 07 24 17.4 -1.2
BJI AMB AMB
comp=Z,15nm,0.8s,mb5.0
BJI LR LR
comp=N,170nm,12.8s
BJI LR LR
comp=E,91nm,18.1s
BJI LR LR
comp=Z,2μm,46.6s
XAN Xi'an 70.77 312 P **P 07 15 28.5 +0.2**
XAN AP pP 07 15 48.3 +2.5
XAN XP sP 07 15 57.1 +4.2
XAN S S 07 24 35.5 -2.7
XAN SCS ScS 07 25 20.0 -6.6
XAN AMB AMB
comp=Z,23nm,0.9s,mb5.1
XAN AMB AMB
comp=Z,60nm,8.6s
XAN LR LR
comp=N,38nm,17.0s
XAN LR LR
comp=E,88nm,24.6s
XAN LR LR
comp=Z,160nm,24.6s
KMI Kunming 71.77 301 P **P 07 15 35.8 +1.3**
KMI PP PP 07 18 16.0 +1.2
KMI S S 07 24 51.3 +1.1
KMI AMB AMB
comp=Z,15nm,1.1s,mb4.8
KMI AMB AMB
comp=Z,60nm,3.1s
KMI LR LR
comp=N,79nm,10.1s
KMI LR LR
comp=E,139nm,21.9s
KMI LR LR
comp=Z,123nm,21.9s
HHC Hu-ho-hao-te 72.46 320 *e*P **P 07 15 40.9 +2.6**
HHC AP pP 07 15 57.4 +1.5
HHC PCP PcP 07 15 59.4 +3.6
HHC XP sP 07 16 04.4 +1.4
HHC PP PP 07 18 25.3 +4.9
HHC S S 07 24 58.8 +1.3
HHC XS sS 07 25 27.5 +0.3
HHC SKS 07 25 36.6
HHC SCS ScS 07 25 38.0 -1.7
HHC SS SS 07 29 38.0 +0.4
HHC AMB AMB
comp=Z,19nm,0.9s,mb5.0
HHC AMB AMB
comp=Z,72nm,4.7s
HHC LR LR
comp=N,158nm,17.8s
HHC LR LR
comp=E,172nm,21.4s
HHC LR LR
comp=Z,193nm,23.8s
CMAR Chiang Mai Arr 72.75 293 P **P 07 15 41.2 +0.8**
comp=Z,8.0nm,0.8s,mb4.7,baz=116,slow=4.4,SNR=41
CMAR pP pP 07 15 55.1 -2.9
comp=Z,6.3nm,0.8s,baz=123,slow=4.5,SNR=6.1
CMAR Chiang Mai Arr 72.75 293 *i* P **P 07 15 42.0 +1.5**
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 72.86 294 *e*P **P 07 15 42.1 +0.9**
CHTO pmax pmax
comp=Z,27nm,1.4s,mb5.0
CHTO Chiang Mai 72.86 294 *e*P **P 07 15 42.1 +0.9**
comp=Z,27nm,1.4s,mb5.0
HIA Hailar 72.96 330 *e*P **P 07 15 41.2 +0.1**
HIA pmax pmax
comp=Z,7.0nm,0.7s
HIA Hailar 72.96 330 *e*P **P 07 15 41.2 +0.1**
comp=Z,7.2nm,0.7s,mb4.7
CD2 Chengdu 73.25 307 *e*P **P 07 15 44.0 +0.8**
CD2 AP pP 07 16 01.1 +0.3
CD2 XP sP 07 16 08.0 0.0
CD2 PP PP 07 18 31.3 +3.9
CD2 S S 07 25 07.6 +0.7
CD2 XS sS 07 25 35.9 -0.7
CD2 SS SS 07 29 51.4 +1.3
CD2 AMB AMB
comp=Z,30nm,1.1s,mb5.1
CD2 AMB AMB
comp=Z,120nm,7.8s
CD2 LR LR
comp=E,230nm,25.2s
CD2 LR LR
comp=Z,150nm,21.6s
CHGN Chignik 73.59 20 *e*P **P 07 15 42.8 -1.8**
SEY Seymchan 74.91 353 *e*P **P 07 15 52.1 -0.1**
LZH Lanzhou 75.40 312 *e*P **P 07 15 57.3 +1.7**
LZH PCP PcP 07 16 10.0 +1.4
LZH AP pP 07 16 16.5 +3.2
LZH XP sP 07 16 23.8 +3.4
LZH PP PP 07 18 49.5 +4.0
LZH *e*S S 07 25 28.0 -2.8
LZH XS sS 07 26 03.5 +2.8
LZH SS SS 07 30 23.5 +0.9
LZH AMB AMB
comp=Z,71nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,156nm,4.0s
LZH LR LR
comp=E,674nm,15.8s
LZH LR LR
comp=Z,936nm,16.0s
QSPA South Pole Qui 78.58 180 LR LR 07 49 02.0
comp=Z,61nm,18.5s,baz=17,slow=34
BILL Bilibino 79.26 360⇑ *i*P **P 07 16 14.9 -1.6**
BILL *e* 07 16 20.5
BILL *e**PP pP 07 16 32.1 -2.2
BILL *e**SP sP 07 16 40.6 -0.8
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SONM Songino Array 79.28 324 P **P 07 16 17.9 +0.8**
comp=Z,3.8nm,0.6s,mb4.5,baz=142,slow=7.3,SNR=10
TTA Tatalina 79.64 17 *e*P **P 07 16 18.9 +0.2**
TTA *PP pP 07 16 34.8 -1.7
GTA Gaotai 79.70 314 P **P 07 16 20.8 +1.3**
GTA AP pP 07 16 41.6 +4.3
GTA XP sP 07 16 48.8 +4.4
GTA S S 07 26 16.4 -0.7
GTA SKS 07 26 26.3
GTA SS SS 07 31 28.3 +1.0
GTA AMB AMB
comp=Z,22nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,122nm,7.5s
GTA LR LR
comp=N,99nm,17.1s
GTA LR LR
comp=E,71nm,16.8s
GTA LR LR
comp=Z,104nm,18.9s
PPLA Purkeypile 80.73 18 *e*P **P 07 16 23.6 -0.9**
comp=Z,17nm,1.5s,mb4.8
PMR Palmer 80.74 20 *e*P **P 07 16 24.1 -0.5**
PMR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PMR Palmer 80.74 20 *e*P **P 07 16 24.1 -0.5**
comp=Z,4.3nm,0.8s,mb4.4
BOD Bodaibo 81.10 335 *e*P **P 07 16 25.8 -0.8**
BOD pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
DIV Divide 81.57 21 *e*P **P 07 16 29.1 +0.1**
comp=Z,14nm,0.8s,mb4.9
KTH Kantishna Hill 81.60 18 *e*P **P 07 16 27.8 -1.3**
comp=Z,5.5nm,0.9s,mb4.5
BMRM Bremner River 81.89 22 *e*P **P 07 16 30.7 0.0**
ZAK Zakamensk 82.31 325 *e*P **P 07 16 32.7 -0.5**
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TLY Talaya 82.73 326 *e*P **P 07 16 35.2 -0.1**
TLY *e* 07 27 35.9
TLY pmax pmax
comp=Z,13nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,52nm,14.0s
TLY Talaya 82.73 326 *e*P **P 07 16 34.8 -0.5**
comp=Z,11nm,0.8s,mb4.9
IMA2 Indian Mountai 82.73 15 *e*P **P 07 16 35.0 0.0**
COLA College 83.49 18*c* *i*P **P 07 16 37.8 -1.1**
COLA *i* *PP pP 07 16 55.3 -1.5
COLA College 83.49 18 *e*P **P 07 16 37.7 -1.2**
comp=Z,11nm,0.8s,mb4.9
WRAK Wrangell Islan 84.42 29 P **P 07 16 44.2 +0.4**
comp=Z,4.4nm,0.6s,mb4.8
MAW Mawson 84.56 202 P **P 07 16 44.4 -0.1**
comp=Z,3.1nm,0.8s,mb4.5,baz=110,slow=9.4,SNR=7.5
MAW LR LR 07 49 51.9
comp=Z,49nm,19.4s,baz=240,slow=32
SKAG Skagway 84.66 26 *e*P **P 07 16 45.4 +0.4**
MTUM Tungsten Hills 85.34 51 *e*P **P 07 16 49.9 +0.9**
EGAK Eagle 85.56 20 *e*P **P 07 16 49.3 -0.1**
DAWY Dawson 85.72 21 *e*P **P 07 16 50.4 +0.2**
NVAR Mina Array Bea 85.87 50 P **P 07 16 52.1 +0.5**
comp=Z,2.4nm,0.8s,mb4.5,baz=240,slow=7.3,SNR=18
NVAR pP pP 07 17 06.6 -2.9
comp=Z,2.9nm,0.9s,baz=229,slow=5.5,SNR=8.1
PALK Pallekele 87.12 278 P **P 07 16 56.7 -1.5**
PALK pmax pmax
comp=Z,31nm,1.3s,mb5.4
PALK Pallekele 87.12 278 P **P 07 16 56.7 -1.6**
comp=Z,31nm,1.3s,mb5.4
WMQ Urumqi 89.74 315 *e*P **P 07 17 11.8 +1.9**
WMQ AP pP 07 17 28.9 +0.9
WMQ XP sP 07 17 35.6 +0.6
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.8
HLID Hailey 90.17 46 *e*P **P 07 17 11.6 -0.4**
comp=Z,2.5nm,0.8s,mb4.6
MSU Marysvale 90.52 51 *e*P **P 07 17 15.2 +1.5**
DLMT Dillon 91.89 44 *e*P **P 07 17 20.5 +0.6**
comp=Z,9.1nm,1.2s,mb5.0
RRI2 Red Ridge 92.30 46 *e*P **P 07 17 22.4 +0.5**
comp=Z,3.2nm,0.9s,mb4.7
BOZ Bozeman (W) 92.62 44 *e*P **P 07 17 24.0 +0.7**
BOZ pmax pmax
comp=Z,8.0nm,1.7s,mb4.9
BOZ Bozeman (W) 92.62 44 *e*P **P 07 17 24.0 +0.7**
comp=Z,7.7nm,1.7s,mb4.9
HRY Holter Researc 92.73 43 *e*P **P 07 17 26.9 +3.1**
PDAR Pinedale Array 93.43 47 P **P 07 17 26.9 -0.2**
comp=Z,0.6nm,0.6s,mb4.2,baz=207,slow=0.3,SNR=6.3
PDAR pP pP 07 17 42.0 -3.1
comp=Z,1.0nm,1.0s,baz=224,slow=4.1,SNR=3.9
PDAR PKKPbc PKKPbc 07 34 31.9 -3.2
comp=Z,0.6nm,0.8s,baz=91,slow=7.6,SNR=5.0
MKAR Makanchi Array 94.16 317 P **P 07 17 30.3 0.0**
comp=Z,16nm,0.7s,mb5.5,baz=92,slow=6.5,SNR=108
MKAR PKKPbc PKKPbc 07 34 31.0 -2.3
comp=Z,0.3nm,0.6s,baz=300,slow=3.0,SNR=3.7
ZAA0 Zalesovo Array 94.17 324 *e*P **P 07 17 29.3 -0.9**
ZALV Zalesovo Beam 94.17 324 P **P 07 17 29.2 -1.0**
comp=Z,4.9nm,0.6s,mb5.1,baz=115,slow=4.6,SNR=24
ZAL Zalesovo 94.18 324 P **P 07 17 29.2 -1.0**
SMCO Snowmass 94.62 51 *e*P **P 07 17 26.1 -6.6**
comp=Z,6.4nm,0.7s,mb5.2
YKA Yellowknife Ar 95.07 27 P **P 07 17 31.8 -2.3**
comp=Z,0.7nm,0.6s,mb4.3,baz=261,slow=4.6,SNR=6.8
YKA Yellowknife Ar 95.07 27 P **P 07 17 31.8 -2.3**
TXAR Lajitas Array 95.55 61 P **P 07 17 36.8 -0.4**
comp=Z,0.5nm,0.7s,mb4.1,baz=222,slow=6.0,SNR=8.0
TXAR PKKPbc PKKPbc 07 34 28.9 +0.1
comp=Z,0.2nm,0.6s,baz=97,slow=4.8,SNR=3.8
TXAR LR LR 07 52 49.7
comp=Z,93nm,20.4s,baz=355,slow=30
KURK Kurchatov 97.27 320 *e*P **P 07 17 43.3 -1.1**
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
KURK Kurchatov 97.27 320 *e*P **P 07 17 43.3 -1.1**
comp=Z,1.5nm,0.8s,mb4.5
AML Almayashu 99.47 311 PcP PcP 07 17 55.3 +0.9
USHA Ushuaia 99.62 151 LR LR 07 52 45.8
comp=Z,158nm,20.1s,baz=150,slow=29
BVAR Borovoye Array 102.57 322 P Pdif 07 18 07.1 -0.9
comp=Z,1.3nm,0.8s,baz=107,slow=7.9,SNR=5.8
ARCES ARCESS Array B 116.84 346 PKP PKPdf 07 22 54.4 -0.8
comp=Z,2.6nm,0.5s,baz=69,slow=2.0,SNR=29
ARCES ARCESS Array B 116.84 346 PKP PKPdf 07 22 54.4 -0.8
LPAZ La Paz 119.54 116 PKP PKPdf 07 23 04.4 +2.4
comp=Z,0.9nm,0.5s,baz=297,slow=2.3,SNR=9.3
BOSA Boshof 125.19 223 PKP PKPdf 07 23 12.3 -0.3
comp=Z,4.5nm,0.9s,baz=159,slow=14,SNR=5.4
BOSA Boshof 125.19 223 PKP PKPdf 07 23 12.3 -0.3
MALT Malatya 126.50 309 *e*PKIKP PKPdf 07 23 15.2 +0.5
NOA NORSAR Array B 127.21 345 PKP PKPdf 07 23 14.9 -0.5
comp=Z,1.9nm,0.8s,baz=34,slow=2.0,SNR=8.4
AKASG Malin Array Be 127.47 327 PKP PKPdf 07 23 15.0 -1.2
comp=Z,0.2nm,0.2s,baz=71,slow=1.4,SNR=4.4
LSZ Lusaka 130.74 238 *e*PKIKP PKPdf 07 23 23.9 +0.5
BRG Berggiesshubel 134.63 336 *e*PKP PKPdf 07 23 31.0 +1.2
comp=Z,1.8nm,0.5s
CLL Collm 134.66 337 *e*PKiKP PKiKP 07 23 31.0 -0.2
KHC Kasperske Hory 136.12 334 *e*PKP PKPdf 07 23 33.5 +0.9
GERES GERESS Array B 136.28 334 PKP PKPdf 07 23 33.2 +0.3
comp=Z,1.1nm,0.7s,baz=29,slow=3.0,SNR=7.2
BDFB Brasilia 136.69 128 PKP PKPdf 07 23 36.5 +1.9
comp=Z,0.7nm,0.6s,baz=48,slow=26,SNR=3.3
LOR Lormes 141.32 341 *e*PKP1 PKPdf 07 23 38.2 -4.0
ORIF Oris-en-Rattie 142.63 337 *e*PKP1 PKPdf 07 23 40.5 -4.1
comp=Z,11nm,0.8s
SBF Sospel 142.88 334 *e*PKP1 PKPdf 07 23 40.4 -4.6
comp=Z,22nm,0.8s
VIVF Saint-Julien-l 143.14 338 *e*PKP1 PKPdf 07 23 42.3 -3.2
PGF Pioggiola 143.22 332 *e*PKP1 PKPdf 07 23 41.8 -3.9
comp=Z,16nm,0.9s
FRF La Foret Royal 143.45 335 *e*PKP1 PKPdf 07 23 42.4 -3.7
LMR La Mourre 143.70 335 *e*PKP1 PKPdf 07 23 42.6 -3.9
comp=Z,54nm,1.2s
LASF Ste Croix 144.11 338 *e*PKP1 PKPdf 07 23 44.5 -2.7
comp=Z,31nm,1.1s
MTLF Montolieu 145.33 339 *e*PKP1 PKPbc 07 23 48.6 -0.6
comp=Z,16nm,0.8s
KEST Kesra 148.04 323 PKPbc PKPbc 07 23 57.5 +0.2
comp=Z,4.5nm,0.8s,baz=283,slow=3.7,SNR=8.6
ESDC Sonseca Array 150.57 345 PKPbc PKPbc 07 24 03.1 -0.4
comp=Z,2.4nm,0.7s,baz=21,slow=2.3,SNR=11
TORD Torodi Ar. Bea 164.84 278 PKP PKPdf 07 24 15.7 -0.6
comp=Z,1.2nm,0.9s,baz=48,slow=1.3,SNR=7.1
TORD PKPab PKPab 07 25 12.3 -0.3
comp=Z,2.7nm,0.9s,baz=84,slow=4.8,SNR=9.1
TORD PP PP 07 29 01.0 +1.6
comp=Z,1.5nm,1.1s,baz=86,slow=4.6,SNR=4.2
TORD Torodi Ar. Bea 164.84 278 PKP PKPdf 07 24 15.7 -0.6
TORD PKPab PKPab 07 25 12.3 -0.3
TORD PP PP 07 29 01.0 +1.6
LIC Lamto 169.97 240 *e*PKP2 PKPab 07 25 34.7 -0.6
comp=Z,29nm,1.0s
DBIC Dimbokro 170.05 242 PKPab PKPab 07 25 35.8 +0.1
comp=Z,5.1nm,0.8s,baz=81,slow=4.3,SNR=7.3

IDC 23 07:22:14.5±1.0, 610N×12719E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.8/6, Error ellipse: s-maj=80.8km s-min=19.2km az=72.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.82**	**165**	P	P	07 27 57.6	+0.9
	0.6nm,0.5s,baz=342,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**30.30**	**168**	P	P	07 28 27.1	-0.6
	0.3nm,0.7s,baz=351,slow=6.5,SNR=5.5						
ASAR				PcP	PcP	07 31 27.8	-0.6
	0.3nm,0.6s,baz=358,slow=2.5,SNR=6.0						
KSRS	**Korea Array**	**31.22**	**1**	P	P	07 28 35.3	-0.4
	0.5nm,0.4s,baz=172,slow=9.6,SNR=3.5						
MKAR	**Makanchi Array**	**55.90**	**324**	P	P	07 31 54.4	+0.2
	0.4nm,0.4s,baz=118,slow=7.3,SNR=6.6						
ZALV	**Zalesovo Beam**	**58.71**	**332**	P	P	07 32 13.1	-0.8
	0.7nm,0.4s,baz=127,slow=6.5,SNR=3.6						
BVAR	**Borovoye Array**	**65.61**	**326**	P	P	07 33 00.9	+0.7
	1.0nm,0.6s,baz=126,slow=7.4,SNR=3.7						

IDC 23 07:35:01.6±1.7, 1979S×6890W, h121km±17km, mb3.5/2, mb1 3.6/5, mb1mx3.3/20, mbtmp3.4/5, Error ellipse: s-maj=40.9km s-min=14.9km az=101.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.81**	**180**	P	Pn	07 35 45.6	+0.2
	27nm,0.3s,baz=354,slow=8.4,SNR=101						
LVC				S	Sn	07 36 20.1	+1.0
	36nm,0.3s,baz=39,slow=22,SNR=22						
LPAZ	**La Paz**	**3.56**	**12**	P	Pn	07 35 56.3	+1.0
	2.4nm,0.3s,baz=192,slow=9.8,SNR=93						
SIV	**San Ignacio**	**8.35**	**64**	P	Pn	07 36 59.2	-0.7
	0.4nm,0.3s,baz=258,slow=11,SNR=13						
TORD	**Torodi Ar. Bea**	**76.78**	**71**	P	P	07 46 40.6	+0.3
	0.1nm,0.3s,baz=246,slow=5.3,SNR=6.1						
TORD				pP	pP	07 47 09.8	-0.9
	1.1nm,1.0s,baz=255,slow=4.9,SNR=4.3						
YKA	**Yellowknife Ar**	**89.59**	**341**	P	P	07 47 44.7	-0.2
	1.6nm,0.8s,baz=128,slow=5.0,SNR=6.8						

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*BJI **23** 07:43:15.7, 1288N×14539E, h17km, mB5.0, mb4.7, Ms4.8, Msz4.6*
*IDC **23** 07:43:15.3±0.5, 1288N×14539E, h0km, mb4.5/20, mb1 4.6/20, mb1mx4.6/23, mbtmp4.5/20, MS4.6/18, Ms1 4.6/18, ms1mx4.4/26, Error ellipse: s-maj=18.5km s-min=12.1km az=77.0*
*ISCJB **23** 07:43:19.3±0.2, 1294N±004×14522E±003, h33km, mb4.8/108, MS4.6/44, Error ellipse: s-maj=5.4km s-min=3.7km az=176.0*
*NEIC **23** 07:43:20.9±1.2, 1289N×14525E, h40km±10km, mb5.0/57, Error ellipse: s-maj=5.8km s-min=4.6km az=126.0*
*GCMT **23** 07:43:20.9±0.2, 1271N×14544E, h16km±1km, MW5.0/63, Moment Tensor Solution. s41,c56; s63,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.55±.19; $M_{\theta\theta}$-0.80±.12; $M_{\phi\phi}$-1.76±.13; $M_{r\theta}$0.28±.37; $M_{\theta\phi}$-2.52±.09; $M_{\phi r}$2.39±.40; Best double couple: $M_0$4.11300×10^{16} NP1:ϕ_s248.00000°, δ36.00000°, λ136.00000°. NP2: ϕ_s16.00000°, δ66.00000°, λ63.00000°. Principal axes: T 3.7730, Plg60.0000°, Azm246.0000°; N 0.6730, Plg25.0000°, Azm28.0000°; P -4.4520, Plg17.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **23** 07:43:21.1±1.0, 1296N×14520E, h56km, mb5.2/30, MS4.6/11 Error ellipse: s-maj=11.7km s-min=6.6km az=111.0*
*DJA **23** 07:43:56, 1224N×14484E, h335km, mb4.7/23*

ISC 23 07:43:17.3±1.3, 1292N±004×14532E±003, h10km±8km, h26km±4.4km:pP-P, n375, σ0.83/369, mb4.8/108, MS4.6/44, 75C-88D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.80**	**327**	Pn	**Pn**	**07 43 36.5**	**+1.9**
	690nm,0.3s,baz=148,slow=9.0,SNR=250						
GUMO				Sn	**Sn**	**07 43 48.0**	**+1.5**
	1μm,0.3s,baz=346,slow=19,SNR=23						
GUMO	**Guam**	**0.80**	**327**	*e*Pn	**Pn**	**07 43 36.0**	**+1.4**
GUMO				*e*Sn	**Sn**	**07 43 46.7**	**+0.2**
DAV	**Davao City (W)**	**20.28**	**255**	LR	LR	07 55 37.3	
	comp=Z,810nm,19.0s,MS4.1,baz=120,slow=36						
BUKP	**Musuan**	**20.54**	**258**	*e*P	**P**	**07 47 58.6**	**+2.6**
JOW	**Kunigami**	**21.14**	**313**	LR	LR	07 54 56.5	
	comp=Z,2μm,19.0s,MS4.5,baz=125,slow=33						
RCP	**Roxas**	**22.10**	**269**‖	*e*P	**P**	**07 48 19.8**	**+6.9**
PMG	**Port Moresby**	**22.25**	**175**⇑	*i*P	**P**	**07 48 14.5**	**0.0**
PMG	**Port Moresby**	**22.25**	**175**	*e*P	**P**	**07 48 10.7**	**-3.8**
	34nm,1.1s,mb4.7						
GUIM	**Jordan**	**22.36**	**267**	*e*P	**P**	**07 48 17.5**	**+1.8**
OTRP	**Odiongan**	**22.74**	**271**	*e*P	**P**	**07 48 21.9**	**+2.2**
SJMP	**San Jose**	**23.61**	**272**	*e*P	**P**	**07 48 28.7**	**-0.1**
MJAR	**Matsushiro Arr**	**24.37**	**346**	P	**P**	**07 48 33.5**	**-2.1**
	5.0nm,0.9s,mb3.9,baz=174,slow=9.9,SNR=11						
MAJO	**Matsushiro**	**24.38**	**346**	*e*P	**P**	**07 48 34.5**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**24.38**	**346**	*e*P	**P**	**07 48 34.5**	**-1.0**
	comp=Z,20nm,0.8s,mb4.6						
MAT	**Matsushiro**	**24.38**	**346**	P	**P**	**07 48 34.4**	**-1.2**
MAT				S	**S**	**07 52 48.0**	**-7.1**
COEN	**Coen**	**26.79**	**185**	*e*P	**P**	**07 48 56.5**	**-1.1**
	comp=Z,4.7nm,0.9s,mb4.0						
MYLDM	**Lahad Datu**	**27.55**	**256**	‖*i*P	**P**	**07 49 08.0**	**+3.4**
TSM	**Tawau**	**28.43**	**255**	‖*i*P	**P**	**07 49 13.8**	**+1.3**
KAKA	**Kakadu**	**28.48**	**207**	*e*P	**P**	**07 49 11.9**	**-1.0**
	comp=Z,11nm,0.6s,mb4.7						
SSE	**Sheshan**	**28.66**	**313**	P	**P**	**07 49 15.1**	**+0.8**
SSE				S	**S**	**07 54 06.5**	**+3.3**
SSE				XS	sS	07 54 11.9	+3.5
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,109nm,12.0s						
SSE				LR	LR		
	comp=N,528nm,14.6s,MS4.4						
SSE				LR	LR		
	comp=E,415nm,14.6s,MS4.4						
SSE				LR	LR		
	comp=Z,664nm,16.1s,MS4.3						
KSRS	**Korea Array**	**28.96**	**331**	P	**P**	**07 49 17.4**	**+0.6**
	comp=Z,3.0nm,0.7s,mb4.2,baz=143,slow=9.4,SNR=16						
KSRS				PcP	PcP	07 52 27.0	+1.3
	comp=Z,6.1nm,1.1s,baz=163,slow=2.6,SNR=10						
KKM	**Kota Kinabalu**	**29.48**	**259**	⇑P	**P**	**07 49 22.8**	**+1.0**
KKM	**Kota Kinabalu**	**29.48**	**259**	*e*P	**P**	**07 49 20.9**	**-0.9**
NJ2	**Nanjing**	**30.85**	**312**	*e*P	**P**	**07 49 34.4**	**+0.7**
NJ2				AP	pP	07 49 38.3	+1.4
NJ2				XP	sP	07 49 41.3	+3.2
NJ2				PP	PP	07 50 35.6	-7.8
NJ2				S	**S**	**07 54 37.4**	**-0.1**
NJ2				XS	sS	07 54 45.4	+2.7
NJ2				AMB	AMB		
	comp=Z,740nm,5.8s						
NJ2				LR	LR		
	comp=N,1μm,16.4s,MS4.7						
NJ2				LR	LR		
	comp=E,460nm,15.5s,MS4.7						
NJ2				LR	LR		
	comp=Z,740nm,17.4s,MS4.4						
VLA	**Vladivostok**	**32.25**	**341**⇑	*i*P	**P**	**07 49 46.0**	**+0.1**
VLA				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.3						
VLA				MLR	MLR		
	comp=Z,900nm,19.0s,MS4.5						
CTA	**Charters Tower**	**32.81**	**178**	LR	LR	08 01 53.4	
	comp=Z,378nm,18.3s,MS4.1,baz=7.1,slow=34						
CTAO	**Charters Tower**	**32.81**	**178**	*e*P	**P**	**07 49 48.9**	**-2.1**
CTAO				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
CTAO	**Charters Tower**	**32.81**	**178**	*e*P	**P**	**07 49 48.9**	**-2.1**
	comp=Z,16nm,1.3s,mb4.8						

DL2 Dalian 33.32 325 P **P** **07 49 55.4 +0.1**
DL2 S **S** **07 55 17.0 +1.0**
DL2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
DL2 LR LR
comp=N,270nm,18.6s,MS4.1
DL2 LR LR
comp=E,240nm,19.1s,MS4.1
DL2 LR LR
comp=Z,570nm,19.5s,MS4.3
YSS Yuzh-Sakhalins 33.99 357 *i* P **P** **07 49 59.7 -1.4**
YSS pmax pmax
comp=Z,16nm,1.1s,mb4.9
YSS MLR MLR
comp=Z,400nm,16.0s,MS4.2
MDJ Mudanjiang 34.33 340 P **P** **07 50 04.8 +0.8**
MDJ AP pP 07 50 11.3 +4.1
MDJ PP PP 07 51 20.8 -1.1
MDJ S **S** **07 55 34.8 +3.4**
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.5
MDJ AMB AMB
comp=Z,37nm,4.2s
MDJ LR LR
comp=E,498nm,19.8s
MDJ LR LR
comp=Z,843nm,23.2s,MS4.4
SBUM Sibu 34.36 255 ⇓P **P** **07 50 06.8 +2.1**
WRAB Tennant Creek 34.38 198 P **P** **07 50 04.0 -0.7**
comp=Z,122nm,0.8s,mb5.9,SNR=5.3
WRAB Tennant Creek 34.38 198*c i*P **P** **07 50 03.8 -0.9**
WRAB Tennant Creek 34.38 198 *e*P **P** **07 50 03.4 -1.3**
comp=Z,17nm,0.9s,mb5.0
WB2 Warramunga Arr 34.39 198⇑*i*P **P** **07 50 04.0 -0.8**
WRA Warramunga Arr 34.39 198 P **P** **07 50 04.1 -0.7**
comp=Z,6.8nm,0.8s,mb4.7,baz=22,slow=9.6,SNR=37
WRA PcP PcP 07 52 40.6 0.0
comp=Z,2.6nm,0.9s,baz=6.3,slow=3.1,SNR=4.8
WRA LR LR 08 04 25.8
comp=Z,647nm,18.1s,MS4.4,baz=0.0,slow=37
WRA Warramunga Arr 34.39 198 *i* P **P** **07 50 04.0 -0.8**
WRA pmax pmax
comp=Z,7.0nm,0.8s
QIZ Qiongzhong 34.60 285 P **P** **07 50 06.9 +0.2**
QIZ PP PP 07 51 21.3 -3.8
QIZ S **S** **07 55 37.6 +1.5**
QIZ AMB AMB
comp=Z,126nm,5.1s
QIZ LR LR
comp=E,748nm,16.3s
QIZ LR LR
comp=Z,979nm,17.4s,MS4.6
QIZ Qiongzhong 34.60 285 P **P** **07 50 06.9 +0.2**
comp=Z,9.9nm,1.0s,mb4.7
CN2 Changchun 35.20 335 *e*P **P** **07 50 11.0 -0.5**
CN2 *e*S **S** **07 55 44.4 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,14.0s,MS4.5
CN2 LR LR
comp=E,500nm,14.0s,MS4.5
CN2 LR LR
comp=Z,800nm,17.0s,MS4.5
FITZ Fitzroy Crossi 36.43 213 *e*P **P** **07 50 22.5 +0.2**
comp=Z,12nm,1.0s,mb4.8
FITZ Fitzroy Crossi 36.43 213 LR LR 08 05 41.9
comp=Z,355nm,18.4s,MS4.2,baz=219,slow=37
KSM Kuching 36.48 255 ⇑P **P** **07 50 23.0 +0.1**
KSM Kuching 36.48 255 *e*P **P** **07 50 22.7 -0.3**
BJT Baijiatuau 37.23 322 *e*P **P** **07 50 28.5 -0.5**
BJT pmax pmax
comp=Z,51nm,1.6s
BJT Baijiatuau 37.23 322 *e*P **P** **07 50 28.5 -0.4**
comp=Z,51nm,1.6s,mb5.1
BJI Beijing 37.24 322 P **P** **07 50 29.8 +0.8**
BJI S **S** **07 56 19.4 +3.3**
BJI AMB AMB
comp=Z,7.0nm,0.9s,mb4.5
BJI AMB AMB
comp=Z,355nm,9.4s
BJI LR LR
comp=E,473nm,16.6s
BJI LR LR
comp=Z,2μm,21.1s,MS4.9
ASAR Alice Springs 38.03 197 P **P** **07 50 35.0 -0.9**
comp=Z,4.3nm,0.9s,mb4.2,baz=27,slow=4.2,SNR=29
EIDS Eidsvold 38.47 172 *e*P **P** **07 50 44.0 +4.5**
EIDS *e*pP pP 07 50 53.7 +11
GYA Guiyang 38.65 296 P **P** **07 50 42.0 +0.9**
GYA PCP PcP 07 52 54.6 +1.2
GYA S **S** **07 56 40.3 +2.5**
GYA SS SS 07 59 19.4 -8.7
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
GYA AMB AMB
comp=Z,120nm,5.1s
GYA LR LR
comp=N,880nm,16.8s,MS4.9
GYA LR LR
comp=E,1μm,19.2s,MS4.9
GYA LR LR
comp=Z,2μm,19.2s,MS4.9
XAN Xi'an 39.15 309 P **P** **07 50 45.5 +0.2**
XAN AP pP 07 50 50.1 +1.6
XAN PP PP 07 52 20.0 +4.9
XAN PCP PcP 07 52 55.5 +0.7
XAN SCP ScP 07 56 41.0 -2.5
XAN S **S** **07 56 44.8 -0.5**
XAN SS SS 07 59 30.8 -7.2
XAN SCS ScS 08 00 52.9 -2.1
XAN AMB AMB
comp=Z,3.0nm,1.3s,mb3.9
XAN AMB AMB
comp=Z,120nm,10.0s
XAN LR LR
comp=N,100nm,17.6s,MS4.4
XAN LR LR
comp=E,534nm,17.4s,MS4.4
XAN LR LR
comp=Z,1μm,17.8s,MS4.7
HHC Hu-ho-hao-te 40.56 320 *e*P **P** **07 50 56.4 -0.5**
HHC AP pP 07 51 08.8 +8.7
HHC PP PP 07 52 34.3 +4.0
HHC PCP PcP 07 52 58.4 -0.8
HHC SCP ScP 07 56 43.5 -5.3
HHC PCS PcS 07 56 49.1 -0.6
HHC S **S** **07 57 02.4 -3.8**
HHC XS sS 07 57 23.8 +12
HHC SS SS 07 59 58.6 -7.5
HHC SCS ScS 08 00 56.3 -6.8
HHC AMB AMB
comp=Z,12nm,1.0s,mb4.5
HHC AMB AMB
comp=Z,169nm,5.2s
HHC LR LR
comp=N,860nm,16.6s,MS4.7
HHC LR LR
comp=E,639nm,20.0s,MS4.7
HHC LR LR
comp=Z,955nm,17.8s,MS4.7
PETK Petropavlovsk- 41.29 11 P **P** **07 51 03.5 +0.8**
comp=Z,2.8nm,0.7s,mb4.0,baz=173,slow=4.1,SNR=5.6
KMI Kunming 41.87 293 P **P** **07 51 08.8 +0.9**
KMI AP pP 07 51 17.1 +6.0
KMI XP sP 07 51 20.3 +7.9
KMI PP PP 07 52 49.1 +4.3
KMI S **S** **07 57 30.8 +4.7**
KMI AMB AMB
comp=Z,12nm,1.3s,mb4.4
KMI AMB AMB
comp=Z,174nm,7.6s
KMI LR LR
comp=N,434nm,17.0s,MS4.5
KMI LR LR
comp=E,386nm,18.6s,MS4.5
KMI LR LR
comp=Z,543nm,19.6s,MS4.4
HIA Hailar 41.93 335*c i*P **P** **07 51 07.9 -0.1**
HIA Hailar 41.93 335 *e*P **P** **07 51 08.7 +0.7**
comp=Z,8.1nm,0.8s,mb4.4
MBWA Marble Bar 42.17 217 *e*P **P** **07 51 09.2 -1.2**
comp=Z,14nm,0.8s,mb4.6

CD2 Chengdu 42.22 302 *e*P **P** **07 51 11.1 +0.4**
CD2 AP pP 07 51 15.6 +1.7
CD2 XP sP 07 51 18.5 +3.4
CD2 PP PP 07 52 52.5 +4.1
CD2 S **S** **07 57 31.9 +0.8**
CD2 XS sS 07 57 39.3 +2.9
CD2 SS SS 08 00 34.9 -4.3
CD2 SCS ScS 08 01 10.3 -3.2
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,50nm,5.2s
CD2 LR LR
comp=N,730nm,15.6s,MS4.8
CD2 LR LR
comp=E,710nm,16.8s,MS4.8
CD2 LR LR
comp=Z,910nm,16.8s,MS4.7
KTGM Kuala Trenggan 42.28 264 ⇓P **P** **07 51 13.1 +1.7**
MYKOM Kota Tinggi 42.51 258 ⇓P **P** **07 51 14.9 +1.6**
KGM Kluang 42.95 259 ⇓P **P** **07 51 17.8 +0.9**
LZH Lanzhou 43.78 309 *e*P **P** **07 51 22.9 -0.3**
LZH AP pP 07 51 25.5 -1.0
LZH PP PP 07 53 07.0 +1.8
LZH *e*S **S** **07 57 52.3 -1.6**
LZH SS SS 08 01 01.3 -8.4
LZH AMB AMB
comp=Z,21nm,1.2s,mb4.7
LZH AMB AMB
comp=Z,140nm,5.9s
LZH LR LR
comp=E,1μm,16.6s
LZH LR LR
comp=Z,1μm,17.7s,MS4.8
STKA Stephens Creek 44.68 185 *e*P **P** **07 51 28.8 -1.6**
comp=Z,8.3nm,0.9s,mb4.6
STKA Stephens Creek 44.68 185 P **P** **07 51 29.2 -1.2**
comp=Z,14nm,1.0s,mb4.7,baz=353,slow=8.1,SNR=16
STKA LR LR 08 11 44.3
comp=Z,1μm,18.4s,MS4.8,baz=9.3,slow=38
KULM Kulim 44.69 264 ⇑P **P** **07 51 32.1 +1.2**
CMAR Chiang Mai Arr 44.89 283 P **P** **07 51 32.9 +0.5**
comp=Z,4.3nm,0.6s,mb4.4,baz=84,slow=6.0,SNR=18
CMAR PcP PcP 07 53 15.2 +1.1
comp=Z,3.5nm,0.8s,baz=85,slow=1.8,SNR=8.3
CMAR LR LR 08 10 58.0
comp=Z,481nm,19.1s,MS4.4,baz=256,slow=37
CMAR Chiang Mai Arr 44.89 283 P **P** **07 51 32.9 +0.5**
CMAR 07 53 15.2
PSI Prapat 46.96 262 P **P** **07 51 51.0 +2.1**
comp=Z,8.4nm,1.1s,mb4.6,baz=225,slow=1.3,SNR=4.7
PSI Prapat 46.96 262 P **P** **07 51 51.0 +2.1**
SONM Songino Array 47.53 325 LR LR 08 11 48.7
comp=Z,734nm,19.7s,MS4.7,baz=73,slow=36
GTA Gaotai 47.94 312 *e*P **P** **07 51 56.9 +0.8**
GTA AP pP 07 52 00.8 +1.5
GTA XP sP 07 52 03.5 +2.9
GTA PCP PcP 07 53 24.8 +0.4
GTA S **S** **07 58 53.4 -0.4**
GTA SCS ScS 08 01 48.9 -0.9
GTA SS SS 08 02 12.4 -10
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,161nm,9.3s
GTA LR LR
comp=N,374nm,15.0s,MS4.6
GTA LR LR
comp=E,358nm,16.5s,MS4.6
GTA LR LR
comp=Z,399nm,19.8s,MS4.4
YAK Yakutsk 50.31 350 *e*P **P** **07 52 12.1 -1.8**
YAK pmax pmax
comp=Z,41nm,1.4s,mb5.3
YAK MLR MLR
comp=Z,568nm,18.0s,MS4.6
YAK MLR MLR
comp=N,451nm,20.0s,MS4.6
YAK MLR MLR
comp=E,172nm,15.0s,MS4.6
YAK Yakutsk 50.31 350 *e*P **P** **07 52 13.1 -0.8**
comp=E,40nm,0.8s,mb5.5
ZAK Zakamensk 50.63 326 *e*P **P** **07 52 15.6 -0.9**
ZAK *e* 07 53 35.1
ZAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
BOD Bodaibo 50.70 339 *e*P **P** **07 52 16.4 -0.4**
BOD pmax pmax
comp=Z,5.0nm,2.9s,mb3.9
TLY Talaya 51.15 328 *e*P **P** **07 52 27.8 +7.5**
TLY *e*S **S** **07 59 42.3 +4.0**
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TLY MLR MLR
comp=Z,383nm,17.0s,MS4.5
TLY Talaya 51.15 328 *e*P **P** **07 52 20.2 -0.1**
comp=Z,4.9nm,0.8s,mb4.5
SHL Shillong 51.68 292 *e*P **P** **07 52 27.0 +2.2**
LSA Lhasa 52.69 298 P **P** **07 52 33.3 +1.1**
LSA Lhasa 52.69 298 *e*P **P** **07 52 32.7 +0.5**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LSA Lhasa 52.69 298 *e*P **P** **07 52 32.7 +0.5**
comp=Z,7.8nm,0.6s,mb4.8
NIKO Nikolski 54.00 32 *e*P **P** **07 52 42.0 +0.6**
comp=Z,60nm,1.0s,mb5.5
TAPN Taplejung 55.52 294 *e*P **P** **07 52 52.5 -0.4**
comp=Z,44nm,1.0s,mb5.4
UNV Unalaska Valle 55.66 32 *e*P **P** **07 52 51.4 -2.0**
comp=Z,28nm,1.1s,mb5.2
ODAN Odare 55.78 294 *e*P **P** **07 52 54.7 -0.1**
comp=Z,45nm,1.2s,mb5.4
HKL Haleakala 56.22 74 *e*P **P** **07 52 58.5 +0.5**
HVS Khovu-Aksy 56.36 324 *e*P **P** **07 52 57.9 -0.6**
HVS pmax pmax
comp=Z,15nm,0.8s,mb5.1
RAMN Ramite 56.49 294 *e*P **P** **07 52 59.9 0.0**
BILL Bilibino 56.75 9 *e*P **P** **07 53 00.2 -0.8**
BILL *e*PP pP 07 53 13.4 +9.1
BILL *e* 07 53 55.3
BILL pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
BILL MLR MLR
comp=Z,500nm,21.0s,MS4.6
JIRN Jiri 56.88 295 *e*P **P** **07 53 02.2 -0.5**
GUN Gumba 57.17 295 *e*P **P** **07 53 04.5 -0.2**
comp=Z,88nm,1.1s,mb5.7
PKI Pulchoki 57.57 294 *e*P **P** **07 53 06.6 -0.9**
comp=Z,26nm,1.0s,mb5.2
PKI Pulchoki 57.57 294 *e*P **P** **07 53 06.6 -0.9**
PKI pmax pmax
comp=Z,27nm,1.0s,mb5.2
KKN Kakani 57.69 295 *e*P **P** **07 53 07.8 -0.6**
DMN Daman 57.84 295 *e*P **P** **07 53 08.5 -0.9**
comp=Z,50nm,1.0s,mb5.5
WMQ Urumqi 57.91 314 P **P** **07 53 10.5 +0.9**
WMQ AP pP 07 53 15.1 +2.1
WMQ XP sP 07 53 17.5 +3.3
WMQ PCP PcP 07 54 02.3 +0.4
WMQ PP PP 07 55 20.8 +2.9
WMQ SCP ScP 07 58 00.4 -1.9
WMQ *e*S **S** **08 01 08.8 -0.9**
WMQ XS sS 08 01 16.4 +1.3
WMQ SCS ScS 08 02 56.0 -3.5
WMQ SS SS 08 05 01.3 +0.8
WMQ AMB AMB
comp=Z,21nm,0.8s,mb5.2
WMQ LR LR
comp=N,268nm,18.6s,MS4.5
WMQ LR LR
comp=E,281nm,19.3s,MS4.5
WMQ LR LR
comp=Z,325nm,19.2s,MS4.5
GKN Gorkha 58.27 295 *e*P **P** **07 53 12.1 -0.3**
DANN Dangsing 59.05 295 *e*P **P** **07 53 17.3 -0.6**
comp=Z,42nm,0.8s,mb5.5
KOLN Koldanda 59.18 295 *e*P **P** **07 53 17.7 -1.1**
comp=Z,34nm,1.0s,mb5.3
SDPT Sand Point 59.47 33 *e*P **P** **07 53 19.9 -0.4**
comp=Z,1.9nm,0.9s,mb4.1
TIXI Tiksi 59.54 354 *e*P **P** **07 53 21.0 +0.5**
TIXI pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TIXI MLR MLR
comp=Z,400nm,17.0s,MS4.6

CHGN Chignik 60.91 32 *e*P **P** **07 53 28.8 -1.3**
TNA Tin City 61.32 20 *e*P **P** **07 53 31.9 -0.9**
comp=Z,7.7nm,1.0s,mb4.8
MK31 Makanchi Array 62.27 316 *i* P **P** **07 53 39.8 +0.3**
MK31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
MKAR Makanchi Array 62.27 316 P **P** **07 53 39.2 -0.3**
comp=Z,3.2nm,0.8s,mb4.5,baz=94,slow=8.7,SNR=23
MKAR LR LR 08 22 39.5
comp=Z,400nm,18.2s,MS4.6,baz=95,slow=38
MKAR Makanchi Array 62.27 316 P **P** **07 53 39.2 -0.3**
MKAR LR LR 08 22 39.5
ZAA0 Zalesovo Array 62.42 325 *e*P **P** **07 53 39.5 -0.8**
ZAA0 *e*PcP PcP 07 54 16.4 -3.4
ZALV Zalesovo Beam 62.42 325 P **P** **07 53 39.6 -0.7**
comp=Z,1.3nm,0.6s,mb4.2,baz=98,slow=6.3,SNR=6.2
ZALV PcP PcP 07 54 19.5 -0.2
comp=Z,3.6nm,0.7s,baz=116,slow=3.4,SNR=8.9
ZALV LR LR 08 22 36.1
comp=Z,404nm,19.2s,MS4.6,baz=87,slow=38
ZALV Zalesovo Beam 62.42 325 P **P** **07 53 39.6 -0.7**
ZALV PcP PcP 07 54 19.5 -0.2
ZALV LR LR 08 22 36.1
ZAL Zalesovo 62.43 325 P **P** **07 53 39.7 -0.7**
ZAL 07 54 19.5
NVS Novosibirsk 63.56 325⇑*i*P **P** **07 53 46.1 -1.8**
NVS *e*S **S** **08 02 19.5 -1.9**
NVS pmax pmax
comp=Z,35nm,1.8s,mb5.1
NVS pmax pmax
comp=N,12nm,1.6s
NVS pmax pmax
comp=E,23nm,1.4s
NVS smax
comp=N,39nm,2.5s
SVW2 Sparrevohn 64.06 28 *e*P **P** **07 53 52.3 +1.2**
HYB Hyderabad 64.32 283 *i* P **P** **07 53 54.0 +0.4**
HYB Hyderabad 64.32 283 *e*P **P** **07 53 53.5 -0.1**
KDAK Kodiak Island 64.41 32 P **P** **07 53 54.0 +0.5**
comp=N,4.9nm,0.6s,mb4.7,baz=302,slow=3.3,SNR=4.0
KDAK Kodiak Island 64.41 32 P **P** **07 53 54.0 +0.5**
TTA Tatalina 64.57 26 *e*P **P** **07 53 54.8 +0.4**
KURK Kurchatov 65.37 320 P **P** **07 53 59.6 -0.3**
comp=N,65nm,0.8s,mb5.7,SNR=5.5
KURK Kurchatov 65.37 320*c i*P **P** **07 53 59.1 -0.8**
KURK pmax pmax
comp=Z,25nm,1.7s,mb5.0
KURK MLR MLR
comp=Z,800nm,18.0s,MS5.0
KURK Kurchatov 65.37 320 *e*P **P** **07 53 59.5 -0.4**
comp=Z,14nm,1.0s,mb5.0
TKM2 Tokmak 2 66.48 311 P **P** **07 54 05.1 -2.1**
TKM2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
TKM2 Tokmak 2 66.48 311 P **P** **07 54 05.1 -2.1**
comp=Z,2.3nm,0.7s,mb4.3
SEW Seward 66.62 30 *e*P **P** **07 54 06.4 -1.3**
IMA2 Indian Mountai 66.69 23 *e*P **P** **07 54 07.5 -0.6**
BPAW Bear Paw Mtn. 67.09 25 *e*P **P** **07 54 09.8 -0.8**
comp=Z,4μm,1.2s
PMR Palmer 67.17 28 *e*P **P** **07 54 10.5 -0.7**
PMR pmax pmax
comp=Z,32nm,1.3s,mb5.2
PMR Palmer 67.17 28 *e*P **P** **07 54 10.5 -0.7**
comp=Z,32nm,1.3s,mb5.2
MCK McKinley 67.84 26 *e*P **P** **07 54 14.1 -1.3**
MCK pmax pmax
comp=Z,50nm,1.5s,mb5.3
MCK McKinley 67.84 26 *e*P **P** **07 54 14.1 -1.3**
comp=Z,50nm,1.5s,mb5.3
COLA College 68.61 25*c i*P **P** **07 54 18.9 -1.3**
COLA College 68.61 25 *e*P **P** **07 54 19.1 -1.1**
comp=Z,11nm,0.9s,mb4.8
DIV Divide 68.62 29 *e*P **P** **07 54 21.4 +1.1**
comp=Z,15nm,0.8s,mb5.0
POO Poona 68.64 285⇓*i*P **P** **07 54 18.0 -3.2**
comp=Z,40nm,1.0s,mb5.3
KK31 Karatay Array 70.22 311 *i* P **P** **07 54 29.9 -0.7**
KK31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BVA0 Borovoye Array 70.72 322 *i* P **P** **07 54 31.7 -1.7**
BVA0 pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
BVAR Borovoye Array 70.72 322 P **P** **07 54 33.1 -0.3**
comp=Z,2.3nm,0.3s,mb4.5,baz=101,slow=7.7,SNR=17
BRVK Borovoye 70.79 322 *e*P **P** **07 54 33.3 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BRVK Borovoye 70.79 322 *e*P **P** **07 54 33.3 -0.5**
comp=Z,4.7nm,0.7s,mb4.5
PPT Papeete 71.04 114 *e*S S 08 03 47.2 -5.5
comp=Z,150nm,23.5s
PPT Papeete 71.04 114 *e*LR LR 08 15 40.6
comp=Z,492nm,21.5s,baz=291
PPT Papeete 71.04 114 LR LR 08 20 10.1
comp=Z,318nm,19.2s,MS4.6,baz=294,slow=31
EGAK Eagle 71.39 26 *e*P **P** **07 54 36.7 -0.5**
comp=Z,21nm,0.9s,mb5.1
KBL Kabul 71.56 302 *e*P **P** **07 54 38.9 0.0**
DAWY Dawson 72.04 27 *e*P **P** **07 54 41.6 +0.4**
HYT Haines Junctio 72.56 30 *e*P **P** **07 54 46.2 +1.8**
SIT Sitka 73.48 34 *e*P **P** **07 54 46.7 -3.2**
SIT pmax pmax
comp=Z,27nm,1.3s,mb5.0
SIT Sitka 73.48 34 *e*P **P** **07 54 46.7 -3.1**
comp=Z,27nm,1.3s,mb5.0
SKAG Skagway 73.56 32 *e*P **P** **07 54 50.9 +0.6**
comp=Z,9.2nm,1.0s,mb4.7
WRAK Wrangell Islan 75.11 35 *e*P **P** **07 54 59.8 +0.4**
comp=Z,14nm,0.9s,mb4.9
DLBC Dease Lake 76.31 33 *e*P **P** **07 55 06.8 +0.6**
SVE Sverdlovsk 76.39 326 *e*P **P** **07 55 03.6 -3.1**
SVE pmax pmax
comp=Z,26nm,1.2s,mb5.0
AB31 Akbulak array 77.33 318 *i* P **P** **07 55 11.7 -0.5**
AB31 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ARU Arti 77.56 325*c i*P **P** **07 55 12.5 -0.8**
ARU *e* 07 58 06.9
ARU *e*S S 08 04 59.1 -5.5
ARU pmax pmax
comp=Z,25nm,1.7s,mb4.9
ARU MLR MLR
comp=Z,345nm,19.0s,MS4.7
ARU Arti 77.56 325 *e*P **P** **07 55 12.5 -0.8**
comp=Z,8.7nm,0.8s,mb4.7
SOKR Solikamsk 78.23 329*c i*P **P** **07 55 16.1 -0.9**
SOKR pmax pmax
comp=Z,20nm,1.2s,mb4.9
SOKR MLR MLR
comp=Z,470nm,16.0s,MS4.9
AKTK Aktyubinsk 78.45 319 P **P** **07 55 18.1 -0.3**
AKTO Aktyubinsk 78.45 319 P **P** **07 55 18.1 -0.3**
comp=Z,1.3nm,0.5s,mb4.1,baz=88,slow=7.4,SNR=5.8
GNW Green Mountain 81.84 43 *e*P **P** **07 55 36.8 +0.1**
comp=Z,7.8nm,1.0s,mb4.6
JCW Jim Creek 82.31 42 *e*P **P** **07 55 39.1 -0.1**
RPW Rockport 82.54 42 *e*P **P** **07 55 41.1 +0.7**
HUMO Hull Mountain 82.64 48 *e*P **P** **07 55 40.9 -0.1**
comp=Z,10nm,1.0s,mb4.8
I04A Tendick Farm, 82.81 47⇑P **P** **07 55 42.5 +0.5**
baz=83
P01C Double 8 Ranch 82.94 51⇓P **P** **07 55 43.6 +0.9**
baz=83
YBH Yreka Blue Hor 82.98 49 *e*P **P** **07 55 42.5 -0.4**
YBH pmax pmax
comp=Z,24nm,1.5s
YBH Yreka Blue Hor 82.98 49⇑P **P** **07 55 43.7 +0.9**
baz=83
YBH Yreka Blue Hor 82.98 49 *e*P **P** **07 55 42.5 -0.4**
comp=Z,24nm,1.5s,mb5.0
A07A Ashnola River, 83.16 41⇑P **P** **07 55 43.6 0.0**
baz=83,SNR=6.8
D06A Cle Elum 83.23 43⇓P **P** **07 55 44.6 +0.6**
baz=83
YKW3 Yellowknife Ar 83.23 27 *e*P **P** **07 55 43.1 -0.5**
YKA Yellowknife Ar 83.25 27 P **P** **07 55 43.2 -0.6**
comp=Z,5.5nm,0.7s,mb4.7,baz=285,slow=5.1,SNR=23
YKA LR LR 08 30 23.3
comp=Z,272nm,21.3s,MS4.6,baz=290,slow=34
YKA Yellowknife Ar 83.25 27 P **P** **07 55 43.2 -0.6**
YKA LR LR 08 30 23.4
B07A Winthrop 83.45 42⇓P **P** **07 55 46.1 +0.9**
baz=83
ETW Entiat 83.48 43 *e*P **P** **07 55 45.7 +0.4**
L04A Klamath Falls 83.50 48⇓P **P** **07 55 46.0 +0.5**

baz=84
M03C McCloud 83.50 49 ⇓P P 07 55 46.2 +0.6
baz=84
MNRC McLaughlin Nat 83.74 52 ⇑P P 07 55 47.6 +0.8
baz=84
J05A Fort Rock 83.75 47 ⇓P P 07 55 47.5 +0.7
baz=84
G06A Carlson Farm, 83.77 45 ⇑P P 07 55 47.2 +0.4
baz=84
A08A Turner Farm, O 83.89 41 ⇑P P 07 55 47.3 -0.1
baz=84
B08A Colville Reser 83.98 42 ⇓P P 07 55 47.8 -0.1
baz=84
H06A Lindquist Farm 84.08 46 ⇓P P 07 55 48.6 +0.1
baz=84
HATC Hat Creek Radi 84.09 50 ⇓P P 07 55 48.9 +0.3
baz=84
K05A Summer Lake 84.11 48 ⇓P P 07 55 48.6 0.0
baz=84
C08A Higginbotham F 84.30 42 ⇓P P 07 55 49.7 +0.3
baz=84
ORV Oroville 84.32 51 ⇓P P 07 55 50.3 +0.6
baz=84
A09A Danville 84.33 41 ⇓P P 07 55 50.1 +0.5
baz=84
OD2 Odessa Site #2 84.60 43 eP P 07 55 49.6 -1.4
MOD Modoc 84.71 48 ⇑P P 07 55 52.1 +0.4
baz=85
I07A Izee 84.81 46 ⇓P P 07 55 52.5 +0.3
baz=85
A10A Northport 84.98 41 ⇑P P 07 55 53.1 +0.1
baz=85
P05C Yuba Gap, Truc 85.05 51 ⇓P P 07 55 53.9 +0.4
baz=85
LAVA Lava Cap Winer 85.06 52 ⇓P P 07 55 53.8 +0.3
baz=85
J07A Hines 85.10 47 ⇑P P 07 55 54.3 +0.7
baz=85
E09A Wood Farm, Sta 85.18 44 ⇓P P 07 55 54.5 +0.5
baz=85
H08A Prairie City 85.29 46 ⇓P P 07 55 54.9 +0.3
baz=85
K07A Rock Creek Ran 85.30 47 ⇑P P 07 55 54.7 +0.1
baz=85
N06A Buffalo Meadow 85.31 49 ⇓P P 07 55 55.1 +0.4
baz=85
L07A Adell 85.39 48 ⇑P P 07 55 55.4 +0.3
baz=85
NEW Newport 85.44 42 eP P 07 55 54.6 -0.6
NEW pmax pmax
comp=Z,13nm,1.0s
NEW Newport 85.44 42 eP P 07 55 54.6 -0.6
comp=Z,13nm,1.0s,mb5.0
O06A Flanigan 85.44 50 ⇓P P 07 55 54.6 -0.8
baz=85
I08A Drewsey 85.50 46 ⇓P P 07 55 55.6 -0.1
baz=85
D10A Wagner Farm, O 85.63 43 ⇑P P 07 55 56.1 -0.1
baz=86
M07A Soldier Meadow 85.65 49 ⇑P P 07 55 56.3 -0.1
baz=86
S05C Merced 85.69 53 ⇓P P 07 55 56.7 0.0
baz=86
J08A Circle Bar Ran 85.70 47 ⇑P P 07 55 56.9 +0.3
baz=86
A11A Hall Mountain, 85.75 41 ⇓P P 07 55 57.0 +0.2
baz=86
RKT Rikitea 85.78 115 eSS SS 08 12 02.3 -5.6
comp=Z,161nm,31.5s
RKT Rikitea 85.78 115 eLR LR 08 22 33.8
comp=Z,408nm,24.2s,baz=312
WVOR Wild Horse Val 85.80 48 eP P 07 55 56.8 -0.3
WVOR pmax pmax
comp=Z,14nm,1.6s,mb4.9
WVOR Wild Horse Val 85.80 48 eP P 07 55 56.8 -0.4
comp=Z,14nm,1.6s,mb4.9
K08A Mann Creek Ran 85.84 47 ⇑P P 07 55 57.4 0.0
baz=86
N07B Gerlach 85.94 49 ⇓P P 07 55 57.8 -0.1
baz=86
I09A Lost Marbles R 86.07 46 ⇑P P 07 55 58.4 -0.1
baz=86
R06C Coleville 86.10 52 ⇑P P 07 55 58.5 -0.3
baz=86
O07A Toulon 86.15 50 ⇓P P 07 55 59.2 +0.3
baz=86
BMO Blue Mountains 86.15 45 eP P 07 55 59.1 +0.3
BMO pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
BMO Blue Mountains 86.15 45 eP P 07 55 59.1 +0.3
comp=Z,8.0nm,1.1s,mb4.9
G10A Bishop Farm, J 86.17 45 ⇓P P 07 55 58.6 -0.3
baz=86,SNR=6.0
J09A Fry Pan Ranch, 86.21 47 ⇑P P 07 55 59.3 +0.2
baz=86
M08A Happy Creek Ra 86.22 48 ⇓P P 07 55 59.4 +0.1
baz=86
T06C Millerton Lake 86.25 53 ⇓P P 07 55 59.1 -0.4
baz=86
D11A Klaveano Farm, 86.26 43 ⇓P P 07 55 59.3 0.0
baz=86
EDM Edmonton 86.43 36 eP P 07 55 59.1 -0.9
KCC Kaiser Creek 86.48 53 ⇓P P 07 56 01.1 +0.5
baz=86
R07C Lee Vining 86.51 52 ⇓P P 07 56 01.0 +0.2
baz=86
E11A Bogner Ranch, 86.52 43 ⇓P P 07 56 00.4 -0.2
baz=86
L09A Wilkinson Ranc 86.60 48 ⇑P P 07 56 01.2 +0.1
baz=86
H10A Noah's Angus R 86.61 45 ⇓P P 07 56 00.2 -0.8
baz=86,SNR=8.9
O08A Rochester Mine 86.66 50 ⇑P P 07 56 00.5 -0.9
baz=87,SNR=5.7
F11A Grangeville 86.68 44 ⇑P P 07 56 00.7 -0.7
baz=87
G11A Walters Elk Ra 86.73 44 ⇓P P 07 56 00.9 -0.7
baz=87,SNR=12
HELL Mitchell Peak 86.86 53 ⇓P P 07 56 02.9 +0.4
baz=87
D12A Red Ives Fores 86.91 43 ⇓P P 07 56 02.4 -0.1
baz=87
MAK Makhachkala 86.93 313 eP P 07 56 04.4 +1.7
MAK eS S 08 06 28.6 -13
MAK pmax pmax
comp=Z,59nm,0.7s,mb5.9
K10A MacKenzie Ranc 86.98 47 ⇓P P 07 56 02.7 -0.2
baz=87,SNR=6.5
NVAR Mina Array Bea 87.00 51 P P 07 56 03.9 +0.8
comp=Z,1.7nm,0.8s,mb4.3,baz=262,slow=6.1,SNR=11
A13A Flathead Natio 87.00 41 ⇓P P 07 56 03.3 +0.4
baz=87
VES Vestal, Richgr 87.01 54 ⇓P P 07 56 03.2 -0.1
baz=87
H11A Donnelly 87.08 45 ⇓P P 07 56 03.3 -0.1
baz=87
B13A Whitefish 87.12 41 ⇓P P 07 56 03.4 -0.1
baz=87
C13A Hot Springs 87.25 42 ⇓P P 07 56 04.0 -0.1
baz=87
WALA Waterton Lakes 87.28 40 eP P 07 56 04.6 +0.3
comp=Z,11nm,1.1s,mb5.0
KEV Kevo 87.29 342 ep P 07 56 02.1 -1.8
comp=Z,26nm,1.0s,mb5.4
KEV Kevo 87.29 342 eP P 07 56 02.1 -1.8
KEV pmax pmax
comp=Z,26nm,1.0s,mb5.4
F12A Elk City 87.32 44 ⇓P P 07 56 04.3 -0.2
baz=87
S08C White Mtn Res 87.32 52 ⇓P P 07 56 04.7 -0.1
baz=87
I11A Placerville 87.33 46 ⇑P P 07 56 04.7 +0.1
baz=87
O09A Fish Creek Ran 87.41 50 ⇓P P 07 56 05.4 +0.3
baz=87
L10A Juniper Basin 87.44 48 ⇓P P 07 56 05.4 +0.2
baz=87
D13A Huson 87.48 42 ⇑P P 07 56 04.9 -0.3
baz=87
MFID Camas Ranch 87.55 46 ⇑P P 07 56 05.5 -0.1
baz=88,SNR=9.9
K11A Parker Ranch, 87.58 47 ⇓P P 07 56 05.8 0.0
baz=88
C14A Swan Lake 87.75 42 ⇑P P 07 56 07.0 +0.4
baz=88
E13A Victor 87.84 43 ⇑P P 07 56 07.3 +0.2
baz=88
ARCES ARCESS Array B 87.85 342 P P 07 56 05.9 -0.7
comp=Z,24nm,0.9s,mb5.4,baz=49,slow=5.6,SNR=30
ARCES LR LR 08 41 04.6
comp=Z,369nm,19.9s,MS4.8,baz=186,slow=40
F13A Darby 87.93 44 ⇓P P 07 56 07.4 0.0
baz=88
L11A Cat Creek Ranc 87.94 47 ⇓P P 07 56 07.9 +0.3
baz=88
R09A Tonopah 87.98 51 ⇑P P 07 56 07.9 0.0
baz=88
S09A Goldfield 88.00 52 ⇑P P 07 56 07.9 -0.1
baz=88
G13A Cobalt 88.19 44 ⇑P P 07 56 08.1 -0.6
baz=88,SNR=15
MPMC Manual Prospec 88.21 54 ⇓P P 07 56 07.9 -1.1
baz=88,SNR=8.8
N11A Elko Archery C 88.31 49 ⇓P P 07 56 09.3 -0.1
baz=88
H13A Challis 88.33 45 ⇑P P 07 56 09.3 0.0
baz=88
K12A Draper Farm, C 88.41 47 ⇑P P 07 56 09.6 -0.2
baz=88
S10A Tonopah Range, 88.43 52 ⇓P P 07 56 09.8 -0.2
baz=88,SNR=6.8
L12A House Creek Ra 88.47 47 ⇑P P 07 56 10.0 -0.1
baz=88,SNR=7.0
HLID Hailey 88.50 46 ⇑P P 07 56 10.3 +0.1
baz=88,SNR=6.8
HLID Hailey 88.50 46 eP P 07 56 09.2 -1.0
comp=Z,3.2nm,0.8s,mb4.7
R10A Warm Springs 88.56 51 ⇓P P 07 56 11.5 +0.9
baz=88
FURC Furnace Creek, 88.60 53 ⇓P P 07 56 10.7 -0.1
baz=88,SNR=5.1
ELK Elko 88.69 49 eP P 07 56 11.5 +0.3
ELK pmax pmax
comp=Z,11nm,1.1s
ELK Elko 88.69 49 eP P 07 56 11.5 +0.3
comp=Z,11nm,1.1s,mb5.1
J13A Cove Ranch, Pi 88.71 46 ⇓P P 07 56 11.3 +0.1
baz=89
M12A Wells 88.74 48 ⇓P P 07 56 11.9 +0.5
baz=89
E15A Deer Lodge 88.87 43 ⇓P P 07 56 12.1 +0.2
baz=89
Q11A Duckwater 88.90 50 ⇑P P 07 56 12.3 +0.1
baz=89
H14A Leadore 88.92 44 ⇑P P 07 56 12.7 +0.6
baz=89
GSC Goldstone 88.94 54 ⇓P P 07 56 12.9 +0.5
baz=89
GSC Goldstone 88.94 54 eP P 07 56 11.7 -0.8
TPNV Topopah Spring 88.95 52 eP P 07 56 12.4 -0.1
TPNV pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
TPNV Topopah Spring 88.95 52 ⇑P P 07 56 12.6 +0.1
baz=89
TPNV Topopah Spring 88.95 52 eP P 07 56 12.4 -0.1
comp=Z,7.4nm,1.1s,mb4.9
U10A Ash Meadows, A 89.02 53 ⇑P P 07 56 13.4 +0.6
baz=89
R11A Troy Canyon, C 89.08 51 ⇓P P 07 56 13.4 +0.4
baz=89
JOF Joensuu 89.08 335 ep P 07 56 10.7 -1.8
comp=Z,6.3nm,0.7s,mb5.0
JOF Joensuu 89.08 335 eP P 07 56 10.7 -1.8
JOF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
MOS Moscow 89.11 327 eP P 07 56 08.8 -4.0
MOS pmax pmax
comp=Z,59nm,0.9s,mb5.9
S11A Rachel 89.15 52 ⇓P P 07 56 14.0 +0.6
baz=89
O12A Currie 89.18 49 ⇑P P 07 56 13.4 -0.1
baz=89,SNR=8.1
J14A Carey 89.19 46 ⇓P P 07 56 14.3 +0.8
baz=89
M13A Montello 89.30 48 ⇑P P 07 56 14.2 +0.1
baz=89,SNR=6.3
G15A Dillon 89.35 44 ⇑P P 07 56 14.5 +0.3
baz=89
Q12A Willow Creek R 89.46 50 ⇑P P 07 56 15.3 +0.5
baz=89
K14A Jones Ranch, D 89.66 46 ⇑P P 07 56 16.1 +0.4
baz=90
T11A Corn Creek, Al 89.66 52 ⇑P P 07 56 16.4 +0.6
baz=90
L14A Malta 89.77 47 ⇑P P 07 56 16.3 +0.1
baz=90
BOZ Bozeman (W) 89.78 43 eP P 07 56 21.7 +5.5
R12A Pony Springs, 89.83 51 ⇓P P 07 56 16.7 +0.1
baz=90
M14A Sheep Mountain 89.85 47 ⇓P P 07 56 16.6 0.0
baz=90
VRSR Storozhevoye 89.86 323 eP P 07 56 14.8 -1.6
VRSR pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
VRSR pmax pmax
comp=N,2.0nm,1.1s
VRSR pmax pmax
comp=E,4.0nm,1.3s
MONP Monument Peak 89.88 56 ⇓P P 07 56 17.2 +0.3
baz=90
V11A Goodsprings 89.88 53 ⇓P P 07 56 17.2 +0.3
baz=90
OBN Obninsk 89.90 327 ci P P 07 56 14.8 -1.7
OBN e 08 06 36.9
OBN eSS SS 08 13 00.6 -5.2
OBN pmax pmax
comp=Z,42nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.9
OBN Obninsk 89.90 327 eP P 07 56 14.3 -2.2
comp=Z,33nm,1.0s,mb5.6
SHPR Sheep Range 89.91 53 eP P 07 56 18.6 +1.6
J15A Blackfoot 89.93 45 ⇓P P 07 56 17.4 +0.5
baz=90
P13A Bates Ranch, G 89.95 50 ⇓P P 07 56 17.5 +0.4
baz=90
GMRC Granite Mounta 89.99 54 ⇓P P 07 56 17.6 +0.2
baz=90
LDFC Landfair 90.34 54 eP P 07 56 19.1 +0.1
R13A O'Grain Ranch, 90.35 51 ⇑P P 07 56 19.2 +0.2
baz=90
V12A Nelson 90.36 53 ⇑P P 07 56 18.8 -0.3
baz=90,SNR=6.2
L15A Malad City 90.38 47 ⇑P P 07 56 19.8 +0.7
baz=90
I16A Newdale 90.43 45 ⇑P P 07 56 19.9 +0.6
baz=90
S13A Holt Ranch, En 90.61 51 ⇑P P 07 56 20.8 +0.6
baz=90
DUG Dugway 90.62 49 eP P 07 56 20.6 +0.4
Q14A Sevier Lake (B 90.64 50 ⇓P P 07 56 20.8 +0.5
baz=91
K16A Soda Springs 90.69 46 ⇑P P 07 56 21.1 +0.6
baz=91
RRI2 Red Ridge 90.72 45 eP P 07 56 19.2 -1.4
RRI2 e 07 56 33.7
T13A Saint George 90.73 52 ⇑P P 07 56 21.5 +0.7
baz=91
IMW Indian Meadow 90.80 45 eP P 07 56 21.2 +0.3
comp=Z,2.5nm,0.6s,mb4.7
U13A Pakoon Wash 90.86 52 ⇑P P 07 56 21.6 +0.2
baz=91,SNR=6.8
FLWY Flagg Ranch 90.91 44 eP P 07 56 22.9 +1.4
MOOW Moose Ponds 90.98 45 eP P 07 56 23.1 +1.3
V13A Grand Canyon W 91.00 53 ⇑P P 07 56 22.7 +0.6
baz=91
GLA Glamis 91.12 56 ⇓P P 07 56 23.1 +0.4
baz=91
PDMCI Parker Dam,Lak 91.32 54 ⇓P P 07 56 24.4 +0.8
baz=91
U14A Mt Trumbull 91.46 52 ⇑P P 07 56 24.6 +0.4
baz=91
X13A Yucca 91.49 54 ⇑P P 07 56 24.3 -0.1
baz=91
KAF Kangasniemi 91.51 336 ep P 07 56 20.6 -3.2
comp=Z,3.2nm,0.5s,mb4.9
KAF Kangasniemi 91.51 336 eP P 07 56 20.6 -3.2
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
RLMT Red Lodge 91.53 43 eP P 07 56 24.1 -0.2
comp=Z,19nm,1.8s,mb5.1
Y13A Salome 91.71 55 ⇑P P 07 56 25.3 -0.1
baz=92
V14A Boquillas Ranc 91.75 53 ⇓P P 07 56 25.6 0.0
baz=92
PDAR Pinedale Array 92.12 45 P P 07 56 27.1 -0.1
comp=Z,0.6nm,1.1s,mb3.9,baz=263,slow=7.2,SNR=3.6
PDAR LR LR 08 38 25.1
comp=Z,258nm,18.1s,MS4.7,baz=312,slow=36
U15A North Rim 92.14 52 ⇓P P 07 56 26.4 -1.0
baz=92
SOC Sochi 92.17 316 eP P 07 56 25.6 -1.7
SOC e*PP pP 07 56 51.6 +21
SOC e 08 00 06.9
SOC e 08 06 45.1
SOC ePS PS 08 08 40.6 -0.8
SOC eSS SS 08 13 29.1 -10
SOC MLR MLR
comp=Z,80nm,13.0s,MS4.3
X14A Yava 92.26 54 ⇑P P 07 56 27.7 -0.2
baz=92
S16A Weppner Ranch, 92.28 51 ⇓P P 07 56 28.1 +0.2
baz=92
Y14A Wickenburg 92.33 55 ⇓P P 07 56 28.0 -0.2
baz=92
V15A Kaibab Nationa 92.42 53 ⇓P P 07 56 29.1 +0.4
baz=92
W15A Williams 92.54 53 ⇑P P 07 56 29.4 +0.1
baz=92
X15A Humboldt 92.77 54 ⇑P P 07 56 30.8 +0.5
baz=93
Y15A Casa Rosa Ranc 92.86 54 ⇓P P 07 56 31.1 +0.4
baz=93
LAO LASA Array 92.95 41 eP P 07 56 31.0 +0.2
comp=Z,18nm,1.1s,mb5.4
LAO e 07 56 42.2
Y16A Circle Bar Ran 93.56 54 ⇓P P 07 56 34.5 +0.6
baz=94
X17A Forest Lakes 93.95 54 ⇓P P 07 56 36.2 +0.5
baz=94
Y17A Roosevelt 94.12 54 ⇑P P 07 56 37.3 +0.8
baz=94
V18A Ganado 94.18 52 ⇑P P 07 56 37.6 +0.8
baz=94
T19A Beclabito 94.51 51 ⇓P P 07 56 38.4 +0.2
baz=94
MALT Malatya 94.92 311 P P 07 56 39.4 -0.7
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
MALT Malatya 94.92 311 P P 07 56 39.4 -0.7
comp=Z,6.7nm,1.1s,mb5.0
SMCO Snowmass 95.21 48 eP P 07 56 36.2 -5.2
comp=Z,6.1nm,0.8s,mb5.1
SMCO epP pP 07 57 01.2 +16
AKASG Malin Array Be 95.81 325 P P 07 56 42.2 -1.7
comp=Z,0.2nm,0.3s,mb4.1,baz=51,slow=4.3,SNR=10
AKASG LR LR 08 42 54.4
comp=Z,731nm,19.2s,MS5.2,baz=65,slow=37
AKASG Malin Array Be 95.81 325 P P 07 56 42.2 -1.7
AKASG LR LR 08 42 54.4
ULM Lac du Bonnet 97.55 35 LR LR 08 44 08.7
comp=Z,468nm,18.8s,MS5.0,baz=45,slow=38
NB2 NORSAR Subarra 97.83 339 P P 07 56 51.6 -1.2
comp=Z,1.3nm,0.7s,mb4.6,baz=55,slow=5.1
NOA NORSAR Array B 97.83 339 P P 07 56 50.9 -1.9
comp=Z,3.1nm,0.8s,mb4.9,baz=46,slow=4.5,SNR=7.2
NOA LR LR 08 47 22.1
comp=Z,200nm,18.3s,MS4.6,baz=30,slow=39
MAW Mawson 98.98 203 P P 07 56 57.2 -0.5
comp=Z,2.0nm,0.8s,mb4.7,baz=43,slow=7.7,SNR=3.5
MAW LR LR 08 40 32.5
comp=Z,151nm,20.8s,MS4.5,baz=69,slow=35
KWP Kalwaria 99.96 326 eP Pdif 07 57 01.6 -0.8
KWP pmax pmax
comp=Z,12nm,1.1s,mb5.2
KWP Kalwaria 99.96 326 ePdif Pdif 07 57 01.6 -0.8
comp=Z,12nm,1.1s
PSZ Piszkesteto 102.46 326 eP Pdif 07 57 13.1 -0.5
CLL Collm 103.83 331 eSKSac SKSac 08 07 55.0 -4.9
CLL ePS PS 08 10 46.0 -1.0
CLL ePPS 08 11 29.0
CLL eSS SS 08 16 00.0 -22
CLL eSSS 08 20 24.0
CLL ex x 08 22 12.0
TORD Torodi Ar. Bea 135.60 304 PKP PKPdf 08 02 38.4 -0.5
comp=Z,2.4nm,1.0s,baz=59,slow=1.1,SNR=9.2
SDV Santo Domingo 138.24 61 PKP PKPdf 08 02 44.0 +0.2
comp=Z,2.6nm,0.8s,baz=71,slow=5.3,SNR=3.9
DBIC Dimbokro 144.54 302 PKP PKPdf 08 02 53.5 -1.7
comp=Z,40nm,1.0s,baz=33,slow=4.1,SNR=33
DBIC Dimbokro 144.54 302 PKP PKPdf 08 02 53.5 -1.7
KIC Kosan Boka 144.62 301 ePKP1 PKPdf 08 02 53.7 -1.6
comp=Z,273nm,1.1s
TIC Toumodi 144.69 302 ePKP1 PKPdf 08 02 53.9 -1.5
comp=Z,213nm,1.1s
LIC Lamto 144.93 301 ePKP1 PKPdf 08 02 54.6 -1.2
comp=Z,195nm,1.1s
TRQA Tornquist 145.12 141 ePKPdf PKPdf 08 02 54.1 -1.3
LVC Limon Verde 146.08 111 ePKPbc PKPbc 08 02 59.2 +0.9
LPAZ La Paz 147.48 100 PKPbc PKPbc 08 03 01.4 -1.2
comp=Z,4.4nm,0.8s,baz=7.4,slow=3.9,SNR=16
BDFB Brasilia 166.80 103 PKP PKPdf 08 03 25.0 +0.8
comp=Z,1.6nm,0.8s,baz=123,slow=7.9,SNR=3.9

IDC 23 07:52:41.3±2.3, 198N×9561E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=62.0km s-min=27.5km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.41	76	Pn	Pn	07 53 36.1	+0.4
	0.8nm,0.3s,baz=240,slow=2.0,SNR=4.1						
CMAR	Chiang Mai Arr	16.70	11	Pn	Pn	07 56 36.2	-0.6
	0.4nm,0.3s,baz=196,slow=11,SNR=5.4						
ASAR	Alice Springs	45.12	127	P	P	08 00 59.6	-0.2
	0.6nm,1.0s,baz=310,slow=7.2,SNR=4.2						
MKAR	Makanchi Array	46.13	347	P	P	08 01 07.8	+0.5
	1.8nm,0.9s,baz=157,slow=6.6,SNR=11						
ZALV	Zalesovo Beam	52.56	352	P	P	08 01 55.9	-0.5
	1.7nm,0.5s,baz=173,slow=5.8,SNR=7.7						

IDC 23 07:55:00.1±1.6, 848S×15737E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=39.2km s-min=24.8km az=4.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.72	111	Pn	Pn	07 55 44.7	-0.3
	35nm,0.3s,baz=257,slow=11,SNR=4.9						
HNR				Sn	Sn	07 56 18.4	-0.3
	42nm,0.3s,baz=273,slow=21,SNR=11						
WRA	Warramunga Arr	25.02	240	P	P	08 00 25.8	-0.3
	1.5nm,0.7s,baz=66,slow=9.1,SNR=9.7						
ASAR	Alice Springs	27.07	233	P	P	08 00 43.2	-1.3
	0.5nm,0.8s,baz=52,slow=11,SNR=3.7						
STKA	Stephens Creek	27.51	210	P	P	08 00 49.7	+1.3
	1.2nm,0.5s,baz=40,slow=12,SNR=7.5						
MKAR	Makanchi Array	86.07	318	P	P	08 07 43.4	+0.6
	0.4nm,0.5s,baz=101,slow=5.6,SNR=5.2						

IDC 23 08:31:37.3±1.2, 1745S×17781W, h0km, mb4.0/5, mb1 4.3/5, mb1mx4.0/16, mbtmp4.0/5, ML6.0/1, Error ellipse: s-maj=51.3km s-min=23.8km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	11.75	180	Pn	Pn	08 34 26.1	-0.1
	94nm,0.3s,baz=336,slow=20,SNR=5.4						
STKA	Stephens Creek	39.35	241	P	P	08 39 09.7	+1.1
	1.7nm,0.5s,baz=74,slow=12,SNR=6.8						
WRA	Warramunga Arr	45.28	259	P	P	08 39 56.5	-0.6
	0.8nm,0.5s,baz=96,slow=6.9,SNR=28						
ASAR	Alice Springs	45.46	254	P	P	08 39 57.9	-0.6
	5.4nm,0.5s,baz=88,slow=8.8,SNR=106						
NVAR	Mina Array Bea	78.70	44	P	P	08 43 42.2	+0.7
	0.4nm,0.8s,baz=229,slow=9.1,SNR=2.5						
TXAR	Lajitas Array	85.27	57	P	P	08 44 16.2	-0.1
	0.5nm,0.7s,baz=212,slow=6.8,SNR=5.8						

*ISCJB **23** 08:39:52.8±2.1, 32.17N±008×141.8E±03, h12km±15km, mb3.6/3, Error ellipse: s-maj=37.3km s-min=9.4km az=164.8*
*JMA **23** 08:39:53.0±0.3, 32.14N×142.10E, h65km, M3.1*

IDC 23 08:39:55.5±4.0, 3196N×14101E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML2.8/1, Error ellipse: s-maj=158.1km s-min=21.9km az=71.0

ISC 23 08:39:53.5±2.6, 3225N±009×1420E±03, h7km±19km, n11, σ0°81/18, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.54**	**341**	P	**Pn**	**08 40 34.4**	**-0.7**
BSO1				S	**Sn**	**08 41 06.8**	**+0.5**
BSO2	**Boso 2**	**2.70**	**338**	*e*S	**Sn**	**08 41 11.5**	**+1.3**
BSO3	**Boso 3**	**2.83**	**334**	P	**Pn**	**08 40 38.8**	**-0.3**
BSO3				*e*S	**Sn**	**08 41 13.6**	**+0.2**
BSO4	**Boso 4**	**3.06**	**334**	P	**Pn**	**08 40 42.4**	**+0.1**
BSO4				S	**Sn**	**08 41 18.7**	**-0.4**
JOD2	**Odawara 2**	**3.86**	**322**	P	**Pn**	**08 40 53.5**	**+0.3**
JOD2				*e*S	**Sn**	**08 41 39.7**	**+0.9**
JRY	**Ryogami san**	**4.55**	**327**	P	**Pn**	**08 41 03.6**	**+0.9**
JRY				*e*S	**Sn**	**08 41 56.5**	**+0.7**
JAG	**Ashikaga**	**4.66**	**334**	P	**Pn**	**08 41 04.3**	**0.0**
JAG				*e*S	**Sn**	**08 41 56.9**	**-1.7**
MJAR	**Matsushiro Arr**	**5.30**	**325**	Pn	**Pn**	**08 41 12.8**	**-0.2**
	0.3nm,0.3s,baz=152,slow=12,SNR=12						
MJAR				Sn	**Sn**	**08 42 12.7**	**-1.6**
	0.5nm,0.3s,baz=299,slow=20,SNR=5.3						
MKAR	**Makanchi Array**	**47.19**	**306**	P	**P**	**08 48 26.2**	**-0.5**
	0.7nm,0.6s,mb3.8,baz=88,slow=9.8,SNR=10						
WRA	**Warramunga Arr**	**52.41**	**189**	P	**P**	**08 49 05.9**	**-0.7**
	0.5nm,0.4s,mb3.8,baz=5.6,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**56.14**	**189**	P	**P**	**08 49 34.6**	**+0.9**
	0.2nm,0.6s,mb3.3,baz=357,slow=5.6,SNR=3.8						

ISCJB 23 08:47:15.3±1.1, 2983N±004×3624E±005, h0km, Error ellipse: s-maj=6.9km s-min=5.6km az=8.7
CSEM 23 08:47:16.2, 3002N×3624E, h10km, ML2.6, After SNSN
GII 23 08:47:16.1±1.0, 2988N×3612E, h0km, ML2.5/3, EXPLOSION
SGS 23 08:47:16.2, 3002N×3624E, h3km

ISC 23 08:47:15.2±1.1, 2982N±004×3629E±006, h0km, n13, σ0°66/21, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.10**	**282**	Pg	**Pg**	**08 47 35.8**	**-0.7**
HRFI				Sg	**Sg**	**08 47 50.7**	**0.0**
EIL	**Elat**	**1.17**	**263**	Pg	**Pg**	**08 47 37.0**	**-0.6**
EIL				Sg	**Sg**	**08 47 53.8**	**+1.0**
HQLS		**1.19**	**244**	P	**Pg**	**08 47 37.8**	**-0.2**
HQLS		**1.19**	**244**	P	**Pg**	**08 47 37.8**	**-0.2**
HQLS				S	**Sg**	**08 47 53.9**	**+0.6**
MBRI	**Mt Berech**	**1.19**	**269**	Pg	**Pg**	**08 47 37.7**	**-0.4**
MBRI				Sg	**Sg**	**08 47 54.3**	**+0.8**
ZFRI	**Zfri**	**1.21**	**308**	Sg	**Sg**	**08 47 53.3**	**-0.7**
PRNI	**Paran**	**1.23**	**296**	Pg	**Pg**	**08 47 38.0**	**-0.8**
PRNI				Sg	**Sg**	**08 47 54.3**	**-0.4**
JLOS		**1.28**	**213**	P	**Pg**	**08 47 40.4**	**+0.5**
KRMI	**Paran Flat**	**1.39**	**283**	Pg	**Pg**	**08 47 41.0**	**-0.8**
KRMI				Sg	**Sg**	**08 47 59.8**	**0.0**
MZDA	**Masada**	**1.68**	**332**	Pn	**Pn**	**08 47 45.7**	**-0.3**
MZDA				Sn	**Sn**	**08 48 08.2**	**0.0**
DSI	**Dead Sea**	**1.91**	**336**	Pn	**Pn**	**08 47 49.9**	**+0.8**
DSI				Sn	**Sn**	**08 48 15.4**	**+1.6**
KZIT	**Kziot**	**1.96**	**304**	Sn	**Sn**	**08 48 15.4**	**+0.5**
RSHS		**2.00**	**221**	P	**Pn**	**08 47 49.8**	**-0.5**

IDC 23 08:55:48.2±0.7, 3302S×4313E, h0km, mb4.1/7, mb1 4.1/10, mb1mx4.0/24, mbtmp4.0/10, ML3.7/3, Error ellipse: s-maj=26.0km s-min=20.8km az=50.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**14.85**	**15**	Pn	Pn	08 59 21.4	+1.9
	0.1nm,0.3s,baz=180,slow=14,SNR=1.9						
BOSA	**Boshof**	**15.97**	**281**	Pn	Pn	08 59 33.1	-1.1
	0.2nm,0.3s,baz=144,slow=14,SNR=3.6						
LBTB	**Lobatse**	**17.27**	**293**	P	Pn	08 59 50.4	-0.5
	1.0nm,0.3s,baz=141,slow=14,SNR=9.6						
SNAA	**Sanae**	**45.63**	**199**	P	P	09 04 11.6	+1.7
	0.2nm,1.0s,baz=76,slow=12,SNR=3.7						
QSPA	**South Pole Qui**	**57.17**	**180**	P	P	09 05 35.5	-0.7
	1.4nm,1.0s,baz=136,slow=7.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**60.60**	**312**	P	P	09 06 00.6	-0.3
	1.0nm,0.8s,baz=121,slow=5.8,SNR=5.1						
ASAR	**Alice Springs**	**78.11**	**110**	P	P	09 07 49.2	-0.1
	1.2nm,0.7s,baz=234,slow=4.8,SNR=19						
STKA	**Stephens Creek**	**79.64**	**121**	P	P	09 07 57.5	-0.2
	1.9nm,0.8s,baz=245,slow=7.0,SNR=4.5						
WRA	**Warramunga Arr**	**80.37**	**107**	P	P	09 08 01.7	-0.1
	1.8nm,0.8s,baz=230,slow=4.0,SNR=22						
AKTO	**Aktyubinsk**	**84.13**	**10**	P	P	09 08 20.8	+0.2
	1.7nm,0.8s,baz=187,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**86.94**	**26**	P	P	09 08 35.4	+0.8
	0.6nm,0.4s,baz=233,slow=3.9,SNR=4.2						
YKA	**Yellowknife Ar**	**147.29**	**341**	PKPbc	PKPbc	09 15 31.8	-0.9
	0.9nm,0.6s,baz=31,slow=2.9,SNR=8.7						
TXAR	**Lajitas Array**	**151.42**	**272**	PKPbc	PKPbc	09 15 44.0	-0.2
	0.8nm,0.6s,baz=120,slow=3.4,SNR=10						

NNC 23 08:58:12.1±3.2, 4085N×6736E, h0km, mb3.9, mpv4.0, Error ellipse: s-maj=28.6km s-min=13.4km az=3.0
IDC 23 08:58:17.7±1.1, 4114N×6785E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.8/27, mbtmp3.8/10, ML3.6/4, Error ellipse: s-maj=16.6km s-min=14.5km az=175.0
ISCJB 23 08:58:18.8±0.7, 4153N±006×6775E±005, h10km, mb3.8/6, Error ellipse: s-maj=8.4km s-min=4.8km az=19.6
NEIC 23 08:58:20.7±1.4, 4142N×6785E, h10km, Error ellipse: s-maj=22.2km s-min=7.5km az=193.0
MOS 23 08:58:22.0±0.8, 4154N×6786E, h33km, mb4.0/1, Error ellipse: s-maj=17.6km s-min=11.0km az=85.2

ISC 23 08:58:20.5±0.7, 4142N±006×6778E±005, h10km, n35, σ0°78/44, mb3.8/6, 8C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**2.63**	**50**	⇑Pn	**Pn**	**08 59 04.4**	**+1.4**
	10nm,0.3s,baz=223,slow=19,SNR=222						
KK31				⇑Sn	**Sg**	**08 59 45.2**	**+0.1**
	58nm,0.3s,baz=227,slow=32,SNR=15						
AML	**Almayashu**	**4.48**	**79**	P	**Pn**	**08 59 28.0**	**-0.4**
	SNR=11						
AML	**Almayashu**	**4.48**	**79**	*e*Pn	**Pn**	**08 59 27.5**	**-0.9**
AML				*e*Sg	**Sg**	**09 00 39.0**	**-5.3**
EKS2	**Erkin-Say**	**4.64**	**73**	P	**Pn**	**08 59 31.6**	**+1.0**
	SNR=12						
EKS2	**Erkin-Say**	**4.64**	**73**	*e*Pn	**Pn**	**08 59 30.9**	**+0.4**
AAK	**Ala-Archa**	**5.15**	**74**	P	**Pn**	**08 59 37.5**	**-0.1**
	SNR=8.2						
USP	**Ospenovka**	**5.31**	**67**	P	**Pn**	**08 59 39.5**	**-0.3**
	SNR=6.5						
KBK	**Karagaybulak**	**5.48**	**75**	P	**Pn**	**08 59 43.0**	**+0.9**
	SNR=5.7						
KZA	**Kyzart**	**5.63**	**81**	P	**Pn**	**08 59 44.2**	**0.0**
	SNR=6.2						
TKM2	**Tokmak 2**	**6.00**	**73**	⇑Pn	**Pn**	**08 59 48.7**	**-0.6**
	11nm,0.5s						
TKM2				⇑Sn	**Sn**	**09 01 04.1**	**+6.1**
	81nm,0.6s						
TKM2	**Tokmak 2**	**6.00**	**73**	*e*PN	**Pn**	**08 59 48.8**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,17nm,0.5s						
TKM2	**Tokmak 2**	**6.00**	**73**	P	**Pn**	**08 59 49.0**	**-0.3**
	SNR=6.8						
TKM2	**Tokmak 2**	**6.00**	**73**	*e*Pn	**Pn**	**08 59 48.8**	**-0.5**
	comp=Z,17nm,0.5s						
AB31	**Akbulak array**	**9.57**	**328**	⇑P	**Pn**	**09 00 38.4**	**+0.1**
	comp=Z,0.8nm,0.2s,baz=154,slow=11,SNR=4.9						
AB31				⇓S	**Sn**	**09 02 25.7**	**-0.1**
	comp=Z,3.0nm,0.4s,baz=157,slow=22,SNR=3.4						
AKTK	**Aktyubinsk**	**11.28**	**326**	Pn	**Pn**	**09 01 02.7**	**+1.1**
AKTK				Sn	**Sn**	**09 03 06.7**	**-0.9**
AKTK				Lg		09 04 27.9	
AKTO	**Aktyubinsk**	**11.28**	**326**	Pn	**Pn**	**09 01 02.7**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=147,slow=14,SNR=9.1						
AKTO				Sn	**Sn**	**09 03 06.7**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=346,slow=22,SNR=3.6						
AKTO				Lg		09 04 27.9	
	baz=329,slow=18,SNR=2.8						
AKTO	**Aktyubinsk**	**11.28**	**326**	P	**Pn**	**09 01 02.7**	**+1.1**
AKTO						09 03 06.7	
VOSK	**Vostochnaya**	**11.51**	**10**	⇑P	**Pn**	**09 01 04.9**	**+0.1**
	comp=Z,1.7nm,0.8s						
MK31	**Makanchi Array**	**11.73**	**58**	⇑P	**Pn**	**09 01 08.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=243,slow=14,SNR=3.8						
MKAR	**Makanchi Array**	**11.73**	**58**	Pn	**Pn**	**09 01 05.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=250,slow=12,SNR=4.4						
MKAR				Sn	**Sn**	**09 03 12.8**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=249,slow=18,SNR=2.6						
MKAR				Lg		09 04 29.4	
	comp=Z,0.3nm,0.3s,baz=259,slow=22,SNR=3.2						
MKAR	**Makanchi Array**	**11.73**	**58**	P	**Pn**	**09 01 05.9**	**-1.8**
MKAR						09 03 12.8	
MKAR	**Makanchi Array**	**11.73**	**58**	Pn	**Pn**	**09 01 05.8**	**-1.9**
MKAR				Sn	**Sn**	**09 03 12.8**	**-5.8**
MKAR				Lg		09 04 29.4	
BVA0	**Borovoye Array**	**11.74**	**8**	⇑P	**Pn**	**09 01 08.7**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=180,slow=9.6,SNR=7.9						
BVAR	**Borovoye Array**	**11.74**	**8**	Pn	**Pn**	**09 01 07.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=222,slow=44,SNR=6.9						
BVAR				Sn	**Sn**	**09 03 18.2**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=170,slow=20,SNR=3.3						
BVAR				Lg		09 04 34.6	
	baz=199,slow=26,SNR=2.6						
BVAR	**Borovoye Array**	**11.74**	**8**	P	**Pn**	**09 01 07.5**	**-0.4**
BVAR						09 03 18.2	
ZAL	**Zalesovo**	**16.91**	**37**	P	**Pn**	**09 02 17.1**	**0.0**
ZALV	**Zalesovo Beam**	**16.93**	**37**	Pn	**Pn**	**09 02 17.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=246,slow=11,SNR=2.6						
ARCES	**ARCESS Array B**	**35.64**	**336**	P	**P**	**09 05 18.1**	**+0.1**
	comp=Z,2.0nm,0.9s,mb4.0,baz=119,slow=11,SNR=2.9						
HFS	**Hagfors**	**37.68**	**318**	P	**P**	**09 05 36.7**	**+1.2**
	comp=Z,1.9nm,0.4s,mb4.1,baz=104,slow=6.1,SNR=6.5						
NB2	**NORSAR Subarra**	**38.97**	**320**	P	**P**	**09 05 47.1**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.6,baz=94,slow=8.6						
NOA	**NORSAR Array B**	**38.97**	**320**	P	**P**	**09 05 47.0**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.5,baz=97,slow=8.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**63.51**	**264**	P	**P**	**09 08 50.5**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.5,baz=47,slow=6.2,SNR=2.6						
YKA	**Yellowknife Ar**	**76.42**	**1**	P	**P**	**09 10 09.0**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.7,baz=352,slow=5.9,SNR=6.4						
YKA	**Yellowknife Ar**	**76.42**	**1**	P	**P**	**09 10 09.0**	**-0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**86.68**	**120**	P	**P**	**09 11 02.9**	**-1.6**
	comp=Z,0.2nm,0.6s,mb3.6,baz=321,slow=4.8,SNR=6.1						

IDC 23 09:15:48.2±1.3, 1404N×14673E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.7/20, mbtmp3.8/6, Error ellipse: s-maj=32.3km s-min=20.2km az=107.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.86**	**256**	Pn	Pn	09 16 22.4	+1.1
	64nm,0.3s,baz=97,slow=5.6,SNR=46						
GUMO				Sn	Sn	09 16 47.5	+2.1
	43nm,0.3s,baz=358,slow=22,SNR=8.7						
KSRS	**Korea Array**	**28.71**	**328**	P	P	09 21 46.5	-0.5
	1.4nm,0.9s,baz=139,slow=3.4,SNR=4.8						
WRA	**Warramunga Arr**	**35.90**	**200**	P	P	09 22 49.8	-0.5
	1.3nm,0.8s,baz=18,slow=9.3,SNR=6.8						
ASAR	**Alice Springs**	**39.52**	**199**	P	P	09 23 21.0	+0.2
	0.1nm,0.3s,baz=19,slow=8.8,SNR=5.4						
PETK	**Petropavlovsk-**	**39.94**	**10**	P	P	09 23 25.5	+1.4
	1.0nm,0.5s,baz=140,slow=23,SNR=5.6						
MKAR	**Makanchi Array**	**62.43**	**316**	P	P	09 26 12.9	-0.1
	0.3nm,0.2s,baz=101,slow=7.5,SNR=3.0						
BVAR	**Borovoye Array**	**70.70**	**322**	P	P	09 27 04.6	-1.3
	0.6nm,0.3s,baz=91,slow=9.3,SNR=4.0						
DBIC	**Dimbokro**	**145.09**	**304**	PKPbc	PKPbc	09 35 27.5	-0.6
	2.8nm,0.7s,baz=88,slow=2.8,SNR=4.2						

BJI 23 09:16:40.9, 1440N×9040W, h203km, mB4.9
ISCJB 23 09:16:42.1±0.2, 1456N±003×9041W±002, h198km±2km, mb4.4/61, Error ellipse: s-maj=5.3km s-min=2.3km az=35.3
NEIC 23 09:16:42.9±0.3, 1445N×9045W, h204km±3km, mb4.9/47, MD4.7(MEX), Error ellipse: s-maj=5.3km s-min=3.3km az=222.0
MOS 23 09:16:43.6±1.0, 1454N×9031W, h223km, mb4.7/10, Error ellipse: s-maj=12.9km s-min=5.7km az=104.9
IDC 23 09:16:43.6±0.7, 1460N×9024W, h210km±6km, mb3.9/21, mb1 4.1/24, mb1mx4.0/27, mbtmp3.9/24, Error ellipse: s-maj=13.1km s-min=6.8km az=56.0
MEX 23 09:16:43.2±1.0, 1447N×9080W, h230km±14km, MD4.7
CASC 23 09:16:43.3±2.6, 1404N×9049W, h186km±9km, MD4.6, ML4.4, mb4.9(NEIC)
SZGRF 23 09:17:08.5, 1410N×9176W, h33km, mb4.9, Guatemala

ISC 23 09:16:43.1±0.2, 1458N±003×9039W±002, h190km±2km, h210km±1.7km; pP-P, n512, σ0°90/499, mb4.5/61, 133C-136D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBG	**Las Nubes**	**0.04**	**74**	⇑*i*P	**Pn**	**09 17 09.4**	**+1.3**
GCG	**Guatemala City**	**0.14**	**274**	⇓*i*P	**Pn**	**09 17 08.3**	**+0.1**
GCG				*e*S	**Sn**	**09 17 29.3**	**+1.9**
PCG	**Pacaya**	**0.28**	**230**	⇑*e*P	**Pn**	**09 17 08.7**	**+0.3**
FUG	**Fuego 3**	**0.46**	**254**	⇑*i*P	**Pn**	**09 17 08.8**	**-0.2**
FG6		**0.48**	**268**	⇑*i*P	**Pn**	**09 17 09.3**	**+0.3**
RBDL	**Robledal**	**0.82**	**124**	⇑*i*P	x	09 17 10.7	
MRL	**Marmol**	**0.83**	**54**	⇑*i*P	**Pn**	**09 17 12.9**	**+2.1**
RTR	**El Retiro**	**0.99**	**133**	⇑*i*P	x	09 17 11.7	
MTO2	**Montecristo 2**	**1.01**	**100**	⇑*i*P	x	09 17 12.6	
MTO2				*e*S	x	09 17 36.0	
SBLS	**San Blas**	**1.04**	**135**	⇑*e*P	x	09 17 11.9	
JAT	**Jato**	**1.24**	**258**	⇑*i*P	**Pn**	**09 17 12.8**	**-0.9**
BOQS	**Boqueron**	**1.36**	**128**	⇓*i*P	x	09 17 14.6	
BOQS				*e*S	x	09 17 38.8	
SNET	**Serv Nac Est T**	**1.43**	**128**	⇑*i*P	x	09 17 14.9	
SNET				*e*S	x	09 17 39.8	
SNET				*i*		09 17 46.2	
	comp=Z,3μm,0.5s						
LFU	**La Fuente**	**1.48**	**124**	*e*P	x	09 17 15.6	
LBRS	**Las Brisas**	**1.55**	**122**	⇑*e*P	x	09 17 16.4	
LBRS				*e*S	x	09 17 43.8	
SNVI	**San Vicente**	**1.78**	**122**	*e*P	x	09 17 18.7	
THIG		**1.85**	**281**	*i*P	**Pn**	**09 17 17.6**	**-1.7**
THIG				*i*S	**Sn**	**09 17 45.2**	**-2.1**
CAHU	**Cacacuatique**	**2.26**	**111**	⇓*i*P	x	09 17 24.0	
CAHU				*e*S	x	09 17 56.4	
VSM	**San Miguel**	**2.35**	**119**	*e*P	x	09 17 25.1	
VSM				*e*S	x	09 17 56.7	
BLLM	**Bellamira**	**2.37**	**118**	*e*P	x	09 17 25.7	
BLLM				*e*S	x	09 17 57.8	
CCIG	**Comitan**	**2.39**	**315**	*i*P	**Pn**	**09 17 25.5**	**+0.3**
CCIG				*i*S	**Sn**	**09 17 58.1**	**+0.1**
CNCH	**Conchagua**	**2.80**	**117**	*e*P	x	09 17 29.5	
CNCH				*e*S	x	09 18 05.2	
SCX	**San Cristobal**	**3.05**	**315**	*i*P	**Pn**	**09 17 32.7**	**-0.2**
SCX				*i*S	**Sn**	**09 18 10.1**	**-1.7**
TGUH	**Tegucigalpa,Un**	**3.06**	**99**	⇓*i*P	**Pn**	**09 17 33.8**	**+0.7**
TGUH				*e*S	**Sn**	**09 18 14.2**	**+2.3**
TGUH	**Tegucigalpa,Un**	**3.06**	**99**	*e*Pn	**Pn**	**09 17 33.9**	**+0.9**
TGIG		**3.43**	**310**	*i*P	**Pn**	**09 17 36.2**	**-1.3**
TGIG				*i*S	**Sn**	**09 18 16.4**	**-3.5**
TEL3	**Telica 3**	**3.98**	**120**	*e*P	**Pn**	**09 17 44.7**	**+0.3**
LEON	**Leon**	**4.02**	**122**	*e*P	**Pn**	**09 17 44.8**	**-0.1**
CNGN	**Cerro Negro**	**4.14**	**119**	⇑*i*P	**Pn**	**09 17 45.8**	**-0.5**
MOMN	**Momotombo**	**4.32**	**119**	*e*P	**Pn**	**09 17 49.4**	**+0.8**
COPN	**Copaltepe**	**4.39**	**122**	⇑*e*P	**Pn**	**09 17 49.7**	**+0.1**
SCIG	**Sabancuy**	**4.43**	**350**	*i*P	**Pn**	**09 17 50.2**	**+0.2**
SCIG				*i*S	**Sn**	**09 18 41.9**	**-0.8**
CSAN		**4.53**	**121**	*e*P	**Pn**	**09 17 52.1**	**+0.8**
CSAN				*e*S	**Sn**	**09 18 42.7**	**-2.2**
APYN	**Apoyeque**	**4.57**	**120**	⇑*e*P	**Pn**	**09 17 51.8**	**0.0**
APYN				*e*S	**Sn**	**09 18 42.8**	**-2.9**
XAVN	**Gruta Xavier**	**4.63**	**121**	*e*P	**Pn**	**09 17 52.4**	**-0.2**
XAVN				*e*S	**Sn**	**09 18 43.8**	**-3.3**
HUEN		**4.67**	**118**	⇓*i*P	**Pn**	**09 17 53.5**	**+0.4**
TISN	**Laguna Tiscapa**	**4.68**	**121**	*e*P	**Pn**	**09 17 53.5**	**+0.3**
MGAN	**Managua**	**4.70**	**120**	*e*P	**Pn**	**09 17 53.5**	**+0.1**
MGAN				AML	AML	09 18 51.9	
	comp=E,1μm,0.8s						
CRUN	**El Crucero**	**4.74**	**122**	⇑*e*P	**Pn**	**09 17 54.7**	**+0.7**
CRUN				*e*S	**Sn**	**09 18 47.7**	**-2.0**
APON	**Apoyo**	**4.97**	**122**	*e*P	**Pn**	**09 17 57.5**	**+0.5**
APON				*e*S	**Sn**	**09 18 51.8**	**-3.1**
CMIG	**Matias Romero**	**5.00**	**301**	P	**Pn**	**09 17 55.0**	**-2.2**
	comp=E,35nm,0.3s,baz=132,slow=9.1,SNR=604						
CMIG				S	**Sn**	**09 18 48.2**	**-7.5**
	comp=E,42nm,0.3s,baz=118,slow=12,SNR=19						
CMIG	**Matias Romero**	**5.00**	**301**	*i*P	**Pn**	**09 17 54.3**	**-3.0**
CMIG				*i*S	**Sn**	**09 18 48.2**	**-7.4**
CMIG	**Matias Romero**	**5.00**	**301**	*i*P	**Pn**	**09 17 55.3**	**-2.0**
CMIG				*i*S	**Sn**	**09 18 48.2**	**-7.4**
CONN	**Concepcion**	**5.52**	**122**	*e*P	**Pn**	**09 18 04.5**	**+0.4**
CONN				*e*S	**Sn**	**09 19 06.0**	**-1.9**
HUIG	**Huatulco**	**5.65**	**283**	*i*P	**Pn**	**09 18 01.9**	**-3.9**
HUIG				*i*S	**Sn**	**09 18 58.3**	**-13**
HUIG	**Huatulco**	**5.65**	**283**	*i*P	**Pn**	**09 18 01.9**	**-3.9**
HUIG				*i*S	**Sn**	**09 18 57.7**	**-13**
MADN	**Villa Maderas**	**5.68**	**123**	⇑*e*P	**Pn**	**09 18 05.7**	**-0.5**
TEIG	**Tepich**	**5.97**	**19**	P	**Pn**	**09 18 10.5**	**+0.7**
	comp=E,39nm,0.3s,baz=203,slow=6.5,SNR=236						
TEIG				S	**Sn**	**09 19 16.7**	**-1.6**
	baz=64,slow=22,SNR=3.7						
TEIG	**Tepich**	**5.97**	**19**	*e*Pn	**Pn**	**09 18 10.6**	**+0.7**
	comp=E,615nm,0.8s						
CUI		**6.40**	**127**	⇓*e*P	**Pn**	**09 18 15.7**	**+0.2**
CUI				*e*S	**Sn**	**09 19 28.0**	**-0.5**
VCR	**Vista de Mar**	**6.41**	**133**	*e*P	**Pn**	**09 18 15.7**	**0.0**
2RIO	**Dos Rios de Up**	**6.44**	**128**	⇑*i*P	**Pn**	**09 18 11.3**	**-4.7**
2RIO				*e*S	**Sn**	**09 19 18.9**	**-11**
OXX	**Oaxaca**	**6.59**	**293**	*i*P	**Pn**	**09 18 16.5**	**-1.4**
OXX				*i*S	**Sn**	**09 19 20.9**	**-12**
VHO	**Vista Hermosa**	**6.59**	**293**	*e*P	**Pn**	**09 18 14.9**	**-3.1**
VHO				*i*S	**Sn**	**09 19 24.0**	**-9.0**
VHO	**Vista Hermosa**	**6.59**	**293**	*i*P	**Pn**	**09 18 16.7**	**-1.3**
VHO				*i*S	**Sn**	**09 19 24.0**	**-9.0**
JCR	**Jicaral**	**6.97**	**132**	*e*P	**Pn**	**09 18 23.1**	**+0.1**
JCR				*e*S	**Sn**	**09 19 43.3**	**+1.2**
CAO	**Cobano**	**7.08**	**133**	⇓*e*P	**Pn**	**09 18 24.1**	**-0.4**
CAO				*e*S	**Sn**	**09 19 39.0**	**-5.6**
CGA2	**Cerro Gallo 2**	**7.35**	**127**	*e*P	**Pn**	**09 18 28.0**	**+0.1**
CGA2				*e*S	**Sn**	**09 19 50.9**	**-0.1**
PRS1	**Puriscal**	**7.49**	**127**	*e*P	**Pn**	**09 18 31.0**	**+1.3**
PRS1				*e*S	**Sn**	**09 19 56.3**	**+2.0**
PNIG	**Pinotepa**	**7.68**	**285**	*i*P	**Pn**	**09 18 30.0**	**-2.2**
PNIG				*i*S	**Sn**	**09 19 45.3**	**-13**
PNIG				*i*S	**Sn**	**09 19 48.7**	**-10**
TPIG	**Tehuac#an**	**7.70**	**301**	*i*P	**Pn**	**09 18 31.1**	**-1.4**
TPIG				*i*S	**Sn**	**09 19 52.0**	**-7.3**
UTMO	**Huajuapan**	**7.82**	**295**	*i*P	**Pn**	**09 18 33.5**	**-0.7**
UTMO				*e*S	**Sn**	**09 19 49.8**	**-12**
QCR	**Quepos**	**7.95**	**129**	*e*P	**Pn**	**09 18 35.5**	**-0.4**
QCR				*e*S	**Sn**	**09 20 06.8**	**+1.5**
BUS	**Buena Vista**	**8.18**	**127**	*e*P	**Pn**	**09 18 39.4**	**+0.6**
BUS				*e*S	**Sn**	**09 20 13.1**	**+2.3**
BAR1		**8.72**	**127**	*e*P	**Pn**	**09 18 46.5**	**+0.6**
PPM	**Popocatepetl**	**9.06**	**301**	*i*P	**Pn**	**09 18 47.1**	**-3.2**
PPM				*i*P		09 18 51.0	
PPM				*i*S	**Sn**	**09 20 24.8**	**-7.0**
PPM	**Popocatepetl**	**9.06**	**301**	*i*P	**Pn**	**09 18 51.0**	**+0.7**
PPM				*i*S	**Sn**	**09 20 24.8**	**-7.0**
PPM				*i*S	**Sn**	**09 20 35.2**	**+3.5**
ACR	**Cerro Adams**	**9.20**	**129**	*e*P	**Pn**	**09 18 53.3**	**+1.1**
ACR				*e*S	**Sn**	**09 20 37.0**	**+2.0**
CTCR	**Cotoan**	**9.36**	**126**	⇑*e*P	**Pn**	**09 18 53.6**	**-0.6**
ACX	**Acapulco**	**9.46**	**285**	*i*P	**Pn**	**09 18 53.0**	**-2.4**
MEIG	**Mezcala**	**9.47**	**292**	*i*P	**Pn**	**09 18 55.7**	**+0.1**
CAIG	**El Cayaco**	**9.82**	**286**	*i*P	**Pn**	**09 18 59.2**	**-1.0**
ZIIG	**Zihuatanejo**	**11.06**	**287**	*i*P	**Pn**	**09 19 16.3**	**-0.1**
LNIG	**Linares**	**13.35**	**322**	*i*P	**Pn**	**09 19 49.3**	**+3.9**
DWPF	**Disney**	**15.83**	**30**	*e*Pn	**Pn**	**09 20 17.4**	**+1.6**
	comp=E,47nm,0.7s						
HKT	**Hockley**	**16.10**

218A	Dragoon	24.95	317	⇓P	P	09 21 49.4 +0.4
	baz=25					
119A	Ashpeak Ranch,	24.99	320	⇑P	P	09 21 49.8 +0.4
	baz=25,SNR=8.8					
KSU1	Kansas State U	25.04	349	eP	P	09 21 50.5 +0.8
	comp=Z,20nm,0.8s,mb4.7					
118A	Homack Ranch,	25.32	319	⇓P	P	09 21 53.0 +0.6
	baz=26					
CBKS	Cedar Bluff	25.52	343	eP	P	09 21 53.3 -0.7
CBKS				pmax	pmax	
	comp=Z,48nm,1.2s,mb5.0					
CBKS	Cedar Bluff	25.52	343	eP	P	09 21 53.3 -0.7
	comp=Z,48nm,1.2s,mb5.0					
URVA	University of	25.59	24	eP	P	09 21 54.7 0.0
URVA				epP	pP	09 22 36.0 +2.8
TUC	Tucson	25.64	317	eP	P	09 21 55.2 -0.1
TUC				pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.3					
TUC	Tucson	25.64	317	eP	P	09 21 55.2 -0.1
	comp=Z,5.8nm,0.8s,mb4.3					
Z18A	Geronimo	25.66	319	⇓P	P	09 21 56.2 +0.8
	baz=26					
Y19A	Nutrioso	25.77	322	⇑P	P	09 21 57.3 +1.0
	baz=26					
117A	Oracle	25.78	318	⇓P	P	09 21 56.9 +0.4
	baz=26					
216A	Three Points,	25.91	316	⇓P	P	09 21 57.9 +0.2
	baz=26					
X19A	St. Johns	26.11	323	⇓P	P	09 22 00.1 +0.6
	baz=26					
Y18A	Canyon Day Jun	26.12	320	⇑P	P	09 22 00.1 +0.5
	baz=26,SNR=9.4					
ACSO	Alum Creek Sta	26.37	13	eP	P	09 22 01.9 +0.2
X18A	Snowflake	26.58	322	⇓P	P	09 22 04.1 +0.5
	baz=27,SNR=7.2					
MCWV	Mont Chateau	26.65	18	eP	P	09 22 04.4 +0.2
	comp=Z,18nm,0.9s,mb4.7					
SDCO	Great Sand Dun	26.69	333	eP	P	09 22 05.4 +0.8
Z16A	Peralta Trail,	26.71	318	⇓P	P	09 22 05.2 +0.3
	baz=27					
214A	Organ Pipe Nat	26.81	314	⇓P	P	09 22 05.7 0.0
	baz=27					
115A	Sonoran Desert	26.85	316	⇓P	P	09 22 07.0 +0.9
	baz=27					
W18A	Petrified Fore	26.86	323	⇓P	P	09 22 06.7 +0.5
	baz=27					
SCIA	State Center	27.34	355	eP	P	09 22 09.8 -0.6
	comp=Z,27nm,0.8s,mb4.9					
V18A	Ganado	27.39	324	⇓P	P	09 22 11.5 +0.7
	baz=28					
X16A	Lo Mia Camp, P	27.41	320	⇑P	P	09 22 11.5 +0.4
	baz=28,SNR=13					
SDMD	Soldier's Deli	27.46	23	eP	P	09 22 11.8 +0.4
Y15A	Casa Rosa Ranc	27.68	318	⇓P	P	09 22 13.9 +0.4
	baz=28					
T19A	Beclabito	27.70	327	⇓P	P	09 22 14.0 +0.4
	baz=28					
MVCO	Mesa Verde	27.71	328	⇑P	P	09 22 14.3 +0.6
	baz=28,SNR=8.9					
MVCO	Mesa Verde	27.71	328	eP	P	09 22 14.4 +0.7
W16A	Flagstaff	27.92	321	⇑P	P	09 22 16.2 +0.7
	baz=28					
X15A	Humboldt	27.96	319	⇑P	P	09 22 16.3 +0.3
	baz=28					
WUAZ	Wupatki	28.10	322	⇓P	P	09 22 17.8 +0.6
	baz=28,SNR=6.0					
Y14A	Wickenburg	28.11	317	⇓P	P	09 22 17.3 0.0
	baz=28					
MVL	Millersville	28.16	23	eP	P	09 22 08.2 -9.4
	comp=Z,22nm,0.8s,mb4.9					
AAM	Ann Arbor	28.23	11	eP	P	09 22 18.0 -0.2
JFWS	Jewell Farm	28.24	0	eP	P	09 22 17.2 -1.1
JFWS				pmax	pmax	
	comp=Z,22nm,0.9s,mb4.9					
JFWS	Jewell Farm	28.24	0	eP	P	09 22 17.2 -1.1
	comp=Z,22nm,0.9s,mb4.9					
X14A	Yava	28.37	318	⇑P	P	09 22 19.6 0.0
	baz=29					
T18A	Mexican Hat	28.39	326	⇓P	P	09 22 21.7 +2.0
	baz=29					
W15A	Williams	28.42	320	⇑P	P	09 22 21.2 +1.1
	baz=29					
U17A	Shonto	28.44	324	⇑P	P	09 22 21.1 +0.9
	baz=29					
S19A	Harvey Farm, M	28.45	328	⇑P	P	09 22 20.5 +0.3
	baz=29,SNR=7.3					
ISCO	Idaho Springs	28.46	335	eP	P	09 22 20.8 +0.5
Y13A	Salome	28.59	316	⇑P	P	09 22 21.7 +0.2
	baz=29,SNR=5.3					
V15A	Kaibab Nationa	28.79	321	⇓P	P	09 22 24.0 +0.8
	baz=29,SNR=9.8					
T17A	Navajo Res., N	28.80	325	⇑P	P	09 22 23.8 +0.4
	baz=29,SNR=6.3					
S18A	Hurst Farm, Bl	28.86	327	⇑P	P	09 22 24.6 +0.8
	baz=29					
R19A	Curley Farm, L	28.93	328	⇓P	P	09 22 25.1 +0.7
	baz=29					
W14A	Seligman	28.96	319	⇑P	P	09 22 25.3 +0.6
	baz=29					
X13A	Yucca	29.05	317	⇓P	P	09 22 25.7 +0.1
	baz=29					
PDMCI	Parker Dam,Lak	29.08	317	⇓P	P	09 22 26.0 +0.1
	baz=29					
T16A	Glen Canyon Da	29.19	324	⇓P	P	09 22 27.0 +0.3
	baz=30,SNR=5.1					
V14A	Boquillas Ranc	29.24	320	⇓P	P	09 22 28.0 +0.7
	baz=30,SNR=6.6					
S17A	Black Ridge (B	29.25	325	⇑P	P	09 22 27.8 +0.5
	baz=30					
U15A	North Rim	29.27	322	⇓P	P	09 22 28.3 +0.8
	baz=30,SNR=6.6					
R18A	Canyonlands Na	29.32	328	⇑P	P	09 22 28.2 +0.3
	baz=30					
W13A	Hualapai Mount	29.40	318	⇑P	P	09 22 28.9 +0.3
	baz=30,SNR=10					
Q19A	Hogan Spring (	29.43	329	⇓P	P	09 22 29.0 +0.1
	baz=30,SNR=6.8					
SWSC	Sam W. Stewart	29.45	313	⇓P	P	09 22 29.2 0.0
	baz=30					
ECSD	EROS,Sioux Fal	29.54	351	eP	P	09 22 28.4 -1.4
	comp=Z,23nm,0.7s,mb5.0					
BC3	Big Chuckw Mtn	29.60	314	⇓P	P	09 22 30.8 +0.3
	baz=30					
NNA	Nana	29.61	152	eP	P	09 22 24.7 -6.0
PHWY	Pilot Hill	29.68	337	eP	P	09 22 31.4 +0.4
IRM	Iron Mountain	29.68	315	⇑P	P	09 22 31.5 +0.3
	baz=30					
T15A	Red Dirt Ranch	29.72	323	⇑P	P	09 22 32.2 +0.7
	baz=30					
S16A	Weppner Ranch,	29.76	325	⇑P	P	09 22 32.6 +0.8
	baz=30					
R17A	Hanksville Air	29.78	327	⇓P	P	09 22 32.8 +0.9
	baz=30					
U14A	Mt Trumbull	29.80	321	⇓P	P	09 22 32.9 +0.7
	baz=30,SNR=8.5					
MONP	Monument Peak	29.87	312	⇓P	P	09 22 33.5 +0.6
	baz=30					
V13A	Grand Canyon W	29.93	319	⇓P	P	09 22 33.9 +0.5
	baz=30,SNR=5.4					
Q18A	Rafter H Ranch	29.98	328	⇑P	P	09 22 34.5 +0.7
	baz=30					
PAL	Palisades	29.99	25	eP	P	09 22 33.8 0.0
PAL				pmax	pmax	
	comp=Z,21nm,0.7s,mb5.0					
PAL	Palisades	29.99	25	eP	P	09 22 33.8 +0.1
	comp=Z,20nm,0.7s,mb5.0					
S15A	Panguitch	30.16	324	⇑P	P	09 22 36.2 +0.9
	baz=30,SNR=10					
W12A	Cal Nev Ari	30.16	318	⇓P	P	09 22 36.1 +0.7
	baz=30					
T14A	Hurricane	30.16	322	⇑P	P	09 22 36.2 +0.8
	baz=30,SNR=11					
BELC	Belle Mtn.	30.17	314	⇑P	P	09 22 35.9 +0.4
	baz=30					
LDFC	Landfair	30.18	317	eP	P	09 22 37.1 +1.5
SRU	San Rafael	30.19	328	⇓P	P	09 22 36.2 +0.7
	baz=30					
SRU	San Rafael	30.19	328	eP	P	09 22 36.1 +0.5
BINY	Binghamton	30.21	22	eP	P	09 22 35.7 0.0
	comp=Z,40nm,0.6s,mb5.3					
U13A	Pakoon Wash	30.27	320	⇓P	P	09 22 37.3 +0.9
	baz=30,SNR=11					
109C	Camp Elliot, M	30.36	312	⇓P	P	09 22 37.9 +0.6
	baz=31					
GMRC	Granite Mounta	30.38	316	⇓P	P	09 22 38.1 +0.8
	baz=31					
V12A	Nelson	30.41	318	⇑P	P	09 22 38.0 +0.5
	baz=31,SNR=8.8					
P18A	Preston Nutter	30.44	329	⇑P	P	09 22 38.5 +0.7
	baz=31					
R15A	Junction	30.48	325	⇓P	P	09 22 39.1 +0.9
	baz=31					
GLMI	Grayling	30.55	8	eP	P	09 22 37.9 -0.8
P17A	Butcher Ranch,	30.57	328	⇑P	P	09 22 39.1 +0.2
	baz=31,SNR=5.4					
T13A	Saint George	30.63	321	⇑P	P	09 22 40.5 +1.0
	baz=31,SNR=11					
MSU	Marysvale	30.64	325	eP	P	09 22 40.2 +0.6
S14A	Cedar City	30.68	323	⇓P	P	09 22 40.6 +0.7
	baz=31					
MURC	Murrieta	30.80	313	⇓P	P	09 22 41.7 +0.7
	baz=31					
O18A	Roosevelt	30.81	330	⇓P	P	09 22 41.5 +0.5
	baz=31,SNR=6.8					
V11A	Goodsprings	30.85	318	⇓P	P	09 22 42.0 +0.6
	baz=31					
N19A	John Jarvie Ra	30.91	332	⇓P	P	09 22 42.0 +0.1
	baz=31					
BBRC	Big Bear Sol-O	30.95	314	⇓P	P	09 22 43.6 +1.2
	baz=31					
S13A	Holt Ranch, En	30.97	322	⇑P	P	09 22 43.6 +1.1
	baz=31,SNR=14					
SHPR	Sheep Range	31.08	319	eP	P	09 22 44.0 +0.5
Q15A	Fillmore	31.10	326	⇓P	P	09 22 43.8 +0.3
	baz=31					
O17A	Robinson Place	31.12	329	⇑P	P	09 22 44.0 +0.3
	baz=31					
P16A	Fountain Green	31.15	327	⇓P	P	09 22 44.9 +0.8
	baz=31					
N18A	Larsen Ranch,	31.20	331	⇓P	P	09 22 45.8 +1.4
	baz=32					
R13A	O'Grain Ranch,	31.43	323	⇑P	P	09 22 47.8 +1.3
	baz=32					
COWI	Conover	31.44	2	eP	P	09 22 45.2 -1.3
	comp=Z,43nm,0.8s,mb5.2					
P15A	Leamington	31.45	326	⇑P	P	09 22 47.5 +0.8
	baz=32					
BFSC	Mount Baldy St	31.46	313	⇑P	P	09 22 47.1 +0.3
	baz=32					
O16A	Springville	31.51	328	⇑P	P	09 22 47.7 +0.5
	baz=32					
SADO	Sadowa	31.57	15	P	P	09 22 47.1 -0.5
	baz=222,slow=11					
T11A	Corn Creek, Al	31.58	320	⇓P	P	09 22 48.2 +0.4
	baz=32					
S12A	Delamar Landin	31.58	321	⇓P	P	09 22 48.9 +1.1
	baz=32,SNR=5.8					
Q14A	Sevier Lake (B	31.59	325	⇓P	P	09 22 48.6 +0.7
	baz=32					
RSSD	Black Hills	31.66	341	eP	P	09 22 48.3 -0.1
RSSD				pmax	pmax	
	comp=Z,6.0nm,0.7s,mb4.4					
RSSD	Black Hills	31.66	341	eP	P	09 22 48.3 -0.1
	comp=Z,6.4nm,0.7s,mb4.5					
QUA2	Belchertown	31.69	26	eP	P	09 22 48.4 -0.4
	comp=Z,15nm,0.6s,mb4.9					
N17A	Moffit Pass	31.73	330	⇓P	P	09 22 49.4 +0.3
	baz=32					
U10A	Ash Meadows, A	31.78	318	⇓P	P	09 22 50.5 +0.9
	baz=32					
P14A	Drum Mountains	31.89	326	⇑P	P	09 22 51.4 +0.9
	baz=32					
R12A	Pony Springs,	31.91	322	⇑P	P	09 22 51.7 +1.1
	baz=32,SNR=10					
Q13A	Wheeler Ranch,	31.98	324	⇑P	P	09 22 52.6 +1.3
	baz=32,SNR=6.1					
N16A	Rees Ranch, Co	31.99	329	⇑P	P	09 22 52.0 +0.6
	baz=32					
EDW2	Edwards Air Fo	32.03	314	⇓P	P	09 22 52.0 +0.2
	baz=32					
TPNV	Topopah Spring	32.04	319	eP	P	09 22 53.0 +1.1
TPNV				pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.1					
TPNV	Topopah Spring	32.04	319	⇓P	P	09 22 52.9 +1.1
	baz=32					
TPNV	Topopah Spring	32.04	319	eP	P	09 22 53.0 +1.2
	comp=Z,2.7nm,0.7s,mb4.1					
FURC	Furnace Creek,	32.15	318	⇓P	P	09 22 53.1 +0.2
	baz=32					
S11A	Rachel	32.16	320	⇑P	P	09 22 54.1 +1.2
	baz=32,SNR=13					
P13A	Bates Ranch, G	32.32	325	⇑P	P	09 22 55.3 +1.0
	baz=33,SNR=8.2					
MPMC	Manual Prospec	32.33	316	⇓P	P	09 22 54.6 +0.2
	baz=33,SNR=11					
NCB	Newcomb	32.38	22	eP	P	09 22 54.1 -0.6
	comp=Z,24nm,0.6s,mb5.1					
R11A	Troy Canyon, C	32.50	321	⇑P	P	09 22 56.5 +0.7
	baz=33,SNR=6.0					
Q12A	Willow Creek R	32.51	323	⇑P	P	09 22 56.6 +0.7
	baz=33					
PDAR	Pinedale Array	32.58	333	P	P	09 22 55.1 -1.3
	comp=Z,1.1nm,0.6s,mb3.8,baz=128,slow=8.8,SNR=13					
PDAR				PcP	PcP	09 25 34.6 -3.6
	comp=Z,0.6nm,0.3s,baz=142,slow=4.3,SNR=10.0					
PDAR				ScP	ScP	09 29 00.6 -3.6
	comp=Z,0.3nm,0.6s,baz=140,slow=3.3,SNR=3.8					
HWUT	Hardware Ranch	32.59	330	eP	P	09 22 56.7 +0.1
ARVC	Arvin	32.74	314	⇓P	P	09 22 58.7 +0.7
	baz=33,SNR=5.0					
GRAC	Grapevine Rang	32.80	318	⇓P	P	09 22 59.1 +0.7
	baz=33					
MDV	Middlebury	32.80	23	eP	P	09 22 57.7 -0.6
LONY	Lake Ozonia	32.82	21	eP	P	09 22 58.1 -0.4
	comp=Z,44nm,0.9s,mb5.2					
L16A	Fish Haven	32.84	330	⇑P	P	09 22 58.6 -0.1
	baz=33					
S10A	Tonopah Range,	32.85	320	⇑P	P	09 22 60.0 +1.1
	baz=33,SNR=16					
N14A	Grayback Hills	32.86	327	⇓P	P	09 22 59.8 +0.9
	baz=33					
Q11A	Duckwater	32.86	322	⇓P	P	09 23 00.0 +1.0
	baz=33,SNR=10					
R10A	Warm Springs	32.90	321	⇓P	P	09 23 00.7 +1.3
	baz=33,SNR=7.6					
S09A	Goldfield	33.13	319	⇓P	P	09 23 01.6 +0.3
	baz=33,SNR=6.9					
EYMN	Ely	33.28	359	eP	P	09 23 00.6 -1.9
	comp=Z,28nm,0.8s,mb5.0					
O12A	Currie	33.29	325	⇓P	P	09 23 03.2 +0.5
	baz=34,SNR=6.2					
VES	Vestal, Richgr	33.29	315	⇓P	P	09 23 03.5 +0.7
	baz=34,SNR=5.9					
L15A	Malad City	33.30	329	⇓P	P	09 23 02.4 -0.3
	baz=34,SNR=7.6					
Q10A	Clear Creek Ra	33.30	321	⇓P	P	09 23 04.1 +1.4
	baz=34,SNR=11					
PKM	Peak Mountain	33.32	313	⇑P	P	09 23 03.7 +0.6
	baz=34					
R09A	Tonopah	33.35	320	⇓P	P	09 23 03.4 +0.2
	baz=34,SNR=8.7					
FRNY	Flat Rock	33.36	22	eP	P	09 23 02.7 -0.4
	comp=Z,47nm,1.3s,mb5.1					
M14A	Sheep Mountain	33.41	328	⇓P	P	09 23 04.0 +0.3
	baz=34,SNR=7.1					
LBNH	Lisbon	33.49	24	eP	P	09 23 04.0 -0.3
LBNH				pmax	pmax	
	comp=Z,7.0nm,1.0s,mb4.3					
LBNH	Lisbon	33.49	24	eP	P	09 23 04.0 -0.3
	comp=Z,6.7nm,1.0s,mb4.3					
S08C	White Mtn Res	33.60	318	⇓P	P	09 23 06.6 +1.2
	baz=34,SNR=7.5					
REDW	Red Top Meadow	33.62	333	eP	P	09 23 05.4 -0.1
	comp=Z,18nm,0.7s,mb4.9					
SNOW	Snow King Moun	33.66	333	eP	P	09 23 05.9 +0.1
	comp=Z,26nm,0.6s,mb5.1					
HELL	Mitchell Peak	33.71	316	⇓P	P	09 23 06.7 +0.3
	baz=34,SNR=8.8					
O11A	Cowboy Ranch,	33.71	324	⇓P	P	09 23 07.0 +0.7
	baz=34					
LOHW	Long Hollow	33.71	333	eP	P	09 23 06.4 +0.2
TPAW	Teton Pass	33.77	333	eP	P	09 23 06.7 0.0
	comp=Z,33nm,1.7s,mb4.8					
RRI2	Red Ridge	33.82	332	eP	P	09 23 07.5 +0.3
P10A	Eureka	33.84	322	⇑P	P	09 23 08.2 +0.8
	baz=34					
N12A	Clover Valley,	33.85	325	⇑P	P	09 23 08.1 +0.6
	baz=34,SNR=5.3					
K15A	Arbon	33.88	330	⇓P	P	09 23 07.6 -0.2
	baz=34,SNR=7.9					
MOOW	Moose Ponds	33.88	333	eP	P	09 23 07.3 -0.4
ELK	Elko	33.89	325	P	P	09 23 07.3 -0.5
	comp=Z,2.4nm,0.7s,mb4.0,baz=135,slow=8.4,SNR=19					
ELK	Elko	33.89	325	P	P	09 23 07.3 -0.5
J16A	Bone	33.90	332	⇑P	P	09 23 07.9 0.0
	baz=34,SNR=5.9					
AGMN	Agassiz Refuge	33.93	353	eP	P	09 23 06.5 -1.6
IMW	Indian Meadow	34.09	333	eP	P	09 23 09.4 0.0
K14A	Jones Ranch, D	34.09	329	⇓P	P	09 23 09.2 -0.3
	baz=34,SNR=14					
FLWY	Flagg Ranch	34.13	334	eP	P	09 23 10.2 +0.4
M12A	Wells	34.17	326	⇑P	P	09 23 10.0 -0.3
	baz=34,SNR=6.7					
N11A	Elko Archery C	34.21	325	⇓P	P	09 23 10.7 +0.1
	baz=34					
NVAR	Mina Array Bea	34.23	319	P	P	09 23 11.6 +0.8
	comp=Z,12nm,0.7s,mb4.7,baz=137,slow=8.7,SNR=70					
NVAR				pP	pP	09 23 53.9 +3.4
	comp=Z,1.5nm,0.8s,baz=128,slow=7.0,SNR=2.0					
NVAR				PcP	PcP	09 25 41.8 -1.3
	comp=Z,0.9nm,0.5s,baz=188,slow=2.6,SNR=4.7					
NVAR				ScP	ScP	09 29 06.5 -3.6
	comp=Z,0.6nm,0.7s,baz=123,slow=5.5,SNR=4.3					
KCC	Kaiser Creek	34.26	317	⇑P	P	09 23 11.0 0.0
	baz=34,SNR=6.3					
Q08A	Gabbs	34.26	320	⇑P	P	09 23 11.6 +0.5
	baz=34,SNR=7.9					
T06C	Millerton Lake	34.35	316	⇓P	P	09 23 11.0 -0.8
	baz=35,SNR=5.4					
PKD	Parkfield	34.36	314	⇓P	P	09 23 11.9 -0.1
	baz=35					
J15A	Blackfoot	34.38	331	⇑P	P	09 23 12.2 +0.2
	baz=35					
RLMT	Red Lodge	34.39	336	eP	P	09 23 10.8 -1.3
	comp=Z,3.1nm,0.5s,mb4.3					
R07C	Lee Vining	34.51	318	⇑P	P	09 23 13.8 +0.5
	baz=35					
O09A	Fish Creek Ran	34.62	323	⇓P	P	09 23 14.6 +0.5
	baz=35,SNR=6.7					
LAO	LASA Array	34.65	341	eP	P	09 23 14.0 -0.2
	comp=Z,20nm,1.0s,mb4.7					
U04C	Hernandez Rese	34.74	314	⇑P	P	09 23 15.6 +0.3
	baz=35					
J14A	Carey	34.84	330	⇑P	P	09 23 16.1 +0.2
	baz=35					
S06C	San Francisco	34.92	317	⇑P	P	09 23 17.1 +0.3
	baz=35,SNR=5.1					
S05C	Merced	34.95	316	⇑P	P	09 23 16.5 -0.5
	baz=35					
R06C	Coleville	35.02	318	⇓P	P	09 23 18.1 +0.5
	baz=35					
K12A	Draper Farm, C	35.03	328	⇑P	P	09 23 17.5 -0.1
	baz=35					
M10A	I.L. Ranch, Tu	35.14	325	⇑P	P	09 23 19.3 +0.8
	baz=35					
L11A	Cat Creek Ranc	35.15	326	⇓P	P	09 23 18.5 -0.1
	baz=35,SNR=6.2					
N09A	Rock Creek Ran	35.26	323	⇑P	P	09 23 19.9 +0.4
	baz=36,SNR=9.0					
I14A	Mackay	35.26	331	⇓P	P	09 23 20.1 +0.5
	baz=36					
O08A	Rochester Mine	35.27	322	⇓P	P	09 23 19.6 -0.1
	baz=36					
HAST	Hastings Reser	35.29	314	⇓P	P	09 23 19.7 -0.2
	baz=36					
H15A	Lima	35.41	332	⇓P	P	09 23 22.0 +1.2
	baz=36					
PKME	Peaks-Kenny Pk	35.41	26	eP	P	09 23 20.7 -0.1
	comp=Z,22nm,1.0s,mb4.8					
PACP	Pacheco Peak	35.42	315	⇑P	P	09 23 21.0 0.0
	baz=36					
HLID	Hailey	35.45	329	⇑P	P	09 23 21.2 0.0
	baz=36					
HLID	Hailey	35.45	329	eP	P	09 23 20.6 -0.6
	comp=Z,2.5nm,0.9s,mb3.8					
L10A	Juniper Basin	35.47	326	⇓P	P	09 23 21.5 +0.1
	baz=36					
I13A	Wildhorse Cree	35.57	330	⇓P	P	09 23 22.5 +0.4
	baz=36,SNR=10					
J12A	Stokes Ranch,	35.57	328	⇓P	P	09 23 22.1 -0.1
	baz=36					
O07A	Toulon	35.63	321	⇓P	P	09 23 22.1 -0.6
	baz=36					
MCMT	McKenzie Canyo	35.67	332	P	P	09 23 23.8 +0.8
DGMT	Dagmar	35.67	344	eP	P	09 23 22.7 -0.3
	comp=Z,76nm,0.8s,mb5.4					
DGMT				ePP	PP	09 24 49.1 +1.0
K11A	Parker Ranch,	35.72	327	⇓P	P	09 23 23.3 -0.1
	baz=36					
H14A	Leadore	35.74	331	⇓P	P	09 23 24.3 +0.7
	baz=36					
G15A	Dillon	35.77	333	⇑P	P	09 23 24.3 +0.5
	baz=36,SNR=16					
BOZ	Bozeman (W)	35.78	334	⇑P	P	09 23 24.0 0.0
	baz=36,SNR=19					
BOZ	Bozeman (W)	35.78	334	eP	P	09 23 23.8 -0.1
EMMW	East Machias	35.79	28	eP	P	09 23 24.0 0.0
R04C	Big Horse Ranc	35.84	317	⇑P	P	09 23 25.0 +0.4
	baz=36					
ULM	Lac du Bonnet	35.86	354	P	P	09 23 22.5 -2.0
	comp=Z,66nm,0.7s,mb5.4,baz=173,slow=9.1,SNR=109					
DLMT	Dillon	35.97	333	eP	P	09 23 26.1 +0.6
LAVA	Lava Cap Winer	35.98	318	⇓P	P	09 23 26.0 +0.2
	baz=36					
MFID	Camas Ranch	36.06	328	⇑P	P	09 23 26.9 +0.5
	baz=36					
H13A	Challis	36.12	331	⇑P	P	09 23 26.8 0.0
	baz=36,SNR=32					
M08A	Happy Creek Ra	36.13	323	⇓P	P	09 23 27.5 +0.5
	baz=36					
K10A	MacKenzie Ranc	36.17	326	⇓P	P	09 23 27.4 +0.1
	baz=36					
P05C	Yuba Gap, Truc	36.20	319	⇓P	P	09 23 28.0 +0.4
	baz=36					
O06A	Flanigan	36.21	320	⇑P	P	09 23 28.0 +0.3
	baz=36					
G14A	Jackson	36.26	332	⇓P	P	09 23 28.2 +0.2
	baz=37					
LRM	Limekiln Ridge	36.27	334	eP	P	09 23 28.1 +0.1
F15A	Butte	36.30	334	⇑P	P	09 23 28.5 +0.1
	baz=37,SNR=11					
I11A	Placerville	36.48	328	⇓P	P	09 23 29.8 -0.1
	baz=37,SNR=13					
G13A	Cobalt	36.50	331	⇓P	P	09 23 29.6 -0.5
	baz=37,SNR=12					
N06A	Buffalo Meadow	36.56	321	⇓P	P	09 23 30.4 -0.3
	baz=37					
K09A	Rome	36.58	325	⇑P	P	09 23 31.4 +0.7
	baz=37,SNR=22					
L08A	Fields	36.59	324	⇓P	P	09 23 30.5 -0.4
	baz=37,SNR=5.0					
F14A	Wisdom	36.66	333	⇑P	P	09 23 31.4 -0.1
	baz=37					
HRY	Holter Researc	36.72	335	eP	P	09 23 31.8 -0.1
OHCM	Honcut	36.79	318	eP	P	09 23 32.2 -0.4
E15A	Deer Lodge	36.83	334	⇑P	P	09 23 32.4 -0.4
	baz=37,SNR=12					
WVOR	Wild Horse Val	36.91	324	eP	P	09 23 33.4 -0.2
WVOR				pmax	pmax	
	comp=Z,8.0nm,1.0s,mb4.3					
WVOR	Wild Horse Val	36.91	324	eP	P	09 23 33.4 -0.2
	comp=Z,7.8nm,1.0s,mb4.3					
SUTB	Sutter Butte	36.93	318	⇑P	P	09 23 33.9 +0.2
	baz=37,SNR=5

baz=38,SNR=22
MOD Modoc 37.54 322 ⇓P **P 09 23 38.4 -0.5**
baz=38
MSO Missoula 37.70 333 *e*P **P 09 23 39.3 -0.8**
comp=Z,2.8nm,0.8s,mb3.9
MSO *e*PcP PcP 09 25 51.7 -1.5
G11A Walters Elk Ra 37.70 330 ⇑P **P 09 23 39.1 -1.1**
baz=38,SNR=16
D14A Greenough 37.71 334 ⇑P **P 09 23 38.9 -1.3**
baz=38,SNR=13
M05C Lookout 37.73 321 ⇑P **P 09 23 40.1 -0.3**
baz=38
LPAZ La Paz 37.73 144 P **P 09 23 39.7 -1.0**
comp=Z,6.0nm,0.6s,mb4.4,baz=331,slow=7.8,SNR=48
LPAZ PcP PcP 09 25 52.6 -1.2
comp=Z,1.6nm,0.5s,baz=349,slow=1.6,SNR=7.8
H09A Durkee 37.88 328 ⇓P **P 09 23 41.1 -0.5**
baz=38
J07A Hines 37.90 325 ⇓P **P 09 23 41.3 -0.5**
baz=38
G10A Bishop Farm, J 38.04 329 ⇓P **P 09 23 41.7 -1.4**
baz=38,SNR=11
LASM Arnica Sink 38.13 321 P **P 09 23 43.7 -0.1**
D13A Huson 38.13 333 ⇑P **P 09 23 43.1 -0.6**
baz=38,SNR=9.8
J06A Christmas Vall 38.29 324 ⇑P **P 09 23 44.2 -1.0**
baz=39
H08A Prairie City 38.31 327 ⇑P **P 09 23 44.3 -1.0**
baz=39,SNR=8.1
G09A Cove 38.37 328 ⇓P **P 09 23 44.2 -1.5**
baz=39,SNR=9.4
E11A Bogner Ranch, 38.37 331 ⇑P **P 09 23 44.2 -1.6**
baz=39,SNR=14
M04C Macdoel 38.40 321 ⇓P **P 09 23 45.7 -0.4**
baz=39
I07A Izee 38.47 326 ⇑P **P 09 23 45.4 -1.2**
baz=39
D12A Red Ives Fores 38.49 332 ⇑P **P 09 23 45.5 -1.3**
baz=39
F10A Beach Ranch, E 38.58 330 ⇑P **P 09 23 46.9 -0.6**
baz=39,SNR=22
C13A Hot Springs 38.63 334 ⇑P **P 09 23 47.0 -0.8**
baz=39,SNR=8.2
F09A S2 Ranch, Elgi 38.73 329 ⇓P **P 09 23 48.6 -0.2**
baz=39
I06A Prineville 38.77 325 ⇑P **P 09 23 48.6 -0.4**
baz=39
H07A Lands Inn, Kim 38.83 326 ⇓P **P 09 23 48.2 -1.4**
baz=39
E10A Myers Farm, Un 38.89 330 ⇑P **P 09 23 49.0 -1.1**
baz=39
YBH Yreka Blue Hor 38.90 320 P **P 09 23 48.3 -2.0**
comp=Z,1.4nm,0.5s,mb3.9,baz=192,slow=8.0,SNR=8.9
D11A Klaveano Farm, 38.94 332 ⇑P **P 09 23 49.1 -1.3**
baz=39,SNR=6.9
LNOR Lincton Mounta 39.03 329 *e*P **P 09 23 53.2 +1.9**
B13A Whitefish 39.12 334 ⇑P **P 09 23 51.5 -0.5**
baz=39,SNR=9.5
D10A Wagner Farm, O 39.38 331 ⇑P **P 09 23 53.0 -1.1**
baz=40
E09A Wood Farm, Sta 39.41 330 ⇓P **P 09 23 53.5 -0.9**
baz=40
J04A Umpqua Nationa 39.41 323 ⇓P **P 09 23 53.5 -0.9**
baz=40
WALA Waterton Lakes 39.44 336 *e*P **P 09 23 53.7 -0.8**
comp=Z,7.5nm,0.8s,mb4.4
A13A Flathead Natio 39.54 335 ⇑P **P 09 23 55.1 -0.3**
baz=40
B12A Libby 39.67 334 ⇓P **P 09 23 56.1 -0.4**
baz=40,SNR=7.4
D09A Jones Farm, Ri 39.88 330 ⇓P **P 09 23 57.2 -1.0**
baz=40,SNR=7.8
I04A Tendick Farm, 39.92 323 ⇑P **P 09 23 57.7 -0.9**
baz=40
B11A Sandpoint 39.99 333 ⇓P **P 09 23 58.7 -0.4**
baz=40,SNR=11
A12A Yaak River Ran 40.06 334 ⇓P **P 09 23 59.4 -0.3**
baz=40,SNR=5.6
D08A Wollman Farm, 40.17 330 ⇓P **P 09 23 59.6 -1.1**
baz=40,SNR=5.6
NEW Newport 40.20 332 *e*P **P 09 23 59.4 -1.4**
comp=Z,1.5nm,0.7s,mb3.7
G05A Wamic 40.20 326 ⇓P **P 09 24 01.2 +0.3**
baz=40
F06A Goldendale 40.25 327 ⇓P **P 09 24 01.3 -0.1**
baz=40
OD2 Odessa Site #2 40.31 330 *e*P **P 09 24 01.0 -0.8**
H04A Detroit Lake 40.34 324 ⇑P **P 09 24 00.9 -1.2**
baz=41,SNR=6.1
A11A Hall Mountain, 40.38 334 ⇑P **P 09 24 02.1 -0.2**
baz=41,SNR=14
C09A Chrisman Ranch 40.39 331 ⇑P **P 09 24 02.4 0.0**
baz=41
HOOD Mount Hood Mea 40.44 326 *e*P **P 09 24 03.2 +0.4**
comp=Z,18nm,0.8s,mb4.8
HOOD *e*pP pP 09 24 47.3 +3.8
F05A White Salmon 40.69 326 ⇑P **P 09 24 04.9 0.0**
baz=41
B09A Rice 40.78 332 ⇑P **P 09 24 04.4 -1.1**
baz=41,SNR=12
E06A Yakima 40.87 328 ⇑P **P 09 24 06.3 -0.1**
baz=41
A10A Northport 40.92 333 ⇓P **P 09 24 06.0 -0.7**
baz=41
FFC Flin Flon 41.07 350 *e*P **P 09 24 07.2 -0.7**
FFC pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
FFC Flin Flon 41.07 350 *e*P **P 09 24 07.2 -0.6**
comp=Z,9.6nm,0.5s,mb4.7
C07A Waterville 41.17 329 ⇓P **P 09 24 08.4 -0.4**
baz=42
D06A Cle Elum 41.23 328 ⇑P **P 09 24 08.9 -0.4**
baz=42
B08A Colville Reser 41.28 331 ⇓P **P 09 24 09.0 -0.7**
baz=42
E05A Randle 41.29 327 ⇑P **P 09 24 09.0 -0.7**
baz=42
G03A Yamhill 41.34 325 ⇑P **P 09 24 09.7 -0.5**
baz=42
A09A Danville 41.38 332 ⇑P **P 09 24 09.2 -1.3**
baz=42,SNR=14
A08A Turner Farm, O 41.68 331 ⇑P **P 09 24 11.7 -1.2**
baz=42,SNR=6.9
A07A Ashnola River, 42.27 331 ⇓P **P 09 24 17.4 -0.2**
baz=43,SNR=8.3
RPW Rockport 42.40 329 *e*P **P 09 24 17.6 -1.2**
RPW *e*pP pP 09 25 01.6 +1.8
B06A Marblemount 42.44 329 ⇓P **P 09 24 18.0 -1.0**
baz=43
JCW Jim Creek 42.44 329 *e*P **P 09 24 17.7 -1.4**
JCW *e*PcP PcP 09 26 06.1 -2.3
LVC Limon Verde 42.53 150 P **P 09 24 19.2 -0.9**
comp=Z,4.4nm,0.7s,mb4.2,baz=343,slow=2.8,SNR=4.3
LVC PcP PcP 09 26 09.1 -0.1
comp=Z,2.8nm,0.6s,baz=27,slow=6.8,SNR=3.7
EDM Edmonton 42.62 340 *e*P **P 09 24 19.2 -1.2**
C04A Brinnon 42.66 328 ⇑P **P 09 24 19.8 -1.1**
baz=43
SCHQ Schefferville 44.15 19 P **P 09 24 31.8 -0.9**
comp=Z,120nm,0.6s,mb5.7,baz=216,slow=6.7,SNR=372
YKA Yellowknife Ar 50.84 346 P **P 09 25 21.8 -2.2**
comp=Z,4.5nm,0.6s,mb4.3,baz=144,slow=7.3,SNR=42
YKA pP pP 09 26 07.4 +1.0
comp=Z,1.7nm,0.8s,baz=150,slow=7.8,SNR=2.2
YKA PcP PcP 09 26 34.9 -3.0
comp=Z,0.6nm,0.5s,baz=148,slow=3.7,SNR=5.4
BDFB Brasilia 51.53 124 P **P 09 25 26.8 -3.0**
comp=Z,3.3nm,0.8s,mb4.0,baz=282,slow=17,SNR=9.4
DLBC Dease Lake 52.78 335 *e*P **P 09 25 38.3 -0.2**
PLCA Paso Flores 58.02 162 P **P 09 26 13.8 -2.2**
comp=Z,3.3nm,0.8s,mb4.2,baz=334,slow=10,SNR=6.7
PLCA PcP PcP 09 27 03.0 -2.8
comp=Z,0.9nm,0.6s,baz=284,slow=3.4,SNR=3.2
PLCA Paso Flores 58.02 162 P **P 09 26 13.8 -2.2**
PLCA PcP PcP 09 27 03.0 -2.8
EFI East Falkland 71.71 159 *i* P **P 09 27 37.4 -6.7**
EKA Eskdalemuir Ar 76.59 36 P **P 09 28 09.7 -2.8**
comp=Z,2.5nm,0.7s,mb4.0,baz=273,slow=5.7,SNR=12
EKA pP pP 09 29 01.8 +3.5
comp=Z,1.9nm,0.8s,baz=280,slow=4.2,SNR=2.5
ESDC Sonseca Array 78.13 52 P **P 09 28 18.4 -2.9**
comp=Z,0.6nm,0.3s,mb3.7,baz=291,slow=5.1,SNR=5.4
NB2 NORSAR Subarra 82.89 29 P **P 09 28 44.1 -2.1**
comp=Z,0.6nm,0.6s,mb3.5,baz=287,slow=5.1
NOA NORSAR Array B 82.89 29 P **P 09 28 43.9 -2.4**
comp=Z,1.7nm,0.9s,mb3.8,baz=289,slow=5.1,SNR=5.3
NOA pP pP 09 29 34.7 +2.0
comp=Z,0.3nm,0.6s,baz=293,slow=5.7,SNR=1.9

DBIC Dimbokro 84.04 85 P **P 09 28 49.2 -3.9**
comp=Z,1.2nm,0.6s,mb3.8,baz=266,slow=5.9,SNR=3.3
DBIC Dimbokro 84.04 85 P **P 09 28 49.2 -3.9**
NRDL Niedersach Rie 84.83 37 *e*P pP 09 29 45.4 +2.4
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 85.10 19 P **P 09 28 54.9 -2.3**
comp=Z,1.7nm,0.5s,mb4.0,baz=288,slow=4.3,SNR=10
ARCES ARCESS Array B 85.10 19 P **P 09 28 54.9 -2.3**
MOX Moxa 86.29 39 *e*P pP 09 29 51.9 +1.5
comp=Z,10.0nm,1.7s
DAVOS Davos 86.31 43 P **P 09 29 01.8 -1.8**
GRF Grafenberg Arr 86.35 40 *e*P pP 09 29 52.9 +2.2
comp=Z,52nm,2.1s
DAVOS Davos/Dischmat 86.38 43 P **P 09 29 01.8 -2.2**
comp=Z,2.4nm,0.6s,mb4.1,baz=318,slow=13,SNR=5.4
MANZ Manzenberg 86.80 39 *e*P pP 09 29 55.4 +2.5
comp=Z,4.0nm,1.0s
CLL Collm 86.91 38 *e*P pP 09 29 55.4 +2.0
comp=Z,6.0nm,1.1s
ROTZ Rotzenmuhle 86.93 39 *e*P pP 09 29 56.0 +2.5
comp=Z,9.0nm,1.3s
WET Wettzell 87.55 40 *e*P pP 09 29 58.9 +2.3
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 87.61 38 *e*P pP 09 29 58.8 +1.9
comp=Z,14nm,1.7s
KHC Kasperske Hory 87.99 40 *i* P **P 09 29 09.0 -2.6**
GEC2 GERESS Array S 88.16 40 *e*P pP 09 30 01.7 +2.1
comp=Z,8.0nm,1.5s
GERES GERESS Array B 88.16 40 P **P 09 29 09.8 -2.6**
comp=Z,0.4nm,0.2s,mb3.8,baz=327,slow=2.2,SNR=3.8
GERES pP pP 09 30 01.4 +1.8
comp=Z,0.8nm,0.7s,baz=316,slow=3.7,SNR=2.7
TORD Torodi Ar. Bea 88.72 77 P **P 09 29 10.7 -5.1**
comp=Z,0.4nm,0.5s,mb3.6,baz=294,slow=4.7,SNR=6.9
AKASG Malin Array Be 96.39 34 P **P 09 29 47.7 -2.7**
comp=Z,0.3nm,0.4s,mb4.0,baz=302,slow=11,SNR=4.1
KURK Kurchatov 114.28 8 *i* PKIKP PKiKP 09 34 56.0 -4.0
MKAR Makanchi Array 118.56 6 PKP PKPdf 09 35 04.0 -4.3
comp=Z,0.4nm,0.3s,baz=339,slow=2.6,SNR=5.9
BOSA Boshof 119.18 115 PKP PKPdf 09 35 07.2 -2.9
comp=Z,1.0nm,0.4s,baz=188,slow=7.5,SNR=5.2
BJI Beijing 120.31 337 PKP PKPdf 09 35 08.8 -3.2
HHC Hu-ho-hao-te 121.22 341 *e*PKP PKPdf 09 35 08.4 -5.3
HHC XPKP 09 36 29.3
HHC PP PP 09 36 45.8 +0.4
HHC PKS 09 38 43.4
HHC SKS SKSdf 09 41 56.4 -11
HHC SKKS SKKSac 09 43 14.3 -13
HHC SS SS 09 52 58.4 -4.5
HHC LR LR
comp=N,93nm,17.8s
HHC LR LR
comp=E,110nm,16.7s
HHC LR LR
comp=Z,68nm,17.8s
WMQ Urumqi 121.86 2 *e*PKP PKPdf 09 35 10.0 -4.8
MAW Mawson 124.22 168 PKP PKPdf 09 35 16.4 -2.2
comp=Z,3.5nm,0.5s,baz=213,slow=3.9,SNR=18
TOO Toolangi 125.69 234 *e*P PKPdf 09 35 21.1 -1.2
NJ2 Nanjing 125.83 329 *e*PKP PKPdf 09 35 18.3 -4.5
CTA Charters Tower 125.86 256 *e*P PKPdf 09 35 21.4 -1.7
comp=Z,3.3nm,0.8s
CTA Charters Tower 125.86 256 PKP PKPdf 09 35 21.1 -2.0
comp=Z,3.6nm,0.9s,baz=256,slow=1.4,SNR=5.8
LZH Lanzhou 127.85 345 *e*PKP PKPdf 09 35 20.5 -6.0
LZH XPKP 09 36 41.6
LZH PP PP 09 37 29.3 -0.2
LZH SKS SKSdf 09 42 08.0 -12
LZH SS SS 09 54 21.4 -4.5
LZH PP PP
comp=Z,100nm,4.2s
STKA Stephens Creek 129.70 241 *e*P PKPdf 09 35 28.4 -1.7
comp=Z,3.0nm,0.9s
STKA Stephens Creek 129.70 241 PKP PKPdf 09 35 28.1 -1.9
comp=Z,4.5nm,0.9s,baz=27,slow=0.7,SNR=8.2
CD2 Chengdu 132.78 343 *e*PKP PKPdf 09 35 30.3 -5.7
CD2 XPKP 09 36 51.0
CD2 PP PP 09 38 01.5 0.0
CD2 PKS 09 39 05.3
CD2 SKS SKSdf 09 42 17.3 -12
CD2 SKKS SKKSac 09 44 28.5 -11
CD2 SS SS 09 55 22.0 -4.3
CD2 PP PP
comp=Z,90nm,10.2s
CD2 LR LR
comp=N,210nm,14.8s
CD2 LR LR
comp=Z,180nm,16.2s
GYA Guiyang 135.97 338 *e*PDIF Pdif 09 32 41.8 -4.6
GYA PKP PKPdf 09 35 39.3 -2.8
GYA XPKP 09 36 55.8
GYA PP PP 09 38 24.6 +2.8
GYA PKS 09 39 13.8
GYA SKS SKSdf 09 42 26.8 -8.6
GYA SKKS SKKSac 09 44 52.3 -7.0
GYA SS SS 09 56 03.4 -1.6
GYA LR LR
comp=N,190nm,20.8s
GYA LR LR
comp=E,170nm,21.6s
GYA LR LR
comp=Z,180nm,20.7s
WB2 Warramunga Arr 137.04 256 *e*P 09 35 29.7
WB2 Warramunga Arr 137.04 256 *e*P PKPdf 09 35 42.4 -1.8
WRA Warramunga Arr 137.05 256 PKhKP 09 35 30.7
comp=Z,0.5nm,0.6s,baz=87,slow=3.3,SNR=7.8
WRA PKP PKPdf 09 35 42.4 -1.8
comp=Z,6.0nm,0.6s,baz=88,slow=2.5,SNR=52
WRA SKP 09 38 57.5
comp=Z,1.2nm,0.9s,baz=88,slow=2.6,SNR=5.6
WRA Warramunga Arr 137.05 256 PKP PKPdf 09 35 42.4 -1.8
WRA SKP 09 38 57.5
ASAR Alice Springs 137.33 251 PKhKP 09 35 33.1
comp=Z,0.6nm,0.6s,baz=107,slow=3.9,SNR=13
ASAR PKP PKPdf 09 35 42.3 -2.3
comp=Z,2.9nm,0.8s,baz=125,slow=2.5,SNR=19
ASAR SKP 09 38 58.2
comp=Z,0.7nm,0.9s,baz=97,slow=2.9,SNR=5.2
ASAR Alice Springs 137.33 251 PKP PKPdf 09 35 42.3 -2.3
ASAR SKP 09 38 58.2
FORT Forrest 141.26 239 *e*P PKPdf 09 35 49.8 -1.8
comp=Z,12nm,0.6s
FITZ Fitzroy Crossi 145.29 259 *e*P PKPdf 09 35 57.8 -1.2
comp=Z,23nm,0.6s
CMAR Chiang Mai Arr 145.91 344 PKPbc PKPdf 09 35 58.1 -2.0
comp=Z,3.6nm,0.5s,baz=345,slow=3.1,SNR=13
KLBR Kellerberrin 149.20 232 *e*P PKPdf 09 36 03.2 -2.0
comp=Z,132nm,2.0s
MUN Mundaring 150.18 230 *e*P PKPbc 09 36 10.0 -2.0

*CSEM **23** 09:16:51.9±0.1, 3727N×2824E, h5km, MD2.8, Error ellipse: s-maj=3.5km s-min=1.6km az=25.0*
*ISK **23** 09:16:51.6, 3732N×2826E, h7km, MD2.8*
*DDA **23** 09:16:52.8, 3726N×2825E, h7km±8km, Md2.9*
*ISCJB **23** 09:16:53.3±0.5, 3724N±004×2826E±004, h19km±12km, Error ellipse: s-maj=8.3km s-min=4.4km az=35.4*
ISC 23 09:16:53.2±0.6, 3724N±004×2825E±004, h18km±9km, n12, σ0s88/22, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.11**	**165**	*e*PG	**Pg**	**09 16 55.8**	**-1.2**
MLSB	**Milas**	**0.38**	**278**	*e*PG	**Pg**	**09 16 59.7**	**-1.4**
MLSB				*e*SG	**Sg**	**09 17 05.4**	**-1.1**
TURN	**Turunc**	**0.46**	**142**	⇑*i*P	**Pg**	**09 17 02.1**	**-0.6**
TURN				*i* S	**Sg**	**09 17 09.1**	**+0.2**
AYDN	**Tasoluk**	**0.51**	**325**	*i* P	**Pg**	**09 17 03.1**	**-0.4**
AYDN				*i* S	**Sg**	**09 17 10.2**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.56**	**146**	*e*PG	**Pg**	**09 17 04.1**	**-0.3**
DALT				*e*SG	**Sg**	**09 17 13.4**	**+1.4**
BDRM	**Kayabasi**	**0.67**	**255**	*i* P	**Pg**	**09 17 06.7**	**+0.4**
BDRM				*i* S	**Sg**	**09 17 14.9**	**-0.3**
BDRM	**Kayabasi**	**0.67**	**255**	*i* P	**Pg**	**09 17 06.7**	**+0.4**
BDRM				*i* S	**Sg**	**09 17 14.9**	**-0.3**
BODT	**Bodrum**	**0.77**	**257**	*e*PG	**Pg**	**09 17 07.4**	**-0.9**
BODT				*e*SG	**Sg**	**09 17 18.7**	**+0.2**
GCAM	**G?zelcaml?**	**0.93**	**300**	*e*P	**Pg**	**09 17 12.5**	**+1.3**
GCAM				*e*S	**Sg**	**09 17 24.9**	**+1.3**
GOLH	**Golhisar**	**1.05**	**90**	*e*P	**Pg**	**09 17 13.5**	**0.0**
GOLH				*e*S	**Sg**	**09 17 35.0**	**+7.7**
KULA	**Kula-Manisa**	**1.31**	**14**	*e*PN	**Pn**	**09 17 15.5**	**-1.1**
KDAG	**Bornova**	**1.40**	**326**	*e*P	**Pn**	**09 17 17.1**	**-0.7**
KDAG				*e*S	**Sb**	**09 17 37.4**	**+1.2**

*CSEM **23** 09:26:16.0, 6451N×1760W, h2km, ML4.0, After REY*
REY 23 09:26:16.0, 6451N×1760W, h2km, ML4.0, ML3.3, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRF	**Grimsfjall**	**0.18**	**125**	P	Pg	09 26 19.9	+0.5
IGRF				S	Sg	09 26 22.9	+1.3
ISKR	**Skrokkalda**	**0.34**	**279**	P	Pg	09 26 22.7	+0.1
ISKR				S	Sg	09 26 28.4	+1.4
IKAL	**Kalfafell**	**0.56**	**184**	P	Pg	09 26 26.3	-0.4
IKAL				S	Sg	09 26 34.3	+0.3
IVAT	**Vatnsfell**	**0.66**	**241**	P	Pg	09 26 28.1	-0.5
IBRU	**Bruarjokull**	**0.73**	**63**	P	Pg	09 26 29.1	-0.8
IBRU				S	Sg	09 26 39.8	+0.5
IFAG	**Fagurholsmyri**	**0.76**	**146**	P	Pg	09 26 29.7	-0.8
IFAG				S	Sg	09 26 40.0	-0.3
IVSH	**V-Sauoahnukur**	**0.86**	**69**	P	Pg	09 26 31.4	-1.1
IVSH				S	Sg	09 26 43.3	-0.3
IHVA	**Hvannstoosfjol**	**0.87**	**58**	P	Pg	09 26 31.5	-1.1
IHVA				S	Sg	09 26 43.6	-0.3
ISNB	**Snabyli**	**0.90**	**211**	P	Pg	09 26 31.9	-1.2
ISNB				S	Sg	09 26 44.5	-0.2
IHVE	**Hveravellir**	**0.92**	**294**	P	Pg	09 26 32.1	-1.5
IADA	**Aoalbol**	**1.01**	**59**	P	Pg	09 26 33.7	-1.6
IADA				S	Sg	09 26 47.8	-0.6
IHVO	**Lagu-Hvolar**	**1.13**	**210**	P	Pg	09 26 36.2	-1.4
IGYG	**Gygjarholskot**	**1.16**	**260**	P	Pg	09 26 36.3	-1.9
IGYG				S	Sg	09 26 51.9	-1.2
IHAU	**Haukadalur**	**1.17**	**243**	P	Pg	09 26 36.2	-2.1
IREN	**Reynihlio**	**1.18**	**14**	P	Pg	09 26 36.7	-1.9
IKVO	**Krokottuvotn**	**1.25**	**14**	P	Pg	09 26 37.8	-2.1
IESK	**Eystri-Skogar**	**1.28**	**220**	P	Pg	09 26 38.2	-2.3
IMID	**Miomork**	**1.32**	**231**	P	Pg	09 26 39.1	-2.1
ISAU	**Saurbar**	**1.33**	**248**	P	Pg	09 26 38.7	-2.8
IGRA	**Granastaoir**	**1.42**	**0**	P	Pn	09 26 40.2	-2.6
IGRA				S	Sg	09 26 59.5	-1.9
IHLA	**Hella**	**1.48**	**347**	P	Pn	09 26 41.3	-2.3
IHLA				S	Sb	09 27 01.2	-2.2
IASM	**Asmuli**	**1.48**	**244**	P	Pn	09 26 41.6	-2.1
IASM				S	Sb	09 27 01.1	-2.4
ISOL	**Solvholt**	**1.57**	**250**	P	Pn	09 26 42.7	-2.2
ISOL				S	Sn	09 27 03.2	-2.6
IHED	**Heoinshofoi**	**1.58**	**4**	P	Pn	09 26 42.8	-2.3
IHED				S	Sn	09 27 04.0	-2.1
IKRO	**Krokur**	**1.59**	**257**	P	Pn	09 26 42.8	-2.3
IVES	**Vestmannaeyjar**	**1.60**	**229**	P	Pn	09 26 43.7	-1.5
IHEI	**Heioarbar**	**1.61**	**261**	P	Pn	09 26 43.3	-2.1
IASB	**`sbjarnarst**	**1.62**	**280**	P	Pn	09 26 43.6	-2.0
IBRE	**Brettingsstaoi**	**1.63**	**356**	P	Pn	09 26 43.7	-1.9
IGIL	**Gilhagi**	**1.66**	**18**	P	Pn	09 26 44.0	-2.1
IFLA	**Flatey**	**1.66**	**357**	P	Pn	09 26 44.5	-1.6
IBJA	**Bjarnastaoir**	**1.71**	**252**	P	Pn	09 26 45.0	-1.8
ISIG	**Siglufjorour**	**1.72**	**342**	P	Pn	09 26 44.9	-2.0
ISAN	**Sandskeio**	**1.79**	**257**	P	Pn	09 26 45.7	-2.2
IVOS	**Vogsosar**	**1.91**	**252**	P	Pn	09 26 47.6	-2.0
IKAS	**Kald??rsel**	**1.92**	**257**	P	Pn	09 26 47.6	-2.0
IHRN	**Hraun**	**1.93**	**328**	P	Pn	09 26 47.6	-2.1
ILEI	**Leirhofn**	**1.96**	**13**	P	Pn	09 26 48.7	-1.6
IGRI	**Grimsey**	**2.05**	**355**	P	Pn	09 26 49.5	-2.0
IVOG	**Vogar**	**2.16**	**258**	P	Pn	09 26 50.9	-2.1

*NEIC **23** 09:43:16.1, 17.11N×100.20W, h30km, MD4.1(MEX), After MEX.*
MEX 23 09:43:16.1±0.9, 1711N×10019W, h30km±6km, MD4.2, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.09**	**229**	*i* P	Pb	09 43 19.9	-1.5
CAIG				*i* S	Sb	09 43 24.0	-1.0
ACX	**Acapulco**	**0.36**	**132**	*i* P	Pb	09 43 22.6	-1.8
ACX				*i* S	Sb	09 43 28.5	-1.5
MEIG	**Mezcala**	**0.98**	**34**	*i* P	Pn	09 43 31.2	-2.6
MEIG				*i* S	Sn	09 43 43.5	-3.2
ZIIG	**Zihuatanejo**	**1.31**	**292**	*i* P	Pn	09 43 35.4	-2.9
ZIIG				*i* S	Sn	09 43 53.1	-1.8
PLIG	**Platanillo**	**1.44**	**27**	*i* P	Pn	09 43 38.3	-1.7
PLIG				*i* S	Sn	09 43 56.2	-1.7
YAIG	**Yautepec**	**2.05**	**31**	*i* P	Pn	09 43 47.3	-1.2
YAIG				*i* S	Sn	09 44 10.4	-2.6
YAIG	**Yautepec**	**2.05**	**31**	*i* P	Pn	09 43 47.3	-1.2
YAIG				*i* S	Sn	09 44 09.4	-3.6
PNIG	**Pinotepa**	**2.10**	**110**	*i* P	Pn	09 43 47.7	-1.6
PNIG				*i* S	Sn	09 44 12.4	-2.0
PNIG	**Pinotepa**	**2.10**	**110**	*i* P	Pn	09 43 47.7	-1.6
PNIG				*i* S	Sn	09 44 15.4	+1.0
UTMO	**Huajuapan**	**2.39**	**72**	*i* P	Pn	09 43 52.0	-1.2
UTMO				*i* S	Sn	09 44 19.5	-2.0
PPM	**Popocatepetl**	**2.45**	**37**	*i* P	Pn	09 43 52.7	-1.4
PPM				*e*P		09 43 53.5	
PPM				*i* S	Sn	09 44 27.3	+4.3
PPM	**Popocatepetl**	**2.45**	**37**	*e*P	Pn	09 43 53.5	-0.6
PPM				*i* S	Sn	09 44 27.3	+4.3
PBVM	**Pinon**	**2.55**	**24**	*i* P	Pn	09 43 49.8	-5.6
PBVM				*i* S	Sn	09 44 27.0	+1.6
MOIG	**Morelia**	**2.72**	**340**	*i* P	Pn	09 44 00.1	+2.2
MOIG				*i* S	Sn	09 44 30.0	+0.3
TPIG	**Tehuac#an**	**3.00**	**64**	*i* P	Pn	09 43 59.6	-1.9
TPIG				*i* S	Sn	09 44 35.8	-0.7
VHO	**Vista Hermosa**	**3.31**	**90**	*i* P	Pn	09 44 05.5	-0.4
VHO				*i* S	Sn	09 44 42.5	-1.7
EZ5V		**4.00**	**307**	*e*P	Pn	09 44 14.4	-1.0
EZ5V				*i* S	Sn	09 45 01.0	-0.4
R15V		**4.14**	**300**	*i* P	Pn	09 44 15.5	-1.9
R15V				*i* S	Sn	09 45 04.2	-0.6
GDLC		**4.66**	**320**	*e*P	Pn	09 44 22.9	-1.6
GDLC				*i* S	Sn	09 45 14.9	-2.6

IDC 23 09:44:33.5±14.0, 2299S×17914W, h517km±167km, mb3.1/4, mb1 3.3/5, mb1mx3.0/17, mbtmp3.2/5, Error ellipse: s-maj=241.3km s-min=80.7km az=64.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.56**	**191**	P	P	09 47 48.9	-0.2
	1.1nm,0.3s,baz=6.3,slow=3.1,SNR=8.7						
CTA	**Charters Tower**	**32.28**	**268**	P	P	09 50 20.1	+0.6
	1.5nm,0.3s,baz=101,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**35.80**	**247**	P	P	09 50 48.0	-1.0
	1.0nm,0.5s,baz=98,slow=13,SNR=6.3						
ASAR	**Alice Springs**	**42.97**	**259**	P	P	09 51 47.0	+0.1
	0.9nm,0.6s,baz=98,slow=8.3,SNR=17						
WB2	**Warramunga Arr**	**43.26**	**265**	*e*P	P	09 51 49.2	0.0
WRA	**Warramunga Arr**	**43.27**	**265**	P	P	09 51 49.2	-0.1
	1.5nm,0.4s,baz=96,slow=8.4,SNR=54						

*ISCJB **23** 09:45:42.7±2.9, 1369S±005×7702W±007, h9km±18km, mb4.6/30, MS4.3/5, Error ellipse: s-maj=12.4km s-min=6.6km az=156.9*
*IDC **23** 09:45:42.8±0.7, 1360S×7688W, h0km, mb4.3/9, mb1 4.5/12, mb1mx4.4/19, mbtmp4.4/12, ML3.0/2, MS3.8/5, Ms1 3.8/5, ms1mx3.4/23, Error ellipse: s-maj=33.4km s-min=13.9km az=76.0*
*MOS **23** 09:45:46.7±1.7, 1371S×7703W, h33km, mb4.8/5, Error ellipse: s-maj=26.1km s-min=12.0km az=127.3*
*BJI **23** 09:45:47.4, 1360S×7690W, h35km, mB4.9, Ms5.0, Msz4.8*
*NEIC **23** 09:45:48.4±0.3, 1364S×7695W, h35km, mb4.7/22, Error ellipse: s-maj=12.0km s-min=5.6km az=54.0*
NEIC Felt at Lima.
ISC 23 09:45:46.3±2.6, 1366S±005×7681W±009, h20km±19km, h39km±.6km: pP-P, n277, σ0s61/264, mb4.6/30, MS4.3/5, 97C-91D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.66**	**359**	Pn	**Pn**	**09 46 12.1**	**-2.2**
	124nm,0.3s,baz=190,slow=13,SNR=143						
NNA				Sn	**Sn**	**09 46 34.5**	**-0.5**
	737nm,0.3s,baz=258,slow=17,SNR=13						
NNA	**Nana**	**1.66**	**359**	*e*Pn	**Pn**	**09 46 11.9**	**-2.3**
NNA				*e*Sn	**Sn**	**09 46 35.5**	**+0.5**
ARE	**Arequipa**	**5.85**	**119**	*e*P	**Pn**	**09 47 15.0**	**+3.1**
ATAH	**Atahualpa**	**6.79**	**347**	Pn	**Pn**	**09 47 23.2**	**-1.7**
	8.0nm,0.3s,baz=169,slow=6.1,SNR=32						
ATAH				Sn	**Sn**	**09 48 37.1**	**-4.7**

baz=262,slow=22,SNR=1.7
LPAZ La Paz 8.79 108 Pn **Pn 09 47 56.6 +4.3**
0.2nm,0.3s,baz=274,slow=11,SNR=6.9
LPAZ LR LR 09 51 31.4
comp=Z,270nm,19.1s,baz=106,slow=39
LPAZ La Paz 8.79 108 *e*Pn **Pn 09 47 57.0 +4.7**
LPAZ LR LR 09 51 31.4
LVC Limon Verde 11.65 141 Pn **Pn 09 48 30.8 -0.6**
0.8nm,0.3s,baz=308,slow=11,SNR=12
LVC Sn **Sn 09 50 37.2 -3.7**
0.2nm,0.3s,baz=128,slow=12,SNR=2.7
LVC Limon Verde 11.65 141 *e*Pn **Pn 09 48 31.7 +0.2**
LVC Sn **Sn 09 50 39.1 -1.9**
OTAV Otavalo 13.90 353 *e*Pn **Pn 09 49 03.2 +0.9**
SIV San Ignacio 15.39 101 Pn **Pn 09 49 26.3 +3.9**
0.2nm,0.3s,baz=282,slow=11,SNR=7.3
ROSC El Rosal 18.55 8 P **Pn 09 50 01.5 -0.8**
1.3nm,0.3s,baz=284,slow=19,SNR=2.8
ROSC LR LR 09 58 26.7
comp=Z,449nm,18.6s,baz=14,slow=41
CFAA Coronel Fontan 19.52 158 P **Pn 09 50 14.0 +0.2**
0.0nm,0.3s,baz=332,slow=12,SNR=16
CFAA LR LR 09 56 49.4
comp=Z,16nm,20.6s,baz=2.4,slow=34
BCIP Isla Barro Col 22.87 352 *e*P **P 09 50 50.1 +1.5**
172nm,1.6s,mb5.2
SDV Santo Domingo 23.22 16 P **P 09 50 51.0 -1.3**
3.1nm,0.4s,mb4.1,baz=195,slow=10,SNR=10
SDV Santo Domingo 23.22 16 *e*P **P 09 50 52.5 +0.1**
41nm,2.0s,mb4.5
PLCA Paso Flores 27.53 170 P **P 09 51 30.7 -0.9**
2.3nm,0.8s,mb3.9,baz=326,slow=11,SNR=6.1
PLCA Paso Flores 27.53 170 P **P 09 51 30.7 -0.9**
BDFB Brasilia 27.92 98 LR LR 10 03 53.5
comp=Z,146nm,19.1s,MS3.6,baz=71,slow=39
TXAR Lajitas Array 49.99 329 P **P 09 54 37.5 -1.8**
1.2nm,0.7s,mb4.1,baz=147,slow=8.2,SNR=13
TXAR Lajitas Array 49.99 329 P **P 09 54 37.5 -1.8**
MIAR Mount Ida 50.51 342 *e*P **P 09 54 44.1 +1.0**
ELN Prospectdale 50.74 356 P **P 09 54 43.5 -1.4**
WMOK Wichita Mounta 52.45 337 *e*P **P 09 54 56.9 -0.8**
GDL2 Guadalupe Moun 52.68 330 *e*P **P 09 55 03.4 +4.0**
319A Douglas 54.55 326 ⇓P **P 09 55 12.7 -0.5**
baz=55
318A Bisbee 54.99 325 ⇑P **P 09 55 16.2 -0.1**
baz=55
219A White Tail Can 55.02 326 ⇓P **P 09 55 16.3 -0.3**
baz=55
218A Dragoon 55.43 326 ⇑P **P 09 55 19.4 -0.1**
baz=56
217A Green Valley 55.71 325 ⇓P **P 09 55 21.7 +0.2**
baz=56
118A Homack Ranch, 55.90 326 ⇑P **P 09 55 22.6 -0.2**
baz=56
ANMO Albuquerque 55.93 331 *e*P **P 09 55 22.8 -0.2**
ANMO pmax pmax
comp=Z,8.0nm,1.4s
ANMO Albuquerque 55.93 331 *e*P **P 09 55 22.8 -0.3**
comp=Z,7.5nm,1.4s,mb4.5
117A Oracle 56.26 325 ⇑P **P 09 55 25.4 -0.1**
baz=56,SNR=13
Y19A Nutrioso 56.53 328 ⇓P **P 09 55 27.6 +0.3**
baz=57
116A Eloy 56.79 325 ⇓P **P 09 55 29.4 +0.1**
baz=57
Y18A Canyon Day Jun 56.80 327 ⇑P **P 09 55 29.2 -0.1**
baz=57
Y17A Roosevelt 57.17 326 ⇑P **P 09 55 32.5 +0.6**
baz=57
Z16A Peralta Trail, 57.22 326 ⇓P **P 09 55 32.3 0.0**
baz=58
X18A Snowflake 57.34 328 ⇑P **P 09 55 33.6 +0.5**
baz=58
MDV Middlebury 57.47 3 *e*P **P 09 55 33.8 0.0**
X17A Forest Lakes 57.64 327 ⇓P **P 09 55 36.0 +0.8**
baz=58
Y16A Circle Bar Ran 57.66 326 ⇑P **P 09 55 35.6 +0.2**
baz=58
LBNH Lisbon 57.79 4 *e*P **P 09 55 38.1 +2.1**
SDCO Great Sand Dun 57.79 333 *e*P **P 09 55 35.5 -0.7**
comp=Z,5.7nm,1.0s,mb4.6
X16A Lo Mia Camp, P 58.04 326 ⇑P **P 09 55 38.2 +0.1**
baz=58
Y15A Casa Rosa Ranc 58.18 325 ⇑P **P 09 55 39.0 0.0**
baz=58
FRNY Flat Rock 58.28 3 *e*P **P 09 55 40.0 +0.5**
X15A Humboldt 58.53 326 ⇑P **P 09 55 41.7 +0.2**
baz=59
Y14A Wickenburg 58.54 325 ⇓P **P 09 55 41.3 -0.3**
baz=59
W16A Flagstaff 58.60 327 ⇑P **P 09 55 42.2 +0.3**
baz=59
T19A Beclabito 58.67 330 ⇑P **P 09 55 42.3 -0.1**
baz=59
MVCO Mesa Verde 58.73 331 ⇑P **P 09 55 42.4 -0.3**
baz=59
MVCO Mesa Verde 58.73 331 *e*P **P 09 55 42.6 -0.1**
comp=Z,13nm,1.7s,mb4.7
WUAZ Wupatki 58.84 327 ⇓P **P 09 55 43.5 -0.1**
baz=59
WUAZ Wupatki 58.84 327 *e*P **P 09 55 43.5 -0.1**
comp=Z,26nm,1.6s,mb5.0
X14A Yava 58.87 325 ⇑P **P 09 55 43.7 -0.1**
baz=59,SNR=5.9
Y13A Salome 58.92 324 ⇓P **P 09 55 44.0 -0.1**
baz=59
W15A Williams 59.06 326 ⇓P **P 09 55 45.1 0.0**
baz=59
Y12C Blythe 59.27 324 ⇑P **P 09 55 46.4 -0.1**
baz=60
U17A Shonto 59.31 329 ⇓P **P 09 55 46.6 -0.2**
baz=60
T18A Mexican Hat 59.33 330 ⇑P **P 09 55 46.4 -0.6**
baz=60
DVTC Desert V Tower 59.42 322 ⇑P **P 09 55 47.5 -0.2**
baz=60
S19A Harvey Farm, M 59.46 331 ⇓P **P 09 55 47.5 -0.3**
baz=60
X13A Yucca 59.49 325 ⇑P **P 09 55 47.8 -0.3**
baz=60
V15A Kaibab Nationa 59.49 327 ⇓P **P 09 55 47.9 -0.2**
baz=60
W14A Seligman 59.53 326 ⇓P **P 09 55 48.2 -0.1**
baz=60
ISCO Idaho Springs 59.56 334 *e*P **P 09 55 52.0 +3.6**
SMCO Snowmass 59.62 333 *e*P **P 09 55 51.1 +2.2**
T17A Navajo Res., N 59.69 329 ⇓P **P 09 55 49.2 -0.2**
baz=60
S18A Hurst Farm, Bl 59.83 330 ⇑P **P 09 55 49.9 -0.5**
baz=60
V14A Boquillas Ranc 59.85 326 ⇓P **P 09 55 50.5 -0.1**
baz=60,SNR=14
W13A Hualapai Mount 59.89 325 ⇑P **P 09 55 50.8 0.0**
baz=60,SNR=5.8
IRM Iron Mountain 59.92 324 ⇑P **P 09 55 51.1 -0.1**
baz=60,SNR=5.2
U15A North Rim 60.02 327 ⇑P **P 09 55 52.0 +0.3**
baz=60
R18A Canyonlands Na 60.33 330 ⇓P **P 09 55 53.9 +0.2**
baz=61
U14A Mt Trumbull 60.48 327 ⇑P **P 09 55 55.4 +0.5**
baz=61
Q19A Hogan Spring (60.48 331 ⇑P **P 09 55 55.0 +0.2**
baz=61
V13A Grand Canyon W 60.50 326 ⇓P **P 09 55 55.2 +0.2**
baz=61
T15A Red Dirt Ranch 60.51 328 ⇑P **P 09 55 55.2 +0.1**
baz=61
S16A Weppner Ranch, 60.65 329 ⇑P **P 09 55 56.5 +0.5**
baz=61
GMRC Granite Mounta 60.66 324 ⇑P **P 09 55 56.6 +0.5**
baz=61
MURC Murrieta 60.74 322 ⇓P **P 09 55 57.0 +0.3**
baz=61
R17A Hanksville Air 60.75 330 ⇑P **P 09 55 56.8 +0.2**
baz=61
V12A Nelson 60.88 325 ⇓P **P 09 55 58.1 +0.5**
baz=61
U13A Pakoon Wash 60.90 326 ⇑P **P 09 55 58.5 +0.8**
baz=61
T14A Hurricane 60.91 327 ⇑P **P 09 55 58.3 +0.5**
baz=61
Q18A Rafter H Ranch 61.01 331 ⇓P **P 09 55 58.4 0.0**
baz=61
SRU San Rafael 61.20 330 ⇑P **P 09 56 00.2 +0.5**
baz=62
SRU San Rafael 61.20 330 *e*P **P 09 56 03.2 +3.5**

V11A Goodsprings 61.29 325 ⇑P **P 09 56 00.9 +0.5**
baz=62
T13A Saint George 61.32 327 ⇑P **P 09 56 00.7 +0.1**
baz=62
BFSC Mount Baldy St 61.46 322 ⇓P **P 09 56 01.6 +0.1**
baz=62
MSU Marysvale 61.55 329 *e*P **P 09 56 02.4 +0.3**
P17A Butcher Ranch, 61.59 331 ⇑P **P 09 56 02.5 +0.2**
baz=62
SHPR Shep Range 61.62 325 *e*P **P 09 56 03.1 +0.5**
S13A Holt Ranch, En 61.71 327 ⇑P **P 09 56 02.8 -0.4**
baz=62,SNR=18
O18A Roosevelt 61.87 332 ⇓P **P 09 56 04.6 +0.4**
baz=62
N19A John Jarvie Ra 62.00 333 ⇓P **P 09 56 04.9 -0.2**
baz=62
Q15A Fillmore 62.02 329 ⇑P **P 09 56 05.7 +0.4**
baz=62
EDW2 Edwards Air Fo 62.10 322 ⇑P **P 09 56 06.2 +0.4**
baz=62
O17A Robinson Place 62.16 331 ⇑P **P 09 56 06.2 0.0**
baz=62
T11A Corn Creek, Al 62.19 326 ⇓P **P 09 56 06.4 0.0**
baz=62,SNR=6.5
U10A Ash Meadows, A 62.21 325 ⇓P **P 09 56 07.0 +0.4**
baz=62
R13A O'Grain Ranch, 62.22 327 ⇑P **P 09 56 06.5 -0.1**
baz=62
S12A Delamar Landin 62.26 326 ⇓P **P 09 56 07.2 +0.4**
baz=62
N18A Larsen Ranch, 62.29 332 ⇑P **P 09 56 07.3 +0.3**
baz=62
Q14A Sevier Lake (B 62.47 329 ⇑P **P 09 56 08.4 +0.1**
baz=63
TPNV Topopah Spring 62.55 325 ⇑P **P 09 56 09.1 +0.2**
baz=63
FURC Furnace Creek, 62.55 324 ⇓P **P 09 56 08.7 -0.1**
baz=63
MPMC Manual Prospec 62.62 324 ⇓P **P 09 56 09.3 0.0**
baz=63
R12A Pony Springs, 62.66 327 ⇓P **P 09 56 09.9 +0.4**
baz=63,SNR=5.7
S11A Rachel 62.77 326 ⇑P **P 09 56 10.2 -0.1**
baz=63
N17A Moffit Pass 62.79 332 ⇑P **P 09 56 10.7 +0.3**
baz=63
JLU Jordanelle 62.81 331 *e*P **P 09 56 11.4 +0.9**
P14A Drum Mountains 62.82 329 ⇓P **P 09 56 11.0 +0.4**
baz=63
Q13A Wheeler Ranch, 62.82 328 ⇓P **P 09 56 10.9 +0.3**
baz=63
N16A Rees Ranch, Co 63.03 331 ⇓P **P 09 56 12.2 +0.3**
baz=63
DUG Dugway 63.15 330 *e*P **P 09 56 12.9 +0.1**
DUG pmax pmax
comp=Z,12nm,1.1s,mb4.9
DUG Dugway 63.15 330 ⇓P **P 09 56 13.2 +0.4**
baz=63
DUG Dugway 63.15 330 *e*P **P 09 56 12.9 +0.1**
comp=Z,12nm,1.1s,mb4.9
P13A Bates Ranch, G 63.19 328 ⇓P **P 09 56 13.5 +0.4**
baz=63
R11A Troy Canyon, C 63.20 327 ⇑P **P 09 56 13.7 +0.6**
baz=64
GRAC Grapevine Rang 63.21 324 ⇓P **P 09 56 13.6 +0.3**
baz=64
Q12A Willow Creek R 63.30 328 ⇑P **P 09 56 14.2 +0.4**
baz=64
S10A Tonopah Range, 63.44 326 ⇑P **P 09 56 14.5 -0.2**
baz=64,SNR=5.3
R10A Warm Springs 63.54 326 ⇓P **P 09 56 15.9 +0.5**
baz=64
Q11A Duckwater 63.59 327 ⇓P **P 09 56 15.8 0.0**
baz=64,SNR=12
S09A Goldfield 63.64 325 ⇑P **P 09 56 16.7 +0.6**
baz=64,SNR=5.5
HWUT Hardware Ranch 63.66 332 *e*P **P 09 56 15.4 -0.7**
comp=Z,11nm,1.1s,mb4.8
PDAR Pinedale Array 63.68 334 P **P 09 56 15.3 -0.9**
comp=Z,1.6nm,0.9s,mb4.0,baz=133,slow=6.8,SNR=9.9
N14A Grayback Hills 63.84 330 ⇓P **P 09 56 17.3 0.0**
baz=64
R09A Tonopah 63.92 325 ⇓P **P 09 56 18.3 +0.4**
baz=64
HELL Mitchell Peak 63.94 323 ⇓P **P 09 56 17.9 -0.2**
baz=64
AGMN Agassiz Refuge 63.96 346 *e*P **P 09 56 17.1 -0.8**
comp=Z,9.0nm,1.1s,mb4.7
Q10A Clear Creek Ra 63.98 326 ⇑P **P 09 56 18.2 -0.1**
baz=64
S08C White Mtn Res 64.02 324 ⇑P **P 09 56 18.9 +0.4**
baz=64
MTUM Tungsten Hills 64.14 324 *e*P **P 09 56 19.5 +0.1**
O12A Currie 64.17 328 ⇑P **P 09 56 19.3 -0.2**
baz=64
L15A Malad City 64.35 331 ⇓P **P 09 56 20.3 -0.3**
baz=65
M14A Sheep Mountain 64.42 330 ⇓P **P 09 56 20.5 -0.6**
baz=65
O11A Cowboy Ranch, 64.54 328 ⇑P **P 09 56 21.9 0.0**
baz=65
REDW Red Top Meadow 64.72 333 *e*P **P 09 56 22.7 -0.4**
comp=Z,16nm,1.9s,mb4.7
NVAR Mina Array Bea 64.74 325 P **P 09 56 23.2 -0.1**
comp=Z,3.3nm,0.9s,mb4.4,baz=140,slow=5.6,SNR=17
L14A Malta 64.77 331 ⇓P **P 09 56 23.2 -0.2**
baz=65
Q08A Gabbs 64.84 325 ⇓P **P 09 56 23.7 -0.3**
baz=65
TPAW Teton Pass 64.87 333 *e*P **P 09 56 24.2 +0.2**
comp=Z,9.8nm,1.4s,mb4.7
RRI2 Red Ridge 64.92 333 *e*P **P 09 56 24.5 +0.2**
comp=Z,14nm,1.0s,mb5.0
RRI2 *e*pP pP 09 56 35.7 +4.8
R07C Lee Vining 64.92 324 ⇓P **P 09 56 24.2 -0.3**
baz=65
K15A Arbon 64.94 332 ⇑P **P 09 56 23.9 -0.6**
baz=65
J16A Bone 64.99 333 ⇑P **P 09 56 24.2 -0.6**
baz=65
O10A Cortez Mining, 65.10 327 ⇓P **P 09 56 25.7 +0.1**
baz=65
K14A Jones Ranch, D 65.14 331 ⇓P **P 09 56 25.4 -0.3**
baz=65
L13A Double Diamond 65.15 330 ⇓P **P 09 56 26.0 +0.1**
baz=65
S05C Merced 65.16 323 ⇓P **P 09 56 26.5 +0.5**
baz=65
IMW Indian Meadow 65.19 333 *e*P **P 09 56 25.9 -0.1**
comp=Z,9.9nm,1.2s,mb4.7
FLWY Flagg Ranch 65.23 334 P **P 09 56 25.2 -1.1**
comp=Z,17nm,1.0s,mb5.0
S06C San Francisco 65.24 324 ⇑P **P 09 56 26.4 -0.2**
baz=66
O09A Fish Creek Ran 65.37 327 ⇓P **P 09 56 27.3 0.0**
baz=66
I16A Newdale 65.41 333 ⇑P **P 09 56 27.4 -0.1**
baz=66
J15A Blackfoot 65.46 332 ⇑P **P 09 56 26.4 -1.5**
baz=66
RLMT Red Lodge 65.48 335 *e*P **P 09 56 27.6 -0.3**
comp=Z,10.0nm,1.3s,mb4.7
L12A House Creek Ra 65.72 330 ⇓P **P 09 56 29.2 -0.4**
baz=66
ULM Lac du Bonnet 65.80 347 P **P 09 56 29.0 -0.8**
comp=Z,9.8nm,1.0s,mb4.8,baz=161,slow=5.7,SNR=6.3
J14A Carey 65.90 331 ⇓P **P 09 56 31.1 +0.4**
baz=66
R05C Kirkwood Meado 65.93 324 ⇓P **P 09 56 31.5 +0.5**
baz=66
O08A Rochester Mine 65.97 326 ⇑P **P 09 56 31.5 +0.2**
baz=66
K12A Draper Farm, C 66.03 330 ⇑P **P 09 56 31.1 -0.5**
baz=66,SNR=12
L11A Cat Creek Ranc 66.10 329 ⇓P **P 09 56 32.1 +0.1**
baz=66
J13A Cove Ranch, Pi 66.26 331 ⇑P **P 09 56 33.1 +0.1**
baz=66
O07A Toulon 66.27 326 ⇑P **P 09 56 33.4 +0.2**
baz=66,SNR=5.7
I14A Mackay 66.33 332 ⇑P **P 09 56 33.7 +0.3**
baz=67
L10A Juniper Basin 66.39 329 ⇑P **P 09 56 34.0 +0.1**
baz=67
M09A Marrel Ranch, 66.41 328 ⇑P **P 09 56 34.4 +0.4**
baz=67
HLID Hailey 66.50 331 ⇓P **P 09 56 34.5 0.0**
baz=67

HLID Hailey 66.50 331 *e*P **P 09 56 34.4 -0.1**
comp=Z,7.5nm,1.5s,mb4.5
H15A Lima 66.51 333 ⇑P **P 09 56 34.8 +0.3**
baz=67
J12A Stokes Ranch, 66.59 330 ⇑P **P 09 56 35.5 +0.4**
baz=67
I13A Wildhorse Cree 66.63 332 ⇓P **P 09 56 35.1 -0.2**
baz=67,SNR=5.8
K11A Parker Ranch, 66.68 330 ⇓P **P 09 56 35.9 +0.1**
baz=67
N07B Gerlach 66.76 326 ⇑P **P 09 56 36.1 -0.1**
baz=67
H14A Leadore 66.83 332 ⇑P **P 09 56 36.5 -0.1**
baz=67
G15A Dillon 66.87 333 ⇑P **P 09 56 36.5 -0.3**
baz=67
BOZ Bozeman (W) 66.88 334 *e*P **P 09 56 36.3 -0.6**
BOZ pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
BOZ Bozeman (W) 66.88 334 ⇓P **P 09 56 36.1 -0.8**
baz=67
BOZ Bozeman (W) 66.88 334 *e*P **P 09 56 36.3 -0.6**
comp=Z,6.2nm,1.3s,mb4.5
L09A Wilkinson Ranc 66.96 328 ⇓P **P 09 56 37.3 -0.1**
baz=67
MFID Camas Ranch 67.06 330 ⇑P **P 09 56 37.9 -0.2**
baz=67,SNR=9.4
DLMT Dillon 67.07 333 *e*P **P 09 56 37.6 -0.5**
comp=Z,20nm,2.1s,mb4.8
K10A MacKenzie Ranc 67.10 329 ⇑P **P 09 56 37.8 -0.6**
baz=67
H13A Challis 67.19 332 ⇑P **P 09 56 38.1 -0.9**
baz=67
N06A Buffalo Meadow 67.21 326 ⇓P **P 09 56 38.7 -0.4**
baz=68,SNR=9.9
M07A Soldier Meadow 67.30 327 ⇑P **P 09 56 39.4 -0.3**
baz=68
ORV Oroville 67.32 324 ⇓P **P 09 56 39.5 -0.4**
baz=68
K09A Rome 67.48 328 ⇓P **P 09 56 40.5 -0.3**
baz=68,SNR=10
I11A Placerville 67.50 330 ⇓P **P 09 56 40.2 -0.6**
baz=68
G13A Cobalt 67.59 332 ⇓P **P 09 56 41.3 -0.1**
baz=68
K08A Mann Creek Ran 67.89 328 ⇑P **P 09 56 43.7 +0.4**
baz=68
J09A Fry Pan Ranch, 67.96 329 ⇑P **P 09 56 42.8 -1.0**
baz=68
F13A Darby 68.17 333 ⇓P **P 09 56 44.9 -0.1**
baz=68,SNR=7.5
MOD Modoc 68.26 326 ⇓P **P 09 56 45.7 0.0**
baz=68
E14A Clinton 68.29 334 ⇓P **P 09 56 45.0 -0.8**
baz=68
M05C Lookout 68.35 326 ⇓P **P 09 56 44.0 -2.2**
baz=69
D15A Lincoln 68.36 335 ⇑P **P 09 56 46.3 0.0**
baz=69
F12A Elk City 68.56 332 ⇑P **P 09 56 48.0 +0.5**
baz=69
E13A Victor 68.61 333 ⇑P **P 09 56 48.0 +0.3**
baz=69
SCHQ Schefferville 68.74 6 P **P 09 56 48.4 0.0**
comp=Z,3.6nm,0.9s,mb4.3,baz=205,slow=3.7,SNR=3.2
G11A Walters Elk Ra 68.76 331 ⇑P **P 09 56 48.6 -0.1**
baz=69
J07A Hines 68.77 328 ⇑P **P 09 56 49.2 +0.4**
baz=69
I08A Drewsey 68.78 329 ⇓P **P 09 56 49.4 +0.5**
baz=69
MSO Missoula 68.80 334 *e*P **P 09 56 49.5 +0.5**
comp=Z,12nm,1.4s,mb4.6
D14A Greenough 68.81 334 ⇑P **P 09 56 48.7 -0.4**
baz=69
K06A Valley Falls 68.86 327 ⇓P **P 09 56 49.8 +0.3**
baz=69,SNR=5.1
F11A Grangeville 69.07 332 ⇓P **P 09 56 50.1 -0.6**
baz=69,SNR=6.2
G10A Bishop Farm, J 69.08 331 ⇓P **P 09 56 50.5 -0.3**
baz=69
J06A Christmas Vall 69.12 328 ⇓P **P 09 56 50.8 -0.3**
baz=69
K05A Summer Lake 69.15 327 ⇑P **P 09 56 51.1 -0.1**
baz=69
N02C Big Bar 69.20 324 ⇑P **P 09 56 51.8 +0.2**
baz=70
D13A Huson 69.23 333 ⇓P **P 09 56 51.9 +0.3**
baz=70
H08A Prairie City 69.27 329 ⇓P **P 09 56 51.8 -0.1**
baz=70,SNR=14
I07A Izee 69.37 329 ⇑P **P 09 56 53.1 +0.5**
baz=70
G09A Cove 69.38 330 ⇓P **P 09 56 52.1 -0.5**
baz=70,SNR=6.0
E11A Bogner Ranch, 69.45 332 ⇑P **P 09 56 53.1 +0.1**
baz=70
C14A Swan Lake 69.45 334 ⇓P **P 09 56 53.2 +0.3**
baz=70
D12A Red Ives Fores 69.59 333 ⇓P **P 09 56 53.5 -0.4**
baz=70
F10A Beach Ranch, E 69.63 331 ⇑P **P 09 56 53.3 -0.9**
baz=70
I06A Prineville 69.64 328 ⇑P **P 09 56 54.4 +0.2**
baz=70
J05A Fort Rock 69.71 327 ⇑P **P 09 56 55.1 +0.3**
baz=70
C13A Hot Springs 69.73 334 ⇓P **P 09 56 55.0 +0.2**
baz=70
VNA3 Neumayer Olymp 69.87 161 *e*P **P 09 56 55.6 +0.3**
VNA3 *e* 09 56 58.5
G08A Pilot Rock 69.96 330 ⇑P **P 09 56 56.0 -0.3**
baz=70
H06A Lindquist Farm 70.25 329 ⇑P **P 09 56 58.6 +0.6**
baz=70
G07A Ruggs Ranch, H 70.30 329 ⇓P **P 09 57 00.3 +2.1**
baz=70
D10A Wagner Farm, O 70.46 332 ⇑P **P 09 56 59.7 +0.5**
baz=71
E09A Wood Farm, Sta 70.46 331 ⇑P **P 09 56 59.2 0.0**
baz=71
VNA2 Neumayer--Watz 70.50 161 *e*P **P 09 56 59.3 +0.2**
VNA2 *e* 09 57 02.3
WALA Waterton Lakes 70.53 335 *e*P **P 09 56 59.5 0.0**
comp=Z,6.5nm,1.0s,mb4.5
A13A Flathead Natio 70.64 335 ⇓P **P 09 57 00.6 +0.4**
baz=71
B12A Libby 70.78 334 ⇑P **P 09 57 01.7 +0.6**
baz=71
D09A Jones Farm, Ri 70.94 331 ⇑P **P 09 57 02.6 +0.5**
baz=71
B11A Sandpoint 71.09 333 ⇓P **P 09 57 03.0 0.0**
baz=71
A12A Yaak River Ran 71.16 334 ⇑P **P 09 57 03.4 0.0**
baz=71,SNR=6.2
NEW Newport 71.29 333 *e*P **P 09 57 02.5 -1.7**
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 71.29 333 *e*P **P 09 57 02.5 -1.8**
comp=Z,7.4nm,1.0s,mb4.6
OD2 Odessa Site #2 71.37 331 *e*P **P 09 57 05.6 +0.9**
OD2 *e*PcP PcP 09 57 22.8 -1.6
A11A Hall Mountain, 71.48 334 ⇓P **P 09 57 05.8 +0.5**
baz=72
B09A Rice 71.87 332 ⇓P **P 09 57 08.4 +0.7**
baz=72
SNAA Sanae 72.09 161 *e*P **P 09 57 08.6 -0.2**
SNAA pmax pmax
comp=Z,3.0nm,0.8s
SNAA Sanae 72.09 161 *e*P **P 09 57 08.6 -0.2**
comp=Z,3.0nm,0.8s,mb4.3
C07A Waterville 72.22 331 ⇓P **P 09 57 10.5 +0.7**
baz=72
B08A Colville Reser 72.36 332 ⇓P **P 09 57 11.1 +0.5**
baz=73
A09A Danville 72.47 333 ⇑P **P 09 57 12.0 +0.7**
baz=73
A08A Turner Farm, O 72.76 332 ⇓P **P 09 57 14.0 +0.9**
baz=73
RPW Rockport 73.44 331 *e*P **P 09 57 17.4 +0.3**
EDM Edmonton 73.61 338 *e*P **P 09 57 16.9 -1.0**
EDM *e**PP pP 09 57 28.4 +3.8
NLWA Neilton Lookou 73.87 329 ⇓P **P 09 57 18.8 -0.8**
baz=74
DBIC Dimbokro 74.21 79 LR LR 10 27 46.7
comp=Z,79nm,18.2s,MS4.0,baz=209,slow=34
YKA Yellowknife Ar 81.44 343 P **P 09 58 00.6 -0.9**
comp=Z,3.1nm,0.9s,mb4.2,baz=138,slow=5.5,SNR=12

TOA0	**Torodi Ar. Sit**	**82.20**	**74**	*e*P	**P**	**09 58 07.2**	**+0.6**
TOA0				*e*PcP	PcP	09 58 11.8	-0.2
TORD	**Torodi Ar. Bea**	**82.20**	**74**	P	**P**	**09 58 06.3**	**-0.3**
	comp=Z,5.4nm,0.9s,mb4.5,baz=269,slow=2.7,SNR=10						
TORD				LR	LR	10 34 58.5	
	comp=Z,74nm,19.2s,MS4.1,baz=290,slow=36						
SYO	**Syowa Base**	**86.39**	**161**	⇓*e*P	**P**	**09 58 25.0**	**-1.8**
DAWY	**Dawson**	**90.79**	**337**	*e*P	**P**	**09 58 47.0**	**-0.7**
DAWY				*e*pP	pP	09 58 58.9	+4.5
URZ	**Urewera**	**93.86**	**229**	LR	LR	10 31 32.2	
	comp=Z,587nm,19.6s,MS5.0,baz=10,slow=29						
WRA	**Warramunga Arr**	**134.68**	**223**	PKP	PKPdf	10 05 04.1	-0.3
	comp=Z,0.5nm,0.8s,baz=127,slow=1.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**137.27**	**16**	PKP	PKPdf	10 05 08.2	+0.1
	comp=Z,0.5nm,0.4s,baz=278,slow=33,SNR=2.0						
ZAL	**Zalesovo**	**137.27**	**16**	PKIKP	PKPdf	10 05 08.2	+0.1
SONM	**Songino Array**	**145.82**	**356**	PKPbc	PKPbc	10 05 24.5	+0.4
	comp=Z,4.9nm,0.8s,baz=343,slow=4.5,SNR=3.0						
WMQ	**Urumqi**	**147.13**	**21**	*e*PKP	PKPdf	10 05 23.3	-2.6
KSRS	**Korea Array**	**147.64**	**322**	PKPbc	PKPbc	10 05 28.2	-1.5
	comp=Z,3.8nm,1.0s,baz=99,slow=1.5,SNR=8.7						
BJI	**Beijing**	**151.35**	**339**	PKP	PKPdf	10 05 31.3	-1.5
HHC	**Hu-ho-hao-te**	**151.94**	**346**	*e*PKP	PKPdf	10 05 30.8	-2.9
HHC				APKP		10 05 41.5	
HHC				XPKP		10 05 45.1	
HHC				PKS		10 09 03.8	
HHC				PP	PP	10 09 20.8	+1.0
HHC				SKS	SKSdf	10 12 33.0	-7.1
HHC				SKKS	SKKSac	10 16 04.9	-5.5
HHC				SS	SS	10 28 42.5	-2.6
HHC				LR	LR		
	comp=N,77nm,20.2s,MS4.7						
HHC				LR	LR		
	comp=E,97nm,20.2s,MS4.7						
HHC				LR	LR		
	comp=Z,88nm,19.0s,MS4.6						
GTA	**Gaotai**	**154.17**	**6**	*e*PKP	PKPdf	10 05 39.3	+2.3
GTA				APKP		10 05 43.6	
GTA				XPKP		10 05 46.6	
NJ2	**Nanjing**	**156.74**	**325**	*e*PKP	PKPdf	10 05 38.3	-2.4
LZH	**Lanzhou**	**157.66**	**359**	*e*PKP	PKPdf	10 05 38.9	-2.8
LZH				APKP		10 05 46.5	
CD2	**Chengdu**	**162.82**	**358**	*e*PKP	PKPdf	10 05 43.8	-3.8
CD2				XPKP		10 05 58.3	
CD2				PKP2	PKPab	10 06 33.9	-2.4
CD2				PP	PP	10 10 20.6	+1.0
CD2				SKS	SKSdf	10 12 43.4	-8.1
CD2				SKKS	SKKSac	10 17 02.8	-5.3
CD2				SS	SS	10 30 36.8	-4.4
CD2				PP	PP		
	comp=Z,80nm,10.8s						
CD2				LR	LR		
	comp=N,180nm,21.2s						
CD2				LR	LR		
	comp=Z,160nm,22.4s						
GYA	**Guiyang**	**166.85**	**346**	PKP	PKPdf	10 05 49.3	-1.9
GYA				XPKP		10 06 02.9	
GYA				PKP2	PKPab	10 06 54.8	+0.6
GYA				PKS		10 09 21.3	
GYA				PP	PP	10 10 43.6	+2.8
GYA				SKS	SKSdf	10 12 49.0	-5.4
GYA				SKKS	SKKSac	10 17 26.8	-1.8
GYA				SS	SS	10 31 22.3	-0.5
GYA				LR	LR		
	comp=N,160nm,22.8s						
GYA				LR	LR		
	comp=E,130nm,24.2s						
GYA				LR	LR		
	comp=Z,110nm,24.6s						
KMI	**Kunming**	**168.58**	**2**	PKP	PKPdf	10 05 50.4	-2.1
KMI				APKP		10 05 59.5	
CMAR	**Chiang Mai Arr**	**173.72**	**40**	PKP	PKPdf	10 05 57.0	+1.7
	comp=Z,0.4nm,0.3s,baz=330,slow=1.4,SNR=5.5						

*ISCJB **23** 09:46:49.3±0.8, 3753N±004×13857E±007, h16km±11km, Error ellipse: s-maj=8.9km s-min=6.9km az=169.5*
*JMA **23** 09:46:49.2, 3753N×13855E, h15km±1km, M3.4*
JMA Felt II J1.

ISC 23 09:46:49.0±0.8, 3753N±005×13856E±008, h16km±10km, n5, c0º32/10, 1C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.12**	**87**	⇓P		**Pg**	**09 46 52.6**	**-0.1**
JIZZ				S		**Sg**	**09 46 55.6**	**+0.5**
JHK	**Hiroka**	**0.46**	**127**	⇓P		**Pg**	**09 46 57.7**	**-0.5**
JHK				S		**Sg**	**09 47 04.2**	**-0.2**
JSD	**Sado**	**0.56**	**335**	⇓P		**Pg**	**09 46 59.9**	**-0.3**
JSD				S		**Sg**	**09 47 07.8**	**+0.1**
JNS	**Sasagawa**	**0.67**	**64**	⇑P		**Pg**	**09 47 01.9**	**-0.3**
JNS				S		**Sg**	**09 47 11.5**	**+0.4**
MAT	**Matsushiro**	**1.02**	**196**	P		**Pb**	**09 47 08.5**	**+0.2**
MAT				S		**Sb**	**09 47 21.7**	**+0.3**

MAN 23 09:48:28, 1234N×12369E, h11km, mb3.9, ML2.7, MS2.3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.07**	**283**	⇓*i*P		Pg	09 48 31.4	+1.1
MMPH				*i*S		Sg	09 48 33.4	+1.4
RCP	**Roxas**	**1.21**	**230**	⇑*i*P		Pn	09 48 57.8	+6.9
RCP				*e*S		Sb	09 49 14.8	+8.3

IDC 23 10:05:16.6±3.9, 625S×15043E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.3/14, mbtmp3.1/2, Error ellipse: s-maj=136.8km s-min=50.5km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.73**	**227**	P		P	10 09 58.8	0.0
	0.8nm,0.7s,baz=52,slow=10,SNR=8.1							
ASAR	**Alice Springs**	**23.51**	**221**	P		P	10 10 28.1	-0.4
	0.3nm,0.5s,baz=60,slow=9.4,SNR=13							
TORD	**Torodi Ar. Bea**	**148.46**	**285**	PKPbc		PKPbc	10 25 06.1	-0.2
	0.4nm,0.8s,baz=72,slow=2.0,SNR=2.5							

IDC 23 10:38:23.6±7.1, 601N×12748E, h47km±70km, mb3.8/9, mb1 3.9/9, mb1mx3.7/19, mbtmp3.8/9, MS3.4/1, Ms1 3.4/1, ms1mx2.3/31, Error ellipse: s-maj=71.8km s-min=15.9km az=74.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.16**	**299**	S		Sn	10 39 28.2	+5.5
	61nm,0.3s,baz=91,slow=23,SNR=8.6							
FITZ	**Fitzroy Crossi**	**24.03**	**184**	P		P	10 43 35.4	+1.1
	0.5nm,0.4s,baz=12,slow=16,SNR=3.2							
WRA	**Warramunga Arr**	**26.66**	**165**	P		P	10 43 57.6	-0.6
	3.1nm,0.4s,baz=348,slow=10,SNR=42							
WB2	**Warramunga Arr**	**26.66**	**165**	*e*P		P	10 43 57.5	-0.7
PSI	**Prapat**	**28.64**	**265**	LR		LR	10 57 53.3	
	comp=Z,78nm,19.1s,baz=351,slow=41							
ASAR	**Alice Springs**	**30.16**	**168**	P		P	10 44 29.1	-0.2
	1.1nm,0.3s,baz=353,slow=6.8,SNR=47							
ASAR				PcP		PcP	10 47 30.6	+0.7
	0.4nm,0.5s,baz=360,slow=1.7,SNR=8.9							
KSRS	**Korea Array**	**31.30**	**1**	P		P	10 44 39.8	+0.5
	0.4nm,0.5s,baz=171,slow=11,SNR=4.6							
STKA	**Stephens Creek**	**40.01**	**161**	P		P	10 45 53.9	0.0
	1.6nm,0.4s,baz=347,slow=9.1,SNR=9.0							
MKAR	**Makanchi Array**	**56.14**	**324**	P		P	10 47 58.5	+0.1
	0.7nm,0.7s,baz=120,slow=8.4,SNR=8.8							
ZALV	**Zalesovo Beam**	**58.92**	**332**	P		P	10 48 17.3	-0.5
	1.1nm,0.3s,baz=116,slow=8.2,SNR=2.6							
AKTO	**Aktyubinsk**	**72.36**	**321**	P		P	10 49 44.9	+0.4
	1.1nm,0.7s,baz=90,slow=8.1,SNR=5.0							
ARCES	**ARCESS Array B**	**88.58**	**340**	P		P	10 51 10.5	-0.6
	2.1nm,0.8s,baz=78,slow=6.7,SNR=6.4							
TORD	**Torodi Ar. Bea**	**122.89**	**290**	PKP		PKPdf	10 57 14.9	-0.7
	0.1nm,0.4s,baz=62,slow=3.4,SNR=3.4							

*MOS **23** 10:49:20.9±1.1, 3174S×7152W, h33km, mb4.9/7, Error ellipse: s-maj=21.3km s-min=8.8km az=95.2*
*ISCJB **23** 10:49:21.5±0.2, 3174S±002×7171W±004, h36km, mb4.6/42, MS3.4/4, Error ellipse: s-maj=5.2km s-min=2.3km az=164.8*

*IDC **23** 10:49:22.4±0.4, 3172S×7147W, h37km±3km, mb4.4/16, mb1 4.4/20, mb1mx4.4/23, mbtmp4.3/20, ML4.2/4, MS3.6/5, Ms1 3.6/5, ms1mx3.4/26, Error ellipse: s-maj=18.4km s-min=11.5km az=81.0*
*GUC **23** 10:49:22.5±0.8, 3175S×7149W, h38km±1km, ML4.4*
*NEIC **23** 10:49:22.5, 3175S×7149W, h38km, mb4.7/25, After GUC.*
NEIC Felt [III] at Illapel, Papudo and Salamanca; [II] at Canela Baja, La Ligua and Los Andes.

ISC 23 10:49:23.2±0.2, 3174S±002×7161W±004, h38km, h38km±.3km: pP-P, n136, c0º93/142, mb4.6/42, MS3.4/4, 5C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.17**	**145**	⇑*i*P		**Pn**	**10 49 29.4**	**-0.7**
CHNG				*i*S		**Sn**	**10 49 33.9**	**-0.9**
PTCH	**Petorca**	**0.78**	**132**	⇓*i*P		**Pn**	**10 49 36.3**	**-1.5**
PTCH				*i*S		**Sn**	**10 49 46.2**	**-2.0**
PTCH				AML		AML	10 49 47.2	
	comp=E,20μm,0.1s							
PTCH	**Petorca**	**0.78**	**132**	⇓*i*P		**Pn**	**10 49 36.3**	**-1.5**
PTCH				*i*S		**Sn**	**10 49 46.2**	**-2.0**
OVCH	**Ovalle**	**1.19**	**17**	*e*P		**Pn**	**10 49 43.3**	**0.0**
OVCH				*i*S		**Sn**	**10 49 59.1**	**+0.8**
OVCH				AML		AML	10 50 02.5	
	comp=N,19μm,0.3s							
OVCH	**Ovalle**	**1.19**	**17**	*e*P		**Pn**	**10 49 43.3**	**0.0**
OVCH				*i*S		**Sn**	**10 49 59.1**	**+0.8**
JACH	**Jahuel**	**1.27**	**138**	⇑*i*P		**Pn**	**10 49 44.2**	**-0.4**
IHA	**Instituto Hidr**	**1.28**	**181**	⇓*i*P		**Pn**	**10 49 44.4**	**-0.2**
IHA				*i*S		**Sn**	**10 50 01.2**	**+0.7**
PEL	**Peldehue**	**1.60**	**151**	⇑*i*P		**Pn**	**10 49 48.9**	**-0.1**
PEL				*i*S		**Sn**	**10 50 08.9**	**+0.4**
PEL				AML		AML	10 50 11.7	
	comp=E,16μm,0.4s							
TLL	**Tololo Astrono**	**1.72**	**24**	*e*P		**Pn**	**10 49 51.0**	**+0.3**
TLL				*i*S		**Sn**	**10 50 13.0**	**+1.7**
TLL				AML		AML	10 50 15.4	
	comp=N,10μm,0.7s							
TLL	**Tololo Astrono**	**1.72**	**24**	*e*P		**Pn**	**10 49 51.0**	**+0.3**
TLL				*i*S		**Sn**	**10 50 13.0**	**+1.7**
LSCH	**La Serena**	**1.86**	**10**	*e*P		**Pn**	**10 49 53.0**	**+0.5**
LSCH				*i*S		**Sn**	**10 50 16.0**	**+1.2**
RCDM	**Rinconada Maip**	**1.87**	**159**	*e*P		**Pn**	**10 49 52.8**	**+0.1**
RCDM				*i*S		**Sn**	**10 50 15.8**	**+0.7**
RCDM				AML		AML	10 50 25.2	
	comp=N,4μm,0.4s							
RCDM	**Rinconada Maip**	**1.87**	**159**	*e*P		**Pn**	**10 49 52.8**	**+0.1**
RCDM				*i*S		**Sn**	**10 50 15.8**	**+0.7**
DSCH	**Colegio Aleman**	**1.87**	**152**	*e*P		**Pn**	**10 49 53.2**	**+0.4**
DSCH				*i*S		**Sn**	**10 50 15.7**	**+0.6**
SAN	**Santiago**	**1.89**	**155**	*e*P		**Pn**	**10 49 53.2**	**+0.3**
SAN				*i*S		**Sn**	**10 50 16.0**	**+0.5**
SAN				AML		AML	10 50 32.2	
	comp=E,4μm,0.4s							
SAN	**Santiago**	**1.89**	**155**	*e*P		**Pn**	**10 49 53.2**	**+0.3**
SAN				*i*S		**Sn**	**10 50 16.0**	**+0.5**
FCH	**Farellones**	**1.94**	**145**	⇓*i*P		**Pn**	**10 49 53.9**	**+0.2**
FCH				*e*S		**Sn**	**10 50 18.3**	**+1.6**
FCH				AML		AML	10 50 20.5	
	comp=E,3μm,0.8s							
TACH	**Talagante**	**1.99**	**164**	*e*P		**Pn**	**10 49 54.7**	**+0.3**
ANTU	**Antumapu**	**2.00**	**156**	*e*P		**Pn**	**10 49 55.0**	**+0.5**
ANTU				*i*S		**Sn**	**10 50 18.9**	**+0.6**
ANTU				AML		AML	10 50 30.8	
	comp=E,4μm,0.4s							
ANTU	**Antumapu**	**2.00**	**156**	*e*P		**Pn**	**10 49 55.0**	**+0.5**
ANTU				*i*S		**Sn**	**10 50 18.9**	**+0.6**
PCH	**Pirque**	**2.09**	**154**	⇓*i*P		**Pn**	**10 49 56.0**	**+0.2**
SJCH	**San Jose de Ma**	**2.17**	**151**	*e*P		**Pn**	**10 49 56.9**	**+0.1**
SJCH				*i*S		**Sn**	**10 50 23.0**	**+0.5**
LMEL	**Las Melosas**	**2.41**	**151**	*e*P		**Pn**	**10 50 00.3**	**+0.1**
LMEL				*i*S		**Sn**	**10 50 29.2**	**+0.7**
LMEL				AML		AML	10 50 34.9	
	comp=N,3μm,0.1s							
LMEL	**Las Melosas**	**2.41**	**151**	*e*P		**Pn**	**10 50 00.3**	**+0.1**
LMEL				*i*S		**Sn**	**10 50 29.2**	**+0.7**
CACH	**El Canelo**	**2.52**	**160**	⇑*i*P		**Pn**	**10 50 02.9**	**+1.3**
LCO	**Las Campanas**	**2.83**	**16**	⇑*i*P		**Pn**	**10 50 06.3**	**+0.3**
LCO				*i*S		**Sn**	**10 50 40.2**	**+1.3**
LCO	**Las Campanas**	**2.83**	**16**	*e*Pn		**Pn**	**10 50 06.4**	**+0.4**
LCO				*e*Sn		**Sn**	**10 50 40.5**	**+1.6**
CFAA	**Coronel Fontan**	**2.88**	**88**	Pn		**Pn**	**10 50 07.9**	**+1.2**
	comp=N,8.7nm,0.3s,baz=245,slow=10,SNR=309							
CFAA				Sn		**Sn**	**10 50 41.7**	**+1.7**
	comp=N,7.0nm,0.3s,baz=311,slow=21,SNR=2.4							
CFAA	**Coronel Fontan**	**2.88**	**88**	Pn		**Pn**	**10 50 07.9**	**+1.2**
CFAA				Sn		**Sn**	**10 50 41.7**	**+1.7**
VACH	**Vallenar**	**3.24**	**13**	*e*P		**Pn**	**10 50 11.8**	**+0.1**
VACH				*i*S		**Sn**	**10 50 49.1**	**+0.1**
PLCA	**Paso Flores**	**9.01**	**175**	Pn		**Pn**	**10 51 31.2**	**+0.4**
	comp=N,0.4nm,0.3s,baz=336,slow=13,SNR=12							
PLCA				Sn		**Sn**	**10 53 23.2**	**+12**
	baz=346,slow=9.5,SNR=1.6							
PLCA	**Paso Flores**	**9.01**	**175**	Pn		**Pn**	**10 51 31.2**	**+0.4**
PLCA				Sn		**Sn**	**10 53 23.2**	**+12**
LVC	**Limon Verde**	**9.41**	**15**	Pn		**Pn**	**10 51 36.4**	**+0.1**
	comp=N,0.7nm,0.3s,baz=204,slow=7.3,SNR=6.6							
LVC				Sn		**Sn**	**10 53 31.7**	**+11**
	comp=N,2.1nm,0.3s,baz=147,slow=8.1,SNR=4.9							
LVC				LR		LR	10 54 57.2	
	comp=N,369nm,21.8s,baz=210,slow=36							
LVC	**Limon Verde**	**9.41**	**15**	*e*Pn		**Pn**	**10 51 34.8**	**-1.5**
	comp=N,26nm,0.7s							
LVC				Sn		**Sn**	**10 53 25.0**	**+4.2**
LVC				LR		LR	10 54 57.2	
TRQA	**Tornquist**	**10.11**	**131**	*e*Pn		**Pn**	**10 51 45.6**	**-0.2**
ARE	**Arequipa**	**15.21**	**0**	*e*P		**Pn**	**10 53 01.0**	**+5.6**
LPAZ	**La Paz**	**15.71**	**12**	Pn		**Pn**	**10 53 01.4**	**-0.4**
	comp=N,0.2nm,0.3s,baz=177,slow=7.4,SNR=23							
LPAZ	**La Paz**	**15.71**	**12**	*e*Pn		**Pn**	**10 53 02.6**	**+0.8**
SIV	**San Ignacio**	**18.39**	**34**	P		**Pn**	**10 53 33.5**	**-1.7**
	comp=N,0.3nm,0.3s,baz=217,slow=11,SNR=34							
NNA	**Nana**	**20.24**	**345**	LR		LR	10 59 47.2	
	comp=N,176nm,21.8s,MS3.4,baz=149,slow=31							
USHA	**Ushuaia**	**23.19**	**175**	P		**P**	**10 54 25.0**	**-1.5**
	comp=N,21nm,0.9s,mb4.6,baz=346,slow=2.7,SNR=5.5							
USHA				LR		LR	11 03 46.9	
	comp=N,238nm,18.4s,MS3.7,baz=142,slow=37							
ATAH	**Atahualpa**	**25.42**	**344**	LR		LR	11 02 46.5	
	comp=N,129nm,20.9s,MS3.4,baz=313,slow=32							
BDFB	**Brasilia**	**26.82**	**59**	P		**P**	**10 54 57.8**	**-2.2**
	comp=N,14nm,1.0s,mb4.5,baz=217,slow=13,SNR=17							
BDFB				LR		LR	11 05 03.9	
	comp=N,87nm,21.7s,MS3.3,baz=40,slow=35							
BDFB	**Brasilia**	**26.82**	**59**	*e*P		**P**	**10 54 58.2**	**-1.8**
BDFB				LR		LR	11 05 03.9	
SDV	**Santo Domingo**	**40.41**	**1**	*e*P		**P**	**10 56 57.3**	**-0.5**
SDV				*e*pP		pP	10 57 08.5	-0.1
SJG	**San Juan**	**49.84**	**7**	P		**P**	**10 58 10.9**	**-1.7**
	comp=N,6.9nm,0.2s,mb5.2,baz=337,slow=19,SNR=3.6							
VNA3	**Neumayer Olymp**	**51.31**	**159**	*e*		**P**	**10 58 22.7**	**-0.5**
VNA3				*e*		pP	10 58 33.8	-0.5
VNA3				*e*			10 58 39.3	
VNA2	**Neumayer--Watz**	**51.96**	**158**	*e*		**P**	**10 58 27.5**	**-0.5**
VNA2				*e*		pP	10 58 38.6	-0.5
VNA2				*e*			10 58 44.0	
SNAA	**Sanae**	**53.54**	**158**	*e*P		**P**	**10 58 38.9**	**-0.8**
SNAA				pmax		pmax		
	comp=Z,12nm,0.8s							
SNAA	**Sanae**	**53.54**	**158**	*e*P		**P**	**10 58 38.9**	**-0.8**
	comp=Z,12nm,0.8s,mb4.9							
TEIG	**Tepich**	**54.09**	**341**	P		**P**	**10 58 43.8**	**-0.4**
	comp=Z,15nm,0.9s,mb5.0,baz=177,slow=10,SNR=4.1							
TEIG	**Tepich**	**54.09**	**341**	P		**P**	**10 58 43.8**	**-0.4**
QSPA	**South Pole Qui**	**58.49**	**180**	P		**P**	**10 59 15.1**	**+0.2**
	comp=Z,5.9nm,0.9s,mb4.6,baz=132,slow=2.6,SNR=23							
QSPA				pP		pP	10 59 26.0	-0.1
	comp=Z,2.1nm,0.6s,baz=141,slow=8.5,SNR=3.6							
QSPA	**South Pole Qui**	**58.49**	**180**	P		**P**	**10 59 15.1**	**+0.2**
QSPA				pP		pP	10 59 26.0	-0.1
JCT	**Junction City**	**67.42**	**334**	*e*P		**P**	**11 00 15.1**	**+0.3**
JCT				*e*PP		pP	11 00 26.1	-0.1
CPCT	**Cooper Cave**	**67.93**	**349**	*e*P		**P**	**11 00 17.2**	**-0.7**
CPCT				*e*pP		pP	11 00 28.3	-1.1
SWET	**Sewanee**	**67.95**	**347**	*e*P		**P**	**11 00 17.8**	**-0.2**
SWET				*e*pP		pP	11 00 28.5	-1.0
TXAR	**Lajitas Array**	**67.95**	**330**	P		**P**	**11 00 18.5**	**+0.3**
	comp=Z,1.9nm,0.9s,mb4.1,baz=152,slow=8.9,SNR=8.1							
OXF	**Oxford**	**68.00**	**344**	*e*P		**P**	**11 00 17.8**	**-0.6**
OXF				*e*PP		pP	11 00 28.8	-1.0
OXF				pmax		pmax		
	comp=Z,29nm,1.0s,mb5.3							
OXF	**Oxford**	**68.00**	**344**	*e*P		**P**	**11 00 17.8**	**-0.5**
	comp=Z,29nm,1.0s,mb5.3							
OXF				*e*pP		pP	11 00 28.8	-1.0
TKL	**Tuckaleechee C**	**68.01**	**349**	P		**P**	**11 00 17.4**	**-1.0**
	comp=Z,5.9nm,0.8s,mb4.7,baz=159,slow=9.0,SNR=5.9							
TKL				pP		pP	11 00 27.9	-1.9
	comp=Z,6.5nm,0.8s,baz=171,slow=9.5,SNR=5.4							
PLAL	**Pickwick Lake**	**68.15**	**345**	*e*P		**P**	**11 00 18.6**	**-0.8**
	comp=Z,8.0nm,1.0s,mb4.7							
PLAL				*e*pP		pP	11 00 29.2	-1.5
FVM	**French Village**	**71.55**	**344**	*e*P		**P**	**11 00 39.7**	**-0.5**
FVM				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.7							
FVM	**French Village**	**71.55**	**344**	*e*P		**P**	**11 00 39.7**	**-0.5**
	comp=Z,9.4nm,1.0s,mb4.7							
LIC	**Lamto**	**73.73**	**72**	*e*P		**P**	**11 00 51.0**	**-2.7**
	comp=Z,54nm,1.5s,mb5.3							
TIC	**Toumodi**	**73.98**	**72**	*e*P		**P**	**11 00 53.4**	**-1.8**
	comp=Z,15nm,0.2s,mb5.6							
ANMO	**Albuquerque**	**73.99**	**331**	P		**P**	**11 00 55.0**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=137,slow=10,SNR=3.2							
ANMO	**Albuquerque**	**73.99**	**331**	*e*P		**P**	**11 00 56.0**	**+1.3**
KIC	**Kosan Boka**	**74.04**	**72**	*e*P		**P**	**11 00 53.9**	**-1.6**
	comp=Z,105nm,1.1s,mb5.7							
DBIC	**Dimbokro**	**74.12**	**72**	P		**P**	**11 00 54.5**	**-1.5**
	comp=Z,9.6nm,0.8s,mb4.8,baz=212,slow=7.5,SNR=11							
DBIC				pP		pP	11 01 06.1	-1.5
	comp=Z,5.6nm,0.9s,baz=201,slow=11,SNR=3.5							
DBIC	**Dimbokro**	**74.12**	**72**	P		**P**	**11 00 54.5**	**-1.5**
DBIC				pP		pP	11 01 06.1	-1.5
CBKS	**Cedar Bluff**	**74.92**	**338**	*e*P		**P**	**11 01 00.5**	**+0.5**
CBKS				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.7							
CBKS	**Cedar Bluff**	**74.92**	**338**	*e*P		**P**	**11 01 00.5**	**+0.5**
	comp=Z,11nm,1.0s,mb4.7							
MAW	**Mawson**	**75.24**	**164**	P		**P**	**11 01 01.1**	**-0.5**
	comp=Z,1.9nm,0.5s,mb4.2,baz=242,slow=9.7,SNR=6.6							
MAW				pP		pP	11 01 12.0	-1.2
	comp=Z,3.4nm,0.9s,baz=277,slow=5.0,SNR=4.7							
NCB	**Newcomb**	**75.39**	**358**	*e*P		**P**	**11 01 00.4**	**-2.2**
	comp=Z,11nm,1.0s,mb4.7							
SDCO	**Great Sand Dun**	**76.02**	**333**	*e*P		**P**	**11 01 07.3**	**+0.9**
SDCO				*e*pP		pP	11 01 18.2	+0.2
LONY	**Lake Ozonia**	**76.05**	**358**	*e*P		**P**	**11 01 05.3**	**-1.1**
	comp=Z,9.4nm,1.0s,mb4.7							
WUAZ	**Wupatki**	**76.61**	**328**	*e*P		**P**	**11 01 10.2**	**+0.4**
	comp=Z,2.7nm,0.9s,mb4.2							
LDFC	**Landfair**	**78.03**	**325**	*e*P		**P**	**11 01 19.4**	**+1.7**
LDFC				*e*pP		pP	11 01 30.8	+1.5
ECSD	**EROS,Sioux Fal**	**78.52**	**342**	*e*P		**P**	**11 01 20.1**	**-0.1**
	comp=Z,12nm,1.0s,mb4.8							
ECSD				*e*pP		pP	11 01 31.2	-0.7
SHPR	**Sheep Range**	**79.20**	**326**	*e*P		**P**	**11 01 25.8**	**+1.7**
SHPR				*e*pP		pP	11 01 36.3	+0.6
SRU	**San Rafael**	**79.23**	**330**	*e*P		**P**	**11 01 25.0**	**+0.8**
SRU				*e*PP		pP	11 01 35.8	-0.1
TPNV	**Topopah Spring**	**80.08**	**325**	*e*P		**P**	**11 01 30.0**	**+1.1**
TPNV				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5							
TPNV	**Topopah Spring**	**80.08**	**325**	*e*P		**P**	**11 01 30.0**	**+1.2**
	comp=Z,6.7nm,1.0s,mb4.5							
BOSA	**Boshof**	**80.80**	**118**	P		**P**	**11 01 31.7**	**-1.5**
	comp=Z,6.0nm,0.9s,mb4.5,baz=247,slow=4.9,SNR=5.5							
BOSA	**Boshof**	**80.80**	**118**	P		**P**	**11 01 31.7**	**-1.6**
RSSD	**Black Hills**	**81.10**	**337**	*e*P		**P**	**11 01 34.8**	**+0.6**
RSSD				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
RSSD	**Black Hills**	**81.10**	**337**	*e*P		**P**	**11 01 34.8**	**+0.6**
	comp=Z,3.1nm,0.9s,mb4.2							
EYMN	**Ely**	**81.31**	**347**	*e*P		**P**	**11 01 34.9**	**-0.3**
	comp=Z,6.2nm,0.9s,mb4.5							
EYMN				*e*pP		pP	11 01 45.3	-1.5
HWUT	**Hardware Ranch**	**81.75**	**331**	*e*P		**P**	**11 01 37.8**	**+0.1**
	comp=Z,4.3nm,0.8s,mb4.4							
HWUT				*e*pP		pP	11 01 49.2	-0.2
PDAR	**Pinedale Array**	**81.92**	**333**	P		**P**	**11

ZAL 11 09 25.0
ZAA0 Zalesovo Array 152.12 30 *e*PKPbc PKPbc 11 09 13.1 -0.9
ZALV Zalesovo Beam 152.12 30 PKPbc PKPbc 11 09 12.3 -1.7
comp=E,10nm,0.8s,baz=300,slow=3.3,SNR=32
ZALV PKPab PKPab 11 09 21.8 -1.9
comp=E,17nm,0.8s,baz=285,slow=3.3,SNR=13
ZALV pPKPbc pPKPbc 11 09 24.9 -1.2
comp=E,17nm,0.8s,baz=287,slow=3.2,SNR=13
ZALV Zalesovo Beam 152.12 30 PKPbc PKPbc 11 09 12.3 -1.7
ZALV PKPab PKPab 11 09 21.8 -1.9
ZALV pPKPbc pPKPbc 11 09 24.9 -1.2
BOD Bodaibo 153.64 353 *e*PKIKP PKPab 11 09 26.6 -3.4
BOD *e* 11 09 40.4
BOD pmax pmax
comp=Z,9.0nm,0.9s
BOD pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 154.97 46 *e*PKIKP PKPbc 11 09 19.5 -0.9
MKAR Makanchi Array 154.97 46 PKPbc PKPbc 11 09 18.1 -2.3
comp=Z,1.4nm,0.9s,baz=318,slow=1.6,SNR=9.6
MKAR pPKPbc pPKPbc 11 09 31.1 -1.5
comp=Z,1.3nm,0.7s,baz=320,slow=3.2,SNR=5.3
MKAR PKPab PKPab 11 09 35.4 -0.7
comp=Z,1.3nm,0.7s,baz=294,slow=4.2,SNR=7.4
MKAR pPKPab pPKPab 11 09 47.1 -0.8
comp=Z,3.9nm,0.8s,baz=309,slow=4.0,SNR=15
MKAR Makanchi Array 154.97 46 PKIKP PKPbc 11 09 18.1 -2.3
MKAR 11 09 31.1
KSRS Korea Array 162.94 295 PKP PKPdf 11 09 20.8 -0.6
comp=Z,0.6nm,0.4s,baz=0.0,slow=1.4,SNR=6.4
KSRS pPKP pPKPdf 11 09 32.7 -0.9
comp=Z,0.4nm,0.5s,baz=198,slow=1.2,SNR=2.6
CMAR Chiang Mai Arr 164.26 145 PKP PKPdf 11 09 22.4 -0.7
comp=Z,0.3nm,0.3s,baz=263,slow=2.2,SNR=4.5
CMAR PKPab PKPab 11 10 16.1 -0.9
comp=Z,0.5nm,0.5s,baz=228,slow=4.4,SNR=4.7

*IDC **23** 10:52:26.8±1.2, 1262N×9017W, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.1/25, mbtmp4.0/13, ML3.9/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/34, Error ellipse: s-maj=36.3km s-min=17.9km az=43.0*
*CASC **23** 10:52:29.6±2.7, 1251N×9049W, h15km±17km, MD4.3, ML3.9, mb4.5(NEIC)*
*ISCJB **23** 10:52:32.0±0.8, 1261N±006×9029W±006, h46km±7km, mb4.3/26, MS3.4/4, Error ellipse: s-maj=12.3km s-min=4.5km az=43.8*
*NEIC **23** 10:52:31.1±4.0, 1256N×9028W, h27km±27km, mb4.5/18, Error ellipse: s-maj=16.7km s-min=10.3km az=202.0*
ISC 23 10:52:32.8±1.6, 1265N±006×9034W±005, h32km±12km, n89, σ1§13/80, mb4.3/26, MS3.4/4, 3C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**1.41**	**28**	*e*P		x	10 52 57.6	
RTR				*e*S		x	10 53 20.1	
SNET	**Serv Nac Est T**	**1.49**	**46**	⇑*e*P		x	10 52 58.1	
SNET				*e*S		x	10 53 21.2	
SNET				*i*			10 53 30.1	
	comp=Z,3μm,0.3s							
BOQS	**Boqueron**	**1.49**	**44**	*e*P		x	10 52 58.4	
BOQS				*e*S		x	10 53 22.6	
RBDL	**Robledal**	**1.58**	**23**	*e*P		x	10 53 00.0	
LBRS	**Las Brisas**	**1.66**	**49**	⇑*e*P		x	10 53 00.9	
SNVI	**San Vicente**	**1.74**	**57**	⇓*e*P		x	10 53 01.8	
SNVI				*e*S		x	10 53 27.9	
PCG	**Pacaya**	**1.75**	**351**	*e*P		**Pn**	**10 53 00.6**	**-0.4**
FUG	**Fuego 3**	**1.85**	**345**	*e*P		**Pn**	**10 53 03.6**	**+1.2**
NBG	**Las Nubes**	**1.93**	**360**	*e*P		**Pn**	**10 53 05.3**	**+2.0**
FG6		**1.97**	**344**	*e*P		**Pn**	**10 53 04.0**	**0.0**
JAT	**Jato**	**2.09**	**323**	*e*P		**Pn**	**10 53 04.5**	**-1.0**
VSM	**San Miguel**	**2.15**	**69**	*e*P		x	10 53 07.4	
VSM				*e*S		x	10 53 38.1	
BLLM	**Bellamira**	**2.19**	**69**	*e*P		x	10 53 07.4	
BLLM				*e*S		x	10 53 38.2	
CAHU	**Cacacuatique**	**2.35**	**61**	*e*P		x	10 53 10.4	
CAHU				*e*S		x	10 53 44.0	
CNCH	**Conchagua**	**2.52**	**75**	*e*P		x	10 53 11.1	
CNCH				*e*S		x	10 53 43.5	
TGUH	**Tegucigalpa,Un**	**3.29**	**65**	*e*P		**Pn**	**10 53 22.9**	**+0.7**
TGUH	**Tegucigalpa,Un**	**3.29**	**65**	*e*Pn		**Pn**	**10 53 22.7**	**+0.5**
LEON	**Leon**	**3.37**	**94**	*e*P		**Pn**	**10 53 20.8**	**-2.5**
TELN	**Telica**	**3.42**	**90**	*e*P		**Pn**	**10 53 23.6**	**-0.4**
CNGN	**Cerro Negro**	**3.55**	**92**	*e*P		**Pn**	**10 53 24.8**	**-0.9**
COPN	**Copaltepe**	**3.69**	**97**	*e*P		**Pn**	**10 53 26.6**	**-1.0**
COPN					AML	AML	10 54 11.9	
	comp=Z,274nm,0.5s							
CSAN		**3.85**	**96**	*e*P		**Pn**	**10 53 29.2**	**-0.7**
APYN	**Apoyeque**	**3.92**	**96**	*e*P		**Pn**	**10 53 29.9**	**-0.8**
APYN				*e*S		**Sn**	**10 54 16.2**	**+0.6**
HUEN		**4.08**	**94**	*e*P		**Pn**	**10 53 32.4**	**-0.6**
CONN	**Concepcion**	**4.73**	**103**	*e*P		**Pn**	**10 53 41.8**	**-0.2**
CUI		**5.42**	**111**	*e*P		**Pn**	**10 53 52.1**	**+0.6**
CUI				*e*S		**Sn**	**10 54 53.7**	**+0.8**
2RIO	**Dos Rios de Up**	**5.43**	**112**	*e*P		**Pn**	**10 53 48.9**	**-2.6**
2RIO				*e*S		**Sn**	**10 54 51.2**	**-1.7**
JCR	**Jicaral**	**5.83**	**118**	*e*P		**Pn**	**10 53 56.5**	**-0.6**
CMIG	**Matias Romero**	**6.23**	**316**	Pn		**Pn**	**10 54 00.3**	**-2.3**
	comp=Z,2.8nm,0.3s,baz=137,slow=8.9,SNR=43							
CMIG					Sn	**Sn**	**10 55 11.6**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=209,slow=22,SNR=3.1							
CMIG					LR	LR	10 56 32.2	
	comp=Z,81nm,19.8s,baz=36,slow=39							
CMIG	**Matias Romero**	**6.23**	**316**	Pn		**Pn**	**10 54 00.3**	**-2.3**
CMIG					Sn	**Sn**	**10 55 11.6**	**-1.1**
CMIG					LR	LR	10 56 32.2	
CGA2	**Cerro Gallo 2**	**6.32**	**114**	*e*P		**Pn**	**10 54 04.7**	**+0.8**
CGA2				*e*S		**Sn**	**10 55 16.7**	**+1.7**
PRS1	**Puriscal**	**6.47**	**114**	*e*P		**Pn**	**10 54 07.0**	**+1.0**
BUS	**Buena Vista**	**7.15**	**115**	*e*P		**Pn**	**10 54 16.1**	**+0.9**
BAR1		**7.68**	**115**	*e*P		**Pn**	**10 54 24.9**	**+2.3**
TEIG	**Tepich**	**7.79**	**14**	Pn		**Pn**	**10 54 26.3**	**+2.3**
	comp=Z,3.4nm,0.3s,baz=185,slow=4.8,SNR=11							
TEIG					Sn	**Sn**	**10 55 54.4**	**+3.3**
	baz=10.0,slow=21,SNR=1.8							
TEIG	**Tepich**	**7.79**	**14**	*e*Pn		**Pn**	**10 54 21.8**	**-2.1**
ACR	**Cerro Adams**	**8.09**	**119**	⇑*e*P		**Pn**	**10 54 29.4**	**+1.3**
CTCR	**Cotoan**	**8.32**	**116**	*e*P		**Pn**	**10 54 33.3**	**+2.0**
SDV	**Santo Domingo**	**19.71**	**99**	P		**Pn**	**10 56 56.5**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=263,slow=4.4,SNR=5.0							
SDV	**Santo Domingo**	**19.71**	**99**	*e*pP		pP	10 57 07.5	-0.8
JCT	**Junction City**	**19.79**	**335**	*e*P		**Pn**	**10 57 02.6**	**+0.5**
	comp=Z,14nm,0.9s							
TXAR	**Lajitas Array**	**20.71**	**325**	P		**P**	**10 57 10.8**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=150,slow=12,SNR=42							
GOGA	**Godfrey**	**21.60**	**16**	*e*P		**P**	**10 57 19.9**	**-0.1**
OXF	**Oxford**	**21.78**	**2**	*e*P		**P**	**10 57 21.0**	**-1.0**
	comp=Z,16nm,0.8s,mb4.5							
MIAR	**Mount Ida**	**22.00**	**353**	*e*P		**P**	**10 57 22.8**	**-1.5**
	comp=Z,16nm,1.1s,mb4.3							
PLAL	**Pickwick Lake**	**22.33**	**5**	*e*P		**P**	**10 57 27.1**	**-0.7**
SWET	**Sewanee**	**22.82**	**9**	*e*P		**P**	**10 57 32.5**	**-0.5**
CPCT	**Cooper Cave**	**23.30**	**12**	*e*P		**P**	**10 57 37.8**	**-0.2**
LHS	**Liberty Hill**	**23.39**	**20**	*e*ScP		ScP	11 05 05.5	+4.7
TKL	**Tuckaleechee C**	**23.66**	**13**	P		**P**	**10 57 41.1**	**-0.4**
	comp=Z,10nm,0.8s,mb4.3,baz=190,slow=11,SNR=16							
TKL					LR	LR	11 07 42.6	
	comp=Z,82nm,19.6s,MS3.2,baz=76,slow=39							
SIUC	**Southern Illin**	**24.98**	**2**	*e*P		**P**	**10 57 53.8**	**+0.2**
SIUC				*e*pP			10 58 01.8	
USIN	**University of**	**25.32**	**5**	*e*P		**P**	**10 57 57.9**	**+1.3**
WCI	**Wyandotte Cave**	**25.73**	**7**	*e*P		**P**	**10 58 01.4**	**+1.1**
WCI				*e*pP		pP	10 58 07.3	-2.3
WCI				*e*sP		sP	10 58 09.2	-4.3
ANMO	**Albuquerque**	**26.58**	**329**	P		**P**	**10 58 08.5**	**+0.5**
	comp=Z,0.8nm,0.5s,mb3.5,baz=117,slow=20,SNR=4.4							
ANMO	**Albuquerque**	**26.58**	**329**	P		**P**	**10 58 08.5**	**+0.5**
TUC	**Tucson**	**27.11**	**320**	*e*P		**P**	**10 58 16.6**	**+3.8**
WUAZ	**Wupatki**	**29.66**	**324**	*e*P		**P**	**10 58 36.6**	**+1.1**
	comp=Z,3.9nm,0.8s,mb4.2							
COWI	**Conover**	**33.35**	**2**	*e*P		**P**	**10 59 06.0**	**-2.0**
	comp=Z,1.7nm,0.5s,mb4.2							
HWUT	**Hardware Ranch**	**34.29**	**331**	*e*P		**P**	**10 59 16.4**	**+0.3**
	comp=Z,6.1nm,0.9s,mb4.5							
PDAR	**Pinedale Array**	**34.32**	**335**	P		**P**	**10 59 15.9**	**-0.5**
	comp=Z,1.5nm,0.9s,mb3.9,baz=113,slow=11,SNR=9.9							
BW06	**Boulder Array**	**34.32**	**335**	*e*P		**P**	**10 59 17.5**	**+1.2**
	comp=Z,34nm,3.0s							
REDW	**Red Top Meadow**	**35.36**	**334**	*e*P		**P**	**10 59 25.7**	**+0.4**
	comp=Z,14nm,1.0s,mb4.8							
SNOW	**Snow King Moun**	**35.40**	**334**	*e*P		**P**	**10 59 25.6**	**0.0**
	comp=Z,14nm,0.8s,mb5.0							
LOHW	**Long Hollow**	**35.45**	**334**	*e*P		**P**	**10 59 26.4**	**+0.2**
	comp=Z,3.9nm,0.8s,mb4.4							
TPAW	**Teton Pass**	**35.50**	**334**	*e*P		**P**	**10 59 28.0**	**+1.4**
	comp=Z,14nm,1.4s,mb4.7							
RRI2	**Red Ridge**	**35.55**	**333**	*e*P		**P**	**10 59 27.9**	**+0.9**
	comp=Z,5.2nm,1.0s,mb4.4							
MOOW	**Moose Ponds**	**35.62**	**334**	*e*P		**P**	**10 59 27.4**	**-0.2**
NVAR	**Mina Array Bea**	**35.73**	**321**	P		**P**	**10 59 29.7**	**+1.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=137,slow=7.5,SNR=12							
IMW	**Indian Meadow**	**35.83**	**334**	*e*P		**P**	**10 59 29.3**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.1							
AGMN	**Agassiz Refuge**	**35.84**	**354**	*e*P		**P**	**10 59 28.0**	**-1.3**
	comp=Z,13nm,1.4s,mb4.7							
FLWY	**Flagg Ranch**	**35.88**	**335**	*e*ScP		ScP	11 05 47.6	+7.1
HLID	**Hailey**	**37.14**	**331**	*e*P		**P**	**10 59 42.0**	**+1.5**
DLMT	**Dillon**	**37.71**	**334**	*e*P		**P**	**10 59 45.7**	**+0.3**
	comp=Z,13nm,1.3s,mb4.5							
ULM	**Lac du Bonnet**	**37.77**	**354**	P		**P**	**10 59 44.3**	**-1.4**
	comp=Z,2.2nm,0.6s,mb4.0,baz=180,slow=5.2,SNR=3.5							
ULM					LR	LR	11 18 25.8	
	comp=Z,59nm,19.7s,MS3.4,baz=48,slow=41							
LRM	**Limekiln Ridge**	**38.01**	**335**	*e*P		**P**	**10 59 48.7**	**+0.8**
HRY	**Holter Researc**	**38.48**	**336**	*e*P		**P**	**10 59 53.0**	**+1.1**
HRY				*e*pP		pP	10 59 59.5	-1.9
WVOR	**Wild Horse Val**	**38.51**	**326**	*e*P		**P**	**10 59 53.4**	**+1.2**
	comp=Z,5.9nm,1.2s,mb4.2							
MSO	**Missoula**	**39.44**	**334**	*e*P		**P**	**11 00 00.1**	**+0.3**
SIV	**San Ignacio**	**40.59**	**134**	P		**P**	**11 00 08.6**	**-1.2**
	comp=Z,2.2nm,1.0s,mb3.8,baz=1,9,slow=10,SNR=3.3							
SCHQ	**Schefferville**	**45.95**	**19**	P		**P**	**11 00 50.5**	**-2.1**
	comp=Z,2.8nm,0.5s,mb4.4,baz=238,slow=5.2,SNR=8.9							
SCHQ					LR	LR	11 19 41.2	
	comp=Z,45nm,19.3s,MS3.4,baz=181,slow=36							
YKA	**Yellowknife Ar**	**52.71**	**346**	P		**P**	**11 01 43.4**	**-0.7**
	comp=Z,1.4nm,0.8s,mb3.9,baz=154,slow=7.0,SNR=5.3							
YKA					LR	LR	11 25 56.8	
	comp=Z,32nm,18.5s,MS3.4,baz=205,slow=38							
EGAK	**Eagle**	**62.56**	**338**	*e*P		**P**	**11 02 52.8**	**-0.5**
	comp=Z,4.8nm,1.0s,mb4.6							
KTH	**Kantishna Hill**	**65.84**	**335**	*e*P		**P**	**11 03 14.8**	**-0.1**
	comp=Z,4.5nm,1.0s,mb4.5							
SVW2	**Sparrevohn**	**67.12**	**331**	*e*P		**P**	**11 03 28.5**	**+5.4**
EKA	**Eskdalemuir Ar**	**78.11**	**36**	P		**P**	**11 04 26.8**	**-1.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=264,slow=6.4,SNR=2.9							
TORD	**Torodi Ar. Bea**	**89.11**	**77**	P		**P**	**11 05 23.9**	**-1.8**
	comp=Z,0.6nm,1.0s,mb3.9,baz=295,slow=4.4,SNR=1.7							
WRA	**Warramunga Arr**	**136.61**	**254**	PKP		PKPdf	11 11 50.3	-2.3
	comp=Z,0.4nm,0.7s,baz=96,slow=3.4,SNR=5.2							
ASAR	**Alice Springs**	**136.72**	**249**	PKP		PKPdf	11 11 50.5	-2.3
	comp=Z,0.2nm,0.9s,baz=108,slow=3.7,SNR=4.1							
CMAR	**Chiang Mai Arr**	**147.76**	**343**	PKPbc		PKPbc	11 12 14.2	-1.1
	comp=Z,1.9nm,0.7s,baz=352,slow=3.4,SNR=9.1							

*ISK **23** 11:03:40.8, 3796N×3092E, h8km, MD3.0*
*CSEM **23** 11:03:40.2±0.1, 3796N×3095E, h5km, MD3.0, Error ellipse: s-maj=1.6km s-min=1.4km az=154.0*
*ISCJB **23** 11:03:41.4±0.5, 3795N±003×3093E±004, h10km, Error ellipse: s-maj=4.9km s-min=4.0km az=28.7*
*DDA **23** 11:03:41.3, 3798N×3093E, h5km±2km, Md3.0*
ISC 23 11:03:41.3±0.7, 3795N±003×3098E±005, h4km±7km, n19, σ0§95/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.39**	**254**	PG		**Pg**	**11 03 47.8**	**-1.1**
ISP				*e*SG		**Sg**	**11 03 53.4**	**-0.5**
BCK	**Bucak**	**0.58**	**213**	*e*PG		**Pg**	**11 03 52.4**	**-0.1**
BCK				*e*SG		**Sg**	**11 04 00.4**	**+0.3**
SHUT	**Suhut-Afyon**	**0.69**	**330**	*e*PG		**Pg**	**11 03 54.0**	**-0.5**
SHUT				*e*SG		**Sg**	**11 04 03.6**	**+0.1**
BOLV	**Bolvadin**	**0.76**	**358**	*i* P		**Pg**	**11 03 56.2**	**+0.3**
BOLV				*i* S		**Sg**	**11 04 05.6**	**-0.3**
BOLV	**Bolvadin**	**0.76**	**358**	*i* P		**Pg**	**11 03 56.2**	**+0.2**
BOLV				*i* S		**Sg**	**11 04 05.6**	**-0.3**
KDHN	**Kadinhani**	**1.06**	**57**	*i* P		**Pg**	**11 04 02.0**	**+0.4**
KDHN				*i* S		**Sg**	**11 04 19.6**	**+4.4**
KONT	**Konya--Tatoy**	**1.09**	**90**	*e*PN		**Pn**	**11 04 03.0**	**-0.3**
LADK	**Ladik-KONYA**	**1.12**	**77**	*e*PN		**Pn**	**11 04 03.3**	**-0.4**
KIZT	**Kizilcal**	**1.16**	**37**	*e*PN		**Pn**	**11 04 04.1**	**-0.3**
KHL	**Karahalli**	**1.21**	**288**	*e*PN		**Pn**	**11 04 03.3**	**-1.7**
KHAL	**Karahalli**	**1.25**	**290**	*i* P		**Pg**	**11 04 04.2**	**-1.0**
KHAL				*i* S		**Sg**	**11 04 23.0**	**+1.6**
ALT	**Altintas**	**1.29**	**328**	*e*PN		**Pn**	**11 04 05.6**	**-0.6**
GOLH	**Golhisar**	**1.34**	**238**	*i* P		**Pn**	**11 04 06.3**	**-0.4**
GOLH				*i* S		**Sg**	**11 04 26.5**	**+2.2**
HDMB	**Hadim**	**1.55**	**129**	*e*PN		**Pn**	**11 04 09.5**	**-0.2**
ESKT	**Eskisehir**	**1.57**	**356**	*i* P		**Pn**	**11 04 10.4**	**+0.5**
ESKT				*i* S		**Sn**	**11 04 32.7**	**+2.1**
SEYT	**Eskypehyr**	**1.57**	**356**	*i* P		**Pn**	**11 04 10.4**	**+0.5**
SEYT				*i* S		**Sn**	**11 04 32.7**	**+2.0**
KULA	**Kula-Manisa**	**1.91**	**288**	*e*PN		**Pn**	**11 04 13.8**	**-0.9**
AKAS	**Kas**	**2.04**	**213**	*e*P		**Pn**	**11 04 20.3**	**+3.8**
AKAS				*e*S		**Sn**	**11 04 48.1**	**+5.8**
IKL	**Isikli**	**2.76**	**128**	*e*PN		**Pn**	**11 04 27.4**	**+1.2**

IDC 23 11:12:29.7±3.7, 1646S×17526W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, Error ellipse: s-maj=174.8km s-min=78.0km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.97**	**240**	P		P	11 20 23.4	+0.7
	1.3nm,0.8s,baz=72,slow=9.6,SNR=2.9							
WRA	**Warramunga Arr**	**47.87**	**258**	P		P	11 21 09.4	-0.5
	0.8nm,0.4s,baz=95,slow=7.0,SNR=49							
WRA					PcP	PcP	11 22 38.5	-0.2
	0.2nm,0.6s,baz=90,slow=3.9,SNR=5.0							
ASAR	**Alice Springs**	**48.09**	**253**	P		P	11 21 11.4	-0.1
	1.3nm,0.4s,baz=92,slow=8.8,SNR=40							
ASAR					PcP	PcP	11 22 39.2	-0.1
	0.2nm,0.4s,baz=109,slow=4.3,SNR=5.4							

*ISCJB **23** 11:21:24.0±0.5, 3721N±004×7201E±008, h173km±14km, Error ellipse: s-maj=10.6km s-min=5.5km az=163.5*
*NEIC **23** 11:21:24.7±0.6, 3724N×7205E, h164km±17km, mb4.6/9, Error ellipse: s-maj=12.7km s-min=7.5km az=77.0*
*NNC **23** 11:21:32.1±4.1, 3788N×6983E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=33.8km s-min=25.9km az=158.0*
ISC 23 11:21:24.8±0.5, 3723N±003×7207E±007, h157km±12km, n29, σ1§12/37, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.64**	**223**	*e*Pn		**Pn**	**11 22 21.4**	**+0.9**
KBL				*e*Sn		**Sn**	**11 23 03.3**	**-0.5**
AML	**Almayashu**	**5.05**	**14**	P		**Pn**	**11 22 39.6**	**+0.6**
	SNR=111							
AML	**Almayashu**	**5.05**	**14**	*e*Pn		**Pn**	**11 22 39.7**	**+0.7**
	28nm,0.9s							
AML				*e*Sn		**Sn**	**11 23 32.9**	**-3.9**
EKS2	**Erkin-Say**	**5.58**	**13**	P		**Pn**	**11 22 46.6**	**+0.7**
	SNR=6.5							
EKS2	**Erkin-Say**	**5.58**	**13**	*e*Pn		**Pn**	**11 22 46.3**	**+0.4**
	108nm,0.8s							
EKS2				*e*S		**Sn**	**11 23 46.6**	**-2.8**
THN	**Thein Dam**	**5.65**	**147**	*e*P		**Pn**	**11 22 48.4**	**+1.5**
THN				*e*x		x	11 23 51.3	
DLH	**Dalhousie**	**5.67**	**144**	*e*P		**Pn**	**11 22 49.0**	**+1.8**
DLH				*e*S		**Sn**	**11 23 51.0**	**-0.6**
KBK	**Karagaybulak**	**5.85**	**21**	P		**Pn**	**11 22 51.0**	**+1.5**
	SNR=5.6							
KK31	**Karatay Array**	**5.99**	**349**	⇑Pn		**Pn**	**11 22 50.8**	**-0.5**
	1.3nm,0.2s,baz=186,slow=16,SNR=50							
KK31				⇑Sn		**Sn**	**11 23 54.2**	**-4.9**
	70nm,0.6s,baz=188,slow=23,SNR=35							
CHMS	**Chumysh**	**6.12**	**19**	P		**Pn**	**11 22 54.2**	**+1.2**
	SNR=5.3							
TKM2	**Tokmak 2**	**6.29**	**24**	*e*Pn		**Pn**	**11 22 55.5**	**+0.1**
	2.6nm,0.4s							
USP	**Ospenovka**	**6.31**	**16**	P		**Pn**	**11 22 56.7**	**+1.1**
	SNR=5.1							
SMLA	**Simla**	**7.41**	**144**	*i* P		**Pn**	**11 23 11.0**	**+0.7**
SMLA				*i* S		**Sn**	**11 24 30.6**	**-2.6**
SMLA				*e*x		x	11 24 34.5	
	comp=E,494nm,0.3s							
SMLA				*e*x		x	11 24 35.6	
	comp=N,361nm,0.3s							
JOSI	**Joshimath**	**9.11**	**135**	*e*S		**Sn**	**11 25 12.2**	**-1.9**
JOSI					AML	AML	11 25 16.1	
	comp=E,120nm,0.4s							
JOSI					AML	AML	11 25 17.9	
	comp=N,102nm,0.6s							
KUDL	**Kundal**	**9.79**	**156**	*e*S		**Sn**	**11 25 23.3**	**-7.3**
KUDL					AML	AML	11 25 28.8	
	comp=N,8.0nm,0.2s							
SONA	**Sohna**	**9.90**	**153**	*e*S		**Sn**	**11 25 25.1**	**-8.0**
SONA					AML	AML	11 25 29.9	
	comp=N,13nm,0.5s							
SONA					AML	AML	11 25 30.6	
	comp=E,26nm,0.3s							
DANN	**Dangsing**	**13.22**	**129**	*e*P		**Pn**	**11 24 25.9**	**-0.7**
	comp=E,15nm,0.3s							
KOLN	**Koldanda**	**13.54**	**131**	*e*P		**Pn**	**11 24 30.6**	**0.0**
GKN	**Gorkha**	**14.02**	**127**	*e*P		**Pn**	**11 24 36.0**	**-0.6**
KKN	**Kakani**	**14.57**	**126**	*e*P		**Pn**	**11 24 42.7**	**-0.9**
DMN	**Daman**	**14.59**	**127**	*e*P		**Pn**	**11 24 43.9**	**+0.1**
	comp=E,7.0nm,0.3s							
PKI	**Pulchoki**	**14.81**	**127**	*e*P		**Pn**	**11 24 46.3**	**-0.2**
	comp=E,9.7nm,0.4s							
GUN	**Gumba**	**14.88**	**125**	*e*P		**Pn**	**11 24 47.1**	**-0.3**
AB31	**Akbulak array**	**14.89**	**328**	⇓P		**Pn**	**11 24 45.7**	**-1.7**
	comp=E,0.9nm,0.5s,baz=173,slow=9.0,SNR=29							
AB31				⇑S		**Sn**	**11 27 15.1**	**-18**
	comp=E,1.5nm,0.4s,baz=156,slow=23,SNR=9.4							
JIRN	**Jiri**	**15.25**	**125**	*e*P		**Pn**	**11 24 52.0**	**0.0**
	comp=E,21nm,0.3s							
RAMN	**Ramite**	**16.00**	**126**	*e*P		**Pn**	**11 25 02.1**	**+0.9**
TAPN	**Taplejung**	**16.47**	**122**	*e*P		**Pn**	**11 25 08.1**	**+1.2**
	comp=E,12nm,0.4s							
ODAN	**Odare**	**16.58**	**124**	*e*P		**Pn**	**11 25 09.4**	**+1.2**
	comp=E,8.5nm,0.5s							
AKTO	**Aktyubinsk**	**16.61**	**327**	⇓P		**Pn**	**11 25 07.2**	**-1.2**
	comp=E,0.3nm,0.8s							
AKTO				⇑S		**S**	**11 27 56.3**	**-16**
	comp=E,0.7nm,1.1s							

*ISCJB **23** 11:24:55.6±0.7, 87N±0.1×394W±0.1, h10km, mb4.0/12, MS3.7/16, Error ellipse: s-maj=20.4km s-min=16.2km az=0.8*
*IDC **23** 11:24:55.6±0.9, 869N×3944W, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, MS3.8/16, Ms1 3.8/16, ms1mx3.6/37, Error ellipse: s-maj=29.1km s-min=20.5km az=167.0*
*NEIC **23** 11:24:57.2±0.7, 864N×3940W, h10km, mb4.5/5, Error ellipse: s-maj=21.9km s-min=17.1km az=182.0*
ISC 23 11:24:57.5±0.7, 87N±01×394W±01, h10km, n26, σ1§13/14, mb4.0/12, MS3.7/16, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**23.15**	**73**	LR		LR	11 36 49.6	
	comp=Z,266nm,19.7s,MS3.2,baz=212,slow=31							
PCRV	**Puerto La Cruz**	**24.96**	**276**	LR		LR	11 39 00.1	
	comp=Z,71nm,19.1s,MS3.2,baz=262,slow=34							
BDFB	**Brasilia**	**25.61**	**200**	LR		LR	11 40 32.1	
	comp=Z,94nm,18.6s,MS3.3,baz=184,slow=36							
SJG	**San Juan**	**27.65**	**293**	LR		LR	11 39 15.4	
	comp=Z,123nm,18.9s,MS3.5,baz=258,slow=31							
SIV	**San Ignacio**	**32.57**	**221**	P		**P**	**11 31 29.4**	**+0.1**
	1.1nm,0.4s,mb4.2,baz=319,slow=20							
DBIC	**Dimbokro**	**34.27**	**91**	P		**P**	**11 31 43.2**	**-0.9**
	1.1nm,0.6s,mb4.0,baz=224,slow=4.4,SNR=2.1							
ROSC	**El Rosal**	**34.90**	**266**	LR		LR	11 46 33.8	
	comp=Z,93nm,18.8s,MS3.6,baz=15,slow=37							
LPAZ	**La Paz**	**37.73**	**229**	P		**P**	**11 32 14.3**	**+0.5**
	3.4nm,1.0s,mb4.0,baz=41,slow=8.5,SNR=10.0							
LPAZ					LR	LR	11 47 14.1	
	comp=Z,113nm,21.6s,MS3.6,baz=130,slow=36							
**LPAZ

comp=Z,1µm,0.4s
FUNA Funafuti 11.74 345 *e*Pn **P 11 36 59.9 -1.7**
comp=Z,1µm,1.0s
DZM Mont Dzumac 14.89 259 *e*P **P 11 37 34.5 +0.7**
DZM *e*S **S 11 40 08.2 -0.6**
DZM Mont Dzumac 14.89 259 *e*P **P 11 37 35.0 +1.2**
RAR Rarotonga 16.90 97 P **P 11 37 51.7 -1.3**
comp=Z,5.8nm,0.3s,baz=250,slow=7.0,SNR=36
KUZ Kuaotunu 17.67 197 P **P 11 38 01.4 +1.5**
MXZ Matakaoa Point 17.87 190 P **P 11 38 01.8 +0.1**
OTAZ Otara 18.09 199 P **P 11 38 06.3 +2.6**
MKAZ Moumakai 18.17 198 P **P 11 38 06.1 +1.7**
PUZ Puketiti 18.37 190 P **P 11 38 05.7 -0.6**
EDRZ Edgecumbe 18.70 194 P **P 11 38 09.2 -0.1**
MWZ Matawai 18.76 192 P **P 11 38 08.0 -1.8**
URZ Urewera 18.77 193 P **P 11 38 08.6 -1.3**
comp=Z,35nm,0.3s,baz=351,slow=3.8,SNR=157
URZ S **S 11 41 05.8 -6.4**
comp=Z,6.5nm,0.3s,baz=8.6,slow=22,SNR=17
URZ ScP ScP 11 44 51.9 -0.4
comp=Z,2.7nm,0.3s,baz=319,slow=5.7,SNR=3.6
URZ Urewera 18.77 193 P **P 11 38 07.5 -2.4**
HIZ Hauiti 19.56 198 P **P 11 38 18.9 +1.8**
BKZ Black Stump Fm 19.77 193 P **P 11 38 16.6 -2.4**
TUVZ Tukino 20.06 195 P **P 11 38 20.5 -1.1**
WNVZ Wahianoa 20.13 195 P **P 11 38 20.8 -1.4**
MOVZ Moawhango 20.17 195 P **P 11 38 20.8 -1.8**
RAEZ Rainy Point 20.41 198 P **P 11 38 25.9 +1.1**
NEZ North Egmont 20.48 198 *e*P **P 11 38 27.4 +2.0**
TSZ Takapari Road 20.74 194 P **P 11 38 26.8 -1.0**
MRZ Mangataiboka R 21.40 194 P **P 11 38 31.5 -2.2**
CAW Cannon Point 21.95 195 P **P 11 38 37.1 -1.5**
SNZO South Karori 22.22 195 P **P 11 38 40.0 -1.1**
TCW Tory Channel 22.24 196 P **P 11 38 40.3 -0.9**
NNZ Nelson 22.49 198 P **P 11 38 43.0 -0.4**
THZ Tophouse 23.13 198 P **P 11 38 48.4 -0.7**
DSZ Denniston Nort 23.45 200 P **P 11 38 51.9 -0.1**
KHZ Kahutara 23.56 196 P **P 11 38 52.1 -0.9**
HNR Honiara 23.93 293 P **P 11 38 55.6 -1.1**
comp=Z,164nm,0.7s,mb5.8,baz=66,slow=0.7,SNR=9.8
HNR Honiara 23.93 293 *e*P **P 11 38 57.0 +0.3**
HNR pmax pmax
comp=Z,286nm,1.1s,mb5.8
HNR Honiara 23.93 293 *e*P **P 11 38 57.0 +0.3**
comp=Z,286nm,1.1s,mb5.8
LTZ Lake Taylor 24.25 198 P **P 11 38 58.0 -1.1**
RPZ Rata Peaks 25.47 199 P **P 11 39 08.7 -1.1**
comp=Z,25nm,0.6s,mb5.0,baz=83,slow=20,SNR=23
RPZ S **S 11 42 53.9 -4.1**
comp=Z,46nm,1.1s,baz=131,slow=19,SNR=4.1
RPZ ScP ScP 11 45 09.3 -0.3
comp=Z,34nm,0.6s,baz=312,slow=2.2,SNR=9.3
RPZ Rata Peaks 25.47 199 P **P 11 39 08.4 -1.4**
FOZ Fox Glacier 25.77 201 P **P 11 39 11.1 -1.4**
LBZ Lake Benmore 26.34 200 P **P 11 39 16.3 -1.2**
JCZ Jackson Bay 26.55 202 P **P 11 39 19.2 -0.1**
PAE Paea 26.77 90 *e*P **P 11 39 20.5 -1.1**
comp=Z,368nm,0.8s,mb6.0
PAE *e*pP 11 40 43.2
comp=Z,2µm,1.5s
PPT Papeete 26.79 90 *e*P **P 11 39 20.8 -1.0**
comp=Z,87nm,1.0s,mb5.3
PPT *e*pP 11 40 43.6
comp=Z,216nm,1.5s
PPT Papeete 26.79 90 P **P 11 39 21.4 -0.4**
comp=Z,64nm,0.7s,mb5.4,baz=218,slow=2.9,SNR=10
TIAR Tiarei 27.00 90 *e*P **P 11 39 22.7 -1.0**
comp=Z,558nm,0.7s,mb6.3
TIAR *e*pP 11 40 45.5
comp=Z,2µm,1.0s
TVO Taravao 27.06 90 *e*P **P 11 39 23.1 -1.1**
comp=Z,340nm,0.7s,mb6.1
TVO *e*pP 11 40 46.3
comp=Z,4µm,1.3s
MLZ Mavora Lakes 27.86 202 P **P 11 39 31.4 +0.6**
MEH Mehetia 28.16 91 *e*P **P 11 39 32.4 -1.4**
MEH *e*pP 11 40 55.9
comp=Z,8µm,1.5s
WHZ Wether Hill Ro 28.41 201 P **P 11 39 36.3 +0.7**
ARMA Armidale 29.50 243 ⇓*i*P **P 11 39 47.3 +2.0**
RIV Riverview 30.83 237 ⇓*i*P **P 11 39 58.0 +1.3**
CNB Canberra Magne 32.71 235 ⇓*i*P **P 11 40 14.1 +1.4**
CNB *e*PCP PcP 11 42 43.1 +1.5
CNB *e*S **S 11 44 50.7 +0.5**
CAN Canberra 32.99 235 *e*P **P 11 40 16.2 +1.2**
CTA Charters Tower 33.76 263 ⇓*i*P **P 11 40 22.7 +0.9**
comp=Z,1µm,0.6s
CTA *e*PCP PcP 11 42 45.0 +0.1
CTA *e*SCP ScP 11 45 39.3 +2.2
CTA Charters Tower 33.76 263 P **P 11 40 22.8 +1.0**
comp=Z,1µm,0.6s,baz=91,slow=10,SNR=2017
CTA PcP PcP 11 42 45.4 +0.5
comp=Z,52nm,0.9s,baz=117,slow=6.8,SNR=3.1
CTA ScP ScP 11 45 37.9 +0.8
comp=Z,36nm,1.0s,baz=128,slow=2.9,SNR=5.3
CTA Charters Tower 33.76 263 ⇓*i*P **P 11 40 22.7 +0.9**
CTA *e* 11 42 45.0
CTA pmax pmax
comp=Z,1µm,0.6s
CTAO Charters Tower 33.76 263 *e*P **P 11 40 22.9 +1.1**
CTAO pmax pmax
comp=Z,739nm,0.5s
CTAO Charters Tower 33.76 263 *e*P **P 11 40 22.9 +1.1**
comp=Z,739nm,0.5s
PMG Port Moresby 35.44 282 *d i*P **P 11 40 36.9 +1.1**
PMG Port Moresby 35.44 282 *e*P **P 11 40 36.8 +0.9**
comp=Z,1µm,0.9s,mb6.4
TOO Toolangi 36.39 233 ⇓*i*P **P 11 40 44.4 +1.1**
TOO *e*S **S 11 45 45.8 +0.3**
TOO *e*SCS ScS 11 49 55.6 +0.9
TAU Tasmania Unive 37.16 224 P **P 11 40 50.6 +1.0**
comp=Z,1µm,0.8s,mb6.4,SNR=24
TAU Tasmania Unive 37.16 224 *e*P **P 11 40 50.6 +1.0**
TAU pmax pmax
comp=Z,156nm,0.9s,mb5.5
TAU Tasmania Unive 37.16 224 *e*P **P 11 40 50.6 +1.0**
comp=Z,156nm,0.9s,mb5.5
COEN Coen 37.77 273 *e*P **P 11 40 56.0 +1.0**
comp=Z,426nm,0.8s,mb6.0
STKA Stephens Creek 38.22 244 ⇓*i*P **P 11 40 59.6 +1.2**
comp=Z,512nm,0.6s,mb6.2
STKA *e*S **S 11 46 12.5 -0.2**
STKA *e*SCS ScS 11 50 06.0 +0.5
STKA Stephens Creek 38.22 244 P **P 11 40 59.7 +1.3**
comp=Z,807nm,0.9s,mb6.3,baz=89,slow=9.1,SNR=1382
STKA S **S 11 46 13.4 +0.6**
comp=Z,28nm,1.0s,baz=231,slow=18,SNR=4.2
RKT Rikitea 39.83 102 *e*P **P 11 41 11.1 -0.4**
comp=Z,218nm,0.9s,mb5.7
RKT *e*pP 11 42 41.2
comp=Z,193nm,1.3s
ASAR Alice Springs 44.86 256 P **P 11 41 51.4 +0.5**
comp=Z,1µm,0.8s,baz=91,slow=8.0
ASAR PcP PcP 11 43 20.8 +0.1
comp=Z,88nm,0.9s,baz=112,slow=4.2,SNR=5.2
ASAR ScP ScP 11 46 19.5 -0.8
comp=Z,3.6nm,0.6s,baz=354,slow=33,SNR=4.2
ASAR S **S 11 47 47.1 -1.4**
comp=Z,64nm,1.0s,baz=99,slow=17,SNR=17
ASAR Alice Springs 44.86 256 P **P 11 41 51.4 +0.5**
ASAR 11 43 20.8
ASAR S **S 11 47 47.1 -1.4**
WB2 Warramunga Arr 44.88 261 ⇓*i*P **P 11 41 51.0 -0.1**
WB2 *e*S **S 11 47 46.9 -2.0**
WB2 *e*SCS ScS 11 50 43.8 -3.4
WRAB Tennant Creek 44.88 261 P **P 11 41 51.0 -0.1**
comp=Z,7µm,0.8s
WRAB Tennant Creek 44.88 261 *d i*P **P 11 41 51.2 +0.1**
WRAB Tennant Creek 44.88 261 *e*P **P 11 41 51.1 0.0**
comp=Z,352nm,0.5s,mb6.2
WRA Warramunga Arr 44.89 261 P **P 11 41 50.3 -0.9**
comp=Z,624nm,0.6s,mb6.3,baz=98,slow=6.9,SNR=1174
WRA PcP PcP 11 43 20.2 -0.6
comp=Z,72nm,0.7s,baz=97,slow=3.9,SNR=6.0
WRA ScP ScP 11 46 22.0 +1.5
comp=Z,18nm,1.1s,baz=96,slow=3.9,SNR=4.5
WRA S **S 11 47 48.2 -0.9**
comp=Z,22nm,0.9s,baz=95,slow=14,SNR=7.2
WRA PKiKP PKiKP 11 50 15.9 -1.7
comp=Z,1.8nm,0.8s,baz=50,slow=0.4,SNR=4.7
WRA Warramunga Arr 44.89 261 P **P 11 41 50.3 -0.9**
WRA 11 43 20.2
WRA S **S 11 47 48.2 -0.9**
WRA Warramunga Arr 44.89 261 P **P 11 41 50.3 -0.9**
WRA PcP PcP 11 43 20.2 -0.7
WRA ScP ScP 11 46 22.0 +1.5
WRA S **S 11 47 48.2 -0.9**
KAKA Kakadu 48.18 271 ⇓*i*P **P 11 42 15.9 -0.2**
comp=Z,976nm,0.8s,mb6.4
GUMO Guam 49.63 309 P **P 11 42 26.2 -0.6**
comp=Z,532nm,0.7s,mb6.1,baz=165,slow=8.3,SNR=44
GUMO Guam 49.63 309 *e*P **P 11 42 27.0 +0.2**
comp=Z,593nm,0.8s,mb6.1
FORT Forrest 49.71 246 ⇓*i*P **P 11 42 27.0 -0.2**
comp=Z,998nm,0.7s,mb6.3
FORT *e*S **S 11 48 53.7 -1.6**
FITZ Fitzroy Crossi 53.32 262 ⇓*i*P **P 11 42 53.8 +0.4**
comp=Z,664nm,0.6s,mb6.1
FITZ Fitzroy Crossi 53.32 262 P **P 11 42 53.8 +0.4**
comp=Z,307nm,0.6s,mb5.8,baz=101,slow=5.7,SNR=1562
DRV Dumont d'Urvil 53.93 199 PP sP 11 45 46.0 +2.7
DRV S **S 11 49 51.0 +0.6**
DRV L 11 57 00.0
MBWA Marble Bar 58.18 257 *e*P **P 11 43 26.9 -0.2**
comp=Z,586nm,0.7s,mb5.9
SBA Scott Base 58.42 184 *e*P **P 11 43 30.4 +2.7**
comp=Z,37nm,0.8s,mb4.7
KLBR Kellerberrin 58.48 245 *e*P **P 11 43 28.7 -0.2**
comp=Z,690nm,0.9s,mb5.9
NWAO Narrogin (SRO) 58.80 243 PP PP 11 45 47.7 -2.2
comp=Z,22nm,0.8s,baz=86,slow=8.9,SNR=3.5
NWAO Narrogin (SRO) 58.80 243 *e*P **P 11 43 31.3 +0.3**
NWAO pmax pmax
comp=Z,543nm,1.5s
NWAO Narrogin (SRO) 58.80 243 *e*P **P 11 43 31.3 +0.3**
comp=Z,543nm,1.5s,mb5.6
MUN Mundaring 59.76 244 *e*P **P 11 43 37.7 +0.3**
MATI Mati 61.20 290 *e*P **P 11 43 45.5 -1.7**
DAV Davao City (W) 61.85 290 *e*P **P 11 43 52.0 +0.6**
comp=Z,704nm,0.8s,mb6.1
KAPI Kappang 62.45 275 P **P 11 43 54.3 -1.1**
comp=Z,1µm,0.7s,mb6.4,SNR=19
KAPI Kappang 62.45 275 *e*P **P 11 43 54.5 -0.9**
comp=Z,142nm,0.8s,mb5.5
BUKP Musuan 62.68 290 *e*P **P 11 43 57.4 +0.6**
BUTP Butuan 62.69 292 *e*P **P 11 43 56.9 +0.1**
CTBH Cotabato--PC H 63.10 289 ⇓*e*P **P 11 43 59.8 +0.2**
SCPH Surigao 63.18 293 *e*P **P 11 43 59.0 -1.0**
MSLP Maasin 63.89 293 *e*P **P 11 44 04.1 -0.5**
PAGZ Pagadian 64.15 290 *e*P **P 11 44 06.1 -0.1**
CASY Casey 64.54 205 ⇓*i*P **P 11 44 08.2 +0.5**
CASY *e*S **S 11 52 03.2 -0.4**
OCLP Ormoc 64.54 293 *e*P **P 11 44 08.3 -0.3**
TBP Tagbilaran 64.56 292 *e*P **P 11 44 08.3 -0.5**
LLP Lapu-Lapu 64.76 292 *e*P **P 11 44 10.6 +0.6**
IPIL Ipil 64.84 289 *e*P **P 11 44 10.7 +0.1**
CNP Catarman 65.19 295 *e*P **P 11 44 11.4 -1.3**
GUIM Jordan 66.10 292 *e*P **P 11 44 17.0 -1.4**
PVCP Virac 66.15 296 *e*P **P 11 44 18.9 +0.2**
RCP Roxas 66.39 293 ⇓*e*P **P 11 44 26.2 +6.0**
KALP Kalibo 66.80 293 *e*P **P 11 44 24.6 +1.9**
OTRP Odiongan 67.39 293 *e*P **P 11 44 25.8 -0.6**
MYLDM Lahad Datu 67.41 285 ⇑P **P 11 44 28.9 +2.4**
CUYO Cuyo Island 67.57 291 *e*P **P 11 44 27.1 -0.3**
TSM Tawau 67.62 284 ⇑P **P 11 44 29.1 +1.2**
SJMP San Jose 68.22 293 *e*P **P 11 44 31.3 -0.1**
POLP Polillo Island 68.57 295 *e*P **P 11 44 33.2 -0.3**
SDKM Sandakan 68.78 285 ⇓P **P 11 44 34.9 0.0**
BUSP Coron 68.81 292 *e*P **P 11 44 35.0 0.0**
PALP Palanan 69.30 298 *e*P **P 11 44 38.2 +0.4**
BALP Baler 69.37 296 *e*P **P 11 44 37.4 -0.8**
BATP Bataraza 69.53 288 *e*P **P 11 44 39.5 +0.2**
LUBP Lubang 69.56 294 *e*P **P 11 44 38.4 -1.1**
KDM Kudat 69.62 286 ⇓P **P 11 44 40.7 +0.8**
CAUP Cauayan 69.74 297 *e*P **P 11 44 41.1 +0.6**
KKM Kota Kinabalu 69.83 285 ⇓P **P 11 44 41.7 +0.6**
KKM Kota Kinabalu 69.83 285 *e*P **P 11 44 41.3 +0.1**
MJAR Matsushiro Arr 69.91 323 P **P 11 44 40.4 -0.7**
comp=Z,102nm,0.7s,mb5.5,baz=157,slow=5.9,SNR=312
MAJO Matsushiro 69.91 323 *e*P **P 11 44 41.3 +0.2**
MAJO pmax pmax
comp=Z,127nm,0.6s,mb5.6
MAJO Matsushiro 69.91 323 *e*P **P 11 44 41.3 +0.2**
comp=Z,127nm,0.6s,mb5.6
QSPA South Pole Qui 70.10 180 P **P 11 44 43.1 +1.6**
comp=Z,50nm,1.0s,mb5.0,baz=28,slow=1.5,SNR=233
QSPA pP pP 11 46 37.7 +1.9
comp=Z,26nm,1.0s,baz=34,slow=1.9,SNR=4.6
QSPA PP PP 11 47 21.0 -5.2
comp=Z,10nm,1.0s,baz=315,slow=2.6,SNR=7.6
QSPA PKiKP PKiKP 11 50 45.2 -1.0
comp=Z,2.8nm,0.9s,baz=331,slow=0.9,SNR=3.4
QSPA South Pole Qui 70.10 180 P **P 11 44 43.1 +1.6**
QSPA pP pP 11 46 37.7 +1.9
QSPA PP PP 11 47 21.0 -5.2
APYP Conner 70.67 298 *e*P **P 11 44 45.5 -0.5**
ABRA Dolores 71.01 298 *e*P **P 11 44 47.1 -0.8**
BOLP Bolinao 71.07 296 *e*P **P 11 44 47.3 -1.1**
AMKA Amchitka 71.08 358 *e*P **P 11 44 46.3 -1.3**
MIR Mirnyy 71.57 205 ⇓*i*P **P 11 44 51.0 +0.6**
MIR *i* 11 45 02.0
MIR pmax pmax
comp=Z,300nm,1.0s,mb5.7
BTM Bintulu 71.61 280 ⇑P **P 11 44 52.6 +1.0**
SBUM Sibu 72.13 279 ⇓P **P 11 44 55.9 +1.2**
NIKO Nikolski 73.04 6 *e*P **P 11 44 57.3 -1.6**
comp=Z,100nm,0.9s,mb5.2
KSM Kuching 73.55 278 ⇓P **P 11 45 03.9 +1.0**
KSM Kuching 73.55 278 *e*P **P 11 45 03.4 +0.6**
NACB Ninganchiao 73.56 304 *e*P **P 11 45 01.8 -0.8**
comp=Z,459nm,1.0s,mb5.9
XMIS Christmas Isla 73.97 264 *e*P **P 11 45 05.5 +0.3**
YHNB Yeheng 73.98 304 *e*P **P 11 45 04.5 -0.5**
comp=Z,262nm,0.9s,mb5.7
UNV Unalaska Valle 74.14 7 *e*P **P 11 45 03.2 -1.9**
comp=Z,43nm,0.6s,mb5.0
PET Petropavlovsk 75.50 346 *e*P **P 11 45 11.6 -1.2**
PET *e**PP pP 11 47 09.7 +0.3
PET *e* 11 48 05.6
PET *e*S S 11 54 07.0 -1.3
PET pmax pmax
comp=Z,60nm,0.6s,mb5.2
PET Petropavlovsk 75.50 346 *e*P **P 11 45 11.7 -1.2**
comp=Z,20nm,0.6s,mb4.7
YSS Yuzh-Sakhalins 75.51 333 ⇓*i*P **P 11 45 13.5 +0.5**
YSS pmax pmax
comp=Z,290nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 75.51 333 *e*P **P 11 45 13.5 +0.5**
comp=Z,258nm,0.9s,mb5.7
PETK Petropavlovsk- 75.81 345 P **P 11 45 13.8 -0.8**
comp=Z,103nm,0.8s,mb5.3,baz=123,slow=8.4,SNR=107
PETK PKiKP PKiKP 11 50 53.6 -1.5
comp=Z,4.7nm,0.8s,baz=111,slow=5.6,SNR=4.9
QZH Quanzhou 76.30 303 ⇓*i*P **P 11 45 18.3 +0.4**
QZH PP PP 11 48 17.8 -2.0
QZH S S 11 54 18.1 0.0
QZH AMB AMB
comp=Z,360nm,0.8s,mb5.8
SDPT Sand Point 76.44 10 *e*P **P 11 45 16.2 -1.7**
comp=Z,123nm,0.9s,mb5.3
KSRS Korea Array 76.63 318 P **P 11 45 19.9 +0.4**
comp=Z,40nm,1.0s,mb4.8,baz=139,slow=6.2,SNR=161
FARB Farallon Islan 77.07 42 ⇑P **P 11 45 21.4 -0.4**
baz=77
BSC Santa Cruz Isl 77.07 46 ⇑P **P 11 45 21.9 0.0**
baz=77
V03C Hunter Liggett 77.18 44 ⇓P **P 11 45 22.1 -0.4**
baz=77
V04C Ramage Ranch, 77.20 44 ⇑P **P 11 45 22.9 +0.3**
baz=77
HAST Hastings Reser 77.20 43 ⇓P **P 11 45 22.9 +0.4**
baz=77,SNR=16
SCI San Clemente I 77.25 48 ⇑P **P 11 45 23.0 +0.1**
baz=77
INCN Inchon 77.46 318 *e*P **P 11 45 24.4 +0.4**
comp=Z,198nm,1.1s,mb5.5
PKM Peak Mountain 77.46 46 ⇓P **P 11 45 24.5 +0.4**
baz=78,SNR=6.0
SAO San Andreas Ge 77.49 43 *e*P **P 11 45 24.5 +0.4**
SAO pmax pmax
comp=Z,39nm,0.9s,mb4.8
SAO San Andreas Ge 77.49 43 *e*P **P 11 45 24.5 +0.4**
comp=Z,39nm,0.9s,mb4.8
SSE Sheshan 77.51 310 P **P 11 45 24.0 -0.4**
SSE XP sP 11 48 14.3 -4.4
SSE PP PP 11 48 28.8 -0.9
SSE S S 11 54 33.1 +2.4
SSE XS sS 11 57 57.8 -2.1
SSE AMB AMB
comp=Z,45nm,1.0s,mb4.8
SSE AMB AMB
comp=Z,169nm,6.9s
SMMC Simmler 77.58 45 ⇓P **P 11 45 25.2 +0.6**
baz=78
CIS Catalina Islan 77.59 47 ⇑P **P 11 45 24.4 -0.3**
baz=78
PKD Parkfield 77.59 44 ⇓P **P 11 45 24.9 +0.2**
baz=78,SNR=5.4
PTRM Twissleman Ran 77.64 45 *e*P **P 11 45 24.7 -0.3**
PTRM *e*pP pP 11 47 24.6 +2.3
U04C Hernandez Rese 77.68 44 ⇓P **P 11 45 25.9 +0.8**
baz=78,SNR=15
CHGN Chignik 77.70 11 *e*P **P 11 45 23.5 -1.3**
PACP Pacheco Peak 77.74 43 ⇓P **P 11 45 25.9 +0.5**
baz=78,SNR=11
CVS Carmenet Viney 77.80 41 ⇑P **P 11 45 26.2 +0.4**
baz=78
WENL Wente Brothers 77.80 42 ⇑P **P 11 45 25.8 0.0**
baz=78
VLA Vladivostok 77.97 325 *e*P **P 11 45 25.1 -1.4**
VLA *i* S S 11 54 36.9 +2.0
VLA pmax pmax
comp=Z,125nm,0.9s,mb5.2
VLA Vladivostok 77.97 325 ⇑*i*P **P 11 45 26.6 +0.1**
S04C Ingram Canyon, 78.01 43 ⇑P **P 11 45 27.0 +0.1**
baz=78,SNR=9.0
T05C Eagle Field, D 78.06 43 ⇓P **P 11 45 27.6 +0.4**
baz=78
O01C Eel River Cons 78.08 39 ⇑P **P 11 45 27.9 +0.7**
baz=78
DECC Green Verdugo 78.11 47 ⇓P **P 11 45 27.2 -0.3**
baz=78
MNRC McLaughlin Nat 78.14 41 ⇓P **P 11 45 28.1 +0.6**
baz=78,SNR=6.1
109C Camp Elliot, M 78.21 49 ⇑P **P 11 45 28.1 0.0**
baz=78
Q03C Winters 78.25 41 ⇓P **P 11 45 28.9 +0.7**
baz=78
ARVC Arvin 78.26 46 ⇑P **P 11 45 28.2 -0.1**
baz=78,SNR=7.1
MWC Mount Wilson 78.28 47 *e*P **P 11 45 28.4 0.0**
MWC *e**PP pP 11 47 26.2 +0.1
MWC pmax pmax
comp=Z,36nm,0.8s,mb4.8
MWC Mount Wilson 78.28 47 *e*P **P 11 45 28.4 -0.1**
comp=Z,36nm,0.8s,mb4.8
MWC *e*pP pP 11 47 26.2 +0.1
BAR Barrett 78.40 49 *e*P **P 11 45 28.7 -0.4**
comp=Z,6.1nm,0.6s,mb4.1
GASB Alder Springs 78.45 40 ⇑P **P 11 45 30.3 +1.1**
baz=79,SNR=11
VES Vestal, Richgr 78.50 45 ⇓P **P 11 45 29.3 -0.2**
baz=79,SNR=12
MURC Murrieta 78.53 48 ⇓P **P 11 45 29.7 0.0**
baz=79,SNR=9.7
S05C Merced 78.55 43 ⇑P **P 11 45 29.7 -0.2**
baz=79,SNR=15
BFSC Mount Baldy St 78.56 47 ⇓P **P 11 45 29.7 -0.3**
baz=79,SNR=12
RCTC Rector, Farmer 78.66 45 ⇓P **P 11 45 30.2 -0.2**
baz=79
EDW2 Edwards Air Fo 78.69 46 ⇓P **P 11 45 30.7 +0.1**
baz=79,SNR=33
MONP Monument Peak 78.69 49 ⇓P **P 11 45 31.0 +0.4**
baz=79,SNR=12
R04C Big Horse Ranc 78.70 42 ⇑P **P 11 45 30.1 -0.5**
baz=79
O02C Red Bluff 78.72 40 ⇓P **P 11 45 31.5 +0.8**
baz=79,SNR=12
SUTB Sutter Butte 78.76 41 ⇑P **P 11 45 30.4 -0.4**
baz=79,SNR=8.3
T06C Millerton Lake 78.76 44 ⇓P **P 11 45 30.8 -0.2**
baz=79,SNR=17
Q04C Lincoln 78.78 42 ⇓P **P 11 45 30.9 -0.1**
baz=79
DVTC Desert V Tower 78.80 49 ⇑P **P 11 45 31.6 +0.4**
baz=79
N02C Big Bar 78.82 39 ⇓P **P 11 45 31.3 +0.1**
baz=79,SNR=5.1
CMB Columbia Colle 78.92 43 *e*P **P 11 45 31.5 -0.2**
CMB *e**PP pP 11 47 31.0 +1.3
CMB pmax pmax
comp=Z,29nm,0.9s,mb4.6
CMB Columbia Colle 78.92 43 ⇓P **P 11 45 31.6 -0.1**
baz=79,SNR=21
CMB Columbia Colle 78.92 43 *e*P **P 11 45 31.5 -0.2**
comp=Z,28nm,0.9s,mb4.6
CMB *e*pP pP 11 47 31.0 +1.3
OHCM Honcut 79.01 41 *e*P **P 11 45 31.9 -0.3**
HELL Mitchell Peak 79.02 44 ⇓P **P 11 45 31.9 -0.4**
baz=79,SNR=12
PFO Pinyon Flat Ob 79.06 48 P **P 11 45 32.9 +0.3**
comp=Z,85nm,1.0s,mb5.0,SNR=5.7
PFO Pinyon Flat Ob 79.06 48 ⇓P **P 11 45 32.5 -0.1**
baz=79,SNR=5.4
O03C Acorn Hollow, 79.07 40 ⇑P **P 11 45 32.5 0.0**
baz=79,SNR=5.6
BBRC Big Bear Sol-O 79.09 47 ⇑P **P 11 45 32.9 +0.2**
baz=79
WDC Whiskeytown Da 79.12 40 ⇑P **P 11 45 33.0 +0.3**
baz=79,SNR=12
LAVA Lava Cap Winer 79.12 42 ⇑P **P 11 45 32.7 -0.1**
baz=79
ORV Oroville 79.13 41 ⇑P **P 11 45 32.6 -0.2**
baz=79,SNR=25
SWSC Sam W. Stewart 79.16 49 ⇑P **P 11 45 33.2 +0.1**
baz=79,SNR=5.8
S06C San Francisco 79.17 43 ⇑P **P 11 45 32.9 -0.2**
baz=79,SNR=11
KCC Kaiser Creek 79.19 44 ⇓P **P 11 45 33.2 0.0**
baz=79,SNR=16
LRMC Laurel Mountai 79.23 46 ⇑P **P 11 45 33.5 0.0**
baz=79
M02C Callahan 79.44 39 ⇑P **P 11 45 34.8 +0.4**
baz=80,SNR=14
L02A Cave Junction 79.48 38 ⇑P **P 11 45 34.8 +0.2**
baz=80
CWC Cottonwood Cre 79.51 45 ⇑P **P 11 45 34.8 -0.1**
baz=80,SNR=15
R05C Kirkwood Meado 79.51 42 ⇑P **P 11 45 35.0 +0.2**
baz=80,SNR=20
P05C Yuba Gap, Truc 79.53 42 ⇓P **P 11 45 35.2 +0.3**
baz=80,SNR=16
OHAK Old Harbor 79.58 13 *e*P **P 11 45 33.8 -0.9**
comp=Z,54nm,0.6s,mb5.0
BELC Belle Mtn. 79.59 48 ⇑P **P 11 45 35.6 +0.2**
baz=80,SNR=28
MLAC Mammoth Lakes 79.68 44 ⇓P **P 11 45 35.8 0.0**
baz=80
MPMC Manual Prospec 79.69 46 ⇑P **P 11 45 36.0 +0.1**
baz=80,SNR=20
MYKOM Kota Tinggi 79.70 276 ⇓P **P 11 45 37.3 +0.9**
MTUM Tungsten Hills 79.70 44 *e*P **P 11 45 36.7 +0.8**
MTUM *e*pP pP 11 47 34.2 +0.1
NJ2 Nanjing 79.71 310 *e*P **P 11 45 36.8 +0.8**
GSC Goldstone 79.73 47 *e*P **P 11 45 36.0 -0.1**
GSC *e**PP pP 11 47 34.6 +0.3
GSC pmax pmax
comp=Z,16nm,1.3s,mb4.2
GSC Goldstone 79.73 47 ⇓P **P 11 45 36.1 0.0**
baz=80,SNR=7.5
GSC Goldstone 79.73 47 *e*P **P 11 45 36.0 -0.1**
comp=Z,16nm,1.3s,mb4.2
GSC *e*pP pP 11 47 34.5 +0.2
YBH Yreka Blue Hor 79.73 39 *e*P **P 11 45 36.3 +0.4**
YBH *e**PP pP 11 47 35.9 +1.7
YBH pmax pmax
comp=Z,34nm,0.8s
YBH Yreka Blue Hor 79.73 39 ⇓P **P 11 45 36.4 +0.5**
baz=80,SNR=23
YBH Yreka Blue Hor 79.73 39 *e*P **P 11 45 36.3 +0.4**
comp=Z,34nm,0.8s,mb4.7
YBH *e*pP pP 11 47 35.9 +1.7
TIN Tinemaha 79.75 44 ⇑P **P 11 45 36.3 +0.1**
baz=80,SNR=5.8
BC3 Big Chuckw Mtn 79.79 49 ⇓P **P 11 45 36.6 +0.2**
baz=80,SNR=8.3
M03C McCloud 79.80 39 ⇑P **P 11 45 36.4 +0.1**
baz=80,SNR=16
R06C Coleville 79.80 43 ⇑P **P 11 45 36.5 +0.1**
baz=80,SNR=21
HEC Hector,Ludlow 79.80 47 ⇑P **P 11 45 36.4 0.0**
baz=80,SNR=24
R07C Lee Vining 79.81 43 ⇑P **P 11 45 36.7 +0.2**
baz=80,SNR=15
O04C Chester 79.84 40 ⇑P **P 11 45 36.8 +0.2**

baz=80,SNR=14
GLA Glamis 79.91 49 *e*P **P 11 45 37.6 +0.5**
GLA *e**PP pP 11 47 35.9 +0.5
GLA pmax pmax
comp=Z,46nm,1.2s,mb4.7
GLA Glamis 79.91 49 ⇑P **P 11 45 37.6 +0.5**
baz=80,SNR=16
GLA Glamis 79.91 49 *e*P **P 11 45 37.6 +0.5**
comp=Z,46nm,1.2s,mb4.7
GLA *e*pP pP 11 47 35.9 +0.5
HATC Hat Creek Radi 79.92 40 ⇑P **P 11 45 37.4 +0.5**
baz=80,SNR=11
K02A Glendale 79.93 37 ⇑P **P 11 45 37.2 +0.2**
baz=80
S08C White Mtn Res 80.04 44 ⇑P **P 11 45 38.3 +0.6**
baz=80,SNR=31
WCN Washoe City 80.06 42 ⇓P **P 11 45 38.1 +0.4**
baz=80,SNR=20
LTIM Timbered Crate 80.12 40 P **P 11 45 38.2 +0.2**
HUMO Hull Mountain 80.14 38 ⇓P **P 11 45 38.3 +0.3**
baz=80,SNR=15
HUMO Hull Mountain 80.14 38 *e*P **P 11 45 38.5 +0.5**
comp=Z,32nm,1.1s,mb4.6
P06A Stead Airport, 80.20 42 ⇑P **P 11 45 39.3 +0.9**
baz=80
MDJ Mudanjiang 80.21 325 P **P 11 45 39.1 +0.8**
MDJ AP pP 11 47 34.3 -2.5
MDJ XP sP 11 48 30.3 -3.1
MDJ S S 11 55 00.6 +2.7
MDJ SS SS 12 00 23.4 -2.3
MDJ AMB AMB
comp=Z,238nm,1.0s,mb5.5
MDJ AMB AMB
comp=Z,249nm,4.7s
GMRC Granite Mounta 80.24 48 ⇑P **P 11 45 38.9 +0.1**
baz=80,SNR=12
KDAK Kodiak Island 80.25 13 P **P 11 45 37.3 -0.9**
comp=Z,418nm,0.7s,mb5.9,SNR=10
KDAK Kodiak Island 80.25 13 *e*P **P 11 45 37.1 -1.1**
comp=Z,44nm,0.8s,mb4.8
J02A Umpqua 80.26 37 ⇓P **P 11 45 38.9 +0.2**
baz=80,SNR=5.4
IRM Iron Mountain 80.27 48 ⇑P **P 11 45 39.4 +0.4**
baz=80,SNR=21
KGM Kluang 80.28 276 ⇑P **P 11 45 40.3 +0.9**
M04C Macdoel 80.28 39 ⇑P **P 11 45 38.9 +0.1**
baz=80,SNR=12
GRAC Grapevine Rang 80.29 45 ⇓P **P 11 45 39.4 +0.4**
baz=80,SNR=19
FURC Furnace Creek, 80.34 46 ⇑P **P 11 45 39.0 -0.2**
baz=80,SNR=11
TUQ Turquoise Mtn. 80.41 47 ⇑P **P 11 45 39.7 +0.1**
baz=80,SNR=12
M05C Lookout 80.44 40 ⇑P **P 11 45 39.7 +0.1**
baz=80,SNR=28
Q07A Schurz 80.45 43 ⇑P **P 11 45 40.2 +0.4**
baz=81,SNR=5.2
NVAR Mina Array Bea 80.49 43 P **P 11 45 40.1 +0.2**
comp=Z,25nm,0.9s,mb4.5,baz=226,slow=9.0,SNR=111
NVAR pP pP 11 47 39.1 +0.7
comp=Z,15nm,1.0s,baz=226,slow=9.0,SNR=13
NVAR PKKPbc PKKPbc 12 04 17.6 +0.1
comp=Z,1.4nm,0.8s,baz=83,slow=2.7,SNR=8.8
L04A Klamath Falls 80.49 39 ⇑P **P 11 45 40.3 +0.4**
baz=81,SNR=14
Y12C Blythe 80.49 49 ⇓P **P 11 45 40.4 +0.3**
baz=81,SNR=12
I02A Mapleton 80.52 36 ⇓P **P 11 45 40.4 +0.4**
baz=81
O06A Flanigan 80.53 41 ⇓P **P 11 45 40.6 +0.4**
baz=81,SNR=25
113A Mohawk Valley, 80.53 50 ⇓P **P 11 45 40.5 +0.2**
baz=81,SNR=8.8
PAHR Pah Rah Range 80.53 42 *e*P **P 11 45 40.2 +0.1**
comp=Z,30nm,1.0s,mb4.7
R08A Mina 80.57 43 ⇑P **P 11 45 40.5 +0.1**
baz=81,SNR=20
U10A Ash Meadows, A 80.67 46 ⇑P **P 11 45 41.2 +0.3**
baz=81,SNR=9.9
M06C Likely Place G 80.75 40 ⇑P **P 11 45 41.6 +0.4**
baz=81,SNR=30
P07A Fallon 80.75 42 ⇑P **P 11 45 41.4 +0.1**
baz=81
LDFC Landfair 80.78 48 *e*P **P 11 45 42.2 +0.7**
comp=Z,81nm,0.9s,mb5.2
LDFC *e*pP pP 11 47 40.1 -0.1
S09A Goldfield 80.79 44 ⇑P **P 11 45 41.4 -0.2**
baz=81,SNR=15
214A Organ Pipe Nat 80.81 51 ⇓P **P 11 45 42.2 +0.4**
baz=81,SNR=9.4
I03A Eugene 80.81 37 ⇓P **P 11 45 41.8 +0.3**
baz=81
QIZ Qiongzhong 80.84 294 P **P 11 45 42.1 -0.1**
QIZ AP pP 11 47 37.8 -3.0
QIZ XP sP 11 48 33.3 -4.2
QIZ PP PP 11 48 56.0 -1.0
QIZ S S 11 55 06.8 +1.4
QIZ XS sS 11 58 33.8 -3.0
QIZ SS SS 12 00 37.3 +1.5
QIZ AMB AMB
comp=Z,54nm,1.2s,mb4.8
QIZ AMB AMB
comp=Z,272nm,7.7s
K04A Chilquin 80.85 38 ⇑P **P 11 45 42.0 +0.3**
baz=81
H02A Toledo 80.86 36 ⇑P **P 11 45 42.5 +0.8**
baz=81
N06A Buffalo Meadow 80.87 41 ⇑P **P 11 45 41.8 0.0**
baz=81,SNR=22
NEE2 Needles Airpor 80.96 48 ⇓P **P 11 45 42.7 +0.2**
baz=81
V11A Goodsprings 80.97 47 ⇑P **P 11 45 42.4 -0.1**
baz=81,SNR=9.3
Q08A Gabbs 80.97 43 ⇓P **P 11 45 42.8 +0.4**
baz=81,SNR=48
TPH Tonopah 80.99 44 *e*P **P 11 45 42.7 +0.1**
TPH pmax pmax
comp=Z,47nm,1.1s,mb4.8
TPH Tonopah 80.99 44 *e*P **P 11 45 42.7 +0.2**
comp=Z,47nm,1.1s,mb4.8
TPNV Topopah Spring 81.01 45 *e*P **P 11 45 42.2 -0.5**
TPNV *e**PP pP 11 47 41.3 -0.1
TPNV pmax pmax
comp=Z,21nm,0.9s,mb4.6
TPNV Topopah Spring 81.01 45 ⇑P **P 11 45 43.1 +0.4**
baz=81,SNR=26
TPNV Topopah Spring 81.01 45 *e*P **P 11 45 42.2 -0.5**
comp=Z,22nm,0.9s,mb4.6
TPNV *e*pP pP 11 47 41.3 -0.1
J04A Umpqua Nationa 81.02 38 ⇑P **P 11 45 43.3 +0.7**
baz=81,SNR=23
Y13A Salome 81.02 49 ⇓P **P 11 45 43.4 +0.5**
baz=81,SNR=23
L05A Lakeview 81.04 39 ⇓P **P 11 45 43.3 +0.6**
baz=81,SNR=22
PDMCI Parker Dam,Lak 81.05 49 ⇓P **P 11 45 43.3 +0.3**
baz=81,SNR=17
W12A Cal Nev Ari 81.07 47 ⇓P **P 11 45 43.5 +0.5**
baz=81
O07A Toulon 81.12 42 ⇓P **P 11 45 43.2 +0.1**
baz=81,SNR=62
R09A Tonopah 81.18 44 ⇑P **P 11 45 43.6 0.0**
baz=81,SNR=40
I04A Tendick Farm, 81.19 37 ⇓P **P 11 45 43.4 0.0**
baz=81,SNR=13
H03A Soap Creek Ran 81.25 36 ⇑P **P 11 45 44.0 +0.2**
baz=81,SNR=7.7
MOD Modoc 81.27 40 ⇑P **P 11 45 44.1 +0.2**
baz=81,SNR=39
MOD Modoc 81.27 40 *e*P **P 11 45 43.9 +0.1**
comp=Z,46nm,0.8s,mb5.0
MOD *e*pP pP 11 47 42.8 +0.1
V12A Nelson 81.31 47 ⇓P **P 11 45 44.5 +0.2**
baz=81,SNR=7.7
U11A Corn Creek 81.31 46 ⇑P **P 11 45 44.5 +0.2**
baz=81
S10A Tonopah Range, 81.32 44 ⇓P **P 11 45 44.4 +0.2**
baz=81,SNR=104
P08A Dixie Valley 81.35 42 ⇓P **P 11 45 44.6 +0.3**
baz=82,SNR=11
K05A Summer Lake 81.41 39 ⇑P **P 11 45 44.9 +0.3**
baz=82,SNR=48
N07B Gerlach 81.42 41 ⇓P **P 11 45 44.9 +0.2**
baz=82,SNR=21
Z14A Wintersburg 81.42 50 ⇓P **P 11 45 45.3 +0.4**
baz=82,SNR=16
X13A Yucca 81.42 49 ⇑P **P 11 45 45.2 +0.3**
baz=82,SNR=25
Q09A Carvers 81.44 43 ⇓P **P 11 45 45.1 +0.2**
baz=82,SNR=11
DL2 Dalian 81.49 317 *i*P **P 11 45 45.3 +0.2**
DL2 AP pP 11 47 44.8 +0.8
DL2 XP sP 11 48 41.8 +1.2
DL2 S S 11 55 13.3 +2.1
DL2 XS sS 11 58 48.9 +5.7
DL2 SS SS 12 00 42.9 -1.9
DL2 AMB AMB
comp=Z,60nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,130nm,5.5s
J05A Fort Rock 81.55 38 ⇑P **P 11 45 45.8 +0.5**
baz=82,SNR=70
115A Sonoran Desert 81.61 51 ⇑P **P 11 45 46.4 +0.5**
baz=82,SNR=10
KTGM Kuala Trenggan 81.61 279 ⇓P **P 11 45 47.6 +1.3**
O08A Rochester Mine 81.64 42 ⇓P **P 11 45 46.1 +0.3**
baz=82,SNR=42
W13A Hualapai Mount 81.65 48 ⇓P **P 11 45 46.3 +0.3**
baz=82,SNR=17
M07A Soldier Meadow 81.65 40 ⇑P **P 11 45 46.1 +0.2**
baz=82,SNR=43
G03A Yamhill 81.66 35 ⇑P **P 11 45 45.9 +0.1**
baz=82
Y14A Wickenburg 81.67 49 ⇑P **P 11 45 46.4 +0.3**
baz=82,SNR=24
PMSA Palmer Station 81.69 157 P **P 11 45 46.1 +0.4**
comp=Z,26nm,0.6s,mb4.8,baz=235,slow=4.5
PMSA Palmer Station 81.69 157 *e*P **P 11 45 46.2 +0.4**
comp=Z,66nm,1.2s,mb4.9
PMSA *e*PP PP 11 49 02.1 -0.2
R10A Warm Springs 81.71 44 ⇑P **P 11 45 46.7 +0.5**
baz=82,SNR=85
S11A Rachel 81.73 45 ⇓P **P 11 45 46.4 0.0**
baz=82,SNR=40
216A Three Points, 81.83 52 ⇓P **P 11 45 47.9 +0.9**
baz=82,SNR=11
K06A Valley Falls 81.83 39 ⇓P **P 11 45 47.1 +0.3**
baz=82,SNR=55
T11A Corn Creek, Al 81.86 46 ⇓P **P 11 45 47.5 +0.5**
baz=82,SNR=62
P09A Austin 81.87 43 ⇓P **P 11 45 47.1 +0.1**
baz=82,SNR=10.0
H04A Detroit Lake 81.87 36 ⇓P **P 11 45 46.6 -0.3**
baz=82,SNR=20
U12A Valley of Fire 81.89 47 ⇑P **P 11 45 47.6 +0.4**
baz=82,SNR=13
F03A Seaside 81.90 35 ⇓P **P 11 45 47.3 +0.3**
baz=82
L07A Adell 81.91 40 ⇓P **P 11 45 47.7 +0.5**
baz=82,SNR=45
116A Eloy 81.92 51 ⇑P **P 11 45 48.1 +0.7**
baz=82,SNR=23
T12A Moapa 81.93 46 ⇑P **P 11 45 47.5 +0.1**
baz=82,SNR=5.4
Q10A Clear Creek Ra 81.94 44 ⇑P **P 11 45 47.5 +0.1**
baz=82,SNR=30
Z15A Gila River Ind 81.95 50 ⇓P **P 11 45 47.9 +0.3**
baz=82
V13A Grand Canyon W 81.97 47 ⇓P **P 11 45 47.9 +0.3**
baz=82
CN2 Changchun 82.01 322 *e*P **P 11 45 47.8 +0.2**
CN2 *e*AP pP 11 47 45.0 -1.7
CN2 AMB AMB
comp=Z,20nm,0.7s,mb4.7
CN2 AMB AMB
comp=Z,500nm,10.0s
X14A Yava 82.02 49 ⇓P **P 11 45 48.6 +0.6**
baz=82,SNR=35
G04A Mulino 82.03 36 ⇑P **P 11 45 47.6 -0.1**
baz=82,SNR=8.9
I05A Bend 82.07 37 ⇓P **P 11 45 48.1 +0.2**
baz=82,SNR=9.2
MAW Mawson 82.14 200 ⇓*i*P **P 11 45 48.1 +0.1**
comp=Z,26nm,0.8s,mb4.7
MAW *e*S S 11 55 13.4 -3.5
MAW Mawson 82.14 200 P **P 11 45 48.3 +0.3**
comp=Z,30nm,0.7s,mb4.8,baz=124,slow=6.8,SNR=67
MAW Mawson 82.14 200 ⇓*i*P **P 11 45 48.1 +0.1**
MAW *e*S S 11 55 13.4 -3.5
MAW pmax pmax
comp=Z,26nm,0.8s
J06A Christmas Vall 82.16 39 ⇓P **P 11 45 48.3 -0.2**
baz=82,SNR=42
Y15A Casa Rosa Ranc 82.16 50 ⇓P **P 11 45 49.2 +0.5**
baz=82,SNR=42
M08A Happy Creek Ra 82.17 41 ⇓P **P 11 45 48.9 +0.4**
baz=82,SNR=37
KLR Kul'dur 82.18 329 ⇑*i*P **P 11 45 44.8 -3.5**
KLR *e*S S 11 55 16.0 -1.6
KLR pmax pmax
comp=E,60nm,1.2s
KLR pmax pmax
comp=Z,90nm,1.2s,mb5.1
O09A Fish Creek Ran 82.18 42 ⇓P **P 11 45 48.7 +0.1**
baz=82,SNR=27
217A Green Valley 82.19 52 ⇓P **P 11 45 49.8 +0.9**
baz=82,SNR=14
R11A Troy Canyon, C 82.22 45 ⇑P **P 11 45 48.6 -0.2**
baz=82,SNR=28
W14A Seligman 82.27 48 ⇓P **P 11 45 50.0 +0.8**
baz=82,SNR=48
U13A Pakoon Wash 82.28 47 ⇓P **P 11 45 49.7 +0.5**
baz=82,SNR=57
FRIM Kepong 82.28 276 ⇑P **P 11 45 50.2 +0.4**
E03A Lebam 82.29 34 ⇓P **P 11 45 49.2 +0.2**
baz=82,SNR=12
WHN Wuhan 82.30 306 ⇓*i*P **P 11 45 49.8 +0.3**
WHN XP sP 11 48 49.8 +4.6
WHN S S 11 55 19.6 -0.1
WHN AMB AMB
comp=Z,1μm,2.3s,mb5.9
S12A Delamar Landin 82.31 46 ⇑P **P 11 45 50.1 +0.8**
baz=82,SNR=84
BMN Battle Mountai 82.31 42 *e*P **P 11 45 49.2 0.0**
BMN pmax pmax
comp=Z,97nm,1.3s,mb5.1
BMN Battle Mountai 82.31 42 *e*P **P 11 45 49.2 0.0**
comp=Z,97nm,1.3s,mb5.1
P10A Eureka 82.34 43 ⇓P **P 11 45 49.5 +0.1**
baz=82,SNR=18
N09A Rock Creek Ran 82.36 42 ⇑P **P 11 45 49.7 +0.3**
baz=82,SNR=31
K07A Rock Creek Ran 82.36 39 ⇓P **P 11 45 49.8 +0.4**
baz=82,SNR=62
H05A Maras 82.39 37 ⇓P **P 11 45 49.5 0.0**
baz=82,SNR=18
BMW Boistfort Moun 82.42 35 *e*P **P 11 45 49.9 +0.2**
Q11A Duckwater 82.44 44 ⇓P **P 11 45 50.0 0.0**
baz=82,SNR=33
V14A Boquillas Ranc 82.47 48 ⇑P **P 11 45 50.8 +0.7**
baz=83,SNR=66
TUC Tucson 82.48 52 *e*P **P 11 45 51.0 +0.7**
TUC *e**PP pP 11 47 48.9 -0.7
TUC pmax pmax
comp=Z,30nm,0.9s,mb4.7
TUC Tucson 82.48 52 *e*P **P 11 45 51.0 +0.7**
comp=Z,30nm,0.9s,mb4.7
TUC *e*pP pP 11 47 48.9 -0.7
X15A Humboldt 82.50 49 ⇑P **P 11 45 51.1 +0.8**
baz=83,SNR=37
Z16A Peralta Trail, 82.51 51 ⇑P **P 11 45 50.9 +0.5**
baz=83
F04A Amboy 82.52 35 ⇓P **P 11 45 50.0 -0.1**
baz=83,SNR=15
I06A Prineville 82.54 38 ⇑P **P 11 45 50.9 +0.6**
baz=83,SNR=106
D03A Wishkah Elem. 82.55 34 ⇓P **P 11 45 50.8 +0.5**
baz=83,SNR=6.5
HOOD Mount Hood Mea 82.56 36 *e*P **P 11 45 50.5 +0.1**
comp=Z,54nm,1.0s,mb5.0
HOOD *e*pP pP 11 47 52.8 +3.1
WVOR Wild Horse Val 82.58 40 *e*P **P 11 45 50.6 0.0**
WVOR *e**PP pP 11 47 49.7 -0.2
WVOR pmax pmax
comp=Z,43nm,0.9s,mb5.0
WVOR Wild Horse Val 82.58 40 *e*P **P 11 45 50.6 +0.1**
comp=Z,43nm,0.9s,mb5.0
WVOR *e*pP pP 11 47 49.7 -0.2
LVP Lakeview Peak 82.61 35 P **P 11 45 50.7 +0.1**
L08A Fields 82.62 40 ⇑P **P 11 45 51.1 +0.3**
baz=83,SNR=40
T13A Saint George 82.63 46 ⇑P **P 11 45 51.4 +0.5**
baz=83,SNR=24
117A Oracle 82.64 52 ⇑P **P 11 45 52.0 +0.9**
baz=83,SNR=28
VIPM Ingram Point 82.65 37 P **P 11 45 51.0 +0.2**
318A Bisbee 82.65 53 ⇓P **P 11 45 52.1 +0.9**
baz=83,SNR=28
C03A Quillayute Air 82.67 33 ⇓P **P 11 45 51.7 +0.8**
baz=83
NLWA Neilton Lookou 82.67 34 ⇓P **P 11 45 51.1 +0.3**
baz=83,SNR=15
NLWA Neilton Lookou 82.67 34 *e*P **P 11 45 50.5 -0.4**
comp=Z,46nm,1.0s,mb5.0
O10A Cortez Mining, 82.69 43 ⇑P **P 11 45 51.3 +0.1**
baz=83,SNR=13
G05A Wamic 82.70 36 ⇓P **P 11 45 51.1 0.0**
baz=83,SNR=8.4
CROR Criterion Ridg 82.72 37 P **P 11 45 51.1 -0.1**
M09A Marrel Ranch, 82.73 41 ⇑P **P 11 45 51.8 +0.5**
baz=83,SNR=34
J07A Hines 82.73 39 ⇓P **P 11 45 51.5 +0.2**
baz=83,SNR=60
SVW2 Sparrevohn 82.73 11 *e*P **P 11 45 49.6 -1.3**
Y16A Circle Bar Ran 82.74 50 ⇑P **P 11 45 52.2 +0.6**
baz=83,SNR=36
P11A Circle Ranch, 82.76 43 ⇓P **P 11 45 51.6 +0.1**
baz=83,SNR=13
E04A Onalaska 82.77 35 ⇓P **P 11 45 51.9 +0.5**
baz=83,SNR=5.7
U14A Mt Trumbull 82.82 47 ⇑P **P 11 45 52.6 +0.7**
baz=83,SNR=59
W15A Williams 82.83 49 ⇑P **P 11 45 52.8 +0.8**
baz=83,SNR=6.5
K08A Mann Creek Ran 82.84 40 ⇑P **P 11 45 52.2 +0.4**
baz=83,SNR=100
R12A Pony Springs, 82.85 45 ⇓P **P 11 45 52.3 +0.3**
baz=83,SNR=16
218A Dragoon 82.86 52 ⇓P **P 11 45 53.2 +0.9**
baz=83,SNR=44
N10A Dunphy 82.92 42 ⇓P **P 11 45 52.5 +0.2**
baz=83,SNR=15
L09A Wilkinson Ranc 82.93 41 ⇑P **P 11 45 52.5 +0.1**
baz=83,SNR=33
H06A Lindquist Farm 82.94 37 ⇑P **P 11 45 52.5 +0.1**
baz=83,SNR=65
S13A Holt Ranch, En 82.96 46 ⇑P **P 11 45 52.9 +0.3**
baz=83,SNR=31
F05A White Salmon 83.01 36 ⇓P **P 11 45 52.5 -0.2**
baz=83,SNR=9.4
I07A Izee 83.03 38 ⇑P **P 11 45 53.2 +0.4**
baz=83,SNR=61
X16A Lo Mia Camp, P 83.03 50 ⇓P **P 11 45 53.7 +0.7**
baz=83,SNR=45
SEW Seward 83.04 14 *e*P **P 11 45 50.7 -1.7**
D04A Dobbs Creek Ra 83.05 34 ⇓P **P 11 45 53.3 +0.5**
baz=83
TIA Tai'an 83.07 312 ⇓P **P 11 45 53.5 +0.3**
TIA AMB AMB
comp=Z,625nm,1.2s,mb6.0
G06A Carlson Farm, 83.08 37 ⇓P **P 11 45 52.9 -0.1**
baz=83,SNR=21
Q12A Willow Creek R 83.09 44 ⇑P **P 11 45 53.3 +0.2**
baz=83,SNR=22
Y17A Roosevelt 83.11 51 ⇑P **P 11 45 53.8 +0.4**
baz=83,SNR=14
O11A Cowboy Ranch, 83.14 43 ⇓P **P 11 45 53.8 +0.4**
baz=83,SNR=36
Z17A San Carlos Hig 83.19 51 ⇓P **P 11 45 54.5 +0.7**
baz=83,SNR=6.8
R13A O'Grain Ranch, 83.20 45 ⇓P **P 11 45 54.3 +0.5**
baz=83,SNR=16
J08A Circle Bar Ran 83.21 39 ⇓P **P 11 45 53.9 +0.2**
baz=83,SNR=50
V15A Kaibab Nationa 83.22 48 ⇑P **P 11 45 54.7 +0.8**
baz=83,SNR=39
T14A Hurricane 83.22 47 ⇑P **P 11 45 54.2 +0.3**
baz=83,SNR=24
SLKM Skilak Lake 83.24 13 *e*P **P 11 45 52.2 -1.2**
118A Homack Ranch, 83.24 52 ⇓P **P 11 45 55.0 +0.9**
baz=83,SNR=26
E05A Randle 83.27 35 ⇑P **P 11 45 53.6 -0.2**
baz=83,SNR=22
IPM Ipoh 83.28 277 ⇓P **P 11 45 55.7 +1.0**
K09A Rome 83.28 40 ⇓P **P 11 45 54.3 +0.3**
baz=83,SNR=62
B04A Port Angeles 83.29 33 ⇑P **P 11 45 54.1 +0.2**
baz=83,SNR=6.4
H07A Lands Inn, Kim 83.30 38 ⇑P **P 11 45 54.2 +0.1**
baz=83,SNR=72
W16A Flagstaff 83.31 49 ⇓P **P 11 45 55.1 +0.7**
baz=83,SNR=20
F06A Goldendale 83.32 36 ⇓P **P 11 45 54.1 0.0**
baz=83,SNR=7.1
GNW Green Mountain 83.33 34 *e*P **P 11 45 54.0 -0.2**
comp=Z,37nm,0.9s,mb4.9
GNW *e*pP pP 11 47 54.2 +0.5
C04A Brinnon 83.35 34 ⇑P **P 11 45 54.2 -0.1**
baz=84,SNR=26
M10A I.L. Ranch, Tu 83.35 42 ⇓P **P 11 45 54.9 +0.5**
baz=83,SNR=57
LON Longmire 83.36 35 *e*P **P 11 45 53.7 -0.6**
LON pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
LON Longmire 83.36 35 *e*P **P 11 45 53.7 -0.6**
comp=Z,8.5nm,0.8s,mb4.3
Z18A Geronimo 83.40 51 ⇓P **P 11 45 55.7 +0.7**
baz=84,SNR=5.2
U15A North Rim 83.44 48 ⇑P **P 11 45 55.9 +0.8**
baz=84,SNR=74
X17A Forest Lakes 83.45 50 ⇑P **P 11 45 56.0 +0.9**
baz=84
219A White Tail Can 83.46 53 ⇑P **P 11 45 56.0 +0.8**
baz=84,SNR=18
N11A Elko Archery C 83.46 42 ⇓P **P 11 45 54.6 -0.4**
baz=84
I08A Drewsey 83.48 39 ⇓P **P 11 45 55.2 +0.2**
baz=84,SNR=52
S14A Cedar City 83.52 46 ⇑P **P 11 45 55.8 +0.4**
baz=84,SNR=10
D05A Enumclaw 83.53 35 ⇑P **P 11 45 55.6 +0.4**
baz=84,SNR=16
Q13A Wheeler Ranch, 83.57 45 ⇑P **P 11 45 55.6 -0.1**
baz=84,SNR=41
WUAZ Wupatki 83.63 49 ⇓P **P 11 45 56.3 +0.4**
baz=84,SNR=15
WUAZ Wupatki 83.63 49 *e*P **P 11 45 56.2 +0.2**
comp=Z,24nm,0.9s,mb4.7
WUAZ *e*pP pP 11 47 55.2 -0.4
J09A Fry Pan Ranch, 83.64 39 ⇑P **P 11 45 55.9 +0.1**
baz=84,SNR=46
G07A Ruggs Ranch, H 83.64 37 ⇓P **P 11 45 55.7 -0.1**
baz=84,SNR=28
T15A Red Dirt Ranch 83.68 47 ⇓P **P 11 45 56.6 +0.4**
baz=84,SNR=32
E06A Yakima 83.68 36 ⇑P **P 11 45 55.8 -0.1**
baz=84,SNR=16
PGC Sidney 83.69 33 *e*P **P 11 45 55.8 -0.2**
comp=Z,91nm,0.8s,mb5.3
PGC *e*pP pP 11 47 55.7 0.0
L10A Juniper Basin 83.70 41 ⇓P **P 11 45 56.4 +0.2**
baz=84,SNR=49
Y18A Canyon Day Jun 83.74 51 ⇑P **P 11 45 57.4 +0.9**
baz=84
ELK Elko 83.74 43 *e*P **P 11 45 56.2 -0.2**
ELK *e**PP pP 11 47 57.1 +0.9
ELK pmax pmax
comp=Z,23nm,1.0s
ELK Elko 83.74 43 *e*P **P 11 45 56.2 -0.2**
comp=Z,22nm,1.0s,mb4.7
ELK *e*pP pP 11 47 57.1 +0.9
M11A Holland Ranch, 83.77 42 ⇑P **P 11 45 56.9 +0.4**
baz=84,SNR=26
H08A Prairie City 83.77 38 ⇓P **P 11 45 56.3 -0.1**
baz=84,SNR=25
119A Ashpeak Ranch, 83.79 52 ⇑P **P 11 45 57.8 +0.9**
baz=84,SNR=16
O12A Currie 83.80 43 ⇑P **P 11 45 56.7 0.0**
baz=84,SNR=15
P13A Bates Ranch, G 83.84 44 ⇓P **P 11 45 57.0 +0.1**
baz=84,SNR=26
K10A MacKenzie Ranc 83.85 40 ⇓P **P 11 45 56.9 +0.1**
baz=84,SNR=36
RC01 Rabbit Creek A 83.86 13 *e*P **P 11 45 55.3 -1.2**
comp=Z,93nm,1.1s,mb5.2
F07A Phinny Hill Vi 83.87 36 ⇑P **P 11 45 56.8 -0.1**
baz=84,SNR=5.0
W17A Winslow 83.88 49 ⇓P **P 11 45 57.6 +0.4**
baz=84
KULM Kulim 83.91 278 ⇑P **P 11 45 58.9 +1.0**
N12A Clover Valley, 83.93 43 ⇑P **P 11 45 57.3 0.0**
baz=84,SNR=19

I09A	Lost Marbles R	84.00	39	⇓P	P	11 45 57.4	-0.2
	baz=84,SNR=18						
C05A	Tolt Reservoir	84.01	34	⇑P	P	11 45 57.1	-0.4
	baz=84,SNR=17						
S15A	Panguitch	84.03	47	⇑P	P	11 45 59.1	+1.2
	baz=84,SNR=15						
G08A	Pilot Rock	84.06	37	⇓P	P	11 45 57.9	0.0
	baz=84,SNR=61						
Z19A	T-Link Ranch,	84.07	52	⇑P	P	11 45 58.9	+0.7
	baz=84,SNR=5.7						
Q14A	Sevier Lake (B	84.08	45	⇓P	P	11 45 58.4	+0.3
	baz=84,SNR=26						
A04A	Legoe Bay, Lum	84.12	33	⇑P	P	11 45 58.1	0.0
	baz=84,SNR=32						
CRAG	Craig	84.14	24	*e*P	P	11 45 58.4	+0.4
	comp=Z,84nm,2.0s,mb4.9						
B05A	Bryant	84.15	34	⇑P	P	11 45 58.0	-0.2
	baz=84,SNR=27						
D06A	Cle Elum	84.15	35	⇑P	P	11 45 58.3	0.0
	baz=84,SNR=9.3						
X18A	Snowflake	84.16	50	⇓P	P	11 45 59.0	+0.4
	baz=84,SNR=14						
JCW	Jim Creek	84.19	34	*e*P	P	11 45 58.1	-0.3
JCW				*e*pP	pP	11 47 58.8	+0.4
L11A	Cat Creek Ranc	84.19	41	⇓P	P	11 45 58.8	+0.2
	baz=84,SNR=34						
O13A	Hicks Ranch, I	84.22	44	⇑P	P	11 45 58.9	+0.1
	baz=84						
CMW	Cultus Mountai	84.24	34	P	P	11 45 58.8	+0.1
T16A	Glen Canyon Da	84.27	47	⇓P	P	11 45 59.5	+0.4
	baz=84,SNR=26						
J10A	Berg Farm, Mel	84.27	40	⇓P	P	11 45 58.8	-0.2
	baz=84,SNR=10						
E07A	Sunnyside	84.31	36	⇓P	P	11 45 59.5	+0.5
	baz=84						
M12A	Wells	84.31	42	⇓P	P	11 45 59.3	+0.2
	baz=84,SNR=17						
K11A	Parker Ranch,	84.36	41	⇑P	P	11 45 59.5	+0.2
	baz=84,SNR=22						
R15A	Junction	84.36	46	⇓P	P	11 46 00.2	+0.7
	baz=84,SNR=16						
RSW	Rattlesnake Hi	84.36	36	*e*P	P	11 45 59.4	+0.1
RSW				*e*pP	pP	11 47 56.5	-2.8
TTA	Tatalina	84.38	10	*e*P	P	11 45 58.5	-0.5
HAWA	Hanford	84.39	36	*e*P	P	11 45 59.2	-0.2
	comp=Z,40nm,1.0s,mb4.9						
Y19A	Nutrioso	84.39	51	⇑P	P	11 46 00.7	+0.9
	baz=84,SNR=37						
H09A	Durkee	84.44	38	⇑P	P	11 45 59.7	0.0
	baz=84,SNR=34						
PMR	Palmer	84.45	13	*e*P	P	11 45 56.9	-2.4
PMR				pmax	pmax		
	comp=Z,63nm,1.8s,mb4.8						
PMR	Palmer	84.45	13	*e*P	P	11 45 56.9	-2.4
	comp=Z,63nm,1.8s,mb4.8						
USHA	Ushuaia	84.45	147	P	P	11 46 00.4	+0.6
	comp=Z,21nm,0.9s,mb4.7,baz=251,slow=2.5,SNR=4.6						
F08A	Pendleton	84.46	37	⇑P	P	11 45 59.5	-0.3
	baz=85,SNR=14						
P14A	Drum Mountains	84.54	45	⇑P	P	11 46 00.1	-0.2
	baz=85,SNR=8.4						
SIT	Sitka	84.55	22	*e*P	P	11 45 59.9	0.0
SIT				pmax	pmax		
	comp=Z,34nm,1.9s,mb4.5						
SIT	Sitka	84.55	22	*e*P	P	11 45 59.9	0.0
	comp=Z,34nm,1.9s,mb4.6						
RPW	Rockport	84.57	34	*e*P	P	11 45 59.4	-0.9
C06A	Tall Timber Ra	84.57	34	⇓P	P	11 46 00.3	0.0
	baz=85						
S16A	Weppner Ranch,	84.57	47	⇓P	P	11 46 00.7	+0.1
	baz=85,SNR=6.4						
X19A	St. Johns	84.59	51	⇓P	P	11 46 01.2	+0.5
	baz=85						
W18A	Petrified Fore	84.60	50	⇑P	P	11 46 01.4	+0.6
	baz=85						
A05A	Maple Falls	84.61	33	⇑P	P	11 45 59.8	-0.7
	baz=85,SNR=7.2						
I10A	Payette	84.62	39	⇓P	P	11 46 01.0	+0.4
	baz=85,SNR=16						
D07A	Quincy	84.62	35	⇑P	P	11 46 00.3	-0.3
	baz=85,SNR=12						
B06A	Marblemount	84.62	34	⇑P	P	11 45 59.7	-0.8
	baz=85,SNR=6.6						
L12A	House Creek Ra	84.64	42	⇑P	P	11 46 01.1	+0.3
	baz=85,SNR=17						
U17A	Shonto	84.66	48	⇑P	P	11 46 01.6	+0.6
	baz=85						
ETW	Entiat	84.68	35	*e*P	P	11 46 00.6	-0.2
ETW				*e*pP	pP	11 48 03.0	+2.0
Q15A	Fillmore	84.69	45	⇓P	P	11 46 00.7	-0.4
	baz=85						
E08A	Dider Farm, El	84.71	36	⇑P	P	11 46 01.0	0.0
	baz=85,SNR=16						
G09A	Cove	84.73	38	⇓P	P	11 46 01.1	0.0
	baz=85,SNR=30						
V18A	Ganado	84.75	49	⇑P	P	11 46 01.9	+0.5
	baz=85						
M13A	Montello	84.75	43	⇓P	P	11 46 01.3	0.0
	baz=85,SNR=25						
T17A	Navajo Res., N	84.76	48	⇓P	P	11 46 02.1	+0.6
	baz=85,SNR=24						
LNOR	Lincton Mounta	84.78	37	*e*P	P	11 46 01.1	-0.3
DIV	Divide	84.81	15	*e*P	P	11 46 00.1	-1.0
	comp=Z,82nm,0.8s,mb5.3						
MFID	Camas Ranch	84.83	40	⇑P	P	11 46 01.6	-0.1
	baz=85,SNR=22						
C07A	Waterville	84.88	35	⇑P	P	11 46 01.2	-0.6
	baz=85,SNR=22						
F09A	S2 Ranch, Elgi	84.90	37	⇑P	P	11 46 01.8	-0.1
	baz=85,SNR=14						
H10A	Noah's Angus R	84.94	39	⇑P	P	11 46 01.8	-0.4
	baz=85,SNR=69						
K12A	Draper Farm, C	84.98	41	⇑P	P	11 46 02.3	-0.1
	baz=85,SNR=9.3						
A06A	Chilliwack	84.99	33	⇑P	P	11 46 02.0	-0.3
	baz=85,SNR=17						
PPLA	Purkeypile	85.01	11	*e*P	P	11 45 59.2	-2.9
	comp=Z,11nm,0.7s,mb4.5						
DUG	Dugway	85.02	44	*e*P	P	11 46 02.0	-0.7
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
DUG	Dugway	85.02	44	⇓P	P	11 46 02.2	-0.4
	baz=85,SNR=5.3						
DUG	Dugway	85.02	44	*e*P	P	11 46 02.0	-0.7
	comp=Z,4.2nm,0.9s,mb4.0						
DUG				*e*pP	pP	11 48 06.3	+3.4
I11A	Placerville	85.03	40	⇑P	P	11 46 02.5	-0.2
	baz=85,SNR=19						
S17A	Black Ridge (B	85.08	47	⇓P	P	11 46 02.6	-0.4
	baz=85,SNR=21						
G10A	Bishop Farm, J	85.12	38	⇑P	P	11 46 02.7	-0.4
	baz=85,SNR=51						
D08A	Wollman Farm,	85.12	36	⇓P	P	11 46 02.9	-0.1
	baz=85,SNR=20						
U18A	Rough Rock, Ch	85.13	49	⇓P	P	11 46 03.4	+0.1
	baz=85,SNR=13						
WRAK	Wrangell Islan	85.14	23	*e*P	P	11 46 02.7	-0.1
	comp=Z,86nm,1.1s,mb5.2						
J12A	Stokes Ranch,	85.19	41	⇑P	P	11 46 03.5	0.0
	baz=85,SNR=24						
E09A	Wood Farm, Sta	85.23	37	⇑P	P	11 46 03.1	-0.5
	baz=85,SNR=28						
L13A	Double Diamond	85.28	42	⇓P	P	11 46 03.8	-0.1
	baz=85,SNR=6.3						
B07A	Winthrop	85.31	34	⇓P	P	11 46 03.6	-0.3
	baz=85,SNR=32						
M14A	Sheep Mountain	85.35	43	⇓P	P	11 46 04.0	-0.2
	baz=85,SNR=17						
V19A	Window Rock	85.38	50	⇓P	P	11 46 04.4	-0.1
	baz=86						
OD2	Odessa Site #2	85.43	36	*e*P	P	11 46 04.3	-0.1
H11A	Donnelly	85.44	39	⇓P	P	11 46 04.5	0.0
	baz=86,SNR=56						
F10A	Beach Ranch, E	85.44	38	⇓P	P	11 46 04.2	-0.4
	baz=86,SNR=112						
Q16A	Castle Valley	85.46	46	⇓P	P	11 46 05.2	+0.3
	baz=86,SNR=8.7						
D09A	Jones Farm, Ri	85.46	36	⇓P	P	11 46 04.4	-0.3
	baz=86,SNR=33						
T18A	Mexican Hat	85.48	48	⇓P	P	11 46 05.2	+0.3
	baz=86,SNR=72						
C08A	Higginbotham F	85.48	35	⇓P	P	11 46 04.1	-0.6
	baz=86,SNR=13						
K13A	Stover Farm, H	85.49	42	⇑P	P	11 46 05.1	+0.2
	baz=86,SNR=9.0						
R17A	Hanksville Air	85.53	47	⇑P	P	11 46 05.0	-0.2
	baz=86,SNR=30						
A07A	Ashnola River,	85.53	34	⇓P	P	11 46 04.7	-0.2
	baz=86,SNR=19						
TMUT	Trail Mountain	85.62	46	*e*P	P	11 46 06.1	+0.5
S18A	Hurst Farm, Bl	85.66	47	⇑P	P	11 46 05.6	-0.2
	baz=86,SNR=9.1						
BJI	Beijing	85.66	315	P	P	11 46 05.9	+0.1
BJI				AP	pP	11 48 03.8	-2.5
BJI				XP	sP	11 48 58.6	-3.8
BJI				S	S	11 55 53.9	+1.9
BJI				XS	sS	11 59 24.0	-2.7
BJI				SS	SS	12 01 47.6	+1.9
B08A	Colville Reser	85.67	35	⇑P	P	11 46 04.8	-0.7
	baz=86,SNR=34						
G11A	Walters Elk Ra	85.68	38	⇑P	P	11 46 05.5	-0.2
	baz=86,SNR=148						
L14A	Malta	85.70	42	⇑P	P	11 46 05.7	-0.2
	baz=86,SNR=8.1						
HLID	Hailey	85.78	41	⇓P	P	11 46 06.5	+0.3
	baz=86,SNR=41						
HLID	Hailey	85.78	41	*e*P	P	11 46 06.4	+0.2
	comp=Z,25nm,1.1s,mb4.8						
E10A	Myers Farm, Un	85.80	37	⇑P	P	11 46 05.7	-0.5
	baz=86,SNR=14						
J13A	Cove Ranch, Pi	85.84	41	⇓P	P	11 46 06.9	+0.4
	baz=86,SNR=27						
KTH	Kantishna Hill	85.85	12	*e*P	P	11 46 03.6	-2.5
	comp=Z,65nm,0.9s,mb5.3						
TRF	Thorofare Moun	85.88	12	*e*P	P	11 46 04.7	-1.5
	comp=Z,116nm,0.8s,mb5.6						
CHUM	Lake Minchumin	85.89	11	*e*P	P	11 46 04.4	-1.9
	comp=Z,137nm,1.3s,mb5.4						
SEY	Seymchan	85.90	347	*i* P	P	11 46 05.6	-0.7
SEY	Seymchan	85.90	347	*i* P	P	11 46 05.6	-0.7
M15A	Larsen Ranch,	85.91	43	⇓P	P	11 46 06.7	-0.2
	baz=86						
C09A	Chrisman Ranch	85.91	36	⇓P	P	11 46 06.3	-0.4
	baz=86,SNR=16						
SRU	San Rafael	85.99	46	⇑P	P	11 46 07.4	0.0
	baz=86,SNR=29						
K14A	Jones Ranch, D	86.01	42	⇑P	P	11 46 07.3	0.0
	baz=86,SNR=11						
F11A	Grangeville	86.02	38	⇓P	P	11 46 05.8	-1.5
	baz=86,SNR=19						
P17A	Butcher Ranch,	86.03	46	⇓P	P	11 46 07.5	0.0
	baz=86						
D10A	Wagner Farm, O	86.03	37	⇑P	P	11 46 06.8	-0.6
	baz=86,SNR=54						
A08A	Turner Farm, O	86.05	34	⇓P	P	11 46 07.3	-0.1
	baz=86,SNR=44						
R18A	Canyonlands Na	86.07	47	⇓P	P	11 46 07.6	-0.1
	baz=86,SNR=36						
I13A	Wildhorse Cree	86.15	40	⇑P	P	11 46 08.3	+0.3
	baz=86,SNR=30						
J14A	Carey	86.20	41	⇑P	P	11 46 08.9	+0.7
	baz=86						
L15A	Malad City	86.23	43	⇑P	P	11 46 08.1	-0.3
	baz=86,SNR=11						
E11A	Bogner Ranch,	86.25	38	⇓P	P	11 46 07.0	-1.3
	baz=86,SNR=29						
Q18A	Rafter H Ranch	86.25	46	⇓P	P	11 46 08.2	-0.4
	baz=86,SNR=23						
N16A	Rees Ranch, Co	86.27	44	⇓P	P	11 46 08.8	+0.2
	baz=86						
S19A	Harvey Farm, M	86.28	48	⇓P	P	11 46 08.6	-0.2
	baz=86,SNR=16						
BPAW	Bear Paw Mtn.	86.34	11	*e*P	P	11 46 06.1	-2.3
	comp=Z,7.9nm,0.7s,mb4.5						
B09A	Rice	86.34	35	⇓P	P	11 46 08.3	-0.4
	baz=86,SNR=38						
M16A	Huntsville	86.36	44	⇑P	P	11 46 08.6	-0.5
	baz=86,SNR=7.6						
O17A	Robinson Place	86.39	45	⇓P	P	11 46 09.7	+0.5
	baz=86						
SKAG	Skagway	86.40	20	*e*P	P	11 46 09.0	+0.2
	comp=Z,138nm,2.0s,mb5.2						
H13A	Challis	86.41	40	⇑P	P	11 46 09.2	0.0
	baz=86,SNR=28						
A09A	Danville	86.43	35	⇑P	P	11 46 09.0	-0.2
	baz=86,SNR=36						
P18A	Preston Nutter	86.44	46	⇓P	P	11 46 09.6	+0.1
	baz=86						
C10A	Spilker Farm,	86.45	36	⇓P	P	11 46 08.9	-0.4
	baz=87						
R19A	Curley Farm, L	86.46	47	⇓P	P	11 46 09.4	-0.2
	baz=86,SNR=15						
F12A	Elk City	86.47	38	⇑P	P	11 46 09.3	-0.1
	baz=87,SNR=173						
MVCO	Mesa Verde	86.48	48	⇓P	P	11 46 09.4	-0.3
	baz=87,SNR=5.3						
MVCO	Mesa Verde	86.48	48	*e*P	P	11 46 09.3	-0.4
	comp=Z,4.1nm,0.6s,mb4.2						
K15A	Arbon	86.49	42	⇓P	P	11 46 09.5	-0.1
	baz=87,SNR=7.7						
HWUT	Hardware Ranch	86.55	43	*e*P	P	11 46 09.1	-0.8
	comp=Z,6.3nm,0.8s,mb4.3						
D11A	Klaveano Farm,	86.56	37	⇓P	P	11 46 09.0	-0.8
	baz=87,SNR=11						
I14A	Mackay	86.56	41	⇑P	P	11 46 10.4	+0.5
	baz=87						
GYA	Guiyang	86.57	300	⇓*i*P	P	11 46 10.9	+0.5
GYA				AP	pP	11 48 10.0	-1.2
GYA				XP	sP	11 49 03.0	-4.3
GYA				PP	PP	11 49 43.0	0.0
GYA				SKS		11 55 42.8	
GYA				S	S	11 56 03.6	+2.4
GYA				XS	sS	11 59 36.6	+0.1
GYA				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,420nm,6.9s						
TXAR	Lajitas Array	86.58	57	P	P	11 46 10.9	+0.5
	comp=Z,10nm,0.7s,mb4.6,baz=218,slow=6.5,SNR=109						
TXAR				pP	pP	11 48 13.1	+1.8
	comp=Z,8.2nm,1.1s,baz=221,slow=4.8,SNR=6.9						
TXAR				PKKPbc	PKKPbc	12 04 02.5	-0.4
	comp=Z,2.1nm,0.8s,baz=113,slow=1.6,SNR=8.9						
TXAR	Lajitas Array	86.58	57	P	P	11 46 10.9	+0.5
TXAR				*PP	pP	11 48 13.1	+1.9
TXAR	Lajitas Array	86.58	57	P	P	11 46 10.9	+0.5
TXAR				pP	pP	11 48 13.1	+1.8
TXAR				PKKPbc	PKKPbc	12 04 02.5	-0.4
N17A	Moffit Pass	86.70	44	⇑P	P	11 46 10.6	0.0
	baz=87,SNR=8.0						
G13A	Cobalt	86.71	39	⇑P	P	11 46 10.5	-0.1
	baz=87,SNR=54						
Q19A	Hogan Spring (	86.78	47	⇓P	P	11 46 10.8	-0.3
	baz=87,SNR=9.3						
HYT	Haines Junctio	86.80	18	*e*P	P	11 46 11.2	+0.5
NEW	Newport	86.81	36	*e*P	P	11 46 10.1	-0.9
NEW				pmax	pmax		
	comp=Z,13nm,0.9s						
NEW	Newport	86.81	36	*e*P	P	11 46 10.1	-0.8
	comp=Z,13nm,0.9s,mb4.6						
NEW				*e*pP	pP	11 48 14.5	+2.6
L16A	Fish Haven	86.84	43	⇓P	P	11 46 11.0	-0.3
	baz=87,SNR=12						
MENT	Mentasta	86.86	15	*e*P	P	11 46 10.1	-0.8
ANMO	Albuquerque	86.90	51	*d i*P	P	11 46 11.6	-0.1
ANMO				*i* *PP	pP	11 48 12.2	-0.5
ANMO	Albuquerque	86.90	51	*e*P	P	11 46 11.7	0.0
ANMO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ANMO	Albuquerque	86.90	51	*e*P	P	11 46 11.7	-0.1
	comp=Z,10nm,0.9s,mb4.5						
O18A	Roosevelt	86.91	45	⇓P	P	11 46 11.5	-0.1
	baz=87						
J15A	Blackfoot	86.92	42	⇓P	P	11 46 12.3	+0.7
	baz=87						
H14A	Leadore	86.98	40	⇑P	P	11 46 12.3	+0.4
	baz=87						
A10A	Northport	86.99	35	⇑P	P	11 46 11.5	-0.3
	baz=87,SNR=16						
F13A	Darby	87.03	39	⇑P	P	11 46 11.8	-0.3
	baz=87,SNR=95						
TIY	Taiyuan	87.08	312	*i* P	P	11 46 13.0	+0.5
TIY				XP	sP	11 49 14.0	+4.4
TIY				S	S	11 56 09.5	+4.0
TIY				XS	sS	11 59 43.9	+2.8
TIY				AMB	AMB		
	comp=Z,356nm,1.8s,mb5.7						
D12A	Red Ives Fores	87.12	37	⇑P	P	11 46 11.8	-0.7
	baz=87						
K16A	Soda Springs	87.16	42	⇑P	P	11 46 13.0	+0.3
	baz=87,SNR=18						
I15A	Monteview	87.20	41	⇓P	P	11 46 13.5	+0.6
	baz=87						
G14A	Jackson	87.25	40	⇑P	P	11 46 13.4	+0.2
	baz=87,SNR=19						
SYO	Syowa Base	87.30	193	⇑*i*P	P	11 46 10.8	-2.2
SYO	Syowa Base	87.30	193	⇑*i*PcP	PcP	11 46 12.0	-2.4
B11A	Sandpoint	87.32	36	⇑P	P	11 46 13.0	-0.4
	baz=87,SNR=12						
J16A	Bone	87.37	42	⇑P	P	11 46 14.2	+0.5
	baz=88,SNR=41						
H15A	Lima	87.42	40	⇓P	P	11 46 14.2	+0.3
	baz=88						
AHID	Auburn Hatcher	87.44	43	*e*P	P	11 46 13.8	-0.3
	comp=Z,17nm,1.0s,mb4.6						
E13A	Victor	87.46	38	⇓P	P	11 46 13.2	-0.8
	baz=88,SNR=20						
DLBC	Dease Lake	87.47	23	*e*P	P	11 46 13.7	-0.2
N18A	Larsen Ranch,	87.48	45	⇓P	P	11 46 13.8	-0.5
	baz=88,SNR=11						
RRI2	Red Ridge	87.59	42	*e*P	P	11 46 14.9	+0.2
	comp=Z,44nm,0.9s,mb5.2						
F14A	Wisdom	87.61	39	⇓P	P	11 46 14.7	-0.1
	baz=88,SNR=18						
A11A	Hall Mountain,	87.62	35	⇓P	P	11 46 15.0	+0.2
	baz=88,SNR=20						
COLA	College	87.64	12	*d i*P	P	11 46 12.9	-1.6
COLA				*i* *PP	pP	11 48 14.7	-1.0
COLA	College	87.64	12	*e*P	P	11 46 12.5	-2.0
	comp=Z,99nm,0.7s,mb5.7						
COLA				*e*pP	pP	11 48 15.2	-0.5
D13A	Huson	87.66	38	⇓P	P	11 46 13.8	-1.2
	baz=88,SNR=30						
IMA2	Indian Mountai	87.68	10	*e*P	P	11 46 13.9	-0.7
I16A	Newdale	87.75	41	⇓P	P	11 46 16.3	+0.8
	baz=88						
N19A	John Jarvie Ra	87.77	45	⇓P	P	11 46 15.0	-0.7
	baz=88						
B12A	Libby	87.77	36	⇓P	P	11 46 15.4	-0.1
	baz=88,SNR=23						
DCID1	Drake Creek	87.80	42	*e*P	P	11 46 16.1	+0.3
G15A	Dillon	87.80	40	⇑P	P	11 46 15.9	+0.2
	baz=88,SNR=75						
MSO	Missoula	87.81	38	*e*P	P	11 46 14.6	-1.2
	comp=Z,6.9nm,0.7s,mb4.5						
MSO				*e*pP	pP	11 48 19.5	+2.5
DLMT	Dillon	87.83	40	*e*P	P	11 46 16.0	+0.2
	comp=Z,49nm,0.9s,mb5.2						
DLMT				*e*pP	pP	11 48 20.4	+3.3
E14A	Clinton	87.86	39	⇑P	P	11 46 15.6	-0.3
	baz=88,SNR=54						
REDW	Red Top Meadow	87.89	42	*e*P	P	11 46 16.2	0.0
	comp=Z,56nm,1.1s,mb5.2						
TPAW	Teton Pass	87.89	42	*e*P	P	11 46 16.2	0.0
	comp=Z,29nm,0.9s,mb5.0						
C13A	Hot Springs	87.91	37	⇑P	P	11 46 15.2	-1.0
	baz=88,SNR=14						
XAN	Xi'an	87.98	307	P	P	11 46 17.6	+0.8
XAN				AP	pP	11 48 16.8	-1.3
XAN				XP	sP	11 49 10.0	-4.1
XAN				PP	PP	11 49 55.6	+1.6
XAN				SKS		11 55 53.8	
XAN				S	S	11 56 13.8	-0.2
XAN				SS	SS	12 02 19.8	+0.4
XAN				AMB	AMB		
	comp=Z,282nm,1.0s,mb6.0						
XAN				AMB	AMB		
	comp=Z,194nm,7.1s						
A12A	Yaak River Ran	88.00	36	⇓P	P	11 46 16.5	-0.1
	baz=88,SNR=9.7						
SNOW	Snow King Moun	88.00	42	*e*P	P	11 46 16.0	-0.7
	comp=Z,45nm,0.8s,mb5.2						
IMW	Indian Meadow	88.10	42	*e*P	P	11 46 17.4	+0.3
	comp=Z,42nm,0.9s,mb5.2						
F15A	Butte	88.14	39	⇓P	P	11 46 17.3	0.0
	baz=88,SNR=34						
MOOW	Moose Ponds	88.15	42	*e*P	P	11 46 17.3	-0.1
	comp=Z,14nm,1.0s,mb4.6						
LOHW	Long Hollow	88.17	42	*e*P	P	11 46 17.3	-0.2
	comp=Z,21nm,0.8s,mb4.9						
LOHW				*e*pP	pP	11 48 22.5	+3.7
D14A	Greenough	88.20	38	⇑P	P	11 46 16.7	-0.8
	baz=88,SNR=23						
B13A	Whitefish	88.34	37	⇓P	P	11 46 17.3	-0.9
	baz=88,SNR=13						
E15A	Deer Lodge	88.36	39	⇓P	P	11 46 17.9	-0.4
	baz=88,SNR=17						
HIA	Hailar	88.39	324	*i* P	P	11 46 18.0	-0.3
HIA	Hailar	88.39	324	*i* P	P	11 46 18.0	-0.3
PDAR	Pinedale Array	88.42	43	P	P	11 46 18.1	-0.5
	comp=Z,20nm,0.8s,mb4.9,baz=207,slow=2.8,SNR=150						
PDAR				pP	pP	11 48 21.5	+1.4
	comp=Z,7.3nm,1.2s,baz=208,slow=2.9,SNR=8.7						
PDAR				PKKP	PKKPbc	12 03 56.7	-2.3
	comp=Z,3.2nm,0.8s,baz=64,slow=3.4,SNR=19						
C14A	Swan Lake	88.43	37	⇑P	P	11 46 17.5	-1.1
	baz=88						
YFT	Old Faithful	88.45	41	*e*P	P	11 46 18.5	-0.2
BILL	Bilibino	88.53	354	*d i*P	P	11 46 17.6	-1.0
BILL				*i* *PP	pP	11 48 20.6	+0.5
BILL				*e*		11 49 52.6	
BILL				*e*		11 55 49.1	
BILL				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.3						
BILL	Bilibino	88.53	354	*i* P	P	11 46 17.6	-1.0
SNAA	Sanae	88.54	178	PKKPbc	PKKPbc	12 03 55.2	-4.3
	comp=Z,1.6nm,0.8s,baz=344,slow=1.5,SNR=15						
BOZ	Bozeman (W)	88.56	40	*e*P	P	11 46 19.1	-0.2
BOZ				pmax	pmax		
	comp=Z,75nm,1.3s,mb5.4						
BOZ	Bozeman (W)	88.56	40	⇓P	P	11 46 19.3	0.0
	baz=89,SNR=63						
BOZ	Bozeman (W)	88.56	40	*e*P	P	11 46 19.1	-0.1
	comp=Z,75nm,1.3s,mb5.4						
BOZ				*e*pP	pP	11 48 23.9	+3.1
VNA3	Neumayer Olymp	88.66	176	*e*P	P	11 46 19.0	-0.4
VNA3				*e*		11 46 24.5	
VNA3				*e*		11 46 29.7	
VNA3				*e*	pP	11 48 17.6	-3.2
VNA3				*e*	pP	11 48 24.6	+3.8
VNA3				*e*		12 03 55.0	
YNR	Norris Junctio	88.67	41	*e*P	P	11 46 18.9	-0.9
A13A	Flathead Natio

VNA1 Neumayer--Stat 89.33 177 *eP* **P 11 46 23.0 +0.5**
VNA1 *e* 11 46 28.1
VNA1 *e* 11 46 33.8
PLCA Paso Flores 89.48 133 P **P 11 46 24.3 +0.5**
comp=Z,12nm,1.0s,mb4.7,baz=248,slow=4.6,SNR=12
PLCA PP PP 11 50 03.8 -1.1
comp=Z,5.5nm,1.1s,baz=224,slow=6.4,SNR=3.3
PLCA PKKPbc PKKPbc 12 03 55.4 -0.7
comp=Z,6.1nm,1.0s,baz=107,slow=5.3,SNR=8.0
PLCA Paso Flores 89.48 133 P **P 11 46 24.3 +0.5**
PLCA 11 50 03.8
ISCO Idaho Springs 89.67 47 *eP* **P 11 46 24.9 +0.3**
ISCO pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
ISCO Idaho Springs 89.67 47 *eP* **P 11 46 24.9 +0.3**
comp=Z,5.4nm,1.2s,mb4.2
RLMT Red Lodge 89.75 41 *eP* **P 11 46 24.8 0.0**
comp=Z,28nm,0.9s,mb5.1
JCT Junction City 90.11 58 *eP* **P 11 46 25.9 -0.9**
JCT pmax pmax
comp=Z,12nm,0.8s,mb4.8
JCT Junction City 90.11 58 *eP* **P 11 46 25.9 -1.0**
comp=Z,12nm,0.8s,mb4.8
CMAR Chiang Mai Arr 90.14 289 P **P 11 46 28.5 +1.3**
comp=Z,98nm,0.9s,mb5.7,baz=120,slow=2.8,SNR=445
CMAR PP PP 11 50 10.4 -0.7
comp=Z,6.4nm,1.1s,baz=126,slow=4.8,SNR=3.5
CMAR PKKPbc PKKPbc 12 03 54.1 +0.3
comp=Z,1.4nm,0.7s,baz=288,slow=4.5,SNR=6.9
CMAR Chiang Mai Arr 90.14 289 P **P 11 46 28.5 +1.3**
CMAR 11 50 10.5
CLNS Chul'man 90.26 332 *eP* **P 11 46 26.2 -0.6**
CLNS pmax pmax
comp=Z,33nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,17nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CHTO Chiang Mai 90.27 290 *eP* **P 11 46 28.6 +0.8**
CHTO pmax pmax
comp=Z,133nm,0.8s,mb5.8
CHTO Chiang Mai 90.27 290 *eP* **P 11 46 28.6 +0.8**
comp=Z,133nm,0.8s,mb5.8
CHTO *e*pP pP 11 48 34.6 +5.0
PHWY Pilot Hill 90.45 46 *eP* **P 11 46 27.8 -0.3**
CD2 Chengdu 90.68 303⇓*iP* **P 11 46 30.1 +0.6**
CD2 XP sP 11 49 23.3 -3.8
CD2 PP PP 11 50 18.0 +2.8
CD2 SKS 11 56 09.8
CD2 S S 11 56 38.9 +0.3
CD2 XS sS 12 00 11.0 -5.5
CD2 SS SS 12 03 01.8 +3.7
CD2 AMB AMB
comp=Z,50nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,160nm,8.2s
EGMT Eagleton 90.87 39 ⇓P **P 11 46 29.5 -0.4**
baz=91,SNR=9.8
EGMT Eagleton 90.87 39 *eP* **P 11 46 29.4 -0.5**
comp=Z,13nm,0.8s,mb4.9
EGMT *e*pP pP 11 48 35.4 +3.7
EDM Edmonton 91.54 33 *eP* **P 11 46 31.4 -1.4**
YAK Yakutsk 91.70 338*diP* **P 11 46 31.8 -1.6**
YAK *e*S S 11 56 41.9 -4.2
YAK *e**SS SP 11 58 08.3 +7.4
YAK pmax pmax
comp=Z,82nm,0.9s,mb5.8
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,15nm,1.1s
YAK smax
comp=N,68nm,2.2s
YAK smax
comp=E,145nm,3.2s
YAK Yakutsk 91.70 338 *eP* **P 11 46 32.1 -1.3**
comp=E,90nm,0.8s,mb5.8
LAO LASA Array 92.36 41 *eP* **P 11 46 35.6 -1.2**
comp=E,27nm,1.0s,mb5.2
LZH Lanzhou 92.62 307⇑P **P 11 46 39.3 +1.1**
LZH AP pP 11 48 37.5 -2.8
LZH PP PP 11 50 32.0 +1.9
LZH SKS 11 56 18.3
LZH *e*S S 11 56 58.3 +3.0
LZH XS sS 12 00 31.0 -3.4
LZH AMB AMB
comp=Z,125nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,280nm,5.0s
RSSD Black Hills 92.62 44 *eP* **P 11 46 37.3 -0.7**
RSSD pmax pmax
comp=Z,30nm,1.1s,mb5.2
RSSD Black Hills 92.62 44 *eP* **P 11 46 37.3 -0.7**
comp=Z,30nm,1.1s,mb5.2
CBKS Cedar Bluff 93.41 50 *eP* **P 11 46 40.9 -0.9**
CBKS pmax pmax
comp=Z,25nm,1.3s,mb5.1
CBKS Cedar Bluff 93.41 50 *eP* **P 11 46 40.9 -0.9**
comp=Z,25nm,1.3s,mb5.1
DGMT Dagmar 94.37 40 *eP* **P 11 46 45.7 -0.2**
comp=Z,49nm,1.0s,mb5.6
CFAA Coronel Fontan 95.24 126 P **P 11 46 50.5 +0.1**
comp=Z,0.4nm,0.5s,baz=252,slow=13,SNR=9.2
CFAA pP pP 11 48 53.0 +0.4
comp=Z,0.2nm,0.4s,baz=40,slow=3.9,SNR=2.5
CFAA PP PP 11 50 48.0 -1.6
comp=Z,1.0nm,0.8s,baz=248,slow=8.2,SNR=6.1
CFAA PKKPbc PKKPbc 12 03 40.8 -0.5
comp=Z,0.4nm,0.5s,baz=22,slow=7.2,SNR=5.0
CFAA Coronel Fontan 95.24 126 P **P 11 46 50.5 +0.1**
CFAA pP pP 11 48 53.0 +0.4
CFAA PP PP 11 50 48.0 -1.6
CFAA PKKPbc PKKPbc 12 03 40.8 -0.5
SONM Songino Array 95.49 319 P **P 11 46 50.4 -0.6**
comp=Z,3.8nm,0.7s,mb4.6,baz=134,slow=4.3,SNR=4.8
BOD Bodaibo 95.74 330 *eP* **P 11 46 48.9 -3.0**
BOD pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
YKA Yellowknife Ar 95.94 25 P **P 11 46 51.6 -1.0**
comp=Z,4.0nm,0.9s,mb4.7,baz=243,slow=4.5,SNR=13
YKA pP pP 11 48 55.8 +0.8
comp=Z,0.9nm,0.7s,baz=244,slow=5.0,SNR=4.0
YKA PKiKP PKiKP 11 51 26.7 -1.0
comp=Z,0.6nm,0.6s,baz=256,slow=1.6,SNR=6.0
YKA PKKPbc PKKPbc 12 03 37.4 -3.2
comp=Z,1.0nm,0.5s,baz=36,slow=2.4,SNR=11
YKA Yellowknife Ar 95.94 25 P **P 11 46 51.6 -1.0**
YKA pP pP 11 48 55.9 +0.8
IMP Imphal 96.67 294 *eP* **P 11 46 56.6 -0.3**
GTA Gaotai 96.80 309 P **P 11 46 57.1 0.0**
GTA AP pP 11 48 58.3 -1.2
GTA XP sP 11 49 51.0 -4.1
GTA PP PP 11 51 05.5 +3.5
GTA S S 11 57 31.9 +0.8
GTA XS sS 12 01 05.3 -6.5
GTA SS SS 12 04 29.3 +5.4
GTA AMB AMB
comp=Z,18nm,1.4s,mb5.1
GTA AMB AMB
comp=Z,155nm,6.6s
TIXI Tiksi 98.29 345 *iP* Pdif 11 47 01.1 -2.5
TIXI pmax pmax
comp=Z,13nm,1.0s,mb5.2
TIXI Tiksi 98.29 345⇑*iP* Pdif 11 47 01.5 -2.1
TLY Talaya 98.61 322 *eP* Pdif 11 47 09.0 +3.9
TLY *e*S Sdif 11 57 46.4 +0.3
TLY *e* 12 04 43.9
TLY pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
TLY Talaya 98.61 322 *iP* Pdif 11 47 03.6 -1.5
LVC Limon Verde 98.69 118 PKKPbc PKKPbc 12 03 31.8 +0.1
comp=Z,9.4nm,0.8s,baz=174,slow=1.2,SNR=4.9
ULM Lac du Bonnet 100.08 40 pP pP 11 49 14.8 +0.6
comp=Z,3.8nm,1.0s,baz=269,slow=7.8,SNR=3.3
ULM PKKPbc PKKPbc 12 03 27.8 -0.9
comp=Z,2.1nm,0.7s,baz=88,slow=8.0,SNR=3.0
LPAZ La Paz 102.06 112 P Pdif 11 47 23.1 +2.7
comp=Z,1.1nm,0.8s,baz=225,slow=6.3,SNR=4.5
LPAZ PP PP 11 51 40.9 -0.4
comp=Z,2.3nm,0.9s,baz=273,slow=4.8,SNR=3.8
LPAZ PKKPbc PKKPbc 12 03 22.4 +0.3
comp=Z,3.3nm,0.6s,baz=49,slow=1.8,SNR=13
LPAZ La Paz 102.06 112 P Pdif 11 47 23.1 +2.7
LPAZ 11 51 40.9
LPAZ La Paz 102.06 112 P Pdif 11 47 23.1 +2.7
LPAZ PP PP 11 51 40.9 -0.4
LPAZ PKKPbc PKKPbc 12 03 22.4 +0.3
TAPN Taplejung 102.77 295 *eP* PKiKP 11 51 40.7 -0.4
ODAN Odare 102.91 294 *eP* PKiKP 11 51 39.8 -1.6
RAMN Ramite 103.61 294 *eP* PKiKP 11 51 41.6 -1.1
comp=Z,36nm,0.8s
JIRN Jiri 104.16 295 *eP* PKiKP 11 51 42.4 -1.2
GUN Gumba 104.48 295 *eP* PKiKP 11 51 42.8 -1.4
PKI Pulchoki 104.80 294 *eP* PKiKP 11 51 42.8 -2.0
PKIN Phulchoki 104.81 294 *eP* PKiKP 11 51 43.1 -1.8
KKN Kakani 104.97 294 *eP* PKiKP 11 51 43.7 -1.4
comp=Z,47nm,0.9s
DMN Daman 105.07 294 *eP* PKiKP 11 51 44.2 -1.1
comp=Z,23nm,0.6s
KOLN Koldanda 106.40 294 *eP* PKiKP 11 51 46.2 -1.6
comp=Z,30nm,0.7s
DANN Dangsing 106.41 295 *eP* PKiKP 11 51 46.1 -1.7
comp=Z,54nm,0.6s
SIV San Ignacio 108.27 115 PP PP 11 52 25.6 -0.8
comp=Z,3.1nm,1.0s,baz=255,slow=12,SNR=8.4
SIV PKKPbc PKKPbc 12 03 03.2 -0.5
comp=Z,6.8nm,0.8s,baz=95,slow=5.4,SNR=21
ZALV Zalesovo Beam 110.21 321 Pdiff Pdif 11 47 55.3 -1.3
comp=Z,0.5nm,0.4s,baz=125,slow=7.4,SNR=3.6
ZALV PKiKP PKiKP 11 51 52.3 -1.8
comp=Z,16nm,0.6s,baz=143,slow=1.1,SNR=44
ZALV PP PP 11 52 36.0 -3.7
comp=Z,2.4nm,0.7s,baz=106,slow=4.8,SNR=3.6
ZAL Zalesovo 110.22 321 P Pdif 11 47 55.3 -1.4
ZAL 11 51 52.3
ZAL 11 52 36.1
MK31 Makanchi Array 110.99 314 *iP*KIKP PKiKP 11 51 54.1 -1.7
MK31 pmax pmax
comp=Z,16nm,0.6s
MKAR Makanchi Array 110.99 314 Pdiff Pdif 11 47 58.8 -1.3
comp=Z,0.9nm,0.6s,baz=314,slow=31,SNR=6.7
MKAR PKiKP PKiKP 11 51 54.2 -1.6
comp=Z,16nm,0.6s,baz=87,slow=0.3,SNR=71
KURK Kurchatov 113.75 318 *iP*KP PKiKP 11 51 59.2 -1.8
ULHL Ulahol 114.82 308 P PKPdf 11 52 02.9 -0.4
SNR=6.5
TKM2 Tokmak 2 115.35 309 P PKPdf 11 52 03.2 -1.1
SNR=31
TKM2 Tokmak 2 115.35 309 *e*PKPdf PKPdf 11 52 03.0 -1.3
SJG San Juan 115.75 79 PKP PKPdf 11 52 03.8 -2.0
comp=Z,15nm,0.2s,baz=269,slow=20,SNR=4.5
SJG PKKPbc PKKPbc 12 02 37.8 -1.3
comp=Z,4.6nm,0.3s,baz=274,slow=19,SNR=3.6
KBK Karagaybulak 115.80 309 P PKPdf 11 52 04.6 -0.6
SNR=8.0
CHMS Chumysh 115.97 309 P PKPdf 11 52 04.1 -1.4
SNR=13
HUMP Col San Antoni 116.03 79 *e*PKPdf PKPdf 11 52 04.2 -2.1
USP Ospenovka 116.17 309 P PKPdf 11 52 04.7 -1.2
SNR=29
EKS2 Erkin-Say 116.67 308 P PKPdf 11 52 06.1 -0.7
SNR=16
EKS2 Erkin-Say 116.67 308 *e*PKPdf PKPdf 11 52 05.9 -1.0
AML Almayashu 116.70 308 P PKPdf 11 52 06.6 -0.3
SNR=25
SCHQ Schefferville 118.12 38 PKP PKPdf 11 52 07.2 -2.1
comp=Z,6.0nm,0.9s,baz=354,slow=4.0,SNR=6.2
BVA0 Borovoye Array 118.81 320 *i*PKIKP PKIKP 11 52 08.3 -2.3
BVA0 pmax pmax
comp=Z,11nm,0.9s
BVAR Borovoye Array 118.81 320 PKP PKPdf 11 52 09.3 -1.3
comp=Z,50nm,0.7s,baz=94,slow=1.5,SNR=104
BRVK Borovoye 118.87 320 PKIKP PKPdf 11 52 08.9 -1.8
BRVK pmax pmax
comp=Z,52nm,0.8s
BRVK Borovoye 118.87 320 *e*PKIKP PKPdf 11 52 09.1 -1.6
BRVK Borovoye 118.87 320 *e*PKPdf PKPdf 11 52 09.1 -1.6
KK31 Karatay Array 119.08 309 *i*PKIKP PKPdf 11 52 09.8 -1.7
KK31 pmax pmax
comp=Z,19nm,0.6s
BDFB Brasilia 119.25 122 PKP PKPdf 11 52 11.6 -1.1
comp=Z,2.9nm,0.8s,baz=151,slow=5.8,SNR=6.0
BDFB PKKPbc PKKPbc 12 02 27.6 +0.3
comp=Z,6.3nm,0.8s,baz=34,slow=4.2,SNR=12
KBS Kingsbay 120.81 358 *i*PKIKP PKPdf 11 52 12.4 -1.5
KBS Kingsbay 120.81 358 *i*PKP PKPdf 11 52 12.4 -1.5
DAG Danmarks Havn 122.19 6⇑*e*PKIKP PKPdf 11 52 14.5 -2.0
DAG pmax pmax
comp=Z,9.0nm,0.6s
DAG Danmarks Havn 122.19 6⇑*iP* PKPdf 11 52 14.5 -2.0
comp=Z,9.3nm,0.6s
SUMG Summit 122.58 13 *e*PKPdf PKPdf 11 52 16.6 -0.7
SVE Sverdlovsk 123.67 326 *e*PKIKP PKPdf 11 52 19.1 -0.7
SVE pmax pmax
comp=Z,74nm,0.9s
SOKR Solikamsk 124.73 330*diPKIKP PKPdf 11 52 20.2 -1.6
SOKR pmax pmax
comp=Z,160nm,1.1s
ARU Arti 124.88 326 *i*PKIKP PKPdf 11 52 20.8 -1.4
ARU 11 54 15.2
ARU Arti 124.88 326 *i*PKP PKPdf 11 52 20.9 -1.3
AB31 Akbulak array 125.85 317 PKIKP PKPdf 11 52 22.1 -2.2
AB31 pmax pmax
comp=Z,59nm,1.1s
AKTK Aktyubinsk 126.81 319 PKP PKPdf 11 52 24.8 -1.3
AKTO Aktyubinsk 126.81 319 PKP PKPdf 11 52 24.8 -1.3
comp=Z,34nm,0.8s,baz=82,slow=3.2,SNR=55
BOSA Boshof 126.83 205 PKP PKPdf 11 52 27.2 +0.3
comp=Z,30nm,0.9s,baz=141,slow=2.5,SNR=31
KEV Kevo 127.98 349 *ep* PKPdf 11 52 24.7 -3.1
comp=Z,13nm,0.6s
KEV Kevo 127.98 349 *e*PKIKP PKPdf 11 52 24.7 -3.1
KEV pmax pmax
comp=Z,13nm,0.6s
ARCES ARCESS Array B 128.43 350 PKhKP 11 52 12.9
comp=Z,1.4nm,0.5s,baz=308,slow=1.2,SNR=7.7
ARCES PKP PKPdf 11 52 27.6 -1.0
comp=Z,30nm,0.6s,baz=21,slow=0.9,SNR=63
ARCES SKiKP 11 55 11.7
comp=Z,5.0nm,0.7s,baz=48,slow=1.3,SNR=3.9
ARCES ARCESS Array B 128.43 350 PKIKP PKPdf 11 52 27.6 -1.0
LBTB Lobatse 129.85 208 PKP PKPdf 11 52 32.3 -0.5
comp=Z,14nm,0.7s,baz=151,slow=4.1,SNR=15
LBTB SKPbc SKPbc 11 55 02.2 -1.5
comp=Z,22nm,1.1s,baz=155,slow=7.5,SNR=7.1
LBTB Lobatse 129.85 208 PKP PKPdf 11 52 32.3 -0.5
LBTB SKPbc SKPbc 11 55 02.2 -1.5
KLMR Klimovskoe 131.48 337 PKHKP 11 52 24.3
JOF Joensuu 132.69 342 *ep* 11 52 27.7
comp=Z,49nm,0.5s
JOF Joensuu 132.69 342 *e*PKHKP 11 52 27.7
JOF pmax pmax
comp=Z,49nm,0.5s
KAF Kangasniemi 134.70 344 *ep* 11 52 27.2
comp=Z,18nm,0.5s
KAF Kangasniemi 134.70 344 *e*PKHKP 11 52 27.2
KAF pmax pmax
comp=Z,18nm,0.5s
MOS Moscow 135.53 332 *e*PKIKP PKPdf 11 52 40.8 -1.5
OBN Obninsk 136.39 332 *i*PKIKP PKPdf 11 52 42.8 -1.2
OBN pmax pmax
comp=Z,47nm,0.8s
VRSR Storozhevoye 137.44 326 *e*PKIKP PKPdf 11 52 44.4 -1.6
VRSR pmax pmax
comp=Z,7.0nm,1.0s
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=E,5.0nm,0.9s
VSU Vasula 137.61 341 *i*PKIKP PKPdf 11 52 44.1 -2.0
UMR Umm Al-Rimmam 137.83 292 *e*P PKPdf 11 52 36.1 -11
baz=292
UMR AMb AMB 11 52 49.5
comp=Z,150nm,1.0s,baz=292
RDF Al-Radifah 138.00 291 *e*P PKPdf 11 52 36.9 -11
baz=291
RDF AMb AMB 11 52 49.9
comp=Z,166nm,0.9s,baz=291
MIB Mutribah 138.15 293 *e*P PKPdf 11 52 36.3 -12
baz=293
MIB AMb AMB 11 52 50.6
comp=Z,147nm,0.9s,baz=293
NAY Al-Naaiem 138.26 292 *e*P PKPdf 11 52 36.9 -11
baz=292
NAY AMb AMB 11 52 50.6
comp=Z,56nm,0.9s,baz=292
TSUM Tsumeb 138.27 202 PKhKP 11 52 37.3
comp=Z,5.1nm,1.0s,baz=304,slow=6.6,SNR=2.9
TSUM PKP PKPdf 11 52 48.7 +0.1
comp=Z,27nm,0.9s,baz=160,slow=2.4,SNR=14
TSUM SKPbc SKPbc 11 55 27.9 -3.1
comp=Z,9.0nm,0.9s,baz=182,slow=3.4,SNR=4.7
TSUM Tsumeb 138.27 202 PKP PKPdf 11 52 48.7 +0.1
TSUM SKPbc SKPbc 11 55 27.9 -3.1
NB2 NORSAR Subarra138.48 353 PKP 11 52 36.6
comp=Z,17nm,0.7s,baz=18,slow=3.5
NOA NORSAR Array B 138.48 353 PKhKP 11 52 36.6
comp=Z,13nm,0.7s,baz=15,slow=4.9,SNR=29
NOA PKP PKPdf 11 52 46.6 -1.0
comp=Z,13nm,0.7s,baz=19,slow=4.1,SNR=18
NOA SKPbc SKPbc 11 55 30.5 +0.3
comp=Z,3.7nm,1.0s,baz=17,slow=4.3,SNR=3.4
NOA NORSAR Array B 138.48 353 PKP PKPdf 11 52 46.6 -1.0
NOA SKPbc SKPbc 11 55 30.5 +0.3
GNI Garni 138.54 309 *i*PKIKP PKPdf 11 52 48.9 +0.5
KIV Kislovodsk 138.74 315 *e*PKIKP PKPdf 11 52 47.2 -1.4
KIV pmax pmax
comp=Z,14nm,0.9s
KIV Kislovodsk 138.74 315 *e*PKPdf PKPdf 11 52 48.2 -0.4
KMBO Kilima Mbogo 139.78 243 PKhKP 11 52 46.0
comp=Z,14nm,0.9s,baz=234,slow=23,SNR=5.5
HKR Hakkari 139.97 305 *e*P PKPdf 11 52 44.2 -6.9
SOC Sochi 140.86 316 *i*PKIKP PKPdf 11 52 54.1 +1.6
SOC *e* 11 55 58.7
SOC *e* 11 59 12.0
SOC pmax pmax
comp=Z,39nm,0.8s
SOC Sochi 140.86 316 *i*PKP PKPdf 11 52 52.9 +0.4
ERZM Erzurum 141.09 309 *iP* PKPdf 11 52 49.0 -4.0
EZM Erzurum 141.09 309 *e*P PKPdf 11 52 48.6 -4.4
RTO Tolsta 141.14 7 *e*P PKPdf 11 52 46.2 -6.3
RSC Scourie 141.28 6 *e*P PKPdf 11 52 46.4 -6.3
MLA1 Latheron 141.49 5 *e*P PKPdf 11 52 46.1 -7.1
RRH Rhenigidale 141.53 8 *e*P PKPdf 11 52 47.5 -5.7
KOPT Kop Dagi 141.68 310 *iP* PKPdf 11 52 50.5 -3.5
RRR Rubha Reidh 141.70 7 *e*P PKPdf 11 52 47.4 -6.1
ANN Anapa 141.77 318 *i*PKHKP 11 52 48.4
ANN *e*PPP 11 59 06.5
ANN pmax pmax
comp=Z,119nm,1.2s
MVH1 Achvaich 141.80 6 *e*P PKPdf 11 52 46.6 -7.1
KAC Achnashellach 142.10 7 *e*P PKPdf 11 52 49.2 -5.1
MCD Coleburn Disti 142.21 5 *e*P PKPdf 11 52 48.5 -5.9
KPL Plockton 142.22 7 *e*P PKPdf 11 52 49.3 -5.2
GUMT Gumushane 142.25 311 *e*P PKPdf 11 52 51.8 -3.3
MDO Dochfour 142.26 6⇓*e*P PKPdf 11 52 49.5 -5.0
EZC Erzincan 142.26 310 *e*P PKPdf 11 52 53.0 -2.1
MARD Mardin 142.32 306 *iP* PKPdf 11 52 51.3 -4.0
KSB Sheil Bridge 142.38 7 *e*P PKPdf 11 52 49.8 -4.9
SUW Suwalki 142.41 340 *e*PKP PKPdf 11 52 51.4 -3.6
SUW Suwalki 142.41 340 *e*PKP PKPdf 11 52 51.4 -3.5
MME1 Meikle Cairn 142.50 5 *e*P PKPdf 11 52 49.4 -5.6
KAR1 Arisaig 142.61 7⇓*e*P PKPdf 11 52 50.9 -4.3
DIYA Diyarbakir 142.64 307 *iP* PKPdf 11 52 52.7 -3.1
AKASG Malin Array Be 142.65 332 PKP PKPdf 11 52 51.0 -4.4
comp=Z,216nm,0.8s,baz=43,slow=4.6,SNR=443
AKASG SKPbc SKPbc 11 55 40.1 -1.2
comp=Z,7.3nm,0.6s,baz=42,slow=2.7,SNR=5.5
KIEV Kiev 142.66 332 *e*PKHKP 11 52 51.0
PTK Pertek 142.87 309 *e*P PKPdf 11 52 53.9 -2.3
SVRC Sivrice-ELAZID 143.10 308 *e*P PKPdf 11 52 54.7 -2.0
ELZG Elazig 143.30 308 *iP* PKPdf 11 52 56.0 -1.0
EAB Aberfoyle 143.50 6⇓*e*P PKPdf 11 52 53.8 -3.0
COP Copenhagen 143.51 350⇓*i*PKIKP PKPdf 11 52 54.3 -2.5
COP pmax pmax
comp=Z,180nm,0.9s
COP Copenhagen 143.51 350⇓*iP* PKPdf 11 52 54.3 -2.5
comp=Z,185nm,0.9s
COP *e* 12 33 35.3
EBH Black Hill 143.51 5⇓*e*P PKPdf 11 52 54.2 -2.5
SIM Simferopol' 143.72 321*de*PKIKP PKPdf 11 52 55.8 -1.7
SIM pmax pmax
comp=Z,493nm,0.9s
SIM pmax pmax
comp=Z,130nm,11.0s
URFA Urfa 143.77 307 *e*P PKPdf 11 52 56.9 -1.0
MYA Malataya 143.77 308 *e*P PKPdf 11 52 57.2 -0.6
MALT Malatya 143.77 308 *e*P PKPdf 11 52 57.0 -0.8
MALT Malatya 143.77 308⇓*iP* PKPdf 11 52 57.2 -0.6
MALT Malatya 143.77 308 *e*PKPdf PKPdf 11 52 57.4 -0.5
RSDY Resadiye-TOKAT 143.79 312 *e*P PKPdf 11 52 56.9 -0.9
PGBU Glenifferbraes 143.85 6⇓*e*P PKPdf 11 52 54.6 -2.8
EDI Edinburgh 143.87 5⇓*e*P PKPdf 11 52 55.0 -2.4
ESY Stoneypath 143.92 5⇓*e*P PKPdf 11 52 55.2 -2.2
EAU Auchinoon 143.92 5⇓*e*P PKPdf 11 52 55.6 -1.9
DARE Darende-Malaty 144.00 309 *e*P PKPdf 11 52 59.0 +0.8
EBL Broad Law 144.03 5⇓*e*P PKPdf 11 52 55.7 -2.0
ATAB Bozova 144.15 307 *iP* PKPdf 11 52 58.2 -0.3
SVSK Karacayir 144.22 311 *e*P PKPdf 11 52 58.6 +0.1
XSO Sourhope Farm 144.37 4⇓*e*P PKPdf 11 52 57.0 -1.3
RGN Rugen 144.45 349 *e*PKPbc PKPdf 11 52 57.7 -0.8
ESK Eskdalemuir 144.46 5⇓*e*P PKPdf 11 52 56.8 -1.6
ESK Eskdalemuir 144.46 5 *e*PKPdf PKPdf 11 52 57.0 -1.5
ECK Cauldkaine Hil 144.60 5⇓*e*P PKPdf 11 52 57.2 -1.5
WAR Warsaw 144.61 340 *e*PKPdf PKPdf 11 52 58.7 -0.1
WAR Warsaw 144.61 340⇓*e*PKP PKPdf 11 52 58.7 -0.1
DIKM Dikmen 144.66 315 *e*P PKPdf 11 52 59.3 +0.1
GZT Gaziantep 144.74 307 *iP* PKPdf 11 52 59.4 -0.1
GAL1 Galloway 144.76 7⇓*e*P PKPdf 11 52 57.9 -1.0
GKP Gorka Klasztor 144.79 344 *i*PKPdf PKPdf 11 52 59.0 -0.1
GKP Gorka Klasztor 144.79 344⇓*i*PKP PKPdf 11 52 59.0 -0.1
SARI SarD1z-Kayseri 144.91 310 *e*P PKPdf 11 53 01.1 +1.3
XAL Allendale 145.00 4⇓*e*P PKPdf 11 52 58.8 -0.6
GAZ Gaziantep 145.07 307 *e*P PKPdf 11 52 60.0 -0.1
BYBT Boyabat 145.07 315 *e*P PKPdf 11 53 01.2 +1.3
KMRS Kahramanmaras 145.19 308 *e*P PKPdf 11 53 00.4 +0.1
BZK Bozkurt 145.34 316 *e*P PKPdf 11 53 01.2 +0.9
DMUB Kingscourt 145.40 10 *e*P PKPdf 11 53 00.3 +0.2
KIS Kishinev 145.41 327 *e*PKIKP PKPdf 11 53 00.0 -0.3
KIS Kishinev 145.41 327 *i*PKP PKPdf 11 53 00.0 -0.3
CTKT Corum 145.44 314 *iP* PKPdf 11 53 02.2 +1.6
BNN Bunyan 145.46 310 *e*P PKPdf 11 53 01.5 +0.8
WIM Isle of Man 145.47 7 *e*P PKPdf 11 52 59.2 -1.0
YOZ Yozgat 145.51 312 *e*P PKPdf 11 53 01.8 +1.1
LVV L'vov 145.52 335 *e*PKP2 PKPab 11 53 03.0 -0.3
BSEG Bad Segeberg 145.52 352 *e*PKPdf PKPdf 11 52 59.5 -0.8
BSEG *e*PKPbc PKPbc 11 53 01.0 -0.7
HLG Helgoland 145.56 354 *e*PKPbc PKPbc 11 53 01.3 -0.5
CORM Corum 145.75 313 *e*P PKPdf 11 53 03.0 +1.9
TOS Tosya 145.77 315 *e*P PKPdf 11 53 02.8 +1.7
DCN Croghan 145.88 10 *e*P PKPdf 11 53 00.0 -0.9
DCN Croghan 145.88 10 *e*P PKPdf 11 53 01.8 +0.9
HPK Haverah Park 145.94 4⇓*e*P PKPdf 11 53 01.7 +0.7
BALT Daday 145.95 316 *iP* PKPdf 11 53 01.3 -0.2
KOZT Kozan 145.99 308 *e*P PKPbc 11 53 04.8 +1.1
DLF Lyons Farm 146.05 9 *e*P PKPdf 11 53 00.0 -1.2
DLF Lyons Farm 146.05 9 *e*P PKPdf 11 53 02.1 +0.9
DLF Lyons Farm 146.05 9 *e*P PKPdf 11 53 02.1 +0.9
DSB Dublin 146.12 9 *e*PKPdf PKPdf 11 53 00.8 -0.5
DSB *e*PKPbc PKPbc 11 53 02.6 -0.8
CDAG Cicekdag 146.18 312 *iP* PKPdf 11 53 00.6 -1.3
KWP Kalwaria 146.19 336 *i*PKPdf PKPdf 11 53 03.3 +1.7
KWP Kalwaria 146.19 336⇓*iP* PKPdf 11 53 03.2 +1.6
KWP Kalwaria 146.19 336⇓*i*PKP PKPdf 11 53 03.3 +1.7
AVNT Avonos 146.19 311 *iP* PKPdf 11 53 00.4 -1.5
HTY Hatay 146.23 306 *e*P PKPbc 11 53 04.3 0.0
CANT Cankiri 146.24 314 *e*P PKPbc 11 53 03.9 -0.3
WME Myndd Eilian 146.25 7⇓*e*P PKPdf 11 53 02.3 +0.7
YAYL Yayladag 146.28 306 *iP* PKPdf 11 52 58.7 -3.5
RUE Ruedersdorf 146.32 347 *e*PKPdf PKPdf 11 53 01.1 -0.6
RUE *e*PKPbc PKPbc 11 53 03.3 -0.7
LHO Holmfirth 146.33 4⇓*e*P PKPdf 11 53 02.3 +0.6
WLF1 Llynfaes 146.34 7⇓*e*P PKPdf 11 53 02.3 +0.6
YRC Rhoscolyn 146.36 7⇓*e*P PKPdf 11 53 02.5 +0.8
YURE YUREGIR 146.37 307 *iP* PKPbc 11 53 04.7 0.0
WPM1 Penmaenmawr 146.43 7⇓*e*P PKPdf 11 53 03.0 +1.1
YLL Llanberis 146.52 7 *e*P PKPdf 11 53 02.1 +0.1
SAFT Safranbolu 146.55 316 *e*P PKPbc 11 53 04.5 -0.5
TLCR 146.60 325⇑*iP* PKPbc 11 53 04.7 -0.3
TLCR 146.60 325 P PKPbc 11 53 04.5 -0.5
NIG Nigde 146.64 310 *e*P PKPbc 11 53 04.8 -0.5
YRE Yr Eifl 146.64 7⇓*e*P PKPdf 11 53 02.6 +0.3
KBI1 Birley Grange 146.64 4⇓*e*P PKPdf 11 53 03.5 +1.3
KARA Karaisali 146.65 308 *e*P PKPdf 11 53 01.0 -1.7
BURAR Bucovina Array 146.70 331⇓*iP* PKPbc 11 53 05.0 -0.2
BURAR Bucovina Array 146.70 331 ⇓P PKPbc 11 53 05.0 -0.2
OJC Ojcow 146.74 339 *e*PKP PKPbc 11 53 04.6 -0.6
KAMT Kaman 146.75 312 *e*P PKPdf 11 53 04.5 +1.6
STNC Stoke 146.75 5⇓*e*P PKPdf 11 53 03.5 +1.1
SBD1 Bryn Du 146.84 6⇓*e*P PKPdf 11 53 04.1 +1.5
KWE Weaver Farm 146.86 5⇓*e*P PKPdf 11 53 04.2 +1.6
STHS Stebnicka Huta 146.91 337 *e*PKIKP PKPdf 11 53 02.7 -0.1

STHS			*e*		11 53 05.5	
STHS	**Stebnicka Huta**	**146.91 337**	*e*PKP	PKPdf	11 53 02.7	-0.1
STHS			*e*		11 53 05.5	
STHS			*e*		11 53 29.2	
KOLS	**Kolonicke sedl**	**146.92 336**	*e*PKIKP	PKPdf	11 53 02.8	0.0
KOLS			*e*		11 53 05.9	
KOLS	**Kolonicke sedl**	**146.92 336**	*e*PKP	PKPdf	11 53 02.8	0.0
KOLS			*e*		11 53 05.9	
KOLS			*e*		11 53 33.8	
NRDL	**Niedersach Rie**	**146.96 351**	*e*PKPdf	PKPdf	11 53 02.0	-0.8
NRDL			*e*PKPbc	PKPbc	11 53 05.0	-0.7
NRDL			*ep*PKPbc	pPKPbc	11 55 14.9	+1.2
ANTO	**Ankara**	**147.15 314**	*e*P	PKPdf	11 53 02.6	-0.9
ANTO	**Ankara**	**147.15 314**	⇓*i*P	PKPbc	11 53 06.2	-0.5
ANTO	**Ankara**	**147.15 314**	*e*PKPdf	PKPdf	11 53 02.6	-0.9
UZH	**Uzhgorod**	**147.15 335**	*e*PKIKP	PKPdf	11 53 02.0	-1.2
LOD	**Lodumlu**	**147.16 314**	*e*P	PKPdf	11 53 04.2	+0.7
CWF	**Charnwood Fore**	**147.17 4**	*e*P	PKPdf	11 53 03.3	+0.2
MERS	**Mersin**	**147.19 308**	*e*P	PKPbc	11 53 06.0	-0.9
VRI	**Vrincioaia**	**147.24 328**	⇑*i*P	PKPbc	11 53 06.1	-0.6
VRI	**Vrincioaia**	**147.24 328**	P	PKPbc	11 53 06.0	-0.7
KSP	**Ksiaz**	**147.24 343**	*i* PKPdf	PKPbc	11 53 06.3	-0.2
KSP	**Ksiaz**	**147.24 343**	*e*PKP2	PKPab	11 53 09.9	-0.2
KSP	**Ksiaz**	**147.24 343**	*e*PKPdf	PKPdf	11 53 02.9	-0.4
KSP			*i* PKPdf	PKPbc	11 53 06.4	-0.1
KSP			*e*PKPab	PKPab	11 53 09.9	-0.2
KSP			*ep*PKP	pPKPdf	11 55 14.1	+0.5
NIE	**Niedzica**	**147.24 338**	*e*PKP	PKPbc	11 53 06.7	+0.1
CRVS	**Cervenica-Dubn**	**147.25 336**	*e*PKP	PKPdf	11 53 02.8	-0.6
CRVS			*e*		11 53 05.9	
CRVS			*e*		11 53 34.1	
HLM1	**Long Mynd**	**147.26 6**	⇓*e*P	PKPbc	11 53 05.3	-1.2
RCY	**Rachaya**	**147.27 301**	*e*P	PKPbc	11 53 06.9	-0.3
PLOR	**Plostina**	**147.28 328**	⇑*i*P	PKPbc	11 53 06.3	-0.5
TIRR	**Tirgusor**	**147.29 324**	⇓*i*P	PKPbc	11 53 06.1	-0.8
TIRR	**Tirgusor**	**147.29 324**	*e*PKPdf	PKPdf	11 53 02.5	-1.1
TIRR			*e*PKPbc	PKPbc	11 53 05.9	-1.0
TIRR			*e*PKPab	PKPab	11 53 10.2	-0.4
BHL	**Bhannes**	**147.29 302**	*e*P	PKPbc	11 53 06.9	-0.4
SGKT	**Sivrigoynuk**	**147.30 315**	*i* P	PKPbc	11 53 06.8	-0.2
RAC	**Raciborz**	**147.37 341**	*e*PKIKP	PKPdf	11 53 03.3	-0.2
HARR	**Harsova**	**147.40 325**	⇓*i*P	PKPbc	11 53 06.8	-0.3
HARR	**Harsova**	**147.40 325**	P	PKPbc	11 53 07.2	+0.1
IBBN	**Ibbenburen**	**147.43 354**	*e*PKPdf	PKPdf	11 53 03.1	-0.4
IBBN			*e*PKPbc	PKPbc	11 53 06.5	-0.5
IBBN			*e*PKPab	PKPab	11 53 10.1	-0.7
MEST	**Erdemli**	**147.57 307**	*i* P	PKPdf	11 53 03.9	-0.4
CLL	**Collm**	**147.59 347**	⇓*e*PKIKP	PKPdf	11 53 03.0	-0.8
CLL			*i*		11 53 10.8	
CLL			pmax	pmax		
	comp=Z,5.0nm,1.3s					
CLL	**Collm**	**147.59 347**	*e*PKPdf	PKPdf	11 53 02.8	-1.0
CLL			*e*PKPbc	PKPbc	11 53 06.6	-0.8
CLL			*ep*PKPbc	pPKPbc	11 55 17.6	+1.9
CLL	**Collm**	**147.59 347**	*e*PKPdf	PKPdf	11 53 03.0	-0.8
	comp=Z,46nm,1.3s					
CLL			⇓*i*PKPbc	PKPbc	11 53 06.9	-0.5
	comp=Z,389nm,0.9s					
CLL			*i* PKPab	PKPab	11 53 10.8	-0.7
	comp=Z,150nm,1.0s					
CLL			*ep*PKiKP		11 55 19.0	
CLL			*i* x	x	11 55 28.0	
CLL			*e*SKPdf	SKPdf	11 55 46.0	+0.7
CLL			*e*(sPP)		11 59 29.0	
CLL			*e*SKKSdf	SKKSdf	12 08 18.0	-4.5
CLL			*e*SS	SS	12 15 00.0	+2.2
CLL			*es*SS		12 18 24.0	
CLL			*ex*	x	12 24 12.0	
OKC	**Ostrava-Krasne**	**147.60 341**	⇑*i*PKP	PKPbc	11 53 07.0	-0.5
OKC			*e*PKPAB	PKPab	11 53 11.4	-0.2
UPC	**Upice**	**147.62 344**	*e*PKPDF	PKPdf	11 53 03.7	-0.2
UPC			⇑*i*PKP	PKPbc	11 53 07.3	-0.2
UPC			*ep*PKP	pPKPdf	11 55 18.5	+4.3
HTR	**Trewern Hill**	**147.66 6**	⇓*e*P	PKPbc	11 53 06.0	-1.6
DPC	**Dobruska-Polom**	**147.68 343**	*e*PKPDF	PKPdf	11 53 03.7	-0.3
DPC			⇑*i*PKP	PKPbc	11 53 07.6	-0.1
DPC			*ep*PKP	pPKPdf	11 55 19.5	+5.2
MCH1	**Michaelchurch**	**147.77 6**	⇓*e*P	PKPdf	11 53 05.7	+1.6
HAE	**Alders End**	**147.77 6**	⇓*e*P	PKPbc	11 53 06.8	-1.3
BRG	**Berggiesshubel**	**147.80 346**	*i* PKHKP	PKPdf	11 53 04.0	-0.2
BRG			*i*		11 53 11.9	
BRG					11 56 38.2	
BRG			SS	SS	12 15 02.0	+1.8
BRG			pmax	pmax		
	comp=Z,2.0nm,1.2s					
BRG			pmax	pmax		
	comp=Z,34nm,1.2s					
BRG	**Berggiesshubel**	**147.80 346**	*e*PKPdf	PKPdf	11 53 03.7	-0.5
BRG			*e*PKPbc	PKPbc	11 53 07.4	-0.5
BRG			*e*PKPab	PKPab	11 53 11.8	-0.6
MORC	**Moravsky Berou**	**147.84 341**	⇓*i*P	PKPbc	11 53 07.5	-0.6
MORC	**Moravsky Berou**	**147.84 341**	*e*PKPdf	PKPdf	11 53 03.4	-0.9
MORC			*e*PKPbc	PKPbc	11 53 07.5	-0.6
ISR	**Istrita**	**147.84 327**	⇑*i*P	PKPbc	11 53 07.9	-0.4
ISR	**Istrita**	**147.84 327**	⇑P	PKPbc	11 53 07.9	-0.4
WTSB	**Winterswijk**	**147.86 355**	*e*P	PKPbc	11 53 07.3	-0.7
	comp=Z,341nm,0.9s					
FBE	**Freiberg**	**147.88 347**	*e*PKPdf	PKPdf	11 53 04.1	-0.2
FBE			*e*PKPbc	PKPbc	11 53 08.3	+0.1
FBE			*e*PKPab	PKPab	11 53 12.9	+0.2
FBE			*ep*PKPbc	pPKPbc	11 55 18.2	+1.7
MLR	**Muntele Rosu**	**147.89 328**	⇑*i*P	PKPdf	11 53 02.8	-1.7
MLR	**Muntele Rosu**	**147.89 328**	P	PKPbc	11 53 07.8	-0.5
MDU	**Mudurnu**	**147.91 316**	*e*P	PKPbc	11 53 08.1	-0.5
PSN	**Preselentsi**	**147.91 323**	P	PKPbc	11 53 08.3	-0.2
HENT	**Hendek**	**147.93 317**	*i* P	PKPdf	11 53 03.5	-1.2
EREN	**Erenkoy**	**147.94 306**	*e*P	PKPdf	11 53 04.3	-0.6
KECS	**Kecovo**	**147.97 337**	*e*PKP	PKPdf	11 53 02.0	-2.5
KECS			*i*		11 53 08.4	
KECS			*e*		11 55 16.9	
PVCC	**Panska Ves**	**147.97 345**	*e*PKPDF	PKPdf	11 53 04.3	-0.2
PVCC			⇑*i*PKP	PKPbc	11 53 08.0	-0.4
LIKS	**Likavka**	**147.97 339**	*e*PKP	PKPbc	11 53 09.1	+0.6
IKL	**Isikli**	**148.05 307**	*e*P	PKPbc	11 53 08.0	-1.0
HGH	**Gray Hill**	**148.14 6**	⇓*e*P	PKPbc	11 53 07.2	-1.6
LADK	**Ladik-KONYA**	**148.21 311**	*e*P	PKPdf	11 53 06.9	+1.6
PHNC	**Paralimni**	**148.22 305**	P	PKPbc	11 53 09.1	-0.5
	comp=Z,3.6nm,0.8s					
KIZT	**Kizilcal**	**148.24 313**	*e*P	PKPbc	11 53 09.1	-0.3
KDHN	**Kadinhani**	**148.24 312**	*i* P	PKPbc	11 53 08.6	-0.9
KONT	**Konya--Tatoy**	**148.32 311**	*e*P	PKPbc	11 53 08.0	-1.7
BUG	**Bochum--Univer**	**148.34 354**	*e*PKPdf	PKPdf	11 53 04.4	-0.7
BUG			*e*PKPbc	PKPbc	11 53 08.4	-0.9
VOIR		**148.37 329**	⇑*i*P	PKPbc	11 53 09.6	0.0
VOIR		**148.37 329**	P	PKPdf	11 53 05.2	-0.1
DRGR		**148.44 333**	⇑*i*P	PKPdf	11 53 03.9	-1.5
DRGR		**148.44 333**	P	PKPdf	11 53 04.6	-0.8
PRU	**Pruhonice**	**148.48 345**	*e*PKIKP	PKPdf	11 53 04.5	-0.8
PRU			*e*		11 53 14.7	
PRU	**Pruhonice**	**148.48 345**	*e*PKPDF	PKPdf	11 53 04.5	-0.8
PRU			⇑*i*PKP	PKPbc	11 53 09.3	-0.4
PRU			*e*PKPAB	PKPab	11 53 14.7	-0.5
PRU			*ep*PKP	pPKPdf	11 55 20.1	+4.4
MOX	**Moxa**	**148.49 349**	*e*PKP	PKPdf	11 53 04.6	-0.7
MOX			*e*		11 53 09.2	
	comp=Z,328nm,1.4s					
MOX	**Moxa**	**148.49 349**	*e*PKPdf	PKPdf	11 53 04.5	-0.8
MOX			*e*PKPbc	PKPbc	11 53 09.0	-0.7
LFK	**Lefkose**	**148.51 306**	*e*P	PKPbc	11 53 09.6	-0.7
VRAC	**Vranov**	**148.54 342**	⇓*i*P	PKPbc	11 53 09.4	-0.5
VRAC	**Vranov**	**148.54 342**	P	PKPbc	11 53 09.6	-0.3
VYHS	**Vyhne**	**148.54 339**	*e*PKP	PKPdf	11 53 04.9	-0.6
VYHS			*e*		11 53 09.4	
VYHS			*e*		11 53 28.8	
VYHS			*e*		11 55 19.3	
SILT	**Sile**	**148.55 318**	*e*P	PKPbc	11 53 08.9	-1.2
WERD	**Werda**	**148.55 348**	*e*PKPdf	PKPdf	11 53 04.7	-0.7
WERD			*e*PKPbc	PKPbc	11 53 09.2	-0.6
WERD			*e*PKPab	PKPab	11 53 14.9	-0.6
WERD			*ep*PKPbc	pPKPbc	11 55 19.0	+0.6
HTL	**Hartland**	**148.58 8**	*e*P	PKPbc	11 53 08.9	-1.0
GPA	**Golpazari**	**148.59 316**	*e*P	PKPbc	11 53 09.7	-0.6
WOL	**Wolverton**	**148.60 4**	⇓*e*P	PKPbc	11 53 08.5	-1.4
UBBA	**Unterbreizbach**	**148.60 351**	*e*PKPdf	PKPdf	11 53 04.6	-0.9
UBBA			*e*PKPbc	PKPbc	11 53 09.3	-0.7
UBBA			*ep*PKPbc	pPKPbc	11 55 19.8	+1.2
KOLL	**Kolacno**	**148.62 339**	*e*PKP	PKPdf	11 53 04.3	-1.3
KOLL			*e*		11 53 10.1	
GUNZ	**Gunzen**	**148.62 348**	*e*PKPdf	PKPdf	11 53 04.9	-0.6
GUNZ			*e*PKPbc	PKPbc	11 53 09.6	-0.4
GUNZ			*e*PKPab	PKPab	11 53 15.2	-0.6
ESKT	**Eskisehir**	**148.63 315**	*i* P	PKPbc	11 53 09.3	-1.1
HDMB	**Hadim**	**148.65 309**	*e*P	PKPbc	11 53 08.6	-1.9
PSZ	**Piszkesteto**	**148.65 337**	⇓*e*PKP	PKPbc	11 53 09.6	-0.6
PSZ	**Piszkesteto**	**148.65 337**	*e*PKPdf	PKPdf	11 53 04.8	-0.9
PSZ			*e*PKPbc	PKPbc	11 53 09.6	-0.6
PRD	**Provadia**	**148.66 323**	P	PKPbc	11 53 10.1	-0.2
WERN	**Wernitzgruen**	**148.69 347**	*e*PKPdf	PKPdf	11 53 04.9	-0.8
WERN			*e*PKPbc	PKPbc	11 53 09.9	-0.3
WERN			*e*PKPab	PKPab	11 53 15.6	-0.5
WERN			*ep*PKPbc	pPKPbc	11 55 20.3	+1.5
HRT	**Hereke**	**148.71 318**	*e*P	PKPbc	11 53 09.9	-0.7
NKC	**Novy Kostel**	**148.72 347**	*e*PKPDF	PKPdf	11 53 05.0	-0.7
NKC			⇑*i*PKP	PKPbc	11 53 09.9	-0.4
NKC			*e*PKPAB	PKPab	11 53 15.4	-0.8
CSS	**Prodhromos**	**148.78 305**	⇓P	PKPbc	11 53 10.1	-0.8
	comp=Z,2.1nm,0.7s					
CSS	**Prodhromos**	**148.78 305**	*e*P	PKPbc	11 53 10.1	-0.8
CSS	**Prodhromos**	**148.78 305**	⇓*e*P	PKPbc	11 53 10.1	-0.8
KLYT	**Kilyos**	**148.86 319**	*e*P	PKPbc	11 53 09.2	-1.7
TREC	**Trest**	**148.87 343**	*e*PKPDF	PKPdf	11 53 05.4	-0.6
TREC			⇑*i*PKP	PKPbc	11 53 10.3	-0.4
TREC			*e*PKPAB	PKPab	11 53 16.5	-0.3
ADVT	**Abdulvahap**	**148.88 317**	*e*P	PKPbc	11 53 09.8	-1.2
TFO1	**Folkestone**	**148.90 1**	⇓*e*P	PKPdf	11 53 07.1	+1.1
BOLV	**Bolvadin**	**148.95 313**	*i* P	PKPbc	11 53 10.6	-0.7
ISK	**Istanbul-Kandi**	**148.96 319**	*e*P	PKPbc	11 53 09.7	-1.4
MANZ	**Manzenberg**	**149.03 348**	*e*PKPdf	PKPdf	11 53 05.4	-0.8
MANZ			*e*PKPbc	PKPbc	11 53 10.6	-0.4
MANZ			*e*PKPab	PKPab	11 53 16.5	-1.0
YLV	**Yalova**	**149.04 318**	*e*P	PKPbc	11 53 09.9	-1.5
LEF	**Lefka**	**149.06 306**	*e*P	PKPbc	11 53 10.4	-1.2
BEBN	**Eben Emael**	**149.11 356**	PKPbc	PKPbc	11 53 10.5	-0.7
BEBN			PKPab	PKPab	11 53 16.9	-0.9
HGN	**Heimansgroeve**	**149.12 355**	⇓*e*P	PKPbc	11 53 10.3	-0.9
HGN	**Heimansgroeve**	**149.12 355**	*e*P	PKPbc	11 53 10.4	-0.8
	comp=Z,156nm,1.0s					
CSA1	**St Austell**	**149.15 9**	*e*P	PKPdf	11 53 05.3	-1.1
MODS	**Modra-Piesok**	**149.16 340**	*e*PKP	PKPdf	11 53 06.6	+0.1
MODS			*i*		11 53 11.6	
MODS			*e*		11 55 20.9	
UCC	**Uccle**	**149.18 357**	PKP	PKPdf	11 53 05.4	-1.0
UCC			PKPbc	PKPbc	11 53 10.7	-0.6
UCC			PKPab	PKPab	11 53 17.2	-0.9
ROTZ	**Rotzenmuhle**	**149.22 347**	*e*PKPdf	PKPdf	11 53 05.7	-0.8
ROTZ			*e*PKPbc	PKPbc	11 53 11.1	-0.4
GEMT	**Gemlik**	**149.23 317**	*e*P	PKPbc	11 53 09.9	-1.9
ALFC	**Alevga**	**149.27 306**	⇓P	PKPbc	11 53 11.0	-1.1
	comp=Z,6.5nm,0.8s					
ALFC	**Alevga**	**149.27 306**	⇓*e*P	PKPbc	11 53 11.0	-1.1
MEM	**Membach**	**149.27 355**	PKP	PKPdf	11 53 06.1	-0.5
MEM			PKPbc	PKPbc	11 53 11.1	-0.5
MEM			E		11 53 16.7	
MEM			APKP		11 55 25.5	
SHUT	**Suhut-Afyon**	**149.31 313**	*e*P	PKPbc	11 53 10.6	-1.5
BUD	**Budapest**	**149.34 337**	⇓*e*PKP	PKPbc	11 53 11.2	-0.7
CGW	**Gweek**	**149.35 9**	*e*P	PKPdf	11 53 04.7	-2.0
ALT	**Altintas**	**149.36 314**	*e*P	PKPbc	11 53 11.0	-1.2
ZST	**Bratislava**	**149.37 340**	*e*PKP	PKPdf	11 53 06.3	-0.5
ZST			*e*		11 53 11.9	
ZST			*e*		11 55 21.0	
SLVT	**Silivri**	**149.39 320**	*e*P	PKPbc	11 53 11.5	-0.7
SZH	**Strazhica**	**149.42 325**	P	PKPbc	11 53 11.5	-0.7
ULDT	**Uludag**	**149.43 317**	*i* P	PKPdf	11 53 06.2	-1.0
ZIMR		**149.46 326**	PKHKP	PKPbc	11 53 12.1	-0.2
MENF	**Mencas**	**149.47 0**	PKP	PKPdf	11 53 05.0	-1.9
GRF	**Grafenberg Arr**	**149.48 348**	*e*PKP2	PKPab	11 53 19.2	-0.2
GRF	**Grafenberg Arr**	**149.48 348**	*e*PKPbc	PKPbc	11 53 12.0	-0.1
GRF			*e*PKPab	PKPab	11 53 19.2	-0.2
KHC	**Kasperske Hory**	**149.51 345**	*e*PKIKP	PKPdf	11 53 06.0	-1.0
KHC			*e*		11 53 19.4	
KHC	**Kasperske Hory**	**149.51 345**	*e*PKPDF	PKPdf	11 53 06.0	-1.0
KHC			⇑*i*PKP	PKPbc	11 53 11.9	-0.3
KHC			*e*PKPAB	PKPab	11 53 19.4	-0.1
KHC			*ep*PKP	pPKPdf	11 55 22.2	+4.8
BCLA	**Clavier**	**149.51 356**	PKP	PKPdf	11 53 06.5	-0.5
BCLA			PKPbc	PKPbc	11 53 11.2	-1.0
BCLA			E		11 53 16.5	
BCLA			PKPab	PKPab	11 53 18.2	-1.2
PPCY	**Paphos**	**149.56 305**	⇓P	PKPbc	11 53 11.3	-1.5
PPCY	**Paphos**	**149.56 305**	⇓*i*P	PKPbc	11 53 11.3	-1.5
JMB	**Yambol**	**149.59 323**	*e*P	PKPbc	11 53 12.5	-0.1
JMB	**Yambol**	**149.59 323**	P	PKPbc	11 53 12.7	+0.1
WET	**Wettzell**	**149.66 346**	*e*PKPdf	PKPdf	11 53 06.4	-0.8
WET			*e*PKPbc	PKPbc	11 53 12.2	-0.4
WET			*e*PKPab	PKPab	11 53 19.7	-0.4
ISP	**Isparta**	**149.67 312**	*e*P	PKPbc	11 53 11.3	-1.6
ISP	**Isparta**	**149.67 312**	*e*P	PKPbc	11 53 11.6	-1.4
GEC2	**GERESS Array S**	**149.74 345**	*e*PKPdf	PKPdf	11 53 06.5	-0.9
GEC2			*e*PKPbc	PKPbc	11 53 12.2	-0.6
GERES	**GERESS Array B**	**149.74 345**	PKP	PKPdf	11 53 06.8	-0.5
	comp=Z,8.6nm,0.9s,baz=90,slow=1.3,SNR=28					
GERES			PKPbc	PKPbc	11 53 12.0	-0.7
	comp=Z,119nm,0.8s,baz=40,slow=2.3,SNR=204					
GDZ	**Gediz**	**149.76 315**	*i* P	PKPbc	11 53 13.5	+0.3
CRAR	**CRAIOVA**	**149.79 328**	PKHKP	PKPbc	11 53 13.5	+0.5
BZS	**Buzias**	**149.83 332**	⇑*i*P	PKPdf	11 53 05.9	-1.7
BZS	**Buzias**	**149.83 332**	⇑P	PKPdf	11 53 05.9	-1.7
DOU	**Dourbes**	**149.88 357**	PKP	PKPdf	11 53 07.0	-0.5
DOU			PKPbc	PKPbc	11 53 12.3	-0.7
DOU			PKPab	PKPab	11 53 20.1	-0.9
DOU			APKP		11 55 26.0	
EDRB	**Edirne**	**149.89 322**	*e*P	PKPbc	11 53 11.5	-1.8
TOD	**Tromm**	**149.96 351**	PKIKP	PKPdf	11 53 07.1	-0.6
CONA	**Conrad Observa**	**149.99 342**	⇓*i*P	PKPbc	11 53 13.1	-0.3
	comp=Z,310nm,1.2s					
CONA	**Conrad Observa**	**149.99 342**	⇑*i*P	PKPab	11 53 22.1	+0.5
	comp=Z,156nm,1.7s					
CONA	**Conrad Observa**	**149.99 342**	⇓*i*PKPdf	PKPdf	11 53 06.4	-1.4
	comp=Z,63nm,1.8s					
CONA			⇓*i*PKiKP	PKiKP	11 53 13.1	-0.9
	comp=Z,310nm,1.2s					
CONA			⇑*i*PKPab	PKPab	11 53 22.1	+0.5
	comp=Z,156nm,1.7s					
CSNA	**Conrad Observa**	**150.00 342**	⇓*i*P	PKPbc	11 53 13.1	-0.3
	comp=Z,291nm,1.3s					
CSNA	**Conrad Observa**	**150.00 342**	⇑*i*P	PKPab	11 53 22.0	+0.5
	comp=Z,192nm,1.8s					
CSNA	**Conrad Observa**	**150.00 342**	⇓*i*PKPdf	PKPdf	11 53 06.5	-1.3
	comp=Z,58nm,1.8s					
CSNA			⇓*i*PKiKP	PKiKP	11 53 13.1	-0.9
	comp=Z,291nm,1.3s					
CSNA			⇑*i*PKPab	PKPab	11 53 22.0	+0.5
	comp=Z,192nm,1.8s					
RUP	**Ruppelstein**	**150.08 354**	PKIKP	PKPdf	11 53 07.8	-0.1
WLF	**Walferdange**	**150.20 355**	PKP	PKPdf	11 53 08.2	+0.1
WLF			PKPbc	PKPbc	11 53 13.8	-0.1
WLF			PKPab	PKPab	11 53 21.7	-0.6
WLF			APKP		11 55 27.6	
WLF	**Walferdange**	**150.20 355**	*e*PKPdf	PKPdf	11 53 07.9	-0.2
WLF			*e*PKPbc	PKPbc	11 53 13.7	-0.1
WLF			*e*PKPab	PKPab	11 53 22.0	-0.3
WLF	**Walferdange**	**150.20 355**	*e*PKPbc	PKPbc	11 53 13.8	0.0
DEMI	**Demirci**	**150.29 316**	*i* P	PKPbc	11 53 13.4	-1.0
SART	**Tekirdag**	**150.34 320**	*i* P	PKPbc	11 53 13.5	-1.0
BTOK	**Tokmak**	**150.34 317**	*i* P	PKPbc	11 53 13.6	-0.9
DIM	**Dimitrovgrad**	**150.45 323**	P	PKPbc	11 53 14.4	-0.3
MOA	**Molln**	**150.52 343**	⇓*i*P	PKPbc	11 53 13.7	-0.9
	comp=Z,86nm,1.3s					
MOA	**Molln**	**150.52 343**	⇓*i*P	PKPab	11 53 23.9	+0.1
	comp=Z,135nm,1.4s					
MOA	**Molln**	**150.52 343**	⇑*i*PKPdf	PKPdf	11 53 06.8	-1.8
	comp=Z,82nm,2.4s					
MOA			⇓*i*PKPbc	PKPbc	11 53 13.7	-0.9
	comp=Z,86nm,1.3s					
MOA			⇓*i*PKPab	PKPab	11 53 23.9	+0.1
	comp=Z,135nm,1.4s					
PKSM	**Moragy**	**150.55 336**	⇑*i*P	PKPdf	11 53 07.0	-1.7
PKSM	**Moragy**	**150.55 336**	⇑P	PKPdf	11 53 07.0	-1.7
BALY	**Balya**	**150.62 318**	*i* P	PKPbc	11 53 13.9	-1.2
GOLH	**Golhisar**	**150.62 312**	*i* P	PKPbc	11 53 14.5	-0.7
JSA	**Saint Aubin**	**150.63 6**	⇓*e*P	PKPbc	11 53 13.4	-1.4
ARSA	**Arzberg**	**150.70 341**	⇓*i*P	PKPbc	11 53 14.0	-1.1
	comp=Z,104nm,1.4s					
ARSA	**Arzberg**	**150.70 341**	⇓*i*P	PKPab	11 53 24.3	-0.3
	comp=Z,80nm,1.3s					
ARSA	**Arzberg**	**150.70 341**	⇓*i*PKPdf	PKPdf	11 53 07.4	-1.5
	comp=Z,109nm,3.4s					
ARSA			⇓*i*PKPbc	PKPbc	11 53 14.0	-1.1
	comp=Z,104nm,1.4s					
ARSA			⇓*i*PKPab	PKPab	11 53 24.3	-0.3
	comp=Z,80nm,1.3s					
LANF	**Langenberg**	**150.71 352**	PKP	PKPdf	11 53 08.7	-0.1
STU	**Stuttgart**	**150.72 351**	*e*PKPdf	PKPdf	11 53 08.4	-0.5
STU			*e*PKPbc	PKPbc	11 53 14.3	-0.7
STU			*e*PKPab	PKPab	11 53 23.9	-0.6
STU	**Stuttgart**	**150.72 351**	*e*PKPdf	PKPdf	11 53 08.5	-0.3
STU			*e*PKPbc	PKPbc	11 53 14.3	-0.7
KDZ	**Kurdzhali**	**150.78 323**	P	PKPbc	11 53 14.6	-0.8
LPK	**Lapseki**	**150.78 319**	*e*P	PKPbc	11 53 15.5	0.0
PGB	**Panagyurishte**	**150.86 325**	P	PKPbc	11 53 14.7	-0.9
PLD	**Plovdiv**	**150.87 324**	P	PKPbc	11 53 14.4	-1.2
ALN	**Alexandroupoli**	**150.89 321**	*e*P	PKPbc	11 53 14.6	-1.1
FUR	**Furstenfeldbru**	**150.93 347**	*e*PKPdf	PKPdf	11 53 08.5	-0.7
FUR			*e*PKPbc	PKPbc	11 53 14.7	-0.8
FUR			*e*PKPab	PKPab	11 53 25.0	-0.5
AKHS	**Akhisar**	**150.97 316**	*i* P	PKPbc	11 53 14.9	-1.0
RDO	**Rodhopi**	**151.03 322**	*e*P	PKPbc	11 53 14.0	-2.0
AKAS	**Kas**	**151.06 310**	*i* P	PKPbc	11 53 14.7	-1.6
KSL	**Kastellorizon**	**151.11 310**	*e*P	PKPbc	11 53 15.0	-1.4
RZN	**Rozhen**	**151.15 324**	P	PKPbc	11 53 15.6	-0.7
FLN	**La Foliniere**	**151.19 4**	*e*PKIKP	PKPdf	11 53 08.5	-1.1
	comp=Z,102nm,1.0s					
KOGS	**Kog**	**151.19 340**	*e*PKPdf	PKPdf	11 53 08.2	-1.4
KOGS			*e*PKPbc	PKPbc	11 53 15.0	-1.2
KOGS			*e*PKPab	PKPab	11 53 26.1	-0.5
BFO	**Black Forest**	**151.28 352**	*e*PKPdf	PKPdf	11 53 08.8	-0.9
BFO			*e*PKPbc	PKPbc	11 53 15.4	-0.9
BFO			*e*PKPab	PKPab	11 53 25.9	-1.0
BFO			*ep*PKPbc	pPKPbc	11 55 25.6	+0.1
CDF	**Champ du Feu**	**151.33 353**	*e*PKIKP	PKPdf	11 53 08.8	-1.0
VTS	**Vitosha**	**151.34 327**	⇓*i*P	PKPbc	11 53 16.0	-0.7
VTS	**Vitosha**	**151.34 327**	P	PKPdf	11 53 09.4	-0.6
ROSF	**Rostrenen**	**151.35 8**	*e*PKIKP	PKPdf	11 53 08.4	-1.4
SOKA	**Soboth**	**151.37 341**	⇓*i*P	PKPbc	11 53 15.4	-1.2
	comp=Z,124nm,1.2s					
SOKA	**Soboth**	**151.37 341**	⇓*i*P	PKPab	11 53 26.6	-0.7
	comp=Z,119nm,1.3s					
SOKA	**Soboth**	**151.37 341**	⇑*i*PKPdf	PKPdf	11 53 08.3	-1.6
	comp=Z,44nm,1.6s					
SOKA			⇓*i*PKPbc	PKPbc	11 53 15.4	-1.2
	comp=Z,124nm,1.2s					
SOKA			⇓*i*PKPab	PKPab	11 53 26.6	-0.7
	comp=Z,119nm,1.3s					
LDF	**La

comp=Z,124nm,2.1s
SEST Monte Rota 152.06 345 PKP PKPdf 11 53 09.2 -1.8
FVI Forni Avoltri 152.06 344 PKIKP PKPdf 11 53 09.1 -1.9
LJU Ljubljana 152.09 342 ePKPdf PKPdf 11 53 10.1 -1.0
LJU i PKPbc PKPbc 11 53 17.4 -0.8
LJU ePKPab PKPab 11 53 28.0 -2.4
LJU epPKPdf pPKPbc 11 55 28.2 +0.7
LJU epPKPbc pPKPab 11 55 38.5 +4.2
PTCC Patocco-Chiusa 152.09 343 PKP PKPdf 11 53 09.7 -1.3
ARG Arkhangelos 152.12 311 eP PKPbc 11 53 17.5 -1.1
FETA Feichten 152.13 348 ⇓iP PKPbc 11 53 17.3 -1.0
comp=Z,115nm,1.3s
FETA Feichten 152.13 348 ⇓iP PKPab 11 53 29.6 -1.0
comp=Z,83nm,1.4s
FETA Feichten 152.13 348 ⇓iPKPdf PKPdf 11 53 10.1 -0.9
comp=Z,60nm,1.1s
FETA ⇓iPKPbc PKPbc 11 53 17.3 -1.0
comp=Z,115nm,1.3s
FETA ⇓iPKPab PKPab 11 53 29.6 -1.0
comp=Z,83nm,1.4s
BDRM Kayabasi 152.18 313 i P PKPbc 11 53 17.4 -1.3
VISS Visnje 152.21 341 ePKPdf PKPdf 11 53 10.1 -1.1
VISS ePKPbc PKPbc 11 53 17.4 -1.0
VISS ePKPab PKPab 11 53 30.2 -0.7
VISS epPKPdf pPKPdf 11 55 28.5 +6.8
VISS e 11 55 39.3
GMNA Gemona 152.24 343 PKP PKPdf 11 53 10.0 -1.2
SMG Samos 152.25 315 eP PKPbc 11 53 16.5 -2.4
BODT Bodrum 152.27 313 eP PKPbc 11 53 17.3 -1.6
VOY Vojsko 152.28 342 ePKPdf PKPdf 11 53 09.9 -1.4
VOY ePKPbc PKPbc 11 53 17.3 -1.3
VOY ePKPab PKPab 11 53 29.9 -1.4
BOJS Bojanci 152.35 340 ePKPdf PKPdf 11 53 10.5 -0.9
BOJS i PKPbc PKPbc 11 53 18.3 -0.5
BOJS ePKPab PKPab 11 53 30.7 -0.8
CHOS Chios island 152.39 317 eP PKPbc 11 53 18.0 -1.1
CEY Cerknica 152.40 341 ePKPdf PKPdf 11 53 10.3 -1.2
CEY i PKPbc PKPbc 11 53 17.9 -1.0
CEY ePKPab PKPab 11 53 31.0 -0.7
CEY Cerknica 152.40 341 ePKPdf PKPdf 11 53 10.3 -1.2
CEY i PKPbc PKPbc 11 53 17.9 -1.0
CEY ePKPab PKPab 11 53 31.0 -0.7
CEY e 11 55 39.3
LOMF Lomont 152.43 353 PKP PKPdf 11 53 11.2 -0.3
STIP Stip 152.51 326 ePKP PKPdf 11 53 09.9 -1.8
APPI Appiano 152.54 346 PKP PKPdf 11 53 09.6 -2.1
VAY Valandovo 152.57 325 ePKP PKPdf 11 53 09.2 -2.6
SKO Skopje 152.69 328 ePKP PKPdf 11 53 11.0 -1.0
BRMO Bormio 152.72 348 PKP PKPdf 11 53 10.8 -1.1
LOR Lormes 152.73 358 ePKIKP PKPdf 11 53 11.1 -0.8
comp=Z,67nm,1.3s
PLG Polygyros 152.74 323 eP PKPbc 11 53 17.5 -2.3
PLG Polygyros 152.74 323 eP PKPab 11 53 31.0 -2.4
HYF Humbligny 152.76 359 ePKIKP PKPdf 11 53 11.6 -0.4
CTI Castel Tesino 152.85 346 PKIKP PKPdf 11 53 10.9 -1.2
PAIG Paliouri 152.90 322 eP PKPdf 11 53 09.4 -3.0
TUE Stuetta 152.92 349 ePKPdf PKPdf 11 53 11.6 -0.6
TUE ePKPbc PKPbc 11 53 19.4 -0.6
TUE ePKPab PKPab 11 53 33.9 0.0
SSF Saint Saulge 152.95 358 ePKIKP PKPdf 11 53 11.5 -0.7
comp=Z,80nm,1.4s
KARP Karpathos 153.13 310 eP PKPbc 11 53 19.0 -1.8
AVF Avril sur Loir 153.23 358 ePKIKP PKPdf 11 53 11.5 -1.1
KRUS Krusevo 153.23 327 ePKP PKPdf 11 53 11.4 -1.4
CABF La Chapelle 153.23 354 ePKIKP PKPdf 11 53 12.5 -0.2
comp=Z,63nm,0.9s
SMF Signal de Mont 153.35 358 ePKIKP PKPdf 11 53 11.8 -1.0
comp=Z,49nm,1.3s
MFF Saint Martin d 153.36 4 ePKIKP PKPdf 11 53 11.8 -1.0
comp=Z,86nm,1.2s
BIA Bitola 153.44 326 ePKP PKPdf 11 53 10.7 -2.5
LIT Litokhoron 153.46 324 eP PKPdf 11 53 10.7 -2.5
BGF Bois d'Agland 153.47 359 ePKIKP PKPdf 11 53 12.2 -0.8
comp=Z,42nm,0.9s
NEO Neokhori 153.57 321 eP PKPab 11 53 35.5 -1.5
FNA Florina 153.59 326 eP PKPbc 11 53 20.3 -1.3
VAI Varese 153.61 350 PKIKP PKPdf 11 53 11.9 -1.3
OHR Ohrid 153.65 327 ePKP PKPdf 11 53 10.5 -2.9
KZN Kozani 153.72 325 eP PKPab 11 53 36.5 -1.1
TCF Toulx Ste Croi 153.74 0 ePKIKP PKPdf 11 53 12.5 -0.9
comp=Z,82nm,1.1s
OG05 Jujurieux 153.86 355 PKP PKPdf 11 53 13.2 -0.4
SANT Santorini 153.90 314 ePKPab PKPab 11 53 36.4 -2.2
THR6 Thira Island, 153.95 314 eP PKPbc 11 53 20.4 -2.1
AGO Saint Agoulin 153.97 359 PKP PKPdf 11 53 12.9 -0.8
PTL Penteli 153.98 318 eP PKPbc 11 53 21.5 -1.0
PLDF La Plantade 154.04 358 PKP PKPdf 11 53 13.5 -0.3
THL Klokotos Trika 154.09 323 eP PKPdf 11 53 11.0 -3.1
TRAV Traversella 154.12 351 P PKPdf 11 53 11.7 -2.3
ATH Athens Observa 154.12 318 eP PKPab 11 53 39.0 -0.4
LKR Lokris 154.13 320 eP PKPdf 11 53 11.0 -3.2
KVR Kavouri 154.17 318 eP PKPab 11 53 38.5 -1.2
LPL La Plagne 154.25 353 ePKIKP PKPdf 11 53 13.9 -0.2
LPG La Plagne 154.26 353 ePKIKP PKPdf 11 53 14.2 +0.1
PYM Petit Puy Mans 154.27 359 PKP PKPdf 11 53 13.7 -0.4
VERF Verneugheol 154.28 360 PKP PKPdf 11 53 12.7 -1.4
NAIG Nisos Aigina 154.39 318 eP PKPbc 11 53 22.0 -1.4
LTK Loutraki 154.55 319 eP PKPdf 11 53 12.6 -2.2
FRNF Fournols 154.64 359 PKP PKPdf 11 53 14.5 -0.2
JAN Janina 154.67 325 eP PKPab 11 53 41.0 -0.7
ERBM Eremo 154.68 346 PKP PKPdf 11 53 14.2 -0.5
SSB Saint Sauveur 154.68 356 PKP PKPdf 11 53 13.7 -1.0
SSB Saint Sauveur 154.68 356 ePKPdf PKPdf 11 53 14.3 -0.4
SSB ePKPab PKPab 11 53 40.6 -0.9
GRAM Graiana 154.69 347 P PKPdf 11 53 13.2 -1.6
GSCL Gusciola 154.70 346 PKP PKPdf 11 53 14.4 -0.4
DID Didima 154.70 318 eP PKPdf 11 53 21.9 +6.9
BNI Bardonecchia 154.71 353 ePKIKP PKPdf 11 53 14.1 -0.7
BNI e 11 53 41.5
RJF Les Rejaudoux 154.72 1 ePKIKP PKPdf 11 53 14.0 -0.8
comp=Z,77nm,1.1s
FNVD Fontana Vidola 154.75 345 PKP PKPdf 11 53 14.2 -0.6
VALM Valbona 154.78 346 P PKPdf 11 53 13.3 -1.6
LBL Lubilhac 154.79 358 PKP PKPdf 11 53 15.1 +0.2
SFI Santa Sofia 154.81 344 PKIKP PKPdf 11 53 14.3 -0.6
CODM Codolo 154.83 347 P PKPdf 11 53 12.5 -2.5
SC2M Scurtabo 154.88 348 P PKPdf 11 53 12.5 -2.5
BACM Baccana 154.89 347 P PKPdf 11 53 12.9 -2.1
SARO Sassorosso 154.90 346 P PKPdf 11 53 12.6 -2.5
ORIF Oris-en-Rattie 154.93 354 ePKIKP PKPdf 11 53 14.5 -0.6
comp=Z,35nm,1.1s
VLC Villacollemand 154.93 346 ePKPdf PKPdf 11 53 12.8 -2.2
VLC ePKPab PKPab 11 53 41.4 -1.3
VINC Vinca 155.00 346 P PKPdf 11 53 12.2 -2.9
MBDF Montbardon 155.02 352 ePKIKP PKPdf 11 53 14.6 -0.6
comp=Z,40nm,1.0s
LFF La Frestale 155.06 3 ePKIKP PKPdf 11 53 14.4 -0.8
comp=Z,26nm,0.8s
VIVF Saint-Julien-l 155.09 356 ePKIKP PKPdf 11 53 14.9 -0.4
comp=Z,47nm,1.2s
SNTG Esanatoglia 155.09 341 PKP PKPdf 11 53 14.6 -0.7
CAF Calviac 155.11 0 ePKIKP PKPdf 11 53 14.6 -0.7
comp=Z,42nm,1.2s
MAIM Mastiano 155.14 346 P PKPdf 11 53 12.7 -2.7
KEK Kerkira 155.19 326 eP PKPdf 11 53 15.5 -0.1
VAM Vamos 155.28 313 eP PKPab 11 53 43.0 -1.5
VLI Veliai 155.37 317 eP PKPab 11 53 38.0 -6.9
STS Santiago 155.41 19 PKIKP PKPdf 11 53 15.6 -0.2
RLS Riolos of Patr 155.43 321 eP PKPab 11 53 44.5 -0.5
RORO Rocca Rossa 155.43 350 P PKPdf 11 53 13.1 -2.7
LKD Levkas 155.45 323 eP PKPdf 11 53 17.2 +1.2
KARN Karanos 155.48 313 eP PKPdf 11 53 22.6 +6.5
SAOF Saorge 155.64 351 PKP PKPdf 11 53 15.3 -0.7
AUTN L'Aution 155.65 351 PKP PKPdf 11 53 15.3 -0.7
TOUF Mont Tournerai 155.66 351 PKP PKPdf 11 53 15.6 -0.5
GVD Gavdhos 155.66 312 eP PKPab 11 53 45.0 -1.2
ITM Ithomi 155.72 319 eP PKPab 11 53 45.0 -1.4
NEGI Seborga 155.75 350 P PKPdf 11 53 13.4 -2.8
LUCF Luceram 155.76 351 PKP PKPdf 11 53 15.5 -0.7
SBF Sospel 155.78 351 ePKIKP PKPdf 11 53 15.1 -1.1
comp=Z,74nm,1.0s
MVIF Mont Vial 155.78 351 PKP PKPdf 11 53 15.8 -0.4
VLS Valsamata 155.85 323 eP PKPdf 11 53 25.2 +8.7
VLS Valsamata 155.85 323 eP PKPab 11 53 45.5 -1.4
SMRF Simiane la Rot 155.89 354 ePKIKP PKPdf 11 53 16.1 -0.3
comp=Z,50nm,1.0s
REVF Revere 155.91 351 PKP PKPdf 11 53 15.7 -0.7
LASF Ste Croix 155.92 357 ePKIKP PKPdf 11 53 16.0 -0.4
comp=Z,68nm,1.1s
CALN Calern 155.96 352 PKP PKPdf 11 53 15.9 -0.6
VILF Villemus 156.00 354 PKP PKPdf 11 53 16.6 +0.1
PRAF Pradon 156.10 355 PKP PKPdf 11 53 16.1 -0.5
FRF La Foret Royal 156.18 352 ePKIKP PKPdf 11 53 15.5 -1.3
comp=Z,25nm,1.0s
TAVF Tavernes 156.20 353 PKP PKPdf 11 53 16.6 -0.2
PUYF Puyloubier 156.32 354 PKP PKPdf 11 53 16.6 -0.3
LMR La Mourre 156.42 352 ePKIKP PKPdf 11 53 16.0 -1.1
comp=Z,36nm,0.9s
ELOB Lobios 156.48 20 PKP PKPdf 11 53 18.6 +1.4
GELF Grande-Etoile 156.50 354 PKP PKPdf 11 53 17.0 -0.2
BERF Bertagne 156.54 354 PKP PKPdf 11 53 17.0 -0.2
EALK Alkurruntz 156.60 7 PKP PKPdf 11 53 19.4 +2.1
PCAB Cabril 156.64 20 ePKPdf PKPdf 11 53 17.3 -0.1
PCAB Cabril 156.64 20 ePKPab PKPab 11 53 49.7 -0.4
MTLF Montolieu 156.69 0 ePKIKP PKPdf 11 53 16.7 -0.7
comp=Z,78nm,1.5s
SJPF Ste Jean 156.74 6 ePKIKP PKPdf 11 53 17.0 -0.5
PGF Pioggiola 156.77 347 ePKIKP PKPdf 11 53 16.4 -1.1
comp=Z,89nm,1.0s
EPF Esparros 156.95 4 ePKIKP PKPdf 11 53 17.2 -0.5
comp=Z,37nm,1.0s
ETSF Etsaut 157.01 5 ePKIKP PKPdf 11 53 17.5 -0.3
comp=Z,11nm,0.6s
TIP Timpagrande 157.12 330 ePKPdf PKPdf 11 53 17.2 -0.9
TIP ePKPab PKPab 11 53 50.1 -2.2
EBIE Bielsa 157.28 4 PKP PKPdf 11 53 17.0 -1.2
MVO Moncorvo 157.44 18 ePKPdf PKPdf 11 53 17.9 -0.5
MVO Moncorvo 157.44 18 ePKPab PKPab 11 53 53.0 -0.6
EJON La Jonquera 157.58 359 PKP PKPdf 11 53 17.7 -0.8
PVIS Viseu 157.58 21 ePKPdf PKPdf 11 53 18.1 -0.5
PVIS Viseu 157.58 21 ePKPab PKPab 11 53 53.4 -0.8
MTE Manteigas 157.98 20 ePKPdf PKPdf 11 53 18.3 -0.8
MTE Manteigas 157.98 20 ePKPab PKPab 11 53 55.4 -0.5
EMIR Miracle 158.11 1 PKP PKPdf 11 53 22.6 +3.3
ESAC San Caprasio 158.19 5 PKP PKPdf 11 53 19.4 +0.1
PCBR Castelo Branco 158.50 21 ePKPdf PKPdf 11 53 19.8 +0.1
PCBR Castelo Branco 158.50 21 ePKPab PKPab 11 53 57.4 -0.8
PMAFR Mafra 158.62 25 ePKPab PKPab 11 53 58.0 -0.8
EPOB Poblet 158.66 2 PKP PKPdf 11 53 18.7 -1.2
GUD Guadarrama 158.68 13 PKIKP PKPdf 11 53 20.2 +0.3
ETOR Torete 158.89 9 PKIKP PKPdf 11 53 20.1 -0.1
PMRV Marv??o 158.90 21 ePKPdf PKPdf 11 53 19.6 -0.6
PMRV Marv??o 158.90 21 ePKPab PKPab 11 53 59.0 -1.0
ERTA Horta de San J 159.01 4 PKP PKPdf 11 53 21.1 +0.8
PESTR Estremoz 159.34 22 ePKPab PKPab 11 54 00.8 -1.1
EVO Evora 159.48 23 ePKIKP PKPdf 11 53 20.2 -0.7
comp=Z,49nm,0.9s
EVO Evora 159.48 23 ePKPdf PKPdf 11 53 20.7 -0.2
EVO Evora 159.48 23 ePKPab PKPab 11 54 01.5 -1.0
EMOS Mosqueruela 159.53 6 PKP PKPdf 11 53 20.9 0.0
EBAD Badajoz 159.64 21 PKP PKPdf 11 53 20.4 -0.6
ESDC Sonseca Array 159.64 14 PKP PKPdf 11 53 20.5 -0.5
comp=Z,3.8nm,0.8s,baz=354,slow=2.7,SNR=17
ESDC PKPab PKPab 11 54 02.4 -0.8
comp=Z,6.7nm,0.8s,baz=352,slow=4.5,SNR=12
ESDC Sonseca Array 159.64 14 PKP PKPdf 11 53 20.1 -1.0
PAB San Pablo 159.68 15 ePKIKP PKPdf 11 53 20.3 -0.8
PBEJ Beja 159.98 24 ePKPdf PKPdf 11 53 21.8 +0.3
PBEJ Beja 159.98 24 ePKPab PKPab 11 54 04.0 -0.7
PTEO Sao Teotonio 160.05 26 ePKPdf PKPdf 11 53 21.5 -0.1
PTEO Sao Teotonio 160.05 26 ePKPab PKPab 11 54 04.5 -0.6
PBAR Barrancos 160.15 22 ePKPdf PKPdf 11 53 21.4 -0.3
PBAR Barrancos 160.15 22 ePKPab PKPab 11 54 04.7 -0.8
ETOS Mallorca 160.25 359 PKP PKPdf 11 53 20.4 -1.3
MORF Marmelete 160.28 27 ePKPdf PKPdf 11 53 22.1 +0.3
MORF Marmelete 160.28 27 ePKPab PKPab 11 54 05.7 -0.4
PFVI Vila Bisbo 160.35 27 ePKPdf PKPdf 11 53 22.1 +0.2
EGRO El Granado 160.55 24 PKP PKPdf 11 53 22.1 0.0
PVAQ Vaqueiros 160.58 24 ePKPdf PKPdf 11 53 22.5 +0.3
PVAQ Vaqueiros 160.58 24 ePKPab PKPab 11 54 06.7 -0.7
PBDV Barranco-do-Ve 160.63 25 ePKPdf PKPdf 11 53 22.6 +0.4
PBDV Barranco-do-Ve 160.63 25 ePKPab PKPab 11 54 07.2 -0.4
EMIN Mina Concepcio 160.64 22 PKP PKPdf 11 53 22.4 +0.2
ECAB El Cabril 160.77 19 PKP PKPdf 11 53 22.2 -0.1
EADA Adamuz 160.92 17 PKP PKPdf 11 53 22.6 +0.1
EVIA Vianos 160.94 11 PKIKP PKPdf 11 53 22.7 +0.2
ETOB Tobarra 161.10 9 PKP PKPdf 11 53 24.5 +1.8
EBAN Banos Encina 161.12 15 PKIKP PKPdf 11 53 22.7 0.0
ELUQ Luque 161.57 17 PKIKP PKPdf 11 53 23.3 +0.1
EQES Quesada 161.63 13 PKP PKPdf 11 53 23.1 -0.2
EHUE Huescar 161.72 12 PKIKP PKPdf 11 53 22.6 -0.7
ESPR Espera 161.73 21 PKP PKPdf 11 53 21.2 -2.1
ELOJ Sierra Loja 161.99 17 PKIKP PKPdf 11 53 22.3 -1.3
ECOG Cogollos-Vega 162.02 15 PKIKP PKPdf 11 53 22.8 -0.9
EJIF Jimena Fronter 162.24 21 PKIKP PKPdf 11 53 22.9 -1.0
KEST Kesra 163.09 340 PKP PKPdf 11 53 24.2 -0.5
comp=Z,3.3nm,0.9s,baz=326,slow=5.8,SNR=6.0
KEST PKPab PKPab 11 54 18.1 -0.3
comp=Z,9.2nm,0.8s,baz=351,slow=2.7,SNR=12
EALB Alboran 163.42 15 PKP PKPdf 11 53 23.0 -2.0
LIC Lamto 164.63 152 ePKIKP PKPdf 11 53 24.6 -2.2
comp=Z,154nm,1.2s
LIC Lamto 164.63 152 ePKIKP PKPdf 11 53 25.1 -1.7
comp=Z,172nm,1.2s
KIC Kosan Boka 164.88 152 ePKIKP PKPdf 11 53 25.3 -1.7
comp=Z,225nm,1.0s
TIC Toumodi 165.00 151 ePKIKP PKPdf 11 53 25.5 -1.6
comp=Z,265nm,1.1s
DBIC Dimbokro 165.10 152 PKP PKPdf 11 53 25.6 -1.5
comp=Z,30nm,1.0s,baz=179,slow=1.5,SNR=22
DBIC PKPab PKPab 11 54 26.8 -1.1
comp=Z,5.3nm,0.6s,baz=158,slow=6.9,SNR=4.9
DBIC Dimbokro 165.10 152 PKP PKPdf 11 53 25.6 -1.5
DBIC PKPab PKPab 11 54 26.8 -1.1
TORD Torodi Ar. Bea 173.20 176 PKP PKPdf 11 53 30.0 -2.0
comp=Z,27nm,0.9s,baz=324,slow=1.0,SNR=102
TORD PKPab PKPab 11 55 03.2 -0.3
comp=Z,2.3nm,0.6s,baz=162,slow=3.7,SNR=6.6
TORD PP PP 11 58 56.7 +2.2
comp=Z,6.4nm,1.1s,baz=179,slow=2.6,SNR=5.5
TORD Torodi Ar. Bea 173.20 176 PKP PKPdf 11 53 30.0 -2.0
TORD PKPab PKPab 11 55 03.2 -0.3
TORD PP PP 11 58.0 -0.8
TAM Tamanrasset 175.84 313 ePKIKP PKPdf 11 53 32.8 +0.2

MOS 23 12:04:17.4±0.0, 4625N×15449E, h34km, mb4.4/3, 1C,
Error ellipse: s-maj=34.9km s-min=18.5km az=80.8,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.57	13	ePN	Pn	12 05 19.5	-4.5
MJAR	Matsushiro Arr	15.57	237	eP	Pn	12 07 51.3	-2.9
YAK	Yakutsk	21.26	327	eP	P	12 09 00.3	0.0
YAK				pmax	pmax		
comp=Z,6.0nm,0.7s							
BILL	Bilibino	22.68	11	i P	P	12 09 15.5	+0.1
BILL				pmax	pmax		
comp=Z,23nm,2.0s							
TLY	Talaya	33.25	298	eP	P	12 10 50.9	-0.2
TLY				pmax	pmax		
comp=Z,6.0nm,1.3s							
COLA	College	35.94	38	⇑iP	P	12 11 12.4	-1.8
KURK	Kurchatov	48.43	305	i P	P	12 12 57.5	+1.5
TXAR	Lajitas Array	76.90	61	eP	P	12 16 06.3	+0.1

*ISCJB **23** 12:39:58.8±0.6, 3993N±003×29.18E±004, h5km±6km,*
Error ellipse: s-maj=6.0km s-min=4.5km az=28.6
*ISK **23** 12:39:58.5, 3991N×2917E, h9km, MD2.7*
*DDA **23** 12:39:58.9, 3994N×2916E, h7km±2km, Md2.9*
*CSEM **23** 12:39:58.2±0.1, 3990N×2919E, h8km, MD2.9, Error ellipse: s-maj=1.6km s-min=1.2km az=107.0*
ISC 23 12:39:59.3±0.5, 3993N±002×2917E±004, h10km±4km, n22,
σ0§49/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	Uludag	0.21	353	i P	Pg	12 40 03.8	+0.1
ULDT				i S	Sg	12 40 06.7	+0.1
GEMT	Gemlik	0.50	2	ePG	Pg	12 40 09.3	+0.2
DST	Dursunbey	0.53	232	ePG	Pg	12 40 09.1	-0.5
DST				eSG	Sg	12 40 16.7	+0.1
YLV	Yalova	0.65	14	ePG	Pg	12 40 12.0	+0.1
ADVT	Abdulvahap	0.66	41	ePG	Pg	12 40 11.9	-0.2
KCT	Karacabey	0.71	298	ePG	Pg	12 40 12.7	-0.3
GDZ	Gediz	0.88	164	i P	Pg	12 40 15.9	-0.3
GDZ				i S	Sg	12 40 28.4	+0.8
BTOK	Tokmak	0.89	259	i P	Pg	12 40 16.3	-0.2
BTOK				i S	Sg	12 40 27.5	-0.6
DEMI	Demirci	0.96	202	i P	Pg	12 40 17.7	0.0
DEMI				i S	Sg	12 40 31.0	+0.9
HRT	Hereke	0.96	23	ePG	Pg	12 40 18.4	+0.5
BALB	Balikesir	1.04	254	ePG	Pg	12 40 18.5	-0.7
ISK	Istanbul-Kandi	1.13	356	ePN	Pn	12 40 21.1	-0.1
ALT	Altintas	1.14	140	ePN	Pn	12 40 20.3	-1.0
BALY	Balya	1.21	261	i P	Pn	12 40 22.0	-0.3
BALY				i S	Sb	12 40 38.5	+0.6
SILT	Sile	1.27	16	ePN	Pn	12 40 23.2	+0.1
KLYT	Kilyos	1.32	356	ePN	Pn	12 40 24.1	+0.3
KULA	Kula-Manisa	1.47	196	ePN	Pn	12 40 25.4	-0.5
AKHS	Akhisar	1.49	225	i P	Pn	12 40 27.1	+1.0
AKHS				i S	Sn	12 40 46.1	+0.5
AKS	Akhisar	1.49	225	ePN	Pn	12 40 25.6	-0.5
KHL	Karahalli	1.63	170	ePN	Pn	12 40 27.4	-0.6
MFT	Murefte	1.68	301	ePN	Pn	12 40 28.9	+0.3
RKY	Sarkoy-Tekirda	1.70	297	ePN	Pn	12 40 29.2	+0.2

*ISCJB **23** 12:47:09.4±1.4, 203S±01×1780W±02, h488km±17km,*
mb3.7/11, Error ellipse: s-maj=30.0km s-min=14.3km az=42.9
*IDC **23** 12:47:09.9±2.1, 2033S×17789W, h484km±25km, mb3.3/9, mb1 3.6/11, mb1mx3.4/17, mbtmp3.3/11, Error ellipse: s-maj=27.4km s-min=13.8km az=144.0*
*NEIC **23** 12:47:10.7±1.4, 2036S×17790W, h499km±16km, mb4.2/2, Error ellipse: s-maj=25.5km s-min=13.7km az=136.0*
ISC 23 12:47:09.8±1.4, 203S±02×1779W±02, h483km±17km, n19,
σ0§89/17, mb3.7/11, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.64	43	P	P	12 49 14.4	+1.8
2.7nm,0.3s,baz=54,slow=16,SNR=5.0							
AFI				S	S	12 50 52.3	-1.1
3.1nm,0.3s,baz=51,slow=22,SNR=5.6							
AFI	Afiamalu	8.64	43	P	P	12 49 14.4	+1.8
AFI				S	S	12 50 52.3	-1.1
URZ	Urewera	18.41	193	P	P	12 50 53.6	-1.0
0.9nm,0.3s,baz=186,slow=7.6,SNR=5.8							
ASAR	Alice Springs	44.67	257	P	P	12 54 39.1	+0.3
2.5nm,0.8s,mb3.7,baz=95,slow=7.8,SNR=35							
ASAR				PcP	PcP	12 56 10.6	-0.8
0.7nm,0.7s,baz=96,slow=4.6,SNR=8.9							
WRA	Warramunga Arr	44.73	262	P	P	12 54 39.2	-0.2
1.4nm,0.6s,mb3.6,baz=97,slow=7.5,SNR=26							
MJAR	Matsushiro Arr	70.12	324	P	P	12 57 32.2	-0.6
0.9nm,0.6s,mb3.5,baz=156,slow=9.4,SNR=4.7							
PETK	Petropavlovsk-	76.11	345	P	P	12 58 06.1	-0.8
4.8nm,0.9s,mb4.0,baz=102,slow=14,SNR=5.5							
KSRS	Korea Array	76.82	318	P	P	12 58 11.7	+0.6
0.3nm,0.3s,mb3.3,baz=128,slow=4.9,SNR=3.9							
NVAR	Mina Array Bea	80.81	43	P	P	12 58 33.7	+1.2
0.9nm,0.7s,mb3.4,baz=220,slow=9.5,SNR=7.8							
NVAR	Mina Array Bea	80.81	43	P	P	12 58 33.7	+1.2
TRF	Thorofare Moun	86.24	12	eP	P	12 58 58.1	-0.8
4.0nm,0.7s,mb4.2							
TXAR	Lajitas Array	86.86	57	P	P	12 59 03.5	+0.8
0.7nm,0.7s,mb3.5,baz=224,slow=7.1,SNR=6.4							
PDAR	Pinedale Array	88.75	43	P	P	12 59 11.2	-0.1
0.9nm,0.8s,mb3.6,baz=236,slow=2.7,SNR=7.3							
COLD	Coldfoot	89.67	10	P	P	12 59 14.1	-0.9
3.2nm,1.1s,mb4.1							
CMAR	Chiang Mai Arr	90.15	290	P	P	12 59 19.3	+1.0
1.9nm,0.9s,mb3.9,baz=129,slow=3.5,SNR=11							
MKAR	Makanchi Array	111.15	313	PKIKP	PKiKP	13 04 46.0	-1.8
0.2nm,0.4s,baz=223,slow=6.6,SNR=3.6							
MKAR	Makanchi Array	111.15	313	PKPdf	PKiKP	13 04 46.0	-1.8
AKASG	Malin Array Be	142.90	331	PKhKP		13 05 43.5	
3.0nm,0.6s,baz=43,slow=4.4,SNR=12							
CLL	Collm	147.90	347	⇓iPKPbc	PKPbc	13 05 59.0	-0.8
comp=Z,8.0nm,0.9s							
CLL				i PKPab	PKPab	13 06 03.4	-0.6

*DDA **23** 12:50:12.4, 3682N×2798E, h7km±5km, Md2.8*
*ISCJB **23** 12:50:15.8±1.0, 3695N±007×2782E±004, h10km, Error ellipse: s-maj=9.6km s-min=4.6km az=1.9*
*CSEM **23** 12:50:15.9±0.1, 3705N×2782E, h10km, MD2.8, Error ellipse: s-maj=4.1km s-min=2.3km az=11.0*
*ISK **23** 12:50:16.0, 3703N×2782E, h6km, MD2.8*
ISC 23 12:50:16.0±1.2, 3695N±007×2781E±004, h14km±9km, n8,
σ0§61/14, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.32	291	i P	Pg	12 50 21.9	-0.6
BDRM				i S	Sg	12 50 27.2	+0.3
MLSB	Milas	0.34	355	ePG	Pg	12 50 21.8	-1.2
YER	Yerkesik	0.42	64	ePG	Pg	12 50 24.1	-0.3
YER				eSG	Sg	12 50 29.9	-0.1
BODT	Bodrum	0.42	285	ePG	Pg	12 50 24.4	+0.1
BODT				eSG	Sg	12 50 30.5	+0.5
TURN	Turunc	0.64	97	i P	Pg	12 50 22.7	-5.7
TURN				i S	Sg	12 50 29.2	-7.6
DALT	Dalyan (Mudla)	0.69	105	ePG	Pg	12 50 30.2	+0.9
AYDN	Tasoluk	0.71	4	i P	Pg	12 50 29.4	-0.4
AYDN				i S	Sg	12 50 40.1	+1.0
GCAM	G?zelcaml?	0.88	328	i P	Pb	12 50 32.5	-0.5
GCAM				i S	Sb	12 50 44.9	+0.3

MAN 23 13:14:52, 1333N×12034E, h24km, mb4.2, ML3.0, MS2.7,
1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.41	347	eP	Pb	13 15 01.4	+0.6
LUBP				eS	Sb	13 15 08.6	+1.9
TGY	Tagaytay City	0.96	37	⇑eP	Pb	13 15 09.9	-0.1
TGY				i S	Sb	13 15 23.5	+1.3
SJMP	San Jose	1.15	139	eP	Pn	13 15 12.9	+0.3
SJMP				eS	Sn	13 15 27.9	+0.3
LBPH	Los Banos	1.15	45	⇓eP	Pn	13 15 12.3	-0.3
BUSP	Coron	1.33	186	eP	Pn	13 15 15.7	+0.6
BUSP				eS	Sn	13 15 32.4	+0.4
NBP	Mount Natib	1.40	3	⇓eP	Pn	13 15 16.6	+0.5
NBP				i S	Sn	13 15 34.8	+0.9
OTRP	Odiongan	1.90	120	eP	Pn	13 15 26.9	+4.0
CUYO	Cuyo Island	2.55	165	eP	Pn	13 15 40.8	+8.8
BALP	Baler	2.68	26	eP	Pn	13 15 34.6	+1.0

*NIED **23** 13:46:00, 3620N×14000E, h53km, Mw3.4 Best double couple: M0 1.33000×10^14 NP1:φs 132.00000°, δ88.00000°, λ-173.00000°. NP2:φs 42.00000°, δ83.00000°, λ-2.00000°.*
*ISCJB **23** 13:46:23.6±0.9, 3616N±006×14001E±008, h61km±7km, mb3.3/2, Error ellipse: s-maj=12.9km s-min=7.9km az=135.7*
*IDC **23** 13:46:23.2±4.1, 3622N×14019E, h48km±32km, mb3.1/2, mb1 3.4/3, mb1mx3.2/22, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=44.3km s-min=9.7km az=53.0*
*JMA **23** 13:46:24.9±0.1, 3620N×13999E, h53km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs 179.00000°, δ7.00000°, λ57.00000°. NP2: φs 33.00000°, δ84.00000°, λ94.00000°. Principal axes: T Plg51.0000°, Azm307.0000°; N Plg4.0000°, Azm212.0000°; P Plg39.0000°, Azm119.0000°;*
JMA Felt I J1.
ISC 23 13:46:24.7±0.9, 3618N±006×14000E±008, h54km±7km, n9,
**σ0§70/16, mb3.3/2, 1C

WRA Warramunga Arr 56.07 186 P **P** 13 55 57.6 -0.5
0.3nm,0.5s,mb3.6,baz=1.7,slow=7.5,SNR=7.5

NEIC 23 13:56:07.9,4552S×16699E,h110km,MG3.8(WEL),After WEL.,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.12**	**70**	P	Pn	13 56 22.7	-0.4
DCZ				S	Sn	13 56 32.6	-1.8
WHZ	**Wether Hill Ro**	**0.77**	**120**	P	Pn	13 56 26.8	0.0
WHZ				S	Sn	13 56 39.9	-1.2
MLZ	**Mavora Lakes**	**0.85**	**79**	P	Pn	13 56 27.2	-0.4
MSZ	**Milford Sound**	**1.08**	**38**	P	Pn	13 56 30.0	+0.1
MSZ				S	Sn	13 56 45.6	-0.8
WKZ	**Wanaka**	**1.59**	**65**	P	Pn	13 56 36.2	+0.4
EAZ	**Earnscleugh**	**1.66**	**81**	P	Pn	13 56 36.6	0.0
TUZ	**Tuapeka**	**1.90**	**104**	P	Pn	13 56 39.6	0.0
JCZ	**Jackson Bay**	**1.92**	**42**	P	Pn	13 56 40.1	+0.3
LBZ	**Lake Benmore**	**2.54**	**65**	P	Pn	13 56 46.4	-1.3
ODZ	**Otahua Downs**	**2.62**	**81**	P	Pn	13 56 47.7	-1.2
FOZ	**Fox Glacier**	**2.75**	**46**	P	Pn	13 56 49.5	-1.0
RPZ	**Rata Peaks**	**3.42**	**60**	P	Pn	13 56 57.5	-1.9
LTZ	**Lake Taylor**	**4.68**	**56**	P	Pn	13 57 14.1	-2.3
DSZ	**Denniston Nort**	**5.14**	**44**	P	Pn	13 57 20.4	-2.2
THZ	**Tophouse**	**5.70**	**51**	P	Pn	13 57 27.9	-2.2

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*MOS **23** 14:00:52.8±0.8,3646N×7056E,h208km,mb4.1/10,Error ellipse: s-maj=11.8km s-min=7.4km az=87.7*
*IDC **23** 14:00:52.1±4.7,3632N×7052E,h190km±44km,mb3.7/13, mb1 3.8/16,mb1mx3.7/25,mbtmp3.7/16,MS3.5/1, Ms1 3.5/1,ms1mx2.2/36,Error ellipse: s-maj=21.5km s-min=12.0km az=21.0*
*ISCJB **23** 14:00:52.4±0.3,3649N±002×7059E±005,h202km±4km, mb3.9/25,Error ellipse: s-maj=6.3km s-min=3.8km az=168.6*
*NEIC **23** 14:00:53.4±0.5,3648N×7058E,h197km±5km,mb4.3/13, Error ellipse: s-maj=7.6km s-min=4.3km az=58.0*
*BJI **23** 14:00:53.1,3651N×7061E,h192km,mB4.6,mb4.3*
*NNC **23** 14:01:00.9±7.3,3715N×7057E,h198km±60km,mb3.4, mpv5.2,Error ellipse: s-maj=71.6km s-min=34.5km az=0.0*

ISC 23 14:00:53.3±0.3,3649N±002×7058E±005,h194km±4km, n106,σ0§94/116,mb3.9/25,12C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.31**	**213**	*e*PN	**Pn**	**14 01 35.6**	**+0.8**
KBL				*e*S	**Sn**	**14 02 06.1**	**-0.9**
CEP	**Cherat**	**2.87**	**157**	⇑P	**Pn**	**14 01 43.0**	**+1.9**
CEP				S	**Sn**	**14 02 19.0**	**+0.6**
CHCP	**Chirah Chowk**	**3.58**	**141**	⇓P	**Pn**	**14 01 51.8**	**+2.2**
THW	**Thamme Wali**	**3.81**	**165**	P	**Pn**	**14 01 53.5**	**+1.0**
SARP	**Sargodha**	**4.87**	**159**	P	**Pn**	**14 02 07.4**	**+1.5**
JMU	**Jammu**	**5.18**	**135**	*e*S	**Sn**	**14 03 02.0**	**-8.1**
KSH	**Kashi**	**5.22**	**53**	P	**Pn**	**14 02 11.4**	**+1.1**
KSH				S	**Sn**	**14 03 09.8**	**-1.2**
KSH				Smax			
	comp=N,1μm,0.4s						
KSH				Smax			
	comp=E,2μm,1.1s						
THN	**Thein Dam**	**5.86**	**132**	*e*P	**Pn**	**14 02 18.7**	**+0.1**
THN				*ex*	x	14 03 24.7	
DLH	**Dalhousie**	**5.94**	**130**	*e*P	**Pn**	**14 02 19.0**	**-0.6**
DLH				*ex*	x	14 03 25.0	
AML	**Almayashu**	**6.13**	**22**	P	**Pn**	**14 02 22.2**	**+0.2**
	SNR=889						
AML	**Almayashu**	**6.13**	**22**	*e*Pn	**Pn**	**14 02 22.2**	**+0.2**
	comp=E,541nm,0.5s						
AML				*e*Sn	**Sn**	**14 03 29.9**	**-2.3**
UCH	**Uchtor**	**6.49**	**27**	*e*Pn	**Pn**	**14 02 27.0**	**+0.3**
KK31	**Karatay Array**	**6.61**	**360**	⇓Pn	**Pn**	**14 02 28.1**	**-0.1**
	comp=E,37nm,0.3s,baz=175,slow=13,SNR=597						
KK31				⇑Sn	**Sn**	**14 03 37.0**	**-6.5**
	comp=E,11nm,0.3s,baz=185,slow=20,SNR=8.5						
EKS2	**Erkin-Say**	**6.64**	**21**	P	**Pn**	**14 02 28.9**	**+0.3**
	SNR=125						
EKS2	**Erkin-Say**	**6.64**	**21**	*e*Pn	**Pn**	**14 02 28.7**	**0.0**
	comp=E,76nm,0.4s						
EKS2				*e*Sn	**Sn**	**14 03 40.3**	**-4.0**
KZA	**Kyzart**	**6.65**	**32**	P	**Pn**	**14 02 28.8**	**0.0**
	SNR=100						
AAK	**Ala-Archa**	**6.84**	**25**	P	**Pn**	**14 02 31.0**	**-0.2**
	SNR=16						
KBK	**Karagaybulak**	**7.02**	**27**	P	**Pn**	**14 02 34.3**	**+0.6**
	SNR=69						
ULHL	**Ulahol**	**7.23**	**36**	P	**Pn**	**14 02 36.8**	**+0.5**
	SNR=28						
CHMS	**Chumysh**	**7.25**	**25**	P	**Pn**	**14 02 36.3**	**-0.3**
	SNR=51						
SDNR	**Sundarnagar**	**7.27**	**131**	*e*P	**Pn**	**14 02 36.0**	**-1.0**
SDNR				*e*S	**Sn**	**14 03 53.6**	**-5.7**
USP	**Ospenovka**	**7.41**	**23**	P	**Pn**	**14 02 38.3**	**-0.4**
	SNR=61						
TKM2	**Tokmak 2**	**7.50**	**29**	⇑Pn	**Pn**	**14 02 39.8**	**0.0**
	comp=E,136nm,0.5s						
TKM2				⇑Sn	**Sn**	**14 03 59.1**	**-5.3**
	comp=E,22nm,0.8s						
TKM2	**Tokmak 2**	**7.50**	**29**	*e*PN	**Pn**	**14 02 40.0**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,211nm,0.5s						
TKM2	**Tokmak 2**	**7.50**	**29**	P	**Pn**	**14 02 40.0**	**+0.2**
	SNR=315						
TKM2	**Tokmak 2**	**7.50**	**29**	*e*Pn	**Pn**	**14 02 40.0**	**+0.2**
	comp=Z,211nm,0.5s						
SMLA	**Simla**	**7.65**	**132**	*i* P	**Pn**	**14 02 41.4**	**-0.6**
SMLA				*e*S	**Sn**	**14 04 02.2**	**-6.1**
KLP	**Kalpa**	**8.06**	**126**	*e*P	**Pn**	**14 02 45.3**	**-1.9**
KLP				*ex*	x	14 04 05.4	
KLP				AML	AML	14 04 20.3	
	comp=E,204nm,0.5s						
KLP				AML	AML	14 04 20.4	
	comp=N,131nm,0.5s						
JOSI	**Joshimath**	**9.54**	**126**	*e*S	**Sn**	**14 04 46.5**	**-6.8**
JOSI				AML	AML	14 04 51.3	
	comp=N,156nm,0.6s						
JOSI				AML	AML	14 04 51.5	
	comp=E,118nm,0.5s						
NDI	**New Delhi**	**9.58**	**142**	*e*P	**Pn**	**14 03 05.5**	**-1.7**
NDI				*ex*	x	14 04 43.0	
AYAN	**Aya Nagar**	**9.71**	**143**	*e*P	**Pn**	**14 03 07.5**	**-1.3**
AYAN				*e*S	**Sn**	**14 04 48.6**	**-8.6**
SONA	**Sohna**	**9.88**	**144**	*e*P	**Pn**	**14 03 08.4**	**-2.7**
SONA				*i* x	x	14 03 57.2	
SONA				*e*S	**Sn**	**14 04 51.8**	**-10**
AJM	**Ajmer**	**10.56**	**160**	*e*P	**Pn**	**14 03 18.7**	**-1.2**
AJM				*ex*	x	14 05 09.8	
BHJ	**Bhuj**	**13.21**	**184**	*e*P	**Pn**	**14 03 53.0**	**-0.7**
BHJ				*ex*	x	14 06 11.8	
MK31	**Makanchi Array**	**13.50**	**37**	⇑P	**Pn**	**14 03 58.5**	**+1.5**
	comp=E,12nm,0.6s,baz=234,slow=11,SNR=87						
MKAR	**Makanchi Array**	**13.50**	**37**	P	**Pn**	**14 03 56.9**	**-0.1**
	comp=E,2.2nm,0.3s,baz=216,slow=12,SNR=57						
DANN	**Dangsing**	**13.76**	**122**	*e*P	**Pn**	**14 04 00.7**	**+0.2**
	comp=E,15nm,0.3s						
KOLN	**Koldanda**	**14.03**	**125**	*e*P	**Pn**	**14 04 04.2**	**+0.4**
	comp=E,6.1nm,0.3s						
BHPL	**Bhopal**	**14.47**	**154**	*ex*	x	14 04 12.7	
BHPL				*ex*	x	14 06 41.1	
GKN	**Gorkha**	**14.58**	**121**	*e*P	**Pn**	**14 04 11.0**	**+0.4**
GKN				*e*S	**Sn**	**14 06 42.7**	**-11**
AB31	**Akbulak array**	**14.94**	**332**	⇑P	**Pn**	**14 04 15.4**	**+0.7**
	comp=E,3.4nm,0.5s,baz=144,slow=12,SNR=74						
WMQ	**Urumqi**	**14.98**	**55**	*e*P	**Pn**	**14 04 16.0**	**+0.7**
DMN	**Daman**	**15.15**	**122**	*e*P	**Pn**	**14 04 18.8**	**+1.2**
KKN	**Kakani**	**15.16**	**121**	*e*P	**Pn**	**14 04 17.6**	**-0.1**
KURBB	**Kurchatov Arra**	**15.24**	**20**	⇓P	**Pn**	**14 04 16.4**	**-2.1**
	comp=E,0.8nm,0.7s						
KURK	**Kurchatov**	**15.35**	**20**	*c i*P	**Pn**	**14 04 20.5**	**+0.7**
KURK				pmax	pmax		
	comp=Z,4μm,0.7s						
KURK	**Kurchatov**	**15.35**	**20**	*e*Pn	**Pn**	**14 04 18.4**	**-1.4**
	comp=Z,2.8nm,0.6s						
PKI	**Pulchoki**	**15.38**	**121**	*e*P	**Pn**	**14 04 20.0**	**-0.4**
GUN	**Gumba**	**15.50**	**119**	*e*P	**Pn**	**14 04 21.5**	**-0.4**
JIRN	**Jiri**	**15.87**	**119**	*e*P	**Pn**	**14 04 26.5**	**+0.2**
VOSK	**Vostochnaya**	**16.24**	**1**	⇑P	**Pn**	**14 04 30.1**	**-0.4**
	comp=Z,6.0nm,0.6s						
BVA0	**Borovoye Array**	**16.54**	**360**	⇑P	**Pn**	**14 04 34.4**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=160,slow=12,SNR=7.1						
BVAR	**Borovoye Array**	**16.54**	**360**	P	**Pn**	**14 04 33.6**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=177,slow=10,SNR=26						
BRVK	**Borovoye**	**16.57**	**359**	*e*P	**Pn**	**14 04 33.8**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BRVK	**Borovoye**	**16.57**	**359**	*e*P	**Pn**	**14 04 33.8**	**-0.6**
	comp=Z,4.9nm,0.5s						
RAMN	**Ramite**	**16.60**	**120**	*e*P	**Pn**	**14 04 35.1**	**+0.1**
	comp=Z,21nm,0.4s						
RAMN				*e*S	**S**	**14 07 30.4**	**-7.3**
AKTK	**Aktyubinsk**	**16.63**	**331**	P	**Pn**	**14 04 35.0**	**-0.2**
AKTO	**Aktyubinsk**	**16.63**	**331**	⇑P	**Pn**	**14 04 35.2**	**+0.1**
	comp=Z,3.1nm,1.2s						
AKTO	**Aktyubinsk**	**16.63**	**331**	P	**Pn**	**14 04 35.0**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=144,slow=11,SNR=14						
TAPN	**Taplejung**	**17.14**	**117**	*e*P	**Pn**	**14 04 42.2**	**+0.7**
ODAN	**Odare**	**17.21**	**119**	*e*P	**Pn**	**14 04 42.6**	**+0.3**
LSA	**Lhasa**	**18.50**	**106**	P	**P**	**14 04 58.3**	**+3.4**
LSA	**Lhasa**	**18.50**	**106**	*e*P	**P**	**14 04 58.0**	**+3.1**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LSA	**Lhasa**	**18.50**	**106**	*e*P	**P**	**14 04 58.0**	**+3.2**
	comp=Z,8.8nm,0.6s						
ZAL	**Zalesovo**	**20.05**	**25**	P	**P**	**14 05 11.8**	**+0.5**
ZALV	**Zalesovo Beam**	**20.07**	**25**	P	**P**	**14 05 11.8**	**+0.3**
	comp=Z,9.8nm,0.3s,baz=219,slow=11,SNR=45						
HYB	**Hyderabad**	**20.26**	**158**	*i* P	**P**	**14 05 16.0**	**+2.1**
HYB	**Hyderabad**	**20.26**	**158**	*e*P	**P**	**14 05 18.0**	**+4.1**
SHL	**Shillong**	**21.21**	**115**	*ex*	x	14 05 27.0	
ARU	**Arti**	**21.54**	**342**	*c i*P	**P**	**14 05 26.8**	**-0.2**
ARU				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.4						
ARU	**Arti**	**21.54**	**342**	*e*P	**P**	**14 05 27.4**	**+0.4**
	comp=Z,9.4nm,0.8s,mb4.4						
GTA	**Gaotai**	**23.19**	**74**	P	**P**	**14 05 44.8**	**+2.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.0						
ZAK	**Zakamensk**	**27.25**	**49**	*e*P	**P**	**14 06 18.9**	**-0.3**
ZAK				*e*		14 07 24.7	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.7						
TLY	**Talaya**	**27.89**	**47**	*e*P	**P**	**14 06 24.3**	**-0.5**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
SONM	**Songino Array**	**28.62**	**55**	P	**P**	**14 06 32.1**	**+0.8**
	comp=Z,0.7nm,0.4s,mb3.6,baz=246,slow=11,SNR=2.7						
CMAR	**Chiang Mai Arr**	**30.74**	**118**	P	**P**	**14 06 50.8**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.5,baz=298,slow=8.2,SNR=7.0						
AKASG	**Malin Array Be**	**32.69**	**309**	P	**P**	**14 07 07.3**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.3,baz=79,slow=7.9,SNR=5.9						
BOD	**Bodaibo**	**35.57**	**39**	*e*P	**P**	**14 07 32.2**	**+0.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb3.8						
JOF	**Joensuu**	**35.71**	**330**	*e*p	**P**	**14 07 33.6**	**+0.8**
	comp=Z,7.8nm,0.3s,mb4.7						
JOF	**Joensuu**	**35.71**	**330**	*e*P	**P**	**14 07 33.6**	**+0.8**
JOF				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb4.7						
KAF	**Kangasniemi**	**37.45**	**327**	*e*p	**P**	**14 07 47.6**	**+0.1**
	comp=Z,2.3nm,0.5s,mb4.0,baz=112,slow=8.4						
KAF	**Kangasniemi**	**37.45**	**327**	*e*P	**P**	**14 07 47.6**	**+0.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
KEV	**Kevo**	**40.69**	**338**	*e*p	**P**	**14 08 14.4**	**+0.2**
	comp=Z,0.9nm,0.3s,mb3.7						
KEV	**Kevo**	**40.69**	**338**	*e*P	**P**	**14 08 14.4**	**+0.2**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
ARCES	**ARCESS Array B**	**41.03**	**338**	P	**P**	**14 08 17.9**	**+0.9**
	comp=Z,5.0nm,0.6s,mb4.1,baz=112,slow=7.5,SNR=24						
YAK	**Yakutsk**	**44.17**	**35**	⇑*i* P	**P**	**14 08 42.6**	**+0.2**
NB2	**NORSAR Subarra**	**44.19**	**323**	P	**P**	**14 08 42.5**	**0.0**
	comp=Z,5.7nm,0.5s,mb4.2,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.19**	**323**	P	**P**	**14 08 43.1**	**+0.6**
	comp=Z,6.3nm,0.7s,mb4.1,baz=97,slow=7.7,SNR=24						
KSRS	**Korea Array**	**45.20**	**71**	P	**P**	**14 08 51.5**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.2,baz=275,slow=7.0,SNR=6.1						
KSRS	**Korea Array**	**45.20**	**71**	P	**P**	**14 08 51.5**	**+0.6**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
TIXI	**Tiksi**	**45.91**	**22**	*e*P	**P**	**14 08 56.1**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.0						
KMBO	**Kilima Mbogo**	**48.58**	**227**	LR	LR	14 32 01.6	
	comp=Z,46nm,18.6s,baz=116,slow=39						
BILL	**Bilibino**	**58.77**	**26**	*i* P	**P**	**14 10 29.5**	**-0.9**
BILL				pmax	pmax		
	comp=Z,16nm,2.3s,mb4.2						
PETK	**Petropavlovsk-**	**60.21**	**44**	P	**P**	**14 10 40.4**	**-0.1**
	comp=Z,1.5nm,0.7s,mb3.7,baz=316,slow=8.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**65.38**	**268**	P	**P**	**14 11 13.6**	**-1.6**
	comp=Z,2.1nm,0.5s,mb4.1,baz=50,slow=6.0,SNR=11						
TORD	**Torodi Ar. Bea**	**65.38**	**268**	P	**P**	**14 11 13.6**	**-1.6**
DBIC	**Dimbokro**	**74.36**	**267**	P	**P**	**14 12 09.2**	**-0.7**
	comp=Z,1.4nm,0.5s,mb3.9,baz=358,slow=4.9,SNR=3.7						
COLA	**College**	**74.58**	**16**	*e*P	**P**	**14 12 10.8**	**+0.4**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
COLA	**College**	**74.58**	**16**	*e*P	**P**	**14 12 10.8**	**+0.4**
	comp=Z,5.1nm,0.8s,mb4.2						
TRF	**Thorofare Moun**	**75.22**	**18**	*e*P	**P**	**14 12 15.1**	**+1.0**
	comp=Z,2.3nm,0.8s,mb3.9						
YKA	**Yellowknife Ar**	**81.27**	**2**	P	**P**	**14 12 47.5**	**+0.2**
	comp=Z,1.4nm,0.7s,mb3.7,baz=352,slow=5.4,SNR=9.6						
YKA	**Yellowknife Ar**	**81.27**	**2**	P	**P**	**14 12 47.5**	**+0.2**
WRA	**Warramunga Arr**	**82.27**	**122**	P	**P**	**14 12 51.8**	**-1.3**
	comp=Z,2.5nm,0.7s,mb4.0,baz=324,slow=4.9,SNR=50						
WRAB	**Tennant Creek**	**82.27**	**122**	*e*P	**P**	**14 12 51.3**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
WRAB	**Tennant Creek**	**82.27**	**122**	*e*P	**P**	**14 12 51.3**	**-1.8**
	comp=Z,4.4nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**84.52**	**125**	P	**P**	**14 13 03.2**	**-1.3**
	comp=Z,1.4nm,0.5s,mb3.9,baz=315,slow=4.6,SNR=29						

IDC 23 14:18:11.0±48.0,1612S×17392W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/16,mbtmp3.8/3,Error ellipse: s-maj=909.5km s-min=179.6km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.25**	**240**	P	P	14 26 15.5	+1.2
	0.8nm,0.6s,baz=76,slow=8.3,SNR=3.9						
WRA	**Warramunga Arr**	**49.20**	**257**	P	P	14 27 00.6	-0.8
	0.3nm,0.5s,baz=97,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**49.41**	**252**	P	P	14 27 02.9	-0.2
	2.0nm,0.5s,baz=91,slow=8.3,SNR=57						

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*NEIC **23** 14:26:36.6,3219S×7162W,h0km,ML2.8(GUC),After GUC.*

GUC 23 14:26:36.6±0.6,3219S×7162W,h0km±5km,MD3.5,ML2.8, 6C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.32**	**18**	⇓*i*P	Pg	14 26 42.9	+0.2
CHNG				*i* S	Sg	14 26 48.4	+1.4
CHNG				AML	AML	14 26 49.0	
	comp=E,1μm,0.4s						
JACH	**Jahuel**	**1.00**	**120**	⇑*i*P	Pg	14 26 56.1	+0.4
JACH				*i* S	Sg	14 27 11.0	+2.4
RCDM	**Rinconada Maip**	**1.47**	**152**	*i* P	Pn	14 27 03.1	-1.2
RCDM				*i* S	Sg	14 27 23.7	0.0
RCDM				AML	AML	14 27 25.5	
	comp=E,271nm,0.2s						
RCDM	**Rinconada Maip**	**1.47**	**152**	*i* P	Pn	14 27 03.1	-1.2
RCDM				*i* S	Sg	14 27 23.7	0.0
TACH	**Talagante**	**1.57**	**159**	⇑*i*P	Pn	14 27 04.8	-0.9
TACH				*i* S	Sn	14 27 26.7	0.0
FCH	**Farellones**	**1.59**	**136**	⇓*i*P	Pn	14 27 05.0	-1.1
FCH				*i* S	Sn	14 27 27.4	0.0
FCH				AML	AML	14 27 30.2	
	comp=E,145nm,0.1s						
PCH	**Pirque**	**1.70**	**147**	*i* P	Pn	14 27 07.3	-0.2
PCH				*i* S	Sn	14 27 30.6	+0.5
LNV	**Longovilo**	**1.77**	**174**	*i* P	Pn	14 27 08.5	0.0
LNV				*i* S	Sn	14 27 32.3	+0.6
LMEL	**Las Melosas**	**2.04**	**145**	⇑*i*P	Pn	14 27 12.0	-0.2
LMEL				*i* S	Sn	14 27 39.6	+1.4
LMEL				AML	AML	14 27 45.0	
	comp=N,191nm,0.1s						
LMEL	**Las Melosas**	**2.04**	**145**	⇑*i*P	Pn	14 27 12.0	-0.2
LMEL				*i* S	Sn	14 27 39.6	+1.4
CACH	**El Canelo**	**2.10**	**156**	⇑*i*P	Pn	14 27 14.4	+1.3
CACH				*i* S	Sn	14 27 43.6	+3.6
CICH	**Cipreses**	**2.35**	**155**	*i* P	Pn	14 27 17.8	+1.4
CICH				*i* S	Sn	14 27 49.0	+3.0
SFDO	**San Fernando**	**2.47**	**168**	⇑*i*P	Pn	14 27 19.4	+1.3
SFDO				*i* S	Sn	14 27 51.8	+2.8

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*ISK **23** 14:31:45.9,3632N×2892E,h22km,MD3.3*
*NEIC **23** 14:31:46.8,3641N×2886E,h32km,MD3.3(ATH),After ATH.*
*DDA **23** 14:31:46.3,3635N×2879E,h8km±3km,Md3.0*
*ATH **23** 14:31:46.8,3641N×2886E,h32km±1km,MD3.3/3*
*CSEM **23** 14:31:47.2±0.1,3641N×2894E,h25km,MD3.3,Error ellipse: s-maj=3.0km s-min=1.5km az=17.0*
*ISCJB **23** 14:31:47.7±0.5,3633N±005×2888E±003,h33km±5km, Error ellipse: s-maj=8.6km s-min=4.2km az=9.1*

ISC 23 14:31:48.0±0.5,3633N±005×2887E±003,h28km±5km,n26, σ0§85/36,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.48**	**337**	*e*PG	**Pb**	**14 31 57.0**	**-0.9**
DALT				*e*SG	**Sb**	**14 32 04.1**	**-0.7**
TURN	**Turunc**	**0.59**	**339**	*i* P	**Pb**	**14 31 59.9**	**+0.2**
AKAS	**Kas**	**0.60**	**99**	*i* P	**Pb**	**14 31 59.5**	**-0.5**
AKAS				*i* S	**Sb**	**14 32 10.2**	**+2.0**
KSL	**Kastellorizon**	**0.60**	**107**	*e*PN	**Pb**	**14 31 59.8**	**-0.2**
KSL				*e*SN	**Sb**	**14 32 09.8**	**+1.6**
ARG	**Arkhangelos**	**0.61**	**260**	*e*PN	**Pb**	**14 32 00.0**	**-0.1**
ARG				*e*SN	**Sb**	**14 32 09.6**	**+1.3**
YER	**Yerkesik**	**0.93**	**330**	*e*PG	**Pn**	**14 32 04.7**	**-0.5**
YER				*e*SG	**Sb**	**14 32 17.8**	**+0.2**
GOLH	**Golhisar**	**1.07**	**31**	*i* P	**Pn**	**14 32 07.3**	**+0.3**
GOLH				*i* S	**Sn**	**14 32 22.7**	**+1.8**
MLSB	**Milas**	**1.30**	**318**	*e*PN	**Pn**	**14 32 10.2**	**-0.1**
MLSB				*e*SN	**Sn**	**14 32 27.7**	**+0.9**
BDRM	**Kayabasi**	**1.36**	**303**	*i* P	**Pn**	**14 32 10.8**	**-0.2**
BDRM				*i* S	**Sn**	**14 32 30.2**	**+2.1**
BODT	**Bodrum**	**1.45**	**301**	*e*PN	**Pn**	**14 32 11.9**	**-0.4**
BODT				*e*SN	**Sn**	**14 32 30.8**	**+0.4**
ANTB	**Antalya**	**1.55**	**68**	*e*PN	**Pn**	**14 32 12.4**	**-1.2**
AYDN	**Tasoluk**	**1.55**	**330**	*i* P	**Pn**	**14 32 14.4**	**+0.8**
AYDN	**Tasoluk**	**1.55**	**330**	*i* P	**Pn**	**14 32 14.4**	**+0.8**
KARP	**Karpathos**	**1.59**	**241**	*e*PB	**Pb**	**14 32 15.1**	**-1.5**
BCK	**Bucak**	**1.79**	**50**	*e*PN	**Pn**	**14 32 15.7**	**-1.2**
GCAM	**G?zelcaml?**	**1.90**	**317**	*i* P	**Pn**	**14 32 18.7**	**+0.3**
ISP	**Isparta**	**2.00**	**40**	*e*PN	**Pn**	**14 32 19.3**	**-0.6**
KHL	**Karahalli**	**2.06**	**15**	*e*PN	**Pn**	**14 32 20.7**	**0.0**
TKTP	**Tekketepe**	**2.07**	**34**	*e*P	**Pn**	**14 32 20.9**	**+0.2**
SMG	**Samos**	**2.13**	**311**	*e*PN	**Pn**	**14 32 21.4**	**-0.3**
SMG				*e*SN	**Sn**	**14 32 47.0**	**-0.2**
KULA	**Kula-Manisa**	**2.19**	**356**	*e*PN	**Pn**	**14 32 21.6**	**-0.9**
IZM	**Izmir**	**2.43**	**329**	*e*PN	**Pn**	**14 32 25.6**	**-0.1**
BLCB	**Balcova**	**2.52**	**325**	*e*PN	**Pn**	**14 32 27.0**	**+0.1**
SHUT	**Suhut-Afyon**	**2.60**	**31**	*e*PN	**Pn**	**14 32 27.6**	**-0.4**
ALT	**Altintas**	**2.90**	**20**	*e*PN	**Pn**	**14 32 31.7**	**-0.5**
HDMB	**Hadim**	**2.98**	**77**	*e*PN	**Pn**	**14 32 32.7**	**-0.6**

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*IDC **23** 14:45:40.1±1.6,007N×12531E,h0km,mb3.9/4,mb1 4.0/5, mb1mx3.7/17,mbtmp3.9/5,ML3.3/1,Error ellipse: s-maj=112.2km s-min=23.8km az=66.0*
*ISCJB **23** 14:45:44.7±4.5,01S±02×125.1E±02,h45km±40km, mb4.1/6,Error ellipse: s-maj=47.3km s-min=14.8km az=40.8*
*NEIC **23** 14:45:45.9±1.1,006S×125.11E,h35km,mb4.6/2,Error ellipse: s-maj=28.4km s-min=10.4km az=222.0*
*DJA **23** 14:45:46,0.18S×12507E,h10km,ML4.0/1*

ISC 23 14:45:46.6±3.4,01S±02×1251E±02,h42km±32km,n10, σ0§80/10,mb4.1/6,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.50**	**150**	*e*P	**Pn**	**14 49 09.0**	**-0.3**
	7.2nm,0.6s						
KSM	**Kuching**	**14.87**	**276**	*e*P	**Pn**	**14 49 14.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**17.91**	**178**	P	**Pn**	**14 49 51.5**	**-1.1**
	0.1nm,0.3s,baz=17,slow=17,SNR=4.1						
WRAB	**Tennant

MAJO pmax pmax
comp=Z,6.0nm,0.8s
MAJO Matsushiro 18.35 220 P **P 15 47 41.3 +0.5**
comp=Z,6.2nm,0.8s
MJAR Matsushiro Arr 18.35 220 P **P 15 47 40.3 -0.4**
comp=Z,0.6nm,0.3s,baz=34,slow=9.7,SNR=6.7
HIA Hailar 21.11 277‖ *i* P **P 15 48 07.2 +0.1**
KSRS Korea Array 22.59 241 P **P 15 48 20.0 -0.7**
comp=Z,0.5nm,0.7s,mb3.1,baz=42,slow=10,SNR=4.7
KSRS Korea Array 22.59 241 P **P 15 48 20.0 -0.7**
KSRS pmax pmax
comp=Z,1.0nm,0.7s,mb3.4
TIXI Tiksi 22.73 341 *i* P **P 15 48 21.3 -0.3**
TIXI pmax pmax
comp=Z,3.0nm,1.3s,mb3.6
PPLA Purkeypile 30.78 47 P **P 15 49 33.6 +0.8**
comp=Z,8.6nm,1.2s,mb4.0
COLD Coldfoot 31.48 39 *e*P **P 15 49 39.0 +0.1**
comp=Z,2.3nm,0.8s,mb3.6
TRF Thorofare Moun 31.59 46 *e*P **P 15 49 40.6 +0.8**
comp=Z,2.8nm,0.4s,mb4.0
MCK McKinley 32.16 45 P **P 15 49 44.8 0.0**
MCK pmax pmax
comp=Z,3.0nm,0.7s,mb3.7
MCK McKinley 32.16 45 P **P 15 49 44.8 0.0**
comp=Z,3.2nm,0.7s,mb3.8
COLA College 32.53 43 *i* P **P 15 49 46.1 -1.8**
ZALV Zalesovo Beam 39.75 301 P **P 15 50 47.9 -0.5**
comp=Z,1.3nm,0.3s,mb3.7,baz=54,slow=6.0,SNR=7.1
ZAL Zalesovo 39.77 301 P **P 15 50 47.9 -0.7**
KURK Kurchatov 44.64 299 *e*P **P 15 51 27.0 -0.3**
KURK pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
KURK Kurchatov 44.64 299 *e*P **P 15 51 27.0 -0.3**
comp=Z,4.2nm,0.6s,mb4.0
MKAR Makanchi Array 44.69 293 P **P 15 51 27.6 -0.2**
comp=Z,2.4nm,0.3s,mb4.0,baz=58,slow=6.7,SNR=39
YKA Yellowknife Ar 47.16 39 P **P 15 51 46.9 +0.3**
comp=Z,1.7nm,0.5s,mb3.6,baz=302,slow=7.1,SNR=7.2
YKA Yellowknife Ar 47.16 39 *e*P **P 15 51 46.8 +0.2**
YKA pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 47.74 306 *e*P **P 15 51 50.6 -0.6**
LSA Lhasa 50.01 269 *e*P **P 15 52 10.2 +1.7**
TKM2 Tokmak 2 50.81 292 *e*P **P 15 52 14.4 +0.2**
TKM2 pmax pmax
comp=Z,1.0nm,0.8s,mb3.1
TKM2 Tokmak 2 50.81 292 *e*P **P 15 52 14.4 +0.2**
comp=Z,1.3nm,0.8s,mb3.2
ARU Arti 51.34 315 *d i*P **P 15 52 17.4 -0.5**
ARU *e* 15 54 18.0
ARU *e*S **S 15 59 06.2 +0.2**
ARU *e*SS SS 16 02 46.0 -1.0
ARU pmax pmax
comp=Z,7.0nm,1.2s,mb3.8
ARU Arti 51.34 315 *e*P **P 15 52 17.6 -0.3**
EKS2 Erkin-Say 52.02 293 *e*P **P 15 52 22.9 -0.2**
comp=Z,4.5nm,0.7s,mb3.8
AML Almayashu 52.40 293 *e*P **P 15 52 26.4 +0.6**
ARCES ARCESS Array B 53.17 340 P **P 15 52 30.3 -0.6**
comp=Z,2.3nm,0.8s,mb3.4,baz=39,slow=7.3,SNR=2.9
CMAR Chiang Mai Arr 53.52 253 P **P 15 52 33.8 -0.4**
comp=Z,0.7nm,0.6s,mb3.1,baz=33,slow=7.1,SNR=4.6
JOF Joensuu 56.87 332 *e*p **P 15 52 56.3 -0.9**
comp=Z,1.4nm,0.4s,mb3.6
JOF Joensuu 56.87 332 *e*P **P 15 52 56.3 -0.9**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb3.5
NVAR Mina Array Bea 60.40 65 P **P 15 53 22.6 +1.1**
comp=Z,0.5nm,0.6s,mb3.2,baz=304,slow=7.1,SNR=4.1
OBN Obninsk 61.19 324 *e*P **P 15 53 26.6 +0.1**
OBN *e* 15 55 46.2
OBN pmax pmax
comp=Z,7.0nm,0.5s,mb4.3
PDAR Pinedale Array 62.06 56 P **P 15 53 33.2 +0.7**
comp=Z,0.9nm,0.5s,mb3.5,baz=315,slow=2.2,SNR=9.2
NB2 NORSAR Subarra 63.53 340 P **P 15 53 40.8 -0.9**
comp=Z,0.6nm,0.5s,mb3.4,baz=24,slow=6.5
NOA NORSAR Array B 63.53 340 P **P 15 53 40.2 -1.5**
comp=Z,0.6nm,0.5s,mb3.4,baz=25,slow=6.4,SNR=4.8
NOA NORSAR Array B 63.53 340 *e*P **P 15 53 41.0 -0.7**
NOA pmax pmax
comp=Z,1.0nm,0.5s
KIV Kislovodsk 67.29 313 *e*P **P 15 54 07.1 +1.3**
KIV *e* 15 54 28.8
KIV pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
AKASG Malin Array Be 67.39 325 P **P 15 54 04.4 -1.9**
comp=Z,0.4nm,0.4s,mb3.4,baz=38,slow=6.5,SNR=4.7
MORC Moravsky Berou 72.02 331 *e*P **P 15 54 33.6 -0.7**
MORC pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
MORC Moravsky Berou 72.02 331 *e*P **P 15 54 33.6 -0.7**
comp=Z,3.3nm,0.9s,mb3.9
WRAB Tennant Creek 73.10 198 *i* P **P 15 54 40.5 -0.3**
WRA Warramunga Arr 73.11 198 P **P 15 54 39.6 -1.3**
comp=Z,1.0nm,0.7s,mb3.5,baz=14,slow=6.0,SNR=15
TXAR Lajitas Array 75.27 61 P **P 15 54 54.0 +0.8**
comp=Z,0.6nm,0.4s,mb3.6,baz=291,slow=4.8,SNR=7.0
ASAR Alice Springs 76.82 198 P **P 15 55 01.6 -0.2**
comp=Z,1.9nm,0.7s,mb3.8,baz=14,slow=5.2,SNR=35
ASAR Alice Springs 76.82 198 *e*P **P 15 55 01.5 -0.3**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 148.48 87 PKPbc PKPbc 16 02 52.4 -0.4
comp=Z,1.1nm,0.6s,baz=304,slow=3.3,SNR=4.0

MAN 23 15:49:15,1725N×11989E,h2km,mb4.7,ML3.6,MS3.6, 1C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.86**	**39**‖	*e*P	Pg	15 49 31.9	+0.3
SIPP				*e*S	Sg	15 49 40.1	-2.7
ABRA	**Dolores**	**0.88**	**63**	*e*P	Pg	15 49 33.1	+1.2
ABRA				*e*S	Sg	15 49 46.0	+2.6
BCPH	**Baguio City Da**	**1.09**	**142**‖	*e*P	Pg	15 49 36.4	+0.5
BCPH				*i* S	Sg	15 49 43.1	-6.9
APYP	**Conner**	**1.43**	**65**	*e*P	Pn	15 49 41.3	-0.7
APYP				*e*S	Sg	15 50 02.2	+1.2
SCZP	**Santa Cruz**	**1.46**	**179**	*e*P	Pn	15 49 42.7	+0.3
CAUP	**Cauayan**	**1.88**	**99**	*e*P	Pn	15 49 50.8	+2.7
PCPH	**Palayan**	**2.04**	**145**‖	*i* P	Pn	15 49 51.3	+1.0
PCPH				*e*S	Sn	15 50 14.3	-2.0
BALP	**Baler**	**2.21**	**133**	*e*P	Pn	15 49 53.6	+1.0
SGCP	**Mt. Cagua**	**2.28**	**64**	*e*P	Pn	15 49 55.7	+2.0
PALP	**Palanan**	**2.43**	**94**	*e*P	Pn	15 49 57.8	+2.0
POLP	**Polilio Island**	**3.19**	**142**	*e*P	Pn	15 50 09.8	+3.6
LUBP	**Lubang**	**3.51**	**174**	*e*P	Pn	15 50 17.1	+6.5
ENPP	**El Nido**	**6.02**	**184**	*e*P	Pn	15 50 45.7	+0.5

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*ISK **23** 15:55:49.0,3663N×2805E,h5km,MD2.8*
*DDA **23** 15:55:53.7,3685N×2807E,h8km±5km,Md2.8*
CSEM 23 15:55:50.2±1.0,3666N×2802E,h10km,MD2.8,Error ellipse: s-maj=19.4km s-min=8.9km az=177.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.51**	**78**	*e*PG	Pg	15 55 59.3	-0.8
DALT				*e*SG	Sg	15 56 07.8	+0.9
TURN	**Turunc**	**0.52**	**66**	*i* P	Pg	15 55 54.9	-5.4
YER	**Yerkesik**	**0.52**	**24**	*e*PG	Pg	15 56 00.3	0.0
YER				*e*SG	Sg	15 56 09.2	+2.0
BDRM	**Kayabasi**	**0.61**	**312**	*i* P	Pg	15 56 03.5	+1.4
BDRM				*i* S	Sg	15 56 13.4	+3.3
MLSB	**Milas**	**0.66**	**343**	*e*PG	Pg	15 56 03.7	+0.6
MLSB				*e*SG	Sg	15 56 14.2	+2.5
BODT	**Bodrum**	**0.69**	**306**	*e*PG	Pg	15 56 04.1	+0.5
BODT				*e*SG	Sg	15 56 15.6	+2.9
AYDN	**Tasoluk**	**1.00**	**354**	*i* P	Pg	15 56 10.1	+0.6
AYDN				*i* S	Sg	15 56 20.9	-1.7
GOLH	**Golhisar**	**1.36**	**65**	*i* P	Pg	15 56 17.1	+0.7
GOLH				*i* S	Sg	15 56 36.0	+1.9

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*ISCJB **23** 16:02:01.3±2.4,56S±0.1×15350E±009,h37km±24km, mb4.1/12,MS3.2/2,Error ellipse: s-maj=25.3km s-min=12.1km az=156.3*
*IDC **23** 16:02:04.8±9.9,569S×15352E,h56km±85km,mb3.7/8, mb1 3.9/8,mb1mx3.7/16,mbtmp3.7/8,MS3.3/3,Ms1 3.2/3, ms1mx2.6/27,Error ellipse: s-maj=72.0km s-min=26.5km az=111.0*
*NEIC **23** 16:02:05.8±1.8,572S×15356E,h69km±19km,mb4.3/5, Error ellipse: s-maj=22.1km s-min=12.7km az=155.0*
ISC 23 16:02:05.0±1.8,57S±01×15353E±009,h60km±19km,n23, σ0:92/19,mb4.1/12,MS3.2/2,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.34**	**239**	*e*Pn	**Pn**	**16 03 49.6**	**0.0**
PMG	17nm,0.8s			*e*Sn	**Sn**	**16 05 11.4**	**-0.1**
HNR	**Honiara**	**7.38**	**121**	Pn	**Pn**	**16 03 50.2**	**-0.1**
CTA	99nm,1.0s **Charters Tower**	**16.00**	**206**	LR	LR	16 10 57.6	
KAKA	comp=Z,107nm,21.4s,baz=53,slow=33 **Kakadu**	**21.96**	**250**	*e*P	**P**	**16 06 53.8**	**-0.3**
WRAB	9.3nm,0.4s,mb4.6 **Tennant Creek**	**23.44**	**231**	*e*P	**P**	**16 07 09.3**	**0.0**
WB2	5.8nm,1.0s,mb4.0 **Warramunga Arr**	**23.45**	**231**	*e*P	**P**	**16 07 09.9**	**+0.6**
WRA	**Warramunga Arr**	**23.45**	**231**	P	**P**	**16 07 09.3**	**-0.1**
ASAR	1.8nm,0.8s,mb3.6,baz=56,slow=10,SNR=20 **Alice Springs**	**26.04**	**225**	P	**P**	**16 07 32.9**	**0.0**
STKA	1.7nm,0.8s,mb3.6,baz=62,slow=9.5,SNR=15 **Stephens Creek**	**28.38**	**202**	LR	LR	16 19 34.8	
FITZ	comp=Z,54nm,20.6s,MS3.1,baz=23,slow=37 **Fitzroy Crossi**	**29.91**	**243**	*e*P	**P**	**16 08 07.3**	**-0.2**
FITZ	2.9nm,0.4s,mb4.4 **Fitzroy Crossi**	**29.91**	**243**	P	**P**	**16 08 07.3**	**-0.3**
CBIJ	1.8nm,0.5s,mb4.1,baz=50,slow=8.8,SNR=13 **Chichi jima**	**34.35**	**342**	LR	LR	16 21 06.7	
KSRS	comp=Z,52nm,20.5s,MS3.3,baz=123,slow=33 **Korea Array**	**49.08**	**333**	P	**P**	**16 10 45.2**	**-1.2**
PETK	0.7nm,0.7s,mb3.8,baz=156,slow=9.6,SNR=4.4 **Petropavlovsk-**	**58.64**	**3**	P	**P**	**16 11 58.0**	**+2.1**
CMAR	2.3nm,0.7s,mb4.3,baz=160,slow=6.4,SNR=6.7 **Chiang Mai Arr**	**58.90**	**295**	P	**P**	**16 12 00.1**	**+1.7**
CHTO	0.6nm,0.4s,mb4.0,baz=122,slow=6.1,SNR=6.1 **Chiang Mai**	**59.01**	**296**	P	**P**	**16 12 00.0**	**+0.9**
MKAR	**Makanchi Array**	**81.44**	**319**	P	**P**	**16 14 15.8**	**+0.1**
MKAR	1.3nm,0.6s,mb4.0,baz=98,slow=5.4,SNR=7.0 **Makanchi Array**	**81.44**	**319**	P	**P**	**16 14 15.8**	**+0.1**
ZALV	1.1nm,0.4s,mb4.1,baz=106,slow=4.9,SNR=5.8 **Zalesovo Beam**	**82.26**	**326**	P	**P**	**16 14 18.5**	**-1.3**
KURK	3.3nm,0.9s,mb4.5 **Kurchatov**	**84.88**	**322**	*e*P	**P**	**16 14 31.5**	**-1.9**
TKM2	0.9nm,0.5s,mb4.2 **Tokmak 2**	**85.04**	**314**	*e*P	**P**	**16 14 34.4**	**0.0**
TORD	0.9nm,0.5s,mb4.2 **Torodi Ar. Bea**	**151.26**	**287**	PKPbc	PKPbc	16 21 51.7	-1.2
TORD	0.9nm,0.8s,baz=43,slow=2.5,SNR=4.9			PKPab	PKPab	16 22 02.5	+1.5
TORD	1.0nm,0.6s,baz=71,slow=2.3,SNR=4.8 **Torodi Ar. Bea**	**151.26**	**287**	PKPbc	PKPbc	16 21 51.7	-1.2
TORD				PKPab	PKPab	16 22 02.5	+1.5

MAN 23 16:35:30,685N×12523E,h7km,mb4.2,ML3.0,MS2.8,2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.21**	**319**‖	*i* P	Pg	16 35 35.6	+1.3
KCP				*i* S	Sg	16 35 38.0	+1.0
DMPH	**Davao City--Mi**	**0.36**	**50**‖	*e*P	Pg	16 35 38.2	+1.2
DMPH				*e*S	Sg	16 35 46.7	+4.9
MATI	**Mati**	**1.03**	**85**	*e*P	Pg	16 35 53.7	+4.0
BUKP	**Musuan**	**1.04**	**351**	*e*P	Pg	16 35 50.8	+0.9
PAGZ	**Pagadian**	**2.08**	**299**	*e*P	Pn	16 36 06.1	+0.7

IDC 23 16:53:15.5±55.0,1859S×17807W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.8/16,mbtmp4.1/3,Error ellipse: s-maj=1007.0km s-min=150.5km az=80.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.59**	**242**	P	P	17 00 41.0	+0.6
WRA	1.2nm,0.4s,baz=104,slow=12,SNR=6.8 **Warramunga Arr**	**44.83**	**260**	P	P	17 01 31.4	-0.4
ASAR	0.9nm,0.4s,baz=98,slow=7.5,SNR=62 **Alice Springs**	**44.92**	**255**	P	P	17 01 32.1	-0.3
	1.3nm,0.4s,baz=88,slow=8.5,SNR=27						

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*CSEM **23** 17:11:31.4±0.2,3474N×2316E,h10km,MD3.6,Error ellipse: s-maj=9.5km s-min=4.1km az=74.0*
*ISCJB **23** 17:11:32.6±0.9,3483N±004×2344E±009,h10km,Error ellipse: s-maj=11.2km s-min=6.2km az=7.0*
*HLW **23** 17:11:34.1,3500N×2324E,h30km,Mb3.6*
*ATH **23** 17:11:41.8,3573N×2392E,h35km±9km,MD3.6/5*
*NEIC **23** 17:11:41.6,3586N×2401E,h26km,MD3.6(ATH),After ATH.*
ISC 23 17:11:33.9±0.9,3492N±005×2341E±009,h10km,n13, σ0:75/17,8D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.81**	**53**‖	*i*PB	**Pg**	**17 11 50.9**	**+1.4**
VAM				*e*SB	**Sg**	**17 11 58.6**	**-1.5**
VAM	**Vamos**	**0.81**	**53**‖	*i*Pb	**Pg**	**17 11 50.9**	**+1.4**
VAM				*e*Sb	**Sg**	**17 11 59.6**	**-0.5**
KYTH	**Kithira**	**1.39**	**348**	*e*PN	**Pn**	**17 11 59.5**	**+0.2**
VLI	**Veliai**	**1.83**	**348**	*e*PN	**Pn**	**17 12 04.6**	**-0.8**
VLI				*e*SN	**Sn**	**17 12 21.2**	**-7.5**
NPS	**Neapolis**	**1.84**	**79**	*e*PB	**Pb**	**17 12 07.7**	**+0.1**
KARP	**Karpathos**	**3.14**	**77**	*e*PN	**Pn**	**17 12 24.2**	**+0.9**
SLUM		**3.74**	**156**	P	**Pn**	**17 12 31.0**	**-0.6**
HMAT	**Matruh**	**4.92**	**140**	‖P	**Pn**	**17 12 47.3**	**-0.4**
HMAT				S	**Sn**	**17 13 41.1**	**-3.6**
SWA2		**5.92**	**162**	‖P	**Pn**	**17 13 02.3**	**+0.7**
AWBH		**8.08**	**143**	‖P	**Pn**	**17 13 31.3**	**+0.1**
HFRF	**Wahat Farafira**	**8.81**	**150**	‖P	**Pn**	**17 13 41.4**	**+0.1**
HDK1	**Dakhla**	**10.68**	**149**	‖P	**Pn**	**17 14 06.9**	**0.0**
HDK2	**Wahat Dakhilah**	**11.61**	**154**	‖P	**Pn**	**17 14 19.6**	**-0.1**

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*MOS **23** 17:15:09.6±0.7,720S×12931E,h86km,mb4.6/4,Error ellipse: s-maj=24.9km s-min=10.9km az=116.7*
*IDC **23** 17:15:12.0±4.0,728S×12908E,h81km±38km,mb4.0/7, mb1 4.3/10,mb1mx4.1/17,mbtmp4.2/10,MS2.6/1, Ms1 2.6/1,ms1mx2.5/18,Error ellipse: s-maj=35.8km s-min=16.8km az=65.0*
*BJI **23** 17:15:14.0,730S×12900E,h110km,mb4.5*
*NEIC **23** 17:15:15.0±1.4,734S×12900E,h110km±16km,mb5.0/15, Error ellipse: s-maj=13.0km s-min=9.8km az=63.0*
*ISCJB **23** 17:15:16.5±0.7,755S±004×12911E±006,h154km±7km, mb4.5/24,Error ellipse: s-maj=10.0km s-min=6.5km az=161.1*
*DJA **23** 17:15:18,765S×12924E,h119km,mb5.1/14*
ISC 23 17:15:17.1±0.7,755S±004×12915E±006,h144km±7km, n65,σ0:97/70,mb4.5/24,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.95**	**346**	P	**Pn**	**17 16 15.3**	**-1.3**
BATI	0.0nm,0.0s **Baumata**	**6.03**	**244**	P	**Pn**	**17 16 45.3**	**+1.2**
BATI	0.0nm,0.0s **Baumata**	**6.03**	**244**	P	**Pn**	**17 16 45.6**	**+1.5**
BATI	52nm,0.3s,baz=78,slow=3.0,SNR=226			S	**Sn**	**17 17 50.8**	**-1.3**
KAKA	102nm,0.3s,baz=89,slow=20,SNR=25 **Kakadu**	**6.07**	**148**	*e*P	**Pn**	**17 16 46.0**	**+1.3**
KAKA	41nm,0.2s			*e*S	**Sn**	**17 17 39.4**	**-14**
LBMI	**Labuha**	**7.06**	**346**	P	**Pn**	**17 16 57.7**	**-0.3**
KDI	0.0nm,0.0s **Kendari**	**7.41**	**298**	P	**Pn**	**17 17 03.5**	**+0.9**
MNI	0.0nm,0.0s **Manado**	**9.91**	**334**	P	**Pn**	**17 17 36.6**	**+0.5**
FITZ	0.0nm,0.0s **Fitzroy Crossi**	**11.03**	**198**	*e*P	**Pn**	**17 17 49.9**	**-0.9**
FITZ	52nm,0.5s			*e*S	**Sn**	**17 19 46.3**	**-6.4**
FITZ	**Fitzroy Crossi**	**11.03**	**198**	P	**Pn**	**17 17 50.0**	**-0.8**
FITZ	5.3nm,0.3s,baz=29,slow=12,SNR=184			S	**Sn**	**17 19 45.9**	**-6.8**
FITZ	3.2nm,0.3s,baz=47,slow=19,SNR=4.9			LR	LR	17 22 21.8	
SGSI	comp=Z,31nm,20.2s,baz=220,slow=38 **Sangihe**	**11.73**	**342**	P	**Pn**	**17 17 59.5**	**-0.6**
	0.0nm,0.0s						
WRAB	**Tennant Creek**	**13.30**	**158**	*e*P	**Pn**	**17 18 19.4**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,33nm,0.6s						
WRAB	**Tennant Creek**	**13.30**	**158**	*e*P	**Pn**	**17 18 19.4**	**-1.0**
	comp=Z,33nm,0.6s						
WRA	**Warramunga Arr**	**13.31**	**158**	P	**Pn**	**17 18 19.3**	**-1.1**
	comp=Z,5.6nm,0.3s,baz=340,slow=13,SNR=283						
WRA				S	**Sn**	**17 20 40.3**	**-7.3**
	comp=Z,5.3nm,0.3s,baz=336,slow=23,SNR=17						
WB2	**Warramunga Arr**	**13.31**	**158**	*e*P	**Pn**	**17 18 19.7**	**-0.8**
WB2				*e*S	**Sn**	**17 20 36.2**	**-12**
COEN	**Coen**	**15.18**	**116**	*e*P	**Pn**	**17 18 47.1**	**+3.1**
	comp=Z,3.8nm,0.7s						
BUKP	**Musuan**	**15.86**	**345**	*e*P	**Pn**	**17 18 53.9**	**+1.4**
MBWA	**Marble Bar**	**16.30**	**213**	*e*P	**Pn**	**17 18 58.4**	**+0.5**
	comp=Z,7.1nm,0.6s						
ASAR	**Alice Springs**	**16.66**	**165**	P	**Pn**	**17 19 03.5**	**+1.4**
	comp=Z,3.4nm,0.3s,baz=340,slow=9.5,SNR=106						
ASAR				S	**S**	**17 21 56.2**	**-11**
	comp=Z,0.5nm,0.3s,baz=338,slow=14,SNR=5.5						
SJI	**Sawahan**	**17.23**	**268**	P	**Pn**	**17 19 07.8**	**-1.3**
	comp=Z,0.0nm,0.0s						
PBKI	**Pangkalan Bun**	**18.05**	**285**	P	**P**	**17 19 19.8**	**+2.3**
	comp=Z,0.0nm,0.0s						
MSLP	**Maasin**	**18.08**	**346**	*e*P	**P**	**17 19 10.0**	**-7.7**
STKI	**Sintang**	**19.17**	**292**	P	**P**	**17 19 31.5**	**+1.8**
	comp=Z,0.0nm,0.0s						
KSM	**Kuching**	**20.82**	**295**	*e*P	**P**	**17 19 47.7**	**+0.3**
PVCP	**Virac**	**21.59**	**347**	*e*P	**P**	**17 19 54.3**	**-1.1**
FORT	**Forrest**	**23.13**	**182**	*e*P	**P**	**17 20 14.4**	**+3.9**
	comp=Z,41nm,0.6s,mb5.0						
FORT				*e*S	S	17 24 30.8	+20
STKA	**Stephens Creek**	**26.84**	**156**	*e*P	**P**	**17 20 47.6**	**+3.5**
	comp=Z,2.2nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**26.84**	**156**	P	**P**	**17 20 47.9**	**+3.8**
	comp=Z,2.6nm,0.4s,mb4.2,baz=329,slow=12,SNR=10						
MUN	**Mundaring**	**27.13**	**205**	*e*P	**P**	**17 20 50.3**	**+3.6**
NWAO	**Narrogin (SRO)**	**27.56**	**202**	P	**P**	**17 20 54.1**	**+3.6**
	comp=Z,16nm,1.2s,mb4.6,baz=196,slow=21,SNR=7.4						
PSI	**Prapat**	**31.86**	**288**	P	**P**	**17 21 27.8**	**-1.0**
	comp=Z,3.4nm,0.4s,mb4.4,baz=120,slow=7.2,SNR=3.8						
PSI	**Prapat**	**31.86**	**288**	P	**P**	**17 21 27.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**39.44**	**311**	P	**P**	**17 22 33.5**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.0,baz=138,slow=6.7,SNR=25						
CHTO	**Chiang Mai**	**39.66**	**312**	*e*P	**P**	**17 22 34.4**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
CHTO	**Chiang Mai**	**39.66**	**312**	*e*P	**P**	**17 22 34.4**	**-0.8**
	comp=Z,2.7nm,0.8s,mb3.9						
KMI	**Kunming**	**41.42**	**322**	P	**P**	**17 22 49.9**	**+0.4**
KMI				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.8						
KSRS	**Korea Array**	**44.78**	**359**	P	**P**	**17 23 16.4**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.5,baz=177,slow=8.6,SNR=7.3						
LSA	**Lhasa**	**52.02**	**317**	P	**P**	**17 24 13.6**	**+1.7**
LSA	**Lhasa**	**52.02**	**317**	*e*P	**P**	**17 24 12.4**	**+0.5**
LSA				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.7						
LSA	**Lhasa**	**52.02**	**317**	*e*P	**P**	**17 24 12.4**	**+0.5**
	comp=Z,15nm,0.7s,mb4.7						
ODAN	**Odare**	**52.98**	**312**	*e*P	**P**	**17 24 19.1**	**0.0**
	comp=Z,21nm,0.6s,mb5.1						
TAPN	**Taplejung**	**53.02**	**313**	*e*P	**P**	**17 24 19.4**	**0.0**
	comp=Z,14nm,0.4s,mb5.0						
RAMN	**Ramite**	**53.62**	**311**	*e*P	**P**	**17 24 24.1**	**+0.4**
	comp=Z,51nm,0.6s,mb5.4						
JIRN	**Jiri**	**54.31**	**312**	*e*P	**P**	**17 24 28.6**	**-0.1**
GUN	**Gumba**	**54.68**	**312**	*e*P	**P**	**17 24 31.6**	**+0.2**
	comp=Z,42nm,0.7s,mb5.3						
PKI	**Pulchoki**	**54.84**	**311**	*e*P	**P**	**17 24 32.3**	**-0.3**
KKN	**Kakani**	**55.06**	**312**	*e*P	**P**	**17 24 34.1**	**0.0**
DMN	**Daman**	**55.09**	**311**	*e*P	**P**	**17 24 34.4**	**+0.1**
	comp=Z,14nm,0.6s,mb4.8						
KOLN	**Koldanda**	**56.30**	**311**	*e*P	**P**	**17 24 42.7**	**-0.3**
	comp=Z,24nm,0.7s,mb5.1						
DANN	**Dangsing**	**56.49**	**311**	*e*P	**P**	**17 24 43.9**	**-0.4**
MKAR	**Makanchi Array**	**68.22**	**327**	P	**P**	**17 26 02.2**	**+0.2**
	comp=Z,2.4nm,0.5s,mb4.2,baz=119,slow=7.7,SNR=48						
MKAR	**Makanchi Array**	**68.22**	**327**	P	**P**	**17 26 02.2**	**+0.2**
TKM2	**Tokmak 2**	**69.87**	**321**	*e*P	**P**	**17 26 13.1**	**+0.9**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
TKM2	**Tokmak 2**	**69.87**	**321**	*e*P	**P**	**17 26 13.1**	**+0.9**
	comp=Z,4.2nm,0.7s,mb4.3						
AML	**Almayashu**	**70.67**	**320**	*e*P	**P**	**17 26 18.2**	**+1.1**
	comp=Z,6.5nm,0.7s,mb4.5						
ZALV	**Zalesovo Beam**	**71.70**	**334**	P	**P**	**17 26 22.2**	**-0.9**
	comp=Z,1.0nm,0.5s,mb3.9,baz=107,slow=5.0,SNR=6.5						
ZALV	**Zalesovo Beam**	**71.70**	**334**	P	**P**	**17 26 22.2**	**-0.9**
ZAL	**Zalesovo**	**71.70**	**334**	P	**P**	**17 26 22.2**	**-0.9**
KURK	**Kurchatov**	**72.55**	**329**	*e*P	**P**	**17 26 27.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
KURK	**Kurchatov**	**72.55**	**329**	*e*P	**P**	**17 26 27.6**	**-0.6**
	comp=Z,4.6nm,0.8s,mb4.3						
RDF	**Al-Radifah**	**86.32**	**300**	*e*P	**P**	**17 27 43.0**	**-0.2**
	baz=299						
RDF				AMb	AMB	17 27 52.8	
	comp=Z,23nm,1.3s,mb4.8,baz=299						
NAY	**Al-Naaiem**	**86.64**	**300**	*e*P	**P**	**17 27 44.4**	**-0.4**
	baz=299						
NAY				AMb	AMB	17 27 45.8	
	comp=Z,11nm,0.8s,mb4.7,baz=299						
MIB	**Mutribah**	**86.66**	**300**	*e*P	**P**	**17 27 44.1**	**-0.7**
	baz=299						
MIB				AMb	AMB	17 27 45.6	
	comp=Z,14nm,0.7s,mb4.9,baz=299						
RST	**Umm Al-Ruwaisa**	**86.90**	**300**	*e*P	**P**	**17 27 45.4**	**-0.6**
	baz=299						
RST				AMb	AMB	17 27 47.2	
	comp=Z,0.9nm,0.8s,mb3.6,baz=299						
TORD	**Torodi Ar. Bea**	**128.08**	**281**	PKP	PKPdf	17 34 08.6	+1.5
	comp=Z,0.6nm,0.7s,baz=75,slow=2.4,SNR=4.8						
LPAZ	**La Paz**	**150.79**	**144**	PKPbc	PKPbc	17 34 57.5	+4.1
	comp=Z,0.5nm,0.3s,baz=211,slow=4.9,SNR=4.2						

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*JMA **23** 17:16:27.3±0.2,2502N×12260E,h141km,M2.3*
TAP 23 17:16:26.4,2501N×12267E,h146km,ML3.5,Taiwan region

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

KAKA	Kakadu	21.39	244	*eP*	P	17 26 10.1	+1.8
	23nm,0.7s,mb4.6						
DZM	Mont Dzumac	22.89	144	*eP*	P	17 26 24.5	+0.2
WRAB	Tennant Creek	23.62	226	P	P	17 26 31.9	+0.4
WRA	Warramunga Arr	23.64	226	P	P	17 26 29.1	-2.6
	8.7nm,0.7s,mb4.3,baz=50,slow=9.6,SNR=9.2						
WRA				PcP	PcP	17 30 16.8	+1.3
	0.7nm,0.7s,baz=52,slow=2.1,SNR=4.8						
ASAR	Alice Springs	26.47	220	P	P	17 26 57.8	+0.4
	4.1nm,0.8s,mb4.0,baz=61,slow=9.0,SNR=6.7						
ASAR				PcP	PcP	17 30 23.5	+1.8
	0.5nm,0.7s,baz=36,slow=2.0,SNR=3.2						
FITZ	Fitzroy Crossi	29.57	239	LR	LR	17 39 35.2	
	comp=Z,264nm,20.9s,MS3.8,baz=68,slow=37						
STKA	Stephens Creek	29.65	198	LR	LR	17 38 46.8	
	comp=Z,368nm,18.9s,MS4.0,baz=16,slow=35						
JHJ	Hachijo jima 2	38.51	343	LR	LR	17 43 21.8	
	comp=Z,126nm,18.6s,MS3.8,baz=104,slow=34						
URZ	Urewera	41.21	150	P	P	17 29 03.9	-0.8
	5.9nm,0.9s,mb4.2,baz=316,slow=23,SNR=2.8						
MJAR	Matsushiro Arr	42.16	343	LR	LR	17 44 27.9	
	comp=Z,173nm,21.1s,MS3.9,baz=165,slow=33						
RPZ	Rata Peaks	43.16	160	P	P	17 29 20.7	+0.2
	16nm,0.8s,mb4.8,baz=138,slow=4.1,SNR=6.4						
KSRS	Korea Array	46.78	333	P	P	17 29 47.6	-1.8
	1.6nm,0.8s,mb4.0,baz=153,slow=10,SNR=8.8						
KSRS				LR	LR	17 47 44.7	
	comp=Z,106nm,20.3s,MS3.8,baz=326,slow=34						
ASAJ	Asahikawa	48.43	351	LR	LR	17 47 33.5	
	comp=Z,140nm,19.0s,MS4.0,baz=331,slow=33						
XAN	Xi'an	55.41	316	P	P	17 30 53.5	-0.8
XAN				AP	pP	17 31 01.8	-6.0
XAN				SCS	ScS	17 40 38.3	-1.3
XAN				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
XAN				AMB	AMB		
	comp=Z,481nm,5.4s						
XAN				LR	LR		
	comp=N,48nm,18.1s,MS4.1						
XAN				LR	LR		
	comp=E,135nm,20.5s,MS4.1						
XAN				LR	LR		
	comp=Z,214nm,21.4s,MS4.2						
KMI	Kunming	55.85	304	P	P	17 31 00.6	+3.0
KMI				AP	pP	17 31 10.9	-0.2
KMI				XP	sP	17 31 15.8	-0.9
KMI				PP	PP	17 33 06.3	+3.6
KMI				S	S	17 38 40.5	-1.2
KMI				XS	sS	17 39 01.1	-3.3
KMI				SS	SS	17 42 25.5	-2.7
KMI				AMB	AMB		
	comp=Z,5.0nm,2.0s,mb4.2						
KMI				AMB	AMB		
	comp=Z,83nm,3.7s						
KMI				LR	LR		
	comp=N,96nm,19.2s,MS4.2						
KMI				LR	LR		
	comp=E,148nm,18.6s,MS4.2						
KMI				LR	LR		
	comp=Z,169nm,19.3s,MS4.1						
CMAR	Chiang Mai Arr	56.83	295	P	P	17 31 03.7	-1.0
	comp=Z,0.5nm,0.4s,mb3.9,baz=109,slow=6.3,SNR=8.5						
CMAR				LR	LR	17 55 34.8	
	comp=Z,59nm,18.3s,MS3.7,baz=290,slow=36						
PETK	Petropavlovsk-	56.87	4	LR	LR	17 51 28.6	
	comp=Z,129nm,20.7s,MS4.0,baz=189,slow=32						
LZH	Lanzhou	60.02	316	*eP*	P	17 31 27.0	+0.4
LZH				AP	pP	17 31 32.5	-7.8
LZH				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,74nm,4.5s						
GTA	Gaotai	64.44	317	*eP*	P	17 31 56.8	+0.6
GTA				AP	pP	17 32 01.3	-8.6
GTA				XP	sP	17 32 04.8	-11
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.3						
SONM	Songino Array	65.10	328	P	P	17 32 00.5	+0.3
	comp=Z,1.3nm,0.8s,mb4.0,baz=134,slow=6.4,SNR=3.7						
SONM				LR	LR	17 58 43.3	
	comp=Z,178nm,21.0s,MS4.2,baz=248,slow=35						
CHUM	Lake Minchumin	78.98	22	*eP*	P	17 33 23.2	+0.2
MKAR	Makanchi Array	79.11	319	P	P	17 33 23.4	-0.7
	comp=Z,0.2nm,0.2s,mb3.6,baz=93,slow=7.7,SNR=5.1						
MKAR				LR	LR	18 07 46.9	
	comp=Z,86nm,19.7s,MS4.1,baz=160,slow=35						
IMA2	Indian Mountai	79.72	20	*eP*	P	17 33 27.4	+0.5
ZALV	Zalesovo Beam	79.92	326	P	P	17 33 27.0	-1.3
	comp=Z,2.9nm,0.8s,mb4.2,baz=104,slow=6.3,SNR=7.2						
ZALV				LR	LR	18 06 43.6	
	comp=Z,69nm,22.0s,MS4.0,baz=223,slow=34						
MCK	McKinley	80.18	23	*eP*	P	17 33 28.0	-1.5
	comp=Z,14nm,1.0s,mb4.8						
TKM2	Tokmak 2	82.73	314	*eP*	P	17 33 45.3	+1.8
EGAK	Eagle	83.69	23	*eP*	P	17 33 47.9	0.0
	comp=Z,4.2nm,1.0s,mb4.5						
HYT	Haines Junctio	83.85	28	P	P	17 33 50.6	+1.8
AML	Almayashu	83.96	313	*eP*	P	17 33 51.1	+1.3
	comp=Z,5.9nm,0.9s,mb4.7						
MAW	Mawson	86.25	203	LR	LR	18 09 27.4	
	comp=Z,120nm,18.5s,MS4.3,baz=318,slow=34						
BRVK	Borovoye	88.08	323	*eP*	P	17 34 09.7	-0.1
	comp=Z,5.7nm,0.8s,mb4.8						
PDAR	Pinedale Array	98.66	47	LR	LR	18 11 19.4	
	comp=Z,86nm,20.6s,MS4.2,baz=93,slow=30						
LPAZ	La Paz	135.50	118	PKP	PKPdf	17 40 42.0	+1.5
	comp=Z,0.8nm,1.0s,baz=207,slow=2.3,SNR=2.5						
TORD	Torodi Ar. Bea	149.33	289	PKPbc	PKPbc	17 41 09.6	+0.4
	comp=Z,0.9nm,0.8s,baz=40,slow=3.6,SNR=3.7						
BDFB	Brasília	152.27	135	PKPbc	PKPbc	17 41 17.4	+1.3
	comp=Z,2.1nm,0.6s,baz=325,slow=25,SNR=3.4						

*IDC **23** 17:29:54.8±0.7, 1222N×8738W, h0^{km}, mb4.1/11, mb1 4.4/12, mb1mx4.2/22, mbtmp4.1/12, ML3.6/1, MS3.9/14, Ms1 3.9/14, ms1mx3.6/31, Error ellipse: s-maj=32.4km s-min=13.9km az=60.0*

*CASC **23** 17:30:00.7±2.3, 1215N×8774W, h32^{km}±17^{km}, MD4.2, ML4.3, mb4.7(NEIC)*

*ISCJB **23** 17:30:02.4±0.7, 1220N±005×8752W±007, h72^{km}±6^{km}, mb4.4/31, Error ellipse: s-maj=14.2km s-min=4.7km az=144.9*

*NEIC **23** 17:30:03.0±0.9, 1217N×8763W, h64^{km}±9^{km}, mb4.7/19, MD4.5(CASC), Error ellipse: s-maj=15.7km s-min=5.7km az=56.0*

ISC 23 17:30:03.9±0.7, 1229N±006×8745W±009, h67^{km}±7^{km}, n100, σ1°10/88, mb4.4/31, 1C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	Leon	0.56	77	*eP*	Pn	17 30 16.2	-0.8
CRIN	San Cristobal	0.56	44	*eP*	Pn	17 30 17.0	-0.1
CRIN				AML	AML	17 30 36.1	
	comp=E,32μm,0.5s						
TEL3	Telica 3	0.65	64	*eP*	Pn	17 30 17.6	-0.5
TELN	Telica	0.68	62	*eP*	Pn	17 30 17.7	-0.7
CNGN	Cerro Negro	0.76	74	*eP*	Pn	17 30 18.8	-0.6
CNGN				AML	AML	17 30 48.3	
	comp=E,15μm,0.5s						
COPN	Copaltepe	0.84	97	*eP*	Pn	17 30 19.7	-0.6
MOMN	Momotombo	0.90	82	*eP*	Pn	17 30 21.0	+0.1
CSAN		1.01	96	*eP*	Pn	17 30 22.1	-0.3
CNCH	Conchagua	1.05	339	*eP*	x	17 30 19.8	
APYN	Apoyeque	1.07	93	*eP*	Pn	17 30 23.1	-0.1
XAVN	Gruta Xavier	1.10	97	*eP*	Pn	17 30 23.5	-0.1
TISN	Laguna Tiscapa	1.16	97	*eP*	Pn	17 30 24.6	+0.3
CRUN	El Crucero	1.16	105	*eP*	Pn	17 30 25.1	+0.8
MGAN	Managua	1.18	97	*eP*	Pn	17 30 24.6	0.0
HUEN		1.25	88	*eP*	Pn	17 30 26.0	+0.6
MASN	Masaya	1.30	103	*eP*	Pn	17 30 26.3	+0.2
MASN				AML	AML	17 30 54.8	
	comp=E,4μm,0.6s						
MASN				*i*		17 30 54.9	
VSM	San Miguel	1.39	325	*eP*	x	17 30 24.2	
APON	Apoyo	1.40	105	*eP*	Pn	17 30 28.1	+0.6
CAHU	Cacacuatique	1.65	333	*eP*	x	17 30 28.4	
CAHU				*eP*	x	17 30 28.4	
TGUH	Tegucigalpa,Un	1.77	6	*eP*	Pn	17 30 32.3	0.0
TGUH	Tegucigalpa,Un	1.77	6	*eP*	Pn	17 30 31.8	-0.5
SSN	San Juan del S	1.84	122	*eP*	Pn	17 30 31.0	-2.4
SNVI	San Vicente	1.89	314	*eP*	x	17 30 30.1	
CONN	Concepcion	1.92	112	*eP*	Pn	17 30 33.8	-0.6
MADN	Villa Maderas	2.07	115	*eP*	Pn	17 30 35.3	-1.1
BOQS	Boqueron	2.29	309	*eP*	x	17 30 34.5	
SBLS	San Blas	2.62	306	*eP*	x	17 30 39.4	
2RIO	Dos Rios de Up	2.79	129	*i P*	Pn	17 30 40.9	-5.3
VCR	Vista de Mar	2.79	140	*eP*	Pn	17 30 44.0	-2.2
VCR	Vista de Mar	2.79	140	*eP*	Pn	17 30 51.5	+5.2
JCR	Jicaral	3.34	136	*eP*	Pn	17 30 51.6	-2.1
JCR	Jicaral	3.34	136	*eP*	Pn	17 30 59.6	+5.9
JCR				*eS*	Sn	17 31 49.4	+17
CAO	Cobano	3.45	138	*eP*	Pn	17 30 52.7	-2.6
CGA2	Cerro Gallo 2	3.70	127‖	*eP*	Pn	17 30 59.8	+1.2
PRS1	Puriscal	3.84	126‖	*eP*	Pn	17 31 02.7	+2.2
PRS1	Puriscal	3.84	126‖	*eP*	Pn	17 31 02.7	+2.2
LCR2	La Lucha 2	4.22	126	*eP*	Pn	17 31 08.0	+2.1
QCR	Quepos	4.30	131‖	*eP*	Pn	17 31 06.1	-0.8
QCR	Quepos	4.30	131	*eP*	Pn	17 31 06.4	-0.5
BUS	Buena Vista	4.53	126	*eP*	Pn	17 31 11.0	+1.0
BUS				*eS*	Sn	17 32 03.7	+2.3
BUS	Buena Vista	4.53	126‖	*eP*	Pn	17 31 10.9	+0.9
BAR1		5.07	126	*eP*	Pn	17 31 17.9	+0.5
ACR	Cerro Adams	5.55	130	*eP*	Pn	17 31 23.7	-0.3
CTCR	Cotoan	5.71	126	*eP*	Pn	17 31 26.5	+0.3
BRU2	Volcan	5.83	126	*eP*	Pn	17 31 27.6	-0.2
TEIG	Tepich	7.93	354	Pn	Pn	17 31 59.9	+3.3
	comp=E,2.0nm,0.3s,baz=347,slow=14,SNR=11						
TEIG				LR	LR	17 35 14.0	
	comp=E,384nm,21.5s,baz=268,slow=40						
TEIG	Tepich	7.93	354	*eP*	Pn	17 31 59.2	+2.7
TEIG				LR	LR	17 35 14.0	
BCIP	Isla Barro Col	8.10	112	*eP*	Pn	17 32 00.3	+1.5
	comp=E,22nm,0.8s						
CMIG	Matias Romero	8.63	304	Pn	Pn	17 32 01.7	-4.5
	comp=E,0.7nm,0.3s,baz=123,slow=11,SNR=6.4						
CMIG				Sn	Sn	17 33 44.5	+2.4
	comp=E,0.6nm,0.3s,baz=90,slow=20,SNR=2.3						
CMIG				LR	LR	17 35 57.3	
	comp=E,2μm,20.0s,baz=121,slow=42						
CMIG	Matias Romero	8.63	304	Pn	Pn	17 32 01.7	-4.5
CMIG				Sn	Sn	17 33 44.5	+2.4
CMIG				LR	LR	17 35 57.3	
ROSC	El Rosal	14.92	119	Pn	Pn	17 33 31.4	+0.3
	comp=E,0.7nm,0.3s,baz=99,slow=22,SNR=6.6						
OTAV	Otavalo	14.93	143	P	Pn	17 33 30.0	-1.4
	comp=E,5.3nm,0.8s						
SDV	Santo Domingo	16.87	100	Pn	Pn	17 33 57.0	+1.1
	comp=E,0.5nm,0.3s,baz=25,slow=21,SNR=6.4						
ATAH	Atahualpa	21.17	154	P	P	17 34 46.1	+2.3
	comp=E,13nm,0.9s,mb4.2,baz=313,slow=16,SNR=7.7						
ATAH				LR	LR	17 42 04.7	
	comp=E,496nm,19.9s,baz=343,slow=34						
GOGA	Godfrey	21.34	9	*eP*	P	17 34 49.0	+3.5
	comp=E,21nm,0.7s,mb4.6						
TXAR	Lajitas Array	22.70	321	P	P	17 34 59.0	-1.0
	comp=E,16nm,0.7s,mb4.5,baz=136,slow=10,SNR=65						
TXAR				LR	LR	17 45 41.3	
	comp=E,113nm,18.2s,baz=135,slow=42						
MIAR	Mount Ida	22.85	347	*eP*	P	17 35 00.7	-0.8
	comp=E,11nm,0.4s,mb4.5						
CPCT	Cooper Cave	23.21	6	*eP*	P	17 35 06.7	+1.5
TKL	Tuckaleechee C	23.50	8	P	P	17 35 08.8	+1.0
	comp=E,5.7nm,0.7s,mb4.0,baz=178,slow=12,SNR=7.6						
TZTN	Tazewell	24.40	8	*eP*	P	17 35 14.4	-1.6
	comp=E,24nm,1.3s,mb4.4						
WMOK	Wichita Mounta	24.61	337	*eP*	P	17 35 17.2	-0.7
	comp=E,5.9nm,0.6s,mb4.2						
LPIG	La Paz	24.65	302	LR	LR	17 45 43.9	
	comp=E,185nm,19.2s,baz=36,slow=38						
ANMO	Albuquerque	28.40	326	LR	LR	17 50 12.4	
	comp=E,67nm,18.9s,baz=339,slow=43						
ECSD	EROS,Sioux Fal	32.31	348	*eP*	P	17 36 25.2	-1.3
	comp=E,18nm,1.3s,mb4.6						
LPAZ	La Paz	34.22	146	P	PcP	17 36 43.2	-0.2
	comp=E,1.6nm,1.0s,mb3.8,baz=332,slow=5.5,SNR=4.6						
LPAZ				LR	LR	17 50 35.0	
	comp=E,239nm,20.1s,baz=259,slow=36						
PDAR	Pinedale Array	35.91	332	P	P	17 36 57.9	+0.1
	comp=E,1.8nm,0.5s,mb4.3,baz=121,slow=9.3,SNR=13						
PDAR				PcP	PcP	17 39 24.2	+0.7
	comp=E,0.3nm,0.6s,baz=142,slow=4.6,SNR=3.4						
HWUT	Hardware Ranch	36.01	329	*eP*	P	17 36 58.8	+0.2
	comp=E,5.2nm,0.6s,mb4.6						
AGMN	Agassiz Refuge	36.58	351	*eP*	P	17 37 02.4	-0.9
	comp=E,7.1nm,0.8s,mb4.7						
AHID	Auburn Hatcher	36.64	330	*eP*	P	17 37 04.1	+0.1
	comp=E,8.6nm,0.6s,mb4.9						
REDW	Red Top Meadow	36.98	331	*eP*	P	17 37 07.0	+0.2
	comp=E,22nm,0.7s,mb5.2						
SNOW	Snow King Moun	37.01	331	*eP*	P	17 37 07.7	+0.7
	comp=E,24nm,0.6s,mb5.3						
LOHW	Long Hollow	37.05	332	*eP*	P	17 37 08.1	+0.7
	comp=E,5.0nm,0.6s,mb4.6						
TPAW	Teton Pass	37.12	331	*eP*	P	17 37 08.4	+0.4
	comp=E,15nm,0.8s,mb5.0						
RRI2	Red Ridge	37.19	331	*eP*	P	17 37 08.9	+0.3
	comp=E,12nm,0.8s,mb4.9						
ELK	Elko	37.40	324	*eP*	P	17 37 11.8	+1.4
	comp=E,3.9nm,1.1s,mb4.2						
IMW	Indian Meadow	37.43	332	*eP*	P	17 37 10.7	+0.1
	comp=E,7.1nm,0.6s,mb4.8						
RLMT	Red Lodge	37.65	334	*eP*	P	17 37 12.2	-0.2
	comp=E,3.7nm,0.6s,mb4.4						
YFT	Old Faithful	37.81	332	*eP*	P	17 37 15.5	+1.7
NVAR	Mina Array Bea	37.83	319	P	P	17 37 15.8	+1.8
	comp=E,0.8nm,0.8s,mb3.6,baz=126,slow=6.9,SNR=5.8						
NVAR				PcP	PcP	17 39 31.4	+1.9
	comp=E,0.7nm,0.8s,baz=151,slow=3.4,SNR=3.7						
ULM	Lac du Bonnet	38.48	351	P	P	17 37 17.2	-2.1
	comp=E,3.4nm,0.6s,mb4.4,baz=170,slow=7.4,SNR=9.0						
ULM				LR	LR	17 54 32.3	
	comp=E,74nm,18.6s,baz=345,slow=38						
BOZ	Bozeman (W)	39.09	333	*eP*	P	17 37 24.6	+0.1
	comp=E,5.1nm,0.8s,mb4.4						
DLMT	Dillon	39.31	332	*eP*	P	17 37 26.7	+0.3
	comp=E,14nm,1.2s,mb4.7						
MSO	Missoula	41.03	332	*eP*	P	17 37 40.5	0.0
	comp=E,14nm,1.3s,mb4.6						
YBH	Yreka Blue Hor	42.48	320	LR	LR	17 58 33.2	
	comp=E,201nm,18.8s,baz=142,slow=40						
OD2	Odessa Site #2	43.71	329	*eP*	P	17 38 02.5	+0.1
SCHQ	Schefferville	45.43	17	P	P	17 38 15.0	-0.9
	comp=E,2.3nm,0.5s,mb4.2,baz=220,slow=6.2,SNR=9.5						
SCHQ				LR	LR	17 59 33.3	
	comp=E,210nm,18.7s,baz=172,slow=39						
EDM	Edmonton	45.76	338	*eP*	P	17 38 17.4	-1.2
BDFB	Brasília	47.88	124	P	P	17 38 35.2	-0.5
	comp=E,1.9nm,0.6s,mb4.1,baz=276,slow=20,SNR=6.0						
BDFB				LR	LR	18 00 53.3	
	comp=E,114nm,19.2s,baz=305,slow=39						
CPUP	Villa Florida	48.28	143	P	P	17 38 36.2	-2.4
	comp=E,0.3nm,0.3s,mb3.6,baz=330,slow=8.1,SNR=3.4						
CPUP				LR	LR	18 00 30.5	
	comp=E,151nm,19.2s,baz=73,slow=38						
CPUP	Villa Florida	48.28	143	P	P	17 38 36.2	-2.4
CPUP				LR	LR	18 00 30.5	
YKA	Yellowknife Ar	53.77	345	P	P	17 39 18.4	-0.8
	comp=E,1.4nm,0.7s,mb4.1,baz=136,slow=8.0,SNR=7.9						
PLCA	Paso Flores	55.02	164	P	P	17 39 26.9	-1.7
	comp=E,3.3nm,0.9s,mb4.3,baz=334,slow=3.1,SNR=4.7						
DLBC	Dease Lake	56.05	335	*eP*	P	17 39 35.8	0.0
TORD	Torodi Ar. Bea	86.44	77	LR	LR	18 16 03.1	
	comp=E,71nm,19.1s,baz=285,slow=32						
AKASG	Malin Array Be	96.65	35	LR	LR	18 25 02.4	
	comp=E,117nm,21.0s,baz=85,slow=34						
KSRS	Korea Array	120.41	328	PKP	PKPdf	17 48 48.8	+0.6
	comp=E,0.2nm,0.3s,baz=71,slow=27,SNR=4.5						
ASAR	Alice Springs	139.21	248	PKP	PKPdf	17 49 24.0	0.0
	comp=E,0.4nm,0.7s,baz=96,slow=2.5,SNR=4.2						
WRA	Warramunga Arr	139.23	254	PKP	PKPdf	17 49 24.4	+0.3
	comp=E,1.3nm,1.0s,baz=92,slow=2.6,SNR=11						
FITZ	Fitzroy Crossi	147.58	256	PKPbc	PKPbc	17 49 40.6	-1.0
	comp=E,1.6nm,0.9s,baz=149,slow=8.2,SNR=3.9						
CMAR	Chiang Mai Arr	148.81	348	PKP	PKPdf	17 49 41.8	+0.9
	comp=E,1.5nm,0.7s,baz=346,slow=3.1,SNR=12						
CMAR				PKPbc	PKPbc	17 49 45.0	+0.3
	comp=E,1.5nm,0.7s,baz=343,slow=3.0,SNR=12						

*SKHL **23** 17:42:24.8±2.8, 4581N×15259E, h45^{km}±15^{km}, mb4.9/3*

*JMA **23** 17:42:27.9±0.6, 4643N×15224E, h30^{km}, M4.7*

*MOS **23** 17:42:27.7±2.2, 4609N×15239E, h42^{km}, mb4.6/4, Error ellipse: s-maj=14.2km s-min=9.6km az=63.6*

*ISCJB **23** 17:42:28.5±1.0, 4612N±009×1522E±01, h48^{km}±9^{km}, mb3.8/11, Error ellipse: s-maj=18.8km s-min=6.5km az=140.4*

*IDC **23** 17:42:32.4±3.1, 4625N×15223E, h64^{km}±27^{km}, mb3.5/10, mb1 3.8/12, mb1mx3.6/23, mbtmp3.6/12, ML3.6/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/24, Error ellipse: s-maj=26.0km s-min=17.8km az=126.0*

*NEIC **23** 17:42:34.7±1.9, 4636N×15242E, h86^{km}±18^{km}, mb4.5/1, Error ellipse: s-maj=24.8km s-min=14.0km az=117.0*

ISC 23 17:42:30.9±0.9, 4613N±009×1522E±01, h52^{km}±8^{km}, n54, σ1°39/66, mb3.8/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.14	255	*e*PN	Pn	17 43 14.3	-3.5
KUR				*i* S	Sn	17 43 53.5	-0.5
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
KUR				smax			
	comp=N,1μm,0.7s						
KUR				smax			
	comp=E,670nm,0.7s						
KUR	Kuril'sk	3.14	255	*e*P	Pn	17 43 14.3	-3.5
KUR				AMB	AMB	17 43 15.0	
	comp=E,172nm,0.7s						
KUR				*i* S	Sn	17 43 53.5	-0.5
KUR				A		17 44 10.8	
	comp=E,1μm,0.7s						
KUR				A		17 44 10.8	
	comp=E,671nm,0.7s						
YUK	Yuzh-Kuril'sk	4.93	247	*e*PN	Pn	17 43 43.6	+1.3
YUK				*e*S	Sn	17 44 40.6	+2.6
YUK				pmax	pmax		
	comp=Z,180nm,0.4s						
YUK				pmax	pmax		
	comp=N,140nm,0.5s						
YUK				smax			
	comp=E,420nm,0.6s						
YUK				smax			
	comp=N,1μm,0.7s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.6s						
YUK	Yuzh-Kuril'sk	4.93	247	*e*P	Pn	17 43 43.6	+1.3
YUK				AMB	AMB	17 43 57.5	
	comp=E,180nm,0.3s						
YUK				AMB	AMB	17 43 57.5	
	comp=E,140nm,0.5s						
YUK				*e*S	Sn	17 44 40.6	+2.6
YUK				A		17 44 55.8	
	comp=E,420nm,0.6s						
YUK				A		17 44 55.8	
	comp=E,1μm,0.7s						
YUK				A		17 45 03.5	
	comp=E,2μm,1.0s						
YUK				A		17 45 03.5	
	comp=E,2μm,1.6s						
SKR	Severo-Kuril's	5.26	29	*e*P	Pn	17 43 46.1	-0.7
SKR				AMB	AMB	17 43 48.0	
	comp=E,50nm,0.5s						
NEM2	Nemuro 2	5.34	241	P	Pn	17 43 47.1	-0.9
NEM2				*e*S	Sn	17 44 46.3	-1.8
JRA	Rausu	5.45	249	P	Pn	17 43 51.6	+2.2
JNK	Nakash	5.87	247	P	Pn	17 43 56.1	+0.9
JNK				*e*S	Sn	17 45 02.7	+1.6
JAK	Akkeshi	6.18	242	P	Pn	17 43 58.8	-0.7
JAK				*e*S	Sn	17 45 06.4	-2.4
JTKR	Abashiri--Toko	6.23	253	P	Pn	17 44 02.4	+2.2
YSS	Yuzh-Sakhalins	6.54	281	*e*PN	Pn	17 44 06.9	+2.5
YSS				*e*		17 45 30.1	
JMP	Maruseppu	6.58	254	P	Pn	17 44 07.6	+2.6
JAR	Ashorobuto	6.62	248	P	Pn	17 44 06.8	+1.4
JOB	Onbets	6.77	245	P	Pn	17 44 07.7	+0.2
JOB				*e*S	Sn	17 45 21.6	-1.6
ASAJ	Asahikawa	7.06	257	P	Pn	17 44 14.8	+3.4
ASAJ				PN	Pn	17 44 14.9	+3.4
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	Churui	7.22	244	P	Pn	17 44 13.2	-0.5
JCH				*e*S	Sn	17 45 32.0	-2.2
JFR	Furan	7.44	250	P	Pn	17 44 18.4	+1.7
JAB	Ashibetsu	7.54	253	P	Pn	17 44 21.1	+3.1
JEM	Erimo	7.68	241	P	Pn	17 44 20.7	+0.8
JBT2	Biratori 2	7.77	248	P	Pn	17 44 21.4	+0.2
JNBK	Urakawa-nobuka	7.78	244	P	Pn	17 44 20.7	-0.6
JNBK				*e*S	Sn	17 45 44.7	-3.2
PETK	Petropavlovsk-	7.86	25	P	Pn	17 44 21.2	-1.1
	comp=Z,0.3nm,0.3s,baz=177,slow=13,SNR=3.9						
PET	Petropavlovsk	8.09	29	*e*PN	Pn	17 44 19.1	-6.4
JNB	Noboribetsu	8.78	249	P	Pn	17 44 35.2	+0.2
JNB				*e*S	Sn	17 46 12.8	+0.4
JKB	Kayabe	9.07	246	P	Pn	17 44 38.2	-0.8
JKB				*e*S	Sn	17 46 15.0	-4.6
JYM2	Yakumo 2	9.38	249	P	Pn	17 44 43.7	+0.5
JSR	Shiriuchi	9.65	246	P	Pn	17 44 46.0	-0.9
JANG	Nango	9.66	237	P	Pn	17 44 43.9	-3.2
JANG				*e*S	Sn	17 46 24.2	-10
JTM	Tenmabayashi	9.67	240	P	Pn	17 44 45.4	-1.8
JTH	Tanohata	9.75	234	*e*S	Sn	17 46 27.2	-9.1
OF

GNL	**Ganaly**	**1.59 269**	*e*P	Pn	18 43 21.2	+1.8
GNL			*i* S	Sn	18 43 41.4	+2.6
RUS	**Russkaya**	**1.83 225**	*e*P	Pn	18 43 23.7	+1.0
RUS			*i* S	Sn	18 43 45.9	+1.2
KMNR	**Kamenistaya**	**2.02 354**	P	Pn	18 43 27.9	+2.6
KIRR	**Kirishev**	**2.21 356**	P	Pn	18 43 29.9	+2.0
ZLN	**Zelenaya**	**2.27 3**	P	Pn	18 43 30.6	+1.8
ZLN			*i* S	Sn	18 43 57.9	+2.3
CIRR	**Tsirk**	**2.37 2**	P	Pn	18 43 32.6	+2.5
CIRR			*i* S	Sn	18 44 00.4	+2.4
SRDR	**Sredinnyy**	**2.62 349**	P	Pn	18 43 34.9	+1.4
KBTR	**Krutoberegovo**	**2.77 26**	P	Pn	18 43 37.8	+2.2
KBTR			*i* S	Sn	18 44 09.7	+1.9

NIED ***23*** *19:23:00, 44.80N×149.30E, h35km, Mw3.5 Best double couple: M0 2.34000×10^14 NP1:φ0=338.00000°, δ71.00000°, λ57.00000°. NP2:φ0=222.00000°, δ37.00000°, λ148.00000°.*

JMA 23 19:23:11.0±0.7, 4480N×14926E, h30km, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.91**	**242**	P	Pn	19 23 53.6	-1.6
NEM2				*e*S	Sn	19 24 26.1	-3.1
JRA	**Rausu**	**3.09**	**255**	P	Pn	19 23 59.6	+1.9
JNK	**Nakash**	**3.48**	**251**	P	Pn	19 24 03.2	+0.1
JAK	**Akkeshi**	**3.76**	**243**	P	Pn	19 24 06.1	-0.8
JAK				*e*S	Sn	19 24 47.4	-2.7
JTKR	**Abashiri--Toko**	**3.92**	**260**	P	Pn	19 24 11.2	+2.0
JAR	**Ashorobuto**	**4.23**	**251**	P	Pn	19 24 14.7	+1.3
JAR				*e*S	Sn	19 25 01.3	-0.5
JMP	**Maruseppu**	**4.30**	**261**	P	Pn	19 24 16.6	+2.3
JOB	**Onbets**	**4.36**	**246**	P	Pn	19 24 16.0	+0.9
JOB				*e*S	Sn	19 25 04.1	-0.7
JSE	**Soyaes**	**4.75**	**274**	P	Pn	19 24 27.9	+7.4
JKK2	**Kamakawa 2**	**4.76**	**261**	P	Pn	19 24 23.8	+3.1
JCH	**Churui**	**4.80**	**245**	P	Pn	19 24 21.3	+0.1
JFR	**Furan**	**5.08**	**254**	P	Pn	19 24 28.3	+3.3
JEM	**Erimo**	**5.24**	**240**	P	Pn	19 24 28.8	+1.5
JNBK	**Urakawa-nobuka**	**5.36**	**244**	P	Pn	19 24 28.5	-0.4
JBT2	**Biratori 2**	**5.39**	**250**	P	Pn	19 24 30.7	+1.5
JBT2				*e*S	Sn	19 25 30.9	+0.7
JNB	**Noboribetsu**	**6.41**	**252**	P	Pn	19 24 44.2	+1.0
JNB				*e*S	Sn	19 25 54.0	-1.3
JKB	**Kayabe**	**6.67**	**247**	P	Pn	19 24 46.7	-0.1
JKB				*e*S	Sn	19 25 57.5	-4.2
JYM2	**Yakumo 2**	**7.00**	**251**	P	Pn	19 24 52.4	+1.0
JANG	**Nango**	**7.22**	**235**	P	Pn	19 24 51.7	-2.8
JANG				*e*S	Sn	19 26 06.7	-8.8
JTH	**Tanohata**	**7.32**	**231**	*e*S	Sn	19 26 06.9	-11
JOSM	**Okushiri--Mats**	**7.62**	**253**	P	Pn	19 25 01.1	+1.2
OFUJ	**Ofunato**	**8.04**	**227**	*e*S	Sn	19 26 26.5	-9.0
JRG	**Rokugo**	**8.38**	**233**	*e*S	Sn	19 26 37.2	-6.7
JIO	**Ouri**	**8.67**	**226**	*e*S	Sn	19 26 39.4	-12

MAN 23 19:41:15, 1962N×12151E, h13km, mb4.4, ML3.3, MS3.1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.46**	**159**	*e*P	Pn	19 41 40.9	-0.2
APYP	**Conner**	**1.76**	**188**	*e*P	Pn	19 41 43.1	-2.1
APYP				*e*S	Sn	19 42 08.1	+0.5
ABRA	**Dolores**	**2.10**	**201**	*e*P	Pn	19 41 50.5	+0.6
CAUP	**Cauayan**	**2.68**	**173**	*e*P	Pn	19 41 59.8	+2.0
PALP	**Palanan**	**2.69**	**161**	*e*P	Pn	19 41 51.1	-6.8
BALP	**Baler**	**3.85**	**179**	*e*P	Pn	19 42 15.0	+1.0

KRSC 23 19:48:43.5±0.0, 5549N×16280E, h5km±5km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.72**	**1**	*e*P	Pg	19 48 58.9	+1.6
KBTR				*e*S	Sg	19 49 10.8	+4.1
MKZ	**Mys Kozlova**	**1.12**	**214**	*e*P	Pg	19 49 05.0	+0.1
MKZ				*e*S	Sg	19 49 22.2	+2.7
ZLN	**Zelenaya**	**1.25**	**296**	*e*P	Pg	19 49 07.6	+0.2
ZLN				*e*S	Sg	19 49 25.5	+2.0
CIRR	**Tsirk**	**1.32**	**299**	*e*P	Pn	19 49 08.4	-0.1
CIRR				*e*S	Sg	19 49 26.7	+0.9
BZMR	**Bezymyannaya**	**1.38**	**290**	*e*P	Pn	19 49 10.0	+0.6
BZMR				*e*S	Sb	19 49 28.9	+1.2
BZWR	**Bezymyannyi-We**	**1.39**	**291**	*e*P	Pn	19 49 09.7	+0.2
BZWR				*e*S	Sb	19 49 28.9	+1.1
KRSR	**Krestovskiy**	**1.46**	**301**	*e*P	Pn	19 49 10.2	-0.2
KLY	**Klyuchi**	**1.46**	**305**	*e*P	Pn	19 49 09.4	-1.1
KLY				*e*S	Sn	19 49 28.7	-1.3
KIRR	**Kirishev**	**1.47**	**289**	*e*P	Pn	19 49 11.2	+0.7
KIRR				*e*S	Sn	19 49 31.6	+1.5
KMNR	**Kamenistaya**	**1.48**	**281**	*e*P	Pn	19 49 12.0	+1.3
KMNR				*e*S	Sn	19 49 32.0	+1.6
SRKR	**Sorokina**	**1.48**	**323**	*e*P	Pn	19 49 11.1	+0.3
SRKR				*e*S	Sn	19 49 31.1	+0.6
TUMR	**Tumrok**	**1.53**	**263**	*e*P	Pn	19 49 12.7	+1.3
TUMR				*e*S	Sn	19 49 33.5	+1.9
KPT	**Kopyto**	**1.53**	**289**	*e*P	Pn	19 49 12.4	+0.9
KPT				*e*S	Sn	19 49 33.6	+1.8
KOZ	**Kozyrevsk**	**1.75**	**290**	*e*P	Pn	19 49 15.9	+1.5
KOZ				*e*S	Sn	19 49 39.6	+2.5
SRDR	**Sredinnyy**	**1.92**	**297**	*e*P	Pn	19 49 18.3	+1.5
SRDR				*e*S	Sn	19 49 43.6	+2.2
SPN	**Mys Shipunski**	**2.90**	**215**	S	Sn	19 50 07.3	+1.9
NLC	**Nalytchevo**	**3.08**	**222**	S	Sn	19 50 12.5	+2.6
SDLR	**Sedlovina**	**3.19**	**228**	P	Pn	19 49 36.9	+2.7
SDLR				S	Sn	19 50 14.3	+1.8
GNL	**Ganaly**	**3.35**	**240**	P	Pn	19 49 38.9	+2.5
RUS	**Russkaya**	**3.97**	**221**	P	Pn	19 49 47.8	+2.8

ISCJB ***23*** *20:17:37.9±0.8, 1027N±006×6209W±003, h19km±8km, Error ellipse: s-maj=9.7km s-min=4.9km az=166.2*
TRN ***23*** *20:17:37.4, 11.16N×6194W, h26km, MD2.8*
FUNV ***23*** *20:17:39.3, 1030N×6213W, h8km, MW2.9*
NEIC ***23*** *20:17:39.5, 1109N×6181W, h30km, MD2.8(TRN), After TRN.*

ISC 23 20:17:37.4±1.0, 1025N±006×6210W±003, h14km±6km, n15, σ1§12/28, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.42**	**343**	⇓*i*P	**Pg**	**20 17 45.9**	**+0.1**
GUIV				*e*S	**Sg**	**20 17 51.8**	**+0.4**
TCE	**Chacachacare**	**0.56**	**37**	*e*P	**Pg**	**20 17 48.4**	**-0.1**
TCE				*e*S	**Sg**	**20 17 54.8**	**-1.2**
TPP	**Pointe-a-Pierr**	**0.64**	**84**	*e*P	**Pg**	**20 17 55.5**	**+5.5**
TPP				*e*S	**Sg**	**20 18 08.2**	**+10**
TPP	**Pointe-a-Pierr**	**0.64**	**84**	*e*P	**Pg**	**20 17 55.5**	**+5.5**
TPP				*e*S	**Sg**	**20 18 06.8**	**+8.4**
TRN	**Trinidad (W)**	**0.79**	**60**	*e*P	**Pg**	**20 17 51.8**	**-1.0**
GUNV	**Guanoco**	**0.84**	**264**	*e*P	**Pb**	**20 17 54.7**	**+0.9**
GUNV				*e*S	**Sb**	**20 18 05.5**	**+0.6**
TBH	**Brigand Hill**	**1.04**	**77**	*e*P	**Pb**	**20 17 57.7**	**+0.4**
TBH				*e*S	**Sb**	**20 18 12.4**	**+1.6**
TBH	**Brigand Hill**	**1.04**	**77**	*e*P	**Pb**	**20 17 57.7**	**+0.4**
TBH				*e*S	**Sb**	**20 18 14.6**	**+3.8**
CRUV	**Carupano**	**1.20**	**291**	*e*P	**Pn**	**20 17 59.2**	**-0.6**
CRUV				*e*S	**Sb**	**20 18 13.8**	**-1.5**
ITEV	**Isla Los Testi**	**1.50**	**317**	*e*P	**Pn**	**20 18 04.8**	**+0.8**
ITEV				*e*S	**Sn**	**20 18 24.3**	**+0.9**
TPR	**Prospect**	**1.60**	**54**	*e*P	**Pn**	**20 17 57.2**	**-8.1**
TPR				*e*S	**Sn**	**20 18 06.9**	**-19**
TOSP	**Speyside**	**1.86**	**56**	*e*P	**Pn**	**20 18 10.3**	**+1.4**
TOSP				*e*S	**Sn**	**20 18 30.9**	**-1.4**
PCRV	**Puerto La Cruz**	**2.50**	**269**	*e*P	**Pn**	**20 18 19.4**	**+1.7**
CAOV	**Caicara del Or**	**5.08**	**236**	*e*P	**Pn**	**20 18 53.8**	**+0.5**
CAOV				*e*S	**Sn**	**20 19 49.7**	**-2.2**
BAUV	**El Baul**	**6.00**	**258**	*e*P	**Pn**	**20 19 06.0**	**+0.1**
BAUV				*e*S	**Sn**	**20 20 11.2**	**-3.4**

IDC ***23*** *20:25:01.1±2.4, 6.10S×15121E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/15, mbtmp3.8/7, MS2.7/1, Ms1 2.7/1, ms1mx2.3/22, Error ellipse: s-maj=76.7km s-min=21.9km az=105.0*
NEIC ***23*** *20:25:02.3±1.4, 6.13S×15126E, h10km, mb4.2/2, Error ellipse: s-maj=40.4km s-min=15.3km az=110.0*
ISCJB ***23*** *20:25:04.9±1.7, 6.1S±0.1×151.1E±0.3, h33km, mb3.6/7, Error ellipse: s-maj=45.0km s-min=16.9km az=17.3*

ISC 23 20:25:07.2±1.6, 61S±01×151.1E±03, h35km, n13, σ0§77/11, mb3.6/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.40**	**111**	LR	LR	20 30 01.1	
	comp=Z,55nm,21.4s,baz=358,slow=32						
KAKA	**Kakadu**	**19.48**	**249**	*e*P	**Pn**	**20 29 33.3**	**+0.6**
	9.3nm,1.1s						
WRAB	**Tennant Creek**	**21.25**	**228**	*e*P	**P**	**20 29 50.2**	**-0.3**
WB2	**Warramunga Arr**	**21.25**	**228**	*e*P	**P**	**20 29 50.3**	**-0.2**
WRA	**Warramunga Arr**	**21.26**	**228**	P	**P**	**20 29 49.9**	**-0.7**
	3.0nm,0.9s,mb3.6,baz=53,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**24.00**	**222**	P	**P**	**20 30 18.1**	**-0.7**
	1.5nm,0.6s,mb3.6,baz=51,slow=10,SNR=21						
STKA	**Stephens Creek**	**27.09**	**198**	P	**P**	**20 30 47.6**	**+0.9**
	1.5nm,0.8s,mb3.6,baz=22,slow=11,SNR=2.9						
FITZ	**Fitzroy Crossi**	**27.50**	**242**	*e*P	**P**	**20 30 50.9**	**+0.3**
	4.1nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.50**	**242**	P	**P**	**20 30 51.5**	**+0.9**
	0.9nm,0.4s,mb3.7,baz=44,slow=10,SNR=18						
SONM	**Songino Array**	**66.54**	**329**	P	**P**	**20 35 53.6**	**0.0**
	0.3nm,0.5s,mb3.6,baz=132,slow=4.0,SNR=2.9						
MKAR	**Makanchi Array**	**80.19**	**319**	P	**P**	**20 37 15.3**	**+1.2**
	0.1nm,0.3s,mb3.3,baz=96,slow=6.4,SNR=2.2						
ZALV	**Zalesovo Beam**	**81.30**	**327**	P	**P**	**20 37 18.5**	**-1.4**
	0.3nm,0.3s,mb3.7,baz=126,slow=6.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**149.02**	**285**	PKPbc	PKPbc	20 44 51.3	-1.4
	0.5nm,0.4s,baz=96,slow=2.6,SNR=10						

ISCJB ***23*** *20:25:49.8±0.7, 3930N±003×4104E±005, h4km±6km, Error ellipse: s-maj=6.4km s-min=4.5km az=19.8*
ISK ***23*** *20:25:49.6, 3930N×4102E, h9km, MD3.3*
DDA ***23*** *20:25:49.9, 3927N×4114E, h6km±4km, Md2.9*
CSEM ***23*** *20:25:49.6±0.1, 3931N×4104E, h12km, MD3.3, Error ellipse: s-maj=3.1km s-min=1.9km az=164.0*

ISC 23 20:25:50.4±0.7, 3930N±003×4104E±005, h6km±5km, n18, σ0§59/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.36**	**166**	*i* P	**Pg**	**20 25 56.8**	**-0.6**
BNGL				*i* S	**Sg**	**20 26 01.9**	**-0.2**
EZM	**Erzurum**	**0.65**	**23**	PG	**Pg**	**20 26 03.0**	**+0.1**
ERZM	**Erzurum**	**0.65**	**23**	*i* P	**Pg**	**20 26 03.1**	**+0.1**
ERZM				*i* S	**Sg**	**20 26 11.6**	**+0.1**
KOPT	**Kop Dagi**	**0.83**	**330**	*i* P	**Pg**	**20 26 06.8**	**+0.6**
KOPT				*i* S	**Sg**	**20 26 20.8**	**+3.7**
KOPT	**Kop Dagi**	**0.83**	**330**	*i* P	**Pg**	**20 26 06.8**	**+0.5**
KOPT				*i* S	**Sg**	**20 26 20.8**	**+3.8**
HOMI	**Horasan**	**1.00**	**42**	*i* P	**Pg**	**20 26 09.5**	**-0.1**
EZC	**Erzincan**	**1.04**	**296**	*e*PN	**Pn**	**20 26 15.3**	**+3.8**
PTK	**Pertek**	**1.34**	**253**	*e*PN	**Pn**	**20 26 14.5**	**-1.1**
PTK				*e*SN	**Sn**	**20 26 33.6**	**-0.3**
AGRB	**Hanur-Agry**	**1.54**	**79**	*e*PN	**Pn**	**20 26 17.9**	**-0.4**
AGRB				*e*SN	**Sn**	**20 26 38.9**	**+0.2**
DIYA	**Diyarbakir**	**1.55**	**208**	*i* P	**Pn**	**20 26 19.4**	**+0.8**
SVRC	**Sivrice-ELAZID**	**1.64**	**236**	*e*PN	**Pn**	**20 26 19.2**	**-0.4**
SVRC				*e*SN	**Sn**	**20 26 41.0**	**-0.1**
GUMT	**Gumushane**	**1.67**	**314**	*e*PN	**Pn**	**20 26 19.4**	**-0.7**
MARD	**Mardin**	**2.00**	**186**	*i* P	**Pn**	**20 26 25.4**	**+0.8**
MARD				*i* S	**Sn**	**20 26 50.9**	**+1.0**
KARS	**Kars**	**2.05**	**50**	*e*PN	**Pn**	**20 26 25.2**	**-0.2**
BCA	**Borcka**	**2.19**	**12**	*e*PN	**Pn**	**20 26 27.1**	**-0.1**
CLDR	**Caldiran**	**2.24**	**93**	*e*PN	**Pn**	**20 26 27.8**	**-0.2**
MALT	**Malatya**	**2.27**	**245**	*e*PN	**Pn**	**20 26 28.4**	**+0.1**
ESPY	**Espiye-Giresun**	**2.40**	**313**	*e*PN	**Pn**	**20 26 29.9**	**-0.2**

IDC ***23*** *20:49:45.0±1.6, 800S×107.47E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/18, mbtmp3.9/8, MS3.1/2, Ms1 3.2/2, ms1mx2.5/25, Error ellipse: s-maj=91.7km s-min=16.9km az=52.0*
NEIC ***23*** *20:49:48.2±0.5, 778S×10778E, h15km, mb4.1/4, Error ellipse: s-maj=17.7km s-min=10.2km az=51.0*
DJA ***23*** *20:49:52, 810S×10772E, h88km, ML4.7/8*
ISCJB ***23*** *20:49:55.9±0.8, 773S±009×10800E±006, h96km±6km, mb4.0/9, Error ellipse: s-maj=16.7km s-min=7.7km az=30.2*

ISC 23 20:49:54.8±0.7, 799S±007×10784E±006, h75km±7km, n38, σ1§49/33, mb4.0/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**1.17**	**349**	P	**Pn**	**20 50 16.9**	**+1.2**
	0.0nm,0.0s						
CLJI	**Cilicap**	**1.20**	**77**	P	**Pn**	**20 50 17.6**	**+1.6**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**1.55**	**16**	P	**Pn**	**20 50 18.3**	**-2.2**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**1.60**	**307**	P	**Pn**	**20 50 22.2**	**+0.9**
	0.0nm,0.0s						
DBJI	**Dramaga**	**1.79**	**323**	P	**Pn**	**20 50 25.4**	**+1.7**
	0.0nm,0.0s						
CBJI	**Citeko**	**1.84**	**328**	P	**Pn**	**20 50 22.8**	**-1.6**
	0.0nm,0.0s						
BJII	**Banjamegara**	**1.96**	**71**	P	**Pn**	**20 50 25.2**	**-0.9**
	0.0nm,0.0s						
SBJI	**Serang**	**2.51**	**317**	P	**Pn**	**20 50 37.8**	**+4.3**
	0.0nm,0.0s						
XMIS	**Christmas Isla**	**3.29**	**221**	*e*P	**Pn**	**20 50 41.2**	**-2.8**
SJI	**Sawahan**	**3.90**	**87**	P	**Pn**	**20 50 52.7**	**+0.4**
	0.0nm,0.0s						
TPI	**Tanjungpandan**	**5.20**	**358**	P	**Pn**	**20 51 10.9**	**+0.8**
	0.0nm,0.0s						
PPBI	**Pangkal Pinang**	**6.03**	**344**	P	**Pn**	**20 51 23.5**	**+2.1**
	0.0nm,0.0s						
KMMI	**Kalianget**	**6.15**	**82**	P	**Pn**	**20 51 21.4**	**-1.6**
	0.0nm,0.0s						
PBKI	**Pangkalan Bun**	**6.49**	**36**	P	**Pn**	**20 51 25.1**	**-2.5**
	0.0nm,0.0s						
BBKI	**Banjar Baru**	**8.29**	**58**	P	**Pn**	**20 51 50.8**	**-1.5**
	0.0nm,0.0s						
PCI	**Palu**	**13.87**	**60**	P	**Pn**	**20 53 09.1**	**+1.1**
	0.0nm,0.0s						
PSI	**Prapat**	**13.92**	**320**	LR	LR	20 59 47.5	
	comp=Z,58nm,19.0s,baz=309,slow=44						
MBWA	**Marble Bar**	**17.42**	**140**	*e*P	**Pn**	**20 53 51.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**20.02**	**122**	*e*P	**P**	**20 54 23.0**	**+1.3**
	17nm,3.0s						
FITZ	**Fitzroy Crossi**	**20.02**	**122**	P	**P**	**20 54 23.1**	**+1.3**
	1.5nm,0.6s,baz=294,slow=8.4,SNR=11						
KAKA	**Kakadu**	**24.64**	**103**	*e*P	**P**	**20 55 06.7**	**-1.9**
	4.1nm,0.6s,mb4.0						
CMAR	**Chiang Mai Arr**	**27.70**	**342**	LR	LR	21 05 46.7	
	comp=Z,47nm,20.5s,baz=55,slow=35						
WRA	**Warramunga Arr**	**28.28**	**118**	P	**P**	**20 55 42.2**	**+0.9**
	0.5nm,0.5s,mb3.3,baz=289,slow=11,SNR=8.3						
WRA				PcP	PcP	20 58 53.7	+0.7
	0.3nm,0.8s,baz=311,slow=1.9,SNR=4.5						
WRAB	**Tennant Creek**	**28.28**	**118**	*e*P	**P**	**20 55 43.4**	**+2.0**
WB2	**Warramunga Arr**	**28.29**	**118**	*e*P	**P**	**20 55 45.4**	**+4.0**
ASAR	**Alice Springs**	**29.44**	**125**	P	**P**	**20 55 54.1**	**+2.5**
	0.5nm,0.8s,mb3.2,baz=295,slow=8.2,SNR=4.4						
ASAR				PcP	PcP	20 58 57.4	+1.5
	0.3nm,0.4s,baz=305,slow=1.8,SNR=5.4						
STKA	**Stephens Creek**	**39.37**	**132**	*e*P	**P**	**20 57 18.8**	**+1.7**
	1.7nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**39.37**	**132**	P	**P**	**20 57 19.0**	**+1.9**
	1.9nm,0.5s,mb4.2,baz=315,slow=8.5,SNR=15						
STKA				PcP	PcP	20 59 25.7	+1.4
	1.0nm,0.5s,baz=180,slow=1.0,SNR=4.3						
SONM	**Songino Array**	**55.59**	**359**	P	**P**	**20 59 22.9**	**+0.4**
	0.4nm,0.4s,mb3.8,baz=182,slow=7.8,SNR=4.3						
SONM				PcP	PcP	21 00 22.2	+0.8
	1.1nm,0.5s,baz=170,slow=3.9,SNR=8.3						
TKM2	**Tokmak 2**	**58.55**	**333**	*e*P	**P**	**20 59 42.7**	**-0.8**
	1.6nm,0.5s,mb4.3						
MK31	**Makanchi Array**	**59.09**	**340**	*e*P	**P**	**20 59 45.8**	**-1.4**
MKAR	**Makanchi Array**	**59.09**	**340**	P	**P**	**20 59 46.3**	**-0.9**
	1.8nm,0.6s,mb4.3,baz=147,slow=7.2,SNR=23						
ZALV	**Zalesovo Beam**	**64.69**	**345**	P	**P**	**21 00 24.2**	**-0.4**
	0.7nm,0.4s,mb3.9,baz=156,slow=7.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**64.69**	**345**	P	**P**	**21 00 24.2**	**-0.4**
ARCES	**ARCESS Array B**	**94.74**	**340**	P	**P**	**21 03 07.2**	**-0.2**
	2.4nm,0.9s,mb4.6,baz=110,slow=5.3,SNR=2.8						
TXAR	**Lajitas Array**	**143.57**	**50**	PKP	PKPdf	21 09 20.4	-1.2
	0.3nm,0.5s,baz=180,slow=1.2,SNR=7.6						
JCT	**Junction City**	**145.80**	**45**	*e*PKPdf	PKPdf	21 09 27.2	+1.8
MIAR	**Mount Ida**	**147.04**	**34**	*e*PKPbc	PKPbc	21 09 30.1	+0.6

CSEM ***23*** *20:51:38.7±0.1, 3919N×4122E, h15km, MD3.2, Error ellipse: s-maj=3.5km s-min=2.6km az=169.0*
ISK ***23*** *20:51:38.5, 39.17N×4121E, h12km, MD3.2*
ISCJB ***23*** *20:51:40.6±0.6, 3925N±004×4122E±006, h26km±6km, Error ellipse: s-maj=8.4km s-min=5.9km az=15.7*
DDA ***23*** *20:51:40.5, 3927N×4101E, h13km±2km, Md2.8*

ISC 23 20:51:40.8±0.6, 3927N±003×4120E±007, h18km±6km, n14, σ1§04/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.32**	**187**	*i* P	**Pg**	**20 51 47.1**	**-0.4**
BNGL				*i* S	**Sg**	**20 51 53.1**	**+0.9**
EZM	**Erzurum**	**0.65**	**11**	PG	**Pg**	**20 51 53.4**	**-0.2**
ERZM	**Erzurum**	**0.65**	**11**	*i* P	**Pg**	**20 51 53.4**	**-0.1**
ERZM				*i* S	**Sg**	**20 52 01.9**	**-0.4**
KOPT	**Kop Dagi**	**0.93**	**324**	*i* P	**Pb**	**20 51 57.1**	**-1.2**
KOPT				*i* S	**Sb**	**20 52 12.1**	**+1.9**
HOMI	**Horasan**	**0.95**	**35**	*i* P	**Pb**	**20 52 02.5**	**+3.9**
HOMI				*i* S	**Sb**	**20 52 15.4**	**+4.6**
EZC	**Erzincan**	**1.18**	**295**	*e*PN	**Pn**	**20 52 06.6**	**+4.3**
AGRB	**Hanur-Agry**	**1.42**	**77**	*e*PN	**Pn**	**20 52 05.3**	**-0.4**
PTK	**Pertek**	**1.46**	**256**	*e*PN	**Pn**	**20 52 04.4**	**-1.8**
PTK				*e*SN	**Sn**	**20 52 24.6**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.73**	**240**	*e*PN	**Pn**	**20 52 08.9**	**-1.0**
GUMT	**Gumushane**	**1.78**	**312**	*e*PN	**Pn**	**20 52 11.1**	**+0.5**
MARD	**Mardin**	**1.98**	**190**	*i* P	**Pn**	**20 52 15.9**	**+2.5**
MARD				*i* S	**Sn**	**20 52 43.4**	**+5.8**
CLDR	**Caldiran**	**2.11**	**93**	*e*PN	**Pn**	**20 52 14.3**	**-0.8**
BCA	**Borcka**	**2.20**	**8**	*e*PN	**Pn**	**20 52 16.9**	**+0.6**
MALT	**Malatya**	**2.37**	**247**	*e*PN	**Pn**	**20 52 18.6**	**-0.1**

ISCJB ***23*** *21:01:40.9±2.0, 1401N±009×121.1E±0.1, h191km±21km, mb3.8/12, Error ellipse: s-maj=23.1km s-min=12.6km az=160.0*
NEIC ***23*** *21:01:41.5±1.4, 1399N×121.02E, h180km±15km, mb4.1/5, Error ellipse: s-maj=13.9km s-min=7.7km az=70.0*
IDC ***23*** *21:01:43.4±13.0, 1394N×12088E, h194km±141km, mb3.3/7, mb1 3.5/7, mb1mx3.2/19, mbtmp3.3/7, Error ellipse: s-maj=68.5km s-min=12.9km az=60.0*

ISC 23 21:01:41.5±2.1, 1399N±009×1210E±01, h179km±22km, n16, σ0§60/16, mb3.8/12, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**10.63**	**2**	*e*Pn	**Pn**	**21 04 09.9**	**+0.6**
QIZ	**Qiongzhong**	**11.83**	**297**	*e*P	**Pn**	**21 04 24.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.66**	**285**	P	**P**	**21 06 17.4**	**-0.7**
	1.2nm,0.5s,mb3.5,baz=95,slow=7.9,SNR=13						
MDJ	**Mudanjiang**	**31.39**	**12**	P	**P**	**21 07 44.2**	**-1.2**
LSA	**Lhasa**	**31.70**	**304**	*e*P	**P**	**21 07 49.3**	**+0.8**
	1.5nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**32.21**	**172**	*e*P	**P**	**21 07 52.9**	**0.0**
	6.9nm,1.2s,mb4.3						
HIA	**Hailar**	**35.19**	**359**	*e*P	**P**	**21 08 17.8**	**-0.5**
	2.1nm,0.3s,mb4.2						
SONM	**Songino Array**	**35.87**	**343**	P	**P**	**21 08 24.8**	**+0.7**
	0.4nm,0.6s,mb3.2,baz=168,slow=7.4,SNR=3.0						
WRAB	**Tennant Creek**	**36.17**	**158**	*e*P	**P**	**21 08 26.3**	**-0.7**
	1.3nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**36.17**	**158**	P	**P**	**21 08 27.3**	**+0.3**
	0.6nm,0.4s,mb3.6,baz=336,slow=9.4,SNR=11						
ASAR	**Alice Springs**	**39.49**	**161**	P	**P**	**21 08 55.2**	**+0.5**
	0.4nm,0.3s,mb3.5,baz=339,slow=7.9,SNR=18						
MKAR	**Makanchi Array**	**45.99**	**323**	P	**P**	**21 09 47.3**	**+0.6**
	0.3nm,0.3s,mb3.4,baz=104,slow=8.2,SNR=10						
ZALV	**Zalesovo Beam**	**48.95**	**332**	P	**P**	**21 10 09.0**	**-0.4**
	0.8nm,0.4s,mb3.7,baz=124,slow=7.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**48.95**	**332**	P	**P**	**21 10 09.0**	**-0.4**
KURK	**Kurchatov**	**50.13**	**326**	*e*P	**P**	**21 10 18.8**	**+0.4**
	4.2nm,0.8s,mb4.1			

12nm,0.5s
PBAR Barrancos 1.95 22 *e*Pn **Pn 21 53 40.4 +1.1**
PBAR *e*Sn **Sn 21 54 03.7 -0.1**
12nm,0.5s
EJIF Jimena Fronter 2.02 87 P **Pn 21 53 41.6 +1.5**
1.1nm,0.1s,SNR=7.9
EJIF S **Sn 21 54 04.8 -0.6**
3.5nm,0.2s,SNR=4.0
ECEU Ceuta 2.15 102 P **Pn 21 53 43.2 +1.2**
0.1nm,0.0s,SNR=7.9
ECEU S **Sn 21 54 08.6 0.0**
5.2nm,0.1s,SNR=4.0
ECEU Ceuta 2.15 102 P **Pn 21 53 43.2 +1.3**
3.3nm,0.1s,SNR=7.9
ECEU S **Sn 21 54 08.6 0.0**
5.2nm,0.1s,SNR=4.0
EVO Evora 2.16 359 *e*Pn **Pn 21 53 42.9 +0.7**
EVO *e*Sn **Sn 21 54 07.8 -1.2**
EVO A 21 54 09.1
64nm,0.1s
EVO Evora 2.16 359 *e*Pn **Pn 21 53 42.9 +0.7**
EVO *e*Sn **Sn 21 54 07.8 -1.2**
64nm,0.1s
MOE Montemor 2.18 352 *e*Pn **Pn 21 53 43.1 +0.8**
MOE *e*Sn **Sn 21 54 08.0 -1.3**
DKH Dar Kharkhour 2.29 112 *e*P **Pn 21 53 41.0 -2.9**
DKH *e*S **Sn 21 54 09.0 -3.1**
EBAD Badajoz 2.50 17 P **Pn 21 53 47.6 +0.7**
0.1nm,0.0s,SNR=30
EBAD S **Sn 21 54 16.8 -0.6**
11nm,0.1s,SNR=5.7
EBAD Badajoz 2.50 17 P **Pn 21 53 47.6 +0.8**
2.8nm,0.1s,SNR=30
EBAD S **Sn 21 54 16.8 -0.6**
11nm,0.1s,SNR=5.7
PESTR Estremoz 2.52 7 *e*Pn **Pn 21 53 47.6 +0.6**
PESTR *e*Sn **Sn 21 54 16.6 -1.1**
PESTR A 21 54 19.9
7.4nm,0.2s
PESTR Estremoz 2.52 7 *e*Pn **Pn 21 53 47.6 +0.6**
PESTR *e*Sn **Sn 21 54 16.6 -1.1**
7.4nm,0.2s
EMIJ Mijas 2.58 85 P **Pn 21 53 48.1 +0.2**
0.9nm,0.1s,SNR=6.1
EMIJ S **Sn 21 54 18.4 -1.0**
4.0nm,0.2s
ECAB El Cabril 2.66 49 P **Pn 21 53 50.3 +1.4**
2.7nm,0.2s,SNR=13
ECAB S **Sn 21 54 22.2 +1.0**
3.9nm,0.0s,SNR=6.2
ECAB El Cabril 2.66 49 P **Pn 21 53 50.3 +1.4**
2.7nm,0.2s,SNR=13
ECAB S **Sn 21 54 20.4 -0.8**
3.9nm,0.0s,SNR=6.2
ECAB El Cabril 2.66 49 P **Pn 21 53 50.3 +1.4**
ECAB S **Sn 21 54 20.4 -0.7**
PMAFR Mafra 2.79 338 *e*Pn **Pn 21 53 51.4 +0.7**
PMAFR *e*Sn **Sn 21 54 23.1 -1.3**
PMAFR A 21 54 24.4
56nm,0.3s
PMAFR Mafra 2.79 338 *e*Pn **Pn 21 53 51.4 +0.7**
PMAFR *e*Sn **Sn 21 54 23.1 -1.3**
56nm,0.3s
ALMR Almeirim 2.83 350 *e*P **Pn 21 53 51.8 +0.5**
ALMR *e*S **Sn 21 54 23.0 -2.4**
ALMR *e*S **Sn 21 54 23.0 -2.4**
ALMR AML AML 21 54 25.4
comp=E,35nm,0.3s
ALMR Almeirim 2.83 350 *e*P **Pn 21 53 51.8 +0.5**
ALMR *e*S **Sn 21 54 23.0 -2.4**
PMRV Marv??o 3.09 8 *e*Pn **Pn 21 53 55.7 +0.8**
PMRV *e*Sn **Sn 21 54 30.7 -1.2**
ELOJ Sierra Loja 3.16 75 P **Pn 21 53 58.1 +2.2**
comp=E,0.7nm,0.1s,SNR=7.9
ELOJ S **Sn 21 54 34.4 +0.7**
comp=E,2.2nm,0.2s,SNR=7.9
ELOJ Sierra Loja 3.16 75 P **Pn 21 53 58.0 +2.1**
ELOJ S **Sn 21 54 34.4 +0.8**
comp=E,2.2nm,0.2s,SNR=7.9
ELUQ Luque 3.19 67 S **Sn 21 54 34.2 -0.3**
comp=E,6.9nm,0.2s,SNR=4.0
EADA Adamuz 3.25 55 P **Pn 21 53 58.3 +1.2**
comp=E,0.1nm,0.0s,SNR=28
EADA S **Sn 21 54 34.5 -1.2**
comp=E,17nm,0.1s
EADA Adamuz 3.25 55 P **Pn 21 53 58.3 +1.2**
comp=E,1.7nm,0.1s,SNR=28
EADA S **Sn 21 54 34.5 -1.3**
comp=E,17nm,0.1s
EADA Adamuz 3.25 55 P **Pn 21 53 58.3 +1.2**
EADA S **Sn 21 54 34.5 -1.2**
PTOM Tomar 3.27 354 *e*Pn **Pn 21 53 57.8 +0.5**
PTOM *e*Sn **Sn 21 54 33.8 -2.4**
PTOM A 21 54 36.7
comp=E,45nm,0.1s
PTOM Tomar 3.27 354 *e*Pn **Pn 21 53 57.8 +0.5**
PTOM *e*Sn **Sn 21 54 33.8 -2.4**
comp=E,45nm,0.1s
TGT Taghat 3.31 133 *i* P **Pn 21 53 57.0 -0.8**
TGT *i* S **Sn 21 54 31.0 -6.2**
PCBR Castelo Branco 3.49 6 *e*Pn **Pn 21 54 01.2 +0.8**
PCBR *e*Sn **Sn 21 54 39.9 -1.9**
PCBR A 21 54 41.7
comp=E,17nm,0.2s
PCBR Castelo Branco 3.49 6 *e*Pn **Pn 21 54 01.2 +0.8**
PCBR *e*Sn **Sn 21 54 39.9 -1.9**
comp=E,17nm,0.2s
EGUA Guajares 3.57 81 P **Pn 21 54 02.7 +1.2**
comp=E,0.2nm,0.1s,SNR=7.9
EGUA S **Sn 21 54 43.3 -0.5**
comp=E,3.8nm,0.2s,SNR=4.0
EGUA Guajares 3.57 81 P **Pn 21 54 02.7 +1.2**
comp=E,2.6nm,0.2s,SNR=7.9
EGUA S **Sn 21 54 39.1 -4.7**
comp=E,3.8nm,0.2s,SNR=4.0
EGUA Guajares 3.57 81 P **Pn 21 54 02.7 +1.2**
EGUA S **Sn 21 54 39.1 -4.7**
ECOG Cogollos-Vega 3.65 74 P **Pn 21 54 04.1 +1.6**
comp=E,0.3nm,0.1s,SNR=7.9
ECOG S **Sn 21 54 45.0 -0.6**
comp=E,7.6nm,0.4s,SNR=7.9
MIF Mishlifen 3.71 142 *i* P **Pn 21 54 02.5 -0.9**
MIF *i* S **Sn 21 54 41.0 -6.2**
EQUE Quentar 3.73 76 P **Pn 21 54 05.1 +1.5**
comp=E,0.8nm,0.1s,SNR=14
EQUE S **Sn 21 54 47.7 0.0**
comp=E,2.2nm,0.1s,SNR=7.7
EQUE Quentar 3.73 76 P **Pn 21 54 05.1 +1.4**
comp=E,0.8nm,0.1s,SNR=14
EQUE S **Sn 21 54 47.7 0.0**
comp=E,2.2nm,0.1s,SNR=7.7
EBAN Banos Encina 3.79 60 P **Pn 21 54 05.6 +1.1**
comp=E,0.6nm,0.1s,SNR=7.2
EBAN S **Sn 21 54 47.3 -1.8**
comp=E,4.6nm,0.1s
MTE Manteigas 4.04 5 *e*Pn **Pn 21 54 08.6 +0.6**
MTE *e*Sn **Sn 21 54 53.2 -2.2**
MTE A 21 54 54.7
comp=E,9.2nm,0.3s
MTE Manteigas 4.04 5 *e*Pn **Pn 21 54 08.6 +0.6**
MTE *e*Sn **Sn 21 54 53.2 -2.2**
comp=E,9.2nm,0.3s
KIB El Ksiba 4.10 157 P **Pn 21 54 07.0 -1.8**
KIB S **Sn 21 54 48.0 -8.8**
KIB El Ksiba 4.10 157 *i* P **Pn 21 54 07.0 -1.8**
CZD Col de Zad 4.11 143 *i* P **Pn 21 54 08.0 -0.8**
CZD *i* S **Sn 21 54 51.0 -5.9**
EBER Berja 4.12 81 P **Pn 21 54 11.3 +2.3**
comp=E,0.5nm,0.2s,SNR=7.9
EBER S **Sn 21 54 57.2 0.0**
comp=E,1.4nm,0.2s,SNR=4.0
EBER Berja 4.12 81 P **Pn 21 54 11.3 +2.3**
comp=E,0.5nm,0.2s,SNR=7.9
EBER S **Sn 21 54 57.2 0.0**
comp=E,1.4nm,0.2s,SNR=4.0
EQES Quesada 4.17 68 P **Pn 21 54 10.8 +1.1**
comp=E,0.1nm,0.0s,SNR=9.1
EQES S **Sn 21 54 58.0 -0.5**
comp=E,5.1nm,0.2s
EQES Quesada 4.17 68 P **Pn 21 54 10.8 +1.1**
comp=E,0.3nm,0.1s,SNR=9.1
EQES S **Sn 21 54 58.0 -0.5**
comp=E,5.1nm,0.2s
PVIS Viseu 4.34 1 *e*Sn **Sn 21 55 00.0 -2.8**
PVIS A 21 55 02.8
comp=E,10nm,0.1s
PVIS Viseu 4.34 1 *e*Sn **Sn 21 55 00.0 -2.8**
comp=E,10nm,0.1s
TZC Tazercounte 4.38 163 P **Pn 21 54 10.0 -2.6**
TZC S **Sn 21 54 55.0 -8.7**
TZC Tazercounte 4.38 163 *e*P **Pn 21 54 10.0 -2.6**
EHUE Huescar 4.53 70 P **Pn 21 54 15.8 +1.1**
comp=E,0.4nm,0.1s,SNR=7.9
EHUE S **Sn 21 55 05.8 -1.7**
comp=E,1.4nm,0.1s,SNR=7.9
ESDC Sonseca Array 4.57 43 P **Pn 21 54 16.4 +1.1**
comp=E,0.5nm,0.1s,baz=229,slow=12,SNR=6.3
ESDC S **Sn 21 55 06.8 -1.6**
comp=E,2.1nm,0.2s,baz=226,slow=23,SNR=6.9
ESDC Sonseca Array 4.57 43 P **Pn 21 54 16.4 +1.1**
comp=E,0.5nm,0.1s,SNR=6.3
ESDC S **Sn 21 55 06.8 -1.6**
comp=E,2.1nm,0.2s,SNR=6.9
CIA Chichaoua 4.83 188 P **Pn 21 54 15.0 -3.8**
CIA S **Sn 21 55 05.0 -10**
CIA Chichaoua 4.83 188 *i* P **Pn 21 54 15.0 -3.8**
MVO Moncorvo 4.85 8 *e*Pn **Pn 21 54 19.5 +0.5**
MVO *e*Sn **Sn 21 55 12.4 -2.8**
MVO A 21 55 15.8
comp=E,7.6nm,0.2s
MVO Moncorvo 4.85 8 *e*Pn **Pn 21 54 19.5 +0.5**
MVO *e*Sn **Sn 21 55 12.4 -2.8**
comp=E,7.6nm,0.2s
EVIA Vianos 4.90 61 P **Pn 21 54 19.8 0.0**
comp=E,0.2nm,0.1s,SNR=7.9
EVIA S **Sn 21 55 14.3 -2.3**
comp=E,2.4nm,0.1s,SNR=7.9
EVIA Vianos 4.90 61 P **Pn 21 54 20.1 +0.3**
comp=E,1.4nm,0.1s,SNR=7.9
EVIA S **Sn 21 55 14.3 -2.3**
comp=E,2.4nm,0.1s,SNR=7.9
OUK Oukaimeden 5.14 179 P **Pn 21 54 21.0 -2.1**
OUK S **Sn 21 55 11.0 -12**
OUK Oukaimeden 5.14 179 *i* P **Pn 21 54 21.0 -2.1**
GUD Guadarrama 5.21 34 P **Pn 21 54 25.4 +1.3**
comp=E,0.7nm,0.2s,SNR=5.4
GUD S **Sn 21 55 23.1 -1.2**
comp=E,1.3nm,0.2s,SNR=7.9
ZFT Errachidia 5.26 144 *i* P **Pn 21 54 24.0 -0.7**
ZFT *i* S **Sn 21 55 18.0 -7.3**
PCAB Cabril 5.34 360 *e*Sn **Sn 21 55 24.0 -3.3**
ELOB Lobios 5.50 359 P **Pn 21 54 28.5 +0.5**
comp=E,0.2nm,0.1s,SNR=8.3
ELOB S **Sn 21 55 26.9 -4.3**
comp=E,3.5nm,0.1s
PBRG Braganca 5.52 10 *e*Pn **Pn 21 54 28.9 +0.7**
PBRG *e*Sn **Sn 21 55 28.3 -3.4**
PBRG A 21 55 31.7
comp=E,3.3nm,0.3s
PBRG Braganca 5.52 10 P **Pn 21 54 28.9 +0.7**
PBRG S **Sn 21 55 28.3 -3.4**
comp=E,1.7nm,0.3s
EMUR La Murta 5.58 73 P **Pn 21 54 31.1 +2.1**
comp=E,0.1nm,0.1s,SNR=4.0
EMUR S **Sn 21 55 29.1 -4.1**
comp=E,1.8nm,0.3s,SNR=7.9
EMUR La Murta 5.58 73 P **Pn 21 54 31.1 +2.1**
comp=E,1.3nm,0.3s,SNR=4.0
ETOB Tobarra 5.59 64 P **Pn 21 54 29.5 +0.3**
comp=E,0.2nm,0.1s,SNR=14
ETOB S **Sn 21 55 30.2 -3.3**
comp=E,3.0nm,0.1s
ETOB Tobarra 5.59 64 P **Pn 21 54 29.2 0.0**
comp=E,0.4nm,0.1s,SNR=14
ETOB Tobarra 5.59 64 P **Pn 21 54 29.2 0.0**
ETOB S **Sn 21 55 30.2 -3.3**
ECAL Calabor 5.65 9 P **Pn 21 54 31.1 +1.1**
comp=E,0.1nm,0.0s,SNR=7.0
ECAL S **Sn 21 55 31.9 -3.1**
comp=E,4.3nm,0.2s
ETOR Torete 6.42 44 P **Pn 21 54 41.5 +0.8**
comp=E,0.4nm,0.0s,SNR=7.0
ETOR S **Sn 21 55 52.0 -2.0**
comp=E,6.4nm,0.1s
STS Santiago 6.53 356 S **Sn 21 55 52.0 -4.6**
comp=E,3.2nm,0.1s,SNR=4.0
EBEN Beniarda 6.58 67 P **Pn 21 54 43.3 +0.4**
SNR=7.9
EBEN S **Sn 21 55 53.5 -4.4**
comp=E,0.9nm,0.1s,SNR=4.0
EBEN Beniarda 6.58 67 P **Pn 21 54 43.3 +0.5**
SNR=7.9
EMAZ Mazaricos 6.62 354 S **Sn 21 55 53.4 -5.5**
comp=E,3.5nm,0.1s,SNR=4.0
EMOS Mosqueruela 7.11 54 P **Pn 21 54 51.5 +1.3**
SNR=7.9
EMOS S **Sn 21 56 06.4 -4.6**
comp=E,0.1nm,0.1s,SNR=4.0
EMOS Mosqueruela 7.11 54 P **Pn 21 54 51.5 +1.3**
ELAN Lanestosa 7.69 26 S **Sn 21 56 19.3 -6.0**
SNR=4.0
EBIE Bielsa 8.89 42 P **Pn 21 55 16.9 +2.4**
SNR=7.9
EBIE S **Sn 21 56 48.2 -6.5**
SNR=7.9

IDC ***23*** *22:09:53.5±2.0, 6053S×2664W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/13, mbtmp4.3/4, MS3.6/4, Ms1 3.5/4, ms1mx3.3/17, Error ellipse: s-maj=70.6km s-min=30.5km az=10.0*
ISCJB ***23*** *22:09:54.8±0.6, 6180S±007×287W±02, h10km, mb4.5/7, MS3.6/4, Error ellipse: s-maj=14.5km s-min=7.3km az=147.1*
NEIC ***23*** *22:10:01.6±2.5, 6186S×2884W, h54km±26km, mb4.2/3, Error ellipse: s-maj=16.1km s-min=13.3km az=217.0*
ISC 23 22:09:56.8±0.6, 6178S±007×288W±02, h10km, n21, σ1§42/20, mb4.5/7, MS3.6/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.09**	**146**	*e*	**Pn**	**22 12 51.3**	**+2.5**
VNA1				*e*		22 12 54.1	
VNA1				*e*		22 13 02.6	
VNA3	**Neumayer Olymp**	**12.12**	**150**	*e*	**Pn**	**22 12 51.3**	**+2.2**
VNA3				*e*		22 12 53.8	
VNA3				*e*		22 13 02.4	
VNA3				*e*S	**Sn**	**22 15 04.1**	**+0.1**
VNA2	**Neumayer--Watz**	**12.49**	**146**	*e*	**Pn**	**22 12 55.8**	**+1.6**
VNA2				*e*		22 12 58.6	
VNA2				*e*		22 13 05.9	
VNA2				*e*S	**Sn**	**22 15 10.8**	**-2.3**
SNAA	**Sanae**	**14.12**	**145**	*e*Pn	**Pn**	**22 13 16.8**	**+0.3**
3.2nm,0.6s							
SNAA				*e*Sn	**Sn**	**22 15 48.3**	**-4.7**
PMSA	**Palmer Station**	**15.99**	**244**	*e*Pn	**Pn**	**22 13 42.9**	**+1.5**
4.1nm,0.4s							
TRIS	**Tristan da Cun**	**26.80**	**30**	P	**P**	**22 15 37.0**	**+0.3**
529nm,0.3s							
TRQA	**Tornquist**	**31.32**	**304**	*e*P	**P**	**22 16 17.6**	**+0.6**
3.9nm,0.9s,mb4.2							
PLCA	**Paso Flores**	**32.70**	**291**	P	**P**	**22 16 33.1**	**+4.2**
1.4nm,0.8s,mb4.0,baz=122,slow=9.5,SNR=2.8							
CPUP	**Villa Florida**	**40.27**	**319**	P	**P**	**22 17 29.9**	**-3.7**
2.1nm,0.5s,mb4.1,baz=141,slow=6.6,SNR=8.8							
CPUP				LR	LR	22 33 06.0	
comp=Z,40nm,21.4s,MS3.2,baz=318,slow=35							
SBA	**Scott Base**	**40.29**	**185**	P	**P**	**22 17 33.2**	**-0.1**
LVC	**Limon Verde**	**47.74**	**307**	LR	LR	22 37 16.4	
comp=Z,87nm,21.0s,MS3.7,baz=218,slow=34							
LVC	**Limon Verde**	**47.74**	**307**	*e*P	**P**	**22 18 32.0**	**-1.6**
6.0nm,0.9s,mb4.6							
BDFB	**Brasilia**	**48.06**	**335**	LR	LR	22 35 13.6	
comp=Z,28nm,21.0s,MS3.2,baz=5.1,slow=32							
SHEL	**Horse Pasture**	**48.62**	**30**	P	**P**	**22 18 41.5**	**+1.0**
CASY	**Casey**	**48.81**	**160**	*e*P	**P**	**22 18 39.2**	**-2.2**
260nm,2.3s,mb5.8							
LPAZ	**La Paz**	**53.23**	**311**	P	**P**	**22 19 14.4**	**-0.8**
1.8nm,0.5s,mb4.2,baz=144,slow=6.1,SNR=15							
LSZ	**Lusaka**	**61.31**	**67**	*e*P	**P**	**22 20 12.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**78.46**	**30**	P	**P**	**22 21 47.2**	**-10**
8.0nm,0.6s,mb4.8,baz=199,slow=6.2,SNR=46							
PPT	**Papeete**	**88.16**	**235**	LR	LR	22 57 13.8	
comp=Z,107nm,18.8s,MS4.3,baz=304,slow=32							
WRAB	**Tennant Creek**	**97.47**	**164**	P	**P**	**22 23 28.9**	**-1.8**
SONM	**Songino Array**	**151.34**	**98**	PKPbc	PKPbc	22 29 45.3	-4.1
1.4nm,0.9s,baz=216,slow=1.7,SNR=8.8							

HLW ***23*** *22:11:35.7, 3465N×2448E, h27km, Mb3.5*
ISCJB ***23*** *22:11:38.2±1.3, 3418N±004×247E±01, h17km±17km, Error ellipse: s-maj=14.2km s-min=6.7km az=170.3*
CSEM ***23*** *22:11:38.4±0.1, 3419N×2465E, h20km, MD3.5, Error ellipse: s-maj=3.4km s-min=1.5km az=72.0*
NEIC ***23*** *22:11:39.0, 3426N×2460E, h32km, MD3.5(ATH), After ATH.*
ATH ***23*** *22:11:41.9, 3452N×2466E, h27km±8km, MD3.5/4*
ISC 23 22:11:39.3±1.4, 3425N±004×246E±01, h16km±13km, n13, σ0§86/16, 2C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.74**	**323**	*e*PN	**Pg**	**22 11 53.5**	**-0.3**
VAM	**Vamos**	**1.21**	**343**	*e*Pb	**Pb**	**22 12 00.6**	**-1.2**
VAM				*e*Sn	**Sn**	**22 12 18.0**	**+0.4**
NPS	**Neapolis**	**1.29**	**38**	*e*PN	**Pn**	**22 12 02.5**	**-0.2**
KARP	**Karpathos**	**2.45**	**57**	*e*PN	**Pn**	**22 12 20.1**	**+1.5**
KARP				*e*SN	**Sn**	**22 12 48.1**	**-0.1**
SLUM		**2.79**	**170**	⇓P	**Pn**	**22 12 23.5**	**+0.2**
HMAT	**Matruh**	**3.77**	**146**	⇓P	**Pn**	**22 12 36.7**	**-0.1**
AWBH		**6.95**	**147**	⇓P	**Pn**	**22 13 20.9**	**+0.4**
GLL	**Jalalah**	**7.61**	**126**	⇑P	**Pn**	**22 13 28.9**	**-0.6**
HFRF	**Wahat Farafira**	**7.75**	**155**	⇑P	**Pn**	**22 13 32.3**	**+0.8**
SUZ		**8.23**	**120**	⇓P	**Pn**	**22 13 37.8**	**-0.3**
RSH		**8.34**	**111**	P	**Pn**	**22 13 38.8**	**-0.8**
HDK1	**Dakhla**	**9.61**	**153**	P	**Pn**	**22 13 58.0**	**+1.0**
HDK2	**Wahat Dakhilah**	**10.59**	**158**	⇓P	**Pn**	**22 14 11.6**	**+1.2**
HDK2				S	**Sn**	**22 16 06.6**	**-2.1**

IDC ***23*** *22:26:06.5±1.3, 7015S×15508E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/16, mbtmp4.1/9, ML3.5/1, MS3.6/1, Ms1 3.5/1, ms1mx3.1/14, Error ellipse: s-maj=45.7km s-min=23.5km az=126.0*
NEIC ***23*** *22:26:08.0±0.6, 7025S×15501E, h10km, mb4.2/7, Error ellipse: s-maj=17.9km s-min=9.0km az=124.0*
ISCJB ***23*** *22:26:10.5±0.9, 7050S±01×1549E±01, h33km, mb4.1/14, Error ellipse: s-maj=24.1km s-min=11.1km az=31.4*
ISC 23 22:26:12.0±0.9, 70S±01×1550E±01, h35km, n32, σ1§04/26, mb4.1/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.07**	**252**	Pn	**Pn**	**22 28 05.5**	**-1.3**
CTA	**Charters Tower**	**15.49**	**212**	*e*P	**Pn**	**22 29 54.2**	**+6.3**
4.4nm,0.9s							
CTA	**Charters Tower**	**15.49**	**212**	Pn	**Pn**	**22 29 48.3**	**+0.3**
0.1nm,0.3s,baz=35,slow=13,SNR=2.3							
CTAO	**Charters Tower**	**15.49**	**212**	Pn	**Pn**	**22 29 46.0**	**-1.9**
KAKA	**Kakadu**	**22.88**	**254**	*e*P	**P**	**22 31 14.3**	**+1.6**
4.8nm,0.8s,mb4.0							
WRAB	**Tennant Creek**	**23.75**	**235**	*e*P	**P**	**22 31 20.6**	**-0.8**
8.7nm,1.0s,mb4.1							
WB2	**Warramunga Arr**	**23.76**	**235**	*e*P	**P**	**22 31 21.4**	**0.0**
WRA	**Warramunga Arr**	**23.77**	**235**	P	**P**	**22 31 21.1**	**-0.4**
4.8nm,0.9s,mb3.9,baz=59,slow=9.8,SNR=20							
ASAR	**Alice Springs**	**26.12**	**228**	P	**P**	**22 31 43.2**	**+0.3**
1.0nm,0.6s,mb3.5,baz=55,slow=9.4,SNR=11							
FITZ	**Fitzroy Crossi**	**30.61**	**246**	*e*P	**P**	**22 32 22.4**	**-0.6**
3.0nm,1.0s,mb4.1							
FITZ	**Fitzroy Crossi**	**30.61**	**246**	*e*P	**P**	**22 32 22.2**	**-0.8**
5.8nm,1.0s,mb4.4							
MBWA	**Marble Bar**	**36.83**	**244**	*e*P	**P**	**22 33 17.4**	**+0.4**
1.8nm,0.6s,mb4.1							
NWAO	**Narrogin (SRO)**	**43.45**	**228**	P	**P**	**22 34 12.8**	**+1.0**
NACB	**Ninganchiao**	**44.94**	**315**	*e*P	**P**	**22 34 22.1**	**-1.7**
YHNB	**Yeheng**	**45.41**	**315**	*e*P	**P**	**22 34 27.6**	**+0.1**
8.0nm,0.6s,mb4.7							
CMAR	**Chiang Mai Arr**	**60.76**	**296**	P	**P**	**22 36 23.1**	**+2.4**
1.1nm,0.3s,mb4.4,baz=113,slow=4.9,SNR=8.6							
CHTO	**Chiang Mai**	**60.87**	**296**	*e*P	**P**	**22 36 21.9**	**+0.3**
HIA	**Hailar**	**63.92**	**335**	P	**P**	**22 36 40.8**	**-0.6**
SONM	**Songino Array**	**69.33**	**327**	P	**P**	**22 37 16.5**	**+0.6**
0.8nm,0.7s,mb3.8,baz=133,slow=5.2,SNR=3.8							
LSA	**Lhasa**	**71.25**	**304**	*e*P	**P**	**22 37 29.6**	**+1.5**
3.0nm,0.8s,mb4.3							
MKAR	**Makanchi Array**	**83.39**	**319**	P	**P**	**22 38 35.7**	**0.0**
0.5nm,0.5s,mb3.8,baz=104,slow=5.0,SNR=5.2							
MKAR	**Makanchi Array**	**83.39**	**319**	P	**P**	**22 38 35.7**	**0.0**
ZALV	**Zalesovo Beam**	**84.17**	**326**	P	**P**	**22 38 38.0**	**-1.6**
0.5nm,0.5s,mb3.9,baz=102,slow=6.3,SNR=2.3							
MAW	**Mawson**	**84.36**	**203**	LR	LR	23 09 19.8	
comp=Z,36nm,21.4s,baz=242,slow=31							
NVAR	**Mina Array Bea**	**91.77**	**52**	P	**P**	**22 39 17.2**	**+0.8**
0.6nm,0.6s,mb4.1,baz=254,slow=5.5,SNR=3.9							
NVAR	**Mina Array Bea**	**91.77**	**52**	P	**P**	**22 39 17.2**	**+0.8**
YKA	**Yellowknife Ar**	**96.38**	**28**	P	**P**	**22 39 35.8**	**-1.1**
1.4nm,0.9s,mb4.4,baz=267,slow=4.5,SNR=4.0							
GNI	**Garni**	**109.92**	**310**	PKiKP	PKiKP	22 44 40.3	+0.3
MALT	**Malatya**	**115.06**	**309**	*e*PKiKP	PKiKP	22 44 50.0	+0.2
GERES	**GERESS Array B**	**127.05**	**329**	PKP	PKPdf	22 45 13.9	+1.4
0.2nm,0.6s,baz=0.0,slow=2.7,SNR=6.5							
TAM	**Tamanrasset**	**146.66**	**301**	*e*PKPdf	PKPdf	22 45 49.7	+0.4
TORD	**Torodi Ar. Bea**	**152.99**	**285**	PKPbc	PKPbc	22 46 07.3	+0.5
1.7nm,0.8s,baz=70,slow=1.6,SNR=8.0							

BJI ***23*** *22:27:02.2, 6755S×15537E, h15km, mB5.1, mb4.8, Ms4.4, Msz4.1*
IDC ***23*** *22:27:03.1±0.6, 6985S×15486E, h0km, mb4.5/13, mb1 4.7/13, mb1mx4.7/15, mbtmp4.5/13, MS3.9/5, Ms1 3.9/5, ms1mx3.5/16, Error ellipse: s-maj=24.1km s-min=17.7km az=116.0*
NEIC ***23*** *22:27:05.0±0.2, 7005S×15485E, h10km, mb5.0/29, Error ellipse: s-maj=8.4km s-min=5.3km az=134.0*
ISCJB ***23*** *22:27:06.7±2.0, 7025S±007×15481E±007, h33km±17km, mb4.9/47, MS3.9/5, Error ellipse: s-maj=13.7km s-min=9.8km az=38.0*
MOS ***23*** *22:27:09.2±1.2, 6685S×15456E, h33km, mb5.2/8, Error ellipse: s-maj=11.0km s-min=9.1km az=69.9*
ISC 23 22:27:09.2±1.6, 705S±007×15481E±007, h41km±14km, n156, σ0§93/95, mb4.9/47, MS3.9/5, 4C-5D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.61**	**115**	Pn	**Pn**	**22 28 36.4**	**+6.2**
16nm,0.3s,baz=269,slow=6.8,SNR=7.1							
HNR				LR	LR	22 30 24.4	
comp=Z,1μm,18.8s,baz=351,slow=36							
PMG	**Port Moresby**	**7.93**	**252**	*e*P	**Pn**	**22 29 02.8**	**+0.8**
PMG				*e*		22 30 28.4	
PMG				pmax	pmax		
comp=Z,59nm,0.8s							
PMG	**Port Moresby**	**7.93**	**252**	*e*Pn	**Pn**	**22 29 02.8**	**+0.8**
comp=Z,59nm,0.8s							
PMG				*e*Sn	**Sn**	**22 30 28.4**	**-2.1**
COEN	**Coen**	**13.34**	**238**	*e*Pn	**Pn**	**22 30 16.5**	**+0.4**
comp=Z,5.5nm,0.8s							
CTA	**Charters Tower**	**15.39**	**212**	*e*P	**Pn**	**22 30 49.8**	**+6.2**
comp=Z,23nm,0.9s							
CTA	**Charters Tower**	**15.39**	**212**	Pn	**Pn**	**22 30 49.5**	**+5.8**
comp=Z,0.2nm,0.3s,baz=30,slow=12,SNR=5.0							
CTA	**Charters Tower**	**15.39**	**212**	*e*P	**Pn**	**22 30 49.8**	**+6.2**
CTA				pmax	pmax		
comp=Z,23nm,0.9s							
CTAO	**Charters Tower**	**15.39**	**212**	*e*P	**Pn**	**22 30 49.9**	**+6.3**
CTAO				pmax	pmax		
comp=Z,31nm,0.8s							
CTAO	**Charters Tower**	**15.39**	**212**	*e*Pn	**Pn**	**22 30 49.9**	**+6.2**
comp=Z,31nm,0.8s							
KAKA	**Kakadu**	**22.74**	**254**	*e*P	**P**	**22 32 07.2**	**-0.8**
comp=Z,16nm,0.7s,mb4.6							
KAKA	**Kakadu**	**22.74**	**254**	*e*P	**P**	**22 32 07.0**	**-0.9**
GUMO	**Guam**	**22.76**	**334**	LR	LR	22 40 42.2	
comp=Z,91nm,18.0s,MS3.2,baz=89,slow=36							
GUMO	**Guam**	**22.76**	**334**	P	**P**	**22 32 07.8**	**-0.3**
GUMO				pmax	pmax		
comp=Z,108nm,1.0s,mb5.2							
GUMO	**Guam**	**22.76**	**334**	P	**P**	**22 32 07.8**	**-0.3**
comp=Z,108nm,1.0s,mb5.2							
WRAB	**Tennant Creek**	**23.62**	**235**	*e*P	**P**	**22 32 16.1**	**-0.7**
WRAB				*e*		22 32 27.8	
WRAB				pmax	pmax		
comp=Z,36nm,0.9s,mb4.8							
WRAB	**Tennant Creek**	**23.62**	**235**	*e*P	**P**	**22 32 16.1**	**-0.7**
comp=Z,36nm,0.9s,mb4.8							
WRAB				*e*		22 32 27.8	
WB2	**Warramunga Arr**	**23.63**	**235**	*e*P	**P**	**22 32 16.9**	**0.0**
WRA	**Warramunga Arr**	**23.64**	**235**	P	**P**	**22 32 16.7**	**-0.2**
comp=Z,27nm,0.9s,mb4.7,baz=60,slow=9.7,SNR=11							

WRA PcP PcP 22 36 01.1 +0.2
comp=Z,1.2nm,0.7s,baz=60,slow=2.7,SNR=4.9
WRA ScP ScP 22 39 41.1 +5.0
comp=Z,3.1nm,1.1s,baz=60,slow=2.5,SNR=5.6
WRA Warramunga Arr 23.64 235 P P 22 32 16.7 -0.2
WRA 22 36 01.1
ASAR Alice Springs 26.00 228 P P 22 32 39.0 +0.6
comp=Z,5.9nm,0.7s,mb4.2,baz=62,slow=9.0,SNR=23
ASAR ScP ScP 22 39 48.0 +5.3
comp=Z,3.0nm,0.9s,baz=69,slow=3.4,SNR=14
STKA Stephens Creek 27.61 205 *eP* **P 22 32 52.4 -0.4**
comp=Z,9.4nm,1.0s,mb4.4
STKA Stephens Creek 27.61 205 P P 22 32 52.9 0.0
comp=Z,5.8nm,1.0s,mb4.2,baz=17,slow=12,SNR=5.9
STKA ScP ScP 22 39 51.9 +4.6
comp=Z,6.6nm,1.1s,baz=31,slow=3.0,SNR=3.4
STKA LR LR 22 44 10.6
comp=Z,473nm,18.1s,MS4.1,baz=28,slow=37
FITZ Fitzroy Crossi 30.47 246 *eP* **P 22 33 18.3 -0.1**
comp=Z,12nm,0.8s,mb4.7
FITZ Fitzroy Crossi 30.47 246 *eP* **P 22 33 18.2 -0.1**
comp=Z,10nm,0.7s,mb4.7
FORT Forrest 34.42 223 *eP* **P 22 33 52.7 -0.2**
comp=Z,18nm,0.7s,mb5.1
MBWA Marble Bar 36.69 244 *eP* **P 22 34 12.2 -0.3**
comp=Z,5.7nm,0.7s,mb4.5
KLBR Kellerberrin 42.31 230 *eP* **P 22 34 58.8 -0.4**
comp=Z,2μm,4.8s
NWAO Narrogin (SRO) 43.32 228 P P 22 35 08.4 +1.0
NACB Ninganchiao 44.87 315 *eP* **P 22 35 18.0 -1.9**
comp=Z,35nm,0.8s,mb5.2
KSM Kuching 45.21 279 *eP* **P 22 35 23.0 +0.2**
YHNB Yeheng 45.33 315 *eP* **P 22 35 24.1 +0.6**
comp=Z,28nm,0.8s,mb5.1
MJAR Matsushiro Arr 46.07 341 P P 22 35 28.8 -0.3
comp=Z,0.7nm,0.3s,mb4.0,baz=125,slow=13,SNR=4.4
MAJO Matsushiro 46.07 341 *eP* **P 22 35 29.3 +0.1**
MAJO pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
MAJO Matsushiro 46.07 341 *eP* **P 22 35 29.3 +0.2**
comp=Z,3.1nm,0.3s,mb4.7
KSRS Korea Array 50.90 332 P P 22 36 04.8 -1.6
comp=Z,0.9nm,0.3s,mb4.2,baz=147,slow=8.1,SNR=8.7
QIZ Qiongzhong 51.33 301 *eP* **P 22 36 09.1 -0.8**
comp=Z,7.6nm,0.8s,mb4.7
WHN Wuhan 53.85 316 *eP* **P 22 36 29.4 +1.1**
MDJ Mudanjiang 56.22 339 P P 22 36 45.0 -0.2
GYA Guiyang 57.34 306⇓ *iP* **P 22 36 54.8 +1.3**
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
KLR Kul'dur 59.56 343 *eP* **P 22 37 04.0 -4.5**
XAN Xi'an 59.62 316 P P 22 37 09.1 -0.1
XAN AMB AMB
comp=Z,13nm,1.5s,mb4.7
XAN AMB AMB
comp=Z,70nm,9.1s
KMI Kunming 59.90 304 P P 22 37 12.6 +1.3
KMI AP pP 22 37 24.3 +1.0
KMI PP PP 22 39 27.6 +3.7
KMI S S **22 45 18.8 -1.8**
KMI XS sS 22 45 40.3 -0.3
KMI SS SS 22 49 18.3 +0.6
KMI AMB AMB
comp=Z,19nm,1.0s,mb5.1
KMI AMB AMB
comp=Z,46nm,3.5s
KMI LR LR
comp=N,77nm,19.4s,MS4.1
KMI LR LR
comp=E,94nm,18.5s,MS4.1
KMI LR LR
comp=Z,111nm,19.4s,MS4.0
PETK Petropavlovsk- 59.97 2 P P 22 37 16.4 +5.2
comp=Z,19nm,0.9s,mb5.1,baz=168,slow=6.3,SNR=13
CMAR Chiang Mai Arr 60.64 296 P P 22 37 18.2 +1.7
comp=Z,8.6nm,0.7s,mb5.0,baz=121,slow=5.2,SNR=25
CHTO Chiang Mai 60.76 296 *eP* **P 22 37 17.5 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
CHTO Chiang Mai 60.76 296 *eP* **P 22 37 17.5 +0.2**
comp=Z,7.7nm,1.0s,mb4.8
LZH Lanzhou 64.23 316 *eP* **P 22 37 41.9 +1.7**
LZH AMB AMB
comp=Z,47nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,120nm,5.8s
CASY Casey 66.49 198 P P 22 37 54.3 0.0
GTA Gaotai 68.65 317 P P 22 38 09.8 +1.4
GTA AP pP 22 38 15.8 -4.8
GTA XP sP 22 38 20.3 -5.1
GTA AMB AMB
comp=Z,17nm,0.7s,mb5.1
SHL Shillong 69.17 301 *eP* **P 22 38 16.0 +4.1**
SONM Songino Array 69.28 327 P P 22 38 12.1 0.0
comp=Z,3.9nm,0.8s,mb4.4,baz=143,slow=6.3,SNR=13
LSA Lhasa 71.15 305 P P 22 38 25.5 +1.5
LSA Lhasa 71.15 305 *eP* **P 22 38 25.5 +1.5**
LSA pmax pmax
comp=Z,13nm,0.8s,mb4.9
LSA Lhasa 71.15 305 *eP* **P 22 38 25.5 +1.5**
comp=Z,13nm,0.8s,mb4.9
ZAK Zakamensk 72.44 328 *eP* **P 22 38 30.8 -0.5**
TLY Talaya 73.02 330 P P 22 38 34.2 -0.4
TAPN Taplejung 73.27 301 *eP* **P 22 38 37.9 +1.2**
comp=Z,37nm,0.8s,mb5.4
ODAN Odare 73.40 301 *eP* **P 22 38 38.1 +0.6**
comp=Z,80nm,0.7s,mb5.8
RAMN Ramite 74.10 300 *eP* **P 22 38 41.7 +0.1**
comp=Z,25nm,0.7s,mb5.2
GUN Gumba 74.99 301 *eP* **P 22 38 47.8 +1.1**
comp=Z,44nm,0.7s,mb5.5
PKI Pulchoki 75.30 301 *eP* **P 22 38 49.7 +1.2**
comp=Z,38nm,0.8s,mb5.4
PKI Pulchoki 75.30 301 *eP* **P 22 38 49.7 +1.2**
PKI pmax pmax
comp=Z,38nm,0.8s,mb5.4
KKN Kakani 75.47 301 *eP* **P 22 38 49.9 +0.4**
comp=Z,31nm,0.8s,mb5.3
KKN Kakani 75.47 301 *eP* **P 22 38 49.9 +0.4**
KKN pmax pmax
comp=Z,31nm,0.8s,mb5.3
DMN Daman 75.56 301 *eP* **P 22 38 50.7 +0.7**
comp=Z,57nm,0.8s,mb5.5
KOLN Koldanda 76.89 301 *eP* **P 22 38 58.2 +0.6**
comp=Z,27nm,0.8s,mb5.2
DANN Dangsing 76.91 301 *eP* **P 22 38 58.5 +0.8**
comp=Z,31nm,0.6s,mb5.4
TTA Tatalina 79.14 21 *eP* **P 22 39 08.8 -0.4**
TTA pmax pmax
comp=Z,12nm,0.9s,mb4.8
TTA Tatalina 79.14 21 *eP* **P 22 39 08.8 -0.5**
comp=Z,12nm,0.9s,mb4.8
SLKM Skilak Lake 79.86 24 *eP* **P 22 39 13.3 +0.1**
RC01 Rabbit Creek A 80.39 24 *eP* **P 22 39 14.6 -1.5**
CHUM Lake Minchumin 81.03 21 *eP* **P 22 39 19.2 -0.2**
comp=Z,2.2nm,0.7s,mb4.2
IMA2 Indian Mountai 81.91 19 *eP* **P 22 39 23.9 -0.2**
IMA2 *e*PcP PcP 22 39 30.3 +0.7
MCK McKinley 82.17 22 *eP* **P 22 39 24.4 -1.1**
comp=Z,10μm,0.6s
MCK *e*PcP PcP 22 39 30.4 -0.3
COLA College 83.19 21 *eP* **P 22 39 29.8 -1.0**
KAD Karad 83.20 288 *ex* **P 22 39 30.5 -1.3**
MKAR Makanchi Array 83.32 319 P P 22 39 31.6 -0.2
comp=Z,3.0nm,0.7s,mb4.5,baz=98,slow=5.7,SNR=13
POO Poona 83.72 289⇓ *iP* **P 22 39 32.0 -2.5**
comp=Z,30nm,1.0s,mb5.4
ZALV Zalesovo Beam 84.12 326 P P 22 39 34.3 -1.5
comp=Z,1.7nm,0.6s,mb4.4,baz=105,slow=5.2,SNR=7.8
ZAL Zalesovo 84.13 326 P P 22 39 34.3 -1.5
MAW Mawson 84.28 203 LR LR 23 18 11.8
comp=Z,85nm,18.1s,MS4.2,baz=242,slow=36
HYT Haines Junctio 85.50 27 *eP* **P 22 39 42.1 -0.5**
EGAK Eagle 85.64 23 *eP* **P 22 39 43.3 +0.2**
comp=Z,6.1nm,0.8s,mb4.9
DAWY Dawson 86.02 24 *eP* **P 22 39 45.2 +0.2**
KURK Kurchatov 86.76 322 *eP* **P 22 39 47.3 -1.7**
TKM2 Tokmak 2 86.92 314 *eP* **P 22 39 50.2 +0.2**
TKM2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
TKM2 Tokmak 2 86.92 314 *eP* **P 22 39 50.2 +0.2**
comp=Z,3.0nm,0.7s,mb4.6
AML Almayashu 88.14 313 *eP* **P 22 39 57.2 +1.4**
comp=Z,6.7nm,0.9s,mb4.9
EKS2 Erkin-Say 88.18 313 *eP* **P 22 39 56.4 +0.4**
comp=Z,4.4nm,1.1s,mb4.6

DLBC Dease Lake 88.28 31 P P 22 39 57.0 +0.9
baz=225,slow=3.6
NVAR Mina Array Bea 91.90 52 P P 22 40 14.6 +1.1
comp=Z,4.0nm,0.8s,mb4.8,baz=253,slow=6.7,SNR=13
ELK Elko 94.51 50 P P 22 40 25.1 -0.4
comp=Z,1.7nm,0.9s,mb4.5,baz=222,slow=5.7,SNR=4.8
ELK LR LR 23 13 10.3
comp=Z,41nm,21.5s,MS3.9,baz=110,slow=29
YKA Yellowknife Ar 96.47 28 P P 22 40 33.7 -0.2
comp=Z,4.5nm,0.8s,mb5.0,baz=270,slow=4.6,SNR=13
YKA Yellowknife Ar 96.47 28 P P 22 40 33.7 -0.2
PDAR Pinedale Array 98.87 48 P P 22 40 44.9 -0.3
comp=Z,1.3nm,1.0s,mb4.4,baz=248,slow=2.4,SNR=3.7
AKASG Malin Array Be 117.48 324 PKP PKPdf 22 45 49.7 -0.8
comp=Z,3.6nm,0.7s,baz=64,slow=2.1,SNR=12
NB2 NORSAR Subarra 119.69 341 PKPdf PKPdf 22 45 53.8 -0.7
comp=Z,0.9nm,0.7s,baz=45,slow=1.9
NOA NORSAR Array B 119.69 341 PKP PKPdf 22 45 54.1 -0.4
comp=Z,1.3nm,0.7s,baz=44,slow=1.7,SNR=7.0
MLR Muntele Rosu 121.65 320⇓ *iP* PKPdf 22 45 58.9 +0.2
KWP Kalwaria 121.69 325⇑ *iP* PKPdf 22 45 59.1 +0.4
KOLS Kolonicke sedl 122.29 325 *e*PKP PKPdf 22 46 00.3 +0.5
STHS Stebnicka Huta 122.62 326 *e*PKP PKPdf 22 46 01.2 +0.7
CRVS Cervenica-Dubn 122.76 325 *e*PKP PKPdf 22 46 00.5 -0.3
KECS Kecovo 123.53 325 *e*PKP PKPdf 22 45 58.3 -3.9
KECS *e* 22 49 47.2
BZS Buzias 124.31 322⇓ *iP* PKPdf 22 46 04.3 +0.5
VYHS Vyhne 124.45 326 *e*PKP PKPdf 22 46 04.2 +0.2
BSEG Bad Segeberg 125.17 335 *e*PKIKP PKPdf 22 46 05.8 +0.6
SANT Santorini 125.44 310 *e*PKPdf PKPdf 22 46 06.4 +0.1
BRG Berggiesshubel 125.60 331 *e*P PKPdf 22 46 07.0 +0.9
comp=Z,24nm,0.4s
CLL Collm 125.77 331⇓ *iP*PKPdf PKPdf 22 46 06.9 +0.5
comp=Z,5.0nm,0.8s
CLL *e*pPKPdf pPKPdf 22 46 10.0 -9.5
CLL *ex* x 22 46 17.0
PKSM Moragy 125.80 324⇑ *iP* PKPdf 22 46 07.5 +0.8
KHC Kasperske Hory 126.89 329 *e*PKP PKPdf 22 46 09.5 +0.8
GEC2 GERESS Array S 127.00 329 *e*PKIKP PKPdf 22 46 09.2 +0.3
GERES GERESS Array B 127.00 329 PKP PKPdf 22 46 09.0 +0.2
comp=Z,2.5nm,0.7s,baz=82,slow=1.5,SNR=28
WET Wettzell 127.23 329 *e*PKIKP PKPdf 22 46 10.1 +0.8
GRA1 Grafenberg Arr 127.69 331 *e*PKPdf PKPdf 22 46 10.2 0.0
GRF Grafenberg Arr 127.69 331 *e*PKIKP PKPdf 22 46 10.2 0.0
MOTA Moosalm 129.30 329⇑ *iP* PKPdf 22 46 14.2 +0.9
comp=Z,3.2nm,0.7s
FETA Feichten 129.71 329⇑ *iP* PKPdf 22 46 15.2 +1.1
comp=Z,5.2nm,1.0s
TSUM Tsumeb 130.44 237 PKPdf PKPdf 22 46 17.0 +0.7
HINF Hinteralfeld 131.08 332 *e*PKP1 PKPdf 22 46 18.1 +1.4
HAU Haudompre 131.18 332 *e*PKP1 PKPdf 22 46 17.6 +0.7
MEZF Maizieres J'vi 131.40 333 *e*PKP1 PKPdf 22 46 18.5 +1.2
LPAZ La Paz 131.59 119 PKP PKPdf 22 46 20.2 +1.7
comp=Z,1.0nm,0.7s,baz=235,slow=1.7,SNR=4.2
CABF La Chapelle 132.31 331 *e*PKP1 PKPdf 22 46 19.9 +0.9
comp=Z,6.8nm,0.8s
LPL La Plagne 132.77 330 *e*PKP1 PKPdf 22 46 21.4 +1.5
comp=Z,5.9nm,0.7s
LPG La Plagne 132.77 330 *e*PKP1 PKPdf 22 46 21.6 +1.7
comp=Z,6.1nm,0.7s
LOR Lormes 132.86 333 *e*PKP1 PKPdf 22 46 21.1 +1.0
SSF Saint Saulge 133.17 333 *e*PKP1 PKPdf 22 46 21.8 +1.1
comp=Z,6.0nm,0.8s
MBDF Montbardon 133.30 329 *e*PKP1 PKPdf 22 46 22.9 +1.9
comp=Z,1.9nm,0.7s
SMF Signal de Mont 133.34 333 *e*PKP1 PKPdf 22 46 22.9 +1.9
AVF Avril sur Loir 133.45 333 *e*PKP1 PKPdf 22 46 22.0 +0.8
FLN La Foiniere 133.47 338 *e*PKP1 PKPdf 22 46 23.0 +1.8
comp=Z,32nm,1.2s
LDF La Druitiere 133.47 337 *e*PKP1 PKPdf 22 46 23.6 +2.4
PGF Pioggiola 133.54 325 *e*PKP1 PKPdf 22 46 22.5 +1.0
comp=Z,26nm,1.2s
ORIF Oris-en-Rattie 133.62 330 *e*PKP1 PKPdf 22 46 22.7 +1.1
comp=Z,4.7nm,0.8s
BGF Bois d'Agland 133.85 333 *e*PKP1 PKPdf 22 46 23.3 +1.4
GRR Gorron 133.93 338 *e*PKP1 PKPdf 22 46 23.9 +1.9
comp=Z,24nm,1.1s
FRF La Foret Royal 134.16 328 *e*PKP1 PKPdf 22 46 23.7 +1.1
comp=Z,4.2nm,0.7s
VIVF Saint-Julien-l 134.26 330 *e*PKP1 PKPdf 22 46 24.0 +1.2
TCF Toulx Ste Croi 134.34 334 *e*PKP1 PKPdf 22 46 24.3 +1.4
comp=Z,15nm,1.0s
LMR La Mourre 134.39 328 *e*PKP1 PKPdf 22 46 24.0 +0.9
CPUP Villa Florida 134.46 138 PKP PKPdf 22 46 25.2 +1.4
comp=Z,0.9nm,0.6s,baz=216,slow=1.9,SNR=5.1
MFF Saint Martin d 135.10 336 *e*PKP1 PKPdf 22 46 25.6 +1.3
LASF Ste Croix 135.23 330 *e*PKP1 PKPdf 22 46 26.1 +1.5
comp=Z,8.3nm,0.9s
RJF Les Rejaudoux 135.41 333 *e*PKP1 PKPdf 22 46 27.5 +2.6
LFF La Frestale 136.04 333 *e*PKP1 PKPdf 22 46 27.9 +1.8
MTLF Montolieu 136.57 331 *e*PKP1 PKPdf 22 46 28.7 +1.6
comp=Z,10nm,1.2s
EPF Esparros 137.70 332 *e*PKP1 PKPdf 22 46 31.5 +2.3
comp=Z,10nm,1.1s
ETSF Etsaut 138.22 333 *e*PKP1 PKPdf 22 46 32.4 +2.2
SJPF Ste Jean 138.35 333 *e*PKP1 PKPdf 22 46 31.5 +1.1
ESDC Sonseca Array 142.33 333 PKP PKPdf 22 46 39.2 +1.4
comp=Z,0.4nm,0.6s,baz=31,slow=2.1,SNR=3.8
EVO Evora 145.02 336 *e*PKIKP PKPdf 22 46 43.0 +0.5
comp=Z,25nm,1.1s
BDFB Brasilia 148.07 135 PKPbc PKPbc 22 46 50.3 -1.1
comp=Z,5.4nm,0.8s,baz=228,slow=3.0,SNR=11
TORD Torodi Ar. Bea 152.86 285 PKP PKPdf 22 46 55.0 -0.8
comp=Z,1.6nm,1.0s,baz=63,slow=1.4,SNR=2.9
TORD PKPbc PKPbc 22 47 03.0 0.0
comp=Z,8.5nm,0.8s,baz=63,slow=2.4,SNR=22
TORD Torodi Ar. Bea 152.86 285 PKP PKPdf 22 46 55.0 -0.8
TORD PKPbc PKPbc 22 47 03.0 0.0

*CASC **23** 22:30:29.1±1.6, 1241N×9050W, h13km±16km, MD4.0, mb4.5(NEIC)*
*ISCJB **23** 22:30:31.2±1.6, 125N±0.1×9029W±0.10, h42km±11km, mb4.2/10, MS3.3/4, Error ellipse: s-maj=21.2km s-min=13.1km az=35.2*
*IDC **23** 22:30:34.5±4.8, 1263N×9007W, h48km±45km, mb3.8/7, mb1 4.1/8, mb1mx3.7/25, mbtmp3.9/8, ML4.1/1, MS3.4/5, Ms1 3.4/5, ms1mx2.9/28, Error ellipse: s-maj=44.8km s-min=22.1km az=46.0*
*NEIC **23** 22:30:35.3±1.9, 1259N×9008W, h64km±16km, mb4.5/5, Error ellipse: s-maj=19.1km s-min=9.6km az=52.0*
ISC 23 22:30:32.3±1.7, 125N±01×903W±01, h36km±12km, n45, σ1§05/29, mb4.2/10, MS3.3/4, 5C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.47**	**25⇑**	*e*P	x	22 30 57.8	
SBLS				*e*S	x	22 31 19.7	
SNJE	**San Jose**	**1.50**	**25⇑**	*e*P	x	22 30 58.1	
SNJE				*e*S	x	22 31 20.0	
RTR	**El Retiro**	**1.51**	**24⇓**	*e*P	x	22 30 58.5	
RTR				*e*S	x	22 31 20.7	
BOQS	**Boqueron**	**1.55**	**38⇓**	*e*P	x	22 30 59.2	
BOQS				*e*S	x	22 31 23.6	
LFU	**La Fuente**	**1.67**	**42**	*e*P	x	22 31 01.2	
LFU				*e*S	x	22 31 25.7	
RBDL	**Robledal**	**1.69**	**19⇑**	*e*P	x	22 31 00.6	
RBDL				*e*S	x	22 31 25.1	
LBRS	**Las Brisas**	**1.71**	**44⇓**	*e*P	x	22 31 01.8	
LBRS				*e*S	x	22 31 27.1	
SNVI	**San Vicente**	**1.77**	**52**	*e*P	x	22 31 02.5	
SNVI				*e*S	x	22 31 29.1	
PCG	**Pacaya**	**1.90**	**350**	*e*P	**Pn**	**22 31 02.6**	**+0.3**
FUG	**Fuego 3**	**2.01**	**344**	*e*P	**Pn**	**22 31 02.8**	**-1.0**
NBG	**Las Nubes**	**2.07**	**358**	*e*P	**Pn**	**22 31 06.1**	**+1.5**
MTO2	**Montecristo 2**	**2.08**	**25⇓**	*e*P	x	22 31 06.7	
MTO2				*e*S	x	22 31 35.9	
FG6		**2.13**	**344**	*e*P	**Pn**	**22 31 04.8**	**-0.6**
VSM	**San Miguel**	**2.15**	**65**	*e*P	x	22 31 08.2	
VSM				*e*S	x	22 31 39.2	
BLLM	**Bellamira**	**2.19**	**65**	*e*P	x	22 31 07.3	
BLLM				*e*S	x	22 31 40.0	
JAT	**Jato**	**2.24**	**324**	*e*P	**Pn**	**22 31 05.4**	**-1.5**
CAHU	**Cacacuatique**	**2.36**	**58⇓**	*e*P	x	22 31 11.2	
CAHU				*e*S	x	22 31 44.1	
CNCH	**Conchagua**	**2.49**	**72⇓**	*e*P	x	22 31 11.6	
CNCH				*e*S	x	22 31 46.7	
LEON	**Leon**	**3.30**	**91**	*e*S	**Sn**	**22 32 04.3**	**+4.8**
TGUH	**Tegucigalpa,Un**	**3.30**	**62⇑**	*e*P	**Pn**	**22 31 23.3**	**+1.8**
TGUH	**Tegucigalpa,Un**	**3.30**	**62**	*e*Pn	**Pn**	**22 31 21.2**	**-0.2**
TGUH				*e*Sn	**Sn**	**22 31 55.0**	**-4.4**
TEIG	**Tepich**	**7.91**	**14**	P	**Pn**	**22 32 25.2**	**+0.3**
	2.7nm,0.3s,baz=184,slow=20,SNR=11						
TEIG				LR	LR	22 36 03.9	
	comp=Z,266nm,20.7s,baz=235,slow=42						
TEIG	**Tepich**	**7.91**	**14**	*e*Pn	**Pn**	**22 32 27.0**	**+2.2**
	54nm,1.0s						
TEIG				LR	LR	22 36 03.9	
JCT	**Junction City**	**19.94**	**335**	*e*P	**Pn**	**22 35 02.1**	**-1.0**
	16nm,1.1s						
TXAR	**Lajitas Array**	**20.87**	**325**	P	**P**	**22 35 12.3**	**+0.9**
	11nm,1.2s,baz=150,slow=12,SNR=19						
TXAR	**Lajitas Array**	**20.87**	**325**	P	**P**	**22 35 12.3**	**+0.9**
MIAR	**Mount Ida**	**22.14**	**353**	*e*P	**P**	**22 35 24.1**	**-0.9**
	9.7nm,1.0s,mb4.2						
SWET	**Sewanee**	**22.95**	**9**	*e*P	**P**	**22 35 32.7**	**-0.8**
CPCT	**Cooper Cave**	**23.43**	**12**	*e*P	**P**	**22 35 38.5**	**0.0**
TKL	**Tuckaleechee C**	**23.79**	**13**	P	**P**	**22 35 41.7**	**-0.1**
	6.7nm,0.8s,mb4.1,baz=187,slow=9.2,SNR=11						
TKL				LR	LR	22 45 43.5	
	comp=Z,96nm,19.6s,MS3.3,baz=107,slow=38						
TKL	**Tuckaleechee C**	**23.79**	**13**	P	**P**	**22 35 41.7**	**-0.1**
TKL				LR	LR	22 45 43.5	
SJG	**San Juan**	**23.91**	**74**	LR	LR	22 45 31.6	
	comp=Z,56nm,20.2s,MS3.0,baz=273,slow=38						
WCI	**Wyandotte Cave**	**25.86**	**7**	*e*P	**P**	**22 35 59.8**	**-0.8**
	18nm,0.7s,mb4.7						
ANMO	**Albuquerque**	**26.73**	**329**	P	**P**	**22 36 09.9**	**+1.4**
	0.9nm,0.7s,mb3.4,baz=169,slow=10,SNR=2.7						
REDW	**Red Top Meadow**	**35.51**	**334**	*e*P	**P**	**22 37 27.0**	**+1.3**
	11nm,1.1s,mb4.7						
ELK	**Elko**	**35.66**	**327**	P	**P**	**22 37 28.6**	**+1.6**
	0.9nm,0.7s,mb3.8,baz=107,slow=5.8,SNR=4.8						
NVAR	**Mina Array Bea**	**35.89**	**321**	P	**P**	**22 37 29.7**	**+0.7**
	1.3nm,0.8s,mb3.9,baz=133,slow=9.2,SNR=7.9						
MCMT	**McKenzie Canyo**	**37.55**	**333**	P	**P**	**22 37 42.9**	**-0.2**
ULM	**Lac du Bonnet**	**37.91**	**354**	LR	LR	22 56 44.7	
	comp=Z,54nm,19.6s,MS3.4,baz=44,slow=42						
SIV	**San Ignacio**	**40.45**	**134**	P	**P**	**22 38 08.0**	**+0.3**
	2.0nm,1.0s,mb3.8,baz=327,slow=8.0,SNR=5.6						
SCHQ	**Schefferville**	**46.06**	**19**	P	**P**	**22 38 50.7**	**-1.7**
	2.6nm,0.7s,mb4.3,baz=210,slow=11,SNR=4.2						
SCHQ				LR	LR	22 59 00.3	
	comp=Z,58nm,18.2s,MS3.6,baz=119,slow=37						
SCHQ	**Schefferville**	**46.06**	**19**	P	**P**	**22 38 50.7**	**-1.7**
SCHQ				LR	LR	22 59 00.3	
PMSA	**Palmer Station**	**79.57**	**169**	*e*P	**P**	**22 42 34.3**	**-0.9**
	6.5nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**136.64**	**254**	PKP	PKPdf	22 49 51.5	-0.1
	0.6nm,0.9s,baz=96,slow=1.9,SNR=3.8						
CMAR	**Chiang Mai Arr**	**147.92**	**343**	PKPbc	PKPbc	22 50 15.4	+0.7
	1.1nm,0.6s,baz=342,slow=2.7,SNR=7.1						

*CSEM **23** 22:46:10.5±0.7, 4324N×1457W, h10km, ML3.6/8, Error ellipse: s-maj=16.1km s-min=3.7km az=74.0*
*NEIC **23** 22:46:15.7, 4295N×1431W, h0km, MG4.3(MDD), After MDD.*
*MDD **23** 22:46:16.3±2.8, 4295N×1425W, h0km, mb4.1/11, Error ellipse: s-maj=25.6km s-min=16.2km az=79.0, PRIMO*
ISC 23 22:46:20.8±1.2, 4277N±004×1382W±009, h10km, n43, σ0§85/62, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STS	**Santiago**	**3.88**	**86**	Pn	**Pn**	**22 47 20.1**	**-0.4**
	7.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**4.37**	**100**	Pn	**Pn**	**22 47 28.0**	**+0.9**
	1.5nm,0.1s,SNR=18						
ELOB				Sn	**Sn**	**22 48 19.8**	**+1.7**
	1.1nm,0.1s						
ELOB	**Lobios**	**4.37**	**100**	P	**Pn**	**22 47 28.0**	**+0.9**
	1.5nm,0.1s,SNR=18						
PVIS	**Viseu**	**4.88**	**113**	*e*Pn	**Pn**	**22 47 35.0**	**+0.7**
PVIS				*e*Sn	**Sn**	**22 48 31.6**	**+0.7**
EPON	**Pontenova**	**4.92**	**81**	Pn	**Pn**	**22 47 33.6**	**-1.2**
	1.1nm,0.1s,SNR=9.0						
EPON				Sn	**Sn**	**22 48 30.7**	**-1.0**
	0.3nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**4.92**	**81**	P	**Pn**	**22 47 33.6**	**-1.2**
	1.1nm,0.1s,SNR=9.0						
EPON				S	**Sn**	**22 48 30.7**	**-1.0**
	0.3nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**4.95**	**92**	Pn	**Pn**	**22 47 35.0**	**-0.1**
	2.7nm,0.1s,SNR=4.0						
PMAFR	**Mafra**	**5.13**	**136**	*e*Sn	**Sn**	**22 48 38.0**	**+1.0**
PMAFR				A		22 48 41.3	
	8.6nm,0.3s						
PMAFR	**Mafra**	**5.13**	**136**	*e*Sn	**Sn**	**22 48 38.0**	**+1.0**
	8.6nm,0.3s						
PTOM	**Tomar**	**5.15**	**126**	*e*Sn	**Sn**	**22 48 39.3**	**+1.8**
PTOM				A		22 48 42.0	
	4.0nm,0.1s						
PTOM	**Tomar**	**5.15**	**126**	*e*Sn	**Sn**	**22 48 39.3**	**+1.8**
	4.0nm,0.1s						
MVO	**Moncorvo**	**5.31**	**105**	*e*Sn	**Sn**	**22 48 42.1**	**+0.7**
ECAL	**Calabor**	**5.31**	**97**	Pn	**Pn**	**22 47 40.6**	**+0.4**
	1.1nm,0.1s,SNR=5.6						
ECAL				Sn	**Sn**	**22 48 42.0**	**+0.6**
	0.6nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.31**	**97**	P	**Pn**	**22 47 40.6**	**+0.4**
	1.1nm,0.1s,SNR=5.6						
ECAL				S	**Sn**	**22 48 42.0**	**+0.6**
	0.6nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**5.60**	**119**	*e*Sn	**Sn**	**22 48 49.7**	**+1.2**
PMRV	**Marv??o**	**5.89**	**122**	*e*Sn	**Sn**	**22 48 55.7**	**0.0**
PMRV				A		22 48 59.9	
	1.6nm,0.1s						
PMRV	**Marv??o**	**5.89**	**122**	*e*Sn	**Sn**	**22 48 55.7**	**0.0**
	1.6nm,0.1s						
EVO	**Evora**	**6.12**	**132**	*e*Sn	**Sn**	**22 49 00.7**	**-0.5**
EVO				A		22 49 05.5	
	1.2nm,0.1s						
EVO	**Evora**	**6.12**	**132**	*e*Sn	**Sn**	**22 49 00.7**	**-0.5**
	1.2nm,0.1s						
PESTR	**Estremoz**	**6.12**	**127**	*e*Pn	**Pn**	**22 47 51.1**	**-0.2**
PESTR				*e*Sn	**Sn**	**22 49 01.0**	**-0.4**
PESTR				A		22 49 06.0	
	1.7nm,0.5s						
PESTR	**Estremoz**	**6.12**	**127**	*e*Pn	**Pn**	**22 47 51.1**	**-0.2**
PESTR				*e*Sn	**Sn**	**22 49 01.0**	**-0.4**
	1.7nm,0.5s						
EARI	**Arriondas**	**6.33**	**82**	Pn	**Pn**	**22 47 53.4**	**-0.8**
	1.6nm,0.2s,SNR=12						
EARI				Sn	**Sn**	**22 49 05.4**	**-1.1**
	SNR=4.0						
EARI	**Arriondas**	**6.33**	**82**	P	**Pn**	**22 47 53.4**	**-0.8**
	1.6nm,0.2s,SNR=12						
EARI	**Arriondas**	**6.33**	**82**	P	**Pn**	**22 47 53.4**	**-0.8**
EARI				S	**Sn**	**22 49 07.5**	**+1.0**
EBAD	**Badajoz**	**6.54**	**126**	Pn	**Pn**	**22 47 56.1**	**-0.9**
	0.2nm,0.1s,SNR=4.0						
EBAD				Sn	**Sn**	**22 49 10.2**	**-1.4**
	0.5nm,0.1s,SNR=9.4						
PFVI	**Vila Bisbo**	**6.81**	**144**	*e*Sn	**Sn**	**22 49 17.8**	**-0.5**
PFVI				A		22 49 24.4	
	6.4nm,0.6s						
PFVI	**Vila Bisbo**	**6.81**	**144**	*e*Sn	**Sn**	**22 49 17.8**	**-0.5**
	6.4nm,0.6s						
PBAR	**Barrancos**	**6.91**	**129**	*e*Sn	**Sn**	**22 49 19.5**	**-1.3**
PVAQ	**Vaqueiros**	**7.11**	**

SNR=7.9
ECAB El Cabril 7.94 123 P **Pn 22 48 16.6 +0.4**
ECAB S **Sn 22 49 46.6 +0.6**
ESDC Sonseca Array 8.05 109 Pn **Pn 22 48 18.4 +0.7**
0.6nm,0.1s,baz=298,slow=13,SNR=7.0
ESDC Sn **Sn 22 49 47.6 -1.2**
0.2nm,0.1s,baz=287,slow=23,SNR=4.0
ESDC Sonseca Array 8.05 109 P **Pn 22 48 18.4 +0.7**
0.6nm,0.1s,SNR=7.0
ESDC S **Sn 22 49 47.6 -1.1**
0.2nm,0.1s,SNR=4.0
EADA Adamuz 8.41 120 Pn **Pn 22 48 22.9 +0.2**
0.2nm,0.1s,SNR=7.9
EADA Sn **Sn 22 49 57.2 -0.4**
0.1nm,0.1s,SNR=7.9
EADA Adamuz 8.41 120 P **Pn 22 48 22.9 +0.2**
0.2nm,0.1s,SNR=7.9
EADA S **Sn 22 49 57.2 -0.4**
0.1nm,0.1s,SNR=7.9

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*ISCJB **23** 23:08:22.2±1.4, 3389N×005×3600E×009, h0km, Error ellipse: s-maj=10.8km s-min=6.6km az=158.0*
*GII **23** 23:08:23.5±1.0, 3379N×3585E, h0km, ML2.1/2, EXPLOSION*
*CSEM **23** 23:08:24.0, 3372N×3548E, h10km, ML2.6, After GRAL*
*GRAL **23** 23:08:24.0±0.3, 3372N×3548E, h10km±9km, MD2.6*
ISC 23 23:08:22.2±1.5, 3391N±006×3602E±009, h0km, n14, σ0s51/24, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.30**	**269**	*i* Pg			**Pg**	**23 08 28.6**	**+0.6**
BHL				*e*Sg			**Sg**	**23 08 31.9**	**0.0**
BHL	**Bhannes**	**0.30**	**269**	*i* Pg			**Pg**	**23 08 28.5**	**+0.5**
BHL				*e*Sg			**Sg**	**23 08 31.9**	**0.0**
HWQ	**Hawqa**	**0.37**	**351**	*e*Pg			**Pg**	**23 08 36.3**	**+6.9**
RCY	**Rachaya**	**0.45**	**201**	*i* Pg			**Pg**	**23 08 30.8**	**0.0**
RCY				*e*Sg			**Sg**	**23 08 35.9**	**-0.8**
HRI	**Mount Hermon**	**0.68**	**200**	Pg			**Pg**	**23 08 35.6**	**+0.3**
HRI				Sg			**Sg**	**23 08 44.9**	**+0.8**
KSDI	**Kefar Szold**	**0.78**	**203**	Pg			**Pg**	**23 08 36.9**	**-0.1**
KSDI				Sg			**Sg**	**23 08 47.2**	**+0.2**
MMA1	**Mount Meron ar**	**1.02**	**210**	Pg			**Pg**	**23 08 41.3**	**-0.5**
MMA1				Sg			**Sg**	**23 08 55.4**	**+0.3**
MMB4	**Mount Meron ar**	**1.02**	**210**	Pg			**Pg**	**23 08 41.4**	**-0.4**
MMC5	**Mount Meron ar**	**1.03**	**209**	Pg			**Pg**	**23 08 41.5**	**-0.4**
MMA4	**Mount Meron ar**	**1.03**	**210**	Pg			**Pg**	**23 08 41.4**	**-0.5**
OFRI	**'Ofer**	**1.55**	**214**	Pn			**Pn**	**23 08 50.2**	**-0.8**
OFRI				Sn			**Sn**	**23 09 10.9**	**-0.9**
MMLI	**Mount Malkishu**	**1.55**	**199**	Pn			**Pn**	**23 08 51.0**	**0.0**
MMLI				Sn			**Sn**	**23 09 12.2**	**+0.4**
HMDT	**Nahal Hemdat**	**1.70**	**194**	Pn			**Pn**	**23 08 53.6**	**+0.5**
HMDT				Sn			**Sn**	**23 09 15.7**	**+0.2**
SLTI	**Sal'it**	**1.85**	**206**	Pn			**Pn**	**23 08 55.8**	**+0.6**
SLTI				Sn			**Sn**	**23 09 19.9**	**+0.6**

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*NEIC **23** 23:24:09.9, 5193N×16981W, h29km, ML3.5(AEIC), After AEIC.*
*ISCJB **23** 23:24:10.7±2.3, 521N±03×1700W±02, h45km±12km, mb3.9/7, Error ellipse: s-maj=47.5km s-min=11.6km az=154.2*
*IDC **23** 23:24:16.3±2.2, 5392N×17047W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/24, mbtmp3.8/9, ML4.3/1, Error ellipse: s-maj=59.6km s-min=24.4km az=7.0*
ISC 23 23:24:12.9±2.1, 522N±03×1701W±02, h40km±11km, n17, σ0s98/16, mb3.9/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.06**	**44**	P			**Pn**	**23 24 29.6**	**-1.6**
NIKO				S			**Sn**	**23 24 45.5**	**+0.8**
OKCD	**Okmok Cone D**	**1.70**	**44**	P			**Pn**	**23 24 39.9**	**0.0**
UNV	**Unalaska Valle**	**2.70**	**51**	P			**Pn**	**23 24 52.9**	**-0.8**
ADK	**Adak**	**4.10**	**268**	P			**Pn**	**23 25 13.6**	**+0.8**
KDAK	**Kodiak Island**	**11.47**	**54**	Pn			**Pn**	**23 26 49.8**	**-4.0**
0.5nm,0.3s,baz=252,slow=16,SNR=3.4
BPAW Bear Paw Mtn. 15.51 32 *e*Pn **Pn 23 27 49.6 +1.3**
3μm,0.9s
PETK Petropavlovsk- 19.49 285 P **Pn 23 28 37.5 -0.1**
0.9nm,0.3s,baz=84,slow=13,SNR=8.2
DLBC Dease Lake 23.33 59 P **P 23 29 20.2 +3.0**
baz=309,slow=6.5
YKA Yellowknife Ar 30.67 49 P **P 23 30 23.0 -0.1**
0.7nm,0.4s,mb3.9,baz=275,slow=7.2,SNR=5.1
PDAR Pinedale Array 40.86 78 P pP 23 32 03.2 +1.5
0.6nm,0.5s,baz=302,slow=3.6,SNR=6.0
TXAR Lajitas Array 53.18 88 P pP 23 33 38.4 +0.1
0.6nm,0.7s,baz=301,slow=5.8,SNR=6.3
SCHQ Schefferville 55.84 43 P **P 23 33 46.2 +0.6**
0.9nm,0.5s,mb4.1,baz=304,slow=11,SNR=5.2
ARCES ARCESS Array B 58.03 354 P **P 23 33 59.5 -1.5**
2.0nm,0.8s,mb4.2,baz=25,slow=7.2,SNR=4.1
NOA NORSAR Array B 67.09 359 P **P 23 35 01.0 -0.5**
0.4nm,0.5s,mb3.7,baz=360,slow=6.3,SNR=3.6
AKASG Malin Array Be 76.17 348 P **P 23 35 55.9 -0.3**
0.6nm,0.4s,mb3.9,baz=16,slow=5.7,SNR=4.9
GERES GERESS Array B 79.27 357 P **P 23 36 14.2 +0.7**
0.3nm,0.5s,mb3.5,baz=356,slow=4.0,SNR=5.1
ESDC Sonseca Array 87.69 11 P **P 23 36 56.7 -0.2**
0.3nm,0.6s,mb3.7,baz=344,slow=2.9,SNR=3.3

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*IDC **23** 23:36:26.6±0.5, 1147S×16578E, h0km, mb4.7/18, mb1 4.8/19, mb1mx4.7/21, mbtmp4.7/19, ML4.8/1, MS4.3/16, Ms1 4.3/16, ms1mx4.1/23, Error ellipse: s-maj=16.9km s-min=14.8km az=108.0*
*MOS **23** 23:36:31.0±1.4, 1138S×16561E, h33km, mb5.2/19, Error ellipse: s-maj=9.5km s-min=9.0km az=3.8*
*ISCJB **23** 23:36:34.8±0.2, 1147S±005×16561E±003, h73km, mb4.7/57, Error ellipse: s-maj=7.6km s-min=4.4km az=165.2*
*BJI **23** 23:36:36.7, 1074S×16582E, h65km, mB5.1, mb4.8, Ms4.9, Msz4.4*
*NEIC **23** 23:36:36.4±0.2, 1146S×16563E, mb4.9/27, Error ellipse: s-maj=11.0km s-min=6.8km az=146.0*
*DJA **23** 23:36:39, 1207S×16578E, h65km, mb5.1/21*
ISC 23 23:36:36.5±0.2, 1149S±005×16567E±003, h75km, h75km±1.4km: pP-P, n333, σ0s70/217, mb4.7/57, 67C-47D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.99**	**289**	Pn			**Pn**	**23 37 58.9**	**-3.6**
25nm,0.3s,baz=211,slow=3.4,SNR=14
HNR Sn **Sn 23 39 08.1 -1.6**
16nm,0.3s,baz=86,slow=20,SNR=10
HNR Honiara 5.99 289 *e*P **Pn 23 37 58.9 -3.6**
HNR pmax pmax
comp=Z,299nm,0.8s
HNR Honiara 5.99 289 *e*P **Pn 23 37 58.9 -3.6**
comp=Z,299nm,0.8s
DZM Mont Dzumac 10.55 176 *e*Pn **Pn 23 39 00.9 -3.9**
PMG Port Moresby 18.32 275 *c i*P **Pn 23 40 46.2 +0.6**
PMG Port Moresby 18.32 275 *e*P **Pn 23 40 45.6 0.0**
comp=Z,57nm,1.0s
CTA Charters Tower 20.53 243 ⇓*i*P **P 23 41 08.8 -0.1**
comp=Z,26nm,1.0s
CTA Charters Tower 20.53 243 P **P 23 41 08.8 0.0**
comp=Z,34nm,1.0s,baz=67,slow=12,SNR=18
CTA LR LR 23 47 36.8
comp=Z,905nm,21.6s,baz=69,slow=32
CTA Charters Tower 20.53 243 ⇓*i*P **P 23 41 08.8 -0.1**
CTA pmax pmax
comp=Z,26nm,1.0s
CTAO Charters Tower 20.53 243 *e*P **P 23 41 08.4 -0.5**
CTAO pmax pmax
comp=Z,67nm,1.2s
CTAO Charters Tower 20.53 243 *e*P **P 23 41 08.4 -0.4**
comp=Z,67nm,1.2s
COEN Coen 22.07 261 *e*P **P 23 41 25.1 -0.4**
comp=Z,19nm,1.1s,mb4.3
AFI Afiamalu 22.13 99 LR LR 23 48 32.2
comp=Z,826nm,18.2s,baz=264,slow=33
ARMA Armidale 22.90 213 *e*P **P 23 41 33.8 -0.3**
URZ Urewera 28.55 161 P **P 23 42 25.0 -0.2**
comp=Z,3.7nm,0.6s,mb4.2,baz=270,slow=2.0,SNR=3.9
STKA Stephens Creek 30.07 224 *e*P **P 23 42 38.9 +0.2**
comp=Z,7.1nm,1.2s,mb4.2
STKA Stephens Creek 30.07 224 P **P 23 42 38.6 0.0**
comp=Z,7.4nm,0.9s,mb4.3,baz=22,slow=12,SNR=9.7
STKA LR LR 23 53 38.4
comp=Z,804nm,21.0s,baz=25,slow=34
WRAB Tennant Creek 31.25 251 *e*P **P 23 42 48.2 -1.1**
WRAB pmax pmax
comp=Z,34nm,1.2s,mb5.0
WRAB Tennant Creek 31.25 251 *e*P **P 23 42 48.2 -1.1**
comp=Z,34nm,1.2s,mb5.0
WB2 Warramunga Arr 31.25 250 *e*P **P 23 42 48.6 -0.7**
WRA Warramunga Arr 31.26 250 P **P 23 42 48.6 -0.7**
comp=Z,15nm,1.0s,mb4.7,baz=82,slow=8.7,SNR=16
WRA LR LR 23 53 44.1
comp=Z,564nm,20.8s,baz=80,slow=33
RPZ Rata Peaks 32.45 173 P **P 23 42 59.8 +0.4**
comp=Z,21nm,0.8s,mb5.0,baz=346,slow=3.1,SNR=9.6
KAKA Kakadu 32.50 264 *e*P **P 23 42 55.9 -4.4**
comp=Z,6.4nm,0.6s,mb4.6
ASAR Alice Springs 32.53 244 P **P 23 42 59.2 -1.2**
comp=Z,17nm,1.1s,mb4.8,baz=81,slow=9.7,SNR=32
RAR Rarotonga 34.47 111 LR LR 23 53 41.6
comp=Z,676nm,19.0s,baz=292,slow=30
FITZ Fitzroy Crossi 39.19 255 *e*P **P 23 43 57.1 -0.4**
comp=Z,34nm,1.0s,mb5.1
FITZ Fitzroy Crossi 39.19 255 P **P 23 43 56.4 -1.1**
comp=Z,21nm,0.9s,mb5.0,baz=79,slow=9.1,SNR=21
FORT Forrest 39.73 235 *e*P **P 23 44 01.4 -0.4**
comp=Z,25nm,1.0s,mb5.0
MIDW Midway 42.75 22 P **P 23 44 26.6 +0.1**
PPT Papeete 43.67 103 *e*S **S 23 51 07.4 +8.6**
comp=Z,311nm,25.5s
PPT *e*LQ 23 55 05.9
comp=Z,2μm,25.8s
PPT *e*LR LR 23 56 50.0
comp=Z,783nm,26.8s,baz=264
PPT Papeete 43.67 103 LR LR 00 00 14.8
comp=Z,565nm,19.2s,baz=303,slow=33
MBWA Marble Bar 44.98 252 *e*P **P 23 44 44.9 +0.3**
comp=Z,27nm,1.1s,mb4.9
KAPI Kappang 45.85 274 *e*P **P 23 44 51.3 -0.3**
KLBR Kellerberrin 48.41 238 *e*P **P 23 45 11.9 +0.7**
comp=Z,38nm,1.2s,mb5.1
NWAO Narrogin (SRO) 49.15 236 *e*P **P 23 45 17.4 +0.5**
MUN Mundaring 49.78 238 *e*P **P 23 45 22.5 +0.8**
KKM Kota Kinabalu 52.19 287 P **P 23 45 40.1 +0.1**
MJAR Matsushiro Arr 54.33 333 P **P 23 45 54.3 -1.0**
comp=Z,3.6nm,0.7s,mb4.5,baz=163,slow=8.4,SNR=12
MAJO Matsushiro 54.33 333 *e*P **P 23 45 55.4 +0.1**
MAJO pmax pmax
comp=Z,11nm,1.0s,mb4.8
MAJO Matsushiro 54.33 333 *e*P **P 23 45 55.4 +0.1**
comp=Z,11nm,1.0s,mb4.9
YHNB Yeheng 56.21 310 *e*P **P 23 46 09.4 +0.3**
comp=Z,18nm,0.8s,mb5.2
KSM Kuching 56.50 279 P **P 23 46 08.4 -3.0**
RKT Rikitea 57.51 110 *e*SS SS 23 58 02.4 +0.9
comp=Z,202nm,31.5s
RKT *e*LR LR 00 03 19.5
comp=Z,596nm,23.8s
KSRS Korea Array 60.20 326 P **P 23 46 36.9 +0.2**
comp=Z,2.5nm,0.8s,mb4.3,baz=138,slow=7.0,SNR=13
KSRS LR LR 00 09 39.9
comp=Z,132nm,18.6s,baz=321,slow=33
YSS Yuzh-Sakhalins 61.68 342 *e*P **P 23 46 46.0 -0.5**
YSS pmax pmax
comp=Z,13nm,1.3s,mb4.8
NJ2 Nanjing 62.28 316 *e*P **P 23 46 53.3 +2.4**
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.6
VLA Vladivostok 62.49 333 *e*P **P 23 46 52.3 +0.3**
VLA pmax pmax
comp=Z,71nm,1.7s,mb5.4
PETK Petropavlovsk- 64.70 355 P **P 23 47 06.7 +0.4**
comp=Z,6.5nm,0.9s,mb4.4,baz=173,slow=6.7,SNR=4.1
PETK LR LR 00 13 28.1
comp=Z,168nm,18.7s,baz=150,slow=34
MDJ Mudanjiang 64.70 332 P **P 23 47 06.8 +0.2**
MDJ AP pP 23 47 24.9 -1.3
MDJ XP sP 23 47 33.3 -1.2
MDJ PP PP 23 49 29.0 -0.9
MDJ AMB AMB
comp=Z,9.0nm,1.3s,mb4.4
MDJ AMB AMB
comp=Z,101nm,6.2s
MDJ LR LR
comp=N,99nm,34.7s
MDJ LR LR
comp=E,88nm,34.7s
MDJ LR LR
comp=Z,116nm,21.4s
MDJ Mudanjiang 64.70 332 *e*P **P 23 47 06.5 -0.1**
comp=Z,4.7nm,0.6s,mb4.5
CN2 Changchun 66.08 329 *e*P **P 23 47 16.0 +0.5**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb4.9
SBA Scott Base 66.36 180 *e*P **P 23 47 17.9 +1.1**
SBA pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
SBA Scott Base 66.36 180 *e*P **P 23 47 17.9 +1.1**
comp=Z,8.6nm,0.9s,mb4.6
KLR Kul'dur 67.43 337 *e*P **P 23 47 20.0 -3.9**
BJI Beijing 68.78 321 P **P 23 47 32.3 -0.3**
BJI AMB AMB
comp=Z,12nm,1.0s,mb4.7
BJI AMB AMB
comp=Z,150nm,3.7s
BJI LR LR
comp=N,203nm,20.1s
BJI LR LR
comp=E,203nm,18.0s
BJI LR LR
comp=Z,172nm,24.9s
XAN Xi'an 70.36 312 P **P 23 47 43.0 +0.5**
XAN AP pP 23 48 02.8 +0.4
XAN XP sP 23 48 10.8 +0.1
XAN S S 23 56 52.3 +3.0
XAN SCS ScS 23 57 40.8 +1.9
XAN AMB AMB
comp=Z,14nm,1.1s,mb4.7
XAN AMB AMB
comp=Z,102nm,5.5s
XAN LR LR
comp=N,47nm,13.4s
XAN LR LR
comp=E,136nm,15.4s
XAN LR LR
comp=Z,215nm,18.5s
KMI Kunming 71.29 302 P **P 23 47 50.8 +2.5**
KMI AP pP 23 48 11.3 +3.1
KMI XP sP 23 48 19.8 +3.3
KMI PP PP 23 50 31.6 +4.1
KMI S S 23 57 07.5 +7.2
KMI XS sS 23 57 36.3 +2.1
KMI AMB AMB
comp=Z,20nm,1.6s,mb4.7
KMI AMB AMB
comp=Z,170nm,4.0s
KMI LR LR
comp=N,103nm,15.9s
KMI LR LR
comp=E,113nm,20.1s
KMI LR LR
comp=Z,199nm,17.3s
HHC Hu-ho-hao-te 72.12 320 *e*P **P 23 47 54.0 +1.1**
HHC PCP PcP 23 48 12.1 +1.2
HHC AP pP 23 48 14.1 +1.2
HHC XP sP 23 48 22.5 +1.3
HHC PP PP 23 50 37.8 +3.5
HHC S S 23 57 09.8 +0.5
HHC SKS 23 57 47.8
HHC SCS ScS 23 57 50.9 -1.7
HHC AMB AMB
comp=Z,13nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,100nm,5.5s
HHC LR LR
comp=N,285nm,16.3s
HHC LR LR
comp=E,210nm,21.4s
HHC LR LR
comp=Z,231nm,26.5s
CMAR Chiang Mai Arr 72.22 294 P **P 23 47 55.6 +1.6**
comp=Z,4.3nm,0.9s,mb4.3,baz=114,slow=4.4,SNR=23
CMAR LR LR 00 19 36.8
comp=Z,64nm,18.9s,baz=105,slow=36
CMAR Chiang Mai Arr 72.22 294 *i* P **P 23 47 56.2 +2.2**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 72.33 294 *e*P **P 23 47 55.6 +0.9**
CHTO pmax pmax
comp=Z,16nm,1.3s,mb4.7
CHTO Chiang Mai 72.33 294 *e*P **P 23 47 55.6 +1.0**
comp=Z,16nm,1.3s,mb4.7
HIA Hailar 72.72 330 *c i*P **P 23 47 56.8 +0.5**
CD2 Chengdu 72.81 307 ⇑*i*P **P 23 47 58.5 +1.2**
CD2 AP pP 23 48 18.5 +1.2
CD2 XP sP 23 48 27.3 +1.8
CD2 PP PP 23 50 44.3 +3.9
CD2 S S 23 57 18.3 +0.7
CD2 XS sS 23 57 52.8 +1.2
CD2 AMB AMB
comp=Z,30nm,1.2s,mb5.0
CD2 AMB AMB
comp=Z,100nm,8.4s
CD2 LR LR
comp=N,300nm,16.8s
CD2 LR LR
comp=E,240nm,16.8s
CD2 LR LR
comp=Z,150nm,15.6s
SEY Seymchan 74.90 354 *e*P **P 23 48 08.5 -0.3**
LZH Lanzhou 75.00 312 *e*P **P 23 48 12.8 +2.9**
LZH PCP PcP 23 48 27.0 +3.6
LZH AP pP 23 48 30.5 +0.5
LZH XP sP 23 48 40.0 +1.7
LZH PP PP 23 51 03.6 +4.7
LZH *e*S S 23 57 43.0 +1.0
LZH XS sS 23 58 10.0 -6.1
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,130nm,4.0s
LZH LR LR
comp=N,662nm,15.8s
LZH LR LR
comp=Z,856nm,16.6s
KDAK Kodiak Island 77.02 21 P **P 23 48 20.4 -0.6**
comp=Z,10nm,1.0s,mb4.5,baz=195,slow=12,SNR=3.9
YAK Yakutsk 78.50 344 *c i*P **P 23 48 28.4 -0.6**
YAK pmax pmax
comp=Z,23nm,0.7s,mb5.0
YAK Yakutsk 78.50 344 *e*P **P 23 48 28.7 -0.3**
comp=Z,27nm,0.8s,mb5.0
QSPA South Pole Qui 78.52 180 LR LR 00 18 56.1
comp=Z,196nm,18.4s,baz=212,slow=32
SVW2 Sparrevohn 78.56 18 *e*P **P 23 48 29.2 -0.2**
SONM Songino Array 78.98 324 P **P 23 48 33.4 +1.4**
comp=Z,5.0nm,1.0s,mb4.3,baz=136,slow=6.2,SNR=28
SONM LR LR 00 23 22.8
comp=Z,124nm,18.8s,baz=113,slow=36
GTA Gaotai 79.31 314 P **P 23 48 36.3 +2.3**
GTA AP pP 23 48 57.6 +3.3
GTA XP sP 23 49 04.8 +2.3
GTA PP PP 23 51 40.4 +5.4
GTA AMB AMB
comp=Z,18nm,1.2s,mb4.8
GTA AMB AMB
comp=Z,154nm,4.8s
GTA LR LR
comp=N,223nm,17.1s
GTA LR LR
comp=E,175nm,18.0s
GTA LR LR
comp=Z,233nm,19.5s
BILL Bilibino 79.32 0 *c i*P **P 23 48 33.0 -0.4**
BILL *e* 23 48 38.0
BILL *e* 23 51 30.7
BILL *e*S S 23 58 34.8 +7.2
BILL *e*SS SS 00 03 42.0 +5.7
BILL pmax pmax
comp=Z,26nm,1.0s,mb5.0
TTA Tatalina 79.87 17 *e*P **P 23 48 36.2 -0.3**
TTA pmax pmax
comp=Z,17nm,1.0s,mb4.8
TTA Tatalina 79.87 17 *e*P **P 23 48 36.2 -0.3**
comp=Z,18nm,1.0s,mb4.8
SHL Shillong 80.66 298 *e*P **P 23 48 47.0 +5.4**
BOD Bodaibo 80.90 335 *e*P **P 23 48 40.8 -1.3**
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
DIV Divide 81.85 22 *e*P **P 23 48 47.0 0.0**
comp=Z,22nm,1.0s,mb5.0
ZAK Zakamensk 82.02 325 *e*P **P 23 48 48.8 +0.6**
ZAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
BMRM Bremner River 82.17 22 *e*P **P 23 48 46.7 -2.0**
TLY Talaya 82.45 326 *e*P **P 23 48 51.1 +0.7**
TLY *e*S S 23 59 09.8 +9.0
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
TLY Talaya 82.45 326 *e*P **P 23 48 50.7 +0.3**
MCK McKinley 82.59 19 *e*P **P 23 48 50.4 -0.5**
IMA2 Indian Mountai 82.95 16 *e*P **P 23 48 52.0 -0.7**
COLA College 83.73 18 *e*P **P 23 48 55.4 -1.4**
COLA pmax pmax
comp=Z,11nm,0.6s,mb4.9
COLA College 83.73 18 *e*P **P 23 48 55.4 -1.3**
comp=Z,11nm,0.6s,mb4.9
YBH Yreka Blue Hor 84.26 46 ⇑P **P 23 49 00.0 0.0**
baz=84
MAW Mawson 84.28 202 *e*P **P 23 48 59.3 -0.4**
comp=Z,9.6nm,1.5s,mb4.4
MAW Mawson 84.28 202 P **P 23 49 00.3 +0.6**
comp=Z,1.3nm,0.3s,mb4.3,baz=76,slow=5.6,SNR=5.4
MAW Mawson 84.28 202 *e*P **P 23 48 59.3 -0.4**
MAW pmax pmax
comp=Z,10.0nm,1.5s
CMB Columbia Colle 84.69 50 *e*P **P 23 49 04.0 +1.8**
O04C Chester 84.92 47 ⇑P **P 23 49 03.7 +0.3**
baz=85
S06C San Francisco 85.04 50 ⇓P **P 23 49 04.1 0.0**
baz=85
ELFS Eagle Lake Fie 85.28 47 ⇓P **P 23 49 05.7 +0.5**
baz=85
R06C Coleville 85.54 49 ⇓P **P 23 49 07.5 +0.9**
baz=86
O06A Flanigan 85.78 48 ⇑P **P 23 49 07.2 -0.4**
baz=86
EGAK Eagle 85.82 20 *e*P **P 23 49 07.3 +0.1**
comp=Z,16nm,0.8s,mb5.0
J05A Fort Rock 85.82 44 ⇓P **P 23 49 07.8 0.0**
baz=86
MTUM Tungsten Hills 85.84 51 *e*P **P 23 49 07.2 -0.9**
K05A Summer Lake 85.87 45 ⇓P **P 23 49 08.6 +0.5**
baz=86
PAHR Pah Rah Range 85.96 48 *e*P **P 23 49 08.1 -0.5**
comp=Z,12nm,1.2s,mb4.7
N06A Buffalo Meadow 85.97 47 ⇑P **P 23 49 08.3 -0.3**
baz=86
BAR Barrett 85.97 56 *e*P **P 23 49 10.0 +1.2**
DAWY Dawson 86.00 21 *e*P **P 23 49 08.0 -0.1**
MOD Modoc 86.01 46 ⇓P **P 23 49 08.3 -0.4**
baz=86
MOD Modoc 86.01 46 *e*P **P 23 49 08.2 -0.5**
S08C White Mtn Res 86.19 51 ⇓P **P 23 49 10.1 +0.3**
baz=86
K06A Valley Falls 86.34 45 ⇑P **P 23 49 11.2 +0.9**
baz=86
NVAR Mina Array Bea 86.37 50 P **P 23 49 09.6 -1.0**
comp=Z,1.5nm,0.9s,mb3.9,baz=238,slow=8.3,SNR=6.7
PFO Pinyon Flat Ob 86.40 55 *e*P **P 23 49 10.2 -0.6**
TIXI Tiksi 86.51 349 *i* P **P 23 49 09.3 -1.2**
TIXI pmax pmax
comp=Z,15nm,1.5s,mb4.7
N07B Gerlach 86.60 47 ⇓P **P 23 49 12.1 +0.4**
baz=87
M07A Soldier Meadow 86.64 47 ⇓P **P 23 49 12.3 +0.5**
baz=87
L07A Adell 86.72 46 ⇑P **P 23 49 13.1 +0.8**
baz=87
I06A Prineville 86.74 44 ⇓P **P 23 49 12.8 +0.6**
baz=87
FURC Furnace Creek, 86.89 52 ⇑P **P 23 49 12.7 -0.5**
baz=87
H06A Lindquist Farm 86.92 43 ⇑P **P 23 49 12.8 -0.3**
baz=87
K07A Rock Creek Ran 87.00 46 ⇑P **P 23 49 13.7 +0.1**
baz=87
O08A Rochester Mine 87.04 48 ⇑P **P 23 49 14.1 +0.2**
baz=87
C05A Tolt Reservoir 87.04 40 ⇑P **P 23 49 13.6 -0.1**
baz=87
E06A Yakima 87.10 41 ⇑P **P 23 49 13.7 -0.3**
baz=87

M08A	Happy Creek Ra	87.23	47	⇓P	P	23 49 15.3 +0.6
	baz=87					
I07A	Izee	87.27	44	⇓P	P	23 49 15.0 +0.2
	baz=87					
U10A	Ash Meadows, A	87.28	52	⇓P	P	23 49 15.0 -0.1
	baz=87					
GMRC	Granite Mounta	87.36	54	⇑P	P	23 49 14.8 -0.7
	baz=88					
L08A	Fields	87.48	46	⇑P	P	23 49 16.5 +0.6
	baz=88					
G07A	Ruggs Ranch, H	87.54	43	⇑P	P	23 49 15.6 -0.5
	baz=88					
GLA	Glamis	87.56	56	eP	P	23 49 16.1 -0.4
J08A	Circle Bar Ran	87.75	45	⇑P	P	23 49 17.5 +0.3
	baz=88					
HVS	Khovu-Aksy	87.85	323	eP	P	23 49 17.5 +0.1
HVS				pmax	pmax	
	comp=Z,58nm,1.3s,mb5.5					
G08A	Pilot Rock	88.02	43	⇑P	P	23 49 18.0 -0.4
	baz=88					
K09A	Rome	88.07	46	⇑P	P	23 49 18.6 -0.1
	baz=88					
A07A	Ashnola River,	88.32	39	⇑P	P	23 49 20.0 +0.3
	baz=88					
T11A	Corn Creek, Al	88.37	52	⇓P	P	23 49 20.3 +0.1
	baz=88					
R11A	Troy Canyon, C	88.39	50	⇑P	P	23 49 20.4 +0.1
	baz=88					
L10A	Juniper Basin	88.78	47	⇓P	P	23 49 22.1 0.0
	baz=89					
W13A	Hualapai Mount	88.85	54	⇓P	P	23 49 22.5 0.0
	baz=89					
M11A	Holland Ranch,	89.08	47	⇑P	P	23 49 23.9 +0.4
	baz=89					
U13A	Pakoon Wash	89.12	53	⇑P	P	23 49 23.5 -0.3
	baz=89					
R12A	Pony Springs,	89.12	51	⇑P	P	23 49 23.9 +0.1
	baz=89					
Q12A	Willow Creek R	89.14	50	⇑P	P	23 49 24.1 +0.3
	baz=89					
G10A	Bishop Farm, J	89.26	44	⇓P	P	23 49 24.2 0.0
	baz=89					
K11A	Parker Ranch,	89.29	46	⇓P	P	23 49 24.7 +0.2
	baz=89					
ELK	Elko	89.30	48	eP	P	23 49 25.1 +0.6
H10A	Noah's Angus R	89.31	44	⇑P	P	23 49 24.6 +0.1
	baz=89					
L11A	Cat Creek Ranc	89.31	47	⇑P	P	23 49 25.1 +0.6
	baz=89					
T13A	Saint George	89.32	52	⇓P	P	23 49 24.9 +0.2
	baz=89					
WMQ	Urumqi	89.35	315	P	P	23 49 25.1 +0.4
WMQ				AP	pP	23 49 45.8 +0.5
WMQ				XP	sP	23 49 54.1 +0.6
WMQ				PP	PP	23 52 59.3 +2.6
WMQ				AMB	AMB	
	comp=Z,9.0nm,0.9s,mb4.8					
WMQ				LR	LR	
	comp=N,85nm,20.9s					
WMQ				LR	LR	
	comp=E,123nm,20.9s					
WMQ				LR	LR	
	comp=Z,84nm,20.9s					
F10A	Beach Ranch, E	89.39	43	⇓P	P	23 49 24.9 +0.1
	baz=90					
N12A	Clover Valley,	89.47	48	⇓P	P	23 49 25.3 0.0
	baz=90					
X14A	Yava	89.48	55	⇓P	P	23 49 25.7 +0.1
	baz=90					
S13A	Holt Ranch, En	89.50	52	⇑P	P	23 49 25.6 0.0
	baz=90					
W14A	Seligman	89.51	54	⇓P	P	23 49 25.3 -0.4
	baz=90					
O12A	Currie	89.53	49	⇑P	P	23 49 25.4 -0.2
	baz=90,SNR=5.1					
R13A	O'Grain Ranch,	89.57	51	⇓P	P	23 49 25.6 -0.3
	baz=90					
V14A	Boquillas Ranc	89.60	54	⇑P	P	23 49 25.3 -0.7
	baz=90					
M12A	Wells	89.72	48	⇑P	P	23 49 26.5 0.0
	baz=90					
Q13A	Wheeler Ranch,	89.73	50	⇓P	P	23 49 26.9 +0.3
	baz=90					
U14A	Mt Trumbull	89.73	53	⇑P	P	23 49 26.7 0.0
	baz=90					
Y15A	Casa Rosa Ranc	89.81	55	⇓P	P	23 49 26.8 -0.3
	baz=90					
L12A	House Creek Ra	89.84	47	⇑P	P	23 49 27.4 +0.4
	baz=90					
P13A	Bates Ranch, G	89.86	50	P	P	23 49 27.3 +0.1
	baz=90,SNR=8.0					
G11A	Walters Elk Ra	89.86	44	P	P	23 49 26.4 -0.7
	baz=90,SNR=7.0					
X15A	Humboldt	90.01	55	⇓P	P	23 49 28.1 +0.1
	baz=90					
K12A	Draper Farm, C	90.05	47	⇑P	P	23 49 28.2 +0.2
	baz=90					
J12A	Stokes Ranch,	90.08	46	⇑P	P	23 49 27.8 -0.3
	baz=90,SNR=6.2					
M13A	Montello	90.24	48	⇑P	P	23 49 28.4 -0.6
	baz=90,SNR=5.6					
Q14A	Sevier Lake (B	90.30	50	⇑P	P	23 49 29.2 -0.1
	baz=90,SNR=10					
V15A	Kaibab Nationa	90.38	54	⇓P	P	23 49 29.7 0.0
	baz=90					
U15A	North Rim	90.43	53	⇓P	P	23 49 29.6 -0.4
	baz=90					
Y16A	Circle Bar Ran	90.48	56	⇓P	P	23 49 29.4 -0.8
	baz=91					
P14A	Drum Mountains	90.61	50	⇓P	P	23 49 30.2 -0.5
	baz=91					
X16A	Lo Mia Camp, P	90.63	55	⇑P	P	23 49 31.0 +0.1
	baz=91					
HLID	Hailey	90.64	46	eP	P	23 49 31.0 +0.2
F12A	Elk City	90.65	43	⇓P	P	23 49 30.1 -0.6
	baz=91,SNR=9.2					
B11A	Sandpoint	90.66	41	⇓P	P	23 49 30.0 -0.7
	baz=91					
TUC	Tucson	90.69	57	eP	P	23 49 33.1 +1.9
J13A	Cove Ranch, Pi	90.77	46	⇓P	P	23 49 31.0 -0.3
	baz=91					
117A	Oracle	90.78	57	⇑P	P	23 49 31.2 -0.5
	baz=91					
A11A	Hall Mountain,	90.81	40	⇓P	P	23 49 31.2 -0.2
	baz=91					
N14A	Grayback Hills	90.83	49	⇓P	P	23 49 31.3 -0.4
	baz=91					
M14A	Sheep Mountain	90.88	48	P	P	23 49 31.8 -0.1
	baz=91,SNR=5.4					
I13A	Wildhorse Cree	90.94	45	P	P	23 49 31.9 -0.2
	baz=91,SNR=5.8					
DUG	Dugway	90.94	49	eP	P	23 49 32.0 -0.2
DUG				pmax	pmax	
	comp=Z,35nm,2.5s,mb5.0					
DUG	Dugway	90.94	49	⇑P	P	23 49 32.0 -0.3
	baz=91					
DUG	Dugway	90.94	49	eP	P	23 49 32.0 -0.3
	comp=Z,35nm,2.5s,mb5.0					
BGU	Big Grassy Mou	90.96	49	eP	P	23 49 32.0 -0.3
MSU	Marysvale	91.02	51	eP	P	23 49 33.3 +0.7
L14A	Malta	91.09	47	⇓P	P	23 49 32.6 -0.2
	baz=91					
318A	Bisbee	91.15	58	⇑P	P	23 49 32.8 -0.6
	baz=91					
G13A	Cobalt	91.16	44	⇑P	P	23 49 33.0 -0.1
	baz=91					
J14A	Carey	91.21	46	⇓P	P	23 49 33.2 -0.2
	baz=91					
K14A	Jones Ranch, D	91.26	47	⇑P	P	23 49 33.4 -0.2
	baz=91					
F13A	Darby	91.28	44	⇓P	P	23 49 33.5 -0.1
	baz=91					
S16A	Weppner Ranch,	91.28	52	⇓P	P	23 49 33.7 -0.2
	baz=91					
N15A	Stansbury Isla	91.33	49	⇓P	P	23 49 33.7 -0.3
	baz=91					
I14A	Mackay	91.41	46	⇑P	P	23 49 33.9 -0.3
	baz=92					
M15A	Larsen Ranch,	91.52	48	⇑P	P	23 49 34.5 -0.4
	baz=92					
E13A	Victor	91.54	43	⇓P	P	23 49 34.4 -0.4
	baz=92					
C13A	Hot Springs	91.61	42	⇑P	P	23 49 34.5 -0.6
	baz=92					
H14A	Leadore	91.64	45	⇑P	P	23 49 35.6 +0.2
	baz=92					
T17A	Navajo Res., N	91.73	53	⇑P	P	23 49 35.5 -0.4
	baz=92					
219A	White Tail Can	91.88	58	⇓P	P	23 49 36.9 +0.2
	baz=92					
J15A	Blackfoot	92.00	46	⇑P	P	23 49 37.2 +0.2
	baz=92					
R17A	Hanksville Air	92.12	51	⇑P	P	23 49 37.7 0.0
	baz=92					
CHMT	Chamberlain Mo	92.29	43	eP	P	23 49 37.5 -0.8
G15A	Dillon	92.38	44	⇑P	P	23 49 39.0 +0.2
	baz=92					
K16A	Soda Springs	92.46	47	⇓P	P	23 49 39.7 +0.5
	baz=93					
F15A	Butte	92.54	44	⇓P	P	23 49 39.3 -0.1
	baz=93					
E15A	Deer Lodge	92.58	43	⇑P	P	23 49 39.7 +0.1
	baz=93					
REDW	Red Top Meadow	93.11	47	eP	P	23 49 42.7 +0.6
	comp=Z,6.2nm,1.0s,mb4.9					
REDW				epP	pP	23 50 03.8 +1.0
MKAR	Makanchi Array	93.79	317	P	P	23 49 46.4 +1.2
	comp=Z,9.2nm,0.8s,mb5.2,baz=98,slow=6.2,SNR=64					
MKAR				PKKP	PKKPbc	00 06 47.5 -3.2
	comp=Z,0.6nm,0.7s,baz=310,slow=1.6,SNR=5.6					
MKAR				LR	LR	00 30 57.4
	comp=Z,101nm,19.3s,baz=100,slow=35					
MKAR	Makanchi Array	93.79	317	P	P	23 49 46.4 +1.2
MKAR				PKKP	PKKPbc	00 06 47.5 -3.2
MKAR				LR	LR	00 30 57.4
ZALV	Zalesovo Beam	93.87	324	P	P	23 49 45.2 -0.1
	comp=Z,5.5nm,0.9s,mb4.9,baz=108,slow=4.8,SNR=23					
ZALV				LR	LR	00 31 03.9
	comp=Z,95nm,20.2s,baz=243,slow=35					
ZAL	Zalesovo	93.88	324	P	P	23 49 45.3 -0.1
PDAR	Pinedale Array	93.91	47	P	P	23 49 44.6 -1.2
	comp=Z,0.6nm,1.0s,mb3.9,baz=222,slow=2.0,SNR=4.2					
PDAR				LR	LR	00 31 51.6
	comp=Z,65nm,18.3s,baz=54,slow=35					
SMCO	Snowmass	95.13	51	eP	P	23 49 56.0 +4.4
	comp=Z,5.8nm,0.8s,mb5.1					
SMCO				epP	pP	23 50 16.0 +3.8
YKA	Yellowknife Ar	95.40	27	LR	LR	00 27 15.9
	comp=Z,74nm,18.8s,baz=185,slow=32					
TXAR	Lajitas Array	96.11	61	P	P	23 49 59.0 +2.7
	comp=Z,0.5nm,0.8s,mb4.0,baz=224,slow=5.2,SNR=5.0					
TXAR				LR	LR	00 27 33.5
	comp=Z,295nm,18.4s,baz=45,slow=32					
PHWY	Pilot Hill	96.64	49	epP	pP	23 50 22.6 +3.6
KURK	Kurchatov	96.93	320	eP	P	23 49 59.8 +0.4
KURK				pmax	pmax	
	comp=Z,21nm,2.1s,mb5.2					
KURK	Kurchatov	96.93	320	eP	P	23 49 59.8 +0.3
	comp=Z,21nm,2.1s,mb5.2					
ARCES	ARCESS Array B	116.74	345	PKP	PKPdf	23 55 12.7 +1.1
	comp=Z,6.1nm,0.8s,baz=50,slow=1.9,SNR=10					
JOF	Joensuu	119.31	338	ep	PKPdf	23 55 15.8 -0.9
	comp=Z,3.6nm,0.7s					
LPAZ	La Paz	120.06	116	PKP	PKPdf	23 55 20.3 +0.8
	comp=Z,1.8nm,0.9s,baz=46,slow=0.9,SNR=8.1					
LPAZ	La Paz	120.06	116	PKP	PKPdf	23 55 20.3 +0.8
OBN	Obninsk	121.14	329	PKIKP	PKPdf	23 55 19.3 -1.1
OBN				pmax	pmax	
	comp=Z,4.0nm,0.9s					
KIV	Kislovodsk	121.48	315	ePKIKP	PKPdf	23 55 17.1 -4.3
KIV				e		23 56 56.1
KIV				pmax	pmax	
	comp=Z,4.0nm,0.9s					
KAF	Kangasniemi	121.63	339	ep	PKPdf	23 55 20.9 -0.3
	comp=Z,3.3nm,0.7s					
CPUP	Villa Florida	123.79	133	PKP	PKPdf	23 55 25.5 -1.0
	comp=Z,4.6nm,0.9s,baz=257,slow=1.8,SNR=8.8					
MALT	Malatya	126.07	309	ePKIKP	PKPdf	23 55 30.6 +0.2
NOA	NORSAR Array B	127.11	345	PKP	PKPdf	23 55 32.1 +0.4
	comp=Z,3.1nm,0.8s,baz=36,slow=1.9,SNR=14					
HFS	Hagfors	127.19	343	PKP	PKPdf	23 55 31.9 0.0
	comp=Z,3.8nm,0.8s,baz=90,slow=1.6,SNR=6.2					
AKASG	Malin Array Be	127.19	327	PKP	PKPdf	23 55 32.9 +0.7
	comp=Z,3.0nm,0.9s,baz=63,slow=1.8,SNR=16					
MMAI	Mount Meron Ar	129.76	303	PKP	PKPdf	23 55 39.9 +2.3
	comp=Z,1.4nm,0.6s,baz=241,slow=4.6,SNR=3.9					
KOLS	Kolonicke sedl	131.89	328	ePKP	PKPdf	23 55 43.4 +2.2
KOLS				e		23 55 54.4
STHS	Stebnicka Huta	132.11	329	ePKP	PKPdf	23 55 44.0 +2.4
STHS				e		23 55 55.8
OKC	Ostrava-Krasne	133.33	331	ePKPdf	PKPdf	23 55 44.6 +0.8
BSEG	Bad Segeberg	133.34	340	ePKPdf	PKPdf	23 55 46.2 +2.5
DPC	Dobruska-Polom	133.80	333	ePKPdf	PKPdf	23 55 45.8 +1.1
UPC	Upice	133.82	333	ePKPdf	PKPdf	23 55 47.6 +2.8
VYHS	Vyhne	133.91	330	ePKP	PKPdf	23 55 45.8 +0.8
CLL	Collm	134.48	336	ePKPdf	PKPdf	23 55 47.1 +1.1
CLL	Collm	134.48	336	i PKPdf	PKPdf	23 55 47.6 +1.6
	comp=Z,5.0nm,0.9s					
MODS	Modra-Piesok	134.76	331	ePKP	PKPdf	23 55 48.9 +2.3
TREC	Trest	134.94	333	ePKPdf	PKPdf	23 55 48.6 +1.7
EKA	Eskdalemuir Ar	135.39	351	PKP	PKPdf	23 55 49.1 +1.6
	comp=Z,2.5nm,0.9s,baz=39,slow=5.4,SNR=4.4					
WERD	Werda	135.43	336	ePKPdf	PKPdf	23 55 49.0 +1.2
WERN	Wernitzgruen	135.52	336	ePKPdf	PKPdf	23 55 49.8 +1.9
CONA	Conrad Observa	135.75	331	⇑i P	PKPdf	23 55 48.6 +0.1
	comp=Z,5.0nm,0.9s					
MANZ	Manzenberg	135.87	336	ePKPdf	PKPdf	23 55 49.8 +1.2
KHC	Kasperske Hory	135.91	334	ePKPdf	PKPdf	23 55 50.0 +1.3
GERES	GERESS Array B	136.07	333	PKP	PKPdf	23 55 49.8 +0.8
	comp=Z,1.5nm,0.8s,baz=48,slow=2.0,SNR=14					
WET	Wettzell	136.19	334	ePKPdf	PKPdf	23 55 51.5 +2.3
GRA1	Grafenberg Arr	136.45	336	ePKPdf	PKPdf	23 55 50.4 +0.7
GRF	Grafenberg Arr	136.45	336	ePKPdf	PKPdf	23 55 50.4 +0.7
SOKA	Soboth	137.03	330	⇑i P	PKPdf	23 55 52.3 +1.4
	comp=Z,6.4nm,1.1s					
BDFB	Brasília	137.12	128	PKP	PKPdf	23 55 51.3 -0.6
	comp=Z,3.2nm,0.9s,baz=126,slow=9.0,SNR=7.5					
STU	Stuttgart	137.99	337	ePKPdf	PKPdf	23 55 55.5 +2.9
ABTA	Abfaltersbach	138.17	332	⇑i P	PKPdf	23 55 53.8 +0.9
	comp=Z,8.9nm,1.1s					
WTTA	Wattenberg	138.17	333	⇑i P	PKPdf	23 55 54.7 +1.7
	comp=Z,11nm,1.0s					
GIVF	Givet	138.39	341	ePKP1	PKPdf	23 55 52.7 -0.6
	comp=Z,40nm,1.1s					
BAIF	Baives	138.62	342	ePKP1	PKPdf	23 55 53.5 -0.2
FETA	Feichten	138.75	334	⇑i P	PKPdf	23 55 54.8 +0.8
	comp=Z,13nm,1.1s					
DAVOS	Davos	139.29	335	PKIKP	PKPdf	23 55 56.8 +1.8
DAVOX	Davos/Dischmat	139.30	334	PKP	PKPdf	23 55 56.8 +1.7
	comp=Z,8.4nm,1.0s,baz=82,slow=1.1,SNR=10					
HAU	Haudompre	139.68	338	ePKP1	PKPdf	23 55 55.2 -0.5
HAU				eMLR	MLR	
	comp=Z,109nm,19.2s					
HAU	Haudompre	139.68	338	ePKP	PKPdf	23 55 55.2 -0.5
HAU				LR	LR	
	comp=Z,110nm,19.3s					
TUE	Stuetta	139.77	335	ePKPdf	PKPdf	23 55 53.9 -2.0
FLN	La Foliniere	141.09	345	ePKP1	PKPdf	23 55 58.7 +0.5
FLN				eMLR	MLR	
	comp=Z,127nm,20.2s					
FLN	La Foliniere	141.09	345	ePKP	PKPdf	23 55 58.7 +0.5
FLN				LR	LR	
	comp=Z,130nm,20.3s					
GRR	Gorron	141.53	346	ePKP1	PKPdf	23 55 58.4 -0.6
LPL	La Plagne	141.62	336	ePKP1	PKPdf	23 55 57.3 -2.0
	comp=Z,5.3nm,0.8s					
LPG	La Plagne	141.62	336	ePKP1	PKPdf	23 55 57.4 -1.9
	comp=Z,13nm,1.1s					
BNI	Bardonecchia	142.02	336	ePKIKP	PKPdf	23 55 56.7 -3.3
MBDF	Montbardon	142.25	335	ePKP1	PKPdf	23 55 56.0 -4.4
	comp=Z,20nm,1.3s					
ORIF	Oris-en-Rattie	142.45	336	ePKP1	PKPdf	23 55 57.1 -3.7
	comp=Z,20nm,0.8s					
ORIF				eMLR	MLR	
	comp=Z,114nm,17.5s					
SSB	Saint Sauveur	142.66	338	ePKIKP	PKPdf	23 55 58.9 -2.2
SBF	Sospel	142.67	334	⇑i PKP1	PKPdf	23 55 57.0 -4.2
	comp=Z,29nm,0.9s					
VIVF	Saint-Julien-l	142.97	337	ePKP1	PKPdf	23 55 58.9 -2.8
	comp=Z,32nm,1.2s					
PGF	Pioggiola	142.98	331	ePKP1	PKPdf	23 56 01.0 -0.8
	comp=Z,22nm,0.9s					
FRF	La Foret Royal	143.25	334	⇑i PKP1	PKPdf	23 55 59.3 -2.9
	comp=Z,25nm,1.0s					
SMRF	Simiane la Rot	143.35	336	ePKP1	PKPdf	23 56 01.1 -1.3
	comp=Z,33nm,1.3s					
TAVF	Tavernes	143.45	335	PKP	PKPdf	23 56 00.3 -2.3
LMR	La Mourre	143.49	334	⇑i PKP1	PKPdf	23 56 00.3 -2.4
	comp=Z,60nm,1.1s					
PUYF	Puyloubier	143.67	335	PKP	PKPdf	23 56 00.8 -2.2
RJF	Les Rejaudoux	143.68	341	ePKP1	PKPdf	23 56 01.7 -1.2
RJF				eMLR	MLR	
	comp=Z,138nm,18.2s					
RJF	Les Rejaudoux	143.68	341	ePKP	PKPdf	23 56 01.7 -1.2
RJF				LR	LR	
	comp=Z,140nm,18.3s					
TREF	Trevaresse	143.72	336	PKP	PKPdf	23 56 01.2 -1.9
CAF	Calviac	143.83	340	⇑i PKP1	PKPdf	23 56 01.9 -1.3
	comp=Z,30nm,1.1s					
BERF	Bertagne	143.85	335	PKP	PKPdf	23 56 02.2 -1.1
LASF	Ste Croix	143.94	338	⇑i PKP1	PKPdf	23 56 02.4 -1.0
	comp=Z,70nm,1.1s					
LFF	La Frestale	144.25	342	ePKP1	PKPdf	23 56 03.0 -0.9
	comp=Z,56nm,1.1s					
MTLF	Montolieu	145.17	339	⇑i PKP1	PKPbc	23 56 06.5 +1.2
	comp=Z,104nm,1.1s					
LRDF	Laroque-de-Fa	145.41	338	PKP	PKPdf	23 56 07.1 +1.1
FILF	Fillols	145.72	338	PKP	PKPdf	23 56 07.9 +1.3
CARF	Carcanieres	145.76	338	PKP	PKPdf	23 56 07.9 +1.3
MLS	Moulis	145.90	340	PKP	PKPdf	23 56 08.4 +1.6
EPF	Esparros	146.09	341	ePKP1	PKPbc	23 56 09.4 +1.3
	comp=Z,24nm,1.1s					
VIEF	Viey	146.32	341	PKP	PKPbc	23 56 10.4 +1.6
ETSF	Etsaut	146.49	342	ePKP1	PKPbc	23 56 10.7 +1.4
	comp=Z,54nm,1.1s					
KEST	Kesra	147.72	322	PKPbc	PKPbc	23 56 14.2 +1.2
	comp=Z,10nm,0.8s,baz=312,slow=2.6,SNR=31					
CMAH	Djebel Manchou	148.21	326	P	PKPdf	23 56 10.0 -0.9
CKFL	Kef-Lekhel	148.76	326	P	PKPbc	23 56 17.0 +1.3
CASM	Ain Smara	148.99	326	P	PKPbc	23 56 18.0 +1.7
PBRG	Braganca	149.08	349	ePKPbc	PKPbc	23 56 16.7 +0.4
DFRA	Djebel Bou Aff	149.10	327	P	PKPbc	23 56 18.3 +1.7
SET	Setif	149.62	327	P	PKPbc	23 56 21.0 +3.1
AKF	Akfadou	149.72	329	P	PKPbc	23 56 19.5 +1.4
MVO	Moncorvo	149.75	349	ePKPbc	PKPbc	23 56 18.9 +0.9
PVIS	Viseu	150.34	350	ePKPbc	PKPbc	23 56 20.5 +1.0
ESDC	Sonseca Array	150.46	344	PKP	PKPdf	23 56 15.0 +0.6
	comp=Z,0.9nm,0.8s,baz=358,slow=3.8,SNR=5.5					
ESDC				PKPbc	PKPbc	23 56 21.0 +1.2
	comp=Z,6.2nm,0.8s,baz=14,slow=2.7,SNR=27					
ESDC				PKPab	PKPab	23 56 28.1 +1.7
	comp=Z,6.2nm,0.8s,baz=13,slow=4.0,SNR=12					
MTE	Manteigas	150.59	349	ePKPbc	PKPbc	23 56 20.4 +0.4
ADJB	Djebel Djouab	150.65	330	P	PKPbc	23 56 22.6 +2.3
PAB	San Pablo	150.69	344	ePKIKP	PKPdf	23 56 14.8 0.0
PAB				e		23 56 20.8
EMHD	Djebel Mahouad	150.86	330	P	PKPbc	23 56 22.0 +1.2
PCBR	Castelo Branco	151.12	349	ePKPbc	PKPbc	23 56 22.2 +0.9
PTOM	Tomar	151.50	350	ePKPbc	PKPbc	23 56 22.6 +0.4
PMRV	Marv??o	151.50	349	ePKPbc	PKPbc	23 56 22.8 +0.6
PESTR	Estremoz	152.08	349	ePKPab	PKPab	23 56 33.9 +0.8
PMAFR	Mafra	152.28	352	ePKPbc	PKPbc	23 56 25.4 +1.4
EVO	Evora	152.49	349	ePKIKP	PKPdf	23 56 17.6 +0.1
	comp=Z,66nm,1.4s					
EVO				eMLR	MLR	
	comp=Z,192nm,22.5s					
EVO	Evora	152.49	349	ePKPbc	PKPbc	23 56 25.5 +1.0
PBAR	Barrancos	152.64	347	ePKPdf	PKPdf	23 56 16.9 -0.9
PBEJ	Beja	152.95	349	ePKPbc	PKPbc	23 56 26.7 +1.2
PBEJ	Beja	152.95	349	ePKPab	PKPab	23 56 38.1 +1.3
PVAQ	Vaqueiros	153.52	348	ePKPab	PKPab	23 56 38.6 -0.6
PFVI	Vila Bisbo	153.99	350	ePKPbc	PKPbc	23 56 27.6 -0.2
PMPS	Porto Santo	158.46	5	ePKPdf	PKPdf	23 56 25.0 -0.7
TORD	Torodi Ar. Bea	164.25	278	PKP	PKPdf	23 56 33.2 +0.9
	comp=Z,3.1nm,0.9s,baz=353,slow=1.1,SNR=12					
TORD	Torodi Ar. Bea	164.25	278	PKP	PKPdf	23 56 33.2 +0.9
DBIC	Dimbokro	169.49	244	PKP	PKPdf	23 56 37.0 +0.8
	comp=Z,8.8nm,1.1s,baz=247,slow=4.7,SNR=3.4					

*ISCJB **23** 23:46:45.4±0.5, 50.11N×003×19.13E×003, h0km, Error ellipse: s-maj=4.5km s-min=2.4km az=12.9*
*NEIC **23** 23:46:45.5±1.0, 50.22N×19.12E, h5km, ML2.5(PRU), Error ellipse: s-maj=13.8km s-min=5.9km az=189.0*
*IPEC **23** 23:46:45.9±0.1, 50.20N×19.12E, h0km, ML2.2/4, Error ellipse: s-maj=2.5km s-min=0.7km az=167.0*
*WAR **23** 23:46:46.2, 50.11N×19.22E, ML2.6, Mining Induced*
*CSEM **23** 23:46:47.0±0.3, 50.15N×19.12E, h2km, ML2.8/3, Error ellipse: s-maj=7.0km s-min=4.1km az=6.0*
*PRU **23** 23:46:47.4, 50.13N×19.06E, h0km*
*VIE **23** 23:46:48.5±0.5, 49.84N×19.04E, h0km, mb2.0/2, ML2.5/3, Error ellipse: s-maj=4.4km s-min=3.1km az=170.0, Suspected Mining induced.*

ISC 23 23:46:46.0±0.4, 5010N±003×1915E±003, h0km, n28, σ1§20/57, 2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.44	74	ePg	Pg	23 46 54.1	-0.3
OJC				eSg	Sg	23 47 00.1	+0.1
RAC	Raciborz	0.61	269	ePg	Pg	23 46 57.6	-0.2
RAC				eSg	Sg	23 47 06.1	+0.4
OKC	Ostrava-Krasne	0.70	248	ePg	Pg	23 47 00.1	+0.8
OKC				eSg	Sg	23 47 09.3	+0.9
OKC	Ostrava-Krasne	0.70	248	ePG	Pg	23 47 00.1	+0.8
OKC				eSG	Sg	23 47 10.0	+1.6
	comp=Z,30nm,0.4s						
NIE	Niedzica	1.02	132	ePg	Pg	23 47 05.4	-0.1
NIE				eSg	Sg	23 47 21.4	+2.7
LIKS	Likavka	1.05	181	ePN	Pn	23 47 07.2	-0.8
LIKS				eSN	Sn	23 47 21.0	-2.3
MORC	Moravsky Berou	1.08	253	ePg	Pg	23 47 06.9	+0.1
MORC				eSg	Sg	23 47 21.2	+0.4
MORC				eS	Sg	23 47 22.0	+1.2
MORC	Moravsky Berou	1.08	253	eP	Pg	23 47 07.0	+0.2
MORC				eS	Sg	23 47 21.9	+1.1
STHS	Stebnicka Huta	1.52	116	ePN	Pn	23 47 15.2	+0.7
STHS				eSN	Sg	23 47 39.7	+4.8
JAVC	Velka Javorina	1.57	218	eSg	Sg	23 47 38.9	+2.5
	comp=Z

0.7nm,0.8s,baz=60,slow=9.4,SNR=6.9
CMAR Chiang Mai Arr 60.93 296 P P 23 57 32.2 +0.6
0.4nm,0.3s,baz=122,slow=6.4,SNR=5.5
MKAR Makanchi Array 83.59 319 P P 23 59 46.5 -0.2
0.2nm,0.2s,baz=101,slow=6.0,SNR=2.6
GERES GERESS Array B 127.25 329 PKP PKPdf 00 06 23.5 +0.5
0.1nm,0.4s,baz=64,slow=3.1,SNR=5.3
TORD Torodi Ar. Bea 153.14 285 PKPbc PKPbc 00 07 16.9 -0.3
1.0nm,0.8s,baz=95,slow=2.4,SNR=6.1
TORD PKPab PKPab 00 07 27.6 -1.2
0.9nm,0.7s,baz=82,slow=1.9,SNR=4.7

*ISCJB **23** 23:54:17.0±0.4, 4832N±002×662E±003, h13km±4km, Error ellipse: s-maj=3.9km s-min=3.0km az=168.8*
*LDG **23** 23:54:18.4±0.1, 4831N×668E, h9km±1km, Md2.5/3, Ml2.2/8, Error ellipse: s-maj=2.2km s-min=1.9km az=135.0*
*STR **23** 23:54:18.2±0.3, 4832N×666E, h10km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 23 23:54:17.8±0.4, 4832N±002×664E±003, h16km±5km, n22, σ0°67/38, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.36**	**107**	**Pg**	**Pg**	**23 54 25.1**	**-0.2**
ECH				Sg	**Sg**	**23 54 29.8**	**-0.5**
HAU	**Haudompre**	**0.37**	**212**	*e*Pg	**Pg**	**23 54 25.9**	**+0.5**
HAU				*e*Sg	**Sg**	**23 54 30.5**	**0.0**
CDF	**Champ du Feu**	**0.44**	**78**	*e*Pg	**Pg**	**23 54 26.3**	**-0.3**
CDF				*e*Sg	**Sg**	**23 54 31.9**	**-0.6**
THEF	**They Montfort**	**0.44**	**258**	Pg	**Pg**	**23 54 27.0**	**+0.3**
THEF				Sg	**Sg**	**23 54 33.2**	**+0.5**
HINF	**Hinteralfeld**	**0.53**	**164**	*e*Pg	**Pg**	**23 54 28.4**	**+0.2**
HINF				*e*Sg	**Sg**	**23 54 35.2**	**-0.1**
HINF				*e*Sn	**Sg**	**23 54 38.5**	**+3.2**
MOF	**Molkenrain**	**0.58**	**144**	Pg	**Pg**	**23 54 30.8**	**+1.6**
RFYF	**Reffroy**	**0.83**	**292**	*e*Pg	**Pg**	**23 54 35.2**	**+1.2**
RFYF				*e*Sn	**Sn**	**23 54 46.8**	**+0.1**
LOMF	**Lomont**	**0.98**	**172**	Pg	**Pg**	**23 54 37.4**	**+0.6**
LOMF				Sg	**Sg**	**23 54 50.2**	**+0.6**
LANF	**Langenberg**	**1.02**	**49**	Pg	**Pg**	**23 54 37.6**	**+0.1**
LANF				Sg	**Sg**	**23 54 51.4**	**+0.6**
MEZF	**Maizieres J'vi**	**1.07**	**280**	*e*Pg	**Pg**	**23 54 39.2**	**+0.7**
MEZF				*e*Sg	**Sg**	**23 54 52.7**	**+0.2**
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pn	**Pn**	**23 54 38.5**	**+0.4**
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pg	**Pg**	**23 54 39.3**	**+0.7**
SFTF				*e*Sg	**Sg**	**23 54 52.8**	**+0.2**
BFO	**Black Forest**	**1.13**	**89**	*e*Pg	**Pg**	**23 54 39.4**	**-0.2**
BFO				*e*Sg	**Sg**	**23 54 53.2**	**-1.2**
WLF	**Walferdange**	**1.38**	**347**	*e*Sg	**Sg**	**23 55 02.0**	**-0.4**
CABF	**La Chapelle**	**1.75**	**192**	*e*Pn	**Pn**	**23 54 47.8**	**+0.3**
CABF	**La Chapelle**	**1.75**	**192**	*e*Pg	**Pg**	**23 54 51.5**	**+0.1**
CABF				*e*Sg	**Sg**	**23 55 14.4**	**+0.2**
LOR	**Lormes**	**2.15**	**242**	*e*Pn	**Pn**	**23 54 52.9**	**0.0**
LOR	**Lormes**	**2.15**	**242**	*e*Pg	**Pg**	**23 54 58.7**	**-0.3**
LOR				*e*Sg	**Sg**	**23 55 25.9**	**-1.0**
SSF	**Saint Saulge**	**2.46**	**240**	*e*Sg	**Sg**	**23 55 36.1**	**-0.8**
SMF	**Signal de Mont**	**2.53**	**230**	*e*Pg	**Pg**	**23 55 05.4**	**-0.9**
SMF				*e*Sg	**Sg**	**23 55 38.6**	**-0.5**
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pn	**Pn**	**23 55 00.3**	**-0.2**
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pg	**Pg**	**23 55 08.7**	**-0.8**
AVF				*e*Sg	**Sg**	**23 55 43.0**	**-1.5**

*ISCJB **24** 00:04:49.5±0.7, 3935N±003×2023E±006, h17km±6km, Error ellipse: s-maj=8.5km s-min=5.5km az=170.2*
*THE **24** 00:04:49.2, 3929N×2016E, h0km, ML2.8*
*ATH **24** 00:04:49.8, 3930N×2028E, h25km±2km, MD3.2/6*
*NEIC **24** 00:04:49.8, 3930N×2028E, h25km, MD3.2(ATH), After ATH.*
*CSEM **24** 00:04:50.5±0.2, 3930N×2028E, h20km, ML2.8, Error ellipse: s-maj=5.7km s-min=4.0km az=81.0*
ISC 24 00:04:50.1±0.6, 3929N±003×2030E±006, h10km±6km, n14, σ0°95/22, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.24**	**6**	*e*Pg	**Pg**	**00 04 54.3**	**-0.7**
IGT				*e*Sg	**Sg**	**00 04 58.8**	**+0.4**
JAN	**Janina**	**0.56**	**49**	*e*PN	**Pg**	**00 05 00.5**	**-0.5**
JAN				*e*SN	**Sg**	**00 05 09.9**	**+1.5**
KEK	**Kerkira**	**0.57**	**317**	*e*PN	**Pg**	**00 05 00.9**	**-0.3**
KEK				*e*SN	**Sg**	**00 05 09.9**	**+1.1**
LKD	**Levkas**	**0.65**	**155**	*e*Pg	**Pg**	**00 05 02.4**	**-0.2**
LKD				*e*Sg	**Sg**	**00 05 12.6**	**+1.5**
VLS	**Valsamata**	**1.14**	**168**	*e*PN	**Pn**	**00 05 11.7**	**-0.4**
VLS				*e*SN	**Sn**	**00 05 28.5**	**+0.8**
VLS	**Valsamata**	**1.14**	**168**	*e*Pg	**Pg**	**00 05 10.6**	**-1.4**
VLS	**Valsamata**	**1.14**	**168**	*e*Pn	**Pn**	**00 05 11.7**	**-0.4**
VLS				*e*Sn	**Sn**	**00 05 28.5**	**+0.8**
THL	**Klokotos Trika**	**1.35**	**78**	*e*Pg	**Pg**	**00 05 15.5**	**-0.6**
THL	**Klokotos Trika**	**1.35**	**78**	*e*PN	**Pn**	**00 05 14.8**	**-0.3**
THL				*e*SN	**Sn**	**00 05 34.0**	**+0.9**
THL	**Klokotos Trika**	**1.35**	**78**	*e*Pg	**Pg**	**00 05 15.5**	**-0.6**
THL				*e*Sn	**Sn**	**00 05 34.0**	**+0.9**
RLS	**Riolos of Patr**	**1.53**	**143**	*e*PN	**Pn**	**00 05 18.3**	**+0.8**
AGG	**Agios Georgios**	**1.60**	**99**	*e*Pb	**Pb**	**00 05 19.8**	**0.0**
FNA	**Florina**	**1.70**	**29**	*e*Pb	**Pb**	**00 05 20.8**	**-0.7**
NEO	**Neokhori**	**2.27**	**89**	*e*PB	**Pb**	**00 05 28.8**	**-2.3**

*NIED **24** 00:17:00, 2750N×12870E, h47km, Mw4.1 Best double couple: M0=1.50000×10^15 NP1:φs=42.00000°, δ73.00000°, λ87.00000°. NP2:φs=231.00000°, δ17.00000°, λ99.00000°.*
*MOS **24** 00:17:30.8±2.1, 2723N×12843E, h33km, mb4.8/2, Error ellipse: s-maj=21.7km s-min=11.7km az=100.6*
*BJI **24** 00:17:32.7, 2756N×12844E, h29km, mb4.0*
*ISCJB **24** 00:17:32.5±0.5, 2740N±005×12870E±006, h55km±4km, mb3.9/15, MS4.1/2, Error ellipse: s-maj=11.5km s-min=5.2km az=41.2*
*IDC **24** 00:17:32.4±4.2, 2751N×12876E, h37km±35km, mb3.7/11, mb1 3.9/11, mb1mx3.8/21, mbtmp3.7/11, MS3.7/3, Ms1 3.7/3, ms1mx3.0/37, Error ellipse: s-maj=34.5km s-min=17.4km az=72.0*
*JMA **24** 00:17:33.6, 2745N×12866E, h41km±2km, M3.9*
JMA Felt I J1.
*NEIC **24** 00:17:34.1±1.4, 2737N×12861E, h54km±12km, mb4.4/3, Error ellipse: s-maj=17.3km s-min=9.2km az=67.0*
NEIC Recorded [1 JMA] on Okino-erabu-shima, Tokuno-shima and Yoron-jima.
ISC 24 00:17:33.4±0.5, 2741N±005×12869E±006, h47km±4km, n36, σ0°85/40, mb3.9/15, MS4.1/2, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.44**	**31**	P	**Pn**	**00 17 43.3**	**-0.4**
JTK				S	**Sn**	**00 17 49.9**	**-1.1**
JOW	**Kunigami**	**0.69**	**213**	P	**Pn**	**00 17 47.1**	**+0.2**
JOW				*e*S	**Sn**	**00 17 56.7**	**+0.1**
JOW	**Kunigami**	**0.69**	**213**	Pn	**Pn**	**00 17 47.2**	**+0.4**
JOW	544nm,0.3s,baz=82,slow=20,SNR=2196			Sn	**Sn**	**00 17 57.1**	**+0.6**
JIH	**Iheya**	**0.75**	**240**	P	**Pn**	**00 17 47.7**	**+0.1**
JIH				*e*S	**Sn**	**00 17 57.6**	**-0.4**
JAM	**Amami Oshima**	**1.28**	**39**	P	**Pn**	**00 17 55.4**	**+0.5**
JAM				*e*S	**Sn**	**00 18 11.0**	**+0.1**
JZK	**Kikaishima**	**1.45**	**51**	P	**Pn**	**00 17 57.7**	**+0.6**
JAGN	**Aguni-jima**	**1.53**	**238**	P	**Pn**	**00 17 58.8**	**+0.5**
JAGN				*e*S	**Sn**	**00 18 17.8**	**+0.8**
JKE	**Kume jima 2**	**2.02**	**238**	P	**Pn**	**00 18 05.2**	**+0.3**
YHNB	**Yeheng**	**7.13**	**249**	*e*Pn	**Pn**	**00 19 13.7**	**-1.4**
	14nm,0.6s						
NACB	**Ninganchiao**	**7.17**	**245**	*e*Pn	**Pn**	**00 19 14.8**	**-0.8**
KSRS	**Korea Array**	**10.03**	**356**	Pn	**Pn**	**00 19 58.1**	**+3.3**
KSRS	0.3nm,0.3s,baz=174,slow=14,SNR=11			LR	LR	00 23 40.0	
BJT	**Baijiatuau**	**16.31**	**324**	*e*P	**Pn**	**00 21 21.0**	**+2.0**
BJT	comp=Z,6.0nm,0.3s			pmax	pmax		
BJT	**Baijiatuau**	**16.31**	**324**	*e*Pn	**Pn**	**00 21 21.0**	**+2.0**
QIZ	**Qiongzhong**	**19.21**	**248**	P	**Pn**	**00 21 52.0**	**-2.8**
KMI	**Kunming**	**23.37**	**270**	P	**P**	**00 22 37.4**	**-0.6**
KMI	comp=Z,5.0nm,1.0s,mb3.9			AMB	AMB		
GTA	**Gaotai**	**26.80**	**304**	*e*P	**P**	**00 23 09.6**	**+0.6**
GTA				AP	pP	00 23 13.8	-7.4
GTA	comp=Z,4.0nm,0.7s,mb4.1			AMB	AMB		
SONM	**Songino Array**	**26.80**	**325**	P	**P**	**00 23 09.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**28.75**	**258**	P	**P**	**00 23 27.3**	**+0.7**
PMG	**Port Moresby**	**40.74**	**151**	*e*P	**P**	**00 25 09.1**	**-0.8**
PMG	comp=Z,10.0nm,0.8s			pmax	pmax		
PMG	**Port Moresby**	**40.74**	**151**	*e*P	**P**	**00 25 09.1**	**-0.8**
MKAR	**Makanchi Array**	**41.07**	**311**	P	**P**	**00 25 11.6**	**-0.6**
MKAR	comp=Z,0.3nm,0.4s,mb3.3,baz=76,slow=11,SNR=8.1			PcP	PcP	00 27 11.7	+0.4
ZALV	**Zalesovo Beam**	**41.57**	**322**	P	**P**	**00 25 16.2**	**-0.1**
ZAL	**Zalesovo**	**41.57**	**322**	P	**P**	**00 25 16.2**	**-0.1**
WRAB	**Tennant Creek**	**47.38**	**173**	P	**P**	**00 26 02.9**	**-0.1**
WRA	**Warramunga Arr**	**47.39**	**173**	P	**P**	**00 26 03.6**	**+0.5**
ASAR	**Alice Springs**	**51.03**	**174**	P	**P**	**00 26 32.1**	**+1.3**
GNI	**Garni**	**68.54**	**305**	LR	LR	01 03 30.4	
ARCES	**ARCESS Array B**	**69.06**	**338**	P	**P**	**00 28 33.6**	**-0.2**
MALT	**Malatya**	**73.77**	**305**	*e*P	**P**	**00 29 02.9**	**+0.1**
MALT	comp=Z,6.0nm,1.5s,mb4.3			pmax	pmax		
MALT	**Malatya**	**73.77**	**305**	*e*P	**P**	**00 29 02.9**	**0.0**
AKASG	**Malin Array Be**	**74.91**	**319**	P	**P**	**00 29 08.2**	**-0.9**
YKA	**Yellowknife Ar**	**77.28**	**25**	P	**P**	**00 29 21.4**	**-1.0**
NB2	**NORSAR Subarra**	**78.44**	**334**	P	**P**	**00 29 28.1**	**-0.8**
NOA	**NORSAR Array B**	**78.44**	**334**	P	**P**	**00 29 28.4**	**-0.5**
URZ	**Urewera**	**79.51**	**143**	LR	LR	00 59 58.5	
GERES	**GERESS Array B**	**84.51**	**323**	P	**P**	**00 30 01.7**	**+0.4**

*ISCJB **24** 00:34:29.3±0.9, 3.1N±01×123.1E±03, h549km±21km, mb3.8/4, Error ellipse: s-maj=48.2km s-min=16.2km az=163.5*
*IDC **24** 00:34:31.8±3.1, 309N×12321E, h564km±36km, mb3.0/4, mb1 3.2/4, mb1mx2.8/17, mbtmp3.0/4, Error ellipse: s-maj=90.4km s-min=12.3km az=64.0*
ISC 24 00:34:30.0±0.9, 31N±01×1230E±03, h536km±18km, n12, σ0°59/12, mb3.8/4, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**4.75**	**4**	*e*P	**P**	**00 35 56.3**	**-0.6**
MATI	**Mati**	**5.00**	**40**	*e*P	**P**	**00 35 59.4**	**+0.3**
BUKP	**Musuan**	**5.17**	**23**	*e*P	**P**	**00 36 00.8**	**+0.2**
TBP	**Tagbilaran**	**6.61**	**7**	*e*P	**P**	**00 36 13.4**	**-0.4**
BATI	**Baumata**	**13.22**	**177**	P	**P**	**00 37 21.2**	**0.0**
	16nm,0.3s,baz=15,slow=4.3,SNR=4.9						
KAKA	**Kakadu**	**18.26**	**149**	*e*P	**P**	**00 38 11.8**	**+0.8**
	7.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.21**	**173**	*e*P	**P**	**00 38 37.6**	**-0.2**
	4.3nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	**21.21**	**173**	P	**P**	**00 38 37.9**	**+0.1**
	2.1nm,0.4s,mb4.1,baz=2.7,slow=9.6,SNR=18						
WRA	**Warramunga Arr**	**25.43**	**155**	P	**P**	**00 39 15.0**	**-0.4**
	1.0nm,0.3s,mb4.0,baz=336,slow=9.5,SNR=11						
WRA				S	**S**	**00 43 02.7**	**-1.9**
	1.3nm,0.9s,baz=336,slow=16,SNR=4.0						
ASAR	**Alice Springs**	**28.62**	**159**	P	**P**	**00 39 44.1**	**+0.8**
	0.6nm,0.3s,mb3.6,baz=345,slow=6.9,SNR=15						
MKAR	**Makanchi Array**	**56.04**	**327**	P	**P**	**00 43 18.2**	**+0.2**
	1.1nm,0.3s,mb3.5,baz=122,slow=8.0,SNR=32						
MKAR				PcP	PcP	00 44 08.0	-0.5
	0.6nm,0.6s,baz=123,slow=4.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**119.60**	**287**	PKP	PKPdf	00 52 19.1	-1.0
	0.2nm,0.5s,baz=90,slow=1.3,SNR=7.2						

*ISCJB **24** 00:37:02.6±0.6, 1352N±005×91.19W±004, h62km±6km, mb3.9/10, Error ellipse: s-maj=9.9km s-min=4.7km az=38.1*
*CASC **24** 00:37:03.3±1.7, 1356N×9108W, h26km±8km, MD4.1, mb3.8(NEIC)*
*MEX **24** 00:37:03.2±0.5, 1333N×9138W, h20km±69km, MD4.7*
*NEIC **24** 00:37:05.4±1.4, 1358N×9096W, h67km±12km, mb3.8/1, Error ellipse: s-maj=20.0km s-min=11.6km az=212.0*
*IDC **24** 00:37:09.4±3.7, 1371N×9073W, h98km±32km, mb3.6/9, mb1 3.9/11, mb1mx3.6/23, mbtmp3.7/11, MS3.7/4, Ms1 3.6/4, ms1mx3.1/29, Error ellipse: s-maj=29.3km s-min=14.7km az=54.0*
ISC 24 00:37:04.1±0.6, 1354N±005×9120W±004, h57km±6km, n54, σ1°28/54, mb3.9/10, MS3.5/4, 2C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.89**	**331**	*e*P	**Pn**	**00 37 19.6**	**-0.9**
JAT				*e*S	**Sn**	**00 37 33.3**	**+0.7**
FUG	**Fuego 3**	**0.97**	**21**	*e*P	**Pn**	**00 37 20.6**	**-1.0**
PCG	**Pacaya**	**1.02**	**34**	*e*P	**Pn**	**00 37 21.3**	**-1.0**
FG6		**1.06**	**17**	*e*P	**Pn**	**00 37 21.8**	**-1.1**
NBG	**Las Nubes**	**1.33**	**38**	*e*P	**Pn**	**00 37 26.2**	**-0.2**
NBG				*e*S	**Sn**	**00 37 43.0**	**-0.2**
RTR	**El Retiro**	**1.55**	**76**	*e*P	x	00 37 27.5	
RBDL	**Robledal**	**1.57**	**69**	*e*P	x	00 37 28.3	
SNJE	**San Jose**	**1.58**	**78**	*e*P	x	00 37 27.8	
THIG		**1.71**	**323**	*i* P	**Pn**	**00 37 29.8**	**-1.8**
THIG				*i* S	**Sn**	**00 37 51.1**	**-1.3**
BOQS	**Boqueron**	**1.87**	**84**	*e*P	x	00 37 32.0	
MTO2	**Montecristo 2**	**1.98**	**64**	*e*P	x	00 37 34.4	
LFU	**La Fuente**	**2.04**	**84**	*e*P	x	00 37 35.2	
LBRS	**Las Brisas**	**2.10**	**84**	*e*P	x	00 37 35.8	
SNVI	**San Vicente**	**2.29**	**88**	*e*P	x	00 37 38.5	
VSM	**San Miguel**	**2.84**	**92**	*e*P	x	00 37 46.1	
CCIG	**Comitan**	**2.88**	**342**	*i* P	**Pn**	**00 37 48.0**	**+0.5**
CCIG				*i* S	**Sn**	**00 38 22.4**	**+1.6**
CAHU	**Cacacuatique**	**2.91**	**85**	*e*P	x	00 37 46.8	
CAHU				*e*S	x	00 38 21.2	
CNCH	**Conchagua**	**3.28**	**94**	*e*P	x	00 37 51.7	
SCX	**San Cristobal**	**3.47**	**337**	*i* P	**Pn**	**00 37 55.8**	**+0.2**
SCX				*i* S	**Sn**	**00 38 36.9**	**+1.4**
SCX	**San Cristobal**	**3.47**	**337**	*i* P	**Pn**	**00 37 57.2**	**+1.6**
SCX				*i* S	**Sn**	**00 38 38.2**	**+2.8**
TGIG		**3.72**	**330**	*i* P	**Pn**	**00 37 59.6**	**+0.6**
TGIG				*i* S	**Sn**	**00 38 42.8**	**+1.2**
TGUH	**Tegucigalpa,Un**	**3.85**	**82**	*e*P	**Pn**	**00 37 59.5**	**-1.2**
TGUH	**Tegucigalpa,Un**	**3.85**	**82**	*e*Pn	**Pn**	**00 37 59.9**	**-0.9**
TGUH				*e*Sn	**Sn**	**00 38 50.2**	**+5.5**
VHO	**Vista Hermosa**	**6.39**	**304**	*i* P	**Pn**	**00 38 36.3**	**+0.6**
VHO				*i* S	**Sn**	**00 39 44.5**	**-2.9**
VHO	**Vista Hermosa**	**6.39**	**304**	*i* P	**Pn**	**00 38 37.2**	**+1.5**
VHO				*i* S	**Sn**	**00 39 49.8**	**+2.4**
VCR	**Vista de Mar**	**6.42**	**121**	*e*P	**Pn**	**00 38 35.1**	**-0.9**
JCR	**Jicaral**	**7.00**	**121**	*e*P	**Pn**	**00 38 43.6**	**-0.4**
TEIG	**Tepich**	**7.21**	**22**	P	**Pn**	**00 38 48.1**	**+1.1**
	33nm,0.3s,baz=205,slow=3.0,SNR=157						
TEIG				S	**Sn**	**00 40 07.0**	**-0.6**
	baz=30,slow=20,SNR=1.7						
TEIG	**Tepich**	**7.21**	**22**	P	**Pn**	**00 38 48.1**	**+1.1**
TEIG				S	**Sn**	**00 40 07.0**	**-0.6**
PNIG	**Pinotepa**	**7.27**	**294**	*i* P	**Pn**	**00 38 46.6**	**-1.2**
PNIG				*i* S	**Sn**	**00 40 06.1**	**-2.9**
CGA2	**Cerro Gallo 2**	**7.46**	**117**	*e*P	**Pn**	**00 38 52.1**	**+1.7**
TPIG	**Tehuac#an**	**7.66**	**310**	*i* S	**Sn**	**00 40 18.7**	**+0.2**
URSC	**Urasca**	**8.14**	**116**	*e*P	**Pn**	**00 39 01.3**	**+1.6**
BUS	**Buena Vista**	**8.29**	**118**	*e*P	**Pn**	**00 39 03.8**	**+2.0**
PPM	**Popocatepetl**	**9.00**	**309**	*i* P	**Pn**	**00 39 11.8**	**+0.3**
PPM				*i* S	**Sn**	**00 40 49.0**	**-2.5**
TXAR	**Lajitas Array**	**19.51**	**326**	P	**Pn**	**00 41 29.5**	**+1.0**
	0.2nm,0.3s,baz=155,slow=12,SNR=34						
MIAR	**Mount Ida**	**21.03**	**355**	*e*P	**P**	**00 41 44.0**	**+0.9**
	4.6nm,0.9s,mb3.8						
SWET	**Sewanee**	**22.10**	**12**	P	**P**	**00 41 53.0**	**-1.6**
TKL	**Tuckaleechee C**	**23.02**	**16**	P	**P**	**00 42 03.9**	**-0.4**
	1.8nm,0.4s,mb3.8,baz=204,slow=9.6,SNR=3.6						
TKL				LR	LR	00 51 40.5	
	comp=Z,217nm,18.8s,MS3.6,baz=234,slow=38						
ATAH	**Atahualpa**	**24.04**	**147**	P	**P**	**00 49 49.7**	
	comp=Z,145nm,19.4s,MS3.5,baz=135,slow=32						
SJG	**San Juan**	**24.51**	**76**	LR	LR	00 51 08.0	
	comp=Z,97nm,21.4s,MS3.3,baz=80,slow=35						
PDAR	**Pinedale Array**	**33.16**	**335**	P	**P**	**00 43 36.1**	**+0.9**
	0.3nm,0.7s,mb3.4,baz=134,slow=7.7,SNR=3.2						
NVAR	**Mina Array Bea**	**34.52**	**321**	P	**P**	**00 43 50.7**	**+3.7**
	2.5nm,0.8s,mb4.2,baz=137,slow=7.6,SNR=14						
NVAR				PcP	PcP	00 46 22.3	+1.4
	0.7nm,0.7s,baz=144,slow=3.4,SNR=4.0						
NVAR	**Mina Array Bea**	**34.52**	**321**	P	**P**	**00 43 50.7**	**+3.7**
NVAR				PcP	PcP	00 46 22.3	+1.4
MCMT	**McKenzie Canyo**	**36.23**	**334**	*e*P	**P**	**00 44 04.1**	**+2.5**
LPAZ	**La Paz**	**37.39**	**142**	P	**P**	**00 44 11.8**	**+0.1**
	0.5nm,0.6s,mb3.5,baz=341,slow=4.2,SNR=5.5						
SIV	**San Ignacio**	**41.81**	**134**	P	**P**	**00 44 48.1**	**-0.4**
	3.1nm,0.7s,mb4.1,baz=307,slow=8.8,SNR=24						
SCHQ	**Schefferville**	**45.39**	**20**	P	**P**	**00 45 14.3**	**-2.5**
	4.8nm,0.7s,mb4.4,baz=214,slow=6.8,SNR=8.1						
SCHQ				LR	LR	01 05 37.6	
	comp=Z,113nm,18.6s,MS3.8,baz=308,slow=38						
SCHQ	**Schefferville**	**45.39**	**20**	P	**P**	**00 45 14.3**	**-2.5**
SCHQ				LR	LR	01 05 37.6	
YKA	**Yellowknife Ar**	**51.65**	**346**	P	**P**	**00 46 04.5**	**-0.3**
	0.5nm,0.3s,mb3.9,baz=148,slow=8.1,SNR=4.5						
YKA	**Yellowknife Ar**	**51.65**	**346**	P	**P**	**00 46 04.5**	**-0.3**
DBIC	**Dimbokro**	**84.92**	**84**	P	**P**	**00 49 33.0**	**-0.8**
	2.7nm,0.8s,mb4.4,baz=270,slow=9.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**89.73**	**77**	P	**P**	**00 49 53.3**	**-3.6**
	0.3nm,0.9s,mb3.6,baz=291,slow=6.0,SNR=3.0						
CMAR	**Chiang Mai Arr**	**146.67**	**342**	PKPbc	PKPbc	00 56 41.5	+1.1
	2.3nm,0.4s,baz=336,slow=3.8,SNR=13						

IDC 24 00:50:43.6±3.3, 2741N×9810E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=560.1km s-min=27.6km az=57.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**23.01**	**331**	P	P	00 55 50.1	+0.1
	0.2nm,0.6s,baz=129,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**58.72**	**139**	P	P	01 00 43.0	-0.2
	0.7nm,0.5s,baz=326,slow=7.6,SNR=5.5						
ASAR	**Alice Springs**	**61.42**	**142**	P	P	01 01 02.1	+0.3
	0.3nm,0.7s,baz=324,slow=6.8,SNR=4.8						

MAN 24 01:16:52, 1375N×12051E, h33km, mb3.6, ML2.3, MS1.8, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.26**	**268**	*e*P	Pb	01 17 01.2	+1.9
LUBP				*e*S	Sb	01 17 06.9	+2.7
NBP	**Mount Natib**	**0.99**	**355**	*e*P	Pn	01 17 14.1	+4.4
NBP				*e*S	Sn	01 17 33.7	+11
SJMP	**San Jose**	**1.41**	**155**	*e*P	Pn	01 17 15.4	+0.1
SJMP				*e*S	Sn	01 17 33.5	+0.8
OTRP	**Odiongan**	**2.01**	**133**	*e*P	Pn	01 17 24.6	+1.0

MAN 24 01:26:04, 998N×12546E, h32km, mb4.1, ML2.9, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.20**	**172**	*e*P	Pb	01 26 07.9	-2.5
SCPH				*i* S	Sb	01 26 10.5	-4.4
MSLP	**Maasin**	**0.61**	**284**	*e*P	Pb	01 26 17.2	+0.9
BUTP	**Butuan**	**1.02**	**171**	*e*P	Pn	01 26 23.0	+0.9
TBP	**Tagbilaran**	**1.60**	**260**	*e*P	Pn	01 26 31.3	+1.2
TBP				*e*S	Sn	01 26 50.8	+1.1
BUKP	**Musuan**	**2.13**	**191**	*e*P	Pn	01 26 37.5	+0.1

NEIC 24 01:31:22.5, 4258S×17285E, h5km, ML4.1(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.47**	**244**	P	Pg	01 31 31.8	+0.2
LTZ				S	Sg	01 31 38.5	+0.7
KHZ	**Kahutara**	**0.54**	**73**	P	Pg	01 31 33.5	+0.7
THZ	**Tophouse**	**0.82**	**3**	P	Pg	01 31 37.2	-1.0
CRLZ	**Canterbury Las**	**1.01**	**189**	P	Pg	01 31 42.0	+0.1
MQZ	**McQueen's Vall**	**1.14**	**187**	P	Pg	01 31 43.2	-1.1
DSZ	**Denniston Nort**	**1.14**	**317**	P	Pg	01 31 43.8	-0.5
DSZ				S	Sg	01 32 00.6	+1.5
BSWZ	**Blackbirch Sta**	**1.15**	**42**	P	Pg	01 31 43.9	-0.7
CMWZ	**Cape Campbell**	**1.31**	**51**	P	Pn	01 31 47.7	+0.3
NNZ	**Nelson**	**1.42**	**16**	P	Pn	01 31 47.8	-1.1
WVZ	**Waitaha Valley**	**1.63**	**252**	P	Pn	01 31 51.3	-0.6
TCW	**Tory Channel**	**1.73**	**38**	P	Pn	01 31 52.8	-0.4
RPZ	**Rata Peaks**	**1.74**	**229**	P	Pn	01 31 51.8	-1.5
QRZ	**Quartz Range**	**1.77**	**352**	P	Pn	01 31 53.4	-0.3
SNZO	**South Karori**	**1.88**	**48**	P	Pn	01 31 54.4	-0.8
WEL	**Wellington**	**1.93**	**49**	P	Pn	01 31 55.3	-0.6
MRW	**Makara Radio**	**1.93**	**46**	P	Pn	01 31 55.2	-0.7
MSWZ	**Moikau Station**	**2.13**	**58**	P	Pn	01 31 57.1	-1.6
PAWZ	**Paruwai Farm**	**2.26**	**59**	P	Pn	01 31 58.6	-1.9

AKS	**Akhisar**	**0.78**	**171**	*e*PG	**Pg**	**01 36 31.4**	**-1.2**
AYVA	**Ayvalik**	**0.82**	**245**	*i* P	**Pb**	**01 36 37.7**	**+4.6**
AYVA				*i* S	**Sb**	**01 36 51.5**	**+7.7**
KCT	**Karacabey**	**0.82**	**41**	*e*PG	**Pg**	**01 36 32.4**	**-0.9**
MRMT	**Marmara Adasi**	**0.95**	**358**	*e*PG	**Pg**	**01 36 35.4**	**-0.4**
MRMT				*e*SG	**Sg**	**01 36 49.2**	**+0.9**
DEMI	**Demirci**	**1.03**	**126**	*i* P	**Pb**	**01 36 38.2**	**+1.5**
EZN	**Ezine**	**1.03**	**280**	*e*PG	**Pg**	**01 36 34.5**	**-2.9**
RKY	**Sarkoy-Tekirda**	**1.09**	**341**	*e*PN	**Pn**	**01 36 37.0**	**-0.9**
MFT	**Murefte**	**1.17**	**346**	*e*PN	**Pn**	**01 36 38.5**	**-0.5**
MFT				*e*SN	**Sn**	**01 36 55.7**	**+1.2**
ULDT	**Uludag**	**1.24**	**66**	*i* P	**Pn**	**01 36 40.2**	**+0.2**
ULDT				*i* S	**Sb**	**01 36 54.2**	**-1.9**
KULA	**Kula-Manisa**	**1.38**	**145**	*e*PN	**Pn**	**01 36 42.5**	**+0.7**
GEMT	**Gemlik**	**1.42**	**56**	*e*PN	**Pn**	**01 36 43.3**	**+0.9**
GADA	**Gvkgeada**	**1.45**	**292**	*e*PN	**Pn**	**01 36 41.6**	**-1.2**
CRLT	**Corlu**	**1.48**	**3**	*e*PN	**Pn**	**01 36 43.0**	**-0.1**
GDZ	**Gediz**	**1.53**	**111**	*i* P	**Pn**	**01 36 46.5**	**+2.7**
ENEZ	**Enez**	**1.58**	**314**	*e*PN	**Pn**	**01 36 43.6**	**-1.0**
YLV	**Yalova**	**1.61**	**55**	*e*PN	**Pn**	**01 36 46.1**	**+1.2**
KLYT	**Kilyos**	**1.92**	**33**	*e*PN	**Pn**	**01 36 50.0**	**+0.8**
EDRB	**Edirne**	**2.30**	**343**	*e*PN	**Pn**	**01 36 54.5**	**0.0**

IDC ***24*** *01:47:04.9±0.8, 1375S×7725W, h0km, mb3.9/8, mb1 4.1/11, mb1mx4.0/18, mbtmp3.9/11, ML3.2/3, MS3.1/6, Ms1 3.1/6, ms1mx2.8/19, Error ellipse: s-maj=28.2km s-min=14.5km az=63.0*
ISCJB ***24*** *01:47:07.3±0.4, 1376S±006×77.14W±009, h27km, mb4.2/26, MS3.2/3, Error ellipse: s-maj=13.8km s-min=6.2km az=149.5*
MOS ***24*** *01:47:08.5±0.8, 1375S×77.18W, h33km, mb4.4/9, Error ellipse: s-maj=32.0km s-min=11.8km az=126.0*
NEIC ***24*** *01:47:09.3±0.3, 1375S×7707W, mb4.4/18, Error ellipse: s-maj=13.8km s-min=5.6km az=57.0*
ISC 24 01:47:09.7±0.4,**1381S**±005×**7716W**±008,**h28**km,
h28km±.8km:**pP-P,n62,σ0§83/55,mb4.2/26,MS3.2/3,Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.83**	**10**	Pn	**Pn**	**01 47 37.1**	**-2.2**
	13nm,0.3s,baz=183,slow=12,SNR=27						
NNA				Sn	**Sn**	**01 48 03.5**	**+1.9**
	187nm,0.3s,baz=90,slow=20,SNR=12						
ARE	**Arequipa**	**6.08**	**116**	*e*P	**Pn**	**01 48 45.0**	**+7.3**
ARE				*e*S	Sn	01 50 11.0	+25
ATAH	**Atahualpa**	**6.87**	**350**	Pn	**Pn**	**01 48 48.0**	**-0.6**
	7.3nm,0.3s,baz=164,slow=3.5,SNR=35						
ATAH				Sn	**Sn**	**01 50 04.4**	**-1.5**
	1.7nm,0.3s,baz=73,slow=19,SNR=2.5						
ATAH				LR	LR	01 51 18.7	
	comp=Z,153nm,21.4s,baz=17,slow=38						
LPAZ	**La Paz**	**9.07**	**107**	Pn	**Pn**	**01 49 19.8**	**+1.1**
	0.2nm,0.3s,baz=283,slow=11,SNR=13						
LPAZ				LR	LR	01 52 39.1	
	comp=Z,26nm,20.4s,baz=241,slow=36						
LVC	**Limon Verde**	**11.75**	**139**	Pn	**Pn**	**01 49 55.0**	**-0.5**
	0.4nm,0.3s,baz=322,slow=13,SNR=5.4						
OTAV	**Otavalo**	**14.01**	**355**	*e*Pn	**Pn**	**01 50 27.5**	**+1.1**
	6.0nm,0.6s						
SIV	**San Ignacio**	**15.70**	**100**	Pn	**Pn**	**01 50 47.5**	**-1.5**
	0.1nm,0.3s,baz=275,slow=16,SNR=2.6						
ROSC	**El Rosal**	**18.75**	**9**	LR	LR	01 59 38.3	
	comp=Z,96nm,18.2s,baz=355,slow=40						
CFAA	**Coronel Fontan**	**19.52**	**157**	P	**Pn**	**01 51 36.2**	**0.0**
	0.0nm,0.3s,baz=330,slow=15,SNR=4.9						
CFAA	**Coronel Fontan**	**19.52**	**157**	P	**Pn**	**01 51 36.2**	**0.0**
CPUP	**Villa Florida**	**22.37**	**127**	P	**P**	**01 52 07.0**	**+1.3**
	2.6nm,0.9s,mb3.7,baz=346,slow=9.8,SNR=3.6						
PCRV	**Puerto La Cruz**	**26.87**	**28**	LR	LR	02 03 45.9	
	comp=Z,30nm,21.4s,MS2.8,baz=210,slow=37						
PLCA	**Paso Flores**	**27.44**	**169**	P	**P**	**01 52 52.6**	**-0.5**
	4.1nm,1.1s,mb3.9,baz=308,slow=6.5,SNR=4.9						
BDFB	**Brasilia**	**28.24**	**97**	LR	LR	02 04 59.4	
	comp=Z,56nm,21.1s,MS3.1,baz=264,slow=38						
TXAR	**Lajitas Array**	**49.94**	**329**	P	**P**	**01 55 59.8**	**-1.4**
	1.1nm,0.9s,mb3.9,baz=153,slow=9.5,SNR=7.9						
LAZ	**Ladron**	**55.77**	**330**	*e*P	**P**	**01 56 44.5**	**+0.3**
ANMO	**Albuquerque**	**55.90**	**331**	*e*P	**P**	**01 56 45.3**	**+0.3**
ANMO				*e**PP	pP	01 56 53.8	0.0
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ANMO	**Albuquerque**	**55.90**	**331**	*e*P	**P**	**01 56 45.2**	**+0.2**
	comp=Z,1.2nm,0.9s,mb3.9						
ANMO				*e*pP	pP	01 56 53.8	0.0
TUC	**Tucson**	**56.02**	**326**	*e*P	**P**	**01 56 46.5**	**+0.5**
TUC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
TUC	**Tucson**	**56.02**	**326**	*e*P	**P**	**01 56 46.5**	**+0.5**
	comp=Z,1.9nm,0.9s,mb4.1						
SDCO	**Great Sand Dun**	**57.77**	**334**	*e*P	**P**	**01 56 58.8**	**+0.5**
	comp=Z,2.7nm,1.0s,mb4.2						
SDCO				*e*pP	pP	01 57 06.6	-0.5
WUAZ	**Wupatki**	**58.79**	**328**	*e*P	**P**	**01 57 05.6**	**+0.2**
	comp=Z,3.5nm,1.0s,mb4.3						
WUAZ				*e*pP	pP	01 57 15.2	+1.0
ISCO	**Idaho Springs**	**59.55**	**335**	*e*P	**P**	**01 57 11.2**	**+0.6**
ISCO				*e**PP	pP	01 57 19.0	-0.4
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ISCO	**Idaho Springs**	**59.55**	**335**	*e*P	**P**	**01 57 11.2**	**+0.6**
	comp=Z,2.6nm,0.9s,mb4.3						
ISCO				*e*pP	pP	01 57 19.0	-0.4
ECSD	**EROS,Sioux Fal**	**59.96**	**344**	*e*P	**P**	**01 57 12.7**	**-0.7**
	comp=Z,2.4nm,0.9s,mb4.2						
SRU	**San Rafael**	**61.17**	**331**	*e*P	**P**	**01 57 22.6**	**+0.9**
SRU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
SRU	**San Rafael**	**61.17**	**331**	*e*P	**P**	**01 57 22.6**	**+0.9**
	comp=Z,2.7nm,1.0s,mb4.3						
TPNV	**Topopah Spring**	**62.47**	**325**	*e*P	**P**	**01 57 31.1**	**+0.5**
TPNV				*e**PP	pP	01 57 39.6	+0.2
TPNV				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
TPNV	**Topopah Spring**	**62.47**	**325**	*e*P	**P**	**01 57 31.1**	**+0.6**
	comp=Z,3.1nm,1.0s,mb4.4						
TPNV				*e*pP	pP	01 57 39.6	+0.2
RSSD	**Black Hills**	**62.64**	**338**	*e*P	**P**	**01 57 32.1**	**+0.6**
RSSD				*e**PP	pP	01 57 39.9	-0.4
RSSD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
RSSD	**Black Hills**	**62.64**	**338**	*e*P	**P**	**01 57 32.0**	**+0.6**
	comp=Z,3.4nm,1.0s,mb4.4						
RSSD				*e*pP	pP	01 57 39.9	-0.5
DUG	**Dugway**	**63.11**	**330**	*e*P	**P**	**01 57 35.2**	**+0.5**
DUG				*e**PP	pP	01 57 44.1	+0.5
DUG				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
DUG	**Dugway**	**63.11**	**330**	*e*P	**P**	**01 57 35.2**	**+0.4**
	comp=Z,5.2nm,1.0s,mb4.6						
DUG				*e*pP	pP	01 57 44.1	+0.5
HWUT	**Hardware Ranch**	**63.62**	**332**	*e*P	**P**	**01 57 38.6**	**+0.6**
	comp=Z,1.5nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**63.66**	**344**	P	**P**	**01 57 38.4**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.9,baz=126,slow=9.3,SNR=6.0						
BGU	**Big Grassy Mou**	**63.78**	**330**	*e*P	**P**	**01 57 38.5**	**-0.6**
BGU				*e*pP	pP	01 57 47.8	-0.3
SPUT	**South Promonto**	**63.80**	**331**	*e*P	**P**	**01 57 38.6**	**-0.6**
SPUT				*e*pP	pP	01 57 47.9	-0.3
AGMN	**Agassiz Refuge**	**64.03**	**346**	*e*P	**P**	**01 57 40.1**	**-0.5**
	comp=Z,4.7nm,0.8s,mb4.6						
NVAR	**Mina Array Bea**	**64.67**	**325**	P	**P**	**01 57 44.5**	**-0.6**
	comp=Z,0.9nm,0.7s,mb3.9,baz=138,slow=5.8,SNR=7.1						
NVAR	**Mina Array Bea**	**64.67**	**325**	P	**P**	**01 57 44.5**	**-0.6**
ELK	**Elko**	**64.73**	**329**	*e*P	**P**	**01 57 45.1**	**-0.3**
ELK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ELK	**Elko**	**64.73**	**329**	*e*P	**P**	**01 57 45.1**	**-0.2**
	comp=Z,3.2nm,1.0s,mb4.3						
LOHW	**Long Hollow**	**64.80**	**334**	*e*P	**P**	**01 57 46.0**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.1						
RRI2	**Red Ridge**	**64.90**	**333**	*e*P	**P**	**01 57 47.4**	**+1.0**
	comp=Z,2.2nm,0.8s,mb4.2						
RRI2				*e*pP	pP	01 57 54.8	-0.5
RLMT	**Red Lodge**	**65.47**	**336**	*e*P	**P**	**01 57 50.0**	**0.0**
	comp=Z,3.5nm,1.0s,mb4.3						
RLMT				*e*pP	pP	01 57 58.5	-0.5
ULM	**Lac du Bonnet**	**65.86**	**347**	P	**P**	**01 57 51.8**	**-0.7**
	comp=Z,4.0nm,0.8s,mb4.5,baz=155,slow=7.5,SNR=5.3						
HLID	**Hailey**	**66.47**	**331**	*e*P	**P**	**01 57 57.4**	**+0.9**
	comp=Z,1.2nm,0.7s,mb4.0						
BOZ	**Bozeman (W)**	**66.87**	**334**	*e*P	**P**	**01 57 59.2**	**+0.2**
BOZ				*e**PP	pP	01 58 07.2	-0.8
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
BOZ	**Bozeman (W)**	**66.87**	**334**	*e*P	**P**	**01 57 59.2**	**+0.1**
	comp=Z,3.3nm,1.1s,mb4.3						
BOZ				*e*pP	pP	01 58 07.2	-0.8
OD2	**Odessa Site #2**	**71.34**	**332**	*e*P	**P**	**01 58 27.7**	**+1.0**
OD2				*e*pP	pP	01 58 34.8	-0.9
EDM	**Edmonton**	**73.62**	**338**	*e*P	**P**	**01 58 39.6**	**-0.6**
DBIC	**Dimbokro**	**74.58**	**79**	LR	LR	02 29 54.8	
	comp=Z,44nm,20.3s,MS3.7,baz=346,slow=34						
YKA	**Yellowknife Ar**	**81.48**	**343**	P	**P**	**01 59 22.7**	**-1.2**
	comp=Z,1.0nm,0.7s,mb3.8,baz=143,slow=5.2,SNR=5.6						
TORD	**Torodi Ar. Bea**	**82.57**	**75**	P	**P**	**01 59 30.2**	**-0.5**
	comp=Z,1.2nm,1.0s,mb3.9,baz=259,slow=7.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**82.57**	**75**	P	**P**	**01 59 30.2**	**-0.5**
DLBC	**Dease Lake**	**83.87**	**335**	*e*P	**P**	**01 59 36.0**	**-0.4**
DAWY	**Dawson**	**90.80**	**337**	*e*P	**P**	**02 00 10.0**	**+0.2**
WRA	**Warramunga Arr**	**134.34**	**223**	PKP	PKPdf	02 06 25.2	-0.6
	comp=Z,0.3nm,0.3s,baz=148,slow=1.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**137.51**	**16**	PKP	PKPdf	02 06 28.1	-2.5
	comp=Z,0.5nm,0.4s,baz=270,slow=1.5,SNR=3.6						
ZAL	**Zalesovo**	**137.51**	**16**	PKIKP	PKPdf	02 06 28.2	-2.5
SONM	**Songino Array**	**145.95**	**356**	PKPbc	PKPbc	02 06 45.8	-0.8
	comp=Z,1.7nm,0.6s,baz=321,slow=1.6,SNR=11						
KSRS	**Korea Array**	**147.54**	**321**	PKPbc	PKPbc	02 06 51.3	-0.3
	comp=Z,0.7nm,0.3s,baz=2.9,slow=2.5,SNR=6.5						

CSEM ***24*** *02:27:07.8±0.1, 3966N×4132E, h5km, MD3.2, Error ellipse: s-maj=2.0km s-min=1.7km az=7.0*
ISK ***24*** *02:27:08.3, 3967N×4132E, h6km, MD3.2*
ISCJB ***24*** *02:27:09.4±0.8, 3965N±004×4129E±005, h10km±6km, Error ellipse: s-maj=6.6km s-min=5.3km az=135.3*
DDA ***24*** *02:27:09.1, 3967N×4117E, h7km±5km, Md2.8*
ISC 24 02:27:09.9±0.6,**3966N**±003×**4129E**±005,**h12**km±4km,**n17,**
σ0§88/23,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZM	**Erzurum**	**0.25**	**12**	*e*PG	**Pg**	**02 27 13.6**	**-1.7**
ERZM	**Erzurum**	**0.25**	**13**	*i* P	**Pg**	**02 27 13.8**	**-1.4**
ERZM				*i* S	**Sg**	**02 27 19.9**	**+1.1**
HOMI	**Horasan**	**0.61**	**50**	*i* P	**Pg**	**02 27 22.9**	**+1.1**
HOMI				*i* S	**Sg**	**02 27 31.9**	**+2.0**
BNGL	**BINGOL**	**0.71**	**189**	*i* P	**Pg**	**02 27 22.6**	**-1.2**
BNGL				*i* S	**Sg**	**02 27 33.9**	**+0.8**
EZC	**Erzincan**	**1.14**	**275**	*e*PN	**Pn**	**02 27 36.5**	**+4.8**
AGRB	**Hanur-Agry**	**1.31**	**93**	*e*PN	**Pn**	**02 27 32.9**	**-1.3**
AGRB				*e*SN	**Sn**	**02 27 51.9**	**+0.4**
GUMT	**Gumushane**	**1.61**	**301**	*e*PN	**Pn**	**02 27 38.2**	**+0.1**
PTK	**Pertek**	**1.66**	**243**	*e*PN	**Pn**	**02 27 38.7**	**-0.2**
PTK				*e*SN	**Sn**	**02 28 01.6**	**+1.5**
KARS	**Kars**	**1.68**	**55**	*e*PN	**Pn**	**02 27 38.8**	**-0.3**
KTUT	**Trabzon**	**1.77**	**319**	*e*PN	**Pn**	**02 27 40.2**	**-0.1**
BCA	**Borcka**	**1.80**	**8**	*e*PN	**Pn**	**02 27 40.8**	**0.0**
BCA				*e*SN	**Sn**	**02 28 03.6**	**-0.1**
VANB	**Van**	**1.94**	**122**	*e*PN	**Pn**	**02 27 42.5**	**-0.3**
SVRC	**Sivrice-ELAZID**	**2.01**	**231**	*e*PN	**Pn**	**02 27 43.5**	**-0.1**
CLDR	**Caldiran**	**2.10**	**103**	*e*PN	**Pn**	**02 27 44.5**	**-0.4**
ESPY	**Espiye-Giresun**	**2.33**	**303**	*e*PN	**Pn**	**02 27 47.8**	**-0.3**
SIRT	**Sirnak**	**2.33**	**157**	*e*PN	**Pn**	**02 27 48.1**	**0.0**
MALT	**Malatya**	**2.61**	**240**	*e*PN	**Pn**	**02 27 52.3**	**+0.5**

JMA ***24*** *02:27:23.8±0.1, 2471N×12251E, h1km±4km, M2.5*
TAP 24 02:27:23.2,2480N×12241E,h18km,ML3.5,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.64**	**122**	P	Pb	02 27 34.1	-1.7
YOJ				S	Sg	02 27 41.4	-3.0
IRIF	**Iriomote-Funau**	**1.29**	**111**	P	Pn	02 27 46.2	0.0
IRIF				S	Sn	02 28 01.7	-1.3
HATJ	**Hateruma jima**	**1.47**	**120**	P	Pn	02 27 49.4	+0.6
HATJ				*e*S	Sn	02 28 06.8	-0.8
JKRS	**Kuro-shima**	**1.56**	**111**	*e*S	Sn	02 28 09.5	-0.3
JIJ	**Ishigaki jima**	**1.64**	**105**	P	Pn	02 27 52.2	+1.2
JIJ				*e*S	Sn	02 28 11.5	-0.1

IDC ***24*** *02:32:15.0±1.4, 877N×12606E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.4/4, Error ellipse: s-maj=57.8km s-min=18.3km az=81.0*
ISCJB ***24*** *02:32:18.3±1.0, 852N±003×12507E±006, h21km±10km, mb3.4/4, Error ellipse: s-maj=10.3km s-min=4.8km az=0.6*
MAN ***24*** *02:32:18, 854N×12502E, h24km, mb5.2, ML4.2, MS4.2*
MAN INTENSITY II - MALAYBALAY, VALENCIA BUKIDNON.
ISC 24 02:32:18.1±0.8,**850N**±003×**12512E**±006,**h15**km±6km,**n18,**
σ0§95/28,mb3.4/4,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.62**	**185**	*e*P	**Pg**	**02 32 29.8**	**-0.4**
BUTP	**Butuan**	**0.68**	**47**	*e*P	**Pg**	**02 32 32.7**	**+1.2**
BUTP				*e*S	**Sg**	**02 32 48.5**	**+7.9**
BIPH	**Bislig**	**1.27**	**104**	⇑*i*P	**Pn**	**02 32 41.9**	**+0.6**
BIPH				*i* S	**Sb**	**02 33 09.1**	**+11**
SCPH	**Surigao**	**1.33**	**16**	*e*P	**Pn**	**02 32 40.9**	**-1.2**
SCPH				*e*S	**Sn**	**02 32 59.1**	**-0.5**
KCP	**Kidapawan**	**1.48**	**181**	⇓*e*P	**Pn**	**02 32 43.8**	**-0.4**
KCP				*e*S	**Sn**	**02 33 04.2**	**+1.0**
DAV	**Davao City (W)**	**1.49**	**162**	Pn	**Pg**	**02 32 47.0**	**+0.2**
	169nm,0.3s,baz=353,slow=2.5,SNR=41						
DAV				Sn	**Sg**	**02 33 10.6**	**+4.4**
	247nm,0.3s,baz=130,slow=22,SNR=8.0						
CTBH	**Cotabato--PC H**	**1.53**	**214**	⇑*i*P	**Pn**	**02 32 44.9**	**0.0**
CTBH				*i* S	**Sn**	**02 33 05.5**	**+0.9**
MSLP	**Maasin**	**1.65**	**351**	*e*P	**Pn**	**02 32 45.4**	**-1.1**
MSLP				*e*S	**Sg**	**02 33 11.8**	**+0.6**
TBP	**Tagbilaran**	**1.71**	**314**	*e*P	**Pn**	**02 32 45.4**	**-2.0**
TBP				*e*S	**Sn**	**02 33 11.2**	**+2.1**
PAGZ	**Pagadian**	**1.83**	**250**	*e*P	**Pn**	**02 32 47.8**	**-1.2**
LLP	**Lapu-Lapu**	**2.13**	**328**	⇑*i*P	**Pn**	**02 32 53.7**	**+0.5**
LLP				*e*S	**Sn**	**02 33 20.0**	**+0.6**
PLP	**Palo**	**2.65**	**357**	⇓*e*P	**Pn**	**02 32 59.9**	**-0.4**
PLP				*e*S	**Sn**	**02 33 32.3**	**+0.1**
GUIM	**Jordan**	**3.27**	**311**	*e*P	**Pn**	**02 33 07.8**	**-1.0**
CNP	**Cataman**	**4.01**	**354**	*e*P	**Pn**	**02 33 23.8**	**+4.8**
WRA	**Warramunga Arr**	**29.68**	**162**	P	**P**	**02 38 22.3**	**-1.2**
	0.2nm,0.6s,mb3.0,baz=345,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**33.10**	**165**	P	**P**	**02 38 53.3**	**-0.2**
	0.2nm,0.4s,mb3.4,baz=349,slow=6.7,SNR=3.8						
SONM	**Songino Array**	**42.30**	**341**	P	**P**	**02 40 12.2**	**+1.1**
	0.4nm,0.6s,mb3.2,baz=154,slow=6.3,SNR=3.8						
MKAR	**Makanchi Array**	**52.76**	**324**	P	**P**	**02 41 33.2**	**+0.8**
	0.7nm,0.7s,mb3.7,baz=113,slow=9.3,SNR=6.8						

ISCJB ***24*** *02:37:36.3±1.2, 3898N±006×399E±0.1, h20km±14km, Error ellipse: s-maj=13.2km s-min=10.3km az=172.7*
ISK ***24*** *02:37:37.7, 3912N×3970E, h13km, MD3.0*
CSEM ***24*** *02:37:37.5±0.2, 3912N×3968E, h12km, MD3.0, Error ellipse: s-maj=5.4km s-min=1.5km az=102.0*
ISC 24 02:37:36.0±1.4,**3899N**±006×**400E**±01,**h15**km±11km,**n9,**
σ1§14/11,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.47**	**258**	PG	**Pg**	**02 37 44.5**	**-0.8**
PTK				*e*SG	**Sg**	**02 37 50.3**	**-1.3**
EZC	**Erzincan**	**0.77**	**351**	*e*PG	**Pg**	**02 37 51.5**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.80**	**221**	*e*PG	**Pg**	**02 37 53.7**	**+2.1**
ELZG	**Elazig**	**0.92**	**238**	*i* P	**Pg**	**02 37 52.3**	**-1.5**
ELZG				*i* S	**Sg**	**02 38 07.8**	**+2.0**
DIYA	**Diyarbakir**	**1.07**	**174**	*i* P	**Pb**	**02 37 55.7**	**-0.5**
MALT	**Malatya**	**1.39**	**241**	*e*PN	**Pn**	**02 38 01.7**	**+0.9**
GUMT	**Gumushane**	**1.52**	**346**	*e*PN	**Pn**	**02 38 03.1**	**+0.5**
MARD	**Mardin**	**1.79**	**159**	*i* P	**Pn**	**02 38 05.5**	**-0.7**
SVSK	**Karacayir**	**2.48**	**293**	*e*PN	**Pn**	**02 38 15.2**	**-0.6**

NEIC ***24*** *02:53:09.0, 3814N×3743E, h5km, mb4.4/56, ML4.1(NIC), ML4.6(ISK), After ISK.*
ISK ***24*** *02:53:09.8, 3814N×3743E, h5km, ML4.6*
CSEM ***24*** *02:53:09.8±0.0, 3815N×3743E, h2km, mb4.5/32, Ms2.9, Mw3.7*
ISCJB ***24*** *02:53:10.7±0.4, 3814N±001×3744E±001, h4km±3km, mb4.2/63, MS3.2/11, Error ellipse: s-maj=2.1km s-min=1.8km az=149.9*
DDA ***24*** *02:53:10.7, 3816N×3746E, h25km±1km, Md4.1, Ml4.4*
NIC ***24*** *02:53:11.8±0.1, 3843N×3732E, h10km, mb4.5, ML4.1, MW3.7*
IDC ***24*** *02:53:11.5±0.6, 3813N×3738E, h0km, mb3.9/16, mb1 4.0/24, mb1mx4.0/31, mbtmp4.0/24, ML4.1/7, MS3.4/11, Ms1 3.4/11, ms1mx3.1/40, Error ellipse: s-maj=12.4km s-min=9.4km az=162.0*
MOS ***24*** *02:53:12.1±1.3, 3826N×3738E, h13km, mb4.5/39, Error ellipse: s-maj=6.6km s-min=3.7km az=126.1*
GII ***24*** *02:53:12.2±0.0, 3815N×3742E, h0km±1km, mb4.6/3, ML4.6/3*
NSSC ***24*** *02:53:14.0, 3817N×3748E, h40km*
ISC 24 02:53:11.9±0.4,**3815N**±001×**3745E**±001,**h1**km±2km,**n405,**
σ1§17/450,mb4.3/63,MS3.2/11,24C-24D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMRS	**Kahramanmaras**	**0.78**	**214**	PG	**Pg**	**02 53 26.0**	**-0.8**
KMRS				*e*SG	**Sg**	**02 53 36.8**	**0.0**
MALT	**Malatya**	**0.79**	**78**	PG	**Pg**	**02 53 26.1**	**-0.9**
MALT	**Malatya**	**0.79**	**78**	*i* Pg	**Pg**	**02 53 26.1**	**-0.8**
MALT				*e*Sg	**Sg**	**02 53 37.5**	**+0.4**
MALT	**Malatya**	**0.79**	**78**	*e*Pg	**Pg**	**02 53 25.4**	**-1.5**
MALT				*e*Sg	**Sg**	**02 53 37.5**	**+0.4**
MYA	**Malataya**	**0.79**	**77**	PG	**Pg**	**02 53 25.5**	**-1.4**
SARI	**SarD1z-Kayseri**	**0.79**	**312**	PG	**Pg**	**02 53 26.8**	**-0.3**
SARI				*e*SG	**Sg**	**02 53 39.6**	**+2.2**
GZT	**Gaziantep**	**0.80**	**173**	⇑*i*P	**Pg**	**02 53 26.8**	**-0.4**
DARE	**Darende-Malaty**	**0.85**	**19**	PG	**Pg**	**02 53 19.4**	**-8.7**
DARE				*e*SG	**Sg**	**02 53 26.6**	**-13**
ATAB	**Bozova**	**0.95**	**135**	*i* P	**Pg**	**02 53 29.6**	**-0.5**
ATAB				*i* S	**Sg**	**02 53 42.0**	**-0.4**
PINB	**Pinarbasi**	**0.98**	**303**	⇑*i*P	**Pg**	**02 53 29.3**	**-1.3**
PINB				*i* S	**Sg**	**02 53 43.9**	**+0.6**
GAZ	**Gaziantep**	**0.99**	**191**	PG	**Pg**	**02 53 30.6**	**-0.3**
GAZ				*e*SG	**Sg**	**02 53 44.8**	**+1.0**
ELZG	**Elazig**	**1.25**	**73**	*i* P	**Pg**	**02 53 33.7**	**-2.2**
ELZG				*i* S	**Sg**	**02 53 51.4**	**-0.8**
URFA	**Urfa**	**1.30**	**123**	PN	**Pn**	**02 53 35.9**	**-1.1**
URFA				*e*SN	**Sn**	**02 53 54.4**	**-0.6**
BNN	**Bunyan**	**1.44**	**300**	PN	**Pn**	**02 53 37.7**	**-1.4**
BNN				*e*SN	**Sn**	**02 53 58.4**	**-0.2**
KOZT	**Kozan**	**1.45**	**243**	*e*PN	**Pn**	**02 53 38.0**	**-1.1**
KOZT				*e*SN	**Sn**	**02 53 58.7**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.48**	**81**	*e*PN	**Pn**	**02 53 38.7**	**-0.9**
SVRC				*e*SN	**Sn**	**02 54 00.6**	**+1.1**
PTK	**Pertek**	**1.69**	**63**	*e*PN	**Pn**	**02 53 41.5**	**-1.0**
PTK				*e*SN	**Sn**	**02 54 05.4**	**+0.6**
SVSK	**Karacayir**	**1.80**	**349**	*e*PN	**Pn**	**02 53 43.5**	**-0.5**
COBT	**Iskenderun**	**1.89**	**211**	*i* P	**Pn**	**02 53 43.4**	**-1.7**
COBT				*i* S	**Sn**	**02 54 08.4**	**-1.1**
COBT	**Iskenderun**	**1.89**	**211**	*i* P	**Pn**	**02 53 43.4**	**-1.7**
COBT				*i* S	**Sn**	**02 54 08.4**	**-1.1**
YURE	**YUREGIR**	**1.96**	**228**	*i* P	**Pn**	**02 53 45.2**	**-0.9**
YURE				*i* S	**Sn**	**02 54 16.4**	**+5.1**
YURE	**YUREGIR**	**1.96**	**228**	*i* P	**Pn**	**02 53 45.2**	**-1.0**
KARA	**Karaisali**	**2.10**	**246**	*e*PN	**Pn**	**02 53 47.4**	**-0.7**
DIYA	**Diyarbakir**	**2.12**	**95**	⇑*i*P	**Pn**	**02 53 47.7**	**-0.7**
DIYA				*i* S	**S

SAFT Safranbolu 4.80 312 *e*PN **Pn 02 54 25.6 +0.5**
RCY Rachaya 4.84 196 *e*Pn **Pn 02 54 25.6 -0.2**
RCY Rachaya 4.84 196 *e*Pn **Pn 02 54 25.5 -0.3**
TOTH TOTAH 4.85 190 ⇓P **Pn 02 54 32.9 +7.0**
TOTH TOTAH 4.85 190 ⇓P **Pn 02 54 32.9 +7.0**
MSL Mosul 4.87 111 *ex* x 02 54 28.0
MSL *ex* x 02 54 40.0
MSL *ex* x 02 54 52.0
MSL *ex* x 02 55 48.0
MSL *ex* x 02 56 05.0
ALFC Alevga 4.91 234 P **Pn 02 54 24.2 -2.6**
6.1nm,0.3s
ALFC S **Sn 02 55 21.9 -2.3**
HAKT HAKKARI 4.99 95 ⇓*i*P **Pn 02 54 27.3 -0.5**
SZAC Souni-Zanaja 5.00 229 P **Pn 02 54 29.1 +1.1**
SZAC S **Sn 02 55 25.2 -1.2**
HKR Hakkari 5.01 95 *e*PN **Pn 02 54 29.1 +1.0**
KARS Kars 5.02 59 *e*PN **Pn 02 54 29.5 +1.3**
KSDI Kefar Szold 5.16 197 Pn **Pn 02 54 30.0 -0.1**
CLDR Caldiran 5.16 77 *e*PN **Pn 02 54 31.2 +1.1**
PPCY Paphos 5.25 233 P **Pn 02 54 32.2 +0.9**
PPCY S **Sn 02 55 34.5 +2.1**
KSHT Keshet 5.33 195 Pn **Pn 02 54 32.3 -0.2**
MDU Mudurnu 5.36 297 *e*PN **Pn 02 54 33.7 +0.8**
HNTI Hanita 5.38 201 Pn **Pn 02 54 33.5 +0.2**
MMA0B Mount Meron ar 5.39 199 Pn **Pn 02 54 33.0 -0.3**
MMAI Mount Meron Ar 5.39 199 Pn **Pn 02 54 33.0 -0.3**
9.0nm,0.3s,baz=18,slow=14,SNR=32
MMAI Lg 02 56 01.9
27nm,0.3s,baz=27,slow=26,SNR=3.3
MMAI LR LR 02 56 54.3
comp=Z,191nm,21.6s,baz=25,slow=42
SHUT Suhut-Afyon 5.44 276 *e*PN **Pn 02 54 34.6 +0.6**
SALA Sala 5.46 186 ⇓P **Pn 02 54 30.2 -4.0**
SALA Sala 5.46 186 ⇓P **Pn 02 54 30.2 -4.0**
BCK Bucak 5.48 265 *e*PN **Pn 02 54 34.6 +0.1**
ISP Isparta 5.49 269 *e*PN **Pn 02 54 35.3 +0.6**
ANTB Antalya 5.54 259 *e*PN **Pn 02 54 35.9 +0.5**
KDZE Karadeniz Ereo 5.61 306 *e*PN **Pn 02 54 36.7 +0.5**
SOC Sochi 5.69 17 *e*P **Pn 02 54 36.1 -1.4**
SOC *e* 02 55 42.8
SOC pmax pmax
comp=Z,12nm,0.8s
SOC Sochi 5.69 17 *e*P **Pn 02 54 36.1 -1.4**
comp=Z,12nm,0.8s
SOC *e*S **Sn 02 55 42.8 -0.6**
ALT Altintas 5.82 281 *e*PN **Pn 02 54 40.3 +1.1**
OFRI 'Ofer 5.87 201 Pn **Pn 02 54 39.9 -0.1**
MMLI Mount Malkishu 5.94 197 Pn **Pn 02 54 41.0 +0.2**
GPA Golpazari 5.94 293 *e*PN **Pn 02 54 41.7 +0.8**
ASF Jabal al Asfar 5.98 185 Pn **Pn 02 54 41.6 +0.1**
comp=Z,3.3nm,0.3s,baz=239,slow=7.7,SNR=35
ASF Lg 02 56 18.9
comp=Z,14nm,0.3s,baz=251,slow=19,SNR=4.1
GNI Garni 6.01 68 *e*PN **Pn 02 54 44.1 +2.3**
GNI Garni 6.01 68 Pn **Pn 02 54 44.3 +2.5**
comp=Z,1.6nm,0.3s,baz=225,slow=4.3,SNR=3.3
GNI Pg **Pg 02 55 02.0 -5.0**
comp=Z,1.4nm,0.3s,baz=225,slow=2.9,SNR=3.3
GNI Lg 02 56 25.1
comp=Z,0.2nm,0.3s,baz=339,slow=17,SNR=1.5
GNI LR LR 02 57 35.3
comp=Z,278nm,20.2s,baz=325,slow=44
GNI Garni 6.01 68 *e*P **Pn 02 54 42.1 +0.3**
GNI pmax pmax
comp=Z,26nm,0.8s
GNI Garni 6.01 68 *e*P **Pn 02 54 42.1 +0.3**
comp=Z,26nm,0.8s
GNI Garni 6.01 68 *e*Pn **Pn 02 54 42.0 +0.2**
comp=Z,26nm,0.8s
GNI *e*Pg **Pg 02 55 06.0 -1.0**
GNI Lg 02 56 25.1
GNI LR LR 02 57 35.3
HMDT Nahal Hemdat 6.09 196 Pn **Pn 02 54 43.9 +1.0**
SLTI Sal'it 6.22 199 Pn **Pn 02 54 44.5 -0.2**
ONI Oni 6.37 44 P **Pb 02 55 01.9 -1.5**
GOR Gori 6.38 51 P **Pb 02 55 05.9 +2.3**
ADVT Abdulvahap 6.40 293 *e*PN **Pn 02 54 48.7 +1.5**
HRT Hereke 6.58 296 *e*PN **Pn 02 54 51.0 +1.3**
TBLG Delisi 6.64 55 P **Pn 02 54 54.2 +3.7**
ANN Anapa 6.64 360 *e*P **Pn 02 54 51.2 +0.7**
ANN *e*S **Sn 02 56 04.7 -2.2**
ANN pmax pmax
comp=Z,50nm,1.3s
ANN Anapa 6.64 360 *e*P **Pn 02 54 51.2 +0.7**
comp=Z,50nm,1.3s
MTA Mtatsminda 6.66 56 P **Pn 02 54 53.6 +2.8**
YLV Yalova 6.71 294 *e*PN **Pn 02 54 53.3 +1.9**
SILT Sile 6.73 299 *e*PN **Pn 02 54 52.5 +0.8**
DST Dead Sea 6.78 195 Pn **Pn 02 54 52.2 -0.2**
YAL Yalta 6.80 340 *e*P **Pn 02 54 49.8 -2.9**
YAL *e*S **Sn 02 56 08.0 -2.7**
YAL pmax pmax
comp=Z,31nm,0.9s
YAL smax
comp=N,18nm,1.0s
YAL smax
comp=E,14nm,1.1s
GEMT Gemlik 6.80 292 *e*PN **Pn 02 54 53.6 +0.9**
ALU Alushta 6.92 342 *e*P **Pn 02 54 53.9 -0.4**
ALU *e*S **Sn 02 56 11.6 -1.9**
ALU pmax pmax
comp=Z,28nm,0.6s
ALU smax
comp=E,8.0nm,0.2s
ALU smax
comp=N,6.0nm,0.2s
ALU Alushta 6.92 342 *e*P **Pn 02 54 53.9 -0.4**
comp=N,28nm,0.6s
DGRG David-gareji 6.93 59 P **Pg 02 55 26.1 +1.5**
SUDU Sudak 6.98 346 *e*P **Pn 02 54 55.6 +0.5**
SUDU *e*S **Sn 02 56 16.4 +1.3**
SEV Sevastopol' 6.99 337 ⇓*e*P **Pn 02 54 53.6 -1.7**
SEV *e*S **Sn 02 56 12.3 -3.1**
SEV pmax pmax
comp=Z,6.0nm,0.5s
SEV smax
comp=N,6.0nm,0.4s
SEV Sevastopol' 6.99 337 *e*P **Pn 02 54 53.6 -1.7**
comp=N,6.0nm,0.5s
KIV Kislovodsk 7.02 33 P **Pn 02 54 58.0 +2.3**
KIV S **Sn 02 56 20.0 +3.9**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 7.02 33 P **Pn 02 54 58.0 +2.3**
comp=Z,8.0nm,1.0s
KIV S **Sn 02 56 20.0 +3.9**
MZDA Masada 7.04 195 Pn **Pn 02 54 57.0 +1.0**
YTIR Yattir 7.04 197 Pn **Pn 02 54 57.1 +1.2**
ISK Istanbul-Kandi 7.10 297 *e*PN **Pn 02 54 57.8 +1.0**
KLYT Kilyos 7.18 298 *e*PN **Pn 02 54 58.9 +0.9**
SIM Simferopol' 7.24 341 P **Pn 02 54 57.3 -1.4**
SIM S **Sn 02 56 19.5 -2.0**
SIM pmax pmax
comp=Z,24nm,0.8s
SIM MLR MLR
comp=Z,12μm,19.0s
SIM Simferopol' 7.24 341 P **Pn 02 54 57.3 -1.4**
comp=Z,24nm,0.8s
YER Yerkesik 7.34 265 *e*PN **Pn 02 55 00.7 +0.6**
BGKT Bogazkoy 7.35 297 *e*PN **Pn 02 55 00.6 +0.4**
RTMI Retamim 7.43 199 Pn **Pn 02 55 01.9 +0.5**
BHD Baghdad 7.45 129 *ex* x 02 54 57.0
BHD *ex* x 02 56 22.0
BHD *i* x x 02 57 03.0
BHD *i* x x 02 57 10.0
KZIT Kziot 7.65 200 Pn **Pn 02 55 04.7 +0.3**
SLVT Silivri 7.76 296 *e*PN **Pn 02 55 06.5 +0.7**
ZFRI Zfri 7.81 195 Pn **Pn 02 55 06.8 +0.3**
PRNI Paran 8.04 195 Pn **Pn 02 55 10.2 +0.6**
KRMI Paran Flat 8.32 197 Pn **Pn 02 55 14.6 +1.0**
HRFI Mount Harif 8.34 195 Pn **Pn 02 55 14.5 +0.7**
MBRI Mt Berech 8.60 195 Pn **Pn 02 55 18.0 +0.7**
EIL Elat 8.71 195 Pn **Pn 02 55 21.1 +2.2**
comp=Z,0.1nm,0.3s,baz=10,slow=15,SNR=3.4
EIL Lg 02 57 49.4
comp=Z,1.1nm,0.3s,baz=81,slow=17,SNR=2.6
EIL LR LR 02 58 58.9
comp=Z,154nm,19.2s,baz=192,slow=40
EIL Elat 8.71 195 Pn **Pn 02 55 19.6 +0.6**
EZN Ezine 8.82 284 *e*PN **Pn 02 55 21.4 +1.0**
TIRR Tirgusor 9.27 316 ⇑*i*P **Pn 02 55 24.8 -1.7**
TIRR Tirgusor 9.27 316 ⇑P **Pn 02 55 24.8 -1.7**

HARR Harsova 9.68 315 ⇑*i*P **Pn 02 55 31.9 -0.3**
HARR Harsova 9.68 315 ⇑P **Pn 02 55 31.9 -0.3**
IDI Anoyia 10.48 258 Pn **Pn 02 55 43.3 +0.1**
comp=Z,2.6nm,0.3s,baz=71,slow=14,SNR=16
IDI LR LR 02 59 56.2
comp=Z,161nm,19.1s,baz=65,slow=39
IDI Anoyia 10.48 258 Pn **Pn 02 55 43.2 0.0**
VRI Vrincioaia 11.09 317 ⇑*i*P **Pn 02 55 51.5 +0.1**
VRI Vrincioaia 11.09 317 ⇑P **Pn 02 55 51.5 0.0**
PLOR Plostina 11.12 317 ⇓*i*P **Pn 02 55 52.4 +0.5**
MLR Muntele Rosu 11.28 314 Pn **Pn 02 55 54.3 +0.1**
comp=Z,0.3nm,0.3s,baz=120,slow=9.8,SNR=8.1
MLR Muntele Rosu 11.28 314 ⇑*i*P **Pn 02 55 54.9 +0.8**
MLR Muntele Rosu 11.28 314 ⇑P **Pn 02 55 54.9 +0.8**
VTS Vitosha 11.73 297 ⇑*i*P **Pn 02 56 02.5 +2.2**
VTS Vitosha 11.73 297 ⇑P **Pn 02 56 02.5 +2.3**
BURAR Bucovina Array 13.02 320 ⇑*i*P **Pn 02 56 17.3 -0.6**
BURAR Bucovina Array 13.02 320 ⇑P **Pn 02 56 17.3 -0.5**
VRSR Storozhevoye 13.12 5 *e*P **Pn 02 56 24.9 +5.7**
VRSR pmax pmax
comp=Z,4.0nm,1.7s
VRSR pmax pmax
comp=N,7.0nm,1.0s
VRSR pmax pmax
comp=E,4.0nm,1.6s
AKASG Malin Array Be 13.85 338 Pn **Pn 02 56 27.2 -1.8**
comp=E,0.8nm,0.3s,baz=148,slow=13,SNR=9.5
DRGR 13.87 313 ⇑*i*P **Pn 02 56 39.3 +10**
KWP Kalwaria 15.61 322 *e*P **Pn 02 56 52.7 -0.2**
KWP pmax pmax
comp=Z,8.0nm,0.8s
KWP Kalwaria 15.61 322 *e*P **Pn 02 56 52.7 -0.2**
comp=Z,8.0nm,0.8s
KWP Kalwaria 15.61 322 *e*Pn **Pn 02 56 52.7 -0.2**
comp=Z,8.4nm,0.8s
PKSM Moragy 16.08 306 ⇓*e*P **Pn 02 57 00.2 +1.2**
PSZ Piszkesteto 16.09 313 *e*P **Pn 02 56 57.9 -1.3**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 16.09 313 ⇑*e*sP sP 02 57 01.2 -1.9
PSZ Piszkesteto 16.09 313 *e*P **Pn 02 56 57.9 -1.3**
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 16.09 313 *e*Pn **Pn 02 56 57.9 -1.3**
comp=Z,7.3nm,0.9s
TIP Timpagrande 16.20 280 *e*Pn **Pn 02 57 01.4 +0.8**
TIP Timpagrande 16.20 280 *e*Pn **Pn 02 57 01.4 +0.8**
comp=Z,21nm,0.8s
CUC Castrocucco 16.90 283 *e*P **Pn 02 57 11.9 +2.4**
comp=Z,56nm,1.3s
CEL Celeste 16.95 277 *e*Pn **Pn 02 57 09.7 -0.4**
CEL Celeste 16.95 277 *e*Pn **Pn 02 57 09.7 -0.4**
comp=Z,9.7nm,0.9s
CEL *e*P 02 57 12.6
OBN Obninsk 16.98 358 P **Pn 02 57 11.0 +0.6**
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN Obninsk 16.98 358 P **Pn 02 57 11.0 +0.6**
comp=Z,7.0nm,0.6s
MOS Moscow 17.60 0 *e* **Sn 03 00 34.6 +0.1**
MOS pmax pmax
comp=E,55nm,1.0s
MORC Moravsky Berou 18.39 316 *e*P **Pn 02 57 26.0 -1.9**
MORC pmax pmax
comp=Z,4.0nm,0.9s
MORC Moravsky Berou 18.39 316 *e*P **Pn 02 57 26.0 -1.9**
comp=Z,3.5nm,0.9s
MORC Moravsky Berou 18.39 316 *e*P **Pn 02 57 26.0 -1.9**
comp=Z,3.5nm,0.9s
CONA Conrad Observa 18.51 309 ⇓*i*P **Pn 02 57 29.8 +0.5**
comp=Z,8.8nm,0.9s
CONA Conrad Observa 18.51 309 ⇓*i*pP pP 02 57 29.8 +0.2
comp=Z,8.8nm,0.9s
VRAC Vranov 18.69 313 P **Pn 02 57 31.9 +0.4**
comp=Z,0.2nm,0.3s,baz=99,slow=13,SNR=2.2
NRCA Norcia 19.07 292 P **Pn 02 57 36.8 +0.6**
comp=Z,9.5nm,0.9s
AKTK Aktyubinsk 19.09 43 P **Pn 02 57 34.8 -1.7**
AKTK Aktyubinsk 19.09 43 P **Pn 02 57 34.8 -1.7**
AKTK LR LR 03 06 55.2
AKTO Aktyubinsk 19.09 43 P **Pn 02 57 34.8 -1.7**
comp=Z,0.3nm,0.3s,baz=240,slow=8.5,SNR=16
AKTO LR LR 03 06 55.2
comp=Z,77nm,20.8s,baz=82,slow=43
TREC Trest 19.32 312 *e*P **Pn 02 57 34.4 -4.8**
DPC Dobruska-Polom 19.36 316 *e*P **Pn 02 57 42.9 +3.3**
MOA Molln 19.47 307 ⇓*i*P **Pn 02 57 39.7 -1.3**
comp=Z,8.3nm,1.1s
PTCC Patocco-Chiusa 19.59 303 P **Pn 02 57 42.1 -0.4**
comp=Z,33nm,1.3s
UPC Upice 19.61 316 *e*P **Pn 02 57 37.8 -4.9**
UPC *e*pP pP 02 57 46.5 +4.8
BADI Badiali 19.78 294 P **Pn 02 57 44.7 0.0**
SFI Santa Sofia 20.11 295 P **P 02 57 48.5 +1.6**
SFI pmax pmax
comp=Z,13nm,0.9s
SFI Santa Sofia 20.11 295 P **P 02 57 48.5 +1.6**
comp=Z,13nm,0.9s
PRU Pruhonice 20.18 313 *e*P **P 02 57 47.4 -0.2**
GERES GERESS Array B 20.19 310 P **P 02 57 47.5 -0.3**
comp=Z,4.7nm,0.7s,baz=114,slow=10,SNR=43
KHC Kasperske Hory 20.38 310 *e*P **P 02 57 48.6 -1.2**
KHC *e*pP 02 57 52.5
BRG Berggiesshubel 20.93 315 *e*P **P 02 57 59.4 +3.6**
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG Berggiesshubel 20.93 315 *e*P **P 02 57 59.4 +3.6**
comp=Z,6.8nm,1.2s
WTTA Wattenberg 20.96 304 ⇓*i*P **P 02 57 56.4 +0.2**
comp=Z,24nm,0.8s
WTTA Wattenberg 20.96 304 ⇓*i*P **P 02 57 56.4 +0.3**
WTTA pmax pmax
comp=Z,24nm,0.8s
WATA Walderalm 21.02 304 ⇑*i*P **P 02 57 56.6 -0.2**
comp=Z,15nm,1.0s,mb4.3
WATA Walderalm 21.02 304 ⇑*i*P **P 02 57 56.6 -0.2**
WATA pmax pmax
comp=Z,15nm,1.0s,mb4.3
APPI Appiano 21.03 302 P **P 02 57 58.7 +1.8**
GSCL Gusciola 21.07 296 P **P 02 57 59.2 +1.9**
comp=Z,16nm,0.9s,mb4.3
MOTA Moosalm 21.34 304 ⇓*i*P **P 02 57 59.7 -0.4**
comp=Z,25nm,1.0s,mb4.5,SNR=17
MOTA Moosalm 21.34 304 ⇓*i*P **P 02 57 59.7 -0.4**
MOTA pmax pmax
comp=Z,25nm,1.0s,mb4.5
FETA Feichten 21.50 303 ⇓*i*P **P 02 58 02.3 +0.4**
comp=Z,20nm,1.1s,mb4.3,SNR=7.9
FETA Feichten 21.50 303 ⇓*i*pP **P 02 58 02.3 +0.4**
comp=Z,20nm,1.1s,mb4.3,SNR=7.9
NKC Novy Kostel 21.50 312 *e*P **P 02 57 58.9 -3.0**
RETA Reutte 21.60 304 ⇑*i*P **P 02 58 02.3 -0.6**
comp=Z,42nm,1.1s,mb4.8,SNR=19
CLL Collm 21.66 315 *e*P **P 02 58 06.0 +2.4**
CLL *i* 02 58 10.9
CLL pmax pmax
comp=Z,3.0nm,1.2s,mb3.6
CLL Collm 21.66 315 *i* (sP) sP 02 58 07.1 +3.0
comp=Z,7.0nm,1.1s
CLL *i* x x 02 58 10.9
comp=Z,9.0nm,1.0s
CLL *i* PP 02 58 19.4
CLL Collm 21.66 315 *e*P **P 02 58 06.0 +2.4**
comp=Z,3.0nm,1.2s,mb3.6
CLL *i* 02 58 07.1
CLL *i* 02 58 10.9
DAVOX Davos/Dischmat 22.00 302 P **P 02 58 08.0 +0.7**
comp=Z,3.3nm,0.6s,mb4.0,baz=137,slow=18,SNR=5.3
GRA1 Grafenberg Arr 22.02 310 *e*P **P 02 58 11.2 +3.8**
comp=Z,20nm,0.9s,mb4.5
GRF Grafenberg Arr 22.02 310 *e*P **P 02 58 11.2 +3.8**
GRF pmax pmax
comp=Z,20nm,0.9s,mb4.5
GRF Grafenberg Arr 22.02 310 *e*P **P 02 58 11.2 +3.8**
GRF pmax pmax
comp=Z,20nm,0.9s,mb4.5
GRF Grafenberg Arr 22.02 310 *e*P **P 02 58 11.2 +3.8**
comp=Z,20nm,0.9s,mb4.5
PGF Pioggiola 22.07 290 *e*P **P 02 58 07.2 -0.9**
comp=Z,20nm,0.8s,mb4.3
PGF Pioggiola 22.07 290 *e*P **P 02 58 07.2 -0.9**
PGF pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
PGF Pioggiola 22.07 290 *e*P **P 02 58 07.2 -0.9**
comp=Z,9.9nm,0.8s,mb4.3
DAVA Damuels 22.12 303 ⇓*i*P **P 02 58 07.0 -1.6**
comp=Z,15nm,0.7s,mb4.6,SNR=10

MOX Moxa 22.16 313 *e*P **P 02 58 14.1 +5.2**
comp=Z,11nm,1.3s,mb4.1
TUE Stuetta 22.30 301 *e*P **P 02 58 11.0 +0.6**
comp=Z,5.9nm,0.9s,mb4.0
KEST Kesra 22.56 273 P **P 02 58 14.1 +0.7**
comp=Z,12nm,0.9s,mb4.4,baz=0.5,slow=5.9,SNR=11
VAI Varese 22.58 299 P **P 02 58 13.0 -0.4**
VAI pmax pmax
comp=Z,14nm,0.8s,mb4.5
VAI Varese 22.58 299 P **P 02 58 13.0 -0.4**
comp=Z,14nm,0.8s,mb4.5
KLMR Klimovskoe 22.77 3 *e*P **P 02 58 15.4 +0.1**
KLMR pmax pmax
comp=Z,29nm,1.2s,mb4.7
SPAK Spaichingen-Ko 23.05 305 *e*P **P 02 58 21.4 +3.0**
ARU Arti 23.06 31 *d i*P **P 02 58 19.8 +1.3**
ARU *e* 02 58 45.2
ARU *e*PPP 02 58 53.0
ARU *e*S **S 03 02 32.8 +2.7**
ARU *e*SS 03 03 03.7
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.3
ARU Arti 23.06 31 *e*P **P 02 58 19.8 +1.3**
comp=Z,9.9nm,0.8s,mb4.4
ARU *e* 02 58 31.0
SAOF Saorge 23.21 294 *e*P **P 02 58 20.6 +0.5**
SBF Sospel 23.28 294 *e*P **P 02 58 19.1 -1.8**
comp=Z,36nm,1.1s,mb4.5
SBF Sospel 23.28 294 *e*P **P 02 58 19.1 -1.8**
SBF pmax pmax
comp=Z,18nm,1.1s,mb4.5
SBF Sospel 23.28 294 *e*P **P 02 58 19.1 -1.8**
comp=Z,18nm,1.1s,mb4.5
AUTN L'Aution 23.30 294 *e*P **P 02 58 22.2 +1.1**
LUCF Luceram 23.35 294 *e*P **P 02 58 22.9 +1.3**
TOUF Mont Tournerai 23.43 294 *e*P **P 02 58 23.7 +1.2**
MVIF Mont Vial 23.49 294 *e*P **P 02 58 23.8 +0.7**
FELD Feldberg im Sc 23.50 304 *e*P **P 02 58 24.9 +1.8**
BBS Basel-Blauen 23.73 303 *e*P **P 02 58 27.9 +2.5**
MBDF Montbardon 23.83 296 *e*P **P 02 58 25.0 -1.3**
comp=Z,13nm,0.7s,mb4.3
MBDF Montbardon 23.83 296 *e*P **P 02 58 25.0 -1.3**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
MBDF Montbardon 23.83 296 *e*P **P 02 58 25.0 -1.3**
comp=Z,6.4nm,0.7s,mb4.3
FRF La Foret Royal 23.84 293 *e*P **P 02 58 25.0 -1.4**
comp=Z,38nm,1.2s,mb4.5
FRF La Foret Royal 23.84 293 *e*P **P 02 58 25.0 -1.4**
FRF pmax pmax
comp=Z,19nm,1.2s,mb4.5
FRF La Foret Royal 23.84 293 *e*P **P 02 58 25.0 -1.4**
comp=Z,19nm,1.2s,mb4.5
LPG La Plagne 23.92 298 *e*P **P 02 58 26.1 -1.1**
comp=Z,26nm,0.9s,mb4.5
LPG La Plagne 23.92 298 *e*P **P 02 58 26.1 -1.1**
LPG pmax pmax
comp=Z,13nm,0.9s,mb4.5
LPG La Plagne 23.92 298 *e*P **P 02 58 26.1 -1.1**
comp=Z,13nm,0.9s,mb4.5
BNI Bardonecchia 23.93 297 *e*P **P 02 58 26.8 -0.4**
BNI pmax pmax
comp=Z,23nm,0.9s,mb4.7
BNI Bardonecchia 23.93 297 *e*P **P 02 58 26.8 -0.4**
comp=Z,23nm,0.9s,mb4.7
LMR La Mourre 23.93 292 *e*P **P 02 58 25.7 -1.5**
comp=Z,16nm,1.0s,mb4.2
LMR La Mourre 23.93 292 *e*P **P 02 58 25.7 -1.5**
LMR pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
LMR La Mourre 23.93 292 *e*P **P 02 58 25.7 -1.5**
comp=Z,8.1nm,1.0s,mb4.2
LPL La Plagne 23.94 298 *e*P **P 02 58 26.1 -1.2**
comp=Z,16nm,0.8s,mb4.3
LPL La Plagne 23.94 298 *e*P **P 02 58 26.1 -1.2**
LPL pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
LPL La Plagne 23.94 298 *e*P **P 02 58 26.1 -1.2**
comp=Z,7.8nm,0.8s,mb4.3
MOF Molkenrain 24.06 304 *e*P **P 02 58 30.4 +2.0**
CDF Champ du Feu 24.10 305 *e*P **P 02 58 27.6 -1.2**
comp=Z,15nm,0.9s,mb4.2
CDF Champ du Feu 24.10 305 *e*P **P 02 58 27.6 -1.2**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
CDF Champ du Feu 24.10 305 *e*P **P 02 58 27.6 -1.2**
comp=Z,7.3nm,0.9s,mb4.2
ECH Echery 24.13 304 *e*P **P 02 58 32.0 +3.0**
LOMF Lomont 24.16 302 *e*P **P 02 58 31.4 +2.0**
SVE Sverdlovsk 24.18 32 *e*P **P 02 58 31.6 +2.2**
SVE pmax pmax
comp=Z,19nm,0.7s,mb4.7
HINF Hinteralfeld 24.24 303 *e*P **P 02 58 28.8 -1.3**
comp=Z,28nm,1.1s,mb4.4
HINF Hinteralfeld 24.24 303 *e*P **P 02 58 28.8 -1.3**
HINF pmax pmax
comp=Z,14nm,1.1s,mb4.4
HINF Hinteralfeld 24.24 303 *e*P **P 02 58 28.8 -1.3**
comp=Z,14nm,1.1s,mb4.4
ORIF Oris-en-Rattie 24.48 296 *e*P **P 02 58 30.6 -1.6**
comp=Z,36nm,1.1s,mb4.5
ORIF *e*MLR MLR
comp=Z,48nm,20.2s,MS2.7
ORIF Oris-en-Rattie 24.48 296 *e*P **P 02 58 30.6 -1.6**
ORIF pmax pmax
comp=Z,18nm,1.1s,mb4.5
ORIF Oris-en-Rattie 24.48 296 *e*P **P 02 58 30.6 -1.6**
comp=Z,18nm,1.1s,mb4.5
CABF La Chapelle 24.54 300 *e*P **P 02 58 31.9 -0.8**
comp=Z,42nm,1.2s,mb4.7
CABF La Chapelle 24.54 300 *e*P **P 02 58 31.9 -0.8**
CABF pmax pmax
comp=Z,21nm,1.2s,mb4.7
CABF La Chapelle 24.54 300 *e*P **P 02 58 31.9 -0.8**
comp=Z,21nm,1.2s,mb4.7
HAU Haudompre 24.61 304 *e*P **P 02 58 32.2 -1.2**
comp=Z,17nm,0.7s,mb4.6
HAU *e*MLR MLR
comp=Z,35nm,20.2s,MS2.5
HAU Haudompre 24.61 304 *e*P **P 02 58 32.2 -1.2**
comp=Z,8.4nm,0.7s,mb4.6
HAU LR LR
comp=Z,30nm,20.3s,MS2.8
SMRF Simiane la Rot 24.63 294 *e*P **P 02 58 33.7 0.0**
comp=Z,47nm,1.0s,mb4.9
SMRF Simiane la Rot 24.63 294 *e*P **P 02 58 33.7 0.0**
comp=Z,24nm,1.0s,mb4.9
WLF Walferdange 25.13 307 *e*P **P 02 58 37.8 -0.3**
WLF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
WLF Walferdange 25.13 307 *e*P **P 02 58 37.8 -0.4**
comp=Z,8.3nm,0.9s,mb4.5
VIVF Saint-Julien-I 25.33 296 *e*P **P 02 58 38.1 -1.9**
comp=Z,23nm,0.8s,mb4.7
VIVF Saint-Julien-I 25.33 296 *e*P **P 02 58 38.1 -1.9**
VIVF pmax pmax
comp=Z,12nm,0.8s,mb4.7
VIVF Saint-Julien-I 25.33 296 *e*P **P 02 58 38.1 -1.9**
comp=Z,12nm,0.8s,mb4.7
MEZF Maizieres J'vi 25.36 304 *e*P **P 02 58 40.4 -1.7**
comp=Z,18nm,0.6s,mb4.6
MEZF Maizieres J'vi 25.56 304 *e*P **P 02 58 40.4 -1.7**
comp=Z,8.9nm,0.6s,mb4.6
LASF Ste Croix 25.87 294 *e*P **P 02 58 45.2 +0.3**
comp=Z,16nm,0.9s,mb4.4
LASF Ste Croix 25.87 294 *e*P **P 02 58 45.2 +0.3**
comp=Z,8.2nm,0.9s,mb4.4
SMF Signal de Mont 26.07 300 *e*P **P 02 58 44.5 -2.2**
comp=Z,15nm,0.9s,mb4.3
SMF Signal de Mont 26.07 300 *e*P **P 02 58 44.5 -2.2**
SMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
SMF Signal de Mont 26.07 300 *e*P **P 02 58 44.5 -2.2**
comp=Z,7.5nm,0.9s,mb4.3
GIVF Givet 26.08 308 *e*P **P 02 58 46.1 -0.6**
LOR Lormes 26.14 301 *e*P **P 02 58 46.4 -0.9**
comp=Z,20nm,1.0s,mb4.4
LOR *e*MLR MLR
comp=Z,49nm,21.8s,MS2.7
LOR Lormes 26.14 301 *e*P **P 02 58 46.4 -0.9**
LOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
LOR MLR MLR
comp=Z,50nm,21.8s,MS3.0
LOR Lormes 26.14 301 *e*P **P 02 58 46.4 -0.9**
comp=Z,10nm,1.0s,mb4.4

LOR LR LR
comp=Z,50nm,21.8s,MS3.0
PLDF La Plantade 26.15 298 *eP* **P 02 58 49.6 +2.1**
SSF Saint Saulge 26.35 301 *eP* **P 02 58 47.4 -1.8**
comp=Z,20nm,1.2s,mb4.3
SSF Saint Saulge 26.35 301 *eP* **P 02 58 47.4 -1.8**
SSF pmax pmax
comp=Z,10.0nm,1.2s,mb4.3
SSF Saint Saulge 26.35 301 *eP* **P 02 58 47.4 -1.8**
comp=Z,10nm,1.2s,mb4.3
LBL Lubilhac 26.36 297 *eP* **P 02 58 52.9 +3.6**
AVF Avril sur Loir 26.42 300 *eP* **P 02 58 48.7 -1.2**
comp=Z,55nm,1.6s,mb4.6
AVF Avril sur Loir 26.42 300 *eP* **P 02 58 48.7 -1.2**
AVF pmax pmax
comp=Z,27nm,1.6s,mb4.6
AVF Avril sur Loir 26.42 300 *eP* **P 02 58 48.7 -1.2**
comp=Z,27nm,1.6s,mb4.6
BAIF Baives 26.45 308 *eP* **P 02 58 49.0 -1.1**
comp=Z,19nm,1.1s,mb4.3
BAIF Baives 26.45 308 *eP* **P 02 58 49.0 -1.1**
BAIF pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
BAIF Baives 26.45 308 *eP* **P 02 58 49.0 -1.1**
comp=Z,9.4nm,1.1s,mb4.3
AGO Saint Agoulin 26.50 298 *eP* **P 02 58 53.4 +2.8**
PYM Petit Puy Mans 26.56 298 *eP* **P 02 58 54.4 +3.2**
HFS Hagfors 26.66 333 P **P 02 58 53.0 +1.2**
comp=Z,1.7nm,0.5s,mb4.1,baz=139,slow=12,SNR=10
HFS LR LR 03 10 28.0
comp=Z,81nm,21.2s,MS3.2,baz=138,slow=39
BGF Bois d'Agland 26.75 299 *eP* **P 02 58 50.8 -2.0**
comp=Z,27nm,1.2s,mb4.5
BGF Bois d'Agland 26.75 299 *eP* **P 02 58 50.8 -2.0**
BGF pmax pmax
comp=Z,14nm,1.2s,mb4.6
BGF Bois d'Agland 26.75 299 *eP* **P 02 58 50.8 -2.0**
comp=Z,14nm,1.2s,mb4.5
BVAR Borovoye Array 27.14 46 P **P 02 58 57.6 +1.3**
comp=Z,1.9nm,0.5s,mb4.1,baz=235,slow=5.2,SNR=8.3
BVAR LR LR 03 11 25.0
comp=Z,50nm,20.6s,MS3.1,baz=250,slow=40
TCF Toulx Ste Croi 27.16 299 *eP* **P 02 58 56.1 -0.4**
comp=Z,7.0nm,0.8s,mb4.1
TCF Toulx Ste Croi 27.16 299 *eP* **P 02 58 56.1 -0.4**
TCF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
TCF Toulx Ste Croi 27.16 299 *eP* **P 02 58 56.1 -0.4**
comp=Z,3.5nm,0.8s,mb4.1
CAF Calviac 27.18 296 *eP* **P 02 58 55.9 -0.8**
comp=Z,8.1nm,0.9s,mb4.1
CAF Calviac 27.18 296 *eP* **P 02 58 55.9 -0.8**
CAF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
CAF Calviac 27.18 296 *eP* **P 02 58 55.9 -0.8**
comp=Z,4.1nm,0.9s,mb4.1
RJF Les Rejaudoux 27.58 297 *eP* **P 02 59 00.5 +0.2**
comp=Z,9.0nm,0.9s,mb4.3
RJF *e*MLR MLR
comp=Z,57nm,22.0s,MS2.8
RJF Les Rejaudoux 27.58 297 *eP* **P 02 59 00.5 +0.2**
RJF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
RJF MLR MLR
comp=Z,60nm,22.0s,MS3.1
RJF Les Rejaudoux 27.58 297 *eP* **P 02 59 00.5 +0.2**
comp=Z,4.5nm,0.9s,mb4.3
RJF LR LR
comp=Z,60nm,22.0s,MS3.1
LFF La Frestale 28.12 296 *eP* **P 02 59 04.2 -1.0**
NB2 NORSAR Subarra 28.17 333 P **P 02 59 03.9 -1.5**
comp=Z,1.2nm,0.8s,mb3.8,baz=132,slow=9.3
NOA NORSAR Array B 28.17 333 P **P 02 59 04.2 -1.2**
comp=Z,0.3nm,0.5s,mb3.4,baz=129,slow=9.0,SNR=2.5
NOA LR LR 03 11 45.1
comp=Z,66nm,19.4s,MS3.2,baz=130,slow=40
LDF La Druitiere 28.97 303 *eP* **P 02 59 11.4 -1.3**
ETSF Etsaut 29.11 292 *eP* **P 02 59 13.5 -0.5**
comp=Z,9.0nm,0.8s,mb4.3
ETSF Etsaut 29.11 292 *eP* **P 02 59 13.5 -0.5**
ETSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ETSF Etsaut 29.11 292 *eP* **P 02 59 13.5 -0.5**
comp=Z,4.5nm,0.8s,mb4.3
FLN La Foliniere 29.23 304 *eP* **P 02 59 14.9 0.0**
FLN *e*MLR MLR
comp=Z,59nm,19.8s,MS2.9
FLN La Foliniere 29.23 304 *eP* **P 02 59 14.9 0.0**
FLN LR LR
comp=Z,60nm,19.8s,MS3.2
GRR Gorron 29.43 303 *eP* **P 02 59 14.3 -2.5**
comp=Z,9.6nm,0.6s,mb4.5
GRR Gorron 29.43 303 *eP* **P 02 59 14.3 -2.5**
GRR pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
GRR Gorron 29.43 303 *eP* **P 02 59 14.3 -2.5**
comp=Z,4.8nm,0.6s,mb4.5
SGMF Saint Gilles 30.55 302 *eP* **P 02 59 26.8 +0.1**
QUIF Quistinic 30.94 302 *eP* **P 02 59 30.1 0.0**
comp=Z,96nm,1.5s,mb5.2
QUIF Quistinic 30.94 302 *eP* **P 02 59 30.1 0.0**
QUIF pmax pmax
comp=Z,48nm,1.5s,mb5.2
QUIF Quistinic 30.94 302 *eP* **P 02 59 30.1 0.0**
comp=Z,48nm,1.5s,mb5.2
TAM Tamanrasset 31.30 250 *eP* **P 02 59 34.5 +1.0**
KURK Kurchatov 31.56 53 *eP* **P 02 59 37.6 +2.1**
KURK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KURK Kurchatov 31.56 53 *eP* **P 02 59 37.6 +2.1**
comp=Z,3.8nm,0.9s,mb4.3
ESDC Sonseca Array 32.06 286 P **P 02 59 38.7 -1.4**
comp=Z,0.4nm,0.5s,mb3.6,baz=70,slow=8.7,SNR=4.5
ARCES ARCESS Array B 32.10 352 P **P 02 59 40.0 0.0**
comp=Z,2.3nm,0.8s,mb4.2,baz=7.8,slow=9.8,SNR=8.1
ESK Eskdalemuir 32.15 316 *eP* **P 02 59 40.8 +0.1**
ESK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ESK Eskdalemuir 32.15 316 *eP* **P 02 59 40.8 +0.1**
comp=Z,6.8nm,0.9s,mb4.6
MKAR Makanchi Array 33.79 61 P **P 02 59 55.0 -0.1**
comp=Z,0.4nm,0.6s,mb3.6,baz=266,slow=11,SNR=2.6
ZAL Zalesovo 35.71 48 P **P 03 00 11.7 +0.1**
ZALV Zalesovo Beam 35.73 48 P **P 03 00 11.7 -0.1**
comp=Z,1.3nm,0.4s,mb4.1,baz=268,slow=11,SNR=4.9
KMBO Kilima Mbogo 39.08 180 LR LR 03 16 27.9
comp=Z,60nm,21.9s,MS3.4,baz=226,slow=36
TORD Torodi Ar. Bea 40.33 242 P **P 03 00 49.6 -1.5**
comp=Z,1.6nm,0.9s,mb3.7,baz=39,slow=8.5,SNR=8.9
DBIC Dimbokro 49.45 242 P **P 03 02 02.7 -0.9**
comp=Z,1.3nm,0.5s,mb4.3,baz=6.5,slow=11,SNR=6.0
DBIC Dimbokro 49.45 242 P **P 03 02 02.7 -0.9**
SONM Songino Array 49.80 55 P **P 03 02 08.3 +2.3**
comp=Z,0.4nm,0.7s,mb3.5,baz=288,slow=7.5,SNR=2.7
LIC Lamto 49.88 241 *eP* **P 03 02 05.6 -1.4**
BOD Bodaibo 51.85 41 *eP* **P 03 02 19.4 -1.9**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
RES Resolute Bay 63.14 347 *eP* **P 03 03 39.0 -1.6**
comp=Z,448nm,1.0s
SCHQ Schefferville 67.10 323 P **P 03 04 06.8 +0.2**
comp=Z,1.1nm,0.5s,mb4.3,baz=51,slow=14,SNR=3.4
SCHQ Schefferville 67.10 323 P **P 03 04 06.8 +0.2**
KSRS Korea Array 68.45 59 P **P 03 04 14.8 -0.6**
comp=Z,1.8nm,0.7s,mb4.4,baz=288,slow=6.0,SNR=7.3
KSRS LR LR 03 37 57.9
comp=Z,39nm,18.0s,MS3.7,baz=305,slow=39
KSRS Korea Array 68.45 59 P **P 03 04 14.9 -0.6**
KSRS pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
KSRS MLR MLR
comp=Z,39nm,18.0s,MS3.7
MJAR Matsushiro Arr 75.75 55 LR LR 03 41 43.6
comp=Z,64nm,18.3s,MS4.0,baz=45,slow=38
YKA Yellowknife Ar 77.21 347 P **P 03 05 08.7 +1.7**
comp=Z,1.2nm,0.7s,mb4.1,baz=17,slow=5.1,SNR=4.9
EGAK Eagle 77.40 359 *eP* **P 03 05 08.3 +0.3**
comp=Z,3.4nm,0.8s,mb4.5

IDC 24 03:10:02.9±1.0, 222S×1230W, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/24, mbtmp4.0/9, ML3.2/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/25, Error ellipse: s-maj=42.4km s-min=20.1km az=128.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**11.54**	**40**	Pn	Pn	03 12 49.0	-0.1
	0.1nm,0.3s,baz=209,slow=19,SNR=4.3						
DBIC				LR	LR	03 16 21.9	
	comp=Z,270nm,22.0s,baz=118,slow=33						
TORD	**Torodi Ar. Bea**	**20.64**	**42**	P	P	03 14 43.0	-1.3
	7.6nm,0.8s,baz=228,slow=9.1,SNR=23						
TORD				LR	LR	03 21 48.6	
	comp=Z,141nm,20.3s,baz=225,slow=34						
BDFB	**Brasilia**	**37.63**	**247**	LR	LR	03 29 44.6	
	comp=Z,50nm,18.5s,baz=279,slow=31						
KEST	**Kesra**	**42.84**	**26**	LR	LR	03 36 47.5	
	comp=Z,28nm,18.1s,baz=209,slow=38						
CPUP	**Villa Florida**	**49.40**	**237**	LR	LR	03 37 06.3	
	comp=Z,78nm,21.4s,baz=235,slow=33						
KMBO	**Kilima Mbogo**	**49.54**	**90**	LR	LR	03 37 53.5	
	comp=Z,148nm,20.6s,baz=245,slow=34						
SIV	**San Ignacio**	**49.91**	**251**	P	P	03 18 59.6	+0.8
	0.6nm,0.8s,baz=90,slow=14,SNR=3.1						
DAVOX	**Davos/Dischmat**	**52.56**	**19**	LR	LR	03 41 45.0	
	comp=Z,36nm,19.6s,baz=268,slow=36						
GERES	**GERESS Array B**	**55.64**	**21**	P	P	03 19 41.4	+0.8
	0.8nm,0.7s,baz=188,slow=5.0,SNR=9.4						
GERES				LR	LR	03 44 37.0	
	comp=Z,23nm,20.6s,baz=111,slow=37						
LPAZ	**La Paz**	**56.65**	**252**	P	P	03 19 48.1	-0.4
	0.7nm,0.9s,baz=109,slow=2.5,SNR=4.2						
LPAZ				LR	LR	03 44 37.8	
	comp=Z,79nm,18.3s,baz=101,slow=37						
AKASG	**Malin Array Be**	**63.51**	**28**	P	P	03 20 35.2	+0.4
	0.3nm,0.4s,baz=228,slow=6.2,SNR=4.6						
PLCA	**Paso Flores**	**64.87**	**226**	LR	LR	03 44 30.0	
	comp=Z,78nm,18.5s,baz=180,slow=32						
HFS	**Hagfors**	**65.41**	**14**	P	P	03 20 47.3	+0.2
	0.8nm,0.6s,baz=185,slow=8.2,SNR=3.5						
ARCES	**ARCESS Array B**	**76.02**	**13**	P	P	03 21 51.4	-0.2
	2.5nm,0.7s,baz=228,slow=3.1,SNR=9.1						
MAW	**Mawson**	**82.32**	**158**	P	P	03 22 26.3	+0.2
	3.3nm,0.7s,baz=296,slow=7.0,SNR=10.0						

*NEIC **24** 03:11:32.6, 3908S×7207W, h140km, MG4.0(GUC), After GUC.*

GUC 24 03:11:32.6±1.2, 3908S×7207W, h140km±11km, ML4.0, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	**Temuco**	**0.54**	**309**	*e*P	Pn	03 11 52.7	-0.2
TMU				*i* S	Sn	03 12 08.5	+0.2
VLCH	**Valdivia**	**1.17**	**231**	*e*P		03 14 33.0	
VLCH				*e*S		03 14 52.3	
VLCH				AML	AML	03 14 55.0	
	comp=E,3μm,0.5s						
CCHI	**Chillan**	**2.47**	**360**	*e*P	Pn	03 12 13.4	+0.6
CCHI				*i* S	Sn	03 12 44.5	+0.8
CCHI				AML	AML	03 12 47.9	
	comp=N,752nm,0.3s						
CCHI	**Chillan**	**2.47**	**360**	*e*P	Pn	03 12 13.4	+0.6
CCHI				*i* S	Sn	03 12 44.5	+0.8
COCH	**Cobquecura**	**2.99**	**349**	*e*P	Pn	03 12 19.8	+0.4
COCH				*i* S	Sn	03 12 55.4	-0.2
COCH				AML	AML	03 13 00.9	
	comp=E,244nm,0.3s						
COCH	**Cobquecura**	**2.99**	**349**	*e*P	Pn	03 12 19.8	+0.4
COCH				*i* S	Sn	03 12 55.4	-0.2
CICH	**Cipreses**	**4.93**	**16**	*e*P	Pn	03 12 43.8	-1.1
CICH				*i* S	Sn	03 13 41.2	+0.1
CACH	**El Canelo**	**5.09**	**14**	*e*P	Pn	03 12 45.8	-1.2
RCDM	**Rinconada Maip**	**5.67**	**11**	⇑*e*P	Pn	03 12 52.1	-2.6
RCDM				*i* S	Sn	03 13 54.8	-4.0
RCDM	**Rinconada Maip**	**5.67**	**11**	⇑*e*P	Pn	03 12 52.1	-2.6
RCDM				*i* S	Sn	03 12 54.8	-64
PEL	**Peldehue**	**6.02**	**11**	*e*P	Pn	03 12 57.2	-2.4

MAN 24 03:23:46, 846N×12504E, h30km, mb4.3, ML3.1, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.58**	**177**	*e*P	Pb	03 23 58.6	+0.9
BUTP	**Butuan**	**0.77**	**49**	*e*P	Pn	03 24 01.6	+0.7
TBP	**Tagbilaran**	**1.69**	**317**	*e*P	Pn	03 24 14.5	+1.0
TBP				*e*S	Sn	03 24 34.3	+0.3
PAGZ	**Pagadian**	**1.75**	**250**	*e*P	Pn	03 24 16.4	+2.1
GUIM	**Jordan**	**3.23**	**312**	*e*P	Pn	03 24 36.4	+1.7

*IDC **24** 03:32:49.6±2.6, 424S×14474E, h0km, mb4.1/5, mb1 4.4/6, mb1mx4.1/15, mbtmp4.2/6, ML4.2/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/21, Error ellipse: s-maj=64.4km s-min=24.9km az=86.0*
*ISCJB **24** 03:32:52.2±1.4, 422S±009×1448E±02, h33km, mb4.2/8, MS3.4/3, Error ellipse: s-maj=31.9km s-min=12.8km az=174.6*
*NEIC **24** 03:32:60.0±3.5, 442S×14492E, h97km±30km, mb4.0/6, Error ellipse: s-maj=31.8km s-min=21.5km az=74.0*

ISC 24 03:32:54.6±1.3, 423S±009×1447E±02, h35km, n21, σ1°05/19, mb4.2/8, MS3.4/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.68**	**155**	*e*Pn	**Pn**	**03 34 06.9**	**-10**
COEN	**Coen**	**9.79**	**189**	*e*Pn	**Pn**	**03 35 15.0**	**+2.1**
KAKA	**Kakadu**	**14.79**	**234**	*e*P	**Pn**	**03 36 26.2**	**+4.9**
	17nm,0.5s						
CTAO	**Charters Tower**	**15.84**	**175**	*e*P	**Pn**	**03 36 34.2**	**-0.8**
	10.0nm,1.2s						
HNR	**Honiara**	**15.96**	**110**	LR	LR	03 41 16.8	
	comp=Z,108nm,18.8s,baz=355,slow=32						
WRAB	**Tennant Creek**	**18.61**	**212**	*e*P	**Pn**	**03 37 09.9**	**+0.4**
	51nm,1.1s						
WB2	**Warramunga Arr**	**18.61**	**212**	*e*P	**Pn**	**03 37 10.1**	**+0.5**
WRA	**Warramunga Arr**	**18.62**	**212**	P	**Pn**	**03 37 10.1**	**+0.4**
	0.7nm,0.3s,baz=38,slow=12,SNR=73						
ASAR	**Alice Springs**	**21.97**	**207**	P	**P**	**03 37 45.1**	**-0.4**
	6.0nm,0.8s,mb4.1,baz=47,slow=8.5,SNR=60						
FITZ	**Fitzroy Crossi**	**23.22**	**232**	*e*P	**P**	**03 37 57.0**	**-1.9**
	13nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.22**	**232**	P	**P**	**03 37 58.3**	**-0.6**
	7.3nm,0.7s,mb4.2,baz=48,slow=10,SNR=32						
FITZ				LR	LR	03 47 22.9	
	comp=Z,87nm,20.4s,MS3.2,baz=215,slow=38						
STKA	**Stephens Creek**	**27.66**	**186**	*e*P	**P**	**03 38 38.7**	**-0.5**
	3.1nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**27.66**	**186**	P	**P**	**03 38 38.7**	**-0.5**
	1.4nm,0.6s,mb3.8,baz=2.6,slow=11,SNR=6.4						
STKA				LR	LR	03 50 55.0	
	comp=Z,125nm,20.6s,MS3.5,baz=22,slow=39						
STKA	**Stephens Creek**	**27.66**	**186**	*e*P	**P**	**03 38 38.5**	**-0.8**
	4.9nm,0.9s,mb4.1						
FORT	**Forrest**	**30.74**	**209**	*e*P	**P**	**03 39 01.9**	**-4.7**
	5.1nm,0.6s,mb4.5						
FORT	**Forrest**	**30.74**	**209**	*e*P	**P**	**03 39 03.8**	**-2.8**
	1.0nm,0.6s,mb3.8						
KLBR	**Kellerberrin**	**37.19**	**220**	*e*P	**P**	**03 39 54.7**	**-7.9**
	50nm,1.4s,mb5.2						
KSRS	**Korea Array**	**44.32**	**341**	LR	LR	03 55 52.9	
	comp=Z,45nm,20.3s,MS3.4,baz=171,slow=31						
CMAR	**Chiang Mai Arr**	**50.43**	**298**	P	**P**	**03 41 48.5**	**-0.7**
	0.8nm,0.3s,mb4.2,baz=132,slow=6.6,SNR=4.1						
MKAR	**Makanchi Array**	**74.70**	**321**	P	**P**	**03 44 32.3**	**+1.6**
	0.5nm,0.7s,mb3.6,baz=108,slow=7.8,SNR=3.9						
KURK	**Kurchatov**	**78.45**	**324**	*e*P	**P**	**03 44 51.7**	**-0.2**
	0.9nm,0.7s,mb3.8						

*IPEC **24** 03:55:48.5±0.3, 5166N×1611E, h0km, ML2.6/4, Error ellipse: s-maj=1.9km s-min=1.5km az=47.0*
*ISCJB **24** 03:55:49.3±0.5, 5146N±003×1605E±003, h0km, Error ellipse: s-maj=3.9km s-min=2.2km az=13.9*
*NEIC **24** 03:55:50.1±0.7, 5157N×1606E, h5km, ML2.4(BRA), ML2.8(SZGRF), Error ellipse: s-maj=8.5km s-min=3.6km az=188.0*
*PRU **24** 03:55:51.2, 5153N×1601E, h0km*
*WAR **24** 03:55:51, 5155N×1602E, ML2.7, Mining Induced*
*CSEM **24** 03:55:51.6±0.2, 5152N×1595E, h0km, ML3.4/15, Ms3.0, Error ellipse: s-maj=2.8km s-min=2.1km az=176.0*
*VIE **24** 03:55:52.8±0.5, 5132N×1594E, h0km, mb2.5/7, ML2.7/6, Ms3.0/1, Error ellipse: s-maj=3.0km s-min=2.8km az=48.0*
79 km WNW of Wroclaw Suspected Mining induced.

ISC 24 03:55:50.1±0.5, 5155N±003×1603E±003, h0km, n38, σ0°68/79, 9C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**167**	*e*Pg	**Pg**	**03 56 04.6**	**+0.7**
KSP				*e*Sg	**Sg**	**03 56 14.5**	**+1.3**
KSP	**Ksiaz**	**0.72**	**167**	*e*Pg	**Pg**	**03 56 04.4**	**+0.5**
KSP				*e*Sg	**Sg**	**03 56 14.3**	**+1.1**
KSP	**Ksiaz**	**0.72**	**167**	⇓*i*Pg	**Pg**	**03 56 04.6**	**+0.7**
KSP				*i* Sg	**Sg**	**03 56 14.4**	**+1.2**
UPC	**Upice**	**1.04**	**181**	*e*PG	**Pg**	**03 56 10.4**	**+0.5**
DPC	**Dobruska-Polom**	**1.21**	**171**	*e*PG	**Pg**	**03 56 13.4**	**+0.2**
DPC				*e*SG	**Sg**	**03 56 29.2**	**+0.3**
	comp=Z,36nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**223**	*e*PG	**Pg**	**03 56 16.2**	**-0.2**
PVCC				*e*SG	**Sg**	**03 56 34.8**	**+0.6**
	comp=Z,138nm,0.3s						
BRG	**Berggiesshubel**	**1.48**	**244**	PN	**Pn**	**03 56 17.6**	**-0.3**
BRG				PG	**Pg**	**03 56 18.5**	**+0.2**
BRG				SG	**Sg**	**03 56 38.2**	**+0.7**
	comp=Z,199nm,0.4s						
PRU	**Pruhonice**	**1.82**	**212**	*e*PN	**Pn**	**03 56 22.4**	**-0.2**
PRU				*e*PG	**Pg**	**03 56 24.2**	**-0.8**
PRU				*e*SG	**Sg**	**03 56 48.1**	**-0.5**
	comp=Z,28nm,0.3s						
CLL	**Collm**	**1.91**	**264**	⇓*i*Pn	**Pn**	**03 56 22.6**	**-1.2**
	comp=Z,15nm,0.4s						
CLL				*i* Pg	**Pg**	**03 56 26.4**	**-0.3**
CLL				*i* x	x	03 56 30.0	
CLL				*i* Sg	**Sg**	**03 56 51.1**	**-0.3**
	comp=Z,24nm,0.6s						
MORC	**Moravsky Berou**	**2.01**	**151**	*e*Pn	**Pn**	**03 56 24.8**	**-0.4**
MORC				*e*Sg	**Sg**	**03 56 54.2**	**-0.5**
	comp=Z,28nm,0.4s						
OKC	**Ostrava-Krasne**	**2.17**	**141**	*e*SG	**Sg**	**03 56 59.9**	**0.0**
VRAC	**Vranov**	**2.27**	**171**	*e*Pn	**Pn**	**03 56 28.8**	**+0.1**
VRAC				*e*Sg	**Sg**	**03 57 02.8**	**-0.1**
	comp=Z,13nm,0.3s						
TREC	**Trest**	**2.28**	**189**	*e*PN	**Pn**	**03 56 29.1**	**+0.2**
TREC				*e*PG	**Pg**	**03 56 33.1**	**-0.6**
KRUC	**Moravsky**	**2.50**	**175**	*e*Pn	**Pn**	**03 56 32.1**	**+0.2**
KRUC				*e*Sg	**Sg**	**03 57 10.0**	**-0.2**
	comp=Z,36nm,1.0s						
NKC	**Novy Kostel**	**2.62**	**241**	*e*PN	**Pn**	**03 56 33.8**	**+0.2**
NKC				*e*PG	**Pg**	**03 56 39.7**	**-0.6**
NKC				*e*SG	**Sg**	**03 57 14.8**	**+0.5**
	comp=Z,56nm,0.5s						
OJC	**Ojcow**	**2.73**	**118**	*e*Pg	**Pg**	**03 56 41.7**	**-0.6**
OJC				*e*Sg	**Sg**	**03 57 18.3**	**+0.6**
KHC	**Kasperske Hory**	**2.88**	**214**	*e*PN	**Pn**	**03 56 36.9**	**-0.3**
KHC				*e*PG	**Pg**	**03 56 43.0**	**-2.3**
KHC				*e*SN	**Sn**	**03 57 12.9**	**+0.4**
KHC				*e*SG	**Sg**	**03 57 23.0**	**+0.4**
	comp=Z,12nm,0.3s						
JAVC	**Velka Javorina**	**2.89**	**158**	*e*Pn	**Pn**	**03 56 38.1**	**+0.9**
JAVC				*e*Sg	**Sg**	**03 57 23.7**	**+0.9**
	comp=Z,37nm,1.4s						
MOX	**Moxa**	**2.93**	**254**	*e*PN	**Pn**	**03 56 38.1**	**+0.3**
MOX				*e*PG	**Pg**	**03 56 45.8**	**-0.3**
MOX				*e*SG	**Sg**	**03 57 25.1**	**+1.1**
GEC2	**GERESS Array S**	**3.09**	**210**	*e*Pn	**Pn**	**03 56 40.6**	**+0.6**
WET	**Wettzell**	**3.14**	**221**	*e*Pn	**Pn**	**03 56 41.1**	**+0.4**
MODS	**Modra-Piesok**	**3.27**	**165**	*e*PN	**Pn**	**03 56 43.2**	**+0.6**
MODS				*e*PG	**Pg**	**03 56 53.1**	**+0.3**
MODS				*e*SG	**Sg**	**03 57 35.1**	**-0.1**
KOLL	**Kolacno**	**3.34**	**152**	*e*PN	**Pn**	**03 56 43.6**	**+0.1**
KOLL				*e*PG	**Pg**	**03 56 53.6**	**-0.4**
KOLL				*e*SG	**Sg**	**03 57 36.4**	**-0.9**
ZST	**Bratislava**	**3.42**	**168**	*e*SG	**Sg**	**03 57 38.9**	**-1.1**
ZST	**Bratislava**	**3.42**	**168**	*e*Sg	**Sg**	**03 57 39.0**	**-1.0**
NIE	**Niedzica**	**3.46**	**126**	*e*P	**Pg**	**03 56 55.3**	**-1.1**
NIE				*e*S	**Sg**	**03 57 40.8**	**-0.5**
VYHS	**Vyhne**	**3.55**	**148**	*e*PN	**Pn**	**03 56 45.8**	**-0.5**
VYHS				*e*PG	**Pg**	**03 56 57.8**	**-0.2**
VYHS				*e*SG	**Sg**	**03 57 45.2**	**+1.2**
CONA	**Conrad Observa**	**3.62**	**182**	⇑*i*Pn	**Pn**	**03 56 47.1**	**-0.2**
CONA				⇑*i*Sg	**Sg**	**03 57 45.1**	**-1.3**
	comp=Z,26nm,0.4s						
CSNA	**Conrad Observa**	**3.62**	**182**	⇑*i*Pn	**Pn**	**03 56 47.2**	**-0.1**
CSNA				⇑*i*Sg	**Sg**	**03 57 45.5**	**-0.9**
	comp=Z,24nm,0.4s						
MOA	**Molln**	**3.87**	**198**	⇑*i*Pn	**Pn**	**03 56 51.3**	**+0.5**
MOA				⇓*i*Sg	**Sg**	**03 57 54.0**	**-0.4**
	comp=Z,16nm,0.6s						
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*PN	**Pn**	**03 56 52.0**	**+0.1**
STHS				*e*PG	**Pg**	**03 57 05.9**	**+0.2**
STHS				*e*SG	**Sg**	**03 57 58.1**	**+1.2**
KECS	**Kecovo**	**4.20**	**135**	*e*PG	**Pg**	**03 57 10.9**	**+0.4**
KECS				*e*SG	**Sg**	**03 58 06.1**	**+1.2**
ARSA	**Arzberg**	**4.31**	**185**	⇑*i*Pn	**Pn**	**03 56 56.4**	**-0.5**
ARSA				⇓*i*Sg	**Sg**	**03 58 08.4**	**-0.1**
	comp=Z,17nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.38**	**125**	*e*PG	**Pg**	**03 57 13.1**	**-0.8**
KOLS	**Kolonicke sedl**	**4.78**	**121**	*e*PN	**Pn**	**03 57 03.2**	**-0.1**
KBA	**Koelnbreinsper**	**4.80**	**203**	⇑*i*Pn	**Pn**	**03 57 04.4**	**+0.9**
KBA				⇓*i*Sg	**Sg**	**03 58 23.1**	**-1.1**
	comp=Z,7.4nm,0.5s						
KBA	**Koelnbreinsper**	**4.80**	**203**	Pn	**Pn**	**03 57 04.4**	**+0.8**
KBA				Sg	**Sg**	**03 58 23.1**	**-1.2**
	comp=Z,7.4nm,0.5s						
DAVA	**Damuels**	**5.85**	**226**	⇑*i*Pn	**Pn**	**03 57 18.3**	**+0.3**
DAVA				⇑*i*Sg	**Sg**	**03 58 59.8**	**+1.8**
	comp=Z,5.5nm,0.6s						

*ISCJB **24** 04:02:12.0±1.2, 439N±006×1250E±0.1, h42km±12km, mb4.2/16, Error ellipse: s-maj=20.3km s-min=8.7km az=159.4*
*MAN **24** 04:02:14, 465N×12483E, h68km*
*NEIC **24** 04:02:16.7±1.3, 438N×125.13E, h72km±14km, mb4.3/11, Error ellipse: s-maj=17.6km s-min=6.0km az=74.0*
*IDC **24** 04:02:17.9±2.5, 436N×12503E, h82km±26km, mb3.8/8, mb1 4.0/9, mb1mx3.7/20, mbtmp3.8/9, Error ellipse: s-maj=34.6km s-min=12.3km az=74.0*

ISC 24 04:02:13.2±3.2, 438N±006×1250E±01, h34km±24km, h41km±1.2km: pP-P, n28, σ0°87/31, mb4.2/16, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**2.73**	**11**	*e*P	**Pn**	**04 02 54.3**	**-0.4**
DAV	**Davao City (W)**	**2.74**	**13**	P	**Pn**	**04 02 58.3**	**+3.6**
	78nm,0.3s,baz=180,slow=3.0,SNR=2.4						
DAV				S	**Sn**	**04 03 33.4**	**+6.7**
	47nm,0.3s,baz=156,slow=23,SNR=7.6						
DAV	**Davao City (W)**	**2.74**	**13**	P	**Pn**	**04 02 58.3**	**+3.6**
DAV				S	**Sn**	**04 03 33.4**	**+6.7**
MATI	**Mati**	**2.85**	**26**	*e*P	**Pn**	**04 02 56.8**	**+0.5**
BUKP	**Musuan**	**3.48**	**1**	*

TKM2	**Tokmak 2**	**58.11**	**319**	*e*P	**P**	**04 12 04.0**	**+0.5**
	1.9nm,0.8s,mb4.2						
AML	**Almayashu**	**59.03**	**317**	*e*P	**P**	**04 12 11.3**	**+1.4**
	1.4nm,0.7s,mb4.1						
AML				*e*pP	pP	04 12 23.5	+3.4
EKS2	**Erkin-Say**	**59.20**	**318**	*e*P	**P**	**04 12 12.1**	**+1.0**
	2.7nm,0.8s,mb4.3						
KURK	**Kurchatov**	**60.26**	**328**	*e*P	**P**	**04 12 18.4**	**+0.2**
	2.4nm,0.7s,mb4.3						
KURK				*e*pP	pP	04 12 30.2	+1.7
BVAR	**Borovoye Array**	**65.83**	**327**	P	**P**	**04 12 54.6**	**-0.5**
	0.6nm,0.6s,mb3.8,baz=134,slow=6.2,SNR=4.9						
BRVK	**Borovoye**	**65.90**	**327**	*e*P	**P**	**04 12 54.6**	**-1.0**
	3.5nm,0.8s,mb4.4						

ISCJB ***24*** *04:12:25.1±2.0,366N±0.1×4090E±005,h5km±9km, Error ellipse: s-maj=20.8km s-min=6.1km az=175.5*
ISK ***24*** *04:12:26.0,3681N×4084E,h5km,MD3.8*
CSEM ***24*** *04:12:27.1±0.2,3685N×4083E,h5km,MD3.8, Error ellipse: s-maj=5.4km s-min=1.9km az=172.0*
ISC 24 04:12:27.3±2.2,367N±01×**4089E**±005,**h11**km±10km**, n16,** σ**1§04/19, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**0.66**	**352**	*i* P	**Pg**	**04 12 39.9**	**-0.2**
DIYA	**Diyarbakir**	**1.41**	**334**	*i* P	**Pn**	**04 12 52.0**	**-0.9**
SIRT	**Sirnak**	**1.50**	**55**	*e*PN	**Pn**	**04 12 54.7**	**+0.6**
SIRT				*e*SN	**Sn**	**04 13 14.9**	**+1.3**
MSL	**Mosul**	**1.81**	**101**	*e*x	x	04 12 58.0	
MSL				*i* x	x	04 13 21.5	
URFA	**Urfa**	**1.83**	**296**	*e*PN	**Pn**	**04 12 57.4**	**-1.2**
URFA				*e*SN	**Sn**	**04 13 22.2**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.13**	**324**	*e*PN	**Pn**	**04 13 01.9**	**-0.9**
ATAB	**Bozova**	**2.23**	**292**	*i* P	**Pn**	**04 13 00.9**	**-3.2**
ATAB	**Bozova**	**2.23**	**292**	*i* P	**Pn**	**04 13 00.9**	**-3.2**
ATAB				*i* S	**Sb**	**04 13 35.2**	**0.0**
ELZG	**Elazig**	**2.38**	**321**	*i* P	**Pg**	**04 13 14.3**	**+1.4**
HAKT	**HAKKARI**	**2.42**	**67**	*i* P	**Pn**	**04 13 04.7**	**-2.1**
HAKT				*i* S	**Sn**	**04 13 36.8**	**+0.3**
PTK	**Pertek**	**2.53**	**332**	*e*PN	**Pn**	**04 13 07.5**	**-0.7**
MALT	**Malatya**	**2.56**	**311**	*e*PN	**Pn**	**04 13 08.4**	**-0.4**
MYA	**Malataya**	**2.57**	**311**	*e*PN	**Pn**	**04 13 08.6**	**-0.3**
GAZ	**Gaziantep**	**2.99**	**281**	*e*PN	**Pn**	**04 13 15.6**	**+1.0**
KMRS	**Kahramanmaras**	**3.30**	**286**	*e*PN	**Pn**	**04 13 19.8**	**+0.9**
KOZT	**Kozan**	**4.13**	**283**	*e*PN	**Pn**	**04 13 31.7**	**+1.4**

BJI ***24*** *04:14:13.4,907S×10687E,h28km,mB4.7,mb4.8,Ms4.5, Msz4.2*
IDC ***24*** *04:14:17.9±0.5,792S×10730E,h0km,mb4.7/14, mb1 4.8/16,mb1mx4.7/23,mbtmp4.7/16,ML4.3/2,MS3.9/8, Ms1 3.9/8,ms1mx3.6/27, Error ellipse: s-maj=23.3km s-min=12.8km az=56.0*
NEIC ***24*** *04:14:18.4±2.6,8.10S×107.10E,h8km±16km,mb4.9/26, Error ellipse: s-maj=8.4km s-min=5.8km az=222.0*
NEIC Felt [III] at Purwakarta and [II] at Bandung, Cikarang and Jakarta.
MOS ***24*** *04:14:21.5±1.4,785S×10730E,h33km,mb5.1/20, Error ellipse: s-maj=15.9km s-min=7.1km az=120.4*
ISCJB ***24*** *04:14:22.9±0.5,840S±004×10709E±003,h59km±4km, mb4.8/59,MS4.0/19, Error ellipse: s-maj=6.7km s-min=4.7km az=40.5*
DJA ***24*** *04:14:24,823S×107.18E,h19km,ML5.2/16*
ISC 24 04:14:24.2±0.5,839S±003×**10706E**±003,**h54**km±4km, **h51**km±3.4km**:pP-P,n201,**σ**1§48/**161,**mb4.8**/59,**MS4.0**/19, **11C-8D,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.47**	**340**	P	**Pn**	**04 14 47.0**	**-1.4**
	0.0nm,0.0s						
LEM	**Lembang**	**1.65**	**20**	P	**Pn**	**04 14 49.6**	**-1.3**
	0.0nm,0.0s						
DBJI	**Dramaga**	**1.85**	**351**	P	**Pn**	**04 14 54.4**	**+0.8**
	0.0nm,0.0s						
CLJI	**Cilicap**	**2.05**	**71**	P	**Pn**	**04 14 54.6**	**-1.7**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**2.24**	**33**	P	**Pn**	**04 14 55.6**	**-3.3**
	0.0nm,0.0s						
TNG	**Tangerang**	**2.24**	**350**	P	**Pn**	**04 15 01.4**	**+2.4**
	0.0nm,0.0s						
SBJI	**Serang**	**2.44**	**338**	P	**Pn**	**04 15 02.6**	**+1.0**
	0.0nm,0.0s						
XMIS	**Christmas Isla**	**2.50**	**214**	*e*Pn	**Pn**	**04 15 03.2**	**+0.8**
XMIS				*e*Sn	**Sn**	**04 15 28.1**	**-3.5**
BJII	**Banjamegara**	**2.83**	**68**	P	**Pn**	**04 15 05.1**	**-1.9**
	0.0nm,0.0s						
BLSI	**Bandar Lampung**	**3.50**	**329**	P	**Pn**	**04 15 19.3**	**+3.1**
	0.0nm,0.0s						
KLI	**Kotabumi**	**4.13**	**328**	P	**Pn**	**04 15 27.7**	**+2.8**
	0.0nm,0.0s						
SJI	**Sawahan**	**4.71**	**82**	P	**Pn**	**04 15 33.5**	**+0.7**
	0.0nm,0.0s						
KRKI	**Karangkates**	**5.35**	**88**	P	**Pn**	**04 15 43.0**	**+1.5**
	0.0nm,0.0s						
TPI	**Tanjungpandan**	**5.63**	**6**	P	**Pn**	**04 15 46.1**	**+0.7**
	0.0nm,0.0s						
PPBI	**Pangkal Pinang**	**6.26**	**352**	P	**Pn**	**04 15 55.1**	**+1.1**
	0.0nm,0.0s						
KSI	**Kapahiang**	**6.47**	**316**	P	**Pn**	**04 15 59.5**	**+2.5**
	0.0nm,0.0s						
KMMI	**Kalianget**	**6.98**	**79**	P	**Pn**	**04 16 02.1**	**-1.8**
	0.0nm,0.0s						
NBBI	**Negara**	**7.48**	**90**	P	**Pn**	**04 16 12.5**	**+1.7**
	0.0nm,0.0s						
IGBI	**Denpasar**	**8.01**	**94**	P	**Pn**	**04 16 17.3**	**-0.8**
	0.0nm,0.0s						
KHKI	**Kahang-Kahang**	**8.46**	**90**	P	**Pn**	**04 16 23.0**	**-1.2**
	0.0nm,0.0s						
MTNI	**Mataram**	**9.02**	**92**	P	**Pn**	**04 16 30.2**	**-1.7**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**10.30**	**320**	P	**Pn**	**04 16 52.1**	**+2.6**
	0.0nm,0.0s						
KSM	**Kuching**	**10.32**	**18**	⇑P	**Pn**	**04 16 50.7**	**+1.0**
KSM	**Kuching**	**10.32**	**18**	*e*Pn	**Pn**	**04 16 49.2**	**-0.6**
COCO	**West Island**	**10.74**	**249**	*e*P	**Pn**	**04 16 52.5**	**-3.0**
KGM	**Kluang**	**10.99**	**340**	⇓P	**Pn**	**04 17 07.5**	**+8.6**
SBUM	**Sibu**	**11.94**	**26**	⇑P	**Pn**	**04 17 15.1**	**+3.3**
FRIM	**Kepong**	**12.76**	**335**	⇑P	**Pn**	**04 17 32.8**	**+10**
BTM	**Bintulu**	**12.99**	**28**	⇑P	**Pn**	**04 17 27.7**	**+1.6**
KAPI	**Kappang**	**13.05**	**76**	*e*Pn	**Pn**	**04 17 25.5**	**-1.5**
PSI	**Prapat**	**13.76**	**324**	Pn	**Pn**	**04 17 29.9**	**-6.8**
	0.5nm,0.3s,baz=101,slow=18,SNR=4.4						
KTGM	**Kuala Trenggan**	**14.18**	**344**	⇑P	**Pn**	**04 17 46.5**	**+4.2**
PCI	**Palu**	**14.74**	**60**	P	**Pn**	**04 17 49.9**	**+0.2**
	0.0nm,0.0s						
KDI	**Kendari**	**16.08**	**75**	P	**Pn**	**04 18 08.3**	**+1.3**
	0.0nm,0.0s						
BATI	**Baumata**	**16.49**	**98**	P	**Pn**	**04 18 11.5**	**-0.6**
	0.0nm,0.0s						
BATI	**Baumata**	**16.49**	**98**	Pn	**Pn**	**04 18 07.3**	**-4.8**
	3.4nm,0.3s,baz=270,slow=8.1,SNR=2.5						
BATI				Sn	**Sn**	**04 21 03.5**	**-11**
	2.5nm,0.3s,baz=252,slow=20,SNR=2.6						
TSM	**Tawau**	**16.59**	**41**	⇑P	**Pn**	**04 18 12.9**	**-0.4**
KKM	**Kota Kinabalu**	**17.00**	**33**	⇑P	**Pn**	**04 18 19.8**	**+1.3**
KKM	**Kota Kinabalu**	**17.00**	**33**	*e*Pn	**Pn**	**04 18 14.1**	**-4.3**
KKM				*e*pPn		04 18 22.4	
SDKM	**Sandakan**	**17.22**	**36**	⇑P	**Pn**	**04 18 20.4**	**-0.8**
MBWA	**Marble Bar**	**17.62**	**137**	*e*P	**Pn**	**04 18 24.7**	**-1.4**
	74nm,1.4s						
MYLDM	**Lahad Datu**	**17.66**	**41**	⇓P	**Pn**	**04 18 28.7**	**+2.1**
KDM	**Kudat**	**18.06**	**33**	⇓P	**Pn**	**04 18 28.9**	**-2.6**
FITZ	**Fitzroy Crossi**	**20.48**	**120**	⇓*i*P	**P**	**04 18 58.6**	**+0.8**
	95nm,0.7s						
FITZ				*e*S	**S**	**04 22 33.0**	**-11**
FITZ	**Fitzroy Crossi**	**20.48**	**120**	P	**P**	**04 18 58.8**	**+1.0**
	60nm,0.8s,baz=290,slow=7.9,SNR=216						
FITZ				S	**S**	**04 22 34.4**	**-10**
	1.8nm,0.6s,baz=210,slow=20,SNR=3.1						
FITZ				LR	LR	04 26 48.2	
	comp=Z,164nm,20.1s,MS3.4,baz=297,slow=37						
AAI	**Ambon**	**21.53**	**79**	P	**P**	**04 19 11.5**	**+2.4**
	0.0nm,0.0s						
LBMI	**Labuha**	**21.77**	**70**	P	**P**	**04 19 13.3**	**+1.6**
	0.0nm,0.0s						
SGSI	**Sangihe**	**21.98**	**58**	P	**P**	**04 19 15.7**	**+1.7**
	0.0nm,0.0s						
DAV	**Davao City (W)**	**24.02**	**51**	LR	LR	04 29 16.4	
	comp=Z,146nm,20.7s,MS3.4,baz=173,slow=38						

KAKA	**Kakadu**	**25.31**	**102**	*e*P	**P**	**04 19 44.9**	**-1.2**
	20nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**26.17**	**160**	LR	LR	04 29 01.8	
	comp=Z,451nm,20.8s,MS4.0,baz=256,slow=33						
QIZ	**Qiongzhong**	**27.39**	**6**	P	**P**	**04 20 04.6**	**-0.1**
QIZ				AP	pP	04 20 15.8	-2.5
QIZ				XP	sP	04 20 20.9	-3.8
QIZ				S	**S**	**04 24 43.3**	**+2.1**
QIZ				LR	LR		
	comp=N,251nm,19.3s						
QIZ				LR	LR		
	comp=Z,198nm,19.3s,MS3.7						
CMAR	**Chiang Mai Arr**	**27.86**	**343**	P	**P**	**04 20 05.2**	**-3.7**
	comp=Z,5.0nm,0.6s,mb4.3,baz=180,slow=8.7,SNR=18						
CMAR				LR	LR	04 30 54.9	
	comp=Z,125nm,20.9s,MS3.5,baz=160,slow=36						
CHTO	**Chiang Mai**	**28.19**	**344**	*e*P	**P**	**04 20 08.1**	**-3.8**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
CHTO	**Chiang Mai**	**28.19**	**344**	*e*P	**P**	**04 20 08.1**	**-3.9**
	comp=Z,3.4nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**28.78**	**116**	P	**P**	**04 20 17.4**	**+0.1**
	comp=Z,6.5nm,0.6s,mb4.5,baz=290,slow=11,SNR=13						
WRA				PcP	PcP	04 23 27.0	+0.7
	comp=Z,0.5nm,0.6s,baz=303,slow=2.1,SNR=2.9						
WRAB	**Tennant Creek**	**28.79**	**116**	*e*P	**P**	**04 20 17.7**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**28.79**	**116**	*e*P	**P**	**04 20 17.7**	**+0.4**
	comp=Z,15nm,1.0s,mb4.7						
WB2	**Warramunga Arr**	**28.80**	**116**	*e*P	**P**	**04 20 17.2**	**-0.1**
FORT	**Forrest**	**29.68**	**141**	*e*P	**P**	**04 20 26.2**	**+1.1**
	comp=Z,9.8nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**29.86**	**124**	P	**P**	**04 20 27.6**	**+0.9**
	comp=Z,5.2nm,1.0s,mb4.2,baz=300,slow=8.4,SNR=32						
PALK	**Pallekele**	**30.54**	**300**	*e*P	**P**	**04 20 33.0**	**+0.2**
PALK				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.0						
PALK	**Pallekele**	**30.54**	**300**	*e*P	**P**	**04 20 33.0**	**+0.1**
	comp=Z,34nm,1.4s,mb5.0						
KMI	**Kunming**	**33.58**	**353**	P	**P**	**04 21 01.3**	**+2.0**
KMI				AP	pP	04 21 12.8	-0.3
KMI				PP	PP	04 22 14.9	-1.3
KMI				S	**S**	**04 26 19.8**	**+1.8**
KMI				XS	sS	04 26 42.3	+1.0
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
KMI				AMB	AMB		
	comp=Z,53nm,6.0s						
KMI				LR	LR		
	comp=N,236nm,18.2s,MS4.0						
KMI				LR	LR		
	comp=E,111nm,16.1s,MS4.0						
KMI				LR	LR		
	comp=Z,264nm,19.0s,MS4.0						
GYA	**Guiyang**	**34.64**	**359**	P	**P**	**04 21 06.3**	**-2.3**
GYA				XP	sP	04 21 23.8	-4.9
GYA				PP	PP	04 22 28.9	+0.9
GYA				PCP	PcP	04 23 43.3	+1.3
GYA				S	**S**	**04 26 36.4**	**+1.9**
GYA				XS	sS	04 26 58.8	+1.0
GYA				SCP	ScP	04 27 23.8	+0.9
GYA				SCS	ScS	04 31 25.0	-1.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
GYA				AMB	AMB		
	comp=Z,70nm,5.6s						
GYA				LR	LR		
	comp=N,480nm,17.8s,MS4.4						
GYA				LR	LR		
	comp=E,460nm,18.0s,MS4.4						
GYA				LR	LR		
	comp=Z,460nm,18.6s,MS4.2						
COEN	**Coen**	**35.83**	**102**	*e*P	**P**	**04 21 18.3**	**-0.7**
	comp=Z,5.4nm,0.8s,mb4.5						
HYB	**Hyderabad**	**38.09**	**312**	*i* P	**P**	**04 21 39.0**	**+0.9**
HYB	**Hyderabad**	**38.09**	**312**	*e*P	**P**	**04 21 39.0**	**+0.9**
HYB				*e*		04 21 59.0	
CD2	**Chengdu**	**39.20**	**356**	*e*P	**P**	**04 21 47.8**	**+0.6**
CD2				AP	pP	04 21 59.8	-1.4
CD2				PP	PP	04 23 23.3	+5.2
CD2				S	**S**	**04 27 44.8**	**+1.0**
CD2				XS	sS	04 28 05.3	-2.0
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
CD2				AMB	AMB		
	comp=Z,100nm,6.2s						
CD2				LR	LR		
	comp=N,320nm,24.0s,MS4.2						
CD2				LR	LR		
	comp=E,310nm,22.8s,MS4.2						
CD2				LR	LR		
	comp=Z,360nm,21.6s,MS4.2						
PMG	**Port Moresby**	**39.62**	**95**	*e*P	**P**	**04 21 52.1**	**+1.1**
PMG				pmax	pmax		
	comp=Z,14nm,0.8s						
PMG	**Port Moresby**	**39.62**	**95**	*e*P	**P**	**04 21 52.1**	**+1.1**
	comp=Z,14nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**39.63**	**111**	*e*P	**P**	**04 21 50.1**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.5						
CTAO	**Charters Tower**	**39.63**	**111**	*e*P	**P**	**04 21 50.1**	**-0.9**
	comp=Z,15nm,1.4s,mb4.5						
STKA	**Stephens Creek**	**39.68**	**131**	⇓*i*P	**P**	**04 21 52.7**	**+1.4**
	comp=Z,37nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**39.68**	**131**	P	**P**	**04 21 52.9**	**+1.6**
	comp=Z,47nm,0.7s,mb5.3,baz=304,slow=8.0,SNR=102						
STKA				LR	LR	04 39 25.6	
	comp=Z,232nm,18.1s,MS4.1,baz=116,slow=38						
LSA	**Lhasa**	**40.85**	**339**	P	**P**	**04 21 57.8**	**-3.1**
LSA	**Lhasa**	**40.85**	**339**	*e*P	**P**	**04 21 58.8**	**-2.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
LSA	**Lhasa**	**40.85**	**339**	*e*P	**P**	**04 21 58.8**	**-2.1**
	comp=Z,6.9nm,0.5s,mb4.5						
SSE	**Sheshan**	**41.53**	**18**	P	**P**	**04 22 06.0**	**-0.5**
SSE				S	**S**	**04 28 20.3**	**+1.7**
SSE				XS	sS	04 28 43.3	+1.1
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,51nm,3.8s						
SSE				LR	LR		
	comp=N,170nm,20.4s,MS4.1						
SSE				LR	LR		
	comp=E,198nm,20.4s,MS4.1						
SSE				LR	LR		
	comp=Z,279nm,20.4s,MS4.1						
NJ2	**Nanjing**	**41.77**	**15**	*e*P	**P**	**04 22 09.8**	**+1.4**
NJ2				PP	PP	04 23 49.3	+3.4
NJ2				S	**S**	**04 28 24.5**	**+2.5**
NJ2				XS	sS	04 28 43.5	-2.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,10.0nm,5.2s						
NJ2				LR	LR		
	comp=N,190nm,18.9s,MS4.3						
NJ2				LR	LR		
	comp=E,360nm,22.3s,MS4.3						
NJ2				LR	LR		
	comp=Z,330nm,22.7s,MS4.2						
XAN	**Xi'an**	**42.23**	**2**	P	**P**	**04 22 08.0**	**-4.2**
XAN				AP	pP	04 22 20.1	-6.1
XAN				XP	sP	04 22 25.6	-6.9
XAN				SCS	ScS	04 32 05.5	-4.1
XAN				AMB	AMB		
	comp=Z,2.0nm,0.5s,mb4.0						
XAN				AMB	AMB		
	comp=Z,43nm,5.3s						
XAN				LR	LR		
	comp=N,60nm,14.4s,MS4.0						
XAN				LR	LR		
	comp=E,141nm,15.1s,MS4.0						
XAN				LR	LR		
	comp=Z,179nm,16.8s,MS4.0						
POO	**Poona**	**42.30**	**309**	*e*x	x	04 22 15.0	
LZH	**Lanzhou**	**44.34**	**356**	*e*P	**P**	**04 22 30.0**	**+0.8**
LZH				AP	pP	04 22 41.3	-2.0
LZH				XP	sP	04 22 46.4	-3.1
LZH				PCP	PcP	04 24 12.0	-0.5
LZH				PP	PP	04 24 15.0	+1.5
LZH				*e*S	**S**	**04 29 01.3**	**+1.7**
LZH				XS	sS	04 29 21.3	-2.2
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,80nm,5.9s						
LZH				LR	LR		
	comp=E,275nm,13.9s						
LZH				LR	LR		
	comp=Z,303nm,14.3s,MS4.4						
EIDS	**Eidsvold**	**45.14**	**117**	*e*P	**P**	**04 22 39.9**	**+4.1**
CAN	**Canberra**	**46.74**	**131**	*e*P	**P**	**04 22 49.3**	**+1.1**
NDI	**New Delhi**	**46.77**	**323**	*e*P	**P**	**04 22 46.0**	**-2.5**
CNB	**Canberra Magne**	**47.01**	**131**	*e*P	**P**	**04 22 52.7**	**+2.4**
BJI	**Beijing**	**48.92**	**9**	P	**P**	**04 23 05.4**	**+0.5**
BJI				XP	sP	04 23 22.3	-3.1
BJI				S	**S**	**04 30 08.0**	**+3.0**
BJI				SS	SS	04 33 40.4	+3.8
BJI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
BJI				AMB	AMB		
	comp=Z,80nm,3.8s						
BJI				LR	LR		
	comp=Z,91nm,21.7s,MS3.7						
HHC	**Hu-ho-hao-te**	**49.17**	**5**	*e*P	**P**	**04 23 07.6**	**+0.8**
HHC				AP	pP	04 23 20.1	-1.1
HHC				PCP	PcP	04 24 31.3	+1.8
HHC				PP	PP	04 25 02.1	+1.0
HHC				SCP	ScP	04 28 19.8	-0.5
HHC				PCS	PcS	04 28 26.3	+0.5
HHC				S	**S**	**04 30 08.8**	**+0.3**
HHC				XS	sS	04 30 30.3	-2.3
HHC				SCS	ScS	04 32 53.1	-1.0
HHC				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.2						
HHC				AMB	AMB		
	comp=Z,65nm,5.6s						
HHC				LR	LR		
	comp=N,241nm,12.1s						
HHC				LR	LR		
	comp=E,359nm,17.8s						
HHC				LR	LR		
	comp=Z,457nm,24.9s						
KSRS	**Korea Array**	**49.61**	**22**	LR	LR	04 45 14.9	
	comp=Z,68nm,18.5s,MS3.7,baz=106,slow=38						
MJAR	**Matsushiro Arr**	**53.42**	**31**	LR	LR	04 46 52.2	
	comp=Z,80nm,19.2s,MS3.8,baz=5.0,slow=37						
CN2	**Changchun**	**54.56**	**16**	*e*P	**P**	**04 23 49.3**	**+2.4**
WMQ	**Urumqi**	**54.86**	**343**	P	**P**	**04 23 48.9**	**-0.1**
WMQ				AP	pP	04 24 01.5	-2.1
WMQ				XP	sP	04 24 06.8	-2.9
WMQ				PCP	PcP	04 24 51.1	+0.4
WMQ				PP	PP	04 25 53.3	+0.8
WMQ				*e*S	**S**	**04 31 24.1**	**-2.2**
WMQ				SCS	ScS	04 33 30.8	-2.7
WMQ				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.1						
WMQ				LR	LR		
	comp=N,123nm,19.6s,MS4.4						
WMQ				LR	LR		
	comp=E,314nm,18.4s,MS4.4						
WMQ				LR	LR		
	comp=Z,347nm,17.5s,MS4.5						
SONM	**Songino Array**	**55.98**	**359**	P	**P**	**04 23 54.9**	**-2.2**
	comp=Z,3.9nm,0.8s,mb4.5,baz=171,slow=7.6,SNR=28						
SONM				PcP	PcP	04 24 54.8	-0.1
	comp=Z,5.3nm,0.6s,baz=186,slow=3.9,SNR=12						
ULN	**Ulaanbaatar**	**56.01**	**360**	*e*P	**P**	**04 23 54.8**	**-2.5**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ULN	**Ulaanbaatar**	**56.01**	**360**	*e*P	**P**	**04 23 54.8**	**-2.5**
	comp=Z,4.5nm,0.7s,mb4.6						
MDJ	**Mudanjiang**	**56.55**	**19**	P	**P**	**04 24 01.8**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,21nm,4.8s						
TKM2	**Tokmak 2**	**58.56**	**333**	*e*P	**P**	**04 24 13.6**	**-1.8**
TKM2				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
TKM2	**Tokmak 2**	**58.56**	**333**	*e*P	**P**	**04 24 13.6**	**-1.8**
	comp=Z,12nm,0.6s,mb5.1						
ZAK	**Zakamensk**	**58.62**	**357**	*e*P	**P**	**04 24 15.6**	**0.0**
AML	**Almayashu**	**58.81**	**331**	*e*P	**P**	**04 24 15.7**	**-1.4**
	comp=Z,5.6nm,0.6s,mb4.8						
OPO	**Ambohidratompo**	**58.87**	**253**	P	**P**	**04 24 22.1**	**+4.1**
	comp=Z,2.4nm,0.7s,mb4.3,baz=187,slow=4.8,SNR=3.1						
EKS2	**Erkin-Say**	**59.19**	**332**	*e*P	**P**	**04 24 19.1**	**-0.6**
	comp=Z,4.7nm,0.7s,mb4.6						
MK31	**Makanchi Array**	**59.21**	**340**	*e*P	**P**	**04 24 18.1**	**-1.7**
MKAR	**Makanchi Array**	**59.21**	**340**	P	**P**	**04 24 17.6**	**-2.1**
	comp=Z,3.9nm,0.7s,mb4.6,baz=139,slow=7.7,SNR=25						
TLY	**Talaya**	**59.90**	**358**	*e*P	**P**	**04 24 22.1**	**-2.3**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.4						
TLY				MLR	MLR		
	comp=Z,74nm,16.0s,MS3.9						
KURK	**Kurchatov**	**63.82**	**340**	*e*P	**P**	**04 24 49.6**	**-1.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
KURK	**Kurchatov**	**63.82**	**340**	*e*P	**P**	**04 24 49.6**	**-1.2**
	comp=Z,9.2nm,0.7s,mb4.9						
RPZ	**Rata Peaks**	**65.52**	**134**	LR	LR	04 50 57.0	
	comp=Z,390nm,21.2s,MS4.6,baz=89,slow=34						
MAW	**Mawson**	**66.06**	**197**	*e*P	**P**	**04 25 08.6**	**+3.5**
	comp=Z,7.1nm,0.6s,mb4.9						
MAW	**Mawson**	**66.06**	**197**	P	**P**	**04 25 08.6**	**+3.5**
	comp=Z,6.9nm,0.6s,mb4.9,baz=52,slow=5.7,SNR=34						
MAW	**Mawson**	**66.06**	**197**	*e*P	**P**	**04 25 08.6**	**+3.5**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BOD	**Bodaibo**	**66.22**	**4**	*e*P	**P**	**04 25 03.6**	**-2.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb4.1						
VOSK	**Vostochnaya**	**68.20**	**337**	P	**P**	**04 25 17.2**	**-1.7**
UMR	**Umm Al-Rimmam**	**68.38**	**306**	*e*P	**P**	**04 25 20.9**	**+0.4**
	baz=306						
UMR				AMb	AMB	04 25 22.4	
	comp=Z,45nm,0.6s,mb5.7,baz=306						
NAY	**Al-Naaiem**	**68.64**	**306**	*e*P	**P**	**04 25 22.7**	**+0.6**
	baz=306		

comp=Z,17nm,0.8s,mb5.0
VRSR Storozhevoye 83.01 324 *e*P **P 04 26 43.4 -0.3**
VRSR pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
VRSR pmax pmax
comp=N,2.0nm,0.6s
VRSR pmax pmax
comp=E,2.0nm,0.8s
OBN Obninsk 85.92 327κ *i*P **P 04 26 58.6 +0.3**
OBN *PP pP 04 27 12.0 -1.7
OBN *e* 04 37 26.7
OBN pmax pmax
comp=Z,13nm,0.6s,mb5.3
OBN smax
comp=E,28nm,0.7s
KLMR Klimovskoe 86.64 333 P **P 04 27 00.9 -0.8**
KLMR pmax pmax
comp=Z,24nm,1.7s,mb5.2
TSUM Tsumeb 86.79 251 *e*P **P 04 27 03.3 -0.1**
comp=Z,16nm,1.4s,mb5.1
SNAA Sanae 88.22 197 *e*P **P 04 27 12.6 +3.4**
SNAA *e* 04 27 18.8
SNAA *e* pP 04 27 30.2 +5.5
SNAA Sanae 88.22 197 *e*P **P 04 27 12.6 +3.4**
SNAA *e* pP 04 27 30.2 +5.5
SNAA pmax pmax
comp=Z,21nm,1.3s
SNAA Sanae 88.22 197 *e*P **P 04 27 12.6 +3.3**
comp=Z,21nm,1.3s,mb5.2
SNAA *e* pP 04 27 30.2 +5.5
AKASG Malin Array Be 88.81 322 P **P 04 27 13.8 +1.5**
comp=Z,1.5nm,0.6s,mb4.5,baz=88,slow=4.6,SNR=7.4
VNA2 Neumayer--Watz 89.87 197 *e*P **P 04 27 20.6 +3.6**
VNA2 *e* 04 27 26.6
VNA2 *e* pP 04 27 38.3 +5.8
VNA3 Neumayer Olymp 90.39 197 *e*P **P 04 27 22.6 +3.2**
VNA3 *e* 04 27 28.1
VNA3 *e* pP 04 27 40.5 +5.6
JOF Joensuu 91.00 334 *e*p **P 04 27 22.3 0.0**
comp=Z,4.2nm,0.6s,mb5.0
JOF Joensuu 91.00 334 *e*p **P 04 27 22.3 0.0**
comp=Z,4.2nm,0.6s,mb5.0
KAF Kangasniemi 93.05 332 *e*p **P 04 27 31.9 +0.1**
comp=Z,3.0nm,0.6s,mb4.9
KAF Kangasniemi 93.05 332 *e*p **P 04 27 31.9 +0.1**
comp=Z,3.0nm,0.6s,mb4.9
KAF Kangasniemi 93.05 332 *e*P **P 04 27 31.9 +0.1**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
PSZ Piszkesteto 94.26 318 *e*P **P 04 27 35.3 -2.4**
PSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
PSZ Piszkesteto 94.26 318 *e*P **P 04 27 35.3 -2.3**
comp=Z,3.4nm,0.7s,mb4.9
ARCES ARCESS Array B 94.85 340 P **P 04 27 39.6 -0.3**
comp=Z,4.9nm,1.0s,mb4.9,baz=78,slow=6.3,SNR=6.3
SSF Saint Saulge 105.33 316 *e*P PKiKP 04 32 39.6 -1.5
AVF Avril sur Loir 105.45 316 *e*P PKiKP 04 32 40.8 -0.5
YKA Yellowknife Ar 118.14 20 PKP PKPdf 04 33 05.6 +0.7
comp=Z,0.6nm,0.7s,baz=326,slow=1.5,SNR=3.6
EDM Edmonton 124.67 28 *e*PKIKP PKPdf 04 33 18.3 +0.6
WVOR Wild Horse Val 127.53 42 *e*PKIKP PKPdf 04 33 23.2 -0.3
NVAR Mina Array Bea 129.48 46 PKP PKPdf 04 33 29.8 +2.4
comp=Z,0.6nm,0.7s,baz=224,slow=2.5,SNR=3.1
HLID Hailey 129.68 39 *e*PKPdf PKPdf 04 33 28.6 +1.0
BOZ Bozeman (W) 130.18 35 *e*PKIKP PKPdf 04 33 29.7 +1.2
BOZ *e* 04 33 46.2
ELK Elko 130.57 42 *e*PKIKP PKPdf 04 33 28.8 -0.6
DUG Dugway 132.45 42 *e*PKIKP PKPdf 04 33 31.7 -1.3
PDAR Pinedale Array 133.07 37 PKP PKPdf 04 33 35.6 +1.5
comp=Z,0.4nm,0.6s,baz=323,slow=2.3,SNR=2.6
SDCO Great Sand Dun 138.54 40 *e*PKPdf PKPdf 04 33 45.0 +0.6
CPUP Villa Florida 142.30 203 PKhKP 04 33 49.7
comp=Z,0.7nm,0.5s,baz=158,slow=1.3,SNR=4.4
CPUP Villa Florida 142.30 203 *e*PKPdf PKPdf 04 33 49.6 -2.0
TXAR Lajitas Array 144.43 50 PKP PKPdf 04 33 56.5 +1.4
comp=Z,1.4nm,0.8s,baz=263,slow=0.9,SNR=7.8
MDV Middlebury 144.53 0 *e*PKPdf PKPdf 04 33 53.5 -1.4
NCB Newcomb 144.54 2 *e*PKPdf PKPdf 04 33 53.5 -1.4
WMOK Wichita Mounta 144.65 38 *e*PKIKP PKPdf 04 33 54.4 -1.0
WMOK *e* 04 34 10.3
BDFB Brasilia 145.65 226 PKPbc PKPbc 04 34 01.2 +3.3
comp=Z,1.6nm,0.5s,baz=130,slow=2.5,SNR=8.5
SLM Saint Louis 146.10 25 *e*PKP2 PKPab 04 33 58.3 -1.1
BINY Binghamton 146.22 4 *e*PKPbc PKPbc 04 33 58.9 -0.1
FVM French Village 146.57 26 *e*PKIKP PKPdf 04 33 57.8 -0.8
BRYW Bryant College 146.59 358 *e*PKPbc PKPbc 04 34 00.1 +0.1
JCT Junction City 146.64 45 *e*PKP2 PKPab 04 34 01.0 -0.7
OLIL Olney 146.85 22 *e*PKPbc PKPbc 04 34 01.1 +0.2
BLO Bloomington 147.02 20 *e*PKP2 PKPab 04 34 01.2 -1.7
ACSO Alum Creek Sta 147.05 14 *e*PKPbc PKPbc 04 34 01.1 -0.3
SIUC Southern Illin 147.31 24 *e*PKPab PKPbc 04 34 01.4 -0.9
PAL Palisades 147.51 1 *e*PKP2 PKPbc 04 34 01.3 -1.4
MIAR Mount Ida 147.80 33 *e*PKP2 PKPab 04 34 03.8 -2.3
WCI Wyandotte Cave 147.94 20 *e*PKP2 PKPab 04 34 03.9 -2.7
PARMO Parma 147.97 26 *e*PKPbc PKPbc 04 34 04.3 +0.3
MCWV Mont Chateau 148.26 10 *e*PKPbc PKPbc 04 34 05.2 +0.5
UALR University of 148.27 31 *e*PKPbc PKPbc 04 34 05.1 +0.1
MVL Millersville 148.38 5 *e*PKPdf PKPdf 04 33 55.8 -5.8
HKT Hockley 149.67 42 *e*PKP2 PKPbc 04 34 09.3 +0.7
OXF Oxford 149.92 28 *e*PKP2 PKPbc 04 34 08.6 -0.5
PLAL Pickwick Lake 150.12 25 *e*PKPbc PKPbc 04 34 09.2 -0.4
TZTN Tazewell 150.36 17 *e*PKPbc PKPbc 04 34 10.7 +0.6
ELN Prospectdale 150.43 13 *e*PKPbc PKPbc 04 34 10.4 +0.2
URVA University of 150.66 7 *e*PKPbc PKPbc 04 34 10.9 +0.2
URVA *e*PKPab PKPab 04 34 16.9 -0.6
SWET Sewanee 150.77 22 *e*PKPbc PKPbc 04 34 10.8 -0.3
CPCT Cooper Cave 151.06 20 *e*PKPbc PKPbc 04 34 12.2 +0.5
TKL Tuckaleechee C 151.11 18 *e*PKIKP PKPbc 04 34 12.3 +0.4
GOGA Godfrey 153.27 20 *e*PKIKP PKPbc 04 34 17.6 +0.8
LPAZ La Paz 155.02 191 PKPab PKPab 04 34 40.3 +3.9
comp=Z,4.3nm,1.1s,baz=158,slow=6.4,SNR=8.0
LPAZ La Paz 155.02 191 *e*PKPab PKPab 04 34 39.7 +3.3

CASC 24 04:16:21.9±2.0, 515N×8276W, h35km±107km, MD4.3, 3C-7D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**3.28**	**5**	*e*P	Pn	04 17 10.9	+0.1
ACR	**Cerro Adams**	**3.51**	**353**	*e*P	Pn	04 17 14.0	0.0
ACR				*e*S	Sn	04 17 55.4	+1.1
BRU2	**Volcan**	**3.62**	**1**	⇓*e*P	Pn	04 17 16.0	+0.4
BRU2				*e*S	Sn	04 17 59.3	+2.1
CTCR	**Cotoan**	**3.73**	**360**	*e*P	Pn	04 17 16.8	-0.1
CTCR				*e*S	Sn	04 18 00.0	+0.4
BAR1		**4.11**	**352**	*e*P	Pn	04 17 22.9	+0.6
CNI	**Changuinola**	**4.25**	**3**	*e*P	Pn	04 17 24.1	-0.1
CNI				*e*S	Sn	04 18 14.0	+1.4
QCR	**Quepos**	**4.47**	**342**	⇓*e*P	Pn	04 17 28.0	+0.7
QCR				*e*S	Sn	04 18 19.3	+1.2
BUS	**Buena Vista**	**4.49**	**347**	⇓*e*P	Pn	04 17 29.4	+1.9
BUS				*e*S	Sn	04 18 20.6	+2.1
LCR2	**La Lucha 2**	**4.73**	**345**	⇓*e*P	Pn	04 17 32.3	+1.5
URSC	**Urasca**	**4.77**	**348**	⇓*e*P	Pn	04 17 32.8	+1.5
URSC				*e*S	Sn	04 18 28.1	+2.7
BCIP	**Isla Barro Col**	**4.93**	**36**	⇑*e*P	Pn	04 17 34.5	+0.9
PRS1	**Puriscal**	**5.05**	**342**	⇑*e*P	Pn	04 17 35.2	+0.1
PRS1				*e*S	Sn	04 18 30.8	-1.4
CGA2	**Cerro Gallo 2**	**5.12**	**341**	⇓*e*P	Pn	04 17 37.6	+1.4
CGA2				*e*S	Sn	04 18 36.3	+2.1
JCR	**Jicaral**	**5.22**	**334**	⇓*e*P	Pn	04 17 38.7	+1.2
VCR	**Vista de Mar**	**5.71**	**330**	⇑*e*P	Pn	04 17 45.7	+1.4
VCR				*e*S	Sn	04 18 48.1	-0.5
PTP	**Ponta Puerca**	**21.20**	**51**	*e*P		04 17 07.7	
PTP				*e*S		04 17 44.6	

NIED ***24*** *04:20:00, 41*°*40N×142.10E, h50km, Mw4.8 Best double couple: M*₀*1.85000×10¹⁶ NP1:*φ*=24.00000°,*δ*78.00000°,*λ*94.00000°. NP2:*φ*=188.00000°,*δ*13.00000°,*λ*74.00000°.*
GCMT ***24*** *04:20:03.1±0.4, 41*°*54N×141*°*85E, h27km±1km, MW5.0/65, Moment Tensor Solution. s22,c28; s65,c89; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.74±.12; Mθθ0.34±.08; Mφφ-1.08±.09; Mrθ1.67±.23; Mθφ-0.44±.06; Mφr3.34±.39; Best double couple: M*₀*3.86400×10¹⁶ NP1:*φ*=174.00000°,*δ*8.00000°,*λ*58.00000°. NP2: φ=27.00000°,δ83.00000°,λ95.00000°. Principal axes: T 3.6610, Plg52.0000°, Azm302.0000°; N 0.4060, Plg5.0000°, Azm206.0000°; P -4.0660, Plg38.0000°,*

Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC ***24*** *04:20:03.1±4.3, 41*°*81N×14*°*28E, h15km±29km, mb4.4/3 Error ellipse: s-maj=14.8km s-min=9.2km az=111.0*
NEIC Recorded [1 JMA] in the Hakodate and Tomakomai areas. Recorded [2 JMA] in Aomori and [1 JMA] in Iwate Prefectures, Honshu.
ISCJB ***24*** *04:20:12.3±0.3, 41*°*47N±0.003×142.13E±0.004, h65km±3km, mb4.0/20, Error ellipse: s-maj=6.0km s-min=3.5km az=37.7*
MOS ***24*** *04:20:12.4±1.4, 41*°*49N×142*°*32E, h75km, mb4.2/6, MS4.0/5, Error ellipse: s-maj=12.1km s-min=8.4km az=88.4*
JMA ***24*** *04:20:12.3±0.1, 41*°*45N×142.12E, h63km±2km, M4.4*
JMA Felt II J1.
IDC ***24*** *04:20:15.0±1.5, 41*°*45N×142*°*08E, h78km±13km, mb3.7/14, mb1 3.9/18, mb1mx3.9/24, mbtmp3.8/18, MS4.0/23, Ms1 4.0/23, ms1mx3.9/32, Error ellipse: s-maj=17.6km s-min=10.4km az=105.0*

ISC 24 04:20:13.4±0.3, 41°**47N±0.003×142**°**13E±0.004, h59km±3km, n72,σ1 9/07/79, mb4.1/20, MS4.1/19, 3C-8D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.82**	**264**	⇓P	**Pn**	**04 20 28.1**	**-0.8**
JOT				*e*S	**Sn**	**04 20 40.1**	**-0.3**
JKB	**Kayabe**	**0.92**	**297**	⇓P	**Pn**	**04 20 29.2**	**-1.0**
JKB				*e*S	**Sn**	**04 20 42.4**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.93**	**30**	P	**Pn**	**04 20 29.7**	**-0.7**
JNBK				*e*S	**Sn**	**04 20 43.8**	**+0.8**
JEM	**Erimo**	**0.94**	**55**	⇑P	**Pn**	**04 20 29.7**	**-0.9**
JEM				*e*S	**Sn**	**04 20 43.4**	**+0.1**
JTM	**Tenmabayashi**	**1.05**	**230**	⇓P	**Pn**	**04 20 31.4**	**-0.6**
JTM				S	**Sn**	**04 20 46.0**	**+0.1**
JANG	**Nango**	**1.19**	**203**	⇑P	**Pn**	**04 20 32.7**	**-1.2**
JANG				*e*S	**Sn**	**04 20 48.3**	**-0.8**
JNB	**Noboribetsu**	**1.28**	**321**	⇓P	**Pn**	**04 20 34.0**	**-1.1**
JNB				S	**Sn**	**04 20 50.3**	**-1.0**
JSR	**Shiriuchi**	**1.28**	**273**	⇓P	**Pn**	**04 20 34.6**	**-0.5**
JSR				*e*S	**Sn**	**04 20 51.3**	**0.0**
JBT2	**Biratori 2**	**1.31**	**8**	P	**Pn**	**04 20 35.2**	**-0.3**
JBT2				*e*S	**Sn**	**04 20 54.0**	**+1.9**
JEW	**Eniwo**	**1.46**	**340**	⇓P	**Pn**	**04 20 37.2**	**-0.2**
JEW				*e*S	**Sn**	**04 20 55.7**	**+0.3**
JYM2	**Yakumo 2**	**1.46**	**297**	⇓P	**Pn**	**04 20 37.4**	**-0.1**
JCH	**Churui**	**1.47**	**39**	⇓P	**Pn**	**04 20 37.4**	**-0.1**
JCH				*e*S	**Sn**	**04 20 56.5**	**+0.8**
JFR	**Furan**	**1.72**	**11**	P	**Pn**	**04 20 40.7**	**-0.3**
ASAJ	**Asahikawa**	**2.66**	**7**	P	**Pn**	**04 20 55.1**	**+1.3**
	30nm,0.3s,baz=221,slow=12,SNR=27						
ASAJ				S	**Sn**	**04 21 28.1**	**+3.2**
	16nm,0.3s,baz=188,slow=33,SNR=8.0						
ASAJ	**Asahikawa**	**2.66**	**7**	P	**Pn**	**04 20 55.1**	**+1.3**
ASAJ				S	**Sn**	**04 21 28.1**	**+3.2**
ASAJ				pmax	pmax		
	comp=Z,30nm,0.3s						
ASAJ				smax			
	comp=N,16nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.76**	**46**	*e*P	**Pn**	**04 21 07.3**	**-1.4**
YUK				*i* S	**Sn**	**04 21 48.0**	**-3.7**
YUK				pmax	pmax		
	comp=N,350nm,0.4s						
YUK				pmax	pmax		
	comp=Z,440nm,0.4s						
YUK				pmax	pmax		
	comp=E,230nm,0.3s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,960nm,0.5s						
YUK				smax			
	comp=N,6μm,1.2s						
YUK				smax			
	comp=E,5μm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.50**	**4**	⇑*i*P	**Pn**	**04 21 35.5**	**+2.9**
YSS				*e*S	**Sn**	**04 22 34.0**	**-0.4**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				MLR	MLR		
	comp=N,1μm,22.0s						
YSS				MLR	MLR		
	comp=Z,1μm,22.0s						
KUR	**Kuril'sk**	**5.62**	**46**	*e*P	**Pn**	**04 21 31.0**	**-3.3**
KUR				*e*S	**Sn**	**04 22 37.5**	**0.0**
KUR				pmax	pmax		
	comp=N,140nm,0.9s						
KUR				pmax	pmax		
	comp=E,140nm,0.9s						
KUR				pmax	pmax		
	comp=Z,430nm,0.9s						
KUR				smax			
	comp=N,470nm,1.0s						
KUR				smax			
	comp=E,190nm,1.0s						
MAJO	**Matsushiro**	**5.79**	**213**	*e*P	**Pn**	**04 21 40.4**	**+3.7**
MAJO				pmax	pmax		
	comp=Z,26nm,0.6s						
MAJO	**Matsushiro**	**5.79**	**213**	*e*Pn	**Pn**	**04 21 40.4**	**+3.7**
	comp=Z,26nm,0.6s						
MAT	**Matsushiro**	**5.79**	**213**	P	**Pn**	**04 21 37.1**	**+0.4**
MAT				S	**Sn**	**04 22 43.6**	**+1.9**
MJAR	**Matsushiro Arr**	**5.79**	**213**	P	**Pn**	**04 21 38.1**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=21,slow=15,SNR=14						
MJAR				LR	LR	04 24 15.2	
	comp=Z,778nm,21.1s,baz=30,slow=42						
JHJ	**Hachijo jima 2**	**8.54**	**193**	P	**Pn**	**04 22 16.2**	**+1.9**
	comp=Z,1.10nm,0.3s,baz=17,slow=14,SNR=2.6						
JHJ				LR	LR	04 25 55.2	
	comp=Z,270nm,18.7s,baz=275,slow=40						
MDJ	**Mudanjiang**	**9.70**	**293**	*e*Pn	**Pn**	**04 22 36.1**	**+6.1**
	comp=Z,13nm,0.9s						
KLR	**Kul'dur**	**10.64**	**320**	*e*P	**Pn**	**04 22 43.2**	**+0.3**
KLR				*e*		04 24 51.5	
KSRS	**Korea Array**	**11.69**	**255**	P	**Pn**	**04 23 00.2**	**+2.9**
	comp=Z,0.8nm,0.3s,baz=63,slow=14,SNR=14						
KSRS				S	**Sn**	**04 25 13.5**	**+7.4**
	comp=Z,0.5nm,0.3s,baz=67,slow=24,SNR=6.6						
KSRS				LR	LR	04 27 12.1	
	comp=Z,564nm,18.4s,baz=57,slow=36						
PETK	**Petropavlovsk-**	**15.68**	**37**	LR	LR	04 30 04.2	
	comp=Z,237nm,20.6s,baz=234,slow=38						
ULN	**Ulaanbaatar**	**25.59**	**296**	*e*P	**P**	**04 25 37.6**	**+0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
ULN	**Ulaanbaatar**	**25.59**	**296**	*e*P	**P**	**04 25 37.6**	**+0.7**
	comp=Z,3.2nm,0.7s,mb4.0						
SONM	**Songino Array**	**26.03**	**296**	P	**P**	**04 25 42.0**	**+1.1**
	comp=Z,1.6nm,0.6s,mb3.8,baz=89,slow=8.5,SNR=4.6						
SONM				LR	LR	04 36 40.5	
	comp=Z,509nm,18.4s,MS4.1,baz=173,slow=38						
GUMO	**Guam**	**27.88**	**174**	LR	LR	04 36 24.0	
	comp=Z,197nm,21.1s,MS3.7,baz=54,slow=35						
ZAK	**Zakamensk**	**28.17**	**302**	*e*P	**P**	**04 26 01.1**	**+1.1**
ZALV	**Zalesovo Beam**	**39.46**	**308**	P	**P**	**04 27 37.1**	**-0.5**
	comp=Z,2.7nm,0.4s,mb4.3,baz=87,slow=7.4,SNR=5.9						
ZALV				LR	LR	04 44 56.4	
	comp=Z,247nm,18.8s,MS4.1,baz=308,slow=38						
ZAL	**Zalesovo**	**39.47**	**308**	P	**P**	**04 27 37.1**	**-0.6**
MK31	**Makanchi Array**	**42.37**	**298**	*e*P	**P**	**04 28 00.5**	**-1.1**
MKAR	**Makanchi Array**	**42.37**	**298**	P	**P**	**04 28 00.9**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.0,baz=82,slow=9.3,SNR=10						
MKAR				LR	LR	04 46 56.8	
	comp=Z,248nm,20.1s,MS4.1,baz=137,slow=38						
CMAR	**Chiang Mai Arr**	**43.30**	**251**	P	**P**	**04 28 11.2**	**+1.8**
	comp=Z,1.1nm,0.3s,mb4.0,baz=41,slow=7.2,SNR=5.3						
CMAR				LR	LR	04 46 48.0	
	comp=Z,134nm,18.9s,MS3.9,baz=57,slow=37						
KURK	**Kurchatov**	**43.75**	**305**	*e*P	**P**	**04 28 11.7**	**-1.0**
BVAR	**Borovoye Array**	**48.08**	**310**	P	**P**	**04 28 46.2**	**-0.6**
	comp=Z,2.6nm,0.3s,mb4.7,baz=75,slow=9.5,SNR=12						
BVAR				LR	LR	04 50 23.1	
	comp=Z,284nm,19.1s,MS4.3,baz=78,slow=38						
TKM2	**Tokmak 2**	**48.12**	**295**	*e*P	**P**	**04 28 47.3**	**+0.1**
AML	**Almayashu**	**49.73**	**295**	*e*P	**P**	**04 29 00.3**	**+0.8**
	comp=Z,2.5nm,0.6s,mb4.4						
HNR	**Honiara**	**53.24**	**158**	LR	LR	04 50 01.4	
	comp=Z,147nm,19.2s,MS4.0,baz=359,slow=34						
AKTK	**Aktyubinsk**	**56.18**	**310**	P	**P**	**04 29 48.7**	**+1.8**
AKTO	**Aktyubinsk**	**56.18**	**310**	P	**P**	**04 29 48.7**	**+1.8**
	comp=Z,1.3nm,0.7s,mb4.1,baz=79,slow=10,SNR=4.1						
YKA	**Yellowknife Ar**	**59.72**	**32**	P	**P**	**04 30 13.0**	**+1.6**
	comp=Z,0.6nm,0.8s,mb3.7,baz=292,slow=6.6,SNR=3.2						
YKA	**Yellowknife Ar**	**59.72**	**32**	P	**P**	**04 30 13.0**	**+1.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**60.05**	**339**	P	**P**	**04 30 14.1**	**+0.5**
	comp=Z,4.7nm,1.0s,mb4.5,baz=46,slow=7.0,SNR=3.8						
ARCES				LR	LR	04 58 43.2	
	comp=Z,158nm,18.7s,MS4.2,baz=270,slow=38						
ARCES	**ARCESS Array B**	**60.05**	**339**	P	**P**	**04 30 14.1**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,158nm,18.7s						
CTA	**Charters Tower**	**61.37**	**176**	LR	LR	04 53 08.7	
	comp=Z,68nm,20.7s,MS3.8,baz=233,slow=32						
WRA	**Warramunga Arr**	**61.53**	**188**	P	**P**	**04 30 22.6**	**-1.6**
	comp=Z,2.1nm,0.8s,mb4.3,baz=7.8,slow=7.7,SNR=13						
WRA				LR	LR	04 56 43.1	
	comp=Z,79nm,20.8s,MS3.9,baz=90,slow=36						
ASAR	**Alice Springs**	**65.25**	**188**	P	**P**	**04 30 47.5**	**-1.3**
	comp=Z,1.1nm,0.7s,mb4.0,baz=3.8,slow=6.5,SNR=8.2						
NB2	**NORSAR Subarra**	**70.32**	**337**	P	**P**	**04 31 19.3**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=38,slow=6.5						
NOA	**NORSAR Array B**	**70.32**	**337**	P	**P**	**04 31 19.4**	**-0.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=36,slow=6.2,SNR=6.9						
NOA				LR	LR	05 05 12.3	
	comp=Z,105nm,21.9s,MS4.0,baz=10.0,slow=38						
NOA	**NORSAR Array B**	**70.32**	**337**	P	**P**	**04 31 19.5**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,105nm,21.9s						
AKASG	**Malin Array Be**	**71.14**	**322**	P	**P**	**04 31 24.2**	**-1.2**
	comp=Z,1.1nm,0.4s,mb4.1,baz=44,slow=6.1,SNR=8.9						
AKASG				LR	LR	05 05 16.5	
	comp=Z,158nm,18.7s,MS4.3,baz=10.0,slow=38						
AKASG	**Malin Array Be**	**71.14**	**322**	P	**P**	**04 31 24.2**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				MLR	MLR		
	comp=Z,158nm,18.7s						
NVAR	**Mina Array Bea**	**71.92**	**55**	P	**P**	**04 31 30.6**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=284,slow=7.5,SNR=4.9						
STKA	**Stephens Creek**	**72.99**	**180**	LR	LR	04 59 59.1	
	comp=Z,155nm,20.7s,MS4.3,baz=25,slow=33						
PDAR	**Pinedale Array**	**74.19**	**47**	P	**P**	**04 31 43.4**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=282,slow=3.6,SNR=5.0						
PDAR				LR	LR	05 03 09.5	
	comp=Z,85nm,20.8s,MS4.0,baz=124,slow=35						
GERES	**GERESS Array B**	**79.23**	**328**	P	**P**	**04 32 10.3**	**-1.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=60,slow=5.8,SNR=3.2						
GERES				LR	LR	05 10 49.2	
	comp=Z,83nm,18.6s,MS4.1,baz=44,slow=38						
GERES	**GERESS Array B**	**79.23**	**328**	P	**P**	**04 32 10.3**	**-1.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES				MLR	MLR		
	comp=Z,83nm,18.6s						
SCHQ	**Schefferville**	**80.93**	**16**	LR	LR	05 10 22.7	
	comp=Z,87nm,19.1s,MS4.1,baz=322,slow=37						
LOR	**Lormes**	**84.19**	**333**	*e*P	**P**	**04 32 38.0**	**-0.1**
LPL	**La Plagne**	**84.67**	**330**	*e*P	**P**	**04 32 40.5**	**0.0**
LPG	**La Plagne**	**84.67**	**330**	*e*P	**P**	**04 32 40.2**	**-0.4**
	comp=Z,6.7nm,0.8s,mb4.5						
MBDF	**Montbardon**	**85.32**	**330**	*e*P	**P**	**04 32 42.6**	**-1.2**
	comp=Z,6.8nm,0.9s,mb4.5						
PPT	**Papeete**	**86.15**	**117**	LR	LR	05 05 35.1	
	comp=Z,188nm,21.2s,MS4.5,baz=324,slow=32						
TXAR	**Lajitas Array**	**86.99**	**53**	P	**P**	**04 32 52.4**	**+0.1**
	comp=Z,0.4nm,0.8s,mb3.7,baz=241,slow=1.3,SNR=4.7						
KEST	**Kesra**	**91.82**	**323**	LR	LR	05 19 17.7	
	comp=Z,64nm,19.3s,MS4.1,baz=241,slow=39						
ESDC	**Sonseca Array**	**93.54**	**334**	LR	LR	05 21 19.5	
	comp=Z,65nm,20.0s,MS4.1,baz=55,slow=39						
SNAA	**Sanae**	**145.14**	**199**	PKPbc	PKPbc	04 39 41.7	-0.8
	comp=Z,1.1nm,1.0s,baz=106,slow=5.1,SNR=12						
SNAA	**Sanae**	**145.14**	**199**	PKIKP	PKPbc	04 39 41.7	-0.8
SNAA				pmax	pmax		
	comp=Z,1.0nm,1.0s						

JMA ***24*** *04:25:38.1±0.5, 21*°*30N×123.11E, h0km, M3.5*

TAP 24 04:25:37.8, 21°**15N×122**°**66E, h13km±2km, ML3.6, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.08**	**20**	P	Pn	04 26 25.2	-1.0
HATJ				S	Sn	04 27 00.1	-2.8
YOJ	**Yonaguni jima**	**3.31**	**6**	P	Pn	04 26 30.3	+1.0
YOJ				*e*S	Sn	04 27 09.5	+0.9
JKRS	**Kuro-shima**	**3.32**	**22**	P	Pn	04 26 29.2	-0.2
JKRS				S	Sn	04 27 06.5	-2.2
IRIF	**Iriomote-Funau**	**3.32**	**17**	P	Pn	04 26 29.3	-0.2
IRIF				S	Sn	04 27 07.3	-1.5
JIJ	**Ishigaki jima**	**3.48**	**23**	P	Pn	04 26 30.9	-0.7
JIJ				S	Sn	04 27 09.0	-3.7
JTJ	**Tarama**	**3.95**	**28**	P	Pn	04 26 37.4	-0.7
JTJ				S	Sn	04 27 21.8	-2.6

NEIC ***24*** *04:26:21.0±8.4, 23*°*56S×179*°*51W, h550km, mb4.0/4, Error ellipse: s-maj=172.0km s-min=22.0km az=58.0*
IDC ***24*** *04:26:21.8±10.0, 23*°*62S×179*°*62W, h545km±105km, mb3.5/5, mb1 3.6/6, mb1mx3.3/18, mbtmp3.5/6, Error ellipse: s-maj=166.1km s-min=54.0km az=66.0*

ISC 24 04:26:22.9±4.8, 23°**57S±0.02×179**°**8W±0.7, h550km, n11, σ0 59/11, mb4.1/7, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.75**	**190**	P	**P**	**04 29 29.6**	**+0.1**
	1.6nm,0.3s,baz=0.0,slow=3.0,SNR=5.9						
URZ				S	**S**	**04 32 03.1**	**-0.1**
	1.2nm,0.3s,baz=30,slow=20,SNR=4.4						
CTA	**Charters Tower**	**31.70**	**270**	P	**P**	**04 32 02.6**	**+0.5**
	16nm,0.5s,mb4.8,baz=95,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi** 0.0nm,0.0s	**0.72**	**14**	P	Pb	04 38 44.0	-0.1
DBJI	**Dramaga** 0.0nm,0.0s	**1.21**	**18**	P	Pn	04 38 51.4	-0.7
CBJI	**Citeko** 0.0nm,0.0s	**1.36**	**20**	P	Pn	04 38 50.8	-3.5
LEM	**Lembang** 0.0nm,0.0s	**1.51**	**55**	P	Pn	04 38 56.4	+0.1
SBJI	**Serang** 0.0nm,0.0s	**1.60**	**351**	P	Pn	04 38 57.5	0.0
CLJI	**Cilicap** 0.0nm,0.0s	**2.61**	**90**	P	Sn	04 39 42.2	-0.6
BJII	**Banjamegara** 0.0nm,0.0s	**3.32**	**84**	P	Sn	04 40 01.4	+1.0

*ISCJB **24** 04:58:28.7±1.8, 132S±04×760W±04, h65km±13km, mb3.6/6, Error ellipse: s-maj=92.2km s-min=10.2km az=41.4*
*NEIC **24** 04:58:29.4±0.7, 1262S×7553W, h35km, mb3.8/3, Error ellipse: s-maj=35.6km s-min=11.0km az=216.0*
*IDC **24** 04:58:33.2±5.5, 1339S×7591W, h90km±48km, mb3.5/3, mb1 3.6/4, mb1mx3.3/17, mbtmp3.5/4, Error ellipse: s-maj=230.0km s-min=32.7km az=28.0*

ISC 24 04:58:30.5±1.4, 131S±04×759W±04, h57km±15km, n11, σ0§84/12, mb3.8/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.41**	**320**	*e*Pn	**Pn**	**04 58 53.2**	**-0.6**
NNA				*e*Sn	**Sn**	**04 59 06.5**	**-4.8**
ARE	**Arequipa**	**5.45**	**129**	*e*P	**Pn**	**04 59 49.0**	**-0.1**
ARE				*e*S	**Sn**	**05 00 50.0**	**-0.5**
LPAZ	**La Paz** 0.9nm,0.3s,baz=285,slow=10,SNR=36	**8.19**	**114**	P	**Pn**	**05 00 28.3**	**+1.6**
TXAR	**Lajitas Array** 0.2nm,0.7s,mb3.2,baz=155,slow=9.5,SNR=3.6	**49.95**	**328**	P	**P**	**05 07 19.8**	**+1.0**
DUG	**Dugway** 0.5nm,0.6s,mb3.8	**63.10**	**329**	*e*P	**P**	**05 08 52.9**	**+0.7**
HWUT	**Hardware Ranch** 0.5nm,0.6s,mb3.7	**63.57**	**331**	*e*P	**P**	**05 08 54.5**	**-0.7**
RRI2	**Red Ridge** 0.6nm,0.6s,mb3.8	**64.81**	**332**	*e*P	**P**	**05 09 03.7**	**+0.5**
DBIC	**Dimbokro** 1.5nm,0.7s,mb4.0,baz=248,slow=8.2,SNR=3.6	**73.25**	**79**	P	**P**	**05 09 55.2**	**-1.1**
DBIC	**Dimbokro**	**73.25**	**79**	P	**P**	**05 09 55.2**	**-1.1**
TORD	**Torodi Ar. Bea** 1.3nm,0.8s,mb3.9,baz=262,slow=3.8,SNR=11	**81.21**	**74**	P	**P**	**05 10 40.4**	**-0.5**
SONM	**Songino Array** 0.8nm,0.9s,baz=357,slow=3.9,SNR=4.6	**145.29**	**357**	PKPbc	PKPbc	05 18 01.4	-0.3

*IDC **24** 05:28:12.4±1.4, 2037S×17535W, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.1/20, mbtmp4.3/8, ML4.6/1, Error ellipse: s-maj=40.3km s-min=28.4km az=121.0*
*ISCJB **24** 05:28:28.0±2.4, 207S±01×1756W±02, h138km±29km, mb4.1/9, Error ellipse: s-maj=34.5km s-min=19.2km az=23.3*
*NEIC **24** 05:28:30.2±1.5, 2063S×17545W, h152km±18km, mb4.2/3, Error ellipse: s-maj=21.9km s-min=12.1km az=121.0*

ISC 24 05:28:29.8±2.2, 206S±01×1755W±02, h145km±27km, n15, σ0§89/15, mb4.1/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.58**	**28**	Pn	**Pn**	**05 30 17.7**	**+0.1**
AFI				*e*Sn	**Sn**	**05 31 27.6**	**-15**
URZ	**Urewera**	**18.69**	**198**	P	**P**	**05 32 36.6**	**-0.2**
RPZ	**Rata Peaks** 5.5nm,0.6s,mb4.4,baz=34,slow=3.6,SNR=4.2	**25.60**	**203**	P	**P**	**05 33 45.8**	**+0.3**
CTA	**Charters Tower** 1.4nm,0.4s,mb4.0,baz=90,slow=12,SNR=3.6	**35.82**	**264**	P	**P**	**05 35 15.4**	**-0.1**
CTAO	**Charters Tower** 2.3nm,0.5s,mb4.1	**35.82**	**264**	P	**P**	**05 35 16.8**	**+1.2**
STKA	**Stephens Creek** 6.6nm,0.7s,mb4.4,baz=91,slow=9.3,SNR=20	**39.85**	**245**	P	**P**	**05 35 49.7**	**+0.5**
STKA	**Stephens Creek**	**39.85**	**245**	P	**P**	**05 35 49.7**	**+0.5**
ASAR	**Alice Springs** 0.8nm,0.4s,mb3.7,baz=94,slow=8.9,SNR=13	**46.78**	**257**	P	**P**	**05 36 45.4**	**+0.4**
ASAR				PcP	PcP	05 38 17.2	+1.3
WRAB	**Tennant Creek** 0.4nm,0.5s,baz=103,slow=3.8,SNR=5.1	**46.90**	**262**	*e*P	**P**	**05 36 44.5**	**-1.4**
WRA	**Warramunga Arr** 0.5nm,0.3s,mb3.7,baz=96,slow=8.3,SNR=27	**46.91**	**262**	P	**P**	**05 36 45.6**	**-0.5**
WRA				PcP	PcP	05 38 18.4	+2.0
SBA	**Scott Base** 1.3nm,0.7s,mb3.9	**57.90**	**184**	P	**P**	**05 38 10.5**	**+4.5**
MBWA	**Marble Bar** 8.3nm,1.1s,mb4.5	**60.12**	**257**	*e*P	**P**	**05 38 21.7**	**-0.6**
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,mb4.2,baz=127,slow=5.8,SNR=6.5	**92.39**	**289**	P	**P**	**05 41 27.4**	**+2.9**
YKA	**Yellowknife Ar** 0.5nm,0.7s,mb4.0,baz=246,slow=5.4,SNR=2.7	**95.67**	**24**	P	**P**	**05 41 37.9**	**-0.6**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=41,slow=4.1,SNR=4.5	**144.25**	**333**	PKP	PKPdf	05 47 48.0	-0.4

*ISCJB **24** 05:28:29.5±0.5, 2285S±004×6611W±006, h247km±6km, mb3.6/13, Error ellipse: s-maj=9.5km s-min=7.1km az=178.4*
*NEIC **24** 05:28:30.0±0.6, 2279S×6608W, h234km±7km, mb4.0/9, Error ellipse: s-maj=9.7km s-min=8.1km az=70.0*
*IDC **24** 05:28:30.2±0.9, 2277S×6608W, h236km±9km, mb3.3/7, mb1 3.4/13, mb1mx3.4/19, mbtmp3.3/13, Error ellipse: s-maj=16.8km s-min=12.8km az=16.0*
*GUC **24** 05:28:31.3±0.7, 2330S×6633W, h245km, MD3.8*

ISC 24 05:28:30.4±0.5, 2280S±005×6610W±006, h237km±6km, n34, σ1§18/43, mb3.6/13, 1C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde** 76nm,0.3s,baz=93,slow=5.7,SNR=190	**2.60**	**274**	P	**Pn**	**05 29 19.7**	**+2.0**
LVC				S	**S**	**05 29 55.7**	**+0.6**
LVC	**Limon Verde** 80nm,0.3s,baz=242,slow=19,SNR=22	**2.60**	**274**	*e*Pn	**Pn**	**05 29 19.0**	**+1.2**
LVC				S	**S**	**05 29 55.7**	**+0.6**
LVC				*e*S	**S**	**05 29 55.9**	**+0.9**
CEN1	**Los Morros**	**3.82**	**260**	||*i*P	**Pn**	**05 29 34.2**	**+2.8**
CEN1				*i* S	**S**	**05 30 21.1**	**+1.4**
ANCH	**Antofagasta**	**4.06**	**257**	||*i*P	**Pn**	**05 29 35.0**	**+0.7**
ANCH				*i* S	**S**	**05 30 22.7**	**-2.2**
CPN1	**Cerro Paranal**	**4.34**	**244**	||*i*P	**Pn**	**05 29 38.6**	**+1.0**
CPN1				*i* S	**S**	**05 30 29.5**	**-1.6**
CDCH	**Caldera**	**6.04**	**224**	||*i*P	**Pn**	**05 29 57.2**	**-1.5**
CDCH				*i* S	**S**	**05 31 03.7**	**-5.5**
LPAZ	**La Paz** 0.9nm,0.3s,baz=150,slow=8.8,SNR=35	**6.75**	**343**	P	**Pn**	**05 30 08.2**	**+0.4**
LPAZ				S	**S**	**05 31 25.1**	**-0.8**
LCO	**Las Campanas** 14nm,0.4s	**7.44**	**213**	*e*P	**Pn**	**05 30 15.8**	**-0.7**
LCO				*e*S	**S**	**05 31 29.7**	**-12**
ARE	**Arequipa**	**8.09**	**320**	*e*P	**Pn**	**05 30 23.0**	**-1.9**
ARE				*e*S	**S**	**05 31 50.0**	**-7.0**
SIV	**San Ignacio** 1.7nm,0.3s,baz=227,slow=7.9,SNR=82	**8.27**	**36**	P	**Pn**	**05 30 27.2**	**+0.1**
CPUP	**Villa Florida** 0.3nm,0.3s,baz=291,slow=12,SNR=3.0	**8.72**	**116**	P	**Pn**	**05 30 33.4**	**+0.6**
CPUP	**Villa Florida** 12nm,0.5s	**8.72**	**116**	*e*Pn	**Pn**	**05 30 31.6**	**-1.2**
CFAA	**Coronel Fontan** 0.2nm,0.3s,baz=18,slow=13,SNR=38	**8.97**	**192**	P	**Pn**	**05 30 35.5**	**-0.4**
CFAA				S	**S**	**05 32 11.2**	**-6.1**
NNA	**Nana** 1.2nm,0.3s,baz=177,slow=15,SNR=24	**14.84**	**315**	P	**Pn**	**05 31 49.3**	**0.0**
TRQA	**Tornquist** 1.6nm,0.3s,baz=151,slow=11,SNR=3.5	**15.61**	**168**	P	**Pn**	**05 31 59.0**	**+0.7**
BDFB	**Brasilia** 36nm,1.8s	**18.50**	**71**	P	**P**	**05 32 30.4**	**+1.2**
SNAA	**Sanae** 0.5nm,0.3s,baz=239,slow=17,SNR=21	**60.21**	**161**	*e*P	**P**	**05 38 14.4**	**+1.4**
MIAR	**Mount Ida** 1.1nm,0.8s,mb3.5	**62.72**	**335**	P	**P**	**05 38 29.1**	**-1.1**
TXAR	**Lajitas Array** 1.0nm,0.5s,mb3.7	**63.20**	**323**	P	**P**	**05 38 33.1**	**-0.4**
DBIC	**Dimbokro** 0.1nm,0.4s,mb2.8,baz=143,slow=6.7,SNR=4.6	**66.64**	**72**	P	**P**	**05 38 54.2**	**-1.8**
	1.9nm,0.7s,mb3.9,baz=184,slow=12,SNR=4.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**66.64**	**72**	P	**P**	**05 38 54.2**	**-1.8**
SDCO	**Great Sand Dun** 1.1nm,0.8s,mb3.5	**70.71**	**328**	*e*P	**P**	**05 39 21.6**	**+1.1**
TOA0	**Torodi Ar. Sit**	**75.37**	**69**	*e*P	**P**	**05 39 46.5**	**-1.8**
TORD	**Torodi Ar. Bea** 2.9nm,0.4s,mb4.3,baz=257,slow=5.9,SNR=70	**75.37**	**69**	P	**P**	**05 39 47.1**	**-1.2**
PDAR	**Pinedale Array** 0.3nm,0.6s,mb3.1,baz=151,slow=9.5,SNR=3.6	**76.55**	**329**	P	**P**	**05 39 54.9**	**+0.5**
HWUT	**Hardware Ranch** 1.2nm,0.6s,mb3.7	**76.67**	**327**	P	**P**	**05 39 54.7**	**-0.4**
ULM	**Lac du Bonnet** 1.2nm,0.5s,mb3.8,baz=148,slow=5.1,SNR=4.9	**77.36**	**341**	P	**P**	**05 39 58.3**	**-0.3**
NVAR	**Mina Array Bea** 0.2nm,0.6s,mb2.9,baz=154,slow=5.0,SNR=3.1	**78.13**	**321**	P	**P**	**05 40 04.5**	**+1.3**
NVAR	**Mina Array Bea**	**78.13**	**321**	P	**P**	**05 40 04.5**	**+1.3**
HLID	**Hailey** 1.4nm,0.8s,mb3.6	**79.54**	**326**	*e*P	**P**	**05 40 11.3**	**+0.6**
ESDC	**Sonseca Array** 0.2nm,0.3s,mb3.4,baz=235,slow=4.4,SNR=4.6	**84.96**	**43**	P	**P**	**05 40 38.9**	**0.0**
SUMG	**Summit** 2.4nm,1.0s,mb4.4	**96.96**	**8**	P	**P**	**05 41 36.4**	**+2.3**
MK31	**Makanchi Array**	**145.08**	**39**	*e*P	PKPdf	05 47 39.4	+0.1
MKAR	**Makanchi Array** 3.6nm,0.8s,baz=316,slow=3.3,SNR=24	**145.08**	**39**	PKPbc	PKPbc	05 47 39.8	+0.5

IDC 24 06:17:23.8±11.0, 362N×12758E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=185.7km s-min=98.7km az=146.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.5nm,0.5s,baz=6.3,slow=9.2,SNR=4.2	**21.66**	**185**	P	P	06 22 16.7	+0.6
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=344,slow=10,SNR=11	**24.34**	**164**	P	P	06 22 42.4	-1.1
WB2	**Warramunga Arr**	**24.34**	**164**	*e*P	P	06 22 42.4	-1.1
ASAR	**Alice Springs** 0.2nm,0.4s,baz=347,slow=11,SNR=4.2	**27.81**	**167**	P	P	06 23 15.4	+0.6
STKA	**Stephens Creek** 1.1nm,0.4s,baz=331,slow=9.1,SNR=6.5	**37.73**	**160**	P	P	06 24 41.7	+0.3

*ISK **24** 06:46:58.7, 3972N×3527E, h6km, MD3.0*
*CSEM **24** 06:46:58.5±0.1, 3970N×3527E, h8km, MD3.0, Error ellipse: s-maj=2.4km s-min=1.7km az=31.0*
*ISCJB **24** 06:46:59.7±0.6, 3974N±004×3528E±005, h10km, Error ellipse: s-maj=6.9km s-min=4.9km az=38.2*
*DDA **24** 06:47:00.9, 3969N×3524E, h7km±2km, Md3.0*

ISC 24 06:46:59.7±0.9, 3974N±005×3530E±006, h4km±10km, n11, σ1§00/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.10**	**169**	PG	**Pg**	**06 47 01.1**	**-0.7**
CORM	**Corum**	**0.67**	**311**	*e*PG	**Pg**	**06 47 12.3**	**-0.3**
CORM				*e*SG	**Sg**	**06 47 22.0**	**+0.6**
CDAG	**Cicekdag**	**0.72**	**261**	*i* P	**Pg**	**06 47 13.6**	**0.0**
CDAG				*i* S	**Sg**	**06 47 24.2**	**+1.3**
BNN	**Bunyan**	**0.99**	**154**	*e*PG	**Pg**	**06 47 17.6**	**-1.0**
AVNT	**Avonos**	**1.02**	**200**	*i* P	**Pg**	**06 47 17.5**	**-1.7**
AVNT				*i* S	**Sg**	**06 47 32.8**	**+0.3**
KAMT	**Kaman**	**1.28**	**254**	*e*PN	**Pn**	**06 47 22.9**	**-1.4**
SVSK	**Karacayir**	**1.32**	**82**	*e*PN	**Pn**	**06 47 24.3**	**-0.6**
PINB	**Pinarbasi**	**1.37**	**141**	*i* P	**Pn**	**06 47 26.5**	**+0.9**
PINB				*i* S	**Sg**	**06 47 46.1**	**+2.4**
SARI	**SarD1z-Kayseri**	**1.52**	**134**	*e*PN	**Pn**	**06 47 28.4**	**+0.8**
TOS	**Tosya**	**1.62**	**323**	*e*PN	**Pn**	**06 47 29.3**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.69**	**67**	*e*PN	**Pn**	**06 47 29.8**	**-0.2**

*NEIC **24** 06:55:01.7, 1811N×6458W, h3km±3km, MD3.5(RSPR), After RSPR.*

RSPR 24 06:55:01.7, 1811N×6458W, h3km±3km, MD3.5/12, MD3.5/12, 7C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.31**	**353**	||*i*P	Pg	06 55 08.2	+0.4
TBVI				*e*S	Sg	06 55 13.4	+1.5
ABV	**Anegada**	**0.66**	**20**	||*e*P	Pg	06 55 14.8	+0.3
MTP	**Monte Pirata**	**0.93**	**270**	||*e*P	Pg	06 55 17.7	-1.8
MTP				*e*S	Sg	06 55 30.9	-0.7
HUMP	**Col San Antoni**	**1.21**	**272**	||*e*P	Pg	06 55 22.6	-2.4
HUMP				*e*S	Sg	06 55 38.1	-2.6
CBYP	**Canovanas**	**1.23**	**278**	||*e*P	Pg	06 55 22.8	-2.5
CBYP				*e*S	Sg	06 55 39.4	-1.9
CPD	**Cerro la Pandu**	**1.27**	**267**	||*e*P	Pg	06 55 23.2	-3.0
SJG	**San Juan**	**1.50**	**271**	||*e*P	Pn	06 55 27.3	-2.2
SJG				*e*S	Sn	06 55 46.6	-3.0
CELP	**Cerrillos**	**1.91**	**269**	||*i*P	Pn	06 55 34.5	-0.7
AOPR	**Arecibo Observ**	**2.08**	**277**	||*e*P	Pn	06 55 37.1	-0.5
AOPR				*e*S	Sn	06 56 02.7	-1.4
LSP	**Las Mesas**	**2.39**	**272**	||*e*P	Pn	06 55 41.6	-0.2
CRPR	**Cabo Rojo, PR**	**2.41**	**268**	||*e*P	Pn	06 55 40.5	-1.6
AGPR	**Aguadilla, PR**	**2.44**	**279**	||*e*P	Pn	06 55 41.6	-0.9
AGPR				*e*S	Sn	06 56 11.8	-1.0

*LDG **24** 06:57:01.9±0.8, 1385S×170.12E, h10km, Error ellipse: s-maj=139.4km s-min=8.1km az=107.0*
*IDC **24** 06:57:20.9±5.5, 1430S×167.16E, h150km±43km, mb3.8/10, mb1 3.9/11, mb1mx3.9/18, mbtmp3.8/11, Error ellipse: s-maj=39.3km s-min=18.9km az=118.0*
*NEIC **24** 06:57:20.6±1.6, 1437S×16722E, h153km±14km, mb4.3/4, Error ellipse: s-maj=15.6km s-min=13.7km az=88.0*
*ISCJB **24** 06:57:21.2±1.8, 1431S±008×167.1E±01, h169km±15km, mb4.0/12, Error ellipse: s-maj=20.9km s-min=12.1km az=164.1*

ISC 24 06:57:21.9±1.7, 1431S±008×1672E±01, h162km±14km, n60, σ1§00/22, mb4.0/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.75**	**185**	*e*Pn	**Pn**	**06 59 09.7**	**-2.1**
DZM				*e*Sn	**Sn**	**07 00 40.0**	**+1.5**
HNR	**Honiara** 9.8nm,0.3s,baz=106,slow=7.5,SNR=4.3	**8.57**	**304**	P	**Pn**	**06 59 23.0**	**+0.1**
CTAO	**Charters Tower** 12nm,1.3s	**20.78**	**251**	P	**P**	**07 01 50.4**	**+0.1**
STKA	**Stephens Creek** 4.3nm,0.4s,mb4.5	**29.19**	**229**	*e*P	**P**	**07 03 09.3**	**+1.2**
STKA	**Stephens Creek** 5.7nm,0.5s,mb4.6,baz=49,slow=8.8,SNR=26	**29.19**	**229**	P	**P**	**07 03 09.3**	**+1.1**
STKA				PcP	PcP	07 06 13.1	+1.5
STKA	**Stephens Creek** 1.6nm,0.7s,baz=303,slow=9.0,SNR=3.4	**29.19**	**229**	*e*P	**P**	**07 03 09.1**	**+0.9**
WRAB	**Tennant Creek** 6.3nm,0.5s,mb4.6	**31.82**	**255**	P	**P**	**07 03 33.3**	**+1.8**
WRA	**Warramunga Arr** 4.7nm,1.1s,mb4.1	**31.83**	**255**	P	**P**	**07 03 30.3**	**-1.3**
ASAR	**Alice Springs** 0.8nm,0.5s,mb3.7,baz=86,slow=9.1,SNR=6.0	**32.73**	**248**	P	**P**	**07 03 38.5**	**-0.9**
FITZ	**Fitzroy Crossi** 0.7nm,0.4s,mb3.7,baz=78,slow=9.6,SNR=20	**39.99**	**259**	P	**P**	**07 04 40.4**	**-0.6**
MBWA	**Marble Bar** 6.4nm,0.8s,mb4.3	**45.56**	**254**	*e*P	**P**	**07 05 25.4**	**-0.4**
KKM	**Kota Kinabalu**	**54.43**	**288**	*e*P	**P**	**07 06 31.6**	**-1.2**
KSRS	**Korea Array** 1.8nm,0.7s,mb4.0,baz=136,slow=6.7,SNR=8.1	**63.34**	**326**	P	**P**	**07 07 33.9**	**+0.1**
PETK	**Petropavlovsk-** 6.6nm,0.9s,mb4.4,baz=138,slow=7.1,SNR=4.9	**67.64**	**354**	P	**P**	**07 08 01.2**	**+0.3**
CMAR	**Chiang Mai Arr** 1.2nm,0.4s,mb3.9,baz=122,slow=5.0,SNR=8.9	**74.69**	**294**	P	**P**	**07 08 45.5**	**+1.4**
CMAR				pP	pP	07 09 18.7	-5.0
SONM	**Songino Array** 1.1nm,0.3s,baz=131,slow=4.1,SNR=1.5	**82.10**	**324**	P	**P**	**07 09 24.1**	**-0.1**
NVAR	**Mina Array Bea** 0.4nm,0.4s,mb3.4,baz=113,slow=3.7,SNR=4.1	**87.08**	**49**	P	**P**	**07 09 49.6**	**+0.3**
VNA3	**Neumayer Olymp** 0.6nm,0.7s,mb3.5,baz=237,slow=8.1,SNR=5.9	**94.63**	**181**	*e*	**P**	**07 10 23.2**	**-0.7**
VNA3				*e*		07 10 28.0	
VNA2	**Neumayer--Watz**	**94.89**	**182**	*e*	**P**	**07 10 24.5**	**-0.6**
VNA2				*e*		07 10 29.4	
MKAR	**Makanchi Array** 1.0nm,0.7s,mb4.3,baz=86,slow=8.4,SNR=4.3	**96.83**	**316**	P	**P**	**07 10 35.4**	**+1.1**
MKAR	**Makanchi Array**	**96.83**	**316**	P	**P**	**07 10 35.4**	**+1.1**
ARCES	**ARCESS Array B** 3.6nm,0.9s,baz=58,slow=1.7,SNR=15	**119.83**	**345**	PKP	PKPdf	07 15 51.9	-0.3
NOA	**NORSAR Array B** 0.9nm,0.8s,baz=37,slow=2.4,SNR=3.5	**130.20**	**345**	PKP	PKPdf	07 16 11.1	-1.2
NOA	**NORSAR Array B**	**130.20**	**345**	PKP	PKPdf	07 16 11.1	-1.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIVF	**Givet**	**141.51**	**342**	*e*PKP1	PKPdf	07 16 33.7	+0.1
CABF	**La Chapelle** 9.4nm,0.8s	**144.11**	**338**	*e*PKP1	PKPdf	07 16 36.8	-1.5
FLN	**La Foliniere**	**144.17**	**346**	*e*PKP1	PKPdf	07 16 36.7	-1.6
LDF	**La Druitiere**	**144.24**	**346**	*e*PKP1	PKPdf	07 16 37.5	-1.0
LOR	**Lormes**	**144.31**	**340**	*e*PKP1	PKPdf	07 16 37.4	-1.2
GRR	**Gorron**	**144.61**	**346**	*e*PKP1	PKPdf	07 16 37.9	-1.2
SSF	**Saint Saulge** 18nm,0.8s	**144.61**	**341**	*e*PKP1	PKPdf	07 16 38.6	-0.5
LPL	**La Plagne** 8.8nm,0.6s	**144.77**	**336**	*e*PKP1	PKPdf	07 16 39.6	+0.1
LPG	**La Plagne** 14nm,0.7s	**144.78**	**336**	*e*PKP1	PKPdf	07 16 39.7	+0.2
SMF	**Signal de Mont** 21nm,0.9s	**144.87**	**340**	*e*PKP1	PKPdf	07 16 39.1	-0.5
AVF	**Avril sur Loir** 21nm,0.9s	**144.90**	**341**	*e*PKP1	PKPdf	07 16 39.2	-0.5
SGMF	**Saint Gilles** 28nm,0.7s	**145.10**	**348**	*e*PKP1	PKPbc	07 16 39.6	-0.2
ROSF	**Rostrenen** 48nm,1.1s	**145.16**	**349**	*e*PKP1	PKPbc	07 16 39.8	-0.2
BNI	**Bardonecchia**	**145.18**	**336**	*e*PKPdf	PKPdf	07 16 41.4	+1.2
BGF	**Bois d'Agland** 33nm,0.8s	**145.27**	**341**	*e*PKP1	PKPbc	07 16 40.6	+0.2
MBDF	**Montbardon** 15nm,0.7s	**145.41**	**335**	*e*PKP1	PKPbc	07 16 41.1	+0.2
ORIF	**Oris-en-Rattie** 16nm,0.7s	**145.61**	**336**	*e*PKP1	PKPbc	07 16 42.1	+0.6
TCF	**Toulx Ste Croi**	**145.71**	**341**	*e*PKP1	PKPbc	07 16 40.9	-0.8
SSB	**Saint Sauveur**	**145.81**	**338**	*e*PKPdf	PKPdf	07 16 41.9	+0.6
SBF	**Sospel**	**145.83**	**334**	*e*PKP1	PKPbc	07 16 42.1	-0.1
MFF	**Saint Martin d** 11nm,0.6s	**146.10**	**344**	*e*PKP1	PKPbc	07 16 43.0	+0.1
VIVF	**Saint-Julien-l** 20nm,1.0s	**146.12**	**337**	*e*PKP1	PKPbc	07 16 43.6	+0.6
PGF	**Pioggiola** 36nm,0.9s	**146.15**	**330**	*e*PKP1	PKPbc	07 16 42.8	-0.4
FRF	**La Foret Royal** 16nm,0.6s	**146.41**	**334**	*e*PKP1	PKPbc	07 16 43.9	0.0
SMRF	**Simiane la Rot** 12nm,0.6s	**146.51**	**336**	*e*PKP1	PKPbc	07 16 44.8	+0.6
LMR	**La Mourre** 13nm,0.7s	**146.65**	**334**	*e*PKP1	PKPbc	07 16 44.7	+0.1
RJF	**Les Rejaudoux** 10.0nm,0.8s	**146.80**	**341**	*e*PKP1	PKPbc	07 16 45.3	+0.3
CAF	**Calviac**	**146.97**	**340**	*e*PKP1	PKPbc	07 16 45.9	+0.5
LASF	**Ste Croix** 18nm,0.8s	**147.09**	**338**	*e*PKP1	PKPbc	07 16 46.3	+0.5
LFF	**La Frestale**	**147.37**	**342**	*e*PKP1	PKPbc	07 16 46.8	+0.3
MTLF	**Montolieu** 12nm,0.7s	**148.32**	**339**	*e*PKP1	PKPbc	07 16 49.5	+0.4
EPF	**Esparros**	**149.22**	**341**	*e*PKP1	PKPbc	07 16 52.2	+0.8
SJPF	**Ste Jean**	**149.61**	**343**	*e*PKP1	PKPbc	07 16 53.0	+0.6
ETSF	**Etsaut** 16nm,0.7s	**149.62**	**342**	*e*PKP1	PKPbc	07 16 53.2	+0.8
KEST	**Kesra** 2.2nm,0.7s,baz=49,slow=1.7,SNR=6.3	**150.83**	**321**	PKPbc	PKPbc	07 16 56.6	+1.1
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=50,slow=4.5,SNR=2.3	**165.83**	**267**	PKP	PKPdf	07 17 08.2	-0.1
TORD	1.1nm,1.1s,baz=108,slow=4.7,SNR=3.9			PKPab	PKPab	07 18 09.4	+0.6

*ISCJB **24** 07:21:20.5±0.6, 21.11S±005×6784W±008, h159km±7km, mb4.0/10, Error ellipse: s-maj=13.0km s-min=8.4km az=173.8*
*IDC **24** 07:21:22.0±0.7, 21.17S×6764W, h144km±8km, mb3.9/3, mb1 4.0/8, mb1mx3.6/18, mbtmp3.9/8, Error ellipse: s-maj=19.1km s-min=8.8km az=115.0*
*NEIC **24** 07:21:21.1±0.8, 21.16S×6786W, h146km±9km, mb4.0/8, Error ellipse: s-maj=13.9km s-min=9.1km az=81.0*

ISC 24 07:21:20.1±0.8, 2111S±006×6787W±008, h134km±9km, n33, σ1§19/36, mb4.0/10, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde** 16nm,0.3s,baz=35,slow=7.4,SNR=64	**1.78**	**213**	P	**Pn**	**07 21 55.9**	**+4.3**
LVC				S	**Sn**	**07 22 21.2**	**+5.4**
LVC	**Limon Verde** 38nm,0.3s,baz=114,slow=23,SNR=41	**1.78**	**213**	*e*Pn	**Pn**	**07 21 55.7**	**+4.1**
LVC				P		07 21 55.9	
LVC				*e*Sn	**Sn**	**07 22 19.8**	**+4.0**
LVC				S	**Sn**	**07 22 21.2**	**+5.4**
LPAZ	**La Paz** 20nm,0.3s,baz=173,slow=7.3,SNR=236	**4.80**	**357**	P	**Pn**	**07 22 35.8**	**+5.1**
LPAZ				S	**Sn**	**07 23 31.2**	**+5.7**
ARE	**Arequipa** 1.9nm,0.3s,baz=296,slow=18,SNR=6.4	**5.76**	**323**	*e*P	**Pn**	**07 22 44.0**	**+0.6**
ARE				*e*S	**Sn**	**07 23 46.0**	**-2.4**
SIV	**San Ignacio** 11nm,0.3s,baz=241,slow=11,SNR=297	**8.22**	**53**	P	**Pn**	**07 23 16.6**	**+0.1**
SIV				S	**Sn**	**07 24 43.0**	**-4.8**
LCO	**Las Campanas** 1.5nm,0.3s,baz=316,slow=22,SNR=9.2	**8.27**	**197**	*e*Pn	**Pn**	**07 23 14.6**	**-2.6**
LCO				*e*Sn	**Sn**	**07 24 43.5**	**-5.5**
CFAA	**Coronel Fontan** 0.1nm,0.3s,baz=14,slow=10,SNR=13	**10.46**	**182**	P	**Pn**	**07 23 45.5**	**-0.8**
CFAA				S	**Sn**	**07 25 34.0**	**-7.8**
CPUP	**Villa Florida** 0.2nm,0.3s,baz=239,slow=18,SNR=12	**10.96**	**120**	P	**Pn**	**07 23 53.2**	**+0.1**
CPUP	**Villa Florida** 4.8nm,0.3s,baz=284,slow=11,SNR=38	**10.96**	**120**	P	**Pn**	**07 23 53.2**	**+0.1**
**N

Error ellipse: s-maj=18.5km s-min=14.5km az=137.0

ISC 24 07:32:03.7±0.3,2455N±002×12248E±001,h5^{km}±2^{km},n65, σ0°89/115,mb3.4/3,2C-3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.49**	**100**	P	**Pg**	**07 32 15.0**	**+1.9**
YOJ				*e*S	**Sg**	**07 32 23.8**	**+4.3**
YOJ	**Yonaguni jima**	**0.49**	**100**	⇓*i*P	**Pg**	**07 32 15.1**	**+1.9**
YOJ				S	**Sg**	**07 32 23.8**	**+4.3**
EGS		**0.58**	**300**	P	**Pg**	**07 32 14.7**	**-0.2**
EGS				S	**Sg**	**07 32 22.3**	**-0.2**
TWC	**Suao**	**0.58**	**276**	⇑*i*P	**Pg**	**07 32 14.2**	**-0.6**
TWC				S	**Sg**	**07 32 21.8**	**-0.6**
TWB1	**Santiao Chiao**	**0.64**	**315**	*e*P	**Pg**	**07 32 16.1**	**+0.1**
TWB1				S	**Sg**	**07 32 23.9**	**-0.4**
ENA	**Nanau**	**0.69**	**260**	⇓*i*P	**Pg**	**07 32 16.5**	**-0.4**
ENA				S	**Sg**	**07 32 25.4**	**-0.4**
ILA	**Ilan**	**0.70**	**288**	*e*P	**Pg**	**07 32 16.9**	**-0.3**
ILA				S	**Sg**	**07 32 28.1**	**+1.7**
TWE	**Neicheng**	**0.76**	**283**	⇑*i*P	**Pg**	**07 32 17.9**	**-0.4**
TWE				S	**Sg**	**07 32 28.9**	**+0.7**
NWF	**Wu-fen Shan**	**0.82**	**309**	*e*P	**Pg**	**07 32 19.7**	**+0.3**
NWF				S	**Sg**	**07 32 30.9**	**+0.7**
ENTT	**Nioudou**	**0.84**	**276**	P	**Pg**	**07 32 19.2**	**-0.6**
ENTT				S	**Sg**	**07 32 31.5**	**+0.8**
NACB	**Ninganchiao**	**0.89**	**245**	*e*Pg	**Pg**	**07 32 20.2**	**-0.7**
TWA	**Mucha**	**0.92**	**298**	*e*P	**Pg**	**07 32 20.6**	**-0.8**
TWA				S	**Sg**	**07 32 33.2**	**-0.2**
TWD	**Chiawan**	**0.94**	**240**	*e*P	**Pg**	**07 32 21.4**	**-0.2**
TWD				S	**Sg**	**07 32 34.9**	**+1.1**
HWA	**Hwalien**	**0.98**	**235**	*e*P	**Pg**	**07 32 22.5**	**-0.1**
HWA				S	**Sg**	**07 32 36.7**	**+1.4**
TAP1	**Taipei**	**1.00**	**299**	*e*P	**Pg**	**07 32 22.9**	**+0.1**
TAP1				S	**Sg**	**07 32 35.6**	**-0.2**
YHNB	**Yeheng**	**1.01**	**277**	*e*Pg	**Pg**	**07 32 22.4**	**-0.8**
YHNB				*e*Sg	**Sg**	**07 32 34.4**	**-2.0**
NNS	**Nan Shan**	**1.02**	**264**	*e*P	**Pg**	**07 32 22.5**	**-0.8**
NNS				S	**Sg**	**07 32 35.9**	**-0.5**
NSK	**Sanguang**	**1.03**	**277**	*e*P	**Pg**	**07 32 22.6**	**-0.9**
TWY	**Chenhua**	**1.08**	**312**	⇓*i*P	**Pg**	**07 32 24.5**	**+0.1**
TWY				S	**Sg**	**07 32 38.5**	**0.0**
TWS1	**Kuangyinshan**	**1.11**	**300**	*e*P	**Pg**	**07 32 25.2**	**+0.2**
TWS1				S	**Sg**	**07 32 39.5**	**0.0**
PCYT	**Pengchaiyu**	**1.14**	**341**	P	**Pg**	**07 32 24.8**	**-0.7**
PCYT				S	**Sg**	**07 32 40.1**	**-0.1**
IRIF	**Iriomote-Funau**	**1.16**	**100**	P	**Pg**	**07 32 25.7**	**-0.2**
IRIF				*e*S	**Sg**	**07 32 42.1**	**+1.2**
WHF	**Hehuan Shan**	**1.18**	**250**	*i*P	**Pg**	**07 32 25.8**	**-0.6**
WHF				S	**Sg**	**07 32 42.1**	**+0.3**
ESL	**Shilin**	**1.21**	**233**	P	**Pg**	**07 32 26.5**	**-0.4**
ESL				S	**Sg**	**07 32 43.3**	**+0.8**
TWT	**Tachien**	**1.23**	**256**	*e*P	**Pg**	**07 32 27.3**	**0.0**
TWT				S	**Sg**	**07 32 43.9**	**+0.7**
NCU	**National Centr**	**1.25**	**290**	*e*P	**Pg**	**07 32 28.2**	**+0.5**
NCU				S	**Sg**	**07 32 43.6**	**-0.3**
HATJ	**Hateruma jima**	**1.30**	**112**	P	**Pn**	**07 32 28.2**	**-0.4**
HATJ				*e*S	**Sg**	**07 32 46.0**	**+0.4**
NSTT	**Nanjuang**	**1.35**	**274**	P	**Pn**	**07 32 29.2**	**0.0**
NSTT				S	**Sb**	**07 32 46.3**	**-0.8**
HSN	**Hsinchu**	**1.40**	**281**	*e*P	**Pn**	**07 32 30.2**	**+0.2**
HSN				S	**Sb**	**07 32 49.0**	**+0.5**
JKRS	**Kuro-shima**	**1.43**	**102**	P	**Pn**	**07 32 29.7**	**-0.6**
JKRS				*e*S	**Sb**	**07 32 48.8**	**-0.5**
EHY	**Hungye**	**1.49**	**226**	*e*P	**Pn**	**07 32 30.3**	**-0.9**
EHY				S	**Sn**	**07 32 50.0**	**-1.0**
JIJ	**Ishigaki jima**	**1.52**	**97**	P	**Pn**	**07 32 30.8**	**-0.9**
JIJ				*e*S	**Sn**	**07 32 50.8**	**-1.1**
TWQ1	**Liyutan**	**1.57**	**263**	*e*P	**Pn**	**07 32 32.7**	**+0.4**
TWQ1				S	**Sn**	**07 32 53.8**	**+0.7**
NSY	**Sanyi**	**1.57**	**265**	*e*P	**Pn**	**07 32 34.1**	**+1.7**
NSY				S	**Sn**	**07 32 55.8**	**+2.7**
SMLT	**Sun Moon Lake**	**1.59**	**246**	*i*P	**Pn**	**07 32 33.2**	**+0.7**
SMLT				S	**Sn**	**07 32 53.6**	**+0.1**
TWF1	**Yuli**	**1.61**	**222**	P	**Pn**	**07 32 32.0**	**-0.9**
TWF1				S	**Sn**	**07 32 53.2**	**-0.9**
TCU	**Taichung**	**1.70**	**257**	*e*P	**Pn**	**07 32 33.3**	**-0.8**
TCU				S	**Sn**	**07 32 57.9**	**+1.7**
YUS	**Yu-Shan**	**1.75**	**233**	P	**Pn**	**07 32 35.3**	**+0.4**
YUS				S	**Sn**	**07 32 56.9**	**-0.7**
CHKT	**Chengkung**	**1.77**	**216**	*e*P	**Pn**	**07 32 34.6**	**-0.4**
CHKT				S	**Sn**	**07 32 55.8**	**-2.2**
WNT	**Mingjian**	**1.77**	**248**	*e*P	**Pn**	**07 32 35.5**	**+0.4**
ALS	**Alishan**	**1.85**	**236**	*e*P	**Pn**	**07 32 36.1**	**0.0**
ALS				S	**Sn**	**07 32 59.6**	**-0.4**
CHN5	**Tsauling**	**1.90**	**240**	*e*P	**Pn**	**07 32 38.4**	**+1.5**
CHN5				S	**Sn**	**07 33 03.1**	**+1.8**
ELDTW	**Lidau**	**1.91**	**225**	*e*P	**Pn**	**07 32 36.1**	**-0.8**
ELDTW				S	**Sn**	**07 33 00.6**	**-0.7**
JTJ	**Tarama**	**2.02**	**87**	P	**Pn**	**07 32 38.8**	**+0.3**
JTJ				*e*S	**Sn**	**07 33 04.7**	**+0.5**
STYT	**Tauyuan**	**2.10**	**229**	*e*P	**Pn**	**07 32 39.6**	**0.0**
STYT				S	**Sn**	**07 33 06.4**	**+0.3**
CHN4	**Tsaushan**	**2.10**	**236**	*e*P	**Pn**	**07 32 41.5**	**+1.9**
CHN4				S	**Sn**	**07 33 06.5**	**+0.3**
WTP	**Ta-pu**	**2.15**	**233**	*e*P	**Pn**	**07 32 40.8**	**+0.5**
WTP				S	**Sn**	**07 33 07.2**	**-0.2**
TWG	**Pinlang**	**2.15**	**217**	*e*P	**Pn**	**07 32 38.6**	**-1.7**
TWG				S	**Sn**	**07 33 06.1**	**-1.3**
CHY	**Chiayi**	**2.15**	**241**	*e*P	**Pn**	**07 32 40.0**	**-0.3**
TWK	**Hsinying**	**2.23**	**235**	*e*P	**Pn**	**07 32 41.3**	**-0.1**
TWK				S	**Sn**	**07 33 08.8**	**-0.5**
CHN1	**Nanshi**	**2.25**	**233**	*e*P	**Pn**	**07 32 43.2**	**+1.5**
CHN1				S	**Sn**	**07 33 09.6**	**-0.1**
SGST	**Jiashian**	**2.27**	**230**	*e*P	**Pn**	**07 32 41.9**	**0.0**
SGST				S	**Sn**	**07 33 10.3**	**-0.1**
ECL	**Taimali**	**2.40**	**216**	*e*P	**Pn**	**07 32 43.8**	**+0.1**
SSD	**Sandimen**	**2.47**	**224**	*e*P	**Pn**	**07 32 45.1**	**+0.4**
SSD				S	**Sn**	**07 33 16.3**	**+1.0**
EAST	**Anshuo**	**2.63**	**215**	*e*P	**Pn**	**07 32 47.1**	**+0.3**
LAY	**Lan-yu**	**2.64**	**199**	*e*P	**Pn**	**07 32 45.2**	**-1.8**
PNG	**Penghu**	**2.85**	**250**	*e*P	**Pn**	**07 32 50.3**	**+0.4**
PNG				S	**Sn**	**07 33 22.9**	**-1.8**
TSEB	**Hengchuen, Pin**	**3.01**	**209**	*e*P	**Pn**	**07 32 53.1**	**+1.0**
TWK1	**Hengchun**	**3.02**	**211**	*e*P	**Pn**	**07 32 51.0**	**-1.3**
TWK1				S	**Sn**	**07 33 29.6**	**+0.8**
KNM	**Kinmen**	**3.69**	**269**	*e*P	**Pn**	**07 33 03.0**	**+1.5**
SONM	**Songino Array**	**26.51**	**335**	P	**P**	**07 37 41.1**	**-1.0**
	0.3nm,0.5s,mb3.1,baz=160,slow=4.6,SNR=3.8						
WRA	**Warramunga Arr**	**45.71**	**164**	P	**P**	**07 40 28.4**	**+2.5**
	0.4nm,0.7s,mb3.5,baz=346,slow=9.1,SNR=5.7						
WRA	**Warramunga Arr**	**45.71**	**164**	P	**P**	**07 40 28.4**	**+2.5**
ASAR	**Alice Springs**	**49.19**	**166**	P	**P**	**07 40 56.4**	**+3.4**
	0.5nm,0.6s,mb3.7,baz=342,slow=7.4,SNR=11						
CTA	**Charters Tower**	**50.04**	**150**	LR	LR	08 02 37.9	
	comp=Z,52nm,21.1s,baz=57,slow=36						

*NEIC **24** 07:43:09.1,1783N×6868W,h111^{km},MD3.6(RSPR), After RSPR.*

RSPR 24 07:43:09.1,1783N×6868W,h111^{km}±5^{km},MD3.6/7, MD3.6/7,13C-2D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.50**	**83**	⇑*e*P	Pn	07 43 35.1	-0.9
CRPR	**Cabo Rojo, PR**	**1.50**	**83**	⇑*e*P	Pn	07 43 35.8	-0.2
CRPR				*e*S	Sn	07 43 56.2	-0.2
CRPR	**Cabo Rojo, PR**	**1.50**	**83**	⇑*e*P	Pn	07 43 35.1	-0.9
CRPR				*e*S	Sn	07 43 56.2	-0.2
LSP	**Las Mesas**	**1.55**	**77**	⇑*e*P	Pn	07 43 35.9	-0.6
LSP				*e*S	Sn	07 43 57.9	+0.4
AGPR	**Aguadilla, PR**	**1.62**	**67**	⇑*e*P	Pn	07 43 36.9	-0.4
AGPR				*e*S	Sn	07 43 58.8	-0.1
AOPR	**Arecibo Observ**	**1.90**	**74**	⇑*e*P	Pn	07 43 40.6	-0.3
AOPR				*e*S	Sn	07 44 05.8	+0.7
CELP	**Cerrillos**	**2.01**	**83**	⇓*e*P	Pn	07 43 43.0	+0.8
CELP				*e*S	Sn	07 44 05.7	-1.9
CELP	**Cerrillos**	**2.01**	**83**	⇓*e*P	Pn	07 43 43.2	+0.9
CELP				*e*S	Sn	07 44 08.7	-1.9
CPD	**Cerro la Pandu**	**2.64**	**85**	⇑*e*P	Pn	07 43 50.0	-0.3
CPD	**Cerro la Pandu**	**2.64**	**85**	⇑*e*P	Pn	07 43 50.3	0.0
CPD				*e*S	Sn	07 44 22.5	+0.5
CPD	**Cerro la Pandu**	**2.64**	**85**	⇑*e*P	Pn	07 43 50.0	-0.3
CPD				*e*S	Sn	07 44 22.5	+0.5
CBYP	**Canovanas**	**2.72**	**80**	⇑*e*P	Pn	07 43 51.1	-0.3
CBYP	**Canovanas**	**2.72**	**80**	⇑*e*P	Pn	07 43 51.6	+0.2
CBYP				*e*S	Sn	07 44 23.8	-0.1
CBYP	**Canovanas**	**2.72**	**80**	⇑*e*P	Pn	07 43 51.1	-0.3
CBYP				*e*S	Sn	07 44 23.8	-0.1
MTP	**Monte Pirata**	**2.99**	**84**	⇑*e*P	Pn	07 43 54.7	-0.2
MTP				*e*S	Sn	07 44 30.1	-0.2

BJI 24 07:45:25.2,4052N×12298E,h16^{km},mB4.1,mb4.3, ML4.1,Ms3.7,Msz3.6,1D,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**1.38**	**19**	PG	Pg	07 45 49.4	-2.4
SNY				SG	Sg	07 46 07.1	-2.7
SNY				Smax			
	comp=N,2μm,0.5s						
SNY				Smax			
	comp=E,3μm,0.4s						
DL2	**Dalian**	**1.92**	**213**	⇓PG	Pg	07 45 59.8	-2.2
DL2				SG	Sg	07 46 25.8	-1.2
DL2				Smax			
	comp=N,2μm,0.7s						
DL2				Smax			
	comp=E,3μm,0.7s						
CN2	**Changchun**	**3.76**	**28**	*e*PG	Pg	07 46 32.6	-4.6
CN2				*e*SG	Sg	07 47 20.1	-5.7
CN2				Smax			
	comp=N,100nm,0.9s						
CN2				Smax			
	comp=E,100nm,0.9s						
BJI	**Beijing**	**5.23**	**267**	PG	Pg	07 47 00.0	-5.3
BJI				Smax			
	comp=N,140nm,0.9s						
BJI				Smax			
	comp=E,245nm,0.8s						
NJ2	**Nanjing**	**9.08**	**203**	*e*P	Pn	07 47 34.3	-1.3
NJ2				AP		07 47 42.1	
NJ2				XP		07 47 46.6	
NJ2				S	Sn	07 49 15.8	-1.7
NJ2				XS		07 49 26.6	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				Smax			
	comp=N,20nm,0.8s						
NJ2				Smax			
	comp=E,50nm,0.8s						
NJ2				LR	LR		
	comp=N,70nm,9.2s						
NJ2				LR	LR		
	comp=E,180nm,9.0s						
LZH	**Lanzhou**	**15.66**	**260**	*e*P	Pn	07 49 04.6	-0.5
LZH				AP	pP	07 49 12.5	-1.1
LZH				XP	sP	07 49 16.8	+1.1
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
LZH				AMB	AMB		
	comp=Z,60nm,4.0s						
LZH				LR	LR		
	comp=N,160nm,9.3s						
LZH				LR	LR		
	comp=Z,180nm,10.0s						
CD2	**Chengdu**	**18.29**	**244**	*e*P	Pn	07 49 38.3	+0.1
CD2				AP	pP	07 49 45.8	+3.0
CD2				PP		07 49 53.3	
CD2				S	Sn	07 52 56.9	-5.1
CD2				SS		07 53 20.6	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,20nm,3.8s						
CD2				LR	LR		
	comp=N,190nm,9.6s						
CD2				LR	LR		
	comp=Z,80nm,7.2s						
GYA	**Guiyang**	**19.50**	**229**	P	Pn	07 49 54.6	+1.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s						

*IDC **24** 07:45:20.1±1.5,3.18S×129.57E,h0^{km},mb3.8/3,mb1 4.0/5, mb1mx3.8/17,mbtmp3.9/5,ML3.3/2,MS3.3/1,Ms1 3.3/1, ms1mx2.7/18,Error ellipse: s-maj=67.8km s-min=23.7km az=64.0*

*NEIC **24** 07:45:21.4±0.7,322S×129.48E,h10^{km},mb4.1/4,Error ellipse: s-maj=22.4km s-min=10.0km az=68.0*

*ISCJB **24** 07:45:23.0±0.9,34S±01×1292E±02,h33^{km},mb4.0/3, Error ellipse: s-maj=34.0km s-min=11.1km az=157.4*

*DJA **24** 07:45:23,3.17S×129.26E,h0^{km},ML3.6/2*

ISC 24 07:45:25.3±4.0,33S±02×1295E±02,h38^{km}±40^{km},n13, σ0°90/12,mb4.0/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**8.97**	**220**	LR	LR	07 50 45.8	
	comp=Z,195nm,19.9s,baz=180,slow=36						
KAKA	**Kakadu**	**9.81**	**163**	*e*Pn	**Pn**	**07 47 43.3**	**-0.6**
	13nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.19**	**194**	Pn	**Pn**	**07 48 59.2**	**+2.0**
	0.1nm,0.3s,baz=30,slow=14,SNR=4.2						
WRAB	**Tennant Creek**	**17.21**	**164**	*e*Pn	**Pn**	**07 49 22.6**	**-0.3**
	3.1nm,0.8s						
WRA	**Warramunga Arr**	**17.22**	**164**	P	**Pn**	**07 49 23.0**	**0.0**
	0.1nm,0.3s,baz=344,slow=13,SNR=8.6						
WB2	**Warramunga Arr**	**17.22**	**164**	*e*Pn	**Pn**	**07 49 22.5**	**-0.5**
MBWA	**Marble Bar**	**20.14**	**207**	P	**P**	**07 49 54.5**	**-1.7**
	6.7nm,1.0s						
ASAR	**Alice Springs**	**20.70**	**168**	P	**P**	**07 50 03.4**	**+1.0**
	4.6nm,0.6s,baz=350,slow=9.9,SNR=39						
CTA	**Charters Tower**	**23.38**	**137**	P	**P**	**07 50 30.6**	**-0.3**
	1.0nm,0.3s,mb3.7,baz=326,slow=16,SNR=2.1						
CTAO	**Charters Tower**	**23.38**	**137**	P	**P**	**07 50 31.7**	**+0.7**
	9.3nm,1.1s,mb4.1						
MK31	**Makanchi Array**	**64.86**	**326**	P	**P**	**07 56 00.8**	**+0.3**
MKAR	**Makanchi Array**	**64.86**	**326**	P	**P**	**07 56 00.9**	**+0.4**
	0.7nm,0.7s,mb3.8,baz=131,slow=7.1,SNR=6.8						
KURK	**Kurchatov**	**69.11**	**328**	*e*P	**P**	**07 56 26.9**	**-0.6**
	2.2nm,0.8s,mb4.1						

*CSEM **24** 08:22:12.3±0.3,35.12N×2743E,h10^{km},ML3.2,Error ellipse: s-maj=10.8km s-min=3.7km az=26.0*

*ISCJB **24** 08:22:13.4±0.8,35.13N±003×2727E±005,h20^{km}±8^{km}, Error ellipse: s-maj=6.5km s-min=5.8km az=7.1*

*HLW **24** 08:22:13.3,35.40N×2734E,h33^{km},Mb3.8*

*ATH **24** 08:22:17.7,35.56N×2701E,h27^{km}±3^{km},MD3.5/4*

*NEIC **24** 08:22:17.0,3533N×2709E,h10^{km},ML3.2(ATH),After ATH.*

ISC 24 08:22:14.5±0.8,3517N±003×2721E±004,h17^{km}±6^{km},n25, σ1°20/31,4C-8D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.38**	**354**	⇓*i*PB	**Pg**	**08 22 22.8**	**+0.5**
KARP				*e*SB	**Sg**	**08 22 27.2**	**-0.4**
KARP	**Karpathos**	**0.38**	**354**	P	**Pg**	**08 22 22.6**	**+0.3**
ZKR	**Zakros**	**0.81**	**266**	P	**Pb**	**08 22 30.5**	**+0.4**
ARG	**Arkhangelos**	**1.28**	**35**	*e*PN	**Pn**	**08 22 39.0**	**+1.4**
ARG				*e*SN	**Sn**	**08 22 55.2**	**+0.9**
ARG	**Arkhangelos**	**1.28**	**35**	P	**Pn**	**08 22 39.3**	**+1.7**
NPS	**Neapolis**	**1.31**	**274**	*e*PB	**Pb**	**08 22 38.7**	**+0.1**
NPS				*e*SN	**Sn**	**08 22 55.9**	**+0.9**
NPS	**Neapolis**	**1.31**	**274**	P	**Pn**	**08 22 39.4**	**+1.5**
LAST	**Lasithi**	**1.42**	**270**	P	**Pn**	**08 22 41.3**	**+1.9**
SANT	**Santorini**	**1.86**	**311**	*e*Pn	**Pn**	**08 22 42.9**	**-2.6**
SANT				*e*Sn	**Sn**	**08 23 07.7**	**-0.8**
BDRM	**Kayabasi**	**1.90**	**6**	⇓*i*P	**Pn**	**08 22 44.9**	**-1.2**
BDRM	**Kayabasi**	**1.90**	**6**	*i*P	**Pn**	**08 22 44.8**	**-1.2**
TURN	**Turunc**	**2.04**	**33**	⇑*i*P	**Pn**	**08 22 45.1**	**-2.9**
AKAS	**Kas**	**2.22**	**61**	⇑*i*P	**Pn**	**08 22 51.3**	**+0.8**
APE	**Apeiranthos**	**2.33**	**325**	*e*PB	**Pn**	**08 22 50.7**	**-1.3**
VAM	**Vamos**	**2.47**	**276**	*e*PB	**Pb**	**08 22 57.0**	**-1.4**
AYDN	**Tasoluk**	**2.54**	**12**	*e*P	**Pn**	**08 22 55.1**	**+0.2**
GOLH	**Golhisar**	**2.81**	**42**	⇓*i*P	**Pn**	**08 22 59.6**	**+1.1**
SLUM		**4.03**	**205**	⇑P	**Pn**	**08 23 15.9**	**+0.6**
HMAT	**Matruh**	**4.07**	**181**	⇑P	**Pn**	**08 23 16.4**	**+0.6**
SWA2		**6.09**	**195**	⇓P	**Pn**	**08 23 44.4**	**+0.7**
SWA2				S	**Sn**	**08 24 50.1**	**-2.9**
HSAF	**As Saff**	**6.64**	**145**	⇓P	**Pn**	**08 23 50.2**	**-1.1**
GLL	**Jalalah**	**6.75**	**144**	⇓P	**Pn**	**08 23 52.3**	**-0.4**
GLL				S	**Sn**	**08 25 04.9**	**-4.3**
RSH		**6.89**	**126**	P	**Pn**	**08 23 53.6**	**-1.1**
HRSH	**Kfar Ka'horesh**	**7.15**	**108**	⇓P	**Pn**	**08 23 53.6**	**-4.6**
HFRF	**Wahat Farafira**	**8.05**	**173**	⇓P	**Pn**	**08 24 11.7**	**+1.1**

IDC 24 08:30:06.6±77.0,1967S×17781E,h0^{km},mb3.5/3, mb1 3.7/3,mb1mx3.5/15,mbtmp3.5/3,Error ellipse: s-maj=1366.0km s-min=159.0km az=80.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.64**	**242**	P	P	08 36 57.7	0.0
	0.4nm,0.4s,baz=85,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**40.81**	**262**	P	P	08 37 50.3	+0.2
	0.3nm,0.6s,baz=97,slow=7.7,SNR=5.1						
ASAR	**Alice Springs**	**40.88**	**256**	P	P	08 37 50.4	-0.2
	0.7nm,0.8s,baz=87,slow=9.2,SNR=7.6						

*MOS **24** 08:33:11.1±0.6,5654N×11375E,h15^{km},mb4.2/1,Error ellipse: s-maj=51.2km s-min=27.3km az=52.4*

BYKL 24 08:33:11.5±0.3,5650N×11370E,h22^{km}±11^{km},2C,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOA	**Uoyan**	**1.16**	**252**	*e*PG	Pn	08 33 33.8	+1.4
YOA				*e*		08 33 49.9	
YOA				pmax	pmax		
	comp=Z,350nm,0.2s						
YOA				smax			
	comp=N,2μm,0.4s						
BOD	**Bodaibo**	**1.33**	**7**	*e*PG	Pn	08 33 34.5	-0.2
BOD				*e*		08 33 52.0	
BOD				pmax	pmax		
	comp=Z,305nm,0.2s						
BOD				smax			
	comp=E,2μm,0.3s						
BOD	**Bodaibo**	**1.33**	**7**	⇑*i*Pg	Pn	08 33 35.0	+0.3
BOD				*e*Sg	Sn	08 33 52.4	+0.6
BOD				Pmax			
	comp=E,302nm,0.2s						
BOD				Smax			
	comp=E,2μm,0.3s						
KMO	**Kumora**	**1.53**	**247**	*e*PN	Pn	08 33 38.4	+1.0
KMO				*e*		08 33 58.0	
KMO				pmax	pmax		
	comp=Z,85nm,0.3s						
KMO				smax			
	comp=N,324nm,0.7s						
KMO	**Kumora**	**1.53**	**247**	*e*Pn	Pn	08 33 38.5	+1.1
KMO				⇑*i*Pg	Pn	08 33 39.0	+1.6
KMO				*e*Sg	Sn	08 33 59.7	+3.2
KMO				Pmax			
	comp=N,88nm,0.3s						
KMO				Smax			
	comp=N,324nm,0.7s						
YLYR	**Ulyunkhan**	**2.17**	**222**	*e*Pn	Pn	08 33 47.2	+0.9
YLYR				*e*		08 33 51.9	
YLYR				*e*Sg	Sn	08 34 18.3	+5.9
YLYR				Smax			
	comp=N,157nm,0.3s						
NIZ	**Nizh Angarsk**	**2.44**	**254**	*e*PN	Pn	08 33 52.0	+2.1
NIZ				*e*		08 33 56.0	
NIZ				*e*		08 34 27.3	
NIZ				pmax	pmax		
	comp=Z,47nm,0.9s						
NIZ				smax			
	comp=N,211nm,0.8s						
NIZ	**Nizh Angarsk**	**2.44**	**254**	*e*Pn	Pn	08 33 51.3	+1.4
NIZ				*e*		08 33 59.4	
NIZ				*e*Sg	Sn	08 34 26.8	+7.8
NIZ				Smax			
	comp=N,212nm,0.8s						
CRS	**Chara**	**2.55**	**79**	*e*PN	Pn	08 33 52.9	+1.4
CRS				*e*		08 33 57.5	
CRS				*e*		08 34 30.6	
CRS				pmax	pmax		
	comp=Z,59nm,0.6s						
CRS				smax			
	comp=N,103nm,0.7s						
CRS	**Chara**	**2.55**	**79**	*e*Pn	Pn	08 33 52.5	+1.0
CRS				*e*Pg	Pn	08 33 57.6	+6.1
CRS				*e*		08 34 03.6	
CRS				*e*Sg	Sn	08 34 30.8	+9.0
CRS				max			
	comp=N,58nm,0.6s						
CRS				Smax			
	comp=N,99nm,0.5s						
KHNR	**Khani**	**3.49**	**80**	*e*Sg	Sn	08 34 59.4	+15
SYVR	**Suvo**	**3.56**	**218**	*e*Pn	Pn	08 34 05.4	+0.1
SYVR				*e*Pg	Pn	08 34 15.3	+10
SYVR				*e*Sg	Sn	08 35 00.5	+14
SYVR				Pmax			
	comp=N,3.0nm,0.1s						
SYVR				Smax			
	comp=N,80nm,0.7s						
TUP	**Tupik**	**4.12**	**118**	*e*Pn	Pn	08 34 13.1	0.0
TUP				*e*		08 34 58.7	
TUP				*e*Sg	Sn	08 35 18.2	+18
TUP				Smax			
	comp=N,125nm,1.0s						
CIT	**Chita**	**4.49**	**181**	*e*Sg	Sn	08 35 30.8	+21
CIT				Smax			
	comp=N,221nm,0.2s						
OGRR	**Ongureny**	**4.53**	**233**	*e*Pn	Pn	08 34 19.9	+1.3
OGRR				*e*Sg	Sn	08 35 31.1	+21
OGRR				Smax			
	comp=N,19nm,0.4s						
UUDB	**Ulan-Yde**	**5.84**	**220**	*e*Sg	Sn	08 36 12.3	+29
UUDB				Smax			
	comp=N,47nm,0.8s						
FFNB	**Fofonovo**	**6.03**	**225**	*e*Sg	Sn	08 36 19.4	+32
FFNB				Smax			
	comp=N,47nm,0.5s						
IENR	**Iengra**	**6.21**	**88**	*e*Sg	Sn	08 36 22.7	+31
KPC	**Khapcheranga**	**6.86**	**187**	*e*	Pn	08 34 49.3	-1.3
KPC				*e*		08 35 58.8	
KPC				*e*		08 36 20.2	
KPC				*e*Sg	Sn	08 36

HNR Honiara 22.40 288 P **P 08 48 21.1 +0.9**
comp=Z,54nm,0.8s,mb5.1,baz=222,slow=2.7,SNR=4.0
HNR Honiara 22.40 288 *e*P **P 08 48 16.2 -4.0**
HNR pmax pmax
comp=Z,57nm,0.8s,mb5.2
HNR Honiara 22.40 288 *e*P **P 08 48 16.2 -4.0**
comp=Z,56nm,0.8s,mb5.2
HNR P 08 48 21.1
MRZ Mangatainoka R 23.66 191 P **P 08 48 29.7 -1.3**
SNZO South Karori 24.46 192 *e*P **P 08 48 37.1 -0.9**
comp=Z,39nm,0.8s,mb4.9
QRZ Quartz Range 24.52 197 P **P 08 48 39.6 +1.0**
NNZ Nelson 24.67 195 P **P 08 48 40.1 +0.1**
DSZ Denniston Nort 25.57 197 P **P 08 48 48.5 +0.5**
KHZ Kahutara 25.77 194 P **P 08 48 48.9 -0.8**
LTZ Lake Taylor 26.42 195 P **P 08 48 54.6 -0.8**
WVZ Waitaha Valley 27.10 197 P **P 08 49 00.8 -0.6**
PAE Paea 27.57 95 *e*P **P 08 49 04.9 -1.1**
comp=Z,966nm,1.2s
PPT Papeete 27.59 95 *e*P **P 08 49 05.3 -0.7**
comp=Z,58nm,1.1s,mb4.9
PPT Papeete 27.59 95 P **P 08 49 06.2 +0.2**
comp=Z,40nm,0.6s,mb5.0,baz=324,slow=3.0,SNR=12
PPT Papeete 27.59 95 *e*P **P 08 49 05.3 -0.7**
PPT pmax pmax
comp=Z,58nm,1.1s
RPZ Rata Peaks 27.61 196 P **P 08 49 05.5 -0.4**
comp=Z,15nm,0.5s,mb4.7,baz=55,slow=2.7,SNR=22
TIAR Tiarei 27.80 95 *e*P **P 08 49 07.1 -0.9**
comp=Z,512nm,0.8s
FOZ Fox Glacier 27.86 199 P **P 08 49 07.4 -0.7**
TVO Taravao 27.88 95 *e*P **P 08 49 07.9 -0.7**
comp=Z,719nm,1.0s
LBZ Lake Benmore 28.47 197 P **P 08 49 12.4 -1.0**
JCZ Jackson Bay 28.61 199 P **P 08 49 14.9 +0.3**
ARMA Armidale 30.07 239⇓*i*P **P 08 49 29.5 +1.9**
CTA Charters Tower 33.42 260⇓*i*P **P 08 49 56.8 +0.5**
comp=Z,7.2nm,0.5s,mb4.4
CTA *e*S **S 08 54 38.2 -3.3**
CTA *e*SCP ScP 08 55 18.1 -1.3
CTA Charters Tower 33.42 260 P **P 08 49 56.9 +0.6**
comp=Z,10nm,0.5s,mb4.5,baz=87,slow=12,SNR=8.0
CTA ScP ScP 08 55 18.6 -0.8
comp=Z,17nm,1.0s,baz=35,slow=1.3,SNR=9.8
CTA Charters Tower 33.42 260⇓*i*P **P 08 49 56.8 +0.5**
CTA *e*S **S 08 54 38.2 -3.3**
CTA pmax pmax
comp=Z,7.0nm,0.5s
CTAO Charters Tower 33.42 260 *e*P **P 08 49 56.1 -0.2**
CTAO pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
CTAO Charters Tower 33.42 260 *e*P **P 08 49 56.1 -0.2**
comp=Z,9.4nm,0.8s,mb4.3
CTAO *e*ScP ScP 08 55 18.4 -1.0
CNB Canberra Magne 33.61 232⇓*i*P **P 08 49 59.6 +1.9**
CNB *e*SCP ScP 08 55 20.4 +0.6
CAN Canberra 33.89 232 *e*P **P 08 50 01.1 +1.0**
PMG Port Moresby 34.29 279 *e*P **P 08 50 04.0 +0.2**
PMG pmax pmax
comp=Z,19nm,0.8s
PMG Port Moresby 34.29 279 *e*P **P 08 50 04.0 +0.2**
comp=Z,19nm,0.8s,mb4.6
COEN Coen 37.00 270 *e*P **P 08 50 27.1 +0.9**
comp=Z,4.7nm,0.7s,mb4.0
TOO Toolangi 37.37 230⇓*i*P **P 08 50 30.5 +1.5**
TOO *e*S **S 08 55 40.1 -0.2**
TAU Tasmania Unive 38.49 222 *e*P **P 08 50 39.3 +1.2**
TAU pmax pmax
comp=Z,91nm,1.2s,mb5.1
TAU Tasmania Unive 38.49 222 *e*P **P 08 50 39.3 +1.2**
comp=Z,91nm,1.2s,mb5.1
STKA Stephens Creek 38.75 241⇓*i*P **P 08 50 41.4 +1.0**
comp=Z,40nm,1.0s,mb4.8
STKA *e*SCP ScP 08 55 38.7 -0.3
STKA Stephens Creek 38.75 241 P **P 08 50 41.0 +0.7**
comp=Z,36nm,0.6s,mb5.0,baz=88,slow=9.2,SNR=156
STKA ScP ScP 08 55 38.9 -0.2
comp=Z,8.6nm,1.0s,baz=87,slow=2.8,SNR=6.4
WB2 Warramunga Arr 44.60 259⇓*i*P **P 08 51 26.3 -0.6**
WB2 *e*SCP ScP 08 56 01.6 -1.2
WB2 *e*S **S 08 57 19.4 -6.3**
WRAB Tennant Creek 44.60 259 *e*P **P 08 51 26.3 -0.6**
WRAB pmax pmax
comp=Z,9.0nm,0.4s,mb4.5
WRAB Tennant Creek 44.60 259 *e*P **P 08 51 26.3 -0.6**
comp=Z,8.7nm,0.4s,mb4.5
WRAB *e*ScP ScP 08 56 01.4 -1.4
WRA Warramunga Arr 44.61 259 P **P 08 51 26.3 -0.6**
comp=Z,12nm,0.5s,mb4.6,baz=95,slow=6.9,SNR=348
WRA ScP ScP 08 56 01.4 -1.4
comp=Z,8.1nm,0.8s,baz=88,slow=4.0,SNR=24
WRA S **S 08 57 21.3 -4.5**
comp=Z,1.8nm,0.8s,baz=93,slow=14,SNR=8.3
ASAR Alice Springs 44.81 254 P **P 08 51 29.0 +0.5**
comp=Z,84nm,0.5s,mb5.5,baz=89,slow=8.4,SNR=2277
ASAR ScP ScP 08 56 02.5 -1.1
comp=Z,4.7nm,0.8s,baz=113,slow=4.7,SNR=17
ASAR S **S 08 57 25.4 -3.2**
comp=Z,8.9nm,1.0s,baz=90,slow=17,SNR=36
KAKA Kakadu 47.49 269⇓*i*P **P 08 51 48.9 -0.1**
comp=Z,17nm,0.4s,mb4.8
FORT Forrest 50.10 244⇓*i*P **P 08 52 07.9 -0.3**
comp=Z,54nm,0.6s,mb5.0
FORT *e*SCP ScP 08 56 24.5 -1.4
FORT *e*S **S 08 58 32.6 -9.0**
FITZ Fitzroy Crossi 53.00 260⇓*i*P **P 08 52 29.5 +0.2**
comp=Z,4.9nm,0.4s,mb4.2
FITZ *e*S **S 08 59 19.6 -1.2**
FITZ Fitzroy Crossi 53.00 260 S **S 08 59 19.7 -1.2**
comp=Z,2.9nm,1.1s,baz=267,slow=22,SNR=5.5
MBWA Marble Bar 58.08 256 *e*P **P 08 53 03.8 -0.9**
comp=Z,31nm,1.2s,mb4.5
KLBR Kellerberrin 58.93 243⇓*i*P **P 08 53 09.6 -0.7**
comp=Z,30nm,0.7s,mb4.7
NWAO Narrogin (SRO) 59.33 242 P **P 08 53 12.4 -0.5**
NWAO pmax pmax
comp=Z,20nm,1.1s
NWAO Narrogin (SRO) 59.33 242 P **P 08 53 12.4 -0.5**
comp=Z,20nm,1.1s,mb4.4
MUN Mundaring 60.23 243 *e*P **P 08 53 19.2 +0.3**
SBA Scott Base 60.84 184 *e*P **P 08 53 24.5 +2.3**
SBA pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
SBA Scott Base 60.84 184 *e*P **P 08 53 24.4 +2.3**
comp=Z,1.9nm,0.5s,mb3.8
CASY Casey 66.48 205 *e*P **P 08 53 58.0 -0.5**
comp=Z,17nm,1.1s,mb4.6
MJAR Matsushiro Arr 67.50 323 P **P 08 54 04.4 -0.8**
comp=Z,1.4nm,0.7s,mb3.7,baz=158,slow=6.4,SNR=4.3
KSM Kuching 72.53 277 *e*P **P 08 54 35.9 +0.2**
PETK Petropavlovsk- 73.24 345 P **P 08 54 38.2 -0.6**
comp=Z,3.3nm,0.7s,mb4.0,baz=137,slow=7.7,SNR=3.6
PETK Petropavlovsk- 73.24 345 P **P 08 54 38.2 -0.6**
HAST Hastings Reser 75.90 44⇑P **P 08 54 54.8 +0.6**
baz=76
V04C Ramage Ranch, 75.94 45⇓P **P 08 54 54.8 +0.4**
baz=76
PKM Peak Mountain 76.25 46⇑P **P 08 54 56.4 +0.2**
baz=76
PKD Parkfield 76.33 45⇑P **P 08 54 57.0 +0.4**
baz=76
SMMC Simmler 76.35 46⇑P **P 08 54 57.4 +0.7**
baz=76
U04C Hernandez Rese 76.40 45⇑P **P 08 54 57.9 +0.9**
baz=77
PACP Pacheco Peak 76.43 44⇑P **P 08 54 57.9 +0.8**
baz=77
S04C Ingram Canyon, 76.68 43⇓P **P 08 54 59.0 +0.5**
baz=77
ARVC Arvin 77.06 47⇑P **P 08 55 00.9 +0.3**
baz=77
MWC Mount Wilson 77.12 48 *e*P **P 08 55 00.1 -0.9**
MWC pmax pmax
comp=Z,12nm,0.8s,mb4.5
MWC Mount Wilson 77.12 48 *e*P **P 08 55 00.1 -0.9**
comp=Z,12nm,0.8s,mb4.5
S05C Merced 77.25 44⇓P **P 08 55 02.2 +0.6**
baz=77,SNR=5.3
VES Vestal, Richgr 77.27 46⇑P **P 08 55 01.0 -0.8**
baz=77
SUTB Sutter Butte 77.37 42⇑P **P 08 55 01.6 -0.6**
baz=78
MURC Murrieta 77.41 49⇑P **P 08 55 02.8 +0.2**
baz=78
BFSC Mount Baldy St 77.41 48⇓P **P 08 55 02.3 -0.2**
baz=78

T06C Millerton Lake 77.48 45⇑P **P 08 55 02.9 0.0**
baz=78,SNR=8.0
M01C Crescent City 77.48 38⇓P **P 08 55 01.1 -1.6**
baz=78
EDW2 Edwards Air Fo 77.51 47⇑P **P 08 55 03.2 +0.1**
baz=78,SNR=15
CMB Columbia Colle 77.59 43 *e*P **P 08 55 03.1 -0.4**
CMB pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
CMB Columbia Colle 77.59 43⇑P **P 08 55 03.3 -0.2**
baz=78,SNR=5.6
CMB Columbia Colle 77.59 43 *e*P **P 08 55 03.1 -0.3**
comp=Z,6.0nm,0.9s,mb4.0
MONP Monument Peak 77.61 50⇑P **P 08 55 04.3 +0.6**
baz=78,SNR=12
WDC Whiskeytown Da 77.68 40⇑P **P 08 55 03.7 -0.1**
baz=78
ORV Oroville 77.74 42⇑P **P 08 55 04.2 0.0**
baz=78
LAVA Lava Cap Winer 77.77 43⇑P **P 08 55 04.5 +0.1**
baz=78
S06C San Francisco 77.86 44⇑P **P 08 55 05.3 +0.3**
baz=78
KCC Kaiser Creek 77.91 44⇓P **P 08 55 05.3 +0.1**
baz=78,SNR=8.1
PFO Pinyon Flat Ob 77.95 49⇓P **P 08 55 05.4 -0.1**
baz=78
M02C Callahan 77.97 39⇓P **P 08 55 05.7 +0.3**
baz=78
LRMC Laurel Mountai 78.04 47⇓P **P 08 55 06.0 +0.1**
baz=78
SWSC Sam W. Stewart 78.09 50⇑P **P 08 55 06.5 +0.2**
baz=78
P05C Yuba Gap, Truc 78.16 42⇑P **P 08 55 06.6 +0.1**
baz=78
R05C Kirkwood Meado 78.17 43⇑P **P 08 55 06.5 -0.1**
baz=79
YBH Yreka Blue Hor 78.25 39⇑P **P 08 55 07.2 +0.3**
baz=78
CWC Cottonwood Cre 78.27 46⇓P **P 08 55 07.5 +0.3**
baz=78
O04C Chester 78.43 41⇑P **P 08 55 08.2 +0.3**
baz=79
BELC Belle Mtn. 78.47 49⇑P **P 08 55 08.6 +0.3**
baz=79,SNR=6.1
R06C Coleville 78.48 43⇓P **P 08 55 08.4 +0.2**
baz=79,SNR=5.6
MPMC Manual Prospec 78.48 46⇓P **P 08 55 08.4 +0.1**
baz=79,SNR=12
HATC Hat Creek Radi 78.48 41⇓P **P 08 55 08.4 +0.2**
baz=79
R07C Lee Vining 78.51 44⇓P **P 08 55 09.0 +0.6**
baz=79,SNR=6.9
GSC Goldstone 78.56 47 *e*P **P 08 55 08.4 -0.3**
GSC pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
GSC Goldstone 78.56 47⇑P **P 08 55 08.8 +0.1**
baz=79,SNR=6.3
GSC Goldstone 78.56 47 *e*P **P 08 55 08.3 -0.4**
comp=Z,2.3nm,0.8s,mb3.8
LBCM Butte Creek Ri 78.56 41 P **P 08 55 08.7 +0.1**
HEC Hector,Ludlow 78.66 48⇑P **P 08 55 09.2 -0.1**
baz=79,SNR=8.9
WCN Washoe City 78.71 43⇓P **P 08 55 09.5 +0.1**
baz=79,SNR=7.6
J02A Umpqua 78.72 37⇓P **P 08 55 08.9 -0.4**
baz=79
S08C White Mtn Res 78.77 45⇑P **P 08 55 10.5 +0.6**
baz=79,SNR=16
GLA Glamis 78.86 50⇓P **P 08 55 11.2 +0.9**
baz=79
M05C Lookout 78.99 40⇓P **P 08 55 10.8 0.0**
baz=79
L04A Klamath Falls 79.01 39⇑P **P 08 55 11.4 +0.4**
baz=79
GRAC Grapevine Rang 79.05 46⇑P **P 08 55 11.6 +0.3**
baz=79,SNR=8.0
GMRC Granite Mounta 79.11 48⇑P **P 08 55 11.7 0.0**
baz=79
FURC Furnace Creek, 79.13 46⇑P **P 08 55 11.8 +0.1**
baz=79
O06A Flanigan 79.14 42⇓P **P 08 55 12.0 +0.3**
baz=79,SNR=7.4
IRM Iron Mountain 79.16 49⇑P **P 08 55 12.5 +0.5**
baz=79
PAHR Pah Rah Range 79.17 42 *e*P **P 08 55 11.1 -0.8**
comp=Z,4.9nm,0.9s,mb4.0
NVAR Mina Array Bea 79.18 44 P **P 08 55 12.2 +0.2**
comp=Z,8.7nm,0.8s,mb4.3,baz=227,slow=9.4,SNR=52
SHOC Shoshone 79.24 47⇓P **P 08 55 12.7 +0.4**
baz=79
TUQ Turquoise Mtn. 79.25 48⇓P **P 08 55 12.8 +0.4**
baz=79
M06C Likely Place G 79.32 41⇑P **P 08 55 12.7 +0.1**
baz=80
Y12C Blythe 79.42 50⇓P **P 08 55 13.5 +0.2**
baz=80
N06A Buffalo Meadow 79.46 41⇑P **P 08 55 13.2 -0.2**
baz=80,SNR=6.9
U10A Ash Meadows, A 79.47 47⇑P **P 08 55 13.8 +0.2**
baz=80,SNR=5.5
113A Mohawk Valley, 79.50 51⇑P **P 08 55 14.2 +0.4**
baz=80,SNR=7.7
J04A Umpqua Nationa 79.50 38⇑P **P 08 55 13.6 +0.1**
baz=80,SNR=6.6
S09A Goldfield 79.53 45⇑P **P 08 55 13.6 -0.3**
baz=80,SNR=5.4
L05A Lakeview 79.58 40⇑P **P 08 55 14.4 +0.4**
baz=80
LDFC Landfair 79.65 48 *e*P **P 08 55 14.5 0.0**
comp=Z,34nm,1.0s,mb4.8
I04A Tendick Farm, 79.65 38⇑P **P 08 55 14.1 -0.2**
baz=80
Q08A Gabbs 79.66 44⇑P **P 08 55 14.6 +0.2**
baz=80,SNR=9.4
TPH Tonopah 79.72 45 *e*P **P 08 55 14.3 -0.5**
TPH pmax pmax
comp=Z,8.0nm,1.2s,mb4.1
TPH Tonopah 79.72 45 *e*P **P 08 55 14.2 -0.6**
comp=Z,8.4nm,1.2s,mb4.2
O07A Toulon 79.75 42⇓P **P 08 55 15.1 +0.2**
baz=80,SNR=13
TPNV Topopah Spring 79.79 46 *e*P **P 08 55 15.2 0.0**
TPNV pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
TPNV Topopah Spring 79.79 46⇓P **P 08 55 15.5 +0.3**
baz=80
TPNV Topopah Spring 79.79 46 *e*P **P 08 55 15.2 -0.1**
comp=Z,5.1nm,0.9s,mb4.0
MOD Modoc 79.82 40⇑P **P 08 55 15.2 -0.1**
baz=80
MOD Modoc 79.82 40 *e*P **P 08 55 14.4 -0.8**
comp=Z,6.0nm,0.8s,mb4.2
MOD *e*pP pP 08 57 10.8 +5.8
214A Organ Pipe Nat 79.83 52⇑P **P 08 55 16.6 +1.1**
baz=80
R09A Tonopah 79.90 45⇑P **P 08 55 15.1 -0.7**
baz=80
K05A Summer Lake 79.93 39⇓P **P 08 55 15.8 0.0**
baz=80,SNR=5.3
Y13A Salome 79.95 50⇓P **P 08 55 16.6 +0.4**
baz=80,SNR=5.6
PDMCI Parker Dam,Lak 79.96 49⇓P **P 08 55 16.3 +0.1**
baz=80
P08A Dixie Valley 80.01 43⇓P **P 08 55 16.4 +0.1**
baz=80
N07B Gerlach 80.03 42⇓P **P 08 55 16.3 -0.1**
baz=80,SNR=7.8
J05A Fort Rock 80.05 39⇑P **P 08 55 16.6 +0.2**
baz=80,SNR=12
S10A Tonopah Range, 80.06 45⇓P **P 08 55 17.0 +0.4**
baz=80,SNR=14
V12A Nelson 80.15 48⇓P **P 08 55 17.3 +0.2**
baz=80
M07A Soldier Meadow 80.24 41⇓P **P 08 55 17.4 0.0**
baz=80,SNR=8.3
O08A Rochester Mine 80.28 42⇑P **P 08 55 17.8 +0.1**
baz=80,SNR=10
H04A Detroit Lake 80.31 37⇑P **P 08 55 17.2 -0.5**
baz=80
X13A Yucca 80.33 49⇑P **P 08 55 18.5 +0.4**
baz=80
K06A Valley Falls 80.36 39⇑P **P 08 55 18.4 +0.4**
baz=80
Z14A Wintersburg 80.39 51⇓P **P 08 55 19.0 +0.6**
baz=80
R10A Warm Springs 80.45 45⇓P **P 08 55 19.1 +0.5**
baz=81

L07A Adell 80.48 40⇑P **P 08 55 18.9 +0.2**
baz=81,SNR=7.8
S11A Rachel 80.49 46⇑P **P 08 55 19.3 +0.4**
baz=81
W13A Hualapai Mount 80.53 49⇓P **P 08 55 19.5 +0.3**
baz=81
N08A GE Springer Mi 80.56 42⇓P **P 08 55 19.3 +0.1**
baz=81,SNR=11
115A Sonoran Desert 80.61 51⇑P **P 08 55 20.1 +0.5**
baz=81
Y14A Wickenburg 80.61 50⇑P **P 08 55 19.9 +0.3**
baz=81,SNR=6.1
T11A Corn Creek, Al 80.65 46⇑P **P 08 55 20.0 +0.3**
baz=81,SNR=19
E03A Lebam 80.66 35⇑P **P 08 55 19.8 +0.2**
baz=81
Q10A Clear Creek Ra 80.66 44⇓P **P 08 55 20.1 +0.4**
baz=81
J06A Christmas Vall 80.68 39⇓P **P 08 55 19.3 -0.4**
baz=81
U12A Valley of Fire 80.72 47⇑P **P 08 55 20.6 +0.5**
baz=81,SNR=5.0
M08A Happy Creek Ra 80.77 41⇑P **P 08 55 20.4 +0.2**
baz=81,SNR=6.6
V13A Grand Canyon W 80.83 48⇑P **P 08 55 21.1 +0.4**
baz=81,SNR=6.5
O09A Fish Creek Ran 80.84 43⇓P **P 08 55 20.8 +0.2**
baz=81,SNR=6.1
H05A Madras 80.84 37⇓P **P 08 55 20.4 -0.1**
baz=81
216A Three Points, 80.87 52⇓P **P 08 55 21.8 +0.8**
baz=81,SNR=8.8
K07A Rock Creek Ran 80.91 40⇓P **P 08 55 20.9 0.0**
baz=81,SNR=10.0
Z15A Gila River Ind 80.94 51⇓P **P 08 55 21.7 +0.5**
baz=81
116A Eloy 80.94 52⇓P **P 08 55 21.8 +0.5**
baz=81,SNR=6.1
X14A Yava 80.95 50⇑P **P 08 55 21.8 +0.5**
baz=81,SNR=9.5
R11A Troy Canyon, C 80.96 45⇑P **P 08 55 21.3 0.0**
baz=81,SNR=7.1
N09A Rock Creek Ran 80.99 42⇓P **P 08 55 21.6 +0.3**
baz=81,SNR=6.6
P10A Eureka 81.03 44⇓P **P 08 55 21.7 +0.1**
baz=81
I06A Prineville 81.03 38⇓P **P 08 55 21.7 +0.2**
baz=81,SNR=7.8
S12A Delamar Landin 81.09 46⇓P **P 08 55 22.7 +0.8**
baz=81,SNR=25
Y15A Casa Rosa Ranc 81.11 50⇓P **P 08 55 22.9 +0.7**
baz=81,SNR=16
U13A Pakoon Wash 81.12 47⇑P **P 08 55 22.6 +0.5**
baz=81,SNR=18
VIPM Ingram Point 81.12 38 P **P 08 55 21.9 0.0**
G05A Wamic 81.14 37⇑P **P 08 55 22.1 +0.1**
baz=81
WVOR Wild Horse Val 81.14 40 *e*P **P 08 55 21.9 -0.2**
WVOR pmax pmax
comp=Z,14nm,1.0s,mb4.5
WVOR Wild Horse Val 81.14 40 *e*P **P 08 55 21.9 -0.3**
comp=Z,14nm,1.0s,mb4.4
W14A Seligman 81.16 49⇓P **P 08 55 23.0 +0.6**
baz=81,SNR=9.1
Q11A Duckwater 81.17 45⇑P **P 08 55 22.6 +0.3**
baz=81,SNR=16
L08A Fields 81.19 41⇑P **P 08 55 22.4 +0.1**
baz=81,SNR=21
217A Green Valley 81.25 53⇑P **P 08 55 23.7 +0.7**
baz=81,SNR=16
J07A Hines 81.25 39⇓P **P 08 55 22.5 -0.2**
baz=81,SNR=7.7
M09A Marrel Ranch, 81.34 42⇑P **P 08 55 23.3 +0.1**
baz=82,SNR=7.2
V14A Boquillas Ranc 81.35 49⇓P **P 08 55 23.9 +0.5**
baz=82,SNR=11
O10A Cortez Mining, 81.36 43⇓P **P 08 55 23.5 +0.2**
baz=82
K08A Mann Creek Ran 81.40 40⇑P **P 08 55 23.7 +0.3**
baz=82,SNR=21
H06A Lindquist Farm 81.41 38⇑P **P 08 55 23.2 -0.2**
baz=82,SNR=8.8
F05A White Salmon 81.43 36⇓P **P 08 55 23.3 -0.2**
baz=82
X15A Humboldt 81.43 50⇑P **P 08 55 24.4 +0.6**
baz=82,SNR=15
T13A Saint George 81.45 47⇑P **P 08 55 24.3 +0.4**
baz=82,SNR=6.4
P11A Circle Ranch, 81.46 44⇑P **P 08 55 24.2 +0.4**
baz=82
Z16A Peralta Trail, 81.50 51⇑P **P 08 55 24.7 +0.5**
baz=82,SNR=7.3
TUC Tucson 81.52 52 *e*P **P 08 55 24.6 +0.3**
TUC *e**PP pP 08 57 18.9 +4.2
TUC pmax pmax
comp=Z,24nm,1.4s,mb4.5
TUC Tucson 81.52 52 *e*P **P 08 55 24.6 +0.3**
comp=Z,24nm,1.4s,mb4.5
TUC *e*pP pP 08 57 18.9 +4.2
L09A Wilkinson Ranc 81.52 41⇑P **P 08 55 24.5 +0.4**
baz=82,SNR=8.7
G06A Carlson Farm, 81.53 37⇑P **P 08 55 23.5 -0.5**
baz=82
I07A Izee 81.53 39⇓P **P 08 55 24.1 0.0**
baz=82,SNR=10
R12A Pony Springs, 81.61 46⇓P **P 08 55 24.9 +0.2**
baz=82,SNR=11
E05A Randle 81.66 36⇓P **P 08 55 24.1 -0.6**
baz=82
117A Oracle 81.67 52⇓P **P 08 55 26.0 +0.9**
baz=82,SNR=15
U14A Mt Trumbull 81.67 48⇑P **P 08 55 25.7 +0.7**
baz=82,SNR=31
C04A Brinnon 81.69 34⇓P **P 08 55 24.2 -0.6**
baz=82
Y16A Circle Bar Ran 81.71 51⇓P **P 08 55 25.9 +0.7**
baz=82,SNR=11
W15A Williams 81.74 49⇓P **P 08 55 26.2 +0.8**
baz=82
J08A Circle Bar Ran 81.75 40⇑P **P 08 55 25.2 0.0**
baz=82,SNR=16
S13A Holt Ranch, En 81.76 47⇓P **P 08 55 26.1 +0.6**
baz=82,SNR=6.7
H07A Lands Inn, Kim 81.78 38⇑P **P 08 55 25.4 0.0**
baz=82,SNR=8.0
Q12A Willow Creek R 81.82 45⇓P **P 08 55 25.7 0.0**
baz=82,SNR=5.7
O11A Cowboy Ranch, 81.82 44⇑P **P 08 55 26.1 +0.5**
baz=82,SNR=13
K09A Rome 81.85 41⇓P **P 08 55 25.8 0.0**
baz=82,SNR=24
D05A Enumclaw 81.91 35⇑P **P 08 55 25.9 0.0**
baz=82
218A Dragoon 81.93 53⇓P **P 08 55 27.6 +1.2**
baz=82,SNR=16
M10A I.L. Ranch, Tu 81.97 42⇓P **P 08 55 26.9 +0.5**
baz=82,SNR=12
R13A O'Grain Ranch, 81.98 46⇑P **P 08 55 26.7 +0.2**
baz=82
X16A Lo Mia Camp, P 81.98 50⇑P **P 08 55 27.6 +1.0**
baz=82,SNR=23
I08A Drewsey 82.00 39⇑P **P 08 55 26.7 +0.2**
baz=82,SNR=11
T14A Hurricane 82.05 47⇑P **P 08 55 27.5 +0.5**
baz=82,SNR=8.1
E06A Yakima 82.09 36⇑P **P 08 55 26.4 -0.5**
baz=82
CCUT Cedar City 82.09 47 *e*P **P 08 55 35.9 +8.8**
Y17A Roosevelt 82.10 51⇑P **P 08 55 27.9 +0.7**
baz=82,SNR=7.5
G07A Ruggs Ranch, H 82.10 38⇓P **P 08 55 26.8 -0.2**
baz=82
V15A Kaibab Nationa 82.10 49⇓P **P 08 55 28.2 +1.0**
baz=82,SNR=12
Z17A San Carlos Hig 82.19 52⇓P **P 08 55 28.4 +0.7**
baz=82
W16A Flagstaff 82.23 50⇓P **P 08 55 28.6 +0.7**
baz=82,SNR=6.6
319A Douglas 82.25 54⇓P **P 08 55 29.2 +1.1**
baz=82,SNR=13
H08A Prairie City 82.27 39⇓P **P 08 55 27.6 -0.2**
baz=82,SNR=5.0
118A Homack Ranch, 82.28 52⇑P **P 08 55 29.1 +0.9**
baz=82,SNR=12
U15A North Rim 82.31 48⇑P **P 08 55 29.3 +1.1**
baz=82,SNR=33
L10A Juniper Basin 82.31 42⇓P **P 08 55 28.4 +0.3**
baz=82,SNR=20

Q13A	Wheeler Ranch,	82.33	45	⇑P	P	08 55 28.3	0.0
	baz=82,SNR=28						
S14A	Cedar City	82.33	47	⇓P	P	08 55 28.6	+0.2
	baz=82						
C05A	Tolt Reservoir	82.37	35	⇑P	P	08 55 27.6	-0.7
	baz=82						
M11A	Holland Ranch,	82.41	42	⇓P	P	08 55 29.2	+0.6
	baz=83,SNR=8.5						
ELK	Elko	82.41	43	eP	P	08 55 28.1	-0.6
ELK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ELK	Elko	82.41	43	eP	P	08 55 28.1	-0.5
	comp=Z,8.7nm,0.9s,mb4.3						
X17A	Forest Lakes	82.42	51	⇑P	P	08 55 29.8	+1.0
	baz=82,SNR=16						
K10A	MacKenzie Ranc	82.43	41	⇑P	P	08 55 28.8	+0.1
	baz=83,SNR=15						
Z18A	Geronimo	82.43	52	⇓P	P	08 55 29.5	+0.6
	baz=82						
A04A	Legoe Bay, Lum	82.44	34	⇓P	P	08 55 28.6	0.0
	baz=83						
B05A	Bryant	82.49	34	⇓P	P	08 55 28.6	-0.2
	baz=83						
O12A	Currie	82.49	44	⇓P	P	08 55 29.2	+0.1
	baz=83,SNR=13						
T15A	Red Dirt Ranch	82.52	48	⇓P	P	08 55 29.9	+0.5
	baz=83,SNR=9.1						
G08A	Pilot Rock	82.53	38	⇑P	P	08 55 29.0	-0.1
	baz=83,SNR=10.0						
I09A	Lost Marbles R	82.53	39	⇓P	P	08 55 29.1	-0.1
	baz=83						
219A	White Tail Can	82.54	53	⇑P	P	08 55 30.2	+0.7
	baz=83,SNR=9.9						
WUAZ	Wupatki	82.54	49	⇑P	P	08 55 30.1	+0.7
	baz=83,SNR=12						
WUAZ	Wupatki	82.54	49	eP	P	08 55 29.4	0.0
	comp=Z,16nm,1.0s,mb4.5						
WUAZ				e		08 55 40.6	
WUAZ				e		08 56 07.5	
D06A	Cle Elum	82.54	36	⇑P	P	08 55 29.0	-0.2
	baz=83						
P13A	Bates Ranch, G	82.58	45	⇑P	P	08 55 29.5	0.0
	baz=83,SNR=16						
N12A	Clover Valley,	82.60	43	⇑P	P	08 55 29.6	0.0
	baz=83,SNR=10						
E07A	Sunnyside	82.73	36	⇓P	P	08 55 29.5	-0.6
	baz=83						
Y18A	Canyon Day Jun	82.74	51	⇑P	P	08 55 31.1	+0.7
	baz=83,SNR=15						
RSW	Rattlesnake Hi	82.79	37	eP	P	08 55 29.8	-0.7
L11A	Cat Creek Ranc	82.81	42	⇓P	P	08 55 30.8	+0.2
	baz=83,SNR=16						
HAWA	Hanford	82.82	37	eP	P	08 55 29.9	-0.7
	comp=Z,8.6nm,1.1s,mb4.2						
J10A	Berg Farm, Mel	82.84	40	⇑P	P	08 55 30.5	-0.3
	baz=83						
119A	Ashpeak Ranch,	82.84	53	⇓P	P	08 55 31.6	+0.6
	baz=83						
Q14A	Sevier Lake (B	82.85	45	⇓P	P	08 55 31.3	+0.4
	baz=83,SNR=31						
S15A	Panguitch	82.85	47	⇑P	P	08 55 32.1	+1.1
	baz=83,SNR=6.0						
H2OWA	Water	82.88	37	P	P	08 55 30.8	-0.1
F08A	Pendleton	82.92	38	⇓P	P	08 55 30.6	-0.6
	baz=83						
O13A	Hicks Ranch, I	82.93	44	⇓P	P	08 55 31.8	+0.5
	baz=83						
K11A	Parker Ranch,	82.95	41	⇑P	P	08 55 31.3	0.0
	baz=83,SNR=11						
H09A	Durkee	82.95	39	⇓P	P	08 55 31.1	-0.2
	baz=83,SNR=7.8						
M12A	Wells	82.96	43	⇓P	P	08 55 31.6	+0.1
	baz=83,SNR=7.7						
GBL	Gable Mountain	82.98	37	P	P	08 55 31.3	-0.1
D07A	Quincy	83.03	36	⇑P	P	08 55 31.2	-0.4
	baz=83						
ETW	Entiat	83.06	35	P	P	08 55 31.4	-0.3
T16A	Glen Canyon Da	83.12	48	⇓P	P	08 55 32.9	+0.5
	baz=83,SNR=8.7						
X18A	Snowflake	83.13	51	⇓P	P	08 55 32.8	+0.3
	baz=83,SNR=5.5						
E08A	Dider Farm, El	83.14	37	⇓P	P	08 55 31.9	-0.3
	baz=83						
N13A	Wendover, West	83.14	44	⇓P	P	08 55 32.6	+0.3
	baz=83,SNR=8.3						
R15A	Junction	83.16	47	⇓P	P	08 55 33.2	+0.7
	baz=83,SNR=6.6						
I10A	Payette	83.16	40	⇑P	P	08 55 32.4	+0.1
	baz=83						
G09A	Cove	83.22	38	⇑P	P	08 55 32.4	-0.3
	baz=83						
C07A	Waterville	83.26	35	⇓P	P	08 55 32.1	-0.7
	baz=83,SNR=5.0						
L12A	House Creek Ra	83.27	42	⇑P	P	08 55 33.5	+0.6
	baz=83,SNR=9.4						
P14A	Drum Mountains	83.28	45	⇓P	P	08 55 33.6	+0.5
	baz=83,SNR=12						
MSU	Marysvale	83.37	46	eP	P	08 55 34.0	+0.4
Y19A	Nutrioso	83.40	51	⇓P	P	08 55 34.7	+0.9
	baz=84,SNR=16						
MFID	Camas Ranch	83.41	41	⇑P	P	08 55 33.4	-0.3
	baz=84,SNR=9.8						
M13A	Montello	83.42	43	⇑P	P	08 55 34.0	+0.2
	baz=84,SNR=14						
Q15A	Fillmore	83.46	46	⇑P	P	08 55 34.4	+0.4
	baz=84,SNR=13						
H10A	Noah's Angus R	83.47	39	⇑P	P	08 55 33.2	-0.7
	baz=84,SNR=17						
D08A	Wollman Farm,	83.54	36	⇑P	P	08 55 34.1	-0.1
	baz=84,SNR=5.3						
U17A	Shonto	83.55	49	⇓P	P	08 55 35.1	+0.6
	baz=84,SNR=6.2						
X19A	St. Johns	83.58	51	⇓P	P	08 55 35.5	+0.9
	baz=84,SNR=7.2						
I11A	Placerville	83.59	40	⇓P	P	08 55 34.1	-0.4
	baz=84,SNR=13						
K12A	Draper Farm, C	83.59	42	⇑P	P	08 55 34.6	0.0
	baz=84						
TRF	Thorofare Moun	83.61	12	eP	P	08 55 32.3	-1.8
	comp=Z,13nm,0.8s,mb4.5						
G10A	Bishop Farm, J	83.62	39	⇑P	P	08 55 34.2	-0.4
	baz=84,SNR=7.7						
T17A	Navajo Res., N	83.63	48	⇑P	P	08 55 35.4	+0.5
	baz=84,SNR=8.5						
B07A	Winthrop	83.67	35	⇑P	P	08 55 34.0	-0.8
	baz=84,SNR=6.1						
V18A	Ganado	83.67	50	⇑P	P	08 55 35.4	+0.3
	baz=84,SNR=8.4						
DUG	Dugway	83.74	45	⇓P	P	08 55 35.3	0.0
	baz=84						
R16A	Teasdale	83.75	47	⇓P	P	08 55 35.8	+0.3
	baz=84,SNR=8.2						
J12A	Stokes Ranch,	83.78	41	⇑P	P	08 55 35.5	0.0
	baz=84,SNR=7.2						
A07A	Ashnola River,	83.87	34	⇑P	P	08 55 35.1	-0.6
	baz=84						
C08A	Higginbotham F	83.88	36	⇑P	P	08 55 35.3	-0.5
	baz=84						
D09A	Jones Farm, Ri	83.89	37	⇓P	P	08 55 35.5	-0.4
	baz=84						
F10A	Beach Ranch, E	83.92	38	⇓P	P	08 55 35.5	-0.5
	baz=84,SNR=14						
S17A	Black Ridge (B	83.92	48	⇑P	P	08 55 36.1	-0.2
	baz=84,SNR=6.2						
L13A	Double Diamond	83.93	43	⇓P	P	08 55 36.3	+0.1
	baz=84						
H11A	Donnelly	83.97	40	⇑P	P	08 55 36.3	-0.1
	baz=84,SNR=9.4						
M14A	Sheep Mountain	84.03	43	⇑P	P	08 55 36.4	-0.4
	baz=84,SNR=9.1						
U18A	Rough Rock, Ch	84.04	49	⇓P	P	08 55 36.9	0.0
	baz=84						
B08A	Colville Reser	84.05	35	⇓P	P	08 55 35.6	-1.1
	baz=84,SNR=6.2						
K13A	Stover Farm, H	84.12	42	⇑P	P	08 55 37.2	0.0
	baz=84,SNR=7.0						
MCK	McKinley	84.14	13	eP	P	08 55 35.2	-1.6
MCK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
MCK	McKinley	84.14	13	eP	P	08 55 35.2	-1.5
	comp=Z,9.9nm,1.1s,mb4.2						
G11A	Walters Elk Ra	84.18	39	⇑P	P	08 55 36.8	-0.6
	baz=84,SNR=15						
MAW	Mawson	84.23	200	P	P	08 55 37.1	-0.2
	comp=Z,1.3nm,0.5s,mb3.7,baz=157,slow=4.7,SNR=4.9						
PMSA	Palmer Station	84.24	157	eP	P	08 55 37.5	+0.1
	comp=Z,67nm,2.3s,mb4.8						
Q16A	Castle Valley	84.26	46	⇑P	P	08 55 38.5	+0.5
	baz=84						
E10A	Myers Farm, Un	84.27	38	⇓P	P	08 55 37.7	-0.1
	baz=84						
C09A	Chrisman Ranch	84.32	36	⇓P	P	08 55 37.4	-0.7
	baz=84						
R17A	Hanksville Air	84.34	47	⇑P	P	08 55 38.2	-0.2
	baz=84,SNR=7.1						
T18A	Mexican Hat	84.35	48	⇑P	P	08 55 38.7	+0.3
	baz=84,SNR=22						
L14A	Malta	84.36	43	⇑P	P	08 55 37.9	-0.4
	baz=84,SNR=5.3						
HLID	Hailey	84.37	41	⇓P	P	08 55 38.5	+0.1
	baz=84,SNR=17						
HLID	Hailey	84.37	41	eP	P	08 55 38.1	-0.3
	comp=Z,6.2nm,0.8s,mb4.2						
HLID				pP	pP	08 57 34.6	+4.9
HLID				ePP	PP	08 58 59.8	-3.0
A08A	Turner Farm, O	84.42	35	⇓P	P	08 55 38.1	-0.4
	baz=85,SNR=6.8						
J13A	Cove Ranch, Pi	84.44	41	⇓P	P	08 55 38.8	+0.1
	baz=85,SNR=12						
D10A	Wagner Farm, O	84.48	37	⇑P	P	08 55 37.8	-1.0
	baz=85,SNR=5.3						
F11A	Grangeville	84.51	38	⇑P	P	08 55 37.3	-1.7
	baz=85						
M15A	Larsen Ranch,	84.60	44	⇓P	P	08 55 39.3	-0.2
	baz=85						
O16A	Springville	84.63	45	⇑P	P	08 55 40.1	+0.3
	baz=85						
K14A	Jones Ranch, D	84.65	42	⇑P	P	08 55 39.5	-0.3
	baz=85,SNR=8.3						
E11A	Bogner Ranch,	84.72	38	⇓P	P	08 55 38.9	-1.2
	baz=85						
I13A	Wildhorse Cree	84.73	41	⇓P	P	08 55 40.4	+0.2
	baz=85,SNR=5.1						
B09A	Rice	84.73	36	⇓P	P	08 55 39.3	-0.7
	baz=85						
SRU	San Rafael	84.79	46	eP	P	08 55 40.1	-0.5
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
SRU	San Rafael	84.79	46	⇑P	P	08 55 40.6	0.0
	baz=85,SNR=8.7						
SRU	San Rafael	84.79	46	eP	P	08 55 40.1	-0.4
	comp=Z,3.0nm,0.8s,mb4.0						
A09A	Danville	84.80	35	⇓P	P	08 55 40.0	-0.4
	baz=85,SNR=5.9						
P17A	Butcher Ranch,	84.81	46	⇓P	P	08 55 41.0	+0.4
	baz=85						
T19A	Beclabito	84.83	49	⇑P	P	08 55 40.8	+0.1
	baz=85						
L15A	Malad City	84.90	43	⇓P	P	08 55 40.8	-0.2
	baz=85						
R18A	Canyonlands Na	84.90	47	⇑P	P	08 55 40.8	-0.3
	baz=85						
H13A	Challis	84.98	40	⇑P	P	08 55 40.6	-0.7
	baz=85						
F12A	Elk City	84.98	39	⇑P	P	08 55 40.8	-0.5
	baz=85,SNR=14						
N16A	Rees Ranch, Co	85.00	45	⇓P	P	08 55 41.3	-0.2
	baz=85						
D11A	Klaveano Farm,	85.02	37	⇓P	P	08 55 40.4	-1.1
	baz=85						
Q18A	Rafter H Ranch	85.06	47	⇑P	P	08 55 41.5	-0.3
	baz=85						
M16A	Huntsville	85.07	44	⇓P	P	08 55 41.5	-0.4
	baz=85						
O17A	Robinson Place	85.14	45	⇑P	P	08 55 42.5	+0.2
	baz=85						
S19A	Harvey Farm, M	85.15	48	⇓P	P	08 55 42.3	0.0
	baz=85						
I14A	Mackay	85.16	41	⇓P	P	08 55 42.7	+0.5
	baz=85						
LAZ	Ladron	85.17	52	eP	P	08 55 42.5	-0.1
LAZ				epP	pP	08 57 40.1	+6.0
NEW	Newport	85.22	36	eP	P	08 55 41.1	-1.3
NEW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NEW	Newport	85.22	36	eP	P	08 55 41.0	-1.4
	comp=Z,3.3nm,0.7s,mb4.1						
P18A	Preston Nutter	85.22	46	⇓P	P	08 55 42.9	+0.2
	baz=85						
G13A	Cobalt	85.26	40	⇓P	P	08 55 42.2	-0.5
	baz=85,SNR=5.9						
A10A	Northport	85.37	35	⇑P	P	08 55 42.8	-0.4
	baz=86						
COLA	College	85.38	13	eP	P	08 55 41.0	-1.8
COLA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
COLA	College	85.38	13	eP	P	08 55 41.0	-1.8
	comp=Z,7.8nm,1.0s,mb4.3						
N17A	Moffit Pass	85.43	45	⇓P	P	08 55 43.4	-0.2
	baz=86						
BNM	Barren Site	85.45	52	eP	P	08 55 43.4	-0.5
BNM				epP	pP	08 57 41.2	+5.7
J15A	Blackfoot	85.54	42	⇓P	P	08 55 45.1	+1.0
	baz=86						
F13A	Darby	85.55	39	⇓P	P	08 55 43.3	-0.8
	baz=86,SNR=11						
H14A	Leadore	85.55	41	⇑P	P	08 55 44.4	+0.3
	baz=86						
D12A	Red Ives Fores	85.59	38	⇓P	P	08 55 43.4	-0.9
	baz=86,SNR=6.9						
Q19A	Hogan Spring (	85.60	47	⇓P	P	08 55 44.5	0.0
	baz=86						
B11A	Sandpoint	85.74	36	⇓P	P	08 55 44.1	-0.8
	baz=86,SNR=7.4						
I15A	Monteview	85.80	41	⇓P	P	08 55 45.6	+0.3
	baz=86						
G14A	Jackson	85.81	40	⇑P	P	08 55 45.0	-0.3
	baz=86,SNR=5.4						
K16A	Soda Springs	85.81	43	⇓P	P	08 55 45.4	0.0
	baz=86,SNR=6.6						
TXAR	Lajitas Array	85.85	58	P	P	08 55 46.6	+0.7
	comp=Z,8.6nm,0.8s,mb4.4,baz=222,slow=6.0,SNR=90						
ANMO	Albuquerque	85.91	52	eP	P	08 55 45.6	-0.5
ANMO				e*PP	pP	08 57 41.3	+3.4
ANMO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ANMO	Albuquerque	85.91	52	eP	P	08 55 45.5	-0.5
	comp=Z,4.0nm,0.9s,mb4.0						
ANMO				epP	pP	08 57 41.3	+3.4
MCMT	McKenzie Canyo	85.98	41	eP	P	08 55 46.1	-0.1
H15A	Lima	86.00	41	⇑P	P	08 55 46.4	+0.2
	baz=86						
J16A	Bone	86.01	42	⇑P	P	08 55 46.4	+0.1
	baz=86,SNR=17						
A11A	Hall Mountain,	86.02	36	⇓P	P	08 55 45.9	-0.4
	baz=86,SNR=5.6						
AHID	Auburn Hatcher	86.10	43	eP	P	08 55 46.5	-0.3
	comp=Z,9.0nm,1.3s,mb4.2						
D13A	Huson	86.14	38	⇓P	P	08 55 46.0	-0.9
	baz=86						
N18A	Larsen Ranch,	86.22	45	⇑P	P	08 55 47.2	-0.2
	baz=86						
RRI2	Red Ridge	86.23	42	eP	P	08 55 47.3	-0.1
	comp=Z,20nm,0.8s,mb4.8						
RRI2				epP	pP	08 57 44.4	+5.0
RRI2				ePP	PP	08 59 16.1	-1.6
G15A	Dillon	86.36	40	⇑P	P	08 55 47.8	-0.1
	baz=86,SNR=12						
E14A	Clinton	86.37	39	⇓P	P	08 55 47.3	-0.7
	baz=86,SNR=6.9						
I16A	Newdale	86.37	42	⇑P	P	08 55 48.9	+0.8
	baz=86						
DLMT	Dillon	86.39	40	eP	P	08 55 47.7	-0.4
	comp=Z,7.2nm,0.9s,mb4.3						
DLMT				e		08 56 01.4	
DLMT				e		08 56 35.1	
DLMT				epP	pP	08 57 44.7	+4.6
A12A	Yaak River Ran	86.40	36	⇑P	P	08 55 47.6	-0.5
	baz=87						
N19A	John Jarvie Ra	86.52	45	⇓P	P	08 55 48.3	-0.5
	baz=87						
TPAW	Teton Pass	86.54	42	eP	P	08 55 48.6	-0.2
	comp=Z,7.1nm,0.8s,mb4.5						
TPAW				epP	pP	08 57 43.3	+2.4
REDW	Red Top Meadow	86.54	43	eP	P	08 55 48.5	-0.4
	comp=Z,14nm,1.0s,mb4.6						
SNOW	Snow King Moun	86.65	42	eP	P	08 55 49.2	-0.1
	comp=Z,14nm,0.9s,mb4.7						
F15A	Butte	86.69	40	⇑P	P	08 55 49.2	-0.3
	baz=87						
D14A	Greenough	86.69	38	⇑P	P	08 55 48.2	-1.2
	baz=87						
IMW	Indian Meadow	86.73	42	eP	P	08 55 49.7	0.0
	comp=Z,15nm,0.9s,mb4.7						
CHMT	Chamberlain Mo	86.76	39	eP	P	08 55 48.4	-1.4
B13A	Whitefish	86.79	37	⇓P	P	08 55 48.8	-1.1
	baz=87						
LOHW	Long Hollow	86.82	42	eP	P	08 55 49.7	-0.5
	comp=Z,4.0nm,0.7s,mb4.3						
QLMT	Earthquake Lak	86.86	41	eP	P	08 55 50.8	+0.5
E15A	Deer Lodge	86.89	39	⇑P	P	08 55 50.2	-0.2
	baz=87						
FLWY	Flagg Ranch	86.97	42	eP	P	08 55 51.0	+0.2
	comp=Z,13nm,0.9s,mb4.7						
COLD	Coldfoot	87.01	11	eP	P	08 55 49.3	-1.2
	comp=Z,5.6nm,0.9s,mb4.3						
A13A	Flathead Natio	87.10	36	⇑P	P	08 55 51.1	-0.2
	baz=87						
PDAR	Pinedale Array	87.11	43	P	P	08 55 51.0	-0.6
	comp=Z,4.5nm,0.8s,mb4.2,baz=216,slow=2.3,SNR=38						
PDAR				PP	PP	08 59 22.4	-2.3
	comp=Z,0.5nm,0.8s,baz=267,slow=3.0,SNR=4.3						
BOZ	Bozeman (W)	87.13	40	⇓P	P	08 55 51.2	-0.4
	baz=87,SNR=6.5						
D15A	Lincoln	87.26	39	⇑P	P	08 55 51.7	-0.5
	baz=87,SNR=5.7						
LKWY	Lake	87.39	42	eP	P	08 55 53.5	+0.7
LKWY				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
LKWY	Lake	87.39	42	eP	P	08 55 53.5	+0.7
	comp=Z,5.9nm,1.0s,mb4.3						
WALA	Waterton Lakes	87.45	36	eP	P	08 55 52.1	-0.8
	comp=Z,3.6nm,0.8s,mb4.2						
HRY	Holter Researc	87.51	39	eP	P	08 55 52.8	-0.5
SDCO	Great Sand Dun	87.76	49	eP	P	08 55 54.2	-0.5
	comp=Z,2.2nm,0.9s,mb3.9						
RLMT	Red Lodge	88.36	41	eP	P	08 55 57.3	-0.1
	comp=Z,9.9nm,1.5s,mb4.3						
CMAR	Chiang Mai Arr	88.64	290	P	P	08 56 00.2	+0.9
	comp=Z,1.0nm,0.3s,mb4.1,baz=102,slow=3.5,SNR=6.2						
PHWY	Pilot Hill	89.24	46	eP	P	08 56 00.8	-0.7
JCT	Junction City	89.39	58	eP	P	08 56 01.5	-1.0
JCT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
JCT	Junction City	89.39	58	eP	P	08 56 01.5	-1.0
	comp=Z,7.5nm,0.9s,mb4.5						
RSSD	Black Hills	91.32	44	eP	P	08 56 10.1	-1.0
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
RSSD	Black Hills	91.32	44	eP	P	08 56 10.1	-1.0
	comp=Z,2.9nm,0.8s,mb4.3						
DGMT	Dagmar	92.93	40	eP	P	08 56 17.7	-0.7
	comp=Z,16nm,0.9s,mb5.1						
YKA	Yellowknife Ar	93.98	25	P	P	08 56 21.4	-1.4
	comp=Z,2.0nm,0.8s,mb4.2,baz=251,slow=4.7,SNR=7.4						
YKA	Yellowknife Ar	93.98	25	P	P	08 56 21.4	-1.4
AKASG	Malin Array Be	140.13	332	PKP	PKPdf	09 02 28.2	-2.2
	comp=Z,0.3nm,0.3s,baz=49,slow=3.4,SNR=3.6						
CLL	Collm	145.02	347	⇓iPKPbc	PKPbc	09 02 38.8	-0.9
	comp=Z,14nm,0.9s						
KHC	Kasperske Hory	146.94	345	ePKP	PKPbc	09 02 44.5	-0.7
GERES	GERESS Array B	147.17	345	PKPbc	PKPbc	09 02 45.2	-0.6
	comp=Z,4.2nm,0.8s,baz=29,slow=3.0,SNR=13						
GIVF	Givet	147.34	356	ePKP1	PKPbc	09 02 45.2	-1.0
DOU	Dourbes	147.36	356	PKPbc	PKPbc	09 02 45.5	-0.7
BAIF	Baives	147.42	357	ePKP1	PKPbc	09 02 45.6	-0.8
CONA	Conrad Observa	147.42	342	⇑iPKiKP	PKiKP	09 02 46.1	-2.1
	comp=Z,5.4nm,0.9s						
CSNA	Conrad Observa	147.43	342	⇑iP	PKPbc	09 02 46.1	-0.4
	comp=Z,4.3nm,0.8s						
FLN	La Foliniere	148.75	3	ePKP1	PKPbc	09 02 48.5	-1.3
	comp=Z,24nm,0.8s						
CDF	Champ du Feu	148.78	353	ePKP1	PKPbc	09 02 49.0	-0.9
	comp=Z,12nm,0.8s						
KBA	Koelnbrainsper	148.90	344	⇓iP	PKPbc	09 02 48.5	-1.7
	comp=Z,4.4nm,0.6s						
LDF	La Druitiere	148.94	2	ePKP1	PKPbc	09 02 48.8	-1.5
ROSF	Rostrenen	148.98	6	ePKP1	PKPbc	09 02 48.8	-1.6
	comp=Z,80nm,1.4s						
GRR	Gorron	149.11	3	ePKP1	PKPbc	09 02 49.5	-1.2
	comp=Z,26nm,0.9s						
SGMF	Saint Gilles	149.13	5	ePKP1	PKPbc	09 02 49.3	-1.4
	comp=Z,26nm,0.9s						
WTTA	Wattenberg	149.14	346	⇑iP	PKPbc	09 02 49.8	-1.0
	comp=Z,9.5nm,0.7s						
HAU	Haudompre	149.29	354	ePKP1	PKPbc	09 02 50.1	-1.0
QUIF	Quistinic	149.40	6	ePKP1	PKPbc	09 02 49.9	-1.5
ABTA	Abfaltersbach	149.42	345	⇑iP	PKPbc	09 02 50.0	-1.5
	comp=Z,8.7nm,1.0s						
HINF	Hinteralfeld	149.42	353	ePKP1	PKPbc	09 02 50.4	-1.1
DAVA	Damuels	149.48	349	⇑iP	PKPbc	09 02 51.6	0.0
	comp=Z,7.1nm,0.9s						
FETA	Feichten	149.56	347	⇓iP	PKPbc	09 02 51.4	-0.4
	comp=Z,6.9nm,1.1s						
LOR	Lormes	150.23	357	⇑iPKP1	PKPbc	09 02 52.4	-1.0
	comp=Z,11nm,0.7s						
HYF	Humbligny	150.28	358	ePKP1	PKPbc	09 02 53.0	-0.5
SSF	Saint Saulge	150.45	357	⇑iPKP1	PKPbc	09 02 53.0	-0.9
	comp=Z,17nm,0.9s						
CABF	La Chapelle	150.70	354	ePKP1	PKPbc	09 02 54.1	-0.4
	comp=Z,24nm,1.0s						
AVF	Avril sur Loir	150.73	357	ePKP1	PKPbc	09 02 53.3	-1.3
SMF	Signal de Mont	150.85	357	ePKP1	PKPbc	09 02 53.8	-1.0
MFF	Saint Martin d	150.93	2	⇑iPKP1	PKPbc	09 02 53.8	-1.2
	comp=Z,20nm,0.9s						
BGF	Bois d'Agland	150.98	358	ePKP1	PKPbc	09 02 54.1	-1.0
TCF	Toulx Ste Croi	151.26	359	⇑iPKP1	PKPbc	09 02 54.6	-1.2
	comp=Z,7.0nm,0.8s						
RJF	Les Rejaudoux	152.25	360	ePKP1	PKPbc	09 02 56.8	-1.2
	comp=Z,10.0nm,0.8s						
MBDF	Montbardon	152.47	352	ePKP1	PKPbc	09 02 57.7	-0.8
	comp=Z,6.0nm,0.7s						
VIVF	Saint-Julien-l	152.57	355	ePKP1	PKPbc	09 02 57.9	-0.8
CAF	Calviac	152.63	359	ePKP1	PKPbc	09 02 57.9	-1.0
LASF	Ste Croix	153.41	356	ePKP1	PKPbc	09 02 58.6	-2.0
TORD	Torodi Ar. Bea	175.69	183	PKP	PKPdf	09 03 09.9	-2.4

ellipse: s-maj=17.4km s-min=11.0km az=12.8
*KRSC **24** 08:55:25.5±2.4, 5345N×169.13E, h41km±40km, ML4.3*
ISC 24 08:55:25.3±0.4, 5363N±006×16961E±004, h35km, n50, σ1°36/68, mb4.0/15, MS3.5/2, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.85**	**107**	*e*Pn	**Pn**	**08 56 06.7**	**-1.4**
SMY				*e*Sn	**Sn**	**08 56 37.5**	**-3.7**
KBTR	**Krutoberegovo**	**4.70**	**306**	P	**Pn**	**08 56 35.9**	**+2.3**
KBTR				*i* S	**Sn**	**08 57 26.8**	**0.0**
MKZ	**Mys Kozlova**	**4.73**	**285**	*e*P	**Pn**	**08 56 34.4**	**+0.3**
MKZ				*e*S	**Sn**	**08 57 25.0**	**-2.7**
ZLN	**Zelenaya**	**5.63**	**299**	P	**Pn**	**08 56 48.7**	**+2.3**
ZLN				*i* S	**Sn**	**08 57 49.4**	**-0.3**
BZMR	**Bezymyannaya**	**5.76**	**297**	P	**Pn**	**08 56 50.6**	**+2.4**
BZMR				*i* S	**Sn**	**08 57 52.6**	**-0.4**
SPN	**Mys Shipunski**	**5.77**	**269**	*e*P	**Pn**	**08 56 48.4**	**+0.1**
SPN				*e*S	**Sn**	**08 57 49.3**	**-3.8**
TUMR	**Tumrok**	**5.77**	**291**	P	**Pn**	**08 56 50.4**	**+2.1**
TUMR				*i* S	**Sn**	**08 57 51.7**	**-1.4**
KLY	**Klyuchi**	**5.82**	**301**	P	**Pn**	**08 56 50.4**	**+1.4**
KRSR	**Krestovskiy**	**5.83**	**300**	P	**Pn**	**08 56 50.8**	**+1.7**
KRSR				*i* S	**Sn**	**08 57 53.2**	**-1.4**
KIRR	**Kirishev**	**5.85**	**297**	P	**Pn**	**08 56 51.5**	**+2.1**
KIRR				*i* S	**Sn**	**08 57 54.3**	**-0.8**
KPT	**Kopyto**	**5.92**	**297**	P	**Pn**	**08 56 52.7**	**+2.4**
KPT				*i* S	**Sn**	**08 57 55.7**	**-1.1**
KII	**Karymskiy**	**6.03**	**278**	P	**Pn**	**08 56 52.7**	**+0.8**
KII				*i* S	**Sn**	**08 57 56.6**	**-3.1**
KOZR	**Kozyr**	**6.12**	**297**	PN	**Pn**	**08 56 55.5**	**+2.4**
KOZ	**Kozyrevsk**	**6.13**	**297**	P	**Pn**	**08 56 55.5**	**+2.2**
KOZ				*i* S	**Sn**	**08 58 01.4**	**-0.7**
NLC	**Nalytchevo**	**6.16**	**270**	*e*P	**Pn**	**08 56 54.0**	**+0.3**
NLC				*e*S	**Sn**	**08 57 59.0**	**-3.8**
SRDR	**Sredinnyy**	**6.30**	**299**	P	**Pn**	**08 56 58.1**	**+2.5**
SRDR				*i* S	**Sn**	**08 58 06.1**	**-0.2**
AVH	**Avacha**	**6.51**	**271**	P	**Pn**	**08 56 59.6**	**+1.1**
AVH				*i* S	**Sn**	**08 58 08.5**	**-2.9**
PET	**Petropavlovsk**	**6.59**	**269**	P	**Pn**	**08 57 00.6**	**+1.0**
PET				*i* S	**Sn**	**08 58 10.1**	**-3.4**
PET	**Petropavlovsk**	**6.59**	**269**	*e*Pn	**Pn**	**08 57 00.1**	**+0.4**
PET				*e*Sn	**Sn**	**08 58 08.8**	**-4.7**
RUS	**Russkaya**	**6.80**	**264**	*e*P	**Pn**	**08 57 02.6**	**+0.1**
RUS				*e*S	**Sn**	**08 58 13.7**	**-4.9**
GNL	**Ganaly**	**6.94**	**275**	P	**Pn**	**08 57 06.0**	**+1.6**
GNL				*i* S	**Sn**	**08 58 19.5**	**-2.4**
PETK	**Petropavlovsk-**	**7.15**	**271**	Pn	**Pn**	**08 57 08.8**	**+1.6**
	6.3nm,0.3s,baz=92,slow=20,SNR=114						
PETK				Sn	**Sn**	**08 58 26.1**	**-1.1**
	2.2nm,0.3s,baz=93,slow=21,SNR=4.4						
MIPR	**Malaya Ipel'ka**	**7.88**	**265**	P	**Pn**	**08 57 18.4**	**+1.1**
UNV	**Unalaska Valle**	**14.13**	**79**	*e*Pn	**Pn**	**08 58 40.7**	**-1.9**
KDAK	**Kodiak Island**	**21.51**	**64**	P	**P**	**09 00 09.2**	**-1.5**
	2.5nm,0.3s,mb4.0,baz=239,slow=9.9,SNR=5.4						
COLD	**Coldfoot**	**23.51**	**39**	*e*P	**P**	**09 00 30.5**	**-1.2**
	1.4nm,0.6s,mb3.6						
COLA	**College**	**23.97**	**45**	P	**P**	**09 00 35.0**	**-1.0**
YKA	**Yellowknife Ar**	**38.80**	**46**	P	**P**	**09 02 45.5**	**-0.6**
	0.6nm,0.5s,mb3.6,baz=292,slow=7.4,SNR=7.1						
YKA	**Yellowknife Ar**	**38.80**	**46**	P	**P**	**09 02 45.5**	**-0.6**
NEW	**Newport**	**44.59**	**66**	P	**P**	**09 03 28.2**	**-5.4**
NEW				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NEW	**Newport**	**44.59**	**66**	P	**P**	**09 03 28.2**	**-5.4**
	comp=Z,4.7nm,1.2s,mb4.2						
WALA	**Waterton Lakes**	**45.84**	**63**	*e*P	**P**	**09 03 42.8**	**-0.8**
	comp=Z,6.2nm,1.0s,mb4.5						
NVAR	**Mina Array Bea**	**50.13**	**77**	P	**P**	**09 04 16.8**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=289,slow=7.6,SNR=5.6						
DUG	**Dugway**	**52.08**	**71**	*e*P	**P**	**09 04 31.6**	**+0.1**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
DUG	**Dugway**	**52.08**	**71**	*e*P	**P**	**09 04 31.6**	**+0.2**
	comp=Z,2.6nm,0.9s,mb4.2						
BW06	**Boulder Array**	**52.17**	**67**	*e*P	**P**	**09 04 31.7**	**-0.4**
	comp=Z,1.2nm,1.0s,mb3.8						
PDAR	**Pinedale Array**	**52.17**	**67**	P	**P**	**09 04 32.1**	**0.0**
	comp=Z,1.2nm,0.8s,mb3.9,baz=316,slow=4.9,SNR=11						
MKAR	**Makanchi Array**	**52.93**	**301**	LR	LR	09 28 01.4	
	comp=Z,30nm,19.2s,MS3.4,baz=357,slow=37						
SRU	**San Rafael**	**54.11**	**71**	*e*P	**P**	**09 04 46.6**	**+0.2**
SRU				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
SRU	**San Rafael**	**54.11**	**71**	*e*P	**P**	**09 04 46.6**	**+0.2**
	comp=Z,2.3nm,1.0s,mb4.1						
RSSD	**Black Hills**	**54.23**	**62**	*e*P	**P**	**09 04 46.5**	**-0.7**
ISCO	**Idaho Springs**	**56.37**	**67**	P	**P**	**09 05 02.9**	**+0.3**
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ISCO	**Idaho Springs**	**56.37**	**67**	P	**P**	**09 05 02.9**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.2						
ANMO	**Albuquerque**	**59.35**	**72**	*e*P	**P**	**09 05 24.0**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ANMO	**Albuquerque**	**59.35**	**72**	*e*P	**P**	**09 05 24.0**	**+0.4**
	comp=Z,1.4nm,0.9s,mb4.0						
SCHQ	**Schefferville**	**62.31**	**33**	LR	LR	09 33 08.0	
	comp=Z,50nm,20.4s,MS3.7,baz=39,slow=36						
WMOK	**Wichita Mounta**	**63.78**	**67**	*e*P	**P**	**09 05 53.0**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
WMOK	**Wichita Mounta**	**63.78**	**67**	*e*P	**P**	**09 05 53.0**	**-0.5**
	comp=Z,3.1nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**79.33**	**214**	P	**P**	**09 07 27.1**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.6,baz=26,slow=6.1,SNR=5.9						
ASAR	**Alice Springs**	**82.94**	**213**	P	**P**	**09 07 47.0**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.6,baz=28,slow=5.5,SNR=6.5						

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*JMA **24** 09:08:56.7±0.2, 2431N×12672E, h62km, M3.4*
*IDC **24** 09:08:57.8±1.3, 2439N×12680E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.5/20, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=58.9km s-min=22.9km az=83.0*
*ISCJB **24** 09:08:58.2±0.8, 2439N±007×12667E±004, h33km, mb3.5/3, Error ellipse: s-maj=10.0km s-min=5.0km az=160.8*
ISC 24 09:08:59.5±0.8, 2442N±007×12664E±005, h35km, n15, σ0°89/20, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.17**	**287**	P	**Pn**	**09 09 18.8**	**-0.6**
JOGS				*e*S	**Sn**	**09 09 35.3**	**+1.2**
JMJ	**Miyako jima 2**	**1.29**	**288**	P	**Pn**	**09 09 20.4**	**-0.5**
JMJ				*e*S	**Sn**	**09 09 39.0**	**+2.1**
JTJ	**Tarama**	**1.78**	**278**	P	**Pn**	**09 09 26.9**	**-0.8**
JTJ				*e*S	**Sn**	**09 09 48.9**	**-0.2**
JKE	**Kume jima 2**	**1.91**	**4**	P	**Pn**	**09 09 29.0**	**-0.5**
JKE				*e*S	**Sn**	**09 09 52.3**	**+0.1**
JIJ	**Ishigaki jima**	**2.28**	**269**	P	**Pn**	**09 09 33.5**	**-1.0**
JKRS	**Kuro-shima**	**2.41**	**266**	P	**Pn**	**09 09 36.3**	**0.0**
JKRS				*e*S	**Sn**	**09 10 03.8**	**-0.8**
IRIF	**Iriomote-Funau**	**2.65**	**269**	P	**Pn**	**09 09 39.5**	**-0.2**
JOW	**Kunigami**	**2.82**	**31**	P	**Pn**	**09 09 41.8**	**-0.3**
JOW	**Kunigami**	**2.82**	**31**	Pn	**Pn**	**09 09 43.5**	**+1.4**
	4.3nm,0.3s,baz=158,slow=30,SNR=6.0						
JIH	**Iheya**	**2.87**	**24**	P	**Pn**	**09 09 41.8**	**-0.9**
JTK	**Tokunoshima**	**3.95**	**31**	P	**Pn**	**09 09 58.0**	**+0.5**
JMZ	**Minamidaito 2**	**4.38**	**70**	P	**Pn**	**09 10 03.3**	**-0.2**
SONM	**Songino Array**	**28.35**	**331**	P	**P**	**09 14 54.5**	**+4.4**
	1.2nm,0.8s,mb3.6,baz=145,slow=11,SNR=7.4						
WRA	**Warramunga Arr**	**44.73**	**170**	P	**P**	**09 17 11.1**	**+1.7**
	0.5nm,0.6s,mb3.5,baz=350,slow=8.6,SNR=4.3						
ASAR	**Alice Springs**	**48.31**	**171**	P	**P**	**09 17 42.1**	**+4.6**
	0.5nm,1.1s,mb3.5,baz=360,slow=12,SNR=3.5						

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*NEIC **24** 09:13:31.5, 1608N×9571W, h63km, mb3.9/8, MD4.6(MEX), After MEX.*
MEX 24 09:13:31.6±0.4, 1608N×9572W, h64km±5km, MD4.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.49**	**230**	*i* P	Pn	09 13 42.4	-1.4
HUIG				*i* S	Sn	09 13 50.9	-1.7
OXX	**Oaxaca**	**1.39**	**316**	*i* P	Pn	09 13 53.4	-1.4
OXX				*i* S	Sn	09 14 10.3	-2.0
VHO	**Vista Hermosa**	**1.39**	**315**	*i* P	Pn	09 13 53.9	-1.0
VHO				*i* S	Sn	09 14 10.4	-1.9
TUIG	**Tuzandepetl**	**2.30**	**32**	*i* P	Pn	09 14 05.8	-1.4
TUIG				*i* S	Sn	09 14 32.8	-1.7
PNIG	**Pinotepa**	**2.34**	**278**	*i* P	Pn	09 14 06.3	-1.4
PNIG				*i* S	Sn	09 14 33.7	-1.7
TGIG		**2.58**	**74**	*i* P	Pn	09 14 09.6	-1.4
TGIG				*i* S	Sn	09 14 39.8	-1.5
TPIG	**Tehuac#an**	**2.81**	**326**	*i* P	Pn	09 14 15.9	+1.8
TPIG				*i* S	Sn	09 14 46.1	-0.7
SCX	**San Cristobal**	**3.03**	**77**	*i* P	Pn	09 14 15.0	-2.1
SCX				*i* S	Sn	09 14 51.8	-0.5
SCX	**San Cristobal**	**3.03**	**77**	*i* P	Pn	09 14 15.0	-2.1
SCX				*i* S	Sn	09 14 47.6	-4.6
CCIG	**Comitan**	**3.44**	**86**	*i* P	Pn	09 14 21.7	-1.1
CCIG				*i* S	Sn	09 15 01.5	-0.9
THIG		**3.52**	**109**	*i* P	Pn	09 14 25.6	+1.7
THIG				*i* S	Sn	09 15 02.4	-2.0
PPM	**Popocatepetl**	**4.06**	**317**	*i* P	Pn	09 14 30.6	-0.7
PPM				*i* P		09 14 36.5	
PPM				*i* S	Sn	09 15 17.2	-0.5
PPM				*i* S	Sn	09 15 26.6	+9.0
PPM	**Popocatepetl**	**4.06**	**317**	*i* P	Pn	09 14 26.6	-4.7
PPM				*i* S	Sn	09 15 27.2	+10
ACX	**Acapulco**	**4.11**	**282**	*i* P	Pn	09 14 33.0	+1.1
ACX				*i* S	Sn	09 15 18.8	+0.2
YAIG	**Yautepec**	**4.23**	**311**	*e*P	Pn	09 14 41.6	+8.0
YAIG				*i* S	Sn	09 15 20.9	-0.7
YAIG	**Yautepec**	**4.23**	**311**	*i* S	Sn	09 15 15.6	-6.0
PLIG	**Platanillo**	**4.29**	**303**	*e*P	Pn	09 14 36.9	+2.6
PLIG				*i* S	Sn	09 15 25.1	+2.0
CAIG	**El Cayaco**	**4.47**	**283**	*e*P	Pn	09 14 35.2	-1.7
CAIG				*i* S	Sn	09 15 26.2	-1.4
PBVM	**Pinon**	**4.63**	**317**	*e*P	Pn	09 14 45.1	+6.0
ZIIG	**Zihuatanejo**	**5.71**	**286**	*i* P	Pn	09 14 54.1	+0.2
ZIIG				*i* S	Sn	09 15 56.8	-1.2
ZIIG	**Zihuatanejo**	**5.71**	**286**	*i* P	Pn	09 14 54.4	+0.5
ZIIG				*i* S	Sn	09 15 45.8	-12
MOIG	**Morelia**	**6.32**	**305**	*i* S	Sn	09 16 12.5	-0.5
TEIG	**Tepich**	**8.18**	**59**	*e*Pn	Pn	09 15 25.1	-2.6
	27nm,0.6s						
EZ5V		**8.24**	**295**	*i* S	Sn	09 16 57.7	-2.4
R15V		**8.46**	**292**	*i* P	Pn	09 15 35.4	+3.9
LNIG	**Linares**	**9.45**	**339**	*i* P	Pn	09 15 53.5	+8.5
MIAR	**Mount Ida**	**18.48**	**6**	*e*P	Pn	09 17 42.2	-1.0
WMOK	**Wichita Mounta**	**18.78**	**352**	*e*P	Pn	09 17 43.9	-2.9
	1.8nm,0.7s						
UALR	**Unisity of**	**18.86**	**9**	*e*P	Pn	09 17 47.0	-0.7
	8.9nm,0.9s						
BNM	**Barren Site**	**20.50**	**333**	*e*P	P	09 18 07.2	+2.8
LAZ	**Ladron**	**20.93**	**333**	*e*P	P	09 18 10.2	+1.1
ANMO	**Albuquerque**	**21.11**	**335**	*e*P	P	09 18 13.8	+2.7
	3.5nm,1.1s						
SDCO	**Great Sand Dun**	**23.25**	**340**	*e*P	P	09 18 36.0	+2.5
	2.5nm,1.1s						
OLIL	**Olney**	**23.54**	**15**	*e*P	P	09 18 36.1	+0.1
	16nm,0.9s						
SNOW	**Snow King Moun**	**30.15**	**338**	*e*P	P	09 19 38.0	+2.5
	2.8nm,0.6s						
MCMT	**McKenzie Canyo**	**32.09**	**337**	*e*P	P	09 19 53.0	+0.4
DLMT	**Dillon**	**32.45**	**338**	*e*P	P	09 19 58.5	+2.7
	2.8nm,0.8s						

CSEM 24 09:30:07.6±1.1, 4236N×322W, h0km, ML3.7/1, Error ellipse: s-maj=11.3km s-min=6.3km az=66.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELAN	**Lanestosa**	**0.89**	**350**	Pg	Pg	09 30 23.2	-1.4
	SNR=7.9						
ELAN				Lg		09 30 36.9	
	8.2nm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**1.50**	**69**	Pg	Pg	09 30 34.0	-2.4
	SNR=7.9						
EORO				Lg		09 30 56.2	
	SNR=7.9						
EALK	**Alkurruntz**	**1.52**	**55**	P	Pn	09 30 35.2	-0.9
	32nm,0.5s,SNR=14						
EALK				Lg		09 30 56.3	
	SNR=7.9						
ETOR	**Torete**	**1.77**	**150**	Pg	Pg	09 30 39.3	-2.2
	SNR=7.9						
ETOR				Lg		09 31 06.7	
	SNR=7.9						

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*NEIC **24** 09:41:11.7±0.6, 1149S×16538E, h35km, mb4.3/8, Error ellipse: s-maj=16.8km s-min=12.1km az=168.0*
*ISCJB **24** 09:41:12.3±2.7, 116S±0.1×1653E±0.1, h54km±23km, mb4.3/13, MS3.2/3, Error ellipse: s-maj=21.9km s-min=17.2km az=172.0*
*IDC **24** 09:41:16.2±6.0, 1147S×165.16E, h67km±47km, mb3.7/8, mb1 3.9/9, mb1mx3.7/17, mbtmp3.8/9, ML4.1/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/19, Error ellipse: s-maj=49.5km s-min=25.9km az=120.0*
ISC 24 09:41:13.6±2.2, 115S±01×1653E±01, h53km±19km, n22, σ0°89/24, mb4.3/13, MS3.2/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.69**	**291**	P	**Pn**	**09 42 35.6**	**0.0**
	5.8nm,0.3s,baz=38,slow=2.9,SNR=2.7						
HNR				S	**Sn**	**09 43 44.8**	**+5.1**
	13nm,0.3s,baz=273,slow=22,SNR=6.5						
HNR	**Honiara**	**5.69**	**291**	P	**Pn**	**09 42 35.6**	**0.0**
HNR				S	**Sn**	**09 43 44.8**	**+5.1**
CTA	**Charters Tower**	**20.22**	**243**	*e*P	**P**	**09 45 46.2**	**+1.8**
	5.8nm,0.7s						
CTA	**Charters Tower**	**20.22**	**243**	P	**P**	**09 45 45.8**	**+1.4**
	7.7nm,0.7s,baz=73,slow=8.2,SNR=11						
CTA				LR	LR	09 52 10.3	
	comp=Z,98nm,19.2s,MS3.2,baz=73,slow=32						
CTAO	**Charters Tower**	**20.22**	**243**	*e*P	**P**	**09 45 45.7**	**+1.3**
	8.8nm,0.8s						
AFI	**Afiamalu**	**22.45**	**99**	*e*P	**P**	**09 46 07.9**	**-0.5**
	125nm,1.7s,mb5.1						
STKA	**Stephens Creek**	**29.82**	**224**	P	**P**	**09 47 16.7**	**+1.0**
	2.0nm,0.8s,mb3.9,baz=53,slow=13,SNR=5.6						
STKA				LR	LR	09 57 36.8	
	comp=Z,95nm,20.5s,MS3.4,baz=206,slow=33						
STKA	**Stephens Creek**	**29.82**	**224**	*e*P	**P**	**09 47 15.8**	**0.0**
	1.7nm,0.7s,mb3.9						
WRAB	**Tennant Creek**	**30.93**	**250**	*e*P	**P**	**09 47 25.8**	**+0.1**
	1.5nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**30.94**	**250**	P	**P**	**09 47 25.4**	**-0.4**
	0.9nm,0.6s,mb3.8,baz=83,slow=8.8,SNR=11						
WRA				LR	LR	09 59 08.8	
	comp=Z,49nm,20.0s,MS3.2,baz=155,slow=35						
WRA	**Warramunga Arr**	**30.94**	**250**	P	**P**	**09 47 25.4**	**-0.4**
WRA				LR	LR	09 59 08.8	
GUMO	**Guam**	**32.16**	**320**	*e*P	**P**	**09 47 34.6**	**-1.9**
	49nm,0.8s,mb5.4						
ASAR	**Alice Springs**	**32.22**	**244**	P	**P**	**09 47 36.3**	**-0.7**
	0.8nm,0.6s,mb3.7,baz=68,slow=9.6,SNR=17						
FITZ	**Fitzroy Crossi**	**38.87**	**255**	*e*P	**P**	**09 48 33.0**	**-1.1**
	5.1nm,0.8s,mb4.3						
SBA	**Scott Base**	**66.33**	**180**	*e*P	**P**	**09 51 52.0**	**-4.2**
	5.7nm,1.2s,mb4.5						
CMAR	**Chiang Mai Arr**	**71.93**	**294**	P	**P**	**09 52 32.5**	**+0.6**
	1.1nm,0.4s,mb4.1,baz=124,slow=4.1,SNR=5.3						
SONM	**Songino Array**	**78.81**	**324**	P	**P**	**09 53 11.1**	**+0.4**
	0.7nm,0.8s,mb3.6,baz=129,slow=5.8,SNR=4.7						
NVAR	**Mina Array Bea**	**86.64**	**50**	P	**P**	**09 53 53.3**	**+1.7**
	0.6nm,0.6s,mb4.0,baz=232,slow=10,SNR=5.4						
NVAR	**Mina Array Bea**	**86.64**	**50**	P	**P**	**09 53 53.3**	**+1.7**
MK31	**Makanchi Array**	**93.59**	**317**	*e*P	**P**	**09 54 23.8**	**-0.2**
MKAR	**Makanchi Array**	**93.59**	**317**	P	**P**	**09 54 24.4**	**+0.3**
	0.7nm,0.5s,mb4.4,baz=103,slow=5.4,SNR=7.9						
SNAA	**Sanae**	**96.62**	**184**	*e*P	**P**	**09 54 37.1**	**-0.3**
	7.5nm,1.6s,mb4.9						

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*MOS **24** 10:16:48.9±1.0, 604S×12985E, h123km, mb5.1/20, Error ellipse: s-maj=12.2km s-min=6.6km az=117.5*
*BJI **24** 10:16:49.8, 639S×12995E, h152km, mB4.7, mb4.9*
*ISCJB **24** 10:16:50.9±0.2, 6.14S±003×12999E±003, h144km, mb5.1/87, Error ellipse: s-maj=4.6km s-min=3.4km az=152.7*
*GCMT **24** 10:16:51.3±0.2, 6.11S×13000E, h147km±2km, MW5.2/76, Moment Tensor Solution. s34,c42; s76,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.17±.17; $M_{\theta\theta}$-2.44±.17; $M_{\phi\phi}$2.61±.19; $M_{r\theta}$1.49±.13; $M_{\theta\phi}$4.43±.18; M_{0r}-3.85±.14; Best double couple: $M_0$6.55400×10^{16} NP1:ϕ_s254.00000°, δ51.00000°, λ-3.00000°. NP2: ϕ_s345.00000°, δ88.00000°, λ-141.00000°. Principal axes: T 6.3680, Plg24.0000°, Azm113.0000°; N 0.3760, Plg51.0000°, Azm348.0000°; P -6.7400, Plg28.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **24** 10:16:51.3±1.0, 608S×12994E, h133km±9km, mb5.3/35 Error ellipse: s-maj=7.0km s-min=4.7km az=52.0*
*IDC **24** 10:16:53.6±0.6, 605S×12994E, h156km±4km, mb4.6/16, mb1 4.7/18, mb1mx4.7/19, mbtmp4.7/18, MS3.7/9, Ms1 3.7/9, ms1mx3.5/26, Error ellipse: s-maj=12.7km s-min=8.4km az=69.0*
*DJA **24** 10:16:54, 622S×13002E, h148km, mB5.9/4*
ISC 24 10:16:52.8±0.2, 615S±003×12999E±003, h146km, h146km±1.8km: pP-P, n225, σ1°10/231, mb5.1/87, 11C-24D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.98**	**339**	P	**Pn**	**10 17 41.4**	**+1.6**
	0.0nm,0.0s						
AAI	**Ambon**	**3.03**	**324**	P	**Pn**	**10 17 42.3**	**+1.8**
	0.0nm,0.0s						
LBMI	**Labuha**	**6.01**	**336**	P	**Pn**	**10 18 20.5**	**+0.8**
	2μm,1.0s						
KAKA	**Kakadu**	**6.95**	**160**	⇓*i*P	**Pn**	**10 18 32.0**	**-0.3**
	965nm,0.5s						
KAKA				*e*S	**Sn**	**10 19 45.4**	**-4.8**
BBSI	**Bau Bau**	**7.41**	**275**	P	**Pn**	**10 18 42.6**	**+4.2**
	0.0nm,0.0s						
BATI	**Baumata**	**7.44**	**237**	P	**Pn**	**10 18 39.7**	**+0.9**
	1μm,0.8s						
BATI	**Baumata**	**7.44**	**237**	P	**Pn**	**10 18 40.0**	**+1.2**
	149nm,0.3s,baz=126,slow=1.4,SNR=118						
BATI				S	**Sn**	**10 20 01.0**	**-1.0**
	65nm,0.3s,baz=268,slow=24,SNR=6.2						
KDI	**Kendari**	**7.66**	**286**	P	**Pn**	**10 18 45.6**	**+3.9**
	0.0nm,0.0s						
MNI	**Manado**	**9.13**	**326**	P	**Pn**	**10 19 02.3**	**+0.9**
	0.0nm,0.0s						
KAPI	**Kappang**	**10.25**	**276**	⇓P	**Pn**	**10 19 23.5**	**+7.2**
	SNR=13						
KAPI	**Kappang**	**10.25**	**276**	*e*Pn	**Pn**	**10 19 18.2**	**+1.9**
MMPI	**Merauke**	**10.56**	**103**	P	**Pn**	**10 19 20.7**	**+0.2**
	0.0nm,0.0s						
JAY	**Jayapura**	**11.28**	**72**	P	**Pn**	**10 19 31.6**	**+1.7**
	91nm,0.4s						
PCI	**Palu**	**11.39**	**297**	P	**Pn**	**10 19 35.9**	**+4.5**
	534nm,1.1s						
FITZ	**Fitzroy Crossi**	**12.61**	**199**	⇓*i*P	**Pn**	**10 19 44.2**	**-3.0**
	355nm,0.8s						
FITZ				*e*S	**Sn**	**10 21 56.9**	**-10**
FITZ	**Fitzroy Crossi**	**12.61**	**199**	P	**Pn**	**10 19 44.4**	**-2.8**
	6.5nm,0.3s,baz=25,slow=15,SNR=125						
FITZ				S	**Sn**	**10 21 56.8**	**-10**
	19nm,0.3s,baz=89,slow=22,SNR=8.6						
FITZ				LR	LR	10 25 03.0	
	comp=Z,105nm,21.7s,baz=25,slow=39						
MTNI	**Mataram**	**13.92**	**259**	P	**Pn**	**10 20 05.3**	**+1.3**
	164nm,0.8s						
SMKI	**Samarinda**	**13.96**	**293**	P	**Pn**	**10 20 09.9**	**+5.4**
	154nm,0.9s						
WRAB	**Tennant Creek**	**14.34**	**163**	Pn	**Pn**	**10 20 07.0**	**-2.2**
	1μm,0.4s						
WRAB	**Tennant Creek**	**14.34**	**163**	*e*Pn	**Pn**	**10 20 07.5**	**-1.8**
WRA	**Warramunga Arr**	**14.35**	**163**	P	**Pn**	**10 20 06.1**	**-3.2**
	9.1nm,0.3s,baz=345,slow=13,SNR=174						
WRA				S	**Sn**	**10 22 36.9**	**-11**
	29nm,0.3s,baz=349,slow=22,SNR=8.5						
WRA				LR	LR	10 25 15.4	
	comp=Z,110nm,21.1s,baz=5.0,slow=35						
WRA	**Warramunga Arr**	**14.35**	**163**	P	**Pn**	**10 20 06.1**	**-3.2**
WRA				S	**Sn**	**10 22 36.9**	**-11**
WRA				LR	LR	10 25 15.4	
WB2	**Warramunga Arr**	**14.35**	**163**	*e*P	**Pn**	**10 20 06.9**	**-2.4**
WB2				*e*S	**Sn**	**10 22 34.1**	**-14**
WB2				*e*SCS	ScS	10 32 08.0	-5.5
KHKI	**Kahang-Kahang**	**14.43**	**260**	P	**Pn**	**10 20 11.0**	**+0.5**
	183nm,0.8s						
COEN	**Coen**	**15.12**	**122**	*e*Pn	**Pn**	**10 20 18.4**	**-0.6**
	360nm,0.9s						
BBKI	**Banjar Baru**	**15.33**	**279**	P	**Pn**	**10 20 25.4**	**+3.8**
	976nm,1.1s						
TSM	**Tawau**	**15.94**	**310**	⇓P	**Pn**	**10 20 30.3**	**+1.1**
KMMI	**Kalianget**	**15.94**	**266**	P	**Pn**	**10 20 33.2**	**+4.0**
	664nm,0.9s						
MYLDM	**Lahad Datu**	**16.07**	**314**	⇓P	**Pn**	**10 20 32.0**	**+1.2**
PLKI

HNR	**Honiara**	**29.86 98**	P	**P**	**10 22 46.7**	**-0.1**
	comp=Z,137nm,0.6s,mb5.9,baz=114,slow=3.3,SNR=15					
HNR			LR	LR	10 35 32.3	
	comp=Z,181nm,18.5s,baz=359,slow=37					
PPI	**Padang Panjang**	**30.07 280**	P	**P**	**10 22 47.2**	**-1.4**
	comp=Z,102nm,0.9s,mb5.5					
IPM	**Ipoh**	**30.79 289**	⇑P	**P**	**10 22 55.1**	**+0.2**
KULM	**Kulim**	**31.42 291**	⇑P	**P**	**10 22 59.9**	**-0.6**
ARMA	**Armidale**	**31.57 143**	*e*P	**P**	**10 23 03.4**	**+1.8**
QIZ	**Qiongzhong**	**31.94 322**	P	**P**	**10 23 04.4**	**-0.6**
QIZ			AP	pP	10 23 34.4	-1.7
QIZ			PP	PP	10 24 21.3	+1.2
QIZ			S	**S**	**10 28 04.5**	**-1.1**
QIZ			XS	sS	10 28 59.1	-1.1
QIZ			AMB	AMB		
	comp=Z,25nm,1.1s,mb4.9					
QIZ			AMB	AMB		
	comp=Z,43nm,3.0s					
QIZ			LR	LR		
	comp=N,200nm,14.2s					
QIZ			LR	LR		
	comp=Z,123nm,19.2s					
TRSI	**Tarutung**	**32.03 284**	P	**P**	**10 23 09.5**	**+3.6**
	comp=Z,433nm,0.4s					
PSI	**Prapat**	**32.27 285**	P	**P**	**10 23 05.6**	**-2.3**
	comp=Z,34nm,0.9s,mb5.1,baz=92,slow=3.9,SNR=11					
PSI			ScP	ScP	10 29 19.2	-4.1
	comp=Z,6.3nm,0.7s,baz=161,slow=3.6,SNR=4.8					
PSI	**Prapat**	**32.27 285**	P	**P**	**10 23 05.6**	**-2.3**
PSI			ScP	ScP	10 29 19.2	-4.1
CAN	**Canberra**	**33.90 151**	*e*P	**P**	**10 23 23.6**	**+1.8**
CNB	**Canberra Magne**	**34.07 151**	*e*P	**P**	**10 23 26.0**	**+2.7**
TOO	**Toolangi**	**34.31 158**	⇓*i*P	**P**	**10 23 27.9**	**+2.5**
CM31	**Chiang Mai Arr**	**39.18 309**	*e*P	**P**	**10 24 05.5**	**-1.3**
	comp=Z,7.5nm,0.4s,mb4.7					
CMAR	**Chiang Mai Arr**	**39.18 309**	P	**P**	**10 24 06.5**	**-0.3**
	comp=Z,14nm,0.7s,mb4.7,baz=136,slow=7.2,SNR=78					
CMAR			PcP	PcP	10 26 13.3	-0.1
	comp=Z,5.7nm,1.0s,baz=165,slow=2.5,SNR=5.9					
CMAR			ScP	ScP	10 29 45.1	-3.3
	comp=Z,2.5nm,0.7s,baz=162,slow=3.3,SNR=8.8					
CMAR			LR	LR	10 39 14.9	
	comp=Z,100nm,19.2s,baz=145,slow=34					
CMAR	**Chiang Mai Arr**	**39.18 309**	P	**P**	**10 24 06.6**	**-0.2**
CMAR					10 26 13.3	
CMAR					10 29 45.2	
CHTO	**Chiang Mai**	**39.39 310**	⇓P	**P**	**10 24 08.5**	**-0.1**
	SNR=16					
CHTO	**Chiang Mai**	**39.39 310**	*e*P	**P**	**10 24 08.5**	**-0.1**
CHTO			pmax	pmax		
	comp=Z,35nm,0.8s,mb5.0					
CHTO	**Chiang Mai**	**39.39 310**	*e*P	**P**	**10 24 08.5**	**0.0**
	comp=Z,35nm,0.8s,mb5.0					
WHN	**Wuhan**	**39.44 339**	⇑P	**P**	**10 24 09.0**	**+0.2**
WHN			AP	pP	10 24 43.5	+2.7
WHN			S	**S**	**10 29 54.3**	**-5.6**
WHN			AMB	AMB		
	comp=Z,69nm,0.7s,mb5.4					
WHN			LR	LR		
	comp=Z,284nm,23.5s					
NJ2	**Nanjing**	**39.45 345**	*e*P	**P**	**10 24 11.3**	**+2.5**
NJ2			AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7					
GYA	**Guiyang**	**39.53 326**	⇓*i*P	**P**	**10 24 09.4**	**-0.2**
GYA			AP	pP	10 24 40.4	-1.2
GYA			XP	sP	10 24 56.5	-1.6
GYA			PP	PP	10 25 49.3	+5.9
GYA			PCP	PcP	10 26 16.9	+2.6
GYA			S	**S**	**10 29 57.1**	**-4.1**
GYA			SCS	ScS	10 34 02.9	+0.6
GYA			AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8					
GYA			AMB	AMB		
	comp=Z,140nm,4.6s					
GYA			LR	LR		
	comp=N,520nm,19.8s					
GYA			LR	LR		
	comp=E,490nm,18.0s					
GYA			LR	LR		
	comp=Z,510nm,19.6s					
KMI	**Kunming**	**40.85 321**	P	**P**	**10 24 21.4**	**+0.9**
KMI			AP	pP	10 24 51.8	-0.9
KMI			XP	sP	10 25 07.8	-1.4
KMI			PP	PP	10 25 58.8	+1.0
KMI			S	**S**	**10 30 18.3**	**-2.7**
KMI			AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1					
KMI			AMB	AMB		
	comp=Z,52nm,3.1s					
KMI			LR	LR		
	comp=N,90nm,8.4s					
KMI			LR	LR		
	comp=E,94nm,8.7s					
KMI			LR	LR		
	comp=Z,83nm,10.4s					
MJAR	**Matsushiro Arr**	**43.16 10**	P	**P**	**10 24 37.1**	**-1.9**
	comp=Z,12nm,0.6s,mb4.7,baz=187,slow=9.6,SNR=45					
MJAR			pP	pP	10 25 11.8	+0.3
	comp=Z,8.8nm,0.9s,baz=187,slow=9.8,SNR=2.9					
MJAR			ScP	ScP	10 30 00.5	-3.3
	comp=Z,2.8nm,0.9s,baz=180,slow=4.6,SNR=5.2					
MAJO	**Matsushiro**	**43.16 10**	*e*P	**P**	**10 24 37.7**	**-1.4**
MAJO			*PP	pP	10 25 07.6	-4.0
MAJO			pmax	pmax		
	comp=Z,23nm,0.8s,mb4.9					
MAJO	**Matsushiro**	**43.16 10**	*e*P	**P**	**10 24 37.7**	**-1.4**
	comp=Z,23nm,0.8s,mb4.8					
MAJO			pP	pP	10 25 07.6	-3.9
MAT	**Matsushiro**	**43.16 10**	P	**P**	**10 24 38.6**	**-0.5**
MAT			*e*S	**S**	**10 30 58.0**	**+3.4**
KSRS	**Korea Array**	**43.42 358**	P	**P**	**10 24 40.9**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.0,baz=173,slow=9.7,SNR=13					
KSRS			pP	pP	10 25 12.7	-1.0
	comp=Z,1.8nm,0.7s,baz=185,slow=7.9,SNR=2.3					
KSRS			ScP	ScP	10 30 02.1	-2.7
	comp=Z,2.8nm,0.8s,baz=183,slow=4.5,SNR=8.4					
KSRS			LR	LR	10 43 32.5	
	comp=Z,68nm,19.5s,baz=200,slow=37					
CD2	**Chengdu**	**44.59 327**	*e*P	**P**	**10 24 49.8**	**-0.7**
CD2			AP	pP	10 25 21.4	-1.8
CD2			XP	sP	10 25 37.5	-2.1
CD2			PP	PP	10 26 37.3	-0.4
CD2			S	**S**	**10 31 15.4**	**-0.1**
CD2			XS	sS	10 32 11.1	-1.1
CD2			SS	SS	10 34 32.1	-7.7
CD2			AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1					
CD2			AMB	AMB		
	comp=Z,130nm,5.2s					
CD2			LR	LR		
	comp=N,230nm,20.4s					
CD2			LR	LR		
	comp=E,310nm,15.6s					
CD2			LR	LR		
	comp=Z,120nm,18.0s					
XAN	**Xi'an**	**44.67 335**	P	**P**	**10 24 48.0**	**-3.1**
XAN			AP	pP	10 25 21.1	-2.7
XAN			PP	PP	10 26 35.3	-3.2
XAN			S	**S**	**10 31 08.8**	**-7.8**
XAN			AMB	AMB		
	comp=Z,32nm,0.8s,mb5.0					
XAN			AMB	AMB		
	comp=Z,48nm,4.8s					
BJT	**Baijiatuau**	**47.68 346**	*e*P	**P**	**10 25 14.3**	**-0.2**
BJT			pmax	pmax		
	comp=Z,13nm,0.5s					
BJT	**Baijiatuau**	**47.68 346**	*e*P	**P**	**10 25 14.3**	**-0.2**
	comp=Z,13nm,0.5s,mb4.8					
BJI	**Beijing**	**47.70 346**	P	**P**	**10 25 14.6**	**-0.1**
BJI			AP	pP	10 25 46.5	-1.2
BJI			XP	sP	10 26 01.3	-2.7
BJI			PCP	PcP	10 26 42.5	+0.8
BJI			S	**S**	**10 32 04.4**	**+4.8**
BJI			XS	sS	10 32 56.9	-0.1
BJI			AMB	AMB		
	comp=Z,35nm,0.8s,mb5.0					
BJI			AMB	AMB		
	comp=Z,67nm,4.5s					
SHL	**Shillong**	**48.62 312**	*e*P	**P**	**10 25 21.0**	**-1.1**
LZH	**Lanzhou**	**48.66 332**	*e*P	**P**	**10 25 22.4**	**+0.3**
LZH			AP	pP	10 25 53.0	-2.3
LZH			XP	sP	10 26 08.8	-2.8
LZH			PCP	PcP	10 26 45.6	+0.3
LZH			PP	PP	10 27 17.5	+0.9
LZH			SCP	ScP	10 30 25.3	-1.4
LZH			PCS	PcS	10 30 39.5	-2.1
LZH			*e*S	**S**	**10 32 16.0**	**+2.8**
LZH			SS	SS	10 35 42.1	-3.6
LZH			AMB	AMB		
	comp=Z,53nm,1.5s,mb5.0					
LZH			AMB	AMB		
	comp=Z,100nm,4.0s					
LZH			LR	LR		
	comp=E,827nm,16.6s					
LZH			LR	LR		
	comp=Z,1μm,17.5s					
HHC	**Hu-ho-hao-te**	**49.74 342**	*e*P	**P**	**10 25 29.9**	**-0.4**
HHC			AP	pP	10 26 02.3	-1.3
HHC			XP	sP	10 26 18.1	-1.7
HHC			PCP	PcP	10 26 48.5	-0.6
HHC			PP	PP	10 27 28.5	+2.1
HHC			SCP	ScP	10 30 29.3	-1.9
HHC			PCS	PcS	10 30 44.1	-1.9
HHC			S	**S**	**10 32 27.0**	**-1.2**
HHC			XS	sS	10 33 24.8	-1.1
HHC			SCS	ScS	10 35 04.6	-2.3
HHC			SS	SS	10 36 00.4	-2.4
HHC			AMB	AMB		
	comp=Z,11nm,1.0s,mb4.4					
HHC			AMB	AMB		
	comp=Z,73nm,5.9s					
HHC			LR	LR		
	comp=N,154nm,15.5s					
HHC			LR	LR		
	comp=E,109nm,16.7s					
HHC			LR	LR		
	comp=Z,69nm,16.6s					
CN2	**Changchun**	**49.89 356**	*e*P	**P**	**10 25 32.0**	**+0.7**
CN2			*e*XP	sP	10 26 19.0	-1.9
CN2			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6					
CN2			AMB	AMB		
	comp=Z,200nm,3.0s					
MDJ	**Mudanjiang**	**50.54 360**	P	**P**	**10 25 37.8**	**+1.6**
MDJ			AP	pP	10 26 07.9	-1.7
MDJ			PP	PP	10 27 35.0	+1.4
MDJ			PCS	PcS	10 30 50.9	+1.6
MDJ			S	**S**	**10 32 42.6**	**+3.5**
MDJ			AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.1					
MDJ			AMB	AMB		
	comp=Z,12nm,3.0s					
LSA	**Lhasa**	**51.58 316**	P	**P**	**10 25 45.1**	**+0.8**
LSA	**Lhasa**	**51.58 316**	*e*P	**P**	**10 25 44.9**	**+0.6**
LSA			pmax	pmax		
	comp=Z,41nm,0.8s,mb5.1					
LSA	**Lhasa**	**51.58 316**	*e*P	**P**	**10 25 44.9**	**+0.6**
	comp=Z,41nm,0.8s,mb5.1					
VIS	**Vishakhapatnam**	**51.81 298**	*e*P	**P**	**10 25 46.0**	**-0.2**
VIS			AMb	AMB	10 25 47.5	
	comp=Z,65nm,1.0s,mb5.2					
RPZ	**Rata Peaks**	**51.91 143**	P	**P**	**10 25 47.1**	**+0.6**
	comp=Z,7.6nm,0.5s,mb4.6,baz=218,slow=7.1,SNR=4.2					
BOK	**Bokaro**	**52.31 306**	*e*P	**P**	**10 25 50.2**	**+0.4**
ODAN	**Odare**	**52.70 311**	*e*P	**P**	**10 25 52.3**	**-0.3**
	comp=Z,111nm,0.6s,mb5.7					
TAPN	**Taplejung**	**52.72 311**	*e*P	**P**	**10 25 52.7**	**0.0**
	comp=Z,79nm,0.5s,mb5.7					
GTA	**Gaotai**	**53.23 331**	P	**P**	**10 25 56.6**	**+0.4**
GTA			AP	pP	10 26 29.3	-0.7
GTA			XP	sP	10 26 45.0	-1.1
GTA			PCP	PcP	10 27 03.4	+1.2
GTA			PP	PP	10 28 01.8	+3.8
GTA			SCP	ScP	10 30 45.3	-1.0
GTA			S	**S**	**10 33 17.5**	**+1.4**
GTA			SCS	ScS	10 35 27.9	-3.3
GTA			SS	SS	10 36 57.4	-0.7
GTA			AMB	AMB		
	comp=Z,25nm,0.8s,mb5.0					
GTA			AMB	AMB		
	comp=Z,44nm,6.3s					
GTA			LR	LR		
	comp=N,128nm,9.3s					
GTA			LR	LR		
	comp=E,389nm,9.6s					
GTA			LR	LR		
	comp=Z,84nm,9.6s					
URZ	**Urewera**	**53.26 134**	P	**P**	**10 25 56.4**	**-0.2**
	comp=Z,10nm,0.8s,mb4.6,baz=137,slow=3.9,SNR=9.7					
RAMN	**Ramite**	**53.34 310**	*e*P	**P**	**10 25 57.5**	**+0.2**
	comp=Z,299nm,0.6s,mb6.2					
JIRN	**Jiri**	**54.02 311**	*e*P	**P**	**10 26 02.1**	**-0.2**
	comp=Z,19nm,0.2s,mb5.4					
GUN	**Gumba**	**54.39 311**	*e*P	**P**	**10 26 04.8**	**-0.1**
	comp=Z,223nm,0.7s,mb6.0					
PKI	**Pulchoki**	**54.57 310**	*e*P	**P**	**10 26 05.6**	**-0.6**
	comp=Z,62nm,0.7s,mb5.5					
PKI	**Pulchoki**	**54.57 310**	*e*P	**P**	**10 26 05.7**	**-0.5**
PKI			pmax	pmax		
	comp=Z,51nm,0.6s,mb5.4					
PKI	**Pulchoki**	**54.57 310**	*e*P	**P**	**10 26 05.7**	**-0.5**
	comp=Z,51nm,0.6s,mb5.4					
PKIN	**Phulchoki**	**54.58 310**	*e*P	**P**	**10 26 05.7**	**-0.6**
	comp=Z,51nm,0.6s,mb5.4					
KOD	**Kodaikanal**	**54.78 287**	*e*P	**P**	**10 26 06.7**	**-1.3**
KKN	**Kakani**	**54.78 310**	*e*P	**P**	**10 26 07.3**	**-0.4**
	comp=Z,91nm,0.7s,mb5.6					
KKN	**Kakani**	**54.78 310**	*e*P	**P**	**10 26 07.3**	**-0.4**
KKN			pmax	pmax		
	comp=Z,91nm,0.7s,mb5.6					
DMN	**Daman**	**54.82 310**	*e*P	**P**	**10 26 07.9**	**-0.1**
	comp=Z,90nm,0.8s,mb5.6					
KLR	**Kul'dur**	**55.17 1**	*e*P	**P**	**10 26 06.3**	**-3.8**
KLR			*e*	pP	10 26 40.6	-3.5
GKN	**Gorkha**	**55.38 310**	*e*P	**P**	**10 26 11.8**	**-0.2**
HYB	**Hyderabad**	**55.94 296**	*i* P	**P**	**10 26 15.0**	**-1.2**
HYB	**Hyderabad**	**55.94 296**	*e*P	**P**	**10 26 15.0**	**-1.2**
HYB			*e*		10 26 24.0	
KOLN	**Koldanda**	**56.05 309**	*e*P	**P**	**10 26 16.8**	**-0.1**
	comp=Z,104nm,0.8s,mb5.7					
DANN	**Dangsing**	**56.22 310**	*e*P	**P**	**10 26 17.8**	**-0.2**
	comp=Z,66nm,0.6s,mb5.6					
NGP	**Nagpur**	**56.86 300**	*e*P	**P**	**10 26 19.1**	**-3.6**
SONM	**Songino Array**	**57.64 341**	P	**P**	**10 26 27.9**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.3,baz=153,slow=8.1,SNR=22					
SONM			pP	pP	10 27 02.5	+0.6
	comp=Z,6.1nm,0.7s,baz=155,slow=7.1,SNR=4.5					
LATR	**Latur**	**58.06 296**	*e*P	**P**	**10 26 29.7**	**-1.4**
AKL	**Akola**	**58.45 299**	*e*P	**P**	**10 26 32.3**	**-1.6**
AKL			AMb	AMB	10 26 34.1	
	comp=Z,44nm,0.6s,mb5.5					
KAD	**Karad**	**59.84 294**	*e*P	**P**	**10 26 42.0**	**-1.4**
KAD			AMb	AMB	10 26 42.5	
	comp=Z,44nm,0.6s,mb5.4					
POO	**Poona**	**60.52 295**	*e*P	**P**	**10 26 46.0**	**-2.1**
NDI	**New Delhi**	**61.46 307**	*ex*	x	10 26 50.0	
CASY	**Casey**	**61.53 189**	*e*P	**P**	**10 26 54.3**	**+0.3**
TLY	**Talaya**	**61.87 342**	*e*P	**P**	**10 26 57.2**	**+0.7**
TLY			*e*	pP	10 27 33.3	+2.2
TLY			*e*S	**S**	**10 35 17.8**	**+9.3**
TLY			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4					
TLY			MLR	MLR		
	comp=Z,43nm,18.0s					
IRK	**Irkutsk**	**62.17 342**	*e*P	**P**	**10 26 57.1**	**-1.3**
IRK			*e*	pP	10 27 34.0	+0.9
IRK			pmax	pmax		
	comp=Z,48nm,0.7s,mb5.4					
SMLA	**Simla**	**62.58 310**	*i* P	**P**	**10 27 00.9**	**-0.8**
SMLA			AMb	AMB	10 27 02.2	
	comp=Z,115nm,1.1s,mb5.6					
AJM	**Ajmer**	**62.64 304**	*e*P	**P**	**10 27 01.2**	**-0.9**
WMQ	**Urumqi**	**62.68 327**	P	**P**	**10 27 04.0**	**+2.0**
WMQ			AP	pP	10 27 37.6	+0.8
WMQ			XP	sP	10 27 53.3	+0.7
WMQ			AMB	AMB		
	comp=Z,41nm,0.7s,mb5.4					
WMQ			LR	LR		
	comp=N,142nm,26.8s					
WMQ			LR	LR		
	comp=Z,47nm,20.8s					
MOY	**Mondy**	**62.72 340**	*e*P	**P**	**10 27 03.7**	**+1.6**
MOY			pmax	pmax		
	comp=Z,89nm,1.5s,mb5.4					
PETK	**Petropavlovsk-**	**63.53 18**	P	**P**	**10 27 07.4**	**0.0**
	comp=Z,15nm,0.7s,mb5.0,baz=169,slow=3.8,SNR=36					
PETK			pP	pP	10 27 42.7	+0.5
	comp=Z,5.5nm,0.8s,baz=150,slow=5.2,SNR=2.5					
PETK	**Petropavlovsk-**	**63.53 18**	P	**P**	**10 27 07.4**	**0.0**
PETK			pP	pP	10 27 42.7	+0.5
BOD	**Bodaibo**	**65.06 351**	*e*P	**P**	**10 27 16.6**	**-0.7**
BOD			*e*	pP	10 27 53.1	+0.8
BOD			pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.0					
MIR	**Mirnyy**	**65.45 195**	⇓*i*P	**P**	**10 27 21.0**	**+1.3**
MIR			pmax	pmax		
	comp=Z,200nm,1.2s,mb5.8					
KSH	**Kashi**	**67.39 317**	P	**P**	**10 27 34.3**	**+1.7**
KSH			PCP	PcP	10 28 00.4	+1.4
KSH			AP	pP	10 28 07.9	+0.1
KSH			XP	sP	10 28 23.5	0.0
KSH			PP	PP	10 30 05.1	+2.0
KSH			SCP		10 31 49.3	
KSH			PCS		10 32 04.5	
KSH			S	S	10 36 15.3	-1.4
KSH			SCS	ScS	10 37 14.0	-3.0
KSH			SS	SS	10 40 39.3	-0.5
KSH			AMB	AMB		
	comp=Z,92nm,0.8s,mb5.7					
KSH			LR	LR		
	comp=N,295nm,3.9s					
KSH			LR	LR		
	comp=E,423nm,5.1s					
KSH			LR	LR		
	comp=Z,295nm,4.4s					
MK31	**Makanchi Array**	**67.51 327**	*e*P	**P**	**10 27 33.6**	**+0.4**
MKAR	**Makanchi Array**	**67.51 327**	P	**P**	**10 27 33.1**	**0.0**
	comp=Z,31nm,0.7s,mb5.2,baz=124,slow=7.8,SNR=313					
MKAR			pP	pP	10 28 09.8	+1.4
	comp=Z,9.9nm,0.7s,baz=128,slow=7.8,SNR=2.5					
MKAR			S	S	10 36 14.4	-3.5
	comp=Z,0.2nm,0.2s,baz=143,slow=10,SNR=3.5					
MKAR	**Makanchi Array**	**67.51 327**	P	**P**	**10 27 33.1**	**0.0**
MKAR			pP	pP	10 28 09.8	+1.4
MKAR			S	S	10 36 14.4	-3.5
YAK	**Yakutsk**	**67.98 360**	*e*P	**P**	**10 27 34.0**	**-1.8**
YAK			*e**PP	pP	10 27 57.3	-14
YAK			*e*S	S	10 36 19.6	-3.3
YAK			*e**SS	sS	10 37 06.7	-17
YAK			pmax	pmax		
	comp=Z,26nm,0.8s,mb5.0					
YAK			pmax	pmax		
	comp=N,6.0nm,1.2s					
YAK			pmax	pmax		
	comp=E,5.0nm,1.2s					
YAK			smax			
	comp=N,40nm,1.5s					
YAK	**Yakutsk**	**67.98 360**	*e*P	**P**	**10 27 35.0**	**-0.8**
TKM2	**Tokmak 2**	**69.33 320**	*e*P	**P**	**10 27 44.7**	**+0.2**
TKM2			pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7					
TKM2	**Tokmak 2**	**69.33 320**	P	**P**	**10 27 45.2**	**+0.7**
	SNR=22					
TKM2	**Tokmak 2**	**69.33 320**	*e*P	**P**	**10 27 44.7**	**+0.2**
	comp=Z,14nm,0.8s,mb4.8					
AAK	**Ala-Archa**	**69.89 320**	P	**P**	**10 27 49.1**	**+1.1**
	SNR=9.5					
FRU	**Bishkek**	**69.91 320**	⇓*i*P	**P**	**10 27 48.0**	**-0.1**
FRU			*e*		10 28 17.0	
FRU			pmax	pmax		
	comp=Z,30nm,2.0s,mb4.7					
AML	**Almayashu**	**70.17 319**	P	**P**	**10 27 50.8**	**+1.1**
	SNR=21					
AML	**Almayashu**	**70.17 319**	*e*P	**P**	**10 27 50.3**	**+0.6**
	comp=Z,32nm,0.8s,mb5.1					
USP	**Ospenovka**	**70.19 320**	P	**P**	**10 27 50.4**	**+0.6**
	SNR=25					
EKS2	**Erkin-Say**	**70.36 319**	P	**P**	**10 27 52.1**	**+1.2**
	SNR=13					
EKS2	**Erkin-Say**	**70.36 319**	*e*P	**P**	**10 27 50.8**	**-0.1**
	comp=Z,37nm,1.1s,mb5.0					
ZALV	**Zalesovo Beam**	**70.82 334**	P	**P**	**10 27 52.3**	**-1.1**
	comp=Z,9.5nm,0.8s,mb4.6,baz=108,slow=4.8,SNR=27					
ZALV			pP	pP	10 28 30.1	+1.2
	comp=Z,7.9nm,0.8s,baz=133,slow=6.1,SNR=2.1					
ZALV			LR	LR	11 04 14.3	
	comp=Z,23nm,18.1s,baz=84,slow=40					
ZAL	**Zalesovo**	**70.82 334**	P	**P**	**10 27 52.3**	**-1.1**
KURK	**Kurchatov**	**71.79 328**	P	**P**	**10 27 59.6**	**+0.3**
	comp=Z,234nm,0.8s,mb6.0,SNR=27					
KURK	**Kurchatov**	**71.79 328**	P	**P**	**10 27 59.6**	**+0.3**
	SNR=15					
KURK	**Kurchatov**	**71.79 328**	*e*P	**P**	**10 27 59.3**	**0.0**
KURK			pmax	pmax		
	comp=Z,34nm,0.9s,mb5.1					
KURK	**Kurchatov**	**71.79 328**	*e*P	**P**	**10 27 59.3**	**0.0**
	comp=Z,34nm,0.9s,mb5.1					
KK31	**Karatay Array**	**72.70 319**	*i* P	**P**	**10 28 04.3**	**-0.6**
KK31			pmax	pmax		
	comp=Z,19nm,0.9s,mb4.8					
SBA	**Scott Base**	**74.17 172**	*e*P	**P**	**10 28 14.4**	**+1.5**
MAW	**Mawson**	**75.73 201**	⇓*i*P	**P**	**10 28 22.6**	**+0.6**
	comp=Z,16nm,0.6s,mb4.8					
MAW	**Mawson**	**75.73 201**	P	**P**	**10 28 22.8**	**+0.9**
	comp=Z,23nm,0.7s,mb4.9,baz=75,slow=6.6,SNR=74					
MAW			LR	LR	10 59 12.3	
	comp=Z,127nm,19.6s,baz=47,slow=34					
MAW	**Mawson**	**75.73 201**	⇓*i*P	**P**	**10 28 22.6**	**+0.6**
MAW			pmax	pmax		
	comp=Z,16nm,0.6s					
SMDO	**Samad**	**75.97 295**	⇑P	**P**	**10 28 24.4**	**+0.2**
	SNR=7.1					
BIDO	**Bidbid**	**76.00 296**	⇑P	**P**	**10 28 24.9**	**+0.5**
	SNR=12					
HOQ	**Hoqain**	**76.74 296**	⇑P	**P**	**10 28 28.9**	**+0.3**
	SNR=7.5					
BVA0	**Borovoye Array**	**77.34 328**	*i* P	**P**	**10 28 30.5**	**-0.8**
BVA0			pmax	pmax		
	comp=Z,3.0nm,0.9s					
BRVK	**Borovoye**	**77.42 328**	*e*P	**P**	**10 28 31.3**	**-0.4**
BRVK			pmax	pmax		
	comp=Z,19nm,0.9s,mb4.7					
BRVK	**Borovoye**	**77.42 328**	*e*P	**P**	**10 28 31.3**	**-0.4**
	comp=Z,19nm,0.9s,mb4.7					
BILL	**Bilibino**	**78.30 13**	⇑*e*P	**P**	**10 28 37.7**	**+1.5**
BILL			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2					
AB31	**Akbulak array**	**81.84 322**	P	**P**	**10 28 54.9**	**-0.8**
AB31			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5					
SDPT	**Sand Point**	**83.62 33**	*e*P	**P**	**10 29 03.6**	**-1.1**
	comp=Z,101nm,0.8s,mb5.6					
SVE	**Sverdlovsk**	**84.04 329**	*e*P	**P**	**10 29 06.7**	**-0.1**
SVE			pmax	pmax		
	comp=Z,38nm,1.0s,mb5.1					
SYO	**Syowa Base**	**84.44 201**	⇑*i*P	**P**	**10 29 07.6**	**-1.1**
SYO	**Syowa Base**	**84.44 201**	⇓*e*PcP	PcP	10 29 11.6	-0.4
ARU	**Arti**	**84.98 328**	*d i*P	**P**	**10 29 10.6**	**-1.0**
ARU			*e**PP	pP	10 29 45.7	-2.6
ARU			*e*		10 32 30.2	
ARU			*e*S	S	10 39 20.4	-7.8
ARU			*e*SS	SS	10 45 04.9	+0.2
ARU			pmax	pmax		
	comp=Z,22nm,1.0s,mb4.8					
ARU	**Arti**	**84.98 328**	*e*P	**P**	**10 29 10.6**	**-1.0**
	comp=Z,24nm,1.0s,mb4.9					
UMR	**Umm Al-Rimmam**	**86.31 300**	*e*P	**P**	**10 29 17.8**	**-1.0**
	baz=300					
UMR			AMb	AMB	10 29 19.5	
	comp=Z,126nm,1.0s,mb5.6,baz=300					
RDF	**Al-Radifah**	**86.36 299**	*e*P	**P**	**10 29 19.1**	**+0.1**
	baz=299					
RDF			AMb	AMB	10 29 20.5	
	comp=Z,105nm,1.0s,mb5.5,baz=299					
NAY	**Al-Naaiem**	**86.68 300**	*e*P	**P**	**10 29 19.7**	**-0.9**
	baz=300					
NAY			AMb	AMB	10 29 21.1	
	comp=Z,109nm,0.9s,mb5.7,baz=300					
MIB

ANN				*e*		10 40 22.2	
SNAA	**Sanae**	**96.48**	**194**	*e*P	**P**	**10 30 05.7**	**+0.5**
SNAA				*e*		10 30 09.5	
SNAA	**Sanae**	**96.48**	**194**	*e*P	**P**	**10 30 05.3**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SNAA	**Sanae**	**96.48**	**194**	*e*P	**P**	**10 30 05.3**	**+0.1**
	comp=Z,7.3nm,0.8s,mb5.1						
OBN	**Obninsk**	**96.96**	**325⇑**	*e*P	**P**	**10 30 05.4**	**-2.2**
OBN				*e*		10 30 47.5	
OBN				*e*		10 41 17.7	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.0						
VNA2	**Neumayer--Watz**	**98.05**	**193**	*e*P	**P**	**10 30 12.9**	**+0.6**
VNA2				*e*		10 30 15.9	
VNA3	**Neumayer Olymp**	**98.30**	**192**	*e*P	**P**	**10 30 13.6**	**+0.2**
VNA3				*e*		10 30 17.3	
ARCES	**ARCESS Array B**	**100.78**	**340**	P	Pdif	10 30 22.6	-2.2
	comp=Z,5.4nm,0.9s,baz=60,slow=5.8,SNR=8.1						
AKASG	**Malin Array Be**	**101.55**	**320**	P	Pdif	10 30 26.6	-1.6
	comp=Z,0.2nm,0.2s,baz=75,slow=4.1,SNR=2.7						
YKA	**Yellowknife Ar**	**107.00**	**26**	PKiKP	PKiKP	10 35 00.3	-0.7
	comp=Z,0.6nm,0.5s,baz=268,slow=1.8,SNR=5.3						
YKA				PP	PP	10 35 15.8	-4.1
	comp=Z,0.7nm,0.8s,baz=312,slow=5.7,SNR=3.6						
YKA				PKKPbc	PKKPbc	10 46 17.9	-3.5
	comp=Z,1.1nm,0.5s,baz=115,slow=3.5,SNR=6.0						
YKA	**Yellowknife Ar**	**107.00**	**26**	PKPdf	PKiKP	10 35 00.3	-0.7
YKA				PP	PP	10 35 15.8	-4.1
YKA				PKKPbc	PKKPbc	10 46 17.9	-3.5
NVAR	**Mina Array Bea**	**110.78**	**51**	PP	PP	10 35 45.2	-2.9
	comp=Z,0.8nm,0.9s,baz=278,slow=7.6,SNR=4.2						
NVAR				PKKPbc	PKKPbc	10 46 07.3	-1.3
	comp=Z,0.6nm,0.7s,baz=109,slow=4.4,SNR=6.4						
GERES	**GERESS Array B**	**111.77**	**320**	PKiKP	PKiKP	10 35 09.5	-0.8
	comp=Z,0.4nm,0.5s,baz=76,slow=4.1,SNR=3.4						
PDAR	**Pinedale Array**	**116.31**	**45**	PKP	PKPdf	10 35 19.7	+0.4
	comp=Z,0.4nm,0.6s,baz=160,slow=4.7,SNR=3.7						
PDAR				PKKPbc	PKKPbc	10 45 48.9	-1.2
	comp=Z,1.2nm,0.9s,baz=106,slow=6.3,SNR=9.4						
ULM	**Lac du Bonnet**	**121.75**	**33**	PKP	PKPdf	10 35 28.3	-1.2
	comp=Z,1.8nm,0.5s,baz=271,slow=5.7,SNR=6.0						
TORD	**Torodi Ar. Bea**	**128.63**	**282**	PKP	PKPdf	10 35 41.1	-2.6
	comp=Z,2.8nm,0.7s,baz=70,slow=1.8,SNR=16						
TORD				SKPbc		10 38 47.1	
	comp=Z,10nm,1.0s,baz=75,slow=3.2,SNR=20						
SCHQ	**Schefferville**	**129.61**	**13**	PKP	PKPdf	10 35 43.3	-1.1
	comp=Z,1.9nm,0.6s,baz=237,slow=12,SNR=3.4						
SCHQ				SKPbc		10 38 50.1	
	comp=Z,22nm,1.0s,baz=14,slow=3.9,SNR=17						
PLCA	**Paso Flores**	**129.67**	**160**	PKP	PKPdf	10 35 45.4	+0.4
	comp=Z,3.1nm,0.9s,baz=221,slow=8.6,SNR=6.6						
PLCA				SKPbc		10 38 51.8	
	comp=Z,11nm,0.9s,baz=209,slow=4.6,SNR=16						
DBIC	**Dimbokro**	**135.13**	**273**	PKP	PKPdf	10 35 54.2	-1.8
	comp=Z,3.7nm,0.8s,baz=240,slow=3.8,SNR=4.9						
DBIC				SKPbc	SKPbc	10 39 10.1	-3.4
	comp=Z,14nm,0.8s,baz=89,slow=5.0,SNR=14						
LVC	**Limon Verde**	**145.95**	**148**	*e*PKPab	PKPab	10 36 17.6	+0.8
CPUP	**Villa Florida**	**146.94**	**168**	PKP	PKPdf	10 36 14.0	-0.4
	comp=Z,14nm,0.6s,baz=178,slow=2.1,SNR=37						
CPUP				PKPbc	PKPbc	10 36 19.4	+0.4
	comp=Z,14nm,0.6s,baz=210,slow=2.3,SNR=38						
CPUP				SKPbc	SKPbc	10 39 40.6	-3.4
	comp=Z,7.8nm,0.7s,baz=171,slow=2.3,SNR=8.9						
LPAZ	**La Paz**	**151.39**	**141**	PKP	PKPdf	10 36 25.9	+1.7
	comp=Z,2.7nm,1.2s,baz=100,slow=6.1,SNR=3.5						
LPAZ				PKPbc	PKPbc	10 36 31.9	+1.5
	comp=Z,2.7nm,0.4s,baz=34,slow=3.1,SNR=3.6						
CAM3	**Guarapari**	**151.71**	**199**	(P)	PKPdf	10 36 25.7	+1.1
CAM3				*i*		10 36 29.6	
CAM3				*i*		10 36 33.3	
CAM3				*i*		10 36 39.5	
CAM3				*i*		10 36 50.8	

IDC 24 10:37:17.6±2.9, 2363S×18000E, h492km±25km, mb3.2/3, mb1 3.5/4, mb1mx3.1/14, mbtmp3.2/4, Error ellipse: s-maj=53.2km s-min=32.6km az=166.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.79**	**189**	P	P	10 40 24.5	-1.1
	0.7nm,0.3s,baz=29,slow=19,SNR=4.8						
ASAR	**Alice Springs**	**42.08**	**260**	P	P	10 44 26.0	+0.2
	2.3nm,1.0s,baz=97,slow=8.0,SNR=29						
ASAR				ScP	ScP	10 49 11.8	-0.9
	0.5nm,0.6s,baz=109,slow=4.4,SNR=8.8						
WRA	**Warramunga Arr**	**42.42**	**266**	P	P	10 44 28.3	-0.2
	1.5nm,0.3s,baz=96,slow=8.4,SNR=87						
WRA				ScP	ScP	10 49 13.7	-0.5
	0.2nm,0.9s,baz=100,slow=3.8,SNR=5.4						
PDAR	**Pinedale Array**	**92.50**	**44**	P	P	10 49 36.0	+0.5
	0.4nm,0.7s,baz=202,slow=8.6,SNR=3.6						

*ISCJB **24** 10:42:30.7±0.8, 3304N×007×9784E±008, h10km, mb3.5/4, MS3.4/2, Error ellipse: s-maj=10.2km s-min=9.0km az=41.5*
*IDC **24** 10:42:30.6±1.3, 3300N×9772E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.5/22, mbtmp3.4/7, ML3.7/3, MS3.4/2, Ms1 3.5/2, ms1mx2.6/25, Error ellipse: s-maj=42.1km s-min=21.3km az=69.0*
*BJI **24** 10:42:35.6, 3299N×9783E, h20km, ML3.5, Ms3.1, Msz3.0*
ISC 24 10:42:32.4±0.8, 3305N±007×9780E±008, h10km, n13, σ1§09/16, mb3.5/4, MS3.4/2, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**5.49**	**111**	*e*P	**Pn**	**10 43 56.8**	**+2.5**
CD2				PG	**Pg**	**10 44 13.8**	**-3.8**
CD2				S	**Sn**	**10 44 56.8**	**-0.7**
CD2				SG	**Sg**	**10 45 19.0**	**-10**
CD2				Smax			
	comp=N,60nm,0.6s						
CD2				Smax			
	comp=E,50nm,1.1s						
LZH	**Lanzhou**	**5.83**	**57**	P	**Pn**	**10 44 02.0**	**+3.1**
LZH				PG	**Pg**	**10 44 15.0**	**-9.1**
LZH				S	**Sn**	**10 45 06.0**	**+0.2**
LZH				Smax			
	comp=N,30nm,0.8s						
LZH				Smax			
	comp=E,28nm,0.8s						
LZH				LR	LR		
	comp=N,68nm,4.8s						
LZH				LR	LR		
	comp=Z,79nm,5.4s						
GTA	**Gaotai**	**6.55**	**14**	*e*PG	**Pg**	**10 44 32.5**	**-5.3**
KMI	**Kunming**	**9.00**	**150**	P	**Pn**	**10 44 47.8**	**+5.3**
KMI				Smax			
	comp=N,9.0nm,0.4s						
KMI				Smax			
	comp=E,10.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**14.57**	**176**	Pn	**Pn**	**10 45 59.1**	**+0.4**
	comp=E,0.3nm,0.3s,baz=0.4,slow=13,SNR=3.0						
SONM	**Songino Array**	**16.13**	**21**	Pn	**Pn**	**10 46 18.2**	**-1.0**
	comp=E,0.2nm,0.3s,baz=198,slow=14,SNR=2.8						
MKAR	**Makanchi Array**	**18.12**	**324**	P	**Pn**	**10 46 43.8**	**-0.2**
	comp=E,0.1nm,0.3s,baz=133,slow=12,SNR=5.0						
ZALV	**Zalesovo Beam**	**22.84**	**340**	P	**P**	**10 47 35.5**	**+0.1**
	comp=E,0.6nm,0.4s,mb3.3,baz=139,slow=9.6,SNR=3.0						
KSRS	**Korea Array**	**24.93**	**71**	P	**P**	**10 47 56.5**	**+0.8**
	comp=E,0.6nm,0.4s,mb3.5,baz=276,slow=10,SNR=3.9						
ARCES	**ARCESS Array B**	**53.28**	**335**	LR	LR	11 15 01.4	
	comp=E,42nm,20.1s,MS3.5,baz=267,slow=37						
NOA	**NORSAR Array B**	**60.10**	**326**	LR	LR	11 19 12.0	
	comp=E,26nm,18.8s,MS3.4,baz=285,slow=37						
WRA	**Warramunga Arr**	**63.21**	**141**	P	**P**	**10 53 00.1**	**-0.8**
	comp=E,0.4nm,0.6s,mb3.7,baz=318,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**66.08**	**144**	P	**P**	**10 53 19.7**	**+0.1**
	comp=E,0.2nm,0.6s,mb3.3,baz=334,slow=7.3,SNR=6.3						

*CSEM **24** 11:18:27.6, 3041N×3647E, h8km, ML2.9, After SNSN*
*SGS **24** 11:18:27.6, 3041N×3647E, h8km*
*ISCJB **24** 11:18:33.8±0.9, 2977N±004×36.16E±005, h0km, Error ellipse: s-maj=6.9km s-min=5.9km az=179.0*
*GII **24** 11:18:34.4±1.2, 2983N×3606E, h0km, ML2.3/5, EXPLOSION*
ISC 24 11:18:33.9±1.0, 2976N±004×3620E±006, h0km, n14, σ0§87/23, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.04**	**286**	Pg	**Pg**	**11 18 53.4**	**-0.6**
HRFI				Sg	**Sg**	**11 19 08.3**	**+0.8**
EIL	**Elat**	**1.09**	**266**	Pg	**Pg**	**11 18 55.0**	**+0.2**
HQLS		**1.09**	**245**	P	**Pg**	**11 18 55.0**	**+0.1**
MBRI	**Mt Berech**	**1.12**	**272**	Pg	**Pg**	**11 18 55.2**	**-0.1**
MBRI				Sg	**Sg**	**11 19 10.8**	**+1.0**
ZFRI	**Zfri**	**1.19**	**312**	Pg	**Pg**	**11 18 55.0**	**-1.7**
ZFRI				Sg	**Sg**	**11 19 11.7**	**-0.3**
PRNI	**Paran**	**1.19**	**300**	Pg	**Pg**	**11 18 55.5**	**-1.3**
PRNI				Sg	**Sg**	**11 19 12.4**	**+0.2**
JLOS		**1.19**	**211**	P	**Pg**	**11 18 58.1**	**+1.3**
KRMI	**Paran Flat**	**1.33**	**286**	Pg	**Pg**	**11 18 58.4**	**-1.0**
KRMI				Sg	**Sg**	**11 19 16.5**	**-0.1**
RMNI	**Mount Ramon**	**1.50**	**304**	Pn	**Pn**	**11 19 00.7**	**-1.3**
RSHS		**1.90**	**220**	P	**Pn**	**11 19 07.3**	**-0.3**
RSHS		**1.90**	**220**	P	**Pn**	**11 19 07.3**	**-0.3**
RSHS				S	**Sn**	**11 19 37.5**	**+5.2**
KZIT	**Kziot**	**1.93**	**307**	Pn	**Pn**	**11 19 07.7**	**-0.3**
KZIT				Sn	**Sn**	**11 19 33.4**	**+0.4**
DSI	**Dead Sea**	**1.94**	**339**	Pn	**Pn**	**11 19 07.8**	**-0.3**
DSI				Sn	**Sn**	**11 19 33.9**	**+0.7**
HMDT	**Nahal Hemdat**	**2.55**	**347**	Pn	**Pn**	**11 19 17.3**	**+0.7**
HMDT				Sn	**Sn**	**11 19 50.2**	**+1.9**

*ISCJB **24** 11:18:58.7±1.2, 775S±008×12660E±007, h174km±13km, mb4.2/17, Error ellipse: s-maj=15.2km s-min=6.7km az=40.7*
*NEIC **24** 11:18:58.1±1.9, 767S×12650E, h145km±21km, mb4.7/10, Error ellipse: s-maj=17.0km s-min=11.5km az=221.0*
*IDC **24** 11:19:00.4±2.4, 768S×12648E, h163km±26km, mb3.7/10, mb1 3.9/12, mb1mx3.8/15, mbtmp3.8/12, Error ellipse: s-maj=24.8km s-min=14.1km az=53.0*
ISC 24 11:19:00.8±1.0, 787S±007×12659E±007, h180km±11km, n32, σ1§03/38, mb4.2/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.71**	**231**	P	**Pn**	**11 19 59.4**	**+1.2**
	29nm,0.3s,baz=78,slow=1.3,SNR=40						
BATI				S	**Sn**	**11 20 42.1**	**-1.1**
	56nm,0.3s,baz=112,slow=9.1,SNR=25						
KAKA	**Kakadu**	**7.50**	**130**	*e*P	**Pn**	**11 20 48.4**	**+0.9**
	193nm,0.6s						
KAKA				*e*S	**Sn**	**11 22 09.6**	**-2.3**
FITZ	**Fitzroy Crossi**	**10.22**	**185**	*e*P	**Pn**	**11 21 22.9**	**-0.2**
	16nm,0.4s						
FITZ				*e*S	**Sn**	**11 23 10.8**	**-6.1**
FITZ	**Fitzroy Crossi**	**10.22**	**185**	P	**Pn**	**11 21 23.0**	**-0.2**
	2.8nm,0.3s,baz=21,slow=12,SNR=111						
FITZ				S	**Sn**	**11 23 11.4**	**-5.4**
	5.3nm,0.3s,baz=297,slow=19,SNR=9.5						
WRAB	**Tennant Creek**	**14.16**	**149**	*e*Pn	**Pn**	**11 22 13.8**	**+0.3**
	7.6nm,0.4s						
WRAB				*e*Sn	**Sn**	**11 24 47.0**	**-4.2**
WRA	**Warramunga Arr**	**14.16**	**149**	P	**Pn**	**11 22 13.7**	**+0.3**
	1.8nm,0.3s,baz=321,slow=14,SNR=72						
WRA				S	**Sn**	**11 24 45.8**	**-5.4**
	4.1nm,0.3s,baz=321,slow=26,SNR=9.1						
WB2	**Warramunga Arr**	**14.16**	**149**	*e*P	**Pn**	**11 22 13.8**	**+0.3**
MBWA	**Marble Bar**	**14.79**	**206**	*e*Pn	**Pn**	**11 22 21.9**	**+0.7**
	2.5nm,0.5s						
ASAR	**Alice Springs**	**17.20**	**157**	P	**Pn**	**11 22 53.8**	**+3.3**
	7.9nm,0.3s,baz=338,slow=12,SNR=260						
ASAR				S	**S**	**11 25 58.6**	**-0.6**
	1.0nm,0.3s,baz=315,slow=16,SNR=8.3						
CTA	**Charters Tower**	**22.59**	**125**	P	**P**	**11 23 49.0**	**+2.8**
	2.6nm,0.7s,mb3.8,baz=311,slow=13,SNR=4.9						
STKA	**Stephens Creek**	**27.68**	**152**	*e*P	**P**	**11 24 35.9**	**+4.0**
	2.6nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**27.68**	**152**	P	**P**	**11 24 35.5**	**+3.6**
	2.1nm,0.4s,mb4.2,baz=326,slow=11,SNR=9.8						
CMAR	**Chiang Mai Arr**	**37.80**	**314**	P	**P**	**11 26 00.3**	**+0.5**
	1.2nm,0.5s,mb3.8,baz=145,slow=7.4,SNR=7.6						
KSRS	**Korea Array**	**45.10**	**1**	P	**P**	**11 26 59.9**	**+0.9**
	1.8nm,0.5s,mb3.9,baz=180,slow=8.9,SNR=8.8						
MJAR	**Matsushiro Arr**	**45.50**	**13**	P	**P**	**11 27 00.5**	**-1.7**
	2.6nm,0.7s,mb4.0,baz=188,slow=8.8,SNR=9.4						
ODAN	**Odare**	**51.34**	**314**	*e*P	**P**	**11 27 46.2**	**-0.7**
	12nm,0.6s,mb4.7						
TAPN	**Taplejung**	**51.40**	**314**	*e*P	**P**	**11 27 47.9**	**+0.5**
	7.4nm,0.4s,mb4.7						
RAMN	**Ramite**	**51.96**	**313**	*e*P	**P**	**11 27 51.6**	**+0.1**
	29nm,0.6s,mb5.1						
GUN	**Gumba**	**53.04**	**314**	*e*P	**P**	**11 27 59.9**	**+0.4**
	18nm,0.5s,mb5.1						
PKI	**Pulchoki**	**53.18**	**313**	*e*P	**P**	**11 28 00.8**	**+0.3**
	17nm,0.6s,mb5.0						
KKN	**Kakani**	**53.40**	**313**	*e*P	**P**	**11 28 02.6**	**+0.5**
DMN	**Daman**	**53.42**	**313**	*e*P	**P**	**11 28 01.8**	**-0.5**
KOLN	**Koldanda**	**54.61**	**312**	*e*P	**P**	**11 28 10.6**	**-0.3**
SONM	**Songino Array**	**58.27**	**344**	P	**P**	**11 28 36.8**	**+0.5**
	0.8nm,0.4s,mb3.9,baz=157,slow=7.4,SNR=7.4						
PETK	**Petropavlovsk-**	**66.24**	**20**	P	**P**	**11 29 29.8**	**+0.6**
	1.4nm,0.5s,mb4.0,baz=187,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**67.15**	**329**	P	**P**	**11 29 35.3**	**+0.3**
	1.5nm,0.5s,mb4.1,baz=126,slow=7.7,SNR=19						
ZALV	**Zalesovo Beam**	**70.91**	**335**	P	**P**	**11 29 57.6**	**-0.4**
	1.8nm,0.5s,mb4.0,baz=128,slow=4.4,SNR=5.9						
KURK	**Kurchatov**	**71.53**	**330**	*e*P	**P**	**11 30 01.7**	**-0.2**
	1.5nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**77.03**	**329**	P	**P**	**11 30 33.8**	**+0.3**
	1.9nm,0.8s,mb3.8,baz=148,slow=6.5,SNR=8.5						
AKTK	**Aktyubinsk**	**82.71**	**323**	P	**P**	**11 31 02.0**	**-2.1**
AKTO	**Aktyubinsk**	**82.71**	**323**	P	**P**	**11 31 02.0**	**-2.1**
	3.0nm,0.8s,mb4.1,baz=180,slow=9.9,SNR=9.4						
TORD	**Torodi Ar. Bea**	**125.65**	**281**	PKP	PKPdf	11 37 42.4	+0.7
	0.2nm,0.4s,baz=135,slow=36,SNR=3.4						

*ISCJB **24** 11:41:50.6±0.5, 1902S±004×6741W±006, h235km±8km, mb3.8/3, Error ellipse: s-maj=9.7km s-min=6.5km az=168.6*
*NEIC **24** 11:41:52.0±0.6, 1902S×6739W, h232km±9km, mb4.2/3, Error ellipse: s-maj=10.9km s-min=8.8km az=67.0*
*IDC **24** 11:41:52.5±1.1, 1900S×6731W, h230km±13km, mb3.5/2, mb1 3.4/9, mb1mx3.3/21, mbtmp3.4/9, Error ellipse: s-maj=20.6km s-min=17.1km az=44.0*
ISC 24 11:41:51.7±0.6, 1901S±005×6740W±008, h224km±8km, n16, σ0§94/26, mb3.8/3, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.79**	**345**	P	**Pn**	**11 42 42.8**	**+2.3**
	5.9nm,0.3s,baz=156,slow=6.7,SNR=130						
LPAZ				S	**S**	**11 43 17.7**	**-1.0**
	4.0nm,0.3s,baz=332,slow=18,SNR=11						
LPAZ	**La Paz**	**2.79**	**345**	P	**Pn**	**11 42 42.8**	**+2.3**
LPAZ				S	**S**	**11 43 17.7**	**-1.1**
LVC	**Limon Verde**	**3.86**	**201**	P	**Pn**	**11 42 54.6**	**+1.9**
	31nm,0.3s,baz=23,slow=8.9,SNR=243						
LVC				S	**S**	**11 43 40.1**	**-0.8**
	4.6nm,0.3s,baz=258,slow=21,SNR=8.0						
LVC	**Limon Verde**	**3.86**	**201**	P	**Pn**	**11 42 54.6**	**+1.9**
LVC				S	**S**	**11 43 40.1**	**-0.8**
ARE	**Arequipa**	**4.65**	**302**	*e*P	**Pn**	**11 43 58.0**	**+0.6**
ARE				*e*S	**S**	**11 43 58.0**	**-0.4**
SIV	**San Ignacio**	**6.74**	**65**	P	**Pn**	**11 43 28.1**	**-0.8**
	3.3nm,0.3s,baz=253,slow=11,SNR=40						
SIV				S	**S**	**11 44 41.5**	**-4.8**
	0.3nm,0.3s,baz=138,slow=22,SNR=6.7						
LCO	**Las Campanas**	**10.40**	**196**	*e*Pn	**Pn**	**11 44 14.7**	**-1.0**
	4.8nm,0.4s						
LCO				*e*S	**S**	**11 46 07.5**	**-4.8**
NNA	**Nana**	**11.47**	**306**	P	**Pn**	**11 44 29.9**	**+0.6**
	4.9nm,0.3s,baz=116,slow=9.8,SNR=7.4						
NNA				S	**S**	**11 46 31.7**	**-5.9**
	1.2nm,0.3s,baz=350,slow=7.5,SNR=2.4						
NNA	**Nana**	**11.47**	**306**	*e*Pn	**Pn**	**11 44 28.8**	**-0.5**
	8.8nm,0.3s						
CPUP	**Villa Florida**	**11.81**	**130**	P	**Pn**	**11 44 34.3**	**+0.8**
	1.0nm,0.3s,baz=296,slow=12,SNR=6.8						
CFAA	**Coronel Fontan**	**12.57**	**183**	P	**Pn**	**11 44 42.7**	**-0.3**
	0.1nm,0.3s,baz=357,slow=12,SNR=6.2						
CFAA				S	**S**	**11 46 54.8**	**-8.2**
	0.1nm,0.3s,baz=162,slow=15,SNR=5.0						
CFAA	**Coronel Fontan**	**12.57**	**183**	P	**Pn**	**11 44 42.7**	**-0.3**
CFAA				S	**S**	**11 46 54.8**	**-8.2**
BDFB	**Brasilia**	**18.80**	**83**	P	**P**	**11 45 54.6**	**-0.2**
	0.2nm,0.3s,baz=127,slow=21,SNR=2.1						
HKT	**Hockley**	**55.85**	**330**	P	**P**	**11 51 05.6**	**-0.5**
	2.9nm,0.5s,mb4.1						
ULM	**Lac du Bonnet**	**73.40**	**341**	P	**P**	**11 52 59.7**	**+0.7**
	1.1nm,0.5s,mb3.8,baz=143,slow=5.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**75.18**	**70**	P	**P**	**11 53 09.7**	**-0.4**
	0.7nm,0.5s,mb3.6,baz=254,slow=5.4,SNR=14						

ISC 24 11:43:59.3±1.2, 3658N±008×721E±02, h135km±42km, n11, σ1§46/14, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.75**	**183**	⇑P	**Pn**	**11 44 43.0**	**+0.1**
CEP				S	**Sn**	**11 45 16.0**	**-0.5**
CHCP	**Chirah Chowk**	**3.08**	**161**	P	**Pn**	**11 44 50.4**	**+3.3**
THW	**Thamme Wali**	**3.79**	**184**	P	**Pn**	**11 44 55.7**	**-0.7**
SARP	**Sargodha**	**4.68**	**174**	P	**Pn**	**11 45 09.3**	**+1.1**
THN	**Thein Dam**	**5.12**	**143**	*e*P	**Pn**	**11 45 18.0**	**+3.9**
THN				*e*x	x	11 46 20.8	
DLH	**Dalhousie**	**5.16**	**140**	*e*P	**Pn**	**11 45 18.0**	**+3.4**
KK31	**Karatay Array**	**6.62**	**350**	Pn	**Pn**	**11 45 34.1**	**0.0**
	2.8nm,0.5s,baz=187,slow=16,SNR=40						
KK31				⇓Sn	**Sn**	**11 46 45.3**	**-3.0**
	2.1nm,0.4s,baz=177,slow=24						
SMLA	**Simla**	**6.90**	**141**	*i* P	**Pn**	**11 45 40.5**	**+2.5**
SMLA				*i* S	**Sn**	**11 46 55.7**	**+0.5**
SMLA				*e*x	x	11 47 05.1	
	comp=N,195nm,0.3s						
SMLA				*e*x	x	11 47 07.2	
	comp=E,147nm,0.3s						
KLP	**Kalpa**	**7.19**	**133**	*e*x	x	11 45 41.6	
KLP				*e*S	**Sn**	**11 47 01.3**	**-0.9**
KLP				AML	AML	11 47 41.2	
	comp=N,29nm,0.5s						
KLP				AML	AML	11 47 44.8	
	comp=E,33nm,0.6s						
KUDL	**Kundal**	**9.21**	**155**	*e*S	**Sn**	**11 47 49.6**	**-1.4**
SONA	**Sohna**	**9.33**	**152**	*e*S	**Sn**	**11 47 51.9**	**-1.9**

*BJI **24** 11:48:11.5, 440S×15200E, h157km, mb4.7*
*ISCJB **24** 11:48:12.7±1.3, 444S±005×15198E±007, h162km±12km, mb4.5/35, Error ellipse: s-maj=11.5km s-min=8.1km az=26.3*
*IDC **24** 11:48:12.9±0.6, 449S×15188E, h152km±5km, mb4.1/18, mb1 4.2/20, mb1mx4.2/21, mbtmp4.1/20, MS3.3/1, Ms1 3.3/1, ms1mx2.6/26, Error ellipse: s-maj=13.8km s-min=8.3km az=105.0*
*MOS **24** 11:48:12.0±0.8, 434S×15193E, h151km, mb4.7/5, Error ellipse: s-maj=15.9km s-min=10.3km az=71.5*
*NEIC **24** 11:48:13.6±1.5, 444S×15201E, h157km±13km, mb4.6/21, Error ellipse: s-maj=8.8km s-min=7.0km az=77.0*
ISC 24 11:48:14.9±1.3, 451S±005×15199E±007, h168km±11km, h153km±1.5km: pP-P, n71, σ0§79/71, mb4.5/34, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.83**	**224**	*e*P	**Pn**	**11 49 51.7**	**-1.0**
PMG				*e*		11 51 09.9	
PMG				pmax	pmax		
	comp=Z,51nm,0.8s						
PMG	**Port Moresby**	**6.83**	**224**	*e*Pn	**Pn**	**11 49 51.7**	**-1.0**
	comp=Z,51nm,0.8s						
PMG				*e*Sn	**Sn**	**11 51 09.9**	**+0.1**
CTA	**Charters Tower**	**16.46**	**199**	*e*P	**Pn**	**11 51 58.2**	**+1.9**
	comp=Z,4.7nm,0.8s						
CTA	**Charters Tower**	**16.46**	**199**	P	**Pn**	**11 51 56.9**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=7.6						
CTA				LR	LR	11 57 34.9	
	comp=Z,88nm,18.4s,baz=277,slow=34						
CTA	**Charters Tower**	**16.46**	**199**	*e*P	**Pn**	**11 51 58.2**	**+1.9**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CTAO	**Charters Tower**	**16.46**	**199**	*e*P	**Pn**	**11 51 56.9**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTAO	**Charters Tower**	**16.46**	**199**	*e*P	**Pn**	**11 51 56.9**	**+0.5**
	comp=Z,7.4nm,0.9s						
GUMO	**Guam**	**19.32**	**339**	P	**P**	**11 52 27.1**	**-0.1**
	comp=Z,6.4nm,0.3s,baz=169,slow=6.6,SNR=7.0						
KAKA	**Kakadu**	**20.96**	**246**	*e*P	**P**	**11 52 44.3**	**-0.6**
	comp=Z,7.3nm,0.6s						
DZM	**Mont Dzumac**	**22.38**	**143**	*e*P	**P**	**11 52 59.8**	**+0.3**
WRAB	**Tennant Creek**	**23.03**	**227**	*e*P	**P**	**11 53 05.6**	**+0.3**
WRAB				*e*		11 53 34.9	
WRAB				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**23.03**	**227**	*e*P	**P**	**11 53 05.6**	**+0.3**
	comp=Z,14nm,0.8s,mb4.5						
WRAB				*e*		11 53 34.9	
WB2	**Warramunga Arr**	**23.03**	**227**	*e*P	**P**	**11 53 05.8**	**+0.4**
WB2				*e*		11 53 35.3	
WB2

comp=Z,4.0nm,0.4s,mb4.5
KOLN Koldanda 73.19 301 *e*P **P 11 59 27.8 +0.1**
comp=Z,30nm,0.8s,mb5.1
DANN Dangsing 73.20 301 *e*P **P 11 59 27.5 -0.2**
comp=Z,28nm,0.7s,mb5.1
RC01 Rabbit Creek A 79.25 25 *e*P **P 12 00 00.2 -0.9**
comp=Z,4.3nm,0.6s,mb4.3
MK31 Makanchi Array 79.58 319 *e*P **P 12 00 03.4 +0.2**
MKAR Makanchi Array 79.58 319 P **P 12 00 03.2 0.0**
comp=Z,2.4nm,0.7s,mb3.9,baz=100,slow=6.4,SNR=16
MKAR Makanchi Array 79.58 319 P **P 12 00 03.2 0.0**
ZALV Zalesovo Beam 80.46 326 P **P 12 00 06.8 -1.0**
comp=Z,4.2nm,0.5s,mb4.3,baz=109,slow=6.0,SNR=16
ZALV Zalesovo Beam 80.46 326 P **P 12 00 06.8 -1.0**
ZAL Zalesovo 80.47 326 P **P 12 00 06.8 -1.0**
TKM2 Tokmak 2 83.15 314 *e*P **P 12 00 23.2 +1.1**
TKM2 pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
TKM2 Tokmak 2 83.15 314 *e*P **P 12 00 23.2 +1.1**
comp=Z,2.0nm,0.4s,mb4.2
EKS2 Erkin-Say 84.40 313 *e*P **P 12 00 29.3 +0.8**
comp=Z,9.9nm,1.0s,mb4.5
HYT Haines Junctio 84.55 28 *e*P **P 12 00 29.8 +1.0**
MAW Mawson 85.53 203 P **P 12 00 33.9 +0.3**
comp=Z,1.2nm,0.6s,mb3.8,baz=53,slow=13,SNR=4.8
BVAR Borovoye Array 88.52 323 P **P 12 00 47.0 -1.3**
comp=Z,4.2nm,0.7s,mb4.5,baz=103,slow=5.1,SNR=20
BVAR pP pP 12 01 25.6 -4.8
comp=Z,0.8nm,0.5s,baz=131,slow=4.0,SNR=1.9
ETW Entiat 91.73 43 *e*P **P 12 01 02.7 -0.6**
NVAR Mina Array Bea 92.54 52 P **P 12 01 07.5 +0.2**
comp=Z,2.8nm,0.7s,mb4.5,baz=255,slow=6.1,SNR=28
NVAR pP pP 12 01 45.7 -3.9
comp=Z,0.3nm,0.7s,baz=231,slow=6.9,SNR=1.3
WVOR Wild Horse Val 92.55 48 *e*P **P 12 01 07.5 +0.3**
WVOR pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
WVOR Wild Horse Val 92.55 48 *e*P **P 12 01 07.5 +0.3**
comp=Z,2.6nm,0.9s,mb4.4
OD2 Odessa Site #2 92.81 43 *e*P **P 12 01 07.7 -0.6**
TPNV Topopah Spring 94.09 53 *e*P **P 12 01 14.7 +0.2**
TPNV pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
TPNV Topopah Spring 94.09 53 *e*P **P 12 01 14.7 +0.2**
comp=Z,3.7nm,0.8s,mb4.6
YKA Yellowknife Ar 95.55 28 P **P 12 01 20.6 +0.1**
comp=Z,0.7nm,0.7s,mb4.1,baz=263,slow=5.0,SNR=3.9
MCMT McKenzie Canyo 96.82 46 *e*P **P 12 01 17.2 -9.4**
PDAR Pinedale Array 99.25 48 P Pdif 12 01 36.5 -0.8
comp=Z,1.8nm,0.7s,baz=242,slow=2.1,SNR=18
NOA NORSAR Array B 116.36 340 PKP PKPdf 12 06 37.8 -0.3
comp=Z,0.7nm,0.7s,baz=48,slow=1.6,SNR=4.3
GERES GERESS Array B 123.38 328 PKP PKPdf 12 06 50.8 -1.2
comp=Z,0.6nm,0.3s,baz=90,slow=2.7,SNR=4.1
TORD Torodi Ar. Bea 149.45 288 PKPbc PKPbc 12 07 44.3 -0.8
comp=Z,9.6nm,0.6s,baz=81,slow=2.2,SNR=85
TORD pPKPbc pPKPbc 12 08 23.9 -5.2
comp=Z,2.7nm,0.7s,baz=72,slow=2.5,SNR=2.9
BDFB Brasilia 151.84 136 PKPbc PKPbc 12 07 53.2 +2.5
comp=Z,1.0nm,0.4s,baz=354,slow=26,SNR=2.3
DBIC Dimbokro 156.85 276 PKPab PKPab 12 08 21.8 -0.1
comp=Z,5.1nm,0.9s,baz=95,slow=6.8,SNR=5.8

IDC 24 11:58:06.9±4.4, 1204N×14735E, h229^{km}±24^{km}, mb2.9/5, mb1 3.1/6, mb1mx3.0/20, mbtmp2.9/6, Error ellipse: s-maj=70.6km s-min=17.3km az=80.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.87**	**303**	P	Pn	11 58 55.0	-1.6
	17nm,0.3s,baz=207,slow=9.8,SNR=9.6						
GUMO				S	S	11 59 36.7	+0.9
	5.7nm,0.3s,baz=176,slow=23,SNR=2.1						
WRA	**Warramunga Arr**	**34.26**	**202**	P	P	12 04 30.8	-0.7
	0.7nm,1.0s,baz=12,slow=9.5,SNR=6.6						
ASAR	**Alice Springs**	**37.84**	**200**	P	P	12 05 02.5	+0.7
	0.1nm,0.4s,baz=28,slow=11,SNR=5.1						
CMAR	**Chiang Mai Arr**	**47.02**	**284**	P	P	12 06 16.7	+1.0
	0.4nm,0.3s,baz=81,slow=7.7,SNR=4.9						
SONM	**Songino Array**	**49.38**	**324**	P	P	12 06 34.2	+0.8
	0.2nm,0.4s,baz=142,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**64.27**	**316**	P	P	12 08 16.7	-1.1
	0.1nm,0.3s,baz=104,slow=6.7,SNR=2.6						

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*ISCJB **24** 12:01:34.5±1.1, 3682N±007×2792E±004, h10^{km}, Error ellipse: s-maj=10.2km s-min=3.9km az=13.4*
*DDA **24** 12:01:34.1, 3670N×2792E, h7^{km}±4^{km}, Md2.9*
*ISK **24** 12:01:37.7, 3695N×2774E, h20^{km}, MD2.8*
*CSEM **24** 12:01:37.6±0.1, 3695N×2774E, h20^{km}, MD2.9, Error ellipse: s-maj=3.1km s-min=1.5km az=15.0*
ISC 24 12:01:34.9±1.1, 3682N±006×2791E±004, h10^{km}, n8, σ0^{s}90/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.43**	**44**	*e*PG	**Sg**	**12 01 47.7**	**-1.4**
BDRM	**Kayabasi**	**0.45**	**303**	*i* P	**Pg**	**12 01 44.2**	**+0.5**
BDRM				*i* S	**Sg**	**12 01 48.5**	**-1.1**
MLSB	**Milas**	**0.48**	**347**	*e*PG	**Pg**	**12 01 45.5**	**+1.1**
BODT	**Bodrum**	**0.54**	**296**	*e*PG	**Pg**	**12 01 45.6**	**+0.2**
BODT				*e*SG	**Sg**	**12 01 51.5**	**-0.9**
TURN	**Turunc**	**0.56**	**85**	*i* P	**Pg**	**12 01 46.4**	**+0.7**
TURN				*i* S	**Sg**	**12 01 53.2**	**+0.2**
DALT	**Dalyan (Mudla)**	**0.58**	**95**	*e*PG	**Sg**	**12 01 52.8**	**-1.1**
AYDN	**Tasoluk**	**0.84**	**358**	*i* P	**Pg**	**12 01 52.5**	**+1.5**
AYDN				*i* S	**Sg**	**12 02 02.4**	**+0.5**
GCAM	**G?zelcaml?**	**1.03**	**328**	*i* P	**Pg**	**12 01 55.4**	**+0.7**
GCAM				*i* S	**Sg**	**12 02 07.3**	**-0.9**

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*NIED **24** 12:01:00, 3520N×135.10E, h20^{km}, Mw4.0 Best double couple: M0.57000×10^{14} NP1:φ$_s$337.00000°, δ56.00000°, λ45.00000°. NP2:φ$_s$218.00000°, δ54.00000°, λ137.00000°.*
*IDC **24** 12:01:49.7±0.8, 3491N×13505E, h0^{km}, mb3.9/7, mb1 4.0/10, mb1mx3.8/25, mbtmp3.8/10, ML3.1/3, MS3.0/3, Ms1 3.0/3, ms1mx2.7/34, Error ellipse: s-maj=19.1km s-min=17.1km az=41.0*
*ISCJB **24** 12:01:49.4±0.8, 3511N±004×13504E±004, h6^{km}±5^{km}, mb3.9/8, Error ellipse: s-maj=7.3km s-min=4.9km az=39.1*
*JMA **24** 12:01:50.6, 3519N×135.10E, h15^{km}, M3.9 Broadband fault plane solution: P waves. NP1:φ$_s$332.00000°, δ40.00000°, λ23.00000°. NP2:φ$_s$225.00000°, δ76.00000°, λ127.00000°. Principal axes: T Plg46.0000°, Azm173.0000°; N Plg36.0000°, Azm34.0000°; P Plg22.0000°, Azm287.0000°;*
JMA Felt III J1.
*NEIC **24** 12:01:50.6, 3519N×135.10E, h15^{km}, mb4.3/1, After JMA.*
NEIC Recorded [3 JMA] in Hyogo; [2 JMA] in Kyoto and Okayama; [1 JMA] in Fukui and Osaka Prefectures. Also recorded [1 JMA] in Kagawa Prefecture, Shikoku.
*MOS **24** 12:01:53.6±1.0, 3474N×13466E, h33^{km}, mb4.3/1, Error ellipse: s-maj=41.3km s-min=17.4km az=120.4*
ISC 24 12:01:50.8±0.6, 3516N±003×13510E±003, h3^{km}±4^{km}, n22, σ1^{s}32/31, mb3.9/8, 2C-3D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKS	**Kasai**	**0.27**	**230**	⇓P	**Pg**	**12 01 56.8**	**+0.7**
JKS				S	**Sg**	**12 02 01.1**	**+1.5**
JWT	**Wachi**	**0.28**	**63**	⇑P	**Pg**	**12 01 56.2**	**0.0**
JWT				S	**Sg**	**12 02 00.1**	**+0.3**
JKY	**Yasaka**	**0.47**	**0**	⇑P	**Pg**	**12 01 59.3**	**-0.6**
JKY				S	**Sg**	**12 02 05.4**	**-0.6**
JKSM	**Kasumi**	**0.56**	**320**	⇓P	**Pg**	**12 02 01.0**	**-0.5**
JKSM				S	**Sg**	**12 02 08.3**	**-0.5**
JHE	**Heguri**	**0.70**	**136**	⇓P	**Pg**	**12 02 04.1**	**-0.1**
JHE				S	**Sg**	**12 02 13.8**	**+0.6**
MAJO	**Matsushiro**	**2.88**	**60**	*e*P	**Pn**	**12 02 40.0**	**+2.4**
MAJO				*e*S	**Sn**	**12 03 21.0**	**+8.3**
MAT	**Matsushiro**	**2.88**	**60**	P	**Pn**	**12 02 37.5**	**-0.1**
MAT				*e*S	**Sn**	**12 03 14.8**	**+2.1**
MJAR	**Matsushiro Arr**	**2.88**	**60**	Pn	**Pn**	**12 02 39.6**	**+2.0**
	5.8nm,0.3s,baz=248,slow=14,SNR=18						
MJAR				Pg	**Pg**	**12 02 44.3**	**-1.7**
	19nm,0.3s,baz=240,slow=17,SNR=99						
MJAR				Lg		12 03 20.0	
	24nm,0.3s,baz=231,slow=30,SNR=13						
JHJ	**Hachijo jima 2**	**4.38**	**116**	Pn	**Pn**	**12 02 57.1**	**-1.2**
	2.2nm,0.3s,baz=218,slow=19,SNR=3.1						
JHJ				Sn	**Sn**	**12 03 48.7**	**-1.2**
	2.0nm,0.3s,baz=170,slow=21,SNR=2.1						
KSRS	**Korea Array**	**6.23**	**294**	Pn	**Pn**	**12 03 22.9**	**-0.8**
	0.2nm,0.3s,baz=107,slow=14,SNR=5.5						
KSRS				Sn	**Sn**	**12 04 27.5**	**-7.9**
	0.2nm,0.3s,baz=119,slow=17,SNR=3.4						
KSRS				LR	LR	12 05 44.8	
	comp=Z,69nm,18.8s,baz=162,slow=37						
ASAJ	**Asahikawa**	**10.65**	**31**	LR	LR	12 08 17.9	
	comp=Z,116nm,19.3s,baz=351,slow=36						
KLR	**Kul'dur**	**14.28**	**351**	*e*P	**Pn**	**12 05 19.2**	**+5.4**
SONM	**Songino Array**	**24.79**	**309**	P	**P**	**12 07 13.5**	**-0.4**
	5.8nm,0.9s,mb4.1,baz=116,slow=8.0,SNR=16						
SONM				LR	LR	12 16 26.3	
	comp=Z,35nm,18.4s,baz=207,slow=35						
ZAK	**Zakamensk**	**27.61**	**313**	*e*P	**P**	**12 07 41.9**	**+2.6**
MKAR	**Makanchi Array**	**40.82**	**303**	P	**P**	**12 09 34.8**	**+1.3**
	0.3nm,0.3s,mb3.5,baz=90,slow=9.7,SNR=4.0						
MKAR	**Makanchi Array**	**40.82**	**303**	P	**P**	**12 09 34.8**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.72**	**191**	P	**P**	**12 11 11.5**	**-2.8**
	comp=Z,1.5nm,0.7s,mb4.0,baz=9.7,slow=12,SNR=6.8						
WRA	**Warramunga Arr**	**54.80**	**181**	P	**P**	**12 11 19.1**	**-2.9**
	comp=Z,2.0nm,0.7s,mb4.3,baz=356,slow=8.1,SNR=34						
ASAR	**Alice Springs**	**58.51**	**181**	P	**P**	**12 11 46.4**	**-2.1**
	comp=Z,0.8nm,0.6s,mb4.0,baz=12,slow=13,SNR=26						
AKASG	**Malin Array Be**	**72.55**	**320**	P	**P**	**12 13 19.8**	**+0.8**
	comp=Z,1.0nm,0.5s,mb4.0,baz=48,slow=6.3,SNR=4.9						
DLMT	**Dillon**	**79.20**	**42**	*e*P	**P**	**12 13 55.8**	**-1.4**
	comp=Z,3.2nm,1.0s,mb4.2						
NVAR	**Mina Array Bea**	**80.15**	**50**	P	**P**	**12 14 03.6**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=276,slow=4.3,SNR=3.7						

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*NEIC **24** 12:21:12.0, 3219S×7164W, h7^{km}, ML2.6(GUC), After GUC.*
GUC 24 12:21:12.0±0.8, 3219S×7164W, h7^{km}±23^{km}, MD3.6, ML2.6, 6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.33**	**21**	⇓*i*P	Pg	12 21 18.5	+0.2
CHNG				*i* S	Sg	12 21 23.8	+1.2
CHNG				AML	AML	12 21 24.6	
	comp=N,1μm,0.5s						
PTCH	**Petorca**	**0.61**	**97**	*e*P	Pg	12 21 24.7	+1.0
PTCH				*i* S	Sg	12 21 33.9	+2.4
PTCH				AML	AML	12 21 35.6	
	comp=E,273nm,0.2s						
PTCH	**Petorca**	**0.61**	**97**	*e*P	Pg	12 21 24.7	+1.0
PTCH				*i* S	Sg	12 21 33.9	+2.4
ROCH	**El Roble**	**0.94**	**146**	*e*P	Pg	12 21 29.9	-0.3
ROCH				*i* S	Sg	12 21 43.6	+1.1
JACH	**Jahuel**	**1.01**	**119**	⇓*i*P	Pg	12 21 30.9	-0.5
JACH				*i* S	Sg	12 21 45.5	+0.9
PEL	**Peldehue**	**1.25**	**140**	⇓*i*P	Pn	12 21 35.0	-0.9
PEL				*i* S	Sg	12 21 52.6	+0.4
PEL				AML	AML	12 21 53.9	
	comp=N,487nm,0.3s						
RCDM	**Rinconada Maip**	**1.48**	**152**	*e*P	Pn	12 21 38.0	-1.0
RCDM				*i* S	Sn	12 21 58.1	-0.5
RCDM				AML	AML	12 21 59.6	
	comp=E,246nm,0.1s						
RCDM	**Rinconada Maip**	**1.48**	**152**	*e*P	Pn	12 21 38.0	-1.0
RCDM				*i* S	Sn	12 21 58.1	-0.5
TACH	**Talagante**	**1.58**	**158**	⇓*i*P	Pn	12 21 39.8	-0.6
TACH				*i* S	Sn	12 22 01.3	+0.2
FCH	**Farellones**	**1.61**	**135**	⇓*i*P	Pn	12 21 40.4	-0.4
FCH				*i* S	Sn	12 22 02.4	+0.6
FCH				AML	AML	12 22 05.3	
	comp=E,152nm,0.2s						
PCH	**Pirque**	**1.71**	**147**	⇓*i*P	Pn	12 21 41.9	-0.4
LNV	**Longovilo**	**1.77**	**174**	*e*P	Pn	12 21 43.4	+0.3
CHCH	**Chadas Angostu**	**1.93**	**155**	*e*P	Pn	12 21 45.4	+0.1
CHCH				*i* S	Sn	12 22 10.8	+1.0

MAN 24 12:41:03, 982N×12225E, h28^{km}, mb3.7, ML2.5, MS2.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.87**	**22**	*e*P	Pn	12 41 19.7	+0.4
GUIM				*e*S	Sb	12 41 31.3	+0.6
SNPH	**Sibulan**	**1.08**	**116**	*e*P	Pn	12 41 22.0	-0.3
CUYO	**Cuyo Island**	**1.59**	**310**	*e*P	Pn	12 41 30.7	+1.4
CUYO				*e*S	Sn	12 41 50.2	+1.3
IPIL	**Ipil**	**2.04**	**171**	*e*P	Pn	12 41 35.8	+0.2
PAGZ	**Pagadian**	**2.25**	**150**	*e*P	Pn	12 41 40.3	+1.9
MSLP	**Maasin**	**2.59**	**83**	*e*P	Pn	12 41 45.5	+2.5
BUSP	**Coron**	**2.96**	**317**	*e*P	Pn	12 41 49.5	+1.3

KRSC 24 12:47:29.2±0.8, 5346N×16311E, h43^{km}±43^{km}, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.37**	**324**	*e*P	Pn	12 47 53.4	+1.6
MKZ				*i* S	Sn	12 48 10.8	+2.2
SPN	**Mys Shipunski**	**1.89**	**260**	*e*P	Pn	12 48 00.5	+1.6
SPN				*e*S	Sn	12 48 23.1	+1.6
KII	**Karymskiy**	**2.25**	**286**	P	Pn	12 48 06.9	+3.1
KII				*i* S	Sn	12 48 34.1	+3.8
NLC	**Nalytchevo**	**2.28**	**264**	*e*P	Pn	12 48 06.1	+1.9
NLC				*i* S	Sn	12 48 33.4	+2.4
TUMR	**Tumrok**	**2.52**	**318**	P	Pn	12 48 10.9	+3.4
AVH	**Avacha**	**2.63**	**267**	P	Pn	12 48 11.3	+2.3
AVH				*i* S	Sn	12 48 42.7	+3.1
PET	**Petropavlovsk**	**2.71**	**263**	P	Pn	12 48 12.6	+2.4
PET				*i* S	Sn	12 48 44.2	+2.4
KBTR	**Krutoberegovo**	**2.76**	**357**	P	Pn	12 48 11.2	+0.4
KBTR				*i* S	Sn	12 48 42.4	-0.5
ZLN	**Zelenaya**	**2.89**	**333**	P	Pn	12 48 14.6	+2.0
RUS	**Russkaya**	**2.96**	**252**	P	Pn	12 48 15.1	+1.4
RUS				*i* S	Sn	12 48 48.9	+0.9
GNL	**Ganaly**	**3.09**	**276**	P	Pn	12 48 19.0	+3.6
GNL				*i* S	Sn	12 48 54.4	+3.4
SRDR	**Sredinnyy**	**3.47**	**327**	P	Pn	12 48 22.9	+2.3

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*IDC **24** 12:48:21.6±6.9, 657S×15575E, h0^{km}, mb3.8/5, mb1 3.9/5, mb1mx3.8/16, mbtmp3.8/5, Error ellipse: s-maj=198.1km s-min=31.6km az=112.0*
*ISCJB **24** 12:48:24.7±1.1, 66S±02×1558E±01, h33^{km}, mb3.7/6, Error ellipse: s-maj=23.7km s-min=16.6km az=11.2*
*NEIC **24** 12:48:26.7±0.9, 661S×15582E, h35^{km}, mb4.3/1, Error ellipse: s-maj=20.7km s-min=14.7km az=192.0*
ISC 24 12:48:26.8±1.1, 66S±02×1558E±01, h35^{km}, n8, σ0^{s}75/8, mb3.7/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.95**	**125**	*e*Pn	**Pn**	**12 49 38.8**	**+0.1**
WRAB	**Tennant Creek**	**24.69**	**236**	*e*P	**P**	**12 53 45.1**	**+0.4**
	4.0nm,0.4s,mb4.3						
WB2	**Warramunga Arr**	**24.69**	**236**	*e*P	**P**	**12 53 45.1**	**+0.4**
WRA	**Warramunga Arr**	**24.70**	**236**	P	**P**	**12 53 45.5**	**+0.7**
	4.7nm,0.4s,mb4.3,baz=61,slow=10.0,SNR=167						
ASAR	**Alice Springs**	**27.03**	**229**	P	**P**	**12 54 04.6**	**-1.3**
	0.2nm,0.4s,mb3.0,baz=59,slow=10.0,SNR=14						
FITZ	**Fitzroy Crossi**	**31.55**	**246**	P	**P**	**12 54 45.9**	**-0.2**
	0.9nm,0.5s,mb3.8,baz=67,slow=13,SNR=8.2						
SONM	**Songino Array**	**69.47**	**327**	P	**P**	**12 59 32.4**	**+0.9**
	0.2nm,0.4s,mb3.4,baz=117,slow=5.5,SNR=2.5						
MKAR	**Makanchi Array**	**83.66**	**318**	P	**P**	**13 00 50.8**	**-1.1**
	0.3nm,0.7s,mb3.5,baz=111,slow=6.6,SNR=3.8						

IDC 24 13:01:00.5±41.0, 1326S×17103E, h0^{km}, mb4.0/4, mb1 4.2/4, mb1mx3.8/16, mbtmp4.0/4, Error ellipse: s-maj=711.7km s-min=112.2km az=69.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**32.73**	**231**	P	P	13 07 35.1	0.0
	1.6nm,0.3s,baz=68,slow=11,SNR=10						
WRA	**Warramunga Arr**	**35.73**	**254**	P	P	13 08 01.5	+0.3
	0.5nm,0.3s,baz=82,slow=7.3,SNR=28						
ASAR	**Alice Springs**	**36.60**	**248**	P	P	13 08 08.8	+0.1
	0.9nm,0.3s,baz=79,slow=9.8,SNR=41						
FITZ	**Fitzroy Crossi**	**43.88**	**258**	P	P	13 09 08.2	-0.9
	1.9nm,1.2s,baz=60,slow=11,SNR=3.2						

NNC 24 13:21:34.8±0.7, 5005N×7816E, h0^{km}, mb2.8, mpv1.3, 29C-9D, Error ellipse: s-maj=13.1km s-min=3.5km az=102.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**23**	P	Pg	13 21 46.2	+0.2
KUR07				S	Sg	13 21 54.9	+1.3
KUR06	**Kurchatov Arra**	**0.60**	**23**	⇓P	Pg	13 21 46.7	+0.3
	0.3nm,0.5s						
KUR06				⇓S	Sg	13 21 56.2	+2.0
	1.3nm,0.9s						
KUR06	**Kurchatov Arra**	**0.60**	**23**	⇓P	Pg	13 21 46.7	+0.3
	0.3nm,0.5s						
KUR06				⇓S	Sg	13 21 56.2	+2.0
	1.3nm,0.9s						
KUR17	**Kurchatov Arra**	**0.62**	**19**	⇑P	Pg	13 21 47.4	+0.8
KUR17				⇑S	Sg	13 21 56.4	+1.7
	2.4nm,1.1s						
KUR17	**Kurchatov Arra**	**0.62**	**19**	⇑P	Pg	13 21 47.4	+0.8
KUR17				⇑S	Sg	13 21 56.4	+1.7
	2.4nm,1.1s						
KUR16	**Kurchatov Arra**	**0.62**	**20**	⇑P	Pg	13 21 47.1	+0.4
	0.2nm,0.5s						
KUR16				⇑S	Sg	13 21 55.8	+1.0
	0.8nm,0.9s						
KUR16	**Kurchatov Arra**	**0.62**	**20**	⇑P	Pg	13 21 47.1	+0.4
	0.2nm,0.5s						
KUR16				⇑S	Sg	13 21 55.8	+1.0
	0.8nm,0.9s						
KURBB	**Kurchatov Arra**	**0.62**	**22**	⇑P	Pg	13 21 47.0	+0.3
	1.4nm,0.9s						
KURBB				⇓S	Sg	13 21 55.9	+1.0
	4.8nm,0.6s						
KURBB	**Kurchatov Arra**	**0.62**	**22**	⇑P	Pg	13 21 47.0	+0.3
	1.4nm,0.9s						
KURBB				⇓S	Sg	13 21 55.9	+1.0
	4.8nm,0.6s						
KUR15	**Kurchatov Arra**	**0.63**	**24**	⇑P	Pg	13 21 47.0	+0.2
	0.2nm,0.6s						
KUR15				⇑S	Sg	13 21 55.7	+0.7
	1.1nm,0.7s						
KUR15	**Kurchatov Arra**	**0.63**	**24**	⇑P	Pg	13 21 47.0	+0.2
	0.2nm,0.6s						
KUR15				⇑S	Sg	13 21 55.7	+0.7
	1.1nm,0.7s						
KUR14	**Kurchatov Arra**	**0.63**	**26**	⇑P	Pg	13 21 46.7	-0.2
	0.1nm,0.5s						
KUR14				⇑S	Sg	13 21 55.5	+0.4
	1.8nm,1.0s						
KUR14	**Kurchatov Arra**	**0.63**	**26**	⇑P	Pg	13 21 46.7	-0.2
	0.1nm,0.5s						
KUR14				⇑S	Sg	13 21 55.5	+0.4
	1.8nm,1.0s						
KUR05	**Kurchatov Arra**	**0.65**	**22**	⇑P	Pg	13 21 47.2	0.0
	0.1nm,0.4s						
KUR05				⇑S	Sg	13 21 56.4	+0.9
	1.3nm,1.1s						
KUR05	**Kurchatov Arra**	**0.65**	**22**	⇑P	Pg	13 21 47.2	0.0
	0.1nm,0.4s						
KUR05				⇑S	Sg	13 21 56.4	+0.9
	1.3nm,1.1s						
KUR04	**Kurchatov Arra**	**0.67**	**22**	⇓P	Pg	13 21 47.7	+0.2
	0.2nm,0.6s						
KUR04				⇑S	Sg	13 21 57.0	+0.8
	1.1nm,0.7s						
KUR04	**Kurchatov Arra**	**0.67**	**22**	⇓P	Pg	13 21 47.7	+0.2
	0.2nm,0.6s						
KUR04				⇑S	Sg	13 21 57.0	+0.8
	1.1nm,0.7s						
KURK	**Kurchatov**	**0.73**	**24**	⇑P	Pg	13 21 48.8	0.0
	2.7nm,0.6s						
KURK				⇑S	Sg	13 21 58.3	-0.1
	20nm,0.9s						
KURK	**Kurchatov**	**0.73**	**24**	⇑P	Pg	13 21 48.8	0.0
	2.7nm,0.6s						
KURK				⇑S	Sg	13 21 58.3	-0.1
	20nm,0.9s						
MK31	**Makanchi Array**	**4.26**	**138**	⇓Pn	Pn	13 22 44.2	+3.4
	0.5nm,0.6s,baz=121,slow=40,SNR=3.7						
MK31				⇑Sn	Sn	13 23 38.9	+7.7
	0.9nm,0.5s,baz=336,slow=28,SNR=5.4						

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*ISCJB **24** 13:38:16.5±1.5, 177S±07×1784W±04, h561^{km}±26^{km}, mb3.5/6, Error ellipse: s-maj=126.0km s-min=17.3km az=151.5*
*NEIC **24** 13:38:17.5±1.1, 1773S×17831W, h566^{km}±15^{km}, mb4.0/3, Error ellipse: s-maj=81.4km s-min=11.4km az=152.0*
*IDC **24** 13:38:19.9±9.1, 1801S×17828W, h596^{km}±118^{km}, mb2.9/6, mb1 3.2/6, mb1mx3.0/16, mbtmp2.9/6, Error ellipse: s-maj=116.7km s-min=38.1km az=157.0*
ISC 24 13:38:17.5±1.5, 177S±07×1784W±04, h560^{km}±23^{km}, n11, σ0^{s}57/10, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.37**	**60**	*e*P	**P**	**13 40 09.3**	**-0.1**
	25nm,0.7s						
CTA	**Charters Tower**	**33.52**	**260**	P	**P**	**13 44 12.0**	**+0.5**
	1.1nm,0.3s,mb3.8,baz=86,slow=14,SNR=4.5						
CTAO	**Charters Tower**	**33.52**	**260**	*e*P	**P**	**13 44 12.2**	**+0.7**
	1.4nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**38.77**	**241**	P	**P**	**13 44 54.0**	**-0.6**
	1.2nm,0.4s,mb3.8,baz=85,slow=8.1,SNR=4.8						
STKA	**Stephens Creek**	**38.77**	**241**	*e*P	**P**	**13 44 54.0**	**-0.6**
	1.3nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**44.71**	**259**	P	**P**	**13 45 41.7**	**+0.1**
	0.6nm,0.4s,mb3.5,baz=96,slow=6.9,SNR=36						
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**	**13 45 42.9**	**0.0**
	2.0nm,0.6s,mb3.8,baz=90,slow=8.7,SNR=38						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	**P**	**13 49 25.8**	**+0.7**
	0.

TKM2 ⇓Lg 14 00 35.0
comp=E,227nm,0.8s
TKM2 Tokmak 2 4.43 255 *e*Pn **Pn 13 59 29.5 +1.8**
WMQ Urumqi 4.54 93 *e*P **Pn 13 59 33.8 +4.6**
WMQ SG **Sg 14 00 45.0 -1.6**
WMQ Smax
comp=N,137nm,0.8s
WMQ Smax
comp=E,215nm,0.8s
FRU Bishkek 5.14 257 *e*PN **Pn 13 59 42.0 +4.5**
FRU *i* S **Sg 14 01 00.0 -6.0**
FRU pmax pmax
comp=Z,60nm,1.2s
FRU smax
comp=E,310nm,1.9s
EKS2 Erkin-Say 5.78 257 *e*Pn **Pn 13 59 47.9 +1.6**
comp=E,40nm,0.9s
AML Almayashu 6.03 252 *e*Pn **Pn 13 59 52.5 +2.8**
comp=E,42nm,0.6s
KSH Kashi 6.21 223 *e*PG **Pg 14 00 13.3 -6.7**
KSH Smax
comp=N,139nm,1.0s
KSH Smax
comp=E,160nm,1.0s
KURBB Kurchatov Arra 6.70 344 ⇑Pn **Pn 13 59 59.4 +0.5**
comp=E,1.0nm,0.7s
KURBB ⇑Sn **Sn 14 01 14.0 -1.0**
comp=E,7.0nm,0.6s
KURBB ⇑Lg 14 01 49.0
comp=E,23nm,0.7s
KURK Kurchatov 6.77 345 ⇑Pn **Pn 14 00 00.6 +0.8**
comp=E,1.9nm,0.4s
KURK ⇓Sn **Sn 14 01 15.5 -1.2**
comp=E,27nm,0.6s
KURK ⇑Lg 14 01 54.2
comp=E,106nm,0.8s
KURK Kurchatov 6.77 345 *e*PN **Pn 13 59 59.7 -0.2**
KURK pmax pmax
comp=Z,5.0nm,0.5s
KURK Kurchatov 6.77 345 *e*Pn **Pn 13 59 59.6 -0.2**
comp=Z,5.4nm,0.5s
KURK *e*Sn **Sn 14 01 16.0 -0.7**
ZAL Zalesovo 9.97 12 P **Pn 14 00 44.0 +0.3**
ZAL 14 02 35.5
ZAA0 Zalesovo Array 9.99 12 *e*Pn **Pn 14 00 43.7 -0.3**
ZALV Zalesovo Beam 9.99 12 Pn **Pn 14 00 44.0 +0.1**
comp=Z,2.1nm,0.3s,baz=195,slow=14,SNR=30
ZALV Sn **Sn 14 02 35.5 -0.2**
comp=Z,0.8nm,0.3s,baz=216,slow=26,SNR=3.7
ZALV Lg 14 03 31.5
baz=167,slow=26,SNR=2.2
VOSK Vostochnaya 10.97 325 ⇑Pn **Pn 14 00 56.8 -0.6**
comp=Z,16nm,1.7s
VOSK ⇓Sn **Sn 14 02 57.2 -2.5**
comp=Z,2.5nm,0.6s
VOSK ⇑Lg 14 04 02.8
comp=Z,49nm,1.2s
BVA0 Borovoye Array 11.44 324 ⇑Sn **Sn 14 03 10.3 -0.8**
comp=Z,0.7nm,0.8s,baz=132,slow=23,SNR=3.5
BVA0 ⇑Lg 14 04 14.1
comp=Z,9.5nm,1.0s
BVAR Borovoye Array 11.44 324 Pn **Pn 14 01 03.8 0.0**
comp=Z,0.4nm,0.3s,baz=77,slow=26,SNR=3.4
BVAR Sn **Sn 14 03 05.7 -5.4**
comp=Z,0.5nm,0.3s,baz=136,slow=17,SNR=2.7
BVAR Lg 14 04 18.4
comp=Z,0.8nm,0.3s,baz=114,slow=28,SNR=3.6
BVAR Borovoye Array 11.44 324 P **Pn 14 01 03.8 +0.1**
BVAR 14 03 05.7
AB31 Akbulak array 15.55 296 Pn **Pn 14 01 57.5 -2.1**
comp=Z,1.1nm,0.3s,baz=332,slow=15,SNR=56
AB31 ⇑Lg 14 02 14.6
comp=Z,14nm,0.5s,baz=341,slow=24
ZAK Zakamensk 16.03 60 *e*P **Pn 14 02 10.8 +5.0**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
AKTO Aktyubinsk 17.01 300 Lg 14 07 16.4
comp=Z,0.1nm,0.3s,baz=203,slow=21,SNR=3.7
SONM Songino Array 17.69 69 P **Pn 14 02 27.0 +0.3**
comp=Z,0.3nm,0.3s,baz=268,slow=10,SNR=22
SONM Lg 14 07 36.1
baz=273,slow=27,SNR=2.4
LZH Lanzhou 18.92 108 *e*P **Pn 14 02 41.6 -0.3**
LZH AMB AMB
comp=Z,15nm,1.0s
LZH AMB AMB
comp=Z,69nm,4.1s
ARU Arti 18.93 318 *e*P **Pn 14 02 43.1 +1.3**
ARU *e*S **Sn 14 06 12.6 -0.7**
KIV Kislovodsk 27.66 283 P **P 14 04 09.0 +0.8**
KIV 14 04 18.5
KIV *e* 14 05 02.0
CMAR Chiang Mai Arr 29.59 145 P **P 14 04 25.1 -0.4**
comp=Z,0.3nm,0.6s,mb3.2,baz=321,slow=8.8,SNR=5.1
ARCES ARCESS Array B 37.60 331 P **P 14 05 35.3 +0.6**
comp=Z,1.7nm,0.7s,mb3.9,baz=65,slow=5.8,SNR=5.7
NOA NORSAR Array B 43.48 318 P **P 14 06 24.4 +1.1**
comp=Z,0.6nm,0.7s,mb3.4,baz=80,slow=8.1,SNR=2.9
KAKA Kakadu 73.17 128 *e*P **P 14 09 49.8 -1.5**
comp=Z,7.8nm,0.6s,mb4.8
TORD Torodi Ar. Bea 73.63 273 P **P 14 09 54.2 +0.1**
comp=Z,1.2nm,0.6s,mb4.0,baz=41,slow=5.0,SNR=14
TORD Torodi Ar. Bea 73.63 273 P **P 14 09 54.2 +0.1**
WRAB Tennant Creek 80.08 130 *e*P **P 14 10 27.3 -2.9**
WRAB pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
WRAB Tennant Creek 80.08 130 *e*P **P 14 10 27.3 -2.9**
comp=Z,3.3nm,0.9s,mb4.3
WRA Warramunga Arr 80.08 130 P **P 14 10 30.3 +0.1**
comp=Z,0.7nm,0.8s,mb3.6,baz=331,slow=5.2,SNR=16
WB2 Warramunga Arr 80.08 130 *e*P **P 14 10 30.2 -0.1**
ASAR Alice Springs 82.87 133 P **P 14 10 45.0 0.0**
comp=Z,0.4nm,0.6s,mb3.6,baz=325,slow=5.3,SNR=10

*IDC **24** 14:06:12.0±1.8,3778N×6996E,h0km,mb3.7/4,mb1 3.8/8, mb1mx3.6/25,mbtmp3.7/8,ML3.6/4,MS3.3/1,Ms1 3.3/1, ms1mx2.4/33,Error ellipse: s-maj=30.0km s-min=18.6km az=35.0*
*BJI **24** 14:06:15.4,3797N×6969E,h51km,mb4.1,ML3.7*
*NEIC **24** 14:06:16.9±1.4,3796N×6985E,h35km,Error ellipse: s-maj=20.2km s-min=15.5km az=189.0*
*MOS **24** 14:06:18.3±1.7,3808N×7001E,h61km,mb4.6/1,Error ellipse: s-maj=19.6km s-min=11.8km az=84.5*
*ISCJB **24** 14:06:21.8±1.1,3834N±007×6987E±007,h86km±12km, mb3.7/6,Error ellipse: s-maj=12.3km s-min=8.3km az=33.3*
ISC 24 14:06:23.4±1.0,3836N±007×6985E±007,h86km±11km, n32,σ1°20/37,mb3.7/6,3C,Tajikistan
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KK31 Karatay Array 4.76 6 Pn **Pn 14 07 33.8 +1.0**
1.0nm,0.3s,baz=198,slow=18,SNR=11
KK31 ⇑Sn **Sn 14 08 33.1 +6.4**
6.3nm,0.4s,baz=194,slow=26,SNR=4.2
AML Almayashu 4.78 37 P **Pn 14 07 33.3 +0.3**
SNR=15
AML Almayashu 4.78 37 *e*Pn **Pn 14 07 32.3 -0.6**
21nm,0.6s
CEP Cherat 4.82 159 P **Pn 14 07 33.2 -0.4**
KSH Kashi 4.91 74 *e*P **Pn 14 07 32.1 -2.6**
KSH *e*S **Sn 14 08 32.1 +1.9**
KSH Smax
comp=N,266nm,1.1s
KSH Smax
comp=E,276nm,1.0s
EKS2 Erkin-Say 5.23 34 P **Pn 14 07 41.2 +2.1**
SNR=17
EKS2 Erkin-Say 5.23 34 *e*Pn **Pn 14 07 39.4 +0.2**
comp=E,8.1nm,0.6s
CHCP Chirah Chowk 5.45 148 P **Pn 14 07 46.5 +4.4**
AAK Ala-Archa 5.54 38 P **Pn 14 07 44.3 +0.9**
SNR=13
FRU Bishkek 5.75 38 *e*PN **Pn 14 07 55.0 +8.8**
FRU pmax pmax
comp=Z,50nm,1.8s
CHMS Chumysh 5.94 37 P **Pn 14 07 49.9 +1.1**
SNR=15
USP Ospenovka 6.04 34 P **Pn 14 07 50.0 0.0**
SNR=8.6
TKM2 Tokmak 2 6.31 42 ⇑Pn **Pn 14 07 53.5 -0.2**
comp=Z,6.2nm,0.5s
TKM2 ⇑Lg 14 09 44.3
comp=Z,8.3nm,0.6s
TKM2 Tokmak 2 6.31 42 P **Pn 14 07 54.3 +0.5**
SNR=10
MK31 Makanchi Array 12.44 43 *e*P **Pn 14 09 15.7 -1.4**
MKAR Makanchi Array 12.44 43 Pn **Pn 14 09 14.8 -2.4**
comp=Z,0.4nm,0.3s,baz=233,slow=12,SNR=13
MKAR Makanchi Array 12.44 43 Pn **Pn 14 09 14.8 -2.4**
BVAR Borovoye Array 14.67 1 Pn **Pn 14 09 45.7 -0.6**
comp=Z,0.2nm,0.3s,baz=158,slow=37,SNR=3.4
AKTK Aktyubinsk 14.72 329 Pn **Pn 14 09 46.0 -1.0**
AKTK Sn **Sn 14 12 28.8 -0.1**
AKTO Aktyubinsk 14.72 329 Pn **Pn 14 09 46.0 -1.0**
comp=Z,0.2nm,0.3s,baz=128,slow=15,SNR=3.2
AKTO Sn **Sn 14 12 28.8 -0.1**
comp=Z,0.2nm,0.3s,baz=345,slow=19,SNR=4.5
ZAL Zalesovo 18.64 28 P **Pn 14 10 34.7 -0.7**
ZAA0 Zalesovo Array 18.66 28 *e*P **Pn 14 10 34.2 -1.3**
ZALV Zalesovo Beam 18.66 28 P **Pn 14 10 34.7 -0.9**
comp=Z,0.3nm,0.3s,baz=220,slow=11,SNR=10
ZALV Zalesovo Beam 18.66 28 P **Pn 14 10 34.7 -0.9**
ARU Arti 19.58 341 *e*P **Pn 14 10 49.4 +3.0**
ARU *e*S **S 14 14 29.2 +8.8**
KIV Kislovodsk 21.16 294 P **P 14 11 03.0 +1.6**
KIV pmax pmax
comp=Z,12nm,0.7s,mb4.3
GTA Gaotai 23.30 78 P **P 14 11 24.3 +0.7**
GTA AP 14 11 28.9
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb3.9
SONM Songino Array 28.09 58 P **P 14 12 06.7 0.0**
comp=Z,0.3nm,0.5s,mb3.1,baz=248,slow=7.6,SNR=3.0
SONM LR LR 14 24 33.6
comp=Z,65nm,19.9s,baz=69,slow=39
AKASG Malin Array Be 31.09 307 P **P 14 12 33.6 +0.4**
comp=Z,0.4nm,0.4s,mb3.5,baz=79,slow=7.9,SNR=3.6
CMAR Chiang Mai Arr 32.16 120 P **P 14 12 39.4 -3.5**
comp=Z,0.5nm,0.8s,mb3.3,baz=322,slow=7.0,SNR=4.6
BOD Bodaibo 34.52 41 *e*P **P 14 13 04.2 +1.2**
ARCES ARCESS Array B 39.08 337 P **P 14 13 45.9 +4.3**
comp=Z,4.7nm,1.0s,mb4.3,baz=96,slow=8.3,SNR=3.9

*BJI **24** 14:07:19.8,271N×12892E,h233km,mB4.6,mb4.6*
*ISCJB **24** 14:07:19.8±0.7,275N±004×12877E±006,h228km±6km, mb4.5/49,Error ellipse: s-maj=10.1km s-min=5.6km az=167.2*
*IDC **24** 14:07:21.4±1.3,274N×12866E,h229km±12km,mb4.1/18, mb1 4.1/20,mb1mx4.1/24,mbtmp4.1/20,Error ellipse: s-maj=16.2km s-min=7.4km az=83.0*
*NEIC **24** 14:07:21.6±0.9,275N×12869E,h229km±9km,mb4.8/22, Error ellipse: s-maj=8.5km s-min=4.3km az=73.0*
*MOS **24** 14:07:22.8±1.0,277N×12871E,h262km,mb4.6/6,Error ellipse: s-maj=16.1km s-min=8.5km az=110.0*
*DJA **24** 14:07:23,291N×12850E,h212km,mb4.5/4*
ISC 24 14:07:20.7±0.7,275N±004×12878E±006,h220km±6km, h225km±1.4km:pP-P,n99,σ0°99/106,mb4.5/49,Halmahera
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
SGSI Sangihe 3.38 286 P **Pn 14 08 14.9 -0.9**
0.0nm,0.0s
LBMI Labuha 3.60 201 P **Pn 14 08 20.2 +1.8**
0.0nm,0.0s
MNI Manado 4.15 252 P **Pn 14 08 24.3 -0.7**
0.0nm,0.0s
DAV Davao City (W) 5.35 323 P **Pn 14 08 40.0 0.0**
98nm,0.3s,baz=121,slow=3.7,SNR=4.5
DAV Davao City (W) 5.35 323 Pn **Pn 14 08 40.3 +0.3**
299nm,0.4s
KKM Kota Kinabalu 12.95 285 *e*Pn **Pn 14 10 16.4 -0.6**
JAY Jayapura 13.01 114 P **Pn 14 10 25.1 +7.3**
0.0nm,0.0s
BATI Baumata 13.84 202 P **Pn 14 10 29.1 +1.1**
0.0nm,0.0s
BATI Baumata 13.84 202 P **Pn 14 10 27.7 -0.3**
6.7nm,0.3s,baz=22,slow=1.2,SNR=11
KAKA Kakadu 15.78 167 *e*P **Pn 14 10 52.3 +0.7**
KAKA Kakadu 15.78 167 *e*S **Pn 14 10 51.8 +0.2**
KHKI Kahang-Kahang 17.16 230 P **P 14 11 08.9 +2.7**
0.0nm,0.0s
STKI Sintang 17.50 262 P **P 14 11 10.6 +0.6**
0.0nm,0.0s
DNP Denpasar 17.66 230 P **P 14 11 11.7 0.0**
0.0nm,0.0s
KMMI Kalianget 17.70 237 P **P 14 11 13.0 +0.9**
0.0nm,0.0s
KSM Kuching 18.51 266 *e*P **P 14 11 20.9 +0.1**
FITZ Fitzroy Crossi 20.95 188 *e*P **P 14 11 46.6 -0.2**
10nm,0.6s
FITZ Fitzroy Crossi 20.95 188 P **P 14 11 46.4 -0.5**
4.6nm,0.5s,baz=17,slow=10,SNR=26
NACB Ninganchiao 22.40 343 *e*P **P 14 12 00.1 -0.8**
8.7nm,0.4s,mb4.6
YHNB Yeheng 22.93 342 *e*P **P 14 12 05.5 -0.3**
23nm,0.6s,mb4.9
WRAB Tennant Creek 23.19 167 *e*P **P 14 12 08.4 +0.2**
WRA Warramunga Arr 23.20 167 P **P 14 12 08.1 -0.1**
8.3nm,0.4s,mb4.6,baz=345,slow=10,SNR=38
WRA ScP ScP 14 19 05.4 -1.5
1.0nm,0.6s,baz=344,slow=3.0,SNR=8.3
WB2 Warramunga Arr 23.20 167 *e*P **P 14 12 07.9 -0.4**
QIZ Qiongzhong 24.60 312 *e*P **P 14 12 20.7 -0.3**
25nm,1.1s,mb4.8
MBWA Marble Bar 25.36 200 *e*P **P 14 12 27.2 -0.6**
73nm,2.5s,mb4.9
ASAR Alice Springs 26.73 170 P **P 14 12 40.6 +0.6**
4.6nm,0.4s,mb4.5,baz=355,slow=7.2,SNR=54
ASAR ScP ScP 14 19 15.1 -1.7
1.2nm,0.6s,baz=350,slow=2.8,SNR=12
CBIJ Chichi jima 27.40 27 P **P 14 12 44.6 -1.4**
36nm,0.6s,mb5.2,baz=260,slow=17,SNR=4.9
PSI Prapat 29.82 271 P **P 14 13 05.8 -1.9**
2.8nm,0.6s,mb4.1,baz=96,slow=4.3,SNR=4.1
NJ2 Nanjing 30.61 343 *e*P **P 14 13 15.3 +1.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
WHN Wuhan 30.83 335 P **P 14 13 17.8 +1.5**
GYA Guiyang 31.72 320 *e*P **P 14 13 26.3 +2.2**
GYA AP pP 14 14 12.8 +4.2
GYA XP sP 14 14 38.9 +4.9
GYA PP PP 14 14 41.5 +0.9
GYA PCP PcP 14 16 11.8 +1.5
GYA S **S 14 18 18.3 +0.9**
GYA SCP ScP 14 19 32.6 -0.1
GYA PCS PcS 14 19 55.4 +0.2
GYA SCS ScS 14 23 30.0 -1.5
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
GYA AMB AMB
comp=Z,90nm,5.4s
CMAR Chiang Mai Arr 33.13 300 P **P 14 13 36.9 +0.4**
comp=Z,6.8nm,0.8s,mb4.2,baz=115,slow=7.1,SNR=49
CMAR ScP ScP 14 19 35.9 -1.9
comp=Z,0.9nm,0.5s,baz=142,slow=2.4,SNR=9.0
CHTO Chiang Mai 33.28 301 *e*P **P 14 13 38.1 +0.3**
CHTO pmax pmax
comp=Z,11nm,0.8s,mb4.4
CHTO Chiang Mai 33.28 301 *e*P **P 14 13 38.1 +0.4**
comp=Z,11nm,0.8s,mb4.4
FORT Forrest 33.35 181 *e*P **P 14 13 38.2 +0.1**
comp=Z,51nm,0.6s,mb5.2
KMI Kunming 33.53 314 P **P 14 13 41.3 +1.5**
KMI PP PP 14 15 03.1 +2.5
KMI PCP PcP 14 16 16.8 +1.5
KMI S **S 14 18 45.8 +0.4**
KMI XS sS 14 20 08.8 +3.6
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.3
KMI AMB AMB
comp=Z,67nm,4.2s
KMI LR LR
comp=N,52nm,4.5s
KMI LR LR
comp=E,53nm,4.3s
KMI LR LR
comp=Z,32nm,5.9s
KSRS Korea Array 34.55 359 P **P 14 13 49.0 +0.6**
comp=Z,12nm,0.8s,mb4.5,baz=175,slow=9.7,SNR=46
MJAR Matsushiro Arr 34.73 13 P **P 14 13 49.3 -0.6**
comp=Z,12nm,0.7s,mb4.5,baz=187,slow=9.4,SNR=36
MAJO Matsushiro 34.73 13 *e*P **P 14 13 49.4 -0.6**
MAJO pmax pmax
comp=Z,19nm,0.8s,mb4.7
MAJO Matsushiro 34.73 13 *e*P **P 14 13 49.4 -0.6**
comp=Z,19nm,0.8s,mb4.7
MAT Matsushiro 34.73 13 P **P 14 13 50.2 +0.2**
KLBR Kellerberrin 35.73 196 *e*P **P 14 13 58.0 -0.5**
comp=Z,11nm,0.5s,mb4.7
XAN Xi'an 36.23 331 P **P 14 14 02.3 -0.5**
XAN AMB AMB
comp=Z,12nm,0.7s,mb4.5
XAN AMB AMB
comp=Z,36nm,9.6s
STKA Stephens Creek 36.52 162 *e*P **P 14 14 05.8 +0.5**
comp=Z,7.2nm,0.8s,mb4.2
STKA Stephens Creek 36.52 162 P **P 14 14 05.9 +0.6**
comp=Z,7.3nm,0.5s,mb4.5,baz=338,slow=7.8,SNR=40
STKA ScP ScP 14 19 47.5 -2.2
comp=Z,1.9nm,0.9s,baz=335,slow=9.8,SNR=3.1
STKA Stephens Creek 36.52 162 *e*P **P 14 14 05.8 +0.5**
comp=Z,6.7nm,0.5s,mb4.4
MUN Mundaring 36.54 198 *e*P **P 14 14 05.1 -0.3**
CD2 Chengdu 36.65 322 *e*P **P 14 14 06.8 +0.4**
CD2 AP pP 14 14 53.3 +1.6
CD2 XP sP 14 15 18.5 +1.6
CD2 PP PP 14 15 39.9 +5.1
CD2 S **S 14 19 33.8 +0.8**
CD2 XS sS 14 20 55.0 +1.4
CD2 SS SS 14 22 17.5 -5.9
CD2 AMB AMB
comp=Z,30nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,40nm,5.8s
NWAO Narrogin (SRO) 37.13 196 P **P 14 14 09.4 -1.0**
comp=Z,11nm,0.6s,mb4.6,baz=37,slow=13,SNR=14
NWAO Narrogin (SRO) 37.13 196 *e*P **P 14 14 10.3 0.0**
NWAO pmax pmax
comp=Z,7.0nm,0.6s
NWAO Narrogin (SRO) 37.13 196 *e*P **P 14 14 10.2 -0.1**
comp=Z,6.7nm,0.6s,mb4.3
BJI Beijing 38.84 345 P **P 14 14 23.5 -1.0**
BJI AMB AMB
comp=Z,25nm,0.7s,mb4.8
LZH Lanzhou 40.40 328 *e*P **P 14 14 38.6 +1.2**
LZH AP pP 14 15 25.5 +2.0
LZH XP sP 14 15 48.0 -0.5
LZH PP PP 14 16 18.8 +3.4
LZH PCP PcP 14 16 36.4 +0.3
LZH *e*S **S 14 20 30.5 +1.6**
LZH XS sS 14 21 53.0 +2.4
LZH SS SS 14 23 33.3 -4.4
LZH AMB AMB
comp=Z,41nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,120nm,4.0s
HHC Hu-ho-hao-te 40.99 340 *e*P **P 14 14 44.5 +2.3**
HHC AP pP 14 15 31.8 +3.4
HHC XP sP 14 15 56.8 +3.4
HHC PP PP 14 16 25.8 +4.1
HHC PCP PcP 14 16 40.5 +2.6
HHC SCP ScP 14 20 08.3 +1.6
HHC PCS PcS 14 20 30.8 +1.7
HHC S **S 14 20 40.3 +2.7**
HHC XS sS 14 22 02.8 +3.5
HHC SS SS 14 23 46.4 -2.8
HHC SCS ScS 14 24 22.8 +0.2
HHC AMB AMB
comp=Z,19nm,1.0s,mb4.5
HHC AMB AMB
comp=Z,77nm,5.6s
HHC LR LR
comp=N,154nm,20.2s
HHC LR LR
comp=E,146nm,16.7s
HHC LR LR
comp=Z,150nm,21.4s
MDJ Mudanjiang 41.70 1 P **P 14 14 48.6 +0.7**
MDJ AP pP 14 15 35.0 +0.7
MDJ XP sP 14 15 59.9 +0.8
MDJ PP PP 14 16 30.1 +0.9
MDJ S **S 14 20 49.1 +1.3**
MDJ XS sS 14 22 11.1 +1.3
MDJ AMB AMB
comp=Z,11nm,1.1s,mb4.2
SHL Shillong 42.11 306 *e*P **P 14 14 51.2 -0.3**
LSA Lhasa 44.62 311 P **P 14 15 13.1 +1.6**
LSA Lhasa 44.62 311 *e*P **P 14 15 12.9 +1.4**
GTA Gaotai 45.00 328 P **P 14 15 14.8 +0.5**
GTA AP pP 14 16 02.8 +1.4
GTA XP sP 14 16 27.6 +1.5
GTA PCP PcP 14 16 52.8 +1.3
GTA PP PP 14 17 03.3 -1.0
GTA S **S 14 21 35.9 0.0**
GTA AMB AMB
comp=Z,18nm,0.8s,mb4.5
GTA AMB AMB
comp=Z,91nm,6.3s
GTA LR LR
comp=N,79nm,15.0s
GTA LR LR
comp=E,97nm,16.5s
GTA LR LR
comp=Z,96nm,16.5s
TAPN Taplejung 46.25 306 *e*P **P 14 15 24.5 +0.2**
ODAN Odare 46.30 305 *e*P **P 14 15 24.8 0.0**
comp=Z,49nm,0.7s,mb5.0
RAMN Ramite 46.99 305 *e*P **P 14 15 30.4 +0.4**
comp=Z,67nm,0.6s,mb5.1
JIRN Jiri 47.60 306 *e*P **P 14 15 34.5 -0.3**
comp=Z,46nm,0.6s,mb5.0
GUN Gumba 47.96 306 *e*P **P 14 15 37.8 +0.3**
comp=Z,60nm,0.7s,mb5.0
KKN Kakani 48.40 305 *e*P **P 14 15 40.5 -0.4**
comp=Z,31nm,0.8s,mb4.7
KKN Kakani 48.40 305 *e*P **P 14 15 40.5 -0.4**
KKN pmax pmax
comp=Z,31nm,0.8s,mb4.7
DMN Daman 48.47 305 *e*P **P 14 15 41.0 -0.4**
comp=Z,36nm,0.9s,mb4.7
ULN Ulaanbaatar 48.70 341 *e*P **P 14 15 43.1 +0.3**
ULN pmax pmax
comp=Z,16nm,1.0s,mb4.3
ULN Ulaanbaatar 48.70 341 *e*P **P 14 15 43.1 +0.3**
comp=Z,16nm,1.0s,mb4.3
SONM Songino Array 48.89 340 P **P 14 15 44.5 +0.2**
comp=Z,3.7nm,0.6s,mb3.9,baz=152,slow=7.7,SNR=28
KOLN Koldanda 49.76 305 *e*P **P 14 15 51.1 -0.1**
comp=Z,57nm,0.6s,mb5.1
DANN Dangsing 49.85 305 *e*P **P 14 15 51.6 -0.3**
comp=Z,70nm,0.6s,mb5.2
HYB Hyderabad 51.38 290 *i* P **P 14 16 03.0 -0.4**
HYB Hyderabad 51.38 290 *e*P **P 14 16 02.5 -0.9**
ZAK Zakamensk 52.14 340 *e*P **P 14 16 08.0 -0.4**
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.3
WMQ Urumqi 54.70 324 *e*P **P 14 16 28.3 +1.1**
PETK Petropavlovsk- 55.59 21 P **P 14 16 34.9 +1.5**
comp=Z,5.3nm,0.7s,mb4.2,baz=185,slow=5.6,SNR=22
BOD Bodaibo 56.14 351 *e*P **P 14 16 36.8 -0.4**
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb3.9
YAK Yakutsk 59.14 0 *e*P **P 14 16 55.4 -2.6**
YAK pmax pmax
comp=Z,20nm,0.7s,mb4.9
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK Yakutsk 59.14 0 *e*P **P 14 16 58.4 +0.4**
MK31 Makanchi Array 59.53 325 *e*P **P 14 17 00.8 -0.1**
MKAR Makanchi Array 59.53 325 P **P 14 17 00.7 -0.3**
comp=N,5.9nm,0.5s,mb4.5,baz=116,slow=8.4,SNR=38
MKAR PcP PcP 14 17 45.7 -0.2
comp=N,0.5nm,0.4s,baz=129,slow=3.9,SNR=5.1
MKAR Makanchi Array 59.53 325 P **P 14 17 00.7 -0.3**
MKAR PcP PcP 14 17 45.7 -0.3
ZAA0 Zalesovo Array 62.39 332 *e*P **P 14 17 18.7 -1.3**
ZALV Zalesovo Beam 62.39 332 P **P 14 17 18.7 -1.4**
comp=N,2.5nm,0.4s,mb4.2,baz=113,slow=6.4,SNR=16
ZALV Zalesovo Beam 62.39 332 P **P 14 17 18.7 -1.4**
ZAL Zalesovo 62.40 332 P **P 14 17 18.7 -1.3**
AML Almayashu 62.80 317 *e*P **P 14 17 22.3 -0.7**
comp=N,2.9nm,0.6s,mb4.1
KURK Kurchatov 63.67 327 *e*P **P 14 17 28.0 -0.5**
BVAR Borovoye Array 69.26 327 P **P 14 18 03.0 -0.8**
comp=N,7.9nm,0.8s,mb4.4,baz=125,slow=7.8,SNR=23
BRVK Borovoye 69.33 327 *e*P **P 14 18 03.3 -1.0**
AKTK Aktyubinsk 75.70 321 P **P 14 18 40.1 -1.8**
AKTO Aktyubinsk 75.70 321 P **P 14 18 40.1 -1.8**
comp=N,2.4nm,0.6s,mb4.0,baz=109,slow=7.3,SNR=7.8
ARU Arti 76.86 328 *e*P **P 14 18 46.4 -1.8**
ARU *e* 14 21 42.8

ARU				*e*PPP			14 23 32.0	
ARU				*e*S	S		14 28 07.6	-10
ARU				*e*SS	SS		14 33 15.1	-3.5
IMA2	**Indian Mountai**	**82.44**	**24**	*e*P	**P**		**14 19 20.0**	**+1.9**
MAW	**Mawson**	**83.56**	**201**	P	**P**		**14 19 23.7**	**0.0**
	comp=N,1.4nm,0.7s,mb3.8,baz=76,slow=8.3,SNR=3.8							
COLD	**Coldfoot**	**84.00**	**23**	*e*P	**P**		**14 19 27.6**	**+1.6**
	comp=N,1.5nm,0.6s,mb3.9							
OBN	**Obninsk**	**89.04**	**325**	P	**P**		**14 19 48.0**	**-2.6**
OBN				*e*PS	PS		14 31 51.2	-2.5
ARCES	**ARCESS Array B**	**92.07**	**340**	P	**P**		**14 20 03.0**	**-1.4**
	comp=N,9.0nm,1.0s,mb4.7,baz=76,slow=5.1,SNR=9.7							

IDC ***24*** *14:18:35.4±1.3,3762N×6985E,h0km,mb3.7/7, mb1 4.0/11,mb1mx3.8/25,mbtmp3.9/11,ML3.8/4,MS3.7/2, Ms1 3.6/2,ms1mx2.6/35,Error ellipse: s-maj=26.6km s-min=16.1km az=43.0*
BJI ***24*** *14:18:38.8,3801N×6978E,h29km,mB4.7,mb4.4,ML3.6*
NEIC ***24*** *14:18:41.8±0.8,3793N×6982E,h35km,mb4.6/3,Error ellipse: s-maj=14.2km s-min=11.7km az=113.0*
ISCJB ***24*** *14:18:42.2±0.8,3798N±004×6972E±007,h65km±9km, mb3.8/10,Error ellipse: s-maj=9.2km s-min=6.9km az=153.0*
MOS ***24*** *14:18:42.1±1.2,3796N×6984E,h61km,mb4.5/2,Error ellipse: s-maj=17.3km s-min=9.0km az=75.2*

ISC 24 14:18:43.8±0.8,3797N±005×6966E±007,h65km±8km,n44, σ**1**°**39/49,mb3.8/10,3D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.46**	**189**	*e*Pn	**Pn**	**14 19 35.3**	**+0.1**
KBL				*e*Sn	**Sn**	14 20 20.6	+5.8
CEP	**Cherat**	**4.52**	**156**	P	**Pn**	**14 19 54.5**	**+4.9**
CEP				S	**Sn**	14 20 36.0	-4.9
KSH	**Kashi**	**5.17**	**71**	*e*P	**Pn**	**14 19 55.3**	**-3.2**
KSH				S	**Sn**	14 20 58.9	+2.1
KK31	**Karatay Array**	**5.17**	**7**	Pn	**Pn**	**14 19 59.1**	**+0.6**
	7.0nm,0.6s,baz=178,slow=14,SNR=12						
KK31				⇓Sn	**Sn**	**14 20 58.5**	**+1.8**
	9.2nm,0.4s,baz=186,slow=22						
AML	**Almayashu**	**5.18**	**35**	P	**Pn**	**14 19 58.8**	**+0.1**
	SNR=5.8						
AML	**Almayashu**	**5.18**	**35**	*e*Pn	**Pn**	**14 19 58.3**	**-0.3**
	44nm,0.5s						
CHCP	**Chirah Chowk**	**5.20**	**145**	P	**Pn**	**14 19 56.7**	**-2.3**
THW	**Thamme Wali**	**5.43**	**161**	P	**Pn**	**14 20 05.4**	**+3.2**
EKS2	**Erkin-Say**	**5.64**	**33**	P	**Pn**	**14 20 06.5**	**+1.6**
	SNR=8.3						
EKS2	**Erkin-Say**	**5.64**	**33**	*e*P	**Pn**	**14 20 05.0**	**+0.1**
	18nm,0.7s						
KZA	**Kyzart**	**5.93**	**44**	P	**Pn**	**14 20 09.1**	**+0.1**
	SNR=12						
AAK	**Ala-Archa**	**5.94**	**37**	P	**Pn**	**14 20 09.6**	**+0.5**
	SNR=17						
FRU	**Bishkek**	**6.16**	**36**	*e*PN	**Pn**	**14 20 14.0**	**+2.0**
CHMS	**Chumysh**	**6.35**	**36**	P	**Pn**	**14 20 15.3**	**+0.8**
	SNR=5.9						
USP	**Ospenovka**	**6.44**	**33**	P	**Pn**	**14 20 15.5**	**-0.4**
	SNR=8.3						
TKM2	**Tokmak 2**	**6.70**	**41**	⇓Pn	**Pn**	**14 20 19.6**	**+0.1**
	6.9nm,0.5s						
TKM2				⇓Lg		14 22 00.4	
	16nm,0.6s						
TKM2	**Tokmak 2**	**6.70**	**41**	*e*PN	**Pn**	**14 20 19.2**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,46nm,1.0s						
TKM2	**Tokmak 2**	**6.70**	**41**	P	**Pn**	**14 20 19.8**	**+0.3**
	SNR=11						
TKM2	**Tokmak 2**	**6.70**	**41**	*e*Pn	**Pn**	**14 20 19.2**	**-0.3**
	comp=Z,46nm,1.0s						
MKAR	**Makanchi Array**	**12.83**	**43**	Pn	**Pn**	**14 21 40.5**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=230,slow=12,SNR=22						
MKAR	**Makanchi Array**	**12.83**	**43**	Pn	**Pn**	**14 21 40.5**	**-2.6**
KURK	**Kurchatov**	**14.25**	**24**	*e*P	**Pn**	**14 21 58.8**	**-3.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**14.25**	**24**	*e*Pn	**Pn**	**14 21 58.8**	**-3.2**
	comp=Z,2.0nm,0.7s						
AKTK	**Aktyubinsk**	**14.98**	**330**	Pn	**Pn**	**14 22 11.2**	**-0.2**
AKTK				Sn	**Sn**	**14 24 54.7**	**-1.5**
AKTO	**Aktyubinsk**	**14.98**	**330**	Pn	**Pn**	**14 22 11.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=145,slow=17,SNR=6.4						
AKTO				Sn	**Sn**	**14 24 54.7**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=342,slow=20,SNR=5.2						
BVAR	**Borovoye Array**	**15.07**	**2**	Pn	**Pn**	**14 22 11.5**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=174,slow=14,SNR=6.0						
ZAL	**Zalesovo**	**19.06**	**28**	P	**Pn**	**14 23 00.0**	**-1.9**
ZALV	**Zalesovo Beam**	**19.07**	**28**	P	**Pn**	**14 22 60.0**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=222,slow=11,SNR=23						
ZALV	**Zalesovo Beam**	**19.07**	**28**	P	**Pn**	**14 22 60.0**	**-2.1**
ARU	**Arti**	**19.90**	**342**	P	**Pn**	**14 23 16.9**	**+5.1**
ARU	**Arti**	**19.90**	**342**	*e*P	**Pn**	**14 23 11.8**	**0.0**
	comp=Z,4.0nm,0.6s						
KIV	**Kislovodsk**	**21.18**	**295**	*e*P	**P**	**14 23 26.2**	**+2.6**
KIV				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.5						
KIV	**Kislovodsk**	**21.18**	**295**	*e*P	**P**	**14 23 26.2**	**+2.6**
	comp=Z,14nm,0.6s,mb4.5						
GTA	**Gaotai**	**23.53**	**77**	*e*P	**P**	**14 23 47.8**	**-0.1**
GTA				AP		14 23 54.3	
GTA				XP	sP	14 23 57.5	-13
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.6						
SONM	**Songino Array**	**28.42**	**58**	P	**P**	**14 24 31.9**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.2,baz=266,slow=8.3,SNR=4.5						
SONM				LR	LR	14 36 49.8	
	comp=Z,80nm,20.7s,baz=3.0,slow=38						
AKASG	**Malin Array Be**	**31.20**	**307**	P	**P**	**14 24 58.3**	**+1.8**
	comp=Z,0.9nm,0.4s,mb3.8,baz=79,slow=7.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**32.10**	**119**	P	**P**	**14 25 03.7**	**-1.0**
	comp=Z,0.3nm,0.4s,mb3.4,baz=316,slow=10,SNR=4.5						
BOD	**Bodaibo**	**34.91**	**41**	*e*P	**P**	**14 25 29.7**	**+0.9**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**39.38**	**337**	P	**P**	**14 26 09.2**	**+2.7**
	comp=Z,4.1nm,0.9s,mb4.2,baz=114,slow=5.9,SNR=6.5						
KSRS	**Korea Array**	**45.42**	**72**	P	**P**	**14 26 55.8**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.6,baz=303,slow=6.2,SNR=4.6						
YKA	**Yellowknife Ar**	**79.83**	**2**	P	**P**	**14 30 46.0**	**+1.5**
	comp=Z,0.8nm,0.6s,mb3.7,baz=356,slow=6.3,SNR=4.2						
WRA	**Warramunga Arr**	**83.67**	**121**	P	**P**	**14 31 03.9**	**-1.4**
	comp=Z,0.5nm,0.9s,mb3.3,baz=325,slow=4.8,SNR=4.6						
ULM	**Lac du Bonnet**	**91.24**	**351**	LR	LR	15 20 51.9	
	comp=Z,61nm,20.1s,baz=30,slow=41						
ACSO	**Alum Creek Sta**	**98.24**	**339**	*e*P	**P**	**14 32 13.8**	**0.0**
	comp=Z,11nm,0.6s						

ISCJB ***24*** *14:41:17.5±0.8,2009S±005×689W±0.1,h135km±9km, mb3.7/4,Error ellipse: s-maj=22.0km s-min=8.6km az=5.2*
IDC ***24*** *14:41:18.8±1.5,2001S×6891W,h128km±13km,mb3.6/5, mb1 3.8/9,mb1mx3.6/19,mbtmp3.6/9,Error ellipse: s-maj=28.7km s-min=12.9km az=92.0*
NEIC ***24*** *14:41:18.5±1.0,1998S×6887W,h126km±10km,Error ellipse: s-maj=18.5km s-min=11.0km az=95.0*

ISC 24 14:41:18.5±0.8,2010S±005×689W±01,h131km±9km,n15, σ**0**°**94/16,mb3.7/4,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.50**	**181**	P	**Pn**	**14 41 59.1**	**+0.3**
	14nm,0.3s,baz=356,slow=9.5,SNR=43						
LVC				S	**Sn**	**14 42 29.2**	**-0.6**
	34nm,0.3s,baz=1.2,slow=9.2,SNR=12						
LVC	**Limon Verde**	**2.50**	**181**	P	**Pn**	**14 41 59.1**	**+0.3**
LVC				S	**Sn**	**14 42 29.2**	**-0.6**
LPAZ	**La Paz**	**3.86**	**11**	P	**Pn**	**14 42 16.6**	**+0.1**
	3.0nm,0.3s,baz=188,slow=7.6,SNR=126						
LPAZ				S	**Sn**	**14 43 02.2**	**+0.7**
	0.9nm,0.3s,baz=192,slow=14,SNR=2.8						
LPAZ	**La Paz**	**3.86**	**11**	P	**Pn**	**14 42 16.6**	**+0.1**
LPAZ				S	**Sn**	**14 43 02.2**	**+0.7**
SIV	**San Ignacio**	**8.48**	**62**	P	**Pn**	**14 43 17.1**	**-1.5**
	6.0nm,0.3s,baz=260,slow=10,SNR=156						
CPUP	**Villa Florida**	**12.30**	**122**	P	**Pn**	**14 44 09.9**	**+0.7**
	0.5nm,0.3s,baz=284,slow=12,SNR=6.1						
PLCA	**Paso Flores**	**20.61**	**184**	P	**P**	**14 45 50.9**	**+3.6**
	2.6nm,0.6s,baz=1.3,slow=11,SNR=9.0						
ULM	**Lac du Bonnet**	**74.00**	**342**	P	**P**	**14 52 37.7**	**-1.7**
	1.0nm,0.5s,mb3.8,baz=156,slow=4.8,SNR=3.6						
ULM	**Lac du Bonnet**	**74.00**	**342**	P	**P**	**14 52 37.7**	**-1.7**

NVAR	**Mina Array Bea**	**74.41**	**322**	P	**P**	**14 52 42.4**	**+0.3**
	0.4nm,0.7s,mb3.3,baz=118,slow=5.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.87**	**71**	P	**P**	**14 52 57.5**	**+0.9**
	0.6nm,0.4s,mb3.5,baz=249,slow=5.3,SNR=6.2						
YKA	**Yellowknife Ar**	**89.88**	**341**	P	**P**	**14 54 02.0**	**0.0**
	1.6nm,0.7s,mb4.0,baz=133,slow=4.5,SNR=6.4						
ASAR	**Alice Springs**	**131.15**	**208**	PKP	PKPdf	15 00 16.4	+0.8
	0.2nm,0.8s,baz=132,slow=1.9,SNR=3.7						
WRA	**Warramunga Arr**	**134.16**	**211**	PKP	PKPdf	15 00 22.4	+1.0
	0.3nm,0.5s,baz=150,slow=1.9,SNR=5.8						
SONM	**Songino Array**	**152.07**	**7**	PKPbc	PKPbc	15 00 59.3	+1.1
	0.6nm,0.5s,baz=287,slow=2.2,SNR=4.7						

NEIC ***24*** *14:47:45.1,1718N×10000W,h20km,MD3.9(MEX),After MEX.*

MEX 24 14:47:45.1±1.2,1718N×10000W,h20km±58km,MD3.9,1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.29**	**242**	⇓*i*P	Pb	14 47 50.4	-1.2
CAIG				*i* S	Sb	14 47 55.6	-0.3
ACX	**Acapulco**	**0.32**	**166**	*i* P	Pb	14 47 50.5	-1.7
ACX				*i* S	Sb	14 47 56.0	-1.0
MEIG	**Mezcala**	**0.82**	**26**	*i* P	Pb	14 47 57.2	-3.5
MEIG				*i* S	Sb	14 48 08.2	-3.2
PLIG	**Platanillo**	**1.29**	**21**	*i* P	Pn	14 48 04.5	-3.5
PLIG				*i* S	Sn	14 48 21.6	-3.2
ZIIG	**Zihuatanejo**	**1.46**	**287**	*i* P	Pn	14 48 06.3	-4.0
ZIIG				*i* S	Sn	14 48 25.2	-3.7
YAIG	**Yautepec**	**1.89**	**28**	*i* P	Pn	14 48 14.4	-1.8
YAIG				*i* S	Sn	14 48 35.9	-3.7
PNIG	**Pinotepa**	**1.96**	**113**	*i* P	Pn	14 48 15.6	-1.6
PNIG				*i* S	Sn	14 48 37.8	-3.4
PPM	**Popocatepetl**	**2.29**	**35**	*e*P	Pn	14 48 20.4	-1.3
PPM				*i* S	Sn	14 48 48.1	-1.1
VHO	**Vista Hermosa**	**3.13**	**92**	*e*P	Pn	14 48 32.8	-0.4
VHO				*i* S	Sn	14 49 13.8	+3.7

ISCJB ***24*** *15:08:15.0±0.9,3616N±005×233E±02,h92km±16km, Error ellipse: s-maj=22.6km s-min=8.9km az=175.2*
ATH ***24*** *15:08:16.1,3621N×2326E,h76km±1km,ML3.4*
HLW ***24*** *15:08:24.9,3556N×2372E,h33km,Mb3.3*

ISC 24 15:08:16.4±1.1,3618N±005×233E±02,h78km±20km,n13, σ**0**°**49/17,4D,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.22**	**297**	*e*P	**Pn**	**15 08 27.8**	**-0.2**
VLI	**Veliai**	**0.60**	**333**	*e*P	**Pn**	**15 08 30.6**	**-0.3**
VAM	**Vamos**	**1.08**	**136**	*e*P	**Pn**	**15 08 37.2**	**+0.9**
ITM	**Ithomi**	**1.48**	**313**	*e*P	**Pn**	**15 08 41.5**	**+0.2**
NAIG	**Nisos Aigina**	**1.58**	**6**	*e*P	**Pn**	**15 08 43.0**	**+0.3**
KVR	**Kavouri**	**1.69**	**13**	*e*P	**Pn**	**15 08 44.5**	**+0.4**
ATH	**Athens Observa**	**1.82**	**11**	*e*P	**Pn**	**15 08 46.0**	**+0.1**
PTL	**Penteli**	**1.92**	**14**	*e*P	**Pn**	**15 08 47.5**	**+0.3**
PTL				*e*S	**Sn**	**15 09 10.0**	**-0.6**
SLUM		**4.95**	**160**	⇓P	**Pn**	**15 09 27.7**	**-0.5**
HMAT	**Matruh**	**5.99**	**147**	⇓P	**Pn**	**15 09 41.5**	**-1.0**
HMAT				S	**Sn**	**15 10 38.1**	**-12**
SWA2		**7.16**	**165**	⇓P	**Pn**	**15 09 58.8**	**+0.4**
SWA2				S	**Sn**	**15 11 07.2**	**-11**
SWA2		**7.16**	**165**	P	**Pn**	**15 09 58.8**	**+0.4**
SWA2				S	**Sn**	**15 11 07.2**	**-11**
HFRF	**Wahat Farafira**	**9.97**	**153**	⇓P	**Pn**	**15 10 37.0**	**+0.1**

STR ***24*** *15:32:02.2±0.4,5214N×1646E,h5km,Ml4.5,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISCJB ***24*** *15:32:05.7±0.2,5155N±001×1614E±002,h0km,mb4.0/15, Error ellipse: s-maj=2.2km s-min=1.4km az=13.5*
CSEM ***24*** *15:32:06.8±0.1,5162N×1608E,h2km,mb4.3/3,ML4.5/22, Ms4.2,Error ellipse: s-maj=2.0km s-min=1.6km az=178.0*
LDG ***24*** *15:32:06.6±0.1,5157N×1609E,h1km,Ml4.5/19,Error ellipse: s-maj=3.5km s-min=2.3km az=172.0,Suspected Mining induced.*
MOS ***24*** *15:32:06.2±1.4,5166N×1591E,h10km,mb4.5/3,Error ellipse: s-maj=5.7km s-min=3.4km az=77.9*
NEIC ***24*** *15:32:06.7±0.3,5168N×1605E,h5km,mb4.3/3, ML4.1(SZGRF),Error ellipse: s-maj=4.5km s-min=3.7km az=178.0*
IPEC ***24*** *15:32:07.1±0.3,5159N×1619E,h0km,ML3.6/4,Error ellipse: s-maj=1.9km s-min=1.5km az=42.0*
IDC ***24*** *15:32:08.0±0.5,5155N×1604E,h0km,mb3.9/11, mb1 4.1/18,mb1mx4.0/27,mbtmp3.9/18,ML3.9/6,MS3.1/2, Ms1 3.1/2,ms1mx2.1/42,Error ellipse: s-maj=9.0km s-min=6.2km az=108.0*
BNS ***24*** *15:32:08.3±1.0,5157N×1628E,h10km,ML3.7*
BGR ***24*** *15:32:09.0±0.3,5150N×1611E,h1km,ML4.1/17,Error ellipse: s-maj=3.3km s-min=2.2km az=22.0*
WAR ***24*** *15:32:09.3,5153N×1609E,ML3.4,Mining Induced*
PRU ***24*** *15:32:09.0,5152N×1608E,h0km,M4.3*
NAO ***24*** *15:32:09.0,5159N×1606E,h33km,mb2.9*
VIE ***24*** *15:32:11.3±0.7,5129N×1610E,h0km,mb3.6/14,ML3.6/14, Ms4.2/3,Error ellipse: s-maj=5.3km s-min=3.8km az=40.0, Suspected Mining induced.*

ISC 24 15:32:07.4±0.2,5156N±001×1613E±002,h0km,n286, σ**1**°**10/423,mb4.0/15,14C-13D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**172**	*e*Pg	**Pg**	**15 32 22.1**	**+0.7**
KSP				*e*Sg	**Sg**	**15 32 31.5**	**+0.7**
KSP	**Ksiaz**	**0.73**	**172**	*e*Pg	**Pg**	**15 32 22.1**	**+0.7**
KSP				*e*Sg	**Sg**	**15 32 31.6**	**+0.8**
KSP	**Ksiaz**	**0.73**	**172**	⇓*i*P	**Pg**	**15 32 22.1**	**+0.7**
KSP				*e*		15 32 31.5	
KSP	**Ksiaz**	**0.73**	**172**	*e*Pg	**Pg**	**15 32 21.6**	**+0.2**
KSP				*e*Sg	**Sg**	**15 32 31.5**	**+0.7**
KSP	**Ksiaz**	**0.73**	**172**	⇓*i*Pg	**Pg**	**15 32 22.1**	**+0.7**
KSP				*e*Sg	**Sg**	**15 32 31.5**	**+0.7**
KSP				*e*		15 32 35.0	
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**15 32 28.1**	**+0.4**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*Pg	**Pg**	**15 32 30.9**	**+0.1**
DPC				*e*Sg	**Sg**	**15 32 46.7**	**+0.1**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*P	**Pg**	**15 32 30.9**	**+0.1**
DPC				*e*		15 32 46.4	
DPC				smax			
	comp=N,835nm,0.7s						
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*Pg	**Pg**	**15 32 30.8**	**0.0**
DPC				Sg	**Sg**	**15 32 46.7**	**+0.1**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**15 32 30.9**	**+0.1**
DPC				*e*SG	**Sg**	**15 32 46.4**	**-0.2**
	comp=Z,834nm,0.7s						
PVCC	**Panska Ves**	**1.43**	**224**	*e*Pn	**Pn**	**15 32 34.5**	**0.0**
PVCC				*e*Pg	**Pg**	**15 32 35.3**	**+0.6**
PVCC				*e*Sg	**Sg**	**15 32 53.6**	**+0.4**
PVCC	**Panska Ves**	**1.43**	**224**	*e*P	**Pn**	**15 32 34.5**	**-0.1**
PVCC				*e*		15 32 53.3	
PVCC				smax			
	comp=N,2μm,0.5s						
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pn**	**15 32 34.5**	**-0.1**
PVCC				*e*SG	**Sg**	**15 32 53.3**	**+0.1**
	comp=Z,2μm,0.5s						
BRG	**Berggiesshubel**	**1.54**	**244**	*e*Pn	**Pn**	**15 32 35.5**	**-0.6**
BRG				*e*Pg	**Pg**	**15 32 37.3**	**+0.5**
BRG				*e*Sg	**Sg**	**15 32 57.4**	**+0.7**
BRG	**Berggiesshubel**	**1.54**	**244**	P	**Pn**	**15 32 35.5**	**-0.5**
BRG				*e*		15 32 57.3	
BRG				smax			
	comp=N,669nm,0.5s						
BRG	**Berggiesshubel**	**1.54**	**244**	PN	**Pn**	**15 32 35.5**	**-0.5**
BRG				PG	**Pg**	**15 32 37.2**	**+0.3**
BRG				SG	**Sg**	**15 32 57.3**	**+0.6**
	comp=N,1μm,0.5s						
RUE	**Ruedersdorf**	**1.72**	**303**	*e*Pn	**Pn**	**15 32 38.3**	**-0.2**
RUE				*e*Sg	**Sg**	**15 33 04.7**	**+2.2**
RUE	**Ruedersdorf**	**1.72**	**303**	*e*Pn	**Pn**	**15 32 38.3**	**-0.2**
RUE				*e*Sg	**Sg**	**15 33 04.7**	**+2.2**
GKP	**Gorka Klasztor**	**1.84**	**21**	*e*Pg	**Pg**	**15 32 48.2**	**+5.5**
GKP				*e*Sg	**Sg**	**15 33 11.4**	**+4.8**
GKP	**Gorka Klasztor**	**1.84**	**21**	*e*Pg	**Pg**	**15 32 48.2**	**+5.5**
GKP				*e*Sg	**Sg**	**15 33 11.4**	**+4.9**
FBE	**Freiberg**	**1.86**	**251**	*e*Pn	**Pn**	**15 32 39.9**	**-0.5**
FBE				*e*Pg	**Pg**	**15 32 42.5**	**-0.5**
FBE				*e*Sg	**Sg**	**15 33 08.4**	**+1.3**

PRU	**Pruhonice**	**1.87**	**213**	*e*Pn	**Pn**	**15 32 40.3**	**-0.3**
PRU				*e*Sg	**Sg**	**15 33 07.0**	**-0.5**
PRU	**Pruhonice**	**1.87**	**213**	*e*P	**Pg**	**15 32 42.4**	**-0.8**
PRU				*e*		15 33 06.3	
PRU				smax			
	comp=N,491nm,0.5s						
PRU				MLR	MLR		
	comp=Z,1μm,5.2s						
PRU	**Pruhonice**	**1.87**	**213**	Pg	**Pg**	**15 32 42.4**	**-0.8**
PRU				Sg	**Sg**	**15 33 07.0**	**-0.4**
PRU	**Pruhonice**	**1.87**	**213**	*e*PG	**Pg**	**15 32 42.4**	**-0.8**
PRU				*e*SG	**Sg**	**15 33 06.3**	**-1.1**
	comp=Z,491nm,0.5s						
PRU				AMS	AMS	15 33 20.0	
	comp=Z,1μm,5.2s						
PRU	**Pruhonice**	**1.87**	**213**	*e*Pg	**Pg**	**15 32 42.4**	**-0.8**
PRU				*e*Sg	**Sg**	**15 33 06.3**	**-1.1**
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**15 32 41.5**	**-0.6**
CLL				*e*Pg	**Pg**	**15 32 45.0**	**-0.2**
CLL				*e*Sg	**Sg**	**15 33 11.9**	**+1.2**
CLL	**Collm**	**1.97**	**264**	*i* P	**Pn**	**15 32 41.5**	**-0.5**
CLL				*i*		15 33 11.1	
CLL				pmax	pmax		
	comp=Z,126nm,0.5s						
CLL				MLR	MLR		
	comp=Z,800nm,5.1s						
CLL	**Collm**	**1.97**	**264**	⇓*i*Pn	**Pn**	**15 32 41.5**	**-0.5**
	comp=Z,126nm,0.5s						
CLL				*e*Pg	**Pg**	**15 32 45.0**	**-0.2**
CLL				*i* x	x	15 32 48.7	
CLL				*i* Sg	**Sg**	**15 33 11.1**	**+0.4**
	comp=Z,584nm,0.7s						
CLL	**Collm**	**1.97**	**264**	Pg	**Pg**	**15 32 45.0**	**-0.2**
CLL				*i* S	**Sg**	**15 33 11.1**	**+0.4**
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**15 32 41.5**	**-0.5**
CLL				*e*Pg	**Pg**	**15 32 45.0**	**-0.2**
CLL				*i* Sg	**Sg**	**15 33 11.1**	**+0.4**
RAC	**Raciborz**	**1.98**	**138**	*e*Pn	**Pn**	**15 32 41.7**	**-0.4**
RAC				*e*Pg	**Pg**	**15 32 45.5**	**+0.2**
RAC				*e*Sg	**Sg**	**15 33 11.0**	**+0.1**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**15 32 42.4**	**0.0**
MORC	**Moravsky Berou**	**2.00**	**153**	⇓*i*P	**Pn**	**15 32 42.2**	**-0.3**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**15 32 42.3**	**-0.2**
MORC				*e*Sg	**Sg**	**15 33 10.1**	**-1.6**
	comp=Z,132nm,0.2s						
MORC	**Moravsky Berou**	**2.00**	**153**	P	**Pn**	**15 32 42.6**	**+0.2**
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*Pn	**Pn**	**15 32 43.6**	**-0.9**
OKC				*e*Pg	**Pg**	**15 32 48.4**	**-0.2**
OKC				*e*Sg	**Sg**	**15 33 17.2**	**+0.7**
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*P	**Pg**	**15 32 48.4**	**-0.3**
OKC				*e*		15 33 16.0	
OKC				smax			
	comp=N,811nm,0.8s						
OKC				MLR	MLR		
	comp=Z,500nm,4.0s						
OKC	**Ostrava-Krasne**	**2.15**	**143**	Pg	**Pg**	**15 32 48.4**	**-0.3**
OKC				Sg	**Sg**	**15 33 17.2**	**+0.7**
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*PG	**Pg**	**15 32 48.4**	**-0.3**
OKC				*e*SG	**Sg**	**15 33 16.0**	**-0.5**
	comp=Z,811nm,0.8s						
OKC				AMS	AMS	15 33 30.0	
	comp=Z,500nm,4.0s						
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*Pg	**Pg**	**15 32 48.4**	**-0.3**
OKC				*e*Sg	**Sg**	**15 33 16.0**	**-0.5**
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**15 32 46.4**	**+0.2**
	comp=Z,11nm,0.3s,baz=353,slow=15,SNR=43						
VRAC				Lg		15 33 18.5	
	comp=Z,42nm,0.3s,baz=39,slow=7.4,SNR=12						
VRAC	**Vranov**	**2.28**	**172**	⇓*i*P	**Pn**	**15 32 46.4**	**+0.2**
VRAC	**Vranov**	**2.28**	**172**	*e*Pn	**Pn**	**15 32 46.1**	**-0.1**
VRAC				*e*Sg	**Sg**	**15 33 18.9**	**-1.6**
	comp=Z,442nm,0.7s						
VRAC	**Vranov**	**2.28**	**172**	P	**Pn**	**15 32 46.6**	**+0.4**
TREC	**Trest**	**2.31**	**190**	*e*PN	**Pn**	**15 32 46.8**	**+0.2**
TREC				*e*PG	**Pg**	**15 32 50.8**	**-0.8**
TREC				AMS	AMS	15 33 30.0	
	comp=Z,600nm,6.4s						
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn	**Pn**	**15 32 49.5**	**+0.1**
KRUC				*e*Sg	**Sg**	**15 33 26.2**	**-1.8**
	comp=Z,318nm,0.9s						
WERD	**Werda**	**2.66**	**247**	*e*Pn	**Pn**	**15 32 51.5**	**0.0**
WERD				*e*Pg	**Pg**	**15 32 58.2**	**-0.2**
WERD				*e*Sg	**Sg**	**15 33 33.0**	**+0.3**
GUNZ	**Gunzen**	**2.68**	**245**	*e*Pn	**Pn**	**15 32 51.9**	**+0.1**
GUNZ				*e*Sg	**S

RGN	**Rugen**	**3.44 332**	*e*Pn	**Pn**	**15 32 57.5**	**-4.7**
RGN	**Rugen**	**3.44 332**	*e*Pn	**Pn**	**15 32 57.5**	**-4.6**
VYHS	**Vyhne**	**3.53 149**	*e*P	**Pn**	**15 33 03.4**	**-0.1**
VYHS	comp=N,80nm,1.4s		pmax	pmax		
VYHS	**Vyhne**	**3.53 149**	*e*PN	**Pn**	**15 33 03.4**	**-0.1**
VYHS			*e*PG	**Pg**	**15 33 13.8**	**-1.3**
VYHS			*e*SG	**Sg**	**15 34 01.2**	**+0.3**
GRA1	**Grafenberg Arr**	**3.64 241**	*e*Pn	**Pn**	**15 33 05.6**	**+0.6**
GRA1			*e*Sg	**Sg**	**15 34 04.2**	**-0.1**
GRF	**Grafenberg Arr**	**3.64 241**	*e*Pn	**Pn**	**15 33 05.6**	**+0.6**
GRF			*e*Sg	**Sg**	**15 34 04.2**	**-0.1**
CONA	**Conrad Observa**	**3.64 183**	⇓*i*Sg	**Sg**	**15 33 58.4**	**-6.0**
	comp=N,225nm,0.6s					
CONA	**Conrad Observa**	**3.64 183**	*i* Pn	**Pn**	**15 33 05.7**	**+0.7**
	SNR=57					
CONA			⇓*i*Sg	**Sg**	**15 34 02.1**	**-2.2**
	comp=N,225nm,0.6s					
CONA	**Conrad Observa**	**3.64 183**	Pn	**Pn**	**15 33 05.7**	**+0.7**
	comp=N,56nm,7.0s					
CONA			Sg	**Sg**	**15 34 02.1**	**-2.3**
	comp=N,225nm,0.6s					
CONA	**Conrad Observa**	**3.64 183**	*i* Pn	**Pn**	**15 33 05.7**	**+0.7**
CONA			*i* Sg	**Sg**	**15 33 58.4**	**-6.0**
NRDL	**Niedersach Rie**	**3.83 286**	*e*Pn	**Pn**	**15 33 08.5**	**+0.9**
MOA	**Molln**	**3.91 199**	⇓*i*Pn	**Pn**	**15 33 08.9**	**+0.2**
	SNR=60					
MOA	**Molln**	**3.91 199**	Pn	**Pn**	**15 33 08.9**	**+0.3**
	comp=N,60nm,1.0s					
STHS	**Stebnicka Huta**	**3.91 121**	*e*P	**Pn**	**15 33 09.5**	**+0.8**
STHS			pmax	pmax		
	comp=N,148nm,0.7s					
STHS	**Stebnicka Huta**	**3.91 121**	*e*PN	**Pn**	**15 33 09.5**	**+0.8**
STHS			*e*PG	**Pg**	**15 33 23.1**	**+0.8**
STHS			*e*SG	**Sg**	**15 34 13.5**	**+0.5**
UBBA	**Unterbreizbach**	**3.92 261**	*e*Pn	**Pn**	**15 33 08.8**	**-0.1**
UBBA			*e*Pg	**Pg**	**15 33 21.4**	**-1.2**
KECS	**Kecovo**	**4.17 136**	*e*P	**Pn**	**15 33 12.5**	**+0.2**
KECS			pmax	pmax		
	comp=N,31nm,0.7s					
KECS	**Kecovo**	**4.17 136**	*e*PN	**Pn**	**15 33 12.5**	**+0.2**
KECS			*e*PG	**Pg**	**15 33 27.9**	**+0.6**
KECS			*e*SG	**Sg**	**15 34 20.3**	**-1.1**
PENC	**Penc**	**4.30 150**	⇑*e*P	**Pn**	**15 33 14.8**	**+0.8**
ARSA	**Arzberg**	**4.33 185**	*i* Pn	**Pn**	**15 33 15.7**	**+1.2**
	SNR=17					
ARSA			⇓*i*Sg	**Sg**	**15 34 26.3**	**-0.3**
	comp=N,155nm,0.7s					
ARSA	**Arzberg**	**4.33 185**	Pn	**Pn**	**15 33 15.7**	**+1.2**
	comp=N,17nm,4.0s					
ARSA			Sg	**Sg**	**15 34 26.3**	**-0.3**
	comp=N,155nm,0.7s					
CRVS	**Cervenica-Dubn**	**4.34 126**	*e*PN	**Pn**	**15 33 15.0**	**+0.4**
CRVS			*e*PG	**Pg**	**15 33 29.9**	**-0.6**
CRVS			*e*SG	**Sg**	**15 34 26.4**	**-0.3**
PSZ	**Piszkesteto**	**4.39 145**	⇑*e*Pn	**Pn**	**15 33 16.2**	**+0.9**
PSZ			*e*SB	**Sg**	**15 34 34.3**	**+5.9**
PSZ	**Piszkesteto**	**4.39 145**	⇓*i*P	**Pn**	**15 33 16.1**	**+0.8**
PSZ	**Piszkesteto**	**4.39 145**	*e*Pn	**Pn**	**15 33 16.1**	**+0.8**
PSZ			*e*Sn	**Sn**	**15 34 09.4**	**+2.3**
PSZ	**Piszkesteto**	**4.39 145**	*e*Pn	**Pn**	**15 33 16.1**	**+0.9**
PSZ			*e*Sn	**Sn**	**15 34 09.4**	**+2.4**
PKSG		**4.43 160**	⇑*e*P	**Pn**	**15 33 16.3**	**+0.5**
BUD	**Budapest**	**4.50 154**	⇓*e*Pn	**Pn**	**15 33 17.5**	**+0.8**
BUD	**Budapest**	**4.50 154**	⇑*e*Pn	**Pn**	**15 33 17.5**	**+0.8**
KWP	**Kalwaria**	**4.62 112**	*e*Pg	**Pg**	**15 33 33.3**	**-2.6**
COP	**Copenhagen**	**4.68 333**	*i* P	**Pg**	**15 33 38.9**	**+1.9**
COP			*i* S	**Sg**	**15 34 46.6**	**+9.0**
KOLS	**Kolonicke sedl**	**4.74 121**	*e*PN	**Pn**	**15 33 20.1**	**0.0**
KOLS			*e*PG	**Pg**	**15 33 38.2**	**-0.1**
KOLS			*e*SG	**Sg**	**15 34 43.5**	**+3.8**
KBA	**Koelnbreinsper**	**4.84 203**	⇑*i*Sg	**Sg**	**15 34 41.0**	**-1.9**
	comp=N,71nm,0.7s					
KBA	**Koelnbreinsper**	**4.84 203**	⇓*i*Pn	**Pn**	**15 33 22.5**	**+1.0**
	SNR=56					
KBA			⇑*i*Sg	**Sg**	**15 34 41.0**	**-1.9**
	comp=N,71nm,0.7s					
KBA	**Koelnbreinsper**	**4.84 203**	Pn	**Pn**	**15 33 22.5**	**+1.0**
	comp=N,55nm,8.0s					
KBA			Sg	**Sg**	**15 34 41.0**	**-1.9**
	comp=N,71nm,0.7s					
SUW	**Suwalki**	**4.94 57**	*e*Pg	**Pg**	**15 33 42.6**	**+0.6**
SUW			*e*Sg	**Sg**	**15 34 55.6**	**+10**
SUW	**Suwalki**	**4.94 57**	*e*Pn	**Pn**	**15 33 21.2**	**-1.5**
SUW	**Suwalki**	**4.94 57**	*e*Pn	**Pn**	**15 33 21.2**	**-1.6**
SUW			*e*Pg	**Pg**	**15 33 42.6**	**+0.7**
SUW			*e*Sg	**Sg**	**15 34 55.6**	**+10**
UZH	**Uzhgorod**	**4.94 124**	*e*P	**Pn**	**15 33 22.0**	**-0.8**
UZH			*e*S	**Sn**	**15 34 17.2**	**-3.3**
UZH			pmax	pmax		
	comp=N,100nm,0.8s					
UZH			pmax	pmax		
	comp=E,150nm,0.8s					
UZH			pmax	pmax		
	comp=Z,90nm,0.8s					
PERS	**Pernice**	**4.97 188**	*i* Pn	**Pn**	**15 33 24.1**	**+0.8**
TOD	**Tromm**	**5.06 250**	P	**Pn**	**15 33 24.6**	**+0.1**
TOD			S	**Pg**	**15 33 50.4**	**+6.1**
KOGS	**Kog**	**5.12 179**	*i* Pn	**Pn**	**15 33 25.9**	**+0.6**
WATA	**Walderalm**	**5.17 217**	*i* Pn	**Pn**	**15 33 27.2**	**+1.3**
	SNR=13					
WATA	**Walderalm**	**5.17 217**	Pn	**Pn**	**15 33 27.2**	**+1.3**
	comp=Z,12nm,9.0s					
WTTA	**Wattenberg**	**5.20 216**	*i* Pn	**Pn**	**15 33 27.9**	**+1.5**
	SNR=14					
WTTA	**Wattenberg**	**5.20 216**	Pn	**Pn**	**15 33 27.9**	**+1.4**
	comp=Z,14nm,3.0s					
WTTA	**Wattenberg**	**5.20 216**	*i* Pn	**Pn**	**15 33 27.9**	**+1.5**
STU	**Stuttgart**	**5.26 241**	*e*Pn	**Pn**	**15 33 25.4**	**-1.8**
STU	**Stuttgart**	**5.26 241**	*e*Pn	**Pn**	**15 33 25.4**	**-1.7**
LVV	**L'vov**	**5.32 106**	*e*P	**Pn**	**15 33 28.6**	**+0.6**
LVV			*e*S	**Sn**	**15 34 29.2**	**-0.8**
MOTA	**Moosalm**	**5.34 220**	⇑*i*Pn	**Pn**	**15 33 27.7**	**-0.7**
	SNR=13					
MOTA	**Moosalm**	**5.34 220**	Pn	**Pn**	**15 33 27.7**	**-0.6**
	comp=Z,13nm,2.0s					
MOTA	**Moosalm**	**5.34 220**	⇑*i*Pn	**Pn**	**15 33 27.7**	**-0.7**
RETA	**Reutte**	**5.37 223**	⇑*i*Pn	**Pn**	**15 33 28.9**	**+0.1**
	SNR=7.8					
ABTA	**Abfaltersbach**	**5.37 208**	⇑*i*Pn	**Pn**	**15 33 30.2**	**+1.5**
	SNR=22					
SQTA	**Sankt Quirin**	**5.40 218**	*i* Pn	**Pn**	**15 33 30.4**	**+1.3**
	SNR=7.4					
SQTA	**Sankt Quirin**	**5.40 218**	Pn	**Pn**	**15 33 30.4**	**+1.2**
	comp=Z,7.0nm,4.0s					
KOE	**Koeppel**	**5.42 261**	*e*Pn	**Pn**	**15 33 29.1**	**-0.3**
FVI	**Forni Avoltri**	**5.43 205**	P	**Pn**	**15 33 30.8**	**+1.2**
FVI			pmax	pmax		
	comp=Z,37nm,0.7s					
FVI	**Forni Avoltri**	**5.43 205**	Pn	**Pn**	**15 33 30.8**	**+1.2**
	comp=Z,37nm,0.7s					
SEST	**Monte Rota**	**5.46 210**	Pn	**Pn**	**15 33 31.6**	**+1.7**
PTCC	**Patocco-Chiusa**	**5.47 201**	Pn	**Pn**	**15 33 30.9**	**+0.7**
	comp=Z,20nm,0.7s					
PDKS	**Podkum**	**5.56 188**	*e*Pn	**Pn**	**15 33 32.6**	**+1.4**
PKSM	**Moragy**	**5.61 162**	⇑*i*P	**Pn**	**15 33 33.3**	**+1.3**
PKSM	**Moragy**	**5.61 162**	⇓*e*Pn	**Pn**	**15 33 33.3**	**+1.3**
PKSM	**Moragy**	**5.61 162**	P	**Pn**	**15 33 33.1**	**+1.1**
GMNA	**Gemona**	**5.62 201**	Pn	**Pn**	**15 33 34.6**	**+2.4**
	comp=Z,104nm,0.7s					
LJU	**Ljubljana**	**5.62 191**	*e*Pn	**Pn**	**15 33 33.1**	**+0.9**
BNS	**Bensberg**	**5.65 267**	*e*Pn	**Pn**	**15 33 32.0**	**-0.6**
BGG	**Burgeitz**	**5.73 260**	*e*Pn	**Pn**	**15 33 32.9**	**-0.7**
VOY	**Vojsko**	**5.73 196**	*e*Pn	**Pn**	**15 33 34.2**	**+0.6**
VOY			*e*		15 33 51.3	
VOY			*e*Sn	**Sg**	**15 35 09.0**	**-2.3**
FETA	**Feichten**	**5.75 220**	*i* Pn	**Pn**	**15 33 35.0**	**+1.0**
	SNR=16					
WTSB	**Winterswijk**	**5.81 278**	⇑*i*Pn	**Pn**	**15 33 35.5**	**+0.8**
	comp=Z,28nm,0.8s					
WTSB	**Winterswijk**	**5.81 278**	*e*Sn	**Sg**	**15 35 09.0**	**-4.8**
RHK3	**Tenkes**	**5.85 165**	*e*P	**Pn**	**15 33 36.2**	**+0.9**
SPAK	**Spaichingen-Ko**	**5.88 237**	P	**Pn**	**15 33 37.0**	**+1.3**
SPAK	**Spaichingen-Ko**	**5.88 237**	P	**Pn**	**15 33 41.3**	**+5.6**
LANF	**Langenberg**	**5.93 247**	P	**Pn**	**15 33 36.3**	**-0.1**
STB	**Steinbach**	**5.93 264**	*e*Pn	**Pn**	**15 33 37.1**	**+0.7**
STB			*e*Sn	**Sn**	**15 34 43.0**	**-2.1**
	comp=Z,28nm,0.9s					
BFO	**Black Forest**	**5.98 240**	*e*P	**Pn**	**15 33 35.7**	**-1.4**
BFO			pmax	pmax		
	comp=Z,35nm,0.7s					
BFO	**Black Forest**	**5.98 240**	*e*Pn	**Pn**	**15 33 35.7**	**-1.4**
	comp=Z,35nm,0.7s					
BFO	**Black Forest**	**5.98 240**	*e*Pn	**Pn**	**15 33 35.6**	**-1.5**
	comp=Z,35nm,0.7s					
APPI	**Appiano**	**6.02 214**	Pn	**Pn**	**15 33 39.1**	**+1.4**
	comp=Z,68nm,1.2s					
RUP	**Ruppelstein**	**6.06 256**	P	**Pn**	**15 33 37.8**	**-0.4**
HILG	**Hillesheim**	**6.11 262**	*e*Pn	**Pn**	**15 33 39.3**	**+0.5**
KLL	**Kalltalsperre**	**6.25 265**	*e*Pn	**Pn**	**15 33 40.6**	**-0.2**
CTI	**Castel Tesino**	**6.26 210**	P	**Pn**	**15 33 42.7**	**+1.8**
CTI			pmax	pmax		
	comp=Z,101nm,0.8s					
CTI	**Castel Tesino**	**6.26 210**	P	**Pn**	**15 33 42.7**	**+1.8**
	comp=Z,101nm,0.8s					
DREG	**Dreilaegerbach**	**6.29 266**	*e*Pn	**Pn**	**15 33 41.0**	**-0.4**
DAVOX	**Davos/Dischmat**	**6.30 223**	Pn	**Pn**	**15 33 41.2**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=19,slow=17,SNR=17					
DAVOX			Sn	**Sn**	**15 34 51.9**	**-2.2**
	comp=Z,1.3nm,0.3s,baz=159,slow=21,SNR=2.5					
DAVOX			Lg		15 35 25.0	
	comp=Z,2.7nm,0.3s,baz=271,slow=22,SNR=4.9					
DAVOX	**Davos/Dischmat**	**6.30 223**	Pn	**Pn**	**15 33 41.2**	**-0.3**
DAVOX			Sn	**Sn**	**15 34 51.9**	**-2.1**
FELD	**Feldberg im Sc**	**6.43 238**	P	**Pn**	**15 33 43.9**	**+0.6**
FELD	**Feldberg im Sc**	**6.43 238**	P	**Pn**	**15 33 46.6**	**+3.3**
DRGR		**6.43 135**	⇑*i*P	**Pn**	**15 33 43.7**	**+0.3**
DRGR		**6.43 135**	P	**Pn**	**15 33 44.3**	**+0.9**
DRGR		**6.43 135**	P	**Pn**	**15 33 44.3**	**+0.9**
MEM	**Membach**	**6.45 265**	P	**Pn**	**15 33 43.5**	**0.0**
HGN	**Heimansgroeve**	**6.46 267**	*e*Pn	**Pn**	**15 33 44.0**	**+0.3**
	comp=Z,7.5nm,0.9s					
HGN	**Heimansgroeve**	**6.46 267**	*e*Sn	**Sb**	**15 35 18.9**	**+0.5**
CDF	**Champ du Feu**	**6.52 245**	*e*Pn	**Pn**	**15 33 42.5**	**-2.0**
CDF			*e*Sg	**Sg**	**15 35 31.3**	**-5.4**
	comp=Z,198nm,0.9s					
CDF	**Champ du Feu**	**6.52 245**	*e*Pn	**Pn**	**15 33 42.5**	**-2.0**
CDF			*e*Sg	**Sg**	**15 35 31.3**	**-5.4**
	comp=Z,99nm,0.9s					
WLF	**Walferdange**	**6.63 257**	P	**Pn**	**15 33 45.9**	**0.0**
WLF	**Walferdange**	**6.63 257**	*e*P	**Pn**	**15 33 45.2**	**-0.8**
WLF			pmax	pmax		
	comp=Z,13nm,0.8s					
WLF	**Walferdange**	**6.63 257**	*e*Pn	**Pn**	**15 33 45.2**	**-0.8**
	comp=Z,13nm,0.8s					
WLF	**Walferdange**	**6.63 257**	*e*Pn	**Pn**	**15 33 45.2**	**-0.8**
	comp=Z,13nm,0.8s					
MABI	**Malga Bissina**	**6.64 216**	Pn	**Pn**	**15 33 47.8**	**+1.6**
	comp=Z,14nm,0.6s					
ECH	**Echery**	**6.69 243**	*e*Pn	**Pn**	**15 33 44.8**	**-2.1**
ECH	**Echery**	**6.69 243**	P	**Pn**	**15 33 47.2**	**+0.3**
ECH	**Echery**	**6.69 243**	*e*Pn	**Pn**	**15 33 44.8**	**-2.1**
TUE	**Stuetta**	**6.77 224**	*e*Pn	**Pn**	**15 33 48.3**	**+0.4**
	comp=Z,11nm,0.6s					
TUE			*e*S	**Sb**	**15 35 27.7**	**+0.6**
MOF	**Molkenrain**	**6.91 241**	P	**Pn**	**15 33 49.9**	**0.0**
BCLA	**Clavier**	**6.93 265**	P	**Pn**	**15 33 50.6**	**+0.5**
BCLA	**Clavier**	**6.93 265**	P	**Pn**	**15 33 50.6**	**+0.5**
BBS	**Basel-Blauen**	**6.95 237**	P	**Pn**	**15 33 54.2**	**+3.8**
HINF	**Hinteralfeld**	**7.09 242**	*e*Pn	**Pn**	**15 33 48.5**	**-3.8**
HINF			*e*Sg	**Sg**	**15 35 47.8**	**-7.1**
	comp=Z,142nm,0.9s					
HINF	**Hinteralfeld**	**7.09 242**	*e*Pn	**Pn**	**15 33 48.5**	**-3.8**
HINF			*e*Sg	**Sg**	**15 35 47.8**	**-7.1**
	comp=Z,71nm,0.9s					
HAU	**Haudompre**	**7.26 244**	*e*Pn	**Pn**	**15 33 51.3**	**-3.4**
HAU			*e*Sg	**Sg**	**15 35 52.5**	**-8.0**
	comp=Z,96nm,0.8s					
HAU	**Haudompre**	**7.26 244**	*e*Pn	**Pn**	**15 33 51.3**	**-3.4**
HAU			*e*Sg	**Sg**	**15 35 52.5**	**-8.0**
	comp=Z,48nm,0.8s					
GIVF	**Givet**	**7.31 263**	*e*Pn	**Pn**	**15 33 51.9**	**-3.4**
GIVF			*e*Sg	**Sg**	**15 35 54.6**	**-7.3**
	comp=Z,97nm,0.9s					
GIVF	**Givet**	**7.31 263**	*e*Pn	**Pn**	**15 33 51.9**	**-3.4**
GIVF			*e*Sg	**Sg**	**15 35 54.6**	**-7.3**
	comp=Z,48nm,0.9s					
DOU	**Dourbes**	**7.45 263**	P	**Pn**	**15 33 57.9**	**+0.6**
DOU	**Dourbes**	**7.45 263**	P	**Pn**	**15 33 57.8**	**+0.5**
RFYF	**Reffroy**	**7.45 251**	*e*Pn	**Pn**	**15 33 52.7**	**-4.6**
	baz=62					
RFYF			*e*Sg	**Sg**	**15 35 59.6**	**-7.0**
	comp=Z,117nm,0.9s					
RFYF	**Reffroy**	**7.45 251**	*e*Pn	**Pn**	**15 33 52.7**	**-4.6**
RFYF			*e*Sg	**Sg**	**15 35 59.6**	**-7.0**
	comp=Z,58nm,0.9s					
VAI	**Varese**	**7.49 223**	P	**Pn**	**15 33 59.1**	**+1.3**
VAI			pmax	pmax		
	comp=Z,14nm,0.6s					
VAI	**Varese**	**7.49 223**	Pn	**Pn**	**15 33 59.1**	**+1.3**
	comp=Z,14nm,0.6s					
BAIF	**Baives**	**7.70 263**	*e*Pn	**Pn**	**15 33 56.6**	**-4.1**
BAIF			*e*Sg	**Sg**	**15 36 07.9**	**-6.6**
	comp=Z,173nm,1.3s					
BAIF	**Baives**	**7.70 263**	*e*Pn	**Pn**	**15 33 56.6**	**-4.1**
BAIF			*e*Sg	**Sg**	**15 36 07.9**	**-6.6**
	comp=Z,87nm,1.3s					
MEZF	**Maizieres J'vi**	**7.76 251**	*e*Pn	**Pn**	**15 33 58.5**	**-3.0**
	baz=69					
MEZF			*e*Sg	**Sg**	**15 36 08.8**	**-7.7**
	comp=Z,177nm,1.1s					
MEZF	**Maizieres J'vi**	**7.76 251**	*e*Pn	**Pn**	**15 33 58.5**	**-3.0**
MEZF			*e*Sg	**Sg**	**15 36 08.8**	**-7.7**
	comp=Z,89nm,1.1s					
SFTF	**Sexfontaines**	**7.91 249**	*e*Pn	**Pn**	**15 33 58.7**	**-4.9**
SFTF			*e*Sg	**Sg**	**15 36 13.8**	**-7.5**
	comp=Z,164nm,1.1s					
SFTF	**Sexfontaines**	**7.91 249**	*e*Pn	**Pn**	**15 33 58.7**	**-4.9**
SFTF			*e*Sg	**Sg**	**15 36 13.8**	**-7.5**
	comp=Z,82nm,1.1s					
CABF	**La Chapelle**	**8.24 237**	*e*Pn	**Pn**	**15 34 03.7**	**-4.4**
CABF			*e*Sg	**Sg**	**15 36 22.7**	**-9.2**
	comp=Z,379nm,1.4s					
CABF	**La Chapelle**	**8.24 237**	*e*Pn	**Pn**	**15 34 03.7**	**-4.4**
CABF			*e*Sg	**Sg**	**15 36 22.7**	**-9.2**
	comp=Z,190nm,1.4s					
KIEV	**Kiev**	**8.28 91**	*e*P	**Pn**	**15 34 07.3**	**-1.3**
KIEV			pmax	pmax		
	comp=Z,24nm,0.6s					
KIEV	**Kiev**	**8.28 91**	*e*Pn	**Pn**	**15 34 07.2**	**-1.4**
	comp=Z,24nm,0.6s					
KIEV	**Kiev**	**8.28 91**	*e*Pn	**Pn**	**15 34 07.2**	**-1.4**
	comp=Z,24nm,0.6s					
AKASG	**Malin Array Be**	**8.29 91**	Pn	**Pn**	**15 34 07.1**	**-1.6**
	comp=Z,5.2nm,0.3s,baz=279,slow=12,SNR=17					
AKASG			Sn	**Sn**	**15 35 37.3**	**-5.7**
	comp=Z,2.2nm,0.3s,baz=271,slow=23,SNR=6.9					
AKASG			Lg		15 36 32.1	
	comp=Z,0.5nm,0.3s,baz=275,slow=30,SNR=4.4					
AKBB	**Malin Array Si**	**8.29 91**	*e*Pn	**Pn**	**15 34 05.8**	**-2.9**
AKBB	**Malin Array Si**	**8.29 91**	*e*Pn	**Pn**	**15 34 05.8**	**-3.0**
LPL	**La Plagne**	**8.68 229**	*e*P	**Pn**	**15 34 15.7**	**+1.5**
LPL			*e*Sg	**Sg**	**15 36 38.7**	**-7.3**
	comp=Z,101nm,1.3s					
LPL	**La Plagne**	**8.68 229**	*e*P	**Pn**	**15 34 15.7**	**+1.5**
LPL			*e*Sg	**Sg**	**15 36 38.7**	**-7.3**
	comp=Z,50nm,1.3s					
LPG	**La Plagne**	**8.69 229**	*e*Pn	**Pn**	**15 34 10.8**	**-3.4**
LPG			*e*Sg	**Sg**	**15 36 39.0**	**-7.1**
	comp=Z,150nm,1.3s					
HFS	**Hagfors**	**8.70 352**	Pn	**Pn**	**15 34 12.8**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=174,slow=15,SNR=14					
HFS			Sn	**Sn**	**15 35 51.3**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=136,slow=26,SNR=3.7					
HFS			Lg		15 36 39.4	
	comp=Z,0.3nm,0.3s,baz=188,slow=30,SNR=3.5					
HFS	**Hagfors**	**8.70 352**	P	**Pn**	**15 34 12.8**	**-1.6**
HFS					15 35 51.3	
MLR	**Muntele Rosu**	**8.90 129**	LR	LR	15 38 06.1	
	comp=Z,33nm,18.4s,baz=170,slow=40					
BNI	**Bardonecchia**	**9.05 228**	*e*P	**Pn**	**15 34 18.2**	**-1.1**
BNI			pmax	pmax		
	comp=Z,3.0nm,0.6s					
BNI	**Bardonecchia**	**9.05 228**	*e*Pn	**Pn**	**15 34 18.2**	**-1.1**
	comp=Z,3.5nm,0.6s					
BNI	**Bardonecchia**	**9.05 228**	*e*Pn	**Pn**	**15 34 18.2**	**-1.0**
	comp=Z,3.5nm,0.6s					
LOR	**Lormes**	**9.07 247**	*e*Pn	**Pn**	**15 34 17.5**	**-2.1**
	baz=60					
LOR			*e*Sg	**Sg**	**15 36 50.0**	**-8.6**
	comp=Z,76nm,1.1s					
LOR	**Lormes**	**9.07 247**	*e*Pn	**Pn**	**15 34 17.5**	**-2.1**
LOR			*e*Sg	**Sg**	**15 36 50.0**	**-8.6**
	comp=Z,38nm,1.1s					
MBDF	**Montbardon**	**9.26 226**	*e*Pn	**Pn**	**15 34 19.0**	**-3.1**
MBDF	**Montbardon**	**9.26 226**	*e*P	**Pn**	**15 34 24.5**	**+2.4**
MBDF			*e*Sg	Sn	15 36 56.1	+49
	comp=Z,85nm,1.4s					
MBDF	**Montbardon**	**9.26 226**	*e*P	**Pn**	**15 34 24.5**	**+2.4**
MBDF			*e*Sg	Sn	15 36 56.1	+49
	comp=Z,43nm,1.4s					
SSF	**Saint Saulge**	**9.39 246**	*e*Pn	**Pn**	**15 34 21.6**	**-2.3**
SMF	**Signal de Mont**	**9.44 243**	*e*Sg	Sx	15 37 01.6	
	comp=Z,66nm,0.9s					
SMF	**Signal de Mont**	**9.44 243**	*e*Sg	Sx	15 37 01.6	
	comp=Z,33nm,0.9s					
KIS	**Kishinev**	**9.47 114**	*e*	**Sn**	**15 36 13.0**	**+1.0**
ORIF	**Oris-en-Rattie**	**9.53 230**	*e*Pn	**Pn**	**15 34 22.3**	**-3.5**
ORIF	**Oris-en-Rattie**	**9.53 230**	*e*P	**Pn**	**15 34 26.5**	**+0.7**
ORIF			*e*Sg	Sn	15 37 04.2	+51
	comp=Z,52nm,1.0s					
ORIF	**Oris-en-Rattie**	**9.53 230**	*e*P	**Pn**	**15 34 26.5**	**+0.7**
AVF	**Avril sur Loir**	**9.63 245**	*e*Pn	**Pn**	**15 34 24.0**	**-3.1**
AVF			*e*Sg	Sn	15 37 08.1	+52
	comp=Z,48nm,1.0s					
AVF	**Avril sur Loir**	**9.63 245**	*e*Pn	**Pn**	**15 34 24.0**	**-3.1**
AVF			*e*Sg	Sn	15 37 08.1	+52
	comp=Z,24nm,1.0s					
SBF	**Sospel**	**9.67 221**	*e*P	**Pn**	**15 34 28.2**	**+0.5**
NB2	**NORSAR Subarra**	**9.88 346**	Pn	**Pn**	**15 34 28.1**	**-2.4**
	comp=Z,1.0nm,0.5s,baz=162,slow=14					
NOA	**NORSAR Array B**	**9.88 346**	Pn	**Pn**	**15 34 28.3**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=174,slow=13,SNR=6.5					
NOA			Lg		15 37 20.7	
	comp=Z,0.5nm,0.3s,baz=233,slow=15,SNR=4.3					
BGF	**Bois d'Agland**	**10.05 245**	*e*Pn	**Pn**	**15 34 29.0**	**-3.9**
BGF			*e*Sg	Sn	15 37 20.2	+54
	comp=Z,53nm,0.8s					
BGF	**Bois d'Agland**	**10.05 245**	*e*Pn	**Pn**	**15 34 29.0**	**-3.9**
BGF			*e*Sg	Sn	15 37 20.2	+54
	comp=Z,26nm,0.8s					
VIVF	**Saint-Julien-l**	**10.16 233**	*e*Pn	**Pn**	**15 34 31.0**	**-3.5**
LASF	**Ste Croix**	**11.13 233**	*e*Pn	**Pn**	**15 34 44.1**	**-3.6**
KAF	**Kangasniemi**	**11.94 24**	*e*p	**Pn**	**15 34 58.6**	**0.0**
	comp=Z,1.4nm,0.3s					
KAF	**Kangasniemi**	**11.94 24**	*e*p	**Pn**	**15 34 58.6**	**0.0**
	comp=Z,1.4nm,0.3s					
KAF	**Kangasniemi**	**11.94 24**	*e*P	**Pn**	**15 34 58.6**	**0.0**
KAF			pmax	pmax		
	comp=Z,1.0nm,0.3s					
EKA	**Eskdalemuir Ar**	**12.09 296**	Pn	**Pn**	**15 34 57.5**	**-3.3**
	comp=Z,0.6nm,0.3s,baz=104,slow=12,SNR=13					
ESK	**Eskdalemuir**	**12.12 296**	*e*P	**Pn**	**15 34 56.7**	**-4.4**
ESK			pmax	pmax		
	comp=Z,4.0nm,0.5s					
ESK	**Eskdalemuir**	**12.12 296**	*e*Pn	**Pn**	**15 34 56.7**	**-4.4**
	comp=Z,4.5nm,0.5s					
OBN	**Obninsk**	**12.71 66**	P	**Pn**	**15 35 07.0**	**-2.3**
OBN			S	**Sn**	**15 37 30.0**	**-1.4**
OBN			pmax	pmax		
	comp=Z,2.0nm,2.3s					
JOF	**Joensuu**	**13.99 30**	*e*p	**Pn**	**15 35 24.4**	**-2.2**
	comp=Z,1.2nm,0.4s					
JOF	**Joensuu**	**13.99 30**	*e*p	**Pn**	**15 35 24.4**	**-2.2**
	comp=Z,1.2nm,0.4s					
JOF	**Joensuu**	**13.99 30**	*e*P	**Pn**	**15 35 24.4**	**-2.2**
JOF			pmax	pmax		
	comp=Z,1.0nm,0.4s					
ANN	**Anapa**	**15.71 107**	*e*P	**Pn**	**15 35 50.9**	**+1.0**
ANN			pmax	pmax		
	comp=Z,65nm,1.3s					
ANN	**Anapa**	**15.71 107**	*e*P	**Pn**	**15 35 50.9**	**+1.0**
	comp=Z,65nm,1.3s					
ARCES	**ARCESS Array B**	**18.57 10**	Pn	**Pn**	**15 36 22.6**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=191,slow=12,SNR=20					
KIV	**Kislovodsk**	**19.33 103**	P	**Pn**	**15 36 35.0**	**-0.1**
KIV			pmax	pmax		
	comp=Z,9.0nm,1.0s					

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.28**	**227**	*e*P	Pn	15 58 00.5	+1.9
BUTP				*e*S	Sn	15 58 11.9	+7.2
SCPH	**Surigao**	**0.70**	**331**	*e*P	Pn	15 58 05.6	+2.0
SCPH				*i* S	Sn	15 58 17.0	+3.6
BUKP	**Musuan**	**1.49**	**211**	*e*P	Pn	15 58 16.5	+2.2
BESP	**Borongan**	**2.45**	**351**	*e*P	Pn	15 58 29.2	+1.7

*JMA **24** 16:10:30.7±0.2,2893N×14006E,h494km,M3.7*
*ISCJB **24** 16:10:31.3±0.5,2894N±007×1399E±002,h474km±11km, mb3.0/4,Error ellipse: s-maj=34.2km s-min=7.1km az=165.2*
*IDC **24** 16:10:31.4±1.5,2875N×139.18E,h431km±66km,mb2.8/4, mb1 3.0/7,mb1mx2.8/22,mbtmp3.0/7,Error ellipse: s-maj=151.5km s-min=12.4km az=71.0*
ISC 24 16:10:32.4±0.5,**2895N**±007×**1400E**±03,**h469**km±11km, **n18**,σ1§**09**/26,**mb3.0/4**,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.69**	**133**	P	**P**	**16 11 39.3**	**+0.4**
CBIJ				S	**S**	**16 12 32.1**	**-0.6**
CBIJ	**Chichi jima**	**2.69**	**133**	P	**P**	**16 11 39.7**	**+0.8**
	20nm,0.3s,baz=256,slow=23,SNR=39						
CBIJ				S	**S**	**16 12 31.8**	**-1.0**
	111nm,0.3s,baz=270,slow=22,SNR=38						
JHHJ	**Haha-jima-NKT**	**3.03**	**139**	P	**P**	**16 11 41.4**	**+0.2**
JHHJ				S	**S**	**16 12 37.3**	**+0.3**
JHJ2	**Mitsune**	**4.15**	**358**	P	**P**	**16 11 50.4**	**+0.5**
JHJ2				S	**S**	**16 12 49.5**	**-3.7**
JHJ	**Hachijo jima 2**	**4.16**	**358**	P	**P**	**16 11 50.5**	**+0.5**
	5.4nm,0.3s,baz=9.3,slow=23,SNR=8.8						
JHJ				S	**S**	**16 12 51.3**	**-2.0**
	10nm,0.3s,baz=236,slow=21,SNR=5.0						
BSO1	**Boso 1**	**5.75**	**8**	P	**P**	**16 12 06.0**	**+1.2**
BSO1				S	**S**	**16 13 18.3**	**-2.2**
JIE	**Ise**	**6.10**	**334**	P	**P**	**16 12 09.6**	**+1.3**
JOD2	**Odawara 2**	**6.34**	**354**	P	**P**	**16 12 10.5**	**-0.2**
JRY	**Ryogami san**	**7.11**	**353**	P	**P**	**16 12 19.1**	**+0.5**
JRY				S	**S**	**16 13 44.4**	**-1.2**
MJAR	**Matsushiro Arr**	**7.72**	**349**	P	**P**	**16 12 24.8**	**-0.2**
	0.8nm,0.3s,baz=177,slow=12,SNR=10.0						
MAT	**Matsushiro**	**7.72**	**349**	P	**P**	**16 12 25.9**	**+0.9**
MAT				S	**S**	**16 13 59.1**	**+1.7**
MAT	**Matsushiro**	**7.72**	**349**	P	**P**	**16 12 24.9**	**-0.1**
JHS	**Saijyo**	**8.38**	**318**	P	**P**	**16 12 32.1**	**+0.1**
JMK	**Ichinoseki**	**10.03**	**6**	P	**P**	**16 12 51.9**	**+2.2**
MKAR	**Makanchi Array**	**47.79**	**308**	P	**P**	**16 18 24.3**	**-1.6**
	0.1nm,0.2s,mb2.7,baz=106,slow=11,SNR=2.3						
FITZ	**Fitzroy Crossi**	**48.78**	**198**	P	**P**	**16 18 33.5**	**-0.2**
	0.6nm,0.5s,mb3.1,baz=36,slow=8.7,SNR=4.2						
WRA	**Warramunga Arr**	**48.91**	**187**	P	**P**	**16 18 34.2**	**-0.4**
	0.9nm,0.4s,mb3.4,baz=2.5,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**52.63**	**187**	P	**P**	**16 19 01.1**	**-0.7**
	0.2nm,0.5s,mb2.7,baz=7.2,slow=7.6,SNR=6.7						

*ISCJB **24** 16:31:43.7±0.7,26.1N±0.1×449W±0.1,h10km,mb4.0/10, MS3.8/29,Error ellipse: s-maj=19.7km s-min=17.0km az=140.8*
*IDC **24** 16:31:43.9±0.8,2602N×4493W,h0km,mb4.0/10, mb1 4.2/10,mb1mx4.0/22,mbtmp4.0/10,MS3.8/29, Ms1 3.8/29,ms1mx3.7/43,Error ellipse: s-maj=25.3km s-min=21.2km az=131.0*
*NEIC **24** 16:31:45.4±0.5,2601N×4492W,h10km,Error ellipse: s-maj=16.4km s-min=14.2km az=141.0*
ISC 24 16:31:45.7±0.7,**261N**±01×**449W**±01,**h10**km,**n35**,σ0§**56**/12, **mb4.0**/10,**MS3.8**/29,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**21.19**	**252**	LR	LR	16 42 53.1	
	comp=Z,236nm,19.3s,MS3.6,baz=95,slow=32						
PCRV	**Puerto La Cruz**	**24.45**	**233**	LR	LR	16 45 43.9	
	comp=Z,59nm,19.5s,MS3.1,baz=54,slow=34						
BBTS	**Babate**	**28.85**	**108**	LR	LR	16 46 06.5	
	comp=Z,221nm,19.4s,MS3.8,baz=325,slow=30						
SCHQ	**Schefferville**	**32.96**	**337**	LR	LR	16 49 58.8	
	comp=Z,153nm,21.1s,MS3.7,baz=285,slow=33						
ROSC	**El Rosal**	**35.16**	**238**	LR	LR	16 52 44.2	
	comp=Z,56nm,18.6s,MS3.4,baz=16,slow=36						
ESDC	**Sonseca Array**	**36.67**	**58**	LR	LR	16 50 40.4	
	comp=Z,75nm,19.7s,MS3.5,baz=235,slow=31						
BDFB	**Brasilia**	**41.55**	**185**	LR	LR	16 54 21.0	
	comp=Z,77nm,19.9s,MS3.6,baz=166,slow=33						
DBIC	**Dimbokro**	**42.74**	**110**	LR	LR	16 54 26.5	
	comp=Z,236nm,20.1s,MS4.1,baz=277,slow=32						
TORD	**Torodi Ar. Bea**	**45.51**	**97**	P	**P**	**16 40 05.2**	**-0.4**
	0.7nm,0.8s,mb3.6,baz=297,slow=9.5,SNR=3.6						
TORD				LR	LR	16 56 37.9	
	comp=Z,197nm,20.8s,MS4.0,baz=285,slow=33						
ULM	**Lac du Bonnet**	**45.69**	**316**	P	**P**	**16 40 06.3**	**-0.3**
	2.2nm,0.7s,mb4.2,baz=101,slow=6.5,SNR=4.0						
ULM				LR	LR	16 57 25.3	
	comp=Z,158nm,18.5s,MS4.0,baz=102,slow=34						
KEST	**Kesra**	**47.04**	**64**	LR	LR	16 57 19.4	
	comp=Z,29nm,18.0s,MS3.3,baz=211,slow=33						
LPAZ	**La Paz**	**47.76**	**211**	P	**P**	**16 40 23.5**	**+0.3**
	3.9nm,1.0s,mb4.4,baz=3.7,slow=9.3,SNR=8.7						
LPAZ				LR	LR	16 59 07.2	
	comp=Z,68nm,20.6s,MS3.6,baz=6.9,slow=34						
JMIC	**Jan Mayen**	**49.46**	**15**	LR	LR	16 55 54.4	
	comp=Z,56nm,20.9s,MS3.5,baz=273,slow=29						
GERES	**GERESS Array B**	**50.40**	**47**	P	**P**	**16 40 42.8**	**-0.3**
	0.6nm,0.7s,mb3.7,baz=235,slow=4.7,SNR=3.8						
NB2	**NORSAR Subarra**	**51.28**	**31**	P	**P**	**16 40 50.5**	**+1.0**
	comp=Z,2.6nm,0.9s,mb4.2,baz=252,slow=7.9						
NOA	**NORSAR Array B**	**51.28**	**31**	P	**P**	**16 40 51.0**	**+1.5**
	comp=Z,1.6nm,1.0s,mb3.9,baz=252,slow=7.4,SNR=2.6						
NOA				LR	LR	16 58 57.2	
	comp=Z,68nm,20.0s,MS3.7,baz=255,slow=32						
HFS	**Hagfors**	**52.22**	**33**	LR	LR	16 58 42.7	
	comp=Z,49nm,18.7s,MS3.6,baz=246,slow=31						
ANMO	**Albuquerque**	**53.05**	**295**	LR	LR	17 01 46.9	
	comp=Z,160nm,19.6s,MS4.1,baz=353,slow=34						
CPUP	**Villa Florida**	**53.43**	**194**	LR	LR	17 02 17.4	
	comp=Z,63nm,19.4s,MS3.7,baz=266,slow=34						
LVC	**Limon Verde**	**53.67**	**208**	LR	LR	17 01 59.3	
	comp=Z,97nm,20.0s,MS3.9,baz=39,slow=34						
PDAR	**Pinedale Array**	**54.61**	**305**	P	**P**	**16 41 14.6**	**+0.1**
	comp=Z,1.8nm,0.9s,mb4.1,baz=91,slow=7.4,SNR=9.3						
PDAR				LR	LR	17 02 48.7	
	comp=Z,176nm,19.3s,MS4.1,baz=183,slow=34						
YKA	**Yellowknife Ar**	**57.88**	**329**	P	**P**	**16 41 36.9**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=96,slow=7.9,SNR=5.2						
YKA				LR	LR	17 05 26.2	
	comp=Z,110nm,18.7s,MS4.0,baz=160,slow=35						
LPIG	**La Paz**	**58.70**	**283**	LR	LR	17 07 14.0	
	comp=Z,78nm,18.8s,MS3.9,baz=194,slow=36						
ARCES	**ARCESS Array B**	**59.01**	**23**	LR	LR	17 00 46.8	
	comp=Z,51nm,21.8s,MS3.6,baz=265,slow=30						
ELK	**Elko**	**59.07**	**303**	LR	LR	17 06 05.5	
	comp=Z,184nm,18.6s,MS4.2,baz=254,slow=35						
AKASG	**Malin Array Be**	**60.43**	**45**	P	**P**	**16 41 54.7**	**-0.6**
	comp=Z,0.3nm,0.2s,mb3.9,baz=269,slow=6.3,SNR=5.9						
BBB	**Bella Bella**	**65.82**	**318**	LR	LR	17 10 10.9	
	comp=Z,137nm,20.0s,MS4.2,baz=85,slow=35						
PLCA	**Paso Flores**	**70.58**	**200**	P	**P**	**16 43 00.8**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=36,slow=4.5,SNR=5.6						
PLCA	**Paso Flores**	**70.58**	**200**	P	**P**	**16 43 00.8**	**-0.1**
KDAK	**Kodiak Island**	**77.15**	**328**	LR	LR	17 16 10.6	
	comp=Z,98nm,20.2s,MS4.1,baz=82,slow=35						
BVAR	**Borovoye Array**	**83.35**	**33**	LR	LR	17 21 47.0	
	comp=Z,35nm,19.6s,MS3.7,baz=11,slow=36						
KMBO	**Kilima Mbogo**	**83.45**	**94**	LR	LR	17 20 33.6	
	comp=Z,173nm,19.8s,MS4.4,baz=74,slow=35						
BOSA	**Boshof**	**86.54**	**124**	LR	LR	17 15 10.1	
	comp=Z,131nm,18.5s,MS4.4,baz=178,slow=30						
ZALV	**Zalesovo Beam**	**89.29**	**27**	P	**P**	**16 44 42.6**	**+0.6**
	comp=Z,1.4nm,0.8s,mb4.4,baz=316,slow=4.1,SNR=6.8						
PETK	**Petropavlovsk-**	**98.76**	**346**	LR	LR	17 29 23.5	
	comp=Z,46nm,19.8s,MS4.0,baz=54,slow=35						

*IDC **24** 16:36:43.7±2.7,652S×148.20E,h0km,mb3.4/3,mb1 3.6/4, mb1mx3.4/15,mbtmp3.5/4,ML3.5/1,Error ellipse: s-maj=63.1km s-min=41.4km az=106.0*
*NEIC **24** 16:36:49.6±2.2,639S×147.88E,h35km,mb3.9/1,Error ellipse: s-maj=47.5km s-min=25.7km az=87.0*
ISC 24 16:36:46.7±5.6,**62S**±03×**1481E**±04,**h43**km±40km,**n7**, σ0§**55**/7,**mb3.4**/3,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.36**	**196**	*e*Pn	**Pn**	**16 37 36.8**	**+0.1**
PMG				*e*Sn	**Sn**	**16 38 15.5**	**+0.1**
WRA	**Warramunga Arr**	**19.14**	**223**	P	**Pn**	**16 41 07.0**	**-0.6**
	0.2nm,0.3s,baz=49,slow=10,SNR=12						
ASAR	**Alice Springs**	**22.12**	**217**	P	**P**	**16 41 38.4**	**-0.2**
	0.5nm,0.6s,mb3.2,baz=59,slow=8.8,SNR=18						
FITZ	**Fitzroy Crossi**	**24.91**	**240**	P	**P**	**16 42 06.8**	**+0.8**
	1.1nm,0.5s,mb3.7,baz=50,slow=12,SNR=13						
FITZ	**Fitzroy Crossi**	**24.91**	**240**	*e*P	**P**	**16 42 06.5**	**+0.5**
	1.6nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**26.30**	**193**	P	**P**	**16 42 18.3**	**-0.1**
	0.4nm,0.4s,mb3.4,baz=14,slow=8.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**146.18**	**284**	PKPbc	PKPbc	16 56 27.8	+4.4
	0.4nm,0.4s,baz=69,slow=4.0,SNR=9.3						

*CASC **24** 16:52:07.3±1.4,1482N×9443W,h35km±999km,MD4.1, ML2.9,mb4.0(NEIC)*
*ISCJB **24** 16:52:21.0±0.8,1446N±007×9334W±004,h55km±9km, mb4.1/4,MS3.4/8,Error ellipse: s-maj=11.2km s-min=6.6km az=16.2*
*NEIC **24** 16:52:21.4,1432N×9330W,h16km,mb4.0/1, MD4.5(MEX),After MEX.*
*MEX **24** 16:52:21.4±0.9,1432N×9330W,h16km±106km,MD4.4*
*IDC **24** 16:52:25.2±6.4,1464N×9302W,h70km±54km,mb3.7/4, mb1 4.1/5,mb1mx3.6/22,mbtmp3.9/5,ML4.2/1,MS3.5/9, Ms1 3.5/9,ms1mx3.2/33,Error ellipse: s-maj=47.2km s-min=27.1km az=54.0*
ISC 24 16:52:22.7±0.8,**1451N**±007×**9327W**±004,**h52**km±9km,**n32**, σ1§**38**/25,**mb4.1**/4,**MS3.4**/8,**1C**,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.04**	**68**	*i* P	**Pn**	**16 52 39.3**	**-1.8**
THIG				*i* S	**Sn**	**16 52 53.0**	**-1.6**
JAT	**Jato**	**1.59**	**97**	*e*P	**Pn**	**16 52 48.8**	**+0.4**
CCIG	**Comitan**	**2.07**	**32**	*i* P	**Pn**	**16 52 55.9**	**+0.9**
CCIG				*i* S	**Sn**	**16 53 20.5**	**+0.9**
SCX	**San Cristobal**	**2.29**	**15**	*i* P	**Pn**	**16 52 58.0**	**0.0**
SCX				*i* S	**Sn**	**16 53 27.5**	**+2.4**
FG6		**2.31**	**89**	*e*P	**Pn**	**16 52 60.0**	**+1.7**
FUG	**Fuego 3**	**2.35**	**91**	*e*P	**Pn**	**16 52 59.5**	**+0.7**
PCG	**Pacaya**	**2.58**	**92**	*e*P	**Pn**	**16 53 04.2**	**+2.3**
HUIG	**Huatulco**	**3.02**	**295**	*e*P	**Pn**	**16 53 06.4**	**-1.5**
SBLS	**San Blas**	**3.60**	**100**	*e*P	x	16 53 16.5	
BOQS	**Boqueron**	**3.94**	**101**	*e*P	x	16 53 22.1	
VHO	**Vista Hermosa**	**4.20**	**308**	*i* P	**Pn**	**16 53 23.1**	**-1.1**
VHO				*i* S	**Sn**	**16 54 13.9**	**+1.9**
SNVI	**San Vicente**	**4.39**	**101**	*e*P	x	16 53 29.1	
SNVI				AML	x	16 54 33.4	
	comp=Z,15nm,0.6s						
CAHU	**Cacacuatique**	**4.96**	**98**	*e*P	x	16 53 36.7	
PNIG	**Pinotepa**	**5.05**	**292**	*i* P	**Pn**	**16 53 31.4**	**-0.4**
PNIG				*i* S	**Sn**	**16 54 32.0**	**-0.8**
CNCH	**Conchagua**	**5.42**	**102**	*e*P	x	16 53 42.7	
CNCH				*e*S	x	16 54 57.0	
TEIG	**Tepich**	**7.41**	**39**	P	**Pn**	**16 54 07.4**	**-0.9**
	comp=Z,3.9nm,0.3s,baz=266,slow=1.9,SNR=13						
TEIG				S	**Sn**	**16 55 28.4**	**-2.7**
	comp=Z,3.2nm,0.3s,baz=66,slow=24,SNR=3.9						
TEIG				LR	LR	16 57 26.1	
	comp=Z,378nm,20.9s,baz=166,slow=42						
TEIG	**Tepich**	**7.41**	**39**	*e*Pn	**Pn**	**16 54 06.6**	**-1.6**
	comp=Z,29nm,0.5s						
MIAR	**Mount Ida**	**19.95**	**359**	*e*P	**Pn**	**16 56 51.0**	**-1.5**
	comp=Z,9.1nm,1.1s						
GDL2	**Guadalupe Moun**	**20.32**	**332**	*e*P	**P**	**16 56 54.0**	**-0.4**
ROSC	**El Rosal**	**20.97**	**115**	LR	LR	17 04 13.7	
	comp=Z,42nm,20.6s,MS2.8,baz=210,slow=34						
TKL	**Tuckaleechee C**	**22.72**	**20**	LR	LR	17 07 44.7	
	comp=Z,83nm,18.5s,MS3.2,baz=85,slow=41						
BNM	**Barren Site**	**22.99**	**331**	*e*P	**P**	**16 57 25.0**	**+2.0**
ATAH	**Atahualpa**	**25.97**	**144**	LR	LR	17 06 26.2	
	comp=Z,76nm,19.5s,MS3.2,baz=199,slow=32						
PCRV	**Puerto La Cruz**	**28.29**	**95**	LR	LR	17 11 15.3	
	comp=Z,91nm,18.8s,MS3.4,baz=286,slow=40						
NVAR	**Mina Array Bea**	**32.51**	**322**	P	**P**	**16 58 49.7**	**+1.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=142,slow=7.4,SNR=5.3						
LPAZ	**La Paz**	**39.41**	**140**	LR	LR	17 14 42.3	
	comp=Z,42nm,20.2s,MS3.3,baz=252,slow=34						
SIV	**San Ignacio**	**43.94**	**132**	P	**P**	**17 00 24.6**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.6,baz=298,slow=14,SNR=3.5						
SCHQ	**Schefferville**	**45.18**	**21**	LR	LR	17 20 54.4	
	comp=Z,157nm,18.6s,MS4.0,baz=157,slow=38						
YKA	**Yellowknife Ar**	**50.25**	**347**	P	**P**	**17 01 13.5**	**+0.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=153,slow=7.1,SNR=6.6						
NOA	**NORSAR Array B**	**84.28**	**28**	LR	LR	17 41 16.0	
	comp=Z,37nm,19.3s,MS3.8,baz=285,slow=35						
ARCES	**ARCESS Array B**	**86.03**	**18**	P	**P**	**17 04 56.1**	**-1.2**
	comp=Z,10nm,1.1s,mb5.0,baz=295,slow=11,SNR=5.7						
ARCES				LR	LR	17 44 49.4	
	comp=Z,36nm,19.6s,MS3.8,baz=240,slow=37						
CMAR	**Chiang Mai Arr**	**145.10**	**339**	PKPbc	PKPbc	17 11 54.9	+0.2
	comp=Z,0.4nm,0.5s,baz=326,slow=2.9,SNR=3.5						

*ISCJB **24** 16:58:29.1±3.4,4385N±009×1283W±02,h1km±23km, mb4.0/3,Error ellipse: s-maj=20.5km s-min=11.6km az=147.1*
*IDC **24** 16:58:29.1±2.2,4370N×12858W,h0km,mb3.6/3, mb1 3.7/6,mb1mx3.5/24,mbtmp3.5/6,MS3.4/2,Ms1 3.4/2, ms1mx2.6/37,Error ellipse: s-maj=48.1km s-min=21.3km az=35.0*
*NEIC **24** 16:58:31.7±1.7,4380N×12829W,h10km,mb4.0/3,Error ellipse: s-maj=23.9km s-min=13.7km az=69.0*
ISC 24 16:58:33.7±4.0,**4388N**±009×**1283W**±02,**h20**km±27km,**n22**, σ1§**35**/21,**mb3.9**/3,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.05**	**108**	*e*Pn	**Pn**	**16 59 17.2**	**-3.6**
KEBM				*e*Sn	**Sn**	**16 59 56.2**	**-0.6**
BMW	**Boistfort Moun**	**4.42**	**52**	*e*Pn	**Pn**	**16 59 38.7**	**-0.8**
YBH	**Yreka Blue Hor**	**4.63**	**116**	LR	LR	17 01 31.6	
	comp=Z,390nm,21.5s,baz=340,slow=38						
NLWA	**Neilton Lookou**	**4.68**	**40**	*e*Pn	**Pn**	**16 59 41.7**	**-1.5**
HOOD	**Mount Hood Mea**	**4.95**	**71**	*e*Pn	**Pn**	**16 59 47.2**	**+0.3**
LON	**Longmire**	**5.39**	**56**	*e*Pn	**Pn**	**16 59 52.3**	**-0.6**
	11nm,0.7s						
RPW	**Rockport**	**6.55**	**43**	*e*Pn	**Pn**	**17 00 09.0**	**+0.1**
NVAR	**Mina Array Bea**	**9.29**	**122**	Pn	**Pn**	**17 00 48.2**	**+1.7**
	0.1nm,0.3s,baz=297,slow=14,SNR=5.6						
NVAR	**Mina Array Bea**	**9.29**	**122**	Pn	**Pn**	**17 00 48.2**	**+1.7**
ELK	**Elko**	**10.16**	**103**	Pn	**Pn**	**17 01 01.2**	**+2.8**
	0.1nm,0.3s,baz=282,slow=12,SNR=4.3						
MSU	**Marysvale**	**13.26**	**108**	*e*Pn	**Pn**	**17 01 39.1**	**-1.7**
LDFC	**Landfair**	**13.43**	**126**	Pn	**Pn**	**17 01 42.2**	**-0.9**
	55nm,2.0s						
PDAR	**Pinedale Array**	**13.68**	**88**	Pn	**Pn**	**17 01 49.9**	**+3.4**
	0.0nm,0.3s,baz=304,slow=9.7,SNR=3.6						
SDCO	**Great Sand Dun**	**18.28**	**102**	*e*Pn	**Pn**	**17 02 46.4**	**+0.4**
	21nm,1.7s						
ANMO	**Albuquerque**	**19.03**	**111**	LR	LR	17 10 43.6	
	comp=Z,122nm,20.2s,baz=336,slow=38						
ANMO	**Albuquerque**	**19.03**	**111**	P	**Pn**	**17 02 54.6**	**-0.6**
	16nm,2.2s						
YKA	**Yellowknife Ar**	**20.28**	**18**	P	**P**	**17 03 10.2**	**+2.4**
	1.1nm,0.7s,baz=206,slow=10,SNR=3.7						
YKA	**Yellowknife Ar**	**20.28**	**18**	P	**P**	**17 03 10.2**	**+2.4**
ULM	**Lac du Bonnet**	**22.85**	**62**	P	**P**	**17 03 37.0**	**+1.5**
	2.9nm,0.8s,mb3.8,baz=262,slow=12,SNR=3.1						
WMOK	**Wichita Mounta**	**24.48**	**102**	*e*P	**P**	**17 03 52.3**	**+0.9**
	8.7nm,0.9s,mb4.2						
SONM	**Songino Array**	**76.78**	**326**	P	**P**	**17 10 22.0**	**-1.5**
	0.9nm,0.9s,mb3.7,baz=48,slow=4.3,SNR=4.4						
SONM	**Songino Array**	**76.78**	**326**	P	**P**	**17 10 22.0**	**-1.5**

*NEIC **24** 17:01:21.1,1440N×9326W,h20km,MD4.2(MEX),After MEX.*
MEX 24 17:01:20.4±0.7,**1433N**×**9327W**,**h26**km±40km,**MD4.2**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.13**	**59**	*i* P	Pn	17 01 38.0	-2.5
THIG				*i* S	Sn	17 01 51.1	-4.1
CCIG	**Comitan**	**2.23**	**29**	*i* P	Pn	17 01 54.4	-1.3
CCIG				*i* S	Sn	17 02 19.4	-2.9
CCIG	**Comitan**	**2.23**	**29**	*i* P	Pn	17 01 54.4	-1.3
CCIG				*i* S	Sn	17 02 17.4	-4.9
SCX	**San Cristobal**	**2.47**	**14**	*i* P	Pn	17 01 57.0	-2.0
SCX				*i* S	Sn	17 02 26.0	-2.3
VHO	**Vista Hermosa**	**4.31**	**310**	*e*P	Pn	17 02 22.1	-2.2
VHO				*i* S	Sn	17 03 11.1	-2.6
VHO	**Vista Hermosa**	**4.31**	**310**	*e*P	Pn	17 02 22.1	-2.2
VHO				*i* S	Sn	17 03 11.4	-2.4
PNIG	**Pinotepa**	**5.12**	**294**	*i* P	Pn	17 02 38.2	+2.8
PNIG				*i* S	Sn	17 03 34.6	+0.9
PNIG	**Pinotepa**	**5.12**	**294**	*i* P	Pn	17 02 29.9	-5.5
PNIG				*i* S	Sn	17 03 21.7	-12

*CSEM **24** 17:20:33.9±0.0,3985N×2871E,h2km,MD3.3,Error ellipse: s-maj=0.9km s-min=0.8km az=175.0*
*DDA **24** 17:20:34.0,3984N×2871E,h23km±1km,Md3.3*
*ISK **24** 17:20:34.6,3985N×2870E,h7km,ML3.6*
*ISCJB **24** 17:20:34.9±0.3,3984N±001×2868E±002,h10km±2km, Error ellipse: s-maj=2.3km s-min=2.2km az=4.0*
*THE **24** 17:20:36.5,3983N×2868E,h7km,ML4.0*
*ATH **24** 17:20:43.2,3991N×2799E,h38km,MD3.6/4*
ISC 24 17:20:35.3±0.3,**3984N**±001×**2870E**±002,**h6**km±2km,**n94**, σ0§**75**/137,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.24**	**193**	PG	**Pg**	**17 20 39.9**	**-0.1**
DURS	**Dursunbey**	**0.29**	**216**	*i* P	**Pg**	**17 20 40.8**	**-0.2**
DURS				*i* S	**Sg**	**17 20 45.0**	**+0.2**
ULDT	**Uludag**	**0.45**	**48**	*i* P	**Pg**	**17 20 43.7**	**-0.3**
ULDT				*i* S	**Sg**	**17 20 49.8**	**-0.1**
KCT	**Karacabey**	**0.50**	**329**	*e*PG	**Pg**	**17 20 44.8**	**-0.2**
KCT				*e*SG	**Sg**	**17 20 51.6**	**+0.1**
BTOK	**Tokmak**	**0.52**	**262**	*i* P	**Pg**	**17 20 45.3**	**0.0**
BTOK				*i* S	**Sg**	**17 20 52.6**	**+0.6**
BALB	**Balikesir**	**0.66**	**253**	*e*PG	**Pg**	**17 20 47.5**	**-0.5**
BALB				*e*SG	**Sg**	**17 20 57.7**	**+1.1**
GEMT	**Gemlik**	**0.70**	**32**	*e*PG	**Pg**	**17 20 48.4**	**-0.4**
BNT	**Bandirma**	**0.79**	**311**	*e*PG	**Pg**	**17 20 50.2**	**-0.2**
BNT				*e*SG	**Sg**	**17 21 01.8**	**+1.2**
DEMI	**Demirci**	**0.80**	**179**	*i* P	**Pg**	**17 20 50.0**	**-0.5**
DEMI				*i* S	**Sg**	**17 21 01.9**	**+1.0**
DEMI	**Demirci**	**0.80**	**179**	*i* P	**Pg**	**17 20 50.0**	**-0.6**
DEMI				*i* S	**Sg**	**17 21 01.9**	**+1.0**
EDC	**Edincik**	**0.82**	**309**	*e*PG	**Pg**	**17 20 50.5**	**-0.4**
EDC				*e*SG	**Sg**	**17 21 02.8**	**+1.2**
BALY	**Balya**	**0.84**	**264**	*i* P	**Pg**	**17 20 51.0**	**-0.3**
BALY				*i* S	**Sg**	**17 21 02.3**	**+0.1**
YLV	**Yalova**	**0.89**	**35**	*e*PG	**Pg**	**17 20 52.2**	**-0.2**
YLV				*e*SG	**Sg**	**17 21 05.2**	**+1.2**
GDZ	**Gediz**	**0.96**	**141**	*i* P	**Pg**	**17 20 52.8**	**-1.0**
GDZ				*i* S	**Sg**	**17 21 05.9**	**-0.4**
ADVT	**Abdulvahap**	**0.99**	**53**	*e*PG	**Pg**	**17 20 53.6**	**-0.7**
ADVT				*e*SG	**Sg**	**17 21 08.4**	**+1.1**
AKHS	**Akhisar**	**1.18**	**216**	*i* P	**Pg**	**17 20 57.5**	**-0.4**
AKHS				*i* S	**Sg**	**17 21 13.2**	**+0.1**
AKHS	**Akhisar**	**1.18**	**216**	*i* P	**Pg**	**17 20 57.5**	**-0.4**
AKHS				*i* S	**Sg**	**17 21 13.2**	**0.0**
AKS	**Akhisar**	**1.18**	**216**	*e*PN	**Pn**	**17 20 57.8**	**-0.5**
HRT	**Hereke**	**1.23**	**37**	*e*PN	**Pn**	**17 20 57.9**	**-1.1**
ISK	**Istanbul-Kandi**	**1.25**	**13**	*e*PN	**Pn**	**17 20 58.6**	**-0.8**
GPA	**Golpazari**	**1.32**	**70**	*e*PN	**Pn**	**17 20 60.0**	**-0.2**
ELBA	**Catalca**	**1.32**	**351**	*i* P	**Pn**	**17 20 59.4**	**-0.8**
ELBA				*i* S	**Sb**	**17 21 16.7**	**-1.0**
CTT	**Catalca**	**1.32**	**351**	*e*PN	**Pn**	**17 20 59.8**	**-0.5**
KULA	**Kula-Manisa**	**1.32**	**181**	*e*PN	**Pn**	**17 20 60.0**	**-0.3**
BGKT	**Bogazkoy**	**1.34**	**2**	*e*PN	**Pn**	**17 20 60.0**	**-0.5**
ALT	**Altintas**	**1.35**	**125**	*e*PN	**Pn**	**17 21 00.4**	**-0.1

STIP	**Stip**	**5.28**	**293**	*e*Pn	**Pn**	**17 21 55.7 +1.1**
STIP				*e*Sn	**Sn**	**17 22 57.0 +1.2**
FNA	**Florina**	**5.67**	**282**	*e*Pn	**Pn**	**17 22 00.8 +0.7**
CSS	**Prodhromos**	**6.11**	**141**	*e*Pn	**Pn**	**17 22 00.2 -5.8**

SZGRF ***24*** *17:22:59.4,2229S×17784W,h33km, South of Fiji Islands*
DJA ***24*** *17:23:54,21.13S×17806W,h478km,mb4.9/18*
ISCJB ***24*** *17:24:01.9±0.9,2089S±005×17859W±004,h552km±11km, mb4.5/56, Error ellipse: s-maj=9.0km s-min=4.9km az=152.1*
BJI ***24*** *17:24:03.4,2090S×17850W,h568km,mB4.7,mb4.8*
MOS ***24*** *17:24:03.6±2.9,2061S×17867W,h547km,mb4.6/16, Error ellipse: s-maj=12.8km s-min=10.1km az=146.5*
NEIC ***24*** *17:24:03.5±0.9,2086S×17848W,h569km±10km,mb4.6/33, Error ellipse: s-maj=10.9km s-min=5.9km az=146.0*
IDC ***24*** *17:24:08.2±1.8,2089S×17861W,h619km±22km,mb3.8/16, mb1 4.0/16,mb1mx3.9/19,mbtmp3.8/16,Error ellipse: s-maj=13.5km s-min=9.3km az=148.0*
ISC 24 17:24:02.6±0.9,2090S±006×17855W±004,h549km±11km, h549km±2.9km;pP-P,n464,σ0s65/338,mb4.5/56, 116C-133D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.34**	**176**	S	**S**	**17 27 41.3**	**-1.4**
	126nm,0.3s,baz=76,slow=22,SNR=5.7						
AFI	**Afiamalu**	**9.49**	**44**	P	**P**	**17 26 13.6**	**-1.8**
	30nm,0.3s,baz=51,slow=3.3,SNR=42						
AFI				S	**S**	**17 27 57.1**	**-7.3**
	8.5nm,0.3s,baz=195,slow=21,SNR=9.2						
AFI	**Afiamalu**	**9.49**	**44**	*e*P	**P**	**17 26 13.3**	**-2.1**
AFI				*e*S	**S**	**17 27 56.3**	**-8.1**
AFI				pmax	pmax		
	comp=Z,270nm,0.6s						
AFI	**Afiamalu**	**9.49**	**44**	*e*P	**P**	**17 26 13.3**	**-2.1**
	comp=Z,270nm,0.6s						
AFI				*e*S	**S**	**17 27 56.3**	**-8.1**
RAR	**Rarotonga**	**17.53**	**94**	P	**P**	**17 27 35.0**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=251,slow=4.4,SNR=4.4						
URZ	**Urewera**	**17.70**	**191**	P	**P**	**17 27 37.2**	**-0.4**
	comp=Z,3.6nm,0.3s,baz=29,slow=2.5,SNR=26						
URZ				S	**S**	**17 30 28.5**	**-4.3**
	comp=Z,0.4nm,0.3s,baz=284,slow=22,SNR=3.1						
SNZO	**South Karori**	**21.14**	**194**	*e*P	**P**	**17 28 08.3**	**-0.5**
	comp=Z,92nm,1.1s,mb5.3						
RPZ	**Rata Peaks**	**24.35**	**198**	P	**P**	**17 28 38.2**	**+0.8**
	comp=Z,5.2nm,0.4s,mb4.5,baz=339,slow=6.0,SNR=9.2						
ARMA	**Armidale**	**28.43**	**244**	*e*P	**P**	**17 29 16.1**	**+2.6**
CNB	**Canberra Magne**	**31.58**	**236**	*e*P	**P**	**17 29 42.4**	**+1.9**
CTA	**Charters Tower**	**32.94**	**265**	*e*P	**P**	**17 29 53.4**	**+1.1**
	comp=Z,7.5nm,0.4s,mb4.6						
CTA	**Charters Tower**	**32.94**	**265**	P	**P**	**17 29 53.8**	**+1.5**
	comp=Z,8.3nm,0.3s,mb4.7,baz=90,slow=10,SNR=46						
CTA	**Charters Tower**	**32.94**	**265**	*e*P	**P**	**17 29 53.4**	**+1.1**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.4s						
CTAO	**Charters Tower**	**32.94**	**265**	*e*P	**P**	**17 29 53.3**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**32.94**	**265**	*e*P	**P**	**17 29 53.3**	**+1.0**
	comp=Z,18nm,0.8s,mb4.7						
PMG	**Port Moresby**	**34.93**	**284**	*e*P	**P**	**17 30 09.7**	**+0.6**
PMG				pmax	pmax		
	comp=Z,41nm,0.8s						
PMG	**Port Moresby**	**34.93**	**284**	*e*P	**P**	**17 30 09.7**	**+0.5**
	comp=Z,41nm,0.8s,mb5.0						
TOO	**Toolangi**	**35.24**	**234**	*e*P	**P**	**17 30 12.8**	**+1.4**
TAU	**Tasmania Unive**	**35.98**	**225**	*e*P	**P**	**17 30 18.8**	**+1.4**
TAU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
TAU	**Tasmania Unive**	**35.98**	**225**	*e*P	**P**	**17 30 18.8**	**+1.4**
	comp=Z,7.4nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**37.15**	**245**	*e*P	**P**	**17 30 28.7**	**+1.5**
	comp=Z,2.9nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**37.15**	**245**	P	**P**	**17 30 28.8**	**+1.6**
	comp=Z,4.6nm,0.6s,mb4.2,baz=82,slow=9.1,SNR=11						
STKA				S	**S**	**17 35 32.1**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=213,slow=23,SNR=3.1						
ASAR	**Alice Springs**	**43.92**	**257**	P	**P**	**17 31 21.9**	**+0.5**
	comp=Z,4.6nm,0.4s,mb4.3,baz=94,slow=8.1,SNR=320						
ASAR				PcP	PcP	17 32 54.1	-1.0
	comp=Z,3.8nm,0.7s,baz=108,slow=4.4,SNR=14						
ASAR				S	**S**	**17 37 10.8**	**-2.5**
	comp=Z,4.7nm,1.0s,baz=100,slow=16,SNR=28						
WB2	**Warramunga Arr**	**44.02**	**263**	*e*P	**P**	**17 31 22.0**	**-0.1**
WB2				*e*S	**S**	**17 37 10.4**	**-4.4**
WRAB	**Tennant Creek**	**44.03**	**263**	*e*P	**P**	**17 31 22.0**	**-0.1**
WRAB				*e*		17 32 55.0	
WRAB				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**44.03**	**263**	*e*P	**P**	**17 31 22.0**	**-0.1**
	comp=Z,26nm,1.1s,mb4.7						
WRAB				*e*PcP	PcP	17 32 55.0	-0.6
WRA	**Warramunga Arr**	**44.03**	**263**	P	**P**	**17 31 22.1**	**-0.1**
	comp=Z,4.9nm,0.3s,mb4.6,baz=97,slow=6.9,SNR=373						
WRA				PcP	PcP	17 32 55.1	-0.5
	comp=Z,3.3nm,0.8s,baz=92,slow=3.8,SNR=6.0						
WRA				S	**S**	**17 37 10.7**	**-4.2**
	comp=Z,3.8nm,0.8s,baz=97,slow=13,SNR=12						
HKL	**Haleakala**	**46.75**	**29**	*e*P	**P**	**17 31 33.3**	**-9.5**
KAKA	**Kakadu**	**47.47**	**272**	*e*P	**P**	**17 31 48.0**	**-0.4**
	comp=Z,14nm,0.9s,mb4.5						
KAKA				*e*S	**S**	**17 38 02.2**	**-0.9**
FORT	**Forrest**	**48.66**	**247**	*e*P	**P**	**17 31 55.5**	**-1.6**
	comp=Z,9.0nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.46**	**263**	*e*P	**P**	**17 32 25.1**	**+0.2**
	comp=Z,7.6nm,0.6s,mb4.2						
FITZ				*e*S	**S**	**17 39 09.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**52.46**	**263**	S	**S**	**17 39 08.3**	**-2.4**
	comp=Z,1.2nm,0.9s,baz=275,slow=22,SNR=5.8						
BATI	**Baumatta**	**56.42**	**271**	P	**P**	**17 32 54.0**	**+1.3**
	comp=Z,19nm,0.6s,mb4.5,baz=136,slow=4.4,SNR=5.1						
MBWA	**Marble Bar**	**57.26**	**258**	*e*P	**P**	**17 32 58.2**	**-0.2**
	comp=Z,22nm,0.8s,mb4.5						
KLBR	**Kellerberrin**	**57.42**	**245**	*e*P	**P**	**17 32 59.6**	**+0.2**
	comp=Z,16nm,0.6s,mb4.4						
SBA	**Scott Base**	**57.44**	**184**	*e*P	**P**	**17 33 01.4**	**+2.7**
SBA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.7						
SBA	**Scott Base**	**57.44**	**184**	*e*P	**P**	**17 33 01.4**	**+2.7**
	comp=Z,3.3nm,0.6s,mb3.7						
MUN	**Mundaring**	**58.69**	**245**	*e*P	**P**	**17 33 06.1**	**-1.8**
CASY	**Casey**	**63.38**	**205**	*e*P	**P**	**17 33 38.1**	**0.0**
QSPA	**South Pole Qui**	**69.17**	**180**	P	**P**	**17 34 14.8**	**+1.1**
	comp=Z,8.2nm,0.8s,mb4.3,baz=28,slow=1.6,SNR=70						
KKM	**Kota Kinabalu**	**69.36**	**285**	*e*P	**P**	**17 34 16.1**	**0.0**
MJAR	**Matsushiro Arr**	**70.22**	**324**	P	**P**	**17 34 19.7**	**-1.0**
	comp=Z,7.4nm,0.7s,mb4.3,baz=157,slow=5.8,SNR=21						
MAJO	**Matsushiro**	**70.23**	**324**	*e*P	**P**	**17 34 19.9**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.6						
MAJO	**Matsushiro**	**70.23**	**324**	*e*P	**P**	**17 34 19.9**	**-0.8**
	comp=Z,13nm,0.7s,mb4.6						
MAT	**Matsushiro**	**70.23**	**324**	P	**P**	**17 34 20.7**	**0.0**
KSM	**Kuching**	**72.96**	**278**	*e*P	**P**	**17 34 37.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**76.02**	**334**	*e*P	**P**	**17 34 53.0**	**-0.5**
YSS	**Yuzh-Sakhalins**	**76.02**	**334**	*e*P	**P**	**17 34 53.4**	**-0.2**
	comp=Z,23nm,1.1s,mb4.5						
PETK	**Petropavlovsk-**	**76.52**	**346**	P	**P**	**17 34 55.1**	**-1.0**
	comp=Z,15nm,0.8s,mb4.5,baz=145,slow=4.4,SNR=29						
KSRS	**Korea Array**	**76.84**	**319**	P	**P**	**17 34 58.5**	**+0.2**
	comp=Z,4.9nm,0.8s,mb4.0,baz=132,slow=6.1,SNR=27						
GASB	**Alder Springs**	**79.63**	**40**	⇑P	**P**	**17 35 14.3**	**+1.1**
	baz=80						
NJ2	**Nanjing**	**79.74**	**310**	*e*P	**P**	**17 35 15.6**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb4.9						
MONP	**Monument Peak**	**79.86**	**49**	⇑P	**P**	**17 35 14.8**	**+0.2**
	baz=80						
EDW2	**Edwards Air Fo**	**79.87**	**47**	⇑P	**P**	**17 35 14.6**	**0.0**
	baz=80						
O02C	**Red Bluff**	**79.91**	**40**	⇓P	**P**	**17 35 15.4**	**+0.8**
	baz=80						
T06C	**Millerton Lake**	**79.94**	**44**	⇓P	**P**	**17 35 15.8**	**+1.0**
	baz=80						
DVTC	**Desert V Tower**	**79.96**	**49**	⇓P	**P**	**17 35 15.2**	**+0.1**
	baz=80						
N02C	**Big Bar**	**80.00**	**39**	⇓P	**P**	**17 35 15.9**	**+0.8**
	baz=80						
CMB	**Columbia Colle**	**80.10**	**43**	⇑P	**P**	**17 35 15.6**	**-0.1**
	baz=80						
PFO	**Pinyon Flat Ob**	**80.22**	**48**	⇓P	**P**	**17 35 16.5**	**+0.1**
	baz=80						
WDC	**Whiskeytown Da**	**80.31**	**40**	⇑P	**P**	**17 35 16.8**	**+0.1**
	baz=80						
ORV	**Oroville**	**80.31**	**41**	⇑P	**P**	**17 35 16.9**	**+0.1**
	baz=80						
S06C	**San Francisco**	**80.36**	**43**	⇑P	**P**	**17 35 17.0**	**0.0**
	baz=80						
KCC	**Kaiser Creek**	**80.38**	**44**	⇓P	**P**	**17 35 17.4**	**+0.3**
	baz=80,SNR=6.8						
LRMC	**Laurel Mountai**	**80.41**	**46**	⇓P	**P**	**17 35 17.4**	**+0.1**
	baz=80						
MDJ	**Mudanjiang**	**80.55**	**325**	P	**P**	**17 35 17.9**	**+0.1**
MDJ				AP	pP	17 37 15.1	0.0
MDJ				XP	sP	17 38 11.8	+0.7
MDJ				PP	PP	17 38 31.0	-0.8
MDJ				S	S	17 44 39.1	-0.5
MDJ				XS	sS	17 48 09.5	+0.8
MDJ				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.4						
M02C	**Callahan**	**80.63**	**39**	⇓P	**P**	**17 35 18.9**	**+0.5**
	baz=81,SNR=5.2						
R05C	**Kirkwood Meado**	**80.69**	**43**	⇑P	**P**	**17 35 19.4**	**+0.7**
	baz=81						
P05C	**Yuba Gap, Truc**	**80.72**	**42**	⇓P	**P**	**17 35 19.4**	**+0.6**
	baz=81						
BELC	**Belle Mtn.**	**80.76**	**48**	⇓P	**P**	**17 35 19.5**	**+0.4**
	baz=81						
MPMC	**Manual Prospec**	**80.86**	**46**	⇓P	**P**	**17 35 19.8**	**+0.1**
	baz=81,SNR=5.5						
MTUM	**Tungsten Hills**	**80.88**	**44**	*e*P	**P**	**17 35 20.3**	**+0.5**
GSC	**Goldstone**	**80.91**	**47**	⇑P	**P**	**17 35 20.2**	**+0.3**
	baz=81						
YBH	**Yreka Blue Hor**	**80.92**	**39**	P	**P**	**17 35 20.3**	**+0.4**
	comp=Z,8.6nm,0.7s,mb4.3,baz=186,slow=2.2,SNR=17						
YBH	**Yreka Blue Hor**	**80.92**	**39**	*e*P	**P**	**17 35 20.0**	**+0.2**
YBH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YBH	**Yreka Blue Hor**	**80.92**	**39**	⇑P	**P**	**17 35 20.5**	**+0.7**
	baz=81,SNR=6.6						
YBH	**Yreka Blue Hor**	**80.92**	**39**	*e*P	**P**	**17 35 19.9**	**+0.1**
	comp=Z,6.1nm,0.7s,mb4.1						
BC3	**Big Chuckw Mtn**	**80.95**	**49**	⇓P	**P**	**17 35 20.5**	**+0.3**
	baz=81						
HEC	**Hector,Ludlow**	**80.97**	**47**	⇑P	**P**	**17 35 20.3**	**0.0**
	baz=81						
R06C	**Coleville**	**80.99**	**43**	⇑P	**P**	**17 35 20.9**	**+0.7**
	baz=81						
R07C	**Lee Vining**	**80.99**	**44**	⇓P	**P**	**17 35 20.6**	**+0.3**
	baz=81						
MAW	**Mawson**	**81.02**	**200**	P	**P**	**17 35 19.4**	**-0.6**
	comp=Z,2.9nm,0.8s,mb3.8,baz=143,slow=5.2,SNR=6.3						
O04C	**Chester**	**81.03**	**41**	⇑P	**P**	**17 35 20.9**	**+0.5**
	baz=81						
GLA	**Glamis**	**81.08**	**50**	⇑P	**P**	**17 35 21.5**	**+0.7**
	baz=81						
HATC	**Hat Creek Radi**	**81.10**	**40**	⇑P	**P**	**17 35 21.2**	**+0.4**
	baz=81						
BEKR	**Beckwourth**	**81.21**	**41**	⇓P	**P**	**17 35 21.4**	**+0.1**
	baz=81						
S08C	**White Mtn Res**	**81.22**	**44**	⇓P	**P**	**17 35 22.1**	**+0.6**
	baz=81,SNR=12						
WCN	**Washoe City**	**81.25**	**42**	⇓P	**P**	**17 35 22.1**	**+0.6**
	baz=81						
HUMO	**Hull Mountain**	**81.32**	**38**	⇑P	**P**	**17 35 22.3**	**+0.4**
	baz=81,SNR=6.7						
HUMO	**Hull Mountain**	**81.32**	**38**	*e*P	**P**	**17 35 22.7**	**+0.8**
GMRC	**Granite Mounta**	**81.41**	**48**	⇑P	**P**	**17 35 22.4**	**-0.1**
	baz=82						
ELFS	**Eagle Lake Fie**	**81.43**	**41**	⇓P	**P**	**17 35 23.2**	**+0.7**
	baz=82						
IRM	**Iron Mountain**	**81.44**	**49**	⇑P	**P**	**17 35 23.2**	**+0.5**
	baz=82,SNR=5.9						
M04C	**Macdoel**	**81.47**	**39**	⇑P	**P**	**17 35 22.5**	**-0.1**
	baz=82						
GRAC	**Grapevine Rang**	**81.47**	**45**	⇑P	**P**	**17 35 22.9**	**+0.1**
	baz=82,SNR=7.1						
FURC	**Furnace Creek,**	**81.52**	**46**	⇓P	**P**	**17 35 23.0**	**-0.1**
	baz=82						
TUQ	**Turquoise Mtn.**	**81.58**	**47**	⇓P	**P**	**17 35 23.6**	**+0.1**
	baz=82						
M05C	**Lookout**	**81.62**	**40**	⇓P	**P**	**17 35 23.7**	**+0.2**
	baz=82,SNR=5.1						
NVAR	**Mina Array Bea**	**81.67**	**44**	P	**P**	**17 35 23.8**	**0.0**
	comp=Z,5.2nm,0.7s,mb4.1,baz=225,slow=8.6,SNR=35						
113A	**Mohawk Valley,**	**81.69**	**50**	⇑P	**P**	**17 35 24.3**	**+0.3**
	baz=82						
PAHR	**Pah Rah Range**	**81.72**	**42**	*e*P	**P**	**17 35 24.4**	**+0.4**
U10A	**Ash Meadows, A**	**81.84**	**46**	⇓P	**P**	**17 35 25.0**	**+0.3**
	baz=82						
214A	**Organ Pipe Nat**	**81.97**	**52**	⇓P	**P**	**17 35 25.6**	**+0.1**
	baz=82						
N06A	**Buffalo Meadow**	**82.05**	**41**	⇓P	**P**	**17 35 25.9**	**+0.2**
	baz=82,SNR=6.5						
Q08A	**Gabbs**	**82.15**	**43**	⇓P	**P**	**17 35 26.2**	**0.0**
	baz=82						
TPH	**Tonopah**	**82.17**	**44**	*e*P	**P**	**17 35 26.3**	**0.0**
Y13A	**Salome**	**82.19**	**49**	⇑P	**P**	**17 35 26.8**	**+0.3**
	baz=82						
TPNV	**Topopah Spring**	**82.19**	**46**	⇓P	**P**	**17 35 26.5**	**+0.1**
	baz=82						
TPNV	**Topopah Spring**	**82.19**	**46**	*e*P	**P**	**17 35 26.4**	**-0.1**
J04A	**Umpqua Nationa**	**82.20**	**38**	⇓P	**P**	**17 35 26.9**	**+0.6**
	baz=82,SNR=5.4						
PDMCI	**Parker Dam,Lak**	**82.22**	**49**	⇑P	**P**	**17 35 26.6**	**0.0**
	baz=82						
L05A	**Lakeview**	**82.22**	**39**	⇑P	**P**	**17 35 27.1**	**+0.6**
	baz=82						
WHN	**Wuhan**	**82.26**	**307**	P	**P**	**17 35 26.5**	**-0.5**
CN2	**Changchun**	**82.30**	**323**	*e*P	**P**	**17 35 26.1**	**-0.7**
CN2				*e*XP	sP	17 38 21.0	+0.4
CN2				*e*S	S	17 44 57.3	0.0
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
O07A	**Toulon**	**82.30**	**42**	⇓P	**P**	**17 35 26.9**	**-0.1**
	baz=82,SNR=9.5						
R09A	**Tonopah**	**82.36**	**44**	⇓P	**P**	**17 35 27.1**	**-0.1**
	baz=82,SNR=12						
I04A	**Tendick Farm,**	**82.38**	**37**	⇓P	**P**	**17 35 27.2**	**-0.1**
	baz=82						
MOD	**Modoc**	**82.45**	**40**	⇑P	**P**	**17 35 27.5**	**-0.1**
	baz=82,SNR=8.9						
MOD	**Modoc**	**82.45**	**40**	*e*P	**P**	**17 35 27.2**	**-0.4**
	comp=Z,4.1nm,0.5s,mb4.1						
S10A	**Tonopah Range,**	**82.50**	**45**	⇑P	**P**	**17 35 28.2**	**+0.2**
	baz=83,SNR=31						
X13A	**Yucca**	**82.59**	**49**	⇑P	**P**	**17 35 28.6**	**+0.1**
	baz=83,SNR=6.9						
K05A	**Summer Lake**	**82.60**	**39**	⇑P	**P**	**17 35 28.8**	**+0.4**
	baz=83,SNR=7.0						
N07B	**Gerlach**	**82.60**	**41**	⇑P	**P**	**17 35 28.5**	**+0.1**
	baz=83						
KLR	**Kul'dur**	**82.61**	**330**	*e*P	**P**	**17 35 23.9**	**-4.3**
J05A	**Fort Rock**	**82.73**	**38**	⇑P	**P**	**17 35 29.6**	**+0.5**
	baz=83,SNR=21						
W13A	**Hualapai Mount**	**82.81**	**48**	⇑P	**P**	**17 35 30.0**	**+0.3**
	baz=83,SNR=5.2						
O08A	**Rochester Mine**	**82.83**	**42**	⇓P	**P**	**17 35 29.6**	**0.0**
	baz=83						
M07A	**Soldier Meadow**	**82.83**	**41**	⇓P	**P**	**17 35 29.7**	**+0.1**
	baz=83,SNR=5.5						
Y14A	**Wickenburg**	**82.84**	**50**	⇑P	**P**	**17 35 30.2**	**+0.4**
	baz=83						
R10A	**Warm Springs**	**82.89**	**45**	⇓P	**P**	**17 35 30.0**	**+0.1**
	baz=83,SNR=8.6						
K06A	**Valley Falls**	**83.02**	**39**	⇓P	**P**	**17 35 30.7**	**+0.3**
	baz=83,SNR=9.5						
T11A	**Corn Creek, Al**	**83.04**	**46**	⇑P	**P**	**17 35 30.8**	**0.0**
	baz=83,SNR=9.4						
H04A	**Detroit Lake**	**83.05**	**37**	⇑P	**P**	**17 35 30.1**	**-0.5**
	baz=83,SNR=6.2						
U12A	**Valley of Fire**	**83.07**	**47**	⇓P	**P**	**17 35 31.4**	**+0.5**
	baz=83						
116A	**Eloy**	**83.08**	**51**	⇓P	**P**	**17 35 31.3**	**+0.2**
	baz=83						
L07A	**Adell**	**83.10**	**40**	⇑P	**P**	**17 35 31.1**	**+0.2**
	baz=83,SNR=7.9						
N08A	**GE Springer Mi**	**83.12**	**42**	⇓P	**P**	**17 35 30.8**	**-0.2**
	baz=83,SNR=8.3						
Q10A	**Clear Creek Ra**	**83.12**	**44**	⇓P	**P**	**17 35 31.3**	**+0.2**
	baz=83						
V13A	**Grand Canyon W**	**83.14**	**48**	⇓P	**P**	**17 35 30.9**	**-0.4**
	baz=83,SNR=7.2						
X14A	**Yava**	**83.19**	**49**	⇓P	**P**	**17 35 31.7**	**+0.2**
	baz=83						
Y15A	**Casa Rosa Ranc**	**83.32**	**50**	⇓P	**P**	**17 35 32.4**	**+0.2**
	baz=83,SNR=5.2						
217A	**Green Valley**	**83.34**	**53**	⇑P	**P**	**17 35 32.8**	**+0.5**
	baz=83,SNR=5.8						
J06A	**Christmas Vall**	**83.35**	**39**	⇓P	**P**	**17 35 31.9**	**-0.2**
	baz=83,SNR=7.8						
M08A	**Happy Creek Ra**	**83.35**	**41**	⇓P	**P**	**17 35 32.4**	**+0.2**
	baz=83,SNR=5.8						
O09A	**Fish Creek Ran**	**83.36**	**43**	⇓P	**P**	**17 35 32.2**	**-0.1**
	baz=83						
R11A	**Troy Canyon, C**	**83.39**	**45**	⇑P	**P**	**17 35 31.6**	**-0.9**
	baz=84						
W14A	**Seligman**	**83.44**	**49**	⇓P	**P**	**17 35 33.0**	**+0.2**
	baz=84,SNR=6.7						
U13A	**Pakoon Wash**	**83.45**	**47**	⇓P	**P**	**17 35 32.8**	**0.0**
	baz=84,SNR=6.8						
S12A	**Delamar Landin**	**83.48**	**46**	⇑P	**P**	**17 35 33.2**	**+0.3**
	baz=84,SNR=5.0						
P10A	**Eureka**	**83.52**	**43**	⇓P	**P**	**17 35 33.1**	**0.0**
	baz=84						
N09A	**Rock Creek Ran**	**83.54**	**42**	⇑P	**P**	**17 35 33.2**	**0.0**
	baz=84						
K07A	**Rock Creek Ran**	**83.55**	**40**	⇑P	**P**	**17 35 33.4**	**+0.2**
	baz=84,SNR=7.2						
Q11A	**Duckwater**	**83.62**	**44**	⇑P	**P**	**17 35 34.0**	**+0.5**
	baz=84						
V14A	**Boquillas Ranc**	**83.64**	**48**	⇑P	**P**	**17 35 34.2**	**+0.5**
	baz=84,SNR=9.4						
X15A	**Humboldt**	**83.66**	**50**	⇓P	**P**	**17 35 34.4**	**+0.5**
	baz=84						
F04A	**Amboy**	**83.70**	**36**	⇓P	**P**	**17 35 33.8**	**0.0**
	baz=84						
I06A	**Prineville**	**83.73**	**38**	⇑P	**P**	**17 35 34.5**	**+0.5**
	baz=84,SNR=9.8						
WVOR	**Wild Horse Val**	**83.77**	**40**	*e*P	**P**	**17 35 33.7**	**-0.5**
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.1						
WVOR	**Wild Horse Val**	**83.77**	**40**	*e*P	**P**	**17 35 33.7**	**-0.5**
	comp=Z,8.3nm,1.4s,mb4.1						
117A	**Oracle**	**83.79**	**52**	⇓P	**P**	**17 35 35.2**	**+0.6**
	baz=84						
L08A	**Fields**	**83.80**	**40**	⇓P	**P**	**17 35 34.8**	**+0.5**
	baz=84						
VIPM	**Ingram Point**	**83.83**	**38**	P	**P**	**17 35 34.6**	**+0.1**
Y16A	**Circle Bar Ran**	**83.90**	**50**	⇑P	**P**	**17 35 35.1**	**0.0**
	baz=84						
M09A	**Marrel Ranch,**	**83.91**	**41**	⇓P	**P**	**17 35 35.3**	**+0.3**
	baz=84						
J07A	**Hines**	**83.91**	**39**	⇓P	**P**	**17 35 35.5**	**+0.6**
	baz=84						
U14A	**Mt Trumbull**	**83.99**	**48**	⇑P	**P**	**17 35 35.8**	**+0.4**
	baz=84,SNR=8.0						
218A	**Dragoon**	**84.01**	**53**	⇓P	**P**	**17 35 36.3**	**+0.6**
	baz=84,SNR=6.0						
K08A	**Mann Creek Ran**	**84.03**	**40**	⇓P	**P**	**17 35 35.5**	**0.0**
	baz=84,SNR=8.3						
R12A	**Pony Springs,**	**84.03**	**45**	⇑P	**P**	**17 35 35.3**	**-0.3**
	baz=84						
H06A	**Lindquist Farm**	**84.13**	**38**	⇑P	**P**	**17 35 36.0**	**+0.1**
	baz=84,SNR=12						
X16A	**Lo Mia Camp, P**	**84.20**	**50**	⇓P	**P**	**17 35 36.8**	**+0.3**
	baz=84,SNR=5.0						
I07A	**Izee**	**84.22**	**38**	⇑P	**P**	**17 35 36.4**	**0.0**
	baz=84,SNR=7.5						
G06A	**Carlson Farm,**	**84.26**	**37**	⇑P	**P**	**17 35 36.4**	**-0.2**
	baz=84						
Q12A	**Willow Creek R**	**84.27**	**45**	⇑P	**P**	**17 35 36.8**	**+0.1**
	baz=84						
319A	**Douglas**	**84.30**	**54**	⇑P	**P**	**17 35 37.5**	**+0.4**
	baz=84						
R13A	**O'Grain Ranch,**	**84.38**	**46**	⇓P	**P**	**17 35 38.0**	**+0.7**
	baz=84						
V15A	**Kaibab Nationa**	**84.38**	**48**	⇓P	**P**	**17 35 38.6**	**+1.2**
	baz=84						
118A	**Homack Ranch,**	**84.39**	**52**	⇑P	**P**	**17 35 38.3**	**+0.7**
	baz=84,SNR=5.7						
J08A	**Circle Bar Ran**	**84.40**	**39**	⇑P	**P**	**17 35 37.2**	**-0.1**
	baz=84,SNR=6.3						
P12A	**McGill**	**84.45**	**44**	⇓P	**P**	**17 35 37.6**	**0.0**
	baz=84						
E05A	**Randle**	**84.45**	**35**	⇑P	**P**	**17 35 38.0**	**+0.5**
	baz=84						
K09A	**Rome**	**84.47**	**40**	⇓P	**P**	**17 35 37.6**	**0.0**
	baz=84,SNR=8.0						
H07A	**Lands Inn, Kim**	**84.49**	**38**	⇑P	**P**	**17 35 37.6

SYO	Syowa Base	86.23	193	⇓	ePcP	PcP	17 35 45.2	-2.3
D08A	Wollman Farm,	86.31	36	⇓	P	P	17 35 46.2	-0.2
	baz=86,SNR=5.2							
G10A	Bishop Farm, J	86.31	38	⇓	P	P	17 35 46.2	-0.3
	baz=86,SNR=12							
J12A	Stokes Ranch,	86.38	41	⇑	P	P	17 35 47.0	+0.2
	baz=86,SNR=7.3							
GYA	Guiyang	86.40	300	⇓	iP	P	17 35 47.4	+0.1
GYA					AP	pP	17 37 49.0	+2.3
GYA					XP	sP	17 38 46.3	+4.1
GYA					SKS		17 45 18.8	
GYA					S	S	17 45 35.5	-2.3
GYA					AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4							
GYA					AMB	AMB		
	comp=Z,100nm,6.0s							
E09A	Wood Farm, Sta	86.42	37	⇓	P	P	17 35 46.3	-0.6
	baz=86,SNR=5.9							
L13A	Double Diamond	86.47	42	⇓	P	P	17 35 47.4	+0.1
	baz=86							
B07A	Winthrop	86.49	35	⇓	P	P	17 35 46.8	-0.4
	baz=87,SNR=5.8							
M14A	Sheep Mountain	86.53	43	⇓	P	P	17 35 47.5	-0.2
	baz=87							
OD2	Odessa Site #2	86.62	36	e	P	P	17 35 47.2	-0.6
H11A	Donnelly	86.62	39	⇓	P	P	17 35 47.9	0.0
	baz=87,SNR=5.3							
F10A	Beach Ranch, E	86.63	38	⇓	P	P	17 35 47.5	-0.5
	baz=87,SNR=22							
T18A	Mexican Hat	86.64	48	⇑	P	P	17 35 48.4	+0.2
	baz=87,SNR=10							
D09A	Jones Farm, Ri	86.65	36	⇓	P	P	17 35 47.8	-0.2
	baz=87,SNR=6.1							
C08A	Higginbotham F	86.67	36	⇓	P	P	17 35 47.4	-0.7
	baz=87							
R17A	Hanksville Air	86.70	47	⇑	P	P	17 35 48.1	-0.4
	baz=87							
A07A	Ashnola River,	86.71	34	⇓	P	P	17 35 47.7	-0.5
	baz=87,SNR=6.5							
B08A	Colville Reser	86.85	35	⇓	P	P	17 35 48.4	-0.5
	baz=87,SNR=7.4							
G11A	Walters Elk Ra	86.86	39	⇑	P	P	17 35 48.7	-0.4
	baz=87,SNR=25							
TRF	Thorofare Moun	86.95	12	e	P	P	17 35 47.1	-1.9
	comp=Z,20nm,0.7s,mb4.8							
HLID	Hailey	86.96	41	⇑	P	P	17 35 49.7	+0.2
	baz=87,SNR=8.6							
HLID	Hailey	86.96	41	e	P	P	17 35 49.2	-0.3
	comp=Z,5.0nm,1.0s,mb4.1							
E10A	Myers Farm, Un	86.99	37	⇓	P	P	17 35 49.9	+0.3
	baz=87							
J13A	Cove Ranch, Pi	87.02	41	⇓	P	P	17 35 49.9	0.0
	baz=87,SNR=6.6							
C09A	Chrisman Ranch	87.10	36	⇓	P	P	17 35 49.4	-0.7
	baz=87							
SRU	San Rafael	87.17	46	e	P	P	17 35 49.7	-1.0
SRU					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9							
SRU	San Rafael	87.17	46	⇓	P	P	17 35 50.9	+0.2
	baz=87							
SRU	San Rafael	87.17	46	e	P	P	17 35 49.7	-0.9
	comp=Z,2.4nm,0.6s,mb4.0							
F11A	Grangeville	87.20	38	⇓	P	P	17 35 49.2	-1.4
	baz=87							
D10A	Wagner Farm, O	87.22	37	⇓	P	P	17 35 50.2	-0.5
	baz=87							
A08A	Turner Farm, O	87.24	35	⇑	P	P	17 35 50.2	-0.5
	baz=87,SNR=9.1							
R18A	Canyonlands Na	87.24	47	⇑	P	P	17 35 50.6	-0.4
	baz=87							
I13A	Wildhorse Cree	87.33	41	⇑	P	P	17 35 51.2	-0.1
	baz=87,SNR=6.2							
J14A	Carey	87.39	41	⇓	P	P	17 35 51.8	+0.3
	baz=88							
L15A	Malad City	87.41	43	⇓	P	P	17 35 51.1	-0.7
	baz=88							
Q18A	Rafter H Ranch	87.43	46	⇓	P	P	17 35 51.5	-0.4
	baz=88,SNR=5.5							
E11A	Bogner Ranch,	87.43	38	⇓	P	P	17 35 50.9	-0.8
	baz=88							
S19A	Harvey Farm, M	87.45	48	⇓	P	P	17 35 51.3	-0.7
	baz=88							
MCK	McKinley	87.47	13	e	P	P	17 35 49.5	-2.0
MCK					pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6							
MCK	McKinley	87.47	13	e	P	P	17 35 49.5	-1.9
	comp=Z,11nm,0.7s,mb4.6							
B09A	Rice	87.53	35	⇑	P	P	17 35 51.5	-0.6
	baz=88,SNR=6.7							
O17A	Robinson Place	87.56	45	⇓	P	P	17 35 53.1	+0.6
	baz=88							
H13A	Challis	87.60	40	⇑	P	P	17 35 52.7	+0.2
	baz=88							
P18A	Preston Nutter	87.61	46	⇑	P	P	17 35 52.5	-0.2
	baz=88							
A09A	Danville	87.62	35	⇓	P	P	17 35 52.2	-0.3
	baz=88,SNR=5.1							
SNAA	Sanae	87.63	179	e	P	P	17 35 51.1	-1.2
SNAA				e			17 35 52.5	
SNAA				e			17 37 59.7	
R19A	Curley Farm, L	87.63	47	⇑	P	P	17 35 52.2	-0.7
	baz=88							
F12A	Elk City	87.65	39	⇑	P	P	17 35 52.6	-0.2
	baz=88,SNR=24							
D11A	Klaveano Farm,	87.75	37	⇓	P	P	17 35 52.9	-0.2
	baz=88							
I14A	Mackay	87.75	41	⇑	P	P	17 35 54.3	+1.0
	baz=88							
VNA3	Neumayer Olymp	87.78	176	e	P	P	17 35 52.1	-0.9
VNA3				e			17 35 53.1	
VNA3				e			17 36 07.9	
VNA3				e			17 37 59.5	
G13A	Cobalt	87.90	40	⇓	P	P	17 35 53.6	-0.3
	baz=88,SNR=9.8							
HYT	Haines Junctio	87.92	19	e	P	P	17 35 53.5	-0.1
Q19A	Hogan Spring (	87.95	47	⇓	P	P	17 35 54.2	-0.2
	baz=88							
XAN	Xi'an	87.96	308		P	P	17 35 54.5	0.0
XAN					AMB	AMB		
	comp=Z,18nm,0.9s,mb4.8							
XAN					AMB	AMB		
	comp=Z,23nm,5.0s							
NEW	Newport	88.00	36		P	P	17 35 52.0	-2.3
NEW					pmax	pmax		
	comp=Z,5.0nm,1.0s							
NEW	Newport	88.00	36		P	P	17 35 52.0	-2.3
	comp=Z,5.3nm,1.0s,mb4.2							
ANMO	Albuquerque	88.06	51	e	P	P	17 35 53.6	-1.3
ANMO					pmax	pmax		
	comp=Z,7.0nm,1.2s							
ANMO	Albuquerque	88.06	51	e	P	P	17 35 53.6	-1.3
	comp=Z,7.4nm,1.2s,mb4.3							
J15A	Blackfoot	88.10	42	⇑	P	P	17 35 55.3	+0.4
	baz=88							
H14A	Leadore	88.16	40	⇑	P	P	17 35 55.6	+0.4
	baz=88							
A10A	Northport	88.17	35	⇓	P	P	17 35 54.6	-0.4
	baz=88							
F13A	Darby	88.21	39	⇓	P	P	17 35 54.9	-0.4
	baz=88,SNR=9.0							
VNA2	Neumayer--Watz	88.22	177	e	P	P	17 35 54.3	-0.7
VNA2				e			17 35 55.5	
VNA2				e			17 36 10.0	
VNA2				e			17 38 03.0	
G14A	Jackson	88.44	40	⇓	P	P	17 35 56.2	-0.2
	baz=88							
VNA1	Neumayer--Stat	88.44	177	e	P	P	17 35 56.2	+0.1
VNA1				e			17 35 56.9	
VNA1				e			17 36 12.2	
VNA1				e			17 38 05.9	
B11A	Sandpoint	88.51	36	⇓	P	P	17 35 56.2	-0.5
	baz=89,SNR=5.4							
J16A	Bone	88.55	42	⇑	P	P	17 35 57.4	+0.4
	baz=89,SNR=11							
MCMT	McKenzie Canyo	88.59	40	e	P	P	17 35 57.2	0.0
H15A	Lima	88.60	41	⇑	P	P	17 35 57.6	+0.4
	baz=89							
N18A	Larsen Ranch,	88.66	45	⇓	P	P	17 35 57.5	-0.1
	baz=89,SNR=5.3							
COLA	College	88.70	13	e	P	P	17 35 55.0	-2.2
COLA					pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9							
COLA	College	88.70	13	e	P	P	17 35 55.0	-2.2
	comp=Z,18nm,0.9s,mb4.9							
RRI2	Red Ridge	88.77	42	e	P	P	17 35 58.2	+0.2
	comp=Z,6.9nm,0.7s,mb4.6							
A11A	Hall Mountain,	88.81	36	⇓	P	P	17 35 58.5	+0.4
	baz=89,SNR=6.4							
G15A	Dillon	88.98	40	⇓	P	P	17 35 59.1	+0.2
	baz=89,SNR=6.0							
E14A	Clinton	89.04	39	⇓	P	P	17 35 58.9	-0.3
	baz=89							
KMI	Kunming	89.07	297	⇓	P	P	17 36 00.6	+0.7
KMI					AP	pP	17 38 02.1	+2.0
KMI					PP	PP	17 39 42.9	+2.6
KMI					S	S	17 46 01.5	-1.1
KMI					SS	SS	17 52 15.5	+2.3
KMI					AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8							
KMI					AMB	AMB		
	comp=Z,34nm,3.1s							
REDW	Red Top Meadow	89.08	42	e	P	P	17 35 58.9	-0.5
	comp=Z,16nm,1.2s,mb4.7							
A12A	Yaak River Ran	89.18	36	⇑	P	P	17 35 59.9	+0.2
	baz=89							
HHC	Hu-ho-hao-te	89.26	315	e	P	P	17 36 01.0	+0.6
HHC					AP	pP	17 38 00.5	-0.2
HHC					PP	PP	17 39 44.6	+3.2
HHC					S	S	17 46 04.3	+0.7
HHC					SS	SS	17 52 17.1	+1.7
HHC					AMB	AMB		
	comp=Z,17nm,1.0s,mb4.8							
HHC					AMB	AMB		
	comp=Z,75nm,5.4s							
IMW	Indian Meadow	89.29	42	e	P	P	17 36 00.1	-0.3
	comp=Z,16nm,1.2s,mb4.7							
LOHW	Long Hollow	89.36	42	e	P	P	17 36 00.1	-0.6
	comp=Z,3.5nm,0.6s,mb4.4							
BILL	Bilibino	89.38	354	⇑	eP	P	17 36 00.6	+0.3
BILL							17 39 48.0	
BILL					pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.4							
B13A	Whitefish	89.53	37	⇑	P	P	17 36 00.7	-0.7
	baz=90							
PDAR	Pinedale Array	89.61	43		P	P	17 36 01.1	-0.8
	comp=Z,5.3nm,0.7s,mb4.5,baz=210,slow=2.6,SNR=36							
BOZ	Bozeman (W)	89.75	40	e	P	P	17 36 02.2	-0.3
BOZ					pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0							
BOZ	Bozeman (W)	89.75	40	⇑	P	P	17 36 02.8	+0.3
	baz=90							
BOZ	Bozeman (W)	89.75	40	e	P	P	17 36 02.2	-0.3
	comp=Z,2.4nm,0.8s,mb4.1							
CMAR	Chiang Mai Arr	89.76	290		P	P	17 36 04.2	+1.1
	comp=Z,11nm,0.9s,mb4.7,baz=122,slow=3.0,SNR=65							
CHTO	Chiang Mai	89.89	290	e	P	P	17 36 04.0	+0.2
CHTO					pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8							
CHTO	Chiang Mai	89.89	290	e	P	P	17 36 04.0	+0.2
	comp=Z,12nm,0.8s,mb4.8							
D15A	Lincoln	89.94	39	⇓	P	P	17 36 03.3	-0.1
	baz=90							
DAWY	Dawson	89.98	16	e	P	P	17 36 01.9	-1.3
SDCO	Great Sand Dun	90.00	49	e	P	P	17 36 03.2	-0.7
EGAK	Eagle	90.12	15	e	P	P	17 36 02.2	-1.6
	comp=Z,18nm,1.1s,mb4.8							
WALA	Waterton Lakes	90.21	36		P	P	17 36 03.9	-0.7
CD2	Chengdu	90.57	303	e	P	P	17 36 07.3	+0.6
CD2					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
CD2					AMB	AMB		
	comp=Z,20nm,8.4s							
YAK	Yakutsk	92.29	338	e	P	P	17 36 10.3	-3.5
YAK					pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9							
YAK					pmax	pmax		
	comp=N,3.0nm,1.0s							
YAK	Yakutsk	92.29	338	e	P	P	17 36 11.5	-2.3
	comp=N,16nm,0.8s,mb5.1							
LZH	Lanzhou	92.60	308	e	P	P	17 36 16.5	+0.6
LZH					AP	pP	17 38 17.5	+0.9
LZH					AMB	AMB		
	comp=Z,23nm,1.0s,mb5.2							
LZH					AMB	AMB		
	comp=Z,49nm,4.0s							
SONM	Songino Array	95.71	319		P	P	17 36 29.4	-0.4
	comp=Z,0.3nm,0.4s,mb3.9,baz=72,slow=4.7,SNR=3.4							
ZALV	Zalesovo Beam	110.48	321		PKiKP	PKiKP	17 41 30.1	-2.3
	comp=Z,2.0nm,0.6s,baz=157,slow=1.1,SNR=10							
ZAL	Zalesovo	110.49	321		PKiKP	PKiKP	17 41 30.1	-2.3
MKAR	Makanchi Array	111.09	313		PKiKP	PKiKP	17 41 31.7	-2.2
	comp=Z,1.4nm,0.7s,baz=73,slow=2.3,SNR=17							
MKAR	Makanchi Array	111.09	313		PKPdf	PKiKP	17 41 31.7	-2.2
ARU	Arti	125.23	325	i	PKIKP	PKPdf	17 41 58.5	-2.2
BOSA	Boshof	125.67	206		PKP	PKPdf	17 42 01.1	-1.5
	comp=Z,2.2nm,0.8s,baz=194,slow=4.2,SNR=3.0							
ARCES	ARCESS Array B	129.22	349		PKP	PKPdf	17 42 05.9	-2.0
	comp=Z,3.0nm,0.5s,baz=28,slow=1.2,SNR=18							
JOF	Joensuu	133.35	342	ep		PKPdf	17 42 14.0	-1.9
	comp=Z,5.5nm,0.6s							
JOF	Joensuu	133.35	342	ep		PKPdf	17 42 14.0	-1.9
	comp=Z,5.5nm,0.6s							
KAF	Kangasniemi	135.39	344	ep		PKPdf	17 42 18.0	-1.7
	comp=Z,4.1nm,0.6s							
KAF	Kangasniemi	135.39	344	ep		PKPdf	17 42 18.0	-1.7
	comp=Z,4.1nm,0.6s							
OBN	Obninsk	136.86	331	i	PKIKP	PKPdf	17 42 23.0	+0.4
KMBO	Kilima Mbogo	138.70	242		PKP	PKPdf	17 42 27.9	+0.5
	comp=Z,1.0nm,0.4s,baz=77,slow=3.5,SNR=5.0							
NB2	NORSAR Subarra	139.31	353		PKP		17 42 17.0	
	comp=Z,1.9nm,0.7s,baz=13,slow=3.2							
NOA	NORSAR Array B	139.31	353		PKhKP		17 42 17.1	
	comp=Z,2.4nm,0.7s,baz=12,slow=2.3,SNR=11							
NOA					PKP	PKPdf	17 42 26.7	-0.3
	comp=Z,1.4nm,0.6s,baz=14,slow=4.0,SNR=5.3							
NOA	NORSAR Array B	139.31	353		PKP		17 42 17.1	
NOA					PKP	PKPdf	17 42 26.7	-0.3
ANN	Anapa	141.97	317	i	PKHKP		17 42 11.5	
ANN					pmax	pmax		
	comp=Z,85nm,1.4s							
SUW	Suwalki	143.02	339	e	PKP	PKPdf	17 42 30.5	-3.3
SUW	Suwalki	143.02	339	e	PKP	PKPdf	17 42 30.5	-3.3
AKASG	Malin Array Be	143.11	330		PKP	PKPdf	17 42 29.9	-4.1
	comp=Z,36nm,0.7s,baz=43,slow=4.2,SNR=233							
AKASG					SKPbc	SKPbc	17 45 17.9	-2.9
	comp=Z,2.3nm,0.9s,baz=42,slow=1.9,SNR=6.0							
AKASG	Malin Array Be	143.11	330		PKP	PKPdf	17 42 29.9	-4.1
AKASG					SKPbc	SKPbc	17 45 17.9	-2.9
KIEV	Kiev	143.12	330	e	PKHKP		17 42 29.6	
MALT	Malatya	143.76	307	⇓	iP	PKPdf	17 42 34.4	-1.2
MALT	Malatya	143.76	307	e	PKPdf	PKPdf	17 42 34.5	-1.1
SIM	Simferopol'	143.96	319	d	iPKHKP		17 42 33.7	
SIM					pmax	pmax		
	comp=Z,52nm,0.8s							
KIS	Kishinev	145.78	326	e	PKP	PKPdf	17 42 38.0	-0.8
LVV	L'vov	146.03	334	e	PKHKP		17 42 38.2	
BSEG	Bad Segeberg	146.33	351	e	PKPbc	PKPbc	17 42 40.7	-1.1
KWP	Kalwaria	146.72	335	e	PKP	PKPbc	17 42 42.0	-1.0
KWP				e			17 42 45.1	
KWP	Kalwaria	146.72	335	⇓	iP	PKPbc	17 42 42.3	-0.7
KWP	Kalwaria	146.72	335	e	PKP	PKPdf	17 42 41.9	+1.6
KWP				e			17 42 45.1	
RUE	Ruedersdorf	147.06	346	e	PKPbc	PKPbc	17 42 42.5	-1.3
BURAR	Bucovina Array	147.15	330	⇓	iP	PKPbc	17 42 43.9	-0.3
BURAR	Bucovina Array	147.15	330	⇓	P	PKPbc	17 42 43.9	-0.3
ANTO	Ankara	147.25	312	⇑	iP	PKPbc	17 42 44.1	-0.6
ANTO	Ankara	147.25	312	e	PKPbc	PKPbc	17 42 43.4	-1.3
OJC	Ojcow	147.34	338	e	PKP	PKPbc	17 42 43.3	-1.3
KOLS	Kolonicke sedl	147.45	334	e	PKP	PKPbc	17 42 44.5	-0.4
STHS	Stebnicka Huta	147.47	336	e	PKP	PKPbc	17 42 44.6	-0.4
STHS				e			17 42 49.5	
TIRR	Tirgusor	147.60	323	⇓	iP	PKPbc	17 42 44.5	-1.0
TIRR	Tirgusor	147.60	323	e	PKPbc	PKPbc	17 42 43.7	-1.8
TIRR				e	PKPab	PKPab	17 42 49.1	-0.5
VRI	Vrincioaia	147.61	326	⇑	iP	PKPbc	17 42 44.4	-1.1
UZH	Uzhgorod	147.68	334	⇓	iPKIKP	PKPbc	17 42 44.0	-1.5
NRDL	Niedersach Rie	147.76	350	e	PKPbc	PKPbc	17 42 44.4	-1.2
CRVS	Cervenica-Dubn	147.80	335	e	PKP	PKPbc	17 42 44.9	-0.9
CRVS				e			17 42 49.9	
NIE	Niedzica	147.82	337	e	PKP	PKPbc	17 42 45.4	-0.5
KSP	Ksiaz	147.91	342	e	PKP	PKPbc	17 42 45.2	-0.8
KSP	Ksiaz	147.91	342	e	PKP2	PKPab	17 42 50.1	-0.5
KSP	Ksiaz	147.91	342	e	PKPab	PKPbc	17 42 45.4	-0.6
KSP				e	PKPab	PKPab	17 42 50.1	-0.5
OKC	Ostrava-Krasne	148.22	339	⇑	ePKP	PKPbc	17 42 45.8	-1.1
OKC				e	PKPAB	PKPab	17 42 51.2	-0.8
IBBN	Ibbenburen	148.27	353	e	PKPbc	PKPbc	17 42 45.7	-1.2
MLR	Muntele Rosu	148.27	326	⇓	iP	PKPbc	17 42 46.0	-1.1
MLR	Muntele Rosu	148.27	326	⇓	P	PKPbc	17 42 46.0	-1.2
UPC	Upice	148.29	342	⇑	ePKP	PKPbc	17 42 46.1	-0.9
UPC				e	PKPAB	PKPab	17 42 51.4	-0.8
CLL	Collm	148.33	346	e	PKPbc	PKPbc	17 42 45.9	-1.2
CLL				e	PKPab	PKPab	17 42 51.0	-1.3
CLL	Collm	148.33	346	⇓	iPKPbc	PKPbc	17 42 45.9	-1.2
	comp=Z,33nm,0.9s							
CLL				⇑	iPKPab	PKPab	17 42 50.8	-1.5
	comp=Z,20nm,0.7s							
DPC	Dobruska-Polom	148.34	342	⇑	ePKP	PKPbc	17 42 46.4	-0.7
DPC				e	PKPAB	PKPab	17 42 52.2	-0.2
MORC	Moravsky Berou	148.47	340	⇑	iP	PKPbc	17 42 46.7	-0.8
MORC	Moravsky Berou	148.47	340	e	PKPbc	PKPbc	17 42 46.6	-0.8
MORC				e	PKPab	PKPab	17 42 52.4	-0.5
BRG	Berggiesshubel	148.51	345	e	PKPbc	PKPbc	17 42 46.5	-1.0
BRG				e	PKPab	PKPab	17 42 52.2	-0.9
BRG	Berggiesshubel	148.51	345	i	PKP	PKPbc	17 42 46.5	-1.0
	comp=Z,19nm,0.9s							
BRG				i			17 42 52.0	
	comp=Z,11nm,0.8s							
KECS	Kecovo	148.52	335	e	PKP	PKPbc	17 42 46.8	-0.8
KECS				e			17 42 52.6	
FBE	Freiberg	148.61	345	e	PKPbc	PKPbc	17 42 47.0	-0.8
FBE				e	PKPab	PKPab	17 42 52.7	-0.8
PVCC	Panska Ves	148.67	344	e	PKP	PKPbc	17 42 46.6	-1.3
WTSB	Winterswijk	148.71	354	e	PKP	PKPbc	17 42 46.6	-1.4
	comp=Z,46nm,1.0s							
DRGR		148.91	331	⇑	iP	PKPbc	17 42 47.8	-0.9
DRGR		148.91	331	⇑	P	PKPbc	17 42 47.8	-0.9
VYHS	Vyhne	149.13	337	e	PKP	PKPbc	17 42 48.0	-1.1
VYHS				e			17 42 55.1	
PRU	Pruhonice	149.17	343	⇑	ePKP	PKPbc	17 42 47.9	-1.3
PRU				e	PKPAB	PKPab	17 42 54.9	-0.9
BUG	Bochum--Univer	149.18	353	e	PKPbc	PKPbc	17 42 47.8	-1.3
VRAC	Vranov	149.19	340	⇑	iP	PKPbc	17 42 48.6	-0.6
VRAC	Vranov	149.19	340	⇑	P	PKPbc	17 42 48.6	-0.7
PSZ	Piszkesteto	149.21	335	⇓	ePKP	PKPbc	17 42 48.1	-1.2
PSZ	Piszkesteto	149.21	335	⇓	iP	PKPbc	17 42 49.2	-0.1
PSZ	Piszkesteto	149.21	335	e	PKPbc	PKPbc	17 42 48.1	-1.2
PSZ				e	PKPab	PKPab	17 42 55.2	-0.9
MOX	Moxa	149.25	347	e	PKP	PKPbc	17 42 48.2	-1.1
	comp=Z,27nm,1.4s							
MOX	Moxa	149.25	347	e	PKPbc	PKPbc	17 42 48.2	-1.1
MOX				e	PKPab	PKPab	17 42 55.1	-1.0
WERD	Werda	149.29	346	e	PKPbc	PKPbc	17 42 48.6	-0.8
WERD				e	PKPab	PKPab	17 42 55.3	-1.0
GUNZ	Gunzen	149.36	346	e	PKPbc	PKPbc	17 42 48.7	-0.9
GUNZ				e	PKPab	PKPab	17 42 55.9	-0.7
WERN	Wernitzgruen	149.42	346	e	PKPbc	PKPbc	17 42 49.0	-0.8
WERN				e	PKPab	PKPab	17 42 56.3	-0.6
NKC	Novy Kostel	149.46	346	⇑	ePKP	PKPbc	17 42 49.0	-0.9
NKC				e	PKPAB	PKPab	17 42 56.2	-0.8
TREC	Trest	149.53	342	e	PKHKP		17 42 48.8	
TREC				e			17 42 56.3	
TREC	Trest	149.53	342	⇑	ePKP	PKPbc	17 42 48.8	-1.3
TREC				e	PKPAB	PKPab	17 42 56.3	-1.1
MANZ	Manzenberg	149.77	346	e	PKPbc	PKPbc	17 42 49.6	-1.0
MODS	Modra-Piesok	149.78	339	e	PKP	PKPbc	17 42 49.9	-0.8
MODS				e			17 42 58.7	
BUD	Budapest	149.90	336	⇑	ePKP	PKPbc	17 42 50.2	-0.8
HGN	Heimansgroeve	149.99	354	e	PKP	PKPbc	17 42 49.2	-1.9
	comp=Z,11nm,1.0s							
UCC	Uccle	150.07	356		PKPbc	PKPbc	17 42 50.3	-1.0
MEM	Membach	150.13	354		PKPbc	PKPbc	17 42 49.9	-1.5
KHC	Kasperske Hory	150.21	344	e	PKIKP	PKPdf	17 42 44.8	-1.1
KHC				e			17 42 50.5	
KHC				e			17 42 59.3	
KHC	Kasperske Hory	150.21	344	e	PKPDF	PKPdf	17 42 44.8	-1.1
KHC				⇑	ePKP	PKPbc	17 42 50.5	-1.2
KHC				e	PKPAB	PKPab	17 42 59.3	-0.9
KHC				e	pPKP	pPKPdf	17 45 08.6	+14
GRA1	Grafenberg Arr	150.24	347	e	PKPbc	PKPbc	17 42 50.8	-0.9
GRA1				e	PKPab	PKPab	17 42 59.8	-0.5
GRF	Grafenberg Arr	150.24	347	e	PKP2	PKPab	17 42 59.8	-0.5
GRF	Grafenberg Arr	150.24	347	e	PKHKP		17 42 50.8	
GRF				e			17 42 59.8	
GRF	Grafenberg Arr	150.24	347	e	PKPbc	PKPbc	17 42 50.8	-0.9
GRF				e	PKPab	PKPab	17 42 59.8	-0.5
BZS	Buzias	150.30	331	⇓	iP	PKPbc	17 42 50.7	-1.3
BZS	Buzias	150.30	331	⇓	P	PKPbc	17 42 50.7	-1.3
WET	Wettzell	150.37	345	e	PKPbc	PKPbc	17 42 50.9	-1.1
WET				e	PKPab	PKPab	17 43 00.3	-0.6
BCLA	Clavier	150.38	355		PKPbc	PKPbc	17 42 50.9	-1.1
BCLA					PKPab	PKPab	17 42 59.4	-1.5
GERES	GERESS Array B	150.44	343		PKP	PKPdf	17 42 44.7	-1

JLOS				S	Sb	17 34 24.2	-1.0
HQLS		1.46	15	P	Pn	17 34 13.1	-1.9
EIL	**Elat**	1.80	9	Pn	Pn	17 34 18.0	-1.6
EIL				Sn	Sn	17 34 43.4	+0.8
MBRI	**Mt Berech**	1.92	7	Pn	Pn	17 34 20.4	-0.9
MBRI				Sn	Sn	17 34 46.1	+0.6
WJHS		1.94	126	P	Pb	17 34 25.7	+1.6
HRFI	**Mount Harif**	2.17	9	Pn	Pn	17 34 24.0	-0.8
HRFI				Sn	Sn	17 34 52.9	+1.1
KRMI	**Paran Flat**	2.23	2	Pn	Pn	17 34 24.8	-0.7
KRMI				Sn	Sn	17 34 53.8	+0.7
BIDS	**Bi'r al Bayda'**	2.31	116	P	Pb	17 34 31.1	+0.8
PRNI	**Paran**	2.48	8	Pn	Pn	17 34 28.7	-0.3
PRNI				Sn	Sn	17 35 01.4	+2.1
ZFRI	**Zfri**	2.70	10	Pn	Pn	17 34 30.9	-1.2
ZFRI				Sn	Sn	17 35 05.9	+1.0
KZIT	**Kziot**	3.02	356	Sn	Sn	17 35 15.4	+2.8
RTMI	**Retamim**	3.16	1	Pn	Pn	17 34 37.9	-0.5
HMDT	**Nahal Hemdat**	4.42	10	Pn	Pn	17 34 56.0	+0.2

IDC 24 17:36:10.7±2.1,305S×12916E,h0km,mb3.5/2,mb1 3.8/4, mb1mx3.5/16,mbtmp3.6/4,ML3.3/2,Error ellipse: s-maj=118.0km s-min=25.4km az=72.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.35**	**193**	Pn	Pn	17 39 50.2	+1.4
	0.0nm,0.3s,baz=9.2,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	**17.54**	**164**	P	Pn	17 40 15.4	-1.4
	0.2nm,0.3s,baz=345,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.01**	**168**	P	P	17 40 56.3	+0.4
	1.8nm,0.5s,baz=348,slow=9.5,SNR=48						
MKAR	**Makanchi Array**	**64.48**	**326**	P	P	17 46 49.3	+0.1
	0.3nm,0.7s,baz=124,slow=7.7,SNR=2.8						

ISCJB 24 17:45:49.6±0.9,4.16N±009×7637W±007,h156km±10km, mb3.5/3,Error ellipse: s-maj=15.2km s-min=11.4km az=25.0
NEIC 24 17:45:50.1±0.9,4.18N×7633W,h141km±10km,mb4.8/1, Error ellipse: s-maj=18.4km s-min=14.5km az=135.0
IDC 24 17:45:54.8±1.7,4.43N×7602W,h179km±17km,mb3.3/3, mb1 3.6/4,mb1mx3.2/20,mbtmp3.3/4,MS2.7/2,Ms1 2.7/2, ms1mx2.4/22,Error ellipse: s-maj=30.3km s-min=26.2km az=107.0

ISC 24 17:45:50.6±0.9,416N±009×7638W±007,h149km±10km, n13,σ1§17/12,mb3.5/3,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.15**	**71**	P	Pn	17 46 28.2	+0.7
	28nm,0.3s,baz=245,slow=1.8,SNR=18						
ROSC				S	Sn	17 46 56.7	+0.9
	26nm,0.3s,baz=107,slow=22,SNR=19						
OTAV	**Otavalo**	**4.41**	**208**	ePn	Pn	17 46 56.0	-0.3
BCIP	**Isla Barro Col**	**6.05**	**326**	ePn	Pn	17 47 16.9	-1.1
	33nm,0.5s						
BCIP				eSn	Sn	17 48 26.7	+0.4
SDV	**Santo Domingo**	**7.39**	**50**	P	Pn	17 47 33.6	-2.4
	2.9nm,0.3s,baz=217,slow=20,SNR=5.9						
SDV				S	Sn	17 48 51.8	-6.8
	1.9nm,0.3s,baz=107,slow=22,SNR=5.8						
LVC	**Limon Verde**	**27.59**	**165**	LR	LR	18 02 15.9	
	comp=Z,17nm,20.2s,baz=243,slow=35						
CFAA	**Coronel Fontan**	**36.40**	**168**	LR	LR	18 08 48.5	
	comp=Z,8.3nm,18.3s,baz=336,slow=38						
NVAR	**Mina Array Bea**	**51.14**	**318**	P	P	17 54 41.0	+2.5
	0.7nm,0.7s,mb3.4,baz=129,slow=7.1,SNR=6.0						
NVAR	**Mina Array Bea**	**51.14**	**318**	P	P	17 54 41.0	+2.5
YKA	**Yellowknife Ar**	**64.69**	**341**	P	P	17 56 12.3	-0.1
	0.7nm,0.5s,mb3.8,baz=136,slow=6.0,SNR=10						
TORD	**Torodi Ar. Bea**	**77.46**	**78**	P	P	17 57 29.9	-0.4
	0.4nm,0.6s,mb3.2,baz=282,slow=7.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**77.46**	**78**	P	P	17 57 29.9	-0.4
ASAR	**Alice Springs**	**144.93**	**234**	PKPbc	PKPdf	18 05 11.3	+0.3
	1.0nm,0.5s,baz=122,slow=4.2,SNR=38						
WRA	**Warramunga Arr**	**146.21**	**240**	PKPbc	PKPbc	18 05 15.3	+0.8
	1.0nm,0.8s,baz=117,slow=2.1,SNR=14						

CSEM 24 17:55:04.6±0.1,3978N×2883E,h10km,MD2.7,Error ellipse: s-maj=3.1km s-min=1.7km az=121.0
ISK 24 17:55:04.5,3975N×2885E,h13km,MD2.7
DDA 24 17:55:04.9,3984N×2871E,h7km±3km,Md3.0
ISCJB 24 17:55:05.3±0.5,3983N±003×2875E±004,h7km±5km, Error ellipse: s-maj=5.7km s-min=3.9km az=32.1

ISC 24 17:55:05.7±0.4,3982N±003×2875E±004,h8km±6km,n19, σ0§79/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.23**	**203**	ePG	Pg	17 55 10.0	-0.4
DST				eSG	Sg	17 55 13.9	+0.3
DURS	**Dursunbey**	**0.30**	**224**	iP	Pg	17 55 11.2	-0.5
DURS				iS	Sg	17 55 15.4	-0.3
DURS	**Dursunbey**	**0.30**	**224**	iP	Pg	17 55 11.1	-0.6
ULDT	**Uludag**	**0.44**	**43**	iP	Pg	17 55 14.3	+0.1
ULDT				iS	Sg	17 55 20.1	+0.1
BALB	**Balikesir**	**0.69**	**255**	ePG	Pg	17 55 18.8	-0.2
GEMT	**Gemlik**	**0.70**	**29**	ePG	Pg	17 55 19.2	+0.1
DEMI	**Demirci**	**0.78**	**182**	iP	Pg	17 55 20.3	-0.3
DEMI				iS	Sg	17 55 32.1	+1.3
BNT	**Bandirma**	**0.83**	**310**	ePG	Pg	17 55 23.4	+1.7
EDC	**Edincik**	**0.86**	**308**	ePG	Pg	17 55 24.1	+1.9
BALY	**Balya**	**0.87**	**265**	iP	Pg	17 55 21.0	-1.4
BALY				iS	Sg	17 55 32.9	-0.9
YLV	**Yalova**	**0.89**	**33**	ePG	Pg	17 55 22.4	-0.3
GDZ	**Gediz**	**0.93**	**142**	iP	Pg	17 55 23.4	-0.1
GDZ				iS	Sg	17 55 36.2	+0.6
ADVT	**Abdulvahap**	**0.97**	**51**	ePG	Pg	17 55 23.2	-1.2
MRMT	**Marmara Adasi**	**1.18**	**312**	ePN	Pn	17 55 28.4	0.0
AKHS	**Akhisar**	**1.19**	**218**	iP	Pb	17 55 28.0	-0.4
AKHS				iS	Sg	17 55 43.7	-0.1
HRT	**Hereke**	**1.22**	**35**	ePN	Pn	17 55 28.2	-0.8
ISK	**Istanbul-Kandi**	**1.27**	**11**	ePN	Pn	17 55 29.0	-0.5
MFT	**Murefte**	**1.48**	**311**	ePN	Pn	17 55 33.5	+1.0
LPK	**Lapseki**	**1.62**	**290**	ePN	Pn	17 55 35.1	+0.6

NEIC 24 18:03:00.1±2.1,620S×12897E,h191km±22km,mb4.4/6, Error ellipse: s-maj=16.7km s-min=14.7km az=50.0
ISCJB 24 18:03:02.0±1.3,635S±006×12909E±008,h231km±14km, mb3.6/5,Error ellipse: s-maj=13.0km s-min=9.2km az=154.8
IDC 24 18:03:04.5±1.9,638S×12900E,h246km±22km,mb3.3/5, mb1 3.7/7,mb1mx3.4/15,mbtmp3.6/7,Error ellipse: s-maj=24.2km s-min=11.8km az=76.0

ISC 24 18:03:03.2±1.2,647S±007×12913E±008,h237km±15km, n22,σ1§55/34,mb3.6/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.56**	**235**	P	Pn	18 04 39.8	+1.6
	61nm,0.3s,baz=110,slow=2.3,SNR=164						
BATI				S	S	18 05 53.8	-0.4
	8.8nm,0.3s,baz=290,slow=23,SNR=7.2						
KAKA	**Kakadu**	**7.00**	**153**	eP	Pn	18 04 45.3	+1.5
	4.5nm,0.1s						
KAKA				eS	S	18 05 55.4	-9.0
KAKA	**Kakadu**	**7.00**	**153**	ePn	Pn	18 04 45.0	+1.1
KAKA				eSn	S	18 05 55.1	-9.3
FITZ	**Fitzroy Crossi**	**12.05**	**196**	eP	Pn	18 05 48.3	+0.5
	40nm,0.4s						
FITZ				eS	S	18 07 57.6	-4.7
FITZ	**Fitzroy Crossi**	**12.05**	**196**	P	Pn	18 05 48.4	+0.6
	4.8nm,0.3s,baz=31,slow=12,SNR=136						
FITZ				S	S	18 07 58.3	-3.9
	0.9nm,0.3s,baz=45,slow=21,SNR=4.5						
WRAB	**Tennant Creek**	**14.31**	**160**	ePn	Pn	18 06 13.4	-2.2
	10nm,0.6s						
WRAB				eS	S	18 08 45.7	-8.5
WRA	**Warramunga Arr**	**14.31**	**160**	P	Pn	18 06 13.5	-2.2
	1.0nm,0.3s,baz=340,slow=13,SNR=46						
WRA				S	S	18 08 48.9	-5.3
	0.3nm,0.3s,baz=336,slow=23,SNR=5.8						
WB2	**Warramunga Arr**	**14.32**	**160**	eP	Pn	18 06 13.0	-2.7
WB2				eS	S	18 08 52.8	-1.6
WB2	**Warramunga Arr**	**14.32**	**160**	ePn	Pn	18 06 11.1	-4.6
WB2				eSn	S	18 08 51.5	-2.9
WB2				eS	S	18 08 52.8	-1.6

COEN	**Coen**	**15.69**	**119**	eP	Pn	18 06 34.1	+1.8
	7.8nm,0.6s						
COEN				eS	S	18 09 24.9	+0.4
MBWA	**Marble Bar**	**17.20**	**211**	ePn	Pn	18 06 50.5	+0.4
ASAR	**Alice Springs**	**17.70**	**165**	P	P	18 06 57.3	+3.9
	8.1nm,0.3s,baz=348,slow=11,SNR=517						
ASAR				S	S	18 10 05.7	+0.9
	0.5nm,0.3s,baz=347,slow=20,SNR=15						
ASAR				ScP	ScP	18 14 32.9	+0.4
	0.1nm,0.3s,baz=1.4,slow=1.9,SNR=4.3						
CTA	**Charters Tower**	**21.43**	**131**	eP	P	18 07 36.3	+3.1
	7.5nm,0.8s,mb4.3						
CTA	**Charters Tower**	**21.43**	**131**	P	P	18 07 35.5	+2.3
	8.6nm,0.7s,mb4.4,baz=309,slow=12,SNR=16						
CTAO	**Charters Tower**	**21.43**	**131**	eP	P	18 07 36.0	+2.8
	10nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**27.83**	**157**	eP	P	18 08 34.4	+3.6
	4.0nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**27.83**	**157**	P	P	18 08 33.3	+2.5
	3.9nm,0.8s,mb4.1,baz=323,slow=8.3,SNR=13						
TOO	**Toolangi**	**34.35**	**157**	eP	P	18 09 32.4	+4.7
MJAR	**Matsushiro Arr**	**43.63**	**11**	P	P	18 10 42.7	-1.7
	1.3nm,0.8s,mb3.3,baz=188,slow=9.3,SNR=5.1						
MJAR	**Matsushiro Arr**	**43.63**	**11**	P	P	18 10 42.7	-1.7
KSRS	**Korea Array**	**43.71**	**359**	P	P	18 10 43.8	-1.3
	0.5nm,0.5s,mb3.1,baz=180,slow=9.7,SNR=3.7						
SONM	**Songino Array**	**57.67**	**342**	P	P	18 12 29.9	+1.0
	0.4nm,0.7s,mb3.2,baz=142,slow=6.5,SNR=2.6						

ISCJB 24 18:03:29.4±0.4,4372N±004×10520W±005,h0km,mb4.0/2, Error ellipse: s-maj=5.8km s-min=4.8km az=148.0
IDC 24 18:03:30.4±1.8,4367N×10544W,h0km,mb3.8/2, mb1 3.9/6,mb1mx3.6/25,mbtmp3.6/6,ML3.5/4,Error ellipse: s-maj=56.0km s-min=8.5km az=151.0
NEIC 24 18:03:31.3±0.3,4373N×10524W,h0km,ML3.3,Error ellipse: s-maj=5.0km s-min=4.0km az=149.0,Suspected Mining explosion.
NEIC 65 km [40 miles] SSE of Gillette.

ISC 24 18:03:31.3±0.4,4373N±004×10522W±005,h0km,n43, σ0§92/43,mb4.0/2,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**65**	ePg	Pg	18 03 50.3	+1.0
PHWY	**Pilot Hill**	**2.43**	**184**	ePn	Pn	18 04 11.5	-0.8
RWWY	**Rawlins**	**2.51**	**216**	ePn	Pn	18 04 14.0	+0.7
LAO	**LASA Array**	**3.04**	**347**	ePn	Pn	18 04 18.5	-2.1
RLMT	**Red Lodge**	**3.21**	**297**	ePn	Pn	18 04 23.0	0.0
PDAR	**Pinedale Array**	**3.31**	**255**	Pn	Pn	18 04 24.1	-0.3
	4.9nm,0.3s,baz=74,slow=21,SNR=75						
PDAR				Lg		18 05 08.2	
	18nm,0.3s,baz=74,slow=30,SNR=11						
BW06	**Boulder Array**	**3.31**	**255**	ePn	Pn	18 04 23.7	-0.6
GCMT	**Greycliff**	**3.78**	**305**	ePn	Pn	18 04 30.9	+0.1
LKWY	**Lake**	**3.82**	**284**	ePn	Pn	18 04 33.6	+2.3
LOHW	**Long Hollow**	**3.91**	**270**	ePn	Pn	18 04 33.6	+1.1
ISCO	**Idaho Springs**	**3.94**	**184**	ePn	Pn	18 04 33.1	+0.1
FLWY	**Flagg Ranch**	**3.97**	**277**	ePn	Pn	18 04 33.1	-0.4
SNOW	**Snow King Moun**	**4.03**	**268**	ePn	Pn	18 04 34.4	+0.2
YFT	**Old Faithful**	**4.11**	**282**	ePn	Pn	18 04 36.2	+0.9
REDW	**Red Top Meadow**	**4.11**	**267**	ePn	Pn	18 04 35.8	+0.5
IMW	**Indian Meadow**	**4.14**	**274**	ePn	Pn	18 04 36.4	+0.6
TPAW	**Teton Pass**	**4.17**	**269**	ePn	Pn	18 04 36.1	0.0
RRI2	**Red Ridge**	**4.45**	**267**	ePn	Pn	18 04 39.9	-0.1
QLMT	**Earthquake Lak**	**4.59**	**286**	ePn	Pn	18 04 41.9	-0.1
DGMT	**Dagmar**	**4.79**	**8**	ePn	Pn	18 04 45.4	+0.7
BOZ	**Bozeman (W)**	**4.95**	**295**	ePn	Pn	18 04 44.2	-2.7
HWUT	**Hardware Ranch**	**5.13**	**248**	ePn	Pn	18 04 48.4	-1.0
	12nm,0.4s						
EGMT	**Eagleton**	**5.33**	**325**	ePn	Pn	18 04 51.8	-0.3
	19nm,0.4s						
DAU	**Daniels Canyon**	**5.58**	**236**	ePn	Pn	18 04 56.6	+1.1
CTU	**Camp Tracy**	**5.72**	**240**	ePn	Pn	18 04 56.4	-1.0
HVU	**Hansel Valley**	**5.89**	**253**	ePn	Pn	18 04 58.8	-0.9
	7.4nm,0.4s						
SDCO	**Great Sand Dun**	**5.98**	**182**	ePn	Pn	18 05 00.9	-0.1
	2.1nm,0.5s						
SRU	**San Rafael**	**6.10**	**223**	ePn	Pn	18 04 58.8	-3.8
	102nm,1.4s						
ECSD	**EROS,Sioux Fal**	**6.24**	**87**	ePn	Pn	18 05 04.9	+0.3
	6.3nm,0.4s						
TMUT	**Trail Mountain**	**6.31**	**227**	ePn	Pn	18 05 05.1	-0.4
CBKS	**Cedar Bluff**	**6.42**	**138**	Pn	Pn	18 05 06.4	-0.6
	13nm,0.4s						
CHMT	**Chamberlain Mo**	**6.49**	**302**	ePn	Pn	18 05 08.0	-0.1
DUG	**Dugway**	**6.67**	**241**	ePn	Pn	18 05 09.7	-0.7
	5.1nm,0.4s						
HLID	**Hailey**	**6.67**	**272**	ePn	Pn	18 05 11.7	+1.2
	1.5nm,0.4s						
MSU	**Marysvale**	**7.40**	**228**	ePn	Pn	18 05 20.4	0.0
AGMN	**Agassiz Refuge**	**7.96**	**52**	ePn	Pn	18 05 30.1	+2.0
	11nm,0.5s						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	Pn	18 05 43.2	-0.9
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	Pn	18 05 43.2	-0.9
	2.9nm,0.3s,baz=234,slow=13,SNR=12						
WUAZ	**Wupatki**	**9.47**	**212**	ePn	Pn	18 05 49.3	+0.4
	7.5nm,0.4s						
NVAR	**Mina Array Bea**	**11.20**	**246**	Pn	Pn	18 06 14.0	+1.5
	0.2nm,0.3s,baz=62,slow=11,SNR=3.6						
YKA	**Yellowknife Ar**	**19.58**	**347**	P	Pn	18 08 01.2	-0.6
	0.1nm,0.3s,baz=154,slow=12,SNR=3.1						
ARCES	**ARCESS Array B**	**61.42**	**18**	P	P	18 13 48.0	-0.7
	1.0nm,0.5s,mb4.2,baz=335,slow=6.5,SNR=10.0						
AKASG	**Malin Array Be**	**77.95**	**28**	P	P	18 15 30.2	-0.7
	0.2nm,0.3s,mb3.7,baz=322,slow=5.3,SNR=2.6						

ISCJB 24 18:17:45.3±0.3,1384N±004×12060E±008,h193km±3km, mb3.7/16,Error ellipse: s-maj=12.2km s-min=6.3km az=175.5
IDC 24 18:17:45.5±11.0,1391N×12096E,h184km±115km, mb3.4/8,mb1 3.6/8,mb1mx3.3/20,mbtmp3.4/8,Error ellipse: s-maj=56.9km s-min=12.2km az=61.0
MAN 24 18:17:47,1389N×12064E,h166km,mb4.2,ML3.0,MS2.8
NEIC 24 18:17:48.6±4.7,1385N×12087E,h219km±48km,mb3.8/8, Error ellipse: s-maj=24.5km s-min=6.8km az=62.0

ISC 24 18:17:46.4±0.3,1384N±004×12064E±007,h187km±3km, n36,σ0§94/39,mb3.8/16,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.40**	**255**	eP	Pn	18 18 11.5	-0.1
LUBP				eS	Sn	18 18 29.9	-1.2
SJMP	**San Jose**	**1.45**	**161**	eP	Pn	18 18 18.5	-0.1
SJMP				eS	Sn	18 18 42.8	-0.7
POLP	**Polilio Island**	**1.53**	**55**	eP	Pn	18 18 21.0	+1.7
PCPH	**Palayan**	**1.77**	**14**	iP	Pn	18 18 20.9	-0.7
BUSP	**Coron**	**1.88**	**193**	eP	Pn	18 18 23.2	+0.4
BUSP				eS	Sn	18 18 50.2	-0.8
OTRP	**Odiongan**	**1.99**	**137**	eP	Pn	18 18 24.0	0.0
SCZP	**Santa Cruz**	**2.05**	**340**	eP	Pn	18 18 24.1	-0.5
BALP	**Baler**	**2.09**	**25**	eP	Pn	18 18 25.1	+0.1
BOLP	**Bolinao**	**2.62**	**344**	eP	Pn	18 18 30.4	-0.5
ENPP	**El Nido**	**2.88**	**205**	eP	Pn	18 18 35.4	+1.4
CUYO	**Cuyo Island**	**3.00**	**173**	eP	Pn	18 18 36.4	+1.0
CAUP	**Cauayan**	**3.29**	**20**	eP	Pn	18 18 39.2	+0.3
PVCP	**Virac**	**3.42**	**94**	eP	Pn	18 18 41.8	+1.3
PALP	**Palanan**	**3.63**	**28**	eP	Pn	18 18 43.2	0.0
GUIM	**Jordan**	**3.72**	**149**	eP	Pn	18 18 46.1	+1.8
ABRA	**Dolores**	**3.79**	**1**	eP	Pn	18 18 44.1	-0.9
APYP	**Conner**	**4.04**	**8**	eP	Pn	18 18 47.9	-0.4
CMAR	**Chiang Mai Arr**	**21.34**	**285**	P	P	18 22 21.2	+2.2
	2.5nm,0.8s,mb3.6,baz=98,slow=8.3,SNR=25						
LSA	**Lhasa**	**31.48**	**305**	eP	P	18 23 52.3	+1.6
	2.4nm,0.7s,mb4.0						
MBWA	**Marble Bar**	**34.79**	**181**	P	P	18 24 18.3	-1.0
	3.1nm,0.9s,mb3.9						
ULN	**Ulaanbaatar**	**35.76**	**344**	eP	P	18 24 26.9	-0.4
	0.9nm,0.3s,mb3.9						
SONM	**Songino Array**	**35.91**	**344**	P	P	18 24 28.6	0.0
	0.8nm,0.5s,mb3.6,baz=165,slow=9.5,SNR=8.4						
WRAB	**Tennant Creek**	**36.17**	**158**	eP	P	18 24 29.8	-1.4
	0.8nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**36.17**	**158**	P	P	18 24 29.4	-1.8
	0.6nm,0.3s,mb3.6,baz=330,slow=10,SNR=20						
ASAR	**Alice Springs**	**39.47**	**161**	P	P	18 24 58.2	-0.5
	0.9nm,0.4s,mb3.7,baz=336,slow=7.0,SNR=57						
MK31	**Makanchi Array**	**45.89**	**324**	eP	P	18 25 50.5	+0.4
MKAR	**Makanchi Array**	**45.89**	**324**	P	P	18 25 50.8	+0.7
	0.9nm,0.5s,mb3.7,baz=126,slow=9.0,SNR=16						
TKM2	**Tokmak 2**	**48.28**	**316**	P	P	18 26 08.5	-0.2
	1.2nm,0.5s,mb3.8						

ZALV	**Zalesovo Beam**	**48.91**	**333**	P	P	18 26 12.4	-0.8
	1.2nm,0.3s,mb4.0,baz=115,slow=6.3,SNR=5.7						
AML	**Almayashu**	**49.30**	**314**	eP	P	18 26 17.1	+0.6
	1.6nm,0.6s,mb3.8						
EKS2	**Erkin-Say**	**49.43**	**315**	P	P	18 26 13.9	-3.5
KURK	**Kurchatov**	**50.04**	**326**	eP	P	18 26 22.1	+0.2
	8.5nm,0.8s,mb4.4						
KBL	**Kabul**	**50.79**	**303**	P	P	18 26 28.4	+0.6
BVAR	**Borovoye Array**	**55.63**	**326**	P	P	18 27 03.1	+0.4
	0.5nm,0.5s,mb3.6,baz=93,slow=7.4,SNR=3.9						
ARU	**Arti**	**63.24**	**327**	P	P	18 27 53.5	-1.2
	1.7nm,0.5s,mb4.1						
ARCES	**ARCESS Array B**	**78.93**	**339**	P	P	18 29 28.3	-0.5
	4.9nm,1.1s,mb4.1,baz=71,slow=6.0,SNR=5.2						

BJI 24 18:24:58.2,2980N×13830E,h28km,mB4.3,mb4.3
JMA 24 18:25:34.8±0.3,3039N×13872E,h486km±4km,M3.6
ISCJB 24 18:25:35.8±0.4,3044N±005×13877E±0.10,h470km±6km, mb3.7/18,Error ellipse: s-maj=13.1km s-min=7.0km az=164.5
NEIC 24 18:25:36.5±0.8,3030N×13829E,h429km±11km,mb3.8/9, Error ellipse: s-maj=13.4km s-min=8.6km az=68.0
IDC 24 18:25:36.8±0.7,3031N×13843E,h434km±11km,mb2.9/7, mb1 3.1/11,mb1mx3.0/24,mbtmp3.0/11,Error ellipse: s-maj=22.2km s-min=9.8km az=67.0

ISC 24 18:25:37.4±0.5,3051N±006×13873E±010,h467km±7km, n54,σ0§95/71,mb3.7/18,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.75**	**19**	P	P	18 26 44.0	+0.2
	16nm,0.3s,baz=241,slow=23,SNR=49						
JHJ				S	S	18 27 37.5	-0.4
	19nm,0.3s,baz=260,slow=23,SNR=5.8						
JHJ2	**Mitsune**	**2.75**	**19**	P	P	18 26 44.8	+1.0
JHJ2				eS	S	18 27 38.5	+0.5
JWZ	**Kozaga**	**3.95**	**320**	P	P	18 26 53.1	+0.1
JIE	**Ise**	**4.23**	**337**	P	P	18 26 56.1	+0.7
JKN2	**Miekihoku**	**4.26**	**331**	P	P	18 26 55.8	+0.1
BSO3	**Boso 3**	**4.53**	**19**	P	P	18 26 58.6	+0.5
BSO3				eS	S	18 28 01.5	-2.5
BSO1	**Boso 1**	**4.55**	**24**	P	P	18 26 57.9	-0.3
BSO1				S	S	18 28 03.1	-1.1
CBIJ	**Chichi jima**	**4.55**	**137**	P	P	18 26 56.5	-2.0
CBIJ				S	S	18 27 59.5	-5.0
CBIJ	**Chichi jima**	**4.55**	**137**	P	P	18 26 56.5	-2.0
	6.7nm,0.3s,baz=279,slow=22,SNR=22						
CBIJ				S	S	18 27 59.5	-5.0
	34nm,0.3s,baz=273,slow=23,SNR=17						
BSO4	**Boso 4**	**4.67**	**16**	P	P	18 27 00.3	+1.0
BSO4				S	S	18 28 06.6	+0.4
JOD2	**Odawara 2**	**4.75**	**4**	P	P	18 27 01.0	+0.9
JOD2				eS	S	18 28 08.6	+1.0
JNY	**Yasuok**	**4.89**	**352**	P	P	18 27 03.0	+1.6
JNY				eS	S	18 28 11.0	+1.0
JAO	**Obara**	**4.90**	**346**	P	P	18 27 03.2	+1.7
JHU	**Hanno**	**5.35**	**5**	P	P	18 27 06.0	+0.3
JHU				eS	S	18 28 14.1	-3.8
JRY	**Ryogami san**	**5.49**	**1**	P	P	18 27 08.1	+1.0
JRY				eS	S	18 28 20.3	-0.2
JTO	**Tosashimizu**	**5.57**	**296**	P	P	18 27 06.6	-1.3
JYT	**Yasato**	**5.83**	**12**	P	P	18 27 10.1	-0.3
JYT				S	S	18 28 23.0	-3.6
JAG	**Ashikaga**	**5.93**	**6**	P	P	18 27 11.3	-0.1
JAG				S	S	18 28 24.6	-3.8
MJAR	**Matsushiro Arr**	**6.03**	**356**	P	P	18 27 12.8	+0.3
	1.5nm,0.3s,baz=175,slow=12,SNR=16						
MJAR				S	S	18 28 29.0	-1.3
	0.2nm,0.3s,baz=172,slow=18,SNR=3.5						
MAJO	**Matsushiro**	**6.03**	**356**	eP	P	18 27 12.0	-0.4
	11nm,0.5s						
MAT	**Matsushiro**	**6.03**	**356**	P	P	18 27 13.8	+1.4
MAT				S	S	18 28 29.7	-0.6
JHO	**Hitachi**	**6.28**	**14**	P	P	18 27 14.7	-0.2
JHO				eS	S	18 28 31.5	-3.3
JHS	**Saijyo**	**6.51**	**315**	P	P	18 27 17.1	-0.2
JFK	**Kawauchi**	**7.07**	**14**	P	P	18 27 24.4	+1.4
JFK				eS	S	18 28 47.4	-2.3
KSRS	**Korea Array**	**11.33**	**311**	P	P	18 28 08.8	+0.1
	0.2nm,0.3s,baz=129,slow=11,SNR=22						
XAN	**Xi'an**	**25.41**	**286**	P	P	18 30 24.8	-1.6
XAN				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.4						
XAN				AMB	AMB		
	comp=Z,17nm,4.6s						
LZH	**Lanzhou**	**29.58**	**290**	eP	P	18 31 01.5

SDV Sn **Sn** **18 55 12.7 +2.7**
21nm,0.3s,baz=6.2,slow=18,SNR=5.6
SDV Lg 18 55 40.0
38nm,0.3s,baz=94,slow=23,SNR=4.4
SDV LR LR 18 56 22.4
comp=Z,83nm,21.7s,baz=170,slow=40
SDV Santo Domingo 5.07 75 *e*Pn **Pn** **18 54 13.2 +0.5**
SDV Pn **Pn** **18 54 13.9 +1.3**
SDV Sn **Sn** **18 55 12.7 +2.7**
SDV Lg 18 55 40.0
SDV LR LR 18 56 22.4
OTAV Otavalo 7.85 201 Pn **Pn** **18 54 42.8 -8.0**
AOPR Arecibo Observ 13.71 38 *e*Pn **Pn** **18 56 10.1 -0.8**
SJG San Juan 13.92 40 LR LR 19 01 24.4
comp=Z,28nm,18.4s,baz=96,slow=36
SJG San Juan 13.92 40 P **Pn** **18 56 12.2 -1.5**
11nm,0.7s
MTP Monte Pirata 14.30 42 *e*Pn **Pn** **18 56 17.0 -1.9**
CMIG Matias Romero 21.06 298 LR LR 19 05 59.5
comp=Z,35nm,19.2s,MS2.8,baz=3.6,slow=37
LPAZ La Paz 24.85 163 P **P** **18 58 16.3 -0.7**
1.1nm,0.5s,mb3.6,baz=273,slow=7.3,SNR=6.4
LPAZ LR LR 19 08 36.5
comp=Z,62nm,21.2s,MS3.1,baz=122,slow=38
SIV San Ignacio 27.50 149 P **P** **18 58 37.9 -2.9**
3.2nm,0.5s,mb4.1,baz=314,slow=11,SNR=3.6
TXAR Lajitas Array 34.13 313 P **P** **18 59 41.2 +1.9**
0.2nm,0.6s,mb3.2,baz=129,slow=12,SNR=4.0
TXAR LR LR 19 16 23.6
comp=Z,29nm,19.4s,MS3.0,baz=180,slow=41
ANMO Albuquerque 39.30 318 LR LR 19 17 53.7
comp=Z,46nm,18.4s,MS3.4,baz=337,slow=38
YKA Yellowknife Ar 61.71 341 P **P** **19 03 12.5 +0.7**
1.2nm,0.7s,mb4.1,baz=129,slow=6.6,SNR=6.0
TORD Torodi Ar. Bea 75.98 78 P **P** **19 04 41.6 +0.2**
0.3nm,0.6s,mb3.4,baz=277,slow=6.7,SNR=2.9
ASAR Alice Springs 147.52 237 PKPbc PKPbc 19 12 38.0 -0.5
0.3nm,0.5s,baz=122,slow=3.8,SNR=6.3
WRA Warramunga Arr 148.51 244 PKPbc PKPbc 19 12 39.9 -1.3
0.3nm,0.7s,baz=116,slow=2.9,SNR=6.9
WRA pPKPbc pPKPbc 19 12 51.8 -4.8
0.4nm,0.4s,baz=176,slow=0.0,SNR=8.9

ISCJB ***24*** *18:56:33.1±0.9, 821S±007×7424W±007, h150km±10km, mb4.2/28, Error ellipse: s-maj=15.0km s-min=5.7km az=44.9*
BJI ***24*** *18:56:33.7, 820S×7420W, h138km, mB4.7*
NEIC ***24*** *18:56:33.7±0.8, 818S×74.19W, h138km±8km, mb4.4/12, Error ellipse: s-maj=11.1km s-min=6.0km az=61.0*
IDC ***24*** *18:56:35.3±1.7, 832S×7422W, h158km±19km, mb3.9/13, mb1 4.1/19, mb1mx4.0/27, mbtmp4.0/19, Error ellipse: s-maj=22.2km s-min=10.3km az=47.0*
ISC 24 18:56:34.0±0.8, 822S±007×7421W±007, h141km±10km, n56, σ0°86/53, mb4.2/28, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.32**	**286**	P		**Pn**	**18 57 38.6**	**+0.4**
	66nm,0.3s,baz=89,slow=6.5,SNR=266							
ATAH				S		**Sn**	**18 58 26.4**	**-1.7**
	26nm,0.3s,baz=121,slow=16,SNR=4.5							
NNA	**Nana**	**4.55**	**214**	P		**Pn**	**18 57 41.9**	**+0.5**
	42nm,0.3s,baz=41,slow=7.0,SNR=63							
NNA				S		**Sn**	**18 58 28.8**	**-5.0**
	34nm,0.3s,baz=350,slow=15,SNR=3.5							
NNA	**Nana**	**4.55**	**214**	*e*Pn		**Pn**	**18 57 41.7**	**+0.3**
NNA				*e*Sn		**Sn**	**18 58 28.0**	**-5.8**
OTAV	**Otavalo**	**9.40**	**333**	*e*Pn		**Pn**	**18 58 44.8**	**-1.4**
	18nm,1.0s							
LPAZ	**La Paz**	**9.98**	**144**	P		**Pn**	**18 58 55.3**	**+1.3**
	0.6nm,0.3s,baz=330,slow=14,SNR=8.4							
LPAZ				S		**Sn**	**19 00 43.9**	**-0.5**
	1.5nm,0.3s,baz=148,slow=11,SNR=8.6							
SIV	**San Ignacio**	**14.99**	**122**	P		**Pn**	**18 59 59.6**	**+0.8**
	1.3nm,0.3s,baz=302,slow=13,SNR=16							
SIV				S		**Sn**	**19 02 39.7**	**-5.4**
	0.9nm,0.3s,baz=351,slow=11,SNR=4.7							
LVC	**Limon Verde**	**15.20**	**161**	P		**Pn**	**19 00 02.2**	**+0.9**
	1.3nm,0.3s,baz=337,slow=6.7,SNR=7.3							
LVC	**Limon Verde**	**15.20**	**161**	*e*Pn		**Pn**	**19 00 02.5**	**+1.2**
SDV	**Santo Domingo**	**17.36**	**12**	P		**Pn**	**19 00 29.8**	**+2.1**
	6.1nm,0.3s,baz=188,slow=7.1,SNR=4.2							
SDV	**Santo Domingo**	**17.36**	**12**	Pn		**Pn**	**19 00 25.6**	**-2.2**
CFAA	**Coronel Fontan**	**23.93**	**167**	P		**P**	**19 01 34.4**	**-0.7**
	0.4nm,0.6s,mb3.1,baz=351,slow=11,SNR=5.9							
CPUP	**Villa Florida**	**24.12**	**140**	P		**P**	**19 01 35.6**	**-1.3**
	1.8nm,0.5s,mb3.9,baz=311,slow=9.0,SNR=5.6							
SJG	**San Juan**	**27.34**	**17**	P		**P**	**19 02 07.6**	**+1.6**
	15nm,0.4s,mb5.0,baz=166,slow=10,SNR=5.5							
AOPR	**Arecibo Observ**	**27.40**	**16**	*e*P		**P**	**19 02 07.0**	**+0.5**
	15nm,0.6s,mb4.8							
TEIG	**Tepich**	**31.47**	**334**	P		**P**	**19 02 42.6**	**+0.2**
	11nm,0.8s,mb4.6,baz=144,slow=6.7,SNR=4.2							
TEIG	**Tepich**	**31.47**	**334**	*e*P		**P**	**19 02 42.3**	**-0.1**
	37nm,1.3s,mb5.0							
CMIG	**Matias Romero**	**32.40**	**321**	P		**P**	**19 02 51.3**	**+0.7**
	2.4nm,0.4s,mb4.3,baz=114,slow=7.7,SNR=9.4							
PLCA	**Paso Flores**	**32.55**	**175**	pP		pP	19 03 24.6	+2.7
	1.1nm,0.5s,baz=340,slow=9.9,SNR=6.7							
ELN	**Prospectdale**	**45.62**	**353**	*e*P		**P**	**19 04 41.2**	**+1.1**
TXAR	**Lajitas Array**	**46.89**	**324**	P		**P**	**19 04 51.0**	**+0.7**
	2.0nm,0.5s,mb4.0,baz=152,slow=8.8,SNR=29							
TXAR				pP		pP	19 05 24.5	+2.2
	0.3nm,0.4s,baz=155,slow=9.0,SNR=5.9							
TXAR	**Lajitas Array**	**46.89**	**324**	P		**P**	**19 04 51.0**	**+0.7**
TXAR				pP		pP	19 05 24.5	+2.2
ANMO	**Albuquerque**	**52.64**	**327**	P		**P**	**19 05 35.0**	**+1.3**
	2.1nm,0.7s,mb4.0,baz=127,slow=10							
ANMO	**Albuquerque**	**52.64**	**327**	*e*P		**P**	**19 05 34.3**	**+0.6**
	4.0nm,1.2s,mb4.0							
SDCO	**Great Sand Dun**	**54.26**	**330**	*e*P		**P**	**19 05 46.1**	**+0.7**
	6.2nm,1.3s,mb4.2							
PDAR	**Pinedale Array**	**60.09**	**331**	P		**P**	**19 06 26.4**	**+0.1**
	1.4nm,0.7s,mb3.9,baz=126,slow=7.5,SNR=10							
HWUT	**Hardware Ranch**	**60.25**	**328**	*e*P		**P**	**19 06 27.2**	**-0.2**
	4.5nm,0.7s,mb4.4							
ULM	**Lac du Bonnet**	**61.20**	**344**	P		**P**	**19 06 32.4**	**-1.2**
	3.0nm,0.4s,mb4.4,baz=170,slow=4.8,SNR=4.4							
LOHW	**Long Hollow**	**61.23**	**331**	*e*P		**P**	**19 06 34.0**	**0.0**
	1.8nm,0.7s,mb4.0							
RRI2	**Red Ridge**	**61.39**	**330**	*e*P		**P**	**19 06 35.7**	**+0.6**
	18nm,1.2s,mb4.8							
IMW	**Indian Meadow**	**61.61**	**331**	*e*P		**P**	**19 06 37.1**	**+0.6**
	3.6nm,0.6s,mb4.4							
NVAR	**Mina Array Bea**	**61.93**	**322**	P		**P**	**19 06 39.1**	**+0.3**
	0.7nm,0.7s,mb3.6,baz=149,slow=6.1,SNR=6.5							
GCMT	**Greycliff**	**62.43**	**333**	*e*P		**P**	**19 06 42.4**	**+0.4**
SCHQ	**Schefferville**	**63.12**	**5**	P		**P**	**19 06 46.2**	**-0.1**
	6.2nm,0.7s,mb4.6,baz=205,slow=4.7,SNR=11							
SCHQ	**Schefferville**	**63.12**	**5**	P		**P**	**19 06 46.2**	**-0.1**
HLID	**Hailey**	**63.12**	**328**	*e*P		**P**	**19 06 47.3**	**+0.7**
	0.9nm,0.6s,mb3.8							
BOZ	**Bozeman (W)**	**63.23**	**331**	*e*P		**P**	**19 06 47.4**	**+0.1**
	1.8nm,0.7s,mb4.0							
DBIC	**Dimbokro**	**70.72**	**80**	P		**P**	**19 07 34.8**	**-0.5**
	2.2nm,0.3s,mb4.3,baz=207,slow=4.1,SNR=12							
YKA	**Yellowknife Ar**	**77.04**	**342**	P		**P**	**19 08 10.4**	**-0.6**
	1.3nm,0.5s,mb3.8,baz=141,slow=5.9,SNR=9.5							
YKA	**Yellowknife Ar**	**77.04**	**342**	P		**P**	**19 08 10.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**78.31**	**75**	P		**P**	**19 08 18.1**	**-1.0**
	1.7nm,0.6s,mb3.9,baz=253,slow=3.1,SNR=10.0							
DLBC	**Dease Lake**	**80.11**	**334**	P		**P**	**19 08 28.4**	**+0.4**
	baz=171,slow=19							
SUMG	**Summit**	**83.88**	**10**	*e*P		**P**	**19 08 47.9**	**+0.5**
	2.1nm,0.7s,mb4.0							
MFF	**Saint Martin d**	**85.15**	**42**	*e*P		**P**	**19 08 53.5**	**-0.8**
GRR	**Gorron**	**85.23**	**40**	*e*P		**P**	**19 08 53.6**	**-1.1**
	10nm,0.8s,mb4.3							
LFF	**La Frestale**	**85.26**	**43**	*e*P		**P**	**19 08 54.2**	**-0.7**
FLN	**La Foliniere**	**85.58**	**40**	*e*P		**P**	**19 08 55.5**	**-0.9**
	5.8nm,0.7s,mb4.1							
ORIF	**Oris-en-Rattie**	**88.79**	**44**	*e*P		**P**	**19 09 11.6**	**-0.3**
	6.3nm,0.8s,mb4.3							
FRF	**La Foret Royal**	**89.04**	**46**	*e*P		**P**	**19 09 12.0**	**-1.1**
	16nm,1.0s,mb4.6							
LPL	**La Plagne**	**89.51**	**44**	*e*P		**P**	**19 09 15.2**	**-0.1**
	5.4nm,0.8s,mb4.2							
ZALV	**Zalesovo Beam**	**131.37**	**16**	PKP		PKPdf	19 15 29.2	-0.3
	0.3nm,0.3s,baz=287,slow=2.6,SNR=2.4							
WRA	**Warramunga Arr**	**140.34**	**225**	PKP		PKPdf	19 15 47.0	-0.2
	0.3nm,0.7s,baz=138,slow=1.6,SNR=4.7							
WMQ	**Urumqi**	**141.17**	**21**	*e*PKP		PKPdf	19 15 43.1	-4.9
KSRS	**Korea Array**	**144.65**	**329**	PKP		PKPdf	19 15 52.5	-1.8
	1.1nm,0.6s,baz=51,slow=4.7,SNR=6.8							
HHC	**Hu-ho-hao-te**	**147.10**	**352**	*e*PKP		PKPdf	19 15 57.1	-1.3
HHC				APKP			19 16 39.3	
HHC				PP		PP	19 19 27.3	+2.0
HHC				PKS			19 19 31.0	
HHC				SKS		SKSdf	19 22 47.1	-7.0
HHC				SKKS		SKKSac	19 26 00.6	-4.0
HHC				SS		SS	19 38 12.0	-2.1
HHC				LR		LR		
	comp=N,87nm,19.0s							
HHC				LR		LR		
	comp=E,57nm,22.6s							
HHC				LR		LR		
	comp=Z,70nm,19.0s							
GYA	**Guiyang**	**161.84**	**357**	*e*PKP		PKPdf	19 16 19.4	+0.3
GYA				PKP2		PKPab	19 17 06.4	+1.2
GYA				PKS			19 19 51.6	
GYA				PP		PP	19 20 52.8	+5.1
GYA				PP		PP		
	comp=Z,70nm,8.9s							
KMI	**Kunming**	**162.94**	**9**	PKP		PKPdf	19 16 19.6	-0.6
KMI				PKP2		PKPab	19 17 11.1	+1.1
KMI				PKS			19 19 51.6	
KMI				PP		PP	19 20 56.3	+2.7
KMI				SKS		SKSdf	19 23 08.9	-3.2
KMI				SKKS		SKKSac	19 27 30.3	+0.5
KMI				SS		SS	19 41 06.5	+1.2
KMI				PP		PP		
	comp=Z,35nm,4.8s							
KMI				LR		LR		
	comp=N,45nm,5.0s							
KMI				LR		LR		
	comp=E,50nm,7.1s							
KMI				LR		LR		
	comp=Z,34nm,12.4s							

IDC ***24*** *19:01:23.2±0.9, 1143S×16572E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.2/18, mbtmp4.3/12, ML4.6/1, MS4.0/16, Ms1 4.0/16, ms1mx3.8/31, Error ellipse: s-maj=31.5km s-min=19.9km az=143.0*
ISCJB ***24*** *19:01:25.6±4.0, 1145S±009×16566E±008, h27km±26km, mb4.3/18, MS4.0/16, Error ellipse: s-maj=14.5km s-min=12.7km az=174.0*
BJI ***24*** *19:01:28.1, 1150S×16570E, h33km, mB4.9, mb4.5*
NEIC ***24*** *19:01:28.1±3.9, 1146S×16571E, h34km±26km, mb4.6/10, Error ellipse: s-maj=13.6km s-min=9.2km az=126.0*
ISC 24 19:01:28.1±4.0, 1147S±008×16570E±008, h33km±27km, n51, σ0°83/34, mb4.4/18, MS4.0/16, 3D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.01**	**289**	Pn		**Pn**	**19 02 54.7**	**-0.2**
	15nm,0.3s,baz=132,slow=1.3,SNR=13							
HNR				Sn		**Sn**	**19 04 02.2**	**-0.4**
	7.1nm,0.3s,baz=260,slow=19,SNR=6.6							
PMG	**Port Moresby**	**18.35**	**275**	P		**Pn**	**19 05 39.4**	**-0.8**
CTA	**Charters Tower**	**20.57**	**243**	*i*P		**P**	**19 06 05.7**	**+1.4**
	15nm,0.8s							
CTA	**Charters Tower**	**20.57**	**243**	P		**P**	**19 06 05.8**	**+1.5**
	19nm,0.8s,baz=72,slow=12,SNR=24							
CTA				LR		LR	19 12 57.9	
	comp=Z,533nm,20.3s,MS3.9,baz=75,slow=34							
CTAO	**Charters Tower**	**20.57**	**243**	*e*P		**P**	**19 06 05.4**	**+1.1**
	62nm,1.4s							
AFI	**Afiamalu**	**22.10**	**99**	LR		LR	19 13 01.4	
	comp=Z,502nm,19.1s,MS4.0,baz=277,slow=32							
ARMA	**Armidale**	**22.94**	**213**	*e*P		**P**	**19 06 30.4**	**+0.8**
STKA	**Stephens Creek**	**30.11**	**224**	*e*P		**P**	**19 07 35.6**	**+0.8**
	3.5nm,1.1s,mb4.0							
STKA	**Stephens Creek**	**30.11**	**224**	P		**P**	**19 07 35.2**	**+0.4**
	2.8nm,0.8s,mb4.0,baz=54,slow=13,SNR=7.2							
STKA				LR		LR	19 19 10.9	
	comp=Z,390nm,18.2s,MS4.1,baz=30,slow=35							
WRAB	**Tennant Creek**	**31.29**	**250**	*e*P		**P**	**19 07 44.6**	**-0.8**
	14nm,1.2s,mb4.7							
WB2	**Warramunga Arr**	**31.29**	**250**	*i*P		**P**	**19 07 44.9**	**-0.5**
WRA	**Warramunga Arr**	**31.30**	**250**	P		**P**	**19 07 45.1**	**-0.4**
	4.7nm,0.9s,mb4.3,baz=84,slow=8.7,SNR=29							
WRA				LR		LR	19 19 05.1	
	comp=Z,248nm,21.6s,MS3.8,baz=70,slow=34							
KAKA	**Kakadu**	**32.53**	**264**	*e*P		**P**	**19 07 56.9**	**+0.5**
	3.9nm,0.5s,mb4.6							
ASAR	**Alice Springs**	**32.57**	**244**	P		**P**	**19 07 55.5**	**-1.1**
	4.0nm,1.1s,mb4.3,baz=82,slow=9.3,SNR=18							
RAR	**Rarotonga**	**34.45**	**111**	LR		LR	19 19 45.3	
	comp=Z,272nm,19.1s,MS4.0,baz=277,slow=32							
FITZ	**Fitzroy Crossi**	**39.23**	**255**	*i*P		**P**	**19 08 53.1**	**-0.7**
	11nm,0.7s,mb4.7							
FITZ	**Fitzroy Crossi**	**39.23**	**255**	P		**P**	**19 08 53.3**	**-0.4**
	5.9nm,0.7s,mb4.4,baz=92,slow=9.4,SNR=27							
FITZ				LR		LR	19 24 09.0	
	comp=Z,246nm,20.1s,MS4.0,baz=27,slow=35							
BATI	**Baumata**	**41.28**	**268**	LR		LR	19 25 57.0	
	comp=Z,279nm,20.6s,MS4.1,baz=125,slow=36							
PPT	**Papeete**	**43.64**	**103**	*e*S		**S**	**19 15 57.1**	**-0.7**
	148nm,25.2s							
PPT				*e*LQ			19 19 55.3	
	449nm,27.2s							
PPT				*e*LR		LR	19 21 38.0	
	388nm,25.2s							
PPT	**Papeete**	**43.64**	**103**	LR		LR	19 25 12.0	
	comp=Z,242nm,19.6s,MS4.1,baz=247,slow=33							
MBWA	**Marble Bar**	**45.02**	**252**	*e*P		**P**	**19 09 40.8**	**-0.1**
HON	**Honolulu**	**48.30**	**48**	P		**P**	**19 10 06.7**	**+0.1**
KIP	**Kipapa**	**48.35**	**48**	*e*P		**P**	**19 10 06.5**	**-0.5**
	322nm,0.6s							
NWAO	**Narrogin (SRO)**	**49.19**	**236**	LR		LR	19 31 32.2	
	comp=Z,598nm,18.1s,MS4.6,baz=58,slow=37							
KKM	**Kota Kinabalu**	**52.22**	**287**	*e*P		**P**	**19 10 36.3**	**-0.1**
RKT	**Rikitea**	**57.48**	**110**	*e*LR		LR	19 27 57.2	
	315nm,30.0s							
KSRS	**Korea Array**	**60.20**	**326**	LR		LR	19 33 14.0	
	comp=Z,42nm,19.7s,MS3.6,baz=139,slow=32							
PETK	**Petropavlovsk-**	**64.68**	**355**	LR		LR	19 38 13.5	
	comp=Z,64nm,18.3s,MS3.9,baz=332,slow=34							
CASY	**Casey**	**65.97**	**201**	P		**P**	**19 12 08.6**	**-2.3**
	8.7nm,1.1s,mb4.7							
PSI	**Prapat**	**67.88**	**278**	LR		LR	19 40 02.0	
	comp=Z,112nm,19.2s,MS4.1,baz=186,slow=34							
XAN	**Xi'an**	**70.37**	**312**	P		**P**	**19 12 38.9**	**-0.1**
XAN				AP		pP	19 12 53.6	+4.3
XAN				AMB		AMB		
	comp=Z,3.0nm,0.8s,mb4.3							
XAN				AMB		AMB		
	comp=Z,72nm,5.3s							
CMAR	**Chiang Mai Arr**	**72.24**	**294**	P		**P**	**19 12 51.6**	**+1.0**
	comp=Z,1.2nm,0.7s,mb3.9,baz=125,slow=4.6,SNR=15							
CMAR				LR		LR	19 41 30.2	
	comp=Z,48nm,18.0s,MS3.8,baz=334,slow=33							
CHTO	**Chiang Mai**	**72.36**	**294**	*e*P		**P**	**19 12 52.5**	**+1.2**
	comp=Z,6.1nm,1.3s,mb4.4							
LZH	**Lanzhou**	**75.01**	**312**	*e*P		**P**	**19 13 09.4**	**+2.9**
LZH				AMB		AMB		
	comp=Z,17nm,1.5s,mb4.8							
LZH				AMB		AMB		
	comp=Z,96nm,5.1s							
ULN	**Ulaanbaatar**	**78.61**	**324**	*e*P		**P**	**19 13 26.7**	**+0.1**
	comp=Z,4.2nm,0.9s,mb4.4							
SONM	**Songino Array**	**78.98**	**324**	P		**P**	**19 13 28.9**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=134,slow=6.4,SNR=5.1							
MAW	**Mawson**	**84.32**	**202**	P		**P**	**19 13 57.7**	**+1.2**
	comp=Z,2.5nm,1.0s,mb4.3,baz=102,slow=5.9,SNR=3.1							
EGAK	**Eagle**	**85.79**	**20**	*e*P		**P**	**19 14 03.1**	**-0.7**
	comp=Z,18nm,1.4s,mb5.1							
NVAR	**Mina Array Bea**	**86.33**	**50**	P		**P**	**19 14 07.0**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.9,baz=217,slow=7.1,SNR=4.3							
MK31	**Makanchi Array**	**93.80**	**317**	*e*P		**P**	**19 14 41.9**	**-0.1**
MKAR	**Makanchi Array**	**93.80**	**317**	P		**P**	**19 14 42.0**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.6,baz=92,slow=6.7,SNR=24							
PDAR	**Pinedale Array**	**93.87**	**47**	LR		LR	19 52 39.5	
	comp=Z,40nm,18.4s,MS3.9,baz=79,slow=33							
ZALV	**Zalesovo Beam**	**93.87**	**324**	P		**P**	**19 14 42.1**	**0.0**
	comp=Z,0.3nm,0.4s,mb4.1,baz=112,slow=6.4,SNR=3.4							
YKA	**Yellowknife Ar**	**95.37**	**27**	LR		LR	19 55 28.9	
	comp=Z,55nm,18.3s,MS4.0,baz=230,slow=34							
TXAR	**Lajitas Array**	**96.07**	**61**	LR		LR	19 53 25.8	
	comp=Z,166nm,18.0s,MS4.5,baz=340,slow=32							
ARCES	**ARCESS Array B**	**116.73**	**345**	PKP		PKPdf	19 20 07.8	-0.7
	comp=Z,5.1nm,1.0s,baz=23,slow=2.9,SNR=4.6							
AKASG	**Malin Array Be**	**127.19**	**327**	PKP		PKPdf	19 20 29.5	+0.4
	comp=Z,0.2nm,0.3s,baz=46,slow=1.6,SNR=4.8							
GERES	**GERESS Array B**	**136.06**	**333**	PKP		PKPdf	19 20 46.9	+0.9
	comp=Z,0.4nm,0.8s,baz=51,slow=2.6,SNR=4.6							
KEST	**Kesra**	**147.72**	**322**	PKPbc		PKPbc	19 21 10.7	+0.8
	comp=Z,2.4nm,0.8s,baz=217,slow=1.5,SNR=6.0							
ESDC	**Sonseca Array**	**150.45**	**344**	PKPbc		PKPbc	19 21 16.4	-0.3
	comp=Z,0.1nm,0.3s,baz=335,slow=7.8,SNR=3.4							
TORD	**Torodi Ar. Bea**	**164.28**	**278**	PKP		PKPdf	19 21 29.4	+0.1
	comp=Z,1.9nm,1.2s,baz=225,slow=1.9,SNR=4.5							

IDC ***24*** *19:20:56.0±5.9, 47.19N×14281E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.3/22, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=116.3km s-min=28.2km az=72.0*
JMA ***24*** *19:21:00.7±0.4, 4685N×14180E, h15km, M3.9*
MOS ***24*** *19:21:00.6±2.0, 4662N×14168E, h15km, mb4.5/1, Error ellipse: s-maj=55.6km s-min=32.6km az=76.6*
MOS Felt (III) at Nevel'sk.
SKHL ***24*** *19:21:00.9±0.2, 4663N×14172E, h10km, mb4.4/3*
NIED ***24*** *19:21:00, 4690N×14180E, h5km, Mw3.6 Best double couple: M∞3.32000×10^14 NP1:φ=197.00000°, δ=66.00000°, λ=109.00000°. NP2:φ=337.00000°, δ=30.00000°, λ=54.00000°.*
ISCJB ***24*** *19:21:01.8±0.7, 4671N±003×14170E±005, h10km±6km, mb3.2/2, Error ellipse: s-maj=6.0km s-min=4.3km az=3.0*
ISC 24 19:21:03.6±0.8, 4670N±003×14178E±005, h15km±6km, n24, σ0°96/39, mb3.2/2, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.71**	**69**	*i*PN		**Pg**	**19 21 16.0**	**-1.6**
YSS				*e*			19 21 27.5	
YSS				smax				
	comp=N,3μm,0.2s							
YSS	**Yuzh-Sakhalins**	**0.71**	**69**	*i*Pg		**Pg**	**19 21 16.0**	**-1.6**
YSS				*e*Sg		**Sg**	**19 21 27.5**	**+0.5**
YSS				A			19 21 29.0	
	comp=N,3μm,0.2s							
YSS				AMS		AMS	19 21 58.0	
	comp=N,2μm,5.0s							
YSS				AMS		AMS	19 21 58.0	
	comp=N,900nm,5.0s							
JWK2	**Keihoku**	**1.39**	**177**	P		**Pn**	**19 21 27.9**	**-0.6**
JWK2				*e*S		**Sn**	**19 21 47.5**	**+0.9**
JRR	**Rishiri**	**1.60**	**192**	P		**Pn**	**19 21 31.2**	**-0.2**
JRR				*e*S		**Sn**	**19 21 53.7**	**+2.0**
JSE	**Soyaes**	**1.83**	**162**	P		**Pn**	**19 21 34.1**	**-0.5**
JSE				*e*S		**Sn**	**19 21 58.4**	**+0.9**
JYG	**Yagishiri**	**2.29**	**186**	P		**Pn**	**19 21 41.5**	**+0.6**
JSS	**Shosan**	**2.31**	**179**	P		**Pn**	**19 21 40.9**	**-0.2**
UGL	**Uglegorsk**	**2.38**	**5**	*e*PN		**Pg**	**19 21 51.0**	**+1.7**
UGL				pmax		pmax		
	comp=Z,51nm,0.7s							
UGL	**Uglegorsk**	**2.38**	**5**	*e*P		**Pn**	**19 21 42.0**	**-0.1**
UGL				*e*Pg		**Pg**	**19 21 50.0**	**+0.7**
UGL				AMB		AMB	19 21 54.0	
	comp=Z,51nm,0.7s							
UGL				*e*S		**Sn**	**19 22 11.0**	**0.0**
UGL				*e*Sg		**Sg**	**19 22 24.0**	**+3.8**
UGL				A			19 22 25.0	
	comp=Z,95nm,0.6s							
UGL				A			19 22 25.0	
	comp=Z,159nm,0.6s							
ASAJ	**Asahikawa**	**2.65**	**167**	P		**Pn**	**19 21 46.1**	**+0.3**
ASAJ				*e*S		**Sn**	**19 22 20.2**	**+2.5**
ASAJ	**Asahikawa**	**2.65**	**167**	Pn		**Pn**	**19 21 46.0**	**+0.1**
	comp=Z,4.4nm,0.3s,baz=22,slow=11,SNR=41							
ASAJ				Sn		**Sn**	**19 22 23.6**	**+5.9**
	comp=Z,7.0nm,0.3s,baz=43,slow=29,SNR=5.6							
ASAJ	**Asahikawa**	**2.65**	**167**	PN		**Pn**	**19 21 46.0**	**+0.2**
ASAJ							19 22 23.6	
ASAJ				pmax		pmax		
	comp=Z,4.0nm,0.3s							
ASAJ				smax				
	comp=N,7.0nm,0.3s							
JKK2	**Kamakawa 2**	**2.91**	**166**	P		**Pn**	**19 21 49.6**	**+0.2**
JMP	**Maruseppu**	**2.92**	**157**	P		**Pn**	**19 21 48.5**	**-1.0**
JTKR	**Abashiri--Toko**	**3.12**	**150**	P		**Pn**	**19 21 51.1**	**-1.1**
JTKR				*e*S		**Sn**	**19 22 28.9**	**-0.3**
TEY	**Ternei**	**3.98**	**247**	*e*P		**Pn**	**19 22 03.0**	**-1.1**
TEY				*e*Sg		**Sg**	**19 23 11.3**	**-0.2**
TEY				A			19 23 12.0	
	comp=N,19nm,0.4s							
TYV	**Tymovskoe**	**4.20**	**8**	*e*P		**Pn**	**19 22 08.0**	**+0.9**
TYV				*e*Pg		**Pg**	**19 22 24.7**	**+0.6**
TYV				AMB

IZM			*e*SG		**Sg**	**19 35 54.5**	**+1.4**
KDAG	**Bornova**	**0.59 356**	*i* P		**Pg**	**19 35 44.8**	**-0.8**
BLCB	**Balcova**	**0.61 339**	*e*PG		**Pg**	**19 35 45.6**	**-0.3**
MLSB	**Milas**	**0.63 145**	*e*PG		**Pg**	**19 35 46.5**	**+0.2**
BODT	**Bodrum**	**0.75 181**	*e*PG		**Pg**	**19 35 48.4**	**-0.2**
BDRM	**Kayabasi**	**0.75 173**	*i* P		**Pg**	**19 35 47.6**	**-1.1**
BDRM			*i* S		**Sg**	**19 35 59.7**	**+1.3**
YER	**Yerkesik**	**1.02 131**	*e*PG		**Pg**	**19 35 53.6**	**-0.2**
AKS	**Akhisar**	**1.13 20**	*e*PN		**Pn**	**19 35 54.8**	**-2.3**
KULA	**Kula-Manisa**	**1.27 56**	*e*PN		**Pn**	**19 35 56.9**	**-2.0**
DNZL	**Cakiroluk**	**1.37 95**	*i* P		**Pn**	**19 35 59.0**	**-1.4**
DNZL			*i* S		**Sg**	**19 36 19.7**	**+1.5**
TURN	**Turunc**	**1.39 132**	*i* P		**Pn**	**19 35 56.9**	**-3.7**
TURN			*i* S		**Sg**	**19 36 14.2**	**-4.5**
DALT	**Dalyan (Mudla)**	**1.48 134**	*e*PN		**Pn**	**19 36 01.8**	**0.0**
APE	**Apeiranthos**	**1.61 243**	*e*PN		**Pb**	**19 36 04.3**	**-0.4**
DEMI	**Demirci**	**1.64 41**	*i* P		**Pn**	**19 36 04.0**	**-0.1**
PRK	**Paraskevi**	**1.65 330**	*e*PN		**Pb**	**19 36 05.3**	**-0.1**
ARG	**Arkhangelos**	**1.72 158**	*e*PN		**Pb**	**19 36 06.0**	**-0.5**
KHL	**Karahalli**	**1.81 73**	*e*PN		**Pn**	**19 36 07.0**	**+0.6**
BALB	**Balikesir**	**1.88 13**	*e*PN		**Pn**	**19 36 07.0**	**-0.3**
DST	**Dursunbey**	**2.06 29**	*e*PN		**Pn**	**19 36 09.5**	**-0.4**
KARP	**Karpathos**	**2.27 183**	*e*PN		**Pn**	**19 36 13.5**	**+0.8**
ALT	**Altintas**	**2.52 60**	*e*PN		**Pn**	**19 36 16.7**	**+0.6**
KCT	**Karacabey**	**2.58 18**	*e*PN		**Pn**	**19 36 17.1**	**+0.2**
LPK	**Lapseki**	**2.59 350**	*e*PN		**Pn**	**19 36 17.3**	**+0.1**
GADA	**Gvkgeada**	**2.62 335**	*e*PN		**Pn**	**19 36 18.0**	**+0.5**
SHUT	**Suhut-Afyon**	**2.65 73**	*e*PN		**Pn**	**19 36 18.3**	**+0.3**
RKY	**Sarkoy-Tekirda**	**2.87 358**	*e*PN		**Pn**	**19 36 21.4**	**+0.4**
MFT	**Murefte**	**2.97 359**	*e*PN		**Pn**	**19 36 23.1**	**+0.8**
GEMT	**Gemlik**	**2.99 28**	*e*PN		**Pn**	**19 36 23.0**	**+0.3**
ENEZ	**Enez**	**3.06 343**	*e*PN		**Pn**	**19 36 24.0**	**+0.4**
YLV	**Yalova**	**3.18 29**	*e*PN		**Pn**	**19 36 26.3**	**+1.1**
ADVT	**Abdulvahap**	**3.22 35**	*e*PN		**Pn**	**19 36 26.3**	**+0.5**

*IDC **24** 20:13:13.8±0.9, 14.19S×76.55W, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.7/20, mbtmp3.8/8, ML3.6/3, MS3.2/4, Ms1 3.2/4, ms1mx2.9/24, Error ellipse: s-maj=36.9km s-min=19.1km az=74.0*
*NEIC **24** 20:13:15.0±5.7, 14.12S×76.62W, h10km±35km, Error ellipse: s-maj=26.8km s-min=12.0km az=62.0*
*ISCJB **24** 20:13:16.9±0.9, 1423S±007×766W±0.1, h33km, mb3.7/5, MS3.1/2, Error ellipse: s-maj=20.2km s-min=6.9km az=156.4*
ISC 24 20:13:19.4±0.8, 1424S±007×766W±01, h35km, n19, σ1§36/19, mb3.7/5, MS3.1/2, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.25**	**355**	Pn	**Pn**	**20 13 50.5**	**-3.7**
	15nm,0.3s,baz=178,slow=14,SNR=24						
NNA				Sn	**Sn**	**20 14 21.5**	**+0.7**
	145nm,0.3s,baz=253,slow=14,SNR=17						
NNA	**Nana**	**2.25**	**355**	*e*Pn	**Pn**	**20 13 50.0**	**-4.2**
NNA				*e*Sn	**Sn**	**20 14 17.6**	**-3.2**
NNA				Sn	**Sn**	**20 14 21.5**	**+0.7**
ARE	**Arequipa**	**5.43**	**115**	P	**Pn**	**20 14 44.0**	**+6.1**
ARE				*e*S	**Sn**	**20 15 50.0**	**+11**
ATAH	**Atahualpa**	**7.40**	**346**	Pn	**Pn**	**20 15 02.7**	**-2.4**
	1.3nm,0.3s,baz=187,slow=16,SNR=4.1						
ATAH				Sn	**Sn**	**20 16 29.9**	**+2.0**
	1.1nm,0.3s,baz=208,slow=21,SNR=4.2						
LPAZ	**La Paz**	**8.45**	**105**	Pn	**Pn**	**20 15 22.4**	**+3.0**
	0.6nm,0.3s,baz=312,slow=9.8,SNR=12						
LPAZ				LR	LR	20 19 09.9	
	comp=Z,109nm,21.6s,baz=300,slow=42						
LPAZ	**La Paz**	**8.45**	**105**	Pn	**Pn**	**20 15 22.4**	**+3.0**
LPAZ				LR	LR	20 19 09.9	
LVC	**Limon Verde**	**11.09**	**140**	*e*Pn	**Pn**	**20 15 55.0**	**-0.5**
SIV	**San Ignacio**	**15.12**	**99**	Pn	**Pn**	**20 16 49.4**	**-1.2**
	0.1nm,0.3s,baz=295,slow=14,SNR=2.6						
ROSC	**El Rosal**	**19.11**	**7**	LR	LR	20 25 23.9	
	comp=Z,52nm,19.8s,baz=196,slow=38						
CPUP	**Villa Florida**	**21.70**	**127**	LR	LR	20 28 02.8	
	comp=Z,52nm,19.0s,MS3.0,baz=61,slow=41						
PCRV	**Puerto La Cruz**	**27.02**	**27**	LR	LR	20 30 52.4	
	comp=Z,78nm,18.8s,MS3.3,baz=198,slow=39						
TXAR	**Lajitas Array**	**50.58**	**329**	P	**P**	**20 22 15.1**	**+0.2**
	0.2nm,0.8s,mb3.1,baz=152,slow=10,SNR=2.6						
SNAA	**Sanae**	**71.48**	**161**	P	**P**	**20 24 36.1**	**0.0**
	0.3nm,0.5s,mb3.5,baz=262,slow=12,SNR=4.8						
DBIC	**Dimbokro**	**74.16**	**79**	P	**P**	**20 24 52.2**	**-0.8**
	2.9nm,0.6s,mb4.4,baz=217,slow=1.9,SNR=6.0						
QSPA	**South Pole Qui**	**75.90**	**180**	P	**P**	**20 25 03.1**	**+1.2**
	0.5nm,0.7s,mb3.6,baz=198,slow=6.1,SNR=6.0						
QSPA	**South Pole Qui**	**75.90**	**180**	P	**P**	**20 25 03.1**	**+1.2**
TORD	**Torodi Ar. Bea**	**82.19**	**74**	P	**P**	**20 25 36.8**	**-0.6**
	2.3nm,0.8s,mb4.1,baz=251,slow=4.7,SNR=6.9						
WRA	**Warramunga Arr**	**134.37**	**223**	PKP	PKPdf	20 32 32.6	-2.0
	0.5nm,1.0s,baz=133,slow=1.6,SNR=4.0						
SONM	**Songino Array**	**146.41**	**356**	PKPbc	PKPbc	20 32 56.3	-0.4
	0.9nm,0.7s,baz=340,slow=1.9,SNR=7.3						

*CSEM **24** 20:30:19.4±0.1, 3813N×3858E, h2km, MD3.1, Error ellipse: s-maj=1.2km s-min=1.2km az=73.0*
*ISCJB **24** 20:30:20.8±0.4, 3815N±002×3857E±003, h10km, Error ellipse: s-maj=3.5km s-min=3.4km az=151.3*
*ISK **24** 20:30:20.2, 3813N×3857E, h5km, MD3.1*
*DDA **24** 20:30:20.3, 3812N×3859E, h7km±2km, Md3.0*
ISC 24 20:30:20.9±0.5, 3813N±002×3856E±003, h0km±6km, n19, σ0§90/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.21**	**330**	*e*PG	**Pg**	**20 30 25.1**	**+0.1**
MALT				*e*SG	**Sg**	**20 30 28.2**	**+0.6**
MYA	**Malataya**	**0.22**	**331**	*e*PG	**Pg**	**20 30 25.2**	**+0.1**
MYA				*e*SG	**Sg**	**20 30 29.0**	**+1.0**
ELZG	**Elazig**	**0.49**	**43**	*i* P	**Pg**	**20 30 29.8**	**-0.6**
ELZG				*i* S	**Sg**	**20 30 36.9**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.64**	**67**	*e*PG	**Pg**	**20 30 32.7**	**-0.4**
SVRC				*e*SG	**Sg**	**20 30 42.6**	**+1.2**
ATAB	**Bozova**	**0.70**	**198**	*i* P	**Pg**	**20 30 33.8**	**-0.5**
URFA	**Urfa**	**0.72**	**163**	*e*PG	**Pg**	**20 30 34.4**	**-0.3**
URFA				*e*SG	**Sg**	**20 30 44.3**	**+0.2**
PTK	**Pertek**	**1.00**	**41**	*e*PG	**Pg**	**20 30 39.0**	**-1.1**
PTK				*e*SG	**Sg**	**20 30 54.0**	**+1.0**
DARE	**Darende-Malaty**	**1.01**	**324**	*e*PG	**Pg**	**20 30 39.3**	**-1.0**
DARE				*e*SG	**Sg**	**20 30 53.0**	**-0.3**
GZT	**Gaziantep**	**1.11**	**226**	*i* P	**Pg**	**20 30 42.0**	**-0.1**
GZT				*i* S	**Sg**	**20 30 57.9**	**+1.4**
DIYA	**Diyarbakir**	**1.25**	**99**	*i* P	**Pg**	**20 30 43.8**	**-1.1**
DIYA				*i* S	**Sg**	**20 31 01.6**	**+0.5**
GAZ	**Gaziantep**	**1.44**	**228**	*e*PN	**Pn**	**20 30 47.7**	**-0.5**
KMRS	**Kahramanmaras**	**1.46**	**245**	*e*PN	**Pn**	**20 30 47.9**	**-0.5**
SARI	**SarD1z-Kayseri**	**1.56**	**291**	*e*PN	**Pn**	**20 30 51.5**	**+1.6**
EZC	**Erzincan**	**1.89**	**31**	*e*PN	**Pn**	**20 30 51.8**	**-2.6**
MARD	**Mardin**	**1.94**	**114**	*i* P	**Pn**	**20 30 54.3**	**-0.8**
MARD				*i* S	**Sn**	**20 31 22.3**	**+2.1**
SVSK	**Karacayir**	**2.16**	**326**	*e*PN	**Pn**	**20 30 57.7**	**-0.4**
BNN	**Bunyan**	**2.25**	**289**	*e*PN	**Pn**	**20 30 59.3**	**0.0**
KOZT	**Kozan**	**2.26**	**254**	*e*PN	**Pn**	**20 30 59.5**	**-0.1**
COBT	**Iskenderun**	**2.44**	**229**	*i* P	**Pn**	**20 31 06.6**	**+4.6**

*ISCJB **24** 20:47:02.4±0.8, 419N±0.1×8171E±009, h10km, Error ellipse: s-maj=17.5km s-min=5.5km az=153.9*
*BJI **24** 20:47:03.9, 4232N×8116E, h13km, ML3.3*
*NNC **24** 20:47:15.8±4.6, 4303N×8053E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=47.2km s-min=24.4km az=148.0*
ISC 24 20:47:05.5±0.8, 421N±01×8149E±008, h10km, n9, σ1§49/11, 8C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**3.51**	**290**	⇑Pn	**Pn**	**20 48 02.3**	**+2.2**
	55nm,0.7s						
KNDC				⇑Lg		20 48 42.5	
	296nm,0.9s						
TKM2	**Tokmak 2**	**4.43**	**282**	⇑Pn	**Pn**	**20 48 11.0**	**-1.7**
	10nm,0.5s						
TKM2				⇑Lg		20 49 07.6	
	44nm,0.4s						
MK31	**Makanchi Array**	**4.70**	**7**	⇑Pn	**Pn**	**20 48 18.2**	**+1.7**
	1.8nm,0.3s,baz=192,slow=14						
MK31				⇓Lg		20 49 25.9	
	37nm,0.6s,baz=205,slow=31						
WMQ	**Urumqi**	**4.86**	**67**	*e*PG	**Pg**	**20 48 36.5**	**-2.1**
WMQ				SG	**Sg**	**20 49 42.5**	**+1.0**
WMQ				Smax			
	comp=N,28nm,0.7s						
WMQ				Smax			
	comp=E,51nm,0.8s						
KSH	**Kashi**	**4.93**	**240**	*e*P	**Pn**	**20 48 20.1**	**+0.5**
KSH				*e*S	**Sn**	**20 49 18.1**	**+1.4**
KSH				Smax			
	comp=N,145nm,1.1s						
KSH				Smax			
	comp=E,107nm,0.6s						
KK31	**Karatay Array**	**8.16**	**281**	Pg	**Pb**	**20 49 25.4**	**-1.4**
	comp=E,0.6nm,0.4s,baz=84,slow=15,SNR=18						
KK31				⇑Lg		20 51 05.3	
	comp=E,5.4nm,0.6s,baz=83,slow=28						
KURBB	**Kurchatov Arra**	**8.74**	**348**	Lg		20 51 23.0	
KURK	**Kurchatov**	**8.82**	**348**	⇑Sn	**Sn**	**20 50 43.7**	**-8.6**
	comp=E,6.2nm,0.7s						
KURK				⇑Lg		20 51 27.0	
	comp=E,34nm,1.3s						
CEP	**Cherat**	**11.21**	**225**	P	**Pn**	**20 49 45.1**	**-0.7**
CEP				S	**Sn**	**20 51 45.0**	**-6.1**

*NEIC **24** 21:26:32.3, 1436N×9328W, h24km, MD4.4(MEX), After MEX.*
MEX 24 21:26:32.3±1.0, 1436N×9328W, h24km±69km, MD4.4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.13**	**61**	*i* P	Pn	21 26 49.8	-2.8
THIG				*i* S	Sb	21 27 02.7	-4.7
CCIG	**Comitan**	**2.21**	**30**	*i* P	Pn	21 27 06.5	-1.1
CCIG				*i* S	Sn	21 27 30.8	-3.3
SCX	**San Cristobal**	**2.45**	**15**	*i* P	Pn	21 27 09.0	-1.8
SCX				*i* S	Sn	21 27 37.0	-3.0
VHO	**Vista Hermosa**	**4.28**	**310**	*e*P	Pn	21 27 33.6	-2.4
VHO				*i* S	Sn	21 28 23.1	-2.2
PNIG	**Pinotepa**	**5.09**	**294**	*i* P	Pn	21 27 42.6	-4.6
PNIG				*i* S	Sn	21 28 41.2	-4.1
PPM	**Popocatepetl**	**6.94**	**313**	*e*P	Pn	21 28 14.6	+2.0
PPM				*i* S	Sn	21 29 35.0	+4.2

*IDC **24** 21:26:39.7±8.6, 647S×130.17E, h78km±76km, mb3.7/4, mb1 4.1/7, mb1mx3.8/14, mbtmp4.0/7, ML4.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/18, Error ellipse: s-maj=100.4km s-min=18.7km az=55.0*
*NEIC **24** 21:26:45.3±2.5, 694S×129.53E, h127km±24km, mb4.3/3, Error ellipse: s-maj=38.5km s-min=16.4km az=57.0*
*ISCJB **24** 21:26:47.4±1.6, 7.13S±007×129.54E±008, h171km±16km, mb3.7/4, Error ellipse: s-maj=15.3km s-min=8.2km az=135.5*
*DJA **24** 21:26:51, 7.18S×129.67E, h155km, mb4.6/4*
ISC 24 21:26:50.2±1.3, 733S±008×12954E±007, h188km±13km, n18, σ1§14/22, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.06**	**152**	*e*P	**Pn**	**21 28 19.4**	**+1.2**
	85nm,0.6s						
KAKA				*e*S	**Sn**	**21 29 27.4**	**-0.3**
BATI	**Baumata**	**6.47**	**243**	P	**Pn**	**21 28 25.8**	**+2.3**
	29nm,0.3s,baz=126,slow=3.2,SNR=41						
BATI				S	**Sn**	**21 29 36.6**	**-0.6**
	13nm,0.3s,baz=117,slow=4.9,SNR=4.7						
FITZ	**Fitzroy Crossi**	**11.36**	**199**	*e*P	**Pn**	**21 29 28.7**	**+1.4**
	11nm,0.3s						
FITZ				*e*S	**Sn**	**21 31 32.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.36**	**199**	P	**Pn**	**21 29 29.0**	**+1.7**
	1.8nm,0.3s,baz=27,slow=12,SNR=52						
FITZ				S	**Sn**	**21 31 32.6**	**-1.2**
	1.6nm,0.3s,baz=81,slow=22,SNR=6.1						
FITZ				LR	LR	21 35 00.1	
	comp=Z,42nm,19.6s,baz=66,slow=40						
WRAB	**Tennant Creek**	**13.37**	**160**	*e*Pn	**Pn**	**21 29 53.7**	**+0.8**
	9.5nm,0.6s						
WRAB				*e*Sn	**Sn**	**21 32 21.6**	**-0.3**
WRA	**Warramunga Arr**	**13.38**	**160**	P	**Pn**	**21 29 53.3**	**+0.4**
	1.9nm,0.3s,baz=337,slow=13,SNR=112						
WRA				S	**Sn**	**21 32 20.1**	**-1.8**
	2.2nm,0.3s,baz=325,slow=24,SNR=10						
WB2	**Warramunga Arr**	**13.38**	**160**	*e*P	**Pn**	**21 29 53.6**	**+0.7**
WB2				*e*S	**Sn**	**21 32 20.5**	**-1.5**
ASAR	**Alice Springs**	**16.78**	**166**	P	**Pn**	**21 30 39.0**	**+4.6**
	1.8nm,0.3s,baz=341,slow=9.7,SNR=93						
ASAR				S	**Sn**	**21 33 40.9**	**+1.8**
	0.3nm,0.3s,baz=342,slow=24,SNR=3.9						
STKA	**Stephens Creek**	**26.89**	**157**	*e*P	**P**	**21 32 18.4**	**+4.7**
	0.8nm,0.5s,mb3.6						
STKA	**Stephens Creek**	**26.89**	**157**	P	**P**	**21 32 18.4**	**+4.7**
	0.9nm,0.5s,mb3.7,baz=339,slow=15,SNR=6.1						
CMAR	**Chiang Mai Arr**	**39.59**	**311**	P	**P**	**21 34 03.0**	**-0.6**
	0.8nm,0.5s,mb3.6,baz=136,slow=6.7,SNR=10						
URZ	**Urewera**	**52.77**	**133**	LR	LR	21 57 47.9	
	comp=Z,95nm,19.2s,baz=3.0,slow=35						
MK31	**Makanchi Array**	**68.25**	**327**	*e*P	**P**	**21 37 30.0**	**-0.6**
MKAR	**Makanchi Array**	**68.25**	**327**	P	**P**	**21 37 30.0**	**-0.5**
	1.4nm,0.4s,mb4.1,baz=119,slow=7.6,SNR=40						
ZALV	**Zalesovo Beam**	**71.67**	**334**	P	**P**	**21 37 50.3**	**-1.0**
	0.6nm,0.5s,mb3.6,baz=120,slow=5.8,SNR=4.0						
CPUP	**Villa Florida**	**145.88**	**169**	PKPbc	PKPbc	21 46 11.8	+3.6
	1.1nm,0.5s,baz=71,slow=3.9,SNR=3.5						
CPUP	**Villa Florida**	**145.88**	**169**	PKPbc	PKPbc	21 46 11.8	+3.6
LPAZ	**La Paz**	**150.74**	**143**	PKPbc	PKPbc	21 46 25.4	+4.2
	0.7nm,0.4s,baz=59,slow=5.9,SNR=6.3						

*CSEM **24** 21:43:09.3, 3640N×631E, h0km, ML3.7, After ALG*
CRAAG 24 21:43:09.3, 3640N×631E, Ml3.7, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASM	**Ain Smara**	**0.20**	**133**	P	Pg	21 43 14.0	+0.8
CKFL	**Kef-Lekhel**	**0.33**	**90**	P	Pg	21 43 18.0	+2.3
CTEI	**Djebel Teioual**	**0.35**	**167**	P	Pg	21 43 18.5	+2.6
DFRA	**Djebel Bou Aff**	**0.38**	**293**	P	Pg	21 43 19.0	+2.5
CAEH	**`Ain El Ouatch**	**0.58**	**49**	P	Pg	21 43 23.0	+2.6
CKHR	**Kef el Ahmar**	**0.75**	**239**	P	Pg	21 43 29.0	+5.4
SET	**Setif**	**0.76**	**255**	P	Pg	21 43 30.0	+6.1
CMAH	**Djebel Manchou**	**0.92**	**76**	P	Pg	21 43 30.0	+3.0
ABSA	**Djebel Ababsia**	**0.95**	**97**	P	Pg	21 43 32.0	+4.4

*IDC **24** 21:53:13.0±3.1, 1037S×163.79E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, ML4.1/2, MS3.6/2, Ms1 3.5/2, ms1mx2.8/23, Error ellipse: s-maj=76.7km s-min=31.9km az=123.0*
*NEIC **24** 21:53:21.8±7.6, 1030S×163.30E, h35km, mb3.7/1, Error ellipse: s-maj=116.0km s-min=34.7km az=62.0*
ISC 24 21:53:22.0±5.0, 102S±02×163.2E±03, h40km±35km, n11, σ1§17/11, mb3.7/6, MS3.5/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.34**	**283**	Pn	**Pn**	**21 54 12.3**	**+0.5**
	17nm,0.3s,baz=104,slow=19,SNR=2.6						
HNR				Sn	**Sn**	**21 54 49.8**	**-0.4**
	24nm,0.3s,baz=111,slow=7.0,SNR=6.3						
HNR	**Honiara**	**3.34**	**283**	Pn	**Pn**	**21 54 12.3**	**+0.5**
CTA	**Charters Tower**	**19.09**	**237**	P	**Pn**	**21 57 42.0**	**-0.6**
	0.3nm,0.3s,baz=84,slow=13,SNR=4.6						
CTAO	**Charters Tower**	**19.09**	**237**	*e*P	**Pn**	**21 57 41.9**	**-0.7**
	4.3nm,0.9s						
STKA	**Stephens Creek**	**29.43**	**220**	LR	LR	22 08 54.0	
	comp=Z,125nm,19.4s,MS3.5,baz=20,slow=32						
WRA	**Warramunga Arr**	**29.49**	**247**	P	**P**	**21 59 23.7**	**+1.1**
	0.5nm,0.6s,mb3.4,baz=84,slow=9.5,SNR=6.4						
ASAR	**Alice Springs**	**31.01**	**241**	P	**P**	**21 59 34.5**	**-1.6**
	0.4nm,0.8s,mb3.3,baz=73,slow=10,SNR=4.5						
FITZ	**Fitzroy Crossi**	**37.24**	**254**	P	**P**	**22 00 31.8**	**+1.7**
	2.0nm,0.7s,mb4.0,baz=107,slow=14,SNR=4.5						
FITZ				LR	LR	22 14 03.2	
	comp=Z,58nm,18.7s,MS3.4,baz=236,slow=33						
CMAR	**Chiang Mai Arr**	**69.53**	**294**	P	**P**	**22 04 30.8**	**+3.6**
	0.5nm,0.3s,mb3.9,baz=130,slow=3.6,SNR=3.7						
SONM	**Songino Array**	**76.56**	**325**	P	**P**	**22 05 08.3**	**+0.2**
	0.2nm,0.4s,mb3.4,baz=131,slow=6.4,SNR=2.8						
MKAR	**Makanchi Array**	**91.24**	**317**	P	**P**	**22 06 21.7**	**-1.5**
	0.4nm,0.2s,mb4.3,baz=90,slow=6.7,SNR=8.6						

*IDC **24** 22:00:21.1±2.4, 345S×135.53E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/13, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=97.5km s-min=29.3km az=78.0*
*NEIC **24** 22:00:23.1±1.2, 350S×135.34E, h10km, mb3.7/1, Error ellipse: s-maj=31.4km s-min=11.2km az=75.0*
*ISCJB **24** 22:00:26.1±1.1, 377S±008×1349E±02, h33km, mb3.6/3, Error ellipse: s-maj=22.9km s-min=11.4km az=176.4*
ISC 24 22:00:28.5±1.1, 385S±008×1348E±02, h35km, n9, σ1§42/11, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.12**	**195**	*e*Pn	**Pn**	**22 02 41.6**	**+4.0**
WB2	**Warramunga Arr**	**16.01**	**182**	*e*Pn	**Pn**	**22 04 12.8**	**+1.8**
WRA	**Warramunga Arr**	**16.01**	**182**	Pn	**Pn**	**22 04 09.2**	**-1.9**
	0.2nm,0.3s,baz=3.1,slow=13,SNR=8.2						
WRA				Sn	**Sn**	**22 07 00.6**	**-6.9**
	0.2nm,0.3s,baz=9.9,slow=22,SNR=4.8						
WRA				Lg		22 08 58.7	
	baz=3.1,slow=29,SNR=3.2						
FITZ	**Fitzroy Crossi**	**16.78**	**212**	Pn	**Pn**	**22 04 25.1**	**+4.2**
	0.2nm,0.3s,baz=30,slow=13,SNR=3.6						
FITZ				Sn	**Sn**	**22 07 25.5**	**-0.8**
	0.2nm,0.3s,baz=240,slow=20,SNR=2.7						
ASAR	**Alice Springs**	**19.73**	**183**	P	**Pn**	**22 04 58.5**	**+1.8**
	3.2nm,0.7s,baz=9.1,slow=12,SNR=41						
KSM	**Kuching**	**25.07**	**282**	*e*P	**P**	**22 05 51.6**	**+1.7**
STKA	**Stephens Creek**	**28.60**	**168**	P	**P**	**22 06 20.6**	**-0.8**
	0.7nm,0.7s,mb3.5,baz=337,slow=7.7,SNR=3.4						
QIZ	**Qiongzhong**	**33.49**	**314**	*e*P	**P**	**22 07 04.3**	**-0.4**
	0.5nm,0.5s,mb3.7						
MKAR	**Makanchi Array**	**68.37**	**324**	P	**P**	**22 11 25.3**	**-1.1**
	0.2nm,0.4s,mb3.5,baz=109,slow=6.3,SNR=3.9						

*NEIC **24** 22:38:02.2±0.3, 5588N×16066E, h10km, mb4.4/8, Error ellipse: s-maj=9.9km s-min=6.8km az=124.0*
*ISCJB **24** 22:38:15.9±0.3, 5551N±003×16084E±009, h160km±1km, mb3.8/34, Error ellipse: s-maj=8.5km s-min=3.9km az=15.3*
*MOS **24** 22:38:15.7±0.9, 5559N×16070E, h154km, mb4.0/12, Error ellipse: s-maj=15.6km s-min=6.9km az=86.6*
*KRSC **24** 22:38:15.9±0.7, 5542N×16108E, h151km±40km, ML4.4*
*IDC **24** 22:38:17.5±2.2, 5563N×16057E, h152km±20km, mb3.5/20, mb1 3.7/21, mb1mx3.7/26, mbtmp3.5/21, MS2.8/1, Ms1 2.8/1, ms1mx2.2/24, Error ellipse: s-maj=14.9km s-min=11.8km az=149.0*
ISC 24 22:38:17.0±0.3, 5549N±003×16088E±009, h156km±1km, n97, σ0§92/121, mb3.8/34, 3D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.45**	**307**	*e*P	**Pn**	**22 38 39.2**	**+0.6**
KMNR				*i* S	**Sn**	**22 38 56.3**	**+1.0**
TUMR	**Tumrok**	**0.47**	**244**	*e*P	**Pn**	**22 38 39.4**	**+0.7**
TUMR				*i* S	**Sn**	**22 38 56.3**	**+1.0**
BZMR	**Bezymyannaya**	**0.50**	**334**	*e*P	**Pn**	**22 38 39.0**	**+0.1**
BZMR				*i* S	**Sn**	**22 38 55.8**	**+0.1**
BZWR	**Bezymyannyi-We**	**0.52**	**336**	*e*P	**Pn**	**22 38 39.0**	**0.0**
BZWR				*i* S	**Sn**	**22 38 55.8**	**-0.1**
ZLN	**Zelenaya**	**0.53**	**356**	*e*P	**Pn**	**22 38 39.6**	**+0.6**
ZLN				*i* S	**Sn**	**22 38 57.2**	**+1.2**
KIRR	**Kirishev**	**0.55**	**327**	*e*P	**Pn**	**22 38 38.9**	**-0.2**
KIRR				*i* S	**Sn**	**22 38 56.0**	**-0.2**
KPT	**Kopyto**	**0.60**	**322**	*e*P	**Pn**	**22 38 39.3**	**-0.1**
KPT				*i* S	**Sn**	**22 38 56.9**	**+0.3**
CIRR	**Tsirk**	**0.63**	**353**	*e*P	**Pn**	**22 38 39.9**	**+0.3**
CIRR				*i* S	**Sn**	**22 38 57.1**	**+0.2**
KRSR	**Krestovskiy**	**0.75**	**347**	*e*P	**Pn**	**22 38 39.8**	**-0.5**
KRSR				*i* S	**Sn**	**22 38 58.0**	**-0.3**
KOZR	**Kozyr**	**0.80**	**317**	PN	**Pn**	**22 38 40.9**	**+0.2**
KOZR				S	**Sn**	**22 38 59.4**	**+0.6**
KOZ	**Kozyrevsk**	**0.80**	**316**	*e*P	**Pn**	**22 38 40.9**	**+0.2**
KOZ				*i* S	**Sn**	**22 38 59.4**	**+0.5**
KLY	**Klyuchi**	**0.83**	**351**	*e*P	**Pn**	**22 38 40.6**	**-0.3**
KLY				*i* S	**Sn**	**22 38 59.1**	**-0.2**
SRDR	**Sredinnyy**	**1.06**	**322**	*e*P	**Pn**	**22 38 42.7**	**+0.1**
SRDR				*i* S	**Sn**	**22 39 02.4**	**0.0**
MKZ	**Mys Kozlova**	**1.06**	**152**	*e*P	**Pn**	**22 38 41.6**	**-1.1**
MKZ				*i* S	**Sn**	**22 39 00.2**	**-2.1**
BDR	**Baidarnaya**	**1.10**

*ISCJB **24** 23:45:53.1±0.3,259S×004×36.14E±006,h10km,mb4.7/60, MS3.9/23,Error ellipse: s-maj=8.6km s-min=5.1km az=6.7*
*IDC **24** 23:45:53.4±0.6,261S×36.15E,h0km,mb4.4/15, mb1 4.5/17,mb1mx4.3/24,mbtmp4.4/17,ML4.1/2,MS3.9/19, Ms1 3.9/19,ms1mx3.8/25,Error ellipse: s-maj=18.0km s-min=11.6km az=118.0*
*MOS **24** 23:45:53.0±0.7,261S×36.11E,h10km,mb5.0/30,Error ellipse: s-maj=12.1km s-min=5.9km az=99.6*
*NEIC **24** 23:45:55.0±0.3,261S×3622E,h10km,mb4.9/27,MS4.0/3, Error ellipse: s-maj=8.0km s-min=6.2km az=86.0*
*BJI **24** 23:45:59.1,173S×3670E,h10km,mB4.8,mb4.7*
ISC 24 23:45:55.2±0.3,261S×004×3619E±006,h10km,n150, σ0.9 90/139,mb4.7/60,MS3.9/23,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.82**	**36**	Pg	**Pg**	**23 46 27.1**	**-3.0**
	592nm,0.3s,baz=219,slow=17,SNR=4379						
KMBO				Lg		23 46 51.4	
	2μm,0.3s,baz=287,slow=19,SNR=20						
KMBO	**Kilima Mbogo**	**1.82**	**36**	*e*P	**Pn**	**23 46 26.8**	**+0.2**
LSZ	**Lusaka**	**14.85**	**212**	Pn	**Pn**	**23 49 23.6**	**-1.8**
	1.1nm,0.3s,baz=46,slow=12,SNR=19						
LSZ				Lg		23 53 36.5	
	2.0nm,0.3s,baz=122,slow=14,SNR=8.0						
LSZ	**Lusaka**	**14.85**	**212**	*e*P	**Pn**	**23 49 23.2**	**-2.2**
LSZ				AMb	AMB	23 49 27.1	
	comp=Z,108nm,1.4s						
OPO	**Ambohidratompo**	**19.17**	**147**	P	**Pn**	**23 50 20.6**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=314,slow=17,SNR=5.3						
MSNA	**Messina**	**20.51**	**197**	*e*P	**P**	**23 50 34.8**	**+1.2**
MSNA				AMb	AMB	23 50 53.5	
	comp=Z,23nm,2.0s						
MOPA	**Mopani**	**21.29**	**192**	*e*P	**P**	**23 50 43.6**	**+1.5**
MOPA				AMb	AMB	23 51 07.2	
	comp=Z,21nm,1.7s,mb4.2						
SLR	**Silverton**	**24.21**	**198**	*e*P	**P**	**23 51 14.1**	**+1.9**
SLR				AMb	AMB	23 51 22.4	
	comp=Z,29nm,1.8s,mb4.4						
LBTB	**Lobatse**	**24.50**	**204**	P	**P**	**23 51 14.0**	**-0.8**
	comp=Z,5.8nm,0.8s,mb4.2,baz=29,slow=11,SNR=8.3						
LBTB				LR	LR	00 01 35.9	
	comp=Z,79nm,21.6s,MS3.2,baz=236,slow=38						
LBTB	**Lobatse**	**24.50**	**204**	P	**P**	**23 51 14.0**	**-0.8**
LBTB				LR	LR	00 01 35.9	
LBTB	**Lobatse**	**24.50**	**204**	*e*P	**P**	**23 51 12.4**	**-2.4**
LBTB				AMb	AMB	23 51 19.8	
	comp=Z,23nm,1.9s,mb4.4						
TSUM	**Tsumeb**	**24.56**	**227**	LR	LR	00 01 26.1	
	comp=Z,478nm,19.1s,MS4.0,baz=336,slow=38						
TSUM	**Tsumeb**	**24.56**	**227**	*e*P	**P**	**23 51 13.1**	**-2.3**
TSUM				AMb	AMB	23 51 42.2	
	comp=Z,184nm,1.6s,mb5.3						
ERPM	**east rand prop**	**24.70**	**197**	*e*P	**P**	**23 51 18.8**	**+2.1**
KSR	**Koster**	**24.77**	**200**	*e*P	**P**	**23 51 15.5**	**-1.8**
KSR				AMb	AMB	23 51 36.2	
	comp=Z,32nm,1.8s,mb4.5						
POGA	**Pongola**	**25.00**	**190**	*e*P	**P**	**23 51 16.7**	**-2.6**
POGA				AMb	AMB	23 51 18.0	
	comp=Z,54nm,2.0s,mb4.7						
PRYS	**Parys**	**25.61**	**198**	*e*P	**P**	**23 51 25.4**	**+0.4**
PRYS				AMb	AMB	23 51 34.7	
	comp=Z,27nm,1.5s,mb4.5						
HVD	**Gariep Dam**	**29.62**	**199**	*e*P	**P**	**23 52 00.1**	**-0.7**
GRM	**Grahamstown**	**31.86**	**195**	*e*P	**P**	**23 52 20.7**	**+0.2**
GRM				AMb	AMB	23 52 34.8	
	comp=Z,140nm,1.7s,mb5.5						
TORD	**Torodi Ar. Bea**	**37.65**	**295**	P	**P**	**23 53 09.1**	**-1.8**
	comp=Z,6.8nm,1.2s,mb4.2,baz=119,slow=5.7,SNR=13						
TORD				PP	PP	23 54 38.5	+1.6
	comp=Z,2.4nm,1.0s,baz=102,slow=10,SNR=4.3						
TORD				PcP	PcP	23 55 28.2	-0.3
	comp=Z,3.3nm,0.9s,baz=102,slow=3.8,SNR=6.9						
TORD				LR	LR	00 08 44.9	
	comp=Z,394nm,19.2s,MS4.2,baz=120,slow=36						
TORD	**Torodi Ar. Bea**	**37.65**	**295**	P	**P**	**23 53 09.1**	**-1.8**
TORD				PP	PP	23 54 38.5	+1.6
TORD				PcP	PcP	23 55 28.2	-0.3
TORD				LR	LR	00 08 44.9	
DBIC	**Dimbokro**	**42.00**	**283**	LR	LR	00 11 42.2	
	comp=Z,459nm,18.0s,MS4.4,baz=97,slow=37						
KEST	**Kesra**	**45.67**	**329**	LR	LR	00 13 04.9	
	comp=Z,116nm,19.6s,MS3.8,baz=256,slow=36						
SOC	**Sochi**	**46.10**	**4**	*e*P	**P**	**23 54 15.6**	**-3.9**
SOC				*e*		23 56 02.0	
SOC				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
KIV	**Kislovodsk**	**46.72**	**6**	P	**P**	**23 54 25.0**	**+0.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
ANN	**Anapa**	**47.22**	**1**	*e*P	**P**	**23 54 27.3**	**-0.9**
ANN				*e*S	**S**	**00 01 13.2**	**-7.9**
ANN				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.4						
KBL	**Kabul**	**48.15**	**37**	*e*P	**P**	**23 54 36.4**	**+0.7**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KBL	**Kabul**	**48.15**	**37**	*e*P	**P**	**23 54 36.4**	**+0.7**
	comp=Z,4.0nm,0.8s,mb4.5						
PGF	**Pioggiola**	**51.24**	**334**	*e*P	**P**	**23 54 57.8**	**-1.3**
	comp=Z,20nm,1.0s,mb4.7						
PGF	**Pioggiola**	**51.24**	**334**	*e*P	**P**	**23 54 57.8**	**-1.3**
PGF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
PGF	**Pioggiola**	**51.24**	**334**	*e*P	**P**	**23 54 57.8**	**-1.3**
	comp=Z,9.9nm,1.0s,mb4.7						
FRF	**La Foret Royal**	**53.08**	**333**	*e*P	**P**	**23 55 10.9**	**-1.9**
AKASG	**Malin Array Be**	**53.44**	**354**	P	**P**	**23 55 15.6**	**+0.3**
	comp=Z,5.3nm,0.9s,mb4.5,baz=178,slow=6.8,SNR=15						
SMRF	**Simiane la Rot**	**53.89**	**333**	*e*P	**P**	**23 55 18.0**	**-0.7**
MBDF	**Montbardon**	**53.95**	**334**	*e*P	**P**	**23 55 19.7**	**+0.6**
	comp=Z,27nm,1.4s,mb4.7						
MBDF	**Montbardon**	**53.95**	**334**	*e*P	**P**	**23 55 19.7**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
MBDF	**Montbardon**	**53.95**	**334**	*e*P	**P**	**23 55 19.7**	**+0.6**
	comp=Z,13nm,1.4s,mb4.7						
TUE	**Stuetta**	**54.32**	**337**	*e*P	**P**	**23 55 22.4**	**+0.6**
	comp=Z,12nm,1.4s,mb4.6						
LPG	**La Plagne**	**54.57**	**335**	*e*P	**P**	**23 55 25.0**	**+1.3**
LPL	**La Plagne**	**54.60**	**335**	*e*P	**P**	**23 55 24.6**	**+0.8**
	comp=Z,30nm,1.5s,mb4.8						
LPL	**La Plagne**	**54.60**	**335**	*e*P	**P**	**23 55 24.6**	**+0.8**
LPL				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.8						
LPL	**La Plagne**	**54.60**	**335**	*e*P	**P**	**23 55 24.6**	**+0.8**
	comp=Z,15nm,1.5s,mb4.8						
LASF	**Ste Croix**	**54.76**	**332**	*e*P	**P**	**23 55 25.5**	**+0.4**
	comp=Z,34nm,1.5s,mb4.8						
GEC2	**GERESS Array S**	**54.85**	**342**	*e*P	**P**	**23 55 26.1**	**+0.5**
GERES	**GERESS Array B**	**54.85**	**342**	P	**P**	**23 55 25.1**	**-0.5**
	comp=Z,3.5nm,1.0s,mb4.4,baz=149,slow=6.2,SNR=20						
GERES				LR	LR	00 23 37.4	
	comp=Z,79nm,18.6s,MS3.8,baz=12,slow=41						
VIVF	**Saint-Julien-l**	**54.98**	**333**	*e*P	**P**	**23 55 27.2**	**+0.6**
	comp=Z,30nm,1.5s,mb4.8						
VIVF	**Saint-Julien-l**	**54.98**	**333**	*e*P	**P**	**23 55 27.2**	**+0.6**
VIVF				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.8						
VIVF	**Saint-Julien-l**	**54.98**	**333**	*e*P	**P**	**23 55 27.2**	**+0.6**
	comp=Z,15nm,1.5s,mb4.8						
MTLF	**Montolieu**	**55.01**	**330**	*e*P	**P**	**23 55 27.0**	**+0.1**
KHC	**Kasperske Hory**	**55.14**	**342**	*e*P	**P**	**23 55 27.5**	**-0.2**
CABF	**La Chapelle**	**55.74**	**335**	*e*P	**P**	**23 55 31.6**	**-0.5**
	comp=Z,38nm,1.5s,mb4.9						
CABF	**La Chapelle**	**55.74**	**335**	*e*P	**P**	**23 55 31.6**	**-0.5**
CABF				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.9						
CABF	**La Chapelle**	**55.74**	**335**	*e*P	**P**	**23 55 31.6**	**-0.5**
	comp=Z,19nm,1.5s,mb4.9						
EPF	**Esparros**	**55.74**	**329**	*e*P	**P**	**23 55 32.8**	**+0.6**
ESDC	**Sonseca Array**	**55.91**	**323**	P	**P**	**23 55 34.4**	**+1.0**
	comp=Z,2.0nm,0.8s,mb4.2,baz=134,slow=6.8,SNR=9.6						
ESDC				LR	LR	00 18 13.2	
	comp=Z,123nm,18.1s,MS4.0,baz=125,slow=35						
AKTK	**Aktyubinsk**	**56.07**	**17**	P	**P**	**23 55 33.8**	**-0.5**
AKTO	**Aktyubinsk**	**56.07**	**17**	P	**P**	**23 55 33.8**	**-0.5**
	comp=Z,7.3nm,0.8s,mb4.8,baz=214,slow=7.4,SNR=27						
ETSF	**Etsaut**	**56.12**	**328**	*e*P	**P**	**23 55 35.5**	**+0.6**
	comp=Z,20nm,1.0s,mb4.8						
ETSF	**Etsaut**	**56.12**	**328**	*e*P	**P**	**23 55 35.5**	**+0.6**
ETSF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
ETSF	**Etsaut**	**56.12**	**328**	*e*P	**P**	**23 55 35.5**	**+0.6**
	comp=Z,10nm,1.0s,mb4.8						
CAF	**Calviac**	**56.25**	**331**	*e*P	**P**	**23 55 36.5**	**+0.7**
	comp=Z,29nm,1.3s,mb4.8						
CAF	**Calviac**	**56.25**	**331**	*e*P	**P**	**23 55 36.5**	**+0.7**
CAF				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
CAF	**Calviac**	**56.25**	**331**	*e*P	**P**	**23 55 36.5**	**+0.7**
	comp=Z,15nm,1.3s,mb4.8						
GRA1	**Grafenberg Arr**	**56.38**	**341**	*e*P	**P**	**23 55 36.5**	**-0.1**
	comp=Z,30nm,2.0s,mb5.0						
GRF	**Grafenberg Arr**	**56.38**	**341**	*e*P	**P**	**23 55 36.5**	**-0.1**
GRF				pmax	pmax		
	comp=Z,30nm,2.0s,mb5.0						
GRF	**Grafenberg Arr**	**56.38**	**341**	*e*P	**P**	**23 55 36.5**	**-0.1**
GRF				pmax	pmax		
	comp=Z,30nm,2.0s,mb5.0						
GRF	**Grafenberg Arr**	**56.38**	**341**	*e*P	**P**	**23 55 36.5**	**-0.1**
	comp=Z,30nm,2.0s,mb5.0						
HINF	**Hinteralfeld**	**56.40**	**337**	*e*P	**P**	**23 55 36.6**	**-0.1**
SJPF	**Ste Jean**	**56.62**	**328**	*e*P	**P**	**23 55 39.4**	**+0.9**
	comp=Z,37nm,1.3s,mb4.9						
SJPF	**Ste Jean**	**56.62**	**328**	*e*P	**P**	**23 55 39.4**	**+0.9**
SJPF				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.0						
SJPF	**Ste Jean**	**56.62**	**328**	*e*P	**P**	**23 55 39.4**	**+0.9**
	comp=Z,18nm,1.3s,mb5.0						
CDF	**Champ du Feu**	**56.72**	**337**	*e*P	**P**	**23 55 38.6**	**-0.4**
	comp=Z,19nm,1.3s,mb4.7						
CDF	**Champ du Feu**	**56.72**	**337**	*e*P	**P**	**23 55 38.6**	**-0.4**
CDF				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
CDF	**Champ du Feu**	**56.72**	**337**	*e*P	**P**	**23 55 38.6**	**-0.4**
	comp=Z,9.6nm,1.3s,mb4.7						
SMF	**Signal de Mont**	**56.73**	**334**	*e*P	**P**	**23 55 39.1**	**-0.1**
	comp=Z,34nm,1.4s,mb4.9						
SMF	**Signal de Mont**	**56.73**	**334**	*e*P	**P**	**23 55 39.1**	**-0.1**
SMF				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.9						
SMF	**Signal de Mont**	**56.73**	**334**	*e*P	**P**	**23 55 39.1**	**-0.1**
	comp=Z,17nm,1.4s,mb4.9						
HAU	**Haudompre**	**56.75**	**336**	*e*P	**P**	**23 55 39.0**	**-0.2**
HAU				*e*MLR	MLR		
	comp=Z,82nm,20.2s,MS3.5						
HAU	**Haudompre**	**56.75**	**336**	*e*P	**P**	**23 55 39.0**	**-0.2**
HAU				LR	LR		
	comp=Z,80nm,20.3s,MS3.8						
RJF	**Les Rejaudoux**	**56.79**	**331**	*e*P	**P**	**23 55 40.2**	**+0.6**
	comp=Z,39nm,1.4s,mb4.9						
RJF				*e*MLR	MLR		
	comp=Z,191nm,18.5s,MS3.9						
RJF	**Les Rejaudoux**	**56.79**	**331**	*e*P	**P**	**23 55 40.2**	**+0.6**
RJF				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
RJF				MLR	MLR		
	comp=Z,190nm,18.5s,MS4.2						
RJF	**Les Rejaudoux**	**56.79**	**331**	*e*P	**P**	**23 55 40.2**	**+0.6**
	comp=Z,20nm,1.4s,mb5.0						
RJF				LR	LR		
	comp=Z,190nm,18.5s,MS4.2						
LFF	**La Frestale**	**56.90**	**331**	*e*P	**P**	**23 55 41.1**	**+0.7**
	comp=Z,47nm,1.3s,mb5.1						
LFF	**La Frestale**	**56.90**	**331**	*e*P	**P**	**23 55 41.1**	**+0.7**
LFF				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.1						
LFF	**La Frestale**	**56.90**	**331**	*e*P	**P**	**23 55 41.1**	**+0.7**
	comp=Z,24nm,1.3s,mb5.1						
AVF	**Avril sur Loir**	**57.06**	**334**	*e*P	**P**	**23 55 41.5**	**0.0**
	comp=Z,20nm,1.2s,mb4.7						
AVF	**Avril sur Loir**	**57.06**	**334**	*e*P	**P**	**23 55 41.5**	**0.0**
AVF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
AVF	**Avril sur Loir**	**57.06**	**334**	*e*P	**P**	**23 55 41.5**	**0.0**
	comp=Z,9.9nm,1.2s,mb4.7						
BGF	**Bois d'Agland**	**57.11**	**333**	*e*P	**P**	**23 55 42.1**	**+0.3**
	comp=Z,40nm,1.4s,mb5.0						
BGF	**Bois d'Agland**	**57.11**	**333**	*e*P	**P**	**23 55 42.1**	**+0.3**
BGF				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
BGF	**Bois d'Agland**	**57.11**	**333**	*e*P	**P**	**23 55 42.1**	**+0.3**
	comp=Z,20nm,1.4s,mb5.0						
TCF	**Toulx Ste Croi**	**57.20**	**333**	*e*P	**P**	**23 55 43.3**	**+0.9**
	comp=Z,35nm,1.1s,mb5.0						
TCF	**Toulx Ste Croi**	**57.20**	**333**	*e*P	**P**	**23 55 43.3**	**+0.9**
TCF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
TCF	**Toulx Ste Croi**	**57.20**	**333**	*e*P	**P**	**23 55 43.3**	**+0.9**
	comp=Z,18nm,1.1s,mb5.0						
SSF	**Saint Saulge**	**57.20**	**334**	*e*P	**P**	**23 55 42.3**	**-0.2**
	comp=Z,15nm,1.3s,mb4.6						
SSF	**Saint Saulge**	**57.20**	**334**	*e*P	**P**	**23 55 42.3**	**-0.2**
SSF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
SSF	**Saint Saulge**	**57.20**	**334**	*e*P	**P**	**23 55 42.3**	**-0.2**
	comp=Z,7.7nm,1.3s,mb4.6						
LOR	**Lormes**	**57.20**	**334**	*e*P	**P**	**23 55 42.5**	**0.0**
	comp=Z,39nm,1.5s,mb4.9						
LOR				*e*MLR	MLR		
	comp=Z,102nm,18.5s,MS3.7						
LOR	**Lormes**	**57.20**	**334**	*e*P	**P**	**23 55 42.5**	**0.0**
LOR				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.9						
LOR				MLR	MLR		
	comp=Z,100nm,18.5s,MS4.0						
LOR	**Lormes**	**57.20**	**334**	*e*P	**P**	**23 55 42.5**	**0.0**
	comp=Z,20nm,1.5s,mb4.9						
LOR				LR	LR		
	comp=Z,100nm,18.5s,MS4.0						
OBN	**Obninsk**	**57.53**	**0**	P	**P**	**23 55 44.0**	**-0.6**
OBN						23 56 35.0	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
MEZF	**Maizieres J'vi**	**57.67**	**336**	*e*P	**P**	**23 55 46.2**	**+0.5**
	comp=Z,27nm,1.2s,mb4.9						
MEZF	**Maizieres J'vi**	**57.67**	**336**	*e*P	**P**	**23 55 46.2**	**+0.5**
	comp=Z,27nm,1.2s,mb5.2						
EVO	**Evora**	**57.76**	**320**	*e*P	**P**	**23 55 47.7**	**+1.1**
	comp=Z,24nm,1.2s,mb4.8						
EVO				*e*MLR	MLR		
	comp=Z,169nm,17.0s,MS3.9						
MFF	**Saint Martin d**	**58.53**	**331**	*e*P	**P**	**23 55 52.2**	**+0.4**
	comp=Z,38nm,1.4s,mb4.9						
MFF	**Saint Martin d**	**58.53**	**331**	*e*P	**P**	**23 55 52.2**	**+0.4**
MFF				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
MFF	**Saint Martin d**	**58.53**	**331**	*e*P	**P**	**23 55 52.2**	**+0.4**
	comp=Z,19nm,1.4s,mb4.9						
GIVF	**Givet**	**59.03**	**337**	*e*P	**P**	**23 55 55.2**	**0.0**
BAIF	**Baives**	**59.24**	**337**	*e*P	**P**	**23 55 56.6**	**-0.1**
	comp=Z,22nm,1.3s,mb4.7						
BAIF	**Baives**	**59.24**	**337**	*e*P	**P**	**23 55 56.6**	**-0.1**
BAIF				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
BAIF	**Baives**	**59.24**	**337**	*e*P	**P**	**23 55 56.6**	**-0.1**
	comp=Z,11nm,1.3s,mb4.7						
LDF	**La Druitiere**	**59.97**	**333**	*e*P	**P**	**23 56 01.4**	**-0.3**
GRR	**Gorron**	**60.15**	**332**	*e*P	**P**	**23 56 02.8**	**-0.2**
	comp=Z,51nm,1.7s,mb5.0						
GRR	**Gorron**	**60.15**	**332**	*e*P	**P**	**23 56 02.8**	**-0.2**
GRR				pmax	pmax		
	comp=Z,25nm,1.7s,mb5.0						
GRR	**Gorron**	**60.15**	**332**	*e*P	**P**	**23 56 02.8**	**-0.2**
	comp=Z,26nm,1.7s,mb5.0						
SGMF	**Saint Gilles**	**60.86**	**331**	*e*P	**P**	**23 56 07.5**	**-0.3**
	comp=Z,31nm,1.2s,mb5.0						
SGMF	**Saint Gilles**	**60.86**	**331**	*e*P	**P**	**23 56 07.5**	**-0.3**
SGMF				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.0						
SGMF	**Saint Gilles**	**60.86**	**331**	*e*P	**P**	**23 56 07.5**	**-0.3**
	comp=Z,16nm,1.2s,mb5.0						
QUIF	**Quistinic**	**60.92**	**331**	*e*P	**P**	**23 56 08.1**	**-0.2**
	comp=Z,59nm,1.5s,mb5.2						
QUIF	**Quistinic**	**60.92**	**331**	*e*P	**P**	**23 56 08.1**	**-0.2**
QUIF				pmax	pmax		
	comp=Z,29nm,1.5s,mb5.2						
QUIF	**Quistinic**	**60.92**	**331**	*e*P	**P**	**23 56 08.1**	**-0.2**
	comp=Z,29nm,1.5s,mb5.2						
ARU	**Arti**	**61.60**	**14**	*e*P	**P**	**23 56 12.7**	**0.0**
ARU				*e*		23 56 51.3	
ARU				*e*S	**S**	**00 04 31.8**	**-2.9**
BVAR	**Borovoye Array**	**62.42**	**23**	P	**P**	**23 56 17.8**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.4,baz=212,slow=5.3,SNR=9.1						
SVE	**Sverdlovsk**	**62.48**	**15**	*e*P	**P**	**23 56 19.0**	**+0.4**
SVE				pmax	pmax		
	comp=Z,18nm,1.3s,mb5.0						
MKAR	**Makanchi Array**	**63.70**	**34**	P	**P**	**23 56 26.6**	**-0.3**
	comp=Z,11nm,0.9s,mb4.9,baz=231,slow=5.6,SNR=67						
MKAR				LR	LR	00 27 19.9	

*ATH **24** 22:53:54.4,36.18N×2530E,h29km±3km,MD3.2/5*
*ISCJB **24** 22:53:55.2±0.7,3628N±004×2538E±009,h33km,Error ellipse: s-maj=10.3km s-min=5.8km az=13.3*
*CSEM **24** 22:53:55.9,3621N×2541E,h11km,ML2.9,After THE THE **24** 22:53:55.9,3621N×2541E,h11km,ML2.9*
ISC 24 22:53:54.7±0.9,3617N±007×253E±01,h16km±8km,n12, σ0.9 39/18,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR6	**Thira Island,**	**0.19**	**16**	*e*Pg	**Pg**	**22 53 59.6**	**+0.3**
THR6				*e*Sg	**Sg**	**22 54 02.4**	**-0.1**
SANT	**Santorini**	**0.22**	**27**	*e*Pg	**Pg**	**22 53 59.6**	**-0.2**
SANT				*e*Sg	**Sg**	**22 54 03.1**	**-0.2**
THR1	**Thera Island**	**0.22**	**27**	*e*Pg	**Pg**	**22 53 59.8**	**0.0**
THR1				*e*Sg	**Sg**	**22 54 02.8**	**-0.5**
THR3	**Thira Island,**	**0.24**	**13**	*e*Pg	**Pg**	**22 54 00.4**	**+0.2**
THR3				*e*Sg	**Sg**	**22 54 03.3**	**-0.6**
THR5	**Thira Island,**	**0.25**	**3**	*e*Pg	**Pg**	**22 54 00.6**	**+0.4**
THR4	**Thira Island,**	**0.29**	**10**	*e*Pg	**Pg**	**22 54 01.5**	**+0.5**
THR4				*e*Sg	**Sg**	**22 54 05.7**	**+0.5**
APE	**Apeiranthos**	**0.91**	**10**	*e*Pg	**Pg**	**22 54 12.1**	**-0.3**
APE				*e*Sg	**Sg**	**22 54 24.8**	**+0.4**
APE	**Apeiranthos**	**0.91**	**10**	*e*PN	**Pn**	**22 54 12.2**	**-0.6**
NPS	**Neapolis**	**0.93**	**166**	*e*PN	**Pn**	**22 54 12.8**	**-0.3**
VAM	**Vamos**	**1.20**	**231**	*e*PN	**Pn**	**22 54 16.5**	**-0.2**
KARP	**Karpathos**	**1.61**	**112**	*e*PN	**Pn**	**22 54 23.1**	**+0.7**
VLI	**Velíai**	**2.01**	**286**	*e*PN	**Pn**	**22 54 28.0**	**+0.1**

MAN 24 22:58:18,941N×12239E,h36km,mb3.9,ML2.7,MS2.4, 2C,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.84**	**94**	↑*i*P	Pn	22 58 33.5	+0.1
SNPH				*i* S	Sn	22 58 46.5	+2.0
GUIM	**Jordan**	**1.23**	**9**	*e*P	Pn	22 58 39.1	+0.4
GUIM				*e*S	Sn	22 58 54.5	+0.5
TBP	**Tagbilaran**	**1.48**	**79**	*e*P	Pn	22 58 41.8	-0.4
TBP				*e*S	Sn	22 58 59.2	-1.1
IPIL	**Ipil**	**1.62**	**173**	*e*P	Pn	22 58 45.0	+0.9
IPIL				*e*S	Sn	22 59 04.2	+0.4
LLP	**Lapu-Lapu**	**1.80**	**60**	*e*P	Pn	22 58 45.7	-0.8
LLP				*e*S	Sn	22 59 04.5	-3.7
PAGZ	**Pagadian**	**1.84**	**147**	*e*P	Pn	22 58 49.1	+2.0
CUYO	**Cuyo Island**	**1.96**	**317**	*e*P	Pn	22 58 50.5	+1.6
CUYO				*e*S	Sn	22 59 13.3	+1.0
RCP	**Roxas**	**2.17**	**9**	↑*e*P	Pn	22 58 53.8	+2.1
RCP				*e*S	Sn	22 59 19.0	+1.8
OTRP	**Odiongan**	**2.96**	**353**	*e*P	Pn	22 59 03.7	+1.2
OTRP				*e*S	Sn	22 59 37.9	+1.2
ENPP	**El Nido**	**3.42**	**302**	*e*P	Pn	22 59 10.6	+1.8

comp=Z,59nm,18.4s,MS3.8,baz=56,slow=39
CMAR Chiang Mai Arr 65.17 68 P **P 23 56 37.2 +0.1**
comp=Z,7.2nm,1.1s,mb4.6,baz=256,slow=7.7,SNR=26
CMAR LR LR 00 21 33.8
comp=Z,47nm,19.9s,MS3.7,baz=76,slow=33
WMQ Urumqi 65.24 39 *eP* **P 23 56 37.8 +0.7**
NOA NORSAR Array B 66.35 347 LR LR 00 31 23.5
comp=Z,23nm,19.2s,MS3.4,baz=180,slow=41
MAW Mawson 67.42 169 P **P 23 56 50.8 +0.2**
comp=Z,4.2nm,0.8s,mb4.5,baz=307,slow=8.2,SNR=8.8
MAW LR LR 00 21 42.6
comp=Z,162nm,19.9s,MS4.2,baz=48,slow=32
ZAL Zalesovo 69.27 28 P **P 23 57 01.7 -0.7**
ZALV Zalesovo Beam 69.28 28 P **P 23 57 01.7 -0.8**
comp=Z,6.3nm,0.9s,mb4.5,baz=254,slow=5.5,SNR=17
ZALV LR LR 00 32 10.7
comp=Z,35nm,18.1s,MS3.6,baz=230,slow=40
GTA Gaotai 71.63 47 *eP* **P 23 57 17.8 +0.6**
GTA AP pP 23 57 21.8 +1.4
GTA XP sP 23 57 25.3 +3.7
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
ARCES ARCESS Array B 72.37 356 P **P 23 57 20.3 -0.7**
comp=Z,4.7nm,0.8s,mb4.4,baz=168,slow=6.2,SNR=6.4
ARCES LR LR 00 30 53.3
comp=Z,57nm,18.4s,MS3.9,baz=185,slow=37
ARCES ARCESS Array B 72.37 356 P **P 23 57 20.3 -0.7**
ARCES LR LR 00 30 53.3
LZH Lanzhou 73.67 51 *eP* **P 23 57 30.0 +0.6**
LZH AP pP 23 57 35.6 +2.9
LZH XP sP 23 57 38.0 +4.1
LZH AMB AMB
comp=Z,15nm,1.4s,mb4.7
LZH AMB AMB
comp=Z,69nm,4.1s
XAN Xi'an 77.23 54 P **P 23 57 50.0 +0.1**
XAN AMB AMB
comp=Z,4.0nm,1.0s,mb4.3
XAN AMB AMB
comp=Z,32nm,5.2s
ZAK Zakamensk 77.63 37 *eP* **P 23 57 52.3 +0.5**
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.9
SONM Songino Array 78.78 40 P **P 23 57 59.2 +1.0**
comp=Z,1.9nm,0.7s,mb4.1,baz=241,slow=5.4,SNR=14
BORG Borgarnes 79.09 338 LR LR 00 32 46.2
comp=Z,55nm,21.1s,MS3.9,baz=262,slow=36
BDFB Brasilia 83.73 255 LR LR 00 32 06.2
comp=Z,53nm,20.1s,MS3.9,baz=265,slow=33
BOD Bodaibo 85.72 32 *eP* **P 23 58 34.4 +0.1**
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
CPUP Villa Florida 92.01 244 LR LR 00 39 08.1
comp=Z,86nm,19.8s,MS4.2,baz=273,slow=35
KSRS Korea Array 92.95 53 LR LR 00 41 21.4
comp=Z,24nm,19.5s,MS3.6,baz=225,slow=36
ASAR Alice Springs 96.02 114 P **P 23 59 22.3 -1.1**
comp=Z,0.5nm,0.9s,mb4.0,baz=278,slow=3.2,SNR=2.8
WRA Warramunga Arr 96.76 110 P **P 23 59 26.3 -0.6**
comp=Z,0.8nm,0.7s,mb4.2,baz=270,slow=2.9,SNR=4.6
WRA LR LR 00 37 30.5
comp=Z,135nm,18.5s,MS4.5,baz=220,slow=32
SCHQ Schefferville 99.63 325 LR LR 00 43 41.9
comp=Z,72nm,18.9s,MS4.2,baz=87,slow=35
PDAR Pinedale Array 129.70 327 PKP PKPdf 00 05 06.2 +1.1
comp=Z,1.1nm,1.0s,baz=43,slow=6.7,SNR=6.1
TXAR Lajitas Array 133.55 309 PKP PKPdf 00 05 12.1 -0.7
comp=Z,0.3nm,0.8s,baz=94,slow=3.8,SNR=4.6
NVAR Mina Array Bea 137.41 330 PKP PKPdf 00 05 20.2 +0.5
comp=Z,0.3nm,0.4s,baz=50,slow=1.2,SNR=5.8
NVAR Mina Array Bea 137.41 330 PKP PKPdf 00 05 20.2 +0.5

*IDC **25** 00:12:34.0±10.0, 1420N×9282W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.6/21, mbtmp3.6/3, Error ellipse: s-maj=209.8km s-min=115.2km az=13.0*
*ISCJB **25** 00:12:42.6±0.8, 1449N±007×9337W±004, h43km±11km, mb4.0/4, Error ellipse: s-maj=11.4km s-min=5.7km az=14.6*
*CASC **25** 00:12:43.7±1.1, 1463N×9320W, h13km±999km, MD4.1, mb4.5(NEIC)*
*MEX **25** 00:12:43.2±0.7, 1441N×9333W, h24km±68km, MD4.6*
*NEIC **25** 00:12:43.4, 1440N×9331W, h25km, mb4.5/1, MD4.6(MEX), After MEX.*
ISC 25 00:12:44.2±0.8, 1451N±007×9333W±004, h39km±11km, n20, σ1°19/29, mb4.0/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.10**	**69**	*i* P	**Pn**	**00 13 01.1**	**-2.1**
THIG				*i* S	**Sn**	**00 13 14.2**	**-2.9**
JAT	**Jato**	**1.65**	**96**	*e*P	**Pn**	**00 13 10.7**	**0.0**
CCIG	**Comitan**	**2.10**	**33**	*e*P	**Pn**	**00 13 16.7**	**-0.3**
CCIG				*i* S	**Sn**	**00 13 42.2**	**+0.3**
SCX	**San Cristobal**	**2.31**	**17**	*i* P	**Pn**	**00 13 19.5**	**-0.3**
SCX				*i* S	**Sn**	**00 13 47.0**	**0.0**
FG6		**2.37**	**88**	*e*P	**Pn**	**00 13 21.4**	**+0.8**
FG6				*e*S	**Sn**	**00 13 49.8**	**+1.4**
FUG	**Fuego 3**	**2.41**	**91**	*e*P	**Pn**	**00 13 20.3**	**-0.8**
PCG	**Pacaya**	**2.64**	**92**	*e*P	**Pn**	**00 13 25.4**	**+1.1**
NBG	**Las Nubes**	**2.89**	**88**	*e*P	**Pn**	**00 13 28.6**	**+0.8**
VHO	**Vista Hermosa**	**4.15**	**308**	*i* P	**Pn**	**00 13 42.8**	**-2.3**
VHO				*i* S	**Sn**	**00 14 31.2**	**-1.2**
VHO	**Vista Hermosa**	**4.15**	**308**	*i* P	**Pn**	**00 13 42.8**	**-2.3**
VHO				*i* S	**Sn**	**00 14 34.8**	**+2.4**
PNIG	**Pinotepa**	**4.99**	**293**	*e*P	**Pn**	**00 13 55.4**	**-1.2**
PNIG				*i* S	**Sn**	**00 14 52.6**	**-0.5**
PNIG	**Pinotepa**	**4.99**	**293**	*e*P	**Pn**	**00 13 55.4**	**-1.2**
PNIG				*i* S	**Sn**	**00 14 54.3**	**+1.2**
PPM	**Popocatepetl**	**6.80**	**312**	*e*P	**Pn**	**00 14 23.1**	**+1.6**
PPM				*i* S	**Sn**	**00 15 41.6**	**+3.9**
TXAR	**Lajitas Array**	**17.58**	**329**	P	**Pn**	**00 16 47.7**	**+1.4**
	baz=136,slow=14,SNR=6.3						
TXAR	**Lajitas Array**	**17.58**	**329**	P	**Pn**	**00 16 47.7**	**+1.4**
MIAR	**Mount Ida**	**19.95**	**359**	*e*P	**Pn**	**00 17 16.3**	**+1.5**
	3.3nm,0.9s						
SDMD	**Soldier's Deli**	**28.73**	**27**	*e*P	**P**	**00 18 37.7**	**-0.2**
	12nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	**32.47**	**322**	P	**P**	**00 19 10.7**	**-0.3**
	1.4nm,0.9s,mb3.8,baz=144,slow=9.0,SNR=7.5						
HLID	**Hailey**	**34.12**	**332**	*e*P	**P**	**00 19 25.1**	**-0.2**
	1.0nm,0.9s,mb3.8						
YKA	**Yellowknife Ar**	**50.24**	**347**	P	**P**	**00 21 35.0**	**-1.2**
	0.8nm,0.7s,mb3.9,baz=147,slow=7.9,SNR=4.4						

*ATH **25** 00:41:25.2, 3642N×2824E, h58km±3km, MD3.2/4*
*CSEM **25** 00:41:26.4±0.3, 3650N×2777E, h2km, MD2.8, Error ellipse: s-maj=7.0km s-min=5.4km az=79.0*
*ISCJB **25** 00:41:27.4±0.7, 3650N±003×2775E±004, h3km±7km, Error ellipse: s-maj=6.5km s-min=4.4km az=148.1*
*ISK **25** 00:41:28.0, 3656N×2783E, h6km, MD2.9*
*DDA **25** 00:41:29.5, 3679N×2811E, h7km±6km, Md2.8*
ISC 25 00:41:27.7±0.7, 3650N±003×2776E±005, h2km±7km, n14, σ1°06/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.40**	**133**	*e*P	**Pg**	**00 41 35.2**	**-0.2**
ARG				*e*S	**Sg**	**00 41 42.5**	**+1.8**
BDRM	**Kayabasi**	**0.62**	**336**	*i* P	**Pg**	**00 41 39.5**	**-0.2**
BDRM				*i* S	**Sg**	**00 41 49.5**	**+1.7**
BODT	**Bodrum**	**0.67**	**328**	*e*PG	**Pg**	**00 41 41.1**	**+0.5**
BODT				*e*SG	**Sg**	**00 41 50.5**	**+1.2**
YER	**Yerkesik**	**0.76**	**33**	*e*PG	**Pg**	**00 41 40.9**	**-1.4**
YER				*e*SG	**Sg**	**00 41 51.9**	**-0.4**
TURN	**Turunc**	**0.77**	**61**	*i* P	**Pg**	**00 41 35.4**	**-7.2**
TURN				*i* S	**Sg**	**00 41 43.0**	**-10**
MLSB	**Milas**	**0.80**	**1**	*e*PG	**Pg**	**00 41 43.5**	**+0.5**
MLSB				*e*SG	**Sg**	**00 41 53.0**	**-0.4**
KARP	**Karpathos**	**1.06**	**207**	*e*P	**Pg**	**00 41 47.6**	**-0.5**
AYDN	**Tasoluk**	**1.17**	**5**	*i* P	**Pg**	**00 41 48.0**	**-2.1**
AYDN				*i* S	**Sg**	**00 42 04.3**	**-0.9**
GCAM	**G?zelcaml?**	**1.27**	**341**	*i* P	**Pg**	**00 41 51.1**	**-1.0**
GCAM				*i* S	**Sg**	**00 42 11.7**	**+3.0**
GCAM	**G?zelcaml?**	**1.27**	**341**	*i* P	**Pg**	**00 41 51.1**	**-1.0**
GCAM				*i* S	**Sg**	**00 42 11.6**	**+2.9**
SMG	**Samos**	**1.42**	**329**	*e*P	**Pn**	**00 41 53.9**	**-0.6**
AKAS	**Kas**	**1.51**	**99**	*i* P	**Pn**	**00 41 55.1**	**-0.7**
AKAS				*i* S	**Sn**	**00 42 16.3**	**+0.3**
GOLH	**Golhisar**	**1.62**	**62**	*i* P	**Pn**	**00 41 57.9**	**+0.6**
GOLH				*i* S	**Sn**	**00 42 19.7**	**+0.9**
NPS	**Neapolis**	**2.13**	**235**	*e*P	**Pn**	**00 42 03.5**	**-0.9**

*NEIC **25** 00:43:43.1, 3644N×2809E, h43km, MD3.0(ATH), After ATH.*
*CSEM **25** 00:43:43.1, 3644N×2809E, h43km, MD3.0/3, After ATH*
ATH 25 00:43:43.1, 3644N×2809E, h43km, MD3.0/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.23**	**173**	*e*P	**Pn**	**00 43 51.5**	**+0.6**
ARG				*e*S	**Sn**	**00 43 57.5**	**+1.2**
KARP	**Karpathos**	**1.17**	**220**	*e*P	**Pn**	**00 44 04.2**	**+1.3**
KARP				*e*S	**Sn**	**00 44 19.5**	**+1.8**
SMG	**Samos**	**1.61**	**322**	*e*P	**Pn**	**00 44 10.5**	**+1.4**

*DDA **25** 00:44:29.9, 3954N×2909E, h7km±4km, Md3.1*
*NEIC **25** 00:44:29.0, 3954N×2909E, h5km, MD3.2(ISK), MD3.6(ATH), After ISK.*
*ISK **25** 00:44:29.9, 3954N×2908E, h5km, MD3.2*
*CSEM **25** 00:44:29.8±0.1, 3953N×2906E, h5km, MD3.2, Error ellipse: s-maj=1.6km s-min=1.2km az=61.0*
*ISCJB **25** 00:44:30.4±0.2, 3954N±002×2905E±003, h10km, Error ellipse: s-maj=2.9km s-min=2.5km az=161.4*
*ATH **25** 00:44:42.8, 3970N×2794E, h37km, MD3.6/4*
ISC 25 00:44:30.5±0.4, 3954N±002×2909E±003, h4km±3km, n57, σ0°81/74, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.36**	**280**	*e*PG	**Pg**	**00 44 36.9**	**-0.5**
GDZ	**Gediz**	**0.55**	**146**	*i* P	**Pg**	**00 44 40.8**	**-0.2**
GDZ				*i* S	**Sg**	**00 44 48.1**	**0.0**
DEMI	**Demirci**	**0.58**	**210**	*i* P	**Pg**	**00 44 41.2**	**-0.4**
DEMI				*i* S	**Sg**	**00 44 49.2**	**+0.2**
ULDT	**Uludag**	**0.60**	**4**	*i* P	**Pg**	**00 44 41.7**	**-0.3**
ULDT				*i* S	**Sg**	**00 44 50.0**	**+0.2**
BTOK	**Tokmak**	**0.84**	**285**	*i* P	**Pg**	**00 44 46.4**	**-0.3**
BTOK				*i* S	**Sg**	**00 44 55.8**	**-1.8**
GEMT	**Gemlik**	**0.89**	**5**	*e*PG	**Pg**	**00 44 47.6**	**-0.1**
GEMT				*e*SG	**Sg**	**00 45 01.3**	**+2.1**
KCT	**Karacabey**	**0.91**	**322**	*e*PG	**Pg**	**00 44 47.7**	**-0.3**
ALT	**Altintas**	**0.93**	**121**	*e*PG	**Pg**	**00 44 48.5**	**+0.2**
BALB	**Balikesir**	**0.94**	**276**	*e*PG	**Pg**	**00 44 48.9**	**+0.5**
ADVT	**Abdulvahap**	**1.02**	**29**	*e*PG	**Pg**	**00 44 50.1**	**0.0**
YLV	**Yalova**	**1.05**	**12**	*e*PG	**Pg**	**00 44 50.7**	**+0.2**
KULA	**Kula-Manisa**	**1.08**	**198**	*e*PG	**Pg**	**00 44 50.3**	**-0.8**
BALY	**Balya**	**1.15**	**280**	*i* P	**Pg**	**00 44 52.4**	**-0.1**
BALY				*i* S	**Sg**	**00 45 10.0**	**+2.6**
BALY	**Balya**	**1.15**	**280**	*i* S	**Sg**	**00 45 10.0**	**+2.6**
AKS	**Akhisar**	**1.19**	**237**	*e*PN	**Pn**	**00 44 53.1**	**-0.8**
GPA	**Golpazari**	**1.20**	**51**	*e*PN	**Pn**	**00 44 53.1**	**-0.9**
BNT	**Bandirma**	**1.21**	**313**	*e*PN	**Pn**	**00 44 53.5**	**-0.7**
KHAL	**Karahalli**	**1.21**	**165**	*i* P	**Pg**	**00 44 53.9**	**+0.2**
KHAL				*i* S	**Sg**	**00 45 09.8**	**+0.3**
EDC	**Edincik**	**1.24**	**311**	*e*PN	**Pn**	**00 44 53.6**	**-0.9**
KHL	**Karahalli**	**1.27**	**164**	*e*PN	**Pn**	**00 44 54.4**	**-0.5**
HRT	**Hereke**	**1.35**	**19**	*e*PN	**Pn**	**00 44 55.2**	**-1.0**
ESKT	**Eskisehir**	**1.36**	**90**	*i* P	**Pn**	**00 44 56.4**	**+0.2**
ESKT				*i* S	**Sb**	**00 45 15.7**	**+1.4**
ESKT	**Eskisehir**	**1.36**	**90**	*i* P	**Pn**	**00 44 56.9**	**+0.6**
ESKT				*i* S	**Sb**	**00 45 16.4**	**+2.1**
SEYT	**Eskypehyr**	**1.36**	**90**	*i* P	**Pn**	**00 44 56.4**	**+0.1**
SEYT				*i* S	**Sb**	**00 45 15.7**	**+1.4**
SHUT	**Suhut-Afyon**	**1.51**	**130**	*e*PN	**Pn**	**00 44 58.3**	**+0.1**
ISK	**Istanbul-Kandi**	**1.52**	**359**	*e*PN	**Pn**	**00 44 58.6**	**+0.2**
MRMT	**Marmara Adasi**	**1.56**	**313**	*e*PN	**Pn**	**00 44 59.6**	**+0.6**
BGKT	**Bogazkoy**	**1.65**	**352**	*e*PN	**Pn**	**00 45 00.4**	**+0.1**
SILT	**Sile**	**1.66**	**15**	*e*PN	**Pn**	**00 45 00.6**	**+0.2**
BOLV	**Bolvadin**	**1.67**	**119**	*i* P	**Pn**	**00 45 01.1**	**+0.7**
BOLV				*i* S	**Sn**	**00 45 27.3**	**+5.0**
CTT	**Catalca**	**1.68**	**343**	*e*PN	**Pn**	**00 45 00.7**	**+0.1**
ELBA	**Catalca**	**1.68**	**343**	*i* P	**Pn**	**00 44 59.5**	**-1.1**
ELBA				*i* S	**Sn**	**00 45 25.3**	**+2.7**
KLYT	**Kilyos**	**1.71**	**359**	*e*PN	**Pn**	**00 45 00.2**	**-0.8**
TKTP	**Tekketepe**	**1.78**	**147**	*i* P	**Pn**	**00 45 02.1**	**0.0**
TKTP				*i* S	**Sn**	**00 45 24.8**	**-0.3**
SLVT	**Silivri**	**1.81**	**339**	*e*PN	**Pn**	**00 45 02.8**	**+0.4**
KDAG	**Bornova**	**1.82**	**232**	*i* P	**Pn**	**00 45 05.1**	**+2.5**
KDAG				*i* S	**Sn**	**00 45 29.0**	**+3.0**
IZM	**Izmir**	**1.82**	**232**	*e*PN	**Pn**	**00 45 02.9**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.86**	**309**	*e*PN	**Pn**	**00 45 03.2**	**+0.2**
MFT	**Murefte**	**1.86**	**312**	*e*PN	**Pn**	**00 45 03.6**	**+0.5**
TKR	**Tekirdag**	**1.87**	**321**	*e*PN	**Pn**	**00 45 03.4**	**+0.2**
AYVA	**Ayvalik**	**1.87**	**264**	*i* P	**Pg**	**00 45 06.1**	**-0.2**
AYVA				*i* S	**Sg**	**00 45 31.3**	**+0.8**
MDU	**Mudurnu**	**1.88**	**60**	*e*PN	**Pn**	**00 45 03.5**	**+0.2**
HENT	**Hendek**	**1.89**	**47**	*i* P	**Pn**	**00 45 02.5**	**-1.0**
HENT				*i* S	**Sn**	**00 45 26.2**	**-1.5**
BLCB	**Balcova**	**1.97**	**235**	*e*PN	**Pn**	**00 45 04.9**	**+0.3**
LPK	**Lapseki**	**1.97**	**296**	*e*PN	**Pn**	**00 45 05.2**	**+0.6**
ISP	**Isparta**	**2.03**	**146**	*e*PN	**Pn**	**00 45 06.2**	**+0.8**
PRK	**Paraskevi**	**2.20**	**263**	*e*P	**Pn**	**00 45 07.3**	**-0.4**
PRK	**Paraskevi**	**2.20**	**263**	*e*Pn	**Pn**	**00 45 07.2**	**-0.6**
BOZC	**Bozcaada**	**2.36**	**278**	*i* P	**Pn**	**00 45 09.4**	**-0.6**
BOZC				*i* S	**Sn**	**00 45 45.2**	**+5.9**
GADA	**Gvkgeada**	**2.54**	**286**	*e*PN	**Pn**	**00 45 12.7**	**+0.3**
SMG	**Samos**	**2.54**	**225**	*e*PN	**Pg**	**00 45 18.5**	**-0.7**
ENEZ	**Enez**	**2.54**	**299**	*e*PN	**Pn**	**00 45 12.3**	**-0.2**
CHOS	**Chios island**	**2.63**	**245**	*e*P	**Pn**	**00 45 12.8**	**-0.9**
ALN	**Alexandroupoli**	**2.69**	**301**	*e*P	**Pn**	**00 45 13.9**	**-0.6**
EDRB	**Edirne**	**2.91**	**323**	*e*PN	**Pn**	**00 45 17.4**	**-0.1**
RDO	**Rodhopi**	**3.15**	**302**	*e*PN	**Pn**	**00 45 20.7**	**-0.1**
NVR	**Nevrokopi**	**4.38**	**296**	*e*PN	**Pn**	**00 45 37.7**	**0.0**

*DDA **25** 00:44:38.3, 3971N×3203E, h4km±6km, Md3.1*
*ISK **25** 00:44:39.2, 3933N×3309E, h5km, MD3.2*
*CSEM **25** 00:44:39.5±0.1, 3932N×3305E, h2km, MD3.2, Error ellipse: s-maj=2.4km s-min=1.7km az=113.0*
*ISCJB **25** 00:44:41.1±0.4, 3935N±003×3308E±005, h10km, Error ellipse: s-maj=6.3km s-min=4.0km az=38.2*
ISC 25 00:44:40.9±0.7, 3931N±004×3311E±005, h1km±6km, n22, σ1°00/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.47**	**82**	PG	**Pg**	**00 44 49.4**	**-0.5**
ANTO	**Ankara**	**0.61**	**337**	*e*PG	**Pg**	**00 44 51.7**	**-0.9**
ANTO	**Ankara**	**0.61**	**337**	*e*Pn	**Pg**	**00 44 51.8**	**-0.8**
	24nm,0.6s						
CDAG	**Cicekdag**	**1.03**	**72**	*i* P	**Pg**	**00 44 59.4**	**-1.2**
CDAG				*i* S	**Sg**	**00 45 14.0**	**0.0**
KIZT	**Kizilcal**	**1.04**	**246**	*e*PG	**Pg**	**00 45 00.0**	**-0.8**
KDHN	**Kadinhani**	**1.10**	**225**	*i* P	**Pg**	**00 45 01.9**	**0.0**
KDHN				*i* S	**Sg**	**00 45 18.1**	**+2.0**
KDHN	**Kadinhani**	**1.10**	**225**	*i* P	**Pg**	**00 45 01.9**	**0.0**
KDHN				*i* S	**Sg**	**00 45 18.1**	**+1.9**
ELDT	**Eldivan**	**1.21**	**12**	*i* P	**Pg**	**00 45 04.0**	**0.0**
ELDT				*i* S	**Sg**	**00 45 21.9**	**+2.2**
ELDT				*i* S	**Sg**	**00 45 22.0**	**+2.3**
ELDT	**Eldivan**	**1.21**	**12**	*i* P	**Pg**	**00 45 04.0**	**0.0**
ELDT				*i* S	**Sg**	**00 45 21.9**	**+2.2**
LADK	**Ladik-KONYA**	**1.25**	**208**	*e*PN	**Pn**	**00 45 04.4**	**-1.1**
LADK				*e*SN	**Sn**	**00 45 22.8**	**-0.1**
CANT	**Cankiri**	**1.36**	**17**	*e*PN	**Pn**	**00 45 06.0**	**-1.0**
CORM	**Corum**	**1.46**	**53**	*e*PN	**Pn**	**00 45 07.3**	**-1.1**
KONT	**Konya--Tatoy**	**1.48**	**203**	*e*PN	**Pn**	**00 45 08.1**	**-0.5**
NIG	**Nigde**	**1.68**	**135**	*e*PN	**Pn**	**00 45 11.6**	**+0.3**
CTKT	**Corum**	**1.84**	**44**	*e*P	**Pn**	**00 45 15.1**	**+1.4**
CTKT				*i* S	**Sn**	**00 45 32.2**	**-5.5**
TOS	**Tosya**	**1.86**	**22**	*e*PN	**Pn**	**00 45 13.4**	**-0.5**
SAFT	**Safranbolu**	**1.96**	**351**	*e*PN	**Pn**	**00 45 14.2**	**-1.0**
BNN	**Bunyan**	**2.18**	**101**	*e*PN	**Pn**	**00 45 18.7**	**+0.4**
BALT	**Daday**	**2.23**	**5**	*i* P	**Pn**	**00 45 21.1**	**+2.1**
BALT				*i* S	**Sn**	**00 45 42.9**	**-4.4**
BYBT	**Boyabat**	**2.50**	**30**	*e*PN	**Pn**	**00 45 23.1**	**+0.4**
KOZT	**Kozan**	**2.81**	**130**	*e*PN	**Pn**	**00 45 27.7**	**+0.8**
SVSK	**Karacayir**	**3.07**	**77**	*e*PN	**Pn**	**00 45 31.3**	**+0.8**

*ISCJB **25** 00:45:11.3±1.2, 3877N±007×24.16E±0.10, h24km±14km, Error ellipse: s-maj=13.7km s-min=11.1km az=145.8*
*ATH **25** 00:45:11.7, 3875N×2412E, h36km±1km, MD2.8/5, ML2.9*
*CSEM **25** 00:45:11.6±0.2, 3876N×2415E, h25km, ML2.9, Error ellipse: s-maj=5.1km s-min=2.3km az=80.0*
*THE **25** 00:45:13.4, 3881N×2401E, h23km*
ISC 25 00:45:11.3±1.4, 3876N±007×2416E±010, h22km±16km, n9, σ0°63/19, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.46**	**332**	*e*Pg	**Pb**	**00 45 20.9**	**+0.2**
AOS				*e*Sg	**Sb**	**00 45 27.6**	**+0.4**
PTL	**Penteli**	**0.75**	**198**	*e*PN	**Pn**	**00 45 25.5**	**-1.0**
PTL				*e*SN	**Sn**	**00 45 36.5**	**-0.7**
ATH	**Athens Observa**	**0.86**	**204**	*e*PN	**Pn**	**00 45 27.7**	**-0.4**
ATH				*e*SN	**Sn**	**00 45 40.1**	**+0.1**
ATH	**Athens Observa**	**0.86**	**204**	*e*Pn	**Pn**	**00 45 26.7**	**-1.4**
ATH				*e*Sn	**Sn**	**00 45 40.1**	**+0.1**
LKR	**Lokris**	**0.91**	**263**	*e*Pg	**Pb**	**00 45 27.7**	**-0.7**
LKR				*e*Sg	**Sb**	**00 45 40.5**	**+0.4**
LKR	**Lokris**	**0.91**	**263**	*e*Pn	**Pn**	**00 45 28.9**	**+0.1**
LKR				*e*Sg	**Sb**	**00 45 40.5**	**+0.4**
LKR				*e*Sn	**Sn**	**00 45 41.1**	**-0.2**
XOR	**Xorichti**	**0.96**	**309**	*e*Pg	**Pb**	**00 45 30.0**	**+0.8**
XOR				*e*Sg	**Sb**	**00 45 40.6**	**-1.0**
KVR	**Kavouri**	**0.98**	**198**	*e*PN	**Pn**	**00 45 30.0**	**+0.3**
KVR				*e*SN	**Sn**	**00 45 43.5**	**+0.5**
NAIG	**Nisos Aigina**	**1.13**	**208**	*e*PN	**Pn**	**00 45 32.5**	**+0.7**
NAIG				*e*SN	**Sn**	**00 45 47.5**	**+0.8**

*ISCJB **25** 00:54:20.7±2.1, 145N±0.1×9342W±005, h8km±19km, mb3.7/3, Error ellipse: s-maj=20.5km s-min=6.9km az=170.5*
*IDC **25** 00:54:20.5±6.6, 1450N×9323W, h0km, mb3.6/2, mb1 4.0/5, mb1mx3.7/23, mbtmp3.7/5, ML3.6/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/31, Error ellipse: s-maj=108.4km s-min=45.6km az=176.0*
*NEIC **25** 00:54:23.6, 1433N×9348W, h23km, MD4.5(MEX), After MEX.*
*MEX **25** 00:54:23.6±1.1, 1433N×9348W, h23km±88km, MD4.5*
ISC 25 00:54:21.5±1.5, 145N±02×9337W±008, h4km±17km, n16, σ1°24/25, mb3.7/2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.16**	**67**	*i* P	**Pg**	**00 54 43.1**	**-0.5**
THIG				*i* S	**Sg**	**00 54 59.5**	**+0.9**
CCIG	**Comitan**	**2.16**	**33**	*e*P	**Pn**	**00 54 59.0**	**+0.8**
CCIG				*i* S	**Sn**	**00 55 26.2**	**+0.7**
TGIG		**2.31**	**6**	*i* P	**Pn**	**00 55 00.3**	**-0.1**
TGIG				*i* S	**Sn**	**00 55 28.3**	**-0.9**
SCX	**San Cristobal**	**2.37**	**17**	*i* P	**Pn**	**00 55 02.5**	**+1.4**
SCX				*i* S	**Sn**	**00 55 30.0**	**-0.6**
CMIG	**Matias Romero**	**2.99**	**331**	Pn	**Pn**	**00 55 08.7**	**-1.0**
	6.1nm,0.3s,baz=154,slow=14,SNR=71						
CMIG				Sn	**Sn**	**00 55 39.4**	**-6.6**
	9.3nm,0.3s,baz=132,slow=9.9,SNR=7.0						
CMIG				LR	LR	00 56 39.9	
	comp=Z,148nm,18.3s,baz=183,slow=46						
VHO	**Vista Hermosa**	**4.15**	**309**	*i* P	**Pn**	**00 55 24.6**	**-1.0**
VHO				*i* S	**Sn**	**00 56 08.4**	**-6.2**
PNIG	**Pinotepa**	**4.97**	**293**	*i* P	**Pn**	**00 55 34.4**	**-2.5**
PNIG				*i* S	**Sn**	**00 56 36.6**	**+1.6**
PPM	**Popocatepetl**	**6.80**	**313**	*e*P	**Pn**	**00 56 04.7**	**+2.6**
PPM				*i* S	**Sn**	**00 57 25.2**	**+5.1**
TEIG	**Tepich**	**7.51**	**40**	Pn	**Pn**	**00 56 10.5**	**-1.3**
	6.1nm,0.3s,baz=236,slow=5.6,SNR=25						
TEIG				Sn	**Sn**	**00 57 20.4**	**-17**
	baz=235,slow=23,SNR=2.4						
TEIG				LR	LR	00 58 54.3	
	comp=Z,95nm,20.4s,baz=309,slow=37						
TEIG	**Tepich**	**7.51**	**40**	Pn	**Pn**	**00 56 10.5**	**-1.3**
TEIG				Sn	**Sn**	**00 57 20.4**	**-17**
TEIG				LR	LR	00 58 54.4	
TXAR	**Lajitas Array**	**17.60**	**329**	P	**Pn**	**00 58 29.2**	**+1.6**
	0.0nm,0.3s,baz=142,slow=12,SNR=4.4						
MIAR	**Mount Ida**	**20.00**	**360**	*e*P	**Pn**	**00 58 55.9**	**-0.8**
	5.0nm,0.9s						
PLAL	**Pickwick Lake**	**20.98**	**12**	*e*P	**P**	**00 59 09.8**	**+4.1**
	3.6nm,0.7s						
NVAR	**Mina Array Bea**	**32.48**	**322**	P	**P**	**01 00 54.4**	**+1.2**
	0.7nm,0.7s,mb3.6,baz=134,slow=8.9,SNR=5.7						
SCHQ	**Schefferville**	**45.26**	**21**	LR	LR	01 22 57.0	
	comp=Z,47nm,18.2s,baz=59,slow=38						
YKA	**Yellowknife Ar**	**50.28**	**347**	P	**P**	**01 03 17.4**	**-1.3**
	0.7nm,0.7s,mb3.8,baz=155,slow=7.2,SNR=3.4						

*ISCJB **25** 01:40:34.2±1.1, 243S±02×1799W±02, h500km, mb3.8/11, Error ellipse: s-maj=26.8km s-min=19.7km az=14.2*
*NEIC **25** 01:40:41.3±6.4, 2435S×17990W, h583km±74km, mb3.9/5, Error ellipse: s-maj=43.7km s-min=23.5km az=222.0*
*IDC **25** 01:40:45.7±8.2, 24.19S×17994E, h630km±102km, mb3.2/7, mb1 3.4/7, mb1mx3.2/17, mbtmp3.2/7, Error ellipse:

RAEZ Rainy Point 1.22 346 P **Pn 01 43 53.2 +0.8**
DFE Dawson Falls 1.25 336 P **Pn 01 43 54.2 +1.4**
NNZ Nelson 1.29 234 P **Pn 01 43 54.2 +0.9**
NEZ North Egmont 1.31 337 P **Pn 01 43 54.7 +1.2**
MOVZ Moawhango 1.31 36 P **Pn 01 43 53.4 -0.2**
WNVZ Wahianoa 1.31 30 P **Pn 01 43 53.8 +0.2**
CMWZ Cape Campbell 1.34 198 P **Pn 01 43 55.7 +1.7**
DRZ Dome Shelter 1.35 27 P **Pn 01 43 54.3 +0.2**
VRZ Vera Road 1.35 360 P **Pn 01 43 54.2 +0.1**
FWVZ Far West T-bar 1.36 27 P **Pn 01 43 54.2 -0.1**
NWEZ Newall Road 1.38 330 P **Pn 01 43 55.7 +1.1**
TUVZ Tukino 1.39 30 P **Pn 01 43 54.9 +0.3**
WPVZ Whakapapa 1.40 26 P **Pn 01 43 54.9 0.0**
BSWZ Blackbirch Sta 1.41 208 P **Pn 01 43 56.0 +1.1**
PKE Pukeiti 1.41 335 P **Pn 01 43 56.1 +1.1**
NGZ Ngauruhoe 1.45 27 P **Pn 01 43 55.5 0.0**
TWVZ Taurewa 1.49 21 P **Pn 01 43 55.7 -0.4**
KATZ Kakaramea 1.66 26 P **Pn 01 43 58.7 +0.4**
RITZ Rihia Road 1.71 30 P **Pn 01 43 59.5 +0.4**
QRZ Quartz Range 1.74 258 P **Pn 01 43 59.7 +0.3**
RATZ Rangitukua 1.78 26 P **Pn 01 44 00.6 +0.6**
HATZ Hinemaiaia 1.88 33 P **Pn 01 44 00.7 -0.7**
THZ Tophouse 1.91 227 P **Pn 01 44 02.7 +1.0**
WATZ Wairara 1.92 23 P **Pn 01 44 02.2 +0.4**
HIZ Hauiti 1.96 2 P **Pn 01 44 02.7 +0.3**
DSZ Denniston Nort 2.57 239 P **Pn 01 44 11.2 +0.4**
TAZ Tarawera 2.62 32 P **Pn 01 44 10.6 -0.8**
KNZ Kokohu 2.67 58 P **Pn 01 44 09.8 -2.4**
TOZ Tahuroa Road 2.80 12 P **Pn 01 44 13.6 -0.3**
EDRZ Edgecumbe 2.82 34 P **Pn 01 44 12.6 -1.6**
URZ Urewera 2.86 40 P **Pn 01 44 12.4 -2.4**
51nm,0.3s,baz=240,slow=7.4,SNR=36
URZ S **Sn 01 44 45.0 -3.0**
146nm,0.3s,baz=89,slow=20,SNR=8.1
URZ LR LR 01 45 03.9
comp=Z,704nm,18.1s,baz=358,slow=35
URZ Urewera 2.86 40 P **Pn 01 44 12.4 -2.4**
LTZ Lake Taylor 2.97 218 P **Pn 01 44 16.1 -0.1**
TGRZ Tauranga 2.98 24 P **Pn 01 44 16.1 -0.3**
MKAZ Moumakai 3.37 5 P **Pn 01 44 21.8 0.0**
CRLZ Canterbury Las 3.49 207 P **Pn 01 44 21.9 -1.4**
OTAZ Otara 3.52 2 P **Pn 01 44 24.6 +0.8**
WTAZ Waiatarua 3.54 358 P **Pn 01 44 25.0 +1.0**
MQZ McQueen's Vall 3.59 205 P **Pn 01 44 22.7 -2.1**
PUZ Puketiti 3.62 50 P **Pn 01 44 22.0 -3.1**
KAAZ Kauri Point 3.65 359 P **Pn 01 44 26.6 +1.1**
MTAZ Motutapu 3.68 2 P **Pn 01 44 26.6 +0.6**
KUZ Kuaotunu 3.80 12 P **Pn 01 44 26.7 -0.9**
WVZ Waitaha Valley 3.98 228 P **Pn 01 44 29.0 -1.1**
MXZ Matakaoa Point 4.01 45 P **Pn 01 44 27.6 -2.9**
RPZ Rata Peaks 4.26 219 P **Pn 01 44 32.7 -1.2**
24nm,0.3s,baz=61,slow=2.8,SNR=32
RPZ S **Sn 01 45 19.1 -3.1**
54nm,0.3s,baz=22,slow=19,SNR=7.4
RPZ LR LR 01 46 40.7
comp=Z,771nm,20.5s,baz=233,slow=42
RPZ Rata Peaks 4.26 219 P **Pn 01 44 32.7 -1.1**
WCZ Waipu Caves 4.54 356 P **Pn 01 44 37.8 0.0**
FOZ Foux Glacier 4.88 229 P **Pn 01 44 40.0 -2.4**
LBZ Lake Benmore 5.17 219 P **Pn 01 44 44.4 -2.0**
OUZ Omahuta 5.33 350 P **Pn 01 44 48.7 +0.2**
ODZ Otahua Downs 5.48 212 P **Pn 01 44 48.6 -2.1**
JCZ Jackson Bay 5.73 229 P **Pn 01 44 51.8 -2.2**
EAZ Earnscleugh 6.22 218 P **Pn 01 44 58.1 -2.6**
MSZ Milford Sound 6.56 228 P **Pn 01 45 03.7 -1.7**
TUZ Tuapeka 6.64 213 P **Pn 01 45 04.8 -1.7**
MLZ Mavora Lakes 6.86 223 P **Pn 01 45 07.7 -1.9**
CAN Canberra 20.94 276 *eP* **P 01 48 13.9 +4.0**
STKA Stephens Creek 27.99 277 P **P 01 49 17.9 +0.7**
3.0nm,0.9s,mb3.9,baz=116,slow=7.6,SNR=6.7
STKA LR LR 01 59 06.7
comp=Z,213nm,18.4s,MS3.8,baz=126,slow=33
CTA Charters Tower 31.70 301 P **P 01 49 51.3 +1.2**
2.8nm,0.8s,mb4.2,baz=345,slow=22,SNR=3.6
CTA LR LR 02 00 30.9
comp=Z,146nm,21.5s,MS3.6,baz=50,slow=32
CTAO Charters Tower 31.70 301 *eP* **P 01 49 51.5 +1.4**
3.6nm,0.8s,mb4.2
HNR Honiara 33.60 333 LR LR 02 00 41.1
comp=Z,94nm,19.1s,MS3.5,baz=356,slow=31
ASAR Alice Springs 38.09 283 P **P 01 50 44.7 -0.5**
4.1nm,0.4s,mb4.5,baz=131,slow=8.2,SNR=70
ASAR ScP ScP 01 56 36.0 -6.4
0.5nm,0.7s,baz=121,slow=3.8,SNR=5.0
COEN Coen 38.20 305 *eP* **P 01 50 47.8 +1.6**
36nm,1.8s,mb4.8
FORT Forrest 38.79 269 *eP* **P 01 50 50.8 -0.2**
16nm,0.7s,mb4.9
FORT Forrest 38.79 269 *eP* **P 01 50 50.8 -0.2**
3.1nm,0.9s,mb4.0
PMG Port Moresby 39.46 314 *eP* **P 01 50 58.5 +1.7**
16nm,1.0s,mb4.7
WB2 Warramunga Arr 40.03 289⇑*iP* **P 01 51 00.8 -0.7**
WRAB Tennant Creek 40.04 289 *eP* **P 01 51 00.7 -0.9**
6.8nm,0.6s,mb4.5
WRA Warramunga Arr 40.04 289 P **P 01 51 01.0 -0.5**
5.3nm,0.5s,mb4.5,baz=127,slow=8.1,SNR=58
WRA S **S 01 57 03.1 -0.6**
0.6nm,0.8s,baz=135,slow=15,SNR=2.9
WRA LR LR 02 06 16.8
comp=Z,128nm,21.7s,MS3.7,baz=155,slow=34
CASY Casey 43.49 212 *eP* **P 01 51 29.0 -0.2**
CASY Casey 43.49 212 *eP* **P 01 51 29.0 -0.2**
7.1nm,0.6s,mb4.6
KLBR Kellerberrin 46.25 262 *eP* **P 01 51 50.2 -1.4**
92nm,1.9s,mb5.4
FITZ Fitzroy Crossi 47.59 283 *eP* **P 01 52 01.4 -0.7**
4.0nm,0.5s,mb4.7
FITZ Fitzroy Crossi 47.59 283 P **P 01 52 01.7 -0.4**
1.7nm,0.5s,mb4.3,baz=178,slow=13,SNR=15
QSPA South Pole Qui 49.65 180 P **P 01 52 19.4 +2.2**
6.0nm,0.9s,mb4.6,baz=30,slow=2.5,SNR=21
QSPA South Pole Qui 49.65 180 P **P 01 52 19.4 +2.2**
MAW Mawson 60.78 204 P **P 01 53 38.2 +0.8**
2.4nm,0.7s,mb4.5,baz=109,slow=6.2,SNR=6.6
MAW pP pP 01 53 51.9 -0.3
3.1nm,0.6s,baz=121,slow=8.1,SNR=4.7
SNAA Sanae 68.15 181 *e* **P 01 54 25.7 +0.2**
SNAA *e* 01 54 32.4
SNAA Sanae 68.15 181 *eP* **P 01 54 25.6 +0.1**
6.4nm,1.1s,mb4.6
VNA3 Neumayer Olymp 68.55 178 *e* **P 01 54 28.4 +0.5**
VNA3 *e* 01 54 34.3
VNA3 *e* 01 54 51.5
VNA2 Neumayer--Watz 68.90 179 *e* **P 01 54 31.0 +0.8**
VNA2 *e* 01 54 37.7
VNA2 *e* 01 54 54.0
VNA1 Neumayer--Stat 69.17 179 *e* **P 01 54 33.4 +1.6**
VNA1 *e* 01 54 39.8
VNA1 *e* 01 54 56.4
CBIJ Chichi jima 73.73 330 LR LR 02 22 21.7
comp=Z,23nm,20.7s,MS3.5,baz=174,slow=32
PLCA Paso Flores 79.74 135 P **P 01 55 34.8 +1.1**
4.6nm,1.1s,mb4.3,baz=353,slow=0.5,SNR=3.3
TRQA Tornquist 86.18 139 *eP* **P 01 56 07.8 +0.8**
6.3nm,1.2s,mb4.7
KSRS Korea Array 88.64 325 P **P 01 56 18.1 -0.5**
0.7nm,0.3s,mb4.4,baz=134,slow=5.4,SNR=5.2
KSRS pP pP 01 56 35.3 +1.2
1.8nm,0.6s,baz=140,slow=5.5,SNR=3.0
KSRS LR LR 02 29 38.2
comp=Z,32nm,21.6s,MS3.7,baz=188,slow=31
CMAR Chiang Mai Arr 91.50 293 P **P 01 56 31.9 -0.4**
1.4nm,0.5s,mb4.5,baz=130,slow=2.6,SNR=3.4
CMAR pP pP 01 56 49.1 +1.2
1.1nm,0.3s,baz=147,slow=4.2,SNR=1.3
PETK Petropavlovsk- 94.37 350 LR LR 02 35 13.7
comp=Z,26nm,19.0s,MS3.7,baz=52,slow=33
YKA Yellowknife Ar 117.08 29 PKP PKPdf 02 02 05.9 -3.5
1.0nm,0.5s,baz=259,slow=1.7,SNR=7.4
MKAR Makanchi Array 119.50 308 PKP PKPdf 02 02 11.1 -3.4
0.4nm,0.5s,baz=146,slow=1.4,SNR=4.4
MKAR pPKP pPKPdf 02 02 28.8 -1.9
1.0nm,0.9s,baz=349,slow=1.2,SNR=3.6
MKAR Makanchi Array 119.50 308 PKP PKPdf 02 02 11.1 -3.4
MKAR pPKP pPKPdf 02 02 28.8 -1.9
LIC Lamto 145.90 180 *e*PKIKP PKPdf 02 03 04.7 -0.1
84nm,1.1s
KIC Kosan Boka 146.03 181 *e*PKIKP PKPdf 02 03 05.3 +0.3
251nm,1.3s
KEV Kevo 146.17 341 *ep* PKPdf 02 03 02.3 -1.2
0.9nm,0.3s
TIC Toumodi 146.32 180 *e*PKIKP PKPdf 02 03 05.2 -0.3
50nm,0.9s

DBIC Dimbokro 146.34 181 PKPbc PKPbc 02 03 06.3 -0.4
4.4nm,0.5s,baz=133,slow=5.7,SNR=15
DBIC pPKPbc pPKPbc 02 03 22.0 -0.7
7.8nm,0.6s,baz=98,slow=4.3,SNR=4.8
DBIC Dimbokro 146.34 181 *e*PKPbc PKPbc 02 03 06.3 -0.4
DBIC pPKPbc pPKPbc 02 03 22.0 -0.7
MALT Malatya 146.44 281 *e*PKPbc PKPbc 02 03 06.6 +0.2
ARCES ARCESS Array B 146.71 341 PKPbc PKPbc 02 03 04.1 -2.1
13nm,0.7s,baz=52,slow=1.5,SNR=67
ARCES pPKPbc pPKPbc 02 03 21.6 -0.5
7.6nm,0.7s,baz=20,slow=3.9,SNR=5.0
JOF Joensuu 148.80 328 *ep* PKPdf 02 03 09.0 +1.0
1.6nm,0.4s
KAF Kangasniemi 151.20 329 *ep* PKPdf 02 03 14.7 +2.9
0.8nm,0.4s
TOA0 Torodi Ar. Sit 152.11 195 *e*PKPbc PKPbc 02 03 20.4 -0.9
TOA0 *e*PKPab PKPab 02 03 31.1 +0.2
TORD Torodi Ar. Bea 152.11 195 PKP PKPdf 02 03 14.4 -0.3
1.2nm,0.9s,baz=70,slow=1.2,SNR=3.6
TORD PKPbc PKPbc 02 03 20.3 -1.0
5.1nm,0.6s,baz=163,slow=3.5,SNR=122
AKASG Malin Array Be 154.02 305 PKPbc PKPbc 02 03 22.1 -2.4
0.4nm,0.4s,baz=77,slow=2.0,SNR=6.8
HFS Hagfors 157.06 335 PKPab PKPab 02 03 48.9 -1.9
2.3nm,0.7s,baz=114,slow=3.7,SNR=4.2

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*ISCJB **25** 02:04:56.6±2.7, 200S±0.1×178.3W±0.1, h575km±33km, mb3.9/15, Error ellipse: s-maj=19.8km s-min=18.6km az=161.9*
*IDC **25** 02:04:59.3±2.5, 1986S×178.34W, h585km±24km, mb3.4/9, mb1 3.6/9, mb1mx3.4/16, mbtmp3.4/9, Error ellipse: s-maj=40.4km s-min=14.8km az=145.0*
*NEIC **25** 02:04:59.7±3.7, 20.12S×178.20W, h608km±43km, mb4.1/6, Error ellipse: s-maj=24.9km s-min=21.9km az=221.0*
ISC 25 02:04:57.7±2.9, 200S±01×1782W±01, h575km±34km, n31, σ0§68/23, mb3.9/15, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.60**	**192**	P	**P**	**02 08 38.1**	**-1.5**
2.5nm,0.3s,baz=349,slow=5.2,SNR=13							
CTA	**Charters Tower**	**33.32**	**264**	⇓*iP*	**P**	**02 10 50.0**	**+0.9**
9.0nm,0.4s,mb4.8							
CTA	**Charters Tower**	**33.32**	**264**	P	**P**	**02 10 50.1**	**+1.0**
13nm,0.4s,mb4.9,baz=94,slow=10,SNR=39							
CTAO	**Charters Tower**	**33.32**	**264**	*eP*	**P**	**02 10 49.9**	**+0.8**
13nm,0.5s,mb4.8							
COEN	**Coen**	**37.34**	**273**	*eP*	**P**	**02 11 22.8**	**+0.4**
3.4nm,0.6s,mb4.0							
STKA	**Stephens Creek**	**37.79**	**244**	P	**P**	**02 11 27.2**	**+1.3**
2.1nm,0.9s,mb3.7,baz=84,slow=8.7,SNR=4.7							
ASAR	**Alice Springs**	**44.41**	**256**	P	**P**	**02 12 18.9**	**+0.5**
5.2nm,0.5s,mb4.3,baz=88,slow=8.1,SNR=114							
ASAR				PcP	PcP	02 13 49.6	+0.1
0.7nm,0.6s,baz=106,slow=4.3,SNR=4.7							
ASAR				ScP	ScP	02 16 49.0	+1.8
0.3nm,0.7s,baz=104,slow=4.9,SNR=5.0							
ASAR				S	**S**	**02 18 11.4**	**-0.7**
0.6nm,0.9s,baz=92,slow=17,SNR=3.6							
WB2	**Warramunga Arr**	**44.44**	**262**	⇓*iP*	**P**	**02 12 18.2**	**-0.4**
WRAB	**Tennant Creek**	**44.44**	**262**	*eP*	**P**	**02 12 18.3**	**-0.3**
7.0nm,1.0s,mb4.2							
WRA	**Warramunga Arr**	**44.45**	**262**	P	**P**	**02 12 18.6**	**-0.1**
4.4nm,0.5s,mb4.2,baz=97,slow=8.5,SNR=28							
KAKA	**Kakadu**	**47.74**	**271**	*eP*	**P**	**02 12 43.3**	**-0.4**
7.0nm,0.6s,mb4.4							
MBWA	**Marble Bar**	**57.74**	**257**	*eP*	**P**	**02 13 54.3**	**-0.5**
2.9nm,0.6s,mb3.6							
CASY	**Casey**	**64.28**	**205**	*eP*	**P**	**02 14 37.4**	**+0.6**
3.7nm,1.0s,mb3.7							
MJAR	**Matsushiro Arr**	**69.71**	**324**	P	**P**	**02 15 09.8**	**-0.7**
1.8nm,0.5s,mb3.8,baz=167,slow=5.6,SNR=6.3							
PETK	**Petropavlovsk-**	**75.77**	**345**	P	**P**	**02 15 44.6**	**-0.3**
2.7nm,0.7s,mb3.8,baz=139,slow=9.9,SNR=4.2							
KSRS	**Korea Array**	**76.40**	**319**	P	**P**	**02 15 49.0**	**+0.3**
0.6nm,0.3s,mb3.5,baz=135,slow=7.0,SNR=3.1							
NVAR	**Mina Array Bea**	**80.84**	**44**	P	**P**	**02 16 13.3**	**+1.0**
0.1nm,0.3s,mb2.7,baz=219,slow=8.6,SNR=3.6							
NVAR	**Mina Array Bea**	**80.84**	**44**	P	**P**	**02 16 13.3**	**+1.0**
COLA	**College**	**87.81**	**12**	*eP*	**P**	**02 16 44.9**	**-0.9**
4.6nm,0.7s,mb4.3							
VNA3	**Neumayer Olymp**	**88.61**	**176**	*e*	**P**	**02 16 49.7**	**+0.1**
VNA2	**Neumayer--Watz**	**89.05**	**177**	*e*	**P**	**02 16 52.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	**02 16 56.0**	**+0.2**
1.0nm,0.3s,mb4.1,baz=108,slow=2.3,SNR=5.9							
MKAR	**Makanchi Array**	**110.72**	**314**	PKiKP	PKiKP	02 22 24.0	-1.7
0.3nm,0.6s,baz=0,slow=0.1,SNR=3.4							
ARCES	**ARCESS Array B**	**128.43**	**350**	PKP	PKPdf	02 22 58.5	-0.4
2.1nm,0.8s,baz=2.7,slow=2.1,SNR=9.6							
ARCES	**ARCESS Array B**	**128.43**	**350**	PKP	PKPdf	02 22 58.5	-0.4
HFS	**Hagfors**	**139.06**	**351**	PKhKP		02 23 12.3	
1.2nm,0.4s,baz=64,slow=3.4,SNR=9.6							
AKASG	**Malin Array Be**	**142.51**	**331**	PKhKP		02 23 21.5	
1.2nm,0.3s,baz=43,slow=4.7,SNR=15							
CLL	**Collm**	**147.57**	**347**	⇓*iP*	PKPbc	02 23 37.5	-0.2
comp=Z,6.0nm,0.8s							
CLL				*i* PKPab	PKPab	02 23 41.3	-0.6
comp=Z,3.0nm,0.7s							
GRA1	**Grafenberg Arr**	**149.47**	**348**	*e*PKP	PKPbc	02 23 42.7	+0.3
GRF	**Grafenberg Arr**	**149.47**	**348**	*e*PKP	PKPbc	02 23 42.7	+0.3
GERES	**GERESS Array B**	**149.70**	**344**	PKPbc	PKPbc	02 23 43.2	+0.2
comp=Z,1.5nm,0.7s,baz=29,slow=3.0,SNR=15							
GERES				PKPab	PKPab	02 23 50.5	-0.3
comp=Z,0.3nm,0.5s,baz=34,slow=7.1,SNR=3.2							

IDC 25 02:08:24.0±1.9, 1326S×6654E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, MS3.5/4, Ms1 3.5/4, ms1mx3.2/24, Error ellipse: s-maj=69.8km s-min=27.0km az=50.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**40.26**	**247**	LR	LR	02 31 18.1	
comp=Z,91nm,18.2s,baz=236,slow=34							
FITZ	**Fitzroy Crossi**	**56.91**	**103**	LR	LR	02 37 53.0	
comp=Z,43nm,19.2s,baz=24,slow=31							
MKAR	**Makanchi Array**	**61.42**	**12**	P	P	02 18 42.1	+0.2
0.3nm,0.8s,baz=184,slow=5.8,SNR=3.5							
MKAR				LR	LR	02 43 46.2	
comp=Z,19nm,21.3s,baz=340,slow=34							
ASAR	**Alice Springs**	**64.25**	**110**	P	P	02 19 00.7	-0.7
0.5nm,0.9s,baz=223,slow=6.6,SNR=4.9							
WRA	**Warramunga Arr**	**64.95**	**106**	P	P	02 19 06.4	+0.3
1.1nm,0.8s,baz=273,slow=5.5,SNR=8.0							
WB2	**Warramunga Arr**	**64.97**	**106**	*eP*	P	02 18 56.9	-9.2
ZALV	**Zalesovo Beam**	**68.73**	**11**	P	P	02 19 28.9	-0.4
0.4nm,0.3s,baz=185,slow=5.4,SNR=3.9							
SONM	**Songino Array**	**70.41**	**27**	P	P	02 19 40.7	+0.8
0.7nm,0.6s,baz=206,slow=6.0,SNR=3.8							
AKASG	**Malin Array Be**	**71.54**	**336**	P	P	02 19 46.2	-0.5
0.1nm,0.3s,baz=142,slow=5.0,SNR=3.6							
KSRS	**Korea Array**	**76.52**	**46**	LR	LR	02 55 44.8	
comp=Z,24nm,18.5s,baz=260,slow=37							
PDAR	**Pinedale Array**	**150.40**	**354**	PKP	PKPdf	02 28 13.4	+1.0
0.4nm,0.7s,baz=57,slow=9.0,SNR=2.0							
PDAR				PKPbc	PKPbc	02 28 17.9	+0.2
1.6nm,0.9s,baz=47,slow=2.6,SNR=6.7							

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*ISCJB **25** 02:08:35.3±0.9, 29S±0.1×363E±0.2, h10km, mb3.7/4, Error ellipse: s-maj=28.6km s-min=8.8km az=33.4*
*NEIC **25** 02:08:37.2±0.8, 295S×362.8E, h10km, ML3.8, Error ellipse: s-maj=26.3km s-min=12.4km az=127.0*
*IDC **25** 02:08:37.4±1.6, 270S×363.0E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=35.0km s-min=16.9km az=136.0*
ISC 25 02:08:37.4±0.9, 29S±01×363E±02, h10km, n9, σ1§15/13, mb3.7/4, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**1.94**	**28**	Pg	**Pb**	**02 09 11.2**	**-1.7**
55nm,0.3s,baz=212,slow=15,SNR=148							
KMBO				Lg		02 09 35.2	
81nm,0.3s,baz=127,slow=22,SNR=17							
KMBO	**Kilima Mbogo**	**1.94**	**28**	*e*Pn	**Pn**	**02 09 10.7**	**+0.2**
KMBO				*e*Pg	**Pg**	**02 09 13.4**	**-1.2**
KMBO				*e*Sn	**Sn**	**02 09 34.8**	**-0.1**
KMBO				Lg		02 09 35.2	
LSZ	**Lusaka**	**14.73**	**213**	Pn	**Pn**	**02 12 03.7**	**-2.2**
0.1nm,0.3s,baz=45,slow=13,SNR=2.5							
LSZ				Sn	**Sn**	**02 14 42.4**	**-6.9**
0.1nm,0.3s,baz=58,slow=6.7,SNR=2.3							
LSZ				Lg		02 16 16.0	
0.1nm,0.3s,baz=310,slow=21,SNR=3.4							
LSZ	**Lusaka**	**14.73**	**213**	Pn	**Pn**	**02 12 03.7**	**-2.2**
LSZ				Sn	**Sn**	**02 14 42.4**	**-6.9**
LSZ				Lg		02 16 16.0	
TORD	**Torodi Ar. Bea**	**37.88**	**296**	P	**P**	**02 15 55.3**	**+0.3**
1.1nm,1.1s,mb3.5,baz=134,slow=6.2,SNR=3.1							
GERES	**GERESS Array B**	**55.11**	**342**	P	**P**	**02 18 10.6**	**+0.9**
0.1nm,0.3s,mb3.3,baz=141,slow=6.3,SNR=3.8							
MK31	**Makanchi Array**	**63.82**	**33**	*eP*	**P**	**02 19 10.5**	**+0.6**
MKAR	**Makanchi Array**	**63.82**	**33**	P	**P**	**02 19 11.4**	**+1.6**
1.1nm,0.9s,mb3.9,baz=243,slow=5.2,SNR=6.5							
CMAR	**Chiang Mai Arr**	**65.13**	**68**	P	**P**	**02 19 20.1**	**+1.1**
0.8nm,0.3s,mb4.2,baz=262,slow=6.3,SNR=4.5							

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*ISCJB **25** 02:53:15.3±0.6, 2425S±004×6700W±007, h177km±11km, mb3.1/2, Error ellipse: s-maj=10.7km s-min=6.4km az=14.2*
*IDC **25** 02:53:16.9±1.1, 24.13S×6695W, h171km±11km, mb2.9/2, mb1 3.3/9, mb1mx3.2/20, mbtmp3.2/9, Error ellipse: s-maj=15.3km s-min=14.5km az=39.0*
*GUC **25** 02:53:19.3±0.8, 2431S×6749W, h200km, ML4.2*
*NEIC **25** 02:53:19.3, 2431S×6749W, h200km, MG4.2(GUC), After GUC.*
ISC 25 02:53:16.0±0.5, 2424S±004×6695W±007, h163km±11km, n20, σ1§26/25, mb3.1/2, 2C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.43**	**312**	P	**Pn**	**02 53 59.0**	**+2.1**
38nm,0.3s,baz=133,slow=5.4,SNR=299							
LVC				S	**Sn**	**02 54 29.3**	**+0.8**
47nm,0.3s,baz=2.4,slow=22,SNR=29							
LVC	**Limon Verde**	**2.43**	**312**	P	**Pn**	**02 53 59.0**	**+2.1**
LVC				S	**Sn**	**02 54 29.3**	**+0.8**
CEN1	**Los Morros**	**3.10**	**285**	⇓*iP*	**Pn**	**02 54 07.2**	**+2.1**
CEN1				*i* S	**Sn**	**02 54 43.0**	**-0.2**
CEN1				AML	AML	02 54 46.0	
comp=E,397nm,0.5s							
CPN1	**Cerro Paranal**	**3.17**	**262**	⇓*iP*	**Pn**	**02 54 07.4**	**+1.3**
CPN1				*i* S	**Sn**	**02 54 43.6**	**-1.2**
CPN1				AML	AML	02 54 51.6	
comp=E,282nm,0.5s							
ANCH	**Antofagasta**	**3.22**	**279**	⇑*iP*	**Pn**	**02 54 07.7**	**+1.1**
ANCH				*i* S	**Sn**	**02 54 44.6**	**-1.2**
ANCH				AML	AML	02 54 47.3	
comp=N,648nm,0.2s							
ANCH	**Antofagasta**	**3.22**	**279**	⇑*iP*	**Pn**	**02 54 07.7**	**+1.1**
ANCH				*i* S	**Sn**	**02 54 44.6**	**-1.2**
CDCH	**Caldera**	**4.50**	**230**	*i* P	**Pn**	**02 54 22.6**	**-0.4**
CDCH				*i* S	**Sn**	**02 55 12.5**	**-2.8**
CFAA	**Coronel Fontan**	**7.42**	**189**	P	**Pn**	**02 55 04.0**	**+2.4**
comp=N,0.1nm,0.3s,baz=13,slow=12,SNR=13							
CFAA				S	**Sn**	**02 56 23.4**	**-1.4**
comp=N,0.2nm,0.3s,baz=260,slow=18,SNR=7.2							
LPAZ	**La Paz**	**7.99**	**352**	P	**Pn**	**02 55 10.2**	**+0.8**
comp=N,3.3nm,0.3s,baz=179,slow=9.4,SNR=100							
LPAZ				S	**Sn**	**02 56 37.1**	**-1.6**
comp=N,0.2nm,0.3s,baz=41,slow=25,SNR=2.8							
CPUP	**Villa Florida**	**8.95**	**105**	P	**P**	**02 55 22.0**	**+0.1**
comp=N,0.2nm,0.3s,baz=272,slow=12,SNR=3.6							
SIV	**San Ignacio**	**9.89**	**35**	P	**Pn**	**02 55 33.5**	**-0.9**
comp=N,1.1nm,0.3s,baz=218,slow=13,SNR=21							
SIV				S	**Sn**	**02 57 22.6**	**-1.6**
PLCA	**Paso Flores**	**16.72**	**190**	P	**Pn**	**02 57 00.7**	**0.0**
comp=N,0.1nm,0.3s,baz=3.9,slow=9.1,SNR=3.7							
BDFB	**Brasilia**	**19.73**	**68**	P	**P**	**02 57 34.2**	**+0.9**
comp=N,0.5nm,0.3s,baz=233,slow=16,SNR=16							
TXAR	**Lajitas Array**	**63.90**	**324**	P	**P**	**03 03 30.9**	**-0.5**
comp=N,0.1nm,0.3s,mb3.1,baz=139,slow=8.4,SNR=2.6							
TORD	**Torodi Ar. Bea**	**76.61**	**69**	P	**P**	**03 04 49.0**	**0.0**
comp=N,0.3nm,0.5s,mb3.2,baz=260,slow=6.1,SNR=14							
ASAR	**Alice Springs**	**128.26**	**205**	PKP	PKPdf	03 12 03.7	+0.1
comp=N,0.3nm,0.6s,baz=143,slow=1.9,SNR=5.5							
WRA	**Warramunga Arr**	**131.43**	**207**	PKP	PKPdf	03 12 09.8	0.0
comp=N,0.2nm,0.6s,baz=159,slow=1.7,SNR=8.0							
ZALV	**Zalesovo Beam**	**143.59**	**28**	PKP	PKPdf	03 12 29.4	-1.5
comp=N,0.4nm,0.3s,baz=296,slow=4.6,SNR=2.5							
ZALV	**Zalesovo Beam**	**143.59**	**28**	PKP	PKPdf	03 12 29.4	-1.5
MKAR	**Makanchi Array**	**146.68**	**40**	PKPbc	PKPbc	03 12 37.2	-1.1
comp=N,0.7nm,0.6s,baz=318,slow=3.4,SNR=6.5							

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*CSEM **25** 03:13:58.7±1.0, 3736N×2464W, h5km, ML2.9, Error ellipse: s-maj=9.3km s-min=6.1km az=33.0, After PDA*
PDA 25 03:13:58.7±1.0, 3736N×2464W, h5km, MD3.7, ML2.9, Error ellipse: s-maj=9.3km s-min=6.1km az=33.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.49**	**224**	*eP*	Pg	03 14 05.0	-3.1
PSMN				*eS*	Sg	03 14 11.2	-3.2
CMLA	**Cha da Macela**	**0.81**	**300**	*eP*	Pg	03 14 11.4	-2.9
CMLA				*eS*	Sg	03 14 21.8	-3.0
CMLA				A		03 14 24.0	
175nm,0.3s							
CMLA	**Cha da Macela**	**0.81**	**300**	*eP*	Pg	03 14 11.4	-2.9
CMLA				*eS*	Sg	03 14 21.8	-3.0
PDA	**Ponta Delgada**	**0.90**	**296**	*eP*	Pg	03 14 11.5	-4.5
PDA				*eS*	Sg	03 14 22.6	-5.1
PSCM	**Serra do Cume**	**2.37**	**305**	*eP*	Pn	03 14 33.7	-4.5
PSCM				*eS*	Sn	03 14 59.7	-8.0
PSCM				A		03 15 02.6	
28nm,0.2s							
PSCM	**Serra do Cume**	**2.37**	**305**	*eP*	Pn	03 14 33.7	-4.5
PSCM				*eS*	Sn	03 14 59.7	-8.0
PMAN	**Manadas**	**3.01**	**296**	*eP*	Pn	03 14 42.8	-4.2
PMAN				*eS*	Sn	03 15 14.9	-8.5

HCY	Herceg Novi	1.38	139	⇑iPg	Pg	03 55 32.5	-3.2
HCY				eSg	Sg	03 55 54.3	+0.7
NKY	Niksic	1.44	118	⇑iPg	Pg	03 55 33.9	-2.9
NKY				eSg	Sg	03 55 57.2	+1.8
PLE	Pljevlja	1.56	95	⇓iPn	Pn	03 55 37.1	-0.4
PLE				eSn	Sn	03 56 00.7	+2.7
BUM	Brajici-Budva	1.69	134	⇓iPn	Pn	03 55 38.6	-0.7
BUM				eSn	Sn	03 56 04.4	+3.1
PDG	Podgorica	1.81	125	⇓iPn	Pn	03 55 40.7	-0.3
PDG				eSn	Sn	03 56 07.1	+2.9
TTG	Podgorica	1.81	125	⇓iPn	Pn	03 55 40.7	-0.3
TTG				eSn	Sn	03 56 07.1	+2.9
SJES	Sjenica	1.98	96	ePn	Pn	03 55 43.2	-0.2
SJES				eSg	Sg	03 56 15.2	+2.2
BEY	Berane	2.02	107	⇓iPn	Pn	03 55 45.2	+1.3
BEY				eSn	Sn	03 56 12.3	+2.9
IVA	Berane	2.02	107	⇓iPn	Pn	03 55 45.2	+1.3
IVA				eSn	Sn	03 56 12.3	+2.9
FGMS	Monte Sant'Ang	2.03	209	Pn	Pn	03 55 43.3	-0.8
NVLJ	Novalja	2.04	303	ePn	Pn	03 55 44.8	+0.7
NVLJ				Sn	Sn	03 56 14.2	+4.4
NVLJ	Novalja	2.04	303	ePn	Pn	03 55 44.8	+0.7
NVLJ				Sn	Sn	03 56 14.1	+4.3
MS1	Monte Sant'Ang	2.04	209	ePn	Pn	03 55 45.1	+1.0
DIVS	Divibare	2.06	72	ePn	Pn	03 55 43.7	-0.8
SISC	Sisak	2.08	342	ePn	Pn	03 55 46.4	+1.6
SISC	Sisak	2.08	342	ePn	Pn	03 55 46.3	+1.6
ULC	Ulcinj	2.11	136	⇓iPn	Pn	03 55 45.3	+0.1
ULC				eSn	Sn	03 56 14.8	+3.1
PVY	Plav	2.17	113	⇓iPn	Pn	03 55 47.4	+1.4
PVY				eSn	Sn	03 56 17.3	+4.0
RGNG	Rignano Grg	2.20	215	Pn	Pn	03 55 45.0	-1.4
BAI	Bari	2.40	187	ePn	Pn	03 55 47.7	-1.4
FGSL	Fruska Gora	2.47	47	ePn	Pn	03 55 48.8	-1.3
FGSL				eSn	Sn	03 56 18.8	-1.7
CDT	Castel del Mon	2.52	197	ePn	Pn	03 55 46.1	-4.7
GRUS	Gruza	2.53	80	ePn	Pn	03 55 49.6	-1.3
GRUS				iSg	Sg	03 56 32.1	+1.5
FG5	Orsara di Pugl	2.66	215	P	Pn	03 55 52.7	0.0
AOI	Ancona	2.67	272	Pn	Pn	03 55 53.5	+0.7
SG1	Sgolgore (BA)	2.69	190	ePn	Pn	03 55 51.3	-1.8
PE1	Pezze di Greco	2.69	178	ePn	Pn	03 55 53.5	+0.4
FG4	Candela	2.69	209	Pn	Pn	03 55 52.9	-0.3
GOLS	Golise	2.78	336	iPn	Pn	03 55 54.8	+0.4
GOLS				iSn	Sn	03 56 28.6	+0.4
GOLS	comp=Z,241nm,0.9s						
GOLS	Golise	2.78	336	iPn	Pn	03 55 54.8	+0.5
GOLS				iSn	Sn	03 56 28.6	+0.4
GOLS	Golise	2.78	336	iPn	Pn	03 55 54.8	+0.4
GOLS				iSn	Sn	03 56 28.6	+0.4
TERO	Teramo	2.82	253	Pn	Pn	03 55 55.4	+0.4
TIR	Tirane	2.88	137	ePn	Pn	03 55 55.2	-0.5
TIR				eSn	Sn	03 56 29.8	-0.8
TIR	Tirane	2.88	137	ePn	Pn	03 55 55.1	-0.6
TIR				eSn	Sn	03 56 29.8	-0.8
INTR	Introdacqua	2.89	240	Pn	Pn	03 55 55.7	-0.1
PKSM	Moragy	2.89	19	ePn	Pn	03 55 54.6	-1.2
PKSM				eSn	Sn	03 56 31.7	+0.8
PKSM	Moragy	2.89	19	⇑iP	Pn	03 55 54.8	-1.1
PKSM	Moragy	2.89	19	⇓ePn	Pn	03 55 54.4	-1.4
PKSM				eSn	Sn	03 56 31.7	+0.8
RNI2	Rionero Sannit	2.92	233	Pn	Pn	03 55 58.0	+1.8
SVIS	Svilajnac	2.96	73	ePn	Pn	03 55 55.2	-1.6
CING	Cingoli	2.97	269	Pn	Pn	03 55 57.3	+0.3
SGG	Gregorio Mates	3.00	226	Pn	Pn	03 55 58.5	+1.8
AQU	L'Aquila	3.06	249	⇑iP	Pn	03 55 59.0	+0.8
AQU	L'Aquila	3.06	249	P	Pn	03 55 59.1	+0.9
AQU	L'Aquila	3.06	249	⇑P	Pn	03 55 59.0	+0.8
NRCA	Norcia	3.11	259	Pn	Pn	03 55 59.5	+0.6
SDI	San Donato	3.11	236	Pn	Pn	03 55 59.1	+0.2
CSSN	Cassano Irpino	3.12	213	Pn	Pn	03 55 59.0	0.0
VVLD	Villa Vallelon	3.14	240	Pn	Pn	03 55 59.7	+0.4
SNTG	Esanatoglia	3.17	267	Pn	Pn	03 55 59.6	-0.1
PTQR	Pietraquaria	3.21	244	Pn	Pn	03 56 01.5	+1.3
LJU	Ljubljana	3.21	324	ePn	Pn	03 56 01.3	+1.0
LJU				eSn	Sn	03 56 42.1	+3.2
LJU				eSg	Sg	03 57 00.0	+7.5
FSSB	Fossombrone	3.27	275	iPnu	Pn	03 56 01.3	+0.2
RFI	Roccamonfina	3.27	229	Pn	Pn	03 56 01.9	+0.8
SGO	Sicignano	3.27	207	Pn	Pn	03 56 00.9	-0.2
FIAM	Fiamignano	3.29	250	Pn	Pn	03 56 02.3	+1.0
BARS	Barje	3.39	100	ePn	Pn	03 56 03.8	+1.0
BARS				eSn	Sn	03 56 44.7	+1.4
ASS	Assisi	3.40	264	Pn	Pn	03 56 03.5	+0.6
BOLS	Boljevac	3.42	83	ePn	Pn	03 56 02.2	-0.9
SKO	Skopje	3.43	115	ePn	Pn	03 56 05.0	+1.7
SKO				eSn	Sn	03 56 45.5	+1.4
SKO	Skopje	3.43	115	ePn	Pn	03 56 04.9	+1.7
SKO				eSn	Sn	03 56 45.5	+1.3
MURB	Monte Urbino	3.47	268	Pn	Pn	03 56 04.4	+0.6
ORI	Oriolo Calabro	3.48	190	Pn	Pn	03 56 03.1	-0.9
PKS6	Bocsa	3.51	27	ePn	Pn	03 56 04.0	-0.3
CERT	Cerreto	3.52	245	Pn	Pn	03 56 04.6	+0.1
OHR	Ohrid	3.54	131	ePn	Pn	03 56 05.6	+0.8
OHR				eSn	Sn	03 56 47.0	+0.1
OHR	Ohrid	3.54	131	ePn	Pn	03 56 05.5	+0.7
OHR				eSn	Sn	03 56 46.9	0.0
SOKA	Soboth	3.56	334	⇑iPn	Pn	03 56 05.7	+0.6
SOKA				⇑iSn	Sn	03 56 47.1	-0.3
OBKA	Obir	3.58	326	⇓iPn	Pn	03 56 06.6	+1.2
OBKA	SNR=8.8						
OBKA				⇓iSn	Sn	03 56 50.2	+2.2
KRUS	Krusevo	3.63	124	ePn	Pn	03 56 07.4	+1.4
KRUS				eSn	Sn	03 56 48.9	-0.2
KRUS	Krusevo	3.63	124	ePn	Pn	03 56 07.3	+1.3
KRUS				eSn	Sn	03 56 48.9	-0.3
MTCE	Montecelio	3.64	248	Pn	Pn	03 56 07.1	+0.9
CUC	Castrocucco	3.66	198	ePn	Pn	03 56 05.6	-0.9
CUC				eSn	Sn	03 56 47.0	-3.0
CUC	Castrocucco	3.66	198	ePn	Pn	03 56 05.5	-0.9
CUC				eSn	Sn	03 56 47.0	-3.0
BZS	Buzias	3.76	54	⇑iP	Pn	03 56 05.8	-2.1
BZS	Buzias	3.76	54	ePn	Pn	03 56 05.6	-2.3
BZS				eSn	Sn	03 56 50.8	-1.7
BIA	Bitola	3.89	128	ePn	Pn	03 56 08.8	-0.9
BIA				eSn	Sn	03 56 55.1	-0.6
BIA	Bitola	3.89	128	ePn	Pn	03 56 08.7	-1.0
BIA				eSn	Sn	03 56 55.1	-0.6
ZAPS	Zavoj	3.92	91	ePn	Pn	03 56 10.3	+0.3
ZAPS				eSn	Sn	03 56 55.6	-0.6
SFI	Santa Sofia	3.95	278	Pn	Pn	03 56 11.3	+0.8
ARSA	Arzberg	3.96	342	iPn	Pn	03 56 10.8	+0.3
ARSA	SNR=63						
ARSA				⇑iSn	Sn	03 56 56.9	-0.3
ARSA	Arzberg	3.96	342	ePn	Pn	03 56 11.4	+0.9
ARSA	Arzberg	3.96	342	ePn	Pn	03 56 10.9	+0.4
ARSA				eSn	Sn	03 56 57.4	+0.2
ARSA	Arzberg	3.96	342	Pn	Pn	03 56 10.8	+0.3
ARSA	comp=Z,63nm,3.0s						
ARSA				Sn	Sn	03 56 56.8	-0.4
PKSG		3.98	11	⇑ePn	Pn	03 56 10.2	-0.6
PKSG				eSn	Sn	03 56 58.2	+0.4
PTCC	Patocco-Chiusa	4.03	318	Pn	Pn	03 56 12.5	+1.0
STIP	Stip	4.05	115	ePn	Pn	03 56 11.9	+0.1
STIP				eSn	Sn	03 57 00.7	+1.1
STIP	Stip	4.05	115	ePn	Pn	03 56 11.9	+0.1
STIP				eSn	Sn	03 57 00.6	+1.1
TOLF	Tolfa	4.13	252	Pn	Pn	03 56 13.1	+0.1
VMG	Vicchio	4.18	278	Pn	Pn	03 56 14.9	+1.4
BUD	Budapest	4.18	17	⇓ePB	Pb	03 56 27.2	+4.0
BUD				eSg	Sg	03 57 24.8	+1.4
KEK	Kerkira	4.22	152	eP	Pn	03 56 14.5	+0.3
SEI	Scarperia	4.32	280	Pn	Pn	03 56 17.2	+1.7
TIP	Timpagrande	4.33	185	ePn	Pn	03 56 14.6	-1.0
TIP	Timpagrande	4.33	185	ePg	Pg	03 56 27.8	-4.4
TIP	Timpagrande	4.33	185	ePn	Pn	03 56 14.6	-1.1
TIP				ePg	Pg	03 56 27.8	-4.4
CSNT	Castellina Chi	4.35	272	Pn	Pn	03 56 16.8	+0.9
FVI	Forni Avoltri	4.45	316	Pn	Pn	03 56 18.0	+0.8
VTS	Vitosha	4.45	100	⇓iP	Pn	03 56 19.1	+1.9
VTS	Vitosha	4.45	100	⇓P	Pn	03 56 19.1	+1.9
VAY	Valandovo	4.48	117	ePn	Pn	03 56 17.1	-0.7
VAY				eSn	Sn	03 57 09.1	-1.2
VAY	Valandovo	4.48	117	ePn	Pn	03 56 17.1	-0.7
VAY				eSn	Sn	03 57 09.0	-1.2
PENC	Penc	4.52	17	ePn	Pn	03 56 18.4	+0.1
KBA	Koelnbreinsper	4.53	324	⇑iSn	Sn	03 57 13.0	+1.6
KBA	Koelnbreinsper	4.53	324	⇑iPn	Pn	03 56 20.5	+2.1
KBA	SNR=8.2						
KBA				⇑iSn	Sn	03 57 13.0	+1.6
KBA	Koelnbreinsper	4.53	324	ePn	Pn	03 56 20.4	+2.0
KBA				eSn	Sn	03 57 12.5	+1.1
KBA	Koelnbreinsper	4.53	324	Pn	Pn	03 56 20.5	+2.1
KBA	comp=Z,8.0nm,2.0s						
KBA				Sn	Sn	03 57 13.0	+1.6
CONA	Conrad Observa	4.54	348	iPn	Pn	03 56 19.1	+0.5
CONA	SNR=28						
CONA				⇓iSn	Sn	03 57 10.9	-0.8
CONA	Conrad Observa	4.54	348	Pn	Pn	03 56 19.1	+0.5
CONA	comp=Z,28nm,5.0s						
CONA				Sn	Sn	03 57 10.9	-0.8
KZN	Kozani	4.63	132	eP	Pn	03 56 25.0	+5.3
JAN	Janina	4.68	144	eP	Pn	03 56 20.5	0.0
ABTA	Abfaltersbach	4.68	316	iPn	Pn	03 56 21.3	+0.8
ZST	SNR=22						
ZST	Bratislava	4.71	359	ePN	Pn	03 56 19.6	-1.2
ZST				eSN	Sn	03 57 13.7	-2.0
CTI	Castel Tesino	4.75	305	Pn	Pn	03 56 21.5	+0.1
PSZ	Piszkesteto	4.79	22	⇑ePn	Pn	03 56 20.8	-1.2
PSZ				eSg	Sg	03 57 43.7	+0.5
PSZ	Piszkesteto	4.79	22	⇑iP	Pn	03 56 20.8	-1.2
PSZ	Piszkesteto	4.79	22	ePn	Pn	03 56 20.7	-1.3
PSZ	Piszkesteto	4.79	22	ePg	Pg	03 56 38.8	-2.3
PSZ	Piszkesteto	4.79	22	ePn	Pn	03 56 20.7	-1.3
PSZ				ePg	Pg	03 56 38.9	-2.2
PSZ				eSg	Sg	03 57 38.7	-4.4
MOA	Molln	4.84	335	⇓iPn	Pn	03 56 23.9	+1.3
MOA	SNR=38						
MOA				⇓iSn	Sn	03 57 20.0	+1.0
MOA	Molln	4.84	335	ePn	Pn	03 56 24.1	+1.5
MOA				eSn	Sn	03 57 21.8	+2.8
MOA	Molln	4.84	335	Pn	Pn	03 56 23.9	+1.3
MOA	comp=Z,38nm,4.0s						
MOA				Sn	Sn	03 57 20.0	+1.0
BDI	Bagni Di Lucca	4.87	279	Pn	Pn	03 56 22.7	-0.3
MODS	Modra-Piesok	4.88	0	ePN	Pn	03 56 23.0	-0.2
MODS				eSN	Sn	03 57 16.7	-3.3
PII	Pisa	4.90	275	Pn	Pn	03 56 24.1	+0.6
DRGR		5.07	48	⇓iP	Pn	03 56 26.7	+0.9
DRGR		5.07	48	⇓P	Pn	03 56 26.7	+0.9
VYHS	Vyhne	5.12	12	ePN	Pn	03 56 26.3	-0.2
VYHS				ePG	Pg	03 56 44.7	-2.7
VYHS				eSN	Sn	03 57 24.1	-1.8
KOLL	Kolacno	5.15	8	ePN	Pn	03 56 26.6	-0.3
KOLL				eSN	Sn	03 57 23.9	-2.7
KECS	Kecovo	5.47	23	ePN	Pn	03 56 27.4	-3.9
KECS				ePG	Pg	03 56 53.8	-0.3
WTTA	Wattenberg	5.47	315	⇓iSn	Sn	03 57 38.2	+3.6
WTTA	Wattenberg	5.47	315	⇑iPn	Pn	03 56 32.6	+1.2
WTTA	SNR=18						
WTTA				⇓iSn	Sn	03 57 38.2	+3.6
WTTA	Wattenberg	5.47	315	eSn	Sn	03 57 37.5	+2.9
WTTA	Wattenberg	5.47	315	Pn	Pn	03 56 32.6	+1.2
WTTA	comp=Z,18nm,5.0s						
WTTA				iS	Sn	03 57 38.2	+3.6
WATA	Walderalm	5.55	316	⇓iPn	Pn	03 56 33.5	+1.1
WATA	SNR=19						
WATA	Walderalm	5.55	316	Pn	Pn	03 56 33.5	+1.1
WATA	comp=Z,19nm,1.0s						
EVR	Evrytania	5.71	142	eP	Pn	03 56 35.5	+0.9
MOTA	Moosalm	5.80	314	⇑iPn	Pn	03 56 37.3	+1.4
MOTA	SNR=22						
MOTA				⇓iSn	Sn	03 57 45.4	+2.7
FETA	Feichten	5.81	310	⇑iPn	Pn	03 56 37.0	+1.0
FETA				⇑iSn	Sn	03 57 45.6	+2.7
VRAC	Vranov	5.84	356	P	Pn	03 56 37.7	+1.3
VRAC	comp=Z,0.5nm,0.3s,baz=162,slow=15,SNR=2.4						
VRAC				S	Sn	03 57 40.9	-2.6
VRAC	comp=Z,2.4nm,0.3s,baz=158,slow=2.9,SNR=5.5						
VRAC	Vranov	5.84	356	⇑iP	Pn	03 56 37.1	+0.8
VRAC	Vranov	5.84	356	⇑P	Pn	03 56 37.1	+0.7
VLS	Valsamata	5.88	154	eP	Pn	03 56 33.5	-3.4
VOIR		5.90	68	⇑iP	Pn	03 56 39.4	+2.2
VOIR		5.90	68	⇑P	Pn	03 56 39.4	+2.2
GEC2	GERESS Array S	5.90	336	ePn	Pn	03 56 38.0	+0.8
GERES	GERESS Array B	5.90	336	P	Pn	03 56 38.6	+1.5
GERES	comp=Z,4.5nm,0.3s,baz=160,slow=14,SNR=130						
GERES				S	Sn	03 57 43.9	-1.2
GERES	comp=Z,3.2nm,0.3s,baz=148,slow=22,SNR=7.3						
RETA	Reutte	6.07	313	⇓iPn	Pn	03 56 40.6	+1.1
RETA	SNR=9.5						
RETA				⇑iSn	Sn	03 57 52.3	+3.0
PGF	Pioggiola	6.14	264	ePn	Pn	03 56 39.1	-1.4
PGF				eSn	Sn	03 57 44.6	-6.3
PGF	comp=Z,7.0nm,0.7s						
PGF	Pioggiola	6.14	264	ePn	Pn	03 56 39.1	-1.4
PGF				eSn	Sn	03 57 44.6	-6.3
PGF	comp=Z,3.5nm,0.7s						
CRVS	Cervenica-Dubn	6.14	27	ePN	Pn	03 56 42.2	+1.7
DAVOX	Davos/Dischmat	6.17	305	P	Pn	03 56 42.2	+1.2
DAVOX	comp=Z,1.4nm,0.3s,baz=129,slow=13,SNR=23						
DAVOX				S	Sn	03 57 53.3	+1.4
DAVOX	baz=300,slow=20,SNR=1.6						
KHC	Kasperske Hory	6.19	337	ePN	Pn	03 56 42.7	+1.5
KHC				eSN	Sn	03 57 51.8	-0.5
MORC	Moravsky Berou	6.29	2	⇑iP	Pn	03 56 43.2	+0.7
MORC	Moravsky Berou	6.29	2	ePn	Pn	03 56 43.0	+0.5
MORC				eSn	Sn	03 57 52.9	-1.8
MORC	Moravsky Berou	6.29	2	⇑P	Pn	03 56 43.2	+0.6
TUE	Stuetta	6.36	301	ePn	Pn	03 56 43.5	0.0
TUE	comp=Z,24nm,0.4s						
TUE	Stuetta	6.36	301	ePn	Pn	03 56 43.5	0.0
TUE	comp=Z,24nm,0.4s						
OKC	Ostrava-Krasne	6.38	5	ePN	Pn	03 56 44.4	+0.7
OKC				eSN	Sn	03 57 56.5	-0.3
WET	Wettzell	6.42	333	ePn	Pn	03 56 45.6	+1.3
DAVA	Damuels	6.44	309	⇑iPn	Pn	03 56 45.4	+0.8
DAVA				⇓iSn	Sn	03 58 00.9	+2.6
KOLS	Kolonicke sedl	6.45	31	ePG	Pg	03 57 11.1	-1.8
KOLS				eSG	Sg	03 58 51.7	+15
STHS	Stebnicka Huta	6.53	23	ePN	Pn	03 56 46.2	+0.4
STHS				ePG	Pg	03 57 09.9	-4.4
PRU	Pruhonice	6.76	345	ePN	Pn	03 56 50.4	+1.4
PRU				eSN	Sn	03 58 06.4	+0.1
DPC	Dobruska-Polom	6.89	355	ePN	Pn	03 56 52.0	+1.2
DPC				eSN	Sn	03 58 07.9	-1.6
MANZ	Manzenberg	7.40	333	ePn	Pn	03 56 58.7	+0.9
GRA1	Grafenberg Arr	7.47	328	eP	Pn	03 56 59.8	+1.1
GRF	Grafenberg Arr	7.47	328	ePn	Pn	03 56 59.8	+1.1
NKC	Novy Kostel	7.51	336	ePN	Pn	03 56 59.4	+0.1
NKC				eSN	Sn	03 58 22.3	-2.3
MBDF	Montbardon	7.66	283	ePn	Pn	03 56 59.7	-1.6
MBDF	SNR=1.0						
MBDF				eSn	Sn	03 58 21.4	-7.0
MBDF	comp=Z,12nm,0.6s						
FRF	La Foret Royal	7.72	274	ePn	Pn	03 57 00.0	-2.2
FRF	SNR=1.0						
FRF				eSn	Sn	03 58 21.9	-8.1
FRF	comp=Z,9.5nm,0.7s,SNR=1.0						
BRG	Berggiesshubel	7.72	344	P	Pn	03 57 06.2	+4.0
BRG				i	Sn	03 58 23.0	-6.9
BRG				smax			
BRG	comp=N,3.0nm,0.7s						
BRG	Berggiesshubel	7.72	344	SG	Sb	03 58 48.1	-7.7
BRG	comp=N,4.8nm,0.7s						
BNI	Bardonecchia	7.76	285	eP	Pn	03 57 00.9	-1.9
BNI				pmax	pmax		
BNI	comp=Z,3.0nm,0.6s						
BNI	Bardonecchia	7.76	285	ePn	Pn	03 57 00.9	-1.9
BNI	comp=Z,2.5nm,0.6s						
BNI	Bardonecchia	7.76	285	ePn	Pn	03 57 00.9	-1.8
BNI	comp=Z,2.5nm,0.6s						
LPG	La Plagne	7.78	289	ePn	Pn	03 57 00.0	-3.1
LPG	SNR=1.0						
LPG				eSn	Sn	03 58 22.9	-8.6
LPG	comp=Z,33nm,0.7s						
LPL	La Plagne	7.80	289	ePn	Pn	03 56 59.2	-4.1
LPL	SNR=1.0						
LPL				eSn	Sn	03 58 23.8	-8.1
LPL	comp=Z,29nm,0.8s						
LMR	La Mourre	7.84	273	ePn	Pn	03 57 02.2	-1.6
LMR	SNR=1.0						
LMR				eSn	Sn	03 58 25.3	-7.5
LMR	comp=Z,1.8nm,0.3s						
BFO	Black Forest	7.89	311	eP	Pn	03 57 03.3	-1.2
BFO				pmax	pmax		
BFO	comp=Z,5.0nm,0.4s						
BFO	Black Forest	7.89	311	ePn	Pn	03 57 03.3	-1.2
BFO	comp=Z,4.7nm,0.4s						
BFO	Black Forest	7.89	311	ePn	Pn	03 57 03.3	-1.2
BFO	comp=Z,4.7nm,0.4s						
MOX	Moxa	8.13	334	ePN	Pn	03 57 08.7	+0.9
MOX				eSN	Sn	03 58 39.2	-0.7
MOX	Moxa	8.13	334	ePn	Pn	03 57 08.7	+0.9
MOX				eSn	Sn	03 58 37.9	-2.0
ORIF	Oris-en-Rattie	8.31	284	ePn	Pn	03 57 08.7	-1.6
ORIF	SNR=1.0						
ORIF				eSn	Sn	03 58 35.4	-9.0
ORIF	comp=Z,10nm,0.5s						
HINF	Hinteralfeld	8.48	304	ePn	Pn	03 57 12.3	-0.3
HINF	SNR=1.0						
HINF				eSn	Sn	03 58 41.3	-7.3
HINF	comp=Z,10nm,0.5s						
SMRF	Simiane la Rot	8.48	277	ePn	Pn	03 57 11.4	-1.3
SMRF				eSn	Sn	03 58 40.2	-8.5
SMRF	comp=Z,1.4nm,0.3s,SNR=1.0						
SMRF	Simiane la Rot	8.48	277	ePn	Pn	03 57 11.4	-1.3
SMRF				eSn	Sn	03 58 40.2	-8.5
SMRF	comp=Z,0.7nm,0.3s,SNR=1.0						
ECH	Echery	8.49	307	ePn	Pn	03 57 11.4	-1.3
ECH	Echery	8.49	307	ePn	Pn	03 57 11.4	-1.3
CABF	La Chapelle	8.51	295	ePn	Pn	03 57 11.3	-1.7
CABF	SNR=1.0						
CABF				eSn	Sn	03 58 40.1	-9.2
CABF	comp=Z,13nm,0.9s						
CABF	La Chapelle	8.51	295	ePn	Pn	03 57 11.3	-1.7
CABF	SNR=1.0						
CABF				eSn	Sn	03 58 40.1	-9.2
CABF	comp=Z,6.7nm,0.9s						
CDF	Champ du Feu	8.52	309	ePn	Pn	03 57 12.3	-0.9
CDF	SNR=1.0						
CDF				eSn	Sn	03 58 40.8	-8.8
CDF	comp=Z,6.0nm,0.7s						
CDF	Champ du Feu	8.52	309	ePn	Pn	03 57 12.3	-0.9
CDF	SNR=1.0						
CDF				eSn	Sn	03 58 40.8	-8.8
CDF	comp=Z,3.0nm,0.7s						
HAU	Haudompre	8.87	304	ePn	Pn	03 57 16.1	-1.8
HAU				eSn	Sn	03 58 49.0	-9.1
HAU	comp=Z,14nm,0.5s						
HAU	Haudompre	8.87	304	ePn	Pn	03 57 16.1	-1.8
HAU				eSn	Sn	03 58 49.0	-9.1
HAU	comp=Z,7.2nm,0.5s						
VIVF	Saint-Julien-I	9.16	283	ePn	Pn	03 57 19.3	-2.6
VIVF	SNR=1.0						
VIVF				eSn	Sn	03 58 56.2	-9.0
VIVF	comp=Z,1.0nm,0.4s						
VIVF	Saint-Julien-I	9.16	283	ePn	Pn	03 57 19.3	-2.6
VIVF	SNR=1.0						
VIVF				eSn	Sn	03 58 56.2	-9.0
VIVF	comp=Z,0.5nm,0.4s						
KEST	Kesra	9.87	221	P	Pn	03 57 35.7	+4.1
KEST	comp=Z,0.1nm,0.3s,baz=236,slow=14,SNR=5.4						
SMF	Signal de Mont	10.01	293	ePn	Pn	03 57 31.8	-1.8
SMF	SNR=1.0						
SMF				eSn	Sn	03 59 16.6	-10
SMF	comp=Z,7.5nm,0.5s,SNR=1.0						
SMF	Signal de Mont	10.01	293	ePn	Pn	03 57 31.8	-1.8
SMF	SNR=1.0						
SMF				eSn	Sn	03 59 16.6	-10
SMF	comp=Z,3.8nm,0.5s,SNR=1.0						
IDI	Anoyia	10.09	142	P	Pn	03 57 32.9	-1.8
IDI	comp=Z,0.4nm,0.3s,baz=308,slow=13,SNR=3.5						
IDI				S	Sn	03 59 17.1	-11
IDI	comp=Z,0.4nm,0.3s,baz=43,slow=18,SNR=5.5						
LOR	Lormes	10.16	296	ePn	Pn	03 57 33.8	-1.8
LOR	SNR=1.0						
LOR				eSn	Sn	03 59 20.0	-10
LOR	comp=Z,6.2nm,0.4s,SNR=1.0						
LOR	Lormes	10.16	296	ePn	Pn	03 57 33.8	-1.8
LOR	SNR=1.0						
LOR				eSn	Sn	03 59 20.0	-10
LOR	comp=Z,3.1nm,0.4s,SNR=1.0						
SSF	Saint Saulge	10.34	295	ePn	Pn	03 57 36.4	-1.6
SSF	SNR=1.0						
AVF	Avril sur Loir	10.37	293	ePn	Pn	03 57 37.1	-1.4
BGF	Bois d'Agland	10.66	292	ePn	Pn	03 57 40.6	-1.9
BGF	SNR=1.0						
BGF				eSn	Sn	03 59 32.3	-10
BGF	comp=Z,3.9nm,0.3s						
BGF	Bois d'Agland	10.66	292	ePn	Pn

IMEH	Mehriz	3.59 330	*e*Pn	Pn	04 25 20.9	+2.4
IMEH			*e*		04 26 27.7	
ASHO	Ashiyiah	3.62 189	⇑P	Pn	04 25 20.6	+1.8
	SNR=123					
FAQ	Al Faqa, Dubai	3.65 196	P	Pn	04 25 21.0	+1.8
	SNR=43					
ZHSF	Zahedan	3.82 69	*e*Pn	Pn	04 25 22.8	+1.1
ZHSF	Zahedan	3.82 69	Pn	Pn	04 25 22.0	+0.4
ASUD	Al Ashush, Dub	3.83 199	P	Pn	04 25 24.1	+2.3
	SNR=63					
ICHK	Chekchek	4.42 334	*e*Pn	Pn	04 25 31.8	+1.9
ICHK			*e*		04 26 58.6	
IKOO	Kooshah	4.60 25	*e*Pn	Pn	04 25 32.1	-0.2
IKOO			*e*		04 27 02.1	
HOQ	Hoqain	4.70 173	P	Pn	04 25 34.3	+0.5
	SNR=17					
ITEG	Tejag	4.94 21	*e*Pn	Pn	04 25 40.1	+3.1
ITEG	Tejag	4.94 21	*e*Pn	Pn	04 25 39.9	+2.9
ITEG			*e*		04 27 16.7	
IDAH	Dahanechah	5.23 31	*e*Pn	Pn	04 25 44.0	+3.0
IDAH			*e*Sn	Sn	04 26 43.2	+1.9
IDAH	Dahanechah	5.23 31	*e*Pn	Pn	04 25 44.0	+3.0
IDAH			*e*Sn	Sn	04 26 43.2	+1.9
IDAH			*e*		04 27 32.1	
SMDO	Samad	5.33 166	P	Pn	04 25 43.2	+0.8
	SNR=41					
BSY	Bisya	5.52 175	P	Pn	04 25 46.5	+1.5
	SNR=34					
BSYO	Bisya	5.54 175	P	Pn	04 25 46.5	+1.2
	SNR=34					
WBK	Wadi Bani Khal	6.00 159	P	Pn	04 25 51.8	+0.2
	SNR=36					
JMDO	Jabal Madar	6.01 167	P	Pn	04 25 52.7	+0.9
	SNR=26					
SLWS		6.42 239	P	Pn	04 25 56.8	-0.6
BOQSS		6.94 252	P	Pn	04 26 03.6	-1.0
KFJS		7.72 271	P	Pn	04 26 15.6	+0.4
SHGR	Shooshtar-Gavs	7.82 301	*e*Pn	Pn	04 26 17.5	+0.9
SHGR	Shooshtar-Gavs	7.82 301	Pn	Pn	04 26 17.0	+0.4
IVRN	Varamin	7.92 329	*e*Pn	Pn	04 26 20.7	+2.7
IVRN			*e*		04 29 28.4	
UMR	Umm Al-Rimmam	7.97 281	*e*P	Pn	04 26 18.8	+0.2
	baz=281					
UMR			AML	AML	04 27 44.5	
	comp=Z,64nm,0.5s,baz=281					
RDF	Al-Radifah	8.06 277	*e*P	Pn	04 26 20.3	+0.5
	baz=277					
RDF			AML	AML	04 27 54.8	
	comp=Z,108nm,0.4s,baz=277					
IKIA	Kiasar	8.31 343	*e*Pn	Pn	04 26 25.2	+1.9
IKIA			*e*		04 27 09.4	
IKIA	Kiasar	8.31 343	Pn	Pn	04 26 25.1	+1.8
MIB	Mutribah	8.32 283	*e*P	Pn	04 26 23.5	0.0
	baz=283					
MIB			AML	AML	04 28 02.1	
	comp=Z,135nm,0.5s,baz=283					
NAY	Al-Naaiem	8.35 279	*e*P	Pn	04 26 23.8	0.0
	baz=279					
DAMV	Damavand	8.36 333	*e*Pn	Pn	04 26 24.8	+0.8
DAMV	Damavand	8.36 333	Pn	Pn	04 26 24.0	+0.1
IPAY	Payeh	8.38 13	Pn	Pn	04 26 28.1	+3.8
IPAY	Payeh	8.38 13	*e*Pn	Pn	04 26 28.2	+3.9
IPAY			*e*		04 26 40.9	
IMYA	Miami	8.55 19	Pn	Pn	04 26 28.9	+2.4
IMYA	Miami	8.55 19	*e*Pn	Pn	04 26 29.0	+2.5
IMYA			*e*		04 27 29.7	
RST	Umm Al-Ruwaisa	8.58 281	*e*P	Pn	04 26 26.8	-0.2
	baz=280					
IKRD	Kardeh	8.62 10	*e*Pn	Pn	04 26 33.0	+5.5
IKRD			*e*		04 29 24.9	
IR3	Iran Long-Peri	8.64 328	*e*Pn	Pn	04 26 31.6	+3.7
IRAZ	Razeghan	9.14 323	*e*Pn	Pn	04 26 36.6	+1.9
IRAZ			*e*		04 27 35.0	
SHAO	Shalim	10.25 186	⇓P	Pn	04 26 50.1	+0.2
	SNR=16					
IVIS	Veis	10.46 309	Pn	Pn	04 26 54.0	+1.2
IVIS	Veis	10.46 309	*e*Pn	Pn	04 26 54.1	+1.3
SNGE	Sanandaj	10.46 313	*e*Pn	Pn	04 26 53.6	+0.8
SNGE	Sanandaj	10.46 313	*e*P	Pn	04 26 53.0	+0.2
KBL	Kabul	12.26 56	*e*P	Pn	04 27 23.4	+6.0
KBL			pmax	pmax		
	comp=Z,45nm,1.4s					
KBL	Kabul	12.26 56	*e*Pn	Pn	04 27 23.4	+6.0
	comp=Z,45nm,1.4s					
HAKT	HAKKARI	14.29 314	*i*P	Pn	04 27 46.9	+1.8
GNI	Garni	15.41 323	Pn	Pn	04 28 03.6	+3.4
	comp=Z,0.1nm,0.3s,baz=164,slow=18,SNR=2.3					
GNI			LR	LR	04 34 32.6	
	comp=Z,2μm,19.4s,baz=316,slow=40					
GNI	Garni	15.41 323	*e*Pn	Pn	04 28 05.0	+4.9
	comp=Z,161nm,1.4s					
MARD	Mardin	16.11 308	*i*P	Pn	04 28 08.7	-0.6
MAK	Makhachkala	16.43 336	*e*P	Pn	04 28 14.6	+1.3
MAK			*e*S	Sn	04 31 14.8	-0.9
MAK			pmax	pmax		
	comp=Z,282nm,1.6s					
MAK			MLR	MLR		
	comp=Z,2μm,18.0s					
MAK	Makhachkala	16.43 336	*e*P	Pn	04 28 14.6	+1.3
	comp=Z,282nm,1.6s					
TBLG	Delisi	16.59 327	P	Pn	04 28 18.3	+2.9
DIYA	Diyarbakir	16.87 309	*i*P	Pn	04 28 21.9	+3.0
GOR	Gori	17.09 326	P	Pn	04 28 27.2	+5.5
HAJJ	Hajjah	17.41 227	*e*P	Pn	04 28 20.6	-5.3
	comp=Z,76nm,1.1s					
HAJJ	Hajjah	17.41 227	*e*P	Pn	04 28 20.6	-5.2
HAJJ			AMb	AMB	04 28 21.3	
	comp=Z,152nm,1.1s					
ASF	Jabal al Asfar	17.54 288	P	Pn	04 28 28.1	+0.8
	comp=Z,0.5nm,0.3s,baz=300,slow=4.2,SNR=18					
ASF			S	Sn	04 31 46.4	+3.7
	comp=Z,0.5nm,0.3s,baz=185,slow=8.0,SNR=3.4					
ASF			LR	LR	04 36 22.4	
	comp=Z,1μm,21.1s,baz=160,slow=41					
ASF	Jabal al Asfar	17.54 288	P	Pn	04 28 28.1	+0.8
ASF			S	Sn	04 31 46.4	+3.7
BDHA	Al Bayda'	17.59 218	*e*P	Pn	04 28 23.1	-5.0
	comp=Z,2.0nm,0.5s					
BDHA	Al Bayda'	17.59 218	*e*P	Pn	04 28 23.1	-5.0
BDHA			AMb	AMB	04 28 23.3	
	comp=Z,4.1nm,0.5s					
ARTV	Artvin	17.66 321	*i*P	Pn	04 28 32.3	+3.5
DHBB	Dhamar BB	17.78 222	*e*P	Pn	04 28 25.8	-4.7
DHBB			AMb	AMB	04 28 27.4	
	comp=Z,123nm,1.2s					
DHBB			*i*S	Sn	04 31 42.1	-6.7
ONI	Oni	17.86 327	P	Pn	04 28 35.5	+4.2
ONI			S	Sn	04 31 59.6	+9.3
ELZG	Elazig	17.93 309	*i*P	Pn	04 28 33.4	+1.3
ATAB	Bozova	17.94 305	*i*P	Pn	04 28 34.2	+1.9
NDI	New Delhi	18.05 84	*e*P	Pn	04 28 31.0	-2.8
MALT	Malatya	18.23 308	*e*P	Pn	04 28 35.1	-0.7
MALT			pmax	pmax		
	comp=Z,67nm,1.2s					
MALT	Malatya	18.23 308	*e*P	Pn	04 28 35.1	-0.7
	comp=Z,67nm,1.2s					
MALT	Malatya	18.23 308	*e*P	Pn	04 28 35.1	-0.7
	comp=Z,67nm,1.2s					
GZT	Gaziantep	18.42 304	*i*P	Pn	04 28 38.1	-0.1
POO	Poona	18.48 118	*ex*	x	04 28 38.0	
KK31	Karatay Array	18.54 33	P	Pn	04 28 42.3	+2.8
KK31			pmax	pmax		
	comp=Z,23nm,1.0s					
KK31	Karatay Array	18.54 33	P	Pn	04 28 42.3	+2.8
	comp=Z,23nm,1.0s					
BHL	Bhannes	18.86 293	*e*P	Pn	04 28 43.9	+0.3
MMAI	Mount Meron Ar	18.91 290	P	Pn	04 28 44.4	+0.2
	comp=Z,2.4nm,0.3s,baz=99,slow=15,SNR=15					
MMAI			S	Sn	04 32 18.7	+2.9
	comp=Z,0.6nm,0.3s,baz=66,slow=19,SNR=2.5					
MMAI			LR	LR	04 37 19.3	
	comp=Z,801nm,21.5s,baz=100,slow=41					
TRBA	At Turbah	19.01 221	*e*P	Pn	04 28 40.4	-5.0
TRBA			AMb	AMB	04 28 42.8	
	comp=Z,102nm,1.9s					
TRBA			*i*S	Sn	04 32 11.8	-6.6
YAYL	Yayladag	19.05 299	*i*P	Pn	04 28 45.5	-0.2
EIL	Elat	19.07 279	P	Pn	04 28 45.6	-0.5
	comp=Z,0.4nm,0.3s,baz=62,slow=2.7,SNR=21					
EIL			S	Sn	04 32 22.1	+2.3
	comp=Z,0.3nm,0.3s,baz=16,slow=18,SNR=2.4					
EIL			LR	LR	04 37 31.8	
	comp=Z,2μm,21.1s,baz=96,slow=41					
KIV	Kislovodsk	19.27 328	*e*P	Pn	04 28 50.9	+2.6
KIV			pmax	pmax		
	comp=Z,23nm,1.1s					
KIV	Kislovodsk	19.27 328	*e*P	Pn	04 28 49.3	+1.0
	comp=Z,67nm,1.1s					
KIV	Kislovodsk	19.27 328	*e*P	Pn	04 28 49.3	+0.9
	comp=Z,67nm,1.1s					
ANDN	Andirin	19.40 304	*i*P	Pn	04 28 50.6	+0.5
KSH	Kashi	19.50 50	*e*P	Pn	04 28 53.0	+1.8
KSH			AP	pP	04 29 07.1	+14
KSH			PP		04 29 13.4	
KSH			S	Sn	04 32 22.3	-7.8
KSH			XS	sS	04 32 44.8	+10
KSH			PCP	PcP	04 33 11.0	+0.4
KSH			SCP	ScP	04 36 39.4	-7.3
KSH			SCS	ScS	04 40 20.6	-8.0
KSH			AMB	AMB		
	comp=Z,615nm,3.8s					
KSH			LR	LR		
	comp=N,9μm,9.6s					
KSH			LR	LR		
	comp=E,6μm,9.6s					
KSH			LR	LR		
	comp=Z,5μm,11.6s					
AML	Almayashu	19.55 41	P	Pn	04 28 51.8	0.0
	SNR=21					
AML	Almayashu	19.55 41	*e*P	Pn	04 28 51.8	0.0
AML	Almayashu	19.55 41	*e*P	Pn	04 28 51.8	0.0
YURE	YUREGIR	19.66 301	*i*P	Pn	04 28 53.1	-0.1
PINB	Pinarbasi	19.81 307	*i*P	Pn	04 28 57.3	+2.4
EKS2	Erkin-Say	19.94 39	P	Pn	04 28 56.6	+0.2
	SNR=34					
EKS2	Erkin-Say	19.94 39	*e*P	Pn	04 28 54.9	-1.5
	comp=Z,142nm,1.6s					
EKS2	Erkin-Say	19.94 39	*e*P	Pn	04 28 54.9	-1.5
	comp=Z,142nm,1.6s					
AAK	Ala-Archa	20.33 41	P	P	04 29 00.2	+1.2
	SNR=8.2					
KZA	Kyzart	20.43 43	P	P	04 29 05.0	+4.9
	SNR=15					
SOC	Sochi	20.49 323	*e*P	P	04 29 02.2	+1.5
SOC			*e*PP		04 29 15.3	
SOC			*e*		04 29 29.2	
SOC			*e*S	S	04 32 47.4	-2.5
SOC			*e*SS		04 33 09.8	
SOC			pmax	pmax		
	comp=Z,42nm,1.1s					
SOC			MLR	MLR		
	comp=Z,344nm,13.0s,MS3.9					
SOC	Sochi	20.49 323	*e*P	P	04 29 02.2	+1.5
	comp=Z,42nm,1.1s					
FRU	Bishkek	20.53 40	*e*P	P	04 29 06.0	+4.9
FRU			*e*		04 29 32.0	
USP	Ospenovka	20.74 39	P	P	04 29 07.1	+3.7
	SNR=9.5					
CSS	Prodhromos	20.95 294	*e*P	P	04 29 06.7	+0.9
	comp=Z,117nm,1.3s					
CSS	Prodhromos	20.95 294	*e*P	P	04 29 06.7	+0.8
	comp=Z,117nm,1.3s					
AB31	Akbulak array	21.10 6	*i*P	P	04 29 07.1	-0.2
AB31			pmax	pmax		
	comp=Z,34nm,0.9s,mb4.7					
AB31	Akbulak array	21.10 6	*i*P	P	04 29 07.1	-0.2
	comp=Z,34nm,0.9s,mb4.7					
ULHL	Ulahol	21.13 44	P	P	04 29 06.0	-1.6
	SNR=12					
TKM2	Tokmak 2	21.14 41	*e*P	P	04 29 07.9	+0.1
TKM2			pmax	pmax		
	comp=Z,79nm,1.5s,mb4.8					
TKM2	Tokmak 2	21.14 41	P	P	04 29 08.4	+0.6
	SNR=8.3					
TKM2	Tokmak 2	21.14 41	*e*P	P	04 29 07.9	+0.1
	comp=Z,79nm,1.5s,mb4.8					
TKM2	Tokmak 2	21.14 41	*e*P	P	04 29 07.8	0.0
	comp=Z,79nm,1.5s,mb4.8					
CDAG	Cicekdag	21.64 307	*i*P	P	04 29 12.8	-0.4
AKTK	Aktyubinsk	22.16 2	P	P	04 29 18.2	-0.4
AKTK	Aktyubinsk	22.16 2	P	P	04 29 18.2	-0.3
AKTK			S	S	04 33 22.9	+0.3
AKTK			LR	LR	04 39 49.7	
AKTO	Aktyubinsk	22.16 2	P	P	04 29 18.2	-0.3
	comp=Z,17nm,0.9s,mb4.5,baz=185,slow=12,SNR=27					
AKTO			S	S	04 33 22.9	+0.3
	comp=Z,0.7nm,0.4s,baz=210,slow=20,SNR=1.5					
AKTO			LR	LR	04 39 49.7	
	comp=Z,880nm,18.2s,MS4.2,baz=172,slow=42					
AKTO	Aktyubinsk	22.16 2	P	P	04 29 18.2	-0.4
AKTO			S	S	04 33 22.9	+0.3
ANN	Anapa	22.52 322	*e*PP	P	04 29 24.3	+1.7
ANN			*e*SS		04 33 32.3	
ANN			pmax	pmax		
	comp=Z,59nm,1.6s,mb4.8					
ANN			MLR	MLR		
	comp=N,508nm,14.0s,MS4.2					
ANN			MLR	MLR		
	comp=E,335nm,14.0s,MS4.2					
ANN			MLR	MLR		
	comp=Z,691nm,14.0s,MS4.2					
HYB	Hyderabad	22.82 114	*i*P	P	04 29 27.5	+1.5
HYB			*e*S	S	04 33 38.0	+2.4
HYB	Hyderabad	22.82 114	*e*P	P	04 29 27.5	+1.5
HYB			*e*S	S	04 33 38.0	+2.4
ANTO	Ankara	22.85 307	*e*P	P	04 29 26.5	+0.4
ANTO			pmax	pmax		
	comp=Z,41nm,0.9s,mb4.9					
ANTO	Ankara	22.85 307	*e*P	P	04 29 26.5	+0.4
	comp=Z,41nm,0.9s,mb4.9					
KDHN	Kadinhani	22.86 303	*i*P	P	04 29 26.6	+0.4
BALT	Daday	23.16 311	*i*P	P	04 29 31.1	+1.8
SGKT	Sivrigoynuk	23.65 308	*i*P	P	04 29 35.2	+0.9
KOLN	Koldenda	23.75 85	*e*P	P	04 29 34.9	-0.5
DANN	Dangsing	23.82 83	*e*P	P	04 29 36.7	+0.7
TKTP	Tekketepe	24.06 301	*i*P	P	04 29 39.1	+1.0
ESKT	Eskisehir	24.12 304	*i*P	P	04 29 38.8	+0.1
SIM	Simferopol'	24.48 319	*e*P	P	04 29 37.1	-4.7
SIM			*e*S	S	04 34 06.0	+4.0
GKN	Gorkha	24.63 84	*e*P	P	04 29 44.8	+1.4
DMN	Daman	25.09 85	*e*P	P	04 29 48.4	+0.8
KKN	Kakani	25.22 84	*e*P	P	04 29 50.0	+1.2
PKIN	Phulchoki	25.35 85	*e*P	P	04 29 50.1	+0.1
	comp=Z,31nm,0.5s,mb5.1					
PKI	Pulchoki	25.36 85	*e*P	P	04 29 50.4	+0.3
	comp=Z,37nm,0.6s,mb5.1					
PKI	Pulchoki	25.36 85	*e*P	P	04 29 50.4	+0.3
PKI			pmax	pmax		
	comp=Z,37nm,0.6s,mb5.1					
ULDT	Uludag	25.57 305	*i*P	P	04 29 52.1	+0.3
GUN	Gumba	25.73 84	*e*P	P	04 29 54.9	+1.5
	comp=Z,62nm,0.6s,mb5.3					
VRSR	Storozhevoye	26.44 335	*e*P	P	04 30 00.6	+1.0
VRSR			pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.8					
VRSR			pmax	pmax		
	comp=N,4.0nm,0.9s					
VRSR			pmax	pmax		
	comp=E,4.0nm,1.3s					
RAMN	Ramite	26.51 86	*e*P	P	04 30 01.1	+0.6
	comp=E,31nm,0.9s,mb4.8					
BRVK	Borovoye	26.73 18	P	P	04 30 01.8	-0.4
BRVK			pmax	pmax		
	comp=Z,65nm,2.0s,mb4.8					
BRVK	Borovoye	26.73 18	*e*P	P	04 30 02.8	+0.6
	comp=Z,20nm,1.0s,mb4.6					
BVA0	Borovoye Array	26.73 19	*e*P	P	04 30 01.6	-0.6
BVA0			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9					
BVAR	Borovoye Array	26.73 19	P	P	04 30 01.8	-0.3
	comp=Z,11nm,0.8s,mb4.4,baz=198,slow=8.6,SNR=22					
BVAR			LR	LR	04 40 58.5	
	comp=Z,437nm,18.2s,MS4.0,baz=209,slow=37					
VOR	Voronezh	26.85 336	*e*P	P	04 30 05.0	+1.7
VOR			pmax	pmax		
	comp=Z,100nm,2.0s,mb5.0					
ODAN	Odare	27.22 86	*e*P	P	04 30 07.3	+0.4
MK31	Makanchi Array	27.27 40	*e*P	P	04 30 06.6	-0.5
MKAR	Makanchi Array	27.27 40	P	P	04 30 06.9	-0.2
	comp=Z,3.6nm,0.6s,mb4.1,baz=226,slow=7.6,SNR=21					
MKAR			LR	LR	04 41 58.9	
	comp=Z,613nm,18.4s,MS4.2,baz=242,slow=39					
TRD	Trivandrum	27.42 132	⇓*ex*	x	04 31 08.0	
TAPN	Taplejung	27.42 85	*e*P	P	04 30 09.3	+0.6
IDI	Anoyia	27.84 293	P	P	04 30 08.4	-3.9
	comp=Z,6.7nm,0.4s,mb4.6,baz=294,slow=20,SNR=18					
KURK	Kurchatov	27.89 31	*e*P	P	04 30 12.0	-0.6
KURK			pmax	pmax		
	comp=Z,20nm,1.3s,mb4.6					
KURK	Kurchatov	27.89 31	*e*P	P	04 30 12.0	-0.6
	comp=Z,20nm,1.3s,mb4.6					
ARU	Arti	28.17 2	*e*P	P	04 30 16.1	+1.0
ARU			*e*		04 31 03.8	
ARU			*e*S	S	04 34 58.1	-2.2
ARU			MLR	MLR		
	comp=Z,608nm,19.0s,MS4.2					
ARU	Arti	28.17 2	*e*P	P	04 30 15.3	+0.2
	comp=Z,3.9nm,0.8s,mb4.1					
SVE	Sverdlovsk	28.68 5	*e*P	P	04 30 25.9	+6.4
SVE			pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7					
SVE			MLR	MLR		
	comp=Z,590nm,14.0s,MS4.3					
WMQ	Urumqi	29.27 50	P	P	04 30 26.5	+1.5
WMQ			PP	PP	04 31 23.8	-7.2
WMQ			PCP	PcP	04 33 32.3	+0.6
WMQ			S	S	04 35 12.1	-5.8
WMQ			SCP	ScP	04 37 05.9	-7.6
WMQ			SCS	ScS	04 40 58.8	-8.8
WMQ			AMB	AMB		
	comp=Z,29nm,0.8s,mb5.1					
WMQ			AMB	AMB		
	comp=Z,42nm,9.2s					
WMQ			LR	LR		
	comp=N,287nm,20.6s,MS4.1					
WMQ			LR	LR		
	comp=E,281nm,16.6s,MS4.1					
WMQ			LR	LR		
	comp=Z,253nm,16.0s,MS3.9					
MLR	Muntele Rosu	29.75 314	⇑*i*P	P	04 30 31.8	+2.5
MLR	Muntele Rosu	29.75 314	⇑P	P	04 30 31.8	+2.6
LSA	Lhasa	30.12 79	P	P	04 30 37.8	+5.1
LKFR	Kufra	30.25 270	*i*P	P	04 30 33.4	-0.5
	comp=Z,62nm,1.3s,mb5.2,SNR=27					
OBN	Obninsk	30.51 337	*e*P	P	04 30 35.5	-0.4
OBN			pmax	pmax		
	comp=Z,17nm,1.4s,mb4.7					
OBN			MLR	MLR		
	comp=Z,300nm,18.0s,MS4.0					
AKASG	Malin Array Be	30.53 325	P	P	04 30 35.8	-0.3
	comp=Z,3.8nm,0.5s,mb4.5,baz=133,slow=8.6,SNR=17					
AKBB	Malin Array Si	30.53 325	*e*P	P	04 30 35.0	-1.1
KIEV	Kiev	30.54 325	*e*P	P	04 30 37.2	+1.1
KIEV			pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9					
KIEV	Kiev	30.54 325	*e*P	P	04 30 37.2	+1.1
	comp=Z,19nm,1.0s,mb4.9					
MARJ	Al Marj	31.09 287	*i*P	P	04 30 41.7	+0.5
	comp=Z,186nm,1.7s,mb5.7,SNR=27					
MARJ			*e*S	S	04 36 02.5	+16
	SNR=28					
BURAR	Bucovina Array	31.13 317	⇑*i*P	P	04 30 43.1	+1.7
BURAR	Bucovina Array	31.13 317	⇑P	P	04 30 43.1	+1.6
DRGR		32.34 314	⇓*i*P	P	04 30 53.3	+1.3
DRGR		32.34 314	⇓P	P	04 30 53.2	+1.2
BZS	Buzias	32.62 312	⇓*i*P	P	04 30 54.3	-0.2
BZS	Buzias	32.62 312	⇓P	P	04 30 54.2	-0.2
ZAL	Zalesovo	32.86 31	P	P	04 30 55.9	-0.6
LVV	L'vov	32.86 320	*e*P	P	04 30 54.3	-2.3
ZALV	Zalesovo Beam	32.88 31	P	P	04 30 55.9	-0.7
	comp=Z,10nm,0.6s,mb5.0,baz=238,slow=9.3,SNR=26					
ZALV	Zalesovo Beam	32.88 31	P	P	04 30 55.9	-0.7
UZH	Uzhgorod	33.34 317	⇑*i*P	P	04 31 02.5	+1.7
UZH			*e*		04 31 16.3	
UZH			*e*		04 32 18.0	
UZH			*e*S	S	04 36 19.7	-1.7
UZH			*e*		04 38 14.0	
KOLS	Kolonicke sedl	33.48 317	*e*P	P	04 31 02.5	+0.5
KOLS			*e*		05 07 39.9	
KWP	Kalwaria	33.53 319	*e*P	P	04 31 02.5	+0.1
KWP	Kalwaria	33.53 319	⇓*i*P	P	04 31 02.9	+0.5
KWP	Kalwaria	33.53 319	*e*P	P	04 31 02.5	+0.1
CRVS	Cervenica-Dubn	33.95 317	*e*P	P	04 31 04.9	-1.2
STHS	Stebnicka Huta	34.30 318	*e*P	P	04 31 14.3	+5.2
KECS	Kecovo	34.38 316	*e*P	P	04 31 07.5	-2.3
KECS			pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4					
KECS	Kecovo	34.38 316	*e*P	P	04 31 07.5	-2.3
KECS			*e*		05 07 25.9	
KECS	Kecovo	34.38 316	*e*P	P	04 31 07.5	-2.3
	comp=Z,6.7nm,1.3s,mb4.4					
PSZ	Piszkesteto	34.53 315	*e*P	P	04 31 11.0	-0.2
PSZ			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5					
PSZ	Piszkesteto	34.53 315	*e*P	P	04 31 14.5	+3.3
PSZ	Piszkesteto	34.53 315	*e*P	P	04 31 11.0	-0.1
	comp=Z,4.5nm,0.7s,mb4.5					
KMBO	Kilima Mbogo	34.67 216	P	P	04 31 13.2	+0.6
	comp=Z,2.3nm,0.7s,mb4.2,baz=40,slow=14,SNR=6.8					
KMBO			LR	LR	04 45 31.8	
	comp=Z,607nm,19.0s,MS4.4,baz=345,slow=37					
KMBO	Kilima Mbogo	34.67 216	*e*P	P	04 31 12.8	+0.1
KMBO			pmax	pmax		
	comp=Z,10.0nm,1.1s					
KMBO	Kilima Mbogo	34.67 216	*e*P	P	04 31 12.8	+0.1
	comp=Z,10nm,1.1s,mb4.7					
TIP	Timpagrande	34.70 299	*e*P	P	04 31 11.9	-0.8
	comp=Z,60nm,1.4s,mb5.3					
PKSM	Moragy	34.77 311	⇑*i*P	P	04 31 13.3	0.0
PKSM	Moragy	34.77 311	⇑P	P	04 31 13.3	0.0
BUD	Budapest	34.93 314	*e*P	P	04 31 12.2	-2.4
CEL	Celeste	35.29 297	*e*P	P	04 31 20.1	+2.3
	comp=Z,20nm,1.1s,mb5.0					
VYHS	Vyhne	35.40 315	*e*P	P	04 31 20.6	+2.0
LIKS	Likavka	35.44 316	*e*P	P	04 31 19.6	+0.6
SUW	Suwalki	35.47 326	*e*P	P	04 31 21.0	+1.9
SUW			pmax	pmax		
	comp=Z,53nm,0.9s,mb5.5					
SUW	Suwalki	35.47 326	*e*P	P	04 31 21.0	+1.8
	comp=Z,53nm,0.9s,mb5.5					
OJC	Ojcow	35.48 318	*e*P	P	04 31 19.3	0.0
CUC	Castrocucco	35.51 300	*e*P	P	04 31 20.7	+1.1
	comp=Z,67nm,1.2s,mb5.5					
LJFR	Jufra	35.74 281	*i*P	P	04 31 22.6	+0.8
	comp=Z,52nm,1.2s,mb5.3,SNR=26					
LJFR			*e*S	S	04 37 12.5	+14
	SNR=27					
SGO	Sicignano	35.96 301	P	P	04 31 24.2	+0.7
SGO			pmax	pmax		
	comp=Z,48nm,0.8s,mb5.5					
SGO	Sicignano	35.96 301	P	P	04 31 24.2	+0.7
	comp=Z,48nm,0.8s,mb5.5					
OKC	Ostrava-Krasne	36.31 317	*e*P	P	04 31 26.8	+0.4
OKC			AMS	AMS	04 47 50.0	
	comp=Z,500nm,20.6s					
MODS	Modra-Piesok	36.34 314	*e*P	P	04 31 26.8	+0.1
ZST	Bratislava	36.39 314	*e*P	P	04 31 27.4	+0.3
ZST			pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6					
ZST			MLR	MLR		
	comp=Z,100nm,16.9s,MS3.7					

GTA LR LR
comp=Z,329nm,19.5s,MS4.1
LUMB Murzuk 37.23 277 *i* P **P 04 31 34.5 0.0**
comp=Z,42nm,1.3s,mb5.1,SNR=26
PERS Pernice 37.23 311 *e*P **P 04 31 35.3 +1.0**
SOKA Soboth 37.30 311⇑*i*P **P 04 31 34.7 -0.2**
comp=Z,7.0nm,0.7s,mb4.6
PTQR Pietraquaria 37.56 303 P **P 04 31 38.1 +0.9**
comp=Z,23nm,0.7s,mb5.0
DPC Dobruska-Polom 37.59 317 *e*P **P 04 31 36.9 -0.4**
DPC AMS AMS 04 46 00.0
comp=Z,500nm,33.4s
AQU L'Aquila 37.61 304 *e*P **P 04 31 37.5 -0.1**
AQU pmax pmax
comp=Z,25nm,1.0s,mb4.9
AQU L'Aquila 37.61 304 *e*P **P 04 31 37.5 0.0**
comp=Z,25nm,1.0s,mb4.9
GHAR Gharyan 37.69 287 *i* P **P 04 31 39.0 +0.6**
comp=Z,84nm,1.2s,mb5.3,SNR=26
TREC Trest 37.75 315 AMS AMS 04 51 20.0
comp=Z,400nm,26.1s
KSP Ksiaz 37.79 318 *e*P **P 04 31 40.9 +1.9**
KSP Ksiaz 37.79 318 *e*P **P 04 31 40.8 +1.8**
UPC Upice 37.84 317 *e*P **P 04 31 38.9 -0.5**
VOY Vojsko 37.91 310 *e*P **P 04 31 41.4 +1.3**
MOA Molln 38.11 313⇑*i*P **P 04 31 40.8 -0.9**
comp=Z,31nm,1.1s,mb5.0,SNR=19
FSSB Fossombrone 38.25 306 P **P 04 31 43.9 +0.9**
comp=Z,7.7nm,0.4s,mb4.8
PTCC Patocco-Chiusa 38.36 310 P **P 04 31 43.7 -0.2**
comp=Z,20nm,0.6s,mb5.0
JOF Joensuu 38.40 342 *e*p **P 04 31 43.6 -0.3**
comp=Z,1.6nm,0.3s,mb4.2
GMNA Gemona 38.41 310 P **P 04 31 43.0 -1.3**
comp=Z,95nm,0.9s,mb5.5
KBA Koelnbreinsper 38.52 311⇑*i*P **P 04 31 44.8 -0.4**
comp=Z,19nm,1.0s,mb4.8,SNR=11
KBA Koelnbreinsper 38.52 311⇑*i*P **P 04 31 44.8 -0.4**
KBA pmax pmax
comp=Z,19nm,1.0s,mb4.8
PRU Pruhonice 38.55 316 *e*P **P 04 31 45.9 +0.5**
PRU AMS AMS 04 52 00.0
comp=Z,300nm,22.1s
PVCC Panska Ves 38.71 317 *e*P **P 04 31 47.1 +0.4**
PVCC AMS AMS 04 46 50.0
comp=Z,300nm,18.1s
GEC2 GERESS Array S 38.74 314 *e*P **P 04 31 46.5 -0.5**
GEC2 pmax pmax
comp=Z,60nm,1.7s,mb5.0
GEC2 MLR MLR
comp=Z,400nm,21.2s,MS4.2
GEC2 GERESS Array S 38.74 314 *e*P **P 04 31 46.5 -0.5**
comp=Z,60nm,1.7s,mb5.0
GEC2 *e*L 04 50 35.7
comp=Z,381nm,21.2s
GERES GERESS Array B 38.74 314 P **P 04 31 46.2 -0.8**
comp=Z,5.1nm,0.7s,mb4.4,baz=118,slow=8.4,SNR=26
GERES LR LR 04 50 56.7
comp=Z,358nm,19.5s,MS4.2,baz=115,slow=41
KHC Kasperske Hory 38.90 314 *e*P **P 04 31 47.6 -0.7**
KHC AMS AMS 04 50 10.0
comp=Z,400nm,22.6s
SFI Santa Sofia 38.95 306 P **P 04 31 50.4 +1.5**
comp=Z,262nm,1.7s,mb5.7
ABTA Abfaltersbach 39.00 310⇑*i*P **P 04 31 49.0 -0.3**
comp=Z,13nm,0.6s,mb4.8,SNR=7.7
VMG Vicchio 39.18 306 P **P 04 31 52.5 +1.8**
comp=Z,79nm,0.9s,mb5.4
BRG Berggiesshubel 39.20 317 *e*P **P 04 31 50.0 -0.8**
comp=Z,10.0nm,0.8s,mb4.6
BRG *e*L 04 52 22.3
comp=Z,302nm,21.8s
BRG Berggiesshubel 39.20 317 *i* P **P 04 31 50.3 -0.5**
comp=Z,9.5nm,0.8s,mb4.5
BRG
comp=N,414nm,22.2s
BRG
comp=E,302nm,15.9s
BRG
comp=Z,329nm,12.7s
SEST Monte Rota 39.20 310 P **P 04 31 51.3 +0.4**
KAF Kangasniemi 39.32 338 *e*p **P 04 31 52.6 +0.9**
comp=Z,1.3nm,0.4s,mb4.0
KAF Kangasniemi 39.32 338 *e*P **P 04 31 52.6 +0.9**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
WET Wettzell 39.34 314 *e*P **P 04 31 51.1 -1.0**
WET pmax pmax
comp=Z,42nm,1.6s,mb4.9
WET MLR MLR
comp=Z,400nm,21.2s,MS4.2
WET Wettzell 39.34 314 *e*P **P 04 31 51.1 -1.0**
comp=Z,42nm,1.6s,mb4.9
WET *e*L 04 50 54.8
comp=Z,399nm,21.2s
CTI Castel Tesino 39.45 309 P **P 04 31 52.7 -0.3**
CTI pmax pmax
comp=Z,87nm,1.7s,mb5.2
CTI Castel Tesino 39.45 309 P **P 04 31 52.7 -0.3**
comp=Z,87nm,1.7s,mb5.2
FNVD Fontana Vidola 39.51 306 P **P 04 31 55.1 +1.6**
CHTO Chiang Mai 39.70 94 *e*P **P 04 31 55.9 +0.5**
CHTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
CHTO Chiang Mai 39.70 94 *e*P **P 04 31 55.9 +0.6**
comp=Z,3.4nm,0.8s,mb4.1
WTTA Wattenberg 39.70 311 *i* P **P 04 31 54.4 -0.7**
comp=Z,38nm,0.5s,mb5.3,SNR=10
WTTA Wattenberg 39.70 311 *i* P **P 04 31 54.4 -0.6**
WTTA pmax pmax
comp=Z,38nm,0.5s,mb5.4
APPI Appiano 39.81 310 P **P 04 31 55.6 -0.4**
CMAR Chiang Mai Arr 39.83 95 LR LR 04 50 51.7
comp=Z,577nm,21.8s,MS4.4,baz=281,slow=40
CLL Collm 39.90 317⇑*i*P **P 04 31 56.4 -0.3**
CLL *i* 04 32 07.3
CLL pmax pmax
comp=Z,11nm,1.2s,mb4.5
CLL MLR MLR
comp=Z,300nm,19.7s,MS4.1
CLL Collm 39.90 317 *e*P **P 04 31 56.3 -0.4**
comp=Z,47nm,1.6s,mb5.0
CLL *e*L 04 53 13.0
comp=Z,295nm,19.8s
CLL Collm 39.90 317⇑*i*P **P 04 31 56.4 -0.3**
comp=Z,11nm,1.2s,mb4.5
CLL *i* pP pP 04 31 58.7 -1.1
comp=Z,56nm,1.7s
CLL *i* x x 04 32 07.3
CLL *e*(SS) 04 41 11.0
CLL Collm 39.90 317⇑*i*P **P 04 31 56.4 -0.3**
comp=Z,11nm,1.2s,mb4.5
CLL *i* pP 04 31 58.7 -1.1
CLL *i* 04 32 07.3
CLL LR LR
comp=Z,300nm,19.7s,MS4.1
NKC Novy Kostel 39.91 316 *e*P **P 04 31 56.5 -0.3**
NKC AMS AMS 04 50 00.0
comp=Z,300nm,20.7s
VLC Villacollemand 40.03 306 *e*P **P 04 31 58.3 +0.5**
comp=Z,25nm,1.0s,mb4.9
MANZ Manzenberg 40.06 315 *e*L 04 52 13.6
comp=Z,355nm,20.5s
MOTA Moosalm 40.07 311⇑*i*P **P 04 31 56.7 -1.4**
comp=Z,16nm,0.5s,mb5.0,SNR=17
MOTA Moosalm 40.07 311⇑*i*P **P 04 31 56.7 -1.4**
MOTA pmax pmax
comp=Z,16nm,0.5s,mb5.0
FUR Furstenfeldbru 40.13 312 *e*P **P 04 31 57.7 -0.9**
FUR pmax pmax
comp=Z,72nm,1.6s,mb5.2
FUR MLR MLR
comp=Z,400nm,20.3s,MS4.3
FUR Furstenfeldbru 40.13 312 *e*P **P 04 31 57.7 -0.9**
comp=Z,72nm,1.6s,mb5.2
FUR *e*L 04 51 16.7
comp=Z,371nm,20.3s
MABI Malga Bissina 40.23 309 P **P 04 31 59.9 +0.5**
FETA Feichten 40.26 310 *i* P **P 04 31 59.0 -0.7**
comp=Z,24nm,0.6s,mb5.1,SNR=52
RETA Reute 40.33 311⇑*i*P **P 04 31 58.7 -1.5**
comp=Z,10nm,0.8s,mb4.6,SNR=6.8
LZH Lanzhou 40.35 67 *e*P **P 04 32 00.4 -0.2**
LZH PP PP 04 33 38.0 +4.6
LZH *e*S **S 04 38 02.0 -6.5**
LZH AMB AMB
comp=Z,33nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,80nm,4.0s
LZH LR LR
comp=E,415nm,13.0s
LZH LR LR
comp=Z,715nm,15.0s,MS4.6
MOY Mondy 40.38 42 *e*P **P 04 32 02.1 +1.5**
MOY pmax pmax
comp=Z,33nm,2.2s,mb4.7
BRMO Bormio 40.40 310 P **P 04 32 01.3 +0.5**
KEST Kesra 40.52 293 P **P 04 32 02.4 +0.4**
comp=Z,2.3nm,0.8s,mb3.8,baz=37,slow=4.4,SNR=7.1
GRA1 Grafenberg Arr 40.53 315 *e*P **P 04 32 01.8 -0.1**
comp=Z,49nm,1.2s,mb5.0
GRA1 LR LR
comp=Z,300nm,20.4s,MS4.1
GRF Grafenberg Arr 40.53 315 *e*P **P 04 32 01.8 -0.1**
GRF pmax pmax
comp=Z,49nm,1.2s,mb5.0
GRF MLR MLR
comp=Z,300nm,20.4s,MS4.1
GRF Grafenberg Arr 40.53 315 *e*P **P 04 32 01.8 -0.1**
GRF pmax pmax
comp=Z,49nm,1.2s,mb5.0
GRF MLR MLR
comp=Z,300nm,20.4s,MS4.1
GRF Grafenberg Arr 40.53 315 *e*P **P 04 32 01.8 -0.1**
comp=Z,49nm,1.2s,mb5.0
GRF *e*L 04 53 49.3
comp=Z,278nm,20.4s
MOX Moxa 40.54 316 *e*P **P 04 32 03.3 +1.3**
comp=Z,7.0nm,0.8s,mb4.3
MOX
comp=Z,300nm,21.0s
MOX Moxa 40.54 316 *e*P **P 04 32 03.3 +1.3**
MOX pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
MOX MLR MLR
comp=Z,300nm,21.0s,MS4.1
MOX Moxa 40.54 316 *e*L 04 50 59.5
comp=Z,311nm,21.4s
BOB Bobbio (Coli) 40.78 307 P **P 04 32 05.0 +1.0**
CD2 Chengdu 40.78 74 *e*P **P 04 32 04.3 0.0**
CD2 PP PP 04 33 42.8 +4.6
CD2 S **S 04 38 09.4 -5.7**
CD2 XS sS 04 38 41.1 +21
CD2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,1µm,20.4s
CD2 LR LR
comp=E,460nm,12.0s
CD2 LR LR
comp=Z,500nm,16.8s,MS4.5
DAVOX Davos/Dischmat 40.78 310 P **P 04 32 03.5 -0.6**
comp=Z,23nm,0.6s,mb5.0,baz=104,slow=5.4,SNR=35
DAVOX LR LR 04 51 31.9
comp=Z,170nm,18.4s,MS3.9,baz=94,slow=40
RGN Rugen 40.84 322 *e*L 04 52 10.2
comp=Z,320nm,21.3s
DAVOS Davos 40.85 310 P **P 04 32 03.5 -1.1**
PGF Pioggiola 40.87 303 *e*P **P 04 32 02.9 -1.9**
DAVA Damuels 40.88 311 *i* P **P 04 32 03.9 -0.9**
comp=Z,45nm,0.6s,mb5.3,SNR=47
LGHD Ghdames 41.07 284 *i* P **P 04 32 07.2 +0.5**
comp=Z,62nm,1.4s,mb5.0,SNR=25
KMI Kunming 41.08 83 P **P 04 32 06.8 +0.1**
KMI PP PP 04 33 44.9 +3.4
KMI S **S 04 38 17.0 -2.6**
KMI SS SS 04 41 27.5 +5.6
KMI AMB AMB
comp=Z,9.0nm,1.7s,mb4.1
KMI AMB AMB
comp=Z,65nm,3.2s
KMI LR LR
comp=N,268nm,21.5s,MS4.2
KMI LR LR
comp=E,212nm,22.9s,MS4.2
KMI LR LR
comp=Z,293nm,17.2s
TUE Stuetta 41.09 309 *e*P **P 04 32 06.2 -0.4**
comp=Z,9.9nm,0.8s,mb4.5
VAI Varese 41.40 308 P **P 04 32 08.2 -0.9**
VAI pmax pmax
comp=Z,14nm,0.4s,mb4.9
VAI Varese 41.40 308 P **P 04 32 08.2 -0.9**
comp=Z,14nm,0.4s,mb4.9
ZAK Zakamensk 41.41 45 *e*P **P 04 32 06.1 -3.0**
ZAK *e* 04 34 17.0
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb3.9
UBBA Unterbreizbach 41.58 316 *e*P **P 04 32 10.3 -0.2**
comp=Z,33nm,1.8s,mb4.7
UBBA *e*L 04 53 47.1
comp=Z,327nm,20.2s
STU Stuttgart 41.62 313 *e*L 04 52 12.4
comp=Z,374nm,19.3s
APA Apatity 41.75 347⇓*i*P **P 04 32 15.5 +3.8**
APA *i* 04 33 54.5
APA *i* PPP 04 34 11.5
APA *i* S **S 04 38 31.0 +2.4**
APA pmax pmax
comp=Z,24nm,0.8s,mb4.9
NRDL Niedersach Rie 41.97 318 *e*P **P 04 32 14.0 +0.3**
comp=Z,31nm,1.2s,mb4.8
NRDL *e*L 04 50 46.7
comp=Z,286nm,21.6s
SAOF Saorge 42.04 305 *e*P **P 04 32 16.1 +1.7**
BFO Black Forest 42.09 312 *e*P **P 04 32 16.4 +1.6**
BFO Black Forest 42.09 312 *e*L 04 53 51.3
comp=Z,279nm,20.2s
SBF Sospel 42.12 305 *e*P **P 04 32 13.4 -1.6**
comp=Z,76nm,0.8s,mb5.0
SBF Sospel 42.12 305 *e*P **P 04 32 13.4 -1.6**
SBF pmax pmax
comp=Z,38nm,0.8s,mb5.1
SBF Sospel 42.12 305 *e*P **P 04 32 13.4 -1.6**
comp=Z,38nm,0.8s,mb5.1
AUTN L'Aution 42.13 305 *e*P **P 04 32 15.4 +0.2**
REVF Revere 42.15 305 *e*P **P 04 32 15.4 +0.1**
LUCF Luceram 42.18 305 *e*P **P 04 32 17.4 +1.8**
FELD Feldberg im Sc 42.23 311 *e*P **P 04 32 15.7 -0.2**
TOUF Mont Tournerai 42.26 305 *e*P **P 04 32 18.2 +2.0**
BSEG Bad Segeberg 42.28 320 *e*P **P 04 32 16.0 -0.2**
comp=Z,14nm,1.2s,mb4.5
BSEG *e*L 04 54 32.6
comp=Z,372nm,19.8s
DOI San Damiano 42.31 306 P **P 04 32 15.8 -0.8**
MVIF Mont Vial 42.32 305 *e*P **P 04 32 18.2 +1.5**
RSP Reno Superiore 42.37 307 P **P 04 32 16.6 -0.4**
IRK Irkutsk 42.49 42 *e*P **P 04 32 18.3 +0.4**
IRK *e* 04 34 11.0
IRK pmax pmax
comp=Z,37nm,1.6s,mb4.8
BBS Basel-Blauen 42.49 311 *e*P **P 04 32 17.2 -0.8**
MBDF Montbardon 42.67 306 *e*P **P 04 32 18.4 -1.1**
comp=Z,38nm,0.9s,mb4.8
MBDF Montbardon 42.67 306 *e*P **P 04 32 18.4 -1.1**
MBDF pmax pmax
comp=Z,19nm,0.9s,mb4.8
MBDF Montbardon 42.67 306 *e*P **P 04 32 18.4 -1.1**
comp=Z,19nm,0.9s,mb4.8
LPG La Plagne 42.76 308 *e*P **P 04 32 18.5 -1.7**
comp=Z,47nm,0.9s,mb4.9
LPG La Plagne 42.76 308 *e*P **P 04 32 18.5 -1.7**
LPG pmax pmax
comp=Z,24nm,0.9s,mb4.9
LPG La Plagne 42.76 308 *e*P **P 04 32 18.5 -1.7**
comp=Z,24nm,0.9s,mb4.9
BNI Bardonecchia 42.76 307 *e*P **P 04 32 19.4 -0.9**
BNI pmax pmax
comp=Z,68nm,1.3s,mb5.2
BNI Bardonecchia 42.76 307 *e*P **P 04 32 19.4 -0.9**
comp=Z,68nm,1.3s,mb5.2
LPL La Plagne 42.77 308 *e*P **P 04 32 18.5 -1.8**
comp=Z,61nm,0.9s,mb5.0
LPL La Plagne 42.77 308 *e*P **P 04 32 18.5 -1.8**
LPL pmax pmax
comp=Z,30nm,0.9s,mb5.0
LPL La Plagne 42.77 308 *e*P **P 04 32 18.5 -1.8**
comp=Z,30nm,0.9s,mb5.0
CDF Champ du Feu 42.80 312 *e*P **P 04 32 18.0 -2.5**
comp=Z,8.4nm,0.8s,mb4.2
CDF Champ du Feu 42.80 312 *e*P **P 04 32 18.0 -2.5**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
CDF Champ du Feu 42.80 312 *e*P **P 04 32 18.0 -2.5**
comp=Z,4.2nm,0.8s,mb4.2
ECH Echery 42.85 312 *e*P **P 04 32 19.3 -1.6**
ECH Echery 42.85 312 *e*P **P 04 32 18.8 -2.1**
SONM Songino Array 42.90 49 P **P 04 32 21.2 -0.2**
comp=Z,2.5nm,0.8s,mb4.0,baz=264,slow=5.6,SNR=18
SONM LR LR 04 51 56.2
comp=Z,753nm,18.6s,MS4.6,baz=263,slow=39
LOMF Lomont 42.94 310 *e*P **P 04 32 21.1 -0.5**
HINF Hinteralfeld 42.99 311 *e*P **P 04 32 19.8 -2.2**
HFS Hagfors 43.04 330 LR LR 04 53 03.5
comp=Z,291nm,18.4s,MS4.2,baz=133,slow=40
RUP Ruppelstein 43.17 314 *e*P **P 04 32 21.9 -1.6**
IBBN Ibbenburen 43.31 318 *e*P **P 04 32 24.6 0.0**
comp=Z,30nm,1.2s,mb4.9
IBBN *e*L 04 53 00.2
comp=Z,244nm,20.9s
ORIF Oris-en-Rattie 43.31 307 *e*P **P 04 32 23.5 -1.2**
comp=Z,27nm,1.1s,mb4.6
ORIF *e*MLR MLR
comp=Z,392nm,20.5s,MS4.0
ORIF Oris-en-Rattie 43.31 307 *e*P **P 04 32 23.5 -1.2**
ORIF pmax pmax
comp=Z,14nm,1.1s,mb4.6
ORIF Oris-en-Rattie 43.31 307 *e*P **P 04 32 23.5 -1.2**
comp=Z,14nm,1.1s,mb4.6
CABF La Chapelle 43.34 309 *e*P **P 04 32 23.4 -1.5**
HAU Haudompre 43.35 311 *e*P **P 04 32 22.7 -2.3**
HAU *e*MLR MLR
comp=Z,211nm,21.2s,MS3.7
HAU Haudompre 43.35 311 *e*P **P 04 32 22.7 -2.3**
HAU LR LR
comp=Z,210nm,21.3s,MS4.0
BUG Bochum--Univer 43.40 316 *e*P **P 04 32 25.5 +0.2**
comp=Z,52nm,1.4s,mb5.1
BUG *e*L 04 53 37.9
comp=Z,145nm,20.2s
OG05 Jujurieux 43.71 308 *e*P **P 04 32 29.2 +1.3**
HLG Helgoland 43.73 320 *e*L 04 55 28.4
comp=Z,356nm,19.9s
WLF Walferdange 43.74 313 P **P 04 32 27.8 -0.3**
comp=Z,18nm,1.6s,mb4.5
WLF Walferdange 43.74 313 *e*P **P 04 32 27.6 -0.5**
WLF pmax pmax
comp=Z,41nm,1.4s,mb5.0
WLF Walferdange 43.74 313 *e*P **P 04 32 26.2 -1.9**
comp=Z,41nm,1.5s,mb4.9
WLF *e*L 04 52 53.8
comp=Z,310nm,22.0s
WLF Walferdange 43.74 313 P **P 04 32 27.7 -0.4**
comp=Z,18nm,1.6s,mb4.5
WLF Walferdange 43.74 313 *e*P **P 04 32 27.6 -0.6**
comp=Z,42nm,1.4s,mb5.0
WTSB Winterswijk 43.80 317 *e*P **P 04 32 30.1 +1.6**
comp=Z,32nm,0.8s,mb5.1
MEM Membach 44.01 315 P **P 04 32 31.8 +1.5**
HGN Heimansgroeve 44.08 315 *e*P **P 04 32 30.9 +0.1**
HGN Heimansgroeve 44.08 315 *e*P **P 04 32 32.3 +1.5**
comp=Z,27nm,1.1s,mb4.9
HGN Heimansgroeve 44.08 315 *e*S **S 04 39 11.1 +7.9**
VIVF Saint-Julien-l 44.17 306 *e*P **P 04 32 29.3 -2.3**
comp=Z,44nm,1.3s,mb4.7
VIVF Saint-Julien-l 44.17 306 *e*P **P 04 32 29.3 -2.3**
VIVF pmax pmax
comp=Z,22nm,1.3s,mb4.7
VIVF Saint-Julien-l 44.17 306 *e*P **P 04 32 29.3 -2.3**
comp=Z,22nm,1.3s,mb4.7
GYA Guiyang 44.17 80 *e*P **P 04 32 31.9 0.0**
GYA PP PP 04 34 17.6 +2.9
GYA SCP ScP 04 37 58.4 -10
GYA S **S 04 38 58.3 -6.8**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,120nm,4.7s
GYA LR LR
comp=N,580nm,19.6s,MS4.6
GYA LR LR
comp=E,460nm,18.2s,MS4.6
GYA LR LR
comp=Z,550nm,19.6s,MS4.5
MEZF Maizieres J'vi 44.28 312 *e*P **P 04 32 30.9 -1.5**
SSB Saint Sauveur 44.29 307 *e*P **P 04 32 32.5 -0.1**
SSB Saint Sauveur 44.29 307 *e*P **P 04 32 31.5 -1.1**
BCLA Clavier 44.41 314 P **P 04 32 33.5 0.0**
comp=Z,14nm,1.4s,mb4.5
NB2 NORSAR Subarra 44.55 330 P **P 04 32 32.8 -1.6**
comp=Z,3.0nm,0.6s,mb4.3,baz=118,slow=7.9
NOA NORSAR Array B 44.55 330 P **P 04 32 32.9 -1.6**
comp=Z,3.2nm,0.6s,mb4.3,baz=116,slow=7.9,SNR=7.9
NOA LR LR 04 54 29.7
comp=Z,265nm,21.1s,MS4.1,baz=115,slow=41
GIVF Givet 44.66 314 *e*P **P 04 32 35.0 -0.5**
XAN Xi'an 44.67 69 P **P 04 32 34.9 -0.9**
XAN PP PP 04 34 20.4 +0.4
XAN S **S 04 39 05.4 -6.9**
XAN SS SS 04 42 28.3 -4.1
XAN AMB AMB
comp=Z,8.0nm,1.0s,mb4.5
XAN AMB AMB
comp=Z,30nm,4.4s
XAN LR LR
comp=N,119nm,17.0s,MS4.4
XAN LR LR
comp=E,317nm,15.7s,MS4.4
XAN LR LR
comp=Z,378nm,16.3s,MS4.4
LASF Ste Croix 44.71 305 *e*P **P 04 32 34.1 -1.8**
comp=Z,53nm,1.3s,mb4.9
DOU Dourbes 44.81 314 P **P 04 32 36.8 +0.1**
comp=Z,20nm,1.6s,mb4.7
SMF Signal de Mont 44.88 309 *e*P **P 04 32 35.4 -1.9**
comp=Z,181nm,1.3s,mb5.4
SMF Signal de Mont 44.88 309 *e*P **P 04 32 35.4 -1.9**
SMF pmax pmax
comp=Z,90nm,1.3s,mb5.4
SMF Signal de Mont 44.88 309 *e*P **P 04 32 35.4 -1.9**
comp=Z,90nm,1.3s,mb5.4
KEV Kevo 44.89 346 *e*p **P 04 32 36.6 -0.4**
comp=Z,2.1nm,0.4s,mb4.3
KEV Kevo 44.89 346 *e*P **P 04 32 36.6 -0.4**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
COLF Collangettes 44.90 307 *e*P **P 04 32 38.8 +1.3**
LOR Lormes 44.93 310 *e*P **P 04 32 35.7 -2.0**
comp=Z,59nm,1.2s,mb5.0
LOR *e*MLR MLR
comp=Z,560nm,18.8s,MS4.2
LOR Lormes 44.93 310 *e*P **P 04 32 35.7 -2.0**
LOR pmax pmax
comp=Z,30nm,1.3s,mb5.0
LOR MLR MLR
comp=Z,560nm,18.8s,MS4.5
LOR Lormes 44.93 310 *e*P **P 04 32 35.7 -2.0**
comp=Z,30nm,1.3s,mb5.0
LOR LR LR
comp=Z,560nm,18.8s,MS4.5
PLDF La Plantade 44.98 308 *e*P **P 04 32 39.0 +0.9**
BAIF Baives 45.05 314 *e*P **P 04 32 37.8 -0.8**
comp=Z,175nm,1.5s,mb5.4
BAIF Baives 45.05 314 *e*P **P 04 32 37.8 -0.8**
BAIF pmax pmax
comp=Z,87nm,1.5s,mb5.4
BAIF Baives 45.05 314 *e*P **P 04 32 37.8 -0.8**
comp=Z,87nm,1.5s,mb5.4
ARCES ARCESS Array B 45.05 345 P **P 04 32 37.6 -0.7**
comp=Z,5.7nm,0.8s,mb4.5,baz=140,slow=8.5,SNR=14
ARCES LR LR 04 54 34.3
comp=Z,396nm,18.0s,MS4.4,baz=272,slow=40
UCC Uccle 45.07 315 P **P 04 32 40.0 +1.2**
comp=Z,20nm,1.6s,mb4.7
SSF Saint Saulge 45.15 309 *e*P **P 04 32 37.7 -1.7**
comp=Z,122nm,1.3s,mb5.3
SSF Saint Saulge 45.15 309 *e*P **P 04 32 37.7 -1.7**
SSF pmax pmax
comp=Z,61nm,1.3s,mb5.3
SSF Saint Saulge 45.15 309 *e*P **P 04 32 37.7 -1.7**
comp=Z,61nm,1.3s,mb5.3
LBL Lubilhac 45.20 307 *e*P **P 04 32 41.3 +1.5**
AVF Avril sur Loir 45.23 309 *e*P **P 04 32 38.2 -1.9**
comp=Z,152nm,1.5s,mb5.3
AVF Avril sur Loir 45.23 309 *e*P **P 04 32 38.2 -1.9**
AVF pmax pmax
comp=Z,76nm,1.5s,mb5.3

AVF Avril sur Loir 45.23 309 *eP* **P 04 32 38.2 -1.9**
comp=Z,76nm,1.5s,mb5.3
AGO Saint Agoulin 45.33 308 *eP* **P 04 32 42.2 +1.3**
PYM Petit Puy Mans 45.40 308 *eP* **P 04 32 41.0 -0.4**
BGF Bois d'Agland 45.56 309 *eP* **P 04 32 40.9 -1.8**
FRNF Fournols 45.69 307 *eP* **P 04 32 44.7 +1.0**
HYF Humbligny 45.76 310 *eP* **P 04 32 43.0 -1.2**
VERF Verneugheol 45.76 308 *eP* **P 04 32 44.9 +0.6**
MTLF Montolieu 45.88 304 *eP* **P 04 32 44.0 -1.2**
comp=Z,45nm,1.3s,mb4.9
MTLF Montolieu 45.88 304 *eP* **P 04 32 44.0 -1.2**
MTLF pmax pmax
comp=Z,23nm,1.3s,mb5.0
MTLF Montolieu 45.88 304 *eP* **P 04 32 44.0 -1.2**
comp=Z,23nm,1.3s,mb4.9
TCF Toulx Ste Croi 45.98 308 *eP* **P 04 32 44.5 -1.5**
CAF Calviac 46.02 306 *eP* **P 04 32 45.0 -1.4**
comp=Z,21nm,0.8s,mb4.8
CAF Calviac 46.02 306 *eP* **P 04 32 45.0 -1.4**
CAF pmax pmax
comp=Z,11nm,0.8s,mb4.8
CAF Calviac 46.02 306 *eP* **P 04 32 45.0 -1.4**
comp=Z,11nm,0.8s,mb4.8
HHC Hu-ho-hao-te 46.21 59 *eP* **P 04 32 48.5 +0.6**
HHC PCP PcP 04 34 24.4 +0.8
HHC PP PP 04 34 37.3 +1.1
HHC SCP ScP 04 38 08.9 -8.1
HHC PCS PcS 04 38 17.6 -0.4
HHC S **S 04 39 26.3 -8.1**
HHC XS sS 04 39 59.3 +20
HHC SCS ScS 04 42 35.3 -8.3
HHC AMB AMB
comp=Z,12nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,91nm,4.0s
HHC LR LR
comp=N,582nm,20.2s,MS4.6
HHC LR LR
comp=E,279nm,20.4s,MS4.6
HHC LR LR
comp=Z,239nm,25.5s
TAM Tamanrasset 46.22 275 *eP* **P 04 32 48.0 -0.2**
RJF Les Rejaudoux 46.42 307 *eP* **P 04 32 48.4 -1.1**
comp=Z,128nm,1.2s,mb5.4
RJF *e*MLR MLR
comp=Z,308nm,20.5s,MS3.9
RJF Les Rejaudoux 46.42 307 *eP* **P 04 32 48.4 -1.1**
RJF pmax pmax
comp=Z,64nm,1.3s,mb5.4
RJF MLR MLR
comp=Z,310nm,20.5s,MS4.2
RJF Les Rejaudoux 46.42 307 *eP* **P 04 32 48.4 -1.1**
comp=Z,64nm,1.3s,mb5.4
RJF LR LR
comp=Z,310nm,20.5s,MS4.2
EPOB Poblet 46.75 301 P **P 04 32 53.8 +1.7**
comp=Z,174nm,2.1s,mb5.6
LFF La Frestale 46.96 306 *eP* **P 04 32 52.5 -1.2**
comp=Z,66nm,0.9s,mb5.3
LFF La Frestale 46.96 306 *eP* **P 04 32 52.5 -1.2**
LFF pmax pmax
comp=Z,33nm,0.9s,mb5.3
LFF La Frestale 46.96 306 *eP* **P 04 32 52.5 -1.2**
comp=Z,33nm,0.9s,mb5.3
EBIE Bielsa 47.40 303 P **P 04 32 58.4 +1.2**
comp=Z,24nm,1.7s,mb4.8
MFF Saint Martin d 47.62 309 *eP* **P 04 32 56.9 -2.0**
comp=Z,96nm,1.5s,mb5.3
MFF Saint Martin d 47.62 309 *eP* **P 04 32 56.9 -2.0**
MFF pmax pmax
comp=Z,48nm,1.5s,mb5.3
MFF Saint Martin d 47.62 309 *eP* **P 04 32 56.9 -2.0**
comp=Z,48nm,1.5s,mb5.3
LDF La Druitiere 47.71 311 *eP* **P 04 32 57.3 -2.2**
comp=Z,33nm,0.9s,mb5.1
LDF La Druitiere 47.71 311 *eP* **P 04 32 57.3 -2.2**
LDF pmax pmax
comp=Z,17nm,0.9s,mb5.1
LDF La Druitiere 47.71 311 *eP* **P 04 32 57.3 -2.2**
comp=Z,17nm,0.9s,mb5.1
ESAC San Caprasio 47.89 302 P **P 04 33 02.1 +1.1**
comp=Z,82nm,1.1s,mb5.7
ETSF Etsaut 47.91 304 *eP* **P 04 32 59.9 -1.3**
comp=Z,28nm,1.0s,mb4.9
ETSF Etsaut 47.91 304 *eP* **P 04 32 59.9 -1.3**
ETSF pmax pmax
comp=Z,14nm,1.0s,mb5.0
ETSF Etsaut 47.91 304 *eP* **P 04 32 59.9 -1.3**
comp=Z,14nm,1.0s,mb4.9
FLN La Foliniere 47.96 312 *eP* **P 04 32 59.4 -2.0**
comp=Z,76nm,1.2s,mb5.3
FLN *e*MLR MLR
comp=Z,310nm,19.0s,MS4.0
FLN La Foliniere 47.96 312 *eP* **P 04 32 59.4 -2.0**
FLN pmax pmax
comp=Z,38nm,1.2s,mb5.3
FLN MLR MLR
comp=Z,310nm,19.0s,MS4.3
FLN La Foliniere 47.96 312 *eP* **P 04 32 59.4 -2.0**
comp=Z,38nm,1.2s,mb5.3
FLN LR LR
comp=Z,310nm,19.0s,MS4.3
GRR Gorron 48.18 311 *eP* **P 04 33 01.2 -2.0**
SJPF Ste Jean 48.40 304 *eP* **P 04 33 03.6 -1.3**
comp=Z,41nm,1.2s,mb5.0
SJPF Ste Jean 48.40 304 *eP* **P 04 33 03.6 -1.3**
SJPF pmax pmax
comp=Z,20nm,1.2s,mb5.0
SJPF Ste Jean 48.40 304 *eP* **P 04 33 03.6 -1.3**
comp=Z,20nm,1.2s,mb5.0
WOL Wolverton 48.63 315 *eP* **P 04 33 05.4 -1.2**
WOL AMb AMB 04 33 10.2
comp=Z,87nm,1.8s,mb5.5
CWF Charnwood Fore 48.83 317 *eP* **P 04 33 08.0 0.0**
CWF AMb AMB 04 33 11.0
comp=Z,89nm,1.8s,mb5.5
SWN1 Swindon 49.01 315 *eP* **P 04 33 09.2 -0.3**
SWN1 AMb AMB 04 33 13.9
comp=Z,161nm,1.3s,mb5.9
JSA Saint Aubin 49.09 312 *eP* **P 04 33 09.0 -1.1**
KWE Weaver Farm 49.18 317 *eP* **P 04 33 10.8 +0.1**
BOD Bodaibo 49.24 36 *eP* **P 04 33 10.3 -0.8**
BOD pmax pmax
comp=Z,31nm,1.2s,mb5.2
SGMF Saint Gilles 49.31 311 *eP* **P 04 33 10.2 -1.6**
comp=Z,32nm,0.7s,mb5.2
SGMF Saint Gilles 49.31 311 *eP* **P 04 33 10.2 -1.6**
SGMF pmax pmax
comp=Z,16nm,0.7s,mb5.2
SGMF Saint Gilles 49.31 311 *eP* **P 04 33 10.2 -1.6**
comp=Z,16nm,0.7s,mb5.2
XAL Allendale 49.62 319 *eP* **P 04 33 13.8 -0.3**
HGH Gray Hill 49.64 315 *eP* **P 04 33 13.7 -0.6**
EVIA Vianos 49.70 298 P **P 04 33 14.2 -0.8**
EVIA pmax pmax
comp=Z,13nm,0.6s,mb5.1
EVIA Vianos 49.70 298 P **P 04 33 14.2 -0.8**
comp=Z,13nm,0.6s,mb5.1
QUIF Quistinic 49.71 310 *eP* **P 04 33 12.8 -2.1**
comp=Z,123nm,1.4s,mb5.5
QUIF Quistinic 49.71 310 *eP* **P 04 33 12.8 -2.1**
QUIF pmax pmax
comp=Z,62nm,1.4s,mb5.5
QUIF Quistinic 49.71 310 *eP* **P 04 33 12.8 -2.1**
comp=Z,62nm,1.4s,mb5.4
BJI Beijing 49.78 60 P **P 04 33 13.5 -2.0**
BJI PP PP 04 35 09.6 -0.5
BJI S **S 04 40 17.5 -7.4**
BJI SS SS 04 43 51.6 -5.6
BJI AMB AMB
comp=Z,4.0nm,0.7s,mb4.6
BJI LR LR
comp=N,728nm,20.3s,MS4.7
BJI LR LR
comp=E,442nm,20.3s,MS4.7
BJI LR LR
comp=Z,346nm,24.3s,MS4.3
MCH1 Michaelchurch 49.79 316 *eP* **P 04 33 15.1 -0.3**
MCH1 AMb AMB 04 33 19.2
comp=Z,51nm,1.3s,mb5.4
ROSF Rostrenen 49.79 311 *eP* **P 04 33 13.6 -1.9**
comp=Z,70nm,1.3s,mb5.2
ROSF Rostrenen 49.79 311 *eP* **P 04 33 13.6 -1.9**
ROSF pmax pmax
comp=Z,35nm,1.3s,mb5.2
ROSF Rostrenen 49.79 311 *eP* **P 04 33 13.6 -1.9**
comp=Z,35nm,1.3s,mb5.2
EHUE Huescar 49.87 297 P **P 04 33 16.1 -0.2**
EHUE pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
EHUE Huescar 49.87 297 P **P 04 33 16.1 -0.2**
comp=Z,5.4nm,0.6s,mb4.8
HTR Trewern Hill 49.96 316 *eP* **P 04 33 16.1 -0.6**
ESY Stoneypath 49.99 321 *eP* **P 04 33 16.6 -0.3**
ELAN Lanestosa 50.00 304 P **P 04 33 14.3 -2.9**
comp=Z,48nm,1.4s,mb5.3
SBD1 Bryn Du 50.02 317 *eP* **P 04 33 17.3 +0.1**
EBL Broad Law 50.21 321 *eP* **P 04 33 19.4 +0.8**
EKA Eskdalemuir Ar 50.22 320 P **P 04 33 18.4 -0.3**
comp=Z,1.6nm,0.5s,mb4.3,baz=97,slow=7.4,SNR=13
EQES Quesada 50.25 297 P **P 04 33 17.6 -1.5**
comp=Z,35nm,1.0s,mb5.3
DYA Yadsworthy 50.28 314 *eP* **P 04 33 18.1 -1.1**
DYA AMb AMB 04 33 23.2
comp=Z,59nm,1.4s,mb5.4
MME1 Meikle Cairn 50.39 323 *eP* **P 04 33 19.8 -0.1**
WPM1 Penmaenmawr 50.44 317 *eP* **P 04 33 20.9 +0.6**
EBH Black Hill 50.53 321 *eP* **P 04 33 21.6 +0.7**
HTL Hartland 50.66 314 *eP* **P 04 33 21.4 -0.7**
HTL AMb AMB 04 33 34.7
comp=Z,38nm,1.3s,mb5.2
WME Myndd Eilian 50.69 317 *eP* **P 04 33 21.8 -0.4**
ESDC Sonseca Array 50.71 300 P **P 04 33 22.0 -0.6**
comp=Z,2.1nm,0.5s,mb4.3,baz=72,slow=7.5,SNR=24
ESDC LR LR 04 58 38.8
comp=Z,175nm,20.4s,MS4.1,baz=50,slow=40
ESDC Sonseca Array 50.71 300 P **P 04 33 22.2 -0.4**
comp=Z,0.6nm,0.1s,mb4.5
ECOG Cogollos-Vega 50.71 297 P **P 04 33 21.5 -1.1**
ECOG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ECOG Cogollos-Vega 50.71 297 P **P 04 33 21.5 -1.1**
comp=Z,3.6nm,0.8s,mb4.3
YRE Yr Eifl 50.73 317 *eP* **P 04 33 23.3 +0.7**
GUD Guadarrama 50.75 301 P **P 04 33 21.7 -1.2**
GUD pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
GUD Guadarrama 50.75 301 P **P 04 33 21.7 -1.2**
comp=Z,3.7nm,0.7s,mb4.4
EBAN Banos Encina 50.76 298 P **P 04 33 22.0 -1.0**
EBAN pmax pmax
comp=Z,16nm,0.6s,mb5.1
EBAN Banos Encina 50.76 298 P **P 04 33 22.0 -1.0**
comp=Z,16nm,0.6s,mb5.1
EGUA Guajares 50.77 296 P **P 04 33 21.9 -1.2**
EGUA pmax pmax
comp=Z,45nm,0.7s,mb5.5
EGUA Guajares 50.77 296 P **P 04 33 21.9 -1.2**
comp=Z,45nm,0.7s,mb5.5
YRC Rhoscolyn 50.84 317 *eP* **P 04 33 23.2 -0.1**
ERON Agron 50.94 296 P **P 04 33 23.8 -0.6**
EAB Aberfoyle 50.98 321 *eP* **P 04 33 24.5 +0.1**
ELOJ Sierra Loja 51.19 296 P **P 04 33 24.0 -2.3**
ELOJ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ELOJ Sierra Loja 51.19 296 P **P 04 33 24.0 -2.3**
comp=Z,5.5nm,0.8s,mb4.5
ELUQ Luque 51.22 297 P **P 04 33 24.7 -1.8**
ELUQ pmax pmax
comp=Z,15nm,1.1s,mb4.8
ELUQ Luque 51.22 297 P **P 04 33 24.7 -1.8**
comp=Z,15nm,1.1s,mb4.8
LSZ Lusaka 51.34 216 *eP* **P 04 33 27.6 +0.1**
LSZ pmax pmax
comp=Z,14nm,1.3s,mb4.7
LSZ Lusaka 51.34 216 *eP* **P 04 33 27.6 +0.1**
comp=Z,14nm,1.3s,mb4.7
EADA Adamuz 51.38 298 P **P 04 33 26.7 -0.9**
comp=Z,18nm,0.8s,mb5.0
EMIJ Mijas 51.77 296 P **P 04 33 28.3 -2.4**
comp=Z,62nm,1.3s,mb5.4
KAR1 Arisaig 51.88 322 *eP* **P 04 33 30.4 -0.7**
DLF Lyons Farm 52.02 317 *eP* **P 04 33 35.0 +2.8**
ECAB El Cabril 52.05 298 P **P 04 33 31.6 -1.1**
comp=Z,81nm,1.4s,mb5.5
DCN Croghan 52.47 317 *eP* **P 04 33 37.0 +1.5**
ESPR Espera 52.58 296 P **P 04 33 34.6 -2.1**
comp=Z,35nm,0.9s,mb5.3
MVO Moncorvo 52.85 302 *eP* **P 04 33 40.2 +1.6**
comp=Z,28nm,2.2s,mb4.8
EMIN Mina Concepcio 53.07 298 P **P 04 33 36.5 -3.8**
comp=Z,12nm,0.9s,mb4.8
TOA0 Torodi Ar. Sit 53.17 265 *eP* **P 04 33 39.5 -1.8**
TORD Torodi Ar. Bea 53.17 265 P **P 04 33 40.0 -1.3**
comp=Z,23nm,0.6s,mb5.3,baz=62,slow=7.3,SNR=128
TORD LR LR 04 59 09.8
comp=Z,1μm,18.2s,MS5.0,baz=65,slow=39
TORD Torodi Ar. Bea 53.17 265 P **P 04 33 40.0 -1.3**
TORD LR LR 04 59 09.8
PBAR Barrancos 53.29 298 *eP* **P 04 33 41.7 -0.2**
comp=Z,34nm,1.0s,mb5.2
PCBR Castelo Branco 53.37 300 *eP* **P 04 33 44.6 +2.2**
comp=Z,36nm,1.2s,mb5.2
PESTR Estremoz 53.61 299 *eP* **P 04 33 45.8 +1.6**
comp=Z,29nm,1.2s,mb5.1
PBEJ Beja 53.96 298 *eP* **P 04 33 46.5 -0.3**
comp=Z,48nm,1.5s,mb5.2
EVO Evora 53.99 299 *eP* **P 04 33 46.7 -0.3**
comp=Z,13nm,0.6s,mb4.7
EVO *e*MLR MLR
comp=Z,261nm,22.2s,MS3.9
EVO Evora 53.99 299 *eP* **P 04 33 47.0 0.0**
comp=Z,24nm,1.7s,mb4.9
SSE Sheshan 55.40 70 P **P 04 33 58.1 +0.8**
SSE S **S 04 41 33.3 -8.7**
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.4
SSE LR LR
comp=N,145nm,25.4s,MS4.2
SSE LR LR
comp=E,192nm,25.6s,MS4.2
SSE LR LR
comp=Z,238nm,25.4s,MS4.2
JMIC Jan Mayen 55.50 339 LR LR 05 00 32.9
comp=Z,205nm,18.5s,MS4.2,baz=262,slow=39
CN2 Changchun 56.20 54 *eP* **P 04 34 02.1 -0.7**
CN2 *e*S **S 04 41 40.9 -11**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,14.0s,MS4.8
CN2 LR LR
comp=E,500nm,14.0s,MS4.8
CN2 LR LR
comp=Z,700nm,17.0s,MS4.8
MDJ Mudanjiang 59.00 53 P **P 04 34 21.1 -1.5**
MDJ PP PP 04 36 31.5 -1.3
MDJ SS SS 04 46 19.0 -3.6
MDJ AMB AMB
comp=Z,4.0nm,0.7s,mb4.6
MDJ AMB AMB
comp=Z,51nm,6.9s
MDJ LR LR
comp=N,435nm,28.7s,MS4.5
MDJ LR LR
comp=E,222nm,28.7s,MS4.5
MDJ LR LR
comp=Z,307nm,20.1s
KSRS Korea Array 59.26 61 P **P 04 34 22.2 -2.3**
comp=Z,2.4nm,0.5s,mb4.5,baz=279,slow=7.1,SNR=11
KSRS LR LR 05 02 01.2
comp=Z,205nm,18.5s,MS4.3,baz=294,slow=38
KSRS Korea Array 59.26 61 P **P 04 34 22.3 -2.2**
KSRS pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
KSRS MLR MLR
comp=Z,205nm,18.5s,MS4.3
BORG Borgarnes 59.72 331 LR LR 05 00 06.9
comp=Z,204nm,20.6s,MS4.2,baz=68,slow=36
TSUM Tsumeb 60.48 223 *eP* **P 04 34 32.6 -0.4**
comp=Z,12nm,1.1s,mb4.8
LBTB Lobatse 60.85 212 *eP* **P 04 34 35.7 +0.3**
LBTB pmax pmax
comp=Z,14nm,0.9s,mb5.1
LBTB Lobatse 60.85 212 *eP* **P 04 34 35.7 +0.3**
comp=Z,14nm,0.9s,mb5.1
DBIC Dimbokro 61.85 262 P **P 04 34 41.2 -1.3**
comp=Z,4.4nm,0.5s,mb4.8,baz=48,slow=7.1,SNR=19
DBIC LR LR 05 01 19.8
comp=Z,297nm,18.8s,MS4.5,baz=40,slow=36
DBIC Dimbokro 61.85 262 *eP* **P 04 34 41.4 -1.1**
DBIC pmax pmax
comp=Z,19nm,1.1s
DBIC Dimbokro 61.85 262 *eP* **P 04 34 41.4 -1.1**
comp=Z,19nm,1.1s,mb5.1
KIC Kosan Boka 61.89 262 *eP* **P 04 34 40.9 -1.9**
comp=Z,387nm,1.8s,mb6.2
TIC Toumodi 62.00 262 *eP* **P 04 34 42.7 -0.8**
comp=Z,211nm,1.6s,mb6.0
LIC Lamto 62.21 262 *eP* **P 04 34 43.6 -1.3**
LIC *e*MLR MLR
comp=Z,423nm,22.8s,MS4.2
LIC Lamto 62.21 262 *eP* **P 04 34 43.9 -1.0**
comp=Z,80nm,1.2s,mb5.7
LIC Lamto 62.21 262 *eP* **P 04 34 43.6 -1.3**
LIC LR LR
comp=Z,210nm,22.8s,MS4.2
JOW Kunigami 62.58 73 P **P 04 34 45.3 -2.0**
comp=Z,48nm,1.1s,mb5.5,baz=282,slow=9.3,SNR=2.7
SUMG Summit 64.82 341 *eP* **P 04 35 02.2 +0.9**
comp=Z,8.4nm,0.9s,mb4.8
MJAR Matsushiro Arr 67.41 60 P **P 04 35 17.7 -0.8**
comp=Z,1.3nm,0.6s,mb4.1,baz=294,slow=9.2,SNR=4.1
MJAR LR LR 05 06 44.0
comp=Z,224nm,20.8s,MS4.4,baz=295,slow=38
DAV Davao City (W) 68.11 94 LR LR 05 08 16.1
comp=Z,203nm,21.1s,MS4.3,baz=254,slow=39
PETK Petropavlovsk- 74.08 38 P **P 04 35 57.5 -1.3**
comp=Z,4.3nm,0.8s,mb4.4,baz=224,slow=4.1,SNR=5.1
PETK LR LR 05 09 43.0
comp=Z,204nm,18.5s,MS4.5,baz=152,slow=37
FITZ Fitzroy Crossi 81.04 116 *eP* **P 04 36 38.5 +0.3**
comp=Z,8.0nm,0.9s,mb4.7
FITZ Fitzroy Crossi 81.04 116 LR LR 05 13 47.8
comp=Z,82nm,21.8s,MS4.0,baz=65,slow=37
IMA2 Indian Mountai 83.12 12 *eP* **P 04 36 45.7 -2.7**
KAKA Kakadu 83.75 108 *eP* **P 04 36 52.8 +0.3**
comp=Z,18nm,1.0s,mb5.2
SCHQ Schefferville 84.12 331 P **P 04 36 54.4 +0.7**
comp=Z,4.9nm,0.6s,mb4.8,baz=75,slow=5.6,SNR=6.8
SCHQ LR LR 05 17 47.0
comp=Z,89nm,20.9s,MS4.1,baz=262,slow=38
COLA College 85.21 10 *eP* **P 04 36 57.7 -1.4**
MCK McKinley 86.09 11 *eP* **P 04 37 02.7 -0.8**
MCK pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
MCK McKinley 86.09 11 *eP* **P 04 37 02.6 -0.8**
comp=Z,6.3nm,0.6s,mb5.0
EGAK Eagle 86.22 8 *eP* **P 04 37 03.2 -0.8**
comp=Z,9.9nm,0.9s,mb5.0
DAWY Dawson 87.11 7 *eP* **P 04 37 06.9 -1.5**
WRA Warramunga Arr 88.98 113 P **P 04 37 18.1 0.0**
comp=Z,4.4nm,0.8s,mb4.8,baz=308,slow=4.0,SNR=18
WRAB Tennant Creek 88.99 113 *eP* **P 04 37 18.5 +0.4**
WRAB pmax pmax
comp=Z,25nm,1.4s,mb5.3
WRAB Tennant Creek 88.99 113 *eP* **P 04 37 18.4 +0.3**
comp=Z,25nm,1.4s,mb5.4
WB2 Warramunga Arr 89.00 113 *eP* **P 04 37 17.5 -0.6**
YKA Yellowknife Ar 89.28 356 P **P 04 37 18.2 -0.6**
comp=Z,4.6nm,0.9s,mb4.8,baz=359,slow=4.8,SNR=19
YKA LR LR 05 21 20.0
comp=Z,129nm,20.9s,MS4.3,baz=75,slow=38
YKA Yellowknife Ar 89.28 356 P **P 04 37 18.2 -0.6**
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKA MLR MLR
comp=Z,129nm,20.9s
ASAR Alice Springs 90.52 117 P **P 04 37 25.4 +0.1**
comp=Z,0.8nm,0.5s,mb4.3,baz=307,slow=4.8,SNR=16
MAW Mawson 95.69 178 P **P 04 37 45.2 -2.8**
comp=Z,0.4nm,0.4s,mb4.2,baz=353,slow=4.5,SNR=2.0
MAW LR LR 05 15 22.5
comp=Z,119nm,20.9s,MS4.3,baz=38,slow=32
MAW Mawson 95.69 178 P **P 04 37 45.2 -2.8**
MAW LR LR 05 15 22.5
ULM Lac du Bonnet 98.12 343 LR LR 05 25 27.9
comp=Z,184nm,21.7s,MS4.5,baz=40,slow=37
CTA Charters Tower 98.89 108 LR LR 05 27 16.8
comp=Z,93nm,18.4s,MS4.3,baz=55,slow=38
TUC Tucson 118.59 348 *e*PKIKP PKPdf 04 43 08.3 -3.0

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*IDC **25** 04:26:28.2±4.3,6092N×15204W,h48km±47km,mb3.3/4, mb1 3.7/6,mb1mx3.3/25,mbtmp3.4/6,ML3.3/2,Error ellipse: s-maj=33.8km s-min=32.3km az=153.0*
*ISCJB **25** 04:26:30.9±0.5,6050N±004×15156W±009,h81km±7km, mb3.3/4,Error ellipse: s-maj=7.2km s-min=6.7km az=161.0*
*NEIC **25** 04:26:32.9,6047N×15155W,h61km,ML3.2(AEIC),After AEIC.*

ISC 25 04:26:32.3±0.5,6048N±004×15155W±009,h63km±9km, n40,σ0°75/42,mb3.4/4,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**0.66**	**87**	P			**Pn**	**04 26 46.5**	**+0.3**
FIB	**Fire Island**	**0.97**	**44**	P			**Pn**	**04 26 51.2**	**+1.2**
RC01	**Rabbit Creek A**	**1.08**	**55**	P			**Pn**	**04 26 51.7**	**+0.2**
RC01				S			**Sn**	**04 27 06.5**	**+0.7**
SEW	**Seward**	**1.11**	**109**	P			**Pn**	**04 26 51.8**	**0.0**
AUL	**Augustine Lava**	**1.45**	**222**	P			**Pn**	**04 26 57.2**	**+0.9**
PMR	**Palmer**	**1.63**	**45**	*e*P			**Pn**	**04 26 58.5**	**-0.2**
SVW2	**Sparrevohn**	**2.07**	**289**	*e*P			**Pn**	**04 27 03.1**	**-1.6**
PPLA	**Purkeypile**	**2.45**	**353**	P			**Pn**	**04 27 10.4**	**+0.5**
KDAK	**Kodiak Island**	**2.75**	**192**	P			**Pn**	**04 27 13.8**	**-0.2**
	4.9nm,0.3s,baz=26,slow=12,SNR=53								
KDAK				S			**Sn**	**04 27 52.5**	**+6.5**
	25nm,0.3s,baz=231,slow=20,SNR=14								
KDAK	**Kodiak Island**	**2.75**	**192**	P			**Pn**	**04 27 13.8**	**-0.2**
MID	**Middleton Isla**	**2.83**	**110**	*e*P			**Pn**	**04 27 15.4**	**+0.4**
DIV	**Divide**	**2.91**	**74**	P			**Pn**	**04 27 15.4**	**-0.7**
TRF	**Thorofare Moun**	**3.05**	**11**	P			**Pn**	**04 27 18.2**	**+0.2**
KTH	**Kantishna Hill**	**3.10**	**5**	P			**Pn**	**04 27 19.3**	**+0.6**
TT01	**Tatalina**	**3.24**	**321**	P			**Pn**	**04 27 20.3**	**-0.3**
TTA	**Tatalina**	**3.25**	**321**	*e*Pn			**Pn**	**04 27 20.1**	**-0.7**
OHAK	**Old Harbor**	**3.38**	**196**	*e*P			**Pn**	**04 27 22.8**	**+0.2**
RAGM	**Ragged Mountai**	**3.41**	**88**	P			**Pn**	**04 27 21.2**	**-1.7**
CHUM	**Lake Minchumin**	**3.44**	**354**	*e*Pn			**Pn**	**04 27 23.0**	**-0.3**
BMRM	**Bremner River**	**3.45**	**79**	P			**Pn**	**04 27 22.2**	**-1.3**
MCK	**McKinley**	**3.49**	**19**	P			**Pn**	**04 27 24.5**	**+0.4**
HARP	**HAARP**	**3.63**	**55**	P			**Pn**	**04 27 26.4**	**+0.4**
BPAW	**Bear Paw Mtn.**	**3.65**	**4**	P			**Pn**	**04 27 26.0**	**-0.1**
MENT	**Mentasta**	**4.47**	**53**	*e*P			**Pn**	**04 27 36.9**	**-0.5**
COLA	**College**	**4.73**	**20**	P			**Pn**	**04 27 41.5**	**+0.5**
IL1	**Eielson Array**	**4.82**	**25**	P			**Pn**	**04 27 42.5**	**+0.3**
BCA3	**Beaver Creek A**	**5.32**	**57**	P			**Pn**	**04 27 49.0**	**0.0**
IM3	**Indian Mountai**	**5.62**	**351**	P			**Pn**	**04 27 53.2**	**+0.1**
IMA2	**Indian Mountai**	**5.70**	**351**	*e*P			**Pn**	**04 27 54.4**	**+0.2**
EGAK	**Eagle**	**6.45**	**44**	*e*Pn			**Pn**	**04 28 04.0**	**-0.4**
	7.6nm,0.8s								
DAWY	**Dawson**	**6.72**	**52**	*e*Pn			**Pn**	**04 28 07.8**	**-0.4**
COLD	**Coldfoot**	**6.81**	**4**	P			**Pn**	**04 28 09.9**	**+0.6**
BM3	**Burnt Mountain**	**7.61**	**21**	P			**Pn**	**04 28 20.0**	**-0.2**
YKA	**Yellowknife Ar**	**17.60**	**67**	P			**Pn**	**04 30 30.8**	**-2.0**
	0.1nm,0.3s,baz=279,slow=11,SNR=6.0								
YKA	**Yellowknife Ar**	**17.60**	**67**	P			**Pn**	**04 30 30.8**	**-2.0**
ELK	**Elko**	**29.77**	**115**	P			**P**	**04 32 34.4**	**+1.9**
	0.2nm,0.3s,mb3.3,baz=349,slow=10,SNR=3.6								
ELK	**Elko**	**29.77**	**115**	P			**P**	**04 32 34.4**	**+1.9**
PDAR	**Pinedale Array**	**30.82**	**106**	P			**P**	**04 32 42.6**	**+0.8**
	0.2nm,0.6s,mb3.1,baz=331,slow=7.3,SNR=2.6								
TXAR	**Lajitas Array**	**44.48**	**112**	P			**P**	**04 34 36.9**	**-0.2**
	0.2nm,0.5s,mb3.1,baz=318,slow=6.4,SNR=3.8								
MMAI	**Mount Meron Ar**	**86.68**	**354**	P			**P**	**04 39 04.0**	**-4.7**
	0.3nm,0.3s,mb4.0,baz=347,slow=5.9,SNR=2.5								

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*IDC **25** 04:31:38.9±1.1,2810N×5656E,h0km,mb3.7/8,mb1 3.8/8, mb1mx3.7/23,mbtmp3.7/8,Error ellipse: s-maj=27.4km s-min=23.3km az=8.0*
*ISCJB **25** 04:31:42.2±3.1,2821N±004×5721E±0.1,h17km±26km, mb3.6/8,Error ellipse: s-maj=18.3km s-min=7.3km az=4.3*
*CSEM **25** 04:31:43.2±0.1,2834N×5716E,h20km,mb3.6/4,Error ellipse: s-maj=4.4km s-min=3.0km az=91.0*
*NEIC **25** 04:31:51.0,2882N×5672E,h8km,mb3.5/1,MN3.4(TEH), After TEH.*

ISC 25 04:31:46.5±0.8,2820N±005×5670E±01,h51km±11km,n24, σ1°06/26,mb3.6/8,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BANOM	**Banah**	**2.30**	**190**	P			**Pn**	**04 32 20.5**	**-1.4**

SNR=30
BANOM **Banah** 2.30 190 Pn **Pn** 04 32 20.5 -1.4
SNR=13
BANOM Sn **Sn** 04 32 52.1 +3.1
ISRV Sarvestan 3.40 291 *e*Pn **Pn** 04 32 41.7 +4.7
ISRV Sarvestan 3.40 291 Pn **Pn** 04 32 41.8 +4.8
IBAF Bafgh 3.53 343 Pn **Pn** 04 32 38.6 -0.2
IBAF *e*Sg **Sn** 04 33 27.9 +8.6
ASHO Ashiyiah 3.55 190 P **Pn** 04 32 39.6 +0.5
SNR=13
ASHO Ashiyiah 3.55 190 Pn **Pn** 04 32 38.7 -0.4
SNR=13
FAQ Al Faqa, Dubai 3.59 197 Pn **Pn** 04 32 39.0 -0.6
SNR=8.2
IPAR Pars 3.63 298 Pn **Pn** 04 32 44.4 +4.3
IMEH Mehriz 3.68 330 Pn **Pn** 04 32 40.5 -0.4
ASUD Al Ashush, Dub 3.77 200 Pn **Pn** 04 32 42.0 -0.2
SNR=12
IKOO Kooshah 4.64 24 *e*Pn **Pn** 04 32 53.9 -0.2
MALT Malatya 18.31 308 *e*P **Pn** 04 35 59.3 +2.6
MALT Malatya 18.31 308 *e*P **Pn** 04 35 59.4 +2.6
3.7nm,0.9s
AKTK Aktyubinsk 22.23 2 P **P** 04 36 38.7 +0.1
AKTO Aktyubinsk 22.23 2 P **P** 04 36 38.7 +0.1
0.9nm,0.5s,mb3.5,baz=185,slow=12,SNR=3.0
MKAR Makanchi Array 27.29 40 P **P** 04 37 25.7 -0.3
0.6nm,0.5s,mb3.4,baz=224,slow=6.0,SNR=3.7
AKASG Malin Array Be 30.62 325 P **P** 04 37 55.2 -0.4
0.3nm,0.4s,mb3.4,baz=136,slow=7.5,SNR=3.6
ZALV Zalesovo Beam 32.92 31 P **P** 04 38 16.1 +0.5
1.2nm,0.5s,mb4.1,baz=251,slow=9.4,SNR=4.0
GERES GERESS Array B 38.83 314 P **P** 04 39 04.8 -1.6
0.3nm,0.7s,mb3.2,baz=98,slow=11,SNR=3.1
TORD Torodi Ar. Bea 53.22 266 P **P** 04 40 57.8 -2.2
1.8nm,0.6s,mb4.2,baz=68,slow=6.7,SNR=25
WRA Warramunga Arr 88.91 113 P **P** 04 44 36.1 +0.4
0.4nm,0.8s,mb3.8,baz=316,slow=4.2,SNR=6.4
ASAR Alice Springs 90.44 117 P **P** 04 44 43.8 +1.0
0.1nm,0.5s,mb3.4,baz=303,slow=5.2,SNR=3.0
ASAR Alice Springs 90.44 117 P **P** 04 44 43.8 +1.0

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*IDC **25** 04:34:56.8±1.9, 5859N×15426W, h74km±22km, mb3.3/6, mb1 3.5/7, mb1mx3.3/22, mbtmp3.3/7, Error ellipse: s-maj=36.7km s-min=19.4km az=12.0*
*ISCJB **25** 04:34:57.3±0.6, 5858N±005×1540W±0.1, h92km±6km, mb3.4/6, Error ellipse: s-maj=9.5km s-min=7.6km az=169.4*
*NEIC **25** 04:34:59.9, 5851N×15392W, h83km, MG3.2(AEIC), After AEIC.*

ISC 25 04:34:58.5±0.6, 5855N±005×1540W±01, h88km±6km, n31, σ0§91/34, mb3.4/6, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.88**	**18**	P	**Pn**	**04 35 17.8**	**+1.2**
KDAK	**Kodiak Island**	**1.06**	**136**	P	**Pn**	**04 35 18.7**	**0.0**
101nm,0.3s,baz=324,slow=11,SNR=1059							
KDAK				S	**Sn**	**04 35 33.6**	**-0.2**
99nm,0.3s,baz=345,slow=20,SNR=34							
KDAK	**Kodiak Island**	**1.06**	**136**	P	**Pn**	**04 35 18.6**	**-0.1**
KDAK				S	**Sn**	**04 35 33.6**	**-0.2**
OHAK	**Old Harbor**	**1.38**	**165**	*e*P	**Pn**	**04 35 22.0**	**-0.5**
SVW2	**Sparrevohn**	**2.68**	**343**	*e*P	**Pn**	**04 35 39.6**	**0.0**
SLKM	**Skilak Lake**	**2.74**	**43**	P	**Pn**	**04 35 40.6**	**+0.3**
SEW	**Seward**	**2.79**	**54**	P	**Pn**	**04 35 40.6**	**-0.4**
CHGN	**Chignik**	**3.30**	**229**	*e*P	**Pn**	**04 35 47.7**	**-0.2**
RC01	**Rabbit Creek A**	**3.32**	**38**	P	**Pn**	**04 35 48.5**	**+0.3**
PMR	**Palmer**	**3.90**	**36**	*e*P	**Pn**	**04 35 55.7**	**-0.2**
MID	**Middleton Isla**	**4.04**	**74**	*e*P	**Pn**	**04 35 57.8**	**-0.1**
TT01	**Tatalina**	**4.49**	**348**	P	**Pn**	**04 36 04.7**	**+0.7**
TTA	**Tatalina**	**4.51**	**348**	*e*Pn	**Pn**	**04 36 04.9**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.64**	**61**	P	**Pn**	**04 36 05.7**	**-0.3**
DIV	**Divide**	**4.88**	**54**	P	**Pn**	**04 36 09.2**	**0.0**
RAGM	**Ragged Mountai**	**5.08**	**65**	P	**Pn**	**04 36 12.2**	**+0.2**
TRF	**Thorofare Moun**	**5.23**	**18**	P	**Pn**	**04 36 13.6**	**-0.4**
BMRM	**Bremner River**	**5.32**	**59**	P	**Pn**	**04 36 14.8**	**-0.5**
BPAW	**Bear Paw Mtn.**	**5.75**	**13**	P	**Pn**	**04 36 20.4**	**-0.8**
IL1	**Eielson Array**	**7.09**	**25**	P	**Pn**	**04 36 38.1**	**-1.3**
IM3	**Indian Mountai**	**7.46**	**1**	P	**Pn**	**04 36 44.9**	**+0.5**
BCA3	**Beaver Creek A**	**7.48**	**48**	P	**Pn**	**04 36 45.3**	**+0.7**
DLBC	**Dease Lake**	**12.51**	**80**	P	**Pn**	**04 37 54.6**	**+1.7**
baz=288,slow=6.9							
DLBC				S	**Sn**	**04 40 06.6**	**-3.4**
baz=228,slow=12							
YKA	**Yellowknife Ar**	**19.54**	**62**	P	**Pn**	**04 39 18.1**	**-2.7**
0.1nm,0.3s,baz=274,slow=10,SNR=3.9							
YKA	**Yellowknife Ar**	**19.54**	**62**	P	**Pn**	**04 39 18.1**	**-2.7**
PETK	**Petropavlovsk-**	**27.19**	**280**	P	**P**	**04 40 30.6**	**-2.8**
0.7nm,0.6s,mb3.4,baz=58,slow=11,SNR=2.6							
NVAR	**Mina Array Bea**	**30.50**	**116**	P	**P**	**04 41 04.7**	**+1.8**
0.6nm,0.6s,mb3.4,baz=310,slow=9.0,SNR=5.7							
TXAR	**Lajitas Array**	**44.97**	**108**	P	**P**	**04 43 05.8**	**+1.1**
0.2nm,0.7s,mb3.0,baz=332,slow=7.7,SNR=4.2							
SONM	**Songino Array**	**55.24**	**306**	P	**P**	**04 44 22.0**	**0.0**
0.2nm,0.4s,mb3.5,baz=40,slow=6.8,SNR=3.5							
ESDC	**Sonseca Array**	**78.99**	**23**	P	**P**	**04 46 52.2**	**-0.1**
0.3nm,0.4s,mb3.5,baz=335,slow=5.6,SNR=3.9							
KEST	**Kesra**	**85.04**	**14**	P	**P**	**04 47 24.1**	**0.0**
0.7nm,0.9s,mb3.6,baz=18,slow=3.2,SNR=2.9							

IDC 25 04:41:06.2±3.1, 2091S×17700W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.6/4, Error ellipse: s-maj=261.5km s-min=26.0km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.34**	**257**	P	P	04 49 26.9	+0.4
0.7nm,0.5s,baz=89,slow=9.0,SNR=16							
WRA	**Warramunga Arr**	**45.48**	**262**	P	P	04 49 27.0	-0.5
0.3nm,0.3s,baz=99,slow=8.6,SNR=10							
NVAR	**Mina Array Bea**	**80.68**	**43**	P	P	04 53 22.4	+1.2
0.1nm,0.4s,baz=220,slow=8.2,SNR=4.1							
TXAR	**Lajitas Array**	**86.49**	**57**	P	P	04 53 50.7	-0.6
0.2nm,0.7s,baz=238,slow=5.1,SNR=2.5							

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*ISCJB **25** 04:42:03.3±0.9, 3649N±005×6472E±007, h10km, mb3.7/2, Error ellipse: s-maj=9.2km s-min=5.8km az=43.4*
*IDC **25** 04:42:05.0±4.7, 3637N×6443E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.5/24, mbtmp3.9/5, ML3.6/3, Error ellipse: s-maj=69.6km s-min=31.5km az=172.0*
*NEIC **25** 04:42:06.4±1.3, 3668N×6478E, h10km, mb3.6/2, Error ellipse: s-maj=17.8km s-min=11.9km az=216.0*
*NNC **25** 04:42:08.0±2.5, 3680N×6488E, h0km, mb3.8, mpv3.8, Error ellipse: s-maj=22.4km s-min=20.7km az=131.0*
*CSEM **25** 04:42:08.8±0.3, 3662N×6480E, h10km, mb3.8, Error ellipse: s-maj=8.5km s-min=3.2km az=49.0*

ISC 25 04:42:04.7±0.9, 3641N±006×6464E±007, h10km, n29, σ1§47/41, mb3.7/2, 7C-6D, Turkmenistan-Afghanistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.05**	**116**	*e*Pn	**Pn**	**04 43 08.8**	**+2.1**
KBL				*e*Sn	**Sn**	**04 43 53.4**	**-0.7**
KBL	**Kabul**	**4.05**	**116**	*e*Pn	**Pn**	**04 43 08.8**	**+2.2**
KBL				*e*Sn	**Sn**	**04 43 53.4**	**-0.7**
KK31	**Karatay Array**	**8.07**	**32**	⇓Pn	**Pn**	**04 44 02.7**	**+0.8**
2.9nm,0.6s,baz=218,slow=12,SNR=25							
KK31				⇑Sn	**Sn**	**04 45 34.0**	**+0.9**
5.8nm,0.6s,baz=218,slow=23,SNR=4.0							
AML	**Almayashu**	**9.05**	**48**	*e*Pn	**Pn**	**04 44 14.6**	**-0.7**
8.4nm,0.6s							
AML	**Almayashu**	**9.05**	**48**	*e*Pn	**Pn**	**04 44 14.6**	**-0.7**
8.4nm,0.6s							
AML				*e*Sn	**Sn**	**04 45 57.9**	**+0.7**
EKS2	**Erkin-Say**	**9.42**	**46**	*e*Pn	**Pn**	**04 44 21.1**	**+0.7**
EKS2	**Erkin-Say**	**9.42**	**46**	*e*Pn	**Pn**	**04 44 21.1**	**+0.7**
TKM2	**Tokmak 2**	**10.65**	**49**	⇑Pn	**Pn**	**04 44 34.7**	**-2.6**
1.7nm,0.5s							
TKM2				⇓Sn	**Sn**	**04 46 37.5**	**+1.0**
11nm,1.1s							
TKM2	**Tokmak 2**	**10.65**	**49**	*e*Pn	**Pn**	**04 44 34.8**	**-2.5**
3.0nm,0.4s							
AB31	**Akbulak array**	**13.29**	**346**	⇓Pn	**Pn**	**04 45 12.3**	**-1.0**
0.7nm,0.5s,baz=166,slow=14,SNR=12							
AB31				⇓Sn	**Sn**	**04 47 42.1**	**+1.1**
1.3nm,0.6s,baz=148,slow=25,SNR=8.0							
AKTK	**Aktyubinsk**	**14.81**	**343**	Pn	**Pn**	**04 45 32.0**	**-2.1**
AKTK				Sn	**Sn**	**04 48 19.1**	**+0.9**
AKTO	**Aktyubinsk**	**14.81**	**343**	⇑Pn	**Pn**	**04 45 33.5**	**-0.6**
0.6nm,0.7s							
AKTO				⇑Sn	**Sn**	**04 48 20.9**	**+2.8**
0.6nm,0.8s							
AKTO	**Aktyubinsk**	**14.81**	**343**	Pn	**Pn**	**04 45 32.0**	**-2.1**
0.3nm,0.3s,baz=172,slow=13,SNR=11							
AKTO				Sn	**Sn**	**04 48 19.1**	**+0.9**
0.3nm,0.3s,baz=183,slow=18,SNR=3.0							
MK31	**Makanchi Array**	**16.75**	**46**	⇑Pn	**Pn**	**04 46 00.9**	**+1.6**
1.1nm,0.7s,baz=240,slow=10,SNR=11							
MK31	**Makanchi Array**	**16.75**	**46**	*e*P	**Pn**	**04 45 56.9**	**-2.4**
MK31	**Makanchi Array**	**16.75**	**46**	*e*P	**Pn**	**04 45 56.9**	**-2.4**
MKAR	**Makanchi Array**	**16.75**	**46**	Pn	**Pn**	**04 45 58.4**	**-1.0**
0.1nm,0.3s,baz=238,slow=10.0,SNR=9.8							
MKAR	**Makanchi Array**	**16.75**	**46**	Pn	**Pn**	**04 45 58.3**	**-1.0**
VOSK	**Vostochnaya**	**16.91**	**13**	⇓Pn	**Pn**	**04 46 02.5**	**+1.2**
1.3nm,0.5s							
VOSK				⇑Sn	**Sn**	**04 49 04.4**	**-4.7**
3.4nm,0.9s							
BVA0	**Borovoye Array**	**17.10**	**12**	⇑Pn	**Pn**	**04 46 06.0**	**+2.4**
1.1nm,0.7s,baz=186,slow=11,SNR=28							
BVA0				⇓Sn	**Sn**	**04 49 07.0**	**-6.6**
1.2nm,1.2s,baz=206,slow=20,SNR=5.4							
BVA0	**Borovoye Array**	**17.10**	**12**	Sn	**Sn**	**04 49 07.0**	**-6.6**
1.2nm,1.2s,SNR=5.4							
BVAR	**Borovoye Array**	**17.10**	**12**	Pn	**Pn**	**04 46 03.4**	**-0.2**
0.4nm,0.3s,baz=185,slow=10,SNR=24							
BVAR				Sn	**Sn**	**04 49 10.6**	**-3.0**
0.4nm,0.3s,baz=192,slow=20,SNR=5.7							
BRVK	**Borovoye**	**17.11**	**12**	*e*P	**Pn**	**04 46 00.9**	**-2.9**
8.0nm,0.6s							
BRVK	**Borovoye**	**17.11**	**12**	*e*P	**Pn**	**04 46 00.9**	**-2.9**
8.0nm,0.6s							
KURK	**Kurchatov**	**17.48**	**31**	*e*P	**Pn**	**04 46 06.8**	**-1.6**
1.0nm,0.6s							
KURK	**Kurchatov**	**17.48**	**31**	*e*P	**Pn**	**04 46 06.8**	**-1.6**
1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**22.45**	**32**	P	**P**	**04 47 05.2**	**+1.7**
2.1nm,0.6s,mb3.8,baz=240,slow=10,SNR=4.3							
ZALV	**Zalesovo Beam**	**22.45**	**32**	P	**P**	**04 47 05.2**	**+1.7**
AKASG	**Malin Array Be**	**29.06**	**311**	P	**P**	**04 48 06.2**	**+1.2**
0.6nm,0.5s,mb3.6,baz=96,slow=6.9,SNR=2.0							

IDC 25 04:59:34.3±3.5, 634S×14941E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/15, mbtmp3.3/3, ML3.8/1, Error ellipse: s-maj=110.4km s-min=46.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.93**	**226**	P	Pn	05 04 07.3	-2.2
0.3nm,0.3s,baz=52,slow=11,SNR=9.4							
ASAR	**Alice Springs**	**22.79**	**219**	P	P	05 04 39.6	+0.9
0.1nm,0.3s,baz=58,slow=9.3,SNR=3.8							
FITZ	**Fitzroy Crossi**	**25.97**	**241**	P	P	05 05 08.4	-0.5
1.2nm,0.9s,baz=58,slow=12,SNR=6.4							
TORD	**Torodi Ar. Bea**	**147.50**	**284**	PKPbc	PKPbc	05 19 20.9	-0.6
0.2nm,0.3s,baz=79,slow=3.8,SNR=10							

IDC 25 05:19:39.6±14.0, 475S×12908E, h0km, mb3.9/1, mb1 3.4/3, mb1mx3.2/16, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=214.0km s-min=145.0km az=146.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.94**	**162**	Pn	Pn	05 23 23.5	-1.9
0.1nm,0.3s,baz=340,slow=13,SNR=3.6							
ASAR	**Alice Springs**	**19.37**	**167**	P	Pn	05 24 08.5	+0.4
0.1nm,0.3s,baz=346,slow=9.7,SNR=5.3							
STKA	**Stephens Creek**	**29.43**	**158**	P	P	05 25 44.7	-0.3
0.9nm,0.7s,baz=333,slow=6.8,SNR=2.8							

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*MOS **25** 05:39:05.8±1.6, 5145N×16069E, h29km, mb4.4/1, Error ellipse: s-maj=30.4km s-min=10.5km az=98.2*

KRSC 25 05:39:06.3±0.7, 5144N×16067E, h32km±32km, ML4.3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.67**	**308**	*e*P	Pn	05 39 34.4	+1.2
RUS				*i* S	Sn	05 39 54.7	+1.3
SPN	**Mys Shipunski**	**1.71**	**347**	*i* P	Pn	05 39 35.2	+1.4
SPN				*i* S	Sn	05 39 56.1	+1.6
NLC	**Nalytchevo**	**1.92**	**335**	*e*P	Pn	05 39 38.9	+2.3
NLC				*i* S	Sn	05 40 03.0	+3.4
PET	**Petropavlovsk**	**2.01**	**323**	*e*PN	Pn	05 39 40.3	+2.3
PET				*e*S	Sn	05 40 04.1	+2.1
PET				smax			
comp=N,304nm,0.4s							
PET	**Petropavlovsk**	**2.01**	**323**	*e*P	Pn	05 39 40.1	+2.1
PET				*i* S	Sn	05 40 04.3	+2.3
AVH	**Avacha**	**2.18**	**328**	*e*P	Pn	05 39 43.4	+3.1
AVH				*i* S	Sn	05 40 10.5	+4.4
MIPR	**Malaya Ipel'ka**	**2.57**	**291**	*e*P	Pn	05 39 47.4	+1.8
MIPR				*i* S	Sn	05 40 18.0	+2.4
KII	**Karymskiy**	**2.70**	**345**	P	Pn	05 39 49.9	+2.4
KII				*i* S	Sn	05 40 22.0	+2.9
GNL	**Ganaly**	**2.81**	**325**	*e*P	Pn	05 39 52.1	+3.2
GNL				*i* S	Sn	05 40 26.0	+4.4
SKR	**Severo-Kuril's**	**2.97**	**257**	*e*PN	Pn	05 39 50.0	-1.1
SKR				pmax	pmax		
comp=E,70nm,0.4s							
SKR				pmax	pmax		
comp=Z,80nm,0.4s							
MKZ	**Mys Kozlova**	**3.19**	**11**	*i* P	Pn	05 39 55.6	+1.5
MKZ				*i* S	Sn	05 40 31.1	+0.2
ALID	**Alaid**	**3.27**	**262**	P	Pn	05 39 56.0	+0.7
TUMR	**Tumrok**	**3.86**	**356**	*e*P	Pn	05 40 06.9	+3.5
KMNR	**Kamenistaya**	**4.33**	**357**	*e*P	Pn	05 40 14.7	+4.9
BZMR	**Bezymyannaya**	**4.50**	**359**	P	Pn	05 40 16.3	+4.1
KIRR	**Kirishev**	**4.53**	**358**	*e*P	Pn	05 40 17.3	+4.8
KPT	**Kopyto**	**4.54**	**357**	*e*P	Pn	05 40 16.3	+3.6
ZLN	**Zelenaya**	**4.59**	**1**	*e*P	Pn	05 40 17.1	+3.8
KOZ	**Kozyrevsk**	**4.65**	**354**	*e*P	Pn	05 40 17.8	+3.6
KOZR	**Kozyr**	**4.66**	**355**	PN	Pn	05 40 17.8	+3.5
KRSR	**Krestovskiy**	**4.79**	**359**	*e*P	Pn	05 40 19.7	+3.6
SRDR	**Sredinnyy**	**4.92**	**354**	*e*P	Pn	05 40 20.7	+2.8
KBTR	**Krutoberegovo**	**4.94**	**14**	*e*P	Pn	05 40 20.2	+2.0
KBTR				*i* S	Sn	05 41 13.8	-0.4
SRKR	**Sorokina**	**5.23**	**3**	*e*P	Pn	05 40 25.8	+3.6

IDC 25 06:01:35.7±3.5, 676S×15597E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=130.6km s-min=46.3km az=126.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.75**	**236**	P	P	06 06 60.0	+0.8
0.4nm,0.4s,baz=59,slow=9.3,SNR=6.3							
ASAR	**Alice Springs**	**27.05**	**229**	P	P	06 07 19.6	-0.4
0.3nm,0.3s,baz=61,slow=10,SNR=8.7							
FITZ	**Fitzroy Crossi**	**31.63**	**246**	P	P	06 08 00.5	-0.2
2.1nm,0.6s,baz=61,slow=10.0,SNR=13							
TORD	**Torodi Ar. Bea**	**153.89**	**286**	PKPbc	PKPbc	06 21 38.1	0.0
0.1nm,0.4s,baz=46,slow=1.7,SNR=5.5							
TORD				PKPab	PKPab	06 21 50.9	-0.3
0.3nm,1.0s,baz=80,slow=4.2,SNR=4.5							

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*AUST **25** 06:06:52.8, 2650S×15143E, h4km, ML3.9*
*NEIC **25** 06:06:52.0, 2650S×15143E, h4km, ML3.9(AUST), After AUST.*
NEIC Felt in the Durong area.
*ISCJB **25** 06:06:53.6±0.8, 2656S±004×15124E±007, h10km, Error ellipse: s-maj=9.4km s-min=4.9km az=170.0*
*IDC **25** 06:06:55.5±2.1, 2660S×15107E, h0km, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, ML3.9/4, Error ellipse: s-maj=36.1km s-min=28.1km az=56.0*

ISC 25 06:06:54.4±0.8, 2648S±004×15137E±007, h10km, n18, σ1§37/29, 1D, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**1.13**	**347**	⇓*i*P	**Pb**	**06 07 14.5**	**-1.5**
EIDS				*e*S	**Sb**	**06 07 30.1**	**-0.7**
RMQ	**Roma**	**2.34**	**269**	*e*P	**Pn**	**06 07 35.0**	**+2.1**
RMQ				*e*S	**Sn**	**06 08 04.1**	**+2.4**
1μm,0.5s							
ARMA	**Armidale**	**3.94**	**177**	*e*P	**Pn**	**06 07 55.0**	**+0.1**
ARMA				*e*S	**Sn**	**06 08 40.3**	**-0.8**
QLP	**Quilpie**	**6.39**	**267**	*e*P	**Pn**	**06 08 29.5**	**+0.9**
QLP				*e*S	**Sn**	**06 09 40.9**	**-0.8**
MGCD	**Mangrove Creek**	**6.71**	**182**	*e*P	**Pn**	**06 08 33.0**	**-0.1**
MGCD				*e*S	**Sn**	**06 09 55.3**	**+5.7**
12nm,0.3s							
CMSA	**Cobar Meteorol**	**7.08**	**223**	*e*P	**Pn**	**06 08 37.6**	**-0.5**
CMSA				*e*S	**Sn**	**06 09 52.5**	**-6.1**
34nm,0.6s							
CMSA	**Cobar Meteorol**	**7.08**	**223**	*e*P	**Pn**	**06 08 37.6**	**-0.5**
34nm,0.6s							
CMSA				*e*S	**Sn**	**06 09 52.5**	**-6.1**
CTA	**Charters Tower**	**7.91**	**322**	Pn	**Pn**	**06 08 52.6**	**+3.2**
0.2nm,0.3s,baz=196,slow=21,SNR=2.9							
CTA				Lg		06 11 01.6	
2.0nm,0.3s,baz=48,slow=22,SNR=9.4							
YNG	**Young**	**8.21**	**197**	*e*P	**Pn**	**06 08 55.0**	**+1.5**
YNG				*e*S	**Sn**	**06 10 26.0**	**-0.3**
3.1nm,0.4s							
YNG	**Young**	**8.21**	**197**	*e*P	**Pn**	**06 08 55.0**	**+1.5**
3.1nm,0.4s							
YNG				*e*S	**Sn**	**06 10 26.0**	**-0.3**
STKA	**Stephens Creek**	**10.09**	**235**	*e*P	**Pn**	**06 09 17.7**	**-1.7**
STKA				*e*S	**Sn**	**06 11 05.3**	**-7.4**
14nm,0.6s							
STKA	**Stephens Creek**	**10.09**	**235**	Pn	**Pn**	**06 09 17.7**	**-1.7**
1.4nm,0.3s,baz=60,slow=12,SNR=24							
STKA				Sn	**Sn**	**06 11 08.8**	**-3.8**
3.2nm,0.3s,baz=123,slow=22,SNR=8.5							
STKA				Lg		06 12 21.1	
1.5nm,0.3s,baz=144,slow=21,SNR=2.0							
STKA	**Stephens Creek**	**10.09**	**235**	*e*P	**Pn**	**06 09 17.7**	**-1.7**
14nm,0.6s							
STKA				*e*S	**Sn**	**06 11 05.3**	**-7.4**
ASAR	**Alice Springs**	**16.07**	**276**	Pn	**Pn**	**06 10 39.8**	**-0.7**
0.5nm,0.3s,baz=102,slow=14,SNR=35							
ASAR				Sn	**Sn**	**06 13 35.9**	**-2.9**
0.3nm,0.3s,baz=103,slow=24,SNR=4.7							
ASAR				Lg		06 15 24.5	
baz=93,slow=33,SNR=2.4							
WB2	**Warramunga Arr**	**16.93**	**289**	*e*Pn	**Pn**	**06 10 53.4**	**+1.8**
WRA	**Warramunga Arr**	**16.94**	**289**	Pn	**Pn**	**06 10 52.9**	**+1.3**
0.6nm,0.3s,baz=115,slow=11,SNR=40							
WRA				Lg		06 15 48.5	
0.2nm,0.3s,baz=97,slow=7.2,SNR=7.0							
KEST	**Kesra**	**146.37**	**295**	PKPbc	PKPbc	06 26 38.2	+2.5
1.2nm,0.8s,baz=329,slow=5.9,SNR=3.9							
TORD	**Torodi Ar. Bea**	**148.63**	**251**	PKPbc	PKPbc	06 26 42.9	+0.4
1.5nm,0.8s,baz=105,slow=2.4,SNR=7.1							

IDC 25 06:17:14.3±3.8, 688S×15524E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/15, mbtmp3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/21, Error ellipse: s-maj=109.9km s-min=29.1km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.30**	**119**	Sn	Sn	06 19 23.4	-13
5.1nm,0.3s,baz=98,slow=1.7,SNR=3.5							
HNR				LR	LR	06 19 53.3	
comp=Z,76nm,19.1s,baz=179,slow=30							
WRA	**Warramunga Arr**	**24.08**	**235**	P	P	06 22 32.5	+0.8
1.1nm,0.6s,baz=61,slow=9.5,SNR=8.8							
ASAR	**Alice Springs**	**26.43**	**229**	P	P	06 22 52.6	-0.4
0.1nm,0.5s,baz=59,slow=8.9,SNR=3.6							
SONM	**Songino Array**	**69.37**	**327**	P	P	06 28 24.6	+0.7
0.3nm,0.5s,baz=130,slow=5.8,SNR=2.3							
MKAR	**Makanchi Array**	**83.48**	**319**	P	P	06 29 43.5	-0.5
1.1nm,0.7s,baz=95,slow=6.1,SNR=11							

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*ISCJB **25** 06:21:12.7±0.3, 4396N±002×755E±002, h16km±2km, Error ellipse: s-maj=3.4km s-min=2.5km az=137.3*
*LDG **25** 06:21:12.3±0.1, 4391N×764E, h2km, Md2.7/1, Ml2.7/14, Error ellipse: s-maj=1.9km s-min=1.5km az=136.0*
*GEN **25** 06:21:12.6, 4394N×752E, h16km, ML2.0*
*CSEM **25** 06:21:12.3±0.1, 4397N×762E, h10km, ML2.9/17, Error ellipse: s-maj=1.8km s-min=1.4km az=135.0*
*NEIC **25** 06:21:12.8, 4396N×753E, h10km, ML2.7(LDG), ML2.7(STR), ML2.9(GEN), After STR.*
*ROM **25** 06:21:13.2±0.7, 4402N×755E, h10km, Md2.6/8, Ml2.0/7, Error ellipse: s-maj=9.2km s-min=2.8km az=21.0*
*STR **25** 06:21:13.6±0.1, 4395N×753E, h5km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 25 06:21:12.6±0.3, 4394N±002×756E±002, h15km±1km, n84, σ0§94/164, 2C-2D, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.04**	**357**	Pg	**Pg**	**06 21 15.1**	**-0.3**
SAOF				Sg	**Sg**	**06 21 16.4**	**-0.9**
AUTN	**L'Aution**	**0.11**	**299**	Pg	**Pg**	**06 21 16.0**	**0.0**
AUTN				Sg	**Sg**	**06 21 18.1**	**-0.1**
SBF	**Sospel**	**0.12**	**228**	*e*Pg	**Pg**	**06 21 16.4**	**+0.2**
SNR=1.0							
SBF				*e*Sg	**Sg**	**06 21 17.9**	**-0.5**
2μm,0.2s							
SBF	**Sospel**	**0.12**	**228**	*e*Pg	**Pg**	**06 21 16.4**	**+0.2**
SNR=1.0							
SBF				*e*Sg	**Sg**	**06 21 17.9**	**-0.5**
855nm,0.2s							
NEGI	**Seborga**	**0.14**	**132**	P

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
	20nm,0.3s								
LMR	**La Mourre**	**0.97**	**232**	*e*Pg		**Pg**		**06 21 31.3**	**-0.2**
LMR				*e*Sg		**Sg**		**06 21 44.0**	**-0.3**
	83nm,0.2s,SNR=1.0								
LMR				*e*Sn		**Sn**		**06 21 45.8**	**+0.6**
	SNR=1.0								
LMR	**La Mourre**	**0.97**	**232**	*e*Pg		**Pg**		**06 21 31.3**	**-0.2**
LMR				*e*Sg		**Sg**		**06 21 44.0**	**-0.3**
	42nm,0.2s,SNR=1.0								
LMR				*e*Sn		**Sn**		**06 21 45.8**	**+0.6**
	SNR=1.0								
RRL	**Rocca Remolon**	**1.12**	**331**	P		**Pb**		**06 21 33.1**	**-0.6**
RRL				S		**Sb**		**06 21 47.6**	**-0.5**
RRL	**Rocca Remolon**	**1.12**	**331**	P		**Pb**		**06 21 33.1**	**-0.6**
MONC	**Moncucco Torin**	**1.16**	**13**	Pg		**Pg**		**06 21 35.6**	**+0.6**
MONC				Sg		**Sg**		**06 21 51.8**	**+1.6**
	84nm,0.3s								
RSP	**Reno Superiore**	**1.23**	**350**	Pg		**Pg**		**06 21 33.4**	**-2.9**
	20nm,0.2s								
RSP				S		**Sb**		**06 21 47.3**	**-3.8**
RSP	**Reno Superiore**	**1.23**	**350**	P		**Pn**		**06 21 33.2**	**-2.0**
RSP				Pg		**Pg**		**06 21 33.4**	**-2.9**
BNI	**Bardonecchia**	**1.27**	**331**	Pg		**Pg**		**06 21 35.9**	**-1.3**
	22nm,0.6s								
BNI	**Bardonecchia**	**1.27**	**331**	*e*Pn		**Pn**		**06 21 34.7**	**-1.2**
BNI	**Bardonecchia**	**1.27**	**331**	Pg		**Pg**		**06 21 35.9**	**-1.3**
	22nm,0.6s								
BNI	**Bardonecchia**	**1.27**	**331**	*e*Pn		**Pn**		**06 21 34.7**	**-1.1**
BNI				Pg		**Pg**		**06 21 35.9**	**-1.3**
BNI				*e*Sn		**Sn**		**06 21 52.8**	**+0.1**
SMRF	**Simiane la Rot**	**1.43**	**272**	*e*Pg		**Pg**		**06 21 40.2**	**0.0**
SMRF				*e*Sn		**Sn**		**06 21 57.3**	**+0.8**
	SNR=1.0								
SMRF				*e*Sg		**Sg**		**06 21 59.6**	**+0.8**
	81nm,0.4s,SNR=1.0								
SMRF	**Simiane la Rot**	**1.43**	**272**	*e*Pg		**Pg**		**06 21 40.2**	**0.0**
SMRF				*e*Sn		**Sn**		**06 21 57.3**	**+0.8**
	SNR=1.0								
SMRF				*e*Sg		**Sg**		**06 21 59.6**	**+0.8**
	41nm,0.4s,SNR=1.0								
SMRF	**Simiane la Rot**	**1.43**	**272**	*e*Pn		**Pn**		**06 21 38.9**	**+0.9**
SMRF				*e*Pg		**Pg**		**06 21 40.2**	**0.0**
SMRF				*e*Sn		**Sn**		**06 21 57.3**	**+0.8**
SMRF				*e*Sg		**Sg**		**06 21 59.6**	**+0.8**
LSD	**Lago del Serru**	**1.54**	**349**	Pg		**Pg**		**06 21 38.8**	**-3.5**
LSD	**Lago del Serru**	**1.54**	**349**	P		**Pn**		**06 21 40.8**	**+1.3**
LSD				S		**Sn**		**06 21 59.5**	**+0.3**
ORIF	**Oris-en-Rattie**	**1.55**	**310**	*e*Pn		**Pn**		**06 21 41.1**	**+1.5**
	SNR=1.0								
ORIF				*e*Sn		**Sn**		**06 22 00.6**	**+1.2**
	SNR=1.0								
ORIF				*e*Sg		**Sg**		**06 22 03.8**	**+1.3**
	50nm,0.5s								
ORIF	**Oris-en-Rattie**	**1.55**	**310**	*e*Pn		**Pn**		**06 21 41.1**	**+1.5**
	SNR=1.0								
ORIF				*e*Sn		**Sn**		**06 22 00.6**	**+1.2**
	SNR=1.0								
ORIF				*e*Sg		**Sg**		**06 22 03.8**	**+1.3**
	25nm,0.5s								
TRAV	**Traversella**	**1.57**	**5**	P		**Pn**		**06 21 37.9**	**-2.1**
TRAV				S		**Sn**		**06 21 55.8**	**-4.3**
TRAV	**Traversella**	**1.57**	**5**	P		**Pn**		**06 21 37.9**	**-2.0**
LPG	**La Plagne**	**1.66**	**340**	*e*P		**Pn**		**06 21 43.9**	**+2.8**
LPG				*e*Sg		**Sg**		**06 22 06.9**	**+0.9**
	31nm,0.6s,SNR=1.0								
LPG	**La Plagne**	**1.66**	**340**	*e*P		**Pn**		**06 21 43.9**	**+2.8**
LPG				*e*Sg		**Sg**		**06 22 06.9**	**+0.9**
	16nm,0.6s,SNR=1.0								
LPG	**La Plagne**	**1.66**	**340**	*e*Pn		**Pn**		**06 21 41.7**	**+0.6**
LPG				*e*Sg		**Sg**		**06 22 06.9**	**+0.9**
LPL	**La Plagne**	**1.68**	**340**	*e*Pn		**Pn**		**06 21 41.9**	**+0.5**
LPL	**La Plagne**	**1.68**	**340**	*e*P		**Pn**		**06 21 43.5**	**+2.1**
LPL				*e*Sg		**Sg**		**06 22 07.8**	**+1.1**
	9.2nm,0.4s,SNR=1.0								
LPL	**La Plagne**	**1.68**	**340**	*e*P		**Pn**		**06 21 43.5**	**+2.1**
LPL				*e*Sg		**Sg**		**06 22 07.8**	**+1.1**
	4.6nm,0.4s,SNR=1.0								
PGF	**Pioggiola**	**1.75**	**142**	*e*Pn		**Pn**		**06 21 40.8**	**-1.5**
	SNR=1.0								
PGF				*e*Sn		**Sn**		**06 22 01.9**	**-2.4**
	4.0nm,0.2s,SNR=1.0								
PGF	**Pioggiola**	**1.75**	**142**	*e*Pn		**Pn**		**06 21 40.8**	**-1.5**
	SNR=1.0								
PGF				*e*Sn		**Sn**		**06 22 01.9**	**-2.4**
	2.0nm,0.2s,SNR=1.0								
VIVF	**Saint-Julien-I**	**2.26**	**295**	*e*P		**Pn**		**06 21 52.4**	**+3.0**
VIVF	**Saint-Julien-I**	**2.26**	**295**	*e*Pg		**Pg**		**06 21 55.3**	**-0.7**
VIVF				*e*Sn		**Sn**		**06 22 17.5**	**+0.5**
	SNR=1.0								
VIVF				*e*Sg		**Sg**		**06 22 24.5**	**-0.8**
	16nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-I**	**2.26**	**295**	*e*P		**Pn**		**06 21 52.4**	**+3.0**
VIVF	**Saint-Julien-I**	**2.26**	**295**	*e*Pg		**Pg**		**06 21 55.3**	**-0.7**
VIVF				*e*Sn		**Sn**		**06 22 17.5**	**+0.5**
	SNR=1.0								
VIVF				*e*Sg		**Sg**		**06 22 24.5**	**-0.8**
	8.1nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-I**	**2.26**	**295**	*e*Pn		**Pn**		**06 21 50.0**	**+0.6**
VIVF				*e*Pg		**Pg**		**06 21 55.3**	**-0.7**
VIVF				*e*Sn		**Sn**		**06 22 17.5**	**+0.5**
VIVF				*e*Sg		**Sg**		**06 22 24.5**	**-0.8**
LASF	**Ste Croix**	**2.67**	**274**	*e*Pg		**Pg**		**06 22 02.8**	**-1.1**
LASF				*e*Sn		**Sn**		**06 22 26.5**	**-0.7**
	2.9nm,0.2s,SNR=1.0								
LASF	**Ste Croix**	**2.67**	**274**	*e*Pg		**Pg**		**06 22 02.8**	**-1.1**
LASF				*e*Sn		**Sn**		**06 22 26.5**	**-0.7**
	1.5nm,0.2s,SNR=1.0								
LASF	**Ste Croix**	**2.67**	**274**	*e*Pn		**Pn**		**06 21 54.8**	**-0.3**
LASF				*e*Pg		**Pg**		**06 22 02.8**	**-1.1**
LASF				*e*Sn		**Sn**		**06 22 26.5**	**-0.7**
CABF	**La Chapelle**	**2.86**	**339**	*e*Pn		**Pn**		**06 21 59.1**	**+1.4**
	SNR=1.0								
CABF				*e*Sn		**Sn**		**06 22 32.0**	**+0.2**
	3.9nm,0.6s,SNR=1.0								
CABF	**La Chapelle**	**2.86**	**339**	*e*Pn		**Pn**		**06 21 59.1**	**+1.4**
	SNR=1.0								
CABF				*e*Sn		**Sn**		**06 22 32.0**	**+0.2**
	2.0nm,0.6s,SNR=1.0								
SMF	**Signal de Mont**	**3.77**	**317**	*e*P		**Pn**		**06 22 13.9**	**+3.8**
SMF				*e*Sn		**Sn**		**06 22 54.6**	**+0.5**
	1.5nm,0.2s,SNR=1.0								
SMF	**Signal de Mont**	**3.77**	**317**	*e*P		**Pn**		**06 22 13.9**	**+3.8**
SMF				*e*Sn		**Sn**		**06 22 54.6**	**+0.5**
	0.8nm,0.2s,SNR=1.0								
SMF	**Signal de Mont**	**3.77**	**317**	*e*Pn		**Pn**		**06 22 10.6**	**+0.5**
SMF				*e*Sn		**Sn**		**06 22 54.6**	**+0.5**
MTLF	**Montolieu**	**3.92**	**263**	*e*Pg		**Pg**		**06 22 25.5**	**-2.3**
MTLF				*e*Sn		**Sn**		**06 22 56.9**	**-1.1**
	1.2nm,0.2s								
MTLF	**Montolieu**	**3.92**	**263**	*e*Pg		**Pg**		**06 22 25.5**	**-2.3**
MTLF				*e*Sn		**Sn**		**06 22 56.9**	**-1.1**
	0.6nm,0.2s								
MTLF	**Montolieu**	**3.92**	**263**	*e*Pn		**Pn**		**06 22 12.4**	**+0.2**
MTLF				*e*Pg		**Pg**		**06 22 25.5**	**-2.3**
MTLF				*e*Sn		**Sn**		**06 22 56.9**	**-1.1**
CAF	**Calviac**	**4.06**	**286**	*e*Pn		**Pn**		**06 22 15.0**	**+0.9**
	SNR=1.0								
AVF	**Avril sur Loir**	**4.11**	**315**	*e*Pn		**Pn**		**06 22 16.0**	**+1.2**
	SNR=1.0								
HAU	**Haudompre**	**4.15**	**349**	*e*Pn		**Pn**		**06 22 15.3**	**0.0**
LOR	**Lormes**	**4.22**	**323**	*e*Pn		**Pn**		**06 22 16.5**	**+0.2**
LOR				*e*Sn		**Sn**		**06 23 04.5**	**-0.7**
	2.3nm,0.2s,SNR=1.0								
LOR	**Lormes**	**4.22**	**323**	*e*Pn		**Pn**		**06 22 16.5**	**+0.2**
LOR				*e*Sn		**Sn**		**06 23 04.5**	**-0.7**
	1.1nm,0.2s,SNR=1.0								
BGF	**Bois d'Agland**	**4.23**	**310**	*e*Pn		**Pn**		**06 22 16.5**	**0.0**
TCF	**Toulx Ste Croi**	**4.45**	**304**	*e*Sn		**Sn**		**06 23 09.7**	**-1.3**
	1.6nm,0.6s,SNR=1.0								
TCF	**Toulx Ste Croi**	**4.45**	**304**	*e*Sn		**Sn**		**06 23 09.7**	**-1.3**
	0.8nm,0.6s,SNR=1.0								
CDF	**Champ du Feu**	**4.47**	**358**	*e*Pn		**Pn**		**06 22 21.0**	**+1.2**
	SNR=1.0								

*ISCJB **25** 06:50:59.5±1.2, 3179S±002×7213W±006, h11km±6km, Error ellipse: s-maj=8.7km s-min=3.8km az=175.1*
*GUC **25** 06:51:01.2±0.6, 3180S×7206W, h24km±2km, MD3.6, ML3.6*
*NEIC **25** 06:51:01.2, 3180S×7206W, h24km, ML3.6(GUC), After GUC.*
ISC 25 06:51:00.0±1.2, 3178S±002×7209W±007, h7km±5km, n29, σ0°78/47, 7C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.51**	**102**	⇓*iP*		**Pg**		**06 51 10.7**	**+0.8**
CHNG				*i* S		**Sg**		**06 51 17.9**	**+1.3**
PTCH	**Petorca**	**1.10**	**116**	*i* P		**Pg**		**06 51 20.3**	**-0.8**
PTCH				*i* S		**Sg**		**06 51 33.9**	**-1.4**
PTCH					AML	AML		06 51 36.6	
	comp=E,1μm,0.2s								
PTCH	**Petorca**	**1.10**	**116**	*i* P		**Pg**		**06 51 20.3**	**-0.8**
PTCH				*i* S		**Sg**		**06 51 33.9**	**-1.4**
OVCH	**Ovalle**	**1.39**	**33**	⇑*iP*		**Pn**		**06 51 24.9**	**-0.9**
OVCH				*i* S		**Sb**		**06 51 43.6**	**-0.6**
OVCH					AML	AML		06 51 55.4	
	comp=N,2μm,0.5s								
OVCH	**Ovalle**	**1.39**	**33**	⇑*iP*		**Pn**		**06 51 24.9**	**-0.9**
OVCH				*i* S		**Sb**		**06 51 43.6**	**-0.6**
ROCH	**El Roble**	**1.50**	**143**	*i* P		**Pn**		**06 51 26.7**	**-0.6**
ROCH				*i* S		**Sn**		**06 51 46.6**	**-0.5**
JACH	**Jahuel**	**1.55**	**126**	*i* P		**Pn**		**06 51 27.6**	**-0.5**
JACH				*i* S		**Sn**		**06 51 47.6**	**-0.9**
PEL	**Peldehue**	**1.81**	**139**	⇓*iP*		**Pn**		**06 51 31.2**	**-0.3**
PEL				*i* S		**Sn**		**06 51 54.6**	**-0.1**
PEL					AML	AML		06 52 00.4	
	comp=E,3μm,0.4s								
TLL	**Tololo Astrono**	**1.95**	**35**	*e*P		**Pn**		**06 51 34.7**	**+1.2**
TLL				*i* S		**Sn**		**06 51 60.0**	**+1.8**
TLL					AML	AML		06 52 06.5	
	comp=N,1μm,0.6s								
TLL	**Tololo Astrono**	**1.95**	**35**	*e*P		**Pn**		**06 51 34.7**	**+1.2**
TLL				*i* S		**Sn**		**06 51 60.0**	**+1.8**
LSCH	**La Serena**	**2.00**	**21**	*i* P		**Pn**		**06 51 35.0**	**+0.9**
LSCH				*i* S		**Sn**		**06 52 00.3**	**+0.9**
RCDM	**Rinconada Maip**	**2.02**	**148**	⇑*iP*		**Pn**		**06 51 34.6**	**+0.1**
RCDM				*i* S		**Sn**		**06 51 59.6**	**-0.3**
RCDM					AML	AML		06 52 06.8	
	comp=E,492nm,0.3s								
RCDM	**Rinconada Maip**	**2.02**	**148**	⇑*iP*		**Pn**		**06 51 34.6**	**+0.1**
RCDM				*i* S		**Sn**		**06 51 59.6**	**-0.3**
SAN	**Santiago**	**2.06**	**145**	AML		AML		06 52 11.6	
	comp=E,830nm,0.6s								
DSCH	**Colegio Aleman**	**2.06**	**142**	AML		AML		06 52 07.7	
	comp=E,298nm,0.4s								
CLCH	**Cerro Calan**	**2.08**	**141**	AML		AML		06 52 11.6	
	comp=E,2μm,0.6s								
TACH	**Talagante**	**2.11**	**153**	⇑*iP*		**Pn**		**06 51 35.7**	**0.0**
TACH				*i* S		**Sn**		**06 52 02.2**	**+0.1**
ANTU	**Antumapu**	**2.17**	**146**	AML		AML		06 52 19.7	
	comp=E,724nm,0.5s								
LNV	**Longovilo**	**2.25**	**165**	⇑*iP*		**Pn**		**06 51 37.7**	**+0.1**
LNV				*i* S		**Sn**		**06 52 05.3**	**-0.2**
PCH	**Pirque**	**2.27**	**145**	⇓*iP*		**Pn**		**06 51 38.1**	**+0.3**
PCH				*i* S		**Sn**		**06 52 06.4**	**+0.4**
SJCH	**San Jose de Ma**	**2.36**	**142**	*i* P		**Pn**		**06 51 39.2**	**0.0**
SJCH				*i* S		**Sn**		**06 52 08.6**	**+0.2**
SJCH					AML	AML		06 52 16.9	
	comp=N,382nm,0.6s								
SJCH	**San Jose de Ma**	**2.36**	**142**	*i* P		**Pn**		**06 51 39.2**	**0.0**
SJCH				*i* S		**Sn**		**06 52 08.6**	**+0.2**
CHCH	**Chadas Angostu**	**2.46**	**151**	⇑*iP*		**Pn**		**06 51 40.7**	**+0.1**
CHCH				*i* S		**Sn**		**06 52 10.9**	**-0.1**
CACH	**El Canelo**	**2.65**	**152**	*i* P		**Pn**		**06 51 44.2**	**+1.1**
CACH				*i* S		**Sn**		**06 52 16.9**	**+1.5**
CICH	**Cipreses**	**2.90**	**152**	*i* P		**Pn**		**06 51 47.1**	**+0.6**
CICH				*i* S		**Sn**		**06 52 21.7**	**+0.2**
LCO	**Las Campanas**	**3.01**	**24**	*e*Pn		**Pn**		**06 51 46.8**	**-1.3**
LCO				*e*Sn		**Sn**		**06 52 22.8**	**-1.5**
VNA3	**Neumayer Olymp**	**51.43**	**158**	*e*		**P**		**07 00 04.9**	**-0.3**
VNA3				*e*				07 00 14.6	
VNA2	**Neumayer--Watz**	**52.08**	**158**	*e*		**P**		**07 00 09.3**	**-0.8**
VNA2				*e*				07 00 18.8	
SNAA	**Sanae**	**53.66**	**158**	*e*		**P**		**07 00 21.5**	**-0.2**
SNAA				*e*				07 00 31.2	

*ISCJB **25** 07:11:23.8±0.6, 2425S±005×6693W±009, h177km±11km, Error ellipse: s-maj=13.5km s-min=7.4km az=14.6*
*NEIC **25** 07:11:24.9±0.7, 2418S×6690W, h177km±11km, Error ellipse: s-maj=13.7km s-min=9.5km az=114.0*
*IDC **25** 07:11:25.2±1.1, 2407S×6688W, h177km±14km, mb3.3/1, mb1 3.6/7, mb1mx3.4/18, mbtmp3.5/7, Error ellipse: s-maj=18.8km s-min=16.0km az=81.0*
ISC 25 07:11:24.8±0.6, 2427S±005×6689W±009, h162km±11km, n18, σ1°23/23, 1C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.48**	**311**	P		**Pn**		**07 12 07.9**	**+1.7**
	28nm,0.3s,baz=116,slow=7.5,SNR=526								
LVC				S		**Sn**		**07 12 38.9**	**+0.6**
	98nm,0.3s,baz=270,slow=22,SNR=57								
ANCH	**Antofagasta**	**3.27**	**280**	⇑*iP*		**Pn**		**07 12 17.9**	**+1.8**
ANCH				*i* S		**Sn**		**07 12 54.8**	**-0.9**
CDCH	**Caldera**	**4.52**	**231**	*i* P		**Pn**		**07 12 31.5**	**-0.6**
CDCH				*i* S		**Sn**		**07 13 21.2**	**-3.4**
LCO	**Las Campanas**	**5.83**	**215**	*e*Pn		**Pn**		**07 12 49.3**	**0.0**
LCO				*e*Sn		**Sn**		**07 13 54.7**	**-0.8**
CFAA	**Coronel Fontan**	**7.41**	**189**	P		**Pn**		**07 13 12.1**	**+1.9**
	0.1nm,0.3s,baz=20,slow=13,SNR=21								
CFAA				S		**Sn**		**07 14 31.6**	**-1.7**
	0.6nm,0.3s,baz=268,slow=20,SNR=14								
LPAZ	**La Paz**	**8.02**	**351**	P		**Pn**		**07 13 17.6**	**-0.9**
	0.9nm,0.3s,baz=146,slow=7.5,SNR=34								
LPAZ				S		**Sn**		**07 14 42.5**	**-5.6**
	0.2nm,0.3s,baz=21,slow=18,SNR=3.4								
CPUP	**Villa Florida**	**8.89**	**105**	P		**Pn**		**07 13 30.9**	**+1.0**
	0.1nm,0.3s,baz=289,slow=9.8,SNR=3.9								
CPUP	**Villa Florida**	**8.89**	**105**	P		**Pn**		**07 13 30.9**	**+1.0**
SIV	**San Ignacio**	**9.88**	**35**	P		**Pn**		**07 13 41.0**	**-2.0**
	1.4nm,0.3s,baz=217,slow=13,SNR=70								
SIV				S		**Sn**		**07 15 19.1**	**-14**
	baz=227,slow=16,SNR=3.9								
PLCA	**Paso Flores**	**16.71**	**190**	P		**Pn**		**07 15 10.2**	**+0.9**
	0.1nm,0.3s,baz=5.1,slow=11,SNR=5.4								
BDFB	**Brasilia**	**19.69**	**68**	P		**P**		**07 15 41.3**	**-0.3**
	0.6nm,0.3s,baz=231,slow=17,SNR=38								
VNA3	**Neumayer Olymp**	**56.87**	**161**	*e*		**P**		**07 20 52.7**	**+0.6**
VNA3				*e*				07 21 00.2	
VNA1	**Neumayer--Stat**	**57.07**	**160**	*e*		**P**		**07 20 54.6**	**+1.1**
VNA1				*e*				07 21 02.2	
VNA2	**Neumayer--Watz**	**57.44**	**160**	*e*		**P**		**07 20 56.5**	**+0.4**
SNAA	**Sanae**	**59.07**	**161**	*e*		**P**		**07 21 07.4**	**0.0**
SNAA				*e*				07 21 14.9	
TORD	**Torodi Ar. Bea**	**76.57**	**69**	P		**P**		**07 22 55.1**	**-2.5**
	0.5nm,0.6s,baz=256,slow=5.6,SNR=12								
WRA	**Warramunga Arr**	**131.44**	**207**	PKP		PKPdf		07 30 17.3	-1.4
	0.3nm,0.6s,baz=165,slow=1.5,SNR=7.7								
MKAR	**Makanchi Array**	**146.66**	**40**	PKPbc		PKPbc		07 30 46.1	-1.2
	0.2nm,0.5s,baz=314,slow=4.0,SNR=3.1								

*NEIC **25** 07:24:17.1, 1707N×9984W, h27km, MD3.9(MEX), After MEX.*
MEX 25 07:24:17.1±0.6, 1707N×9984W, h27km±11km, MD3.9, 1C-1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.41**	**266**	⇓*iP*		Pb		07 24 24.4	-1.5
CAIG				*i* S		Sb		07 24 30.4	-1.6
MEIG	**Mezcala**	**0.87**	**14**	⇑*iP*		Pn		07 24 30.8	-2.8
MEIG				*i* S		Sb		07 24 41.9	-3.0
PLIG	**Platanillo**	**1.35**	**14**	*i* P		Pn		07 24 37.9	-2.3
PLIG				*i* S		Sn		07 24 54.0	-3.2
ZIIG	**Zihuatanejo**	**1.64**	**289**	*i* P		Pn		07 24 41.5	-2.7
ZIIG				*i* S		Sn		07 25 00.2	-4.2
PNIG	**Pinotepa**	**1.77**	**112**	*e*P		Pn		07 24 44.4	-1.6
PNIG				*i* S		Sn		07 25 05.3	-2.4
YAIG	**Yautepec**	**1.92**	**22**	*i* P		Pn		07 24 46.9	-1.2
YAIG				*i* S		Sn		07 25 10.1	-1.3
PPM	**Popocatepetl**	**2.29**	**30**	*e*P		Pn		07 24 50.1	-3.0
PPM				*i* S		Sn		07 25 18.2	-2.3
TPIG	**Tehuac#an**	**2.71**	**60**	*e*P		Pn		07 24 57.9	-1.0
TPIG				*i* S		Sn		07 25 27.2	-3.7
MOIG	**Morelia**	**2.89**	**334**	*i* P		Pn		07 24 59.9	-1.5
MOIG				*i* S		Sn		07 25 33.1	-2.2
VHO	**Vista Hermosa**	**2.97**	**90**	*e*P		Pn		07 25 02.5	0.0
VHO				*i* S		Sn		07 25 33.6	-3.7

NEIC 25 07:38:35.1, 3572S×17838E, h250km, MG3.8(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.84**	**182**	P		Pn		07 39 16.2	+0.1
MXZ				S		S		07 39 47.9	-0.6
PUZ	**Puketiti**	**2.35**	**182**	P		Pn		07 39 19.5	-1.3
MWZ	**Matawai**	**2.70**	**194**	P		Pn		07 39 25.1	+0.8
URZ	**Urewera**	**2.73**	**201**	P		Pn		07 39 25.1	+0.5
BKZ	**Black Stump Fm**	**3.75**	**203**	P		Pn		07 39 36.1	+0.2
TSZ	**Takapari Road**	**4.74**	**203**	P		Pn		07 39 46.9	-0.6

*ISCJB **25** 07:50:21.0±1.8, 2512N±009×12350E±006, h21km±12km, mb3.6/4, Error ellipse: s-maj=15.8km s-min=9.0km az=179.3*
*JMA **25** 07:50:21.7±0.2, 2510N×12349E, h30km, M2.9*
*IDC **25** 07:50:22.8±1.4, 2440N×12226E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.6/20, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=71.5km s-min=25.2km az=68.0*
ISC 25 07:50:20.2±2.0, 2513N±009×12352E±005, h2km±12km, n10, σ0°60/15, mb3.6/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.81**	**215**	P		**Pg**		**07 50 36.1**	**+0.3**
YOJ				S		**Sg**		**07 50 45.7**	**-0.6**
IRIF	**Iriomote-Funau**	**0.81**	**167**	P		**Pg**		**07 50 36.2**	**+0.4**
IRIF				S		**Sg**		**07 50 47.0**	**+0.7**
JIJ	**Ishigaki jima**	**0.95**	**143**	P		**Pg**		**07 50 38.5**	**+0.1**
JIJ				S		**Sg**		**07 50 51.3**	**+0.6**
JKRS	**Kuro-shima**	**0.99**	**153**	P		**Pg**		**07 50 39.4**	**+0.2**
JKRS				*e*S		**Sg**		**07 50 52.8**	**+0.7**
HATJ	**Hateruma jima**	**1.10**	**166**	P		**Pg**		**07 50 41.1**	**-0.2**
HATJ				*e*S		**Sg**		**07 50 54.1**	**-1.4**
JTJ	**Tarama**	**1.17**	**114**	*e*S		**Sg**		**07 50 57.0**	**-1.0**
MKAR	**Makanchi Array**	**39.18**	**314**	P		**P**		**07 57 49.6**	**+0.2**
	0.3nm,0.7s,mb3.1,baz=99,slow=10,SNR=4.3								
WRA	**Warramunga Arr**	**46.02**	**166**	P		**P**		**07 58 45.2**	**0.0**
	1.0nm,0.7s,mb3.8,baz=347,slow=8.7,SNR=8.1								
ASAR	**Alice Springs**	**49.54**	**167**	P		**P**		**07 59 12.1**	**-0.5**
	0.2nm,0.5s,mb3.5,baz=350,slow=7.2,SNR=5.7								
STKA	**Stephens Creek**	**59.26**	**162**	P		**P**		**08 00 23.5**	**+0.4**
	1.4nm,1.0s,mb4.0,baz=319,slow=9.3,SNR=2.9								

*MAN **25** 08:12:11, 1313N×12251E, h36km, mb4.2, ML3.0, MS2.7*
*ISCJB **25** 08:12:12.3±0.7, 1315N±004×12251E±006, h33km, mb3.4/3, Error ellipse: s-maj=8.5km s-min=5.9km az=19.0*
*IDC **25** 08:12:20.6±8.3, 1147N×12129E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/29, Error ellipse: s-maj=302.4km s-min=29.3km az=42.0*
ISC 25 08:12:12.8±0.7, 1313N±005×12253E±006, h35km, n12, σ0°97/17, mb3.4/3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.92**	**213**	*e*P		**Pn**		**08 12 27.7**	**-1.5**
OTRP				*e*S		**Sn**		**08 12 41.0**	**-0.2**
KALP	**Kalibo**	**1.46**	**187**	*e*P		**Pn**		**08 12 44.8**	**+8.1**
SJMP	**San Jose**	**1.53**	**244**	*e*P		**Pn**		**08 12 37.2**	**-0.5**
SJMP				*e*S		**Sn**		**08 12 58.8**	**+2.4**
RCP	**Roxas**	**1.58**	**172**	⇑*e*P		**Pn**		**08 12 37.9**	**-0.4**
PVCP	**Virac**	**1.64**	**74**	*e*P		**Pn**		**08 12 39.9**	**+0.7**
PVCP				*e*S		**Sn**		**08 13 04.6**	**+5.4**
POLP	**Polilio Island**	**1.69**	**340**	*e*P		**Pn**		**08 12 38.7**	**-1.1**
POLP				*e*S		**Sn**		**08 13 00.9**	**+0.7**
**LU

6.5nm,0.5s,mb4.3
WB2 Warramunga Arr 23.86 230 *e*P **P 08 27 01.1 0.0**
WRA Warramunga Arr 23.87 230 P **P 08 27 01.3 +0.1**
1.9nm,0.3s,mb3.9,baz=56,slow=10,SNR=58
ASAR Alice Springs 26.50 224 P **P 08 27 24.8 -0.2**
0.8nm,0.6s,mb3.4,baz=59,slow=9.3,SNR=26
STKA Stephens Creek 28.95 201 P **P 08 27 47.5 +0.7**
0.5nm,0.5s,mb3.5,baz=61,slow=13,SNR=2.6
FITZ Fitzroy Crossi 30.23 242 *e*P **P 08 27 57.7 -0.6**
3.3nm,0.6s,mb4.2
FITZ Fitzroy Crossi 30.23 242 P **P 08 27 57.7 -0.6**
1.5nm,0.5s,mb4.0,baz=71,slow=11,SNR=12
ASAJ Asahikawa 49.94 350 LR LR 08 49 50.5
comp=Z,15nm,19.4s,baz=173,slow=34
MKAR Makanchi Array 81.03 319 P **P 08 34 01.5 0.0**
0.2nm,0.4s,mb3.4,baz=106,slow=5.2,SNR=3.0
YBH Yreka Blue Hor 88.64 48 LR LR 09 04 29.3
comp=Z,33nm,21.1s,baz=131,slow=29
TORD Torodi Ar. Bea 151.13 288 PKPbc PKPbc 08 41 38.6 -1.9
0.5nm,0.9s,baz=34,slow=2.0,SNR=6.4
TORD PKPab PKPab 08 41 47.1 -1.2
0.2nm,0.4s,baz=74,slow=1.4,SNR=4.1

*IDC **25** 08:26:03.6±26.0, 476N×12604E, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/18, mbtmp4.2/4, Error ellipse: s-maj=449.8km s-min=101.2km az=146.0*
*ISCJB **25** 08:26:12.1±2.2, 47N±02×1260E±02, h84km±45km, mb4.3/5, Error ellipse: s-maj=39.3km s-min=30.8km az=3.5*
*MAN **25** 08:26:15, 502N×12605E, h104km, mb4.6, ML3.5, MS3.5*
ISC 25 08:26:13.1±1.8, 47N±02×1260E±02, h76km±38km, n13, σ0°77/14, mb4.3/5, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.71**	**325**	⇑*i*P	**Pn**	**08 26 41.5**	**+0.4**
GSPH				*e*S	**Sn**	**08 27 00.6**	**-1.6**
MATI	**Mati**	**2.27**	**8**	*e*P	**Pn**	**08 26 47.7**	**-0.7**
BUKP	**Musuan**	**3.29**	**345**	*e*P	**Pn**	**08 27 03.5**	**+1.2**
PAGZ	**Pagadian**	**4.05**	**321**	*e*P	**Pn**	**08 27 13.9**	**+1.3**
KAKA	**Kakadu**	**18.45**	**160**	*e*P	**Pn**	**08 30 23.9**	**+0.2**
7.8nm,0.6s
FITZ Fitzroy Crossi 22.64 181 *e*P **P 08 31 07.7 -0.2**
6.6nm,0.3s,mb4.4
FITZ Fitzroy Crossi 22.64 181 P **P 08 31 07.7 -0.2**
3.3nm,0.3s,mb4.1,baz=357,slow=9.9,SNR=29
WRA Warramunga Arr 25.83 162 P **P 08 31 36.5 -0.9**
1.6nm,0.5s,mb3.7,baz=340,slow=10,SNR=18
WB2 Warramunga Arr 25.83 162 *e*P **P 08 31 37.5 +0.1**
ASAR Alice Springs 29.23 165 P **P 08 32 07.7 -0.1**
1.6nm,0.5s,mb3.9,baz=345,slow=7.3,SNR=42
FORT Forrest 35.32 177 *e*P **P 08 33 01.0 0.0**
16nm,0.4s,mb5.2
STKA Stephens Creek 39.29 159 *e*P **P 08 33 34.8 +0.2**
5.0nm,0.6s,mb4.5
STKA Stephens Creek 39.29 159 P **P 08 33 34.9 +0.2**
4.7nm,0.5s,mb4.6,baz=336,slow=7.0,SNR=20

*IDC **25** 08:33:53.2±1.4, 8.19S×12947E, h0km, mb4.0/3, mb1 4.3/7, mb1mx4.0/16, mbtmp4.1/7, ML4.3/4, MS3.2/4, Ms1 3.2/4, ms1mx2.7/26, Error ellipse: s-maj=28.2km s-min=20.7km az=56.0*
*ISCJB **25** 08:33:55.2±1.0, 823S±007×12946E±006, h33km, mb3.9/3, MS3.1/2, Error ellipse: s-maj=11.1km s-min=7.2km az=27.5*
*NEIC **25** 08:33:58.7±1.1, 839S×12933E, h35km, mb4.1/4, Error ellipse: s-maj=22.1km s-min=14.5km az=68.0*
ISC 25 08:33:56.8±1.0, 811S±007×12949E±006, h35km, n18, σ1°57/25, mb3.9/3, MS3.1/2, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.42**	**148**	*e*P	**Pn**	**08 35 16.7**	**+1.6**
11nm,0.2s
KAKA *e*S **Sn** **08 36 24.2** **+8.0**
BATI Baumata 6.12 250 Pn **Pn 08 35 25.9 +1.1**
8.7nm,0.3s,baz=264,slow=2.2,SNR=2.5
BATI Sn **Sn 08 36 33.3 -0.3**
8.2nm,0.3s,baz=126,slow=21,SNR=2.4
BATI LR LR 08 37 14.1
comp=Z,225nm,18.9s,baz=148,slow=33
FITZ Fitzroy Crossi 10.62 200 *e*P **Pn 08 36 24.7 -1.8**
12nm,0.5s
FITZ *e*S **Sn** **08 38 18.8** **-5.4**
FITZ Fitzroy Crossi 10.62 200 Pn **Pn 08 36 24.8 -1.7**
1.5nm,0.3s,baz=31,slow=11,SNR=33
FITZ Sn **Sn 08 38 24.0 -0.3**
0.9nm,0.3s,baz=65,slow=12,SNR=6.9
FITZ LR LR 08 40 08.7
comp=Z,60nm,18.8s,baz=26,slow=36
WRAB Tennant Creek 12.66 159 *e*Pn **Pn 08 36 52.2 -2.3**
7.3nm,0.6s
WRAB *e*Sn **Sn** **08 39 14.6** **+0.3**
WRA Warramunga Arr 12.67 159 Pn **Pn 08 36 52.4 -2.1**
1.9nm,0.3s,baz=340,slow=13,SNR=49
WRA Sn **Sn 08 39 16.5 +2.1**
1.2nm,0.3s,baz=336,slow=22,SNR=9.2
WB2 Warramunga Arr 12.67 159 *e*P **Pn 08 36 52.5 -2.1**
WB2 *e*S **Sn** **08 39 14.7** **+0.2**
COEN Coen 14.63 115 *e*Pn **Pn 08 37 19.0 -2.4**
COEN *e*Sn **Sn** **08 39 55.1** **-7.3**
ASAR Alice Springs 16.04 165 Pn **Pn 08 37 38.5 -1.3**
0.8nm,0.3s,baz=343,slow=8.3,SNR=43
ASAR Sn **Sn** **08 40 38.9** **+2.3**
0.3nm,0.3s,baz=350,slow=25,SNR=5.0
CTA Charters Tower 20.13 128 *e*P **P 08 38 30.7 +2.8**
7.4nm,0.9s
CTA Charters Tower 20.13 128 P **P 08 38 30.1 +2.2**
8.4nm,0.8s,baz=309,slow=14,SNR=11
CTA LR LR 08 45 27.9
comp=Z,44nm,20.5s,MS2.8,baz=136,slow=35
CTAO Charters Tower 20.13 128 *e*P **P 08 38 28.7 +0.8**
12nm,0.9s
FORT Forrest 22.60 183 *e*P **P 08 38 54.3 0.0**
9.5nm,0.7s,mb4.3
STKA Stephens Creek 26.20 156 *e*P **P 08 39 28.9 +0.7**
1.6nm,0.6s,mb3.7
STKA Stephens Creek 26.20 156 P **P 08 39 29.0 +0.7**
2.0nm,0.6s,mb3.8,baz=333,slow=11,SNR=7.3
STKA LR LR 08 51 19.0
comp=Z,96nm,18.7s,MS3.4,baz=26,slow=40
MKAR Makanchi Array 68.87 327 P **P 08 44 60.0 +2.1**
0.5nm,0.5s,mb3.7,baz=122,slow=7.5,SNR=6.1
TDL Tradedollar La 108.44 44 P PKiKP 08 52 27.4 +5.6
VFP Flag Point 109.10 45 P PKiKP 08 52 26.1 +3.1

*ISCJB **25** 08:41:02.1±0.8, 1924S±010×17765W±007, h546km±10km, mb4.3/54, Error ellipse: s-maj=17.6km s-min=6.1km az=147.7*
*IDC **25** 08:41:02.9±1.1, 1942S×17741W, h553km±13km, mb3.8/17, mb1 4.0/19, mb1mx3.8/26, mbtmp3.8/19, Error ellipse: s-maj=15.7km s-min=8.5km az=136.0*
*BJI **25** 08:41:02.7, 1920S×17760W, h543km, mB4.6, mb4.6*
*NEIC **25** 08:41:02.7±0.7, 1921S×17761W, h543km±8km, mb4.4/37, Error ellipse: s-maj=11.7km s-min=4.3km az=146.0*
ISC 25 08:41:02.7±0.8, 192S±01×17762W±007, h540km±9km, h549km±5.0km: pP-P, n118, σ0°71/96, mb4.3/54, 17C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.68**	**48**	P	**P**	**08 42 56.5**	**-0.6**
23nm,0.3s,baz=120,slow=1.3,SNR=37
AFI S **S** **08 44 30.9** **+0.1**
9.4nm,0.3s,baz=88,slow=21,SNR=4.7
AFI Afiamalu 7.68 48 ⇓*e*P **P 08 42 56.5 -0.6**
102nm,0.8s
URZ Urewera 19.54 192 P **P 08 44 53.0 -1.9**
3.1nm,0.3s,baz=340,slow=3.0,SNR=23
URZ S **S** **08 47 55.8** **-7.6**
0.5nm,0.3s,baz=160,slow=18,SNR=5.7
RPZ Rata Peaks 26.23 199 P **P 08 45 54.7 +0.1**
4.7nm,0.6s,mb4.3,baz=189,slow=23,SNR=5.6
CNB Canberra Magne 33.26 234 ⇓*i*P **P 08 46 56.8 +1.3**
CTA Charters Tower 34.00 262 ⇓*i*P **P 08 47 02.7 +0.8**
22nm,0.4s,mb5.0
CTA Charters Tower 34.00 262 P **P 08 47 02.8 +0.9**
38nm,0.5s,mb5.2,baz=93,slow=10,SNR=70
CTA ScP ScP 08 52 17.5 -0.7
2.9nm,0.9s,baz=62,slow=5.9,SNR=4.2
CTAO Charters Tower 34.00 262 ⇓*i*P **P 08 47 02.7 +0.8**
43nm,0.8s,mb5.0
PMG Port Moresby 35.43 281 *e*P **P 08 47 14.6 +0.7**
TOO Toolangi 36.96 232 ⇓*i*P **P 08 47 27.2 +1.0**
STKA Stephens Creek 38.69 243 *e*P **P 08 47 41.5 +1.1**
18nm,1.0s,mb4.6
STKA Stephens Creek 38.69 243 P **P 08 47 41.6 +1.2**
22nm,0.8s,mb4.7,baz=88,slow=9.0,SNR=38
STKA ScP ScP 08 52 33.0 -2.5
1.6nm,0.8s,baz=150,slow=8.1,SNR=2.9
HKL Haleakala 44.84 29 *e*P **P 08 48 30.7 +1.7**
WB2 Warramunga Arr 45.14 261 ⇓*i*P **P 08 48 31.0 -0.4**
WRAB Tennant Creek 45.14 261 ⇓*e*P **P 08 48 31.0 -0.5**
39nm,1.2s,mb4.8
WRA Warramunga Arr 45.15 261 P **P 08 48 31.1 -0.4**
11nm,0.4s,mb4.7,baz=98,slow=5.5,SNR=323
WRA ScP ScP 08 53 00.2 -1.6
1.6nm,1.0s,baz=95,slow=3.8,SNR=6.0
ASAR Alice Springs 45.18 255 P **P 08 48 32.0 +0.3**
12nm,0.5s,mb4.7,baz=88,slow=8.6,SNR=312
ASAR PcP PcP 08 49 60.0 -0.6
1.7nm,0.7s,baz=96,slow=3.5,SNR=5.0
KAKA Kakadu 48.32 270 *e*P **P 08 48 55.1 -0.4**
11nm,0.4s,mb4.7
FORT Forrest 50.15 246 ⇓*i*P **P 08 49 08.3 -0.5**
23nm,0.6s,mb4.8
FITZ Fitzroy Crossi 53.57 261 ⇓*i*P **P 08 49 33.6 0.0**
7.6nm,0.5s,mb4.3
FITZ Fitzroy Crossi 53.57 261 P **P 08 49 33.7 +0.1**
3.7nm,0.5s,mb4.0,baz=139,slow=4.7,SNR=30
MBWA Marble Bar 58.50 257 *e*P **P 08 50 07.2 -0.4**
43nm,1.5s,mb4.5
KLBR Kellerberrin 58.94 244 ⇓*i*P **P 08 50 09.5 -0.9**
28nm,0.8s,mb4.5
NWAO Narrogin (SRO) 59.28 243 P **P 08 50 12.8 +0.1**
20nm,1.2s,mb4.2,baz=133,slow=8.1,SNR=5.1
NWAO Narrogin (SRO) 59.28 243 P **P 08 50 12.8 +0.1**
MUN Mundaring 60.22 244 *e*P **P 08 50 19.2 +0.2**
MJAR Matsushiro Arr 69.39 323 P **P 08 51 15.5 -1.0**
1.2nm,0.7s,mb3.5,baz=171,slow=5.4,SNR=4.0
MJAR Matsushiro Arr 69.39 323 P **P 08 51 15.5 -1.0**
PETK Petropavlovsk- 75.12 345 P **P 08 51 48.4 -0.9**
0.8nm,0.5s,mb3.4,baz=126,slow=9.2,SNR=5.8
PETK Petropavlovsk- 75.12 345 P **P 08 51 48.4 -0.9**
SAO San Andreas Ge 76.84 43 *e*P **P 08 51 59.5 +0.3**
MWC Mount Wilson 77.66 47 *e*P **P 08 52 03.8 +0.1**
7.9nm,0.8s,mb4.1
BAR Barrett 77.80 49 *e*P **P 08 52 04.4 -0.1**
CMB Columbia Colle 78.27 43 *e*P **P 08 52 06.6 -0.3**
13nm,1.4s,mb4.1
YBH Yreka Blue Hor 79.06 39 P **P 08 52 11.0 -0.1**
2.9nm,0.6s,mb3.8,baz=182,slow=1.6,SNR=10
MTUM Tungsten Hills 79.06 44 *e*P **P 08 52 11.8 +0.6**
WAKR Walker 79.15 43 *e*P **P 08 52 11.9 +0.3**
LBCM Butte Creek Ri 79.33 40 P **P 08 52 12.3 -0.1**
NVAR Mina Array Bea 79.84 43 P **P 08 52 15.2 0.0**
3.3nm,0.7s,mb3.8,baz=225,slow=9.1,SNR=24
LDFC Landfair 80.17 48 *e*P **P 08 52 17.8 +0.8**
23nm,1.2s,mb4.4
TPNV Topopah Spring 80.38 45 *e*P **P 08 52 18.1 0.0**
MOD Modoc 80.59 40 *e*P **P 08 52 19.1 0.0**
15nm,1.2s,mb4.3
SHPR Sheep Range 80.88 46 *e*P **P 08 52 21.2 +0.5**
CN2 Changchun 81.50 322 *e*P **P 08 52 25.3 +1.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
BMN Battle Mountai 81.65 42 *e*P **P 08 52 24.9 +0.4**
TUC Tucson 81.90 52 *e*P **P 08 52 26.6 +0.6**
comp=Z,8.1nm,1.0s,mb4.1
WVOR Wild Horse Val 81.91 40 ⇑*e*P **P 08 52 25.7 -0.1**
comp=Z,8.9nm,1.0s,mb4.2
GNW Green Mountain 82.62 34 *e*P **P 08 52 29.4 +0.1**
ELK Elko 83.09 43 P **P 08 52 31.6 -0.2**
comp=Z,3.4nm,0.8s,mb3.9,baz=251,slow=4.3,SNR=16
ELK Elko 83.09 43 *e*P **P 08 52 32.0 +0.1**
comp=Z,6.2nm,1.1s,mb4.0
TTA Tatalina 83.61 10 *e*P **P 08 52 33.4 -0.5**
comp=Z,3.9nm,0.6s,mb4.1
HAWA Hanford 83.69 36 *e*P **P 08 52 34.4 -0.3**
comp=Z,8.5nm,1.0s,mb4.2
MSU Marysvale 83.95 46 *e*P **P 08 52 36.9 +0.8**
BMO Blue Mountains 84.08 38 *e*P **P 08 52 36.1 -0.5**
comp=Z,18nm,2.0s,mb4.3
PSI Prapat 84.74 275 P **P 08 52 40.0 -0.6**
comp=Z,2.8nm,0.3s,mb4.2,baz=295,slow=20,SNR=4.2
TMUT Trail Mountain 84.99 46 *e*P **P 08 52 41.5 +0.3**
HLID Hailey 85.11 41 *e*P **P 08 52 41.7 -0.1**
comp=Z,6.6nm,0.5s,mb4.4
TRF Thorofare Moun 85.11 12 *e*P **P 08 52 39.7 -1.5**
comp=Z,5.9nm,0.7s,mb4.2
SRU San Rafael 85.37 46 *e*P **P 08 52 42.7 -0.3**
comp=Z,2.2nm,0.7s,mb3.8
MCK McKinley 85.64 12 *e*P **P 08 52 42.5 -1.3**
comp=Z,15nm,1.1s,mb4.5
TXAR Lajitas Array 86.06 57 P **P 08 52 46.6 +0.1**
comp=Z,5.3nm,0.9s,mb4.2,baz=216,slow=6.5,SNR=54
ANMO Albuquerque 86.31 51 P **P 08 52 47.2 -0.5**
comp=Z,3.3nm,0.9s,mb4.0,baz=231,slow=6.3,SNR=14
ANMO Albuquerque 86.31 51 *e*P **P 08 52 47.5 -0.2**
comp=Z,4.7nm,1.0s,mb4.1
GYA Guiyang 86.33 299 P **P 08 52 49.3 +1.4**
GYA AP pP 08 54 52.3 +6.6
GYA XP sP 08 55 45.5 +5.1
GYA PP PP 08 56 21.5 +2.2
GYA SKS 09 02 25.0
GYA S S 09 02 45.3 +6.6
GYA XS sS 09 06 07.8 -0.8
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GYA AMB AMB
comp=Z,60nm,5.1s
GDL2 Guadalupe Moun 86.70 54 *e*P **P 08 52 50.0 +0.4**
MCMT McKenzie Canyo 86.73 40 ⇓*e*P **P 08 52 49.8 +0.4**
RRI2 Red Ridge 86.93 42 *e*P **P 08 52 50.8 +0.4**
comp=Z,8.7nm,1.0s,mb4.3
DLMT Dillon 87.16 40 *e*P **P 08 52 51.5 +0.1**
comp=Z,5.8nm,0.8s,mb4.3
REDW Red Top Meadow 87.23 42 *e*P **P 08 52 52.1 +0.3**
comp=Z,9.4nm,1.1s,mb4.3
TPAW Teton Pass 87.24 42 *e*P **P 08 52 51.9 0.0**
comp=Z,11nm,1.4s,mb4.3
SNOW Snow King Moun 87.35 42 *e*P **P 08 52 52.2 -0.1**
comp=Z,8.2nm,1.0s,mb4.3
IMW Indian Meadow 87.44 42 *e*P **P 08 52 53.0 +0.2**
comp=Z,7.4nm,1.0s,mb4.3
LRM Limekiln Ridge 87.49 39 *e*P **P 08 52 53.2 +0.2**
LOHW Long Hollow 87.52 42 *e*P **P 08 52 53.3 +0.2**
comp=Z,7.8nm,1.4s,mb4.2
CHMT Chamberlain Mo 87.58 38 *e*P **P 08 52 52.9 -0.4**
QLMT Earthquake Lak 87.61 41 *e*P **P 08 52 54.4 +0.9**
FLWY Flagg Ranch 87.69 42 *e*P **P 08 52 54.3 +0.4**
BW06 Boulder Array 87.77 43 *e*P **P 08 52 53.8 -0.5**
PDAR Pinedale Array 87.77 43 P **P 08 52 53.6 -0.8**
comp=Z,1.9nm,0.8s,mb3.9,baz=210,slow=2.2,SNR=16
SMCO Snowmass 87.83 47 *e*P **P 08 52 50.5 -4.3**
comp=Z,5.7nm,0.7s,mb4.4
SMCO *e*PKKPbc PKKPbc 09 10 46.1 +6.9
BOZ Bozeman (W) 87.89 40 *e*P **P 08 52 55.0 +0.2**
comp=Z,5.5nm,1.0s,mb4.2
DAWY Dawson 88.12 16 *e*P **P 08 52 54.8 -0.7**
SDCO Great Sand Dun 88.24 49 *e*P **P 08 52 56.1 -0.5**
EGAK Eagle 88.27 15 *e*P **P 08 52 55.4 -0.7**
comp=Z,5.0nm,0.9s,mb4.2
HHC Hu-ho-hao-te 88.71 314 *e*P **P 08 52 59.5 +0.7**
HHC AP pP 08 54 59.5 +2.2
HHC XP sP 08 55 53.0 +1.2
HHC PP PP 08 56 40.8 +3.0
HHC SKS 09 02 37.5
HHC S S 09 02 58.8 -1.5
HHC XS sS 09 06 29.5 -2.2
HHC SS SS 09 09 12.0 +3.3
HHC AMB AMB
comp=Z,12nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,72nm,4.5s
KMI Kunming 89.09 297 P **P 08 52 59.5 -1.4**
KMI AP pP 08 55 01.5 +2.0
KMI PP PP 08 56 41.5 +0.4
KMI S S 09 03 03.0 -1.4
KMI AMB AMB
comp=Z,7.0nm,1.3s,mb4.3
KMI AMB AMB
comp=Z,53nm,5.6s
RLMT Red Lodge 89.09 41 *e*P **P 08 53 00.9 +0.5**
comp=Z,5.9nm,1.0s,mb4.4
CMAR Chiang Mai Arr 90.02 289 P **P 08 53 06.6 +1.2**
comp=Z,2.7nm,0.8s,mb4.1,baz=112,slow=2.9,SNR=13
CD2 Chengdu 90.40 303 *e*P **P 08 53 07.3 +0.5**
CD2 AP pP 08 55 07.0 +1.3
CD2 XP sP 08 56 00.0 0.0
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,20nm,6.2s
EDM Edmonton 90.83 33 *e*P **P 08 53 07.3 -0.9**
LAO LASA Array 91.69 41 *e*P **P 08 53 13.1 +0.7**
comp=Z,10nm,0.3s,mb5.3
RSSD Black Hills 91.97 44 *e*P **P 08 53 13.1 -0.7**
comp=Z,3.7nm,0.9s,mb4.4
LZH Lanzhou 92.27 307 *e*P **P 08 53 13.0 -2.4**
LZH AP pP 08 55 12.0 -2.4
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,80nm,4.0s
DGMT Dagmar 93.70 40 *e*P **P 08 53 21.6 +0.1**
SCIA State Center 98.55 49 *e*PKKPbc PKKPbc 09 10 09.0 -2.6
ARCES ARCESS Array B 127.72 350 PKP PKPdf 08 59 04.9 -1.2
comp=Z,1.8nm,0.8s,baz=19,slow=1.0,SNR=8.7
CLL Collm 146.88 348 ⇑*i*PKPbc PKPbc 08 59 43.4 -1.0
comp=Z,5.0nm,0.7s
CLL Collm 146.88 348 ⇑*i*PKPbc PKPbc 08 59 43.4 -1.0
comp=Z,9.0nm,1.4s
CLL *i*PKPab PKPab 08 59 46.5 -0.9
GERES GERESS Array B 149.05 345 PKPbc PKPbc 08 59 47.9 -2.0
comp=Z,1.3nm,0.7s,baz=45,slow=2.1,SNR=9.7
GIVF Givet 149.11 357 *e*PKP1 PKPbc 08 59 48.9 -1.2
BAIF Baives 149.18 358 ⇑*i*PKP1 PKPbc 08 59 49.3 -0.9
comp=Z,9.7nm,0.9s
FLN La Foliniere 150.42 4 ⇑*i*PKP1 PKPbc 08 59 51.8 -1.4
comp=Z,9.7nm,0.7s
ROSF Rostrenen 150.58 8 ⇑*i*PKP1 PKPbc 08 59 52.0 -1.6
CDF Champ du Feu 150.59 353 ⇑*i*PKP1 PKPbc 08 59 52.6 -1.0
comp=Z,5.8nm,0.8s
LDF La Druitiere 150.61 3 ⇑*i*PKP1 PKPbc 08 59 52.1 -1.5
comp=Z,6.8nm,0.6s
MEZF Maizieres J'vi 150.69 356 ⇑*i*PKP1 PKPbc 08 59 53.2 -0.6
comp=Z,29nm,1.2s
SGMF Saint Gilles 150.75 7 ⇑*i*PKP1 PKPbc 08 59 52.3 -1.7
comp=Z,9.6nm,0.8s
GRR Gorron 150.77 4 ⇑*i*PKP1 PKPbc 08 59 52.7 -1.3
comp=Z,12nm,0.7s
QUIF Quistinic 151.01 8 ⇑*i*PKP1 PKPbc 08 59 53.0 -1.6
HAU Haudompre 151.09 354 ⇑*i*PKP1 PKPbc 08 59 53.6 -1.2
HINF Hinteralfeld 151.23 354 ⇑*i*PKP1 PKPbc 08 59 53.8 -1.3
comp=Z,2.6nm,0.6s
LOR Lormes 151.98 358 ⇑*i*PKP1 PKPbc 08 59 55.7 -1.1
SSF Saint Saulge 152.20 358 ⇑*i*PKP1 PKPbc 08 59 56.2 -1.1
AVF Avril sur Loir 152.47 359 *e*PKP1 PKPbc 08 59 56.5 -1.4
CABF La Chapelle 152.50 354 ⇑*i*PKP1 PKPbc 08 59 57.4 -0.5
MFF Saint Martin d 152.60 4 *e*PKP1 PKPbc 08 59 56.7 -1.4
SMF Signal de Mont 152.60 358 *e*PKP1 PKPbc 08 59 56.8 -1.4
BGF Bois d'Agland 152.72 359 *e*PKP1 PKPbc 08 59 57.2 -1.2
comp=Z,8.0nm,0.8s

IDC 25 08:50:25.9±1.3, 1792N×14779E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=49.4km s-min=27.3km az=98.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.87**	**200**	P	P	08 58 01.6	+0.1
2.1nm,0.6s,baz=23,slow=9.0,SNR=42
ASAR Alice Springs 43.50 199 P P 08 58 30.9 -0.3
0.2nm,0.4s,baz=21,slow=8.7,SNR=6.4
MKAR Makanchi Array 60.43 314 P P 09 00 37.3 +0.1
0.3nm,0.7s,baz=153,slow=4.7,SNR=3.4
NVAR Mina Array Bea 82.05 52 P P 09 02 48.7 +0.4
0.4nm,0.7s,baz=284,slow=6.0,SNR=4.5

*INMG **25** 09:07:51.8±1.3, 3635N×8.12W, h15km±4km, ML1.9, Error ellipse: s-maj=6.2km s-min=4.8km az=63.0*
*CSEM **25** 09:07:51.6±0.6, 3626N×786W, h30km, ML2.8/6, Error ellipse: s-maj=13.0km s-min=7.5km az=37.0*
*NEIC **25** 09:07:54.5, 3648N×791W, h75km, MG2.5(MDD), After MDD.*
*MDD **25** 09:07:55.2±2.5, 3663N×774W, h93km±14km, mb1.8/6, Error ellipse: s-maj=17.8km s-min=9.5km az=35.0, PRIMO*
ISC 25 09:07:52.4±1.0, 3639N±006×802W±005, h55km±19km, n35, σ0°82/61, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.85**	**5**	*e*P	**Pn**	**09 08 08.5**	**+0.2**
PBDV *e*S **Sn** **09 08 20.5** **+0.5**
PBDV A 09 08 27.6
16nm,0.5s
PBDV Barranco-do-Ve 0.85 5 *e*P **Pn** **09 08 08.5 +0.2**
PBDV *e*S **Sn** **09 08 20.5** **+0.5**
16nm,0.5s
PFVI Vila Bisbo 0.99 319 *e*P **Pn** **09 08 08.6 -1.4**
PFVI *e*S **Sn** **09 08 21.7** **-1.4**
PFVI A 09 08 27.0
17nm,0.1s
PVAQ Vaqueiros 1.04 13 *e*P **Pn** **09 08 11.0 +0.3**
PVAQ *e*S **Sn** **09 08 25.1** **+0.8**
PVAQ A 09 08 31.3
15nm,0.7s
PVAQ Vaqueiros 1.04 13 *e*P **Pn** **09 08 11.0 +0.3**
PVAQ *e*S **Sn** **09 08 25.1** **+0.8**
15nm,0.7s
MORF Marmelete 1.05 331 *e*P **Pn** **09 08 10.3 -0.5**
MORF A 09 08 28.8
28nm,0.1s
EGRO El Granado 1.22 20 P **Pn** **09 08 13.6 +0.4**
1.9nm,0.1s,SNR=17
EGRO S **Sn** **09 08 28.3** **-0.3**
5.6nm,0.1s,SNR=10
EGRO El Granado 1.22 20 P **Pn** **09 08 13.6 +0.5**
1.9nm,0.1s,SNR=17
EGRO S **Sn** **09 08 28.3** **-0.3**
5.6nm,0.1s,SNR=10
PTEO Sao Teotonio 1.29 334 *e*P **Pn** **09 08 13.7 -0.3**
PTEO A 09 08 41.6
10nm,0.4s
PTEO Sao Teotonio 1.29 334 *e*P **Pn** **09 08 13.7 -0.3**
10nm,0.4s
PBEJ Beja 1.64 4 *e*Pn **Pn** **09 08 19.4 +0.6**
PBEJ *e*Sn **Sn** **09 08 39.5** **+0.7**
PBEJ A 09 08 49.6
7.2nm,0.2s
EMIN Mina Concepcio 1.75 38 P **Pn** **09 08 21.3 +1.1**
0.4nm,0.2s,SNR=7.9
EMIN S **Sn** **09 08 40.9** **-0.4**
1.1nm,0.1s,SNR=7.9
EMIN Mina Concepcio 1.75 38 P **Pn** **09 08 21.3 +1.0**
0.4nm,0.2s,SNR=7.9
EMIN S **Sn** **09 08 41.0** **-0.4**
EMIN Mina Concepcio 1.75 38 P **Pn** **09 08 21.3 +1.1**
EMIN S **Sn** **09 08 41.0** **-0.4**
ESPR Espera 1.80 74 S **Sn** **09 08 42.3 -0.5**
12nm,0.2s,SNR=7.9
ESPR Espera 1.80 74 S **Sn** **09 08 42.3 -0.5**
12nm,0.2s,SNR=7.9
PBAR Barrancos 1.94 23 *e*Pn **Pn** **09 08 23.5 +0.5**
PBAR *e*Sn **Sn** **09 08 47.1** **+0.9**
PBAR A 09 09 05.8
3.9nm,0.6s
PBAR Barrancos 1.94 23 *e*Pn **Pn** **09 08 23.5 +0.5**
PBAR *e*Sn **Sn** **09 08 47.1** **+0.9**
3.9nm,0.6s
EVO Evora 2.14 0 *e*Pn **Pn** **09 08 25.9 +0.3**
EVO *e*Sn **Sn** **09 08 51.2** **+0.2**
EVO A 09 08 54.2
9.4nm,0.3s
EVO Evora 2.14 0 *e*Pn **Pn** **09 08 25.9 +0.3**
EVO *e*Sn **Sn** **09 08 51.2** **+0.2**
9.4nm,0.3s
MOE Montemor 2.15 353 *e*Pn **Pn** **09 08 26.1 +0.4**
MOE *e*Sn **Sn** **09 08 51.5** **+0.3**
EBAD Badajoz 2.49 18 P **Pn** **09 08 30.8 +0.4**
1.5nm,0.1s,SNR=6.5
EBAD S **Sn** **09 08 57.5** **-2.2**
1.9nm,0.1s,SNR=5.0
EBAD Badajoz 2.49 18 P **Pn** **09 08 30.8 +0.3**
1.5nm,0.1s,SNR=6.5
PESTR Estremoz 2.50 8 *e*Sn **Sn** **09 09 00.5** **+0.8**
PESTR A 09 09 18.5

3.4nm,0.6s
PESTR Estremoz 2.50 8 *e*Sn **Sn 09 09 00.5 +0.8**
3.4nm,0.6s
ECAB El Cabril 2.67 50 P **Pn 09 08 33.4 +0.5**
0.7nm,0.2s,SNR=7.9
ECAB S **Sn 09 08 59.4 -4.6**
1.1nm,0.1s,SNR=7.9
ECAB El Cabril 2.67 50 P **Pn 09 08 33.4 +0.5**
0.7nm,0.2s,SNR=7.9
PMAFR Mafra 2.75 339 *e*Pn **Pn 09 08 34.3 +0.3**
PMAFR *e*Sn **Sn 09 09 05.6 -0.4**
PMAFR A 09 09 11.3
9.5nm,0.3s
PMAFR Mafra 2.75 339 *e*Pn **Pn 09 08 34.3 +0.3**
PMAFR *e*Sn **Sn 09 09 05.6 -0.4**
9.5nm,0.3s
PMRV Marv??o 3.07 9 *e*Pn **Pn 09 08 38.9 +0.5**
PMRV *e*Sn **Sn 09 09 14.1 +0.2**
PMRV A 09 09 31.3
4.4nm,0.6s
PMRV Marv??o 3.07 9 *e*Pn **Pn 09 08 38.9 +0.5**
PMRV *e*Sn **Sn 09 09 14.1 +0.2**
4.4nm,0.6s
EADA Adamuz 3.27 56 P **Pn 09 08 41.3 +0.3**
0.5nm,0.1s,SNR=7.9
EADA S **Sn 09 09 15.8 -2.8**
0.1nm,0.2s,SNR=7.9
EADA Adamuz 3.27 56 P **Pn 09 08 41.3 +0.3**
0.5nm,0.1s,SNR=7.9
EADA S **Sn 09 09 15.8 -2.9**
0.1nm,0.2s,SNR=7.9
EQUE Quentar 3.76 76 P **Pn 09 08 47.8 -0.1**
0.2nm,0.1s,SNR=7.9
EQUE S **Sn 09 09 26.9 -3.9**
0.2nm,0.2s,SNR=7.9
MVO Moncorvo 4.83 9 *e*Pn **Pn 09 09 02.9 +0.4**
MVO *e*Sn **Sn 09 09 55.4 -1.6**

BJI ***25*** *09:26:16.4, 5260N×17450W, h170km, mB4.7, mb4.6*
ISCJB ***25*** *09:26:18.4±0.4, 5263N±006×17455W±005, h175km±4km, mb4.1/47, Error ellipse: s-maj=10.6km s-min=4.7km az=167.0*
NEIC ***25*** *09:26:19.4±0.4, 5256N×17450W, h170km±3km, mb4.2/32, Error ellipse: s-maj=7.8km s-min=4.1km az=165.0*
IDC ***25*** *09:26:21.5±2.9, 5267N×17455W, h195km±27km, mb3.7/14, mb1 3.9/15, mb1mx3.8/24, mbtmp3.7/15, Error ellipse: s-maj=19.4km s-min=9.6km az=179.0*
ISC 25 09:26:19.5±0.4, 5263N±006×17455W±005, h170km±4km, h195km±8.4km; pP-P, n93, σ0§87/94, mb4.1/47, 5C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.51**	**241**	P	**Pn**	**09 26 50.8**	**+0.1**
ADK				S	**Sn**	**09 27 14.1**	**-0.5**
NIKO	**Nikolski**	**3.48**	**82**	P	**Pn**	**09 27 12.5**	**-1.1**
OKCD	**Okmok Cone D**	**3.97**	**76**	P	**Pn**	**09 27 20.2**	**+0.4**
AMKA	**Amchitka**	**4.00**	**254**	*e*P	**Pn**	**09 27 20.0**	**-0.2**
UNV	**Unalaska Valle**	**4.99**	**73**	P	**Pn**	**09 27 32.8**	**-0.2**
AKGG	**Akutan Green G**	**5.36**	**70**	P	**Pn**	**09 27 38.2**	**+0.4**
AKLV	**Akutan Long Va**	**5.37**	**70**	P	**Pn**	**09 27 38.0**	**+0.1**
AKUT	**Akutan**	**5.47**	**71**	*e*P	**Pn**	**09 27 39.0**	**-0.2**
SDPT	**Sand Point**	**8.73**	**66**	P	**Pn**	**09 28 20.2**	**-2.0**
SVW2	**Sparrevohn**	**13.36**	**43**	*e*Pn	**Pn**	**09 29 23.3**	**+1.1**
SVW2				*e*PcP	PcP	09 34 40.2	+3.8
KDAK	**Kodiak Island** 77nm,0.4s	**13.54**	**59**	*e*Pn	**Pn**	**09 29 20.9**	**-3.5**
TTA	**Tatalina** 24nm,1.0s	**14.23**	**36**	*e*Pn	**Pn**	**09 29 34.2**	**+1.1**
SLKM	**Skilak Lake**	**15.48**	**50**	*e*Pn	**Pn**	**09 29 47.8**	**-0.7**
PPLA	**Purkeypile** 16nm,0.5s	**15.66**	**40**	*e*Pn	**Pn**	**09 29 52.3**	**+1.6**
SEW	**Seward**	**15.72**	**52**	*e*Pn	**Pn**	**09 29 50.0**	**-1.4**
RC01	**Rabbit Creek A** 11nm,0.4s	**15.91**	**48**	*e*Pn	**Pn**	**09 29 53.9**	**+0.1**
CHUM	**Lake Minchumin** 6.1nm,0.5s	**16.14**	**37**	*e*Pn	**Pn**	**09 29 57.9**	**+1.4**
TRF	**Thorofare Moun** 11nm,0.5s	**16.68**	**40**	*e*P	**Pn**	**09 30 03.6**	**+0.5**
PETK	**Petropavlovsk-** 0.5nm,0.3s,baz=85,slow=14,SNR=8.4	**16.73**	**283**	P	**Pn**	**09 30 04.7**	**+1.0**
MCK	**McKinley** 10μm,0.6s	**17.35**	**40**	*e*P	**Pn**	**09 30 10.4**	**-0.6**
DIV	**Divide** 13nm,0.6s	**17.75**	**50**	*e*P	**Pn**	**09 30 14.8**	**-0.9**
RAGM	**Ragged Mountai**	**18.09**	**53**	*e*P	**P**	**09 30 17.8**	**-0.1**
BMRM	**Bremner River**	**18.26**	**51**	*e*P	**P**	**09 30 20.8**	**+1.1**
COLA	**College** 12nm,0.6s	**18.31**	**38**	*e*P	**P**	**09 30 20.3**	**0.0**
COLD	**Coldfoot** 5.0nm,0.7s	**18.85**	**30**	*e*P	**P**	**09 30 27.9**	**+1.8**
EGAK	**Eagle** 11nm,0.7s	**20.88**	**41**	*e*P	**P**	**09 30 47.5**	**-0.3**
DAWY	**Dawson**	**21.39**	**44**	*e*P	**P**	**09 30 53.7**	**+0.4**
HYT	**Haines Junctio**	**21.65**	**53**	*e*P	**P**	**09 30 56.4**	**+0.3**
YKA	**Yellowknife Ar** 0.7nm,0.7s,mb3.5,baz=282,slow=6.0,SNR=4.1	**32.45**	**49**	P	**P**	**09 32 32.1**	**-1.0**
EBG	**Ellensburg**	**34.63**	**77**	P	**P**	**09 32 52.8**	**+0.7**
BROR	**Big Rock Looko**	**34.87**	**83**	P	**P**	**09 32 55.0**	**+0.8**
HAWA	**Hanford** 7.7nm,0.7s,mb4.4	**35.51**	**78**	*e*P	**P**	**09 33 00.1**	**+0.5**
NEW	**Newport** 9.2nm,0.8s,mb4.5	**36.00**	**73⇑**	*e*P	**P**	**09 33 03.4**	**-0.3**
MJAR	**Matsushiro Arr** 3.6nm,0.6s,mb4.2,baz=45,slow=6.6,SNR=17	**36.56**	**263**	P	**P**	**09 33 08.6**	**0.0**
MAJO	**Matsushiro** 7.6nm,0.6s,mb4.5	**36.56**	**263**	*e*P	**P**	**09 33 08.8**	**+0.2**
MAT	**Matsushiro**	**36.56**	**263**	P	**P**	**09 33 09.6**	**+1.0**
WALA	**Waterton Lakes** 1.2nm,0.6s,mb3.7	**37.47**	**70⇑**	*e*P	**P**	**09 33 15.8**	**-0.4**
LBCM	**Butte Creek Ri**	**37.49**	**87**	P	**P**	**09 33 17.4**	**+0.9**
MOD	**Modoc** 4.7nm,0.6s,mb4.3	**37.50**	**84**	*e*P	**P**	**09 33 17.4**	**+0.9**
WVOR	**Wild Horse Val** 6.7nm,0.9s,mb4.3	**38.20**	**82**	*e*P	**P**	**09 33 22.9**	**+0.6**
MSO	**Missoula** 1.3nm,0.4s,mb3.9	**38.58**	**74⇑**	*e*P	**P**	**09 33 25.0**	**-0.5**
CHMT	**Chamberlain Mo**	**38.94**	**73**	*e*P	**P**	**09 33 27.9**	**-0.5**
PAHR	**Pah Rah Range** 10nm,1.0s,mb4.4	**39.38**	**87**	*e*P	**P**	**09 33 32.6**	**+0.5**
HLID	**Hailey** 2.1nm,0.8s,mb3.8	**40.09**	**78**	*e*P	**P**	**09 33 38.4**	**+0.4**
MCMT	**McKenzie Canyo**	**40.31**	**76**	*e*P	**P**	**09 33 39.6**	**-0.2**
EGMT	**Eagleton** 5.1nm,0.8s,mb4.2	**40.38**	**70**	*e*P	**P**	**09 33 39.7**	**-0.6**
BOZ	**Bozeman (W)** 3.3nm,0.7s,mb4.1	**40.57**	**74⇑**	*e*P	**P**	**09 33 41.5**	**-0.4**
NVAR	**Mina Array Bea** 4.5nm,0.7s,mb4.2,baz=295,slow=8.0,SNR=25	**40.83**	**87**	P	**P**	**09 33 44.9**	**+0.7**
ELK	**Elko** 3.8nm,0.8s,mb4.1	**41.26**	**82**	*e*P	**P**	**09 33 48.0**	**+0.4**
MTUM	**Tungsten Hills**	**41.35**	**89**	*e*P	**P**	**09 33 49.8**	**+1.3**
IMW	**Indian Meadow** 2.3nm,0.9s,mb3.8	**41.96**	**76**	*e*P	**P**	**09 33 53.4**	**+0.1**
RRI2	**Red Ridge** 2.0nm,0.6s,mb3.9	**42.06**	**76**	*e*P	**P**	**09 33 55.2**	**+1.2**
KSRS	**Korea Array** 1.0nm,0.6s,mb3.6,baz=50,slow=8.4,SNR=6.7	**42.23**	**273**	P	**P**	**09 33 55.4**	**-0.1**
TPNV	**Topopah Spring**	**43.03**	**87**	*e*P	**P**	**09 34 02.0**	**+0.1**
PDAR	**Pinedale Array** 7.8nm,0.7s,mb4.4,baz=313,slow=3.5,SNR=71	**43.44**	**76**	P	**P**	**09 34 04.8**	**-0.3**
MWC	**Mount Wilson** 10nm,1.0s,mb4.4	**43.73**	**92**	*e*P	**P**	**09 34 07.4**	**-0.2**
GSC	**Goldstone**	**43.77**	**90**	*e*P	**P**	**09 34 08.2**	**+0.3**
MSU	**Marysvale**	**44.49**	**83⇑**	*e*P	**P**	**09 34 14.3**	**+0.7**
LDFC	**Landfair**	**44.95**	**89**	*e*P	**P**	**09 34 17.3**	**0.0**
SRU	**San Rafael** 2.3nm,0.7s,mb3.9	**45.11**	**81**	*e*P	**P**	**09 34 18.5**	**0.0**
RSSD	**Black Hills** 2.3nm,0.7s,mb3.9	**45.86**	**71**	*e*P	**P**	**09 34 23.3**	**-1.0**
SONM	**Songino Array** 1.1nm,0.6s,mb3.7,baz=51,slow=9.1,SNR=8.9	**48.41**	**298**	P	**P**	**09 34 43.4**	**-0.6**
SDCO	**Great Sand Dun** 0.8nm,0.4s,mb3.7	**49.00**	**79**	*e*P	**P**	**09 34 49.1**	**+0.4**
TUC	**Tucson** 6.0nm,1.0s,mb4.2	**49.47**	**88**	*e*P	**P**	**09 34 51.9**	**-0.4**
LAZ	**Ladron**	**50.25**	**83**	*e*P	**P**	**09 34 58.6**	**+0.5**
KSU1	**Kansas State U** 3.1nm,0.5s,mb4.3	**53.34**	**72**	*e*P	**P**	**09 35 18.6**	**-2.3**
WMOK	**Wichita Mounta** 2.7nm,1.1s,mb3.9	**55.04**	**77**	*e*P	**P**	**09 35 32.7**	**-0.5**
TXAR	**Lajitas Array** 3.6nm,0.8s,mb4.2,baz=296,slow=4.5,SNR=40	**55.90**	**85**	P	**P**	**09 35 38.9**	**-0.5**
TXAR				pP	pP	09 36 24.4	+6.0
TXAR	0.5nm,0.8s,baz=285,slow=4.9,SNR=2.4			PcP	PcP	09 36 33.6	-2.4
TXAR	1.2nm,0.6s,baz=302,slow=5.8,SNR=9.0			ScP	ScP	09 40 16.3	-2.3
TXAR	0.4nm,0.7s,baz=289,slow=2.8,SNR=6.2 **Lajitas Array**	**55.90**	**85**	P	**P**	**09 35 38.9**	**-0.5**
TXAR				pP	pP	09 36 24.4	+6.0
TXAR				PcP	PcP	09 36 33.6	-2.4
TXAR				ScP	ScP	09 40 16.3	-2.3
ARCES	**ARCESS Array B** 1.1nm,0.6s,mb3.9,baz=24,slow=9.3,SNR=3.7	**57.27**	**352**	P	**P**	**09 35 48.2**	**-0.2**
LZH	**Lanzhou**	**57.52**	**288**	*e*P	**P**	**09 35 51.5**	**+0.8**
LZH				AP	pP	09 36 31.5	+1.6
LZH				XP	sP	09 36 48.0	-0.6
LZH	comp=Z,13nm,1.0s,mb4.7			AMB	AMB		
LZH	comp=Z,60nm,4.5s			AMB	AMB		
WMQ	**Urumqi**	**60.83**	**305**	*e*P	**P**	**09 36 15.5**	**+2.2**
CD2	**Chengdu**	**61.25**	**284**	*e*P	**P**	**09 36 17.0**	**+0.6**
CD2	comp=Z,10.0nm,0.6s,mb4.8			AMB	AMB		
CD2	comp=Z,20nm,5.2s			AMB	AMB		
MKAR	**Makanchi Array** comp=Z,1.4nm,0.7s,mb3.9,baz=55,slow=6.6,SNR=11	**61.27**	**310**	P	**P**	**09 36 15.2**	**-1.0**
BVAR	**Borovoye Array** comp=Z,6.6nm,0.5s,mb4.8,baz=53,slow=6.5,SNR=29	**61.59**	**322**	P	**P**	**09 36 18.2**	**-0.1**
BVAR				pP	pP	09 37 04.4	+6.5
BRVK	comp=Z,1.7nm,0.6s,baz=55,slow=7.8,SNR=3.1 **Borovoye** comp=Z,2.8nm,0.8s,mb4.1	**61.60**	**322**	*e*P	**P**	**09 36 18.6**	**+0.3**
GYA	**Guiyang**	**62.77**	**279**	P	**P**	**09 36 28.0**	**+1.5**
GYA				XP	sP	09 37 28.5	+3.7
GYA				PP	PP	09 38 50.8	+4.4
GYA				SCP	ScP	09 40 50.3	+1.3
GYA				S	**S**	**09 44 41.5**	**-0.3**
GYA				SKS		09 46 01.8	
GYA	comp=Z,10.0nm,1.0s,mb4.6			AMB	AMB		
KMI	**Kunming**	**66.12**	**280**	P	**P**	**09 36 51.0**	**+2.7**
KMI				S	S	09 45 19.8	-3.1
KMI				AMB	AMB		
KMI	comp=Z,4.0nm,0.7s,mb4.4			AMB	AMB		
KMI	comp=Z,77nm,6.1s			LR	LR		
KMI	comp=N,65nm,4.1s			LR	LR		
KMI	comp=E,69nm,5.1s			LR	LR		
KMI	comp=Z,61nm,8.3s			LR	LR		
EKS2	comp=Z,3.3nm,0.8s,mb4.1 **Erkin-Say**	**68.33**	**312**	*e*P	**P**	**09 37 02.5**	**+0.5**
CMAR	comp=Z,2.2nm,0.7s,mb4.0,baz=27,slow=6.7,SNR=11 **Chiang Mai Arr**	**73.46**	**279**	P	**P**	**09 37 32.4**	**-0.8**
AKASG	comp=Z,1.6nm,0.4s,mb4.0,baz=18,slow=6.2,SNR=2.9 **Malin Array Be**	**75.10**	**345**	P	**P**	**09 37 40.7**	**-1.5**
BAIF	**Baives**	**77.68**	**1**	*e*P	**P**	**09 37 56.7**	**0.0**
LDF	**La Druitiere** comp=Z,6.9nm,0.8s,mb4.0	**79.05**	**4**	*e*P	**P**	**09 38 03.5**	**-0.7**
CDF	**Champ du Feu**	**79.33**	**359**	*e*P	**P**	**09 38 05.0**	**-0.7**
LOR	**Lormes** comp=Z,5.0nm,0.7s,mb4.0	**80.47**	**1**	*e*P	**P**	**09 38 11.0**	**-0.9**
SSF	**Saint Saulge** comp=Z,2.4nm,0.5s,mb3.8	**80.67**	**1**	*e*P	**P**	**09 38 11.5**	**-1.5**
AVF	**Avril sur Loir** comp=Z,3.8nm,0.7s,mb3.9	**80.94**	**1**	*e*P	**P**	**09 38 12.7**	**-1.7**
MFF	**Saint Martin d**	**81.03**	**4**	*e*P	**P**	**09 38 14.7**	**-0.2**
SMF	**Signal de Mont** comp=Z,8.6nm,0.9s,mb4.1	**81.10**	**1**	*e*P	**P**	**09 38 13.6**	**-1.6**
CABF	**La Chapelle** comp=Z,6.1nm,0.7s,mb4.0	**81.14**	**360**	*e*P	**P**	**09 38 15.0**	**-0.4**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.4s,mb3.6,baz=31,slow=5.6,SNR=13	**84.76**	**227**	P	**P**	**09 38 33.0**	**-1.3**
ASAR	**Alice Springs** comp=Z,1.2nm,0.7s,mb3.8,baz=35,slow=4.6,SNR=14	**88.21**	**226**	P	**P**	**09 38 50.5**	**-0.5**
MAW	**Mawson** comp=Z,1.2nm,0.5s,baz=2.1,slow=5.8,SNR=4.2	**149.09**	**219**	PKPbc	PKPbc	09 45 45.3	-0.6

CSEM ***25*** *10:07:16.8±0.0, 3984N×2867E, h10km, MD3.2, Error ellipse: s-maj=1.1km s-min=0.9km az=122.0*
ISK ***25*** *10:07:16.9, 3984N×2866E, h10km, MD3.2*
ISCJB ***25*** *10:07:17.2±0.5, 3985N±002×2870E±003, h3km±4km, Error ellipse: s-maj=3.5km s-min=3.1km az=43.0*
DDA ***25*** *10:07:17.3, 3984N×2871E, h16km±2km, Md3.1*
ISC 25 10:07:17.7±0.4, 3985N±002×2871E±003, h7km±4km, n47, σ0§84/67, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.25**	**194**	*e*PG	**Pg**	**10 07 22.5**	**-0.1**
DST				*e*SG	**Sg**	**10 07 25.7**	**-0.1**
BTOK	**Tokmak**	**0.53**	**261**	*i* P	**Pg**	**10 07 28.1**	**+0.2**
BTOK				*i* S	**Sg**	**10 07 35.4**	**+0.7**
BALB	**Balikesir**	**0.67**	**252**	*e*PG	**Pg**	**10 07 29.7**	**-0.8**
BALB				*e*SG	**Sg**	**10 07 39.0**	**-0.2**
GEMT	**Gemlik**	**0.70**	**32**	*e*PG	**Pg**	**10 07 31.3**	**+0.2**
GEMT				*e*SG	**Sg**	**10 07 42.0**	**+1.8**
DEMI	**Demirci**	**0.80**	**179**	*i* P	**Pg**	**10 07 32.9**	**-0.2**
DEMI				*i* S	**Sg**	**10 07 44.5**	**+1.1**
DEMI	**Demirci**	**0.80**	**179**	*i* P	**Pg**	**10 07 32.9**	**-0.2**
DEMI				*i* S	**Sg**	**10 07 44.5**	**+1.1**
DEMI	**Demirci**	**0.80**	**179**	*i* P	**Pg**	**10 07 32.9**	**-0.2**
DEMI				*i* S	**Sg**	**10 07 44.5**	**+1.0**
EDC	**Edincik**	**0.82**	**308**	*e*PG	**Pg**	**10 07 32.2**	**-1.2**
BALY	**Balya**	**0.84**	**263**	*i* P	**Pg**	**10 07 33.8**	**-0.1**
BALY				*i* S	**Sg**	**10 07 45.5**	**+0.7**
YLV	**Yalova**	**0.88**	**35**	*e*PG	**Pg**	**10 07 34.6**	**-0.1**
GDZ	**Gediz**	**0.96**	**141**	*i* P	**Pg**	**10 07 35.7**	**-0.5**
GDZ				*i* S	**Sg**	**10 07 48.9**	**+0.2**
ADVT	**Abdulvahap**	**0.99**	**53**	*e*PG	**Pg**	**10 07 36.8**	**+0.1**
MRMT	**Marmara Adasi**	**1.14**	**312**	*e*PN	**Pn**	**10 07 39.0**	**-1.0**
AKHS	**Akhisar**	**1.19**	**216**	*i* P	**Pg**	**10 07 40.4**	**-0.1**
AKHS				*i* S	**Sg**	**10 07 56.1**	**+0.2**
AKS	**Akhisar**	**1.19**	**216**	*e*PN	**Pn**	**10 07 39.7**	**-1.0**
HRT	**Hereke**	**1.22**	**37**	*e*PN	**Pn**	**10 07 40.8**	**-0.4**
ISK	**Istanbul-Kandi**	**1.25**	**12**	*e*PN	**Pn**	**10 07 40.9**	**-0.7**
GPA	**Golpazari**	**1.31**	**70**	*e*PN	**Pn**	**10 07 42.3**	**-0.1**
ELBA	**Catalca**	**1.32**	**351**	*i* P	**Pn**	**10 07 43.0**	**+0.5**
ELBA				*i* S	**Sb**	**10 07 60.0**	**+0.1**
CTT	**Catalca**	**1.32**	**351**	*e*PN	**Pn**	**10 07 42.0**	**-0.5**
KULA	**Kula-Manisa**	**1.33**	**182**	*e*PN	**Pn**	**10 07 41.6**	**-1.1**
BGKT	**Bogazkoy**	**1.34**	**2**	*e*PN	**Pn**	**10 07 42.8**	**0.0**
ALT	**Altintas**	**1.34**	**125**	*e*PN	**Pn**	**10 07 42.8**	**-0.1**
KLYT	**Kilyos**	**1.43**	**10**	*e*PN	**Pn**	**10 07 43.8**	**-0.3**
SLVT	**Silivri**	**1.43**	**345**	*e*PN	**Pn**	**10 07 43.4**	**-0.7**
MFT	**Murefte**	**1.44**	**311**	*e*PN	**Pn**	**10 07 43.7**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.44**	**306**	*e*PN	**Pn**	**10 07 43.2**	**-1.0**
SART	**Tekirdag**	**1.44**	**306**	*i* P	**Pn**	**10 07 45.0**	**+0.8**
SART				*i* S	**Sb**	**10 08 05.3**	**+2.0**
SILT	**Sile**	**1.49**	**28**	*e*PN	**Pn**	**10 07 44.1**	**-0.8**
LPK	**Lapseki**	**1.58**	**290**	*e*PN	**Pn**	**10 07 45.3**	**-0.9**
AYVA	**Ayvalik**	**1.65**	**252**	*i* P	**Pn**	**10 07 47.3**	**+0.2**
AYVA				*i* S	**Sn**	**10 08 10.7**	**+2.2**
KHL	**Karahalli**	**1.65**	**157**	*e*PN	**Pn**	**10 07 46.9**	**-0.2**
ESKT	**Eskisehir**	**1.69**	**100**	*i* P	**Pn**	**10 07 49.5**	**+1.9**
ESKT				*i* S	**Sn**	**10 08 13.1**	**+3.7**
ESKT	**Eskisehir**	**1.69**	**100**	*i* P	**Pn**	**10 07 49.5**	**+1.9**
ESKT				*i* S	**Sn**	**10 08 13.1**	**+3.7**
SEYT	**Eskypehyr**	**1.69**	**100**	*i* P	**Pn**	**10 07 49.5**	**+1.9**
SEYT				*i* S	**Sn**	**10 08 13.1**	**+3.7**
IZM	**Izmir**	**1.83**	**218**	*e*PN	**Pn**	**10 07 48.9**	**-0.7**
EZN	**Ezine**	**1.83**	**270**	*e*PN	**Pn**	**10 07 48.7**	**-0.9**
SHUT	**Suhut-Afyon**	**1.93**	**131**	*e*PN	**Pn**	**10 07 50.8**	**-0.1**
HENT	**Hendek**	**1.94**	**59**	*i* P	**Pn**	**10 07 54.4**	**+3.3**
HENT				*i* S	**Sn**	**10 08 20.9**	**+5.2**
HENT	**Hendek**	**1.94**	**59**	*i* P	**Pn**	**10 07 54.4**	**+3.3**
HENT				*i* S	**Sn**	**10 08 20.9**	**+5.2**
BLCB	**Balcova**	**1.95**	**222**	*e*PN	**Pn**	**10 07 50.5**	**-0.6**
BOZC	**Bozcaada**	**2.04**	**271**	*i* P	**Pn**	**10 07 53.6**	**+1.1**
BOZC				*i* S	**Sn**	**10 08 19.8**	**+1.6**
BOZC	**Bozcaada**	**2.04**	**271**	*i* P	**Pn**	**10 07 53.6**	**+1.1**
BOZC				*i* S	**Sn**	**10 08 19.8**	**+1.6**
ENEZ	**Enez**	**2.15**	**295**	*e*PN	**Pn**	**10 07 53.3**	**-0.6**
GADA	**Gvkgeada**	**2.18**	**280**	*e*PN	**Pn**	**10 07 53.8**	**-0.6**
EDRB	**Edirne**	**2.49**	**324**	*e*PN	**Pn**	**10 07 58.4**	**-0.3**
KIZT	**Kizilcal**	**2.64**	**110**	*e*PN	**Pn**	**10 08 01.1**	**+0.4**

TEH ***25*** *10:06:32.6, 3489N×5196E, h9km, ML4.4*

IDC ***25*** *10:07:32.3±0.9, 3475N×5187E, h0km, mb4.1/16, mb1 4.2/20, mb1mx4.1/28, mbtmp4.1/20, ML3.8/4, MS3.2/5, Ms1 3.2/5, ms1mx2.8/31, Error ellipse: s-maj=22.8km s-min=13.2km az=173.0*
ISCJB ***25*** *10:07:33.2±0.2, 3492N±003×5190E±003, h9km, mb4.3/42, MS3.5/2, Error ellipse: s-maj=3.6km s-min=3.1km az=1.6*
MOS ***25*** *10:07:34.0±0.9, 3472N×5189E, h25km, mb4.7/20, Error ellipse: s-maj=10.2km s-min=5.5km az=133.1*
BJI ***25*** *10:07:35.0, 3490N×5200E, h23km, mB4.8, mb4.4, Ms4.6, Msz4.3*
THR ***25*** *10:07:35.3±1.0, 3491N×5194E, h24km±10km, ML4.6*
NEIC ***25*** *10:07:35.0, 3489N×5196E, h24km, mb4.5/21, ML4.6(THR), MN4.4(TEH), After THR.*
NEIC Felt in Semnan and Tehran Provinces.
CSEM ***25*** *10:07:35.2±0.0, 3493N×5190E, h30km, mb4.4/26, Error ellipse: s-maj=1.5km s-min=1.3km az=27.0*
ISC 25 10:07:36.5±0.5, 3493N±003×5195E±003, h21km±4km, n199, σ1§01/203, mb4.3/42, MS3.5/2, 40C-13D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVRN	**Varamin**	**0.20**	**290**	*e*Pg	**Pb**	**10 07 40.8**	**-0.9**
IVRN				*e*Pg	**Pb**	**10 07 40.8**	**-0.9**
IVRN				*e*		10 07 45.0	
IVRN				*e*		10 07 45.0	
ISFB	**Sefidab**	**0.62**	**157**	*e*Pg	**Pb**	**10 07 47.2**	**-1.4**
ISFB				*e*		10 07 56.6	
IDMV	**Damavand**	**0.65**	**6**	*e*Pg	**Pb**	**10 07 48.8**	**-0.4**
IDMV				*e*		10 07 48.8	
IDMV	**Damavand**	**0.65**	**6**	Pg	**Pb**	**10 07 48.7**	**-0.5**
DAMV	**Damavand**	**0.70**	**1**	*e*Pg	**Pb**	**10 07 49.4**	**-0.6**
DAMV				AML	AML	10 08 01.1	
DAMV	comp=N,15μm,0.2s **Damavand**	**0.70**	**1**	*e*Pg	**Pb**	**10 07 49.0**	**-1.0**
GHVR	**GHOM**	**0.70**	**231**	*e*Pg	**Pb**	**10 07 49.2**	**-0.8**
GHVR				AML	AML	10 08 05.0	
ILAS	comp=E,32μm,0.4s **Lasjerd**	**0.94**	**61**	*e*Pg	**Pb**	**10 07 53.4**	**-0.7**
ILAS				*e*		10 08 08.7	
IAFJ	**Afjeh**	**0.95**	**348**	Pg	**Pb**	**10 07 53.4**	**-0.8**
IAFJ	**Afjeh**	**0.95**	**348**	*e*Pg	**Pb**	**10 07 53.5**	**-0.7**
IAFJ				*e*		10 08 08.2	
IFIR	**Firoozkooh**	**0.97**	**42**	*e*Pg	**Pb**	**10 07 54.3**	**-0.3**
IFIR				*e*		10 07 55.6	
CHTH	**Charan**	**1.19**	**326**	*e*Pg	**Pn**	**10 07 57.2**	**-0.7**
CHTH	**Charan**	**1.19**	**326**	*e*Pg	**Pn**	**10 07 57.0**	**-0.8**
IMHD	**Mahdasht**	**1.29**	**306**	*e*Pg	**Pn**	**10 07 58.8**	**-0.5**
IMHD				*e*		10 08 20.4	
IMHD	**Mahdasht**	**1.29**	**306**	Pg	**Pn**	**10 07 58.7**	**-0.6**
THKV	**Tehran--Karaj**	**1.32**	**319**	*e*Pg	**Pn**	**10 07 59.9**	**+0.2**
THKV				AML	AML	10 08 22.1	
THKV	comp=E,8μm,0.6s			AML	AML	10 08 22.4	
THKV	comp=N,9μm,0.4s **Tehran--Karaj** SNR=93	**1.32**	**319**	*e*Pg	**Pn**	**10 07 59.8**	**+0.2**
THKV	**Tehran--Karaj**	**1.32**	**319**	*e*Pg	**Pn**	**10 07 59.0**	**-0.6**
ISHM	**Shahmirzad**	**1.40**	**51**	*e*Pg	**Pn**	**10 08 01.0**	**+0.2**
ISHM				*e*		10 08 24.7	
ASAO	**Ashtian**	**1.63**	**257**	*e*Pg	**Pn**	**10 08 04.0**	**+0.1**
ASAO				*e*Sg	**Sn**	**10 08 25.9**	**+1.7**
ASAO				AML	AML	10 08 28.7	
ASAO	comp=N,7μm,0.5s **Ashtian** SNR=92	**1.63**	**257**	*e*Pg	**Pn**	**10 08 04.0**	**+0.1**
ASAO				*e*Sg	**Sn**	**10 08 25.9**	**+1.7**
ASAO	**Ashtian**	**1.63**	**257**	*e*Pg	**Pn**	**10 08 04.0**	**+0.1**
ASAO				*e*Sg	**Sn**	**10 08 25.0**	**+0.8**
IKLH	**Kolahrood**	**1.63**	**191**	*e*Pn	**Pn**	**10 08 03.8**	**-0.1**
IKLH				*e*		10 08 27.2	
IKLH	**Kolahrood**	**1.63**	**191**	Pn	**Pn**	**10 08 03.7**	**-0.2**
IANJ	**Anjilo**	**1.69**	**71**	*e*Pn	**Pn**	**10 08 05.2**	**+0.4**
IANJ				*e*		10 08 29.9	
IANJ	**Anjilo**	**1.69**	**71**	Pn	**Pn**	**10 08 05.1**	**+0.3**
IRAZ	**Razeghan**	**1.73**	**287**	*e*Pn	**Pn**	**10 08 05.7**	**+0.5**
IRAZ				*e*		10 08 06.7	
IRAZ				*e*Sn	**Sn**	**10 08 29.4**	**+2.8**
IZEF	**Zefreh**	**2.05**	**171**	*e*Pn	**Pn**	**10 08 09.9**	**+0.2**
IZEF				*e*		10 08 47.6	
NASN	**Na'in**	**2.24**	**161**	*e*Pn	**Pn**	**10 08 13.4**	**+1.2**
NASN	**Na'in**	**2.24**	**161**	*e*Pn	**Pn**	**10 08 12.0**	**-0.3**
IPIR	**Pirpir**	**2.41**	**202**	*e*Pn	**Pn**	**10 08 17.6**	**+3.1**
IPIR				*e*		10 08 55.2	
IPIR	**Pirpir**	**2.41**	**202**	Pn	**Pn**	**10 08 17.5**	**+3.0**
IGAR	**Gharneh**	**2.52**	**178**	*e*Pn	**Pn**	**10 08 17.6**	**+1.5**
IGAR				*e*		10 08 21.8	
ICHK	**Chekchek**	**3.37**	**142**	*e*Pn	**Pn**	**10 08 28.3**	**+0.5**
ICHK				*e*		10 09 28.9	
**IKO

EIL Elat 15.30 255 Pn **Pn 10 11 07.1 -4.0**
comp=Z,0.7nm,0.3s,baz=78,slow=7.3,SNR=5.8
EIL LR LR 10 17 24.0
comp=Z,42nm,18.5s,baz=96,slow=39
AKTK Aktyubinsk 16.12 14 P **Pn 10 11 21.1 -0.5**
AKTK Aktyubinsk 16.12 14 Pn **Pn 10 11 21.1 -0.5**
AKTO Aktyubinsk 16.12 14 Pn **Pn 10 11 21.1 -0.5**
comp=Z,0.2nm,0.3s,baz=230,slow=12,SNR=4.0
TIRR Tirgusor 20.40 305⇑ *iP* **P 10 12 12.6 +0.7**
TIRR Tirgusor 20.40 305 P **P 10 12 12.7 +0.8**
TIRR Tirgusor 20.40 305⇑ P **P 10 12 12.7 +0.8**
ARU Arti 21.98 10 *d iP* **P 10 12 29.0 +0.3**
ARU *eS* **S 10 16 30.8 +0.7**
ARU pmax pmax
comp=Z,8.0nm,1.7s,mb3.9
ARU Arti 21.98 10 *i P* **P 10 12 29.0 +0.3**
comp=Z,8.0nm,1.7s,mb3.9
PLOR Plostina 22.06 307⇑ *iP* **P 10 12 30.9 +1.2**
BVAR Borovoye Array 22.32 30 P **P 10 12 34.4 +2.0**
comp=Z,1.7nm,0.6s,mb3.7,baz=224,slow=7.8,SNR=8.6
MLR Muntele Rosu 22.40 306⇓ *iP* **P 10 12 35.1 +1.8**
MLR Muntele Rosu 22.40 306⇓ P **P 10 12 35.1 +1.8**
AKASG Malin Array Be 22.81 321 P **P 10 12 36.8 -0.8**
comp=Z,2.9nm,0.6s,mb3.9,baz=130,slow=9.1,SNR=5.8
OBN Obninsk 22.83 337⇓ *eP* **P 10 12 39.4 +1.6**
OBN *e* 10 16 25.0
OBN pmax pmax
comp=Z,34nm,0.9s,mb4.8
OBN Obninsk 22.83 337 *e*PcP PcP 10 16 25.0 -3.4
VOIR 22.98 305⇓ *iP* **P 10 12 41.8 +2.3**
VOIR 22.98 305⇓ P **P 10 12 41.8 +2.3**
BURAR Bucovina Array 23.62 311⇓ *iP* **P 10 12 46.1 +0.1**
BURAR Bucovina Array 23.62 311⇓ P **P 10 12 46.1 +0.1**
KURK Kurchatov 24.94 43 P **P 10 12 56.6 -1.4**
KURK pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
KURK Kurchatov 24.94 43 P **P 10 12 56.6 -1.4**
comp=Z,5.0nm,1.0s,mb4.0
KURK Kurchatov 24.94 43 P **P 10 12 56.6 -1.4**
comp=Z,4.7nm,1.0s,mb4.0
DRGR 24.94 307⇓ *iP* **P 10 12 59.3 +1.2**
DRGR 24.94 307⇓ P **P 10 12 59.3 +1.2**
BZS Buzias 25.35 304⇓ *iP* **P 10 13 02.5 +0.7**
BZS Buzias 25.35 304⇓ P **P 10 13 02.5 +0.7**
MKAR Makanchi Array 25.66 53 P **P 10 13 05.1 +0.5**
comp=Z,0.9nm,0.5s,mb3.5,baz=245,slow=9.9,SNR=14
MKAR Makanchi Array 25.66 53 P **P 10 13 05.1 +0.5**
KOLS Kolonicke sedl 25.94 312 *eP* **P 10 13 08.1 +1.0**
PKSM Moragy 27.51 304⇑ *iP* **P 10 13 22.0 +0.8**
PKSM Moragy 27.51 304⇑ P **P 10 13 22.0 +0.8**
ZAL Zalesovo 29.80 40 P **P 10 13 42.2 +0.7**
ZALV Zalesovo Beam 29.81 40 P **P 10 13 42.2 +0.5**
comp=Z,1.0nm,0.5s,mb3.8,baz=243,slow=9.5,SNR=3.2
GERES GERESS Array B 31.34 308 P **P 10 13 55.3 +0.2**
comp=Z,2.8nm,0.8s,mb4.2,baz=108,slow=8.6,SNR=21
CLL Collm 32.35 312 *i P* **P 10 14 04.7 +0.6**
comp=Z,5.0nm,0.9s,mb4.3
DAVOX Davos/Dischmat 35.57 304 P **P 10 14 14.9 +0.2**
comp=Z,6.7nm,0.5s,mb4.8,baz=121,slow=6.9,SNR=11
DAVOS Davos 33.64 304 P **P 10 14 14.9 -0.4**
PGF Pioggiola 34.06 296 *eP* **P 10 14 18.3 -0.8**
comp=Z,30nm,1.2s,mb4.8
PGF Pioggiola 34.06 296 *eP* **P 10 14 18.3 -0.8**
PGF pmax pmax
comp=Z,15nm,1.2s,mb4.8
PGF Pioggiola 34.06 296 *eP* **P 10 14 18.3 -0.8**
comp=Z,15nm,1.2s,mb4.8
SBF Sospel 35.18 298⇑ *iP* **P 10 14 28.4 -0.4**
comp=Z,59nm,0.9s,mb5.2
SBF Sospel 35.18 298⇑ *iP* **P 10 14 28.4 -0.4**
SBF pmax pmax
comp=Z,30nm,0.9s,mb5.2
SBF Sospel 35.18 298⇑ *iP* **P 10 14 28.4 -0.4**
comp=Z,30nm,0.9s,mb5.2
HFS Hagfors 35.28 328 P **P 10 14 29.7 +0.3**
comp=Z,5.8nm,0.5s,mb4.8,baz=119,slow=9.2,SNR=27
ECH Echery 35.54 306 *eP* **P 10 14 30.1 -1.7**
ECH Echery 35.54 306 *eP* **P 10 14 30.1 -1.8**
MBDF Montbardon 35.65 300⇑ *iP* **P 10 14 32.3 -0.5**
comp=Z,18nm,0.7s,mb4.8
MBDF Montbardon 35.65 300⇑ *iP* **P 10 14 32.3 -0.5**
MBDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MBDF Montbardon 35.65 300⇑ *iP* **P 10 14 32.3 -0.5**
comp=Z,8.9nm,0.7s,mb4.8
LPG La Plagne 35.67 301 *eP* **P 10 14 32.6 -0.4**
comp=Z,13nm,0.8s,mb4.6
LPG La Plagne 35.67 301 *eP* **P 10 14 32.6 -0.4**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LPG La Plagne 35.67 301 *eP* **P 10 14 32.6 -0.4**
comp=Z,6.5nm,0.8s,mb4.6
LPL La Plagne 35.69 301⇑ *iP* **P 10 14 32.6 -0.5**
comp=Z,5.7nm,0.4s,mb4.5
LPL La Plagne 35.69 301⇑ *iP* **P 10 14 32.6 -0.5**
comp=Z,2.8nm,0.4s,mb4.5
BNI Bardonecchia 35.72 300 *eP* **P 10 14 32.9 -0.5**
BNI pmax pmax
comp=Z,16nm,0.9s,mb5.0
BNI Bardonecchia 35.72 300 *eP* **P 10 14 32.9 -0.5**
comp=Z,16nm,0.9s,mb5.0
BNI Bardonecchia 35.72 300 *eP* **P 10 14 32.9 -0.5**
comp=Z,16nm,0.9s,mb4.9
HAU Haudompre 36.06 305 *eP* **P 10 14 35.5 -0.8**
CABF La Chapelle 36.17 303⇑ *iP* **P 10 14 37.0 -0.2**
comp=Z,33nm,1.0s,mb4.9
CABF La Chapelle 36.17 303⇑ *iP* **P 10 14 37.0 -0.2**
CABF pmax pmax
comp=Z,16nm,1.0s,mb4.9
CABF La Chapelle 36.17 303⇑ *iP* **P 10 14 37.0 -0.2**
comp=Z,16nm,1.0s,mb4.9
ORIF Oris-en-Rattie 36.29 300 *eP* **P 10 14 36.5 -1.7**
comp=Z,8.5nm,0.9s,mb4.4
ORIF Oris-en-Rattie 36.29 300 *eP* **P 10 14 36.5 -1.7**
ORIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ORIF Oris-en-Rattie 36.29 300 *eP* **P 10 14 36.5 -1.7**
comp=Z,4.2nm,0.9s,mb4.4
NB2 NORSAR Subarra 36.78 328 P **P 10 14 41.7 -0.6**
comp=Z,2.2nm,0.5s,mb4.2,baz=118,slow=8.6
NOA NORSAR Array B 36.78 328 P **P 10 14 41.9 -0.3**
comp=Z,3.5nm,0.6s,mb4.3,baz=119,slow=8.2,SNR=9.6
NOA NORSAR Array B 36.78 328 P **P 10 14 41.9 -0.3**
VIVF Saint-Julien-l 37.15 300⇑ *iP* **P 10 14 44.4 -1.1**
comp=Z,18nm,1.0s,mb4.5
VIVF Saint-Julien-l 37.15 300⇑ *iP* **P 10 14 44.4 -1.1**
VIVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
VIVF Saint-Julien-l 37.15 300⇑ *iP* **P 10 14 44.4 -1.1**
comp=Z,8.9nm,1.0s,mb4.5
SSB Saint Sauveur 37.23 301 *eP* **P 10 14 45.0 -1.3**
SSB Saint Sauveur 37.23 301 *eP* **P 10 14 45.0 -1.2**
ARCES ARCESS Array B 37.60 345 P **P 10 14 49.6 +0.5**
comp=Z,2.0nm,1.0s,mb3.8,baz=145,slow=8.9,SNR=9.7
BAIF Baives 37.64 309⇑ *iP* **P 10 14 50.4 +0.8**
comp=Z,11nm,1.0s,mb4.2
BAIF Baives 37.64 309⇑ *iP* **P 10 14 50.4 +0.8**
BAIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
BAIF Baives 37.64 309⇑ *iP* **P 10 14 50.4 +0.8**
comp=Z,5.6nm,1.0s,mb4.3
LOR Lormes 37.71 304 *eP* **P 10 14 49.2 -1.1**
SMF Signal de Mont 37.71 303⇑ *iP* **P 10 14 49.7 -0.6**
comp=Z,18nm,0.8s,mb4.5
SMF Signal de Mont 37.71 303⇑ *iP* **P 10 14 49.7 -0.6**
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
SMF Signal de Mont 37.71 303⇑ *iP* **P 10 14 49.7 -0.6**
comp=Z,9.0nm,0.8s,mb4.5
LASF Ste Croix 37.76 299 *eP* **P 10 14 49.7 -1.0**
comp=Z,9.5nm,0.9s,mb4.2
LASF Ste Croix 37.76 299 *eP* **P 10 14 49.7 -1.0**
comp=Z,4.8nm,0.9s,mb4.2
SSF Saint Saulge 37.95 304⇑ *iP* **P 10 14 51.7 -0.6**
comp=Z,6.7nm,0.8s,mb4.1
SSF Saint Saulge 37.95 304⇑ *iP* **P 10 14 51.7 -0.6**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
SSF Saint Saulge 37.95 304⇑ *iP* **P 10 14 51.7 -0.6**
comp=Z,3.3nm,0.8s,mb4.1
AVF Avril sur Loir 38.05 303⇑ *iP* **P 10 14 52.3 -0.9**
comp=Z,12nm,0.9s,mb4.3
AVF Avril sur Loir 38.05 303⇑ *iP* **P 10 14 52.3 -0.9**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
AVF Avril sur Loir 38.05 303⇑ *iP* **P 10 14 52.3 -0.9**
comp=Z,5.9nm,0.9s,mb4.3
TCF Toulx Ste Croi 38.84 302⇑ *iP* **P 10 14 59.4 -0.5**
comp=Z,11nm,1.0s,mb4.2
TCF Toulx Ste Croi 38.84 302⇑ *iP* **P 10 14 59.4 -0.5**
TCF pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
TCF Toulx Ste Croi 38.84 302⇑ *iP* **P 10 14 59.4 -0.5**
comp=Z,5.3nm,1.0s,mb4.2
CAF Calviac 38.99 300 *eP* **P 10 15 00.4 -0.7**
RJF Les Rejaudoux 39.36 301 *eP* **P 10 15 03.4 -0.8**
comp=Z,5.9nm,0.7s,mb4.1
RJF Les Rejaudoux 39.36 301 *eP* **P 10 15 03.4 -0.8**
RJF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
RJF Les Rejaudoux 39.36 301 *eP* **P 10 15 03.4 -0.8**
comp=Z,3.0nm,0.7s,mb4.1
LFF La Frestale 39.93 300 *eP* **P 10 15 08.3 -0.7**
comp=Z,12nm,0.7s,mb4.4
LFF La Frestale 39.93 300 *eP* **P 10 15 08.3 -0.7**
LFF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
LFF La Frestale 39.93 300 *eP* **P 10 15 08.3 -0.7**
comp=Z,5.8nm,0.7s,mb4.4
LDF La Druitiere 40.40 306⇑ *iP* **P 10 15 11.7 -1.1**
comp=Z,4.5nm,0.5s,mb4.2
LDF La Druitiere 40.40 306⇑ *iP* **P 10 15 11.7 -1.1**
LDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
LDF La Druitiere 40.40 306⇑ *iP* **P 10 15 11.7 -1.1**
comp=Z,2.2nm,0.5s,mb4.2
MFF Saint Martin d 40.46 303 *eP* **P 10 15 12.3 -1.0**
comp=Z,5.1nm,0.6s,mb4.1
MFF Saint Martin d 40.46 303 *eP* **P 10 15 12.3 -1.0**
MFF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
MFF Saint Martin d 40.46 303 *eP* **P 10 15 12.3 -1.0**
comp=Z,2.5nm,0.6s,mb4.1
FLN La Foliniere 40.64 306 *eP* **P 10 15 13.8 -1.0**
GRR Gorron 40.89 306⇑ *iP* **P 10 15 16.1 -0.8**
comp=Z,28nm,1.1s,mb4.5
GRR Gorron 40.89 306⇑ *iP* **P 10 15 16.1 -0.8**
GRR pmax pmax
comp=Z,14nm,1.1s,mb4.5
GRR Gorron 40.89 306⇑ *iP* **P 10 15 16.1 -0.8**
comp=Z,14nm,1.1s,mb4.5
SONM Songino Array 42.00 55 P **P 10 15 26.9 +1.0**
comp=Z,0.5nm,0.6s,mb3.4,baz=278,slow=10.0,SNR=2.6
SONM LR LR 10 36 12.8
comp=Z,29nm,19.9s,MS3.2,baz=265,slow=41
SGMF Saint Gilles 42.03 306 *eP* **P 10 15 25.5 -0.7**
QUIF Quistinic 42.45 305 *eP* **P 10 15 28.6 -1.0**
ROSF Rostrenen 42.51 306 *eP* **P 10 15 29.2 -0.9**
comp=Z,48nm,1.3s,mb4.8
ROSF Rostrenen 42.51 306 *eP* **P 10 15 29.2 -0.9**
ROSF pmax pmax
comp=Z,24nm,1.3s,mb4.8
ROSF Rostrenen 42.51 306 *eP* **P 10 15 29.2 -0.9**
comp=Z,24nm,1.3s,mb4.8
EKA Eskdalemuir Ar 42.58 316 P **P 10 15 29.5 -1.1**
comp=Z,3.2nm,0.6s,mb4.2,baz=105,slow=8.0,SNR=19
CMAR Chiang Mai Arr 44.65 99 P **P 10 15 47.6 -0.1**
comp=Z,2.4nm,0.7s,mb4.1,baz=298,slow=8.7,SNR=12
BOD Bodaibo 46.56 41 *eP* **P 10 16 01.9 -0.4**
TORD Torodi Ar. Bea 50.17 257 P **P 10 16 29.3 -1.4**
comp=Z,2.8nm,0.9s,mb4.3,baz=54,slow=7.7,SNR=12
WHN Wuhan 51.93 76 P **P 10 16 42.8 -1.0**
PSI Prapat 54.01 116 LR LR 10 44 26.0
comp=Z,72nm,18.1s,MS3.8,baz=140,slow=41
DBIC Dimbokro 59.16 255 P **P 10 17 34.8 -1.2**
comp=Z,1.3nm,0.5s,mb4.2,baz=292,slow=12,SNR=3.6
KSRS Korea Array 59.76 63 P **P 10 17 38.8 -1.0**
comp=Z,1.2nm,0.5s,mb4.2,baz=284,slow=7.7,SNR=8.2
KSRS Korea Array 59.76 63 P **P 10 17 38.8 -1.0**
KSRS pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
SEY Seymchan 63.98 30⇓ *eP* **P 10 18 09.1 +1.4**
YKA Yellowknife Ar 82.32 354 P **P 10 19 55.2 -0.8**
comp=Z,0.3nm,0.5s,mb3.5,baz=33,slow=6.5,SNR=4.7
YKA Yellowknife Ar 82.32 354 P **P 10 19 55.2 -0.8**
WRAK Wrangell Islan 88.94 2 *eP* **P 10 20 27.5 -1.6**
comp=Z,15nm,0.6s,mb5.5

ISCJB ***25*** *10:39:28.7±2.7, 483N±03×1543E±04, h64km±31km, mb3.5/4, Error ellipse: s-maj=63.5km s-min=11.2km az=136.1*
MOS ***25*** *10:39:29.9±2.2, 4823N×15420E, h70km, mb4.0/2, Error ellipse: s-maj=47.8km s-min=14.0km az=62.9*
IDC ***25*** *10:39:32.4±3.3, 4835N×15404E, h85km±33km, mb3.2/4, mb1 3.4/7, mb1mx3.2/23, mbtmp3.3/7, MS2.8/1, Ms1 2.8/1, ms1mx1.9/13, Error ellipse: s-maj=60.2km s-min=18.6km az=136.0*
ISC 25 10:39:30.7±2.4, 484N±03×1542E±04, h68km±29km, n14, σ0°99/13, mb3.3/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.62**	**27**	*e*PN		**Pn**	**10 40 09.5**	**-1.1**
SKR				*eS*		**Sn**	**10 40 40.5**	**-0.8**
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=N,240nm,0.2s							
SKR				smax				
	comp=E,200nm,0.3s							
SKR				smax				
	comp=Z,80nm,0.5s							
PETK	**Petropavlovsk-**	**5.23**	**24**	P		**Pn**	**10 40 48.2**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=187,slow=12,SNR=14							
PET	**Petropavlovsk**	**5.44**	**29**	*e*PN		**Pn**	**10 40 56.3**	**+7.2**
ASAJ	**Asahikawa**	**9.11**	**246**	P		**Pn**	**10 41 40.1**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=48,slow=15,SNR=6.1							
ASAJ	**Asahikawa**	**9.11**	**246**	PN		**Pn**	**10 41 40.2**	**+0.9**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.68**	**231**	P		**Pn**	**10 43 19.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=30,slow=11,SNR=5.4							
KSRS	**Korea Array**	**22.03**	**250**	P		**P**	**10 44 18.8**	**-0.7**
	comp=Z,1.5nm,0.6s,mb3.5,baz=45,slow=10,SNR=7.9							
KSRS	**Korea Array**	**22.03**	**250**	P		**P**	**10 44 18.8**	**-0.6**
KSRS				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb3.6							
SONM	**Songino Array**	**31.54**	**287**	LR		LR	10 59 11.9	
	comp=Z,16nm,18.7s,baz=109,slow=38							
WRA	**Warramunga Arr**	**70.30**	**200**	P		**P**	**10 50 35.6**	**-1.1**
	comp=Z,0.7nm,0.6s,mb3.7,baz=17,slow=6.5,SNR=7.7							
WRA	**Warramunga Arr**	**70.30**	**200**	*e*P		**P**	**10 50 36.2**	**-0.5**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**73.99**	**199**	P		**P**	**10 50 58.5**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.2,baz=14,slow=6.4,SNR=6.7							
TXAR	**Lajitas Array**	**76.05**	**62**	P		**P**	**10 51 11.9**	**+1.2**
	comp=Z,0.1nm,0.5s,mb2.9,baz=316,slow=5.0,SNR=3.3							
TORD	**Torodi Ar. Bea**	**114.07**	**331**	PKP		PKiKP	10 58 01.5	-0.8
	comp=Z,0.2nm,0.5s,baz=11,slow=2.1,SNR=3.4							

ISCJB ***25*** *10:54:35.2±0.5, 690N±005×7304W±006, h165km±6km, mb3.4/6, Error ellipse: s-maj=10.8km s-min=6.7km az=44.7*
IDC ***25*** *10:54:36.1±0.7, 681N×7302W, h164km±8km, mb3.1/6, mb1 3.4/8, mb1mx3.3/20, mbtmp3.2/8, Error ellipse: s-maj=20.3km s-min=8.0km az=128.0*
NEIC ***25*** *10:54:36.0±0.8, 684N×7315W, h162km±8km, Error ellipse: s-maj=14.5km s-min=12.6km az=98.0*
FUNV ***25*** *10:54:38.8, 696N×7300W, h159km, MW3.6*
ISC 25 10:54:36.2±0.5, 688N±006×7301W±006, h159km±6km, n27, σ1°00/34, mb3.4/6, 4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**35⇓**	*iP*		**Pn**	**10 55 05.0**	**+1.4**
CAPV				*eS*		**Sn**	**10 55 24.2**	**-0.4**
ROSC	**El Rosal**	**2.40**	**213**	P		**Pn**	**10 55 17.1**	**+0.4**
	49nm,0.3s,baz=83,slow=16,SNR=63							
ROSC				S		**Sn**	**10 55 47.7**	**-0.2**
	63nm,0.3s,baz=107,slow=18,SNR=6.8							
ROSC	**El Rosal**	**2.40**	**213**	*e*Pn		**Pn**	**10 55 16.7**	**0.0**
ROSC				P			10 55 17.1	
ROSC				S		**Sn**	**10 55 47.7**	**-0.2**
VIGV	**El Vigia**	**2.54**	**40**	*e*P		**Pn**	**10 55 19.4**	**+1.0**
VIGV				*eS*		**Sn**	**10 55 48.7**	**-2.2**
SOCV	**Socops**	**2.55**	**57⇓**	*e*P		**Pn**	**10 55 19.7**	**+1.2**
SOCV				*eS*		**Sn**	**10 55 49.0**	**-2.1**
SDV	**Santo Domingo**	**3.09**	**50**	P		**Pn**	**10 55 26.6**	**+1.5**
	6.1nm,0.3s,baz=254,slow=3.8,SNR=25							
SDV				S		**Sn**	**10 56 04.9**	**+2.0**
	9.9nm,0.3s,baz=318,slow=2.9,SNR=14							
ELOV	**Elorza**	**3.51**	**88**	*e*P		**Pn**	**10 55 30.9**	**+0.5**
ELOV				*eS*		**Sn**	**10 56 11.3**	**-1.2**
VIRV	**Villa del Rosa**	**3.65**	**9**	*e*P		**Pn**	**10 55 31.9**	**-0.3**
VIRV				*eS*		**Sn**	**10 56 12.0**	**-3.8**
QARV	**Quebrada Arrib**	**4.12**	**37⇓**	*iP*		**Pn**	**10 55 39.4**	**+1.0**
QARV				*eS*		**Sn**	**10 56 22.3**	**-4.4**
SANV	**Sanarito**	**4.32**	**53**	*e*P		**Pn**	**10 55 41.7**	**+0.8**
CURV	**Curarigua**	**4.33**	**44**	*e*P		**Pn**	**10 55 41.6**	**+0.4**
DABV	**Dabajuro**	**4.65**	**30**	*e*P		**Pn**	**10 55 45.5**	**+0.3**
TEPV	**Terepaima**	**4.87**	**51**	*e*P		**Pn**	**10 55 47.2**	**-0.9**
SIQV	**Siquisique**	**4.90**	**40⇓**	*e*P		**Pn**	**10 55 48.6**	**0.0**
BAUV	**El Baul**	**5.33**	**67**	*e*P		**Pn**	**10 55 53.5**	**-0.7**
IMOV	**Isla Los Monje**	**5.83**	**21**	*e*P		**Pn**	**10 56 00.7**	**0.0**
TURV	**Turiamo**	**6.22**	**55**	*e*P		**Pn**	**10 56 06.2**	**+0.2**
CAOV	**Caicara del Or**	**6.66**	**86**	*e*P		**Pn**	**10 56 11.0**	**-0.7**
BCIP	**Isla Barro Col**	**7.13**	**289**	*e*Pn		**Pn**	**10 56 15.0**	**-3.1**
LPAZ	**La Paz**	**23.52**	**168**	P		**P**	**10 59 31.9**	**-0.1**
	0.5nm,0.5s,mb3.3,baz=322,slow=12,SNR=3.0							
TXAR	**Lajitas Array**	**36.50**	**312**	P		**P**	**11 01 26.7**	**+0.4**
	0.2nm,0.4s,mb3.1,baz=118,slow=8.8,SNR=7.1							
ULM	**Lac du Bonnet**	**47.26**	**340**	P		**P**	**11 02 52.8**	**-0.5**
	1.1nm,0.3s,mb3.9,baz=157,slow=9.6,SNR=4.7							
PDAR	**Pinedale Array**	**48.09**	**324**	P		**P**	**11 02 59.9**	**+0.1**
	0.3nm,0.5s,mb3.2,baz=126,slow=9.2,SNR=4.1							
NVAR	**Mina Array Bea**	**51.52**	**315**	P		**P**	**11 03 25.5**	**-0.2**
	0.1nm,0.3s,mb2.9,baz=123,slow=6.6,SNR=3.1							
YKA	**Yellowknife Ar**	**63.24**	**340**	P		**P**	**11 04 47.1**	**-0.2**
	0.8nm,0.6s,mb3.8,baz=130,slow=6.7,SNR=6.2							
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc		PKPbc	11 14 05.3	-1.5
	0.2nm,0.8s,baz=105,slow=3.7,SNR=4.4							
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc		PKPbc	11 14 08.3	-1.5
	0.2nm,0.3s,baz=108,slow=2.4,SNR=8.3							

IDC ***25*** *11:03:57.3±2.7, 1720S×70.12W, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, ML3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/27, Error ellipse: s-maj=52.4km s-min=22.1km az=120.0*
ISCJB ***25*** *11:04:01.9±0.7, 1727S±007×6992W±007, h35km, mb3.8/2, Error ellipse: s-maj=11.3km s-min=7.9km az=40.2*
NEIC ***25*** *11:04:02.6±3.3, 1725S×7001W, h35km±30km, Error ellipse: s-maj=13.3km s-min=11.6km az=170.0*
ISC 25 11:04:03.4±0.7, 1729S±008×6999W±007, h35km, n8, σ0°83/13, mb3.8/2, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.66**	**299**	*e*P		**Pn**	**11 04 29.0**	**-1.0**
ARE				*eS*		**Sn**	**11 04 51.0**	**+1.0**
LPAZ	**La Paz**	**2.04**	**61**	Pn		**Pn**	**11 04 34.9**	**-0.3**
	3.9nm,0.3s,baz=237,slow=15,SNR=67							
LPAZ				Sn		**Sn**	**11 05 03.0**	**+3.6**
	6.5nm,0.3s,baz=45,slow=17,SNR=7.2							
LVC	**Limon Verde**	**5.39**	**169**	Pn		**Pn**	**11 05 21.1**	**-0.3**
	1.2nm,0.3s,baz=346,slow=11,SNR=10							
LVC				Sn		**Sn**	**11 06 26.6**	**+4.4**
	0.6nm,0.3s,baz=270,slow=15,SNR=2.3							
LVC	**Limon Verde**	**5.39**	**169**	Pn		**Pn**	**11 05 21.1**	**-0.3**
LVC				*e*Pn		**Pn**	**11 05 21.2**	**-0.2**
LVC				*e*Sn		**Sn**	**11 06 24.0**	**+1.7**
LVC				Sn		**Sn**	**11 06 26.6**	**+4.4**
SIV	**San Ignacio**	**8.64**	**83**	Pn		**Pn**	**11 06 05.9**	**-0.1**
	0.6nm,0.3s,baz=261,slow=11,SNR=13							
CPUP	**Villa Florida**	**14.79**	**130**	LR		LR	11 14 05.8	
	comp=Z,80nm,19.0s,baz=68,slow=41							
PLCA	**Paso Flores**	**23.37**	**181**	P		**P**	**11 09 08.8**	**-0.1**
	4.4nm,1.1s,mb3.8,baz=20,slow=10,SNR=3.4							
TORD	**Torodi Ar. Bea**	**76.95**	**72**	P		**P**	**11 15 52.4**	**-0.5**
	0.6nm,0.6s,mb3.7,baz=252,slow=6.9,SNR=3.3							

ISCJB ***25*** *11:11:55.5±0.4, 2460N±002×122.10E±002, h63km±4km, Error ellipse: s-maj=4.3km s-min=2.8km az=159.6*
TAP ***25*** *11:11:55.8, 2459N×122.04E, h61km, ML4.1*
TAP Felt I J at Jungli (National Central University), I J at Nanshan, I J, I J at Nioudou, I J at Neicheng, II J at Nanau.
JMA ***25*** *11:11:55.8±0.2, 2467N×122.13E, h68km, M3.6*
ISC 25 11:11:56.0±0.4, 2461N±002×12209E±002, h61km±4km, n64, σ0°82/108, 1C-15D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.22**	**271**	*iP*		**Pn**	**11 12 05.7**	**0.0**
TWC				S		**Sn**	**11 12 12.5**	**-0.2**
EGS		**0.28**	**328**	*iP*		**Pn**	**11 12 06.3**	**+0.2**
EGS				S		**Sn**	**11 12 13.4**	**0.0**
ILA	**Ilan**	**0.35**	**297**	*i P*		**Pn**	**11 12 07.0**	**+0.3**
ILA				S		**Sn**	**11 12 15.1**	**+0.8**
ENA	**Nanau**	**0.37**	**241**	*iP*		**Pn**	**11 12 06.8**	**+0.1**
ENA				S		**Sn**	**11 12 14.7**	**+0.2**
TWE	**Neicheng**	**0.41**	**287**	*iP*		**Pn**	**11 12 07.5**	**+0.4**
TWE				S		**Sn**	**11 12 15.2**	**0.0**
TWB1	**Santiao Chiao**	**0.41**	**347**	*iP*		**Pn**	**11 12 07.2**	**-0.1**
TWB1				S		**Sn**	**11 12 15.0**	**-0.3**
EHP	**Heping Village**	**0.44**	**228**	*e*P		**Pn**	**11 12 06.6**	**-0.8**
ENTT	**Nioudou**	**0.48**	**274**	*iP*		**Pn**	**11 12 08.2**	**+0.4**
ENTT				S		**Sn**	**11 12 17.3**	**+0.8**
NWF	**Wu-fen Shan**	**0.54**	**329**	*iP*		**Pn**	**11 12 08.8**	**+0.2**
NWF				S		**Sn**	**11 12 17.5**	**-0.2**
TWA	**Mucha**	**0.60**	**309**	*iP*		**Pn**	**11 12 09.3**	**+0.2**
TWA				S		**Sn**	**11 12 18.0**	**-0.7**
NSK	**Sanguang**	**0.67**	**276**	*iP*		**Pn**	**11 12 10.2**	**+0.2**
TAP1	**Taipei**	**0.68**	**310**	P		**Pn**	**11 12 09.8**	**-0.3**
TAP1				S		**Sn**	**11 12 19.6**	**-0.6**
NNS	**Nan Shan**	**0.68**	**256**	*iP*		**Pn**	**11 12 10.1**	**0.0**
NNS				S		**Sn**	**11 12 20.1**	**-0.2**
TWD	**Chiawan**	**0.69**	**221**	P		**Pn**	**11 12 09.6**	**-0.6**
TWD				S		**Sn**	**11 12 19.8**	**-0.8**
HWA	**Hwalien**	**0.77**	**216**	P		**Pn**	**11 12 10.7**	**-0.4**
HWA				S		**Sn**	**11 12 22.0**	**-0.2**
TWS1	**Kuangyinshan**	**0.79**	**309**	*iP*		**Pn**	**11 12 11.6**	**+0.3**
TWS1				S		**Sn**	**11 12 22.8**	**+0.1**
TWY	**Chenhua**	**0.81**	**326**	*e*P		**Pn**	**11 12 11.5**	**-0.1**
TWY				S		**Sn**	**11 12 22.7**	**-0.4**
YOJ	**Yonaguni jima**	**0.85**	**100**	P		**Pn**	**11 12 12.2**	**+0.1**
YOJ				*eS*		**Sn**	**11 12 24.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.85**	**100**	*iP*		**Pn**	**11 12 12.2**	**0.0**
YOJ				S		**Sn**	**11 12 24.2**	**+0.

WTCT	**Ta-ch'eng**	**1.81 246**	*eP*	**Pn**	**11 12 23.4**	**-1.5**
CHN4	**Tsaushan**	**1.86 228**	*eP*	**Pn**	**11 12 26.9**	**+1.3**
CHN4			S	**Sn**	**11 12 49.9**	**+1.9**
JIJ	**Ishigaki jima**	**1.88 97**	P	**Pn**	**11 12 25.7**	**-0.2**
JIJ			*eS*	**Sn**	**11 12 47.9**	**-0.7**
CHY	**Chiayi**	**1.88 235**	*eP*	**Pn**	**11 12 25.9**	**0.0**
CHY			S	**Sn**	**11 12 48.7**	**+0.1**
STYT	**Tauyuan**	**1.89 221**	*eP*	**Pn**	**11 12 26.2**	**+0.2**
WTP	**Ta-pu**	**1.91 225**	*eP*	**Pn**	**11 12 27.2**	**+0.9**
WTP			S	**Sn**	**11 12 50.7**	**+1.4**
WSF	**Szhu**	**1.96 241**	*eP*	**Pn**	**11 12 27.2**	**+0.2**
TWK	**Hsinying**	**1.98 228**	*eP*	**Pn**	**11 12 28.1**	**+0.9**
TWK			S	**Sn**	**11 12 52.4**	**+1.3**
TWG	**Pinlang**	**2.01 208**	*eP*	**Pn**	**11 12 25.6**	**-2.0**
TWG			S	**Sn**	**11 12 48.5**	**-3.1**
CHN1	**Nanshi**	**2.01 226**	*eP*	**Pn**	**11 12 28.3**	**+0.6**
CHN1			S	**Sn**	**11 12 52.3**	**+0.5**
SGST	**Jiashian**	**2.05 223**	*eP*	**Pn**	**11 12 28.4**	**+0.2**
SGST			S	**Sn**	**11 12 53.6**	**+0.9**
CHN8	**Yiju**	**2.13 234**	*eP*	**Pn**	**11 12 28.4**	**-0.8**
SCLT	**Jiali**	**2.25 231**	*eP*	**Pn**	**11 12 31.2**	**+0.3**
ECL	**Taimali**	**2.26 208**	*eP*	**Pn**	**11 12 28.9**	**-2.1**
SSD	**Sandimen**	**2.29 216**	*eP*	**Pn**	**11 12 32.2**	**+0.8**
SSD			S	**Sn**	**11 12 59.4**	**+1.0**
JTJ	**Tarama**	**2.37 89**	P	**Pn**	**11 12 33.6**	**+1.0**
JTJ			*eS*	**Sn**	**11 13 01.4**	**+0.8**
EAST	**Anshuo**	**2.49 208**	*eP*	**Pn**	**11 12 33.0**	**-1.2**
PNG	**Penghu**	**2.54 247**	*eP*	**Pn**	**11 12 33.3**	**-1.6**
SCZT	**Fangliau**	**2.60 212**	*eP*	**Pn**	**11 12 36.5**	**+0.9**
SCZT			S	**Sn**	**11 13 06.7**	**+0.5**
LAY	**Lan-yu**	**2.60 191**	*eP*	**Pn**	**11 12 33.8**	**-1.9**
HEN	**Hengchun**	**2.87 206**	*eP*	**Pn**	**11 12 39.1**	**-0.3**
KNM	**Kinmen**	**3.34 268**	*eP*	**Pn**	**11 12 45.3**	**-0.4**
KNM			S	**Sn**	**11 13 22.5**	**-1.7**

*IDC **25** 11:12:58.9±0.7, 4116N×8828E, h0km, mb3.9/9, mb1 4.2/12, mb1mx4.0/23, mbtmp4.0/12, ML4.2/3, MS2.7/2, Ms1 2.7/2, ms1mx2.3/37, Error ellipse: s-maj=27.2km s-min=13.4km az=52.0*
*NEIC **25** 11:13:00.6±0.7, 4127N×8839E, h10km, mb4.2/1, Error ellipse: s-maj=11.2km s-min=9.7km az=183.0*
*BJI **25** 11:13:00.0, 4107N×8826E, h15km, mB4.2, mb4.4, ML4.1, Ms3.4, Msz3.3*
*ISCJB **25** 11:13:00.6±1.8, 4133N±005×8835E±006, h25km±13km, mb4.1/19, Error ellipse: s-maj=10.4km s-min=5.2km az=34.6*
*MOS **25** 11:13:02.0±1.6, 4134N×8830E, h33km, mb4.2/2, Error ellipse: s-maj=15.3km s-min=10.0km az=110.3*
*NNC **25** 11:13:04.7±2.2, 4158N×8776E, h0km, mb3.8, mpv4.3, Error ellipse: s-maj=17.5km s-min=13.1km az=120.0*

ISC 25 11:13:02.6±1.8, 4129N±005×8839E±005, h23km±13km, n55, σ1$10/65, mb4.1/19, 11C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.58**	**349**	⇓*iP*	**Pn**	**11 13 46.3**	**+3.4**
WMQ				SG	**Sn**	**11 14 22.8**	**+9.2**
WMQ				Smax			
	comp=N,5μm,0.5s						
WMQ				Smax			
	comp=E,5μm,0.5s						
MK31	**Makanchi Array**	**7.04**	**323**	⇑Pn	**Pn**	**11 14 45.1**	**+1.0**
	comp=E,7.2nm,0.3s,baz=142,slow=14,SNR=537						
MK31				⇑Sn	**Sn**	**11 16 03.3**	**-0.2**
	comp=E,9.2nm,0.3s,baz=136,slow=27,SNR=6.6						
MK31				⇑Lg		11 16 27.9	
	comp=E,46nm,0.7s						
MK31	**Makanchi Array**	**7.04**	**323**	*e*Pn	**Pn**	**11 14 44.7**	**+0.6**
MK31				*e*Sn	**Sn**	**11 16 03.7**	**+0.2**
MKAR	**Makanchi Array**	**7.04**	**323**	Pn	**Pn**	**11 14 44.5**	**+0.4**
	comp=E,9.7nm,0.3s,baz=137,slow=14,SNR=303						
MKAR				Sn	**Sn**	**11 16 03.1**	**-0.4**
	comp=E,13nm,0.3s,baz=137,slow=26,SNR=7.9						
MKAR				Lg		11 16 41.8	
	comp=E,6.6nm,0.3s,baz=134,slow=30,SNR=6.5						
MKAR	**Makanchi Array**	**7.04**	**323**	P	**Pn**	**11 14 44.5**	**+0.3**
MKAR						11 16 03.1	
GTA	**Gaotai**	**8.92**	**98**	*eP*	**Pn**	**11 15 12.5**	**+2.5**
GTA				AP		11 15 17.0	
GTA				XP		11 15 20.5	
GTA				S	**Sn**	**11 16 44.5**	**-5.2**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.4s						
GTA				AMB	AMB		
	comp=Z,64nm,6.0s						
GTA				LR	LR		
	comp=N,186nm,10.5s						
GTA				LR	LR		
	comp=E,145nm,12.3s						
GTA				LR	LR		
	comp=Z,94nm,12.3s						
TKM2	**Tokmak 2**	**9.65**	**284**	⇑Pn	**Pn**	**11 15 18.9**	**-1.0**
	comp=Z,15nm,0.8s						
TKM2				⇑Sn	**Sn**	**11 17 03.2**	**-4.3**
	comp=Z,39nm,0.9s						
TKM2	**Tokmak 2**	**9.65**	**284**	*e*P	**Pn**	**11 15 19.3**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,19nm,0.8s						
TKM2	**Tokmak 2**	**9.65**	**284**	*e*Pn	**Pn**	**11 15 19.3**	**-0.6**
	comp=Z,19nm,0.8s						
EKS2	**Erkin-Say**	**10.97**	**282**	Pn	**Pn**	**11 15 38.8**	**+0.8**
KURBB	**Kurchatov Arra**	**11.58**	**327**	⇑Pn	**Pn**	**11 15 44.8**	**-1.4**
	comp=Z,0.5nm,0.6s						
KURBB				⇑Sn	**Sn**	**11 17 49.3**	**-5.4**
	comp=Z,2.0nm,0.7s						
KURBB				⇓Lg		11 19 01.2	
	comp=Z,6.1nm,0.7s						
KURK	**Kurchatov**	**11.61**	**328**	⇓Pn	**Pn**	**11 15 49.3**	**+2.6**
	comp=Z,2.7nm,0.6s						
KURK				⇓Sn	**Sn**	**11 17 49.9**	**-5.6**
	comp=Z,4.1nm,0.7s						
KURK				⇓Lg		11 18 59.3	
	comp=Z,33nm,1.4s						
ZAL	**Zalesovo**	**12.88**	**350**	P	**Pn**	**11 16 03.6**	**-0.5**
ZALV	**Zalesovo Beam**	**12.89**	**350**	Pn	**Pn**	**11 16 03.5**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=168,slow=13,SNR=8.7						
LZH	**Lanzhou**	**13.14**	**108**	*e*P	**Pn**	**11 16 10.0**	**+2.3**
LZH				AP		11 16 14.3	
LZH				XP		11 16 17.5	
LZH				AMB	AMB		
	comp=Z,15nm,1.0s						
LZH				AMB	AMB		
	comp=Z,69nm,4.1s						
KK31	**Karatay Array**	**13.38**	**284**	Pn	**Pn**	**11 16 10.8**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=100,slow=12,SNR=5.2						
KK31				⇑Sn	**Sn**	**11 18 38.8**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=227,slow=34,SNR=2.6						
ZAK	**Zakamensk**	**13.78**	**44**	*e*P	**Pn**	**11 16 15.4**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s						
SONM	**Songino Array**	**14.39**	**57**	Pn	**Pn**	**11 16 24.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=244,slow=15,SNR=5.6						
SONM				Lg		11 20 40.4	
	comp=Z,0.2nm,0.3s,baz=242,slow=28,SNR=5.2						
SONM				LR	LR	11 22 25.4	
	comp=Z,27nm,19.4s,baz=151,slow=39						
CD2	**Chengdu**	**16.15**	**125**	*e*P	**Pn**	**11 16 45.5**	**-2.5**
CD2				AP	pP	11 16 52.3	-5.0
CD2				PP		11 16 58.3	
CD2				S	**Sn**	**11 19 43.8**	**-2.5**
CD2				SS		11 20 03.0	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,70nm,10.8s						
CD2				LR	LR		
	comp=Z,80nm,10.8s						
VOSK	**Vostochnaya**	**16.44**	**320**	⇓Pn	**Pn**	**11 16 49.9**	**-1.7**
	comp=Z,2.3nm,0.6s						
VOSK				⇓Sn	**Sn**	**11 19 48.1**	**-5.0**
	comp=Z,3.9nm,0.9s						
KBL	**Kabul**	**16.67**	**252**	*e*Pn	**Pn**	**11 16 53.5**	**-1.1**
	comp=Z,16nm,0.8s						
KBL				*e*Sn	**Sn**	**11 20 01.3**	**+2.3**
BVA0	**Borovoye Array**	**16.91**	**320**	⇑Pn	**Pn**	**11 16 57.2**	**-0.2**
	comp=Z,1.3nm,1.2s,baz=121,slow=12,SNR=16						
BVAR	**Borovoye Array**	**16.91**	**320**	Pn	**Pn**	**11 16 56.0**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=130,slow=12,SNR=13						
BVAR				LR	LR	11 23 16.9	
	comp=Z,28nm,21.0s,baz=232,slow=36						
GYA	**Guiyang**	**21.12**	**129**	⇑*iP*	**P**	**11 17 46.3**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
AB31	**Akbulak array**	**21.45**	**301**	Pn	**P**	**11 17 47.9**	**-1.1**
	comp=Z,0.5nm,0.3s,mb3.2,baz=101,slow=12,SNR=32						
AKTK	**Aktyubinsk**	**22.91**	**304**	P	**P**	**11 18 05.2**	**+0.7**
AKTO	**Aktyubinsk**	**22.91**	**304**	⇑Pn	**P**	**11 18 08.0**	**+3.4**
	comp=Z,1.0nm,0.9s,mb3.2						
AKTO	**Aktyubinsk**	**22.91**	**304**	P	**P**	**11 18 05.2**	**+0.7**
	comp=Z,0.9nm,0.4s,mb3.5,baz=111,slow=1.5,SNR=3.6						
BOD	**Bodaibo**	**23.23**	**36**	*eP*	**P**	**11 18 10.0**	**+2.2**
CMAR	**Chiang Mai Arr**	**24.48**	**155**	P	**P**	**11 18 20.4**	**+0.5**
	comp=Z,1.9nm,0.6s,mb3.7,baz=335,slow=9.9,SNR=15						
ARCES	**ARCESS Array B**	**42.60**	**332**	P	**P**	**11 20 57.3**	**+0.9**
	comp=Z,1.1nm,0.4s,mb4.0,baz=88,slow=7.5,SNR=15						
NB2	**NORSAR Subarra**	**49.03**	**321**	P	**P**	**11 21 47.0**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=77,slow=7.9						
NOA	**NORSAR Array B**	**49.03**	**321**	P	**P**	**11 21 46.6**	**-0.6**
	comp=Z,2.0nm,1.0s,mb4.1,baz=77,slow=7.8,SNR=2.7						
GERES	**GERESS Array B**	**51.32**	**305**	P	**P**	**11 22 05.1**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.6,baz=51,slow=10,SNR=3.8						
LPG	**La Plagne**	**57.02**	**304**	*eP*	**P**	**11 22 47.4**	**+1.1**
	comp=Z,13nm,0.6s,mb4.9						
LPL	**La Plagne**	**57.02**	**304**	*eP*	**P**	**11 22 47.4**	**+1.1**
	comp=Z,13nm,0.6s,mb4.8						
MBDF	**Montbardon**	**57.37**	**303**	*eP*	**P**	**11 22 48.1**	**-0.7**
	comp=Z,5.2nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**57.84**	**304**	*eP*	**P**	**11 22 52.1**	**0.0**
LOR	**Lormes**	**57.98**	**307**	*eP*	**P**	**11 22 52.5**	**-0.5**
	comp=Z,4.1nm,0.6s,mb4.3						
SMF	**Signal de Mont**	**58.28**	**306**	*eP*	**P**	**11 22 55.0**	**-0.2**
	comp=Z,9.3nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**58.29**	**307**	*eP*	**P**	**11 22 54.8**	**-0.4**
	comp=Z,1.8nm,0.5s,mb4.0						
AVF	**Avril sur Loir**	**58.51**	**307**	*eP*	**P**	**11 22 56.6**	**-0.2**
	comp=Z,3.9nm,0.6s,mb4.3						
TCF	**Toulx Ste Croi**	**59.44**	**307**	*eP*	**P**	**11 23 03.4**	**+0.2**
	comp=Z,12nm,1.0s,mb4.6						
LDF	**La Druitiere**	**59.70**	**310**	*eP*	**P**	**11 23 04.8**	**-0.2**
FLN	**La Foliniere**	**59.83**	**310**	*eP*	**P**	**11 23 05.6**	**-0.2**
GRR	**Gorron**	**60.23**	**310**	*eP*	**P**	**11 23 08.3**	**-0.3**
WRA	**Warramunga Arr**	**74.33**	**135**	P	**P**	**11 24 37.4**	**-0.8**
	comp=Z,1.2nm,0.7s,mb4.0,baz=334,slow=5.8,SNR=9.7						
WRA	**Warramunga Arr**	**74.33**	**135**	P	**P**	**11 24 37.4**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WB2	**Warramunga Arr**	**74.34**	**135**	*eP*	**P**	**11 24 37.9**	**-0.3**
YKA	**Yellowknife Ar**	**74.93**	**11**	P	**P**	**11 24 42.9**	**+1.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=335,slow=5.4,SNR=3.4						
ASAR	**Alice Springs**	**77.18**	**138**	P	**P**	**11 24 54.4**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=325,slow=4.6,SNR=13						
ASAR	**Alice Springs**	**77.18**	**138**	P	**P**	**11 24 54.4**	**0.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**79.00**	**278**	P	**P**	**11 25 03.8**	**-1.1**
	comp=Z,3.9nm,0.4s,mb4.7,baz=45,slow=5.0,SNR=95						
CPUP	**Villa Florida**	**148.08**	**287**	PKPbc	PKPbc	11 32 45.6	-0.7
	comp=Z,1.3nm,0.6s,baz=16,slow=7.4,SNR=5.1						
CPUP	**Villa Florida**	**148.08**	**287**	PKP2	PKPbc	11 32 45.6	-0.7
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC 25 11:39:32.5±9.5, 2348S×17972W, h490km±118km, mb3.2/6, mb1 3.4/7, mb1mx3.2/18, mbtmp3.2/7, 1D, Error ellipse: s-maj=85.6km s-min=29.7km az=5.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.98**	**190**	P	P	11 42 42.3	-0.2
	0.5nm,0.3s,baz=52,slow=1.9,SNR=4.3						
CTA	**Charters Tower**	**31.73**	**269**	*eP*	P	11 45 16.4	+0.8
	5.1nm,0.3s						
CTA	**Charters Tower**	**31.73**	**269**	P	P	11 45 16.5	+1.0
	6.2nm,0.3s,baz=94,slow=12,SNR=23						
STKA	**Stephens Creek**	**35.12**	**248**	P	P	11 45 43.8	-0.4
	0.7nm,0.5s,baz=96,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**42.35**	**260**	P	P	11 46 42.7	-0.4
	1.4nm,0.5s,baz=98,slow=7.7,SNR=47						
WB2	**Warramunga Arr**	**42.68**	**266**	⇓*iP*	P	11 46 44.8	-0.8
WRA	**Warramunga Arr**	**42.69**	**266**	P	P	11 46 45.0	-0.8
	2.9nm,0.3s,baz=96,slow=8.4,SNR=254						
FITZ	**Fitzroy Crossi**	**51.12**	**265**	P	P	11 47 49.9	+0.3
	1.1nm,0.5s,baz=79,slow=5.2,SNR=8.1						
TXAR	**Lajitas Array**	**89.99**	**58**	P	P	11 51 39.6	+0.2
	0.2nm,0.7s,baz=239,slow=4.6,SNR=4.3						

*IDC **25** 11:42:23.8±0.8, 088N×12588E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=67.4km s-min=16.5km az=72.0*
*ISCJB **25** 11:42:26.8±0.8, 08N±01×1259E±03, h33km, mb4.0/7, Error ellipse: s-maj=49.8km s-min=11.6km az=162.1*
*NEIC **25** 11:42:31.4±0.6, 082N×12604E, h60km, mb4.2/1, Error ellipse: s-maj=32.7km s-min=9.7km az=67.0*

ISC 25 11:42:29.0±0.8, 08N±01×1260E±03, h35km, n12, σ0$76/10, mb4.0/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.91**	**155**	*e*Pn	**Pn**	**11 45 56.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**18.81**	**181**	P	**Pn**	**11 46 46.1**	**-0.4**
	0.1nm,0.3s,baz=48,slow=16,SNR=3.9						
WRAB	**Tennant Creek**	**22.21**	**159**	*eP*	**P**	**11 47 22.5**	**-0.1**
	9.1nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**22.21**	**159**	P	**P**	**11 47 22.0**	**-0.6**
	7.3nm,0.8s,mb4.1,baz=337,slow=11,SNR=26						
WB2	**Warramunga Arr**	**22.22**	**159**	*eP*	**P**	**11 47 22.5**	**-0.2**
ASAR	**Alice Springs**	**25.54**	**163**	P	**P**	**11 47 55.5**	**+0.8**
	1.6nm,0.5s,mb3.8,baz=348,slow=12,SNR=28						
STKA	**Stephens Creek**	**35.74**	**157**	P	**P**	**11 49 26.0**	**+1.4**
	0.8nm,0.5s,mb3.9,baz=325,slow=20,SNR=5.2						
KSRS	**Korea Array**	**36.49**	**3**	P	**P**	**11 49 30.6**	**-0.3**
	0.7nm,0.6s,mb3.8,baz=179,slow=9.5,SNR=6.0						
MKAR	**Makanchi Array**	**59.51**	**327**	P	**P**	**11 52 27.8**	**-1.0**
	0.5nm,0.3s,mb4.0,baz=116,slow=7.9,SNR=9.1						
BVAR	**Borovoye Array**	**69.33**	**328**	P	**P**	**11 53 34.0**	**+1.1**
	1.6nm,0.9s,mb4.0,baz=140,slow=7.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**123.03**	**286**	PKP	PKPdf	12 01 21.8	-1.0
	0.4nm,0.9s,baz=101,slow=2.2,SNR=2.6						
TXAR	**Lajitas Array**	**123.96**	**53**	PKP	PKPdf	12 01 23.8	-0.5
	0.3nm,0.8s,baz=221,slow=1.3,SNR=3.7						

*ISCJB **25** 11:44:16.7±2.3, 2068N±003×11998E±008, h25km±19km, mb3.9/9, Error ellipse: s-maj=12.2km s-min=5.5km az=175.5*
*IDC **25** 11:44:18.5±0.7, 2063N×12014E, h24km±5km, mb3.7/10, mb1 3.9/11, mb1mx3.8/21, mbtmp3.7/11, ML3.7/1, MS3.2/2, Ms1 3.3/2, ms1mx2.5/35, Error ellipse: s-maj=24.0km s-min=13.7km az=71.0*
*NEIC **25** 11:44:19.2±0.6, 2068N×12000E, h35km, Error ellipse: s-maj=15.5km s-min=10.9km az=97.0*
*MAN **25** 11:44:20, 2054N×12004E, h122km, mb5.3, ML4.2, MS4.5*

ISC 25 11:44:17.7±2.8, 2068N±003×11997E±007, h19km±18km, h26km±3km: pP-P, n20, σ1$01/24, mb3.9/9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**3.05**	**157**	*eP*	**Pn**	**11 45 03.9**	**-1.1**
APYP				*e*S	**Sn**	**11 45 41.5**	**+0.6**
NACB	**Ninganchiao**	**3.79**	**23**	*e*Pn	**Pn**	**11 45 14.3**	**-0.8**
NACB				*e*Sn	**Sn**	**11 45 58.6**	**-0.6**
CAUP	**Cauayan**	**4.11**	**154**	*eP*	**Pn**	**11 45 20.6**	**+1.1**
YHNB	**Yeheng**	**4.18**	**18**	*e*Pn	**Pn**	**11 45 20.5**	**+0.1**
YHNB				*e*Sn	**Sn**	**11 46 10.1**	**+1.3**
PALP	**Palanan**	**4.28**	**147**	*eP*	**Pn**	**11 45 23.4**	**+1.5**
PALP				*e*S	**Sn**	**11 46 10.8**	**-0.5**
BALP	**Baler**	**5.14**	**162**	*eP*	**Pn**	**11 45 35.0**	**+1.2**
QIZ	**Qiongzhong**	**9.67**	**262**	*e*Pn	**Pn**	**11 46 35.0**	**-0.9**
KSRS	**Korea Array**	**18.09**	**21**	P	**Pn**	**11 48 27.8**	**-0.1**
	0.2nm,0.3s,baz=201,slow=11,SNR=16						
CMAR	**Chiang Mai Arr**	**19.94**	**267**	P	**Pn**	**11 48 50.8**	**+0.4**
	1.0nm,0.8s,baz=73,slow=9.0,SNR=7.2						
CMAR				LR	LR	11 57 15.5	
	comp=Z,64nm,18.9s,baz=90,slow=39						
MJAR	**Matsushiro Arr**	**22.44**	**41**	P	**P**	**11 49 14.1**	**-1.4**
	3.2nm,0.8s,mb3.8,baz=231,slow=10,SNR=12						
MJAR	**Matsushiro Arr**	**22.44**	**41**	P	**P**	**11 49 14.1**	**-1.4**
SONM	**Songino Array**	**29.23**	**341**	P	**P**	**11 50 17.4**	**-0.8**
	0.3nm,0.3s,mb3.5,baz=152,slow=9.5,SNR=3.4						
MKAR	**Makanchi Array**	**40.16**	**319**	P	**P**	**11 51 54.6**	**+2.1**
	0.5nm,0.8s,mb3.3,baz=103,slow=10,SNR=4.6						
MKAR				pP	pP	11 52 01.8	+3.3
	0.6nm,0.6s,baz=113,slow=9.7,SNR=6.0						
WRA	**Warramunga Arr**	**42.75**	**160**	P	**P**	**11 52 12.7**	**-1.3**
	1.9nm,0.6s,mb4.0,baz=342,slow=9.0,SNR=16						
WRA				pP	pP	11 52 20.1	+0.1
	2.1nm,0.5s,baz=342,slow=9.1,SNR=9.6						
WB2	**Warramunga Arr**	**42.75**	**160**	*eP*	**P**	**11 52 12.4**	**-1.6**
WB2				*eP*		11 52 13.1	
PETK	**Petropavlovsk-**	**43.40**	**32**	P	**P**	**11 52 20.2**	**+1.3**
	4.1nm,0.9s,mb4.2,baz=160,slow=3.7,SNR=7.1						
PETK				LR	LR	12 09 35.2	
	comp=Z,23nm,19.0s,baz=317,slow=35						
ASAR	**Alice Springs**	**46.12**	**162**	P	**P**	**11 52 40.3**	**-0.6**
	0.4nm,0.4s,mb3.7,baz=346,slow=6.5,SNR=6.9						
ASAR				pP	pP	11 52 47.5	+0.5
	0.5nm,0.6s,baz=352,slow=7.0,SNR=5.1						
CTA	**Charters Tower**	**47.99**	**146**	P	**P**	**11 52 55.8**	**+0.2**
	2.5nm,0.7s,mb4.3,baz=313,slow=8.2,SNR=3.7						
GERES	**GERESS Array B**	**84.82**	**320**	P	**P**	**11 56 51.6**	**+0.6**
	0.2nm,0.3s,mb3.7,baz=88,slow=8.1,SNR=5.2						
GERES				pP	pP	11 56 59.6	+2.2
	0.7nm,0.7s,baz=64,slow=3.1,SNR=3.4						
YKA	**Yellowknife Ar**	**86.62**	**22**	P	**P**	**11 56 59.4**	**-0.3**
	1.6nm,0.9s,mb4.3,baz=317,slow=5.0,SNR=5.1						

*IDC **25** 11:51:40.5±2.2, 739S×15761E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/16, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=50.2km s-min=26.4km az=7.0*
*NEIC **25** 11:51:45.1±2.0, 742S×15771E, h35km, Error ellipse: s-maj=45.7km s-min=18.3km az=188.0*

ISC 25 11:51:42.6±4.1, 75S±05×1577E±02, h10km, n8, σ0$79/9, mb3.5/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.92**	**130**	Pn	**Pn**	**11 52 29.4**	**+0.3**
	26nm,0.3s,baz=248,slow=5.7,SNR=6.2						
HNR				Sn	**Sb**	**11 53 10.2**	**-0.4**
	57nm,0.3s,baz=266,slow=15,SNR=13						
HNR	**Honiara**	**2.92**	**130**	*e*Sn	**Sb**	**11 53 10.3**	**-0.3**
HNR	**Honiara**	**2.92**	**130**	Pn	**Pn**	**11 52 29.4**	**+0.3**
HNR				*e*Pn	**Pn**	**11 52 29.6**	**+0.5**
HNR				Sn	**Sb**	**11 53 10.2**	**-0.4**
WRA	**Warramunga Arr**	**25.77**	**239**	P	**P**	**11 57 12.5**	**-1.3**
	1.8nm,0.8s,mb3.6,baz=66,slow=9.4,SNR=12						
ASAR	**Alice Springs**	**27.89**	**232**	P	**P**	**11 57 32.9**	**+0.1**
	0.4nm,1.0s,mb3.0,baz=60,slow=8.2,SNR=4.0						
STKA	**Stephens Creek**	**28.49**	**210**	P	**P**	**11 57 39.2**	**+1.1**
	1.4nm,0.6s,mb3.8,baz=35,slow=12,SNR=6.9						
LPAZ	**La Paz**	**128.85**	**118**	PKP	PKPdf	12 10 52.1	+0.6
	5.0nm,0.6s,baz=242,slow=12,SNR=19						
LPAZ	**La Paz**	**128.85**	**118**	*e*PKPdf	PKPdf	12 10 51.3	-0.2
LPAZ				PKP	PKPdf	12 10 52.1	+0.6

*IPEC **25** 12:27:34.6±0.3, 5162N×1612E, h0km±1km, ML2.3/3, Error ellipse: s-maj=1.9km s-min=1.5km az=21.0*
*ISCJB **25** 12:27:34.1±0.5, 5151N±003×1605E±003, h0km, Error ellipse: s-maj=4.1km s-min=2.4km az=20.4*
*NEIC **25** 12:27:35.8±0.9, 5155N×1604E, h5km, MG2.7(WAR), Error ellipse: s-maj=10.9km s-min=6.5km az=205.0*
*CSEM **25** 12:27:35.8±0.1, 5156N×1604E, h1km, ML3.4/8, Error ellipse: s-maj=2.3km s-min=1.4km az=31.0*
*WAR **25** 12:27:36.7, 5154N×1602E, ML2.7, Mining Induced*
*VIE **25** 12:27:38.1±0.8, 5131N×1607E, h0km, mb2.5/4, ML2.9/4, Error ellipse: s-maj=5.0km s-min=4.6km az=171.0 70 km WNW of Wroclaw Suspected Mining induced.*

ISC 25 12:27:35.2±0.5, 5156N±003×1603E±003, h0km, n33, σ0$96/73, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**167**	*e*Pg	**Pg**	**12 27 49.8**	**+0.4**
KSP				*e*Sg	**Sg**	**12 27 59.4**	**+0.5**
KSP	**Ksiaz**	**0.74**	**167**	*e*Pg	**Pg**	**12 27 49.6**	**+0.3**
KSP				*e*Sg	**Sg**	**12 27 59.3**	**+0.5**
KSP	**Ksiaz**	**0.74**	**167**	⇓*i*Pg	**Pg**	**12 27 49.8**	**+0.5**
KSP				*e*Sg	**Sg**	**12 27 59.3**	**+0.5**
UPC	**Upice**	**1.05**	**180**	*e*PG	**Pg**	**12 27 55.5**	**+0.1**
DPC	**Dobruska-Polom**	**1.23**	**171**	*e*Pg	**Pg**	**12 27 58.4**	**-0.3**
DPC				*e*Sg	**Sg**	**12 28 14.8**	**+0.3**
DPC	**Dobruska-

*ISCJB **25** 12:32:42.7±0.5,2602N±009×4482W±009,h10km, mb4.1/18,MS3.6/18,Error ellipse: s-maj=12.3km s-min=11.5km az=173.6*
*IDC **25** 12:32:42.8±0.7,2604N×4488W,h0km,mb4.1/15, mb1 4.3/15,mb1mx4.1/25,mbtmp4.1/15,MS3.6/18, Ms1 3.6/18,ms1mx3.6/25,Error ellipse: s-maj=18.2km s-min=16.6km az=109.0*
*NEIC **25** 12:32:44.5±0.4,2601N×4482W,h10km,mb4.5/3,Error ellipse: s-maj=10.7km s-min=9.9km az=196.0*
ISC 25 12:32:44.6±0.5,2602N±009×4481W±009,h10km,n28, σ0°76/21,mb4.1/18,MS3.6/18,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**17.80**	**246**	*e*Pn	**Pn**	**12 36 52.9**	**+0.4**
SJG	**San Juan**	**21.27**	**253**	LR	LR	12 43 51.5	
	comp=Z,180nm,18.9s,MS3.5,baz=276,slow=32						
PCRV	**Puerto La Cruz**	**24.51**	**234**	LR	LR	12 44 37.7	
	comp=Z,50nm,21.6s,MS3.0,baz=98,slow=29						
BBTS	**Babate**	**28.76**	**108**	LR	LR	12 46 55.7	
	comp=Z,214nm,20.5s,MS3.7,baz=72,slow=30						
SDV	**Santo Domingo**	**29.85**	**240**	P	**P**	**12 38 52.9**	**+0.6**
	4.7nm,0.8s,mb4.3,baz=35,slow=6.5,SNR=5.0						
SDV				LR	LR	12 49 42.1	
	comp=Z,35nm,19.2s,MS3.0,baz=52,slow=34						
SDV	**Santo Domingo**	**29.85**	**240**	P	**P**	**12 38 53.0**	**+0.6**
SDV				LR	LR	12 49 42.1	
SCHQ	**Schefferville**	**33.02**	**337**	LR	LR	12 50 57.6	
	comp=Z,134nm,22.0s,MS3.6,baz=252,slow=33						
TKL	**Tuckaleechee C**	**34.62**	**296**	P	**P**	**12 39 34.4**	**+0.5**
	7.1nm,1.0s,mb4.5,baz=121,slow=9.4,SNR=6.3						
ROSC	**El Rosal**	**35.22**	**238**	LR	LR	12 53 21.8	
	comp=Z,51nm,20.3s,MS3.3,baz=20,slow=35						
PLAL	**Pickwick Lake**	**38.09**	**294**	*e*P	**P**	**12 40 04.6**	**+1.0**
	6.3nm,1.0s,mb4.3						
BDFB	**Brasilia**	**41.53**	**185**	P	**P**	**12 40 32.5**	**+0.2**
	1.1nm,0.6s,mb3.7,baz=13,slow=27,SNR=4.3						
BDFB				LR	LR	12 56 01.7	
	comp=Z,90nm,18.6s,MS3.7,baz=159,slow=34						
DBIC	**Dimbokro**	**42.65**	**110**	P	**P**	**12 40 42.2**	**+0.6**
	4.5nm,0.8s,mb4.2,baz=279,slow=6.8,SNR=3.1						
DBIC				LR	LR	12 55 45.6	
	comp=Z,158nm,18.3s,MS3.9,baz=288,slow=32						
DBIC	**Dimbokro**	**42.65**	**110**	P	**P**	**12 40 42.2**	**+0.6**
DBIC				LR	LR	12 55 45.6	
SIV	**San Ignacio**	**44.66**	**203**	P	**P**	**12 40 57.0**	**-0.7**
	2.6nm,0.7s,mb4.2,baz=33,slow=7.8,SNR=15						
TORD	**Torodi Ar. Bea**	**45.42**	**97**	P	**P**	**12 41 03.7**	**-0.1**
	1.1nm,0.9s,mb3.7,baz=314,slow=7.2,SNR=4.8						
TORD				LR	LR	12 58 09.5	
	comp=Z,169nm,19.6s,MS4.0,baz=280,slow=34						
ULM	**Lac du Bonnet**	**45.77**	**316**	P	**P**	**12 41 04.3**	**-1.8**
	3.6nm,0.9s,mb4.3,baz=93,slow=6.7,SNR=4.2						
ULM				LR	LR	12 57 43.6	
	comp=Z,139nm,21.7s,MS3.9,baz=68,slow=33						
WMOK	**Wichita Mounta**	**46.89**	**294**	*e*P	**P**	**12 41 15.2**	**0.0**
	7.0nm,1.1s,mb4.5						
LPAZ	**La Paz**	**47.79**	**211**	P	**P**	**12 41 22.7**	**+0.4**
	3.2nm,0.6s,mb4.5,baz=18,slow=9.4,SNR=12						
LPAZ				LR	LR	13 01 55.2	
	comp=Z,39nm,20.6s,MS3.4,baz=77,slow=37						
GERES	**GERESS Array B**	**50.35**	**47**	P	**P**	**12 41 41.9**	**+0.2**
	0.4nm,0.7s,mb3.6,baz=270,slow=9.3,SNR=4.3						
GERES				LR	LR	13 00 46.6	
	comp=Z,16nm,20.4s,MS3.0,baz=261,slow=33						
TXAR	**Lajitas Array**	**51.76**	**288**	P	**P**	**12 41 51.1**	**-1.4**
	0.7nm,0.8s,mb3.6,baz=91,slow=5.9,SNR=9.1						
TXAR				LR	LR	13 02 47.4	
	comp=Z,39nm,18.0s,MS3.5,baz=0.0,slow=35						
CPUP	**Villa Florida**	**53.43**	**194**	P	**P**	**12 42 03.9**	**-0.9**
	0.3nm,0.3s,mb3.7,baz=16,slow=8.6,SNR=4.1						
RLMT	**Red Lodge**	**54.35**	**308**	*e*P	**P**	**12 42 12.7**	**+1.3**
	6.8nm,1.5s,mb4.4						
PDAR	**Pinedale Array**	**54.70**	**305**	P	**P**	**12 42 13.5**	**-0.5**
	2.0nm,0.9s,mb4.1,baz=86,slow=7.6,SNR=12						
PDAR				LR	LR	13 04 16.3	
	comp=Z,128nm,18.1s,MS4.0,baz=84,slow=35						
YKA	**Yellowknife Ar**	**57.94**	**329**	LR	LR	13 06 16.5	
	comp=Z,99nm,20.9s,MS3.9,baz=140,slow=35						
ARCES	**ARCESS Array B**	**59.00**	**23**	P	**P**	**12 42 44.6**	**+0.5**
	2.4nm,0.7s,mb4.3,baz=240,slow=8.9,SNR=6.8						
ARCES				LR	LR	13 02 11.2	
	comp=Z,62nm,19.1s,MS3.8,baz=74,slow=30						
PLCA	**Paso Flores**	**70.59**	**200**	P	**P**	**12 43 59.8**	**-0.1**
	3.7nm,0.9s,mb4.3,baz=60,slow=5.6,SNR=6.0						
KMBO	**Kilima Mbogo**	**83.36**	**94**	LR	LR	13 21 43.7	
	comp=Z,193nm,19.0s,MS4.5,baz=284,slow=35						
MKAR	**Makanchi Array**	**93.20**	**33**	P	**P**	**12 45 58.6**	**-0.6**
	0.6nm,0.9s,mb4.0,baz=310,slow=4.1,SNR=4.1						
MKAR				LR	LR	13 27 07.8	
	comp=Z,26nm,18.1s,MS3.7,baz=252,slow=35						

*NEIC **25** 12:45:38.3,1467N×9253W,h54km,MD4.3(MEX),After MEX.*
MEX 25 12:45:38.3±1.4,1467N×9253W,h54km±21km,MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.35**	**47**	*i* P	Pn	12 45 46.1	-2.1
THIG				*i* S	Sn	12 45 54.1	-1.2
CCIG	**Comitan**	**1.65**	**13**	*i* P	Pn	12 46 04.0	-0.9
CCIG				*i* S	Sn	12 46 22.3	-2.7
SCX	**San Cristobal**	**2.06**	**357**	*i* P	Pn	12 46 10.0	-0.5
SCX				*i* S	Sn	12 46 35.0	0.0
TGIG		**2.17**	**345**	*i* P	Pn	12 46 10.9	-1.2
TGIG				*i* S	Sn	12 46 35.2	-2.7
VHO	**Vista Hermosa**	**4.70**	**301**	*i* P	Pn	12 46 45.5	-0.2
VHO				*i* S	Sn	12 47 38.5	-1.3
TEIG	**Tepich**	**6.86**	**36**	*e*Pn	Pn	12 47 12.0	-4.3
	28nm,0.5s						
PPM	**Popocatepetl**	**7.29**	**308**	*i* P	Pn	12 47 24.0	+1.7
PPM				*i* S	Sn	12 48 44.9	+1.2

*DDA **25** 12:47:53.4,3627N×4090E,h23km±1km,Md3.9*
*ISK **25** 12:47:54.2,3628N×4090E,h3km,ML4.1*
*CSEM **25** 12:47:54.9±0.1,3638N×4087E,h2km,Mc3.1,Error ellipse: s-maj=2.4km s-min=1.7km az=115.0*
*ISCJB **25** 12:47:56.2±0.5,3633N±003×4088E±003,h10km,Error ellipse: s-maj=5.5km s-min=3.0km az=148.9*
*NSSC **25** 12:48:00.4,3643N×4129E,h38km*
ISC 25 12:47:56.9±0.5,3631N±003×4089E±003,h10km,n52, σ1°20/73,15D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**1.01**	**355**	*i* P	**Pg**	**12 48 12.8**	**-3.4**
MARD				*i* S	**Sg**	**12 48 28.7**	**-0.7**
KSRV	**Kasrt alli**	**1.59**	**254**	⇓P	**Pn**	**12 48 24.1**	**-1.0**
KSRV				⇓S	**Sn**	**12 48 46.2**	**+0.4**
KSRV	**Kasrt alli**	**1.59**	**254**	⇓*i*P	**Pn**	**12 48 24.1**	**-1.0**
KSRV				⇓*i*S	**Sn**	**12 48 46.2**	**+0.4**
DIY	**Diyarbakir**	**1.67**	**342**	*e*PN	**Pn**	**12 48 25.6**	**-0.6**
SIRT	**Sirnak**	**1.72**	**46**	*e*PN	**Pn**	**12 48 26.0**	**-0.8**
DIYA	**Diyarbakir**	**1.73**	**339**	*i* P	**Pn**	**12 48 25.2**	**-1.7**
DIYA				*i* S	**Sn**	**12 48 49.4**	**+0.3**
MSL	**Mosul**	**1.77**	**90**	*i* x	x	12 48 27.5	
MSL				*i* x	x	12 48 53.0	
URFA	**Urfa**	**2.01**	**305**	*e*PN	**Pn**	**12 48 29.8**	**-1.0**
URFA				*e*SN	**Sn**	**12 48 56.7**	**+0.6**
JHLN	**Al Jahlan**	**2.09**	**253**	⇓P	**Pn**	**12 48 32.9**	**+1.0**
JHLN				⇓S	**Sg**	**12 49 03.1**	**-0.9**
JHLN	**Al Jahlan**	**2.09**	**253**	⇓*i*P	**Pn**	**12 48 32.9**	**+1.0**
ATAB	**Bozova**	**2.38**	**300**	*i* P	**Pn**	**12 48 34.8**	**-1.2**
ATAB				*i* S	**Sg**	**12 49 09.7**	**-3.8**
SLMH	**Al Salmeh**	**2.40**	**269**	⇓P	**Pn**	**12 48 39.3**	**+3.1**
SLMH				⇓S	**Sg**	**12 49 14.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**2.42**	**329**	*e*PN	**Pn**	**12 48 36.3**	**-0.2**
SVRC				*e*SN	**Sn**	**12 49 07.0**	**+0.8**
HAKT	**HAKKARI**	**2.58**	**60**	*i* P	**Pn**	**12 48 37.5**	**-1.1**
HAKT				*i* S	**Sb**	**12 49 14.8**	**-0.1**
HKR	**Hakkari**	**2.61**	**60**	*e*PN	**Pn**	**12 48 38.6**	**-0.5**
ELZG	**Elazig**	**2.66**	**326**	*i* P	**Pn**	**12 48 39.5**	**-0.4**
ELZG				*i* S	**Sg**	**12 49 22.9**	**+0.4**
MALT	**Malatya**	**2.81**	**316**	*e*PN	**Pn**	**12 48 41.5**	**-0.3**
MYA	**Malataya**	**2.82**	**316**	*e*PN	**Pn**	**12 48 41.5**	**-0.5**
PTK	**Pertek**	**2.84**	**336**	*e*PN	**Pn**	**12 48 42.6**	**+0.3**
GZT	**Gaziantep**	**2.87**	**292**	*i* P	**Pn**	**12 48 40.9**	**-1.7**
GZT				*i* S	**Sg**	**12 49 23.1**	**-5.9**
GAZ	**Gaziantep**	**3.08**	**287**	*e*PN	**Pn**	**12 48 45.4**	**-0.2**
AKCD	**Akcadag**	**3.09**	**311**	*i* P	**Pg**	**12 48 52.9**	**-3.2**
AKCD				*i* S	**Sg**	**12 49 32.5**	**-3.7**
KMRS	**Kahramanmaras**	**3.42**	**292**	*e*PN	**Pn**	**12 48 50.3**	**+0.1**
DRWC	**Darouich**	**3.42**	**276**	⇓P	**Pg**	**12 48 58.0**	**-4.4**
DRWC				⇓S	**Sg**	**12 49 40.6**	**-6.1**
EZC	**Erzincan**	**3.54**	**346**	*e*PN	**Pn**	**12 48 53.8**	**+1.9**
BTCH	**Batrach**	**3.60**	**267**	⇓P	**Pb**	**12 49 01.0**	**+0.4**
BTCH				⇓S	**Sn**	**12 49 36.8**	**+1.5**
DARE	**Darende-Malaty**	**3.60**	**318**	*e*PN	**Pn**	**12 48 52.0**	**-0.7**
EZM	**Erzurum**	**3.61**	**6**	*e*PN	**Pn**	**12 48 53.8**	**+1.0**
ROOS	**tl_alroos**	**3.64**	**235**	⇑P	**Pb**	**12 48 58.9**	**-2.4**
AGRB	**Hanur-Agry**	**3.66**	**26**	*e*PN	**Pn**	**12 48 53.9**	**+0.4**
CLDR	**Caldiran**	**3.71**	**39**	*e*PN	**Pn**	**12 48 54.5**	**+0.3**
WRDH	**Warideh**	**3.73**	**259**	⇑P	**Pg**	**12 49 05.1**	**-3.2**
WRDH				⇑S	**Sg**	**12 49 55.4**	**-1.1**
COBT	**Iskenderun**	**3.75**	**275**	*i* P	**Pb**	**12 49 02.3**	**-0.8**
COBT				*i* S	**Sg**	**12 49 53.5**	**-3.7**
HTY	**Hatay**	**3.85**	**269**	*e*PN	**Pn**	**12 48 56.4**	**+0.2**
SLNF	**Slenfeh**	**3.86**	**261**	⇑P	**Pb**	**12 49 05.4**	**+0.5**
SLNF				⇑S	**Sn**	**12 49 42.7**	**+1.1**
ANDN	**Andirin**	**3.86**	**291**	*i* P	**Pn**	**12 48 54.4**	**-1.9**
ANDN				*i* S	**Sg**	**12 49 55.8**	**-5.0**
YAYL	**Yayladag**	**3.88**	**267**	*i* P	**Pg**	**12 49 09.6**	**-1.6**
YAYL				*i* S	**Sg**	**12 49 59.1**	**-2.4**
BIDA	**Albida**	**3.94**	**252**	⇓P	**Pb**	**12 49 06.9**	**+0.5**
BIDA				⇓S	**Sb**	**12 49 54.5**	**+0.4**
ARNB	**Al Arnab**	**4.01**	**265**	⇑P	**Pb**	**12 49 09.9**	**+2.3**
ARNB				⇑S	**Sn**	**12 49 53.0**	**+7.6**
SARI	**SarD1z-Kayseri**	**4.09**	**307**	*e*PN	**Pn**	**12 49 00.8**	**+1.4**
BHD	**Baghdad**	**4.17**	**136**	*ex*	x	12 48 50.7	
BHD				*ex*	x	12 49 37.2	
KOZT	**Kozan**	**4.23**	**288**	*e*PN	**Pn**	**12 49 02.2**	**+0.9**
YURE	**YUREGIR**	**4.27**	**279**	*i* P	**Pn**	**12 49 09.2**	**+7.3**
YURE				*i* S	**Sg**	**12 50 16.3**	**+2.5**
GUMT	**Gumushane**	**4.29**	**345**	*e*PN	**Pn**	**12 49 03.1**	**+0.9**
SVSK	**Karacayir**	**4.73**	**321**	*e*PN	**Pn**	**12 49 09.3**	**+1.0**
BNN	**Bunyan**	**4.75**	**304**	*e*PN	**Pn**	**12 49 09.2**	**+0.8**
KARA	**Karaisali**	**4.78**	**283**	*e*PN	**Pn**	**12 49 09.7**	**+0.7**
BHL	**Bhannes**	**4.92**	**242**	*e*Pn	**Pn**	**12 49 19.6**	**+8.8**
NIG	**Nigde**	**5.33**	**292**	*e*PN	**Pn**	**12 49 17.6**	**+1.1**
IKL	**Isikli**	**5.82**	**271**	*e*PN	**Pn**	**12 49 24.5**	**+1.2**
CORM	**Corum**	**6.26**	**310**	*e*PN	**Pn**	**12 49 31.1**	**+1.8**
KAMT	**Kaman**	**6.45**	**300**	*e*PN	**Pn**	**12 49 33.7**	**+1.8**

*DJA **25** 12:50:47,831S×11501E,h9km,ML3.9/3*
NEIC 25 12:50:52.0±4.2,890S×11487E,h38km±48km,mb3.4/1, ML3.8(DJA),Error ellipse: s-maj=70.4km s-min=14.5km az=202.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**9.22**	**259**	*e*Pn	Pn	12 53 02.6	0.0
MBWA	**Marble Bar**	**13.06**	**159**	*e*Pn	Pn	12 53 55.1	0.0
MBWA				*e*Sn	Sn	12 56 18.1	-0.9
FITZ	**Fitzroy Crossi**	**13.90**	**132**	*e*Pn	Pn	12 54 06.5	0.0
WRAB	**Tennant Creek**	**21.80**	**122**	*e*P	P	12 55 41.4	+0.5
	0.8nm,0.5s						
WB2	**Warramunga Arr**	**21.80**	**122**	*e*P	P	12 55 40.6	-0.4

*NIED **25** 12:57:00,40.10N×14150E,h80km,Mw4.3 Best double couple: M0:3.10000×10^15 NP1:φ±25.00000°,δ89.00000°, λ-91.00000°. NP2:φ±227.00000°,δ2.00000°,λ-68.00000°.*
*SZGRF **25** 12:57:01.6,4061N×14353E,h33km,mb4.8,Off east coast of Honshu, Japan*
*ISCJB **25** 12:57:06.8±0.2,4012N±003×14137E±004,h89km±1km, mb4.5/75,Error ellipse: s-maj=5.4km s-min=4.0km az=20.9*
*IDC **25** 12:57:07.2±1.7,4009N×14134E,h82km±15km,mb4.0/18, mb1 4.1/22,mb1mx4.1/26,mbtmp4.0/22,MS2.8/2, Ms1 2.8/2,ms1mx2.6/31,Error ellipse: s-maj=13.8km s-min=11.5km az=108.0*
*JMA **25** 12:57:07.6,4014N×14150E,h82km±1km,M4.2 Broadband fault plane solution: P waves. NP1: φ±128.00000°,δ13.00000°,λ-151.00000°. NP2:φ±9.00000°, δ84.00000°,λ-79.00000°. Principal axes: T Plg38.0000°, Azm89.0000°; N Plg11.0000°, Azm188.0000°; P Plg50.0000°, Azm291.0000°;*
JMA Felt III J1.
*BJI **25** 12:57:08.5,4017N×14144E,h122km,mB4.6,mb4.7*
*MOS **25** 12:57:08.6±0.7,4035N×14120E,h94km,mb4.6/28,Error ellipse: s-maj=9.4km s-min=5.4km az=99.5*
*NEIC **25** 12:57:10.5±0.6,4011N×14126E,h109km±5km,mb4.6/41, MW4.3(NIED),Error ellipse: s-maj=5.1km s-min=4.2km az=148.0*
NEIC Felt [II] at Misawa. Also felt at Tono. Recorded [3 JMA] in Iwate, [2 JMA] in Aomori and [1 JMA] in Akita and Miyagi Prefectures.
ISC 25 12:57:07.8±0.2,4013N±003×14141E±004,h85km±2km, h108km±3.2km:pP-P,n196,σ0°92/207,mb4.5/75,12C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKZ	**Kuzumaki**	**0.16**	**202**	⇑P	**Pn**	**12 57 19.7**	**-0.3**
JKZ				S	**Sn**	**12 57 28.7**	**-0.2**
JANG	**Nango**	**0.26**	**19**	⇑P	**Pn**	**12 57 19.7**	**-0.7**
JANG				S	**Sn**	**12 57 28.5**	**-1.2**
JTH	**Tanohata**	**0.40**	**118**	⇓P	**Pn**	**12 57 20.5**	**-0.7**
JTH				S	**Sn**	**12 57 29.9**	**-1.3**
JAH	**Hinai**	**0.59**	**276**	⇑P	**Pn**	**12 57 22.8**	**+0.1**
JOM	**Ohasama**	**0.66**	**188**	⇓P	**Pn**	**12 57 23.1**	**-0.3**
JOM				*e*S	**Sn**	**12 57 34.8**	**-0.3**
JTM	**Tenmabayashi**	**0.70**	**339**	⇑P	**Pn**	**12 57 23.7**	**-0.1**
JTM				S	**Sn**	**12 57 35.9**	**+0.1**
JIW	**Iwasaki**	**1.16**	**294**	⇑P	**Pn**	**12 57 29.7**	**+0.7**
JMK	**Ichinoseki**	**1.19**	**187**	⇓P	**Pn**	**12 57 29.1**	**-0.2**
JMK				S	**Sn**	**12 57 44.9**	**-0.6**
JOT	**Ohata**	**1.28**	**348**	⇑P	**Pn**	**12 57 30.5**	**0.0**
JOT				S	**Sn**	**12 57 48.0**	**+0.5**
JYK	**Kaneyama**	**1.46**	**214**	⇑P	**Pn**	**12 57 33.0**	**+0.3**
JYK				S	**Sn**	**12 57 52.4**	**+0.9**
JSR	**Shiriuchi**	**1.59**	**332**	⇑P	**Pn**	**12 57 34.9**	**+0.6**
JSR				*e*S	**Sn**	**12 57 55.7**	**+1.2**
ASAJ	**Asahikawa**	**4.08**	**12**	P	**Pn**	**12 58 07.7**	**-0.1**
	12nm,0.3s,baz=224,slow=10,SNR=114						
ASAJ	**Asahikawa**	**4.08**	**12**	P	**Pn**	**12 58 07.7**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
MAJO	**Matsushiro**	**4.38**	**216**	*e*P	**Pn**	**12 58 14.0**	**+2.2**
MAT	**Matsushiro**	**4.38**	**216**	P	**Pn**	**12 58 14.4**	**+2.6**
MAT				S	**Sn**	**12 59 02.0**	**+0.4**
MJAR	**Matsushiro Arr**	**4.38**	**216**	P	**Pn**	**12 58 13.3**	**+1.5**
	comp=Z,6.0nm,0.3s,baz=25,slow=16,SNR=49						
YUK	**Yuzh-Kuril'sk**	**5.12**	**39**	⇑*i*P	**Pn**	**12 58 20.3**	**-1.6**
YUK				*e*S	**Sn**	**12 59 14.2**	**-5.4**
YUK				pmax	pmax		
	comp=N,220nm,0.5s						
YUK				pmax	pmax		
	comp=Z,600nm,0.5s						
YUK				pmax	pmax		
	comp=E,220nm,0.3s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,960nm,0.5s						
YUK				smax			
	comp=N,3μm,0.6s						
YUK				smax			
	comp=E,2μm,0.6s						
YSS	**Yuzh-Sakhalins**	**6.89**	**8**	*e*P	**Pn**	**12 58 45.0**	**-1.0**
YSS	**Yuzh-Sakhalins**	**6.89**	**8**	*e*Pn	**Pn**	**12 58 49.0**	**+3.0**
KUR	**Kuril'sk**	**6.97**	**41**	⇓*i*P	**Pn**	**12 58 41.5**	**-5.7**
KUR				pmax	pmax		
	comp=N,60nm,0.8s						
KUR				pmax	pmax		
	comp=E,60nm,0.8s						
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
JHJ	**Hachijo jima 2**	**7.12**	**191**	P	**Pn**	**12 58 46.6**	**-2.6**
	comp=Z,17nm,0.3s,baz=138,slow=7.6,SNR=25						
VLA	**Vladivostok**	**7.73**	**296**	*e*P	**Pn**	**12 58 57.9**	**+0.5**
VLA				*e*		13 00 23.9	
VLA				pmax	pmax		
	comp=Z,105nm,0.8s						
MDJ	**Mudanjiang**	**9.82**	**301**	P	**Pn**	**12 59 28.0**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,78nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,84nm,5.7s						
MDJ	**Mudanjiang**	**9.82**	**301**	*e*Pn	**Pn**	**12 59 28.2**	**+2.3**
	comp=Z,89nm,1.0s						
KSRS	**Korea Array**	**10.86**	**260**	P	**Pn**	**12 59 40.9**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=79,slow=12,SNR=13						
KSRS				LR	LR	13 03 45.8	
	comp=Z,27nm,18.1s,baz=157,slow=37						
CN2	**Changchun**	**12.43**	**292**	*e*P	**Pn**	**13 00 03.5**	**+2.1**
DL2	**Dalian**	**15.31**	**272**	P	**Pn**	**13 00 39.5**	**+0.5**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
PETK	**Petropavlovsk-**	**17.09**	**35**	P	**Pn**	**13 00 59.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=217,slow=8.8,SNR=4.3						
PETK	**Petropavlovsk-**	**17.09**	**35**	P	**Pn**	**13 00 59.4**	**-1.5**
BJI	**Beijing**	**19.29**	**278**	P	**Pn**	**13 01 23.8**	**-3.8**
BJI				AMB	AMB		
	comp=Z,16nm,0.7s						
BJT	**Baijiatuau**	**19.30**	**278**	*e*P	**Pn**	**13 01 24.0**	**-3.7**
BJT				pmax	pmax		
	comp=Z,11nm,0.8s						
BJT	**Baijiatuau**	**19.30**	**278**	*e*P	**Pn**	**13 01 24.0**	**-3.7**
	comp=Z,12nm,0.8s						
NJ2	**Nanjing**	**19.89**	**253**	*e*P	**Pn**	**13 01 37.5**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**22.66**	**282**	*e*P	**P**	**13 02 00.0**	**-1.8**
HHC				AP		13 02 22.8	
HHC				PP		13 02 33.0	
HHC				XP	sP	13 02 36.5	+7.0
HHC				PCP	PcP	13 05 52.5	+1.2
HHC				S	**S**	**13 05 53.8**	**-10**
HHC				SS		13 06 44.5	
HHC				SCP	ScP	13 09 19.0	-2.3
HHC				PCS	PcS	13 09 30.0	-0.2
HHC				AMB	AMB		
	comp=Z,25nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,52nm,5.0s						
HHC				LR	LR		
	comp=N,257nm,16.7s						
HHC				LR	LR		
	comp=E,278nm,19.0s						
HHC				LR	LR		
	comp=Z,250nm,19.0s						
YAK	**Yakutsk**	**23.06**	**346**	*e*P	**P**	**13 02 02.3**	**-3.3**
YAK				*e**PP		13 02 19.4	
YAK				*e*S	**S**	**13 06 04.1**	**-5.5**
YAK				*e**SS	sS	13 06 40.5	-0.9
YAK				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.4						
YAK				pmax	pmax		
	comp=N,16nm,1.5s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				smax			
	comp=N,74nm,2.0s						
YAK				smax			
	comp=E,29nm,2.0s						
YAK	**Yakutsk**	**23.06**	**346**	*e*P	**P**	**13 02 03.5**	**-2.1**
	comp=E,20nm,0.7s,mb4.5						
SEY	**Seymchan**	**23.77**	**12**	⇑*e*P	**P**	**13 02 12.1**	**+0.1**
BOD	**Bodaibo**	**24.96**	**324**	⇓*i*P	**P**	**13 02 21.5**	**-1.4**
BOD				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.6						
SONM	**Songino Array**	**26.17**	**299**	P	**P**	**13 02 33.4**	**-0.6**
	comp=Z,3.4nm,0.6s,mb4.0,baz=90,slow=8.6,SNR=29						
SONM				ScP	ScP	13 09 30.4	-0.4
	comp=Z,1.0nm,0.9s,baz=106,slow=3.1,SNR=6.2						
SONM				LR	LR	13 11 44.5	
	comp=Z,40nm,20.0s,baz=284,slow=34						
SONM	**Songino Array**	**26.17**	**299**	P	**P**	**13 02 33.4**	**-0.6**
SONM				ScP	ScP	13 09 30.4	-0.4
SONM				LR	LR	13 11 44.5	
XAN	**Xi'an**	**26.52**	**267**	P	**P**	**13 02 36.5**	**-0.8**
XAN				PCP	PcP	13 06 00.5	+0.6
XAN				S	**S**	**13 07 03.5**	**-1.8**
XAN				PCS	PcS	13 09 41.8	+0.6
XAN				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.2						
XAN				AMB	AMB		
	comp=E,40nm,4.7s						
TLY	**Talaya**	**28.39**	**307**	*e*P	**P**	**13 02 53.9**	**+0.1**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
TLY				MLR	MLR		
	comp=Z,41nm,16.0s						
ZAK	**Zakamensk**	**28.44**	**304**	⇓*i*P	**P**	**13 02 53.8**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb3.7						
LZH	**Lanzhou**	**29.68**	**274**	*e*P	**P**	**13 03 06.0**	**+0.6**
LZH				AP	pP	13 03 30.5	+5.6
LZH				XP	sP	13 03 43.5	+8.7
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,60nm,4.0s						
BILL	**Bilibino**	**31.07**	**18**	P	**P**	**13 03 18.1**	**+0.8**
BILL				*e**PP	pP	13 03 42.7	+5.8
BILL				*e**SP	sP	13 03 55.4	+8.6
BILL				*e*		13 04 22.8	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
GTA	**Gaotai**	**31.77**	**282**	*e*P	**P**	**13 03 24.3**	**+0.5**
GTA				AP	pP	13 03 48.5

CHTO Chiang Mai 42.13 252 *e*P **P 13 04 51.7 -0.1**
CHTO pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
CHTO Chiang Mai 42.13 252 *e*P **P 13 04 51.7 0.0**
comp=Z,6.9nm,0.6s,mb4.6
CMAR Chiang Mai Arr 42.36 252 P **P 13 04 54.0 +0.4**
comp=Z,2.1nm,0.7s,mb4.0,baz=42,slow=6.9,SNR=13
MK31 Makanchi Array 42.53 299 *e*P **P 13 04 54.4 -0.3**
MK31 *e**PP pP 13 05 18.2 +3.2
MKAR Makanchi Array 42.53 299 P **P 13 04 54.4 -0.3**
comp=Z,7.1nm,0.6s,mb4.6,baz=82,slow=10,SNR=42
MKAR ScP ScP 13 10 27.7 -1.1
comp=Z,0.4nm,0.7s,baz=76,slow=4.2,SNR=4.1
MKAR Makanchi Array 42.53 299 P **P 13 04 54.4 -0.3**
MKAR ScP ScP 13 10 27.7 -1.1
KURK Kurchatov 44.07 306 *e*P **P 13 05 06.7 -0.3**
KURK *e**PP pP 13 05 28.4 +1.0
KURK pmax pmax
comp=Z,35nm,0.7s,mb5.2
KURK Kurchatov 44.07 306 *e*P **P 13 05 06.7 -0.4**
comp=Z,35nm,0.7s,mb5.2
KURK *e*pP pP 13 05 28.4 +1.1
KDAK Kodiak Island 44.84 44 P **P 13 05 13.0 0.0**
comp=Z,4.7nm,0.4s,mb4.5,baz=266,slow=3.4,SNR=10
KDAK Kodiak Island 44.84 44 P **P 13 05 13.0 0.0**
TAPN Taplejung 45.80 271 *e*P **P 13 05 21.9 +0.9**
ODAN Odare 46.29 271 *e*P **P 13 05 25.0 +0.1**
comp=Z,16nm,0.5s,mb5.0
JIRN Jiri 46.81 272 *e*P **P 13 05 29.3 +0.4**
RAMN Ramite 46.85 271 *e*P **P 13 05 29.2 -0.1**
comp=Z,18nm,0.4s,mb5.2
GUN Gumba 46.92 273 *e*P **P 13 05 30.2 +0.4**
comp=Z,29nm,0.4s,mb5.4
KKN Kakani 47.44 273 *e*P **P 13 05 34.0 +0.1**
comp=Z,40nm,0.6s,mb5.3
KKN Kakani 47.44 273 *e*P **P 13 05 34.0 +0.1**
KKN pmax pmax
comp=Z,40nm,0.6s,mb5.3
DMN Daman 47.66 273 *e*P **P 13 05 35.9 +0.3**
comp=Z,14nm,0.6s,mb5.0
GKN Gorkha 47.83 274 *e*P **P 13 05 37.5 +0.7**
TKM2 Tokmak 2 48.21 296 *e*P **P 13 05 40.4 +0.8**
TKM2 pmax pmax
comp=Z,18nm,0.7s,mb5.0
TKM2 Tokmak 2 48.21 296 *e*P **P 13 05 40.4 +0.8**
comp=Z,18nm,0.7s,mb5.0
DANN Dangsing 48.32 275 *e*P **P 13 05 41.2 +0.5**
comp=Z,76nm,0.6s,mb5.7
BVAR Borovoye Array 48.53 310 P **P 13 05 41.7 -0.2**
comp=Z,6.8nm,0.4s,mb4.9,baz=75,slow=8.2,SNR=35
BRVK Borovoye 48.58 310 *e*P **P 13 05 42.1 -0.2**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRVK Borovoye 48.58 310 *e*P **P 13 05 42.1 -0.1**
comp=Z,11nm,0.8s,mb4.8
KOLN Koldanda 48.74 274 *e*P **P 13 05 43.6 -0.2**
comp=Z,10nm,0.3s,mb5.2
EKS2 Erkin-Say 49.55 296 *e*P **P 13 05 49.8 0.0**
comp=Z,4.2nm,0.6s,mb4.5
HYT Haines Junctio 51.84 38 *e*P **P 13 06 10.1 +3.3**
SVE Sverdlovsk 52.85 317 *e*P **P 13 06 14.5 +0.2**
SVE pmax pmax
comp=Z,22nm,0.9s,mb5.2
ARU Arti 54.06 317 *d i*P **P 13 06 22.3 -0.9**
ARU *e* 13 08 22.0
ARU *e*S **S 13 13 49.5 -3.2**
ARU *e*SS SS 13 17 24.9 -10
ARU pmax pmax
comp=Z,32nm,1.7s,mb5.1
ARU Arti 54.06 317 *e*P **P 13 06 23.0 -0.2**
comp=Z,26nm,1.3s,mb5.1
KBL Kabul 56.35 289 *e*P **P 13 06 39.7 -0.3**
comp=Z,8.4nm,0.7s,mb4.9
FITZ Fitzroy Crossi 59.77 197 P **P 13 07 03.2 -0.6**
comp=Z,0.5nm,0.4s,mb3.9,baz=316,slow=4.7,SNR=5.7
WRAB Tennant Creek 60.11 188 *e*P **P 13 07 05.2 -0.9**
WRAB *e**PP pP 13 07 33.7 +6.2
WRAB pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
WRAB Tennant Creek 60.11 188 *e*P **P 13 07 05.2 -1.0**
comp=Z,1.8nm,0.4s,mb4.5
WRAB *e*pP pP 13 07 33.7 +6.2
WB2 Warramunga Arr 60.12 188 *e*P **P 13 07 05.2 -1.0**
WRA Warramunga Arr 60.12 188 P **P 13 07 05.0 -1.2**
comp=Z,3.5nm,0.4s,mb4.8,baz=5.3,slow=6.9,SNR=170
ARCES ARCESS Array B 61.11 339 P **P 13 07 12.0 -0.4**
comp=Z,1.7nm,0.6s,mb4.2,baz=66,slow=6.6,SNR=9.7
YKA Yellowknife Ar 61.15 31 P **P 13 07 13.2 +0.4**
comp=Z,0.7nm,0.6s,mb3.9,baz=301,slow=6.4,SNR=3.3
JOF Joensuu 63.24 331 *e*p **P 13 07 25.9 -0.8**
comp=Z,1.3nm,0.3s,mb4.3
JOF Joensuu 63.24 331 *e*P **P 13 07 25.9 -0.8**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
ASAR Alice Springs 63.85 188 P **P 13 07 30.6 -0.5**
comp=Z,2.5nm,0.4s,mb4.4,baz=3.4,slow=6.8,SNR=136
KAF Kangasniemi 65.56 332 *e*p **P 13 07 41.2 -0.7**
comp=Z,1.0nm,0.4s,mb4.0,baz=47,slow=6.1
KAF Kangasniemi 65.56 332 *e*P **P 13 07 41.2 -0.7**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
OBN Obninsk 65.63 322 *e*P **P 13 07 42.0 -0.4**
OBN *e**PP pP 13 08 06.9 +2.8
OBN *e* 13 10 08.4
OBN *e*S S 13 16 17.1 -4.0
OBN *e*SS SS 13 20 33.6 -2.1
OBN pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
KIV Kislovodsk 68.89 310 *c i*P **P 13 08 04.0 +0.7**
KIV *e* 13 10 35.5
KIV *e*S S 13 16 58.4 -2.3
KIV pmax pmax
comp=Z,13nm,0.8s,mb4.8
BMO Blue Mountains 69.85 48 *e*P **P 13 08 10.5 +1.3**
comp=Z,27nm,2.6s,mb4.6
NB2 NORSAR Subarra 71.34 337 P **P 13 08 17.5 -0.4**
comp=Z,2.0nm,0.6s,mb4.1,baz=38,slow=6.5
NOA NORSAR Array B 71.34 337 P **P 13 08 17.6 -0.3**
comp=Z,2.5nm,0.6s,mb4.2,baz=38,slow=6.1,SNR=7.4
STKA Stephens Creek 71.64 180 P **P 13 08 19.5 -0.5**
comp=Z,0.7nm,0.3s,mb3.9,baz=334,slow=8.1,SNR=4.7
PAHR Pah Rah Range 71.71 53 *e*P **P 13 08 21.6 +1.1**
comp=Z,3.6nm,0.9s,mb4.2
AKASG Malin Array Be 71.86 322 P **P 13 08 20.6 -0.6**
comp=Z,1.4nm,0.4s,mb4.1,baz=46,slow=6.3,SNR=6.3
LRM Limekiln Ridge 71.95 45 *e*P **P 13 08 23.3 +1.4**
DLMT Dillon 72.16 45 *e*P **P 13 08 24.4 +1.3**
comp=Z,4.2nm,0.8s,mb4.3
BOZ Bozeman (W) 72.51 45 *e*P **P 13 08 26.7 +1.5**
BOZ *e* pP 13 08 46.6 -0.6
BOZ *e**PP pP 13 08 56.2 +9.0
BOZ *e**SP sP 13 09 03.8 +7.4
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
BOZ Bozeman (W) 72.51 45 *e*P **P 13 08 26.7 +1.6**
comp=Z,1.9nm,0.8s,mb4.0
BOZ *e*PcP PcP 13 08 46.6 +4.2
BOZ *e*pP pP 13 08 56.2 +9.1
BOZ *e*sP sP 13 09 03.8 +7.3
NVAR Mina Array Bea 73.16 54 P **P 13 08 30.6 +1.5**
comp=Z,1.6nm,0.9s,mb3.9,baz=294,slow=5.9,SNR=11
IMW Indian Meadow 74.01 46 *e*P **P 13 08 36.2 +2.2**
comp=Z,3.5nm,0.8s,mb4.1
IMW *e*pP pP 13 09 01.2 +5.1
MIB Mutribah 74.32 296 *e*P **P 13 08 34.8 -1.4**
baz=296
MIB AMb AMB 13 08 35.9
comp=Z,16nm,1.2s,mb4.6,baz=296
RDF Al-Radifah 74.71 295 *e*P **P 13 08 37.5 -0.8**
baz=295
NAY Al-Naaiem 74.73 295 *e*P **P 13 08 37.2 -1.2**
baz=295
NAY AMb AMB 13 08 38.2
comp=Z,7.0nm,0.8s,mb4.4,baz=295
HWUT Hardware Ranch 75.15 48 *e*P **P 13 08 41.9 +1.2**
DUG Dugway 75.35 50 *e*P **P 13 08 43.2 +1.4**
DUG pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
DUG Dugway 75.35 50 *e*P **P 13 08 43.2 +1.4**
comp=Z,3.9nm,0.9s,mb4.1
TPNV Topopah Spring 75.35 54 *e*P **P 13 08 43.3 +1.4**
TPNV pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
TPNV Topopah Spring 75.35 54 *e*P **P 13 08 43.3 +1.4**
comp=Z,4.2nm,0.9s,mb4.2
BW06 Boulder Array 75.51 46 *e*P **P 13 08 43.8 +1.1**
PDAR Pinedale Array 75.51 46 P **P 13 08 43.6 +0.9**
comp=Z,3.4nm,0.7s,mb4.2,baz=288,slow=1.1,SNR=28
NLU North Lily Min 75.93 49 *e*P **P 13 08 46.5 +1.4**
MSU Marysvale 76.81 51 *e*P **P 13 08 52.2 +2.0**
SRU San Rafael 77.39 49 *e*P **P 13 08 54.9 +1.5**
CLL Collm 78.42 330 *i* P **P 13 08 58.7 -0.2**
CLL *i* *PP pP 13 09 27.5 +6.4
CLL pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
CLL Collm 78.42 330 *i* P **P 13 08 58.7 -0.2**
comp=Z,10.0nm,1.3s,mb4.4
CLL *i* pP pP 13 09 27.5 +6.4
GERES GERESS Array B 80.08 328 P **P 13 09 08.3 +0.3**
comp=Z,0.8nm,0.5s,mb3.8,baz=27,slow=5.1,SNR=7.2
GRA1 Grafenberg Arr 80.39 330 *e*P **P 13 09 10.5 +0.9**
comp=Z,12nm,1.1s,mb4.6
GRF Grafenberg Arr 80.39 330 *e*P **P 13 09 10.5 +0.9**
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.6
GRF Grafenberg Arr 80.39 330 *e*P **P 13 09 10.5 +0.9**
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.6
GRF Grafenberg Arr 80.39 330 *e*P **P 13 09 10.5 +0.9**
comp=Z,12nm,1.1s,mb4.6
GIVF Givet 82.39 333 *e*P **P 13 09 19.8 -0.3**
BAIF Baives 82.63 334 *e*P **P 13 09 21.7 +0.3**
CDF Champ du Feu 82.93 331 *e*P **P 13 09 22.5 -0.5**
comp=Z,8.6nm,0.9s,mb4.3
CDF Champ du Feu 82.93 331 *e*P **P 13 09 22.5 -0.5**
CDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
CDF Champ du Feu 82.93 331 *e*P **P 13 09 22.5 -0.5**
comp=Z,4.3nm,0.9s,mb4.3
ECH Echery 83.14 331 *e*P **P 13 09 24.0 -0.1**
HINF Hinteralfeld 83.58 331 *e*P **P 13 09 26.1 -0.3**
HAU Haudompre 83.61 331 *e*P **P 13 09 26.3 -0.2**
MEZF Maizieres J'vi 83.66 332 *e*P **P 13 09 26.5 -0.3**
CABF La Chapelle 84.88 331 *e*P **P 13 09 32.5 -0.5**
LOR Lormes 85.13 333 *e*P **P 13 09 33.6 -0.6**
comp=Z,17nm,1.1s,mb4.6
LOR Lormes 85.13 333 *e*P **P 13 09 33.6 -0.6**
LOR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LOR Lormes 85.13 333 *e*P **P 13 09 33.6 -0.6**
comp=Z,8.6nm,1.1s,mb4.6
FLN La Foliniere 85.29 336 *e*P **P 13 09 34.1 -0.8**
LDF La Druitiere 85.32 336 *e*P **P 13 09 34.6 -0.5**
comp=Z,2.8nm,0.5s,mb4.2
LDF La Druitiere 85.32 336 *e*P **P 13 09 34.6 -0.5**
LDF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
LDF La Druitiere 85.32 336 *e*P **P 13 09 34.6 -0.5**
comp=Z,1.4nm,0.5s,mb4.2
SSF Saint Saulge 85.44 333 *e*P **P 13 09 35.1 -0.6**
comp=Z,3.1nm,0.5s,mb4.2
SSF Saint Saulge 85.44 333 *e*P **P 13 09 35.1 -0.6**
SSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
SSF Saint Saulge 85.44 333 *e*P **P 13 09 35.1 -0.6**
comp=Z,1.5nm,0.5s,mb4.2
LPL La Plagne 85.56 330 *e*P **P 13 09 36.2 -0.1**
comp=Z,6.1nm,0.6s,mb4.4
LPL La Plagne 85.56 330 *e*P **P 13 09 36.2 -0.1**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LPL La Plagne 85.56 330 *e*P **P 13 09 36.2 -0.1**
comp=Z,3.0nm,0.6s,mb4.4
LPG La Plagne 85.56 330 *e*P **P 13 09 36.3 -0.1**
comp=Z,11nm,0.7s,mb4.6
LPG La Plagne 85.56 330 *e*P **P 13 09 36.3 -0.1**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LPG La Plagne 85.56 330 *e*P **P 13 09 36.3 -0.1**
comp=Z,5.4nm,0.7s,mb4.6
SMF Signal de Mont 85.67 332 *e*P **P 13 09 36.2 -0.7**
AVF Avril sur Loir 85.72 333 *e*P **P 13 09 36.7 -0.4**
comp=Z,14nm,0.8s,mb4.7
AVF Avril sur Loir 85.72 333 *e*P **P 13 09 36.7 -0.4**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AVF Avril sur Loir 85.72 333 *e*P **P 13 09 36.7 -0.4**
comp=Z,7.0nm,0.8s,mb4.6
GRR Gorron 85.73 336 *e*P **P 13 09 36.6 -0.6**
BGF Bois d'Agland 86.10 333 *e*P **P 13 09 38.5 -0.5**
MBDF Montbardon 86.20 329 *e*P **P 13 09 39.2 -0.4**
comp=Z,6.9nm,0.9s,mb4.3
MBDF Montbardon 86.20 329 *e*P **P 13 09 39.2 -0.4**
MBDF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MBDF Montbardon 86.20 329 *e*P **P 13 09 39.2 -0.4**
comp=Z,3.5nm,0.9s,mb4.3
SGMF Saint Gilles 86.38 337 *e*P **P 13 09 40.1 -0.2**
comp=Z,6.2nm,0.7s,mb4.4
SGMF Saint Gilles 86.38 337 *e*P **P 13 09 40.1 -0.2**
SGMF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SGMF Saint Gilles 86.38 337 *e*P **P 13 09 40.1 -0.2**
comp=Z,3.1nm,0.7s,mb4.3
ORIF Oris-en-Rattie 86.38 330 *e*P **P 13 09 39.9 -0.6**
ROSF Rostrenen 86.52 337 *e*P **P 13 09 40.9 -0.1**
comp=Z,8.5nm,0.7s,mb4.5
ROSF Rostrenen 86.52 337 *e*P **P 13 09 40.9 -0.1**
ROSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ROSF Rostrenen 86.52 337 *e*P **P 13 09 40.9 -0.1**
comp=Z,4.3nm,0.7s,mb4.5
TCF Toulx Ste Croi 86.56 333 *e*P **P 13 09 40.9 -0.4**
QUIF Quistinic 86.86 337 *e*P **P 13 09 42.1 -0.6**
VIVF Saint-Julien-I 86.89 331 *e*P **P 13 09 43.1 +0.2**
MFF Saint Martin d 87.08 335 *e*P **P 13 09 43.7 -0.1**
comp=Z,15nm,1.0s,mb4.6
MFF Saint Martin d 87.08 335 *e*P **P 13 09 43.7 -0.1**
MFF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MFF Saint Martin d 87.08 335 *e*P **P 13 09 43.7 -0.1**
comp=Z,7.5nm,1.0s,mb4.6
RJF Les Rejaudouxe 87.65 333 *e*P **P 13 09 46.5 -0.1**
CAF Calviac 87.79 332 *e*P **P 13 09 46.1 -1.1**
LFF La Frestale 88.24 333 *e*P **P 13 09 49.0 -0.4**
TXAR Lajitas Array 88.24 52 P **P 13 09 50.3 +0.6**
comp=Z,0.5nm,0.5s,mb3.8,baz=286,slow=2.6,SNR=12
MIAR Mount Ida 90.05 43 P **P 13 09 57.7 -0.4**
MIAR pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
MIAR Mount Ida 90.05 43 P **P 13 09 57.7 -0.3**
comp=Z,1.3nm,0.3s,mb4.5
SNAA Sanae 143.69 198 *e*PKPdf PKPdf 13 16 28.2 -3.3
SNAA *e* 13 16 30.7
SNAA *e* 13 16 33.3
LPAZ La Paz 145.04 56 PKPbc PKPbc 13 16 35.0 -0.1
comp=Z,1.8nm,0.4s,baz=19,slow=5.9,SNR=10
LPAZ La Paz 145.04 56 *e*PKPbc PKPbc 13 16 35.8 +0.8
VNA2 Neumayer--Watz 145.28 197 *e*PKPdf PKPdf 13 16 33.9 -0.4
VNA2 *e* 13 16 36.2
VNA2 *e* 13 16 39.1
VNA3 Neumayer Olymp 145.54 196 *e*PKPdf PKPdf 13 16 34.4 -0.3
VNA3 *e* 13 16 37.2
VNA3 *e* 13 16 39.5
VNA1 Neumayer--Stat 145.68 197 *e*PKPdf PKPdf 13 16 35.3 +0.4
VNA1 *e* 13 16 37.5
VNA1 *e* 13 16 39.7
SIV San Ignacio 149.00 46 PKPbc PKPbc 13 16 45.0 -1.3
comp=Z,1.8nm,0.6s,baz=304,slow=3.9,SNR=11

IDC ***25*** *13:25:01.9±0.7, 50.18N×17781W, h0km, mb3.9/16, mb1 4.2/18, mb1mx4.1/25, mbtmp4.0/18, ML4.0/2, Error ellipse: s-maj=23.2km s-min=14.1km az=163.0*
ISCJB ***25*** *13:25:05.5±0.4, 50.35N±006×17781W±006, h33km, mb4.0/26, Error ellipse: s-maj=8.8km s-min=5.6km az=164.4*
NEIC ***25*** *13:25:06.5±0.4, 50.27N×17778W, h30km, mb4.2/14, Error ellipse: s-maj=10.6km s-min=5.8km az=163.0*
ISC 25 13:25:07.5±0.4,**5038N**±006×**17781W**±006,**h35**km,**n51,**
σ1**9**08/53,**mb4.0**/26,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.67**	**25**	*e*Pn	**Pn**	**13 25 32.9**	**-1.4**
ADK				*e*Sn	**Sn**	**13 25 54.0**	**-0.4**
AMKA	**Amchitka**	**2.08**	**300**	*e*Pn	**Pn**	**13 25 37.7**	**-2.2**
AMKA				*e*Sn	**Sn**	**13 26 03.0**	**-1.7**
NIKO	**Nikolski**	**6.15**	**62**	*e*Pn	**Pn**	**13 26 33.8**	**-2.0**
	21nm,0.5s						
UNV	**Unalaska Valle**	**7.78**	**59**	*e*Pn	**Pn**	**13 26 57.3**	**-0.8**
	7.1nm,0.5s						
PETK	**Petropavlovsk-**	**15.39**	**290**	Pn	**Pn**	**13 28 41.4**	**-0.4**
	0.4nm,0.3s,baz=91,slow=16,SNR=18						
SVW2	**Sparrevohn**	**16.40**	**41**	*e*Pn	**Pn**	**13 28 54.7**	**+0.1**
KDAK	**Kodiak Island**	**16.48**	**54**	Pn	**Pn**	**13 28 56.7**	**+1.0**
	0.9nm,0.3s,baz=114,slow=19,SNR=6.1						
SLKM	**Skilak Lake**	**18.50**	**46**	*e*P	**Pn**	**13 29 19.0**	**-1.8**
BILL	**Biiibino**	**19.38**	**342**	P	**Pn**	**13 29 31.3**	**+0.1**
	14nm,0.3s						
KTH	**Kantishna Hill**	**19.52**	**37**	*e*P	**Pn**	**13 29 30.7**	**-2.2**
	16nm,1.0s						
TRF	**Thorofare Moun**	**19.72**	**38**	*e*P	**Pn**	**13 29 36.0**	**+0.8**
	6.4nm,0.9s						
BPAW	**Bear Paw Mtn.**	**19.77**	**36**	*e*P	**Pn**	**13 29 34.3**	**-1.6**
	5.7nm,0.8s						
IMA2	**Indian Mountai**	**20.00**	**29**	*e*P	**P**	**13 29 38.3**	**+1.7**
COLD	**Coldfoot**	**21.81**	**29**	*e*P	**P**	**13 29 57.0**	**+0.9**
	5.1nm,0.9s,mb4.0						
EGAK	**Eagle**	**23.91**	**39**	*e*P	**P**	**13 30 17.2**	**-0.5**
	2.3nm,0.8s,mb3.7						
DAWY	**Dawson**	**24.43**	**41**	*e*P	**P**	**13 30 22.4**	**0.0**
MJAR	**Matsushiro Arr**	**34.27**	**263**	P	**P**	**13 31 48.6**	**-1.4**
	0.3nm,0.4s,mb3.5,baz=47,slow=8.2,SNR=4.4						
YKA	**Yellowknife Ar**	**35.48**	**46**	P	**P**	**13 32 01.1**	**+0.9**
	2.4nm,0.7s,mb4.2,baz=276,slow=7.1,SNR=9.3						
EDM	**Edmonton**	**38.76**	**60**	*e*P	**P**	**13 32 28.6**	**+0.4**
KSRS	**Korea Array**	**40.29**	**273**	P	**P**	**13 32 42.1**	**+1.0**
	1.2nm,0.8s,mb3.7,baz=54,slow=8.2,SNR=7.3						
NVAR	**Mina Array Bea**	**43.06**	**82**	P	**P**	**13 33 03.9**	**+0.2**
	0.6nm,0.8s,mb3.4,baz=283,slow=7.8,SNR=5.1						
NVAR	**Mina Array Bea**	**43.06**	**82**	P	**P**	**13 33 03.9**	**+0.2**
BOZ	**Bozeman (W)**	**43.21**	**70**	*e*P	**P**	**13 33 04.0**	**-0.9**
	1.2nm,0.8s,mb3.7						
RLMT	**Red Lodge**	**44.91**	**69**	*e*P	**P**	**13 33 18.2**	**-0.2**
	8.1nm,1.4s,mb4.4						
TPNV	**Topopah Spring**	**45.25**	**83**	*e*P	**P**	**13 33 20.1**	**-1.1**
	2.7nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**46.02**	**72**	P	**P**	**13 33 27.6**	**+0.3**
	1.0nm,0.8s,mb3.8,baz=324,slow=4.0,SNR=8.0						
SONM	**Songino Array**	**47.66**	**298**	P	**P**	**13 33 40.9**	**+0.9**
	0.6nm,0.6s,mb3.8,baz=57,slow=9.2,SNR=5.9						
TXAR	**Lajitas Array**	**58.19**	**81**	P	**P**	**13 34 57.4**	**-0.5**
	0.6nm,0.7s,mb3.7,baz=300,slow=3.9,SNR=7.6						
ARCES	**ARCESS Array B**	**59.19**	**351**	P	**P**	**13 35 04.6**	**+0.4**
	1.2nm,0.5s,mb4.2,baz=26,slow=7.6,SNR=13						
MK31	**Makanchi Array**	**61.15**	**309**	*e*P	**P**	**13 35 17.9**	**-0.1**
MKAR	**Makanchi Array**	**61.15**	**309**	P	**P**	**13 35 18.3**	**+0.3**
	1.1nm,0.5s,mb4.2,baz=50,slow=7.0,SNR=15						
ARU	**Arti**	**63.79**	**329**	*e*P	**P**	**13 35 36.4**	**+0.9**
	4.9nm,0.9s,mb4.5						
NB2	**NORSAR Subarra**	**68.70**	**355**	P	**P**	**13 36 08.3**	**+1.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=8.1,slow=6.9						
NOA	**NORSAR Array B**	**68.70**	**355**	P	**P**	**13 36 08.4**	**+1.6**
	comp=Z,2.8nm,0.8s,mb4.3,baz=7.0,slow=6.4,SNR=5.7						
CMAR	**Chiang Mai Arr**	**71.75**	**277**	P	**P**	**13 36 26.1**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=30,slow=6.6,SNR=4.0						
AKASG	**Malin Array Be**	**76.70**	**343**	P	**P**	**13 36 55.5**	**+1.0**
	comp=Z,2.5nm,0.6s,mb4.3,baz=25,slow=7.3,SNR=3.3						
FLN	**La Foliniere**	**81.22**	**2**	*e*P	**P**	**13 37 21.2**	**+1.9**
LDF	**La Druitiere**	**81.39**	**2**	*e*P	**P**	**13 37 21.3**	**+1.1**
	comp=Z,4.0nm,0.7s,mb4.2						
LDF	**La Druitiere**	**81.39**	**2**	*e*P	**P**	**13 37 21.3**	**+1.1**
	comp=Z,2.0nm,0.7s,mb4.2						
CDF	**Champ du Feu**	**81.50**	**357**	*e*P	**P**	**13 37 22.2**	**+1.4**
	comp=Z,2.5nm,0.6s,mb4.0						
CDF	**Champ du Feu**	**81.50**	**357**	*e*P	**P**	**13 37 22.2**	**+1.4**
	comp=Z,1.3nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**81.73**	**225**	P	**P**	**13 37 20.9**	**-1.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=35,slow=6.8,SNR=5.0						
LOR	**Lormes**	**82.73**	**359**	*e*P	**P**	**13 37 28.8**	**+1.5**
SSF	**Saint Saulge**	**82.94**	**359**	*e*P	**P**	**13 37 29.1**	**+0.7**
AVF	**Avril sur Loir**	**83.21**	**359**	*e*P	**P**	**13 37 30.6**	**+0.8**
	comp=Z,3.3nm,0.8s,mb4.1						
AVF	**Avril sur Loir**	**83.21**	**359**	*e*P	**P**	**13 37 30.6**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.1						
SMF	**Signal de Mont**	**83.35**	**359**	*e*P	**P**	**13 37 32.0**	**+1.5**
	comp=Z,5.8nm,0.6s,mb4.5						
SMF	**Signal de Mont**	**83.35**	**359**	*e*P	**P**	**13 37 32.0**	**+1.5**
	comp=Z,2.9nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**84.35**	**233**	P	**P**	**13 37 35.0**	**-0.8**
	comp=Z,0.6nm,0.5s,mb4.0,baz=36,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**85.18**	**223**	P	**P**	**13 37 39.0**	**-0.9**
	comp=Z,0.6nm,1.0s,mb3.7,baz=26,slow=5.5,SNR=5.9						
STKA	**Stephens Creek**	**89.43**	**214**	P	**P**	**13 38 00.4**	**+0.2**
	comp=Z,0.9nm,0.4s,mb4.5,baz=322,slow=10,SNR=4.4						

NEIC 25 13:47:34.6±6.7,**5163N**×**17073W, h35**km,**mb3.8**/1,**Error ellipse: s-maj=156.0km s-min=13.9km az=160.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.77**	**40**	*e*Pn	Pn	13 48 01.0	-1.8
NIKO				*e*Sn	Sn	13 48 18.4	-5.6
OKCD	**Okmok Cone D**	**2.41**	**41**	P	Pn	13 48 12.5	+1.0
UNV	**Unalaska Valle**	**3.40**	**48**	*e*Pn	Pn	13 48 26.2	+1.1
UNV				*e*Sn	Sn	13 49 03.3	-0.8
ADK	**Adak**	**3.71**	**276**	*e*Pn	Pn	13 48 29.3	0.0
ADK				*e*Sn	Sn	13 49 08.8	-3.0
AKGG	**Akutan Green G**	**3.85**	**46**	P	Pn	13 48 34.4	+3.0
AKUT	**Akutan**	**3.92**	**48**	*e*Pn	Pn	13 48 31.2	-0.9
MCK	**McKinley**	**16.70**	**35**	Pn	Pn	13 51 26.4	+0.9
	13nm,1.8s						

CSEM ***25*** *13:56:19.5±0.8, 2988N×5085E, h10km, ML3.9, Error ellipse: s-maj=20.5km s-min=5.5km az=45.0*
ISC 25 13:56:20.3±2.9,**300N**±02×**508E**±02,**h10**km,**n10,**σ0**55/10, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMR	**Umm Al-Rimmam**	**2.76**	**261**	*e*P	**Pn**	**13 57 04.4**	**-0.1**
	baz=259						
UMR				AML	AML	13 57 40.7	
	comp=Z,53nm,0.3s,baz=259						
MIB	**Mutribah**	**3.05**	**267**	*e*P	**Pn**	**13 57 07.6**	**-0.9**
	baz=265						
MIB				AML	AML	13 57 58.0	
	comp=Z,15nm,0.6s,baz=265						
RDF	**Al-Radifah**	**3.07**	**250**	*e*P	**Pn**	**13 57 09.6**	**+0.8**
	baz=248						
RDF				AML	AML	13 57 50.8	
	comp=Z,45nm,0.4s,baz=248						
KFJS		**3.12**	**235**	P	**Pn**	**13 57 09.4**	**-0.2**
NAY	**Al-Naaiem**	**3.23**	**257**	*e*P	**Pn**	**13 57 11.2**	**+0.2**
	baz=255						
NAY				AML	AML	13 57 52.0	
	comp=Z,15nm,0.4s,baz=255						
BOQSS		**4.33**	**198**	P	**Pn**	**13 57 27.2**	**+1.1**
SLWS		**5.20**	**182**	P	**Pn**	**13 57 38.0**	**0.0**
BTHS		**5.94**	**180**	P	**Pn**	**13 57 47.9**	**-0.4**
HRDDS		**7.16**	**190**	S	**Sn**	**13 59 26.2**	**-0.4**
HRDDS		**7.16**	**190**	P	**Pn**	**13 58 05.0**	**-0.1**

ISCJB ***25*** *14:00:15.6±0.6, 1722S±007×6944W±005, h183km±5km, mb4.6/8, Error ellipse: s-maj=12.8km s-min=7.7km az=21.1*
NEIC ***25*** *14:00:16.5±0.6, 1724S×6939W, h170km±6km, mb4.0/1, Error ellipse: s-maj=11.2km s-min=8.2km az=215.0*
IDC ***25*** *14:00:17.1±1.0, 1726S×6935W, h175km±7km, mb4.1/6, mb1 4.0/10, mb1mx3.8/18, mbtmp4.0/10, Error ellipse: s-maj=16.1km s-min=14.9km az=66.0*
ISC 25 14:00:16.4±0.5,**1733S**±006×**6944W**±006,**h174**km±5km,
n23,σ0**93/25,mb4.6**/8,**1C,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.62**	**51**	P	**Pn**	**14 00 50.7**	**+1.7**
	598nm,0.3s,baz=246,slow

SIV				S		Sn	14 03 35.5	-6.9
	1.8nm,0.3s,baz=354,slow=22,SNR=11							
NNA	Nana	8.91	306	P		Pn	14 02 21.2	-0.6
	4.5nm,0.3s,baz=146,slow=11,SNR=7.0							
NNA				S		Sn	14 03 57.2	-4.0
	3.2nm,0.3s,baz=256,slow=18,SNR=5.9							
CPUP	Villa Florida	14.37	131	P		Pn	14 03 32.8	+0.9
	0.3nm,0.3s,baz=302,slow=11,SNR=8.0							
BDFB	Brasilia	20.61	88	P		P	14 04 41.7	-0.6
	7.1nm,0.5s,baz=249,slow=18,SNR=18							
PLCA	Paso Flores	23.35	182	P		P	14 05 10.4	+1.4
	5.7nm,1.0s,mb4.0,baz=19,slow=14,SNR=8.3							
SDV	Santo Domingo	26.07	357	P		P	14 05 33.2	-0.6
	1.1nm,0.3s,mb4.0							
TXAR	Lajitas Array	56.95	324	P		P	14 09 44.4	+0.7
	0.1nm,0.5s,baz=146,slow=9.1,SNR=3.8							
LIC	Lamto	67.77	76	*e*P		P	14 10 55.5	-0.4
	58nm,1.0s,mb5.3							
TIC	Toumodi	67.93	75	*e*P		P	14 10 56.6	-0.3
	14nm,0.2s,mb5.4							
KIC	Kosan Boka	68.09	76	*e*P		P	14 10 57.8	0.0
	131nm,0.6s							
DBIC	Dimbokro	68.09	75	P		P	14 10 57.9	0.0
	25nm,0.6s,mb5.1,baz=229,slow=6.4,SNR=45							
ULM	Lac du Bonnet	71.20	342	P		P	14 11 15.8	-0.3
	3.5nm,0.5s,mb4.3,baz=160,slow=4.7,SNR=8.3							
TORD	Torodi Ar. Bea	76.47	71	P		P	14 11 47.2	-0.2
	16nm,0.7s,mb4.8,baz=262,slow=5.0,SNR=147							
YKA	Yellowknife Ar	87.10	341	P		P	14 12 42.8	+0.8
	0.6nm,0.6s,mb3.6,baz=135,slow=4.8,SNR=4.7							
YKA	Yellowknife Ar	87.10	341	P		P	14 12 42.8	+0.8
ASAR	Alice Springs	133.31	210	PKP		PKPdf	14 19 13.6	+1.2
	0.2nm,0.6s,baz=122,slow=2.6,SNR=7.5							
WRA	Warramunga Arr	136.22	213	PKP		PKPdf	14 19 19.3	+1.4
	0.3nm,0.5s,baz=140,slow=1.7,SNR=9.8							
MKAR	Makanchi Array	142.47	32	SKPbc		SKPbc	14 22 51.7	+1.8
	0.4nm,0.7s,baz=332,slow=3.1,SNR=4.5							
SONM	Songino Array	149.38	6	PKPbc		PKPbc	14 19 46.5	+1.9
	0.7nm,0.5s,baz=7.2,slow=0.9,SNR=6.8							

KRSC 25 14:03:25.8±0.6, 5538N×16284E, h22km±22km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.83	359	*i* P		Pb	14 03 41.8	+0.3
KBTR				*i* S		Sb	14 03 53.4	+1.2
MKZ	Mys Kozlova	1.04	218	*i* P		Pn	14 03 45.2	+0.1
MKZ				*i* S		Sb	14 03 59.2	+0.8
ZLN	Zelenaya	1.32	300	*i* P		Pn	14 03 49.8	+1.0
ZLN				*i* S		Sn	14 04 07.5	+1.8
BZGR	Bezymyannyi-Gr	1.34	296	*e*P		Pn	14 03 50.1	+1.0
BZGR				*i* S		Sn	14 04 07.9	+1.7
CIRR	Tsirk	1.39	303	*e*P		Pn	14 03 50.9	+1.0
CIRR				*i* S		Sn	14 04 09.1	+1.5
SMKR	Semkarok	1.43	328	*e*P		Pn	14 03 50.8	+0.4
SMKR				*i* S		Sn	14 04 09.2	+0.7
BZMR	Bezymyannaya	1.44	294	*e*P		Pn	14 03 51.8	+1.2
BZMR				*i* S		Sn	14 04 11.0	+2.2
BZWR	Bezymyannyi-We	1.45	295	*e*P		Pn	14 03 52.1	+1.4
BZWR				*i* S		Sn	14 04 11.2	+2.2
BDR	Baidarnaya	1.50	323	*i* P		Pn	14 03 52.4	+1.0
BDR				*i* S		Sn	14 04 11.7	+1.4
KMNR	Kamenistaya	1.53	285	*i* P		Pn	14 03 53.5	+1.8
KMNR				*i* S		Sn	14 04 13.5	+2.7
KIRR	Kirishev	1.53	293	*i* P		Pn	14 03 53.1	+1.4
KIRR				*i* S		Sn	14 04 13.1	+2.2
KRSR	Krestovskiy	1.53	304	*i* P		Pn	14 03 52.6	+0.8
KRSR				*i* S		Sn	14 04 12.1	+1.1
TUMR	Tumrok	1.54	267	*i* P		Pn	14 03 53.9	+2.0
TUMR				*i* S		Sn	14 04 14.7	+3.5
KLY	Klyuchi	1.55	308	*i* P		Pn	14 03 51.5	-0.5
KLY				*i* S		Sn	14 04 10.4	-1.0
SRKR	Sorokina	1.58	324	*i* P		Pn	14 03 53.4	+0.9
SRKR				*i* S		Sn	14 04 14.0	+1.7
KPT	Kopyto	1.59	293	*i* P		Pn	14 03 54.3	+1.7
KPT				*i* S		Sn	14 04 15.1	+2.6
KOZ	Kozyrevsk	1.81	293	*i* P		Pn	14 03 57.7	+2.1
KOZ				*i* S		Sn	14 04 21.1	+3.2
SRDR	Sredinnyy	2.00	299	*i* P		Pn	14 04 00.4	+2.3
SRDR				*i* S		Sn	14 04 25.1	+2.7
SPN	Mys Shipunski	2.82	217	*e*P		Pn	14 04 09.7	+0.2
SPN				*i* S		Sn	14 04 41.2	-1.6
NLC	Nalytchevo	3.02	224	*i* P		Pn	14 04 13.8	+1.6
NLC				*i* S		Sn	14 04 47.9	+0.3
SDLR	Sedlovina	3.13	229	*e*P		Pn	14 04 15.8	+2.1
SDLR				*i* S		Sn	14 04 51.5	+1.1
AVH	Avacha	3.20	230	*e*P		Pn	14 04 17.3	+2.6
GNL	Ganaly	3.31	241	*e*P		Pn	14 04 18.5	+2.2
PET	Petropavlovsk	3.41	228	*i* P		Pn	14 04 19.4	+1.8
PET				*i* S		Sn	14 04 59.0	+1.8
RUS	Russkaya	3.91	223	*e*P		Pn	14 04 26.4	+2.0

*ISCJB **25** 14:05:34.5±0.6, 698N±005×7306W±006, h161km±6km, mb3.4/3, Error ellipse: s-maj=11.0km s-min=6.7km az=43.1*
*IDC **25** 14:05:34.8±0.8, 688N×7303W, h156km±11km, mb3.2/3, mb1 3.6/6, mb1mx3.3/21, mbtmp3.5/6, Error ellipse: s-maj=29.3km s-min=7.9km az=133.0*
*NEIC **25** 14:05:35.5±0.8, 686N×7308W, h165km±10km, Error ellipse: s-maj=24.0km s-min=11.4km az=137.0*
*FUNV **25** 14:05:38.6, 695N×7292W, h152km, MW4.1*

ISC 25 14:05:35.6±0.6, 697N±005×7304W±006, h155km±6km, n29, σ1§25/41, mb3.4/3, 1C-10D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.14	39	‖*i* P		Pn	14 06 03.9	+1.8
CAPV				*e*S		Sn	14 06 22.8	+0.5
ROSC	El Rosal	2.46	212	P		Pn	14 06 16.5	-0.1
	70nm,0.3s,baz=284,slow=15,SNR=118							
ROSC				S		Sn	14 06 46.7	-1.5
	26nm,0.3s,baz=98,slow=21,SNR=5.1							
ROSC	El Rosal	2.46	212	*e*Pn		Pn	14 06 15.9	-0.6
ROSC				*e*Sn		Sn	14 06 46.4	-1.8
ROSC				S		Sn	14 06 46.7	-1.5
VIGV	El Vigia	2.49	42	‖*i* P		Pn	14 06 18.5	+1.7
VIGV				*e*S		Sn	14 06 46.5	-2.2
SOCV	Socops	2.52	59	‖*i* P		Pn	14 06 18.8	+1.6
SOCV				*e*S		Sn	14 06 47.0	-2.4
SDV	Santo Domingo	3.05	51	P		Pn	14 06 25.5	+1.8
	45nm,0.3s,baz=215,slow=2.9,SNR=192							
SDV				S		Sn	14 07 01.8	+0.7
	45nm,0.3s,baz=72,slow=19,SNR=21							
ELOV	Elorza	3.53	89	‖*i* P		Pn	14 06 30.3	+0.5
VIRV	Villa del Rosa	3.56	10	‖*i* P		Pn	14 06 30.9	+0.5
VIRV				*e*S		Sn	14 07 11.6	-1.4
QARV	Quebrada Arrib	4.06	37	*e*P		Pn	14 06 37.5	+0.7
QARV				*e*S		Sn	14 07 21.1	-3.4
SANV	Sanarito	4.28	54	‖*e*P		Pn	14 06 40.4	+0.8
SANV				*e*S		Sn	14 07 25.4	-4.1
CURV	Curarigua	4.29	45	‖*e*P		Pn	14 06 40.6	+0.9
CURV				*e*S		Sn	14 07 26.6	-3.1
DABV	Dabajuro	4.58	31	*e*P		Pn	14 06 44.6	+1.0
DABV				*e*S		Sn	14 07 33.7	-3.0
TEPV	Terepaima	4.83	52	‖*i* P		Pn	14 06 47.6	+0.8
SIQV	Siquisique	4.85	41	‖*e*P		Pn	14 06 47.9	+0.8
SIQV				*e*S		Sn	14 07 38.7	-4.3
BAUV	El Baul	5.32	68	‖*i* P		Pn	14 06 52.4	-1.0
IMOV	Isla Los Monje	5.75	21	*e*P		Pn	14 06 59.6	+0.5
TURV	Turiamo	6.19	56	*e*P		Pn	14 07 04.8	-0.1
CAOV	Caicara del Or	6.67	87	‖*e*P		Pn	14 07 09.7	-1.6
MERV	Las Mercedes	7.04	71	*e*P		Pn	14 07 15.8	-0.5
BIRV	Birongo	7.54	62	*e*P		Pn	14 07 22.3	-0.6
CUPV	Ccepira	7.79	66	*e*P		Pn	14 07 25.3	-1.0
PCRV	Puerto La Cruz	8.89	68	P		Pn	14 07 42.2	+1.3
	0.9nm,0.3s,baz=136,slow=17,SNR=8.4							
PCRV				S		Sn	14 09 20.2	+0.4
	1.2nm,0.3s,baz=141,slow=16,SNR=2.8							
TXAR	Lajitas Array	36.43	311	P		P	14 12 25.9	+0.5
	0.1nm,0.4s,mb2.8,baz=134,slow=10,SNR=3.7							
ULM	Lac du Bonnet	47.17	340	P		P	14 13 51.2	-1.1
	1.1nm,0.4s,mb3.9,baz=122,slow=8.1,SNR=4.7							
ULM	Lac du Bonnet	47.17	340	P		P	14 13 51.2	-1.1
YKA	Yellowknife Ar	63.15	340	P		P	14 15 46.0	-0.6
	0.5nm,0.5s,mb3.6,baz=136,slow=6.4,SNR=4.5							
YKA	Yellowknife Ar	63.15	340	P		P	14 15 46.0	-0.6
ASAR	Alice Springs	149.27	234	PKPbc		PKPbc	14 25 05.3	-1.4
	0.2nm,0.5s,baz=110,slow=3.4,SNR=4.3							
WRA	Warramunga Arr	150.48	241	PKPbc		PKPbc	14 25 08.6	-1.2
	0.2nm,0.4s,baz=108,slow=2.3,SNR=8.2							

*ISCJB **25** 14:45.3±1.9, 22N±02×990E±04, h141km±8km, mb3.6/5, Error ellipse: s-maj=77.9km s-min=17.9km az=156.1*
*NEIC **25** 14:14:45.1±2.7, 202N×9856E, h145km±11km, Error ellipse: s-maj=75.7km s-min=13.0km az=63.0*
*DJA **25** 14:14:46, 238N×9877E, h160km, ML3.5/4*
*IDC **25** 14:14:46.6±1.3, 230N×9905E, h134km±5km, mb3.4/5, mb1 3.6/6, mb1mx3.4/18, mbtmp3.4/6, Error ellipse: s-maj=58.9km s-min=16.2km az=64.0*

ISC 25 14:14:46.6±1.9, 22N±02×990E±04, h138km±7km, n10, σ0§50/10, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	0.57	352	P		Pn	14 15 07.6	+0.6
	37nm,0.3s,baz=236,slow=2.2,SNR=168							
PSI				S		Sn	14 15 21.9	-0.6
	42nm,0.3s,baz=168,slow=22,SNR=88							
CMAR	Chiang Mai Arr	16.13	360	P		Pn	14 18 26.4	+0.8
	0.4nm,0.3s,baz=190,slow=11,SNR=8.3							
WRA	Warramunga Arr	41.08	124	P		P	14 22 17.4	+0.4
	1.9nm,0.5s,mb4.0,baz=303,slow=8.9,SNR=43							
WB2	Warramunga Arr	41.09	124	*e*P		P	14 22 16.9	-0.2
ASAR	Alice Springs	42.61	129	P		P	14 22 29.4	0.0
	0.6nm,0.5s,mb3.5,baz=299,slow=7.0,SNR=31							
KSRS	Korea Array	43.99	34	P		P	14 22 39.8	-0.5
	0.8nm,0.7s,mb3.5,baz=211,slow=8.8,SNR=6.3							
SONM	Songino Array	45.88	7	P		P	14 22 55.0	0.0
	0.6nm,0.4s,mb3.6,baz=193,slow=8.9,SNR=6.5							
MKAR	Makanchi Array	46.71	344	P		P	14 23 01.0	-0.5
	0.8nm,0.4s,mb3.7,baz=153,slow=8.3,SNR=22							
MKAR	Makanchi Array	46.71	344	P		P	14 23 01.0	-0.5
TXAR	Lajitas Array	141.84	33	PKP		PKPdf	14 34 00.2	-2.4
	0.1nm,0.3s,baz=258,slow=2.7,SNR=3.4							

*ISCJB **25** 14:28:38.1±1.1, 3658N±004×2608E±006, h11km±8km, Error ellipse: s-maj=9.0km s-min=5.9km az=143.8*
*ATH **25** 14:28:38.5, 3739N×2506E, h29km, MD3.1/3*
*THE **25** 14:28:40.1, 3663N×2597E, h4km*
*CSEM **25** 14:28:40.2±0.1, 3661N×2600E, h15km, MD3.1, Error ellipse: s-maj=2.2km s-min=2.0km az=119.0*

ISC 25 14:28:38.9±1.0, 3661N±004×2606E±006, h7km±9km, n11, σ0§84/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR1	Thera Island	0.54	244	*e*Pg		Pg	14 28 49.6	+0.3
THR1				*e*Sg		Sg	14 28 56.0	-0.3
THR4	Thira Island,	0.56	255	*e*Pg		Pg	14 28 50.7	+1.0
THR4				*e*Sg		Sg	14 28 57.7	+0.9
THR3	Thira Island,	0.57	250	*e*Pg		Pg	14 28 50.2	+0.3
THR3				*e*Sg		Sg	14 28 57.7	+0.4
THR6	Thira Island,	0.59	245	*e*Pg		Pg	14 28 50.6	+0.3
THR6				*e*Sg		Sg	14 28 57.8	-0.2
THR5	Thira Island,	0.61	252	*e*Pg		Pg	14 28 51.1	+0.5
THR5				*e*Sg		Sg	14 28 58.6	+0.2
APE	Apeiranthos	0.63	317	*e*Pg		Pg	14 28 49.6	-1.4
APE				*e*Sg		Sg	14 28 59.7	+0.4
APE	Apeiranthos	0.63	317	*e*PB		Pg	14 28 49.6	-1.4
APE				*e*SB		Sg	14 28 56.8	-2.4
SMG	Samos	1.26	29	*e*PN		Pn	14 29 05.0	+2.0
ZKR	Zakros	1.49	175	*e*Pg		Pg	14 29 07.1	-0.4
ZKR				*e*Sg		Sg	14 29 27.0	+0.1
LAST	Lasithi	1.52	198	*e*Pg		Pg	14 29 07.7	-0.3
LAST				*e*Sg		Sg	14 29 26.6	-1.1
DID	Didima	2.43	293	*e*Pn		Pn	14 29 17.9	-1.2
DID				*e*Sn		Sn	14 29 49.0	-0.2

DDA 25 14:29:03.5, 3887N×2591E, h7km±2km, Md2.8, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.47	37	*e*PN		Pg	14 29 13.1	+0.6
AYVA	Ayvalik	0.75	54	*i* P		Pg	14 29 18.2	+0.4
AYVA				*i* S		Sg	14 29 28.9	+1.3
BOZC	Bozcaada	0.97	7	*i* P		Pg	14 29 22.1	-0.1
BOZC				*i* S		Sg	14 29 35.9	+1.1
BALY	Balya	1.59	56	*i* P		Pn	14 29 33.7	+1.8
BALY				*i* S		Sn	14 29 57.0	+4.3

*NIED **25** 14:53:00, 3810N×14460E, h11km, Mw3.3 Best double couple: M0 1.05000×10^14 NP1:φ=146.00000°, δ=68.00000°, λ=-110.00000°. NP2:φ=10.00000°, δ=30.00000°, λ=-50.00000°.*

JMA 25 14:53:20.9±0.1, 3810N×14464E, h45km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.52	294	P		Pn	14 54 00.7	+1.3
OFUJ				S		Sn	14 54 30.2	+1.3
JIO	Ouri	2.61	279	P		Pn	14 54 01.9	+1.3
JIO				S		Sn	14 54 32.3	+1.2
MIYJ	Miyakonagasawa	2.65	305	P		Pn	14 54 02.3	+1.2
MIYJ				S		Sn	14 54 32.9	+0.9
JMK	Ichinoseki	2.81	289	P		Pn	14 54 05.0	+1.7
JMK				S		Sn	14 54 37.4	+1.4
JOM	Ohasama	2.95	299	P		Pn	14 54 07.0	+1.7
JOM				*e*S		Sn	14 54 41.3	+1.9
JMM	Marumori	3.05	267	P		Pn	14 54 07.9	+1.3
JMM				*e*S		Sn	14 54 42.7	+0.9
JOU	Okura	3.14	276	P		Pn	14 54 09.9	+2.1
JOU				*e*S		Sn	14 54 46.3	+2.2
JANG	Nango	3.32	314	P		Pn	14 54 11.5	+1.2
JRG	Rokugo	3.39	294	P		Pn	14 54 13.5	+2.3
JRG				S		Sn	14 54 52.9	+2.7
JYK	Kaneyama	3.46	285	P		Pn	14 54 14.6	+2.4
JYK				S		Sn	14 54 54.4	+2.6
JFT	Otama	3.46	262	P		Pn	14 54 14.2	+2.0
JFT				S		Sn	14 54 54.1	+2.2
JAH	Hinai	3.75	305	*e*S		Sn	14 55 01.2	+2.2
JTM	Tenmabayashi	3.85	315	*e*S		Sn	14 55 01.6	0.0
JOT	Ohata	4.29	321	P		Pn	14 54 25.4	+1.8
BSO1	Boso 1	4.53	222	P		Pn	14 54 26.4	-0.6
BSO1				*e*S		Sn	14 55 18.3	-0.1
JCH	Churui	4.61	348	P		Pn	14 54 27.8	-0.2
JCH				*e*S		Sn	14 55 17.2	-3.1
JKB	Kayabe	4.69	325	P		Pn	14 54 31.3	+2.2
JKB				*e*S		Sn	14 55 21.7	-0.4
JRY	Ryogami san	5.04	247	P		Pn	14 54 35.1	+1.2
JRY				S		Sn	14 55 30.7	-0.1
JOD2	Odawara 2	5.28	239	P		Pn	14 54 38.5	+1.2
JOD2				*e*S		Sn	14 55 35.0	-1.9
NEM2	Nemuro 2	5.33	9	P		Pn	14 54 35.3	-2.5
NEM2				*e*S		Sn	14 55 30.7	-7.1
MAT	Matsushiro	5.36	255	P		Pn	14 54 42.2	+3.9
MAT				S		Sn	14 55 43.1	+4.4
JTKR	Abashiri--Toko	5.89	355	P		Pn	14 54 44.7	-0.9
JTKR				*e*S		Sn	14 55 47.0	-4.7
JHJ2	Mitsune	6.34	220	P		Pn	14 54 50.4	-1.4
JHJ2				*e*S		Sn	14 55 57.9	-5.0

IDC 25 15:02:55.0±7.8, 829S×15640E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/21, Error ellipse: s-maj=126.1km s-min=88.2km az=34.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.29	239	P		P	15 08 15.3	+1.0
	0.8nm,0.6s,baz=65,slow=9.3,SNR=10							
ASAR	Alice Springs	26.42	232	P		P	15 08 33.0	-0.6
	0.3nm,0.8s,baz=64,slow=9.8,SNR=4.4							
STKA	Stephens Creek	27.21	208	P		P	15 08 40.4	-0.3
	0.7nm,0.5s,baz=36,slow=16,SNR=3.7							
AFI	Afiamalu	31.70	103	LR		LR	15 20 33.8	
	comp=Z,119nm,20.2s,baz=113,slow=33							

*IDC **25** 15:05:16.9±1.5, 1176N×8611W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/20, mbtmp3.8/3, MS3.4/1, Ms1 3.3/1, ms1mx2.5/35, Error ellipse: s-maj=109.3km s-min=25.9km az=55.0*
*CASC **25** 15:05:18.4±1.9, 1093N×8698W, h35km, MD4.1, ML3.2, mb3.9(NEIC)*
*ISCJB **25** 15:05:19.2±0.8, 1099N±005×8689W±007, h33km, mb3.8/5, Error ellipse: s-maj=11.0km s-min=5.2km az=152.9*
*NEIC **25** 15:05:22.2±1.0, 1117N×8671W, h35km, mb3.9/2, Error ellipse: s-maj=60.7km s-min=17.6km az=63.0*

ISC 25 15:05:21.2±0.8, 1109N±005×8676W±008, h35km, n36, σ0§75/33, mb3.8/5, 7C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSN	San Juan del S	0.92	77	‖*e*P		Pn	15 05 37.4	-0.1
SSN				*e*P			15 05 37.4	
CRUN	El Crucero	1.00	27	*e*P		Pn	15 05 39.5	+0.8
APON	Apoyo	1.07	40	‖*e*P		Pn	15 05 40.1	+0.4
MASN	Masaya	1.07	34	*e*P		Pn	15 05 39.5	-0.3
COPN	Copaltepe	1.10	9	*e*P		Pn	15 05 39.9	-0.1
XAVN	Gruta Xavier	1.14	22	*e*P		Pn	15 05 40.8	+0.2
CSAN		1.14	17	‖*e*P		Pn	15 05 40.3	-0.3
CSAN				*e*S		Sn	15 05 59.3	+4.3
TISN	Laguna Tiscapa	1.15	25	‖*e*P		Pn	15 05 40.9	0.0
MGAN	Managua	1.17	26	‖*e*P		Pn	15 05 41.1	+0.1
MGAN				AML		AML	15 06 02.0	
	comp=E,791nm,0.4s							
APYN	Apoyeque	1.21	19	*e*P		Pn	15 05 41.5	-0.1
CONN	Concepcion	1.21	67	‖*e*P		Pn	15 05 41.8	+0.2
MADN	Villa Maderas	1.25	75	‖*e*P		Pn	15 05 42.1	0.0
LEON	Leon	1.32	354	‖*i* P		Pn	15 05 42.7	-0.6
HUEN		1.37	25	‖*e*P		Pn	15 05 43.7	-0.1
HUEN				*e*S		Sn	15 06 06.6	+5.9
CNGN	Cerro Negro	1.40	3	*e*P		Pn	15 05 43.8	-0.5
VCR	Vista de Mar	1.47	131	‖*e*P		Pn	15 05 43.7	-1.5
TEL3	Telica 3	1.48	357	*e*P		Pn	15 05 44.3	-1.0
TELN	Telica	1.51	357	‖*e*P		Pn	15 05 45.8	0.0
JCR	Jicaral	2.04	127	*e*P		Pn	15 05 51.7	-1.3
CAO	Cobano	2.14	130	*e*P		Pn	15 05 53.6	-0.8
CNCH	Conchagua	2.41	334	*e*P		x	15 05 57.6	
CGA2	Cerro Gallo 2	2.50	115	*e*P		Pn	15 05 60.0	+0.7
PRS1	Puriscal	2.65	114	‖*e*P		Pn	15 06 01.8	+0.3
TGUH	Tegucigalpa,Un	2.99	350	*e*P		Pn	15 06 05.4	-0.8
TGUH	Tegucigalpa,Un	2.99	350	*e*Pn		Pn	15 06 07.0	+0.9
LCR2	La Lucha 2	3.03	116	*e*P		Pn	15 06 08.4	+1.7
BUS	Buena Vista	3.33	117	*e*P		Pn	15 06 10.4	-0.3
CHI2		14.39	115	*e*P		Px	15 05 46.5	
TXAR	Lajitas Array	24.05	321	P		P	15 10 33.4	+0.2
	comp=E,1.1nm,0.8s,mb3.4,baz=135,slow=10,SNR=11							
WMOK	Wichita Mounta	25.97	337	*e*P		P	15 10 51.3	+0.8
	comp=E,3.0nm,1.0s,mb3.8							
SIV	San Ignacio	37.02	136	P		P	15 12 29.2	+1.3
	comp=E,1.1nm,0.7s,mb3.8,baz=334,slow=7.2,SNR=5.5							
FLWY	Flagg Ranch	38.83	332	*e*P		P	15 12 43.5	+0.7
	comp=E,1.1nm,0.4s,mb3.9							
ULM	Lac du Bonnet	39.76	351	P		P	15 12 47.0	-3.5
	comp=E,1.9nm,0.5s,mb4.0,baz=166,slow=4.2,SNR=3.9							
BDFB	Brasilia	46.66	124	LR		LR	15 34 05.6	
	comp=E,43nm,18.8s,baz=143,slow=37							
WRA	Warramunga Arr	139.52	252	PKP		PKPdf	15 24 49.0	+3.1
	comp=E,0.3nm,0.7s,baz=92,slow=2.1,SNR=5.2							
CMAR	Chiang Mai Arr	150.11	349	PKPbc		PKPbc	15 25 08.1	-1.1
	comp=E,0.4nm,0.6s,baz=354,slow=2.7,SNR=4.5							

*ISCJB **25** 15:08:00.8±0.4, 3906N±003×2788E±003, h10km±5km, Error ellipse: s-maj=5.0km s-min=4.3km az=25.4*
*ISK **25** 15:08:00.3, 3905N×2789E, h17km, MD2.9*
*CSEM **25** 15:08:01.0±0.1, 3906N×2789E, h12km, MD2.9, Error ellipse: s-maj=1.9km s-min=1.4km az=111.0*
*DDA **25** 15:08:01.3, 3905N×2786E, h7km±2km, Md2.7*

ISC 25 15:08:01.3±0.4, 3905N±003×2787E±003, h15km±4km, n23, σ0§76/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	Akhisar	0.17	195	*i* P		Pg	15 08 05.1	-0.4
AKHS				*i* S		Sg	15 08 08.6	+0.3
AKS	Akhisar	0.17	195	PG		Pg	15 08 05.1	-0.4
AKS				SG		Sg	15 08 08.5	+0.2
BALB	Balikesir	0.59	1	*e*PG		Pg	15 08 12.6	-0.3
BALB				*e*SG		Sg	15 08 20.9	+0.2
DEMI	Demirci	0.66	90	*i* P		Pg	15 08 14.2	+0.1
DEMI				*i* S		Sg	15 08 23.3	+0.5
DEMI	Demirci	0.66	90	*i* P		Pg	15 08 14.2	+0.1
DEMI				*i* S		Sg	15 08 23.3	+0.5
BALY	Balya	0.72	344	*i* P		Pg	15 08 15.0	-0.3
BALY				*i* S		Sg	15 08 25.8	+1.0
IZM	Izmir	0.81	216	*e*PG		Pg	15 08 16.1	-0.8
DST	Dursunbey	0.81	46	*e*PG		Pg	15 08 16.1	-0.9
KULA	Kula-Manisa	0.81	131	*e*PG		Pg	15 08 16.2	-0.8
KULA				*e*SG	

DJA 25 16:05:26, 145S×12124E, h22km, ML4.7/5
ISC 25 16:05:27.4±0.8, 184S±006×12140E±006, h81km±10km, n38, σ0§98/31, mb4.0/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**1.82**	**301**	P	**Pn**	**16 05 50.5**	**-6.5**
	0.0nm,0.0s						
KDI	**Kendari**	**2.42**	**150**	P	**Pn**	**16 06 03.5**	**-1.6**
	0.0nm,0.0s						
KAPI	**Kappang**	**3.56**	**208**	*e*Pn	**Pn**	**16 06 15.1**	**-5.2**
KAPI				*e*Sn	**Sn**	**16 06 59.8**	**-1.4**
SMKI	**Samarinda**	**4.42**	**288**	P	**Pn**	**16 06 26.8**	**-5.3**
	0.0nm,0.0s						
MNI	**Manado**	**4.74**	**46**	P	**Pn**	**16 06 37.2**	**+0.7**
	0.0nm,0.0s						
LBMI	**Labuha**	**6.21**	**79**	P	**Pn**	**16 06 57.0**	**+0.4**
	0.0nm,0.0s						
BBKI	**Banjar Baru**	**6.75**	**256**	P	**Pn**	**16 07 04.4**	**+0.5**
	0.0nm,0.0s						
BATI	**Baumata**	**8.61**	**165**	P	**Pn**	**16 07 34.3**	**+5.0**
	0.0nm,0.0s						
BATI	**Baumata**	**8.61**	**165**	P	**Pn**	**16 07 32.1**	**+2.8**
	1.4nm,0.3s,baz=257,slow=10.0,SNR=4.9						
BATI				LR	LR	16 11 17.5	
	comp=Z,741nm,19.5s,baz=347,slow=40						
DAV	**Davao City (W)**	**9.79**	**25**	LR	LR	16 11 51.0	
	comp=Z,265nm,18.3s,baz=199,slow=40						
BJII	**Banjamegara**	**12.87**	**245**	P	**Pn**	**16 08 28.3**	**+1.1**
	0.0nm,0.0s						
CBJI	**Citeko**	**15.21**	**252**	P	**Pn**	**16 08 58.9**	**+1.1**
	0.0nm,0.0s						
KAKA	**Kakadu**	**15.36**	**135**	*e*P	**Pn**	**16 09 08.0**	**+8.3**
	13nm,1.1s						
FITZ	**Fitzroy Crossi**	**16.68**	**166**	*e*P	**Pn**	**16 09 17.3**	**+1.1**
	5.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**16.68**	**166**	P	**Pn**	**16 09 17.1**	**+0.9**
	0.1nm,0.3s,baz=351,slow=15,SNR=5.0						
FITZ				LR	LR	16 16 55.4	
	comp=Z,103nm,18.2s,baz=113,slow=41						
WRAB	**Tennant Creek**	**21.99**	**146**	*e*P	**P**	**16 10 14.3**	**-0.7**
	22nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**21.99**	**146**	P	**P**	**16 10 14.7**	**-0.3**
	11nm,1.0s,mb4.2,baz=315,slow=13,SNR=74						
WB2	**Warramunga Arr**	**22.00**	**146**	*e*P	**P**	**16 10 14.9**	**-0.1**
WB2	**Warramunga Arr**	**22.00**	**146**	*e*P	**P**	**16 10 14.3**	**-0.7**
PSI	**Prapat**	**22.94**	**282**	LR	LR	16 19 54.2	
	comp=Z,174nm,18.2s,baz=307,slow=38						
ASAR	**Alice Springs**	**24.84**	**152**	P	**P**	**16 10 43.5**	**+1.2**
	3.5nm,0.9s,mb3.8,baz=336,slow=8.1,SNR=31						
CMAR	**Chiang Mai Arr**	**29.92**	**313**	P	**P**	**16 11 27.9**	**0.0**
	0.4nm,0.7s,mb3.2,baz=136,slow=7.5,SNR=4.9						
CMAR				LR	LR	16 25 29.8	
	comp=Z,44nm,18.2s,baz=125,slow=40						
CTA	**Charters Tower**	**30.30**	**128**	LR	LR	16 23 42.3	
	comp=Z,89nm,21.0s,baz=43,slow=36						
NWAO	**Narrogin (SRO)**	**31.17**	**187**	LR	LR	16 25 20.2	
	comp=Z,109nm,19.7s,baz=333,slow=38						
CBIJ	**Chichi jima**	**35.06**	**33**	LR	LR	16 24 40.7	
	comp=Z,31nm,21.2s,baz=192,slow=33						
STKA	**Stephens Creek**	**35.42**	**150**	*e*P	**P**	**16 12 17.2**	**+1.4**
	7.5nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**35.42**	**150**	P	**P**	**16 12 17.2**	**+1.4**
	9.4nm,1.0s,mb4.6,baz=322,slow=8.8,SNR=18						
STKA	**Stephens Creek**	**35.42**	**150**	*e*P	**P**	**16 12 16.6**	**+0.9**
	27nm,1.3s,mb4.9						
JHJ	**Hachijo jima 2**	**38.87**	**25**	LR	LR	16 27 37.1	
	comp=Z,34nm,19.7s,baz=133,slow=34						
KSRS	**Korea Array**	**39.56**	**8**	LR	LR	16 28 20.5	
	comp=Z,22nm,20.6s,baz=193,slow=35						
MJAR	**Matsushiro Arr**	**41.27**	**21**	P	**P**	**16 13 02.6**	**-2.1**
	1.0nm,0.8s,mb3.7,baz=197,slow=8.4,SNR=7.0						
MJAR				LR	LR	16 28 33.5	
	comp=Z,71nm,21.3s,baz=240,slow=34						
GTA	**Gaotai**	**45.59**	**336**	*e*P	**P**	**16 13 40.3**	**+0.9**
GTA				AP	pP	16 13 46.8	-12
GTA				XP	sP	16 13 50.8	-18
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
ASAJ	**Asahikawa**	**49.53**	**20**	LR	LR	16 33 40.6	
	comp=Z,44nm,18.5s,baz=193,slow=34						
SONM	**Songino Array**	**51.18**	**347**	P	**P**	**16 14 21.5**	**-0.7**
	comp=Z,1.1nm,0.7s,mb4.0,baz=166,slow=8.8,SNR=9.6						
MK31	**Makanchi Array**	**59.36**	**330**	*e*P	**P**	**16 15 21.0**	**-0.1**
MKAR	**Makanchi Array**	**59.36**	**330**	P	**P**	**16 15 21.1**	**+0.1**
	comp=Z,2.0nm,1.0s,mb4.1,baz=131,slow=8.3,SNR=14						
ZALV	**Zalesovo Beam**	**63.34**	**337**	P	**P**	**16 15 46.9**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.6,baz=131,slow=5.9,SNR=6.0						
KURK	**Kurchatov**	**63.79**	**331**	*e*P	**P**	**16 15 50.7**	**-0.1**
	comp=Z,22nm,1.5s,mb4.8						

MAN 25 16:24:28, 1682N×11953E, h26km, mb4.6, ML3.5, MS3.5, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.57**	**140**	*e*P	Pb	16 24 39.9	+0.5
BOLP				*e*S	Sb	16 24 47.1	-0.1
BCPH	**Baguio City Da**	**1.10**	**113**	⇓*e*P	Pn	16 24 45.6	-2.1
BCPH				*e*S	Sn	16 24 56.5	-5.6
SCZP	**Santa Cruz**	**1.10**	**160**	*e*P	Pn	16 24 47.8	+0.1
ABRA	**Dolores**	**1.40**	**54**	*e*P	Pn	16 24 52.6	+0.7
ABRA				*e*S	Sn	16 25 10.1	+0.6
APYP	**Conner**	**1.94**	**57**	*e*P	Pn	16 24 59.9	+0.6
APYP				*e*S	Sn	16 25 23.0	+0.2
PCPH	**Palayan**	**1.96**	**129**	⇑*e*P	Pn	16 24 59.6	0.0
CAUP	**Cauayan**	**2.20**	**86**	*e*P	Pn	16 25 04.3	+1.4
CAUP				*e*S	Sn	16 25 31.9	+2.7
BALP	**Baler**	**2.24**	**118**	*e*P	Pn	16 25 03.7	+0.3
BALP				*e*S	Sn	16 25 29.5	-0.8
PALP	**Palanan**	**2.78**	**85**	*e*P	Pn	16 25 12.4	+1.5
POLP	**Polilio Island**	**3.12**	**132**	*e*P	Pn	16 25 16.1	+0.6
POLP				*e*S	Sn	16 25 53.9	+2.0
LUBP	**Lubang**	**3.14**	**167**	*e*P	Pn	16 25 18.4	+2.5
SJMP	**San Jose**	**4.60**	**160**	*e*P	Pn	16 25 39.1	+3.3
BUSP	**Coron**	**4.83**	**172**	*e*P	Pn	16 25 40.2	+1.1
ENPP	**El Nido**	**5.58**	**181**	*e*P	Pn	16 25 50.5	+1.1

DDA 25 16:27:47.9, 3586N×3396E, h7km±3km, Md3.0
CSEM 25 16:27:48.1±0.1, 3585N×3377E, h20km, Mw2.8, Error ellipse: s-maj=2.6km s-min=1.9km az=118.0
ISK 25 16:27:48.7, 3587N×3358E, h9km, MD3.4
ISCJB 25 16:27:49.0±0.4, 3585N±003×3377E±005, h23km±7km, Error ellipse: s-maj=6.5km s-min=4.2km az=12.9
NEIC 25 16:27:50.5, 3571N×3376E, h56km, MG3.2(NIC), After NIC.
NIC 25 16:27:50.5±0.2, 3571N×3376E, h56km, ML3.2, MW2.8
ISC 25 16:27:48.6±0.5, 3584N±003×3377E±004, h17km±5km, n19, σ0§85/30, 1C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKL	**Isikli**	**0.40**	**350**	*e*PG	**Pg**	**16 27 56.9**	**0.0**
IKL				*e*SG	**Sg**	**16 28 02.4**	**0.0**
EREN	**Erenkoy**	**0.45**	**133**	*e*PG	**Pg**	**16 28 00.1**	**+2.3**
EREN				*e*SG	**Sg**	**16 28 09.9**	**+6.0**
LFK	**Lefkose**	**0.59**	**199**	*e*PG	**Pg**	**16 28 00.6**	**+0.3**
MAMC	**Mammari**	**0.81**	**214**	⇑*i*P	**Pb**	**16 28 05.0**	**+0.9**
MEST	**Erdemli**	**0.81**	**22**	*i*P	**Pb**	**16 28 03.3**	**-0.8**
MEST				*i*S	**Sb**	**16 28 14.4**	**-0.3**
PHNC	**Paralimni**	**0.86**	**165**	P	**Pb**	**16 28 05.2**	**+0.1**
PHNC				S	**Sb**	**16 28 16.4**	**+0.1**
CSS	**Prodhromos**	**0.95**	**202**	P	**Pb**	**16 28 06.1**	**-0.4**
	2.4nm,0.2s						
CSS				S	**Sb**	**16 28 18.4**	**-0.4**
CSS	**Prodhromos**	**0.95**	**202**	*e*PG	**Pg**	**16 28 06.1**	**-0.9**
CSS	**Prodhromos**	**0.95**	**202**	*e*Pg	**Pb**	**16 28 06.1**	**-0.4**
CSS				S	**Sb**	**16 28 18.4**	**-0.4**
LEF	**Lefka**	**1.01**	**225**	*e*PG	**Pg**	**16 28 07.7**	**-0.7**
LEF				*e*SG	**Sg**	**16 28 21.7**	**0.0**
ERMK	**Ermenek**	**1.06**	**319**	*i*P	**Pb**	**16 28 10.1**	**+1.7**
ERMK				*i*S	**Sb**	**16 28 25.9**	**+3.9**
ALFC	**Alevga**	**1.17**	**235**	P	**Pn**	**16 28 09.7**	**-0.5**
	8.5nm,0.1s						
ALFC				S	**Sb**	**16 28 24.8**	**-0.5**
HDMB	**Hadim**	**1.52**	**318**	*e*PN	**Pn**	**16 28 15.3**	**+0.2**
KARA	**Karaisali**	**1.76**	**36**	*e*PN	**Pg**	**16 28 20.8**	**-1.6**
YAYL	**Yayladag**	**1.91**	**84**	*i*P	**Pn**	**16 28 20.4**	**0.0**
YAYL				*i*S	**Sn**	**16 28 43.5**	**-0.4**
COBT	**Iskenderun**	**2.12**	**71**	*i*P	**Pn**	**16 28 23.3**	**+0.1**
COBT				*i*S	**Sn**	**16 28 49.8**	**+0.5**
KOZT	**Kozan**	**2.33**	**45**	*e*PN	**Pn**	**16 28 29.6**	**+3.5**
KONT	**Konya--Tatoy**	**2.38**	**332**	*e*PN	**Pn**	**16 28 27.8**	**+0.9**
SARI	**SarD1z-Kayseri**	**3.67**	**39**	*e*PN	**Pn**	**16 28 43.6**	**-0.9**

DJA 25 16:29:55, 2090S×17241E, h10km, mb5.3/10
SZGRF 25 16:30:01.8, 2217S×17173E, h33km, Southeast of Loyalty Islands
BJI 25 16:30:20.3, 2170S×17070E, h184km, mB4.7, mb4.3
ISCJB 25 16:30:21.8±1.1, 2166S±006×17071E±007, h196km±8km, mb4.3/26, Error ellipse: s-maj=10.6km s-min=9.4km az=152.9
NEIC 25 16:30:22.4±1.6, 2166S×17073E, h185km±13km, mb4.6/13, Error ellipse: s-maj=11.6km s-min=8.5km az=77.0
IDC 25 16:30:22.6±2.1, 2168S×17069E, h187km±19km, mb4.2/16, mb1 4.2/18, mb1mx4.2/22, mbtmp4.2/18, MS3.8/5, Ms1 3.8/5, ms1mx3.3/29, Error ellipse: s-maj=14.2km s-min=12.2km az=103.0
MOS 25 16:30:25.7±1.6, 2163S×17042E, h212km, mb4.7/8, Error ellipse: s-maj=12.8km s-min=11.2km az=5.5
ISC 25 16:30:22.3±1.1, 2169S±006×17075E±007, h187km±8km, n119, σ0§91/75, mb4.5/26, 8C-8D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.02**	**264**	*e*P	**Pn**	**16 31 23.7**	**-0.1**
DZM				*e*S	**Sn**	**16 32 10.9**	**-1.2**
DZM	**Mont Dzumac**	**4.02**	**264**	⇓*e*Pn	**Pn**	**16 31 23.6**	**-0.3**
DZM				*e*Sn	**Sn**	**16 32 11.8**	**-0.3**
HNR	**Honiara**	**16.01**	**318**	P	**Pn**	**16 33 57.6**	**+0.2**
	13nm,0.3s,baz=246,slow=1.9,SNR=40						
HNR	**Honiara**	**16.01**	**318**	⇑*i*P	**Pn**	**16 33 57.0**	**-0.5**
HNR				pmax	pmax		
	comp=Z,441nm,1.1s						
HNR	**Honiara**	**16.01**	**318**	⇑*i*P	**Pn**	**16 33 57.0**	**-0.5**
	comp=Z,441nm,1.1s						
URZ	**Urewera**	**17.40**	**163**	P	**Pn**	**16 34 13.3**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=336,slow=6.8,SNR=15						
URZ				LR	LR	16 39 25.8	
	comp=Z,345nm,19.0s,baz=198,slow=31						
ARMA	**Armidale**	**19.24**	**239**	*e*P	**P**	**16 34 34.9**	**+2.5**
RIV	**Riverview**	**21.10**	**231**	*e*P	**P**	**16 34 54.0**	**+1.8**
RPZ	**Rata Peaks**	**21.97**	**179**	P	**P**	**16 35 01.4**	**+0.2**
	comp=Z,25nm,0.7s,mb4.8,baz=71,slow=5.0,SNR=15						
RPZ				LR	LR	16 42 13.6	
	comp=Z,241nm,19.7s,baz=29,slow=32						
RPZ	**Rata Peaks**	**21.97**	**179**	P	**P**	**16 35 01.4**	**+0.2**
RPZ				LR	LR	16 42 13.6	
CTA	**Charters Tower**	**22.94**	**270**	*e*P	**P**	**16 35 11.2**	**+0.9**
	comp=Z,5.5nm,0.4s,mb4.3						
CTA				*e*S	**S**	**16 39 09.6**	**+3.3**
CTA	**Charters Tower**	**22.94**	**270**	P	**P**	**16 35 11.2**	**+0.9**
	comp=Z,6.4nm,0.4s,mb4.4,baz=89,slow=11,SNR=20						
CTA	**Charters Tower**	**22.94**	**270**	*e*P	**P**	**16 35 11.2**	**+0.9**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
CTAO	**Charters Tower**	**22.94**	**270**	*e*P	**P**	**16 35 11.4**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.3						
CTAO	**Charters Tower**	**22.94**	**270**	*e*P	**P**	**16 35 11.4**	**+1.1**
	comp=Z,15nm,1.1s,mb4.3						
CNB	**Canberra Magne**	**23.12**	**229**	*e*P	**P**	**16 35 13.0**	**+1.2**
CAN	**Canberra**	**23.39**	**230**	*e*P	**P**	**16 35 15.0**	**+0.8**
PMG	**Port Moresby**	**25.75**	**295**	*e*P	**P**	**16 35 36.1**	**+0.2**
PMG				pmax	pmax		
	comp=Z,24nm,0.8s						
PMG	**Port Moresby**	**25.75**	**295**	*e*P	**P**	**16 35 36.1**	**+0.2**
	comp=Z,24nm,0.8s,mb4.9						
TOO	**Toolangi**	**26.95**	**228**	*e*P	**P**	**16 35 47.2**	**+0.8**
STKA	**Stephens Creek**	**27.86**	**242**	*e*P	**P**	**16 35 55.2**	**+0.7**
	comp=Z,9.2nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**27.86**	**242**	P	**P**	**16 35 55.3**	**+0.8**
	comp=Z,9.1nm,0.6s,mb4.7,baz=88,slow=10,SNR=40						
ASAR	**Alice Springs**	**34.00**	**260**	P	**P**	**16 36 48.3**	**-0.1**
	comp=Z,3.1nm,0.3s,mb4.5,baz=79,slow=8.9,SNR=130						
ASAR				S	**S**	**16 41 58.4**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=94,slow=16,SNR=9.7						
ASAR				ScP	ScP	16 42 51.8	+2.5
	comp=Z,1.3nm,0.8s,baz=98,slow=3.9,SNR=12						
ASAR	**Alice Springs**	**34.00**	**260**	P	**P**	**16 36 48.3**	**-0.1**
ASAR				S	**S**	**16 41 58.4**	**-1.4**
WB2	**Warramunga Arr**	**34.02**	**266**	*e*P	**P**	**16 36 47.7**	**-1.0**
WB2				*e*S	**S**	**16 41 57.0**	**-3.3**
WB2				*e*PCS	ScP	16 42 34.9	-15
WRAB	**Tennant Creek**	**34.03**	**266**	⇓*e*P	**P**	**16 36 47.8**	**-0.9**
WRAB	**Tennant Creek**	**34.03**	**266**	*e*P	**P**	**16 36 47.4**	**-1.3**
	comp=Z,21nm,1.5s,mb4.6						
WRA	**Warramunga Arr**	**34.03**	**266**	P	**P**	**16 36 47.9**	**-0.9**
	comp=Z,2.2nm,0.4s,mb4.3,baz=96,slow=8.7,SNR=147						
WRA				S	**S**	**16 41 57.5**	**-3.0**
	comp=Z,2.5nm,0.9s,baz=101,slow=14,SNR=7.0						
PPT	**Papeete**	**37.52**	**91**	LR	LR	16 49 22.0	
	comp=Z,167nm,18.4s,baz=303,slow=30						
KAKA	**Kakadu**	**37.59**	**277**	*e*P	**P**	**16 37 18.3**	**-0.7**
	comp=Z,5.5nm,0.5s,mb4.4						
FORT	**Forrest**	**39.16**	**248**	*e*P	**P**	**16 37 31.7**	**-0.3**
	comp=Z,20nm,1.1s,mb4.7						
FITZ	**Fitzroy Crossi**	**42.46**	**267**	*e*P	**P**	**16 37 59.4**	**+0.3**
	comp=Z,11nm,0.6s,mb4.7						
FITZ				*e*PCP	PcP	16 39 47.6	-1.0
FITZ				*e*S	**S**	**16 44 08.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**42.46**	**267**	P	**P**	**16 37 59.7**	**+0.5**
	comp=Z,7.5nm,0.7s,mb4.5,baz=128,slow=11						
FITZ				LR	LR	16 54 15.4	
	comp=Z,52nm,19.6s,baz=281,slow=34						
BATI	**Baumata**	**46.53**	**277**	P	**P**	**16 38 29.6**	**-1.8**
	comp=Z,23nm,1.0s,mb4.8,baz=239,slow=12,SNR=2.7						
MBWA	**Marble Bar**	**47.32**	**261**	*e*P	**P**	**16 38 37.8**	**+0.4**
KLBR	**Kellerberrin**	**48.00**	**247**	⇓*i*P	**P**	**16 38 42.1**	**-0.4**
	comp=Z,22nm,0.5s,mb5.0						
NWAO	**Narrogin (SRO)**	**48.41**	**245**	P	**P**	**16 38 45.5**	**-0.2**
	comp=Z,32nm,0.7s,mb5.1,baz=81,slow=6.7,SNR=28						
NWAO				LR	LR	16 57 03.4	
	comp=Z,118nm,20.9s,baz=4.3,slow=33						
NWAO	**Narrogin (SRO)**	**48.41**	**245**	*e*P	**P**	**16 38 45.2**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,64nm,1.2s						
NWAO	**Narrogin (SRO)**	**48.41**	**245**	*e*P	**P**	**16 38 45.1**	**-0.5**
	comp=Z,64nm,1.2s,mb5.1						
CBIJ	**Chichi jima**	**55.82**	**329**	P	**P**	**16 39 39.5**	**-0.7**
	comp=Z,40nm,0.6s,mb5.4,baz=312,slow=22,SNR=4.2						
SBA	**Scott Base**	**56.25**	**181**	*e*P	**P**	**16 39 43.6**	**+1.0**
CASY	**Casey**	**58.48**	**204**	⇓*i*P	**P**	**16 39 57.8**	**-0.5**
KSM	**Kuching**	**63.30**	**283**	⇑*e*P	**P**	**16 40 32.2**	**+0.4**
MJAR	**Matsushiro Arr**	**65.57**	**332**	P	**P**	**16 40 45.3**	**-0.5**
	comp=Z,2.2nm,0.5s,mb4.2,baz=164,slow=6.6,SNR=21						
MAJO	**Matsushiro**	**65.57**	**332**	*e*P	**P**	**16 40 45.6**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
MAJO	**Matsushiro**	**65.57**	**332**	*e*P	**P**	**16 40 45.6**	**-0.3**
	comp=Z,5.6nm,0.6s,mb4.6						
MAT	**Matsushiro**	**65.57**	**332**	P	**P**	**16 40 46.2**	**+0.3**
QSPA	**South Pole Qui**	**68.38**	**180**	P	**P**	**16 41 03.0**	**0.0**
	baz=336,slow=0.5						
KSRS	**Korea Array**	**71.31**	**325**	P	**P**	**16 41 22.4**	**+0.9**
	comp=Z,0.9nm,0.6s,mb3.7,baz=130,slow=5.4,SNR=4.8						
PETK	**Petropavlovsk-**	**75.34**	**352**	P	**P**	**16 41 45.1**	**+0.5**
	comp=Z,7.0nm,0.8s,mb4.3,baz=161,slow=6.3,SNR=10.0						
MAW	**Mawson**	**76.71**	**202**	*e*P	**P**	**16 41 52.9**	**+0.5**
	comp=Z,7.3nm,0.7s,mb4.4						
MAW	**Mawson**	**76.71**	**202**	P	**P**	**16 41 52.9**	**+0.6**
	comp=Z,9.0nm,0.7s,mb4.5,baz=123,slow=8.1,SNR=8.9						
MAW	**Mawson**	**76.71**	**202**	*e*P	**P**	**16 41 52.6**	**+0.2**
MAW				pmax	pmax		
	comp=Z,11nm,0.8s						
MAW	**Mawson**	**76.71**	**202**	*e*P	**P**	**16 41 52.6**	**+0.2**
	comp=Z,11nm,0.8s,mb4.5						
CMAR	**Chiang Mai Arr**	**80.79**	**294**	P	**P**	**16 42 17.0**	**+1.6**
	comp=Z,2.1nm,0.7s,mb3.9,baz=131,slow=4.1,SNR=15						
XAN	**Xi'an**	**80.80**	**312**	P	**P**	**16 42 15.5**	**+0.4**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.2						
CHTO	**Chiang Mai**	**80.95**	**294**	*e*P	**P**	**16 42 16.9**	**+0.6**
SYO	**Syowa Base**	**82.99**	**196**	⇑*e*P	**P**	**16 42 23.6**	**-2.4**
SEY	**Seymchan**	**85.58**	**352**	⇓*e*P	**P**	**16 42 38.9**	**0.0**
SNAA	**Sanae**	**86.79**	**182**	*e*P	**P**	**16 42 43.7**	**-1.2**
SNAA				*e*		16 42 49.2	
SNAA	**Sanae**	**86.79**	**182**	*e*P	**P**	**16 42 43.6**	**-1.3**
	comp=Z,2.4nm,0.6s,mb4.2						
VNA3	**Neumayer Olymp**	**87.32**	**180**	*e*P	**P**	**16 42 46.3**	**-1.2**
VNA3				*e*		16 42 53.1	
VNA2	**Neumayer--Watz**	**87.63**	**181**	*e*P	**P**	**16 42 48.2**	**-0.8**
VNA2				*e*		16 42 55.3	
VNA1	**Neumayer--Stat**	**87.92**	**180**	*e*P	**P**	**16 42 50.0**	**-0.3**
VNA1				*e*		16 42 56.8	
NVAR	**Mina Array Bea**	**89.36**	**48**	P	**P**	**16 42 57.8**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=230,slow=11,SNR=3.7						
BILL	**Bilibino**	**89.52**	**358**	*e*P	**P**	**16 42 58.0**	**+0.4**
BILL				*e*		16 53 07.3	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
YAK	**Yakutsk**	**89.62**	**342**	⇓*e*P	**P**	**16 42 58.1**	**-0.1**
YAK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
SONM	**Songino Array**	**90.02**	**323**	P	**P**	**16 43 00.9**	**+0.6**
	comp=Z,3.3nm,1.0s,mb4.2,baz=131,slow=5.1,SNR=14						
ARCES	**ARCESS Array B**	**127.78**	**345**	PKP	PKPdf	16 49 03.3	-1.4
	comp=Z,3.4nm,1.1s,baz=60,slow=2.9,SNR=5.1						
OBN	**Obninsk**	**132.31**	**326**	*e*PKIKP	PKPdf	16 49 15.0	+1.3
OBN				*e*SS	SS	17 08 59.6	-2.1
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**138.29**	**324**	SKPbc	SKPbc	16 52 41.9	+0.1
	comp=Z,0.2nm,0.3s,baz=50,slow=2.5,SNR=7.8						
VOIR		**143.31**	**318**	⇓*i*P	PKPdf	16 49 32.4	-1.8
KECS	**Kecovo**	**144.25**	**326**	*e*PKP	PKPdf	16 49 34.8	-0.9
BSEG	**Bad Segeberg**	**144.53**	**340**	*e*PKPbc	PKPdf	16 49 35.6	-0.4
MORC	**Moravsky Berou**	**144.88**	**329**	⇑*i*P	PKPdf	16 49 34.2	-2.6
DPC	**Dobruska-Polom**	**145.04**	**331**	*e*PKP	PKPdf	16 49 37.4	+0.4
UPC	**Upice**	**145.07**	**332**	*e*PKP	PKPdf	16 49 37.4	+0.3
VYHS	**Vyhne**	**145.10**	**327**	*i*PKP	PKPdf	16 49 37.5	+0.3
TIM	**Timisoara**	**145.45**	**321**	⇓*i*P	PKPdf	16 49 38.4	+0.5
VRAC	**Vranov**	**145.65**	**330**	⇑*i*P	PKPdf	16 49 38.8	+0.7
PVCC	**Panska Ves**	**145.68**	**333**	*e*PKP	PKPdf	16 49 39.2	+1.1
BRG	**Berggiesshubel**	**145.68**	**334**	*e*PKPbc	PKPbc	16 49 39.4	+0.6
BRG	**Berggiesshubel**	**145.68**	**334**	*e*P	PKPdf	16 49 38.5	+0.4
	comp=Z,7.8nm,0.8s						
CLL	**Collm**	**145.72**	**335**	*e*PKPbc	PKPbc	16 49 39.2	+0.3
CLL	**Collm**	**145.72**	**335**	⇑*i*PKPbc	PKPbc	16 49 38.3	-0.6
	comp=Z,40nm,2.0s						
CLL	**Collm**	**145.72**	**335**	⇑*i*P	PKPdf	16 49 38.3	+0.1
CLL				*i*		16 50 00.2	
FBE	**Freiberg**	**145.88**	**334**	*e*PKPbc	PKPbc	16 49 40.1	+0.7
MODS	**Modra-Piesok**	**145.96**	**328**	*e*PKP	PKPdf	16 49 39.8	+1.1
PRU	**Pruhonice**	**146.09**	**332**	*e*PKP	PKPdf	16 49 40.3	+1.5
TREC	**Trest**	**146.18**	**331**	*e*PKP2	PKPab	16 49 40.8	-0.6
TREC				MLR	MLR		
	comp=Z,200nm,16.8s						
WERD	**Werda**	**146.67**	**335**	*e*PKPbc	PKPbc	16 49 42.3	+0.6
GUNZ	**Gunzen**	**146.73**	**335**	*e*PKPbc	PKPbc	16 49 42.6	+0.7
WERN	**Wernitzgruen**	**146.77**	**334**	*e*PKPbc	PKPbc	16 49 42.7	+0.7
NKC	**Novy Kostel**	**146.78**	**334**	*e*PKP	PKPbc	16 49 42.6	+0.6
MANZ	**Manzenberg**	**147.11**	**334**	*e*PKPbc	PKPbc	16 49 43.5	+0.5
KHC	**Kasperske Hory**	**147.15**	**332**	*e*PKP	PKPbc	16 49 43.2	+0.1
UBBA	**Unterbreizbach**	**147.25**	**337**	*e*PKPbc	PKPbc	16 49 43.5	+0.2
GEC2	**GERESS Array S**	**147.31**	**332**	*e*PKIKP	PKPbc	16 49 43.0	-0.5
GERES	**GERESS Array B**	**147.31**	**332**	PKPbc	PKPbc	16 49 43.8	+0.2
	comp=Z,3.0nm,0.8s,baz=41,slow=2.5,SNR=19						
WET	**Wettzell**	**147.44**	**333**	*e*PKPbc	PKPbc	16 49 44.5	+0.6
GRA1	**Grafenberg Arr**	**147.70**	**335**	*e*PKPbc	PKPbc	16 49 44.1	-0.5
GRF	**Grafenberg Arr**	**147.70**	**335**	*e*PKPbc	PKPbc	16 49 44.1	-

CHY	**Chiayi**	**1.95**	**323**	*e*P	**Pn**	**16 44 06.9**	**+1.3**
WGK	**Gukeng**	**2.04**	**329**	*e*P	**Pn**	**16 44 06.8**	**+0.1**
SMLT	**Sun Moon Lake**	**2.07**	**339**	P	**Pn**	**16 44 08.2**	**+1.0**
SMLT				S	**Sn**	**16 44 35.7**	**+2.6**
TYC	**Yuchr**	**2.10**	**338**	⇑P	**Pn**	**16 44 09.5**	**+1.8**
WNT	**Mingjian**	**2.15**	**334**	*e*P	**Pn**	**16 44 10.2**	**+1.9**
NACB	**Ninganchiao**	**2.22**	**357**	*e*Pn	**Pn**	**16 44 06.2**	**-3.0**
WHF	**Hehuan Shan**	**2.23**	**349**	P	**Pn**	**16 44 09.0**	**-0.4**
TWT	**Tachien**	**2.35**	**348**	*e*P	**Pn**	**16 44 10.8**	**-0.3**
NNS	**Nan Shan**	**2.50**	**353**	*e*P	**Pn**	**16 44 14.6**	**+1.4**
TWQ1	**Liyutan**	**2.54**	**340**	*e*P	**Pn**	**16 44 15.7**	**+2.0**
TWQ1				S	**Sn**	**16 44 48.0**	**+3.2**
PNG	**Penghu**	**2.57**	**309**	*e*P	**Pn**	**16 44 14.4**	**+0.3**
ENTT	**Nioudou**	**2.69**	**357**	*e*P	**Pn**	**16 44 15.7**	**0.0**
YHNB	**Yeheng**	**2.73**	**353**	*e*Pn	**Pn**	**16 44 16.5**	**+0.2**
NSK	**Sanguang**	**2.74**	**353**	*e*P	**Pn**	**16 44 15.8**	**-0.6**
NSTT	**Nanjuang**	**2.75**	**346**	*e*P	**Pn**	**16 44 17.8**	**+1.2**
TWE	**Neicheng**	**2.76**	**359**	*e*P	**Pn**	**16 44 17.5**	**+0.8**
YOJ	**Yonaguni jima**	**2.77**	**25**	*e*P	**Pn**	**16 44 16.7**	**-0.2**
TATO	**Taipei**	**3.02**	**356**	*e*Pn	**Pn**	**16 44 21.0**	**+0.7**
JOW	**Kunigami**	**7.71**	**50**	Pn	**Pn**	**16 45 24.6**	**-0.1**
	2.1nm,0.3s,baz=341,slow=29,SNR=6.5						
JOW				LR	LR	16 48 50.7	
	comp=Z,51nm,18.5s,baz=114,slow=42						
KSRS	**Korea Array**	**16.36**	**18**	Pn	**Pn**	**16 47 22.7**	**+0.5**
	0.1nm,0.3s,baz=195,slow=11,SNR=11						
KSRS				LR	LR	16 53 27.1	
	comp=Z,32nm,18.5s,baz=333,slow=36						
MJAR	**Matsushiro Arr**	**20.42**	**41**	P	**P**	**16 48 10.9**	**+1.2**
	2.3nm,0.9s,baz=227,slow=9.9,SNR=7.5						
CMAR	**Chiang Mai Arr**	**21.65**	**265**	P	**P**	**16 48 25.0**	**+1.9**
	0.5nm,0.4s,mb3.3,baz=68,slow=8.6,SNR=6.5						
SONM	**Songino Array**	**28.62**	**338**	P	**P**	**16 49 28.7**	**-0.1**
	0.4nm,0.7s,mb3.3,baz=146,slow=10.0,SNR=3.4						
MK31	**Makanchi Array**	**40.30**	**318**	*e*P	**P**	**16 51 10.4**	**+0.6**
MKAR	**Makanchi Array**	**40.30**	**318**	P	**P**	**16 51 10.4**	**+0.7**
	1.4nm,1.0s,mb3.7,baz=112,slow=9.6,SNR=8.1						
ZALV	**Zalesovo Beam**	**42.39**	**328**	P	**P**	**16 51 26.5**	**-0.3**
	0.8nm,0.5s,mb3.6,baz=124,slow=9.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**42.39**	**328**	P	**P**	**16 51 26.5**	**-0.3**
WRA	**Warramunga Arr**	**43.42**	**163**	P	**P**	**16 51 34.0**	**-1.5**
	0.2nm,0.5s,mb3.1,baz=344,slow=9.1,SNR=4.2						
ASAR	**Alice Springs**	**46.86**	**165**	P	**P**	**16 52 01.8**	**-1.0**
	0.1nm,0.3s,mb3.2,baz=349,slow=8.0,SNR=4.0						
KTH	**Kantishna Hill**	**69.43**	**29**	*e*P	**P**	**16 54 37.3**	**-3.1**
	7.0nm,1.3s,mb4.4						

ISCJB ***25*** *16:47:22.0±0.5, 3865N±003×2230E±004, h22km±6km, Error ellipse: s-maj=5.6km s-min=4.3km az=158.0*
NEIC ***25*** *16:47:21.2, 3861N×2228E, h18km, MD3.5(ATH), After ATH.*
THE ***25*** *16:47:21.8, 3865N×2232E, h7km*
CSEM ***25*** *16:47:21.5±0.1, 3865N×2227E, h5km, MD3.1, Error ellipse: s-maj=1.6km s-min=1.3km az=89.0*
ATH ***25*** *16:47:21.2, 3861N×2228E, h18km±2km, MD3.1/5*
ISC 25 16:47:21.1±0.5, 3864N±002×2227E±006, h16km±8km, n14, σ0§82/25, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.38**	**7**	*e*Pg	**Pg**	**16 47 29.2**	**+0.2**
AGG				*e*Sg	**Sg**	**16 47 34.7**	**+0.5**
EVR	**Evrytania**	**0.45**	**307**	*e*PB	**Pb**	**16 47 30.7**	**0.0**
EVR				*e*SB	**Sb**	**16 47 38.1**	**+0.9**
LKR	**Lokris**	**0.57**	**89**	*e*Pg	**Pg**	**16 47 31.9**	**-0.5**
LKR				*e*Sg	**Sg**	**16 47 39.9**	**-0.2**
LKR	**Lokris**	**0.57**	**89**	*e*PN	**Pg**	**16 47 31.9**	**-0.5**
LKR				*e*SN	**Sg**	**16 47 40.8**	**+0.8**
LTK	**Loutraki**	**0.83**	**138**	*e*Pg	**Pg**	**16 47 37.2**	**0.0**
LTK				*e*Sg	**Sg**	**16 47 48.6**	**+0.6**
RLS	**Riolos of Patr**	**0.86**	**228**	*e*PN	**Pn**	**16 47 37.5**	**-1.0**
RLS				*e*SN	**Sn**	**16 47 49.1**	**-1.7**
THL	**Klokotos Trika**	**0.94**	**348**	*e*Pg	**Pg**	**16 47 39.6**	**+0.2**
THL				*e*Sg	**Sg**	**16 47 52.5**	**+0.7**
THL	**Klokotos Trika**	**0.94**	**348**	*e*Pn	**Pn**	**16 47 39.5**	**-0.2**
XOR	**Xorichti**	**1.02**	**45**	*e*Pg	**Pg**	**16 47 40.7**	**-0.1**
XOR				*e*Sg	**Sg**	**16 47 53.6**	**-0.6**
VLX	**Vlachokerasia**	**1.27**	**176**	*e*Pg	**Pg**	**16 47 45.6**	**-0.1**
VLX				*e*Sg	**Sg**	**16 48 02.5**	**+0.3**
DID	**Didima**	**1.37**	**146**	*e*Pg	**Pg**	**16 47 46.2**	**-1.2**
DID				*e*Sg	**Sg**	**16 48 05.3**	**0.0**
LIT	**Litokhoron**	**1.47**	**7**	*e*Pg	**Pg**	**16 47 48.1**	**-1.3**
LIT				*e*Sg	**Sg**	**16 48 08.3**	**-0.2**
ITM	**Ithomi**	**1.48**	**191**	*e*PN	**Pn**	**16 47 48.8**	**+1.6**
VLI	**Veliai**	**1.99**	**164**	*e*PN	**Pn**	**16 47 56.0**	**+1.9**

IDC 25 16:57:11.9±8.3, 443S×15270E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/16, mbtmp3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/25, Error ellipse: s-maj=135.3km s-min=74.8km az=36.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.74**	**125**	LR	LR	17 01 25.1	
	comp=Z,56nm,19.8s,baz=177,slow=29						
WB2	**Warramunga Arr**	**23.61**	**228**	*e*P	P	17 02 25.1	+0.2
WRA	**Warramunga Arr**	**23.61**	**228**	P	P	17 02 25.1	+0.1
	1.7nm,0.6s,baz=53,slow=10.0,SNR=40						
ASAR	**Alice Springs**	**26.36**	**222**	P	P	17 02 50.5	+0.5
	0.4nm,0.5s,baz=59,slow=9.2,SNR=8.1						
STKA	**Stephens Creek**	**29.22**	**200**	P	P	17 03 15.4	-0.1
	0.7nm,0.6s,baz=27,slow=13,SNR=4.8						
FITZ	**Fitzroy Crossi**	**29.75**	**241**	P	P	17 03 19.8	-0.6
	1.0nm,0.8s,baz=52,slow=9.8,SNR=7.5						

SZGRF ***25*** *17:03:03.4, 1433N×9440E, h33km, mb5.3, Andaman Islands, India, region*
ISCJB ***25*** *17:03:05.6±0.1, 1433N±002×9397E±002, h58km, mb5.1/175, MS4.3/56, Error ellipse: s-maj=3.4km s-min=2.7km az=5.5*
BJI ***25*** *17:03:05.9, 1433N×9394E, h64km, mB5.1, mb5.3, Ms4.7, Msz4.4*
MOS ***25*** *17:03:05.6±0.9, 1429N×9400E, h59km, mb5.4/69, MS4.3/17, Error ellipse: s-maj=7.7km s-min=4.2km az=124.5*
NEIC ***25*** *17:03:07.8±0.1, 1429N×9399E, mb5.1/107, Error ellipse: s-maj=4.2km s-min=2.9km az=219.0*
GCMT ***25*** *17:03:07.8±0.2, 1431N×9401E, h41km±1km, MW5.2/83, Moment Tensor Solution. s67,c104; s83,c140; Duration: 1§0 Moment tensor: Scale 10^17Nm; Mrr=0.15±.02; Mθθ0.81±.01; Mφφ-0.65±.02; Mrθ-0.31±.02; Mθφ0.21±.01; Mφr0.35±.02; Best double couple: M=0.90100×10^17 NP1:φs=220.00000°, δ59.00000°, λ-170.00000°. NP2:φs=124.00000°, δ81.00000°, λ-32.00000°. Principal axes: T 0.9030, Plg15.0000°, Azm176.0000°; N -0.0040, Plg57.0000°, Azm290.0000°; P -0.8980, Plg29.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***25*** *17:03:08.1±0.5, 1422N×9404E, h67km±3km, mb4.5/26, mb1 4.6/28, mb1mx4.6/29, mbtmp4.6/28, MS4.3/23, Ms1 4.3/23, ms1mx4.2/31 Error ellipse: s-maj=10.2km s-min=7.7km az=58.0*
DJA ***25*** *17:03:11, 1446N×9422E, h80km, mb5.7/12*
ISC 25 17:03:07.7±0.1, 1438N±002×9396E±002, h60km, h60km±1.3km: pP-P, n565, σ1§05/529, mb5.1/175, MS4.3/56, 47C-34D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.95**	**204**	*e*P	x	17 04 19.3	
PBA				*e*S	x	17 04 51.5	
CMAR	**Chiang Mai Arr**	**6.27**	**49**	P	**Pn**	**17 04 38.5**	**+0.8**
	63nm,0.3s,baz=238,slow=15,SNR=758						
CMAR				S	**Sn**	**17 05 48.5**	**+0.6**
	14nm,0.3s,baz=237,slow=26,SNR=4.6						
CMAR				LR	LR	17 07 35.9	
	comp=Z,3μm,19.3s,baz=236,slow=42						
CMAR				ScP	ScP	17 14 58.6	-0.9
	0.2nm,0.3s,baz=266,slow=1.8,SNR=4.8						
CMAR	**Chiang Mai Arr**	**6.27**	**49**	P	**Pn**	**17 04 38.5**	**+0.9**
CMAR				S	**Sn**	**17 05 48.6**	**+0.7**
CHTO	**Chiang Mai**	**6.50**	**47**	P	**Pn**	**17 04 41.7**	**+0.9**
	SNR=182						
CHTO	**Chiang Mai**	**6.50**	**47**	⇓*i*Pn	**Pn**	**17 04 41.3**	**+0.5**
CHTO				*e*Sn	**Sn**	**17 05 50.9**	**-2.8**
CAL	**Calcutta**	**9.72**	**327**	*e*P	**Pn**	**17 05 22.4**	**-2.4**
CAL				*e*S	**Sn**	**17 07 05.5**	**-7.0**
BWNR	**Bhubaneshwar**	**9.76**	**308**	*e*P	**Pn**	**17 05 20.0**	**-5.4**
BWNR				*e*S	**Sn**	**17 06 58.0**	**-16**
IMP	**Imphal**	**10.35**	**360**	*i* x	**Pn**	**17 05 39.0**	**+5.5**
IMP				*i* x	**Sn**	**17 07 21.0**	**-7.0**
VIS	**Vishakhapatnam**	**10.75**	**289**	*e*P	**Pn**	**17 05 37.1**	**-1.8**
VIS				*i* P		17 05 37.2	
VIS				AMb	AMB	17 05 39.0	
	comp=Z,166nm,0.5s						
VIS				*i* S	**Sn**	**17 07 29.5**	**-8.2**
KULM	**Kulim**	**11.17**	**143**	⇓P	**Pn**	**17 05 47.6**	**+2.8**
SHL	**Shillong**	**11.30**	**350**	⇑*i*P	**Pn**	**17 05 44.0**	**-2.5**
SHL				*i* S	**Sn**	**17 07 41.0**	**-10**
SHL				*e*S	**Sn**	**17 07 42.0**	**-9.2**
IPM	**Ipoh**	**12.05**	**144**	⇑P	**Pn**	**17 05 58.1**	**+1.4**
BOK	**Bokaro**	**12.08**	**322**	*e*P	**Pn**	**17 05 53.0**	**-4.1**
BOK				AMb	AMB	17 05 59.9	
	comp=Z,200nm,1.1s						
BOK				*e*S	**Sn**	**17 07 55.4**	**-15**
PSI	**Prapat**	**12.50**	**156**	P	**Pn**	**17 06 03.5**	**+0.6**
	comp=Z,5.0nm,0.3s,baz=338,slow=14,SNR=31						
PSI				LR	LR	17 11 11.1	
	comp=Z,2μm,19.1s,baz=314,slow=39						
PSI				ScP	ScP	17 15 05.0	-1.8
	comp=Z,0.7nm,0.3s,baz=298,slow=2.9,SNR=8.2						
PSI	**Prapat**	**12.50**	**156**	P	**Pn**	**17 06 03.5**	**+0.6**
PSI				LR	LR	17 11 11.1	
PSI				ScP	ScP	17 15 05.0	-1.8
KTGM	**Kuala Trenggan**	**12.74**	**134**	⇑P	**Pn**	**17 06 08.5**	**+2.3**
SLGI	**Shiliguri**	**13.31**	**338**	*ex*	x	17 06 11.0	
FRIM	**Kepong**	**13.40**	**145**	⇓P	**Pn**	**17 06 17.0**	**+1.7**
KMI	**Kunming**	**13.51**	**36**	P	**Pn**	**17 06 19.8**	**+3.3**
KMI				AP		17 06 26.5	
KMI				PP		17 06 30.5	
KMI				S	**Sn**	**17 08 49.0**	**+4.0**
KMI				SS		17 09 07.3	
KMI				AMB	AMB		
	comp=Z,15nm,1.5s						
KMI				AMB	AMB		
	comp=Z,154nm,5.2s						
KMI				LR	LR		
	comp=N,2μm,9.2s						
KMI				LR	LR		
	comp=E,2μm,7.0s						
KMI				LR	LR		
	comp=Z,2μm,25.3s						
BLSP	**Bilaspur**	**13.62**	**306**	*e*P	**Pn**	**17 06 17.2**	**-0.9**
BLSP				AMb	AMB	17 06 19.5	
	comp=Z,215nm,0.8s						
BLSP				*ex*	x	17 08 32.2	
GTK	**Gangtok**	**13.82**	**340**	*ex*	x	17 06 08.0	
ODAN	**Odare**	**13.86**	**335**	*e*Pn	**Pn**	**17 06 17.1**	**-4.1**
ODAN				*e*Sn	**Sn**	**17 08 43.3**	**-10**
	comp=Z,176nm,0.3s						
TAPN	**Taplejung**	**14.16**	**337**	*e*Pn	**Pn**	**17 06 21.4**	**-3.9**
TAPN				*e*Sn	**Sn**	**17 08 50.8**	**-10**
	comp=Z,250nm,0.4s						
RAMN	**Ramite**	**14.28**	**332**	*e*Pn	**Pn**	**17 06 22.7**	**-4.0**
RAMN				*e*Sn	**Sn**	**17 08 52.5**	**-11**
	comp=Z,184nm,0.3s						
PALK	**Pallekele**	**14.81**	**243**	Pn	**Pn**	**17 06 33.6**	**-0.2**
	comp=Z,297nm,0.7s,SNR=9.3						
PALK	**Pallekele**	**14.81**	**243**	*e*Pn	**Pn**	**17 06 33.8**	**+0.1**
PALK				*e*Sn	**Sn**	**17 08 59.4**	**-17**
JIRN	**Jiri**	**15.07**	**333**	*e*Pn	**Pn**	**17 06 34.3**	**-2.8**
JIRN				*e*Sn	**Sn**	**17 09 12.3**	**-11**
	comp=Z,386nm,0.4s						
HYB	**Hyderabad**	**15.13**	**284**	*e*P	**Pn**	**17 06 36.5**	**-1.4**
HYB				*e*S	**S**	**17 09 26.0**	**-13**
HYB				pmax	pmax		
	comp=Z,71nm,0.8s						
HYB	**Hyderabad**	**15.13**	**284**	*i* P	**Pn**	**17 06 38.5**	**+0.6**
HYB				*e*S	**S**	**17 09 26.0**	**-13**
HYB	**Hyderabad**	**15.13**	**284**	*e*P	**Pn**	**17 06 36.5**	**-1.4**
	comp=Z,71nm,0.8s						
HYB				*e*S	**S**	**17 09 26.0**	**-13**
PKI	**Pulchoki**	**15.36**	**330**	*e*Pn	**Pn**	**17 06 37.2**	**-3.6**
PKI				*e*Sn	**Sn**	**17 09 18.8**	**-11**
	comp=Z,307nm,0.5s						
PKI	**Pulchoki**	**15.36**	**330**	*e*Pn	**Pn**	**17 06 38.1**	**-2.7**
PKI				*e*Sn	**Sn**	**17 09 18.5**	**-11**
PKIN	**Phulchoki**	**15.37**	**330**	*e*Pn	**Pn**	**17 06 38.1**	**-2.9**
PKIN				*e*Sn	**Sn**	**17 09 18.5**	**-12**
	comp=Z,174nm,0.5s						
KGM	**Kluang**	**15.37**	**142**	⇓P	**Pn**	**17 06 42.6**	**+1.5**
GUN	**Gumba**	**15.43**	**332**	*e*Pn	**Pn**	**17 06 38.6**	**-3.1**
GUN				*e*Sn	**Sn**	**17 09 19.9**	**-12**
	comp=Z,270nm,0.6s						
LSA	**Lhasa**	**15.47**	**351**	P	**Pn**	**17 06 40.0**	**-2.2**
LSA				AP	pP	17 06 50.8	-7.5
LSA				LR	LR		
	comp=Z,2μm,21.4s						
DMN	**Daman**	**15.54**	**329**	*e*Pn	**Pn**	**17 06 39.4**	**-3.7**
DMN				*e*Sn	**Sn**	**17 09 23.6**	**-11**
	comp=Z,89nm,0.4s						
KKN	**Kakani**	**15.60**	**330**	*e*Pn	**Pn**	**17 06 39.8**	**-4.2**
KKN				*e*Sn	**Sn**	**17 09 23.9**	**-12**
NGP	**Nagpur**	**15.71**	**298**	*e*P	**Pn**	**17 06 43.6**	**-1.8**
NGP				*ex*	x	17 07 04.6	
	comp=Z,157nm,1.5s						
NGP				*ex*	x	17 09 27.6	
ALBI	**Allahabad**	**15.77**	**315**	*e*P	**Pn**	**17 06 45.0**	**-1.1**
MYKOM	**Kota Tinggi**	**15.87**	**141**	⇓P	**Pn**	**17 06 49.5**	**+2.1**
QIZ	**Qiongzhong**	**15.90**	**71**	P	**Pn**	**17 06 47.8**	**0.0**
QIZ				S	**S**	**17 09 42.5**	**-12**
QIZ				AMB	AMB		
	comp=Z,49nm,1.0s						
QIZ				AMB	AMB		
	comp=Z,592nm,9.0s						
QIZ				LR	LR		
	comp=N,2μm,14.2s						
QIZ				LR	LR		
	comp=Z,1μm,24.9s						
GKN	**Gorkha**	**16.09**	**329**	*e*Pn	**Pn**	**17 06 46.5**	**-3.7**
KOLN	**Koldanda**	**16.45**	**326**	*e*Pn	**Pn**	**17 06 51.2**	**-3.5**
KOLN				*e*Sn	**Sn**	**17 09 43.5**	**-13**
	comp=Z,386nm,0.6s						
KOD	**Kodaikanal**	**16.63**	**258**	*e*P	**Pn**	**17 06 57.4**	**+0.4**
KOD				AMb	AMB	17 07 06.9	
	comp=Z,75nm,1.1s						
DANN	**Dangsing**	**16.83**	**327**	*e*Pn	**Pn**	**17 06 56.8**	**-2.5**
DANN				*e*Sn	**Sn**	**17 09 53.3**	**-12**
	comp=Z,129nm,0.4s						
GYA	**Guiyang**	**16.90**	**43**	⇓*i*P	**Pn**	**17 07 00.5**	**+0.2**
GYA				AP	pP	17 07 13.8	-0.5
GYA				XP	sP	17 07 23.5	+1.6
GYA				S	**S**	**17 10 05.8**	**-8.9**
GYA				XS	sS	17 10 26.0	-9.4
GYA				SS		17 10 30.3	
GYA				AMB	AMB		
	comp=Z,50nm,1.1s						
GYA				AMB	AMB		
	comp=Z,240nm,6.4s						
GYA				LR	LR		
	comp=N,2μm,16.8s						
GYA				LR	LR		
	comp=E,1μm,16.5s						
GYA				LR	LR		
	comp=Z,2μm,16.1s						
LATR	**Latur**	**17.17**	**286**	*e*P	**Pn**	**17 07 05.3**	**+1.6**
LATR				AMb	AMB	17 07 13.9	
	comp=Z,88nm,0.9s						
LATR				*ex*	x	17 09 59.8	
AKL	**Akola**	**17.34**	**294**	*i* P	**Pn**	**17 07 06.9**	**+1.2**
AKL				AMb	AMB	17 07 14.5	
	comp=Z,99nm,1.8s						
TRD	**Trivandrum**	**17.65**	**253**	*e*P	pP	17 07 22.0	-0.7
TRD				⇓*e*S	**S**	**17 10 40.0**	**+10**
CD2	**Chengdu**	**18.76**	**27**	⇓*i*P	**Pn**	**17 07 22.5**	**-0.4**
CD2				AP	pP	17 07 34.0	-0.8
CD2				PP		17 07 40.5	
CD2				XP	sP	17 07 42.5	+0.1
CD2				S	**S**	**17 10 46.5**	**-5.8**
CD2				XS	sS	17 11 04.5	-8.7
CD2				SS		17 11 13.5	
CD2				AMB	AMB		
	comp=Z,240nm,0.7s						
CD2				AMB	AMB		
	comp=Z,400nm,4.2s						
CD2				LR	LR		
	comp=N,2μm,14.4s						
CD2				LR	LR		
	comp=E,2μm,8.4s						
CD2				LR	LR		
	comp=Z,1μm,12.0s						
KAD	**Karad**	**19.25**	**281**	*e*P	**Pn**	**17 07 28.4**	**-0.5**
KAD				AMb	AMB	17 07 46.3	
	comp=Z,167nm,1.1s						
GOA	**Goa**	**19.49**	**276**	⇓*e*P	**Pn**	**17 07 28.4**	**-3.3**
GOA				AMb	AMB	17 07 39.7	
	comp=Z,84nm,1.0s						
GOA				*ex*	x	17 10 49.1	
POO	**Poona**	**19.72**	**285**	*e*P	**Pn**	**17 07 33.5**	**-1.0**
POO				AMb	AMB	17 07 40.4	
	comp=Z,35nm,1.1s						
PTH	**Pithoragarh**	**19.73**	**322**	*e*P	**Pn**	**17 07 33.0**	**-1.5**
PTH				*ex*	x	17 11 04.0	
GZH	**Guangzhou**	**20.28**	**62**	P	**P**	**17 07 43.5**	**+4.9**
GZH				LR	LR		
	comp=N,2μm,14.4s,MS4.7						
GZH				LR	LR		
	comp=E,1μm,17.7s,MS4.7						
GZH				LR	LR		
	comp=Z,2μm,16.3s,MS4.5						
KSM	**Kuching**	**20.62**	**127**	⇑P	**P**	**17 07 44.4**	**+2.0**
KSM	**Kuching**	**20.62**	**127**	*e*P	**P**	**17 07 42.9**	**+0.5**
BOM	**Bombay**	**20.75**	**285**	*e*P	**P**	**17 07 44.1**	**+0.4**
BOM				*ex*	x	17 08 01.6	
	comp=Z,231nm,2.0s						
BOM				*e*S	**S**	**17 11 20.8**	**-11**
NDI	**New Delhi**	**21.06**	**315**	*e*P	**P**	**17 07 46.0**	**-1.0**
NDI				*ex*	x	17 11 28.0	
SBUM	**Sibu**	**21.57**	**122**	⇓P	**P**	**17 07 54.9**	**+2.3**
DDI	**Dehra Dun**	**21.60**	**320**	*e*P	**P**	**17 07 52.2**	**-0.5**
DDI				*ex*	x	17 11 43.0	
AJM	**Ajmer**	**21.71**	**307**	*e*P	**P**	**17 07 55.1**	**+1.2**
AJM				AMb	AMB	17 08 00.4	
	comp=Z,131nm,1.1s,mb5.3						
SMLA	**Simla**	**22.70**	**320**	⇑*i*P	**P**	**17 08 06.0**	**+1.6**
SMLA				AMb	AMB	17 08 08.5	
	comp=Z,225nm,0.9s,mb5.6						
SMLA				*i* S	**S**	**17 12 08.8**	**0.0**
SDNR	**Sundarnagar**	**23.08**	**320**	*e*P	**P**	**17 08 09.5**	**+1.1**
SDNR				*e*S	**S**	**17 12 15.0**	**+0.1**
LZH	**Lanzhou**	**23.36**	**21**	⇑P	**P**	**17 08 12.3**	**+1.3**
LZH				AP		17 08 26.3	
LZH				XP	sP	17 08 32.0	-0.1
LZH				PP		17 08 46.0	
LZH				PCP	PcP	17 11 56.8	+0.6
LZH				S	**S**	**17 12 18.5**	**-0.9**
LZH				XS	sS	17 12 42.0	-2.1
LZH				SS		17 13 09.5	
LZH				SCP	ScP	17 15 30.5	+1.2
LZH				*e*PCS	PcS	17 15 37.0	+1.5
LZH				AMB	AMB		
	comp=Z,201nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,550nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,10.8s						
LZH				LR	LR		
	comp=Z,2μm,12.1s,MS4.8						
BHK	**Bhakra**	**23.37**	**319**	*ex*	x	17 08 13.8	
XAN	**Xi'an**	**23.81**	**32**	P	**P**	**17 08 14.3**	**-0.8**
XAN				AP		17 08 25.0	
XAN				S	**S**	**17 12 21.0**	**-5.6**
XAN				XS	sS	17 12 51.5	+0.2
XAN				AMB	AMB		
	comp=Z,186nm,1.2s,mb5.4						
XAN				AMB	AMB		
	comp=Z,296nm,8.4s						
XAN				LR	LR		
	comp=E,1μm,9.8s						
XAN				LR	LR		
	comp=Z,968nm,20.5s,MS4.3						
PONG	**Pong**	**24.03**	**320**	*ex*	x	17 08 40.0	
DLH	**Dalhousie**	**24.42**	**321**	*ex*	x	17 08 28.0	
SDKM	**Sandakan**	**24.45**	**108**	⇑P	**P**	**17 08 21.9**	**+0.7**
WHN	**Wuhan**	**24.71**	**46**	P	**P**	**17 08 22.5**	**-0.9**
WHN				XP	sP	17 08 42.3	-2.8
WHN				PP		17 08 58.0	
WHN				S	**S**	**17 12 45.5**	**+4.3**
WHN				AMB	AMB		
	comp=Z,215nm,0.9s,mb5.7						
WHN				AMB	AMB		
	comp=Z,975nm,6.5s						
WHN				LR	LR		
	comp=N,2μm,6.4s						
WHN				LR	LR		
	comp=E,2μm,6.0s						
WHN				LR	LR		
	comp=Z,3μm,14.0s,MS4.9						
QZH	**Quanzhou**	**25.42**	**62**	P	**P**	**17 08 30.0**	**+0.1**
QZH				S	**S**	**17 12 54.3**	**+1.6**
QZH				LR	LR		
	comp=N,2μm,7.5s						
QZH				LR	LR		
	comp=E,880nm,7.8s						
QZH				LR	LR		
	comp=Z,900nm,11.5s,MS4.5						
GTA	**Gaotai**	**25.46**	**11**	P	**P**	**17 08 31.5**	**+1.4**
GTA				AP	pP	17 08 46.3	+1.5
GTA				XP	sP	17 08 52.8	+1.0
GTA				PP		17 09 15.0	
GTA				PCP	PcP	17 12 02.3	+1.6
GTA				S	**S**	**17 12 54.3**	**+1.3**
GTA				SCP	ScP	17 15 36.3	+1.2
GTA				PCS	PcS	17 15 42.5	+1.3
GTA				SCS	ScS	17 19 23.0	-1.0
GTA				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,203nm,6.6s						
GTA				LR	LR		
	comp=N,499nm,23.4s						
GTA				LR	LR		
	comp=E,463nm,14.1s						
GTA				LR	LR		
	comp=Z,410nm,20.4s,MS3.9						
TSM	**Tawau**	**25.60**	**111**	⇑P	**P**	**17 08 31.0**	**-0.7**
XMIS	**Christmas Isla**	**27.28**	**154**	*e*P	**P**	**17 08 45.6**	**-1.1**
XMIS				*e*		17 08 52.8	
TIY	**Taiyuan**	**28.45**	**32**	P	**P**	**17 08 53.0**	**-4.0**
TIY				S	**S**	**17 13 38.0**	**-2.1**
TIY				LR	LR		
	comp=N,877nm,11.8s						
TIY				LR	LR		
	comp=E,578nm,7.9s						
TIY				LR	LR		
	comp=Z,351nm,10.4s,MS4.2						
NJ2	**Nanjing**	**28.75**	**48**	*e*P	**P**	**17

BTO LR LR
comp=N,218nm,14.7s,MS4.1
BTO LR LR
comp=E,206nm,11.3s,MS4.1
WMQ Urumqi 29.83 351 P **P** **17 09 11.3 +2.2**
WMQ AP pP 17 09 26.0 +2.1
WMQ XP sP 17 09 33.3 +2.3
WMQ PP PP 17 10 10.8 -6.6
WMQ S **S** **17 14 03.0 +1.3**
WMQ SS SS 17 15 42.5 -28
WMQ SCS ScS 17 19 42.3 -1.1
WMQ AMB AMB
comp=Z,62nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,109nm,11.0s
WMQ LR LR
comp=N,617nm,24.6s,MS4.3
WMQ LR LR
comp=E,749nm,25.4s,MS4.3
WMQ LR LR
comp=Z,815nm,26.0s,MS4.2
SSE Sheshan 30.00 52 P **P** **17 09 10.8 0.0**
SSE S **S** **17 14 05.5 +0.8**
SSE AMB AMB
comp=Z,90nm,0.9s,mb5.5
SSE AMB AMB
comp=Z,76μm,3.0s
SSE LR LR
comp=N,645nm,22.8s,MS4.3
SSE LR LR
comp=E,436nm,23.0s,MS4.3
SSE LR LR
comp=Z,523nm,24.1s,MS4.1
TIA Tai'an 30.04 39 *e*P **P** **17 09 10.3 -0.8**
TIA AMB AMB
comp=Z,33nm,1.0s,mb5.0
KBL Kabul 30.14 316⇑*e*P **P** **17 09 12.8 +0.8**
comp=Z,46nm,1.0s,mb5.2
HHC Hu-ho-hao-te 30.52 27 *e*P **P** **17 09 15.5 +0.3**
HHC AP pP 17 09 30.5 +0.5
HHC XP sP 17 09 37.8 +0.7
HHC PP PP 17 10 16.8 -8.3
HHC PCP PcP 17 12 15.0 +1.9
HHC S **S** **17 14 11.8 -0.7**
HHC XS sS 17 14 38.0 +0.3
HHC SCP ScP 17 15 50.0 -0.6
HHC SS SS 17 15 56.0 -29
HHC SCS ScS 17 19 46.0 -0.8
HHC AMB AMB
comp=Z,54nm,0.8s,mb5.4
HHC AMB AMB
comp=Z,151nm,4.3s
HHC LR LR
comp=N,538nm,16.7s,MS4.5
HHC LR LR
comp=E,714nm,14.6s,MS4.5
HHC LR LR
comp=Z,516nm,13.9s,MS4.3
BJI Beijing 32.13 33 P **P** **17 09 30.3 +0.9**
BJI AP pP 17 09 45.3 +1.0
BJI XP sP 17 09 52.8 +1.5
BJI S **S** **17 14 39.5 +1.8**
BJI XS sS 17 15 06.0 +3.0
BJI AMB AMB
comp=Z,41nm,1.0s,mb5.2
BJI LR LR
comp=N,671nm,21.0s,MS4.6
BJI LR LR
comp=E,893nm,18.1s,MS4.6
BJI LR LR
comp=Z,923nm,25.6s
TKM2 Tokmak 2 32.54 335⇑*e*P **P** **17 09 33.8 +0.8**
TKM2 pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
TKM2 Tokmak 2 32.54 335 P **P** **17 09 34.7 +1.7**
SNR=11
TKM2 Tokmak 2 32.54 335⇑*e*P **P** **17 09 33.8 +0.8**
comp=Z,9.4nm,0.6s,mb4.9
KBK Karagaybulak 32.60 334 P **P** **17 09 35.7 +2.2**
SNR=6.4
AML Almayashu 32.74 332 P **P** **17 09 37.0 +2.2**
SNR=12
AML Almayashu 32.74 332⇑*i*P **P** **17 09 35.9 +1.1**
comp=Z,29nm,1.1s,mb5.1
FRU Bishkek 32.89 333 *e*P **P** **17 09 38.0 +2.0**
FRU *i* 17 11 00.0
FRU pmax pmax
comp=Z,80nm,1.8s,mb5.3
CHMS Chumysh 32.96 334 P **P** **17 09 38.2 +1.5**
SNR=13
EKS2 Erkin-Say 33.12 332 P **P** **17 09 40.3 +2.2**
SNR=18
USP Ospenovka 33.29 334 P **P** **17 09 40.8 +1.3**
SNR=12
MKAR Makanchi Array 33.77 346 P **P** **17 09 44.8 +1.2**
comp=Z,27nm,0.7s,mb5.3,baz=155,slow=8.8,SNR=266
MKAR ScP ScP 17 16 01.6 0.0
comp=Z,6.3nm,0.9s,baz=134,slow=3.5,SNR=9.2
MKAR LR LR 17 26 55.3
comp=Z,628nm,21.5s,MS4.3,baz=158,slow=42
JOW Kunigami 34.31 63 P **P** **17 09 49.4 +0.8**
comp=Z,16nm,0.4s,mb5.3,baz=259,slow=9.8,SNR=15
JOW LR LR 17 24 43.3
comp=Z,854nm,21.6s,MS4.5,baz=260,slow=38
DL2 Dalian 34.52 40 *i*P **P** **17 09 51.0 +0.8**
DL2 AP pP 17 10 07.3 +2.1
DL2 S **S** **17 15 15.5 +0.7**
DL2 AMB AMB
comp=Z,70nm,1.1s,mb5.5
DL2 AMB AMB
comp=Z,250nm,4.4s
DL2 LR LR
comp=N,330nm,18.7s,MS4.3
DL2 LR LR
comp=E,290nm,14.4s,MS4.3
DL2 LR LR
comp=Z,450nm,16.8s,MS4.3
SONM Songino Array 34.92 15 P **P** **17 09 54.5 +0.9**
comp=Z,5.2nm,0.6s,mb4.7,baz=198,slow=8.7,SNR=40
SONM pP pP 17 10 11.4 +2.8
comp=Z,55nm,0.9s,baz=196,slow=8.5,SNR=29
SONM PcP PcP 17 12 26.2 +1.0
comp=Z,7.7nm,0.7s,baz=195,slow=2.5,SNR=5.0
SONM ScP ScP 17 16 06.0 +0.3
comp=Z,13nm,0.9s,baz=198,slow=3.2,SNR=23
SONM LR LR 17 27 28.2
comp=Z,387nm,18.4s,MS4.2,baz=194,slow=42
SONM Songino Array 34.92 15 P **P** **17 09 54.5 +0.9**
SONM *PP pP 17 10 11.4 +2.8
SONM 17 12 26.2
ZAK Zakamensk 36.70 10 *e*P **P** **17 10 09.5 +0.7**
ZAK *e* pP 17 10 22.6 -1.2
ZAK *e* 17 12 30.3
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
INCN Inchon 37.02 46 *e*P **P** **17 10 11.0 -0.8**
comp=Z,101nm,1.5s,mb5.4
SNY Shenyang 37.48 37 ⇓P **P** **17 10 15.5 -0.1**
SNY AP pP 17 10 32.3 +1.7
SNY XP sP 17 10 43.0 +5.4
SNY PP PP 17 11 42.8 +0.8
SNY S **S** **17 15 59.5 -0.5**
SNY XS sS 17 16 25.3 -0.3
SNY AMB AMB
comp=Z,60nm,1.4s,mb5.2
SNY AMB AMB
comp=Z,174nm,4.3s
SNY LR LR
comp=N,480nm,13.8s,MS4.7
SNY LR LR
comp=E,785nm,15.0s,MS4.7
SNY LR LR
comp=Z,528nm,21.1s
KS15 Wonju Array Si 37.87 46 *e*P **P** **17 10 18.6 -0.3**
KSRS Korea Array 37.90 46 P **P** **17 10 18.6 -0.6**
comp=Z,41nm,0.8s,mb5.2,baz=241,slow=9.0,SNR=229
KSRS S **S** **17 16 08.9 +2.3**
comp=Z,0.5nm,0.8s,baz=242,slow=15,SNR=4.2
KSRS LR LR 17 28 04.3
comp=Z,729nm,20.0s,MS4.5,baz=240,slow=40
TLY Talaya 38.02 10 *e*P **P** **17 10 22.1 +2.2**
TLY *e* 17 12 09.9
TLY *e*S **S** **17 16 10.1 +2.2**
TLY pmax pmax
comp=Z,57nm,1.0s,mb5.3
TLY MLR MLR
comp=Z,353nm,18.0s,MS4.2
TLY Talaya 38.02 10 *e*P **P** **17 10 22.0 +2.0**
comp=Z,59nm,1.0s,mb5.3
TLY *e* pP 17 10 34.6 -0.4
BATI Baumata 38.26 128 P **P** **17 10 19.9 -2.6**
comp=Z,6.9nm,0.5s,mb4.7,baz=159,slow=9.8,SNR=4.5
KURK Kurchatov 38.32 344 P **P** **17 10 23.8 +1.3**
comp=Z,409nm,1.1s,mb6.1,SNR=45
KURK Kurchatov 38.32 344 ⇓P **P** **17 10 23.5 +1.0**
SNR=43
KURK Kurchatov 38.32 344 *e*P **P** **17 10 23.0 +0.5**
KURK *e* 17 16 17.5
KURK pmax pmax
comp=Z,71nm,1.0s,mb5.3
KURK Kurchatov 38.32 344 *e*P **P** **17 10 23.0 +0.6**
comp=Z,71nm,1.0s,mb5.3
KURK *e*ScP ScP 17 16 17.5 -0.7
IRK Irkutsk 38.66 10⇓*i*P pP 17 10 38.7 -1.8
IRK pmax pmax
comp=Z,65nm,2.2s,mb5.0
CN2 Changchun 39.78 36 ⇓P **P** **17 10 35.0 +0.2**
CN2 *e*XP sP 17 11 01.0 +4.1
CN2 *e*S **S** **17 16 34.8 +0.2**
CN2 AMB AMB
comp=Z,90nm,1.0s,mb5.5
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.6
CN2 LR LR
comp=E,500nm,16.0s,MS4.6
CN2 LR LR
comp=Z,600nm,17.0s,MS4.5
ZAL Zalesovo 40.12 352 P **P** **17 10 38.2 +0.7**
ZALV Zalesovo Beam 40.13 352 P **P** **17 10 38.2 +0.7**
comp=Z,59nm,0.7s,mb5.4,baz=174,slow=8.7,SNR=298
MDJ Mudanjiang 42.67 38 P **P** **17 10 58.3 -0.2**
MDJ AP pP 17 11 13.5 -0.3
MDJ XP sP 17 11 20.8 0.0
MDJ PP PP 17 12 38.0 -0.4
MDJ S **S** **17 17 15.0 -2.5**
MDJ AMB AMB
comp=Z,15nm,1.4s,mb4.5
MDJ AMB AMB
comp=Z,132nm,6.9s
MDJ LR LR
comp=N,391nm,16.5s,MS4.5
MDJ LR LR
comp=E,294nm,12.8s,MS4.5
MDJ LR LR
comp=Z,396nm,14.6s,MS4.4
BVAR Borovoye Array 42.85 339 P **P** **17 11 00.3 +0.5**
comp=Z,7.0nm,1.0s,mb4.4,baz=143,slow=8.6,SNR=18
BVAR PcP PcP 17 12 50.7 +0.8
comp=Z,6.5nm,1.0s,baz=107,slow=1.5,SNR=3.0
BVAR ScP ScP 17 16 35.7 -0.3
comp=Z,4.3nm,0.9s,baz=151,slow=6.8,SNR=8.6
BVAR Borovoye Array 42.85 339 P **P** **17 11 00.3 +0.5**
BVAR 17 12 50.7
BRVK Borovoye 42.91 339 *e*P **P** **17 11 00.6 +0.3**
BRVK pmax pmax
comp=Z,13nm,1.0s,mb4.6
BRVK Borovoye 42.91 339 *e*P **P** **17 11 00.6 +0.3**
comp=Z,13nm,1.0s,mb4.6
VLA Vladivostok 43.31 41 *e*P **P** **17 11 02.7 -1.0**
VLA *e**PP pP 17 11 17.7 -1.3
VLA pmax pmax
comp=Z,99nm,1.8s,mb5.2
VLA MLR MLR
comp=Z,600nm,12.7s,MS4.7
MBWA Marble Bar 43.44 144 ⇑P **P** **17 11 03.4 -1.6**
SNR=6.3
MBWA Marble Bar 43.44 144⇑*e*P **P** **17 11 02.7 -2.3**
MBWA *e* pP 17 11 18.1 -2.2
FITZ Fitzroy Crossi 44.91 135 *e*P **P** **17 11 14.9 -1.9**
comp=Z,23nm,0.8s,mb5.1
FITZ *e*pP pP 17 11 30.4 -1.8
FITZ *e*SCP ScP 17 16 41.1 -3.9
FITZ *e*SCS ScS 17 21 04.1 -5.0
FITZ Fitzroy Crossi 44.91 135 P **P** **17 11 14.9 -1.9**
comp=Z,13nm,0.8s,mb4.8,baz=313,slow=4.4,SNR=45
FITZ ScP ScP 17 16 41.7 -3.3
comp=Z,2.5nm,0.7s,baz=296,slow=7.9,SNR=3.1
MAJO Matsushiro 45.14 52⇓*i*P **P** **17 11 17.6 -0.9**
MAJO *e* 17 12 57.8
MAJO Matsushiro 45.14 52⇓*i*P **P** **17 11 17.6 -0.9**
comp=Z,116nm,0.8s,mb5.8
MAJO *e*PcP PcP 17 12 57.8 -0.3
MAJO *e*ScP ScP 17 16 44.0 -1.7
MAT Matsushiro 45.14 52 P **P** **17 11 18.8 +0.3**
MAT S **S** **17 17 52.0 -1.8**
MJAR Matsushiro Arr 45.15 52 P **P** **17 11 18.9 +0.4**
comp=Z,44nm,0.8s,mb5.3,baz=266,slow=10,SNR=259
MJAR PcP PcP 17 12 58.0 -0.1
comp=Z,9.6nm,0.7s,baz=237,slow=2.7,SNR=11
MJAR ScP ScP 17 16 44.5 -1.2
comp=Z,3.9nm,0.8s,baz=242,slow=3.7,SNR=15
MJAR LR LR 17 31 54.8
comp=Z,459nm,19.4s,MS4.4,baz=260,slow=38
MJAR Matsushiro Arr 45.15 52 P **P** **17 11 18.9 +0.4**
MJAR 17 12 58.0
MJAR Matsushiro Arr 45.15 52 P **P** **17 11 18.9 +0.4**
MJAR PcP PcP 17 12 58.0 -0.1
MJAR ScP ScP 17 16 44.5 -1.2
MJAR LR LR 17 31 54.8
RDF Al-Radifah 45.22 297 *e*P **P** **17 11 20.4 +1.2**
baz=297
RDF AMb AMB 17 11 37.9
comp=Z,73nm,0.7s,mb5.6,baz=297
JHJ Hachijo jima 2 45.50 58 LR LR 17 30 40.2
comp=Z,175nm,18.8s,MS4.0,baz=57,slow=36
NAY Al-Naaiem 45.53 297 *e*P **P** **17 11 22.0 +0.3**
baz=297
NAY AMb AMB 17 11 39.1
comp=Z,33nm,0.8s,mb5.3,baz=297
MIB Mutribah 45.53 298 *e*P **P** **17 11 22.3 +0.6**
baz=298
MIB AMb AMB 17 11 39.7
comp=Z,86nm,0.8s,mb5.7,baz=298
BOD Bodaibo 45.92 15 *e*P **P** **17 11 24.0 -0.3**
BOD *e* pP 17 11 41.0 +1.3
AKTK Aktyubinsk 46.26 329 P **P** **17 11 27.4 +0.4**
AKTK ScP ScP 17 16 50.0 -0.1
AKTO Aktyubinsk 46.26 329 P **P** **17 11 27.4 +0.4**
comp=Z,7.0nm,0.7s,mb4.7,baz=129,slow=7.8,SNR=21
AKTO ScP ScP 17 16 50.0 -0.1
comp=Z,5.8nm,0.9s,baz=117,slow=4.5,SNR=5.0
CBIJ Chichi jima 46.58 66 P **P** **17 11 29.7 -0.2**
comp=Z,60nm,1.1s,mb5.4,baz=166,slow=20,SNR=5.9
CBIJ LR LR 17 30 04.6
comp=Z,137nm,18.8s,MS3.9,baz=270,slow=35
KAKA Kakadu 46.66 123 *e*P **P** **17 11 29.1 -1.5**
comp=Z,8.3nm,0.6s,mb4.8
CLNS Chul'man 48.47 22 *e*P **P** **17 11 44.8 +0.7**
CLNS *e* 17 13 09.7
CLNS *e*S **S** **17 18 36.3 -4.3**
CLNS *e*SS SS 17 22 11.0 0.0
CLNS pmax pmax
comp=Z,33nm,1.1s,mb5.3
CLNS smax
comp=N,50nm,12.1s
CLNS MLR MLR
comp=Z,147nm,12.0s,MS4.2
CLNS MLR MLR
comp=N,272nm,14.0s,MS4.4
CLNS MLR MLR
comp=E,128nm,16.0s,MS4.4
GUMO Guam 49.32 84 LR LR 17 31 41.3
comp=E,97nm,18.6s,MS3.8,baz=286,slow=35
SVE Sverdlovsk 49.37 337⇓*e*P **P** **17 11 51.7 +0.7**
SVE *e*S **S** **17 18 54.8 +1.6**
SVE pmax pmax
comp=Z,73nm,1.2s,mb5.6
SVE MLR MLR
comp=Z,394nm,19.0s,MS4.4
ARU Arti 49.91 335 P **P** **17 11 55.2 +0.1**
comp=Z,173nm,0.7s,mb6.2,SNR=5.9
ARU Arti 49.91 335*d*/*i*P **P** **17 11 55.7 +0.6**
ARU *e**PP pP 17 12 11.7 +1.0
ARU *e* 17 13 13.1
ARU *e* 17 13 48.2
ARU *e*S **S** **17 19 05.0 +4.2**
ARU *e*SS SS 17 22 37.6 +3.4
ARU pmax pmax
comp=Z,26nm,1.7s,mb5.0
ARU MLR MLR
comp=Z,451nm,22.0s,MS4.4
ARU Arti 49.91 335 *e*P **P** **17 11 55.2 0.0**
comp=Z,24nm,0.7s,mb5.3
GNI Garni 49.94 311 *e*P **P** **17 11 58.3 +2.7**
GNI pmax pmax
comp=Z,76nm,1.1s
GNI Garni 49.94 311 *e*P **P** **17 11 58.3 +2.7**
comp=Z,76nm,1.1s,mb5.6
ASAJ Asahikawa 50.77 44 P **P** **17 12 01.2 -0.6**
comp=Z,25nm,0.7s,mb5.2,baz=246,slow=15,SNR=19
ASAJ LR LR 17 34 59.7
comp=Z,342nm,20.9s,MS4.3,baz=164,slow=38
MUN Mundaring 50.78 155 *e*P **P** **17 12 00.8 -1.2**
MUN *e* 17 12 06.8
KLBR Kellerberrin 51.09 154 *e*P **P** **17 12 02.7 -1.6**
comp=Z,66nm,1.1s,mb5.5
KLBR *e* 17 12 08.4
ONI Oni 51.58 313 P pP 17 12 25.8 +2.2
YSS Yuzh-Sakhalins 51.90 41*d*/*i*P **P** **17 12 10.5 +0.3**
YSS pmax pmax
comp=Z,64nm,1.2s,mb5.4
YSS MLR MLR
comp=Z,100nm,14.0s,MS4.0
YSS Yuzh-Sakhalins 51.90 41 *e*P **P** **17 12 09.8 -0.4**
comp=Z,41nm,0.8s,mb5.4
NWAO Narrogin (SRO) 52.03 155 LR LR 17 36 21.3
comp=Z,190nm,20.1s,MS4.1,baz=118,slow=38
NWAO Narrogin (SRO) 52.03 155 *e*P **P** **17 12 09.5 -1.8**
NWAO *e* pP 17 12 27.7 +0.7
NWAO pmax pmax
comp=Z,108nm,1.1s
NWAO Narrogin (SRO) 52.03 155 *e*P **P** **17 12 09.5 -1.8**
comp=Z,108nm,1.1s,mb5.7
NWAO *e* pP 17 12 27.7 +0.7
WRA Warramunga Arr 52.35 130 P **P** **17 12 12.4 -1.5**
comp=Z,4.6nm,0.5s,mb4.7,baz=313,slow=7.9,SNR=190
WRA pP pP 17 12 29.8 +0.2
comp=Z,38nm,0.9s,baz=311,slow=8.0,SNR=20
WRA PcP PcP 17 13 23.5 -0.9
comp=Z,4.1nm,0.5s,baz=321,slow=3.0,SNR=10.0
WRA ScP ScP 17 17 12.4 -4.1
comp=Z,2.5nm,0.7s,baz=316,slow=3.9,SNR=5.5
WRA S **S** **17 19 30.9 -4.5**
comp=Z,6.1nm,1.1s,baz=304,slow=14,SNR=19
WRA LR LR 17 37 15.1
comp=Z,178nm,21.0s,MS4.1,baz=265,slow=39
WRA Warramunga Arr 52.35 130 P **P** **17 12 12.4 -1.5**
WRA *PP pP 17 12 29.8 +0.2
WRA 17 13 23.5
WRA S **S** **17 19 30.9 -4.5**
WRAB Tennant Creek 52.35 130 P **P** **17 12 12.0 -1.9**
comp=Z,92nm,0.7s,mb5.8,SNR=13
WRAB Tennant Creek 52.35 130 *e*P **P** **17 12 12.6 -1.3**
WRAB *e* pP 17 12 29.5 -0.1
WRAB pmax pmax
comp=Z,52nm,1.0s,mb5.4
WRAB Tennant Creek 52.35 130 *e*P **P** **17 12 12.6 -1.3**
comp=Z,52nm,1.0s,mb5.4
WRAB *e* pP 17 12 29.5 -0.1
WB2 Warramunga Arr 52.36 130 *e*P **P** **17 12 12.4 -1.6**
WB2 *e*pP pP 17 12 30.1 +0.4
WB2 *e*S **S** **17 19 31.1 -4.4**
WB2 *e*PKIKS 17 20 27.2
WB2 *e*SCS ScS 17 21 54.7 -4.2
WB2 *e* 17 24 44.1
WB2 Warramunga Arr 52.36 130 *e*P **P** **17 12 12.4 -1.6**
WB2 *e*pP pP 17 12 30.1 +0.4
WB2 *e*S **S** **17 19 31.1 -4.4**
WB2 *e*ScS ScS 17 21 54.7 -4.2
WB2 *e* 17 24 44.1
KIV Kislovodsk 52.52 315 P **P** **17 12 16.4 +1.5**
comp=Z,288nm,0.9s,mb6.2,SNR=6.5
KIV Kislovodsk 52.52 315 P **P** **17 12 16.6 +1.7**
SNR=22
KIV Kislovodsk 52.52 315*c*/*i*P **P** **17 12 16.1 +1.2**
KIV *e**PP pP 17 12 30.9 +0.3
KIV *e*S **S** **17 19 41.0 +3.8**
KIV pmax pmax
comp=Z,52nm,1.1s,mb5.4
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.0
KIV Kislovodsk 52.52 315 *e*P **P** **17 12 16.3 +1.4**
comp=Z,136nm,1.0s,mb5.8
KIV *e* pP 17 12 30.0 -0.6
SOKR Solikamsk 52.74 337 *e*P **P** **17 12 18.1 +1.9**
SOKR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
SOKR MLR MLR
comp=Z,480nm,23.0s,MS4.5
YAK Yakutsk 53.95 20 *e*P **P** **17 12 23.6 -1.5**
YAK *e**PP pP 17 12 42.3 +1.5
YAK *e* 17 13 28.7
YAK *e* 17 14 31.0
YAK *e*S **S** **17 19 52.5 -3.5**
YAK *e**SS sS 17 20 19.2 -3.5
YAK *e* 17 22 04.9
YAK *e*SS SS 17 23 37.1 -0.7
YAK pmax pmax
comp=Z,28nm,1.0s,mb5.2
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,17nm,1.1s
YAK pmax pmax
comp=Z,39nm,3.0s
YAK pmax pmax
comp=N,32nm,3.0s
YAK pmax pmax
comp=E,17nm,2.0s
YAK smax
comp=N,54nm,2.2s
YAK smax
comp=E,38nm,1.4s
YAK MLR MLR
comp=Z,306nm,14.0s,MS4.5
YAK MLR MLR
comp=N,264nm,22.0s
YAK MLR MLR
comp=E,169nm,17.0s
YAK Yakutsk 53.95 20⇓*e*P **P** **17 12 24.1 -0.9**
comp=E,37nm,0.7s,mb5.4
MALT Malatya 54.29 307⇑*i*P **P** **17 12 30.5 +2.5**
MALT Malatya 54.29 307 *e*P **P** **17 12 29.7 +1.8**
comp=E,30nm,1.2s,mb5.1
ASAR Alice Springs 54.35 134 P **P** **17 12 27.3 -1.3**
comp=E,5.1nm,0.5s,mb4.7,baz=312,slow=6.8,SNR=78
ASAR pP pP 17 12 44.1 -0.2
comp=E,13nm,0.6s,baz=311,slow=6.7,SNR=15
ASAR ScP ScP 17 17 22.1 -3.1
comp=E,2.8nm,0.7s,baz=316,slow=4.6,SNR=5.9
ASAR S **S** **17 19 59.0 -3.5**
comp=E,3.3nm,1.0s,baz=305,slow=12,SNR=16
ASAR Alice Springs 54.35 134 P **P** **17 12 27.3 -1.3**
ASAR *PP pP 17 12 44.2 -0.2
ASAR S **S** **17 19 59.1 -3.4**
SOC Sochi 54.48 314 *e*P **P** **17 12 33.1 +3.8**
SOC *e**PP pP 17 12 45.5 +0.4
SOC *e* 17 14 33.4
SOC *e*S **S** **17 20 12.0 +8.2**
SOC pmax pmax
comp=Z,34nm,1.0s,mb5.2
FORT Forrest 55.59 144 *e*P **P** **17 12 36.2 -1.2**
comp=Z,18nm,0.6s,mb5.3
FORT *e* 17 25 54.5
FORT *e* 17 26 09.1
QIS Mount Isa 56.72 127 *e*P **P** **17 12 43.8 -1.8**
comp=Z,6.5nm,1.0s,mb4.6
QIS *e* pP 17 13 01.7 +0.2
ABPO Ambohimpanom 56.74 235 *e*P **P** **17 12 45.8 +0.1**
comp=Z,21nm,0.9s,mb5.2
ABPO *e* pP 17 13 04.2 +2.6
VRSR Storozhevoye 57.09 322 *e*P pP 17 13 05.5 +1.8
VRSR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=E,5.0nm,0.7s
KMBO Kilima Mbogo 58.20 260 P **P** **17 12 56.8 +0.6**
comp=E,2.3nm,0.8s,mb4.3,baz=37,slow=11,SNR=4.0
KMBO LR LR 17 34 39.9
comp=E,357nm,21.4s,MS4.5,baz=98,slow=32
KMBO Kilima Mbogo 58.20 260 *e*P **P** **17 12 57.2 +1.0**
KMBO *e* pP 17 13 12.4 +0.2

SIM Simferopol' 58.71 314 *eP* **P 17 12 59.0 -0.3**
SIM pmax pmax
comp=Z,47nm,1.0s,mb5.5
ANTO Ankara 58.85 308 P **P 17 13 02.4 +2.0**
SNR=5.3
ANTO Ankara 58.85 308 P **P 17 13 00.3 -0.1**
ANTO pmax pmax
comp=Z,49nm,1.2s,mb5.4
ANTO Ankara 58.85 308 P **P 17 13 00.3 0.0**
comp=Z,49nm,1.2s,mb5.4
MOS Moscow 59.52 327 *eP* pP 17 13 15.9 -4.8
MOS pmax pmax
comp=Z,85nm,1.2s,mb5.7
OBN Obninsk 59.87 326 *eP* **P 17 13 07.7 +0.6**
OBN *e**PP pP 17 13 24.0 +0.9
OBN *e**SP sP 17 13 29.1 -0.8
OBN pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
ISP Isparta 60.42 305 P **P 17 13 10.2 -1.0**
TIXI Tiksi 60.94 12 *eP* **P 17 13 12.4 -1.7**
TIXI *e* pP 17 13 25.8 -4.4
TIXI pmax pmax
comp=Z,24nm,1.1s,mb5.2
TIXI MLR MLR
comp=Z,192nm,14.0s,MS4.4
TIXI Tiksi 60.94 12 *eP* **P 17 13 13.1 -1.0**
comp=Z,68nm,0.9s,mb5.8
TIXI *e* pP 17 13 31.2 +1.1
CTA Charters Tower 61.78 122 *eP* **P 17 13 21.0 +0.4**
comp=Z,4.7nm,0.8s,mb4.7
CTA Charters Tower 61.78 122 P **P 17 13 19.4 -1.2**
comp=Z,5.8nm,0.9s,mb4.7,baz=335,slow=7.5,SNR=5.1
CTA Charters Tower 61.78 122 *eP* **P 17 13 21.0 +0.4**
CTA pmax pmax
comp=Z,5.0nm,0.8s
CTAO Charters Tower 61.78 122 *eP* **P 17 13 18.8 -1.8**
CTAO *e* pP 17 13 35.3 -1.4
TLCR 62.45 314⇓ *iP* **P 17 13 25.4 +0.6**
TLCR 62.45 314 ⇓P **P 17 13 25.4 +0.7**
TIRR Tirgusor 62.65 313⇓ *iP* **P 17 13 26.4 +0.3**
TIRR Tirgusor 62.65 313 *eP* **P 17 13 25.6 -0.4**
comp=Z,26nm,0.8s,mb5.4
TIRR *e* pP 17 13 41.6 -0.6
KIS Kishinev 62.70 316 *eP* pP 17 13 40.0 -2.5
PETK Petropavlovsk- 62.91 37 P **P 17 13 26.8 -0.9**
comp=Z,11nm,0.8s,mb5.0,baz=267,slow=3.1,SNR=24
PETK LR LR 17 45 05.3
comp=Z,134nm,18.1s,MS4.2,baz=248,slow=40
PETK Petropavlovsk- 62.91 37 P **P 17 13 26.8 -0.9**
PETK LR LR 17 45 05.3
HARR Harsova 63.02 313 P **P 17 13 29.3 +0.8**
AKASG Malin Array Be 63.04 320 P **P 17 13 27.6 -1.0**
comp=Z,1.1nm,0.5s,mb4.3,baz=85,slow=5.3,SNR=6.7
AKASG LR LR 17 45 23.1
comp=Z,195nm,21.3s,MS4.2,baz=75,slow=40
KIEV Kiev 63.05 320 *eP* **P 17 13 27.1 -1.5**
KIEV *e* pP 17 13 42.8 -1.9
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
KIEV Kiev 63.05 320 *eP* **P 17 13 27.1 -1.5**
comp=Z,9.9nm,0.8s,mb5.0
KIEV *e* pP 17 13 42.8 -1.9
SEY Seymchan 63.16 26⇓ *eP* **P 17 13 28.2 -0.9**
PET Petropavlovsk 63.46 38 *eP* **P 17 13 31.5 +0.2**
PET *e* 17 15 55.5
PET *e*S **S 17 22 01.5 +1.7**
PET pmax pmax
comp=Z,43nm,0.8s,mb5.6
PET pmax pmax
comp=Z,100nm,10.3s
PET MLR MLR
comp=Z,400nm,20.0s,MS4.6
PET Petropavlovsk 63.46 38 *eP* **P 17 13 30.5 -0.8**
comp=Z,28nm,0.8s,mb5.5
VRI Vrincioaia 63.99 314⇓ *iP* **P 17 13 36.4 +1.5**
VRI Vrincioaia 63.99 314 ⇓P **P 17 13 36.4 +1.4**
PLOR Plostina 64.04 314⇑ *iP* **P 17 13 36.4 +1.1**
MLR Muntele Rosu 64.50 314⇓ *iP* **P 17 13 39.2 +0.9**
MLR Muntele Rosu 64.50 314 P **P 17 13 39.6 +1.3**
MNK Minsk 64.59 324 *eP* pP 17 13 52.0 -2.8
STKA Stephens Creek 64.79 136 *eP* **P 17 13 38.9 -1.4**
comp=Z,2.7nm,0.6s,mb4.5
STKA *ep*P pP 17 13 55.6 -0.9
STKA Stephens Creek 64.79 136 P **P 17 13 38.4 -1.9**
comp=Z,3.6nm,0.6s,mb4.6,baz=311,slow=4.5,SNR=11
STKA LR LR 17 42 07.6
comp=Z,505nm,21.6s,MS4.7,baz=132,slow=36
JOF Joensuu 64.97 333 *ep* **P 17 13 41.8 +0.8**
comp=Z,3.6nm,0.4s,mb4.8
JOF Joensuu 64.97 333 *eP* **P 17 13 41.8 +0.8**
JOF pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
BURAR Bucovina Array 65.21 316⇑ *iP* **P 17 13 43.5 +0.7**
BURAR Bucovina Array 65.21 316 ⇑P **P 17 13 43.5 +0.7**
APA Apatity 65.75 338⇓ *iP* **P 17 13 46.5 +0.5**
APA *i* pP 17 14 02.0 -0.2
APA *i* S S 17 22 28.0 +0.4
APA pmax pmax
comp=Z,31nm,1.2s,mb5.2
LVV L'vov 66.21 318 *eP* pP 17 14 05.3 -0.2
VTS Vitosha 66.28 310⇓ *iP* **P 17 13 50.8 +1.0**
VTS Vitosha 66.28 310 P **P 17 13 50.3 +0.4**
DRGR 66.84 315⇑ *iP* **P 17 13 54.0 +0.7**
DRGR 66.84 315 ⇑P **P 17 13 54.0 +0.7**
DRGR P pP 17 14 10.7 +1.1
KAF Kangasniemi 66.98 332 *ep* **P 17 13 57.2 +3.3**
comp=Z,1.4nm,0.4s,mb4.3
KAF Kangasniemi 66.98 332 *eP* **P 17 13 57.2 +3.3**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KWP Kalwaria 67.05 318 *eP* **P 17 13 55.1 +0.5**
KWP Kalwaria 67.05 318⇑ *iP* **P 17 13 54.9 +0.3**
KWP Kalwaria 67.05 318 *eP* **P 17 13 55.1 +0.5**
SUW Suwalki 67.20 323 *eP* pP 17 14 11.2 -0.6
SUW Suwalki 67.20 323 P **P 17 13 58.9 +3.4**
SUW *e* pP 17 14 11.2 -0.6
SUW pmax pmax
comp=Z,99nm,1.1s,mb5.8
SUW Suwalki 67.20 323 P **P 17 13 58.9 +3.4**
comp=Z,99nm,1.1s,mb5.8
SUW *eP* pP 17 14 11.2 -0.6
UZH Uzhgorod 67.24 317⇓ *iP* pP 17 14 12.3 +0.2
UZH *e* 17 14 21.0
UZH *i* 17 14 37.2
KOLS Kolonicke sedl 67.28 317 *eP* pP 17 14 13.7 +1.4
KOLS Kolonicke sedl 67.28 317 *ep*P pP 17 14 13.7 +1.4
BZS Buzias 67.54 314⇑ *iP* **P 17 13 58.0 +0.2**
BZS Buzias 67.54 314 ⇑P **P 17 13 58.0 +0.2**
KRUS Krusevo 67.72 309 *eP* **P 17 13 57.8 -1.2**
CRVS Cervenica-Dubn 67.81 317 *eP* **P 17 13 59.9 +0.5**
CRVS *ep*P pP 17 14 17.4 +1.7
STHS Stebnicka Huta 67.98 318 *eP* **P 17 14 00.6 +0.1**
STHS *e* pP 17 14 17.1 +0.3
STHS pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
STHS Stebnicka Huta 67.98 318 *eP* **P 17 14 00.6 +0.1**
comp=Z,8.0nm,0.7s,mb4.9
STHS *e* pP 17 14 17.1 +0.3
EIDS Eidsvold 68.23 125 *eP* **P 17 14 06.0 +3.6**
comp=Z,56nm,0.8s,mb5.7
KECS Kecovo 68.44 317 *eP* **P 17 14 03.3 0.0**
KECS *e* pP 17 14 19.9 +0.2
KECS pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KECS Kecovo 68.44 317 *eP* **P 17 14 03.3 0.0**
comp=Z,8.0nm,1.0s,mb4.7
KECS *e* pP 17 14 19.9 +0.2
NIE Niedzica 68.59 318 *eP* **P 17 14 05.5 +1.2**
NIE *ep*P pP 17 14 21.8 +1.2
NIE *e*PcP PcP 17 14 29.2 +0.2
KEV Kevo 68.69 340 *ep* **P 17 14 07.4 +2.8**
comp=Z,1.6nm,0.4s,mb4.3
KEV Kevo 68.69 340 *eP* **P 17 14 07.4 +2.8**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
PSZ Piszkesteto 68.81 316 *eP* **P 17 14 04.5 -1.2**
PSZ *e* pP 17 14 22.0 0.0
PSZ pP 17 14 22.8 +0.8
PSZ pmax pmax
comp=Z,24nm,0.9s,mb5.1
PSZ Piszkesteto 68.81 316⇑ *eP* **P 17 14 06.1 +0.4**
PSZ Piszkesteto 68.81 316⇑ *iP* **P 17 14 06.1 +0.4**
PSZ Piszkesteto 68.81 316 *eP* **P 17 14 04.5 -1.2**
comp=Z,24nm,0.9s,mb5.1
PSZ *e* pP 17 14 22.0 +0.8
PSZ P pP 17 14 22.8 +0.8
OJC Ojcow 68.96 319 *eP* **P 17 14 06.8 +0.2**
OJC *ep*P pP 17 14 23.2 +0.3
ARCES ARCESS Array B 69.14 340 P **P 17 14 07.9 +0.6**
comp=Z,6.9nm,0.7s,mb4.7,baz=94,slow=4.7,SNR=26
ARCES LR LR 17 48 38.9
comp=Z,264nm,20.3s,MS4.5,baz=111,slow=39
BUD Budapest 69.38 316⇑ *eP* **P 17 14 18.0 +8.7**
VYHS Vyhne 69.53 317 *eP* **P 17 14 09.5 -0.7**
VYHS *e* pP 17 14 27.2 +0.7
VYHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
VYHS Vyhne 69.53 317 *eP* **P 17 14 09.5 -0.7**
comp=Z,6.1nm,1.1s,mb4.4
VYHS *e* pP 17 14 27.2 +0.7
HNR Honiara 69.58 106 *eP* **P 17 14 09.8 -1.2**
HNR pmax pmax
comp=Z,22nm,0.9s,mb5.1
HNR Honiara 69.58 106 *eP* **P 17 14 09.8 -1.2**
comp=Z,22nm,0.9s,mb5.1
PKSM Moragy 69.63 314⇑ *iP* **P 17 14 10.8 0.0**
PKSM Moragy 69.63 314 ⇑P **P 17 14 10.8 0.0**
PKSM P pP 17 14 27.6 +0.5
KOLL Kolacno 69.82 317 *eP* pP 17 14 28.9 +0.6
KOLL Kolacno 69.82 317 *ep*P pP 17 14 28.9 +0.6
OKC Ostrava-Krasne 70.01 318 *eP* **P 17 14 16.5 +3.4**
OKC *ep*P pP 17 14 28.7 -0.8
BILL Bilibino 70.16 22⇑ *eP* **P 17 14 13.2 -0.5**
BILL *e**PP pP 17 14 29.8 -0.2
BILL pmax pmax
comp=Z,25nm,1.4s,mb5.0
MORC Moravsky Berou 70.41 318 ⇑P **P 17 14 16.1 +0.6**
MORC Moravsky Berou 70.41 318⇑ *iP* **P 17 14 16.0 +0.5**
MORC Moravsky Berou 70.41 318 *eP* **P 17 14 15.7 +0.2**
comp=Z,18nm,0.8s,mb5.1
MORC *e* pP 17 14 28.9 -3.0
MODS Modra-Piesok 70.57 317 *eP* pP 17 14 29.8 -3.1
MODS Modra-Piesok 70.57 317 *e* pP 17 14 29.8 -3.1
ZST Bratislava 70.69 316 *eP* pP 17 14 33.7 +0.1
ZST Bratislava 70.69 316 *ep*P pP 17 14 33.7 +0.1
TOO Toolangi 70.78 139 *eP* **P 17 14 17.3 -0.6**
TOO *ep*P pP 17 14 36.5 +2.2
VRAC Vranov 71.02 318⇑ *iP* **P 17 14 19.6 +0.4**
VRAC Vranov 71.02 318 ⇑P **P 17 14 19.6 +0.4**
VRAC P pP 17 14 36.5 +0.8
DPC Dobruska-Polom 71.20 319 *eP* **P 17 14 21.0 +0.7**
DPC *ep*P pP 17 14 34.1 -2.6
DPC *e*SKS 17 24 14.9
DPC AMS AMS 17 48 10.0
DPC Dobruska-Polom 71.20 319 *eP* **P 17 14 21.0 +0.7**
DPC *ep*P pP 17 14 34.1 -2.6
DPC *e*PS 17 24 14.9
TIP Timpagrande 71.21 307 *eP* **P 17 14 20.0 -0.6**
comp=Z,13nm,0.9s,mb4.9
TIP *e* pP 17 14 33.5 -3.5
KSP Ksiaz 71.22 319 *eP* pP 17 14 33.9 -2.9
KSP Ksiaz 71.22 319 *eP* **P 17 14 20.5 +0.1**
LSZ Lusaka 71.39 248 *eP* **P 17 14 22.0 0.0**
LSZ *e* pP 17 14 39.7 +1.3
LSZ pmax pmax
comp=Z,51nm,0.8s,mb5.5
LSZ Lusaka 71.39 248 *eP* **P 17 14 21.9 0.0**
comp=Z,51nm,0.8s,mb5.5
LSZ *e* pP 17 14 39.7 +1.3
UPC Upice 71.39 319 *eP* **P 17 14 21.9 +0.4**
UPC *ep*P pP 17 14 37.0 -0.9
CONA Conrad Observa 71.52 316⇑ *iP* **P 17 14 22.4 +0.1**
comp=Z,4.0nm,0.8s,mb4.4
TREC Trest 71.75 318 *ep*P pP 17 14 37.3 -2.7
TREC AMS AMS 17 50 20.0
comp=Z,200nm,16.8s
CUC Castrocucco 71.89 308 *eP* **P 17 14 23.9 -0.7**
comp=Z,12nm,0.6s,mb5.0
CEL Celeste 71.95 306 *eP* **P 17 14 24.9 -0.2**
comp=Z,39nm,0.9s,mb5.3
CEL *e* pP 17 14 37.9 -3.6
BOJS Bojanci 72.01 314 *i* P **P 17 14 25.4 +0.2**
BOJS *i* pP 17 14 38.2 -3.5
CNB Canberra Magne 72.06 135 *eP* **P 17 14 24.5 -1.1**
CNB *ep*P pP 17 14 42.7 +0.6
PDKS Podkum 72.17 314 *i* P **P 17 14 26.0 -0.2**
PVCC Panska Ves 72.31 319 *ep*P pP 17 14 42.9 -0.5
PVCC AMS AMS 17 50 20.0
PVCC Panska Ves 72.31 319 *ep*P pP 17 14 42.9 -0.5
PRU Pruhonice 72.34 318 *eP* **P 17 14 27.8 +0.6**
PRU *ep*P pP 17 14 40.5 -3.1
PRU *e*S S 17 23 48.9 +2.9
PRU AMS AMS 17 48 40.0
comp=Z,200nm,24.1s
LJU Ljubljana 72.50 314 *i* P **P 17 14 28.6 +0.5**
LJU *i* pP 17 14 41.2 -3.4
CEY Cerknica 72.58 314 *i* P **P 17 14 28.4 -0.3**
CEY *i* pP 17 14 41.5 -3.6
MOA Molln 72.60 316 *i* P **P 17 14 28.6 -0.1**
comp=Z,3.8nm,0.7s,mb4.5,SNR=5.8
BRG Berggiesshubel 72.70 319 *eP* **P 17 14 29.5 +0.2**
BRG *i* pP 17 14 43.0 -2.8
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRG pmax pmax
comp=Z,13nm,1.0s,mb4.8
BRG Berggiesshubel 72.70 319 *eP* **P 17 14 29.3 0.0**
comp=Z,21nm,1.0s,mb5.0
BRG Berggiesshubel 72.70 319 *eP* **P 17 14 29.5 +0.2**
comp=Z,6.3nm,0.8s,mb4.6
BRG *i* pP 17 14 43.0 -2.8
comp=Z,21nm,1.0s
SMY Shemya 72.74 39 *eP* **P 17 14 29.3 -0.1**
GEC2 GERESS Array S 72.93 317 *eP* **P 17 14 30.7 0.0**
GEC2 *e* pP 17 14 43.8 -3.3
GERES GERESS Array B 72.93 317 P **P 17 14 31.0 +0.4**
comp=Z,5.8nm,0.6s,mb4.7,baz=86,slow=6.1,SNR=68
VOY Vojsko 72.94 314 *eP* **P 17 14 30.2 -0.6**
VOY *e* 17 14 31.3
VOY *e* pP 17 14 44.2 -3.0
KHC Kasperske Hory 73.00 317 *eP* **P 17 14 30.5 -0.6**
KHC *ep*P pP 17 14 44.5 -3.0
KHC *e*XS sS 17 24 24.0 +2.7
KHC AMS AMS 17 48 50.0
comp=Z,200nm,17.4s
FBE Freiberg 73.08 319 *eP* **P 17 14 32.0 +0.5**
comp=Z,42nm,1.0s,mb5.3
CLL Collm 73.28 320 *eP* pP 17 14 46.0 -3.2
CLL *i* 17 14 48.9
CLL *e*S sS 17 24 27.0 +2.5
CLL MLR MLR
comp=Z,200nm,21.8s,MS4.4
CLL Collm 73.28 320 *e*(P) **P 17 14 34.0 +1.3**
CLL *ex* x 17 14 46.0
CLL *i* PcP PcP 17 14 48.9 0.0
comp=Z,65nm,2.1s
CLL *ex* x 17 14 55.0
CLL *es*S sS 17 24 27.0 +2.5
CLL *es*SS 17 29 12.0
CLL *es*SSS 17 32 30.0
CLL LmV 17 51 00.0
comp=Z,200nm,21.8s
PTCC Patocco-Chiusa 73.29 315 P **P 17 14 32.7 -0.2**
comp=Z,21nm,0.7s,mb5.2
WET Wettzell 73.46 317 *eP* **P 17 14 34.0 +0.2**
WET pmax pmax
comp=Z,28nm,1.2s,mb5.1
WET Wettzell 73.46 317 *eP* **P 17 14 34.0 +0.2**
comp=Z,28nm,1.2s,mb5.1
NKC Novy Kostel 73.68 319 *eP* **P 17 14 36.6 +1.5**
NKC *ep*P pP 17 14 48.5 -3.1
NKC AMS AMS 17 50 10.0
comp=Z,200nm,23.4s
NKC Novy Kostel 73.68 319 *eP* **P 17 14 36.6 +1.5**
NKC *ep*P pP 17 14 48.5 -3.1
WERN Wernitzgruen 73.73 319 *eP* **P 17 14 35.6 +0.3**
comp=Z,84nm,2.2s,mb5.3
GUNZ Gunzen 73.75 319 *eP* **P 17 14 35.6 +0.1**
comp=Z,28nm,1.3s,mb5.0
WERD Werda 73.76 319 *eP* **P 17 14 35.5 0.0**
comp=Z,86nm,2.2s,mb5.3
SNTG Esanatoglia 73.80 311 P **P 17 14 35.9 0.0**
MANZ Manzenberg 73.92 318 *eP* **P 17 14 36.9 +0.5**
comp=Z,32nm,1.3s,mb5.1
NB2 NORSAR Subarra 74.03 330 P **P 17 14 36.7 -0.2**
comp=Z,1.7nm,0.6s,mb4.2,baz=89,slow=6.2
NOA NORSAR Array B 74.03 330 P **P 17 14 37.0 +0.1**
comp=Z,2.3nm,0.7s,mb4.2,baz=89,slow=5.8,SNR=7.6
NOA LR LR 17 49 14.1
comp=Z,216nm,21.2s,MS4.4,baz=0.0,slow=37
NOA NORSAR Array B 74.03 330 P **P 17 14 37.0 +0.1**
NOA LR LR 17 49 14.1
MOX Moxa 74.19 319 *eP* **P 17 14 38.2 +0.2**
MOX *e* pP 17 14 51.4 -3.1
comp=Z,30nm,1.3s
MOX Moxa 74.19 319 *eP* **P 17 14 38.1 +0.1**
comp=Z,26nm,1.2s,mb5.0
MOX Moxa 74.19 319 *eP* **P 17 14 38.2 +0.2**
comp=Z,30nm,1.3s,mb5.1
MOX *e* pP 17 14 51.4 -3.1
WTTA Wattenberg 74.41 316⇑ *iP* **P 17 14 38.9 -0.5**
comp=Z,7.4nm,0.7s,mb4.8,SNR=7.1
WTTA Wattenberg 74.41 316⇑ *iP* **P 17 14 38.9 -0.5**
WTTA pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
CTI Castel Tesino 74.50 314 P **P 17 14 40.3 +0.4**
GRA1 Grafenberg Arr 74.51 318 *eP* **P 17 14 40.4 +0.5**
comp=Z,40nm,1.1s,mb5.3
GRF Grafenberg Arr 74.51 318 *eP* **P 17 14 40.4 +0.5**
GRF pmax pmax
comp=Z,40nm,1.1s,mb5.3
GRF Grafenberg Arr 74.51 318 *eP* **P 17 14 40.4 +0.5**
GRF pmax pmax
comp=Z,40nm,1.1s,mb5.3
GRF Grafenberg Arr 74.51 318 *eP* **P 17 14 40.4 +0.5**
comp=Z,40nm,1.1s,mb5.3
SFI Santa Sofia 74.54 312 P **P 17 14 41.1 +0.9**
SFI pmax pmax
comp=Z,37nm,0.8s,mb5.4
SFI Santa Sofia 74.54 312 P **P 17 14 41.1 +0.9**
comp=Z,37nm,0.8s,mb5.4
VMG Vicchio 74.75 312 P **P 17 14 43.0 +1.6**
comp=Z,66nm,0.8s,mb5.6
SEI Scarperia 74.88 312 P **P 17 14 43.9 +1.7**
comp=Z,82nm,0.6s,mb5.8
RETA Reutte 74.98 316⇓ *iP* **P 17 14 42.1 -0.6**
comp=Z,6.4nm,0.6s,mb4.7,SNR=5.9
NRDL Niedersach Rie 75.01 321 *eP* **P 17 14 43.2 +0.5**
comp=Z,72nm,1.6s,mb5.3
FETA Feichten 75.05 315⇑ *iP* **P 17 14 42.8 -0.3**
comp=Z,4.3nm,0.7s,mb4.5,SNR=6.5
TAU Tasmania Unive 75.07 142 P **P 17 14 42.5 -0.7**
TAU pmax pmax
comp=Z,22nm,1.1s,mb5.0
TAU Tasmania Unive 75.07 142 P **P 17 14 42.5 -0.7**
comp=Z,22nm,1.1s,mb5.0
MABI Malga Bissina 75.28 314 P **P 17 14 45.4 +1.0**
GSCL Gusciola 75.40 313 P **P 17 14 46.3 +1.1**
TUE Stuetta 76.05 315 *eP* **P 17 14 46.3 -2.5**
comp=Z,54nm,1.4s,mb5.3
IBBN Ibbenburen 76.46 321 *eP* **P 17 14 51.1 +0.1**
comp=Z,66nm,1.3s,mb5.4
BFO Black Forest 76.53 317 *eP* **P 17 14 49.0 -2.5**
BFO pmax pmax
comp=Z,14nm,1.3s,mb4.7
BFO Black Forest 76.53 317 *eP* **P 17 14 49.0 -2.5**
comp=Z,14nm,1.3s,mb4.7
PGF Pioggiola 76.76 311 *eP* **P 17 14 52.7 -0.2**
comp=Z,27nm,0.8s,mb4.9
PGF Pioggiola 76.76 311 *eP* **P 17 14 52.7 -0.2**
PGF pmax pmax
comp=Z,13nm,0.8s,mb4.9
PGF Pioggiola 76.76 311 *eP* **P 17 14 52.7 -0.2**
comp=Z,13nm,0.8s,mb4.9
LANF Langenberg 76.80 318 PKP pP 17 15 06.3 -3.3
BUG Bochum--Univer 76.86 320 *eP* **P 17 14 53.3 0.0**
comp=Z,24nm,1.1s,mb5.0
FIN Finale Ligure 77.11 313 P **P 17 14 54.9 0.0**
CDF Champ du Feu 77.21 317 *eP* **P 17 14 55.1 -0.3**
comp=Z,28nm,1.2s,mb4.8
CDF Champ du Feu 77.21 317 *eP* **P 17 14 55.1 -0.3**
CDF pmax pmax
comp=Z,14nm,1.2s,mb4.8
CDF Champ du Feu 77.21 317 *eP* **P 17 14 55.1 -0.3**
comp=Z,14nm,1.2s,mb4.8
LBTB Lobatse 77.27 240 *eP* **P 17 14 55.6 -0.4**
LBTB *e* pP 17 15 13.0 +0.4
LBTB pmax pmax
comp=Z,38nm,0.9s,mb5.3
LBTB Lobatse 77.27 240 *eP* **P 17 14 55.5 -0.5**
comp=Z,38nm,0.9s,mb5.3
LBTB *e* pP 17 15 13.0 +0.4
ECH Echery 77.32 317 PKP pP 17 15 11.1 -1.4
ECH Echery 77.32 317 *eP* **P 17 14 54.7 -1.2**
ECH *e* pP 17 15 11.1 -1.4
MOF Molkenrain 77.38 316 PKP pP 17 15 09.1 -3.8
KEST Kesra 77.44 304 P **P 17 14 56.9 0.0**
comp=Z,2.7nm,0.9s,mb4.2,baz=347,slow=4.0,SNR=6.3
HINF Hinteralfeld 77.57 316 *eP* **P 17 14 56.9 -0.5**
comp=Z,7.0nm,0.7s,mb4.4
HINF Hinteralfeld 77.57 316 *eP* **P 17 14 56.9 -0.5**
HINF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
HINF Hinteralfeld 77.57 316 *eP* **P 17 14 56.9 -0.5**
comp=Z,3.5nm,0.7s,mb4.4
LOMF Lomont 77.65 316 PKP pP 17 15 09.6 -4.8
SBF Sospel 77.71 312 *eP* **P 17 14 58.1 -0.1**
comp=Z,53nm,0.8s,mb5.2
SBF Sospel 77.71 312 *eP* **P 17 14 58.1 -0.1**
SBF pmax pmax
comp=Z,27nm,0.8s,mb5.2
SBF Sospel 77.71 312 *eP* **P 17 14 58.1 -0.1**
comp=Z,27nm,0.8s,mb5.2
MEM Membach 77.75 319 AP pP 17 15 16.3 +1.4
WLF Walferdange 77.78 318 E pP 17 15 11.2 -3.9
WLF Walferdange 77.78 318 P **P 17 14 58.6 +0.1**
WLF pmax pmax
comp=Z,60nm,1.7s,mb5.2
WLF Walferdange 77.78 318 *eP* **P 17 14 59.1 +0.6**
comp=Z,48nm,1.6s,mb5.2
WLF Walferdange 77.78 318 P **P 17 14 58.6 +0.1**
comp=Z,60nm,1.7s,mb5.2
HAU Haudompre 77.88 317 *eP* **P 17 14 58.7 -0.4**
comp=Z,50nm,1.1s,mb5.0
HAU *e*MLR MLR
comp=Z,145nm,21.5s,MS4.0
HAU Haudompre 77.88 317 *eP* **P 17 14 58.7 -0.4**
HAU pmax pmax
comp=Z,25nm,1.1s,mb5.1
HAU MLR MLR
comp=Z,150nm,21.5s,MS4.3
HAU Haudompre 77.88 317 *eP* **P 17 14 58.7 -0.4**
comp=Z,25nm,1.1s,mb5.0
HAU LR LR
comp=Z,150nm,21.5s,MS4.3
LPG La Plagne 77.96 314⇑ *iP* **P 17 15 00.1 +0.5**
comp=Z,81nm,0.8s,mb5.4
LPG La Plagne 77.96 314⇑ *iP* **P 17 15 00.1 +0.5**
LPG pmax pmax
comp=Z,41nm,0.8s,mb5.4
LPG La Plagne 77.96 314⇑ *iP* **P 17 15 00.1 +0.5**
comp=Z,41nm,0.8s,mb5.4
LPL La Plagne 77.97 314⇑ *iP* **P 17 15 00.0 +0.3**
comp=Z,60nm,0.7s,mb5.4
LPL La Plagne 77.97 314⇑ *iP* **P 17 15 00.0 +0.3**
LPL pmax pmax
comp=Z,30nm,0.7s,mb5.3
LPL La Plagne 77.97 314⇑ *iP* **P 17 15 00.0 +0.3**
comp=Z,30nm,0.7s,mb5.3
MBDF Montbardon 78.06 313 *eP* **P 17 14 59.5 -0.7**
comp=Z,36nm,0.9s,mb5.0
MBDF Montbardon 78.06 313 *eP* **P 17 14 59.5 -0.7**
MBDF pmax pmax
comp=Z,18nm,0.9s,mb5.0
MBDF Montbardon 78.06 313 *eP* **P 17 14 59.5 -0.7**
comp=Z,18nm,0.9s,mb5.0
BNI Bardonecchia 78.08 314 *eP* **P 17 15 00.5 +0.3**
BNI pmax pmax
comp=Z,19nm,0.9s,mb5.0
BNI Bardonecchia 78.08 314 *eP* **P 17 15 00.5 +0.2**
comp=Z,19nm,0.9s,mb5.0
THEF They Montfort 78.09 317 PKP pP 17 15 13.2 -3.7
BCLA Clavier 78.22 319 AP pP 17 15 17.5 -0.1
CABF La Chapelle 78.26 315 *eP* **P 17 15 01.3 +0.1**
comp=Z,64nm,1.2s,mb5.1
CABF La Chapelle 78.26 315 *eP* **P 17 15 01.3 +0.1**
CABF pmax pmax
comp=Z,32nm,1.2s,mb5.1
CABF La Chapelle 78.26 315 *eP* **P 17 15 01.3 +0.1**
comp=Z,32nm,1.2s,mb5.1
FRF La Foret Royal 78.32 312 *eP* **P 17 15 01.5 -0.1**
comp=Z,142nm,1.2s,mb5.5
FRF La Foret Royal 78.32 312 *eP* **P 17 15 01.5 -0.1**

FRF pmax pmax
comp=Z,71nm,1.2s,mb5.5
FRF La Foret Royal 78.32 312 *eP* **P 17 15 01.5 -0.1**
comp=Z,71nm,1.2s,mb5.5
LMR La Mourre 78.45 312 *eP* **P 17 15 02.2 -0.2**
comp=Z,48nm,1.0s,mb5.1
LMR La Mourre 78.45 312 *eP* **P 17 15 02.2 -0.2**
LMR pmax pmax
comp=Z,24nm,1.0s,mb5.1
LMR La Mourre 78.45 312 *eP* **P 17 15 02.2 -0.2**
comp=Z,24nm,1.0s,mb5.1
GIVF Givet 78.57 319 *eP* **P 17 15 02.9 0.0**
ORIF Oris-en-Rattie 78.66 314 *eP* **P 17 15 02.8 -0.7**
comp=Z,28nm,0.8s,mb4.9
ORIF *e*MLR MLR
comp=Z,154nm,21.8s,MS4.0
ORIF Oris-en-Rattie 78.66 314 *eP* **P 17 15 02.8 -0.7**
ORIF pmax pmax
comp=Z,14nm,0.8s,mb4.9
ORIF Oris-en-Rattie 78.66 314 *eP* **P 17 15 02.8 -0.7**
comp=Z,14nm,0.8s,mb4.9
MEZF Maizieres J'vi 78.67 317 *eP* **P 17 15 03.3 -0.1**
comp=Z,43nm,1.1s,mb5.0
MEZF Maizieres J'vi 78.67 317 *eP* **P 17 15 03.3 -0.1**
comp=Z,43nm,1.1s,mb5.3
DOU Dourbes 78.72 319 E pP 17 15 17.3 -3.0
TAVF Tavernes 78.74 312 PKP pP 17 15 16.4 -4.1
OG05 Jujurieux 78.78 315 PKP **P 17 15 03.9 -0.2**
OG05 Jujurieux 78.78 315 *eP* **P 17 15 03.9 -0.2**
BAIF Baives 78.97 319 *eP* **P 17 15 05.3 +0.2**
comp=Z,70nm,1.2s,mb5.2
BAIF Baives 78.97 319 *eP* **P 17 15 05.3 +0.2**
BAIF pmax pmax
comp=Z,35nm,1.2s,mb5.2
BAIF Baives 78.97 319 *eP* **P 17 15 05.3 +0.2**
comp=Z,35nm,1.2s,mb5.2
PUYF Puyloubier 79.01 312 PKP pP 17 15 17.7 -4.3
SMRF Simiane la Rot 79.02 313 *eP* **P 17 15 05.8 +0.3**
comp=Z,28nm,0.8s,mb4.9
SMRF Simiane la Rot 79.02 313 *eP* **P 17 15 05.8 +0.3**
comp=Z,28nm,0.8s,mb5.2
TREF Trevaresse 79.22 312 PKP pP 17 15 19.2 -4.0
GELF Grande-Etoile 79.23 312 PKP pP 17 15 17.7 -5.5
VIVF Saint-Julien-l 79.52 314 *eP* **P 17 15 08.0 -0.1**
comp=Z,78nm,1.4s,mb5.2
VIVF Saint-Julien-l 79.52 314 *eP* **P 17 15 08.0 -0.1**
VIVF pmax pmax
comp=Z,39nm,1.4s,mb5.1
VIVF Saint-Julien-l 79.52 314 *eP* **P 17 15 08.0 -0.1**
comp=Z,39nm,1.4s,mb5.2
SSB Saint Sauveur 79.53 314 *eP* **P 17 15 07.0 -1.2**
SSB *e* pP 17 15 20.5 -4.4
LOR Lormes 79.66 316 *eP* **P 17 15 08.5 -0.4**
comp=Z,88nm,1.5s,mb5.2
LOR *e*MLR MLR
comp=Z,166nm,23.0s,MS4.0
LOR Lormes 79.66 316 *eP* **P 17 15 08.5 -0.4**
LOR pmax pmax
comp=Z,44nm,1.5s,mb5.2
LOR MLR MLR
comp=Z,170nm,23.0s,MS4.3
LOR Lormes 79.66 316 *eP* **P 17 15 08.5 -0.4**
comp=Z,44nm,1.5s,mb5.2
LOR LR LR
comp=Z,170nm,23.0s,MS4.3
SMF Signal de Mont 79.78 316 *eP* **P 17 15 09.1 -0.4**
comp=Z,54nm,1.2s,mb5.1
SMF Signal de Mont 79.78 316 *eP* **P 17 15 09.1 -0.4**
SMF pmax pmax
comp=Z,27nm,1.2s,mb5.0
SMF Signal de Mont 79.78 316 *eP* **P 17 15 09.1 -0.4**
comp=Z,27nm,1.2s,mb5.1
SSF Saint Saulge 79.93 316 *eP* **P 17 15 09.5 -0.9**
comp=Z,76nm,1.5s,mb5.1
SSF Saint Saulge 79.93 316 *eP* **P 17 15 09.5 -0.9**
SSF pmax pmax
comp=Z,38nm,1.5s,mb5.1
SSF Saint Saulge 79.93 316 *eP* **P 17 15 09.5 -0.9**
comp=Z,38nm,1.5s,mb5.1
PLDF La Plantade 80.05 315 PKP **P 17 15 11.1 +0.1**
PLDF La Plantade 80.05 315 *eP* **P 17 15 11.1 +0.1**
AVF Avril sur Loir 80.09 316 *eP* **P 17 15 10.7 -0.5**
comp=Z,46nm,1.2s,mb5.0
AVF Avril sur Loir 80.09 316 *eP* **P 17 15 10.7 -0.5**
AVF pmax pmax
comp=Z,23nm,1.2s,mb5.0
AVF Avril sur Loir 80.09 316 *eP* **P 17 15 10.7 -0.5**
comp=Z,23nm,1.2s,mb5.0
LASF Ste Croix 80.23 313 *eP* **P 17 15 12.3 +0.3**
comp=Z,144nm,1.6s,mb5.4
AGO Saint Agoulin 80.37 315 PKP **P 17 15 12.0 -0.7**
AGO Saint Agoulin 80.37 315 *eP* **P 17 15 12.0 -0.7**
BGF Bois d'Agland 80.47 316 *eP* **P 17 15 13.3 0.0**
PYM Petit Puy Mans 80.51 315 PKP **P 17 15 13.6 +0.1**
PYM Petit Puy Mans 80.51 315 *eP* **P 17 15 13.6 +0.1**
TCF Toulx Ste Croi 80.95 315 *eP* **P 17 15 15.9 0.0**
comp=Z,44nm,1.2s,mb5.0
TCF Toulx Ste Croi 80.95 315 *eP* **P 17 15 15.9 0.0**
TCF pmax pmax
comp=Z,22nm,1.2s,mb5.0
TCF Toulx Ste Croi 80.95 315 *eP* **P 17 15 15.9 0.0**
comp=Z,22nm,1.2s,mb5.0
DAG Danmarks Havn 81.13 348⇑*eP* pP 17 15 33.3 +0.4
DAG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DAG Danmarks Havn 81.13 348⇑*iP* pP 17 15 33.3 +0.4
comp=Z,9.0nm,0.8s
CAF Calviac 81.32 314 *eP* **P 17 15 17.9 +0.1**
comp=Z,25nm,1.0s,mb4.8
CAF Calviac 81.32 314 *eP* **P 17 15 17.9 +0.1**
CAF pmax pmax
comp=Z,13nm,1.0s,mb4.8
CAF Calviac 81.32 314 *eP* **P 17 15 17.9 +0.1**
comp=Z,13nm,1.0s,mb4.8
CASY Casey 81.36 173 *eP* **P 17 15 15.5 -1.9**
MTLF Montolieu 81.53 312 *eP* **P 17 15 19.0 0.0**
comp=Z,25nm,1.0s,mb4.8
MTLF Montolieu 81.53 312 *eP* **P 17 15 19.0 0.0**
MTLF pmax pmax
comp=Z,12nm,1.0s,mb4.8
MTLF Montolieu 81.53 312 *eP* **P 17 15 19.0 0.0**
comp=Z,12nm,1.0s,mb4.8
RJF Les Rejaudoux 81.63 315 *eP* **P 17 15 19.7 +0.3**
comp=Z,71nm,1.3s,mb5.1
RJF *e*MLR MLR
comp=Z,125nm,23.0s,MS3.9
RJF Les Rejaudoux 81.63 315 *eP* **P 17 15 19.7 +0.3**
RJF pmax pmax
comp=Z,35nm,1.3s,mb5.1
RJF MLR MLR
comp=Z,120nm,23.0s,MS4.2
RJF Les Rejaudoux 81.63 315 *eP* **P 17 15 19.7 +0.3**
comp=Z,35nm,1.3s,mb5.1
RJF LR LR
comp=Z,120nm,23.0s,MS4.2
LDF La Druitiere 82.03 318 *eP* **P 17 15 21.3 -0.2**
comp=Z,44nm,1.1s,mb5.0
LDF La Druitiere 82.03 318 *eP* **P 17 15 21.3 -0.2**
LDF pmax pmax
comp=Z,22nm,1.1s,mb5.0
LDF La Druitiere 82.03 318 *eP* **P 17 15 21.3 -0.2**
comp=Z,22nm,1.1s,mb5.0
FLN La Foliniere 82.22 318 *eP* **P 17 15 22.4 -0.1**
comp=Z,58nm,1.2s,mb5.1
FLN *e*MLR MLR
comp=Z,108nm,22.2s,MS3.9
FLN La Foliniere 82.22 318 *eP* **P 17 15 22.4 -0.1**
FLN pmax pmax
comp=Z,29nm,1.2s,mb5.1
FLN MLR MLR
comp=Z,110nm,22.3s,MS4.2
FLN La Foliniere 82.22 318 *eP* **P 17 15 22.4 -0.1**
comp=Z,29nm,1.2s,mb5.1
FLN LR LR
comp=Z,110nm,22.3s,MS4.2
TSUM Tsumeb 82.24 248 *eP* **P 17 15 22.7 -0.3**
comp=Z,8.1nm,0.9s,mb4.7
TSUM *e* pP 17 15 41.3 +1.4
LFF La Frestale 82.24 314 *eP* **P 17 15 23.1 +0.4**
comp=Z,42nm,1.1s,mb5.0
LFF La Frestale 82.24 314 *eP* **P 17 15 23.1 +0.4**
LFF pmax pmax
comp=Z,21nm,1.0s,mb5.0
LFF La Frestale 82.24 314 *eP* **P 17 15 23.1 +0.4**
comp=Z,21nm,1.0s,mb5.0
MFF Saint Martin d 82.48 316 *eP* **P 17 15 23.8 -0.1**
comp=Z,60nm,1.2s,mb5.1
MFF Saint Martin d 82.48 316 *eP* **P 17 15 23.8 -0.1**
MFF pmax pmax
comp=Z,30nm,1.2s,mb5.1
MFF Saint Martin d 82.48 316 *eP* **P 17 15 23.8 -0.1**
comp=Z,30nm,1.2s,mb5.1
GRR Gorron 82.55 318 *eP* **P 17 15 24.3 +0.1**
EPF Esparros 82.94 312 *eP* **P 17 15 25.6 -0.8**
TAM Tamanrasset 83.14 292 *eP* **P 17 15 28.0 +0.2**
SGMF Saint Gilles 83.69 318 *eP* **P 17 15 30.2 +0.1**
comp=Z,66nm,1.4s,mb5.3
SGMF Saint Gilles 83.69 318 *eP* **P 17 15 30.2 +0.1**
SGMF pmax pmax
comp=Z,33nm,1.4s,mb5.3
SGMF Saint Gilles 83.69 318 *eP* **P 17 15 30.2 +0.1**
comp=Z,33nm,1.4s,mb5.3
ROSF Rostrenen 84.13 318 *eP* **P 17 15 32.5 +0.2**
comp=Z,57nm,1.1s,mb5.3
ROSF Rostrenen 84.13 318 *eP* **P 17 15 32.5 +0.2**
ROSF pmax pmax
comp=Z,28nm,1.1s,mb5.3
ROSF Rostrenen 84.13 318 *eP* **P 17 15 32.5 +0.2**
comp=Z,28nm,1.1s,mb5.3
QUIF Quistinic 84.17 318 *eP* **P 17 15 32.4 -0.1**
comp=Z,40nm,1.2s,mb5.1
QUIF Quistinic 84.17 318 *eP* **P 17 15 32.4 -0.1**
QUIF pmax pmax
comp=Z,20nm,1.2s,mb5.1
QUIF Quistinic 84.17 318 *eP* **P 17 15 32.4 -0.1**
comp=Z,20nm,1.2s,mb5.1
MAW Mawson 84.83 191 *eP* **P 17 15 34.7 -0.6**
comp=Z,7.8nm,1.5s,mb4.6
MAW *e*pP pP 17 15 54.3 +2.2
MAW Mawson 84.83 191 P **P 17 15 35.1 -0.2**
comp=Z,4.6nm,0.6s,mb4.8,baz=36,slow=10,SNR=9.9
MAW pP pP 17 15 52.6 +0.6
comp=Z,18nm,0.8s,baz=350,slow=6.4,SNR=13
MAW LR LR 17 46 04.2
comp=Z,204nm,18.6s,MS4.5,baz=48,slow=30
MAW Mawson 84.83 191 *eP* **P 17 15 34.7 -0.6**
MAW *e**PP pP 17 15 54.3 +2.2
MAW pmax pmax
comp=Z,8.0nm,1.5s
TTA Tatalina 86.13 26 *eP* **P 17 15 41.5 -0.5**
TTA pmax pmax
comp=Z,26nm,1.6s,mb5.2
TTA Tatalina 86.13 26 *eP* **P 17 15 41.5 -0.5**
comp=Z,26nm,1.6s,mb5.2
COLD Coldfoot 86.40 21 *eP* **P 17 15 43.0 -0.3**
comp=Z,55nm,0.7s,mb5.9
SVW2 Sparrevohn 87.07 27 *eP* **P 17 15 46.5 -0.1**
CHUM Lake Minchumin 87.21 24 *eP* **P 17 15 47.7 +0.4**
comp=Z,60nm,1.5s,mb5.6
BPAW Bear Paw Mtn. 87.63 23 *eP* **P 17 15 49.1 -0.2**
comp=Z,47nm,1.2s,mb5.6
PPLA Purkeypile 87.72 25 *eP* **P 17 15 49.7 0.0**
comp=Z,27nm,1.3s,mb5.3
SUMG Summit 87.80 347 *eP* **P 17 15 50.4 +0.4**
comp=Z,13nm,0.9s,mb5.2
KTH Kantishna Hill 87.91 24 *eP* **P 17 15 50.5 -0.2**
comp=Z,1.6nm,0.5s,mb4.5
TRF Thorofare Moun 88.21 24 *eP* **P 17 15 51.5 -0.6**
comp=Z,13nm,0.9s,mb5.2
MCK McKinley 88.60 23 *eP* **P 17 15 53.7 -0.2**
comp=Z,18μm,1.0s
TORD Torodi Ar. Bea 88.94 283 P **P 17 15 56.5 0.0**
comp=Z,1.2nm,0.6s,mb4.4,baz=87,slow=4.2,SNR=17
TORD pP pP 17 16 13.5 +0.1
comp=Z,21nm,0.9s,baz=77,slow=3.5,SNR=29
TORD PP PP 17 19 26.8 0.0
comp=Z,1.2nm,0.9s,baz=77,slow=7.8,SNR=3.2
TORD LR LR 17 57 31.5
comp=Z,127nm,19.8s,MS4.3,baz=115,slow=37
RC01 Rabbit Creek A 89.60 26 *eP* **P 17 15 58.2 -0.5**
comp=Z,55nm,1.0s,mb5.8
PMR Palmer 89.60 25 *eP* **P 17 15 57.9 -0.7**
PMR pmax pmax
comp=Z,34nm,0.9s,mb5.7
PMR Palmer 89.60 25 *eP* **P 17 15 57.9 -0.7**
comp=Z,34nm,0.9s,mb5.7
KDAK Kodiak Island 89.90 29 P **P 17 16 00.4 +0.3**
comp=Z,21nm,1.0s,mb5.4,baz=323,slow=2.6,SNR=7.4
SEW Seward 90.22 27 *eP* **P 17 16 01.1 -0.4**
EVO Evora 90.27 310⇑*iP* **P 17 16 02.8 +0.5**
comp=Z,40nm,1.4s,mb5.2
EVO *e*MLR MLR
comp=Z,100nm,21.2s,MS3.9
EGAK Eagle 90.83 21 *eP* **P 17 16 03.7 -0.6**
comp=Z,6.5nm,1.0s,mb4.9
DIV Divide 91.22 25 *eP* **P 17 16 06.3 +0.1**
comp=Z,14nm,1.0s,mb5.3
SYO Syowa Base 91.53 197⇓*eP* **P 17 16 05.6 -1.7**
SYO Syowa Base 91.53 197⇓*e*PcP PcP 17 16 08.2 +0.1
SYO Syowa Base 91.53 197⇓*e*pP pP 17 16 24.6 +0.4
BMRM Bremner River 91.79 25 *eP* **P 17 16 08.5 -0.3**
DAWY Dawson 91.88 21 *eP* **P 17 16 08.8 -0.3**
URZ Urewera 93.50 128 LR LR 17 58 11.5
comp=Z,287nm,19.6s,MS4.7,baz=242,slow=35
HYT Haines Junctio 94.63 23 *eP* **P 17 16 23.9 +2.0**
DBIC Dimbokro 96.84 279 LR LR 18 01 12.5
comp=Z,112nm,18.4s,MS4.4,baz=51,slow=36
YKA Yellowknife Ar 100.18 13 P Pdif 17 16 45.1 -2.0
comp=Z,1.0nm,0.8s,baz=321,slow=5.0,SNR=4.1
YKA PP PP 17 20 32.7 -20
comp=Z,1.0nm,0.8s,baz=307,slow=5.6,SNR=4.1
YKA Yellowknife Ar 100.18 13 P Pdif 17 16 45.1 -1.9
YKA PP PP 17 20 32.7 -20
VNA2 Neumayer--Watz 107.20 200 *e*PKiKP PKiKP 17 21 26.4 -0.1
VNA2 *e* 17 21 45.3
VNA2 *e* 17 21 51.4
VNA2 *e* 17 24 56.5
VNA3 Neumayer Olymp 107.90 199 *e*PKiKP PKiKP 17 21 27.4 -0.4
VNA3 *e* 17 21 46.4
VNA3 *e* 17 21 53.2
VNA3 *e* 17 24 57.3
MSO Missoula 114.12 21 *e*PKPdf PKiKP 17 21 39.9 -0.5
EGMT Eagleton 114.38 17 *e*PKPdf PKiKP 17 21 40.9 +0.1
ULM Lac du Bonnet 115.08 7 PKP PKiKP 17 21 41.5 -0.6
comp=Z,5.6nm,0.7s,baz=7.6,slow=2.1,SNR=9.1
ULM Lac du Bonnet 115.08 7 *e*PKPdf PKiKP 17 21 41.1 -1.0
ULM *e* 17 21 54.1
HLID Hailey 116.77 23 *e*PKPdf PKPdf 17 21 45.8 +0.2
EYMN Ely 117.77 4 *e*PKPdf PKPdf 17 21 46.7 -0.7
RRI2 Red Ridge 118.07 21 *e*PKPdf PKPdf 17 21 48.1 0.0
TPAW Teton Pass 118.07 20 *e*PKPdf PKPdf 17 21 48.4 +0.3
LOHW Long Hollow 118.07 20 *e*PKPdf PKPdf 17 21 48.1 0.0
SNOW Snow King Moun 118.16 20 *e*PKPdf PKPdf 17 21 49.1 +0.8
REDW Red Top Meadow 118.21 20 *e*PKPdf PKPdf 17 21 48.8 +0.4
PDAR Pinedale Array 119.17 20 PKP PKPdf 17 21 50.0 -0.3
comp=Z,4.8nm,0.7s,baz=71,slow=0.6,SNR=39
NVAR Mina Array Bea 119.40 29 PKP PKPdf 17 21 51.7 +0.9
comp=Z,4.4nm,0.8s,baz=302,slow=2.2,SNR=32
NVAR PKKPbc PKKPbc 17 32 02.1 -1.8
comp=Z,2.7nm,0.9s,baz=161,slow=5.0,SNR=14
HWUT Hardware Ranch 119.51 22 *e*PKPdf PKPdf 17 21 50.4 -0.6
RSSD Black Hills 119.52 15 *e*PKIKP PKPdf 17 21 50.4 -0.5
DUG Dugway 120.27 24 *e*PKIKP PKPdf 17 21 53.0 +0.5
DAU Daniels Canyon 120.67 22 *e*PKIKP PKPdf 17 21 54.0 +0.8
ECSD EROS,Sioux Fal 121.37 9 *e*PKPdf PKPdf 17 21 53.6 -0.9
ECSD *e* 17 22 07.0
MSU Marysvale 121.97 24 *e*PKIKP PKPdf 17 21 56.8 +1.0
GSC Goldstone 122.63 30 *e*PKIKP PKPdf 17 21 57.8 +0.7
JFWS Jewell Farm 122.86 4 *e*PKIKP PKPdf 17 21 56.3 -1.1
SCIA State Center 123.61 6 *e*PKPdf PKPdf 17 21 58.0 -0.8
SDCO Great Sand Dun 125.03 19 *e*PKPdf PKPdf 17 22 01.4 -0.2
KSU1 Kansas State U 125.89 10 *e*PKPdf PKPdf 17 22 02.3 -1.0
ANMO Albuquerque 127.25 21 *e*PKIKP PKPdf 17 22 06.8 +0.8
ANMO *e* 17 22 20.7
LAZ Ladron 127.50 22 *e*PKPdf PKPdf 17 22 06.7 +0.2
LPM Los Pinos Moun 127.77 22 *e*PKPdf PKPdf 17 22 07.0 0.0
LPM *e* 17 22 25.6
LENM Lemitar 127.78 22 *e*PKPdf PKPdf 17 22 07.5 +0.4
LENM *e* 17 22 21.4
TUC Tucson 127.88 27 *e*PKIKP PKPdf 17 22 07.5 +0.2
BNM Barren Site 127.92 22 *e*PKPdf PKPdf 17 22 08.1 +0.8
WMOK Wichita Mounta 129.68 14 *e*PKIKP PKPdf 17 22 09.9 -0.7
MIAR Mount Ida 130.83 8 *e*PKIKP PKPdf 17 22 12.8 0.0
TXAR Lajitas Array 133.33 21 PKP PKPdf 17 22 18.2 +0.5
comp=Z,3.7nm,0.8s,baz=224,slow=1.1,SNR=35
TXAR Lajitas Array 133.33 21 PKP PKPdf 17 22 18.2 +0.5
JCT Junction City 133.48 16 *e*PKIKP PKPdf 17 22 17.1 -0.8
BDFB Brasilia 143.28 263 PKP PKPdf 17 22 37.9 +1.7
comp=Z,0.7nm,0.4s,baz=107,slow=21,SNR=3.2
TEIG Tepich 145.55 4 *e*PKPdf PKPdf 17 22 40.5 +0.5
TRQA Tornquist 148.21 218 *e*PKPdf PKPdf 17 22 46.4 +2.5
PLCA Paso Flores 150.47 204 PKPbc PKPbc 17 22 53.3 +0.4
comp=Z,14nm,0.9s,baz=160,slow=3.6,SNR=25
PLCA pPKPbc pPKPbc 17 23 11.9 +1.6
comp=Z,36nm,0.8s,baz=160,slow=3.0,SNR=16
PLCA Paso Flores 150.47 204 *e*PKPbc PKPbc 17 22 52.8 0.0
PLCA *e*PKPab PKPab 17 22 59.1 -0.3
PLCA *e* 17 23 11.4
CPUP Villa Florida 150.65 242 PKPbc PKPbc 17 22 52.9 -0.8
comp=Z,3.6nm,0.6s,baz=72,slow=1.8,SNR=8.3
CPUP Villa Florida 150.65 242 *e*PKPdf PKPdf 17 22 49.2 +1.0
CPUP *e*PKPbc PKPbc 17 22 52.8 -1.0
CPUP PKPbc PKPbc 17 22 52.9 -0.8
TGUH Tegucigalpa,Un 151.72 3 *e*PKPbc PKPbc 17 22 57.8 +1.3
SDV Santo Domingo 152.29 326 *e*PKPbc PKPbc 17 22 57.2 -0.6
LPAZ La Paz 162.62 261 PKP PKPdf 17 23 04.8 +1.0
comp=Z,0.7nm,0.5s,baz=353,slow=14,SNR=3.8
LPAZ La Paz 162.62 261 *e*PKPdf PKPdf 17 23 01.4 -2.5
LPAZ PKP PKPdf 17 23 04.8 +1.0
OTAV Otavalo 163.65 332 *e*PKPdf PKPdf 17 23 05.4 +0.4

KRSC 25 17:12:01.8±0.5, 5548N×16655E, h32km±32km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**2.23**	**291**	P	Pn	17 12 36.7	+0.3
KBTR				S	Sn	17 13 02.7	-0.1
MKZ	**Mys Kozlova**	**2.93**	**254**	*e*P	Pn	17 12 48.2	+2.2
MKZ				*e*S	Sn	17 13 21.4	+1.4
ZLN	**Zelenaya**	**3.29**	**282**	P	Pn	17 12 54.6	+3.6
ZLN				*e*S	Sn	17 13 31.9	+2.9
BZGR	**Bezymyannyi-Gr**	**3.34**	**280**	P	Pn	17 12 55.5	+3.8
BZGR				S	Sn	17 13 33.8	+3.5
KLY	**Klyuchi**	**3.42**	**287**	S	Sn	17 13 30.4	-1.9
BZWR	**Bezymyannyi-We**	**3.46**	**281**	P	Pn	17 12 56.7	+3.4
BZWR				S	Sn	17 13 36.9	+3.8
KIRR	**Kirishev**	**3.54**	**280**	P	Pn	17 12 58.6	+4.1
KMNR	**Kamenistaya**	**3.59**	**277**	P	Pn	17 12 59.6	+4.5
KMNR				S	Sn	17 13 41.9	+5.5
KPT	**Kopyto**	**3.61**	**280**	P	Pn	17 12 58.2	+2.8
KPT				S	Sn	17 13 39.8	+2.9
TUMR	**Tumrok**	**3.66**	**270**	P	Pn	17 12 59.7	+3.6
TUMR				S	Sn	17 13 42.6	+4.5
SPN	**Mys Shipunski**	**4.51**	**241**	P	Pn	17 13 12.2	+4.5
NLC	**Nalytchevo**	**4.81**	**244**	P	Pn	17 13 14.5	+2.6
NLC				S	Sn	17 14 06.4	0.0
SDLR	**Sedlovina**	**5.00**	**247**	P	Pn	17 13 17.7	+3.3
PET	**Petropavlovsk**	**5.24**	**245**	P	Pn	17 13 20.8	+3.0
PET				S	Sn	17 14 17.2	+0.1
GNL	**Ganaly**	**5.32**	**254**	P	Pn	17 13 22.8	+4.0
RUS	**Russkaya**	**5.64**	**241**	P	Pn	17 13 26.6	+3.3

NIED ***25*** *17:13:00, 4670N×15290E, h35km, Mw4.5 Best double couple: M0 6.19000×10^15 NP1:φ≈347.00000°, δ61.00000°, λ48.00000°. NP2:φ≈228.00000°, δ50.00000°, λ140.00000°.*
SKHL ***25*** *17:13:44.3±2.0, 4630N×153.10E, h57km±22km, mb5.1/7, ms4.1/3, msh5.0/1*
ISCJB ***25*** *17:13:45.8±0.6, 4646N±004×15276E±005, h41km±5km, mb4.8/143, MS4.2/10, Error ellipse: s-maj=8.0km s-min=3.9km az=147.1*
MOS ***25*** *17:13:46.7±0.9, 4654N×15271E, h46km, mb5.0/51, Error ellipse: s-maj=7.8km s-min=4.9km az=97.1*
JMA ***25*** *17:13:46.1±0.6, 4667N×15288E, h30km, M5.1*
BJI ***25*** *17:13:47.5, 4681N×15293E, h65km, mB4.9, mb4.7, Ms4.5, Msz4.1*
NEIC ***25*** *17:13:48.9±0.2, 4661N×15267E, mb4.8/91, Error ellipse: s-maj=6.2km s-min=3.5km az=157.0*
IDC ***25*** *17:13:49.5±0.6, 4672N×15261E, h50km±5km, mb4.1/20, mb1 4.3/22, mb1mx4.3/26, mbtmp4.1/22, MS3.7/5, Ms1 3.8/5, ms1mx3.3/33, Error ellipse: s-maj=14.8km s-min=11.3km az=153.0*
SZGRF ***25*** *17:13:56.2, 4789N×15221E, h33km, mb5.0, Kuril Islands, Russia*

ISC 25 17:13:48.5±0.5, 4652N±004×15273E±005, h48km±4km, h58km±3.0km: pP-P, n364, σ1.9 09/383, mb4.8/143, MS4.2/10, 23C-17D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.63**	**251**⇑*iP*N		**Pn**	**17 14 39.4**	**-2.7**
KUR				*e*S	**Sn**	**17 15 20.4**	**-3.2**
KUR	comp=N,100nm,0.5s			pmax	pmax		
KUR	comp=E,80nm,0.5s			pmax	pmax		
KUR	comp=Z,430nm,0.5s			pmax	pmax		
KUR	comp=N,760nm,0.7s			smax			
KUR	comp=E,2μm,0.7s			smax			
KUR	comp=N,4μm,1.2s			smax			
KUR	comp=E,5μm,1.2s			smax			
KUR	**Kuril'sk**	**3.63**	**251**⇑*iP*		**Pn**	**17 14 39.4**	**-2.7**
KUR	comp=E,100nm,0.5s			AMB	AMB	17 14 40.0	
KUR	comp=E,80nm,0.5s			AMB	AMB	17 14 40.0	
KUR	comp=E,430nm,0.5s			AMB	AMB	17 14 40.0	
KUR				*e*S	**Sn**	**17 15 20.4**	**-3.2**
KUR	comp=E,760nm,0.7s			A		17 15 39.0	
KUR	comp=E,2μm,0.7s			A		17 15 39.0	
KUR	comp=E,4μm,1.2s			A		17 15 39.6	
KUR	comp=E,5μm,1.2s			A		17 15 39.6	
SKR	**Severo-Kuril's**	**4.74**	**27**	*e*PN	**Pn**	**17 14 56.1**	**-1.2**
SKR	comp=N,50nm,0.4s			pmax	pmax		
SKR	comp=Z,70nm,0.4s			pmax	pmax		
SKR	**Severo-Kuril's**	**4.74**	**27**	*e*P	**Pn**	**17 14 56.1**	**-1.2**
SKR	comp=Z,50nm,0.4s			AMB	AMB	17 14 58.1	
SKR	comp=Z,70nm,0.4s			AMB	AMB	17 14 58.1	
SKR				*e*S	**Sn**	**17 15 46.0**	**-4.8**
SKR	comp=Z,90nm,0.5s			A		17 15 53.9	
SKR	comp=Z,340nm,0.5s			A		17 15 53.9	
SKR	comp=Z,110nm,0.5s			A		17 15 53.9	
SKR	comp=Z,1μm,4.0s			A		17 15 55.0	
SKR	comp=Z,2μm,8.0s			A		17 15 55.0	
SKR	comp=Z,1μm,8.0s			A		17 15 55.0	
SKR	comp=Z,1μm,14.0s			AMS	AMS	17 17 00.0	
SKR	comp=Z,1μm,14.0s			AMS	AMS	17 17 00.0	
SKR	comp=Z,1μm,14.0s			AMS	AMS	17 17 00.0	
SKR				*e*rx	rx	17 38 54.0	
YUK	**Yuzh-Kuril'sk**	**5.44**	**245**⇓*iP*N		**Pn**	**17 15 08.9**	**+1.9**
YUK				*i* S	**Sn**	**17 16 14.0**	**+5.7**
YUK	comp=E,180nm,0.5s			pmax	pmax		
YUK	comp=Z,370nm,0.5s			pmax	pmax		
YUK	comp=N,960nm,0.5s			smax			
YUK	comp=E,960nm,0.5s			smax			
YUK	comp=N,4μm,1.0s			smax			
YUK	comp=E,3μm,1.0s			smax			
YUK	**Yuzh-Kuril'sk**	**5.44**	**245**⇓*iP*		**Pn**	**17 15 08.9**	**+1.9**
YUK	comp=E,180nm,0.5s			AMB	AMB	17 15 11.7	
YUK	comp=E,370nm,0.5s			AMB	AMB	17 15 11.7	

YUK *i* S **Sn** **17 16 14.0 +5.7**
YUK A 17 16 29.6
comp=E,960nm,0.5s
YUK A 17 16 40.4
comp=E,4μm,1.0s
YUK A 17 16 40.4
comp=E,3μm,1.0s
NEM2 Nemuro 2 5.87 240 P **Pn** **17 15 12.5 -0.4**
NEM2 *e*S **Sn** **17 16 16.8 -2.1**
JRA Rausu 5.96 247 P **Pn** **17 15 16.5 +2.4**
JNK Nakash 6.38 246 P **Pn** **17 15 21.6 +1.7**
JNK *e*S **Sn** **17 16 32.3 +0.9**
JAK Akkeshi 6.71 241 P **Pn** **17 15 24.0 -0.4**
JAK *e*S **Sn** **17 16 37.1 -2.4**
JTKR Abashiri--Toko 6.72 251 P **Pn** **17 15 27.1 +2.5**
YSS Yuzh-Sakhalins 6.87 277⇑ *i*PN **Pn** **17 15 29.0 +2.5**
YSS *e*S **Sn** **17 16 46.2 +3.0**
YSS pmax pmax
comp=Z,90nm,1.0s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 6.87 277⇑ *i*P **Pn** **17 15 29.0 +2.5**
YSS AMB AMB 17 15 31.3
comp=Z,90nm,1.0s
YSS *e*S **Sn** **17 16 46.2 +3.0**
YSS *e*LQ 17 17 16.0
YSS AMS AMS 17 18 14.0
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 6.87 277 *e*Pn **Pn** **17 15 28.8 +2.3**
comp=Z,68nm,0.8s
JMP Maruseppu 7.07 253 P **Pn** **17 15 32.7 +3.4**
JAR Ashorobuto 7.13 246 P **Pn** **17 15 32.2 +2.1**
JAR *e*S **Sn** **17 16 51.2 +1.5**
JOB Onbets 7.29 243 P **Pn** **17 15 33.0 +0.7**
JOB *e*S **Sn** **17 16 52.0 -1.7**
PETK Petropavlovsk- 7.34 24 P **Pn** **17 15 32.8 -0.2**
comp=Z,0.8nm,0.3s,baz=184,slow=11,SNR=14
PETK LR LR 17 18 43.7
comp=Z,99nm,19.9s,baz=209,slow=41
JKK2 Kamakawa 2 7.53 253 P **Pn** **17 15 38.8 +3.2**
ASAJ Asahikawa 7.53 255 P **Pn** **17 15 39.5 +3.8**
ASAJ Asahikawa 7.53 255 P **Pn** **17 15 37.9 +2.2**
comp=Z,3.6nm,0.3s,baz=84,slow=13,SNR=31
ASAJ LR LR 17 18 22.7
comp=Z,593nm,19.9s,baz=352,slow=36
ASAJ Asahikawa 7.53 255 PN **Pn** **17 15 37.9 +2.2**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ MLR MLR
comp=Z,593nm,19.9s
PET Petropavlovsk 7.56 28 *e*PN **Pn** **17 15 36.8 +0.9**
PET MLR MLR
comp=Z,300nm,18.0s
PET Petropavlovsk 7.56 28 *e*Pn **Pn** **17 15 35.9 0.0**
comp=Z,14nm,0.4s
PET *e*Sn **Sn** **17 16 56.1 -4.0**
UGL Uglegorsk 7.62 294 *e*P **Pn** **17 15 40.0 +3.2**
UGL AMB AMB 17 15 43.0
comp=Z,160nm,1.0s
UGL AMS AMS 17 18 26.0
comp=Z,1μm,18.0s
UGL AMS AMS 17 18 26.0
comp=Z,500nm,18.0s
UGL AMS AMS 17 18 26.0
comp=Z,600nm,18.0s
JCH Churui 7.74 243 P **Pn** **17 15 38.4 -0.1**
JCH *e*S **Sn** **17 17 01.4 -3.3**
JFR Furan 7.94 249 P **Pn** **17 15 43.5 +2.2**
TYV Tymovskoe 7.95 307 *e*P **Pn** **17 15 43.0 +1.6**
TYV AMB AMB 17 15 44.0
comp=Z,30nm,0.8s
TYV AMS AMS 17 18 44.0
comp=Z,1μm,18.0s
TYV AMS AMS 17 18 44.0
comp=Z,1μm,20.0s
TYV AMS AMS 17 39 40.0
comp=Z,500nm,16.0s
JAB Ashibetsu 8.03 252 P **Pn** **17 15 45.9 +3.5**
JEM Erimo 8.21 240 P **Pn** **17 15 45.6 +0.7**
JEM *e*S **Sn** **17 17 14.0 -2.2**
JBT2 Biratori 2 8.28 247 P **Pn** **17 15 46.6 +0.7**
JNBK Urakawa-nobuka 8.30 243 P **Pn** **17 15 45.4 -0.8**
JNBK *e*S **Sn** **17 17 13.9 -4.6**
JEW Eniwo 8.83 249 P **Pn** **17 15 53.5 0.0**
JNB Noboribetsu 9.28 248 P **Pn** **17 16 00.2 +0.6**
JNB *e*S **Sn** **17 17 40.9 -1.6**
OKH Okha 9.44 322 *e*P **Pn** **17 16 10.4 +8.7**
OKH *e*L 17 18 36.0
OKH AMS AMS 17 20 21.4
comp=Z,600nm,12.0s
OKH AMS AMS 17 20 21.4
comp=Z,1μm,14.0s
JKB Kayabe 9.59 245 P **Pn** **17 16 03.2 -0.6**
JKB *e*S **Sn** **17 17 45.2 -4.8**
JSH Shimam 9.84 251 P **Pn** **17 16 08.5 +1.2**
JYM2 Yakumo 2 9.88 248 P **Pn** **17 16 08.1 +0.2**
JANG Nango 10.20 237 P **Pn** **17 16 09.5 -2.7**
JANG *e*S **Sn** **17 17 54.6 -10**
JTM Tenmabayashi 10.20 240 P **Pn** **17 16 10.9 -1.3**
JTM *e*S **Sn** **17 17 56.1 -9.0**
NKL Nikolayevsk 10.22 315 *e*P **Pn** **17 16 09.0 -3.4**
NKL AMB AMB 17 16 12.0
comp=Z,86nm,1.0s
NKL *e*L 17 19 08.0
NKL AMS AMS 17 20 34.0
comp=Z,500nm,16.0s
NKL AMS AMS 17 20 34.0
comp=Z,1μm,16.0s
JTH Tanohata 10.29 234 P **Pn** **17 16 10.2 -3.2**
JTH *e*S **Sn** **17 17 57.4 -10**
JOSM Okushiri--Mats 10.48 250 P **Pn** **17 16 16.6 +0.6**
OFUJ Ofunato 11.00 231 P **Pn** **17 16 20.4 -2.8**
OFUJ *e*S **Sn** **17 18 15.1 -10**
JRG Rokugo 11.36 236 P **Pn** **17 16 26.2 -1.8**
JIO Ouri 11.63 230 P **Pn** **17 16 28.8 -2.9**
JIO *e*S **Sn** **17 18 29.9 -10**
JYA Atsumi 12.43 235 P **Pn** **17 16 40.4 -2.2**
JYA *e*S **Sn** **17 18 53.2 -6.3**
JFK Kawauchi 12.69 228 *e*S **Sn** **17 18 56.5 -10**
JFY Yanaizu 13.28 231 P **Pn** **17 16 52.4 -1.8**
MAJO Matsushiro 14.73 233 *e*P **Pn** **17 17 11.6 -2.1**
MAJO pmax pmax
comp=Z,29nm,0.6s
MAJO Matsushiro 14.73 233 *e*P **Pn** **17 17 11.6 -2.1**
comp=Z,29nm,0.6s
MAJO *e*Pn **Pn** **17 17 20.5 +6.8**
MAT Matsushiro 14.73 233 P **Pn** **17 17 12.5 -1.2**
MJAR Matsushiro Arr 14.73 233 P **Pn** **17 17 11.6 -2.1**
comp=Z,0.3nm,0.3s,baz=28,slow=12,SNR=14
VLA Vladivostok 15.16 265 *e*P **Pn** **17 17 22.5 +3.1**
VLA MLR MLR
comp=Z,300nm,16.0s
MDJ Mudanjiang 16.30 272 P **Pn** **17 17 35.5 +1.6**
MDJ AMB AMB
comp=Z,7.0nm,1.2s
MDJ AMB AMB
comp=Z,33nm,3.8s
MDJ Mudanjiang 16.30 272 *e*Pn **Pn** **17 17 33.4 -0.6**
comp=Z,16nm,0.9s
MDJ *e* 17 17 51.1
SEY Seymchan 16.45 359 *i*P **Pn** **17 17 37.0 +1.3**
CN2 Changchun 19.39 272 *e*P **Pn** **17 18 13.3 +1.5**
YAK Yakutsk 20.37 328 *e*P **P** **17 18 20.8 0.0**
YAK *e* 17 18 35.0
YAK *e*S **S** **17 22 06.2 +0.1**
YAK pmax pmax
comp=Z,10.0nm,0.6s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax
comp=N,74nm,2.2s
YAK smax
comp=E,40nm,2.0s
YAK MLR MLR
comp=Z,211nm,22.0s,MS3.5
YAK MLR MLR
comp=N,178nm,15.0s
YAK MLR MLR
comp=E,68nm,12.0s
YAK Yakutsk 20.37 328 *e*P **P** **17 18 19.0 -1.8**
comp=E,54nm,0.8s
YAK *e* 17 18 24.7
KSRS Korea Array 20.47 253 P **P** **17 18 23.8 +1.7**
comp=E,9.0nm,0.8s,baz=56,slow=11,SNR=39
KSRS PcP PcP 17 22 33.6 +1.3
comp=E,1.0nm,0.8s,baz=62,slow=3.0,SNR=4.6
KSRS Korea Array 20.47 253 P **P** **17 18 23.8 +1.7**
KSRS 17 22 33.6
KSRS pmax pmax
comp=Z,9.0nm,0.8s
INCN Inchon 21.31 254 *e*P **P** **17 18 34.2 +3.1**
comp=Z,12nm,0.7s,mb4.3
HIA Hailar 22.19 289 P **P** **17 18 37.8 -2.6**
HIA pmax pmax
comp=Z,11nm,0.8s
HIA Hailar 22.19 289 P **P** **17 18 37.8 -2.6**
comp=Z,11nm,0.8s,mb4.3
BILL Bilibino 22.68 13 *e*P **P** **17 18 44.9 -0.5**
BILL *e* 17 19 09.3
BILL *e* 17 22 35.2
BILL *e*SS 17 23 24.0
BILL pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
BILL Bilibino 22.68 13 *e*P **P** **17 18 44.5 -0.8**
comp=Z,12nm,1.3s,mb4.2
DL2 Dalian 23.97 263 P **P** **17 18 58.5 +0.2**
DL2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
BOD Bodaibo 25.93 310 *e*P **P** **17 19 16.1 +0.2**
NJ2 Nanjing 29.67 253 *e*P **P** **17 19 54.5 +4.9**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.1
HHC Hu-ho-hao-te 30.04 274 *e*P **P** **17 19 53.8 +1.0**
HHC AP pP 17 20 11.5 +6.2
HHC XP sP 17 20 20.5 +10
HHC PP PP 17 20 53.5 -7.6
HHC PCP PcP 17 22 55.3 +1.6
HHC S **S** **17 24 43.3 -4.3**
HHC XS sS 17 25 15.0 +6.4
HHC SS SS 17 26 24.0 -33
HHC SCP ScP 17 26 30.0 -1.7
HHC PCS PcS 17 26 38.0 +1.0
HHC SCS ScS 17 30 24.3 -2.8
HHC AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,160nm,5.5s
HHC LR LR
comp=N,185nm,14.3s,MS4.0
HHC LR LR
comp=E,209nm,15.5s,MS4.0
ULN Ulaanbaatar 30.72 289 *e*P **P** **17 19 59.5 +0.8**
ULN pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
ULN Ulaanbaatar 30.72 289 *e*P **P** **17 19 59.5 +0.8**
comp=Z,8.8nm,0.9s,mb4.6
SONM Songino Array 31.16 290 P **P** **17 20 02.0 -0.5**
comp=Z,3.4nm,1.1s,mb4.1,baz=66,slow=7.9,SNR=6.4
SONM PcP PcP 17 22 56.9 +0.5
comp=Z,1.2nm,0.8s,baz=174,slow=1.5,SNR=4.8
WHN Wuhan 33.61 255 P **P** **17 20 26.8 +2.6**
KDAK Kodiak Island 34.46 51 P **P** **17 20 30.8 -0.4**
comp=Z,11nm,0.7s,mb4.9,baz=256,slow=2.0,SNR=7.4
KTH Kantishna Hill 35.11 40 *e*P **P** **17 20 37.3 +0.5**
comp=Z,16nm,1.0s,mb4.9
COLD Coldfoot 35.67 34 *e*P **P** **17 20 41.4 -0.2**
comp=Z,11nm,1.1s,mb4.7
MCK McKinley 36.00 40 *e*P **P** **17 20 44.2 -0.2**
MCK pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MCK McKinley 36.00 40 *e*P **P** **17 20 44.2 -0.2**
comp=Z,10nm,1.1s,mb4.7
COLA College 36.48 38 *e*P **P** **17 20 48.6 +0.1**
COLA pmax pmax
comp=Z,11nm,0.7s,mb4.9
COLA College 36.48 38 *e*P **P** **17 20 48.6 0.0**
comp=Z,11nm,0.7s,mb4.9
LZH Lanzhou 37.63 272 *e*P **P** **17 21 00.3 +1.7**
LZH AP pP 17 21 17.5 +6.2
LZH XP sP 17 21 22.5 +5.6
LZH PP PP 17 22 31.0 +6.0
LZH *e*S **S** **17 26 41.0 -3.8**
LZH XS sS 17 27 14.0 +7.9
LZH SS SS 17 29 18.8 -12
LZH AMB AMB
comp=Z,26nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,120nm,4.9s
LZH LR LR
comp=N,730nm,12.2s
LZH LR LR
comp=Z,900nm,13.0s,MS4.8
GTA Gaotai 38.74 279 *e*P **P** **17 21 09.0 +1.1**
GTA AP pP 17 21 26.8 +6.1
GTA XP sP 17 21 37.0 +11
GTA PP PP 17 22 43.8 +6.6
GTA PCP PcP 17 23 20.5 +1.8
GTA S **S** **17 27 00.5 -1.1**
GTA XS sS 17 27 29.8 +6.8
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.2
GTA AMB AMB
comp=Z,211nm,9.0s
GTA LR LR
comp=N,109nm,12.9s,MS4.0
GTA LR LR
comp=E,140nm,15.0s,MS4.0
GTA LR LR
comp=Z,103nm,16.8s,MS3.7
EGAK Eagle 39.35 38 *e*P **P** **17 21 12.1 -0.6**
comp=Z,8.9nm,0.9s,mb4.5
EGAK *e* pP 17 21 20.4 -5.1
DAWY Dawson 40.19 39 *e*P **P** **17 21 19.0 -0.6**
CD2 Chengdu 40.59 265 *e*P **P** **17 21 24.5 +1.1**
CD2 AP pP 17 21 43.0 +6.8
CD2 XP sP 17 21 52.5 +11
CD2 PP PP 17 23 02.8 +5.3
CD2 S **S** **17 27 28.5 -1.0**
CD2 SS SS 17 30 26.3 -4.3
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,60nm,5.8s
GYA Guiyang 41.40 257 P **P** **17 21 30.5 +0.4**
GYA AP pP 17 21 49.0 +6.1
GYA XP sP 17 21 59.0 +10
GYA PP PP 17 23 12.5 +6.2
GYA PCP PcP 17 23 30.5 +3.1
GYA SCP ScP 17 27 12.0 -1.3
GYA S **S** **17 27 38.8 -2.8**
GYA SS SS 17 30 41.5 -5.3
GYA SCS ScS 17 31 26.0 -3.6
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GYA AMB AMB
comp=Z,90nm,5.4s
GYA LR LR
comp=N,220nm,17.1s,MS4.2
GYA LR LR
comp=E,150nm,16.6s,MS4.2
GYA LR LR
comp=Z,190nm,17.3s,MS4.0
ZALV Zalesovo Beam 42.53 306 P **P** **17 21 37.5 -1.5**
comp=Z,2.0nm,0.5s,mb4.1,baz=62,slow=6.5,SNR=9.9
ZALV PcP PcP 17 23 31.0 +0.3
comp=Z,4.8nm,0.8s,baz=69,slow=2.9,SNR=14
ZAL Zalesovo 42.55 306 P **P** **17 21 37.5 -1.6**
ZAL 17 23 31.0
WMQ Urumqi 44.76 291 P **P** **17 21 57.5 +0.5**
WMQ AP pP 17 22 16.5 +6.5
WMQ XP sP 17 22 25.5 +10
WMQ AMB AMB
comp=Z,8.0nm,0.5s,mb4.8
KMI Kunming 44.94 259 P **P** **17 21 59.5 +0.9**
KMI AP pP 17 22 19.0 +7.4
KMI XP sP 17 22 27.3 +10
KMI PP PP 17 23 46.8 +2.6
KMI S **S** **17 28 28.0 -5.4**
KMI XS sS 17 29 02.0 +7.0
KMI AMB AMB
comp=Z,8.0nm,1.3s,mb4.4
KMI AMB AMB
comp=Z,124nm,9.5s
KMI LR LR
comp=N,125nm,5.7s
KMI LR LR
comp=E,72nm,5.3s
KMI LR LR
comp=Z,167nm,12.7s,MS4.2
MK31 Makanchi Array 46.81 297 *e*P **P** **17 22 11.7 -1.5**
MKAR Makanchi Array 46.81 297 P **P** **17 22 12.2 -1.0**
comp=Z,2.9nm,0.7s,mb4.3,baz=62,slow=7.3,SNR=20
MKAR PcP PcP 17 23 45.3 -0.2
comp=Z,3.3nm,0.8s,baz=59,slow=4.7,SNR=8.1
MKAR LR LR 17 42 59.9
comp=Z,337nm,18.5s,MS4.3,baz=249,slow=38
MKAR Makanchi Array 46.81 297 P **P** **17 22 12.2 -1.0**
MKAR 17 23 45.3
KURK Kurchatov 47.27 304 *e*P **P** **17 22 14.7 -2.0**
KURK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KURK Kurchatov 47.27 304 *e*P **P** **17 22 14.7 -2.0**
comp=Z,7.5nm,0.8s,mb4.7
LSA Lhasa 50.02 273 P **P** **17 22 40.3 +2.2**
LSA Lhasa 50.02 273 *e*P **P** **17 22 40.0 +1.9**
LSA pmax pmax
comp=Z,15nm,0.6s,mb5.2
LSA Lhasa 50.02 273 *e*P **P** **17 22 40.0 +2.0**
comp=Z,15nm,0.6s,mb5.2
BVAR Borovoye Array 50.80 309 P **P** **17 22 42.9 -0.7**
comp=Z,2.8nm,0.7s,mb4.3,baz=52,slow=8.5,SNR=14
BVAR PcP PcP 17 24 00.1 +0.2
comp=Z,3.7nm,0.7s,baz=64,slow=3.4,SNR=9.1
BRVK Borovoye 50.84 309 *e*P **P** **17 22 42.5 -1.4**
BRVK *e* 17 23 59.2
BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BRVK Borovoye 50.84 309 *e*P **P** **17 22 42.5 -1.4**
comp=Z,2.5nm,0.7s,mb4.2
BRVK *e*PcP PcP 17 23 59.2 -0.8
YKA Yellowknife Ar 51.27 36 P **P** **17 22 47.4 +0.4**
comp=Z,1.5nm,0.7s,mb4.0,baz=295,slow=6.8,SNR=5.6
YKA pP pP 17 23 00.3 +0.2
comp=Z,1.9nm,0.6s,baz=297,slow=6.9,SNR=7.0
YKA PcP PcP 17 24 02.6 +1.1
comp=Z,0.9nm,0.9s,baz=308,slow=3.8,SNR=3.4
YKA Yellowknife Ar 51.27 36 P **P** **17 22 47.4 +0.4**
YKA pP pP 17 23 00.3 +0.2
YKA PcP PcP 17 24 02.6 +1.2
CHTO Chiang Mai 51.80 257 *e*P **P** **17 22 52.9 +1.3**
CHTO pmax pmax
comp=Z,12nm,0.9s,mb4.8
CHTO Chiang Mai 51.80 257 *e*P **P** **17 22 52.9 +1.3**
comp=Z,12nm,0.9s,mb4.8
CM31 Chiang Mai Arr 52.06 256 *e*P **P** **17 22 54.7 +1.3**
CM31 *e* pP 17 23 08.7 +2.1
CMAR Chiang Mai Arr 52.06 256 P **P** **17 22 55.2 +1.8**
comp=Z,6.4nm,0.8s,mb4.6,baz=36,slow=7.5,SNR=47
CMAR PcP PcP 17 24 07.0 +2.0
comp=Z,1.5nm,0.9s,baz=35,slow=3.3,SNR=4.2
CMAR LR LR 17 47 47.2
comp=Z,64nm,18.7s,MS3.7,baz=75,slow=39
CMAR Chiang Mai Arr 52.06 256 P **P** **17 22 55.3 +1.8**
CMAR 17 24 07.1
TKM2 Tokmak 2 52.86 296 P **P** **17 22 58.3 -0.8**
TKM2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TKM2 Tokmak 2 52.86 296 P **P** **17 22 58.3 -0.8**
comp=Z,3.8nm,0.9s,mb4.3
TAPN Taplejung 53.84 273 *e*P **P** **17 23 08.1 +1.5**
comp=Z,43nm,0.8s,mb5.4
EKS2 Erkin-Say 54.13 297 *e*P **P** **17 23 08.2 -0.2**
comp=Z,4.4nm,0.8s,mb4.4
ODAN Odare 54.38 273 *e*P **P** **17 23 11.7 +1.3**
comp=Z,50nm,1.1s,mb5.3
AML Almayashu 54.47 296 *e*P **P** **17 23 11.4 +0.5**
comp=Z,2.3nm,0.8s,mb4.2
JIRN Jiri 54.70 274 *e*P **P** **17 23 14.3 +1.5**
GUN Gumba 54.75 275 *e*P **P** **17 23 14.1 +0.9**
comp=Z,46nm,0.8s,mb5.5
RAMN Ramite 54.86 274 *e*P **P** **17 23 14.7 +0.7**
comp=Z,116nm,0.9s,mb5.9
ARU Arti 55.00 317 P **P** **17 23 24.0 +9.5**
ARU Arti 55.00 317 *e*P **P** **17 23 12.7 -1.9**
comp=Z,5.6nm,0.9s,mb4.6
KKN Kakani 55.24 275 *e*P **P** **17 23 17.5 +0.8**
comp=Z,65nm,0.7s,mb5.8
PKI Pulchoki 55.29 275 *e*P **P** **17 23 18.0 +0.9**
comp=Z,48nm,0.8s,mb5.6
PKI Pulchoki 55.29 275 *e*P **P** **17 23 18.3 +1.2**
PKIN Phulchoki 55.30 275 *e*P **P** **17 23 18.3 +1.2**
DMN Daman 55.48 275 *e*P **P** **17 23 19.4 +1.0**
comp=Z,84nm,0.8s,mb5.8
GKN Gorkha 55.55 276 *e*P **P** **17 23 19.7 +0.8**
comp=Z,33nm,1.0s,mb5.3
DANN Dangsing 55.94 277 *e*P **P** **17 23 23.2 +1.5**
comp=Z,91nm,0.7s,mb5.9
KOLN Koldanda 56.41 276 *e*P **P** **17 23 26.2 +1.1**
comp=Z,60nm,0.8s,mb5.7
EDM Edmonton 56.67 46 *e*P **P** **17 23 26.8 +0.3**
EDM *e* pP 17 23 40.8 +1.0
ARCES ARCESS Array B 57.98 341 P **P** **17 23 34.1 -1.4**
comp=Z,3.3nm,1.0s,mb4.3,baz=46,slow=6.9,SNR=5.8
AKTK Aktyubinsk 58.68 312 P **P** **17 23 39.7 -1.0**
AKTK PcP PcP 17 24 29.6 -0.6
AKTO Aktyubinsk 58.68 312 P **P** **17 23 39.7 -1.0**
comp=Z,1.0nm,0.5s,mb4.1,baz=52,slow=12,SNR=3.6
AKTO PcP PcP 17 24 29.6 -0.6
comp=Z,2.6nm,0.8s,baz=6.3,slow=1.7,SNR=5.0
WVOR Wild Horse Val 60.11 59 *e*P **P** **17 23 49.0 -1.7**
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
WVOR Wild Horse Val 60.11 59 *e*P **P** **17 23 49.0 -1.7**
comp=Z,4.9nm,0.8s,mb4.6
MSO Missoula 60.12 52 P **P** **17 23 50.6 -0.1**
comp=Z,4.9nm,1.1s,mb4.5
SUMG Summit 60.95 4 *e*P **P** **17 23 55.8 -0.1**
comp=Z,5.0nm,0.9s,mb4.6
FFC Flin Flon 61.09 40 P **P** **17 23 56.6 -0.5**
FFC pmax pmax
comp=Z,11nm,0.9s,mb5.0
FFC Flin Flon 61.09 40 P **P** **17 23 56.6 -0.6**
comp=Z,11nm,0.9s,mb5.0
JOF Joensuu 61.42 334 *e*p **P** **17 23 58.4 -0.9**
comp=Z,3.5nm,0.7s,mb4.6
JOF Joensuu 61.42 334 *e*P **P** **17 23 58.4 -0.9**
JOF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
FCC Fort Churchill 61.60 33 P **P** **17 24 00.0 -0.6**
FCC pmax pmax
comp=Z,13nm,0.7s,mb5.2
FCC Fort Churchill 61.60 33 P **P** **17 23 60.0 -0.6**
comp=Z,12nm,0.7s,mb5.2
EGMT Eagleton 61.62 49 *e*P **P** **17 24 01.5 +0.7**
comp=Z,19nm,1.5s,mb5.0
EGMT *e* pP 17 24 11.2 -3.1
EGMT *e* pP 17 24 15.9 +1.6
KBL Kabul 61.90 292 *e*P **P** **17 24 02.2 -0.8**
comp=Z,8.6nm,0.8s,mb4.9
NVAR Mina Array Bea 62.78 62 P **P** **17 24 10.3 +1.5**
comp=Z,1.1nm,0.7s,mb4.1,baz=284,slow=7.3,SNR=4.3
NVAR pP pP 17 24 24.3 +2.0
comp=Z,1.0nm,0.5s,baz=230,slow=34,SNR=8.2
KAF Kangasniemi 63.54 335 *e*p **P** **17 24 12.0 -1.4**
comp=Z,4.0nm,0.6s,mb4.6
KAF Kangasniemi 63.54 335 *e*P **P** **17 24 12.0 -1.4**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
RRI2 Red Ridge 63.74 54 *e*P **P** **17 24 16.4 +1.4**
comp=Z,9.0nm,0.8s,mb4.8
RRI2 *e* pP 17 24 25.5 -3.1
TPAW Teton Pass 63.85 54 *e*P **P** **17 24 17.8 +2.0**
comp=Z,11nm,0.9s,mb4.9
TPAW *e* pP 17 24 31.6 +2.3
REDW Red Top Meadow 63.99 54 *e*P **P** **17 24 17.7 +1.0**
comp=Z,26nm,1.7s,mb5.0
DUG Dugway 64.92 57 P **P** **17 24 22.7 -0.1**
DUG pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
DUG Dugway 64.92 57 P **P** **17 24 22.7 -0.2**
comp=Z,7.2nm,0.9s,mb4.7
TPNV Topopah Spring 64.98 62 *e*P **P** **17 24 23.3 +0.1**
TPNV pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
TPNV Topopah Spring 64.98 62 *e*P **P** **17 24 23.3 +0.1**
comp=Z,6.1nm,0.9s,mb4.6
PDAR Pinedale Array 65.10 54 P **P** **17 24 24.8 +0.9**
comp=Z,1.8nm,0.9s,mb4.1,baz=349,slow=3.0,SNR=3.7
PDAR pP pP 17 24 38.8 +1.3
comp=Z,4.5nm,0.9s,baz=321,slow=1.9,SNR=9.0
OBN Obninsk 65.35 325 *e*P **P** **17 24 25.0 -0.3**
OBN *e* 17 26 46.5
OBN *e*SS SS 17 37 18.1 -0.1
OBN pmax pmax
comp=Z,5.0nm,0.9s,mb4.5

ULM Lac du Bonnet 66.87 41 P **P 17 24 34.9 -0.3**
comp=Z,4.1nm,0.8s,mb4.5,baz=320,slow=11,SNR=4.3
ULM Lac du Bonnet 66.87 41 P **P 17 24 34.9 -0.3**
RSSD Black Hills 67.18 50 *e*P **P 17 24 37.3 +0.1**
RSSD *e* pP 17 24 51.7 +0.9
RSSD pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
RSSD Black Hills 67.18 50 *e*P **P 17 24 37.3 +0.1**
comp=Z,5.8nm,1.0s,mb4.6
RSSD *e* pP 17 24 51.7 +0.8
WRAB Tennant Creek 68.19 199⇓*e*P **P 17 24 43.5 -0.3**
WRAB Tennant Creek 68.19 199 P **P 17 24 43.9 +0.1**
comp=Z,5.0nm,0.9s,mb4.5
WRA Warramunga Arr 68.21 199 P **P 17 24 44.1 +0.3**
comp=Z,2.3nm,0.9s,mb4.2,baz=19,slow=6.7,SNR=17
WRA Warramunga Arr 68.21 199 *i* P **P 17 24 44.0 +0.2**
WRA pmax pmax
comp=Z,2.0nm,0.9s
NB2 NORSAR Subarra 68.36 341 P **P 17 24 43.4 -1.0**
comp=Z,11nm,0.7s,mb5.0,baz=28,slow=6.5
NOA NORSAR Array B 68.36 341 P **P 17 24 43.7 -0.7**
comp=Z,12nm,0.8s,mb5.0,baz=28,slow=6.3,SNR=25
FITZ Fitzroy Crossi 68.81 208 P **P 17 24 48.9 +1.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=46,slow=4.8,SNR=8.4
FITZ Fitzroy Crossi 68.81 208 *e* **P 17 24 48.6 +0.9**
KIV Kislovodsk 70.77 314 *e*P **P 17 25 02.1 +2.6**
KIV *e*S S 17 34 09.2 -1.2
KIV pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KIV Kislovodsk 70.77 314 P **P 17 24 58.7 -0.9**
comp=Z,10nm,0.9s,mb4.8
ECSD EROS,Sioux Fal 71.24 46 *e*P **P 17 25 00.8 -1.6**
comp=Z,14nm,1.4s,mb4.7
ECSD *e* pP 17 25 15.6 -0.5
TUC Tucson 71.42 63 P **P 17 25 05.6 +1.9**
TUC pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
TUC Tucson 71.42 63 P **P 17 25 05.6 +1.9**
comp=Z,1.2nm,0.6s,mb4.0
AKASG Malin Array Be 71.59 326 P **P 17 25 03.0 -1.3**
comp=Z,7.7nm,0.5s,mb4.9,baz=34,slow=6.2,SNR=22
AKBB Malin Array Si 71.59 326 *e*P **P 17 25 03.0 -1.4**
KIEV Kiev 71.60 326 *e*P **P 17 25 02.9 -1.5**
KIEV pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
KIEV Kiev 71.60 326 *e*P **P 17 25 02.9 -1.6**
comp=Z,10nm,0.6s,mb4.9
ASAR Alice Springs 71.90 198 P **P 17 25 08.0 +1.6**
comp=Z,2.1nm,0.6s,mb4.3,baz=12,slow=5.9,SNR=49
SCIA State Center 74.27 45 *e*P **P 17 25 19.8 -0.5**
comp=Z,9.6nm,0.7s,mb4.8
SCIA *e* pP 17 25 34.2 +0.1
BSEG Bad Segeberg 74.94 338 *e*P **P 17 25 24.1 0.0**
BSEG pmax pmax
comp=Z,14nm,1.1s,mb4.8
BSEG Bad Segeberg 74.94 338 *e*P **P 17 25 24.1 0.0**
comp=Z,14nm,1.1s,mb4.8
RUE Ruedersdorf 75.30 335 *e*P **P 17 25 26.1 -0.1**
comp=Z,22nm,0.7s,mb5.2
STHS Stebnicka Huta 75.58 330 *i* P **P 17 25 28.3 +0.5**
STHS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
STHS Stebnicka Huta 75.58 330 *i* P **P 17 25 28.3 +0.5**
comp=Z,7.8nm,1.0s,mb4.6
KOLS Kolonicke sedl 75.63 329 *e*P **P 17 25 27.3 -0.8**
BURAR Bucovina Array 75.63 326⇑*i*P **P 17 25 28.3 +0.1**
BURAR Bucovina Array 75.63 326 ⇑P **P 17 25 28.3 +0.2**
CRVS Cervenica-Dubn 75.94 329 *e*P **P 17 25 28.8 -1.1**
OKC Ostrava-Krasne 76.27 332 *e*P **P 17 25 31.8 +0.1**
NRDL Niedersach Rie 76.30 338 *e*P **P 17 25 31.7 -0.1**
comp=Z,9.0nm,0.9s,mb4.7
UPC Upice 76.37 333 *e*P **P 17 25 32.3 0.0**
DPC Dobruska-Polom 76.41 333 *e*P **P 17 25 32.6 +0.1**
ODB Odobesti 76.42 324⇑*i*P **P 17 25 34.6 +1.9**
MORC Moravsky Berou 76.52 332⇑*i*P **P 17 25 33.7 +0.6**
MORC Moravsky Berou 76.52 332 *e*P **P 17 25 32.5 -0.7**
comp=Z,13nm,0.9s,mb4.9
CLL Collm 76.57 335⇓*i*P **P 17 25 32.6 -0.8**
CLL *e* pP 17 25 47.0 -0.2
CLL pmax pmax
comp=Z,19nm,0.8s,mb5.1
CLL Collm 76.57 335 *e*P **P 17 25 32.8 -0.6**
comp=Z,19nm,0.8s,mb5.1
CLL Collm 76.57 335⇓*i*P **P 17 25 32.6 -0.8**
comp=Z,19nm,0.8s,mb5.1
CLL *e*pP pP 17 25 47.0 -0.2
KECS Kecovo 76.64 330 *e*P **P 17 25 33.4 -0.4**
KECS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KECS Kecovo 76.64 330 *e*P **P 17 25 33.4 -0.4**
comp=Z,4.5nm,1.0s,mb4.3
BRG Berggiesshubel 76.68 335 *e*P **P 17 25 33.4 -0.6**
BRG *e* 17 25 39.1
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRG Berggiesshubel 76.68 335 *e*P **P 17 25 33.6 -0.4**
comp=Z,10.0nm,1.5s,mb4.5
BRG Berggiesshubel 76.68 335 *e*P **P 17 25 33.4 -0.6**
comp=Z,4.3nm,0.9s,mb4.4
BRG *e* 17 25 39.1
comp=Z,4.2nm,0.9s
WMOK Wichita Mounta 76.71 53 *e*P **P 17 25 27.2 -7.3**
WMOK pmax pmax
comp=Z,51nm,1.3s,mb5.3
WMOK Wichita Mounta 76.71 53 *e*P **P 17 25 27.2 -7.3**
comp=Z,51nm,1.3s,mb5.3
TIRR Tirgusor 76.94 323⇑*i*P **P 17 25 36.0 +0.4**
TIRR Tirgusor 76.94 323 ⇑P **P 17 25 36.0 +0.4**
IBBN Ibbenburen 77.07 339 *e*P **P 17 25 36.2 0.0**
comp=Z,22nm,1.2s,mb5.0
MLR Muntele Rosu 77.10 325⇓*i*P **P 17 25 37.5 +1.0**
MLR Muntele Rosu 77.10 325 ⇓P **P 17 25 37.5 +1.0**
MALT Malatya 77.11 313 *e*P **P 17 25 37.6 +0.9**
MALT pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MALT Malatya 77.11 313⇓*i*P **P 17 25 38.3 +1.6**
MALT Malatya 77.11 313 *e*P **P 17 25 37.6 +0.9**
comp=Z,8.8nm,0.9s,mb4.7
VYHS Vyhne 77.20 331 *e*P **P 17 25 37.0 0.0**
VRAC Vranov 77.23 332⇓*i*P **P 17 25 37.7 +0.5**
VRAC Vranov 77.23 332 ⇓P **P 17 25 37.7 +0.5**
DRGR 77.27 327 ⇓P **P 17 25 37.5 +0.1**
PRU Pruhonice 77.28 334 *e*P **P 17 25 37.4 0.0**
LPIG La Paz 77.46 68 LR LR 17 54 59.2
comp=Z,75nm,18.4s,MS4.0,baz=232,slow=32
VOIR 77.50 325⇑*i*P **P 17 25 39.7 +1.0**
VOIR 77.50 325 ⇑P **P 17 25 39.7 +1.0**
WERD Werda 77.53 335 *e*P **P 17 25 38.9 +0.1**
comp=Z,9.0nm,1.1s,mb4.6
MOX Moxa 77.55 336 *e*P **P 17 25 38.6 -0.3**
comp=Z,19nm,1.1s,mb4.9
MOX Moxa 77.55 336 *e*P **P 17 25 38.6 -0.3**
MOX pmax pmax
comp=Z,30nm,1.1s,mb5.1
MOX Moxa 77.55 336 *e*P **P 17 25 38.9 0.0**
comp=Z,13nm,1.0s,mb4.8
GUNZ Gunzen 77.60 335 *e*P **P 17 25 39.3 +0.1**
comp=Z,9.0nm,0.9s,mb4.7
WERN Wernitzgruen 77.66 335 *e*P **P 17 25 39.7 +0.2**
comp=Z,9.0nm,0.9s,mb4.7
NKC Novy Kostel 77.68 335 *e*P **P 17 25 39.9 +0.2**
MODS Modra-Piesok 77.82 331 *e*P **P 17 25 41.1 +0.6**
TXAR Lajitas Array 77.84 60 P **P 17 25 41.1 +0.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=303,slow=1.6,SNR=10.0
TXAR pP pP 17 25 55.5 +0.8
comp=Z,4.9nm,0.5s,baz=300,slow=4.3,SNR=11
UBBA Unterbreizbach 77.84 337 *e*P **P 17 25 40.3 -0.2**
comp=Z,6.0nm,1.0s,mb4.5
BUG Bochum--Univer 77.99 339 *e*P **P 17 25 41.2 -0.1**
comp=Z,15nm,1.1s,mb4.8
MANZ Manzenberg 78.00 335 *e*P **P 17 25 41.5 +0.1**
comp=Z,7.0nm,1.0s,mb4.5
ZST Bratislava 78.04 331 *e*P **P 17 25 42.5 +0.8**
ZST pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ZST Bratislava 78.04 331 *e*P **P 17 25 42.5 +0.8**
comp=Z,9.1nm,0.9s,mb4.7
KHC Kasperske Hory 78.33 334 *e*P **P 17 25 43.5 +0.2**
UMR Umm Al-Rimmam 78.52 301 *e*P **P 17 25 44.8 +0.2**
baz=301
UMR AMb AMB 17 25 45.8
comp=Z,47nm,0.7s,mb5.5,baz=301
GRA1 Grafenberg Arr 78.52 336 *e*P **P 17 25 44.9 +0.6**
comp=Z,23nm,0.8s,mb5.2
GRF Grafenberg Arr 78.52 336 *e*P **P 17 25 44.9 +0.6**
GRF pmax pmax
comp=Z,23nm,0.8s,mb5.2
GRF Grafenberg Arr 78.52 336 *e*P **P 17 25 44.9 +0.6**
comp=Z,23nm,0.8s,mb5.2
WET Wettzell 78.53 334 *e*P **P 17 25 44.8 +0.4**
WET pmax pmax
comp=Z,16nm,1.0s,mb4.9
WET Wettzell 78.53 334 *e*P **P 17 25 44.8 +0.4**
comp=Z,16nm,1.0s,mb4.9
GEC2 GERESS Array S 78.55 334 *e*P **P 17 25 44.0 -0.5**
GERES GERESS Array B 78.55 334 P **P 17 25 44.2 -0.3**
comp=Z,4.5nm,0.8s,mb4.5,baz=31,slow=5.2,SNR=39
MIB Mutribah 78.56 301 *e*P **P 17 25 44.8 0.0**
baz=301
MIB AMb AMB 17 25 46.0
comp=Z,65nm,0.7s,mb5.7,baz=301
BZS Buzias 78.67 327⇓*i*P **P 17 25 45.0 -0.2**
BZS Buzias 78.67 327 ⇓P **P 17 25 45.0 -0.2**
CONA Conrad Observa 78.68 332⇑*i*P **P 17 25 45.4 +0.1**
comp=Z,13nm,0.8s,mb4.9,SNR=15
BEBN Eben Emael 78.98 339 P **P 17 25 46.7 -0.1**
comp=Z,5.2nm,0.9s,mb4.5
NAY Al-Naaiem 79.02 301 *e*P **P 17 25 47.5 0.0**
baz=301
NAY AMb AMB 17 25 48.5
comp=Z,28nm,1.0s,mb5.2,baz=301
MEM Membach 79.07 339 P **P 17 25 47.3 0.0**
comp=Z,12nm,1.1s,mb4.7
RDF Al-Radifah 79.07 300 *e*P **P 17 25 48.3 +0.6**
baz=300
RDF AMb AMB 17 25 50.4
comp=Z,68nm,1.1s,mb5.5,baz=300
PKSM Moragy 79.23 329⇑*i*P **P 17 25 47.1 -1.2**
MOA Molln 79.25 333⇓*i*P **P 17 25 48.9 +0.5**
comp=Z,9.6nm,0.9s,mb4.7,SNR=10
JCT Junction City 79.28 57 *e*P **P 17 25 40.2 -8.6**
JCT pmax pmax
comp=Z,21nm,0.9s,mb5.1
JCT Junction City 79.28 57 *e*P **P 17 25 40.2 -8.6**
comp=Z,21nm,0.9s,mb5.1
BCLA Clavier 79.42 339 P **P 17 25 48.7 -0.5**
comp=Z,5.9nm,1.1s,mb4.4
MIAR Mount Ida 79.68 50 *e*P **P 17 25 56.5 +5.6**
MIAR pmax pmax
comp=Z,30nm,1.1s,mb5.1
MIAR Mount Ida 79.68 50 *e*P **P 17 25 56.5 +5.5**
comp=Z,30nm,1.1s,mb5.1
GIVF Givet 79.83 340 *e*P **P 17 25 50.7 -0.7**
FUR Furstenfeldbru 79.88 335 *e*P **P 17 25 52.1 +0.3**
FUR pmax pmax
comp=Z,20nm,1.0s,mb5.0
FUR Furstenfeldbru 79.88 335 *e*P **P 17 25 52.1 +0.3**
comp=Z,20nm,1.0s,mb5.0
DOU Dourbes 79.89 340 P **P 17 25 51.5 -0.3**
comp=Z,4.6nm,1.4s,mb4.2
STU Stuttgart 79.92 336 *e*P **P 17 25 52.1 +0.1**
comp=Z,14nm,0.9s,mb4.9
BAIF Baives 80.01 340 *e*P **P 17 25 51.8 -0.6**
comp=Z,17nm,1.2s,mb4.5
BAIF Baives 80.01 340 *e*P **P 17 25 51.8 -0.6**
BAIF pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BAIF Baives 80.01 340 *e*P **P 17 25 51.8 -0.6**
comp=Z,8.3nm,1.2s,mb4.5
SOKA Soboth 80.05 332⇑*i*P **P 17 25 52.5 -0.2**
comp=Z,16nm,0.9s,mb4.9
UALR University of 80.15 49 *e*P **P 17 25 54.1 +0.6**
comp=Z,24nm,1.0s,mb5.1
KBA Koelnbreinsper 80.23 333⇑*i*P **P 17 25 53.5 -0.1**
comp=Z,20nm,0.7s,mb5.2,SNR=11
KBA Koelnbreinsper 80.23 333⇑*i*P **P 17 25 53.5 -0.2**
KBA pmax pmax
comp=Z,20nm,0.7s,mb5.2
GOLS Golise 80.44 331 *i* P **P 17 25 54.5 -0.3**
WATA Walderalm 80.54 334⇑*i*P **P 17 25 55.1 -0.2**
comp=Z,11nm,0.6s,mb5.0
WATA Walderalm 80.54 334⇑*i*P **P 17 25 55.2 -0.1**
WATA pmax pmax
comp=Z,11nm,0.6s,mb5.0
BFO Black Forest 80.56 337 *e*P **P 17 25 55.4 0.0**
BFO pmax pmax
comp=Z,13nm,1.0s,mb4.8
BFO MLR MLR
comp=Z,800nm,21.6s,MS5.0
BFO Black Forest 80.56 337 *e*P **P 17 25 55.4 0.0**
comp=Z,13nm,1.0s,mb4.8
WTTA Wattenberg 80.58 334⇑*i*P **P 17 25 55.7 +0.1**
comp=Z,20nm,0.7s,mb5.2,SNR=18
WTTA Wattenberg 80.58 334⇑*i*P **P 17 25 55.7 +0.1**
WTTA pmax pmax
comp=Z,20nm,0.7s,mb5.2
VTS Vitosha 80.61 325⇑*i*P **P 17 25 56.4 +0.6**
VTS Vitosha 80.61 325 ⇑P **P 17 25 56.4 +0.7**
RETA Reutte 80.64 335⇓*i*P **P 17 25 55.7 -0.1**
comp=Z,8.1nm,0.8s,mb4.7
MOTA Moosalm 80.67 335⇓*i*P **P 17 25 56.3 +0.3**
comp=Z,26nm,1.1s,mb5.1
MOTA Moosalm 80.67 335⇓*i*P **P 17 25 56.3 +0.3**
MOTA pmax pmax
comp=Z,26nm,1.1s,mb5.1
CDF Champ du Feu 80.77 337 *e*P **P 17 25 56.1 -0.4**
comp=Z,31nm,1.0s,mb4.9
CDF Champ du Feu 80.77 337 *e*P **P 17 25 56.1 -0.4**
CDF pmax pmax
comp=Z,16nm,1.0s,mb4.9
CDF Champ du Feu 80.77 337 *e*P **P 17 25 56.1 -0.4**
comp=Z,16nm,1.0s,mb4.9
ECH Echery 80.98 337 *e*P **P 17 25 56.8 -0.9**
MEZF Maizieres J'vi 81.26 339 *e*P **P 17 25 58.9 -0.2**
comp=Z,23nm,0.9s,mb4.8
MEZF Maizieres J'vi 81.26 339 *e*P **P 17 25 58.9 -0.2**
comp=Z,23nm,0.9s,mb5.1
HAU Haudompre 81.39 338 *e*P **P 17 25 59.2 -0.6**
comp=Z,13nm,0.9s,mb4.6
HAU Haudompre 81.39 338 *e*P **P 17 25 59.2 -0.6**
HAU pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HAU Haudompre 81.39 338 *e*P **P 17 25 59.2 -0.6**
comp=Z,6.4nm,0.9s,mb4.5
HINF Hinteralfeld 81.43 338 *e*P **P 17 25 59.2 -0.9**
comp=Z,13nm,1.1s,mb4.5
HINF Hinteralfeld 81.43 338 *e*P **P 17 25 59.2 -0.9**
HINF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
HINF Hinteralfeld 81.43 338 *e*P **P 17 25 59.2 -0.9**
comp=Z,6.6nm,1.1s,mb4.5
OXF Oxford 81.87 48 P **P 17 25 57.5 -5.1**
comp=Z,74nm,1.0s,mb5.6
TUE Stuetta 81.97 335 *e*P **P 17 26 03.5 +0.5**
comp=Z,10nm,0.8s,mb4.8
FLN La Foliniere 82.28 342 *e*P **P 17 26 03.7 -0.8**
comp=Z,20nm,1.0s,mb4.7
FLN La Foliniere 82.28 342 *e*P **P 17 26 03.7 -0.8**
FLN pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
FLN La Foliniere 82.28 342 *e*P **P 17 26 03.7 -0.8**
comp=Z,9.8nm,1.0s,mb4.7
CSS Prodhromos 82.29 314 *e*P **P 17 26 04.2 -0.6**
comp=Z,10nm,0.8s,mb4.8
LDF La Druitiere 82.36 342 *e*P **P 17 26 04.3 -0.6**
LOR Lormes 82.70 339 *e*P **P 17 26 06.1 -0.6**
comp=Z,13nm,0.9s,mb4.7
LOR Lormes 82.70 339 *e*P **P 17 26 06.1 -0.6**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
LOR Lormes 82.70 339 *e*P **P 17 26 06.1 -0.6**
comp=Z,6.7nm,0.9s,mb4.7
GRR Gorron 82.71 343 *e*P **P 17 26 06.3 -0.5**
comp=Z,19nm,1.0s,mb4.8
GRR Gorron 82.71 343 *e*P **P 17 26 06.3 -0.5**
GRR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
GRR Gorron 82.71 343 *e*P **P 17 26 06.3 -0.5**
comp=Z,9.5nm,1.0s,mb4.8
CABF La Chapelle 82.74 338 *e*P **P 17 26 06.8 -0.2**
comp=Z,4.1nm,0.7s,mb4.3
CABF La Chapelle 82.74 338 *e*P **P 17 26 06.8 -0.2**
CABF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
CABF La Chapelle 82.74 338 *e*P **P 17 26 06.8 -0.2**
comp=Z,2.0nm,0.7s,mb4.3
SSF Saint Saulge 82.98 339 *e*P **P 17 26 07.6 -0.6**
comp=Z,5.8nm,0.8s,mb4.4
SSF Saint Saulge 82.98 339 *e*P **P 17 26 07.6 -0.6**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
SSF Saint Saulge 82.98 339 *e*P **P 17 26 07.6 -0.6**
comp=Z,2.9nm,0.8s,mb4.4
SGMF Saint Gilles 83.18 344 *e*P **P 17 26 08.6 -0.6**
ROSF Rostrenen 83.24 344 *e*P **P 17 26 08.9 -0.6**
AVF Avril sur Loir 83.27 339 *e*P **P 17 26 09.3 -0.4**
comp=Z,17nm,0.9s,mb4.8
AVF Avril sur Loir 83.27 339 *e*P **P 17 26 09.3 -0.4**
AVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
AVF Avril sur Loir 83.27 339 *e*P **P 17 26 09.3 -0.4**
comp=Z,8.6nm,0.9s,mb4.8
SMF Signal de Mont 83.29 339 *e*P **P 17 26 09.5 -0.3**
comp=Z,54nm,1.2s,mb5.2
SMF Signal de Mont 83.29 339 *e*P **P 17 26 09.5 -0.3**
SMF pmax pmax
comp=Z,27nm,1.2s,mb5.2
SMF Signal de Mont 83.29 339 *e*P **P 17 26 09.5 -0.3**
comp=Z,27nm,1.2s,mb5.2
LPL La Plagne 83.58 337 *e*P **P 17 26 11.7 +0.4**
comp=Z,6.1nm,0.7s,mb4.5
LPL La Plagne 83.58 337 *e*P **P 17 26 11.7 +0.4**
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
LPL La Plagne 83.58 337 *e*P **P 17 26 11.7 +0.4**
comp=Z,3.0nm,0.7s,mb4.5
LPG La Plagne 83.59 337 *e*P **P 17 26 11.9 +0.5**
comp=Z,15nm,1.1s,mb4.8
LPG La Plagne 83.59 337 *e*P **P 17 26 11.9 +0.5**
LPG pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
LPG La Plagne 83.59 337 *e*P **P 17 26 11.9 +0.5**
comp=Z,7.6nm,1.1s,mb4.7
BGF Bois d'Agland 83.61 340 *e*P **P 17 26 11.1 -0.3**
TCF Toulx Ste Croi 84.02 340 *e*P **P 17 26 13.1 -0.4**
MFF Saint Martin d 84.25 342 *e*P **P 17 26 14.2 -0.5**
MBDF Montbardon 84.30 336 *e*P **P 17 26 15.1 +0.1**
comp=Z,7.2nm,0.9s,mb4.5
MBDF Montbardon 84.30 336 *e*P **P 17 26 15.1 +0.1**
MBDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MBDF Montbardon 84.30 336 *e*P **P 17 26 15.1 +0.1**
comp=Z,3.6nm,0.9s,mb4.5
ORIF Oris-en-Rattie 84.36 337 *e*P **P 17 26 15.6 +0.3**
comp=Z,10.0nm,0.8s,mb4.7
ORIF Oris-en-Rattie 84.36 337 *e*P **P 17 26 15.6 +0.3**
ORIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
ORIF Oris-en-Rattie 84.36 337 *e*P **P 17 26 15.6 +0.3**
comp=Z,5.0nm,0.8s,mb4.7
SSB Saint Sauveur 84.38 338 *e*P **P 17 26 15.2 -0.2**
VIVF Saint-Julien-l 84.74 338 *e*P **P 17 26 17.3 +0.1**
comp=Z,17nm,1.1s,mb4.8
VIVF Saint-Julien-l 84.74 338 *e*P **P 17 26 17.3 +0.1**
VIVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
VIVF Saint-Julien-l 84.74 338 *e*P **P 17 26 17.3 +0.1**
comp=Z,8.6nm,1.1s,mb4.8
CAF Calviac 85.33 340 *e*P **P 17 26 19.8 -0.4**
LFF La Frestale 85.63 340 *e*P **P 17 26 20.8 -0.9**
LMR La Mourre 85.65 336 *e*P **P 17 26 21.4 -0.4**
comp=Z,26nm,1.0s,mb5.1
LMR La Mourre 85.65 336 *e*P **P 17 26 21.4 -0.4**
LMR pmax pmax
comp=Z,13nm,1.0s,mb5.1
LMR La Mourre 85.65 336 *e*P **P 17 26 21.4 -0.4**
comp=Z,13nm,1.0s,mb5.1
LASF Ste Croix 85.68 338 *e*P **P 17 26 22.3 +0.4**
comp=Z,31nm,1.3s,mb5.1
MTLF Montolieu 86.78 339 *e*P **P 17 26 26.5 -0.9**
comp=Z,6.8nm,0.9s,mb4.6
MTLF Montolieu 86.78 339 *e*P **P 17 26 26.5 -0.9**
MTLF pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
MTLF Montolieu 86.78 339 *e*P **P 17 26 26.5 -0.9**
comp=Z,3.4nm,0.9s,mb4.6
TORD Torodi Ar. Bea 115.15 329 PKP PKiKP 17 32 24.0 -0.7
comp=Z,0.2nm,0.6s,baz=32,slow=1.0,SNR=4.9
TORD pPKP 17 32 39.0
comp=Z,0.2nm,0.5s,baz=1.0,slow=2.0,SNR=2.1
BDFB Brasilia 144.69 36 PKP PKPdf 17 33 18.9 -1.1
comp=Z,2.7nm,0.8s,baz=164,slow=23,SNR=6.6
CFAA Coronel Fontan 145.30 79 PKPbc PKPbc 17 33 20.4 -0.1
comp=Z,1.6nm,0.8s,baz=293,slow=2.4,SNR=22
CFAA Coronel Fontan 145.30 79 PKPbc PKPbc 17 33 20.4 -0.1
PLCA Paso Flores 148.45 95 PKPbc PKPbc 17 33 30.4 +1.1
comp=Z,3.9nm,0.9s,baz=261,slow=4.8,SNR=7.2
CPUP Villa Florida 148.81 60 PKPbc PKPbc 17 33 31.1 +0.5
comp=Z,3.7nm,0.7s,baz=279,slow=3.2,SNR=12
CPUP Villa Florida 148.81 60 *e*PKPdf PKPdf 17 33 27.1 +0.4
CPUP *e*PKPbc PKPbc 17 33 30.6 0.0
CPUP PKPbc PKPbc 17 33 31.1 +0.5
SNAA Sanae 152.26 196 *e*PKPdf PKPbc 17 33 37.3 -0.1
SNAA *e* 17 33 52.6
SNAA *e* 17 33 54.0
SNAA *e* 17 34 03.4
SNAA Sanae 152.26 196 *e*PKPbc PKPbc 17 33 37.1 -0.3
VNA2 Neumayer--Watz 153.71 195 *e*PKPdf PKPbc 17 33 41.3 +0.7
VNA2 *e* 17 33 55.0
VNA2 *e* 17 33 56.4
VNA2 *e* 17 34 10.0
VNA3 Neumayer Olymp 153.81 193 *e*PKPdf PKPbc 17 33 40.9 +0.1
VNA3 *e* 17 33 54.7
VNA3 *e* 17 33 56.4
VNA3 *e* 17 34 10.1
VNA1 Neumayer--Stat 154.10 194 *e*PKPdf PKPab 17 33 56.8 +1.5
VNA1 *e* 17 33 58.3
VNA1 *e* 17 34 11.2

NEIC 25 17:30:01.0,3825S×17627E,h130km,MG3.9(WEL)**, After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARZ	**Kaharoa**	**0.23**	**355**	P	Pn	17 30 19.3	+0.4
KARZ				S	Sn	17 30 35.5	+3.1
TGRZ	**Tauranga**	**0.52**	**359**	P	Pn	17 30 20.1	-0.1
TGRZ				S	Sn	17 30 36.9	+2.3
WATZ	**Wairara**	**0.62**	**222**	P	Pn	17 30 21.4	+0.6
URZ	**Urewera**	**0.66**	**91**	P	Pn	17 30 20.9	-0.2
RATZ	**Rangitukua**	**0.73**	**212**	P	Pn	17 30 22.1	+0.5
BKZ	**Black Stump Fm**	**0.93**	**169**	P	Pn	17 30 23.2	-0.1
MWZ	**Matawai**	**0.99**	**95**	P	Pn	17 30 23.8	0.0
WTVZ	**West Tongariro**	**1.02**	**211**	P	Pn	17 30 24.2	+0.2
TWVZ	**Taurewa**	**1.05**	**218**	P	Pn	17 30 24.5	+0.2
NGZ	**Ngauruhoe**	**1.06**	**209**	P	Pn	17 30 24.7	+0.2
WPVZ	**Whakapapa**	**1.11**	**210**	P	Pn	17 30 24.9	0.0
TUVZ	**Tukino**	**1.13**	**205**	P	Pn	17 30 25.4	+0.3
HIZ	**Hauiti**	**1.14**	**256**	P	Pn	17 30 24.8	-0.4
FWVZ	**Far West T-bar**	**1.15**	**209**	P	Pn	17 30 25.3	0.0
FWVZ				S	Sn	17 30 26.9	-17
DRZ	**Dome Shelter**	**1.16**	**208**	P	Pn	17 30 26.1	+0.6
WNVZ	**Wahianoa**	**1.20**	**206**	P	Pn	17 30 26.0	+0.2
MOVZ	**Moawhango**	**1.23**	**199**	P	Pn	17 30 25.8	-0.3
VRZ	**Vera Road**	**1.47**	**233**	P	Pn	17 30 28.2	-0.5
KUZ	**Kuaotunu**	**1.56**	**344**	P	Pn	17 30 28.4	-1.4
PUZ	**Puketiti**	**1.58**	**84**	P	Pn	17 30 29.0	-0.9
MXZ	**Matakaoa Point**	**1.75**	**68**	P	Pn	17 30 31.0	-0.9
WAZ	**Wanganui**	**1.81**	**213**	P	Pn	17 30 31.9	-0.7
TSZ	**Takapari Road**	**1.82**	**187**	P	Pn	17 30 31.8	-1.0
NEZ	**North Egmont**	**1.98**	**238**	P	Pn	17 30 34.7	0.0
PKE	**Pukeiti**	**2.02**	**241**	P	Pn	17 30 34.8	-0.4
NWEZ	**Newall Road**	**2.14**	**241**	*e*P	Pn	17 30 36.1	-0.5
MRZ	**Mangatainoka R**	**2.47**	**192**	P	Pn	17 30 38.5	-2.2
KIW	**Kapiti Island**	**2.81**	**202**	P	Pn	17 30 42.3	-2.8
MTW	**Mount Morrison**	**2.96**	**191**	P	Pn	17 30 43.9	-3.2
CAW	**Cannon Point**	**3.00**	**198**	P	Pn	17 30 44.5	-3.1
PAWZ	**Paruwai Farm**	**3.19**	**191**	P	Pn	17 30 46.6	-3.5
MRW	**Makara Radio**	**3.21**	**202**	P	Pn	17 30 46.9	-3.4
WEL	**Wellington**	**3.25**	**200**	P	Pn	17 30 47.2	-3.5
MSWZ	**Moikau Station**	**3.26**	**194**	P	Pn	17 30 47.3	-3.6
SNZO	**South Karori**	**3.29**	**201**	P	Pn	17 30 47.4	-3.9
BHW	**Baring Head**	**3.33**	**198**	P	Pn	17 30 48.1	-3.8
TCW	**Tory Channel**	**3.33**	**207**	P	Pn	17 30 48.3	-3.6
NNZ	**Nelson**	**3.71**	**216**	P	Pn	17 30 53.1	-3.7
QRZ	**Quartz Range**	**3.87**	**227**	P	Pn	17 30 54.5	-4.5
BSWZ	**Blackbirch Sta**	**3.92**	**207**	P	Pn	17 30 55.6	-4.0
THZ	**Tophouse**	**4.36**	**215**	P	Pn	17 31 01.0	-4.4
KHZ	**Kahutara**	**4.66**	**206**	P	Pn	17 31 04.6	-4.8
FOZ	**Fox Glacier**	**7.28**	**221**	P	Pn	17 31 38.0	-6.7

*ISCJB **25** 17:53:53.7±0.5, 1032N±002×6221W±002, h21km±4km, Error ellipse: s-maj=4.3km s-min=2.9km az=141.7*
*FUNV **25** 17:53:54.1, 1034N×6215W, h12km, MW3.7*
*NEIC **25** 17:53:54.7, 1046N×6213W, h4km, MD3.6(TRN), After TRN.*
*TRN **25** 17:53:54.8, 1048N×6214W, h3km, MD3.6*

ISC 25 17:53:53.6±0.5, 1033N±002×6220W±002, h14km±3km, n33, σ0§97/55, 3C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.31**	**355**	⇓*eP*	**Pg**	**17 53 59.9**	**-0.2**
GUIV				*eS*	**Sg**	**17 54 04.9**	**+0.4**
TCE	**Chacachacare**	**0.57**	**50**	⇑*iP*	**Pg**	**17 54 04.0**	**-0.7**
TCE				*eS*	**Sg**	**17 54 09.6**	**-2.7**
TPP	**Pointe-a-Pierr**	**0.73**	**91**	*eP*	**Pg**	**17 54 08.4**	**+0.4**
TPP				*eS*	**Sg**	**17 54 19.4**	**+1.8**
GUNV	**Guanoco**	**0.75**	**257**	⇑*eP*	**Pg**	**17 54 08.6**	**+0.3**
GUNV				*eS*	**Sg**	**17 54 19.5**	**+1.4**
TRN	**Trinidad (W)**	**0.84**	**68**	⇑*iP*	**Pg**	**17 54 08.5**	**-1.5**
TRN				*eS*	**Sg**	**17 54 19.2**	**-1.8**
CRUV	**Carupano**	**1.08**	**288**	⇓*iP*	**Pb**	**17 54 13.1**	**-1.0**
CRUV				*eS*	**Sb**	**17 54 27.9**	**-0.1**
TBH	**Brigand Hill**	**1.12**	**82**	*eP*	**Pb**	**17 54 15.4**	**+0.6**
ITEV	**Isla Los Testi**	**1.37**	**318**	*eP*	**Pn**	**17 54 18.2**	**-0.2**
ITEV				*eS*	**Sn**	**17 54 36.7**	**+0.4**
TPR	**Prospect**	**1.63**	**59**	*eP*	**Pn**	**17 54 22.5**	**+0.5**
TPR				*eS*	**Sn**	**17 54 44.2**	**+1.4**
ORIV	**Oritupano**	**1.73**	**224**	*eP*	**Pn**	**17 54 24.2**	**+0.9**
ORIV				*eS*	**Sn**	**17 54 46.1**	**+0.8**
GRGR	**Grenville**	**1.87**	**17**	*e*Pn	**Pn**	**17 54 24.3**	**-0.9**
GRGR				*e*Sn	**Sn**	**17 54 47.0**	**-1.6**
GRW	**Mount Saint Ca**	**1.89**	**16**	*eP*	**Pn**	**17 54 27.2**	**+1.7**
GRW				*eS*	**Sn**	**17 54 49.0**	**-0.2**
TOSP	**Speyside**	**1.89**	**59**	*eP*	**Pn**	**17 54 25.6**	**0.0**
TOSP				*eS*	**Sn**	**17 54 50.1**	**+0.8**
GRHS	**Sauteurs**	**1.96**	**16**	*eP*	**Pn**	**17 54 26.3**	**-0.1**
GRHS				*eS*	**Sn**	**17 54 50.0**	**-0.8**
GRIC	**Isle de Caille**	**2.03**	**17**	*eP*	**Pn**	**17 54 28.9**	**+1.4**
GRIC				*eS*	**Sn**	**17 54 52.8**	**+0.1**
GRSS	**Sisters**	**2.04**	**16**	*eP*	**Pn**	**17 54 28.3**	**+0.8**
GRCU	**Cariacou**	**2.25**	**19**	*eP*	**Pn**	**17 54 30.9**	**+0.4**
GRCU				*eS*	**Sn**	**17 54 58.7**	**+0.7**
RIOV	**Rio Grande**	**2.28**	**170**	*eP*	**Pn**	**17 54 30.6**	**-0.4**
RIOV				*eS*	**Sn**	**17 54 58.4**	**-0.5**
PCRV	**Puerto La Cruz**	**2.41**	**267**	*eP*	**Pn**	**17 54 32.5**	**-0.2**
PCRV				*eS*	**Sn**	**17 55 01.4**	**-0.5**
GURV	**El Guri**	**2.70**	**199**	*eP*	**Pn**	**17 54 37.5**	**+0.8**
GURV				*eS*	**Sn**	**17 55 08.2**	**-1.1**
IBAV	**Isla La Blanqu**	**2.77**	**303**	*eP*	**Pn**	**17 54 38.7**	**+1.1**
PRGV	**PARIAGUAN**	**2.88**	**237**	*eP*	**Pn**	**17 54 39.9**	**+0.8**
SVB	**Belmont**	**3.06**	**18**	*eP*	**Pn**	**17 54 42.8**	**+1.1**
SVB				*eS*	**Sn**	**17 55 19.1**	**+0.9**
CUPV	**Cœpira**	**3.54**	**266**	*eP*	**Pn**	**17 54 49.4**	**+1.1**
BIRV	**Birongo**	**4.01**	**272**	*eP*	**Pn**	**17 54 55.1**	**+0.4**
MERV	**Las Mercedes**	**4.18**	**255**	*eP*	**Pn**	**17 54 57.0**	**0.0**
MERV				*eS*	**Sn**	**17 55 43.2**	**-2.5**
ORCV	**Isla La Orchil**	**4.19**	**291**	*eP*	**Pn**	**17 54 57.5**	**+0.3**
FDF	**Fort de France**	**4.49**	**13**	*e*Pn	**Pn**	**17 55 01.0**	**-0.4**
FDF				*e*Sn	**Sn**	**17 55 50.6**	**-2.8**
LUEV	**Luepa**	**4.52**	**171**	*eP*	**Pn**	**17 55 00.4**	**-1.3**
CAOV	**Caicara del Or**	**5.05**	**234**	*eP*	**Pn**	**17 55 08.7**	**-0.4**
TURV	**Turiamo**	**5.55**	**272**	*eP*	**Pn**	**17 55 15.7**	**-0.2**
BAUV	**El Baul**	**5.92**	**257**	*eP*	**Pn**	**17 55 20.6**	**-0.5**
SDV	**Santo Domingo** 4.7nm,0.7s	**8.44**	**261**	*e*Pn	**Pn**	**17 55 54.7**	**-0.9**
SDV				*e*Sn	**Sn**	**17 57 29.9**	**-0.9**

NNC 25 18:14:17.0±7.8, 4048N×6960E, h0km, mb3.6, mpv3.5, 3C-5D, Error ellipse: s-maj=74.3km s-min=37.3km az=8.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 16nm,0.5s,baz=179,slow=12,SNR=206	**2.71**	**14**	⇑Pn	Pn	18 15 03.4	+1.7
KK31	15nm,0.3s,baz=179,slow=17,SNR=5.0			⇓Lg		18 15 39.6	
TKM2	**Tokmak 2** 3.0nm,0.6s	**5.11**	**60**	⇑Pn	Pn	18 15 31.2	-3.5
TKM2	8.9nm,0.5s			⇑Sn	Sn	18 16 39.8	+5.5
AB31	**Akbulak array** 0.7nm,0.5s,baz=134,slow=14,SNR=21	**11.12**	**325**	⇓Pn	Pn	18 17 02.0	+4.9
AB31	1.9nm,0.8s,baz=51,slow=54,SNR=6.7			⇓Sn	Sn	18 19 04.8	+2.7
AKTO	**Aktyubinsk** 0.4nm,1.1s	**12.83**	**325**	⇓Pn	Pn	18 17 23.3	+2.8
AKTO	1.1nm,1.8s			⇓Sn	Sn	18 19 46.0	+2.0

*ISCJB **25** 18:14:33.7±2.4, 945S±006×10787E±005, h8km±16km, mb3.9/12, Error ellipse: s-maj=10.3km s-min=7.2km az=37.9*
*IDC **25** 18:14:36.4±1.6, 902S×10833E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/17, mbtmp3.7/9, ML2.9/1, Error ellipse: s-maj=66.6km s-min=16.7km az=54.0*
*DJA **25** 18:14:38, 939S×10784E, h29km, ML4.4/4*
*NEIC **25** 18:14:40.4±0.9, 925S×108.17E, h35km, mb4.4/5, Error ellipse: s-maj=43.4km s-min=9.2km az=51.0*

ISC 25 18:14:35.7±2.9, 941S±006×10789E±005, h6km±19km, n34, σ1§20/32, mb3.9/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap** 0.0nm,0.0s	**2.02**	**33**	P	**Sn**	**18 15 33.9**	**-1.8**
LEM	**Lembang** 0.0nm,0.0s	**2.59**	**354**	P	**Pn**	**18 15 20.1**	**+2.1**
SKJI	**Sukabumi** 0.0nm,0.0s	**2.73**	**331**	P	**Sn**	**18 15 53.4**	**0.0**
BJII	**Banjamegara** 0.0nm,0.0s	**2.74**	**41**	P	**Pn**	**18 15 20.3**	**+0.2**
JCJI	**Jatiwangi** 0.0nm,0.0s	**2.93**	**7**	P	**Pn**	**18 15 21.4**	**-1.3**
DBJI	**Dramaga** 0.0nm,0.0s	**3.06**	**338**	P	**Sn**	**18 16 02.2**	**+0.7**
CBJI	**Citeko** 0.0nm,0.0s	**3.15**	**341**	P	**Pn**	**18 15 23.3**	**-2.5**
SJI	**Sawahan** 0.0nm,0.0s	**4.18**	**67**	P	**Sn**	**18 16 29.9**	**+0.8**
KRKI	**Karangkates** 0.0nm,0.0s	**4.68**	**75**	P	**Pn**	**18 15 48.1**	**+1.3**
NBBI	**Negara** 0.0nm,0.0s	**6.73**	**82**	P	**Pn**	**18 16 17.8**	**+2.8**
IGBI	**Denpasar** 0.0nm,0.0s	**7.19**	**86**	P	**Pn**	**18 16 21.1**	**-0.2**
KHKI	**Kahang-Kahang** 0.0nm,0.0s	**7.69**	**83**	P	**Pn**	**18 16 28.2**	**-0.1**
MBWA	**Marble Bar** 10nm,1.2s	**16.32**	**137**	P	**Pn**	**18 18 23.8**	**-1.7**
FITZ	**Fitzroy Crossi** 0.0nm,0.3s,baz=288,slow=13,SNR=2.2	**19.26**	**119**	P	**Pn**	**18 19 01.0**	**-1.0**
WRA	**Warramunga Arr** 0.5nm,0.8s,mb3.2,baz=289,slow=10,SNR=4.8	**27.60**	**115**	P	**P**	**18 20 24.4**	**+0.5**
ASAR	**Alice Springs** 0.3nm,0.8s,mb3.1,baz=301,slow=8.2,SNR=6.6	**28.61**	**123**	P	**P**	**18 20 33.1**	**+0.2**
ASAR	0.3nm,0.6s,baz=294,slow=2.2,SNR=5.6			PcP	PcP	18 23 46.0	+1.9
CMAR	**Chiang Mai Arr** 0.3nm,0.5s,mb3.3,baz=180,slow=8.3,SNR=7.4	**29.07**	**342**	P	**P**	**18 20 36.4**	**-0.6**
STKA	**Stephens Creek** 0.7nm,0.5s,mb3.6,baz=295,slow=9.1,SNR=3.3	**38.39**	**131**	P	**P**	**18 21 58.2**	**+0.4**
STKA	**Stephens Creek**	**38.39**	**131**	P	**P**	**18 21 58.2**	**+0.4**
STKA				P	pP	18 21 58.5	-1.4
LSA	**Lhasa** 2.5nm,0.6s,mb4.0	**42.10**	**338**	P	**P**	**18 22 29.6**	**+1.0**
MJAR	**Matsushiro Arr** 0.3nm,0.6s,mb3.4,baz=152,slow=5.4,SNR=3.3	**53.87**	**30**	P	**P**	**18 23 56.6**	**-3.1**
SONM	**Songino Array** 0.8nm,0.5s,mb4.0,baz=178,slow=8.5,SNR=8.9	**57.01**	**359**	P	**P**	**18 24 22.6**	**+0.6**
TKM2	**Tokmak 2** 4.6nm,0.7s,mb4.6	**59.84**	**333**	*eP*	**P**	**18 24 41.5**	**-0.5**
MK31	**Makanchi Array**	**60.44**	**340**	*eP*	**P**	**18 24 45.9**	**0.0**
MK31				*e*		18 24 55.2	
MKAR	**Makanchi Array** 3.2nm,0.6s,mb4.5,baz=139,slow=7.5,SNR=52	**60.44**	**340**	P	**P**	**18 24 46.2**	**+0.2**
MKAR	**Makanchi Array**	**60.44**	**340**	P	**P**	**18 24 46.2**	**+0.2**
EKS2	**Erkin-Say**	**60.47**	**332**	P	**P**	**18 24 48.4**	**+2.2**
KURK	**Kurchatov**	**65.06**	**340**	*eP*	**P**	**18 25 15.2**	**-1.4**
	3.0nm,0.9s,mb4.3						
ZALV	**Zalesovo Beam** 0.9nm,0.7s,mb3.9,baz=160,slow=4.7,SNR=3.9	**66.08**	**345**	P	**P**	**18 25 22.5**	**-0.7**
ZALV	**Zalesovo Beam**	**66.08**	**345**	P	**P**	**18 25 22.5**	**-0.7**
YAK	**Yakutsk**	**73.22**	**11**	P	**P**	**18 26 06.3**	**-0.8**
ARU	**Arti** 4.1nm,0.5s,mb4.6	**77.17**	**334**	*eP*	**P**	**18 26 31.6**	**+1.7**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=337,slow=2.9,SNR=4.2	**144.42**	**52**	PKP	PKPdf	18 34 12.9	-0.6
WMOK	**Wichita Mounta**	**144.92**	**40**	*e*PKPdf	PKPdf	18 34 13.7	-0.5

IDC 25 18:37:18.6±46.0, 1585S×17309W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/18, mbtmp4.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/29, Error ellipse: s-maj=895.3km s-min=174.4km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** comp=Z,508nm,21.8s,baz=89,slow=31	**2.31**	**34**	LR	LR	18 38 29.5	
STKA	**Stephens Creek** 1.7nm,0.5s,baz=95,slow=10,SNR=8.9	**44.08**	**240**	P	P	18 45 29.4	+0.9
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=97,slow=7.0,SNR=8.5	**50.03**	**257**	P	P	18 46 14.5	-0.8
ASAR	**Alice Springs** 4.5nm,0.5s,baz=91,slow=8.4,SNR=165	**50.26**	**252**	P	P	18 46 16.8	-0.2

*ISCJB **25** 18:41:37.9±3.5, 1379S±006×769W±0.1, h11km±22km, mb4.2/20, MS3.9/9, Error ellipse: s-maj=18.2km s-min=8.7km az=155.8*
*NEIC **25** 18:41:39.0±3.9, 1371S×7684W, h4km±23km, mb4.7/10, Error ellipse: s-maj=15.9km s-min=7.1km az=60.0*
*IDC **25** 18:41:38.4±0.8, 1368S×7684W, h0km, mb4.2/10, mb1 4.3/12, mb1mx4.3/16, mbtmp4.2/12, ML3.8/3, MS3.8/12, Ms1 3.8/12, ms1mx3.5/22, Error ellipse: s-maj=28.0km s-min=14.3km az=57.0*
*MOS **25** 18:41:42.6±2.0, 1367S×7684W, h33km, mb4.6/2, Error ellipse: s-maj=38.8km s-min=17.2km az=23.7*

ISC 25 18:41:40.3±3.8, 1373S±007×769W±01, h12km±24km, n49, σ0§96/40, mb4.2/20, MS3.9/9, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana** 111nm,0.3s,baz=176,slow=13,SNR=142	**1.73**	**0**	Pn	**Pn**	**18 42 09.3**	**-0.8**
NNA	778nm,0.3s,baz=225,slow=3.3,SNR=13			Sn	**Sn**	**18 42 31.1**	**-1.0**
NNA	comp=Z,2μm,20.5s,baz=195,slow=43			LR	LR	18 42 51.0	
ATAH	**Atahualpa** 3.2nm,0.3s,baz=180,slow=6.8,SNR=13	**6.85**	**347**	Pn	**Pn**	**18 43 21.5**	**+0.8**
ATAH	4.4nm,0.3s,baz=253,slow=23,SNR=5.4			Lg		18 44 58.1	
ATAH	comp=Z,268nm,18.3s,baz=97,slow=36			LR	LR	18 45 40.8	
LPAZ	**La Paz** 2.5nm,0.3s,baz=289,slow=9.9,SNR=26	**8.80**	**108**	Pn	**Pn**	**18 43 53.1**	**+5.7**
LVC	**Limon Verde** 1.1nm,0.3s,baz=300,slow=8.8,SNR=10	**11.62**	**141**	Pn	**Pn**	**18 44 27.1**	**+1.1**
OTAV	**Otavalo** 16nm,1.0s	**13.96**	**353**	*e*Pn	**Pn**	**18 45 04.7**	**+6.6**
OTAV				*e*Sn	**Sn**	**18 47 41.3**	**+8.1**
SIV	**San Ignacio** 0.1nm,0.3s,baz=275,slow=15,SNR=2.9	**15.42**	**100**	Pn	**Pn**	**18 45 17.5**	**-0.3**
ROSC	**El Rosal** comp=Z,370nm,21.6s,baz=198,slow=40	**18.63**	**8**	LR	LR	18 53 52.6	
ROSC	**El Rosal**	**18.63**	**8**	*eP*	**Pn**	**18 46 04.1**	**+5.9**
CFAA	**Coronel Fontan** 0.0nm,0.3s,baz=9.1,slow=15,SNR=3.2	**19.47**	**157**	P	**Pn**	**18 46 06.8**	**-1.5**
CFAA	2.28nm,19.2s,baz=347,slow=32			LR	LR	18 51 55.6	
CPUP	**Villa Florida** 0.3nm,0.4s,mb3.1,baz=276,slow=8.4,SNR=1.8	**22.18**	**127**	P	**P**	**18 46 34.8**	**-1.6**
CPUP	comp=Z,191nm,19.6s,MS3.5,baz=289,slow=42			LR	LR	18 57 03.4	
SDV	**Santo Domingo** 4.8nm,0.6s,mb4.1,baz=146,slow=4.9,SNR=8.6	**23.30**	**16**	P	**P**	**18 46 48.7**	**+0.4**
SDV	comp=Z,302nm,18.2s,MS3.8,baz=235,slow=40			LR	LR	18 56 58.6	
PCRV	**Puerto La Cruz** comp=Z,820nm,19.0s,MS4.3,baz=208,slow=38	**26.66**	**28**	LR	LR	18 58 41.7	
PLCA	**Paso Flores** comp=Z,183nm,19.7s,MS3.7,baz=344,slow=36	**27.46**	**170**	LR	LR	18 57 57.3	
BDFB	**Brasilia** 1.8nm,0.7s,mb3.8,baz=266,slow=13,SNR=4.7	**27.95**	**98**	P	**P**	**18 47 31.2**	**+0.4**
BDFB	comp=Z,161nm,18.8s,MS3.6,baz=46,slow=38			LR	LR	18 59 14.8	
TXAR	**Lajitas Array** 0.8nm,0.8s,mb3.8,baz=150,slow=10,SNR=4.3	**50.03**	**329**	P	**P**	**18 50 36.1**	**+1.3**
ANMO	**Albuquerque**	**55.97**	**331**	*eP*	**P**	**18 51 19.9**	**+1.3**
ANMO	comp=Z,2.0nm,0.9s			pmax	pmax		
ANMO	**Albuquerque** comp=Z,1.9nm,0.9s,mb4.1	**55.97**	**331**	*eP*	**P**	**18 51 19.9**	**+1.3**
MDV	**Middlebury** comp=Z,2.2nm,0.9s,mb4.2	**57.54**	**3**	*eP*	**P**	**18 51 30.1**	**+0.5**
SDCO	**Great Sand Dun** comp=Z,8.9nm,0.9s,mb4.8	**57.84**	**333**	*eP*	**P**	**18 51 32.7**	**+0.9**
FRNY	**Flat Rock** comp=Z,1.9nm,0.8s,mb4.3	**58.36**	**3**	*eP*	**P**	**18 51 35.9**	**+0.7**
MVU	**Marysvale** comp=Z,8.0nm,0.8s,mb4.3	**61.60**	**329**	*eP*	**P**	**18 51 54.8**	**-2.8**
DUG	**Dugway**	**63.20**	**330**	*eP*	**P**	**18 52 08.1**	**-0.2**
DUG	comp=Z,8.0nm,1.3s,mb4.7			pmax	pmax		
DUG	**Dugway** comp=Z,8.4nm,1.3s,mb4.7	**63.20**	**330**	*eP*	**P**	**18 52 08.1**	**-0.2**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.5s,mb3.7,baz=164,slow=5.9,SNR=4.3	**63.73**	**334**	P	**P**	**18 52 10.6**	**-1.1**
AGMN	**Agassiz Refuge** comp=Z,5.1nm,0.7s,mb4.7	**64.02**	**346**	*eP*	**P**	**18 52 13.5**	**-0.1**
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.7s,mb3.6,baz=148,slow=6.9,SNR=4.4	**64.78**	**325**	P	**P**	**18 52 18.2**	**-0.6**
NVAR	**Mina Array Bea**	**64.78**	**325**	P	**P**	**18 52 18.2**	**-0.6**
RRI2	**Red Ridge** comp=Z,6.6nm,0.9s,mb4.7	**64.96**	**333**	P	**P**	**18 52 15.8**	**-4.0**
ULM	**Lac du Bonnet** comp=Z,6.4nm,0.6s,mb4.8,baz=149,slow=6.6,SNR=9.8	**65.86**	**347**	P	**P**	**18 52 24.6**	**-0.9**
ULM	**Lac du Bonnet** comp=Z,6.5nm,0.7s,mb4.8	**65.86**	**347**	*eP*	**P**	**18 52 23.8**	**-1.7**
SCHQ	**Schefferville** comp=Z,1.4nm,0.5s,mb4.2,baz=164,slow=7.4,SNR=3.9	**68.82**	**6**	P	**P**	**18 52 43.7**	**-0.5**
SCHQ	comp=Z,66nm,21.5s,MS3.8,baz=264,slow=34			LR	LR	19 20 37.9	
SCHQ	**Schefferville**	**68.82**	**6**	P	**P**	**18 52 43.7**	**-0.5**
SCHQ				LR	LR	19 20 37.9	
DBIC	**Dimbokro** comp=Z,2.7nm,0.5s,mb4.4,baz=221,slow=10,SNR=6.2	**74.27**	**79**	P	**P**	**18 53 17.9**	**-0.1**
DBIC	comp=Z,123nm,18.7s,MS4.2,baz=206,slow=35			LR	LR	19 24 46.0	
YKA	**Yellowknife Ar** comp=Z,1.9nm,0.8s,mb4.0,baz=139,slow=5.5,SNR=9.2	**81.49**	**343**	P	**P**	**18 53 57.2**	**+0.1**
YKA	**Yellowknife Ar**	**81.49**	**343**	P	**P**	**18 53 57.2**	**+0.1**
TOA0	**Torodi Ar. Sit**	**82.26**	**74**	*eP*	**P**	**18 54 02.3**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,3.8nm,0.7s,mb4.4,baz=267,slow=5.3,SNR=30	**82.26**	**74**	P	**P**	**18 54 02.9**	**+0.7**
TORD	comp=Z,72nm,19.1s,MS4.1,baz=215,slow=36			LR	LR	19 31 36.6	
TORD	**Torodi Ar. Bea**	**82.26**	**74**	P	**P**	**18 54 02.9**	**+0.7**
TORD				LR	LR	19 31 36.6	
TAM	**Tamanrasset**	**88.39**	**66**	P	**P**	**18 54 33.8**	**+1.1**
SUMG	**Summit** comp=Z,3.3nm,0.9s,mb4.7	**89.74**	**11**	*eP*	**P**	**18 54 39.0**	**+1.1**
EGAK	**Eagle** comp=Z,2.5nm,0.9s,mb4.5	**91.86**	**337**	*eP*	**P**	**18 54 47.8**	**-0.1**
MAW	**Mawson** comp=Z,108nm,18.1s,MS4.3,baz=238,slow=33	**93.80**	**166**	LR	LR	19 33 25.8	
ASAR	**Alice Springs** 0.2nm,0.7s,baz=113,slow=2.4,SNR=4.8	**132.19**	**219**	PKP	PKPdf	19 00 56.0	+1.0
WRA	**Warramunga Arr** comp=Z,0.7nm,0.8s,baz=134,slow=1.9,SNR=6.7	**134.60**	**223**	PKP	PKPdf	19 01 00.9	+1.3
ZAL	**Zalesovo Beam** comp=Z,0.4nm,0.3s,baz=323,slow=2.2,SNR=4.2	**137.35**	**16**	PKIKP	PKPdf	19 01 02.4	-1.2
ZAL	**Zalesovo**	**137.35**	**16**	PKIKP	PKPdf	19 01 02.4	-1.2
MJAR	**Matsushiro Arr** comp=Z,0.7nm,1.1s,baz=0.0,slow=1.6,SNR=4.5	**141.30**	**312**	PKhKP		19 01 07.1	
SONM	**Songino Array** comp=Z,1.4nm,0.6s,baz=348,slow=3.4,SNR=12	**145.89**	**356**	PKPbc	PKPbc	19 01 20.1	+0.4
KSRS	**Korea Array** comp=Z,0.8nm,0.7s,baz=43,slow=2.2,SNR=6.5	**147.67**	**321**	PKPbc	PKPbc	19 01 24.6	-0.6

*ISCJB **25** 19:24:54.1±1.0, 3092N±006×500E±0.1, h10km, Error ellipse: s-maj=15.0km s-min=5.1km az=32.5*
*CSEM **25** 19:24:54.4±0.3, 3092N×5006E, h20km, ML2.4, Error ellipse: s-maj=13.3km s-min=4.9km az=133.0*
*KISR **25** 19:24:54.9, 3104N×4944E, h33km, ML2.4*
*THR **25** 19:24:59.3±0.5, 3142N×5019E, h18km±6km, ML2.9*

ISC 25 19:24:55.1±1.0, 3090N±006×500E±01, h10km, n13, σ1§05/23, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs** comp=N,249nm,0.8s	**1.58**	**320**	*e*Pg	**Pg**	**19 25 24.6**	**-0.8**
SHGR				AML	AML	19 25 50.4	
UMR	**Umm Al-Rimmam**	**2.38**	**236**	*eP*	**Pn**	**19 25 34.5**	**+0.3**
UMR				*eS*	**Sn**	**19 26 05.0**	**+1.5**
UMR	**Umm Al-Rimmam** baz=226	**2.38**	**236**	*eP*	**Pn**	**19 25 34.5**	**+0.2**
UMR	baz=226			*eS*	**Sn**	**19 26 05.0**	**+1.4**
UMR	comp=Z,31nm,0.4s,baz=226			AML	AML	19 26 10.9	
RDF	**Al-Radifah**	**2.89**	**228**	*eP*	**Pn**	**19 25 41.6**	**+0.4**
RDF				*eS*	**Sn**	**19 26 17.1**	**+1.0**
RDF	**Al-Radifah** baz=218	**2.89**	**228**	*eP*	**Pn**	**19 25 41.6**	**+0.3**
RDF	baz=218			*eS*	**Sn**	**19 26 17.1**	**+1.1**
RDF	comp=Z,41nm,0.5s,baz=218			AML	AML	19 26 19.0	
NAY	**Al-Naaiem**	**2.90**	**236**	*eP*	**Pn**	**19 25 41.3**	**0.0**
NAY				*eS*	**Sn**	**19 26 15.7**	**-0.5**
NAY	**Al-Naaiem** baz=227	**2.90**	**236**	*eP*	**Pn**	**19 25 41.4**	**+0.1**
NAY	baz=227			*eS*	**Sn**	**19 26 15.7**	**-0.5**
NAY	comp=Z,25nm,0.6s,baz=227			AML	AML	19 26 20.7	
RST	**Umm Al-Ruwaisa**	**2.94**	**242**	*eP*	**Pn**	**19 25 41.5**	**-0.4**
RST				*eS*	**Sn**	**19 26 15.5**	**-1.9**
RST	**Umm Al-Ruwaisa** baz=235	**2.94**	**242**	*eP*	**Pn**	**19 25 41.5**	**-0.5**
RST	baz=235			*eS*	**Sn**	**19 26 15.5**	**-1.9**
RST	comp=Z,0.8nm,0.4s,baz=235			AML	AML	19 26 23.1	
NASN	**Na'in**	**3.05**	**51**	*e*Pn	**Pn**	**19 25 43.0**	**-0.5**
ASAO	**Ashtian**	**3.64**	**0**	*e*Pn	**Pn**	**19 25 50.2**	**-1.3**
ASAO				*e*Sg	**Sn**	**19 26 36.9**	**+2.4**
ASAO	comp=E,15nm,0.5s			AML	AML	19 26 40.0	
ASAO	**Ashtian** SNR=52	**3.64**	**0**	*e*Pn	**Pn**	**19 25 50.2**	**-1.3**
ASAO	comp=E,15nm,0.5s,SNR=91			*e*Sg	**Sn**	**19 26 36.9**	**+2.4**
SNGE	**Sanandaj**	**4.74**	**333**	*e*Pn	**Pn**	**19 26 07.0**	**+0.4**
SNGE	comp=N,16nm,0.3s			AML	AML	19 27 03.0	

IDC 25 19:25:53.9±2.7, 293N×6683E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=110.2km s-min=36.4km az=58.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=242,slow=3.1,SNR=4.2	**52.95**	**13**	P	P	19 35 11.9	0.0
WRA	**Warramunga Arr** 1.3nm,1.2s,baz=290,slow=5.8,SNR=5.4	**69.99**	**112**	P	P	19 37 08.2	+0.4
ASAR	**Alice Springs** 0.5nm,1.0s,baz=291,slow=5.9,SNR=5.6	**70.34**	**116**	P	P	19 37 09.8	-0.1
TXAR	**Lajitas Array** 1.5nm,0.9s,baz=54,slow=2.9,SNR=11	**146.65**	**345**	PKPbc	PKPbc	19 45 37.6	-0.7

IDC 25 19:35:15.7±2.9, 1123S×16563E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.8/3, MS3.6/2, Ms1 3.6/2, ms1mx3.0/21, Error ellipse: s-maj=103.7km s-min=48.3km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.1nm,0.7s,baz=35,slow=11,SNR=6.5	**30.23**	**223**	P	P	19 41 28.9	+0.7
STKA	comp=Z,111nm,19.5s,baz=205,slow=36			LR	LR	19 53 32.6	
WRA	**Warramunga Arr** 1.5nm,0.7s,baz=81,slow=8.9,SNR=19	**31.31**	**250**	P	P	19 41 38.2	+0.3
ASAR	**Alice Springs** 0.3nm,0.7s,baz=74,slow=9.4,SNR=8.3	**32.61**	**243**	P	P	19 41 48.3	-0.9
TXAR	**Lajitas Array** comp=Z,29nm,21.5s,baz=185,slow=30	**96.02**	**61**	LR	LR	20 23 57.6	
ARCES	**ARCESS Array B** 2.0nm,0.9s,baz=90,slow=1.8,SNR=3.6	**116.48**	**345**	PKP	PKPdf	19 54 00.8	-0.1

*IDC **25** 21:02:49.2±1.9, 1607N×12135E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/19, mbtmp3.4/4, Error ellipse: s-maj=75.1km s-min=23.0km az=52.0*
*MAN **25** 21:03:05, 1587N×12044E, h155km, mb4.2, ML3.0, MS2.7*
*ISCJB **25** 21:03:06.3±0.6, 1582N±006×12054E±008, h149km±6km, mb3.1/3, Error ellipse: s-maj=13.4km s-min=9.9km az=167.4*

ISC 25 21:03:07.0±0.6, 1582N±006×12056E±008, h147km±6km, n17, σ0§95/19, mb3.1/3, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.56**	**2**	⇓*eP*	**Pn**	**21 03 28.2**	**-0.2**
BCPH				*eS*	**Sn**	**21 03 44.2**	**-0.5**
PCPH	**Palayan**	**0.57**	**116**	⇓*eP*	**Pn**	**21 03 28.2**	**-0.2**
BOLP	**Bolinao**	**0.84**	**312**	*eP*	**Pn**	**21 03 29.7**	**-0.5**
BOLP				*eS*	**Sn**	**21 03 47.9**	**0.0**
BALP	**Baler**	**0.98**	**94**	*eP*	**Pn**	**21 03 32.1**	**+0.7**
CAUP	**Cauayan**	**1.65**	**47**	*eP*	**Pn**	**21 03 38.6**	**+

CBIJ Chichi jima 7.23 335 P **Pn** **21 52 15.5 0.0**
CBIJ *e*S **Sn** **21 53 34.8 -1.4**
CBIJ Chichi jima 7.23 335 P **Pn** **21 52 15.6 +0.1**
39nm,0.3s,baz=285,slow=6.6,SNR=47
CBIJ S **Sn** **21 53 35.8 -0.4**
34nm,0.3s,baz=110,slow=23,SNR=9.1
JHJ2 Mitsune 13.53 339 P **Pn** **21 53 40.1 -1.5**
JHJ Hachijo jima 2 13.55 339 P **Pn** **21 53 40.5 -1.3**
4.2nm,0.3s,baz=169,slow=16,SNR=4.0
BSO1 Boso 1 14.63 345 P **Pn** **21 53 55.6 -0.7**
BSO2 Boso 2 14.78 344 *e*S **Sn** **21 56 37.1 -3.6**
BSO3 Boso 3 14.89 343 P **Pn** **21 53 59.0 -0.7**
BSO4 Boso 4 15.11 343 *e*S **S** **21 56 46.5 -17**
JOD2 Odawara 2 15.74 340 P **Pn** **21 54 10.4 -0.3**
JOD2 *e*S **S** **21 57 00.6 -16**
HMMJ Hamamatsu 2 15.86 335 P **Pn** **21 54 12.3 +0.1**
JHU Hanno 16.22 341 P **Pn** **21 54 16.7 -0.1**
JHU *e*S S 21 57 05.1 -21
JNY Yasuok 16.25 337 P **Pn** **21 54 16.5 -0.7**
JYT Yasato 16.32 344 P **Pn** **21 54 17.9 -0.1**
JAO Obara 16.40 335 P **Pn** **21 54 18.4 -0.7**
JAG Ashikaga 16.70 342 P **Pn** **21 54 23.1 +0.2**
JAG *e*S **S** **21 57 20.8 -15**
JOW Kunigami 17.08 295 P **Pn** **21 54 29.9 +2.3**
2.4nm,0.3s,baz=207,slow=2.9,SNR=10
JOW LR LR 22 00 12.3
comp=Z,467nm,19.5s,baz=99,slow=34
MJAR Matsushiro Arr 17.19 339 P **Pn** **21 54 28.8 -0.2**
1.6nm,0.3s,baz=166,slow=11,SNR=48
MJAR ScP ScP 22 02 40.9 -0.4
0.3nm,0.3s,baz=168,slow=2.7,SNR=6.8
MAJO Matsushiro 17.20 339 *e*P **Pn** **21 54 28.7 -0.3**
MAJO pmax pmax
comp=Z,29nm,0.8s
MAJO Matsushiro 17.20 339 *e*Pn **Pn** **21 54 28.7 -0.2**
comp=Z,29nm,0.8s
MAT Matsushiro 17.20 339 P **Pn** **21 54 30.0 +1.0**
MAT S **S** **21 57 43.0 -3.3**
KSRS Korea Array 22.81 321 P **P** **21 55 31.7 +0.9**
comp=Z,68nm,0.9s,mb5.1,baz=148,slow=9.0,SNR=174
KSRS ScP ScP 22 02 54.5 +0.2
comp=Z,2.5nm,0.8s,baz=140,slow=3.4,SNR=10.0
KS15 Wonju Array Si 22.83 321 *e*P **P** **21 55 30.5 -0.5**
INCN Inchon 23.60 320 *e*P **P** **21 55 37.9 -0.8**
comp=Z,98nm,1.1s,mb5.2
DAV Davao City (W) 23.62 238 LR LR 22 03 08.0
comp=Z,162nm,19.1s,MS3.5,baz=251,slow=32
ASAJ Asahikawa 23.62 355 P **P** **21 55 40.4 +1.6**
comp=Z,18nm,0.9s,mb4.5,baz=221,slow=18,SNR=14
VLA Vladivostok 25.27 336 *e*P **P** **21 55 54.2 +0.4**
VLA *e**SP sP 21 56 07.4 -5.5
VLA *e*S **S** **22 00 18.4 +2.4**
VLA pmax pmax
comp=Z,105nm,0.9s,mb5.4
YSS Yuzh-Sakhalins 26.43 356 *e*P pP 21 56 23.0 +5.8
YSS *e* 22 01 40.0
NJ2 Nanjing 26.53 301 *e*P **P** **21 56 07.5 +2.2**
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.1
MDJ Mudanjiang 27.43 335 P **P** **21 56 14.5 +1.2**
MDJ AP pP 21 56 25.0 -1.3
MDJ XP sP 21 56 30.3 -2.1
MDJ PCP PcP 21 59 32.8 +1.9
MDJ S **S** **22 00 53.8 +3.8**
MDJ PCS PcS 22 03 10.3 -2.2
MDJ AMB AMB
comp=Z,17nm,0.9s,mb4.6
MDJ AMB AMB
comp=Z,71nm,7.5s
MDJ LR LR
comp=N,236nm,20.5s,MS3.8
MDJ LR LR
comp=E,141nm,20.5s,MS3.8
MDJ LR LR
comp=Z,310nm,25.7s
DL2 Dalian 27.59 317 P **P** **21 56 16.0 +1.2**
DL2 XP sP 21 56 32.5 -1.5
DL2 *e*S **S** **22 00 55.0 +2.2**
DL2 AMB AMB
comp=Z,30nm,0.6s,mb5.1
DL2 LR LR
comp=N,110nm,16.6s,MS3.6
DL2 LR LR
comp=E,100nm,18.0s,MS3.6
DL2 LR LR
comp=Z,180nm,18.6s,MS3.7
CN2 Changchun 28.64 329 *e*P **P** **21 56 26.0 +1.9**
CN2 *e*XP sP 21 56 46.0 +2.7
CN2 *e*S **S** **22 01 10.3 +1.2**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,15.0s,MS4.2
CN2 LR LR
comp=E,400nm,15.0s,MS4.2
CN2 LR LR
comp=Z,500nm,16.0s,MS4.2
MYLDM Lahad Datu 30.48 244 ⇑P **P** **21 56 50.0 +9.3**
KDM Kudat 31.03 248 ⇑P **P** **21 56 55.3 +10**
SDKM Sandakan 31.35 246 ⇑P **P** **21 56 54.3 +6.0**
TSM Tawau 31.49 243 ⇑P **P** **21 56 58.2 +8.6**
KKM Kota Kinabalu 31.99 247 ⇑P **P** **21 56 55.9 +1.9**
QIZ Qiongzhong 33.68 274 P **P** **21 57 08.5 -0.3**
QIZ XP sP 21 57 24.5 -3.5
QIZ S **S** **22 02 29.0 +0.5**
QIZ LR LR
comp=N,101nm,14.3s
QIZ LR LR
comp=Z,104nm,25.0s
PETK Petropavlovsk- 33.79 13 P **P** **21 57 10.2 +1.0**
comp=Z,3.8nm,0.6s,mb4.5,baz=184,slow=6.6,SNR=5.5
PETK LR LR 22 09 00.7
comp=Z,202nm,22.0s,MS3.8,baz=200,slow=33
PET Petropavlovsk 33.92 14 *e*P **P** **21 57 11.5 +1.1**
PET pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
PET MLR MLR
comp=Z,200nm,20.0s,MS3.8
XAN Xi'an 35.09 300 P **P** **21 57 21.5 +0.7**
XAN AMB AMB
comp=Z,4.0nm,0.5s,mb4.6
XAN AMB AMB
comp=Z,49nm,6.0s
XAN LR LR
comp=Z,89nm,20.1s,MS3.5
HHC Hu-ho-hao-te 35.29 313 *e*P **P** **21 57 22.3 -0.1**
HHC AP pP 21 57 34.5 -1.1
HHC XP sP 21 57 39.8 -1.9
HHC PP PP 21 58 42.8 -0.3
HHC PCP PcP 21 59 52.8 +0.8
HHC S **S** **22 02 51.8 -0.9**
HHC XS sS 22 03 13.0 -2.1
HHC SCP ScP 22 03 33.5 -0.2
HHC PCS PcS 22 03 39.3 +0.3
HHC SS SS 22 05 10.8 -17
HHC SCS ScS 22 07 36.5 -1.3
HHC AMB AMB
comp=Z,21nm,1.2s,mb4.9
HHC AMB AMB
comp=Z,58nm,5.4s
HHC LR LR
comp=N,212nm,15.3s,MS4.1
HHC LR LR
comp=E,175nm,15.5s,MS4.1
BTM Bintulu 36.11 246 ⇓P **P** **21 57 31.4 +1.6**
GYA Guiyang 36.13 287 P **P** **21 57 32.5 +2.7**
GYA AP pP 21 57 43.5 +0.4
GYA PP PP 21 58 54.5 +1.9
GYA PCP PcP 21 59 56.5 +1.7
GYA S **S** **22 03 00.3 -5.7**
GYA XS sS 22 03 26.8 -1.6
GYA SCP ScP 22 03 37.5 +0.5
GYA SCS ScS 22 07 42.0 -1.0
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
GYA AMB AMB
comp=Z,140nm,4.8s
GYA LR LR
comp=N,130nm,18.0s,MS4.0
GYA LR LR
comp=E,190nm,18.5s,MS4.0
GYA LR LR
comp=Z,180nm,17.0s,MS3.9
BTO Baotou 36.26 311 *e*P **P** **21 57 30.0 -0.7**
SBUM Sibu 37.24 245 ⇓P **P** **21 57 41.1 +1.8**
CD2 Chengdu 38.92 294 *e*P **P** **21 57 53.0 -0.3**
CD2 AP pP 21 58 07.0 +0.3
CD2 XP sP 21 58 13.5 +0.8
CD2 PP PP 21 59 26.5 +3.3
CD2 S **S** **22 03 47.3 -0.9**
CD2 XS sS 22 04 09.8 -1.0
CD2 SS SS 22 06 31.3 -10
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CD2 AMB AMB
comp=Z,20nm,4.2s
CD2 LR LR
comp=N,190nm,14.4s,MS4.3
CD2 LR LR
comp=E,300nm,15.6s,MS4.3
CD2 LR LR
comp=Z,200nm,19.2s,MS4.0
CLNS Chul'man 39.34 342 *e*P **P** **21 57 57.2 +0.7**
CLNS pmax pmax
comp=Z,23nm,1.0s,mb4.9
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.8s
KSM Kuching 39.37 246 ⇓P **P** **21 57 57.4 +0.1**
LZH Lanzhou 39.59 302 *e*P **P** **21 58 00.5 +1.6**
LZH AP pP 21 58 12.5 +0.2
LZH XP sP 21 58 16.5 -1.8
LZH PP PP 21 59 36.0 +5.5
LZH *e*S **S** **22 04 00.0 +1.8**
LZH XS sS 22 04 19.5 -1.3
LZH SS SS 22 06 49.0 -5.7
LZH AMB AMB
comp=Z,32nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,98nm,6.2s
LZH LR LR
comp=E,311nm,16.0s
LZH LR LR
comp=Z,512nm,17.0s,MS4.4
KMI Kunming 39.68 285 P **P** **21 57 59.8 0.0**
KMI AP pP 21 58 12.8 -0.4
KMI XP sP 21 58 18.5 -0.7
KMI PP PP 21 59 35.0 +3.4
KMI S **S** **22 03 56.0 -3.8**
KMI SS SS 22 06 46.8 -10
KMI AMB AMB
comp=Z,5.0nm,0.9s,mb4.2
KMI AMB AMB
comp=Z,65nm,9.1s
KMI LR LR
comp=N,126nm,17.2s
KMI LR LR
comp=E,81nm,27.5s
KMI LR LR
comp=Z,109nm,11.2s
SONM Songino Array 41.67 320 P **P** **21 58 15.9 0.0**
comp=Z,3.4nm,0.4s,mb4.3,baz=124,slow=8.2,SNR=57
SONM PcP PcP 22 00 12.0 +0.2
comp=Z,1.8nm,0.6s,baz=145,slow=3.6,SNR=3.8
SONM LR LR 22 15 49.3
comp=Z,215nm,22.0s,MS4.0,baz=107,slow=36
SONM Songino Array 41.67 320 P **P** **21 58 15.9 0.0**
SONM 22 00 12.0
WRAB Tennant Creek 41.74 196 *d i*P **P** **21 58 16.4 -0.3**
WRAB Tennant Creek 41.74 196 *e*P **P** **21 58 15.5 -1.2**
comp=Z,14nm,0.7s,mb4.7
WB2 Warramunga Arr 41.75 196 *e*P **P** **21 58 15.8 -0.9**
WRA Warramunga Arr 41.75 196 P **P** **21 58 16.3 -0.4**
comp=Z,10nm,0.6s,mb4.7,baz=19,slow=8.9,SNR=146
SEY Seymchan 42.59 5 ⇑*e*P **P** **21 58 23.9 +0.8**
YAK Yakutsk 42.88 349 *e*P **P** **21 58 25.3 -0.2**
FITZ Fitzroy Crossi 43.15 208 ⇑*i*P **P** **21 58 27.4 -0.7**
comp=Z,12nm,0.6s,mb4.8
GTA Gaotai 43.40 306 *e*P **P** **21 58 30.0 0.0**
GTA AP pP 21 58 42.3 -1.3
GTA XP sP 21 58 47.8 -1.7
GTA PP PP 22 00 13.5 +1.9
GTA PCP PcP 22 00 18.0 +0.3
GTA S **S** **22 04 54.5 0.0**
GTA XS sS 22 05 14.5 -2.8
GTA SS SS 22 08 02.0 -7.8
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
GTA AMB AMB
comp=Z,81nm,6.3s
GTA LR LR
comp=N,159nm,13.8s,MS4.3
GTA LR LR
comp=E,172nm,11.1s,MS4.3
GTA LR LR
comp=Z,132nm,13.8s,MS4.0
BOD Bodaibo 43.79 336 *e*P **P** **21 58 32.3 -0.5**
CHTO Chiang Mai 43.89 276 *e*P **P** **21 58 33.7 -0.6**
CHTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
CHTO Chiang Mai 43.89 276 *e*P **P** **21 58 33.7 -0.6**
comp=Z,2.3nm,0.5s,mb4.2
CMAR Chiang Mai Arr 43.96 276 P **P** **21 58 34.8 0.0**
comp=Z,1.6nm,0.5s,mb4.0,baz=81,slow=5.7,SNR=8.3
CMAR PcP PcP 22 00 18.7 -1.3
comp=Z,0.7nm,0.4s,baz=73,slow=2.2,SNR=4.6
CMAR ScP ScP 22 04 08.5 +0.8
comp=Z,0.2nm,0.4s,baz=306,slow=0.4,SNR=4.5
CMAR Chiang Mai Arr 43.96 276 P **P** **21 58 34.8 0.0**
CMAR 22 00 18.7
ZAK Zakamensk 44.64 322 *e*P **P** **21 58 39.4 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
MYKOM Kota Tinggi 44.84 251 ⇓P **P** **21 58 45.0 +3.1**
ASAR Alice Springs 45.43 195 P **P** **21 58 45.0 -1.2**
comp=Z,3.6nm,0.6s,mb4.4,baz=17,slow=7.4,SNR=57
IPM Ipoh 46.21 256 ⇑P **P** **21 58 58.1 +5.4**
KULM Kulim 46.23 257 ⇑P **P** **21 58 53.8 +1.0**
PSI Prapat 48.81 255 P **P** **21 59 13.2 +0.3**
comp=Z,7.2nm,0.5s,mb4.9,baz=57,slow=4.4,SNR=6.6
BILL Bilibino 49.20 10 *e*P **P** **21 59 16.2 +1.1**
BILL *e* 22 00 36.9
BILL *e*S **S** **22 06 13.9 -2.8**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SHL Shillong 49.45 286 *e*P **P** **21 59 18.0 +0.4**
LSA Lhasa 49.79 292 P **P** **21 59 22.3 +2.1**
TIXI Tiksi 52.02 353 *e*P **P** **21 59 36.0 -0.3**
TIXI pmax pmax
comp=Z,16nm,0.8s,mb5.0
TIXI Tiksi 52.02 353 *e*P **P** **21 59 36.1 -0.1**
STKA Stephens Creek 52.29 184 *e*P **P** **21 59 36.5 -2.2**
comp=Z,1.1nm,0.5s,mb4.0
STKA Stephens Creek 52.29 184 P **P** **21 59 36.5 -2.2**
comp=Z,1.3nm,0.4s,mb4.2,baz=357,slow=5.7,SNR=11
STKA LR LR 22 21 27.2
comp=Z,163nm,18.7s,MS4.1,baz=203,slow=36
TAPN Taplejung 52.98 289 *e*P **P** **21 59 44.9 +0.8**
comp=Z,34nm,0.7s,mb5.4
WMQ Urumqi 53.07 310 P **P** **21 59 45.5 +1.0**
WMQ AP pP 21 59 58.0 -0.4
WMQ XP sP 22 00 03.3 -1.0
WMQ PCP PcP 22 00 53.5 +1.1
WMQ PP PP 22 01 47.0 +2.4
WMQ SCP ScP 22 04 45.8 0.0
WMQ S **S** **22 07 10.3 -0.6**
WMQ SCS ScS 22 09 27.8 -1.9
WMQ SS SS 22 10 49.0 -1.6
WMQ AMB AMB
comp=Z,41nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,22nm,10.6s
WMQ LR LR
comp=N,941nm,17.4s,MS5.0
WMQ LR LR
comp=E,901nm,16.8s,MS5.0
WMQ LR LR
comp=Z,1μm,17.2s,MS5.0
ODAN Odare 53.32 289 *e*P **P** **21 59 46.8 +0.2**
comp=Z,23nm,0.4s,mb5.4
RAMN Ramite 54.01 289 *e*P **P** **21 59 51.8 +0.1**
comp=Z,14nm,0.4s,mb5.2
JIRN Jiri 54.29 290 *e*P **P** **21 59 55.0 +1.3**
GUN Gumba 54.54 290 *e*P **P** **21 59 56.6 +1.1**
comp=Z,33nm,0.6s,mb5.6
PKI Pulchoki 54.99 290 *e*P **P** **21 59 58.7 -0.1**
comp=Z,15nm,0.4s,mb5.3
KKN Kakani 55.08 290 *e*P **P** **21 59 59.3 -0.1**
comp=Z,28nm,0.8s,mb5.3
KKN Kakani 55.08 290 *e*P **P** **21 59 59.3 -0.1**
KKN pmax pmax
comp=Z,28nm,0.8s,mb5.3
BOK Bokaro 55.09 285 *e*P **P** **21 59 58.6 -0.9**
BOK AMb AMB 22 00 01.5
comp=Z,20nm,0.8s,mb5.2
DMN Daman 55.26 290 *e*P **P** **22 00 00.6 -0.1**
comp=Z,15nm,0.4s,mb5.4
GKN Gorkha 55.62 290 *e*P **P** **22 00 04.0 +0.7**
DANN Dangsing 56.35 291 *e*P **P** **22 00 09.4 +0.9**
comp=Z,266nm,0.6s
ZALV Zalesovo Beam 56.52 322 P **P** **22 00 08.4 -0.8**
comp=Z,5.4nm,0.5s,mb4.9,baz=107,slow=8.0,SNR=27
ZAL Zalesovo 56.53 322 P **P** **22 00 08.5 -0.8**
MKAR Makanchi Array 57.15 313 P **P** **22 00 13.9 +0.1**
comp=Z,7.1nm,0.6s,mb4.9,baz=103,slow=8.2,SNR=53
SVW2 Sparrevohn 57.23 30 *e*P **P** **22 00 14.7 +0.5**
TTA Tatalina 57.62 27 *e*P **P** **22 00 17.1 +0.2**
TTA pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
TTA Tatalina 57.62 27 *e*P **P** **22 00 17.1 +0.2**
comp=Z,3.2nm,0.6s,mb4.5
KDAK Kodiak Island 57.84 34 P **P** **22 00 17.9 -0.6**
comp=Z,7.7nm,0.7s,mb4.8,baz=256,slow=5.2,SNR=7.5
BLSP Bilaspur 58.78 284 *e*P **P** **22 00 24.9 -0.9**
BLSP AMb AMB 22 00 27.0
comp=Z,20nm,0.8s,mb5.2
CHUM Lake Minchumin 59.49 27 *e*P **P** **22 00 30.5 +0.6**
comp=Z,4.6nm,0.6s,mb4.7
KURK Kurchatov 59.86 317 *e*P **P** **22 00 32.2 -0.5**
KTH Kantishna Hill 60.00 28 *e*P **P** **22 00 33.5 0.0**
comp=Z,15nm,1.1s,mb4.9
KTH *e*pP pP 22 00 47.7 +0.2
TRF Thorofare Moun 60.26 28 *e*P **P** **22 00 35.1 0.0**
comp=Z,10nm,0.8s,mb4.9
COLD Coldfoot 61.27 24 *e*P **P** **22 00 42.7 +0.7**
comp=Z,3.0nm,0.8s,mb4.5
SMLA Simla 61.68 295 *e*P **P** **22 00 45.2 -0.3**
SMLA AMb AMB 22 00 48.3
comp=Z,22nm,1.1s,mb5.2
NGP Nagpur 61.79 284 *e*P **P** **22 00 44.1 -2.2**
NGP AMb AMB 22 00 44.9
comp=Z,22nm,1.5s,mb5.1
TKM2 Tokmak 2 61.85 308 *e*P **P** **22 00 46.8 +0.5**
TKM2 pmax pmax
comp=Z,14nm,0.9s,mb5.1
TKM2 Tokmak 2 61.85 308 *e*P **P** **22 00 46.8 +0.5**
comp=Z,14nm,0.9s,mb5.1
HYB Hyderabad 63.12 280 *i*P **P** **22 00 55.5 +0.3**
HYB Hyderabad 63.12 280 *e*P **P** **22 00 55.5 +0.3**
EKS2 Erkin-Say 63.20 308 *e*P **P** **22 00 55.9 +0.5**
comp=Z,4.0nm,0.7s,mb4.7
EKS2 *e*pP pP 22 01 09.1 -0.5
AML Almayashu 63.30 308 *e*P **P** **22 00 57.3 +1.3**
comp=Z,44nm,1.1s,mb5.5
AKL Akola 63.74 284 *e*P **P** **22 01 00.2 +0.8**
AJM Ajmer 64.64 290 *e*P **P** **22 01 04.2 -1.0**
AJM AMb AMB 22 01 05.9
comp=Z,39nm,0.8s,mb5.5
LATR Latur 64.71 281 *e*P **P** **22 01 05.6 -0.1**
LATR AMb AMB 22 01 06.4
comp=Z,34nm,0.8s,mb5.4
BRVK Borovoye 65.08 320 *e*P **P** **22 01 07.3 -0.2**
BRVK pmax pmax
comp=Z,17nm,0.7s,mb5.2
BRVK Borovoye 65.08 320 *e*P **P** **22 01 07.3 -0.2**
comp=Z,17nm,0.7s,mb5.2
DAWY Dawson 65.13 28 *e*P **P** **22 01 08.1 +0.5**
DAWY *e*pP pP 22 01 21.8 -0.1
URZ Urewera 65.55 153 LR LR 22 25 24.0
comp=Z,213nm,21.2s,MS4.3,baz=28,slow=32
HYT Haines Junctio 65.86 32 *e*P **P** **22 01 14.9 +2.5**
KOD Kodaikanal 66.14 272 *e*P **P** **22 01 13.6 -1.4**
KOD AMb AMB 22 01 34.7
comp=Z,21nm,2.5s,mb4.7
POO Poona 67.17 282 *e*P **P** **22 01 20.6 -0.9**
KAD Karad 67.18 281 *e*P **P** **22 01 20.3 -1.3**
KBL Kabul 67.89 300 *e*P **P** **22 01 26.0 +0.2**
KBL pmax pmax
comp=Z,36nm,0.6s,mb5.6
KBL Kabul 67.89 300 *e*P **P** **22 01 26.0 +0.2**
comp=Z,36nm,0.6s,mb5.6
GOA Goa 68.00 279 *e*P **P** **22 01 26.7 -0.1**
GOA AMb AMB 22 01 42.0
comp=Z,42nm,1.9s,mb5.1
DLBC Dease Lake 69.77 34 *e*P **P** **22 01 37.4 +0.4**
BHJ Bhuj 69.78 288 *e*P **P** **22 01 37.4 -0.4**
SVE Sverdlovsk 70.33 324 *e*P **P** **22 01 40.6 +0.1**
SVE pmax pmax
comp=Z,22nm,1.5s,mb4.9
ARU Arti 71.53 324 *c i*P **P** **22 01 47.0 -0.7**
ARU *e* pP 22 02 03.2 +1.0
ARU *e* 22 04 21.0
ARU *e*S S 22 11 04.0 +1.3
ARU *e*SS SS 22 15 33.3 -4.7
ARU pmax pmax
comp=Z,23nm,1.7s,mb4.8
ARU Arti 71.53 324 *e*P **P** **22 01 46.5 -1.3**
comp=Z,5.3nm,0.5s,mb4.7
PPT Papeete 73.97 116 LR LR 22 29 10.5
comp=Z,112nm,19.9s,MS4.2,baz=328,slow=31
CMW Cultus Mountai 76.34 43 P **P** **22 02 16.9 +0.8**
YKA Yellowknife Ar 76.37 28 P **P** **22 02 15.5 -0.4**
comp=Z,3.3nm,0.7s,mb4.4,baz=290,slow=5.6,SNR=11
YKA Yellowknife Ar 76.37 28 P **P** **22 02 15.5 -0.4**
JCW Jim Creek 76.52 43 P **P** **22 02 17.9 +0.8**
TDL Tradedollar La 76.84 45 P **P** **22 02 20.0 +1.1**
FMW Mount Fremont 77.04 45 P **P** **22 02 20.9 +0.8**
ETW Entiat 77.72 44 P **P** **22 02 24.4 +0.6**
VIPM Ingram Point 78.44 47 P **P** **22 02 28.5 +0.6**
GBL Gable Mountain 78.59 44 P **P** **22 02 29.3 +0.6**
APA Apatity 79.26 339 ⇑*i*P **P** **22 02 32.0 +0.1**
APA pmax pmax
comp=Z,58nm,1.2s,mb5.4
KEV Kevo 80.15 342 *e*p **P** **22 02 36.2 -0.5**
comp=Z,1.8nm,0.4s,mb4.3
KEV Kevo 80.15 342 *e*P **P** **22 02 36.2 -0.5**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
WVOR Wild Horse Val 80.46 48 *e*P **P** **22 02 38.8 -0.1**
WVOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WVOR Wild Horse Val 80.46 48 *e*P **P** **22 02 38.8 -0.1**
comp=Z,4.4nm,0.8s,mb4.4
CMB Columbia Colle 80.61 53 *e*P **P** **22 02 39.8 0.0**
CMB pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CMB Columbia Colle 80.61 53 *e*P **P** **22 02 39.8 0.0**
comp=Z,4.1nm,0.6s,mb4.5
ARCES ARCESS Array B 80.71 342 P **P** **22 02 39.8 +0.1**
comp=Z,7.6nm,0.6s,mb4.8,baz=71,slow=8.3,SNR=68
NVAR Mina Array Bea 82.03 52 P **P** **22 02 47.9 +0.6**
comp=Z,7.1nm,0.7s,mb4.7,baz=265,slow=6.4,SNR=58
NVAR Mina Array Bea 82.03 52 P **P** **22 02 47.9 +0.6**
JOF Joensuu 82.31 335 *e*p **P** **22 02 47.1 -1.2**
comp=Z,6.7nm,0.3s,mb5.0
TRO Tromso 82.47 344 *e*P **P** **22 02 48.5 -0.6**
TRO AMS AMS 22 26 45.1
comp=Z,2μm,18.4s
SNCC San Nicolas Is 82.85 57 P **P** **22 02 50.8 -0.9**
comp=Z,20nm,1.1s,mb5.1
ELK Elko 83.44 49 *e*P **P** **22 02 55.0 +0.4**
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK Elko 83.44 49 *e*P **P** **22 02 55.0 +0.4**
comp=Z,5.8nm,0.8s,mb4.7
OBN Obninsk 83.69 327 *d i*P **P** **22 02 54.7 -0.9**
OBN *e* 22 06 07.5
OBN pmax pmax
comp=Z,12nm,0.6s,mb5.2
TPNV Topopah Spring 84.08 53 *e*P **P** **22 02 58.1 +0.2**
TPNV pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
TPNV Topopah Spring 84.08 53 *e*P **P** **22 02 58.1 +0.1**
comp=Z,5.0nm,0.8s,mb4.7
KAF Kangasniemi 84.70 336 *e*p **P** **22 02 58.7 -1.9**
comp=Z,6.3nm,0.4s,mb5.1,baz=54,slow=4.7
KAF Kangasniemi 84.70 336 *e*P **P** **22 02 58.7 -1.9**
KAF pmax pmax
comp=Z,6.0nm,0.4s,mb5.1
KIV Kislovodsk 84.85 315 *e*P **P** **22 03 01.2 -0.5**
KIV pmax pmax

comp=Z,2.0nm,0.7s,mb4.4
GNI Garni 84.93 311 P **P 22 03 02.1 -0.1**
comp=Z,2.5nm,0.3s,mb4.9,baz=28,slow=4.2,SNR=2.9
SPUT South Promonto 85.18 48 *e*P **P 22 03 04.0 +0.6**
DUG Dugway 85.36 49 *e*P **P 22 03 04.6 +0.3**
DUG pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
DUG Dugway 85.36 49 *e*P **P 22 03 04.6 +0.3**
comp=Z,9.0nm,1.2s,mb4.8
FFC Flin Flon 85.55 33 *e*P **P 22 03 05.2 +0.2**
FFC *e**PP pP 22 03 19.4 -0.4
FFC pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
FFC Flin Flon 85.55 33 *e*P **P 22 03 05.2 +0.3**
comp=Z,7.4nm,0.9s,mb4.9
FFC *e*pP pP 22 03 19.4 -0.4
RLMT Red Lodge 85.76 43 *e*P **P 22 03 06.2 +0.1**
comp=Z,7.0nm,0.7s,mb5.0
RLMT *e* pP 22 03 22.0 +1.0
MOR8 Moi Rana 86.08 342 *e*P **P 22 03 05.8 -1.6**
MSU Marysvale 86.47 50 *e*P **P 22 03 10.4 +0.5**
MSU *e**PP pP 22 03 23.8 -0.9
PDAR Pinedale Array 86.56 46 P **P 22 03 09.7 -0.5**
comp=Z,0.9nm,0.7s,mb4.1,baz=245,slow=2.2,SNR=7.6
UMR Umm Al-Rimmam 86.64 300 *e*P **P 22 03 09.9 -0.9**
baz=300
UMR AMb AMB 22 03 10.8
comp=Z,20nm,0.7s,mb5.5,baz=300
MIB Mutribah 86.85 301 *e*P **P 22 03 10.9 -1.0**
baz=301
MIB AMb AMB 22 03 11.8
comp=Z,94nm,0.6s,baz=301
JMIC Jan Mayen 86.93 352 AMS AMS 22 31 16.9
comp=Z,655nm,18.6s,MS5.1
RDF Al-Radifah 87.00 300 *e*P **P 22 03 12.1 -0.5**
baz=300
RDF AMb AMB 22 03 12.8
comp=Z,19nm,0.4s,mb5.7,baz=300
SUMG Summit 87.05 1 *e*P **P 22 03 12.2 +0.2**
comp=Z,2.8nm,0.8s,mb4.5
SUMG *e*pP pP 22 03 26.5 -0.4
NAY Al-Naaiem 87.13 300 *e*P **P 22 03 12.0 -1.3**
baz=300
NAY AMb AMB 22 03 12.7
comp=Z,29nm,0.7s,mb5.6,baz=300
NSS Namsos 87.99 342 *e*P **P 22 03 15.1 -1.6**
WUAZ Wupatki 88.26 53 *e*P **P 22 03 19.2 +0.7**
comp=Z,6.3nm,1.1s,mb4.8
AKASG Malin Array Be 89.75 325 P **P 22 03 23.3 -1.9**
comp=Z,0.5nm,0.3s,mb4.3,baz=50,slow=5.2,SNR=4.5
HFS Hagfors 90.64 338 P **P 22 03 27.5 -1.7**
comp=Z,2.6nm,0.3s,mb5.0,baz=86,slow=4.4,SNR=56
MOL Molde 90.77 342 AMS AMS 22 25 59.4
comp=Z,1μm,20.3s,MS5.4
NB2 NORSAR Subarra 90.81 340 P **P 22 03 28.5 -1.4**
comp=Z,1.0nm,0.5s,mb4.4,baz=46,slow=4.8
NB2 NORSAR Subarra 90.81 340 P **P 22 03 28.5 -1.4**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb4.4
NOA NORSAR Array B 90.81 340 P **P 22 03 28.7 -1.2**
comp=Z,1.5nm,0.5s,mb4.6,baz=44,slow=4.9,SNR=7.7
SUW Suwalki 90.86 330 *e*P **P 22 03 28.8 -1.5**
SUW Suwalki 90.86 330 *e*P **P 22 03 28.8 -1.5**
ULM Lac du Bonnet 91.09 34 P **P 22 03 30.5 -0.9**
comp=Z,3.6nm,0.9s,mb4.7,baz=273,slow=4.7,SNR=4.0
ULM Lac du Bonnet 91.09 34 P **P 22 03 30.5 -0.9**
SDCO Great Sand Dun 91.55 49 *e*P **P 22 03 34.2 +0.3**
comp=Z,1.5nm,0.8s,mb4.4
SDCO pP pP 22 03 48.0 -0.8
ANMO Albuquerque 92.14 51 *e*P **P 22 03 36.2 -0.5**
ANMO *e**PP pP 22 03 50.7 -0.9
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 92.14 51 *e*P **P 22 03 36.2 -0.5**
comp=Z,3.1nm,0.9s,mb4.6
ANMO *e*pP pP 22 03 50.7 -0.9
AGMN Agassiz Refuge 92.21 36 *e*P **P 22 03 36.4 -0.2**
comp=Z,5.8nm,0.7s,mb5.0
BER Bergen 93.16 341 AMS AMS 22 26 10.9
comp=Z,779nm,17.5s,MS5.2
MMAI Mount Meron Ar 94.76 308 P **P 22 03 48.1 -0.7**
comp=Z,1.8nm,0.7s,mb4.6,baz=34,slow=6.2,SNR=4.7
TXAR Lajitas Array 96.82 55 P **P 22 03 59.1 +0.8**
comp=Z,0.5nm,0.7s,mb4.0,baz=339,slow=6.7,SNR=2.7
GERES GERESS Array B 98.72 330 P **P 22 04 04.7 -1.6**
comp=Z,0.3nm,0.6s,mb4.0,baz=19,slow=5.7,SNR=4.4
LSZ Lusaka 120.56 264 *e*PKIKP PKPdf 22 09 19.4 +0.2
TORD Torodi Ar. Bea 131.23 310 PKP PKPdf 22 09 39.7 0.0
comp=Z,2.2nm,0.5s,baz=46,slow=1.0,SNR=59
TORD SKPbc SKPbc 22 13 00.2 -0.1
comp=Z,2.1nm,0.8s,baz=42,slow=2.9,SNR=7.7
DBIC Dimbokro 140.34 310 PKhKP 22 09 47.9
comp=Z,2.4nm,0.5s,baz=164,slow=2.4,SNR=5.6
DBIC PKP PKPdf 22 09 58.6 +2.0
comp=Z,4.8nm,0.7s,baz=90,slow=8.1,SNR=5.0
DBIC Dimbokro 140.34 310 PKIKP PKPdf 22 09 58.6 +1.9
KIC Kosan Boka 140.47 310 *e*P PKPdf 22 09 58.7 +1.8
comp=Z,221nm,1.6s
TIC Toumodi 140.47 310 *e*P PKPdf 22 09 55.4 -1.5
comp=Z,12nm,0.3s
LIC Lamto 140.77 310 *e*P PKPdf 22 09 59.2 +1.8
comp=Z,98nm,1.9s
PLCA Paso Flores 143.29 131 PKP PKPdf 22 10 01.3 +0.2
comp=Z,2.7nm,1.0s,baz=263,slow=2.8,SNR=4.0
LPAZ La Paz 147.71 88 PKPbc PKPbc 22 10 13.4 +1.2
comp=Z,5.3nm,0.6s,baz=325,slow=2.6,SNR=24
LPAZ La Paz 147.71 88 *e*PKPdf PKPdf 22 10 10.5 +1.2
LPAZ *e*PKPbc PKPbc 22 10 13.3 +1.1
TRQA Tornquist 150.43 132 *e*PKPbc PKPbc 22 10 17.6 -0.9

NSSC ***25*** *22:05:27.4, 40.71N×42.15E, h15km±753km*
BJI ***25*** *22:05:46.6, 39.30N×41.10E, h10km, mB5.1, mb4.9, Ms5.0, Msz4.8*
ISCJB ***25*** *22:05:47.3±0.3, 39.27N±0.01×41.11E±0.01, h5km±2km, mb5.0/218, MS4.7/74, Error ellipse: s-maj=2.0km s-min=1.6km az=166.4*
IDC ***25*** *22:05:47.6±0.4, 39.30N×41.20E, h0km, mb4.7/28, mb1 4.8/35, mb1mx4.8/36, mbtmp4.7/35, ML3.7/7, MS4.6/31, Ms1 4.6/31, ms1mx4.6/41, Error ellipse: s-maj=11.0km s-min=7.0km az=168.0*
ISK ***25*** *22:05:47.2, 39.26N×41.04E, h5km, ML5.4*
CSEM ***25*** *22:05:48.0±0.0, 39.33N×41.08E, h11km, mb5.1/99, Ms4.5, Mw5.3, Error ellipse: s-maj=1.1km s-min=0.9km az=159.0*
DDA ***25*** *22:05:48.0, 39.25N×41.09E, h24km±1km, Md5.1, Ml5.5*
NEIC ***25*** *22:05:49.6±0.2, 39.28N×41.12E, h10km, mb5.1/146, ML5.4(ISK), Error ellipse: s-maj=4.0km s-min=2.3km az=186.0*
GCMT ***25*** *22:05:49.6±0.1, 39.37N×41.09E, h17km, MW5.3/93, Moment Tensor Solution. s55,c89; s93,c178; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.32±.02; Mθθ-0.69±.02; Mφφ 1.01±.02; Mrθ-0.15±.04; Mrφ0.35±.01; Mθφ0.23±.04; Best double couple: M0 0.97100×10^17 NP1:φs55.00000°, δ69.00000°, λ-10.00000°. NP2: φs149.00000°, δ81.00000°, λ-159.00000°. Principal axes: T 1.1070, Plg8.0000°, Azm280.0000°; N -0.2710, Plg67.0000°, Azm171.0000°; P -0.8350, Plg21.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***25*** *22:05:49.9±1.1, 39.34N×41.11E, h25km, mb5.1/78, MS4.6/42 Error ellipse: s-maj=4.7km s-min=2.5km az=40.7*
DJA ***25*** *22:05:50, 39.57N×40.74E, h10km, mb5.4/22*
SZGRF ***25*** *22:05:52.2, 38.07N×40.06E, h33km, mb5.2, MS4.3, Turkey*
ISC 25 22:05:49.4±0.3, 39.27N±0.01×41.14E±0.01, h7km±2km, h14km±.6km: pP-P, n1067, σ1§13/1165, mb5.0/219, MS4.7/74, 50C-35D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.32**	**178**	*i*P	**Pg**	**22 05 55.1**	**-0.4**
BNGL				*i* S	**Sg**	**22 06 00.8**	**+1.1**
EZM	**Erzurum**	**0.66**	**15**	PG	**Pg**	**22 06 01.5**	**-0.6**
ERZM	**Erzurum**	**0.66**	**15**	*i*P	**Pg**	**22 06 01.3**	**-0.8**
ERZM				*i* S	**Sg**	**22 06 12.1**	**+1.4**
KOPT	**Kop Dagi**	**0.90**	**327**	*i*P	**Pg**	**22 06 04.9**	**-1.7**
KOPT				*i* S	**Sg**	**22 06 18.9**	**+0.7**
HOMI	**Horasan**	**0.98**	**37**	*i*P	**Pg**	**22 06 07.1**	**-1.0**
HOMI				*i* S	**Sg**	**22 06 21.7**	**+0.9**
EZC	**Erzincan**	**1.13**	**296**	PN	**Pn**	**22 06 13.4**	**+1.9**
PTK	**Pertek**	**1.41**	**255**	PN	**Pn**	**22 06 12.7**	**-2.7**
PTK				*e*SN	**Sn**	**22 06 33.4**	**-0.8**
AGRB	**Hanur-Agry**	**1.47**	**77**	PN	**Pn**	**22 06 16.8**	**+0.6**
AGRB				*e*SN	**Sn**	**22 06 38.5**	**+2.9**
DIY	**Diyarbakir**	**1.55**	**208**	PN	**Pn**	**22 06 16.9**	**-0.3**
DIYA	**Diyarbakir**	**1.56**	**211**	⇑*i*P	**Pn**	**22 06 16.9**	**-0.5**
DIYA				*i* S	**Sn**	**22 06 37.8**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.69**	**239**	PN	**Pn**	**22 06 17.9**	**-1.2**
SVRC				*e*SN	**Sn**	**22 06 41.0**	**+0.1**
GUMT	**Gumushane**	**1.75**	**314**	PN	**Pn**	**22 06 19.6**	**-0.4**
ELZG	**Elazig**	**1.85**	**246**	⇑*i*P	**Pn**	**22 06 19.2**	**-2.3**
ELZG				*i* S	**Sn**	**22 06 42.7**	**-2.3**
PZAR	**Pazar-Rize**	**1.92**	**355**	PN	**Pn**	**22 06 22.3**	**-0.1**
PZAR				*e*SN	**Sn**	**22 06 48.5**	**+1.8**
TVAN	**Van**	**1.92**	**112**	⇑*i*P	**Pn**	**22 06 23.4**	**+1.1**
TVAN				*i* S	**Sg**	**22 06 58.9**	**+7.9**
VANT	**Van**	**1.94**	**114**	*e*PN	**Pn**	**22 06 22.8**	**+0.1**
MARD	**Mardin**	**1.97**	**188**	⇓*i*P	**Pn**	**22 06 22.7**	**-0.4**
MARD				*i* S	**Sn**	**22 06 48.2**	**+0.1**
MACK	**Trabzon**	**1.98**	**328**	⇓*i*P	**Pn**	**22 06 23.1**	**-0.1**
MACK				*i* S	**Sn**	**22 06 50.3**	**+2.2**
DYDN	**Diyadin**	**2.00**	**81**	⇑*i*P	**Pn**	**22 06 24.1**	**+0.6**
DYDN				*i* S	**Sn**	**22 06 52.1**	**+3.5**
ARTV	**Artvin**	**2.01**	**17**	⇓*i*P	**Pn**	**22 06 23.9**	**+0.2**
ARTV				*i* S	**Sn**	**22 06 53.2**	**+4.2**
KTUT	**Trabzon**	**2.01**	**329**	*e*PN	**Pn**	**22 06 22.9**	**-0.8**
KTUT				*e*SN	**Sn**	**22 06 49.6**	**+0.5**
KARS	**Kars**	**2.01**	**48**	*e*PN	**Pn**	**22 06 24.6**	**+0.9**
SIRT	**Sirnak**	**2.04**	**150**	*e*PN	**Pn**	**22 06 24.4**	**+0.3**
CLDR	**Caldiran**	**2.16**	**92**	*e*PN	**Pn**	**22 06 26.6**	**+0.9**
BCA	**Borcka**	**2.21**	**9**	*e*PN	**Pn**	**22 06 26.5**	**+0.2**
MYA	**Malataya**	**2.32**	**247**	*e*PN	**Pn**	**22 06 26.9**	**-1.0**
MALT	**Malatya**	**2.32**	**247**	*e*PN	**Pn**	**22 06 27.1**	**-0.9**
MALT	**Malatya**	**2.32**	**247**	*e*P	**Pn**	**22 06 27.0**	**-1.0**
MALT	**Malatya**	**2.32**	**247**	*e*Pn	**Pn**	**22 06 27.0**	**-1.0**
ESPY	**Espiye-Giresun**	**2.48**	**312**	*e*PN	**Pn**	**22 06 29.4**	**-0.7**
URFA	**Urfa**	**2.58**	**226**	*e*PN	**Pn**	**22 06 30.9**	**-0.6**
DARE	**Darende-Malaty**	**2.61**	**264**	*e*PN	**Pn**	**22 06 35.8**	**+3.8**
HAKT	**HAKKARI**	**2.64**	**129**	⇑*i*P	**Pn**	**22 06 34.2**	**+1.9**
HAKT				*i* S	**Sg**	**22 07 16.0**	**+1.8**
HKR	**Hakkari**	**2.65**	**129**	*e*PN	**Pn**	**22 06 33.4**	**+0.9**
AKCD	**Akcadag**	**2.69**	**250**	⇑*i*P	**Pn**	**22 06 31.9**	**-1.1**
AKCD				*i* S	**Sg**	**22 07 14.8**	**-1.2**
GRSN	**GIRESUNGRSN**	**2.75**	**308**	⇓*i*P	**Pn**	**22 06 33.3**	**-0.6**
ATAB	**Bozova**	**2.87**	**232**	⇑*i*P	**Pn**	**22 06 34.4**	**-1.0**
ATAB				*i* S	**Sg**	**22 07 20.8**	**-0.7**
GNI	**Garni**	**2.92**	**71**	P	**Pn**	**22 06 37.9**	**+1.8**
SNR=541							
GNI	**Garni**	**2.92**	**71**	Pn	**Pn**	**22 06 35.3**	**-0.8**
31nm,0.3s,baz=286,slow=3.1,SNR=160							
GNI				Pg	**Pg**	**22 06 42.2**	**-3.0**
96nm,0.3s,baz=320,slow=4.1,SNR=60							
GNI				Sn	**Sn**	**22 07 10.0**	**-1.3**
113nm,0.3s,baz=314,slow=16,SNR=3.6							
GNI				Lg		22 07 30.6	
57nm,0.3s,baz=228,slow=18,SNR=2.3							
GNI				LR	LR	22 08 03.2	
comp=Z,18μm,18.7s,baz=61,slow=48							
GNI	**Garni**	**2.92**	**71**	P	**Pn**	**22 06 35.3**	**-0.8**
GNI						22 07 10.0	
GNI				pmax	pmax		
comp=Z,31nm,0.3s							
GNI				smax			
comp=N,113nm,0.3s							
GNI				MLR	MLR		
comp=Z,18μm,18.7s							
GNI	**Garni**	**2.92**	**71**	*e*Pn	**Pn**	**22 06 37.7**	**+1.6**
GNI				S	**Sn**	**22 07 10.0**	**-1.3**
comp=Z,18μm,18.7s							
GNI	**Garni**	**2.92**	**71**	*e*Pn	**Pn**	**22 06 37.7**	**+1.6**
RSDY	**Resadiye-TOKAT**	**3.14**	**292**	*e*PN	**Pn**	**22 06 38.8**	**-0.5**
SVSK	**Karacayir**	**3.26**	**283**	*e*PN	**Pn**	**22 06 40.5**	**-0.3**
MSL	**Mosul**	**3.35**	**152**	*i* x	x	22 06 43.0	
MSL				*e*x	x	22 07 25.0	
GZT	**Gaziantep**	**3.40**	**237**	⇑*i*P	**Pn**	**22 06 41.4**	**-1.3**
SARI	**SarD1z-Kayseri**	**3.51**	**262**	*e*PN	**Pn**	**22 06 47.5**	**+3.2**
GOR	**Gori**	**3.53**	**39**	P	**Pn**	**22 06 45.6**	**+1.1**
GOR				S	**Sg**	**22 07 46.2**	**+3.4**
TBLG	**Delisi**	**3.69**	**47**	P	**Pn**	**22 06 47.6**	**+1.0**
TBLG				S	**Sg**	**22 07 48.9**	**+1.2**
TOKT	**Tokat**	**3.69**	**288**	*e*PN	**Pn**	**22 06 46.2**	**-0.5**
GAZ	**Gaziantep**	**3.73**	**237**	*e*PN	**Pn**	**22 06 47.1**	**-0.2**
PINB	**Pinarbasi**	**3.74**	**262**	⇑*i*P	**Pn**	**22 06 46.7**	**-0.7**
ONI	**Oni**	**3.74**	**27**	P	**Pn**	**22 06 48.3**	**+0.8**
ONI				S	**Sg**	**22 07 48.5**	**-1.1**
KMRS	**Kahramanmaras**	**3.77**	**243**	*e*PN	**Pn**	**22 06 47.7**	**-0.1**
ANDN	**Andirin**	**4.12**	**247**	⇑*i*P	**Pn**	**22 06 51.1**	**-1.6**
ANDN				*i* S	**Sg**	**22 07 58.5**	**-3.3**
BNN	**Bunyan**	**4.14**	**266**	*e*PN	**Pn**	**22 06 52.6**	**-0.4**
JHLN	**Al Jahlan**	**4.18**	**212**	⇑P	**Pn**	**22 06 53.8**	**+0.3**
JHLN	**Al Jahlan**	**4.18**	**212**	⇑*i*P	**Pn**	**22 06 53.8**	**+0.3**
KVT	**Kavak**	**4.30**	**297**	*e*PN	**Pn**	**22 06 55.8**	**+0.6**
DRWC	**Darouich**	**4.41**	**235**	⇑*i*P	**Pn**	**22 06 55.0**	**-1.7**
SOC	**Sochi**	**4.44**	**347**	*d i*P	**Pn**	**22 06 56.6**	**-0.5**
SOC				*e*		22 07 52.6	
SOC				pmax	pmax		
comp=Z,282nm,0.8s							
SOC				MLR	MLR		
comp=Z,2μm,10.0s							
SOC	**Sochi**	**4.44**	**347**	*i* P	**Pn**	**22 06 56.6**	**-0.5**
comp=Z,282nm,0.8s							
SOC				*e*S	**Sn**	**22 07 52.6**	**+3.6**
comp=Z,2μm,10.0s							
YOZ	**Yozgat**	**4.52**	**277**	*e*PN	**Pn**	**22 06 58.3**	**+0.2**
KOZT	**Kozan**	**4.54**	**249**	*e*PN	**Pn**	**22 06 59.2**	**+0.8**
COBT	**Iskenderun**	**4.74**	**236**	⇑*i*P	**Pn**	**22 06 59.5**	**-1.6**
COBT				*i* S	**Sb**	**22 08 09.4**	**-0.5**
KIV	**Kislovodsk**	**4.82**	**13**	Pn	**Pn**	**22 07 03.9**	**+1.6**
comp=Z,786nm,1.0s,SNR=24							
KIV	**Kislovodsk**	**4.82**	**13**	⇓P	**Pn**	**22 07 03.7**	**+1.4**
SNR=38							
KIV	**Kislovodsk**	**4.82**	**13**	*d i*P	**Pn**	**22 07 03.6**	**+1.3**
KIV				*e*S	**Sn**	**22 07 59.0**	**+0.6**
KIV				pmax	pmax		
comp=Z,61nm,0.8s							
KIV	**Kislovodsk**	**4.82**	**13**	*e*Pn	**Pn**	**22 07 03.3**	**+1.0**
KIV	**Kislovodsk**	**4.82**	**13**	*i* P	**Pn**	**22 07 03.6**	**+1.3**
comp=Z,61nm,0.8s							
KIV				*e*S	**Sn**	**22 07 59.0**	**+0.6**
KIV	**Kislovodsk**	**4.82**	**13**	*e*Pn	**Pn**	**22 07 03.3**	**+1.0**
BTCH	**Batrach**	**4.92**	**230**	⇑P	**Pn**	**22 07 02.5**	**-1.1**
BTCH	**Batrach**	**4.92**	**230**	⇑*i*P	**Pn**	**22 07 02.5**	**-1.1**
YURE	**YUREGIR**	**4.98**	**242**	⇑*i*P	**Pn**	**22 07 03.1**	**-1.4**
YURE				*i* S	**Sg**	**22 08 31.3**	**+1.9**
SEKA	**Sheki**	**5.03**	**65**	P	**Pn**	**22 07 07.0**	**+1.9**
SNR=70							
HTY	**Hatay**	**5.06**	**233**	*e*PN	**Pn**	**22 07 05.2**	**-0.4**
DIKM	**Dikmen**	**5.08**	**300**	*e*PN	**Pn**	**22 07 05.9**	**+0.1**
CORM	**Corum**	**5.10**	**282**	*e*PN	**Pn**	**22 07 06.6**	**+0.4**
KARA	**Karaisali**	**5.19**	**249**	*e*PN	**Pn**	**22 07 07.6**	**+0.3**
NIG	**Nigde**	**5.24**	**259**	*e*PN	**Pn**	**22 07 08.3**	**+0.3**
CDAG	**Cicekdag**	**5.25**	**276**	⇓*i*P	**Pn**	**22 07 06.1**	**-2.0**
CDAG				*i* S	**Sg**	**22 08 31.9**	**-6.1**
ARNB	**Al Arnab**	**5.33**	**232**	⇑P	**Pn**	**22 07 08.8**	**-0.5**
ARNB	**Al Arnab**	**5.33**	**232**	⇑*i*P	**Pn**	**22 07 08.8**	**-0.5**
BYBT	**Boyabat**	**5.34**	**296**	*e*PN	**Pn**	**22 07 10.0**	**+0.6**
SLNF	**Slenfeh**	**5.36**	**228**	⇑P	**Pn**	**22 07 08.7**	**-1.0**
SLNF	**Slenfeh**	**5.36**	**228**	⇑*i*P	**Pn**	**22 07 08.7**	**-1.0**
BIDA	**Albida**	**5.73**	**224**	⇑P	**Pn**	**22 07 13.3**	**-1.5**
BIDA				⇑S	**Sb**	**22 08 39.8**	**+1.4**
BIDA	**Albida**	**5.73**	**224**	⇑*i*P	**Pn**	**22 07 13.3**	**-1.5**
TOS	**Tosya**	**5.73**	**290**	*e*PN	**Pn**	**22 07 16.2**	**+1.5**
MERS	**Mersin**	**5.74**	**247**	*e*PN	**Pn**	**22 07 15.1**	**+0.1**
KAMT	**Kaman**	**5.76**	**273**	*e*PN	**Pn**	**22 07 15.4**	**+0.2**
CANT	**Cankiri**	**5.93**	**285**	*e*PN	**Pn**	**22 07 18.5**	**+1.0**
ROOS	**tI_alroos**	**5.95**	**212**	⇑P	**Pn**	**22 07 17.9**	**0.0**
ROOS				⇑S	**Sb**	**22 08 47.9**	**+3.0**
ROOS	**tI_alroos**	**5.95**	**212**	⇑*i*P	**Pn**	**22 07 17.9**	**0.0**
BZK	**Bozkurt**	**6.06**	**299**	*e*PN	**Pn**	**22 07 20.4**	**+1.1**
MAK	**Makhachkala**	**6.06**	**50**	P	**Pn**	**22 07 15.7**	**-3.6**
MAK				*e*S	**Sn**	**22 08 29.1**	**+0.3**
MAK				MLR	MLR		
comp=Z,12μm,13.0s							
MAK	**Makhachkala**	**6.06**	**50**	P	**Pn**	**22 07 15.7**	**-3.6**
comp=Z,12μm,13.0s							
MAK				*e*S	**Sn**	**22 08 29.1**	**+0.3**
ANN	**Anapa**	**6.18**	**335**	*e*P	**Pn**	**22 07 17.3**	**-3.6**
ANN				*e*		22 08 30.2	
ANN				pmax	pmax		
comp=Z,4.0nm,0.8s							
ANN				smax			
comp=E,31nm,0.5s							
ANN	**Anapa**	**6.18**	**335**	*e*P	**Pn**	**22 07 17.3**	**-3.6**
comp=E,4.0nm,0.8s							
ANN				*e*S	**Sn**	**22 08 30.2**	**-1.5**
FKH	**Fakeheh**	**6.30**	**219**	*e*Pn	**Pn**	**22 07 22.1**	**-0.5**
BALT	**Daday**	**6.34**	**293**	*i* P	**Pn**	**22 07 25.6**	**+2.5**
ANTO	**Ankara**	**6.48**	**278**	*e*PN	**Pn**	**22 07 26.7**	**+1.7**
ANTO	**Ankara**	**6.48**	**278**	P	**Pn**	**22 07 27.9**	**+2.9**
SNR=25							
ANTO	**Ankara**	**6.48**	**278**	*e*P	**Pn**	**22 07 25.4**	**+0.4**
ANTO				pmax	pmax		
comp=Z,539nm,1.2s							
ANTO	**Ankara**	**6.48**	**278**	*e*P	**Pn**	**22 07 25.4**	**+0.4**
comp=Z,539nm,1.2s							
ANTO	**Ankara**	**6.48**	**278**	*e*Pn	**Pn**	**22 07 25.4**	**+0.4**
comp=Z,539nm,1.2s							
HWQ	**Hawqa**	**6.49**	**222**	*e*Pn	**Pn**	**22 07 25.0**	**-0.3**
LOD	**Lodumlu**	**6.50**	**278**	*e*PN	**Pn**	**22 07 26.1**	**+0.8**
BHD	**Baghdad**	**6.53**	**155**	*e*x	x	22 07 27.0	
BHD				*e*x	x	22 08 42.0	
IKL	**Isikli**	**6.63**	**245**	*e*PN	**Pn**	**22 07 29.0**	**+1.8**
EREN	**Erenkoy**	**6.69**	**238**	*e*PN	**Pn**	**22 07 29.9**	**+2.0**
SAFT	**Safranbolu**	**6.76**	**290**	*e*PN	**Pn**	**22 07 30.4**	**+1.5**
BHL	**Bhannes**	**6.94**	**221**	*e*Pn	**Pn**	**22 07 30.3**	**-1.1**
LADK	**Ladik-KONYA**	**6.94**	**264**	*e*PN	**Pn**	**22 07 33.0**	**+1.6**
KERU	**Kerch**	**6.96**	**332**	*e*P	**Pb**	**22 07 48.2**	**-2.3**
KERU				*e*S	**Sb**	**22 09 17.8**	**+4.0**
KERU				pmax	pmax		
comp=Z,18nm,0.5s							
KERU				smax			
comp=N,3.0nm,0.4s							
KERU	**Kerch**	**6.96**	**332**	*e*P	**Pb**	**22 07 48.2**	**-2.3**
comp=N,18nm,0.5s							
KERU				*e*S	**Sb**	**22 09 17.8**	**+4.0**
comp=N,3.0nm,0.4s							
KONT	**Konya--Tatoy**	**7.00**	**262**	*e*PN	**Pn**	**22 07 33.7**	**+1.5**
KDHN	**Kadinhani**	**7.08**	**267**	⇑*i*P	**Pn**	**22 07 33.5**	**+0.2**
KDHN				*i* S	**Sb**	**22 09 25.1**	**+8.0**
FEO	**Feodosiya**	**7.16**	**325**	*e*P	**Pn**	**22 07 42.4**	**+8.0**
FEO				*e*S	**Sn**	**22 09 03.1**	**+7.2**
FEO				pmax	pmax		
comp=Z,108nm,0.9s							
FEO				smax			
comp=N,619nm,1.0s							
FEO				smax			
comp=E,35nm,0.9s							
FEO	**Feodosiya**	**7.16**	**325**	*e*P	**Pn**	**22 07 42.4**	**+8.0**
comp=E,108nm,0.9s							
FEO				*e*S	**Sn**	**22 09 03.1**	**+7.2**
comp=E,619nm,1.0s							
BRBR	**Barbar**	**7.19**	**217**	⇑*i*P	**Pn**	**22 07 36.2**	**+1.4**
RCY	**Rachaya**	**7.19**	**218**	*e*Pn	**Pn**	**22 07 34.5**	**-0.3**
HDMB	**Hadim**	**7.20**	**254**	*e*PN	**Pn**	**22 07 36.5**	**+1.6**
KIZT	**Kizilcal**	**7.21**	**270**	*e*PN	**Pn**	**22 07 35.6**	**+0.5**
SUDU	**Sudak**	**7.24**	**323**	*e*P	**Pn**	**22 07 39.6**	**+4.2**
SUDU				*e*S	**Sn**	**22 09 04.0**	**+6.2**
SUDU				pmax	pmax		
comp=Z,11nm,0.8s							
SUDU				smax			
comp=N,205nm,1.5s							
SUDU				smax			
comp=E,142nm,1.0s							
SUDU	**Sudak**	**7.24**	**323**	*e*P	**Pn**	**22 07 39.6**	**+4.2**
comp=E,11nm,0.8s							
SUDU				*e*S	**Sn**	**22 09 04.0**	**+6.2**
comp=E,205nm,1.5s							
LFK	**Lefkose**	**7.25**	**239**	*e*PN	**Pn**	**22 07 37.5**	**+1.8**
YAL	**Yalta**	**7.37**	**317**	*e*P	**Pn**	**22 07 41.0**	**+3.7**
YAL				*e*S	**Sn**	**22 09 06.7**	**+5.6**
YAL				pmax	pmax		
comp=Z,93nm,0.8s							
YAL				smax			
comp=N,92nm,0.7s							
YAL				smax			
comp=E,110nm,1.1s							
YAL	**Yalta**	**7.37**	**317**	*e*P	**Pn**	**22 07 41.0**	**+3.7**
comp=E,93nm,0.8s							
YAL				*e*S	**Sn**	**22 09 06.7**	**+5.6**
comp=E,92nm,0.7s							
ALU	**Alushta**	**7.38**	**319**	*e*P	**Pn**	**22 07 41.2**	**+3.8**
ALU				*e*S	**Sn**	**22 09 08.2**	**+7.0**
ALU				pmax	pmax		
comp=Z,40nm,0.6s							
ALU				smax			
comp=N,12nm,0.2s							
ALU				smax			
comp=E,28nm,0.3s							
ALU	**Alushta**	**7.38**	**319**	*e*P	**Pn**	**22 07 41.2**	**+3.8**
comp=E,40nm,0.6s							
ALU				*e*S	**Sn**	**22 09 08.2**	**+7.0**
comp=E,12nm,0.2s							
CSS	**Prodhromos**	**7.57**	**238**	*e*Pn	**Pn**	**22 07 40.3**	**+0.2**
comp=E,83nm,0.9s							
CSS	**Prodhromos**	**7.57**	**238**	*e*Pn	**Pn**	**22 07 40.3**	**+0.2**
comp=E,83nm,0.9s							
SEV	**Sevastopol'**	**7.67**	**316**	*e*P	**Pn**	**22 07 45.6**	**+4.2**
SEV				*i* S	**Sn**	**22 09 16.1**	**+7.7**
SEV				pmax	pmax		
comp=Z,7.0nm,0.9s							
SEV				smax			
comp=E,71nm,1.2s							
SEV				smax			

MFT	**Murefte**	**10.74 283**	*e*PN	**Pn**	**22 08 23.6**	**+0.1**
ARG	**Arkhangelos**	**10.75 258**	P	**Pn**	**22 08 26.2**	**+2.6**
RKY	**Sarkoy-Tekirda**	**10.81 282**	*e*PN	**Pn**	**22 08 24.1**	**-0.3**
TIRR	**Tirgusor**	**10.81 303** ⇓	*i*P	**Pn**	**22 08 24.7**	**+0.3**
TIRR	**Tirgusor**	**10.81 303**	*e*Pn	**Pn**	**22 08 24.0**	**-0.4**
	comp=Z,36nm,0.9s					
EIL	**Elat**	**10.85 210**	Pn	**Pn**	**22 08 26.5**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=24,slow=10,SNR=11					
EIL			Lg		22 11 42.2	
	comp=Z,2.5nm,0.3s,baz=93,slow=18,SNR=3.7					
EIL			LR	LR	22 12 36.4	
	comp=Z,1μm,19.7s,baz=228,slow=38					
EIL	**Elat**	**10.85 210**	Pn	**Pn**	**22 08 26.5**	**+1.5**
EIL			Lg		22 11 42.2	
EIL			LR	LR	22 12 36.4	
IZM	**Izmir**	**10.86 270**	*e*PN	**Pn**	**22 08 25.9**	**+0.8**
RST	**Umm Al-Ruwaisa**	**10.88 152**	*e*P	**Pn**	**22 08 23.9**	**-1.5**
	baz=152					
RST			AMb	AMB	22 08 36.4	
	comp=Z,9.0nm,1.2s,baz=152					
TLCR		**10.88 307** ⇑	*i*P	**Pn**	**22 08 27.9**	**+2.5**
TLCR		**10.88 307**	P	**Pn**	**22 08 28.8**	**+3.4**
BLCB	**Balcova**	**11.04 270**	*e*PN	**Pn**	**22 08 26.9**	**-0.6**
UMR	**Umm Al-Rimmam**	**11.11 149**	*e*P	**Pn**	**22 08 26.8**	**-1.7**
	baz=149					
UMR			AMb	AMB	22 08 32.4	
	comp=Z,101nm,0.7s,baz=149					
LPK	**Lapseki**	**11.12 280**	*e*PN	**Pn**	**22 08 28.7**	**+0.1**
NAY	**Al-Naaiem**	**11.19 151**	*e*P	**Pn**	**22 08 28.0**	**-1.7**
	baz=152					
NAY			AMb	AMB	22 08 41.0	
	comp=Z,105nm,1.2s,baz=152					
HARR	**Harsova**	**11.22 303**	P	**Pn**	**22 08 39.8**	**+10**
EDRB	**Edirne**	**11.25 288**	*e*PN	**Pn**	**22 08 30.3**	**-0.1**
JMB	**Yambol**	**11.48 291**	*e*P	**Pn**	**22 08 32.7**	**-0.8**
PRK	**Paraskevi**	**11.53 275**	*e*P	**Pn**	**22 08 28.4**	**-5.9**
ENEZ	**Enez**	**11.59 282**	*e*PN	**Pn**	**22 08 34.8**	**-0.3**
RDF	**Al-Radifah**	**11.60 151**	*e*P	**Pn**	**22 08 34.4**	**-0.9**
	baz=151					
RDF			AMb	AMB	22 08 40.3	
	comp=Z,148nm,0.7s,baz=151					
ALN	**Alexandroupoli**	**11.68 283**	*e*P	**Pn**	**22 08 29.4**	**-7.0**
GADA	**Gvkgeada**	**11.78 279**	*e*PN	**Pn**	**22 08 37.7**	**+0.1**
CHOS	**Chios island**	**11.80 270**	*e*P	**Pn**	**22 08 40.4**	**+2.3**
KIS	**Kishinev**	**11.85 315**	*e*PP		22 08 50.0	
KIS			*e*S	**Sn**	**22 10 54.0**	**+3.0**
KIS			*e*LQ		22 11 58.0	
KIS			*e*LR	LR	22 13 40.0	
	comp=Z,2μm,13.0s					
KIS	**Kishinev**	**11.85 315**	*e*P	**Pn**	**22 08 44.0**	**+5.4**
KIS			*e*S	**Sn**	**22 10 54.0**	**+3.0**
VRSR	**Storozhevoye**	**12.03 354**	*e*P	**Pn**	**22 08 39.7**	**-1.3**
VRSR			*e*S	**Sn**	**22 10 56.2**	**+1.0**
VRSR			pmax	pmax		
	comp=Z,10.0nm,0.9s					
VRSR			pmax	pmax		
	comp=N,10.0nm,0.7s					
VRSR			pmax	pmax		
	comp=E,5.0nm,1.3s					
VRSR			smax			
	comp=E,10.0nm,0.7s					
VRSR			smax			
	comp=Z,3.0nm,0.7s					
VRSR			smax			
	comp=N,6.0nm,0.6s					
VRSR			MLR	MLR		
	comp=Z,780nm,15.0s					
VRSR			MLR	MLR		
	comp=N,570nm,13.0s					
VRSR			MLR	MLR		
	comp=E,540nm,13.0s					
VRSR	**Storozhevoye**	**12.03 354**	*e*P	**Pn**	**22 08 39.7**	**-1.3**
	comp=E,10.0nm,0.7s					
VRSR			*e*S	**Sn**	**22 10 56.2**	**+1.0**
	comp=E,780nm,15.0s					
RDO	**Rodhopi**	**12.08 284**	P	**Pn**	**22 08 43.5**	**+1.7**
ODB	**Odobesti**	**12.25 307** ⇓	*i*P	**Pn**	**22 08 46.5**	**+2.4**
LOS	**Limnos**	**12.41 278**	*e*P	**Pn**	**22 08 50.1**	**+3.8**
VRI	**Vrincioaia**	**12.49 307** ⇑	*i*P	**Pn**	**22 08 49.7**	**+2.3**
VRI	**Vrincioaia**	**12.49 307**	P	**Pn**	**22 08 52.5**	**+5.1**
PLOR	**Plostina**	**12.54 306** ⇑	*i*P	**Pn**	**22 08 48.5**	**+0.5**
PLOR	**Plostina**	**12.54 306**	P	**Pn**	**22 08 51.3**	**+3.3**
VOR	**Voronezh**	**12.54 354**	*e*P	**Pn**	**22 08 47.0**	**-1.0**
VOR			pmax	pmax		
	comp=Z,500nm,2.0s					
VOR	**Voronezh**	**12.54 354**	*e*P	**Pn**	**22 08 47.0**	**-1.0**
	comp=Z,500nm,2.0s					
ZIMR		**12.62 295** ⇑	*i*P	**Pn**	**22 08 49.8**	**+0.7**
ZIMR		**12.62 295**	P	**Pn**	**22 08 53.2**	**+4.1**
ZIMR		**12.62 295**	P	**Pn**	**22 08 53.2**	**+4.0**
PLD	**Plovdiv**	**12.79 288**	*e*P	**Pn**	**22 08 53.1**	**+1.5**
MLR	**Muntele Rosu**	**12.83 304** ⇓	*i*P	**Pn**	**22 08 53.6**	**+1.6**
MLR	**Muntele Rosu**	**12.83 304**	P	**Pn**	**22 08 53.5**	**+1.5**
MLR	**Muntele Rosu**	**12.83 304**	P	**Pn**	**22 08 53.5**	**+1.4**
LAST	**Lasithi**	**13.14 257**	*e*P	**Pn**	**22 08 55.2**	**-1.1**
OUR	**Ouranopolis**	**13.24 280**	*e*P	**Pn**	**22 08 58.8**	**+1.1**
VOIR		**13.39 303** ⇑	*i*P	**Pn**	**22 09 00.7**	**+1.0**
VOIR		**13.39 303**	P	**Pn**	**22 09 01.1**	**+1.4**
PAIG	**Paliouri**	**13.48 278**	*e*P	**Pn**	**22 08 59.6**	**-1.4**
IDI	**Anoyia**	**13.54 258**	Pn	**Pn**	**22 09 02.9**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=51,slow=13,SNR=7.6					
SRS	**Serrai**	**13.54 283**	*e*P	**Pn**	**22 09 02.1**	**+0.3**
PLG	**Polygyros**	**13.65 280**	*e*P	**Pn**	**22 09 03.8**	**+0.5**
SOH	**Sokhos**	**13.72 282**	*e*P	**Pn**	**22 09 03.7**	**-0.4**
XOR	**Xorichti**	**13.90 276**	*e*P	**Pn**	**22 09 01.3**	**-5.4**
HORT	**Hortiatis**	**13.91 281**	*e*P	**Pn**	**22 09 06.6**	**-0.2**
THE	**Thessaloniki**	**14.01 281**	*e*P	**Pn**	**22 09 08.3**	**+0.1**
KNT	**Kendrikon**	**14.07 284**	*e*P	**Pn**	**22 09 09.4**	**+0.4**
LKR	**Lokris**	**14.13 273**	*e*P	**Pn**	**22 09 10.1**	**+0.2**
DID	**Didima**	**14.15 268**	*e*P	**Pn**	**22 09 09.2**	**-1.0**
AKASG	**Malin Array Be**	**14.18 328**	Pn	**Pn**	**22 09 09.3**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=134,slow=14,SNR=26					
AKASG			LR	LR	22 15 54.9	
	comp=Z,4μm,18.6s,baz=140,slow=43					
AKASG	**Malin Array Be**	**14.18 328**	Pn	**Pn**	**22 09 09.3**	**-1.1**
AKASG			LR	LR	22 15 54.9	
AKBB	**Malin Array Si**	**14.18 328**	*e*P	**Pn**	**22 09 09.4**	**-1.0**
AKBB	**Malin Array Si**	**14.18 328**	*e*Pn	**Pn**	**22 09 09.4**	**-1.1**
KIEV	**Kiev**	**14.18 328**	*e*P	**Pn**	**22 09 09.3**	**-1.2**
KIEV			pmax	pmax		
	comp=Z,65nm,0.9s					
KIEV	**Kiev**	**14.18 328**	*e*P	**Pn**	**22 09 09.3**	**-1.2**
	comp=Z,65nm,0.9s					
KIEV	**Kiev**	**14.18 328**	*e*Pn	**Pn**	**22 09 09.3**	**-1.2**
	comp=Z,65nm,0.9s					
LTK	**Loutraki**	**14.26 271**	*e*P	**Pn**	**22 09 10.5**	**-1.1**
VAY	**Valandovo**	**14.32 284**	*e*P	**Pn**	**22 09 14.2**	**+1.8**
VAY	**Valandovo**	**14.32 284**	*e*P	**Pn**	**22 09 13.0**	**+0.6**
LIT	**Litokhoron**	**14.39 279**	*e*P	**Pn**	**22 09 12.3**	**-1.0**
GRG	**Griva**	**14.44 283**	*e*P	**Pn**	**22 09 14.0**	**0.0**
AGG	**Agios Georgios**	**14.60 275**	*e*P	**Pn**	**22 09 14.1**	**-2.2**
STIP	**Stip**	**14.63 286**	*e*P	**Pn**	**22 09 21.5**	**+4.9**
STIP	**Stip**	**14.63 286**	*e*P	**Pn**	**22 09 17.2**	**+0.7**
THL	**Klokotos Trika**	**14.79 277**	*e*P	**Pn**	**22 09 19.9**	**+1.1**
VLX	**Vlachokerasia**	**14.85 269**	*e*P	**Pn**	**22 09 19.1**	**-0.5**
SKO	**Skopje**	**15.20 287**	*e*P	**Pn**	**22 09 25.4**	**+1.1**
SKO	**Skopje**	**15.20 287**	*e*P	**Pn**	**22 09 24.8**	**+0.5**
FNA	**Florina**	**15.22 282**	*e*P	**Pn**	**22 09 23.0**	**-1.6**
ITM	**Ithomi**	**15.25 268**	P	**Pn**	**22 09 28.8**	**+3.9**
BIA	**Bitola**	**15.26 283**	*e*P	**Pn**	**22 09 30.6**	**+5.5**
BIA	**Bitola**	**15.26 283**	*e*P	**Pn**	**22 09 25.9**	**+0.8**
BIA	**Bitola**	**15.26 283**	*e*P	**Pn**	**22 09 25.8**	**+0.7**
KRUS	**Krusevo**	**15.32 284**	*e*P	**Pn**	**22 09 26.1**	**+0.2**
KRUS	**Krusevo**	**15.32 284**	*e*P	**Pn**	**22 09 26.0**	**+0.1**
DRGR		**15.41 305** ⇑	*i*P	**Pn**	**22 09 28.7**	**+1.7**
OHR	**Ohrid**	**15.65 283**	*e*P	**Pn**	**22 09 33.0**	**+2.7**
OHR	**Ohrid**	**15.65 283**	*e*P	**Pn**	**22 09 33.1**	**+2.8**
BZS	**Buzias**	**15.73 300** ⇑	*i*P	**Pn**	**22 09 31.4**	**+0.2**
BZS	**Buzias**	**15.73 300**	P	**Pn**	**22 09 30.4**	**-0.8**
BZS	**Buzias**	**15.73 300**	P	**Pn**	**22 09 30.4**	**-0.8**
PHP	**Peshkopia**	**15.93 285**	*e*PN	**Pn**	**22 09 35.5**	**+1.6**
KFL	**Anninata**	**15.94 272**	*e*P	**Pn**	**22 09 35.3**	**+1.3**
LKD	**Levkas**	**15.94 274**	*e*P	**Pn**	**22 09 36.8**	**+2.8**
LVV	**L'vov**	**16.09 317**	*e*P	**Pn**	**22 09 35.0**	**-0.8**
LVV			MLR	MLR		
	comp=Z,800nm,12.0s					
LVV	**L'vov**	**16.09 317**	*e*P	**Pn**	**22 09 35.0**	**-0.8**
	comp=Z,800nm,12.0s					
IGT	**Igoumenitsa**	**16.09 278**	*e*P	**Pn**	**22 09 36.6**	**+0.7**
OBN	**Obninsk**	**16.15 351** *c*	*i*P	**Pn**	**22 09 34.6**	**-2.0**
OBN			pmax	pmax		
	comp=Z,68nm,0.8s					
OBN			MLR	MLR		
	comp=Z,3μm,14.0s					
OBN	**Obninsk**	**16.15 351**	*i*P	**Pn**	**22 09 34.6**	**-2.0**
	comp=Z,3μm,14.0s					
OBN	**Obninsk**	**16.15 351**	*e*Pn	**Pn**	**22 09 34.5**	**-2.1**
	comp=Z,431nm,1.6s					
BCI	**Bajram Curri**	**16.25 288**	*e*PN	**Pn**	**22 09 39.7**	**+1.8**
AKTK	**Aktyubinsk**	**16.32 41**	P	**Pn**	**22 09 37.0**	**-1.8**
	comp=Z,57nm,2.9s					
AKTK	**Aktyubinsk**	**16.32 41**	Pn	**Pn**	**22 09 35.5**	**-3.4**
AKTK			LR	LR	22 17 36.1	
AKTO	**Aktyubinsk**	**16.32 41**	Pn	**Pn**	**22 09 35.5**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=242,slow=10,SNR=31					
AKTO			LR	LR	22 17 36.1	
	comp=Z,2μm,19.7s,baz=45,slow=44					
AKTO	**Aktyubinsk**	**16.32 41**	P	**Pn**	**22 09 37.0**	**-1.8**
AKTO			pmax	pmax		
	comp=Z,57nm,2.9s					
QSH	**Qafa e Shtames**	**16.33 285**	*e*PN	**Pn**	**22 09 45.6**	**+6.6**
PUK	**Puka**	**16.36 287**	*e*PN	**Pn**	**22 09 41.6**	**+2.3**
TIR	**Tirane**	**16.36 284**	*e*P	**Pn**	**22 09 35.4**	**-3.9**
TIR	**Tirane**	**16.36 284**	P	**Pn**	**22 09 38.6**	**-0.8**
TIR			pmax	pmax		
	comp=Z,261nm,1.5s					
TIR	**Tirane**	**16.36 284**	*e*PN	**Pn**	**22 09 44.1**	**+4.7**
TIR	**Tirane**	**16.36 284**	P	**Pn**	**22 09 38.6**	**-0.8**
	comp=Z,261nm,1.5s					
TIR	**Tirane**	**16.36 284**	Pn	**Pn**	**22 09 38.6**	**-0.7**
	comp=Z,261nm,1.5s					
UZH	**Uzhgorod**	**16.45 311** ⇓	*e*P	**Pn**	**22 09 40.0**	**-0.4**
UZH			*e*S	**Sn**	**22 12 45.0**	**+1.9**
UZH			MLR	MLR		
	comp=N,930nm,14.0s					
UZH			MLR	MLR		
	comp=E,1μm,14.0s					
UZH			MLR	MLR		
	comp=Z,420nm,14.0s					
DIVS	**Divibare**	**16.51 294**	*e*P	**Pn**	**22 09 42.1**	**+0.9**
KOLS	**Kolonicke sedl**	**16.60 312**	*e*P	**Pn**	**22 09 41.0**	**-1.4**
KOLS			*e*S	**Sn**	**22 12 57.7**	**+11**
MOS	**Moscow**	**16.64 353** *k*	*i*P	**Pn**	**22 09 40.5**	**-2.4**
MOS			pmax	pmax		
	comp=Z,700nm,2.3s					
MOS			pmax	pmax		
	comp=Z,193nm,1.6s					
MOS			MLR	MLR		
	comp=N,3μm,13.0s					
MOS			MLR	MLR		
	comp=Z,4μm,13.0s					
MOS	**Moscow**	**16.64 353**	*i*P	**Pn**	**22 09 40.5**	**-2.4**
	comp=Z,4μm,13.0s					
KWP	**Kalwaria**	**16.70 314**	*e*P	**Pn**	**22 09 42.6**	**-1.1**
KWP			*ep*P	pP	22 09 47.8	-0.3
KWP			*e*S	**Sn**	**22 12 59.9**	**+11**
KWP			LMZ		22 18 43.5	
	comp=Z,2μm,17.7s					
KWP	**Kalwaria**	**16.70 314** ⇑	*i*P	**Pn**	**22 09 46.5**	**+2.8**
KWP	**Kalwaria**	**16.70 314**	*e*P	**Pn**	**22 09 42.6**	**-1.1**
	comp=Z,2μm,17.7s					
KWP			*ep*P	pP	22 09 47.8	-0.3
KWP	**Kalwaria**	**16.70 314**	*e*P	**Pn**	**22 09 42.6**	**-1.1**
KWP			*ep*P	pP	22 09 47.8	-0.3
KWP			*e*S	**Sn**	**22 12 59.9**	**+11**
AB31	**Akbulak array**	**16.72 47**	P	**Pn**	**22 09 41.9**	**-2.0**
AB31			pmax	pmax		
	comp=Z,32nm,0.7s					
AB31	**Akbulak array**	**16.72 47**	P	**Pn**	**22 09 41.9**	**-2.0**
	comp=Z,32nm,0.7s					
CRVS	**Cervenica-Dubn**	**17.06 311**	*e*P	**Pn**	**22 09 47.3**	**-0.9**
CRVS			*e*S	**Sn**	**22 13 06.9**	**+9.0**
STHS	**Stebnicka Huta**	**17.43 312**	*e*P	**Pn**	**22 09 55.4**	**+2.7**
STHS			pmax	pmax		
	comp=Z,47nm,1.3s					
STHS	**Stebnicka Huta**	**17.43 312**	*e*P	**Pn**	**22 09 55.4**	**+2.7**
	comp=Z,47nm,1.3s					
KECS	**Kecovo**	**17.46 309**	*e*P	**Pn**	**22 09 54.7**	**+1.5**
KECS			pmax	pmax		
	comp=Z,13nm,1.1s					
KECS	**Kecovo**	**17.46 309**	*e*P	**Pn**	**22 09 54.7**	**+1.5**
	comp=Z,13nm,1.1s					
PSZ	**Piszkesteto**	**17.61 306** ⇑	*e*P	**Pn**	**22 09 55.5**	**+0.5**
PSZ	**Piszkesteto**	**17.61 306** ⇑	*i*P	**Pn**	**22 09 56.2**	**+1.2**
PSZ	**Piszkesteto**	**17.61 306**	*e*P	**Pn**	**22 09 55.4**	**+0.4**
PSZ	**Piszkesteto**	**17.61 306**	*e*P	**Pn**	**22 09 55.4**	**+0.4**
MNK	**Minsk**	**17.70 334**	*e*P	**Pn**	**22 09 50.0**	**-6.0**
MNK			*e*S	**Sn**	**22 13 07.0**	**-6.2**
MNK			MLR	MLR		
	comp=Z,5μm,12.0s					
PKSM	**Moragy**	**17.89 300** ⇑	*i*P	**Pn**	**22 09 58.7**	**+0.2**
PKSM	**Moragy**	**17.89 300** ⇑	P	**Pn**	**22 09 58.7**	**+0.2**
NIE	**Niedzica**	**17.97 311**	*e*P	**Pn**	**22 09 59.1**	**-0.3**
NIE			*e*PP		22 10 12.1	
NIE			*e*S	**Sn**	**22 13 32.0**	**+12**
BUD	**Budapest**	**18.01 304** ⇑	*e*P	**Pn**	**22 10 00.5**	**+0.5**
RHK3	**Tenkes**	**18.07 299**	*e*P	**Pn**	**22 10 00.4**	**-0.4**
NE53	**Naroch'**	**18.38 333**	*e*P	**Pn**	**22 10 03.1**	**-1.4**
NE53			*e*S	**Sn**	**22 13 26.0**	**-3.8**
NE53	**Naroch'**	**18.38 333**	*e*PcP	PcP	22 14 31.9	-3.3
BANOM	**Banah**	**18.41 132**	⇑P	**Pn**	**22 10 04.7**	**-0.3**
	SNR=6.7					
VYHS	**Vyhne**	**18.48 307**	*e*P	**Pn**	**22 10 06.2**	**+0.5**
VYHS			pmax	pmax		
	comp=Z,68nm,1.6s					
VYHS	**Vyhne**	**18.48 307**	*e*P	**Pn**	**22 10 06.2**	**+0.5**
	comp=Z,68nm,1.6s					
VYHS			*e*S	**Sn**	**22 13 35.7**	**+3.5**
OJC	**Ojcow**	**18.63 313**	*e*P	**Pn**	**22 10 05.6**	**-2.0**
OJC			*e*S	**Sn**	**22 13 38.8**	**+2.9**
OJC			L		22 19 28.1	
	comp=Z,1.8nm,18.1s					
OJC	**Ojcow**	**18.63 313**	*e*P	**Pn**	**22 10 05.6**	**-2.0**
OJC			*e*S	**Sn**	**22 13 38.8**	**+2.9**
IDID	**Didziasalis**	**18.73 334**	*e*P	**Pn**	**22 10 07.5**	**-1.1**
IDID			AMb	AMB	22 10 16.9	
	comp=Z,15nm,1.3s					
IDID	**Didziasalis**	**18.73 334**	*e*P	**Pn**	**22 10 07.5**	**-1.2**
	comp=Z,15nm,1.3s,SNR=29					
KOLL	**Kolacno**	**18.78 307**	*e*P	**Pn**	**22 10 09.7**	**+0.3**
KOLL			*ep*P	pP	22 10 13.1	+2.1
TIP	**Timpagrande**	**18.88 277**	*e*P	**Pn**	**22 10 09.2**	**-1.5**
	comp=Z,96nm,1.2s					
TIP	**Timpagrande**	**18.88 277**	*e*P	**Pn**	**22 10 09.2**	**-1.5**
	comp=Z,96nm,1.2s					
IIGN	**Ignalina**	**18.93 333**	*e*P	**Pn**	**22 10 09.9**	**-1.3**
IIGN			AMb	AMB	22 10 16.4	
	comp=Z,16nm,1.2s					
IIGN	**Ignalina**	**18.93 333**	*e*P	**Pn**	**22 10 09.9**	**-1.3**
	comp=Z,16nm,1.2s,SNR=28					
ORI	**Oriolo Calabro**	**19.01 280**	P	**Pn**	**22 10 11.8**	**-0.5**
ORI			pmax	pmax		
	comp=Z,140nm,1.2s					
ORI	**Oriolo Calabro**	**19.01 280**	P	**Pn**	**22 10 11.8**	**-0.5**
	comp=Z,140nm,1.2s					
LJBD	**Adjabya**	**19.03 250**	*i*P	**Pn**	**22 10 12.7**	**+0.2**
	comp=Z,291nm,1.2s,SNR=35					
WAR	**Warsaw**	**19.03 320**	*e*P	**Pn**	**22 10 13.4**	**+1.0**
WAR			*ep*P	pP	22 10 14.9	+1.2
WAR			*e*S	**Sn**	**22 13 48.9**	**+3.4**
WAR			LMZ		22 17 31.9	
	comp=Z,1μm,28.6s					
WAR	**Warsaw**	**19.03 320**	*e*P	**Pn**	**22 10 13.4**	**+1.0**
WAR			*ep*P	pP	22 10 14.9	+1.2
WAR			*e*S	**Sn**	**22 13 48.9**	**+3.4**
WAR	**Warsaw**	**19.03 320**	*e*P	**Pn**	**22 10 13.4**	**+1.0**
WAR			*ep*P	pP	22 10 14.9	+1.2
SUW	**Suwalki**	**19.14 326**	*e*P	**Pn**	**22 10 11.5**	**-2.2**
SUW			*ep*P	pP	22 10 13.8	-1.1
SUW			*e*S	**Sn**	**22 13 47.8**	**-0.3**
SUW			LMZ		22 17 25.5	
	comp=Z,2μm,28.8s					
SUW	**Suwalki**	**19.14 326**	*e*P	**Pn**	**22 10 11.5**	**-2.2**
SUW			*ep*P	pP	22 10 13.8	-1.1
SUW			*e*S	**Sn**	**22 13 47.8**	**-0.3**
HATD	**Hatta, Dubai**	**19.17 134**	⇑P	**Pn**	**22 10 15.0**	**+0.8**
	SNR=26					
ASHO	**Ashiyiah**	**19.24 135**	⇑P	**Pn**	**22 10 15.0**	**-0.1**
	SNR=44					
IZAR	**Zarasai**	**19.24 334**	*e*P	**Pn**	**22 10 12.0**	**-2.9**
IZAR			AMb	AMB	22 10 24.3	
	comp=Z,20nm,1.7s					
IZAR	**Zarasai**	**19.24 334**	*e*P	**Pn**	**22 10 12.0**	**-2.9**
	comp=Z,20nm,1.7s,SNR=28					
PTRP	**Pietrapertosa**	**19.27 282**	P	**Pn**	**22 10 16.6**	**+1.2**
MODS	**Modra-Piesok**	**19.41 306**	*e*P	**Pn**	**22 10 17.4**	**+0.4**
MODS			*ep*P	pP	22 10 20.2	+2.3
MODS			*e*S	**Sn**	**22 13 54.1**	**-0.6**
OKC	**Ostrava-Krasne**	**19.42 310**	*e*P	**Pn**	**22 10 17.6**	**+0.5**
	comp=Z,1μm,14.8s					
OKC	**Ostrava-Krasne**	**19.42 310**	*e*P	**Pn**	**22 10 17.6**	**+0.5**
OKC			*e*S	**Sn**	**22 13 58.7**	**+3.8**
OKC			AMS	AMS	22 21 10.0	
	comp=Z,1μm,14.8s					
ZST	**Bratislava**	**19.46 305**	*e*P	**Pn**	**22 10 16.5**	**-1.1**
ZST			*e*S	**Sn**	**22 13 57.8**	**+1.8**
ZST			pmax	pmax		
	comp=Z,78nm,1.2s					
ZST			MLR	MLR		
	comp=Z,1μm,13.8s					
ZST	**Bratislava**	**19.46 305**	*e*P	**Pn**	**22 10 16.5**	**-1.1**
	comp=Z,78nm,1.2s					
ZST			*e*S	**Sn**	**22 13 57.8**	**+1.8**
	comp=Z,1μm,13.8s					
ZST	**Bratislava**	**19.46 305**	*e*P	**Pn**	**22 10 16.5**	**-1.1**
	comp=Z,78nm,1.2s					
ZST			*e*		22 10 18.8	
ZST			*e*		22 10 20.6	
ZST			*e*S	**Sn**	**22 13 57.8**	**+1.8**
CUC	**Castrocucco**	**19.50 280**	*e*P	**Pn**	**22 10 16.4**	**-1.8**
	comp=Z,74nm,0.9s					
CUC	**Castrocucco**	**19.50 280**	*e*P	**Pn**	**22 10 16.4**	**-1.8**
	comp=Z,74nm,0.9s					
KOGS	**Kog**	**19.56 300**	*e*P	**Pn**	**22 10 17.3**	**-1.4**
KOGS			*e*S	**Sn**	**22 13 58.9**	**+0.6**
RGNG	**Rignano Grg**	**19.57 285**	P	**Pn**	**22 10 17.5**	**-1.4**
CEL	**Celeste**	**19.70 275**	*e*P	**Pn**	**22 10 18.5**	**-2.0**
	comp=Z,164nm,1.2s					
CEL	**Celeste**	**19.70 275**	*e*P	**Pn**	**22 10 18.5**	**-2.0**
	comp=Z,164nm,1.2s					
MORC	**Moravsky Berou**	**19.75 310**	*e*P	**Pn**	**22 10 19.1**	**-2.0**
MORC			pmax	pmax		
	comp=Z,38nm,1.1s					
MORC	**Moravsky Berou**	**19.75 310** ⇓	*i*P	**Pn**	**22 10 21.4**	**+0.3**
MORC	**Moravsky Berou**	**19.75 310**	*e*P	**Pn**	**22 10 19.1**	**-2.0**
	comp=Z,38nm,1.1s					
MORC	**Moravsky Berou**	**19.75 310**	*e*P	**Pn**	**22 10 19.1**	**-1.9**
	comp=Z,38nm,1.1s					
GROS	**Grobnik**	**20.06 299**	*i*P	**P**	**22 10 23.2**	**+0.2**
VRAC	**Vranov**	**20.15 308**	P	**P**	**22 10 24.1**	**+0.2**
	comp=Z,22nm,1.0s,baz=116,slow=11,SNR=24					
VRAC			LR	LR	22 20 30.3	
	comp=Z,872nm,18.1s,MS4.2,baz=107,slow=44					
VRAC	**Vranov**	**20.15 308**	P	**P**	**22 10 24.1**	**+0.1**
VRAC			pmax	pmax		
	comp=Z,23nm,1.0s					
VRAC			MLR	MLR		
	comp=Z,872nm,18.1s					
VRAC	**Vranov**	**20.15 308** ⇓	*i*P	**P**	**22 10 26.3**	**+2.3**
VRAC	**Vranov**	**20.15 308**	*e*P	**P**	**22 10 24.5**	**+0.5**
VRAC	**Vranov**	**20.15 308** ⇓	P	**P**	**22 10 26.3**	**+2.3**
CONA	**Conrad Observa**	**20.18 304**	*i*P	**P**	**22 10 24.4**	**+0.1**
	comp=Z,163nm,1.0s,SNR=95					
CSNA	**Conrad Observa**	**20.18 304** ⇑	*i*P	**P**	**22 10 24.4**	**+0.1**
	comp=Z,144nm,1.0s					
NVLJ	**Novalja**	**20.21 294**	P	**P**	**22 10 25.4**	**+0.8**
NVLJ	**Novalja**	**20.21 294**	*i*P	**P**	**22 10 25.4**	**+0.8**
ARSA	**Arzberg**	**20.23 302** ⇑	*i*P	**P**	**22 10 24.6**	**-0.1**
	comp=Z,35nm,1.0s,SNR=21					
ARSA	**Arzberg**	**20.23 302**	P	**P**	**22 10 25.8**	**+1.0**
PERS	**Pernice**	**20.36 300**	*e*P	**P**	**22 10 26.0**	**-0.2**
PERS			S	**S**	**22 14 14.3**	**-0.1**
SOKA	**Soboth**	**20.43 300** ⇑	*i*P	**P**	**22 10 26.9**	**-0.1**
	comp=Z,62nm,1.2s					
SGG	**Gregorio Mates**	**20.49 285**	P	**P**	**22 10 27.6**	**0.0**
MIDA	**Miranda**	**20.57 285**	P	**P**	**22 10 28.8**	**+0.3**
	comp=Z,620nm,1.8s					
LJU	**Ljubljana**	**20.65 298**	*e*P	**P**	**22 10 29.5**	**+0.1**
LJU			*e*		22 10 31.5	
LJU			*e*S	**S**	**22 14 23.3**	**+3.0**
ARU	**Arti**	**20.67 28**	P	**P**	**22 10 28.7**	**-0.8**
	comp=Z,740nm,0.7s,SNR=38					
ARU	**Arti**	**20.67 28** *d*	*i*P	**P**	**22 10 28.0**	**-1.5**
ARU			*e*PPP		22 10 52.7	
ARU			*e*S	**S**	**22 14 20.8**	**+0.4**
ARU			*e*SS		22 14 42.3	
ARU			pmax	pmax		
	comp=Z,96nm,1.7s					
ARU			MLR	MLR		
	comp=Z,3μm,16.0s,MS4.7					
ARU	**Arti**	**20.67 28**	*e*P

comp=Z,4µm,17.0s,MS4.9
KLMR Klimovskoe 21.63 358 *i* P **P 22 10 37.4 -2.4**
comp=Z,4µm,17.0s
KLMR *i* S **S 22 14 38.1 -1.3**
PRU Pruhonice 21.64 308 *eP* **P 22 10 39.6 -0.4**
PRU *ep*P 22 10 42.8
PRU Pruhonice 21.64 308 *e*PcP PcP 22 14 44.8 +3.5
comp=Z,1µm,25.0s
PRU Pruhonice 21.64 308 *eP* **P 22 10 39.6 -0.4**
PRU *ep*P 22 10 42.8
PRU *e*S **S 22 14 44.8 +5.1**
PRU AMS AMS 22 18 50.0
comp=Z,1µm,25.0s
KBA Koelnbreinsper 21.64 300⇓ *i*P **P 22 10 40.1 0.0**
comp=Z,115nm,1.0s,mb5.3,SNR=37
KBA Koelnbreinsper 21.64 300 P **P 22 10 40.6 +0.6**
USI Ustica 21.71 277 P **P 22 10 41.9 +1.0**
SVE Sverdlovsk 21.74 30⇑ *eP* **P 22 10 40.1 -0.9**
SVE *e*S **S 22 14 42.2 +0.7**
SVE pmax pmax
comp=Z,133nm,1.0s,mb5.3
SVE MLR MLR
comp=Z,3µm,15.0s,MS4.8
SVE Sverdlovsk 21.74 30 *eP* **P 22 10 40.1 -0.9**
comp=Z,133nm,1.0s,mb5.3
SVE *e*S **S 22 14 42.2 +0.7**
comp=Z,3µm,15.0s
PVCC Panska Ves 21.81 310 *eP* **P 22 10 41.8 0.0**
PVCC *ep*P 22 10 44.9
PVCC Panska Ves 21.81 310 *e*PcP PcP 22 14 46.1 +4.5
comp=Z,1µm,13.2s
PVCC Panska Ves 21.81 310 *eP* **P 22 10 41.8 0.0**
PVCC *ep*P 22 10 44.9
PVCC *e*S **S 22 14 46.1 +3.1**
PVCC AMS AMS 22 21 30.0
comp=Z,1µm,13.2s
GEC2 GERESS Array S 21.82 305 *eP* **P 22 10 41.5 -0.4**
GEC2 GERESS Array S 21.82 305 *eP* **P 22 10 41.5 -0.4**
GERES GERESS Array B 21.82 305 P **P 22 10 41.5 -0.4**
comp=Z,22nm,0.9s,mb4.6,baz=110,slow=10,SNR=64
GERES LR LR 22 20 22.0
comp=Z,1µm,20.0s,MS4.3,baz=109,slow=40
MURB Monte Urbino 21.83 290 P **P 22 10 42.6 +0.5**
KHC Kasperske Hory 21.97 306 *eP* **P 22 10 42.8 -0.8**
KHC *ep*P 22 10 45.9
KHC *e*S **S 22 14 46.8 +0.6**
comp=Z,1µm,17.2s
KHC Kasperske Hory 21.97 306 *eP* **P 22 10 42.8 -0.8**
KHC *ep*P 22 10 45.9
KHC *e*S **S 22 14 46.8 +0.6**
KHC AMS AMS 22 20 10.0
comp=Z,1µm,17.2s
BADI Badiali 22.04 290 P **P 22 10 44.9 +0.6**
ABTA Abfaltersbach 22.14 299⇑ *i*P **P 22 10 45.1 -0.4**
comp=Z,62nm,1.1s,mb4.9,SNR=33
JMDO Jabal Madar 22.21 134 P **P 22 10 47.1 +0.8**
SNR=54
TOLF Tolfa 22.23 287 P **P 22 10 45.4 -1.0**
comp=Z,242nm,1.3s,mb5.5
LZLA Zalla 22.23 248 *i* P **P 22 10 46.6 0.0**
SNR=33
LMSR Misrath 22.26 260 *i* P **P 22 10 48.3 +1.5**
comp=Z,167nm,1.2s,mb5.3,SNR=33
BRG Berggiesshubel 22.30 310 *eP* **P 22 10 47.0 -0.1**
BRG pmax pmax
comp=Z,31nm,1.3s,mb4.6
BRG MLR MLR
comp=N,603nm,17.4s,MS4.3
BRG MLR MLR
comp=E,1µm,19.2s,MS4.3
BRG MLR MLR
comp=Z,809nm,17.9s,MS4.2
BRG Berggiesshubel 22.30 310 *eP* **P 22 10 45.0 -2.1**
comp=Z,51nm,1.3s,mb4.8
BRG *e*L 22 19 55.9
comp=Z,1µm,21.5s
BRG Berggiesshubel 22.30 310 *eP* **P 22 10 47.0 -0.1**
comp=Z,51nm,1.3s,mb4.8
BRG S **S 22 14 56.0 +3.4**
BRG
comp=N,1µm,17.4s
BRG
comp=E,2µm,29.2s
BRG
comp=Z,1µm,17.9s
SEST Monte Rota 22.34 299 P **P 22 10 49.1 +1.5**
WET Wettzell 22.42 305 *eP* **P 22 10 45.7 -2.6**
WET pmax pmax
comp=Z,40nm,1.2s,mb4.7
WET MLR MLR
comp=Z,1µm,21.2s,MS4.3
WET Wettzell 22.42 305 *eP* **P 22 10 45.7 -2.6**
comp=Z,40nm,1.2s,mb4.7
WET *e*L 22 20 29.7
comp=Z,1µm,21.2s
WBK Wadi Bani Khal 22.51 132 P **P 22 10 50.6 +1.1**
SNR=18
SOKR Solikamsk 22.61 21 *d i*P **P 22 10 49.4 -0.9**
SOKR pmax pmax
comp=Z,100nm,0.9s,mb5.2
SOKR MLR MLR
comp=Z,3µm,25.0s,MS4.6
SOKR Solikamsk 22.61 21 *i* P **P 22 10 49.4 -0.9**
comp=Z,3µm,25.0s
FBE Freiberg 22.67 310 *eP* **P 22 10 49.8 -1.2**
comp=Z,39nm,1.1s,mb4.8
CSNT Castellina Chi 22.73 290 P **P 22 10 50.4 -1.3**
KBL Kabul 22.76 93 *eP* **P 22 10 54.2 +2.0**
comp=Z,69nm,1.3s,mb4.9
KBL Kabul 22.76 93 *eP* **P 22 10 54.2 +2.1**
comp=Z,69nm,1.3s,mb4.9
WTTA Wattenberg 22.82 300⇓ *i*P **P 22 10 51.7 -0.9**
comp=Z,66nm,1.0s,mb5.0,SNR=12
WTTA Wattenberg 22.82 300⇓ *i*P **P 22 10 51.7 -0.9**
WTTA pmax pmax
comp=Z,66nm,1.0s,mb5.0
FNVD Fontana Vidola 22.86 292 P **P 22 10 53.5 +0.4**
WATA Walderalm 22.87 300⇓ *i*P **P 22 10 52.1 -1.1**
comp=Z,57nm,1.0s,mb4.9,SNR=32
WATA Walderalm 22.87 300⇓ *i*P **P 22 10 52.1 -1.1**
WATA pmax pmax
comp=Z,57nm,1.0s,mb5.0
APPI Appiano 22.98 298 P **P 22 10 55.3 +1.0**
NKC Novy Kostel 23.00 308 *eP* **P 22 10 54.5 +0.1**
NKC *ep*P 22 10 57.4
NKC Novy Kostel 23.00 308 *eP* **P 22 10 54.5 +0.1**
NKC *ep*P 22 10 57.4
NKC *e*S **S 22 15 09.7 +4.6**
NKC AMS AMS 22 19 00.0
NKC Novy Kostel 23.00 308 *eP* **P 22 10 54.5 +0.1**
NKC *ep*P 22 10 57.4
NKC *e*S **S 22 15 09.7 +4.6**
CLL Collm 23.01 311 *i* P **P 22 10 54.1 -0.5**
CLL *i* 22 10 57.0
CLL pmax pmax
comp=Z,18nm,1.1s,mb4.4
CLL MLR MLR
comp=Z,1µm,21.1s,MS4.3
CLL Collm 23.01 311 *eP* **P 22 10 54.2 -0.4**
comp=Z,98nm,1.1s,mb5.2
CLL *e*L 22 20 40.5
comp=Z,1µm,21.1s
CLL Collm 23.01 311 *i* P **P 22 10 54.1 -0.5**
comp=Z,18nm,1.1s,mb4.4
CLL ⇑*i*pP 22 10 57.0
comp=Z,99nm,1.1s
CLL *e*S **S 22 15 09.0 +3.7**
comp=N,1µm,19.8s
CLL *e*S **S 22 15 09.0 +3.7**
comp=E,700nm,17.6s
CLL Lm 22 20 00.0
comp=Z,1µm,21.1s
CLL Collm 23.01 311 *i* P **P 22 10 54.1 -0.5**
comp=Z,18nm,1.1s,mb4.4
CLL *i* 22 10 57.0
CLL *e*S **S 22 15 09.0 +3.7**
CLL LR LR
comp=Z,1µm,21.1s,MS4.3
RUE Ruedersdorf 23.01 314 *eP* **P 22 10 53.1 -1.5**
comp=Z,100nm,1.3s,mb5.1
RUE *e*L 22 21 51.3
comp=Z,861nm,18.5s
RUE Ruedersdorf 23.01 314 *eP* **P 22 10 54.8 +0.2**
comp=Z,96nm,1.3s,mb5.1
RUE Ruedersdorf 23.01 314 *eP* **P 22 10 54.8 +0.2**
comp=Z,96nm,1.3s,mb5.1

WERN Wernitzgruen 23.05 308 *eP* **P 22 10 54.1 -1.0**
comp=Z,86nm,1.0s,mb5.1
MANZ Manzenberg 23.13 307 *eP* **P 22 10 56.4 +0.5**
MANZ *e*L 22 21 04.0
comp=Z,1µm,21.8s
MOTA Moosalm 23.19 300⇑ *i*P **P 22 10 55.0 -1.5**
comp=Z,65nm,0.8s,mb5.1,SNR=72
MOTA Moosalm 23.19 300⇑ *i*P **P 22 10 55.0 -1.5**
MOTA pmax pmax
comp=Z,65nm,0.8s,mb5.1
LJFR Jufra 23.21 252 *i* P **P 22 10 55.9 -1.0**
comp=Z,408nm,2.0s,mb5.5,SNR=28
FUR Furstenfeldbru 23.22 302 *eP* **P 22 10 56.3 -0.6**
FUR pmax pmax
comp=Z,195nm,1.1s,mb5.5
FUR MLR MLR
comp=Z,1µm,21.1s,MS4.3
FUR Furstenfeldbru 23.22 302 *eP* **P 22 10 56.3 -0.6**
comp=Z,195nm,1.1s,mb5.5
FUR *e*L 22 20 56.6
comp=Z,1µm,21.1s
BDI Bagni Di Lucca 23.24 292 P **P 22 10 56.1 -1.0**
GSCL Gusciola 23.25 293 P **P 22 10 58.0 +0.8**
PII Pisa 23.29 291 P **P 22 10 57.4 -0.2**
ERBM Eremo 23.38 293 P **P 22 10 59.2 +0.6**
FETA Feichten 23.39 299 *i* P **P 22 10 57.9 -0.8**
comp=Z,45nm,1.2s,mb4.8,SNR=20
VLC Villacollemand 23.39 292 *eP* **P 22 10 58.7 0.0**
comp=Z,83nm,1.1s,mb5.1
VLC Villacollemand 23.39 292 *eP* **P 22 10 58.7 0.0**
comp=Z,83nm,1.1s,mb5.1
MABI Malga Bissina 23.42 297 P **P 22 10 58.8 -0.2**
RETA Reutte 23.44 300⇑ *i*P **P 22 10 57.4 -1.8**
comp=Z,49nm,1.2s,mb4.8,SNR=11
GRA1 Grafenberg Arr 23.61 306 *eP* **P 22 11 00.7 -0.1**
comp=Z,320nm,1.1s,mb5.7
GRA1 *e*S **S 22 15 20.0 +5.0**
GRA1 LR LR
comp=Z,800nm,20.6s,MS4.2
GRF Grafenberg Arr 23.61 306 *eP* **P 22 11 00.7 -0.1**
GRF pmax pmax
comp=Z,320nm,1.1s,mb5.7
GRF MLR MLR
comp=Z,800nm,20.6s,MS4.2
GRF Grafenberg Arr 23.61 306 *eP* **P 22 11 00.7 -0.1**
GRF pmax pmax
comp=Z,320nm,1.1s,mb5.7
GRF MLR MLR
comp=Z,800nm,20.6s,MS4.2
GRF Grafenberg Arr 23.61 306 *eP* **P 22 11 00.7 -0.1**
comp=Z,320nm,1.1s,mb5.7
GRF *e*S **S 22 15 20.0 +5.0**
GRF *e*L 22 21 17.8
comp=Z,840nm,20.6s
GRFO Grafenberg 23.61 306 *eL* 22 21 17.8
comp=Z,799nm,20.7s
MOX Moxa 23.63 308 *eP* **P 22 11 01.2 +0.2**
comp=Z,39nm,1.5s,mb4.6
MOX
comp=Z,900nm,18.0s
MOX Moxa 23.63 308 *eL* 22 25 56.3
comp=Z,940nm,19.8s
GHAR Gharyan 23.81 261 *i* P **P 22 11 03.0 +0.1**
comp=Z,322nm,1.8s,mb5.5,SNR=28
UBR Ueberruh 23.91 301 P **P 22 11 02.7 -0.9**
LSHF Shwairf 23.92 255 *i* P **P 22 11 04.3 +0.5**
comp=Z,226nm,1.3s,mb5.4,SNR=28
DAVOX Davos/Dischmat 23.94 298 P **P 22 11 03.6 -0.3**
comp=Z,27nm,1.0s,mb4.6,baz=101,slow=8.9,SNR=23
WHFO Wadi Hawf 23.94 149 ⇓P **P 22 11 03.6 -0.5**
SNR=12
DAVA Damuels 24.00 300⇑ *i*P **P 22 11 03.1 -1.4**
comp=Z,74nm,1.2s,mb5.0,SNR=26
DAVA Damuels 24.00 300 P **P 22 11 03.5 -1.0**
HDH Heidenheim-Cha 24.00 303 P **P 22 11 05.6 +1.1**
BOB Bobbio (Coli) 24.08 293 P **P 22 11 05.6 +0.4**
RGN Rugen 24.17 318 *eL* 22 23 50.2
comp=Z,2µm,19.3s
BRVK Borovoye 24.24 46 P **P 22 11 06.8 +0.2**
comp=Z,236nm,0.8s,mb5.7,SNR=11
BRVK Borovoye 24.24 46 ⇑P **P 22 11 06.0 -0.5**
SNR=19
BRVK Borovoye 24.24 46 *eP* **P 22 11 05.9 -0.7**
BRVK pmax pmax
comp=Z,33nm,0.8s,mb4.8
BRVK Borovoye 24.24 46 *eP* **P 22 11 05.9 -0.7**
comp=Z,33nm,0.8s,mb4.8
BRVK Borovoye 24.24 46 *eP* **P 22 11 05.9 -0.7**
comp=Z,33nm,0.8s,mb4.8
TUE Stuetta 24.27 298 *eP* **P 22 11 06.8 -0.1**
comp=Z,66nm,1.3s,mb4.9
TUE Stuetta 24.27 298 *eP* **P 22 11 06.8 -0.1**
comp=Z,66nm,1.3s,mb4.9
BVA0 Borovoye Array 24.29 46 *i* P **P 22 11 04.6 -2.4**
BVAR Borovoye Array 24.29 46 P **P 22 11 05.1 -1.9**
comp=Z,14nm,0.7s,mb4.5,baz=249,slow=5.6,SNR=72
BVAR LR LR 22 22 44.2
comp=Z,2µm,18.7s,MS4.6,baz=55,slow=42
CORF Corte 24.33 287 *eP* **P 22 11 08.7 +1.2**
OSPF L'Ospedale 24.35 286 *eP* **P 22 11 06.3 -1.4**
JOF Joensuu 24.41 349 *ep* **P 22 11 06.6 -1.5**
comp=Z,17nm,0.4s,mb4.8
JOF Joensuu 24.41 349 *eP* **P 22 11 06.6 -1.5**
JOF pmax pmax
comp=Z,17nm,0.4s,mb4.8
PGF Pioggiola 24.43 288 *eP* **P 22 11 05.0 -3.4**
comp=Z,275nm,1.3s,mb5.2
PGF Pioggiola 24.43 288 *eP* **P 22 11 05.0 -3.4**
PGF pmax pmax
comp=Z,137nm,1.3s,mb5.2
PGF Pioggiola 24.43 288 *eP* **P 22 11 05.0 -3.4**
comp=Z,137nm,1.3s,mb5.2
SLAT Slait 24.48 200 *i* P **P 22 11 10.0 +1.0**
SLAT AMb AMB 22 11 23.7
comp=Z,67nm,1.6s,mb4.8
SLAT *i* S **S 22 15 32.2 +2.7**
VSL Villasalto 24.49 281 *eP* **P 22 11 08.1 -0.9**
comp=Z,69nm,1.3s,mb4.9
VOSK Vostochnaya 24.50 47 P **P 22 11 08.0 -1.0**
VOSK pmax pmax
comp=Z,26nm,1.0s,mb4.7
VOSK Vostochnaya 24.50 47 P **P 22 11 08.0 -1.0**
comp=Z,26nm,1.0s,mb4.7
BUCH Bad Urach 24.54 302 P **P 22 11 09.1 -0.2**
SIND Sindeldorf 24.55 305 P **P 22 11 09.7 +0.3**
KAF Kangasniemi 24.61 343 *ep* **P 22 11 09.0 -0.8**
comp=Z,6.7nm,0.4s,mb4.5,baz=150,slow=9.7
KAF Kangasniemi 24.61 343 *eP* **P 22 11 09.0 -0.8**
KAF pmax pmax
comp=Z,7.0nm,0.4s,mb4.5
VAI Varese 24.62 296 P **P 22 11 09.7 -0.4**
GUT Gutenstein 24.63 301 P **P 22 11 11.8 +1.6**
ALAS Alassa 24.65 264 *i* P **P 22 11 10.9 +0.4**
comp=Z,425nm,1.3s,mb5.8,SNR=28
UBBA Unterbreizbach 24.66 308 *eL* 22 23 21.3
comp=Z,803nm,20.8s
SISB Singen-Schiene 24.68 300 P **P 22 11 10.4 -0.2**
STU Stuttgart 24.70 303 *eP* **P 22 11 09.4 -1.4**
comp=Z,169nm,1.7s,mb5.3
STU *e*L 22 25 10.9
comp=Z,880nm,18.5s
STU Stuttgart 24.70 303 *eP* **P 22 11 09.4 -1.4**
PCP Piancastagn 24.72 293 P **P 22 11 10.2 -0.9**
PCP Piancastagn 24.72 293 P **P 22 11 10.2 -0.8**
AML Almayashu 24.77 73 P **P 22 11 13.1 +1.6**
SNR=21
AML Almayashu 24.77 73 *eP* **P 22 11 13.2 +1.7**
comp=Z,26nm,0.8s,mb4.8
AML Almayashu 24.77 73 *eP* **P 22 11 13.2 +1.7**
comp=Z,26nm,0.8s,mb4.8
EKS2 Erkin-Say 24.79 72 P **P 22 11 13.4 +1.7**
SNR=53
EKS2 Erkin-Say 24.79 72 *eP* **P 22 11 13.1 +1.4**
comp=Z,62nm,0.9s,mb5.1
EKS2 Erkin-Say 24.79 72 *eP* **P 22 11 13.1 +1.4**
comp=Z,62nm,0.9s,mb5.1
SPAK Spaichingen-Ko 24.86 301 *eP* **P 22 11 11.3 -0.9**
LBG Lerchenberg 24.94 303 P **P 22 11 14.8 +1.8**
FIN Finale Ligure 24.96 292 P **P 22 11 11.0 -2.2**
FIN Finale Ligure 24.96 292 P **P 22 11 11.0 -2.2**
NRDL Niedersach Rie 25.10 312 *eL* 22 23 15.2
comp=Z,665nm,21.8s
TOD Tromm 25.11 305 *eP* **P 22 11 14.1 -0.5**
COP Copenhagen 25.16 320 *i* P **P 22 11 19.2 +4.3**
COP *i* S **S 22 15 39.2 -0.7**
COP
comp=Z,360nm,18.0s
COP Copenhagen 25.16 320 *i* P **P 22 11 19.2 +4.3**
COP *i* S **S 22 15 39.2 -0.7**
SWS Schriesheim-Wi 25.16 305 P **P 22 11 15.1 +0.2**
BFO Black Forest 25.19 302 *eP* **P 22 11 15.1 -0.2**
BFO pmax pmax
comp=Z,23nm,1.0s,mb4.7
BFO Black Forest 25.19 302 *eL* 22 21 44.2
comp=Z,824nm,21.6s
BFO Black Forest 25.19 302 *eP* **P 22 11 15.1 -0.2**
comp=Z,23nm,1.0s,mb4.7
BFO Black Forest 25.19 302 *eP* **P 22 11 15.1 -0.2**
comp=Z,23nm,1.0s,mb4.7
ROB Robourent 25.20 292 P **P 22 11 14.2 -1.2**
ROB Robourent 25.20 292 P **P 22 11 14.2 -1.2**
USP Ospenovka 25.29 70 P **P 22 11 17.1 +0.8**
SNR=9.9
AAK Ala-Archa 25.32 72 P **P 22 11 18.1 +1.5**
SNR=15
FELD Feldberg im Sc 25.34 301 *eP* **P 22 11 16.9 +0.2**
FRU Bishkek 25.40 71 *eP* **P 22 11 18.0 +0.8**
FRU pmax pmax
comp=Z,130nm,1.4s,mb5.3
FRU Bishkek 25.40 71 *eP* **P 22 11 18.0 +0.8**
comp=Z,130nm,1.4s,mb5.3
KEST Kesra 25.40 272 P **P 22 11 17.4 +0.1**
comp=Z,38nm,1.0s,mb4.9,baz=351,slow=0.2,SNR=24
KIZ Kirchzarten 25.41 301 P **P 22 11 17.6 +0.3**
SAOF Saorge 25.43 292 *eP* **P 22 11 16.7 -0.8**
CHMS Chumysh 25.49 71 P **P 22 11 19.2 +1.2**
SNR=19
BSEG Bad Segeberg 25.50 315 *eP* **P 22 11 19.0 +1.0**
BSEG pmax pmax
comp=Z,88nm,1.2s,mb5.2
BSEG MLR MLR
comp=Z,800nm,19.0s,MS4.3
BSEG Bad Segeberg 25.50 315 *eP* **P 22 11 19.0 +1.0**
comp=Z,88nm,1.2s,mb5.2
BSEG *e*L 22 23 03.1
comp=Z,757nm,19.0s
KTD Kalmit 25.52 304 P **P 22 11 21.3 +3.1**
SBF Sospel 25.52 291 *eP* **P 22 11 17.9 -0.4**
comp=Z,422nm,1.1s,mb5.6
SBF Sospel 25.52 291 *eP* **P 22 11 17.9 -0.4**
SBF pmax pmax
comp=Z,211nm,1.1s,mb5.6
SBF Sospel 25.52 291 *eP* **P 22 11 17.9 -0.4**
comp=Z,211nm,1.1s,mb5.6
AUTN L'Aution 25.53 292 *eP* **P 22 11 18.3 -0.1**
ENR Entracque 25.53 292 P **P 22 11 16.8 -1.6**
REVF Revere 25.57 291 *eP* **P 22 11 18.1 -0.7**
LUCF Luceram 25.59 291 *eP* **P 22 11 18.8 -0.1**
LANF Langenberg 25.64 303 *eP* **P 22 11 19.1 -0.2**
BHB Bricherasio 25.64 294 P **P 22 11 17.1 -2.3**
BHB Bricherasio 25.64 294 P **P 22 11 17.1 -2.3**
RSP Reno Superiore 25.65 294 P **P 22 11 19.4 -0.1**
DOI San Damiano 25.65 293 P **P 22 11 18.5 -1.0**
KBK Karagaybulak 25.66 71 P **P 22 11 21.4 +1.8**
SNR=28
TOUF Mont Tournerai 25.66 292 *eP* **P 22 11 19.0 -0.5**
LUMB Murzuk 25.67 247 *i* P **P 22 11 18.9 -0.9**
SNR=28
MVIF Mont Vial 25.73 291 *eP* **P 22 11 18.6 -1.6**
OG22 Abries 25.87 294 *eP* **P 22 11 20.4 -1.0**
CDF Champ du Feu 25.90 302 *eP* **P 22 11 21.4 -0.3**
comp=Z,41nm,1.0s,mb4.6
CDF Champ du Feu 25.90 302 *eP* **P 22 11 21.4 -0.3**
CDF pmax pmax
comp=Z,21nm,1.0s,mb4.6
CDF Champ du Feu 25.90 302 *eP* **P 22 11 21.4 -0.3**
comp=Z,21nm,1.0s,mb4.6
CALN Calern 25.92 291 *eP* **P 22 11 20.9 -1.1**
MOF Molkenrain 25.92 300 *eP* **P 22 11 22.8 +0.9**
KZA Kyzart 25.92 73 P **P 22 11 24.8 +2.8**
SNR=6.8
ECH Echery 25.95 301 *eP* **P 22 11 22.1 -0.1**
ECH Echery 25.95 301 *eP* **P 22 11 21.1 -1.1**
ECH Echery 25.95 301 *eP* **P 22 11 21.1 -1.0**
SURF Saint Ours 25.96 293 *eP* **P 22 11 23.1 +0.8**
RRL Rocca Remolon 25.98 294 P **P 22 11 22.2 -0.3**
RRL Rocca Remolon 25.98 294 P **P 22 11 22.2 -0.3**
MBDF Montbardon 25.99 293 *eP* **P 22 11 21.1 -1.5**
comp=Z,86nm,0.8s,mb5.0
MBDF Montbardon 25.99 293 *eP* **P 22 11 21.1 -1.5**
MBDF pmax pmax
comp=Z,43nm,0.8s,mb5.0
MBDF Montbardon 25.99 293 *eP* **P 22 11 21.1 -1.5**
comp=Z,43nm,0.8s,mb5.0
LPG La Plagne 26.01 295 *eP* **P 22 11 22.1 -0.7**
comp=Z,225nm,1.3s,mb5.2
LPG La Plagne 26.01 295 *eP* **P 22 11 22.1 -0.7**
LPG pmax pmax
comp=Z,113nm,1.3s,mb5.2
LPG La Plagne 26.01 295 *eP* **P 22 11 22.1 -0.7**
comp=Z,113nm,1.3s,mb5.2
LPL La Plagne 26.03 295 *eP* **P 22 11 21.9 -1.0**
comp=Z,92nm,1.1s,mb4.9
LPL La Plagne 26.03 295 *eP* **P 22 11 21.9 -1.0**
LPL pmax pmax
comp=Z,46nm,1.1s,mb4.9
LPL La Plagne 26.03 295 *eP* **P 22 11 21.9 -1.0**
comp=Z,46nm,1.1s,mb4.9
BNI Bardonecchia 26.06 294 *eP* **P 22 11 22.8 -0.4**
BNI pmax pmax
comp=Z,93nm,1.1s,mb5.2
BNI Bardonecchia 26.06 294 *eP* **P 22 11 22.8 -0.4**
comp=Z,93nm,1.1s,mb5.2
BNI Bardonecchia 26.06 294 *eP* **P 22 11 22.8 -0.4**
comp=Z,93nm,1.1s,mb5.2
LOMF Lomont 26.07 299 *eP* **P 22 11 24.1 +0.8**
OG01 Vacheresse 26.10 297 *eP* **P 22 11 22.3 -1.2**
FRF La Foret Royal 26.10 291 *eP* **P 22 11 22.7 -0.9**
comp=Z,170nm,1.3s,mb5.1
FRF La Foret Royal 26.10 291 *eP* **P 22 11 22.7 -0.9**
FRF pmax pmax
comp=Z,85nm,1.3s,mb5.1
FRF La Foret Royal 26.10 291 *eP* **P 22 11 22.7 -0.9**
comp=Z,85nm,1.3s,mb5.1
HINF Hinteralfeld 26.11 300 *eP* **P 22 11 22.4 -1.2**
comp=Z,11nm,0.9s,mb4.4
HINF Hinteralfeld 26.11 300 *eP* **P 22 11 22.4 -1.2**
HINF pmax pmax
comp=Z,11nm,0.9s,mb4.4
HINF Hinteralfeld 26.11 300 *eP* **P 22 11 22.4 -1.2**
comp=Z,11nm,0.9s,mb4.4
TKM2 Tokmak 2 26.11 71 *eP* **P 22 11 25.0 +1.3**
TKM2 pmax pmax
comp=Z,50nm,1.1s,mb5.0
TKM2 Tokmak 2 26.11 71 P **P 22 11 24.7 +1.0**
SNR=36
TKM2 Tokmak 2 26.11 71 *eP* **P 22 11 25.0 +1.3**
comp=Z,50nm,1.1s,mb5.0
TKM2 Tokmak 2 26.11 71 *eP* **P 22 11 25.0 +1.3**
comp=Z,50nm,1.1s,mb5.0
LMR La Mourre 26.21 290 *eP* **P 22 11 23.7 -0.9**
comp=Z,114nm,1.3s,mb4.9
LMR La Mourre 26.21 290 *eP* **P 22 11 23.7 -0.9**
LMR pmax pmax
comp=Z,57nm,1.3s,mb4.9
LMR La Mourre 26.21 290 *eP* **P 22 11 23.7 -0.9**
comp=Z,57nm,1.3s,mb4.9
RUP Ruppelstein 26.25 305 *eP* **P 22 11 25.8 +1.0**
IBBN Ibbenburen 26.42 311 *eL* 22 23 04.6
comp=Z,855nm,20.8s
HAU Haudompre 26.46 301 *eP* **P 22 11 28.2 +1.4**
comp=Z,77nm,1.6s,mb4.7
HAU *e*MLR MLR
comp=Z,991nm,19.8s,MS4.1
HAU Haudompre 26.46 301 *eP* **P 22 11 28.2 +1.4**
HAU pmax pmax
comp=Z,38nm,1.6s,mb4.7
HAU MLR MLR
comp=Z,990nm,19.8s,MS4.4
HAU Haudompre 26.46 301 *eP* **P 22 11 28.2 +1.4**
comp=Z,38nm,1.6s,mb4.7
HAU LR LR
comp=Z,990nm,19.8s,MS4.4
BUG Bochum-Univer 26.48 309 *eP* **P 22 11 26.7 -0.2**
comp=Z,33nm,1.1s,mb4.8
BUG *e*L 22 24 26.3
comp=Z,811nm,21.5s
CABF La Chapelle 26.52 298 *eP* **P 22 11 27.0 -0.4**
comp=Z,467nm,1.3s,mb5.6
CABF La Chapelle 26.52 298 *eP* **P 22 11 27.0 -0.4**
CABF pmax pmax
comp=Z,234nm,1.3s,mb5.6

CABF La Chapelle 26.52 298 *e*P **P 22 11 27.0 -0.4**
comp=Z,234nm,1.3s,mb5.6
TAVF Tavernes 26.53 291 *e*P **P 22 11 27.3 -0.2**
ORIF Oris-en-Rattie 26.62 294 *e*P **P 22 11 28.8 +0.5**
comp=Z,57nm,1.0s,mb4.8
ORIF *e*MLR MLR
comp=Z,2µm,22.8s,MS4.3
ORIF Oris-en-Rattie 26.62 294 *e*P **P 22 11 28.8 +0.5**
ORIF pmax pmax
comp=Z,29nm,1.0s,mb4.8
ORIF Oris-en-Rattie 26.62 294 *e*P **P 22 11 28.8 +0.5**
comp=Z,29nm,1.0s,mb4.8
CMAH Djebel Manchou 26.64 275 P **P 22 11 31.0 +2.5**
ABSA Djebel Ababsia 26.69 274 P **P 22 11 32.0 +3.0**
PUYF Puyloubier 26.79 291 *e*P **P 22 11 30.6 +0.8**
WLF Walferdange 26.82 304 P **P 22 11 32.0 +2.0**
comp=Z,20nm,1.4s,mb4.5
WLF E 22 11 44.9
WLF Walferdange 26.82 304 *e*P **P 22 11 29.6 -0.4**
WLF pmax pmax
comp=Z,46nm,1.3s,mb4.8
WLF Walferdange 26.82 304 *e*P **P 22 11 27.6 -2.4**
comp=Z,30nm,1.1s,mb4.7
WLF *e*L 22 27 29.9
comp=Z,911nm,18.8s
WLF Walferdange 26.82 304 *e*P **P 22 11 29.6 -0.4**
comp=Z,46nm,1.3s,mb4.8
WLF Walferdange 26.82 304 *e*P **P 22 11 29.6 -0.5**
comp=Z,46nm,1.3s,mb4.8
KSH Kashi 26.82 78 P **P 22 11 32.0 +1.8**
KSH AP pP 22 11 36.5 +4.1
KSH XP sP 22 11 39.0 +5.7
KSH PP 22 12 16.5
KSH PCP PcP 22 14 55.5 +2.8
KSH S **S 22 16 05.8 -0.8**
KSH XS sS 22 16 12.5 +2.2
KSH SS 22 17 18.0
KSH SCP ScP 22 18 33.8 +0.7
KSH PCS PcS 22 18 35.3 +1.3
KSH SCS ScS 22 22 22.3 -1.5
KSH AMB AMB
comp=Z,831nm,5.0s
KSH LR LR
comp=N,5µm,12.2s,MS5.4
KSH LR LR
comp=E,3µm,10.7s,MS5.4
KSH LR LR
comp=Z,3µm,11.7s,MS5.1
SMRF Simiane la Rot 26.86 292 *e*P **P 22 11 27.5 -3.0**
comp=Z,61nm,1.1s,mb4.8
SMRF Simiane la Rot 26.86 292 *e*P **P 22 11 27.5 -3.0**
comp=Z,61nm,1.1s,mb5.0
WTSB Winterswijk 26.90 310 *e*P **P 22 11 31.8 +1.1**
comp=Z,84nm,1.4s,mb5.1
WTSB Winterswijk 26.90 310 *e*S **S 22 16 18.0 +11**
HLG Helgoland 26.93 315 *e*L 22 26 27.9
comp=Z,770nm,19.1s
OG05 Jujurieux 26.93 296 *e*P **P 22 11 30.2 -0.9**
GELF Grande-Etoile 27.00 290 *e*P **P 22 11 33.8 +2.1**
TREF Trevaresse 27.02 291 *e*P **P 22 11 34.0 +2.1**
CAEH 'Ain El Ouahch 27.03 276 P **P 22 11 35.0 +2.9**
OCF Saint Nazaire 27.04 293 *e*P **P 22 11 31.3 -0.7**
OG26 St.-Nazaire-De 27.04 293 *e*P **P 22 11 31.3 -0.7**
HFS Hagfors 27.06 330 P **P 22 11 30.8 -1.2**
comp=Z,21nm,0.8s,mb4.7,baz=141,slow=9.6,SNR=6.4
HFS LR LR 22 23 27.1
comp=Z,2µm,20.7s,MS4.6,baz=127,slow=39
MEM Membach 27.08 306 P **P 22 11 33.3 +1.0**
MEM XP sP 22 11 37.6 +2.1
comp=Z,11nm,1.2s
MEM Membach 27.08 306 P **P 22 11 33.2 +0.9**
HGN Heimansgroeve 27.16 307 *e*P **P 22 11 36.6 +3.6**
comp=Z,55nm,1.9s,mb4.8
HGN Heimansgroeve 27.16 307 *e*S **S 22 16 16.0 +4.4**
comp=Z,17nm,2.0s
PRAF Pradon 27.16 291 *e*P **P 22 11 32.8 -0.4**
CKFL Kef-Lekhel 27.24 275 P **P 22 11 37.0 +3.1**
BEBN Eben Emael 27.32 307 E 22 11 40.1
MEZF Maizieres J'vi 27.38 302 *e*P **P 22 11 36.3 +1.3**
comp=Z,108nm,1.5s,mb4.9
MEZF Maizieres J'vi 27.38 302 *e*P **P 22 11 36.3 +1.3**
comp=Z,54nm,1.5s,mb4.9
CASM Ain Smara 27.46 275 P **P 22 11 39.0 +3.1**
VIVF Saint-Julien-I 27.48 294 *e*P **P 22 11 34.6 -1.4**
comp=Z,74nm,1.3s,mb4.8
VIVF Saint-Julien-I 27.48 294 *e*P **P 22 11 34.6 -1.4**
VIVF pmax pmax
comp=Z,37nm,1.3s,mb4.8
VIVF Saint-Julien-I 27.48 294 *e*P **P 22 11 34.6 -1.4**
comp=Z,37nm,1.3s,mb4.8
BCLA Clavier 27.49 306 P **P 22 11 35.1 -0.9**
comp=Z,9.3nm,1.3s,mb4.2
SSB Saint Sauveur 27.57 295 *e*P **P 22 11 35.6 -1.2**
SSB Saint Sauveur 27.57 295 *e*P **P 22 11 34.9 -1.9**
GIVF Givet 27.74 305 *e*P **P 22 11 35.6 -2.6**
comp=Z,52nm,1.2s,mb4.7
GIVF Givet 27.74 305 *e*P **P 22 11 35.6 -2.6**
GIVF pmax pmax
comp=Z,26nm,1.2s,mb4.7
GIVF Givet 27.74 305 *e*P **P 22 11 35.6 -2.6**
comp=Z,26nm,1.2s,mb4.7
DFRA Djebel Bou Aff 27.85 276 P **P 22 11 42.0 +2.6**
DOU Dourbes 27.88 305 P **P 22 11 41.6 +2.1**
comp=Z,8.8nm,1.7s,mb4.1
DOU E 22 11 48.8
SMF Signal de Mont 28.07 297 *e*P **P 22 11 39.6 -1.7**
comp=Z,102nm,1.4s,mb5.0
SMF Signal de Mont 28.07 297 *e*P **P 22 11 39.6 -1.7**
SMF pmax pmax
comp=Z,51nm,1.4s,mb5.0
SMF Signal de Mont 28.07 297 *e*P **P 22 11 39.6 -1.7**
comp=Z,51nm,1.4s,mb5.0
LOR Lormes 28.08 299 *e*P **P 22 11 40.1 -1.3**
comp=Z,56nm,1.3s,mb4.7
LOR *e*MLR MLR
comp=Z,2µm,20.2s,MS4.3
LOR Lormes 28.08 299 *e*P **P 22 11 40.1 -1.3**
LOR pmax pmax
comp=Z,28nm,1.3s,mb4.7
LOR MLR MLR
comp=Z,2µm,20.3s,MS4.6
LOR Lormes 28.08 299 *e*P **P 22 11 40.1 -1.3**
comp=Z,28nm,1.3s,mb4.7
LOR LR LR
comp=Z,2µm,20.3s,MS4.6
LASF Ste Croix 28.10 292 *e*P **P 22 11 40.4 -1.1**
comp=Z,116nm,1.4s,mb5.0
LASF Ste Croix 28.10 292 *e*P **P 22 11 40.4 -1.1**
comp=Z,58nm,1.4s,mb5.0
BAIF Baives 28.12 305 *e*P **P 22 11 40.5 -1.2**
comp=Z,62nm,1.3s,mb4.8
BAIF Baives 28.12 305 *e*P **P 22 11 40.5 -1.2**
BAIF pmax pmax
comp=Z,31nm,1.3s,mb4.8
BAIF Baives 28.12 305 *e*P **P 22 11 40.5 -1.2**
comp=Z,31nm,1.3s,mb4.8
UCC Uccle 28.14 306 P **P 22 11 44.3 +2.5**
comp=Z,13nm,1.2s,mb4.4
PLDF La Plantade 28.21 296 *e*P **P 22 11 43.3 +0.8**
SSF Saint Saulge 28.32 298 *e*P **P 22 11 39.7 -3.7**
comp=Z,60nm,1.4s,mb4.7
SSF Saint Saulge 28.32 298 *e*P **P 22 11 39.7 -3.7**
SSF pmax pmax
comp=Z,30nm,1.4s,mb4.7
SSF Saint Saulge 28.32 298 *e*P **P 22 11 39.7 -3.7**
comp=Z,30nm,1.4s,mb4.7
SET Setif 28.32 275 P **P 22 11 46.0 +2.4**
AVF Avril sur Loir 28.41 298 *e*P **P 22 11 42.8 -1.5**
comp=Z,47nm,1.1s,mb4.7
AVF Avril sur Loir 28.41 298 *e*P **P 22 11 42.8 -1.5**
AVF pmax pmax
comp=Z,23nm,1.1s,mb4.7
AVF Avril sur Loir 28.41 298 *e*P **P 22 11 42.8 -1.5**
comp=Z,23nm,1.1s,mb4.7
KONO Kongsberg 28.47 326 *e*S **S 22 16 32.3 +0.2**
KONO AMS AMS 22 24 54.4
comp=Z,1µm,17.4s,MS4.5
AGO Saint Agoulin 28.55 296 *e*P **P 22 11 44.6 -1.0**
KURK Kurchatov 28.57 54 P **P 22 11 45.1 -0.6**
comp=Z,136nm,0.9s,mb5.7,SNR=14
KURK Kurchatov 28.57 54 P **P 22 11 46.1 +0.5**
SNR=10
KURK Kurchatov 28.57 54 *e*P **P 22 11 45.7 0.0**
KURK pmax pmax
comp=Z,42nm,1.2s,mb5.0
KURK Kurchatov 28.57 54 *e*P **P 22 11 45.7 0.0**
comp=Z,42nm,1.2s,mb5.0
KURK Kurchatov 28.57 54 *e*P **P 22 11 45.6 0.0**
comp=Z,42nm,1.2s,mb5.0
NB2 NORSAR Subarra 28.58 330 P **P 22 11 44.1 -1.5**
comp=Z,9.1nm,1.0s,mb4.5,baz=126,slow=9.3
NOA NORSAR Array B 28.58 330 P **P 22 11 44.5 -1.1**
comp=Z,3.6nm,0.8s,mb4.2,baz=126,slow=8.8,SNR=11
NOA PP PP 22 12 34.3 -16
comp=Z,2.6nm,0.8s,baz=121,slow=10,SNR=4.9
NOA LR LR 22 24 23.8
comp=Z,1µm,20.0s,MS4.5,baz=130,slow=39
NOA NORSAR Array B 28.58 330 P **P 22 11 44.5 -1.1**
NOA 22 12 34.3
APA Apatity 28.68 354 ↓ *i*P **P 22 11 46.3 -0.1**
APA *i* 22 12 35.5
APA *i* 22 15 00.0
APA *i* S **S 22 16 32.0 -3.2**
APA pmax pmax
comp=Z,22nm,0.8s,mb4.9
APA MLR MLR
comp=Z,500nm,13.0s,MS4.3
APA Apatity 28.68 354 *i* P **P 22 11 46.3 -0.1**
comp=Z,22nm,0.8s,mb4.9
APA Apatity 28.68 354 *i* PcP PcP 22 15 00.0 +3.3
APA *i* S **S 22 16 32.0 -3.2**
comp=Z,500nm,13.0s
BGF Bois d'Agland 28.76 297 *e*P **P 22 11 48.4 +1.0**
comp=Z,29nm,1.1s,mb4.6
BGF Bois d'Agland 28.76 297 *e*P **P 22 11 48.4 +1.0**
BGF pmax pmax
comp=Z,14nm,1.1s,mb4.6
BGF Bois d'Agland 28.76 297 *e*P **P 22 11 48.4 +1.0**
comp=Z,14nm,1.1s,mb4.6
LVZ Lovozero 28.91 355 P **P 22 11 48.8 +0.3**
comp=Z,201nm,0.7s,SNR=7.0
HYF Humbligny 28.91 299 *e*P **P 22 11 48.8 0.0**
TCF Toulx Ste Croi 29.20 297 *e*P **P 22 11 50.3 -1.0**
comp=Z,76nm,1.6s,mb4.9
TCF Toulx Ste Croi 29.20 297 *e*P **P 22 11 50.3 -1.0**
TCF pmax pmax
comp=Z,38nm,1.6s,mb4.9
TCF Toulx Ste Croi 29.20 297 *e*P **P 22 11 50.3 -1.0**
comp=Z,38nm,1.6s,mb4.9
CAF Calviac 29.33 294 *e*P **P 22 11 54.1 +1.6**
comp=Z,35nm,1.3s,mb4.6
CAF Calviac 29.33 294 *e*P **P 22 11 54.1 +1.6**
CAF pmax pmax
comp=Z,17nm,1.3s,mb4.6
CAF Calviac 29.33 294 *e*P **P 22 11 54.1 +1.6**
comp=Z,17nm,1.3s,mb4.6
MTLF Montolieu 29.34 291 *e*P **P 22 11 51.9 -0.7**
comp=Z,48nm,1.4s,mb4.7
MTLF Montolieu 29.34 291 *e*P **P 22 11 51.9 -0.7**
MTLF pmax pmax
comp=Z,24nm,1.4s,mb4.7
MTLF Montolieu 29.34 291 *e*P **P 22 11 51.9 -0.7**
comp=Z,24nm,1.4s,mb4.7
ETOS Mallorca 29.42 283 P **P 22 11 56.2 +2.9**
comp=Z,42nm,1.0s,mb5.1
RJF Les Rejaudoux 29.70 295 *e*P **P 22 11 56.1 +0.3**
comp=Z,126nm,1.6s,mb5.1
RJF *e*MLR MLR
comp=Z,2µm,21.2s,MS4.4
RJF Les Rejaudoux 29.70 295 *e*P **P 22 11 56.1 +0.3**
RJF pmax pmax
comp=Z,63nm,1.6s,mb5.1
RJF MLR MLR
comp=Z,2µm,21.3s,MS4.7
RJF Les Rejaudoux 29.70 295 *e*P **P 22 11 56.1 +0.3**
comp=Z,63nm,1.6s,mb5.1
RJF LR LR
comp=Z,2µm,21.3s,MS4.7
LFF La Frestale 30.27 294 *e*P **P 22 11 57.8 -3.0**
comp=Z,45nm,1.1s,mb4.8
LFF La Frestale 30.27 294 *e*P **P 22 11 57.8 -3.0**
LFF pmax pmax
comp=Z,23nm,1.1s,mb4.8
LFF La Frestale 30.27 294 *e*P **P 22 11 57.8 -3.0**
comp=Z,23nm,1.1s,mb4.8
SMLA Simla 30.39 94 *i* P **P 22 12 01.7 -0.2**
EPOB Poblet 30.43 287 P **P 22 12 02.0 -0.3**
comp=Z,4.5nm,0.9s,mb4.2
EPOB Poblet 30.43 287 P **P 22 12 02.0 -0.2**
comp=Z,4.5nm,0.9s,mb4.2
NSS Namsos 30.51 335 AMS AMS 22 26 00.5
comp=Z,1µm,16.8s,MS4.6
BER Bergen 30.70 325 *e*S **S 22 17 12.7 +5.6**
BER AMS AMS 22 26 20.6
comp=Z,794nm,14.5s,MS4.5
MK31 Makanchi Array 30.72 62 *i* P **P 22 12 05.2 +0.4**
MK31 pmax pmax
comp=Z,15nm,0.7s,mb4.9
MK31 Makanchi Array 30.72 62 *i* P **P 22 12 05.2 +0.4**
comp=Z,15nm,0.7s,mb4.9
MKAR Makanchi Array 30.72 62 P **P 22 12 05.4 +0.6**
comp=Z,16nm,0.7s,mb5.0,baz=272,slow=8.0,SNR=163
EPF Esparros 30.74 290 *e*P **P 22 12 03.2 -1.7**
comp=Z,34nm,1.2s,mb4.7
EPF Esparros 30.74 290 *e*P **P 22 12 03.2 -1.7**
EPF pmax pmax
comp=Z,17nm,1.3s,mb4.7
EPF Esparros 30.74 290 *e*P **P 22 12 03.2 -1.7**
comp=Z,17nm,1.3s,mb4.7
LDF La Druitiere 30.82 301 *e*P **P 22 12 07.2 +1.6**
MFF Saint Martin d 30.82 297 *e*P **P 22 12 03.0 -2.6**
comp=Z,46nm,1.3s,mb4.8
MFF Saint Martin d 30.82 297 *e*P **P 22 12 03.0 -2.6**
MFF pmax pmax
comp=Z,23nm,1.3s,mb4.8
MFF Saint Martin d 30.82 297 *e*P **P 22 12 03.0 -2.6**
comp=Z,23nm,1.3s,mb4.8
MOL Molde 30.89 330 AMS AMS 22 26 12.1
comp=Z,1µm,20.6s,MS4.6
EBIE Bielsa 30.92 290 P **P 22 12 05.6 -1.0**
comp=Z,14nm,0.9s,mb4.8
EBIE Bielsa 30.92 290 P **P 22 12 05.6 -1.0**
comp=Z,14nm,0.9s,mb4.8
FLN La Foliniere 31.06 302 *e*P **P 22 12 06.9 -0.8**
FLN *e*MLR MLR
comp=Z,755nm,20.0s,MS4.0
FLN La Foliniere 31.06 302 *e*P **P 22 12 06.9 -0.8**
comp=Z,750nm,20.0s
FLN La Foliniere 31.06 302 *e*P **P 22 12 06.9 -0.8**
FLN LR LR
comp=Z,750nm,20.0s,MS4.3
GRR Gorron 31.30 301 *e*P **P 22 12 08.6 -1.2**
comp=Z,59nm,1.2s,mb5.0
GRR Gorron 31.30 301 *e*P **P 22 12 08.6 -1.2**
GRR pmax pmax
comp=Z,30nm,1.2s,mb5.0
GRR Gorron 31.30 301 *e*P **P 22 12 08.6 -1.2**
comp=Z,30nm,1.2s,mb5.0
ETSF Etsaut 31.41 290 *e*P **P 22 12 10.5 -0.4**
comp=Z,77nm,1.4s,mb5.0
ETSF Etsaut 31.41 290 *e*P **P 22 12 10.5 -0.4**
ETSF pmax pmax
comp=Z,39nm,1.4s,mb5.0
ETSF Etsaut 31.41 290 *e*P **P 22 12 10.5 -0.4**
comp=Z,39nm,1.4s,mb5.0
DDI Dehra Dun 31.43 95 *ex* x 22 12 10.6
DDI *ex* x 22 13 14.3
ARCES ARCESS Array B 31.46 350 P **P 22 12 10.5 -0.5**
comp=Z,23nm,0.7s,mb5.1,baz=156,slow=8.9,SNR=91
ARCES LR LR 22 26 40.0
comp=Z,2µm,18.0s,MS4.8,baz=159,slow=40
ARCES ARCESS Array B 31.46 350 P **P 22 12 10.5 -0.5**
ARCES LR LR 22 26 40.0
ARE0 ARCESS Array S 31.46 350 *e*P **P 22 12 10.7 -0.3**
ARE0 ARCESS Array S 31.46 350 *e*P **P 22 12 10.7 -0.3**
KEV Kevo 31.46 351 *ep* **P 22 12 10.2 -0.8**
comp=Z,2.7nm,0.4s,mb4.4
KEV Kevo 31.46 351 *e*P **P 22 12 10.2 -0.8**
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
ESAC San Caprasio 31.52 288 P **P 22 12 13.8 +1.9**
comp=Z,73nm,1.2s,mb5.4
ESAC San Caprasio 31.52 288 P **P 22 12 13.8 +2.0**
comp=Z,73nm,1.2s,mb5.4
NDI New Delhi 31.54 98 *ex* x 22 12 11.0
EMOS Mosqueruela 31.77 285 P **P 22 12 12.4 -1.7**
comp=Z,6.9nm,0.5s,mb4.7
EMOS Mosqueruela 31.77 285 P **P 22 12 12.4 -1.7**
comp=Z,6.9nm,0.5s,mb4.7
SGMF Saint Gilles 32.43 301 *e*P **P 22 12 17.8 -2.0**
comp=Z,87nm,1.2s,mb5.2
SGMF Saint Gilles 32.43 301 *e*P **P 22 12 17.8 -2.0**
SGMF pmax pmax
comp=Z,43nm,1.2s,mb5.2
SGMF Saint Gilles 32.43 301 *e*P **P 22 12 17.8 -2.0**
comp=Z,43nm,1.2s,mb5.2
TRO Tromso 32.64 346 *e*P **P 22 12 20.7 -0.7**
TRO *e*S **S 22 17 37.8 +0.6**
TRO AMS AMS 22 26 57.1
comp=Z,2µm,17.3s,MS4.8
TRO Tromso 32.64 346 *e*P **P 22 12 20.7 -0.6**
comp=Z,2µm,17.3s
TRO *e*S **S 22 17 37.8 +0.7**
SNR=28
TRO Tromso 32.64 346 *e*P **P 22 12 20.7 -0.7**
TRO *e* 22 18 35.6
TRO LR LR
comp=Z,2µm,17.3s,MS4.8
ZAL Zalesovo 32.81 49 P **P 22 12 22.1 -0.9**
ZALV Zalesovo Beam 32.83 49 P **P 22 12 22.1 -1.1**
comp=Z,5.0nm,0.7s,mb4.5,baz=265,slow=8.1,SNR=24
QUIF Quistinic 32.84 300 *e*P **P 22 12 23.1 -0.3**
comp=Z,85nm,1.4s,mb5.2
QUIF Quistinic 32.84 300 *e*P **P 22 12 23.1 -0.3**
QUIF pmax pmax
comp=Z,43nm,1.4s,mb5.2
QUIF Quistinic 32.84 300 *e*P **P 22 12 23.1 -0.3**
comp=Z,43nm,1.4s,mb5.2
ROSF Rostrenen 32.91 301 *e*P **P 22 12 23.5 -0.5**
comp=Z,43nm,1.3s,mb4.9
ROSF Rostrenen 32.91 301 *e*P **P 22 12 23.5 -0.5**
ROSF pmax pmax
comp=Z,21nm,1.3s,mb4.9
ROSF Rostrenen 32.91 301 *e*P **P 22 12 23.5 -0.5**
comp=Z,21nm,1.3s,mb4.9
EKA Eskdalemuir Ar 33.40 314 P **P 22 12 27.7 -0.5**
comp=Z,12nm,0.8s,mb4.8,baz=106,slow=8.5,SNR=18
ESK Eskdalemuir 33.43 314 *e*P **P 22 12 27.5 -0.9**
ESK pmax pmax
comp=Z,42nm,1.4s,mb5.2
ESK Eskdalemuir 33.43 314 *e*P **P 22 12 27.5 -0.9**
comp=Z,42nm,1.4s,mb5.2
ESK Eskdalemuir 33.43 314 *e*P **P 22 12 27.5 -0.9**
comp=Z,42nm,1.4s,mb5.2
EHUE Huescar 33.99 282 P **P 22 12 32.9 -0.6**
EHUE pmax pmax
comp=Z,22nm,1.3s,mb4.9
EHUE Huescar 33.99 282 P **P 22 12 32.9 -0.6**
comp=Z,22nm,1.3s,mb4.9
EHUE Huescar 33.99 282 P **P 22 12 32.9 -0.6**
comp=Z,22nm,1.3s,mb4.9
EQES Quesada 34.36 282 P **P 22 12 35.7 -1.0**
comp=Z,30nm,1.0s,mb5.2
EQES Quesada 34.36 282 P **P 22 12 35.7 -1.0**
comp=Z,30nm,1.0s,mb5.2
TAM Tamanrasset 34.39 252 *e*P **P 22 12 37.2 +0.1**
TAM Tamanrasset 34.39 252 *e*P **P 22 12 37.2 0.0**
GUD Guadarrama 34.46 287 P **P 22 12 36.6 -0.9**
GUD pmax pmax
comp=Z,18nm,1.1s,mb4.9
GUD Guadarrama 34.46 287 P **P 22 12 36.6 -0.9**
comp=Z,18nm,1.1s,mb4.9
GUD Guadarrama 34.46 287 P **P 22 12 36.6 -1.0**
comp=Z,18nm,1.1s,mb4.9
EBER Berja 34.48 280 P **P 22 12 38.9 +1.1**
comp=Z,47nm,0.9s,mb5.4
EBER Berja 34.48 280 P **P 22 12 38.9 +1.1**
comp=Z,47nm,0.9s,mb5.4
ESDC Sonseca Array 34.54 285 P **P 22 12 36.2 -2.1**
comp=Z,14nm,1.3s,mb4.7
ESDC Sonseca Array 34.54 285 P **P 22 12 36.2 -2.0**
comp=Z,14nm,1.3s,mb4.7
ESLA Sonseca Array 34.54 285 *e*P **P 22 12 36.4 -1.9**
comp=Z,14nm,1.4s,mb4.7
ESLA Sonseca Array 34.54 285 *e*P **P 22 12 36.4 -1.9**
comp=Z,14nm,1.4s,mb4.7
WMQ Urumqi 34.78 67 P **P 22 12 41.3 +1.0**
WMQ AP pP 22 12 45.5 +2.9
WMQ XP sP 22 12 48.3 +4.8
WMQ PP PP 22 13 58.5 -0.5
WMQ PCP PcP 22 15 14.5 +0.9
WMQ SCP ScP 22 18 58.3 -1.0
WMQ SS SS 22 20 23.8 -18
WMQ SCS ScS 22 23 00.3 -2.2
WMQ AMB AMB
comp=Z,33nm,0.8s,mb5.3
WMQ LR LR
comp=N,945nm,18.4s,MS4.7
WMQ LR LR
comp=E,921nm,17.2s,MS4.7
WMQ LR LR
comp=Z,1µm,18.2s,MS4.6
EBAN Banos Encina 34.80 283 P **P 22 12 41.4 +0.9**
EBAN pmax pmax
comp=Z,36nm,1.2s,mb5.2
EBAN Banos Encina 34.80 283 P **P 22 12 41.4 +0.9**
comp=Z,36nm,1.2s,mb5.2
PAB San Pablo 34.86 285 *e*P **P 22 12 40.2 -0.8**
PAB pmax pmax
comp=Z,29nm,1.2s,mb5.1
PAB San Pablo 34.86 285 *e*P **P 22 12 40.2 -0.8**
comp=Z,29nm,1.2s,mb5.1
PAB San Pablo 34.86 285 *e*P **P 22 12 40.2 -0.9**
comp=Z,29nm,1.2s,mb5.1
ECOG Cogollos-Vega 34.89 281 P **P 22 12 41.6 +0.3**
ECOG pmax pmax
comp=Z,30nm,1.4s,mb5.0
ECOG Cogollos-Vega 34.89 281 P **P 22 12 41.6 +0.3**
comp=Z,30nm,1.4s,mb5.0
ECOG Cogollos-Vega 34.89 281 P **P 22 12 41.6 +0.3**
comp=Z,30nm,1.4s,mb5.0
DLF Lyons Farm 35.12 310 *e*P **P 22 12 44.0 +0.9**
ELUQ Luque 35.34 282 P **P 22 12 45.1 -0.1**
ELUQ pmax pmax
comp=Z,14nm,1.1s,mb4.8
ELUQ Luque 35.34 282 P **P 22 12 45.1 -0.1**
comp=Z,14nm,1.1s,mb4.8
ELUQ Luque 35.34 282 P **P 22 12 45.1 0.0**
comp=Z,14nm,1.1s,mb4.8
ELOJ Sierra Loja 35.37 281 P **P 22 12 44.7 -0.8**
ELOJ pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
ELOJ Sierra Loja 35.37 281 P **P 22 12 44.7 -0.8**
comp=Z,9.0nm,1.4s,mb4.5
ELOJ Sierra Loja 35.37 281 P **P 22 12 44.7 -0.8**
comp=Z,9.0nm,1.4s,mb4.5
DMUB Kingscourt 35.39 311 *e*P **P 22 12 47.9 +2.5**
EADA Adamuz 35.40 283 P **P 22 12 46.2 +0.5**
comp=Z,68nm,1.2s,mb5.5
EADA Adamuz 35.40 283 P **P 22 12 46.2 +0.6**
comp=Z,68nm,1.2s,mb5.5
DCN Croghan 35.57 310 *e*P **P 22 12 49.6 +2.7**
EMIJ Mijas 36.03 281 P **P 22 12 51.7 +0.6**
comp=Z,113nm,1.8s,mb5.5
EMIJ Mijas 36.03 281 P **P 22 12 51.7 +0.6**
comp=Z,113nm,1.8s,mb5.5
ECAB El Cabril 36.06 283 P **P 22 12 51.9 +0.5**
comp=Z,256nm,2.2s,mb5.8
ECAB El Cabril 36.06 283 P **P 22 12 51.9 +0.5**
comp=Z,256nm,2.2s,mb5.8
TZK Tazeka 36.42 276 *i* P **P 22 12 53.0 -1.5**
MVO Moncorvo 36.46 289 *e*S **S 22 18 36.4 -0.4**
MVO A 22 30 30.5
comp=Z,496nm,20.0s
MVO Moncorvo 36.46 289 *e*S **S 22 18 36.4 -0.4**
comp=Z,496nm,20.0s
DANN Dangsing 36.75 94 *e*P **P 22 12 58.8 +1.4**
comp=Z,103nm,0.9s,mb5.7
ESPR Espera 36.76 281 P **P 22 12 56.2 -1.1**
comp=Z,65nm,1.4s,mb5.3
ESPR Espera 36.76 281 P **P 22 12 56.2 -1.1**
comp=Z,65nm,1.4s,mb5.3
BJO Bjornoya 36.80 350 AMS AMS 22 30 20.4
comp=Z,2µm,18.1s,MS4.8
DKH Dar Kharkhour 36.83 279 *i* P **P 22 12 57.0 -1.0**
KOLN Koldanda 36.91 95 *e*P **P 22 12 59.5 +0.8**
comp=Z,36nm,0.9s,mb5.2
MTE Manteigas 37.02 288 *e*P **P 22 12 59.5 -0.1**
comp=Z,77nm,1.6s,mb5.3
MTE *e*S **S 22 18 46.2 +0.8**
MTE A 22 30 15.2
comp=Z,504nm,20.0s
MTE Manteigas 37.02 288 *e*P **P 22 12 59.3 -0.3**
comp=Z,89nm,1.8s,mb5.3
EBAD Badajoz 37.07 285 P **P 22 13 00.2 +0.2**
comp=Z,39nm,1.3s,mb5.1
EBAD Badajoz 37.07 285 P **P 22 13 00.2 +0.2**
comp=Z,39nm,1.3s,mb5.1
EMIN Mina Concepcio 37.10 283 P **P 22 13 01.4 +1.2**
comp=Z,15nm,1.1s,mb4.7

EMIN Mina Concepcio 37.10 283 P **P** **22 13 01.4 +1.1**
comp=Z,15nm,1.1s,mb4.7
PCBR Castelo Branco 37.12 287 *e*P **P** **22 13 00.5 +0.1**
comp=Z,49nm,1.8s,mb5.0
PMRV Marv??o 37.16 286 *e*S **S** **22 18 47.7 +0.2**
PMRV A 22 28 25.4
comp=Z,554nm,24.0s
PMRV Marv??o 37.16 286 *e*S **S** **22 18 47.7 +0.2**
comp=Z,554nm,24.0s
PVIS Viseu 37.20 288 *e*P **P** **22 13 01.6 +0.5**
comp=Z,27nm,1.4s,mb4.9
MDT Midelt 37.24 275 P **P** **22 12 59.5 -2.0**
comp=Z,10nm,1.0s,mb4.6,baz=86,slow=11,SNR=7.3
PBAR Barrancos 37.25 284 *e*P **P** **22 13 01.4 -0.1**
comp=Z,29nm,2.1s,mb4.7
PBAR *e*S **S** **22 18 49.1 +0.2**
PBAR A 22 28 39.9
comp=Z,612nm,22.0s
PBAR Barrancos 37.25 284 *e*P **P** **22 13 01.4 -0.1**
comp=Z,29nm,2.1s,mb4.7
PBAR *e*S **S** **22 18 49.1 +0.2**
comp=Z,612nm,22.0s
PESTR Estremoz 37.47 285 *e*P **P** **22 13 03.1 -0.3**
comp=Z,35nm,1.3s,mb5.0
PESTR *e*S **S** **22 18 53.0 +0.9**
PESTR A 22 28 58.5
comp=Z,504nm,22.0s
PESTR Estremoz 37.47 285 *e*P **P** **22 13 03.1 -0.3**
comp=Z,35nm,1.3s,mb5.0
PESTR *e*S **S** **22 18 53.0 +0.9**
comp=Z,504nm,22.0s
MIF Mishlifen 37.48 276 *i*P **P** **22 13 03.0 -0.6**
CZD Col de Zad 37.49 275 *i*P **P** **22 13 06.0 +2.4**
GKN Gorkha 37.59 94 *e*P **P** **22 13 05.2 +0.7**
PTOM Tomar 37.87 287 *e*P **P** **22 13 08.2 +1.4**
comp=Z,95nm,1.9s,mb5.2
PBEJ Beja 37.92 284 *e*P **P** **22 13 08.5 +1.3**
comp=Z,35nm,1.5s,mb4.9
PVAQ Vaqueiros 38.00 283 *e*P **P** **22 13 08.3 +0.4**
comp=Z,49nm,1.7s,mb5.0
PVAQ *e*S **S** **22 19 00.4 +0.2**
PVAQ A 22 31 17.1
comp=Z,273nm,20.0s
PVAQ Vaqueiros 38.00 283 *e*P **P** **22 13 08.3 +0.4**
comp=Z,49nm,1.7s,mb5.0
PVAQ *e*S **S** **22 19 00.4 +0.2**
comp=Z,273nm,20.0s
DMN Daman 38.15 94 *e*P **P** **22 13 10.3 +1.1**
comp=Z,143nm,1.1s,mb5.6
KKN Kakani 38.20 94 *e*P **P** **22 13 10.1 +0.5**
comp=Z,54nm,1.0s,mb5.2
KKN Kakani 38.20 94 *e*P **P** **22 13 10.1 +0.5**
KKN pmax pmax
comp=Z,54nm,1.0s,mb5.2
PBDV Barranco-do-Ve 38.21 283 *e*P **P** **22 13 11.2 +1.5**
comp=Z,88nm,1.7s,mb5.2
PBDV *e*S **S** **22 19 05.0 +1.5**
PBDV A 22 29 32.9
comp=Z,340nm,20.0s
PKIN Phulchoki 38.39 94 *e*P **P** **22 13 12.4 +1.1**
PKI Pulchoki 38.40 94 *e*P **P** **22 13 12.1 +0.7**
comp=Z,101nm,1.2s,mb5.4
PKI Pulchoki 38.40 94 *e*P **P** **22 13 12.4 +1.0**
GUN Gumba 38.60 93 *e*P **P** **22 13 14.1 +1.1**
comp=Z,210nm,1.1s,mb5.8
PMAFR Mafra 38.71 286 *e*S **S** **22 19 13.5 +2.6**
PMAFR A 22 30 18.5
comp=Z,444nm,22.0s
MORF Marmelete 38.73 283 *e*S **S** **22 19 11.9 +0.5**
MORF A 22 29 37.0
comp=Z,436nm,20.0s
MORF Marmelete 38.73 283 *e*S **S** **22 19 11.9 +0.5**
comp=Z,436nm,20.0s
PFVI Vila Bisbo 38.92 283 *e*S **S** **22 19 15.2 +1.0**
PFVI A 22 29 54.0
comp=Z,390nm,20.0s
PFVI Vila Bisbo 38.92 283 *e*S **S** **22 19 15.2 +1.0**
comp=Z,390nm,20.0s
TZC Tazercounte 38.96 275 *i*P **P** **22 13 18.0 +2.0**
HYB Hyderabad 39.09 113 *i*P **P** **22 13 18.0 +0.8**
HYB Hyderabad 39.09 113 *e*P **P** **22 13 17.5 +0.3**
RAMN Ramite 39.63 94 *e*P **P** **22 13 22.1 +0.4**
comp=Z,103nm,1.0s,mb5.5
ODAN Odare 40.29 94 *e*P **P** **22 13 28.1 +1.0**
comp=Z,93nm,1.2s,mb5.4
TAPN Taplejung 40.29 93 *e*P **P** **22 13 27.6 +0.4**
SPITS Spitsbergen Ar 40.34 352 P **P** **22 13 26.7 -0.3**
comp=Z,54nm,0.7s,mb5.4,baz=305,slow=13,SNR=36
SPB4 Spitsbergen Ar 40.35 352 *e*P **P** **22 13 27.0 0.0**
KMBO Kilima Mbogo 40.36 186 P **P** **22 13 28.4 +0.7**
comp=Z,7.6nm,1.1s,mb4.3,baz=357,slow=7.9,SNR=9.3
KMBO LR LR 22 30 42.4
comp=Z,950nm,20.5s,MS4.6,baz=357,slow=37
KMBO Kilima Mbogo 40.36 186 P **P** **22 13 28.4 +0.7**
KMBO pmax pmax
comp=Z,8.0nm,1.1s
KMBO MLR MLR
comp=Z,950nm,20.5s
KMBO Kilima Mbogo 40.36 186 *e*P **P** **22 13 28.9 +1.2**
comp=Z,28nm,1.4s,mb4.8
KMBO Kilima Mbogo 40.36 186 *e*P **P** **22 13 28.9 +1.1**
comp=Z,28nm,1.4s,mb4.8
OUK Oukaimeden 40.42 274 *i*P **P** **22 13 30.0 +1.8**
JMIC Jan Mayen 40.51 337 AMS AMS 22 31 27.9
comp=Z,654nm,17.1s,MS4.5
CIA Chichaoua 40.96 275 *e*P **P** **22 13 33.0 +0.4**
KBS Kingsbay 41.45 352 *e* SS 22 23 01.8 +7.0
KBS AMS AMS 22 33 10.9
comp=Z,2μm,16.9s
KBS Kingsbay 41.45 352 AMS AMS 22 33 19.3
comp=Z,2μm,14.5s,MS5.0
LSA Lhasa 41.86 87 P **P** **22 13 42.3 +2.3**
LSA Lhasa 41.86 87 *e*P **P** **22 13 41.5 +1.5**
LSA pmax pmax
comp=Z,22nm,0.8s,mb4.8
LSA Lhasa 41.86 87 *e*P **P** **22 13 41.5 +1.5**
comp=Z,22nm,0.8s,mb4.8
LSA Lhasa 41.86 87 *e*P **P** **22 13 41.5 +1.4**
comp=Z,22nm,0.8s,mb4.8
MOY Mondy 42.61 53 *e*P **P** **22 13 46.9 +1.0**
TOA0 Torodi Ar. Sit 43.41 244 *e*P **P** **22 13 51.1 -1.7**
TOA0 Torodi Ar. Sit 43.41 244 *e*P **P** **22 13 51.1 -1.6**
TORD Torodi Ar. Bea 43.41 244 P **P** **22 13 51.2 -1.6**
comp=Z,11nm,1.2s,mb4.5,baz=39,slow=8.1,SNR=16
TORD LR LR 22 34 18.8
comp=Z,617nm,21.3s,MS4.5,baz=45,slow=39
TORD Torodi Ar. Bea 43.41 244 P **P** **22 13 51.2 -1.6**
TORD LR LR 22 34 18.8
ZAK Zakamensk 44.23 54 *e*P **P** **22 13 58.9 -0.1**
ZAK *e* 22 15 42.6
ZAK pmax pmax
comp=Z,6.0nm,1.6s,mb4.1
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.3
ZAK Zakamensk 44.23 54 *e*P **P** **22 13 58.9 -0.1**
comp=Z,6.0nm,1.6s,mb4.1
TLY Talaya 44.24 52 *e*P **P** **22 13 59.8 +0.8**
TLY *e*S **S** **22 20 46.0 +13**
TLY *e*SS SS 22 23 54.6 +4.4
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,1μm,18.0s,MS4.9
TLY Talaya 44.24 52 *e*P **P** **22 13 59.8 +0.8**
comp=Z,10.0nm,0.9s,mb4.5
TLY *e*ScS ScS 22 23 54.6 -3.0
comp=Z,1μm,18.0s
GTA Gaotai 44.66 70 P **P** **22 14 03.3 +0.7**
GTA AP pP 22 14 07.5 +2.6
GTA XP sP 22 14 10.8 +5.0
GTA PCP PcP 22 15 44.8 -0.3
GTA PP PP 22 15 50.8 +4.2
GTA S **S** **22 20 39.8 +0.7**
GTA XS sS 22 20 46.8 +3.9
GTA SS SS 22 23 51.8 -7.1
GTA AMB AMB
comp=Z,13nm,1.6s,mb4.5
GTA AMB AMB
comp=Z,147nm,6.0s
GTA LR LR
comp=N,779nm,19.2s,MS4.8
GTA LR LR
comp=E,811nm,18.0s,MS4.8
GTA LR LR
comp=Z,610nm,15.6s,MS4.6
DAG Danmarks Havn 45.30 344⇑ *i*P **P** **22 14 06.5 -0.7**
DAG pmax pmax
comp=Z,23nm,1.2s,mb4.9
DAG Danmarks Havn 45.30 344⇑ *i*P **P** **22 14 06.5 -0.7**
comp=Z,23nm,1.2s,mb4.9
SONM Songino Array 46.78 57 P **P** **22 14 19.2 -0.1**
comp=Z,2.7nm,0.7s,mb4.3,baz=280,slow=9.3,SNR=24
SONM PcP PcP 22 15 52.1 -0.3
comp=Z,7.8nm,0.7s,baz=267,slow=3.4,SNR=23
SONM LR LR 22 36 21.5
comp=Z,5μm,18.9s,MS5.5,baz=291,slow=39
SONM Songino Array 46.78 57 P **P** **22 14 19.2 0.0**
SONM 22 15 52.1
LZH Lanzhou 48.85 73⇑P **P** **22 14 36.3 +0.9**
LZH AP pP 22 14 40.0 +2.2
LZH XP sP 22 14 43.0 +4.3
LZH S **S** **22 21 38.0 -1.1**
LZH XS sS 22 21 43.5 +0.6
LZH SS SS 22 25 02.0 -7.4
LZH AMB AMB
comp=Z,46nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,160nm,4.0s
LZH LR LR
comp=E,744nm,15.2s
LZH LR LR
comp=Z,1μm,16.9s,MS5.0
BOD Bodaibo 49.09 43 *e*P **P** **22 14 35.2 -1.7**
BOD pmax pmax
comp=Z,17nm,0.7s,mb5.2
BOD Bodaibo 49.09 43 *e*P **P** **22 14 35.2 -1.7**
comp=Z,17nm,0.7s,mb5.2
SUMG Summit 49.96 337 *e*P **P** **22 14 43.8 +0.4**
comp=Z,30nm,1.7s,mb5.0
SUMG Summit 49.96 337 *e*P **P** **22 14 43.8 +0.4**
comp=Z,30nm,1.7s,mb5.0
CD2 Chengdu 51.02 79⇑ *i*P **P** **22 14 52.5 +0.5**
CD2 AP pP 22 14 57.0 +2.7
CD2 XP sP 22 14 59.8 +4.6
CD2 PP PP 22 16 50.0 +1.7
CD2 PCS PcS 22 20 04.8 -0.8
CD2 S **S** **22 22 07.8 -1.7**
CD2 XS sS 22 22 15.5 +2.2
CD2 SCS ScS 22 24 39.5 -3.7
CD2 SS SS 22 25 40.5 -3.7
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
CD2 AMB AMB
comp=Z,400nm,5.8s
CD2 LR LR
comp=N,1μm,26.4s,MS4.8
CD2 LR LR
comp=E,870nm,25.2s,MS4.8
CD2 LR LR
comp=Z,690nm,19.2s
DBIC Dimbokro 52.52 244 P **P** **22 15 01.6 -1.8**
comp=Z,11nm,0.8s,mb4.8,baz=36,slow=8.8,SNR=9.9
DBIC LR LR 22 41 30.7
comp=Z,583nm,18.2s,MS4.7,baz=28,slow=41
DBIC Dimbokro 52.52 244 P **P** **22 15 01.6 -1.8**
DBIC pmax pmax
comp=Z,11nm,0.8s
DBIC MLR MLR
comp=Z,583nm,18.2s
DBIC Dimbokro 52.52 244 *e*P **P** **22 15 01.0 -2.3**
comp=Z,113nm,1.7s,mb5.5
HHC Hu-ho-hao-te 52.55 64 *e*P **P** **22 15 03.5 +0.2**
HHC AP pP 22 15 08.0 +2.4
HHC XP sP 22 15 10.5 +4.0
HHC PCP PcP 22 16 14.5 +0.9
HHC PP PP 22 17 03.8 +1.8
HHC SCP ScP 22 20 09.8 -1.3
HHC PCS PcS 22 20 12.3 +0.3
HHC S **S** **22 22 27.8 -2.5**
HHC XS sS 22 22 35.5 +1.3
HHC SCS ScS 22 24 49.8 -3.7
HHC SS SS 22 26 04.3 -3.8
HHC AMB AMB
comp=Z,11nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,136nm,4.3s
HHC LR LR
comp=N,1μm,17.4s,MS5.1
HHC LR LR
comp=E,977nm,15.0s,MS5.1
HHC LR LR
comp=Z,876nm,16.9s,MS4.9
TIXI Tiksi 52.58 23 *d i*P **P** **22 15 02.1 -0.9**
TIXI pmax pmax
comp=Z,14nm,1.1s,mb4.8
TIXI MLR MLR
comp=Z,924nm,14.0s,MS5.0
TIXI Tiksi 52.58 23 *i*P **P** **22 15 02.1 -0.9**
comp=Z,924nm,14.0s
TIC Toumodi 52.66 244 *e*P **P** **22 15 01.8 -2.6**
comp=Z,996nm,2.1s
KIC Kosan Boka 52.66 244 *e*P **P** **22 15 02.4 -2.0**
comp=Z,521nm,1.5s
LIC Lamto 52.96 244 *e*P **P** **22 15 03.6 -3.0**
comp=Z,65nm,0.9s,mb5.3,baz=68
LIC *e*MLR MLR
comp=Z,548nm,22.8s,MS4.2
LIC Lamto 52.96 244 *e*P **P** **22 15 04.4 -2.2**
comp=Z,187nm,1.4s,mb5.8
LIC Lamto 52.96 244 *e*P **P** **22 15 03.6 -3.0**
comp=Z,32nm,0.9s,mb5.3
LIC LR LR
comp=Z,270nm,22.8s,MS4.2
KMI Kunming 53.07 86 P **P** **22 15 07.5 +0.2**
KMI AP pP 22 15 11.5 +1.8
KMI PCP PcP 22 16 15.8 0.0
KMI S **S** **22 22 35.8 -2.0**
KMI XS sS 22 22 42.5 +0.9
KMI SCS ScS 22 24 57.8 +0.2
KMI AMB AMB
comp=Z,38nm,1.3s,mb5.2
KMI AMB AMB
comp=Z,168nm,7.7s
KMI LR LR
comp=N,372nm,17.1s,MS4.6
KMI LR LR
comp=E,352nm,20.3s,MS4.6
KMI LR LR
comp=Z,507nm,19.0s,MS4.6
XAN Xi'an 53.49 73 P **P** **22 15 10.0 -0.3**
XAN PCP PcP 22 16 16.8 -0.4
XAN PP PP 22 17 10.0 -0.6
XAN AMB AMB
comp=Z,18nm,1.2s,mb4.9
XAN AMB AMB
comp=Z,99nm,5.5s
XAN LR LR
comp=N,392nm,19.2s,MS4.5
XAN LR LR
comp=E,205nm,19.2s,MS4.5
XAN LR LR
comp=Z,778nm,21.9s,MS4.7
CHTO Chiang Mai 53.57 95 *e*P **P** **22 15 10.9 -0.2**
CHTO pmax pmax
comp=Z,31nm,1.6s,mb5.0
CHTO Chiang Mai 53.57 95 *e*P **P** **22 15 10.9 -0.2**
comp=Z,30nm,1.6s,mb5.0
CHTO Chiang Mai 53.57 95 *e*P **P** **22 15 10.8 -0.2**
comp=Z,30nm,1.6s,mb5.0
CMAR Chiang Mai Arr 53.77 95 P **P** **22 15 12.2 -0.4**
comp=Z,3.2nm,0.6s,mb4.4,baz=298,slow=8.5,SNR=28
CMAR LR LR 22 43 13.3
comp=Z,292nm,20.4s,MS4.3,baz=287,slow=42
CMAR Chiang Mai Arr 53.77 95 P **P** **22 15 12.1 -0.5**
GYA Guiyang 55.41 82⇓ *i*P **P** **22 15 24.0 -0.4**
GYA PCP PcP 22 16 26.8 +2.1
GYA PP PP 22 17 31.5 +3.4
GYA SCP ScP 22 20 25.3 +1.4
GYA S **S** **22 23 09.8 +0.4**
GYA SS SS 22 26 53.0 -0.8
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.3
GYA AMB AMB
comp=Z,170nm,5.1s
GYA LR LR
comp=N,790nm,22.1s,MS4.9
GYA LR LR
comp=E,710nm,20.3s,MS4.9
GYA LR LR
comp=Z,740nm,18.9s,MS4.8
YAK Yakutsk 55.58 35⇑ *e*P **P** **22 15 23.7 -1.4**
YAK pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
YAK MLR MLR
comp=Z,600nm,16.0s,MS4.8
YAK Yakutsk 55.58 35 *e*P **P** **22 15 23.7 -1.4**
comp=Z,600nm,16.0s
LSZ Lusaka 55.59 195 *e*P **P** **22 15 25.9 +0.3**
LSZ pmax pmax
comp=Z,30nm,1.4s,mb5.1
LSZ Lusaka 55.59 195 *e*P **P** **22 15 25.9 +0.3**
comp=Z,30nm,1.4s,mb5.1
LSZ Lusaka 55.59 195 *e*P **P** **22 15 25.9 +0.3**
comp=Z,30nm,1.4s,mb5.1
BJI Beijing 56.09 63 P **P** **22 15 29.3 +0.2**
BJI PP PP 22 17 34.3 +0.5
BJI S **S** **22 23 15.8 -2.3**
BJI SS SS 22 27 04.0 +0.1
BJI AMB AMB
comp=Z,9.0nm,1.5s,mb4.6
BJI AMB AMB
comp=Z,173nm,7.8s
BJI LR LR
comp=N,2μm,18.0s,MS5.2
BJI LR LR
comp=E,869nm,16.3s,MS5.2
BJI LR LR
comp=Z,811nm,22.0s
OPO Ambohidratompo 57.81 173 P **P** **22 15 43.1 +1.7**
comp=Z,25nm,1.1s,mb5.2,baz=358,slow=5.0,SNR=15
ABPO Ambohimpanom 58.26 173 *e*P **P** **22 15 43.6 -0.8**
comp=Z,38nm,1.1s,mb5.3
ABPO Ambohimpanom 58.26 173 *e*P **P** **22 15 43.6 -0.9**
comp=Z,38nm,1.1s,mb5.3
WHN Wuhan 59.19 74⇑P **P** **22 15 51.0 0.0**
WHN *e*S **S** **22 24 02.5 +3.5**
WHN AMB AMB
comp=Z,43nm,1.0s,mb5.4
WHN LR LR
comp=N,2μm,15.0s,MS5.3
WHN LR LR
comp=E,633nm,14.6s,MS5.3
WHN LR LR
comp=Z,2μm,14.3s,MS5.4
SNY Shenyang 60.32 59⇑P **P** **22 16 00.3 +1.7**
SNY S **S** **22 24 11.3 -1.9**
SNY AMB AMB
comp=Z,130nm,6.7s
SNY LR LR
comp=N,2μm,22.2s,MS5.3
SNY LR LR
comp=E,1μm,24.9s,MS5.3
SNY LR LR
comp=Z,2μm,18.0s
DL2 Dalian 60.37 62 P **P** **22 15 58.5 -0.5**
DL2 S **S** **22 24 16.5 +2.5**
DL2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
DL2 AMB AMB
comp=Z,100nm,5.2s
DL2 LR LR
comp=N,390nm,15.2s,MS4.7
DL2 LR LR
comp=E,230nm,16.1s,MS4.7
DL2 LR LR
comp=Z,420nm,18.3s,MS4.6
CN2 Changchun 60.62 56 *e*P **P** **22 16 00.0 -0.7**
CN2 *e*XP sP 22 16 07.0 +3.0
CN2 *e*S **S** **22 24 13.0 -4.1**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,21.0s,MS5.4
CN2 LR LR
comp=E,2μm,21.0s,MS5.4
CN2 LR LR
comp=Z,2μm,19.0s,MS5.3
NJ2 Nanjing 61.76 70 *e*P **P** **22 16 10.0 +1.4**
NJ2 AP pP 22 16 14.3 +3.4
NJ2 XP sP 22 16 17.5 +5.7
NJ2 PP PP 22 18 27.0 +2.8
NJ2 S **S** **22 24 30.5 -1.4**
NJ2 XS sS 22 24 39.0 +3.2
NJ2 AMB AMB
comp=Z,150nm,4.4s
NJ2 LR LR
comp=N,400nm,19.4s,MS4.8
NJ2 LR LR
comp=E,400nm,18.5s,MS4.8
NJ2 LR LR
comp=Z,400nm,18.5s,MS4.6
QIZ Qiongzhong 61.90 88 P **P** **22 16 09.5 -0.2**
QIZ XP sP 22 16 14.0 +1.1
QIZ S **S** **22 24 34.3 +0.4**
QIZ SS SS 22 28 37.5 +1.6
QIZ AMB AMB
comp=Z,27nm,1.1s,mb5.3
QIZ LR LR
comp=E,417nm,18.7s
QIZ LR LR
comp=Z,371nm,18.3s,MS4.6
QIZ Qiongzhong 61.90 88 *e*P **P** **22 16 09.4 -0.3**
comp=Z,29nm,1.1s,mb5.3
QIZ Qiongzhong 61.90 88 *e*P **P** **22 16 09.4 -0.3**
comp=Z,29nm,1.1s,mb5.3
MDJ Mudanjiang 62.86 53 P **P** **22 16 14.8 -0.9**
MDJ AP pP 22 16 18.0 -0.1
MDJ PCP PcP 22 16 53.0 -1.0
MDJ PP PP 22 18 30.8 -2.8
MDJ S **S** **22 24 42.3 -3.1**
MDJ SCS ScS 22 26 02.5 -6.2
MDJ SS SS 22 28 45.5 -4.3
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.6
MDJ AMB AMB
comp=Z,129nm,6.9s
MDJ LR LR
comp=N,967nm,31.2s,MS4.9
MDJ LR LR
comp=E,793nm,28.6s,MS4.9
MDJ LR LR
comp=Z,947nm,16.5s
PSI Prapat 63.64 109 P **P** **22 16 19.8 -1.5**
comp=Z,18nm,1.0s,mb5.1,baz=278,slow=5.4,SNR=8.7
SSE Sheshan 63.96 70 P **P** **22 16 22.5 -0.7**
SSE S **S** **22 24 59.8 +0.3**
SSE AMB AMB
comp=Z,26nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,227nm,4.4s
SSE LR LR
comp=N,332nm,30.3s,MS4.5
SSE LR LR
comp=E,370nm,30.3s,MS4.5
SSE LR LR
comp=Z,310nm,23.1s
SEY Seymchan 64.41 28⇓ *e*P **P** **22 16 25.0 -0.7**
KSRS Korea Array 65.39 61 P **P** **22 16 30.7 -1.8**
comp=Z,2.3nm,0.8s,mb4.2,baz=297,slow=5.9,SNR=15
KSRS LR LR 22 48 12.8
comp=Z,856nm,18.1s,MS5.0,baz=127,slow=39
KSRS Korea Array 65.39 61 P **P** **22 16 30.7 -1.8**
KSRS pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
KSRS MLR MLR
comp=Z,856nm,18.1s,MS5.0
BILL Bilibino 65.41 20 *e*P **P** **22 16 30.4 -1.7**
BILL pmax pmax
comp=Z,11nm,0.7s,mb5.0
BILL MLR MLR
comp=Z,800nm,18.0s,MS5.0
BILL Bilibino 65.41 20 *e*P **P** **22 16 30.4 -1.7**
comp=Z,800nm,18.0s
LBTB Lobatse 65.58 195 LR LR 22 44 27.4
comp=Z,672nm,19.7s,MS4.8,baz=27,slow=35
LBTB Lobatse 65.58 195 *e*P **P** **22 16 33.5 -0.1**
LBTB pmax pmax
comp=Z,36nm,1.3s,mb5.2
LBTB Lobatse 65.58 195 *e*P **P** **22 16 33.5 -0.1**
comp=Z,36nm,1.3s,mb5.2
LBTB Lobatse 65.58 195 *e*P **P** **22 16 33.5 -0.1**
comp=Z,36nm,1.3s,mb5.2
SCHQ Schefferville 67.94 324 P **P** **22 16 48.5 0.0**
comp=Z,2.8nm,0.6s,mb4.5,baz=39,slow=8.4,SNR=7.4

ASAJ Asahikawa 70.96 48 P **P 22 17 06.5 -0.9**
comp=Z,7.3nm,0.7s,mb4.7,baz=317,slow=20,SNR=5.4
ASAJ Asahikawa 70.96 48 P **P 22 17 06.5 -0.8**
ASAJ pmax pmax
comp=Z,7.0nm,0.7s
MAT Matsushiro 72.73 57 P **P 22 17 17.3 -0.8**
MAT *e*S S 22 26 39.0 -4.9
MJAR Matsushiro Arr 72.74 57 P **P 22 17 16.9 -1.2**
comp=Z,5.0nm,1.1s,mb4.4,baz=310,slow=6.6,SNR=16
MJAR LR LR 22 52 03.5
comp=Z,1μm,20.2s,MS5.2,baz=45,slow=38
PETK Petropavlovsk- 72.92 34 LR LR 22 53 51.5
comp=Z,487nm,19.8s,MS4.8,baz=300,slow=40
KSM Kuching 73.02 102 *e*P **P 22 17 20.1 0.0**
KSM Kuching 73.02 102 *e*P **P 22 17 20.1 0.0**
PET Petropavlovsk 73.40 34 *e*P **P 22 17 15.8 -5.9**
PET *e*S S 22 26 40.2 -11
PET *e*SS SS 22 31 25.5 -6.5
PET *e*SSS 22 34 41.3
PET pmax pmax
comp=Z,100nm,17.2s
PET MLR MLR
comp=Z,700nm,18.0s,MS5.0
PET Petropavlovsk 73.40 34 *e*P **P 22 17 15.8 -5.9**
comp=Z,100nm,17.2s
PET *e*S S 22 26 40.2 -11
COLD Coldfoot 73.48 5 *e*P **P 22 17 21.5 -0.5**
comp=Z,136nm,0.4s
COLD Coldfoot 73.48 5 *e*P **P 22 17 21.5 -0.4**
comp=Z,136nm,0.4s
COLA College 75.96 4 *e*P **P 22 17 36.3 -0.1**
COLA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
COLA College 75.96 4 *e*P **P 22 17 36.3 -0.1**
comp=Z,8.0nm,0.7s,mb4.8
EGAK Eagle 76.28 1 *e*P **P 22 17 37.8 -0.4**
comp=Z,6.3nm,0.8s,mb4.6
EGAK Eagle 76.28 1 *e*P **P 22 17 37.8 -0.4**
comp=Z,6.3nm,0.8s,mb4.6
CHUM Lake Minchumin 76.64 6 *e*P **P 22 17 40.1 -0.1**
comp=Z,19nm,1.2s,mb4.9
YKA Yellowknife Ar 76.72 349 P **P 22 17 40.1 -0.6**
comp=Z,6.9nm,0.8s,mb4.7,baz=21,slow=6.2,SNR=22
YKA LR LR 22 52 22.0
comp=Z,328nm,21.8s,MS4.6,baz=170,slow=36
YKA Yellowknife Ar 76.72 349 *i* P **P 22 17 40.0 -0.7**
YKA pmax pmax
comp=Z,7.0nm,0.8s
DAWY Dawson 77.01 0 *e*P **P 22 17 42.3 0.0**
DAWY Dawson 77.01 0 *e*P **P 22 17 42.3 0.0**
MCK McKinley 77.03 5 *e*P **P 22 17 41.6 -0.9**
MCK pmax pmax
comp=Z,18nm,1.5s,mb4.8
MCK McKinley 77.03 5 *e*P **P 22 17 41.6 -0.9**
comp=Z,18nm,1.5s,mb4.8
MCK McKinley 77.03 5 *e*P **P 22 17 41.6 -0.9**
comp=Z,18nm,1.5s,mb4.8
PPLA Purkeypile 77.62 6 *e*P **P 22 17 46.3 +0.5**
comp=Z,18nm,1.1s,mb4.9
PPLA Purkeypile 77.62 6 *e*P **P 22 17 46.3 +0.6**
comp=Z,18nm,1.1s,mb4.9
LONY Lake Ozonia 78.42 319 *e*P **P 22 17 49.8 -0.8**
comp=Z,22nm,1.2s,mb5.0
LONY Lake Ozonia 78.42 319 *e*P **P 22 17 49.8 -0.8**
comp=Z,22nm,1.2s,mb5.0
SVW2 Sparrevohn 79.06 8 *e*P **P 22 17 53.7 -0.1**
SVW2 Sparrevohn 79.06 8 *e*P **P 22 17 53.7 -0.1**
RC01 Rabbit Creek A 79.60 5 *e*P **P 22 17 56.3 -0.4**
comp=Z,9.8nm,0.6s,mb4.9
DIV Divide 79.80 3 *e*P **P 22 17 57.7 -0.1**
comp=Z,75nm,1.7s,mb5.3
DIV Divide 79.80 3 *e*P **P 22 17 57.7 0.0**
comp=Z,76nm,1.7s,mb5.3
SLKM Skilak Lake 80.14 6 *e*P **P 22 17 59.2 -0.5**
SLKM Skilak Lake 80.14 6 *e*P **P 22 17 59.2 -0.5**
HYT Haines Junctio 80.25 359 *e*P **P 22 18 01.5 +1.2**
HYT Haines Junctio 80.25 359 *e*P **P 22 18 01.5 +1.2**
FFC Flin Flon 81.18 339 P **P 22 18 05.6 +0.2**
comp=Z,97nm,1.1s,mb5.7,SNR=6.9
FFC Flin Flon 81.18 339 *e*P **P 22 18 05.1 -0.3**
FFC pmax pmax
comp=Z,21nm,1.1s,mb5.0
FFC Flin Flon 81.18 339 *e*P **P 22 18 05.1 -0.3**
comp=Z,21nm,1.1s,mb5.0
FFC Flin Flon 81.18 339 *e*P **P 22 18 05.1 -0.3**
comp=Z,21nm,1.1s,mb5.0
CBIJ Chichi jima 81.20 62 LR LR 22 58 25.0
comp=Z,636nm,18.5s,MS5.0,baz=129,slow=39
DLBC Dease Lake 82.38 355 *e*P **P 22 18 12.2 +0.6**
KDAK Kodiak Island 82.63 7 LR LR 23 02 27.2
comp=Z,343nm,19.5s,MS4.7,baz=342,slow=41
OHAK Old Harbor 83.11 8 *e*P **P 22 18 15.5 +0.1**
comp=Z,20nm,0.9s,mb5.2
OHAK Old Harbor 83.11 8 *e*P **P 22 18 15.5 +0.1**
comp=Z,20nm,0.9s,mb5.2
ULM Lac du Bonnet 83.18 334 P **P 22 18 15.5 -0.4**
comp=Z,7.8nm,0.9s,mb4.7,baz=21,slow=4.3,SNR=6.6
ULM LR LR 22 56 03.9
comp=Z,392nm,21.8s,MS4.7,baz=34,slow=36
ULM Lac du Bonnet 83.18 334 *e*P **P 22 18 15.4 -0.5**
comp=Z,30nm,1.5s,mb5.1
ULM Lac du Bonnet 83.18 334 *e*P **P 22 18 15.4 -0.5**
comp=Z,30nm,1.5s,mb5.1
EYMN Ely 83.50 330 *e*P **P 22 18 17.1 -0.5**
comp=Z,23nm,1.4s,mb5.1
COWI Conover 84.06 328 *e*P **P 22 18 20.4 -0.1**
comp=Z,43nm,1.1s,mb5.5
COWI Conover 84.06 328 *e*P **P 22 18 20.4 -0.1**
comp=Z,43nm,1.1s,mb5.5
KAPI Kappang 84.38 101 *e*P **P 22 18 21.4 -1.2**
comp=Z,30nm,1.0s,mb5.4
KAPI Kappang 84.38 101 *e*P **P 22 18 21.4 -1.2**
comp=Z,30nm,1.0s,mb5.4
MCWV Mont Chateau 84.71 318 *e*P **P 22 18 23.6 -0.3**
comp=Z,42nm,1.0s,mb5.5
MCWV Mont Chateau 84.71 318 *e*P **P 22 18 23.6 -0.3**
comp=Z,42nm,1.0s,mb5.5
AGMN Agassiz Refuge 84.83 333 *e*P **P 22 18 24.0 -0.4**
comp=Z,52nm,1.7s,mb5.4
AGMN Agassiz Refuge 84.83 333 *e*P **P 22 18 24.0 -0.4**
comp=Z,52nm,1.7s,mb5.4
URVA University of 85.02 316 *e*P **P 22 18 24.6 -1.0**
URVA University of 85.02 316 *e*P **P 22 18 24.6 -1.0**
EDM Edmonton 85.27 345 *e*P **P 22 18 26.1 -0.4**
EDM Edmonton 85.27 345 *e*P **P 22 18 26.1 -0.4**
ACSO Alum Creek Sta 85.86 321 *e*P **P 22 18 28.5 -1.2**
comp=Z,32nm,1.0s,mb5.5
TZTN Tazewell 88.97 319 *e*P **P 22 18 44.3 -0.5**
comp=Z,18nm,1.2s,mb5.3
TZTN Tazewell 88.97 319 *e*P **P 22 18 44.3 -0.4**
comp=Z,18nm,1.2s,mb5.3
ECSD EROS,Sioux Fal 88.98 331 *e*P **P 22 18 44.2 -0.5**
comp=Z,24nm,1.5s,mb5.3
ECSD EROS,Sioux Fal 88.98 331 *e*P **P 22 18 44.2 -0.4**
comp=Z,24nm,1.5s,mb5.3
OLIL Olney 89.50 323 *e*P **P 22 18 46.2 -1.0**
comp=Z,16nm,1.0s,mb5.3
OLIL Olney 89.50 323 *e*P **P 22 18 46.2 -1.0**
comp=Z,16nm,1.0s,mb5.3
TKL Tuckaleechee C 89.77 318 *e*P **P 22 18 47.7 -0.8**
TKL Tuckaleechee C 89.77 318 *e*P **P 22 18 47.6 -0.9**
CPCT Cooper Cave 90.32 318 *e*P **P 22 18 51.0 -0.1**
CPCT Cooper Cave 90.32 318 *e*P **P 22 18 51.0 -0.1**
BATI Baumata 90.66 103 LR LR 23 02 48.3
comp=Z,558nm,21.4s,MS5.0,baz=96,slow=38
NEW Newport 90.73 346 *e*P **P 22 18 53.5 +0.7**
NEW pmax pmax
comp=Z,26nm,1.1s
NEW Newport 90.73 346 *e*P **P 22 18 53.5 +0.7**
comp=Z,26nm,1.1s,mb5.5
NEW Newport 90.73 346 *e*P **P 22 18 53.5 +0.7**
comp=Z,26nm,1.1s,mb5.5
SIUC Southern Illin 90.84 323 *e*P **P 22 18 52.8 -0.7**
comp=Z,38nm,1.3s,mb5.6
SIUC Southern Illin 90.84 323 *e*P **P 22 18 52.8 -0.7**
comp=Z,38nm,1.3s,mb5.6
CHMT Chamberlain Mo 91.20 343 *e*P **P 22 18 54.7 -0.3**
RSSD Black Hills 91.24 336 *e*P **P 22 18 55.4 +0.2**
RSSD pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
RSSD Black Hills 91.24 336 *e*P **P 22 18 55.4 +0.2**
comp=Z,6.0nm,1.0s,mb4.9
RSSD Black Hills 91.24 336 *e*P **P 22 18 55.4 +0.2**
comp=Z,5.7nm,1.0s,mb4.9
RLMT Red Lodge 91.87 340 *e*P **P 22 18 58.4 +0.3**
comp=Z,17nm,1.4s,mb5.2
RLMT Red Lodge 91.87 340 *e*P **P 22 18 58.4 +0.3**
comp=Z,17nm,1.4s,mb5.2
PLAL Pickwick Lake 92.48 320 *e*P **P 22 18 59.3 -1.8**
comp=Z,18nm,1.3s,mb5.2
PLAL Pickwick Lake 92.48 320 *e*P **P 22 18 59.3 -1.8**
comp=Z,18nm,1.3s,mb5.2
FLWY Flagg Ranch 93.22 340 *e*P **P 22 19 06.0 +1.6**
comp=Z,24nm,1.3s,mb5.5
LOHW Long Hollow 93.63 340 *e*P **P 22 19 06.3 0.0**
comp=Z,20nm,1.6s,mb5.3
LOHW Long Hollow 93.63 340 *e*P **P 22 19 06.3 +0.1**
comp=Z,20nm,1.6s,mb5.3
TPAW Teton Pass 93.84 340 *e*P **P 22 19 08.3 +1.1**
comp=Z,26nm,1.5s,mb5.4
REDW Red Top Meadow 93.93 340 *e*P **P 22 19 08.4 +0.8**
comp=Z,25nm,1.6s,mb5.4
REDW Red Top Meadow 93.93 340 *e*P **P 22 19 08.4 +0.8**
comp=Z,25nm,1.6s,mb5.4
PDAR Pinedale Array 94.13 339 P **P 22 19 08.6 0.0**
comp=Z,1.5nm,1.0s,mb4.4,baz=48,slow=4.4,SNR=7.9
PDAR LR LR 23 04 22.6
comp=Z,406nm,21.5s,MS4.8,baz=135,slow=37
FITZ Fitzroy Crossi 97.12 107 *e*P **P 22 19 20.9 -1.6**
comp=Z,10nm,0.8s,mb5.3
FITZ Fitzroy Crossi 97.12 107 LR LR 23 06 06.5
comp=Z,131nm,20.1s,MS4.4,baz=314,slow=37
DUG Dugway 97.41 340 *e*P **P 22 19 23.9 +0.3**
DUG pmax pmax
comp=Z,7.0nm,1.3s,mb4.9
DUG Dugway 97.41 340 *e*P **P 22 19 23.9 +0.3**
comp=Z,7.0nm,1.3s,mb4.9
DUG Dugway 97.41 340 *e*P **P 22 19 23.9 +0.4**
comp=Z,7.4nm,1.3s,mb5.0
ELK Elko 97.50 342 LR LR 23 00 59.7
comp=Z,94nm,21.8s,MS4.2,baz=19,slow=34
ELK Elko 97.50 342 *e*P **P 22 19 24.6 +0.7**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 97.50 342 *e*P **P 22 19 24.6 +0.7**
comp=Z,4.0nm,0.8s,mb5.0
ELK Elko 97.50 342 *e*P **P 22 19 24.6 +0.6**
comp=Z,3.6nm,0.8s,mb5.0
YBH Yreka Blue Hor 98.05 348 LR LR 23 02 27.3
comp=Z,92nm,20.6s,MS4.2,baz=12,slow=35
MSU Marysvale 98.81 339 *e*P **P 22 19 29.5 -0.4**
MSU Marysvale 98.81 339 *e*P **P 22 19 29.5 -0.4**
BDFB Brasília 99.08 257 PP PP 22 23 33.6 -0.2
comp=Z,1.5nm,0.9s,baz=79,slow=14,SNR=3.3
BDFB LR LR 23 06 53.9
comp=Z,255nm,20.5s,MS4.7,baz=197,slow=37
NVAR Mina Array Bea 100.41 344 P Pdif 22 19 37.0 0.0
comp=Z,0.9nm,0.9s,baz=303,slow=8.3,SNR=4.9
NVAR PP PP 22 23 41.3 -0.9
comp=Z,0.5nm,0.7s,baz=42,slow=6.9,SNR=3.8
NVAR Mina Array Bea 100.41 344 PP PP 22 23 41.3 -0.9
WRA Warramunga Arr 104.74 104 Pdiff Pdif 22 19 56.4 +0.1
comp=Z,0.6nm,0.8s,baz=305,slow=4.0,SNR=4.9
WRA PP PP 22 24 17.3 +0.9
comp=Z,1.9nm,1.0s,baz=316,slow=7.8,SNR=5.5
STKA Stephens Creek 116.82 110 PKP PKPdf 22 24 33.0 -1.4
comp=Z,1.6nm,0.7s,baz=192,slow=1.6,SNR=5.9
PLCA Paso Flores 128.89 245 PKP PKPdf 22 24 57.0 -0.2
comp=Z,13nm,1.1s,baz=33,slow=4.1,SNR=10
PLCA Paso Flores 128.89 245 PKIKP PKPdf 22 24 57.0 -0.3
URZ Urewera 145.91 103 PKPbc PKPbc 22 25 26.3 -3.0
comp=Z,48nm,0.9s,baz=300,slow=2.0,SNR=15

ISCJB ***25*** *22:23:58.3±0.6, 412S±01×855E±02, h10km, mb4.2/11, MS4.0/4, Error ellipse: s-maj=21.0km s-min=16.5km az=151.0*
IDC ***25*** *22:23:58.4±0.7, 41.19S×85.49E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/17, mbtmp4.1/11, MS4.1/4, Ms1 4.0/4, ms1mx3.7/24, Error ellipse: s-maj=24.8km s-min=19.9km az=146.0*
NEIC ***25*** *22:23:60.0±0.4, 41.19S×85.49E, h10km, Error ellipse: s-maj=15.5km s-min=12.2km az=150.0*
ISC 25 22:24:00.1±0.6, 412S±01×855E±02, h10km, n18, σ0°45/12, mb4.2/11, MS4.0/4, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**26.52**	**82**	LR	LR	22 37 33.4	
	comp=Z,307nm,18.6s,MS3.9,baz=10,slow=31						
MAW	**Mawson**	**29.22**	**198**	LR	LR	22 39 03.5	
	comp=Z,165nm,18.5s,MS3.7,baz=190,slow=31						
ASAR	**Alice Springs**	**43.84**	**82**	P	**P**	**22 32 06.4**	**0.0**
	1.8nm,0.9s,mb3.8,baz=224,slow=8.0,SNR=6.2						
STKA	**Stephens Creek**	**45.34**	**97**	P	**P**	**22 32 18.4**	**+0.1**
	2.2nm,0.9s,mb4.0,baz=289,slow=8.6,SNR=4.2						
WRA	**Warramunga Arr**	**46.39**	**78**	P	**P**	**22 32 26.8**	**+0.1**
	3.6nm,0.9s,mb4.3,baz=231,slow=7.6,SNR=8.9						
QSPA	**South Pole Qui**	**48.98**	**180**	P	**P**	**22 32 46.0**	**-0.1**
	4.7nm,0.8s,mb4.5,baz=285,slow=5.6,SNR=14						
QSPA	**South Pole Qui**	**48.98**	**180**	P	**P**	**22 32 46.0**	**-0.1**
SNAA	**Sanae**	**51.02**	**204**	P	**P**	**22 33 02.0**	**+0.3**
	1.3nm,1.2s,mb3.8,baz=149,slow=12,SNR=3.8						
LBTB	**Lobatse**	**51.74**	**269**	P	**P**	**22 33 07.5**	**-0.2**
	4.5nm,0.8s,mb4.4,baz=118,slow=3.0,SNR=7.3						
RPZ	**Rata Peaks**	**60.39**	**124**	LR	LR	22 52 51.9	
	comp=Z,170nm,19.6s,MS4.2,baz=297,slow=29						
DAV	**Davao City (W)**	**60.45**	**47**	LR	LR	22 59 02.3	
	comp=Z,249nm,19.9s,MS4.3,baz=315,slow=35						
CMAR	**Chiang Mai Arr**	**60.62**	**15**	P	**P**	**22 34 11.9**	**+0.9**
	2.0nm,0.8s,mb4.3,baz=206,slow=6.9,SNR=13						
MKAR	**Makanchi Array**	**87.63**	**358**	P	**P**	**22 36 47.3**	**-0.7**
	0.8nm,1.0s,mb3.9,baz=163,slow=6.3,SNR=4.5						
SONM	**Songino Array**	**90.54**	**14**	P	**P**	**22 37 02.0**	**+0.3**
	2.0nm,1.0s,mb4.4,baz=201,slow=4.8,SNR=9.8						
MJAR	**Matsushiro Arr**	**91.17**	**40**	P	**P**	**22 37 04.1**	**-0.9**
	1.5nm,0.9s,mb4.3,baz=195,slow=5.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**93.95**	**284**	P	**P**	**22 37 18.5**	**+0.2**
	0.7nm,0.9s,mb4.1,baz=132,slow=4.3,SNR=3.6						
HYT	**Haines Junctio**	**147.37**	**38**	*e*PKPbc	PKPbc	22 43 44.2	+1.2
PDAR	**Pinedale Array**	**168.67**	**77**	PKPab	PKPab	22 45 17.1	+0.1
	0.8nm,0.8s,baz=262,slow=3.0,SNR=5.3						

NEIC ***25*** *22:26:49.9, 16.10N×98.01W, h7km, MD3.9(MEX), After MEX.*
MEX 25 22:26:49.7±0.8, 16.09N×98.03W, h5km±7km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**344**	*i* P	Pg	22 25 55.0	-0.8
PNIG				*i* S	Sg	22 27 00.6	+0.6
VHO	**Vista Hermosa**	**1.59**	**52**	*i* P	Pn	22 27 15.1	-3.4
VHO				*i* S	Sn	22 27 34.6	-4.8
VHO	**Vista Hermosa**	**1.59**	**52**	*i* P	Pn	22 27 15.1	-3.4
VHO				*i* S	Sn	22 27 31.7	-7.7
UTMO	**Huajuapan**	**1.75**	**7**	*e*P	Pn	22 27 18.1	-2.6
UTMO				*i* S	Sn	22 27 38.8	-4.5
CAIG	**El Cayaco**	**2.34**	**294**	*e*P	Pn	22 27 26.6	-2.3
CAIG				*i* S	Sn	22 27 52.8	-5.4
CAIG	**El Cayaco**	**2.34**	**294**	*e*P	Pn	22 27 27.6	-1.3
CAIG				*i* S	Sn	22 27 52.8	-5.4
MEIG	**Mezcala**	**2.38**	**321**	*e*P	Pn	22 27 26.5	-2.9
MEIG				*i* S	Sn	22 27 55.2	-3.7
TPIG	**Tehuac#an**	**2.41**	**15**	*e*P	Pn	22 27 27.9	-1.9
TPIG				*i* S	Sn	22 27 54.1	-5.5
PPM	**Popocatepetl**	**3.02**	**349**	*e*P	Pn	22 27 35.9	-2.3
PPM				*i* S	Sn	22 28 12.0	-2.7
PPM	**Popocatepetl**	**3.02**	**349**	*e*P	Pn	22 27 37.1	-1.1
PPM				*i* S	Sn	22 28 16.0	+1.3
TGIG		**4.76**	**81**	*e*P	Pn	22 28 01.5	-0.7
TGIG				*i* S	Sn	22 28 55.1	-2.7

IDC 25 22:42:02.9±2.4, 1676S×175.18W, h223km±31km, mb3.7/3, mb1 3.9/4, mb1mx3.4/17, mbtmp3.8/4, Error ellipse: s-maj=132.4km s-min=25.4km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.34**	**50**	P	Pn	22 43 11.8	+2.0
	12nm,0.3s,baz=55,slow=1.8,SNR=16						
AFI				S	S	22 44 02.1	-0.4
	68nm,0.3s,baz=43,slow=23,SNR=18						
STKA	**Stephens Creek**	**41.88**	**241**	P	P	22 49 31.3	-0.3
	5.5nm,0.8s,baz=88,slow=8.6,SNR=10.0						
WRA	**Warramunga Arr**	**47.88**	**258**	P	P	22 50 18.7	-0.2
	0.5nm,0.5s,baz=96,slow=6.9,SNR=13						
ASAR	**Alice Springs**	**48.07**	**253**	P	P	22 50 20.4	0.0
	6.9nm,0.5s,baz=87,slow=8.8,SNR=153						

GERES GERESS Array B 147.19 349 PKPbc PKPbc 23 01 19.3 -0.4
0.2nm,0.6s,baz=8.5,slow=2.7,SNR=4.8

BJI ***25*** *22:44:34.5, 5260N×3170W, h10km, mB5.1, mb4.8*
MOS ***25*** *22:44:37.7±0.8, 5258N×3171W, h10km, mb4.7/50, Error ellipse: s-maj=9.9km s-min=4.8km az=165.4*
CSEM ***25*** *22:44:37.2±0.1, 5264N×3172W, h10km, mb4.6/73, Ms3.4, Mw4.9, Error ellipse: s-maj=3.7km s-min=1.3km az=7.0*
ISCJB ***25*** *22:44:38.0±0.2, 5266N±005×3170W±003, h10km, mb4.5/131, MS3.7/27, Error ellipse: s-maj=7.2km s-min=2.9km az=7.8*
IDC ***25*** *22:44:38.5±0.5, 5263N×3173W, h0km, mb4.2/22, mb1 4.3/24, mb1mx4.2/32, mbtmp4.2/24, ML4.3/2, MS3.8/14, Ms1 3.9/14, ms1mx3.6/35, Error ellipse: s-maj=17.8km s-min=11.2km az=1.0*
BGS ***25*** *22:44:39.4±2.0, 5261N×3167W, h10km, mb4.9*
SZGRF ***25*** *22:44:39.5, 5253N×3215W, h33km, mb4.7, Reykjanes Ridge*
GCMT ***25*** *22:44:39.6±0.3, 5252N×3169W, h15km, MW4.8/63, Moment Tensor Solution. s14,c15; s63,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.28±.09; Mθθ-0.44±.08; Mφφ0.71±.07; Mrθ0.12±.26; Mθφ-1.72±.05; Mφr1.49±.26; Best double couple: M0 2.35400×10^16 NP1:φs280.00000°, δ50.00000°, λ-175.00000°. NP2: φs187.00000°, δ86.00000°, λ-40.00000°. Principal axes: T 2.4700, Plg24.0000°, Azm240.0000°; N -0.2310, Plg50.0000°, Azm2.0000°; P -2.2390, Plg30.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *22:44:39.6±0.2, 5261N×3167W, h10km, mb4.6/74 Error ellipse: s-maj=7.1km s-min=2.3km az=188.0*
ISC 25 22:44:40.0±0.2, 5267N±005×3165W±003, h10km, (h14km±1.4km:pP-P), n427, σ0°87/420, mb4.5/131, MS3.7/27, 88C-12D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCN	**Croghan**	**14.67**	**78**	*e*P	**Pn**	**22 48 08.2**	**+0.9**
DMUB	**Kingscourt**	**14.83**	**75**	*e*P	**Pn**	**22 48 10.6**	**+1.1**
EBH	**Black Hill**	**16.70**	**66**	*e*P	**Pn**	**22 48 34.5**	**+0.8**
EAU	**Auchinoon**	**16.73**	**68**	*e*P	**Pn**	**22 48 35.3**	**+1.2**
EAU	**Auchinoon**	**16.73**	**68**	*e*P	**Pn**	**22 48 35.3**	**+1.2**
	69nm,1.5s						
HTL	**Hartland**	**16.84**	**85**	*e*P	**Pn**	**22 48 35.6**	**0.0**
HTL				AMb	AMB	22 48 48.4	
	comp=Z,49nm,2.4s						
EDI	**Edinburgh**	**16.88**	**68**	*e*P	**Pn**	**22 48 35.4**	**-0.5**
EDI				AMb	AMB	22 48 41.0	
	comp=Z,78nm,1.4s						
ESK	**Eskdalemuir**	**16.88**	**70**	*e*P	**Pn**	**22 48 36.4**	**+0.3**
ESK				AMb	AMB	22 48 43.8	
	comp=Z,69nm,1.5s						
ESK	**Eskdalemuir**	**16.88**	**70**	*e*P	**Pn**	**22 48 35.8**	**-0.3**
ESK				pmax	pmax		
	comp=Z,45nm,1.0s						
ESK	**Eskdalemuir**	**16.88**	**70**	*e*Pn	**Pn**	**22 48 35.8**	**-0.3**
	comp=Z,45nm,1.0s						
ESK	**Eskdalemuir**	**16.88**	**70**	*e*Pn	**Pn**	**22 48 35.8**	**-0.3**
	comp=Z,45nm,1.0s						
MCD	**Coleburn Disti**	**16.90**	**62**	*e*P	**Pn**	**22 48 37.0**	**+0.8**
EKA	**Eskdalemuir Ar**	**16.91**	**70**	Pn	**Pn**	**22 48 37.2**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=276,slow=8.0,SNR=35						
ECK	**Cauldkaine Hil**	**16.94**	**70**	*e*P	**Pn**	**22 48 37.4**	**+0.7**
EBL	**Broad Law**	**16.96**	**68**	*e*P	**Pn**	**22 48 37.7**	**+0.7**
MME1	**Meikle Cairn**	**17.03**	**63**	*e*P	**Pn**	**22 48 37.7**	**-0.3**
SFJD	**Kangerlussuaq**	**17.12**	**334**	P	**Pn**	**22 48 39.3**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=116,slow=11,SNR=9.7						
SFJD	**Kangerlussuaq**	**17.12**	**334**	*e*P	**Pn**	**22 48 37.4**	**-1.6**
SFJD				pmax	pmax		
	comp=Z,30nm,1.0s						
SFJD	**Kangerlussuaq**	**17.12**	**334**	*e*Pn	**Pn**	**22 48 37.4**	**-1.6**
	comp=Z,30nm,1.0s						
SFJD	**Kangerlussuaq**	**17.12**	**334**	*e*Pn	**Pn**	**22 48 37.4**	**-1.5**
	comp=Z,30nm,1.0s						
SBD1	**Bryn Du**	**17.13**	**78**	*e*P	**Pn**	**22 48 38.8**	**-0.5**
ESY	**Stoneypath**	**17.20**	**68**	*e*P	**Pn**	**22 48 40.0**	**0.0**
XSO	**Sourhope Farm**	**17.42**	**69⇑**	*e*P	**Pn**	**22 48 42.1**	**-0.7**
HLM1	**Long Mynd**	**17.44**	**79**	*e*P	**Pn**	**22 48 43.8**	**+0.8**
MCH1	**Michaelchurch**	**17.48**	**81**	*e*P	**Pn**	**22 48 42.8**	**-0.8**
XAL	**Allendale**	**17.48**	**71**	*e*P	**Pn**	**22 48 43.7**	**+0.2**
HGH	**Gray Hill**	**17.68**	**82⇑**	*e*P	**Pn**	**22 48 45.5**	**-0.6**
STNC	**Stoke**	**17.73**	**77**	*e*P	**Pn**	**22 48 47.7**	**+1.1**
LHO	**Holmfirth**	**17.86**	**75**	*e*P	**Pn**	**22 48 47.5**	**-0.6**
LHO	**Holmfirth**	**17.86**	**75**	*e*P	**Pn**	**22 48 47.5**	**-0.7**
KWE	**Weaver Farm**	**17.95**	**77⇑**	*e*P	**Pn**	**22 48 49.5**	**+0.1**
KBI1	**Birley Grange**	**18.10**	**76**	*e*P	**Pn**	**22 48 50.9**	**-0.3**
KBI1	**Birley Grange**	**18.10**	**76**	*e*P	**Pn**	**22 48 50.9**	**-0.3**
	comp=Z,68nm,1.5s						
CWF	**Charnwood Fore**	**18.33**	**78**	*e*P	**Pn**	**22 48 53.5**	**-0.5**
CWF				AMb	AMB	22 48 56.4	
	comp=Z,68nm,1.5s						
ROSF	**Rostrenen**	**18.50**	**92**	*e*P	**Pn**	**22 48 56.0**	**-0.2**
	comp=Z,43nm,1.3s						
ROSF	**Rostrenen**	**18.50**	**92**	*e*P	**Pn**	**22 48 56.0**	**-0.2**
ROSF				pmax	pmax		
	comp=Z,22nm,1.3s						
ROSF	**Rostrenen**	**18.50**	**92**	*e*P	**Pn**	**22 48 56.0**	**-0.2**
	comp=Z,22nm,1.3s						
WOL	**Wolverton**	**18.73**	**82**	*e*P	**Pn**	**22 48 58.0**	**-0.8**
QUIF	**Quistinic**	**18.75**	**93⇑**	*i*P	**Pn**	**22 48 57.6**	**-1.5**
	comp=Z,98nm,1.5s						
QUIF	**Quistinic**	**18.75**	**93⇑**	*i*P	**Pn**	**22 48 57.6**	**-1.5**
QUIF				pmax	pmax		
	comp=Z,49nm,1.5s						
QUIF	**Quistinic**	**18.75**	**93⇑**	*i*P	**Pn**	**22 48 57.6**	**-1.5**
	comp=Z,49nm,1.5s						
SGMF	**Saint Gilles**	**18.97**	**92**	*e*P	**Pn**	**22 49 01.0**	**-0.9**
	comp=Z,56nm,1.4s						
SGMF	**Saint Gilles**	**18.97**	**92**	*e*P	**Pn**	**22 49 01.0**	**-0.9**
SGMF				pmax	pmax		
	comp=Z,28nm,1.4s						
SGMF	**Saint Gilles**	**18.97**	**92**	*e*P	**Pn**	**22 49 01.0**	**-0.9**
	comp=Z,28nm,1.4s						
GRR	**Gorron**	**19.95**	**90⇑**	*i*P	**Pn**	**22 49 13.0**	**-0.6**
	comp=Z,56nm,1.0s						
GRR	**Gorron**	**19.95**	**90⇑**	*i*P	**Pn**	**22 49 13.0**	**-0.6**
GRR				pmax	pmax		
	comp=Z,28nm,1.0s						
GRR	**Gorron**	**19.95**	**90⇑**	*i*P	**Pn**	**22 49 13.0**	**-0.6**
	comp=Z,28nm,1.0s						
FLN	**La Foliniere**	**20.03**	**89⇑**	*i*P	**P**	**22 49 12.9**	**+0.1**
	comp=Z,69nm,1.0s						
FLN				*e*MLR	MLR		
	comp=Z,114nm,19.8s,MS2.9						
FLN	**La Foliniere**	**20.03**	**89⇑**	*i*P	**P**	**22 49 12.9**	**+0.1**
FLN				pmax	pmax		
	comp=Z,34nm,1.0s						
FLN				MLR	MLR		
	comp=Z,110nm,19.8s,MS3.2						
FLN	**La Foliniere**	**20.03**	**89⇑**	*i*P	**P**	**22 49 12.9**	**+0.1**
	comp=Z,34nm,1.0s						
FLN				LR	LR		
	comp=Z,110nm,19.8s,MS3.2						
SUMG	**Summit**

MFF **Saint Martin d** 21.17 94 eP P 22 49 24.4 -0.7
MFF pmax pmax
comp=Z,55nm,1.2s,mb4.8
MFF Saint Martin d 21.17 94 eP **P 22 49 24.4 -0.7**
comp=Z,56nm,1.2s,mb4.8
PMRV Marv??o 21.29 119 eP **P 22 49 28.9 +2.5**
comp=Z,29nm,1.6s,mb4.4
PMRV eS **S 22 53 28.2 +5.5**
EVOP Sao Brissos 21.57 122 eP **P 22 49 28.3 -1.1**
comp=Z,19nm,1.4s,mb4.3
PESTR Estremoz 21.59 120 eS **S 22 53 32.2 +3.5**
EVO Evora 21.62 121 eP **P 22 49 28.3 -1.7**
comp=Z,38nm,1.4s,mb4.3
EVO eMLR MLR
comp=Z,174nm,21.5s,MS3.1
MORF Marmelete 22.23 125 eP **P 22 49 38.3 +1.8**
comp=Z,65nm,1.6s,mb4.8
UCC Uccle 22.24 80 P **P 22 49 36.0 -0.5**
comp=Z,35nm,1.6s,mb4.5
PFVI Vila Bisbo 22.28 125 eS **S 22 53 43.8 +1.8**
SJPF Ste Jean 22.38 103 eP **P 22 49 37.3 -0.8**
comp=Z,47nm,1.3s,mb4.5
SJPF Ste Jean 22.38 103 eP **P 22 49 37.3 -0.8**
SJPF pmax pmax
comp=Z,24nm,1.3s,mb4.5
SJPF Ste Jean 22.38 103 eP **P 22 49 37.3 -0.8**
comp=Z,24nm,1.3s,mb4.5
PBAR Barrancos 22.40 121 eS **S 22 53 45.0 +0.7**
BAIF Baives 22.40 82⇑iP **P 22 49 37.7 -0.5**
comp=Z,135nm,1.4s,mb4.9
BAIF Baives 22.40 82⇑iP **P 22 49 37.7 -0.5**
BAIF pmax pmax
comp=Z,67nm,1.4s,mb4.9
BAIF Baives 22.40 82⇑iP **P 22 49 37.7 -0.5**
comp=Z,67nm,1.4s,mb4.9
LFF La Frestale 22.54 97 eP **P 22 49 38.3 -1.5**
comp=Z,9.8nm,0.7s,mb4.1
LFF La Frestale 22.54 97 eP **P 22 49 38.3 -1.5**
LFF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
LFF La Frestale 22.54 97 eP **P 22 49 38.3 -1.5**
comp=Z,4.9nm,0.7s,mb4.1
HYF Humbligny 22.56 90⇑iP **P 22 49 38.9 -1.1**
DOU Dourbes 22.62 82 P **P 22 49 40.3 -0.2**
comp=Z,17nm,1.5s,mb4.3
PVAQ Vaqueiros 22.63 123 eP **P 22 49 43.7 +3.0**
PBDV Barranco-do-Ve 22.64 124 eP **P 22 49 43.2 +2.3**
comp=Z,45nm,1.5s,mb4.7
PBDV eS **S 22 53 55.6 +6.5**
GIVF Givet 22.75 82⇑iP **P 22 49 41.7 -0.3**
comp=Z,38nm,1.1s,mb4.4
GIVF Givet 22.75 82⇑iP **P 22 49 41.7 -0.3**
GIVF pmax pmax
comp=Z,19nm,1.1s,mb4.4
GIVF Givet 22.75 82⇑iP **P 22 49 41.7 -0.3**
comp=Z,19nm,1.1s,mb4.4
TCF Toulx Ste Croi 22.76 93⇑iP **P 22 49 41.1 -0.9**
comp=Z,48nm,1.1s,mb4.5
TCF Toulx Ste Croi 22.76 93⇑iP **P 22 49 41.1 -0.9**
TCF pmax pmax
comp=Z,24nm,1.1s,mb4.5
TCF Toulx Ste Croi 22.76 93⇑iP **P 22 49 41.1 -0.9**
comp=Z,24nm,1.1s,mb4.5
RJF Les Rejaudoux 22.82 95⇑iP **P 22 49 41.8 -1.0**
comp=Z,26nm,1.2s,mb4.2
RJF eMLR MLR
comp=Z,225nm,19.1s,MS3.3
RJF Les Rejaudoux 22.82 95⇑iP **P 22 49 41.8 -1.0**
RJF pmax pmax
comp=Z,13nm,1.2s,mb4.2
RJF MLR MLR
comp=Z,220nm,19.1s,MS3.6
RJF Les Rejaudoux 22.82 95⇑iP **P 22 49 41.8 -1.0**
comp=Z,13nm,1.2s,mb4.2
RJF LR LR
comp=Z,220nm,19.1s,MS3.6
ETSF Etsaut 22.90 103 eP **P 22 49 42.3 -1.3**
comp=Z,38nm,1.5s,mb4.3
ETSF Etsaut 22.90 103 eP **P 22 49 42.3 -1.3**
ETSF pmax pmax
comp=Z,19nm,1.5s,mb4.3
ETSF Etsaut 22.90 103 eP **P 22 49 42.3 -1.3**
comp=Z,19nm,1.5s,mb4.3
BCLA Clavier 22.93 81 P **P 22 49 44.5 +0.6**
comp=Z,9.0nm,1.4s,mb4.0
BGF Bois d'Agland 23.02 92⇑iP **P 22 49 44.0 -0.8**
comp=Z,125nm,1.4s,mb4.8
BGF Bois d'Agland 23.02 92⇑iP **P 22 49 44.0 -0.8**
BGF pmax pmax
comp=Z,62nm,1.4s,mb4.8
BGF Bois d'Agland 23.02 92⇑iP **P 22 49 44.0 -0.8**
comp=Z,62nm,1.4s,mb4.8
BEBN Eben Emael 23.03 80 P **P 22 49 45.6 +0.7**
comp=Z,4.2nm,1.0s,mb3.8
SSF Saint Saulge 23.18 90⇑iP **P 22 49 45.6 -0.9**
comp=Z,74nm,1.4s,mb4.6
SSF Saint Saulge 23.18 90⇑iP **P 22 49 45.6 -0.9**
SSF pmax pmax
comp=Z,37nm,1.4s,mb4.6
SSF Saint Saulge 23.18 90⇑iP **P 22 49 45.6 -0.9**
comp=Z,37nm,1.4s,mb4.6
HGN Heimansgroeve 23.19 80⇑eP **P 22 49 45.5 -1.1**
comp=Z,17nm,2.1s,mb4.1
AVF Avril sur Loir 23.21 91⇑iP **P 22 49 45.8 -1.1**
comp=Z,104nm,1.5s,mb4.7
AVF Avril sur Loir 23.21 91⇑iP **P 22 49 45.8 -1.1**
AVF pmax pmax
comp=Z,52nm,1.5s,mb4.7
AVF Avril sur Loir 23.21 91⇑iP **P 22 49 45.8 -1.1**
comp=Z,52nm,1.5s,mb4.7
MEM Membach 23.29 80 P **P 22 49 47.2 -0.4**
comp=Z,10nm,1.4s,mb4.1
LOR Lormes 23.30 89⇑iP **P 22 49 46.9 -0.9**
comp=Z,19nm,0.8s,mb4.3
LOR eMLR MLR
comp=Z,335nm,22.2s,MS3.5
LOR Lormes 23.30 89⇑iP **P 22 49 46.9 -0.9**
LOR pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
LOR MLR MLR
comp=Z,330nm,22.3s,MS3.7
LOR Lormes 23.30 89⇑iP **P 22 49 46.9 -0.9**
comp=Z,9.6nm,0.8s,mb4.3
LOR LR LR
comp=Z,330nm,22.3s,MS3.7
WTSB Winterswijk 23.33 76⇑eP **P 22 49 47.3 -0.8**
comp=Z,63nm,1.5s,mb4.8
CAF Calviac 23.35 96⇑iP **P 22 49 47.2 -1.1**
comp=Z,34nm,1.3s,mb4.3
CAF Calviac 23.35 96⇑iP **P 22 49 47.2 -1.1**
CAF pmax pmax
comp=Z,17nm,1.3s,mb4.3
CAF Calviac 23.35 96⇑iP **P 22 49 47.2 -1.1**
comp=Z,17nm,1.3s,mb4.3
EPF Esparros 23.36 102 eP **P 22 49 46.8 -1.6**
comp=Z,30nm,1.5s,mb4.2
EPF Esparros 23.36 102 eP **P 22 49 46.8 -1.6**
EPF pmax pmax
comp=Z,15nm,1.5s,mb4.2
EPF Esparros 23.36 102 eP **P 22 49 46.8 -1.6**
comp=Z,15nm,1.5s,mb4.2
AGO Saint Agoulin 23.43 92 eP **P 22 49 48.6 -0.6**
MEZF Maizieres J'vi 23.50 85⇑iP **P 22 49 49.1 -0.8**
comp=Z,129nm,1.2s,mb4.9
MEZF Maizieres J'vi 23.50 85⇑iP **P 22 49 49.1 -0.8**
comp=Z,64nm,1.2s,mb4.9
SMF Signal de Mont 23.58 90 eP **P 22 49 48.9 -1.8**
comp=Z,40nm,1.1s,mb4.5
SMF Signal de Mont 23.58 90 eP **P 22 49 48.9 -1.8**
SMF pmax pmax
comp=Z,20nm,1.1s,mb4.5
SMF Signal de Mont 23.58 90 eP **P 22 49 48.9 -1.8**
comp=Z,20nm,1.1s,mb4.5
WLF Walferdange 23.71 82 E 22 49 44.0
WLF Walferdange 23.71 82 eP **P 22 49 52.2 +0.3**
WLF pmax pmax
comp=Z,78nm,2.1s,mb4.8
WLF Walferdange 23.71 82 eP **P 22 49 51.3 -0.6**
comp=Z,16nm,1.1s,mb4.4
WLF Walferdange 23.71 82 eP **P 22 49 52.2 +0.3**
comp=Z,78nm,2.1s,mb4.8
WLF Walferdange 23.71 82 eP **P 22 49 52.2 +0.4**
comp=Z,78nm,2.1s,mb4.8
PLDF La Plantade 23.77 92 eP **P 22 49 51.8 -0.6**
BUG Bochum-Univer 23.77 77 eP **P 22 49 52.0 -0.4**
comp=Z,100nm,2.2s,mb4.9
IBBN Ibbenburen 23.80 75 eP **P 22 49 52.5 -0.1**
comp=Z,58nm,1.2s,mb4.9
THEF They Montfort 24.18 85 eP **P 22 49 55.5 -0.7**
RUP Ruppelstein 24.25 81 eP **P 22 49 57.0 +0.3**
MTLF Montolieu 24.30 99 eP **P 22 49 56.0 -1.3**
comp=Z,10.0nm,1.0s,mb3.9
MTLF Montolieu 24.30 99 eP **P 22 49 56.0 -1.3**
MTLF pmax pmax
comp=Z,5.0nm,1.0s,mb3.9
MTLF Montolieu 24.30 99 eP **P 22 49 56.0 -1.3**
comp=Z,5.0nm,1.0s,mb3.9
NOA NORSAR Array B 24.48 53 P **P 22 49 58.9 +0.2**
comp=Z,4.1nm,0.8s,mb3.9,baz=271,slow=9.8,SNR=5.3
NOA LR LR 22 58 40.5
comp=Z,177nm,18.9s,MS3.6,baz=270,slow=34
NOA NORSAR Array B 24.48 53 P **P 22 49 58.9 +0.2**
NOA LR LR 22 58 40.5
HAU Haudompre 24.50 86 eP **P 22 49 57.7 -1.3**
comp=Z,36nm,0.8s,mb4.6
HAU eMLR MLR
comp=Z,236nm,20.2s,MS3.4
HAU Haudompre 24.50 86 eP **P 22 49 57.7 -1.3**
HAU pmax pmax
comp=Z,18nm,0.8s,mb4.5
HAU MLR MLR
comp=Z,240nm,20.3s,MS3.7
HAU Haudompre 24.50 86 eP **P 22 49 57.7 -1.3**
comp=Z,18nm,0.8s,mb4.5
HAU LR LR
comp=Z,240nm,20.3s,MS3.7
BSEG Bad Segeberg 24.85 70 eP **P 22 50 02.9 +0.7**
comp=Z,43nm,1.2s,mb4.8
HINF Hinteralfeld 24.89 86⇑iP **P 22 50 02.0 -0.6**
comp=Z,39nm,1.1s,mb4.5
HINF Hinteralfeld 24.89 86⇑iP **P 22 50 02.0 -0.6**
HINF pmax pmax
comp=Z,20nm,1.1s,mb4.6
HINF Hinteralfeld 24.89 86⇑iP **P 22 50 02.0 -0.6**
comp=Z,20nm,1.1s,mb4.5
CDF Champ du Feu 24.89 84⇑iP **P 22 50 01.9 -0.7**
comp=Z,46nm,1.4s,mb4.5
CDF Champ du Feu 24.89 84⇑iP **P 22 50 01.9 -0.7**
CDF pmax pmax
comp=Z,23nm,1.4s,mb4.5
CDF Champ du Feu 24.89 84⇑iP **P 22 50 01.9 -0.7**
comp=Z,23nm,1.4s,mb4.5
LASF Ste Croix 24.89 96 eP **P 22 50 02.1 -0.5**
comp=Z,29nm,1.3s,mb4.3
LASF Ste Croix 24.89 96 eP **P 22 50 02.1 -0.5**
comp=Z,14nm,1.3s,mb4.3
ECH Echery 24.90 85 eP **P 22 50 02.5 -0.2**
ECH Echery 24.90 85 eP **P 22 50 02.2 -0.5**
CABF La Chapelle 24.96 89⇑iP **P 22 50 02.9 -0.4**
comp=Z,82nm,1.3s,mb4.8
CABF La Chapelle 24.96 89⇑iP **P 22 50 02.9 -0.4**
CABF pmax pmax
comp=Z,41nm,1.3s,mb4.8
CABF La Chapelle 24.96 89⇑iP **P 22 50 02.9 -0.4**
comp=Z,41nm,1.3s,mb4.8
VIVF Saint-Julien-l 24.97 94⇑iP **P 22 50 02.7 -0.7**
comp=Z,57nm,1.3s,mb4.6
VIVF Saint-Julien-l 24.97 94⇑iP **P 22 50 02.7 -0.7**
VIVF pmax pmax
comp=Z,28nm,1.3s,mb4.6
VIVF Saint-Julien-l 24.97 94⇑iP **P 22 50 02.7 -0.7**
comp=Z,28nm,1.3s,mb4.6
MOF Molkenrain 25.04 85 eP **P 22 50 03.5 -0.5**
LOMF Lomont 25.07 87 eP **P 22 50 04.6 +0.3**
NRDL Niedersach Rie 25.12 74 eP **P 22 50 05.0 +0.3**
comp=Z,39nm,1.3s,mb4.8
TOD Tromm 25.33 81 eP **P 22 50 06.6 0.0**
FELD Feldberg im Sc 25.56 85 eP **P 22 50 08.3 -0.4**
BFO Black Forest 25.56 84 eP **P 22 50 08.7 0.0**
BFO pmax pmax
comp=Z,12nm,1.1s,mb4.3
BFO Black Forest 25.56 84 eP **P 22 50 08.7 0.0**
comp=Z,12nm,1.1s,mb4.3
UBBA Unterbreizbach 25.60 77 eP **P 22 50 10.1 +1.1**
comp=Z,14nm,1.5s,mb4.3
ORIF Oris-en-Rattie 25.67 92 eP **P 22 50 10.8 +1.1**
comp=Z,32nm,1.2s,mb4.4
ORIF eMLR MLR
comp=Z,199nm,20.8s,MS3.3
ORIF Oris-en-Rattie 25.67 92 eP **P 22 50 10.8 +1.1**
ORIF pmax pmax
comp=Z,16nm,1.2s,mb4.4
ORIF Oris-en-Rattie 25.67 92 eP **P 22 50 10.8 +1.1**
comp=Z,16nm,1.2s,mb4.4
HFS Hagfors 25.73 55 LR LR 22 59 49.3
comp=Z,193nm,18.6s,MS3.7,baz=268,slow=35
LPL La Plagne 25.89 91⇑iP **P 22 50 11.7 0.0**
comp=Z,43nm,1.5s,mb4.5
LPL La Plagne 25.89 91⇑iP **P 22 50 11.7 0.0**
LPL pmax pmax
comp=Z,22nm,1.5s,mb4.5
LPL La Plagne 25.89 91⇑iP **P 22 50 11.7 0.0**
comp=Z,22nm,1.5s,mb4.5
STU Stuttgart 25.90 82 eP **P 22 50 11.8 0.0**
STU pmax pmax
comp=Z,19nm,0.8s,mb4.7
STU Stuttgart 25.90 82 eP **P 22 50 11.8 0.0**
comp=Z,31nm,1.0s,mb4.8
LPG La Plagne 25.91 91 eP **P 22 50 12.0 +0.1**
SPAK Spaichingen-Ko 25.93 84 eP **P 22 50 11.8 -0.3**
SMRF Simiane la Rot 25.98 95⇑iP **P 22 50 12.9 +0.3**
comp=Z,72nm,1.5s,mb4.7
SMRF Simiane la Rot 25.98 95⇑iP **P 22 50 12.9 +0.3**
comp=Z,36nm,1.5s,mb4.7
MBDF Montbardon 26.31 92 eP **P 22 50 14.6 -0.9**
comp=Z,17nm,1.2s,mb4.1
MBDF Montbardon 26.31 92 eP **P 22 50 14.6 -0.9**
MBDF pmax pmax
comp=Z,9.0nm,1.3s,mb4.1
MBDF Montbardon 26.31 92 eP **P 22 50 14.6 -0.9**
comp=Z,8.6nm,1.2s,mb4.1
MOX Moxa 26.62 77 eP **P 22 50 18.1 -0.2**
comp=Z,15nm,1.4s,mb4.3
MOX
comp=Z,300nm,17.0s
MOX Moxa 26.62 77 eP **P 22 50 18.1 -0.2**
MOX pmax pmax
comp=Z,15nm,1.4s,mb4.3
MOX MLR MLR
comp=Z,300nm,17.0s,MS3.9
MOX Moxa 26.62 77 eP **P 22 50 18.2 -0.1**
comp=Z,8.0nm,0.9s,mb4.2
GRFO Grafenberg 26.75 79 eP **P 22 50 20.0 +0.6**
comp=Z,22nm,1.3s,mb4.5
GRA1 Grafenberg Arr 26.75 79 eP **P 22 50 20.0 +0.6**
comp=Z,23nm,1.3s,mb4.5
GRF Grafenberg Arr 26.75 79 eP **P 22 50 20.0 +0.6**
GRF pmax pmax
comp=Z,23nm,1.3s,mb4.5
GRF Grafenberg Arr 26.75 79 eP **P 22 50 20.0 +0.6**
GRF pmax pmax
comp=Z,23nm,1.3s,mb4.5
GRF Grafenberg Arr 26.75 79 eP **P 22 50 20.0 +0.6**
comp=Z,23nm,1.3s,mb4.5
FRF La Foret Royal 26.86 94 eP **P 22 50 19.4 -1.1**
TUE Stuetta 27.01 87 eP **P 22 50 23.1 +1.3**
comp=Z,28nm,1.4s,mb4.6
TUE Stuetta 27.01 87 eP **P 22 50 23.1 +1.3**
comp=Z,28nm,1.4s,mb4.6
WERD Werda 27.11 77 eP **P 22 50 22.5 -0.1**
comp=Z,15nm,1.2s,mb4.4
DAVOS Davos 27.11 86 P **P 22 50 25.0 +2.3**
GUNZ Gunzen 27.15 77 eP **P 22 50 23.0 0.0**
comp=Z,9.0nm,1.1s,mb4.2
MANZ Manzenberg 27.16 78 eP **P 22 50 23.1 0.0**
comp=Z,31nm,2.2s,mb4.5
DAVOX Davos/Dischmat 27.19 86 P **P 22 50 25.0 +1.6**
comp=Z,6.4nm,0.7s,mb4.3,baz=308,slow=12,SNR=14
DAVOX LR LR 22 59 54.1
comp=Z,135nm,19.1s,MS3.5,baz=178,slow=34
CLL Collm 27.20 75⇑iP **P 22 50 23.2 -0.3**
CLL *e* pP 22 50 27.0 +0.5
CLL pmax pmax
comp=Z,15nm,0.9s,mb4.5
CLL MLR MLR
comp=Z,200nm,20.0s,MS3.7
CLL Collm 27.20 75 eP **P 22 50 23.5 0.0**
comp=Z,14nm,0.8s,mb4.5
CLL Collm 27.20 75⇑iP **P 22 50 23.2 -0.3**
comp=Z,15nm,0.9s,mb4.5
CLL epP pP 22 50 27.0 +0.5
CLL LmH 22 58 42.0
comp=N,400nm,19.5s
CLL LmH 22 58 42.0
comp=E,100nm,20.4s
CLL LmV 22 59 42.0
comp=Z,200nm,20.0s
CLL Collm 27.20 75⇑iP **P 22 50 23.2 -0.3**
comp=Z,15nm,0.9s,mb4.5
CLL *e* pP 22 50 27.0 +0.5
CLL LR LR
comp=Z,200nm,20.0s,MS3.7
RUE Ruedersdorf 27.26 72 eP **P 22 50 24.0 0.0**
comp=Z,35nm,1.6s,mb4.6
NKC Novy Kostel 27.27 77 eP **P 22 50 24.5 +0.4**
NKC AMS AMS 23 01 40.0
RETA Reutte 27.40 84⇑iP **P 22 50 25.7 +0.4**
comp=Z,19nm,1.1s,mb4.5,SNR=10
FUR Furstenfeldbru 27.41 82 eP **P 22 50 25.8 +0.4**
FUR pmax pmax
comp=Z,38nm,1.0s,mb4.9
FUR Furstenfeldbru 27.41 82 eP **P 22 50 25.8 +0.4**
comp=Z,38nm,1.0s,mb4.9
FBE Freiberg 27.55 75 eP **P 22 50 26.7 +0.1**
comp=Z,16nm,0.9s,mb4.7
MOTA Moosalm 27.67 84⇑iP **P 22 50 28.2 +0.5**
comp=Z,14nm,1.1s,mb4.5,SNR=11
MOTA Moosalm 27.67 84⇑iP **P 22 50 28.2 +0.5**
MOTA pmax pmax
comp=Z,14nm,1.1s,mb4.5
MDT Midelt 27.80 125 LR LR 22 58 54.1
comp=Z,156nm,18.7s,MS3.6,baz=195,slow=31
BRG Berggiesshubel 27.91 75 eP **P 22 50 29.7 -0.2**
comp=Z,11nm,1.0s,mb4.4
BRG Berggiesshubel 27.91 75 eP **P 22 50 29.8 -0.1**
comp=Z,11nm,1.0s,mb4.5
BRG
comp=N,212nm,13.7s
BRG
comp=E,274nm,14.2s
BRG
comp=Z,259nm,14.6s
WET Wettzell 27.96 79 eP **P 22 50 30.2 -0.1**
WET pmax pmax
comp=Z,9.0nm,1.4s,mb4.2
WET Wettzell 27.96 79 eP **P 22 50 30.2 -0.1**
comp=Z,9.0nm,1.4s,mb4.2
WTTA Wattenberg 28.03 84⇑iP **P 22 50 31.6 +0.6**
comp=Z,23nm,1.4s,mb4.6,SNR=9.4
WTTA Wattenberg 28.03 84⇑ipP pP 22 50 31.6 -2.4
comp=Z,23nm,1.4s,SNR=9.4
WTTA Wattenberg 28.03 84⇑iP **P 22 50 31.6 +0.7**
WTTA pmax pmax
comp=Z,23nm,1.4s,mb4.6
KHC Kasperske Hory 28.38 79 eP **P 22 50 34.1 0.0**
KHC LR LR
comp=Z,200nm,16.7s,MS3.8
PVCC Panska Ves 28.41 76 eP **P 22 50 34.7 +0.4**
PVCC AMS AMS 23 02 00.0
comp=Z,400nm,13.8s
GEC2 GERESS Array S 28.58 79 eP **P 22 50 36.0 +0.2**
GEC2 GERESS Array S 28.58 79 eP **P 22 50 36.0 +0.2**
GERES GERESS Array B 28.58 79 P **P 22 50 36.3 +0.6**
comp=Z,4.5nm,0.8s,mb4.2,baz=298,slow=8.9,SNR=38
GERES LR LR 23 01 07.2
comp=Z,130nm,18.0s,MS3.6,baz=289,slow=34
GERES GERESS Array B 28.58 79 P **P 22 50 36.3 +0.6**
GERES LR LR 23 01 07.2
PRU Pruhonice 28.61 77 eP **P 22 50 36.4 +0.4**
PRU AMS AMS 23 02 00.0
comp=Z,300nm,13.8s
MIV Mineville/With 28.76 270 eP **P 22 50 38.4 +0.9**
MIV Mineville/With 28.76 270 eP **P 22 50 38.4 +0.9**
GKP Gorka Klasztor 28.99 69 eP **P 22 50 40.1 +0.6**
TREC Trest 29.45 77 eP **P 22 50 44.4 +0.9**
DPC Dobruska-Polom 29.52 75 eP **P 22 50 44.1 0.0**
DPC AMS AMS 23 02 00.0
comp=Z,300nm,15.7s
MYKA Terra Mystica 29.54 83⇑iP **P 22 50 44.9 +0.6**
comp=Z,21nm,0.7s,mb5.0
VRAC Vranov 30.10 77 P **P 22 50 50.6 +1.3**
comp=Z,1.3nm,0.9s,mb3.7,baz=319,slow=11,SNR=3.4
VRAC LR LR 23 02 24.3
comp=Z,136nm,20.0s,MS3.6,baz=189,slow=35
OBKA Obir 30.15 83⇑iP **P 22 50 49.6 -0.1**
comp=Z,19nm,0.8s,mb4.9
JAVS Javornik 30.16 84 eP **P 22 50 50.1 +0.3**
LJU Ljubljana 30.36 84 eP **P 22 50 51.6 -0.1**
PERS Pernice 30.43 82 eP **P 22 50 51.7 -0.5**
CEY Cerknica 30.45 84 eP **P 22 50 52.8 +0.4**
MORC Moravsky Berou 30.47 75 eP **P 22 50 52.7 +0.2**
MORC pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
MORC Moravsky Berou 30.47 75⇑iP **P 22 50 52.8 +0.3**
MORC Moravsky Berou 30.47 75 eP **P 22 50 52.7 +0.2**
comp=Z,7.7nm,1.0s,mb4.4
SPITS Spitsbergen Ar 30.67 17 LR LR 22 59 57.5
comp=Z,200nm,21.9s,MS3.7,baz=255,slow=30
VISS Visnje 30.67 84 eP **P 22 50 54.4 0.0**
OKC Ostrava-Krasne 30.80 75 eP **P 22 50 56.0 +0.6**
OKC AMS AMS 23 01 50.0
comp=Z,300nm,5.3s
ARCES ARCESS Array B 30.84 35 P **P 22 50 55.7 +0.1**
comp=Z,4.1nm,0.9s,mb4.2,baz=243,slow=5.3,SNR=6.6
ARCES LR LR 23 00 32.8
comp=Z,182nm,18.5s,MS3.8,baz=195,slow=31
ARCES ARCESS Array B 30.84 35 P **P 22 50 55.7 +0.1**
ARCES LR LR 23 00 32.8
ZST Bratislava 30.89 78 eP **P 22 50 56.9 +0.6**
ZST pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ZST MLR MLR
comp=Z,100nm,13.0s,MS3.7
ZST Bratislava 30.89 78 eP **P 22 50 56.9 +0.6**
comp=Z,3.6nm,0.8s,mb4.2
ZST LR LR
comp=Z,100nm,13.0s,MS3.7
MODS Modra-Piesok 30.92 78 eP **P 22 50 56.7 +0.2**
BOJS Bojanci 31.07 84 eP **P 22 50 57.6 -0.3**
KAF Kangasniemi 31.58 50 ep **P 22 51 02.2 0.0**
comp=Z,1.4nm,0.4s,mb4.1
KAF Kangasniemi 31.58 50 eP **P 22 51 02.2 0.0**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
OJC Ojcow 31.61 73 eP **P 22 51 02.3 -0.3**
AQU L'Aquila 31.65 91 eP **P 22 51 03.5 +0.5**
AQU pmax pmax
comp=Z,32nm,2.0s,mb4.8
AQU L'Aquila 31.65 91 eP **P 22 51 03.5 +0.5**
comp=Z,32nm,2.0s,mb4.8
AQU L'Aquila 31.65 91 eP **P 22 51 03.5 +0.5**
comp=Z,32nm,2.0s,mb4.8
VYHS Vyhne 31.79 77 eP **P 22 51 04.0 -0.2**
VYHS pmax pmax
comp=Z,3.0nm,1.4s,mb3.9
VYHS Vyhne 31.79 77 eP **P 22 51 04.0 -0.2**
comp=Z,3.3nm,1.4s,mb4.0
SUW Suwalki 32.08 65 eP **P 22 51 06.4 -0.2**
NIE Niedzica 32.25 75 eP **P 22 51 08.8 +0.6**
PSZ Piszkesteto 32.69 77⇑iP **P 22 51 12.6 +0.6**
PSZ Piszkesteto 32.69 77 eP **P 22 51 12.4 +0.4**
comp=Z,18nm,1.2s,mb4.9
PSZ Piszkesteto 32.69 77 eP **P 22 51 12.4 +0.4**
comp=Z,18nm,1.2s,mb4.9
PKSM Moragy 32.76 81⇑iP **P 22 51 12.1 -0.6**
PKSM Moragy 32.76 81⇑P **P 22 51 12.1 -0.7**
KECS Kecovo 32.77 76 eP **P 22 51 12.9 +0.1**
KECS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KECS Kecovo 32.77 76 eP **P 22 51 12.9 +0.1**
comp=Z,4.0nm,1.1s,mb4.3
STHS Stebnicka Huta 32.80 74 *i* P **P 22 51 13.9 +0.9**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 32.80 74 *i* P **P 22 51 13.8 +0.8**
STHS Stebnicka Huta 32.80 74 *i* P **P 22 51 13.9 +0.9**
comp=Z,4.9nm,0.8s,mb4.5
CRVS Cervenica-Dubn 33.16 75 eP **P 22 51 16.5 +0.4**
KEST Kesra 33.37 104 P **P 22 51 18.1 0.0**
comp=Z,3.0nm,0.9s,mb4.2,baz=182,slow=2.0,SNR=7.8
KWP Kalwaria 33.56 73 eP **P 22 51 20.2 +0.6**
KWP Kalwaria 33.56 73⇑iP **P 22 51 20.4 +0.8**
KOLS Kolonicke sedl 33.62 74 eP **P 22 51 20.3 +0.1**
KOLS Kolonicke sedl 33.62 74 eP **P 22 51 20.4 +0.2**
JOF Joensuu 33.71 47 ep **P 22 51 20.6 -0.2**
comp=Z,0.8nm,0.3s,mb4.1
UZH Uzhgorod 33.77 75⇓iP **P 22 51 21.6 +0.1**
APA Apatity 33.80 39⇑iP **P 22 51 21.5 -0.1**
APA pmax pmax
comp=Z,64nm,1.5s,mb5.3

FGSL Fruska Gora 34.01 82 *eP* **P 22 51 23.8 +0.2**
DIVS Divibare 34.68 83 *eP* **P 22 51 29.7 +0.2**
BZS Buzias 34.85 80 ⇓*iP* **P 22 51 31.6 +0.7**
DRGR 34.91 77 ⇓*iP* **P 22 51 32.3 +0.9**
DRGR 34.91 77 ⇓P **P 22 51 32.3 +0.9**
GRUS Gruza 35.23 83 *eP* **P 22 51 33.7 -0.5**
BURAR Bucovina Array 35.98 75 ⇑⇑*iP* **P 22 51 41.1 +0.6**
BURAR Bucovina Array 35.98 75 ⇑⇑P **P 22 51 41.1 +0.5**
BARS Barje 36.50 84 ⇓*iP* **P 22 51 45.4 +0.3**
KIEV Kiev 36.80 68 *eP* **P 22 51 47.0 -0.6**
KIEV pmax pmax
comp=Z,20nm,1.1s,mb4.9
KIEV Kiev 36.80 68 *eP* **P 22 51 47.0 -0.6**
comp=Z,20nm,1.1s,mb4.9
KIEV Kiev 36.80 68 *eP* **P 22 51 47.0 -0.6**
comp=Z,20nm,1.1s,mb4.9
AKASG Malin Array Be 36.81 68 P **P 22 51 47.1 -0.5**
comp=Z,6.0nm,0.7s,mb4.5,baz=300,slow=8.8,SNR=22
VTS Vitosha 37.47 83 ⇑⇑*iP* **P 22 51 52.3 -1.0**
MLR Muntele Rosu 37.50 77 ⇑⇑*iP* **P 22 51 51.9 -1.7**
MLR Muntele Rosu 37.50 77 ⇑⇑P **P 22 51 51.9 -1.7**
PLOR Plostina 37.73 76 ⇑⇑*iP* **P 22 51 57.4 +1.9**
VRI Vrincioaia 37.77 76 ⇓*iP* **P 22 51 57.9 +2.1**
VRI Vrincioaia 37.77 76 ⇓P **P 22 51 57.9 +2.1**
VAY Valandovo 37.82 85 *eP* **P 22 51 55.8 -0.5**
VAY Valandovo 37.82 85 *eP* **P 22 51 55.7 -0.6**
OBN Obninsk 38.83 58 ⇓*eP* **P 22 52 04.9 +0.3**
OBN *e* 22 53 34.1
OBN pmax pmax
comp=Z,50nm,1.4s,mb5.0
OBN MLR MLR
comp=Z,400nm,24.0s,MS4.2
OBN Obninsk 38.83 58 *eP* **P 22 52 05.0 +0.4**
OBN Obninsk 38.83 58 *eP* **P 22 52 05.0 +0.4**
TZTN Tazewell 39.39 267 *eP* **P 22 52 12.9 +3.4**
TIRR Tirgusor 39.53 77 ⇓*iP* **P 22 52 09.4 -1.3**
TIRR Tirgusor 39.53 77 *eP* **P 22 52 09.1 -1.6**
comp=Z,4.1nm,0.8s,mb4.2
TIRR Tirgusor 39.53 77 *eP* **P 22 52 09.1 -1.6**
comp=Z,4.1nm,0.8s,mb4.2
FFC Flin Flon 40.09 302 *eP* **P 22 52 15.0 -0.2**
FFC pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
FFC Flin Flon 40.09 302 *eP* **P 22 52 15.0 -0.2**
comp=Z,8.6nm,1.0s,mb4.4
FFC Flin Flon 40.09 302 *eP* **P 22 52 15.0 -0.2**
comp=Z,8.6nm,1.0s,mb4.4
TKL Tuckaleechee C 40.11 266 LR LR 23 08 20.6
comp=Z,287nm,18.3s,MS4.2,baz=321,slow=36
VRSR Storozhevoye 42.07 62 *eP* **P 22 52 31.2 -0.3**
VRSR pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
VRSR pmax pmax
comp=N,6.0nm,1.0s
VRSR pmax pmax
comp=E,8.0nm,1.1s
YKA Yellowknife Ar 42.51 317 P **P 22 52 34.1 -0.8**
comp=E,4.8nm,1.0s,mb4.2,baz=61,slow=8.8,SNR=12
ECSD EROS,Sioux Fal 42.84 285 *eP* **P 22 52 38.5 +0.6**
comp=E,3.3nm,0.7s,mb4.2
HBAR Harrisburg 44.37 272 *eP* **P 22 52 49.4 -0.8**
HBAR Harrisburg 44.37 272 *eP* **P 22 52 49.4 -0.8**
ANTO Ankara 44.88 80 ⇑⇑*iP* **P 22 52 55.2 +0.9**
ANTO Ankara 44.88 80 *eP* **P 22 52 55.7 +1.4**
ANTO Ankara 44.88 80 *eP* **P 22 52 55.7 +1.4**
EDM Edmonton 46.64 305 *eP* **P 22 53 06.8 -1.2**
EDM Edmonton 46.64 305 *eP* **P 22 53 06.8 -1.1**
TORD Torodi Ar. Bea 47.56 133 P **P 22 53 14.6 -0.9**
comp=E,5.7nm,0.9s,mb4.6,baz=333,slow=8.2,SNR=22
EGMT Eagleton 47.77 297 *eP* **P 22 53 17.1 +0.2**
KIV Kislovodsk 48.14 69 ⇓*eP* **P 22 53 21.0 +1.2**
KIV *e* 22 55 08.2
KIV pmax pmax
comp=Z,12nm,1.3s,mb4.8
KIV MLR MLR
comp=Z,100nm,14.0s,MS4.0
ARU Arti 48.84 48 *c iP* **P 22 53 25.3 +0.3**
ARU *e* 22 55 16.3
ARU *e*S **S 23 00 29.0 +1.1**
ARU *e*SS SS 23 03 52.7 -5.0
ARU pmax pmax
comp=Z,21nm,1.0s,mb5.1
ARU Arti 48.84 48 *eP* **P 22 53 24.9 -0.1**
comp=Z,22nm,1.1s,mb5.1
MALT Malatya 49.24 78 ⇑P **P 22 53 29.2 +0.9**
MALT Malatya 49.24 78 ⇑⇑*iP* **P 22 53 29.1 +0.8**
MALT Malatya 49.24 78 *eP* **P 22 53 29.0 +0.7**
comp=Z,19nm,1.4s,mb4.9
MALT Malatya 49.24 78 *eP* **P 22 53 29.1 +0.7**
comp=Z,19nm,1.4s,mb4.9
WALA Waterton Lakes 49.36 301 *eP* **P 22 53 28.7 -0.4**
WALA Waterton Lakes 49.36 301 *eP* **P 22 53 28.7 -0.4**
PHWY Pilot Hill 49.50 288 *eP* **P 22 53 30.9 +0.6**
PHWY Pilot Hill 49.50 288 *eP* **P 22 53 30.9 +0.6**
SVE Sverdlovsk 49.52 46 *eP* **P 22 53 30.3 +0.1**
SVE pmax pmax
comp=Z,16nm,1.2s,mb4.9
BOZ Bozeman (W) 50.24 296 *eP* **P 22 53 35.7 -0.1**
BOZ Bozeman (W) 50.24 296 *eP* **P 22 53 35.7 -0.1**
CHMT Chamberlain Mo 50.33 298 *eP* **P 22 53 36.3 -0.2**
CHMT Chamberlain Mo 50.33 298 *eP* **P 22 53 36.3 -0.2**
ISCO Idaho Springs 50.56 287 *eP* **P 22 53 38.5 +0.2**
ISCO pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ISCO Idaho Springs 50.56 287 *eP* **P 22 53 38.5 +0.2**
comp=Z,1.9nm,0.7s,mb4.1
ISCO Idaho Springs 50.56 287 *eP* **P 22 53 38.5 +0.1**
comp=Z,1.9nm,0.7s,mb4.1
DBIC Dimbokro 50.84 145 P **P 22 53 40.3 -0.4**
comp=Z,4.1nm,0.9s,mb4.4,baz=328,slow=15,SNR=2.2
DAWY Dawson 50.90 327 *eP* **P 22 53 41.5 +1.0**
DAWY Dawson 50.90 327 *eP* **P 22 53 41.5 +0.9**
DAWY *ep*P pP 22 53 51.5 +7.8
BW06 Boulder Array 50.91 292 *eP* **P 22 53 39.9 -1.0**
comp=Z,17nm,1.9s,mb4.7
BW06 Boulder Array 50.91 292 *eP* **P 22 53 39.9 -1.0**
comp=Z,17nm,1.9s,mb4.7
PDAR Pinedale Array 50.91 292 P **P 22 53 39.5 -1.4**
comp=Z,1.5nm,0.7s,mb4.0,baz=66,slow=8.3,SNR=7.9
PDAR Pinedale Array 50.91 292 P **P 22 53 39.5 -1.4**
EGAK Eagle 50.99 329 *eP* **P 22 53 41.0 -0.2**
EGAK Eagle 50.99 329 *eP* **P 22 53 41.0 -0.2**
TPAW Teton Pass 51.23 293 *eP* **P 22 53 43.8 +0.5**
comp=Z,20nm,1.8s,mb4.8
TPAW Teton Pass 51.23 293 *eP* **P 22 53 43.8 +0.4**
comp=Z,20nm,1.8s,mb4.8
MCMT McKenzie Canyo 51.42 296 *eP* **P 22 53 42.5 -2.3**
MCMT McKenzie Canyo 51.42 296 *eP* **P 22 53 42.5 -2.2**
AKTO Aktyubinsk 52.26 54 LR LR 23 14 16.1
comp=Z,161nm,21.2s,MS4.0,baz=126,slow=34
HWUT Hardware Ranch 52.80 292 *eP* **P 22 53 54.6 -0.4**
comp=Z,14nm,1.1s,mb4.8
HWUT Hardware Ranch 52.80 292 *eP* **P 22 53 54.6 -0.4**
comp=Z,14nm,1.1s,mb4.8
HLID Hailey 53.10 296 *eP* **P 22 53 58.3 +1.1**
HLID Hailey 53.10 296 *eP* **P 22 53 58.3 +1.1**
SPUT South Promonto 53.49 292 *eP* **P 22 54 00.4 +0.2**
SPUT South Promonto 53.49 292 *eP* **P 22 54 00.4 +0.3**
SRU San Rafael 53.86 289 *eP* **P 22 54 07.9 +5.0**
BGU Big Grassy Mou 54.07 292 *eP* **P 22 54 03.7 -0.7**
BGU Big Grassy Mou 54.07 292 *eP* **P 22 54 03.6 -0.8**
EBG Ellensburg 54.18 302 P **P 22 54 04.5 -0.6**
EBG Ellensburg 54.18 302 P **P 22 54 04.5 -0.6**
ANMO Albuquerque 54.31 283 P **P 22 54 08.2 +2.0**
comp=Z,0.4nm,0.3s,mb3.8,baz=67,slow=7.7,SNR=3.4
DUG Dugway 54.44 292 *eP* **P 22 54 06.7 -0.4**
DUG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
DUG Dugway 54.44 292 *eP* **P 22 54 06.7 -0.4**
comp=Z,4.0nm,1.1s,mb4.3
DUG Dugway 54.44 292 *eP* **P 22 54 06.7 -0.5**
comp=Z,4.4nm,1.1s,mb4.3
TRF Thorofare Moun 54.73 331 *eP* **P 22 54 09.1 +0.2**
comp=Z,14nm,1.3s,mb4.8
TRF Thorofare Moun 54.73 331 *eP* **P 22 54 09.1 +0.2**
comp=Z,14nm,1.3s,mb4.8
KTH Kantishna Hill 54.84 331 *eP* **P 22 54 09.8 +0.1**
comp=Z,21nm,1.3s,mb5.0
KTH Kantishna Hill 54.84 331 *eP* **P 22 54 09.8 +0.1**
comp=Z,21nm,1.3s,mb5.0
MSU Marysvale 55.22 290 *eP* **P 22 54 13.6 +0.8**
MSU Marysvale 55.22 290 *eP* **P 22 54 13.6 +0.9**
TIXI Tiksi 55.22 7 ⇓⇓*eP* **P 22 54 13.9 +1.6**
TIXI pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
TIXI MLR MLR
comp=Z,100nm,19.0s,MS3.9
TIXI Tiksi 55.22 7 *eP* **P 22 54 13.9 +1.6**
comp=Z,100nm,19.0s
ELK Elko 55.43 294 P **P 22 54 15.5 +1.2**
comp=Z,0.8nm,0.6s,mb4.0,baz=82,slow=7.7,SNR=4.0
ELK Elko 55.43 294 P **P 22 54 15.5 +1.2**
WVOR Wild Horse Val 56.16 297 *eP* **P 22 54 19.9 +0.4**
WVOR pmax pmax
comp=Z,12nm,1.0s,mb4.9
WVOR Wild Horse Val 56.16 297 *eP* **P 22 54 19.9 +0.4**
comp=Z,12nm,1.0s,mb4.9
WVOR Wild Horse Val 56.16 297 *eP* **P 22 54 19.9 +0.4**
comp=Z,12nm,1.0s,mb4.9
TXAR Lajitas Array 56.58 276 P **P 22 54 21.7 -1.0**
comp=Z,0.5nm,0.8s,mb3.6,baz=61,slow=6.3,SNR=3.9
TXAR Lajitas Array 56.58 276 P **P 22 54 21.7 -1.0**
NVAR Mina Array Bea 58.74 293 P **P 22 54 37.0 -0.7**
comp=Z,0.3nm,0.5s,mb3.6,baz=20,slow=4.9,SNR=3.3
ROSC El Rosal 59.15 232 P **P 22 54 40.4 -0.4**
comp=Z,5.2nm,0.6s,mb4.8,baz=82,slow=22,SNR=5.2
ROSC LR LR 23 16 24.5
comp=Z,156nm,18.6s,MS4.2,baz=21,slow=32
OHCM Honcut 59.86 296 *eP* **P 22 54 45.2 -0.3**
OHCM Honcut 59.86 296 *eP* **P 22 54 45.2 -0.3**
MIB Mutribah 60.44 79 *eP* **P 22 54 49.8 +0.2**
comp=Z,36nm,0.8s,mb5.4
MIB Mutribah 60.44 79 *eP* **P 22 54 49.8 +0.2**
baz=79
MIB AMb AMB 22 54 51.0
comp=Z,36nm,0.8s,mb5.5,baz=79
RST Umm Al-Ruwaisa 60.46 79 *eP* **P 22 54 49.7 0.0**
comp=Z,1.2nm,1.0s,mb3.9
RST Umm Al-Ruwaisa 60.46 79 *eP* **P 22 54 49.7 0.0**
baz=79
RST AMb AMB 22 54 50.8
comp=Z,1.0nm,1.0s,mb3.8,baz=79
NAY Al-Naaiem 60.79 79 *eP* **P 22 54 51.8 -0.1**
comp=Z,12nm,0.8s,mb5.0
NAY Al-Naaiem 60.79 79 *eP* **P 22 54 51.8 -0.1**
baz=79
NAY AMb AMB 22 54 53.0
comp=Z,12nm,0.8s,mb5.1,baz=79
RDF Al-Radifah 61.20 79 *eP* **P 22 54 55.1 +0.3**
comp=Z,37nm,1.2s,mb5.4
RDF Al-Radifah 61.20 79 *eP* **P 22 54 55.1 +0.4**
baz=79
RDF AMb AMB 22 54 57.1
comp=Z,37nm,1.2s,mb5.4,baz=79
ZALV Zalesovo Beam 61.36 37 P **P 22 54 56.1 +0.6**
comp=Z,2.7nm,0.6s,mb4.6,baz=312,slow=8.0,SNR=14
ZAL Zalesovo 61.36 37 P **P 22 54 56.1 +0.6**
BAR Barrett 61.91 288 *eP* **P 22 55 00.7 +1.2**
comp=Z,2.4nm,0.6s,mb4.5
BAR Barrett 61.91 288 *eP* **P 22 55 00.7 +1.1**
comp=Z,2.4nm,0.6s,mb4.5
SEY Seymchan 64.70 358 ⇓*eP* **P 22 55 21.3 +3.8**
EKS2 Erkin-Say 65.42 51 *eP* **P 22 55 23.6 +1.1**
comp=Z,13nm,1.2s,mb4.8
EKS2 Erkin-Say 65.42 51 *eP* **P 22 55 23.6 +1.1**
comp=Z,13nm,1.2s,mb4.8
AML Almayashu 65.78 52 *eP* **P 22 55 25.7 +0.8**
comp=Z,9.8nm,1.4s,mb4.7
AML Almayashu 65.78 52 *eP* **P 22 55 25.7 +0.9**
comp=Z,9.8nm,1.4s,mb4.7
MKAR Makanchi Array 66.02 43 P **P 22 55 26.8 +0.5**
comp=Z,5.8nm,0.8s,mb4.6,baz=327,slow=6.9,SNR=43
WMQ Urumqi 70.66 42 *eP* **P 22 55 56.0 +0.6**
WMQ AP pP 22 56 00.8 +2.1
WMQ XP sP 22 56 03.0 +3.1
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
SONM Songino Array 73.68 28 P **P 22 56 14.3 +0.9**
comp=Z,4.0nm,0.9s,mb4.3,baz=326,slow=6.3,SNR=18
SONM LR LR 23 30 22.0
comp=Z,74nm,18.6s,MS4.0,baz=10,slow=37
LPAZ La Paz 75.57 216 P **P 22 56 27.0 +2.4**
comp=Z,1.1nm,0.8s,mb3.8,baz=15,slow=12,SNR=3.7
GTA Gaotai 79.10 36 *eP* **P 22 56 42.8 -1.5**
GTA AP pP 22 56 46.8 -0.8
GTA XP sP 22 56 50.0 +1.2
GTA AMB AMB
comp=Z,2.0nm,0.8s,mb4.1
HHC Hu-ho-hao-te 81.56 27 *eP* **P 22 56 55.8 -1.7**
HHC AP pP 22 57 00.5 -0.3
HHC XP sP 22 57 02.8 +0.8
HHC PP PP 23 00 03.0 -0.1
HHC S S 23 07 03.8 -5.4
HHC SKS 23 07 09.0
HHC SS SS 23 12 21.5 -3.1
HHC AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
HHC AMB AMB
comp=Z,149nm,6.1s
MDJ Mudanjiang 81.76 13 P **P 22 56 56.5 -2.0**
MDJ AMB AMB
comp=Z,5.0nm,1.1s,mb4.4
MDJ AMB AMB
comp=Z,129nm,9.0s
LZH Lanzhou 83.50 35 *eP* **P 22 57 05.8 -1.9**
LZH AP pP 22 57 09.0 -2.0
LZH XP sP 22 57 12.5 +0.3
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,80nm,5.3s
CD2 Chengdu 88.13 37 *eP* **P 22 57 30.0 -0.8**
CD2 AP pP 22 57 34.8 +0.7
CD2 XP sP 22 57 38.0 +2.7
CD2 PP PP 23 00 58.3 +1.6
CD2 SKS 23 07 55.3
CD2 S S 23 08 10.3 -4.5
CD2 XS sS 23 08 18.3 -2.0
CD2 SS SS 23 14 00.5 -1.3
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,20nm,8.2s
KSRS Korea Array 88.51 16 P **P 22 57 33.1 +0.7**
comp=Z,0.4nm,0.3s,mb4.2,baz=148,slow=36,SNR=3.3
NJ2 Nanjing 91.79 25 *eP* **P 22 57 48.3 +0.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.4
KMI Kunming 92.94 40 P **P 22 57 53.8 +0.5**
KMI AP pP 22 57 57.3 +0.7
KMI S S 23 08 52.8 -6.4
KMI AMB AMB
comp=Z,4.0nm,1.9s,mb4.5
KMI AMB AMB
comp=Z,132nm,9.5s
GYA Guiyang 93.22 37 P **P 22 57 55.8 +1.2**
GYA PP PP 23 01 39.3 +2.1
GYA SKS 23 08 26.5
GYA SS SS 23 15 15.8 +0.3
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,80nm,5.8s
CMAR Chiang Mai Arr 97.27 47 LR LR 23 45 45.4
comp=Z,52nm,18.7s,MS4.0,baz=128,slow=38
WRA Warramunga Arr 145.57 24 PKPbc PKPbc 23 04 18.4 0.0
comp=Z,3.6nm,1.1s,baz=347,slow=3.7,SNR=11
ASAR Alice Springs 149.02 26 PKPbc PKPbc 23 04 30.1 +2.2
comp=Z,1.3nm,0.9s,baz=355,slow=2.6,SNR=10

*NEIC **25** 22:45:20.1, 5056N×13044W, h10km, mb3.9/13, MW4.3(PGC), After PGC.*
*PGC **25** 22:45:20.1, 5056N×13044W, h10km, MLSn3.6, Mw4.3, 214km west of Pt. Hardy, Bc Vancouver Island Region*
*ISCJB **25** 22:45:21.6±0.7, 5074N±004×13007W±009, h10km, mb3.9/9, Error ellipse: s-maj=8.3km s-min=6.1km az=161.7*
*IDC **25** 22:45:22.6±3.7, 5061N×12988W, h0km, mb3.8/3, mb1 4.0/7, mb1mx3.7/25, mbtmp3.7/7, ML3.5/4, Error ellipse: s-maj=56.7km s-min=12.4km az=90.0*
ISC 25 22:45:24.2±2.3, 5077N±005×1299W±01, h4km±16km, n58, σ1§16/64, mb3.9/9, 5D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.10**	**96**	⇑Pn	**Pn**	**22 45 44.7**	**-1.6**
HOLB				⇓Sn	**Sn**	**22 46 01.6**	**-0.3**
BPBC	**Brooks Peninsu**	**1.46**	**114**	⇑Pn	**Pn**	**22 45 48.0**	**-3.2**
PHC	**Port Hardy**	**1.54**	**91**	⇑Pn	**Pn**	**22 45 51.1**	**-1.2**
PHC				⇑Sn	**Sn**	**22 46 12.5**	**-0.2**
MAYB	**Maynard**	**1.74**	**101**	⇑Pn	**Pn**	**22 45 53.5**	**-1.7**
BBB	**Bella Bella**	**1.78**	**37**	Pn	**Pn**	**22 45 54.9**	**-0.9**
	23nm,0.3s,baz=234,slow=12,SNR=321						
BBB				Sn	**Sn**	**22 46 18.5**	**-0.3**
	35nm,0.3s,baz=303,slow=20,SNR=6.6						
BBB	**Bella Bella**	**1.78**	**37**	⇓Pn	**Pn**	**22 45 54.8**	**-1.0**
BBB				⇑Sn	**Sn**	**22 46 19.3**	**+0.5**
EDB	**Eliza Dome**	**1.96**	**116**	⇑Pn	**Pn**	**22 45 54.5**	**-3.7**
BNB	**Barry Inlet**	**2.16**	**327**	⇑Pn	**Pn**	**22 45 54.5**	**-6.4**
BNB				⇓Sn	**Sn**	**22 46 21.0**	**-7.1**
WOSB	**Woss**	**2.18**	**105**	⇓Pn	**Pn**	**22 45 59.8**	**-1.3**
ETB	**Estevan Point**	**2.55**	**122**	⇑Pn	**Pn**	**22 46 02.9**	**-3.4**
MOBC	**Moresby Island**	**2.72**	**332**	⇓Pn	**Pn**	**22 46 02.8**	**-5.8**
PFB	**Port Renfrew**	**4.14**	**120**	P	**Pn**	**22 46 27.0**	**-1.2**
OTR	**Olympics--Tyee**	**4.49**	**125**	P	**Pn**	**22 46 32.2**	**-0.7**
OBC	**Olympics--Boni**	**4.66**	**124**	P	**Pn**	**22 46 34.5**	**-0.7**
STW	**Striped Peak**	**4.80**	**121**	P	**Pn**	**22 46 36.3**	**-1.0**
MCW	**Mount Constitu**	**5.01**	**112**	P	**Pn**	**22 46 40.6**	**+0.6**
NLWA	**Neilton Lookou**	**5.18**	**128**	*ePn*	**Pn**	**22 46 41.2**	**-1.2**
JCW	**Jim Creek**	**5.77**	**113**	P	**Pn**	**22 46 50.2**	**-0.2**
RPW	**Rockport**	**5.89**	**110**	P	**Pn**	**22 46 52.5**	**+0.4**
HTW	**Haystack Looko**	**6.06**	**116**	P	**Pn**	**22 46 54.6**	**+0.1**
FMW	**Mount Fremont**	**6.62**	**122**	P	**Pn**	**22 47 02.6**	**+0.4**
LON	**Longmire**	**6.66**	**124**	*ePn*	**Pn**	**22 47 03.0**	**+0.3**
HOOD	**Mount Hood Mea**	**7.73**	**132**	*ePn*	**Pn**	**22 47 18.2**	**+0.7**
HAWA	**Hanford**	**8.12**	**119**	*ePn*	**Pn**	**22 47 22.1**	**-0.6**
HAWA				*epPn*		22 47 31.3	
BMO	**Blue Mountains**	**10.30**	**120**	*ePn*	**Pn**	**22 47 53.0**	**+0.4**
WALA	**Waterton Lakes**	**10.42**	**93**	*ePn*	**Pn**	**22 47 57.8**	**+3.6**
MSO	**Missoula**	**11.20**	**104**	*ePn*	**Pn**	**22 48 05.8**	**+0.8**
CHMT	**Chamberlain Mo**	**11.59**	**103**	*ePn*	**Pn**	**22 48 11.4**	**+1.2**
ELK	**Elko**	**14.27**	**129**	Pn	**Pn**	**22 48 47.0**	**+0.1**
	0.1nm,0.3s,baz=146,slow=19,SNR=2.2						
YKA	**Yellowknife Ar**	**14.38**	**29**	Pn	**Pn**	**22 48 46.6**	**-1.6**
	0.2nm,0.3s,baz=216,slow=13,SNR=8.7						
YKA				Sn	**Sn**	**22 51 23.2**	**-4.8**
	0.2nm,0.3s,baz=221,slow=22,SNR=6.7						
TPAW	**Teton Pass**	**14.75**	**112**	*ePn*	**Pn**	**22 48 55.3**	**+1.9**
TPAW				*epPn*		22 49 02.4	
NVAR	**Mina Array Bea**	**14.80**	**142**	Pn	**Pn**	**22 48 53.2**	**-0.9**
	0.0nm,0.3s,baz=311,slow=14,SNR=4.3						
NVAR	**Mina Array Bea**	**14.80**	**142**	Pn	**Pn**	**22 48 53.2**	**-0.9**
RLMT	**Red Lodge**	**14.88**	**104**	*ePn*	**Pn**	**22 48 57.4**	**+2.2**
	2.1nm,0.8s						
SNOW	**Snow King Moun**	**14.88**	**112**	*ePn*	**Pn**	**22 48 58.1**	**+2.9**
LOHW	**Long Hollow**	**14.89**	**111**	*ePn*	**Pn**	**22 48 55.1**	**-0.2**
LOHW				*epPn*		22 49 03.2	
REDW	**Red Top Meadow**	**14.89**	**112**	*ePn*	**Pn**	**22 48 58.2**	**+3.0**
EGAK	**Eagle**	**15.25**	**341**	*ePn*	**Pn**	**22 49 05.2**	**+5.3**
DUG	**Dugway**	**15.91**	**125**	*ePn*	**Pn**	**22 49 09.7**	**+0.9**
	2.7nm,0.9s						
BW06	**Boulder Array**	**16.00**	**112**	*ePn*	**Pn**	**22 49 11.2**	**+1.3**
	23nm,1.7s						
PDAR	**Pinedale Array**	**16.00**	**112**	Pn	**Pn**	**22 49 12.6**	**+2.6**
	0.1nm,0.3s,baz=314,slow=12,SNR=26						
TPNV	**Topopah Spring**	**16.90**	**140**	*ePn*	**Pn**	**22 49 22.1**	**+0.7**
	15nm,1.6s						
FFC	**Flin Flon**	**17.27**	**66**	*ePn*	**Pn**	**22 49 28.1**	**+2.1**
	5.8nm,0.7s						
CHUM	**Lake Minchumin**	**17.74**	**326**	*ePn*	**Pn**	**22 49 34.8**	**+3.1**
	6.0nm,1.0s						
SRU	**San Rafael**	**17.91**	**123**	*ePn*	**Pn**	**22 49 34.0**	**0.0**
SRU				*epPn*		22 49 42.6	
SMCO	**Snowmass**	**19.81**	**117**	*eP*	**Pn**	**22 49 56.1**	**-0.9**
	5.5nm,0.7s						
WUAZ	**Wupatki**	**20.26**	**132**	*eP*	**P**	**22 50 00.1**	**-0.3**
	3.1nm,0.7s						
ULM	**Lac du Bonnet**	**21.51**	**78**	P	**P**	**22 50 13.3**	**-0.4**
	4.5nm,0.6s,mb4.1,baz=293,slow=8.7,SNR=6.0						
SDCO	**Great Sand Dun**	**21.64**	**118**	*eP*	**P**	**22 50 15.6**	**+0.4**
	1.2nm,0.7s,mb3.4						
AGMN	**Agassiz Refuge**	**22.08**	**83**	*eP*	**P**	**22 50 21.9**	**+1.9**
ANMO	**Albuquerque**	**23.17**	**124**	P	**P**	**22 50 30.8**	**-0.9**
	1.6nm,0.8s,mb3.5,baz=318,slow=11,SNR=5.3						
TUC	**Tucson**	**23.20**	**135**	*eP*	**P**	**22 50 31.7**	**-0.2**
	5.6nm,1.4s,mb3.8						
ECSD	**EROS,Sioux Fal**	**23.48**	**94**	*eP*	**P**	**22 50 34.8**	**0.0**
	3.0nm,0.6s,mb3.9						
EYMN	**Ely**	**24.95**	**81**	*eP*	**P**	**22 50 48.9**	**+0.6**
AMTX	**Amarillo**	**25.84**	**117**	*eP*	**P**	**22 50 56.4**	**0.0**
	9.7nm,0.9s,mb4.3						
WMOK	**Wichita Mounta**	**27.61**	**113**	*eP*	**P**	**22 51 12.0**	**-0.4**
	4.0nm,0.8s,mb4.1						
TXAR	**Lajitas Array**	**29.06**	**128**	P	**P**	**22 51 23.9**	**-1.5**
	0.8nm,0.9s,mb3.5,baz=270,slow=2.5,SNR=5.1						
GUMO	**Guam**	**76.64**	**275**	*eP*	**P**	**22 57 16.5**	**+0.3**
	8.5nm,0.6s,mb4.8						

*CSEM **25** 22:45:35.5±0.0, 3768N×2931E, h5km, MD3.7, Error ellipse: s-maj=1.1km s-min=1.0km az=11.0*
*ISK **25** 22:45:35.3, 3768N×2930E, h3km, MD3.5, ML3.4*
*ISCJB **25** 22:45:36.5±0.3, 3768N±002×2931E±003, h10km, Error ellipse: s-maj=3.5km s-min=3.0km az=25.5*
*DDA **25** 22:45:36.8, 3773N×2929E, h12km, Md3.7*
ISC 25 22:45:36.7±0.5, 3768N±003×2929E±003, h4km±5km, n44, σ0§77/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.49**	**154**	*i* P	**Pg**	**22 45 45.9**	**-0.3**
GOLH				*i* S	**Sg**	**22 45 53.0**	**+0.5**
KHL	**Karahalli**	**0.67**	**16**	PG	**Pg**	**22 45 48.9**	**-0.6**
KULA	**Kula-Manisa**	**0.97**	**329**	PG	**Pg**	**22 45 54.6**	**-0.7**
KULA				*e*SG	**Sg**	**22 46 09.2**	**+1.3**
YER	**Yerkesik**	**0.97**	**236**	PG	**Pg**	**22 45 54.6**	**-0.8**
YER				*e*SG	**Sg**	**22 46 08.8**	**+0.8**
ISP	**Isparta**	**0.98**	**80**	PG	**Pg**	**22 45 54.9**	**-0.6**
ISP				*e*SG	**Sg**	**22 46 09.2**	**+1.1**
DALT	**Dalyan (Mudla)**	**1.05**	**210**	*e*PG	**Pg**	**22 45 56.5**	**-0.4**
BCK	**Bucak**	**1.05**	**102**	PG	**Pg**	**22 45 56.0**	**-0.9**
ELL	**Elmali**	**1.05**	**152**	PG	**Pg**	**22 45 56.0**	**-0.9**
AYDN	**Tasoluk**	**1.12**	**269**	*i* P	**Pg**	**22 45 57.4**	**-0.9**
AYDN				*i* S	**Sg**	**22 46 14.3**	**+1.6**
MLSB	**Milas**	**1.27**	**253**	*e*PN	**Pn**	**22 46 00.5**	**-0.7**
SHUT	**Suhut-Afyon**	**1.32**	**48**	*e*PN	**Pn**	**22 46 01.2**	**-0.7**
ANTB	**Antalya**	**1.34**	**125**	*e*PN	**Pn**	**22 46 01.4**	**-0.7**
GDZ	**Gediz**	**1.41**	**6**	*i* P	**Pn**	**22 46 02.1**	**-1.1**
GDZ				*i* S	**Sb**	**22 46 26.2**	**+4.2**
AKAS	**Kas**	**1.47**	**170**	*i* P	**Pn**	**22 46 05.3**	**+1.4**
AKAS				*i* S	**Sb**	**22 46 30.0**	**+6.5**
AKAS	**Kas**	**1.47**	**170**	*i* P	**Pn**	**22 46 05.3**	**+1.4**
ALT	**Altintas**	**1.51**	**25**	*e*PN	**Pn**	**22 46 04.6**	**0.0**
BDRM	**Kayabasi**	**1.60**	**248**	*i* P	**Pn**	**22 46 06.7**	**+1.0**
BDRM				*i* S	**Sn**	**22 46 33.0**	**+6.3**
AKHS	**Akhisar**	**1.67**	**316**	*i* P	**Pn**	**22 46 05.2**	**-1.6**
AKHS				*i* S	**Sn**	**22 46 26.9**	**-1.6**
AKS	**Akhisar**	**1.67**	**316**	*e*PN	**Pn**	**22 46 05.6**	**-1.1**
BODT	**Bodrum**	**1.70**	**249**	*e*PN	**Pn**	**22 46 06.9**	**-0.2**
IZM	**Izmir**	**1.76**	**295**	*e*PN	**Pn**	**22 46 08.0**	**+0.1**
BLCB	**Balcova**	**1.91**	**292**	*e*PN	**Pn**	**22 46 09.8**	**-0.2**
DST	**Dursunbey**	**1.99**	**345**	*e*PN	**Pn**	**22 46 10.3**	**-0.9**
BALB	**Balikesir**	**2.25**	**331**	*e*PN	**Pn**	**22 46 15.2**	**+0.5**
KIZT	**Kizilcal**	**2.36**	**59**	*e*PN	**Pn**	**22 46 16.0**	**-0.2**
KONT	**Konya--Tatoy**	**2.44**	**83**	*e*PN	**Pn**	**22 46 17.3**	**-0.1**
LADK	**Ladik-KONYA**	**2.48**	**77**	*e*PN	**Pn**	**22 46 18.4**	**+0.5**
HDMB	**Hadim**	**2.64**	**105**	*e*PN

Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.34**	**164**	P	P	22 57 34.6	-0.6
	0.5nm,0.4s,baz=343,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**26.80**	**167**	P	P	22 58 07.0	0.0
	0.4nm,0.5s,baz=355,slow=7.9,SNR=15						
MKAR	**Makanchi Array**	**58.99**	**325**	P	P	23 02 27.0	+0.5
	0.2nm,0.4s,baz=118,slow=6.0,SNR=4.9						

*ISK **25** 22:56:50.1,39.15N×41.11E,h8km,MD3.0*
*ISCJB **25** 22:56:51.9±0.5,3922N±003×4104E±006,h10km,Error ellipse: s-maj=7.2km s-min=3.6km az=18.7*
*CSEM **25** 22:56:52.4±0.2,3929N×4112E,h25km,MD3.0,Error ellipse: s-maj=4.9km s-min=2.6km az=160.0*
*DDA **25** 22:56:52.6,3923N×4106E,h7km±2km,Md2.9*
ISC 25 22:56:52.6±0.5,3924N±003×4102E±006,h10km,n12,
σ1§14/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.30**	**161**	*i* P	**Pg**	**22 56 58.6**	**0.0**
BNGL				*i* S	**Sg**	**22 57 04.4**	**+1.6**
EZM	**Erzurum**	**0.71**	**21**	*e*PG	**Pg**	**22 57 05.6**	**-0.9**
EZM				*e*SG	**Sg**	**22 57 16.9**	**+1.2**
ERZM	**Erzurum**	**0.72**	**22**	*i* P	**Pg**	**22 57 06.0**	**-0.5**
ERZM				*i* S	**Sg**	**22 57 17.3**	**+1.5**
ERZM	**Erzurum**	**0.72**	**22**	*i* P	**Pg**	**22 57 05.9**	**-0.5**
ERZM				*i* S	**Sg**	**22 57 17.3**	**+1.5**
EZC	**Erzincan**	**1.06**	**299**	*e*PN	**Pn**	**22 57 17.7**	**+4.1**
PTK	**Pertek**	**1.32**	**255**	*e*PN	**Pn**	**22 57 16.0**	**-1.0**
PTK				*e*SN	**Sn**	**22 57 35.0**	**+0.4**
DIYA	**Diyarbakir**	**1.49**	**209**	*i* P	**Pg**	**22 57 21.2**	**-0.1**
DIYA				*i* S	**Sg**	**22 57 41.9**	**+1.3**
AGRB	**Hanur-Agry**	**1.56**	**77**	*e*PN	**Pn**	**22 57 18.4**	**-2.0**
SVRC	**Sivrice-ELAZID**	**1.59**	**238**	*e*PN	**Pn**	**22 57 19.6**	**-1.2**
GUMT	**Gumushane**	**1.70**	**316**	*e*PN	**Pn**	**22 57 22.6**	**+0.2**
MARD	**Mardin**	**1.93**	**186**	*i* P	**Pg**	**22 57 27.3**	**-2.3**
MARD				*i* S	**Sg**	**22 57 55.2**	**+0.5**
RSDY	**Resadiye-TOKAT**	**3.07**	**293**	*e*PN	**Pn**	**22 57 41.8**	**+0.6**

*ISK **25** 23:03:16.8,3926N×4104E,h5km,MD3.2*
*DDA **25** 23:03:16.2,3923N×4085E,h28km,Md3.0*
*ISCJB **25** 23:03:18.6±0.7,3927N±003×4109E±010,h11km±10km, Error ellipse: s-maj=12.9km s-min=5.1km az=13.6*
*CSEM **25** 23:03:18.4±0.1,3929N×4108E,h15km,MD3.2,Error ellipse: s-maj=3.7km s-min=2.4km az=136.0*
ISC 25 23:03:19.0±0.7,3926N±003×411E±01,h10km±10km,n14,
σ0§79/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.31**	**171**	*i* P	**Pg**	**23 03 24.7**	**-0.5**
BNGL				*i* S	**Sg**	**23 03 30.1**	**+0.7**
EZM	**Erzurum**	**0.68**	**18**	*e*PG	**Pg**	**23 03 31.1**	**-1.1**
EZM				*e*SG	**Sg**	**23 03 42.2**	**+1.2**
ERZM	**Erzurum**	**0.68**	**18**	*i* P	**Pg**	**23 03 30.9**	**-1.3**
ERZM				*i* S	**Sg**	**23 03 41.8**	**+0.8**
EZC	**Erzincan**	**1.10**	**297**	*e*PN	**Pn**	**23 03 44.1**	**+3.6**
PTK	**Pertek**	**1.37**	**255**	*e*PN	**Pn**	**23 03 42.8**	**-1.4**
PTK				*e*SN	**Sn**	**23 04 02.9**	**+0.5**
AGRB	**Hanur-Agry**	**1.51**	**77**	*e*PN	**Pn**	**23 03 46.1**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.65**	**238**	*e*PN	**Pn**	**23 03 48.0**	**0.0**
GUMT	**Gumushane**	**1.72**	**315**	*e*PN	**Pn**	**23 03 48.6**	**-0.4**
ELZG	**Elazig**	**1.81**	**246**	*i* P	**Sn**	**23 04 03.1**	**-10**
ELZG				*i* S	**Sn**	**23 04 05.4**	**-7.8**
MYA	**Malataya**	**2.28**	**247**	*e*PN	**Pn**	**23 03 56.6**	**-0.1**
MALT	**Malatya**	**2.29**	**246**	*e*PN	**Pn**	**23 03 56.9**	**+0.1**
ESPY	**Espiye-Giresun**	**2.45**	**313**	*e*PN	**Pn**	**23 03 59.1**	**0.0**
URFA	**Urfa**	**2.54**	**225**	*e*PN	**Pn**	**23 04 00.7**	**+0.4**
SVSK	**Karacayir**	**3.23**	**283**	*e*PN	**Pn**	**23 04 10.3**	**+0.6**

*CSEM **25** 23:10:49.6±0.1,3926N×4102E,h2km,MD3.2,Error ellipse: s-maj=2.0km s-min=1.4km az=159.0*
*ISK **25** 23:10:49.4,3926N×4101E,h5km,MD3.2*
*ISCJB **25** 23:10:51.5±0.4,3926N±003×4102E±004,h10km,Error ellipse: s-maj=5.3km s-min=3.6km az=34.5*
*DDA **25** 23:10:51.0,3930N×4103E,h2km,Md2.9*
ISC 25 23:10:51.3±0.8,3926N±003×4100E±005,h2km±7km,n19,
σ0§93/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.33**	**159**	*i* P	**Pg**	**23 10 57.9**	**+0.3**
BNGL				*i* S	**Sg**	**23 11 01.4**	**-0.4**
EZM	**Erzurum**	**0.71**	**23**	PG	**Pg**	**23 11 04.0**	**-0.8**
EZM				*e*SG	**Sg**	**23 11 15.0**	**+1.0**
ERZM	**Erzurum**	**0.71**	**24**	*i* P	**Pg**	**23 11 03.8**	**-1.1**
ERZM				*i* S	**Sg**	**23 11 15.8**	**+1.7**
EZC	**Erzincan**	**1.04**	**299**	*e*PN	**Pn**	**23 11 16.5**	**+3.6**
EZC				*e*SN	**Sn**	**23 11 36.7**	**+8.7**
HOMI	**Horasan**	**1.05**	**41**	*i* P	**Pg**	**23 11 10.4**	**-1.1**
HOMI				*i* S	**Sg**	**23 11 26.6**	**+1.4**
PTK	**Pertek**	**1.30**	**254**	*e*PN	**Pn**	**23 11 15.3**	**-1.2**
PTK				*e*SN	**Sn**	**23 11 34.9**	**+0.4**
DIY	**Diyarbakir**	**1.49**	**204**	*e*PN	**Pn**	**23 11 18.6**	**-0.5**
AGRB	**Hanur-Agry**	**1.58**	**78**	*e*PN	**Pn**	**23 11 19.4**	**-1.0**
AGRB				*e*SN	**Sn**	**23 11 41.4**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.58**	**237**	*e*PN	**Pn**	**23 11 20.1**	**-0.3**
GUMT	**Gumushane**	**1.68**	**316**	*e*PN	**Pn**	**23 11 21.3**	**-0.3**
MARD	**Mardin**	**1.95**	**185**	*i* P	**Pn**	**23 11 27.1**	**+1.7**
MARD				*i* S	**Sn**	**23 11 53.5**	**+3.1**
KTUT	**Trabzon**	**1.97**	**332**	*e*PN	**Pn**	**23 11 25.3**	**-0.4**
KARS	**Kars**	**2.10**	**49**	*e*PN	**Pn**	**23 11 27.0**	**-0.5**
MYA	**Malataya**	**2.21**	**246**	*e*PN	**Pn**	**23 11 29.3**	**+0.2**
MALT	**Malatya**	**2.22**	**246**	*e*PN	**Pn**	**23 11 29.5**	**+0.3**
BCA	**Borcka**	**2.24**	**12**	*e*PN	**Pn**	**23 11 29.0**	**-0.4**
CLDR	**Caldiran**	**2.27**	**92**	*e*PN	**Pn**	**23 11 29.3**	**-0.6**
ESPY	**Espiye-Giresun**	**2.40**	**314**	*e*PN	**Pn**	**23 11 31.4**	**-0.3**
SVSK	**Karacayir**	**3.16**	**283**	*e*PN	**Pn**	**23 11 42.4**	**+0.4**

MAN 25 23:11:17,800N×12516E,h125km,mb4.7,ML3.6,MS3.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.16**	**220**	*e*P	Pn	23 11 35.4	+1.2
BUTP	**Butuan**	**1.06**	**25**	*e*P	Pn	23 11 41.0	+0.9
MATI	**Mati**	**1.51**	**134**	*e*P	Pn	23 11 45.8	+0.9
TBP	**Tagbilaran**	**2.12**	**323**	*e*P	Pn	23 11 59.1	+7.0
TBP				*e*S	Sn	23 12 31.1	+12

*CSEM **26** 00:28:20.3±0.1,3920N×4106E,h2km,MD2.9,Error ellipse: s-maj=4.2km s-min=2.3km az=140.0*
*ISK **26** 00:28:20.3,3922N×4105E,h5km,MD2.9*
*DDA **26** 00:28:22.5,3927N×4102E,h7km±1km,Md2.8*
*ISCJB **26** 00:28:23.4±0.7,3922N±005×41.1E±0.1,h21km±12km, Error ellipse: s-maj=14.7km s-min=6.3km az=19.0*
ISC 26 00:28:23.4±0.7,3924N±004×411E±01,h17km±9km,n8,
σ1§01/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.29**	**169**	*i* P	**Pg**	**00 28 29.2**	**-0.4**
BNGL				*i* S	**Sg**	**00 28 34.8**	**+0.8**
EZM	**Erzurum**	**0.70**	**18**	*e*PG	**Pg**	**00 28 35.4**	**-1.7**
EZM				*e*SG	**Sg**	**00 28 46.6**	**+0.3**
ERZM	**Erzurum**	**0.70**	**18**	*i* P	**Pg**	**00 28 35.9**	**-1.2**
ERZM				*i* S	**Sg**	**00 28 48.7**	**+2.3**
EZC	**Erzincan**	**1.10**	**298**	*e*PN	**Pn**	**00 28 48.2**	**+4.2**
PTK	**Pertek**	**1.36**	**256**	*e*PN	**Pn**	**00 28 46.9**	**-0.7**
PTK				*e*SN	**Sn**	**00 29 06.2**	**+1.0**
AGRB	**Hanur-Agry**	**1.52**	**77**	*e*PN	**Pn**	**00 28 50.0**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.63**	**239**	*e*PN	**Pn**	**00 28 50.9**	**-0.4**
GUMT	**Gumushane**	**1.73**	**315**	*e*PN	**Pn**	**00 28 52.7**	**0.0**

*NEIC **26** 00:40:40.7,1822N×10056W,h62km,MD4.3(MEX),After MEX.*
MEX 26 00:40:40.5±0.9,1822N×10056W,h66km±14km,MD4.3,7C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.94**	**108**	⇑*i* P	Pn	00 40 57.1	-1.0
MEIG				*i* S	Sn	00 41 09.6	-1.4
PLIG	**Platanillo**	**1.02**	**80**	⇑*i* P	Pn	00 40 57.8	-1.2
PLIG				*i* S	Sn	00 41 10.9	-1.9
ZIIG	**Zihuatanejo**	**1.05**	**235**	⇑*i* P	Pn	00 40 58.4	-1.1
ZIIG				*i* S	Sn	00 41 11.6	-2.0
CAIG	**El Cayaco**	**1.19**	**166**	⇑*i* P	Pn	00 41 00.5	-0.8
CAIG				*i* S	Sn	00 41 13.8	-3.1
ACX	**Acapulco**	**1.48**	**155**	*i* P	Pn	00 41 02.8	-2.2
ACX				*i* S	Sn	00 41 21.8	-1.7
YAIG	**Yautepec**	**1.56**	**65**	⇑*i* P	Pn	00 41 04.7	-1.4
YAIG				*i* S	Sn	00 41 23.1	-2.3
MOIG	**Morelia**	**1.57**	**338**	⇑*i* P	Pn	00 41 05.2	-1.1
MOIG				*i* S	Sn	00 41 24.0	-1.8
UNM	**Universidad Na**	**1.71**	**50**	*e*P	Pn	00 41 06.7	-1.5
UNM				*i* S	Sn	00 41 27.4	-1.8
PPM	**Popocatepetl**	**2.02**	**65**	*i* P	Pn	00 41 11.5	-0.8
PPM				*i* P		00 41 12.1	
PPM				*i* S	Sn	00 41 34.7	-1.9
PPM				*i* S	Sn	00 41 36.5	0.0
PPM	**Popocatepetl**	**2.02**	**65**	*i* P	Pn	00 41 12.1	-0.2
PPM				*i* S	Sn	00 41 34.7	-1.9
PPM				*i* S	Sn	00 41 36.5	0.0
DEIG	**Demacu**	**2.53**	**35**	⇑*i* P	Pn	00 41 17.6	-1.6
DEIG				*i* S	Sn	00 41 47.8	-1.1
UTMO	**Huajuapan**	**2.65**	**98**	*i* P	Pn	00 41 20.2	-0.7
UTMO				*i* S	Sn	00 41 50.4	-1.5
PNIG	**Pinotepa**	**2.95**	**128**	*e*P	Pn	00 41 23.7	-1.2
PNIG				*i* S	Sn	00 41 58.0	-1.2
TPIG	**Tehuac#an**	**3.04**	**86**	*i* P	Pn	00 41 26.5	+0.2
TPIG				*i* S	Sn	00 41 59.6	-2.0
SFJM	**Santa Fe**	**3.25**	**314**	*e*P	Pn	00 41 25.4	-3.7
SFJM				*i* S	Sn	00 42 07.3	+0.6
VHO	**Vista Hermosa**	**3.82**	**107**	*i* P	Pn	00 41 37.9	+1.0
VHO				*i* S	Sn	00 42 22.6	+2.0
OXX	**Oaxaca**	**3.83**	**107**	*e*P	Pn	00 41 33.5	-3.4
OXX				*i* S	Sn	00 42 20.9	+0.2
OXX	**Oaxaca**	**3.83**	**107**	*e*P	Pn	00 41 43.4	+6.5
OXX				*i* S	Sn	00 42 26.7	+5.9
ANIG	**Ahuacatlan**	**4.68**	**308**	*e*P	Pn	00 41 49.3	+0.7
ANIG				*i* S	Sn	00 42 39.9	-1.7
LNIG	**Linares**	**6.73**	**9**	*e*P	Pn	00 42 17.2	+0.6
LNIG				*i* S	Sn	00 43 31.8	0.0
TGIG		**7.24**	**100**	*e*P	Pn	00 42 23.4	-0.3
TGIG				*i* S	Sn	00 43 39.9	-4.6

*IDC **26** 00:53:07.2±3.7,3354S×17961E,h204km±30km,mb4.1/7, mb1 4.1/8,mb1mx3.9/18,mbtmp4.0/8,Error ellipse: s-maj=29.7km s-min=14.8km az=60.0*
*ISCJB **26** 00:53:12.8±1.3,3412S±0.10×1789E±0.1,h241km±9km, mb4.1/9,Error ellipse: s-maj=19.6km s-min=14.8km az=156.0*
*NEIC **26** 00:53:16.2±2.0,3431S×17878E,h250km±14km,mb4.1/3, Error ellipse: s-maj=29.3km s-min=17.8km az=59.0*
ISC 26 00:53:16.2±1.3,343S±01×1788E±01,h247km±9km,n57,
σ1§02/46,mb4.1/9,1D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.27**	**186**	P	**Pn**	**00 54 11.2**	**-0.2**
PUZ	**Puketiti**	**3.78**	**186**	P	**Pn**	**00 54 15.7**	**-1.5**
MWZ	**Matawai**	**4.14**	**193**	P	**Pn**	**00 54 23.5**	**+2.0**
URZ	**Urewera**	**4.17**	**198**	P	**Pn**	**00 54 21.7**	**0.0**
	3.8nm,0.3s,baz=22,slow=2.9,SNR=53						
URZ				S	**S**	**00 55 18.5**	**+4.6**
	7.4nm,0.3s,baz=313,slow=19,SNR=12						
URZ	**Urewera**	**4.17**	**198**	P	**Pn**	**00 54 22.0**	**+0.3**
KNZ	**Kokohu**	**4.79**	**190**	P	**Pn**	**00 54 29.6**	**+0.4**
BKZ	**Black Stump Fm**	**5.18**	**200**	P	**Pn**	**00 54 35.2**	**+1.2**
WNVZ	**Wahianoa**	**5.62**	**206**	P	**Pn**	**00 54 42.0**	**+2.6**
MOVZ	**Moawhango**	**5.63**	**204**	P	**Pn**	**00 54 40.7**	**+1.1**
RAO	**Raoul Island**	**5.78**	**30**	S	Sx	00 55 13.6	
	145nm,0.3s,baz=91,slow=22,SNR=7.2						
TSZ	**Takapari Road**	**6.16**	**200**	P	**Pn**	**00 54 45.9**	**-0.3**
MRZ	**Mangatainoka R**	**6.83**	**201**	P	**Pn**	**00 54 54.1**	**-0.4**
KIW	**Kapiti Island**	**7.22**	**204**	P	**Pn**	**00 54 58.3**	**-1.2**
MTW	**Mount Morrison**	**7.31**	**200**	P	**Pn**	**00 54 59.9**	**-0.7**
CAW	**Cannon Point**	**7.39**	**202**	P	**Pn**	**00 55 00.0**	**-1.7**
MSWZ	**Moikau Station**	**7.62**	**200**	P	**Pn**	**00 55 03.7**	**-0.8**
MRW	**Makara Radio**	**7.62**	**204**	P	**Pn**	**00 55 04.3**	**-0.2**
TCW	**Tory Channel**	**7.75**	**206**	P	**Pn**	**00 55 05.4**	**-0.8**
QRZ	**Quartz Range**	**8.17**	**215**	P	**Pn**	**00 55 13.2**	**+1.7**
BSWZ	**Blackbirch Sta**	**8.34**	**206**	P	**Pn**	**00 55 12.8**	**-0.8**
THZ	**Tophouse**	**8.76**	**210**	P	**Pn**	**00 55 19.2**	**+0.3**
KHZ	**Kahutara**	**9.07**	**205**	P	**Pn**	**00 55 21.7**	**-1.2**
LTZ	**Lake Taylor**	**9.87**	**205**	P	**Pn**	**00 55 32.2**	**-0.8**
RPZ	**Rata Peaks**	**11.14**	**210**	P	**Pn**	**00 55 50.2**	**+1.3**
	0.7nm,0.3s,baz=236,slow=22,SNR=3.1						
RPZ				S	**S**	**00 57 53.4**	**0.0**
	1.1nm,0.3s,baz=192,slow=16,SNR=11						
ODZ	**Otahua Downs**	**12.40**	**208**	P	**Pn**	**00 56 05.3**	**+0.6**
CTA	**Charters Tower**	**32.03**	**288**	P	**P**	**00 59 20.5**	**+0.7**
	5.1nm,0.6s,mb4.3,baz=122,slow=10,SNR=8.1						
CTA				S	**S**	**01 04 05.8**	**-7.2**
	6.7nm,0.5s,baz=60,slow=19,SNR=8.0						
CTA	**Charters Tower**	**32.03**	**288**	P	**P**	**00 59 20.5**	**+0.7**
CTAO	**Charters Tower**	**32.03**	**288**	*e*P	**P**	**00 59 19.3**	**-0.6**
	5.4nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**40.35**	**273**	P	**P**	**01 00 30.7**	**+0.6**
	2.5nm,0.7s,mb3.8,baz=110,slow=7.7,SNR=34						
WB2	**Warramunga Arr**	**41.70**	**278**	*e*P	**P**	**01 00 40.7**	**-0.4**
WB2	**Warramunga Arr**	**41.70**	**278**	*e*P	**P**	**01 00 40.9**	**-0.2**
WRAB	**Tennant Creek**	**41.71**	**278**	*e*P	**P**	**01 00 41.0**	**-0.1**
	6.7nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**41.71**	**278**	P	**P**	**01 00 40.8**	**-0.3**
	4.4nm,0.7s,mb4.0,baz=119,slow=7.5,SNR=18						
FITZ	**Fitzroy Crossi**	**49.77**	**275**	*e*P	**P**	**01 01 43.7**	**-0.3**
	2.5nm,0.7s,mb3.6						
QSPA	**South Pole Qui**	**55.82**	**180**	P	**P**	**01 02 30.0**	**+2.7**
	17nm,0.7s,mb4.7,baz=30,slow=1.8,SNR=116						
QSPA				PcP	PcP	01 03 22.8	-0.1
	2.1nm,0.8s,baz=134,slow=0.9,SNR=3.2						
QSPA	**South Pole Qui**	**55.82**	**180**	P	**P**	**01 02 30.0**	**+2.7**
QSPA				PcP	PcP	01 03 22.8	-0.1
MAW	**Mawson**	**67.69**	**202**	P	**P**	**01 03 47.1**	**+0.8**
	5.2nm,0.7s,mb4.3,baz=145,slow=6.9,SNR=13						
SYO	**Syowa Base**	**72.69**	**194**	⇓*e*P	**P**	**01 04 14.8**	**-1.7**
SNAA	**Sanae**	**74.32**	**179**	*e*	**P**	**01 04 25.4**	**-0.6**
SNAA				*e*		01 04 30.4	
VNA3	**Neumayer Olymp**	**74.58**	**177**	*e*	**P**	**01 04 27.5**	**0.0**
VNA2	**Neumayer--Watz**	**74.98**	**178**	*e*	**P**	**01 04 30.1**	**+0.3**
VNA2				*e*		01 04 35.0	
VNA1	**Neumayer--Stat**	**75.23**	**178**	*e*	**P**	**01 04 31.9**	**+0.7**
VNA1				*e*		01 04 36.4	
KSRS	**Korea Array**	**85.62**	**322**	P	**P**	**01 05 22.8**	**-3.9**
	0.7nm,0.5s,mb3.6,baz=132,slow=5.4,SNR=5.9						
PETK	**Petropavlovsk-**	**88.95**	**347**	P	**P**	**01 05 36.4**	**-5.7**
	8.4nm,0.7s,mb4.7,baz=114,slow=6.9,SNR=22						
MKAR	**Makanchi Array**	**118.14**	**309**	PKP	PKPdf	01 11 28.2	-5.0
	0.5nm,0.5s,baz=88,slow=2.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**119.08**	**318**	PKP	PKPdf	01 11 29.1	-5.8
	0.5nm,0.5s,baz=145,slow=2.6,SNR=4.1						
ARCES	**ARCESS Array B**	**141.73**	**345**	PKhKP		01 12 08.4	
	3.9nm,1.0s,baz=32,slow=3.5,SNR=6.8						
LIC	**Lamto**	**151.84**	**172**	*e*PKP1	PKPbc	01 12 39.6	-2.6
	35nm,0.6s						
KIC	**Kosan Boka**	**152.01**	**173**	*e*PKP1	PKPbc	01 12 40.2	-2.4
	324nm,1.9s						
NB2	**NORSAR Subarra**	**152.06**	**347**	PKP	PKPdf	01 12 35.6	+1.2
	comp=Z,1.3nm,0.5s,baz=15,slow=2.5						
NOA	**NORSAR Array B**	**152.06**	**347**	PKPbc	PKPbc	01 12 35.6	-5.6
	comp=Z,0.8nm,0.5s,baz=15,slow=4.6,SNR=7.1						
NOA				PKPab	PKPab	01 12 45.2	-6.5
	comp=Z,1.3nm,0.7s,baz=24,slow=4.3,SNR=3.9						
TIC	**Toumodi**	**152.26**	**172**	*e*PKP1	PKPbc	01 12 40.6	-2.5
	comp=Z,237nm,1.8s						
DBIC	**Dimbokro**	**152.30**	**172**	PKP	PKPdf	01 12 31.9	-4.3
	comp=Z,2.9nm,0.7s,baz=240,slow=20,SNR=4.3						
DBIC				PKPbc	PKPbc	01 12 41.0	-2.3
	comp=Z,3.8nm,0.5s,baz=125,slow=8.3,SNR=10.0						
AKASG	**Malin Array Be**	**152.46**	**316**	PKPbc	PKPbc	01 12 37.4	-5.0
	comp=Z,2.8nm,0.5s,baz=80,slow=1.7,SNR=14						
TORD	**Torodi Ar. Bea**	**158.77**	**188**	PKP	PKPdf	01 12 41.8	-3.0
	comp=Z,1.2nm,0.8s,baz=81,slow=1.3,SNR=7.6						
TORD				PKPab	PKPab	01 13 20.1	-1.5
	comp=Z,1.8nm,0.5s,baz=163,slow=5.1,SNR=18						
TORD	**Torodi Ar. Bea**	**158.77**	**188**	PKPab	PKPab	01 13 20.1	-1.5
GERES	**GERESS Array B**	**161.71**	**327**	PKPab	PKPab	01 13 27.7	-6.0
	comp=Z,0.3nm,0.5s,baz=74,slow=4.7,SNR=4.2						

*NIED **26** 00:53:00,4000N×14440E,h8km,Mw3.5 Best double couple: M0 1.73000×10^14 NP1:φs 135.00000°,δ66.00000°, λ-152.00000°. NP2:φs 33.00000°,δ64.00000°, λ-26.00000°.*

JMA 26 00:53:53.3±0.2,3997N×14438E,h25km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.93**	**270**	P	Pn	00 54 25.3	+0.7
MIYJ	**Miyakonagasawa**	**2.01**	**260**	P	Pn	00 54 26.8	+1.2
MIYJ				*e*S	Sn	00 54 51.2	+1.2
JANG	**Nango**	**2.23**	**281**	P	Pn	00 54 29.8	+1.2
JANG				*e*S	Sn	00 54 56.8	+1.4
JOM	**Ohasama**	**2.43**	**259**	P	Pn	00 54 33.2	+1.8
JOM				*e*S	Sn	00 55 02.7	+2.4
JNBK	**Urakawa-nobuka**	**2.62**	**332**	P	Pn	00 54 35.7	+1.8
JNBK				*e*S	Sn	00 55 07.5	+2.7
JMK	**Ichinoseki**	**2.65**	**248**	P	Pn	00 54 35.6	+1.2
JOT	**Ohata**	**2.90**	**300**	P	Pn	00 54 39.9	+2.1
JOT				S	Sn	00 55 14.1	+2.2
JKB	**Kayabe**	**3.18**	**308**	P	Pn	00 54 43.8	+2.1
JKB				*e*S	Sn	00 55 20.1	+1.4
JAR	**Ashorobuto**	**3.35**	**352**	P	Pn	00 54 43.8	-0.3
JAR				*e*S	Sn	00 55 21.9	-1.2
JTKR	**Abashiri--Toko**	**4.01**	**355**	P	Pn	00 54 53.9	+0.8
JTKR				S	Sn	00 55 38.5	-0.8
MAT	**Matsushiro**	**5.94**	**237**	P	Pn	00 55 22.4	+2.8
MAT				S	Sn	00 56 30.3	+3.4

*NEIC **26** 01:07:24.6,3203S×6874W,h150km,MD3.5(GUC),After GUC.*
GUC 26 01:07:24.6±0.7,3203S×6874W,h150km,MD3.5,ML3.6, 3C-5D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.69**	**247**	*e*P	Pn	01 07 57.1	+0.9
JACH				*i* S	Sn	01 08 21.6	+1.2
PTCH	**Petorca**	**1.87**	**262**	*e*P	Pn	01 07 58.4	+0.2
PTCH				*i* S	Sn	01 08 24.6	+0.7
PTCH				AML	AML	01 08 27.5	
	comp=N,217nm,0.3s						
PTCH	**Petorca**	**1.87**	**262**	*e*P	Pn	01 07 58.4	+0.2
PTCH				*i* S	Sn	01 08 24.6	+0.7
PEL	**Peldehue**	**1.98**	**235**	⇓*i* P	Pn	01 07 59.9	+0.4
PEL				*i* S	Sn	01 08 26.9	+0.7
PEL				AML	AML	01 08 28.7	
	comp=N,619nm,0.5s						
SAN	**Santiago**	**2.15**	**228**	*e*P	Pn	01 08 01.5	+0.1
SAN				*i* S	Sn	01 08 30.3	+0.5
SAN				AML	AML	01 08 32.4	
	comp=E,425nm,0.3s						
SAN	**Santiago**	**2.15**	**228**	*e*P	Pn	01 08 01.5	+0.1
SAN				*i* S	Sn	01 08 30.3	+0.5
PCH	**Pirque**	**2.17**	**223**	⇓*i* P	Pn	01 08 02.3	+0.5
PCH				*i* S	Sn	01 08 31.3	+1.0
ANTU	**Antumapu**	**2.21**	**226**	⇑*i* P	Pn	01 08 02.6	+0.5
ANTU				*i* S	Sn	01 08 32.1	+1.0
ANTU				AML	AML	01 08 34.5	
	comp=E,293nm,0.3s						
ANTU	**Antumapu**	**2.21**	**226**	⇑*i* P	Pn	01 08 02.6	+0.5
ANTU				*i* S	Sn	01 08 32.1	+1.0
RCDM	**Rinconada Maip**	**2.27**	**230**	*e*P	Pn	01 08 03.3	+0.5
RCDM				*i* S	Sn	01 08 33.0	+0.7
RCDM				AML	AML	01 08 38.7	
	comp=N,591nm,0.7s						
RCDM	**Rinconada Maip**	**2.27**	**230**	*e*P	Pn	01 08 03.3	+0.5
RCDM				*i* S	Sn	01 08 33.0	+0.7
CHNG	**Los Chungos**	**2.35**	**273**	*e*P	Pn	01 08 04.1	+0.2
CHNG				*i* S	Sn	01 08 33.7	-0.3
TACH	**Talagante**	**2.45**	**228**	⇓*i* P	Pn	01 08 05.3	+0.2
TACH				*i* S	Sn	01 08 36.7	+0.3
CHCH	**Chadas Angostu**	**2.48**	**220**	*e*P	Pn	01 08 05.8	+0.4
CHCH				*i* S	Sn	01 08 37.7	+0.7
TLL	**Tololo Astrono**	**2.57**	**316**	*e*P	Pn	01 08 08.2	+1.6
TLL				*i* S	Sn	01 08 40.6	+1.7
TLL				AML	AML	01 08 44.5	
	comp=E,87nm,0.4s						
TLL	**Tololo Astrono**	**2.57**

σ1°36/8, **Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.13**	**155**	*eP*	**Pn**	**01 46 16.1**	**-0.1**
	3.8nm,0.1s						
KAKA				*eS*	**Sn**	**01 47 15.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**10.93**	**203**	*eP*	**Pn**	**01 47 34.9**	**+0.3**
	1.6nm,0.2s						
FITZ				*eS*	Sx	01 49 34.2	
FITZ	**Fitzroy Crossi**	**10.93**	**203**	P	**Pn**	**01 47 34.6**	**0.0**
	0.3nm,0.3s,baz=21,slow=14,SNR=18						
FITZ				S	Sx	01 49 33.5	
	0.1nm,0.3s,baz=63,slow=23,SNR=3.8						
WRA	**Warramunga Arr**	**12.48**	**162**	*eP*	**Pn**	**01 47 53.9**	**-1.2**
	0.2nm,0.3s,baz=347,slow=13,SNR=3.1						
WRA				S	Sx	01 50 09.3	
	0.3nm,0.3s,baz=333,slow=22,SNR=3.0						
WRA				LR	LR	01 52 34.6	
	comp=Z,76nm,21.0s,baz=0.0,slow=37						
WB2	**Warramunga Arr**	**12.49**	**162**	*eP*	**Pn**	**01 47 53.6**	**-1.6**
WB2				*eS*	Sx	01 50 10.0	
ASAR	**Alice Springs**	**15.93**	**168**	P	**Pn**	**01 48 39.8**	**+0.7**
	0.1nm,0.3s,baz=350,slow=9.8,SNR=5.0						
MKAR	**Makanchi Array**	**69.21**	**327**	P	**P**	**01 55 56.3**	**+0.6**
	0.4nm,0.5s,baz=112,slow=6.9,SNR=5.0						

*CSEM **26** 02:08:55.3±0.1,3876N×3903E,h12km,MD3.0,Error ellipse: s-maj=3.1km s-min=2.0km az=130.0*
*DDA **26** 02:08:55.4,3869N×3878E,h31km±1km,Md3.0*
*ISK **26** 02:08:55.4,3879N×3901E,h6km,MD3.0*
*ISCJB **26** 02:08:56.1±0.6,3879N±003×3903E±004,h10km,Error ellipse: s-maj=5.8km s-min=4.0km az=135.5*

ISC 26 02:08:56.5±0.6,3880N±003×3904E±004,h10km,n14,
σ1°03/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.29**	**72**	PG	**Pg**	**02 09 02.0**	**-0.3**
PTK				*e*SG	**Sg**	**02 09 07.1**	**+0.8**
ELZG	**Elazig**	**0.31**	**188**	*i* P	**Pg**	**02 09 02.2**	**-0.4**
ELZG				*i* S	**Sg**	**02 09 07.8**	**+1.1**
SVRC	**Sivrice-ELAZID**	**0.47**	**153**	PG	**Pg**	**02 09 05.0**	**-0.7**
SVRC				*e*SG	**Sg**	**02 09 12.2**	**+0.2**
MYA	**Malataya**	**0.68**	**226**	*e*PG	**Pg**	**02 09 08.3**	**-1.3**
MALT	**Malatya**	**0.68**	**225**	*e*PG	**Pg**	**02 09 08.6**	**-1.1**
MALT				*e*SG	**Sg**	**02 09 18.3**	**-0.3**
DARE	**Darende-Malaty**	**0.97**	**279**	*e*PN	**Pn**	**02 09 18.9**	**+2.7**
AKCD	**Akcadag**	**1.01**	**240**	*i* P	**Pg**	**02 09 14.4**	**-1.5**
AKCD				*i* S	**Sg**	**02 09 29.4**	**+0.3**
AKCD	**Akcadag**	**1.01**	**240**	*i* P	**Pg**	**02 09 14.4**	**-1.5**
AKCD				*i* S	**Sg**	**02 09 29.4**	**+0.3**
EZC	**Erzincan**	**1.12**	**32**	*e*PG	**Pg**	**02 09 14.9**	**-3.2**
URFA	**Urfa**	**1.37**	**187**	*e*PN	**Pn**	**02 09 21.4**	**-0.3**
GUMT	**Gumushane**	**1.69**	**12**	*e*PN	**Pn**	**02 09 26.6**	**+0.5**
GZT	**Gaziantep**	**1.85**	**219**	*i* P	**Pg**	**02 09 32.0**	**-0.1**
GZT				*i* S	**Sg**	**02 09 57.9**	**+1.8**
SVSK	**Karacayir**	**1.93**	**306**	*e*PN	**Pn**	**02 09 29.7**	**+0.3**
ESPY	**Espiye-Giresun**	**2.13**	**354**	*e*PN	**Pn**	**02 09 32.5**	**+0.4**

*ISCJB **26** 02:14:49.6±0.9,138N±01×1448E±03,h150km±7km,mb3.6/7,Error ellipse: s-maj=50.7km s-min=20.2km az=13.2*
*NEIC **26** 02:14:51.0±0.8,1377N×14489E,h150km±7km,mb3.8/1,Error ellipse: s-maj=33.1km s-min=12.9km az=103.0*
*IDC **26** 02:14:50.5±0.7,1377N×14489E,h143km±4km,mb3.4/6,mb1 3.6/6,mb1mx3.4/19,mbtmp3.4/6,Error ellipse: s-maj=39.8km s-min=17.5km az=98.0*

ISC 26 02:14:50.8±0.8,138N±01×1449E±03,h147km±5km,n11,
σ0°49/12,mb3.6/7,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.18**	**183**	P	**Pn**	**02 15 11.3**	**+0.6**
	302nm,0.3s,baz=297,slow=2.3,SNR=230						
GUMO				S	**Sn**	**02 15 25.4**	**-0.4**
WRAB	**Tennant Creek**	**35.06**	**197**	*e*P	**P**	**02 21 29.8**	**0.0**
	0.9nm,0.5s,mb3.7						
WB2	**Warramunga Arr**	**35.07**	**197**	*e*P	**P**	**02 21 30.1**	**+0.2**
WB2	**Warramunga Arr**	**35.07**	**197**	*e*P	**P**	**02 21 29.6**	**-0.3**
WRA	**Warramunga Arr**	**35.07**	**197**	P	**P**	**02 21 30.1**	**+0.2**
	2.8nm,0.5s,mb4.2,baz=18,slow=9.3,SNR=39						
ASAR	**Alice Springs**	**38.73**	**196**	P	**P**	**02 22 01.0**	**+0.2**
	0.8nm,0.4s,mb3.7,baz=20,slow=12,SNR=21						
STKA	**Stephens Creek**	**45.50**	**184**	P	**P**	**02 22 54.9**	**-0.6**
	0.8nm,0.5s,mb3.6,baz=12,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**45.50**	**184**	P	**P**	**02 22 54.9**	**-0.6**
MKAR	**Makanchi Array**	**61.37**	**316**	P	**P**	**02 24 51.2**	**+0.1**
	0.2nm,0.5s,mb3.2,baz=89,slow=8.1,SNR=2.0						
YKA	**Yellowknife Ar**	**82.69**	**27**	P	**P**	**02 26 56.8**	**-0.9**
	0.2nm,0.3s,mb3.3,baz=285,slow=5.4,SNR=4.5						
NVAR	**Mina Array Bea**	**86.80**	**51**	P	**P**	**02 27 19.6**	**+0.8**
	0.5nm,0.5s,mb3.6,baz=266,slow=5.8,SNR=5.7						

*ISCJB **26** 02:19:08.7±0.5,2787N±007×1406E±03,h512km±10km,mb3.4/6,Error ellipse: s-maj=38.4km s-min=6.5km az=168.2*
*NEIC **26** 02:19:09.6±1.5,2765N×13973E,h477km±27km,mb3.6/1,Error ellipse: s-maj=63.1km s-min=13.2km az=75.0*
*IDC **26** 02:19:09.0±0.7,2774N×13980E,h469km±26km,mb2.9/5,mb1 3.1/8,mb1mx2.9/22,mbtmp3.0/8,Error ellipse: s-maj=71.8km s-min=11.4km az=73.0*
*JMA **26** 02:19:10.3±0.1,2798N×14070E,h499km,M3.6*

ISC 26 02:19:09.7±0.5,2794N±007×1408E±03,h509km±9km,n25,
σ1°13/33,mb3.4/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.48**	**124**	P	**P**	**02 20 13.9**	**+0.5**
CBIJ				S	**S**	**02 21 03.4**	**-1.7**
CBIJ	**Chichi jima**	**1.48**	**124**	P	**P**	**02 20 13.9**	**+0.5**
	46nm,0.3s,baz=283,slow=22,SNR=109						
CBIJ				S	**S**	**02 21 04.2**	**-0.9**
	61nm,0.3s,baz=310,slow=23,SNR=16						
JHHJ	**Haha-jima-NKT**	**1.79**	**137**	P	**P**	**02 20 15.3**	**+0.6**
JHHJ				*e*S	**S**	**02 21 07.2**	**-0.2**
JHJ2	**Mitsune**	**5.23**	**351**	P	**P**	**02 20 39.7**	**+0.7**
JHJ2				*e*S	**S**	**02 21 51.2**	**-1.0**
JHJ	**Hachijo jima 2**	**5.24**	**351**	P	**P**	**02 20 39.5**	**+0.4**
	6.7nm,0.3s,baz=236,slow=21,SNR=7.6						
JHJ				S	**S**	**02 21 47.0**	**-5.4**
	7.9nm,0.3s,baz=95,slow=19,SNR=2.6						
BSO1	**Boso 1**	**6.70**	**1**	*e*S	**S**	**02 22 17.5**	**-0.2**
BSO3	**Boso 3**	**6.85**	**358**	*e*S	**S**	**02 22 20.0**	**-0.4**
BSO4	**Boso 4**	**7.04**	**357**	*e*S	**S**	**02 22 23.3**	**-0.6**
JIE	**Ise**	**7.33**	**332**	P	**P**	**02 20 59.8**	**+0.5**
JKN2	**Miekihoku**	**7.38**	**329**	P	**P**	**02 21 00.2**	**+0.3**
JOD2	**Odawara 2**	**7.45**	**349**	P	**P**	**02 21 01.9**	**+1.4**
JOD2				*e*S	**S**	**02 22 28.8**	**-2.6**
JNY	**Yasuok**	**7.81**	**342**	P	**P**	**02 21 04.9**	**+0.7**
JAO	**Obara**	**7.91**	**338**	P	**P**	**02 21 06.8**	**+1.6**
JHU	**Hanno**	**8.00**	**351**	P	**P**	**02 21 06.3**	**+0.2**
JHU				*e*S	**S**	**02 22 39.7**	**-1.9**
JEG	**Eigenji**	**8.10**	**333**	P	**P**	**02 21 09.1**	**+1.9**
JRY	**Ryogami san**	**8.21**	**349**	P	**P**	**02 21 09.2**	**+0.9**
JRY				*e*S	**S**	**02 22 44.8**	**-1.0**
JYT	**Yasato**	**8.28**	**357**	P	**P**	**02 21 10.6**	**+1.6**
MJAR	**Matsushiro Arr**	**8.86**	**346**	P	**P**	**02 21 15.7**	**+0.7**
	1.1nm,0.3s,baz=173,slow=11,SNR=7.8						
SONM	**Songino Array**	**33.26**	**316**	P	**P**	**02 25 01.7**	**-2.4**
	0.4nm,0.5s,mb3.2,baz=101,slow=7.5,SNR=2.4						
WRAB	**Tennant Creek**	**48.00**	**188**	*e*P	**P**	**02 27 00.9**	**-1.1**
	0.9nm,0.4s,mb3.6						
WB2	**Warramunga Arr**	**48.01**	**188**	*e*P	**P**	**02 27 01.3**	**-0.8**
WRA	**Warramunga Arr**	**48.01**	**188**	P	**P**	**02 27 01.5**	**-0.6**
	0.9nm,0.3s,mb3.7,baz=4.3,slow=7.7,SNR=20						
MKAR	**Makanchi Array**	**49.00**	**309**	P	**P**	**02 27 08.2**	**-1.0**
	0.3nm,0.4s,mb3.2,baz=83,slow=10.0,SNR=4.6						
ASAR	**Alice Springs**	**51.73**	**188**	P	**P**	**02 27 29.3**	**-0.2**
	0.4nm,0.4s,mb3.1,baz=4.7,slow=5.2,SNR=16						
ARCES	**ARCESS Array B**	**72.34**	**341**	P	**P**	**02 29 45.5**	**+2.5**
	2.5nm,1.0s,mb3.6,baz=65,slow=6.8,SNR=3.7						

*ISCJB **26** 02:39:14.3±0.6,285N±01×4364W±007,h10km,mb4.2/24,MS3.6/15,Error ellipse: s-maj=19.3km s-min=8.6km az=0.7*
*IDC **26** 02:39:14.1±1.0,2850N×4363W,h0km,mb3.8/11,mb1 4.1/11,mb1mx3.9/23,mbtmp3.8/11,MS3.6/15,Ms1 3.6/15,ms1mx3.5/25,Error ellipse: s-maj=30.4km s-min=18.4km az=173.0*
*NEIC **26** 02:39:15.9±0.4,2845N×4363W,h10km,mb4.6/14,Error ellipse: s-maj=13.9km s-min=6.5km az=180.0*

ISC 26 02:39:16.3±0.6,285N±01×4362W±007,h10km,n41,
σ0°69/33,mb4.2/24,MS3.6/15,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**23.10**	**248**	LR	LR	02 51 30.3	
	comp=Z,102nm,18.7s,MS3.3,baz=268,slow=32						
PCRV	**Puerto La Cruz**	**26.86**	**231**	LR	LR	02 53 40.4	
	comp=Z,41nm,21.9s,MS2.9,baz=230,slow=32						
BBTS	**Babate**	**28.62**	**113**	LR	LR	02 54 01.5	
	comp=Z,185nm,18.9s,MS3.7,baz=303,slow=31						
SCHQ	**Schefferville**	**31.22**	**334**	LR	LR	02 56 17.9	
	comp=Z,92nm,21.9s,MS3.4,baz=86,slow=33						
ROSC	**El Rosal**	**37.45**	**237**	LR	LR	02 59 23.5	
	comp=Z,63nm,21.8s,MS3.4,baz=62,slow=32						
DBIC	**Dimbokro**	**42.56**	**113**	LR	LR	03 03 02.3	
	comp=Z,171nm,18.5s,MS4.0,baz=261,slow=34						
TOA0	**Torodi Ar. Sit**	**44.74**	**100**	*e*P	**P**	**02 47 30.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**44.74**	**100**	P	**P**	**02 47 29.1**	**-1.1**
	1.1nm,0.9s,mb3.7,baz=296,slow=8.8,SNR=4.0						
TORD				LR	LR	03 03 48.8	
	comp=Z,153nm,21.1s,MS3.9,baz=290,slow=33						
ULM	**Lac du Bonnet**	**44.78**	**314**	LR	LR	03 05 29.9	
	comp=Z,43nm,18.1s,MS3.4,baz=55,slow=35						
KEST	**Kesra**	**44.98**	**67**	P	**P**	**02 47 31.2**	**-0.6**
	2.0nm,1.1s,mb3.9,baz=235,slow=6.2,SNR=3.3						
WMOK	**Wichita Mounta**	**46.90**	**292**	*e*P	**P**	**02 47 46.5**	**-0.5**
	18nm,1.6s,mb4.7						
KHC	**Kasperske Hory**	**47.84**	**48**	*e*P	**P**	**02 47 54.4**	**+0.3**
GERES	**GERESS Array B**	**47.91**	**49**	P	**P**	**02 47 54.5**	**0.0**
	0.6nm,1.0s,mb3.6,baz=305,slow=4.7,SNR=6.0						
GERES				LR	LR	03 03 11.7	
	comp=Z,33nm,21.8s,MS3.3,baz=99,slow=30						
PRU	**Pruhonice**	**48.52**	**47**	*e*P	**P**	**02 48 00.8**	**+1.5**
NOA	**NORSAR Array B**	**48.59**	**32**	P	**P**	**02 47 59.9**	**+0.2**
	1.4nm,1.0s,mb3.9,baz=247,slow=7.8,SNR=2.2						
NOA				LR	LR	03 04 30.0	
	comp=Z,30nm,19.5s,MS3.3,baz=240,slow=31						
AMTX	**Amarillo**	**49.23**	**293**	*e*P	**P**	**02 48 05.5**	**+0.5**
	3.6nm,0.5s,mb4.7						
DPC	**Dobruska-Polom**	**49.69**	**47**	*e*P	**P**	**02 48 09.2**	**+1.0**
LPAZ	**La Paz**	**50.45**	**211**	P	**P**	**02 48 14.7**	**+0.3**
	3.8nm,1.2s,mb4.3,baz=359,slow=8.3,SNR=4.6						
LPAZ				LR	LR	03 08 25.0	
	comp=Z,51nm,20.1s,MS3.5,baz=60,slow=35						
LPAZ	**La Paz**	**50.45**	**211**	*e*P	**P**	**02 48 14.4**	**+0.1**
	3.4nm,1.2s,mb4.2						
LPAZ				LR	LR	03 08 25.0	
SDCO	**Great Sand Dun**	**51.82**	**297**	*e*P	**P**	**02 48 24.2**	**-0.3**
	3.5nm,1.5s,mb4.1						
TXAR	**Lajitas Array**	**52.05**	**286**	P	**P**	**02 48 26.1**	**-0.2**
	0.3nm,0.7s,mb3.4,baz=79,slow=6.5,SNR=3.6						
TXAR				LR	LR	03 10 48.3	
	comp=Z,59nm,19.8s,MS3.6,baz=115,slow=36						
RES	**Resolute Bay**	**52.85**	**345**	*e*P	**P**	**02 48 30.6**	**-1.0**
	298nm,0.9s						
ANMO	**Albuquerque**	**53.08**	**294**	*e*P	**P**	**02 48 34.7**	**+0.8**
	14nm,1.7s,mb4.6						
BNM	**Barren Site**	**53.38**	**293**	*e*P	**P**	**02 48 37.8**	**+1.7**
BW06	**Boulder Array**	**54.17**	**304**	*e*P	**P**	**02 48 41.4**	**-0.4**
	16nm,1.5s,mb4.7						
PDAR	**Pinedale Array**	**54.17**	**304**	P	**P**	**02 48 41.5**	**-0.2**
	1.9nm,0.7s,mb4.2,baz=79,slow=8.0,SNR=20						
PDAR				LR	LR	03 10 01.4	
	comp=Z,137nm,19.1s,MS4.0,baz=88,slow=34						
LOHW	**Long Hollow**	**54.82**	**305**	*e*P	**P**	**02 48 46.4**	**-0.1**
	18nm,1.7s,mb4.8						
TPAW	**Teton Pass**	**55.08**	**305**	*e*P	**P**	**02 48 48.4**	**0.0**
	16nm,1.5s,mb4.8						
BOZ	**Bozeman (W)**	**55.29**	**308**	*e*P	**P**	**02 48 49.5**	**-0.3**
	2.6nm,1.3s,mb4.1						
HWUT	**Hardware Ranch**	**55.82**	**303**	*e*P	**P**	**02 48 54.3**	**+0.6**
	8.6nm,1.6s,mb4.5						
YKA	**Yellowknife Ar**	**56.39**	**328**	P	**P**	**02 48 56.3**	**-1.1**
	1.8nm,1.1s,mb4.0,baz=93,slow=7.4,SNR=5.6						
YKA				LR	LR	03 12 58.8	
	comp=Z,94nm,18.2s,MS3.9,baz=140,slow=36						
DUG	**Dugway**	**57.00**	**301**	*e*P	**P**	**02 49 02.7**	**+0.5**
	12nm,1.5s,mb4.7						
HLID	**Hailey**	**57.56**	**306**	*e*P	**P**	**02 49 06.9**	**+0.8**
AKASG	**Malin Array Be**	**57.89**	**46**	P	**P**	**02 49 07.5**	**-0.8**
	0.4nm,0.4s,mb3.8,baz=272,slow=5.9,SNR=5.5						
NEW	**Newport**	**58.66**	**311**	*e*P	**P**	**02 49 13.1**	**-0.6**
	16nm,1.6s,mb4.8						
ELK	**Elko**	**58.70**	**302**	*e*P	**P**	**02 49 13.5**	**-0.6**
WVOR	**Wild Horse Val**	**60.82**	**305**	*e*P	**P**	**02 49 28.9**	**+0.2**
	1.6nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**61.55**	**301**	P	**P**	**02 49 33.1**	**-0.6**
	0.5nm,0.6s,mb3.8,baz=76,slow=6.7,SNR=6.2						
MALT	**Malatya**	**67.11**	**58**	*e*P	**P**	**02 50 11.2**	**+1.0**
	2.7nm,1.3s,mb4.1						
KMBO	**Kilima Mbogo**	**82.51**	**95**	LR	LR	03 26 37.6	
	comp=Z,164nm,18.5s,MS4.4,baz=259,slow=34						
ZALV	**Zalesovo Beam**	**86.59**	**28**	P	**P**	**02 51 59.4**	**-0.3**
	0.6nm,0.3s,mb4.3,baz=316,slow=6.0,SNR=3.0						

*MOS **26** 02:44:17.8±1.1,4638N×15317E,h33km,mb3.9/4,Error ellipse: s-maj=24.3km s-min=17.2km az=63.4*
*ISCJB **26** 02:44:21.4±1.8,4677N±01×15291E±02,h74km±17km,mb3.5/6,Error ellipse: s-maj=29.8km s-min=11.8km az=140.0*
*IDC **26** 02:44:24.4±3.2,4674N×15276E,h88km±31km,mb3.1/5,mb1 3.4/8,mb1mx3.2/23,mbtmp3.2/8,Error ellipse: s-maj=43.2km s-min=18.0km az=130.0*

ISC 26 02:44:23.0±1.5,466N±01×1530E±02,h68km±14km,n20,
σ1°10/20,mb3.5/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.55**	**26**	*e*PN	**Pn**	**02 45 29.5**	**+0.2**
YSS	**Yuzh-Sakhalins**	**7.05**	**276**	*e*PN	**Pn**	**02 46 02.6**	**-0.9**
PETK	**Petropavlovsk-**	**7.16**	**23**	P	**Pn**	**02 46 05.1**	**+0.2**
	0.3nm,0.3s,baz=13,slow=24,SNR=5.3						
ASAJ	**Asahikawa**	**7.75**	**255**	P	**Pn**	**02 46 12.1**	**-1.0**
	0.7nm,0.3s,baz=74,slow=25,SNR=5.3						
ASAJ	**Asahikawa**	**7.75**	**255**	PN	**Pn**	**02 46 12.1**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.95**	**233**	P	**Pn**	**02 47 51.7**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=38,slow=11,SNR=4.6						
MJAR	**Matsushiro Arr**	**14.95**	**233**	*e*P	**Pn**	**02 47 53.9**	**+3.6**
KSRS	**Korea Array**	**20.69**	**253**	P	**P**	**02 48 57.6**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=57,slow=9.4,SNR=4.7						
KSRS	**Korea Array**	**20.69**	**253**	*e*P	**P**	**02 48 58.8**	**+1.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HIA	**Hailar**	**22.34**	**289**	*e*P	**P**	**02 49 16.6**	**+1.7**
BILL	**Bilibino**	**22.53**	**13**	*e*P	**P**	**02 49 11.5**	**-5.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
COLA	**College**	**36.28**	**38**	*e*P	**P**	**02 51 11.1**	**-8.2**
ARU	**Arti**	**55.06**	**317**	*e*P	**P**	**02 53 47.7**	**+0.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
PDAR	**Pinedale Array**	**64.88**	**54**	P	**P**	**02 54 55.6**	**+0.8**
	comp=Z,0.2nm,0.6s,mb3.1,baz=293,slow=4.6,SNR=2.1						
NB2	**NORSAR Subarra**	**68.33**	**341**	P	**P**	**02 55 14.0**	**-2.4**
	comp=Z,1.3nm,0.7s,mb3.9,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.33**	**341**	P	**P**	**02 55 14.0**	**-2.4**
	comp=Z,0.7nm,0.5s,mb3.7,baz=28,slow=6.2,SNR=3.3						
NOA	**NORSAR Array B**	**68.33**	**341**	P	**P**	**02 55 14.0**	**-2.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**68.37**	**199**	P	**P**	**02 55 16.0**	**-1.1**
	comp=Z,0.1nm,0.3s,mb3.1,baz=18,slow=6.4,SNR=9.5						
ASAR	**Alice Springs**	**72.06**	**198**	P	**P**	**02 55 39.4**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.4,baz=14,slow=5.4,SNR=5.5						
ASAR	**Alice Springs**	**72.06**	**198**	*e*P	**P**	**02 55 39.6**	**0.0**

IDC 26 03:05:57.4±5.8,551N×9457E,h80km±48km,mb3.3/4,mb1 3.6/6,mb1mx3.3/20,mbtmp3.4/6,ML4.2/2,Error ellipse: s-maj=84.9km s-min=19.7km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.11**	**122**	P	Pn	03 07 11.9	+0.4
	1.9nm,0.3s,baz=312,slow=7.3,SNR=9.4						
PSI				S	Sn	03 08 04.5	-4.8
	0.6nm,0.3s,baz=317,slow=17,SNR=1.8						
CMAR	**Chiang Mai Arr**	**13.55**	**18**	P	Pn	03 09 07.9	+1.6
	1.1nm,0.3s,baz=216,slow=13,SNR=6.3						
MKAR	**Makanchi Array**	**42.47**	**348**	P	P	03 13 44.0	-0.5
	1.3nm,0.5s,baz=170,slow=7.8,SNR=6.7						
WRA	**Warramunga Arr**	**46.57**	**124**	P	P	03 14 17.5	-0.1
	0.5nm,0.4s,baz=305,slow=9.4,SNR=10.0						
ASAR	**Alice Springs**	**48.10**	**129**	P	P	03 14 29.6	+0.2
	0.2nm,0.4s,baz=300,slow=7.3,SNR=8.9						
GERES	**GERESS Array B**	**79.86**	**319**	P	P	03 17 57.7	+0.4
	0.4nm,0.6s,baz=104,slow=5.6,SNR=5.8						

IDC 26 03:09:05.6±18.0,2141S×17609W,h0km,mb3.9/5,mb1 4.0/5,mb1mx3.8/17,mbtmp3.9/5,MS3.0/1,Ms1 3.0/1,ms1mx2.4/27,Error ellipse: s-maj=338.0km s-min=148.8km az=81.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.98**	**192**	LR	LR	03 12 43.1	
	comp=Z,109nm,20.1s,baz=75,slow=27						
CTA	**Charters Tower**	**35.19**	**265**	P	P	03 16 02.6	+1.0
	1.3nm,0.4s,baz=96,slow=10,SNR=7.2						
STKA	**Stephens Creek**	**39.02**	**245**	P	P	03 16 33.7	-0.3
	0.6nm,0.5s,baz=90,slow=15,SNR=3.3						
ASAR	**Alice Springs**	**46.06**	**257**	P	P	03 17 30.4	-1.0
	1.2nm,0.8s,baz=98,slow=7.5,SNR=15						
WRA	**Warramunga Arr**	**46.25**	**262**	P	P	03 17 32.5	-0.5
	0.5nm,0.3s,baz=96,slow=8.3,SNR=22						
FITZ	**Fitzroy Crossi**	**54.68**	**263**	P	P	03 18 37.4	+0.6
	1.0nm,0.8s,baz=117,slow=4.5,SNR=3.8						

*ISCJB **26** 03:09:16.8±1.4,3614N±009×709E±02,h33km,Error ellipse: s-maj=22.0km s-min=6.6km az=147.8*
*NNC **26** 03:09:27.2±2.4,3715N×7078E,h0km,mb3.7,mpv3.6,Error ellipse: s-maj=38.1km s-min=19.7km az=83.0*

ISC 26 03:09:19.4±1.4,3614N±009×708E±02,h35km,n11,
σ0°98/13,3C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.58**	**128**	*e*P	**Sn**	**03 11 43.0**	**+0.1**
AML	**Almayashu**	**6.40**	**20**	P	**Pn**	**03 10 51.5**	**+0.3**
	SNR=5.4						
EKS2	**Erkin-Say**	**6.92**	**19**	P	**Pn**	**03 10 58.5**	**+0.3**
	SNR=9.5						
KK31	**Karatay Array**	**6.96**	**358**	⇑Pn	**Pn**	**03 10 59.5**	**+0.6**
	3.0nm,0.5s,baz=178,slow=13,SNR=8.5						
KK31				⇑Sn	**Sn**	**03 12 11.8**	**-4.9**
	1.1nm,0.3s,baz=168,slow=31,SNR=3.6						
AAK	**Ala-Archa**	**7.09**	**23**	P	**Pn**	**03 11 00.8**	**+0.1**
	SNR=7.5						
SMLA	**Simla**	**7.29**	**131**	*i* P	**Pn**	**03 11 06.8**	**+3.4**
SMLA				*i* S	**Sn**	**03 12 23.6**	**-1.4**
SMLA				*ex*	x	03 12 26.9	
	comp=E,144nm,0.2s						
SMLA				*ex*	x	03 12 28.1	
	comp=N,346nm,0.3s						
USP	**Ospenovka**	**7.67**	**21**	P	**Pn**	**03 11 08.4**	**-0.2**
	SNR=5.8						
TKM2	**Tokmak 2**	**7.73**	**27**	⇓Pn	**Pn**	**03 11 08.5**	**-0.9**
	comp=N,2.3nm,0.5s						
TKM2	**Tokmak 2**	**7.73**	**27**	P	**Pn**	**03 11 09.1**	**-0.2**
	SNR=5.4						
AB31	**Akbulak array**	**15.32**	**332**	⇓Pn	**Pn**	**03 12 50.8**	**-2.1**
	comp=N,0.2nm,0.3s,baz=145,slow=12,SNR=13						
AKTO	**Aktyubinsk**	**17.01**	**331**	⇑Pn	**Pn**	**03 13 15.2**	**+0.7**
	comp=N,0.9nm,1.0s						

*IDC **26** 03:20:17.7±4.1,2341N×9460E,h0km,mb3.7/3,mb1 3.9/3,mb1mx3.5/19,mbtmp3.7/3,Error ellipse: s-maj=348.0km s-min=26.6km az=60.0*
*ISCJB **26** 03:20:25.8±1.6,233N±01×9418E±009,h90km±16km,mb3.7/4,Error ellipse: s-maj=22.7km s-min=13.5km az=9.0*
*NEIC **26** 03:20:31.0±2.8,2301N×9367E,h132km±33km,mb3.8/1,Error ellipse: s-maj=51.6km s-min=12.0km az=63.0*

ISC 26 03:20:28.7±1.2,234N±01×9413E±008,h97km±13km,n19,
σ1°17/22,mb3.7/4,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.37**	**352**	*e*P	**Pn**	**03 20 53.0**	**-0.2**
IMP				*e*S	**Sn**	**03 21 11.0**	**-0.7**
SHL	**Shillong**	**2.96**	**317**	*e*PN	**Pn**	**03 21 15.0**	**+1

SCX	San Cristobal	2.56	19	*i* P	Pn	03 40 01.2 -1.9
SCX				*i* S	Sn	03 40 29.7 -4.4
VHO	Vista Hermosa	4.17	312	*e*P	Pn	03 40 26.6 +1.3
VHO				*i* S	Sn	03 41 13.1 -0.6

IDC 26 03:40:34.8±11.0, 1721S×17888W, h569km±153km, mb2.8/5, mb1 3.2/5, mb1mx3.0/16, mbtmp2.8/5, Error ellipse: s-maj=202.0km s-min=33.7km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.32**	**259**	P	P	03 47 54.8	-0.4
	0.3nm,0.4s,baz=95,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**44.55**	**254**	P	P	03 47 57.1	+0.2
	1.2nm,0.5s,baz=87,slow=9.3,SNR=28						
NVAR	**Mina Array Bea**	**79.24**	**44**	P	P	03 51 42.3	+0.8
	0.4nm,0.7s,baz=236,slow=9.6,SNR=4.3						
TXAR	**Lajitas Array**	**86.00**	**58**	P	P	03 52 15.8	0.0
	0.5nm,0.8s,baz=223,slow=6.8,SNR=6.3						
PDAR	**Pinedale Array**	**87.16**	**44**	P	P	03 52 20.3	-0.6
	0.4nm,0.7s,baz=204,slow=3.3,SNR=4.3						
GERES	**GERESS Array B**	**146.82**	**345**	PKPbc	PKPbc	03 59 13.1	-0.4
	0.7nm,0.6s,baz=24,slow=3.6,SNR=8.1						

*IDC **26** 03:57:26.6±0.6, 309S×139.17E, h0km, mb4.4/11, mb1 4.6/14, mb1mx4.6/15, mbtmp4.5/14, ML4.7/3, MS3.8/12, Ms1 3.8/12, ms1mx3.6/23, Error ellipse: s-maj=24.5km s-min=12.7km az=78.0*
*MOS **26** 03:57:29.5±1.1, 313S×139.07E, h33km, mb4.8/12, Error ellipse: s-maj=17.2km s-min=8.3km az=99.3*
*BJI **26** 03:57:32.4, 320S×139.10E, h45km, mB5.1, mb4.7, Ms4.2, Msz3.8*
*ISCJB **26** 03:57:32.9±1.4, 324S±004×139.17E±005, h65km±13km, mb4.5/38, Error ellipse: s-maj=9.0km s-min=7.3km az=8.5*
*NEIC **26** 03:57:32.4±1.3, 316S×139.09E, h45km±12km, mb4.7/24, Error ellipse: s-maj=9.3km s-min=7.6km az=90.0*
*DJA **26** 03:57:42, 366S×138.97E, h72km, mb5.1/23*
ISC 26 03:57:35.3±1.1, 329S±004×139.13E±005, h73km±10km, h28km±5.5km: pP-P, n117, σ1§18/107, mb4.5/38, 4D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**5.29**	**166**	P	**Pn**	**03 58 57.0**	**+5.1**
	1μm,0.7s						
PMG	**Port Moresby**	**10.03**	**128**	*e*P	**Pn**	**03 59 58.6**	**+2.0**
PMG				pmax	pmax		
	comp=Z,53nm,0.8s						
PMG	**Port Moresby**	**10.03**	**128**	*e*Pn	**Pn**	**03 59 58.5**	**+2.0**
	comp=Z,53nm,0.8s						
COEN	**Coen**	**11.33**	**160**	*e*Pn	**Pn**	**04 00 12.7**	**-1.7**
	comp=Z,14nm,0.6s						
KAKA	**Kakadu**	**11.47**	**215**	*e*P	**Pn**	**04 00 13.4**	**-2.9**
	comp=Z,99nm,0.4s						
KAKA				*e*S	**Sn**	**04 02 20.8**	**-1.9**
LBMI	**Labuha**	**11.92**	**283**	P	**Pn**	**04 00 23.3**	**+0.9**
	comp=Z,196nm,1.1s						
KDI	**Kendari**	**16.50**	**267**	P	**Pn**	**04 01 26.8**	**+4.5**
	comp=Z,58nm,1.2s						
BBSI	**Bau Bau**	**16.66**	**262**	P	**Pn**	**04 01 30.5**	**+6.2**
	comp=Z,229nm,1.3s						
BATI	**Baumata**	**16.82**	**245**	P	**Pn**	**04 01 29.6**	**+3.2**
	comp=Z,172nm,0.9s						
BATI	**Baumata**	**16.82**	**245**	Pn	**Pn**	**04 01 26.9**	**+0.5**
	comp=Z,13nm,0.3s,baz=183,slow=1.1,SNR=22						
BATI				Sn	**Sn**	**04 04 25.6**	**-7.3**
	comp=Z,1.6nm,0.3s,baz=104,slow=21,SNR=2.4						
DAV	**Davao City (W)**	**17.00**	**307**	LR	LR	04 07 23.7	
	comp=Z,113nm,21.9s,baz=134,slow=35						
WRAB	**Tennant Creek**	**17.19**	**195**	*e*P	**Pn**	**04 01 30.3**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,77nm,0.8s						
WRAB	**Tennant Creek**	**17.19**	**195**	*e*P	**Pn**	**04 01 30.3**	**-0.6**
	comp=Z,77nm,0.8s						
WRAB				*e*Sn	**Sn**	**04 04 30.5**	**-11**
WB2	**Warramunga Arr**	**17.20**	**195**	*e*P	**Pn**	**04 01 30.8**	**-0.1**
WB2				*e*S	**S**	**04 04 34.0**	**-13**
WRA	**Warramunga Arr**	**17.20**	**195**	P	**Pn**	**04 01 29.2**	**-1.8**
	comp=Z,2.5nm,0.3s,baz=14,slow=12,SNR=40						
WRA				S	**S**	**04 04 34.1**	**-13**
	comp=Z,1.9nm,0.3s,baz=9.2,slow=22,SNR=7.3						
WRA				LR	LR	04 08 57.5	
	comp=Z,427nm,18.4s,baz=15,slow=40						
WRA	**Warramunga Arr**	**17.20**	**195**	P	**Pn**	**04 01 29.2**	**-1.8**
WRA				S	**S**	**04 04 34.1**	**-13**
GUMO	**Guam**	**17.70**	**19**	LR	LR	04 08 09.5	
	comp=Z,144nm,18.2s,baz=83,slow=37						
CTA	**Charters Tower**	**18.09**	**158**	*e*P	**Pn**	**04 01 41.8**	**+0.1**
	comp=Z,9.0nm,0.8s						
CTA				*e*PCS	PcP	04 06 26.9	+14
CTA	**Charters Tower**	**18.09**	**158**	P	**Pn**	**04 01 41.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=334,slow=13,SNR=13						
CTA				LR	LR	04 09 11.4	
	comp=Z,693nm,18.3s,baz=348,slow=39						
CTA	**Charters Tower**	**18.09**	**158**	*e*P	**Pn**	**04 01 41.8**	**+0.1**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTA	**Charters Tower**	**18.09**	**158**	*e*P	**Pn**	**04 01 41.8**	**+0.1**
	comp=Z,9.0nm,0.8s						
CTA				*e*PcS	PcP	04 06 26.9	+14
CTAO	**Charters Tower**	**18.09**	**158**	*e*P	**Pn**	**04 01 41.7**	**0.0**
CTAO				pmax	pmax		
	comp=Z,37nm,1.3s						
CTAO	**Charters Tower**	**18.09**	**158**	*e*P	**Pn**	**04 01 41.7**	**0.0**
	comp=Z,37nm,1.3s						
PCI	**Palu**	**19.43**	**277**	P	**Pn**	**04 02 02.2**	**+4.3**
	comp=Z,92nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.79**	**221**	*e*P	**Pn**	**04 02 00.8**	**-1.3**
	comp=Z,32nm,0.6s						
FITZ				*e*S	**S**	**04 05 36.1**	**-3.0**
FITZ	**Fitzroy Crossi**	**19.79**	**221**	P	**Pn**	**04 02 00.8**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=37,slow=12,SNR=100						
FITZ				S	**S**	**04 05 34.7**	**-4.4**
	comp=Z,0.7nm,0.3s,baz=68,slow=19,SNR=9.5						
FITZ				LR	LR	04 10 39.0	
	comp=Z,296nm,18.0s,baz=39,slow=40						
ASAR	**Alice Springs**	**20.88**	**194**	P	**P**	**04 02 13.4**	**+1.8**
	comp=Z,26nm,0.6s,baz=23,slow=10,SNR=284						
ASAR				S	**S**	**04 05 59.9**	**-0.6**
	comp=Z,4.3nm,0.9s,baz=297,slow=44,SNR=3.3						
ASAR	**Alice Springs**	**20.88**	**194**	P	**P**	**04 02 13.4**	**+1.8**
ASAR				S	**S**	**04 05 59.9**	**-0.6**
SMKI	**Samarinda**	**22.09**	**277**	P	**P**	**04 02 29.4**	**+4.6**
	comp=Z,149nm,0.8s,mb5.4						
MYLDM	**Lahad Datu**	**22.26**	**292**	||P	**P**	**04 02 30.5**	**+4.0**
TSM	**Tawau**	**22.54**	**289**	||P	**P**	**04 02 30.9**	**+1.5**
KHKI	**Kahang-Kahang**	**23.93**	**257**	P	**P**	**04 02 43.4**	**+0.5**
	comp=Z,71nm,1.1s,mb4.9						
BBKI	**Banjar Baru**	**24.25**	**269**	P	**P**	**04 02 49.5**	**+3.7**
	comp=Z,214nm,1.5s,mb5.2						
KKM	**Kota Kinabalu**	**24.69**	**292**	*e*P	**P**	**04 02 49.8**	**-0.1**
KMMI	**Kalianget**	**25.34**	**261**	P	**P**	**04 02 59.8**	**+4.1**
	comp=Z,263nm,1.2s,mb5.5						
MBWA	**Marble Bar**	**25.92**	**225**	*e*P	**P**	**04 03 01.8**	**+1.0**
	comp=Z,28nm,0.7s,mb4.8						
SJI	**Sawahan**	**27.59**	**260**	P	**P**	**04 03 24.2**	**+8.2**
	comp=Z,34nm,1.3s,mb4.7						
STKA	**Stephens Creek**	**28.53**	**176**	*e*P	**P**	**04 03 26.3**	**+2.2**
	comp=Z,2.7nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**28.53**	**176**	P	**P**	**04 03 26.3**	**+2.2**
	comp=Z,3.2nm,0.6s,mb4.1,baz=343,slow=7.9,SNR=8.1						
STKA				LR	LR	04 16 04.0	
	comp=Z,395nm,18.8s,baz=179,slow=39						
STKA	**Stephens Creek**	**28.53**	**176**	*e*P	**P**	**04 03 24.4**	**+0.3**
	comp=Z,7.9nm,0.7s,mb4.5						
KSM	**Kuching**	**29.20**	**279**	*e*P	**P**	**04 03 30.3**	**-0.1**
FORT	**Forrest**	**29.28**	**200**	*e*P	**P**	**04 03 30.1**	**-0.7**
	comp=Z,33nm,1.9s,mb4.6						
FORT	**Forrest**	**29.28**	**200**	*e*P	**P**	**04 03 30.3**	**-0.5**
	comp=Z,2.5nm,0.8s,mb3.9						
JOW	**Kunigami**	**31.73**	**341**	LR	LR	04 14 48.4	
	comp=Z,222nm,19.3s,baz=222,slow=33						
CNB	**Canberra Magne**	**33.25**	**165**	*e*P	**P**	**04 04 07.8**	**+2.1**
PPI	**Padang Panjang**	**38.81**	**273**	P	**P**	**04 04 54.2**	**+0.6**
	comp=Z,36nm,0.9s,mb5.2						
MJAR	**Matsushiro Arr**	**39.63**	**359**	P	**P**	**04 04 57.3**	**-2.7**
	comp=Z,1.5nm,0.7s,mb3.9,baz=180,slow=9.4,SNR=8.4						
MJAR				PcP	PcP	04 07 04.0	-1.8
	comp=Z,0.6nm,0.4s,baz=152,slow=3.4,SNR=4.6						
MAJO	**Matsushiro**	**39.63**	**359**	*e*P	**P**	**04 04 57.7**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
MAJO	**Matsushiro**	**39.63**	**359**	*e*P	**P**	**04 04 57.7**	**-2.2**
	comp=Z,3.1nm,0.6s,mb4.3						
MAT	**Matsushiro**	**39.63**	**359**	P	**P**	**04 05 01.8**	**+1.8**
KSRS	**Korea Array**	**41.85**	**347**	P	**P**	**04 05 17.8**	**-0.4**
	comp=Z,2.5nm,0.7s,mb4.0,baz=158,slow=8.8,SNR=13						
KSRS				LR	LR	04 19 57.1	
	comp=Z,98nm,20.8s,baz=266,slow=32						
CMAR	**Chiang Mai Arr**	**45.09**	**300**	P	**P**	**04 05 44.6**	**0.0**
	comp=Z,1.3nm,0.3s,mb4.1,baz=120,slow=7.0,SNR=9.9						
CMAR				LR	LR	04 27 33.4	
	comp=Z,37nm,18.6s,baz=110,slow=40						
CMAR	**Chiang Mai Arr**	**45.09**	**300**	*i* P	**P**	**04 05 45.5**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BJI	**Beijing**	**47.99**	**336**	P	**P**	**04 06 11.8**	**+4.9**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
BJI				LR	LR		
	comp=N,142nm,21.1s						
BJI				LR	LR		
	comp=E,121nm,18.8s						
BJI				LR	LR		
	comp=Z,135nm,19.3s						
URZ	**Urewera**	**49.11**	**140**	P	**P**	**04 06 17.0**	**+1.4**
	comp=Z,5.3nm,0.5s,mb4.7,baz=336,slow=3.9,SNR=5.6						
RPZ	**Rata Peaks**	**49.18**	**150**	P	**P**	**04 06 17.4**	**+1.3**
	comp=Z,14nm,0.6s,mb5.1,baz=22,slow=2.7,SNR=6.3						
YSS	**Yuzh-Sakhalins**	**50.13**	**3**	||*i* P	**P**	**04 06 21.7**	**-1.4**
YSS	**Yuzh-Sakhalins**	**50.13**	**3**	*e*P	**P**	**04 06 21.8**	**-1.4**
	comp=Z,14nm,0.5s,mb5.2						
SHL	**Shillong**	**54.01**	**305**	*e*P	**P**	**04 06 45.0**	**-7.4**
GTA	**Gaotai**	**55.78**	**324**	*e*P	**P**	**04 07 09.3**	**+4.4**
GTA				AP	pP	04 07 14.5	-9.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
PETK	**Petropavlovsk-**	**58.32**	**13**	P	**P**	**04 07 22.4**	**-0.2**
	comp=Z,4.1nm,0.8s,mb4.5,baz=219,slow=1.9,SNR=3.8						
PETK				LR	LR	04 27 14.4	
	comp=Z,66nm,21.0s,baz=92,slow=31						
SONM	**Songino Array**	**58.42**	**335**	P	**P**	**04 07 24.7**	**+1.3**
	comp=Z,0.3nm,0.4s,mb3.7,baz=283,slow=25,SNR=3.7						
SONM				LR	LR	04 33 15.3	
	comp=Z,189nm,19.1s,baz=356,slow=37						
ZAK	**Zakamensk**	**61.69**	**335**	*e*P	**P**	**04 07 45.5**	**-0.2**
ZAK				*e*		04 07 55.1	
ZAK				*e*		04 08 23.3	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
YAK	**Yakutsk**	**65.54**	**355**	*e*P	**P**	**04 08 09.7**	**-1.1**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
CASY	**Casey**	**66.00**	**192**	*e*P	**P**	**04 08 15.3**	**+1.5**
CASY	**Casey**	**66.00**	**192**	*e*P	**P**	**04 08 15.3**	**+1.5**
	comp=Z,7.0nm,1.0s,mb4.5						
SEY	**Seymchan**	**66.80**	**7**	||*e*P	**P**	**04 08 19.7**	**+0.8**
MKAR	**Makanchi Array**	**70.50**	**322**	P	**P**	**04 08 42.0**	**-0.3**
	comp=Z,1.7nm,0.5s,mb4.1,baz=107,slow=8.5,SNR=13						
MKAR				LR	LR	04 42 31.4	
	comp=Z,32nm,19.2s,baz=355,slow=38						
MKAR	**Makanchi Array**	**70.50**	**322**	*i* P	**P**	**04 08 42.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**70.50**	**322**	P	**P**	**04 08 42.0**	**-0.3**
MKAR				LR	LR	04 42 31.4	
ZALV	**Zalesovo Beam**	**72.64**	**330**	P	**P**	**04 08 54.6**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.1,baz=104,slow=6.1,SNR=2.3						
ZAL	**Zalesovo**	**72.65**	**330**	P	**P**	**04 08 54.7**	**-0.3**
TKM2	**Tokmak 2**	**73.25**	**317**	*e*P	**P**	**04 09 00.7**	**+1.9**
TKM2				*e**PP	pP	04 09 08.4	-10
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
TKM2	**Tokmak 2**	**73.25**	**317**	*e*P	**P**	**04 09 00.7**	**+1.8**
	comp=Z,5.6nm,0.7s,mb4.5						
TKM2				*e*pP	pP	04 09 08.4	-10
EKS2	**Erkin-Say**	**74.42**	**316**	*e*P	**P**	**04 09 05.2**	**-0.4**
	comp=Z,5.0nm,0.8s,mb4.3						
EKS2				*e*pP	pP	04 09 15.9	-9.1
KURK	**Kurchatov**	**74.43**	**325**	*i* P	**P**	**04 09 07.6**	**+2.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
KURK	**Kurchatov**	**74.43**	**325**	*e*P	**P**	**04 09 05.4**	**-0.1**
	comp=Z,5.1nm,0.9s,mb4.2						
BRVK	**Borovoye**	**80.09**	**325**	*e*P	**P**	**04 09 36.6**	**-0.6**
BRVK				*e**PP	pP	04 09 46.8	-10
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
BRVK	**Borovoye**	**80.09**	**325**	*e*P	**P**	**04 09 36.5**	**-0.6**
	comp=Z,4.2nm,0.7s,mb4.4						
BRVK				*e*pP	pP	04 09 46.8	-10
SVW2	**Sparrevohn**	**81.20**	**27**	*e*P	**P**	**04 09 42.3**	**-0.6**
MAW	**Mawson**	**81.75**	**202**	P	**P**	**04 09 46.5**	**+0.8**
	comp=Z,3.8nm,0.8s,mb4.2,baz=21,slow=3.9,SNR=3.1						
MAW	**Mawson**	**81.75**	**202**	*e*P	**P**	**04 09 45.9**	**+0.1**
MAW				pmax	pmax		
	comp=Z,13nm,1.3s						
MAW	**Mawson**	**81.75**	**202**	*e*P	**P**	**04 09 45.9**	**+0.1**
	comp=Z,13nm,1.3s,mb4.6						
TTA	**Tatalina**	**81.75**	**25**	*e*P	**P**	**04 09 45.7**	**-0.1**
TTA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
TTA	**Tatalina**	**81.75**	**25**	*e*P	**P**	**04 09 45.7**	**-0.1**
	comp=Z,7.8nm,0.9s,mb4.5						
PPLA	**Purkeypile**	**83.36**	**25**	*e*P	**P**	**04 09 53.4**	**-0.7**
	comp=Z,2.2nm,0.5s,mb4.2						
SLKM	**Skilak Lake**	**83.44**	**28**	*e*P	**P**	**04 09 53.5**	**-1.1**
CHUM	**Lake Minchumin**	**83.66**	**24**	*e*P	**P**	**04 09 55.6**	**-0.1**
	comp=Z,12nm,0.6s,mb4.9						
RC01	**Rabbit Creek A**	**83.85**	**28**	*e*P	**P**	**04 09 55.9**	**-0.9**
	comp=Z,2μm,0.6s						
KTH	**Kantishna Hill**	**84.12**	**25**	*e*P	**P**	**04 09 56.7**	**-1.4**
	comp=Z,2μm,0.6s						
MCK	**McKinley**	**85.02**	**25**	*e*P	**P**	**04 10 01.2**	**-1.4**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
MCK	**McKinley**	**85.02**	**25**	*e*P	**P**	**04 10 01.2**	**-1.4**
	comp=Z,7.0nm,1.0s,mb4.5						
COLD	**Coldfoot**	**85.63**	**22**	*e*P	**P**	**04 10 05.5**	**0.0**
	comp=Z,3.1nm,0.8s,mb4.3						
DIV	**Divide**	**85.71**	**28**	*e*P	**P**	**04 10 06.0**	**-0.1**
	comp=Z,19nm,0.6s,mb5.2						
COLA	**College**	**85.81**	**24**	*e*P	**P**	**04 10 05.6**	**-0.9**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
COLA	**College**	**85.81**	**24**	*e*P	**P**	**04 10 05.6**	**-0.9**
	comp=Z,5.3nm,0.8s,mb4.5						
BMRM	**Bremner River**	**86.22**	**28**	*e*P	**P**	**04 10 08.1**	**-0.5**
EGAK	**Eagle**	**88.57**	**25**	*e*P	**P**	**04 10 19.7**	**-0.1**
	comp=Z,8.9nm,0.9s,mb4.8						
DAWY	**Dawson**	**89.20**	**26**	*e*P	**P**	**04 10 22.8**	**0.0**
HYT	**Haines Junctio**	**89.60**	**29**	*e*P	**P**	**04 10 26.2**	**+1.5**
ARCES	**ARCESS Array B**	**101.19**	**341**	P	Pdif	04 11 15.5	-2.1
	comp=Z,1.3nm,0.7s,baz=77,slow=4.1,SNR=5.2						
ARCES	**ARCESS Array B**	**101.19**	**341**	P	Pdif	04 11 15.5	-2.1
WVOR	**Wild Horse Val**	**101.24**	**48**	*e*P	Pdif	04 11 19.6	+1.8
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WVOR	**Wild Horse Val**	**101.24**	**48**	*e*P	Pdif	04 11 19.6	+1.7
	comp=Z,2.1nm,0.7s						
TSUM	**Tsumeb**	**118.36**	**246**	*e*PKPdf	PKPdf	04 16 16.9	+1.5
TOA0	**Torodi Ar. Sit**	**136.82**	**286**	*e*PKPdf	PKPdf	04 16 53.0	+2.4
TORD	**Torodi Ar. Bea**	**136.82**	**286**	PKhKP		04 16 41.9	
	comp=Z,0.2nm,0.5s,baz=68,slow=3.2,SNR=4.1						
TORD				PKP	PKPdf	04 16 52.9	+2.3
	comp=Z,1.0nm,0.7s,baz=74,slow=2.0,SNR=8.7						
KIC	**Kosan Boka**	**143.88**	**276**	*e*P	PKPdf	04 17 01.7	-1.8
	comp=Z,360nm,1.9s						
DBIC	**Dimbokro**	**143.98**	**277**	PKP	PKPdf	04 17 02.7	-1.0
	comp=Z,4.6nm,0.6s,baz=334,slow=1.4,SNR=12						
DBIC	**Dimbokro**	**143.98**	**277**	PKP	PKPdf	04 17 02.7	-1.0
DBIC				*e*PKPdf	PKPdf	04 17 03.0	-0.6
TIC	**Toumodi**	**144.14**	**277**	*e*P	PKPdf	04 17 02.7	-1.2
	comp=Z,471nm,1.9s						
LIC	**Lamto**	**144.17**	**276**	*e*P	PKPdf	04 17 05.1	+1.1
	comp=Z,80nm,1.5s						
CPUP	**Villa Florida**	**146.52**	**153**	PKPbc	PKPbc	04 17 11.8	+2.6
	comp=Z,1.7nm,0.7s,baz=223,slow=2.8,SNR=6.3						
ROSC	**El Rosal**	**146.59**	**86**	PKPbc	PKPbc	04 17 10.8	+1.0
	comp=Z,7.5nm,0.7s,baz=201,slow=1.4,SNR=11						
ROSC	**El Rosal**	**146.59**	**86**	*e*PKPbc	PKPbc	04 17 10.3	+0.5
LPAZ	**La Paz**	**146.76**	**127**	PKPbc	PKPbc	04 17 12.6	+2.5
	comp=Z,5.3nm,0.8s,baz=222,slow=1.6,SNR=26						
SDV	**Santo Domingo**	**149.90**	**78**	*e*PKPdf	PKPdf	04 17 14.2	+0.7
SDV				*e*PKPbc	PKPbc	04 17 18.6	+0.2

FUNV 26 04:19:53.5, 1098N×7343W, h18km, MW3.6, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**1.11**	**115**	⇑*i* P	Pn	04 20 13.4	-0.8
VIRV				*e*S	Sb	04 20 29.2	+0.9
DABV	**Dabajuro**	**2.74**	**91**	*e*P	Pn	04 20 36.1	-0.5
DABV				*e*S	Sn	04 21 07.0	-2.3
VIGV	**El Vigia**	**2.94**	**136**	⇑*i* P	Pn	04 20 38.7	-0.6
VIGV				*e*S	Sn	04 21 12.6	-1.6
QARV	**Quebrada Arrib**	**2.96**	**105**	*e*P	Pn	04 20 39.2	-0.3
QARV				*e*S	Sn	04 21 11.9	-2.7
CAPV	**Capacho**	**3.28**	**160**	*e*P	Pn	04 20 42.5	-1.6
CAPV				*e*S	Sn	04 21 20.3	-2.4
CURV	**Curarigua**	**3.54**	**105**	*e*P	Pn	04 20 47.0	-0.7
CURV				*e*S	Sn	04 21 25.6	-3.5
SIQV	**Siquisique**	**3.57**	**95**	*e*P	Pn	04 20 47.3	-0.8
SIQV				*e*S	Sn	04 21 27.2	-2.6
SOCV	**Socops**	**3.69**	**136**	*e*P	Pn	04 20 49.0	-0.7
SANV	**Sanarito**	**4.10**	**111**	||*i* P	Pn	04 20 54.5	-0.8
SANV				*e*S	Sn	04 21 39.0	-3.9
TEPV	**Terepaima**	**4.29**	**103**	*e*P	Pn	04 20 56.7	-1.2
TURV	**Turiamo**	**5.52**	**95**	*e*P	Pn	04 21 12.9	-1.9
ELOV	**Elorza**	**5.55**	**135**	*e*P	Pn	04 21 13.9	-1.4
BAUV	**El Baul**	**5.68**	**110**	*e*P	Pn	04 21 15.7	-1.4
CAOV	**Caicara del Or**	**7.90**	**117**	*e*P	Pn	04 21 44.5	-3.1

*ISCJB **26** 04:26:35.4±0.5, 39.18N±002×22.16E±004, h3km±6km, Error ellipse: s-maj=4.7km s-min=3.6km az=159.7*
*THE **26** 04:26:36.1, 39.15N×2208E, h4km, ML2.9*
*ATH **26** 04:26:36.1, 3920N×22.14E, h24km±2km, MD3.2/6*
*NEIC **26** 04:26:36.1, 3920N×22.14E, h25km, MD3.2(ATH), After ATH.*
*CSEM **26** 04:26:36.9±0.1, 39.19N×22.15E, h2km, ML2.9, Error ellipse: s-maj=3.0km s-min=2.4km az=78.0*
ISC 26 04:26:36.4±0.4, 3919N±002×2216E±003, h14km±5km, n22, σ1§12/37, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.21**	**142**	*e*Pg	**Pg**	**04 26 41.4**	**+0.3**
EVR	**Evrytania**	**0.39**	**225**	*e*PB	**Pg**	**04 26 44.1**	**-0.1**
EVR				*e*SB	**Sg**	**04 26 50.8**	**+1.4**
THL	**Klokotos Trika**	**0.39**	**343**	*e*Pg	**Pg**	**04 26 43.5**	**-0.8**
THL				*e*Sg	**Sg**	**04 26 50.6**	**+1.0**
THL	**Klokotos Trika**	**0.39**	**343**	*e*PB	**Pg**	**04 26 43.9**	**-0.4**
THL				*e*SB	**Sg**	**04 26 50.7**	**+1.1**
XOR	**Xorichti**	**0.82**	**77**	*e*Pg	**Pg**	**04 26 52.5**	**+0.2**
XOR				*e*Sg	**Sg**	**04 27 06.8**	**+3.8**
NEO	**Neokhori**	**0.83**	**82**	*e*PN	**Pn**	**04 26 53.2**	**-0.5**
LKR	**Lokris**	**0.85**	**129**	*e*Pg	**Pg**	**04 26 52.3**	**-0.5**
LKR				*e*Sg	**Sg**	**04 27 04.8**	**+0.9**
LKR	**Lokris**	**0.85**	**129**	*e*Pn	**Pn**	**04 26 52.8**	**-1.0**
LKR				*e*Sg	**Sg**	**04 27 04.8**	**+0.9**
MEV	**Metsovon**	**0.94**	**310**	*e*Pg	**Pg**	**04 26 53.0**	**-1.4**
MEV				*e*Sg	**Sg**	**04 27 06.5**	**-0.2**
MEV	**Metsovon**	**0.94**	**310**	*e*Pg	**Pg**	**04 26 53.0**	**-1.5**
MEV				*e*Sg	**Sg**	**04 27 06.5**	**-0.2**
LIT	**Litokhoron**	**0.94**	**15**	*e*Pg	**Pg**	**04 26 54.1**	**-0.5**
LTK	**Loutraki**	**1.32**	**151**	*e*Pg	**Pg**	**04 27 00.9**	**-0.9**
LTK				*e*Sg	**Sg**	**04 27 19.4**	**+0.3**
AOS	**Alonnisos**	**1.34**	**90**	*e*Pg	**Pg**	**04 27 00.9**	**-1.2**
AOS				*e*Sg	**Sg**	**04 27 22.4**	**+2.9**
PAIG	**Paliouri**	**1.39**	**57**	*e*Pg	**Pg**	**04 27 01.3**	**-1.7**
PAIG				*e*Sg	**Sg**	**04 27 20.9**	**-0.2**
PLG	**Polygyros**	**1.54**	**40**	*e*Pg	**Pg**	**04 27 05.1**	**-1.0**
PLG				*e*Sg	**Sg**	**04 27 27.7**	**+1.6**
PLG	**Polygyros**	**1.54**	**40**	*e*Pn	**Pn**	**04 27 03.5**	**+0.1**
PLG	**Polygyros**	**1.54**	**40**	*e*Pg	**Pg**	**04 27 05.1**	**-0.9**
PLG				*e*Sg	**Sg**	**04 27 27.7**	**+1.6**
**

IDC ***26*** *05:13:17.7±2.0, 1547S×16791E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.1/17, mbtmp4.2/8, Error ellipse: s-maj=58.9km s-min=24.9km az=123.0*

LDG ***26*** *05:13:23.2±0.4, 1471S×16722E, h10km, Mb4.4/2, Error ellipse: s-maj=60.1km s-min=8.4km az=89.0*

NEIC ***26*** *05:13:31.4±2.6, 1505S×167.12E, h74km±23km, mb4.8/1, Error ellipse: s-maj=23.5km s-min=16.7km az=166.0*

ISCJB ***26*** *05:13:33.6±4.5, 153S±02×1673E±03, h121km±53km, mb4.1/8, Error ellipse: s-maj=55.0km s-min=27.7km az=28.6*

ISC 26 05:13:35.6±4.0, 154S±02×1674E±04, h127km±51km, n35, σ0992/66/11, mb4.1/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.74**	**187**	*e*Pn	**Pn**	**05 15 11.6**	**-0.4**
DZM				*e*Sn	**Sn**	**05 16 27.7**	**+0.3**
STKA	**Stephens Creek**	**28.66**	**230**	P	**P**	**05 19 20.7**	**+0.3**
	1.1nm,0.5s,mb3.8,baz=58,slow=8.2,SNR=5.8						
STKA				PcP	PcP	05 22 27.4	-0.7
	0.4nm,0.6s,baz=105,slow=4.1,SNR=3.0						
WRA	**Warramunga Arr**	**31.77**	**257**	P	**P**	**05 19 47.4**	**-0.6**
	0.7nm,0.3s,mb3.8,baz=80,slow=6.1,SNR=23						
ASAR	**Alice Springs**	**32.54**	**250**	P	**P**	**05 19 54.7**	**0.0**
	2.9nm,0.6s,mb4.3,baz=81,slow=9.2,SNR=58						
FITZ	**Fitzroy Crossi**	**40.00**	**260**	*e*P	**P**	**05 20 58.4**	**+0.2**
	9.8nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**40.00**	**260**	P	**P**	**05 20 58.3**	**+0.2**
	4.1nm,0.4s,mb4.6,baz=96,slow=8.1,SNR=35						
MJAR	**Matsushiro Arr**	**58.50**	**333**	P	**P**	**05 23 18.4**	**-0.1**
	1.0nm,0.4s,mb4.2,baz=169,slow=9.2,SNR=6.7						
KSRS	**Korea Array**	**64.31**	**326**	P	**P**	**05 23 58.6**	**+1.1**
	1.0nm,0.7s,mb3.8,baz=153,slow=8.4,SNR=4.8						
SONM	**Songino Array**	**83.05**	**324**	P	**P**	**05 25 47.4**	**+0.7**
	1.3nm,0.5s,mb4.0,baz=156,slow=9.6,SNR=11						
ZALV	**Zalesovo Beam**	**97.95**	**324**	P	**P**	**05 26 55.4**	**-1.5**
	0.5nm,0.4s,mb4.4,baz=103,slow=4.6,SNR=2.8						
ARCES	**ARCESS Array B**	**120.88**	**345**	PKP	PKPdf	05 32 11.5	-0.7
	1.3nm,0.7s,baz=63,slow=2.0,SNR=9.0						
ARCES	**ARCESS Array B**	**120.88**	**345**	PKP	PKPdf	05 32 11.5	-0.7
CDF	**Champ du Feu**	**143.19**	**338**	*e*PKP1	PKPdf	05 32 52.0	-2.6
HINF	**Hinteralfeld**	**143.84**	**338**	*e*PKP1	PKPdf	05 32 53.8	-2.0
CABF	**La Chapelle**	**145.14**	**337**	*e*PKP1	PKPbc	05 32 57.8	0.0
	13nm,0.9s						
FLN	**La Foliniere**	**145.22**	**346**	*e*PKP1	PKPbc	05 32 58.2	+0.2
	15nm,0.8s						
LDF	**La Druitiere**	**145.29**	**345**	*e*PKP1	PKPbc	05 32 58.5	+0.2
	7.9nm,0.7s						
LOR	**Lormes**	**145.35**	**340**	*e*PKP1	PKPbc	05 32 59.2	+0.7
	6.4nm,0.7s						
SSF	**Saint Saulge**	**145.65**	**340**	*e*PKP1	PKPbc	05 33 00.2	+0.8
	7.8nm,0.7s						
GRR	**Gorron**	**145.66**	**346**	*e*PKP1	PKPbc	05 33 00.0	+0.6
	9.2nm,0.6s						
LPL	**La Plagne**	**145.80**	**335**	*e*PKP1	PKPbc	05 33 01.0	+1.1
	3.2nm,0.5s						
LPG	**La Plagne**	**145.81**	**335**	*e*PKP1	PKPbc	05 33 01.2	+1.2
	4.9nm,0.6s						
SMF	**Signal de Mont**	**145.91**	**340**	*e*PKP1	PKPbc	05 33 00.5	+0.3
	11nm,0.9s						
AVF	**Avril sur Loir**	**145.94**	**340**	*e*PKP1	PKPbc	05 33 00.5	+0.2
	2.8nm,0.5s						
SGMF	**Saint Gilles**	**146.16**	**348**	*e*PKP1	PKPbc	05 33 01.2	+0.3
BGF	**Bois d'Agland**	**146.31**	**341**	*e*PKP1	PKPbc	05 33 01.9	+0.5
MBDF	**Montbardon**	**146.43**	**335**	*e*PKP1	PKPbc	05 33 02.9	+1.1
	4.7nm,0.8s						
ORIF	**Oris-en-Rattie**	**146.63**	**336**	*e*PKP1	PKPbc	05 33 03.1	+0.7
TCF	**Toulx Ste Croi**	**146.75**	**341**	*e*PKP1	PKPbc	05 33 03.2	+0.5
PGF	**Pioggiola**	**147.14**	**330**	*e*PKP1	PKPbc	05 33 04.2	+0.3
	20nm,1.2s						
MFF	**Saint Martin d**	**147.15**	**344**	*e*PKP1	PKPbc	05 33 04.2	+0.4
	13nm,0.8s						
FRF	**La Foret Royal**	**147.43**	**334**	*e*PKP1	PKPbc	05 33 04.8	+0.1
	4.0nm,0.8s						
SMRF	**Simiane la Rot**	**147.54**	**335**	*e*PKP1	PKPbc	05 33 05.6	+0.6
LMR	**La Mourre**	**147.67**	**333**	*e*PKP1	PKPbc	05 33 05.4	+0.1
LFF	**La Frestale**	**148.41**	**342**	*e*PKP1	PKPbc	05 33 07.7	+0.5

NEIC ***26*** *05:15:57.4, 1720N×9939W, h20km, MD3.8(MEX), After MEX.*

MEX 26 05:15:57.4±0.9, 1720N×9939W, h20km±11km, MD3.8, 2D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.60**	**237**	*i* P	Pb	05 16 06.5	-2.7
ACX				*i* S	Sb	05 16 15.2	-2.0
MEIG	**Mezcala**	**0.76**	**343**	⇓*i* P	Pb	05 16 09.6	-2.4
MEIG				*i* S	Sb	05 16 19.3	-2.5
CAIG	**El Cayaco**	**0.85**	**260**	⇓*i* P	Pb	05 16 11.0	-2.5
CAIG				*i* S	Sb	05 16 22.0	-2.5
PLIG	**Platanillo**	**1.19**	**355**	*i* P	Pn	05 16 15.8	-3.2
PLIG				*i* S	Sb	05 16 29.1	-5.3
PNIG	**Pinotepa**	**1.45**	**123**	*e*P	Pn	05 16 19.7	-2.8
PNIG				*i* S	Sn	05 16 36.6	-4.3
UTMO	**Huajuapan**	**1.64**	**67**	*i* P	Pn	05 16 22.9	-2.3
UTMO				*i* S	Sn	05 16 40.7	-4.9
PPM	**Popocatepetl**	**2.00**	**21**	*e*P	Pn	05 16 28.0	-2.1
PPM				*i* S	Sn	05 16 51.8	-2.7
ZIIG	**Zihuatanejo**	**2.02**	**282**	*e*P	Pn	05 16 27.3	-3.1
ZIIG				*i* S	Sn	05 16 49.4	-5.6
VHO	**Vista Hermosa**	**2.54**	**92**	*i* P	Pn	05 16 36.1	-1.4
VHO				*i* S	Sn	05 17 04.5	-3.4

NIED ***26*** *05:31:00, 4360N×14720E, h59km, Mw5.4 Best double couple: M0 1.28000×10^17 NP1:φs 78.00000°, δ75.00000°, λ128.00000°. NP2:φs 186.00000°, δ41.00000°, λ23.00000°.*

MOS ***26*** *05:31:07.0±1.0, 4374N×147.11E, h42km, mb5.5/126, MS4.7/37, Error ellipse: s-maj=6.5km s-min=4.7km az=93.2*

MOS Felt (V) at Malokuril'skoe; (IV) at Yuzhno-Kuril'sk; (II-III) at Kuril'sk.

SZGRF ***26*** *05:31:07.5, 4397N×14757E, h33km, mb5.6, Kuril Islands, Russia*

ISCJB ***26*** *05:31:08.5±0.1, 4363N±002×147.19E±002, h57km, mb5.4/320, MS4.6/66, Error ellipse: s-maj=2.8km s-min=1.7km az=154.9*

BJI ***26*** *05:31:09.1, 4380N×147.10E, h57km, mB5.0, mb5.1, Ms4.6, Msz4.4*

IDC ***26*** *05:31:09.8±0.3, 4381N×147.13E, h56km±3km, mb4.7/20, mb1 4.9/25, mb1mx4.9/26, mbtmp4.8/25, MS4.5/25, Ms1 4.5/25, ms1mx4.3/30, Error ellipse: s-maj=11.2km s-min=8.5km az=124.0*

SKHL ***26*** *05:31:09.3±1.1, 4388N×14737E, h54km±23km, mb6.0/4, mbh5.7/4, Ms4.7/2, msh5.5/7*

SKHL Felt (V) at Malokurilskoe, (IV) at Yushno-Kurilsk, (II-III) at Kurilsk.

BGS ***26*** *05:31:10.6±1.4, 4368N×14656E, h57km, mb5.5*

NEIC ***26*** *05:31:10.6±0.1, 4380N×147.11E, mb5.4/225, Error ellipse: s-maj=3.8km s-min=2.3km az=170.0*

NEIC Recorded [4 JMA] in eastern Hokkaido, [2 JMA] in the Kushiro area and [1 JMA] in the Obihiro area and in southwestern Hokkaido. Also recorded [1 JMA] in Aomori, Iwate and Miyagi Prefectures, Honshu.

GCMT ***26*** *05:31:10.6±0.1, 4377N×147.34E, h69km±1km, MW5.4/93, Moment Tensor Solution. s75,c134; s93,c185; Duration: 1±2 Moment tensor: Scale 10^17Nm; Mrr0.48±.02; Mθθ-0.06±.02; Mφφ-0.41±.02; Mrθ0.81±.02; Mθφ-0.99±.02; Mφr-0.05±.02; Best double couple: M0 1.35700×10^17 NP1:φs 181.00000°, δ49.00000°, λ20.00000°. NP2:φs 78.00000°, δ75.00000°, λ137.00000°. Principal axes: T 1.3300, Plg40.0000°, Azm31.0000°; N 0.0540, Plg45.0000°, Azm242.0000°; P -1.3840, Plg16.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

JMA ***26*** *05:31:10.0±0.2, 4356N×147.21E, h49km±5km, M5.4*

JMA Felt III J1.

DJA ***26*** *05:31:11, 4364N×14706E, h52km, mb5.3/8*

ISC 26 05:31:10.5±0.1, 4370N±002×14715E±002, h59km, h59km±.4km: pP-P, n1051, σ0992/1069, mb5.4/320, MS4.6/66, 179C-38D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.99**	**290**	⇓*i* PN	**Pn**	**05 31 28.5**	**+0.1**
YUK				pmax	pmax		
	comp=Z,156μm,1.6s						
YUK				pmax	pmax		
	comp=N,70μm,2.0s						
YUK				pmax	pmax		
	comp=E,245μm,2.6s						
YUK	**Yuzh-Kuril'sk**	**0.99**	**290**	⇓*i* P	**Pn**	**05 31 28.5**	**+0.1**
YUK				⇓*i* P		05 31 28.5	
YUK				⇓*i* P		05 31 28.5	
YUK				AMB	AMB	05 31 30.0	
	comp=E,156μm,1.6s						
YUK				AMB	AMB	05 31 30.0	
	comp=E,70μm,2.0s						
YUK				AMB	AMB	05 31 30.0	
	comp=E,245μm,2.6s						
YUK				*i* S	**Sn**	**05 31 42.5**	**+0.9**
NEM2	**Nemuro 2**	**1.08**	**253**	P	**Pn**	**05 31 29.2**	**-0.3**
NEM2				*e*S	**Sn**	**05 31 43.1**	**-0.5**
JRA	**Rausu**	**1.49**	**280**	⇓P	**Pn**	**05 31 35.8**	**+0.8**
JRA				*e*S	**Sn**	**05 31 55.7**	**+2.3**
KUR	**Kuril'sk**	**1.62**	**18**	*b i* PN	**Pn**	**05 31 32.5**	**-4.3**
KUR				*i* S	**Sn**	**05 31 51.0**	**-5.6**
KUR				pmax	pmax		
	comp=N,1μm,0.5s						
KUR				pmax	pmax		
	comp=E,810nm,0.5s						
KUR				pmax	pmax		
	comp=Z,3μm,0.5s						
KUR				pmax	pmax		
	comp=N,2μm,1.0s						
KUR				pmax	pmax		
	comp=E,5μm,1.0s						
KUR				pmax	pmax		
	comp=Z,10μm,1.0s						
KUR				smax			
	comp=N,125μm,1.0s						
KUR				smax			
	comp=E,215nm,1.0s						
KUR	**Kuril'sk**	**1.62**	**18**	⇓*i* P	**Pn**	**05 31 32.5**	**-4.3**
KUR				⇑*i* P		05 31 32.5	
KUR				AMB	AMB	05 31 34.0	
	comp=E,1μm,0.5s						
KUR				AMB	AMB	05 31 34.0	
	comp=E,806nm,0.5s						
KUR				AMB	AMB	05 31 34.0	
	comp=E,3μm,0.5s						
KUR				AMB	AMB	05 31 39.0	
	comp=E,2μm,1.0s						
KUR				AMB	AMB	05 31 39.0	
	comp=E,5μm,1.0s						
KUR				AMB	AMB	05 31 39.0	
	comp=E,10μm,1.0s						
KUR				*e*S	**Sn**	**05 31 51.0**	**-5.6**
KUR				A		05 31 53.0	
	comp=E,125μm,1.0s						
KUR				A		05 31 53.0	
	comp=E,215μm,1.0s						
KUR				A		05 31 53.6	
	comp=E,72μm,1.6s						
KUR				A		05 31 53.6	
	comp=E,65μm,1.6s						
JNK	**Nakash**	**1.77**	**267**	⇓P	**Pn**	**05 31 39.1**	**+0.3**
JNK				*e*S	**Sn**	**05 32 01.0**	**+0.8**
JAK	**Akkeshi**	**1.92**	**250**	⇑P	**Pn**	**05 31 40.7**	**-0.2**
JAK				*e*S	**Sn**	**05 32 03.9**	**0.0**
JTKR	**Abashiri--Toko**	**2.36**	**278**	⇓P	**Pn**	**05 31 48.3**	**+1.4**
JAR	**Ashorobuto**	**2.49**	**262**	⇓P	**Pn**	**05 31 49.7**	**+1.1**
JOB	**Onbets**	**2.55**	**253**	P	**Pn**	**05 31 49.8**	**+0.4**
JMP	**Maruseppu**	**2.76**	**278**	⇓P	**Pn**	**05 31 54.1**	**+1.8**
JCH	**Churui**	**2.98**	**250**	P	**Pn**	**05 31 55.4**	**+0.2**
JCH				*e*S	**Sn**	**05 32 29.4**	**-0.3**
JKK2	**Kamakawa 2**	**3.19**	**275**	⇓P	**Pn**	**05 32 00.3**	**+2.1**
ASAJ	**Asahikawa**	**3.32**	**279**	⇓P	**Pn**	**05 32 02.1**	**+2.2**
ASAJ	**Asahikawa**	**3.32**	**279**	P	**Pn**	**05 32 00.4**	**+0.5**
	comp=E,74nm,0.3s,baz=91,slow=15,SNR=467						
ASAJ				S	**Sn**	**05 32 32.4**	**-5.7**
	comp=E,387nm,0.3s,baz=101,slow=11,SNR=6.5						
ASAJ				LR	LR	05 33 17.5	
	comp=E,8μm,22.0s,baz=102,slow=39						
ASAJ	**Asahikawa**	**3.32**	**279**	PN	**Pn**	**05 32 00.4**	**+0.5**
ASAJ				S	**Sn**	**05 32 32.4**	**-5.7**
ASAJ				pmax	pmax		
	comp=Z,74nm,0.3s						
ASAJ				smax			
	comp=N,387nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,8μm,22.0s						
JFR	**Furan**	**3.36**	**262**	⇓P	**Pn**	**05 32 02.5**	**+2.0**
JFR				*e*S	**Sn**	**05 32 41.1**	**+1.9**
JEM	**Erimo**	**3.38**	**242**	P	**Pn**	**05 32 02.3**	**+1.5**
JSE	**Soyaes**	**3.51**	**293**	⇓P	**Pn**	**05 32 04.3**	**+1.7**
JNBK	**Urakawa-nobuka**	**3.52**	**248**	P	**Pn**	**05 32 02.8**	**+0.1**
JNBK				*e*S	**Sn**	**05 32 43.1**	**0.0**
JWK2	**Keihoku**	**4.09**	**295**	⇓P	**Pn**	**05 32 13.7**	**+3.2**
YSS	**Yuzh-Sakhalins**	**4.50**	**318**	*k i* PN	**Pn**	**05 32 17.3**	**+1.3**
YSS				*i* S	**Sn**	**05 33 07.5**	**+0.5**
YSS				pmax	pmax		
	comp=N,1μm,0.6s						
YSS				pmax	pmax		
	comp=E,1μm,0.6s						
YSS				pmax	pmax		
	comp=Z,1μm,0.6s						
YSS				pmax	pmax		
	comp=Z,2μm,5.0s						
YSS				pmax	pmax		
	comp=N,2μm,4.0s						
YSS				smax			
	comp=N,2μm,4.0s						
YSS				smax			
	comp=E,2μm,0.8s						
YSS				MLR	MLR		
	comp=Z,7μm,18.0s						
YSS				MLR	MLR		
	comp=N,4μm,15.0s						
YSS				MLR	MLR		
	comp=E,4μm,17.0s						
YSS	**Yuzh-Sakhalins**	**4.50**	**318**	⇓*i* P	**Pn**	**05 32 17.3**	**+1.3**
YSS				⇓*i* P		05 32 17.3	
YSS				AMB	AMB	05 32 18.6	
	comp=E,1μm,0.6s						
YSS				AMB	AMB	05 32 18.6	
	comp=E,1μm,0.6s						
YSS				AMB	AMB	05 32 18.6	
	comp=E,1μm,0.6s						
YSS				AMB	AMB	05 32 20.2	
	comp=E,2μm,5.0s						
YSS				AMB	AMB	05 32 20.2	
	comp=E,2μm,4.0s						
YSS				*i* S	**Sn**	**05 33 07.5**	**+0.5**
YSS				A		05 33 10.0	
	comp=E,2μm,4.0s						
YSS				A		05 33 11.7	
	comp=E,2μm,0.8s						
YSS				*e*LQ		05 33 32.0	
YSS				AMS	AMS	05 34 04.0	
	comp=E,7μm,18.0s						
YSS				AMS	AMS	05 34 04.0	
	comp=E,4μm,17.0s						
YSS				AMS	AMS	05 34 04.0	
	comp=E,4μm,15.0s						
YSS	**Yuzh-Sakhalins**	**4.50**	**318**	*e*Pn	**Pn**	**05 32 17.8**	**+1.7**
YSS				*e*Sn	**Sn**	**05 33 10.1**	**+3.1**
UGL	**Uglegorsk**	**6.43**	**329**	*e*PN	**Pn**	**05 32 45.0**	**+2.5**
UGL				S	**Sn**	**05 33 57.0**	**+2.6**
UGL				pmax	pmax		
	comp=E,199nm,0.6s						
UGL				pmax	pmax		
	comp=Z,221nm,0.6s						
UGL				pmax	pmax		
	comp=N,1μm,5.0s						
UGL				pmax	pmax		
	comp=Z,2μm,5.0s						
UGL				pmax	pmax		
	comp=E,1μm,4.0s						
UGL				smax			
	comp=N,299nm,0.6s						
UGL				smax			
	comp=E,398nm,0.6s						
UGL				smax			
	comp=N,6μm,6.0s						
UGL				smax			
	comp=E,3μm,5.0s						
UGL				MLR	MLR		
	comp=N,8μm,23.0s						
UGL				MLR	MLR		
	comp=E,5μm,23.0s						
UGL				MLR	MLR		
	comp=Z,8μm,23.0s						
UGL	**Uglegorsk**	**6.43**	**329**	*e*P	**Pn**	**05 32 45.0**	**+2.5**
UGL				AMB	AMB	05 32 48.0	
	comp=Z,199nm,0.6s						
UGL				AMB	AMB	05 32 48.0	
	comp=Z,221nm,0.6s						
UGL				AMB	AMB	05 32 49.0	
	comp=Z,1μm,5.0s						
UGL				AMB	AMB	05 32 49.0	
	comp=Z,1μm,4.0s						
UGL				*e*S	**Sn**	**05 33 57.0**	**+2.6**
UGL				A		05 34 02.0	
	comp=Z,299nm,0.6s						
UGL				A		05 34 02.0	
	comp=Z,398nm,0.6s						
UGL				A		05 34 06.0	
	comp=Z,3μm,5.0s						
UGL				A		05 34 06.0	
	comp=Z,6μm,5.0s						
UGL				A		05 34 06.0	
	comp=Z,6μm,6.0s						
UGL				AMS	AMS	05 34 52.0	
	comp=Z,8μm,23.0s						
UGL				AMS	AMS	05 34 52.0	
	comp=Z,5μm,23.0s						
UGL				AMS	AMS	05 34 52.0	
	comp=Z,8μm,23.0s						
TYV	**Tymovskoe**	**7.79**	**339**	⇑*e*P	**Pn**	**05 33 03.0**	**+1.9**
TYV				*e*S	**Sn**	**05 34 28.0**	**+0.2**
TYV				A		05 34 31.5	
	comp=Z,400nm,0.9s						
TYV				A		05 34 40.0	
	comp=Z,4μm,4.0s						
TYV				*e*LR	LR	05 35 16.0	
TYV				AMS	AMS	05 35 42.0	
	comp=Z,8μm,22.0s						
TYV				AMS	AMS	05 35 42.0	
	comp=Z,8μm,23.0s						
JAW	**Awa shima**	**7.94**	**231**	P	**Pn**	**05 33 04.0**	**+0.8**
JHO	**Hitachi**	**8.68**	**218**	P	**Pn**	**05 33 11.2**	**-2.2**
JSB	**Shiboa**	**8.69**	**222**	P	**Pn**	**05 33 12.7**	**-0.8**
JSD	**Sado**	**8.79**	**233**	P	**Pn**	**05 33 13.7**	**-1.1**
JIZZ	**Izumozaki**	**8.89**	**229**	P	**Pn**	**05 33 16.2**	**0.0**
JHK	**Hiroka**	**8.94**	**227**	P	**Pn**	**05 33 15.8**	**-1.0**
JKT	**Katashina**	**9.18**	**224**	P	**Pn**	**05 33 20.6**	**+0.4**
SKR	**Severo-Kuril's**	**9.27**	**38**	*e*P	**Pn**	**05 33 18.5**	**-2.9**
SKR				AMB	AMB	05 33 22.8	
	comp=Z,100nm,0.8s						
SKR				AMB	AMB	05 33 22.8	
	comp=Z,140nm,0.8s						
SKR				AMB	AMB	05 33 22.8	
	comp=Z,470nm,0.8s						
SKR				AMB	AMB	05 33 26.0	
	comp=Z,1μm,4.0s						
SKR				AMB	AMB	05 33 26.0	
	comp=Z,3μm,2.0s						
SKR				AMB	AMB	05 33 26.0	
	comp=Z,2μm,2.0s						
SKR				AMB	AMB	05 33 26.0	
	comp=Z,3μm,2.0s						
SKR				*e*S	**Sn**	**05 35 01.2**	**-2.9**
SKR				A		05 35 11.1	
	comp=Z,170nm,0.6s						
SKR				A		05 35 11.1	
	comp=Z,80nm,0.6s						
SKR				A		05 35 11.1	
	comp=Z,100nm,0.3s						
SKR				A		05 35 25.0	
	comp=Z,1μm,6.0s						
SKR				A		05 35 25.0	
	comp=Z,3μm,6.0s						
SKR				A		05 35 25.0	
	comp=Z,2μm,6.0s						
SKR				AMS	AMS	05 36 15.0	
	comp=Z,4μm,16.0s						
SKR				AMS	AMS	05 36 15.0	
	comp=Z,3μm,18.0s						
SKR				AMS	AMS	05 36 15.0	
	comp=Z,4μm,16.0s						
SKR				AMS	AMS	05 36 15.0	
	comp=Z,3μm,18.0s						
SKR				AMS	AMS	05 36 15.0	
	comp=Z,3μm,18.0s						
JAG	**Ashikaga**	**9.35**	**222**	P	**Pn**	**05 33 20.5**	**-2.0**
JJN	**Nakama**	**9.50**	**229**	P	**Pn**	**05 33 24.2**	**-0.4**
JHG	**Hegura jima**	**9.71**	**236**	P	**Pn**	**05 33 27.2**	**-0.2**
JSZ	**Suzu**	**9.71**	**233**	P	**Pn**	**05 33 27.1**	**-0.3**
MJAR	**Matsushiro Arr**	**9.89**	**227**	P	**Pn**	**05 33 28.1**	**-1.8**
	comp=Z,6.7nm,0.3s,baz=29,slow=14,SNR=151						
MJAR				S	**Sn**	**05 35 20.3**	**+0.9**
	comp=Z,6.3nm,0.3s,baz=43,slow=13,SNR=4.7						
MJAR				LR	LR	05 37 52.8	
	comp=Z,3μm,19.2s,baz=55,slow=40						
MAJO	**Matsushiro**	**9.89**	**227**	*e*Pn	**Pn**	**05 33 28.7**	**-1.2**
MAJO				Sn	**Sn**	**05 35 14.9**	**-4.5**
MAT	**Matsushiro**	**9.89**	**227**	P	**Pn**	**05 33 29.5**	**-0.4**
MAT				S	**Sn**	**05 35 17.9**	**-1.5**
MAT	**Matsushiro**	**9.89**	**227**	P	**Pn**	**05 33 28.9**	**-1.0**
JRY	**Ryogami san**	**9.95**	**222**	P	**Pn**	**05 33 29.3**	**-1.3**
JNG	**Nsakai**	**10.05**	**227**	P	**Pn**	**05 33 30.6**	**-1.5**
BSO1	**Boso 1**	**10.22**	**210**	P	**Pn**	**05 33 30.6**	**-3.8**
OKH	**Okha**	**10.25**	**346**	*e*PN	**Pn**	**05 33 36.0**	**+1.4**
OKH				*e*S	**Sn**	**05 35 38.2**	**+10**
OKH	**Okha**	**10.25**	**346**	*e*P	**Pn**	**05 33 36.0**	**+1.4**
OKH				*e*S	**Sn**	**05 35 38.2**	**+10**
OKH				A		05 35 47.4	
	comp=Z,5μm,8.0s						
OKH				A		05 35 47.4	
	comp=Z,3μm,6.0s						
OKH				*e*LQ		05 36 27.8	
OKH				AMS	AMS	05 38 35.8	
	comp=Z,4μm,15.0s						
OKH				AMS	AMS	05 38 35.8	
	comp=Z,2μm,11.0s						
OKH				AMS	AMS	05 38 35.8	
	comp=Z,3μm,16.0s						
JTT	**Ttatey**	**10.32**	**230**	P	**Pn**	**05 33 36.3**	**+0.6**
NKL	**Nikolayevsk**	**10.39**	**338**	*e*P	**Pn**	**05 33 33.0**	**-3.6**
NKL				AMB	AMB	05 33 36.0	
	comp=Z,500nm,3.0s						
NKL				AMB	AMB	05 33 36.0	
	comp=Z,500nm,3.0s						
NKL				AMB	AMB	05 33 36.0	
	comp=Z,52nm,1.0s						
NKL				AMB	AMB	05 33 36.0	
	comp=Z,250nm,1.0s						
NKL				*e*S	**Sn**	**05 35 35.0**	**+3.7**
NKL				A		05 35 44.0	
	comp=Z,1μm,10.0s						
NKL				A		05 35 44.0	
	comp=Z,2μm,10.0s						
NKL				*e*L		05 36 37.0	
NKL				AMS	AMS	05 38 53.0	
	comp=Z,1μm,15.0s						
NKL				AMS	AMS	05 38 53.0	
	comp=Z,1μm,15.0s						
JNT	**Takato**	**10.44**	**225**	P	**Pn**	**05 33 37.1**	**-0.3**
JGN	**Niukaw**	**10.61**	**229**	P	**Pn**	**05 33 38.7**	**-1.0**
JNY	**Yasuok**	**10.98**	**224**	P	**Pn**	**05 33 43.9**	**-0.9**
JIZS	**Izushimoda**	**11.02**	**218**	P	**Pn**	**05 33 43.5**	**-1.8**
SHZ3	**Shizuoka 3**	**11.04**	**222**	P	**Pn**	**05 33 45.0**	**-0.6**
JGF	**Kuroka**	**11.05**	**226**	P	**Pn**	**05 33 45.2**	**-0.6**
VLA	**Vladivostok**	**11.12**	**272**	*e*PN	**Pn**	**05 33 45.3**	**-1.3**
VLA				pmax	pmax		
	comp=Z,36nm,0.7s						
VLA				MLR	MLR		
	comp=Z,1μm,16.0s						
JGM	**Miyama**	**11.32**	**229**	P	**Pn**	**05 33 49.2**	**-0.2**
JAO	**Obara**	**11.36**	**226**	P	**Pn**	**05 33 48.9**	**-1.1**
PETK	**Petropavlovsk-**	**11.73**	**33**	P	**Pn**	**05 33 51.9**	**-2.9**
	comp=Z,7.6nm,0.3s,baz=181,slow=7.5,SNR=134						
JAA	**Atsumi**	**11.92**	**224**	P	**Pn**	**05 33 57.6**	**+0.1**
JHJ	**Hachijo jima 2**	**12.03**	**211**	P	**Pn**	**05 33 56.8**	**-2.3**
	comp=Z,25nm,0.3s,baz=31,slow=22,SNR=15						
JHJ				S	**Sn**	**05 36 00.3**	**-11**
	comp=Z,108nm,0.3

PET	**Petropavlovsk**	**12.05 35**	*e*Pn	**Pn**	**05 33 55.2**	**-4.0**
PET			*e*Sn	**Sn**	**05 36 17.6**	**+5.7**
MDJ	**Mudanjiang**	**12.65 280**	P	**Pn**	**05 34 07.0**	**-0.5**
MDJ			S	**Sn**	**05 36 25.0**	**-1.5**
MDJ			PCP	PcP	05 39 45.5	+4.7
MDJ			SCP	ScP	05 43 14.0	+5.4
MDJ			AMB	AMB		
	comp=Z,11nm,0.6s					
MDJ			AMB	AMB		
	comp=Z,423nm,5.5s					
MDJ			LR	LR		
	comp=N,2μm,14.9s					
MDJ			LR	LR		
	comp=E,1μm,27.5s					
MDJ			LR	LR		
	comp=Z,2μm,20.6s					
MDJ	**Mudanjiang**	**12.65 280**	*e*Pn	**Pn**	**05 34 07.4**	**0.0**
	comp=Z,79nm,1.0s					
MDJ			*e*Sn	**Sn**	**05 36 35.3**	**+8.7**
JKN2	**Miekihoku**	**12.67 225**	P	**Pn**	**05 34 05.4**	**-2.4**
CN2	**Changchun**	**15.69 278**	*e*P	**Pn**	**05 34 46.5**	**-1.1**
CN2			*e*XP	sP	05 35 05.5	-5.2
CN2			*e*S	**S**	**05 37 37.5**	**-15**
CN2			AMB	AMB		
	comp=Z,20nm,0.7s					
CN2			AMB	AMB		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,4μm,16.0s					
CN2			LR	LR		
	comp=E,600nm,16.0s					
CN2			LR	LR		
	comp=Z,2μm,17.0s					
KSRS	**Korea Array**	**15.87 253**	P	**Pn**	**05 34 48.5**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=62,slow=13,SNR=27					
KSRS			S	**S**	**05 37 52.4**	**-3.9**
	comp=Z,0.7nm,0.3s,baz=62,slow=23,SNR=5.3					
KSRS			LR	LR	05 40 55.8	
	comp=Z,1μm,19.9s,baz=61,slow=37					
KSRS	**Korea Array**	**15.87 253**	P	**Pn**	**05 34 48.5**	**-1.5**
KSRS			S	**S**	**05 37 52.4**	**-3.9**
KSRS			pmax	pmax		
	comp=Z,1.0nm,0.3s					
KSRS			smax			
	comp=N,1.0nm,0.3s					
KSRS			MLR	MLR		
	comp=Z,1μm,20.0s					
KS15	**Wonju Array Si**	**15.90 253**	*e*Pn	**Pn**	**05 34 49.5**	**-1.0**
ZEA	**Zeya**	**16.48 315**	*e*P	**Pn**	**05 34 54.5**	**-3.1**
ZEA			AMB	AMB	05 34 59.3	
	comp=Z,220nm,1.2s					
ZEA			AMB	AMB	05 35 03.0	
	comp=Z,700nm,3.0s					
ZEA			AMB	AMB	05 35 03.0	
	comp=Z,500nm,3.0s					
ZEA			*e*S	**S**	**05 37 58.5**	**-10**
ZEA			A		05 38 08.0	
	comp=Z,900nm,12.0s					
ZEA			A		05 38 08.0	
	comp=Z,1μm,9.0s					
ZEA			A		05 38 08.0	
	comp=Z,600nm,10.0s					
ZEA			*e*LQ		05 39 45.0	
ZEA			*e*LR	LR	05 40 13.0	
ZEA			AMS	AMS	05 41 38.0	
	comp=Z,2μm,18.0s					
ZEA			AMS	AMS	05 41 38.0	
	comp=Z,1μm,18.0s					
ZEA			AMS	AMS	05 41 38.0	
	comp=Z,2μm,18.0s					
CBIJ	**Chichi jima**	**17.04 195**	P	**Pn**	**05 35 04.6**	**-0.2**
	comp=Z,14nm,0.3s,baz=334,slow=2.5,SNR=13					
CBIJ			S	S	05 37 57.6	-23
	comp=Z,29nm,0.3s,baz=267,slow=20,SNR=7.6					
CBIJ			LR	LR	05 40 47.0	
	comp=Z,858nm,21.1s,baz=198,slow=34					
SNY	**Shenyang**	**17.40 272**	⇑P	**Pn**	**05 35 10.3**	**+1.2**
SNY			AP	pP	05 35 22.0	-0.3
SNY			XP	sP	05 35 27.0	-2.8
SNY			S	**S**	**05 38 24.0**	**-3.4**
SNY			AMB	AMB		
	comp=Z,37nm,0.9s					
SNY			AMB	AMB		
	comp=Z,224nm,3.5s					
SNY			LR	LR		
	comp=E,957nm,20.6s					
SNY			LR	LR		
	comp=Z,1μm,28.4s					
CLNS	**Chul'man**	**19.26 321**	*e*P	**Pn**	**05 35 29.5**	**-1.9**
CLNS			*e*S	**S**	**05 39 02.6**	**-2.0**
CLNS			pmax	pmax		
	comp=Z,29nm,1.4s					
CLNS			pmax	pmax		
	comp=N,22nm,1.1s					
CLNS			pmax	pmax		
	comp=E,14nm,0.8s					
CLNS			smax			
	comp=N,57nm,1.1s					
CLNS			smax			
	comp=E,81nm,1.0s					
CLNS			MLR	MLR		
	comp=Z,749nm,17.0s					
CLNS			MLR	MLR		
	comp=N,569nm,14.0s					
CLNS			MLR	MLR		
	comp=E,318nm,12.0s					
SEY	**Seymchan**	**19.51 7**	*c i*P	**Pn**	**05 35 29.6**	**-4.7**
HIA	**Hailar**	**19.62 296**	*e*P	**Pn**	**05 35 31.7**	**-4.1**
HIA			*e*S	**S**	**05 39 07.5**	**-4.5**
HIA			pmax	pmax		
	comp=Z,56nm,0.9s					
HIA	**Hailar**	**19.62 296**	*e*P	**Pn**	**05 35 31.7**	**-4.0**
	comp=Z,56nm,0.9s					
HIA			*e*S	**S**	**05 39 07.5**	**-4.4**
DL2	**Dalian**	**19.73 265**	P	**Pn**	**05 35 35.5**	**-1.6**
DL2			XP	sP	05 35 54.3	-1.1
DL2			S	**S**	**05 39 17.0**	**+2.6**
DL2			AMB	AMB		
	comp=Z,30nm,0.8s					
DL2			AMB	AMB		
	comp=Z,140nm,6.2s					
DL2			LR	LR		
	comp=N,240nm,17.7s					
DL2			LR	LR		
	comp=E,290nm,14.7s					
DL2			LR	LR		
	comp=Z,240nm,16.1s					
SMY	**Shemya**	**20.00 54**	*e*P	**P**	**05 35 38.7**	**+0.7**
SMY			pmax	pmax		
	comp=Z,2μm,2.1s					
SMY	**Shemya**	**20.00 54**	*e*P	**P**	**05 35 38.7**	**+0.7**
	comp=Z,2μm,2.1s					
YAK	**Yakutsk**	**21.05 337**	*e*P	**P**	**05 35 44.6**	**-4.6**
YAK			*e*		05 36 02.6	
YAK			*e*S	**S**	**05 39 30.6**	**-9.4**
YAK			*e*SS		05 39 49.2	
YAK			*e*SSS		05 40 02.8	
YAK			*e*		05 47 04.7	
YAK			pmax	pmax		
	comp=Z,59nm,0.8s,mb5.0					
YAK			smax			
	comp=N,253nm,1.4s					
YAK			smax			
	comp=E,336nm,1.4s					
YAK			MLR	MLR		
	comp=Z,879nm,15.0s,MS4.3					
YAK			MLR	MLR		
	comp=N,690nm,16.0s,MS4.3					
YAK			MLR	MLR		
	comp=E,651nm,14.0s,MS4.3					
YAK	**Yakutsk**	**21.05 337**	*e*P	**P**	**05 35 45.0**	**-4.2**
	comp=E,184nm,0.9s,mb5.4					
YAK			S	**S**	**05 39 31.5**	**-8.5**
JOW	**Kunigami**	**22.73 228**	P	**P**	**05 36 08.8**	**+1.3**
	comp=E,18nm,0.8s,mb4.5,baz=48,slow=24,SNR=3.6					
JOW			LR	LR	05 45 57.7	
	comp=E,477nm,19.7s,MS3.9,baz=116,slow=39					
JOW	**Kunigami**	**22.73 228**	P	**P**	**05 36 08.8**	**+1.3**
JOW			LR	LR	05 45 57.7	
BJI	**Beijing**	**23.29 272**	P	**P**	**05 36 11.8**	**-1.2**
BJI			S	**S**	**05 40 17.8**	**-2.9**
BJI			AMB	AMB		
	comp=Z,47nm,0.7s,mb5.0					
BJI			AMB	AMB		
	comp=Z,281nm,3.2s					
BJI			LR	LR		
	comp=N,1μm,17.3s					
BJI			LR	LR		
	comp=E,626nm,23.8s					
BJI			LR	LR		
	comp=Z,1μm,29.6s					
BJT	**Baijiatuau**	**23.30 272**	*e*P	**P**	**05 36 11.4**	**-1.7**
BJT			pmax	pmax		
	comp=Z,65nm,0.7s					
BJT	**Baijiatuau**	**23.30 272**	*e*P	**P**	**05 36 11.3**	**-1.8**
	comp=Z,65nm,0.7s,mb5.2					
SSE	**Sheshan**	**24.05 247**	*e*P	**P**	**05 36 20.5**	**+0.4**
SSE			AP		05 36 35.0	
SSE			XP	sP	05 36 42.5	+1.1
SSE			S	**S**	**05 40 35.5**	**+2.3**
SSE			AMB	AMB		
	comp=Z,25nm,0.7s,mb4.8					
SSE			AMB	AMB		
	comp=Z,167nm,4.8s					
SSE			LR	LR		
	comp=N,474nm,23.0s,MS4.1					
SSE			LR	LR		
	comp=E,564nm,23.0s,MS4.1					
SSE			LR	LR		
	comp=Z,775nm,28.1s					
TIA	**Tai'an**	**24.11 262**	*e*P	**P**	**05 36 20.0**	**-0.6**
TIA			AMB	AMB		
	comp=Z,85nm,0.7s,mb5.3					
BOD	**Bodaibo**	**24.97 316**	*e*P	**P**	**05 36 25.5**	**-2.7**
BOD			*e*		05 36 45.6	
BOD			pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.1					
NJ2	**Nanjing**	**25.06 252**	*e*P	**P**	**05 36 30.8**	**+1.6**
NJ2			AP	pP	05 36 45.5	+1.9
NJ2			XP	sP	05 36 54.8	+4.2
NJ2			PP		05 37 09.0	
NJ2			S	**S**	**05 40 46.0**	**-3.3**
NJ2			AMB	AMB		
	comp=Z,50nm,0.7s,mb5.2					
NJ2			AMB	AMB		
	comp=Z,90nm,4.5s					
NJ2			LR	LR		
	comp=N,370nm,19.7s,MS4.4					
NJ2			LR	LR		
	comp=E,1μm,20.6s,MS4.4					
NJ2			LR	LR		
	comp=Z,1μm,20.6s,MS4.4					
ADK	**Adak**	**25.42 58**	*e*P	**P**	**05 36 31.5**	**-0.8**
HHC	**Hu-ho-hao-te**	**26.36 276**	*e*P	**P**	**05 36 42.0**	**+1.0**
HHC			AP	pP	05 36 56.5	+1.1
HHC			XP	sP	05 37 03.3	+0.9
HHC			PP		05 37 27.0	
HHC			S	**S**	**05 41 08.8**	**-1.0**
HHC			XS	sS	05 41 34.5	-0.1
HHC			SS		05 42 22.8	
HHC			PCS	PcS	05 43 47.8	+1.5
HHC			AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8					
HHC			LR	LR		
	comp=N,439nm,16.6s,MS4.3					
HHC			LR	LR		
	comp=E,725nm,17.8s,MS4.3					
HHC			LR	LR		
	comp=Z,1μm,18.4s,MS4.4					
BILL	**Bilibino**	**26.41 16**	⇓*i*P	**P**	**05 36 39.4**	**-1.7**
BILL			*i*		05 37 29.1	
BILL			*e*S	**S**	**05 41 08.3**	**-1.8**
BILL			pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4					
BILL			MLR	MLR		
	comp=Z,2μm,21.0s,MS4.6					
TIY	**Taiyuan**	**26.86 269**	P	**P**	**05 36 48.0**	**+2.6**
TIY			S	**S**	**05 41 16.3**	**-1.3**
TIY			LR	LR		
	comp=N,126nm,9.2s					
TIY			LR	LR		
	comp=E,294nm,10.2s					
TIY			LR	LR		
	comp=Z,582nm,19.7s					
BTO	**Baotou**	**27.55 277**	*e*P	**P**	**05 36 51.8**	**+0.1**
BTO			S	**S**	**05 41 25.5**	**-3.1**
BTO			LR	LR		
	comp=N,208nm,8.8s					
BTO			LR	LR		
	comp=E,273nm,18.1s					
SONM	**Songino Array**	**28.49 293**	P	**P**	**05 36 59.7**	**-0.2**
	comp=E,18nm,0.6s,mb4.9,baz=82,slow=6.5,SNR=76					
SONM			pP	pP	05 37 12.0	-2.5
	comp=E,13nm,0.6s,baz=90,slow=8.6,SNR=8.3					
SONM			PcP	PcP	05 40 08.3	-2.0
	comp=E,1.9nm,0.8s,baz=69,slow=5.9,SNR=1.9					
SONM			LR	LR	05 49 38.6	
	comp=E,3μm,18.1s,MS4.9,baz=86,slow=39					
SONM	**Songino Array**	**28.49 293**	P	**P**	**05 36 59.7**	**-0.2**
SONM			*PP	pP	05 37 12.0	-2.5
SONM					05 40 08.3	
WHN	**Wuhan**	**29.06 254**	P	**P**	**05 37 05.8**	**+0.6**
WHN			AMB	AMB		
	comp=Z,55nm,0.7s,mb5.4					
WHN			LR	LR		
	comp=N,1μm,16.7s,MS4.9					
WHN			LR	LR		
	comp=E,2μm,14.5s,MS4.9					
WHN			LR	LR		
	comp=Z,2μm,17.4s,MS4.8					
TIXI	**Tiksi**	**29.41 348**	*e*P	**P**	**05 37 03.6**	**-4.3**
TIXI			*e*PPP		05 38 07.3	
TIXI			*e*S	**S**	**05 41 56.5**	**-0.7**
TIXI			pmax	pmax		
	comp=Z,18nm,0.9s,mb4.8					
TIXI			MLR	MLR		
	comp=Z,744nm,14.0s,MS4.5					
TIXI	**Tiksi**	**29.41 348**	*e*P	**P**	**05 37 04.0**	**-3.9**
	comp=Z,15nm,0.8s,mb4.8					
TLY	**Talaya**	**29.98 301**	*e*P	**P**	**05 37 13.5**	**+0.5**
TLY			*e*		05 38 14.0	
TLY			*e*S	**S**	**05 42 02.1**	**-4.4**
TLY			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5					
TLY			MLR	MLR		
	comp=Z,1μm,21.0s,MS4.5					
TLY	**Talaya**	**29.98 301**	*e*P	**P**	**05 37 13.9**	**+0.9**
GUMO	**Guam**	**30.07 184**	LR	LR	05 47 13.9	
	comp=Z,730nm,21.4s,MS4.3,baz=46,slow=32					
ZAK	**Zakamensk**	**30.28 298**	⇑*e*P	**P**	**05 37 16.5**	**+0.8**
ZAK			*e*	pP	05 37 30.9	+0.6
ZAK			pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5					
XAN	**Xi'an**	**31.05 265**	P	**P**	**05 37 23.0**	**+0.3**
XAN			AP	pP	05 37 38.0	+0.6
XAN			XP	sP	05 37 45.0	+0.7
XAN			PP	PP	05 38 26.0	-7.6
XAN			PCP	PcP	05 40 19.0	+1.9
XAN			S	**S**	**05 42 21.0**	**-2.6**
XAN			XS	sS	05 42 46.0	-2.5
XAN			PCS	PcS	05 44 02.8	+1.5
XAN			SS	SS	05 44 07.0	-31
XAN			AMB	AMB		
	comp=Z,21nm,0.8s,mb5.0					
XAN			AMB	AMB		
	comp=Z,45nm,4.7s					
XAN			LR	LR		
	comp=N,268nm,15.6s,MS4.2					
XAN			LR	LR		
	comp=E,316nm,16.3s,MS4.2					
XAN			LR	LR		
	comp=Z,466nm,18.3s,MS4.2					
LZH	**Lanzhou**	**33.78 272**	⇑P	**P**	**05 37 48.0**	**+1.5**
LZH			AP	pP	05 38 01.0	-0.2
LZH			XP	sP	05 38 05.3	-2.9
LZH			PP	PP	05 39 02.0	-1.8
LZH			S	**S**	**05 43 06.0**	**0.0**
LZH			XS	sS	05 43 27.8	-3.1
LZH			SS	SS	05 45 14.8	-19
LZH			AMB	AMB		
	comp=Z,63nm,1.2s,mb5.4					
LZH			AMB	AMB		
	comp=Z,174nm,4.8s					
LZH			LR	LR		
	comp=N,1μm,12.2s					
LZH			LR	LR		
	comp=Z,2μm,17.3s					
GTA	**Gaotai**	**35.31 280**	P	**P**	**05 38 00.5**	**+0.8**
GTA			AP	pP	05 38 15.8	+1.3
GTA			XP	sP	05 38 23.3	+1.9
GTA			S	**S**	**05 43 30.0**	**+0.5**
GTA			XS	sS	05 43 56.3	+1.8
GTA			SS	SS	05 45 50.8	-14
GTA			AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7					
GTA			AMB	AMB		
	comp=Z,171nm,4.2s					
GTA			LR	LR		
	comp=N,733nm,18.9s,MS4.5					
GTA			LR	LR		
	comp=E,553nm,21.6s,MS4.5					
GTA			LR	LR		
	comp=Z,732nm,19.8s,MS4.4					
CD2	**Chengdu**	**36.40 264**	P	**P**	**05 38 09.3**	**+0.1**
CD2			AP	pP	05 38 24.5	+0.5
CD2			XP	sP	05 38 31.8	+0.9
CD2			PP	PP	05 39 33.3	+0.5
CD2			PCP	PcP	05 40 34.0	+1.6
CD2			S	**S**	**05 43 44.3**	**-2.1**
CD2			XS	sS	05 44 10.3	-1.2
CD2			PCS	PcS	05 44 20.5	+0.3
CD2			SS	SS	05 46 11.0	-16
CD2			SCS	ScS	05 48 18.3	-1.8
CD2			AMB	AMB		
	comp=Z,130nm,0.6s,mb6.0					
CD2			AMB	AMB		
	comp=Z,180nm,5.4s					
CD2			LR	LR		
	comp=N,530nm,15.6s,MS4.5					
CD2			LR	LR		
	comp=E,450nm,18.0s,MS4.5					
CD2			LR	LR		
	comp=Z,400nm,11.8s					
GYA	**Guiyang**	**36.91 256**	⇑*i*P	**P**	**05 38 13.8**	**+0.3**
GYA			AP	pP	05 38 31.3	+2.9
GYA			XP	sP	05 38 39.0	+3.8
GYA			PP	PP	05 39 42.5	+4.0
GYA			PCP	PcP	05 40 36.0	+2.0
GYA			S	**S**	**05 43 54.3**	**+0.1**
GYA			SCP	ScP	05 44 16.8	+1.2
GYA			SS	SS	05 46 25.3	-12
GYA			SCS	ScS	05 48 22.5	-0.5
GYA			AMB	AMB		
	comp=Z,30nm,0.5s,mb5.4					
GYA			AMB	AMB		
	comp=Z,140nm,6.8s					
GYA			LR	LR		
	comp=N,640nm,17.2s,MS4.6					
GYA			LR	LR		
	comp=E,580nm,16.9s,MS4.6					
GYA			LR	LR		
	comp=Z,840nm,17.8s,MS4.6					
TTA	**Tatalina**	**37.47 39**	*e*P	**P**	**05 38 18.3**	**+0.4**
SVW2	**Sparrevohn**	**37.60 42**	*e*P	**P**	**05 38 19.3**	**+0.3**
PLP	**Palo**	**37.66 217**	⇓*e*P	**P**	**05 38 21.4**	**+1.4**
PLP			*e*S	pP	05 38 34.4	-0.5
IMA2	**Indian Mountai**	**38.72 34**	*e*P	**P**	**05 38 28.5**	**+0.1**
KDAK	**Kodiak Island**	**39.28 47**	P	**P**	**05 38 32.3**	**-0.8**
	comp=Z,712nm,0.6s,mb6.6,SNR=50					
KDAK	**Kodiak Island**	**39.28 47**	*e*P	**P**	**05 38 31.6**	**-1.6**
	comp=Z,70nm,0.7s,mb5.5					
KDAK			*e*pP	pP	05 38 54.7	+6.6
QIZ	**Qiongzhong**	**39.75 244**	P	**P**	**05 38 39.5**	**+2.1**
QIZ			XP	sP	05 38 55.8	-3.4
QIZ			PP	PP	05 40 09.3	-0.3
QIZ			S	**S**	**05 44 36.0**	**-1.1**
QIZ			XS	sS	05 45 03.0	+0.6
QIZ			AMB	AMB		
	comp=Z,39nm,6.7s					
QIZ			LR	LR		
	comp=E,469nm,15.7s					
QIZ			LR	LR		
	comp=Z,575nm,23.9s					
QIZ	**Qiongzhong**	**39.75 244**	*e*P	pP	05 38 51.9	-0.5
KMI	**Kunming**	**40.51 258**	P	**P**	**05 38 44.3**	**+0.6**
KMI			AP	pP	05 38 54.5	-4.2
KMI			PP	PP	05 40 20.5	+2.7
KMI			S	**S**	**05 44 47.0**	**-1.4**
KMI			AMB	AMB		
	comp=Z,19nm,1.2s,mb4.6					
KMI			AMB	AMB		
	comp=Z,167nm,3.2s					
KMI			LR	LR		
	comp=N,349nm,13.4s,MS4.5					
KMI			LR	LR		
	comp=E,331nm,13.4s,MS4.5					
KMI			LR	LR		
	comp=Z,426nm,21.1s					
PMR	**Palmer**	**40.70 41**	*e*P	**P**	**05 38 44.6**	**-0.2**
PMR			pmax	pmax		
	comp=Z,96nm,1.3s,mb5.3					
PMR	**Palmer**	**40.70 41**	*e*P	**P**	**05 38 44.6**	**-0.2**
	comp=Z,96nm,1.3s,mb5.3					
ZALV	**Zalesovo Beam**	**41.03 307**	P	**P**	**05 38 46.1**	**-1.6**
	comp=Z,11nm,0.5s,mb4.7,baz=79,slow=5.7,SNR=37					
ZALV			PcP	PcP	05 40 44.6	-1.9
	comp=Z,15nm,0.7s,baz=86,slow=2.8,SNR=7.7					
ZAL	**Zalesovo**	**41.05 307**	P	**P**	**05 38 46.1**	**-1.7**
ZAL					05 40 44.6	
COLA	**College**	**41.12 36**	*c i*P	**P**	**05 38 48.5**	**+0.3**
NVS	**Novosibirsk**	**41.76 309**	*e*P	**P**	**05 38 51.3**	**-2.3**
NVS			*e*PPP		05 40 44.0	
NVS			pmax	pmax		
	comp=Z,34nm,1.5s,mb4.8					
NVS			pmax	pmax		
	comp=E,34nm,1.6s					
WMQ	**Urumqi**	**42.12 292**	P	**P**	**05 38 57.8**	**+1.1**
WMQ			AP	pP	05 39 13.0	+1.3
WMQ			XP	sP	05 39 20.3	+1.7
WMQ			PP	PP	05 40 39.0	+4.1
WMQ			PCP	PcP	05 40 52.5	+2.3
WMQ			SCP	ScP	05 44 36.5	+1.0
WMQ			S	**S**	**05 45 12.5**	**+0.6**
WMQ			SS	SS	05 48 15.0	-6.0
WMQ			SCS	ScS	05 48 52.3	-0.8
WMQ			AMB	AMB		
	comp=Z,82nm,1.0s,mb5.3					
WMQ			AMB	AMB		
	comp=Z,85nm,7.8s					
WMQ			LR	LR		
	comp=N,1μm,20.6s,MS4.9					
WMQ			LR	LR		
	comp=E,1μm,22.8s,MS4.9					
WMQ			LR	LR		
	comp=Z,2μm,21.0s,MS4.9					
MID	**Middleton Isla**	**42.32 44**	*e*P	**P**	**05 38 59.4**	**+1.3**
EGAK	**Eagle**	**43.98 36**	*e*P	**P**	**05 39 11.1**	**-0.3**
	comp=Z,82nm,0.8s,mb5.5					
MK31	**Makanchi Array**	**44.61 298**	P	**P**	**05 39 16.8**	**+0.1**
MK31			pmax	pmax		
	comp=Z,28nm,0.5s,mb5.3					
MKAR	**Makanchi Array**	**44.61 298**	P	**P**	**05 39 16.6**	**-0.1**
	comp=Z,18nm,0.4s,mb5.2,baz=78,slow=9.9,SNR=113					
MKAR			pP	pP	05 39 30.0	-1.9
	comp=Z,16nm,0.6s,baz=81,slow=9.2,SNR=8.7					
MKAR			LR	LR	05 59 10.5	
	comp=Z,1μm,18.8s,MS4.8,baz=72,slow=38					
MKAR	**Makanchi Array**	**44.61 298**	P	**P**	**05 39 16.6**	**-0.1**
MKAR			*PP	pP	05 39 30.0	-1.9
DAWY	**Dawson**	**44.84 37**	*e*P	**P**	**05 39 18.2**	**-0.1**
KURK	**Kurchatov**	**45.56 304**	P	**P**	**05 39 24.9**	**+0.7**
	comp=Z,502nm,0.5s,mb6.7,SNR=24					
KURK	**Kurchatov**	**45.56 304**	P	**P**	**05 39 24.4**	**+0.2**
	SNR=23					
KURK	**Kurchatov**	**45.56 304**	*c i*P	**P**	**05 39 23.2**	**-1.0**
KURK			pmax	pmax		
	comp=Z,43nm,0.7s,mb5.5					
KURK			MLR	MLR		
	comp=Z,1μm,24.0s,MS4.7					
KURK	**Kurchatov**	**45.56 304**	*e*P	**P**	**05 39 23.4**	**-0.8**
	comp=Z,163nm,1.5s,mb5.7					
LSA	**Lhasa**	**46.19 272**	P	**P**	**05 39 32.0**	**+2.5**
LSA	**Lhasa**	**46.19 272**	*e*P	**P**	**05 39 31.9**	**+2.4**
LSA			*e*PP	pP	05 39 45.4	+0.7
LSA			pmax	pmax		
	comp=Z,59nm,0.7s,mb5.6					
LSA	**Lhasa**	**46.19 272**	*e*P	**P**	**05 39 31.9**	**+2.5**
	comp=Z,59nm,0.7s,mb5.6					
LSA			*e*pP	pP	05 39 45.4	+0.7
CHTO	**Chiang Mai**	**47.27 254**	⇓P	**P**	**05 39 39.3**	**+1.4**
	SNR=11					
CHTO	**Chiang Mai**	**47.27 254**	*e*P	**P**	**05 39 39.2**	**+1.2**
CHTO			*e*PP	pP	05 39 53.2	0.0
CHTO			pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0					
CHTO	**Chiang Mai**	**47.27 254**	*e*P	**P**	**05 39 39.2**	**+1.2**

comp=Z,13nm,0.6s,mb5.0
CHTO *e*pP pP 05 39 53.2 0.0
CMAR Chiang Mai Arr 47.51 254 P **P** **05 39 40.8 +0.9**
comp=Z,3.8nm,0.6s,mb4.6,baz=42,slow=7.5,SNR=21
CMAR pP pP 05 39 54.6 -0.5
comp=Z,5.8nm,0.7s,baz=42,slow=7.4,SNR=7.2
CMAR LR LR 06 01 14.8
comp=Z,316nm,18.5s,MS4.3,baz=168,slow=38
CMAR Chiang Mai Arr 47.51 254 *i* P **P** **05 39 41.4 +1.6**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
SKAG Skagway 47.79 42 *e*P **P** **05 39 42.6 +1.2**
comp=Z,73nm,1.5s,mb5.5
SHL Shillong 48.03 267 *i* P **P** **05 39 44.0 +0.2**
SHL *e*x x 05 42 05.0
SIT Sitka 48.53 45 *e*P **P** **05 39 49.0 +1.8**
SIT pmax pmax
comp=Z,120nm,1.6s,mb5.7
SIT Sitka 48.53 45 *e*P **P** **05 39 49.0 +1.8**
comp=Z,120nm,1.6s,mb5.7
VOSK Vostochnaya 49.32 309 P **P** **05 39 52.9 -0.4**
VOSK pmax pmax
comp=Z,46nm,1.3s,mb5.3
BVA0 Borovoye Array 49.54 309 *i* P **P** **05 39 54.6 -0.4**
BVA0 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
BRVK Borovoye 49.59 309 P **P** **05 39 55.1 -0.2**
comp=Z,203nm,1.6s,mb5.9,SNR=11
BRVK Borovoye 49.59 309 P **P** **05 39 56.1 +0.7**
SNR=18
BRVK Borovoye 49.59 309 *e*P **P** **05 39 55.8 +0.5**
BRVK pmax pmax
comp=Z,17nm,0.6s,mb5.2
BRVK Borovoye 49.59 309 *e*P **P** **05 39 55.8 +0.4**
comp=Z,17nm,0.6s,mb5.3
TAPN Taplejung 50.02 272 *e*P **P** **05 40 00.6 +1.6**
comp=Z,84nm,0.7s,mb5.8
CRAG Craig 50.24 47 *e*P **P** **05 40 01.9 +1.6**
CRAG *e*pP pP 05 40 17.4 +1.7
WRAK Wrangell Islan 50.30 45 *e*P **P** **05 40 01.8 +1.2**
comp=Z,57nm,0.9s,mb5.6
ULHL Ulahol 50.41 294 P **P** **05 40 03.0 +1.2**
SNR=25
ODAN Odare 50.53 271 *e*P **P** **05 40 04.0 +1.1**
TKM2 Tokmak 2 50.53 295 *e*P **P** **05 40 03.8 +1.1**
TKM2 pmax pmax
comp=Z,86nm,0.6s,mb5.9
TKM2 Tokmak 2 50.53 295 P **P** **05 40 03.9 +1.2**
SNR=80
TKM2 Tokmak 2 50.53 295 *e*P **P** **05 40 03.8 +1.2**
comp=Z,86nm,0.6s,mb5.9
DLBC Dease Lake 50.72 42 *e*P **P** **05 40 05.3 +1.5**
JIRN Jiri 50.94 273 *e*P **P** **05 40 08.1 +2.2**
GUN Gumba 51.02 273 *e*P **P** **05 40 07.9 +1.4**
comp=Z,125nm,0.6s,mb6.0
CHMS Chumysh 51.05 296 P **P** **05 40 07.1 +0.6**
SNR=13
RAMN Ramite 51.05 272 *e*P **P** **05 40 07.8 +1.0**
comp=Z,137nm,0.5s,mb6.2
KBK Karagaybulak 51.08 295 P **P** **05 40 07.9 +1.1**
SNR=47
USP Ospenovka 51.09 296 P **P** **05 40 07.7 +0.8**
SNR=117
KZA Kyzart 51.15 295 P **P** **05 40 09.4 +2.1**
SNR=47
FRU Bishkek 51.21 296⇑ *i* P **P** **05 40 08.0 +0.2**
FRU *e*S **S** **05 47 23.0 +1.3**
FRU pmax pmax
comp=Z,70nm,1.8s,mb5.3
KKN Kakani 51.52 274 *e*P **P** **05 40 11.5 +1.2**
comp=Z,39nm,0.5s,mb5.6
KKN Kakani 51.52 274 *e*P **P** **05 40 11.5 +1.2**
KKN pmax pmax
comp=Z,39nm,0.5s,mb5.6
PKI Pulchoki 51.55 273 *e*P **P** **05 40 11.8 +1.3**
PKIN Phulchoki 51.56 273 *e*P **P** **05 40 11.6 +1.0**
DMN Daman 51.75 274 *e*P **P** **05 40 13.3 +1.3**
comp=Z,68nm,0.7s,mb5.7
EKS2 Erkin-Say 51.84 296 P **P** **05 40 13.5 +1.1**
SNR=16
EKS2 Erkin-Say 51.84 296 *e*P **P** **05 40 13.3 +0.9**
comp=Z,71nm,0.6s,mb5.8
GKN Gorkha 51.87 274 *e*P **P** **05 40 14.4 +1.6**
KSH Kashi 51.88 291 P **P** **05 40 14.0 +1.2**
KSH AP pP 05 40 30.5 +2.2
KSH XP sP 05 40 37.5 +2.5
KSH PP PP 05 42 14.3 +3.4
KSH SCP ScP 05 45 17.5 +1.0
KSH PCS PcS 05 45 24.5 +1.5
KSH S **S** **05 47 31.3 +0.2**
KSH XS sS 05 47 58.8 +1.6
KSH SCS ScS 05 49 56.0 -1.4
KSH SS SS 05 51 06.5 -1.5
KSH LR LR
comp=N,2μm,16.0s
KSH LR LR
comp=E,647nm,8.1s
KSH LR LR
comp=Z,949nm,14.5s,MS5.0
AML Almayashu 52.14 295 P **P** **05 40 16.3 +1.6**
SNR=25
AML Almayashu 52.14 295 *e*P **P** **05 40 16.4 +1.7**
comp=Z,74nm,0.8s,mb5.7
DANN Dangsing 52.30 275 *e*P **P** **05 40 17.9 +1.8**
comp=Z,169nm,0.6s,mb6.2
KOLN Koldanda 52.75 275 *e*P **P** **05 40 20.2 +0.8**
comp=Z,47nm,0.4s,mb5.8
SVE Sverdlovsk 53.18 317⇑ *e*P **P** **05 40 21.5 -0.7**
SVE *e*S **S** **05 47 49.8 +1.5**
SVE pmax pmax
comp=Z,50nm,0.7s,mb5.5
SVE MLR MLR
comp=Z,881nm,18.0s,MS4.8
KK31 Karatay Array 53.74 298 *e*P **P** **05 40 26.4 -0.1**
KK31 pmax pmax
comp=Z,40nm,0.5s,mb5.6
SOKR Solikamsk 53.83 321 *d i*P **P** **05 40 27.2 +0.3**
SOKR pmax pmax
comp=Z,60nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,990nm,23.0s,MS4.8
PTH Pithoragarh 54.17 279 *e*P **P** **05 40 30.9 +1.1**
ARU Arti 54.39 317 P **P** **05 40 30.9 -0.1**
comp=Z,541nm,0.5s,mb6.7,SNR=16
ARU Arti 54.39 317 *c i*P **P** **05 40 30.7 -0.3**
ARU *e**PP pP 05 40 45.4 -1.1
ARU *e* 05 41 31.8
ARU *e* 05 42 30.4
ARU *e*PPP 05 43 40.2
ARU *e*S **S** **05 48 06.7 +2.1**
ARU *e*SS SS 05 51 46.7 -0.1
ARU Arti 54.39 317 *e*P **P** **05 40 30.9 -0.1**
comp=Z,43nm,0.5s,mb5.6
KBS Kingsbay 54.84 350 *e*P **P** **05 40 37.0 +3.0**
KBS Kingsbay 54.84 350 *e*P **P** **05 40 32.2 -1.7**
RES Resolute Bay 55.02 17 *e*P **P** **05 40 34.0 -1.3**
DDI Dehra Dun 55.28 281 *e*P **P** **05 40 36.2 -1.6**
SMLA Simla 55.46 282⇓ *i*P PcP 05 41 39.0 +0.4
DLH Dalhousie 55.52 284 *e*P **P** **05 40 38.0 -1.5**
THN Thein Dam 55.76 284 *e*P **P** **05 40 41.0 -0.2**
YKW3 Yellowknife Ar 55.81 34 *e*P **P** **05 40 41.0 -0.1**
YKA Yellowknife Ar 55.85 34 P **P** **05 40 40.3 -1.0**
comp=Z,23nm,0.7s,mb5.3,baz=302,slow=7.1,SNR=138
YKA pP pP 05 40 55.4 -1.6
comp=Z,13nm,0.8s,baz=300,slow=7.1,SNR=6.3
YKA LR LR 06 04 32.8
comp=Z,181nm,22.0s,MS4.1,baz=325,slow=36
YKA Yellowknife Ar 55.85 34 *i* P **P** **05 40 41.2 -0.2**
YKA pmax pmax
comp=Z,23nm,0.7s
NDI New Delhi 56.82 280 *e*P **P** **05 40 47.0 -1.8**
AB31 Akbulak array 57.10 309 *i* P **P** **05 40 50.4 -0.1**
AB31 pmax pmax
comp=Z,63nm,0.4s,mb6.0
BJO Bjornoya 57.11 345 AMS AMS 06 08 57.2
comp=Z,606nm,18.8s,MS4.7
BLSP Bilaspur 57.19 270 *e*P **P** **05 40 50.3 -1.2**
BLSP AMb AMB 05 40 51.9
comp=Z,17nm,0.4s,mb5.5
COEN Coen 57.48 185 *e*P **P** **05 40 54.3 +0.8**
comp=Z,13nm,0.9s,mb5.0
KAKA Kakadu 57.72 197 *e*P **P** **05 40 55.3 +0.2**
comp=Z,16nm,0.6s,mb5.2
KAKA *e*pP pP 05 41 10.5 -0.3
APA Apatity 58.43 336⇓ *i*P **P** **05 40 58.0 -1.5**
APA *i* *PP pP 05 41 16.0 +0.7
APA *i* 05 41 49.5
APA pmax pmax
comp=Z,31nm,1.0s,mb5.3
APA MLR MLR
comp=Z,700nm,20.0s,MS4.8
KEV Kevo 58.77 339 *e*P **P** **05 41 00.2 -1.6**
KEV pmax pmax
comp=Z,25nm,0.8s,mb5.3
KEV Kevo 58.77 339 *e*P **P** **05 41 00.2 -1.7**
comp=Z,25nm,0.8s,mb5.3
NLWA Neilton Lookou 59.08 52 *e*P **P** **05 41 05.3 +1.0**
comp=Z,37nm,1.0s,mb5.4
NLWA *e*pP pP 05 41 21.1 +1.0
VIS Vishakhapatnam 59.12 265 *e*P **P** **05 41 05.0 -0.1**
KBL Kabul 59.21 290 *e*P **P** **05 41 05.5 +0.1**
comp=Z,68nm,0.9s,mb5.7
ARCES ARCESS Array B 59.30 340 P **P** **05 41 04.0 -1.5**
comp=Z,5.9nm,0.4s,mb5.0,baz=44,slow=7.3,SNR=69
ARCES pP pP 05 41 19.5 -1.8
comp=Z,2.1nm,0.4s,baz=57,slow=7.6,SNR=3.1
ARCES PcP PcP 05 41 52.3 -0.7
comp=Z,4.8nm,0.5s,baz=66,slow=4.9,SNR=5.8
ARCES LR LR 06 12 20.3
comp=Z,441nm,18.9s,MS4.6,baz=34,slow=42
ARCES ARCESS Array B 59.30 340 P **P** **05 41 04.1 -1.4**
ARCES *PP pP 05 41 19.5 -1.8
ARCES 05 41 52.3
JCW Jim Creek 59.75 51 *e*P **P** **05 41 09.1 +0.1**
JCW *e*PP PP 05 43 26.2 +5.3
RPW Rockport 59.84 50 *e*P **P** **05 41 09.7 +0.1**
BMW Boistfort Moun 59.94 53 *e*P **P** **05 41 11.3 +1.0**
BMW *e**PP pP 05 41 26.5 +0.4
AJM Ajmer 59.96 279 *e*P **P** **05 41 10.0 -0.7**
NGP Nagpur 60.04 271 *e*x x 05 41 08.7
NGP *e*x x 05 41 23.2
KTK1 Kautokeino 60.24 340 *e*P **P** **05 41 10.5 -1.5**
KTK1 AMb AMB 05 41 13.5
comp=Z,47nm,1.0s,mb5.5
KTK1 Kautokeino 60.24 340 *e*P **P** **05 41 10.5 -1.5**
comp=Z,47nm,1.0s,mb5.5
KLMR Klimovskoe 60.48 328 *d i*P **P** **05 41 12.2 -1.6**
KLMR pmax pmax
comp=Z,189nm,1.5s,mb5.9
KLMR MLR MLR
comp=Z,1μm,22.0s,MS5.0
LON Longmire 60.61 52 *e*P **P** **05 41 14.8 -0.1**
LON pmax pmax
comp=Z,17nm,1.1s,mb5.1
LON Longmire 60.61 52 *e*P **P** **05 41 14.8 -0.1**
comp=Z,18nm,1.1s,mb5.1
TRO Tromso 60.81 342 *e*P **P** **05 41 13.8 -2.1**
TRO AMS AMS 06 10 24.1
comp=Z,536nm,22.1s,MS4.7
ETW Entiat 60.97 51 *e*P **P** **05 41 17.3 0.0**
EDM Edmonton 61.44 42 *e*P **P** **05 41 20.3 -0.1**
HOOD Mount Hood Mea 61.50 53 *e*P **P** **05 41 22.2 +1.3**
comp=Z,62nm,0.9s,mb5.7
KBO Bosley Butte 61.72 57 *e*P **P** **05 41 24.6 +2.2**
KBO *e*pP pP 05 41 47.4 +9.1
AKL Akola 61.79 272 *e*P **P** **05 41 23.6 +0.3**
AKL AMb AMB 05 41 24.4
comp=Z,30nm,0.7s,mb5.5
OD2 Odessa Site #2 62.00 50 *e*P **P** **05 41 23.9 -0.3**
OD2 *e*pP pP 05 41 40.2 +0.1
RSW Rattlesnake Hi 62.07 51 *e*P **P** **05 41 24.9 +0.2**
RSW *e*pP pP 05 41 41.4 +0.7
HAWA Hanford 62.11 51 *e*P **P** **05 41 25.3 +0.3**
comp=Z,33nm,1.0s,mb5.4
HAWA *e*pP pP 05 41 41.0 +0.2
NEW Newport 62.37 49 *e*P **P** **05 41 26.7 0.0**
NEW *e**PP pP 05 41 42.5 -0.1
NEW pmax pmax
comp=Z,37nm,0.9s
NEW Newport 62.37 49 *e*P **P** **05 41 26.7 0.0**
comp=Z,37nm,0.9s,mb5.5
NEW *e*pP pP 05 41 42.5 -0.1
HYB Hyderabad 62.78 268 *i* P **P** **05 41 30.0 +0.2**
HYB *e*pP pP 05 41 44.5 -1.2
HYB Hyderabad 62.78 268 *e*P **P** **05 41 30.0 +0.2**
HYB *e* pP 05 41 44.5 -1.2
KHMM Horse Mountain 62.79 58 *e*P **P** **05 41 31.9 +2.2**
YBH Yreka Blue Hor 62.92 57 *e*P **P** **05 41 31.9 +1.4**
YBH *e**PP pP 05 41 47.4 +1.0
YBH pmax pmax
comp=Z,40nm,1.3s
YBH Yreka Blue Hor 62.92 57 *e*P **P** **05 41 31.9 +1.4**
comp=Z,40nm,1.3s,mb5.4
YBH *e*pP pP 05 41 47.4 +1.0
YBH *e*sP sP 05 41 54.7 +1.6
LNOR Lincton Mounta 63.12 51 *e*P **P** **05 41 32.1 +0.4**
LNOR *e**PP pP 05 41 47.5 -0.1
LOF Lofoten 63.20 342 *e*P **P** **05 41 33.0 +1.1**
CTA Charters Tower 63.47 181 *e*P **P** **05 41 34.6 +0.4**
comp=Z,5.1nm,0.6s,mb4.8
CTA *e*pP pP 05 41 51.5 +1.4
CTA Charters Tower 63.47 181 P **P** **05 41 33.9 -0.3**
comp=Z,6.4nm,0.7s,mb4.9,baz=43,slow=5.7,SNR=11
CTA pP pP 05 41 50.6 +0.5
comp=Z,6.1nm,0.6s,baz=9.7,slow=6.9,SNR=3.6
CTA Charters Tower 63.47 181 *e*P **P** **05 41 34.6 +0.4**
CTA *e**PP pP 05 41 51.5 +1.4
CTA pmax pmax
comp=Z,5.0nm,0.6s
CTAO Charters Tower 63.47 181 *e*P **P** **05 41 34.6 +0.4**
CTAO *e**PP pP 05 41 51.6 +1.5
CTAO pmax pmax
comp=Z,14nm,1.0s,mb5.0
CTAO Charters Tower 63.47 181 *e*P **P** **05 41 34.6 +0.4**
comp=Z,14nm,1.0s,mb5.1
CTAO *e*pP pP 05 41 51.5 +1.4
KCPM Cahto Peak 63.58 59 *e*P **P** **05 41 35.4 +0.5**
LATR Latur 63.58 271 *e*P **P** **05 41 35.4 +0.2**
LATR AMb AMB 05 41 36.0
comp=Z,28nm,0.5s,mb5.5
WDC Whiskeytown Da 63.70 58 *e*P **P** **05 41 36.1 +0.5**
WDC pmax pmax
comp=Z,16nm,0.9s,mb5.0
WDC Whiskeytown Da 63.70 58 *e*P **P** **05 41 36.1 +0.4**
comp=Z,16nm,0.9s,mb5.0
SUMG Summit 63.97 2 *e*P **P** **05 41 36.8 -0.1**
comp=Z,43nm,0.8s,mb5.5
BMO Blue Mountains 64.28 52 *e*P **P** **05 41 39.6 +0.2**
BMO *e**PP pP 05 41 55.3 0.0
BMO pmax pmax
comp=Z,14nm,1.2s,mb4.9
BMO Blue Mountains 64.28 52 *e*P **P** **05 41 39.6 +0.2**
comp=Z,14nm,1.2s,mb4.9
BMO *e*pP pP 05 41 55.3 0.0
MOD Modoc 64.28 56 *e*P **P** **05 41 39.8 +0.3**
comp=Z,16nm,0.8s,mb5.1
MOD *e*pP pP 05 41 56.5 +1.1
MOD *e*sP sP 05 42 03.2 +1.2
JMIC Jan Mayen 64.29 351 AMS AMS 06 07 32.9
comp=Z,81nm,18.8s,MS3.9
WRAB Tennant Creek 64.39 193 P **P** **05 41 40.0 -0.3**
comp=Z,231nm,1.0s,mb6.2,SNR=12
WRAB Tennant Creek 64.39 193 *e*P **P** **05 41 40.2 -0.1**
WRAB *e**PP pP 05 41 56.5 +0.3
WRAB pmax pmax
comp=Z,30nm,0.9s,mb5.3
WRAB Tennant Creek 64.39 193 *e*P **P** **05 41 40.2 -0.1**
comp=Z,30nm,0.9s,mb5.3
WRAB *e*pP pP 05 41 56.5 +0.2
WRAB *e*sP sP 05 42 04.3 +1.5
WB2 Warramunga Arr 64.40 193 *e*P **P** **05 41 40.2 -0.1**
WB2 *e*pP pP 05 41 56.3 0.0
WRA Warramunga Arr 64.41 193 P **P** **05 41 40.0 -0.3**
comp=Z,24nm,0.9s,mb5.2,baz=12,slow=6.8,SNR=100
WRA pP pP 05 41 55.2 -1.1
comp=Z,12nm,0.7s,baz=9.4,slow=6.8,SNR=7.7
WRA LR LR 06 05 04.9
comp=Z,169nm,21.8s,MS4.2,baz=15,slow=32
WRA PKP2bc 06 10 32.1
comp=Z,1.2nm,0.9s,baz=195,slow=2.3,SNR=4.9
WRA Warramunga Arr 64.41 193 P **P** **05 41 40.0 -0.3**
WRA *PP pP 05 41 55.2 -1.1
WRA Warramunga Arr 64.41 193 P **P** **05 41 40.0 -0.4**
WRA pP pP 05 41 55.2 -1.1
WRA LR LR 06 05 04.9
WRA ⇑ *e* 06 10 32.1
MOS Moscow 64.50 324 *e*P **P** **05 41 36.5 -4.1**
MOS *e*S **S** **05 50 10.7 -4.2**
MOS pmax pmax
comp=Z,500nm,2.3s,mb6.1
MOS pmax pmax
comp=Z,160nm,1.2s,mb5.9
MOS MLR MLR
comp=Z,900nm,22.0s,MS4.9
FITZ Fitzroy Crossi 64.58 203 *e*P **P** **05 41 42.4 +0.9**
comp=Z,12nm,0.9s,mb4.9
FITZ *e*pP pP 05 41 58.5 +1.0
MOR8 Moi Rana 64.59 341 *e*P **P** **05 41 38.4 -2.6**
MOR8 AMb AMB 05 41 40.2
comp=Z,74nm,0.4s,mb6.0
OHCM Honcut 65.09 59 *e*P **P** **05 41 44.5 -0.3**
OHCM *e*pP pP 05 42 01.1 +0.3
OHCM *e*sP sP 05 42 07.7 +0.4
CHMT Chamberlain Mo 65.28 48 *e*P **P** **05 41 45.7 -0.1**
CHMT *e*pP pP 05 42 01.6 -0.2
OBN Obninsk 65.36 324 P **P** **05 41 46.5 +0.3**
comp=Z,866nm,0.9s,mb6.8,SNR=6.8
OBN Obninsk 65.36 324 *c i*P **P** **05 41 45.6 -0.6**
OBN *i* 05 42 14.4
OBN *e*S S 05 50 21.4 -4.1
OBN *e*SS SS 05 54 38.5 0.0
OBN pmax pmax
comp=Z,305nm,1.7s,mb6.0
OBN MLR MLR
comp=Z,400nm,19.0s,MS4.6
OBN Obninsk 65.36 324 *e*P **P** **05 41 45.9 -0.3**
comp=Z,90nm,0.7s,mb5.9
POO Poona 65.47 273 *e*P **P** **05 41 47.4 -0.1**
POO AMb AMB 05 42 17.9
comp=Z,67nm,1.5s,mb5.5
VRHR Novokhopersk 65.68 318 *e*P **P** **05 41 47.7 -0.7**
VRHR pmax pmax
comp=Z,60nm,0.6s,mb5.8
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,1.0s
FFC Flin Flon 65.74 36 P **P** **05 41 48.0 -0.7**
comp=E,326nm,0.7s,mb6.5,SNR=15
FFC Flin Flon 65.74 36 *e*P **P** **05 41 48.7 0.0**
FFC *e**PP pP 05 42 04.2 -0.5
FFC *e* 05 42 19.7
FFC pmax pmax
comp=Z,16nm,0.6s,mb5.2
FFC Flin Flon 65.74 36 *e*P **P** **05 41 48.7 0.0**
comp=Z,16nm,0.6s,mb5.2
FFC *e*pP pP 05 42 04.2 -0.5
FFC *e*sP sP 05 42 11.5 +0.2
FFC *e*PcP PcP 05 42 19.7 +0.2
KAD Karad 66.02 271 *e*P **P** **05 41 50.5 -0.5**
KAD AMb AMB 05 42 06.2
comp=Z,61nm,1.0s,mb5.6
FCC Fort Churchill 66.07 30 *e*P **P** **05 41 50.8 +0.1**
PAHR Pah Rah Range 66.16 57 *e*P **P** **05 41 52.4 +0.8**
comp=Z,63nm,1.3s,mb5.5
PAHR *e*pP pP 05 42 08.1 +0.4
PAHR *e*sP sP 05 42 15.1 +0.9
LRM Limekiln Ridge 66.39 49 *e*P **P** **05 41 53.3 +0.3**
EGMT Eagleton 66.43 46 *e*P **P** **05 41 53.4 +0.2**
comp=Z,43nm,0.6s,mb5.7
EGMT *e*pP pP 05 42 09.1 -0.1
EGMT *e*sP sP 05 42 16.4 +0.6
NSS Namsos 66.53 341 *e*P **P** **05 41 51.6 -2.0**
NSS AMS AMS 06 13 42.7
comp=Z,900nm,25.9s,MS4.9
CMB Columbia Colle 66.56 59 *e*P **P** **05 41 54.4 +0.2**
CMB *e**PP pP 05 42 10.7 +0.4
CMB *e* 05 42 23.2
CMB pmax pmax
comp=Z,13nm,0.7s,mb5.1
CMB Columbia Colle 66.56 59 *e*P **P** **05 41 54.4 +0.2**
comp=Z,13nm,0.7s,mb5.1
CMB *e*pP pP 05 42 10.7 +0.5
CMB *e*sP sP 05 42 18.1 +1.2
CMB *e*PcP PcP 05 42 23.2 0.0
SAO San Andreas Ge 66.67 61 *e*P **P** **05 41 55.5 +0.5**
HLID Hailey 66.71 52 *e*P **P** **05 41 55.4 +0.3**
comp=Z,29nm,1.1s,mb5.2
HLID *e*pP pP 05 42 11.3 +0.2
HLID *e*sP sP 05 42 18.4 +0.7
VRSR Storozhevoye 66.77 319 *e*P **P** **05 41 54.9 -0.4**
VRSR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRSR pmax pmax
comp=N,3.0nm,0.3s
VRSR pmax pmax
comp=E,9.0nm,0.8s
MCMT McKenzie Canyo 66.80 50 *e*P **P** **05 41 55.4 -0.3**
WAKR Walker 66.86 58 *e*P **P** **05 41 56.9 +0.7**
BOZ Bozeman (W) 66.94 48 *e*P **P** **05 41 57.2 +0.6**
BOZ *e**PP pP 05 42 13.4 +0.8
BOZ pmax pmax
comp=Z,43nm,0.9s,mb5.5
BOZ Bozeman (W) 66.94 48 *e*P **P** **05 41 57.2 +0.6**
comp=Z,43nm,0.9s,mb5.5
BOZ *e*pP pP 05 42 13.4 +0.8
BMN Battle Mountai 67.02 56 *e*P **P** **05 41 57.8 +0.7**
BMN *e**PP pP 05 42 13.5 +0.3
BMN pmax pmax
comp=Z,26nm,1.0s,mb5.2
BMN Battle Mountai 67.02 56 *e*P **P** **05 41 57.8 +0.7**
comp=Z,26nm,1.0s,mb5.2
BMN *e*pP pP 05 42 13.5 +0.3
QLMT Earthquake Lak 67.57 49 *e*P **P** **05 42 01.1 +0.5**
QLMT *e*pP pP 05 42 17.4 +0.8
QLMT *e*sP sP 05 42 24.4 +1.2
NVAR Mina Array Bea 67.61 58 P **P** **05 42 01.0 +0.1**
comp=Z,18nm,0.7s,mb5.2,baz=288,slow=7.2,SNR=141
NVAR pP pP 05 42 16.4 -0.6
comp=Z,11nm,0.7s,baz=300,slow=7.2,SNR=11
MAK Makhachkala 67.78 309 *e*P **P** **05 42 00.6 -1.3**
MAK *i* S S 05 50 54.3 -0.8
MAK pmax pmax
comp=Z,421nm,2.3s,mb6.1
MAK MLR MLR
comp=Z,626nm,20.0s,MS4.8
GCMT Greycliff 67.91 47 *e*P **P** **05 42 03.2 +0.6**
GCMT *e*pP pP 05 42 19.6 +0.9
GCMT *e*sP sP 05 42 26.9 +1.5
YMR Madison River 67.93 49 *e*P **P** **05 42 03.7 +0.9**
comp=Z,33nm,0.9s,mb5.4
YMR *e*pP pP 05 42 19.2 +0.4
ELK Elko 68.00 54 *e*P **P** **05 42 03.9 +0.6**
ELK *e**PP pP 05 42 19.9 +0.5
ELK pmax pmax
comp=Z,12nm,1.1s
ELK Elko 68.00 54 *e*P **P** **05 42 03.9 +0.6**
comp=Z,12nm,1.1s,mb4.8
ELK *e*pP pP 05 42 19.9 +0.6
YNR Norris Junctio 68.06 49 *e*P **P** **05 42 04.5 +0.9**
MTUM Tungsten Hills 68.12 59 *e*P **P** **05 42 05.1 +1.0**
MTUM *e*pP pP 05 42 20.8 +0.6
MTUM *e*sP sP 05 42 27.7 +0.9
ASAR Alice Springs 68.12 193 P **P** **05 42 04.5 +0.4**
comp=Z,6.6nm,0.9s,mb4.6,baz=14,slow=6.6,SNR=37
ASAR pP pP 05 42 20.5 +0.3
comp=Z,11nm,0.8s,baz=9.1,slow=4.8,SNR=16
ASAR PKPPKP 06 10 23.4
comp=Z,1.3nm,0.9s,baz=183,slow=3.1,SNR=11
ASAR Alice Springs 68.12 193 P **P** **05 42 04.5 +0.4**
ASAR *PP pP 05 42 20.5 +0.3
PTRM Twissleman Ran 68.14 61 *e*P **P** **05 42 04.8 +0.5**
PTRM *e*pP pP 05 42 21.2 +0.9
YFT Old Faithful 68.14 49 *e*P **P** **05 42 06.0 +1.9**
LKWY Lake 68.31 49 *e*P **P** **05 42 07.8 +2.6**
LKWY pmax pmax
comp=Z,13nm,0.8s,mb5.0
LKWY Lake 68.31 49 *e*P **P** **05 42 07.8 +2.6**
comp=Z,13nm,0.8s,mb5.0
KOD Kodaikanal 68.32 263 *e*P **P** **05 42 06.0 +0.4**
IMW Indian Meadow 68.44 50 *e*P **P** **05 42 07.2 +1.2**
comp=Z,60nm,1.0s,mb5.6
FLWY Flagg Ranch 68.45 49 *e*P **P** **05 42 07.3 +1.2**
comp=Z,53nm,1.2s,mb5.5
TPH Tonopah 68.49 58 *e*P **P** **05 42 06.9 +0.5**
TPH *e**PP pP 05 42 23.0 +0.5
TPH pmax pmax
comp=Z,58nm,1.3s,mb5.5
TPH Tonopah 68.49 58 *e*P **P** **05 42 06.9 +0.5**
comp=Z,58nm,1.3s,mb5.5
TPH *e*pP pP 05 42 23.0 +0.5
AFI Afiamalu 68.50 137 LR LR 06 05 37.8
comp=Z,278nm,21.1s,MS4.5,baz=76,slow=30

DCID1 Drake Creek 68.50 50 *eP* **P 05 42 07.6 +1.2**
RLMT Red Lodge 68.56 48 *eP* **P 05 42 07.3 +0.6**
comp=Z,8.1nm,0.7s,mb4.8
RRI2 Red Ridge 68.59 50 *eP* **P 05 42 08.1 +1.2**
comp=Z,50nm,0.9s,mb5.4
TPAW Teton Pass 68.70 50 *eP* **P 05 42 08.8 +1.2**
comp=Z,100nm,1.0s,mb5.7
HVU Hansel Valley 68.78 52 *eP* **P 05 42 08.4 +0.3**
HVU *e**PP pP 05 42 24.9 +0.7
HVU pmax pmax
comp=Z,20nm,0.9s,mb5.0
HVU Hansel Valley 68.78 52 *eP* **P 05 42 08.4 +0.3**
comp=Z,20nm,0.9s,mb5.0
HVU *ep*P pP 05 42 24.9 +0.7
SFJD Kangerlussuaq 68.81 7 *eP* **P 05 42 06.8 -1.1**
SFJD pmax pmax
comp=Z,15nm,0.5s,mb5.2
SFJD Kangerlussuaq 68.81 7 *eP* **P 05 42 06.8 -1.1**
comp=Z,15nm,0.5s,mb5.2
LOHW Long Hollow 68.81 50 *eP* **P 05 42 09.2 +0.8**
comp=Z,137nm,1.8s,mb5.6
EIDS Eidsvold 68.82 176 *eP* **P 05 42 03.1 -5.2**
comp=Z,61nm,0.7s,mb5.6
SNOW Snow King Moun 68.83 50 *eP* **P 05 42 09.6 +1.2**
comp=Z,71nm,1.1s,mb5.5
REDW Red Top Meadow 68.84 50 *eP* **P 05 42 09.2 +0.7**
comp=Z,72nm,1.0s,mb5.6
DGMT Dagmar 68.94 43 *eP* **P 05 42 08.8 -0.2**
comp=Z,69nm,0.5s,mb5.8
AHID Auburn Hatcher 69.09 51 *eP* **P 05 42 10.6 +0.5**
comp=Z,5.7nm,0.6s,mb4.7
AHID *ep*P pP 05 42 26.6 +0.4
LAO LASA Array 69.12 45 *eP* **P 05 42 10.6 +0.4**
comp=Z,39nm,0.8s,mb5.4
LAO *ep*P pP 05 42 26.3 0.0
BGU Big Grassy Mou 69.18 53 *eP* **P 05 42 10.8 +0.2**
BGU *ep*P pP 05 42 26.9 +0.1
SPUT South Promonto 69.27 52 *eP* **P 05 42 11.4 +0.2**
SPUT *ep*P pP 05 42 26.5 -0.8
MBWA Marble Bar 69.27 207 *eP* **P 05 42 11.8 +0.5**
comp=Z,33nm,1.1s,mb5.2
MBWA *ep*P pP 05 42 28.1 +0.7
DOMB Dombas 69.34 340 *eP* **P 05 42 10.9 -0.4**
DOMB AMb AMB 05 42 11.9
comp=Z,72nm,0.6s,mb5.8
DOMB Dombas 69.34 340 *eP* **P 05 42 10.9 -0.4**
comp=Z,72nm,0.6s,mb5.8
MNK Minsk 69.39 327 *eP* **P 05 42 09.0 -2.7**
HWUT Hardware Ranch 69.58 52 *eP* **P 05 42 13.6 +0.5**
NB2 NORSAR Subarra 69.66 339 P **P 05 42 12.5 -0.7**
comp=Z,64nm,0.5s,mb5.8,baz=31,slow=6.5
NOA NORSAR Array B 69.66 339 P **P 05 42 12.0 -1.2**
comp=Z,54nm,0.5s,mb5.7,baz=34,slow=6.5,SNR=273
NOA LR LR 06 17 27.6
comp=Z,234nm,18.2s,MS4.5,baz=15,slow=40
DUG Dugway 69.78 53 *eP* **P 05 42 14.2 -0.1**
DUG pmax pmax
comp=Z,15nm,0.6s,mb5.1
DUG Dugway 69.78 53 *eP* **P 05 42 14.2 -0.1**
comp=Z,15nm,0.6s,mb5.1
KIV Kislovodsk 69.80 312 P **P 05 42 15.3 +0.9**
comp=Z,974nm,0.7s,mb6.8,SNR=26
KIV Kislovodsk 69.80 312 P **P 05 42 16.0 +1.6**
SNR=34
KIV Kislovodsk 69.80 312*c i*P **P 05 42 15.3 +0.9**
KIV *i* S S 05 51 22.3 +3.2
KIV pmax pmax
comp=Z,153nm,0.8s,mb6.0
KIV MLR MLR
comp=Z,1μm,23.0s,MS5.1
KIV Kislovodsk 69.80 312⇑*i*P **P 05 42 15.2 +0.8**
KIV Kislovodsk 69.80 312 *eP* **P 05 42 15.8 +1.3**
comp=Z,125nm,0.8s,mb5.9
TPNV Topopah Spring 69.80 58 *eP* **P 05 42 14.9 +0.3**
TPNV pmax pmax
comp=Z,24nm,0.9s,mb5.1
TPNV Topopah Spring 69.80 58 *eP* **P 05 42 14.9 +0.4**
comp=Z,24nm,0.9s,mb5.1
NOQ North Oquirrh 69.88 53 *eP* **P 05 42 15.5 +0.6**
comp=Z,33nm,0.9s,mb5.3
NAO01 NORSAR Array S 69.91 339 *eP* **P 05 42 14.1 -0.6**
comp=Z,24nm,0.6s,mb5.3
BW06 Boulder Array 69.94 50 *eP* **P 05 42 15.4 +0.1**
PDAR Pinedale Array 69.94 50 P **P 05 42 14.8 -0.6**
comp=Z,12nm,0.8s,mb4.9,baz=282,slow=1.6,SNR=111
PDAR pP pP 05 42 30.4 -1.1
comp=Z,10nm,0.7s,baz=318,slow=2.0,SNR=10.0
CTU Camp Tracy 70.07 53 *eP* **P 05 42 17.1 +1.0**
TBLG Delisi 70.14 309 P **P 05 42 18.1 +1.6**
ONI Oni 70.30 310 P **P 05 42 18.4 +0.9**
JLU Jordanelle 70.30 52 *eP* **P 05 42 18.1 +0.6**
GOR Gori 70.32 310 P **P 05 42 19.5 +1.9**
NLU North Lily Min 70.36 53 *eP* **P 05 42 18.4 +0.5**
MWC Mount Wilson 70.42 61 *eP* **P 05 42 18.8 +0.4**
MWC *e**PP pP 05 42 35.2 +0.7
GSC Goldstone 70.52 60 *eP* **P 05 42 19.3 +0.4**
GSC pmax pmax
comp=Z,11nm,0.7s,mb4.9
GSC Goldstone 70.52 60 *eP* **P 05 42 19.3 +0.3**
comp=Z,11nm,0.7s,mb4.9
DAU Daniels Canyon 70.53 52 *eP* **P 05 42 19.9 +0.9**
MPU Maple Canyon 70.58 53 *eP* **P 05 42 19.8 +0.6**
comp=Z,13nm,0.6s,mb5.0
SHPR Sheep Range 70.76 58 *eP* **P 05 42 20.9 +0.5**
CCUT Cedar City 71.17 56 *eP* **P 05 42 32.3 +9.4**
GNI Garni 71.18 308*c i*P **P 05 42 24.3 +1.4**
GNI pmax pmax
comp=Z,38nm,1.2s
GNI Garni 71.18 308 *eP* **P 05 42 25.4 +2.5**
comp=Z,22nm,0.6s,mb5.3
MSU Marysvale 71.25 55 *eP* **P 05 42 24.2 +0.9**
KONO Kongsberg 71.27 339 *eP* **P 05 42 23.0 0.0**
KONO *e*S S 05 51 31.8 -3.8
KONO AMS AMS 06 17 21.0
comp=Z,695nm,25.5s,MS4.8
KONO Kongsberg 71.27 339⇓*eP* **P 05 42 23.2 +0.2**
TMUT Trail Mountain 71.30 53 *eP* **P 05 42 24.2 +0.6**
BORG Borgarnes 71.52 355 P **P 05 42 26.3 +1.8**
comp=Z,472nm,0.6s,mb6.6,SNR=9.0
ULM Lac du Bonnet 71.54 37 P **P 05 42 24.0 -0.9**
comp=Z,8.7nm,0.6s,mb4.9,baz=314,slow=7.1,SNR=21
ULM pP pP 05 42 39.2 -1.9
comp=Z,13nm,0.6s,baz=326,slow=6.6,SNR=9.2
ULM LR LR 06 15 37.0
comp=Z,238nm,21.7s,MS4.4,baz=248,slow=37
ULM Lac du Bonnet 71.54 37 *eP* **P 05 42 23.8 -1.1**
comp=Z,13nm,0.7s,mb5.0
SUW Suwalki 71.55 329 *eP* **P 05 42 23.8 -1.1**
comp=Z,300nm,1.2s,mb6.1
SUW *e*S S 05 51 36.7 -2.4
SUW LMZ 06 13 48.2
comp=Z,900nm,26.4s
SUW Suwalki 71.55 329 *eP* **P 05 42 23.8 -1.1**
SUW *e*S S 05 51 36.7 -2.3
AKASG Malin Array Be 71.63 324 P **P 05 42 24.8 -0.6**
comp=Z,13nm,0.4s,mb5.2,baz=37,slow=6.2,SNR=183
AKASG LR LR 06 16 38.0
comp=Z,494nm,19.3s,MS4.8,baz=40,slow=38
AKASG Malin Array Be 71.63 324 *i* P **P 05 42 24.7 -0.7**
AKASG pmax pmax
comp=Z,13nm,0.4s
AKBB Malin Array Si 71.63 324 *eP* **P 05 42 23.0 -2.4**
KIEV Kiev 71.64 324 *eP* **P 05 42 24.8 -0.7**
KIEV pmax pmax
comp=Z,135nm,1.1s,mb5.8
KIEV Kiev 71.64 324 *eP* **P 05 42 24.8 -0.7**
comp=Z,135nm,1.1s,mb5.8
SOC Sochi 71.64 313*c i*P **P 05 42 26.1 +0.5**
SOC *e**PP pP 05 42 39.2 -2.6
SOC *e**SP sP 05 42 47.1 -1.3
SOC *e*PPP 05 46 42.0
SOC *e*S S 05 51 41.0 +0.5
SOC *e**SS sS 05 52 10.4 +2.6
SOC *e* 05 52 22.0
SOC *e*SS SS 05 56 12.3 -3.6
SOC pmax pmax
comp=Z,22nm,0.5s,mb5.3
SOC MLR MLR
comp=Z,288nm,21.0s,MS4.5
BER Bergen 71.69 341 *eP* **P 05 42 25.5 -0.1**
BER AMS AMS 06 15 44.9
comp=Z,285nm,27.2s,MS4.4
LDFC Landfair 71.72 59 *eP* **P 05 42 26.7 +0.5**
comp=Z,26nm,0.9s,mb5.2
SRU San Rafael 71.82 53 *eP* **P 05 42 27.0 +0.2**
SRU pmax pmax
comp=Z,18nm,0.8s,mb5.0
SRU San Rafael 71.82 53 *eP* **P 05 42 27.0 +0.3**
comp=Z,18nm,0.8s,mb5.1
PFO Pinyon Flat Ob 71.83 61 P **P 05 42 26.2 -0.7**
comp=Z,71nm,1.1s,mb5.5,SNR=5.1
PFO Pinyon Flat Ob 71.83 61 *eP* **P 05 42 26.6 -0.3**
PFO pmax pmax
comp=Z,20nm,1.1s,mb5.0
PFO Pinyon Flat Ob 71.83 61 *eP* **P 05 42 26.6 -0.3**
comp=Z,20nm,1.1s,mb5.0
RWWY Rawlins 71.96 49 *eP* **P 05 42 28.0 +0.4**
comp=Z,85nm,1.1s,mb5.6
ANN Anapa 71.99 315 *eP* **P 05 42 27.4 -0.3**
ANN *e**PP pP 05 42 41.3 -2.6
ANN *e*S S 05 51 43.7 -0.7
ANN pmax pmax
comp=Z,92nm,1.1s,mb5.6
RSSD Black Hills 72.00 46 *eP* **P 05 42 27.6 -0.1**
ARTV Artvin 72.07 310 *i* P **P 05 42 29.1 +0.8**
BLS5 Blasjo 72.26 340 *eP* **P 05 42 30.1 +1.1**
BLS5 AMb AMB 05 42 32.2
comp=Z,65nm,1.8s,mb5.3
BLS5 Blasjo 72.26 340 *eP* **P 05 42 30.1 +1.1**
comp=Z,65nm,1.8s,mb5.3
BAR Barrett 72.30 62 *eP* **P 05 42 29.9 +0.2**
comp=Z,9.0nm,1.0s,mb4.7
BAR *ep*P pP 05 42 46.4 +0.4
AGMN Agassiz Refuge 72.98 38 *eP* **P 05 42 32.5 -1.1**
comp=Z,29nm,1.1s,mb5.1
SNART Snartemo 73.02 339 *eP* **P 05 42 33.6 +0.1**
SNART AMb AMB 05 42 35.6
comp=Z,108nm,1.3s,mb5.6
GLA Glamis 73.22 60 *eP* **P 05 42 35.6 +0.4**
GLA pmax pmax
comp=Z,14nm,0.8s,mb4.9
GLA Glamis 73.22 60 *eP* **P 05 42 35.5 +0.3**
comp=Z,14nm,0.8s,mb4.9
BIDO Bidbid 73.47 287⇓*P* **P 05 42 38.5 +1.7**
SNR=6.6
WBK Wadi Bani Khal 73.48 286⇑*P* **P 05 42 38.2 +1.4**
SNR=6.9
HAKT HAKKARI 73.51 306 *i* P **P 05 42 37.8 +1.0**
SIM Simferopol' 73.55 317*ceP* **P 05 42 36.7 -0.2**
SIM *e**PP pP 05 42 58.3 +5.1
SIM *e*S S 05 52 02.0 -0.2
SIM pmax pmax
comp=Z,46nm,0.9s,mb5.4
SIM MLR MLR
comp=Z,480nm,19.3s,MS4.8
WUAZ Wupatki 73.72 56 *eP* **P 05 42 38.7 +0.6**
comp=Z,15nm,0.9s,mb4.9
WAR Warsaw 73.75 329 *eP* **P 05 42 38.7 +0.8**
WAR *e*S S 05 52 08.9 +4.7
WAR LMZ 06 15 04.9
comp=Z,1μm,27.6s
WAR Warsaw 73.75 329 *eP* **P 05 42 38.7 +0.8**
WAR *e*S S 05 52 08.9 +4.8
WAR Warsaw 73.75 329 *eP* **P 05 42 38.7 +0.8**
WAR *e*S S 05 52 08.9 +4.8
WAR LR LR
comp=Z,1μm,27.6s,MS5.0
SMCO Snowmass 73.81 51 *eP* **P 05 42 40.4 +1.9**
SMCO *ep*P pP 05 43 01.9 +7.2
ARMA Armidale 73.87 176 *eP* **P 05 42 41.1 +2.4**
ARMA *ep*P pP 05 42 55.3 +0.3
HOQ Hoqain 74.00 287⇓*P* **P 05 42 40.6 +0.7**
SNR=8.4
ISCO Idaho Springs 74.14 50 *eP* **P 05 42 41.0 +0.5**
ISCO pmax pmax
comp=Z,38nm,1.0s,mb5.3
ISCO Idaho Springs 74.14 50 *eP* **P 05 42 41.0 +0.5**
comp=Z,38nm,1.0s,mb5.3
ASHO Ashiyiah 74.14 289⇑*P* **P 05 42 41.9 +1.1**
SNR=5.6
JMDO Jabal Madar 74.24 286 P **P 05 42 42.4 +1.1**
SNR=9.1
GRSN GIRESUNGRSN 74.26 312 *i* P **P 05 42 41.3 +0.2**
MVCO Mesa Verde 74.28 53 *eP* **P 05 42 41.6 +0.3**
comp=Z,15nm,0.8s,mb5.0
GKP Gorka Klasztor 74.29 331 *eP* **P 05 42 40.7 -0.4**
GKP LMZ 06 16 13.9
comp=Z,700nm,25.7s
GKP Gorka Klasztor 74.29 331 *eP* **P 05 42 40.7 -0.4**
GKP LR LR
comp=Z,700nm,25.7s,MS4.8
LVV L'vov 74.47 326 *eP* **P 05 42 41.2 -1.0**
LVV *e* 05 43 04.4
LVV *e* 05 45 29.2
LVV *e* 05 47 18.2
LVV *e*S S 05 52 11.0 -1.3
LVV *e* 05 52 41.6
LVV MLR MLR
comp=E,100nm,20.0s,MS4.6
LVV MLR MLR
comp=Z,400nm,20.0s,MS4.7
LVV MLR MLR
comp=N,300nm,21.0s,MS4.6
RGN Rugen 74.53 334 *eP* **P 05 42 42.5 +0.1**
comp=Z,287nm,1.4s,mb6.0
KIS Kishinev 74.56 321 *eP* **P 05 42 43.0 +0.2**
KIS *e**PP pP 05 43 04.0 +4.9
KIS *e*S S 05 52 12.0 -1.4
KIS MLR MLR
comp=Z,600nm,20.0s,MS4.9
KIS MLR MLR
comp=N,300nm,19.0s,MS4.8
KIS MLR MLR
comp=E,300nm,17.0s,MS4.8
KIS MLR MLR
comp=Z,700nm,22.0s
KIS Kishinev 74.56 321 *eP* **P 05 42 43.0 +0.2**
KIS *ep*P pP 05 43 04.0 +4.9
KIS *e*S S 05 52 12.0 -1.4
KIS LRM 06 15 56.0
comp=Z,700nm,22.0s
BSY Bisya 74.62 287 P **P 05 42 44.9 +1.4**
SNR=12
KWP Kalwaria 75.16 326 *eP* **P 05 42 46.8 +0.7**
comp=Z,700nm,1.6s,mb6.3
KWP *ep*P pP 05 43 01.3 -1.1
KWP *e*S S 05 52 20.2 +0.3
KWP *es*S sS 05 52 46.4 -1.0
KWP LMZ 06 13 40.1
comp=Z,800nm,28.9s
KWP Kalwaria 75.16 326⇑*i*P **P 05 42 46.5 +0.3**
KWP Kalwaria 75.16 326 *eP* **P 05 42 46.8 +0.7**
KWP *ep*P pP 05 43 01.3 -1.2
KWP *e*S S 05 52 20.2 +0.3
KWP *es*S sS 05 52 46.4 -1.1
EYMN Ely 75.18 36 *eP* **P 05 42 45.4 -0.9**
comp=Z,12nm,0.7s,mb4.9
DIKM Dikmen 75.34 314 *eP* **P 05 42 48.0 +0.6**
MARD Mardin 75.38 308 *i* P **P 05 42 48.8 +1.1**
STKA Stephens Creek 75.38 185 *eP* **P 05 42 48.4 +1.0**
comp=Z,5.0nm,0.9s,mb4.4
STKA *ep*P pP 05 43 05.5 +1.8
STKA Stephens Creek 75.38 185 P **P 05 42 47.6 +0.2**
comp=Z,6.4nm,0.9s,mb4.5,baz=3.1,slow=5.6,SNR=12
STKA *ep*P pP 05 43 03.9 +0.1
comp=Z,12nm,0.9s,baz=346,slow=8.4,SNR=12
STKA LR LR 06 12 40.4
comp=Z,339nm,20.8s,MS4.6,baz=12,slow=33
ELZG Elazig 75.57 310 *i* P **P 05 42 50.2 +1.5**
SDCO Great Sand Dun 75.63 51 *eP* **P 05 42 49.4 +0.3**
comp=Z,29nm,1.3s,mb5.0
SDCO *ep*P pP 05 43 05.7 +0.3
BURAR Bucovina Array 75.68 324⇑*i*P **P 05 42 49.3 +0.1**
BURAR Bucovina Array 75.68 324⇑*P* **P 05 42 49.3 +0.1**
OJC Ojcow 75.83 328 *eP* **P 05 42 50.1 +0.1**
OJC *e*PcP PcP 05 43 04.0 +1.7
KOLS Kolonicke sedl 75.88 326 *eP* **P 05 42 50.5 +0.2**
KOLS *e* 05 42 56.4
STHS Stebnicka Huta 75.91 327 *i* P **P 05 42 51.3 +0.8**
STHS pmax pmax
comp=Z,31nm,0.7s,mb5.3
STHS Stebnicka Huta 75.91 327 *i* P **P 05 42 51.3 +0.8**
comp=Z,31nm,0.7s,mb5.3
TLCR 75.92 320⇓*iP* **P 05 42 51.2 +0.6**
BSEG Bad Segeberg 75.98 335 *eP* **P 05 42 50.8 0.0**
BSEG pmax pmax
comp=Z,178nm,1.5s,mb5.8
BSEG Bad Segeberg 75.98 335 *eP* **P 05 42 50.8 0.0**
comp=Z,178nm,1.5s,mb5.8
MYA Malataya 76.00 310 *eP* **P 05 42 51.6 +0.4**
MALT Malatya 76.01 310 *eP* **P 05 42 50.8 -0.5**
MALT Malatya 76.01 310 P **P 05 42 52.9 +1.7**
MALT Malatya 76.01 310⇑*iP* **P 05 42 52.7 +1.5**
MALT Malatya 76.01 310 *eP* **P 05 42 52.8 +1.5**
comp=Z,23nm,1.0s,mb5.1
ECSD EROS,Sioux Fal 76.01 42 *eP* **P 05 42 50.3 -0.9**
comp=Z,20nm,0.8s,mb5.1
ECSD *ep*P pP 05 43 07.2 -0.2
ECSD *es*P sP 05 43 13.7 -0.3
UZH Uzhgorod 76.11 326 *eP* **P 05 42 51.6 0.0**
UZH *e* 05 43 00.8
UZH *e*S S 05 52 31.0 +0.5
UZH MLR MLR
comp=Z,400nm,14.0s,MS4.9
RUE Ruedersdorf 76.12 333 *eP* **P 05 42 51.4 -0.2**
comp=Z,265nm,1.8s,mb5.9
RUE Ruedersdorf 76.12 333 *eP* **P 05 42 52.0 +0.5**
comp=Z,138nm,1.3s,mb5.7
FORT Forrest 76.15 197 *eP* **P 05 42 46.4 -5.4**
comp=Z,29nm,0.6s,mb5.4
FORT Forrest 76.15 197 *eP* **P 05 42 52.9 +1.1**
comp=Z,4.5nm,0.7s,mb4.5
CRVS Cervenica-Dubn 76.23 327 *eP* **P 05 42 52.5 +0.2**
TUC Tucson 76.24 58 *eP* **P 05 42 52.8 +0.1**
NIE Niedzica 76.27 327 *eP* **P 05 42 53.1 +0.6**
AKCD Akcadag 76.30 310 *i* P **P 05 42 54.4 +1.5**
CTKT Corum 76.33 314 *i* P **P 05 42 54.1 +1.0**
VRI Vrincioaia 76.36 322 P **P 05 42 54.3 +1.2**
VRI Vrincioaia 76.36 322⇓*iP* **P 05 42 53.8 +0.7**
VRI Vrincioaia 76.36 322⇓*P* **P 05 42 53.8 +0.7**
BALT Daday 76.39 315 *i* P **P 05 42 55.4 +2.0**
PLOR Plostina 76.41 322 P **P 05 42 54.5 +1.1**
UMR Umm Al-Rimmam 76.46 298 *eP* **P 05 42 53.7 -0.2**
baz=298
UMR AMb AMB 05 42 54.8
comp=Z,56nm,0.5s,mb5.8,baz=298
MIB Mutribah 76.53 298 *eP* **P 05 42 54.0 -0.3**
baz=298
MIB AMb AMB 05 42 55.7
comp=Z,101nm,0.8s,mb5.8,baz=298
KAC Achnashellach 76.57 345 *eP* **P 05 42 53.5 -0.6**
KSP Ksiaz 76.61 330 *eP* **P 05 42 54.9 +0.4**
comp=Z,700nm,3.4s
KSP *ep*P pP 05 43 08.6 -2.2
KSP *e*S S 05 52 34.6 -1.4
KSP LMZ 06 16 45.6
comp=Z,1μm,27.1s
KSP Ksiaz 76.61 330⇑*eP* **P 05 42 53.2 -1.2**
KSP *e*S S 05 52 30.9 -5.1
TIRR Tirgusor 76.66 320 *eP* **P 05 42 55.0 +0.2**
TIRR pmax pmax
comp=Z,21nm,0.8s,mb5.1
TIRR Tirgusor 76.66 320⇑*iP* **P 05 42 54.5 -0.3**
TIRR Tirgusor 76.66 320 *eP* **P 05 42 55.0 +0.2**
comp=Z,21nm,0.8s,mb5.1
SARI SarD1z-Kayseri 76.70 311 *eP* **P 05 42 57.4 +2.2**
HARR Harsova 76.71 320⇑*iP* **P 05 42 55.8 +0.7**
HARR Harsova 76.71 320⇑*P* **P 05 42 55.8 +0.7**
CORM Corum 76.73 313 *eP* **P 05 42 56.0 +0.7**
OKC Ostrava-Krasne 76.76 329 *eP* **P 05 42 56.2 +0.9**
OKC *e*S S 05 52 35.2 -2.4
OKC AMS AMS 06 17 40.0
comp=Z,800nm,26.6s
OKC Ostrava-Krasne 76.76 329 *eP* **P 05 42 56.2 +0.9**
OKC *e*S S 05 52 35.2 -2.4
KPL Plockton 76.79 345⇑*eP* **P 05 42 55.3 0.0**
KPL AMb AMB 05 42 56.6
comp=Z,130nm,1.5s,mb5.6
KSB Sheil Bridge 76.87 345 *eP* **P 05 42 55.7 -0.1**
KECS Kecovo 76.96 327 *eP* **P 05 42 56.6 +0.2**
KECS pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KECS Kecovo 76.96 327 *eP* **P 05 42 56.6 +0.2**
KECS *es*P sP 05 43 22.4 +3.1
KECS Kecovo 76.96 327 *eP* **P 05 42 56.6 +0.2**
comp=Z,8.3nm,0.7s,mb4.8
KECS *e* 05 43 22.4
NAY Al-Naaiem 76.97 298 *eP* **P 05 42 56.4 -0.4**
baz=298
NAY AMb AMB 05 42 58.6
comp=Z,51nm,1.3s,mb5.3,baz=298
RDF Al-Radifah 76.99 297 *eP* **P 05 42 57.5 +0.6**
baz=297
RDF AMb AMB 05 42 58.8
comp=Z,132nm,0.7s,mb6.0,baz=297
UPC Upice 76.99 330 *eP* **P 05 42 57.1 +0.5**
LAZ Ladron 77.01 55 *eP* **P 05 42 58.3 +1.3**
LAZ *ep*P pP 05 43 14.4 +1.1
LAZ *es*P sP 05 43 21.7 +1.8
DPC Dobruska-Polom 77.01 330 *eP* **P 05 42 57.2 +0.5**
DPC *e*S S 05 52 39.2 -1.1
DPC AMS AMS 06 16 40.0
comp=Z,800nm,25.0s
ANMO Albuquerque 77.03 54 *eP* **P 05 42 57.6 +0.5**
ANMO *e**PP pP 05 43 14.0 +0.6
ANMO pmax pmax
comp=Z,9.0nm,0.8s
ANMO Albuquerque 77.03 54 *eP* **P 05 42 57.6 +0.5**
comp=Z,8.8nm,0.8s,mb4.7
ANMO *ep*P pP 05 43 14.0 +0.5
MORC Moravsky Berou 77.04 329 P **P 05 42 57.5 +0.7**
MORC Moravsky Berou 77.04 329⇑*iP* **P 05 42 57.1 +0.3**
MORC Moravsky Berou 77.04 329 *eP* **P 05 42 57.1 +0.3**
comp=Z,54nm,1.0s,mb5.4
GZT Gaziantep 77.17 310 *i* P **P 05 42 59.0 +1.2**
CDAG Cicekdag 77.27 313 *i* P **P 05 42 58.8 +0.5**
LENM Lemitar 77.27 55 *eP* **P 05 42 56.9 -1.6**
LENM *ep*P pP 05 43 15.6 +0.8
NRDL Niedersach Rie 77.28 335 *eP* **P 05 42 58.1 -0.1**
comp=Z,44nm,1.0s,mb5.3
CLL Collm 77.36 333 *eP* **P 05 42 58.3 -0.4**
comp=Z,70nm,0.7s,mb5.7
CLL Collm 77.36 333⇑*iP* **P 05 42 58.3 -0.4**
comp=Z,70nm,0.7s,mb5.7
CLL LmV 05 21 00.0
comp=Z,500nm,21.2s
CLL *ex* x 05 43 02.0
CLL *es*P sP 05 43 21.0 -0.6
CLL *i* pPcP 05 43 26.7
comp=Z,47nm,0.8s
CLL *es*PP 05 46 17.0
CLL *e*S S 05 52 40.0 -4.1
CLL *e*PS 05 53 38.0
CLL *e*(SS) 05 58 30.0
CLL Collm 77.36 333⇑*iP* **P 05 42 58.3 -0.4**
comp=Z,70nm,0.7s,mb5.7
CLL *i* sP sP 05 43 26.7 +5.1
CLL *e*S S 05 52 40.0 -4.1
CLL LR LR
comp=Z,500nm,21.2s,MS4.8
LPM Los Pinos Moun 77.37 55 *eP* **P 05 42 58.9 -0.1**
LPM *ep*P pP 05 43 16.0 +0.6
DRGR 77.39 325 P **P 05 42 59.7 +0.8**
DRGR 77.39 325⇑*iP* **P 05 42 59.0 +0.1**
DRGR 77.39 325⇑*P* **P 05 42 59.0 +0.1**
EBH Black Hill 77.40 344⇑*eP* **P 05 42 58.1 -0.7**
BRG Berggiesshubel 77.41 332 *eP* **P 05 42 58.7 -0.2**
comp=Z,27nm,1.0s,mb5.1
BRG Berggiesshubel 77.41 332 *i* P **P 05 42 59.2 +0.2**
comp=Z,27nm,1.0s,mb5.1
BRG PP PP 05 46 08.0 +15
BRG S S 05 52 43.0 -1.6
BRG *e*PKPPKP 06 09 50.9
comp=Z,1.5nm,0.8s
VOIR 77.44 322 P **P 05 42 59.8 +0.6**
VOIR 77.44 322⇑*iP* **P 05 43 00.0 +0.8**
VOIR 77.44 322⇑*P* **P 05 42 60.0 +0.8**
PVCC Panska Ves 77.49 331 *eP* **P 05 42 59.5 +0.2**
PVCC *e*S S 05 52 44.6 -0.9
PVCC AMS AMS 06 17 20.0
comp=Z,600nm,25.2s
BNM Barren Site 77.49 55 *eP* **P 05 43 00.2 +0.5**
BNM *ep*P pP 05 43 16.6 +0.6
BNM *es*P sP 05 43 23.9 +1.4
ESY Stoneypath 77.52 343 *eP* **P 05 42 59.4 0.0**
FBE Freiberg 77.57 332 *eP* **P 05 42 59.8 0.0**
comp=Z,40nm,0.7s,mb5.5
VYHS Vyhne 77.59 328 *eP* **P 05 43 00.1 +0.1**
VYHS pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
VYHS Vyhne 77.59 328 *eP* **P 05 43 00.1 +0.1**
comp=Z,7.7nm,1.3s,mb4.5
EAB Aberfoyle 77.62 344 *eP* **P 05 42 59.5 -0.5**
COWI Conover 77.63 36 *eP* **P 05 42 58.7 -1.5**

comp=Z,20nm,0.7s,mb5.2
COWI *e*pP pP 05 43 15.3 -1.2
COWI *e*sP sP 05 43 22.7 -0.4
PSZ Piszkesteto 77.64 327 P **P 05 43 01.2 +0.9**
PSZ Piszkesteto 77.64 327⇑ *e*P **P 05 43 00.8 +0.5**
PSZ Piszkesteto 77.64 327⇓ *i*P **P 05 43 00.8 +0.5**
SCHQ Schefferville 77.67 19 P **P 05 42 59.2 -1.1**
comp=Z,17nm,0.5s,mb5.2,baz=354,slow=5.5,SNR=42
SCHQ pP pP 05 43 15.0 -1.7
comp=Z,21nm,1.0s,baz=324,slow=5.9,SNR=7.2
SCHQ LR LR 06 18 58.7
comp=Z,638nm,20.9s,MS4.9,baz=341,slow=37
SCHQ Schefferville 77.67 19 *e*P **P 05 42 59.8 -0.5**
comp=Z,77nm,1.4s,mb5.4
SCHQ *e*pP pP 05 43 15.6 -1.1
ANDN Andirin 77.68 311 *i*P **P 05 43 01.6 +0.9**
KOLL Kolacno 77.69 328 *e*P **P 05 43 01.4 +0.9**
EBL Broad Law 77.74 343 *e*P **P 05 43 00.8 +0.1**
EAU Auchinoon 77.76 344 *e*P **P 05 43 00.5 -0.3**
VRAC Vranov 77.78 329 LR LR 06 24 59.5
comp=Z,519nm,18.1s,MS4.9,baz=32,slow=42
VRAC Vranov 77.78 329 P **P 05 43 01.8 +0.8**
VRAC Vranov 77.78 329⇑ *i*P **P 05 43 01.4 +0.4**
VRAC Vranov 77.78 329⇑ P **P 05 43 01.4 +0.4**
SGKT Sivrigoynuk 77.78 315 *i*P **P 05 43 02.7 +1.5**
KAMT Kaman 77.81 313 *e*P **P 05 43 02.2 +0.9**
XSO Sourhope Farm 77.84 343 *e*P **P 05 43 00.7 -0.5**
ANTO Ankara 77.92 314 *e*P **P 05 43 02.1 +0.2**
ANTO Ankara 77.92 314 P **P 05 43 03.7 +1.7**
SNR=6.8
ANTO Ankara 77.92 314 P **P 05 43 03.6 +1.6**
ANTO Ankara 77.92 314⇑ *i*P **P 05 43 02.7 +0.7**
ANTO Ankara 77.92 314 *e*P **P 05 43 03.2 +1.2**
comp=Z,16nm,0.7s,mb5.1
PRU Pruhonice 77.95 331 *e*P **P 05 43 02.2 +0.3**
PRU *e*S S 05 52 49.2 -1.3
PRU Pruhonice 77.95 331 *e*P **P 05 43 02.2 +0.3**
PRU *e*S S 05 52 49.2 -1.3
PRU AMS AMS 06 17 10.0
comp=Z,700nm,27.8s
PGBU Glenifferbraes 78.00 344 *e*P **P 05 43 01.5 -0.6**
PGBU AMb AMB 05 43 03.7
comp=Z,162nm,1.6s,mb5.7
CBKS Cedar Bluff 78.04 47 *e*P **P 05 43 01.5 -1.1**
CBKS *e**PP pP 05 43 17.8 -1.2
CBKS pmax pmax
comp=Z,23nm,1.1s,mb5.0
CBKS Cedar Bluff 78.04 47 *e*P **P 05 43 01.5 -1.1**
comp=Z,23nm,1.1s,mb5.0
CBKS *e*pP pP 05 43 17.8 -1.2
KOZT Kozan 78.04 311 *e*P **P 05 43 04.1 +1.4**
IBBN Ibbenburen 78.16 336 *e*P **P 05 43 03.0 0.0**
comp=Z,63nm,0.6s,mb5.7
HENT Hendek 78.18 316 *i*P **P 05 43 05.5 +2.1**
TREC Trest 78.19 330 *e*P **P 05 43 03.4 +0.1**
TREC *e*S S 05 52 52.1 -1.0
TREC AMS AMS 06 17 20.0
comp=Z,800nm,24.8s
ESK Eskdalemuir 78.20 343 P **P 05 43 03.0 -0.2**
comp=Z,236nm,0.6s,mb6.3,SNR=12
ESK Eskdalemuir 78.20 343 *e*P **P 05 43 02.2 -1.0**
ESK AMb AMB 05 43 05.4
comp=Z,77nm,1.8s,mb5.3
ESK Eskdalemuir 78.20 343 *e*P **P 05 43 02.9 -0.3**
ESK pmax pmax
comp=Z,11nm,0.6s,mb5.0
ESK Eskdalemuir 78.20 343 *e*P **P 05 43 02.9 -0.3**
comp=Z,10nm,0.6s,mb4.9
NIG Nigde 78.25 312 *e*P **P 05 43 04.2 +0.4**
MODS Modra-Piesok 78.29 328 *e*P **P 05 43 04.0 +0.2**
MDU Mudurnu 78.29 316 *e*P **P 05 43 04.3 +0.3**
ECK Cauldkaine Hil 78.31 343 *e*P **P 05 43 03.1 -0.7**
WERD Werda 78.33 332 *e*P **P 05 43 03.9 -0.1**
comp=Z,22nm,0.7s,mb5.2
BUD Budapest 78.34 327⇑ *e*P **P 05 43 04.5 +0.3**
MOX Moxa 78.39 333 *e*P **P 05 43 04.1 -0.3**
MOX *e* pP 05 43 19.5 -1.3
comp=Z,46nm,1.6s
MOX
comp=Z,300nm,21.0s
MOX Moxa 78.39 333 *e*P **P 05 43 04.1 -0.3**
MOX *e* pP 05 43 19.5 -1.3
MOX Moxa 78.39 333 *e*P **P 05 43 04.2 -0.2**
comp=Z,27nm,0.7s,mb5.3
MOX Moxa 78.39 333 *e*P **P 05 43 04.1 -0.3**
comp=Z,46nm,1.6s,mb5.2
MOX *e* pP 05 43 19.5 -1.3
MOX LR LR
comp=Z,300nm,21.0s,MS4.6
GUNZ Gunzen 78.39 332 *e*P **P 05 43 04.3 -0.1**
comp=Z,33nm,0.6s,mb5.4
XAL Allendale 78.41 342 *e*P **P 05 43 03.5 -0.9**
WERN Wernitzgruen 78.44 332 *e*P **P 05 43 04.8 +0.1**
comp=Z,45nm,0.5s,mb5.7
NKC Novy Kostel 78.47 332 *e*P **P 05 43 04.9 +0.1**
NKC *e*S S 05 52 54.0 -2.0
NKC AMS AMS 06 19 10.0
comp=Z,500nm,25.0s
NKC Novy Kostel 78.47 332 *e*P **P 05 43 04.9 +0.1**
NKC *e*S S 05 52 54.0 -2.0
COBT Iskenderun 78.50 310 *i*P **P 05 43 06.6 +1.4**
ZST Bratislava 78.50 328 *e*P **P 05 43 05.2 +0.2**
comp=Z,15nm,0.9s,mb4.9
ZST LR LR
comp=Z,100nm,24.0s,MS4.1
YURE YUREGIR 78.62 310 *i*P **P 05 43 06.8 +0.9**
KARA Karaisali 78.62 311 *e*P **P 05 43 06.5 +0.6**
CAN Canberra 78.66 178 *e*P **P 05 43 07.7 +1.9**
CAN *e**PP pP 05 43 24.1 +1.9
SZH Strazhica 78.73 320 *i*P **P 05 43 05.3 -1.0**
WTSB Winterswijk 78.74 336 *e*P **P 05 43 05.3 -0.9**
comp=Z,69nm,0.7s,mb5.7
BZS Buzias 78.79 324 P **P 05 43 07.0 +0.4**
BZS Buzias 78.79 324⇓ *i*P **P 05 43 06.2 -0.4**
BZS Buzias 78.79 324⇓ P **P 05 43 06.2 -0.4**
MANZ Manzenberg 78.79 332 *e*P **P 05 43 06.5 -0.1**
comp=Z,20nm,0.8s,mb5.1
HTY Hatay 78.85 310 *e*P **P 05 43 07.7 +0.5**
YAYL Yayladag 78.93 310 *i*P **P 05 43 08.4 +0.8**
GAL1 Galloway 78.93 344⇑ *e*P **P 05 43 06.7 -0.6**
GAL1 AMb AMB 05 43 08.3
comp=Z,90nm,1.7s,mb5.4
KHC Kasperske Hory 79.01 331 *e*P **P 05 43 08.0 +0.2**
KHC *e*S S 05 52 59.4 -2.4
KHC AMS AMS 06 18 50.0
comp=Z,600nm,22.9s
SCIA State Center 79.03 41 *e*P **P 05 43 07.7 -0.4**
comp=Z,74nm,0.8s,mb5.7
SCIA *e*pP pP 05 43 24.4 0.0
PVL Pavlikeni 79.04 321 *e*P **P 05 43 07.0 -1.1**
BUG Bochum--Univer 79.06 336 *e*P **P 05 43 07.8 -0.2**
comp=Z,37nm,0.9s,mb5.3
HPK Haverah Park 79.12 342⇑ *e*P **P 05 43 08.3 0.0**
HPK AMb AMB 05 43 09.6
comp=Z,124nm,0.7s,mb6.0
KIZT Kizilcal 79.13 314 *e*P **P 05 43 08.9 +0.2**
ESKT Eskisehir 79.18 315 *i*P **P 05 43 09.2 +0.3**
CONA Conrad Observa 79.19 329 *i*P **P 05 43 09.4 +0.6**
comp=Z,150nm,2.5s,mb5.5,SNR=31
CSNA Conrad Observa 79.19 329⇑ *i*P **P 05 43 09.4 +0.6**
comp=Z,186nm,3.3s
MERS Mersin 79.20 311 *e*P **P 05 43 09.3 +0.2**
GEC2 GERESS Array S 79.21 331 *e*P **P 05 43 08.6 -0.3**
GEC2 *e**PP pP 05 43 24.0 -1.3
GEC2 GERESS Array S 79.21 331 *e*P **P 05 43 08.6 -0.3**
GEC2 *e*pP pP 05 43 24.0 -1.3
GEC2 *e*sP sP 05 43 31.6 -0.3
GERES GERESS Array B 79.21 331 P **P 05 43 08.3 -0.6**
comp=Z,11nm,0.5s,mb5.1,baz=38,slow=6.2,SNR=177
GERES pP pP 05 43 22.8 -2.5
comp=Z,1.3nm,0.8s,baz=40,slow=7.7,SNR=5.2
GERES LR LR 06 22 45.5
comp=Z,550nm,18.8s,MS4.9,baz=28,slow=39
GERES GERESS Array B 79.21 331 P **P 05 43 08.3 -0.6**
GERES *PP pP 05 43 22.8 -2.5
WET Wettzell 79.24 331 *e*P **P 05 43 09.4 +0.3**
WET pmax pmax
comp=Z,42nm,1.0s,mb5.3
WET Wettzell 79.24 331 *e*P **P 05 43 09.4 +0.3**
comp=Z,42nm,1.0s,mb5.3
KDHN Kadinhani 79.27 314 *i*P **P 05 43 09.7 +0.3**
RAO Raoul Island 79.34 149 LR LR 06 13 50.0
comp=Z,469nm,18.6s,MS4.9,baz=29,slow=32
GRA1 Grafenberg Arr 79.34 333 *e*P **P 05 43 09.8 +0.2**
comp=Z,69nm,0.9s,mb5.6
GRF Grafenberg Arr 79.34 333 *e*P **P 05 43 09.8 +0.2**
GRF pmax pmax
comp=Z,69nm,0.9s,mb5.6
GRF Grafenberg Arr 79.34 333 *e*P **P 05 43 09.8 +0.2**
GRF pmax pmax
comp=Z,69nm,0.9s,mb5.6
GRF Grafenberg Arr 79.34 333 *e*P **P 05 43 09.8 +0.2**
comp=Z,69nm,0.9s,mb5.6
LADK Ladik-KONYA 79.38 313 *e*P **P 05 43 10.1 +0.1**
KSU1 Kansas State U 79.46 45 *e*P **P 05 43 09.2 -1.3**
comp=Z,47nm,0.9s,mb5.4
KSU1 *e*pP pP 05 43 25.9 -1.0
PKSM Moragy 79.53 326 P **P 05 43 11.0 +0.3**
PKSM Moragy 79.53 326⇑ *i*P **P 05 43 09.8 -0.9**
LHO Holmfirth 79.56 342⇑ *e*P **P 05 43 10.1 -0.6**
KONT Konya--Tatoy 79.57 313 *e*P **P 05 43 11.0 -0.1**
ULDT Uludag 79.58 317 *i*P **P 05 43 12.3 +1.3**
MEST Erdemli 79.61 311 *i*P **P 05 43 11.5 +0.2**
KBI1 Birley Grange 79.75 341⇑ *e*P **P 05 43 11.2 -0.5**
AMTX Amarillo 79.83 51 *e*P **P 05 43 12.9 +0.4**
comp=Z,50nm,1.0s,mb5.4
AMTX *e*pP pP 05 43 29.0 0.0
MOA Molln 79.84 330⇑ *i*P **P 05 43 12.5 +0.1**
comp=Z,50nm,1.9s,mb5.1,SNR=19
ARSA Arzberg 79.88 329⇓ *i*P **P 05 43 12.5 0.0**
comp=Z,191nm,4.1s,SNR=13
KWE Weaver Farm 80.04 342⇑ *e*P **P 05 43 13.0 -0.3**
HGN Heimansgroeve 80.06 336 *e*P **P 05 43 12.8 -0.6**
HGN Heimansgroeve 80.06 336 *e*P **P 05 43 12.9 -0.5**
comp=Z,41nm,0.6s,mb5.6
HGN Heimansgroeve 80.06 336 *e*S S 05 53 12.5 -0.4
BEBN Eben Emael 80.11 336 P **P 05 43 13.5 -0.2**
IKL Isikli 80.12 311 *e*P **P 05 43 12.8 -1.2**
SART Tekirdag 80.13 318 *i*P **P 05 43 14.5 +0.5**
MEM Membach 80.17 336 P **P 05 43 14.1 0.0**
comp=Z,26nm,1.3s,mb5.0
CWF Charnwood Fore 80.18 341 *e*P **P 05 43 13.2 -0.9**
CWF AMb AMB 05 43 16.3
comp=Z,48nm,1.4s,mb5.2
PLD Plovdiv 80.20 320 *e*P **P 05 43 13.8 -0.6**
TOD Tromm 80.20 334 *e*P **P 05 43 13.9 -0.3**
GDZ Gediz 80.20 316 *i*P **P 05 43 14.7 +0.3**
GDL2 Guadalupe Moun 80.21 55 *e*P **P 05 43 14.9 +0.3**
KDZ Kurdzhali 80.22 320 *e*P **P 05 43 16.0 +1.5**
HDMB Hadim 80.23 312 *e*P **P 05 43 14.1 -0.5**
DMUB Kingscourt 80.28 345 *e*P **P 05 43 14.3 -0.3**
SBD1 Bryn Du 80.46 342⇑ *e*P **P 05 43 15.3 -0.3**
UCC Uccle 80.48 337 P **P 05 43 15.4 -0.4**
comp=Z,44nm,2.2s,mb5.0
VTS Vitosha 80.50 322 *i*P **P 05 43 17.0 +1.0**
VTS Vitosha 80.50 322⇑ *i*P **P 05 43 16.3 +0.3**
VTS Vitosha 80.50 322⇑ P **P 05 43 16.3 +0.4**
ALN Alexandroupoli 80.51 319 *e*P **P 05 43 15.7 -0.4**
SOKA Soboth 80.55 329⇑ *i*P **P 05 43 16.1 -0.1**
comp=Z,58nm,1.3s,mb5.3
BCLA Clavier 80.55 336 P **P 05 43 16.0 -0.1**
comp=Z,19nm,1.0s,mb5.0
GLMI Grayling 80.55 35 *e*P **P 05 43 15.8 -0.4**
comp=Z,25nm,0.6s,mb5.3
GLMI *e*pP pP 05 43 31.9 -0.8
GLMI *e*sP sP 05 43 39.0 -0.2
PERS Pernice 80.55 329 *i*P **P 05 43 16.2 +0.1**
PERS *i* PcP PcP 05 43 19.8 -3.2
RDO Rodhopi 80.56 319 *e*P **P 05 43 16.8 +0.5**
TKTP Tekketepe 80.57 314 *i*P **P 05 43 16.3 -0.1**
FUR Furstenfeldbru 80.63 332 *e*P **P 05 43 16.8 +0.2**
FUR pmax pmax
comp=Z,64nm,0.9s,mb5.5
FUR Furstenfeldbru 80.63 332 *e*P **P 05 43 16.8 +0.2**
comp=Z,64nm,0.9s,mb5.5
BALY Balya 80.64 317 *i*P **P 05 43 16.0 -0.8**
RUP Ruppelstein 80.66 335 *e*P **P 05 43 16.9 +0.2**
DIVS Divibare 80.69 324 *e*P **P 05 43 15.8 -1.2**
HLM1 Long Mynd 80.74 342 *e*P **P 05 43 16.2 -0.9**
KHAL Karahalli 80.74 315 *i*P **P 05 43 17.4 0.0**
DLF Lyons Farm 80.78 344 *e*P **P 05 43 17.1 -0.2**
STU Stuttgart 80.80 333 *e*P **P 05 43 17.4 -0.1**
STU *e**PP pP 05 43 32.9 -1.0
STU pmax pmax
comp=Z,64nm,0.9s,mb5.5
STU Stuttgart 80.80 333 *e*P **P 05 43 17.4 -0.1**
comp=Z,50nm,0.8s,mb5.5
STU Stuttgart 80.80 333 *e*P **P 05 43 17.4 -0.1**
comp=Z,64nm,0.9s,mb5.5
STU *e*pP pP 05 43 32.9 -1.0
KBA Koelnbreinsper 80.83 330⇑ *i*P **P 05 43 17.5 -0.2**
comp=Z,96nm,1.4s,mb5.5,SNR=14
KBA Koelnbreinsper 80.83 330⇑ *i*P **P 05 43 17.5 -0.2**
KBA pmax pmax
comp=Z,96nm,1.4s,mb5.5
OBKA Obir 80.87 329⇑ *i*P **P 05 43 17.5 -0.4**
comp=Z,112nm,2.6s,mb5.3,SNR=17
DCN Croghan 80.88 345 *e*P **P 05 43 17.7 -0.1**
TOO Toolangi 80.90 181 *e*P **P 05 43 22.0 +4.2**
TOO *e*pP pP 05 43 36.9 +2.6
LFK Lefkose 80.91 311 *e*P **P 05 43 16.9 -1.4**
WLF Walferdange 80.97 336 P **P 05 43 18.1 -0.2**
comp=Z,25nm,2.0s,mb4.8
WLF Walferdange 80.97 336 *e*P **P 05 43 18.5 +0.1**
WLF *e**PP pP 05 43 34.6 -0.2
WLF pmax pmax
comp=Z,27nm,1.1s,mb5.1
WLF Walferdange 80.97 336 *e*P **P 05 43 18.5 +0.2**
comp=Z,27nm,1.1s,mb5.1
WLF *e*pP pP 05 43 34.6 -0.2
WLF *e*sP sP 05 43 41.5 +0.1
GIVF Givet 80.97 337⇑ *i*P **P 05 43 17.7 -0.7**
comp=Z,32nm,0.8s,mb5.0
GIVF Givet 80.97 337⇑ *i*P **P 05 43 17.7 -0.7**
GIVF pmax pmax
comp=Z,16nm,0.8s,mb5.0
GIVF Givet 80.97 337⇑ *i*P **P 05 43 17.7 -0.7**
comp=Z,16nm,0.8s,mb5.0
SKP1 Kophill 81.00 340⇑ *e*P **P 05 43 18.4 -0.1**
SSW Stow on the Wo 81.02 341⇑ *e*P **P 05 43 18.1 -0.4**
DOU Dourbes 81.04 337 P **P 05 43 18.7 -0.1**
comp=Z,16nm,1.9s,mb4.6
MMB Musomiste 81.06 321 *i*P **P 05 43 19.6 +0.6**
LANF Langenberg 81.07 334 *e*P **P 05 43 18.5 -0.4**
MYKA Terra Mystica 81.10 330⇑ *i*P **P 05 43 18.7 -0.5**
comp=Z,231nm,2.1s,mb5.8
KKB Krupnik 81.13 321 *i*P **P 05 43 20.5 +1.1**
NVR Nevrokopi 81.18 320 *e*P **P 05 43 19.9 +0.2**
BAIF Baives 81.19 337⇑ *i*P **P 05 43 19.0 -0.5**
comp=Z,23nm,0.7s,mb4.9
BAIF Baives 81.19 337⇑ *i*P **P 05 43 19.0 -0.5**
BAIF pmax pmax
comp=Z,12nm,0.7s,mb4.9
BAIF Baives 81.19 337⇑ *i*P **P 05 43 19.0 -0.5**
comp=Z,12nm,0.7s,mb4.9
AKHS Akhisar 81.20 316 *i*P **P 05 43 19.3 -0.5**
HTR Trewern Hill 81.24 342⇑ *e*P **P 05 43 19.6 -0.1**
WATA Walderalm 81.24 331⇑ *i*P **P 05 43 19.9 0.0**
comp=Z,37nm,1.1s,mb5.2,SNR=21
WATA Walderalm 81.24 331⇑ *i*P **P 05 43 19.9 +0.1**
WATA pmax pmax
comp=Z,37nm,1.1s,mb5.2
MCH1 Michaelchurch 81.25 342⇑ *e*P **P 05 43 19.6 -0.2**
MCH1 AMb AMB 05 43 21.2
comp=Z,68nm,1.1s,mb5.5
CSS Prodhromos 81.25 311 *e*P **P 05 43 19.9 -0.3**
CSS Prodhromos 81.25 311 *e*P **P 05 43 19.2 -1.0**
WTTA Wattenberg 81.28 331⇑ *i*P **P 05 43 20.2 +0.1**
comp=Z,205nm,2.7s,mb5.6,SNR=52
WTTA Wattenberg 81.28 331⇑ *i*P **P 05 43 20.2 +0.1**
WTTA pmax pmax
comp=Z,205nm,2.7s,mb5.6
MENF Mencas 81.30 338 *e*P **P 05 43 19.7 -0.4**
LEF Lefka 81.38 311 *e*P **P 05 43 18.8 -2.0**
RETA Reutte 81.39 332⇑ *i*P **P 05 43 20.7 +0.1**
comp=Z,70nm,1.7s,mb5.3,SNR=17
MOTA Moosalm 81.40 331⇑ *i*P **P 05 43 20.7 0.0**
comp=Z,34nm,1.0s,mb5.2,SNR=32
MOTA Moosalm 81.40 331⇑ *i*P **P 05 43 20.7 0.0**
MOTA pmax pmax
comp=Z,34nm,1.0s,mb5.2
SWN1 Swindon 81.43 341 *e*P **P 05 43 20.6 -0.2**
SWN1 AMb AMB 05 43 22.4
comp=Z,178nm,1.2s,mb5.9
BOJS Bojanci 81.45 328 *i*P **P 05 43 20.8 -0.2**
BFO Black Forest 81.47 334 P **P 05 43 20.1 -0.9**
comp=Z,200nm,0.7s,mb6.2,SNR=11
BFO Black Forest 81.47 334 *e*P **P 05 43 20.7 -0.3**
BFO pmax pmax
comp=Z,25nm,0.8s,mb5.2
BFO Black Forest 81.47 334 *e*P **P 05 43 20.7 -0.3**
comp=Z,25nm,0.8s,mb5.2
BFO Black Forest 81.47 334 *e*P **P 05 43 20.7 -0.3**
comp=Z,18nm,0.6s,mb5.2
BFO *e*pP pP 05 43 36.5 -1.1
BFO *e*sP sP 05 43 43.0 -1.0
WOL Wolverton 81.47 341 *e*P **P 05 43 20.2 -0.8**
WOL AMb AMB 05 43 22.1
comp=Z,129nm,1.1s,mb5.8
SRS Serrai 81.49 320 *e*P **P 05 43 19.3 -2.0**
VOY Vojsko 81.52 329 *e*P **P 05 43 20.7 -0.6**
VOY *e* pP 05 43 40.4 +2.6
SPAK Spaichingen-Ko 81.52 333 *e*P **P 05 43 20.2 -1.1**
HGH Gray Hill 81.55 342⇑ *e*P **P 05 43 20.5 -0.8**
GMNA Gemona 81.55 330 P **P 05 43 21.1 -0.4**
comp=Z,76nm,0.8s,mb5.7
WMOK Wichita Mounta 81.56 49 *e*P **P 05 43 21.4 -0.3**
WMOK *e**PP pP 05 43 37.9 -0.3
WMOK pmax pmax
comp=Z,28nm,1.1s,mb5.1
WMOK Wichita Mounta 81.56 49 *e*P **P 05 43 21.4 -0.4**
comp=Z,28nm,1.1s,mb5.1
WMOK *e*pP pP 05 43 37.9 -0.3
CEY Cerknica 81.56 329 *i*P **P 05 43 21.0 -0.5**
CEY *i* PcP PcP 05 43 24.5 -2.9
GOLH Golhisar 81.57 314 *i*P **P 05 43 21.9 +0.2**
JAVS Javornik 81.57 329 *i*P **P 05 43 20.4 -1.2**
STIP Stip 81.67 322 *e*P **P 05 43 21.4 -0.8**
STIP Stip 81.67 322 *e*P **P 05 43 21.9 -0.4**
LOS Limnos 81.72 319 *e*P **P 05 43 22.5 0.0**
CDF Champ du Feu 81.73 334⇑ *i*P **P 05 43 22.0 -0.4**
comp=Z,63nm,0.8s,mb5.3
CDF Champ du Feu 81.73 334⇑ *i*P **P 05 43 22.0 -0.4**
CDF pmax pmax
comp=Z,31nm,0.8s,mb5.3
CDF Champ du Feu 81.73 334⇑ *i*P **P 05 43 22.0 -0.4**
comp=Z,32nm,0.8s,mb5.3
KNT Kendrikon 81.77 321 *e*P **P 05 43 21.5 -1.3**
SKO Skopje 81.78 322 *e*P **P 05 43 23.9 +1.1**
SKO Skopje 81.78 322 *e*P **P 05 43 23.6 +0.8**
VAY Valandovo 81.80 321 *e*P **P 05 43 21.7 -1.2**
VAY Valandovo 81.80 321 *e*P **P 05 43 22.3 -0.6**
FETA Feichten 81.81 332⇑ *i*P **P 05 43 23.0 +0.1**
comp=Z,90nm,3.0s,SNR=27
SOH Sokhos 81.83 320 *e*P **P 05 43 22.2 -0.9**
KDAG Bornova 81.84 317 *i*P **P 05 43 23.8 +0.6**
LIBD Limburg 81.86 334 *e*P **P 05 43 22.8 -0.3**
DAVA Damuels 81.87 332 *i*P **P 05 43 23.2 +0.1**
comp=Z,138nm,3.1s,SNR=22
SKDS Skadanscina 81.88 329 *i*P **P 05 43 22.0 -1.3**
SKDS *i* pP 05 43 35.1 -4.6
OUR Ouranopolis 81.93 320 *e*P **P 05 43 23.6 0.0**
ECH Echery 81.94 334 *e*P **P 05 43 23.0 -0.5**
ECH *e**PP pP 05 43 38.6 -1.4
FELD Feldberg im Sc 81.97 334 *e*P **P 05 43 23.0 -0.7**
APPI Appiano 82.10 331 P **P 05 43 23.5 -0.9**
AYDN Tasoluk 82.11 316 *i*P **P 05 43 25.4 +0.8**
HORT Hortiatis 82.13 320 *e*P **P 05 43 23.8 -0.8**
PLG Polygyros 82.15 320 *e*P **P 05 43 23.9 -0.9**
PLG Polygyros 82.15 320 *e*P **P 05 43 24.3 -0.4**
GRG Griva 82.16 321 *e*P **P 05 43 23.8 -1.0**
THE Thessaloniki 82.16 321 *e*P **P 05 43 23.7 -1.1**
MOF Molkenrain 82.27 334 *e*P **P 05 43 24.7 -0.6**
THEF They Montfort 82.30 335 *e*P **P 05 43 25.2 -0.2**
AKAS Kas 82.31 314 *i*P **P 05 43 25.5 -0.2**
DAVOX Davos/Dischmat 82.31 332 LR LR 06 25 17.1
comp=Z,473nm,18.8s,MS4.9,baz=26,slow=40
CTI Castel Tesino 82.32 330 P **P 05 43 24.4 -1.1**
CTI pmax pmax
comp=Z,19nm,0.5s,mb5.3
CTI Castel Tesino 82.32 330 P **P 05 43 24.4 -1.1**
comp=Z,19nm,0.5s,mb5.3
MEZF Maizieres J'vi 82.34 336⇑ *i*P **P 05 43 25.4 -0.2**
comp=Z,61nm,0.7s,mb5.3
MEZF Maizieres J'vi 82.34 336⇑ *i*P **P 05 43 25.4 -0.2**
comp=Z,61nm,0.7s,mb5.6
TURN Turunc 82.34 315 *i*P **P 05 43 27.4 +1.6**
KRUS Krusevo 82.35 322 *e*P **P 05 43 26.0 +0.2**
HAU Haudompre 82.38 335⇑ *i*P **P 05 43 25.2 -0.6**
comp=Z,30nm,0.7s,mb5.0
HAU *e*MLR MLR
comp=Z,957nm,21.8s,MS4.8
HAU Haudompre 82.38 335⇑ *i*P **P 05 43 25.2 -0.6**
HAU pmax pmax
comp=Z,15nm,0.7s,mb5.0
HAU MLR MLR
comp=Z,960nm,21.8s,MS5.1
HAU Haudompre 82.38 335⇑ *i*P **P 05 43 25.2 -0.6**
comp=Z,15nm,0.7s,mb5.0
HAU LR LR
comp=Z,960nm,21.8s,MS5.1
PAIG Paliouri 82.39 320 *e*P **P 05 43 24.9 -1.2**
HINF Hinteralfeld 82.39 334⇑ *i*P **P 05 43 25.0 -0.9**
comp=Z,18nm,0.7s,mb4.8
HINF Hinteralfeld 82.39 334⇑ *i*P **P 05 43 25.0 -0.9**
HINF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
HINF Hinteralfeld 82.39 334⇑ *i*P **P 05 43 25.0 -0.9**
comp=Z,9.1nm,0.7s,mb4.8
CHOS Chios island 82.46 317 *e*P **P 05 43 25.2 -1.2**
BBS Basel-Blauen 82.49 334 *e*P **P 05 43 26.0 -0.4**
HTL Hartland 82.52 342 *e*P **P 05 43 25.8 -0.7**
HTL AMb AMB 05 43 28.8
comp=Z,82nm,1.5s,mb5.5
BIA Bitola 82.60 322 *e*P **P 05 43 25.5 -1.6**
TXAR Lajitas Array 82.68 56 P **P 05 43 27.4 -0.3**
comp=Z,12nm,0.8s,mb5.0,baz=298,slow=3.8,SNR=146
TXAR pP pP 05 43 43.7 -0.6
comp=Z,33nm,0.7s,baz=299,slow=3.7,SNR=34
TXAR PKKPbc PKKPbc 06 01 50.0 +0.2
comp=Z,0.3nm,0.7s,baz=134,slow=5.4,SNR=4.5
MABI Malga Bissina 82.72 331 P **P 05 43 27.2 -0.4**
TUE Stuetta 82.76 332 *e*P **P 05 43 27.4 -0.4**
comp=Z,22nm,0.6s,mb5.4
TUE *e*pP pP 05 43 43.6 -0.7
OHR Ohrid 82.76 322 *e*P **P 05 43 27.3 -0.6**
OHR Ohrid 82.76 322 *e*P **P 05 43 27.1 -0.9**
FNA Florina 82.77 322 *e*P **P 05 43 26.4 -1.6**
BDRM Kayabasi 82.79 316 *i*P **P 05 43 29.0 +0.8**
LIT Litokhoron 82.81 321 *e*P **P 05 43 22.8 -5.4**
LOMF Lomont 82.81 334 *e*P **P 05 43 27.8 -0.3**
AOS Alonnisos 82.89 319 *e*P **P 05 43 24.6 -4.0**
DYA Yadsworthy 82.92 342⇑ *e*P **P 05 43 27.9 -0.7**
DYA AMb AMB 05 43 30.5
comp=Z,117nm,1.5s,mb5.7
TIR Tirane 82.98 323 *e*P **P 05 43 28.9 -0.2**
SLM Saint Louis 83.00 42 *e*P **P 05 43 29.1 -0.1**
SLM *e**PP pP 05 43 45.6 -0.1
XOR Xorichti 83.06 320 *e*P **P 05 43 29.2 -0.3**
ARG Arkhangelos 83.09 315 *e*P **P 05 43 29.2 -0.6**
NEO Neokhori 83.10 320 *e*P **P 05 43 29.2 -0.5**
CSA1 St Austell 83.22 342⇑ *e*P **P 05 43 29.8 -0.3**
FVM French Village 83.42 42 *e*P **P 05 43 30.7 -0.7**
FVM *e**PP pP 05 43 47.0 -0.9
FVM pmax pmax
comp=Z,22nm,1.0s,mb5.1
FVM French Village 83.42 42 *e*P **P 05 43 30.7 -0.7**
comp=Z,22nm,1.0s,mb5.1
FVM *e*pP pP 05 43 47.0 -0.9
CCA1 Carnmenellis 83.44 343⇑ *e*P **P 05 43 31.0 -0.2**
THL Klokotos Trika 83.45 320 *e*P **P 05 43 30.8 -0.8**
MEV Metsovon 83.64 321 *e*P **P 05 43 32.7 +0.2**
FLN La Foliniere 83.64 339⇑ *i*P **P 05 43 31.9 -0.4**
comp=Z,70nm,0.5s,mb5.7
FLN *e*MLR MLR
comp=Z,275nm,20.8s,MS4.3
FLN La Foliniere 83.64 339⇑ *i*P **P 05 43 31.9 -0.4**
FLN pmax pmax
comp=Z,35nm,0.5s,mb5.8
FLN MLR MLR
comp=Z,280nm,20.8s,MS4.6
FLN La Foliniere 83.64 339⇑ *i*P **P 05 43 31.9 -0.4**
comp=Z,35nm,0.5s,mb5.8
FLN LR LR
comp=Z,280nm,20.8s,MS4.6
JSA Saint Aubin 83.67 340⇑ *e*P **P 05 43 31.8 -0.7**
CABF La Chapelle 83.70 334⇑ *i*P **P 05 43 32.4 -0.3**
comp=Z,20nm,0.6s,mb5.1
CABF La Chapelle 83.70 334⇑ *i*P **P 05 43 32.4 -0.3**
CABF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
CABF La Chapelle 83.70 334⇑ *i*P **P 05 43 32.4 -0.3**

comp=Z,9.8nm,0.6s,mb5.1
LDF La Druitiere 83.70 339⇑iP P 05 43 32.1 -0.5
comp=Z,58nm,0.7s,mb5.5
LDF La Druitiere 83.70 339⇑iP P 05 43 32.1 -0.5
LDF pmax pmax
comp=Z,29nm,0.7s,mb5.5
LDF La Druitiere 83.70 339⇑iP P 05 43 32.1 -0.5
comp=Z,29nm,0.7s,mb5.5
LKR Lokris 83.72 319 eP P 05 43 31.2 -1.7
LKR Lokris 83.72 319 eP P 05 43 31.8 -1.2
AGG Agios Georgios 83.74 320 eP P 05 43 27.4 -5.6
OG01 Vacheresse 83.76 334 eP P 05 43 32.8 -0.2
LOR Lormes 83.80 336⇑iP P 05 43 32.6 -0.5
comp=Z,68nm,0.8s,mb5.5
LOR eMLR MLR
comp=Z,530nm,20.0s,MS4.6
LOR Lormes 83.80 336⇑iP P 05 43 32.6 -0.5
LOR pmax pmax
comp=Z,34nm,0.8s,mb5.5
LOR MLR MLR
comp=Z,530nm,20.0s,MS4.9
LOR Lormes 83.80 336⇑iP P 05 43 32.6 -0.5
comp=Z,34nm,0.8s,mb5.5
LOR LR LR
comp=Z,530nm,20.0s,MS4.9
OLIL Olney 83.94 40 eP P 05 43 33.6 -0.4
comp=Z,69nm,1.4s,mb5.6
OLIL epP pP 05 43 50.0 -0.5
PPT Papeete 83.99 121 ePP PP 05 46 55.8 +6.7
comp=Z,53nm,21.8s
PPT Papeete 83.99 121 eSS SS 05 59 32.5 +8.7
comp=Z,129nm,29.2s
PPT Papeete 83.99 121 eLR LR 06 09 53.4
comp=Z,2µm,30.0s,baz=314
PPT Papeete 83.99 121 LR LR 06 15 35.7
comp=Z,401nm,19.0s,MS4.8,baz=323,slow=32
CING Cingoli 84.03 328 P P 05 43 34.2 -0.2
GRR Gorron 84.08 339⇑iP P 05 43 34.4 -0.2
comp=Z,84nm,0.5s,mb5.8
GRR Gorron 84.08 339⇑iP P 05 43 34.4 -0.2
GRR pmax pmax
comp=Z,42nm,0.5s,mb5.8
GRR Gorron 84.08 339⇑iP P 05 43 34.4 -0.2
comp=Z,42nm,0.5s,mb5.8
SSF Saint Saulge 84.09 336⇑iP P 05 43 34.2 -0.4
comp=Z,27nm,0.7s,mb5.2
SSF Saint Saulge 84.09 336⇑iP P 05 43 34.2 -0.4
SSF pmax pmax
comp=Z,14nm,0.7s,mb5.2
SSF Saint Saulge 84.09 336⇑iP P 05 43 34.2 -0.4
comp=Z,14nm,0.7s,mb5.2
KARP Karpathos 84.10 315 eP P 05 43 34.6 -0.3
FNVD Fontana Vidola 84.13 330 P P 05 43 35.8 +0.9
JCT Junction City 84.13 53 eP P 05 43 34.9 -0.3
JCT e*PP pP 05 43 51.5 -0.2
JCT pmax pmax
comp=Z,57nm,1.0s,mb5.7
JCT Junction City 84.13 53 eP P 05 43 34.9 -0.2
comp=Z,56nm,1.0s,mb5.7
JCT epP pP 05 43 51.5 -0.3
HYF Humbligny 84.16 337 eP P 05 43 35.0 0.0
BOB Bobbio (Coli) 84.21 331 P P 05 43 35.5 +0.2
SIUC Southern Illin 84.22 42 eP P 05 43 35.0 -0.5
comp=Z,120nm,1.0s,mb6.0
SIUC epP pP 05 43 51.8 -0.2
SIUC esP sP 05 43 58.4 -0.2
LTK Loutraki 84.24 319 eP P 05 43 33.3 -2.3
IGT Igoumenitsa 84.25 322 eP P 05 43 34.8 -0.8
BLO Bloomington 84.32 39 eP P 05 43 35.3 -0.6
BLO e*PP pP 05 43 51.7 -0.8
BLO pmax pmax
comp=Z,17nm,1.0s,mb5.1
BLO Bloomington 84.32 39 eP P 05 43 35.3 -0.6
comp=Z,17nm,1.0s,mb5.1
BLO epP pP 05 43 51.7 -0.8
SMF Signal de Mont 84.36 336⇑iP P 05 43 35.7 -0.3
comp=Z,106nm,0.8s,mb5.7
SMF Signal de Mont 84.36 336⇑iP P 05 43 35.7 -0.3
SMF pmax pmax
comp=Z,53nm,0.8s,mb5.7
SMF Signal de Mont 84.36 336⇑iP P 05 43 35.7 -0.3
comp=Z,53nm,0.8s,mb5.7
AVF Avril sur Loir 84.38 336⇑iP P 05 43 35.9 -0.2
comp=Z,61nm,0.8s,mb5.5
AVF Avril sur Loir 84.38 336⇑iP P 05 43 35.9 -0.2
AVF pmax pmax
comp=Z,31nm,0.8s,mb5.5
AVF Avril sur Loir 84.38 336⇑iP P 05 43 35.9 -0.2
comp=Z,31nm,0.8s,mb5.5
LSD Lago del Serru 84.38 333 P P 05 43 35.0 -1.1
VLC Villacollemand 84.40 330 P P 05 43 36.3 0.0
OG05 Jujurieux 84.41 334 eP P 05 43 36.2 -0.1
LPL La Plagne 84.47 333⇑iP P 05 43 36.9 +0.3
comp=Z,47nm,0.7s,mb5.4
LPL La Plagne 84.47 333⇑iP P 05 43 36.9 +0.3
LPL pmax pmax
comp=Z,24nm,0.7s,mb5.4
LPL La Plagne 84.47 333⇑iP P 05 43 36.9 +0.3
comp=Z,24nm,0.7s,mb5.4
LPG La Plagne 84.48 333⇑iP P 05 43 37.1 +0.5
comp=Z,57nm,0.7s,mb5.5
LPG La Plagne 84.48 333⇑iP P 05 43 37.1 +0.5
LPG pmax pmax
comp=Z,29nm,0.7s,mb5.5
LPG La Plagne 84.48 333⇑iP P 05 43 37.1 +0.5
comp=Z,29nm,0.7s,mb5.5
MIAR Mount Ida 84.50 46 eP P 05 43 36.6 -0.4
MIAR e*PP pP 05 43 53.4 -0.1
MIAR pmax pmax
comp=Z,51nm,0.9s,mb5.7
MIAR Mount Ida 84.50 46 eP P 05 43 36.6 -0.4
comp=Z,51nm,0.9s,mb5.7
MIAR epP pP 05 43 53.4 -0.1
DID Didima 84.52 318 eP P 05 43 34.8 -2.2
LONY Lake Ozonia 84.53 29 eP P 05 43 34.9 -2.0
comp=Z,24nm,1.5s,mb5.1
LONY epP pP 05 43 52.1 -1.4
LONY esP sP 05 43 59.0 -1.0
SGMF Saint Gilles 84.64 340⇑iP P 05 43 37.5 +0.1
comp=Z,156nm,0.7s,mb5.9
SGMF Saint Gilles 84.64 340⇑iP P 05 43 37.5 +0.1
SGMF pmax pmax
comp=Z,78nm,0.7s,mb6.0
SGMF Saint Gilles 84.64 340⇑iP P 05 43 37.5 +0.1
comp=Z,78nm,0.7s,mb6.0
CSNT Castellina Chi 84.67 329 P P 05 43 36.6 -1.0
PCP Piancastagn 84.72 332 P P 05 43 36.5 -1.4
PII Pisa 84.73 330 P P 05 43 37.2 -0.8
PII pmax pmax
comp=Z,14nm,0.6s,mb5.3
PII Pisa 84.73 330 P P 05 43 37.2 -0.8
comp=Z,14nm,0.6s,mb5.3
ROSF Rostrenen 84.73 341⇑iP P 05 43 38.0 +0.1
comp=Z,181nm,0.8s,mb5.9
ROSF Rostrenen 84.73 341⇑iP P 05 43 38.0 +0.1
ROSF pmax pmax
comp=Z,91nm,0.8s,mb6.0
ROSF Rostrenen 84.73 341⇑iP P 05 43 38.0 +0.1
comp=Z,91nm,0.8s,mb6.0
BGF Bois d'Agland 84.74 336⇑iP P 05 43 38.2 +0.3
comp=Z,32nm,0.8s,mb5.2
BGF Bois d'Agland 84.74 336⇑iP P 05 43 38.2 +0.3
BGF pmax pmax
comp=Z,16nm,0.8s,mb5.2
BGF Bois d'Agland 84.74 336⇑iP P 05 43 38.2 +0.3
comp=Z,16nm,0.8s,mb5.2
USIN University of 84.76 40 eP P 05 43 38.3 +0.1
comp=Z,9.2nm,0.5s,mb5.2
USIN epP pP 05 43 54.2 -0.6
USIN esP sP 05 44 01.5 +0.3
LKD Levkas 84.77 321 eP P 05 43 36.9 -1.3
PARMO Parma 84.79 43 eP P 05 43 38.2 -0.2
PARMO epP pP 05 43 54.7 -0.3
AQU L'Aquila 84.82 327 P P 05 43 39.7 +1.3
AQU L'Aquila 84.82 327⇑iP P 05 43 38.4 0.0
AQU L'Aquila 84.82 327 eP P 05 43 38.6 +0.1
comp=Z,38nm,1.1s,mb5.4
AQU epP pP 05 43 54.2 -0.8
BNI Bardonecchia 84.90 333 eP P 05 43 38.9 +0.2
BNI pmax pmax
comp=Z,17nm,0.8s,mb5.2
BNI Bardonecchia 84.90 333 eP P 05 43 38.9 +0.1
comp=Z,17nm,0.8s,mb5.2
RLS Riolos of Patr 84.92 320 eP P 05 43 38.5 -0.5
ZKR Zakros 84.92 315 eP P 05 43 39.4 +0.3

UALR University of 84.97 45 eP P 05 43 38.9 -0.4
comp=Z,10nm,0.9s,mb5.0
UALR epP pP 05 43 55.2 -0.7
UALR esP sP 05 44 02.0 -0.4
QLNO Quiliano 84.98 332 P P 05 43 38.4 -0.8
RRL Rocca Remolon 84.98 333 P P 05 43 38.8 -0.4
FG5 Orsara di Pugl 84.98 326 P P 05 43 40.1 +0.8
FG5 pmax pmax
comp=Z,133nm,1.5s,mb5.8
FG5 Orsara di Pugl 84.98 326 P P 05 43 40.1 +0.8
comp=Z,133nm,1.5s,mb5.8
ALLY Alegheny Colle 85.00 34 eP P 05 43 39.3 -0.1
comp=Z,80nm,0.9s,mb5.8
ALLY epP pP 05 43 55.2 -0.8
ALLY esP sP 05 44 02.4 0.0
FIAM Fiamignano 85.01 328 P P 05 43 39.0 -0.4
ACSO Alum Creek Sta 85.01 36 eP P 05 43 38.7 -0.7
comp=Z,65nm,1.0s,mb5.7
ACSO epP pP 05 43 55.1 -0.9
ACSO esP sP 05 44 02.0 -0.5
PLDF La Plantade 85.04 335 eP P 05 43 39.6 +0.2
VLX Vlachokerasia 85.04 319 eP P 05 43 38.6 -1.0
MIDA Miranda 85.09 327 P P 05 43 39.5 -0.3
QUIF Quistinic 85.10 340⇑iP P 05 43 39.6 -0.1
comp=Z,71nm,0.6s,mb5.7
QUIF Quistinic 85.10 340⇑iP P 05 43 39.6 -0.1
QUIF pmax pmax
comp=Z,35nm,0.6s,mb5.7
QUIF Quistinic 85.10 340⇑iP P 05 43 39.6 -0.1
comp=Z,36nm,0.6s,mb5.7
AGO Saint Agoulin 85.11 336 eP P 05 43 40.3 +0.5
FIN Finale Ligure 85.12 332 P P 05 43 38.0 -1.9
MBDF Montbardon 85.15 333⇑iP P 05 43 39.6 -0.4
comp=Z,23nm,0.6s,mb5.2
MBDF Montbardon 85.15 333⇑iP P 05 43 39.6 -0.4
MBDF pmax pmax
comp=Z,12nm,0.6s,mb5.2
MBDF Montbardon 85.15 333⇑iP P 05 43 39.6 -0.4
comp=Z,12nm,0.6s,mb5.2
ROB Robourent 85.17 332 P P 05 43 38.8 -1.3
TCF Toulx Ste Croi 85.17 336⇑iP P 05 43 40.1 0.0
comp=Z,42nm,0.8s,mb5.3
TCF Toulx Ste Croi 85.17 336⇑iP P 05 43 40.1 0.0
TCF pmax pmax
comp=Z,21nm,0.8s,mb5.3
TCF Toulx Ste Croi 85.17 336⇑iP P 05 43 40.1 0.0
comp=Z,21nm,0.8s,mb5.3
WCI Wyandotte Cave 85.18 39 eP P 05 43 40.1 -0.2
WCI e*PP pP 05 43 56.3 -0.6
WCI pmax pmax
comp=Z,50nm,0.9s,mb5.6
WCI Wyandotte Cave 85.18 39 eP P 05 43 40.1 -0.3
comp=Z,50nm,0.9s,mb5.7
WCI epP pP 05 43 56.3 -0.6
WCI esP sP 05 44 03.3 -0.1
DOI San Damiano 85.19 332 P P 05 43 38.1 -2.1
KFL Anninata 85.19 320 eP P 05 43 39.4 -0.9
GNAR Gosnell 85.21 43 eP P 05 43 41.2 +0.7
comp=Z,320nm,0.5s,mb6.7
GNAR epP pP 05 43 56.9 -0.2
HBAR Harrisburg 85.22 44 eP P 05 43 40.8 +0.3
HBAR epP pP 05 43 57.4 +0.3
NCB Newcomb 85.22 29 eP P 05 43 39.8 -0.6
comp=Z,28nm,1.0s,mb5.3
NCB epP pP 05 43 55.7 -1.3
NCB esP sP 05 44 02.9 -0.6
VLS Valsamata 85.23 321 eP P 05 43 39.2 -1.3
VLS Valsamata 85.23 321 eP P 05 43 39.4 -1.1
LAST Lasithi 85.26 316 eP P 05 43 40.3 -0.5
ORIF Oris-en-Rattie 85.28 334⇑iP P 05 43 40.8 +0.2
comp=Z,27nm,0.7s,mb5.2
ORIF eMLR MLR
comp=Z,618nm,23.0s,MS4.6
ORIF Oris-en-Rattie 85.28 334⇑iP P 05 43 40.8 +0.2
ORIF pmax pmax
comp=Z,13nm,0.7s,mb5.2
ORIF Oris-en-Rattie 85.28 334⇑iP P 05 43 40.8 +0.2
comp=Z,13nm,0.7s,mb5.2
CERT Cerreto 85.33 328 P P 05 43 40.2 -0.8
GLAT Glass 85.33 43 eP P 05 43 41.2 +0.1
GLAT epP pP 05 43 58.0 +0.3
SSB Saint Sauveur 85.38 335 eP P 05 43 41.4 +0.2
SSB e*PP pP 05 43 56.9 -0.8
SSB Saint Sauveur 85.38 335 eP P 05 43 41.4 +0.2
SSB epP pP 05 43 56.9 -0.9
SSB esP sP 05 44 04.2 -0.1
ITM Ithomi 85.41 319 eP P 05 43 40.4 -1.1
PYM Petit Puy Mans 85.42 336 eP P 05 43 41.7 +0.3
COLF Collangettes 85.42 335 eP P 05 43 41.9 +0.5
UTMT University of 85.48 42 eP P 05 43 42.2 +0.3
comp=Z,43nm,0.8s,mb5.6
UTMT epP pP 05 43 58.4 0.0
UTMT esP sP 05 44 05.3 +0.4
MFF Saint Martin d 85.54 338⇑iP P 05 43 42.1 +0.2
comp=Z,75nm,0.6s,mb5.8
MFF Saint Martin d 85.54 338⇑iP P 05 43 42.1 +0.2
MFF pmax pmax
comp=Z,37nm,0.6s,mb5.8
MFF Saint Martin d 85.54 338⇑iP P 05 43 42.1 +0.2
comp=Z,38nm,0.6s,mb5.8
SAOF Saorge 85.55 332 eP P 05 43 41.2 -0.8
MDV Middlebury 85.56 28 eP P 05 43 40.8 -1.3
MDV epP pP 05 43 56.5 -2.1
AUTN L'Aution 85.58 332 eP P 05 43 41.7 -0.5
HALT Halls 85.59 43 eP P 05 43 41.8 -0.6
HALT epP pP 05 43 58.1 -0.9
TOLF Tolfa 85.61 328 P P 05 43 41.1 -1.3
TOUF Mont Tournerai 85.62 332 eP P 05 43 41.8 -0.6
SBF Sospel 85.69 332 eP P 05 43 41.9 -0.9
comp=Z,31nm,0.5s,mb5.5
SBF Sospel 85.69 332 eP P 05 43 41.9 -0.9
SBF pmax pmax
comp=Z,15nm,0.5s,mb5.5
SBF Sospel 85.69 332 eP P 05 43 41.9 -0.9
comp=Z,15nm,0.5s,mb5.5
LUCF Luceram 85.70 332 eP P 05 43 41.8 -1.0
SIVA Sivas 85.72 316 eP P 05 43 43.2 +0.2
VIVF Saint-Julien-l 85.72 334⇑iP P 05 43 43.0 +0.2
comp=Z,44nm,0.8s,mb5.4
VIVF Saint-Julien-l 85.72 334⇑iP P 05 43 43.0 +0.2
VIVF pmax pmax
comp=Z,22nm,0.8s,mb5.4
VIVF Saint-Julien-l 85.72 334⇑iP P 05 43 43.0 +0.2
comp=Z,22nm,0.8s,mb5.4
MVIF Mont Vial 85.76 332 eP P 05 43 42.2 -0.9
LBNH Lisbon 85.76 27 eP P 05 43 42.9 -0.2
LBNH e*PP pP 05 43 58.9 -0.8
LBNH pmax pmax
comp=Z,47nm,1.2s,mb5.6
LBNH Lisbon 85.76 27 eP P 05 43 42.9 -0.2
comp=Z,47nm,1.2s,mb5.6
LBNH epP pP 05 43 58.9 -0.8
LBNH esP sP 05 44 06.2 0.0
OG26 St.-Nazaire-De 85.76 334 eP P 05 43 43.7 +0.6
OCF Saint Nazaire 85.77 334 eP P 05 43 43.7 +0.6
LBL Lubilhac 85.82 335 eP P 05 43 43.3 0.0
REVF Revere 85.83 332 eP P 05 43 42.7 -0.7
CUC Castrocucco 85.84 325 eP P 05 43 42.1 -1.4
comp=Z,22nm,1.0s,mb5.3
CUC epP pP 05 43 57.9 -2.2
KARN Karanos 85.86 317 eP P 05 43 43.7 -0.1
FRNF Fournols 85.88 336 eP P 05 43 44.2 +0.5
URZ Urewera 85.97 157 LR LR 06 13 52.0
comp=Z,314nm,21.9s,MS4.7,baz=22,slow=30
CALN Calern 85.98 332 eP P 05 43 43.3 -0.9
NATX Nacogdoches 86.06 49 eP P 05 43 45.5 +0.7
comp=Z,11nm,0.6s,mb5.3
NATX epP pP 05 44 02.1 +0.7
NATX esP sP 05 44 09.3 +1.4
TIP Timpagrande 86.11 324 eP P 05 43 44.9 -0.1
comp=Z,44nm,1.3s,mb5.5
TIP epP pP 05 44 00.7 -0.8
BINY Binghamton 86.14 31 eP P 05 43 44.6 -0.4
comp=Z,22nm,1.1s,mb5.3
BINY epP pP 05 44 00.1 -1.5
BINY esP sP 05 44 07.2 -0.8
SMRF Simiane la Rot 86.21 333⇑iP P 05 43 45.4 +0.1
comp=Z,48nm,1.3s,mb5.3
SMRF Simiane la Rot 86.21 333⇑iP P 05 43 45.4 +0.1
comp=Z,48nm,1.3s,mb5.6
FRF La Foret Royal 86.23 332⇑iP P 05 43 44.6 -0.8
comp=Z,88nm,1.4s,mb5.5
FRF La Foret Royal 86.23 332⇑iP P 05 43 44.6 -0.8
FRF pmax pmax

comp=Z,44nm,1.4s,mb5.5
FRF La Foret Royal 86.23 332⇑iP P 05 43 44.6 -0.8
comp=Z,44nm,1.4s,mb5.5
RJF Les Rejaudoux 86.27 336⇑iP P 05 43 45.6 +0.1
comp=Z,90nm,1.0s,mb5.6
RJF eMLR MLR
comp=Z,773nm,22.0s,MS4.8
RJF Les Rejaudoux 86.27 336⇑iP P 05 43 45.6 +0.1
RJF pmax pmax
comp=Z,45nm,1.0s,mb5.7
RJF MLR MLR
comp=Z,770nm,22.0s,MS5.1
RJF Les Rejaudoux 86.27 336⇑iP P 05 43 45.6 +0.1
comp=Z,45nm,1.0s,mb5.7
RJF LR LR
comp=Z,770nm,22.0s,MS5.1
PGF Pioggiola 86.30 330⇑iP P 05 43 45.0 -0.8
comp=Z,19nm,0.7s,mb5.2
PGF Pioggiola 86.30 330⇑iP P 05 43 45.0 -0.8
PGF pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
PGF Pioggiola 86.30 330⇑iP P 05 43 45.0 -0.8
comp=Z,9.6nm,0.7s,mb5.1
CAF Calviac 86.45 336⇑iP P 05 43 47.1 +0.6
comp=Z,118nm,0.9s,mb5.8
CAF Calviac 86.45 336⇑iP P 05 43 47.1 +0.6
CAF pmax pmax
comp=Z,59nm,0.9s,mb5.8
CAF Calviac 86.45 336⇑iP P 05 43 47.1 +0.6
comp=Z,59nm,0.9s,mb5.8
CORF Corte 86.47 330 eP P 05 43 46.5 -0.1
LMR La Mourre 86.48 332⇑iP P 05 43 46.1 -0.5
comp=Z,70nm,0.8s,mb5.7
LMR La Mourre 86.48 332⇑iP P 05 43 46.1 -0.5
LMR pmax pmax
comp=Z,35nm,0.8s,mb5.6
LMR La Mourre 86.48 332⇑iP P 05 43 46.1 -0.5
comp=Z,35nm,0.8s,mb5.6
OXF Oxford 86.67 44 eP P 05 43 47.7 0.0
OXF e*PP pP 05 44 03.7 -0.6
OXF pmax pmax
comp=Z,79nm,1.1s,mb5.9
OXF Oxford 86.67 44 eP P 05 43 47.7 0.0
comp=Z,79nm,1.1s,mb5.9
OXF epP pP 05 44 03.6 -0.7
OXF esP sP 05 44 10.2 -0.6
LASF Ste Croix 86.67 334 eP P 05 43 48.0 +0.4
comp=Z,114nm,1.4s,mb5.6
HKT Hockley 86.79 51 eP P 05 43 48.0 -0.4
HKT e*PP pP 05 44 04.8 -0.2
HKT pmax pmax
comp=Z,55nm,2.3s,mb5.4
HKT Hockley 86.79 51 eP P 05 43 48.0 -0.4
comp=Z,55nm,2.3s,mb5.4
HKT epP pP 05 44 04.8 -0.2
MCWV Mont Chateau 86.81 34 eP P 05 43 48.2 -0.1
comp=Z,75nm,1.0s,mb5.9
MCWV epP pP 05 44 04.6 -0.3
MCWV esP sP 05 44 11.3 -0.1
LFF La Frestale 86.82 337⇑iP P 05 43 48.8 +0.5
comp=Z,84nm,0.7s,mb5.8
LFF La Frestale 86.82 337⇑iP P 05 43 48.8 +0.5
LFF pmax pmax
comp=Z,42nm,0.7s,mb5.8
LFF La Frestale 86.82 337⇑iP P 05 43 48.8 +0.5
comp=Z,42nm,0.7s,mb5.8
PLAL Pickwick Lake 86.95 42 eP P 05 43 48.0 -1.1
comp=Z,31nm,1.2s,mb5.4
PLAL epP pP 05 44 04.6 -1.1
WES Weston 87.62 27 eP P 05 43 52.4 +0.2
WES e*PP pP 05 44 08.1 -0.7
WES pmax pmax
comp=Z,44nm,1.1s,mb5.6
WES Weston 87.62 27 eP P 05 43 52.4 +0.3
comp=Z,44nm,1.1s,mb5.6
WES epP pP 05 44 08.1 -0.7
WES esP sP 05 44 14.9 -0.4
SWET Sewanee 87.80 41 eP P 05 43 52.2 -1.0
SWET epP pP 05 44 09.0 -0.8
SWET esP sP 05 44 16.1 -0.2
TZTN Tazewell 87.81 39 eP P 05 43 52.8 -0.4
comp=Z,54nm,1.2s,mb5.7
TZTN epP pP 05 44 09.0 -0.9
TZTN esP sP 05 44 16.0 -0.4
MTLF Montolieu 87.84 335⇑iP P 05 43 53.4 +0.2
comp=Z,19nm,0.8s,mb5.1
MTLF Montolieu 87.84 335⇑iP P 05 43 53.4 +0.2
MTLF pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
MTLF Montolieu 87.84 335⇑iP P 05 43 53.4 +0.2
comp=Z,9.6nm,0.8s,mb5.1
VBMS Vicksburg 87.91 46 eP P 05 43 54.3 +0.5
comp=Z,59nm,0.9s,mb5.8
VBMS epP pP 05 44 10.7 +0.2
PAL Palisades 87.94 30 eP P 05 43 53.6 -0.1
PAL e*PP pP 05 44 09.2 -1.2
PAL pmax pmax
comp=Z,38nm,1.4s,mb5.4
PAL Palisades 87.94 30 eP P 05 43 53.6 -0.1
comp=Z,38nm,1.4s,mb5.4
PAL epP pP 05 44 09.2 -1.2
PAL epP pP 05 44 16.3 +5.9
LRDF Laroque-de-Fa 88.11 335 eP P 05 43 55.2 +0.7
SDMD Soldier's Deli 88.22 33 eP P 05 43 54.8 -0.3
comp=Z,18nm,0.9s,mb5.3
SDMD epP pP 05 44 10.7 -1.1
SDMD esP sP 05 44 17.3 -1.0
CPCT Cooper Cave 88.27 40 eP P 05 43 55.1 -0.3
CPCT epP pP 05 44 11.7 -0.4
SJAF Saint Jean de 88.42 334 eP P 05 43 55.5 -0.5
TKL Tuckaleechee C 88.44 39 eP P 05 43 55.7 -0.5
TKL e*PP pP 05 44 12.4 -0.5
EJON La Jonquera 88.45 334 P P 05 43 56.1 0.0
comp=Z,78nm,1.8s,mb5.6
ELN Prospectdale 88.48 36 eP P 05 43 55.8 -0.6
ELN epP pP 05 44 12.1 -0.9
ELN esP sP 05 44 19.0 -0.5
BLA Blacksburg 88.63 36 eP P 05 43 57.2 +0.1
BLA e*PP pP 05 44 13.2 -0.6
BLA pmax pmax
comp=Z,54nm,1.0s,mb5.8
BLA Blacksburg 88.63 36 eP P 05 43 57.1 +0.1
comp=Z,54nm,1.0s,mb5.8
BLA epP pP 05 44 13.2 -0.6
BLA esP sP 05 44 20.5 +0.3
EPF Esparros 88.69 336 eP P 05 43 58.1 +0.9
comp=Z,16nm,0.7s,mb5.2
EPF Esparros 88.69 336 eP P 05 43 58.1 +0.9
EPF pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
EPF Esparros 88.69 336 eP P 05 43 58.1 +0.9
comp=Z,7.8nm,0.7s,mb5.2
RESF Ens 88.89 336 eP P 05 43 58.7 +0.5
EALK Alkurruntz 89.04 338 P P 05 43 57.3 -1.6
comp=Z,120nm,2.2s,mb5.8
SJPF Ste Jean 89.06 337 eP P 05 43 58.8 -0.2
EBIE Bielsa 89.06 336 P P 05 43 59.6 +0.7
comp=Z,132nm,2.9s,mb5.8
ETSF Etsaut 89.07 337⇑iP P 05 43 59.1 +0.1
comp=Z,19nm,0.6s,mb5.3
ETSF Etsaut 89.07 337⇑iP P 05 43 59.1 +0.1
ETSF pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
ETSF Etsaut 89.07 337⇑iP P 05 43 59.1 +0.1
comp=Z,9.5nm,0.6s,mb5.3
ELIZ Elizondo 89.09 338 P P 05 43 58.9 -0.2
ELIZ pmax pmax
comp=Z,13nm,0.9s,mb5.3
ELIZ Elizondo 89.09 338 P P 05 43 58.9 -0.2
comp=Z,12nm,0.9s,mb5.2
EMIR Miracle 89.35 335 P P 05 43 59.4 -1.0
comp=Z,364nm,2.9s,mb6.2
URVA University of 89.53 34 eP P 05 44 01.2 -0.1
URVA epP pP 05 44 17.7 -0.3
URVA esP sP 05 44 24.4 0.0
ELAN Lanestosa 89.54 339 P P 05 44 00.7 -0.5
comp=Z,117nm,2.1s,mb5.8
ECRI Cripan 89.88 338 P P 05 44 03.0 +0.2
ECRI pmax pmax
comp=Z,27nm,1.4s,mb5.4
ECRI Cripan 89.88 338 P P 05 44 03.0 +0.2
comp=Z,27nm,1.4s,mb5.4
EPOB Poblet 90.00 335 P P 05 44 03.7 +0.3
comp=Z,64nm,1.7s,mb5.7
ESAC San Caprasio 90.12 336 P P 05 44 04.5 +0.5

comp=Z,136nm,1.4s,mb6.1
EPON Pontenova 90.36 342 P **P** 05 44 04.2 -0.9
comp=Z,286nm,2.3s,mb6.2
GOGA Godfrey 90.44 40 *e*P **P** 05 44 05.4 -0.2
GOGA *e**PP pP 05 44 21.7 -0.6
GOGA pmax pmax
comp=Z,19nm,1.3s,mb5.3
GOGA Godfrey 90.44 40 *e*P **P** 05 44 05.4 -0.2
comp=Z,19nm,1.3s,mb5.3
GOGA *e*pP pP 05 44 21.7 -0.6
GOGA *e*sP sP 05 44 28.8 0.0
ETOS Mallorca 90.90 333 P **P** 05 44 08.5 +0.9
comp=Z,555nm,2.8s,mb6.4
EMOS Mosqueruela 91.38 336 P **P** 05 44 10.0 +0.2
comp=Z,177nm,1.9s,mb6.1
CNNC Cliffs of the 91.38 35 *e*P **P** 05 44 10.2 +0.2
comp=Z,20nm,1.2s,mb5.3
CNNC *e*pP pP 05 44 25.8 -0.9
ETOR Torete 91.41 337 P **P** 05 44 09.9 -0.1
ETOR pmax pmax
comp=Z,22nm,1.6s,mb5.2
ETOR Torete 91.41 337 P **P** 05 44 09.9 -0.1
comp=Z,22nm,1.6s,mb5.2
ECAL Calabor 91.58 341 P **P** 05 44 05.0 -5.7
comp=Z,150nm,2.7s,mb5.8
KEST Kesra 92.12 327 P **P** 05 44 12.6 -0.7
comp=Z,2.0nm,0.7s,mb4.6,baz=25,slow=1.4,SNR=8.1
KEST LR LR 06 29 07.5
comp=Z,250nm,21.7s,MS4.6,baz=200,slow=38
GUD Guadarrama 92.15 339 P **P** 05 44 12.8 -0.6
GUD pmax pmax
comp=Z,26nm,1.6s,mb5.3
GUD Guadarrama 92.15 339 P **P** 05 44 12.8 -0.6
comp=Z,26nm,1.6s,mb5.3
ESDC Sonseca Array 93.01 338 P **P** 05 44 16.2 -1.1
comp=Z,28nm,2.4s,mb5.3
ETOB Tobarra 93.28 336 P **P** 05 44 17.8 -0.8
comp=Z,526nm,4.6s
EBAN Banos Encina 94.37 337 P **P** 05 44 23.5 -0.2
EBAN pmax pmax
comp=Z,36nm,1.4s,mb5.6
EBAN Banos Encina 94.37 337 P **P** 05 44 23.5 -0.2
comp=Z,36nm,1.4s,mb5.6
EMIN Mina Concepcio 95.51 339 P **P** 05 44 27.9 -1.0
comp=Z,98nm,2.8s,mb5.7
EJIF Jimena Fronter 96.44 338 P **P** 05 44 31.9 -1.2
EJIF pmax pmax
comp=Z,49nm,1.5s,mb5.7
EJIF Jimena Fronter 96.44 338 P **P** 05 44 31.9 -1.3
comp=Z,49nm,1.5s,mb5.7
RKT Rikitea 97.38 115 *e*SS SS 06 02 38.8 +1.6
comp=Z,176nm,32.8s
RKT Rikitea 97.38 115 *e*LR LR 06 15 57.9
comp=Z,621nm,34.5s,baz=320
DRV Dumont d'Urvil 110.16 183 Pdif 05 45 56.0
DRV SKKS PS 05 59 50.0 +11
DRV R 06 23 00.0
TORD Torodi Ar. Bea 115.24 322 PKP PKPdf 05 49 44.3 -1.3
comp=Z,1.8nm,0.5s,baz=13,slow=1.4,SNR=48
TORD PP PP 05 50 35.6 -10
comp=Z,2.0nm,0.6s,baz=22,slow=7.5,SNR=6.5
DBIC Dimbokro 123.83 326 PKP PKPdf 05 50 01.4 -0.7
comp=Z,3.9nm,0.5s,baz=356,slow=3.2,SNR=14
DBIC pPKP pPKPdf 05 50 16.5 -3.0
comp=Z,4.0nm,0.6s,baz=360,slow=4.0,SNR=3.3
DBIC PP PP 05 51 39.3 -5.5
comp=Z,5.1nm,0.7s,baz=24,slow=7.6,SNR=3.4
DBIC Dimbokro 123.83 326 PKIKP PKPdf 05 50 01.5 -0.7
DBIC 05 50 16.5
TIC Toumodi 123.92 326 *e*P PKPdf 05 50 03.8 +1.5
comp=Z,325nm,1.9s
KIC Kosan Boka 124.07 326 *e*P PKPdf 05 50 02.0 -0.6
comp=Z,214nm,1.6s
LIC Lamto 124.31 326 *e*P PKPdf 05 50 02.4 -0.7
comp=Z,72nm,1.5s
MAW Mawson 127.45 209 PKP PKPdf 05 50 07.2 -0.1
comp=Z,0.8nm,0.5s,baz=256,slow=8.3,SNR=2.5
LPAZ La Paz 139.51 59 PKnKP 05 50 23.8
comp=Z,0.8nm,0.7s,baz=353,slow=4.1,SNR=3.7
LPAZ PKP PKPdf 05 50 32.7 +1.2
comp=Z,1.0nm,0.6s,baz=308,slow=9.9,SNR=4.7
LPAZ La Paz 139.51 59 PKHKP 05 50 23.8
LPAZ 05 50 32.7
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 139.51 59 PKP PKPdf 05 50 32.7 +1.2
NVL N'lazarevskaya 145.12 204 PKIKP PKPdf 05 50 42.4 +2.6
NVL *e* 05 50 57.1
NVL pmax pmax
comp=Z,38nm,1.3s
MAIT Maitri 145.15 204 *e*PKPdif 05 50 38.6
LCO Las Campanas 146.49 77 *e*PKPdf PKPdf 05 50 44.5 +1.0
LCO *e*PKPbc PKPbc 05 50 45.5 +0.6
SNAA Sanae 148.40 198 *e*PKPdf PKPbc 05 50 51.8 +2.9
SNAA *e* 05 50 55.4
SNAA *e* 05 51 08.1
SNAA *e* 05 51 14.3
SNAA *e* 05 51 20.3
SNAA Sanae 148.40 198 *e*PKPdf PKPdf 05 50 45.2 -0.1
SNAA *e*PKPbc PKPbc 05 50 49.2 +0.4
SNAA *e*PKPab PKPab 05 50 53.0 +0.6
BDFB Brasilia 149.20 29 PKPbc PKPbc 05 50 52.2 -0.3
comp=Z,5.8nm,0.6s,baz=270,slow=4.0,SNR=18
BDFB Brasilia 149.20 29 PKP2 PKPbc 05 50 52.2 -0.3
BDFB pmax pmax
comp=Z,6.0nm,0.6s
VNA2 Neumayer--Watz 149.93 196 *e*PKPdf PKPbc 05 50 53.4 +0.7
VNA2 *e* 05 50 57.6
VNA2 *e* 05 51 11.0
VNA2 *e* 05 51 17.7
VNA2 *e* 05 51 24.9
VNA3 Neumayer Olymp 150.12 195 *e*PKPdf PKPbc 05 50 53.4 +0.2
VNA3 *e* 05 50 57.4
VNA3 *e* 05 51 11.1
VNA3 *e* 05 51 18.0
VNA3 *e* 05 51 25.2
VNA1 Neumayer--Stat 150.33 196 *e*PKPdf PKPbc 05 50 55.3 +1.6
VNA1 *e* 05 50 58.4
VNA1 *e* 05 51 12.6
VNA1 *e* 05 51 19.9
VNA1 *e* 05 51 26.4
PLCA Paso Flores 152.08 97 PKP PKPdf 05 50 51.8 -0.2
comp=Z,3.1nm,0.8s,baz=190,slow=7.3,SNR=4.3
PLCA PKPbc PKPbc 05 50 59.2 +0.5
comp=Z,13nm,0.6s,baz=267,slow=2.3,SNR=72
PLCA Paso Flores 152.08 97 PKIKP PKPdf 05 50 51.8 -0.2
PLCA *e* 05 50 59.5
PLCA Paso Flores 152.08 97 PKP PKPdf 05 50 51.8 -0.2
PLCA PKPbc PKPbc 05 50 59.2 +0.5
PLCA *e*PKPbc PKPbc 05 50 59.5 +0.8
CPUP Villa Florida 153.65 57 PKP PKPdf 05 50 54.2 -0.5
comp=Z,1.2nm,0.7s,baz=23,slow=8.6,SNR=4.2
CPUP PKPbc PKPbc 05 51 02.3 -0.3
comp=Z,1.1nm,0.5s,baz=183,slow=2.9,SNR=8.2
CPUP PKPab PKPab 05 51 14.6 -0.9
comp=Z,2.8nm,0.6s,baz=265,slow=4.3,SNR=4.7
CPUP Villa Florida 153.65 57 PKP PKPdf 05 50 54.2 -0.6
CPUP PKPbc PKPbc 05 51 02.3 -0.3
CPUP PKPab PKPab 05 51 14.6 -0.9
CPUP *e*PKPab PKPab 05 51 15.5 +0.1

CSEM ***26*** *06:23:29.4±0.2, 36.16N×273E, h9km±2km, ML3.7, Error ellipse: s-maj=4.9km s-min=4.2km az=5.0*
ISCJB ***26*** *06:23:30.9±0.6, 3623N±006×267E±006, h23km±10km, Error ellipse: s-maj=10.9km s-min=6.9km az=153.4*
MDD ***26*** *06:23:31.0±0.8, 36.11N×270E, h6km±10km, mb3.6/5, Error ellipse: s-maj=8.9km s-min=7.1km az=149.0, PRIMO*
CRAAG ***26*** *06:23:31.1, 3620N×281E, Ml3.7*
NEIC ***26*** *06:23:33.0, 3628N×259E, h0km, MG3.6(MDD), After MDD.*
ISC 26 06:23:30.9±0.8, 3618N±006×269E±006, h17km±9km, n23, σ1§22/33, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.21**	**84**	P	**Pg**	**06 23 34.7**	**-1.2**
ADJB	**Djebel Djouab**	**0.60**	**92**	P	**Pg**	**06 23 41.5**	**-1.3**
ABA	**Alger-Bouzarea**	**0.68**	**24**	P	**Pg**	**06 23 45.5**	**+1.2**
ABMS	**Boumerdes**	**0.85**	**48**	P	**Pb**	**06 23 47.9**	**+0.6**
EBNR	**Beni Rached**	**0.95**	**277**	P	**Pb**	**06 23 49.0**	**+0.1**
AKET	**Djebel Ketaf**	**0.97**	**97**	P	**Pb**	**06 23 48.8**	**-0.5**
ECHA	**Ech Chlef**	**1.07**	**269**	P	**Pb**	**06 23 50.0**	**-1.0**
ECHF	**Ech Chlef**	**1.09**	**269**	P	**Pb**	**06 23 50.0**	**-1.4**
EANR	**'Ain N'Sour**	**1.31**	**260**	P	**Pn**	**06 23 55.0**	**+0.6**
ETRT	**Tiaret**	**1.38**	**236**	P	**Pn**	**06 23 55.5**	**+0.1**
EIBI	**Ibiza**	**3.04**	**340**	P	**Pn**	**06 24 20.2**	**+2.0**
	2.3nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**06 24 53.5**	**-0.6**
	9.2nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.04**	**340**	P	**Pn**	**06 24 20.2**	**+2.0**
	2.3nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**06 24 53.5**	**-0.7**
	9.2nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**3.43**	**318**	P	**Pn**	**06 24 23.8**	**+0.3**
	1.0nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**06 25 02.0**	**-1.7**
	1.1nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.43**	**318**	P	**Pn**	**06 24 23.8**	**+0.2**
	1.0nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**06 25 02.0**	**-1.8**
	1.1nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.59**	**2**	P	**Pn**	**06 24 26.8**	**+1.1**
	2.1nm,0.3s,SNR=9.5						
ETOS				S	**Sn**	**06 25 05.8**	**-1.9**
	1.4nm,0.2s						
ETOS	**Mallorca**	**3.59**	**2**	P	**Pn**	**06 24 26.8**	**+1.1**
	2.1nm,0.3s,SNR=9.5						
ETOS				S	**Sn**	**06 25 05.8**	**-1.9**
	1.4nm,0.2s						
ETOB	**Tobarra**	**4.18**	**307**	P	**Pn**	**06 24 36.0**	**+2.1**
	1.2nm,0.2s,SNR=6.0						
ETOB				S	**Sn**	**06 25 21.2**	**-1.0**
	2.2nm,0.3s						
ETOB	**Tobarra**	**4.18**	**307**	P	**Pn**	**06 24 36.0**	**+2.1**
	1.2nm,0.2s,SNR=6.0						
ETOB				S	**Sn**	**06 25 21.2**	**-1.1**
	2.2nm,0.3s						
EMOS	**Mosqueruela**	**4.86**	**330**	P	**Pn**	**06 24 44.9**	**+1.7**
	1.6nm,0.3s,SNR=8.6						
EMOS				S	**Sn**	**06 25 38.3**	**-0.9**
	0.6nm,0.3s,SNR=6.7						
EMOS	**Mosqueruela**	**4.86**	**330**	P	**Pn**	**06 24 45.0**	**+1.7**
EMOS				S	**Sn**	**06 25 38.3**	**-0.9**
	0.6nm,0.3s,SNR=6.7						
EQUE	**Quentar**	**5.03**	**284**	P	**Pn**	**06 24 46.2**	**+0.6**
	0.7nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**5.12**	**340**	P	**Pn**	**06 24 48.7**	**+1.9**
	0.2nm,0.1s,SNR=4.0						
ERTA	**Horta de San J**	**5.12**	**340**	P	**Pn**	**06 24 48.7**	**+1.9**
	0.2nm,0.1s,SNR=4.0						

ISCJB ***26*** *06:42:01.9±0.6, 3540N±004×26.12E±004, h22km±9km, Error ellipse: s-maj=6.2km s-min=5.2km az=173.2*
NEIC ***26*** *06:42:01.2, 3557N×2609E, h8km, MD3.4(ATH), After ATH.*
THE ***26*** *06:42:01.7, 3542N×2609E, h3km*
ATH ***26*** *06:42:01.2, 3556N×2609E, h8km±1km, MD3.4/5*
CSEM ***26*** *06:42:02.0±0.2, 3541N×2612E, h20km, MD3.4, Error ellipse: s-maj=3.6km s-min=3.3km az=32.0*
ISC 26 06:42:01.4±0.6, 3543N±003×2611E±004, h19km±5km, n13, σ0§73/23, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.33**	**164**	*e*Pg	**Pg**	**06 42 08.1**	**-0.3**
ZKR				*e*Sg	**Sg**	**06 42 13.1**	**-0.1**
NPS	**Neapolis**	**0.44**	**248**	*e*PG	**Pg**	**06 42 11.0**	**+0.7**
NPS				*e*SB	**Sb**	**06 42 17.1**	**+0.5**
LAST	**Lasithi**	**0.58**	**243**	*e*Pg	**Pg**	**06 42 13.0**	**+0.1**
LAST				*e*Sg	**Sg**	**06 42 20.8**	**+0.1**
KARP	**Karpathos**	**0.87**	**82**	*e*PB	**Pb**	**06 42 17.7**	**-0.1**
KARP				*e*SB	**Sb**	**06 42 29.9**	**+0.8**
THR6	**Thira Island,**	**1.09**	**328**	*e*Pg	**Pg**	**06 42 21.5**	**-1.0**
THR6				*e*Sg	**Sg**	**06 42 37.6**	**+0.9**
THR3	**Thira Island,**	**1.13**	**330**	*e*Pg	**Pg**	**06 42 23.2**	**0.0**
THR3				*e*Sg	**Sg**	**06 42 39.1**	**+0.9**
THR3	**Thira Island,**	**1.13**	**330**	*e*Pg	**Pg**	**06 42 23.2**	**-0.1**
THR3				*e*Sg	**Sg**	**06 42 39.1**	**+1.0**
SIVA	**Sivas**	**1.14**	**249**	*e*Pg	**Pg**	**06 42 23.7**	**+0.2**
SIVA				*e*Sg	**Sg**	**06 42 38.0**	**-0.3**
THR5	**Thira Island,**	**1.16**	**328**	*e*Pg	**Pg**	**06 42 22.7**	**-1.2**
THR5				*e*Sg	**Sg**	**06 42 39.3**	**+0.2**
VAM	**Vamos**	**1.56**	**270**	*e*PB	**Pb**	**06 42 30.4**	**+0.8**
APE	**Apeiranthos**	**1.70**	**344**	*e*PB	**Pb**	**06 42 30.8**	**-1.2**
GVD	**Gavdhos**	**1.76**	**251**	*e*PN	**Pn**	**06 42 34.5**	**+3.7**
KARN	**Karanos**	**1.79**	**270**	*e*Pb	**Pb**	**06 42 32.1**	**-1.3**
KARN				*e*Sb	**Sb**	**06 42 55.3**	**-0.3**

ISK ***26*** *06:43:37.4, 3939N×4095E, h5km, MD2.8*
CSEM ***26*** *06:43:37.4, 3939N×4095E, h5km, MD2.8, After ISK*
ISC 26 06:43:38.5±1.1, 3927N±006×411E±01, h17km±11km, n5, σ1§16/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.32**	**172**	*i* P	**Pg**	**06 43 45.2**	**+0.1**
EZM	**Erzurum**	**0.67**	**18**	*e*PG	**Pg**	**06 43 50.3**	**-1.4**
EZM				*e*SG	**Sg**	**06 43 60.0**	**-0.7**
ERZM	**Erzurum**	**0.67**	**18**	*i* P	**Pg**	**06 43 52.0**	**+0.2**
ERZM				*i* S	**Sg**	**06 44 02.4**	**+1.7**
PTK	**Pertek**	**1.37**	**255**	*e*PN	**Pn**	**06 44 03.4**	**+0.5**
PTK				*e*SN	**Sg**	**06 44 22.8**	**0.0**
GUMT	**Gumushane**	**1.72**	**314**	*e*PN	**Pn**	**06 44 07.3**	**-0.4**

IDC 26 06:59:27.2±1.3, 2034N×12004E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/28, Error ellipse: s-maj=44.1km s-min=24.2km az=78.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**9.94**	**48**	LR	LR	07 06 03.1	
	comp=Z,70nm,21.3s,baz=215,slow=40						
MJAR	**Matsushiro Arr**	**22.65**	**41**	P	P	07 04 30.4	+0.4
	1.5nm,0.7s,baz=242,slow=8.7,SNR=4.8						
MKAR	**Makanchi Array**	**40.46**	**320**	P	P	07 07 07.3	-0.2
	0.7nm,0.8s,baz=104,slow=8.1,SNR=5.2						
WRA	**Warramunga Arr**	**42.41**	**160**	P	P	07 07 23.2	-0.5
	3.0nm,0.8s,baz=342,slow=9.0,SNR=27						
ASAR	**Alice Springs**	**45.78**	**162**	P	P	07 07 51.3	+0.6
	0.4nm,0.5s,baz=352,slow=6.9,SNR=5.1						
GERES	**GERESS Array B**	**85.12**	**320**	LR	LR	07 54 55.6	
	comp=Z,37nm,18.3s,baz=111,slow=39						

IDC 26 07:24:31.1±11.0, 685S×11578E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, Error ellipse: s-maj=270.8km s-min=147.5km az=19.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.22**	**128**	P	P	07 29 29.1	-0.3
	0.2nm,0.4s,baz=302,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**24.14**	**136**	P	P	07 29 50.2	+1.3
	1.2nm,0.6s,baz=312,slow=8.4,SNR=19						
STKA	**Stephens Creek**	**34.63**	**139**	P	P	07 31 21.4	-0.9
	1.0nm,1.0s,baz=315,slow=11,SNR=2.3						

CSEM ***26*** *07:56:07.6±0.1, 38.16N×3804E, h5km, MD2.9, Error ellipse: s-maj=2.5km s-min=1.5km az=150.0*
ISCJB ***26*** *07:56:08.6±0.8, 3815N±005×3806E±006, h3km±10km, Error ellipse: s-maj=8.0km s-min=7.6km az=39.9*
ISK ***26*** *07:56:08.4, 38.16N×3807E, h8km, MD2.9*
ISC 26 07:56:08.9±0.7, 3819N±005×3804E±005, h8km±8km, n11, σ0§99/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.14**	**317**	*i* P	**Pg**	**07 56 11.7**	**-0.3**
MALT	**Malatya**	**0.33**	**68**	PG	**Pg**	**07 56 15.2**	**-0.1**
MALT				*e*SG	**Sg**	**07 56 20.1**	**+0.4**
MYA	**Malataya**	**0.33**	**66**	PG	**Pg**	**07 56 15.2**	**-0.2**
MYA				*e*SG	**Sg**	**07 56 20.5**	**+0.7**
DARE	**Darende-Malaty**	**0.78**	**346**	*e*PG	**Pg**	**07 56 20.8**	**-3.2**
GZT	**Gaziantep**	**0.92**	**204**	*i* P	**Pg**	**07 56 28.7**	**+2.1**
GZT				*i* S	**Sg**	**07 56 43.3**	**+4.8**
URFA	**Urfa**	**0.97**	**140**	*e*PG	**Pg**	**07 56 26.5**	**-1.1**
URFA				*e*SG	**Sg**	**07 56 40.0**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.01**	**79**	*e*PG	**Pg**	**07 56 27.8**	**-0.6**
SVRC				*e*SG	**Sg**	**07 56 41.9**	**+0.4**
KMRS	**Kahramanmaras**	**1.14**	**233**	*e*PN	**Pn**	**07 56 30.3**	**-0.7**
KMRS				*e*SN	**Sn**	**07 56 46.6**	**-0.2**
SARI	**SarD1z-Kayseri**	**1.16**	**295**	*e*PN	**Pn**	**07 56 33.9**	**+2.5**
GAZ	**Gaziantep**	**1.21**	**213**	*e*PN	**Pn**	**07 56 31.7**	**-0.5**
PTK	**Pertek**	**1.27**	**56**	*e*PN	**Pn**	**07 56 32.9**	**0.0**

ISK ***26*** *08:09:28.8, 3992N×4091E, h3km, MD3.3*
CSEM ***26*** *08:09:29.4±0.1, 3991N×4091E, h8km, MD3.3, Error ellipse: s-maj=3.0km s-min=2.0km az=135.0*
ISCJB ***26*** *08:09:30.4±0.6, 3988N±005×4093E±003, h11km±5km, Error ellipse: s-maj=7.6km s-min=4.3km az=178.5*
DDA ***26*** *08:09:30.5, 3991N×4092E, h7km±7km, Md3.3*
ISC 26 08:09:31.0±0.6, 3990N±005×4094E±004, h11km±5km, n20, σ0§99/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.33**	**89**	PG	**Pg**	**08 09 36.5**	**-1.1**
EZM				*e*SG	**Sg**	**08 09 42.3**	**+0.4**
ERZM	**Erzurum**	**0.33**	**89**	*i* P	**Pg**	**08 09 36.8**	**-0.8**
ERZM				*i* S	**Sg**	**08 09 43.3**	**+1.3**
KOPT	**Kop Dagi**	**0.36**	**289**	*i* P	**Pg**	**08 09 37.2**	**-0.9**
KOPT				*i* S	**Sg**	**08 09 43.6**	**+0.7**
HOMI	**Horasan**	**0.76**	**79**	*i* P	**Pg**	**08 09 44.5**	**-1.2**
HOMI				*i* S	**Sg**	**08 09 58.2**	**+2.7**
EZC	**Erzincan**	**0.88**	**260**	*e*PN	**Pn**	**08 09 52.3**	**+3.1**
BNGL	**BINGOL**	**0.96**	**170**	*i* P	**Pg**	**08 09 42.5**	**-7.0**
GUMT	**Gumushane**	**1.25**	**297**	*e*PN	**Pn**	**08 09 53.1**	**-1.1**
PZAR	**Pazar-Rize**	**1.27**	**359**	*e*PN	**Pn**	**08 09 53.7**	**-0.9**
PZAR				*e*SN	**Sn**	**08 10 11.6**	**-0.1**
MACK	**Trabzon**	**1.37**	**320**	*i* P	**Pn**	**08 09 55.8**	**-0.1**
MACK				*i* S	**Sn**	**08 10 15.5**	**+1.4**
KTUT	**Trabzon**	**1.40**	**321**	*e*PN	**Pn**	**08 09 55.8**	**-0.6**
ARTV	**Artvin**	**1.49**	**30**	*i* P	**Pn**	**08 09 57.2**	**-0.4**
ARTV				*i* S	**Sn**	**08 10 17.0**	**+0.1**
PTK	**Pertek**	**1.57**	**230**	*e*PN	**Pn**	**08 09 58.1**	**-0.5**
AGRB	**Hanur-Agry**	**1.62**	**101**	*e*PN	**Pn**	**08 09 59.3**	**-0.1**
BCA	**Borcka**	**1.63**	**18**	*e*PN	**Pn**	**08 09 59.2**	**-0.3**
ESPY	**Espiye-Giresun**	**1.97**	**302**	*e*PN	**Pn**	**08 10 03.9**	**-0.3**
GRSN	**GIRESUNGRSN**	**2.28**	**297**	*i* P	**Pn**	**08 10 11.4**	**+3.0**
MYA	**Malataya**	**2.51**	**232**	*e*PN	**Pn**	**08 10 11.7**	**+0.1**
MALT	**Malatya**	**2.52**	**232**	*e*PN	**Pn**	**08 10 12.0**	**+0.3**
DARE	**Darende-Malaty**	**2.60**	**250**	*e*PN	**Pn**	**08 10 18.6**	**+5.7**
SVSK	**Karacayir**	**3.03**	**272**	*e*PN	**Pn**	**08 10 19.0**	**+0.2**

IDC 26 08:10:11.4±1.6, 465N×7573W, h0km, mb1 4.2/1, mb1mx3.3/20, mbtmp4.2/1, ML4.1/1, Error ellipse: s-maj=66.8km s-min=16.2km az=166.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.41**	**82**	Pg	Pg	08 10 37.9	-0.6
	74nm,0.3s,baz=260,slow=6.1,SNR=772						
ROSC				Lg		08 10 57.0	
	92nm,0.3s,baz=109,slow=21,SNR=16						
SDV	**Santo Domingo**	**6.58**	**50**	Pn	Pn	08 11 50.4	+0.9
	3.7nm,0.3s,baz=240,slow=6.9,SNR=19						
SDV				Sn	Sn	08 13 05.9	+0.6
	5.1nm,0.3s,baz=42,slow=17,SNR=8.0						
ASAR	**Alice Springs**	**145.74**	**234**	PKPbc	PKPbc	08 29 54.7	+1.5
	0.4nm,0.9s,baz=122,slow=4.0,SNR=4.1						
WRA	**Warramunga Arr**	**147.02**	**240**	PKPbc	PKPbc	08 29 54.2	-2.9
	0.5nm,0.9s,baz=109,slow=3.0,SNR=4.5						

TRN 26 08:47:28.2, 1507N×6051W, h20km, MD4.0, M2.9(FDF), M2.8(FDF), 2C-6D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**0.71**	**242**	⇓*e*P	Pb	08 47 44.5	+2.6
FDF				⇓*e*S	Sb	08 47 56.0	+4.9
BIM	**Bigot**	**0.78**	**225**	⇓*e*P	Pb	08 47 45.7	+2.7
BIM				⇓*e*S	Sb	08 47 57.9	+4.8
SLW	**Petit Monier**	**1.12**	**202**	*e*P	Pn	08 47 50.2	+1.4
SLW				*e*S	Sb	08 48 05.3	+2.1
MGG	**Marie-Galante**	**1.15**	**317**	*e*P	Pn	08 47 50.0	+0.9
SLB	**Belfond**	**1.34**	**203**	⇓*e*P	Pn	08 47 54.3	+2.5
SLB				*e*S	Sn	08 48 12.0	+2.9
TBG	**Guadaloupe-3**	**1.34**	**305**	⇓*e*P	Pn	08 47 52.8	+1.0
HMG	**Houelmont**	**1.46**	**308**	⇑*e*P	Pn	08 47 55.0	+1.4
HMG				⇑*e*S	Sn	08 48 14.9	+2.8
BCG	**Bois Riant Cap**	**1.47**	**313**	*e*P	Pn	08 47 55.0	+1.4
SCG	**Saint Claude**	**1.48**	**310**	*e*P	Pn	08 47 55.1	+1.4
SCG				*e*S	Sn	08 48 16.9	+4.4
LZG	**Guadaloupe-1**	**1.62**	**311**	*e*P	Pn	08 47 57.8	+2.1
SSV	**Crater Summit**	**1.86**	**201**	*e*P	Pn	08 48 01.6	+2.6
SSV				*e*S	Sn	08 48 23.6	+1.7
BHS	**Barnard House**	**1.86**	**199**	*e*S	Sn	08 48 25.0	+3.0
SVV	**Soufriere Volc**	**1.87**	**202**	*e*P	Pn	08 48 01.9	+2.7
SVV				*e*S	Sn	08 48 24.8	+2.6
SVB	**Belmont**	**1.93**	**202**	*e*P	Pn	08 48 01.7	+1.8
SVB				*e*S	Sn	08 48 27.1	+3.5
FCV	**Fort Charlotte**	**2.03**	**201**	*e*S	Sn	08 48 28.2	+2.0

ISK ***26*** *08:51:43.9, 3992N×4090E, h5km, MD3.7*
ISCJB ***26*** *08:51:44.9±0.7, 3991N±002×4093E±003, h2km±6km, Error ellipse: s-maj=4.8km s-min=3.4km az=41.5*
MOS ***26*** *08:51:44.4±1.8, 3989N×4093E, h20km, mb3.7/1, Error ellipse: s-maj=22.4km s-min=11.2km az=86.5*
CSEM ***26*** *08:51:44.9±0.1, 3992N×4090E, h8km, MD3.7, Error ellipse: s-maj=1.5km s-min=1.2km az=142.0*
DDA ***26*** *08:51:45.1, 3992N×4095E, h10km±2km, Md3.6*
ISC 26 08:51:45.6±0.6, 3993N±002×4096E±003, h4km±5km, n50, σ1§09/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.31**	**94**	PG	**Pg**	**08 51 52.0**	**+0.3**
ERZM	**Erzurum**	**0.31**	**94**	*i* P	**Pg**	**08 51 52.1**	**+0.4**
KOPT	**Kop Dagi**	**0.37**	**285**	*i* P	**Pg**	**08 51 52.6**	**-0.1**
KOPT				*i* S	**Sg**	**08 52 00.3**	**+2.9**
HOMI	**Horasan**	**0.74**	**80**	*i* P	**Pg**	**08 51 59.3**	**-0.5**
HOMI				*i* S	**Sg**	**08 52 13.7**	**+4.3**
EZC	**Erzincan**	**0.90**	**259**	*e*PN	**Pn**	**08 52 07.3**	**+2.3**
BNGL	**BINGOL**	**0.98**	**171**	*i* P	**Pg**	**08 52 03.7**	**-0.8**
BNGL				*i* S	**Sg**	**08 52 22.0**	**+4.8**
GUMT	**Gumushane**	**1.25**	**296**	*e*PN	**Pn**	**08 52 08.2**	**-1.7**
GUMT				*e*SN	**Sn**	**08 52 26.0**	**-1.2**
PZAR	**Pazar-Rize**	**1.25**	**358**	*e*PN	**Pn**	**08 52 08.9**	**-1.1**
PZAR				*e*SN	**Sn**	**08 52 27.0**	**-0.3**
MACK	**Trabzon**	**1.36**	**319**	*i* P	**Pn**	**08 52 10.8**	**-0.7**
MACK				*i* S	**Sb**	**08 52 30.7**	**+1.2**
KTUT	**Trabzon**	**1.40**	**320**	*e*PN	**Pn**	**08 52 11.1**	**-0.8**
ARTV	**Artvin**	**1.46**	**30**	*i* P	**Pn**	**08 52 12.5**	**-0.3**
ARTV				*i* S	**Sb**	**08 52 32.4**	**+0.1**
PTK	**Pertek**	**1.59**	**230**

SOC Sochi 3.77 346 *e*P **Pn 08 52 45.4 +0.9**
SOC pmax pmax
comp=Z,6.0nm,0.4s
SOC MLR MLR
comp=Z,260nm,8.0s
SOC Sochi 3.77 346 *e*P **Pn 08 52 45.4 +0.9**
comp=Z,260nm,8.0s
KIV Kislovodsk 4.23 17 *e*P **Pn 08 52 47.7 -3.1**
KIV *e*S **Sn 08 53 43.4 +2.8**
KUBR Kubataba 4.28 25 *e*P **Pn 08 52 50.7 -0.9**
ANDN Andirin 4.30 238 *i* P **Pb 08 53 04.9 +3.2**
PYA Pyatigorsk 4.39 20 *e*P **Pn 08 52 53.3 +0.2**
YAYL Yayladag 5.46 226 *i* P **Pn 08 53 08.0 +0.3**
ANN Anapa 5.53 333 *e*P **Pn 08 53 10.8 +2.1**
ANN *e*S **Sn 08 54 20.5 +7.9**
ANN pmax pmax
comp=Z,19nm,0.8s
ANN Anapa 5.53 333 *e*P **Pn 08 53 10.8 +2.1**
comp=Z,19nm,0.8s
AKASG Malin Array Be 13.55 327 *e*P **Pn 08 54 57.5 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 13.55 327 *e*P **Pn 08 54 57.5 -1.1**
comp=Z,1.0nm,0.4s
OBN Obninsk 15.48 351 *e*P **Pn 08 55 22.4 -2.2**
OBN pmax pmax
comp=Z,5.0nm,1.2s

BJI ***26*** *09:01:18.6, 37.13N×7090E, h107km, mB4.6, mb4.6*
IDC ***26*** *09:01:19.8±5.8, 3681N×7139E, h72km±51km, mb3.8/11, mb1 4.0/15, mb1mx3.8/26, mbtmp3.9/15, ML4.5/4, Error ellipse: s-maj=31.9km s-min=15.9km az=20.0*
MOS ***26*** *09:01:22.7±1.2, 3702N×7159E, h109km, mb4.2/18, Error ellipse: s-maj=10.1km s-min=6.5km az=106.6*
ISCJB ***26*** *09:01:22.3±0.4, 3691N±002×7161E±003, h110km±4km, mb4.2/39, Error ellipse: s-maj=4.8km s-min=3.4km az=154.5*
NEIC ***26*** *09:01:23.3±0.7, 3693N×7171E, h108km±7km, mb4.5/23, Error ellipse: s-maj=8.2km s-min=4.5km az=53.0*
NEIC Felt at Feyzabad, Afghanistan.
NNC ***26*** *09:01:29.9±4.7, 3750N×7106E, h133km±53km, mb3.8, mpv4.8, Error ellipse: s-maj=38.2km s-min=22.7km az=18.0*
ISC 26 09:01:23.7±0.3, 3690N±002×7162E±003, h109km±4km, h119km±2.3km: pP-P, n139, σ1922/167, mb4.2/39, 10C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.08**	**176**	⇓P	**Pn**	**09 02 14.1**	**+3.4**
CEP				S	**Sn**	**09 02 53.0**	**+6.0**
KBL	**Kabul**	**3.15**	**222**	*e*Pn	**Pn**	**09 02 13.2**	**+1.5**
KBL				*e*Sn	**Sn**	**09 02 47.7**	**-1.0**
CHCP	**Chirah Chowk**	**3.50**	**157**	P	**Pn**	**09 02 21.0**	**+4.6**
THW	**Thamme Wali**	**4.10**	**179**	P	**Pn**	**09 02 27.6**	**+3.3**
KSH	**Kashi**	**4.31**	**51**	*e*P	**Pn**	**09 02 31.3**	**+4.2**
KSH				S	**Sn**	**09 03 20.5**	**+4.2**
KSH				Smax			
	comp=N,1μm,0.4s						
KSH				Smax			
	comp=E,1μm,0.8s						
JMU	**Jammu**	**4.97**	**146**	*e*P	**Pn**	**09 02 39.0**	**+2.9**
JMU				*e*S	**Sn**	**09 03 33.5**	**+1.1**
AML	**Almayashu**	**5.46**	**16**	P	**Pn**	**09 02 43.2**	**+0.6**
	SNR=36						
AML	**Almayashu**	**5.46**	**16**	*e*Pn	**Pn**	**09 02 43.0**	**+0.3**
	comp=E,267nm,0.3s						
AML				*e*Sn	**Sn**	**09 03 39.6**	**-4.6**
THN	**Thein Dam**	**5.59**	**142**	*e*P	**Pn**	**09 02 46.7**	**+2.2**
THN				*ex*	x	09 03 49.8	
DLH	**Dalhousie**	**5.63**	**139**	*e*P	**Pn**	**09 02 46.0**	**+1.0**
DLH				*e*S	**Sn**	**09 03 47.0**	**-1.4**
UCH	**Uchtor**	**5.77**	**22**	P	**Pn**	**09 02 47.5**	**+0.7**
	SNR=93						
UCH	**Uchtor**	**5.77**	**22**	*e*Pn	**Pn**	**09 02 47.4**	**+0.6**
	comp=E,45nm,0.4s						
UCH				*e*Sn	**Sn**	**09 03 48.5**	**-3.1**
KZA	**Kyzart**	**5.88**	**27**	P	**Pn**	**09 02 48.6**	**+0.3**
	SNR=23						
EKS2	**Erkin-Say**	**5.99**	**15**	P	**Pn**	**09 02 50.4**	**+0.6**
	SNR=76						
EKS2	**Erkin-Say**	**5.99**	**15**	*e*Pn	**Pn**	**09 02 50.0**	**+0.3**
	comp=E,56nm,0.6s						
PONG	**Pong**	**6.10**	**143**	*e*P	**Pn**	**09 02 53.0**	**+1.7**
PONG				*e*S	**Sn**	**09 04 00.0**	**+0.3**
AAK	**Ala-Archa**	**6.14**	**20**	P	**Pn**	**09 02 52.8**	**+1.0**
	SNR=51						
KK31	**Karatay Array**	**6.25**	**353**	P	**Pn**	**09 02 52.1**	**-1.2**
	comp=E,37nm,0.3s,baz=181,slow=12,SNR=993						
KK31				⇑S	**Sn**	**09 03 55.8**	**-7.5**
	comp=E,30nm,0.3s,baz=185,slow=25,SNR=8.8						
KBK	**Karagaybulak**	**6.29**	**23**	P	**Pn**	**09 02 55.0**	**+1.2**
	SNR=22						
ULHL	**Ulahol**	**6.42**	**32**	P	**Pn**	**09 02 56.5**	**+0.9**
	SNR=55						
CHMS	**Chumysh**	**6.55**	**21**	P	**Pn**	**09 02 58.0**	**+0.7**
	SNR=61						
USP	**Ospenovka**	**6.73**	**18**	P	**Pn**	**09 02 59.8**	**0.0**
	SNR=7.0						
TKM2	**Tokmak 2**	**6.74**	**26**	⇑P	**Pn**	**09 03 00.6**	**+0.7**
	comp=E,40nm,0.6s						
TKM2				⇑S	**Sn**	**09 04 15.3**	**+0.1**
	comp=E,39nm,0.8s						
TKM2	**Tokmak 2**	**6.74**	**26**	*e*PN	**Pn**	**09 03 00.7**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,50nm,0.6s						
TKM2	**Tokmak 2**	**6.74**	**26**	P	**Pn**	**09 03 01.0**	**+1.0**
	SNR=50						
TKM2	**Tokmak 2**	**6.74**	**26**	*e*Pn	**Pn**	**09 03 00.7**	**+0.7**
	comp=Z,50nm,0.6s						
SDNR	**Sundarnagar**	**6.98**	**139**	*e*P	**Pn**	**09 03 04.5**	**+1.3**
SDNR				*e*S	**Sn**	**09 04 18.6**	**-2.5**
SMLA	**Simla**	**7.37**	**140**	*i* x	x	09 03 10.1	
SMLA				*i* S	**Sn**	**09 04 26.6**	**-4.1**
SMLA				*ex*	x	09 04 34.2	
	comp=N,2μm,0.4s						
KLP	**Kalpa**	**7.67**	**132**	*e*P	**Pn**	**09 03 13.5**	**+0.9**
KLP				*e*S	**Sn**	**09 04 36.0**	**-1.8**
KLP				AML	AML	09 04 41.9	
	comp=E,707nm,1.0s						
KLP				AML	AML	09 04 44.1	
	comp=N,572nm,0.6s						
DDI	**Dehra Dun**	**8.47**	**139**	*e*P	**Pn**	**09 03 23.1**	**-0.5**
DDI				*ex*	x	09 04 57.0	
JOSI	**Joshimath**	**9.15**	**131**	*e*P	**Pn**	**09 03 31.9**	**-0.9**
JOSI				*e*S	**Sn**	**09 05 07.9**	**-6.0**
JOSI				AML	AML	09 05 16.4	
	comp=E,235nm,0.2s						
JOSI				AML	AML	09 05 19.1	
	comp=N,362nm,0.5s						
NDI	**New Delhi**	**9.45**	**149**	*e*P	**Pn**	**09 03 36.0**	**-0.8**
NDI				*e*S	**Sn**	**09 05 16.0**	**-5.2**
SONA	**Sohna**	**9.78**	**150**	*e*P	**Pn**	**09 03 40.5**	**-0.9**
SONA				*e*S	**Sn**	**09 05 24.0**	**-5.2**
PTH	**Pithoragarh**	**10.27**	**133**	*e*P	**Pn**	**09 03 52.0**	**+4.0**
PTH				*e*S	**Sn**	**09 05 36.0**	**-5.1**
AJM	**Ajmer**	**10.71**	**165**	*e*P	**Pn**	**09 03 53.7**	**-0.1**
AJM				AML	AML	09 05 49.5	
	comp=N,49nm,0.2s						
AJM				AML	AML	09 05 49.7	
	comp=E,57nm,0.1s						
MK31	**Makanchi Array**	**12.67**	**35**	P	**Pn**	**09 04 19.9**	**+0.2**
	comp=E,13nm,0.8s,baz=225,slow=13,SNR=46						
MKAR	**Makanchi Array**	**12.67**	**35**	P	**Pn**	**09 04 19.1**	**-0.7**
	comp=E,0.6nm,0.3s,baz=225,slow=13,SNR=39						
DANN	**Dangsing**	**13.31**	**126**	*e*P	**Pn**	**09 04 27.6**	**-0.6**
	comp=E,30nm,0.2s						
DANN				*e*S	**Sn**	**09 06 46.3**	**-8.5**
KOLN	**Koldanda**	**13.61**	**129**	*e*P	**Pn**	**09 04 30.4**	**-1.7**
	comp=E,23nm,0.3s						
WMQ	**Urumqi**	**14.06**	**56**	*e*P	**Pn**	**09 04 39.5**	**+1.7**
WMQ				XP		09 05 12.0	
WMQ				AMB	AMB		
	comp=Z,16nm,0.6s						
GKN	**Gorkha**	**14.11**	**125**	*e*P	**Pn**	**09 04 37.5**	**-1.1**
GKN				*e*S	**Sn**	**09 07 04.5**	**-10**
KURBB	**Kurchatov Arra**	**14.59**	**18**	⇑P	**Pn**	**09 04 47.4**	**+2.9**
	comp=Z,1.6nm,0.6s						
KKN	**Kakani**	**14.68**	**124**	*e*P	**Pn**	**09 04 44.5**	**-1.4**
	comp=Z,18nm,0.3s						
KKN	**Kakani**	**14.68**	**124**	*e*P	**Pn**	**09 04 44.5**	**-1.4**
KKN				pmax	pmax		
	comp=Z,18nm,0.3s						
DMN	**Daman**	**14.68**	**125**	*e*P	**Pn**	**09 04 45.3**	**-0.6**
	comp=Z,12nm,0.2s						
KURK	**Kurchatov**	**14.69**	**18**	⇓P	**Pn**	**09 04 47.3**	**+1.5**
	comp=Z,5.4nm,0.6s						
KURK	**Kurchatov**	**14.69**	**18**	⇑*e*P	**Pn**	**09 04 44.4**	**-1.4**
KURK	**Kurchatov**	**14.69**	**18**	*e*Pn	**Pn**	**09 04 43.9**	**-1.9**
	comp=Z,31nm,1.4s						
PKIN	**Phulchoki**	**14.90**	**125**	*e*P	**Pn**	**09 04 48.6**	**0.0**
PKI	**Pulchoki**	**14.91**	**125**	*e*P	**Pn**	**09 04 47.6**	**-1.2**
PKI	**Pulchoki**	**14.91**	**125**	*e*P	**Pn**	**09 04 48.6**	**-0.2**
AB31	**Akbulak array**	**14.98**	**329**	⇓P	**Pn**	**09 04 44.9**	**-4.7**
	comp=Z,8.0nm,0.4s,baz=140,slow=12,SNR=353						
AB31				⇓S	**Sn**	**09 07 21.1**	**-14**
	comp=Z,4.3nm,0.5s,baz=151,slow=21,SNR=8.3						
GUN	**Gumba**	**15.00**	**123**	*e*P	**Pn**	**09 04 48.5**	**-1.4**
	comp=Z,17nm,0.3s						
JIRN	**Jiri**	**15.37**	**123**	*e*P	**Pn**	**09 04 53.8**	**-0.8**
RAMN	**Ramite**	**16.11**	**124**	*e*P	**Pn**	**09 05 02.6**	**-1.2**
	comp=Z,13nm,0.2s						
BVA0	**Borovoye Array**	**16.14**	**357**	P	**Pn**	**09 05 02.6**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=166,slow=12,SNR=23						
BVA0				⇑S	**S**	**09 07 50.7**	**-18**
	comp=Z,1.0nm,0.9s,baz=166,slow=23,SNR=5.0						
BVAR	**Borovoye Array**	**16.14**	**357**	P	**Pn**	**09 05 01.5**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=164,slow=13,SNR=12						
BVAR				S	**S**	**09 07 51.1**	**-18**
	comp=Z,0.4nm,0.3s,baz=163,slow=22,SNR=5.4						
BRVK	**Borovoye**	**16.18**	**357**	*e*P	**Pn**	**09 05 02.3**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BRVK	**Borovoye**	**16.18**	**357**	*e*P	**Pn**	**09 05 02.3**	**-2.2**
	comp=Z,5.7nm,0.6s						
TAPN	**Taplejung**	**16.61**	**120**	*e*P	**Pn**	**09 05 09.6**	**-0.3**
	comp=Z,9.3nm,0.2s						
AKTK	**Aktyubinsk**	**16.69**	**328**	P	**Pn**	**09 05 08.2**	**-2.5**
AKTO	**Aktyubinsk**	**16.69**	**328**	⇑P	**Pn**	**09 05 08.0**	**-2.7**
	comp=Z,3.0nm,0.5s						
AKTO				⇑S	**S**	**09 08 02.1**	**-15**
	comp=Z,1.8nm,1.2s						
AKTO	**Aktyubinsk**	**16.69**	**328**	P	**Pn**	**09 05 08.2**	**-2.5**
	comp=Z,3.9nm,0.3s,baz=136,slow=14,SNR=42						
ODAN	**Odare**	**16.70**	**122**	*e*P	**Pn**	**09 05 10.5**	**-0.6**
	comp=Z,14nm,0.4s						
LSA	**Lhasa**	**17.82**	**108**	*e*P	**Pn**	**09 05 28.2**	**+3.6**
BOK	**Bokaro**	**17.92**	**133**	*ex*	x	09 05 28.9	
ZAL	**Zalesovo**	**19.33**	**24**	P	**P**	**09 05 40.7**	**+0.7**
ZALV	**Zalesovo Beam**	**19.34**	**24**	P	**P**	**09 05 40.6**	**+0.4**
	comp=Z,3.2nm,0.3s,baz=227,slow=10.0,SNR=20						
NVS	**Novosibirsk**	**19.63**	**20**	*e*P	**P**	**09 05 43.1**	**-0.2**
SHL	**Shillong**	**20.64**	**117**	*e*P	**P**	**09 05 56.0**	**+1.5**
GNI	**Garni**	**21.25**	**287**	P	**P**	**09 06 01.8**	**+0.9**
	comp=Z,16nm,0.5s,mb4.6,baz=359,slow=4.4,SNR=8.4						
GNI	**Garni**	**21.25**	**287**	*e*P	**P**	**09 06 02.1**	**+1.2**
GNI				pmax	pmax		
	comp=Z,11nm,0.6s						
GNI	**Garni**	**21.25**	**287**	*e*P	**P**	**09 06 02.1**	**+1.2**
	comp=Z,11nm,0.6s,mb4.4						
SVE	**Sverdlovsk**	**21.25**	**343**	*e*P	**P**	**09 05 59.7**	**-1.0**
SVE				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.0						
ARU	**Arti**	**21.42**	**340**	*d i*P	**P**	**09 06 01.9**	**-0.6**
ARU				*e*		09 06 33.0	
ARU				*e*S	**S**	**09 09 51.1**	**-2.6**
ARU				*e*SS		09 10 30.5	
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
ARU	**Arti**	**21.42**	**340**	*e*P	**P**	**09 06 01.9**	**-0.7**
	comp=Z,4.8nm,0.6s,mb4.0						
MIB	**Mutribah**	**21.45**	**258**	*e*P	**P**	**09 06 03.1**	**0.0**
	baz=257						
MIB				AMb	AMB	09 06 08.6	
	comp=Z,59nm,0.7s,mb5.0,baz=257						
RDF	**Al-Radifah**	**21.68**	**255**	*e*P	**P**	**09 06 05.0**	**-0.6**
	baz=255						
RDF				AMb	AMB	09 06 08.8	
	comp=Z,28nm,0.9s,mb4.6,baz=255						
NAY	**Al-Naaiem**	**21.77**	**257**	*e*P	**P**	**09 06 05.9**	**-0.6**
	baz=256						
NAY				AMb	AMB	09 06 12.4	
	comp=Z,12nm,0.8s,mb4.3,baz=256						
GTA	**Gaotai**	**22.28**	**75**	P	**P**	**09 06 16.5**	**+4.7**
GTA				AP		09 06 41.0	
GTA				S	**S**	**09 10 16.5**	**+7.3**
GTA				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.3						
GTA				AMB	AMB		
	comp=Z,60nm,5.1s						
GTA				LR	LR		
	comp=N,59nm,15.0s						
GTA				LR	LR		
	comp=E,62nm,16.5s						
GTA				LR	LR		
	comp=Z,78nm,15.6s						
KIV	**Kislovodsk**	**23.05**	**297**	⇑*e*P	**P**	**09 06 18.6**	**-0.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.8						
LZH	**Lanzhou**	**25.86**	**82**	P	**P**	**09 06 45.3**	**+0.3**
LZH				AP	pP	09 07 11.3	+2.5
LZH				XP	sP	09 07 26.5	+5.0
LZH				PP		09 07 31.5	
LZH				S	**S**	**09 11 04.0**	**-2.6**
LZH				XS	sS	09 11 50.3	+1.9
LZH				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.5						
LZH				AMB	AMB		
	comp=Z,62nm,4.2s						
LZH				LR	LR		
	comp=E,307nm,10.2s						
LZH				LR	LR		
	comp=Z,443nm,14.3s						
ZAK	**Zakamensk**	**26.35**	**49**	*e*P	**P**	**09 06 52.9**	**+3.7**
ANN	**Anapa**	**26.88**	**298**	*e*P	**P**	**09 06 46.6**	**-7.5**
ANN				pmax	pmax		
	comp=Z,42nm,1.3s,mb4.8						
CD2	**Chengdu**	**27.25**	**93**	*e*P	**P**	**09 06 59.3**	**+1.8**
CD2				AP	pP	09 07 23.3	+1.8
CD2				XP	sP	09 07 36.5	+2.3
CD2				PP	PP	09 07 50.5	-11
CD2				S	**S**	**09 11 28.0**	**-0.7**
CD2				XS	sS	09 12 10.3	-0.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
CD2				AMB	AMB		
	comp=Z,20nm,5.2s						
SONM	**Songino Array**	**27.70**	**56**	P	**P**	**09 07 04.4**	**+3.1**
	comp=Z,1.0nm,0.6s,mb3.5,baz=265,slow=10.0,SNR=5.5						
KMI	**Kunming**	**29.01**	**105**	P	**P**	**09 07 17.0**	**+3.7**
KMI				AP	pP	09 07 42.5	+5.2
KMI				XP	sP	09 07 57.5	+7.5
KMI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.4						
KMI				AMB	AMB		
	comp=Z,51nm,4.1s						
OBN	**Obninsk**	**29.96**	**319**	⇑*e*P	**P**	**09 07 20.6**	**-0.7**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
XAN	**Xi'an**	**30.39**	**84**	P	**P**	**09 07 26.5**	**+1.2**
XAN				AP	pP	09 07 51.0	+1.5
XAN				PP	PP	09 08 37.3	+1.5
XAN				S	**S**	**09 12 20.0**	**+2.1**
XAN				XS	sS	09 13 03.0	+3.0
XAN				AMB	AMB		
	comp=Z,2.0nm,0.4s,mb4.1						
XAN				AMB	AMB		
	comp=Z,40nm,7.4s						
XAN				LR	LR		
	comp=N,45nm,13.6s						
XAN				LR	LR		
	comp=E,41nm,14.7s						
XAN				LR	LR		
	comp=Z,72nm,15.3s						
HHC	**Hu-ho-hao-te**	**31.16**	**70**	*e*P	**P**	**09 07 32.5**	**+0.5**
HHC				AP	pP	09 07 59.8	+3.6
HHC				XP	sP	09 08 14.8	+5.9
HHC				PP	PP	09 08 41.5	-2.8
HHC				S	**S**	**09 12 26.8**	**-3.0**
HHC				XS	sS	09 13 16.3	+4.4
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,89nm,4.5s						
GYA	**Guiyang**	**31.43**	**99**	P	**P**	**09 07 38.5**	**+3.9**
GYA				AP	pP	09 08 04.3	+5.5
GYA				XP	sP	09 08 19.0	+7.6
GYA				PP	PP	09 08 46.0	-1.5
GYA				PCP	PcP	09 10 27.5	+2.1
GYA				S	**S**	**09 12 36.0**	**+1.7**
GYA				XS	sS	09 13 22.8	+6.3
GYA				SCP	ScP	09 13 59.0	+0.6
GYA				PCS	PcS	09 14 12.5	+2.5
GYA				SCS	ScS	09 17 56.8	+0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
GYA				AMB	AMB		
	comp=Z,80nm,4.8s						
AKASG	**Malin Array Be**	**33.09**	**308**	P	**P**	**09 07 47.0**	**-1.8**
	comp=Z,2.6nm,0.5s,mb4.3,baz=76,slow=7.1,SNR=11						
AKASG	**Malin Array Be**	**33.09**	**308**	*i* P	**P**	**09 07 47.5**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	**Malin Array Be**	**33.09**	**308**	P	**P**	**09 07 47.0**	**-1.8**
BJI	**Beijing**	**34.75**	**71**	P	**P**	**09 08 02.5**	**-0.8**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
NJ2	**Nanjing**	**38.93**	**83**	*e*P	**P**	**09 08 39.3**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
ARCES	**ARCESS Array B**	**40.97**	**337**	P	**P**	**09 08 55.7**	**+0.6**
	comp=Z,1.2nm,0.4s,mb4.1,baz=116,slow=9.0,SNR=23						
ARCES	**ARCESS Array B**	**40.97**	**337**	P	**P**	**09 08 55.7**	**+0.6**
	comp=Z,2.9nm,0.5s,mb4.3,baz=96,slow=7.9						
HFS	**Hagfors**	**43.06**	**322**	P	**P**	**09 09 12.5**	**+0.3**
	comp=Z,4.7nm,0.4s,mb4.6,baz=97,slow=11,SNR=49						
YAK	**Yakutsk**	**43.35**	**36**	*e*P	**P**	**09 09 12.9**	**-1.6**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**	**09 09 22.6**	**0.0**
	comp=Z,2.9nm,0.5s,mb4.3,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**09 09 22.8**	**+0.2**
	comp=Z,2.2nm,0.4s,mb4.2,baz=96,slow=7.7,SNR=12						
TIXI	**Tiksi**	**45.22**	**22**	*e*P	**P**	**09 09 28.4**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
PGF	**Pioggiola**	**47.53**	**297**	*e*P	**P**	**09 09 48.4**	**+0.6**
	comp=Z,3.2nm,0.6s,mb4.0						
PGF	**Pioggiola**	**47.53**	**297**	*e*P	**P**	**09 09 48.4**	**+0.6**
PGF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
PGF	**Pioggiola**	**47.53**	**297**	*e*P	**P**	**09 09 48.4**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.0						
LPL	**La Plagne**	**48.37**	**302**	*e*P	**P**	**09 09 55.2**	**+1.0**
	comp=Z,3.1nm,0.5s,mb4.1						
LPL	**La Plagne**	**48.37**	**302**	*e*P	**P**	**09 09 55.2**	**+1.0**
LPL				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
LPL	**La Plagne**	**48.37**	**302**	*e*P	**P**	**09 09 55.2**	**+1.0**
	comp=Z,1.5nm,0.5s,mb4.1						
MBDF	**Montbardon**	**48.54**	**301**	*e*P	**P**	**09 09 56.9**	**+1.4**
	comp=Z,4.2nm,0.7s,mb4.2						
MBDF	**Montbardon**	**48.54**	**301**	*e*P	**P**	**09 09 56.9**	**+1.4**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MBDF	**Montbardon**	**48.54**	**301**	*e*P	**P**	**09 09 56.9**	**+1.4**
	comp=Z,2.1nm,0.7s,mb4.2						
CABF	**La Chapelle**	**48.55**	**303**	*e*P	**P**	**09 09 57.0**	**+1.4**
	comp=Z,6.5nm,0.7s,mb4.3						
CABF	**La Chapelle**	**48.55**	**303**	*e*P	**P**	**09 09 57.0**	**+1.4**
CABF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CABF	**La Chapelle**	**48.55**	**303**	*e*P	**P**	**09 09 57.0**	**+1.4**
	comp=Z,3.3nm,0.7s,mb4.4						
FRF	**La Foret Royal**	**48.92**	**299**	*e*P	**P**	**09 09 58.7**	**+0.2**
LMR	**La Mourre**	**49.08**	**299**	*e*P	**P**	**09 10 00.0**	**+0.3**
SMRF	**Simiane la Rot**	**49.56**	**300**	*e*P	**P**	**09 10 04.5**	**+1.2**
VIVF	**Saint-Julien-l**	**49.95**	**301**	*e*P	**P**	**09 10 06.9**	**+0.7**
SMF	**Signal de Mont**	**50.05**	**304**	*e*P	**P**	**09 10 07.0**	**+0.1**
	comp=Z,2.9nm,0.5s,mb4.1						
SMF	**Signal de Mont**	**50.05**	**304**	*e*P	**P**	**09 10 07.0**	**+0.1**
SMF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
SMF	**Signal de Mont**	**50.05**	**304**	*e*P	**P**	**09 10 07.0**	**+0.1**
	comp=Z,1.5nm,0.5s,mb4.2						
AVF	**Avril sur Loir**	**50.33**	**304**	*e*P	**P**	**09 10 09.2**	**+0.1**
	comp=Z,3.3nm,0.5s,mb4.2						
AVF	**Avril sur Loir**	**50.33**	**304**	*e*P	**P**	**09 10 09.2**	**+0.1**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
AVF	**Avril sur Loir**	**50.33**	**304**	*e*P	**P**	**09 10 09.2**	**+0.1**
	comp=Z,1.6nm,0.5s,mb4.2						
EKA	**Eskdalemuir Ar**	**52.34**	**316**	P	**P**	**09 10 22.4**	**-1.6**
	comp=Z,0.8nm,0.6s,mb3.9,baz=88,slow=7.6,SNR=5.3						
ETSF	**Etsaut**	**54.14**	**300**	*e*P	**P**	**09 10 39.3**	**+1.9**
	comp=Z,4.2nm,0.5s,mb4.4						
ETSF	**Etsaut**	**54.14**	**300**	*e*P	**P**	**09 10 39.3**	**+1.9**
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ETSF	**Etsaut**	**54.14**	**300**	*e*P	**P**	**09 10 39.3**	**+1.9**
	comp=Z,2.1nm,0.5s,mb4.4						
ESDC	**Sonseca Array**	**57.71**	**298**	P	**P**	**09 11 02.8**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.8,baz=52,slow=7.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**66.22**	**269**	P	**P**	**09 11 59.2**	**-1.0**
	comp=Z,1.3nm,0.5s,mb4.0,baz=53,slow=6.4,SNR=31						
TORD	**Torodi Ar. Bea**	**66.22**	**269**	P	**P**	**09 11 59.2**	**-1.0**
YKA	**Yellowknife Ar**	**80.82**	**3**	P	**P**	**09 13 24.0**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.6,baz=350,slow=5.8,SNR=6.5						
YKA	**Yellowknife Ar**	**80.82**	**3**	*i* P	**P**	**09 13 25.8**	**+1.0**
WRA	**Warramunga Arr**	**81.78**	**122**	P	**P**	**09 13 31.3**	**+0.8**
	comp=Z,0.6nm,0.4s,mb3.8,baz=324,slow=5.0,SNR=18						
WRAB	**Tennant Creek**	**81.78**	**122**	*e*P	**P**	**09 13 30.9**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
WRAB	**Tennant Creek**	**81.78**	**122**	*e*P	**P**	**09 13 30.9**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.8						
WB2	**Warramunga Arr**	**81.79**	**122**	*e*P	**P**	**09 13 31.0**	**+0.5**
ASAR	**Alice Springs**

YSS	**Yuzh-Sakhalins**	**0.74**	**70**	⇑*i*Pg		**Pg**	**09 29 16.2**	**-1.2**
YSS				*e*rx		rx	09 29 23.6	
YSS				*e*Sg		**Sg**	**09 29 27.2**	**+0.2**
YSS				A			09 29 28.2	
	1μm,0.3s							
YSS				AMS		AMS	09 29 58.0	
	1μm,4.0s							
YSS				AMS		AMS	09 29 58.0	
	1μm,4.0s							
YSS				AMS		AMS	09 29 58.0	
	700nm,4.0s							
JWK2	**Keihoku**	**1.39**	**176**	P		**Pn**	**09 29 28.3**	**-0.6**
JWK2				*e*S		**Sb**	**09 29 47.6**	**+0.3**
JRR	**Rishiri**	**1.60**	**191**	P		**Pn**	**09 29 32.2**	**+0.5**
JSE	**Soyaes**	**1.84**	**161**	P		**Pn**	**09 29 34.6**	**-0.4**
JSE				*e*S		**Sn**	**09 29 59.7**	**+1.2**
UGL	**Uglegorsk**	**2.38**	**5**	*e*P		**Pn**	**09 29 42.0**	**-0.5**
UGL				*e*Pg		**Pg**	**09 29 48.9**	**0.0**
UGL				AMB		AMB	09 29 49.0	
	31nm,0.5s							
UGL				*e*S		**Sn**	**09 30 12.0**	**+0.1**
UGL				A			09 30 17.0	
	88nm,0.6s							
UGL				A			09 30 17.0	
	47nm,0.6s							
ASAJ	**Asahikawa**	**2.66**	**167**	P		**Pn**	**09 29 46.7**	**+0.5**
JKK2	**Kamakawa 2**	**2.92**	**166**	P		**Pn**	**09 29 50.5**	**+0.7**
JTKR	**Abashiri--Toko**	**3.13**	**150**	P		**Pn**	**09 29 51.6**	**-1.1**
JTKR				*e*S		**Sn**	**09 30 29.7**	**-0.6**
TEY	**Ternei**	**3.96**	**247**	*e*Pg		**Pg**	**09 30 18.5**	**-0.5**
TEY				AMB		AMB	09 30 21.0	
	156nm,0.8s							
TEY				*e*Sg		**Sg**	**09 31 10.7**	**+0.4**
TEY				A			09 31 11.0	
	9.0nm,0.5s							
TYV	**Tymovskoe**	**4.21**	**8**	*e*P		**Pn**	**09 30 07.9**	**+0.4**
TYV				*e*Pg		**Pg**	**09 30 26.0**	**+2.3**
TYV				AMB		AMB	09 30 32.0	
	9.0nm,0.7s							
TYV				*e*S		**Sn**	**09 30 57.0**	**+0.2**
TYV				*e*Sg		**Sg**	**09 31 25.5**	**+7.3**
TYV				A			09 31 27.0	
	6.0nm,0.7s							
GRNR	**Gornyy**	**5.38**	**321**	*e*P		**Pn**	**09 30 20.8**	**-2.8**
GRNR				*e*S		**Sn**	**09 31 19.0**	**-6.7**
EKMR	**Ekimchan**	**8.53**	**322**	*e*Sg		Sx	09 33 27.2	
EKMR				A			09 33 50.9	
	8.0nm,0.9s							

*GII **26** 09:40:14.7±1.0, 3341N×3562E, h0km, ML1.8/1, EXPLOSION*
*CSEM **26** 09:40:15.3, 3333N×3562E, h14km, ML2.9, After GRAL*
*GRAL **26** 09:40:15.3±0.3, 3333N×3562E, h14km±4km, MD2.9*
*ISCJB **26** 09:40:16.4±0.6, 3343N±003×3559E±005, h0km, Error ellipse: s-maj=6.7km s-min=3.4km az=15.3*

ISC 26 09:40:16.9±0.6, 3343N±003×3561E±005, h0km, n11, σ1♀00/17, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCY	**Rachaya**	**0.18**	**74**	*e*Pg	**Pg**	**09 40 20.4**	**-0.1**
RCY				*e*Sg	**Sg**	**09 40 24.2**	**+1.3**
HRI	**Mount Hermon**	**0.20**	**147**	Pg	**Pg**	**09 40 19.4**	**-1.3**
MATL	**Matirih**	**0.24**	**283**	*e*Pg	**Pg**	**09 40 21.0**	**-0.5**
KSDI	**Kefar Szold**	**0.24**	**170**	Pg	**Pg**	**09 40 20.8**	**-0.8**
KSDI				Sg	**Sg**	**09 40 24.8**	**0.0**
MMA0	**Mount Meron ar**	**0.45**	**202**	Pg	**Pg**	**09 40 24.5**	**-1.0**
MMA0				Sg	**Sg**	**09 40 33.0**	**+1.6**
BHL	**Bhannes**	**0.47**	**5**	*e*Pg	**Pg**	**09 40 25.9**	**-0.1**
BHL				*e*Sg	**Sg**	**09 40 33.7**	**+1.6**
KSHT	**Keshet**	**0.48**	**159**	Pg	**Pg**	**09 40 25.6**	**-0.5**
HWQ	**Hawqa**	**0.89**	**18**	*e*Pg	**Pg**	**09 40 33.1**	**-0.9**
MMLI	**Mount Malkishu**	**1.00**	**189**	Pg	**Pg**	**09 40 35.4**	**-0.8**
MMLI				Sg	**Sg**	**09 40 50.3**	**+1.0**
HMDT	**Nahal Hemdat**	**1.18**	**183**	Pg	**Pg**	**09 40 38.1**	**-1.4**
HMDT				Sg	**Sg**	**09 40 55.9**	**+1.0**
SLTI	**Sal'it**	**1.28**	**202**	Sg	**Sg**	**09 40 59.1**	**+1.0**

*ISCJB **26** 09:58:27.2±0.3, 5905±005×10729E±006, h326km±3km, mb3.9/19, Error ellipse: s-maj=11.0km s-min=5.9km az=136.5*
*BJI **26** 09:58:28.2, 5805×10730E, h317km, mB4.1, mb3.7*
*NEIC **26** 09:58:28.3±0.6, 5845×10728E, h318km±7km, mb4.1/8, Error ellipse: s-maj=10.5km s-min=5.5km az=59.0*
*DJA **26** 09:58:29, 5895×10744E, h313km, ML4.2/12*
*IDC **26** 09:58:30.2±2.0, 5815×10734E, h338km±19km, mb3.7/13, mb1 3.8/15, mb1mx3.7/22, mbtmp3.7/15, Error ellipse: s-maj=29.5km s-min=8.1km az=51.0*

ISC 26 09:58:28.2±0.3, 5865N±006×10729E±006, h318km±3km, n48, σ0♀88/49, mb4.0/19, 2D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBJI	**Citeko**	**0.71**	**218**	P	**S**	**09 59 42.6**	**+0.4**
	0.0nm,0.0s						
TNG	**Tangerang**	**0.71**	**244**	P	**S**	**09 59 42.3**	**+0.1**
	0.0nm,0.0s						
DBJI	**Dramaga**	**0.87**	**218**	P	**S**	**09 59 43.0**	**-0.2**
	0.0nm,0.0s						
LEM	**Lembang**	**1.01**	**161**	P	**S**	**09 59 44.8**	**+0.5**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**1.16**	**123**	P	**Pn**	**09 59 11.7**	**+0.5**
	0.0nm,0.0s						
SBJI	**Serang**	**1.18**	**257**	P	**S**	**09 59 46.0**	**+0.3**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**1.35**	**213**	P	**S**	**09 59 46.0**	**-1.4**
	0.0nm,0.0s						
BLSI	**Bandar Lampung**	**2.09**	**283**	P	**Pn**	**09 59 19.0**	**+1.7**
	0.0nm,0.0s						
CLJI	**Cilicap**	**2.52**	**137**	P	**S**	**10 00 00.9**	**-1.9**
	0.0nm,0.0s						
KLI	**Kotabumi**	**2.62**	**292**	P	**Pn**	**09 59 23.3**	**+1.6**
	0.0nm,0.0s						
BJII	**Banjamegara**	**2.81**	**121**	P	**S**	**10 00 07.5**	**-0.2**
	0.0nm,0.0s						
TPI	**Tanjungpandan**	**3.11**	**7**	P	**Pn**	**09 59 26.2**	**-0.1**
	0.0nm,0.0s						
PPBI	**Pangkal Pinang**	**3.85**	**343**	P	**Pn**	**09 59 34.8**	**+1.0**
	0.0nm,0.0s						
SJI	**Sawahan**	**4.82**	**113**	P	**Pn**	**09 59 42.9**	**-1.5**
	0.0nm,0.0s						
XMIS	**Christmas Isla**	**4.87**	**199**	*e*P	**Pn**	**09 59 45.0**	**+0.1**
XMIS				*e*S	**S**	**10 00 42.1**	**-4.6**
KSM	**Kuching**	**7.88**	**23**	*e*Pn	**Pn**	**10 00 20.7**	**0.0**
KSM				*e*		10 00 29.2	
PPI	**Padang Panjang**	**8.73**	**308**	P	**S**	**10 02 09.2**	**-1.5**
	0.0nm,0.0s						
PSI	**Prapat**	**11.99**	**316**	P	**Pn**	**10 01 09.2**	**-1.3**
	1.6nm,0.3s,baz=155,slow=10,SNR=9.2						
KKM	**Kota Kinabalu**	**14.81**	**37**	*e*Pn	**Pn**	**10 01 43.7**	**-0.2**
BATI	**Baumata**	**16.77**	**106**	P	**P**	**10 02 05.6**	**+1.8**
	9.3nm,0.3s,baz=273,slow=5.3,SNR=4.9						
MBWA	**Marble Bar**	**19.41**	**143**	*e*P	**P**	**10 02 32.7**	**+0.8**
	7.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.65**	**126**	*e*P	**P**	**10 02 54.0**	**+0.2**
	3.5nm,0.7s,mb3.8						
FITZ	**Fitzroy Crossi**	**21.65**	**126**	P	**P**	**10 02 53.6**	**-0.2**
	1.1nm,0.4s,mb3.5,baz=294,slow=8.7,SNR=10						
CMAR	**Chiang Mai Arr**	**25.53**	**341**	P	**P**	**10 03 30.0**	**+1.2**
	2.8nm,0.5s,mb3.9,baz=181,slow=8.5,SNR=12						
CHTO	**Chiang Mai**	**25.86**	**342**	*e*P	**P**	**10 03 32.3**	**+0.5**
WRA	**Warramunga Arr**	**29.78**	**121**	P	**P**	**10 04 06.7**	**+0.2**
	1.2nm,0.3s,mb3.9,baz=306,slow=8.5,SNR=64						
WRAB	**Tennant Creek**	**29.79**	**121**	*e*P	**P**	**10 04 06.6**	**+0.1**
	2.4nm,0.4s,mb4.1						
WB2	**Warramunga Arr**	**29.79**	**121**	⇓*i*P	**P**	**10 04 06.2**	**-0.4**
WB2	**Warramunga Arr**	**29.79**	**121**	*e*P	**P**	**10 04 06.5**	**-0.1**
ASAR	**Alice Springs**	**31.13**	**127**	P	**P**	**10 04 18.9**	**+0.6**
	4.5nm,0.4s,mb4.4,baz=300,slow=7.3,SNR=232						
ASAR				S	**S**	**10 08 58.7**	**-1.5**
	2.0nm,0.7s,baz=297,slow=15,SNR=19						
ASAR				ScP	ScP	10 10 16.7	-0.6
	0.6nm,0.6s,baz=313,slow=2.6,SNR=7.8						
STKA	**Stephens Creek**	**41.20**	**133**	⇓*i*P	**P**	**10 05 43.8**	**+1.0**
	7.3nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**41.20**	**133**	P	**P**	**10 05 43.9**	**+1.2**
	8.1nm,0.5s,mb4.2,baz=311,slow=8.2,SNR=29						
GTA	**Gaotai**	**45.57**	**352**	*e*P	**P**	**10 06 16.3**	**-1.0**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.7						
KSRS	**Korea Array**	**47.20**	**22**	P	**P**	**10 06 30.0**	**+0.2**
	comp=Z,1.8nm,0.7s,mb3.5,baz=207,slow=8.6,SNR=7.3						
MJAR	**Matsushiro Arr**	**51.16**	**32**	P	**P**	**10 06 57.9**	**-1.7**
	comp=Z,0.3nm,0.4s,mb3.0,baz=207,slow=7.9,SNR=3.3						
MJAR	**Matsushiro Arr**	**51.16**	**32**	P	**P**	**10 06 57.9**	**-1.7**
SONM	**Songino Array**	**53.47**	**359**	P	**P**	**10 07 17.2**	**+0.9**
	comp=Z,4.3nm,0.7s,mb3.9,baz=174,slow=7.9,SNR=24						
ULN	**Ulaanbaatar**	**53.50**	**360**	*e*P	**P**	**10 07 17.4**	**+1.0**
	comp=Z,6.5nm,0.5s,mb4.2						
TKM2	**Tokmak 2**	**56.43**	**332**	*e*P	**P**	**10 07 37.3**	**-0.2**
	comp=Z,7.5nm,1.0s,mb4.1						
MKAR	**Makanchi Array**	**56.92**	**340**	P	**P**	**10 07 40.8**	**0.0**
	comp=Z,11nm,0.4s,mb4.6,baz=145,slow=8.0,SNR=101						
KURK	**Kurchatov**	**61.54**	**340**	*e*P	**P**	**10 08 12.0**	**-0.1**
	comp=Z,11nm,1.1s,mb4.4						
ZALV	**Zalesovo Beam**	**62.51**	**345**	P	**P**	**10 08 17.9**	**-0.6**
	comp=Z,3.9nm,0.3s,mb4.5,baz=153,slow=6.0,SNR=5.4						
BVAR	**Borovoye Array**	**66.44**	**337**	P	**P**	**10 08 43.6**	**-0.2**
	comp=Z,5.3nm,0.6s,mb4.4,baz=143,slow=8.7,SNR=22						
BRVK	**Borovoye**	**66.51**	**337**	*e*P	**P**	**10 08 44.0**	**-0.1**
	comp=Z,2.9nm,0.4s,mb4.4						
AKTK	**Aktyubinsk**	**70.30**	**329**	P	**P**	**10 09 07.2**	**-0.4**
AKTO	**Aktyubinsk**	**70.30**	**329**	P	**P**	**10 09 07.2**	**-0.4**
	comp=Z,1.0nm,0.3s,mb4.0,baz=111,slow=6.1,SNR=6.4						
AKASG	**Malin Array Be**	**86.99**	**321**	P	**P**	**10 10 37.0**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.5,baz=81,slow=5.3,SNR=3.5						
JCT	**Junction City**	**144.67**	**43**	*e*PKP	PKPdf	10 17 27.8	-0.1

IDC 26 10:17:40.5±1.3, 1033S×12370E, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.5/14, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=89.5km s-min=11.0km az=72.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.13**	**344**	Pn	Pg	10 17 49.9	+6.9
	409nm,0.3s,baz=222,slow=3.1,SNR=74						
BATI				Sn	Sg	10 17 55.8	+11
	978nm,0.3s,baz=36,slow=19,SNR=50						
FITZ	**Fitzroy Crossi**	**7.95**	**167**	*e*P	Pn	10 19 37.9	+0.5
	2.6nm,0.5s						
FITZ				*e*S	Sn	10 21 03.0	-5.1
FITZ	**Fitzroy Crossi**	**7.95**	**167**	Pn	Pn	10 19 38.3	+0.9
	0.3nm,0.3s,baz=356,slow=13,SNR=12						
FITZ				Sn	Sn	10 21 02.3	-5.8
	1.3nm,0.3s,baz=129,slow=11,SNR=12						
WRA	**Warramunga Arr**	**14.02**	**134**	Pn	Pn	10 20 58.7	-1.8
	0.2nm,0.3s,baz=306,slow=15,SNR=9.3						
WRA				Sn	Sn	10 23 27.3	-10
	0.2nm,0.3s,baz=307,slow=23,SNR=8.5						
ASAR	**Alice Springs**	**16.45**	**145**	Pn	Pn	10 21 32.3	-0.5
	0.2nm,0.3s,baz=318,slow=12,SNR=13						
ASAR				Sn	Sn	10 24 27.1	-9.1
	0.1nm,0.3s,baz=310,slow=22,SNR=5.0						
MKAR	**Makanchi Array**	**67.81**	**331**	P	P	10 28 40.9	+0.6
	0.5nm,0.5s,baz=141,slow=8.2,SNR=4.1						

*NEIC **26** 10:18:52.1, 3284S×7120W, h36km, ML3.4(GUC), After GUC.*

GUC 26 10:18:52.1±0.8, 3284S×7120W, h36km±2km, MD3.9, ML3.4, 4C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.20**	**130**	⇓*i*P	Pn	10 19 00.1	+1.1
ROCH				*i* S	Sn	10 19 05.1	+1.4
IHA	**Instituto Hidr**	**0.42**	**243**	⇓*i*P	Pn	10 19 01.6	0.0
IHA				*i* S	Sn	10 19 08.2	0.0
JACH	**Jahuel**	**0.53**	**73**	⇑*i*P	Pn	10 19 03.5	+0.4
PTCH	**Petorca**	**0.62**	**21**	*e*P	Pn	10 19 04.6	+0.2
PTCH				*i* S	Sn	10 19 13.6	+0.6
PTCH				AML	AML	10 19 13.8	
	comp=N,4μm,0.2s						
PTCH	**Petorca**	**0.62**	**21**	*e*P	Pn	10 19 04.6	+0.2
PTCH				*i* S	Sn	10 19 13.6	+0.6
RCDM	**Rinconada Maip**	**0.73**	**153**	*e*P	Pn	10 19 06.1	+0.2
RCDM				*i* S	Sn	10 19 16.0	+0.3
RCDM				AML	AML	10 19 17.1	
	comp=E,8μm,0.3s						
RCDM	**Rinconada Maip**	**0.73**	**153**	*e*P	Pn	10 19 06.1	+0.2
RCDM				*i* S	Sn	10 19 16.0	+0.3
SAN	**Santiago**	**0.76**	**144**	⇑*i*P	Pn	10 19 06.8	+0.5
SAN				*i* S	Sn	10 19 17.2	+0.7
SAN				AML	AML	10 19 17.4	
	comp=N,2μm,0.2s						
DSCH	**Colegio Aleman**	**0.77**	**137**	*e*P	Pn	10 19 06.8	+0.4
DSCH				*i* S	Sn	10 19 17.6	+0.8
DSCH				AML	AML	10 19 17.9	
	comp=E,1μm,0.2s						
DSCH	**Colegio Aleman**	**0.77**	**137**	*e*P	Pn	10 19 06.8	+0.4
DSCH				*i* S	Sn	10 19 17.6	+0.8
TACH	**Talagante**	**0.84**	**165**	⇓*i*P	Pn	10 19 08.1	+0.6
TACH				*i* S	Sn	10 19 19.6	+1.0
ANTU	**Antumapu**	**0.87**	**147**	⇓*i*P	Pn	10 19 08.4	+0.6
ANTU				*i* S	Sn	10 19 20.1	+0.8
ANTU				AML	AML	10 19 20.3	
	comp=N,3μm,0.2s						
ANTU	**Antumapu**	**0.87**	**147**	⇓*i*P	Pn	10 19 08.4	+0.6
ANTU				*i* S	Sn	10 19 20.1	+0.8
PCH	**Pirque**	**0.97**	**144**	⇑*i*P	Pn	10 19 09.8	+0.6
CHNG	**Los Chungos**	**0.99**	**345**	⇓*i*P	Pn	10 19 09.3	-0.2
CHNG				*i* S	Sn	10 19 22.0	-0.2
SJCH	**San Jose de Ma**	**1.07**	**139**	*e*P	Pn	10 19 10.7	+0.2
SJCH				*i* S	Sn	10 19 24.8	+0.6
SJCH				AML	AML	10 19 25.2	
	comp=E,1μm,0.1s						
SJCH	**San Jose de Ma**	**1.07**	**139**	*e*P	Pn	10 19 10.7	+0.2
SJCH				*i* S	Sn	10 19 24.8	+0.6
LNV	**Longovilo**	**1.13**	**189**	*e*P	Pn	10 19 12.3	+1.0
LNV				*i* S	Sn	10 19 26.7	+1.1
CHCH	**Chadas Angostu**	**1.18**	**158**	*e*P	Pn	10 19 13.1	+1.0
CHCH				*i* S	Sn	10 19 28.9	+1.9
CACH	**El Canelo**	**1.37**	**159**	⇑*i*P	Pn	10 19 16.5	+1.8
CACH				*i* S	Sn	10 19 35.4	+3.9
CICH	**Cipreses**	**1.61**	**157**	*e*P	Pn	10 19 19.6	+1.5
CICH				*i* S	Sn	10 19 40.9	+3.3
SFDO	**San Fernando**	**1.78**	**175**	⇓*i*P	Pn	10 19 22.0	+1.7
SFDO				*i* S	Sn	10 19 44.5	+2.8
TLL	**Tololo Astrono**	**2.68**	**7**	*e*P	Pn	10 19 34.6	+1.8
TLL				*i* S	Sn	10 20 07.2	+3.2
TLL				AML	AML	10 20 15.6	
	comp=N,184nm,0.5s						
TLL	**Tololo Astrono**	**2.68**	**7**	*e*P	Pn	10 19 34.6	+1.8
TLL				*i* S	Sn	10 20 07.2	+3.2

*ISCJB **26** 10:21:11.8±0.8, 3931N±003×4110E±005, h2km±6km, Error ellipse: s-maj=6.7km s-min=4.7km az=175.7*
*DDA **26** 10:21:11.3, 3929N×4112E, h3km±2km, Md2.9*
*CSEM **26** 10:21:11.8±0.1, 3935N×4110E, h8km, MD3.2, Error ellipse: s-maj=2.4km s-min=1.9km az=177.0*
*ISK **26** 10:21:12.2, 3934N×4110E, h10km, MD3.2*

ISC 26 10:21:12.4±0.7, 3931N±003×4110E±005, h4km±6km, n13, σ0♀82/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNGL	**BINGOL**	**0.36**	**174**	*i* P	**Pg**	**10 21 18.2**	**-1.0**
BNGL				*i* S	**Sg**	**10 21 24.1**	**+0.3**
EZM	**Erzurum**	**0.63**	**19**	PG	**Pg**	**10 21 24.1**	**-0.4**
ERZM	**Erzurum**	**0.63**	**19**	*i* P	**Pg**	**10 21 24.3**	**-0.2**
KOPT	**Kop Dagi**	**0.85**	**327**	*i* P	**Pg**	**10 21 28.1**	**-0.5**
KOPT				*i* S	**Sg**	**10 21 41.2**	**+1.5**
HOMI	**Horasan**	**0.96**	**40**	*i* P	**Pg**	**10 21 29.9**	**-0.9**
HOMI				*i* S	**Sg**	**10 21 46.0**	**+2.6**
EZC	**Erzincan**	**1.09**	**294**	*e*PN	**Pn**	**10 21 38.5**	**+4.1**
EZC				*e*SN	**Sn**	**10 21 58.0**	**+8.0**
PTK	**Pertek**	**1.39**	**253**	*e*PN	**Pn**	**10 21 38.3**	**-0.3**
AGRB	**Hanur-Agry**	**1.49**	**79**	*e*PN	**Pn**	**10 21 39.8**	**-0.2**
AGRB				*e*SN	**Sn**	**10 21 59.5**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.68**	**237**	*e*PN	**Pn**	**10 21 42.7**	**+0.1**
GUMT	**Gumushane**	**1.70**	**313**	*e*PN	**Pn**	**10 21 42.4**	**-0.4**
GUMT				*e*SN	**Sn**	**10 22 04.5**	**-0.6**
MARD	**Mardin**	**2.01**	**187**	*i* P	**Pn**	**10 21 47.1**	**0.0**
MARD				*i* S	**Sn**	**10 22 13.7**	**+1.1**
SIRT	**Sirnak**	**2.09**	**149**	*e*PN	**Pn**	**10 21 48.8**	**+0.6**
BCA	**Borcka**	**2.17**	**10**	*e*PN	**Pn**	**10 21 49.0**	**-0.3**

*ISCJB **26** 10:25:31.5±0.6, 1357S±006×77.17W±0.10, h33km, mb3.8/8, MS3.5/3, Error ellipse: s-maj=14.4km s-min=7.1km az=161.5*
*NEIC **26** 10:25:33.9±1.7, 1359S×77.12W, h38km±16km, mb3.8/2, Error ellipse: s-maj=25.9km s-min=9.3km az=62.0*
*IDC **26** 10:25:33.5±4.7, 1351S×77.11W, h32km±36km, mb3.6/7, mb1 3.9/11, mb1mx3.8/19, mbtmp3.7/11, ML3.5/4, MS3.3/5, Ms1 3.2/5, ms1mx2.9/18, Error ellipse: s-maj=35.0km s-min=13.3km az=67.0*

ISC 26 10:25:33.7±0.6, 1353S±006×771W±01, h35km, n25, σ0♀89/26, mb3.8/8, MS3.5/3, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.56**	**10**	Pn	**Pn**	**10 25 57.9**	**-1.0**
	91nm,0.3s,baz=192,slow=13,SNR=87						
NNA				Sn	**Sn**	**10 26 17.6**	**-0.3**
	756nm,0.3s,baz=203,slow=15,SNR=24						
NNA	**Nana**	**1.56**	**10**	*e*Pn	**Pn**	**10 25 58.2**	**-0.8**
NNA				*e*Sn	**Sn**	**10 26 17.3**	**-0.6**
ATAH	**Atahualpa**	**6.61**	**349**	Pn	**Pn**	**10 27 08.4**	**0.0**
	7.4nm,0.3s,baz=164,slow=5.0,SNR=25						
ATAH				Sn	**Sn**	**10 28 18.3**	**-4.3**
	3.7nm,0.3s,baz=101,slow=16,SNR=2.9						
ATAH				LR	LR	10 29 26.7	
	comp=Z,106nm,20.4s,baz=10,slow=36						
LPAZ	**La Paz**	**9.11**	**109**	Pn	**Pn**	**10 27 43.9**	**+1.2**
	0.1nm,0.3s,baz=288,slow=8.8,SNR=4.4						
LPAZ				LR	LR	10 31 34.7	
	comp=Z,62nm,20.0s,baz=336,slow=40						
LPAZ	**La Paz**	**9.11**	**109**	*e*Pn	**Pn**	**10 27 44.4**	**+1.7**
LPAZ				LR	LR	10 31 34.7	
LVC	**Limon Verde**	**11.93**	**140**	Pn	**Pn**	**10 28 20.8**	**-0.6**
	0.6nm,0.3s,baz=306,slow=11,SNR=3.8						
LVC				Sn	**Sn**	**10 30 26.2**	**-7.0**
	0.3nm,0.3s,baz=345,slow=12,SNR=2.5						
LVC	**Limon Verde**	**11.93**	**140**	*e*Pn	**Pn**	**10 28 19.0**	**-2.3**
LVC				Sn	**Sn**	**10 30 26.2**	**-7.0**
OTAV	**Otavalo**	**13.74**	**354**	Pn	**Pn**	**10 28 50.0**	**+3.8**
	8.0nm,1.0s						
SIV	**San Ignacio**	**15.71**	**101**	Pn	**Pn**	**10 29 12.1**	**-0.3**
	0.1nm,0.3s,baz=266,slow=15,SNR=5.6						
CFAA	**Coronel Fontan**	**19.75**	**157**	P	**Pn**	**10 30 01.5**	**-0.8**
	0.1nm,0.3s,baz=324,slow=12,SNR=6.3						
CPUP	**Villa Florida**	**22.50**	**127**	P	**P**	**10 30 31.8**	**+1.5**
	1.8nm,0.8s,mb3.6,baz=307,slow=9.5,SNR=4.5						
PCRV	**Puerto La Cruz**	**26.61**	**28**	LR	LR	10 42 42.2	
	comp=Z,135nm,19.0s,MS3.5,baz=7.1,slow=39						
PLCA	**Paso Flores**	**27.70**	**169**	P	**P**	**10 31 17.9**	**-0.7**
	0.8nm,0.7s,mb3.5,baz=65,slow=8.2,SNR=5.5						
PLCA	**Paso Flores**	**27.70**	**169**	*e*P	**P**	**10 31 18.0**	**-0.6**
	1.0nm,0.6s,mb3.6						
BDFB	**Brasilia**	**28.23**	**98**	LR	LR	10 43 56.2	
	comp=Z,35nm,18.8s,MS3.0,baz=98,slow=39						
TXAR	**Lajitas Array**	**49.73**	**329**	P	**P**	**10 34 22.6**	**0.0**
	0.5nm,0.6s,mb3.7,baz=147,slow=8.3,SNR=9.7						
ANMO	**Albuquerque**	**55.68**	**331**	*e*P	**P**	**10 35 07.3**	**+0.7**
	1.2nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**63.44**	**334**	P	**P**	**10 36 00.0**	**+0.1**
	0.5nm,0.6s,mb3.8,baz=122,slow=7.7,SNR=6.2						
NVAR	**Mina Array Bea**	**64.47**	**325**	P	**P**	**10 36 08.1**	**+1.3**
	0.6nm,0.7s,mb3.7,baz=137,slow=6.4,SNR=7.2						
YKA	**Yellowknife Ar**	**81.23**	**343**	P	**P**	**10 37 44.9**	**-0.7**
	0.9nm,0.7s,mb3.8,baz=146,slow=5.5,SNR=4.2						
YKA	**Yellowknife Ar**	**81.23**	**343**	P	**P**	**10 37 44.9**	**-0.7**
TOA0	**Torodi Ar. Sit**	**82.45**	**75**	*e*P	**P**	**10 37 53.2**	**0.0**
TORD	**Torodi Ar. Bea**	**82.45**	**75**	P	**P**	**10 37 53.1**	**-0.1**
	1.1nm,0.7s,mb3.9,baz=258,slow=4.3,SNR=6.9						
TORD				LR	LR	11 11 17.9	
	comp=Z,58nm,19.9s,MS4.0,baz=195,slow=33						
WRA	**Warramunga Arr**	**134.57**	**224**	PKP	PKPdf	10 44 48.6	-0.7
	0.3nm,0.6s,baz=125,slow=1.9,SNR=6.1						
SONM	**Songino Array**	**145.68**	**356**	PKPbc	PKPbc	10 45 09.4	+0.6
	1.1nm,0.8s,baz=258,slow=1.3,SNR=5.2						

*ISCJB **26** 10:42:50.2±1.3, 2010S±007×17746W±009, h301km±14km, mb4.0/17, Error ellipse: s-maj=14.2km s-min=9.4km az=31.4*
*IDC **26** 10:42:51.1±2.0, 2002S×17742W, h294km±21km, mb3.7/12, mb1 4.0/14, mb1mx3.9/20, mbtmp3.8/14, Error ellipse: s-maj=21.0km s-min=10.8km az=140.0*
*NEIC **26** 10:42:52.0±1.4, 1995S×17753W, h302km±15km, mb4.1/7, Error ellipse: s-maj=15.1km s-min=9.0km az=131.0*

ISC 26 10:42:51.8±1.5, 2009S±008×17743W±009, h303km±16km, n43, σ0♀83/44, mb4.0/17, 1C, Fiji Islands region

| Code | Station Name | Δ° | AZ° | Phase | ID | Time | Res |
|---|---|---|---|---|---|---

0.4nm,0.6s,baz=56,slow=3.4,SNR=5.1
TORD Torodi Ar. Bea 173.04 173 PKPab PKPab 11 03 53.7 -0.5
0.4nm,0.6s,baz=172,slow=2.7,SNR=4.3

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*IDC **26** 10:50:48.1±2.3,422S×15164E,h0km,mb4.1/3,mb1 4.3/3, mb1mx3.7/16,mbtmp4.1/3,MS4.4/1,Ms1 4.4/1, ms1mx2.6/22,Error ellipse: s-maj=95.8km s-min=38.5km az=128.0*
*ISCJB **26** 10:51:07.0±3.5,47S±03×1518E±03,h186km±28km, mb4.0/4,Error ellipse: s-maj=56.6km s-min=30.2km az=38.6*
*NEIC **26** 10:51:07.9±2.8,466S×15167E,h175km±22km,mb4.3/3, Error ellipse: s-maj=41.5km s-min=22.1km az=127.0*
ISC 26 10:51:07.7±3.3,46S±03×1517E±03,h179km±27km,n14, σ0:32/11,mb4.0/4,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.54**	**223**	Pn	**Pn**	**10 52 42.0**	**+0.1**
KAKA	**Kakadu**	**20.64**	**246**	*e*P	**P**	**10 55 33.4**	**-0.2**
7.1nm,0.4s							
WRAB	**Tennant Creek**	**22.73**	**226**	*e*P	**P**	**10 55 54.4**	**-0.3**
8.1nm,0.9s,mb4.2							
WB2	**Warramunga Arr**	**22.74**	**226**	⇑*i*P	**P**	**10 55 54.4**	**-0.3**
WB2	**Warramunga Arr**	**22.74**	**226**	*e*P	**P**	**10 55 54.4**	**-0.3**
WRA	**Warramunga Arr**	**22.75**	**226**	P	**P**	**10 55 54.6**	**-0.2**
4.7nm,0.6s,mb4.1,baz=50,slow=10.0,SNR=52							
WRA				PcP	PcP	10 59 44.4	+3.7
0.4nm,0.7s,baz=47,slow=1.9,SNR=4.9							
ASAR	**Alice Springs**	**25.55**	**220**	P	**P**	**10 56 20.8**	**+0.6**
1.4nm,0.6s,mb3.8,baz=56,slow=8.8,SNR=19							
STKA	**Stephens Creek**	**28.73**	**198**	P	**P**	**10 56 48.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**28.78**	**240**	*e*P	**P**	**10 56 49.3**	**+0.2**
1.9nm,0.3s,mb4.3							
FITZ	**Fitzroy Crossi**	**28.78**	**240**	P	**P**	**10 56 49.8**	**+0.7**
1.3nm,0.4s,mb4.0,baz=53,slow=8.2,SNR=14							
RAO	**Raoul Island**	**37.80**	**134**	LR	LR	11 09 38.0	
comp=Z,470nm,19.3s,baz=112,slow=30							
BMRM	**Bremner River**	**81.63**	**26**	*e*P	**P**	**11 03 05.5**	**0.0**
TORD	**Torodi Ar. Bea**	**149.19**	**288**	PKPbc	PKPbc	11 10 38.9	+2.8
0.4nm,0.5s,baz=93,slow=2.9,SNR=5.9							
TORD	**Torodi Ar. Bea**	**149.19**	**288**	PKPbc	PKPbc	11 10 38.9	+2.8

IDC 26 11:03:53.1±6.3,2312N×9382E,h89km±46km,mb3.0/3, mb1 3.2/4,mb1mx3.0/21,mbtmp3.0/4,Error ellipse: s-maj=185.1km s-min=24.3km az=59.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.00**	**324**	*e*PN	Pn	11 04 38.0	-0.6
SHL				*e*SN	Sn	11 05 09.0	-4.7
CMAR	**Chiang Mai Arr**	**6.67**	**133**	P	Pn	11 05 28.5	+0.1
0.2nm,0.3s,baz=307,slow=13,SNR=3.8							
MKAR	**Makanchi Array**	**25.38**	**341**	P	P	11 09 11.9	+0.1
0.7nm,0.6s,baz=138,slow=9.7,SNR=4.5							
WRA	**Warramunga Arr**	**58.27**	**134**	P	P	11 13 38.6	0.0
0.2nm,0.5s,baz=322,slow=7.4,SNR=8.4							
ASAR	**Alice Springs**	**60.66**	**137**	P	P	11 13 55.1	+0.1
0.2nm,0.5s,baz=317,slow=7.4,SNR=5.3							

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*ISCJB **26** 11:19:59.9±0.8,3787N±004×36.16E±005,h10km,Error ellipse: s-maj=6.4km s-min=5.3km az=136.8*
*CSEM **26** 11:20:02.9±0.1,3760N×3620E,h6km±1km,MD3.0,Error ellipse: s-maj=5.9km s-min=1.4km az=173.0*
*ISK **26** 11:20:03.0,3763N×3621E,h6km,MD3.0*
*DDA **26** 11:20:05.7,3759N×3630E,h7km±2km, Md2.8*
ISC 26 11:20:01.0±0.9,3784N±005×3617E±005,h10km,n9, σ0:99/14,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.29**	**152**	*i* P	**Pg**	**11 20 06.3**	**-0.5**
ANDN				*i* S	**Sg**	**11 20 09.5**	**-1.4**
KOZT	**Kozan**	**0.45**	**217**	*e*PG	**Pg**	**11 20 10.2**	**+0.4**
KOZT				*e*SG	**Sg**	**11 20 15.3**	**-0.4**
KMRS	**Kahramanmaras**	**0.67**	**120**	*e*PG	**Pg**	**11 20 14.2**	**+0.3**
KMRS				*e*SG	**Sg**	**11 20 22.6**	**-0.1**
SARI	**SarD1z-Kayseri**	**0.93**	**26**	*e*PG	**Pn**	**11 20 18.6**	**-1.5**
SARI				*e*SG	**Sn**	**11 20 30.3**	**-3.3**
KARA	**Karaisali**	**1.06**	**237**	*e*PG	**Pg**	**11 20 22.3**	**+1.0**
GAZ	**Gaziantep**	**1.06**	**129**	*e*PG	**Pg**	**11 20 20.9**	**-0.5**
GZT	**Gaziantep**	**1.21**	**113**	*i* P	**Pb**	**11 20 25.3**	**+1.3**
GZT				*i* S	**Sb**	**11 20 40.6**	**+1.0**
NIG	**Nigde**	**1.26**	**283**	*e*PN	**Pn**	**11 20 29.0**	**+4.4**
MALT	**Malatya**	**1.84**	**74**	*e*PN	**Pg**	**11 20 36.8**	**+0.4**

IDC 26 11:25:41.3±2.7,964S×15414E,h0km,mb3.8/3,mb1 4.0/3, mb1mx3.6/14,mbtmp3.8/3,MS3.2/3,Ms1 3.2/3, ms1mx2.8/21,Error ellipse: s-maj=75.8km s-min=46.5km az=119.0,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.69**	**240**	P	P	11 30 35.1	+1.1
1.1nm,0.5s,baz=64,slow=10.0,SNR=17							
WRA				LR	LR	11 38 34.2	
comp=Z,56nm,18.2s,baz=230,slow=36							
ASAR	**Alice Springs**	**23.84**	**232**	P	P	11 30 55.9	-0.6
2.6nm,1.0s,baz=73,slow=10,SNR=19							
GUMO	**Guam**	**24.84**	**338**	LR	LR	11 39 31.8	
comp=Z,22nm,20.5s,baz=92,slow=33							
STKA	**Stephens Creek**	**25.00**	**206**	P	P	11 31 06.7	-0.3
2.6nm,0.6s,baz=31,slow=12,SNR=7.2							
URZ	**Urewera**	**35.19**	**148**	LR	LR	11 44 52.9	
comp=Z,121nm,19.3s,baz=54,slow=33							
TORD	**Torodi Ar. Bea**	**152.77**	**280**	PKPbc	PKPbc	11 45 41.4	0.0
0.4nm,0.7s,baz=72,slow=2.4,SNR=2.7							

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*ISCJB **26** 11:30:48.5±0.3,30.11N±004×8920E±003,h15km, mb4.4/31,MS3.3/4,Error ellipse: s-maj=6.4km s-min=3.7km az=8.0*
*IDC **26** 11:30:50.5±0.6,3009N×8919E,h15km±3km,mb3.9/13, mb1 4.1/15,mb1mx4.0/24,mbtmp3.9/15,ML3.7/2,MS3.3/4, Ms1 3.4/4,ms1mx3.0/27,Error ellipse: s-maj=23.3km s-min=12.1km az=44.0*
*NEIC **26** 11:30:50.2±0.3,3003N×8921E,mb4.8/19,Error ellipse: s-maj=10.2km s-min=4.9km az=218.0*
*MOS **26** 11:30:50.8±0.8,3007N×8921E,h33km,mb4.9/19,Error ellipse: s-maj=13.1km s-min=5.9km az=128.0*
*BJI **26** 11:30:51.0,30.14N×8951E,h12km,mB4.6,mb4.4,Ms4.0, Msz3.9*
*LDG **26** 11:30:57.3±0.4,3022N×8901E,h80km,Mb4.6/16,Ms2.9/1, Error ellipse: s-maj=18.0km s-min=5.4km az=141.0*
*SZGRF **26** 11:30:59.4,3077N×8887E,h33km,mb4.9,Xizang*
ISC 26 11:30:50.9±0.3,3015N±004×8923E±003,h16km, h16km±4km:pP-P,n119,σ0:94/125,mb4.4/31,MS3.3/4,24C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**1.73**	**104**	⇑*e*P	**Pn**	**11 31 18.2**	**-2.1**
SHL	**Shillong**	**5.13**	**152**	*i* PN	**Pn**	**11 32 09.5**	**+2.3**
SHL				*ex*	**Sn**	**11 33 06.8**	**+0.7**
SHL				*ex*	x	11 33 30.0	
PTH	**Pithoragarh**	**7.85**	**268**	*e*P	**Pn**	**11 32 48.3**	**+3.8**
PTH				*ex*	**Sn**	**11 34 17.8**	**+4.7**
JOSI	**Joshimath**	**8.37**	**275**	*e*P	**Pn**	**11 32 59.8**	**+8.2**
JOSI				*e*S	**Sn**	**11 34 26.0**	**+0.2**
KLP	**Kalpa**	**9.54**	**281**	*e*P	**Pn**	**11 33 08.8**	**+1.1**
KLP				AMb	AMB	11 33 14.9	
comp=Z,11nm,0.8s							
KLP				*e*S	**Sn**	**11 34 50.1**	**-4.5**
DDI	**Dehra Dun**	**9.67**	**274**	*ex*	**Pn**	**11 33 09.5**	**0.0**
DDI				*ex*	**Sn**	**11 34 57.2**	**-0.6**
SMLA	**Simla**	**10.44**	**278**	*e*P	**Pn**	**11 33 20.1**	**+0.1**
SMLA				AMb	AMB	11 33 24.4	
comp=Z,24nm,1.0s							
SMLA				*e*S	**Sn**	**11 35 09.8**	**-6.9**
NDI	**New Delhi**	**10.58**	**265**	*e*P	**Pn**	**11 33 26.0**	**+4.1**
NDI				*e*S	**Sn**	**11 35 16.0**	**-4.1**
KKR	**Kurukshetra**	**10.76**	**272**	*e*P	**Pn**	**11 33 25.9**	**+1.5**
KKR				AMb	AMB	11 33 27.8	
comp=Z,126nm,0.1s							
SONA	**Sohna**	**10.78**	**263**	*e*P	**Pn**	**11 33 27.5**	**+2.8**
SONA				AMb	AMB	11 33 33.5	
comp=Z,17nm,1.1s							
RTK	**Rohtak**	**11.21**	**268**	*ex*	**Pn**	**11 33 29.7**	**-0.9**
KUDL	**Kundal**	**11.31**	**263**	*e*P	**Pn**	**11 33 34.5**	**+2.5**
CD2	**Chengdu**	**12.55**	**83**	*e*P	**Pn**	**11 33 48.8**	**-0.1**
CD2				AP		11 33 52.0	
CD2				XP		11 33 55.5	
CD2				PP		11 33 59.3	
CD2				S	**Sn**	**11 36 10.0**	**+1.6**
CD2				XS		11 36 15.3	
CD2				SS		11 36 25.3	
CD2				AMB	AMB		
comp=Z,10.0nm,0.5s							
CD2				AMB	AMB		
comp=Z,20nm,4.2s							
CD2				LR	LR		
comp=N,240nm,8.4s							
CD2				LR	LR		
comp=E,870nm,10.8s							
CD2				LR	LR		
comp=Z,900nm,10.8s							
GTA	**Gaotai**	**12.68**	**40**	*e*P	**Pn**	**11 33 57.0**	**+6.3**
GTA				AMB	AMB		
comp=Z,4.0nm,0.9s							
KMI	**Kunming**	**12.98**	**109**	P	**Pn**	**11 33 59.0**	**+4.2**
KMI				AP		11 34 01.3	
KMI				XP		11 34 03.0	
KMI				PP		11 34 08.3	
KMI				LR	LR		
comp=N,297nm,13.3s							
KMI				LR	LR		
comp=E,197nm,12.1s							
KMI				LR	LR		
comp=Z,252nm,11.3s							
LZH	**Lanzhou**	**13.60**	**60**	*e*P	**Pn**	**11 34 02.5**	**-0.7**
LZH				AP		11 34 06.0	
LZH				XP		11 34 09.3	
LZH				*e*S	**Sn**	**11 36 37.0**	**+3.0**
LZH				XS		11 36 42.0	
LZH				*e*SS		11 36 52.8	
LZH				AMB	AMB		
comp=Z,21nm,1.0s							
LZH				AMB	AMB		
comp=Z,103nm,4.1s							
LZH				LR	LR		
comp=N,367nm,8.5s							
LZH				LR	LR		
comp=Z,582nm,11.8s							
CMAR	**Chiang Mai Arr**	**14.61**	**141**	Pn	**Pn**	**11 34 15.2**	**-2.0**
comp=Z,0.1nm,0.3s,baz=324,slow=12,SNR=7.8							
UCH	**Uchtor**	**16.89**	**320**	*e*P	**Pn**	**11 34 49.7**	**+3.0**
comp=Z,4.1nm,0.9s							
XAN	**Xi'an**	**17.13**	**72**	P	**Pn**	**11 34 46.0**	**-3.7**
XAN				AP	pP	11 34 52.3	-3.4
XAN				AMB	AMB		
comp=Z,9.0nm,1.0s							
XAN				AMB	AMB		
comp=Z,52nm,8.0s							
XAN				LR	LR		
comp=N,229nm,10.5s							
XAN				LR	LR		
comp=E,321nm,10.6s							
XAN				LR	LR		
comp=Z,424nm,10.7s							
MKAR	**Makanchi Array**	**17.47**	**344**	P	**Pn**	**11 34 53.6**	**-0.3**
comp=Z,0.2nm,0.3s,baz=142,slow=14,SNR=18							
EKS2	**Erkin-Say**	**17.59**	**319**	*e*P	**Pn**	**11 34 57.9**	**+2.5**
comp=Z,7.6nm,1.4s							
KBL	**Kabul**	**17.61**	**290**	*e*Pn	**Pn**	**11 34 54.6**	**-1.1**
comp=Z,35nm,1.0s							
KURK	**Kurchatov**	**22.03**	**342**	*e*P	**P**	**11 35 44.0**	**-0.7**
KURK				pmax	pmax		
comp=Z,28nm,1.3s,mb4.5							
KURK	**Kurchatov**	**22.03**	**342**	*e*P	**P**	**11 35 44.0**	**-0.6**
comp=Z,28nm,1.3s,mb4.5							
SONM	**Songino Array**	**22.05**	**32**	P	**P**	**11 35 46.4**	**+1.5**
comp=Z,10nm,0.9s,mb4.2,baz=220,slow=9.3,SNR=35							
SONM				LR	LR	11 45 17.2	
comp=Z,57nm,20.2s,MS3.0,baz=55,slow=39							
ZAK	**Zakamensk**	**22.81**	**24**	*e*P	**P**	**11 35 53.4**	**+0.5**
ZAK				pmax	pmax		
comp=Z,4.0nm,1.4s,mb3.7							
ZAL	**Zalesovo**	**23.99**	**354**	P	**P**	**11 36 04.9**	**+0.2**
ZALV	**Zalesovo Beam**	**24.00**	**354**	P	**P**	**11 36 04.9**	**+0.2**
comp=Z,1.2nm,0.3s,mb3.8,baz=180,slow=8.4,SNR=6.1							
NVS	**Novosibirsk**	**25.05**	**352**	⇑*i*P	**P**	**11 36 13.8**	**-0.5**
NVS				pmax	pmax		
comp=Z,14nm,1.2s,mb4.4							
NVS				pmax	pmax		
comp=N,11nm,1.5s							
NVS				pmax	pmax		
comp=E,5.0nm,1.1s							
BVAR	**Borovoye Array**	**26.69**	**334**	P	**P**	**11 36 29.6**	**+0.4**
comp=E,0.6nm,0.5s,baz=141,slow=9.3,SNR=3.7							
BVAR	**Borovoye Array**	**26.69**	**334**	P	**P**	**11 36 29.6**	**+0.4**
BOD	**Bodaibo**	**32.54**	**25**	*e*P	**P**	**11 37 20.6**	**-0.4**
KSRS	**Korea Array**	**32.80**	**67**	P	**P**	**11 37 21.7**	**-1.8**
comp=E,0.5nm,0.5s,mb3.7,baz=268,slow=9.5,SNR=4.0							
KSRS				LR	LR	11 51 44.6	
comp=E,84nm,18.3s,MS3.5,baz=272,slow=38							
KSRS	**Korea Array**	**32.80**	**67**	P	**P**	**11 37 21.7**	**-1.8**
KSRS				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
KSRS				MLR	MLR		
comp=Z,84nm,18.3s,MS3.5							
MJAR	**Matsushiro Arr**	**41.06**	**68**	P	**P**	**11 38 34.1**	**+0.3**
comp=Z,0.7nm,0.8s,baz=278,slow=7.6,SNR=4.3							
AKASG	**Malin Array Be**	**48.62**	**313**	P	**P**	**11 39 33.5**	**-0.3**
comp=Z,6.7nm,0.6s,mb4.9,baz=82,slow=6.5,SNR=31							
AKASG				pP	pP	11 39 37.9	-0.9
comp=Z,6.7nm,0.6s,baz=84,slow=6.2,SNR=18							
KIEV	**Kiev**	**48.63**	**313**	*e*P	**P**	**11 39 33.3**	**-0.6**
KIEV				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.7							
KIEV	**Kiev**	**48.63**	**313**	*e*P	**P**	**11 39 33.3**	**-0.6**
comp=Z,7.5nm,0.8s,mb4.8							
LVV	**L'vov**	**51.97**	**312**	*e*P	**P**	**11 39 57.8**	**-1.4**
ARCES	**ARCESS Array B**	**52.94**	**337**	P	**P**	**11 40 06.6**	**+0.5**
comp=Z,2.0nm,0.8s,mb4.1,baz=141,slow=4.1,SNR=5.5							
ARCES	**ARCESS Array B**	**52.94**	**337**	P	**P**	**11 40 06.6**	**+0.5**
KOLS	**Kolonicke sedl**	**53.19**	**311**	*e*P	**P**	**11 40 07.9**	**-0.3**
CRVS	**Cervenica-Dubn**	**53.72**	**311**	*e*P	**P**	**11 40 12.8**	**+0.6**
STHS	**Stebnicka Huta**	**53.81**	**311**	*e*P	**P**	**11 40 10.5**	**-2.3**
STHS				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.5							
STHS	**Stebnicka Huta**	**53.81**	**311**	*e*P	**P**	**11 40 10.5**	**-2.3**
comp=Z,5.3nm,0.8s,mb4.5							
OJC	**Ojcow**	**54.66**	**312**	*e*P	**P**	**11 40 18.5**	**-0.5**
VYHS	**Vyhne**	**55.50**	**311**	*e*P	**P**	**11 40 24.7**	**-0.4**
OKC	**Ostrava-Krasne**	**55.76**	**312**	*e*P	**P**	**11 40 27.3**	**+0.4**
OKC				*ep*P	pP	11 40 32.0	+0.1
MORC	**Moravsky Berou**	**56.16**	**312**	*e*P	**P**	**11 40 29.8**	**0.0**
MORC				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.2							
MORC	**Moravsky Berou**	**56.16**	**312**	*e*P	**P**	**11 40 29.8**	**0.0**
comp=Z,2.5nm,0.9s,mb4.2							
MORC				*e*	pP	11 40 34.3	-0.4
DPC	**Dobruska-Polom**	**56.85**	**313**	*e*P	**P**	**11 40 35.3**	**+0.6**
DPC				*ep*P	pP	11 40 39.1	-0.6
UPC	**Upice**	**57.03**	**313**	*e*P	**P**	**11 40 36.6**	**+0.7**
UPC				*ep*P	pP	11 40 40.8	-0.1
PRU	**Pruhonice**	**58.04**	**313**	*e*P	**P**	**11 40 43.6**	**+0.5**
PRU				*ep*P	pP	11 40 47.9	-0.2
NB2	**NORSAR Subarra**	**58.40**	**326**	P	**P**	**11 40 44.6**	**-0.8**
comp=Z,0.8nm,0.7s,mb3.9,baz=84,slow=7.4							
NOA	**NORSAR Array B**	**58.40**	**326**	P	**P**	**11 40 44.6**	**-0.7**
comp=Z,1.2nm,0.7s,mb4.0,baz=84,slow=7.3,SNR=3.8							
NOA				LR	LR	12 10 28.0	
comp=Z,21nm,18.8s,MS3.3,baz=155,slow=41							
CLL	**Collm**	**58.77**	**315**	*e*P	**P**	**11 40 49.0**	**+0.8**
comp=Z,8.0nm,1.3s,mb4.6							
GEC2	**GERESS Array S**	**58.79**	**312**	*e*P	**P**	**11 40 48.0**	**-0.4**
GEC2				*e*	pP	11 40 53.1	-0.3
GERES	**GERESS Array B**	**58.79**	**312**	P	**P**	**11 40 48.6**	**+0.3**
comp=Z,5.9nm,0.7s,mb4.7,baz=79,slow=6.2,SNR=31							
GERES				pP	pP	11 40 53.0	-0.3
comp=Z,8.0nm,0.9s,baz=77,slow=6.1,SNR=20							
GERES				LR	LR	12 09 59.2	
comp=Z,31nm,18.3s,MS3.5,baz=45,slow=40							
KHC	**Kasperske Hory**	**58.82**	**312**	*e*P	**P**	**11 40 48.6**	**+0.1**
KHC				*ep*P	pP	11 40 53.2	-0.3
GRA1	**Grafenberg Arr**	**60.21**	**313**	*e*P	**P**	**11 40 59.0**	**+0.9**
comp=Z,20nm,1.5s,mb4.9							
GRF	**Grafenberg Arr**	**60.21**	**313**	*e*P	**P**	**11 40 59.0**	**+0.9**
GRF				pmax	pmax		
comp=Z,20nm,1.5s,mb4.9							
GRF	**Grafenberg Arr**	**60.21**	**313**	*e*P	**P**	**11 40 59.0**	**+0.9**
comp=Z,20nm,1.5s,mb4.9							
GRF	**Grafenberg Arr**	**60.21**	**313**	*e*P	**P**	**11 40 59.0**	**+0.9**
GRF				pmax	pmax		
comp=Z,20nm,1.5s,mb4.9							
GRF	**Grafenberg Arr**	**60.21**	**313**	*e*P	**P**	**11 40 59.0**	**+0.9**
GRF				pmax	pmax		
comp=Z,20nm,1.5s,mb4.9							
CDF	**Champ du Feu**	**63.04**	**312**	⇑*i*P	**P**	**11 41 17.0**	**-0.2**
comp=Z,37nm,1.5s,mb5.0							
CDF	**Champ du Feu**	**63.04**	**312**	⇑*i*P	**P**	**11 41 17.0**	**-0.2**
CDF				pmax	pmax		
comp=Z,19nm,1.5s,mb5.0							
CDF	**Champ du Feu**	**63.04**	**312**	⇑*i*P	**P**	**11 41 17.0**	**-0.2**
comp=Z,18nm,1.5s,mb5.0							
HINF	**Hinteralfeld**	**63.48**	**312**	⇑*i*P	**P**	**11 41 19.7**	**-0.4**
PGF	**Pioggiola**	**63.56**	**306**	*e*P	**P**	**11 41 20.2**	**-0.6**
comp=Z,24nm,1.2s,mb4.8							
PGF	**Pioggiola**	**63.56**	**306**	*e*P	**P**	**11 41 20.2**	**-0.6**
PGF				pmax	pmax		
comp=Z,12nm,1.2s,mb4.8							
PGF	**Pioggiola**	**63.56**	**306**	*e*P	**P**	**11 41 20.2**	**-0.6**
comp=Z,12nm,1.2s,mb4.8							
HAU	**Haudompre**	**63.75**	**312**	*e*P	**P**	**11 41 21.6**	**-0.3**
GIVF	**Givet**	**64.11**	**315**	*e*P	**P**	**11 41 24.3**	**0.0**
LPG	**La Plagne**	**64.22**	**309**	⇑*i*P	**P**	**11 41 25.4**	**+0.3**
comp=Z,10nm,0.8s,mb4.6							
LPG	**La Plagne**	**64.22**	**309**	⇑*i*P	**P**	**11 41 25.4**	**+0.3**
LPG				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6							
LPG	**La Plagne**	**64.22**	**309**	⇑*i*P	**P**	**11 41 25.4**	**+0.3**
comp=Z,5.1nm,0.8s,mb4.6							
LPL	**La Plagne**	**64.22**	**309**	⇑*i*P	**P**	**11 41 25.4**	**+0.3**
comp=Z,31nm,1.1s,mb5.0							
LPL	**La Plagne**	**64.22**	**309**	⇑*i*P	**P**	**11 41 25.4**	**+0.3**
LPL				pmax	pmax		
comp=Z,15nm,1.1s,mb4.9							
LPL	**La Plagne**	**64.22**	**309**	⇑*i*P	**P**	**11 41 25.4**	**+0.3**
comp=Z,15nm,1.1s,mb5.0							
SBF	**Sospel**	**64.25**	**307**	*e*P	**P**	**11 41 24.9**	**-0.4**
CABF	**La Chapelle**	**64.32**	**311**	*e*P	**P**	**11 41 25.5**	**-0.3**
comp=Z,11nm,1.0s,mb4.5							
CABF	**La Chapelle**	**64.32**	**311**	*e*P	**P**	**11 41 25.5**	**-0.3**
CABF				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.5							
CABF	**La Chapelle**	**64.32**	**311**	*e*P	**P**	**11 41 25.5**	**-0.3**
comp=Z,5.4nm,1.0s,mb4.5							
MEZF	**Maizieres J'vi**	**64.43**	**313**	*e*P	**P**	**11 41 26.4**	**0.0**
MBDF	**Montbardon**	**64.44**	**308**	*e*P	**P**	**11 41 27.2**	**+0.7**
comp=Z,7.6nm,0.9s,mb4.4							
MBDF	**Montbardon**	**64.44**	**308**	*e*P	**P**	**11 41 27.2**	**+0.7**
MBDF				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
MBDF	**Montbardon**	**64.44**	**308**	*e*P	**P**	**11 41 27.2**	**+0.7**
comp=Z,3.8nm,0.9s,mb4.4							
BAIF	**Baives**	**64.50**	**315**	*e*P	**P**	**11 41 26.9**	**0.0**
ORIF	**Oris-en-Rattie**	**64.98**	**309**	*e*P	**P**	**11 41 30.2**	**+0.1**
LOR	**Lormes**	**65.57**	**312**	*e*P	**P**	**11 41 33.1**	**-0.8**
SMF	**Signal de Mont**	**65.78**	**311**	⇑*i*P	**P**	**11 41 34.7**	**-0.6**
comp=Z,41nm,1.4s,mb5.0							
SMF	**Signal de Mont**	**65.78**	**311**	⇑*i*P	**P**	**11 41 34.7**	**-0.6**
SMF				pmax	pmax		
comp=Z,21nm,1.4s,mb5.0							
SMF	**Signal de Mont**	**65.78**	**311**	⇑*i*P	**P**	**11 41 34.7**	**-0.6**
comp=Z,21nm,1.4s,mb5.0							
VIVF	**Saint-Julien-l**	**65.81**	**309**	*e*P	**P**	**11 41 35.1**	**-0.4**
comp=Z,9.1nm,1.0s,mb4.5							
VIVF	**Saint-Julien-l**	**65.81**	**309**	*e*P	**P**	**11 41 35.1**	**-0.4**
VIVF				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.5							
VIVF	**Saint-Julien-l**	**65.81**	**309**	*e*P	**P**	**11 41 35.1**	**-0.4**
comp=Z,4.6nm,1.0s,mb4.5							
SSF	**Saint Saulge**	**65.87**	**312**	⇑*i*P	**P**	**11 41 35.3**	**-0.5**
comp=Z,22nm,1.1s,mb4.8							
SSF	**Saint Saulge**	**65.87**	**312**	⇑*i*P	**P**	**11 41 35.3**	**-0.5**
SSF				pmax	pmax		
comp=Z,11nm,1.1s,mb4.8							
SSF	**Saint Saulge**	**65.87**	**312**	⇑*i*P	**P**	**11 41 35.3**	**-0.5**
comp=Z,11nm,1.1s,mb4.8							
AVF	**Avril sur Loir**	**66.06**	**311**	⇑*i*P	**P**	**11 41 36.5**	**-0.5**
comp=Z,6.7nm,0.8s,mb4.4							
AVF	**Avril sur Loir**	**66.06**	**311**	⇑*i*P	**P**	**11 41 36.5**	**-0.5**
AVF				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
AVF	**Avril sur Loir**	**66.06**	**311**	⇑*i*P	**P**	**11 41 36.5**	**-0.5**
comp=Z,3.3nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**66.06**	**133**	P	**P**	**11 41 37.3**	**0.0**
comp=Z,0.9nm,0.5s,mb4.1,baz=324,slow=6.4,SNR=16							
WRA				pP	pP	11 41 42.2	-0.1
comp=Z,0.9nm,0.5s,baz=324,slow=6.4,SNR=7.1							
WRAB	**Tennant Creek**	**66.06**	**133**	*e*P	**P**	**11 41 37.2**	**-0.1**
WB2	**Warramunga Arr**	**66.07**	**133**	*e*P	**P**	**11 41 37.2**	**-0.1**
LASF	**Ste Croix**	**66.62**	**308**	*e*P	**P**	**11 41 40.5**	**-0.2**
TCF	**Toulx Ste Croi**	**66.97**	**311**	⇑*i*P	**P**	**11 41 42.9**	**+0.1**
comp=Z,19nm,1.0s,mb4.8							
TCF	**Toulx Ste Croi**	**66.97**	**311**	⇑*i*P	**P**	**11 41 42.9**	**+0.1**
TCF				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.8							
TCF	**Toulx Ste Croi**	**66.97**	**311**	⇑*i*P	**P**	**11 41 42.9**	**+0.

ANTU AML AML 11 50 18.2
comp=E,2µm,0.6s
ANTU Antumapu 1.25 133 *e*P Pn 11 49 57.6 -0.1
ANTU *i* S Sn 11 50 13.9 +0.1
LNV Longovilo 1.27 168 *e*P Pn 11 49 56.9 -1.0
LNV *i* S Sn 11 50 13.6 -0.5
PCH Pirque 1.36 132 *e*P Pn 11 49 59.4 +0.2
PCH *i* S Sn 11 50 17.7 +1.2
SJCH San Jose de Ma 1.47 129 *e*P Pn 11 50 00.8 0.0
SJCH *i* S Sn 11 50 20.4 +1.1
SJCH AML AML 11 50 23.8
comp=N,709nm,0.4s
SJCH San Jose de Ma 1.47 129 *e*P Pn 11 50 00.8 0.0
SJCH *i* S Sn 11 50 20.4 +1.1
CHCH Chadas Angostu 1.51 144 *e*P Pn 11 50 01.9 +0.6
CACH El Canelo 1.69 146 ⇓*i*P Pn 11 50 05.2 +1.5
CACH *i* S Sn 11 50 28.4 +3.9
CICH Cipreses 1.94 146 ⇑*i*P Pn 11 50 08.3 +1.2
CICH *i* S Sn 11 50 33.6 +2.9

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*ISCJB **26** 12:03:11.3±0.3,5143N±002×16.12E±002,h0km, Error ellipse: s-maj=2.8km s-min=1.8km az=13.9*
*NEIC **26** 12:03:12.2±0.8,5153N×1615E,h1km±5km,ML2.8(BRA), ML3.3(SZGRF), Error ellipse: s-maj=5.6km s-min=3.3km az=189.0*
*PRU **26** 12:03:13.5,5149N×1610E,h0km*
*IPEC **26** 12:03:13.0±0.2,5151N×1616E,h9km±1km,ML2.8/4, Error ellipse: s-maj=1.4km s-min=0.6km az=38.0*
*WAR **26** 12:03:13.5,5150N×1609E,ML3.0, Mining Induced*
*CSEM **26** 12:03:13.7±0.1,5147N×1612E,h2km,ML3.8/13, Error ellipse: s-maj=2.0km s-min=1.1km az=13.0*
*BGR **26** 12:03:14.4±0.5,5141N×1609E,h1km,ML3.3/12, Error ellipse: s-maj=6.7km s-min=2.2km az=13.0*
*VIE **26** 12:03:15.6±0.6,5125N×1601E,h0km,mb2.5/6,ML3.3/6, Error ellipse: s-maj=3.9km s-min=3.4km az=112.0 71 km WNW of Wroclaw Suspected Mining induced.*
ISC 26 12:03:12.6±0.3,5148N±002×1612E±002,h0km,n74, σ0§92/147,9C-9D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**170**	*e*Pg	**Pg**	**12 03 25.7**	**+0.8**
KSP				*e*Sg	**Sg**	**12 03 35.4**	**+2.2**
KSP	**Ksiaz**	**0.64**	**170**	*e*Pg	**Pg**	**12 03 25.7**	**+0.8**
KSP	**Ksiaz**	**0.64**	**170**	*e*Pg	**Pg**	**12 03 25.6**	**+0.7**
KSP				*e*Sg	**Sg**	**12 03 34.7**	**+1.5**
UPC	**Upice**	**0.97**	**184**	*e*PG	**Pg**	**12 03 31.9**	**+0.7**
DPC	**Dobruska-Polom**	**1.13**	**173**	*e*Pg	**Pg**	**12 03 34.5**	**+0.2**
DPC				*e*Sg	**Sg**	**12 03 49.8**	**+0.8**
DPC	**Dobruska-Polom**	**1.13**	**173**	*e*PG	**Pg**	**12 03 34.6**	**+0.3**
DPC				*e*SG	**Sg**	**12 03 49.6**	**+0.6**
comp=Z,271nm,0.4s							
PVCC	**Panska Ves**	**1.36**	**227**	*e*Pn	**Pn**	**12 03 38.5**	**-0.3**
PVCC	**Panska Ves**	**1.36**	**227**	Pg	**Pg**	**12 03 39.2**	**+0.5**
PVCC				*e*Sg	**Sg**	**12 03 57.5**	**+1.2**
PVCC	**Panska Ves**	**1.36**	**227**	*e*PG	**Pg**	**12 03 39.2**	**+0.5**
BRG	**Berggiesshubel**	**1.50**	**247**	*e*Pg	**Pg**	**12 03 41.4**	**+0.2**
BRG				*e*Sg	**Sg**	**12 04 01.5**	**+0.9**
BRG	**Berggiesshubel**	**1.50**	**247**	Pg	**Pg**	**12 03 41.4**	**+0.1**
BRG				*e*Sg	**Sg**	**12 04 00.4**	**-0.2**
RUE	**Ruedersdorf**	**1.76**	**306**	*e*Pn	**Pn**	**12 03 42.7**	**-1.6**
RUE				*e*Sn	**Sn**	**12 04 09.0**	**+1.6**
RUE	**Ruedersdorf**	**1.76**	**306**	*e*Pn	**Pn**	**12 03 42.7**	**-1.7**
RUE				*e*Sn	**Sn**	**12 04 09.0**	**+1.6**
PRU	**Pruhonice**	**1.79**	**215**	*e*Pn	**Pn**	**12 03 44.2**	**-0.6**
PRU	**Pruhonice**	**1.79**	**215**	*e*PN	**Pn**	**12 03 44.4**	**-0.4**
PRU				*e*PG	**Pg**	**12 03 47.9**	**+0.9**
PRU				*e*SG	**Sg**	**12 04 10.8**	**+0.6**
comp=Z,233nm,0.9s							
FBE	**Freiberg**	**1.82**	**253**	*e*Pn	**Pn**	**12 03 45.6**	**+0.4**
FBE				*e*Sg	**Sg**	**12 04 11.4**	**+0.2**
RAC	**Raciborz**	**1.92**	**136**	*e*Pg	**Pg**	**12 03 49.8**	**+0.5**
RAC				*e*Sg	**Sg**	**12 04 16.3**	**+2.1**
GKP	**Gorka Klasztor**	**1.92**	**20**	*e*Pn	**Pn**	**12 03 45.6**	**-0.9**
GKP				*e*Sg	**Sg**	**12 04 15.4**	**+1.0**
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**12 03 46.5**	**-0.1**
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**12 03 46.2**	**-0.4**
MORC				*e*Sg	**Sg**	**12 04 13.2**	**-1.3**
comp=Z,77nm,0.3s							
MORC	**Moravsky Berou**	**1.93**	**151**	⇓P	**Pn**	**12 03 46.1**	**-0.5**
MORC				S	**Sn**	**12 04 13.9**	**+2.5**
CLL	**Collm**	**1.96**	**266**	*e*Pn	**Pn**	**12 03 45.9**	**-1.1**
CLL				*e*Pg	**Pg**	**12 03 49.0**	**-1.1**
CLL				*e*Sg	**Sg**	**12 04 16.2**	**+0.6**
CLL	**Collm**	**1.96**	**266**	*e*Pn	**Pn**	**12 03 46.0**	**-1.0**
CLL				*e*Pg	**Pg**	**12 03 49.0**	**-1.1**
CLL				*ex*	x	12 03 53.0	
CLL				*e*Sg	**Sg**	**12 04 15.0**	**-0.5**
comp=Z,69nm,0.4s							
CLL	**Collm**	**1.96**	**266**	Pg	**Pg**	**12 03 49.0**	**-1.1**
CLL				Sg	**Sg**	**12 04 16.2**	**+0.7**
CLL	**Collm**	**1.96**	**266**	*e*Pn	**Pn**	**12 03 46.0**	**-1.0**
CLL				*e*Pg	**Pg**	**12 03 49.0**	**-1.1**
CLL				*e*Sg	**Sg**	**12 04 15.0**	**-0.5**
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*Sg	**Sg**	**12 04 20.0**	**+0.4**
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*PN	**Pn**	**12 03 47.9**	**-0.9**
OKC				*e*PG	**Pg**	**12 03 52.3**	**-0.3**
OKC				*e*SG	**Sg**	**12 04 20.0**	**+0.4**
comp=Z,69nm,0.5s							
VRAC	**Vranov**	**2.19**	**172**	*e*Pn	**Pn**	**12 03 50.5**	**+0.3**
VRAC				*e*Sg	**Sg**	**12 04 21.8**	**-1.1**
comp=Z,33nm,0.3s							
VRAC	**Vranov**	**2.19**	**172**	⇓P	**Pn**	**12 03 50.4**	**+0.2**
VRAC				S	**Sn**	**12 04 21.6**	**+3.7**
KRUC	**Moravsky**	**2.42**	**176**	*e*Pn	**Pn**	**12 03 54.0**	**+0.6**
KRUC	**Moravsky**	**2.42**	**176**	*e*Pg	**Pg**	**12 03 57.8**	**-1.2**
KRUC				*e*Sg	**Sg**	**12 04 29.9**	**-0.5**
comp=Z,29nm,0.4s							
WERD	**Werda**	**2.62**	**248**	*e*Pn	**Pn**	**12 03 55.9**	**-0.2**
WERD				*e*Pg	**Pg**	**12 04 02.7**	**-0.1**
WERD				*e*Sg	**Sg**	**12 04 36.4**	**-0.3**
NKC	**Novy Kostel**	**2.64**	**243**	*e*Pn	**Pn**	**12 03 56.3**	**-0.1**
NKC	**Novy Kostel**	**2.64**	**243**	Pg	**Pg**	**12 04 03.8**	**+0.7**
NKC				*e*Sg	**Sg**	**12 04 37.7**	**+0.4**
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**12 03 56.9**	**+0.5**
NKC				*e*PG	**Pg**	**12 04 03.8**	**+0.7**
NKC				*e*SG	**Sg**	**12 04 39.1**	**+1.8**
comp=Z,157nm,0.3s							
OJC	**Ojcow**	**2.65**	**117**	*e*Pn	**Pn**	**12 03 54.6**	**-1.9**
OJC				*e*Pg	**Pg**	**12 04 03.4**	**0.0**
OJC				*e*Sn	**Sn**	**12 04 26.9**	**-2.4**
OJC				*e*Sg	**Sg**	**12 04 38.5**	**+0.8**
OJC	**Ojcow**	**2.65**	**117**	*e*Pg	**Pg**	**12 04 03.7**	**+0.3**
OJC				*e*Sg	**Sg**	**12 04 38.6**	**+0.9**
JAVC	**Velka Javorina**	**2.80**	**159**	*e*Pn	**Pn**	**12 03 59.6**	**+1.0**
JAVC				*e*Sg	**Sg**	**12 04 42.6**	**0.0**
comp=Z,69nm,1.2s							
KHC	**Kasperske Hory**	**2.86**	**216**	*e*Pn	**Pn**	**12 03 59.3**	**-0.1**
KHC	**Kasperske Hory**	**2.86**	**216**	*e*PN	**Pn**	**12 04 00.0**	**+0.6**
KHC				*e*PG	**Pg**	**12 04 06.1**	**-1.2**
KHC				*e*SN	**Sn**	**12 04 34.0**	**-0.4**
KHC				*e*SG	**Sg**	**12 04 43.7**	**-0.6**
comp=Z,57nm,0.5s							
MANZ	**Manzenberg**	**2.95**	**241**	*e*Pn	**Pn**	**12 04 00.9**	**+0.3**
MANZ				*e*Pg	**Pg**	**12 04 08.7**	**-0.4**
MANZ				*e*Sg	**Sg**	**12 04 47.2**	**-0.2**
MOX	**Moxa**	**2.96**	**255**	*e*Pn	**Pn**	**12 04 00.9**	**+0.1**
MOX				*e*Pg	**Pg**	**12 04 08.5**	**-0.8**
MOX	**Moxa**	**2.96**	**255**	*e*PN	**Pn**	**12 04 00.8**	**0.0**
MOX				*e*PG	**Pg**	**12 04 08.6**	**-0.7**
MOX				*e*SG	**Sg**	**12 04 48.2**	**+0.6**
MOX	**Moxa**	**2.96**	**255**	*e*Pg	**Pg**	**12 04 08.6**	**-0.7**
MOX				*e*Sg	**Sg**	**12 04 47.9**	**+0.3**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**12 04 02.7**	**+0.6**
GEC2				*e*Sg	**Sg**	**12 04 47.5**	**-3.3**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**12 04 02.7**	**+0.6**
GEC2				*e*Sg	**Sg**	**12 04 47.5**	**-3.2**
LIKS	**Likavka**	**3.09**	**141**	*e*SG	**Sg**	**12 04 56.3**	**+4.4**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**12 04 03.1**	**+0.1**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**12 04 03.0**	**0.0**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**12 04 03.1**	**+0.1**
MODS	**Modra-Piesok**	**3.19**	**166**	*e*PN	**Pn**	**12 04 03.9**	**-0.1**
MODS				*e*PG	**Pg**	**12 04 13.1**	**-0.7**
MODS				*e*SG	**Sg**	**12 04 57.4**	**+2.2**
KOLL	**Kolacno**	**3.25**	**152**	*e*PG	**Pg**	**12 04 15.8**	**+0.9**
KOLL				*e*SG	**Sg**	**12 05 00.4**	**+3.4**
ZST	**Bratislava**	**3.34**	**169**	*e*PG	**Pg**	**12 04 15.8**	**-0.9**
ZST				*e*SG	**Sg**	**12 04 59.0**	**-1.0**
NIE	**Niedzica**	**3.38**	**126**	*e*P	**Pg**	**12 04 16.8**	**-0.5**
NIE				*e*S	**Sg**	**12 04 59.8**	**-1.3**
VYHS	**Vyhne**	**3.46**	**149**	*e*PN	**Pn**	**12 04 08.1**	**+0.4**
VYHS				*e*PG	**Pg**	**12 04 17.4**	**-1.5**
VYHS				*e*SG	**Sg**	**12 05 05.7**	**+2.0**
CONA	**Conrad Observa**	**3.56**	**183**	⇓*i*Pn	**Pn**	**12 04 09.1**	**+0.1**
CONA				⇓*i*Sg	**Sg**	**12 05 06.1**	**-0.6**
comp=Z,85nm,0.6s							
CSNA	**Conrad Observa**	**3.56**	**183**	⇑*i*Pn	**Pn**	**12 04 09.3**	**+0.3**
CSNA				⇑*i*Sg	**Sg**	**12 05 06.1**	**-0.6**
comp=Z,45nm,0.4s							
GRA1	**Grafenberg Arr**	**3.59**	**242**	Pn	**Pn**	**12 04 10.5**	**+1.0**
GRA1				Sg	**Sg**	**12 05 08.5**	**+0.5**
GRA1	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**12 04 10.5**	**+1.0**
GRA1				*e*Sg	**Sg**	**12 05 08.5**	**+0.5**
GRF	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**12 04 10.5**	**+1.0**
GRF				*e*Sg	**Sg**	**12 05 08.5**	**+0.5**
MOA	**Molln**	**3.82**	**199**	⇑*i*Pn	**Pn**	**12 04 13.1**	**+0.4**
MOA				⇓*i*Sg	**Sg**	**12 05 14.6**	**-0.8**
comp=Z,51nm,0.6s							
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*PN	**Pn**	**12 04 13.6**	**+0.3**
STHS				*e*PG	**Pg**	**12 04 26.6**	**-0.1**
STHS				*e*SG	**Sg**	**12 05 21.4**	**+4.6**
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*Pn	**Pn**	**12 04 13.7**	**+0.4**
STHS				*e*Pg	**Pg**	**12 04 26.6**	**-0.1**
STHS				*e*Sg	**Sg**	**12 05 21.4**	**+4.6**
KECS	**Kecovo**	**4.11**	**135**	*e*PN	**Pn**	**12 04 16.3**	**-0.3**
KECS				*e*PG	**Pg**	**12 04 31.1**	**-0.3**
KECS				*e*SG	**Sg**	**12 05 24.0**	**-0.6**
ARSA	**Arzberg**	**4.25**	**185**	⇓*i*Pn	**Pn**	**12 04 18.5**	**0.0**
ARSA				⇑*i*Sg	**Sg**	**12 05 27.5**	**-1.5**
comp=Z,31nm,0.6s							
CRVS	**Cervenica-Dubn**	**4.29**	**125**	*e*PN	**Pn**	**12 04 19.9**	**+0.8**
CRVS				*e*PG	**Pg**	**12 04 34.0**	**-0.8**
CRVS				*e*SG	**Sg**	**12 05 31.7**	**+1.3**
PSZ	**Piszkesteto**	**4.32**	**144**	⇑P	**Pn**	**12 04 19.7**	**+0.2**
PSZ	**Piszkesteto**	**4.32**	**144**	⇑P	**Pn**	**12 04 19.7**	**0.2**
KOLS	**Kolonicke sedl**	**4.70**	**120**	*e*PN	**Pn**	**12 04 24.8**	**+0.1**
KOLS				*e*PG	**Pg**	**12 04 42.3**	**-0.3**
KBA	**Koelnbreinsper**	**4.76**	**203**	⇑*i*Pn	**Pn**	**12 04 25.5**	**-0.1**
KBA				⇓*i*Sg	**Sg**	**12 05 44.5**	**-0.9**
comp=Z,26nm,0.6s							
PKSM	**Moragy**	**5.52**	**161**	⇓P	**Pn**	**12 04 36.4**	**+0.4**
PKSM	**Moragy**	**5.52**	**161**	⇓P	**Pn**	**12 04 36.4**	**+0.4**
DRGR		**6.38**	**135**	⇑P	**Pn**	**12 04 47.7**	**0.0**
BURAR	**Bucovina Array**	**7.07**	**120**	⇑P	**Pn**	**12 04 56.4**	**-0.8**

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*ISCJB **26** 12:06:07.6±0.6,3546N±002×26.12E±003,h8km±4km, Error ellipse: s-maj=4.6km s-min=3.9km az=176.5*
*NEIC **26** 12:06:08.6,3540N×2613E,h26km,MD3.3(ATH), After ATH,*
*CSEM **26** 12:06:08.6,3540N×2613E,h26km,MD3.3/5, After ATH*
*THE **26** 12:06:08.5,3543N×2612E,h7km*
*ATH **26** 12:06:08.6,3541N×2613E,h25km±1km,MD3.3/5*
ISC 26 12:06:08.3±0.6,3545N±002×2613E±004,h12km±5km,n16, σ1§18/30,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.34**	**168**	*e*Pg	**Pg**	**12 06 15.2**	**0.0**
ZKR				*e*Sg	**Sg**	**12 06 20.1**	**+0.2**
NPS	**Neapolis**	**0.46**	**246**	*e*PB	**Pg**	**12 06 18.1**	**+0.7**
NPS				*e*SB	**Sg**	**12 06 24.1**	**+0.5**
LAST	**Lasithi**	**0.61**	**242**	*e*Pg	**Pg**	**12 06 20.3**	**+0.2**
LAST				*e*Sg	**Sg**	**12 06 28.2**	**+0.1**
KARP	**Karpathos**	**0.85**	**83**	*e*PN	**Pn**	**12 06 25.0**	**-0.9**
KARP				*e*SN	**Sn**	**12 06 37.5**	**-0.7**
THR1	**Thera Island**	**1.06**	**329**	*e*Pg	**Pg**	**12 06 28.1**	**-0.6**
THR1				*e*Sg	**Sg**	**12 06 43.5**	**+0.8**
THR6	**Thira Island,**	**1.08**	**327**	*e*Pg	**Pg**	**12 06 28.8**	**-0.3**
THR6				*e*Sg	**Sg**	**12 06 43.6**	**+0.5**
THR3	**Thira Island,**	**1.12**	**328**	*e*Pg	**Pg**	**12 06 29.1**	**-0.7**
THR3				*e*Sg	**Sg**	**12 06 45.7**	**+1.2**
THR5	**Thira Island,**	**1.15**	**327**	*e*Pg	**Pg**	**12 06 28.7**	**-1.7**
THR5				*e*Sg	**Sg**	**12 06 46.7**	**+1.3**
SIVA	**Sivas**	**1.17**	**248**	*e*Pg	**Pg**	**12 06 30.4**	**-0.3**
SIVA				*e*Sg	**Sg**	**12 06 45.3**	**-0.5**
THR4	**Thira Island,**	**1.17**	**330**	*e*Pg	**Pg**	**12 06 29.1**	**-1.6**
THR4				*e*Sg	**Sg**	**12 06 46.5**	**+0.6**
VAM	**Vamos**	**1.58**	**269**	*e*PN	**Pn**	**12 06 37.4**	**+1.4**
VAM				*e*SN	**Sn**	**12 06 57.9**	**+1.6**
APE	**Apeiranthos**	**1.68**	**343**	*e*Pb	**Pb**	**12 06 37.3**	**-1.9**
APE				*e*Sb	**Sb**	**12 06 59.0**	**-1.3**
APE	**Apeiranthos**	**1.68**	**343**	*e*Pn	**Pn**	**12 06 39.2**	**+1.8**
ARG	**Arkhangelos**	**1.79**	**64**	*e*PN	**Pn**	**12 06 40.2**	**+1.3**
KARN	**Karanos**	**1.81**	**269**	*e*Pb	**Pb**	**12 06 39.2**	**-2.0**
KARN				*e*Sb	**Sb**	**12 07 01.4**	**-2.4**
GOLH	**Golhisar**	**3.29**	**56**	*i* P	**Pn**	**12 07 02.2**	**+2.7**
GOLH				*e*S	**Sn**	**12 07 45.7**	**+7.1**

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*NEIC **26** 12:09:33.2,3273S×7169W,h28km,ML2.5(GUC), After GUC.*
GUC 26 12:09:33.2±0.7,3273S×7169W,h28km±10km,MD3.6, ML2.5,6C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.29**	**173**	⇓*i*P	Pb	12 09 40.1	-0.2
IHA				*i* S	Sb	12 09 45.0	-0.2
ROCH	**El Roble**	**0.61**	**113**	⇓*i*P	Pb	12 09 45.4	0.0
ROCH				*i* S	Sb	12 09 54.5	+0.7
PTCH	**Petorca**	**0.79**	**54**	⇑*i*P	Pb	12 09 48.0	-0.4
PTCH				*i* S	Sb	12 09 59.1	+0.4
PTCH				AML	AML	12 09 59.6	
comp=E,215nm,0.1s							
CHNG	**Los Chungos**	**0.86**	**11**	*e*P	Pn	12 09 47.6	-1.9
CHNG				*i* S	Sb	12 09 59.4	-1.4
JACH	**Jahuel**	**0.92**	**87**	⇑*i*P	Pn	12 09 50.0	-0.3
JACH				*i* S	Sb	12 10 02.5	+0.1
PEL	**Peldehue**	**0.94**	**116**	⇑*e*P	Pn	12 09 49.8	-0.7
PEL				*e*S	Sb	12 10 03.5	+0.7
PEL				AML	AML	12 10 05.8	
comp=N,821nm,0.2s							
RCDM	**Rinconada Maip**	**1.05**	**136**	⇑*e*P	Pn	12 09 51.9	-0.2
RCDM				*i* S	Sn	12 10 05.9	0.0
RCDM				AML	AML	12 10 06.8	
comp=E,231nm,0.1s							
RCDM	**Rinconada Maip**	**1.05**	**136**	⇑*e*P	Pn	12 09 51.9	-0.2
RCDM				*i* S	Sn	12 10 05.9	0.0
TACH	**Talagante**	**1.11**	**146**	*e*P	Pn	12 09 52.6	-0.3
ANTU	**Antumapu**	**1.21**	**134**	⇓*i*P	Pn	12 09 54.7	+0.4
ANTU				*i* S	Sn	12 10 10.8	+0.9
ANTU				AML	AML	12 10 15.2	
comp=E,195nm,0.6s							
ANTU	**Antumapu**	**1.21**	**134**	⇓*i*P	Pn	12 09 54.7	+0.4
ANTU				*i* S	Sn	12 10 10.8	+0.9
LNV	**Longovilo**	**1.24**	**169**	*i* P	Pn	12 09 54.1	-0.6
LNV				*i* S	Sn	12 10 10.1	-0.4
FCH	**Farellones**	**1.31**	**117**	⇓*i*P	Pn	12 09 56.2	+0.5
FCH				*i* S	Sn	12 10 14.2	+1.9
FCH				AML	AML	12 10 14.7	
comp=N,140nm,0.2s							
PCH	**Pirque**	**1.32**	**132**	⇓*i*P	Pn	12 09 56.2	+0.4
PCH				*i* S	Sn	12 10 13.7	+1.2
CHCH	**Chadas Angostu**	**1.48**	**144**	*e*P	Pn	12 09 58.7	+0.8
CACH	**El Canelo**	**1.65**	**147**	⇑*i*P	Pn	12 10 02.3	+1.9
CICH	**Cipreses**	**1.90**	**147**	*e*P	Pn	12 10 04.1	+0.3

IDC 26 12:19:37.3±1.7,988S×15425E,h0km,mb3.7/6,mb1 3.9/6, mb1mx3.8/14,mbtmp3.8/6,MS2.7/1,Ms1 2.7/1, ms1mx2.0/24,Error ellipse: s-maj=45.8km s-min=27.5km az=104.0,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.64**	**86**	LR	LR	12 22 59.5	
comp=Z,75nm,21.2s,baz=358,slow=36							
WRA	**Warramunga Arr**	**21.66**	**240**	P	P	12 24 29.8	+0.2
1.7nm,0.8s,baz=65,slow=10.0,SNR=11							
ASAR	**Alice Springs**	**23.77**	**232**	P	P	12 24 52.0	+0.2
3.2nm,1.1s,baz=70,slow=10.0,SNR=15							
STKA	**Stephens Creek**	**24.83**	**206**	P	P	12 25 00.8	-0.5
1.9nm,0.8s,baz=27,slow=11,SNR=5.4							
CMAR	**Chiang Mai Arr**	**61.40**	**297**	P	P	12 29 55.9	+0.1
0.6nm,0.4s,baz=117,slow=5.3,SNR=6.1							
SONM	**Songino Array**	**71.37**	**328**	P	P	12 30 59.2	+0.1
0.7nm,0.8s,baz=151,slow=6.8,SNR=4.0							
MKAR	**Makanchi Array**	**85.08**	**319**	P	P	12 32 14.9	-0.1
0.1nm,0.3s,baz=121,slow=5.6,SNR=3.8							
BDFB	**Brasilia**	**146.40**	**139**	PKPbc	PKPbc	12 39 21.0	-0.2
1.6nm,0.8s,baz=166,slow=14,SNR=4.1							

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*CSEM **26** 12:20:30.0±0.3,3201N×579W,h2km,ML3.4/10, Error ellipse: s-maj=5.8km s-min=4.9km az=111.0*
*ISCJB **26** 12:20:30.3±0.4,3230N±002×599W±003,h10km, Error ellipse: s-maj=4.3km s-min=3.0km az=31.4*
*MDD **26** 12:20:30.6±0.6,3207N×587W,h0km,mb3.9/7, Error ellipse: s-maj=5.8km s-min=3.9km az=157.0, PRIMO*
*CNRM **26** 12:20:31.3,3205N×589W,h2km,MD3.7*
*NEIC **26** 12:20:31.2,32.18N×570W,h0km,MG4.0(MDD), After MDD.*
*INMG **26** 12:20:33.6±0.9,3237N×579W,h0km,ML2.4, Error ellipse: s-maj=6.5km s-min=5.1km az=80.0*
ISC 26 12:20:31.3±0.4,3222N±002×596W±003,h10km,n56, σ1§49/99,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIB	**El Ksiba**	**0.36**	**349**	P	**Pg**	**12 20 41.0**	**+2.5**
KIB				S	**Sg**	**12 20 48.0**	**+4.6**
KIB	**El Ksiba**	**0.36**	**349**	*i* P	**Pg**	**12 20 41.0**	**+2.5**
TZC	**Tazercounte**	**0.46**	**262**	P	**Pg**	**12 20 41.0**	**+0.8**
TZC				S	**Sg**	**12 20 48.0**	**+1.8**
TZC	**Tazercounte**	**0.46**	**262**	*i* P	**Pg**	**12 20 41.0**	**+0.8**
CZD	**Col de Zad**	**1.12**	**43**	*i* P	**Pb**	**12 20 52.0**	**-0.8**
CZD				*i* S	**Sb**	**12 21 09.0**	**+1.5**
MIF	**Mishlifen**	**1.34**	**27**	*i* P	**Pn**	**12 20 57.5**	**+1.5**
MIF				*i* S	**Sb**	**12 21 16.0**	**+2.3**
ZFT	**Errachidia**	**1.38**	**97**	*i* P	**Pn**	**12 20 54.0**	**-2.5**
ZFT				*i* S	**Sb**	**12 21 13.0**	**-1.7**
IFR	**Ifrane**	**1.47**	**28**	P	**Pn**	**12 20 57.0**	**-0.9**
IFR				S	**Sn**	**12 21 18.0**	**+0.8**
AVE	**Averroes**	**1.63**	**312**	P	**Pg**	**12 21 03.0**	**+0.4**
AVE				S	**Sg**	**12 21 26.0**	**+2.2**
TIO	**Tiouine**	**1.70**	**221**	P	**Pn**	**12 21 00.0**	**-1.0**
TIO				S	**Sn**	**12 21 22.0**	**-0.8**
OUK	**Oukaimeden**	**1.91**	**239**	P	**Pn**	**12 21 04.5**	**+0.6**
OUK				S	**Sn**	**12 21 26.0**	**-2.0**
OUK	**Oukaimeden**	**1.91**	**239**	*i* P	**Pn**	**12 21 04.5**	**+0.6**
RTC	**Rabat Centre**	**1.92**	**337**	P	**Pn**	**12 21 06.0**	**+2.0**
RTC				S	**Sg**	**12 21 31.0**	**-2.0**
RTC	**Rabat Centre**	**1.92**	**337**	*i* P	**Pn**	**12 21 06.0**	**+2.0**
RTC	**Rabat Centre**	**1.92**	**337**	Pg	**Pg**	**12 21 09.8**	**+1.7**
RTC				*e*Sg	**Sg**	**12 21 35.2**	**+2.2**
RTC	**Rabat Centre**	**1.92**	**337**	Pg	**Pg**	**12 21 09.8**	**+1.6**
RTC				*e*Sg	**Sg**	**12 21 35.2**	**+2.2**
TZK	**Tazeka**	**2.39**	**38**	*e*P	**Pn**	**12 21 12.0**	**+1.5**
TZK				*i* S	**Sn**	**12 21 42.0**	**+2.2**
CIA	**Chichaoua**	**2.47**	**255**	P	**Pn**	**12 21 10.0**	**-1.6**
CIA				S	**Sn**	**12 21 41.0**	**-0.8**
JHA	**Jbel Lahdid**	**3.01**	**262**	P	**Pn**	**12 21 19.0**	**0.0**
JHA				S	**Sn**	**12 21 53.5**	**-1.6**
JHA	**Jbel Lahdid**	**3.01**	**262**	*i* P	**Pn**	**12 21 19.0**	**0.0**
EMIJ	**Mijas**	**4.45**	**12**	P	**Pn**	**12 21 36.0**	**-2.8**
0.0nm,0.0s,SNR=4.0							
EMIJ				S	**Sn**	**12 22 27.6**	**-3.0**
0.1nm,0.0s,SNR=4.0							
ESPR	**Espera**	**4.64**	**1**	S	**Sn**	**12 22 33.6**	**-1.8**
0.1nm,0.0s,SNR=4.0							
EGUA	**Guajares**	**5.01**	**23**	P	**Pn**	**12 21 47.1**	**+0.6**
0.3nm,0.1s,SNR=4.0							
EGUA				S	**Sn**	**12 22 43.7**	**-0.8**
0.5nm,0.1s							
EGUA	**Guajares**	**5.01**	**23**	P	**Pn**	**12 21 44.7**	**-1.8**
0.3nm,0.1s,SNR=4.0							
EGUA	**Guajares**	**5.01**	**23**	P	**Pn**	**12 21 44.7**	**-1.9**
EGUA				S	**Sn**	**12 22 41.1**	**-3.4**
PBDV	**Barranco-do-Ve**	**5.27**	**343**	*e*Pn	**Pn**	**12 21 51.0**	**+0.9**
PBDV				*e*Sn	**Sn**	**12 22 49.1**	**-1.8**
PBDV				A		12 22 57.6	
2.7nm,0.5s			

PMRV			*e*Sn		**Sn**	**12 23 38.3 -2.3**
	1.1nm,0.1s					
PCBR	**Castelo Branco**	**7.71 351**	*e*Pn		**Pn**	**12 22 25.0 +1.5**
PCBR			*e*Sn		**Sn**	**12 23 48.8 -2.0**
MVO	**Moncorvo**	**8.97 355**	*e*Pn		**Pn**	**12 22 42.4 +1.5**

*IDC **26** 12:23:40.6±0.7,989S×15421E,h0km,mb4.3/15, mb1 4.4/17,mb1mx4.4/20,mbtmp4.3/17,ML3.8/2,MS3.3/2, Ms1 3.3/2,ms1mx2.7/25,Error ellipse: s-maj=21.1km s-min=15.1km az=104.0*

*ISCJB **26** 12:23:44.1±0.4,997S±005×15427E±006,h33km, mb4.7/35,MS4.5/6,Error ellipse: s-maj=9.6km s-min=7.2km az=28.8*

*BJI **26** 12:23:45.9,990S×15420E,h35km,mB4.9,mb4.7,Ms5.1, Msz4.9*

*NEIC **26** 12:23:46.0±0.3,991S×15422E,h35km,mb5.0/12,Error ellipse: s-maj=9.2km s-min=6.0km az=129.0*

ISC 26 12:23:42.2±2.1,991S±006×15425E±007,h7km±13km, h35km±.9km:pP-P,n59,σ1º05/60,mb4.7/35,MS4.5/6,2D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.64**	**86**	Pn	**Pn**	**12 25 05.9**	**-0.6**
	18nm,0.3s,baz=106,slow=7.7,SNR=10						
HNR	**Honiara**	**5.64**	**86**	*e*Pn	**Pn**	**12 25 06.1**	**-0.4**
	272nm,1.2s						
PMG	**Port Moresby**	**7.00**	**274**	P	**Pn**	**12 25 32.4**	**+7.2**
	118nm,1.3s						
CTA	**Charters Tower**	**12.72**	**216**	Pn	**Pn**	**12 26 43.0**	**-0.6**
	0.1nm,0.3s,baz=167,slow=19,SNR=1.7						
CTA				LR	LR	12 29 56.8	
	comp=Z,155nm,21.5s,baz=38,slow=30						
ARMA	**Armidale**	**20.55**	**186**	*e*P	**P**	**12 28 22.5**	**+1.1**
KAKA	**Kakadu**	**21.56**	**261**	⇓*i*P	**P**	**12 28 32.3**	**-0.2**
	101nm,1.5s,mb5.0						
WRAB	**Tennant Creek**	**21.63**	**240**	P	**P**	**12 28 33.5**	**+0.3**
	190nm,1.8s,mb5.2,SNR=11						
WRAB	**Tennant Creek**	**21.63**	**240**	*e*P	**P**	**12 28 33.5**	**+0.3**
	129nm,1.6s,mb5.1						
WB2	**Warramunga Arr**	**21.63**	**240**	*e*P	**P**	**12 28 33.6**	**+0.4**
WRA	**Warramunga Arr**	**21.64**	**240**	P	**P**	**12 28 33.5**	**+0.2**
	4.0nm,0.6s,mb4.0,baz=66,slow=11,SNR=28						
WRA				LR	LR	12 35 09.1	
	comp=Z,85nm,21.1s,MS3.1,baz=70,slow=32						
ASAR	**Alice Springs**	**23.75**	**232**	P	**P**	**12 28 55.2**	**-0.2**
	23nm,1.1s,mb4.5,baz=74,slow=9.2,SNR=68						
STKA	**Stephens Creek**	**24.80**	**206**	*e*P	**P**	**12 29 04.9**	**0.0**
	5.2nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**24.80**	**206**	P	**P**	**12 29 04.8**	**-0.1**
	7.1nm,0.9s,mb4.2,baz=8.5,slow=10,SNR=11						
GUMO	**Guam**	**25.14**	**338**	P	**P**	**12 29 07.5**	**-0.5**
	24nm,0.7s,mb4.9,baz=189,slow=13,SNR=2.9						
CNB	**Canberra Magne**	**25.68**	**189**	*e*P	**P**	**12 29 13.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**28.89**	**250**	*e*P	**P**	**12 29 42.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**28.89**	**250**	P	**P**	**12 29 40.9**	**-1.1**
	2.4nm,1.0s,mb3.9,baz=65,slow=23,SNR=3.8						
KSM	**Kuching**	**45.18**	**282**	*e*P	**P**	**12 31 59.3**	**-0.9**
MJAR	**Matsushiro Arr**	**48.61**	**343**	P	**P**	**12 32 25.3**	**-1.3**
	1.1nm,0.8s,mb3.9,baz=161,slow=7.7,SNR=4.1						
MAT	**Matsushiro**	**48.61**	**343**	P	**P**	**12 32 26.3**	**-0.3**
KSRS	**Korea Array**	**53.19**	**334**	P	**P**	**12 32 60.0**	**-1.1**
	1.5nm,0.9s,mb3.9,baz=146,slow=7.1,SNR=6.9						
NJ2	**Nanjing**	**53.72**	**322**	*e*P	**P**	**12 33 06.5**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
PSI	**Prapat**	**56.52**	**280**	P	**P**	**12 33 23.8**	**-2.0**
	comp=Z,2.4nm,0.4s,mb4.6,baz=103,slow=6.9,SNR=5.5						
GYA	**Guiyang**	**58.67**	**309**	P	**P**	**12 33 44.5**	**+3.9**
GYA				AP	pP	12 33 54.3	+12
GYA				XP	sP	12 33 59.5	+16
GYA				PCP	PcP	12 34 31.8	+1.2
GYA				PP	PP	12 35 56.0	+5.5
GYA				SCP	ScP	12 38 28.3	-3.5
GYA				S	**S**	**12 41 44.0**	**-1.8**
GYA				XS	sS	12 42 02.8	+13
GYA				SS	SS	12 45 40.3	+1.3
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
GYA				AMB	AMB		
	comp=Z,130nm,5.2s						
GYA				LR	LR		
	comp=N,540nm,18.2s,MS4.8						
GYA				LR	LR		
	comp=E,580nm,20.9s,MS4.8						
GYA				LR	LR		
	comp=Z,540nm,19.8s,MS4.7						
MDJ	**Mudanjiang**	**58.68**	**340**	P	**P**	**12 33 40.3**	**0.0**
MDJ				AP	pP	12 33 49.8	+7.3
MDJ				XP	sP	12 33 53.3	+10
MDJ				PP	PP	12 35 55.0	+4.7
MDJ				SCP	ScP	12 38 24.0	-7.4
MDJ				PCS	PcS	12 38 28.5	-3.2
MDJ				S	**S**	**12 41 47.5**	**+2.3**
MDJ				SCS	ScS	12 43 29.0	-1.7
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,21nm,3.6s						
CN2	**Changchun**	**59.52**	**336**	*e*P	**P**	**12 33 48.0**	**+1.8**
CN2				*e*XP	sP	12 34 02.0	+13
KMI	**Kunming**	**61.07**	**306**	P	**P**	**12 33 58.0**	**+0.8**
KMI				AP	pP	12 34 10.0	+11
KMI				XP	sP	12 34 15.8	+16
KMI				PP	PP	12 36 17.0	+5.2
KMI				S	**S**	**12 42 15.5**	**-1.3**
KMI				XS	sS	12 42 34.0	+14
KMI				SS	SS	12 46 18.3	+1.5
KMI				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.5						
KMI				AMB	AMB		
	comp=Z,72nm,3.7s						
CMAR	**Chiang Mai Arr**	**61.41**	**297**	P	**P**	**12 33 59.4**	**-0.2**
	comp=Z,3.7nm,0.9s,mb4.5,baz=114,slow=4.9,SNR=26						
CHTO	**Chiang Mai**	**61.55**	**298**	*e*P	**P**	**12 34 00.2**	**-0.2**
	comp=Z,17nm,1.3s,mb5.0						
PETK	**Petropavlovsk-**	**62.84**	**2**	P	**P**	**12 34 07.4**	**-1.1**
	comp=Z,5.2nm,0.8s,mb4.7,baz=217,slow=7.2,SNR=4.7						
CD2	**Chengdu**	**63.17**	**312**	*e*P	**P**	**12 34 13.3**	**+2.2**
CD2				AP	pP	12 34 23.3	+10
CD2				XP	sP	12 34 28.0	+14
CD2				PP	PP	12 36 34.3	+4.1
CD2				S	**S**	**12 42 42.0**	**-1.1**
CD2				XS	sS	12 42 59.0	+12
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
CD2				AMB	AMB		
	comp=Z,20nm,5.8s						
HHC	**Hu-ho-hao-te**	**64.02**	**325**	*e*P	**P**	**12 34 19.5**	**+2.9**
HHC				AP	pP	12 34 30.3	+12
HHC				XP	sP	12 34 34.0	+14
HHC				PP	PP	12 36 44.0	+6.5
HHC				PCS		12 38 57.3	
HHC				S	**S**	**12 42 55.3**	**+2.0**
HHC				SCS	ScS	12 44 06.5	-4.5
HHC				AMB	AMB		
	comp=Z,16nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,107nm,7.6s						
HHC				LR	LR		
	comp=N,85nm,16.7s,MS4.2						
HHC				LR	LR		
	comp=E,91nm,17.8s,MS4.2						
LZH	**Lanzhou**	**65.89**	**317**	⇓P	**P**	**12 34 29.8**	**+0.9**
LZH				AP	pP	12 34 40.3	+9.2
LZH				XP	sP	12 34 43.5	+12
LZH				PP	PP	12 36 58.0	+3.9
LZH				S	S	12 43 14.0	-2.6
LZH				XS	sS	12 43 30.3	+10
LZH				*e*SS	SS	12 47 29.5	-2.3
LZH				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,97nm,4.0s						
LZH				LR	LR		
	comp=E,503nm,15.6s						
LZH				LR	LR		
	comp=Z,879nm,18.7s,MS5.0						
SHL	**Shillong**	**70.16**	**302**	*e*P	**P**	**12 34 56.5**	**+0.6**
GTA	**Gaotai**	**70.38**	**318**	*e*P	**P**	**12 34 58.8**	**+1.8**
GTA				AP	pP	12 35 09.3	+10
GTA				XP	sP	12 35 13.0	+13
GTA				S	S	12 44 11.3	+1.3
GTA				XS	sS	12 44 28.3	+15
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.2						
GTA				AMB	AMB		
	comp=Z,72nm,4.8s						
GTA				LR	LR		
	comp=N,522nm,16.8s,MS5.0						
GTA				LR	LR		
	comp=E,449nm,16.8s,MS5.0						
GTA				LR	LR		
	comp=Z,614nm,17.4s,MS4.9						
ULN	**Ulaanbaatar**	**71.07**	**329**	*e*P	**P**	**12 35 00.3**	**-0.7**
	comp=Z,12nm,1.4s,mb4.6						
SONM	**Songino Array**	**71.39**	**328**	P	**P**	**12 35 03.4**	**+0.5**
	comp=Z,2.5nm,0.9s,mb4.1,baz=134,slow=5.8,SNR=13						
LSA	**Lhasa**	**72.33**	**305**	P	**P**	**12 35 08.0**	**-1.0**
QSPA	**South Pole Qui**	**80.08**	**180**	P	**P**	**12 35 52.2**	**0.0**
	comp=Z,12nm,1.1s,mb4.7,baz=3.2,slow=2.0,SNR=12						
WMQ	**Urumqi**	**80.46**	**318**	*e*P	**P**	**12 35 55.3**	**+0.5**
WMQ				AP	pP	12 36 05.5	+8.4
WMQ				XP	sP	12 36 09.5	+12
WMQ				PP	PP	12 39 00.5	+2.3
WMQ				S	S	12 45 58.0	-3.6
WMQ				SKS		12 46 05.8	
WMQ				XS	sS	12 46 15.3	+10
WMQ				SS	SS	12 51 13.5	-0.4
WMQ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,17nm,6.3s						
WMQ				LR	LR		
	comp=N,266nm,18.0s						
WMQ				LR	LR		
	comp=E,1μm,24.0s						
WMQ				LR	LR		
	comp=Z,719nm,21.6s,MS5.0						
SVW2	**Sparrevohn**	**80.96**	**22**	*e*P	**P**	**12 35 57.8**	**+0.7**
MAW	**Mawson**	**81.44**	**203**	P	**P**	**12 35 58.6**	**-1.1**
	comp=Z,3.8nm,0.9s,mb4.3,baz=118,slow=3.4,SNR=6.3						
SLKM	**Skilak Lake**	**82.69**	**24**	*e*P	**P**	**12 36 06.0**	**-0.3**
PMR	**Palmer**	**83.74**	**24**	*e*P	**P**	**12 36 09.8**	**-1.9**
	comp=Z,37nm,2.3s,mb5.1						
POO	**Poona**	**84.15**	**290**	*ex*	x	12 36 16.0	
KTH	**Kantishna Hill**	**84.19**	**22**	*e*P	**P**	**12 36 12.7**	**-1.3**
	comp=Z,20nm,1.6s,mb5.0						
MCK	**McKinley**	**85.02**	**22**	*e*P	**P**	**12 36 17.0**	**-1.1**
	comp=Z,19nm,1.1s,mb5.1						
MKAR	**Makanchi Array**	**85.10**	**319**	P	**P**	**12 36 17.7**	**-1.2**
	comp=Z,2.4nm,0.9s,mb4.3,baz=106,slow=6.4,SNR=15						
BMRM	**Bremner River**	**85.26**	**25**	*e*P	**P**	**12 36 19.8**	**+0.4**
COLA	**College**	**86.05**	**21**	P	**P**	**12 36 21.9**	**-1.4**
	comp=Z,5.9nm,1.0s,mb4.8						
HYT	**Haines Junctio**	**88.29**	**27**	*e*P	**P**	**12 36 36.2**	**+2.0**
EGAK	**Eagle**	**88.48**	**23**	*e*P	**P**	**12 36 35.0**	**+0.1**
	comp=Z,23nm,1.4s,mb5.2						
DAWY	**Dawson**	**88.85**	**24**	*e*P	**P**	**12 36 37.5**	**+0.7**
UCH	**Uchtor**	**89.09**	**313**	*e*P	**P**	**12 36 38.4**	**0.0**
	comp=Z,18nm,1.8s,mb5.1						
AML	**Almayashu**	**89.66**	**313**	P	**P**	**12 36 41.1**	**+0.1**
	comp=Z,10nm,1.3s,mb5.0						
NVAR	**Mina Array Bea**	**94.10**	**52**	P	**P**	**12 37 03.0**	**+1.2**
	comp=Z,1.4nm,0.9s,mb4.4,baz=250,slow=7.5,SNR=12						
BDFB	**Brasília**	**146.38**	**139**	PKPbc	PKPbc	12 43 23.9	-0.9
	comp=Z,4.7nm,0.9s,baz=147,slow=4.7,SNR=9.8						
TORD	**Torodi Ar. Bea**	**152.92**	**279**	PKPbc	PKPbc	12 43 39.9	-1.4
	comp=Z,2.0nm,1.0s,baz=63,slow=1.9,SNR=8.0						
TORD	**Torodi Ar. Bea**	**152.92**	**279**	PKPbc	PKPbc	12 43 39.9	-1.4

*DJA **26** 12:37:25,1747S×17438W,h61km,mB6.8/16*

*MOS **26** 12:37:26.4±0.8,1735S×17441W,h97km,mb5.9/43, MS5.2/21,Error ellipse: s-maj=8.0km s-min=5.7km az=135.1*

*ISCJB **26** 12:37:29.5±0.1,1744S±002×17437W±002,h126km, mb5.8/159,Error ellipse: s-maj=4.0km s-min=2.6km az=138.0*

*BGS **26** 12:37:29.6,1746S×17434W,h127km,mb5.9(NEIC)*

*BJI **26** 12:37:30.0,1685S×17411W,h118km,mB5.9,mb5.6*

*SZGRF **26** 12:37:30.4,1863S×17456W,h133km,Tonga Islands*

*IDC **26** 12:37:31.6±0.3,1744S×17452W,h128km±2km,mb5.4/31, mb1 5.4/31,mb1mx5.4/31,mbtmp5.4/31,MS5.0/20, Ms1 4.9/20,ms1mx4.7/26,Error ellipse: s-maj=9.0km s-min=7.2km az=151.0*

*GCMT **26** 12:37:31.2±0.1,1734S×17384W,h130km,MW6.1/109, Moment Tensor Solution. s109,c261; s106,c359; Duration: 2s6 Moment tensor: Scale 1018Nm; Mrr0.04±.01; Mθθ0.06±.01; Mφφ-0.09±.01; Mrθ-0.38±.01; Mθφ-0.03±.01; Mφr-1.44±.01; Best double couple: M0 1.49100×1018 NP1:φs352.00000°,δ1.00000°, λ67.00000°. NP2:φs195.00000°,δ89.00000°,λ91.00000°. Principal axes: T 1.4580, Plg46.0000°, Azm105.0000°; N 0.0660, Plg1.0000°, Azm15.0000°; P -1.5240, Plg44.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **26** 12:37:31.2±0.1,1746S×17434W,mb5.9/108,ME6.0 Error ellipse: s-maj=4.2km s-min=2.5km az=129.0 Broadband fault plane solution: P waves. NP1:φs195.00000°, δ5.00000°,λ-90.00000°. NP2:φs15.00000°,δ85.00000°, λ-90.00000°. Principal axes: T Plg40.0000°, Azm105.0000°; N Plg0.0000°, Azm0.0000°; P Plg50.0000°, Azm285.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Neiafu.

ISC 26 12:37:31.2±0.1,1748S±002×17433W±002,h128km, h128km±.5km:pP-P,n1199,σ0º91/526,mb5.7/158, 65C-112D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.31**	**35**	P	**Pn**	**12 38 27.8**	**-7.4**
	462nm,0.3s,baz=35,slow=2.3,SNR=256						
AFI				S	**Sn**	**12 39 10.9**	**-14**
	960nm,0.3s,baz=65,slow=21,SNR=4.4						
AFI	**Afiamalu**	**4.31**	**35**	⇓*i*Pn	**Pn**	**12 38 27.6**	**-7.6**
AFI				*e*Sn	**Sn**	**12 39 10.9**	**-14**
FUNA	**Funafuti**	**10.90**	**324**	*e*Pn	**Pn**	**12 40 06.0**	**+2.3**
	4μm,1.3s						
RAO	**Raoul Island**	**12.18**	**195**	P	**Pn**	**12 40 17.1**	**-3.2**
	115nm,0.3s,baz=78,slow=23,SNR=4.9						
RAO				S	**Sn**	**12 42 29.0**	**-5.6**
	302nm,0.3s,baz=263,slow=23,SNR=6.7						
RAO				LR	LR	12 44 19.7	
	comp=Z,2μm,21.0s,baz=10,slow=34						
RAO	**Raoul Island**	**12.18**	**195**	P	**Pn**	**12 40 17.1**	**-3.3**
RAO				S	**Sn**	**12 42 29.0**	**-5.6**
RAO				pmax	pmax		
	comp=Z,115nm,0.3s						
RAO				smax			
	comp=N,302nm,0.3s						
RAO	**Raoul Island**	**12.18**	**195**	*e*Pn	**Pn**	**12 40 17.6**	**-2.7**
RAR	**Rarotonga**	**14.23**	**107**	P	**Pn**	**12 40 43.1**	**-3.8**
	comp=N,55nm,0.3s,baz=264,slow=7.6,SNR=34						
RAR				S	**Sn**	**12 43 13.4**	**-11**
	comp=N,12nm,0.3s,baz=133,slow=14,SNR=3.2						
RAR				LR	LR	12 45 30.0	
	comp=N,4μm,19.6s,baz=301,slow=33						
RAR	**Rarotonga**	**14.23**	**107**	P	**Pn**	**12 40 43.2**	**-3.8**
RAR				S	**Sn**	**12 43 13.4**	**-11**
DZM	**Mont Dzumac**	**18.66**	**253**	*e*P	**P**	**12 41 40.6**	**+1.3**
OUZ	**Omahuta**	**20.69**	**209**	P	**P**	**12 42 01.8**	**+0.7**
WCZ	**Waipu Caves**	**20.96**	**206**	P	**P**	**12 42 05.4**	**+1.4**
MXZ	**Matakaoa Point**	**21.04**	**196**	P	**P**	**12 42 04.5**	**-0.3**
KUZ	**Kuaotunu**	**21.12**	**203**	P	**P**	**12 42 07.6**	**+2.0**
PUZ	**Puketiti**	**21.53**	**196**	P	**P**	**12 42 09.3**	**-0.7**
OTAZ	**Otara**	**21.60**	**204**	P	**P**	**12 42 12.8**	**+2.1**
MKAZ	**Moumakai**	**21.64**	**203**	P	**P**	**12 42 12.8**	**+1.6**
MWZ	**Matawai**	**21.97**	**197**	P	**P**	**12 42 14.3**	**-0.4**
URZ	**Urewera**	**22.02**	**198**	P	**P**	**12 42 14.0**	**-1.2**
	comp=N,227nm,0.5s,mb5.9,baz=45,slow=2.4,SNR=218						
URZ				S	**S**	**12 46 08.2**	**-1.4**
	comp=N,66nm,0.9s,baz=96,slow=21,SNR=6.4						
URZ	**Urewera**	**22.02**	**198**	P	**P**	**12 42 14.0**	**-1.3**
TARA	**Tarawa**	**22.54**	**325**	P	**P**	**12 42 20.1**	**-0.7**
KNZ	**Kokohu**	**22.57**	**196**	P	**P**	**12 42 21.4**	**+0.5**
HIZ	**Hauiti**	**23.00**	**202**	P	**P**	**12 42 26.6**	**+1.8**
BKZ	**Black Stump Fm**	**23.05**	**198**	P	**P**	**12 42 23.1**	**-2.1**
WPVZ	**Whakapapa**	**23.38**	**200**	P	**P**	**12 42 29.1**	**+0.8**
WNVZ	**Wahianoa**	**23.48**	**200**	P	**P**	**12 42 28.1**	**-1.1**
PAE	**Paea**	**23.59**	**94**	*e*P	**P**	**12 42 29.6**	**-0.8**
	comp=N,6μm,1.5s,mb6.9						
PAE				*e*pP		12 42 57.8	
	comp=N,5μm,1.5s						
PAE	**Paea**	**23.59**	**94**	*e*P	**P**	**12 42 29.6**	**-0.8**
PAE				*e**PP		12 42 57.8	
PAE				pmax	pmax		
	comp=Z,632nm,1.5s,mb5.9						
PPT	**Papeete**	**23.60**	**94**	*e*P	**P**	**12 42 30.1**	**-0.4**
	comp=Z,578nm,1.5s,mb5.9						
PPT				*e*LR	LR	12 47 46.4	
	comp=Z,29μm,34.2s,baz=266						
PPT	**Papeete**	**23.60**	**94**	P	**P**	**12 42 29.0**	**-1.6**
	comp=Z,289nm,1.1s,mb5.7,baz=237,slow=7.0,SNR=9.8						
PPT				LR	LR	12 49 47.4	
	comp=Z,4μm,20.2s,baz=266,slow=31						
TIAR	**Tiarei**	**23.82**	**94**	*e*P	**P**	**12 42 32.0**	**-0.5**
	comp=Z,9μm,1.6s,mb7.0						
TVO	**Taravao**	**23.90**	**95**	*e*P	**P**	**12 42 32.9**	**-0.3**
	comp=Z,9μm,1.4s,mb7.1						
TVO				*e*pP		12 43 01.1	
	comp=Z,9μm,1.4s						
TVO	**Taravao**	**23.90**	**95**	*e*P	**P**	**12 42 32.9**	**-0.3**
TVO				*e**PP		12 43 01.1	
TVO				pmax	pmax		
	comp=Z,900nm,1.4s,mb6.1						
TSZ	**Takapari Road**	**24.03**	**199**	P	**P**	**12 42 33.3**	**-0.9**
MRZ	**Mangatainoka R**	**24.70**	**199**	P	**P**	**12 42 39.0**	**-1.3**
MEH	**Mehetia**	**25.02**	**95**	*e*P	**P**	**12 42 43.4**	**0.0**
	comp=Z,20μm,1.3s						
KIW	**Kapiti Island**	**25.09**	**200**	P	**P**	**12 42 43.1**	**-0.7**
MTW	**Mount Morrison**	**25.18**	**198**	P	**P**	**12 42 44.1**	**-0.5**
CAW	**Cannon Point**	**25.26**	**199**	P	**P**	**12 42 44.7**	**-0.7**
MRW	**Makara Radio**	**25.49**	**199**	P	**P**	**12 42 46.6**	**-0.8**
PMOR	**Pomariorio Ree**	**25.49**	**88**	*e*P	**P**	**12 42 47.2**	**-0.5**
	comp=Z,4μm,1.4s,mb6.7						
SNZO	**South Karori**	**25.56**	**199**	P	**P**	**12 42 46.8**	**-1.3**
XMAS	**Kiritimati**	**25.56**	**42**	⇓*e*P	**P**	**12 42 46.6**	**-1.8**
	comp=Z,602nm,0.9s,mb6.2						
XMAS				*e*pP	pP	12 43 15.5	-0.2
TCW	**Tory Channel**	**25.61**	**200**	P	**P**	**12 42 47.4**	**-1.1**
QRZ	**Quartz Range**	**25.89**	**203**	P	**P**	**12 42 50.9**	**-0.1**
NNZ	**Nelson**	**25.92**	**202**	P	**P**	**12 42 49.3**	**-2.0**
HNR	**Honiara**	**26.24**	**284**	P	**P**	**12 42 53.6**	**-0.9**
	comp=Z,796nm,0.9s,mb6.4,baz=250,slow=2.3,SNR=106						
HNR	**Honiara**	**26.24**	**284**	*e*P	**P**	**12 42 54.9**	**+0.4**
HNR				pmax	pmax		
	comp=Z,2μm,1.0s,mb6.6						
HNR	**Honiara**	**26.24**	**284**	*e*P	**P**	**12 42 53.7**	**-0.9**
	comp=Z,1μm,1.0s,mb6.6						
THZ	**Tophouse**	**26.57**	**202**	P	**P**	**12 42 56.9**	**-0.2**
KHZ	**Kahutara**	**26.93**	**200**	P	**P**	**12 43 00.0**	**-0.4**
DSZ	**Denniston Nort**	**26.95**	**203**	P	**P**	**12 43 00.4**	**-0.2**
LTZ	**Lake Taylor**	**27.69**	**202**	P	**P**	**12 43 05.5**	**-1.6**
WVZ	**Waitaha Valley**	**28.50**	**203**	P	**P**	**12 43 12.9**	**-1.5**
RPZ	**Rata Peaks**	**28.93**	**202**	P	**P**	**12 43 17.9**	**-0.3**
	comp=Z,71nm,0.5s,mb5.6,baz=340,slow=3.1,SNR=52						
RPZ				LR	LR	12 52 00.2	
	comp=Z,675nm,20.9s,baz=201,slow=30						
RPZ	**Rata Peaks**	**28.93**	**202**	P	**P**	**12 43 16.9**	**-1.3**
FOZ	**Fox Glacier**	**29.32**	**204**	P	**P**	**12 43 19.9**	**-1.7**
LBZ	**Lake Benmore**	**29.83**	**203**	P	**P**	**12 43 24.9**	**-1.2**
JCZ	**Jackson Bay**	**30.11**	**205**	P	**P**	**12 43 27.5**	**-1.1**
ODZ	**Otahua Downs**	**30.23**	**201**	P	**P**	**12 43 32.2**	**+2.5**
WKZ	**Wanaka**	**30.64**	**204**	P	**P**	**12 43 31.5**	**-1.8**
EIDS	**Eidsvold**	**33.07**	**250**	*e*P	**P**	**12 43 57.9**	**+3.1**
ARMA	**Armidale**	**33.54**	**241**	⇓*i*P	**P**	**12 43 59.3**	**+0.5**
ARMA				*e*S	**S**	**12 49 11.1**	**-0.5**
TAOE	**Nuku Hiva Isla**	**34.32**	**80**	*e*P	**P**	**12 44 05.4**	**-0.3**
	comp=Z,6μm,1.4s,mb7.1						
TAOE				*e*LR	LR	12 52 50.3	
	comp=Z,37μm,32.5s						
RIV	**Riverview**	**34.91**	**236**	*e*P	**P**	**12 44 11.1**	**+0.5**
RIV				*e*pP	pP	12 44 42.0	+3.3
CNB	**Canberra Magne**	**36.80**	**234**	⇓*i*P	**P**	**12 44 26.6**	**-0.1**
CNB				*e*pP	pP	12 44 56.5	+1.5
CNB				*e*S	**S**	**12 49 58.7**	**-2.7**
CNB				*e*SCS	ScS	12 54 34.6	+6.1
CAN	**Canberra**	**37.08**	**234**	*e*P	**P**	**12 44 28.3**	**-0.8**
CAN				*e**PP	pP	12 44 57.9	+0.5
RKT	**Rikitea**	**37.25**	**105**	*e*P	**P**	**12 44 31.2**	**+0.5**
	comp=Z,649nm,1.4s,mb6.1						
RKT				*e*pP	pP	12 45 00.8	+1.7
	comp=Z,248nm,1.4s						
RKT				*e*LR	LR	12 54 12.9	
	comp=Z,12μm,34.5s,baz=276						
RKT	**Rikitea**	**37.25**	**105**	*e*P	**P**	**12 44 31.2**	**+0.5**
	comp=Z,649nm,1.4s,mb6.1						
RKT				*e*pP	pP	12 45 00.8	+1.7
CTA	**Charters Tower**	**37.35**	**260**	⇓*i*P	**P**	**12 44 30.7**	**-0.9**
	comp=Z,86nm,0.8s,mb5.4						
CTA				*e*pP	pP	12 45 01.3	+1.3
CTA				*e*SCP	ScP	12 50 27.7	+4.1
CTA				*e*SCS	ScS	12 54 36.2	+4.1
CTA	**Charters Tower**	**37.35**	**260**	P	**P**	**12 44 31.2**	**-0.3**
	baz=95,slow=12						
CTA				pP	pP	12 45 00.8	+0.9
	comp=Z,106nm,1.1s,baz=92,slow=11,SNR=3.7						
CTA				ScP	ScP	12 50 25.6	+2.0
	comp=Z,20nm,1.2s,baz=205,slow=3.2,SNR=3.7						
CTA				LR	LR	12 57 23.1	
	comp=Z,5μm,19.5s,baz=84,slow=32						
CTA	**Charters Tower**	**37.35**	**260**	⇓*i*P	**P**	**12 44 30.7**	**-0.9**
CTA				*e**PP	pP	12 45 01.3	+1.3
CTA				*e*		12 54 36.2	
CTA				pmax	pmax		
	comp=Z,86nm,0.8s						
CTAO	**Charters Tower**	**37.35**	**260**	*e*P	**P**	**12 44 30.8**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,160nm,0.9s,mb5.7						
CTAO	**Charters Tower**	**37.35**	**260

WRA S **S** **12 52 48.2 -5.4**
comp=Z,3.4nm,0.9s,baz=98,slow=12,SNR=3.9
WRA LR LR 13 04 48.7
comp=Z,3µm,19.4s,baz=90,slow=34
WRA Warramunga Arr 48.53 259 P **P** **12 46 00.2 -1.4**
WRA *PP pP 12 46 29.8 -1.4
WRA 12 47 27.6
WRA S **S** **12 52 48.2 -5.4**
ASAR Alice Springs 48.65 254 P **P** **12 46 02.0 -0.5**
comp=Z,515nm,0.9s,mb6.2,baz=89,slow=8.1,SNR=3973
ASAR pP pP 12 46 30.1 -1.9
comp=Z,46nm,0.7s,baz=88,slow=8.7,SNR=1.0
ASAR PcP PcP 12 47 27.8 +1.8
comp=Z,38nm,0.8s,baz=101,slow=5.6,SNR=4.2
ASAR S **S** **12 52 51.6 -3.5**
comp=Z,4.5nm,0.8s,baz=92,slow=16,SNR=7.8
ASAR PKPPKP 13 17 01.6
comp=Z,0.6nm,0.9s,baz=298,slow=2.7,SNR=4.3
ASAR Alice Springs 48.65 254 P **P** **12 46 02.0 -0.5**
ASAR 12 47 27.8
ASAR S **S** **12 52 51.6 -3.5**
GUMO Guam 50.74 305 P **P** **12 46 17.9 -0.4**
comp=Z,637nm,1.2s,mb6.1,baz=168,slow=8.8,SNR=28
GUMO PcP PcP 12 47 33.6 -0.1
comp=Z,122nm,0.9s,baz=133,slow=6.0,SNR=4.9
GUMO LR LR 13 05 35.5
comp=Z,985nm,18.7s,baz=119,slow=33
GUMO Guam 50.74 305 *eP* **P** **12 46 18.4 +0.1**
comp=Z,1µm,1.4s,mb6.3
KAKA Kakadu 51.49 267 ⇓ *iP* **P** **12 46 22.9 -1.1**
comp=Z,142nm,1.3s,mb5.4
FORT Forrest 53.71 244 ⇓ *iP* **P** **12 46 39.1 -1.0**
comp=Z,334nm,1.2s,mb6.0
FORT *e*pP pP 12 47 10.9 +0.6
FORT *e*S **S** **12 53 58.8 -5.7**
FITZ Fitzroy Crossi 56.94 259 ⇓ *iP* **P** **12 47 03.0 -0.4**
comp=Z,110nm,1.5s,mb5.5
FITZ *e*pP pP 12 47 35.2 +1.3
FITZ *e*S **S** **12 54 45.7 -2.1**
FITZ Fitzroy Crossi 56.94 259 P **P** **12 47 03.1 -0.3**
comp=Z,17nm,0.6s,mb5.1,baz=94,slow=9.0,SNR=73
FITZ pP pP 12 47 31.3 -2.6
comp=Z,7.2nm,0.5s,baz=170,slow=11,SNR=2.3
FITZ S **S** **12 54 45.1 -2.8**
comp=Z,3.2nm,1.1s,baz=187,slow=23,SNR=3.2
FITZ LR LR 13 08 47.8
comp=Z,4µm,21.5s,baz=95,slow=33
DRV Dumont d'Urvil 57.35 200 P **P** **12 47 10.0 +4.4**
DRV S **S** **12 54 57.0 +5.2**
DRV L 13 01 00.0
AAI Ambon 57.92 277 ⇓ *eP* **P** **12 47 07.0 -3.4**
AAI Ambon 57.92 277 P **P** **12 47 10.7 +0.3**
BATI Baumata 60.43 268 P **P** **12 47 28.1 +0.4**
comp=Z,93nm,0.6s,mb5.8,baz=106,slow=0.3,SNR=24
BATI S **S** **12 55 31.3 -1.9**
comp=Z,9.3nm,0.8s,baz=40,slow=6.9,SNR=2.0
BATI LR LR 13 11 30.0
comp=Z,2µm,21.2s,baz=317,slow=34
SBA Scott Base 61.12 184 *eP* **P** **12 47 34.9 +3.5**
SBA pmax pmax
comp=Z,100nm,0.8s,mb5.7
SBA Scott Base 61.12 184 *eP* **P** **12 47 34.9 +3.5**
comp=Z,103nm,0.8s,mb5.7
SBA *e*pP pP 12 48 03.0 +0.8
CBIJ Chichi jima 61.18 316 P **P** **12 47 31.6 -0.9**
comp=Z,127nm,0.6s,mb6.0,baz=182,slow=1.8,SNR=25
CBIJ LR LR 13 09 19.2
comp=Z,2µm,20.2s,baz=132,slow=31
MBWA Marble Bar 61.95 255 *eP* **P** **12 47 37.0 -0.8**
KLBR Kellerberrin 62.50 243 *eP* **P** **12 47 40.6 -0.8**
comp=Z,195nm,0.7s,mb6.0
NWAO Narrogin (SRO) 62.84 242 *eP* **P** **12 47 43.8 +0.2**
NWAO pmax pmax
comp=Z,81nm,0.8s
NWAO Narrogin (SRO) 62.84 242 *eP* **P** **12 47 43.5 -0.1**
comp=Z,82nm,0.8s,mb5.6
MATI Mati 63.50 287 *eP* **P** **12 47 47.3 -0.9**
MUN Mundaring 63.78 243 *eP* **P** **12 47 50.0 +0.2**
BIPH Bislig 63.90 289 ⇑ *iP* **P** **12 47 50.3 -0.5**
DAV Davao City (W) 64.17 287 P **P** **12 47 52.3 -0.3**
comp=Z,145nm,0.5s,mb6.1,baz=38,slow=7.9,SNR=7.1
DAV Davao City (W) 64.17 287 ⇓ *iP* **P** **12 47 50.8 -1.8**
BUTP Butuan 64.88 289 *eP* **P** **12 47 57.7 +0.5**
BUKP Musuan 64.95 288 *eP* **P** **12 47 59.1 +1.4**
SCPH Surigao 65.33 290 ⇑ *eP* **P** **12 48 00.7 +0.6**
KAPI Kappang 65.56 272 P **P** **12 48 01.3 -0.3**
comp=Z,536nm,1.1s,mb6.3,SNR=10.0
KAPI Kappang 65.56 272 *eP* **P** **12 48 00.9 -0.7**
MSLP Maasin 66.04 290 *eP* **P** **12 48 04.9 +0.3**
BESP Borongan 66.13 292 *eP* **P** **12 48 06.6 +1.3**
PLP Palo 66.36 291 ⇓ *eP* **P** **12 48 06.0 -0.6**
PAGZ Pagadian 66.47 287 *eP* **P** **12 48 08.1 +0.6**
OCLP Ormoc 66.64 291 *eP* **P** **12 48 08.9 +0.4**
JHJ Hachijo jima 2 66.72 319 P **P** **12 48 06.9 -1.7**
comp=Z,284nm,0.7s,mb6.2,baz=182,slow=6.4,SNR=34
JHJ pP pP 12 48 40.3 +0.3
comp=Z,420nm,1.1s,baz=184,slow=7.4,SNR=4.3
JHJ LR LR 13 14 32.5
comp=Z,630nm,18.0s,baz=314,slow=33
TBP Tagbilaran 66.76 289 *eP* **P** **12 48 09.6 +0.3**
IPIL Ipil 67.19 287 *eP* **P** **12 48 12.3 +0.3**
CNP Čataman 67.20 292 *eP* **P** **12 48 12.6 +0.5**
PVCP Virac 68.11 293 *eP* **P** **12 48 18.4 +0.7**
CASY Casey 68.16 205 ⇓ *iP* **P** **12 48 18.0 +0.8**
CASY *e*S S 12 57 08.1 +1.4
AMKA Amchitka 68.78 356 *eP* **P** **12 48 20.2 -0.9**
comp=Z,66nm,0.7s,mb5.5
OTRP Odiongan 69.49 291 *eP* **P** **12 48 26.4 +0.1**
CUYO Cuyo Island 69.79 289 *eP* **P** **12 48 28.2 +0.1**
MJAR Matsushiro Arr 69.96 321 P **P** **12 48 28.0 -0.7**
comp=Z,22nm,0.5s,mb5.1,baz=150,slow=5.7,SNR=136
MJAR pP pP 12 49 00.1 -0.2
comp=Z,43nm,1.1s,baz=155,slow=6.6,SNR=4.3
MJAR LR LR 13 14 14.2
comp=Z,477nm,21.9s,baz=125,slow=32
MJAR PKPPKP 13 16 31.2
comp=Z,0.5nm,0.7s,baz=308,slow=1.4,SNR=4.8
MJAR Matsushiro Arr 69.96 321 P **P** **12 48 28.0 -0.7**
MJAR *PP pP 12 49 00.1 -0.2
MAJO Matsushiro 69.96 321 *eP* **P** **12 48 28.2 -0.5**
MAJO pmax pmax
comp=Z,430nm,1.6s,mb5.9
MAJO Matsushiro 69.96 321 *eP* **P** **12 48 28.2 -0.5**
comp=Z,426nm,1.6s,mb5.9
MAT Matsushiro 69.96 321 P **P** **12 48 28.9 +0.2**
MAT S S 12 57 28.0 -0.7
TSM Tawau 70.28 281 ⇓ P **P** **12 48 32.2 +1.0**
NIKO Nikolski 70.31 4 *eP* **P** **12 48 29.0 -1.4**
comp=Z,3µm,0.6s,mb7.2
SJMP San Jose 70.33 291 *eP* **P** **12 48 31.8 +0.4**
SMY Shemya 70.63 353 *eP* **P** **12 48 31.7 -0.7**
SMY pmax pmax
comp=Z,392nm,1.0s,mb6.1
SMY Shemya 70.63 353 *eP* **P** **12 48 31.7 -0.7**
comp=Z,392nm,1.0s,mb6.1
BUSP Coron 70.98 290 *eP* **P** **12 48 35.8 +0.4**
JOW Kunigami 71.00 307 P **P** **12 48 36.1 +0.8**
comp=Z,116nm,1.1s,mb5.5,baz=136,slow=8.2,SNR=19
JOW LR LR 13 15 44.4
comp=Z,1µm,21.4s,baz=308,slow=32
PALP Palanan 71.10 295 *eP* **P** **12 48 36.8 +0.8**
YUK Yuzh-Kuril'sk 71.21 331 ⇓ *iP* **P** **12 48 35.5 -0.6**
YUK *e* pP 12 49 07.0 -0.8
YUK *i* S S 12 57 44.0 +1.1
YUK *e*PS 12 58 05.0
YUK *e*SS SS 13 02 20.0 +0.1
YUK smax
comp=N,4µm,7.0s
BALP Baler 71.28 294 *eP* **P** **12 48 37.6 +0.5**
UNV Unalaska Valle 71.35 5 *eP* **P** **12 48 34.9 -1.8**
comp=N,126nm,1.0s,mb5.6
ENPP El Nido 71.36 289 *eP* **P** **12 48 38.5 +0.8**
SDKM Sandakan 71.38 282 ⇓ P **P** **12 48 38.4 +0.6**
CAUP Cauayan 71.57 295 *eP* **P** **12 48 40.0 +1.2**
TRT Tretes 71.60 268 ⇑ *eP* **P** **12 48 38.0 -1.2**
PCPH Palayan 71.62 293 ⇓ *eP* **P** **12 48 40.2 +1.1**
LUBP Lubang 71.62 291 *eP* **P** **12 48 38.6 -0.6**
AKUT Akutan 71.69 5 *eP* **P** **12 48 37.2 -1.6**
BATP Bataraza 71.94 286 *eP* **P** **12 48 41.7 +0.5**
KDM Kudat 72.16 283 ⇓ P **P** **12 48 43.9 +1.3**
BCPH Baguio City Da 72.41 294 ⇓ *eP* **P** **12 48 43.7 -0.2**
KKM Kota Kinabalu 72.43 282 ⇓ P **P** **12 48 44.9 +0.7**
KKM Kota Kinabalu 72.43 282 *eP* **P** **12 48 44.7 +0.6**
APYP Conner 72.46 296 *eP* **P** **12 48 44.3 +0.1**

QSPA South Pole Qui 72.58 180 P **P** **12 48 46.0 +2.2**
comp=N,117nm,0.7s,mb5.7,baz=44,slow=2.0,SNR=585
QSPA pP pP 12 49 15.9 +0.3
comp=N,30nm,0.9s,baz=358,slow=1.5,SNR=1.8
QSPA South Pole Qui 72.58 180 P **P** **12 48 46.0 +2.2**
QSPA pP pP 12 49 15.9 +0.3
SKR Severo-Kuril's 72.67 341 *eP* **P** **12 48 42.5 -2.2**
SKR *e* 12 57 56.0
SAC San Andreas 73.35 41 *eP* **P** **12 48 49.2 +0.2**
SAC *e*PP pP 12 49 22.0 +1.1
MCCM Marconi Confer 73.41 40 *eP* **P** **12 48 49.3 -0.1**
comp=N,265nm,1.6s,mb5.7
SAO San Andreas Ge 73.46 42 *eP* **P** **12 48 49.8 +0.1**
SDPT Sand Point 73.48 8 *eP* **P** **12 48 48.6 -0.7**
comp=N,364nm,0.9s,mb6.1
PTRM Twissleman Ran 73.59 43 *eP* **P** **12 48 50.6 +0.1**
NSHM Saint Helena R 73.82 40 *eP* **P** **12 48 51.4 -0.4**
HOPS Hopland 73.83 39 *eP* **P** **12 48 51.8 0.0**
comp=N,417nm,1.4s,mb6.0
HOPS *e*pP pP 12 49 22.6 -1.1
KCPM Cahto Peak 73.97 38 *eP* **P** **12 48 52.9 +0.3**
PET Petropavlovsk 73.99 343 *eP* **P** **12 48 51.3 -1.1**
PET pmax pmax
comp=Z,470nm,1.8s,mb5.9
PET Petropavlovsk 73.99 343 *eP* **P** **12 48 51.1 -1.3**
comp=Z,469nm,1.8s,mb5.9
KIPM Iron Peak 74.10 38 *eP* **P** **12 48 53.6 +0.2**
MWC Mount Wilson 74.21 46 *eP* **P** **12 48 53.8 -0.3**
MWC *e*PP pP 12 49 25.5 -0.5
MWC pmax pmax
comp=Z,96nm,1.0s,mb5.5
MWC Mount Wilson 74.21 46 *eP* **P** **12 48 53.8 -0.3**
comp=Z,96nm,1.0s,mb5.5
MWC *e*pP pP 12 49 25.5 -0.5
BAR Barrett 74.32 48 *eP* **P** **12 48 54.2 -0.5**
PETK Petropavlovsk- 74.33 343 P **P** **12 48 53.9 -0.4**
comp=Z,143nm,0.6s,mb5.9,baz=108,slow=8.4,SNR=423
PETK LR LR 13 21 15.3
comp=Z,508nm,18.2s,baz=254,slow=35
BTM Bintulu 74.42 278 ⇓ P **P** **12 48 57.1 +1.3**
KHMM Horse Mountain 74.64 37 *eP* **P** **12 48 57.4 +0.9**
CHGN Chignik 74.70 9 *eP* **P** **12 48 56.0 -0.4**
YSS Yuzh-Sakhalins 74.85 331 κ *iP* **P** **12 48 57.6 +0.1**
YSS *i* *PP pP 12 49 29.6 +0.2
YSS *e* 12 51 44.0
YSS *i* S S 12 58 23.0 -0.9
YSS *e* 12 58 54.0
YSS *e*SS sS 12 59 18.0 -1.0
YSS *e*SS SS 13 03 14.0 -1.2
YSS pmax pmax
comp=Z,660nm,1.6s,mb6.0
YSS pmax pmax
comp=Z,1µm,8.0s
YSS smax
comp=E,600nm,14.0s
YSS smax
comp=N,2µm,16.0s
YSS MLR MLR
comp=Z,500nm,17.0s
YSS Yuzh-Sakhalins 74.85 331 *eP* **P** **12 48 57.8 +0.3**
comp=Z,130nm,0.8s,mb5.6
CMB Columbia Colle 74.90 41 *eP* **P** **12 48 57.9 -0.1**
CMB pmax pmax
comp=Z,710nm,2.3s,mb5.9
CMB Columbia Colle 74.90 41 *eP* **P** **12 48 57.9 -0.1**
comp=Z,711nm,2.3s,mb5.9
CMB *e*pP pP 12 49 30.8 +0.8
CMB *e*PP PP 12 51 44.7 -2.9
KRMB Red Mountain 74.96 37 *eP* **P** **12 48 58.9 +0.7**
KRMB *e*pP pP 12 49 31.0 +0.8
NACB Ninganchiao 74.96 302 *eP* **P** **12 48 58.2 -0.4**
comp=Z,593nm,1.4s,mb6.0
PFO Pinyon Flat Ob 74.98 47 P **P** **12 48 58.6 0.0**
comp=Z,284nm,1.5s,mb5.7,SNR=15
PFO Pinyon Flat Ob 74.98 47 *eP* **P** **12 48 58.2 -0.3**
PFO *e*pP pP 12 49 30.2 -0.3
SBUM Sibu 75.00 277 ⇓ P **P** **12 49 00.3 +1.2**
OHCM Honcut 75.01 40 *eP* **P** **12 48 58.2 -0.3**
WDC Whiskeytown Da 75.15 38 *eP* **P** **12 48 59.1 -0.3**
WDC *e*PP pP 12 49 31.6 +0.2
WDC pmax pmax
comp=Z,313nm,1.5s,mb5.7
WDC Whiskeytown Da 75.15 38 *eP* **P** **12 48 59.0 -0.3**
comp=Z,313nm,1.5s,mb5.7
WDC *e*pP pP 12 49 31.6 +0.2
MIR Mirnyy 75.18 204 *eP* **P** **12 49 00.0 +0.8**
MIR *i* 12 49 10.0
MIR *i* S S 12 58 30.0 +2.8
MIR *i* 12 59 02.0
MIR *i* 12 59 28.0
MIR *e*SS SS 13 03 24.0 +5.4
MIR pmax pmax
comp=Z,200nm,0.8s,mb5.8
KBO Bosley Butte 75.22 36 *eP* **P** **12 49 00.2 +0.5**
KBO *e*pP pP 12 49 32.6 +0.9
YHNB Yeheng 75.36 302 *eP* **P** **12 49 00.7 -0.2**
comp=Z,541nm,1.4s,mb6.0
TATO Taipei 75.41 302 *eP* **P** **12 49 00.1 -1.1**
KEBM Edson Butte 75.59 36 *eP* **P** **12 49 02.9 +1.1**
KEBM *e*pP pP 12 49 36.2 +2.3
MTUM Tungsten Hills 75.66 43 *eP* **P** **12 49 02.8 +0.5**
MTUM *e*pP pP 12 49 34.4 0.0
GSC Goldstone 75.67 45 *eP* **P** **12 49 02.5 0.0**
GSC pmax pmax
comp=Z,240nm,1.4s,mb5.6
GSC Goldstone 75.67 45 *eP* **P** **12 49 02.3 -0.2**
comp=Z,237nm,1.4s,mb5.6
WAKR Walker 75.78 41 *eP* **P** **12 49 03.4 +0.4**
YBH Yreka Blue Hor 75.78 37 *eP* **P** **12 49 03.6 +0.7**
YBH pmax pmax
comp=Z,180nm,1.1s
YBH Yreka Blue Hor 75.78 37 *eP* **P** **12 49 03.6 +0.6**
comp=Z,183nm,1.1s,mb5.6
YBH *e*pP pP 12 49 35.5 +0.5
GLA Glamis 75.83 48 *eP* **P** **12 49 03.7 +0.3**
GLA pmax pmax
comp=Z,230nm,1.5s,mb5.6
GLA Glamis 75.83 48 *eP* **P** **12 49 03.7 +0.3**
comp=Z,234nm,1.5s,mb5.6
GLA *e*pP pP 12 49 35.1 -0.3
LTIM Timbered Crate 76.14 38 P **P** **12 49 05.3 +0.3**
HUMO Hull Mountain 76.20 36 *eP* **P** **12 49 05.7 +0.4**
comp=Z,210nm,1.2s,mb5.6
HUMO *e*pP pP 12 49 37.8 +0.4
NVAR Mina Array Bea 76.46 42 P **P** **12 49 07.1 +0.3**
comp=Z,51nm,0.8s,mb5.2,baz=228,slow=9.4,SNR=271
NVAR pP pP 12 49 38.7 -0.3
comp=Z,72nm,1.1s,baz=219,slow=5.4,SNR=4.9
NVAR PKPPKP 13 16 15.9
comp=Z,0.2nm,0.6s,baz=114,slow=1.8,SNR=4.3
NVAR Mina Array Bea 76.46 42 P **P** **12 49 07.1 +0.3**
NVAR pP pP 12 49 38.7 -0.3
NVAR P'P' 13 16 15.9
OHAK Old Harbor 76.46 12 *eP* **P** **12 49 05.9 -0.5**
comp=Z,210nm,1.6s,mb5.5
KSM Kuching 76.50 276 ⇓ P **P** **12 49 08.9 +1.2**
KSM Kuching 76.50 276 *eP* **P** **12 49 08.6 +0.9**
PAHR Pah Rah Range 76.53 40 *eP* **P** **12 49 07.5 +0.3**
PAHR *e*pP pP 12 49 39.4 +0.1
BBOR Butler Butte 76.53 36 P **P** **12 49 07.3 +0.1**
LDFC Landfair 76.71 46 *eP* **P** **12 49 08.7 +0.4**
LDFC *e*pP pP 12 49 40.2 -0.3
TPH Tonopah 76.95 43 *eP* **P** **12 49 09.9 +0.3**
TPH pmax pmax
comp=Z,230nm,1.1s,mb5.7
TPH Tonopah 76.95 43 *eP* **P** **12 49 09.9 +0.3**
comp=Z,231nm,1.1s,mb5.7
TPH *e*pP pP 12 49 40.6 -1.1
TPNV Topopah Spring 76.96 44 *eP* **P** **12 49 10.0 +0.3**
TPNV pmax pmax
comp=Z,210nm,1.2s,mb5.6
TPNV Topopah Spring 76.96 44 *eP* **P** **12 49 10.0 +0.3**
comp=Z,209nm,1.3s,mb5.6
TPNV *e*pP pP 12 49 41.6 -0.2
KSRS Korea Array 77.02 316 P **P** **12 49 11.2 +1.1**
comp=Z,56nm,1.1s,mb5.1,baz=132,slow=5.5,SNR=108
KSRS pP pP 12 49 41.3 -0.9
comp=Z,7.9nm,1.0s,baz=117,slow=4.2,SNR=1.2
KSRS PKiKP PKiKP 12 54 51.6 +0.5
comp=Z,1.9nm,0.8s,baz=168,slow=1.6,SNR=6.2
KSRS LR LR 13 18 27.0
comp=Z,776nm,20.4s,baz=118,slow=32
KS15 Wonju Array Si 77.04 316 *eP* **P** **12 49 11.3 +1.1**
KDAK Kodiak Island 77.12 12 P **P** **12 49 10.0 -0.1**

comp=Z,699nm,1.1s,mb6.2,SNR=34
KDAK Kodiak Island 77.12 12 P **P** **12 49 10.1 -0.1**
comp=Z,97nm,1.0s,mb5.4,baz=201,slow=2.8,SNR=50
KDAK pP pP 12 49 41.6 -0.6
comp=Z,46nm,1.0s,baz=177,slow=4.1,SNR=2.4
KDAK Kodiak Island 77.12 12 *eP* **P** **12 49 09.6 -0.5**
COR Corvallis 77.28 35 *eP* **P** **12 49 12.1 +0.8**
COR Corvallis 77.28 35 *eP* **P** **12 49 11.4 +0.1**
MOD Modoc 77.29 38 *eP* **P** **12 49 11.7 +0.2**
MOD *e*pP pP 12 49 44.0 +0.4
SHPR Sheep Range 77.44 45 *eP* **P** **12 49 12.8 +0.3**
HEBO Mount Hebo 77.45 34 *eP* **P** **12 49 12.6 +0.4**
comp=Z,571nm,1.5s,mb6.0
XMIS Christmas Isla 77.49 263 *eP* **P** **12 49 12.9 -0.3**
MAIG Mazatlaan 77.67 61 *i* P **P** **12 49 14.0 0.0**
QZH Quanzhou 77.75 301 *i* P **P** **12 49 15.0 +0.6**
QZH AP pP 12 49 44.5 -2.0
QZH XP sP 12 49 59.0 -1.2
QZH S S 12 58 58.0 +1.5
QZH AMB AMB
comp=Z,280nm,1.1s,mb5.8
QZH AMB AMB
comp=Z,3µm,2.9s,mb6.4
INCN Inchon 77.89 316 *eP* **P** **12 49 15.6 +0.7**
INCN *e*pP pP 12 49 48.6 +1.6
VLA Vladivostok 77.90 323 *i* P **P** **12 49 14.5 -0.3**
VLA *e**PP pP 12 49 43.9 -3.1
VLA *e* 12 52 08.0
VLA *i* S S 12 58 59.5 +2.1
VLA pmax pmax
comp=Z,161nm,2.1s,mb5.3
VLA Vladivostok 77.90 323 ⇑ *iP* **P** **12 49 14.3 -0.5**
PINOR Pine Mountain 78.14 36 P **P** **12 49 16.6 +0.5**
BMN Battle Mountai 78.30 41 *eP* **P** **12 49 17.3 +0.3**
BMN pmax pmax
comp=Z,210nm,1.2s,mb5.6
BMN Battle Mountai 78.30 41 *eP* **P** **12 49 17.3 +0.3**
comp=Z,212nm,1.3s,mb5.6
BMN *e*pP pP 12 49 49.3 +0.1
TUC Tucson 78.39 51 *eP* **P** **12 49 18.3 +0.6**
TUC *e**PP pP 12 49 50.2 +0.2
TUC pmax pmax
comp=Z,529nm,1.9s,mb5.8
TUC Tucson 78.39 51 *eP* **P** **12 49 18.3 +0.6**
comp=Z,529nm,1.9s,mb5.8
TUC *e*pP pP 12 49 50.1 +0.2
SSE Sheshan 78.51 308 ⇓ P **P** **12 49 18.5 +0.1**
SSE PCP PcP 12 49 27.0 -0.1
SSE AP pP 12 49 51.5 +0.8
SSE XP sP 12 50 06.0 +1.7
SSE PP PP 12 52 18.3 +0.3
SSE S S 12 59 03.5 -0.9
SSE SCS ScS 12 59 26.3 -1.6
SSE XS sS 13 00 01.5 +1.5
SSE AMB AMB
comp=Z,42nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,848nm,8.4s
BMW Boistfort Moun 78.55 33 P **P** **12 49 18.6 +0.3**
BMW Boistfort Moun 78.55 33 *eP* **P** **12 49 18.3 0.0**
BMW *e*pP pP 12 49 50.4 -0.1
WVOR Wild Horse Val 78.60 39 P **P** **12 49 18.7 0.0**
WVOR pmax pmax
comp=Z,170nm,1.1s,mb5.6
WVOR Wild Horse Val 78.60 39 *eP* **P** **12 49 18.4 -0.2**
comp=Z,171nm,1.2s,mb5.5
WVOR *e*pP pP 12 49 51.0 +0.1
HOOD Mount Hood Mea 78.65 35 *eP* **P** **12 49 18.4 -0.4**
comp=Z,176nm,1.0s,mb5.7
HOOD *e*pP pP 12 49 51.3 +0.2
VIPM Ingram Point 78.71 36 P **P** **12 49 19.3 +0.1**
NLWA Neilton Lookou 78.82 32 *eP* **P** **12 49 20.0 +0.2**
NLWA *e*pP pP 12 49 52.6 +0.6
HDW Hoodsport 79.41 32 P **P** **12 49 23.3 +0.3**
SFJM Santa Fe 79.44 65 *i* P **P** **12 49 20.8 -2.9**
WUAZ Wupatki 79.55 48 *eP* **P** **12 49 24.6 +0.6**
comp=Z,272nm,1.5s,mb5.7
WUAZ *e*pP pP 12 49 56.5 +0.2
ZIIG Zihuatanejo 79.72 68 *i* P **P** **12 49 25.7 +0.4**
ELK Elko 79.72 41 P **P** **12 49 24.9 +0.1**
ELK pmax pmax
comp=Z,130nm,1.2s
ELK Elko 79.72 41 *eP* **P** **12 49 24.7 -0.1**
comp=Z,130nm,1.3s,mb5.4
ELK *e*pP pP 12 49 55.4 -1.7
SVW2 Sparrevohn 79.73 9 *eP* **P** **12 49 23.8 -0.6**
PGC Sidney 79.86 32 *eP* **P** **12 49 25.1 -0.2**
PGC *e*pP pP 12 49 57.7 0.0
SEW Seward 79.89 12 *eP* **P** **12 49 24.4 -0.9**
MID Middleton Isla 79.96 14 *eP* **P** **12 49 25.7 0.0**
SLKM Skilak Lake 80.11 12 P **P** **12 49 26.0 -0.4**
SLKM Skilak Lake 80.11 12 *eP* **P** **12 49 25.7 -0.8**
MDJ Mudanjiang 80.13 323 P **P** **12 49 27.8 +0.9**
MDJ AP pP 12 49 58.8 -0.5
MDJ XP sP 12 50 11.0 -1.9
MDJ S S 12 59 21.0 0.0
MDJ AMB AMB
comp=Z,110nm,1.5s,mb5.3
MDJ AMB AMB
comp=Z,1µm,7.7s
MDJ LR LR
comp=N,1µm,31.6s
MDJ LR LR
comp=Z,2µm,34.9s
JCW Jim Creek 80.33 33 *eP* **P** **12 49 27.6 -0.3**
JCW *e*pP pP 12 50 00.3 0.0
RSW Rattlesnake Hi 80.45 35 *eP* **P** **12 49 28.4 -0.2**
RSW *e*pP pP 12 50 01.1 +0.2
RSW *e*PP PP 12 52 32.0 -1.8
HAWA Hanford 80.48 35 *eP* **P** **12 49 28.6 -0.2**
HAWA *e*pP pP 12 50 01.3 +0.2
MSU Marysvale 80.52 45 *eP* **P** **12 49 30.1 +1.0**
MSU *e*pP pP 12 50 01.4 -0.1
CAIG El Cayaco 80.57 69 *i* P **P** **12 49 31.5 +1.6**
CRAG Craig 80.58 22 *eP* **P** **12 49 29.5 +0.4**
comp=Z,183nm,1.5s,mb5.5
NJ2 Nanjing 80.71 308 *eP* **P** **12 49 31.5 +1.2**
NJ2 AP pP 12 50 04.8 +2.1
NJ2 XP sP 12 50 15.0 -1.4
NJ2 PP PP 12 52 37.3 +1.0
NJ2 AMB AMB
comp=Z,100nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,700nm,10.2s
NJ2 LR LR
comp=N,550nm,18.9s
NJ2 LR LR
comp=E,2µm,16.8s
NJ2 LR LR
comp=Z,3µm,16.8s
RPW Rockport 80.71 33 *eP* **P** **12 49 29.1 -0.9**
FIB Fire Island 80.73 12 *eP* **P** **12 49 30.0 +0.3**
FIB pmax pmax
comp=Z,247nm,0.8s,mb5.9
FIB Fire Island 80.73 12 *eP* **P** **12 49 30.0 +0.3**
comp=Z,247nm,0.8s,mb5.9
MOIG Morelia 80.74 66 *i* P **P** **12 49 31.3 +0.6**
RC01 Rabbit Creek A 80.74 12 *eP* **P** **12 49 29.0 -0.8**
comp=Z,113nm,0.8s,mb5.5
ETW Entiat 80.80 34 *eP* **P** **12 49 29.9 -0.5**
ETW *e*pP pP 12 50 02.8 0.0
BMO Blue Mountains 80.81 37 *eP* **P** **12 49 30.1 -0.4**
comp=Z,391nm,1.8s,mb5.7
BMO *e*pP pP 12 50 02.7 -0.2
ACX Acapulco 80.82 69 *eP* **P** **12 49 29.0 -2.2**
LNOR Lincton Mounta 80.85 36 *eP* **P** **12 49 30.1 -0.6**
DUG Dugway 80.98 43 *eP* **P** **12 49 31.5 -0.1**
DUG Dugway 80.98 43 *eP* **P** **12 49 31.1 -0.4**
DUG *e*pP pP 12 50 04.0 0.0
SIT Sitka 81.06 20 *eP* **P** **12 49 31.7 +0.1**
EYAK Cordova Ski Ar 81.10 14 *eP* **P** **12 49 30.8 -0.9**
comp=Z,83nm,0.9s,mb5.4
RAGM Ragged Mountai 81.20 14 *eP* **P** **12 49 31.6 -0.6**
BGU Big Grassy Mou 81.22 42 *eP* **P** **12 49 32.3 -0.5**
PMR Palmer 81.32 12 *eP* **P** **12 49 31.7 -1.1**
PMR pmax pmax
comp=Z,259nm,1.6s,mb5.6
PMR Palmer 81.32 12 *eP* **P** **12 49 31.7 -1.1**
comp=Z,259nm,1.6s,mb5.6
NLU North Lily Min 81.33 43 *eP* **P** **12 49 33.4 -0.1**
GZH Guangzhou 81.35 297 P **P** **12 49 35.3 +1.4**
GZH S S 12 59 36.5 +1.9
GZH LR LR

comp=N,309nm,22.5s
GZH LR LR
comp=E,756nm,23.7s
GZH LR LR
comp=Z,2μm,36.1s
TTA Tatalina 81.42 8 *e*P **P 12 49 33.9 +0.5**
OD2 Odessa Site #2 81.53 35 *e*P **P 12 49 33.7 -0.6**
TMUT Trail Mountain 81.57 44 *e*P **P 12 49 35.2 +0.5**
TMUT *ep*P pP 12 50 06.0 -1.2
WRAK Wrangell Islan 81.60 22 *e*P **P 12 49 33.9 -0.6**
comp=Z,105nm,1.1s,mb5.4
DIV Divide 81.61 14 *e*P **P 12 49 34.0 -0.4**
comp=Z,232nm,0.7s,mb5.9
MPU Maple Canyon 81.66 44 *e*P **P 12 49 34.8 -0.4**
NOQ North Oquirrh 81.67 43 *e*P **P 12 49 34.8 -0.3**
NOQ *ep*P pP 12 50 05.8 -1.8
BMRM Bremner River 81.73 14 *e*P **P 12 49 34.2 -0.8**
PLIG Platanillo 81.74 68 *i*P **P 12 49 37.4 +1.3**
KLR Kul'dur 81.78 328α *i*P **P 12 49 31.8 -3.7**
KLR *e* pP 12 50 08.7 +0.7
KLR *e*S S 12 59 35.5 -2.3
KLR *e*PS 13 00 36.5
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,150nm,1.8s,mb5.3
KLR pmax pmax
comp=Z,1μm,8.0s
HLID Hailey 81.79 39 *e*P **P 12 49 36.2 +0.4**
comp=Z,475nm,1.8s,mb5.8
HLID *ep*P pP 12 50 08.5 +0.3
SPUT South Promonto 81.80 42 *e*P **P 12 49 35.6 -0.3**
SPUT *ep*P pP 12 50 08.3 0.0
HVU Hansel Valley 81.84 42 *e*P **P 12 49 36.2 +0.1**
HVU Hansel Valley 81.84 42 *e*P **P 12 49 35.9 -0.2**
HVU *ep*P pP 12 50 08.4 -0.1
CTU Camp Tracy 81.93 43 *e*P **P 12 49 37.7 +1.2**
comp=Z,118nm,1.2s,mb5.4
SRU San Rafael 81.93 45 *e*P **P 12 49 37.0 +0.4**
SRU San Rafael 81.93 45 *e*P **P 12 49 36.8 +0.1**
PPLA Purkeypile 81.97 10 *e*P **P 12 49 34.3 -2.0**
comp=Z,44nm,1.0s,mb5.0
DL2 Dalian 82.00 315 *i*P **P 12 49 38.0 +1.0**
DL2 AP pP 12 50 07.3 -2.1
DL2 XP sP 12 50 22.5 -0.5
DL2 S S 12 59 41.0 +0.4
DL2 AMB AMB
comp=Z,80nm,0.7s,mb5.5
DL2 AMB AMB
comp=Z,590nm,5.5s
LAZ Ladron 82.06 50 *e*P **P 12 49 38.3 +0.9**
LAZ *ep*P pP 12 50 10.6 +0.7
JLU Jordanelle 82.08 43 *e*P **P 12 49 37.3 -0.1**
JLU *ep*P pP 12 50 08.9 -0.9
CN2 Changchun 82.11 321 *e*P **P 12 49 37.8 +0.4**
CN2 *e*AP pP 12 50 09.5 -0.4
CN2 *e*PP PP 12 52 46.5 -1.0
CN2 *e*S S 12 59 35.3 -6.2
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,900nm,25.0s
CN2 LR LR
comp=E,700nm,25.0s
CN2 LR LR
comp=Z,2μm,27.0s
DAU Daniels Canyon 82.11 43 *e*P **P 12 49 37.9 +0.4**
DAU Daniels Canyon 82.11 43 *e*P **P 12 49 37.6 +0.1**
SNY Shenyang 82.21 318 ⇓P **P 12 49 38.8 +0.8**
SNY AP pP 12 50 07.0 -3.5
SNY XP sP 12 50 23.0 -1.1
SNY PP PP 12 52 45.8 -2.6
SNY S S 12 59 45.0 +2.4
SNY SS SS 13 05 08.8 +2.9
SNY AMB AMB
comp=Z,137nm,1.9s,mb5.3
SNY AMB AMB
comp=Z,1μm,11.8s
SNY LR LR
comp=N,711nm,16.5s
SNY LR LR
comp=Z,541nm,20.0s
PNIG Pinotepa 82.25 70 *i*P **P 12 49 37.6 -1.2**
BNM Barren Site 82.32 51 *e*P **P 12 49 39.4 +0.6**
BNM *ep*P pP 12 50 11.3 +0.1
LPM Los Pinos Moun 82.39 51 *e*P **P 12 49 39.9 +0.7**
LPM *ep*P pP 12 50 11.6 0.0
MVCO Mesa Verde 82.40 47 *e*P **P 12 49 39.4 +0.3**
comp=Z,436nm,2.1s,mb5.7
TXAR Lajitas Array 82.50 56 P **P 12 49 40.6 +0.8**
comp=Z,34nm,1.0s,mb5.0,baz=216,slow=6.2,SNR=254
TXAR pP pP 12 50 12.8 +0.5
comp=Z,46nm,1.2s,baz=221,slow=5.0,SNR=3.7
TXAR PKKPbc PKKPbc 13 08 06.8 +1.0
comp=Z,0.8nm,1.0s,baz=123,slow=4.6,SNR=4.4
TXAR PKPPKP 13 16 10.2
comp=Z,0.7nm,1.0s,baz=57,slow=4.6,SNR=4.7
TXAR Lajitas Array 82.50 56 P **P 12 49 40.6 +0.8**
TXAR *PP pP 12 50 12.8 +0.5
TXAR Lajitas Array 82.50 56 P **P 12 49 40.6 +0.8**
TXAR pP pP 12 50 12.8 +0.5
TXAR PKKPbc PKKPbc 13 08 06.8 +1.0
TXAR P'P' 13 16 10.2
HWUT Hardware Ranch 82.52 42 *e*P **P 12 49 39.4 -0.2**
PMSA Palmer Station 82.65 156 *e*P **P 12 49 41.1 +1.1**
comp=Z,283nm,1.9s,mb5.7
MYKOM **Kota Tinggi 82.74 274** ⇓P **P 12 49 42.6 +1.1**
PPM Popocatepetl 82.76 68 *i*P **P 12 49 43.5 +2.2**
KTH Kantishna Hill 82.80 10 *e*P **P 12 49 39.1 -1.5**
comp=Z,144nm,1.1s,mb5.6
ANMO Albuquerque 82.81 50 *e*P **P 12 49 41.9 +0.6**
ANMO pmax pmax
comp=Z,380nm,1.6s
ANMO Albuquerque 82.81 50 *e*P **P 12 49 41.8 +0.5**
comp=Z,381nm,1.6s,mb5.9
TRF Thorofare Moun 82.81 11 *e*P **P 12 49 39.7 -0.9**
comp=Z,231nm,0.8s,mb6.0
QIZ Qiongzhong 82.86 292 P **P 12 49 42.0 +0.1**
QIZ XP sP 12 50 25.3 -2.7
QIZ S S 12 59 50.0 -0.2
QIZ SS SS 13 05 15.8 -0.6
QIZ AMB AMB
comp=Z,53nm,1.9s,mb5.0
QIZ AMB AMB
comp=Z,1μm,9.7s
QIZ Qiongzhong 82.86 292 *e*P **P 12 49 42.9 +1.0**
comp=Z,248nm,1.8s,mb5.6
CHUM Lake Minchumin 82.88 10 *e*P **P 12 49 39.6 -1.3**
comp=Z,14μm,0.6s
NEW Newport 82.91 34 *e*P **P 12 49 40.6 -0.9**
NEW Newport 82.91 34 *e*P **P 12 49 40.4 -1.1**
NEW *ep*P pP 12 50 13.4 -0.6
TNA Tin City 82.92 3 *e*P **P 12 49 41.6 +0.5**
comp=Z,133nm,0.9s,mb5.7
SKAG Skagway 82.98 19 *e*P **P 12 49 41.9 +0.3**
comp=Z,391nm,2.0s,mb5.8
GDL2 Guadalupe Moun 83.17 53 *e*P **P 12 49 44.1 +0.9**
BPAW Bear Paw Mtn. 83.30 10 *e*P **P 12 49 40.9 -2.2**
comp=Z,177nm,0.8s,mb5.8
KGM Kluang 83.31 274 ⇑P **P 12 49 46.1 +1.7**
AHID Auburn Hatcher 83.41 41 *e*P **P 12 49 44.4 +0.2**
comp=Z,184nm,1.1s,mb5.7
AHID *ep*P pP 12 50 16.8 +0.1
MCMT McKenzie Canyo 83.42 39 *e*P **P 12 49 44.4 +0.3**
MCMT *ep*P pP 12 50 17.2 +0.4
WHN Wuhan 83.53 305 P **P 12 49 46.0 +0.9**
WHN S S 12 59 57.3 +0.8
WHN AMB AMB
comp=Z,4μm,2.6s,mb6.7
WHN LR LR
comp=N,3μm,23.6s
RRI2 Red Ridge 83.58 41 *e*P **P 12 49 45.2 +0.3**
RRI2 *ep*P pP 12 50 17.6 0.0
VHO Vista Hermosa 83.74 70 *i*P **P 12 49 47.3 +0.9**
DCID1 Drake Creek 83.79 41 *e*P **P 12 49 47.1 +1.0**
DLMT Dillon 83.86 39 *e*P **P 12 49 46.6 +0.3**
comp=N,334nm,1.4s,mb5.9
DLMT *ep*P pP 12 50 18.9 0.0
MSO Missoula 83.86 37 *e*P **P 12 49 45.1 -1.3**
MSO *ep*P pP 12 50 18.4 -0.5
REDW Red Top Meadow 83.88 41 *e*P **P 12 49 46.6 +0.1**
TPAW Teton Pass 83.88 41 *e*P **P 12 49 46.9 +0.3**
comp=N,264nm,1.1s,mb5.9
TPAW *ep*P pP 12 50 19.4 +0.3

DLBC Dease Lake 83.95 22 *e*P **P 12 49 46.5 0.0**
SNOW Snow King Moun 83.99 41 *e*P **P 12 49 47.5 +0.4**
SNOW *e*PP pP 12 50 18.3 -1.4
IMW Indian Meadow 84.10 41 *e*P **P 12 49 48.0 +0.3**
comp=N,228nm,1.0s,mb5.9
IMW *ep*P pP 12 50 20.8 +0.6
MOOW Moose Ponds 84.14 41 P **P 12 49 47.5 -0.4**
MOOW *ep*P pP 12 50 21.5 +1.0
LOHW Long Hollow 84.16 41 *e*P **P 12 49 48.0 +0.1**
comp=N,259nm,1.4s,mb5.8
LOHW *ep*P pP 12 50 19.6 -0.9
LRM Limekiln Ridge 84.19 38 *e*P **P 12 49 47.9 -0.2**
QLMT Earthquake Lak 84.28 40 *e*P **P 12 49 49.4 +0.9**
SEY Seymchan 84.28 345⇑ *e*P **P 12 49 47.6 -0.5**
CHMT Chamberlain Mo 84.31 37 *e*P **P 12 49 48.0 -0.6**
CHMT *ep*P pP 12 50 20.5 -0.7
FLWY Flagg Ranch 84.34 40 *e*P **P 12 49 49.4 +0.6**
SMCO Snowmass 84.38 46 *e*P **P 12 49 56.1 +6.9**
SMCO *ep*P pP 12 50 15.5 -6.3
BW06 Boulder Array 84.39 42 *e*P **P 12 49 48.9 -0.3**
comp=N,165nm,1.2s,mb5.6
BW06 *ep*P pP 12 50 21.0 -0.8
BW06 *e*PP PP 12 53 03.3 -3.0
PDAR Pinedale Array 84.39 42 P **P 12 49 48.8 -0.4**
comp=N,81nm,0.9s,mb5.5,baz=207,slow=2.7,SNR=369
PDAR pP pP 12 50 21.1 -0.7
comp=N,35nm,1.1s,baz=204,slow=3.3,SNR=2.8
PDAR PKKPbc PKKPbc 13 08 02.2 0.0
comp=N,1.1nm,0.9s,baz=72,slow=4.8,SNR=5.8
PDAR LR LR 13 24 00.9
comp=N,1μm,18.0s,baz=250,slow=33
YFT Old Faithful 84.44 40 *e*P **P 12 49 50.5 +1.1**
YMR Madison River 84.48 40 *e*P **P 12 49 50.3 +0.8**
comp=N,665nm,1.6s,mb6.1
YMR *ep*P pP 12 50 22.8 +0.6
COLA College 84.56 11 *i*P **P 12 49 49.0 -0.4**
COLA College 84.56 11 *e*P **P 12 49 48.9 -0.5**
comp=N,408nm,0.8s,mb6.2
BOZ Bozeman (W) 84.58 39 *e*P **P 12 49 50.0 0.0**
BOZ *ep*P pP 12 50 22.6 -0.1
YNR Norris Junctio 84.68 40 *e*P **P 12 49 51.4 +0.9**
IMA2 Indian Mountai 84.73 8 *e*P **P 12 49 50.3 0.0**
SDCO Great Sand Dun 84.76 48 *e*P **P 12 49 51.3 +0.2**
SDCO *ep*P pP 12 50 22.6 -1.1
LKWY Lake 84.77 40 *e*P **P 12 49 52.6 +1.6**
LKWY *e*PP pP 12 50 24.9 +1.2
LKWY pmax pmax
comp=Z,160nm,1.2s,mb5.6
LKWY Lake 84.77 40 *e*P **P 12 49 52.5 +1.5**
comp=Z,160nm,1.2s,mb5.6
LKWY *ep*P pP 12 50 24.9 +1.2
WALA Waterton Lakes 85.11 35 *e*P **P 12 49 52.3 -0.3**
comp=Z,371nm,1.8s,mb5.8
FRIM Kepong 85.29 275 ⇓P **P 12 49 55.4 +1.0**
RWWY Rawlins 85.40 44 *e*P **P 12 49 53.8 -0.4**
comp=Z,192nm,1.0s,mb5.8
RWWY *ep*P pP 12 50 26.5 -0.4
MAW Mawson 85.55 199⇓ *i*P **P 12 49 55.7 +1.1**
comp=Z,54nm,0.8s,mb5.3
MAW Mawson 85.55 199 P **P 12 49 56.1 +1.4**
comp=Z,62nm,0.7s,mb5.4,baz=130,slow=6.9,SNR=128
MAW LR LR 13 27 38.5
comp=Z,525nm,19.3s,baz=121,slow=35
MAW Mawson 85.55 199⇓ *i*P **P 12 49 55.7 +1.1**
MAW pmax pmax
comp=Z,54nm,0.8s
ISCO Idaho Springs 85.60 46 *e*P **P 12 49 55.4 +0.1**
ISCO *ep*P pP 12 50 27.9 -0.1
DAWY Dawson 85.64 15 *e*P **P 12 49 54.9 0.0**
RLMT Red Lodge 85.75 40 *e*P **P 12 49 55.7 -0.2**
RLMT *ep*P pP 12 50 28.9 +0.3
EGAK Eagle 85.83 14 *e*P **P 12 49 55.6 -0.2**
GCMT Greycliff 85.84 39 *e*P **P 12 49 56.2 0.0**
GCMT *ep*P pP 12 50 29.2 +0.2
JCT Junction City 86.03 57 *e*P **P 12 49 57.4 -0.2**
JCT Junction City 86.03 57 *e*P **P 12 49 57.0 -0.6**
IPM Ipoh 86.24 276 ⇑P **P 12 50 00.3 +1.2**
BJT Baijiatuau 86.25 314 *e*P **P 12 49 58.9 +0.5**
BJT pmax pmax
comp=Z,1μm,2.3s
BJT Baijiatuau 86.25 314 *e*P **P 12 49 58.9 +0.5**
comp=Z,1μm,2.3s,mb6.3
BJI Beijing 86.25 314 P **P 12 49 59.0 +0.5**
BJI AMB AMB
comp=Z,128nm,1.9s,mb5.3
BJI AMB AMB
comp=Z,2μm,3.6s
BJI LR LR
comp=N,375nm,23.5s
BJI LR LR
comp=E,869nm,22.9s
BJI LR LR
comp=Z,1μm,24.4s
COLD Coldfoot 86.32 9 *e*P **P 12 49 58.3 +0.1**
comp=Z,125nm,1.1s,mb5.6
AMTX Amarillo 86.32 52 *e*P **P 12 49 58.6 -0.4**
comp=Z,136nm,1.1s,mb5.6
AMTX *ep*P pP 12 50 31.1 -0.6
PHWY Pilot Hill 86.39 45 *e*P **P 12 49 58.7 -0.4**
BILL Bilibino 86.44 353 *d*/P **P 12 49 58.1 -0.6**
BILL *i* *PP pP 12 50 31.7 +0.2
BILL *e* 12 53 19.2
BILL *i*S S 13 00 16.6 -7.0
BILL *i*PPS 13 02 10.1
BILL *e*SS SS 13 06 12.1 +4.9
BILL pmax pmax
comp=Z,239nm,1.2s,mb5.8
BILL MLR MLR
comp=Z,400nm,18.0s
BILL Bilibino 86.44 353 *e*P **P 12 49 58.2 -0.6**
comp=Z,147nm,0.9s,mb5.7
BILL *ep*P pP 12 50 31.8 +0.2
KVTX Kingsville 86.47 60 *e*P **P 12 50 01.7 +1.8**
KULM Kulim 86.84 277 ⇑P **P 12 50 03.2 +1.3**
EGMT Eagleton 86.91 37 *e*P **P 12 50 00.8 -0.7**
CCIG Comitan 87.63 72 *i*P **P 12 50 07.1 +1.5**
EDM Edmonton 87.71 32 *e*P **P 12 50 04.5 -0.7**
EDM *ep*P pP 12 50 37.2 -0.8
PSI Prapat 87.73 274 P **P 12 50 06.3 +0.1**
comp=Z,128nm,1.2s,mb5.6,baz=181,slow=6.3,SNR=61
PSI pP pP 12 50 39.4 +0.2
comp=Z,40nm,1.1s,baz=200,slow=5.1,SNR=3.4
PSI Prapat 87.73 274 P **P 12 50 06.3 0.0**
PSI pP pP 12 50 39.4 +0.2
TIY Taiyuan 87.91 311 *i*P **P 12 50 07.8 +1.3**
TIY PP PP 12 53 31.0 -3.7
TIY S S 13 00 35.0 -4.0
TIY LR LR
comp=N,302nm,13.6s
TIY LR LR
comp=E,408nm,13.8s
TIY LR LR
comp=Z,2μm,37.2s
GYA Guiyang 88.23 298⇓ *i*P **P 12 50 08.3 0.0**
GYA AP pP 12 50 42.5 +1.3
GYA XP sP 12 50 54.0 -0.7
GYA SKS 13 00 23.8
GYA S S 13 00 40.3 -2.2
GYA XS sS 13 01 38.5 -0.8
GYA SS SS 13 06 37.0 +2.0
GYA AMB AMB
comp=Z,880nm,8.1s
GYA LR LR
comp=N,5μm,21.5s
GYA LR LR
comp=E,4μm,22.9s
GYA LR LR
comp=Z,4μm,20.6s
HIA Hailar 88.31 323 *e*P **P 12 50 08.3 +0.2**
HIA pmax pmax
comp=Z,293nm,1.5s
HIA Hailar 88.31 323 *e*P **P 12 50 08.3 +0.2**
comp=Z,293nm,1.5s,mb5.9
LAO LASA Array 88.36 40 *e*P **P 12 50 09.0 +0.6**
comp=Z,122nm,0.9s,mb5.7
WMOK Wichita Mounta 88.46 53 P **P 12 50 08.3 -0.9**
WMOK pmax pmax
comp=Z,46nm,1.5s,mb5.1
WMOK Wichita Mounta 88.46 53 *e*P **P 12 50 08.0 -1.2**
comp=Z,46nm,1.5s,mb5.1
RSSD Black Hills 88.58 43 P **P 12 50 08.9 -0.6**
RSSD pmax pmax
comp=Z,61nm,0.9s,mb5.5
RSSD Black Hills 88.58 43 *e*P **P 12 50 08.7 -0.8**
comp=Z,61nm,0.9s,mb5.5
PLCA Paso Flores 88.78 132 P **P 12 50 12.5 +1.8**
comp=Z,17nm,1.2s,mb4.8,baz=266,slow=4.9,SNR=16
PLCA *pP pP 12 50 45.4 +1.7
comp=Z,25nm,1.2s,baz=276,slow=5.9,SNR=5.5
PLCA PKKPbc PKKPbc 13 07 48.4 -2.2
comp=Z,3.9nm,0.9s,baz=133,slow=0.6,SNR=6.4
PLCA LR LR 13 24 33.6
comp=Z,1μm,18.1s,baz=259,slow=32
PLCA Paso Flores 88.78 132 P **P 12 50 12.5 +1.8**
PLCA *PP pP 12 50 45.4 +1.8
PLCA pmax pmax
comp=Z,17nm,1.2s
PLCA Paso Flores 88.78 132 *e*P **P 12 50 12.3 +1.6**
comp=Z,305nm,2.0s,mb5.9
PLCA *ep*P pP 12 50 45.3 +1.7
HKT Hockley 89.03 58 P **P 12 50 12.9 +0.9**
HKT Hockley 89.03 58 *e*P **P 12 50 12.2 +0.2**
comp=Z,727nm,1.8s,mb6.3
XAN Xi'an 89.12 306 P **P 12 50 13.3 +1.0**
XAN AP pP 12 50 45.5 +0.2
XAN XP sP 12 50 59.0 +0.2
XAN PP PP 12 53 41.8 -2.7
XAN SKS 13 00 28.8
XAN S S 13 00 49.5 -1.1
XAN XS sS 13 01 45.0 -2.5
XAN AMB AMB
comp=Z,85nm,1.5s,mb5.5
XAN AMB AMB
comp=Z,786nm,8.9s
XAN LR LR
comp=N,368nm,18.8s
XAN LR LR
comp=E,434nm,19.1s
XAN LR LR
comp=Z,716nm,21.9s
CCHI Chillan 89.19 128⇑ *e*P **P 12 50 12.7 0.0**
CBKS Cedar Bluff 89.32 49 *e*P **P 12 50 13.2 +0.1**
CBKS Cedar Bluff 89.32 49 *e*P **P 12 50 12.1 -1.0**
CLNS Chul'man 89.61 331 *d*/P **P 12 50 14.4 +0.4**
CLNS *e* *PP pP 12 50 43.3 -3.7
CLNS *e*S SKSac 13 00 27.0 -5.2
CLNS pmax pmax
comp=Z,120nm,0.8s,mb5.9
CLNS pmax pmax
comp=N,110nm,1.5s
CLNS pmax pmax
comp=E,45nm,1.2s
HHC Hu-ho-hao-te 89.78 313⇓ *i*P **P 12 50 16.3 +1.1**
HHC AP pP 12 50 49.3 +1.1
HHC XP sP 12 51 02.5 +0.8
HHC PP PP 12 53 52.5 +2.9
HHC SKS 13 00 32.0
HHC S S 13 00 54.5 -1.9
HHC XS sS 13 01 51.8 -1.6
HHC AMB AMB
comp=Z,71nm,1.0s,mb5.5
HHC LR LR
comp=N,321nm,17.8s
HHC LR LR
comp=E,843nm,20.2s
HHC LR LR
comp=Z,977nm,21.4s
DGMT Dagmar 90.39 39 *e*P **P 12 50 18.2 +0.3**
SYO Syowa Base 90.40 192⇓ *i*P **P 12 50 16.5 -1.2**
SYO Syowa Base 90.40 192⇑ *i*P **P 12 50 18.7 +1.0**
SYO Syowa Base 90.40 192⇓ *e*sP sP 12 51 03.0 -1.2
NATX Nacogdoches 90.60 57 *e*P **P 12 50 19.9 +0.7**
YAK Yakutsk 90.66 337 *d*/P **P 12 50 17.3 -1.5**
YAK *e* *PP pP 12 50 49.9 -1.9
YAK *e* 12 53 49.7
YAK *e*PPP 12 55 49.5
YAK *e*S SKSac 13 00 34.7 -3.4
YAK *e* 13 00 57.7
YAK pmax pmax
comp=Z,77nm,0.7s,mb5.8
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,6.0nm,0.7s
YAK pmax pmax
comp=Z,294nm,4.3s
YAK pmax pmax
comp=N,191nm,4.5s
YAK pmax pmax
comp=E,196nm,5.2s
YAK smax
comp=N,182nm,2.2s
YAK smax
comp=E,110nm,2.5s
YAK Yakutsk 90.66 337 *e*P **P 12 50 16.9 -1.9**
BTO Baotou 90.77 312 *e*P **P 12 50 19.8 0.0**
VNA3 Neumayer Olymp 90.88 175 *e*P **P 12 50 20.6 +0.7**
VNA3 *e* 12 50 21.7
SNAA Sanae 90.89 177 *e*P **P 12 50 20.3 +0.4**
SNAA *e* 12 50 21.6
KMI Kunming 91.12 296 P **P 12 50 24.0 +2.2**
KMI AP pP 12 50 55.5 +0.7
KMI XP sP 12 51 08.8 +0.5
KMI PP PP 12 53 57.3 -3.3
KMI SKS 13 00 44.8
KMI S S 13 01 08.0 -1.3
KMI XS sS 13 02 03.0 -3.5
KMI AMB AMB
comp=Z,96nm,1.8s,mb5.5
KMI AMB AMB
comp=Z,978nm,6.2s
KMI LR LR
comp=N,241nm,20.5s
KMI LR LR
comp=E,645nm,21.6s
VNA2 Neumayer--Watz 91.36 176 *e*P **P 12 50 23.2 +1.1**
VNA2 *e* 12 50 24.4
TGUH Tegucigalpa,Un 91.40 76 *e*P **P 12 50 23.1 -0.2**
VNA1 Neumayer--Stat 91.57 175 *e*P **P 12 50 24.4 +1.3**
VNA1 *e* 12 50 25.7
KSU1 Kansas State U 91.69 50 *e*P **P 12 50 23.8 -0.3**
comp=E,69nm,0.8s,mb5.7
FCH Farellones 91.75 126⇑ *e*P **P 12 50 25.9 +1.2**
MAIT Maitri 91.88 182 *e*P **P 12 50 23.7 -0.8**
NVL N'lazarevskaya 91.89 182 *c*/P **P 12 50 25.8 +1.3**
NVL *e* 13 01 16.0
NVL pmax pmax
comp=Z,79nm,1.3s,mb5.6
CD2 Chengdu 92.13 302⇓ *i*P **P 12 50 26.5 +0.1**
CD2 AP pP 12 50 59.3 -0.1
CD2 XP sP 12 51 12.5 -0.4
CD2 PP PP 12 54 10.8 +2.4
CD2 SKS 13 00 46.3
CD2 S S 13 01 15.5 -2.7
CD2 XS sS 13 02 10.5 -4.9
CD2 SS SS 13 07 32.0 +0.8
CD2 AMB AMB
comp=Z,40nm,1.3s,mb5.3
CD2 AMB AMB
comp=Z,200nm,5.9s
CD2 LR LR
comp=N,650nm,20.4s
CD2 LR LR
comp=E,990nm,20.4s
CD2 LR LR
comp=Z,1μm,22.8s
TEIG Tepich 92.34 70 *e*P **P 12 50 26.9 -0.7**
YKA Yellowknife Ar 92.34 24 P **P 12 50 26.2 -0.4**
comp=Z,6.6nm,0.7s,mb4.8,baz=239,slow=4.1,SNR=28
YKA *pP pP 12 50 60.0 +0.4
comp=Z,32nm,1.2s,baz=236,slow=4.4,SNR=5.9
YKA Yellowknife Ar 92.34 24 P **P 12 50 26.2 -0.4**
YKA *pP pP 12 50 60.0 +0.4
YKW3 Yellowknife Ar 92.38 24 *e*P **P 12 50 25.3 -1.4**
MIAR Mount Ida 92.40 55 *e*P **P 12 50 27.7 +0.2**
CMAR Chiang Mai Arr 92.42 288 P **P 12 50 29.3 +1.3**
comp=Z,36nm,0.9s,mb5.4,baz=106,slow=2.4,SNR=76
CMAR pP pP 12 50 59.0 -2.0
comp=Z,7.7nm,0.9s,baz=95,slow=3.6,SNR=1.9
CMAR PKKPbc PKKPbc 13 07 42.6 +1.3
comp=Z,1.7nm,0.8s,baz=284,slow=4.9,SNR=7.4
TLL Tololo Astrono 92.52 123⇑ *e*P **P 12 50 30.3 +1.9**
CHTO Chiang Mai 92.53 289 *e*P **P 12 50 28.7 +0.2**
LCO Las Campanas 93.03 122 *e*P **P 12 50 32.9 +2.2**
comp=Z,536nm,2.0s,mb6.3
LCO *ep*P pP 12 51 05.3 +1.5
CIT Chita 93.07 324 *e*P **P 12 50 30.6 +0.4**
CIT *e* pP 12 51 03.7 +0.5

CIT e 12 54 10.1
CIT pmax pmax
comp=Z,345nm,1.7s,mb6.2
ECSD EROS,Sioux Fal 93.34 45 *e*P **P 12 50 30.3 -1.4**
ECSD *e*pP pP 12 51 04.5 -0.2
UALR University of 93.43 55 *e*P **P 12 50 32.5 +0.2**
NNA Nana 93.44 104 P **P 12 50 41.0 +8.2**
comp=Z,9μm,0.4s
ATAH Atahualpa 93.54 98 P **P 12 50 35.8 +2.4**
comp=Z,12nm,1.0s,mb5.0,baz=244,slow=4.8,SNR=8.7
ATAH pP pP 12 51 08.8 +2.5
comp=Z,5.7nm,0.8s,baz=237,slow=6.9,SNR=2.2
LZH Lanzhou 93.73 307 ||P **P 12 50 35.0 +1.3**
LZH AP pP 12 51 05.5 -1.2
LZH XP sP 12 51 21.5 +1.3
LZH PP PP 12 54 19.3 -1.6
LZH SKS 13 00 54.3
LZH S S 13 01 27.0 -5.1
LZH XS sS 13 02 27.8 -1.7
LZH SS SS 13 07 52.5 -1.5
LZH AMB AMB
comp=Z,79nm,1.1s,mb5.8
LZH AMB AMB
comp=Z,1μm,8.7s
LZH LR LR
comp=N,547nm,15.9s
LZH LR LR
comp=Z,878nm,19.5s
CFAA Coronel Fontan 94.02 125 P **P 12 50 36.7 +1.5**
comp=Z,5.1nm,1.1s,mb4.6,baz=248,slow=3.9,SNR=32
CFAA pP pP 12 51 09.0 +0.8
comp=Z,7.7nm,1.2s,baz=210,slow=2.3,SNR=7.8
CFAA PKKPbc PKKPbc 13 07 36.6 -0.5
comp=Z,0.2nm,0.3s,baz=47,slow=2.7,SNR=19
CFAA Coronel Fontan 94.02 125 P **P 12 50 36.7 +1.5**
CFAA pP pP 12 51 09.0 +0.8
CFAA PKKPbc PKKPbc 13 07 36.6 -0.5
VBMS Vicksburg 94.08 58 *e*P **P 12 50 35.9 +0.5**
comp=Z,462nm,1.6s,mb6.4
FFC Flin Flon 94.31 34 P **P 12 50 36.4 +0.6**
FFC pmax pmax
comp=Z,26nm,1.6s,mb5.1
FFC Flin Flon 94.31 34 *e*P **P 12 50 35.8 0.0**
comp=Z,26nm,1.6s,mb5.1
HBAR Harrisburg 94.99 54 *e*P **P 12 50 40.0 +0.6**
SCIA State Center 95.08 48 *e*P **P 12 50 39.0 -0.7**
BOD Bodaibo 95.25 329 *e*P **P 12 50 38.0 -2.0**
BOD *e* 13 01 00.1
BOD pmax pmax
comp=Z,17nm,1.2s,mb5.2
AGMN Agassiz Refuge 95.44 41 *e*P **P 12 50 39.3 -1.9**
comp=Z,194nm,1.5s,mb6.1
GNAR Gosnell 95.61 54 *e*P **P 12 50 42.3 +0.1**
OXF Oxford 95.65 56 P **P 12 50 42.8 +0.3**
OXF pmax pmax
comp=Z,75nm,1.3s,mb5.9
OXF Oxford 95.65 56 *e*P **P 12 50 41.8 -0.7**
comp=Z,76nm,1.3s,mb5.9
SONM Songino Array 95.79 318 P **P 12 50 42.9 +0.1**
comp=Z,5.8nm,0.8s,mb5.0,baz=131,slow=4.8,SNR=18
SONM pP pP 12 51 15.7 -0.1
comp=Z,0.9nm,0.4s,baz=142,slow=7.4,SNR=1.4
SONM PP PP 12 54 32.0 -4.6
comp=Z,3.3nm,1.0s,baz=106,slow=7.2,SNR=3.4
SONM PKPPKP 13 15 44.9
comp=Z,0.3nm,0.6s,baz=289,slow=4.5,SNR=4.7
SONM LR LR 13 29 37.1
comp=Z,654nm,20.6s,baz=123,slow=33
SONM Songino Array 95.79 318 P **P 12 50 42.9 +0.1**
SONM *PP pP 12 51 15.7 -0.1
SONM 12 54 32.0
FVM French Village 95.90 52 *e*P **P 12 50 43.2 -0.3**
PARMO Parma 96.02 54 P **P 12 50 44.3 +0.2**
ULM Lac du Bonnet 96.09 39 P **P 12 50 43.5 -0.5**
comp=Z,19nm,0.9s,mb5.4,baz=254,slow=3.8,SNR=21
ULM pP pP 12 51 15.8 -1.3
comp=Z,44nm,1.4s,baz=226,slow=4.1,SNR=3.9
ULM Lac du Bonnet 96.09 39 *e*P **P 12 50 42.5 -1.6**
comp=Z,112nm,1.6s,mb5.9
HALT Halls 96.12 54 *e*P **P 12 50 45.2 +0.7**
GLAT Glass 96.26 54 P **P 12 50 45.1 -0.1**
BRAL Brewton 96.54 60 *e*P **P 12 50 47.1 +0.5**
UTMT University of 96.61 54 *e*P **P 12 50 47.6 +0.8**
SIUC Southern Illin 96.73 53 *e*P **P 12 50 46.9 -0.4**
TIXI Tiksi 96.75 345*d i*P **P 12 50 45.7 -0.9**
TIXI *e**PP pP 12 51 17.3 -2.4
TIXI *e* 12 54 38.2
TIXI *e*S SKSac 13 01 10.1 -0.8
TIXI *e* 13 01 55.0
TIXI *e*SP SP 13 03 18.1 0.0
TIXI *e*SS SS 13 08 31.2 -3.9
TIXI pmax pmax
comp=Z,44nm,1.0s,mb5.7
TIXI pmax pmax
comp=N,6.0nm,1.1s
TIXI pmax pmax
comp=E,11nm,1.0s
TIXI pmax pmax
comp=Z,118nm,8.1s
TIXI Tiksi 96.75 345 *e*P **P 12 50 45.6 -1.0**
comp=Z,39nm,0.9s,mb5.7
TIXI *e*pP pP 12 51 19.1 -0.5
PLAL Pickwick Lake 96.84 56 *e*P **P 12 50 46.8 -1.1**
comp=Z,38nm,1.3s,mb5.6
LVC Limon Verde 96.91 116 P **P 12 50 50.1 +1.6**
comp=Z,17nm,1.1s,mb5.3,baz=261,slow=4.3,SNR=7.0
LVC pP pP 12 51 23.4 +1.8
comp=Z,6.6nm,0.9s,baz=220,slow=5.0,SNR=2.8
LVC Limon Verde 96.91 116 *e*P **P 12 50 51.4 +2.8**
comp=Z,102nm,1.8s,mb5.9
JFWS Jewell Farm 97.48 47 *e*P **P 12 50 49.6 -0.9**
GTA Gaotai 97.78 309 ||P **P 12 50 52.5 +0.5**
GTA AP pP 12 51 25.0 -0.1
GTA XP sP 12 51 39.0 +0.5
GTA SKS 13 01 17.3
GTA S S 13 02 06.8 -0.1
GTA XS sS 13 03 04.0 -0.5
GTA AMB AMB
comp=Z,18nm,1.6s,mb5.2
GTA AMB AMB
comp=Z,281nm,5.7s
GTA LR LR
comp=N,886nm,23.4s
GTA LR LR
comp=E,707nm,22.8s
GTA LR LR
comp=Z,1μm,25.2s
OLIL Olney 97.87 52 *e*P **P 12 50 52.0 -0.4**
comp=Z,19nm,0.9s,mb5.5
USIN University of 97.98 53 *e*P **P 12 50 53.1 +0.2**
EYMN Ely 98.10 42 *e*P **P 12 50 51.5 -1.7**
comp=Z,35nm,1.1s,mb5.7
EYMN *e*pP pP 12 51 22.8 -3.5
EYMN *e*PP PP 12 54 49.6 -4.6
IRK Irkutsk 98.49 322 *e*P **P 12 50 53.9 -0.9**
IRK *e* 12 54 52.5
IRK pmax pmax
comp=Z,31nm,1.9s,mb5.4
ZAK Zakamensk 98.53 320 *e*P **P 12 50 53.9 -1.2**
ZAK *e* pP 12 51 27.8 -0.4
ZAK *e* 12 54 52.4
ZAK *e* 13 01 20.6
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.8
SWET Sewanee 98.59 56 *e*P **P 12 50 54.8 -1.0**
TLY Talaya 98.69 321 *e*P **P 12 50 53.3 -2.4**
TLY *e* 12 54 52.2
TLY *e* 13 01 19.0
TLY *e*S S 13 02 15.0 +1.0
TLY *e*PS PS 13 03 55.1 -1.3
TLY pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
TLY Talaya 98.69 321 *i* P **P 12 50 55.2 -0.5**
WCI Wyandotte Cave 99.10 53 P **P 12 50 57.7 -0.2**
WCI pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
WCI Wyandotte Cave 99.10 53 *e*P **P 12 50 57.4 -0.5**
comp=Z,6.6nm,0.9s,mb5.1
COWI Conover 99.13 45 *e*P **P 12 50 57.1 -0.7**
comp=Z,76nm,1.1s,mb6.0
COWI *e*pP pP 12 51 28.9 -2.1
BLO Bloomington 99.17 52 *e*P **P 12 50 57.9 -0.3**
BLO Bloomington 99.17 52 *e*P **P 12 50 57.6 -0.6**
CPCT Cooper Cave 99.77 56 *e*Pdif Pdif 12 51 00.4 -0.3

LPAZ La Paz 99.93 111 P Pdif 12 51 03.5 +2.1
comp=Z,1.9nm,0.9s,baz=282,slow=2.5,SNR=6.5
LPAZ pP pP 12 51 37.2 +1.9
comp=Z,5.6nm,1.2s,baz=275,slow=6.8,SNR=4.8
LPAZ La Paz 99.93 111 *e*Pdif Pdif 12 51 04.4 +3.0
comp=Z,136nm,2.8s
GOGA Godfrey 100.11 58 P Pdif 12 51 02.7 +0.5
GOGA pmax pmax
comp=Z,10.0nm,0.7s
GOGA Godfrey 100.11 58 *e*Pdif Pdif 12 51 01.5 -0.7
comp=Z,9.9nm,0.7s
TKL Tuckaleechee C 100.41 56 P Pdif 12 51 03.5 0.0
TKL Tuckaleechee C 100.41 56 *e*P Pdif 12 51 02.6 -0.9
SHL Shillong 100.67 293 *e*P Pdif 12 51 07.0 +2.3
SHL *e*S SKSac 13 01 34.0 +1.5
TZTN Tazewell 100.80 55 *e*Pdif Pdif 12 51 04.3 -0.9
comp=Z,38nm,1.4s
ROSC El Rosal 100.96 88 P Pdif 12 51 08.6 +2.6
comp=Z,5.2nm,0.4s,baz=103,slow=20,SNR=4.3
CPUP Villa Florida 104.90 124 PKKPbc PKKPbc 13 07 06.3 -0.2
comp=Z,0.3nm,0.4s,baz=42,slow=4.2,SNR=4.1
SIV San Ignacio 106.30 113 Pdiff Pdif 12 51 31.5 +1.8
comp=Z,1.3nm,1.0s,baz=216,slow=5.7,SNR=4.7
SIV PKKPbc PKKPbc 13 07 00.9 -1.2
comp=Z,3.9nm,0.9s,baz=71,slow=5.0,SNR=10
WMQ Urumqi 107.57 311 PDIF Pdif 12 51 35.3 0.0
WMQ PP PP 12 56 07.3 +2.2
WMQ S Sdif 13 03 20.8 -7.5
WMQ PP PP
comp=Z,351nm,10.0s
WMQ LR LR
comp=N,819nm,21.6s
WMQ LR LR
comp=E,623nm,24.0s
WMQ LR LR
comp=Z,739nm,24.6s
ZALV Zalesovo Beam 110.30 322 PKiKP PKiKP 12 55 47.2 -0.5
comp=Z,9.2nm,0.6s,baz=108,slow=0.5,SNR=23
ZALV PKKPab PKKPab 13 06 59.8 +0.8
comp=Z,1.9nm,0.8s,baz=270,slow=3.0,SNR=5.3
ZALV Zalesovo Beam 110.30 322 PKPdf PKiKP 12 55 47.2 -0.5
ZALV PKKPab PKKPab 13 06 59.8 +0.8
ZAL Zalesovo 110.31 322 PKIKP PKiKP 12 55 47.2 -0.6
ZAL 13 06 59.8
NVS Novosibirsk 111.25 323 *e*P Pdif 12 51 50.7 -1.0
NVS *e* 12 55 48.7
NVS *e* 12 56 20.8
NVS *e* 13 02 16.6
NVS pmax pmax
comp=Z,8.0nm,0.6s
MK31 Makanchi Array 111.63 314 PKIKP PKiKP 12 55 49.5 -1.0
MK31 pmax pmax
comp=Z,29nm,0.8s
MKAR Makanchi Array 111.63 314 Pdiff Pdif 12 51 52.3 -1.1
comp=Z,0.6nm,0.8s,baz=95,slow=3.5,SNR=4.2
MKAR PKiKP PKiKP 12 55 50.0 -0.5
comp=Z,18nm,0.7s,baz=67,slow=1.2,SNR=58
MKAR PKKPbc PKKPbc 13 06 45.5 -0.6
comp=Z,1.7nm,0.8s,baz=275,slow=2.9,SNR=10
MKAR PKKPab PKKPab 13 06 54.9 +1.5
comp=Z,1.5nm,0.8s,baz=275,slow=4.4,SNR=5.7
MKAR Makanchi Array 111.63 314 P Pdif 12 51 52.3 -1.1
MKAR 12 55 50.1
HUMP Col San Antoni 112.33 77 *e*PKPdf PKiKP 12 55 52.1 -0.5
KURK Kurchatov 114.10 318↑ *i*PKIKP PKiKP 12 55 54.8 -0.3
KURK Kurchatov 114.10 318 *e*PKiKP PKiKP 12 55 54.4 -0.7
SCHQ Schefferville 114.17 37 PKiKP PKiKP 12 55 53.5 -1.6
comp=Z,1.9nm,0.8s,baz=307,slow=7.4,SNR=3.9
ULHL Ulahol 115.83 309 P PKPdf 12 55 59.0 +0.3
SNR=23
KSH Kashi 115.98 306 *e*PKP PKPdf 12 56 01.0 +1.9
KSH XPKP 12 56 38.5
KSH PP PP 12 57 07.0 +1.7
KSH PKS 12 59 36.5
KSH SKS SKSdf 13 03 01.3 +1.9
KSH SKKS SKKSac 13 03 49.5 -4.2
KSH SS SS 13 12 53.5 -4.1
KSH PP PP
comp=Z,2μm,5.2s
KSH LR LR
comp=Z,2μm,23.6s
KSH LR LR
comp=N,402nm,5.2s
KSH LR LR
comp=E,891nm,10.6s
TKM2 Tokmak 2 116.31 310 P PKPdf 12 55 59.4 -0.3
SNR=23
TKM2 Tokmak 2 116.31 310 *e*PKPdf PKPdf 12 55 59.2 -0.4
KZA Kyzart 116.56 309 P PKPdf 12 56 00.9 +0.8
SNR=12
KBK Karagaybulak 116.79 309 P PKPdf 12 56 00.9 +0.3
SNR=7.0
CHMS Chumysh 116.93 310 P PKPdf 12 56 00.6 -0.2
SNR=14
FRU Bishkek 117.03 310 *e*PKIKP PKPdf 12 56 01.0 0.0
FRU *e*S SKSac 13 02 43.0 +1.8
USP Ospenovka 117.11 310 P PKPdf 12 56 01.1 0.0
SNR=19
UCH Uchtor 117.11 309 P PKPdf 12 56 02.0 +0.8
SNR=32
UCH Uchtor 117.11 309 *e*PKPdf PKPdf 12 56 01.9 +0.7
AAK Ala-Archa 117.12 309 P PKPdf 12 56 02.0 +0.8
SNR=7.9
EKS2 Erkin-Say 117.65 309 P PKPdf 12 56 02.1 0.0
SNR=12
EKS2 Erkin-Say 117.65 309 *e*PKPdf PKPdf 12 56 01.7 -0.5
BDFB Brasilia 117.68 119 PKKPbc PKKPbc 13 06 25.6 +1.0
comp=E,1.8nm,0.6s,baz=157,slow=27,SNR=5.6
AML Almayashu 117.72 309 P PKPdf 12 56 02.8 +0.4
SNR=28
AML Almayashu 117.72 309 *e*PKPdf PKPdf 12 56 02.8 +0.4
VOSK Vostochnaya 118.65 321 PKIKP PKPdf 12 56 03.3 -0.5
VOSK pmax pmax
comp=Z,49nm,0.8s
BVA0 Borovoye Array 118.95 321 *i* PKIKP PKPdf 12 56 03.9 -0.5
BVA0 pmax pmax
comp=Z,12nm,0.7s
BRVK Borovoye 119.01 321 *e*PKIKP PKPdf 12 56 03.8 -0.7
SPB4 Spitsbergen Ar 119.04 357 *e*PKPdf PKPdf 12 56 04.1 +0.1
SUMG Summit 119.41 14 *e*PKPdf PKPdf 12 56 03.9 -0.9
KK31 Karatay Array 120.03 310 *i* PKIKP PKPdf 12 56 06.3 -0.5
KK31 pmax pmax
comp=Z,18nm,0.9s
KBL Kabul 121.44 300 *e*PKPdf PKPdf 12 56 10.1 +0.4
SVE Sverdlovsk 123.40 327↓↓ *i*PKIKP PKPdf 12 56 13.7 +0.9
SVE *e* 12 57 55.7
SVE *e* 13 03 03.5
SVE *e*SP SP 13 07 50.3 +12
SVE pmax pmax
comp=Z,68nm,0.8s
SOKR Solikamsk 124.19 331*c i*PKIKP PKPdf 12 56 14.1 -0.1
SOKR pmax pmax
comp=Z,130nm,1.1s
ARU Arti 124.62 327 *i* PKIKP PKPdf 12 56 14.8 -0.3
ARU 13 03 05.3
ARU PS PS 13 07 51.3 -13
ARU MLR MLR
comp=Z,939nm,21.0s
ARU Arti 124.62 327 *e*PKPdf PKPdf 12 56 15.0 -0.2
AB31 Akbulak array 126.20 319 *i* PKIKP PKPdf 12 56 18.5 +0.1
AB31 pmax pmax
comp=Z,30nm,1.0s
LVZ Lovozero 126.31 347↑ *e*PKIKP PKPdf 12 56 18.5 +0.4
ARCES ARCESS Array B 126.52 351 PKhKP 12 56 08.8
comp=Z,2.3nm,0.9s,baz=16,slow=1.8,SNR=5.0
ARCES PKP PKPdf 12 56 18.9 +0.4
comp=Z,38nm,0.7s,baz=0.0,slow=1.2,SNR=82
ARCES pPKP pPKPdf 12 56 53.8 +0.9
comp=Z,6.1nm,0.7s,baz=278,slow=0.9,SNR=2.1
ARCES PKKPbc 13 05 51.5
comp=Z,4.0nm,1.2s,baz=189,slow=7.0,SNR=7.4
APA Apatity 126.86 347↓↓ *i*PKIKP PKPdf 12 56 19.0 -0.1
APA pmax pmax
comp=Z,24nm,0.8s
APA MLR MLR
comp=Z,700nm,20.0s
APA MLR MLR
comp=Z,500nm,19.0s
AKTK Aktyubinsk 127.04 321 PKP PKPdf 12 56 20.3 +0.4
AKTO Aktyubinsk 127.04 321 PKP PKPdf 12 56 20.3 +0.4
comp=Z,18nm,0.7s,baz=82,slow=4.3,SNR=60
KLMR Klimovskoe 130.41 339 *e*PKIKP PKPdf 12 56 24.0 -2.1
PUL Pulkovo 134.14 343 *e*PKIKP PKPdf 12 56 34.7 +1.6
MOS Moscow 134.76 335 *e*PKIKP PKPdf 12 56 34.7 +0.3
MOS *e* 12 57 13.6

MOS pmax pmax
comp=Z,66nm,1.1s
OBN Obninsk 135.63 335↑ *i*PKIKP PKPdf 12 56 36.5 +0.4
OBN *e* 12 57 11.7
OBN *i* 12 59 10.6
OBN *e*SS SS 13 17 04.5 +3.2
OBN pmax pmax
comp=Z,67nm,1.0s
OBN MLR MLR
comp=Z,300nm,18.0s
OBN Obninsk 135.63 335 *e*PKPdf PKPdf 12 56 36.8 +0.8
NB2 NORSAR Subarra136.31 356 PKP 12 56 26.3
comp=Z,4.0nm,0.9s,baz=10,slow=3.2
NOA NORSAR Array B136.31 356 PKhKP 12 56 27.6
comp=Z,4.5nm,0.8s,baz=12,slow=2.5,SNR=8.4
NOA PKP PKPdf 12 56 37.6 +0.5
comp=Z,9.5nm,0.9s,baz=14,slow=4.1,SNR=9.6
MAK Makhachkala 136.45 315 *e*PKIKP PKPdf 12 56 36.1 -1.9
MAK *e* 12 57 11.0
MAK *i* 12 59 18.9
MAK *e*PPP 13 02 21.5
MAK *e* 13 03 38.1
MAK pmax pmax
comp=Z,273nm,1.6s
MAK MLR MLR
comp=Z,433nm,20.0s
VOR Voronezh 136.76 330 *e*PKIKP PKPdf 12 56 37.0 -1.3
VOR pmax pmax
comp=Z,140nm,2.0s
TBLG Delisi 138.82 314 P PKPdf 12 56 42.3 0.0
KIV Kislovodsk 139.19 318*de*PKIKP PKPdf 12 56 39.4 -3.6
KIV *i* 12 59 36.0
KIV *e*PPS 13 11 51.9
KIV pmax pmax
comp=Z,8.0nm,0.7s
KIV MLR MLR
comp=Z,500nm,20.0s
KIV Kislovodsk 139.19 318↓↓ *i*P PKPdf 12 56 43.3 +0.3
KIV Kislovodsk 139.19 318↓↓ P PKPdf 12 56 43.3 +0.3
MNK Minsk 139.29 340 *e*PKHKP 12 56 34.0
GNI Garni 139.44 312↑ *i*PKIKP PKPdf 12 56 44.4 +0.8
GNI Garni 139.44 312 *e*PKPdf PKPdf 12 56 44.8 +1.2
UMR Umm Al-Rimmam139.82 295 *e*P PKPdf 12 56 37.0 -7.7
baz=295
UMR AMb AMB 12 56 48.1
comp=Z,86nm,1.0s,baz=295
RDF Al-Radifah 140.05 294 *e*P PKPdf 12 56 37.2 -7.9
baz=294
RDF AMb AMB 12 56 49.5
comp=Z,105nm,0.6s,baz=294
MIB Mutribah 140.11 296 *e*P PKPdf 12 56 37.1 -8.0
baz=296
MIB AMb AMB 12 56 47.4
comp=Z,120nm,0.9s,baz=296
NAY Al-Naaiem 140.27 295 *e*P PKPdf 12 56 38.2 -7.3
baz=295
NAY AMb AMB 12 56 49.7
comp=Z,37nm,0.9s,baz=295
LSZ Lusaka 140.60 216 *e*PKHKP 12 56 40.8
EAB Aberfoyle 140.62 9 *e*P PKPdf 12 56 39.4 -5.8
EBH Black Hill 140.67 8 *e*P PKPdf 12 56 39.8 -5.5
EAU Auchinoon 141.07 8 *e*P PKPdf 12 56 40.7 -5.3
SUW Suwalki 141.09 344 *e*PKP PKPdf 12 56 39.7 -6.4
SUW *e*PP SKPdf 13 00 14.7 +5.7
SUW Suwalki 141.09 344 *e*PKP PKPdf 12 56 39.7 -6.4
SUW *e*PP SKPdf 13 00 14.7 +5.7
HAKT HAKKARI 141.13 309 *i* P PKPdf 12 56 39.2 -7.5
SOC Sochi 141.24 319 *i* PKIKP PKPdf 12 56 48.7 +2.0
SOC *e* 12 57 13.5
SOC *e* 12 59 48.4
SOC *e*SSS 13 23 23.3
SOC pmax pmax
comp=Z,28nm,0.8s
ESK Eskdalemuir 141.62 8 *e*P PKPdf 12 56 41.1 -5.9
ESK AMb AMB 12 56 53.7
comp=Z,50nm,2.1s
TSUM Tsumeb 141.72 198 *e*PKPpre 12 56 42.8
TSUM *e*PP PP 12 59 55.8 +3.8
GAL1 Galloway 141.83 10 *e*P PKPdf 12 56 41.5 -5.9
AKASG Malin Array Be 141.88 336 PKhKP 12 56 41.2
comp=Z,6.5nm,0.5s,baz=38,slow=4.1,SNR=32
AKASG PKP PKPdf 12 56 46.9 -0.8
comp=Z,24nm,0.8s,baz=38,slow=3.1,SNR=38
AKASG pPKP pPKPdf 12 57 20.3 -1.8
comp=Z,5.1nm,0.8s,baz=34,slow=3.2,SNR=1.5
AKASG SKPbc SKPbc 13 00 12.9 -0.4
comp=Z,6.9nm,1.1s,baz=35,slow=2.2,SNR=9.9
AKASG Malin Array Be 141.88 336 PKHKP 12 56 41.2
AKASG 12 56 46.9
AKASG 12 57 20.3
AKASG Malin Array Be 141.88 336 PKP 12 56 41.2
AKASG PKP PKPdf 12 56 46.9 -0.8
AKASG pPKP pPKPdf 12 57 20.3 -1.8
AKASG SKPbc SKPbc 13 00 12.9 -0.4
KIEV Kiev 141.89 336 *e*PKHKP 12 56 40.2
BHD Baghdad 141.90 302 *e*x x 12 56 38.3
BHD *e*x x 12 57 27.3
BHD *e*x x 12 59 40.0
BHD *e*x x 13 04 30.5
ANN Anapa 141.94 323 *i* PKHKP 12 56 39.4
ANN pmax pmax
comp=Z,48nm,0.9s
MSL Mosul 142.03 307 *e*x x 12 56 45.0
XAL Allendale 142.19 7 *e*P PKPdf 12 56 42.7 -5.3
KOPT Kop Dagi 142.45 314 *i* P PKPdf 12 56 45.0 -4.0
DCN Croghan 142.80 13 *e*P PKPdf 12 56 46.0 -3.2
DLF Lyons Farm 143.00 12 *e*P PKPdf 12 56 44.9 -4.6
EZC Erzincan 143.04 314 *e*P PKPdf 12 56 49.4 -0.6
HPK Haverah Park 143.15 7 *e*P PKPdf 12 56 45.4 -4.3
HPK AMb AMB 12 56 50.3
comp=Z,69nm,1.3s
GKP Gorka Klasztor 143.15 348 *e*PKP PKPdf 12 56 50.1 +0.3
GKP Gorka Klasztor 143.15 348 *e*PKP PKPdf 12 56 50.1 +0.3
ESPY Espiye-Giresun 143.22 316 *e*P PKPdf 12 56 47.1 -3.3
WAR Warsaw 143.25 344 *e*PKP PKPdf 12 56 46.8 -3.2
WAR Warsaw 143.25 344 *e*PKP PKPdf 12 56 46.8 -3.2
MARD Mardin 143.39 310 *i* P PKPdf 12 56 48.1 -2.6
GRSN GIRESUNGRSN 143.52 317 *i* P PKPdf 12 56 47.9 -3.0
LHO Holmfirth 143.53 8↑ *e*P PKPdf 12 56 46.9 -3.5
DIYA Diyarbakir 143.62 311 *i* P PKPdf 12 56 49.2 -2.0
SIM Simferopol' 143.72 325*ce*PKIKP PKPdf 12 56 48.9 -2.2
SIM *e* 12 57 26.0
SIM *e* 13 00 08.0
SIM *e*SS SS 13 18 44.0 +7.4
SIM SSS 13 24 00.0
SIM pmax pmax
comp=Z,31nm,0.8s
SIM MLR MLR
comp=Z,620nm,21.8s
SIM MLR MLR
comp=Z,280nm,19.0s
KMBO Kilima Mbogo 143.81 242 PKP PKPdf 12 56 51.6 -0.6
comp=Z,69nm,1.0s,baz=55,slow=4.3,SNR=46
KMBO pPKP pPKPdf 12 57 28.0 +1.3
comp=Z,32nm,1.1s,baz=83,slow=2.6,SNR=3.6
KMBO Kilima Mbogo 143.81 242 PKIKP PKPdf 12 56 51.7 -0.5
KMBO 12 57 28.0
KMBO pmax pmax
comp=Z,69nm,1.0s
KMBO Kilima Mbogo 143.81 242 *e*PKPpre 12 56 51.4
KBI1 Birley Grange 143.85 7 *e*P PKPdf 12 56 49.6 -1.5
SBD1 Bryn Du 143.96 9↑ *e*P PKPdf 12 56 48.7 -2.5
KWE Weaver Farm 144.05 8↑ *e*P PKPdf 12 56 48.3 -3.1
ELZG Elazig 144.18 313 *i* P PKPdf 12 56 51.8 -0.3
CWF Charnwood Fore 144.39 7 *e*P PKPdf 12 56 50.1 -1.9
CWF AMb AMB 12 56 52.5
comp=Z,53nm,1.3s
HLM1 Long Mynd 144.39 9↑ *e*P PKPdf 12 56 50.3 -1.7
RSDY Resadiye-TOKAT 144.40 316 *e*P PKPdf 12 56 51.9 -0.6
PSCM Serra do Cume 144.45 47 *e*PKP PKPdf 12 56 51.4 -1.2
RUE Ruedersdorf 144.49 351 *e*PKPbc PKPdf 12 56 51.3 -0.9
RUE Ruedersdorf 144.49 351 *e*PKP PKPdf 12 56 50.9 -1.3
LVV L'vov 144.50 339↓↓ *i*PKIKP PKPdf 12 56 50.0 -2.3
LVV *e* 12 57 25.2
LVV MLR MLR
comp=E,300nm,21.0s
LVV MLR MLR
comp=Z,400nm,21.0s
LVV MLR MLR
comp=N,300nm,20.0s
MYA Malataya 144.65 313 *e*P PKPdf 12 56 53.0 +0.1
MALT Malatya 144.66 313 *e*P PKPdf 12 56 52.6 -0.3
MALT Malatya 144.66 313 PKIKP PKPdf 12 56 53.7 +0.8

MALT Malatya 144.66 313 ⇓*i*P PKPdf 12 56 53.2 +0.3
MALT Malatya 144.66 313 *e*PKPdf PKPdf 12 56 53.3 +0.4
HTR Trewern Hill 144.76 10 *e*P PKPdf 12 56 50.7 -1.9
AEU East Anglia Un 144.76 5 *e*P PKPdf 12 56 51.5 -1.2
URFA Urfa 144.76 311 *e*P PKPdf 12 56 53.2 +0.1
DARE Darende-Malaty 144.79 314 *e*P PKPdf 12 56 55.0 +1.9
SVSK Karacayir 144.87 316 *e*P PKPdf 12 56 53.3 0.0
MCH1 Michaelchurch 144.88 9 *e*P PKPdf 12 56 51.7 -1.2
MCH1 AMb AMB 12 56 57.7
comp=Z,40nm,0.6s
NRDL Niedersach Rie 144.88 355 *e*PKPbc PKPdf 12 56 52.9 0.0
HAE Alders End 144.91 9⇑*e*P PKPdf 12 56 52.0 -0.9
KIS Kishinev 144.91 332 ⇓*i*PKIKP PKPdf 12 56 52.0 -1.1
KIS *e* 12 57 30.0
KIS *e* 13 00 20.0
KIS pmax pmax
comp=Z,600nm,2.0s
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=N,500nm,22.0s
KIS MLR MLR
comp=Z,700nm,22.0s
KIS Kishinev 144.91 332 ⇓*i*PKP PKPdf 12 56 52.0 -1.1
KIS M 12 56 54.0
comp=Z,600nm,2.0s
KIS *e*pPKP pPKPdf 12 57 30.0 +2.4
KIS Kishinev 144.91 332 *e*PP PP 13 00 20.0 +8.5
KIS *e*SKS SKSdf 13 04 00.0 +10
KIS *e*SKKS SKKSac 13 06 44.0 -7.9
KIS LRM 13 58 42.0
comp=Z,700nm,22.0s
TOKT Tokat 144.96 317 *e*P PKPdf 12 56 52.8 -0.6
AKCD Akcadag 145.02 313 *i*P PKPbc 12 56 54.8 +1.6
KWP Kalwaria 145.10 341 *e*PKPdf PKPdf 12 56 52.9 -0.4
KWP *e*PP PP 13 00 17.9 +5.5
KWP Kalwaria 145.10 341 ⇑*i*P PKPbc 12 56 52.8 -0.2
KWP Kalwaria 145.10 341 ⇓*e*PKP PKPdf 12 56 52.9 -0.4
KWP *e*PP PP 13 00 17.9 +5.5
ATAB Bozova 145.12 311 *i*P PKPbc 12 56 54.6 +1.1
IBBN Ibbenburen 145.21 358 *e*PKPbc PKPbc 12 56 54.2 +0.9
HGH Gray Hill 145.26 9⇑*e*P PKPbc 12 56 51.6 -1.8
IAS Iasi 145.31 333 PKIKP PKPdf 12 56 54.7 +0.9
OJC Ojcow 145.42 344 *e*PKPdf PKPdf 12 56 54.1 +0.3
OJC *ep*PKPbc pPKPbc 12 57 27.9 -0.1
OJC *ep*PKPdf pPKPdf 12 57 29.9 +1.5
OJC *e*SS SS 13 18 55.4 +0.4
OJC L 14 02 07.9
comp=Z,0.6nm,21.1s
OJC Ojcow 145.42 344 *e*PKPdf PKPdf 12 56 54.1 +0.3
OJC *ep*PKPbc pPKPbc 12 57 27.9 -0.1
OJC *ep*PKPdf pPKPdf 12 57 29.9 +1.5
OJC *e*SS SS 13 18 55.4 +0.4
SWN1 Swindon 145.52 8 *e*P PKPdf 12 56 54.6 +0.6
SWN1 AMb AMB 12 56 57.6
comp=Z,406nm,1.5s
WTSB Winterswijk 145.57 359 ⇓*i*PKP PKPdf 12 56 54.3 +0.2
WTSB Winterswijk 145.57 359 pPKP pPKPdf 12 57 29.7 +1.1
comp=Z,180nm,2.2s
HTL Hartland 145.59 11 *e*P PKPdf 12 56 51.3 -2.8
HTL AMb AMB 12 57 00.7
comp=Z,146nm,1.5s
BZK Bozkurt 145.63 321 *e*P PKPdf 12 56 53.4 -1.1
KSP Ksiaz 145.64 348 *e*PKPdf PKPdf 12 56 55.2 +1.0
KSP Ksiaz 145.64 348 ⇓*i*PKP2 PKPab 12 56 54.9 -0.3
KSP Ksiaz 145.64 348 ⇓*e*PKPdf PKPdf 12 56 54.9 +0.7
KSP *ep*PKPdf pPKPdf 12 57 27.8 -0.9
KSP *e*SS SS 13 18 37.6 -20
SARI SarD1z-Kayseri 145.68 314 *e*P PKPdf 12 56 55.0 +0.3
GZT Gaziantep 145.70 312 *i*P PKPdf 12 56 55.9 +1.1
STHS Stebnicka Huta 145.74 342 *e*PKP PKPdf 12 56 55.9 +1.5
STHS *e* 12 57 31.0
CLL Collm 145.74 352 ⇑*i*PKP2 PKPab 12 56 54.9 -0.6
CLL *i* 12 56 55.7
CLL *e* 12 57 31.0
CLL pmax pmax
comp=Z,324nm,0.9s
CLL Collm 145.74 352 *e*PKPbc PKPbc 12 56 55.7 +0.7
CLL Collm 145.74 352 *i*PKPdf PKPdf 12 56 54.9 +0.5
CLL ⇑*i*PKPbc PKPbc 12 56 55.7 +0.7
comp=Z,324nm,0.9s
CLL *ep*PKPdf pPKPdf 12 57 31.0 +2.1
CLL *es*PKPdf 12 57 44.0
CLL *e*PP PP 13 00 12.0 -4.0
CLL *e*SKSP 13 10 18.0
CLL *es*PPPrev 13 12 01.0
CLL *e*PPS 13 12 52.0
CLL *e*SS SS 13 18 49.0 -10
CLL *es*SS 13 19 52.0
CLL *e*SSS 13 24 34.0
CLL *e*SSSS 13 28 00.0
CLL Collm 145.74 352 *i*PKP PKPdf 12 56 54.9 +0.5
CLL ⇑*i*PKP PKPdf 12 56 55.7 +1.3
CLL *ep*PKP pPKPdf 12 57 31.0 +2.1
WOL Wolverton 145.80 8 *e*P PKPdf 12 56 54.1 -0.4
WOL AMb AMB 12 56 56.6
comp=Z,913nm,0.8s
KOLS Kolonicke sedl 145.85 340 *e*PKP PKPdf 12 56 56.1 +1.5
BURAR Bucovina Array 145.93 336 PKP2 PKPab 12 56 56.4 +0.1
BURAR Bucovina Array 145.93 336 ⇓*i*P PKPdf 12 56 55.9 +1.1
BURAR Bucovina Array 145.93 336 ⇓P PKPdf 12 56 55.9 +1.1
RAC Raciborz 145.94 346 *e*PKP2 PKPab 12 56 56.5 +0.2
CMLA Cha da Macela 146.00 47 *e*PKP PKPdf 12 56 42.4 -13
CMLA Cha da Macela 146.00 47 *e*PP PP 13 00 14.1 -4.6
CMLA Cha da Macela 146.00 47 *e*SS SS 13 19 00.9 -2.7
CMLA Cha da Macela 146.00 47 *e*LQ 13 37 49.2
CMLA *e*LR LR 13 45 24.8
CMLA Cha da Macela 146.00 47 *e*PKPdf PKPdf 12 56 55.2 0.0
NIE Niedzica 146.00 343 *e*PKP PKPdf 12 56 56.6 +1.7
NIE *ep*PKP pPKPdf 12 57 28.9 -0.5
UPC Upice 146.02 348 *e*PKP PKPdf 12 56 56.1 +1.2
UPC *ep*PKP pPKPdf 12 57 32.6 +3.2
GAZ Gaziantep 146.03 312 *e*P PKPdf 12 56 56.2 +0.8
BRG Berggiesshubel 146.03 351 ⇓*i*PKP2 PKPab 12 56 56.4 -0.2
BRG *e* 13 00 27.1
BRG Berggiesshubel 146.03 351 *e*PKPbc PKPbc 12 56 57.0 +1.1
BRG *ep*PKPbc pPKPbc 12 57 32.2 +2.3
BRG Berggiesshubel 146.03 351 ⇓*i*PKP PKPdf 12 56 56.4 +1.5
comp=Z,205nm,1.0s
BRG *i*pPKP pPKPdf 12 57 32.1 +2.7
comp=Z,306nm,1.7s
BRG *e*SKP 13 00 27.1
comp=Z,49nm,1.6s
BRG SS SS 13 18 56.0 -5.8
FBE Freiberg 146.07 351 *e*PKPbc PKPbc 12 56 57.2 +1.2
BUG Bochum--Univer 146.09 358 *e*PKPbc PKPbc 12 56 56.8 +0.8
KMRS Kahramanmaras 146.10 312 *e*P PKPdf 12 56 56.5 +1.1
UZH Uzhgorod 146.10 340 *e*PKP2 PKPdf 12 56 55.0 -0.1
UZH MLR MLR
comp=Z,240nm,16.0s
DPC Dobruska-Polom 146.11 348 *e*PKP PKPdf 12 56 56.7 +1.7
DPC *ep*PKP pPKPdf 12 57 33.2 +3.7
DPC *e*SS SS 13 18 56.3 -6.4
DPC AMS AMS 13 59 40.0
comp=Z,500nm,21.3s
CSA1 St Austell 146.12 12 *e*P PKPdf 12 56 56.2 +1.1
CRVS Cervenica-Dubn 146.13 341 *e*PKP PKPdf 12 56 56.3 +1.2
BNN Bunyan 146.17 315 *e*P PKPdf 12 56 56.4 +0.9
OKC Ostrava-Krasne 146.19 345 *e*PKP PKPdf 12 56 56.4 +1.2
OKC *ep*PKP pPKPdf 12 57 33.8 +4.1
OKC *e*SS SS 13 19 01.2 -2.5
OKC AMS AMS 14 01 30.0
comp=Z,500nm,19.9s
OKC Ostrava-Krasne 146.19 345 *e*PKP PKPdf 12 56 56.4 +1.2
OKC *e* 12 57 33.8
OKC *e*SS SS 13 19 01.2 -2.5
CCA1 Carnmenellis 146.21 13⇑*e*P PKPdf 12 56 56.1 +0.9
DYA Yadsworthy 146.23 11 *e*P PKPdf 12 56 56.0 +0.8
DYA AMb AMB 12 57 00.4
comp=Z,399nm,1.5s
TFO1 Folkestone 146.25 5⇑*e*P PKPdf 12 56 57.0 +1.8
TFO1 AMb AMB 12 56 58.9
comp=Z,691nm,1.1s
BALT Daday 146.25 321 *i*P PKPdf 12 56 56.8 +1.2
PVCC Panska Ves 146.26 350 *e*PKP PKPdf 12 56 56.8 +1.5
PVCC *ep*PKP pPKPdf 12 57 33.7 +3.9
PVCC AMS AMS 14 02 10.0
comp=Z,700nm,23.7s
TLCR 146.27 330 PKP2 PKPab 12 56 56.6 -1.2
CGW Gweek 146.29 13⇑*e*P PKPdf 12 56 56.6 +1.2
MORC Moravsky Berou 146.38 346 PKP2 PKPab 12 56 56.7 -1.3
MORC Moravsky Berou 146.38 346 ⇓*i*P PKPdf 12 56 56.5 +1.0
MORC Moravsky Berou 146.38 346 *e*PKP PKPdf 12 56 56.1 +0.6
MORC *ep*PKP pPKPdf 12 57 32.0 +1.9
ANDN Andirin 146.45 313 *i*P PKPdf 12 56 56.6 +0.6
MOX Moxa 146.57 353 *e*PKP PKPdf 12 56 56.6 +0.8
comp=Z,156nm,1.4s
MOX *e* 12 57 30.4
MOX
comp=Z,400nm,21.0s
MOX Moxa 146.57 353 *e*PKPdf PKPdf 12 56 56.9 +1.1
MOX *e*PKPbc PKPbc 12 56 58.6 +1.1
MOX *ep*PKPbc pPKPbc 12 57 34.1 +2.6
LIKS Likavka 146.67 344 *e*PKP PKPab 12 56 59.3 +0.1
WERD Werda 146.68 352 *e*PKPdf PKPdf 12 56 57.2 +1.2
WERD *e*PKPbc PKPbc 12 56 59.2 +1.4
VRI Vrincioaia 146.71 333 ⇑*i*P PKPdf 12 56 56.2 0.0
VRI Vrincioaia 146.71 333 ⇑P PKPdf 12 56 56.2 0.0
UCC Uccle 146.74 2 PKP PKPbc 12 56 58.6 +0.6
UCC APKP 12 57 32.3
PLOR Plostina 146.75 333 PKP2 PKPbc 12 56 57.3 -0.9
BEBN Eben Emael 146.76 360 PKP PKPbc 12 56 58.4 +0.4
BEBN APKP 12 57 33.3
GUNZ Gunzen 146.76 352 *e*PKPdf PKPdf 12 56 57.4 +1.3
GUNZ *e*PKPbc PKPbc 12 56 59.4 +1.4
PRU Pruhonice 146.79 350 *e*PKP PKPdf 12 56 57.0 +0.8
PRU *ep*PKP pPKPdf 12 57 35.3 +4.6
PRU *e*SS SS 13 19 02.2 -8.2
PRU AMS AMS 14 02 10.0
comp=Z,700nm,22.1s
HGN Heimansgroeve 146.79 360 ⇓PKP PKPbc 12 56 58.6 +0.5
HGN Heimansgroeve 146.79 360 *ep*PKP pPKPdf 12 57 33.9 +3.3
comp=Z,227nm,2.0s
KECS Kecovo 146.80 342 *e*PKP PKPbc 12 56 58.8 +0.6
KECS *e* 12 57 36.6
FURI Furi 146.80 259 *e*P PKPbc 12 57 00.8 +1.6
WERN Wernitzgruen 146.83 352 *e*PKPdf PKPdf 12 56 57.8 +1.6
ELDT Eldivan 146.85 320 *i*P PKPdf 12 56 56.9 +0.3
SAFT Safranbolu 146.85 321 *e*P PKPdf 12 56 57.7 +1.1
NKC Novy Kostel 146.87 352 *e*PKP PKPdf 12 56 57.5 +1.2
NKC AMS AMS 13 59 50.0
comp=Z,300nm,21.0s
MENF Mencas 146.88 4 PKP PKPdf 12 56 53.6 -2.7
MENF Mencas 146.88 4 PKP PKPbc 12 56 58.7 +0.4
MEM Membach 146.94 360 PKP PKPbc 12 56 59.0 +0.5
MEM APKP 12 57 33.5
TIRR Tirgusor 147.00 329 PKP2 PKPab 12 56 59.7 -0.9
TIRR Tirgusor 147.00 329 ⇓*i*P PKPdf 12 56 58.3 +1.6
TIRR Tirgusor 147.00 329 *e*PKPbc PKPbc 12 56 59.3 +0.4
VRAC Vranov 147.04 347 PKP2 PKPbc 12 56 57.8 -1.0
VRAC Vranov 147.04 347 ⇑*i*P PKPbc 12 56 58.8 0.0
VRAC Vranov 147.04 347 ⇑P PKPbc 12 56 58.8 -0.1
HARR Harsova 147.06 330 ⇑*i*P PKPbc 12 56 58.9 -0.2
HARR Harsova 147.06 330 P PKPdf 12 56 58.6 +1.7
HARR ⇑P 12 56 58.9
BCLA Clavier 147.13 0 PKP PKPbc 12 56 59.4 +0.4
BCLA APKP 12 57 35.8
MANZ Manzenberg 147.16 352 *e*PKPdf PKPdf 12 56 58.1 +1.3
MANZ *e*PKPbc PKPbc 12 57 00.5 +1.3
VYHS Vyhne 147.25 344 *e*PKP PKPdf 12 56 58.0 +1.0
VYHS *e* 12 57 00.5
VYHS Vyhne 147.25 344 *e*PKP PKPdf 12 56 58.0 +1.0
VYHS *e* 12 57 00.6
TREC Trest 147.28 348 *e*PKP PKPdf 12 56 58.4 +1.4
TREC *ep*PKP pPKPdf 12 57 35.9 +4.3
TREC AMS AMS 14 00 40.0
comp=Z,600nm,26.7s
KOLL Kolacno 147.29 344 *e*PKP PKPdf 12 56 58.4 +1.3
KOLL *e* 12 57 00.9
KOLL *e* 12 57 36.6
KRUC Moravsky 147.31 347 PKP2 PKPdf 12 56 58.0 +0.9
MLR Muntele Rosu 147.34 333 PKIKP PKPdf 12 56 58.0 +0.7
MLR Muntele Rosu 147.34 333 ⇓*i*P PKPdf 12 56 57.3 0.0
MLR Muntele Rosu 147.34 333 ⇓P PKPdf 12 56 57.3 0.0
DOU Dourbes 147.45 1 PKP PKPbc 12 57 00.7 +0.8
PSZ Piszkesteto 147.48 342 ⇓*e*PKP PKPbc 12 57 00.3 +0.2
PSZ Piszkesteto 147.48 342 ⇑*i*P PKPdf 12 56 57.8 +0.4
PSZ Piszkesteto 147.48 342 *e*PKPdf PKPdf 12 56 58.0 +0.6
KDZE Karadeniz Ereo 147.54 322 *e*P PKPdf 12 56 59.3 +1.6
DRGR 147.55 338 ⇓*i*P PKPdf 12 56 57.9 +0.3
DRGR 147.55 338 ⇓P PKPdf 12 56 57.9 +0.3
GRA1 Grafenberg Arr 147.55 353 *e*PKPdf PKPdf 12 56 58.8 +1.3
GRA1 *e*PKPbc PKPbc 12 57 01.7 +1.5
GRF Grafenberg Arr 147.55 353 *e*PKP2 PKPab 12 57 01.7 -0.9
GRF Grafenberg Arr 147.55 353 *e*PKP2 PKPdf 12 56 58.8 +1.3
GRF Grafenberg Arr 147.55 353 *e*PKPdf PKPdf 12 56 58.8 +1.3
GRF *e*PKPbc PKPbc 12 57 01.7 +1.5
ANTO Ankara 147.60 319 ⇓*i*P PKPdf 12 56 58.2 +0.3
ANTO Ankara 147.60 319 *e*PKPdf PKPdf 12 56 58.2 +0.3
LOD Lodumlu 147.61 319 *e*P PKPdf 12 56 56.6 -1.3
SGKT Sivrigoynuk 147.64 321 *i*P PKPdf 12 56 58.7 +0.8
PSN Preselentsi 147.68 329 *i*P PKPbc 12 57 01.2 +0.4
MODS Modra-Piesok 147.76 345 *e*PKP PKPdf 12 56 58.8 +1.0
MODS *e* 12 57 01.9
MODS *e* 12 57 38.4
VOIR 147.77 334 ⇓*i*P PKPdf 12 56 58.4 +0.4
VOIR 147.77 334 ⇓P PKPdf 12 56 58.4 +0.4
KHC Kasperske Hory 147.78 350 *e*PKIKP PKPdf 12 56 58.5 +0.6
KHC *e* 12 57 36.0
KHC MLR MLR
comp=Z,700nm,24.6s
KHC Kasperske Hory 147.78 350 *e*PKP PKPdf 12 56 58.5 +0.6
KHC *ep*PKP pPKPdf 12 57 36.0 +3.6
KHC *e*SS SS 13 19 11.7 -10
KHC AMS AMS 14 03 00.0
comp=Z,700nm,24.6s
RUP Ruppelstein 147.83 358 PKP2 PKPab 12 57 02.0 -1.7
TOD Tromm 147.85 356 PKP2 PKPbc 12 57 01.4 +0.4
WET Wettzell 147.88 351 *e*PKPdf PKPdf 12 56 59.2 +1.2
WET *e*PKPbc PKPbc 12 57 02.4 +1.3
WLF Walferdange 147.89 359 PKP PKPbc 12 57 00.1 -1.0
WLF APKP 12 57 35.4
WLF Walferdange 147.89 359 *e*PKPbc PKPbc 12 57 02.8 +1.7
WLF Walferdange 147.89 359 *e*PKPdf PKPdf 12 56 59.2 +1.2
WLF *e*PKPbc PKPbc 12 57 02.6 +1.5
ASCN Ascension 147.92 140 *e*PKPbc PKPbc 12 57 02.1 -0.2
ZST Bratislava 147.97 346 *e*PKP PKPdf 12 56 59.8 +1.6
ZST *e* 12 57 03.1
ZST *e* 12 57 06.0
ZST *e* 12 57 39.1
ZST Bratislava 147.97 346 *e*PKP PKPdf 12 56 59.8 +1.6
ZST *e* 12 57 03.1
ZST *e* 12 57 06.0
ZST *e* 12 57 39.1
ZST LR LR
comp=Z,100nm,22.6s
GEC2 GERESS Array S 148.04 350 *e*PKIKP PKPdf 12 56 59.1 +0.8
GERES GERESS Array B 148.04 350 PKPbc PKPdf 12 56 59.1 +0.8
comp=Z,86nm,1.0s,baz=132,slow=2.0,SNR=74
GERES PKPab PKPbc 12 57 02.3 +0.8
comp=Z,55nm,0.8s,baz=20,slow=3.2,SNR=146
GERES pPKPbc pPKPbc 12 57 36.2 +0.5
comp=Z,16nm,0.9s,baz=11,slow=1.4,SNR=1.9
BUD Budapest 148.12 343 ⇓*e*PKP PKPbc 12 57 02.0 +0.2
HENT Hendek 148.17 322 *i*P PKPdf 12 57 00.7 +1.9
BUC1 Bucharest 148.20 332 PKP2 PKPbc 12 57 02.9 +0.7
MDU Mudurnu 148.21 321 *e*P PKPdf 12 57 00.8 +2.0
ROSF Rostrenen 148.36 11 *e*PKIKP PKPdf 12 56 59.1 +0.3
FLN La Foliniere 148.39 8 *e*PKIKP PKPdf 12 56 59.3 +0.4
comp=Z,49nm,0.9s
FLN *e*MLR MLR
comp=Z,672nm,21.8s
FLN La Foliniere 148.39 8 *e*PKPdf PKPdf 12 56 59.3 +0.4
FLN LR LR
comp=Z,670nm,21.8s
PRD Provadia 148.42 329 *i*P PKPbc 12 57 03.3 +0.5
MEST Erdemli 148.47 313 *i*P PKPdf 12 56 57.4 -2.0
CONA Conrad Observa 148.50 347 ⇓*i*P PKPbc 12 57 03.7 +0.9
comp=Z,498nm,2.1s
CONA Conrad Observa 148.50 347 ⇓*i*PKPdf PKPdf 12 56 59.6 +0.5
comp=Z,51nm,1.7s,SNR=183
CONA ⇓*i*PKIKP PKIKP 12 57 03.7 -0.6
comp=Z,498nm,2.1s
LANF Langenberg 148.53 357 PKP PKPdf 12 56 59.9 +0.8
LANF Langenberg 148.53 357 PKP PKPbc 12 57 03.5 +0.7
BHL Bhannes 148.57 307 *e*P PKPdf 12 56 59.9 +0.2
SGMF Saint Gilles 148.57 11 *e*PKIKP PKPdf 12 56 59.5 +0.3
LDF La Druitiere 148.60 7 *e*PKIKP PKPdf 12 56 59.6 +0.4
comp=Z,53nm,0.9s
RCY Rachaya 148.61 306 *e*P PKPdf 12 57 00.5 +0.8
STU Stuttgart 148.65 356 *e*PKPdf PKPdf 12 57 00.5 +1.2
STU *e*PKPbc PKPbc 12 57 04.4 +1.2
STU Stuttgart 148.65 356 *e*PKPdf PKPdf 12 56 59.6 +0.3
STU *e*PKPbc PKPbc 12 57 03.9 +0.7
GRR Gorron 148.71 8 *e*PKIKP PKPdf 12 57 00.0 +0.6
comp=Z,46nm,0.9s
KIZT Kizilcal 148.75 318 *e*P PKPbc 12 57 03.1 -0.6
QUIF Quistinic 148.79 12 *e*PKIKP PKPdf 12 57 00.0 +0.5
comp=Z,32nm,1.0s
KDHN Kadinhani 148.81 318 *i*P PKPdf 12 56 59.5 -0.4
LADK Ladik-KONYA 148.83 317 *e*P PKPbc 12 57 03.5 -0.4
HRT Hereke 148.88 323 *e*P PKPbc 12 57 04.1 +0.1
MOA Molln 148.90 349 ⇓*i*P PKPbc 12 57 04.1 +0.3
comp=Z,294nm,1.5s
MOA Molln 148.90 349 ⇓*i*PKPdf PKPdf 12 56 59.9 +0.2
comp=Z,26nm,2.0s,SNR=39
MOA ⇓*i*PKIKP PKIKP 12 57 04.1 -1.0
comp=Z,294nm,1.5s
MOA Molln 148.90 349 P PKPdf 12 57 00.2 +0.5
MOA ⇓*i*P 12 57 04.1
STR Strasbourg 148.93 357 PKP PKPdf 12 57 00.9 +1.2
STR Strasbourg 148.93 357 PKP PKPbc 12 57 04.8 +0.9
BZS Buzias 148.95 338 ⇓*i*P PKPdf 12 56 59.9 0.0
BZS Buzias 148.95 338 ⇓P PKPdf 12 56 59.9 0.0
EREN Erenkoy 148.96 311 *e*P PKPbc 12 57 04.8 +0.4
IKL Isikli 148.97 313 *e*P PKPbc 12 57 03.5 -0.9
KONT Konya--Tatoy 148.97 316 *e*P PKPdf 12 57 01.9 +1.7
ESKT Eskisehir 149.01 320 *i*P PKPdf 12 57 00.7 +0.5
ZIMR 149.04 332 PKP2 PKPbc 12 57 05.4 +1.1
FUR Furstenfeldbru 149.05 353 *e*PKPbc PKPbc 12 57 05.4 +1.2
MEZF Maizieres J'vi 149.05 1 *e*PKIKP PKPdf 12 57 00.9 +0.9
ISK Istanbul-Kandi 149.06 324 *e*P PKPbc 12 57 03.5 -1.0
SZH Strazhica 149.08 331 *i*P PKPbc 12 57 04.6 +0.2
ADVT Abdulvahap 149.09 323 *e*P PKPbc 12 57 03.9 -0.7
CDF Champ du Feu 149.12 358 *e*PKIKP PKPdf 12 57 00.4 +0.3
BGKT Bogazkoy 149.14 325 *e*P PKPbc 12 57 03.9 -0.8
BFO Black Forest 149.15 357 *e*PKPdf PKPdf 12 57 00.9 +0.8
BFO *e*PKPbc PKPbc 12 57 05.7 +1.3
CRAR CRAIOVA 149.19 334 PKP2 PKPbc 12 57 06.2 +1.5
YLV Yalova 149.22 323 *e*P PKPdf 12 57 01.3 +0.8
ERMK Ermenek 149.30 314 *i*P PKPbc 12 57 06.2 +0.9
PHNC Paralimni 149.31 310 ⇑P PKPbc 12 57 05.6 +0.3
comp=Z,4.6nm,0.8s
PHNC Paralimni 149.31 310 ⇑*e*P PKPbc 12 57 05.6 +0.3
ECH Echery 149.32 358 PKP PKPdf 12 57 02.2 +1.8
ECH Echery 149.32 358 *e*PKPdf PKPdf 12 57 01.4 +1.0
ECH *e*PKPbc PKPbc 12 57 05.1 +0.3
THEF They Montfort 149.33 360 PKP PKPdf 12 57 02.2 +1.8
THEF They Montfort 149.33 360 PKP PKPbc 12 57 05.5 +0.6
SPAK Spaichingen-Ko 149.35 356 PKP PKPbc 12 57 05.1 +0.2
CTT Catalca 149.35 325 *e*P PKPbc 12 57 05.6 +0.5
ELBA Catalca 149.35 325 *i*P PKPbc 12 57 05.0 -0.2
JMB Yambol 149.37 329 *e*P PKPdf 12 57 02.0 +1.4
PKSM Moragy 149.39 342 ⇓*i*P PKPdf 12 57 00.5 -0.1
PKSM Moragy 149.39 342 P PKPdf 12 57 01.4 +0.8
PVL Pavlikeni 149.40 331 *i*P PKPdf 12 57 02.4 +1.7
GEMT Gemlik 149.41 323 *e*P PKPbc 12 57 04.2 -1.2
SLVT Silivri 149.41 325 *e*P PKPbc 12 57 04.4 -0.9
HDMB Hadim 149.42 315 *e*P PKPbc 12 57 03.9 -1.6
BOLV Bolvadin 149.44 319 *i*P PKPbc 12 57 05.7 +0.3
LFK Lefkose 149.54 311 *e*P PKPdf 12 57 01.6 +0.5
HAU Haudompre 149.55 359 *e*PKIKP PKPdf 12 57 01.3 +0.5
HAU *e*MLR MLR
comp=Z,574nm,20.2s
HAU Haudompre 149.55 359 *e*PKPdf PKPdf 12 57 01.3 +0.5
HAU LR LR
comp=Z,570nm,20.3s
FELD Feldberg im Sc 149.62 357 PKP PKPbc 12 57 03.7 -1.9
ULDT Uludag 149.63 323 *i*P PKPdf 12 57 01.6 +0.5
MOF Molkenrain 149.68 358 PKP PKPdf 12 57 02.5 +1.5
MOF Molkenrain 149.68 358 PKP PKPbc 12 57 05.7 -0.1
HINF Hinteralfeld 149.72 358 *e*PKIKP PKPdf 12 57 01.3 +0.2
EDRB Edirne 149.75 328 *e*P PKPbc 12 57 04.4 -1.7
ALT Altintas 149.75 320 *e*P PKPbc 12 57 06.2 0.0
RETA Reutte 149.78 353 ⇓*i*P PKPbc 12 57 06.3 +0.3
comp=Z,302nm,1.8s
RETA Reutte 149.78 353 ⇓*i*PKPdf PKPdf 12 57 01.4 +0.3
comp=Z,62nm,2.4s,SNR=29
RETA ⇓*i*PKIKP PKIKP 12 57 06.3 -0.6
comp=Z,302nm,1.8s
SHUT Suhut-Afyon 149.78 319 *e*P PKPbc 12 57 05.4 -0.9
KBA Koelnbreinsper 149.81 350 ⇓*i*P PKPbc 12 57 06.2 +0.1
comp=Z,120nm,1.5s
KBA Koelnbreinsper 149.81 350 ⇑*i*PKPdf PKPdf 12 57 00.2 -1.0
comp=Z,39nm,1.6s,SNR=11
KBA ⇓*i*PKIKP PKIKP 12 57 06.2 -0.8
comp=Z,120nm,1.5s
MAMC Mammari 149.82 311 P PKPbc 12 57 06.1 -0.4
WATA Walderalm 149.83 352 ⇑*i* PKPbc 12 57 06.5 +0.4
comp=Z,58nm,1.0s
WATA Walderalm 149.83 352 ⇑*i*PKPdf PKPdf 12 57 01.7 +0.5
comp=Z,25nm,1.6s,SNR=59
WATA ⇑*i*PKIKP PKIKP 12 57 06.5 -0.5
comp=Z,58nm,1.0s
WATA Walderalm 149.83 352 P PKPdf 12 57 01.8 +0.6
CSS Prodhromos 149.84 311 ⇓P PKPbc 12 57 06.8 +0.2
CSS Prodhromos 149.84 311 *e*P PKPdf 12 57 01.2 -0.5
CSS Prodhromos 149.84 311 *e*PKPdf PKPdf 12 57 02.4 +0.7
CSS *e*PKPbc PKPbc 12 57 06.6 +0.1
CSS ⇓*e*P 12 57 06.8
CSS *e*PKPab PKPbc 12 57 06.9 +0.3
SOKA Soboth 149.87 347 ⇓*i*P PKPbc 12 57 06.1 -0.1
comp=Z,163nm,1.6s
SOKA Soboth 149.87 347 ⇓*i*PKPdf PKPdf 12 57 01.0 -0.3
comp=Z,60nm,1.8s
SOKA ⇓*i*PKPbc PKPbc 12 57 06.1 -0.1
comp=Z,163nm,1.6s
MOTA Moosalm 149.88 353 ⇑*i*P PKPbc 12 57 06.7 +0.4
comp=Z,123nm,1.0s
MOTA Moosalm 149.88 353 ⇑*i*PKPdf PKPdf 12 57 01.9 +0.6
comp=Z,11nm,0.9s,SNR=34
MOTA ⇑*i*PKIKP PKIKP 12 57 06.7 -0.5
comp=Z,123nm,1.0s
MOTA Moosalm 149.88 353 P PKPdf 12 57 02.2 +0.9
MOTA ⇑*i*P PKPbc 12 57 06.7 +0.4
WTTA Wattenberg 149.89 352 ⇓*i*P PKPbc 12 57 06.8 +0.6
comp=Z,376nm,2.1s
WTTA Wattenberg 149.89 352 ⇑*i*PKPdf PKPdf 12 57 01.7 +0.4
comp=Z,53nm,1.7s,SNR=69
WTTA ⇓*i*PKIKP PKIKP 12 57 06.8 -0.3
comp=Z,376nm,2.1s
BBS Basel-Blauen 150.06 358 PKP2 PKPbc 12 57 06.3 -0.4
DAVA Damuels 150.07 354 ⇑*i*P PKPbc 12 57 07.4 +0.7
comp=Z,202nm,1.1s
DAVA Damuels 150.07 354 ⇓*i*PKPdf PKPdf 12 57 02.0 +0.4
comp=Z,98nm,2.5s,SNR=42
DAVA ⇑*i*PKIKP PKIKP 12 57 07.4 -0.2
comp=Z,202nm,1.1s
DAVA Damuels 150.07 354 P PKPdf 12 57 02.3 +0.7
DAVA ⇑*i*P PKPbc 12 57 07.4 +0.7
LEF Lefka 150.08 311 *e*P PKPbc 12 57 06.8 -0.3
GDZ Gediz 150.11 321 *i*P PKPbc 12 57 07.3 +0.2
OBKA Obir 150.13 348 ⇓*i*P PKPbc 12 57 06.5 -0.3
comp=Z,408nm,3.4s
OBKA Obir 150.13 348 ⇓*i*PKPdf PKPdf 12 57 01.5 -0.3
comp=Z,45nm,2.2s,SNR=20
OBKA ⇓*i*PKPbc PKPbc 12 57 06.5 -0.3
comp=Z,408nm,3.4s
OBKA Obir 150.13 348 P PKPdf 12 57 02.1 +0.4
OBKA ⇓*i*P 12 57 06.5
BNT Bandirma 150.18 324 *e*P PKPbc 12 57 07.4 +0.2
HYF Humbligny 150.18 4 *e*PKIKP PKPdf 12 57 02.8 +1.0
MRMT Marmara Adasi 150.19 325 *e*P PKPbc 12 57 06.0 -1.2
LOMF Lomont 150.19 358 PKP PKPdf 12 57 02.7 +0.9
LOMF Lomont 150.19 358 PKP PKPbc 12 57 05.7 -1.3
ISP Isparta 150.23 318 *e*P PKPbc 12 57 06.6 -0.8
ISP Isparta 150.23 318 *e*P PKPdf 12 56 60.0 -2.2
ISP Isparta 150.23 318 ⇓*i*P PKPdf 12 57 02.3 +0.1
ISP Isparta 150.23 318 P PKPdf 12 56 60.0 -2.2
ISP P PKPbc 12 57 07.5 +0.1
TKTP Tekketepe 150.24 318 *i*P PKPdf 12 57 02.1 -0.1
FETA Feichten 150.24 353 ⇓*i*P PKPbc 12 57 07.7 +0.6
comp=Z,190nm,1.1s
FETA Feichten 150.24 353 ⇓*i*PKPdf PKPdf 12 57 02.5 +0.6
comp=Z,44nm,1.1s,SNR=38
FETA ⇓*i*PKIKP PKIKP 12 57 07.7 -0.2
comp=Z,190nm,1.1s
LOR Lormes 150.25 2 *e*PKIKP PKPdf 12 57 02.8 +0.9
comp=Z,104nm,1.4s
LOR *e*MLR MLR
comp=Z,781nm,22.2s
LOR Lormes 150.25 2 *e*PKPdf PKPdf 12 57 02.8 +0.9
LOR LR LR
comp=Z,780nm,22.3s
ABTA Abfaltersbach 150.27 350 ⇓*i*P PKPbc 12 57 07.1 -0.1
comp=Z,166nm,1.0s

ABTA Abfaltersbach 150.27 350 ⇓*i*PKPdf PKPdf 12 57 01.6 -0.4
comp=Z,50nm,1.4s,SNR=82
ABTA ⇓*i*PKPbc PKPbc 12 57 07.1 -0.1
comp=Z,166nm,1.0s
ALFC Alevga 150.27 312 ⇓P PKPbc 12 57 07.3 -0.3
comp=Z,3.8nm,0.9s
ALFC Alevga 150.27 312 ⇓*e*P PKPbc 12 57 07.3 -0.3
SART Tekirdag 150.35 326 *i* P PKPbc 12 57 07.4 -0.2
RKY Sarkoy-Tekirda 150.35 326 *e*P PKPbc 12 57 06.0 -1.7
BCK Bucak 150.41 317 *e*P PKPbc 12 57 05.8 -2.0
SSF Saint Saulge 150.44 3 *e*PKIKP PKPdf 12 57 03.1 +0.9
comp=Z,49nm,1.0s
PTCC Patocco-Chiusa 150.46 349 PKP PKPdf 12 57 02.2 0.0
BTOK Tokmak 150.52 323 *i* P PKPbc 12 57 08.8 +0.8
PLD Plovdiv 150.55 330 *e*P PKPbc 12 57 07.1 -0.9
KHAL Karahalli 150.55 320 *i* P PKPbc 12 57 08.8 +0.6
KDZ Kurdzhali 150.56 329 *i* P PKPbc 12 57 08.5 +0.4
MFF Saint Martin d 150.56 8 *e*PKIKP PKPdf 12 57 02.9 +0.5
KHL Karahalli 150.56 320 *e*P PKPbc 12 57 08.9 +0.7
LJU Ljubljana 150.58 347 *i* PKPdf PKPdf 12 57 02.8 +0.3
LJU *i* PKPbc PKPbc 12 57 08.3 +0.4
LJU *e*PKPab PKPab 12 57 18.8 +3.8
LJU *e* 12 57 43.0
LJU Ljubljana 150.58 347 *i* PKIKP PKPdf 12 57 02.8 +0.4
LJU *i* 12 57 08.3
LJU *e* 12 57 43.0
PPCY Paphos 150.58 311 P PKPbc 12 57 08.4 0.0
DEMI Demirci 150.60 322 *i* P PKPbc 12 57 08.4 +0.2
GMNA Gemona 150.60 349 PKP PKPdf 12 57 03.0 +0.5
ANTB Antalya 150.69 316 *e*P PKPbc 12 57 07.7 -0.8
BALB Balikesir 150.69 323 *e*P PKPbc 12 57 08.2 -0.3
SISC Sisak 150.69 345 *i* P PKPdf 12 57 02.5 -0.1
AVF Avril sur Loir 150.70 3 *e*PKIKP PKPdf 12 57 03.1 +0.5
comp=Z,20nm,1.0s
APPI Appiano 150.71 352 PKP PKPbc 12 57 07.9 -0.4
VOY Vojsko 150.72 348 *e*PKP PKPdf 12 57 03.3 +0.6
VOY *e* 12 57 08.8
VOY *e* 12 57 43.0
VOY *e* 12 58 09.8
BALY Balya 150.77 324 *i* P PKPbc 12 57 08.7 +0.1
ALN Alexandroupoli 150.80 327 *e*P PKPdf 12 57 02.2 -0.8
LPK Lapseki 150.80 326 *e*P PKPbc 12 57 09.1 +0.4
JAVS Javornik 150.81 348 *i* PKPdf PKPdf 12 57 03.0 +0.2
JAVS *i* PKPbc PKPbc 12 57 08.5 -0.1
JAVS *e* 12 57 42.6
DIVS Divibare 150.84 339 *e*P PKPdf 12 57 02.7 -0.2
VTS Vitosha 150.84 333 ⇑*i*P PKPdf 12 57 03.8 +0.8
VTS Vitosha 150.84 333 ⇑P PKPdf 12 57 03.8 +0.9
ENEZ Enez 150.86 327 *e*P PKPbc 12 57 07.8 -1.0
RDO Rodhopi 150.87 328 *e*P PKPdf 12 57 02.6 -0.5
SMF Signal de Mont 150.87 3 *e*PKIKP PKPdf 12 57 03.5 +0.6
comp=Z,76nm,1.4s
BGF Bois d'Agland 150.91 4 *e*PKIKP PKPdf 12 57 03.8 +0.9
TUE Stuetta 150.93 355 *e*PKPdf PKPdf 12 57 03.8 +0.8
TUE *e*PKPbc PKPbc 12 57 09.9 +1.2
TUE *e*PKPab PKPab 12 57 16.3 -0.1
BOJS Bojanci 150.93 346 *i* PKPdf PKPdf 12 57 03.6 +0.6
BOJS *i* PKPbc PKPbc 12 57 09.2 +0.4
BOJS *e* 12 57 45.1
CABF La Chapelle 150.94 359 *e*PKIKP PKPdf 12 57 03.3 +0.3
KULA Kula-Manisa 150.97 321 *e*P PKPbc 12 57 08.8 -0.4
CTI Castel Tesino 151.08 351 PKIKP PKPdf 12 57 03.9 +0.7
TCF Toulx Ste Croi 151.13 5 *e*PKIKP PKPdf 12 57 04.0 +0.7
comp=Z,52nm,1.1s
GOLH Golhisar 151.20 318 *i* P PKPbc 12 57 10.2 +0.4
OG01 Vacheresse 151.22 359 PKP PKPbc 12 57 11.3 +1.9
MABI Malga Bissina 151.22 353 PKP PKPbc 12 57 09.4 -0.1
AKHS Akhisar 151.24 322 *i* P PKPbc 12 57 09.7 -0.1
AKS Akhisar 151.24 322 *e*P PKPbc 12 57 10.2 +0.5
DNZL Cakiroluk 151.25 319 *i* P PKPbc 12 57 10.7 +0.9
ELL Elmali 151.26 317 *e*P PKPbc 12 57 09.8 -0.1
GADA Gvkgeada 151.39 326 *e*P PKPbc 12 57 07.4 -2.7
MMB Musomiste 151.41 331 *i* P PKPbc 12 57 10.0 -0.1
EZN Ezine 151.42 325 *e*P PKPbc 12 57 09.4 -0.7
AGO Saint Agoulin 151.43 4 PKP PKPdf 12 57 05.1 +1.4
OG05 Jujurieux 151.52 0 PKP PKPdf 12 57 05.4 +1.5
NVR Nevrokopi 151.53 330 *e*P PKPbc 12 57 10.2 -0.2
PLDF La Plantade 151.54 3 PKP PKPdf 12 57 05.0 +1.1
BOZC Bozcaada 151.56 326 *i* P PKPbc 12 57 10.0 -0.5
AYVA Ayvalik 151.59 324 *i* P PKPbc 12 57 10.7 +0.2
VERF Verneugheol 151.68 5 PKP PKPdf 12 57 05.6 +1.5
EMAZ Mazaricos 151.72 23 PKP PKPdf 12 57 06.0 +1.7
PYM Petit Puy Mans 151.72 4 PKP PKPdf 12 57 06.0 +1.8
PLE Pljevlja 151.72 339 ⇑*i*PKP PKPbc 12 57 11.7 +1.0
AKAS Kas 151.76 316 *i* P PKPbc 12 57 11.2 +0.1
SRS Serrai 151.84 330 *e*P PKPbc 12 57 09.1 -1.9
PRK Paraskevi 151.86 325 *e*P PKPdf 12 57 02.1 -2.5
PRK Paraskevi 151.86 325 *e*P PKPdf 12 57 04.8 +0.2
KDAG Bornova 151.87 322 *i* P PKPbc 12 57 11.3 +0.1
IZM Izmir 151.88 322 *e*P PKPbc 12 57 11.2 -0.1
NVLJ Novalja 151.91 346 *i* P PKPdf 12 57 04.3 -0.2
STS Santiago 151.93 23 PKIKP PKPdf 12 57 05.9 +1.3
IVA Berane 151.94 337 ⇑*i*PKP PKPbc 12 57 11.4 +0.2
AYDN Tasoluk 151.99 320 *i* P PKPbc 12 57 12.1 +0.6
COLF Collangettes 151.99 3 PKP PKPbc 12 57 07.0 -4.2
UPM Unac-Piva 152.00 339 ⇑*i*PKP PKPbc 12 57 11.5 +0.2
BLCB Balcova 152.01 322 *e*P PKPbc 12 57 10.9 -0.6
STIP Stip 152.02 333 *e*P PKPdf 12 57 03.9 -0.9
STIP Stip 152.02 333 *e*PKP PKPdf 12 57 04.5 -0.3
EPON Pontenova 152.03 20 PKP PKPdf 12 57 06.6 +1.9
LPL La Plagne 152.03 358 *e*PKIKP PKPdf 12 57 05.1 +0.4
TURN Turunc 152.03 318 *i* P PKPdf 12 57 05.4 +0.4
RJF Les Rejaudoux 152.04 6 *e*PKIKP PKPdf 12 57 04.6 -0.1
comp=Z,70nm,1.1s
RJF *e*MLR MLR
comp=Z,741nm,23.0s
RJF Les Rejaudoux 152.04 6 *e*PKPdf PKPdf 12 57 04.6 -0.1
RJF LR LR
comp=Z,740nm,23.0s
LPG La Plagne 152.05 358 *e*PKIKP PKPdf 12 57 05.4 +0.7
FRNF Fournols 152.05 5 PKP PKPdf 12 57 06.4 +1.7
YER Yerkesik 152.07 319 *e*P PKPbc 12 57 10.4 -1.3
DALT Dalyan (Mudla) 152.07 318 *e*P PKPbc 12 57 11.6 -0.1
LSD Lago del Serru 152.07 358 PKIKP PKPdf 12 57 05.5 +0.8
SKO Skopje 152.10 334 *e*P PKPdf 12 57 03.6 -1.3
SKO Skopje 152.10 334 *e*PKP PKPdf 12 57 05.5 +0.6
VAY Valandovo 152.15 332 *e*P PKPbc 12 57 10.8 -0.9
VAY Valandovo 152.15 332 *e*PKP PKPdf 12 57 01.9 -3.1
PVY Plav 152.15 337 ⇓*i*PKP PKPbc 12 57 11.7 0.0
SOH Sokhos 152.19 330 *e*P PKPbc 12 57 10.5 -1.4
LBL Lubilhac 152.25 4 PKP PKPdf 12 57 06.5 +1.5
OUR Ouranopolis 152.26 329 *e*P PKPdf 12 57 04.9 -0.3
SSB Saint Sauveur 152.26 2 PKP PKPdf 12 57 06.4 +1.4
SSB Saint Sauveur 152.26 2 *e*PKPdf PKPdf 12 57 06.3 +1.3
SSB *e*PKPbc PKPbc 12 57 11.6 -0.3
MLSB Milas 152.28 320 *e*P PKPbc 12 57 10.6 -1.6
LFF La Frestale 152.31 8 *e*PKIKP PKPdf 12 57 05.8 +0.7
NKY Niksic 152.31 339 ⇓*i*PKP PKPbc 12 57 12.5 +0.4
GRN Grenoble 152.31 360 PKP PKPdf 12 57 06.6 +1.5
GDM Grand'Maison 152.35 359 PKP PKPdf 12 57 06.7 +1.5
GCAM G?zelcaml? 152.35 321 *i* P PKPbc 12 57 12.3 0.0
RSP Reno Superiore 152.37 358 PKIKP PKPdf 12 57 06.1 +0.9
BRY Bratogost 152.39 339 ⇓*i*PKP PKPbc 12 57 11.9 -0.3
CAF Calviac 152.47 6 *e*PKIKP PKPdf 12 57 05.1 -0.2
comp=Z,44nm,1.2s
HORT Hortiatis 152.48 330 *e*P PKPdf 12 57 03.6 -1.9
PLG Polygyros 152.49 330 *e*P PKPbc 12 57 10.9 -1.6
PLG Polygyros 152.49 330 *e*P PKPbc 12 57 12.1 -0.4
BNI Bardonecchia 152.49 358 *e*PKPdf PKPdf 12 57 07.0 +1.6
BNI *e*PKPbc PKPbc 12 57 14.0 +1.7
THE Thessaloniki 152.52 331 *e*P PKPdf 12 57 04.8 -0.8
GRG Griva 152.52 332 *e*P PKPdf 12 57 04.8 -0.8
TTG Podgorica 152.56 338 ⇑*i*PKP PKPbc 12 57 12.3 -0.3
CHOS Chios island 152.58 324 *e*P PKPbc 12 57 12.6 -0.2
SMG Samos 152.59 322 *e*P PKPbc 12 57 12.4 -0.4
BOB Bobbio (Coli) 152.61 354 PKIKP PKPbc 12 57 13.9 +1.3
RRL Rocca Remolon 152.62 358 PKIKP PKPdf 12 57 07.4 +1.8
BDRM Kayabasi 152.64 320 *i* P PKPdf 12 57 05.9 0.0
ORIF Oris-en-Rattie 152.64 360 *e*PKIKP PKPdf 12 57 06.7 +1.1
comp=Z,28nm,0.9s
ORIF *e*MLR MLR
comp=Z,745nm,22.2s
EARI Arriondas 152.65 17 PKP PKPdf 12 57 06.3 +0.7
BHB Bricherasio 152.68 358 P PKPdf 12 57 05.0 -0.7
KRUS Krusevo 152.68 334 *e*PKP PKPdf 12 57 06.2 +0.4
VIVF Saint-Julien-l 152.69 2 *e*PKIKP PKPdf 12 57 06.8 +1.1
comp=Z,37nm,1.0s
PAIG Paliouri 152.72 329 *e*P PKPdf 12 57 04.5 -1.4
ARG Arkhangelos 152.73 318 *e*P PKPbc 12 57 13.8 +0.6
BUM Brajici-Budva 152.80 338 ⇑*i*PKP PKPbc 12 57 13.2 0.0
HCY Herceg Novi 152.81 339 ⇑*i*PKP PKPbc 12 57 12.4 -0.8

MBDF Montbardon 152.81 358 *e*PKIKP PKPdf 12 57 05.9 0.0
comp=Z,22nm,0.9s
ERUA La Rua 152.86 21 PKIKP PKPdf 12 57 07.5 +1.5
BIA Bitola 152.94 333 *e*P PKPbc 12 57 10.6 -3.0
BIA Bitola 152.94 333 *e*PKP PKPdf 12 57 04.9 -1.3
ULC Ulcinj 152.97 337 ⇑*i*PKP PKPbc 12 57 13.5 0.0
OCF Saint Nazaire 152.98 1 PKP PKPdf 12 57 08.0 +1.9
OG26 St.-Nazaire-De 152.98 1 PKP PKPdf 12 57 08.0 +1.9
ELOB Lobios 152.99 23 PKP PKPdf 12 57 07.3 +1.1
FNVD Fontana Vidola 153.00 351 PKP PKPdf 12 57 07.0 +0.9
SURF Saint Ours 153.06 358 PKP PKPdf 12 57 07.8 +1.6
OHR Ohrid 153.09 334 *e*P PKPdf 12 57 04.7 -1.7
OHR Ohrid 153.09 334 *e*PKP PKPdf 12 57 03.8 -2.6
VLC Villacollemand 153.10 352 PKP PKPdf 12 57 07.5 +1.2
VLC *e*PKPbc PKPbc 12 57 13.4 -0.3
FNA Florina 153.11 333 *e*P PKPdf 12 56 56.7 -10
QLNO Quiliano 153.14 356 PKP PKPdf 12 57 07.5 +1.2
PCAB Cabril 153.14 23 *e*PKPbc PKPbc 12 57 15.7 +1.8
LIT Litokhoron 153.16 331 *e*P PKPdf 12 57 04.8 -1.7
ELAN Lanestosa 153.19 15 PKP PKPdf 12 57 07.4 +0.9
AOS Alonnisos 153.19 327 *e*P PKPdf 12 57 02.9 -3.7
ROB Robourent 153.20 356 PKIKP PKPdf 12 57 05.7 -0.7
FIN Finale Ligure 153.26 356 PKIKP PKPdf 12 57 07.8 +1.3
ENR Entracque 153.29 357 PKIKP PKPdf 12 57 05.2 -1.4
XOR Xorichti 153.39 329 *e*P PKPdf 12 57 07.4 +0.5
ECAL Calabor 153.40 21 PKP PKPdf 12 57 07.7 +0.9
CING Cingoli 153.41 348 PKP PKPdf 12 57 09.2 +2.4
NEO Neokhori 153.42 328 *e*P PKPdf 12 57 06.9 0.0
LASF Ste Croix 153.44 3 *e*PKIKP PKPdf 12 57 07.9 +1.1
comp=Z,58nm,0.9s
TOUF Mont Tournerai 153.51 357 PKP PKPdf 12 57 08.4 +1.5
AUTN L'Aution 153.52 357 PKP PKPdf 12 57 06.9 0.0
SAOF Saorge 153.52 357 PKP PKPdf 12 57 08.7 +1.8
SMRF Simiane la Rot 153.58 0 *e*PKIKP PKPdf 12 57 07.4 +0.4
comp=Z,34nm,1.0s
EALK Alkurruntz 153.62 12 PKP PKPdf 12 57 08.5 +1.4
MVIF Mont Vial 153.63 358 PKP PKPdf 12 57 09.5 +2.4
MURB Monte Urbino 153.65 349 PKP PKPdf 12 57 09.0 +1.9
CSNT Castellina Chi 153.65 351 PKP PKPdf 12 57 07.6 +0.5
SBF Sospel 153.65 357 *e*PKIKP PKPdf 12 57 07.3 +0.2
ELIZ Elizondo 153.67 12 PKIKP PKPdf 12 57 08.5 +1.4
KARP Karpathos 153.76 317 *e*P PKPab 12 57 29.3 +0.5
REVF Revere 153.78 357 PKP PKPdf 12 57 09.4 +2.1
SJPF Ste Jean 153.78 11 *e*PKIKP PKPdf 12 57 07.8 +0.5
CALN Calern 153.78 358 PKP PKPdf 12 57 08.6 +1.3
THL Klokotos Trika 153.81 330 *e*P PKPdf 12 57 06.0 -1.5
TAVF Tavernes 153.94 359 PKP PKPdf 12 57 07.1 -0.4
MVO Moncorvo 153.98 22 *e*PKPdf PKPdf 12 57 09.4 +1.7
MVO Moncorvo 153.98 22 *e*PKPbc PKPbc 12 57 16.4 +0.6
FRF La Foret Royal 153.98 358 *e*PKIKP PKPdf 12 57 08.0 +0.4
MEV Metsovon 153.99 332 *e*P PKPdf 12 57 08.5 +0.8
ECRI Cripan 153.99 14 PKIKP PKPdf 12 57 09.9 +2.3
PUYF Puyloubier 154.03 360 PKP PKPdf 12 57 09.5 +1.9
LKR Lokris 154.03 328 *e*P PKPbc 12 57 16.9 +0.9
LKR Lokris 154.03 328 *e*P PKPbc 12 57 15.0 -1.0
PVIS Viseu 154.05 24 *e*PKPbc PKPbc 12 57 16.4 +0.5
PVIS Viseu 154.05 24 *e*PKPab PKPab 12 57 30.1 +0.3
MTLF Montolieu 154.05 6 *e*PKIKP PKPdf 12 57 07.7 0.0
comp=Z,15nm,0.9s
AGG Agios Georgios 154.08 329 *e*P PKPdf 12 57 06.1 -1.8
ETSF Etsaut 154.11 11 *e*PKIKP PKPdf 12 57 08.4 +0.6
comp=Z,46nm,1.3s
EPF Esparros 154.13 9 *e*PKIKP PKPdf 12 57 08.7 +0.9
comp=Z,14nm,0.8s
GELF Grande-Etoile 154.17 0 PKP PKPdf 12 57 09.0 +1.2
LMR La Mourre 154.21 359 *e*PKIKP PKPdf 12 57 08.3 +0.4
comp=Z,46nm,1.1s
THR3 Thira Island, 154.31 321 *e*P PKPdf 12 57 08.3 0.0
THR5 Thira Island, 154.33 321 *e*P PKPbc 12 57 14.4 -2.3
AQU L'Aquila 154.34 347 ⇓*i*P PKPdf 12 57 11.1 +3.0
AQU L'Aquila 154.34 347 *e*PKPdf PKPdf 12 57 09.0 +0.9
RESF Ens 154.34 9 PKP PKPbc 12 57 10.2 +2.1
THR6 Thira Island, 154.34 321 *e*P PKPbc 12 57 14.4 -1.3
EVR Evrytania 154.42 330 *e*P PKPdf 12 57 08.2 -0.1
RGNG Rignano Grg 154.43 343 PKP PKPdf 12 57 08.6 +0.3
EBIE Bielsa 154.43 9 PKP PKPdf 12 57 10.6 +2.4
MTE Manteigas 154.46 24 *e*PKPdf PKPdf 12 57 10.3 +2.0
MTE Manteigas 154.46 24 *e*PKPbc PKPbc 12 57 17.5 +0.7
MTE Manteigas 154.46 24 *e*PKPdf PKPdf 12 57 09.7 +1.3
MTE *e*PKPbc PKPbc 12 57 17.1 +0.3
LRDF Laroque-de-Fa 154.48 5 PKP PKPdf 12 57 09.2 +0.9
LTK Loutraki 154.53 327 *e*P PKPbc 12 57 17.9 +0.8
IGT Igoumenitsa 154.59 333 *e*P PKPdf 12 57 10.4 +1.8
PMAR Madeira 154.61 49 *e*PKPdf PKPdf 12 57 12.0 +3.2
PMAR Madeira 154.61 49 *e*PKPab PKPab 12 57 33.0 +0.5
ZKR Zakros 154.63 318 *e*P PKPbc 12 57 14.3 -3.0
DID Didima 154.77 326 *e*P PKPdf 12 57 06.0 -2.9
PTOM Tomar 154.77 26 *e*PKPdf PKPdf 12 57 09.3 +0.5
PTOM Tomar 154.77 26 *e*PKPbc PKPbc 12 57 18.4 +0.9
PTOM Tomar 154.77 26 *e*PKPab PKPab 12 57 33.0 +0.1
MIDA Miranda 154.81 346 PKP PKPdf 12 57 08.4 +1.0
CERT Cerreto 154.82 347 PKP PKPdf 12 57 08.5 -0.3
PGF Pioggiola 154.85 354 *e*PKIKP PKPdf 12 57 08.1 -0.7
comp=Z,34nm,0.9s
PMAFR Mafra 154.94 28 *e*PKPdf PKPdf 12 57 10.9 +1.8
PMAFR Mafra 154.94 28 *e*PKPbc PKPbc 12 57 18.7 +0.8
PMAFR Mafra 154.94 28 *e*PKPab PKPab 12 57 34.1 +0.5
PCBR Castelo Branco 154.96 24 *e*PKPdf PKPdf 12 57 10.4 +1.3
PCBR Castelo Branco 154.96 24 *e*PKPbc PKPbc 12 57 18.4 +0.5
EJON La Jonquera 155.00 5 PKP PKPdf 12 57 10.8 +1.8
LAST Lasithi 155.07 319 *e*P PKPdf 12 57 17.9 +8.5
CORF Corte 155.08 354 PKP PKPdf 12 57 18.1 +9.0
LKD Levkas 155.13 331 *e*P PKPdf 12 57 10.1 +0.8
RFI Roccamonfina 155.20 345 PKP PKPdf 12 57 12.7 +3.4
RLS Riolos of Patr 155.26 329 *e*P PKPdf 12 57 19.8 +10
ESAC San Caprasio 155.27 1 PKP PKPdf 12 57 08.6 -0.8
CSSN Cassano Irpino 155.34 343 PKP PKPdf 12 57 09.7 +0.2
PMRV Marv??o 155.35 25 *e*PKPdf PKPdf 12 57 10.8 +1.2
PMRV Marv??o 155.35 25 *e*PKPbc PKPdf 12 57 19.5 +10
PMRV Marv??o 155.35 25 *e*PKPab PKPab 12 57 35.4 0.0
EMIR Miracle 155.38 7 PKP PKPdf 12 57 12.0 +2.4
GUD Guadarrama 155.40 18 PKIKP PKPdf 12 57 11.1 +1.5
KFL Anninata 155.54 330 *e*P PKPdf 12 57 17.5 +7.6
VLS Valsamata 155.58 331 *e*P PKPab 12 57 36.1 -0.4
SIVA Sivas 155.59 319 *e*P PKPdf 12 57 21.1 +11
VAM Vamos 155.70 321 *e*P PKPab 12 57 37.3 +0.3
PESTR Estremoz 155.75 26 *e*PKPdf PKPdf 12 57 11.3 +1.2
PESTR Estremoz 155.75 26 *e*PKPab PKPab 12 57 36.6 -0.5
ETOR Torete 155.80 14 PKIKP PKPdf 12 57 11.6 +1.4
EVO Evora 155.85 27 *e*PKIKP PKPdf 12 57 11.3 +1.0
comp=Z,98nm,1.4s
EVO *e*MLR MLR
comp=Z,625nm,20.5s
EVO Evora 155.85 27 *e*PKPdf PKPdf 12 57 11.4 +1.1
MGR Morigerati 155.85 341 PKP PKPdf 12 57 11.3 +1.1
KARN Karanos 155.87 321 *e*P PKPdf 12 57 20.3 +10
EPOB Poblet 155.88 8 PKP PKPdf 12 57 09.1 -1.2
CUC Castrocucco 155.90 341 PKPdf PKPdf 12 57 08.9 -1.4
CUC *e*PKPab PKPab 12 57 36.4 -1.3
EBAD Badajoz 156.08 25 PKP PKPdf 12 57 11.0 +0.4
ERTA Horta de San J 156.15 10 PKP PKPdf 12 57 12.4 +1.7
TIP Timpagrande 156.32 338 *e*PKPdf PKPdf 12 57 11.1 +0.2
TIP *e*PKPab PKPab 12 57 39.4 -0.2
PBEJ Beja 156.33 27 *e*PKPdf PKPdf 12 57 12.7 +1.8
PTEO Sao Teotonio 156.33 29 *e*PKPdf PKPdf 12 57 13.1 +2.1
PTEO Sao Teotonio 156.33 29 *e*PKPab PKPab 12 57 40.6 +0.9
PAB San Pablo 156.34 20 *e*PKIKP PKPdf 12 57 11.7 +0.8
ESDC Sonseca Array 156.35 19 PKP PKPdf 12 57 11.9 +1.0
comp=Z,5.3nm,0.9s,baz=348,slow=2.7,SNR=19
ESDC PKPab PKPab 12 57 40.0 +0.4
comp=Z,8.5nm,0.8s,baz=327,slow=3.5,SNR=4.6
ESDC pPKPab pPKPab 12 58 11.2 -1.7
comp=Z,9.6nm,1.1s,baz=325,slow=4.0,SNR=2.0
ESDC Sonseca Array 156.35 19 PKP PKPdf 12 57 11.8 +0.9
ESLA Sonseca Array 156.35 19 *e*PKPdf PKPdf 12 57 12.1 +1.2
ESLA *e*PKPab PKPab 12 57 39.7 0.0
EGOM La Gomera 156.42 59 PKP PKPdf 12 57 12.4 +1.0
PBAR Barrancos 156.56 26 *e*PKPdf PKPdf 12 57 12.0 +0.8
MORF Marmelete 156.56 30 *e*PKPdf PKPdf 12 57 13.1 +1.8
MORF Marmelete 156.56 30 *e*PKPab PKPab 12 57 41.2 +0.5
EMOS Mosqueruela 156.58 12 PKP PKPdf 12 57 11.5 +0.3
PFVI Vila Bisbo 156.62 30 *e*PKPdf PKPdf 12 57 13.1 +1.8
CCAN Las Canadas 156.89 58 PKP PKPdf 12 57 11.9 -0.1
EGRO El Granado 156.91 27 PKP PKPdf 12 57 11.7 0.0
PVAQ Vaqueiros 156.91 28 *e*PKPdf PKPdf 12 57 13.5 +1.8
PVAQ Vaqueiros 156.91 28 *e*PKPab PKPab 12 57 42.8 +0.6
PBDV Barranco-do-Ve 156.95 29 *e*PKPdf PKPdf 12 57 13.7 +1.9
PBDV Barranco-do-Ve 156.95 29 *e*PKPab PKPab 12 57 43.0 +0.7
EMIN Mina Concepcio 157.06 26 PKP PKPdf 12 57 12.6 +0.7
ECAB El Cabril 157.29 23 PKP PKPdf 12 57 12.7 +0.5
CEL Celeste 157.44 339 PKPdf PKPdf 12 57 12.1 -0.3

EADA Adamuz 157.51 22 PKP PKPdf 12 57 14.8 +2.3
EVIA Vianos 157.74 17 PKIKP PKPdf 12 57 12.3 -0.4
EBAN Banos Encina 157.78 20 PKIKP PKPdf 12 57 14.4 +1.6
VSL Villasalto 157.82 352 *e*PKPdf PKPdf 12 57 13.6 +0.9
ETOB Tobarra 157.98 15 PKP PKPdf 12 57 15.0 +2.0
ESPR Espera 158.16 26 PKP PKPdf 12 57 12.3 -0.9
ELUQ Luque 158.16 22 PKIKP PKPdf 12 57 13.2 -0.1
EQES Quesada 158.34 19 PKP PKPdf 12 57 12.8 -0.7
EHUE Huescar 158.47 18 PKIKP PKPdf 12 57 15.4 +1.8
ELOJ Sierra Loja' 158.57 22 PKIKP PKPdf 12 57 14.7 +0.9
ECOG Cogollos-Vega 158.66 21 PKIKP PKPdf 12 57 14.7 +0.8
EJIF Jimena Fronter 158.68 25 PKIKP PKPdf 12 57 13.7 -0.2
ERON Agron 158.81 21 PKP PKPdf 12 57 13.7 -0.4
CFTV Fuerteventura 158.83 56 PKP PKPdf 12 57 16.4 +2.0
CAEH 'Ain El Ouahoch 160.74 357 P PKPdf 12 57 18.0 +1.7
CMAH Djebel Manchou 160.86 356 P PKPdf 12 57 17.5 +1.1
DFRA Djebel Bou Aff 161.00 359 P PKPdf 12 57 18.0 +1.5
CASM Ain Smara 161.28 358 P PKPdf 12 57 18.0 +1.2
SET Setif 161.35 1 P PKPdf 12 57 18.0 +1.1
KEST Kesra 161.53 351 PKP PKPdf 12 57 17.9 +0.8
comp=Z,5.4nm,1.0s,baz=267,slow=2.9,SNR=16
KEST PKPab PKPab 12 58 02.5 +0.3
comp=Z,8.2nm,0.9s,baz=300,slow=4.9,SNR=9.1
KEST pPKPab pPKPab 12 58 35.0 -0.3
comp=Z,3.0nm,0.9s,baz=0.0,slow=0.0,SNR=1.1
LIC Lamto 164.69 136 *e*PKIKP PKPdf 12 57 20.1 -0.7
comp=Z,81nm,1.2s
LIC *e*MLR MLR
comp=Z,1μm,20.5s
LIC Lamto 164.69 136 *e*PKIKP PKPdf 12 57 20.5 -0.3
comp=Z,133nm,1.6s
LIC Lamto 164.69 136 *e*PKPdf PKPdf 12 57 20.1 -0.7
LIC LR LR
comp=Z,540nm,20.5s
KIC Kosan Boka 164.98 136 *e*PKIKP PKPdf 12 57 20.8 -0.3
comp=Z,50nm,0.7s
TIC Toumodi 165.00 135 *e*PKIKP PKPdf 12 57 20.9 -0.2
comp=Z,469nm,1.6s
DBIC Dimbokro 165.13 135 PKP PKPdf 12 57 20.9 -0.3
comp=Z,8.5nm,0.7s,baz=188,slow=0.9,SNR=13
DBIC pPKP pPKPdf 12 57 57.2 +1.4
comp=Z,25nm,1.1s,baz=137,slow=1.9,SNR=5.6
DBIC Dimbokro 165.13 135 PKIKP PKPdf 12 57 20.9 -0.3
DBIC 12 57 57.2
DBIC pmax pmax
comp=Z,9.0nm,0.7s
DBIC Dimbokro 165.13 135 *e*PKPdf PKPdf 12 57 21.1 -0.1
TORD Torodi Ar. Bea 174.23 138 PKP PKPdf 12 57 26.2 -0.3
comp=Z,21nm,0.9s,baz=325,slow=1.3,SNR=84
TORD pPKP pPKPdf 12 58 01.1 -0.1
comp=Z,14nm,1.1s,baz=315,slow=0.8,SNR=4.5
TORD PKPab PKPab 12 59 00.2 +1.3
comp=Z,26nm,1.1s,baz=246,slow=3.0,SNR=12
TORD pPKPab pPKPab 12 59 34.0 +1.9
comp=Z,16nm,1.1s,baz=258,slow=2.0,SNR=4.7
TORD Torodi Ar. Bea 174.23 138 PKP PKPdf 12 57 26.2 -0.3
TORD pPKP pPKPdf 12 58 01.1 -0.1
TORD PKPab PKPab 12 59 00.2 +1.3
TORD pPKPab pPKPab 12 59 34.0 +1.9
TAM Tamanrasset 174.71 2 *e*PKIKP PKPdf 12 57 28.3 +1.9

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*IDC **26** 12:50:11.6±0.7, 1358S×7674W, h0km, mb4.1/11,*
mb1 4.3/14, mb1mx4.2/18, mbtmp4.1/14, ML3.9/2, MS4.1/2,
Ms1 4.1/2, ms1mx3.3/26, Error ellipse: s-maj=24.6km
s-min=10.7km az=71.0
*ISCJB **26** 12:50:13.2±2.7, 1367S±007×768W±0.1, h27km±19km,*
mb4.0/12, Error ellipse: s-maj=21.5km s-min=8.2km
az=158.3
*NEIC **26** 12:50:14.8±3.6, 1354S×7668W, h21km±25km, mb4.5/2,*
Error ellipse: s-maj=17.9km s-min=8.1km az=60.0
*MOS **26** 12:50:15.2±1.6, 1351S×7680W, h33km, mb4.6/2, Error*
ellipse: s-maj=27.7km s-min=12.6km az=38.1
ISC 26 12:50:11.4±1.9, 1358S±006×7673W±009, h0km±11km, n42,
σ0991/39, mb4.2/12, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.58**	**356**	Pg	**Pg**	**12 50 41.8**	**-0.1**
313nm,0.3s,baz=167,slow=13,SNR=166							
NNA				Lg		12 51 03.2	
750nm,0.3s,baz=200,slow=17,SNR=22							
NNA	**Nana**	**1.58**	**356**	*e*Pn	**Pn**	**12 50 41.7**	**+0.9**
NNA				Pg	**Pg**	**12 50 41.8**	**-0.1**
NNA				*e*S	**Sn**	**12 51 02.3**	**+0.4**
NNA				Lg		12 51 03.2	
ARE	**Arequipa**	**5.82**	**120**	*e*P	**Pn**	**12 51 45.0**	**+6.0**
ARE				*e*S	**Sb**	**12 53 04.0**	**-0.1**
ATAH	**Atahualpa**	**6.74**	**346**	Pn	**Pn**	**12 51 49.8**	**-1.9**
0.6nm,0.3s,baz=80,slow=14,SNR=2.0							
ATAH				Sn	**Sn**	**12 53 04.1**	**-5.0**
0.6nm,0.3s,baz=11,slow=22,SNR=2.3							
ATAH				Lg		12 53 30.4	
2.8nm,0.3s,baz=276,slow=22,SNR=3.8							
LPAZ	**La Paz**	**8.74**	**109**	Pn	**Pn**	**12 52 23.7**	**+4.6**
5.7nm,0.3s,baz=300,slow=9.8,SNR=60							
LPAZ	**La Paz**	**8.74**	**109**	*e*Pn	**Pn**	**12 52 24.8**	**+5.7**
LVC	**Limon Verde**	**11.66**	**142**	Pn	**Pn**	**12 53 00.0**	**+0.9**
1.5nm,0.3s,baz=319,slow=8.4,SNR=10							
LVC				Sn	**Sn**	**12 55 06.2**	**-3.9**
0.9nm,0.3s,baz=73,slow=19,SNR=5.1							
LVC				Lg		12 56 03.1	
0.1nm,0.3s,baz=202,slow=18,SNR=3.8							
LVC				LR	LR	12 57 38.1	
comp=Z,397nm,18.9s,baz=341,slow=38							
LVC	**Limon Verde**	**11.66**	**142**	*e*Pn	**Pn**	**12 52 59.9**	**+0.8**
LVC				Sn	**Sn**	**12 55 06.2**	**-3.9**
LVC				Lg		12 56 03.1	
LVC				LR	LR	12 57 38.1	
OTAV	**Otavalo**	**13.83**	**353**	P	**Pn**	**12 53 34.7**	**+5.8**
12nm,1.0s							
SIV	**San Ignacio**	**15.33**	**101**	Pn	**Pn**	**12 53 50.2**	**+0.9**
1.1nm,0.3

ZALV	Zalesovo Beam	137.17	16	PKP	PKPdf	13 09 36.7	+0.3
	comp=Z,1.3nm,0.7s,baz=288,slow=1.4,SNR=3.5						
ZALV	Zalesovo Beam	137.17	16	PKP	PKPdf	13 09 36.7	+0.3
ZAL	Zalesovo	137.18	16	PKIKP	PKPdf	13 09 36.7	+0.2
SONM	Songino Array	145.75	356	PKPbc	PKPbc	13 09 53.1	+0.7
	comp=Z,3.1nm,0.9s,baz=343,slow=2.6,SNR=11						
KSRS	Korea Array	147.63	322	PKPbc	PKPbc	13 09 56.4	-1.8
	comp=Z,1.2nm,0.8s,baz=4.3,slow=1.5,SNR=6.0						

*IDC **26** 12:54:58.0±0.7, 981S×15395E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.3/18, mbtmp4.2/16, ML3.8/2, MS4.3/3, Ms1 4.3/3, ms1mx3.8/23, Error ellipse: s-maj=22.3km s-min=15.7km az=117.0*

*ISCJB **26** 12:55:01.3±0.5, 981S±009×15403E±008, h33km, mb4.3/19, MS4.3/3, Error ellipse: s-maj=14.9km s-min=9.3km az=141.4*

*NEIC **26** 12:55:01.9±2.9, 984S×1540 5E, h25km±21km, mb4.5/6, Error ellipse: s-maj=12.8km s-min=7.4km az=152.0*

ISC 26 12:55:01.5±4.5, 98S±01×15404E±009, h22km±34km, n37, σ0$91/30, mb4.3/19, MS4.2/3, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.84	87	Pn	Pn	12 56 27.1	+0.3
	12nm,0.3s,baz=234,slow=5.5,SNR=2.8						
CTA	Charters Tower	12.67	215	Pn	Pn	12 57 59.0	-1.5
	0.1nm,0.3s,baz=256,slow=22,SNR=2.0						
CTA	Charters Tower	12.67	215	Pn	Pn	12 57 59.0	-1.5
KAKA	Kakadu	21.37	260	eP	P	12 59 48.7	+1.0
	9.1nm,0.6s,mb4.3						
WRAB	Tennant Creek	21.49	240	eP	P	12 59 50.0	+1.0
	14nm,0.9s,mb4.3						
WB2	Warramunga Arr	21.50	240	eP	P	12 59 50.0	+1.0
WB2	Warramunga Arr	21.50	240	eP	P	12 59 50.0	+1.0
WRA	Warramunga Arr	21.51	240	P	P	12 59 49.9	+0.8
	3.0nm,0.5s,mb4.0,baz=64,slow=9.9,SNR=52						
WRA				PcP	PcP	13 03 50.7	-0.9
	0.5nm,0.6s,baz=58,slow=2.2,SNR=6.7						
ASAR	Alice Springs	23.64	232	P	P	13 00 11.7	+0.1
	10nm,1.1s,mb4.2,baz=67,slow=8.7,SNR=41						
STKA	Stephens Creek	24.79	206	eP	P	13 00 21.8	-0.1
	8.3nm,0.6s,mb4.4						
STKA	Stephens Creek	24.79	206	P	P	13 00 21.7	-0.2
	8.4nm,0.7s,mb4.4,baz=2.2,slow=8.6,SNR=20						
STKA	Stephens Creek	24.79	206	eP	P	13 00 21.5	-0.4
FITZ	Fitzroy Crossi	28.73	250	eP	P	13 00 56.8	-0.7
	3.5nm,0.9s,mb4.1						
FITZ	Fitzroy Crossi	28.73	250	P	P	13 00 56.6	-0.9
	1.3nm,0.7s,mb3.7,baz=56,slow=21,SNR=5.4						
BATI	Baumata	29.91	267	P	P	13 01 05.4	-2.7
	9.7nm,0.4s,mb4.9,baz=349,slow=10.0,SNR=5.7						
RAO	Raoul Island	32.59	130	LR	LR	13 12 38.3	
	comp=Z,318nm,18.4s,MS4.0,baz=21,slow=32						
URZ	Urewera	35.08	148	LR	LR	13 13 29.1	
	comp=Z,478nm,18.4s,MS4.3,baz=218,slow=32						
RPZ	Rata Peaks	36.86	159	LR	LR	13 15 49.8	
	comp=Z,648nm,19.0s,MS4.4,baz=12,slow=34						
KSM	Kuching	44.96	282	eP	P	13 03 14.9	-0.5
MJAR	Matsushiro Arr	48.47	343	P	P	13 03 42.0	-0.4
	1.3nm,0.6s,mb4.1,baz=176,slow=8.2,SNR=4.9						
KSRS	Korea Array	53.02	334	P	P	13 04 16.1	-0.7
	0.7nm,0.9s,mb3.6,baz=82,slow=38,SNR=7.0						
CMAR	Chiang Mai Arr	61.19	297	P	P	13 05 15.1	+0.1
	2.9nm,0.6s,mb4.6,baz=121,slow=5.2,SNR=19						
CHTO	Chiang Mai	61.32	298	eP	P	13 05 16.5	+0.6
	11nm,1.1s,mb4.9						
PETK	Petropavlovsk-	62.76	2	P	P	13 05 25.6	+0.7
	2.7nm,0.6s,mb4.6,baz=165,slow=4.9,SNR=10						
SHL	Shillong	69.94	302	eP	P	13 06 13.0	+1.5
SHL				ex	x	13 07 46.0	
SONM	Songino Array	71.21	328	P	P	13 06 19.2	+0.5
	1.7nm,0.9s,mb4.0,baz=140,slow=3.1,SNR=8.2						
MAW	Mawson	81.44	203	P	P	13 07 16.4	-0.1
	2.2nm,0.6s,mb4.2,baz=91,slow=8.9,SNR=7.2						
IMA2	Indian Mountai	84.77	19	eP	P	13 07 33.2	-0.4
MKAR	Makanchi Array	84.90	319	P	P	13 07 34.5	-0.2
	1.2nm,1.0s,mb4.0,baz=305,slow=4.3,SNR=3.8						
ZALV	Zalesovo Beam	85.99	326	P	P	13 07 39.0	-1.0
	0.5nm,0.4s,mb4.1,baz=257,slow=5.9,SNR=4.5						
COLA	College	86.05	21	eP	P	13 07 38.6	-1.4
	1.9nm,0.6s,mb4.5						
EGAK	Eagle	88.48	23	eP	P	13 07 51.9	+0.2
	9.2nm,1.3s,mb4.8						
NVAR	Mina Array Bea	94.20	52	P	P	13 08 20.4	+1.3
	0.5nm,0.6s,mb4.1,baz=230,slow=2.4,SNR=5.7						
LPAZ	La Paz	130.86	122	PKP	PKPdf	13 14 13.8	+1.6
	1.4nm,1.1s,baz=317,slow=9.8,SNR=3.8						
BDFB	Brasilia	146.57	139	PKPbc	PKPbc	13 14 41.5	-0.8
	2.2nm,0.6s,baz=179,slow=8.9,SNR=6.7						
TORD	Torodi Ar. Bea	152.70	280	PKP	PKPdf	13 14 51.2	+0.7
	0.5nm,0.9s,baz=180,slow=4.2,SNR=2.3						
TORD				PKPbc	PKPbc	13 14 56.2	-1.4
	1.1nm,0.6s,baz=95,slow=2.9,SNR=12						
TORD	Torodi Ar. Bea	152.70	280	PKP	PKPdf	13 14 51.2	+0.7
TORD				PKPbc	PKPbc	13 14 56.2	-1.4

*CSEM **26** 13:08:22.6±0.0, 3983N×2876E, h2km, MD3.0, Error ellipse: s-maj=0.9km s-min=0.8km az=122.0*

*ISCJB **26** 13:08:23.8±0.4, 3984N±002×2874E±003, h4km±4km, Error ellipse: s-maj=3.7km s-min=3.1km az=43.8*

*DDA **26** 13:08:23.7, 3984N×2870E, h7km±3km, Md2.9*

*ISK **26** 13:08:23.0, 3984N×2875E, h4km, MD3.0*

ISC 26 13:08:24.3±0.4, 3984N±002×2874E±003, h7km±3km, n40, σ0$67/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	Dursunbey	0.25	201	PG	Pg	13 08 28.8	-0.3
DST				eSG	Sg	13 08 33.1	+0.6
DURS	Dursunbey	0.32	221	iP	Pg	13 08 29.9	-0.6
ULDT	Uludag	0.43	45	iP	Pg	13 08 32.8	+0.2
ULDT				iS	Sg	13 08 39.0	+0.8
KCT	Karacabey	0.52	325	ePG	Pg	13 08 33.9	-0.4
BTOK	Tokmak	0.56	262	iP	Pg	13 08 34.4	-0.5
BTOK				iS	Sg	13 08 42.1	-0.1
GEMT	Gemlik	0.69	30	ePG	Pg	13 08 37.2	-0.3
BALB	Balikesir	0.69	254	ePG	Pg	13 08 37.3	-0.3
BALB				eSG	Sg	13 08 47.7	+1.0
DEMI	Demirci	0.80	182	iP	Pg	13 08 39.3	-0.2
DEMI				iS	Sg	13 08 50.8	+0.9
BNT	Bandirma	0.82	310	ePG	Pg	13 08 39.7	-0.2
BNT				eSG	Sg	13 08 52.0	+1.4
EDC	Edincik	0.85	307	ePG	Pg	13 08 40.0	-0.5
EDC				eSG	Sg	13 08 52.5	+1.0
BALY	Balya	0.87	264	iP	Pg	13 08 40.2	-0.9
BALY				iS	Sg	13 08 51.8	-0.5
YLV	Yalova	0.87	33	ePG	Pg	13 08 40.2	-0.9
GDZ	Gediz	0.94	142	iP	Pg	13 08 42.1	-0.2
GDZ				iS	Sg	13 08 54.4	-0.1
ADVT	Abdulvahap	0.97	52	ePG	Pg	13 08 42.1	-0.7
AKHS	Akhisar	1.20	217	iP	Pg	13 08 47.0	-0.3
AKHS				iS	Sg	13 09 03.4	+0.5
AKHS	Akhisar	1.20	217	iP	Pg	13 08 47.0	-0.3
AKHS				iS	Sg	13 09 03.3	+0.5
AKS	Akhisar	1.20	217	ePN	Pn	13 08 46.3	-1.1
HRT	Hereke	1.21	35	ePN	Pn	13 08 47.5	-0.1
ISK	Istanbul-Kandi	1.25	11	ePN	Pn	13 08 47.5	-0.7
GPA	Golpazari	1.28	69	ePN	Pn	13 08 48.0	-0.6
ALT	Altintas	1.31	126	ePN	Pn	13 08 48.4	-0.6
KULA	Kula-Manisa	1.32	183	ePN	Pn	13 08 49.0	-0.2
CTT	Catalca	1.33	350	ePN	Pn	13 08 48.9	-0.4
BGKT	Bogazkoy	1.34	1	ePN	Pn	13 08 49.2	-0.2
KLYT	Kilyos	1.43	9	ePN	Pn	13 08 50.5	-0.1
SLVT	Silivri	1.45	344	ePN	Pn	13 08 50.9	0.0
MFT	Murefte	1.47	311	ePN	Pn	13 08 51.2	+0.1
RKY	Sarkoy-Tekirda	1.47	306	ePN	Pn	13 08 51.2	0.0
SILT	Sile	1.48	27	ePN	Pn	13 08 51.2	-0.1
LPK	Lapseki	1.61	290	ePN	Pn	13 08 53.2	+0.1
KHL	Karahalli	1.63	158	ePN	Pn	13 08 53.3	0.0
ESKT	Eskisehir	1.66	100	iP	Pn	13 08 56.1	+2.4
ESKT				iS	Sn	13 09 19.9	+4.7
SEYT	Eskypehyr	1.66	100	iP	Pn	13 08 56.1	+2.4
AYVA	Ayvalik	1.67	252	iP	Pn	13 08 53.9	-0.1
AYVA				iS	Sn	13 09 15.1	-0.5
IZM	Izmir	1.84	219	ePN	Pn	13 08 56.5	+0.3
EZN	Ezine	1.86	270	ePN	Pn	13 08 57.0	+0.4
HENT	Hendek	1.92	58	iP	Pn	13 08 59.6	+2.2
HENT				iS	Sn	13 09 27.4	+5.7
BLCB	Balcova	1.96	223	ePN	Pn	13 08 58.2	+0.2
MDU	Mudurnu	1.99	71	ePN	Pn	13 08 58.5	+0.1
GADA	Gvkgeada	2.21	280	ePN	Pn	13 09 01.8	+0.4

*ISCJB **26** 13:21:15.0±0.6, 3544N±002×2613E±003, h5km±4km, Error ellipse: s-maj=4.2km s-min=3.8km az=148.3*

*NEIC **26** 13:21:15.9, 3550N×2613E, h25km, MD3.6(ATH), After ATH.*

*THE **26** 13:21:15.8, 3542N×2610E, h1km, ML3.9*

*ATH **26** 13:21:15.9, 3550N×2613E, h25km±2km, MD3.6/7*

*CSEM **26** 13:21:16.4±0.1, 3541N×2615E, h20km, ML3.9, Error ellipse: s-maj=3.2km s-min=2.9km az=162.0*

ISC 26 13:21:15.8±0.5, 3544N±003×2614E±003, h9km±5km, n25, σ1$22/41, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.33	168	ePg	Pg	13 21 22.6	+0.3
ZKR				eSg	Sg	13 21 27.2	+0.4
NPS	Neapolis	0.46	248	ePB	Pg	13 21 25.7	+0.9
NPS				eSB	Sg	13 21 32.0	+1.1
LAST	Lasithi	0.60	243	ePg	Pg	13 21 27.6	0.0
LAST				eSg	Sg	13 21 35.5	+0.1
LAST	Lasithi	0.60	243	ePg	Pg	13 21 27.5	0.0
LAST				eSg	Sg	13 21 35.5	+0.1
KARP	Karpathos	0.84	82	ePN	Pn	13 21 32.4	-1.5
KARP				eSN	Sn	13 21 44.4	-2.0
THR1	Thera Island	1.08	330	ePg	Pg	13 21 35.9	-0.6
THR1				eSg	Sg	13 21 51.6	+1.0
THR6	Thira Island,	1.09	327	ePg	Pg	13 21 35.5	-1.3
THR6				eSg	Sg	13 21 52.3	+1.2
THR3	Thira Island,	1.14	329	ePg	Pg	13 21 36.7	-1.0
SIVA	Sivas	1.16	249	ePg	Pg	13 21 37.1	-1.0
SIVA				eSg	Sg	13 21 53.0	-0.2
THR5	Thira Island,	1.17	327	ePg	Pg	13 21 37.1	-1.2
THR5				eSg	Sg	13 21 54.2	+0.8
THR4	Thira Island,	1.18	330	ePg	Pg	13 21 39.0	+0.4
VAM	Vamos	1.58	269	ePN	Pn	13 21 45.3	+1.3
VAM				eSN	Sn	13 22 05.3	+0.7
APE	Apeiranthos	1.70	343	ePb	Pb	13 21 45.0	-2.3
APE				eSb	Sb	13 22 09.2	+0.5
APE	Apeiranthos	1.70	343	ePn	Pn	13 21 45.3	-0.3
APE				eSb	Sb	13 22 09.2	+0.5
GVD	Gavdhos	1.78	251	ePN	Pn	13 21 48.0	+1.2
ARG	Arkhangelos	1.79	64	ePN	Pn	13 21 47.1	+0.1
ARG				eSN	Sn	13 22 09.6	-0.3
KARN	Karanos	1.81	269	ePb	Pb	13 21 46.6	-2.6
KARN				eSb	Sb	13 22 10.2	-1.8
KARN	Karanos	1.81	269	ePb	Pb	13 21 46.6	-2.5
KARN				eSb	Sb	13 22 10.1	-1.8
BDRM	Kayabasi	1.94	33	iP	Pn	13 21 52.4	+3.5
TURN	Turunc	2.46	54	iP	Pn	13 21 54.4	-1.7
VLI	Veliai	2.89	297	ePN	Pn	13 22 02.1	+0.1
AKAS	Kas	2.93	73	iP	Pn	13 22 06.8	+4.2
AKAS	Kas	2.93	73	iS	Sn	13 22 39.5	+1.6
GOLH	Golhisar	3.30	56	iP	Pn	13 22 09.7	+2.0
GOLH	Golhisar	3.30	56	iP	Pn	13 22 09.7	+2.1
GOLH				iS	Sn	13 22 50.0	+3.1

*IDC **26** 13:29:51.8±0.8, 989S×154.15E, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.3/17, mbtmp4.2/15, ML3.8/2, Error ellipse: s-maj=24.3km s-min=16.2km az=117.0*

*ISCJB **26** 13:29:52.3±6.4, 99S±0.1×154.12E±0.10, h13km±42km, mb4.3/20, Error ellipse: s-maj=23.9km s-min=11.2km az=147.2*

*NEIC **26** 13:29:57.2±1.1, 991S×154.16E, h37km±11km, mb4.5/7, Error ellipse: s-maj=13.3km s-min=6.5km az=147.0*

ISC 26 13:29:57.3±1.7, 99S±01×15418E±010, h38km±18km, n31, σ0$68/28, mb4.3/20, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.71	86	Pn	Pn	13 31 20.1	+0.4
	2.1nm,0.3s,baz=244,slow=4.8,SNR=2.9						
CTA	Charters Tower	12.67	216	Pn	Pn	13 32 54.1	-0.9
	0.4nm,0.3s,baz=138,slow=7.0,SNR=3.0						
KAKA	Kakadu	21.49	261	eP	P	13 34 43.4	+0.4
	11nm,0.6s,mb4.3						
KAKA	Kakadu	21.49	261	eP	P	13 34 42.8	-0.2
WRAB	Tennant Creek	21.56	240	eP	P	13 34 44.2	+0.5
	6.1nm,0.6s,mb4.2						
WB2	Warramunga Arr	21.57	240	eP	P	13 34 44.1	+0.4
WRA	Warramunga Arr	21.58	240	P	P	13 34 44.2	+0.3
	4.9nm,0.5s,mb4.2,baz=65,slow=9.7,SNR=31						
ASAR	Alice Springs	23.69	232	P	P	13 35 06.0	+0.2
	5.6nm,0.8s,mb4.0,baz=66,slow=8.9,SNR=58						
STKA	Stephens Creek	24.76	206	eP	P	13 35 15.6	+0.2
	5.5nm,0.6s,mb4.3						
STKA	Stephens Creek	24.76	206	P	P	13 35 15.2	-0.3
	6.8nm,0.6s,mb4.3,baz=356,slow=7.7,SNR=36						
STKA	Stephens Creek	24.76	206	eP	P	13 35 15.8	+0.4
FITZ	Fitzroy Crossi	28.82	250	eP	P	13 35 52.0	-0.2
	4.0nm,1.0s,mb4.1						
FITZ	Fitzroy Crossi	28.82	250	P	P	13 35 51.7	-0.5
	1.9nm,0.8s,mb3.9,baz=249,slow=22,SNR=6.5						
MJAR	Matsushiro Arr	48.60	343	P	P	13 38 35.7	-1.5
	0.7nm,0.8s,mb3.8,baz=159,slow=7.5,SNR=5.0						
KSRS	Korea Array	53.17	334	P	P	13 39 11.2	-0.3
	0.4nm,0.3s,mb3.8,baz=287,slow=9.5,SNR=4.8						
CMAR	Chiang Mai Arr	61.36	297	P	P	13 40 10.7	+0.9
	2.7nm,0.8s,mb4.4,baz=129,slow=5.1,SNR=14						
CHTO	Chiang Mai	61.49	298	eP	P	13 40 11.2	+0.5
	9.3nm,1.4s,mb4.7						
PETK	Petropavlovsk-	62.85	2	P	P	13 40 19.5	+0.4
	4.8nm,0.7s,mb4.7,baz=179,slow=7.1,SNR=6.4						
SONM	Songino Array	71.37	328	P	P	13 41 14.2	+1.0
	2.0nm,0.8s,mb4.1,baz=144,slow=5.8,SNR=5.5						
MAW	Mawson	81.40	203	P	P	13 42 09.0	-0.8
	2.3nm,0.8s,mb4.2,baz=62,slow=5.0,SNR=4.9						
KTH	Kantishna Hill	84.23	22	eP	P	13 42 23.8	-0.7
	2.1nm,0.8s,mb4.3						
MCK	McKinley	85.06	22	eP	P	13 42 28.1	-0.6
	5.4nm,0.9s,mb4.7						
MKAR	Makanchi Array	85.06	319	P	P	13 42 29.2	+0.1
	1.7nm,0.8s,mb4.2,baz=100,slow=6.0,SNR=10						
MKAR	Makanchi Array	85.06	319	P	P	13 42 29.2	+0.1
COLA	College	86.09	21	eP	P	13 42 33.1	-0.7
	3.1nm,0.8s,mb4.6						
ZALV	Zalesovo Beam	86.15	326	P	P	13 42 33.5	-0.9
	1.2nm,0.8s,mb4.2,baz=101,slow=7.7,SNR=4.3						
EGAK	Eagle	88.52	23	eP	P	13 42 46.4	+0.9
	3.0nm,0.9s,mb4.6						
NVAR	Mina Array Bea	94.16	52	P	P	13 43 13.2	+0.9
	0.8nm,0.8s,mb4.2,baz=248,slow=9.4,SNR=6.0						
VRAC	Vranov	127.27	326	PKP	PKPdf	13 48 57.4	-0.4
	1.2nm,0.4s,baz=68,slow=11,SNR=3.4						
BDFB	Brasilia	146.41	139	PKPbc	PKPbc	13 49 35.9	+0.7
	3.4nm,0.8s,baz=4.6,slow=26,SNR=8.6						
TORD	Torodi Ar. Bea	152.86	279	PKPbc	PKPbc	13 49 51.2	-0.2
	1.4nm,0.7s,baz=68,slow=1.6,SNR=8.3						

IDC 26 13:40:05.1±9.8, 663S×12988E, h200km±101km, mb3.1/1, mb1 2.9/5, mb1mx2.8/15, mbtmp2.9/5, Error ellipse: s-maj=104.9km s-min=28.7km az=48.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.10	240	P	Pn	13 41 48.1	+1.4
	2.9nm,0.3s,baz=297,slow=20,SNR=4.3						
FITZ	Fitzroy Crossi	12.13	200	P	Pn	13 42 49.8	-1.8
	0.1nm,0.3s,baz=262,slow=19,SNR=9.4						
FITZ				S	Sn	13 44 59.7	-7.2
	0.4nm,0.3s,baz=219,slow=15,SNR=8.5						
WRA	Warramunga Arr	13.92	162	P	Pn	13 43 13.3	-0.8
	0.3nm,0.3s,baz=343,slow=13,SNR=20						
WRA				S	Sn	13 45 40.7	-9.0
	0.4nm,0.3s,baz=333,slow=21,SNR=6.2						
ASAR	Alice Springs	17.37	168	P	Pn	13 43 55.8	0.0
	0.1nm,0.3s,baz=348,slow=9.4,SNR=14						
ASAR				S	S	13 47 03.4	-1.2
	0.1nm,0.3s,baz=335,slow=20,SNR=4.2						
MKAR	Makanchi Array	67.86	327	P	P	13 50 41.8	0.0
	0.3nm,0.4s,baz=115,slow=8.1,SNR=3.4						

*ISCJB **26** 13:40:15.3±0.9, 25.15N±005×100.12E±007, h10km, mb3.5/2, Error ellipse: s-maj=9.5km s-min=5.8km az=27.3*

*BJI **26** 13:40:20.3, 2552N×9999E, h20km, ML3.3*

*IDC **26** 13:40:20.2±1.7, 2679N×102.18E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.3/21, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=65.6km s-min=29.0km az=67.0*

ISC 26 13:40:19.3±0.9, 2524N±004×10016E±007, h10km, n5, σ1$01/9, mb3.5/2, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.34	92	PG	Pg	13 41 03.5	-0.8
KMI				SG	Sg	13 41 34.5	-0.2
KMI				Smax			
	comp=N,137nm,0.7s						
KMI				Smax			
	comp=E,190nm,0.8s						
KMI				LR	LR		
	comp=N,209nm,5.6s						
KMI				LR	LR		
	comp=E,284nm,4.3s						
KMI				LR	LR		
	comp=Z,156nm,6.8s						
CD2	Chengdu	6.48	29	eP	Pn	13 41 55.0	+0.2
CD2				S	Sn	13 43 09.5	+0.7
CD2				SG	Sg	13 43 47.3	-0.1
CD2				Smax			
	comp=N,10.0nm,1.0s						
CD2				Smax			
	comp=E,10.0nm,1.0s						
CMAR	Chiang Mai Arr	6.85	190	Pn	Pg	13 42 29.1	-1.3
	comp=E,0.4nm,0.3s,baz=7.6,slow=8.2,SNR=8.8						
CMAR				Sn	Sg	13 44 00.0	+0.8
	comp=E,0.4nm,0.3s,baz=12,slow=31,SNR=4.3						
MKAR	Makanchi Array	25.79	331	P	P	13 45 49.4	-1.0
	comp=E,1.2nm,0.9s,mb3.4,baz=140,slow=9.6,SNR=5.9						
WRA	Warramunga Arr	55.88	140	P	P	13 50 00.3	+2.9
	comp=E,0.4nm,0.6s,mb3.6,baz=331,slow=7.7,SNR=4.9						

*BJI **26** 13:47:01.0, 972S×1544 1E, h15km, mB5.3, mb5.0, Ms4.9, Msz4.7*

*ISCJB **26** 13:47:01.4±1.3, 980S±004×154.14E±004, h12km±8km, mb5.3/96, MS4.6/49, Error ellipse: s-maj=6.8km s-min=6.1km az=137.5*

*NEIC **26** 13:47:02.5±0.2, 978S×154.12E, h10km, mb5.6/47, MS4.7/9, Error ellipse: s-maj=5.6km s-min=4.5km az=123.0*

*GCMT **26** 13:47:02.5±0.2, 999S×154 22E, h12km, MW5.3/92, Moment Tensor Solution. s51,c72; s92,c175; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.21±.02; $M_{\theta\theta}$0.84±.02; $M_{\phi\phi}$0.36±.02; $M_{r\theta}$-0.10±.08; $M_{\phi\phi}$0.45±.02; $M_{\phi r}$-0.12±.09; Best double couple: $M_0$1.17100×10^{17} NP1:ϕ_s241.00000°, δ41.00000°, λ-87.00000°. NP2: ϕ_s57.00000°, δ49.00000°, λ-93.00000°. Principal axes: T 1.1210, Plg4.0000°, Azm149.0000°; N 0.1000, Plg2.0000°, Azm59.0000°; P -1.2210, Plg86.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **26** 13:47:04.9±1.1, 981S×154 01E, h33km, mb5.7/31, MS4.6/9 Error ellipse: s-maj=8.1km s-min=6.8km az=80.3*

*IDC **26** 13:47:07.0±3.1, 987S×154.12E, h47km±28km, mb4.5/25, mb1 4.5/26, mb1mx4.5/27, mbtmp4.5/26, ML3.3/1, MS4.5/20, Ms1 4.5/20, ms1mx4.4/23, Error ellipse: s-maj=14.6km s-min=11.7km az=79.0*

*DJA **26** 13:47:12, 976S×1544 2E, h99km, mb5.3/24*

ISC 26 13:47:06.1±1.3, 982S±004×15418E±004, h32km±9km, h32km±1.3km: pP-P, n296, σ1$06/222, mb5.3/96, MS4.6/49, 20C-11D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.70	87	P	Pn	13 48 24.0	-4.6
	12nm,0.3s,baz=82,slow=18,SNR=16						
HNR	Honiara	5.70	87	ePn	Pn	13 48 28.5	-0.1
PMG	Port Moresby	6.93	273	P	Pn	13 48 45.0	-0.5
PMG				pmax	pmax		
	comp=Z,530nm,1.4s						
PMG	Port Moresby	6.93	273	P	Pn	13 48 45.0	-0.5
	comp=Z,530nm,1.4s						
CTA	Charters Tower	12.75	216	eP	Pn	13 50 11.8	+6.5
	comp=Z,30nm,1.6s						
CTA	Charters Tower	12.75	216	P	Pn	13 50 04.3	-1.0
	comp=Z,0.1nm,0.3s,baz=40,slow=17,SNR=1.7						
CTA				LR	LR	13 54 15.2	
	comp=Z,3μm,21.8s,baz=36,slow=34						
CTA	Charters Tower	12.75	216	P	Pn	13 50 04.3	-1.0
CTA				eP		13 50 11.8	
CTA				LR	LR	13 54 15.2	
CTAO	Charters Tower	12.75	216	P	Pn	13 50 04.3	-1.0
CTAO				pmax	pmax		
	comp=Z,252nm,1.8s						
CTAO	Charters Tower	12.75	216	P	Pn	13 50 04.3	-1.0
	comp=Z,252nm,1.8s						
DZM	Mont Dzumac	16.94	137	eP	Pn	13 51 03.1	+2.3
ARMA	Armidale	20.63	186	eP	P	13 51 43.0	+0.1
KAKA	Kakadu	21.51	260	eP	P	13 51 52.7	+0.1
	comp=Z,565nm,1.8s,mb5.7						
WRAB	Tennant Creek	21.61	240	P	P	13 51 53.2	-0.4
	comp=Z,605nm,1.8s,mb5.7,SNR=19						
WRAB	Tennant Creek	21.61	240	eP	P	13 51 51.7	-1.9
WRAB				pmax	pmax		
	comp=Z,470nm,1.7s,mb5.6						
WRAB	Tennant Creek	21.61	240	eP	P	13 51 51.7	-1.9
	comp=Z,473nm,1.7s,mb5.6						
WB2	Warramunga Arr	21.62	240	eP	P	13 51 53.2	-0.5
WB2				eS	S	13 55 57.4	+5.9
WRA	Warramunga Arr	21.63	240	P	P	13 51 52.4

CBIJ	**Chichi jima**	**38.50**	**343**	P	**P**	**13 54 23.5 -2.0**
	comp=Z,13nm,0.7s,mb4.8,baz=70,slow=15,SNR=3.9					
CBIJ				LR	LR	14 08 54.1
	comp=Z,370nm,20.5s,MS4.2,baz=350,slow=34					
MYLDM	**Lahad Datu**	**38.54**	**291**	⇓P	**P**	**13 54 28.7 +2.6**
TSM	**Tawau**	**38.79**	**290**	⇑P	**P**	**13 54 29.6 +1.4**
SDKM	**Sandakan**	**39.92**	**291**	⇑P	**P**	**13 54 40.0 +2.4**
KLBR	**Kellerberrin**	**40.09**	**232**	*e*P	**P**	**13 54 37.6 -1.2**
	comp=Z,85nm,1.2s,mb5.3					
NWAO	**Narrogin (SRO)**	**41.05**	**230**	P	**P**	**13 54 44.8 -1.9**
	comp=Z,27nm,1.0s,mb4.8,baz=43,slow=8.7,SNR=3.9					
BCPH	**Baguio City Da**	**42.23**	**308**	⇓*e*P	**P**	**13 54 56.2 -0.3**
BTM	**Bintulu**	**42.93**	**286**	⇑P	**P**	**13 55 04.6 +2.3**
SBUM	**Sibu**	**43.53**	**284**	⇓P	**P**	**13 55 09.4 +2.2**
JOW	**Kunigami**	**44.27**	**326**	P	**P**	**13 55 11.7 -1.2**
	comp=Z,9.8nm,0.9s,mb4.5,baz=152,slow=2.5,SNR=4.6					
JOW				LR	LR	14 10 40.8
	comp=Z,984nm,20.4s,MS4.7,baz=344,slow=32					
KSM	**Kuching**	**45.09**	**282**	⇑P	**P**	**13 55 21.3 +1.6**
KSM	**Kuching**	**45.09**	**282**	*e*P	**P**	**13 55 19.0 -0.8**
RAR	**Rarotonga**	**45.64**	**110**	LR	LR	14 10 47.2
	comp=Z,537nm,19.4s,MS4.5,baz=233,slow=31					
NACB	**Ninganchiao**	**46.41**	**317**	*e*P	**P**	**13 55 28.1 -1.9**
	comp=Z,172nm,1.6s,mb5.7					
YHNB	**Yeheng**	**46.90**	**318**	P	**P**	**13 55 33.5 -0.3**
	comp=Z,307nm,1.9s,mb5.9					
MJAR	**Matsushiro Arr**	**48.50**	**343**	P	**P**	**13 55 45.0 -1.0**
	comp=Z,3.7nm,0.7s,mb4.5,baz=169,slow=7.7,SNR=21					
MJAR				LR	LR	14 13 48.0
	comp=Z,633nm,21.9s,MS4.6,baz=190,slow=33					
MAJO	**Matsushiro**	**48.50**	**343**	P	**P**	**13 55 45.6 -0.4**
MAJO				pmax	pmax	
	comp=Z,66nm,1.6s,mb5.4					
MAJO	**Matsushiro**	**48.50**	**343**	*e*P	**P**	**13 55 45.2 -0.8**
	comp=Z,66nm,1.6s,mb5.4					
MAJO				LR	LR	
	comp=Z,788nm,22.0s,MS4.7					
MAT	**Matsushiro**	**48.50**	**343**	P	**P**	**13 55 45.9 -0.1**
MAT				S	**S**	**14 02 51.0 +5.9**
QZH	**Quanzhou**	**48.97**	**316**	*e*P	**P**	**13 55 50.3 +0.6**
QZH				S	**S**	**14 02 57.5 +5.5**
QZH				LR	LR	
	comp=Z,700nm,17.0s,MS4.7					
MYKOM	**Kota Tinggi**	**51.42**	**280**	⇑P	**P**	**13 56 09.9 +1.3**
SSE	**Sheshan**	**51.54**	**323**	*e*P	**P**	**13 56 09.0 -0.1**
SSE				AP	pP	13 56 18.0 -0.8
SSE				S	**S**	**14 03 27.5 -0.2**
SSE				XS	sS	14 03 45.0 +1.4
SSE				AMB	AMB	
	comp=Z,42nm,0.7s,mb5.5					
SSE				AMB	AMB	
	comp=Z,260nm,3.5s					
SSE				LR	LR	
	comp=N,352nm,22.9s,MS4.6					
SSE				LR	LR	
	comp=E,564nm,22.9s,MS4.6					
SSE				LR	LR	
	comp=Z,710nm,23.6s,MS4.6					
GZH	**Guangzhou**	**51.64**	**310**	P	**P**	**13 56 12.3 +2.3**
GZH				S	**S**	**14 03 39.5 +10**
GZH				LR	LR	
	comp=N,279nm,25.3s,MS4.7					
GZH				LR	LR	
	comp=E,714nm,21.0s,MS4.7					
GZH				LR	LR	
	comp=Z,1μm,19.7s,MS4.9					
KGM	**Kluang**	**51.99**	**280**	⇑P	**P**	**13 56 13.7 +0.8**
QIZ	**Qiongzhong**	**52.27**	**303**	P	**P**	**13 56 14.5 -0.3**
QIZ				XP	sP	13 56 28.5 +0.2
QIZ				PP	PP	13 58 12.0 -1.6
QIZ				S	**S**	**14 03 38.8 +0.7**
QIZ				SS	SS	14 07 12.5 -3.7
QIZ				AMB	AMB	
	comp=Z,22nm,2.0s,mb4.7					
QIZ				AMB	AMB	
	comp=Z,152nm,5.0s					
QIZ				LR	LR	
	comp=E,411nm,20.4s					
QIZ				LR	LR	
	comp=Z,500nm,21.1s,MS4.5					
QIZ	**Qiongzhong**	**52.27**	**303**	*e*P	**P**	**13 56 14.1 -0.6**
	comp=Z,34nm,1.4s,mb5.1					
KTGM	**Kuala Trenggan**	**53.03**	**284**	⇓P	**P**	**13 56 22.5 +2.0**
KSRS	**Korea Array**	**53.08**	**334**	P	**P**	**13 56 21.1 +0.7**
	comp=Z,4.5nm,0.8s,mb4.4,baz=151,slow=8.0,SNR=23					
KSRS				LR	LR	14 19 24.8
	comp=Z,252nm,18.0s,MS4.3,baz=202,slow=36					
NJ2	**Nanjing**	**53.61**	**322**	*e*P	**P**	**13 56 25.5 +1.1**
NJ2				AP	pP	13 56 35.5 +1.4
NJ2				XP	sP	13 56 39.3 +1.4
NJ2				PP	PP	13 58 28.8 +3.3
NJ2				S	**S**	**14 03 54.0 -1.9**
NJ2				XS	sS	14 04 11.5 -0.5
NJ2				AMB	AMB	
	comp=Z,20nm,0.6s,mb5.2					
NJ2				AMB	AMB	
	comp=Z,220nm,5.6s					
NJ2				LR	LR	
	comp=N,470nm,21.6s,MS4.8					
NJ2				LR	LR	
	comp=E,830nm,21.1s,MS4.8					
NJ2				LR	LR	
	comp=Z,820nm,21.0s,MS4.8					
INCN	**Inchon**	**53.67**	**333**	P	**P**	**13 56 23.2 -1.5**
	comp=Z,92nm,1.5s,mb5.5					
FRIM	**Kepong**	**53.93**	**281**	⇓P	**P**	**13 56 27.7 +0.6**
YUK	**Yuzh-Kuril'sk**	**54.13**	**353**	P	**P**	**13 56 27.0 -1.0**
YUK				S	**S**	**14 04 09.0 +6.4**
ASAJ	**Asahikawa**	**54.70**	**350**	LR	LR	14 16 41.7
	comp=Z,765nm,22.0s,MS4.7,baz=183,slow=32					
IPM	**Ipoh**	**54.82**	**283**	⇓P	**P**	**13 56 34.1 +0.5**
PPT	**Papeete**	**55.03**	**105**	*e*S	**S**	**14 04 21.3 +5.7**
	comp=Z,996nm,29.2s					
PPT				*e*LQ		14 10 21.7
	comp=Z,1μm,34.8s					
PPT				*e*LR	LR	14 12 37.8
	comp=Z,2μm,31.8s					
PPT	**Papeete**	**55.03**	**105**	LR	LR	14 14 34.3
	comp=Z,338nm,21.1s,MS4.4,baz=322,slow=30					
WHN	**Wuhan**	**55.44**	**318**	⇑P	**P**	**13 56 38.0 +0.2**
WHN				S	**S**	**14 04 26.0 +5.3**
WHN				AMB	AMB	
	comp=Z,486nm,2.2s,mb6.1					
WHN				LR	LR	
	comp=N,2μm,23.6s					
WHN				LR	LR	
	comp=E,2μm,30.7s					
WHN				LR	LR	
	comp=Z,2μm,21.4s,MS5.2					
PSI	**Prapat**	**56.44**	**280**	P	**P**	**13 56 44.2 -1.1**
	comp=Z,3.8nm,0.7s,mb4.5,baz=133,slow=6.5,SNR=19					
PSI	**Prapat**	**56.44**	**280**	P	**P**	**13 56 44.2 -1.1**
VLA	**Vladivostok**	**56.48**	**341**	*e*P	**P**	**13 56 44.7 -0.2**
VLA				*e**PP	pP	13 56 51.5 -3.2
VLA				*e**SP	sP	13 56 57.4 -1.1
VLA				pmax	pmax	
	comp=Z,92nm,2.0s,mb5.5					
VLA	**Vladivostok**	**56.48**	**341**	*i* P	**P**	**13 56 45.3 +0.4**
YSS	**Yuzh-Sakhalins**	**57.43**	**351**	*e*P	**P**	**13 56 52.0 +0.4**
YSS	**Yuzh-Sakhalins**	**57.43**	**351**	*e*P	**P**	**13 56 51.0 -0.6**
GYA	**Guiyang**	**58.56**	**309**	P	**P**	**13 57 02.5 +2.5**
GYA				AP	pP	13 57 13.0 +3.2
GYA				XP	sP	13 57 16.3 +2.8
GYA				PCP	PcP	13 57 52.0 +1.9
GYA				PP	PP	13 59 13.5 +3.6
GYA				SCP	ScP	14 01 47.0 -1.4
GYA				S	**S**	**14 05 02.8 +0.8**
GYA				XS	sS	14 05 19.8 +1.7
GYA				SS	SS	14 08 56.3 +1.0
GYA				AMB	AMB	
	comp=Z,40nm,0.9s,mb5.5					
GYA				AMB	AMB	
	comp=Z,190nm,5.8s					
GYA				LR	LR	
	comp=N,640nm,19.2s,MS5.0					
GYA				LR	LR	
	comp=E,780nm,18.9s,MS5.0					
GYA				LR	LR	
	comp=Z,640nm,20.8s,MS4.7					
MDJ	**Mudanjiang**	**58.57**	**340**	P	**P**	**13 57 00.0 +0.3**
MDJ				AP	pP	13 57 09.5 0.0
MDJ				XP	sP	13 57 11.8 -1.4
MDJ				PCP	PcP	13 57 49.0 -0.7
MDJ				PP	PP	13 59 11.0 +1.4
MDJ				SCP	ScP	14 01 48.0 +0.1
MDJ				PCS	PcS	14 01 51.8 +0.6
MDJ				S	**S**	**14 05 00.0 -1.5**
MDJ				SCS	ScS	14 06 46.3 -0.8
MDJ				SS	SS	14 08 57.5 +2.7
MDJ				AMB	AMB	
	comp=Z,19nm,2.0s,mb4.8					
MDJ				AMB	AMB	
	comp=Z,142nm,6.0s					
MDJ				LR	LR	
	comp=N,321nm,33.6s					
MDJ				LR	LR	
	comp=E,258nm,27.4s					
MDJ				LR	LR	
	comp=Z,480nm,31.2s,MS4.4					
SNY	**Shenyang**	**58.57**	**334**	⇑P	**P**	**13 57 00.0 +0.3**
SNY				S	**S**	**14 05 08.0 +6.4**
SNY				AMB	AMB	
	comp=Z,16nm,2.0s,mb4.7					
SNY				AMB	AMB	
	comp=Z,302nm,4.7s					
SNY				LR	LR	
	comp=N,381nm,25.7s,MS4.5					
SNY				LR	LR	
	comp=E,342nm,26.4s,MS4.5					
SNY				LR	LR	
	comp=Z,622nm,28.0s,MS4.6					
CN2	**Changchun**	**59.41**	**336**	*e*P	**P**	**13 57 05.8 +0.3**
CN2				AMB	AMB	
	comp=Z,20nm,1.9s,mb4.8					
CN2				AMB	AMB	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=N,300nm,20.0s,MS4.6					
CN2				LR	LR	
	comp=E,300nm,20.0s,MS4.6					
CN2				LR	LR	
	comp=Z,700nm,22.0s,MS4.8					
BJI	**Beijing**	**60.82**	**327**	P	**P**	**13 57 15.5 +0.3**
BJI				S	**S**	**14 05 31.5 +0.9**
BJI				SS	SS	14 09 30.3 0.0
BJI				AMB	AMB	
	comp=Z,18nm,2.1s,mb4.8					
BJI				LR	LR	
	comp=N,569nm,20.7s,MS4.8					
BJI				LR	LR	
	comp=E,369nm,18.7s,MS4.8					
BJI				LR	LR	
	comp=Z,777nm,34.5s					
KMI	**Kunming**	**60.97**	**306**	P	**P**	**13 57 17.0 +0.5**
KMI				AP	pP	13 57 24.5 -1.9
KMI				XP	sP	13 57 28.3 -1.9
KMI				PP	PP	13 59 32.3 +1.1
KMI				S	**S**	**14 05 34.0 +1.0**
KMI				XS	sS	14 05 47.5 -1.8
KMI				SS	SS	14 09 37.5 +4.4
KMI				AMB	AMB	
	comp=Z,26nm,1.9s,mb5.0					
KMI				AMB	AMB	
	comp=Z,227nm,3.2s					
KMI				LR	LR	
	comp=N,223nm,25.4s,MS4.6					
KMI				LR	LR	
	comp=E,480nm,20.7s,MS4.6					
KMI				LR	LR	
	comp=Z,560nm,23.0s,MS4.7					
XAN	**Xi'an**	**61.21**	**318**	P	**P**	**13 57 17.8 -0.2**
XAN				AP	pP	13 57 28.0 +0.1
XAN				XP	sP	13 57 32.3 +0.7
XAN				PP	PP	13 59 35.3 +2.1
XAN				S	**S**	**14 05 32.0 -3.8**
XAN				XS	sS	14 05 48.5 -3.5
XAN				SCS	ScS	14 07 02.3 -4.9
XAN				SS	SS	14 09 32.8 -3.8
XAN				AMB	AMB	
	comp=Z,21nm,1.5s,mb5.0					
XAN				AMB	AMB	
	comp=Z,113nm,4.4s					
XAN				LR	LR	
	comp=N,355nm,26.6s,MS4.6					
XAN				LR	LR	
	comp=E,406nm,28.3s,MS4.6					
XAN				LR	LR	
	comp=Z,794nm,26.6s,MS4.7					
CMAR	**Chiang Mai Arr**	**61.31**	**297**	P	**P**	**13 57 19.4 +0.4**
	comp=Z,11nm,0.8s,mb5.1,baz=124,slow=5.1,SNR=46					
CMAR				LR	LR	14 20 39.6
	comp=Z,238nm,21.5s,MS4.3,baz=314,slow=33					
CMAR	**Chiang Mai Arr**	**61.31**	**297**	⇑*e*P	**P**	**13 57 20.2 +1.2**
CHTO	**Chiang Mai**	**61.45**	**298**	P	**P**	**13 57 19.4 -0.5**
CHTO				pmax	pmax	
	comp=Z,260nm,1.9s,mb6.0					
CHTO	**Chiang Mai**	**61.45**	**298**	*e*P	**P**	**13 57 18.6 -1.3**
	comp=Z,261nm,1.9s,mb6.0					
KLR	**Kul'dur**	**62.02**	**344**	*e*P	**P**	**13 57 20.0 -3.1**
KLR				*e*S	**S**	**14 05 51.5 +6.0**
KLR				*e*SS	SS	14 09 45.5 -3.2
KLR				pmax	pmax	
	comp=Z,85nm,1.8s,mb5.6					
PET	**Petropavlovsk**	**62.71**	**3**	*e*P	**P**	**13 57 25.8 -1.9**
PET				*e*		13 58 06.3
PET				*e*		13 59 50.9
PET				*e*S	**S**	**14 05 51.7 -2.4**
PET				pmax	pmax	
	comp=Z,41nm,1.0s,mb5.5					
PET				pmax	pmax	
	comp=Z,200nm,16.5s					
PET	**Petropavlovsk**	**62.71**	**3**	⇑*e*P	**P**	**13 57 27.0 -0.7**
PETK	**Petropavlovsk-**	**62.75**	**2**	P	**P**	**13 57 28.1 +0.2**
	comp=Z,10nm,0.6s,mb5.1,baz=167,slow=5.2,SNR=37					
PETK				LR	LR	14 20 39.5
	comp=Z,471nm,21.9s,MS4.6,baz=171,slow=32					
CD2	**Chengdu**	**63.06**	**312**	⇑*i* P	**P**	**13 57 31.3 +0.8**
CD2				AP	pP	13 57 41.5 +1.1
CD2				XP	sP	13 57 45.8 +1.7
CD2				PCP	PcP	13 58 08.3 +0.2
CD2				PP	PP	13 59 51.8 +2.2
CD2				PCS	PcS	14 02 10.3 -1.4
CD2				S	**S**	**14 05 58.8 -0.5**
CD2				XS	sS	14 06 15.5 -0.1
CD2				SCS	ScS	14 07 17.8 -3.5
CD2				SS	SS	14 10 07.0 +1.3
CD2				AMB	AMB	
	comp=Z,30nm,1.8s,mb5.1					
CD2				AMB	AMB	
	comp=Z,200nm,6.0s					
CD2				LR	LR	
	comp=N,620nm,20.4s,MS4.9					
CD2				LR	LR	
	comp=E,590nm,21.6s,MS4.9					
CD2				LR	LR	
	comp=Z,820nm,20.6s,MS4.9					
CASY	**Casey**	**63.67**	**198**	*e*P	**P**	**13 57 33.2 -0.8**
HHC	**Hu-ho-hao-te**	**63.91**	**325**	*e*P	**P**	**13 57 37.3 +1.4**
HHC				AP	pP	13 57 47.3 +1.5
HHC				XP	sP	13 57 52.0 +2.4
HHC				PP	PP	14 00 01.8 +4.9
HHC				S	**S**	**14 06 09.3 -0.2**
HHC				SCS	ScS	14 07 24.3 -3.1
HHC				SS	SS	14 10 20.3 +1.7
HHC				AMB	AMB	
	comp=Z,27nm,0.9s,mb5.3					
HHC				AMB	AMB	
	comp=Z,171nm,5.7s					
HHC				LR	LR	
	comp=N,524nm,21.4s,MS4.8					
HHC				LR	LR	
	comp=E,308nm,20.2s,MS4.8					
HHC				LR	LR	
	comp=Z,698nm,20.2s,MS4.8					
BTO	**Baotou**	**64.63**	**324**	*e*P	**P**	**13 57 40.0 -0.6**
TAOE	**Nuku Hiva Isla**	**64.72**	**95**	*e*LR	LR	14 17 13.2
	comp=Z,2μm,32.1s					
LZH	**Lanzhou**	**65.78**	**317**	⇑P	**P**	**13 57 49.5 +1.3**
LZH				XP	sP	13 57 54.0 -7.9
LZH				PP	PP	14 00 16.5 +3.1
LZH				S	S	14 06 32.5 -0.3
LZH				XS	sS	14 06 49.8 +0.6
LZH				SS	SS	14 10 48.8 +0.8
LZH				AMB	AMB	
	comp=Z,35nm,1.5s,mb5.2					
LZH				AMB	AMB	
	comp=Z,212nm,7.8s					
LZH				LR	LR	
	comp=E,917nm,16.2s					
LZH				LR	LR	
	comp=Z,1μm,18.5s,MS5.2					
SBA	**Scott Base**	**68.32**	**177**	*e*P	**P**	**13 58 03.8 +0.1**
SBA				pmax	pmax	
	comp=Z,83nm,1.9s,mb5.4					
SBA				MLR	MLR	
	comp=Z,517nm,21.0s,MS4.7					
SBA	**Scott Base**	**68.32**	**177**	*e*P	**P**	**13 58 03.8 0.0**
	comp=Z,83nm,1.9s,mb5.4					
SBA				LR	LR	
	comp=Z,517nm,21.0s,MS4.7					
RKT	**Rikitea**	**68.67**	**111**	*e*S	S	14 07 12.9 +4.8
	comp=Z,803nm,41.5s					
RKT	**Rikitea**	**68.67**	**111**	*e*LR	LR	14 19 02.0
	comp=Z,1μm,31.5s,baz=261					
MIR	**Mirnyy**	**69.78**	**202**	⇑*i* P	**P**	**13 58 14.0 +1.1**
MIR				*i*		13 58 27.0
MIR				pmax	pmax	
	comp=Z,200nm,2.0s,mb5.7					
SHL	**Shillong**	**70.06**	**302**	*i* P	**P**	**13 58 16.8 +1.5**
SHL				*ex*	x	14 00 52.0
GTA	**Gaotai**	**70.26**	**318**	⇓P	**P**	**13 58 17.5 +1.2**
GTA				AP	pP	13 58 28.0 +1.7
GTA				XP	sP	13 58 32.0 +1.9
GTA				S	S	14 07 26.3 +0.1
GTA				XS	sS	14 07 44.0 +1.3
GTA				SS	SS	14 11 59.0 +1.8
GTA				AMB	AMB	
	comp=Z,20nm,2.1s,mb4.7					
GTA				AMB	AMB	
	comp=Z,387nm,4.8s					
GTA				LR	LR	
	comp=N,184nm,18.9s,MS4.6					
GTA				LR	LR	
	comp=E,317nm,19.8s,MS4.6					
GTA				LR	LR	
	comp=Z,478nm,20.4s,MS4.7					
CLNS	**Chul'man**	**70.68**	**343**	*e*P	**P**	**13 58 18.0 -0.4**
CLNS				pmax	pmax	
	comp=Z,29nm,1.5s,mb5.0					
CLNS				pmax	pmax	
	comp=N,18nm,1.2s					
CLNS				pmax	pmax	
	comp=E,8.0nm,1.1s					
CIT	**Chita**	**70.79**	**335**	*e*P	**P**	**13 58 20.2 +1.0**
CIT				*e*	pP	13 58 27.7 -1.6
CIT				*e*		13 58 33.3
CIT				pmax	pmax	
	comp=Z,187nm,2.1s,mb5.7					
SONM	**Songino Array**	**71.28**	**328**	P	**P**	**13 58 22.3 0.0**
	comp=Z,7.2nm,0.8s,mb4.7,baz=136,slow=4.9,SNR=39					
SONM				LR	LR	14 28 38.6
	comp=Z,482nm,20.6s,MS4.8,baz=161,slow=35					
LSA	**Lhasa**	**72.22**	**305**	P	**P**	**13 58 30.0 +1.6**
LSA	**Lhasa**	**72.22**	**305**	*e*P	**P**	**13 58 29.3 +0.9**
LSA				pmax	pmax	
	comp=Z,126nm,1.7s,mb5.6					
LSA				MLR	MLR	
	comp=Z,411nm,21.0s,MS4.7					
LSA	**Lhasa**	**72.22**	**305**	*e*P	**P**	**13 58 29.3 +1.0**
	comp=Z,126nm,1.7s,mb5.6					
LSA				LR	LR	
	comp=Z,411nm,21.0s,MS4.7					
SEY	**Seymchan**	**72.55**	**359**	⇑*e*P	**P**	**13 58 30.5 +0.9**
YAK	**Yakutsk**	**74.14**	**348**	*i* P	**P**	**13 58 39.0 0.0**
YAK				pmax	pmax	
	comp=Z,23nm,1.0s,mb5.1					
YAK				pmax	pmax	
	comp=N,16nm,2.7s					
YAK				pmax	pmax	
	comp=E,7.0nm,1.5s					
YAK	**Yakutsk**	**74.14**	**348**	*e*P	**P**	**13 58 38.4 -0.6**
	comp=E,171nm,1.6s,mb5.7					
TAPN	**Taplejung**	**74.18**	**302**	*e*P	**P**	**13 58 40.6 +0.6**
	comp=E,224nm,1.5s,mb5.9					
ODAN	**Odare**	**74.29**	**301**	*e*P	**P**	**13 58 40.8 +0.2**
ZAK	**Zakamensk**	**74.47**	**329**	⇓*i*P	**P**	**13 58 41.7 +0.5**
ZAK				pmax	pmax	
	comp=Z,20nm,1.9s,mb4.7					
BOD	**Bodaibo**	**74.94**	**339**	*e*P	**P**	**13 58 43.1 -0.6**
BOD				pmax	pmax	
	comp=Z,20nm,1.9s,mb4.7					
RAMN	**Ramite**	**74.98**	**301**	*e*P	**P**	**13 58 44.4 -0.3**
TLY	**Talaya**	**75.08**	**330**	*e*P	**P**	**13 58 44.9 +0.2**
TLY				pmax	pmax	
	comp=Z,29nm,2.2s,mb4.8					
TLY				MLR	MLR	
	comp=Z,298nm,20.0s,MS4.6					
TLY	**Talaya**	**75.08**	**330**	*e*P	**P**	**13 58 44.9 +0.2**
	comp=Z,125nm,2.3s,mb5.4					
IRK	**Irkutsk**	**75.13**	**331**	⇓*i*P	**P**	**13 58 44.7 -0.2**
IRK				pmax	pmax	
	comp=Z,63nm,2.2s,mb5.2					
JIRN	**Jiri**	**75.56**	**302**	*e*P	**P**	**13 58 49.0 +1.0**
GUN	**Gumba**	**75.90**	**302**	*e*P	**P**	**13 58 50.4 +0.5**
PKI	**Pulchoki**	**76.19**	**302**	*e*P	**P**	**13 58 51.1 -0.4**
	comp=Z,397nm,1.8s,mb6.0					
PKI	**Pulchoki**	**76.19**	**302**	*e*P	**P**	**13 58 51.6 +0.1**
PKIN	**Phulchoki**	**76.20**	**302**	*e*P	**P**	**13 58 51.6 0.0**
KKN	**Kakani**	**76.36**	**302**	*e*P	**P**	**13 58 51.9 -0.7**
	comp=Z,320nm,1.8s,mb6.0					
MOY	**Mondy**	**76.40**	**329**	*e*P	**P**	**13 58 53.3 +1.1**
MOY				pmax	pmax	
	comp=Z,103nm,2.8s,mb5.3					
DMN	**Daman**	**76.45**	**302**	*e*P	**P**	**13 58 52.9 -0.2**
	comp=Z,348nm,1.6s,mb6.0					
GKN	**Gorkha**	**76.97**	**302**	*e*P	**P**	**13 58 56.4 +0.4**
KOLN	**Koldanda**	**77.77**	**301**	*e*P	**P**	**13 58 59.2 -1.3**
	comp=Z,105nm,1.3s,mb5.6					
DANN	**Dangsing**	**77.81**	**302**	*e*P	**P**	**13 59 00.5 -0.2**
	comp=Z,448nm,1.8s,mb6.1					
BILL	**Bilibino**	**78.14**	**5**	*d i*P	**P**	**13 59 02.2 +0.6**
BILL				pmax	pmax	
	comp=Z,71nm,1.6s,mb5.3					
BILL				MLR	MLR	
	comp=Z,300nm,22.0s,MS4.6					
BILL	**Bilibino**	**78.14**	**5**	*e*P	**P**	**13 59 02.5 +0.8**
	comp=Z,152nm,1.7s,mb5.7					
BILL				LR	LR	
	comp=Z,296nm,22.0s,MS4.6					
HYB	**Hyderabad**	**79.44**	**290**	*i* P	**P**	**13 59 10.0 +0.1**
HYB	**Hyderabad**	**79.44**	**290**	*e*P	**P**	**13 59 09.5 -0.4**
KDAK	**Kodiak Island**	**80.05**	**26**	P	**P**	**13 59 11.3 -0.9**
	comp=Z,5.5nm,0.8s,mb4.5,baz=145,slow=2.7,SNR=3.6					
KDAK	**Kodiak Island**	**80.05**	**26**	P	**P**	**13 59 11.3 -0.9**
WMQ	**Urumqi**	**80.34**	**318**	P	**P**	**13 59 15.8 +1.6**
WMQ				AP	pP	13 59 26.0 +1.7
WMQ				XP	sP	13 59 30.0 +1.9
WMQ				AMB	AMB	
	comp=Z,43nm,1.0s,mb5.3					
WMQ				LR	LR	
	comp=N,413nm,21.2s,MS4.8					
WMQ				LR	LR	
	comp=E,208nm,19.0s,MS4.8					
WMQ				LR	LR	
	comp=Z,302nm,24.3s					
SVW2	**Sparrevohn**	**80.90**	**22**	*e*P	**P**	**13 59 18.0 +1.2**
PTH	**Pithoragarh**	**81.14**	**302**	*ex*	**P**	**13 59 18.9 +0.1**
MAW	**Mawson**	**81.49**	**203**	*e*P	**P**	**13 59 19.7 -0.2**
	comp=Z,8.0nm,0.9s,mb4.7					
MAW	**Mawson**	**81.49**	**203**	P	**P**	**13 59 19.0 -1.0**
	comp=Z,5.2nm,0.6s,mb4.7,baz=96,slow=6.6,SNR=15					
MAW				LR	LR	14 31 27.3
	comp=Z,397nm,21.2s,MS4.7,baz=85,slow=33					
MAW	**Mawson**	**81.49**	**203**	*e*P	**P**	**13 59 19.7 -0.2**
MAW				pmax	pmax	
	comp=Z,8.0nm,0.9s					
TTA	**Tatalina**	**81.94**	**21**	*e*P	**P**	**13 59 22.8 +0.6**
TTA				pmax	pmax	
	comp=Z,15nm,1.4s,mb4.7					
TTA	**Tatalina**	**81.94**	**21**	*e*P	**P**	**13 59 22.8 +0.6**
	comp=Z,15nm,1.4s,mb4.7					
SLKM	**Skilak Lake**	**82.63**	**24**	P	**P**	**13 59 26.5 +0.6**
SLKM	**Skilak Lake**	**82.63**	**24**	*e*P	**P**	**13 59 24.4 -1.5**
SEW	**Seward**	**82.72**	**25**	*e*P	**P**	**13 59 25.6 -0.7**
TIXI	**Tiksi**	**83.02**	**352**	*d i*P	**P**	**13 59 26.6 -1.1**
TIXI				*e*S	S	14 09 47.3 +2.8
TIXI				pmax	pmax	
	comp=Z,70nm,1.9s,mb5.4					
TIXI	**Tiksi**	**83.02**	**352**	*e*P	**P**	**13 59 27.5 -0.3**
	comp=Z,103nm,1.8s,mb5.6					
DDI	**Dehra Dun**	**83.15**	**302**	*ex*	**P**	**13 59 27.2 -2.1**
RC01	**Rabbit Creek A**	**83.16**	**24**	*e*P	**P**	**13 59 27.8 -0.9**
	comp=Z,139nm,1.9s,mb5.7					
PPLA	**Purkeypile**

PMR pmax pmax
comp=Z,153nm,2.2s,mb5.7
PMR Palmer 83.69 24 *e*P **P 13 59 30.9 -0.4**
comp=Z,153nm,2.2s,mb5.7
CHUM Lake Minchumin 83.83 21 P **P 13 59 29.4 -2.6**
comp=Z,147nm,2.0s,mb5.8
KTH Kantishna Hill 84.13 22 *e*P **P 13 59 32.0 -1.6**
comp=Z,23nm,1.2s,mb5.2
TRF Thorofare Moun 84.31 22 *e*P **P 13 59 33.5 -1.0**
comp=Z,12nm,1.1s,mb4.9
EYAK Cordova Ski Ar 84.51 25 *e*P **P 13 59 35.4 -0.2**
comp=Z,47nm,1.0s,mb5.6
IMA2 Indian Mountai 84.72 19 *e*P **P 13 59 37.1 +0.6**
DIV Divide 84.80 25 *e*P **P 13 59 37.6 +0.6**
comp=Z,90nm,1.8s,mb5.6
RAGM Ragged Mountai 84.89 26 *e*P **P 13 59 37.6 +0.1**
MCK McKinley 84.96 22 *e*P **P 13 59 35.7 -2.1**
MKAR Makanchi Array 84.99 319 P **P 13 59 37.1 -1.2**
comp=Z,5.5nm,0.8s,mb4.8,baz=97,slow=5.0,SNR=34
MKAR LR LR 14 35 26.4
comp=Z,288nm,19.8s,MS4.7,baz=168,slow=34
BMRM Bremner River 85.21 25 *e*P **P 13 59 38.8 -0.3**
COLA College 85.99 21 *i* P **P 13 59 41.8 -1.1**
COLA College 85.99 21 *e*P **P 13 59 40.5 -2.4**
comp=Z,17nm,0.9s,mb5.3
COLA LR LR
comp=Z,364nm,19.0s,MS4.8
ZALV Zalesovo Beam 86.06 326 P **P 13 59 42.4 -1.1**
comp=Z,2.8nm,0.7s,mb4.6,baz=114,slow=5.5,SNR=15
ZAL Zalesovo 86.07 326 P **P 13 59 42.4 -1.1**
COLD Coldfoot 86.53 19 *e*P **P 13 59 45.9 +0.4**
comp=Z,66nm,1.8s,mb5.6
NVS Novosibirsk 87.25 327 *e*P **P 13 59 47.1 -2.2**
NVS pmax pmax
comp=Z,111nm,2.0s,mb5.7
NVS pmax pmax
comp=N,43nm,1.9s
NVS pmax pmax
comp=E,67nm,1.9s
HYT Haines Junctio 88.24 27 *e*P **P 13 59 56.0 +2.1**
TKM2 Tokmak 2 88.38 314 P **P 13 59 55.2 +0.3**
SNR=15
KZA Kyzart 88.41 313 P **P 13 59 56.8 +1.6**
SNR=24
EGAK Eagle 88.42 23 *e*P **P 13 59 53.7 -0.9**
comp=E,49nm,1.4s,mb5.5
KURK Kurchatov 88.54 322 *e*P **P 13 59 54.2 -1.3**
KURK pmax pmax
comp=Z,51nm,2.0s,mb5.5
KURK MLR MLR
comp=Z,379nm,21.0s,MS4.8
KURK Kurchatov 88.54 322 *e*P **P 13 59 54.2 -1.4**
comp=Z,51nm,2.0s,mb5.5
KURK LR LR
comp=Z,379nm,21.0s,MS4.8
SKAG Skagway 88.72 29 *e*P **P 13 59 57.5 +1.4**
comp=Z,134nm,2.0s,mb5.9
DAWY Dawson 88.79 24 *e*P **P 13 59 55.9 -0.5**
UCH Uchtor 88.98 313 P **P 13 59 59.2 +1.4**
SNR=16
CHMS Chumysh 89.00 314 P **P 13 59 58.2 +0.3**
SNR=9.2
FRU Bishkek 89.05 314 *e*P **P 13 59 58.0 -0.1**
USP Ospenovka 89.24 314 P **P 13 59 59.1 +0.1**
SNR=11
SYO Syowa Base 89.41 199⇑ *e*X **P 14 00 04.6 +5.3**
AML Almayashu 89.55 313 P **P 14 00 01.6 +1.2**
SNR=12
EKS2 Erkin-Say 89.61 313 P **P 14 00 00.4 -0.3**
SNR=5.8
WDC Whiskeytown Da 91.26 49 *e*P **P 14 00 09.7 +1.2**
WDC pmax pmax
comp=Z,20nm,1.6s,mb5.2
WDC Whiskeytown Da 91.26 49 *e*P **P 14 00 09.7 +1.2**
comp=Z,20nm,1.6s,mb5.2
SAO San Andreas Ge 91.34 53 P **P 14 00 09.7 +0.7**
SAO pmax pmax
comp=Z,61nm,1.9s,mb5.6
SAO San Andreas Ge 91.34 53 P **P 14 00 09.7 +0.8**
comp=Z,61nm,1.9s,mb5.6
YBH Yreka Blue Hor 91.37 48 P **P 14 00 09.6 +0.7**
comp=Z,0.5nm,0.3s,mb4.2,baz=249,slow=7.8,SNR=4.8
MOD Modoc 93.17 48 *e*P **P 14 00 17.8 +0.5**
comp=Z,39nm,1.8s,mb5.5
PAHR Pah Rah Range 93.47 50 P **P 14 00 19.1 +0.4**
comp=Z,53nm,1.9s,mb5.7
NVAR Mina Array Bea 94.09 52 P **P 14 00 21.9 +0.2**
comp=Z,5.4nm,1.1s,mb4.9,baz=239,slow=6.6,SNR=18
BRVK Borovoye 94.12 323⇑ *e*P **P 14 00 20.2 -1.2**
WVOR Wild Horse Val 94.48 48 *e*P **P 14 00 24.2 +0.9**
WVOR pmax pmax
comp=Z,50nm,1.9s,mb5.6
WVOR MLR MLR
comp=Z,223nm,20.0s,MS4.6
WVOR Wild Horse Val 94.48 48 *e*P **P 14 00 24.2 +0.9**
comp=Z,50nm,1.9s,mb5.6
WVOR LR LR
comp=Z,223nm,20.0s,MS4.6
TPNV Topopah Spring 95.48 54 *e*P **P 14 00 28.5 +0.5**
TPNV pmax pmax
comp=Z,31nm,1.9s,mb5.4
TPNV Topopah Spring 95.48 54 *e*P **P 14 00 28.5 +0.4**
comp=Z,31nm,1.9s,mb5.4
YKA Yellowknife Ar 99.20 28 P **P 14 00 44.6 +0.4**
comp=Z,0.7nm,0.7s,mb4.3,baz=257,slow=5.0,SNR=4.1
YKA LR LR 14 41 36.1
comp=Z,228nm,21.6s,MS4.6,baz=200,slow=33
EDM Edmonton 99.26 37 *e*P **P 14 00 44.8 +0.1**
PDAR Pinedale Array 101.18 48 P Pdif 14 00 53.5 +0.3
comp=Z,0.5nm,0.8s,baz=132,slow=2.2,SNR=4.7
OBN Obninsk 113.65 326 *i* PKIKP PKiKP 14 05 41.0 -0.1
OBN *e* 14 06 32.5
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.4
OBN Obninsk 113.65 326 *e*PKP PKiKP 14 05 41.1 0.0
AKASG Malin Array Be 119.33 323 PKP PKPdf 14 05 49.0 -3.1
comp=Z,0.3nm,0.4s,baz=63,slow=1.6,SNR=6.6
NOA NORSAR Array B 122.07 340 PKP PKPdf 14 05 55.1 -2.0
comp=Z,1.2nm,0.8s,baz=318,slow=21,SNR=2.4
KOLS Kolonicke sedl 124.16 324 *e*PKP PKPdf 14 06 01.6 +0.1
CRVS Cervenica-Dubn 124.65 324 *e*PKP PKPdf 14 06 02.3 -0.1
KECS Kecovo 125.41 324 *e*PKP PKPdf 14 06 05.9 +2.0
VYHS Vyhne 126.36 325 *e*PKP PKPdf 14 06 05.6 -0.1
VYHS *e*PP PP 14 07 58.4 -2.3
MORC Moravsky Berou 126.41 326 *e*PKIKP PKPdf 14 06 05.7 -0.1
DPC Dobruska-Polom 126.75 328 *e*PKPdf PKPdf 14 06 06.8 +0.4
UPC Upice 126.82 328 *e*PKPdf PKPdf 14 06 08.6 +2.1
MODS Modra-Piesok 127.31 325 *i* PKP PKPdf 14 06 08.2 +0.7
ZST Bratislava 127.50 325 *e*PKP PKPdf 14 06 05.8 -2.1
ZST Bratislava 127.50 325 *e*PKP PKPdf 14 06 05.8 -2.1
ZST LR LR
comp=Z,100nm,22.4s,MS4.4
BRG Berggiesshubel 127.67 329 *e*PKIKP PKPdf 14 06 08.6 +0.5
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG Berggiesshubel 127.67 329 *e*PKPdf PKPdf 14 06 08.4 +0.3
BRG Berggiesshubel 127.67 329 *e*PKP PKPdf 14 06 08.6 +0.4
comp=Z,14nm,1.3s
CLL Collm 127.87 330⇑ *i* PKIKP PKPdf 14 06 08.3 -0.2
CLL pmax pmax
comp=Z,32nm,2.0s
CLL MLR MLR
comp=Z,200nm,22.4s,MS4.8
CLL Collm 127.87 330 *e*PKPdf PKPdf 14 06 08.2 -0.3
CLL Collm 127.87 330⇑ *i* PKPdf PKPdf 14 06 08.3 -0.2
comp=Z,32nm,2.0s
CLL *e*PP PP 14 08 18.0 +7.5
PRU Pruhonice 127.89 328 *e*PKPdf PKPdf 14 06 10.0 +1.4
FBE Freiberg 127.94 330 *e*PKPdf PKPdf 14 06 09.1 +0.5
WERD Werda 128.75 330 *e*PKPdf PKPdf 14 06 10.5 +0.3
GUNZ Gunzen 128.79 329 *e*PKPdf PKPdf 14 06 10.6 +0.3
NKC Novy Kostel 128.82 329 *e*PKPdf PKPdf 14 06 11.1 +0.8
KHC Kasperske Hory 128.90 328 *e*PKPdf PKPdf 14 06 10.7 +0.2
MOX Moxa 128.97 330 *e*PKPdf PKPdf 14 06 10.8 +0.2
GEC2 GERESS Array S 129.01 327 *e*PKIKP PKPdf 14 06 10.1 -0.7
GERES GERESS Array B 129.01 327 PKP PKPdf 14 06 10.5 -0.3
comp=Z,0.5nm,0.6s,baz=126,slow=1.8,SNR=6.8
MANZ Manzenberg 129.14 329 *e*PKPdf PKPdf 14 06 11.3 +0.3
WET Wettzell 129.26 328 *e*PKPdf PKPdf 14 06 11.5 +0.3
UBBA Unterbreizbach 129.64 331 *e*PKPdf PKPdf 14 06 12.2 +0.3
GRA1 Grafenberg Arr 129.77 329 *e*PKP PKPdf 14 06 12.4 +0.2
GRF Grafenberg Arr 129.77 329 *e*PKPdf PKPdf 14 06 12.4 +0.2
BUG Bochum--Univer 130.46 333 *e*PKPdf PKPdf 14 06 13.6 +0.2

LPAZ La Paz 130.75 121 PKP PKPdf 14 06 14.8 -0.3
comp=Z,5.3nm,1.2s,baz=18,slow=2.0,SNR=10.0
BCLA Clavier 132.06 334 PKP PKPdf 14 06 17.8 +1.3
WLF Walferdange 132.23 332 PKP PKPdf 14 06 18.6 +1.7
WLF APKP 14 06 26.1
WLF Walferdange 132.23 332 *e*PKPdf PKPdf 14 06 17.8 +1.0
DOU Dourbes 132.61 334 PKP PKPdf 14 06 19.0 +1.5
DOU APKP 14 06 30.2
GUD Guadarrama 143.79 332 PKIKP PKPdf 14 06 35.1 -3.2
ETOB Tobarra 143.99 327 P PKPdf 14 06 36.3 -2.4
EMUR La Murta 144.40 326 P PKPdf 14 06 37.7 -1.7
ESDC Sonseca Array 144.46 330 PKP PKPdf 14 06 37.2 -2.3
comp=Z,2.1nm,0.8s,baz=35,slow=3.3,SNR=13
ESDC Sonseca Array 144.46 330 P PKPdf 14 06 37.4 -2.1
ELOB Lobios 144.46 337 P PKPdf 14 06 37.3 -2.2
EVIA Vianos 144.50 328 PKIKP PKPdf 14 06 36.8 -2.8
MVO Moncorvo 144.64 335 *e*PKPdf PKPdf 14 06 39.1 -0.7
PAB San Pablo 144.75 331 PKIKP PKPdf 14 06 39.9 -0.1
PAB San Pablo 144.75 331 PKPdf PKPdf 14 06 39.1 -1.0
EHUE Huescar 145.16 327 PKIKP PKPdf 14 06 40.1 -0.7
PVIS Viseu 145.37 336 *e*PKPab PKPab 14 06 41.6 +0.5
EQES Quesada 145.42 327 P PKPbc 14 06 41.4 +0.2
MTE Manteigas 145.50 335 *e*PKPbc PKPbc 14 06 40.6 -0.8
MTE Manteigas 145.50 335 *e*PKP PKPdf 14 06 39.9 -1.4
EBAN Banos Encina 145.53 328 PKIKP PKPdf 14 06 40.5 -0.9
EADA Adamuz 145.93 329 P PKPdf 14 06 41.8 -0.3
PCBR Castelo Branco 145.93 334 *e*PKPab PKPab 14 06 43.2 0.0
ELUQ Luque 146.23 328 PKP2 PKPab 14 06 43.6 -0.8
PMRV Marv??o 146.24 334 *e*PKPab PKPab 14 06 43.8 -0.6
CAM3 Guarapari 146.38 155⇑ *i*P PKPdf 14 06 43.7 +0.3
CAM3 *i* 14 06 45.5
CAM3 *i* 14 06 53.2
CAM3 *i* 14 06 56.9
CAM3 *i* 14 07 10.9
CAM3 *i* 14 07 18.7
CAM3 *i* 14 07 31.3
ECAB El Cabril 146.42 330 P PKPdf 14 06 44.8 +1.8
BDFB Brasilia 146.49 139 PKPbc PKPbc 14 06 43.6 -1.5
comp=Z,13nm,1.0s,baz=166,slow=6.3,SNR=15
PTOM Tomar 146.51 335 *e*PKPab PKPab 14 06 44.7 -0.7
EBAD Badajoz 146.62 333 P PKPdf 14 06 44.6 +1.4
PESTR Estremoz 146.79 334 *e*PKPbc PKPbc 14 06 45.1 -0.2
PBAR Barrancos 147.11 332 *e*PKPdf PKPdf 14 06 42.5 -1.6
EMIJ Mijas 147.25 328 P PKPbc 14 06 50.1 +3.4
EVO Evora 147.25 334 *e*PKPbc PKPbc 14 06 46.1 -0.5
EMIN Mina Concepcio 147.26 331 P PKPbc 14 06 47.4 +0.7
PMAFR Mafra 147.43 336 *e*PKPdf PKPdf 14 06 44.2 -0.4
PMAFR Mafra 147.43 336 *e*PKPab PKPab 14 06 47.7 -1.3
ESPR Espera 147.57 329 P PKPbc 14 06 48.7 +1.2
PBEJ Beja 147.60 333 *e*PKPab PKPab 14 06 48.2 -1.6
EJIF Jimena Fronter 147.70 328 PKP2 PKPab 14 06 48.6 -1.6
EGRO El Granado 147.83 332 P PKPbc 14 06 47.9 -0.3
PVAQ Vaqueiros 148.05 332 *e*PKPbc PKPbc 14 06 49.0 +0.2
PBDV Barranco-do-Ve 148.28 332 *e*PKPdf PKPdf 14 06 45.8 -0.3
PBDV Barranco-do-Ve 148.28 332 *e*PKPab PKPab 14 06 50.8 -1.7
PTEO Sao Teotonio 148.38 334 *e*PKPdf PKPdf 14 06 45.1 -1.1
PTEO Sao Teotonio 148.38 334 *e*PKPbc PKPbc 14 06 50.6 +0.9
MORF Marmelete 148.55 333 *e*PKPbc PKPbc 14 06 51.0 +0.9
PFVI Vila Bisbo 148.77 333 *e*PKPbc PKPbc 14 06 51.1 +0.4
MDT Midelt 149.89 323 PKPbc PKPbc 14 06 50.3 -3.4
comp=Z,6.2nm,1.1s,baz=251,slow=8.7,SNR=1.8
TORD Torodi Ar. Bea 152.84 280 PKP PKPdf 14 06 52.4 -1.4
comp=Z,1.4nm,1.1s,baz=270,slow=1.5,SNR=6.3
TORD PKPbc PKPbc 14 06 59.9 -1.1
comp=Z,4.2nm,0.7s,baz=70,slow=2.1,SNR=21
TORD PKPab PKPab 14 07 08.4 -3.6
comp=Z,2.8nm,0.6s,baz=65,slow=2.1,SNR=8.2
DBIC Dimbokro 159.02 263 PKPab PKPab 14 07 37.6 -1.0
comp=Z,2.1nm,0.5s,baz=131,slow=1.9,SNR=6.7

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*ISCJB **26** 13:51:40.5±0.4, 36.19N±002×2533E±006, h24km±4km, Error ellipse: s-maj=7.6km s-min=4.1km az=6.3*
*THE **26** 13:51:41.0, 36.17N×2543E, h14km, ML3.7*
*ATH **26** 13:51:40.0, 36.19N×2526E, h58km±11km, MD3.4/7*
*CSEM **26** 13:51:40.7±0.1, 3620N×2537E, h25km, ML3.7, Error ellipse: s-maj=2.9km s-min=1.5km az=86.0*
*NEIC **26** 13:51:40.0, 36.19N×2526E, h58km, MD3.4(ATH), After ATH.*
ISC 26 13:51:40.2±0.4, 3615N±002×2534E±005, h17km±3km, n17, σ0°77/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THR6	**Thira Island,**	**0.21**	**12**	*e*Pg		**Pg**		**13 51 45.2**	**+0.1**
THR1	**Thera Island**	**0.24**	**23**	*e*Pg		**Pg**		**13 51 45.4**	**-0.2**
THR1				*e*Sg		**Sg**		**13 51 48.3**	**-0.9**
THR3	**Thira Island,**	**0.26**	**10**	*e*Pg		**Pg**		**13 51 46.2**	**+0.2**
THR3				*e*Sg		**Sg**		**13 51 50.4**	**+0.5**
THR5	**Thira Island,**	**0.26**	**1**	*e*Pg		**Pg**		**13 51 46.4**	**+0.3**
THR4	**Thira Island,**	**0.31**	**8**	*e*Pg		**Pg**		**13 51 47.1**	**+0.3**
THR4				*e*Sg		**Sg**		**13 51 52.5**	**+1.2**
NPS	**Neapolis**	**0.92**	**166**	*e*P		**Pb**		**13 51 58.4**	**+0.7**
NPS				*e*S		**Sb**		**13 52 11.2**	**+1.7**
APE	**Apeiranthos**	**0.93**	**9**	*e*Pg		**Pg**		**13 51 57.6**	**-0.6**
APE				*e*Sg		**Sg**		**13 52 10.3**	**-0.1**
APE	**Apeiranthos**	**0.93**	**9**	*e*P		**Pb**		**13 51 57.9**	**+0.1**
APE				*e*S		**Sb**		**13 52 10.5**	**+0.6**
LAST	**Lasithi**	**1.00**	**174**	*e*Pg		**Pg**		**13 51 59.3**	**-0.3**
LAST				*e*Sg		**Sg**		**13 52 13.0**	**+0.4**
VAM	**Vamos**	**1.19**	**232**	*e*P		**Pn**		**13 52 02.2**	**+0.1**
SIVA	**Sivas**	**1.21**	**201**	*e*Pg		**Pg**		**13 52 03.8**	**+0.1**
SIVA				*e*Sg		**Sg**		**13 52 19.8**	**+0.3**
ZKR	**Zakros**	**1.26**	**145**	*e*Pg		**Pg**		**13 52 03.1**	**-1.3**
ZKR				*e*Sg		**Sg**		**13 52 19.6**	**-1.3**
KARP	**Karpathos**	**1.60**	**112**	*e*P		**Pn**		**13 52 08.9**	**+1.2**
KARP				*e*S		**Sn**		**13 52 28.0**	**+0.1**
GVD	**Gavdhos**	**1.67**	**218**	*e*P		**Pn**		**13 52 08.0**	**-0.6**
SMG	**Samos**	**1.96**	**37**	*e*P		**Pn**		**13 52 12.4**	**-0.3**
SMG				*e*S		**Sn**		**13 52 36.2**	**-0.7**
VLI	**Veliai**	**2.02**	**287**	*e*P		**Pn**		**13 52 11.5**	**-2.0**
DID	**Didima**	**2.16**	**309**	*e*Pn		**Pn**		**13 52 15.8**	**+0.3**

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*ISCJB **26** 14:02:14.0±1.0, 3365N±004×14127E±009, h55km±13km, mb3.4/2, Error ellipse: s-maj=13.1km s-min=7.1km az=3.1*
*JMA **26** 14:02:14.8±0.2, 3369N×14123E, h43km, M2.7*
*IDC **26** 14:02:15.9±2.9, 3356N×14128E, h44km±29km, mb3.2/2, mb1 3.5/4, mb1mx3.2/22, mbtmp3.4/4, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.7/11, Error ellipse: s-maj=31.3km s-min=22.4km az=158.0*
ISC 26 14:02:15.1±1.1, 3365N±004×14126E±009, h41km±16km, n14, σ0°75/20, mb3.4/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.03**	**347**	P		**Pn**		**14 02 32.5**	**-0.6**
BSO1				*e*S		**Sn**		**14 02 45.4**	**-0.9**
BSO3	**Boso 3**	**1.31**	**332**	P		**Pn**		**14 02 36.5**	**-0.4**
JHJ2	**Mitsune**	**1.32**	**246**	P		**Pn**		**14 02 37.2**	**+0.1**
JHJ2				S		**Sn**		**14 02 53.7**	**+0.2**
JHJ	**Hachijo jima 2**	**1.35**	**247**	P		**Pn**		**14 02 37.2**	**-0.2**
48nm,0.3s,baz=241,slow=21,SNR=35									
JHJ				S		**Sn**		**14 02 53.9**	**-0.2**
55nm,0.3s,baz=50,slow=23,SNR=11									
BSO4	**Boso 4**	**1.54**	**330**	*e*S		**Sn**		**14 02 59.0**	**+0.1**
JIM2	**Oshima 3**	**1.85**	**306**	P		**Pn**		**14 02 44.8**	**+0.4**
JIM2				S		**Sn**		**14 03 05.3**	**-1.3**
JIZS	**Izushimoda**	**2.25**	**299**	P		**Pn**		**14 02 50.4**	**+0.6**
JOD2	**Odawara 2**	**2.41**	**312**	P		**Pn**		**14 02 51.9**	**-0.2**
JOD2				S		**Sn**		**14 03 19.1**	**-1.2**
JYN	**Shimob**	**2.90**	**310**	P		**Pn**		**14 03 00.3**	**+1.5**
MJAR	**Matsushiro Arr**	**3.82**	**320**	P		**Pn**		**14 03 12.7**	**+1.3**
0.9nm,0.3s,baz=148,slow=13,SNR=17									
MJAR				LR		LR		14 04 27.1	
comp=Z,150nm,19.6s,baz=245,slow=34									
MAT	**Matsushiro**	**3.82**	**320**	P		**Pn**		**14 03 12.5**	**+1.1**
MAT				S		**Sn**		**14 03 55.8**	**+0.7**
CBIJ	**Chichi jima**	**6.58**	**173**	P		**Pn**		**14 03 48.8**	**-0.6**
3.3nm,0.3s,baz=120,slow=23,SNR=18									
WRA	**Warramunga Arr**	**53.70**	**188**	P		**P**		**14 11 32.9**	**-0.1**
0.3nm,0.3s,mb3.7,baz=6.6,slow=7.6,SNR=22									
ASAR	**Alice Springs**	**57.43**	**188**	P		**P**		**14 11 59.3**	**-0.3**
0.1nm,0.4s,mb3.2,baz=3.3,slow=6.0,SNR=5.7									

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*ISCJB **26** 14:02:17.0±0.4, 36.14N±002×2538E±005, h8km±4km, Error ellipse: s-maj=7.3km s-min=3.3km az=179.9*
*ATH **26** 14:02:16.4, 36.18N×2529E, h72km±8km*
*CSEM **26** 14:02:17.8±0.1, 36.17N×2545E, h15km, ML3.2, Error ellipse: s-maj=4.2km s-min=1.5km az=85.0*
*THE **26** 14:02:17.7, 36.17N×2547E, h10km, ML3.2*
ISC 26 14:02:17.4±0.4, 3615N±002×2539E±006, h13km±4km, n16, σ0°68/29, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THR6	**Thira Island,**	**0.20**	**3**	*e*Pg		**Pg**		**14 02 21.9**	**0.0**
THR6				*e*Sg		**Sg**		**14 02 25.0**	**0.0**
THR1	**Thera Island**	**0.23**	**15**	*e*Pg		**Pg**		**14 02 22.1**	**-0.2**
THR1				*e*Sg		**Sg**		**14 02 25.5**	**-0.1**
THR3	**Thira Island,**	**0.26**	**3**	*e*Pg		**Pg**		**14 02 22.9**	**0.0**
THR3				*e*Sg		**Sg**		**14 02 26.4**	**-0.1**
THR5	**Thira Island,**	**0.27**	**354**	*e*Pg		**Pg**		**14 02 23.0**	**0.0**
THR4	**Thira Island,**	**0.31**	**2**	*e*Pg		**Pg**		**14 02 24.2**	**+0.4**
THR4				*e*Sg		**Sg**		**14 02 28.7**	**+0.7**
NPS	**Neapolis**	**0.91**	**168**	*e*P		**Pb**		**14 02 35.5**	**+0.5**
NPS				*e*S		**Sb**		**14 02 47.9**	**+1.0**
APE	**Apeiranthos**	**0.92**	**7**	*e*Pg		**Pg**		**14 02 34.6**	**-0.6**
APE				*e*Sg		**Sg**		**14 02 47.1**	**-0.2**
APE	**Apeiranthos**	**0.92**	**7**	*e*P		**Pb**		**14 02 35.1**	**-0.2**
APE				*e*S		**Sb**		**14 02 47.9**	**+0.5**
APE	**Apeiranthos**	**0.92**	**7**	*e*P		**Pb**		**14 02 35.1**	**-0.2**
APE				*e*Sg		**Sg**		**14 02 47.2**	**-0.1**
APE				*e*S		**Sb**		**14 02 47.9**	**+0.5**
LAST	**Lasithi**	**0.99**	**176**	*e*Pg		**Pg**		**14 02 36.5**	**-0.1**
LAST				*e*Sg		**Sg**		**14 02 50.4**	**+0.9**
VAM	**Vamos**	**1.22**	**233**	*e*P		**Pn**		**14 02 39.1**	**-1.0**
SIVA	**Sivas**	**1.23**	**203**	*e*Pg		**Pg**		**14 02 40.7**	**-0.2**
SIVA				*e*Sg		**Sg**		**14 02 56.8**	**-0.1**
ZKR	**Zakros**	**1.24**	**147**	*e*Pg		**Pg**		**14 02 40.6**	**-0.6**
KARP	**Karpathos**	**1.56**	**112**	*e*P		**Pn**		**14 02 44.7**	**-0.2**
KARP				*e*S		**Sn**		**14 03 04.7**	**-0.3**
VLI	**Veliai**	**2.05**	**287**	*e*P		**Pn**		**14 02 48.4**	**-3.2**
DID	**Didima**	**2.19**	**309**	*e*Pn		**Pn**		**14 02 53.0**	**-0.5**
DID				*e*Sn		**Sn**		**14 03 22.4**	**+1.9**

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*ISCJB **26** 14:06:19.2±5.4, 506N±06×1774W±02, h27km±27km, mb4.0/5, Error ellipse: s-maj=107.9km s-min=12.8km az=173.9*
*NEIC **26** 14:06:20.6±4.1, 5048N×17750W, h30km, ML3.2(AEIC), Error ellipse: s-maj=96.6km s-min=10.9km az=176.0*
*IDC **26** 14:06:32.0±7.0, 5186N×17774W, h53km±60km, mb3.6/5, mb1 3.9/7, mb1mx3.4/27, mbtmp3.7/7, ML3.9/2, Error ellipse: s-maj=95.7km s-min=25.4km az=4.0*
ISC 26 14:06:21.3±5.0, 506N±06×1775W±02, h25km±29km, n13, σ1°07/13, mb4.0/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**2.18**	**292**	P		**Pn**		**14 06 54.0**	**-1.8**
NIKO	**Nikolski**	**5.84**	**63**	*e*Pn		**Pn**		**14 07 45.4**	**-0.7**
UNV	**Unalaska Valle**	**7.47**	**60**	*e*Pn		**Pn**		**14 08 08.4**	**0.0**
PETK	**Petropavlovsk-**	**15.52**	**289**	P		**Pn**		**14 10 00.2**	**+2.1**
0.1nm,0.3s,baz=119,slow=15,SNR=4.7									
KDAK	**Kodiak Island**	**16.16**	**54**	P		**Pn**		**14 10 09.3**	**+2.9**
1.7nm,0.3s,baz=281,slow=8.8,SNR=16									
KTH	**Kantishna Hill**	**19.19**	**38**	*e*P		**Pn**		**14 10 43.6**	**-0.2**
12nm,1.2s									
YKA	**Yellowknife Ar**	**35.15**	**46**	P		**P**		**14 13 12.0**	**-0.3**
1.0nm,0.7s,mb3.9,baz=281,slow=7.1,SNR=4.4									
PDAR	**Pinedale Array**	**45.74**	**72**	P		**P**		**14 14 47.2**	**+7.1**
0.4nm,0.7s,mb3.5,baz=322,slow=4.7,SNR=4.1									
ARCES	**ARCESS Array B**	**58.98**	**351**	P		**P**		**14 16 17.7**	**-0.2**
1.5nm,0.8s,mb4.1,baz=32,slow=7.1,SNR=5.3									
ARCES	**ARCESS Array B**	**58.98**	**351**	P		**P**		**14 16 17.7**	**-0.2**
BVAR	**Borovoye Array**	**62.01**	**321**	P		**P**		**14 16 39.4**	**+0.6**
1.3nm,0.6s,mb4.2,baz=59,slow=6.9,SNR=6.2									
AKTK	**Aktyubinsk**	**68.79**	**326**	P		**P**		**14 17 22.4**	**-0.3**
AKTO	**Aktyubinsk**	**68.79**	**326**	P		**P**		**14 17 22.4**	**-0.3**
1.9nm,0.5s,mb4.2,baz=29,slow=6.4,SNR=5.7									

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*ISCJB **26** 14:45:06.7±0.8, 107S±01×14961E±006, h33km, Error ellipse: s-maj=16.9km s-min=6.7km az=161.8*
*NEIC **26** 14:45:09.8±1.1, 1062S×14945E, h35km, Error ellipse: s-maj=18.0km s-min=14.0km az=165.0*
*IDC **26** 14:45:11.9±4.3, 1101S×14966E, h52km±58km, mb3.2/1, mb1 3.6/5, mb1mx3.4/15, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=54.1km s-min=19.0km az=151.0*
ISC 26 14:45:09.3±1.2, 107S±01×14952E±006, h41km±23km, n12, σ1°61/19, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.66**	**299**	*e*P		**Pn**		**14 45 47.9**	**-1.8**
CTA	**Charters Tower**	**9.85**	**198**	P		**Pn**		**14 47 28.4**	**0.0**
0.6nm,0.3s,baz=6.1,slow=12,SNR=7.2									
CTA				S		**Sn**		**14 49 13.8**	**-3.9**
0.3nm,0.3s,baz=107,slow=23,SNR=2.5									
CTA	**Charters Tower**	**9.85**	**198**	P		**Pn**		**14 47 28.4**	**0.0**
CTA				S		**Sn**		**14 49 13.8**	**-3.9**
CTAO	**Charters Tower**	**9.85**	**198**	Pn		**Pn**		**14 47 28.9**	**+0.5**
CTAO				*e*Sn		**Sn**		**14 49 15.8**	**-1.9**
HNR	**Honiara**	**10.35**	**84**	P		**Pn**		**14 47 37.2**	**+2.0**
baz=234,slow=7.9,SNR=2.5									
HNR				S		**Sn**		**14 49 28.8**	**-1.1**
16nm,0.3s,baz=110,slow=2.8,SNR=4.0									
HNR	**Honiara**	**10.35**	**84**	P		**Pn**		**14 47 37.2**	**+2.0**
HNR				S		**Sn**		**14 49 28.8**	**-1.1**
WRAB	**Tennant Creek**	**17.26**	**236**	*e*P		**Pn**		**14 49 09.0**	**+1.6**
WB2	**Warramunga Arr**	**17.26**	**236**	*e*Pn		**Pn**		**14 49 09.9**	**+2.5**
WB2				*e*S		**Sn**		**14 52 16.0**	**-2.6**
WRA	**Warramunga Arr**	**17.27**	**236**	P		**Pn**		**14 49 09.6**	**+2.0**
0.2nm,0.3s,baz=62,slow=13,SNR=11									
WRA				S		**Sn**		**14 52 19.7**	**+0.9**
0.2nm,0.3s,baz=47,slow=23,SNR=5.4									
ASAR	**Alice Springs**	**19.69**	**227**	P		**Pn**		**14 49 37.0**	**+0.1**
0.1nm,0.3s,baz=72,slow=10,SNR=12									
STKA	**Stephens Creek**	**22.31**	**198**	P		**P**		**14 50 01.4**	**-2.0**
1.0nm,0.6s,baz=345,slow=13,SNR=4.8									
FITZ	**Fitzroy Crossi**	**24.25**	**250**	*e*P		**P**		**14 50 21.9**	**-0.8**

**IDC 26 14:52:08.8±8.7, 1021S×15446E, h0km, mb3.6/4, mb1

THW	**Thamme Wali**	3.43	174	P		**Pn**	**14 53 23.3 +2.5**
JMU	**Jammu**	4.58	139	*ex*		**Pn**	**14 53 32.5 -3.9**
JMU				*ex*		**Sn**	**14 54 33.0 +4.6**
KSH	**Kashi**	4.95	47	*eP*		**Pn**	**14 53 44.5 +3.2**
KSH				S		**Sn**	**14 54 39.8 +2.5**
KSH				Smax			
	comp=N,3μm,0.8s						
KSH				Smax			
	comp=E,4μm,1.1s						
THN	**Thein Dam**	5.25	135	*eP*		**Pn**	**14 53 47.6 +2.2**
THN				*ex*		x	14 55 24.1
DLH	**Dalhousie**	5.32	132	*eP*		**Pn**	**14 53 47.0 +0.6**
DLH				*eS*		**Sn**	**14 54 46.0 -0.3**
PONG	**Pong**	5.74	136	*eP*		**Pn**	**14 53 53.0 +0.9**
PONG				*ex*		**Sn**	**14 54 57.0 +0.4**
AML	**Almayashu**	6.19	17	P		**Pn**	**14 53 58.1 -0.1**
	SNR=849						
AML	**Almayashu**	6.19	17	⇓*i*Pn		**Pn**	**14 53 58.0 -0.2**
	comp=E,27nm,1.0s						
AML				*e*Sn		**Sn**	**14 55 04.9 -2.7**
BHK	**Bhakra**	6.41	137	*eP*		**Pn**	**14 54 03.8 +2.7**
BHK				*ex*		**Sn**	**14 55 13.4 +0.6**
UCH	**Uchtor**	6.50	22	P		**Pn**	**14 54 02.6 +0.2**
	SNR=360						
UCH	**Uchtor**	6.50	22	*e*Pn		**Pn**	**14 54 02.5 +0.1**
	comp=E,96nm,0.5s						
KZA	**Kyzart**	6.61	26	P		**Pn**	**14 54 04.1 +0.3**
	SNR=24						
SDNR	**Sundarnagar**	6.66	133	*eP*		**Pn**	**14 54 05.0 +0.4**
SDNR				*ex*		**Sn**	**14 55 18.4 -0.6**
EKS2	**Erkin-Say**	6.72	16	P		**Pn**	**14 54 05.2 -0.1**
	SNR=347						
EKS2	**Erkin-Say**	6.72	16	*e*Pn		**Pn**	**14 54 05.2 -0.2**
	comp=E,170nm,0.6s						
AAK	**Ala-Archa**	6.87	20	P		**Pn**	**14 54 07.8 +0.4**
	SNR=208						
KK31	**Karatay Array**	6.91	355	⇓P		**Pn**	**14 54 05.9 -2.0**
	comp=E,174nm,0.6s,baz=187,slow=16,SNR=1477						
KK31				⇑S		**Sn**	**14 55 19.8 -5.1**
	comp=E,210nm,0.6s,baz=187,slow=22,SNR=7.8						
KK31	**Karatay Array**	6.91	355	*e*PN		**Pn**	**14 54 05.8 -2.1**
KK31				pmax	pmax		
	comp=Z,73nm,0.3s						
KBK	**Karagaybulak**	7.03	23	P		**Pn**	**14 54 10.0 +0.5**
	SNR=27						
SMLA	**Simla**	7.04	134	*i* P		**Pn**	**14 54 10.6 +0.7**
SMLA				*i* x		**Sn**	**14 55 29.1 +0.7**
FRU	**Bishkek**	7.09	20	⇓*i*PN		**Pn**	**14 54 10.2 -0.2**
FRU				*i* S		**Sn**	**14 55 30.5 +1.1**
FRU				pmax	pmax		
	comp=Z,610nm,1.9s						
FRU				smax			
	comp=N,830nm,1.8s						
FRU				pmax	pmax		
	comp=E,2μm,8.0s						
CHMS	**Chumysh**	7.28	20	P		**Pn**	**14 54 12.8 -0.2**
	SNR=56						
KLP	**Kalpa**	7.43	127	*eP*		**Pn**	**14 54 15.6 +0.5**
USP	**Ospenovka**	7.46	18	P		**Pn**	**14 54 14.5 -0.9**
	SNR=172						
TKM2	**Tokmak 2**	7.47	25	⇑P		**Pn**	**14 54 15.6 0.0**
	comp=E,386nm,1.1s						
TKM2				⇑S		**Sn**	**14 55 39.1 +0.4**
	comp=E,167nm,0.9s						
TKM2	**Tokmak 2**	7.47	25	PN		**Pn**	**14 54 15.5 -0.1**
TKM2							14 55 39.1
TKM2				pmax	pmax		
	comp=Z,386nm,1.2s						
TKM2				smax			
	comp=N,167nm,1.0s						
TKM2	**Tokmak 2**	7.47	25	P		**Pn**	**14 54 16.0 +0.3**
	SNR=37						
TKM2	**Tokmak 2**	7.47	25	*e*Pn		**Pn**	**14 54 15.8 +0.2**
	comp=N,385nm,1.0s						
KKR	**Kurukshetra**	7.77	142	*eP*		**Pn**	**14 54 20.4 +0.7**
DDI	**Dehra Dun**	8.15	134	*ex*		x	14 55 44.8
AAA	**Alma-Ata**	8.28	30	*i* PN		**Pn**	**14 54 25.8 -0.8**
AAA				*i* S		**Sn**	**14 56 00.0 +1.6**
AAA				pmax	pmax		
	comp=Z,900nm,3.0s						
AAA				smax			
	comp=N,2μm,6.7s						
AAA				MLR	MLR		
	comp=E,1μm,7.0s						
JOSI	**Joshimath**	8.91	127	*eP*		**Pn**	**14 54 36.2 +0.9**
JOSI				AML	AML		14 56 18.0
	comp=N,2μm,0.7s						
JOSI				AML	AML		14 56 20.0
	comp=E,1μm,0.6s						
NDI	**New Delhi**	9.02	145	*eP*		**Pn**	**14 54 36.0 -0.8**
NDI				*eP*			14 54 36.0
NDI				*eS*		**Sn**	**14 56 11.0 -5.6**
KUDL	**Kundal**	9.17	150	*eP*		**Pn**	**14 54 38.2 -0.6**
KUDL				*eS*		**Sn**	**14 56 16.2 -4.0**
KUDL				AML	AML		14 56 19.6
	comp=N,189nm,0.5s						
ASOR	**Ausora**	9.23	142	*eP*		**Pn**	**14 54 38.3 -1.3**
JASL	**Jaisalmer**	9.27	182	*eP*		**Pn**	**14 54 38.8 -1.4**
SONA	**Sohna**	9.33	147	*eP*		**Pn**	**14 54 40.4 -0.6**
SONA				AML	AML		14 56 23.7
	comp=E,278nm,0.4s						
SONA				AML	AML		14 56 25.3
	comp=N,158nm,0.5s						
PTH	**Pithoragarh**	10.02	129	*eP*		**Pn**	**14 54 50.3 0.0**
PTH				*eS*		**Sn**	**14 56 33.9 -6.9**
AJM	**Ajmer**	10.12	163	*eP*		**Pn**	**14 54 51.5 -0.2**
AJM				*ex*		x	14 56 39.7
BHJ	**Bhuj**	12.99	187	*eP*		**Pn**	**14 55 28.5 -2.0**
BHJ				*eS*		**Sn**	**14 57 45.5 -7.8**
DANN	**Dangsing**	13.13	123	*eP*		**Pn**	**14 55 30.8 -1.5**
MK31	**Makanchi Array**	13.38	34	P		**Pn**	**14 55 33.1 -2.3**
	comp=N,19nm,0.8s,baz=211,slow=9.9,SNR=102						
MK31	**Makanchi Array**	13.38	34	*i* P		**Pn**	**14 55 33.1 -2.4**
MK31				pmax	pmax		
	comp=Z,12nm,0.6s						
MKAR	**Makanchi Array**	13.38	34	P		**Pn**	**14 55 33.8 -1.7**
	comp=Z,0.6nm,0.3s,baz=221,slow=12,SNR=87						
MKAR				ScP	ScP		15 04 23.8 +2.1
	comp=Z,0.1nm,0.3s,baz=90,slow=1.2,SNR=4.5						
KOLN	**Koldanda**	13.40	125	*eP*		**Pn**	**14 55 34.4 -1.4**
GKN	**Gorkha**	13.95	122	*eP*		**Pn**	**14 55 41.4 -1.6**
DMN	**Daman**	14.52	122	*eP*		**Pn**	**14 55 48.5 -1.8**
KKN	**Kakani**	14.52	121	*eP*		**Pn**	**14 55 47.9 -2.5**
	comp=Z,156nm,0.7s						
KKN	**Kakani**	14.52	121	*eP*		**Pn**	**14 55 47.9 -2.5**
KKN				pmax	pmax		
	comp=Z,156nm,0.7s						
WMQ	**Urumqi**	14.67	54	P		**Pn**	**14 55 51.8 -0.3**
WMQ				AP			14 56 05.3
WMQ				XP		sP	14 56 19.5 -5.2
WMQ				SS			14 58 49.3
WMQ				PCP		PcP	15 01 00.0 +1.6
WMQ				AMB		AMB	
	comp=Z,42nm,0.9s						
WMQ				LR		LR	
	comp=N,361nm,9.0s						
WMQ				LR		LR	
	comp=E,437nm,8.6s						
WMQ				LR		LR	
	comp=Z,286nm,6.4s						
PKIN	**Phulchoki**	14.74	122	*eP*		**Pn**	**14 55 52.1 -1.0**
	comp=Z,146nm,0.6s						
PKIN				*eS*		**Sn**	**14 58 26.4 -9.1**
PKI	**Pulchoki**	14.75	122	*eP*		**Pn**	**14 55 51.3 -2.0**
PKI	**Pulchoki**	14.75	122	*eP*		**Pn**	**14 55 52.1 -1.2**
PKI				*eS*		**Sn**	**14 58 26.4 -9.4**
PKI				pmax	pmax		
	comp=Z,146nm,0.6s						
PKI	**Pulchoki**	14.75	122	*eP*		**Pn**	**14 55 52.1 -1.2**
	comp=Z,146nm,0.6s						
PKI				*eS*		**Sn**	**14 58 26.4 -9.4**
GUN	**Gumba**	14.87	120	*eP*		**Pn**	**14 55 52.4 -2.4**
	comp=Z,83nm,0.4s						
JIRN	**Jiri**	15.24	120	*eP*		**Pn**	**14 55 58.0 -1.5**
	comp=Z,173nm,0.6s						
KURBB	**Kurchatov Arra**	15.32	18	⇓P		**Pn**	**14 55 54.1 -6.2**
	comp=Z,5.5nm,0.7s						
KURK	**Kurchatov**	15.43	18	⇓P		**Pn**	**14 55 56.1 -5.6**
	comp=Z,26nm,0.8s						
KURK	**Kurchatov**	15.43	18	*eP*		**Pn**	**14 55 56.5 -5.2**
KURK				pmax	pmax		
	comp=Z,22nm,0.8s						
KURK	**Kurchatov**	15.43	18	*e*Pn		**Pn**	**14 55 56.5 -5.2**
	comp=Z,22nm,0.8s						
AB31	**Akbulak array**	15.45	331	⇓P		**Pn**	**14 55 56.5 -5.5**
	comp=Z,8.5nm,0.3s,baz=140,slow=12,SNR=507						
AB31				⇑S		S	14 58 38.0 -24
	comp=Z,29nm,0.6s,baz=151,slow=24,SNR=7.3						
AB31	**Akbulak array**	15.45	331	*i* P		**Pn**	**14 55 56.9 -5.1**
AB31				pmax	pmax		
	comp=Z,21nm,0.4s						
RAMN	**Ramite**	15.96	121	*eP*		**Pn**	**14 56 06.6 -2.0**
	comp=Z,66nm,0.4s						
AKL	**Akola**	16.24	161	*i* P		**Pn**	**14 56 12.4 +0.2**
AKL				*i* x		x	14 59 04.0
NGP	**Nagpur**	16.47	154	*ex*		x	14 56 11.8
NGP				*ex*		x	14 59 06.4
TAPN	**Taplejung**	16.50	118	*eP*		**Pn**	**14 56 13.4 -1.9**
	comp=Z,78nm,0.5s						
VOSK	**Vostochnaya**	16.51	359	⇓P		**Pn**	**14 56 10.7 -4.5**
	comp=Z,73nm,1.0s						
VOSK				⇓S		**S**	**14 59 05.7 -18**
	comp=Z,12nm,0.8s						
VOSK	**Vostochnaya**	16.51	359	P		**Pn**	**14 56 10.6 -4.6**
VOSK							14 59 05.7
VOSK				pmax	pmax		
	comp=Z,73nm,1.0s						
VOSK				smax			
	comp=N,12nm,0.8s						
ODAN	**Odare**	16.57	120	*eP*		**Pn**	**14 56 14.4 -1.7**
	comp=N,122nm,0.6s						
ODAN				*eS*		**S**	**14 59 07.7 -18**
BVA0	**Borovoye Array**	16.82	358	⇑P		**Pn**	**14 56 14.4 -4.6**
	comp=N,18nm,1.4s,baz=173,slow=13,SNR=196						
BVA0				⇑S		**S**	**14 59 16.9 -13**
	comp=N,2.7nm,0.9s						
BVA0	**Borovoye Array**	16.82	358	*i* P		**Pn**	**14 56 14.3 -4.7**
BVA0							14 59 26.5
BVA0				pmax	pmax		
	comp=Z,30nm,1.8s						
BVA0				smax			
	comp=N,3.0nm,0.9s						
BVAR	**Borovoye Array**	16.82	358	P		**Pn**	**14 56 15.1 -3.9**
	comp=N,2.4nm,0.3s,baz=164,slow=9.9,SNR=98						
BVAR				S		**S**	**14 59 15.2 -15**
	comp=N,1.0nm,0.3s,baz=167,slow=25,SNR=3.8						
BVAR				LR		LR	15 02 47.2
	comp=N,253nm,19.9s,baz=208,slow=37						
BVAR	**Borovoye Array**	16.82	358	P		**Pn**	**14 56 15.1 -3.9**
BVAR				S		**S**	**14 59 15.2 -15**
BRVK	**Borovoye**	16.86	358	*eP*		**Pn**	**14 56 15.4 -4.1**
BRVK				pmax	pmax		
	comp=Z,146nm,1.4s						
BRVK	**Borovoye**	16.86	358	*e*Pn		**Pn**	**14 56 15.4 -4.1**
	comp=Z,146nm,1.4s						
BLSP	**Bilaspur**	16.91	143	*eP*		**Pn**	**14 56 20.8 +0.5**
BLSP				*ex*		x	14 59 19.8
AKTK	**Aktyubinsk**	17.15	330	P		**Pn**	**14 56 19.6 -3.4**
AKTK				S		**S**	**14 59 18.6 -18**
AKTK				LR		LR	15 03 43.2
AKTO	**Aktyubinsk**	17.15	330	⇓P		**Pn**	**14 56 19.4 -3.7**
	comp=Z,25nm,0.8s						
AKTO				⇑S		**S**	**14 59 17.8 -19**
	comp=Z,12nm,0.9s						
AKTO	**Aktyubinsk**	17.15	330	P		**Pn**	**14 56 19.6 -3.4**
	comp=Z,4.0nm,0.3s,baz=139,slow=14,SNR=68						
AKTO				S		**S**	**14 59 18.6 -18**
	comp=Z,1.0nm,0.3s,baz=82,slow=18,SNR=6.5						
AKTO				LR		LR	15 03 43.2
	comp=Z,90nm,19.4s,baz=144,slow=39						
AKTO	**Aktyubinsk**	17.15	330	P		**Pn**	**14 56 19.6 -3.5**
AKTO				S		**S**	**14 59 18.6 -18**
BOK	**Bokaro**	17.66	130	*eP*		**Pn**	**14 56 30.9 +1.4**
BOK				*ex*		x	14 59 30.5
POO	**Poona**	17.76	172	*eP*		**Pn**	**14 56 32.4 +1.7**
LSA	**Lhasa**	17.87	106	P		**Pn**	**14 56 34.0 +2.0**
LSA	**Lhasa**	17.87	106	*eP*		**Pn**	**14 56 32.8 +0.8**
LSA				pmax	pmax		
	comp=Z,20nm,0.7s						
LSA	**Lhasa**	17.87	106	*eP*		**Pn**	**14 56 32.8 +0.8**
	comp=Z,20nm,0.7s						
LATR	**Latur**	18.33	164	*eP*		**Pn**	**14 56 38.5 +0.9**
LATR				*ex*		x	14 59 48.9
KAD	**Karad**	19.00	172	*i* P		**Pn**	**14 56 46.5 +0.9**
KAD				*i* x		x	15 00 33.5
MAK	**Makhachkala**	19.50	297	*eP*		**Pn**	**14 56 45.5 -5.8**
MAK				*eS*		**S**	**15 00 23.8 -0.7**
MAK				pmax	pmax		
	comp=Z,221nm,1.1s						
MAK				MLR	MLR		
	comp=Z,292nm,15.0s						
HYB	**Hyderabad**	19.80	159	*i* P		**Pn**	**14 56 54.0 -0.9**
HYB				*eS*		**S**	**15 00 28.0 -2.7**
HYB	**Hyderabad**	19.80	159	*eP*		**Pn**	**14 56 55.0 +0.1**
HYB				*eS*		**S**	**15 00 28.0 -2.7**
ZAL	**Zalesovo**	20.06	24	P		**P**	**14 56 54.3 -0.8**
ZAL				S		**S**	**15 00 32.7 -2.7**
ZALV	**Zalesovo Beam**	20.08	24	P		**P**	**14 56 54.3 -1.0**
	comp=Z,47nm,0.8s,baz=224,slow=10.0,SNR=184						
ZALV				S		**S**	**15 00 32.7 -3.0**
	comp=Z,2.7nm,0.5s,baz=209,slow=15,SNR=3.2						
BWNR	**Bhubaneshwar**	20.33	137	*eP*		**P**	**14 56 58.0 -0.3**
BWNR				*ex*		x	15 00 38.0
NVS	**Novosibirsk**	20.36	20	⇓*i*P		**P**	**14 56 57.1 -1.3**
NVS				*eS*		**S**	**15 00 34.7 -6.7**
NVS				pmax	pmax		
	comp=Z,70nm,1.1s						
NVS				pmax	pmax		
	comp=N,69nm,1.3s						
NVS				pmax	pmax		
	comp=E,15nm,1.0s						
NVS				smax			
	comp=N,65nm,1.9s						
SHL	**Shillong**	20.57	115	*i* x		x	14 57 04.0
SHL				*i* x		x	15 00 39.0
UMR	**Umm Al-Rimmam**	20.86	258	*eP*		**P**	**14 57 03.0 -1.0**
	baz=258						
UMR				AMb	AMB		14 57 08.3
	comp=Z,59nm,0.7s,baz=258						
MIB	**Mutribah**	21.06	259	*eP*		**P**	**14 57 05.1 -1.0**
	baz=259						
MIB				AMb	AMB		14 57 14.3
	comp=Z,199nm,0.8s,mb5.5,baz=259						
GNI	**Garni**	21.21	289	P		**P**	**14 57 08.7 +1.0**
	comp=Z,79nm,0.9s,mb5.1,baz=47,slow=1.4,SNR=36						
GNI	**Garni**	21.21	289	⇑*eP*		**P**	**14 57 09.5 +1.8**
GNI				pmax	pmax		
	comp=Z,169nm,1.2s						
GNI	**Garni**	21.21	289	*eP*		**P**	**14 57 08.4 +0.8**
	comp=Z,159nm,1.0s,mb5.3						
RDF	**Al-Radifah**	21.26	257	*eP*		**P**	**14 57 07.6 -0.7**
	baz=257						
RDF				AMb	AMB		14 57 09.4
	comp=Z,102nm,1.1s,mb5.1,baz=257						
VIS	**Vishakhapatnam**	21.28	147	*ex*		x	14 57 13.1
VIS				*i* x		x	15 00 56.1
TBLG	**Delisi**	21.33	293	P		**P**	**14 57 10.8 +1.9**
NAY	**Al-Naaiem**	21.37	258	*eP*		**P**	**14 57 08.1 -1.3**
	baz=258						
NAY				AMb	AMB		14 57 09.8
	comp=Z,49nm,1.3s,mb4.7,baz=258						
SVE	**Sverdlovsk**	21.83	344	⇓*eP*		**P**	**14 57 13.0 -1.1**
SVE				*eS*		**S**	**15 01 15.6 +5.6**
SVE				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.0						
SVE				MLR	MLR		
	comp=Z,351nm,11.0s						
ARU	**Arti**	21.98	341	*d*P		**P**	**14 57 14.1 -1.6**
ARU				*e*PPP			14 57 43.2
ARU				*eS*		**S**	**15 01 13.8 +1.1**
ARU				*e*SSS			15 01 55.5
ARU				pmax	pmax		
	comp=Z,177nm,2.5s,mb5.0						
ARU	**Arti**	21.98	341	*eP*		**P**	**14 57 13.9 -1.8**
	comp=Z,136nm,1.0s,mb5.2						
HAKT	**HAKKARI**	22.08	282	*i* P		**P**	**14 57 19.6 +2.6**
ONI	**Oni**	22.38	295	P		**P**	**14 57 22.0 +1.9**
GTA	**Gaotai**	22.71	73	⇓P		**P**	**14 57 26.3 +2.7**
GTA				AP			14 57 46.5
GTA				XP		sP	14 57 59.0 +6.0
GTA				S		**S**	**15 01 29.0 +3.9**
GTA				AMB	AMB		
	comp=Z,37nm,1.2s,mb4.6						
GTA				AMB	AMB		
	comp=Z,150nm,4.8s						
GTA				LR	LR		
	comp=N,153nm,16.8s						
GTA				LR	LR		
	comp=E,173nm,16.2s						
GTA				LR	LR		
	comp=Z,178nm,16.5s						
KIV	**Kislovodsk**	23.14	298	⇑*eP*		**P**	**14 57 27.7 +0.1**
KIV				*i*			14 57 58.5
KIV				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.5						
KIV	**Kislovodsk**	23.14	298	*eP*		**P**	**14 57 26.8 -0.8**
	comp=Z,48nm,0.8s,mb4.9						
KRAR	**Krasnoyarsk**	24.62	30	*eP*		**P**	**14 57 40.3 -0.7**
KRAR				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.6						
SOKR	**Solikamsk**	25.20	343	*d*P		**P**	**14 57 46.4 +0.2**
SOKR				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.7						
MOY	**Mondy**	26.14	44	*eP*		**P**	**14 58 00.6 +5.8**
MALT	**Malatya**	26.17	285	*eP*		**P**	**14 57 54.4 -0.8**
MALT				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
MALT	**Malatya**	26.17	285	*eP*		**P**	**14 57 54.4 -0.9**
	comp=Z,16nm,1.0s,mb4.4						
LZH	**Lanzhou**	26.22	81	⇓P		**P**	**14 57 59.5 +3.8**
LZH				AP		pP	14 58 21.8 +5.7
LZH				XP		sP	14 58 33.0 +6.3
LZH				PP			14 58 45.5
LZH				S		**S**	**15 02 21.5 +0.3**
LZH				XS		sS	15 02 58.5 +1.7
LZH				*e*SS			15 03 36.0
LZH				AMB	AMB		
	comp=Z,65nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,107nm,4.2s						
LZH				LR	LR		
	comp=N,498nm,11.3s						
LZH				LR	LR		
	comp=Z,875nm,14.5s						
GZT	**Gaziantep**	26.96	283	*i* P		**P**	**14 58 06.3 +4.0**
ZAK	**Zakamensk**	27.00	48	*eP*		**P**	**14 58 04.4 +1.9**
ZAK				*e*		pP	14 58 23.6 +0.6
ZAK				*e*			14 58 37.7
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
CD2	**Chengdu**	27.48	92	*eP*		**P**	**14 58 08.0 +0.9**
CD2				AP		pP	14 58 29.5 +1.9
CD2				XP		sP	14 58 42.8 +4.6
CD2				PP		PP	14 59 00.8 -10
CD2				S		**S**	**15 02 40.5 -0.7**
CD2				XS		sS	15 03 18.0 +1.1
CD2				SS			15 04 05.0
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
CD2				AMB	AMB		
	comp=Z,40nm,6.2s						
CD2				LR	LR		
	comp=N,450nm,12.0s						
CD2				LR	LR		
	comp=Z,150nm,10.8s						
SONM	**Songino Array**	28.30	55	P		**P**	**14 58 16.5 +2.4**
	comp=Z,5.9nm,0.9s,mb4.1,baz=257,slow=8.8,SNR=22						
SONM				LR	LR		15 11 20.4
	comp=Z,193nm,18.7s,baz=142,slow=40						
KMI	**Kunming**	29.09	103	P		**P**	**14 58 23.8 +2.3**
KMI				AP		pP	14 58 44.3 +2.2
KMI				XP		sP	14 58 55.5 +2.8
KMI				PP		PP	14 59 21.5 -7.2
KMI				S		**S**	**15 03 05.3 -1.4**
KMI				XS		sS	15 03 43.3 +0.9
KMI				SS		SS	15 04 41.8 -32
KMI				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.9						
KMI				AMB	AMB		
	comp=Z,67nm,4.5s						
KMI				LR	LR		
	comp=N,192nm,16.7s						
KMI				LR	LR		
	comp=E,99nm,16.2s						
KMI				LR	LR		
	comp=Z,117nm,17.2s						
MMAI	**Mount Meron Ar**	29.61	274	P		**P**	**14 58 26.3 +0.3**
	comp=Z,2.6nm,0.8s,mb3.9,baz=77,slow=11,SNR=4.1						
CHTO	**Chiang Mai**	29.87	118	*eP*		**P**	**14 58 30.5 +2.1**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.1						
CHTO	**Chiang Mai**	29.87	118	*eP*		**P**	**14 58 30.5 +2.1**
	comp=Z,5.5nm,1.1s,mb4.1						
MOS	**Moscow**	30.03	321	*eP*		**P**	**14 58 28.9 -0.5**
MOS				*e*			15 03 27.0
MOS				pmax	pmax		
	comp=Z,100nm,1.3s,mb5.3						
MOS				pmax	pmax		
	comp=Z,95nm,1.3s,mb5.3						
CMAR	**Chiang Mai Arr**	30.11	119	P		**P**	**14 58 33.1 +2.7**
	comp=Z,3.4nm,0.8s,mb4.0,baz=299,slow=8.4,SNR=18						
CMAR				ScP	ScP		15 05 01.7 -2.2
	comp=Z,1.2nm,0.9s,baz=291,slow=4.5,SNR=5.0						
CMAR				LR	LR		15 13 27.0
	comp=Z,78nm,19.7s,baz=320,slow=42						
CMAR	**Chiang Mai Arr**	30.11	119	P		**P**	**14 58 33.2 +2.8**
CMAR							15 05 01.7
OBN	**Obninsk**	30.31	320	⇑*eP*		**P**	**14 58 32.1 +0.2**
OBN				*e*			14 59 27.9
OBN				*eS*		**S**	**15 03 28.2 +3.1**
OBN				pmax	pmax		
	comp=Z,84nm,1.3s,mb5.2						
OBN	**Obninsk**	30.31	320	*eP*		**P**	**14 58 31.7 -0.2**
	comp=Z,41nm,0.7s,mb5.2						
XAN	**Xi'an**	30.72	83	P		**P**	**14 58 35.8 0.0**
XAN				AP		pP	14 58 56.3 -0.2
XAN				XP		sP	14 59 07.0 -0.1
XAN				PP		PP	14 59 46.5 -0.1
XAN				S		**S**	**15 03 32.3 +0.2**
XAN				XS		sS	15 04 08.5 +0.6
XAN				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
XAN				AMB	AMB		
	comp=Z,36nm,3.5s						
XAN				LR	LR		
	comp=N,56nm,12.3s						
XAN				LR	LR		
	comp=E,64nm,13.2s						
XAN				LR	LR		
	comp=Z,66nm,11.1s						
GYA	**Guiyang**	31.59	98	P		**P**	**14 58 46.3 +2.9**
GYA				AP		pP	14 59 07.5 +3.3
GYA				XP		sP	14 59 19.5 +4.8
GYA				PP		PP	14 59 52.5 -3.8
GYA				PCP		PcP	15 01 35.3 +1.5
GYA				S		**S**	**15 03 45.8 +0.2**
GYA				XS		sS	15 04 23.5 +2.0
GYA				SCP		ScP	15 05 09.3 +0.5
GYA				SCS		ScS	15 09 05.3 -1.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,70nm,4.9s						
GYA				LR	LR		
	comp=N,460nm,17.2s						
GYA				LR	LR		
	comp=E,420nm,17.9s						
GYA				LR	LR		
	comp=Z,440nm,16.8s						
HHC	**Hu-ho-hao-te**	31.64	69	*eP*		**P**	**14 58 43.5 -0.2**
HHC				AP		pP	14 59 04.8 +0.3
HHC				XP		sP	14 59 16.5 +1.5
HHC				PP		PP	14 59 52.3 -4.4
HHC				S		**S**	**15 03 43.0 -3.2**
HHC				XS		sS	15 04 22.3 +0.2
HHC	

KIEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
KIEV Kiev 33.32 309 *e*P **P 14 58 57.2 -1.1**
comp=Z,8.1nm,0.6s,mb4.7
VRI Vrincioaia 34.58 300⇑ *i*P **P 14 59 09.4 +0.1**
MLR Muntele Rosu 35.13 300⇓ *i*P **P 14 59 15.5 +1.5**
MLR Muntele Rosu 35.13 300 ⇓P **P 14 59 15.5 +1.5**
BJI Beijing 35.23 70 P **P 14 59 16.5 +1.6**
BJI S **S 15 04 40.0 -1.7**
BJI AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
BJI AMB AMB
comp=Z,52nm,3.3s
BJI LR LR
comp=N,151nm,15.4s
BJI LR LR
comp=E,103nm,15.0s
BJI LR LR
comp=Z,123nm,20.4s
BOD Bodaibo 35.42 39 *e*P **P 14 59 15.3 -1.0**
BOD pmax pmax
comp=Z,4.0nm,1.2s,mb4.1
BURAR Bucovina Array 35.64 303⇑ *i*P **P 14 59 18.6 +0.2**
BURAR Bucovina Array 35.64 303 ⇑P **P 14 59 18.6 +0.2**
WHN Wuhan 36.17 86 P **P 14 59 25.5 +2.4**
LVV L'vov 36.53 307 *e*P **P 14 59 25.8 -0.1**
LVV *e* 14 59 57.8
LVV *e* 15 00 50.6
DRGR 37.35 302⇓ *i*P **P 14 59 34.0 +1.1**
DRGR 37.35 302 ⇓P **P 14 59 34.0 +1.1**
KWP Kalwaria 37.37 307 *e*P **P 14 59 33.9 +0.9**
KWP Kalwaria 37.37 307 *e*P **P 14 59 33.9 +0.8**
IDI Anoyia 37.40 283 P **P 14 59 33.3 -0.2**
comp=Z,5.2nm,0.5s,mb4.7,baz=28,slow=18,SNR=5.0
KOLS Kolonicke sedl 37.64 305 *e*P **P 14 59 35.8 +0.5**
KOLS *e* 15 01 08.3
KOLS Kolonicke sedl 37.64 305 *e*P **P 14 59 35.8 +0.5**
KOLS *e*PP PP 15 01 08.3 +5.5
KOLS *e* 15 05 36.5
APA Apatity 37.99 337 *e*P **P 14 59 33.0 -5.0**
APA MLR MLR
comp=Z,600nm,11.0s
BZS Buzias 38.16 300⇑ *i*P **P 14 59 40.9 +1.1**
BZS Buzias 38.16 300 ⇑P **P 14 59 40.9 +1.1**
CRVS Cervenica-Dubn 38.17 305 *e*PP PP 15 01 12.9 +4.3
STHS Stebnicka Huta 38.32 306 *e*P **P 14 59 41.6 +0.6**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
STHS Stebnicka Huta 38.32 306 *e*P **P 14 59 41.6 +0.6**
comp=Z,4.5nm,0.8s,mb4.3
STHS *e* 15 05 29.8
KECS Kecovo 38.82 305 *e*P **P 14 59 46.2 +1.0**
KECS *e*PP PP 15 01 13.5 -2.2
NIE Niedzica 38.93 306 *e*P **P 14 59 47.4 +1.3**
PSZ Piszkesteto 39.23 304 *e*P **P 14 59 49.7 +1.0**
PSZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
PSZ Piszkesteto 39.23 304 *e*P **P 14 59 49.7 +1.1**
comp=Z,6.2nm,1.0s,mb4.4
OJC Ojcow 39.27 307 *e*P **P 14 59 48.8 -0.1**
NJ2 Nanjing 39.28 82 *e*P **P 14 59 50.8 +1.6**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
VYHS Vyhne 39.92 305 *e*P **P 14 59 54.8 +0.5**
VYHS pmax pmax
comp=Z,2.0nm,1.2s,mb3.8
VYHS Vyhne 39.92 305 *e*P **P 14 59 54.8 +0.5**
comp=Z,2.0nm,1.2s,mb3.8
VYHS *e*PP PP 15 01 29.2 +1.6
VYHS *e* 15 05 34.9
MORC Moravsky Berou 40.73 307 *e*P **P 15 00 00.5 -0.5**
MORC pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
MORC Moravsky Berou 40.73 307 *e*P **P 15 00 00.5 -0.5**
comp=Z,9.7nm,1.0s,mb4.6
GKP Gorka Klasztor 40.94 312 *e*P **P 15 00 03.1 +0.4**
MODS Modra-Piesok 40.96 305 *e*PP PP 15 01 35.7 -3.2
ZST Bratislava 41.09 304 *e*PP PP 15 01 41.7 +1.4
KEV Kevo 41.16 338 *e*P **P 15 00 04.4 +0.1**
KEV pmax pmax
comp=Z,19nm,0.9s,mb4.9
KEV Kevo 41.16 338 *e*P **P 15 00 04.3 +0.1**
comp=Z,19nm,0.9s,mb4.9
VRAC Vranov 41.36 306⇑ *i*P **P 15 00 06.6 +0.4**
VRAC Vranov 41.36 306 ⇑P **P 15 00 06.6 +0.4**
DPC Dobruska-Polom 41.50 308 *e*P **P 15 00 08.2 +0.9**
DPC *e*PP PP 15 01 46.5 +1.8
ARCES ARCESS Array B 41.50 338 P **P 15 00 07.5 +0.4**
comp=Z,54nm,1.1s,mb5.2,baz=110,slow=7.8,SNR=54
CN2 Changchun 41.53 62 *e*P **P 15 00 07.5 -0.1**
UPC Upice 41.69 308 *e*P **P 15 00 10.0 +1.1**
PSI Prapat 41.91 136 P **P 15 00 12.8 +1.8**
comp=Z,2.3nm,0.4s,mb4.2,baz=297,slow=9.7,SNR=4.3
PSI Prapat 41.91 136 P **P 15 00 12.8 +1.8**
KTK1 Kautokeino 41.98 336 *e*P **P 15 00 10.8 -0.1**
KTK1 AMb AMB 15 00 13.2
comp=Z,41nm,1.0s,mb5.1
KTK1 Kautokeino 41.98 336 *e*P **P 15 00 10.9 0.0**
comp=Z,41nm,1.0s,mb5.1,SNR=40
KTK1 Kautokeino 41.98 336 *e*P **P 15 00 10.8 -0.1**
comp=Z,41nm,1.0s,mb5.1
PRU Pruhonice 42.66 307 *e*P **P 15 00 17.0 +0.3**
PRU *e*PP PP 15 01 55.5 -1.7
BRG Berggiesshubel 42.99 309 *e*P **P 15 00 19.6 +0.2**
BRG *e* 15 02 07.2
BRG pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
BRG Berggiesshubel 42.99 309 *e*P **P 15 00 19.6 +0.2**
comp=Z,16nm,1.1s,mb4.7
BRG *e* 15 00 32.4
comp=Z,8.2nm,1.0s
BRG *e* 15 02 07.2
comp=Z,18nm,1.8s
CUC Castrocucco 43.23 292 *e*P **P 15 00 22.9 +1.4**
comp=Z,17nm,0.8s,mb4.8
GERES GERESS Array B 43.29 306 P **P 15 00 22.5 +0.6**
comp=Z,1.5nm,0.9s,mb3.7,baz=77,slow=8.4,SNR=8.1
GERES ScP ScP 15 05 50.9 -1.3
comp=Z,0.5nm,0.6s,baz=86,slow=8.2,SNR=4.7
KHC Kasperske Hory 43.35 306 *e*P **P 15 00 23.6 +1.3**
KHC *e*PP PP 15 02 04.1 -0.4
HFS Hagfors 43.44 322 P **P 15 00 23.0 +0.1**
comp=Z,15nm,0.5s,mb5.0,baz=103,slow=11,SNR=84
CLL Collm 43.56 309 *i* P **P 15 00 24.7 +0.7**
CLL *e*PP pP 15 00 49.0 +3.4
CLL *e* 15 02 07.0
CLL pmax pmax
comp=Z,12nm,1.4s,mb4.4
CLL Collm 43.56 309 *i* P **P 15 00 24.7 +0.7**
comp=Z,12nm,1.4s,mb4.4
CLL *e*pP pP 15 00 49.0 +3.4
CLL *e*PP PP 15 02 07.0 +0.2
NKC Novy Kostel 43.98 308 *e*P **P 15 00 28.9 +1.5**
YAK Yakutsk 44.06 35 *e*P **P 15 00 26.3 -1.5**
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
YAK Yakutsk 44.06 35 *e*P **P 15 00 27.6 -0.2**
comp=Z,13nm,0.8s,mb4.7
MOR8 Moi Rana 44.18 331 *e*P **P 15 00 28.1 -0.6**
MOR8 AMb AMB 15 00 30.3
comp=Z,71nm,0.9s,mb5.4
MOR8 Moi Rana 44.18 331 *e*P **P 15 00 28.1 -0.7**
comp=Z,71nm,0.9s,mb5.4,SNR=39
MOR8 Moi Rana 44.18 331 *e*P **P 15 00 28.1 -0.6**
comp=Z,71nm,0.9s,mb5.4
MOX Moxa 44.48 308 *e*P **P 15 00 32.4 +1.0**
comp=Z,15nm,1.3s,mb4.6
KSRS Korea Array 44.75 71 P **P 15 00 35.1 +1.5**
comp=Z,4.7nm,0.8s,mb4.3,baz=278,slow=7.0,SNR=24
KSRS Korea Array 44.75 71 P **P 15 00 35.2 +1.5**
KSRS pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
NB2 NORSAR Subarra 44.75 323 P **P 15 00 32.9 -0.5**
comp=Z,12nm,0.5s,mb4.9,baz=96,slow=7.9
NOA NORSAR Array B 44.75 323 P **P 15 00 33.1 -0.3**
comp=Z,9.0nm,0.5s,mb4.8,baz=97,slow=7.7,SNR=54
NOA LR LR 15 22 17.5
comp=Z,63nm,19.0s,baz=90,slow=40
GRA1 Grafenberg Arr 44.82 307 *e*P **P 15 00 35.4 +1.3**
comp=Z,13nm,0.5s,mb4.9
GRF Grafenberg Arr 44.82 307 *e*P **P 15 00 35.4 +1.3**
GRF pmax pmax
comp=Z,13nm,0.5s,mb4.9
GRF Grafenberg Arr 44.82 307 *e*P **P 15 00 35.4 +1.3**
comp=Z,13nm,0.5s,mb4.9
LOF Lofoten 45.01 333 *e*P **P 15 00 37.5 +2.2**
TIXI Tiksi 45.95 22 *e*P **P 15 00 42.6 -0.1**
TIXI pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
TIXI Tiksi 45.95 22 *e*P **P 15 00 40.2 -2.5**
comp=Z,5.9nm,0.3s,mb4.8
BFO Black Forest 46.90 305 *e*P **P 15 00 49.9 -0.5**
BFO pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
BFO Black Forest 46.90 305 *e*P **P 15 00 49.9 -0.5**
comp=Z,5.5nm,1.0s,mb4.2
CDF Champ du Feu 47.57 306 *e*P **P 15 00 54.6 -1.1**
comp=Z,9.0nm,1.0s,mb4.3
CDF Champ du Feu 47.57 306 *e*P **P 15 00 54.6 -1.1**
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
CDF Champ du Feu 47.57 306 *e*P **P 15 00 54.6 -1.1**
comp=Z,4.5nm,1.0s,mb4.2
PGF Pioggiola 47.62 298 *e*P **P 15 00 54.9 -1.2**
comp=Z,8.9nm,0.8s,mb4.3
PGF Pioggiola 47.62 298 *e*P **P 15 00 54.9 -1.2**
PGF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
PGF Pioggiola 47.62 298 *e*P **P 15 00 54.9 -1.2**
comp=Z,4.4nm,0.8s,mb4.3
ECH Echery 47.69 306 P **P 15 00 57.6 +1.1**
SPITS Spitsbergen Ar 47.83 347 P **P 15 00 58.4 +1.2**
comp=Z,7.4nm,0.6s,mb4.7,baz=46,slow=5.6,SNR=16
SPB4 Spitsbergen Ar 47.83 347 *e*P **P 15 00 58.3 +1.0**
HINF Hinteralfeld 47.96 305 *e*P **P 15 00 57.6 -1.1**
comp=Z,19nm,1.0s,mb4.6
HINF Hinteralfeld 47.96 305 *e*P **P 15 00 57.6 -1.1**
HINF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
HINF Hinteralfeld 47.96 305 *e*P **P 15 00 57.6 -1.1**
comp=Z,9.6nm,1.0s,mb4.6
MEM Membach 48.03 309 P **P 15 00 59.9 +0.7**
WLF Walferdange 48.09 308 P **P 15 01 00.8 +1.2**
comp=Z,12nm,1.2s,mb4.6
WLF Walferdange 48.09 308 *e*P **P 15 01 00.2 +0.6**
WLF pmax pmax
comp=Z,19nm,1.0s,mb4.9
WLF Walferdange 48.09 308 *e*P **P 15 01 00.2 +0.6**
comp=Z,19nm,1.0s,mb4.9
HAU Haudompre 48.26 305 *e*P **P 15 01 00.1 -0.9**
comp=Z,14nm,0.8s,mb4.5
HAU Haudompre 48.26 305 *e*P **P 15 01 00.1 -0.9**
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
HAU Haudompre 48.26 305 *e*P **P 15 01 00.1 -0.9**
comp=Z,7.0nm,0.8s,mb4.5
LPG La Plagne 48.50 302 *e*P **P 15 01 02.6 -0.3**
comp=Z,12nm,0.8s,mb4.6
LPG La Plagne 48.50 302 *e*P **P 15 01 02.6 -0.3**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LPG La Plagne 48.50 302 *e*P **P 15 01 02.6 -0.3**
comp=Z,6.2nm,0.8s,mb4.6
LPL La Plagne 48.51 302 *e*P **P 15 01 02.7 -0.2**
comp=Z,14nm,0.9s,mb4.6
LPL La Plagne 48.51 302 *e*P **P 15 01 02.7 -0.2**
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LPL La Plagne 48.51 302 *e*P **P 15 01 02.7 -0.2**
comp=Z,6.8nm,0.9s,mb4.6
MBDF Montbardon 48.66 301 *e*P **P 15 01 03.9 -0.2**
comp=Z,10nm,0.7s,mb4.6
MBDF Montbardon 48.66 301 *e*P **P 15 01 03.9 -0.2**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MBDF Montbardon 48.66 301 *e*P **P 15 01 03.9 -0.2**
comp=Z,5.1nm,0.7s,mb4.6
CABF La Chapelle 48.71 304 *e*P **P 15 01 05.1 +0.6**
comp=Z,15nm,0.9s,mb4.6
CABF La Chapelle 48.71 304 *e*P **P 15 01 05.1 +0.6**
CABF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CABF La Chapelle 48.71 304 *e*P **P 15 01 05.1 +0.6**
comp=Z,7.3nm,0.9s,mb4.6
KMBO Kilima Mbogo 48.82 228 P **P 15 01 06.9 +1.3**
comp=Z,0.9nm,0.4s,mb4.0,baz=45,slow=19,SNR=6.7
GIVF Givet 48.86 308 *e*P **P 15 01 05.4 -0.2**
KBS Kingsbay 48.94 347⇑ *e*P **P 15 01 07.0 +1.2**
DOU Dourbes 49.01 308 P **P 15 01 07.8 +1.1**
comp=Z,5.0nm,1.2s,mb4.3
MEZF Maizieres J'vi 49.01 306 *e*P **P 15 01 06.4 -0.3**
BAIF Baives 49.26 308 *e*P **P 15 01 08.5 -0.1**
comp=Z,44nm,1.1s,mb5.0
BAIF Baives 49.26 308 *e*P **P 15 01 08.5 -0.1**
BAIF pmax pmax
comp=Z,22nm,1.1s,mb5.0
BAIF Baives 49.26 308 *e*P **P 15 01 08.5 -0.1**
comp=Z,22nm,1.1s,mb5.0
KEST Kesra 49.36 289 P **P 15 01 07.9 -1.7**
comp=Z,1.1nm,0.8s,mb3.9,baz=244,slow=12,SNR=2.9
SMRF Simiane la Rot 49.68 300 *e*P **P 15 01 11.2 -0.7**
LOR Lormes 50.06 305 *e*P **P 15 01 13.4 -1.3**
VIVF Saint-Julien-l 50.08 302 *e*P **P 15 01 15.4 +0.5**
comp=Z,8.7nm,0.8s,mb4.5
VIVF Saint-Julien-l 50.08 302 *e*P **P 15 01 15.4 +0.5**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
VIVF Saint-Julien-l 50.08 302 *e*P **P 15 01 15.4 +0.5**
comp=Z,4.3nm,0.8s,mb4.4
SMF Signal de Mont 50.21 304 *e*P **P 15 01 14.9 -1.0**
comp=Z,23nm,0.8s,mb4.8
SMF Signal de Mont 50.21 304 *e*P **P 15 01 14.9 -1.0**
SMF pmax pmax
comp=Z,12nm,0.8s,mb4.9
SMF Signal de Mont 50.21 304 *e*P **P 15 01 14.9 -1.0**
comp=Z,12nm,0.8s,mb4.9
SSF Saint Saulge 50.34 305 *e*P **P 15 01 15.8 -1.0**
AVF Avril sur Loir 50.51 304 *e*P **P 15 01 17.1 -1.0**
comp=Z,27nm,0.9s,mb5.0
AVF Avril sur Loir 50.51 304 *e*P **P 15 01 17.1 -1.0**
AVF pmax pmax
comp=Z,14nm,0.9s,mb5.0
AVF Avril sur Loir 50.51 304 *e*P **P 15 01 17.1 -1.0**
comp=Z,14nm,0.9s,mb5.0
LASF Ste Croix 50.85 301 *e*P **P 15 01 20.4 -0.3**
comp=Z,5.4nm,0.8s,mb4.3
TCF Toulx Ste Croi 51.39 304 *e*P **P 15 01 24.2 -0.5**
comp=Z,16nm,0.9s,mb4.7
TCF Toulx Ste Croi 51.39 304 *e*P **P 15 01 24.2 -0.5**
TCF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 51.39 304 *e*P **P 15 01 24.2 -0.5**
comp=Z,7.8nm,0.9s,mb4.7
MTLF Montolieu 52.20 300 *e*P **P 15 01 30.0 -0.8**
LDF La Druitiere 52.34 307 *e*P **P 15 01 30.5 -1.2**
FLN La Foliniere 52.53 308 *e*P **P 15 01 31.8 -1.3**
comp=Z,21nm,0.9s,mb4.9
FLN La Foliniere 52.53 308 *e*P **P 15 01 31.8 -1.3**
FLN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FLN La Foliniere 52.53 308 *e*P **P 15 01 31.8 -1.3**
comp=Z,10nm,0.9s,mb4.9
YSS Yuzh-Sakhalins 52.79 55 *e*P **P 15 01 35.8 +0.7**
YSS pmax pmax
comp=Z,42nm,2.5s,mb5.0
MAJO Matsushiro 52.83 68 *e*P **P 15 01 34.5 -1.1**
MAJO pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MAJO Matsushiro 52.83 68 *e*P **P 15 01 34.5 -1.0**
comp=Z,8.1nm,0.9s,mb4.8
MAT Matsushiro 52.83 68 P **P 15 01 37.0 +1.4**
MJAR Matsushiro Arr 52.84 68 P **P 15 01 36.8 +1.2**
comp=Z,6.1nm,0.9s,mb4.6,baz=290,slow=9.2,SNR=31
GRR Gorron 52.87 307 *e*P **P 15 01 35.1 -0.5**
comp=Z,13nm,0.8s,mb4.7
GRR Gorron 52.87 307 *e*P **P 15 01 35.1 -0.5**
GRR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
GRR Gorron 52.87 307 *e*P **P 15 01 35.1 -0.5**
comp=Z,6.3nm,0.8s,mb4.7
ROSF Rostrenen 54.43 308 *e*P **P 15 01 46.9 -0.1**
QUIF Quistinic 54.48 307 *e*P **P 15 01 47.0 -0.4**
DAG Danmarks Havn 55.07 344⇓ *i*P **P 15 01 52.0 +0.7**
DAG pmax pmax
comp=Z,20nm,0.9s,mb5.2
DAG Danmarks Havn 55.07 344 ⇓P **P 15 01 52.0 +0.7**
comp=Z,20nm,0.9s,mb5.2
JHJ Hachijo jima 2 55.34 72 LR LR 15 27 00.8
comp=Z,59nm,20.0s,baz=252,slow=37
ESDC Sonseca Array 57.80 298 P **P 15 02 10.7 -0.5**
comp=Z,0.6nm,0.5s,mb3.9,baz=54,slow=7.6,SNR=6.3
TAM Tamanrasset 57.81 276 *e*P **P 15 02 10.3 -1.2**
BILL Bilibino 58.76 26 *de*P **P 15 02 18.3 +0.9**
BILL pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
EVO Evora 61.15 298 *e*P **P 15 02 36.1 +1.9**
SUMG Summit 61.41 341 P **P 15 02 35.0 -0.4**
comp=Z,4.0nm,0.8s,mb4.5
LSZ Lusaka 65.43 226 *e*P **P 15 03 03.1 +0.5**
LSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
LSZ Lusaka 65.43 226 *e*P **P 15 03 03.1 +0.5**
comp=Z,4.3nm,0.8s,mb4.3
TORD Torodi Ar. Bea 65.95 269 P **P 15 03 03.8 -2.3**
comp=Z,20nm,0.8s,mb5.0,baz=46,slow=5.7,SNR=109
FITZ Fitzroy Crossi 74.53 127 *e*P **P 15 03 59.1 +0.8**
comp=Z,4.3nm,1.3s,mb4.0
FITZ Fitzroy Crossi 74.53 127 P **P 15 03 58.3 0.0**
comp=Z,2.4nm,0.8s,mb4.0,baz=3.0,slow=6.6,SNR=3.9
LBTB Lobatse 74.63 222 *e*P **P 15 03 59.4 +0.7**
LBTB pmax pmax
comp=Z,41nm,1.3s,mb5.0
LBTB Lobatse 74.63 222 *e*P **P 15 03 59.4 +0.7**
comp=Z,41nm,1.3s,mb5.0
COLA College 74.69 16 *d i*P **P 15 03 58.9 +0.3**
COLA College 74.69 16 *e*P **P 15 03 58.4 -0.2**
comp=Z,15nm,0.9s,mb4.7
DBIC Dimbokro 74.92 267 P **P 15 03 59.1 -1.7**
comp=Z,6.5nm,0.8s,mb4.4,baz=26,slow=7.2,SNR=7.7
KIC Kosan Boka 75.01 267 *e*P **P 15 03 59.3 -2.0**
comp=Z,113nm,1.3s,mb5.4
KTH Kantishna Hill 75.06 18 *e*P **P 15 04 00.1 -0.6**
comp=Z,11nm,0.9s,mb4.6
TIC Toumodi 75.07 267 *e*P **P 15 03 59.7 -2.0**
comp=Z,39nm,0.2s,mb5.8
PPLA Purkeypile 75.28 19 *e*P **P 15 04 01.6 -0.4**
comp=Z,4.4nm,0.6s,mb4.4
TRF Thorofare Moun 75.31 18 *e*P **P 15 04 02.0 -0.2**
comp=Z,2.7nm,0.3s,mb4.5
LIC Lamto 75.32 267 *e*P **P 15 04 01.3 -1.8**
comp=Z,19nm,0.7s,mb4.6
LIC Lamto 75.32 267 *e*P **P 15 04 01.0 -2.1**
comp=Z,73nm,1.5s,mb5.2
LIC Lamto 75.32 267 *e*P **P 15 04 01.3 -1.8**
comp=Z,9.5nm,0.7s,mb4.6
EGAK Eagle 76.17 14 *e*P **P 15 04 07.3 +0.2**
comp=Z,4.7nm,0.9s,mb4.2
DAWY Dawson 77.14 13 *e*P **P 15 04 12.1 -0.4**
BMRM Bremner River 78.82 17 *e*P **P 15 04 22.2 +0.3**
HYT Haines Junctio 80.47 14 *e*P **P 15 04 32.9 +2.1**
YKA Yellowknife Ar 81.52 3 P **P 15 04 36.3 0.0**
comp=Z,7.7nm,0.7s,mb4.7,baz=352,slow=5.4,SNR=42
WRA Warramunga Arr 81.63 122 P **P 15 04 37.6 0.0**
comp=Z,3.1nm,0.8s,mb4.2,baz=324,slow=5.0,SNR=31
WRAB Tennant Creek 81.64 122 *e*P **P 15 04 36.9 -0.7**
WRAB pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
WRAB Tennant Creek 81.64 122 *e*P **P 15 04 36.9 -0.7**
comp=Z,4.9nm,0.8s,mb4.4
WB2 Warramunga Arr 81.64 122⇑ *i*P **P 15 04 37.5 -0.1**
SCHQ Schefferville 82.45 337 P **P 15 04 40.1 -1.3**
comp=Z,3.0nm,0.8s,mb4.2,baz=22,slow=6.5,SNR=3.7
ASAR Alice Springs 83.89 125 P **P 15 04 49.4 +0.2**
comp=Z,3.6nm,1.0s,mb4.2,baz=312,slow=5.2,SNR=23
CTA Charters Tower 90.20 115 P **P 15 05 18.9 -0.9**
comp=Z,5.8nm,0.8s,mb4.8,baz=308,slow=11,SNR=2.9
CTA Charters Tower 90.20 115 P **P 15 05 18.9 -0.9**
EDM Edmonton 90.84 3 *e*P **P 15 05 22.8 +0.4**
SNAA Sanae 119.21 200 *e*PKPdf PKPdf 15 11 05.9 -0.7
VNA1 Neumayer--Stat 120.38 202 *e*PKPdf PKPdf 15 11 08.8 -0.1
VNA3 Neumayer Olymp 121.03 202 *e*PKPdf PKPdf 15 11 10.4 +0.3
CPUP Villa Florida 135.44 268 PKP PKPdf 15 11 37.2 -1.7
comp=Z,1.0nm,0.6s,baz=72,slow=4.8,SNR=5.8
PLCA Paso Flores 149.95 250 PKPbc PKPbc 15 12 08.2 -0.7
comp=Z,6.2nm,0.9s,baz=115,slow=6.4,SNR=10

NIED ***26*** *15:19:00,25.10N×124.30E,h62km,Mw4.5 Best double couple: M0=5.31000×10^15 NP1:φ=8.00000°,δ=87.00000°, λ=56.00000°. NP2:φ=273.00000°,δ=34.00000°,λ=174.00000°.*
ISCJB ***26*** *15:19:08.7±0.3,25.11N±0.005×124.33E±0.004,h108km±4km, mb3.9/12, Error ellipse: s-maj=9.1km s-min=4.2km az=144.2*
IDC ***26*** *15:19:10.6±3.9,25.19N×124.36E,h111km±44km,mb3.5/9, mb1 3.6/12,mb1mx3.5/26,mbtmp3.5/12, Error ellipse: s-maj=32.7km s-min=12.6km az=61.0*
JMA ***26*** *15:19:10.4±0.2,25.07N×124.26E,h96km±3km, M3.5*
NEIC ***26*** *15:19:10.1±0.6,25.15N×124.36E,h106km±6km,mb4.2/3, Error ellipse: s-maj=7.4km s-min=7.1km az=176.0*
ISC 26 15:19:09.7±0.3,2512N±005×12432E±004,h101km±4km, n35,σ0=91/51,mb3.9/12,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.59**	**144**	P	**Pn**	**15 19 26.8**	**+0.5**
JTJ				S	**Sn**	**15 19 38.7**	**+0.1**
JIJ	**Ishigaki jima**	**0.77**	**192**	P	**Pn**	**15 19 27.4**	**-0.5**
JIJ				S	**Sn**	**15 19 39.9**	**-1.6**
JKRS	**Kuro-shima**	**0.93**	**198**	P	**Pn**	**15 19 29.3**	**-0.1**
JKRS				S	**Sn**	**15 19 43.3**	**-0.9**
JMJ	**Miyako jima 2**	**0.94**	**109**	P	**Pn**	**15 19 30.3**	**+0.8**
JMJ				S	**Sn**	**15 19 45.2**	**+0.8**
IRIF	**Iriomote-Funau**	**0.95**	**214**	P	**Pn**	**15 19 29.3**	**-0.3**
IRIF				S	**Sn**	**15 19 43.9**	**-0.7**
JOGS	**Gusukube**	**1.05**	**110**	P	**Pn**	**15 19 31.7**	**+1.0**
JOGS				S	**Sn**	**15 19 47.8**	**+1.2**
HATJ	**Hateruma jima**	**1.16**	**204**	P	**Pn**	**15 19 32.0**	**0.0**
HATJ				S	**Sn**	**15 19 48.1**	**-0.6**
JKE	**Kume jima 2**	**2.53**	**61**	P	**Pn**	**15 19 49.9**	**+0.7**
JKE				*e*S	**Sn**	**15 20 20.4**	**+0.9**
TATO	**Taipei**	**2.57**	**267**	*e*Pn	**Pn**	**15 19 51.6**	**+1.9**
NACB	**Ninganchiao**	**2.65**	**250**	*e*Pn	**Pn**	**15 19 50.5**	**-0.3**
NACB				*e*Sn	**Sn**	**15 20 17.0**	**-5.4**
YHNB	**Yeheng**	**2.71**	**261**	*e*P	**Pn**	**15 19 53.4**	**+1.8**
JAGN	**Aguni-jima**	**3.01**	**60**	P	**Pn**	**15 19 56.3**	**+0.7**
JAGN				*e*S	**Sn**	**15 20 32.4**	**+1.4**
JJT2	**Tamagusuku 2**	**3.26**	**71**	P	**Pn**	**15 19 59.3**	**+0.4**
JIH	**Iheya**	**3.79**	**59**	P	**Pn**	**15 20 06.2**	**+0.1**
JIH				*e*S	**Sn**	**15 20 49.2**	**-0.6**
JOW	**Kunigami**	**3.95**	**64**	P	**Pn**	**15 20 07.8**	**-0.4**
JOW				*e*S	**Sn**	**15 20 53.1**	**-0.4**
JOW	**Kunigami**	**3.95**	**64**	P	**Pn**	**15 20 08.1**	**-0.1**
JOW	46nm,0.3s,baz=179,slow=11,SNR=493			S	**Sn**	**15 20 54.4**	**+0.9**
	8.8nm,0.3s,baz=118,slow=25,SNR=3.8						
JTK	**Tokunoshima**	**4.93**	**56**	P	**Pn**	**15 20 20.6**	**-0.8**
JTK				S	**Sn**	**15 21 14.9**	**-2.3**
JAM	**Amami Oshima**	**5.75**	**54**	P	**Pn**	**15 20 31.1**	**-1.5**
JAM				S	**Sn**	**15 21 33.8**	**-3.4**
JMZ	**Minamidaito 2**	**6.28**	**82**	P	**Pn**	**15 20 37.0**	**-2.8**
JMZ				*e*S	**Sn**	**15 21 40.9**	**-9.2**
KSRS	**Korea Array**	**12.67**	**13**	P	**Pn**	**15 22 05.1**	**-1.0**
	0.1nm,0.3s,baz=218,slow=27,SNR=2.7						
MJAR	**Matsushiro Arr**	**16.47**	**43**	P	**Pn**	**15 22 54.7**	**0.0**
	baz=356,slow=18,SNR=3.0						
CMAR	**Chiang Mai Arr**	**24.45**	**259**	P	**P**	**15 24 20.2**	**+0.9**
	0.5nm,0.5s,mb3.1,baz=66,slow=8.7,SNR=5.0						
SONM	**Songino Array**	**26.73**	**333**	P	**P**	**15 24 39.2**	**-0.4**
	0.2nm,0.4s,mb3.0,baz=7.1,slow=26,SNR=2.4						
MKAR	**Makanchi Array**	**39.70**	**314**	P	**P**	**15 26 31.4**	**-0.5**
	0.8nm,0.6s,mb3.7,baz=96,slow=11,SNR=7.1						
MKAR	**Makanchi Array**	**39.70**	**314**	P	**P**	**15 26 31.4**	**-0.5**
ZALV	**Zalesovo Beam**	**41.06**	**325**	P	**P**	**15 26 42.6**	**-0.5**
	1.8nm,0.4s,mb4.2,baz=117,slow=7.5,SNR=8.1						
FITZ	**Fitzroy Crossi**	**42.98**	**178**	P	**P**	**15 26 58.7**	**-0.4**
	1.6nm,0.7s,mb3.9,baz=9.5,slow=20,SNR=6.4						
KURK	**Kurchatov**	**43.24**	**318**	*e*P	**P**	**15 27 01.1**	**+0.2**
	1.0nm,0.3s,mb4.0						
TKM2	**Tokmak 2**	**43.46**	**307**	*e*P	**P**	**15 27 03.6**	**+0.8**
	2.8nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**45.84**	**167**	*e*P	**P**	**15 27 21.8**	**+0.1**
	3.6nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**45.84**	**167**	P	**P**	**15 27 22.0**	**+0.1**
	2.4nm,0.5s,mb4.2,baz=348,slow=8.8,SNR=34						
WB2	**Warramunga Arr**	**45.85**	**167**	*e*P	**P**	**15 27 21.8**	**-0.1**
BVAR	**Borovoye Array**	**48.78**	**320**	P	**P**	**15 27 44.1**	**-0.2**
	0.4nm,0.3s,mb3.8,baz=116,slow=9.8,SNR=3.5						
ASAR	**Alice Springs**	**49.38**	**168**	P	**P**	**15 27 49.9**	**+0.7**
	1.7nm,0.5s,mb4.3,baz=354,slow=7.5,SNR=95						
STKA	**Stephens Creek**	**59.03**	**163**	P	**P**	**15 28 58.8**	**-0.2**
	2.5nm,1.0s,mb4.2,baz=298,slow=8.8,SNR=5.2						

*ISCJB **26** 15:27:27.6±2.4, 45S±05×1020E±06, h33km, mb3.8/9, Error ellipse: s-maj=110.7km s-min=13.4km az=143.9*
*NEIC **26** 15:27:27.4±1.6, 4515S×10202E, h15km, mb4.0/1, Error ellipse: s-maj=76.9km s-min=9.2km az=54.0*
*IDC **26** 15:27:27.5±2.2, 399S×10277E, h0km, mb3.8/8, mb1 3.8/8, mb1mx3.6/20, mbtmp3.8/8, Error ellipse: s-maj=88.2km s-min=17.5km az=57.0*
ISC 26 15:27:30.4±2.4, 45S±04×1021E±06, h35km, n13, σ0§37/12, mb3.8/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**26.73**	**122**	P		**P**		**15 33 06.3**	**-0.5**
	0.6nm,0.6s,mb3.3,baz=280,slow=11,SNR=2.8								
FITZ	**Fitzroy Crossi**	**26.73**	**122**	*eP*		**P**		**15 33 06.9**	**+0.1**
WRA	**Warramunga Arr**	**34.97**	**119**	P		**P**		**15 34 19.2**	**-0.4**
	0.3nm,0.7s,mb3.3,baz=301,slow=10,SNR=11								
WB2	**Warramunga Arr**	**34.98**	**119**	P		**P**		**15 34 20.0**	**+0.4**
ASAR	**Alice Springs**	**36.13**	**125**	P		**P**		**15 34 30.1**	**+0.6**
	0.2nm,0.7s,mb3.1,baz=300,slow=7.8,SNR=9.2								
STKA	**Stephens Creek**	**45.96**	**131**	P		**P**		**15 35 49.5**	**-0.7**
	1.8nm,1.0s,mb4.0,baz=160,slow=23,SNR=3.7								
STKA	**Stephens Creek**	**45.96**	**131**	*eP*		**P**		**15 35 50.1**	**-0.2**
SONM	**Songino Array**	**52.24**	**4**	P		**P**		**15 36 38.2**	**+0.2**
	0.9nm,0.5s,mb3.9,baz=188,slow=9.2,SNR=7.7								
MKAR	**Makanchi Array**	**53.98**	**343**	P		**P**		**15 36 50.8**	**0.0**
	0.6nm,0.5s,mb3.8,baz=141,slow=7.8,SNR=9.8								
KURK	**Kurchatov**	**58.57**	**343**	*eP*		**P**		**15 37 23.4**	**-0.1**
	1.3nm,0.9s,mb4.0								
ZALV	**Zalesovo Beam**	**59.99**	**348**	P		**P**		**15 37 33.3**	**+0.1**
	1.0nm,0.4s,mb4.2,baz=164,slow=4.9,SNR=5.6								
ASAJ	**Asahikawa**	**60.54**	**33**	P		**P**		**15 37 32.5**	**-4.7**
	4.7nm,1.0s,mb4.6,baz=135,slow=5.7,SNR=3.7								
TXAR	**Lajitas Array**	**145.29**	**42**	PKP		PKPdf		15 47 05.7	+0.5
	0.9nm,0.7s,baz=304,slow=1.0,SNR=14								

*ISCJB **26** 15:29:19.8±0.6, 3928N±002×20.16E±005, h10km, Error ellipse: s-maj=5.3km s-min=2.9km az=178.9*
*NEIC **26** 15:29:20.8, 3927N×2029E, h15km, MD3.5(ATH), After ATH.*
*CSEM **26** 15:29:20.8±0.3, 3930N×2028E, h5km, ML3.3, Error ellipse: s-maj=5.5km s-min=3.5km az=90.0*
*THE **26** 15:29:20.1, 3929N×2020E, h0km, ML3.3*
*ATH **26** 15:29:20.8, 3927N×2029E, h15km±5km, MD3.5/8*
ISC 26 15:29:20.8±0.6, 3928N±002×2025E±004, h3km±4km, n25, σ1§23/48, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**14**	*e*Pg		**Pg**		**15 29 25.1**	**-0.7**
IGT				*e*Sg		**Sg**		**15 29 29.0**	**-0.3**
KEK	**Kerkira**	**0.56**	**321**	*e*PN		**Pg**		**15 29 31.6**	**+0.1**
KEK				*e*SN		**Sg**		**15 29 40.8**	**+2.0**
JAN	**Janina**	**0.60**	**51**	*e*PN		**Pg**		**15 29 31.5**	**-0.8**
JAN				*e*SN		**Sg**		**15 29 40.5**	**+0.4**
LKD	**Levkas**	**0.65**	**151**	*e*Pg		**Pg**		**15 29 32.4**	**-0.8**
LKD				*e*Sg		**Sg**		**15 29 43.8**	**+2.2**
MEV	**Metsovon**	**0.91**	**56**	*e*Pg		**Pg**		**15 29 36.8**	**-1.4**
MEV				*e*Sg		**Sg**		**15 29 51.2**	**+1.2**
VLS	**Valsamata**	**1.13**	**166**	*e*Pg		**Pg**		**15 29 41.2**	**-1.2**
VLS				*e*Sg		**Sg**		**15 29 59.2**	**+2.1**
VLS	**Valsamata**	**1.13**	**166**	*e*PN		**Pn**		**15 29 41.9**	**-1.6**
VLS				*e*SN		**Sn**		**15 29 58.5**	**-1.0**
VLS	**Valsamata**	**1.13**	**166**	*e*Pn		**Pn**		**15 29 41.9**	**-1.6**
VLS				*e*Sn		**Sn**		**15 29 58.5**	**-1.0**
VLS				*e*Sg		**Sg**		**15 29 59.2**	**+2.2**
KFL	**Anninata**	**1.24**	**160**	*e*Pg		**Pg**		**15 29 44.7**	**+0.2**
KFL				*e*Sg		**Sg**		**15 30 01.4**	**+0.9**
EVR	**Evrytania**	**1.27**	**106**	*e*PN		**Pn**		**15 29 44.2**	**-1.2**
THL	**Klokotos Trika**	**1.40**	**78**	*e*Pg		**Pg**		**15 29 45.6**	**-2.0**
THL				*e*Sg		**Sg**		**15 30 07.1**	**+1.4**
THL	**Klokotos Trika**	**1.40**	**78**	*e*Pn		**Pn**		**15 29 45.8**	**-1.4**
THL				*e*Sg		**Sg**		**15 30 07.1**	**+1.5**
RLS	**Riolos of Patr**	**1.54**	**142**	*e*PN		**Pn**		**15 29 49.6**	**+0.4**
KZN	**Kozani**	**1.56**	**48**	*e*PN		**Pn**		**15 29 50.8**	**+1.4**
KZN				*e*SN		**Sn**		**15 30 10.9**	**+0.7**
AGG	**Agios Georgios**	**1.64**	**98**	*e*Pb		**Pb**		**15 29 51.0**	**-0.6**
AGG				*e*Sb		**Sb**		**15 30 14.4**	**+1.7**
FNA	**Florina**	**1.74**	**29**	*e*Pb		**Pb**		**15 29 52.0**	**-1.3**
FNA				*e*Sb		**Sb**		**15 30 14.8**	**-0.7**
FNA	**Florina**	**1.74**	**29**	*e*Pb		**Pb**		**15 29 52.0**	**-1.3**
FNA				*e*Sb		**Sb**		**15 30 14.8**	**-0.7**
OHR	**Ohrid**	**1.88**	**13**	*e*Pn		**Pn**		**15 29 53.1**	**-0.7**
OHR				*e*Sn		**Sn**		**15 30 19.4**	**+1.3**
OHR	**Ohrid**	**1.88**	**13**	*e*Pn		**Pn**		**15 29 53.1**	**-0.7**
OHR				*e*Sn		**Sn**		**15 30 19.4**	**+1.3**
LIT	**Litokhoron**	**1.91**	**64**	*e*Pb		**Pb**		**15 29 54.8**	**-1.6**
LIT				*e*Sb		**Sb**		**15 30 19.4**	**-1.3**
BIA	**Bitola**	**1.93**	**25**	*e*Pn		**Pn**		**15 29 53.1**	**-1.3**
BIA				*e*Sn		**Sn**		**15 30 21.6**	**+2.4**
BIA	**Bitola**	**1.93**	**25**	*e*Pn		**Pn**		**15 29 53.1**	**-1.4**
BIA				*e*Sn		**Sn**		**15 30 21.5**	**+2.3**
KRUS	**Krusevo**	**2.23**	**20**	*e*Pn		**Pn**		**15 29 59.7**	**+1.2**
KRUS				*e*Sn		**Sn**		**15 30 27.5**	**+0.9**
KRUS	**Krusevo**	**2.23**	**20**	*e*Pn		**Pn**		**15 29 59.7**	**+1.1**
KRUS				*e*Sn		**Sn**		**15 30 27.4**	**+0.8**
LKR	**Lokris**	**2.23**	**105**	*e*PN		**Pn**		**15 29 59.1**	**+0.4**

*ISCJB **26** 15:30:54.7±0.9, 4300N±003×4541E±006, h10km, Error ellipse: s-maj=6.9km s-min=4.2km az=160.9*
*TIF **26** 15:30:55.8, 4301N×4539E, h13km±3km*
*CSEM **26** 15:30:57.1, 4307N×4515E, h18km, mb4.2, After OBN*
*MOS **26** 15:30:57.7±0.9, 4307N×4515E, h18km, mb4.2/1, Error ellipse: s-maj=14.9km s-min=9.1km az=38.1*
ISC 26 15:30:55.7±1.1, 4301N±003×4541E±007, h14km±6km, n19, σ1§36/32, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BTKR	**Batakoyurt**	**0.73**	**300**	*i* Pg		**Pg**		**15 31 09.7**	**-0.2**
BTKR				*i* Sg		**Sg**		**15 31 20.8**	**+1.2**
LACR	**Lac**	**0.84**	**258**	*i* Pg		**Pg**		**15 31 10.8**	**-1.2**
LACR				*i* Sg		**Sg**		**15 31 22.1**	**-1.0**
ARNR	**Ardon**	**0.85**	**282**	*i* Pg		**Pg**		**15 31 11.4**	**-0.8**
ARNR				*e*Sg		**Sg**		**15 31 24.2**	**+0.9**
TRKR	**Terskaya**	**0.87**	**325**	*e*Pg		**Pg**		**15 31 12.9**	**+0.4**
TRKR				*e*Sg		**Sg**		**15 31 25.7**	**+1.8**
KMSR	**Komsomolskaya**	**0.90**	**294**	*e*Pg		**Pg**		**15 31 12.8**	**-0.2**
KMSR				*e*Sg		**Sg**		**15 31 25.6**	**+0.9**
KORR	**Kora**	**0.99**	**275**	*i* Pg		**Pg**		**15 31 15.2**	**+0.4**
KORR				*i* Sg		**Sg**		**15 31 28.7**	**+1.0**
PRTR	**Priterechnaya**	**1.11**	**312**	*i* Pg		**Pg**		**15 31 15.9**	**-1.2**
PRTR				*i* Sg		**Sg**		**15 31 32.8**	**+1.3**
ZEI	**Tsey**	**1.14**	**258**	*i* Pg		**Pg**		**15 31 15.6**	**-2.1**
ZEI				*i* Sg		**Sg**		**15 31 30.2**	**-2.3**
LSNR	**Lesken**	**1.20**	**283**	*i* Pg		**Pg**		**15 31 17.1**	**-1.7**
LSNR				*i* Sg		**Sg**		**15 31 34.3**	**-0.1**
TBLG	**Delisi**	**1.38**	**202**	Pg		**Pg**		**15 31 21.9**	**-0.3**
TBLG				Sg		**Sg**		**15 31 41.9**	**+1.9**
TBLG	**Delisi**	**1.38**	**202**	P		**Pn**		**15 31 21.9**	**+1.4**
TBLG				S		**Sn**		**15 31 41.9**	**+3.4**
GOR	**Gori**	**1.41**	**224**	P		**Pn**		**15 31 21.7**	**+0.7**
GOR				S		**Sn**		**15 31 42.0**	**+2.7**
ONI	**Oni**	**1.51**	**254**	P		**Pn**		**15 31 22.2**	**-0.2**
ONI				S		**Sn**		**15 31 40.9**	**-0.9**
KUBR	**Kubataba**	**1.66**	**299**	*i* Pg		**Pg**		**15 31 23.4**	**-4.2**
PYA	**Pyatigorsk**	**1.99**	**302**	*e*PN		**Pn**		**15 31 26.0**	**-3.0**
KIV	**Kislovodsk**	**2.20**	**296**	*e*PN		**Pn**		**15 31 29.7**	**-2.1**
KIV				*i*				15 31 39.0	
KIV					pmax	pmax			
	comp=Z,13nm,0.5s								
KIV	**Kislovodsk**	**2.20**	**296**	*i* Pn		**Pn**		**15 31 29.7**	**-2.1**
	comp=Z,13nm,0.5s								
KIV	**Kislovodsk**	**2.20**	**296**	*i* Pg		**Pg**		**15 31 39.0**	**+1.1**
GNI	**Garni**	**2.91**	**190**	*e*Pn		**Pn**		**15 31 38.5**	**-3.0**

IDC 26 15:32:43.0±7.7, 603S×15023E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/15, mbtmp4.0/4, MS4.3/1, Ms1 4.3/1, ms1mx2.7/25, Error ellipse: s-maj=120.0km s-min=64.7km az=39.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**20.72**	**227**	*e*P		P		15 37 22.8	-2.4
WRA	**Warramunga Arr**	**20.73**	**227**	P		P		15 37 23.6	-1.7
	1.0nm,0.3s,baz=52,slow=11,SNR=28								
ASAR	**Alice Springs**	**23.54**	**220**	P		P		15 37 53.5	-1.8
	0.8nm,0.4s,baz=61,slow=8.9,SNR=39								
FITZ	**Fitzroy Crossi**	**26.83**	**241**	*e*P		P		15 38 26.3	+0.9
	7.6nm,0.4s								
FITZ	**Fitzroy Crossi**	**26.83**	**241**	P		P		15 38 26.6	+1.2
	4.6nm,0.5s,baz=59,slow=9.8,SNR=47								
STKA	**Stephens Creek**	**26.95**	**196**	P		P		15 38 27.9	+1.6
	1.3nm,0.7s,baz=36,slow=14,SNR=4.4								
RAO	**Raoul Island**	**37.91**	**131**	LR		LR		15 51 06.6	
	comp=Z,395nm,19.8s,baz=12,slow=29								

IDC 26 15:55:44.8±47.0, 1549S×17199W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=911.9km s-min=177.9km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.17**	**240**	P		P		16 04 03.5	0.0
	1.1nm,1.0s,baz=90,slow=10,SNR=2.8								
WRA	**Warramunga Arr**	**51.14**	**257**	P		P		16 04 49.4	-0.4
	0.2nm,0.5s,baz=94,slow=6.8,SNR=11								
ASAR	**Alice Springs**	**51.37**	**252**	P		P		16 04 51.8	+0.2
	2.5nm,0.5s,baz=90,slow=8.4,SNR=121								

*NEIC **26** 15:57:13.6, 1573N×9368W, h11km, MD4.0(MEX), After MEX.*
MEX 26 15:57:13.6±0.9, 1573N×9368W, h11km±10km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGIG		**1.17**	**27**	*i* P		Pb		15 57 32.5	-3.4
TGIG				*i* S		Sb		15 57 46.9	-4.2
SCX	**San Cristobal**	**1.42**	**45**	*i* P		Pn		15 57 36.1	-3.2
SCX				*i* S		Sn		15 57 52.9	-5.0
CCIG	**Comitan**	**1.58**	**69**	*e*P		Pn		15 57 37.5	-4.1
CCIG				*i* S		Sn		15 57 56.8	-5.2
THIG		**1.59**	**121**	*i* P		Pn		15 57 38.1	-3.6
THIG				*i* S		Sn		15 57 58.4	-3.8
HUIG	**Huatulco**	**2.34**	**271**	*i* P		Pn		15 57 48.8	-3.2
HUIG				*i* S		Sn		15 58 15.5	-5.3
TUIG	**Tuzandepetl**	**2.40**	**343**	*e*P		Pn		15 57 50.8	-2.1
TUIG				*i* S		Sn		15 58 17.9	-4.3
VHO	**Vista Hermosa**	**3.22**	**295**	*i* P		Pn		15 58 03.0	-1.2
VHO				*i* S		Sn		15 58 40.3	-2.3
PNIG	**Pinotepa**	**4.33**	**279**	*e*P		Pn		15 58 16.9	-2.4
PNIG				*i* S		Sn		15 59 07.5	-2.3
UTMO	**Huajuapan**	**4.47**	**298**	*e*P		Pn		15 58 18.4	-3.0
UTMO				*i* S		Sn		15 59 12.3	-1.1

*IDC **26** 16:06:11.1±1.2, 733S×15589E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/16, mbtmp3.6/6, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/19, Error ellipse: s-maj=29.0km s-min=27.0km az=44.0*
*NEIC **26** 16:06:11.5±0.7, 742S×156.13E, h10km, mb4.1/1, Error ellipse: s-maj=17.3km s-min=13.2km az=187.0*
*ISCJB **26** 16:06:14.5±0.8, 74S±01×15592E±008, h33km, mb3.5/6, Error ellipse: s-maj=20.7km s-min=9.6km az=19.3*
ISC 26 16:06:16.5±0.8, 74S±01×15589E±008, h35km, n10, σ0§70/12, mb3.5/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.52**	**118**	Pn		**Pn**		**16 07 21.2**	**-1.2**
	9.1nm,0.3s,baz=248,slow=2.0,SNR=4.7								
HNR				Sn		**Sn**		**16 08 14.2**	**+0.4**
	14nm,0.3s,baz=174,slow=1.6,SNR=5.1								
HNR				LR		LR		16 08 58.9	
	comp=Z,233nm,19.0s,baz=360,slow=37								
HNR	**Honiara**	**4.52**	**118**	Pn		**Pn**		**16 07 16.7**	**-5.7**
HNR				Sn		**Sn**		**16 08 14.2**	**+0.4**
HNR				LR		LR		16 08 58.9	
WRAB	**Tennant Creek**	**24.34**	**237**	*e*P		**P**		**16 11 31.0**	**-0.2**
	2.2nm,0.5s,mb3.8								
WB2	**Warramunga Arr**	**24.34**	**237**	*e*P		**P**		**16 11 38.8**	**+7.6**
WB2	**Warramunga Arr**	**24.34**	**237**	*e*P		**P**		**16 11 31.6**	**+0.3**
WRA	**Warramunga Arr**	**24.36**	**237**	P		**P**		**16 11 32.2**	**+0.9**
	0.5nm,0.6s,mb3.1,baz=63,slow=9.7,SNR=8.3								
ASAR	**Alice Springs**	**26.61**	**230**	P		**P**		**16 11 51.1**	**-0.6**
	0.4nm,1.1s,mb2.9,baz=60,slow=9.7,SNR=3.3								
SONM	**Songino Array**	**70.11**	**327**	P		**P**		**16 17 26.1**	**+1.0**
	0.2nm,0.5s,mb3.3,baz=64,slow=6.6,SNR=2.6								
MKAR	**Makanchi Array**	**84.26**	**319**	P		**P**		**16 18 44.6**	**0.0**
	1.1nm,0.8s,mb4.0,baz=104,slow=6.3,SNR=11								
ZALV	**Zalesovo Beam**	**84.97**	**326**	P		**P**		**16 18 47.1**	**-0.9**
	0.3nm,0.3s,mb3.9,baz=102,slow=6.1,SNR=2.7								

*IDC **26** 16:15:45.2±3.0, 946S×10760E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/17, mbtmp3.9/6, Error ellipse: s-maj=137.9km s-min=18.7km az=52.0*
*DJA **26** 16:15:49, 933S×10775E, h24km, ML4.1/5*
*NEIC **26** 16:15:51.0±0.6, 938S×10769E, h35km, mb3.6/1, Error ellipse: s-maj=16.8km s-min=12.5km az=207.0*
*ISCJB **26** 16:15:52.1±4.4, 95S±02×1076E±02, h72km±50km, mb3.8/7, Error ellipse: s-maj=45.6km s-min=17.5km az=38.6*
ISC 26 16:15:53.7±4.7, 95S±03×1076E±02, h67km±55km, n11, σ0§57/13, mb3.8/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**2.10**	**243**	*e*P		**Pn**		**16 16 26.5**	**-0.1**
XMIS				*i* S		**Sn**		**16 16 52.1**	**+0.3**
XMIS	**Christmas Isla**	**2.10**	**243**	*e*Pn		**Pn**		**16 16 26.4**	**-0.2**
XMIS				*e*S		**Sn**		**16 16 51.7**	**-0.1**
MBWA	**Marble Bar**	**16.47**	**136**	*e*P		**Pn**		**16 19 35.7**	**-4.8**
WRA	**Warramunga Arr**	**27.85**	**115**	P		**P**		**16 21 36.3**	**-0.9**
	0.7nm,0.6s,mb3.4,baz=286,slow=11,SNR=9.3								
WRAB	**Tennant Creek**	**27.86**	**115**	*e*P		**P**		**16 21 38.5**	**+1.3**
	0.7nm,0.4s,mb3.5								
ASAR	**Alice Springs**	**28.83**	**122**	P		**P**		**16 21 46.2**	**+0.3**
	0.6nm,1.0s,mb3.2,baz=304,slow=7.5,SNR=4.3								
STKA	**Stephens Creek**	**38.57**	**130**	P		**P**		**16 23 09.7**	**-0.6**
	1.7nm,0.7s,mb4.0,baz=307,slow=11,SNR=6.6								
SONM	**Songino Array**	**57.12**	**359**	P		**P**		**16 25 33.1**	**-0.1**
	1.3nm,0.6s,mb4.2,baz=174,slow=7.7,SNR=12								
MKAR	**Makanchi Array**	**60.44**	**340**	P		**P**		**16 25 56.4**	**+0.2**
	1.6nm,0.5s,mb4.3,baz=140,slow=8.0,SNR=22								
MKAR	**Makanchi Array**	**60.44**	**340**	P		**P**		**16 25 56.4**	**+0.2**
ZALV	**Zalesovo Beam**	**66.10**	**346**	P		**P**		**16 26 33.5**	**-0.1**
	1.8nm,0.9s,mb3.9,baz=151,slow=3.9,SNR=4.9								

*IDC **26** 16:23:40.2±1.1, 4697N×15522E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/23, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=28.3km s-min=24.1km az=127.0*
*ISCJB **26** 16:23:42.8±0.8, 470N±01×155.1E±02, h33km, mb3.6/8, Error ellipse: s-maj=19.9km s-min=11.1km az=45.0*
*MOS **26** 16:23:44.7±2.0, 47.11N×154.97E, h51km, mb3.9/5, Error ellipse: s-maj=24.5km s-min=14.7km az=65.8*
ISC 26 16:23:45.1±0.8, 470N±01×1551E±02, h35km, n17, σ1§22/17, mb3.6/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.30**	**14**	Pn		**Pn**		**16 25 13.5**	**-1.9**
	0.5nm,0.3s,baz=182,slow=12,SNR=34								
ASAJ	**Asahikawa**	**9.26**	**256**	Pn		**Pn**		**16 25 56.2**	**+0.3**
	0.5nm,0.3s,baz=197,slow=16,SNR=7.0								
ASAJ	**Asahikawa**	**9.26**	**256**	PN		**Pn**		**16 25 56.3**	**+0.4**
ASAJ					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**16.37**	**236**	Pn		**Pn**		**16 27 28.5**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=10.0								
MAT	**Matsushiro**	**16.37**	**236**	P		**Pn**		**16 27 29.3**	**-2.7**
BILL	**Bilibino**	**21.82**	**11**	*e*P		**P**		**16 28 34.1**	**+0.2**
BILL					pmax	pmax			
	comp=Z,3.0nm,1.2s,mb3.6								
KSRS	**Korea Array**	**22.20**	**254**	P		**P**		**16 28 39.9**	**+1.8**
	comp=Z,2.2nm,0.8s,mb3.7,baz=50,slow=11,SNR=10								
KSRS	**Korea Array**	**22.20**	**254**	P		**P**		**16 28 39.9**	**+1.8**
KSRS					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb3.6								
COLA	**College**	**35.06**	**39**	*e*P		**P**		**16 30 33.7**	**-0.4**
ZALV	**Zalesovo Beam**	**43.56**	**306**	P		**P**		**16 31 45.8**	**+0.7**
	comp=Z,0.6nm,0.4s,mb3.6,baz=44,slow=6.4,SNR=3.4								
ZAL	**Zalesovo**	**43.58**	**306**	P		**P**		**16 31 45.8**	**+0.6**
ZAL					pmax	pmax			
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**48.03**	**298**	P		**P**		**16 32 21.1**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.5,baz=70,slow=7.6,SNR=4.7								
KURK	**Kurchatov**	**48.35**	**304**	*e*P		**P**		**16 32 21.9**	**-1.0**
KURK					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2								
WRA	**Warramunga Arr**	**69.25**	**201**	P		**P**		**16 34 47.5**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.6,baz=21,slow=6.5,SNR=5.0								
WRA	**Warramunga Arr**	**69.25**	**201**	P		**P**		**16 34 47.5**	**-0.8**
WRA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**72.93**	**200**	P		**P**		**16 35 11.0**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=17,slow=6.3,SNR=8.1								
TXAR	**Lajitas Array**	**76.15**	**62**	P		**P**		**16 35 31.2**	**+1.8**
	comp=Z,0.1nm,0.7s,mb2.9,baz=292,slow=6.6,SNR=4.1								

IDC 26 17:10:48.0±48.0, 1540S×17361W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=930.2km s-min=177.0km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.86**	**240**	P		P		17 18 55.8	-0.4
	0.7nm,0.4s,baz=95,slow=11,SNR=5.0								
WRA	**Warramunga Arr**	**49.64**	**257**	P		P		17 19 41.7	0.0
	0.2nm,0.7s,baz=91,slow=7.0,SNR=8.9								
ASAR	**Alice Springs**	**49.91**	**252**	P		P		17 19 44.0	+0.2
	2.0nm,0.6s,baz=90,slow=8.4,SNR=87								

*ISCJB **26** 17:18:47.4±0.6, 1636N±003×9794W±002, h20km±4km, mb4.8/86, MS4.3/30, Error ellipse: s-maj=5.3km s-min=3.0km az=21.3*
*MEX **26** 17:18:48.7±0.8, 1624N×9810W, h14km±3km, MD4.9*
*IDC **26** 17:18:48.8±0.7, 1626N×9789W, h23km±3km, mb4.2/16, mb1 4.4/19, mb1mx4.3/26, mbtmp4.2/19, ML4.1/3, MS4.2/25, Ms1 4.2/25, ms1mx4.1/31, Error ellipse: s-maj=16.7km s-min=10.9km az=47.0*
*MOS **26** 17:18:49.1±0.8, 1641N×9772W, h33km, mb5.2/26, MS4.5/4, Error ellipse: s-maj=9.5km s-min=4.7km az=101.5*
*BJI **26** 17:18:51.4, 1640N×9770W, h36km, mB5.1, Ms4.9, Msz4.7*
*GCMT **26** 17:18:51.4±0.6, 1647N×9765W, h28km±1km, MW5.1/64, Moment Tensor Solution. s38,c49; s64,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.47±.23; $M_{\theta\theta}$-3.00±.15; $M_{\phi\phi}$-0.46±.17; $M_{r\theta}$3.26±.24; $M_{r\phi}$0.89±.13; $M_{\theta\phi}$~1.02±.27; Best double couple: M_0=4.80100×10^{16} NP1:ϕ_s288.00000°, δ22.00000°, λ90.00000°. NP2: ϕ_s107.00000°, δ68.00000°, λ90.00000°. Principal axes: T 4.8970, Plg67.0000°, Azm17.0000°; N -0.1880, Plg0.0000°, Azm107.0000°; P -4.7060, Plg23.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 17:18:51.4±0.4, 1643N×9773W, h37km±2km, mb5.0/55, MS4.5/2, MD4.9(MEX) Error ellipse: s-maj=5.9km s-min=3.3km az=206.0*
ISC 26 17:18:47.3±0.8, 1638N±003×9789W±002, h7km±4km, h30km±.9km: pP-P, n311, σ1§17/296, mb4.8/86, MS4.3/30, 2C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**272**	*i* P		**Pg**		**17 18 51.9**	**0.0**
PNIG				*i* S		**Sg**		**17 18 54.9**	**-0.1**
VHO	**Vista Hermosa**	**1.30**	**58**	*i* P		**Pn**		**17 19 12.7**	**+0.8**
VHO				*i* S		**Sb**		**17 19 31.2**	**+2.2**
OXX	**Oaxaca**	**1.31**	**58**	*i* P		**Pn**		**17 19 12.5**	**+0.4**
OXX				*i* S		**Sb**		**17 19 31.0**	**+1.7**
UTMO	**Huajuapan**	**1.44**	**3**	*i* P		**Pn**		**17 19 14.3**	**+0.5**
UTMO				*i* S		**Sn**		**17 19 32.7**	**-0.3**
HUIG	**Huatulco**	**1.82**	**109**	*e*P		**Pn**		**17 19 19.0**	**0.0**
HUIG				*i* S		**Sn**		**17 19 42.7**	**+0.4**
ACX	**Acapulco**	**2.00**	**284**	*i* P		**Pn**		**17 19 16.7**	**-4.8**
ACX				*i* S		**Sn**		**17 19 37.1**	**-10**
TPIG	**Tehuac#an**	**2.09**	**14**	*i* P		**Pn**		**17 19 22.6**	**-0.1**
TPIG				*i* S		**Sn**		**17 19 49.6**	**+0.7**
MEIG	**Mezcala**	**2.26**	**313**	*i* P		**Pn**		**17 19

OXF Oxford 19.59 21 *eP* **Pn 17 23 14.5 -2.8**
OXF pmax pmax
comp=Z,207nm,1.6s
OXF Oxford 19.59 21 *e*Pn **Pn 17 23 14.5 -2.8**
comp=Z,207nm,1.6s
TUC Tucson 19.70 326 *eP* **Pn 17 23 18.7 0.0**
ANMO Albuquerque 20.02 339 P **P 17 23 21.7 +1.0**
comp=Z,15nm,1.1s,baz=141,slow=11,SNR=24
ANMO LR LR 17 31 46.3
comp=Z,2µm,19.5s,MS4.6,baz=158,slow=39
ANMO Albuquerque 20.02 339 *eP* **P 17 23 21.6 +0.9**
PLAL Pickwick Lake 20.50 24 *eP* **P 17 23 24.4 -1.5**
comp=Z,96nm,1.2s
GNAR Gosnell 20.73 18 *e*Pn **P 17 23 28.4 0.0**
HALT Halls 20.89 20 *eP* **P 17 23 28.5 -1.6**
GOGA Godfrey 21.37 35 *eP* **P 17 23 33.9 -1.5**
GOGA pmax pmax
comp=Z,38nm,0.8s,mb4.8
GOGA Godfrey 21.37 35 *eP* **P 17 23 33.9 -1.4**
comp=Z,38nm,0.8s,mb4.8
UTMT University of 21.44 20 *eP* **P 17 23 34.6 -1.4**
PARMO Parma 21.45 18 *eP* **P 17 23 33.6 -2.6**
SWET Sewanee 21.59 27 *eP* **P 17 23 36.7 -1.0**
SDCO Great Sand Dun 22.32 344 *eP* **P 17 23 46.3 +0.9**
CBKS Cedar Bluff 22.41 356 *eP* **P 17 23 44.6 -1.8**
CPCT Cooper Cave 22.43 30 *eP* **P 17 23 45.5 -1.1**
FVM French Village 22.50 16 *eP* **P 17 23 47.9 +0.5**
WUAZ Wupatki 22.54 330 *eP* **P 17 23 49.4 +1.6**
comp=Z,38nm,1.0s,mb4.8
GLA Glamis 22.58 320 *eP* **P 17 23 49.6 +1.3**
GLA pmax pmax
comp=Z,53nm,1.1s,mb4.9
GLA Glamis 22.58 320 *eP* **P 17 23 49.5 +1.3**
comp=Z,53nm,1.1s,mb4.9
SIUC Southern Illin 22.58 18 *eP* **P 17 23 49.1 +0.8**
KSU1 Kansas State U 22.66 3 *eP* **P 17 23 49.8 +0.8**
comp=Z,56nm,0.8s,mb5.0
MVCO Mesa Verde 22.77 338 *eP* **P 17 23 50.8 +0.5**
comp=Z,80nm,1.1s,mb5.1
COW Cow Castle Cre 22.95 39 *eP* **P 17 23 51.0 -1.2**
TKL Tuckaleechee C 22.96 31 P **P 17 23 51.1 -1.1**
comp=Z,14nm,0.8s,mb4.5,baz=194,slow=11,SNR=17
TKL LR LR 17 37 02.7
comp=Z,281nm,18.2s,MS3.8,baz=233,slow=47
NHSC New Hope 23.09 41 *eP* **P 17 23 52.0 -1.7**
BAR Barrett 23.50 317 *eP* **P 17 23 58.8 +0.8**
comp=Z,39nm,1.4s,mb4.6
TZTN Tazewell 23.77 30 *eP* **P 17 23 59.8 -0.8**
comp=Z,58nm,1.2s,mb4.9
OLIL Olney 23.86 19 *eP* **P 17 23 59.1 -2.3**
comp=Z,55nm,1.1s,mb4.9
PFO Pinyon Flat Ob 23.96 319 *eP* **P 17 24 03.1 +0.8**
PFO pmax pmax
comp=Z,38nm,1.5s,mb4.6
PFO Pinyon Flat Ob 23.96 319 *eP* **P 17 24 03.1 +0.8**
comp=Z,38nm,1.5s,mb4.6
WCI Wyandotte Cave 24.03 23 *eP* **P 17 24 01.9 -1.0**
LDFC Landfair 24.16 324 *eP* **P 17 24 05.7 +1.6**
comp=Z,51nm,1.1s,mb4.9
ISCO Idaho Springs 24.28 345 *eP* **P 17 24 06.0 +0.8**
ISCO pmax pmax
comp=Z,48nm,1.0s,mb4.9
ISCO Idaho Springs 24.28 345 *eP* **P 17 24 06.0 +0.8**
comp=Z,48nm,1.0s,mb4.9
BLO Bloomington 24.79 21 *eP* **P 17 24 08.8 -1.0**
OTAV Otavalo 24.99 128 *eP* **P 17 24 13.7 +1.7**
SRU San Rafael 25.20 336 *eP* **P 17 24 14.4 +0.9**
SHPR Sheep Range 25.24 326 *eP* **P 17 24 15.1 +1.2**
GSC Goldstone 25.31 322 *eP* **P 17 24 16.0 +1.4**
GSC pmax pmax
comp=Z,43nm,1.5s,mb4.8
GSC Goldstone 25.31 322 *eP* **P 17 24 16.0 +1.4**
comp=Z,43nm,1.5s,mb4.8
MSU Marysvale 25.37 333 *eP* **P 17 24 16.1 +1.0**
MWC Mount Wilson 25.37 318 *eP* **P 17 24 16.3 +1.1**
MWC pmax pmax
comp=Z,63nm,1.4s,mb5.0
MWC Mount Wilson 25.37 318 *eP* **P 17 24 16.3 +1.1**
comp=Z,63nm,1.4s,mb5.0
TMUT Trail Mountain 25.63 336 *eP* **P 17 24 18.8 +1.4**
PHWY Pilot Hill 25.68 347 *eP* **P 17 24 18.7 +0.9**
ELN Prospectdale 25.70 33 *eP* **P 17 24 17.9 -0.3**
SCIA State Center 25.75 8 *eP* **P 17 24 18.4 -0.1**
ROSC El Rosal 25.79 114 P **P 17 24 21.5 +2.3**
comp=Z,3.5nm,0.3s,mb4.3,baz=270,slow=23,SNR=5.4
ROSC El Rosal 25.79 114 *eP* **P 17 24 24.3 +5.1**
BLA Blacksburg 25.86 33 *eP* **P 17 24 18.9 -0.7**
BLA pmax pmax
comp=Z,144nm,1.5s,mb5.3
BLA Blacksburg 25.86 33 *eP* **P 17 24 18.9 -0.7**
comp=Z,144nm,1.5s,mb5.3
CNNC Cliffs of the 25.92 40 *eP* **P 17 24 19.9 -0.3**
TPNV Topopah Spring 26.15 325 *eP* **P 17 24 23.7 +1.5**
TPNV pmax pmax
comp=Z,29nm,1.1s,mb4.7
TPNV Topopah Spring 26.15 325 *eP* **P 17 24 23.7 +1.5**
comp=Z,29nm,1.1s,mb4.7
MPU Maple Canyon 26.41 336 *eP* **P 17 24 25.2 +0.7**
RWWY Rawlins 26.47 344 *eP* **P 17 24 26.3 +1.3**
NLU North Lily Min 26.54 335 *eP* **P 17 24 26.7 +1.1**
DAU Daniels Canyon 26.61 337 *eP* **P 17 24 27.6 +1.3**
JLU Jordanelle 26.85 337 *eP* **P 17 24 29.4 +1.0**
CTU Camp Tracy 27.04 336 *eP* **P 17 24 30.9 +0.7**
DUG Dugway 27.04 334 *eP* **P 17 24 31.2 +1.0**
ACSO Alum Creek Sta 27.06 26 *eP* **P 17 24 29.3 -1.1**
comp=Z,36nm,1.0s,mb4.8
JFWS Jewell Farm 27.24 12 *eP* **P 17 24 30.9 -1.0**
JFWS pmax pmax
comp=Z,32nm,1.0s,mb4.8
JFWS Jewell Farm 27.24 12 *eP* **P 17 24 30.9 -1.0**
comp=Z,32nm,1.0s,mb4.8
ECSD EROS,Sioux Fal 27.28 2 *eP* **P 17 24 31.6 -0.8**
TPH Tonopah 27.50 326 *eP* **P 17 24 44.3 +10**
TPH Tonopah 27.50 326 *ep*P pP 17 24 44.3 +7.8
URVA University of 27.71 36 *eP* **P 17 24 35.9 -0.3**
BGU Big Grassy Mou 27.75 335 *eP* **P 17 24 37.3 +0.8**
MTUM Tungsten Hills 27.75 323 *eP* **P 17 24 38.9 +2.3**
HWUT Hardware Ranch 27.76 338 *eP* **P 17 24 37.2 +0.5**
SPUT South Promonto 27.84 336 *eP* **P 17 24 38.5 +1.1**
SPUT *ep*P pP 17 24 47.3 +7.8
MCWV Mont Chateau 28.02 31 *ep*P pP 17 24 48.6 +7.4
BW06 Boulder Array 28.13 342 *eP* **P 17 24 40.0 +0.1**
comp=Z,22nm,1.1s,mb4.7
PDAR Pinedale Array 28.13 342 P **P 17 24 40.0 +0.1**
comp=Z,5.4nm,1.1s,mb4.1,baz=134,slow=6.4,SNR=22
PDAR LR LR 17 37 07.6
comp=Z,902nm,20.5s,MS4.3,baz=349,slow=39
NVAR Mina Array Bea 28.35 325 P **P 17 24 43.3 +1.4**
comp=Z,9.9nm,1.0s,mb4.4,baz=148,slow=8.9,SNR=56
HVU Hansel Valley 28.37 336 *eP* **P 17 24 43.4 +1.4**
HVU *e**PP pP 17 24 51.6 +7.4
ELK Elko 28.55 332 P **P 17 24 44.9 +1.2**
comp=Z,5.9nm,1.0s,mb4.3,baz=152,slow=6.8,SNR=17
ELK LR LR 17 35 58.1
comp=Z,1µm,18.7s,MS4.5,baz=150,slow=36
ELK Elko 28.55 332 *eP* **P 17 24 45.0 +1.3**
WAKR Walker 29.04 324 *eP* **P 17 24 50.1 +2.0**
REDW Red Top Meadow 29.07 340 *eP* **P 17 24 49.3 +1.0**
comp=Z,36nm,1.4s,mb4.9
RRI2 Red Ridge 29.21 340 *eP* **P 17 24 50.8 +1.3**
LOHW Long Hollow 29.22 341 *eP* **P 17 24 50.2 +0.7**
comp=Z,23nm,1.1s,mb4.8
TPAW Teton Pass 29.22 340 *eP* **P 17 24 50.4 +0.8**
comp=Z,14nm,0.9s,mb4.7
BMN Battle Mountai 29.25 329 *eP* **P 17 24 51.5 +1.6**
BMN pmax pmax
comp=Z,19nm,1.2s,mb4.7
BMN Battle Mountai 29.25 329 *eP* **P 17 24 51.5 +1.6**
comp=Z,19nm,1.2s,mb4.7
CMB Columbia Colle 29.27 322 *eP* **P 17 24 50.7 +0.5**
FLWY Flagg Ranch 29.67 341 *eP* **P 17 24 54.9 +1.3**
PAHR Pah Rah Range 29.85 325 *ep*P pP 17 25 05.7 +8.3
ATAH Atahualpa 30.20 139 LR LR 17 34 43.0
comp=Z,437nm,20.1s,MS4.1,baz=346,slow=32
RLMT Red Lodge 30.21 344 *eP* **P 17 24 59.2 +0.8**
comp=Z,44nm,1.4s,mb5.0
SJG San Juan 30.34 82 P **P 17 24 59.1 -0.8**
comp=Z,7.6nm,0.6s,mb4.6,baz=270,slow=6.1,SNR=4.6
SJG San Juan 30.34 82 *eP* **P 17 24 58.7 -1.1**
COWI Conover 30.52 12 *eP* **P 17 25 00.4 -0.6**
HLID Hailey 30.52 336 *eP* **P 17 25 02.2 +1.1**
CPD Cerro la Pandu 30.57 82 *eP* **P 17 25 00.6 -1.2**
CPD *e**PP pP 17 25 09.0 +5.0
CPD pmax pmax
comp=Z,29nm,0.8s,mb5.2
CPD Cerro la Pandu 30.57 82 *eP* **P 17 25 00.6 -1.3**
comp=Z,29nm,0.8s,mb5.2
CPD *ep*P pP 17 25 09.0 +5.0
CBYP Canovanas 30.61 82 *eP* **P 17 25 10.1 +7.9**
OHCM Honcut 30.78 323 *eP* **P 17 25 05.4 +2.0**
MTP Monte Pirata 30.91 82 *eP* **P 17 25 04.0 -0.8**
GCMT Greycliff 30.93 344 *eP* **P 17 25 02.9 -1.8**
GCMT *ep*P pP 17 25 13.2 +6.2
BOZ Bozeman (W) 31.37 341 *eP* **P 17 25 09.5 +1.0**
DLMT Dillon 31.42 340 *eP* **P 17 25 09.9 +0.9**
comp=Z,35nm,1.1s,mb5.1
DLMT *ep*P pP 17 25 19.0 +7.8
WVOR Wild Horse Val 31.46 330 *eP* **P 17 25 09.2 -0.2**
WVOR *e**PP pP 17 25 19.0 +7.4
LBCM Butte Creek Ri 31.71 325 P **P 17 25 12.8 +1.1**
LRM Limekiln Ridge 31.78 340 *eP* **P 17 25 13.2 +1.0**
BINY Binghamton 31.86 32 *ep*P pP 17 25 22.3 +7.2
MOD Modoc 31.90 327 *eP* **P 17 25 14.4 +1.1**
EYMN Ely 31.91 8 *eP* **P 17 25 12.3 -1.0**
comp=Z,21nm,1.2s,mb4.8
LTIM Timbered Crate 32.02 325 P **P 17 25 15.5 +1.1**
PAL Palisades 32.11 35 *eP* **P 17 25 15.8 +0.6**
PAL pmax pmax
comp=Z,26nm,0.9s,mb5.1
PAL Palisades 32.11 35 *eP* **P 17 25 15.8 +0.6**
comp=Z,26nm,0.9s,mb5.1
CHMT Chamberlain Mo 33.01 341 *eP* **P 17 25 23.1 +0.1**
EGMT Eagleton 33.03 345 *eP* **P 17 25 24.4 +1.3**
comp=Z,34nm,1.4s,mb5.1
MSO Missoula 33.16 340 *eP* **P 17 25 24.7 +0.5**
ULM Lac du Bonnet 33.82 2 P **P 17 25 29.0 -1.0**
comp=Z,6.8nm,0.9s,mb4.6,baz=188,slow=13,SNR=5.4
ULM LR LR 17 41 11.3
comp=Z,178nm,19.6s,MS3.8,baz=160,slow=40
QUA2 Belchertown 33.83 35 *eP* **P 17 25 29.1 -1.1**
comp=Z,34nm,0.9s,mb5.3
QUA2 *ep*P pP 17 25 38.7 +6.3
LNOR Lincton Mounta 33.99 334 *eP* **P 17 25 28.4 -3.1**
LONY Lake Ozonia 34.33 30 *eP* **P 17 25 35.3 +0.8**
comp=Z,22nm,1.2s,mb5.0
LONY *ep*P pP 17 25 41.9 +5.2
HOOD Mount Hood Mea 35.07 330 *eP* **P 17 25 43.0 +2.1**
WALA Waterton Lakes 35.11 342 *eP* **P 17 25 41.1 -0.1**
comp=Z,13nm,1.1s,mb4.8
WALA *ep*P pP 17 25 49.6 +6.3
COR Corvallis 35.35 328 *eP* **P 17 25 43.9 +0.6**
COR *e**PP pP 17 25 52.5 +7.0
COR pmax pmax
comp=Z,67nm,1.4s,mb5.4
COR Corvallis 35.35 328 *eP* **P 17 25 43.9 +0.6**
comp=Z,67nm,1.4s,mb5.4
COR *ep*P pP 17 25 52.5 +7.0
LBNH Lisbon 35.39 33 *ep*P pP 17 25 53.8 +7.9
NEW Newport 35.50 338 *eP* **P 17 25 45.6 +1.1**
NEW *e**PP pP 17 25 53.3 +6.6
LON Longmire 36.21 332 *eP* **P 17 25 51.4 +0.8**
ETW Entiat 36.22 334 *eP* **P 17 25 49.8 -0.9**
JCW Jim Creek 37.36 333 *eP* **P 17 25 59.9 -0.5**
NLWA Neilton Lookou 37.63 331 *eP* **P 17 26 04.5 +1.8**
NLWA *ep*P pP 17 26 12.7 +7.8
FFC Flin Flon 38.40 356 *eP* **P 17 26 08.7 -0.4**
FFC pmax pmax
comp=Z,24nm,0.9s,mb4.9
FFC Flin Flon 38.40 356 *eP* **P 17 26 08.7 -0.3**
comp=Z,24nm,0.9s,mb4.9
EDM Edmonton 38.71 345 *eP* **P 17 26 11.0 -0.8**
LPAZ La Paz 43.77 136 P **P 17 26 53.1 -0.7**
comp=Z,1.1nm,0.9s,baz=346,slow=12,SNR=5.1
LPAZ pP pP 17 26 59.6 +3.7
comp=Z,7.5nm,0.8s,baz=332,slow=8.6,SNR=21
LPAZ LR LR 17 43 12.0
comp=Z,315nm,21.8s,MS4.2,baz=38,slow=34
LPAZ La Paz 43.77 136 *eP* **P 17 26 58.8 +5.0**
LPAZ pmax pmax
comp=Z,11nm,0.9s
LPAZ La Paz 43.77 136 *eP* **P 17 26 58.8 +5.0**
comp=Z,11nm,0.9s,mb4.6
SCHQ Schefferville 45.22 25 LR LR 17 48 05.0
comp=Z,274nm,19.3s,MS4.2,baz=28,slow=39
YKA Yellowknife Ar 47.54 350 P **P 17 27 22.2 -0.8**
comp=Z,3.8nm,0.9s,mb4.4,baz=158,slow=7.6,SNR=13
YKA pP pP 17 27 30.1 +4.8
comp=Z,4.7nm,0.9s,baz=158,slow=7.3,SNR=8.8
YKA LR LR 17 49 24.2
comp=Z,275nm,18.2s,MS4.3,baz=165,slow=38
YKA Yellowknife Ar 47.54 350 P **P 17 27 22.2 -0.8**
YKA *PP pP 17 27 30.1 +4.8
YKA Yellowknife Ar 47.54 350 P **P 17 27 22.2 -0.8**
YKA pP pP 17 27 30.1 +4.8
YKA LR LR 17 49 24.2
YKW3 Yellowknife Ar 47.60 350 *eP* **P 17 27 23.4 -0.1**
SIV San Ignacio 48.52 130 P **P 17 27 29.7 -1.5**
comp=Z,1.0nm,0.7s,mb4.0,baz=319,slow=11,SNR=5.4
TAOE Nuku Hiva Isla 48.76 242 *e*LR LR 17 41 09.3
comp=Z,2µm,26.6s
SKAG Skagway 50.93 336 *ep*P pP 17 27 58.7 +7.4
HYT Haines Junctio 52.65 337 *eP* **P 17 28 04.0 +2.2**
RKT Rikitea 53.45 224 *e*S **S 17 35 44.2 +2.9**
comp=Z,103nm,25.0s
RKT *e*LR LR 17 43 47.0
comp=Z,582nm,26.2s
RAGM Ragged Mountai 55.27 334 *eP* **P 17 28 21.6 +0.6**
DAWY Dawson 55.40 339 *eP* **P 17 28 21.8 -0.1**
BMRM Bremner River 55.55 334 *eP* **P 17 28 22.0 -1.0**
DIV Divide 56.12 334 *eP* **P 17 28 26.9 -0.2**
comp=Z,37nm,1.3s,mb5.2
EGAK Eagle 56.44 339 *eP* **P 17 28 28.8 -0.6**
comp=Z,14nm,1.1s,mb4.9
EGAK *ep*P pP 17 28 37.6 +6.0
SEW Seward 57.21 332 *eP* **P 17 28 34.4 -0.5**
SEW *ep*P pP 17 28 43.4 +6.2
SEW sP sP 17 28 48.5 +10
SLKM Skilak Lake 57.73 332 *eP* **P 17 28 38.3 -0.3**
SLKM *e**PP pP 17 28 47.2 +6.3
PMR Palmer 57.75 334 *eP* **P 17 28 39.0 +0.3**
PMR pmax pmax
comp=Z,18nm,1.0s,mb5.1
PMR Palmer 57.75 334 *eP* **P 17 28 39.0 +0.3**
comp=Z,18nm,1.0s,mb5.1
RC01 Rabbit Creek A 57.78 333 *eP* **P 17 28 39.0 +0.1**
comp=Z,17nm,1.1s,mb5.0
CPUP Villa Florida 57.94 136 P **P 17 28 38.2 -2.3**
comp=Z,3.4nm,0.9s,mb4.4,baz=295,slow=8.3,SNR=3.5
CPUP LR LR 17 52 36.2
comp=Z,169nm,21.5s,MS4.1,baz=159,slow=35
CPUP Villa Florida 57.94 136 P **P 17 28 38.2 -2.3**
CPUP LR LR 17 52 36.2
BDFB Brasilia 58.61 120 P **P 17 28 44.2 -1.2**
comp=Z,3.7nm,0.8s,mb4.5,baz=276,slow=11,SNR=11
BDFB pP pP 17 28 50.7 +3.1
comp=Z,5.2nm,0.8s,baz=262,slow=15,SNR=8.6
BDFB LR LR 17 56 27.6
comp=Z,67nm,20.4s,MS3.8,baz=88,slow=39
BDFB Brasilia 58.61 120 *eP* **P 17 28 43.9 -1.4**
BDFB *ep*P pP 17 28 50.0 +2.3
MCK McKinley 58.70 336 *eP* **P 17 28 45.5 +0.2**
COLA College 58.86 338 *eP* **P 17 28 44.9 -1.5**
TRF Thorofare Moun 59.09 335 *eP* **P 17 28 47.5 -0.5**
comp=Z,54nm,1.1s,mb5.5
TRF pP pP 17 28 56.9 +6.6
KTH Kantishna Hill 59.40 335 *eP* **P 17 28 49.2 -0.9**
comp=Z,18nm,1.0s,mb5.0
KTH *ep*P pP 17 28 58.3 +5.9
PPLA Purkeypile 59.62 334 *eP* **P 17 28 51.3 -0.3**
comp=Z,54nm,1.4s,mb5.4
PPLA *ep*P pP 17 29 00.5 +6.6
SVW2 Sparrevohn 60.38 332 *eP* **P 17 28 56.6 -0.3**
COLD Coldfoot 60.88 339 *eP* **P 17 29 00.7 +0.5**
comp=Z,19nm,1.3s,mb5.1
COLD *ep*P pP 17 29 09.1 +6.5
PPT Papeete 61.08 239 *e*S **S 17 37 23.5 +1.5**
comp=Z,100nm,25.2s
PPT *e*SS SS 17 41 23.3 +1.2
comp=Z,96nm,26.5s
PPT *e*LQ 17 44 15.1
comp=Z,482nm,28.0s
PPT *e*LR LR 17 46 53.9
comp=Z,411nm,25.2s,baz=54
PPT Papeete 61.08 239 LR LR 17 48 06.1
comp=Z,268nm,20.7s,MS4.4,baz=319,slow=29
TTA Tatalina 61.24 334 *eP* **P 17 29 08.3 +5.6**
PLCA Paso Flores 62.24 157 pP pP 17 29 15.0 +3.0
comp=Z,8.7nm,0.9s,baz=317,slow=8.1,SNR=12
PLCA LR LR 17 51 00.8
comp=Z,332nm,18.9s,MS4.5,baz=346,slow=31
TRQA Tornquist 63.79 149 *eP* **P 17 29 24.5 +4.4**
SUMG Summit 65.52 17 *eP* **P 17 29 30.0 -0.9**
BILL Bilibino 77.12 337 *eP* **P 17 30 40.5 -0.6**
BILL *i* 17 30 49.1
BILL pmax pmax
comp=Z,16nm,1.2s,mb4.8
BILL MLR MLR
comp=Z,200nm,15.0s,MS4.6
PMAFR Mafra 78.83 53 *e*LR LR 17 57 27.9
comp=Z,98nm,20.0s
PTOM Tomar 79.35 52 *eP* **P 17 30 53.8 -0.3**
comp=Z,46nm,2.1s,mb5.0
PFVI Vila Bisbo 79.57 54 *eP* **P 17 30 56.7 +1.4**
comp=Z,39nm,2.0s,mb5.0
MORF Marmelete 79.67 54 *eP* **P 17 30 57.0 +1.1**
comp=Z,26nm,1.4s,mb5.0
MTE Manteigas 79.83 51 *eP* **P 17 30 57.1 +0.4**
comp=Z,25nm,1.1s,mb5.1
MTE Manteigas 79.83 51 *e*LR LR 17 57 21.3
comp=Z,80nm,22.0s
EVO Evora 79.89 53 *eP* **P 17 30 55.6 -1.4**
comp=Z,34nm,0.9s,mb5.0
EVO *e*MLR MLR
comp=Z,120nm,19.5s,MS4.0
EVO Evora 79.89 53 *eP* **P 17 30 57.5 +0.5**
comp=Z,22nm,1.3s,mb4.9
PCBR Castelo Branco 80.00 51 *eP* **P 17 30 58.3 +0.7**
comp=Z,24nm,1.8s,mb4.8
MVO Moncorvo 80.04 50 *eP* **P 17 30 58.5 +0.7**
comp=Z,23nm,1.9s,mb4.8
PBEJ Beja 80.11 53 *eP* **P 17 30 58.7 +0.4**
comp=Z,17nm,1.7s,mb4.7
PESTR Estremoz 80.14 52 *eP* **P 17 30 59.2 +0.8**
comp=Z,15nm,1.3s,mb4.8
PMRV Marv??o 80.16 52 *eP* **P 17 31 00.0 +1.5**
comp=Z,19nm,1.2s,mb4.9
PMRV Marv??o 80.16 52 *e*LR LR 17 57 52.2
comp=Z,141nm,22.0s
PBDV Barranco-do-Ve 80.24 54 *eP* **P 17 31 00.2 +1.2**
comp=Z,34nm,1.8s,mb5.0
PBDV Barranco-do-Ve 80.24 54 *e*LR LR 18 00 05.4
comp=Z,174nm,20.0s
PVAQ Vaqueiros 80.37 54 *eP* **P 17 30 59.9 +0.2**
comp=Z,20nm,1.1s,mb5.0
PVAQ Vaqueiros 80.37 54 *e*LR LR 17 57 52.2
comp=Z,150nm,18.0s
PBAR Barrancos 80.72 53 *eP* **P 17 31 03.4 +1.9**
comp=Z,20nm,1.3s,mb4.9
PBAR Barrancos 80.72 53 *e*LR LR 17 58 34.4
comp=Z,80nm,18.0s
PAB San Pablo 82.42 51 *eP* **P 17 31 09.9 -0.6**
PAB *e**PP pP 17 31 19.0 +6.2
PAB pmax pmax
comp=Z,16nm,1.1s,mb4.9
PAB San Pablo 82.42 51 *eP* **P 17 31 09.9 -0.6**
comp=Z,16nm,1.1s,mb4.9
PAB *ep*P pP 17 31 19.0 +6.2
GRR Gorron 82.49 42 *eP* **P 17 31 09.4 -1.3**
comp=Z,65nm,1.4s,mb5.1
GRR Gorron 82.49 42 *eP* **P 17 31 09.4 -1.3**
GRR pmax pmax
comp=Z,32nm,1.4s,mb5.1
GRR Gorron 82.49 42 *eP* **P 17 31 09.4 -1.3**
comp=Z,32nm,1.4s,mb5.1
ESDC Sonseca Array 82.67 51 P **P 17 31 10.8 -1.0**
comp=Z,3.1nm,1.0s,mb4.3,baz=298,slow=5.8,SNR=9.9
ESDC pP pP 17 31 19.9 +5.8
comp=Z,4.2nm,0.9s,baz=292,slow=5.3,SNR=9.5
ESDC LR LR 18 07 52.6
comp=Z,65nm,18.4s,MS4.0,baz=285,slow=36
LDF La Druitiere 82.91 42 *eP* **P 17 31 11.6 -1.2**
SEY Seymchan 84.20 334 *eP* **P 17 31 17.8 -1.4**
NOA NORSAR Array B 84.72 28 P **P 17 31 23.1 +1.3**
comp=Z,2.0nm,0.9s,mb4.2,baz=296,slow=5.3,SNR=3.0
NOA LR LR 18 07 12.8
comp=Z,83nm,20.8s,MS4.1,baz=295,slow=34
EPF Esparros 84.84 47 *eP* **P 17 31 21.9 -0.9**
PET Petropavlovsk 84.93 324 *eP* **P 17 31 22.8 -0.2**
PET pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
RJF Les Rejaudoux 84.96 44 *eP* **P 17 31 22.0 -1.4**
RJF *e*MLR MLR
comp=Z,208nm,22.5s,MS4.2
RJF Les Rejaudoux 84.96 44 *eP* **P 17 31 22.0 -1.4**
RJF LR LR
comp=Z,210nm,22.5s,MS4.5
UCC Uccle 84.98 39 P **P 17 31 22.3 -1.1**
comp=Z,13nm,1.6s,mb4.8
TCF Toulx Ste Croi 85.11 43 *eP* **P 17 31 22.8 -1.3**
comp=Z,32nm,1.1s,mb5.0
TCF Toulx Ste Croi 85.11 43 *eP* **P 17 31 22.8 -1.3**
TCF pmax pmax
comp=Z,16nm,1.1s,mb5.1
TCF Toulx Ste Croi 85.11 43 *eP* **P 17 31 22.8 -1.3**
comp=Z,16nm,1.1s,mb5.1
BAIF Baives 85.14 39 *eP* **P 17 31 23.3 -0.9**
comp=Z,42nm,1.4s,mb5.1
BAIF Baives 85.14 39 *eP* **P 17 31 23.3 -0.9**
BAIF pmax pmax
comp=Z,21nm,1.4s,mb5.1
BAIF Baives 85.14 39 *eP* **P 17 31 23.3 -0.9**
comp=Z,21nm,1.4s,mb5.1
DOU Dourbes 85.36 39 P **P 17 31 25.0 -0.3**
comp=Z,8.9nm,2.0s,mb4.5
PETK Petropavlovsk- 85.44 324 P **P 17 31 25.5 -0.1**
comp=Z,3.2nm,0.8s,mb4.5,baz=88,slow=12,SNR=5.1
PETK pP pP 17 31 32.1 +4.2
comp=Z,8.9nm,1.0s,baz=78,slow=11,SNR=5.7
BGF Bois d'Agland 85.44 43 *eP* **P 17 31 24.3 -1.5**
CAF Calviac 85.44 45 *eP* **P 17 31 24.5 -1.3**
GIVF Givet 85.50 39 *eP* **P 17 31 25.2 -0.8**
ARCES ARCESS Array B 85.61 17 LR LR 18 13 57.2
comp=Z,96nm,18.9s,MS4.2,baz=208,slow=39
BCLA Clavier 85.68 39 P **P 17 31 26.6 -0.3**
comp=Z,10nm,1.9s,mb4.7
AVF Avril sur Loir 85.69 43 *eP* **P 17 31 25.1 -1.9**
SSF Saint Saulge 85.70 42 *eP* **P 17 31 25.4 -1.7**
comp=Z,43nm,1.5s,mb5.2
SSF Saint Saulge 85.70 42 *eP* **P 17 31 25.4 -1.7**
SSF pmax pmax
comp=Z,22nm,1.5s,mb5.2
SSF Saint Saulge 85.70 42 *eP* **P 17 31 25.4 -1.7**
comp=Z,22nm,1.5s,mb5.2
LOR Lormes 85.86 42 *eP* **P 17 31 26.5 -1.3**
comp=Z,53nm,1.3s,mb5.3
LOR *e*MLR MLR
comp=Z,178nm,19.0s,MS4.2
LOR Lormes 85.86 42 *eP* **P 17 31 26.5 -1.3**
LOR pmax pmax
comp=Z,27nm,1.3s,mb5.3
LOR MLR MLR
comp=Z,180nm,19.0s,MS4.5
LOR Lormes 85.86 42 *eP* **P 17 31 26.5 -1.3**
comp=Z,26nm,1.3s,mb5.3
LOR LR LR
comp=Z,180nm,19.0s,MS4.5
MTLF Montolieu 86.05 46 *eP* **P 17 31 27.6 -1.3**
comp=Z,20nm,1.2s,mb4.9
MTLF Montolieu 86.05 46 *eP* **P 17 31 27.6 -1.3**
MTLF pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
MTLF Montolieu 86.05 46 *eP* **P 17 31 27.6 -1.3**
comp=Z,10nm,1.2s,mb4.9
SMF Signal de Mont 86.06 43 *eP* **P 17 31 26.8 -2.0**
MEZF Maizieres J'vi 86.19 41 *eP* **P 17 31 28.3 -1.2**
TIXI Tiksi 86.70 347 *c i*P **P 17 31 29.7 -1.8**
TIXI pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
LASF Ste Croix 86.93 45 *eP* **P 17 31 32.4 -0.8**
comp=Z,51nm,1.4s,mb5.2
HAU Haudompre 87.18 41 *eP* **P 17 31 33.0 -1.3**
HAU *e*MLR MLR
comp=Z,249nm,22.0s,MS4.3
HAU Haudompre 87.18 41 *eP* **P 17 31 33.0 -1.3**
HAU LR LR
comp=Z,250nm,22.0s,MS4.6
CDF Champ du Feu 87.61 40 *eP* **P 17 31 35.1 -1.3**
SMRF Simiane la Rot 88.13 45 *eP* **P 17 31 38.4 -0.6**
comp=Z,26nm,1.4s,mb5.0
SMRF Simiane la Rot 88.13 45 *eP* **P 17 31 38.4 -0.6**
comp=Z,26nm,1.4s,mb5.3
CLL Collm 89.81 36 *ep*P pP 17 31 55.0 +6.0
CLL *e*(PP) 17 35 11.0
DAVOX Davos/Dischmat 89.87 41 LR LR 18 10 54.6
comp=Z,122nm,21.9s,MS4.3,baz=264,slow=35
DBIC Dimbokro 91.04 83 LR LR 18 06 24.0
comp=Z,104nm,21.5s,MS4.2,baz=301,slow=31

GERES GERESS Array B 91.31 38 LR LR 18 13 02.7
comp=Z,130nm,19.4s,MS4.4,baz=288,slow=36
YAK Yakutsk 93.33 340 *e*P **P** **17 32 01.1 -1.7**
YAK pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
KEST Kesra 93.92 51 P **P** **17 32 06.6 +0.5**
comp=Z,0.8nm,1.1s,mb4.1,baz=229,slow=9.3,SNR=2.4
KEST LR LR 18 13 02.7
comp=Z,45nm,19.3s,MS3.9,baz=304,slow=35
TORD Torodi Ar. Bea 95.30 75 LR LR 18 13 12.4
comp=Z,166nm,20.5s,MS4.5,baz=310,slow=34
AKASG Malin Array Be 98.74 31 LR LR 18 18 59.4
comp=Z,107nm,18.6s,MS4.4,baz=305,slow=36
HHC Hu-ho-hao-te 116.84 335 *e*PKP PKPdf 17 37 33.0 +0.1
HHC PP PP 17 38 44.5 +4.2
HHC PKS 17 41 08.5
HHC SKS SKSdf 17 44 40.3 -5.4
HHC SKKS SKKSac 17 45 33.8 -9.2
HHC LR LR
comp=N,95nm,22.6s,MS4.6
HHC LR LR
comp=E,123nm,23.8s,MS4.6
HHC LR LR
comp=Z,130nm,22.6s,MS4.5
MKAR Makanchi Array 117.12 360 PKP PKPdf 17 37 30.8 -2.5
comp=Z,0.2nm,0.2s,baz=357,slow=5.8,SNR=2.9
WMQ Urumqi 119.88 355 *e*PKP PKPdf 17 37 39.5 +0.8
NJ2 Nanjing 120.34 324 *e*PKP PKPdf 17 37 35.3 -4.6
GTA Gaotai 122.09 344 *e*PKP PKPdf 17 37 43.5 +0.4
GTA XPKP 17 37 58.0
XAN Xi'an 123.73 333 PKP PKPdf 17 37 44.5 -1.9
LZH Lanzhou 123.91 339 *e*PKP PKPdf 17 37 45.0 -1.7
LZH XPKP 17 37 59.5
LZH SKKS SKKSac 17 46 19.3 -10
LZH PP PP
comp=Z,83nm,8.2s
LZH LR LR
comp=E,127nm,18.3s
LZH LR LR
comp=Z,193nm,20.4s,MS4.8
STKA Stephens Creek 124.19 242 PKP PKPdf 17 37 44.9 -2.4
comp=Z,2.3nm,0.7s,baz=337,slow=5.9,SNR=4.5
MAW Mawson 127.32 171 PKP PKPdf 17 37 50.8 -1.3
comp=Z,1.3nm,0.5s,baz=229,slow=17,SNR=4.0
CD2 Chengdu 128.58 336 *e*PKP PKPdf 17 37 55.8 0.0
CD2 XPKP 17 38 10.0
CD2 PP PP 17 40 04.0 +4.2
CD2 PKS 17 41 31.0
CD2 SKS SKSdf 17 45 02.3 -5.9
CD2 SKKS SKKSac 17 46 51.8 -7.3
CD2 SS SS 17 57 13.0 -3.3
CD2 PP PP
comp=Z,100nm,10.2s
WRA Warramunga Arr 130.41 258 PKP PKPdf 17 37 57.7 -1.7
comp=Z,0.6nm,0.6s,baz=86,slow=2.8,SNR=11
ASAR Alice Springs 131.02 253 PKP PKPdf 17 37 58.1 -2.4
comp=Z,0.4nm,0.7s,baz=85,slow=2.7,SNR=5.8
GYA Guiyang 131.19 330 *e*PDIF Pdif 17 34 52.5 +0.7
GYA PKP PKPdf 17 38 02.5 +1.7
GYA XPKP 17 38 16.3
GYA PP PP 17 40 21.5 +4.6
GYA PKS 17 41 36.8
GYA SKS SKSdf 17 45 07.0 -6.1
GYA SKKS SKKSac 17 47 08.3 -7.2
GYA SS SS 17 57 46.0 -2.8
GYA PP PP
comp=Z,90nm,7.8s
GYA LR LR
comp=N,160nm,22.2s,MS4.8
GYA LR LR
comp=E,120nm,22.9s,MS4.8
GYA LR LR
comp=Z,140nm,21.8s,MS4.6
KMI Kunming 134.11 334 PKP PKPdf 17 38 04.0 -2.4
CMAR Chiang Mai Arr 141.62 334 PKP PKPdf 17 38 16.8 -3.6
comp=Z,1.4nm,1.1s,baz=336,slow=3.6,SNR=5.0
HYB Hyderabad 146.23 6 *i* PKP PKPdf 17 38 27.5 -0.9
HYB *e* 17 38 36.5
HYB Hyderabad 146.23 6 *e*P PKPdf 17 38 27.5 -0.9
HYB *e* 17 38 36.5
KSM Kuching 146.99 300 *e*P PKPdf 17 38 29.7 -0.1
KSM *e*pP 17 38 36.8

MAN 26 17:22:13.688N×12509E.h11km.mb4.3.ML3.1.MS2.9.1C-1D.Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.13**	**2⇑**	*e*P	Pg	17 22 17.3	+1.2
KCP				*e*S	Sg	17 22 20.0	+1.8
DMPH	**Davao City--Mi**	**0.46**	**64⇓**	*i*P	Pg	17 22 23.2	+1.1
DMPH				*i* S	Sg	17 22 30.8	+2.5
BUKP	**Musuan**	**0.99**	**359**	*e*P	Pg	17 22 32.4	+0.2
BUKP				*e*S	Sg	17 22 47.0	+2.0

KRSC 26 17:22:57.1±1.4.4925N×15744E.h5km±5km.ML4.0.East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.03**	**324**	P	Pn	17 23 33.4	+1.5
RUS	**Russkaya**	**3.26**	**12**	P	Pn	17 23 50.3	+1.5
RUS				S	Sn	17 24 29.7	+1.8
PET	**Petropavlovsk**	**3.86**	**11**	P	Pn	17 23 58.5	+1.5
PET				S	Sn	17 24 42.9	+0.3
AVH	**Avacha**	**4.10**	**11**	P	Pn	17 24 03.4	+3.0
NLC	**Nalytchevo**	**4.11**	**16**	S	Sn	17 24 49.0	+0.2
SPN	**Mys Shipunski**	**4.18**	**22**	P	Pn	17 24 04.0	+2.5
SPN				S	Sn	17 24 51.9	+1.2
GNL	**Ganaly**	**4.46**	**4**	P	Pn	17 24 08.4	+3.1
MKZ	**Mys Kozlova**	**5.94**	**25**	P	Pn	17 24 28.0	+2.4
MKZ				S	Sn	17 25 34.8	+0.9
KBTR	**Krutoberegovo**	**7.69**	**23**	P	Pn	17 24 52.5	+2.8

ISCJB ***26*** *17:33:35.3±0.5,3929N±003×2476E±002,h2km±4km, Error ellipse: s-maj=5.1km s-min=3.1km az=1.3*
NEIC ***26*** *17:33:36.4,3935N×2478E,h22km,MD3.4(ATH),After ATH.*
ATH ***26*** *17:33:36.4,3935N×2478E,h22km±1km,MD3.4/8*
CSEM ***26*** *17:33:36.8±0.1,3930N×2479E,h8km,ML2.9,Error ellipse: s-maj=3.0km s-min=1.9km az=16.0*
THE ***26*** *17:33:37.2,3930N×2476E,h8km,ML2.9*
ISK ***26*** *17:33:40.0,3932N×2527E,h7km,MD3.2*

ISC 26 17:33:36.1±0.5,3930N±003×2476E±002,h7km±4km,n36,σ1§23/48,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.68**	**22**	*e*Pg	**Pg**	**17 33 50.5**	**+1.3**
LOS				*e*Sg	**Sg**	**17 34 00.9**	**+2.9**
AOS	**Alonnisos**	**0.69**	**259**	*e*Pg	**Pg**	**17 33 50.7**	**+1.3**
PAIG	**Paliouri**	**1.04**	**307**	*e*Pg	**Pg**	**17 33 56.6**	**+0.5**
PAIG				*e*Sg	**Sg**	**17 34 11.5**	**+2.0**
BOZC	**Bozcaada**	**1.14**	**61**	*e*P	**Pg**	**17 33 57.5**	**-0.4**
BOZC				*e*S	**Sg**	**17 34 12.8**	**0.0**
PRK	**Paraskevi**	**1.18**	**92**	*e*Pg	**Pg**	**17 33 58.6**	**-0.1**
PRK				*e*Sg	**Sg**	**17 34 14.8**	**+0.8**
PRK	**Paraskevi**	**1.18**	**92**	*e*Pn	**Pn**	**17 33 58.9**	**-0.2**
PRK				*e*Sn	**Sn**	**17 34 14.5**	**-0.9**
PRK				*e*Sg	**Sg**	**17 34 14.8**	**+0.8**
NEO	**Neokhori**	**1.19**	**271**	*e*PN	**Pn**	**17 33 59.3**	**+0.1**
NEO				*e*SN	**Sn**	**17 34 16.1**	**+0.5**
OUR	**Ouranopolis**	**1.19**	**330**	*e*Pg	**Pg**	**17 33 59.0**	**0.0**
XOR	**Xorichtí**	**1.21**	**273**	*e*Pg	**Pg**	**17 33 59.5**	**+0.1**
XOR				*e*Sg	**Sg**	**17 34 16.8**	**+1.7**
GADA	**Gvkgeada**	**1.25**	**44**	*e*PG	**Pg**	**17 33 59.5**	**-0.6**
EZN	**Ezine**	**1.32**	**66**	*e*PG	**Pg**	**17 33 58.8**	**-2.7**
EZN				*e*SG	**Sg**	**17 34 12.6**	**-6.0**
CHOS	**Chios island**	**1.37**	**132**	*e*Pg	**Pg**	**17 34 01.4**	**-0.9**
CHOS				*e*Sg	**Sg**	**17 34 20.7**	**+0.6**
PTL	**Penteli**	**1.43**	**209**	*e*PN	**Pn**	**17 34 03.5**	**+0.9**
PLG	**Polygyros**	**1.47**	**317**	*e*Pg	**Pg**	**17 34 02.9**	**-1.5**
PLG	**Polygyros**	**1.47**	**317**	*e*Pg	**Pg**	**17 34 02.8**	**-1.5**
LKR	**Lokris**	**1.52**	**245**	*e*Pg	**Pg**	**17 34 03.1**	**-2.0**
LKR	**Lokris**	**1.52**	**245**	*e*Pn	**Pn**	**17 34 04.3**	**+0.6**
ENEZ	**Enez**	**1.79**	**36**	*e*PN	**Pn**	**17 34 08.9**	**+1.5**
HORT	**Hortiatis**	**1.81**	**316**	*e*Pb	**Pb**	**17 34 08.2**	**-1.5**
NAIG	**Nisos Aigina**	**1.83**	**213**	*e*PN	**Pn**	**17 34 09.5**	**+1.4**
SOH	**Sokhos**	**1.86**	**325**	*e*Pb	**Pb**	**17 34 08.6**	**-1.9**
ALN	**Alexandroupoli**	**1.88**	**31**	*e*Pb	**Pb**	**17 34 08.1**	**-2.6**
ALN				*e*Sb	**Sb**	**17 34 34.3**	**0.0**
AGG	**Agios Georgios**	**1.91**	**262**	*e*Pb	**Pb**	**17 34 09.7**	**-1.6**
LIT	**Litokhoron**	**1.92**	**295**	*e*Pb	**Pb**	**17 34 10.1**	**-1.4**
LIT				*e*Sb	**Sb**	**17 34 33.6**	**-2.1**
RDO	**Rodhopi**	**1.94**	**18**	*e*PN	**Pn**	**17 34 09.5**	**0.0**
SRS	**Serrai**	**2.02**	**334**	*e*Pn	**Pn**	**17 34 10.7**	**0.0**
THL	**Klokotos Trika**	**2.14**	**278**	*e*Pn	**Pn**	**17 34 13.0**	**+0.7**
THL	**Klokotos Trika**	**2.14**	**278**	*e*Pb	**Pb**	**17 34 12.8**	**-2.4**
THL	**Klokotos Trika**	**2.14**	**278**	*e*Pn	**Pn**	**17 34 13.0**	**+0.7**
NVR	**Nevrokopi**	**2.15**	**342**	*e*PN	**Pn**	**17 34 12.8**	**+0.3**
KNT	**Kendrikon**	**2.34**	**323**	*e*Pn	**Pn**	**17 34 15.9**	**+0.9**
KNT	**Kendrikon**	**2.34**	**323**	*e*Pn	**Pn**	**17 34 15.9**	**+0.9**
MFT	**Murefte**	**2.44**	**52**	*e*PN	**Pn**	**17 34 16.9**	**+0.5**
GRG	**Griva**	**2.45**	**313**	*e*Pn	**Pn**	**17 34 17.5**	**+1.0**
MRMT	**Marmara Adasi**	**2.54**	**58**	*e*PN	**Pn**	**17 34 17.8**	**0.0**
EDRB	**Edirne**	**2.96**	**30**	*e*PN	**Pn**	**17 34 26.1**	**+2.5**

IDC 26 17:56:54.7±2.6,1382S×7596W,h0km,mb3.7/3, mb1 4.0/5,mb1mx3.7/18,mbtmp3.7/5,ML3.3/1,Error ellipse: s-maj=101.1km s-min=26.6km az=48.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.02**	**335**	Pn	Pn	17 57 28.0	-2.1
	20nm,0.3s,baz=190,slow=14,SNR=32						
NNA				Sn	Sn	17 57 57.8	+1.8
	27nm,0.3s,baz=260,slow=14,SNR=10						
ATAH	**Atahualpa**	**7.19**	**340**	Pn	Pn	17 58 40.7	-0.4
	0.5nm,0.3s,baz=157,slow=15,SNR=3.4						
LPAZ	**La Paz**	**7.95**	**109**	Pn	Pn	17 59 03.3	+12
	0.4nm,0.3s,baz=294,slow=9.4,SNR=13						
SIV	**San Ignacio**	**14.55**	**100**	Pn	Pn	18 00 27.8	+5.8
	0.1nm,0.3s,baz=256,slow=18,SNR=2.7						
TXAR	**Lajitas Array**	**50.56**	**328**	P	P	18 05 57.2	+2.0
	0.4nm,0.6s,baz=153,slow=9.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**81.45**	**74**	P	P	18 09 15.0	+0.6
	0.7nm,0.9s,baz=235,slow=5.1,SNR=3.1						
YKA	**Yellowknife Ar**	**81.84**	**343**	P	P	18 09 15.4	+0.1
	0.8nm,0.7s,baz=141,slow=6.5,SNR=3.6						
SONM	**Songino Array**	**146.03**	**357**	PKPbc	PKPbc	18 16 33.7	-2.8
	0.5nm,0.8s,baz=336,slow=2.3,SNR=5.4						

ISCJB ***26*** *17:58:20.9±0.7,8.11S±004×7440W±004,h151km±7km, mb4.7/126,Error ellipse: s-maj=8.1km s-min=5.0km az=136.3*
MOS ***26*** *17:58:21.5±0.8,809S×7433W,h154km,mb4.9/45,Error ellipse: s-maj=9.4km s-min=6.6km az=63.7*
IDC ***26*** *17:58:21.5±0.5,8.14S×7439W,h151km±4km,mb4.4/20, mb1 4.5/25,mb1mx4.5/27,mbtmp4.4/25,Error ellipse: s-maj=11.4km s-min=8.3km az=44.0*
NEIC ***26*** *17:58:22.6±0.5,809S×7427W,h150km±4km,mb4.9/93, Error ellipse: s-maj=5.6km s-min=3.7km az=48.0*
NEIC Felt [III] at Pucallpa.
BJI ***26*** *17:58:22.5,8.10S×7430W,h150km,mB4.8*

ISC 26 17:58:22.1±0.8,813S±004×7431W±005,h146km±7km, h152km±2.9km;pP-P,n342,σ0§79/303,mb4.7/126,3C-1D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.21**	**285**	P	**Pn**	**17 59 24.1**	**-0.9**
	258nm,0.3s,baz=88,slow=6.4,SNR=470						
ATAH				S	**Sn**	**18 00 10.6**	**-2.5**
	182nm,0.3s,baz=117,slow=15,SNR=11						
NNA	**Nana**	**4.58**	**213**	P	**Pn**	**17 59 30.3**	**+0.5**
	66nm,0.3s,baz=36,slow=12,SNR=12						
NNA				S	**Sn**	**18 00 19.7**	**-2.3**
	489nm,0.3s,baz=315,slow=18,SNR=16						
NNA	**Nana**	**4.58**	**213**	P	**Pn**	**17 59 30.3**	**+0.5**
NNA				S	**Sn**	**18 00 19.7**	**-2.3**
OTAV	**Otavalo**	**9.28**	**333**	*e*Pn	**Pn**	**18 00 32.8**	**+0.1**
LPAZ	**La Paz**	**10.11**	**144**	P	**Pn**	**18 00 44.7**	**+1.1**
	1.6nm,0.3s,baz=323,slow=13,SNR=17						
LPAZ	**La Paz**	**10.11**	**144**	*e*P	**Pn**	**18 00 43.5**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,27nm,1.0s						
LPAZ	**La Paz**	**10.11**	**144**	*e*Pn	**Pn**	**18 00 43.5**	**-0.1**
	comp=Z,26nm,1.0s						
ROSC	**El Rosal**	**12.90**	**360**	P	**Pn**	**18 01 21.4**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=273,slow=21,SNR=3.9						
ROSC	**El Rosal**	**12.90**	**360**	*e*P	**Pn**	**18 01 17.8**	**-2.4**
SIV	**San Ignacio**	**15.11**	**122**	P	**Pn**	**18 01 49.6**	**+1.5**
	comp=Z,2.8nm,0.3s,baz=286,slow=13,SNR=37						
SIV				S	**S**	**18 04 33.2**	**-9.0**
	comp=Z,1.1nm,0.3s,baz=41,slow=23,SNR=4.8						
LVC	**Limon Verde**	**15.31**	**161**	P	**Pn**	**18 01 54.1**	**+3.6**
	comp=Z,1.8nm,0.3s,baz=351,slow=8.0,SNR=10						
LVC	**Limon Verde**	**15.31**	**161**	*e*P	**Pn**	**18 01 54.2**	**+3.6**
BCIP	**Isla Barro Col**	**18.04**	**342**	*e*P	**P**	**18 02 23.4**	**+1.2**
	comp=Z,44nm,0.7s						
PCRV	**Puerto La Cruz**	**20.57**	**28**	P	**P**	**18 02 50.8**	**+1.2**
	comp=Z,12nm,0.3s,baz=140,slow=5.6,SNR=9.2						
GRGR	**Grenville**	**23.73**	**32**	*e*P	**P**	**18 03 20.5**	**-0.6**
	comp=Z,142nm,0.5s,mb5.8						
CFAA	**Coronel Fontan**	**24.03**	**167**	P	**P**	**18 03 24.5**	**+0.9**
	comp=Z,2.3nm,0.7s,mb3.8,baz=343,slow=10,SNR=26						
CFAA	**Coronel Fontan**	**24.03**	**167**	P	**P**	**18 03 24.5**	**+0.9**
CPUP	**Villa Florida**	**24.25**	**140**	P	**P**	**18 03 25.0**	**-0.6**
	comp=Z,35nm,0.6s,mb5.0,baz=307,slow=9.7,SNR=123						
CPUP	**Villa Florida**	**24.25**	**140**	*e*P	**P**	**18 03 24.5**	**-1.1**
CPUP				pmax	pmax		
	comp=Z,238nm,0.8s						
CPUP	**Villa Florida**	**24.25**	**140**	*e*P	**P**	**18 03 24.5**	**-1.1**
	comp=Z,238nm,0.8s,mb5.8						
BDFB	**Brasilia**	**26.77**	**109**	P	**P**	**18 03 48.5**	**0.0**
	comp=Z,7.5nm,0.8s,mb4.4,baz=266,slow=17,SNR=18						
BDFB				pP	pP	18 04 21.8	+2.6
	comp=Z,26nm,0.9s,baz=264,slow=18,SNR=13						
BDFB	**Brasilia**	**26.77**	**109**	*e*P	**P**	**18 03 40.9**	**-7.6**
BDFB				*e*pP	pP	18 04 14.8	-4.3
CPD	**Cerro la Pandu**	**27.29**	**18**	*e*P	**P**	**18 03 53.1**	**0.0**
SJG	**San Juan**	**27.29**	**17**	P	**P**	**18 03 53.4**	**+0.3**
	comp=Z,34nm,0.5s,mb5.3,baz=196,slow=4.7,SNR=18						
SJG	**San Juan**	**27.29**	**17**	*e*P	**P**	**18 03 52.9**	**-0.2**
AOPR	**Arecibo Observ**	**27.34**	**16**	*e*P	**P**	**18 03 53.5**	**0.0**
	comp=Z,20nm,0.6s,mb4.9						
HUMP	**Col San Antoni**	**27.41**	**18**	*e*P	**P**	**18 03 55.6**	**+1.5**
	comp=Z,22nm,0.6s,mb5.0						
CBYP	**Canovanas**	**27.53**	**18**	*e*P	**P**	**18 03 54.7**	**-0.4**
	comp=Z,37nm,0.8s,mb5.2						
TEIG	**Tepich**	**31.35**	**334**	*e*P	**P**	**18 04 29.6**	**+0.5**
TRQA	**Tornquist**	**31.81**	**161**	*e*P	**P**	**18 04 27.3**	**-5.6**
	comp=Z,19nm,1.3s,mb4.7						
PLCA	**Paso Flores**	**32.64**	**175**	P	**P**	**18 04 40.7**	**+0.7**
	comp=Z,4.8nm,0.6s,mb4.4,baz=344,slow=9.4,SNR=20						
PLCA	**Paso Flores**	**32.64**	**175**	P	**P**	**18 04 40.7**	**+0.7**
GOGA	**Godfrey**	**42.22**	**349**	*e*pP	pP	18 06 39.6	+6.6
LHS	**Liberty Hill**	**42.82**	**352**	*e*pP	pP	18 06 35.1	-2.9
CPCT	**Cooper Cave**	**44.40**	**348**	*e*pP	pP	18 06 51.8	+1.0
SWET	**Sewanee**	**44.49**	**346**	*e*P	**P**	**18 06 18.5**	**-0.4**
SWET				*e*pP	pP	18 06 52.2	+0.7
TZTN	**Tazewell**	**45.28**	**350**	*e*P	**P**	**18 06 32.0**	**+6.9**
	comp=Z,16nm,1.3s,mb4.5						
JCT	**Junction City**	**45.52**	**329**	*e*P	**P**	**18 06 27.8**	**+0.6**
TXAR	**Lajitas Array**	**46.76**	**324**	P	**P**	**18 06 37.1**	**+0.2**
	comp=Z,7.5nm,0.7s,mb4.5,baz=148,slow=8.9,SNR=78						
TXAR				pP	pP	18 07 10.0	+0.2
	comp=Z,2.4nm,0.6s,baz=152,slow=8.2,SNR=5.0						
FVM	**French Village**	**48.28**	**343**	*e*P	**P**	**18 06 47.3**	**-1.1**
FVM				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
FVM	**French Village**	**48.28**	**343**	*e*P	**P**	**18 06 47.3**	**-1.2**
	comp=Z,8.1nm,0.7s,mb4.5						
GDL2	**Guadalupe Moun**	**49.31**	**326**	*e*P	**P**	**18 06 57.1**	**+0.7**
AMTX	**Amarillo**	**50.00**	**330**	*e*P	**P**	**18 07 01.0**	**-0.5**
	comp=Z,17nm,0.8s,mb4.7						
BINY	**Binghamton**	**50.11**	**358**	*e*P	**P**	**18 07 03.0**	**+0.8**
	comp=Z,18nm,0.8s,mb4.8						
BINY				*e*pP	pP	18 07 41.0	+5.4
BNM	**Barren Site**	**52.02**	**326**	*e*P	**P**	**18 07 17.0**	**+0.3**
LPM	**Los Pinos Moun**	**52.14**	**326**	*e*P	**P**	**18 07 18.3**	**+0.7**
ANMO	**Albuquerque**	**52.52**	**327**	*e*P	**P**	**18 07 20.8**	**+0.4**
FRNY	**Flat Rock**	**52.72**	**1**	*e*pP	pP	18 08 04.3	+9.0
PKME	**Peaks-Kenny Pk**	**53.34**	**4**	*e*P	**P**	**18 07 25.9**	**-0.2**
SMCO	**Snowmass**	**55.98**	**330**	*e*P	**P**	**18 07 46.1**	**+0.8**
GLA	**Glamis**	**56.23**	**319**	*e*P	**P**	**18 07 47.9**	**+0.7**
PFO	**Pinyon Flat Ob**	**57.64**	**318**	*e*P	**P**	**18 07 56.8**	**-0.4**
PFO				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
PFO	**Pinyon Flat Ob**	**57.64**	**318**	*e*P	**P**	**18 07 56.8**	**-0.4**
	comp=Z,18nm,1.1s,mb4.8						
EYMN	**Ely**	**57.86**	**346**	*e*P	**P**	**18 08 02.5**	**+4.1**
	comp=Z,12nm,0.9s,mb4.7						
RWWY	**Rawlins**	**58.03**	**331**	*e*P	**P**	**18 07 59.3**	**-0.4**
CCUT	**Cedar City**	**58.28**	**324**	*e*P	**P**	**18 08 10.5**	**+9.0**
SHPR	**Sheep Range**	**58.66**	**322**	*e*P	**P**	**18 08 04.8**	**+0.7**
GSC	**Goldstone**	**58.92**	**320**	*e*P	**P**	**18 08 06.6**	**+0.6**
TPNV	**Topopah Spring**	**59.61**	**322**	*e*P	**P**	**18 08 11.2**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.9						
TPNV	**Topopah Spring**	**59.61**	**322**	*e*P	**P**	**18 08 11.2**	**+0.5**
	comp=Z,19nm,0.9s,mb4.9						
DUG	**Dugway**	**59.79**	**327**	*e*P	**P**	**18 08 13.0**	**+1.1**
PDAR	**Pinedale Array**	**59.98**	**331**	P	**P**	**18 08 12.6**	**-0.5**
	comp=Z,3.9nm,0.7s,mb4.3,baz=146,slow=9.0,SNR=4.5						
ISA	**Isabella**	**60.21**	**319**	*e*P	**P**	**18 08 15.3**	**+0.4**
ULM	**Lac du Bonnet**	**61.09**	**344**	P	**P**	**18 08 20.1**	**-0.4**
	comp=Z,8.9nm,0.9s,mb4.6,baz=133,slow=19,SNR=4.2						
LOHW	**Long Hollow**	**61.12**	**331**	*e*P	**P**	**18 08 20.9**	**+0.1**
RRI2	**Red Ridge**	**61.27**	**330**	*e*P	**P**	**18 08 22.2**	**+0.3**
MTUM	**Tungsten Hills**	**61.30**	**321**	*e*P	**P**	**18 08 23.1**	**+0.9**
IMW	**Indian Meadow**	**61.49**	**331**	*e*P	**P**	**18 08 23.4**	**+0.1**
ELK	**Elko**	**61.51**	**326**	*e*P	**P**	**18 08 23.1**	**-0.4**
ELK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ELK	**Elko**	**61.51**	**326**	*e*P	**P**	**18 08 23.1**	**-0.4**
	comp=Z,8.2nm,1.2s,mb4.4						
RLMT	**Red Lodge**	**61.62**	**333**	*e*P	**P**	**18 08 24.4**	**+0.2**
	comp=Z,3.4nm,0.4s,mb4.5						
NVAR	**Mina Array Bea**	**61.81**	**322**	P	**P**	**18 08 26.4**	**+0.8**
	comp=Z,7.4nm,0.9s,mb4.5,baz=129,slow=7.1,SNR=35						
NVAR				pP	pP	18 09 00.8	+0.5
	comp=Z,3.1nm,0.9s,baz=151,slow=5.4,SNR=3.6						
CMB	**Columbia Colle**	**62.86**	**320**	*e*P	**P**	**18 08 31.8**	**-0.8**
CMB				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
CMB	**Columbia Colle**	**62.86**	**320**	*e*P	**P**	**18 08 31.8**	**-0.8**
	comp=Z,3.7nm,1.0s,mb4.2						
HLID	**Hailey**	**63.00**	**328**	*e*P	**P**	**18 08 33.6**	**+0.2**
	comp=Z,9.5nm,1.2s,mb4.5						
SCHQ	**Schefferville**	**63.04**	**5**	P	**P**	**18 08 32.9**	**-0.5**
	comp=Z,3.1nm,0.6s,mb4.3,baz=196,slow=8.1,SNR=5.8						
SCHQ				pP	pP	18 09 09.7	+1.5
	comp=Z,5.7nm,0.9s,baz=211,slow=8.8,SNR=2.9						
MCMT	**McKenzie Canyo**	**63.10**	**330**	*e*P	**P**	**18 08 34.8**	**+0.7**
BOZ	**Bozeman (W)**	**63.12**	**332**	*e*P	**P**	**18 08 33.8**	**-0.3**
PAHR	**Pah Rah Range**	**63.26**	**322**	*e*P	**P**	**18 08 35.6**	**+0.5**
	comp=Z,16nm,1.0s,mb4.8						
OHCM	**Honcut**	**64.33**	**321**	*e*P	**P**	**18 08 41.9**	**-0.3**
MSO	**Missoula**	**65.08**	**331**	*e*P	**P**	**18 08 47.2**	**+0.4**
	comp=Z,18nm,1.1s,mb4.8						
MOD	**Modoc**	**65.17**	**324**	*e*P	**P**	**18 08 46.9**	**-0.7**
	comp=Z,5.6nm,0.6s,mb4.6						
LTIM	**Timbered Crate**	**65.43**	**322**	P	**P**	**18 08 49.7**	**+0.5**
HAWA	**Hanford**	**67.59**	**328**	*e*P	**P**	**18 09 01.4**	**-1.4**
	comp=Z,10nm,0.9s,mb4.5						
OD2	**Odessa Site #2**	**67.82**	**329**	P	**P**	**18 09 05.0**	**+0.7**
ETW	**Entiat**	**68.79**	**329**	*e*P	**P**	**18 09 11.0**	**+0.7**
LIC	**Lamto**	**70.54**	**80**	*e*P	**P**	**18 09 19.4**	**-2.4**
	comp=Z,35nm,0.7s,mb4.9						
LIC	**Lamto**	**70.54**	**80**	*e*P	**P**	**18 09 20.6**	**-1.2**
	comp=Z,48nm,0.5s,mb5.5						
LIC	**Lamto**	**70.54**	**80**	*e*P	**P**	**18 09 19.4**	**-2.4**
	comp=Z,18nm,0.7s,mb4.9						
VDB	**Vedder Mountai**	**70.61**	**329**	P	**P**	**18 09 21.5**	**+0.1**
TIC	**Toumodi**	**70.62**	**80**	*e*P	**P**	**18 09 21.4**	**-0.9**
	comp=Z,200nm,0.9s,mb5.8						
DBIC	**Dimbokro**	**70.79**	**80**	P	**P**	**18 09 22.8**	**-0.5**
	comp=Z,34nm,0.5s,mb5.3,baz=234,slow=6.2,SNR=57						
DBIC	**Dimbokro**	**70.79**	**80**	P	**P**	**18 09 22.8**	**-0.5**
KIC	**Kosan Boka**	**70.84**	**80**	*e*P	**P**	**18 09 22.9**	**-0.7**
	comp=Z,256nm,0.8s,mb6.0						
VNA3	**Neumayer Olymp**	**74.33**	**162**	*e*P	**P**	**18 09 44.0**	**+0.9**
VNA3				*e*		18 09 47.4	
VNA3				*e*		18 09 56.7	
VNA3				*e*	pP	18 10 19.9	+0.9
VNA1	**Neumayer--Stat**	**74.55**	**162**	*e*P	**P**	**18 09 45.6**	**+1.2**
VNA1				*e*		18 09 49.7	
VNA1				*e*		18 09 58.8	
VNA1				*e*	pP	18 10 20.3	0.0
VNA2	**Neumayer--Watz**	**74.91**	**162**	*e*P	**P**	**18 09 47.4**	**+0.9**
VNA2				*e*		18 09 50.6	
VNA2				*e*		18 10 00.6	
PFVI	**Vila Bisbo**	**75.88**	**49**	*e*P	**P**	**18 09 53.4**	**+0.7**
	comp=Z,68nm,1.3s,mb5.1						
MORF	**Marmelete**	**76.07**	**48**	*e*P	**P**	**18 09 54.5**	**+0.7**
	comp=Z,55nm,1.0s,mb5.1						
PTEO	**Sao Teotonio**	**76.11**	**48**	*e*P	**P**	**18 09 54.9**	**+1.0**
	comp=Z,26

ERON Agron 79.61 50 P **P 18 10 14.2 +0.9**
comp=Z,20nm,0.6s,mb4.9
EALB Alboran 79.87 51 P **P 18 10 14.2 -0.6**
comp=Z,39nm,0.5s,mb5.3
ECOG Cogollos-Vega 79.87 50 P **P 18 10 15.9 +1.2**
ECOG pmax pmax
comp=Z,15nm,0.7s,mb4.7
ECOG Cogollos-Vega 79.87 50 P **P 18 10 15.9 +1.2**
comp=Z,15nm,0.7s,mb4.7
EBAN Banos Encina 79.99 49 P **P 18 10 15.5 +0.2**
EBAN pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
EBAN Banos Encina 79.99 49 P **P 18 10 15.5 +0.1**
comp=Z,10nm,0.9s,mb4.5
PAB San Pablo 80.02 48 *eP* **P 18 10 15.9 +0.4**
PAB pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
PAB San Pablo 80.02 48 *eP* **P 18 10 15.9 +0.4**
comp=Z,9.8nm,0.6s,mb4.6
ESDC Sonseca Array 80.34 47 P **P 18 10 17.7 +0.5**
comp=Z,6.3nm,0.8s,mb4.3,baz=256,slow=6.2,SNR=35
ESLA Sonseca Array 80.34 47 *eP* **P 18 10 17.4 +0.1**
comp=Z,4.5nm,1.1s,mb4.0
EQES Quesada 80.41 50 P **P 18 10 18.9 +1.3**
comp=Z,52nm,1.4s,mb5.0
GUD Guadarrama 80.52 47 P **P 18 10 18.7 +0.6**
GUD pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
GUD Guadarrama 80.52 47 P **P 18 10 18.7 +0.6**
comp=Z,2.9nm,0.5s,mb4.2
EHUE Huescar 80.78 50 P **P 18 10 19.7 +0.1**
EHUE pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
EHUE Huescar 80.78 50 P **P 18 10 19.7 +0.1**
comp=Z,9.8nm,0.5s,mb4.7
EVIA Vianos 81.09 49 P **P 18 10 22.5 +1.3**
EVIA pmax pmax
comp=Z,37nm,0.7s,mb5.1
EVIA Vianos 81.09 49 P **P 18 10 22.5 +1.3**
comp=Z,37nm,0.7s,mb5.1
NVL N'lazarevskaya 81.10 160 *eP* **P 18 10 22.3 +1.6**
NVL pmax pmax
comp=Z,24nm,1.1s,mb4.7
ETOB Tobarra 81.81 49 P **P 18 10 25.8 +0.8**
comp=Z,22nm,0.8s,mb4.8
ETOR Torete 82.09 47 P **P 18 10 26.4 0.0**
ETOR pmax pmax
comp=Z,24nm,0.8s,mb4.9
ETOR Torete 82.09 47 P **P 18 10 26.4 0.0**
comp=Z,24nm,0.8s,mb4.9
ECRI Cripan 82.32 45 P **P 18 10 27.5 -0.1**
ECRI pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
ECRI Cripan 82.32 45 P **P 18 10 27.5 -0.1**
comp=Z,7.3nm,0.7s,mb4.4
EBEN Beniarda 82.82 49 P **P 18 10 31.2 +1.0**
comp=Z,90nm,1.0s,mb5.5
EMOS Mosqueruela 83.11 48 P **P 18 10 33.1 +1.4**
comp=Z,37nm,0.8s,mb5.2
SJPF Ste Jean 83.38 45 *eP* **P 18 10 33.4 +0.4**
comp=Z,46nm,0.9s,mb4.9
SJPF Ste Jean 83.38 45 *eP* **P 18 10 33.4 +0.4**
SJPF pmax pmax
comp=Z,23nm,0.9s,mb4.9
SJPF Ste Jean 83.38 45 *eP* **P 18 10 33.4 +0.4**
comp=Z,23nm,0.9s,mb4.9
ESAC San Caprasio 83.50 46 P **P 18 10 33.7 +0.1**
comp=Z,60nm,1.0s,mb5.3
QUIF Quistinic 83.61 40 *eP* **P 18 10 33.4 -0.6**
ROSF Rostrenen 83.68 39 *eP* **P 18 10 33.9 -0.5**
comp=Z,15nm,0.6s,mb4.6
ROSF Rostrenen 83.68 39 *eP* **P 18 10 33.9 -0.5**
ROSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
ROSF Rostrenen 83.68 39 *eP* **P 18 10 33.9 -0.5**
comp=Z,7.5nm,0.6s,mb4.6
ETSF Etsaut 83.78 45 *eP* **P 18 10 35.4 +0.3**
comp=Z,16nm,0.8s,mb4.5
ETSF Etsaut 83.78 45 *eP* **P 18 10 35.4 +0.3**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
ETSF Etsaut 83.78 45 *eP* **P 18 10 35.4 +0.3**
comp=Z,8.1nm,0.8s,mb4.5
SUMG Summit 83.81 10 *eP* **P 18 10 34.8 +0.3**
comp=Z,3.0nm,0.7s,mb4.1
TAM Tamanrasset 83.84 66 *eP* **P 18 10 36.4 +0.6**
ERTA Horta de San J 83.86 47 P **P 18 10 36.6 +1.1**
comp=Z,25nm,0.9s,mb5.0
SGMF Saint Gilles 84.10 40 *eP* **P 18 10 35.9 -0.7**
EBIE Bielsa 84.21 46 P **P 18 10 38.5 +1.2**
comp=Z,39nm,1.2s,mb5.0
EPF Esparros 84.45 45 *eP* **P 18 10 38.7 +0.3**
comp=Z,52nm,1.1s,mb4.9
EPF Esparros 84.45 45 *eP* **P 18 10 38.7 +0.3**
EPF pmax pmax
comp=Z,26nm,1.1s,mb4.9
EPF Esparros 84.45 45 *eP* **P 18 10 38.7 +0.3**
comp=Z,26nm,1.1s,mb4.9
MFF Saint Martin d 85.15 42 *eP* **P 18 10 41.5 -0.3**
comp=Z,44nm,0.8s,mb5.0
MFF Saint Martin d 85.15 42 *eP* **P 18 10 41.5 -0.3**
MFF pmax pmax
comp=Z,22nm,0.8s,mb4.9
MFF Saint Martin d 85.15 42 *eP* **P 18 10 41.5 -0.3**
comp=Z,22nm,0.8s,mb4.9
GRR Gorron 85.22 40 *eP* **P 18 10 41.4 -0.8**
comp=Z,43nm,0.8s,mb4.9
GRR Gorron 85.22 40 *eP* **P 18 10 41.4 -0.8**
GRR pmax pmax
comp=Z,21nm,0.8s,mb4.9
GRR Gorron 85.22 40 *eP* **P 18 10 41.4 -0.8**
comp=Z,21nm,0.8s,mb4.9
LFF La Frestale 85.26 44 *eP* **P 18 10 42.2 -0.3**
comp=Z,68nm,0.8s,mb5.2
LFF La Frestale 85.26 44 *eP* **P 18 10 42.2 -0.3**
LFF pmax pmax
comp=Z,34nm,0.8s,mb5.1
LFF La Frestale 85.26 44 *eP* **P 18 10 42.2 -0.3**
comp=Z,34nm,0.8s,mb5.1
FLN La Foliniere 85.57 40 *eP* **P 18 10 43.3 -0.6**
comp=Z,45nm,0.8s,mb4.9
FLN La Foliniere 85.57 40 *eP* **P 18 10 43.3 -0.6**
FLN pmax pmax
comp=Z,23nm,0.8s,mb5.0
FLN La Foliniere 85.57 40 *eP* **P 18 10 43.3 -0.6**
comp=Z,22nm,0.8s,mb5.0
LDF La Druitiere 85.75 40 *eP* **P 18 10 44.1 -0.7**
comp=Z,55nm,1.1s,mb4.9
LDF La Druitiere 85.75 40 *eP* **P 18 10 44.1 -0.7**
LDF pmax pmax
comp=Z,27nm,1.1s,mb4.9
LDF La Druitiere 85.75 40 *eP* **P 18 10 44.1 -0.7**
comp=Z,27nm,1.1s,mb4.9
MTLF Montolieu 85.86 45 *eP* **P 18 10 44.5 -0.9**
comp=Z,5.6nm,0.7s,mb4.1
MTLF Montolieu 85.86 45 *eP* **P 18 10 44.5 -0.9**
MTLF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
MTLF Montolieu 85.86 45 *eP* **P 18 10 44.5 -0.9**
comp=Z,2.8nm,0.7s,mb4.1
RJF Les Rejaudoux 85.89 43 *eP* **P 18 10 45.1 -0.5**
comp=Z,35nm,1.0s,mb4.7
RJF Les Rejaudoux 85.89 43 *eP* **P 18 10 45.1 -0.5**
RJF pmax pmax
comp=Z,17nm,1.0s,mb4.7
RJF Les Rejaudoux 85.89 43 *eP* **P 18 10 45.1 -0.5**
comp=Z,17nm,1.0s,mb4.7
CAF Calviac 86.17 44 *eP* **P 18 10 46.7 -0.2**
comp=Z,13nm,0.6s,mb4.6
CAF Calviac 86.17 44 *eP* **P 18 10 46.7 -0.2**
CAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
CAF Calviac 86.17 44 *eP* **P 18 10 46.7 -0.2**
comp=Z,6.5nm,0.6s,mb4.5
TCF Toulx Ste Croi 86.62 42 *eP* **P 18 10 48.1 -1.0**
LASF Ste Croix 87.19 45 *eP* **P 18 10 51.6 -0.3**
comp=Z,15nm,0.9s,mb4.5
AVF Avril sur Loir 87.52 42 *eP* **P 18 10 52.2 -1.2**
comp=Z,12nm,0.8s,mb4.5
AVF Avril sur Loir 87.52 42 *eP* **P 18 10 52.2 -1.2**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
AVF Avril sur Loir 87.52 42 *eP* **P 18 10 52.2 -1.2**
comp=Z,5.8nm,0.8s,mb4.5
SSF Saint Saulge 87.68 42 *eP* **P 18 10 52.8 -1.4**
comp=Z,16nm,1.2s,mb4.4
SSF Saint Saulge 87.68 42 *eP* **P 18 10 52.8 -1.4**
SSF pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
SSF Saint Saulge 87.68 42 *eP* **P 18 10 52.8 -1.4**
comp=Z,7.9nm,1.2s,mb4.4
SMF Signal de Mont 87.81 42 *eP* **P 18 10 53.8 -1.0**
comp=Z,20nm,0.8s,mb4.7
SMF Signal de Mont 87.81 42 *eP* **P 18 10 53.8 -1.0**
SMF pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
SMF Signal de Mont 87.81 42 *eP* **P 18 10 53.8 -1.0**
comp=Z,10nm,0.8s,mb4.7
VIVF Saint-Julien-I 87.94 44 *eP* **P 18 10 55.1 -0.4**
comp=Z,17nm,0.9s,mb4.6
VIVF Saint-Julien-I 87.94 44 *eP* **P 18 10 55.1 -0.4**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
VIVF Saint-Julien-I 87.94 44 *eP* **P 18 10 55.1 -0.4**
comp=Z,8.6nm,0.9s,mb4.6
SSB Saint Sauveur 87.95 44 *eP* **P 18 10 55.2 -0.3**
LOR Lormes 87.97 42 *eP* **P 18 10 54.3 -1.2**
comp=Z,13nm,0.9s,mb4.4
LOR Lormes 87.97 42 *eP* **P 18 10 54.3 -1.2**
LOR pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
LOR Lormes 87.97 42 *eP* **P 18 10 54.3 -1.2**
comp=Z,6.3nm,0.9s,mb4.5
SMRF Simiane la Rot 88.37 45 *eP* **P 18 10 57.5 0.0**
comp=Z,27nm,1.1s,mb4.7
SMRF Simiane la Rot 88.37 45 *eP* **P 18 10 57.5 0.0**
comp=Z,27nm,1.1s,mb5.0
ORIF Oris-en-Rattie 88.79 44 *eP* **P 18 10 59.5 0.0**
comp=Z,39nm,0.7s,mb5.2
ORIF Oris-en-Rattie 88.79 44 *eP* **P 18 10 59.5 0.0**
ORIF pmax pmax
comp=Z,20nm,0.7s,mb5.2
ORIF Oris-en-Rattie 88.79 44 *eP* **P 18 10 59.5 0.0**
comp=Z,20nm,0.7s,mb5.1
BAIF Baives 88.87 39 *eP* **P 18 10 58.8 -0.9**
comp=Z,7.8nm,0.9s,mb4.4
BAIF Baives 88.87 39 *eP* **P 18 10 58.8 -0.9**
BAIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BAIF Baives 88.87 39 *eP* **P 18 10 58.8 -0.9**
comp=Z,3.9nm,0.9s,mb4.3
LMR La Mourre 88.90 46 *eP* **P 18 10 59.3 -0.7**
comp=Z,29nm,0.9s,mb4.9
LMR La Mourre 88.90 46 *eP* **P 18 10 59.3 -0.7**
LMR pmax pmax
comp=Z,14nm,0.9s,mb4.9
LMR La Mourre 88.90 46 *eP* **P 18 10 59.3 -0.7**
comp=Z,14nm,0.9s,mb4.9
FRF La Foret Royal 89.04 46 *eP* **P 18 11 00.1 -0.6**
comp=Z,23nm,0.8s,mb4.8
FRF La Foret Royal 89.04 46 *eP* **P 18 11 00.1 -0.6**
FRF pmax pmax
comp=Z,11nm,0.8s,mb4.8
FRF La Foret Royal 89.04 46 *eP* **P 18 11 00.1 -0.6**
comp=Z,11nm,0.8s,mb4.8
MEZF Maizieres J'vi 89.04 41 *eP* **P 18 10 58.8 -1.8**
TSUM Tsumeb 89.14 109 *eP* **P 18 11 01.2 -0.5**
comp=Z,20nm,1.1s,mb5.0
GIVF Givet 89.27 39 *eP* **P 18 11 01.0 -0.6**
comp=Z,49nm,0.8s,mb5.2
GIVF Givet 89.27 39 *eP* **P 18 11 01.0 -0.6**
GIVF pmax pmax
comp=Z,25nm,0.8s,mb5.2
GIVF Givet 89.27 39 *eP* **P 18 11 01.0 -0.6**
comp=Z,25nm,0.8s,mb5.2
CABF La Chapelle 89.30 43 *eP* **P 18 11 01.1 -0.7**
comp=Z,31nm,1.0s,mb4.9
CABF La Chapelle 89.30 43 *eP* **P 18 11 01.1 -0.7**
CABF pmax pmax
comp=Z,16nm,1.0s,mb4.9
CABF La Chapelle 89.30 43 *eP* **P 18 11 01.1 -0.7**
comp=Z,16nm,1.0s,mb4.9
MBDF Montbardon 89.37 45 *eP* **P 18 11 02.0 -0.2**
comp=Z,11nm,1.0s,mb4.5
MBDF Montbardon 89.37 45 *eP* **P 18 11 02.0 -0.2**
MBDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MBDF Montbardon 89.37 45 *eP* **P 18 11 02.0 -0.2**
comp=Z,5.5nm,1.0s,mb4.4
BNI Bardonecchia 89.38 44 *eP* **P 18 11 02.0 -0.2**
BNI pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BNI Bardonecchia 89.38 44 *eP* **P 18 11 02.0 -0.2**
comp=Z,8.0nm,1.1s,mb4.6
RRL Rocca Remolon 89.42 45 P **P 18 11 01.7 -0.7**
LPL La Plagne 89.51 44 *eP* **P 18 11 03.0 +0.2**
comp=Z,36nm,0.7s,mb5.1
LPL La Plagne 89.51 44 *eP* **P 18 11 03.0 +0.2**
LPL pmax pmax
comp=Z,18nm,0.7s,mb5.1
LPL La Plagne 89.51 44 *eP* **P 18 11 03.0 +0.2**
comp=Z,18nm,0.7s,mb5.1
LPG La Plagne 89.52 44 *eP* **P 18 11 03.3 +0.4**
comp=Z,39nm,0.7s,mb5.1
LPG La Plagne 89.52 44 *eP* **P 18 11 03.3 +0.4**
LPG pmax pmax
comp=Z,19nm,0.7s,mb5.1
LPG La Plagne 89.52 44 *eP* **P 18 11 03.3 +0.4**
comp=Z,19nm,0.7s,mb5.1
KEST Kesra 89.58 54 P **P 18 11 03.2 -0.1**
comp=Z,4.6nm,0.9s,mb4.4,baz=276,slow=3.5,SNR=14
SBF Sospel 89.66 46 *eP* **P 18 11 02.9 -0.7**
comp=Z,24nm,0.8s,mb4.9
SBF Sospel 89.66 46 *eP* **P 18 11 02.9 -0.7**
SBF pmax pmax
comp=Z,12nm,0.8s,mb4.9
SBF Sospel 89.66 46 *eP* **P 18 11 02.9 -0.7**
comp=Z,12nm,0.8s,mb4.9
ENR Entracque 89.72 45 P **P 18 11 02.9 -1.0**
BHB Bricherasio 89.74 45 P **P 18 11 02.7 -1.2**
HAU Haudompre 89.78 42 *eP* **P 18 11 02.8 -1.2**
LSD Lago del Serru 89.79 44 P **P 18 11 04.3 +0.2**
RSP Reno Superiore 89.80 44 P **P 18 11 03.8 -0.4**
WLF Walferdange 90.01 40 *eP* **P 18 11 04.5 -0.5**
WLF pmax pmax
comp=Z,13nm,1.0s,mb4.8
WLF Walferdange 90.01 40 *eP* **P 18 11 04.5 -0.5**
comp=Z,13nm,1.0s,mb4.8
ROB Robourent 90.06 45 P **P 18 11 04.3 -1.1**
HINF Hinteralfeld 90.07 42 *eP* **P 18 11 04.2 -1.2**
comp=Z,8.1nm,0.9s,mb4.4
HINF Hinteralfeld 90.07 42 *eP* **P 18 11 04.2 -1.2**
HINF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
HINF Hinteralfeld 90.07 42 *eP* **P 18 11 04.2 -1.2**
comp=Z,4.1nm,0.9s,mb4.4
FIN Finale Ligure 90.28 45 P **P 18 11 05.2 -1.2**
ECH Echery 90.35 41 *eP* **P 18 11 05.1 -1.6**
COLA College 90.42 336 *eP* **P 18 11 05.6 -1.0**
CDF Champ du Feu 90.47 41 *eP* **P 18 11 06.3 -0.9**
comp=Z,21nm,0.9s,mb4.8
CDF Champ du Feu 90.47 41 *eP* **P 18 11 06.3 -0.9**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 90.47 41 *eP* **P 18 11 06.3 -0.9**
comp=Z,10nm,0.9s,mb4.8
PGF Pioggiola 90.53 47 *eP* **P 18 11 07.0 -0.7**
SYO Syowa Base 90.77 161‖ *eP* **P 18 11 07.4 -0.9**
SYO Syowa Base 90.77 161‖ *ePcP* PcP 18 11 09.8 +0.5
TUE Stuetta 91.48 43 *eP* **P 18 11 11.3 -0.7**
comp=Z,4.7nm,0.7s,mb4.6
DAVOS Davos 91.85 43 P **P 18 11 14.3 +0.6**
DAVOX Davos/Dischmat 91.90 43 P **P 18 11 14.3 +0.4**
comp=Z,8.3nm,0.7s,mb4.9,baz=275,slow=4.3,SNR=22
DAVOX Davos/Dischmat 91.90 43 P **P 18 11 14.3 +0.4**
GRA1 Grafenberg Arr 93.25 40 *eP* **P 18 11 20.4 +0.4**
comp=Z,45nm,2.2s,mb5.2
GRF Grafenberg Arr 93.25 40 *eP* **P 18 11 20.4 +0.4**
GRF pmax pmax
comp=Z,45nm,2.2s,mb5.2
GRF Grafenberg Arr 93.25 40 *eP* **P 18 11 20.4 +0.4**
GRF pmax pmax
comp=Z,45nm,2.2s,mb5.2
GRF Grafenberg Arr 93.25 40 *eP* **P 18 11 20.4 +0.4**
comp=Z,45nm,2.2s,mb5.2
BOSA Boshof 94.45 120 P **P 18 11 26.2 +0.1**
comp=Z,4.5nm,1.0s,mb4.5,baz=156,slow=9.8,SNR=3.2
CLL Collm 94.60 39 *eP* **P 18 11 25.0 -1.2**
KHC Kasperske Hory 94.70 41 *ePDIF* **P 18 11 27.3 +0.6**
GERES GERESS Array B 94.74 41 P **P 18 11 27.2 +0.3**
comp=Z,0.5nm,0.7s,mb3.9,baz=276,slow=2.4,SNR=7.2
NB2 NORSAR Subarra 94.88 29 P **P 18 11 27.3 0.0**
comp=Z,2.5nm,0.8s,mb4.5,baz=262,slow=4.6
NOA NORSAR Array B 94.88 29 P **P 18 11 28.0 +0.8**
comp=Z,2.6nm,0.7s,mb4.5,baz=259,slow=4.6,SNR=7.8
NOA NORSAR Array B 94.88 29 P **P 18 11 28.0 +0.8**
BRG Berggiesshubel 95.14 39 *eP* **P 18 11 28.6 -0.1**
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb4.3
BRG Berggiesshubel 95.14 39 *eP* **P 18 11 28.6 0.0**
comp=Z,3.0nm,1.0s,mb4.5
PRU Pruhonice 95.42 40 *ePDIF* **P 18 11 31.3 +1.3**
PVCC Panska Ves 95.49 40 *ePDIF* **P 18 11 30.7 +0.4**
DPC Dobruska-Polom 96.59 40 *ePDIF* **P 18 11 36.0 +0.7**
ZST Bratislava 96.93 42 *eP* **P 18 11 36.6 -0.3**
ZST pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
ZST Bratislava 96.93 42 *eP* **P 18 11 36.5 -0.4**
ZST Bratislava 96.93 42 *eP* **P 18 11 36.6 -0.3**
comp=Z,6.2nm,1.0s,mb4.9
MODS Modra-Piesok 97.06 42 *eP* **P 18 11 36.0 -1.5**
VYHS Vyhne 98.10 42 PDIF **P 18 11 42.0 -0.2**
VYHS Vyhne 98.10 42 *eP* **P 18 11 42.0 -0.2**
BVAR Borovoye Array 126.87 26 PKP PKPdf 18 17 09.0 +0.6
comp=Z,1.6nm,0.7s,baz=270,slow=1.5,SNR=11
STKA Stephens Creek 127.48 219 PKP PKPdf 18 17 10.7 +0.3
comp=Z,3.3nm,0.7s,baz=82,slow=2.3,SNR=8.9
ZALV Zalesovo Beam 131.31 16 PKP PKPdf 18 17 17.1 +0.2
comp=Z,3.3nm,0.7s,baz=302,slow=2.2,SNR=17
ZALV pPKP pPKPdf 18 17 56.4 +0.8
comp=Z,3.4nm,0.7s,baz=331,slow=2.5,SNR=4.5
ZALV SKPbc SKPbc 18 20 27.2 -1.3
comp=Z,1.2nm,0.6s,baz=328,slow=5.4,SNR=4.9
ZALV Zalesovo Beam 131.31 16 PKP PKPdf 18 17 17.1 +0.2
ZALV pPKP pPKPdf 18 17 56.4 +0.8
ZALV SKPbc SKPbc 18 20 27.2 -1.3
ZAL Zalesovo 131.31 16 PKIKP PKPdf 18 17 17.1 +0.2
ZAL 18 17 56.4
KURK Kurchatov 131.98 23 *i* PKIKP PKPdf 18 17 17.7 -0.5
EKS2 Erkin-Say 135.62 34 *ePKPdf* PKPdf 18 17 25.4 +0.1
UCH Uchtor 136.32 34 *ePKPdf* PKPdf 18 17 28.7 +2.1
MKAR Makanchi Array 136.58 23 PKP PKPdf 18 17 27.0 0.0
comp=Z,1.7nm,0.7s,baz=351,slow=2.6,SNR=14
MKAR pPKP pPKPdf 18 18 08.0 +2.3
comp=Z,1.1nm,0.8s,baz=340,slow=3.2,SNR=3.4
MKAR SKPbc SKPbc 18 20 43.3 -2.8
comp=Z,1.0nm,0.9s,baz=302,slow=2.7,SNR=5.0
MKAR Makanchi Array 136.58 23 PKIKP PKPdf 18 17 27.0 0.0
MKAR 18 18 08.0
MKAR Makanchi Array 136.58 23 PKP PKPdf 18 17 27.0 0.0
MKAR pPKP pPKPdf 18 18 08.0 +2.3
MKAR SKPbc SKPbc 18 20 43.3 -2.8
ASAR Alice Springs 138.07 220 PKhKP 18 17 24.3
comp=Z,1.1nm,0.7s,baz=136,slow=2.7,SNR=5.8
ASAR PKP PKPdf 18 17 30.2 -0.2
comp=Z,1.5nm,0.6s,baz=117,slow=2.4,SNR=18
ASAR pPKP pPKPdf 18 18 11.5 +2.3
comp=Z,1.3nm,0.8s,baz=111,slow=2.2,SNR=3.3
ASAR SKPbc SKPbc 18 20 48.4 -2.9
comp=Z,1.2nm,0.8s,baz=138,slow=4.5,SNR=6.7
MJAR Matsushiro Arr 139.08 319 pPKP pPKPdf 18 18 12.5 +1.8
comp=Z,1.5nm,0.9s,baz=80,slow=3.0,SNR=4.0
MJAR SKPbc SKPbc 18 20 52.4 -1.3
comp=Z,8.3nm,0.9s,baz=87,slow=1.6,SNR=37
WRA Warramunga Arr 140.34 225 PKhKP 18 17 28.0
comp=Z,0.3nm,0.6s,baz=128,slow=2.8,SNR=10
WRA PKP PKPdf 18 17 34.3 -0.4
comp=Z,3.5nm,0.6s,baz=122,slow=2.0,SNR=28
WRA pPKP pPKPdf 18 18 12.4 -1.1
comp=Z,1.4nm,0.4s,baz=126,slow=1.7,SNR=3.7
WRA SKPbc SKPbc 18 20 54.9 -2.6
comp=Z,1.9nm,0.9s,baz=135,slow=2.4,SNR=5.6
WRA Warramunga Arr 140.34 225 PKHKP 18 17 28.0
WRA 18 17 34.3
WRA 18 18 12.4
SONM Songino Array 140.43 359 SKPbc SKPbc 18 20 55.2 -1.7
comp=Z,0.6nm,0.8s,baz=52,slow=1.0,SNR=3.6
WMQ Urumqi 141.12 21 *ePKP* PKPdf 18 17 33.5 -1.9
KSRS Korea Array 144.53 329 PKP PKPdf 18 17 40.6 -1.0
comp=Z,1.8nm,0.7s,baz=40,slow=2.5,SNR=8.5
KSRS pPKP pPKPdf 18 18 20.2 -0.2
comp=Z,2.2nm,0.9s,baz=39,slow=3.7,SNR=3.3
KSRS SKPbc SKPbc 18 21 06.7 -0.7
comp=Z,3.3nm,0.9s,baz=36,slow=1.8,SNR=9.1
NDI New Delhi 146.28 49 *eP* PKPdf 18 17 45.0 +0.1
HHC Hu-ho-hao-te 147.00 352 *ePKP* PKPdf 18 17 43.0 -2.7
HHC APKP 18 18 23.3
HHC XPKP 18 18 40.0
HHC PP PP 18 21 15.8 +3.5
HHC SKS SKSdf 18 24 33.3 -7.7
HHC SKKS SKKSac 18 27 47.0 -4.1
HHC SS SS 18 39 59.3 -0.8
HHC LR LR
comp=N,126nm,16.6s
HHC LR LR
comp=E,118nm,16.7s
HHC LR LR
comp=Z,92nm,16.7s
FITZ Fitzroy Crossi 147.33 217 *ePKPdf* PKPdf 18 17 47.0 +0.1
GTA Gaotai 148.41 9 PKP PKPbc 18 17 52.3 +0.6
GTA PKP2 PKPab 18 18 01.8 +6.5
DANN Dangsing 151.14 43 *eP* PKPbc 18 17 59.5 +0.8
comp=Z,33nm,0.7s
KOLN Koldanda 151.40 44 *eP* PKPbc 18 17 59.2 -0.2
comp=Z,20nm,0.7s
GKN Gorkha 151.96 43 *eP* PKPbc 18 18 01.3 +0.7
KKN Kakani 152.53 42 *eP* PKPbc 18 18 02.1 +0.2
DMN Daman 152.53 43 *eP* PKPbc 18 18 02.0 +0.1
PKI Pulchoki 152.76 42 *eP* PKPbc 18 18 02.4 0.0
GUN Gumba 152.84 41 *eP* PKPbc 18 18 03.5 +0.9
NJ2 Nanjing 153.24 335 *ePKP* PKPdf 18 17 53.0 -2.8
RAMN Ramite 153.96 42 *eP* PKPbc 18 18 05.2 +0.2
TAPN Taplejung 154.40 39 *eP* PKPbc 18 18 07.6 +1.6
ODAN Odare 154.53 41 *eP* PKPbc 18 18 06.2 -0.1
LSA Lhasa 154.56 31 *ePKP2* PKPab 18 18 22.1 +0.9
CD2 Chengdu 157.26 4 *ePKP* PKPdf 18 17 59.3 -1.9
CD2 APKP 18 18 41.8
CD2 XPKP 18 18 58.5
CD2 PP PP 18 22 13.3 +2.8
CD2 SKS SKSdf 18 24 47.3 -6.6
CD2 SKKS SKKSac 18 28 44.3 -3.0
CD2 PP PP
comp=Z,80nm,9.6s
CD2 LR LR
comp=N,90nm,14.4s
CD2 LR LR
comp=E,100nm,14.4s
CD2 LR LR
comp=Z,130nm,15.6s
GYA Guiyang 161.75 357 PKP PKPdf 18 18 05.3 -1.2
GYA APKP 18 18 44.5
GYA PKP2 PKPab 18 18 53.5 +1.2
GYA PKS 18 21 36.0
GYA PP PP 18 22 38.5 +3.7
GYA PP PP
comp=Z,90nm,8.7s
KMI Kunming 162.87 9 PKP PKPdf 18 18 06.0 -1.6
CMAR Chiang Mai Arr 167.81 32 PKP PKPdf 18 18 12.1 +0.1
comp=Z,0.9nm,0.7s,baz=305,slow=2.7,SNR=6.9
CMAR PKPab PKPab 18 19 19.6 +0.3
comp=Z,3.1nm,0.7s,baz=315,slow=6.4,SNR=19

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*ISCJB **26** 18:03:19.2±0.5, 4372N±003×105.15W±005, h0km, Error ellipse: s-maj=5.1km s-min=4.5km az=26.6*
*IDC **26** 18:03:20.6±1.8, 4374N×10542W, h0km, mb1 3.8/3, mb1mx3.4/24, mbtmp3.5/3, ML3.3/3, Error ellipse: s-maj=51.4km s-min=9.4km az=149.0*
*NEIC **26** 18:03:21.0±0.5, 4374N×10522W, h0km, ML3.4, Error ellipse: s-maj=7.0km s-min=6.3km az=128.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 26 18:03:21.1±0.4, 4373N±003×10515W±005, h0km, n43, σ1§19/52, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**64**	*eP*	**Pg**	**18 03 38.8**	**+0.6**
PHWY	**Pilot Hill**	**2.44**	**185**	*e*Pn	**Pn**	**18 04 02.3**	**+0.2**
PHWY				*e*S	**Sn**	**18 04 35.4**	**+2.8**
RWWY	**Rawlins**	**2.54**	**217**	*e*Pn	**Pn**	**18 04 04.0**	**+0.5**
RWWY				*e*Sn	**Sn**	**18 04 35.6**	**+0.4**
LAO	**LASA Array**	**3.05**	**346**	*e*Pn	**Pn**	**18 04 09.6**	**-0.9**
LAO				*e*Sn	**Sn**	**18 04 49.5**	**+1.8**
BW06	**Boulder Array**	**3.36**	**255**	*e*Pn	**Pn**	**18 04 14.3**	**-0.5**
BW06				*e*Sn	**Sn**	**18 04 58.9**	**+3.6**

PDAR	Pinedale Array	3.36	255	Pn	Pn	18 04 14.5	-0.2
PDAR				Lg		18 05 00.2	
PDAR	Pinedale Array	3.36	255	Pn	Pn	18 04 14.5	-0.2
	3.9nm,0.3s,baz=68,slow=16,SNR=72						
PDAR				Lg		18 05 00.2	
	14nm,0.3s,baz=76,slow=31,SNR=12						
GCMT	Greycliff	3.82	304	*e*Pn	Pn	18 04 20.2	-0.8
GCMT				*e*Sn	Sn	18 05 08.9	+2.4
ISCO	Idaho Springs	3.94	185	*e*Pn	Pn	18 04 23.2	+0.4
ISCO				*e*Sn	Sn	18 05 14.3	+4.6
LOHW	Long Hollow	3.96	270	*e*Pn	Pn	18 04 22.9	0.0
LOHW				*e*Sn	Sn	18 05 11.1	+1.1
FLWY	Flagg Ranch	4.02	277	*e*Pn	Pn	18 04 22.9	-1.0
SNOW	Snow King Moun	4.08	268	*e*Pn	Pn	18 04 28.9	+4.3
YNR	Norris Junctio	4.09	286	Pn	Pn	18 04 24.1	-0.7
YFT	Old Faithful	4.16	282	*e*Pn	Pn	18 04 35.4	+10
REDW	Red Top Meadow	4.16	267	*e*Pn	Pn	18 04 28.5	+2.8
REDW				*e*Sn	Sn	18 05 15.9	+0.8
IMW	Indian Meadow	4.19	274	*e*Pn	Pn	18 04 26.5	+0.4
IMW				*e*Sn	Sn	18 05 19.0	+3.2
TPAW	Teton Pass	4.22	269	*e*Pn	Pn	18 04 26.8	+0.3
DCID1	Drake Creek	4.38	270	*e*Pn	Pn	18 04 37.9	+9.1
RRI2	Red Ridge	4.50	267	*e*Pn	Pn	18 04 29.5	-0.9
DGMT	Dagmar	4.79	8	*e*Pn	Pn	18 04 35.3	+1.0
BOZ	Bozeman (W)	5.00	295	*e*Pn	Pn	18 04 36.6	-0.6
HWUT	Hardware Ranch	5.18	248	*e*Pn	Pn	18 04 38.0	-1.7
	9.7nm,0.4s						
EGMT	Eagleton	5.36	325	*e*Pn	Pn	18 04 40.7	-1.5
	29nm,0.5s						
DLMT	Dillon	5.56	290	*e*Pn	Pn	18 04 47.6	+2.6
	9.5nm,0.6s						
DAU	Daniels Canyon	5.62	236	*e*Pn	Pn	18 04 44.1	-1.7
JLU	Jordanelle	5.63	238	*e*Pn	Pn	18 04 44.9	-1.0
SPUT	South Promonto	5.91	248	*e*Pn	Pn	18 04 49.5	-0.3
HVU	Hansel Valley	5.94	253	*e*Pn	Pn	18 04 46.9	-3.3
	6.2nm,0.7s						
SDCO	Great Sand Dun	5.99	183	*e*Pn	Pn	18 04 51.9	+1.1
	2.4nm,0.7s						
MPU	Maple Canyon	6.10	235	*e*Pn	Pn	18 04 52.6	+0.2
	13nm,0.7s						
SRU	San Rafael	6.13	223	*e*Pn	Pn	18 04 51.8	-1.1
	7.7nm,0.6s						
ECSD	EROS,Sioux Fal	6.19	87	*e*Pn	Pn	18 04 54.2	+0.6
	5.7nm,0.5s						
TMUT	Trail Mountain	6.35	228	*e*Pn	Pn	18 04 55.2	-0.6
CHMT	Chamberlain Mo	6.54	302	*e*Pn	Pn	18 04 56.1	-2.3
DUG	Dugway	6.71	241	*e*Pn	Pn	18 04 59.6	-1.2
	3.8nm,0.6s						
HLID	Hailey	6.72	272	*e*Pn	Pn	18 05 01.9	+1.0
	2.0nm,0.6s						
MSO	Missoula	6.93	300	*e*Pn	Pn	18 05 02.3	-1.5
	1.5nm,0.6s						
MSU	Marysvale	7.43	228	*e*Pn	Pn	18 05 10.4	-0.3
CCUT	Cedar City	8.78	228	*e*P	Pn	18 05 37.8	+8.7
ULM	Lac du Bonnet	9.09	41	Pn	Pn	18 05 32.9	-0.5
ULM				Pg	Pn	18 06 06.1	+33
ULM				Lg		18 08 02.4	
ULM	Lac du Bonnet	9.09	41	Pn	Pn	18 05 32.9	-0.5
	0.8nm,0.3s,baz=238,slow=14,SNR=6.1						
ULM				Pg	Pn	18 06 06.1	+33
	0.9nm,0.3s,baz=228,slow=17,SNR=5.0						
ULM				Lg		18 08 02.4	
	0.2nm,0.3s,baz=135,slow=18,SNR=3.0						
WUAZ	Wupatki	9.50	212	*e*Pn	Pn	18 05 38.7	-0.4
	6.2nm,0.5s						
NVAR	Mina Array Bea	11.24	246	Pn	Pn	18 06 03.8	+0.9
	0.1nm,0.3s,baz=51,slow=12,SNR=5.3						

*IDC **26** 18:03:09.7±1.0,3596N×7109E,h0km,mb3.7/6,mb1 3.8/9, mb1mx3.6/25,mbtmp3.8/9,ML3.8/3,Error ellipse: s-maj=27.6km s-min=21.9km az=55.0*
*ISCJB **26** 18:03:21.1±0.4,3634N±003×7121E±006,h109km±7km, mb3.6/6,Error ellipse: s-maj=8.0km s-min=4.5km az=176.9*
*NNC **26** 18:03:21.2±6.2,3643N×7025E,h66km±89km,mb3.7, mpv4.3,Error ellipse: s-maj=44.0km s-min=32.9km az=14.0*
*NEIC **26** 18:03:22.8±1.2,3663N×7068E,h35km,mb3.7/2,Error ellipse: s-maj=24.0km s-min=11.3km az=127.0*

ISC 26 18:03:22.4±0.4,3633N±003×7119E±006,h104km±7km, n46,σ1°16/58,mb3.6/6,4C-9D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.50	225	*e*Pn	Pn	18 04 01.2	-0.5
KBL				*e*Sn	Sn	18 04 32.7	+0.9
CEP	Cherat	2.57	167	⇑P	Pn	18 04 03.3	+0.7
CEP				S	Sn	18 04 35.0	+1.6
CHCP	Chirah Chowk	3.16	147	P	Pn	18 04 11.6	+1.2
THW	Thamme Wali	3.56	172	P	Pn	18 04 15.4	-0.3
SARP	Sargodha	4.56	164	P	Pn	18 04 29.4	+0.1
SARP				S	Sn	18 05 20.0	-1.2
JMU	Jammu	4.73	139	*e*S	Sn	18 05 24.5	-0.7
THN	Thein Dam	5.39	135	*e*P	Pn	18 04 40.7	+0.2
THN				*ex*	x	18 05 41.6	
DLH	Dalhousie	5.46	132	*e*P	Pn	18 04 40.0	-1.4
DLH				*e*S	Sn	18 05 39.0	-4.0
AML	Almayashu	6.11	18	P	Pn	18 04 50.4	+0.2
	SNR=105						
AML	Almayashu	6.11	18	⇓*e*Pn	Pn	18 04 50.2	+0.1
	71nm,0.5s						
UCH	Uchtor	6.43	23	P	Pn	18 04 54.8	+0.3
	SNR=33						
UCH	Uchtor	6.43	23	*e*Pn	Pn	18 04 54.5	0.0
	12nm,0.5s						
UCH				*e*Sn	Sn	18 06 05.7	-0.6
KZA	Kyzart	6.55	28	P	Pn	18 04 56.5	+0.4
	SNR=17						
EKS2	Erkin-Say	6.63	17	P	Pn	18 04 57.4	+0.2
	SNR=77						
EKS2	Erkin-Say	6.63	17	*e*Pn	Pn	18 04 57.2	0.0
	34nm,0.6s						
KK31	Karatay Array	6.79	356	⇓P	Pn	18 04 58.1	-1.2
	10nm,0.3s,baz=177,slow=12,SNR=294						
KK31				⇑S	Sn	18 06 11.2	-3.8
	6.1nm,0.4s,baz=184,slow=22,SNR=5.5						
AAK	Ala-Archa	6.79	21	P	Pn	18 04 60.0	+0.5
	SNR=32						
SDNR	Sundarnagar	6.80	133	*e*P	Pn	18 05 01.0	+1.4
SDNR				*e*S	Sn	18 06 10.0	-5.5
KBK	Karagaybulak	6.95	24	P	Pn	18 05 02.8	+1.2
	SNR=8.4						
ULHL	Ulahol	7.09	32	P	Pn	18 05 03.9	+0.5
	SNR=7.3						
SMLA	Simla	7.19	134	*i* P	Pn	18 05 04.2	-0.6
SMLA				*i* S	Sn	18 06 20.8	-4.2
CHMS	Chumysh	7.20	21	P	Pn	18 05 05.1	+0.2
	SNR=10						
USP	Ospenovka	7.38	19	P	Pn	18 05 07.5	+0.1
	SNR=9.1						
TKM2	Tokmak 2	7.41	26	⇓P	Pn	18 05 08.0	+0.2
	9.4nm,0.6s						
TKM2				⇓S	Sn	18 06 38.8	+8.7
	6.7nm,0.9s						
TKM2	Tokmak 2	7.41	26	P	Pn	18 05 08.1	+0.3
	SNR=30						
TKM2	Tokmak 2	7.41	26	*e*Pn	Pn	18 05 07.8	+0.1
	12nm,0.4s						
KLP	Kalpa	7.57	127	*e*P	Pn	18 05 10.2	+0.2
KLP				*e*S	Sn	18 06 30.8	-3.4
KLP				AML	AML	18 06 35.7	
	comp=E,139nm,0.6s						
KLP				AML	AML	18 06 36.6	
	comp=N,141nm,0.8s						
SONA	Sohna	9.47	147	*e*P	Pn	18 05 34.2	-1.7
SONA				*e*S	Sn	18 07 11.7	-8.8
SONA				AML	AML	18 08 36.9	
	comp=N,7.7nm,0.4s						
SONA				AML	AML	18 08 42.0	
	comp=E,16nm,0.3s						
MKAR	Makanchi Array	13.34	35	Pn	Pn	18 06 27.1	-0.4
	comp=E,0.2nm,0.3s,baz=222,slow=14,SNR=8.1						
KURBB	Kurchatov Arra	15.23	18	⇑P	Pn	18 06 53.8	+2.1
	comp=E,0.5nm,0.6s						
AB31	Akbulak array	15.31	331	⇓P	Pn	18 06 49.4	-3.2
	comp=E,1.1nm,0.3s,baz=140,slow=12,SNR=77						
AB31				⇓S	S	18 09 29.2	-22
	comp=E,1.7nm,0.7s,baz=153,slow=22,SNR=4.2						
KURK	Kurchatov	15.34	18	⇓P	Pn	18 06 55.0	+2.0
	comp=E,1.9nm,0.9s						
KURK	Kurchatov	15.34	18	*e*Pn	Pn	18 06 55.1	+2.0
	comp=E,2.7nm,0.9s						
VOSK	Vostochnaya	16.39	360	⇑P	Pn	18 07 02.8	-3.2
	comp=E,3.6nm,0.9s						
BVA0	Borovoye Array	16.70	358	P	Pn	18 07 08.9	-1.0
	comp=E,0.4nm,0.7s,baz=271,slow=34,SNR=8.5						
BVAR	Borovoye Array	16.70	358	P	Pn	18 07 08.7	-1.2
	comp=E,0.4nm,0.3s,baz=167,slow=14,SNR=7.2						
AKTK	Aktyubinsk	17.00	330	P	Pn	18 07 11.9	-1.7
AKTO	Aktyubinsk	17.00	330	⇓P	Pn	18 07 12.5	-1.1
	comp=E,1.1nm,0.7s						
AKTO				⇓S	S	18 10 11.3	-12
	comp=E,0.4nm,0.9s						
AKTO	Aktyubinsk	17.00	330	P	Pn	18 07 11.9	-1.7
	comp=E,0.7nm,0.3s,baz=134,slow=13,SNR=12						
ZALV	Zalesovo Beam	20.01	24	P	P	18 07 46.5	-0.1
	comp=E,2.9nm,0.4s,baz=224,slow=11,SNR=18						
ARU	Arti	21.84	341	*e*P	P	18 08 08.4	+2.2
	comp=E,4.1nm,0.9s,mb3.8						
AKASG	Malin Array Be	33.17	309	P	P	18 09 50.3	+1.5
	comp=E,0.5nm,0.4s,mb3.7,baz=78,slow=7.6,SNR=4.9						
ARCES	ARCESS Array B	41.36	338	P	P	18 10 59.7	+2.1
	comp=E,1.6nm,0.8s,mb3.9,baz=112,slow=9.2,SNR=11						
TORD	Torodi Ar. Bea	65.87	269	P	P	18 13 56.2	-1.0
	comp=E,1.5nm,0.8s,mb3.9,baz=51,slow=5.7,SNR=4.6						
WRA	Warramunga Arr	81.77	122	P	P	18 15 29.9	+0.1
	comp=E,0.2nm,0.3s,mb3.4,baz=325,slow=5.0,SNR=14						
ASAR	Alice Springs	84.03	125	P	P	18 15 41.9	+0.5
	comp=E,0.1nm,0.4s,mb3.0,baz=309,slow=4.6,SNR=6.1						

*NIED **26** 18:08:00,2940N×13120E,h38km,Mw3.9 Best double couple: Mo8.52000×1014 NP1:φ=30.00000°,δ61.00000°, λ42.00000°. NP2:φ=277.00000°,δ54.00000°,λ143.00000°.*
*ISCJB **26** 18:08:27.7±0.6,2936N±003×13124E±005,h44km±9km, mb3.8/4,Error ellipse: s-maj=8.3km s-min=3.6km az=22.5*
*JMA **26** 18:08:28.3±0.1,2940N×13123E,h73km±3km,M4.0*
*IDC **26** 18:08:29.5±2.9,2929N×131.18E,h36km±36km,mb3.7/4, mb1 3.7/9,mb1mx3.5/27,mbtmp3.8/9,ML3.7/5,Error ellipse: s-maj=36.8km s-min=22.4km az=143.0*
*NEIC **26** 18:08:29.8±1.3,2935N×131.10E,h35km,MG4.0(JMA), Error ellipse: s-maj=31.0km s-min=12.8km az=131.0*

ISC 26 18:08:29.4±0.6,2938N±003×13119E±005,h30km±10km, n28,σ0°92/43,mb3.8/4,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	1.23	292	P	Pn	18 08 50.7	+0.2
JNN				*e*S	Sn	18 09 06.9	+0.8
JTN	Tanegashima 3	1.28	352	P	Pn	18 08 50.5	-0.7
JTN				*e*S	Sn	18 09 07.1	-0.3
JKC	Kuchinoerabu	1.38	322	P	Pn	18 08 52.5	0.0
JZK	Kikaishima	1.50	225	P	Pn	18 08 54.3	+0.1
JZK				*e*S	Sn	18 09 14.1	+1.3
JAM	Amami Oshima	1.69	236	P	Pn	18 08 56.5	-0.3
JAM				*e*S	Sn	18 09 17.4	0.0
JTSR	Tashiro 2	1.79	353	P	Pn	18 08 58.0	-0.2
JTSR				S	Sn	18 09 19.5	-0.5
JNAR	Kushima--Naru	2.14	2	P	Pn	18 09 02.8	-0.2
JNAR				S	Sn	18 09 28.2	-0.3
JSU	Suzuyama	2.21	344	P	Pn	18 09 03.5	-0.5
JSU				*e*S	Sn	18 09 29.4	-0.9
JTZ	Takazaki	2.51	358	P	Pn	18 09 07.8	-0.3
JTZ				S	Sn	18 09 37.4	-0.4
JTK	Tokunoshima	2.53	232	P	Pn	18 09 07.8	-0.5
JTK				S	Sn	18 09 37.8	-0.3
JSJ	Shimokoshiki	2.62	331	P	Pn	18 09 09.0	-0.6
JSJ				*e*S	Sn	18 09 39.2	-1.1
JZO	Okuchi	2.80	350	P	Pn	18 09 11.7	-0.3
JZO				*e*S	Sn	18 09 43.8	-0.9
JTSN	Tsuno	2.87	5	P	Pn	18 09 12.0	-1.0
JTSN				S	Sn	18 09 44.0	-2.5
JIU2	Izumi 2	3.17	354	P	Pn	18 09 16.9	-0.3
JIU2				S	Sn	18 09 52.1	-1.9
JOW	Kunigami	3.61	226	Pn	Pn	18 09 22.2	-1.1
	14nm,0.3s,baz=84,slow=13,SNR=100						
JOW				Sn	Sn	18 10 02.8	-2.1
	42nm,0.3s,baz=115,slow=26,SNR=20						
JIH	Iheya	3.68	231	P	Pn	18 09 23.1	-1.1
JAGN	Aguni-jima	4.46	232	P	Pn	18 09 33.9	-1.0
JAGN				S	Sn	18 10 24.2	-1.6
JKE	Kume jima 2	4.94	233	P	Pn	18 09 40.2	-1.3
JHJ	Hachijo jima 2	8.25	61	Pn	Pn	18 10 27.8	+0.8
	2.9nm,0.3s,baz=80,slow=23,SNR=8.6						
KSRS	Korea Array	8.50	342	Pn	Pn	18 10 31.8	+1.4
	0.5nm,0.3s,baz=158,slow=14,SNR=11						
MJAR	Matsushiro Arr	9.26	38	Pn	Pn	18 10 41.7	+1.0
	0.4nm,0.3s,baz=204,slow=10,SNR=6.7						
CBIJ	Chichi jima	9.96	101	Pn	Pn	18 10 49.5	-1.0
	3.0nm,0.3s,baz=271,slow=22,SNR=5.7						
SONM	Songino Array	26.55	321	P	P	18 14 03.3	-1.1
	0.4nm,0.3s,mb3.4,baz=140,slow=10,SNR=6.3						
MKAR	Makanchi Array	41.51	309	P	P	18 16 13.7	+0.1
	0.5nm,0.6s,mb3.3,baz=97,slow=12,SNR=6.8						
BVAR	Borovoye Array	49.74	316	P	P	18 17 19.0	+0.3
	1.1nm,0.3s,mb4.3,baz=90,slow=8.6,SNR=9.7						
BVAR				pP	pP	18 17 32.4	+4.5
	1.3nm,0.5s,baz=93,slow=9.1,SNR=7.4						
BVAR	Borovoye Array	49.74	316	P	P	18 17 19.0	+0.3
BVAR				pP	pP	18 17 32.4	+4.5
KAD	Karad	53.25	270	*e*P	P	18 17 51.0	+5.6
ARCES	ARCESS Array B	68.04	339	P	P	18 19 25.6	+0.1
	1.5nm,0.9s,mb4.0,baz=70,slow=11,SNR=3.5						

*NEIC **26** 18:28:15.0,1639N×9797W,h7km,MD3.9(MEX),After MEX.*

MEX 26 18:28:15.0±0.9,1639N×9797W,h7km±11km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.15	272	*i* P	Pg	18 28 17.3	-0.8
PNIG				*i* S	Sg	18 28 20.2	+0.1
VHO	Vista Hermosa	1.37	60	*i* P	Pn	18 28 37.7	-2.9
VHO				*i* S	Sb	18 28 54.4	-4.4
OXX	Oaxaca	1.38	60	*e*P	Pn	18 28 37.0	-3.8
OXX				*i* S	Sb	18 28 53.5	-5.7
UTMO	Huajuapan	1.45	6	*e*P	Pn	18 28 38.9	-2.7
UTMO				*i* S	Sn	18 28 57.0	-3.9
HUIG	Huatulco	1.90	109	*e*P	Pn	18 28 44.7	-3.1
HUIG				*i* S	Sn	18 29 07.0	-5.0
ACX	Acapulco	1.92	285	*e*P	Pn	18 28 45.3	-2.9
ACX				*i* S	Sn	18 29 08.4	-4.3
TPIG	Tehuac#an	2.10	16	*e*P	Pn	18 28 48.1	-2.6
TPIG				*i* S	Sn	18 29 10.4	-6.7
MEIG	Mezcala	2.19	314	*e*P	Pn	18 28 50.1	-1.8
MEIG				*i* S	Sn	18 29 15.7	-3.7
CAIG	El Cayaco	2.29	287	*e*P	Pn	18 28 53.0	-0.3
CAIG				*i* S	Sn	18 29 17.1	-4.8
PLIG	Platanillo	2.47	324	*i* P	Pn	18 28 53.1	-2.7
PLIG				*i* S	Sn	18 29 21.6	-4.7
PPM	Popocatepetl	2.74	347	*e*P	Pn	18 28 56.7	-2.7
PPM				*e*P		18 29 01.5	
PPM				*i* S	Sn	18 29 28.6	-4.2
PPM				*i* S	Sn	18 29 31.7	-1.1
PPM	Popocatepetl	2.74	347	*e*P	Pn	18 29 01.5	+2.1
PPM				*i* S	Sn	18 29 31.7	-1.1
ZIIG	Zihuatanejo	3.55	290	*e*P	Pn	18 29 07.9	-2.8
ZIIG				*i* S	Sn	18 29 47.6	-5.3
MOIG	Morelia	4.48	317	*i* S	Sn	18 30 13.4	-2.4
TGIG		4.67	85	*e*P	Pn	18 29 26.2	+0.2
TGIG				*i* S	Sn	18 30 17.2	-3.3
CCIG	Comitan	5.61	90	*i* S	Sn	18 30 39.7	-3.9

*ISCJB **26** 18:50:08.6±0.9,523S±01×135E±03,h10km,mb4.1/4, MS3.5/4,Error ellipse: s-maj=30.3km s-min=16.5km az=20.2*
*IDC **26** 18:50:08.4±1.1,5230S×1359E,h0km,mb4.3/4,mb1 4.4/4, mb1mx3.9/15,mbtmp4.3/4,MS3.6/4,Ms1 3.5/4, ms1mx3.2/22,Error ellipse: s-maj=43.8km s-min=29.4km az=156.0*
*NEIC **26** 18:50:09.8±0.7,5233S×1357E,h10km,mb4.4/1,Error ellipse: s-maj=26.2km s-min=17.1km az=114.0*

ISC 26 18:50:10.3±0.9,523S±01×136E±03,h10km,n12,σ1°08/8, mb4.1/4,MS3.5/4,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	20.78	195	*e*	P	18 54 50.5	-0.5
SNAA				*e*		18 54 52.8	
SNAA	Sanae	20.78	195	*e*P	P	18 54 50.0	-1.0
	17nm,0.9s						
VNA2	Neumayer--Watz	20.97	199	*e*	P	18 54 55.7	+2.6
VNA3	Neumayer Olymp	21.69	200	*e*	P	18 55 00.1	-0.7
VNA3				*e*		18 55 02.0	
BOSA	Boshof	25.19	25	P	P	18 55 35.9	+0.1
	5.8nm,1.1s,mb4.0,baz=194,slow=17,SNR=3.2						
BOSA				LR	LR	19 03 27.0	
	comp=Z,168nm,21.6s,MS3.5,baz=173,slow=32						
MAW	Mawson	28.06	142	LR	LR	19 04 49.0	
	comp=Z,111nm,18.0s,MS3.5,baz=71,slow=31						
CPUP	Villa Florida	58.12	267	P	P	19 00 02.8	-1.1
	2.3nm,0.7s,mb4.3,baz=148,slow=8.7,SNR=6.4						
DBIC	Dimbokro	60.81	339	LR	LR	19 19 43.5	
	comp=Z,37nm,20.3s,MS3.5,baz=146,slow=29						
TORD	Torodi Ar. Bea	65.97	347	LR	LR	19 26 40.9	
	comp=Z,40nm,18.6s,MS3.6,baz=165,slow=33						
LPAZ	La Paz	72.26	266	P	P	19 01 36.8	+1.0
	5.2nm,0.9s,mb4.5,baz=113,slow=6.9,SNR=17						
ASAR	Alice Springs	88.23	128	P	P	19 03 01.6	-0.1
	0.3nm,0.7s,mb3.6,baz=199,slow=4.2,SNR=10.0						
YKA	Yellowknife Ar	151.08	311	PKPbc	PKPbc	19 10 01.1	-1.0
	2.6nm,0.8s,baz=86,slow=2.4,SNR=12						
YKA				PKPab	PKPab	19 10 09.5	-0.3
	1.1nm,0.9s,baz=90,slow=1.2,SNR=4.4						

*DDA **26** 19:03:11.7,3954N×29.10E,h7km±4km,Md3.0*
*CSEM **26** 19:03:11.0±0.1,3951N×2909E,h2km,MD3.0,Error ellipse: s-maj=1.4km s-min=1.3km az=92.0*
*ISK **26** 19:03:11.3,3952N×2909E,h3km,MD3.0*
*ISCJB **26** 19:03:12.3±0.3,3952N±002×29.12E±003,h10km,Error ellipse: s-maj=3.4km s-min=3.0km az=17.9*

ISC 26 19:03:12.5±0.4,3952N±002×2910E±003,h5km±5km,n27, σ0°79/38,1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	Dursunbey	0.37	283	*e*PG	Pg	19 03 19.3	-0.4
GDZ	Gediz	0.52	145	*e*P	Pg	19 03 22.6	0.0
GDZ				*e*S	Sg	19 03 29.7	+0.3
DEMI	Demirci	0.56	212	*e*P	Pg	19 03 22.9	-0.4
DEMI				*e*S	Sg	19 03 30.4	-0.1
ULDT	Uludag	0.62	3	*e*P	Pg	19 03 23.2	-1.2
ULDT				*e*S	Sg	19 03 32.0	-0.6
ULDT	Uludag	0.62	3	*e*P	Pg	19 03 23.2	-1.3
ALT	Altintas	0.91	120	*e*PG	Pg	19 03 29.5	-0.5
ALT				*e*SG	Sg	19 03 42.8	+0.9
GEMT	Gemlik	0.92	4	*e*PG	Pg	19 03 30.0	-0.2
GEMT				*e*SG	Sg	19 03 43.3	+1.3
BALB	Balikesir	0.95	278	*e*PG	Pg	19 03 30.1	-0.5
ADVT	Abdulvahap	1.04	28	*e*PG	Pg	19 03 31.9	-0.5
ADVT				*e*SG	Sg	19 03 47.2	+1.3
KULA	Kula-Manisa	1.06	199	*e*PG	Pg	19 03 32.2	-0.7
YLV	Yalova	1.07	11	*e*PG	Pg	19 03 32.4	-0.6
BALY	Balya	1.16	281	⇓*i*P	Pg	19 03 34.2	-0.6
BALY				*e*S	Sg	19 03 51.1	+1.2
AKHS	Akhisar	1.18	238	*e*P	Pg	19 03 35.3	+0.1
AKHS				*e*S	Sg	19 03 51.5	+1.0
AKS	Akhisar	1.19	238	*e*PN	Pn	19 03 34.6	-1.1
GPA	Golpazari	1.21	50	*e*PN	Pn	19 03 35.4	-0.6
BNT	Bandirma	1.23	313	*e*PN	Pn	19 03 35.8	-0.6
KHL	Karahalli	1.24	164	*e*PN	Pn	19 03 35.7	-0.8
EDC	Edincik	1.26	311	*e*PN	Pn	19 03 36.0	-0.7
ESKT	Eskisehir	1.36	89	*e*P	Pn	19 03 37.9	-0.2
ESKT				*e*S	Sg	19 03 57.3	+1.2
SEYT	Eskypehyr	1.36	89	*e*P	Pn	19 03 37.8	-0.3
SEYT				*e*S	Sg	19 03 57.3	+1.2
HRT	Hereke	1.37	18	*e*PN	Pn	19 03 38.6	+0.3
SHUT	Suhut-Afyon	1.49	130	*e*PN	Pn	19 03 39.8	-0.1
ISK	Istanbul-Kandi	1.54	359	*e*PN	Pn	19 03 40.6	-0.1
BGKT	Bogazkoy	1.68	352	*e*PN	Pn	19 03 42.6	+0.1
IZM	Izmir	1.82	232	*e*PN	Pn	19 03 44.4	0.0
AYVA	Ayvalik	1.88	264	*e*P	Pn	19 03 47.9	+2.7
AYVA				*e*S	Sn	19 04 10.7	+1.5
BLCB	Balcova	1.96	235	*e*PN	Pn	19 03 46.4	-0.1

IDC 26 19:11:33.9±56.0,1833S×17662E,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/15,mbtmp3.9/3,Error ellipse: s-maj=979.1km s-min=138.0km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.30	240	P	P	19 18 23.1	+1.0
	1.7nm,0.7s,baz=67,slow=7.7,SNR=5.3						
WRA	Warramunga Arr	39.90	261	P	P	19 19 09.6	-0.3
	0.4nm,0.5s,baz=96,slow=7.9,SNR=12						
ASAR	Alice Springs	40.12	255	P	P	19 19 11.2	-0.5
	2.7nm,0.5s,baz=90,slow=8.5,SNR=115						

*ATH **26** 19:18:52.6,3691N×2774E,h28km±1km,MD3.3/5*
*CSEM **26** 19:18:52.3±0.1,3697N×2781E,h15km,MD3.2,Error ellipse: s-maj=2.3km s-min=1.9km az=165.0*
*NEIC **26** 19:18:52.6,3691N×2774E,h28km,MD3.3(ATH),After ATH.*
*ISK **26** 19:18:52.0,3695N×2782E,h11km,MD3.2*
*ISCJB **26** 19:18:52.2±0.5,3692N±003×2779E±003,h12km±3km, Error ellipse: s-maj=4.6km s-min=3.6km az=26.3*
*DDA **26** 19:18:53.1,3698N×2775E,h7km±3km,Md3.2*

ISC 26 19:18:52.5±0.5,3692N±003×2778E±003,h13km±4km,n23, σ0°75/36,2C,Dodecanese Islands

| Code | Station Name | Δ° | AZ° | Phase ID Op |

NNA Nana 0.76 73 P **Pn 19 23 00.4 -0.7**
482nm,0.3s,baz=248,slow=12,SNR=748
NNA S **Sn 19 23 11.3 -0.1**
2μm,0.3s,baz=351,slow=19,SNR=96
NNA Nana 0.76 73 ⇓*i*Pn **Pn 19 23 00.4 -0.7**
NNA *e*Sn **Sn 19 23 11.5 +0.1**
ATAH Atahualpa 5.24 351 P **Pn 19 24 03.4 +0.8**
34nm,0.3s,baz=163,slow=4.9,SNR=210
ATAH S **Sn 19 25 01.3 -0.4**
14nm,0.3s,baz=36,slow=19,SNR=3.6
ATAH LR LR 19 26 15.6
comp=Z,128nm,19.5s,baz=70,slow=40
LPAZ La Paz 10.02 115 P **Pn 19 25 12.9 +4.7**
0.1nm,0.3s,baz=310,slow=7.9,SNR=2.9
LPAZ LR LR 19 29 08.7
comp=Z,57nm,20.2s,baz=281,slow=39
LPAZ La Paz 10.02 115 *e*Pn **Pn 19 25 09.4 +1.2**
1.1nm,0.5s
OTAV Otavalo 12.40 356 *e*Pn **Pn 19 25 39.5 -1.2**
4.7nm,0.7s
OTAV *e*Sn **Sn 19 27 58.0 +0.4**
LVC Limon Verde 13.24 143 S **Sn 19 28 11.8 -6.3**
0.3nm,0.3s,baz=101,slow=23,SNR=5.1
LVC LR LR 19 30 34.1
comp=Z,92nm,22.0s,baz=44,slow=36
ROSC El Rosal 17.26 11 LR LR 19 34 39.9
comp=Z,54nm,19.8s,baz=197,slow=41
ROSC El Rosal 17.26 11 *e*Pn **Pn 19 26 46.0 +1.2**
CPUP Villa Florida 23.67 129 LR LR 19 38 27.6
comp=Z,75nm,19.1s,baz=306,slow=40
TXAR Lajitas Array 48.37 329 P **P 19 31 24.8 +0.3**
0.7nm,0.7s,mb3.8,baz=152,slow=9.0,SNR=11
TXAR sP sP 19 31 41.2 -0.3
0.9nm,0.8s,baz=146,slow=7.6,SNR=5.7
PDAR Pinedale Array 62.06 334 P **P 19 33 02.5 -0.5**
0.5nm,0.8s,mb3.7,baz=157,slow=5.8,SNR=3.7
TORD Torodi Ar. Bea 82.55 75 P **P 19 35 05.4 -0.5**
1.3nm,1.0s,mb3.9,baz=261,slow=2.9,SNR=4.5
TORD pP pP 19 35 16.9 -1.7
1.5nm,0.8s,baz=265,slow=4.7,SNR=7.2
TORD sP sP 19 35 23.4 +0.1
1.1nm,0.8s,baz=262,slow=6.0,SNR=4.2
ASAR Alice Springs 132.88 221 PKP PKPdf 19 41 56.5 -1.7
0.2nm,0.6s,baz=93,slow=1.9,SNR=3.7
ASAR pPKP pPKPdf 19 42 08.9 -2.6
0.3nm,0.6s,baz=108,slow=2.4,SNR=2.6
WRA Warramunga Arr 135.19 225 PKP PKPdf 19 42 00.8 -1.8
0.5nm,0.8s,baz=227,slow=0.8,SNR=4.0
WRA pPKP pPKPdf 19 42 13.5 -2.4
0.4nm,0.6s,baz=127,slow=1.8,SNR=2.8
ZALV Zalesovo Beam 136.09 15 PKP PKPdf 19 42 01.0 -2.2
0.8nm,0.7s,baz=0.0,slow=3.0,SNR=4.7
SONM Songino Array 144.33 355 PKP PKPdf 19 42 16.0 -2.3
2.0nm,0.8s,baz=336,slow=3.0,SNR=15

*CSEM **26** 19:49:16.6±0.1, 3841N×3936E, h2km, MD3.1, Error ellipse: s-maj=1.6km s-min=1.5km az=115.0*
*ISCJB **26** 19:49:17.7±0.6, 3839N±003×3937E±004, h3km±5km, Error ellipse: s-maj=5.6km s-min=4.3km az=28.9*
*ISK **26** 19:49:17.1, 3840N×3935E, h4km, MD3.1*
*DDA **26** 19:49:17.3, 3830N×3927E, h21km±1km, Md3.2*
ISC 26 19:49:18.1±0.6, 3840N±003×3938E±004, h4km±6km, n17, σ0°92/24, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.06**	**251**	PG	**Pg**	**19 49 18.7**	**-0.8**
ELZG	**Elazig**	**0.33**	**288**	*e*P	**Pg**	**19 49 23.7**	**-0.7**
ELZG				*e*S	**Sg**	**19 49 29.7**	**+1.0**
PTK	**Pertek**	**0.49**	**1**	*e*PG	**Pg**	**19 49 27.0**	**-0.6**
PTK				*e*SG	**Sg**	**19 49 35.3**	**+1.3**
DIYA	**Diyarbakir**	**0.75**	**129**	*e*P	**Pg**	**19 49 32.7**	**+0.1**
DIYA				*e*S	**Sg**	**19 49 45.3**	**+3.1**
MALT	**Malatya**	**0.76**	**264**	*e*PG	**Pg**	**19 49 31.4**	**-1.2**
MALT				*e*SG	**Sg**	**19 49 42.8**	**+0.4**
MYA	**Malataya**	**0.76**	**265**	*e*PG	**Pg**	**19 49 31.7**	**-0.9**
DIY	**Diyarbakir**	**0.83**	**127**	*e*PG	**Pg**	**19 49 34.1**	**0.0**
URFA	**Urfa**	**1.05**	**205**	*e*PG	**Pg**	**19 49 37.9**	**-0.4**
URFA				*e*SG	**Sg**	**19 49 53.3**	**+1.3**
AKCD	**Akcadag**	**1.15**	**265**	⇓*i*P	**Pg**	**19 49 38.5**	**-1.7**
AKCD				*e*S	**Sg**	**19 49 56.0**	**+0.8**
DARE	**Darende-Malaty**	**1.35**	**295**	*e*PN	**Pn**	**19 49 45.4**	**+1.6**
EZC	**Erzincan**	**1.39**	**14**	*e*PN	**Pn**	**19 49 43.3**	**-1.0**
MARD	**Mardin**	**1.55**	**134**	*e*P	**Pn**	**19 49 45.9**	**-0.5**
MARD				*e*S	**Sn**	**19 50 06.5**	**-0.5**
GAZ	**Gaziantep**	**2.11**	**235**	*e*PN	**Pn**	**19 49 54.1**	**-0.1**
KMRS	**Kahramanmaras**	**2.15**	**246**	*e*PN	**Pn**	**19 49 54.7**	**-0.1**
SVSK	**Karacayir**	**2.39**	**310**	*e*PN	**Pn**	**19 49 58.3**	**+0.2**
BNN	**Bunyan**	**2.81**	**280**	*e*PN	**Pn**	**19 50 04.0**	**+0.3**
KOZT	**Kozan**	**2.96**	**253**	*e*PN	**Pn**	**19 50 06.2**	**+0.3**

MAN 26 20:07:26, 1580N×12160E, h30km, mb4.3, ML3.2, MS3.0, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.06**	**200**	*e*P	Pb	20 07 32.9	+1.8
BALP				*e*S	Sb	20 07 37.6	+3.0
PCPH	**Palayan**	**0.54**	**244**	⇓*e*P	Pb	20 07 38.8	+1.8
PCPH				*e*S	Sb	20 07 47.3	+2.8
POLP	**Polilio Island**	**1.11**	**163**	*e*P	Pn	20 07 51.8	+6.3
BCPH	**Baguio City Da**	**1.14**	**301**	⇑*i*P	Pn	20 07 44.7	-1.2
BCPH				*i*S	Sn	20 07 57.6	-2.8
CAUP	**Cauayan**	**1.16**	**11**	*e*P	Pn	20 07 45.5	-0.7
CAUP				*e*S	Sn	20 08 01.3	+0.2
PALP	**Palanan**	**1.49**	**32**	*e*P	Pn	20 07 51.8	+1.1
BOLP	**Bolinao**	**1.72**	**290**	*e*P	Pn	20 07 55.5	+1.6
ABRA	**Dolores**	**2.03**	**335**	*e*P	Pn	20 07 59.1	+1.0
ABRA				*e*S	Sn	20 08 25.0	+2.6
APYP	**Conner**	**2.08**	**351**	*e*P	Pn	20 07 59.1	+0.2
APYP				*e*S	Sn	20 08 29.3	+5.6

GUC 26 20:07:51.5±0.3, 3267S×7106W, h6km±1km, MD3.6, ML1.8, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.30**	**172**	⇓*i*P	Pg	20 07 58.3	+0.8
ROCH				*i*S	Sg	20 08 03.4	+1.9
JACH	**Jahuel**	**0.39**	**92**	*e*P	Pg	20 07 59.8	+0.6
JACH				*i*S	Sg	20 08 06.1	+1.9
PEL	**Peldehue**	**0.57**	**146**	⇓*e*P	Pg	20 08 03.0	+0.5
PEL				*i*S	Sg	20 08 11.9	+2.1
PEL				AML	AML	20 08 12.8	
	comp=E,131nm,0.3s						
TACH	**Talagante**	**0.98**	**174**	⇓*i*P	Pg	20 08 10.0	-0.4
TACH				*i*S	Sg	20 08 23.8	+0.6
PCH	**Pirque**	**1.05**	**154**	*e*P	Pg	20 08 11.1	-0.6
PCH				*i*S	Sg	20 08 26.3	+0.9

IDC 26 20:10:08.2±2.1, 051N×12655E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/15, mbtmp3.3/3, Error ellipse: s-maj=172.5km s-min=26.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.72**	**160**	P	P	20 15 00.7	-0.4
	0.3nm,0.4s,baz=338,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**25.07**	**164**	P	P	20 15 35.0	+0.4
	0.3nm,0.4s,baz=347,slow=12,SNR=8.8						
MKAR	**Makanchi Array**	**60.10**	**326**	P	P	20 20 17.3	0.0
	0.2nm,0.4s,baz=108,slow=8.0,SNR=4.9						

*ISCJB **26** 20:37:30.2±1.0, 974N±007×4346E±009, h10km, mb3.9/4, MS3.0/2, Error ellipse: s-maj=15.7km s-min=6.0km az=35.3*
*IDC **26** 20:37:30.5±1.9, 1022N×4212E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/23, mbtmp3.8/5, ML3.3/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/36, Error ellipse: s-maj=194.6km s-min=28.3km az=116.0*
*NEIC **26** 20:37:31.5±1.1, 1021N×4200E, h10km, Error ellipse: s-maj=142.0km s-min=13.0km az=116.0*
ISC 26 20:37:32.6±0.9, 978N±007×4345E±010, h10km, n11, σ1°25/13, mb3.9/4, MS3.0/2, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.49**	**11**	*i*P	**Pn**	**20 38 26.1**	**-0.9**
TRBA				*e*		20 38 26.2	
	baz=234,slow=14						
TRBA				*i*S	**Sn**	**20 39 08.7**	**+0.3**
TRBA				AML	AML	20 39 31.1	
	comp=N,225nm,0.7s						
FURI	**Furi**	**4.79**	**260**	*e*P	**Pn**	**20 38 45.6**	**+0.8**
FURI				S	**Sn**	**20 39 40.8**	**+0.5**
DHBB	**Dhamar BB**	**4.85**	**11**	*i*P	**Pn**	**20 38 43.8**	**-1.9**
DHBB				*i*S	**Sn**	**20 39 41.1**	**-0.8**
KMBO	**Kilima Mbogo**	**12.47**	**210**	Pn	**Pn**	**20 40 26.0**	**-4.3**
	comp=N,0.2nm,0.3s,baz=40,slow=15,SNR=6.8						
KMBO				Sn	**Sn**	**20 42 48.0**	**-1.4**
	comp=N,0.4nm,0.3s,baz=33,slow=15,SNR=4.4						
KMBO				Lg		20 43 47.9	
	comp=N,1.6nm,0.3s,baz=265,slow=23,SNR=5.4						
KMBO	**Kilima Mbogo**	**12.47**	**210**	*e*Pn	**Pn**	**20 40 25.8**	**-4.4**
LSZ	**Lusaka**	**29.13**	**211**	LR	LR	20 55 47.5	
	comp=N,27nm,20.4s,MS2.9,baz=77,slow=38						
KEST	**Kesra**	**40.34**	**315**	LR	LR	21 01 22.8	
	comp=N,24nm,18.7s,MS3.1,baz=310,slow=37						
BVAR	**Borovoye Array**	**48.30**	**22**	P	**P**	**20 46 14.1**	**+0.2**
	comp=N,1.0nm,0.7s,mb4.0,baz=205,slow=6.6,SNR=7.2						
MKAR	**Makanchi Array**	**49.45**	**35**	P	**P**	**20 46 25.3**	**+2.4**
	comp=N,1.0nm,0.8s,mb3.9,baz=217,slow=5.9,SNR=9.4						
ZALV	**Zalesovo Beam**	**55.02**	**28**	P	**P**	**20 47 05.2**	**+1.0**
	comp=N,0.5nm,0.3s,mb4.0,baz=228,slow=7.5,SNR=5.0						
SONM	**Songino Array**	**64.74**	**42**	P	**P**	**20 48 14.6**	**+3.4**
	comp=N,0.5nm,0.7s,mb3.7,baz=242,slow=7.7,SNR=5.0						

*NSSC **26** 20:45:47.4, 39.17N×4324E, h0km±99km*
*NEIC **26** 20:46:09.0, 3821N×4247E, h5km, mb4.0/2, ML3.8(ISK), After ISK.*
*DDA **26** 20:46:09.7, 3822N×4245E, h7km±7km, Md3.8*
*CSEM **26** 20:46:09.0±0.1, 3819N×4248E, h2km, MD3.8, Error ellipse: s-maj=2.3km s-min=1.3km az=161.0*
*ISK **26** 20:46:09.3, 3821N×4246E, h2km, ML3.8*
*ISCJB **26** 20:46:10.3±0.3, 3814N±003×4252E±003, h10km, mb3.5/5, MS2.9/2, Error ellipse: s-maj=4.1km s-min=3.1km az=147.5*
*IDC **26** 20:46:11.0±1.1, 3800N×4275E, h0km, mb3.5/4, mb1 3.7/8, mb1mx3.4/26, mbtmp3.6/8, ML3.7/3, MS2.9/3, Ms1 3.0/3, ms1mx2.5/25, Error ellipse: s-maj=23.9km s-min=12.2km az=136.0*
ISC 26 20:46:11.5±0.3, 3815N±002×4254E±003, h10km, n72, σ1°21/81, mb3.5/5, MS2.9/2, 3C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.65**	**187**	*e*PG	**Pg**	**20 46 24.3**	**+0.2**
VANT	**Van**	**0.73**	**66**	*e*PG	**Pg**	**20 46 22.9**	**-2.6**
TVAN	**Van**	**0.78**	**61**	⇑*i*P	**Pg**	**20 46 24.3**	**-2.2**
HAKT	**HAKKARI**	**1.09**	**122**	*e*P	**Pb**	**20 46 31.9**	**-0.6**
HAKT				*e*S	**Sg**	**20 46 50.5**	**+3.7**
HKR	**Hakkari**	**1.11**	**121**	*e*PN	**Pn**	**20 46 33.0**	**0.0**
HKR				*e*SN	**Sn**	**20 46 50.5**	**+2.2**
BNGL	**BINGOL**	**1.35**	**307**	*e*P	**Pn**	**20 46 34.5**	**-1.9**
BNGL				*e*S	**Sb**	**20 46 55.4**	**+1.1**
CLDR	**Caldiran**	**1.46**	**47**	*e*PN	**Pn**	**20 46 37.7**	**-0.2**
CLDR				*e*SN	**Sn**	**20 46 58.6**	**+1.4**
AGRB	**Hanur-Agry**	**1.47**	**14**	*e*PN	**Pn**	**20 46 36.8**	**-1.2**
AGRB				*e*SN	**Sn**	**20 46 57.5**	**+0.3**
MARD	**Mardin**	**1.63**	**240**	⇑*i*P	**Pn**	**20 46 39.8**	**-0.4**
MARD				*e*S	**Sn**	**20 47 03.6**	**+2.4**
DIY	**Diyarbakir**	**1.85**	**263**	*e*PN	**Pn**	**20 46 42.2**	**-1.0**
MSL	**Mosul**	**1.91**	**167**	*ex*	x	20 46 46.0	
MSL				*ex*	x	20 46 50.0	
MSL				*ex*	x	20 47 11.5	
MSL				*i* x	x	20 47 13.5	
MSL				*ex*	x	20 47 16.0	
DIYA	**Diyarbakir**	**1.93**	**264**	⇑*i*P	**Pn**	**20 46 43.3**	**-1.0**
HOMI	**Horasan**	**1.96**	**346**	*e*P	**Pn**	**20 46 46.0**	**+1.2**
HOMI				*e*S	**Sg**	**20 47 13.9**	**-0.5**
EZM	**Erzurum**	**1.98**	**333**	*e*PN	**Pn**	**20 46 44.0**	**-1.0**
KARS	**Kars**	**2.50**	**10**	*e*PN	**Pn**	**20 46 52.3**	**+0.2**
SVRC	**Sivrice-ELAZID**	**2.56**	**276**	*e*PN	**Pn**	**20 46 51.7**	**-1.3**
PTK	**Pertek**	**2.58**	**288**	*e*PN	**Pn**	**20 46 52.2**	**-1.1**
GNI	**Garni**	**2.63**	**40**	*e*PN	**Pn**	**20 46 55.0**	**+1.0**
GNI	**Garni**	**2.63**	**40**	Pn	**Pn**	**20 46 57.8**	**+3.9**
	8.9nm,0.3s,baz=276,slow=3.1,SNR=63						
GNI				Lg		20 47 32.9	
	4.0nm,0.3s,baz=297,slow=22,SNR=5.6						
GNI	**Garni**	**2.63**	**40**	Pn	**Pn**	**20 46 57.8**	**+3.8**
EZC	**Erzincan**	**2.66**	**308**	*e*PN	**Pn**	**20 46 57.5**	**+3.2**
URFA	**Urfa**	**3.03**	**258**	*e*PN	**Pn**	**20 46 59.2**	**-0.3**
MALT	**Malatya**	**3.25**	**274**	*e*PN	**Pn**	**20 47 01.5**	**-0.9**
MALT	**Malatya**	**3.25**	**274**	*e*Pn	**Pn**	**20 47 00.8**	**-1.6**
MALT				*e*Sn	**Sn**	**20 47 46.3**	**+5.2**
MYA	**Malataya**	**3.25**	**274**	*e*PN	**Pn**	**20 47 01.8**	**-0.7**
GUMT	**Gumushane**	**3.31**	**315**	*e*PN	**Pn**	**20 47 02.9**	**-0.5**
BCA	**Borcka**	**3.37**	**348**	*e*PN	**Pn**	**20 47 04.2**	**+0.1**
KTUT	**Trabzon**	**3.55**	**324**	*e*PN	**Pn**	**20 47 06.3**	**-0.4**
KSRV	**Kasrt alli**	**3.64**	**232**	⇓P	**Pn**	**20 47 14.0**	**+6.1**
AKCD	**Akcadag**	**3.64**	**274**	*e*P	**Pn**	**20 47 07.0**	**-0.9**
AKCD				*e*S	**Sg**	**20 48 06.1**	**-2.3**
DARE	**Darende-Malaty**	**3.80**	**284**	*e*PN	**Pn**	**20 47 13.1**	**+3.0**
ESPY	**Espiye-Giresun**	**4.04**	**314**	*e*PN	**Pn**	**20 47 13.2**	**-0.2**
JHLN	**Al Jahlan**	**4.11**	**234**	⇓P	**Pn**	**20 47 14.7**	**+0.3**
JHLN				⇓S	**Sg**	**20 48 18.6**	**-4.9**
JHLN	**Al Jahlan**	**4.11**	**234**	*i* P	**Pn**	**20 47 14.7**	**+0.3**
SLMH	**Al Salmeh**	**4.16**	**244**	⇑P	**Pn**	**20 47 14.7**	**-0.4**
SLMH				⇑S	**Sg**	**20 48 19.5**	**-5.6**
SLMH	**Al Salmeh**	**4.16**	**244**	*i* P	**Pn**	**20 47 14.7**	**-0.3**
GAZ	**Gaziantep**	**4.34**	**259**	*e*PN	**Pn**	**20 47 18.0**	**+0.5**
KMRS	**Kahramanmaras**	**4.51**	**264**	*e*PN	**Pn**	**20 47 20.4**	**+0.5**
SARI	**SarD1z-Kayseri**	**4.62**	**278**	*e*PN	**Pn**	**20 47 24.7**	**+3.4**
SVSK	**Karacayir**	**4.66**	**294**	*e*PN	**Pn**	**20 47 22.4**	**+0.4**
DRWC	**Darouich**	**4.92**	**254**	⇓P	**Pn**	**20 47 23.4**	**-2.1**
DRWC				⇓S	**Sb**	**20 48 34.8**	**-2.2**
DRWC	**Darouich**	**4.92**	**254**	*i* P	**Pn**	**20 47 23.4**	**-2.1**
BHD	**Baghdad**	**5.09**	**162**	*ex*	x	20 47 23.0	
BHD				*ex*	x	20 48 22.2	
BNN	**Bunyan**	**5.30**	**280**	*e*PN	**Pn**	**20 47 31.2**	**+0.6**
BTCH	**Batrach**	**5.30**	**248**	⇓P	**Pn**	**20 47 29.9**	**-0.8**
BTCH				⇓S	**Sb**	**20 48 48.4**	**+0.5**
BTCH	**Batrach**	**5.30**	**248**	*i* P	**Pn**	**20 47 29.9**	**-0.8**
KOZT	**Kozan**	**5.36**	**265**	*e*PN	**Pn**	**20 47 32.9**	**+1.4**
ROOS	**tl_alroos**	**5.82**	**229**	⇑P	**Pn**	**20 47 38.8**	**+1.0**
ROOS	**tl_alroos**	**5.82**	**229**	*i* P	**Pn**	**20 47 38.8**	**+1.0**
KARA	**Karaisali**	**6.00**	**264**	*e*PN	**Pn**	**20 47 41.5**	**+1.2**
NIG	**Nigde**	**6.25**	**272**	*e*PN	**Pn**	**20 47 44.8**	**+1.0**
CORM	**Corum**	**6.47**	**291**	*e*PN	**Pn**	**20 47 48.0**	**+1.2**
MERS	**Mersin**	**6.50**	**261**	*e*PN	**Pn**	**20 47 48.7**	**+1.5**
HWQ	**Hawqa**	**6.58**	**236**	*e*Pn	**Pn**	**20 47 48.7**	**+0.4**
BHL	**Bhannes**	**7.01**	**235**	*e*Pn	**Pn**	**20 47 56.8**	**+2.6**
ASF	**Jabal al Asfar**	**7.54**	**219**	Pn	**Pn**	**20 48 02.1**	**+0.6**
	0.5nm,0.3s,baz=269,slow=11,SNR=13						
ASF				Sn	**Sn**	**20 49 25.3**	**-1.8**
	0.3nm,0.3s,baz=72,slow=20,SNR=1.8						
ASF				Lg		20 50 10.5	
	0.5nm,0.3s,baz=75,slow=20,SNR=2.8						
MMAI	**Mount Meron Ar**	**7.75**	**231**	Pn	**Pn**	**20 48 05.4**	**+1.1**
	1.9nm,0.3s,baz=56,slow=13,SNR=8.8						
MMAI				Lg		20 50 19.1	
	1.1nm,0.3s,baz=58,slow=27,SNR=3.2						
MIB	**Mutribah**	**9.23**	**153**	*e*P	**Pn**	**20 48 23.8**	**-0.8**
	baz=153						
NAY	**Al-Naaiem**	**9.70**	**155**	*e*P	**Pn**	**20 48 29.7**	**-1.4**
	baz=155						
NAY				AML	AML	20 50 17.6	
	comp=Z,4.0nm,0.7s,baz=155						
RDF	**Al-Radifah**	**10.10**	**154**	*e*P	**Pn**	**20 48 36.0**	**-0.6**
	baz=154						
RDF				AML	AML	20 50 29.5	
	comp=Z,12nm,0.6s,baz=154						
EIL	**Elat**	**10.55**	**219**	LR	LR	20 52 53.4	
	comp=Z,35nm,18.9s,baz=104,slow=38						
AKASG	**Malin Array Be**	**15.71**	**327**	Pn	**Pn**	**20 49 56.2**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=139,slow=10.0,SNR=7.1						
TIP	**Timpagrande**	**20.14**	**281**	*e*P	**P**	**20 50 46.2**	**+0.5**
	comp=Z,11nm,0.9s						
ARU	**Arti**	**21.18**	**25**	*e*P	**P**	**20 50 56.3**	**-0.4**
	comp=Z,3.2nm,0.6s,mb3.8						
VRAC	**Vranov**	**21.71**	**309**	P	**P**	**20 51 04.2**	**+1.7**
	comp=Z,1.1nm,0.5s,mb3.5,baz=20,slow=3.3,SNR=2.5						
BVAR	**Borovoye Array**	**24.31**	**43**	P	**P**	**20 51 29.3**	**+0.3**
	comp=Z,0.1nm,0.3s,mb2.7,baz=250,slow=8.4,SNR=2.8						
NOA	**NORSAR Array B**	**30.10**	**330**	LR	LR	21 05 30.1	
	comp=Z,22nm,19.0s,MS2.8,baz=130,slow=38						
MKAR	**Makanchi Array**	**30.29**	**61**	P	**P**	**20 52 23.2**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.5,baz=265,slow=7.9,SNR=4.9						
MKAR	**Makanchi Array**	**30.29**	**61**	P	**P**	**20 52 23.2**	**+0.5**
ESDC	**Sonseca Array**	**35.91**	**287**	LR	LR	21 07 32.7	
	comp=Z,29nm,21.3s,MS3.0,baz=30,slow=36						
CMAR	**Chiang Mai Arr**	**52.58**	**95**	P	**P**	**20 55 25.1**	**-0.4**
	comp=Z,1.4nm,0.9s,mb3.9,baz=298,slow=8.5,SNR=5.2						
CMAR	**Chiang Mai Arr**	**52.58**	**95**	P	**P**	**20 55 25.0**	**-0.5**

*MOS **26** 20:48:01.8±1.1, 687N×12687E, h33km, mb5.1/18, Error ellipse: s-maj=14.1km s-min=7.3km az=108.2*
*IDC **26** 20:48:05.0±0.5, 683N×12686E, h45km±4km, mb4.3/23, mb1 4.4/25, mb1mx4.3/29, mbtmp4.3/25, MS3.8/10, Ms1 3.9/10, ms1mx3.6/30, Error ellipse: s-maj=18.3km s-min=9.4km az=83.0*
*BJI **26** 20:48:05.8, 646N×12694E, h97km, mB4.8, mb4.6*
*ISCJB **26** 20:48:05.2±0.5, 678N±003×12702E±004, h66km±4km, mb4.6/69, Error ellipse: s-maj=6.4km s-min=4.5km az=169.7*
*DJA **26** 20:48:06, 687N×12708E, h100km, mb4.8/8*
*NEIC **26** 20:48:07.6±0.9, 679N×12687E, h70km±8km, mb4.8/30, Error ellipse: s-maj=7.0km s-min=4.2km az=72.0*
*MAN **26** 20:48:08, 696N×12677E, h14km, mb5.3, ML4.3, MS4.6*
ISC 26 20:48:07.0±0.5, 677N±003×12698E±004, h66km±4km, h52km±2.5km: pP-P, n181, σ1°11/194, mb4.6/68, 15C-9D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.74**	**284**	*e*P	**Pn**	**20 48 18.5**	**-3.6**
MATI				*e*S	**Sn**	**20 48 30.5**	**-2.7**
DAV	**Davao City (W)**	**1.42**	**282**	P	**Pn**	**20 48 30.8**	**0.0**
	363nm,0.3s,baz=66,slow=1.2,SNR=73						
DAV				S	**Sn**	**20 48 50.8**	**+2.1**
	424nm,0.3s,baz=284,slow=21,SNR=13						
DAV	**Davao City (W)**	**1.42**	**282**	*e*Pn	**Pn**	**20 48 30.7**	**-0.1**
DMPH	**Davao City--Mi**	**1.50**	**282**	⇓*i*P	**Pn**	**20 48 32.0**	**+0.3**
DMPH				*i* S	**Sn**	**20 49 01.6**	**+11**
BIPH	**Bislig**	**1.53**	**336**	⇑*i*P	**Pn**	**20 48 29.8**	**-2.6**
BIPH				*i* S	**Sn**	**20 48 50.5**	**-0.8**
KCP	**Kidapawan**	**1.89**	**277**	⇓*e*P	**Pn**	**20 48 36.6**	**-0.5**
KCP				*e*S	**Sn**	**20 49 01.6**	**+1.6**
GSPH	**General Santos**	**2.13**	**252**	*e*P	**Pn**	**20 48 38.0**	**-2.4**
GSPH				*i* S	**Sn**	**20 49 05.3**	**-0.5**
BUKP	**Musuan**	**2.20**	**300**	*e*P	**Pn**	**20 48 41.2**	**-0.1**
BUKP				*e*S	**Sn**	**20 49 08.7**	**+1.3**
BUTP	**Butuan**	**2.57**	**328**	*e*P	**Pn**	**20 48 46.7**	**+0.4**
BUTP				*e*S	**Sn**	**20 49 23.6**	**+7.2**
CTBH	**Cotabato--PC H**	**2.75**	**280**	⇑*i*P	**Pn**	**20 48 48.9**	**+0.1**
CTBH				*i* S	**Sn**	**20 49 23.8**	**+2.9**
SCPH	**Surigao**	**3.34**	**334**	⇓*e*P	**Pn**	**20 48 56.6**	**-0.2**
SCPH				*e*S	**Sn**	**20 49 45.9**	**+11**
PAGZ	**Pagadian**	**3.73**	**287**	*e*P	**Pn**	**20 49 02.8**	**+0.7**
MSLP	**Maasin**	**3.95**	**328**	*e*P	**Pn**	**20 49 03.6**	**-1.5**
MSLP				*e*S	**Sn**	**20 49 55.1**	**+4.9**
TBP	**Tagbilaran**	**4.24**	**313**	*e*P	**Pn**	**20 49 08.0**	**-1.1**
TBP				*e*S	**Sn**	**20 49 50.8**	**-6.5**
IPIL	**Ipil**	**4.49**	**283**	*e*P	**Pn**	**20 49 13.1**	**+0.6**
LLP	**Lapu-Lapu**	**4.62**	**320**	⇑*e*P	**Pn**	**20 49 13.8**	**-0.4**
LLP				*e*S	**Sn**	**20 50 09.7**	**+3.1**
PLP	**Palo**	**4.79**	**336**	⇓*e*P	**Pn**	**20 49 14.5**	**-2.2**
PLP				*e*S	**Sn**	**20 50 19.9**	**+8.9**
OCLP	**Ormoc**	**4.86**	**331**	*e*P	**Pn**	**20 49 19.5**	**+1.9**
ZMPH	**Zamboanga City**	**4.89**	**272**	⇑*e*P	**Pn**	**20 49 18.5**	**+0.5**
GUIM	**Jordan**	**5.79**	**312**	*e*P	**Pn**	**20 49 30.7**	**+0.3**
CNP	**Catarman**	**6.14**	**338**	*e*P	**Pn**	**20 49 33.2**	**-2.0**
CUYO	**Cuyo Island**	**7.15**	**305**	*e*P	**Pn**	**20 49 50.4**	**+1.4**
PVCP	**Virac**	**7.33**	**338**	*e*P	**Pn**	**20 49 54.2**	**+2.8**
ENPP	**El Nido**	**8.67**	**301**	*e*P	**Pn**	**20 50 10.1**	**+0.3**
SDKM	**Sandakan**	**9.79**	**264**	⇑P	**Pn**	**20 50 29.3**	**+4.1**
KAPI	**Kappang**	**13.75**	**212**	*e*Pn	**Pn**	**20 51 17.9**	**-1.1**
SBUM	**Sibu**	**15.32**	**254**	⇓P	**Pn**	**20 51 43.1**	**+3.5**
SBUM	**Sibu**	**15.32**	**254**	⇓P	**Pn**	**20 51 46.1**	**+6.6**
BATI	**Baumata**	**17.18**	**191**	P	**Pn**	**20 52 03.1**	**+0.3**
	1.0nm,0.3s,baz=28,slow=4.7,SNR=4.1						
BATI				S	**S**	**20 55 16.0**	**-3.2**
	0.5nm,0.3s,baz=29,slow=19,SNR=1.8						
KSM	**Kuching**	**17.44**	**253**	⇓P	**Pn**	**20 52 07.2**	**+1.2**
KSM	**Kuching**	**17.44**	**253**	⇓P	**Pn**	**20 52 09.2**	**+3.2**
KSM	**Kuching**	**17.

comp=N,174nm,18.2s
KMI LR LR
comp=E,275nm,19.4s
KMI LR LR
comp=Z,391nm,18.2s
CMAR Chiang Mai Arr 29.67 296 P **P** **20 54 06.9 +0.1**
comp=Z,1.4nm,0.8s,mb3.6,baz=123,slow=7.8,SNR=12
CMAR PcP PcP 20 57 11.0 +1.1
comp=Z,0.8nm,0.6s,baz=112,slow=1.1,SNR=5.7
CMAR LR LR 21 06 19.2
comp=Z,446nm,18.3s,baz=154,slow=37
CMAR Chiang Mai Arr 29.67 296 P **P** **20 54 06.9 +0.1**
CMAR 20 57 11.0
CMAR Chiang Mai Arr 29.67 296 P **P** **20 54 06.9 +0.1**
CMAR PcP PcP 20 57 11.0 +1.1
CMAR LR LR 21 06 19.2
CHTO Chiang Mai 29.79 296 *e*P **P** **20 54 07.6 -0.2**
KSRS Korea Array 30.55 1 P **P** **20 54 14.8 +0.5**
comp=Z,1.5nm,0.8s,mb3.8,baz=177,slow=10.0,SNR=5.7
KSRS LR LR 21 07 15.6
comp=Z,92nm,20.0s,baz=181,slow=38
ASAR Alice Springs 31.00 168 P **P** **20 54 18.4 +0.1**
comp=Z,0.8nm,0.3s,mb3.9,baz=344,slow=6.6,SNR=19
ASAR pP pP 20 54 32.1 -2.2
comp=Z,1.4nm,0.4s,baz=349,slow=7.0,SNR=6.6
ASAR PcP PcP 20 57 14.2 +0.9
comp=Z,1.5nm,0.5s,baz=355,slow=2.3,SNR=7.4
ASAR ScP ScP 21 00 52.7 +2.1
comp=Z,0.4nm,0.6s,baz=354,slow=3.7,SNR=4.3
ASAR Alice Springs 31.00 168 P **P** **20 54 18.5 +0.1**
ASAR *PP pP 20 54 32.1 -2.2
ASAR 20 57 14.2
MAJO Matsushiro 31.36 18 *e*P **P** **20 54 20.2 -1.3**
MAJO pmax pmax
comp=Z,14nm,0.7s,mb4.8
MAJO Matsushiro 31.36 18 *e*P **P** **20 54 20.2 -1.3**
comp=Z,14nm,0.7s,mb4.8
MAT Matsushiro 31.36 18 P **P** **20 54 21.4 -0.1**
MAT S **S** **20 59 26.0 +1.9**
MJAR Matsushiro Arr 31.36 18 P **P** **20 54 20.5 -0.9**
comp=Z,9.7nm,0.7s,mb4.6,baz=196,slow=9.4,SNR=55
MJAR pP pP 20 54 33.8 -3.6
comp=Z,6.3nm,0.8s,baz=199,slow=9.8,SNR=8.5
MJAR LR LR 21 05 56.6
comp=Z,270nm,20.5s,baz=190,slow=34
MJAR Matsushiro Arr 31.36 18 P **P** **20 54 20.5 -1.0**
MJAR *PP pP 20 54 33.8 -3.6
MJAR Matsushiro Arr 31.36 18 P **P** **20 54 20.5 -0.9**
MJAR pP pP 20 54 33.8 -3.6
MJAR LR LR 21 05 56.6
XAN Xi'an 31.86 331 P **P** **20 54 22.5 -3.4**
XAN S **S** **20 59 34.0 +2.0**
XAN AMB AMB
comp=Z,3.0nm,1.0s,mb4.0
XAN AMB AMB
comp=Z,34nm,6.5s
XAN LR LR
comp=N,79nm,20.2s
XAN LR LR
comp=E,111nm,17.3s
XAN LR LR
comp=Z,254nm,18.4s
CD2 Chengdu 32.41 321 *e*P **P** **20 54 31.0 +0.3**
CD2 PP PP 20 55 40.5 -4.6
CD2 S **S** **20 59 39.8 -0.8**
CD2 SS SS 21 01 38.3 -24
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,40nm,4.8s
CD2 LR LR
comp=N,510nm,16.8s
CD2 LR LR
comp=E,470nm,22.8s
CD2 LR LR
comp=Z,240nm,16.8s
BJI Beijing 34.52 345 P **P** **20 54 47.5 -1.4**
BJI PP PP 20 56 08.5 +0.2
BJI S **S** **21 00 16.0 +3.0**
BJI AMB AMB
comp=Z,7.0nm,0.7s,mb4.6
BJI AMB AMB
comp=Z,73nm,3.5s
BJI LR LR
comp=N,185nm,14.7s
BJI LR LR
comp=E,112nm,15.3s
BJI LR LR
comp=Z,125nm,18.7s
LZH Lanzhou 36.06 327 ⇑P **P** **20 55 03.0 +0.7**
LZH *e*PP PP 20 56 27.3 +1.9
LZH *e*S **S** **21 00 37.3 +0.5**
LZH *e*SS SS 21 03 02.8 -14
LZH AMB AMB
comp=Z,23nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,81nm,5.7s
LZH LR LR
comp=N,573nm,13.5s
LZH LR LR
comp=Z,895nm,17.2s
CN2 Changchun 36.91 358 *e*P **P** **20 55 11.3 +1.9**
CN2 *e*PP PP 20 56 39.0 +4.4
CN2 *e*S **S** **21 00 52.8 +3.3**
CN2 *e*SS SS 21 03 25.3 -8.2
CN2 LR LR
comp=N,200nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,200nm,19.0s
FORT Forrest 37.35 178 *e*P **P** **20 55 13.9 +0.7**
comp=Z,26nm,0.7s,mb5.3
FORT *e*pP pP 20 55 28.0 -1.4
FORT *e*sP sP 20 55 31.9 -5.2
MDJ Mudanjiang 37.77 3 P **P** **20 55 18.3 +1.7**
MDJ PP PP 20 56 43.0 -1.0
MDJ PcP PcP 20 57 33.0 +0.7
MDJ S **S** **21 01 03.0 +0.5**
MDJ PCS PcS 21 01 22.0 +1.1
MDJ AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
MDJ AMB AMB
comp=Z,39nm,9.1s
MDJ LR LR
comp=N,71nm,14.2s
MDJ LR LR
comp=E,48nm,11.8s
MDJ LR LR
comp=Z,131nm,11.8s
MDJ Mudanjiang 37.77 3 *e*P **P** **20 55 16.2 -0.5**
comp=Z,6.1nm,0.9s,mb4.4
SHL Shillong 38.36 303 *e*P **P** **20 55 22.5 +0.6**
KLBR Kellerberrin 39.15 193 *e*P **P** **20 55 29.4 +1.0**
comp=Z,28nm,0.9s,mb5.1
MUN Mundaring 39.88 194 *e*P **P** **20 55 35.4 +1.0**
NWAO Narrogin (SRO) 40.55 193 *e*P **P** **20 55 40.2 +0.2**
NWAO *e* pP 20 55 55.1 -1.2
NWAO pmax pmax
comp=Z,26nm,0.8s
NWAO Narrogin (SRO) 40.55 193 *e*P **P** **20 55 40.2 +0.2**
comp=Z,26nm,0.8s,mb5.1
NWAO *e* pP 20 55 55.0 -1.3
GTA Gaotai 40.66 327 ⇑P **P** **20 55 40.3 -0.6**
GTA S **S** **21 01 44.8 -1.4**
GTA SS SS 21 04 40.5 -8.4
GTA AMB AMB
comp=Z,5.0nm,0.9s,mb4.3
GTA AMB AMB
comp=Z,61nm,4.2s
GTA LR LR
comp=N,183nm,18.0s
GTA LR LR
comp=E,168nm,16.5s
GTA LR LR
comp=Z,395nm,18.6s
LSA Lhasa 40.69 309 *e*P **P** **20 55 41.8 +0.5**
LSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
LSA Lhasa 40.69 309 *e*P **P** **20 55 41.8 +0.5**
comp=Z,2.4nm,0.6s,mb4.2
STKA Stephens Creek 40.88 161 *e*P **P** **20 55 42.8 +0.1**
comp=Z,4.0nm,0.5s,mb4.5
STKA *e*pP pP 20 55 56.8 -2.3
STKA Stephens Creek 40.88 161 P **P** **20 55 43.1 +0.4**
comp=Z,4.0nm,0.6s,mb4.5,baz=357,slow=5.9,SNR=10.0
YSS Yuzh-Sakhalins 42.27 16⇑ *e*P **P** **20 55 54.8 +0.9**
YSS pmax pmax
comp=Z,26nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 42.27 16 *e*P **P** **20 55 55.0 +1.1**
comp=Z,21nm,0.8s,mb4.9
TAPN Taplejung 42.49 304 *e*P **P** **20 55 55.8 -0.2**
KLR Kul'dur 42.51 5 *e*P **P** **20 55 52.2 -3.6**
ODAN Odare 42.58 303 *e*P **P** **20 55 56.1 -0.7**
RAMN Ramite 43.27 302 *e*P **P** **20 56 02.2 -0.2**
comp=Z,23nm,0.8s,mb4.9
GUN Gumba 44.21 303 *e*P **P** **20 56 09.3 -0.6**
SONM Songino Array 44.53 340 P **P** **20 56 10.7 -1.4**
comp=Z,0.9nm,0.7s,mb3.6,baz=157,slow=8.4,SNR=7.9
SONM PcP PcP 20 57 54.7 +0.4
comp=Z,1.2nm,0.7s,baz=156,slow=2.3,SNR=4.5
KKN Kakani 44.66 303 *e*P **P** **20 56 12.6 -0.9**
comp=Z,17nm,0.8s,mb4.8
KKN Kakani 44.66 303 *e*P **P** **20 56 12.6 -0.9**
KKN pmax pmax
comp=Z,17nm,0.8s,mb4.8
DMN Daman 44.75 303 *e*P **P** **20 56 13.4 -0.8**
comp=Z,22nm,0.9s,mb4.9
KOLN Koldanda 46.06 302 *e*P **P** **20 56 24.1 -0.5**
comp=Z,36nm,0.6s,mb5.2
DANN Dangsing 46.12 303 *e*P **P** **20 56 24.2 -0.8**
CAN Canberra 46.72 155 *e*P **P** **20 56 30.6 +1.0**
CNB Canberra Magne 46.87 155 *e*P **P** **20 56 31.3 +0.6**
WMQ Urumqi 50.42 324 *e*P **P** **20 56 58.5 +0.6**
WMQ PCP PcP 20 58 16.5 +1.1
WMQ PP PP 20 58 55.8 +1.8
WMQ *e*S **S** **21 04 06.0 -0.5**
WMQ SS SS 21 07 37.3 -3.8
WMQ LR LR
comp=N,201nm,17.6s
WMQ LR LR
comp=E,104nm,18.4s
WMQ LR LR
comp=Z,139nm,18.4s
BOD Bodaibo 51.91 351 *e*P **P** **20 57 07.4 -1.4**
SMLA Simla 52.43 304 *i* P **P** **20 57 12.8 -0.4**
PETK Petropavlovsk- 52.54 23 P **P** **20 57 15.4 +1.9**
comp=Z,9.6nm,0.7s,mb5.0,baz=198,slow=5.1,SNR=11
PETK pP pP 20 57 26.9 -3.6
comp=Z,2.1nm,0.5s,baz=305,slow=32,SNR=3.0
PETK Petropavlovsk- 52.54 23 P **P** **20 57 15.4 +1.9**
PETK pP pP 20 57 26.9 -3.6
YAK Yakutsk 55.18 2 *e*P **P** **20 57 32.0 -0.7**
YAK pmax pmax
comp=Z,17nm,0.9s,mb5.1
YAK Yakutsk 55.18 2 *e*P **P** **20 57 32.7 0.0**
MKAR Makanchi Array 55.24 324 P **P** **20 57 32.8 -0.5**
comp=Z,6.9nm,0.8s,mb4.7,baz=119,slow=7.7,SNR=52
MKAR LR LR 21 25 07.2
comp=Z,87nm,18.4s,baz=115,slow=40
KRAR Krasnoyarsk 56.03 338 *e*P **P** **20 57 38.4 -0.5**
KRAR pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
TKM2 Tokmak 2 57.67 317 *e*P **P** **20 57 50.4 -0.3**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
TKM2 Tokmak 2 57.67 317 P **P** **20 57 50.7 0.0**
SNR=12
TKM2 Tokmak 2 57.67 317 *e*P **P** **20 57 50.4 -0.3**
comp=Z,4.5nm,0.7s,mb4.6
KBK Karagaybulak 58.01 317 P **P** **20 57 53.7 +0.6**
SNR=6.6
ZALV Zalesovo Beam 58.02 332 P **P** **20 57 51.2 -1.7**
comp=Z,2.3nm,0.6s,mb4.4,baz=120,slow=6.5,SNR=14
ZALV Zalesovo Beam 58.02 332 P **P** **20 57 51.2 -1.7**
ZAL Zalesovo 58.02 332 P **P** **20 57 51.2 -1.8**
UCH Uchtor 58.15 316 P **P** **20 57 54.9 +0.8**
SNR=26
UCH Uchtor 58.15 316 *e*P **P** **20 57 54.7 +0.6**
comp=Z,16nm,0.8s,mb5.1
USP Ospenovka 58.55 317 P **P** **20 57 56.4 -0.5**
SNR=11
AML Almayashu 58.68 316 P **P** **20 57 58.3 +0.5**
SNR=9.8
AML Almayashu 58.68 316 *e*P **P** **20 57 58.3 +0.5**
comp=Z,12nm,0.8s,mb5.0
EKS2 Erkin-Say 58.81 316 P **P** **20 57 58.6 -0.1**
SNR=9.5
EKS2 Erkin-Say 58.81 316 *e*P **P** **20 57 58.6 -0.1**
comp=Z,86nm,0.7s
SEY Seymchan 59.03 13⇑ *e*P **P** **20 57 59.9 +0.1**
NVS Novosibirsk 59.30 332 *e*P **P** **20 57 58.2 -3.6**
KURK Kurchatov 59.34 326 *e*P **P** **20 58 01.5 -0.7**
KBL Kabul 59.91 306⇑ *i*P **P** **20 58 05.8 -0.7**
KBL pmax pmax
comp=Z,17nm,0.7s,mb5.2
KBL Kabul 59.91 306⇑ *i*P **P** **20 58 05.8 -0.7**
comp=Z,17nm,0.7s,mb5.2
TIXI Tiksi 64.82 1 *e*P **P** **20 58 36.5 -2.0**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
TIXI MLR MLR
comp=Z,125nm,19.0s
TIXI Tiksi 64.82 1 *e*P **P** **20 58 37.9 -0.6**
BVAR Borovoye Array 64.94 326 P **P** **20 58 38.8 -0.8**
comp=Z,4.9nm,0.8s,mb4.4,baz=120,slow=8.7,SNR=31
BRVK Borovoye 65.01 326 *e*P **P** **20 58 39.3 -0.8**
BRVK *e* 20 58 50.3
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
BRVK Borovoye 65.01 326 *e*P **P** **20 58 39.3 -0.8**
comp=Z,9.1nm,0.8s,mb4.7
BRVK *e* 20 58 50.3
BILL Bilibino 66.57 15 *e*P **P** **20 58 51.8 +1.9**
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
AKTK Aktyubinsk 71.46 321 P **P** **20 59 19.9 -0.6**
AKTO Aktyubinsk 71.46 321 P **P** **20 59 19.9 -0.6**
comp=Z,10nm,0.7s,mb4.8,baz=93,slow=7.7,SNR=46
SVE Sverdlovsk 71.53 328 *e*P **P** **20 59 19.8 -1.0**
SVE pmax pmax
comp=Z,16nm,0.8s,mb4.9
ARU Arti 72.53 327 *d i*P **P** **20 59 25.4 -1.3**
ARU *e**PP pP 20 59 44.5 0.0
ARU *e* 21 02 03.1
ARU *e*S S 21 08 45.6 -0.4
ARU *e*SS SS 21 13 19.5 -6.3
ARU pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
ARU Arti 72.53 327 *e*P **P** **20 59 25.1 -1.6**
comp=Z,10.0nm,0.6s,mb4.8
ARU *e* 20 59 30.5
CASY Casey 73.84 187 *e*P **P** **20 59 35.2 +1.0**
UMR Umm Al-Rimmam 77.37 299 *e*P **P** **20 59 54.2 -1.1**
baz=299
UMR AMb AMB 20 59 54.8
comp=Z,34nm,1.0s,mb5.0,baz=299
RDF Al-Radifah 77.53 298 *e*P **P** **20 59 55.8 -0.4**
baz=298
RDF AMb AMB 20 59 58.4
comp=Z,25nm,1.1s,mb4.9,baz=298
MIB Mutribah 77.70 299 *e*P **P** **20 59 56.1 -1.0**
baz=299
MIB AMb AMB 20 59 57.4
comp=Z,31nm,0.8s,mb5.1,baz=299
NAY Al-Naaiem 77.79 298 *e*P **P** **20 59 56.4 -1.2**
baz=298
NAY AMb AMB 20 59 57.0
comp=Z,12nm,0.8s,mb4.7,baz=298
IMA2 Indian Mountai 79.52 24 *e*P **P** **21 00 06.4 +0.1**
GNI Garni 79.75 309 P **P** **21 00 08.1 0.0**
comp=Z,2.6nm,0.4s,mb4.4,baz=105,slow=3.2,SNR=4.3
GNI LR LR 21 41 10.0
comp=Z,28nm,20.2s,baz=322,slow=40
GNI Garni 79.75 309⇑ *e*P **P** **21 00 08.5 +0.4**
GNI pmax pmax
comp=Z,16nm,1.5s
KTH Kantishna Hill 80.45 27 *e*P **P** **21 00 12.5 +1.1**
comp=Z,6.3nm,1.0s,mb4.4
SLKM Skilak Lake 80.60 30 *e*P **P** **21 00 12.8 +0.5**
TRF Thorofare Moun 80.73 27 *e*P **P** **21 00 13.2 +0.2**
comp=Z,18nm,1.4s,mb4.7
RC01 Rabbit Creek A 80.86 29 *e*P **P** **21 00 14.1 +0.5**
comp=Z,6.8nm,0.7s,mb4.6
COLD Coldfoot 81.01 23 *e*P **P** **21 00 15.6 +1.2**
comp=Z,3.0nm,0.7s,mb4.2
KIV Kislovodsk 81.24 313⇑ *e*P **P** **21 00 16.5 +0.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
KIV Kislovodsk 81.24 313 *e*P **P** **21 00 16.4 +0.3**
comp=Z,6.4nm,0.6s,mb4.6
MCK McKinley 81.35 27 *e*P **P** **21 00 16.6 +0.4**
MCK *e* pP 21 00 30.4 -3.9
MCK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MCK McKinley 81.35 27 *e*P **P** **21 00 16.6 +0.4**
comp=Z,9.5nm,0.7s,mb4.7
MCK *e* pP 21 00 30.4 -3.8
COLA College 81.86 25 *e*P **P** **21 00 18.9 0.0**
DIV Divide 82.79 29 *e*P **P** **21 00 25.2 +1.4**
comp=Z,5.2nm,0.6s,mb4.5
BMRM Bremner River 83.36 29 *e*P **P** **21 00 27.9 +1.1**
EGAK Eagle 84.72 25 *e*P **P** **21 00 35.1 +1.5**
comp=Z,5.3nm,0.9s,mb4.5
EGAK *e* pP 21 00 48.4 -3.4
OBN Obninsk 84.74 325⇑ *e*P **P** **21 00 33.6 -0.3**
OBN pmax pmax
comp=Z,26nm,1.3s,mb5.0
ANN Anapa 84.96 314 *e*P **P** **21 00 33.6 -1.6**
ANN pmax pmax
comp=Z,35nm,0.8s,mb5.3
DAWY Dawson 85.55 26 *e*P **P** **21 00 39.4 +1.6**
DAWY *e* pP 21 00 52.4 -3.5
ASF Jabal al Asfar 86.51 302 P **P** **21 00 43.9 +0.7**
comp=Z,6.2nm,0.8s,mb4.6,baz=321,slow=3.0,SNR=14
HYT Haines Junctio 86.83 29 *e*P **P** **21 00 46.3 +2.2**
HYT *e* pP 21 01 00.9 -1.4
MMAI Mount Meron Ar 87.68 303 P **P** **21 00 49.3 +0.5**
comp=Z,1.7nm,0.6s,mb4.3,baz=81,slow=11,SNR=4.9
MMAI pP pP 21 01 02.5 -4.6
comp=Z,0.5nm,0.5s,baz=243,slow=36,SNR=1.8
ARCES ARCESS Array B 87.70 340 P **P** **21 00 47.2 -1.0**
comp=Z,2.3nm,0.6s,mb4.4,baz=79,slow=6.3,SNR=8.5
EIL Elat 88.45 300 P **P** **21 00 52.6 +0.1**
comp=Z,2.3nm,0.6s,mb4.4,baz=153,slow=14,SNR=4.2
AKASG Malin Array Be 89.71 321 P **P** **21 00 56.7 -1.3**
comp=Z,4.9nm,0.7s,mb4.8,baz=68,slow=4.8,SNR=26
AKASG pP pP 21 01 10.3 -6.0
comp=Z,3.7nm,0.8s,baz=72,slow=4.1,SNR=5.0
AKASG Malin Array Be 89.71 321 P **P** **21 00 56.7 -1.3**
AKASG pP pP 21 01 10.3 -6.0
BBB Bella Bella 93.73 37 LR LR 21 39 35.0
comp=Z,36nm,18.7s,baz=222,slow=33
HFS Hagfors 95.46 332 P **P** **21 01 22.5 -1.8**
comp=Z,2.9nm,0.7s,mb4.8,baz=90,slow=8.9,SNR=4.0
NOA NORSAR Array B 96.19 334 LR LR 21 48 36.8
comp=Z,33nm,18.4s,baz=30,slow=38
YKA Yellowknife Ar 96.64 24 P **P** **21 01 30.1 +0.5**
comp=Z,1.7nm,0.7s,mb4.6,baz=306,slow=4.8,SNR=8.7
YKA pP pP 21 01 43.1 -4.9
comp=Z,1.2nm,0.8s,baz=301,slow=5.3,SNR=5.0
BRG Berggiesshubel 98.95 324 *e*P pP 21 01 55.4 -3.3
comp=Z,4.5nm,1.1s
GERES GERESS Array B 99.87 322 P Pdif 21 01 44.4 +0.1
comp=Z,1.3nm,0.8s,baz=59,slow=5.1,SNR=11
GERES pP 21 01 57.3
comp=Z,0.8nm,0.8s,baz=76,slow=5.6,SNR=4.8
GERES LR LR 21 56 04.1
comp=Z,56nm,18.0s,baz=78,slow=41
GERES GERESS Array B 99.87 322 P Pdif 21 01 44.4 +0.1
GERES *PP 21 01 57.3
ANMO Albuquerque 114.78 47⇑ *i*PKIKP PKiKP 21 06 38.8 -1.9
TXAR Lajitas Array 119.52 51 PKP PKPdf 21 06 51.5 +1.5
comp=Z,0.6nm,0.7s,baz=242,slow=0.5,SNR=9.1
TXAR pPKP pPKPdf 21 07 04.5 -4.4
comp=Z,0.2nm,0.6s,baz=132,slow=1.9,SNR=2.2
TXAR Lajitas Array 119.52 51 PKP PKPdf 21 06 51.5 +1.5
TXAR pPKP pPKPdf 21 07 04.5 -4.4
JCT Junction City 121.87 48 *e*PKIKP PKPdf 21 06 53.7 -0.7
TOA0 Torodi Ar. Sit 122.17 290 *e*PKPdf PKPdf 21 06 54.8 -0.5
TORD Torodi Ar. Bea 122.17 290 PKP PKPdf 21 06 54.8 -0.6
comp=Z,2.2nm,0.7s,baz=64,slow=1.7,SNR=35
TORD pPKP pPKPdf 21 07 09.2 -5.2
comp=Z,1.3nm,0.7s,baz=40,slow=1.6,SNR=5.3
MIAR Mount Ida 123.83 40 *e*PKIKP PKPdf 21 06 58.7 +0.6
PLAL Pickwick Lake 126.92 36 *e*PKPdf PKPdf 21 07 04.1 +0.1
TKL Tuckaleechee C 128.83 32 PKP PKPdf 21 07 08.1 +0.4
comp=Z,2.5nm,1.0s,baz=190,slow=2.4,SNR=5.1

ISK ***26*** *21:13:22.2, 39.26N×4096E, h5km, MD3.2*
CSEM ***26*** *21:13:22.4±0.1, 39.26N×4096E, h2km, MD3.2, Error ellipse: s-maj=2.6km s-min=2.1km az=17.0*
ISCJB ***26*** *21:13:23.6±0.8, 39.25N±003×40.95E±005, h3km±7km, Error ellipse: s-maj=6.3km s-min=5.5km az=36.2*
DDA ***26*** *21:13:23.7, 39.27N×4093E, h7km±5km, Md3.0*
ISC 26 21:13:24.1±0.8,**3925N**±004×**4094E**±005,**h4**km±7km,**n13,**
σ1§08/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.33**	**151**	*e*P	**Pg**	**21 13 29.9**	**-0.6**
BNGL				*e*S	**Sg**	**21 13 37.4**	**+2.5**
EZM	**Erzurum**	**0.74**	**26**	PG	**Pg**	**21 13 37.1**	**-1.2**
ERZM	**Erzurum**	**0.74**	**26**	*e*P	**Pg**	**21 13 37.0**	**-1.2**
ERZM				*e*S	**Sg**	**21 13 48.9**	**+1.1**
KOPT	**Kop Dagi**	**0.84**	**336**	*e*P	**Pg**	**21 13 40.1**	**-0.2**
KOPT				*e*S	**Sg**	**21 13 54.3**	**+3.0**
EZC	**Erzincan**	**1.00**	**300**	*e*PN	**Pn**	**21 13 48.9**	**+3.9**
HOMI	**Horasan**	**1.09**	**43**	*e*P	**Pg**	**21 13 41.6**	**-3.4**
HOMI				*e*S	**Sg**	**21 13 59.8**	**+0.6**
PTK	**Pertek**	**1.26**	**254**	*e*PN	**Pn**	**21 13 47.0**	**-1.4**
PTK				*e*SN	**Sn**	**21 14 06.4**	**+0.6**
SVRC	**Sivrice-ELAZID**	**1.54**	**236**	*e*PN	**Pn**	**21 13 52.2**	**-0.2**
AGRB	**Hanur-Agry**	**1.62**	**78**	*e*PN	**Pn**	**21 13 52.9**	**-0.5**
AGRB				*e*SN	**Sn**	**21 14 15.3**	**+0.4**
GUMT	**Gumushane**	**1.66**	**318**	*e*PN	**Pn**	**21 13 53.8**	**-0.2**
SIRT	**Sirnak**	**2.10**	**145**	*e*PN	**Pn**	**21 13 60.0**	**-0.1**
MALT	**Malatya**	**2.17**	**245**	*e*PN	**Pn**	**21 14 01.5**	**+0.5**
ESPY	**Espiye-Giresun**	**2.38**	**315**	*e*PN	**Pn**	**21 14 03.9**	**0.0**

ISCJB ***26*** *21:39:01.5±0.9, 1665N±005×9481W±003, h93km±18km, Error ellipse: s-maj=9.1km s-min=4.3km az=8.9*
MEX ***26*** *21:39:02.7±1.1, 1664N×9481W, h100km±22km, MD4.0*
NEIC ***26*** *21:39:02.7, 1664N×9481W, h100km, MD4.0(MEX), After MEX.*
ISC 26 21:39:02.6±0.9,**1664N**±005×**9480W**±003,**h79**km±22km,
n12,σ1§01/24,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**1.44**	**15**	*i* P	**Pn**	**21 39 26.7**	**-0.3**
TUIG				*i* S	**Sn**	**21 39 45.5**	**0.0**
HUIG	**Huatulco**	**1.52**	**236**	*i* P	**Pn**	**21 39 27.4**	**-0.8**
HUIG				*i* S	**Sn**	**21 39 48.2**	**+0.7**
TGIG		**1.62**	**85**	*i* P	**Pn**	**21 39 30.0**	**+0.5**
TGIG				*i* S	**Sn**	**21 39 50.0**	**+0.3**
OXX	**Oaxaca**	**1.89**	**284**	*i* P	**Pn**	**21 39 33.3**	**+0.3**
OXX				*i* S	**Sn**	**21 39 56.7**	**+0.5**
VHO	**Vista Hermosa**	**1.90**	**283**	*i* P	**Pn**	**21 39 34.1**	**+1.0**
VHO				*i* S	**Sn**	**21 39 56.6**	**+0.3**
SCX	**San Cristobal**	**2.08**	**87**	*e*P	**Pn**	**21 39 36.5**	**+0.9**
SCX				*i* S	**Sn**	**21 39 58.9**	**-1.8**
CCIG	**Comitan**	**2.58**	**98**	*i* P	**Pn**	**21 39 42.5**	**+0.2**
CCIG				*i* S	**Sn**	**21 40 11.6**	**-1.2**
THIG		**2.99**	**125**	*e*P	**Pn**	**21 39 43.8**	**-4.0**
THIG				*i* S	**Sn**	**21 40 25.3**	**+2.7**
TPIG	**Tehuac#an**	**3.02**	**306**	*e*P	**Pn**	**21 39 48.2**	**+0.1**
TPIG				*i* S	**Sn**	**21 40 23.1**	**-0.2**
UTMO	**Huajuapan**	**3.10**	**293**	*i* P	**Pn**	**21 39 49.9**	**+0.6**
UTMO				*i* S	**Sn**	**21 40 23.8**	**-1.5**
PNIG	**Pinotepa**	**3.20**	**266**	*i* P	**Pn**	**21 39 49.1**	**-1.5**
PNIG				*i* S	**Sn**	**21 40 25.9**	**-1.7**
PPM	**Popocatepetl**	**4.37**	**304**	*i* P	**Pn**	**21 40 07.3**	**+0.8**
PPM				*i* S	**Sn**	**21 40 57.4**	**+1.1**

ISCJB ***26*** *21:59:07.3±0.8, 2523N±006×100.18E±006, h10km, mb3.4/3, Error ellipse: s-maj=8.9km s-min=8.3km az=159.4*
IDC ***26*** *21:59:07.9±1.4, 2534N×100.13E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/22, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=45.1km s-min=19.6km az=84.0*
BJI ***26*** *21:59:10.3, 2550N×10002E, h16km, ML3.4*
ISC 26 21:59:08.3±2.2,**2528N**±009×**10014E**±009,**h1**km±16km,**n6,**
σ0§41/10,mb3.4/3,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.36**	**93**	P	**Pb**	**21 59 51.3**	**-0.3**
KMI				PG	**Pg**	**21 59 53.5**	**-0.1**
KMI				SG	**Sg**	**22 00 24.0**	**-0.1**
KMI				Smax			

comp=N,344nm,0.8s
KMI Smax
comp=E,373nm,0.8s
KMI LR LR
comp=N,192nm,4.2s
KMI LR LR
comp=E,652nm,3.8s
KMI LR LR
comp=Z,222nm,5.1s
CD2 Chengdu 6.46 29 *e*P **Pn 22 00 45.0 +0.5**
CD2 S **Sn 22 01 59.5 +0.7**
CD2 Smax
comp=N,30nm,1.1s
CD2 Smax
comp=E,20nm,1.1s
CMAR Chiang Mai Arr 6.88 190 Pn **Pn 22 00 50.5 +0.2**
comp=E,0.2nm,0.3s,baz=4.4,slow=13,SNR=3.1
CMAR Pg **Pg 22 01 20.5 +0.4**
comp=E,0.4nm,0.3s,baz=359,slow=15,SNR=14
CMAR Lg 22 02 49.1
comp=E,0.3nm,0.3s,baz=0.0,slow=27,SNR=4.0
SONM Songino Array 23.05 11 P **P 22 04 14.3 -0.6**
comp=E,0.2nm,0.5s,mb2.8,baz=201,slow=11,SNR=4.0
MKAR Makanchi Array 25.76 331 P **P 22 04 39.9 -0.6**
comp=E,1.0nm,0.6s,mb3.5,baz=135,slow=10,SNR=12
WRA Warramunga Arr 55.91 140 P **P 22 08 48.0 0.0**
comp=E,0.5nm,0.7s,mb3.7,baz=329,slow=8.1,SNR=5.4

IDC 26 22:01:06.4±2.2, 378N×12712E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=180.0km s-min=25.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.62**	**164**	P	P	22 06 28.4	-0.2
	1.6nm,0.6s,baz=342,slow=10,SNR=25						
ASAR	**Alice Springs**	**28.07**	**167**	P	P	22 07 00.3	+0.6
	0.4nm,0.4s,baz=357,slow=7.9,SNR=11						
MKAR	**Makanchi Array**	**57.73**	**325**	P	P	22 10 59.0	0.0
	0.4nm,0.5s,baz=116,slow=8.4,SNR=6.9						

*IDC **26** 22:05:10.7±0.7, 698N×12745E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/19, mbtmp3.9/11, MS3.2/3, Ms1 3.2/3, ms1mx2.8/30, Error ellipse: s-maj=26.6km s-min=14.0km az=78.0*
*NEIC **26** 22:05:12.1±0.3, 700N×12743E, h10km, mb4.4/8, Error ellipse: s-maj=11.7km s-min=7.1km az=70.0*
*ISCJB **26** 22:05:17.5±1.0, 682N±005×127.18E±007, h70km±9km, mb4.0/18, Error ellipse: s-maj=12.4km s-min=7.8km az=172.3*
*MAN **26** 22:05:22, 693N×12673E, h10km, mb5.0, ML3.9, MS4.0*
ISC 26 22:05:19.0±0.9, 681N±005×12714E±007, h63km±9km, n44, σ1§26/52, mb4.1/18, 1C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.88**	**279**	*e*P	**Pn**	**22 05 32.0**	**-3.6**
MATI				*e*S	**Sn**	**22 05 43.9**	**-4.1**
BIPH	**Bislig**	**1.57**	**331**	⇑*i*P	**Pn**	**22 05 43.4**	**-1.2**
BIPH				*i* S	**Sn**	**22 06 03.8**	**-0.2**
DAV	**Davao City (W)**	**1.57**	**280**	Pn	**Pn**	**22 05 44.3**	**-0.3**
	126nm,0.3s,baz=167,slow=0.4,SNR=18						
DAV				Sn	**Sn**	**22 06 05.9**	**+1.9**
	131nm,0.3s,baz=260,slow=21,SNR=7.6						
DAV	**Davao City (W)**	**1.57**	**280**	Pn	**Pn**	**22 05 44.3**	**-0.3**
DAV				Sn	**Sn**	**22 06 05.9**	**+1.9**
DMPH	**Davao City--Mi**	**1.64**	**280**	⇓*i*P	**Pn**	**22 05 45.5**	**-0.1**
DMPH				*i* S	**Sn**	**22 05 56.6**	**-9.1**
KCP	**Kidapawan**	**2.04**	**276**	⇓*e*P	**Pn**	**22 05 50.6**	**-0.5**
KCP				*e*S	**Sn**	**22 06 15.2**	**-0.3**
GSPH	**General Santos**	**2.29**	**252**	*e*P	**Pn**	**22 05 51.6**	**-2.8**
GSPH				*e*S	**Sn**	**22 06 19.3**	**-2.2**
BUKP	**Musuan**	**2.31**	**297**	*e*P	**Pn**	**22 05 55.0**	**+0.2**
BUKP				*e*S	**Sn**	**22 06 29.3**	**+7.2**
BUTP	**Butuan**	**2.62**	**325**	*e*P	**Pn**	**22 06 01.0**	**+2.1**
BUTP				*e*S	**Sn**	**22 06 38.9**	**+9.3**
SCPH	**Surigao**	**3.37**	**331**	⇓*e*P	**Pn**	**22 06 11.8**	**+2.5**
PAGZ	**Pagadian**	**3.86**	**286**	*e*P	**Pn**	**22 06 16.9**	**+1.0**
TBP	**Tagbilaran**	**4.32**	**312**	*e*P	**Pn**	**22 06 22.9**	**+0.7**
TBP				*e*S	**Sn**	**22 07 16.7**	**+5.3**
PLP	**Palo**	**4.82**	**334**	⇓*e*P	**Pn**	**22 06 26.2**	**-2.9**
PLP				*e*S	**Sn**	**22 07 36.2**	**+13**
GUMO	**Guam**	**18.70**	**67**	Pn	**Pn**	**22 09 26.3**	**-7.1**
JOW	**Kunigami**	**19.94**	**3**	P	**Pn**	**22 09 50.1**	**+2.1**
	0.5nm,0.3s,baz=186,slow=3.0,SNR=4.0						
KAKA	**Kakadu**	**20.10**	**165**	*e*P	**P**	**22 09 48.1**	**+0.4**
	7.9nm,0.4s						
CBIJ	**Chichi jima**	**24.73**	**34**	P	**P**	**22 10 29.8**	**-4.8**
	8.0nm,0.7s,mb4.4,baz=282,slow=20,SNR=5.4						
CBIJ				LR	LR	22 18 45.4	
	comp=Z,23nm,20.1s,baz=115,slow=33						
FITZ	**Fitzroy Crossi**	**24.80**	**183**	*e*P	**P**	**22 10 36.8**	**+1.6**
	7.8nm,1.2s,mb4.1						
FITZ	**Fitzroy Crossi**	**24.80**	**183**	P	**P**	**22 10 36.5**	**+1.3**
	0.8nm,0.4s,mb3.6,baz=27,slow=11,SNR=7.0						
FITZ	**Fitzroy Crossi**	**24.80**	**183**	*e*P	**P**	**22 10 36.7**	**+1.5**
	23nm,1.7s,mb4.4						
PMG	**Port Moresby**	**25.64**	**129**	*e*P	**P**	**22 10 40.9**	**-2.1**
WRAB	**Tennant Creek**	**27.51**	**165**	*e*P	**P**	**22 10 59.1**	**-0.5**
	2.4nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**27.51**	**165**	P	**P**	**22 11 00.7**	**+1.0**
	0.6nm,0.3s,mb3.7,baz=348,slow=9.8,SNR=25						
WB2	**Warramunga Arr**	**27.52**	**165**	*e*P	**P**	**22 11 01.7**	**+1.9**
MBWA	**Marble Bar**	**28.73**	**194**	*e*P	**P**	**22 11 11.5**	**+1.0**
	5.1nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**31.00**	**168**	P	**P**	**22 11 30.9**	**+0.3**
	0.4nm,0.4s,mb3.6,baz=342,slow=7.0,SNR=8.8						
ASAR				PcP	PcP	22 14 28.0	+2.4
	0.4nm,0.6s,baz=357,slow=2.9,SNR=5.5						
MJAR	**Matsushiro Arr**	**31.28**	**17**	P	**P**	**22 11 32.0**	**-1.0**
	2.3nm,0.7s,mb4.1,baz=196,slow=9.1,SNR=9.9						
ASAJ	**Asahikawa**	**39.55**	**18**	LR	LR	22 28 20.9	
	comp=Z,44nm,19.9s,baz=251,slow=35						
STKA	**Stephens Creek**	**40.87**	**161**	P	**P**	**22 12 54.1**	**-0.8**
	1.8nm,0.7s,mb3.8,baz=341,slow=13,SNR=6.1						
YSS	**Yuzh-Sakhalins**	**42.19**	**16**	*e*P	**P**	**22 13 02.5**	**-3.0**
ULN	**Ulaanbaatar**	**44.35**	**341**	P	**P**	**22 13 22.7**	**-0.2**
SONM	**Songino Array**	**44.54**	**340**	P	**P**	**22 13 25.2**	**+0.8**
	0.3nm,0.7s,mb3.2,baz=120,slow=5.2,SNR=3.2						
SONM				PcP	PcP	22 15 08.4	+1.8
	0.5nm,0.7s,baz=116,slow=3.4,SNR=3.3						
SONM				LR	LR	22 32 08.7	
	comp=Z,38nm,18.6s,baz=322,slow=36						
PETK	**Petropavlovsk-**	**52.45**	**23**	P	**P**	**22 14 28.6**	**+3.5**
	2.3nm,0.6s,mb4.3,baz=206,slow=3.7,SNR=3.7						
MKAR	**Makanchi Array**	**55.30**	**324**	P	**P**	**22 14 46.6**	**+0.5**
	1.5nm,0.8s,mb4.1,baz=118,slow=8.1,SNR=14						
ZALV	**Zalesovo Beam**	**58.06**	**332**	P	**P**	**22 15 05.0**	**-0.5**
	0.4nm,0.4s,mb3.8,baz=114,slow=7.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**58.06**	**332**	P	**P**	**22 15 05.0**	**-0.5**
UCH	**Uchtor**	**58.22**	**316**	*e*P	**P**	**22 15 06.6**	**-0.3**
	1.7nm,0.6s,mb4.2						
KURK	**Kurchatov**	**59.40**	**326**	*e*P	**P**	**22 15 14.8**	**0.0**
	2.7nm,0.8s,mb4.3						
KBL	**Kabul**	**60.02**	**306**	*e*P	**P**	**22 15 19.4**	**0.0**
	2.4nm,0.7s,mb4.3						
BRVK	**Borovoye**	**65.06**	**326**	*e*P	**P**	**22 15 52.5**	**-0.2**
	1.5nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**87.72**	**340**	P	**P**	**22 17 59.3**	**-1.2**
	1.4nm,0.9s,mb4.2,baz=64,slow=4.1,SNR=3.1						
AKASG	**Malin Array Be**	**89.77**	**321**	P	**P**	**22 18 10.4**	**-0.2**
	1.1nm,0.6s,mb4.4,baz=61,slow=4.9,SNR=7.5						
TORD	**Torodi Ar. Bea**	**122.30**	**290**	PKP	PKPdf	22 24 08.0	0.0
	0.5nm,0.7s,baz=44,slow=1.6,SNR=7.2						
TORD	**Torodi Ar. Bea**	**122.30**	**290**	PKP	PKPdf	22 24 08.0	0.0

IDC 26 22:08:02.9±1.2, 5259N×3180W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.6/29, mbtmp3.7/7, ML4.0/1, MS3.1/6, Ms1 3.1/6, ms1mx2.8/37, Error ellipse: s-maj=37.9km s-min=23.4km az=19.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.02**	**69**	P	Pn	22 12 03.0	+1.0
	0.3nm,0.3s,baz=266,slow=9.7,SNR=16						
ESDC	**Sonseca Array**	**23.04**	**113**	P	P	22 13 10.5	+1.0
	0.1nm,0.4s,baz=306,slow=7.9,SNR=4.0						
NOA	**NORSAR Array B**	**24.60**	**53**	LR	LR	22 22 02.0	
	comp=Z,26nm,18.3s,baz=285,slow=34						
HFS	**Hagfors**	**25.84**	**55**	LR	LR	22 22 35.7	
	comp=Z,53nm,18.5s,baz=253,slow=34						
GERES	**GERESS Array B**	**28.68**	**79**	P	P	22 14 01.1	-0.1
	0.6nm,0.8s,baz=298,slow=6.2,SNR=6.9						
GERES				LR	LR	22 24 50.2	
	comp=Z,19nm,19.1s,baz=98,slow=35						
VRAC	**Vranov**	**30.21**	**77**	LR	LR	22 25 38.0	
	comp=Z,18nm,18.5s,baz=130,slow=35						
AKASG	**Malin Array Be**	**36.92**	**68**	P	P	22 15 12.0	-1.1
	0.9nm,0.6s,baz=296,slow=8.4,SNR=6.5						
TKL	**Tuckaleechee C**	**40.02**	**266**	LR	LR	22 33 16.6	
	comp=Z,41nm,18.1s,baz=95,slow=38						
TORD	**Torodi Ar. Bea**	**47.57**	**133**	P	P	22 16 39.9	-0.3
	0.5nm,0.6s,baz=328,slow=6.6,SNR=10						
PDAR	**Pinedale Array**	**50.86**	**292**	P	P	22 17 05.3	+0.3
	0.7nm,0.8s,baz=70,slow=9.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**61.48**	**37**	P	P	22 18 21.7	+0.9
	0.8nm,0.6s,baz=305,slow=8.0,SNR=3.5						
MKAR	**Makanchi Array**	**66.14**	**43**	LR	LR	22 46 07.9	
	comp=Z,27nm,21.2s,baz=45,slow=35						
WRA	**Warramunga Arr**	**145.68**	**24**	PKPbc	PKPbc	22 27 43.1	-0.3
	0.7nm,1.0s,baz=338,slow=2.5,SNR=4.3						
ASAR	**Alice Springs**	**149.13**	**26**	PKPbc	PKPbc	22 27 51.9	-1.1
	0.2nm,0.7s,baz=358,slow=2.9,SNR=2.7						

*IDC **26** 22:16:44.3±1.7, 337N×12925E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=72.7km s-min=19.4km az=66.0*
*ISCJB **26** 22:17:04.6±5.4, 30N±02×1290E±02, h191km±52km, mb3.8/8, Error ellipse: s-maj=48.2km s-min=15.4km az=145.6*
*NEIC **26** 22:17:08.4±7.2, 296N×12896E, h212km±71km, mb4.0/5, Error ellipse: s-maj=50.4km s-min=11.7km az=54.0*
ISC 26 22:17:06.7±5.3, 30N±02×1290E±03, h193km±52km, n17, σ0§98/17, mb3.8/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.96**	**168**	*e*P	**Pn**	**22 20 40.6**	**-0.4**
	4.7nm,0.6s						
KSM	**Kuching**	**18.70**	**266**	*e*P	**P**	**22 21 13.2**	**+2.5**
FITZ	**Fitzroy Crossi**	**21.20**	**189**	P	**P**	**22 21 35.2**	**-2.2**
	1.1nm,0.5s,mb3.6,baz=32,slow=9.5,SNR=6.5						
FITZ	**Fitzroy Crossi**	**21.20**	**189**	*e*P	**P**	**22 21 35.2**	**-2.1**
	2.1nm,0.5s,mb3.9						
WRAB	**Tennant Creek**	**23.37**	**167**	*e*P	**P**	**22 21 58.4**	**+0.3**
	4.3nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**23.38**	**167**	P	**P**	**22 21 58.5**	**+0.4**
	3.9nm,0.5s,mb4.2,baz=348,slow=9.7,SNR=34						
WB2	**Warramunga Arr**	**23.38**	**167**	*e*P	**P**	**22 21 58.4**	**+0.2**
ASAR	**Alice Springs**	**26.92**	**170**	P	**P**	**22 22 30.2**	**+0.2**
	1.2nm,0.5s,mb3.8,baz=358,slow=8.2,SNR=24						
ASAR				PcP	PcP	22 25 49.1	+2.0
	0.4nm,0.5s,baz=360,slow=2.1,SNR=4.5						
ENH	**Enshi**	**32.82**	**328**	*e*P	**P**	**22 23 22.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**33.17**	**300**	P	**P**	**22 23 23.3**	**-1.9**
	0.6nm,0.6s,mb3.3,baz=113,slow=7.1,SNR=4.1						
STKA	**Stephens Creek**	**36.68**	**162**	*e*P	**P**	**22 23 55.9**	**+0.9**
	1.4nm,0.4s,mb3.8						
MKAR	**Makanchi Array**	**59.45**	**325**	P	**P**	**22 26 49.2**	**+0.1**
	0.1nm,0.3s,mb2.9,baz=116,slow=8.2,SNR=6.2						
MKAR	**Makanchi Array**	**59.45**	**325**	P	**P**	**22 26 49.1**	**+0.1**
TKM2	**Tokmak 2**	**61.79**	**318**	P	**P**	**22 27 05.1**	**+0.1**
KURK	**Kurchatov**	**63.58**	**327**	P	**P**	**22 27 16.9**	**+0.3**
BRVK	**Borovoye**	**69.24**	**327**	*e*P	**P**	**22 27 52.9**	**+0.3**
	2.0nm,0.7s,mb3.9						
KIV	**Kislovodsk**	**85.27**	**314**	*e*P	**P**	**22 29 20.8**	**-1.0**

IDC 26 22:17:30.7±5.1, 2241N×14436E, h125km±38km, mb3.3/4, mb1 3.3/5, mb1mx3.1/21, mbtmp3.3/5, MS3.5/1, Ms1 3.5/1, ms1mx2.4/20, Error ellipse: s-maj=191.0km s-min=22.6km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.07**	**337**	P	Pn	22 18 44.1	-0.5
	4.2nm,0.3s,baz=291,slow=21,SNR=12						
CBIJ				S	Sn	22 19 38.0	-4.2
	16nm,0.3s,baz=291,slow=24,SNR=16						
KSRS	**Korea Array**	**20.64**	**320**	P	P	22 22 01.6	+1.4
	2.4nm,0.4s,baz=147,slow=8.7,SNR=12						
SONM	**Songino Array**	**39.50**	**319**	P	P	22 24 48.9	0.0
	0.4nm,0.5s,baz=134,slow=8.4,SNR=4.5						
WRA	**Warramunga Arr**	**43.21**	**194**	P	P	22 25 19.4	0.0
	0.3nm,0.3s,baz=15,slow=7.9,SNR=10						
WRA				LR	LR	22 43 45.7	
	comp=Z,68nm,20.9s,baz=215,slow=36						
ZALV	**Zalesovo Beam**	**54.34**	**321**	P	P	22 26 43.5	-0.6
	0.8nm,0.4s,baz=112,slow=8.9,SNR=5.3						

MAN 26 22:22:45.685N×12737E, h6km, mb4.7, ML3.6, MS3.5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.11**	**275**	*e*P	Pg	22 23 05.4	-0.9
MATI				*e*S	Sg	22 23 16.9	-3.8
BIPH	**Bislig**	**1.66**	**323**	⇑*i*P	Pn	22 23 16.5	+1.9
BIPH				*i* S	Sn	22 23 39.1	+2.9
BUKP	**Musuan**	**2.50**	**294**	*e*P	Pn	22 23 27.9	+1.7
BUKP				*e*S	Sn	22 23 59.1	+1.9

*ISCJB **26** 22:24:04.8±0.7, 178S±02×178.7W±0.1, h500km, mb3.8/13, Error ellipse: s-maj=22.7km s-min=13.6km az=153.1*
*IDC **26** 22:24:06.7±4.9, 1778S×17858W, h513km±56km, mb3.4/11, mb1 3.6/11, mb1mx3.4/19, mbtmp3.4/11, Error ellipse: s-maj=28.6km s-min=19.4km az=2.0*
*NEIC **26** 22:24:09.4±4.0, 1786S×17867W, h548km±47km, mb4.1/6, Error ellipse: s-maj=27.9km s-min=17.5km az=185.0*
ISC 26 22:24:05.8±0.7, 178S±02×1787W±01, h500km, n41, σ0§87/22, mb3.8/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.76**	**189**	P	**P**	**22 28 10.0**	**-1.2**
	5.3nm,0.3s,baz=303,slow=2.7,SNR=12						
CTA	**Charters Tower**	**33.24**	**260**	P	**P**	**22 30 01.9**	**+0.9**
	2.0nm,0.4s,mb3.9,baz=246,slow=20,SNR=3.0						
CTAO	**Charters Tower**	**33.24**	**260**	*e*P	**P**	**22 30 01.8**	**+0.8**
	3.4nm,0.7s,mb3.9						
PMG	**Port Moresby**	**34.20**	**279**	*e*P	**P**	**22 30 10.0**	**+0.7**
STKA	**Stephens Creek**	**38.50**	**241**	*e*P	**P**	**22 30 46.2**	**+1.6**
	2.7nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**22 30 46.5**	**+1.9**
	2.8nm,0.5s,mb4.0,baz=119,slow=10,SNR=13						
STKA	**Stephens Creek**	**38.50**	**241**	*e*P	**P**	**22 30 46.5**	**+1.9**
	2.6nm,0.4s,mb4.0						
WB2	**Warramunga Arr**	**44.42**	**259**	*e*P	**P**	**22 31 31.2**	**-0.6**
WRAB	**Tennant Creek**	**44.42**	**259**	*e*P	**P**	**22 31 31.4**	**-0.3**
	2.4nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**22 31 31.4**	**-0.5**
	2.4nm,0.5s,mb3.9,baz=96,slow=6.9,SNR=56						
WRA				PcP	PcP	22 33 04.2	-0.8
	0.3nm,0.4s,baz=94,slow=3.2,SNR=5.0						
ASAR	**Alice Springs**	**44.61**	**254**	P	**P**	**22 31 33.8**	**+0.6**
	19nm,0.6s,mb4.7,baz=89,slow=8.4,SNR=270						
ASAR				PcP	PcP	22 33 04.8	-0.7
	0.7nm,0.4s,baz=105,slow=4.6,SNR=6.1						
KAKA	**Kakadu**	**47.35**	**269**	*e*P	**P**	**22 31 54.2**	**0.0**
	4.1nm,0.2s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.82**	**260**	*e*P	**P**	**22 32 34.6**	**+0.2**
	1.8nm,0.4s,mb3.8						
FITZ	**Fitzroy Crossi**	**52.82**	**260**	P	**P**	**22 32 34.9**	**+0.5**
	1.1nm,0.4s,mb3.6,baz=264,slow=8.9,SNR=12						
MBWA	**Marble Bar**	**57.88**	**256**	*e*P	**P**	**22 33 09.5**	**-0.2**
	2.5nm,0.3s,mb4.0						
MJAR	**Matsushiro Arr**	**67.65**	**323**	P	**P**	**22 34 11.1**	**-1.3**
	1.4nm,0.5s,mb3.8,baz=160,slow=5.9,SNR=6.1						
KSM	**Kuching**	**72.43**	**277**	*e*P	**P**	**22 34 40.0**	**-1.5**
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**22 35 19.8**	**-0.2**
	0.3nm,0.5s,mb3.0,baz=211,slow=9.6,SNR=3.6						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**22 35 19.8**	**-0.2**
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**22 35 55.0**	**+1.4**
	0.5nm,0.7s,mb3.3,baz=214,slow=5.3,SNR=7.8						
PDAR	**Pinedale Array**	**87.40**	**44**	P	**P**	**22 35 59.5**	**+0.1**
	0.4nm,0.6s,mb3.3,baz=180,slow=1.5,SNR=3.6						
CMAR	**Chiang Mai Arr**	**88.61**	**290**	P	**P**	**22 36 05.7**	**+0.1**
	0.4nm,0.4s,mb3.6,baz=104,slow=3.8,SNR=4.7						
MKAR	**Makanchi Array**	**108.86**	**314**	PKiKP	PKiKP	22 41 35.7	-2.1
	0.2nm,0.3s,baz=52,slow=1.1,SNR=3.6						
MKAR	**Makanchi Array**	**108.86**	**314**	PKPdf	PKiKP	22 41 35.7	-2.1
CLL	**Collm**	**145.27**	**347**	*i* PKPbc	PKPbc	22 42 45.7	-1.2
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**147.41**	**345**	PKPbc	PKPbc	22 42 52.1	-0.8
	comp=Z,1.7nm,0.5s,baz=20,slow=3.2,SNR=21						
BAIF	**Baives**	**147.69**	**357**	*e*PKP1	PKPbc	22 42 52.7	-0.9
FLN	**La Foliniere**	**149.04**	**2**	*e*PKP1	PKPbc	22 42 55.5	-1.5
	comp=Z,6.3nm,0.6s						
CDF	**Champ du Feu**	**149.04**	**352**	*e*PKP1	PKPbc	22 42 56.0	-1.1
	comp=Z,3.4nm,0.5s						
MEZF	**Maizieres J'vi**	**149.19**	**355**	*e*PKP1	PKPbc	22 42 56.5	-0.9
LDF	**La Druitiere**	**149.22**	**2**	*e*PKP1	PKPbc	22 42 55.9	-1.6
	comp=Z,4.3nm,0.5s						
GRR	**Gorron**	**149.40**	**3**	*e*PKP1	PKPbc	22 42 56.6	-1.3
	comp=Z,4.1nm,0.5s						
HAU	**Haudompre**	**149.56**	**353**	*e*PKP1	PKPbc	22 42 57.1	-1.2
HINF	**Hinteralfeld**	**149.68**	**353**	*e*PKP1	PKPbc	22 42 57.8	-0.8
LOR	**Lormes**	**150.50**	**357**	*e*PKP1	PKPbc	22 42 59.4	-1.1
	comp=Z,5.8nm,0.4s						
SSF	**Saint Saulge**	**150.72**	**357**	*e*PKP1	PKPbc	22 43 00.0	-1.1
	comp=Z,3.4nm,0.4s						
CABF	**La Chapelle**	**150.96**	**353**	*e*PKP1	PKPbc	22 43 01.0	-0.6
AVF	**Avril sur Loir**	**151.00**	**357**	*e*PKP1	PKPbc	22 43 00.1	-1.6
BGF	**Bois d'Agland**	**151.25**	**358**	*e*PKP1	PKPbc	22 43 01.2	-1.1
TCF	**Toulx Ste Croi**	**151.54**	**359**	*e*PKP1	PKPbc	22 43 01.5	-1.4
MBDF	**Montbardon**	**152.73**	**352**	*e*PKP1	PKPbc	22 43 04.6	-1.0
	comp=Z,2.7nm,0.7s						

KRSC 26 22:24:22.2±0.1, 5451N×16157E, h21km±19km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.10**	**64**	*e*P	Pb	22 24 25.9	-0.4
MKZ				*i* S	Sb	22 24 29.1	0.0
TUMR	**Tumrok**	**1.13**	**314**	*e*P	Pn	22 24 42.1	-0.6
TUMR				*i* S	Sb	22 24 56.6	-0.6
KII	**Karymskiy**	**1.33**	**250**	*e*P	Pn	22 24 44.7	-0.8
KII				*i* S	Sn	22 25 01.3	-1.3
KMNR	**Kamenistaya**	**1.47**	**329**	*e*P	Pn	22 24 48.5	+1.2
KMNR				*i* S	Sn	22 25 07.3	+1.4
BZMR	**Bezymyannaya**	**1.56**	**337**	*e*P	Pn	22 24 49.6	+1.0
BZMR				*i* S	Sn	22 25 09.1	+1.0
ZLN	**Zelenaya**	**1.57**	**344**	*e*P	Pn	22 24 49.2	+0.4
ZLN				*i* S	Sn	22 25 09.0	+0.5
BZWR	**Bezymyannyi-We**	**1.58**	**338**	*e*P	Pn	22 24 50.0	+1.0
BZWR				*i* S	Sn	22 25 09.9	+1.2
KIRR	**Kirishev**	**1.61**	**335**	*e*P	Pn	22 24 50.5	+1.2
KIRR				*i* S	Sn	22 25 10.7	+1.3
KPT	**Kopyto**	**1.65**	**333**	*e*P	Pn	22 24 51.5	+1.6
KPT				*i* S	Sn	22 25 12.3	+1.8
CIRR	**Tsirk**	**1.68**	**344**	*e*P	Pn	22 24 51.3	+1.1
CIRR				*i* S	Sn	22 25 12.5	+1.4
KRSR	**Krestovskiy**	**1.81**	**342**	*e*P	Pn	22 24 53.0	+1.0
KRSR				*i* S	Sn	22 25 14.5	+0.3
KOZ	**Kozyrevsk**	**1.83**	**329**	*e*P	Pn	22 24 54.1	+1.7
KOZ				*i* S	Sn	22 25 16.6	+1.7
KBTR	**Krutoberegovo**	**1.84**	**22**	P	Pn	22 24 53.2	+0.6
KBTR				*i* S	Sn	22 25 16.0	+0.8
KLY	**Klyuchi**	**1.88**	**344**	*e*P	Pn	22 24 53.4	+0.3
KLY				*i* S	Sn	22 25 15.9	-0.2
AVH	**Avacha**	**2.09**	**234**	*e*P	Pn	22 24 56.4	+0.5
AVH				*i* S	Sn	22 25 20.8	-0.4
SRDR	**Sredinnyy**	**2.10**	**330**	*e*P	Pn	22 24 57.0	+1.0
SRDR				*i* S	Sn	22 25 22.7	+1.3
PET	**Petropavlovsk**	**2.28**	**230**	P	Pn	22 24 58.6	0.0
PET				*i* S	Sn	22 25 24.2	-1.8
GNL	**Ganaly**	**2.29**	**251**	*e*P	Pn	22 24 59.7	+1.1
GNL				*i* S	Sn	22 25 26.9	+0.8
RUS	**Russkaya**	**2.77**	**223**	P	Pn	22 25 05.3	0.0
RUS				*i* S	Sn	22 25 36.8	-1.2

*ISCJB **26** 22:26:01.8±0.6, 4151N±003×2369E±003, h5km±7km, Error ellipse: s-maj=5.0km s-min=4.0km az=159.3*
*CSEM **26** 22:26:02.4±0.1, 4152N×2374E, h10km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.4km az=9.0*
*ATH **26** 22:26:02.6, 4150N×2377E, h12km±1km, MD3.2/3*
*THE **26** 22:26:02.6, 4150N×2369E, h10km, ML2.4*
ISC 26 22:26:02.5±0.6, 4150N±003×2371E±003, h11km±6km, n17, σ0§45/33, Greece-Bulgaria border region

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

σ0°80/23, mb4.1/5, MS3.5/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.43**	**344**	P	**Pn**	**23 16 21.9**	**-1.1**
	18nm,0.3s,baz=191,slow=12,SNR=16						
NNA				S	**Sn**	**23 16 53.0**	**+1.6**
	57nm,0.3s,baz=192,slow=14,SNR=9.7						
NNA				LR	LR	23 17 24.2	
	comp=Z,533nm,18.6s,baz=222,slow=40						
NNA	**Nana**	**2.43**	**344**	P	**Pn**	**23 16 21.9**	**-1.1**
NNA				S	**Sn**	**23 16 53.0**	**+1.6**
NNA				LR	LR	23 17 24.2	
ARE	**Arequipa**	**4.97**	**116**	*e*P	**Pn**	**23 16 58.0**	**0.0**
ARE				*e*S	**Sn**	**23 18 09.0**	**+15**
ATAH	**Atahualpa**	**7.61**	**343**	P	**Pn**	**23 17 34.8**	**+0.6**
	0.8nm,0.3s,baz=155,slow=19,SNR=3.1						
ATAH				S	**Sn**	**23 18 55.2**	**-4.0**
	0.8nm,0.3s,baz=69,slow=5.6,SNR=3.6						
ATAH				LR	LR	23 20 24.5	
	comp=Z,118nm,19.9s,baz=295,slow=37						
LPAZ	**La Paz**	**7.99**	**105**	P	**Pn**	**23 17 43.2**	**+3.8**
	1.0nm,0.3s,baz=313,slow=9.4,SNR=32						
LPAZ	**La Paz**	**7.99**	**105**	P	**Pn**	**23 17 43.2**	**+3.8**
LVC	**Limon Verde**	**10.72**	**141**	P	**Pn**	**23 18 17.2**	**+0.4**
	0.8nm,0.3s,baz=308,slow=9.9,SNR=11						
LVC				LR	LR	23 22 53.4	
	comp=Z,175nm,18.4s,baz=217,slow=40						
OTAV	**Otavalo**	**14.65**	**351**	Pn	**Pn**	**23 19 09.0**	**-1.6**
SIV	**San Ignacio**	**14.66**	**98**	P	**Pn**	**23 19 10.6**	**0.0**
	0.2nm,0.3s,baz=265,slow=17,SNR=3.4						
LCO	**Las Campanas**	**15.46**	**162**	Pn	**Pn**	**23 19 20.3**	**-0.6**
CFAA	**Coronel Fontan**	**18.66**	**158**	LR	LR	23 25 42.5	
	comp=Z,14nm,20.0s,baz=17,slow=32						
CPUP	**Villa Florida**	**21.28**	**127**	P	**P**	**23 20 28.0**	**-0.8**
	0.5nm,0.4s,mb3.2,baz=306,slow=9.4,SNR=5.1						
CPUP				LR	LR	23 30 23.7	
	comp=Z,97nm,20.8s,MS3.2,baz=90,slow=41						
CPUP	**Villa Florida**	**21.28**	**127**	*e*P	**P**	**23 20 28.5**	**-0.3**
	12nm,0.9s,mb4.2						
CPUP				LR	LR	23 30 23.7	
SDV	**Santo Domingo**	**23.71**	**14**	P	**P**	**23 20 53.7**	**-0.5**
TRQA	**Tornquist**	**26.77**	**155**	P	**P**	**23 21 21.4**	**-0.4**
BDFB	**Brasilia**	**27.21**	**96**	LR	LR	23 33 11.7	
	comp=Z,91nm,19.1s,MS3.4,baz=200,slow=38						
TEIG	**Tepich**	**36.35**	**341**	*e*P	**P**	**23 22 46.1**	**+0.1**
	3.1nm,0.4s,mb4.6						
PMSA	**Palmer Station**	**51.07**	**173**	P	**P**	**23 24 43.8**	**+0.1**
SNAA	**Sanae**	**71.25**	**161**	*e*P	**P**	**23 27 00.9**	**+0.5**
	1.0nm,0.5s,mb4.0						
QSPA	**South Pole Qui**	**75.81**	**180**	P	**P**	**23 27 27.9**	**+0.9**
	0.6nm,0.6s,mb3.7,baz=92,slow=2.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**81.78**	**74**	P	**P**	**23 28 01.1**	**+0.1**
	2.8nm,0.7s,mb4.3,baz=270,slow=5.8,SNR=39						
TORD				LR	LR	00 03 48.3	
	comp=Z,55nm,18.5s,MS4.0,baz=185,slow=35						
SONM	**Songino Array**	**146.53**	**357**	PKPbc	PKPbc	23 35 21.8	-0.9
	0.4nm,0.5s,baz=350,slow=2.3,SNR=4.4						

*MOS **26** 23:16:35.8±1.3, 48.61N×155.32E, h45km, mb4.4/4, Error ellipse: s-maj=15.3km s-min=9.5km az=79.7*
*ISCJB **26** 23:16:36.7±1.2, 48.63N±0.07×155.4E±0.2, h55km±12km, mb4.0/15, MS3.3/3, Error ellipse: s-maj=20.4km s-min=8.4km az=29.2*
*NEIC **26** 23:16:37.8±1.2, 48.59N×155.28E, h44km±13km, mb4.3/1, Error ellipse: s-maj=20.1km s-min=10.0km az=113.0*
*IDC **26** 23:16:38.7±3.3, 48.60N×155.41E, h54km±27km, mb3.6/10, mb1 3.8/13, mb1mx3.6/24, mbtmp3.7/13, ML3.7/3, MS3.2/4, Ms1 3.3/4, ms1mx2.7/36, Error ellipse: s-maj=33.1km s-min=17.0km az=109.0*

ISC 26 23:16:38.1±1.1, 48.63N±0.07×155.3E±0.2, h45km±10km, n34,
σ19°06/39, mb4.0/15, MS3.3/3, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.12**	**14**	⇑*i*PN	**Pn**	**23 17 10.6**	**-0.4**
SKR				*e*S	**Sn**	**23 17 35.5**	**-0.6**
SKR				pmax	pmax		
	comp=Z,110nm,0.4s						
SKR				smax			
	comp=N,220nm,0.5s						
SKR				smax			
	comp=E,320nm,0.5s						
SKR				smax			
	comp=Z,150nm,0.5s						
PEA0B	**Petropavlovsk-**	**4.73**	**18**	*e*Pn	**Pn**	**23 17 48.0**	**+1.1**
PEA0B				Sn	**Sn**	**23 18 40.1**	**-0.2**
PETK	**Petropavlovsk-**	**4.73**	**18**	P	**Pn**	**23 17 47.9**	**+1.1**
	comp=Z,3.9nm,0.3s,baz=178,slow=11,SNR=59						
PETK				LR	LR	23 19 57.6	
	comp=Z,136nm,20.0s,baz=207,slow=42						
PET	**Petropavlovsk**	**4.88**	**25**	*e*PN	**Pn**	**23 17 48.2**	**-0.7**
PET				pmax	pmax		
	comp=Z,31nm,0.4s						
PET	**Petropavlovsk**	**4.88**	**25**	*e*Pn	**Pn**	**23 17 48.0**	**-0.9**
PET				*e*Sn	**Sn**	**23 18 44.4**	**+0.3**
KUR	**Kuril'sk**	**6.12**	**239**	PN	**Pn**	**23 18 03.0**	**-2.8**
KUR				S	**Sn**	**23 19 27.0**	**+13**
KUR				pmax	pmax		
	comp=Z,280nm,0.9s						
KUR				smax			
	comp=N,80nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
ASAJ	**Asahikawa**	**9.86**	**247**	P	**Pn**	**23 19 00.0**	**+2.8**
	comp=E,0.9nm,0.3s,baz=80,slow=17,SNR=5.5						
ASAJ	**Asahikawa**	**9.86**	**247**	PN	**Pn**	**23 19 00.0**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**17.39**	**232**	P	**Pn**	**23 20 36.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=27,slow=14,SNR=4.8						
YAK	**Yakutsk**	**19.62**	**323**	*e*P	**Pn**	**23 21 02.9**	**-1.2**
YAK				pmax	pmax		
	comp=Z,17nm,0.6s						
KSRS	**Korea Array**	**22.79**	**251**	P	**P**	**23 21 37.4**	**+0.8**
	comp=Z,2.0nm,0.5s,mb3.8,baz=46,slow=11,SNR=7.6						
KSRS				LR	LR	23 30 14.2	
	comp=Z,40nm,18.1s,MS2.9,baz=70,slow=36						
KSRS	**Korea Array**	**22.79**	**251**	P	**P**	**23 21 37.4**	**+0.8**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.8						
KSRS				MLR	MLR		
	comp=Z,40nm,18.1s,MS2.9						
HIA	**Hailar**	**23.23**	**285**	*e*P	**P**	**23 21 39.6**	**-1.5**
TIXI	**Tiksi**	**26.11**	**341**	*e*P	**P**	**23 22 06.4**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6						
ULN	**Ulaanbaatar**	**31.71**	**287**	*e*P	**P**	**23 22 57.6**	**+0.4**
SONM	**Songino Array**	**32.13**	**287**	P	**P**	**23 23 00.2**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.6,baz=63,slow=7.3,SNR=4.6						
SONM	**Songino Array**	**32.13**	**287**	*e*P	**P**	**23 23 01.5**	**+0.6**
TLY	**Talaya**	**32.66**	**295**	*e*P	**P**	**23 23 04.9**	**-0.6**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
TLY	**Talaya**	**32.66**	**295**	*e*P	**P**	**23 23 04.9**	**-0.6**
	comp=Z,2.3nm,0.4s,mb4.5						
TATO	**Taipei**	**35.46**	**240**	P	**P**	**23 23 29.6**	**-0.5**
MKAR	**Makanchi Array**	**47.39**	**297**	P	**P**	**23 25 08.1**	**+0.6**
	comp=Z,1.9nm,0.6s,mb4.2,baz=68,slow=9.1,SNR=17						
DAV	**Davao City (W)**	**48.45**	**221**	P	**P**	**23 25 15.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**54.24**	**257**	P	**P**	**23 26 00.6**	**+1.2**
	comp=Z,0.7nm,0.4s,mb4.0,baz=33,slow=7.0,SNR=6.3						
ARU	**Arti**	**54.62**	**317**	*d i*P	**P**	**23 26 02.5**	**+0.9**
ARU				*e*		23 26 59.6	
ARU				*e*		23 28 07.3	
ARU				*e*S	**S**	**23 33 42.2**	**+4.5**
ARU				*e*SS	SS	23 37 20.0	-0.1
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
ARCES	**ARCESS Array B**	**56.55**	**341**	P	**P**	**23 26 14.3**	**-1.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=38,slow=8.0,SNR=8.8						
ARCES				LR	LR	23 54 37.6	
	comp=Z,35nm,18.9s,MS3.5,baz=29,slow=40						
NOA	**NORSAR Array B**	**66.91**	**342**	P	**P**	**23 27 24.7**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=25,slow=6.4,SNR=3.1						
NOA				LR	LR	00 01 15.7	
	comp=Z,25nm,18.4s,MS3.5,baz=25,slow=40						
AKASG	**Malin Array Be**	**70.78**	**327**	P	**P**	**23 27 49.8**	**+0.4**
	comp=Z,1.1nm,0.4s,mb4.2,baz=31,slow=6.2,SNR=6.5						
AKASG	**Malin Array Be**	**70.78**	**327**	*e*P	**P**	**23 27 49.7**	**+0.4**
WRA	**Warramunga Arr**	**70.78**	**201**	P	**P**	**23 27 48.5**	**-1.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=16,slow=6.4,SNR=5.0						
FITZ	**Fitzroy Crossi**	**71.50**	**210**	P	**P**	**23 27 53.5**	**-0.4**
ASAR	**Alice Springs**	**74.47**	**200**	P	**P**	**23 28 11.5**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=18,slow=6.2,SNR=3.8						
GERES	**GERESS Array B**	**77.39**	**335**	P	**P**	**23 28 29.3**	**+1.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=32,slow=5.3,SNR=8.4						
LPL	**La Plagne**	**82.29**	**338**	*e*P	**P**	**23 28 57.7**	**+3.2**
	comp=Z,3.6nm,0.6s,mb4.2						
LPG	**La Plagne**	**82.30**	**338**	*e*P	**P**	**23 28 57.9**	**+3.4**
	comp=Z,3.9nm,0.6s,mb4.2						

*NEIC **26** 23:19:43.2, 1620N×9805W, h8km, MD3.9(MEX), After MEX.*

MEX 26 23:19:43.2±1.1, 1620N×9805W, h8km±6km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**339**	*i* P	Pg	23 19 47.2	-0.2
PNIG				*i* S	Sg	23 19 50.1	-0.1
VHO	**Vista Hermosa**	**1.53**	**55**	*i* P	Pn	23 20 07.8	-3.1
VHO				*i* S	Sn	23 20 26.4	-4.6
OXX	**Oaxaca**	**1.54**	**55**	*e*P	Pn	23 20 06.4	-4.7
OXX				*i* S	Sn	23 20 23.8	-7.6
UTMO	**Huajuapan**	**1.64**	**8**	*e*P	Pn	23 20 10.1	-2.3
UTMO				*i* S	Sn	23 20 28.8	-4.9
ACX	**Acapulco**	**1.91**	**291**	*i* P	Pn	23 20 12.3	-3.8
ACX				*i* S	Sn	23 20 36.2	-4.2
HUIG	**Huatulco**	**1.92**	**103**	*e*P	Pn	23 20 13.4	-2.7
HUIG				*i* S	Sn	23 20 35.9	-4.5
MEIG	**Mezcala**	**2.28**	**319**	*e*P	Pn	23 20 18.4	-2.8
MEIG				*i* S	Sn	23 20 45.6	-3.9
CAIG	**El Cayaco**	**2.29**	**292**	*e*P	Pn	23 20 17.2	-4.0
CAIG				*i* S	Sn	23 20 46.6	-3.1
TPIG	**Tehuac#an**	**2.31**	**16**	*e*P	Pn	23 20 21.6	+0.1
TPIG				*i* S	Sn	23 20 49.4	-0.7
PLIG	**Platanillo**	**2.59**	**328**	*e*P	Pn	23 20 22.8	-2.6
PLIG				*i* S	Sn	23 20 53.3	-3.8
PPM	**Popocatepetl**	**2.91**	**349**	*e*P	Pn	23 20 32.6	+2.8
PPM				*e*P		23 20 33.6	
PPM				*i* S	Sn	23 21 04.9	0.0
PPM				*i* S	Sn	23 21 09.9	+4.9
ZIIG	**Zihuatanejo**	**3.56**	**294**	*e*P	Pn	23 20 36.2	-2.5
ZIIG				*i* S	Sn	23 21 20.1	-0.9
MOIG	**Morelia**	**4.57**	**320**	*i* S	Sn	23 21 43.9	-2.2
TGIG		**4.76**	**82**	*e*P	Pn	23 20 57.8	+2.4
TGIG				*i* S	Sn	23 21 48.7	-2.1
CCIG	**Comitan**	**5.68**	**88**	*i* S	Sn	23 22 11.2	-2.2

KRSC 26 23:29:09.3±1.2, 5085N×15805E, h5km±5km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.61**	**10**	*e*P	Pn	23 29 39.3	+0.9
RUS				*e*S	Sn	23 30 01.1	+1.6
PET	**Petropavlovsk**	**2.21**	**9**	S	Sn	23 30 15.2	+1.0
NLC	**Nalytchevo**	**2.46**	**18**	P	Pn	23 29 50.7	+0.7
NLC				S	Sn	23 30 20.7	+0.3
SPN	**Mys Shipunski**	**2.56**	**28**	S	Sn	23 30 24.2	+1.3
GNL	**Ganaly**	**2.85**	**359**	P	Pn	23 29 57.4	+2.0
MKZ	**Mys Kozlova**	**4.33**	**30**	P	Pn	23 30 18.1	+2.3

IDC 26 23:55:17.1±1.6, 0425S×12529E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, Error ellipse: s-maj=176.5km s-min=23.6km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.33**	**156**	P	P	00 00 04.9	-1.0
	0.9nm,0.7s,baz=334,slow=11,SNR=13						
ASAR	**Alice Springs**	**24.57**	**161**	P	P	00 00 40.0	+1.1
	0.3nm,0.4s,baz=347,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**60.19**	**327**	P	P	00 05 26.5	-0.3
	0.4nm,0.7s,baz=134,slow=8.7,SNR=3.5						
BVAR	**Borovoye Array**	**70.03**	**328**	P	P	00 06 31.1	+0.3
	0.8nm,0.9s,baz=119,slow=9.2,SNR=4.2						

*NEIC **27** 00:01:03.0, 5030N×17738W, h10km, ML3.1(AEIC), After AEIC.*
*ISCJB **27** 00:01:03.1±4.2, 504N±0.1×1776W±0.2, h30km±30km, mb3.8/5, Error ellipse: s-maj=26.4km s-min=13.4km az=149.0*
*IDC **27** 00:01:11.1±9.0, 5063N×17750W, h73km±61km, mb3.5/5, mb1 3.7/7, mb1mx3.3/25, mbtmp3.6/7, ML4.0/2, Error ellipse: s-maj=178.6km s-min=26.2km az=170.0*

ISC 27 00:01:02.4±4.6, 505N±02×1776W±02, h6km±32km, n12,
σ0°57/13, mb3.8/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.48**	**23**	P	**Pn**	**00 01 29.2**	**-0.4**
ADK				S	**Sn**	**00 01 49.7**	**+0.4**
AMKA	**Amchitka**	**2.12**	**295**	P	**Pn**	**00 01 38.6**	**+0.3**
PETK	**Petropavlovsk-**	**15.45**	**289**	P	**Pn**	**00 04 45.8**	**+5.1**
	0.4nm,0.3s,baz=107,slow=19,SNR=4.8						
KDAK	**Kodiak Island**	**16.30**	**54**	P	**Pn**	**00 04 53.0**	**+1.3**
	0.8nm,0.3s,baz=277,slow=8.1,SNR=5.0						
KTH	**Kantishna Hill**	**19.33**	**37**	*e*P	**Pn**	**00 05 28.7**	**-0.3**
	2.2nm,0.8s						
IMA2	**Indian Mountai**	**19.81**	**29**	*e*P	**Pn**	**00 05 34.1**	**-0.7**
YKA	**Yellowknife Ar**	**35.29**	**46**	P	**P**	**00 07 57.3**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=274,slow=9.5,SNR=3.0						
SONM	**Songino Array**	**47.70**	**298**	P	**P**	**00 09 39.9**	**+0.4**
	0.6nm,0.8s,mb3.7,baz=69,slow=8.1,SNR=5.2						
ARCES	**ARCESS Array B**	**59.05**	**351**	P	**P**	**00 11 02.0**	**-0.6**
	1.4nm,0.7s,mb4.1,baz=13,slow=8.3,SNR=4.2						
MKAR	**Makanchi Array**	**61.15**	**309**	P	**P**	**00 11 17.5**	**+0.2**
	0.4nm,0.7s,mb3.6,baz=52,slow=7.9,SNR=3.6						
MKAR	**Makanchi Array**	**61.15**	**309**	P	**P**	**00 11 17.5**	**+0.2**
AKASG	**Malin Array Be**	**76.58**	**343**	P	**P**	**00 12 53.1**	**-0.2**
	0.4nm,0.3s,mb3.8,baz=18,slow=5.8,SNR=5.6						

*ISCJB **27** 00:02:50.2±0.6, 5036N±0.08×17756W±0.10, h33km, mb3.9/14, Error ellipse: s-maj=12.6km s-min=7.8km az=155.6*
*NEIC **27** 00:02:50.6, 5035N×17742W, h11km, ML3.4(AEIC), After AEIC.*
*IDC **27** 00:02:55.3±5.6, 5031N×17752W, h66km±50km, mb3.6/14, mb1 3.9/16, mb1mx3.8/26, mbtmp3.7/16, ML4.3/2, Error ellipse: s-maj=31.3km s-min=15.4km az=176.0*

ISC 27 00:02:52.4±0.7, 5042N±009×17756W±010, h35km, n25,
σ0°93/24, mb3.9/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.57**	**20**	P	**Pn**	**00 03 15.9**	**-1.8**
ADK				S	**Sn**	**00 03 36.6**	**-0.2**
AMKA	**Amchitka**	**2.21**	**297**	P	**Pn**	**00 03 25.1**	**-1.4**
SMY	**Shemya**	**5.69**	**297**	P	**Pn**	**00 04 14.5**	**+0.1**
PETK	**Petropavlovsk-**	**15.53**	**290**	P	**Pn**	**00 06 30.6**	**+2.1**
	1.2nm,0.3s,baz=105,slow=19,SNR=13						
KDAK	**Kodiak Island**	**16.33**	**54**	P	**Pn**	**00 06 41.2**	**+2.5**
	1.2nm,0.3s,baz=274,slow=9.3,SNR=9.4						
KDAK	**Kodiak Island**	**16.33**	**54**	P	**Pn**	**00 06 41.2**	**+2.5**
PPLA	**Purkeypile**	**18.56**	**38**	*e*P	**Pn**	**00 07 07.5**	**+1.2**
	23nm,1.3s						
TRF	**Thorofare Moun**	**19.59**	**38**	*e*P	**Pn**	**00 07 18.4**	**-0.2**
	12nm,1.1s						
IMA2	**Indian Mountai**	**19.89**	**29**	*e*P	**Pn**	**00 07 21.8**	**-0.3**
VIB	**Van Inlet**	**27.61**	**66**	T		00 37 06.2	
DIB	**Dawson Inlet,**	**27.66**	**67**	T		00 37 12.8	
	SNR=7.2						
YKA	**Yellowknife Ar**	**35.34**	**46**	P	**P**	**00 09 43.5**	**-0.4**
	1.6nm,0.8s,mb4.0,baz=276,slow=7.2,SNR=6.6						
KSRS	**Korea Array**	**40.45**	**273**	P	**P**	**00 10 27.8**	**+0.4**
	1.7nm,0.8s,mb3.8,baz=60,slow=8.7,SNR=5.3						
NVAR	**Mina Array Bea**	**42.90**	**83**	P	**P**	**00 10 47.5**	**+0.2**
	0.9nm,0.8s,mb3.5,baz=290,slow=10,SNR=5.1						
PDAR	**Pinedale Array**	**45.86**	**72**	P	**P**	**00 11 10.4**	**-0.5**
	0.5nm,0.6s,mb3.6,baz=316,slow=3.8,SNR=3.3						
SONM	**Songino Array**	**47.79**	**298**	P	**P**	**00 11 26.8**	**+0.9**
	1.4nm,0.8s,mb4.0,baz=53,slow=9.5,SNR=7.0						
SONM				PcP	PcP	00 12 54.2	-0.2
	0.8nm,0.8s,baz=90,slow=3.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**55.27**	**315**	P	**P**	**00 12 22.2**	**+0.5**
	0.5nm,0.2s,mb4.2,baz=45,slow=10,SNR=2.9						
TXAR	**Lajitas Array**	**58.02**	**81**	P	**P**	**00 12 41.4**	**-0.3**
	0.4nm,0.8s,mb3.5,baz=309,slow=10,SNR=3.1						
ARCES	**ARCESS Array B**	**59.17**	**351**	P	**P**	**00 12 48.6**	**-0.4**
	1.7nm,0.8s,mb4.1,baz=10,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**61.25**	**310**	P	**P**	**00 13 03.1**	**-0.5**
	0.6nm,0.6s,mb3.9,baz=49,slow=7.0,SNR=8.4						
NOA	**NORSAR Array B**	**68.67**	**355**	P	**P**	**00 13 51.9**	**+0.3**
	0.5nm,0.6s,mb3.6,baz=347,slow=5.1,SNR=2.6						
CMAR	**Chiang Mai Arr**	**71.90**	**277**	P	**P**	**00 14 11.4**	**-0.6**
	0.7nm,0.3s,mb4.1,baz=23,slow=7.7,SNR=5.8						
AKASG	**Malin Array Be**	**76.70**	**343**	P	**P**	**00 14 39.7**	**+0.2**
	4.2nm,0.7s,mb4.5,baz=18,slow=5.7,SNR=15						
GERES	**GERESS Array B**	**80.65**	**352**	P	**P**	**00 15 01.6**	**+0.4**
	0.3nm,0.7s,mb3.4,baz=15,slow=5.5,SNR=4.9						
FITZ	**Fitzroy Crossi**	**84.50**	**233**	P	**P**	**00 15 19.9**	**-1.6**
	1.5nm,0.9s,mb4.1,baz=44,slow=10,SNR=3.9						

*DDA **27** 00:06:31.0, 3782N×29.13E, h5km±1km, Md2.4*
*ISCJB **27** 00:06:31.3±0.6, 3789N±003×2908E±004, h3km±5km, Error ellipse: s-maj=5.9km s-min=4.2km az=35.4*
*ISK **27** 00:06:31.5, 3794N×2909E, h12km, MD3.1*
*CSEM **27** 00:06:31.1±0.1, 3793N×2909E, h8km, MD2.4, Error ellipse: s-maj=1.8km s-min=1.5km az=145.0*

ISC 27 00:06:31.8±0.5, 3789N±003×2909E±004, h7km±5km, n25,
σ0°92/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.20**	**189**	*i* P	**Pg**	**00 06 34.8**	**-1.2**
DNZL				*i* S	**Sg**	**00 06 37.0**	**-1.7**
KHL	**Karahalli**	**0.55**	**39**	PG	**Pg**	**00 06 42.2**	**-0.2**
KHL				SG	**Sg**	**00 06 49.8**	**+0.2**
KHAL	**Karahalli**	**0.57**	**34**	*i* P	**Pg**	**00 06 43.4**	**+0.4**
KHAL				*i* S	**Sg**	**00 06 53.8**	**+3.4**
KHAL	**Karahalli**	**0.57**	**34**	*i* P	**Pg**	**00 06 43.3**	**+0.4**
KHAL				*i* S	**Sg**	**00 06 53.8**	**+3.4**
KULA	**Kula-Manisa**	**0.70**	**332**	*e*PG	**Pg**	**00 06 45.1**	**-0.3**
GOLH	**Golhisar**	**0.76**	**150**	*i* P	**Pg**	**00 06 45.1**	**-1.3**
AYDN	**Tasoluk**	**0.98**	**257**	*i* P	**Pg**	**00 06 50.5**	**-0.2**
AYDN	**Tasoluk**	**0.98**	**257**	*i* P	**Pg**	**00 06 50.5**	**-0.2**
TKTP	**Tekketepe**	**0.99**	**81**	*i* P	**Pg**	**00 06 51.6**	**+0.8**
YER	**Yerkesik**	**0.99**	**220**	*e*PG	**Pg**	**00 06 51.3**	**+0.4**
YER				*e*SG	**Sg**	**00 07 06.5**	**+2.8**
TURN	**Turunc**	**1.09**	**201**	*i* P	**Pg**	**00 06 55.5**	**+2.8**
ISP	**Isparta**	**1.13**	**92**	*e*PN	**Pn**	**00 06 53.5**	**-0.5**
ISP				*e*SN	**Sn**	**00 07 10.7**	**+1.0**
DALT	**Dalyan (Mudla)**	**1.18**	**198**	*e*PN	**Pn**	**00 06 55.0**	**+0.3**
DEMI	**Demirci**	**1.18**	**346**	*i* P	**Pb**	**00 06 55.5**	**+0.9**
MLSB	**Milas**	**1.20**	**241**	*e*PN	**Pn**	**00 06 55.1**	**+0.2**
BCK	**Bucak**	**1.27**	**109**	*e*PN	**Pn**	**00 06 55.9**	**0.0**
ELL	**Elmali**	**1.32**	**150**	*e*PN	**Pn**	**00 06 56.8**	**+0.2**
SHUT	**Suhut-Afyon**	**1.33**	**60**	*e*PN	**Pn**	**00 06 56.3**	**-0.4**
AKS	**Akhisar**	**1.40**	**315**	*e*PN	**Pn**	**00 06 57.2**	**-0.6**
ALT	**Altintas**	**1.41**	**34**	*e*PN	**Pn**	**00 06 56.9**	**-1.0**
IZM	**Izmir**	**1.52**	**290**	*e*PN	**Pn**	**00 06 59.0**	**-0.4**
BODT	**Bodrum**	**1.64**	**240**	*e*PN	**Pn**	**00 07 01.4**	**+0.4**
BLCB	**Balcova**	**1.69**	**288**	*e*PN	**Pn**	**00 07 01.3**	**-0.3**
DST	**Dursunbey**	**1.75**	**348**	*e*PN	**Pn**	**00 07 01.9**	**-0.6**
BALB	**Balikesir**	**1.98**	**332**	*e*PN	**Pn**	**00 07 05.2**	**-0.5**

*NNC **27** 00:14:39.2±2.3, 3902N×6989E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=17.2km s-min=14.4km az=3.0*

ISC 27 00:14:37.2±1.9, 385N±01×6988E±009, h35km, n10,
σ0°67/14, 6C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.67**	**6**	⇑Pn	**Pn**	**00 15 46.0**	**+0.9**
	0.8nm,0.3s,baz=172,slow=12,SNR=56						
KK31				⇑Sn	**Sn**	**00 16 38.5**	**+0.5**
	1.1nm,0.3s,baz=185,slow=26,SNR=5.1						
KK31				⇓Lg		00 16 49.6	
	6.8nm,0.4s						
AML	**Almayashu**	**4.69**	**37**	P	**Pn**	**00 15 45.0**	**-0.3**
	SNR=16						
UCH	**Uchtor**	**5.17**	**42**	P	**Pn**	**00 15 51.7**	**-0.2**
	SNR=16						
KBK	**Karagaybulak**	**5.70**	**41**	P	**Pn**	**00 15 59.7**	**+0.5**
	SNR=14						
CHMS	**Chumysh**	**5.85**	**38**	P	**Pn**	**00 16 01.4**	**-0.1**
	SNR=5.0						
USP	**Ospenovka**	**5.95**	**35**	P	**Pn**	**00 16 01.7**	**-1.0**
	SNR=9.0						
TKM2	**Tokmak 2**	**6.22**	**42**	⇑Pn	**Pn**	**00 16 05.9**	**-0.6**
	5.0nm,0.5s						
TKM2				⇑Sn	**Sn**	**00 17 16.7**	**+0.3**

CMAR LR LR 00 51 47.4
comp=Z,26nm,18.6s,baz=180,slow=38
SONM Songino Array 54.66 337 P **P 00 36 08.9 -1.6**
0.3nm,0.5s,mb3.5,baz=132,slow=4.4,SNR=4.4
SONM PcP PcP 00 37 12.5 -0.2
0.8nm,0.6s,baz=180,slow=3.6,SNR=4.3
MKAR Makanchi Array 66.06 324 P **P 00 37 28.9 +0.6**
5.2nm,0.7s,mb4.5,baz=110,slow=8.2,SNR=55
ZALV Zalesovo Beam 68.57 331 P **P 00 37 42.8 -1.3**
2.0nm,0.6s,mb4.1,baz=116,slow=6.5,SNR=9.5
KURK Kurchatov 70.10 326 *e*P **P 00 37 53.6 0.0**
5.3nm,1.0s,mb4.3
DIV Divide 86.20 29 *e*P **P 00 39 23.1 +0.7**
5.5nm,0.6s,mb4.7
DAWY Dawson 89.48 26 *e*P **P 00 39 38.7 +0.7**
ARCES ARCESS Array B 97.74 340 P **P 00 40 14.6 -1.2**
1.2nm,0.7s,mb4.5,baz=69,slow=6.6,SNR=7.3
TORD Torodi Ar. Bea 131.72 286 PKP PKPdf 00 45 56.5 +1.5
0.5nm,0.7s,baz=95,slow=1.0,SNR=4.1
TORD Torodi Ar. Bea 131.72 286 PKP PKPdf 00 45 56.5 +1.5
CPUP Villa Florida 150.31 158 PKPbc PKPbc 00 46 35.3 +2.3
2.3nm,0.8s,baz=197,slow=4.6,SNR=5.9
CPUP Villa Florida 150.31 158 PKPbc PKPbc 00 46 35.3 +2.3
CPUP *e*PKPab PKPab 00 46 45.5 +6.2
ROSC El Rosal 151.10 82 PKPbc PKPbc 00 46 37.4 +2.2
1.6nm,0.4s,baz=96,slow=20,SNR=2.7
LPAZ La Paz 151.73 129 PKPbc PKPbc 00 46 40.2 +3.7
1.0nm,0.7s,baz=346,slow=9.6,SNR=3.5
LPAZ La Paz 151.73 129 PKPbc PKPbc 00 46 40.2 +3.7

IDC 27 00:34:46.8±30.0, 1875S×17708W, h520km±337km, mb3.3/4, mb1 3.5/4, mb1mx3.1/17, mbtmp3.3/4, Error ellipse: s-maj=264.5km s-min=60.5km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.56**	**262**	P	P	00 40 52.0	+0.1
	5.8nm,0.5s,baz=99,slow=9.5,SNR=11						
WRA	**Warramunga Arr**	**45.73**	**260**	P	P	00 42 21.2	-0.2
	1.5nm,0.3s,baz=96,slow=7.4,SNR=90						
ASAR	**Alice Springs**	**45.78**	**255**	P	P	00 42 21.7	-0.1
	3.1nm,0.6s,baz=94,slow=8.5,SNR=40						
NVAR	**Mina Array Bea**	**79.17**	**43**	P	P	00 45 57.9	+0.3
	0.2nm,0.4s,baz=224,slow=7.6,SNR=3.1						

*BJI **27** 00:59:24.3, 4770N×15458E, h28km, mB4.6, mb4.6, Ms4.2, Msz4.0*
*ISCJB **27** 00:59:24.2±0.3, 4765N±005×15469E±006, h30km, mb4.5/68, MS3.8/24, Error ellipse: s-maj=8.4km s-min=4.1km az=148.0*
*MOS **27** 00:59:25.2±1.1, 4765N×15460E, h37km, mb4.7/29, Error ellipse: s-maj=10.6km s-min=6.4km az=93.4*
*NEIC **27** 00:59:26.2±0.2, 4772N×15457E, mb4.7/34, MS3.9/1, Error ellipse: s-maj=6.8km s-min=4.4km az=138.0*
*IDC **27** 00:59:27.2±2.9, 4775N×15450E, h41km±25km, mb3.9/19, mb1 4.2/22, mb1mx4.1/27, mbtmp4.0/22, ML4.0/3, MS3.5/12, Ms1 3.5/12, ms1mx3.1/35, Error ellipse: s-maj=17.6km s-min=13.0km az=133.0*
*SZGRF **27** 00:59:32.4, 4829N×15401E, h33km, mb4.9, Kuril Islands, Russia*

ISC 27 00:59:26.5±0.3, 4771N±005×15463E±006, h32km, h32km±.5km: pP-P, n183, σ0°96/185, mb4.5/68, MS3.8/24, 20C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.14**	**18**	*e*PN	**Pn**	**01 00 15.2**	**+1.5**
KUR	**Kuril'sk**	**5.29**	**245**	*e*PN	**Pn**	**01 00 41.0**	**-2.2**
KUR				*e*S	**Sn**	**01 01 45.0**	**+2.0**
KUR				pmax	pmax		
	comp=Z,130nm,0.8s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,150nm,0.6s						
KUR				smax			
	comp=N,2μm,5.0s						
PEA0B	**Petropavlovsk-**	**5.75**	**19**	*e*Pn	**Pn**	**01 00 49.1**	**-0.5**
PETK	**Petropavlovsk-**	**5.75**	**19**	P	**Pn**	**01 00 49.5**	**-0.1**
	comp=N,3.5nm,0.3s,baz=191,slow=12,SNR=18						
PETK				LR	LR	01 03 10.0	
	comp=N,184nm,21.4s,baz=359,slow=39						
PET	**Petropavlovsk**	**5.91**	**24**	*e*PN	**Pn**	**01 00 58.1**	**+6.3**
PET				pmax	pmax		
	comp=Z,31nm,0.7s						
PET				MLR	MLR		
	comp=Z,300nm,15.0s						
PET	**Petropavlovsk**	**5.91**	**24**	*e*Pn	**Pn**	**01 00 50.1**	**-1.7**
YSS	**Yuzh-Sakhalins**	**8.10**	**269**	*e*PN	**Pn**	**01 01 25.3**	**+3.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				MLR	MLR		
	comp=N,400nm,14.0s						
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
YSS				MLR	MLR		
	comp=E,400nm,15.0s						
ASAJ	**Asahikawa**	**9.12**	**251**	P	**Pn**	**01 01 36.2**	**+0.4**
	comp=E,2.3nm,0.3s,baz=100,slow=13,SNR=6.1						
ASAJ	**Asahikawa**	**9.12**	**251**	PN	**Pn**	**01 01 36.3**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLR	**Kul'dur**	**15.24**	**284**	*e*P	**Pn**	**01 03 02.0**	**+2.8**
KLR				MLR	MLR		
	comp=Z,700nm,14.0s						
MAJO	**Matsushiro**	**16.48**	**233**	*e*Pn	**Pn**	**01 03 15.7**	**+0.5**
MAJO				*ep*Pn		01 03 23.7	
MJAR	**Matsushiro Arr**	**16.48**	**233**	P	**Pn**	**01 03 13.4**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=34,slow=12,SNR=8.4						
MDJ	**Mudanjiang**	**17.59**	**269**	P	**Pn**	**01 03 28.0**	**-1.1**
MDJ				S	**Sn**	**01 06 39.0**	**-4.9**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,42nm,4.2s						
MDJ				LR	LR		
	comp=E,162nm,11.8s						
MDJ				LR	LR		
	comp=Z,235nm,11.7s						
YAK	**Yakutsk**	**20.11**	**325**	*e*P	**P**	**01 04 04.9**	**+7.7**
YAK				pmax	pmax		
	comp=Z,19nm,1.0s						
YAK				pmax	pmax		
	comp=E,11nm,1.1s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,135nm,12.0s,MS3.5						
YAK				MLR	MLR		
	comp=N,142nm,15.0s,MS3.5						
YAK				MLR	MLR		
	comp=E,100nm,17.0s,MS3.5						
CN2	**Changchun**	**20.67**	**270**	*e*P	**P**	**01 04 07.0**	**+3.5**
CN2				*e*XP	sP	01 04 20.0	+4.0
CN2				*e*S	**S**	**01 07 49.5**	**-3.2**
CN2				LR	LR		
	comp=N,300nm,16.0s,MS3.8						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS3.8						
CN2				LR	LR		
	comp=Z,200nm,17.0s,MS3.5						
BILL	**Bilibino**	**21.23**	**12**	*e*P	**P**	**01 04 06.7**	**-2.7**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.8						
KSRS	**Korea Array**	**22.07**	**252**	P	**P**	**01 04 17.9**	**-0.7**
	comp=Z,11nm,0.9s,mb4.3,baz=53,slow=11,SNR=26						
KSRS	**Korea Array**	**22.07**	**252**	P	**P**	**01 04 17.9**	**-0.7**
KSRS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
INCN	**Inchon**	**22.89**	**254**	*e*P	**P**	**01 04 27.3**	**0.0**
	comp=Z,85nm,1.7s,mb4.9						
TIXI	**Tiksi**	**26.86**	**342**	*e*P	**P**	**01 05 04.7**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.7						
TIXI				MLR	MLR		
	comp=Z,184nm,12.0s,MS3.9						
HHC	**Hu-ho-hao-te**	**31.26**	**273**	*e*P	**P**	**01 05 44.5**	**+1.3**
HHC				AP	pP	01 05 53.0	+0.7
HHC				XP	sP	01 05 57.8	+1.6
HHC				PP	PP	01 06 43.0	-11
HHC				S	**S**	**01 10 39.5**	**-8.1**

HHC SCS ScS 01 16 17.3 +2.6
HHC AMB AMB
comp=Z,13nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,73nm,5.1s
HHC LR LR
comp=N,183nm,14.3s,MS4.0
HHC LR LR
comp=E,150nm,13.1s,MS4.0
HHC LR LR
comp=Z,205nm,14.3s,MS3.9
SONM Songino Array 32.00 288 P **P 01 05 48.1 -1.5**
comp=Z,0.3nm,0.5s,baz=60,slow=8.5,SNR=2.7
SONM PcP PcP 01 08 37.3 -1.5
comp=Z,0.2nm,0.3s,baz=123,slow=5.3,SNR=3.7
SONM LR LR 01 18 52.4
comp=Z,48nm,20.3s,MS3.2,baz=82,slow=36
SONM Songino Array 32.00 288 P **P 01 05 48.1 -1.5**
SONM 01 08 37.3
KTH Kantishna Hill 33.36 41 *e*P **P 01 06 01.4 +0.1**
comp=Z,17nm,1.3s,mb4.8
COLD Coldfoot 33.96 35 *e*P **P 01 06 06.5 0.0**
comp=Z,86nm,1.1s
COLD *ep*P pP 01 06 15.2 -0.5
COLA College 34.74 39 *e*P **P 01 06 12.3 -1.0**
XAN Xi'an 36.63 265 P **P 01 06 30.5 +0.7**
XAN AP pP 01 06 36.8 -2.2
XAN PP PP 01 07 53.8 +0.4
XAN S **S 01 12 12.3 +1.7**
XAN XS sS 01 12 23.0 -2.8
XAN AMB AMB
comp=Z,3.0nm,0.8s,mb4.2
XAN AMB AMB
comp=Z,39nm,5.2s
XAN LR LR
comp=N,79nm,14.7s,MS3.9
XAN LR LR
comp=E,102nm,13.6s,MS3.9
XAN LR LR
comp=Z,169nm,14.7s,MS4.0
EGAK Eagle 37.61 39 *e*P **P 01 06 37.8 0.0**
LZH Lanzhou 38.89 272 *e*P **P 01 06 48.5 -0.4**
LZH AP pP 01 06 57.5 -0.7
LZH XP sP 01 07 01.3 -0.7
LZH PP PP 01 08 21.8 +3.6
LZH AMB AMB
comp=Z,21nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,53nm,5.2s
LZH LR LR
comp=N,478nm,13.7s
LZH LR LR
comp=Z,669nm,17.6s,MS4.5
GTA Gaotai 39.84 279 *e*P **P 01 06 56.8 0.0**
GTA AP pP 01 07 06.0 -0.1
GTA XP sP 01 07 10.0 +0.1
GTA S **S 01 12 58.5 -0.6**
GTA XS sS 01 13 15.0 +0.6
GTA SS SS 01 15 49.3 -6.4
GTA AMB AMB
comp=Z,3.0nm,1.3s,mb3.9
GTA AMB AMB
comp=Z,70nm,5.7s
GTA LR LR
comp=N,143nm,15.0s,MS4.1
GTA LR LR
comp=E,136nm,15.6s,MS4.1
GTA LR LR
comp=Z,197nm,15.0s,MS4.1
CD2 Chengdu 41.99 265 *e*P **P 01 07 14.5 -0.1**
CD2 AP pP 01 07 23.8 -0.1
CD2 XP sP 01 07 27.3 -0.4
CD2 PP PP 01 08 55.5 +3.6
CD2 S **S 01 13 31.0 -0.2**
CD2 XS sS 01 13 44.5 -2.1
CD2 SS SS 01 16 33.0 -5.6
CD2 AMB AMB
comp=Z,20nm,1.1s,mb4.7
CD2 AMB AMB
comp=Z,40nm,6.2s
CD2 LR LR
comp=N,170nm,14.4s,MS4.4
CD2 LR LR
comp=E,320nm,12.0s,MS4.4
CD2 LR LR
comp=Z,180nm,15.6s,MS4.1
ZALV Zalesovo Beam 42.89 305 P **P 01 07 19.5 -2.1**
comp=Z,1.1nm,0.3s,mb4.0,baz=76,slow=6.7,SNR=6.0
ZALV PcP PcP 01 09 09.8 -2.1
comp=Z,0.3nm,0.3s,baz=329,slow=1.7,SNR=3.6
ZALV LR LR 01 26 20.4
comp=Z,53nm,19.6s,MS3.4,baz=99,slow=38
ZALV Zalesovo Beam 42.89 305 P **P 01 07 19.5 -2.1**
ZALV PcP PcP 01 09 09.8 -2.1
ZALV LR LR 01 26 20.4
ZAL Zalesovo 42.91 305 P **P 01 07 19.5 -2.3**
ZAL 01 09 09.8
GYA Guiyang 42.93 258 P **P 01 07 24.0 +1.8**
GYA AP pP 01 07 33.0 +1.4
GYA XP sP 01 07 38.5 +3.1
GYA PP PP 01 09 06.3 +4.2
GYA PCP PcP 01 09 15.0 +2.5
GYA SCP ScP 01 13 02.5 +1.5
GYA SCS ScS 01 17 20.0 -0.5
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,80nm,4.7s
GYA LR LR
comp=N,440nm,18.2s,MS4.5
GYA LR LR
comp=E,390nm,17.9s,MS4.5
GYA LR LR
comp=Z,420nm,17.8s,MS4.4
WMQ Urumqi 45.54 291 *e*P **P 01 07 44.3 +1.3**
WMQ AP pP 01 07 54.0 +1.6
WMQ XP sP 01 07 58.0 +1.8
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
WMQ LR LR
comp=N,196nm,19.2s,MS4.1
WMQ LR LR
comp=E,67nm,20.0s,MS4.1
WMQ LR LR
comp=Z,61nm,17.0s,MS3.6
KMI Kunming 46.43 260 P **P 01 07 50.8 +0.6**
KMI AP pP 01 08 00.0 +0.4
KMI XP sP 01 08 03.8 +0.4
KMI PP PP 01 09 40.5 +1.1
KMI S **S 01 14 34.5 -1.4**
KMI SS SS 01 17 53.5 -8.2
KMI AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,64nm,4.7s
KMI LR LR
comp=N,131nm,15.4s,MS4.1
KMI LR LR
comp=E,80nm,14.0s,MS4.1
KMI LR LR
comp=Z,85nm,14.7s,MS3.8
MKAR Makanchi Array 47.42 297 P **P 01 07 55.8 -1.9**
comp=Z,1.4nm,0.5s,mb4.2,baz=68,slow=7.3,SNR=20
MKAR LR LR 01 29 24.3
comp=Z,43nm,18.2s,MS3.5,baz=188,slow=38
MKAR Makanchi Array 47.42 297⇑ *e*P **P 01 07 56.5 -1.2**
KURK Kurchatov 47.70 303⇑ *e*P **P 01 07 58.6 -1.1**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KURK Kurchatov 47.70 303 *e*P **P 01 07 58.3 -1.4**
comp=Z,5.1nm,0.8s,mb4.6
YKA Yellowknife Ar 49.54 38 P **P 01 08 13.0 -0.7**
comp=Z,0.6nm,0.6s,mb3.8,baz=300,slow=7.7,SNR=4.8
YKA Yellowknife Ar 49.54 38 P **P 01 08 13.0 -0.7**
CHTO Chiang Mai 53.34 257 *e*P **P 01 08 43.5 +0.8**
CHTO pmax pmax
comp=Z,11nm,1.2s,mb4.7
CHTO Chiang Mai 53.34 257 *e*P **P 01 08 43.5 +0.8**
comp=Z,11nm,1.2s,mb4.7
CMAR Chiang Mai Arr 53.60 257 P **P 01 08 44.5 -0.1**
comp=Z,1.6nm,0.4s,mb4.3,baz=33,slow=7.0,SNR=10.0
ARU Arti 55.00 318 *d*P **P 01 08 53.3 -1.1**
ARU *e* 01 10 55.0
ARU *e*S **S 01 16 36.2 +2.2**
ARU *e*SS SS 01 20 16.3 -0.8

ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
WALA Waterton Lakes 57.04 52 P **P 01 09 09.0 0.0**
comp=Z,5.1nm,1.1s,mb4.5
ARCES ARCESS Array B 57.29 341 P **P 01 09 09.8 -0.7**
comp=Z,1.0nm,0.6s,mb4.0,baz=33,slow=7.5,SNR=8.9
ARCES LR LR 01 39 18.2
comp=Z,53nm,19.4s,MS3.7,baz=26,slow=42
ARCES ARCESS Array B 57.29 341 P **P 01 09 09.8 -0.7**
ARCES LR LR 01 39 18.2
SUMG Summit 59.67 5 *e*P **P 01 09 28.3 +1.2**
HLID Hailey 60.12 57 *e*P **P 01 09 31.8 +1.2**
JOF Joensuu 60.93 334 *ep* **P 01 09 34.6 -1.2**
comp=Z,0.9nm,0.4s,mb4.2
JOF Joensuu 60.93 334 *e*P **P 01 09 34.6 -1.2**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
NVAR Mina Array Bea 61.08 64 P **P 01 09 36.5 -0.7**
comp=Z,0.2nm,0.4s,mb3.6,baz=307,slow=7.8,SNR=3.2
NVAR Mina Array Bea 61.08 64 P **P 01 09 36.5 -0.7**
RLMT Red Lodge 61.97 53 *e*P **P 01 09 44.3 +1.2**
comp=Z,4.5nm,0.9s,mb4.6
KAF Kangasniemi 63.01 336 *ep* **P 01 09 48.9 -0.8**
comp=Z,0.7nm,0.3s,mb4.3,baz=36,slow=6.2
KAF Kangasniemi 63.01 336 *e*P **P 01 09 48.9 -0.8**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
KAKA Kakadu 63.32 204 *e*P **P 01 09 51.3 -1.0**
comp=Z,3.6nm,0.6s,mb4.7
KAKA *e* pP 01 10 01.6 -0.4
BW06 Boulder Array 63.35 55 *e*P **P 01 09 52.9 +0.6**
BW06 *ep*P pP 01 10 02.2 +0.1
PDAR Pinedale Array 63.35 55 P **P 01 09 52.5 +0.2**
comp=Z,2.2nm,1.0s,mb4.3,baz=313,slow=3.3,SNR=15
OBN Obninsk 65.10 326 *e*P **P 01 10 01.4 -2.2**
OBN pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
SRU San Rafael 65.23 59 *e*P **P 01 10 05.3 +0.6**
SRU *e**PP pP 01 10 14.8 +0.3
RSSD Black Hills 65.42 51 *e*P **P 01 10 06.3 +0.5**
RSSD *e**PP pP 01 10 15.3 -0.3
RSSD pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
RSSD Black Hills 65.42 51 *e*P **P 01 10 06.3 +0.4**
comp=Z,4.1nm,0.7s,mb4.6
RSSD *ep*P pP 01 10 15.3 -0.3
SMCO Snowmass 67.21 57 *e*P **P 01 10 21.1 +3.7**
ISCO Idaho Springs 67.55 55 *e*P **P 01 10 20.5 +1.0**
ISCO *e**PP pP 01 10 29.4 +0.1
ISCO pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ISCO Idaho Springs 67.55 55 *e*P **P 01 10 20.5 +1.0**
comp=Z,4.8nm,0.9s,mb4.5
ISCO *ep*P pP 01 10 29.4 +0.1
NB2 NORSAR Subarra 67.65 342 P **P 01 10 19.4 -0.4**
comp=Z,1.9nm,0.5s,mb4.4,baz=25,slow=6.5
NOA NORSAR Array B 67.65 342 P **P 01 10 19.7 -0.1**
comp=Z,4.5nm,0.8s,mb4.6,baz=26,slow=6.3,SNR=13
NOA LR LR 01 46 26.7
comp=Z,22nm,18.4s,MS3.4,baz=30,slow=42
NOA NORSAR Array B 67.65 342 P **P 01 10 19.7 -0.1**
NOA LR LR 01 46 26.7
HFS Hagfors 67.92 340 LR LR 01 44 41.5
comp=Z,43nm,18.7s,MS3.7,baz=1.6,slow=40
WB2 Warramunga Arr 69.76 200 *e*P **P 01 10 32.4 -0.9**
WB2 *e* pP 01 10 42.4 -0.8
WB2 Warramunga Arr 69.76 200 *e*P **P 01 10 32.5 -0.8**
WB2 *ep*P pP 01 10 42.7 -0.5
WRA Warramunga Arr 69.76 200 P **P 01 10 32.5 -0.8**
comp=Z,2.8nm,1.0s,mb4.1,baz=17,slow=6.8,SNR=21
ANMO Albuquerque 70.45 59⇑ *e*P **P 01 10 35.7 -1.9**
ANMO Albuquerque 70.45 59 *ep*P pP 01 10 47.8 +0.3
FITZ Fitzroy Crossi 70.48 209 *e*P **P 01 10 37.7 -0.1**
comp=Z,7.6nm,2.0s,mb4.3
FITZ *e* pP 01 10 47.2 -0.4
FITZ Fitzroy Crossi 70.48 209 P **P 01 10 37.5 -0.3**
comp=Z,2.0nm,1.1s,mb3.9,baz=17,slow=8.7,SNR=7.5
AKASG Malin Array Be 71.32 327 P **P 01 10 40.8 -1.8**
comp=Z,2.9nm,0.5s,mb4.5,baz=34,slow=6.1,SNR=6.7
AKASG LR LR 01 45 58.2
comp=Z,52nm,18.6s,MS3.8,baz=10.0,slow=39
GNI Garni 72.69 311 LR LR 01 45 40.4
comp=Z,48nm,19.9s,MS3.8,baz=147,slow=38
ASAR Alice Springs 73.45 200 P **P 01 10 55.2 -0.3**
comp=Z,1.4nm,0.8s,mb4.0,baz=13,slow=6.0,SNR=11
KWP Kalwaria 74.52 330 *e*P **P 01 11 01.8 +0.2**
KWP pmax pmax
comp=Z,24nm,1.1s,mb5.0
KWP Kalwaria 74.52 330⇑ *i*P **P 01 11 02.1 +0.5**
KWP Kalwaria 74.52 330 *e*P **P 01 11 01.8 +0.1**
comp=Z,24nm,1.1s,mb5.0
WMOK Wichita Mounta 74.96 55 *e*P **P 01 11 04.0 -0.4**
WMOK *e**PP pP 01 11 13.3 -1.0
WMOK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
WMOK Wichita Mounta 74.96 55 *e*P **P 01 11 04.0 -0.4**
comp=Z,1.9nm,1.0s,mb4.0
WMOK *ep*P pP 01 11 13.3 -1.1
OJC Ojcow 74.97 332 *e*P **P 01 11 03.9 -0.3**
STHS Stebnicka Huta 75.20 331 *i* P **P 01 11 06.2 +0.7**
STHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
STHS Stebnicka Huta 75.20 331 *i* P **P 01 11 06.2 +0.7**
comp=Z,5.1nm,1.1s,mb4.4
KOLS Kolonicke sedl 75.27 330 *e*P **P 01 11 05.9 0.0**
NIE Niedzica 75.50 331 *e*P **P 01 11 07.9 +0.6**
CRVS Cervenica-Dubn 75.57 330 *e*P **P 01 11 07.0 -0.7**
DPC Dobruska-Polom 75.93 334 *e*P **P 01 11 10.4 +0.7**
CLL Collm 76.01 336⇑ *i*P **P 01 11 09.9 -0.3**
CLL *i* *PP pP 01 11 19.2 -0.9
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.7
CLL Collm 76.01 336⇑ *i*P **P 01 11 09.9 -0.3**
comp=Z,11nm,1.0s,mb4.7
CLL *i* pP pP 01 11 19.2 -0.9
MORC Moravsky Berou 76.07 333 *e*P **P 01 11 11.0 +0.5**
MORC *e**PP pP 01 11 19.9 -0.5
MORC pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MORC Moravsky Berou 76.07 333⇑ *i*P **P 01 11 11.1 +0.6**
MORC Moravsky Berou 76.07 333 *e*P **P 01 11 11.0 +0.5**
comp=Z,5.5nm,1.1s,mb4.4
MORC *ep*P pP 01 11 19.9 -0.5
TXAR Lajitas Array 76.13 62 P **P 01 11 11.3 +0.1**
comp=Z,2.2nm,0.7s,mb4.2,baz=298,slow=4.6,SNR=30
TXAR Lajitas Array 76.13 62 P **P 01 11 11.3 +0.1**
BRG Berggiesshubel 76.15 336 *e*P **P 01 11 10.8 -0.1**
BRG pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BRG Berggiesshubel 76.15 336 *e*P **P 01 11 10.8 -0.1**
comp=Z,5.5nm,1.2s,mb4.4
KECS Kecovo 76.26 331 *e*P **P 01 11 10.5 -1.1**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 76.26 331 *e*P **P 01 11 10.5 -1.1**
comp=Z,1.9nm,0.9s,mb4.0
PRU Pruhonice 76.77 335 *e*P **P 01 11 14.9 +0.4**
PRU *ep*P pP 01 11 23.8 -0.6
VRAC Vranov 76.77 333 LR LR 01 47 03.8
comp=Z,44nm,18.8s,MS3.8,baz=12,slow=37
VRAC Vranov 76.77 333⇑ *i*P **P 01 11 15.2 +0.7**
VRAC Vranov 76.77 333⇑ P **P 01 11 15.2 +0.7**
VYHS Vyhne 76.79 332 *e*P **P 01 11 14.8 +0.2**
VYHS Vyhne 76.79 332 *e*SN S 01 20 58.1 -1.3
KOLL Kolacno 76.85 332 *e*P **P 01 11 15.5 +0.5**
MLR Muntele Rosu 76.87 326 P **P 01 11 14.3 -0.8**
comp=Z,6.1nm,0.7s,mb4.6,baz=168,slow=2.7,SNR=12
MLR Muntele Rosu 76.87 326 P **P 01 11 14.3 -0.8**
MLR pmax pmax
comp=Z,6.0nm,0.7s
MLR Muntele Rosu 76.87 326⇓ *i*P **P 01 11 16.3 +1.2**
DRGR 76.95 328⇓ *i*P **P 01 11 15.7 +0.1**
DRGR 76.95 328⇓ P **P 01 11 15.7 +0.1**
MALT Malatya 77.25 314 *e*P **P 01 11 18.3 +0.9**
MALT *e* pP 01 11 28.1 +0.8
MALT pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MALT Malatya 77.25 314⇓ *i*P **P 01 11 19.0 +1.6**
MALT Malatya 77.25 314 *e*P **P 01 11 18.3 +0.9**
comp=Z,7.3nm,0.9s,mb4.6
MALT *e* pP 01 11 28.1 +0.8
VOIR 77.25 326⇓ *i*P **P 01 11 17.7 +0.4**
VOIR 77.25 326 ⇓P **P 01 11 17.7 +0.4**
ZST Bratislava 77.60 332 *e*P **P 01 11 20.1 +0.9**

ZST pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ZST Bratislava 77.60 332 *e*P **P 01 11 20.1 +0.9**
comp=Z,3.7nm,1.0s,mb4.3
KHC Kasperske Hory 77.82 335 *e*P **P 01 11 20.9 +0.5**
KHC *e*pP pP 01 11 30.3 0.0
GRA1 Grafenberg Arr 77.96 337 *e*P **P 01 11 21.9 +0.8**
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 77.96 337 *e*P **P 01 11 21.9 +0.8**
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 77.96 337 *e*P **P 01 11 21.9 +0.8**
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 77.96 337 *e*P **P 01 11 21.9 +0.8**
comp=Z,10.0nm,1.1s,mb4.7
GERES GERESS Array B 78.04 335 P **P 01 11 20.6 -1.0**
comp=Z,1.3nm,0.7s,mb4.0,baz=23,slow=7.2,SNR=9.9
GERES LR LR 01 48 21.3
comp=Z,39nm,19.4s,MS3.8,baz=193,slow=38
CONA Conrad Observa 78.22 333⇑*i*P **P 01 11 23.5 +0.9**
comp=Z,6.4nm,1.3s,mb4.4
CONA Conrad Observa 78.22 333⇑*i*P **P 01 11 23.5 +0.9**
comp=Z,6.4nm,1.3s,mb4.4
BZS Buzias 78.35 328⇑*i*P **P 01 11 22.9 -0.5**
BZS Buzias 78.35 328 ⇑P **P 01 11 22.9 -0.5**
MEM Membach 78.41 340 P **P 01 11 24.6 +1.0**
comp=Z,4.9nm,1.2s,mb4.3
ANTO Ankara 78.66 318⇑*i*P **P 01 11 25.8 +0.6**
ANTO Ankara 78.66 318 ⇑P **P 01 11 25.8 +0.6**
UMR Umm Al-Rimmam 79.01 302 *e*P **P 01 11 27.2 -0.1**
baz=302
UMR AMb AMB 01 11 27.8
comp=Z,26nm,0.6s,mb5.3,baz=302
MIB Mutribah 79.04 302 *e*P **P 01 11 27.5 0.0**
baz=302
MIB AMb AMB 01 11 28.2
comp=Z,46nm,1.0s,mb5.4,baz=302
NAY Al-Naaiem 79.51 302 *e*P **P 01 11 29.8 -0.2**
baz=302
NAY AMb AMB 01 11 31.3
comp=Z,17nm,1.2s,mb4.8,baz=302
RDF Al-Radifah 79.57 302 *e*P **P 01 11 30.9 +0.5**
baz=302
RDF AMb AMB 01 11 32.8
comp=Z,52nm,1.2s,mb5.3,baz=302
SOKA Soboth 79.59 333⇑*i*P **P 01 11 30.4 +0.2**
KBA Koelnbreinsper 79.74 334⇑*i*P **P 01 11 32.1 +1.2**
comp=Z,8.9nm,1.0s,mb4.6
KBA Koelnbreinsper 79.74 334⇑*i*P **P 01 11 32.1 +1.2**
KBA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WTTA Wattenberg 80.06 335⇑*i*P **P 01 11 33.7 +1.1**
comp=Z,11nm,1.1s,mb4.7
WTTA Wattenberg 80.06 335⇑*i*P **P 01 11 33.7 +1.0**
WTTA pmax pmax
comp=Z,11nm,1.1s,mb4.7
STKA Stephens Creek 80.08 191 *e*P **P 01 11 34.4 +1.7**
comp=Z,30nm,1.7s,mb4.9
MOTA Moosalm 80.14 336⇓*i*P **P 01 11 33.5 +0.4**
comp=Z,8.8nm,1.2s,mb4.6
MOTA Moosalm 80.14 336⇓*i*P **P 01 11 33.5 +0.4**
MOTA pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
CDF Champ du Feu 80.15 339 *e*P **P 01 11 33.4 +0.2**
MEZF Maizieres J'vi 80.60 340 *e*P **P 01 11 36.0 +0.4**
LOR Lormes 82.03 340 *e*P **P 01 11 43.1 -0.1**
LOR *e*MLR MLR
comp=Z,58nm,20.8s,MS3.6
LOR Lormes 82.03 340 *e*P **P 01 11 43.1 -0.1**
LOR LR LR
comp=Z,60nm,20.8s,MS3.9
SSF Saint Saulge 82.31 341 *e*P **P 01 11 44.6 0.0**
AVF Avril sur Loir 82.60 341 *e*P **P 01 11 46.5 +0.3**
SMF Signal de Mont 82.63 340 *e*P **P 01 11 46.7 +0.4**
comp=Z,14nm,1.0s,mb4.6
SMF Signal de Mont 82.63 340 *e*P **P 01 11 46.7 +0.4**
SMF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
SMF Signal de Mont 82.63 340 *e*P **P 01 11 46.7 +0.4**
comp=Z,6.6nm,1.0s,mb4.6
ASF Jabal al Asfar 82.86 311 P **P 01 11 47.7 -0.1**
comp=Z,3.2nm,1.0s,mb4.3,baz=148,slow=2.5,SNR=5.8
LPL La Plagne 82.99 338 *e*P **P 01 11 48.3 +0.1**
comp=Z,11nm,1.1s,mb4.5
LPL La Plagne 82.99 338 *e*P **P 01 11 48.3 +0.1**
LPL pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
LPL La Plagne 82.99 338 *e*P **P 01 11 48.3 +0.1**
comp=Z,5.6nm,1.1s,mb4.5
LPG La Plagne 83.00 338 *e*P **P 01 11 48.6 +0.3**
comp=Z,13nm,1.1s,mb4.6
LPG La Plagne 83.00 338 *e*P **P 01 11 48.6 +0.3**
LPG pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
LPG La Plagne 83.00 338 *e*P **P 01 11 48.6 +0.3**
comp=Z,6.5nm,1.1s,mb4.6
TCF Toulx Ste Croi 83.33 341 *e*P **P 01 11 50.3 +0.4**
comp=Z,5.2nm,0.9s,mb4.3
MBDF Montbardon 83.71 338 *e*P **P 01 11 51.5 -0.4**
ORIF Oris-en-Rattie 83.76 338 *e*P **P 01 11 52.3 +0.1**
comp=Z,13nm,1.3s,mb4.6
ORIF *e*MLR MLR
comp=Z,40nm,19.8s,MS3.5
ORIF Oris-en-Rattie 83.76 338 *e*P **P 01 11 52.3 +0.1**
ORIF pmax pmax
comp=Z,7.0nm,1.3s,mb4.6
ORIF Oris-en-Rattie 83.76 338 *e*P **P 01 11 52.3 +0.1**
comp=Z,6.5nm,1.3s,mb4.6
VIVF Saint-Julien-l 84.11 339 *e*P **P 01 11 53.6 -0.4**
comp=Z,17nm,1.4s,mb4.7
VIVF Saint-Julien-l 84.11 339 *e*P **P 01 11 53.6 -0.4**
VIVF pmax pmax
comp=Z,9.0nm,1.4s,mb4.7
VIVF Saint-Julien-l 84.11 339 *e*P **P 01 11 53.6 -0.4**
comp=Z,8.7nm,1.4s,mb4.7
SBF Sospel 84.34 337 *e*P **P 01 11 55.1 -0.1**
comp=Z,16nm,0.9s,mb4.9
SBF Sospel 84.34 337 *e*P **P 01 11 55.1 -0.1**
SBF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SBF Sospel 84.34 337 *e*P **P 01 11 55.1 -0.1**
comp=Z,8.1nm,0.9s,mb4.8
SMRF Simiane la Rot 84.72 338 *e*P **P 01 11 57.0 -0.1**
LMR La Mourre 85.08 337 *e*P **P 01 11 58.1 -0.8**
PGF Pioggiola 85.13 335 *e*P **P 01 11 58.3 -0.9**
EIL Elat 85.86 311 LR LR 01 53 03.8
comp=Z,37nm,19.6s,MS3.8,baz=87,slow=38
KEST Kesra 91.31 332 P **P 01 12 28.3 -0.6**
comp=Z,1.5nm,1.1s,mb4.2,baz=296,slow=4.6,SNR=3.5
CPUP Villa Florida 147.10 61 PKPbc PKPbc 01 19 05.1 -0.9
comp=Z,1.4nm,0.9s,baz=352,slow=6.5,SNR=4.4

*IDC **27** 01:06:41.7±3.1, 5.10S×1523.6E, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/16, mbtmp4.1/5, Error ellipse: s-maj=99.1km s-min=26.1km az=111.0*
*NEIC **27** 01:06:42.5±1.1, 5.14S×1525.4E, h10km, mb4.4/4, Error ellipse: s-maj=30.5km s-min=12.4km az=110.0*
*ISCJB **27** 01:06:44.4±2.1, 52S±02×1525E±04, h33km, mb4.0/8, Error ellipse: s-maj=52.0km s-min=20.0km az=14.5*
ISC 27 01:06:46.7±2.0, 52S±02×**1525E**±03, **h35**km, **n12**, σ0°35/11, **mb4.0/8, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**21.12**	**248**	*e*P	**P**	**01 11 28.8**	**+0.1**
	9.1nm,0.3s,mb4.6						
WRAB	**Tennant Creek**	**22.92**	**229**	*e*P	**P**	**01 11 47.9**	**+0.1**
	1.9nm,0.5s,mb3.8						
WB2	**Warramunga Arr**	**22.93**	**229**	*e*P	**P**	**01 11 48.2**	**+0.3**
WRA	**Warramunga Arr**	**22.93**	**229**	P	**P**	**01 11 48.1**	**+0.1**
	2.3nm,0.4s,mb3.9,baz=52,slow=10.0,SNR=23						
ASAR	**Alice Springs**	**25.64**	**222**	P	**P**	**01 12 13.4**	**+0.2**
	1.1nm,0.6s,mb3.6,baz=59,slow=9.2,SNR=12						
STKA	**Stephens Creek**	**28.44**	**200**	*e*P	**P**	**01 12 38.3**	**-0.1**
	12nm,1.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**29.17**	**242**	*e*P	**P**	**01 12 44.6**	**-0.4**
	4.1nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**29.17**	**242**	P	**P**	**01 12 43.8**	**-1.2**
	2.4nm,0.6s,mb4.1,baz=69,slow=10.0,SNR=14						
SONM	**Songino Array**	**66.45**	**328**	P	**P**	**01 17 32.9**	**+0.3**
	0.4nm,0.4s,mb3.8,baz=152,slow=6.5,SNR=4.0						
MKAR	**Makanchi Array**	**80.38**	**319**	P	**P**	**01 18 54.4**	**-0.2**
	0.3nm,0.5s,mb3.5,baz=82,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**80.38**	**319**	P	**P**	**01 18 54.4**	**-0.2**

TORD Torodi Ar. Bea 150.09 287 PKPbc PKPbc 01 26 35.0 +0.2
0.5nm,0.4s,baz=83,slow=1.8,SNR=25

*ISK **27** 01:30:15.5, 3526N×2661E, h5km, MD3.7*
*ISCJB **27** 01:30:15.6±0.4, 36.16N±002×2528E±003, h10km±3km, Error ellipse: s-maj=4.4km s-min=3.1km az=17.3*
*THE **27** 01:30:16.8, 36.17N×2537E, h9km, ML3.3*
*ATH **27** 01:30:16.2, 36.17N×2531E, h44km±2km, MD3.7/11, ML3.7*
*CSEM **27** 01:30:16.3±0.1, 36.17N×2534E, h15km, ML3.3, Error ellipse: s-maj=2.6km s-min=1.9km az=90.0*
*NEIC **27** 01:30:17.0, 36.13N×2549E, h10km, ML3.0(ATH), After ATH.*
ISC 27 01:30:16.1±0.4, **3616N**±002×**2529E**±003, **h13**km±3km, **n42**, σ1°**09**/58, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR6	**Thira Island,**	**0.21**	**24**	*e*Pg	**Pg**	**01 30 20.9**	**+0.1**
THR1	**Thera Island**	**0.25**	**33**	*e*Pg	**Pg**	**01 30 21.0**	**-0.4**
THR1				*e*Sg	**Sg**	**01 30 24.6**	**-0.3**
THR5	**Thira Island,**	**0.26**	**10**	*e*Pg	**Pg**	**01 30 22.0**	**+0.4**
THR3	**Thira Island,**	**0.26**	**20**	*e*Pg	**Pg**	**01 30 21.8**	**+0.2**
APE	**Apeiranthos**	**0.93**	**12**	*e*P	**Pg**	**01 30 33.9**	**-0.1**
APE				*e*S	**Sg**	**01 30 46.4**	**+0.3**
APE	**Apeiranthos**	**0.93**	**12**	*e*Pg	**Pg**	**01 30 33.6**	**-0.4**
APE	**Apeiranthos**	**0.93**	**12**	*e*P	**Pg**	**01 30 33.9**	**-0.1**
APE				*e*S	**Sg**	**01 30 46.4**	**+0.3**
IDI	**Anoyia**	**0.93**	**201**	P	**Pb**	**01 30 34.8**	**+0.7**
NPS	**Neapolis**	**0.94**	**164**	*e*P	**Pb**	**01 30 33.8**	**-0.4**
NPS				*e*S	**Sg**	**01 30 46.1**	**-0.3**
LAST	**Lasithi**	**1.01**	**171**	*e*Pg	**Pg**	**01 30 35.2**	**-0.4**
LAST				*e*Sg	**Sg**	**01 30 50.0**	**+1.2**
LAST	**Lasithi**	**1.01**	**171**	P	**Pb**	**01 30 30.7**	**-4.8**
VAM	**Vamos**	**1.16**	**230**	*e*P	**Pn**	**01 30 37.4**	**-0.7**
VAM				*e*S	**Sb**	**01 30 53.1**	**0.0**
SIVA	**Sivas**	**1.21**	**199**	*e*Pg	**Pg**	**01 30 40.1**	**+0.7**
SIVA				*e*Sg	**Sg**	**01 30 56.4**	**+1.3**
SIVA	**Sivas**	**1.21**	**199**	P	**Pn**	**01 30 40.3**	**+1.6**
SIVA				*e*Sg	**Sg**	**01 30 56.4**	**+1.3**
SIVA	**Sivas**	**1.21**	**199**	P	**Pn**	**01 30 40.3**	**+1.6**
ZKR	**Zakros**	**1.29**	**144**	*e*Pg	**Pg**	**01 30 39.4**	**-1.6**
ZKR				*e*Sg	**Sg**	**01 30 56.7**	**-1.0**
ZKR	**Zakros**	**1.29**	**144**	P	**Pn**	**01 30 41.4**	**+1.6**
ZKR				*e*Sg	**Sg**	**01 30 56.7**	**-1.0**
ZKR	**Zakros**	**1.29**	**144**	P	**Pn**	**01 30 41.4**	**+1.6**
KARN	**Karanos**	**1.35**	**236**	*e*Pg	**Pg**	**01 30 41.6**	**-0.5**
KARN				*e*Sg	**Sg**	**01 30 59.3**	**-0.4**
KARP	**Karpathos**	**1.64**	**111**	*e*P	**Pn**	**01 30 44.2**	**-0.4**
KARP				*e*S	**Sn**	**01 31 03.4**	**-2.2**
KYTH	**Kithira**	**1.83**	**274**	*e*P	**Pn**	**01 30 47.0**	**-0.2**
KYTH	**Kithira**	**1.83**	**274**	*e*P	**Pn**	**01 30 48.0**	**+0.8**
BODT	**Bodrum**	**1.86**	**60**	*e*PN	**Pn**	**01 30 49.8**	**+2.1**
BODT				*e*SN	**Sn**	**01 31 15.2**	**+4.3**
VLI	**Veliai**	**1.98**	**287**	*e*P	**Pn**	**01 30 48.8**	**-0.5**
VLI				*e*S	**Sn**	**01 31 12.0**	**-1.9**
VLI	**Veliai**	**1.98**	**287**	*e*P	**Pn**	**01 30 47.8**	**-1.5**
VLI				*e*S	**Sn**	**01 31 12.0**	**-1.9**
SMG	**Samos**	**1.98**	**38**	*e*P	**Pn**	**01 30 48.2**	**-1.1**
DID	**Didima**	**2.12**	**310**	*e*Pn	**Pn**	**01 30 52.1**	**+0.8**
NAIG	**Nisos Aigina**	**2.15**	**318**	*e*P	**Pn**	**01 30 51.0**	**-0.7**
NAIG	**Nisos Aigina**	**2.15**	**318**	*e*P	**Pn**	**01 30 52.5**	**+0.8**
ATH	**Athens Observa**	**2.20**	**326**	*e*P	**Pn**	**01 30 51.2**	**-1.2**
PTL	**Penteli**	**2.20**	**329**	*e*P	**Pn**	**01 30 51.5**	**-0.9**
PTL	**Penteli**	**2.20**	**329**	*e*P	**Pn**	**01 30 53.0**	**+0.6**
ARG	**Arkhangelos**	**2.29**	**88**	*e*P	**Pn**	**01 30 53.2**	**-0.5**
MLSB	**Milas**	**2.29**	**60**	*e*PN	**Pn**	**01 30 55.5**	**+1.8**
MLSB				*e*SN	**Sn**	**01 31 24.0**	**+2.2**
YER	**Yerkesik**	**2.59**	**67**	*e*PN	**Pn**	**01 30 56.4**	**-1.4**
ITM	**Ithomi**	**2.89**	**292**	P	**Pn**	**01 31 07.0**	**+5.2**
LKR	**Lokris**	**3.08**	**324**	*e*Pn	**Pn**	**01 31 05.5**	**+1.0**
LKR	**Lokris**	**3.08**	**324**	P	**Pn**	**01 31 06.5**	**+2.0**
LKR	**Lokris**	**3.08**	**324**	P	**Pn**	**01 31 06.5**	**+2.0**
KULA	**Kula-Manisa**	**3.57**	**48**	*e*PN	**Pn**	**01 31 15.3**	**+4.2**
ELL	**Elmali**	**3.77**	**80**	*e*PN	**Pn**	**01 31 06.6**	**-7.4**
BCK	**Bucak**	**4.44**	**71**	*e*PN	**Pn**	**01 31 18.9**	**-4.3**

*CSEM **27** 01:35:37.9±0.1, 3924N×4107E, h2km, MD3.5, Error ellipse: s-maj=2.1km s-min=1.6km az=158.0*
*ISK **27** 01:35:37.6, 3923N×4106E, h5km, MD3.5*
*DDA **27** 01:35:38.5, 3925N×4105E, h2km±1km, Md2.8*
*ISCJB **27** 01:35:39.3±0.7, 3925N±003×4103E±005, h5km±6km, Error ellipse: s-maj=6.2km s-min=4.3km az=22.1*
ISC 27 01:35:39.7±0.7, **3925N**±003×**4104E**±005, **h5**km±6km, **n24**, σ0°**71**/31, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.31**	**163**	*i*P	**Pg**	**01 35 45.7**	**+0.1**
BNGL				*i*S	**Sg**	**01 35 50.0**	**+0.3**
EZM	**Erzurum**	**0.70**	**21**	PG	**Pg**	**01 35 52.4**	**-0.8**
EZM				*e*SG	**Sg**	**01 36 03.6**	**+1.2**
ERZM	**Erzurum**	**0.71**	**21**	*i*P	**Pg**	**01 35 52.4**	**-0.9**
ERZM				*i*S	**Sg**	**01 36 03.9**	**+1.4**
ERZM	**Erzurum**	**0.71**	**21**	*i*P	**Pg**	**01 35 52.4**	**-0.9**
ERZM				*i*S	**Sg**	**01 36 03.8**	**+1.4**
KOPT	**Kop Dagi**	**0.88**	**332**	*i*P	**Pg**	**01 35 55.8**	**-0.7**
HOMI	**Horasan**	**1.04**	**40**	*i*P	**Pg**	**01 35 58.5**	**-1.2**
HOMI				*i*S	**Sg**	**01 36 13.7**	**+0.5**
EZC	**Erzincan**	**1.07**	**298**	*e*PN	**Pn**	**01 36 05.5**	**+4.2**
PTK	**Pertek**	**1.33**	**255**	PN	**Pn**	**01 36 03.7**	**-1.2**
AGRB	**Hanur-Agry**	**1.55**	**77**	*e*PN	**Pn**	**01 36 07.0**	**-0.9**
AGRB				*e*SN	**Sn**	**01 36 28.5**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.60**	**238**	*e*PN	**Pn**	**01 36 08.4**	**-0.3**
GUMT	**Gumushane**	**1.70**	**316**	*e*PN	**Pn**	**01 36 10.0**	**0.0**
MARD	**Mardin**	**1.94**	**186**	*i*P	**Pn**	**01 36 14.2**	**+0.9**
MARD				*i*S	**Sn**	**01 36 42.6**	**+4.6**
KTUT	**Trabzon**	**1.99**	**331**	*e*PN	**Pn**	**01 36 14.0**	**0.0**
SIRT	**Sirnak**	**2.06**	**147**	*e*PN	**Pn**	**01 36 15.0**	**+0.1**
KARS	**Kars**	**2.09**	**49**	*e*PN	**Pn**	**01 36 14.9**	**-0.4**
MYA	**Malataya**	**2.24**	**247**	*e*PN	**Pn**	**01 36 17.5**	**+0.2**
CLDR	**Caldiran**	**2.24**	**92**	*e*PN	**Pn**	**01 36 17.0**	**-0.5**
MALT	**Malatya**	**2.24**	**246**	*e*PN	**Pn**	**01 36 17.8**	**+0.4**
BCA	**Borcka**	**2.24**	**11**	*e*PN	**Pn**	**01 36 17.4**	**0.0**
ESPY	**Espiye-Giresun**	**2.43**	**314**	*e*PN	**Pn**	**01 36 20.3**	**+0.2**
URFA	**Urfa**	**2.51**	**225**	*e*PN	**Pn**	**01 36 21.4**	**+0.3**
HAKT	**HAKKARI**	**2.69**	**128**	*i*P	**Pn**	**01 36 27.7**	**+4.0**
GRSN	**GIRESUNGRSN**	**2.71**	**309**	*i*P	**Pn**	**01 36 28.9**	**+5.1**
SVSK	**Karacayir**	**3.19**	**283**	*e*PN	**Pn**	**01 36 31.3**	**+0.8**

*ISCJB **27** 02:02:57.0±0.3, 4754N±001×1471E±002, h10km, Error ellipse: s-maj=2.2km s-min=1.8km az=176.6*
*BGR **27** 02:02:58.8±1.8, 4751N×1479E, h10km, ML2.7/6, Error ellipse: s-maj=15.6km s-min=8.9km az=132.0*
*VIE **27** 02:02:59.2±0.2, 4746N×1472E, h6km±12km, mb1.5/6, ML2.2/6, Error ellipse: s-maj=1.0km s-min=0.9km az=148.0*
*CSEM **27** 02:02:59.0±0.1, 4749N×1474E, h12km, ML3.1/8, Error ellipse: s-maj=1.9km s-min=1.5km az=87.0*
*PRU **27** 02:03:01.8, 4761N×1477E, h0km*
ISC 27 02:02:58.9±0.2, **4750N**±001×**1473E**±002, **h10**km, **n51**, σ1°**03**/85, **12C-7D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOA	**Molln**	**0.47**	**318**⇑	*e*Pg	**Pg**	**02 03 08.7**	**+0.7**
	comp=Z,5.7nm,0.1s,SNR=40						
MOA	**Molln**	**0.47**	**318**⇑	*e*Pg	**Pg**	**02 03 08.7**	**+0.7**
	5.7nm,0.1s,SNR=40						
MOA			⇑	*i*Sg	**Sg**	**02 03 16.0**	**+1.9**
	15nm,0.1s						
ARSA	**Arzberg**	**0.60**	**115**	*e*Pg	**Pg**	**02 03 10.8**	**+0.4**
	comp=Z,2.2nm,0.1s,SNR=19						
ARSA	**Arzberg**	**0.60**	**115**	*e*Pg	**Pg**	**02 03 10.8**	**+0.4**
	2.2nm,0.1s,SNR=19						
ARSA			⇑	*i*Sg	**Sg**	**02 03 18.5**	**+0.2**
	18nm,0.1s						
SOKA	**Soboth**	**0.85**	**166**⇓	*i*Pg	**Pg**	**02 03 15.1**	**-0.1**
SOKA			⇑	*i*Sg	**Sg**	**02 03 25.8**	**-0.5**
CSNA	**Conrad Observa**	**0.88**	**60**⇓	*i*Pg	**Pg**	**02 03 16.4**	**+0.7**
	3.3nm,0.1s						
CSNA			⇓	*i*Sg	**Sg**	**02 03 28.9**	**+1.8**
	21nm,0.1s						
CONA	**Conrad Observa**	**0.88**	**61**⇓	*e*Pg	**Pg**	**02 03 16.4**	**+0.7**
	2.8nm,0.1s,SNR=26						
CONA			⇑	*i*Sg	**Sg**	**02 03 29.1**	**+1.9**
	16nm,0.1s						

BISS Bistriski jare 0.90 162 *i*Pg **Pg 02 03 16.1 -0.1**
BISS *i*Sg **Sg 02 03 27.2 -0.6**
BISS
comp=Z,51nm,0.1s
BISS Bistriski jare 0.90 162 *i*Pg **Pg 02 03 16.1 0.0**
BISS *i*Sg **Sg 02 03 27.2 -0.6**
comp=Z,51nm,0.1s
PERS Pernice 0.91 163 *i*Pg **Pg 02 03 16.2 -0.1**
PERS *i*Sg **Sg 02 03 27.3 -0.8**
PERS
comp=Z,13nm,0.1s
PERS Pernice 0.91 163 *i*Pg **Pg 02 03 16.2 -0.1**
PERS *i*Sg **Sg 02 03 27.3 -0.8**
comp=Z,13nm,0.1s
OBKA Obir 1.00 187⇓*e*Pg **Pg 02 03 18.5 +0.4**
comp=Z,5.7nm,0.1s,SNR=32
OBKA ⇑*i*Sg **Sg 02 03 31.4 +0.3**
comp=Z,18nm,0.2s
KBA Koelnbreinsper 1.03 246⇑*i*Pg **Pg 02 03 18.6 -0.1**
comp=Z,2.0nm,0.1s
KBA ⇓*i*Sg **Sg 02 03 31.4 -0.7**
comp=Z,6.6nm,0.1s
MYKA Terra Mystica 1.15 221⇑*i*Pg **Pg 02 03 20.7 -0.1**
comp=Z,2.5nm,0.1s
MYKA ⇑*i*Sg **Sg 02 03 35.5 -0.2**
comp=Z,4.0nm,0.1s
MYKA Terra Mystica 1.15 221 Pg **Pg 02 03 20.7 -0.2**
comp=Z,2.5nm,0.1s
MYKA Sg **Sg 02 03 35.5 -0.2**
comp=Z,4.0nm,0.1s
GROS Grobnik 1.17 153 *i*Pg **Pg 02 03 20.9 -0.4**
GROS *i*Sg **Sg 02 03 35.1 -1.4**
GROS
comp=Z,8.0nm,0.1s
GROS Grobnik 1.17 153 *i*Pg **Pg 02 03 20.9 -0.4**
GROS *i*Sg **Sg 02 03 35.1 -1.4**
comp=Z,8.0nm,0.1s
GEC2 GERESS Array S 1.51 333 *e*Pg **Pg 02 03 27.9 +0.1**
SNR=11
GEC2 *e*Sg **Sg 02 03 48.2 +0.8**
SNR=13
JAVS Javornik 1.67 196 *i*Pg **Pg 02 03 31.3 +0.4**
JAVS *i*Sg **Sg 02 03 53.2 +0.6**
ABTA Abfaltersbach 1.69 244⇑*i*Pg **Pg 02 03 31.1 -0.1**
comp=Z,1.1nm,0.2s
ABTA ⇓*i*Sg **Sg 02 03 54.3 +1.1**
comp=Z,1.9nm,0.2s
ZST Bratislava 1.74 66 *e*PN **Pg 02 03 31.8 -0.5**
ZST *e*SN **Sg 02 03 53.7 -1.2**
KHC Kasperske Hory 1.80 335 Pg **Pg 02 03 32.7 -0.7**
KHC Sg **Sg 02 03 56.8 +0.1**
KHC Kasperske Hory 1.80 335 *e*PG **Pg 02 03 32.4 -1.0**
KHC *e*SG **Sg 02 03 55.5 -1.2**
comp=Z,24nm,0.3s
TREC Trest 1.86 15 Pg **Pg 02 03 33.9 -0.7**
TREC Sg **Sg 02 03 58.7 0.0**
TREC Trest 1.86 15 *e*PG **Pn 02 03 32.5 +1.7**
TREC *e*SG **Sn 02 03 56.7 +2.3**
MODS Modra-Piesok 1.92 62 *e*PN **Pg 02 03 33.6 -2.1**
MODS *e*SN **Sg 02 03 59.4 -1.2**
WET Wettzell 2.05 324 *e*Pg **Pg 02 03 36.8 -1.4**
SNR=4.6
WET *e*Sg **Sg 02 04 03.5 -1.4**
SNR=4.5
WTTA Wattenberg 2.11 265 *e*Pg **Pg 02 03 39.2 -0.1**
comp=Z,2.8nm,0.2s,SNR=10.0
WTTA ⇑*i*Sg **Sg 02 04 07.4 +0.7**
comp=Z,8.8nm,0.3s
WTTA Wattenberg 2.11 265 Pg **Pg 02 03 39.2 -0.2**
comp=Z,2.8nm,0.2s,SNR=10.0
WTTA Sg **Sg 02 04 07.4 +0.7**
comp=Z,8.8nm,0.3s
VRAC Vranov 2.19 34 *e*Pn **Pn 02 03 37.1 +1.8**
VRAC *e*Sg **Sb 02 04 06.7 +0.9**
PRU Pruhonice 2.49 357 Pg **Pg 02 03 47.5 +0.9**
PRU Sg **Sg 02 04 16.7 -2.1**
PRU Pruhonice 2.49 357 *e*PG **Pg 02 03 45.7 -0.9**
PRU *e*SG **Sg 02 04 16.9 -1.9**
comp=Z,7.1nm,0.3s
VYHS Vyhne 2.93 69 *e*PN **Pn 02 03 47.8 +2.3**
VYHS *e*SG **Sg 02 04 32.5 -0.5**
VYHS Vyhne 2.93 69 *e*Pn **Pn 02 03 47.9 +2.4**
VYHS *e*Sg **Sg 02 04 32.5 -0.5**
MORC Moravsky Berou 2.94 38 *e*Pn **Pn 02 03 46.5 +0.9**
MORC *e*Sg **Sg 02 04 32.1 -1.3**
PVCC Panska Ves 3.03 358 Pg **Pg 02 03 57.8 +0.9**
PVCC Panska Ves 3.03 358 *e*SG **Sg 02 04 35.2 -0.9**
comp=Z,11nm,0.2s
DPC Dobruska-Polom 3.04 20 Pg **Pg 02 03 57.0 0.0**
DPC Sg **Sg 02 04 36.9 +0.5**
DPC Dobruska-Polom 3.04 20 *e*SG **Sg 02 04 35.1 -1.3**
comp=Z,3.9nm,0.4s
NKC Novy Kostel 3.12 332 *e*SG **Sg 02 04 39.3 +0.3**
comp=Z,14nm,0.4s
GRA1 Grafenberg Arr 3.19 315 Sg **Sg 02 04 41.3 -0.1**
SNR=3.8
GRF Grafenberg Arr 3.19 315 *e*Sg **Sg 02 04 41.3 -0.2**
SNR=3.8
GUNZ Gunzen 3.27 332 *e*Sg **Sg 02 04 44.6 +0.8**
SNR=3.0
WERD Werda 3.35 332 *e*Sg **Sg 02 04 45.6 -0.8**
SNR=5.1
BRG Berggiesshubel 3.41 352 *e*Sg **Sg 02 04 47.9 -0.5**
SNR=2.5
BRG Berggiesshubel 3.41 352 SG **Sg 02 04 50.7 +2.3**
comp=Z,5.2nm,0.7s
MOX Moxa 3.75 328 *e*Sg **Sg 02 04 57.6 -1.7**
SNR=4.2
MOX Moxa 3.75 328 *e*SG **Sg 02 04 58.0 -1.2**
CLL Collm 3.97 344 *e*Sg **Sg 02 05 04.7 -1.6**
SNR=3.6
CLL Collm 3.97 344 *e*Sg **Sg 02 05 04.0 -2.3**
comp=Z,6.0nm,0.6s
BFO Black Forest 4.38 283 *e*Sg **Sg 02 05 19.8 +0.3**
SNR=1.6

*ISCJB **27** 02:08:18.5±0.9, 3055N±004×503E±01, h10km, Error ellipse: s-maj=13.4km s-min=6.1km az=5.0*
*CSEM **27** 02:08:19.5±0.3, 3055N×5037E, h25km, ML2.9, Error ellipse: s-maj=10.1km s-min=3.6km az=115.0*
*THR **27** 02:08:29.3±0.5, 3138N×5033E, h14km±7km, ML2.9*
ISC 27 02:08:21.9±2.0, **3057N**±004×**502E**±01, **h20**km±18km, **n12**, σ0°**65**/15, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.95**	**323**	*e*Pg	**Pb**	**02 08 56.5**	**-0.1**
SHGR				*e*Sg	**Sn**	**02 09 16.7**	**-0.9**
SHGR				AML	AML	02 09 27.3	
	comp=N,209nm,0.4s						
SHGR				AML	AML	02 09 27.9	
	comp=E,164nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.95**	**323**	*e*Pg	**Pb**	**02 08 56.5**	**-0.2**
	SNR=90						
SHGR				*e*Sg	**Sn**	**02 09 16.7**	**-0.9**
	comp=E,164nm,0.4s,SNR=90						
MIB	**Mutribah**	**2.59**	**254**	*e*P	**Pn**	**02 09 02.3**	**-0.3**
	baz=252						
MIB				AML	AML	02 09 45.0	
	comp=Z,21nm,0.5s,baz=252						
RDF	**Al-Radifah**	**2.82**	**235**	*e*P	**Pn**	**02 09 06.1**	**+0.3**
	baz=233						
RDF				AML	AML	02 09 46.7	
	comp=Z,40nm,0.4s,baz=233						
NAY	**Al-Naaiem

ellipse: s-maj=4.1km s-min=3.3km az=39.9
NEIC ***27*** *02:28:32.6, 3927N×2160E, h4km, MD3.2(ATH), After ATH.*
CSEM ***27*** *02:28:32.4±0.1, 3926N×2158E, h2km, MD3.2, Error ellipse: s-maj=1.5km s-min=1.4km az=20.0*
ATH ***27*** *02:28:32.7, 3926N×2160E, h3km±3km, MD3.2/7*
THE ***27*** *02:28:32.4, 3924N×2157E, h6km, ML2.6*
ISC 27 02:28:32.6±0.5, 3925N±003×2159E±003, h7km±10km, n17, σ0§86/29, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.37**	**153**	*e*PG	**Pg**	**02 28 40.0**	**+0.2**
EVR				*e*SG	**Sg**	**02 28 45.0**	**+0.3**
EVR	**Evrytania**	**0.37**	**153**	*e*Pg	**Pg**	**02 28 39.6**	**-0.2**
EVR				*e*Sg	**Sg**	**02 28 45.0**	**+0.3**
THL	**Klokotos Trika**	**0.46**	**46**	*e*Pg	**Pg**	**02 28 40.9**	**-0.6**
THL				*e*Sg	**Sg**	**02 28 48.5**	**+1.1**
THL	**Klokotos Trika**	**0.46**	**46**	*e*PG	**Pg**	**02 28 41.1**	**-0.3**
THL				*e*SG	**Sg**	**02 28 47.5**	**+0.1**
THL	**Klokotos Trika**	**0.46**	**46**	*e*Pg	**Pg**	**02 28 40.8**	**-0.6**
THL				*e*Sg	**Sg**	**02 28 47.5**	**+0.1**
MEV	**Metsovon**	**0.60**	**333**	*e*Pg	**Pg**	**02 28 43.4**	**-0.8**
MEV				*e*Sg	**Sg**	**02 28 53.0**	**+0.9**
AGG	**Agios Georgios**	**0.62**	**111**	*e*Pg	**Pg**	**02 28 44.1**	**-0.4**
AGG				*e*Sg	**Sg**	**02 28 53.8**	**+1.2**
JAN	**Janina**	**0.70**	**306**	*e*PG	**Pg**	**02 28 45.7**	**-0.4**
JAN				*e*SG	**Sg**	**02 28 55.3**	**+0.1**
LKD	**Levkas**	**0.91**	**234**	*e*Pg	**Pg**	**02 28 49.3**	**-0.7**
IGT	**Igoumenitsa**	**1.01**	**287**	*e*Pg	**Pg**	**02 28 51.2**	**-0.9**
IGT				*e*Sg	**Sg**	**02 29 06.6**	**+1.4**
KZN	**Kozani**	**1.07**	**8**	*e*PG	**Pg**	**02 28 52.7**	**-0.4**
KZN				*e*SG	**Sg**	**02 29 07.5**	**+0.6**
KZN	**Kozani**	**1.07**	**8**	*e*Pb	**Pb**	**02 28 51.7**	**-1.7**
KZN				*e*Sg	**Sg**	**02 29 06.5**	**-0.4**
LIT	**Litokhoron**	**1.10**	**39**	*e*Pg	**Pg**	**02 28 52.7**	**-1.0**
LIT				*e*Sg	**Sg**	**02 29 09.7**	**+1.7**
RLS	**Riolos of Patr**	**1.19**	**185**	*e*PB	**Pb**	**02 28 56.0**	**+0.5**
XOR	**Xorichti**	**1.25**	**84**	*e*Pg	**Pg**	**02 28 55.7**	**-0.9**
LKR	**Lokris**	**1.25**	**118**	*e*PB	**Pb**	**02 28 56.5**	**0.0**
KEK	**Kerkira**	**1.46**	**289**	*e*PN	**Pn**	**02 29 00.5**	**+1.1**

ISCJB ***27*** *02:34:03.0±1.4, 3826N±005×204E±0.1, h11km±5km, Error ellipse: s-maj=15.7km s-min=5.1km az=151.2*
ATH ***27*** *02:34:02.9, 3827N×2043E, h18km±1km, MD3.5/5*
CSEM ***27*** *02:34:03.3±0.3, 3823N×2037E, h15km, MD3.5, Error ellipse: s-maj=7.2km s-min=2.6km az=63.0*
THE ***27*** *02:34:03.1, 3825N×2033E, h0km, ML3.2*
ISC 27 02:34:03.7±1.5, 3826N±005×204E±01, h13km±6km, n15, σ0§79/22, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.18**	**118**	*e*Pg	**Pg**	**02 34 07.3**	**-0.4**
VLS				*e*Sg	**Sg**	**02 34 10.5**	**0.0**
VLS	**Valsamata**	**0.18**	**118**	*e*PB	**Pg**	**02 34 07.6**	**-0.1**
VLS				*e*SB	**Sg**	**02 34 10.9**	**+0.4**
VLS	**Valsamata**	**0.18**	**118**	*e*Pg	**Pg**	**02 34 07.3**	**-0.4**
VLS	**Valsamata**	**0.18**	**118**	*e*Pb	**Pg**	**02 34 07.6**	**-0.1**
VLS				*e*Sg	**Sg**	**02 34 10.5**	**0.0**
VLS				*e*Sb	**Sg**	**02 34 10.9**	**+0.4**
KFL	**Anninata**	**0.35**	**116**	*e*Pg	**Pg**	**02 34 10.1**	**-0.5**
KFL				*e*Sg	**Sg**	**02 34 16.0**	**+0.6**
LKD	**Levkas**	**0.49**	**24**	*e*Pg	**Pg**	**02 34 12.8**	**-0.6**
LKD				*e*Sg	**Sg**	**02 34 20.7**	**+0.8**
LKD	**Levkas**	**0.49**	**24**	*e*Sg	**Sg**	**02 34 20.7**	**+0.8**
IGT	**Igoumenitsa**	**1.27**	**358**	*e*Pg	**Pg**	**02 34 27.1**	**-1.0**
IGT				*e*Sg	**Sg**	**02 34 45.7**	**+1.0**
EVR	**Evrytania**	**1.29**	**59**	*e*PN	**Pn**	**02 34 26.4**	**-1.0**
JAN	**Janina**	**1.44**	**14**	*e*PN	**Pn**	**02 34 29.7**	**+0.2**
KEK	**Kerkira**	**1.52**	**342**	*e*PN	**Pn**	**02 34 31.1**	**+0.5**
ITM	**Ithomi**	**1.62**	**131**	*e*PN	**Pn**	**02 34 32.8**	**+0.8**
AGG	**Agios Georgios**	**1.70**	**63**	*e*Pb	**Pb**	**02 34 33.5**	**-1.3**
THL	**Klokotos Trika**	**1.82**	**44**	*e*Pb	**Pb**	**02 34 36.1**	**-0.7**
LKR	**Lokris**	**2.08**	**78**	*e*Pn	**Pn**	**02 34 39.7**	**+1.4**

NIED ***27*** *03:21:00, 2550N×14140E, h74km, Mw4.5 Best double couple: M0=6.26000×10^15 NP1:φs=354.00000°, δ76.00000°, λ100.00000°. NP2:φs=138.00000°, δ18.00000°, λ55.00000°.*
BJI ***27*** *03:21:01.8, 2506N×14191E, h121km, mB4.5, mb4.7*
ISCJB ***27*** *03:21:05.0±0.6, 2540N±003×14100E±003, h106km±4km, mb4.6/104, Error ellipse: s-maj=4.9km s-min=4.6km az=160.8*
MOS ***27*** *03:21:07.6±0.9, 2541N×14101E, h133km, mb4.6/40, Error ellipse: s-maj=12.2km s-min=6.1km az=99.8*
IDC ***27*** *03:21:07.7±0.7, 2547N×14124E, h122km±5km, mb4.2/18, mb1 4.4/20, mb1mx4.3/23, mbtmp4.2/20, MS3.3/10, Ms1 3.3/10, ms1mx3.1/34, Error ellipse: s-maj=12.9km s-min=8.0km az=94.0*
NEIC ***27*** *03:21:07.9±0.1, 2540N×14109E, mb4.6/67, MW4.5(NIED), Error ellipse: s-maj=5.2km s-min=4.2km az=111.0*
NEIC Recorded [1 JMA] on Iwo-jima.
JMA ***27*** *03:21:08.0±0.1, 2552N×14142E, h123km, M4.8*
JMA Felt I J1.
DJA ***27*** *03:21:16, 2531N×14152E, h198km, mb4.9/10*
ISC 27 03:21:07.0±0.6, 2541N±003×14104E±003, h111km±4km, h123km±1.8km: pP-P, n505, σ0§72/503, mb4.6/104, 138C-131D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.59**	**40**	P	**Pn**	**03 21 33.6**	**-1.4**
JHHJ				*e*S	**Sn**	**03 21 52.8**	**-3.5**
CBIJ	**Chichi jima**	**1.97**	**31**	P	**Pn**	**03 21 38.3**	**-1.4**
CBIJ				*e*S	**Sn**	**03 22 01.4**	**-3.2**
CBIJ	**Chichi jima**	**1.97**	**31**	P	**Pn**	**03 21 38.5**	**-1.2**
	378nm,0.3s,baz=149,slow=6.1,SNR=344						
CBIJ				S	**Sn**	**03 22 01.7**	**-2.9**
	1μm,0.3s,baz=268,slow=23,SNR=30						
JHJ2	**Mitsune**	**7.75**	**352**	P	**Pn**	**03 22 57.8**	**+0.8**
JHJ2				*e*S	**Sn**	**03 24 24.2**	**+1.1**
JHJ	**Hachijo jima 2**	**7.76**	**352**	P	**Pn**	**03 22 58.6**	**+1.4**
	11nm,0.3s,baz=78,slow=18,SNR=15						
JHJ				S	**Sn**	**03 24 22.8**	**-0.6**
	11nm,0.3s,baz=67,slow=23,SNR=2.8						
JHJ				LR	LR	03 25 07.8	
	comp=Z,43nm,19.9s,baz=232,slow=31						
JMZ	**Minamidaito 2**	**8.87**	**275**	P	**Pn**	**03 23 19.1**	**+6.8**
BSO1	**Boso 1**	**9.21**	**360**	P	**Pn**	**03 23 15.3**	**-1.6**
BSO1				*e*S	**Sn**	**03 24 54.3**	**-4.4**
BSO3	**Boso 3**	**9.37**	**357**	P	**Pn**	**03 23 18.2**	**-0.9**
BSO3				*e*S	**Sn**	**03 25 01.2**	**-1.3**
BSO4	**Boso 4**	**9.57**	**357**	P	**Pn**	**03 23 22.0**	**+0.3**
BSO4				*e*S	**Sn**	**03 25 02.2**	**-5.1**
JOD2	**Odawara 2**	**9.96**	**351**	P	**Pn**	**03 23 28.0**	**+0.9**
JOD2				*e*S	**Sn**	**03 25 17.3**	**+0.4**
JAM	**Amami Oshima**	**10.63**	**289**	P	**Pn**	**03 23 45.7**	**+10**
JRY	**Ryogami san**	**10.73**	**351**	P	**Pn**	**03 23 36.9**	**-0.5**
MJAR	**Matsushiro Arr**	**11.36**	**348**	P	**Pn**	**03 23 46.1**	**+0.3**
	1.1nm,0.3s,baz=174,slow=12,SNR=7.2						
MJAR				S	**Sn**	**03 25 49.9**	**-0.8**
	0.6nm,0.3s,baz=140,slow=6.5,SNR=4.3						
MJAR				LR	LR	03 28 16.7	
	comp=Z,64nm,18.1s,baz=60,slow=38						
MJAR	**Matsushiro Arr**	**11.36**	**348**	P	**Pn**	**03 23 46.1**	**+0.3**
MJAR				S	**Sn**	**03 25 49.9**	**-0.8**
MAT	**Matsushiro**	**11.36**	**348**	P	**Pn**	**03 23 48.9**	**+3.1**
MAT				S	**Sn**	**03 26 05.0**	**+14**
MAT	**Matsushiro**	**11.36**	**348**	P	**Pn**	**03 23 47.9**	**+2.1**
JOW	**Kunigami**	**11.55**	**280**	P	**Pn**	**03 23 56.6**	**+8.1**
JOW	**Kunigami**	**11.55**	**280**	P	**Pn**	**03 23 56.5**	**+8.0**
	2.7nm,0.3s,baz=116,slow=13,SNR=22						
GUMO	**Guam**	**12.30**	**162**	P	**Pn**	**03 24 02.7**	**+4.3**
	3.2nm,0.3s,baz=348,slow=20,SNR=2.8						
JMK	**Ichinoseki**	**13.50**	**1**	P	**Pn**	**03 24 12.9**	**-1.1**
JMK				*e*S	**Sn**	**03 26 32.8**	**-10**
JOT	**Ohata**	**15.93**	**0**	P	**Pn**	**03 24 45.8**	**+1.1**
KSRS	**Korea Array**	**16.39**	**320**	P	**Pn**	**03 24 56.0**	**+5.5**
	0.3nm,0.3s,baz=134,slow=12,SNR=11						
NACB	**Ninganchiao**	**17.70**	**270**	*e*P	**Pn**	**03 25 07.4**	**+0.9**
	31nm,0.7s						
TATO	**Taipei**	**17.70**	**273**	*e*P	**Pn**	**03 25 06.9**	**+0.4**
	72nm,1.0s						
YHNB	**Yeheng**	**17.83**	**272**	*e*P	**Pn**	**03 25 09.5**	**+1.4**
	74nm,0.9s						
ASAJ	**Asahikawa**	**18.71**	**4**	P	**P**	**03 25 18.9**	**+2.2**
	1.0nm,0.3s,baz=231,slow=9.6,SNR=10						
ASAJ	**Asahikawa**	**18.71**	**4**	P	**P**	**03 25 18.9**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**21.54**	**3**	⇓*i*P	**P**	**03 25 51.3**	**+4.1**
YSS				pmax	pmax		
	comp=Z,45nm,1.7s,mb4.5						
YSS	**Yuzh-Sakhalins**	**21.54**	**3**	*e*P	**P**	**03 25 47.6**	**+0.4**
	comp=Z,46nm,1.5s,mb4.6						
CN2	**Changchun**	**22.32**	**329**	*e*P	**P**	**03 25 58.5**	**+3.1**
KLR	**Kul'dur**	**24.86**	**345**	*e*P	**P**	**03 26 18.0**	**-1.0**
BJI	**Beijing**	**25.39**	**311**	P	**P**	**03 26 26.3**	**+2.4**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
BJI				AMB	AMB		
	comp=Z,59nm,3.1s						
BJI				LR	LR		
	comp=N,91nm,18.8s						
BJI				LR	LR		
	comp=E,74nm,12.3s						
BJI				LR	LR		
	comp=Z,59nm,31.3s						
HHC	**Hu-ho-hao-te**	**28.92**	**309**	*e*P	**P**	**03 27 00.0**	**+4.5**
HHC				PCS	PcS	03 33 42.8	-1.8
HHC				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.6						
HHC				AMB	AMB		
	comp=Z,92nm,7.4s						
HIA	**Hailar**	**29.02**	**331**	*e*P	**P**	**03 26 57.1**	**+0.8**
SDKM	**Sandakan**	**30.13**	**233**	⇑P	**P**	**03 27 11.5**	**+5.1**
PETK	**Petropavlovsk-**	**30.37**	**20**	P	**P**	**03 27 08.2**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.0,baz=231,slow=3.8,SNR=6.0						
PETK				LR	LR	03 38 21.9	
	comp=Z,20nm,20.0s,baz=61,slow=34						
GYA	**Guiyang**	**30.88**	**280**	P	**P**	**03 27 17.0**	**+4.0**
GYA				PP	PP	03 28 29.5	+4.8
GYA				PCP	PcP	03 30 07.3	0.0
GYA				PCS	PcS	03 33 50.5	-1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2	**Chengdu**	**33.21**	**288**	*e*P	**P**	**03 27 35.5**	**+2.1**
CD2				PP	PP	03 28 55.5	+4.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,5.8s						
LZH	**Lanzhou**	**33.51**	**298**	P	**P**	**03 27 37.5**	**+1.6**
LZH				PP	PP	03 29 01.8	+8.0
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,49nm,5.0s						
KMI	**Kunming**	**34.55**	**278**	P	**P**	**03 27 49.3**	**+4.2**
KMI				PP	PP	03 29 14.0	+8.5
KMI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.8						
KMI				AMB	AMB		
	comp=Z,40nm,5.3s						
KMI				LR	LR		
	comp=N,91nm,16.5s						
KMI				LR	LR		
	comp=E,77nm,14.5s						
KMI				LR	LR		
	comp=Z,91nm,17.6s						
PMG	**Port Moresby**	**35.12**	**169**	*e*P	**P**	**03 27 49.0**	**-0.9**
PMG				pmax	pmax		
	comp=Z,28nm,0.7s						
PMG	**Port Moresby**	**35.12**	**169**	*e*P	**P**	**03 27 49.0**	**-0.9**
	comp=Z,28nm,0.7s,mb5.2						
SONM	**Songino Array**	**35.25**	**318**	P	**P**	**03 27 51.4**	**+0.6**
	comp=Z,0.9nm,0.4s,mb3.9,baz=131,slow=8.8,SNR=10						
SONM				PcP	PcP	03 30 19.1	0.0
	comp=Z,2.0nm,0.6s,baz=88,slow=2.3,SNR=8.7						
GTA	**Gaotai**	**37.17**	**302**	*e*P	**P**	**03 28 13.0**	**+5.8**
GTA				S	**S**	**03 33 44.0**	**-1.7**
GTA				SS	SS	03 36 34.5	+1.6
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb4.0						
GTA				AMB	AMB		
	comp=Z,69nm,5.4s						
GTA				LR	LR		
	comp=N,71nm,14.4s						
GTA				LR	LR		
	comp=E,78nm,15.6s						
GTA				LR	LR		
	comp=Z,79nm,15.3s						
SEY	**Seymchan**	**38.27**	**8**	*e*P	**P**	**03 28 15.9**	**-0.2**
TLY	**Talaya**	**38.62**	**323**	*e*P	**P**	**03 28 20.6**	**+1.4**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.5						
TLY	**Talaya**	**38.62**	**323**	*e*P	**P**	**03 28 20.6**	**+1.4**
	comp=Z,10nm,1.2s,mb4.5						
KAKA	**Kakadu**	**38.80**	**193**	*e*P	**P**	**03 28 18.9**	**-2.2**
	comp=Z,8.6nm,0.4s,mb4.9						
COEN	**Coen**	**39.18**	**177**	*e*P	**P**	**03 28 24.6**	**+0.4**
	comp=Z,5.9nm,0.5s,mb4.7						
CHTO	**Chiang Mai**	**39.42**	**269**	*e*P	**P**	**03 28 28.2**	**+1.9**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**39.42**	**269**	*e*P	**P**	**03 28 28.2**	**+1.9**
	comp=Z,5.5nm,0.8s,mb4.4						
CMAR	**Chiang Mai Arr**	**39.53**	**269**	P	**P**	**03 28 30.1**	**+2.9**
	comp=Z,3.4nm,0.5s,mb4.4,baz=60,slow=8.0,SNR=19						
CMAR				PcP	PcP	03 30 33.2	+0.5
	comp=Z,1.7nm,0.6s,baz=69,slow=1.8,SNR=6.7						
HVS	**Khovu-Aksy**	**44.15**	**318**	*e*P	**P**	**03 29 06.3**	**+1.9**
HVS				pmax	pmax		
	comp=Z,33nm,1.7s,mb4.8						
BILL	**Bilibino**	**45.32**	**13**	*e*P	**P**	**03 29 13.7**	**+0.3**
BILL				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
BILL	**Bilibino**	**45.32**	**13**	*e*P	**P**	**03 29 14.0**	**+0.6**
	comp=Z,10nm,0.7s,mb4.7						
CTA	**Charters Tower**	**45.51**	**173**	⇑*i*P	**P**	**03 29 15.3**	**-0.1**
	comp=Z,21nm,0.8s,mb4.9						
CTA	**Charters Tower**	**45.51**	**173**	⇑*i*P	**P**	**03 29 15.3**	**-0.1**
CTA				pmax	pmax		
	comp=Z,21nm,0.8s						
CTAO	**Charters Tower**	**45.51**	**173**	*e*P	**P**	**03 29 15.4**	**0.0**
CTAO				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.0						
CTAO	**Charters Tower**	**45.51**	**173**	*e*P	**P**	**03 29 15.4**	**-0.1**
	comp=Z,26nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**45.54**	**189**	*c i*P	**P**	**03 29 15.9**	**+0.2**
WRAB	**Tennant Creek**	**45.54**	**189**	*e*P	**P**	**03 29 16.1**	**+0.4**
WB2	**Warramunga Arr**	**45.55**	**189**	⇑*i*P	**P**	**03 29 16.0**	**+0.3**
WRA	**Warramunga Arr**	**45.55**	**189**	P	**P**	**03 29 16.0**	**+0.3**
	comp=Z,241nm,0.5s,baz=9.4,slow=8.8,SNR=3780						
WRA				S	**S**	**03 35 47.4**	**-2.2**
	comp=Z,2.1nm,0.9s,baz=9.2,slow=14,SNR=6.5						
FITZ	**Fitzroy Crossi**	**45.77**	**201**	⇑*i*P	**P**	**03 29 18.2**	**+0.6**
	comp=Z,8.7nm,0.6s,mb4.7						
PSI	**Prapat**	**46.30**	**248**	LR	LR	03 49 24.1	
	comp=Z,106nm,18.3s,baz=47,slow=36						
WMQ	**Urumqi**	**46.74**	**307**	*e*P	**P**	**03 29 25.3**	**+0.3**
TIXI	**Tiksi**	**46.78**	**355**	*e*P	**P**	**03 29 23.1**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
TIXI	**Tiksi**	**46.78**	**355**	*e*P	**P**	**03 29 23.9**	**-0.9**
ASAR	**Alice Springs**	**49.27**	**189**	P	**P**	**03 29 44.2**	**-0.3**
	comp=Z,9.3nm,0.6s,mb4.9,baz=10,slow=15,SNR=99						
ASAR				PcP	PcP	03 31 03.5	-2.4
	comp=Z,3.0nm,0.8s,baz=15,slow=3.2,SNR=7.7						
ASAR				S	**S**	**03 36 41.4**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=12,slow=22,SNR=5.0						
ZALV	**Zalesovo Beam**	**50.10**	**320**	PcP	PcP	03 31 06.6	-1.9
	comp=Z,3.6nm,0.4s,baz=94,slow=3.5,SNR=7.3						
ZALV				LR	LR	03 51 05.8	
	comp=Z,12nm,18.1s,baz=253,slow=36						
MBWA	**Marble Bar**	**50.70**	**206**	*e*P	**P**	**03 29 55.2**	**-0.2**
	comp=Z,11nm,0.6s,mb5.1						
MKAR	**Makanchi Array**	**50.77**	**311**	P	**P**	**03 29 56.3**	**+0.6**
	comp=Z,2.1nm,0.6s,mb4.4,baz=87,slow=9.4,SNR=20						
MKAR				PcP	PcP	03 31 09.2	-1.9
	comp=Z,2.4nm,0.5s,baz=86,slow=6.9,SNR=8.9						
MKAR				ScP	ScP	03 34 55.5	-1.7
	comp=Z,0.8nm,0.7s,baz=110,slow=5.7,SNR=4.1						
MKAR	**Makanchi Array**	**50.77**	**311**	P	**P**	**03 29 56.3**	**+0.6**
MKAR						03 31 09.2	
KURK	**Kurchatov**	**53.44**	**315**	*c i*P	**P**	**03 30 15.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**53.44**	**315**	*e*P	**P**	**03 30 14.4**	**-1.0**
TKM2	**Tokmak 2**	**55.55**	**306**	*e*P	**P**	**03 30 32.2**	**+1.4**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
TKM2	**Tokmak 2**	**55.55**	**306**	*e*P	**P**	**03 30 32.2**	**+1.4**
	comp=Z,1.8nm,0.7s,mb4.2						
KDAK	**Kodiak Island**	**56.33**	**36**	P	**P**	**03 30 35.8**	**-0.3**
	comp=Z,7.6nm,0.6s,mb4.9,baz=296,slow=9.8,SNR=7.3						
UCH	**Uchtor**	**56.40**	**305**	*e*P	**P**	**03 30 39.2**	**+2.4**
	comp=Z,2.0nm,0.6s,mb4.3						
EKS2	**Erkin-Say**	**56.91**	**306**	*e*P	**P**	**03 30 41.6**	**+1.2**
	comp=Z,1.0nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**56.97**	**179**	⇑*i*P	**P**	**03 30 40.7**	**-0.1**
	comp=Z,26nm,0.6s,mb5.4						
STKA	**Stephens Creek**	**56.97**	**179**	P	**P**	**03 30 40.8**	**-0.1**
	comp=Z,32nm,0.5s,mb5.6,baz=350,slow=7.1,SNR=112						
AML	**Almayashu**	**57.02**	**305**	*e*P	**P**	**03 30 42.4**	**+1.1**
	comp=Z,3.9nm,0.9s,mb4.4						
IMA2	**Indian Mountai**	**57.05**	**26**	*e*P	**P**	**03 30 41.8**	**+0.7**
PPLA	**Purkeypile**	**57.13**	**30**	*e*P	**P**	**03 30 42.2**	**+0.5**
	comp=Z,14nm,1.3s,mb4.8						
BPAW	**Bear Paw Mtn.**	**57.84**	**29**	*e*P	**P**	**03 30 46.8**	**+0.2**
	comp=Z,5.8nm,1.1s,mb4.5						
TRF	**Thorofare Moun**	**58.06**	**30**	*e*P	**P**	**03 30 48.4**	**+0.2**
	comp=Z,4.7nm,0.5s,mb4.8						
POHA	**Pohakuloa**	**58.38**	**82**	*e*P	**P**	**03 30 49.1**	**-2.0**
	comp=Z,85nm,1.3s,mb5.6						
PMR	**Palmer**	**58.41**	**32**	*e*P	**P**	**03 30 50.2**	**-0.4**
PMR				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
PMR	**Palmer**	**58.41**	**32**	*e*P	**P**	**03 30 50.2**	**-0.4**
	comp=Z,5.5nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**58.59**	**318**	P	**P**	**03 30 52.0**	**-0.1**
	comp=Z,5.8nm,0.4s,mb5.0,baz=85,slow=6.7,SNR=36						
BVAR				PcP	PcP	03 31 39.8	-1.3
	comp=Z,3.5nm,0.5s,baz=334,slow=0.6,SNR=5.2						
COLD	**Coldfoot**	**58.63**	**25**	*e*P	**P**	**03 30 52.8**	**+0.8**
	comp=Z,8.8nm,1.0s,mb4.7						
BRVK	**Borovoye**	**58.66**	**318**	*e*P	**P**	**03 30 52.3**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
BRVK	**Borovoye**	**58.66**	**318**	*e*P	**P**	**03 30 52.3**	**-0.2**
	comp=Z,6.8nm,0.7s,mb4.8						
MCK	**McKinley**	**58.69**	**29**	*e*P	**P**	**03 30 52.5**	**-0.1**
	comp=Z,10μm,0.6s						
COLA	**College**	**59.28**	**28**	*e*P	**P**	**03 30 57.3**	**+0.7**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
COLA	**College**	**59.28**	**28**	*e*P	**P**	**03 30 57.3**	**+0.8**
	comp=Z,4.9nm,0.7s,mb4.7						
PALK	**Pallekele**	**60.15**	**264**	*e*P	**P**	**03 31 03.2**	**-0.2**
	comp=Z,19nm,1.1s,mb5.0						
BMRM	**Bremner River**	**60.56**	**33**	*e*P	**P**	**03 31 05.6**	**+0.1**
CAN	**Canberra**	**60.87**	**173**	*e*P	**P**	**03 31 07.6**	**-0.1**
KLBR	**Kellerberrin**	**60.89**	**203**	*e*P	**P**	**03 31 07.5**	**-0.5**
	comp=Z,77nm,1.5s,mb5.5						
CNB	**Canberra Magne**	**60.91**	**172**	*e*P	**P**	**03 31 07.7**	**-0.3**
EGAK	**Eagle**	**62.13**	**28**	*e*P	**P**	**03 31 15.5**	**-0.5**
	comp=Z,20nm,1.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**62.29**	**203**	*e*P	**P**	**03 31 17.3**	**0.0**
NWAO				pmax	pmax		
	comp=Z,14nm,0.6s						
NWAO	**Narrogin (SRO)**	**62.29**	**203**	*e*P	**P**	**03 31 17.3**	**0.0**
	comp=Z,14nm,0.6s,mb5.2						
TOO	**Toolangi**	**62.79**	**176**	*e*P	**P**	**03 31 21.2**	**+0.7**
DAWY	**Dawson**	**62.92**	**29**	*e*P	**P**	**03 31 21.5**	**+0.4**
HYT	**Haines Junctio**	**64.04**	**33**	*e*P	**P**	**03 31 30.9**	**+2.3**
ARU	**Arti**	**65.12**	**323**	*d i*P	**P**	**03 31 35.4**	**-0.3**
ARU				*e*		03 34 00.9	
ARU				*e*S	S	03 40 00.4	-9.1
ARU				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.7						
ARU	**Arti**	**65.12**	**323**	*e*P	**P**	**03 31 35.9**	**+0.2**
	comp=Z,3.6nm,0.8s,mb4.2						
AKTK	**Aktyubinsk**	**66.52**	**316**	P	**P**	**03 31 45.0**	**+0.2**
AKTK				LR	LR	04 04 59.0	
AKTO	**Aktyubinsk**	**66.52**	**316**	P	**P**	**03 31 45.0**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=81,slow=8.4,SNR=4.8						
AKTO				LR	LR	04 04 59.0	
	comp=Z,34nm,18.1s,baz=277,slow=40						
TAU	**Tasmania Unive**	**68.22**	**175**	*e*P	**P**	**03 31 54.9**	**-0.5**
TAU				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.1						
TAU	**Tasmania Unive**	**68.22**	**175**	*e*P	**P**	**03 31 54.9**	**-0.5**
	comp=Z,26nm,0.8s,mb5.1						
SPITS	**Spitsbergen Ar**	**71.85**	**350**	P	**P**	**03 32 17.3**	**0.0**
	comp=Z,1.2nm,0.4s,mb4.1,baz=341,slow=7.0,SNR=14						
YKA	**Yellowknife Ar**	**74.11**	**

J05A	Fort Rock	78.30	48	⇑P	P	03 32 55.4	+0.5
	baz=78						
H06A	Lindquist Farm	78.31	46	⇓P	P	03 32 54.9	0.0
	baz=78						
C09A	Chrisman Ranch	78.34	43	⇓P	P	03 32 55.3	+0.2
	baz=78						
E08A	Dider Farm, El	78.40	44	⇑P	P	03 32 55.5	+0.1
	baz=78						
KIV	Kislovodsk	78.44	313	eP	P	03 32 56.3	+0.6
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
KIV	Kislovodsk	78.44	313	eP	P	03 32 56.3	+0.7
	comp=Z,9.0nm,0.9s,mb4.5						
O02C	Red Bluff	78.48	51	⇓P	P	03 32 56.5	+0.6
	baz=78						
WDC	Whiskeytown Da	78.50	51	⇓P	P	03 32 56.3	+0.3
	baz=78						
M04C	Macdoel	78.50	49	⇓P	P	03 32 56.4	+0.4
	baz=78						
M03C	McCloud	78.51	50	⇓P	P	03 32 56.4	+0.3
	baz=78						
G07A	Ruggs Ranch, H	78.52	45	⇑P	P	03 32 56.4	+0.3
	baz=78						
KAF	Kangasniemi	78.54	334	ep	P	03 32 54.1	-1.7
	comp=Z,9.2nm,0.5s,mb4.9,baz=55,slow=5.1						
KAF	Kangasniemi	78.54	334	eP	P	03 32 54.1	-1.7
KAF				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.9						
D09A	Jones Farm, Ri	78.63	43	⇓P	P	03 32 56.7	+0.1
	baz=78						
I06A	Prineville	78.72	47	⇑P	P	03 32 57.4	+0.3
	baz=79						
K05A	Summer Lake	78.76	48	⇑P	P	03 32 58.1	+0.7
	baz=79						
NEW	Newport	78.84	42	eP	P	03 32 57.8	0.0
NEW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NEW	Newport	78.84	42	eP	P	03 32 57.8	0.0
	comp=Z,7.3nm,0.9s,mb4.5						
F08A	Pendleton	78.87	45	⇑P	P	03 32 58.4	+0.4
	baz=79						
C10A	Spilker Farm,	78.92	42	⇓P	P	03 32 58.6	+0.4
	baz=79						
E09A	Wood Farm, Sta	78.97	44	⇓P	P	03 32 59.0	+0.5
	baz=79						
G08A	Pilot Rock	78.97	45	⇓P	P	03 32 58.7	+0.2
	baz=79						
A11A	Hall Mountain,	79.00	41	⇓P	P	03 32 59.4	+0.8
	baz=79,SNR=5.4						
J06A	Christmas Vall	79.04	47	⇑P	P	03 32 59.1	+0.2
	baz=79						
L05A	Lakeview	79.08	49	⇓P	P	03 32 59.6	+0.5
	baz=79						
I07A	Izee	79.12	46	⇑P	P	03 32 59.6	+0.3
	baz=79						
M05C	Lookout	79.15	49	⇓P	P	03 32 59.8	+0.2
	baz=79						
K06A	Valley Falls	79.16	48	⇓P	P	03 33 00.1	+0.5
	baz=79						
B11A	Sandpoint	79.22	41	⇑P	P	03 33 00.1	+0.3
	baz=79,SNR=7.2						
MNRC	McLaughlin Nat	79.25	52	⇑P	P	03 33 00.4	+0.2
	baz=79						
A12A	Yaak River Ran	79.43	41	⇓P	P	03 33 01.1	+0.2
	baz=79						
CVS	Carmenet Viney	79.45	53	⇓P	P	03 33 01.5	+0.2
	baz=79						
H08A	Prairie City	79.48	46	⇓P	P	03 33 01.8	+0.5
	baz=79						
MOD	Modoc	79.50	49	⇑P	P	03 33 01.7	+0.2
	baz=79						
J07A	Hines	79.55	47	⇓P	P	03 33 02.3	+0.6
	baz=79						
E10A	Myers Farm, Un	79.62	43	⇓P	P	03 33 02.3	+0.3
	baz=80						
ORV	Oroville	79.64	51	⇑P	P	03 33 02.2	-0.1
	baz=80						
Q03C	Winters	79.65	52	⇑P	P	03 33 02.6	+0.2
	baz=80						
M06C	Likely Place G	79.67	49	⇑P	P	03 33 02.4	0.0
	baz=80						
G09A	Cove	79.73	45	⇓P	P	03 33 02.8	+0.2
	baz=80,SNR=8.8						
F10A	Beach Ranch, E	79.77	44	⇓P	P	03 33 03.3	+0.5
	baz=80						
I08A	Drewsey	79.81	46	⇑P	P	03 33 03.2	+0.1
	baz=80						
D11A	Klaveano Farm,	79.86	43	⇑P	P	03 33 03.0	-0.3
	baz=80,SNR=9.4						
K07A	Rock Creek Ran	79.88	48	⇑P	P	03 33 03.7	+0.2
	baz=80						
O05C	Quincy	79.88	51	⇓P	P	03 33 03.6	+0.1
	baz=80						
H09A	Durkee	80.07	45	⇑P	P	03 33 04.9	+0.5
	baz=80						
L07A	Adell	80.10	48	⇑P	P	03 33 05.2	+0.5
	baz=80						
J08A	Circle Bar Ran	80.11	47	⇓P	P	03 33 05.0	+0.3
	baz=80						
G10A	Bishop Farm, J	80.14	45	⇓P	P	03 33 04.8	0.0
	baz=80,SNR=15						
A13A	Flathead Natio	80.16	40	⇑P	P	03 33 05.4	+0.5
	baz=80						
E11A	Bogner Ranch,	80.24	43	⇓P	P	03 33 05.0	-0.4
	baz=80,SNR=6.4						
N06A	Buffalo Meadow	80.30	50	⇓P	P	03 33 05.9	0.0
	baz=80						
BEKR	Beckwourth	80.31	51	⇑P	P	03 33 05.9	0.0
	baz=80						
I09A	Lost Marbles R	80.32	46	⇑P	P	03 33 05.9	+0.1
	baz=80						
K08A	Mann Creek Ran	80.37	47	⇓P	P	03 33 06.2	+0.1
	baz=80						
P05C	Yuba Gap, Truc	80.37	51	⇑P	P	03 33 06.1	-0.1
	baz=80						
B13A	Whitefish	80.38	41	⇑P	P	03 33 06.6	+0.6
	baz=80,SNR=6.4						
WALA	Waterton Lakes	80.39	40	eP	P	03 33 06.6	+0.5
	comp=Z,8.2nm,0.6s,mb4.7						
D12A	Red Ives Fores	80.45	42	⇓P	P	03 33 06.4	0.0
	baz=80						
F11A	Grangeville	80.48	44	⇓P	P	03 33 06.2	-0.5
	baz=80,SNR=5.0						
M07A	Soldier Meadow	80.48	49	⇓P	P	03 33 07.3	+0.5
	baz=80						
LAVA	Lava Cap Winer	80.51	52	⇑P	P	03 33 06.7	-0.3
	baz=80						
O06A	Flanigan	80.56	50	⇓P	P	03 33 07.3	+0.1
	baz=80						
UMR	Umm Al-Rimmam	80.57	298	eP	P	03 33 07.9	+0.4
	baz=298						
UMR				AMb	AMB	03 33 08.6	
	comp=Z,23nm,0.5s,mb5.3,baz=298						
R04C	Big Horse Ranc	80.58	52	⇓P	P	03 33 06.9	-0.4
	baz=80						
G11A	Walters Elk Ra	80.63	44	⇓P	P	03 33 06.9	-0.5
	baz=80,SNR=15						
C13A	Hot Springs	80.64	42	⇓P	P	03 33 07.7	+0.3
	baz=80,SNR=12						
H10A	Noah's Angus R	80.69	45	⇓P	P	03 33 07.3	-0.5
	baz=81,SNR=14						
L08A	Fields	80.70	48	⇓P	P	03 33 08.3	+0.4
	baz=81						
MIB	Mutribah	80.77	299	eP	P	03 33 09.0	+0.5
	baz=299						
MIB				AMb	AMB	03 33 09.9	
	comp=Z,35nm,0.9s,mb5.2,baz=299						
PACP	Pacheco Peak	80.85	53	⇑P	P	03 33 08.9	+0.1
	baz=81						
N07B	Gerlach	80.88	49	⇑P	P	03 33 09.1	+0.2
	baz=81						
K09A	Rome	80.89	47	⇓P	P	03 33 08.8	-0.1
	baz=81,SNR=5.1						
HAST	Hastings Reser	80.92	54	⇑P	P	03 33 09.0	-0.2
	baz=81						
RDF	Al-Radifah	80.96	298	eP	P	03 33 10.5	+1.0
	baz=298						
RDF				AMb	AMB	03 33 12.2	
	comp=Z,28nm,0.6s,mb5.3,baz=298						
D13A	Huson	80.98	42	⇓P	P	03 33 08.9	-0.4
	baz=81						
M08A	Happy Creek Ra	81.00	48	⇑P	P	03 33 09.6	+0.1
	baz=81						
R05C	Kirkwood Meado	81.00	52	⇑P	P	03 33 09.5	-0.1
	baz=81						
CMB	Columbia Colle	81.06	52	eP	P	03 33 09.7	-0.2
CMB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
CMB	Columbia Colle	81.06	52	⇑P	P	03 33 09.6	-0.3
	baz=81						
CMB	Columbia Colle	81.06	52	eP	P	03 33 09.7	-0.3
	comp=Z,6.1nm,0.8s,mb4.5						
NAY	Al-Naaiem	81.07	298	eP	P	03 33 10.6	+0.4
	baz=298						
NAY				AMb	AMB	03 33 11.6	
	comp=Z,21nm,0.8s,mb5.0,baz=298						
C14A	Swan Lake	81.09	41	⇑P	P	03 33 10.0	+0.2
	baz=81						
F12A	Elk City	81.10	44	⇑P	P	03 33 09.7	-0.2
	baz=81,SNR=7.4						
H11A	Donnelly	81.11	45	⇓P	P	03 33 09.5	-0.5
	baz=81,SNR=11						
O07A	Toulon	81.21	50	⇓P	P	03 33 10.6	-0.1
	baz=81						
L09A	Wilkinson Ranc	81.22	48	⇑P	P	03 33 10.9	+0.2
	baz=81						
S05C	Merced	81.40	53	⇓P	P	03 33 11.4	-0.3
	baz=81						
K10A	MacKenzie Ranc	81.42	47	⇓P	P	03 33 11.7	0.0
	baz=81,SNR=8.7						
E13A	Victor	81.45	43	⇓P	P	03 33 12.0	+0.2
	baz=81						
N08A	GE Springer Mi	81.45	49	⇓P	P	03 33 12.0	0.0
	baz=81						
S06C	San Francisco	81.52	52	⇓P	P	03 33 12.6	+0.3
	baz=81						
R06C	Coleville	81.52	51	⇓P	P	03 33 12.4	0.0
	baz=81						
D14A	Greenough	81.56	42	⇑P	P	03 33 12.0	-0.3
	baz=81						
O08A	Rochester Mine	81.66	49	⇑P	P	03 33 13.3	+0.3
	baz=82						
F13A	Darby	81.66	43	⇓P	P	03 33 12.4	-0.5
	baz=82,SNR=7.0						
CHMT	Chamberlain Mo	81.79	42	eP	P	03 33 12.7	-0.9
MFID	Camas Ranch	81.81	46	⇓P	P	03 33 13.9	+0.2
	baz=82,SNR=8.1						
N09A	Rock Creek Ran	81.84	49	⇑P	P	03 33 13.9	0.0
	baz=82						
PKD	Parkfield	81.84	54	⇓P	P	03 33 14.0	-0.1
	baz=82						
E14A	Clinton	81.88	42	⇓P	P	03 33 14.0	-0.1
	baz=82						
H12A	Diamond D Ranc	81.91	44	⇓P	P	03 33 14.3	0.0
	baz=82						
K11A	Parker Ranch,	81.97	46	⇑P	P	03 33 14.2	-0.4
	baz=82,SNR=6.7						
T06C	Milleton Lake	81.99	53	⇑P	P	03 33 14.2	-0.6
	baz=82						
L10A	Juniper Basin	82.00	47	⇓P	P	03 33 14.9	+0.1
	baz=82						
G13A	Cobalt	82.05	44	⇑P	P	03 33 14.4	-0.5
	baz=82,SNR=13						
KCC	Kaiser Creek	82.14	53	⇑P	P	03 33 15.3	-0.3
	baz=82						
D15A	Lincoln	82.17	41	⇓P	P	03 33 15.3	-0.2
	baz=82						
M10A	I.L. Ranch, Tu	82.20	48	⇑P	P	03 33 15.5	-0.3
	baz=82						
SUMG	Summit	82.27	360	eP	P	03 33 15.4	-0.2
	comp=Z,1.9nm,0.7s,mb4.0						
H13A	Challis	82.28	44	⇓P	P	03 33 16.3	+0.1
	baz=82,SNR=8.2						
J12A	Stokes Ranch,	82.36	46	⇑P	P	03 33 16.6	0.0
	baz=82						
O09A	Fish Creek Ran	82.37	49	⇑P	P	03 33 16.8	+0.1
	baz=82						
NVAR	Mina Array Bea	82.37	51	P	P	03 33 16.8	0.0
	comp=Z,3.4nm,0.7s,mb4.3,baz=286,slow=5.9,SNR=34						
NVAR				pP	pP	03 33 48.5	+3.1
	comp=Z,2.2nm,0.7s,baz=284,slow=5.6,SNR=4.2						
NVAR	Mina Array Bea	82.37	51	P	P	03 33 16.8	0.0
NVAR				pP	pP	03 33 48.5	+3.1
E15A	Deer Lodge	82.39	42	⇓P	P	03 33 16.8	0.0
	baz=82						
L11A	Cat Creek Ranc	82.43	47	⇓P	P	03 33 17.2	+0.2
	baz=82,SNR=6.8						
HELL	Mitchell Peak	82.63	53	⇓P	P	03 33 17.3	-0.9
	baz=82						
HLID	Hailey	82.65	45	⇓P	P	03 33 18.4	+0.2
	baz=82,SNR=7.3						
HLID	Hailey	82.65	45	eP	P	03 33 18.2	+0.1
	comp=Z,3.2nm,0.8s,mb4.2						
I13A	Wildhorse Cree	82.68	45	⇓P	P	03 33 18.7	+0.4
	baz=83,SNR=7.2						
M11A	Holland Ranch,	82.74	48	⇓P	P	03 33 19.0	+0.3
	baz=83						
HRY	Holter Researc	82.74	42	eP	P	03 33 18.9	+0.3
F15A	Butte	82.77	43	⇑P	P	03 33 18.9	+0.2
	baz=83,SNR=17						
K12A	Draper Farm, C	82.77	46	⇑P	P	03 33 19.0	+0.2
	baz=83						
O10A	Cortez Mining,	82.79	49	⇑P	P	03 33 19.3	+0.4
	baz=83						
H14A	Leadore	82.82	44	⇓P	P	03 33 19.2	+0.2
	baz=83						
PKM	Peak Mountain	82.83	55	⇑P	P	03 33 19.7	+0.4
	baz=83						
S08C	White Mtn Res	82.88	52	⇑P	P	03 33 19.7	+0.3
	baz=83						
J13A	Cove Ranch, Pi	82.89	45	⇓P	P	03 33 19.6	+0.2
	baz=83						
L12A	House Creek Ra	82.92	47	⇓P	P	03 33 20.1	+0.5
	baz=83						
DLMT	Dillon	82.94	43	eP	P	03 33 19.4	-0.2
	comp=Z,5.5nm,0.8s,mb4.4						
I14A	Mackay	83.09	45	⇑P	P	03 33 20.6	+0.2
	baz=83						
G15A	Dillon	83.10	43	⇑P	P	03 33 20.1	-0.3
	baz=83,SNR=6.3						
LCCM	Lewis and Clar	83.14	42	P	P	03 33 20.8	+0.1
TPH	Tonopah	83.29	51	eP	P	03 33 21.2	-0.4
TPH				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
TPH	Tonopah	83.29	51	eP	P	03 33 21.2	-0.3
	comp=Z,4.2nm,1.0s,mb4.2						
EGMT	Eagleton	83.31	40	⇓P	P	03 33 21.5	+0.1
	baz=83						
EGMT	Eagleton	83.31	40	eP	P	03 33 21.3	-0.1
	comp=Z,5.9nm,0.9s,mb4.4						
R09A	Tonopah	83.32	51	⇑P	P	03 33 21.4	-0.3
	baz=83,SNR=8.7						
M12A	Wells	83.33	47	⇑P	P	03 33 22.0	+0.3
	baz=83,SNR=5.5						
J14A	Carey	83.34	45	⇑P	P	03 33 22.2	+0.5
	baz=83						
AKASG	Malin Array Be	83.36	324	P	P	03 33 20.8	-0.8
	comp=Z,8.0nm,0.5s,mb4.8,baz=51,slow=5.2,SNR=43						
BOZ	Bozeman (W)	83.39	42	eP	P	03 33 22.0	+0.1
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
BOZ	Bozeman (W)	83.39	42	⇑P	P	03 33 22.1	+0.2
	baz=83						
BOZ	Bozeman (W)	83.39	42	eP	P	03 33 22.0	+0.1
	comp=Z,3.4nm,0.8s,mb4.2						
ELK	Elko	83.43	48	eP	P	03 33 22.2	0.0
ELK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ELK	Elko	83.43	48	eP	P	03 33 22.2	0.0
	comp=Z,5.6nm,1.0s,mb4.3						
S09A	Goldfield	83.45	51	⇑P	P	03 33 22.4	0.0
	baz=83						
N12A	Clover Valley,	83.52	48	⇑P	P	03 33 22.8	+0.1
	baz=83						
L13A	Double Diamond	83.66	46	⇑P	P	03 33 23.9	+0.6
	baz=84						
FFC	Flin Flon	83.71	31	eP	P	03 33 22.6	-0.7
FFC				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
FFC	Flin Flon	83.71	31	eP	P	03 33 22.6	-0.7
	comp=Z,10nm,1.0s,mb4.6						
MALT	Malatya	83.79	309	eP	P	03 33 24.8	+0.7
MALT				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
MALT	Malatya	83.79	309	eP	P	03 33 24.8	+0.7
	comp=Z,1.7nm,0.6s,mb4.0						
S10A	Tonopah Range,	83.80	51	⇑P	P	03 33 24.3	+0.2
	baz=84						
R10A	Warm Springs	83.84	51	⇑P	P	03 33 24.5	+0.2
	baz=84						
M13A	Montello	83.86	47	⇓P	P	03 33 24.4	+0.1
	baz=84,SNR=6.0						
QLMT	Earthquake Lak	83.92	43	eP	P	03 33 25.6	+1.0
K14A	Jones Ranch, D	83.94	46	⇑P	P	03 33 25.3	+0.5
	baz=84						
O12A	Currie	83.99	48	⇑P	P	03 33 25.2	+0.1
	baz=84,SNR=7.4						
J15A	Blackfoot	84.00	45	⇓P	P	03 33 25.6	+0.6
	baz=84						
MPMC	Manual Prospec	84.01	53	⇑P	P	03 33 25.0	-0.2
	baz=84						
Q11A	Duckwater	84.03	50	⇓P	P	03 33 25.1	-0.2
	baz=84						
N13A	Wendover, West	84.07	48	⇑P	P	03 33 25.4	-0.1
	baz=84						
L14A	Malta	84.14	46	⇓P	P	03 33 26.1	+0.3
	baz=84						
EDW2	Edwards Air Fo	84.18	54	⇓P	P	03 33 26.2	0.0
	baz=84						
P12A	McGill	84.25	49	⇓P	P	03 33 26.5	+0.1
	baz=84						
FURC	Furnace Creek,	84.28	52	⇓P	P	03 33 26.5	-0.1
	baz=84						
K15A	Arbon	84.28	45	⇑P	P	03 33 27.0	+0.5
	baz=84						
R11A	Troy Canyon, C	84.31	50	⇑P	P	03 33 26.5	-0.2
	baz=84,SNR=11						
M14A	Sheep Mountain	84.33	47	⇑P	P	03 33 27.1	+0.4
	baz=84,SNR=13						
I16A	Newdale	84.36	44	⇑P	P	03 33 27.8	+0.9
	baz=84						
TPNV	Topopah Spring	84.50	52	eP	P	03 33 27.4	-0.3
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
TPNV	Topopah Spring	84.50	52	⇓P	P	03 33 27.6	-0.1
	baz=84						
TPNV	Topopah Spring	84.50	52	eP	P	03 33 27.4	-0.3
	comp=Z,4.6nm,0.9s,mb4.3						
Q12A	Willow Creek R	84.51	49	⇓P	P	03 33 28.0	+0.3
	baz=84						
S11A	Rachel	84.53	51	⇓P	P	03 33 27.9	0.0
	baz=84						
SUW	Suwalki	84.54	328	eP	P	03 33 24.9	-2.7
SUW				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
SUW	Suwalki	84.54	328	eP	P	03 33 24.9	-2.7
	comp=Z,20nm,0.9s,mb5.0						
J16A	Bone	84.58	44	⇑P	P	03 33 28.7	+0.7
	baz=84						
U10A	Ash Meadows, A	84.68	52	⇑P	P	03 33 28.8	+0.1
	baz=85						
IMW	Indian Meadow	84.69	44	eP	P	03 33 28.5	0.0
	comp=Z,9.4nm,0.8s,mb4.8						
L15A	Malad City	84.71	46	⇑P	P	03 33 28.9	+0.2
	baz=85						
RRI2	Red Ridge	84.73	44	eP	P	03 33 28.7	0.0
	comp=Z,9.8nm,0.9s,mb4.7						
N14A	Grayback Hills	84.75	47	⇑P	P	03 33 28.8	-0.1
	baz=85,SNR=5.5						
NOA	NORSAR Array B	84.78	338	P	P	03 33 26.9	-1.8
	comp=Z,7.6nm,0.6s,mb4.8,baz=46,slow=4.8,SNR=26						
K16A	Soda Springs	84.81	45	⇓P	P	03 33 30.0	+0.8
	baz=85,SNR=11						
GSC	Goldstone	84.85	53	eP	P	03 33 28.2	-1.3
GSC				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
GSC	Goldstone	84.85	53	⇓P	P	03 33 29.2	-0.3
	baz=85,SNR=5.9						
GSC	Goldstone	84.85	53	eP	P	03 33 28.2	-1.3
	comp=Z,7.2nm,1.0s,mb4.6						
P13A	Bates Ranch, G	84.87	49	⇓P	P	03 33 29.3	-0.2
	baz=85,SNR=6.9						
TPAW	Teton Pass	84.89	44	eP	P	03 33 29.7	+0.2
	comp=Z,5.8nm,0.8s,mb4.6						
M15A	Larsen Ranch,	84.94	46	⇓P	P	03 33 30.3	+0.5
	baz=85						
R12A	Pony Springs,	85.00	50	⇓P	P	03 33 30.0	-0.2
	baz=85						
LOHW	Long Hollow	85.04	44	eP	P	03 33 30.5	+0.2
	comp=Z,3.8nm,0.7s,mb4.4						
T11A	Corn Creek, Al	85.09	51	⇑P	P	03 33 30.5	-0.2
	baz=85						
RLMT	Red Lodge	85.09	42	eP	P	03 33 31.3	+0.8
	comp=Z,13nm,0.5s,mb5.1						
Q13A	Wheeler Ranch,	85.10	49	⇑P	P	03 33 30.6	-0.1
	baz=85						
DUG	Dugway	85.32	48	eP	P	03 33 31.6	-0.2
DUG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
DUG	Dugway	85.32	48	⇑P	P	03 33 31.6	-0.2
	baz=85						
DUG	Dugway	85.32	48	eP	P	03 33 31.6	-0.2
	comp=Z,5.0nm,0.7s,mb4.5						
L16A	Fish Haven	85.32	45	⇑P	P	03 33 32.0	+0.3
	baz=85,SNR=8.4						
HEC	Hector,Ludlow	85.42	54	⇑P	P	03 33 32.0	-0.4
	baz=85						
TUQ	Turquoise Mtn.	85.43	53	⇑P	P	03 33 32.4	-0.1
	baz=85						
HWUT	Hardware Ranch	85.44	46	eP	P	03 33 32.4	0.0
	comp=Z,5.4nm,0.8s,mb4.5						
P14A	Drum Mountains	85.44	48	⇓P	P	03 33 32.2	-0.2
	baz=85,SNR=12						
R13A	O'Grain Ranch,	85.51	50	⇑P	P	03 33 32.8	0.0
	baz=85						
M16A	Huntsville	85.55	46	⇓P	P	03 33 32.4	-0.5
	baz=85						
Q14A	Sevier Lake (B	85.59	49	⇓P	P	03 33 33.1	0.0
	baz=86,SNR=10						
V11A	Goodsprings	85.60	52	⇓P	P	03 33 33.1	-0.1
	baz=86,SNR=10						
PFO	Pinyon Flat Ob	85.89	55	⇓P	P	03 33 34.3	-0.5
	baz=86						
GMRC	Granite Mounta	85.93	53	⇓P	P	03 33 34.7	-0.2
	baz=86,SNR=7.4						
NLU	North Lily Min	85.93	48	eP	P	03 33 33.8	-1.0
U12A	Valley of Fire	85.95	52	⇑P	P	03 33 35.0	+0.1
	baz=86						
P15A	Leamington	85.98	48	⇑P	P	03 33 34.8	-0.3
	baz=86						
BELC	Belle Mtn.	86.05	54	⇑P	P	03 33 34.8	-0.7
	baz=86,SNR=5.3						
V12A	Nelson	86.06	52	⇓P	P	03 33 35.3	-0.2
	baz=86,SNR=7.5						
R14A	James Farms, M	86.11	49	⇑P	P	03 33 35.4	-0.2
	baz=86						
T13A	Saint George	86.11	51	⇓P	P	03 33 35.8	0.0
	baz=86,SNR=5.3						
BW06	Boulder Array	86.13	44	eP	P	03 33 35.4	-0.3
	comp=Z,2.3nm,0.8s,mb4.2						
PDAR	Pinedale Array	86.13	44	P	P	03 33 35.5	-0.2
	comp=Z,2.2nm,0.6s,mb4.3,baz=315,slow=1.4,SNR=20						
PDAR				pP	pP	03 34 07.2	+2.7
	comp=Z,2.3nm,0.8s,baz=256,slow=1.7,SNR=6.0						
PDAR				LR	LR	04 12 36.2	
	comp=Z,32nm,19.1s,baz=257,slow=36						
Q15A	Fillmore	86.20	48	⇑P	P	03 33 36.0	-0.2
	baz=86						
N17A	Moffit Pass	86.25	46	⇓P	P	03 33 35.7	-0.6
	baz=86						
MONP	Monument Peak	86.25	55	⇓P	P	03 33 35.8	-0.7
	baz=86						
U13A	Pakoon Wash	86.36	51	⇓P	P	03 33 36.8	-0.2
	baz=86,SNR=10						
IRM	Iron Mountain	86.59	54	⇓P	P	03 33 37.6	-0.5
	baz=86						
BC3	Big Chuckw Mtn	86.61	54	⇑P	P	03 33 37.9	-0.3
	baz=86,SNR

GLA	Glamis	87.36	55	⇑P	P	03 33 41.8	-0.1
	baz=87						
S16A	Weppner Ranch,	87.37	49	⇓P	P	03 33 41.8	-0.1
	baz=87						
SRU	San Rafael	87.39	48	eP	P	03 33 41.4	-0.5
SRU				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
SRU	San Rafael	87.39	48	eP	P	03 33 41.4	-0.5
	comp=Z,1.0nm,0.5s,mb4.0						
U15A	North Rim	87.53	51	⇑P	P	03 33 42.8	+0.1
	baz=87,SNR=8.6						
W14A	Seligman	87.58	52	⇑P	P	03 33 43.0	+0.1
	baz=88						
R17A	Hanksville Air	87.62	48	⇑P	P	03 33 43.2	+0.2
	baz=88						
Y13A	Salome	87.72	54	⇓P	P	03 33 43.6	0.0
	baz=88						
V15A	Kaibab Nationa	87.92	51	⇓P	P	03 33 44.8	+0.3
	baz=88						
S17A	Black Ridge (B	87.96	49	⇓P	P	03 33 44.8	+0.1
	baz=88						
X14A	Yava	88.08	53	⇑P	P	03 33 45.3	0.0
	baz=88						
R18A	Canyonlands Na	88.19	48	⇓P	P	03 33 45.2	-0.5
	baz=88						
Y14A	Wickenburg	88.26	53	⇓P	P	03 33 46.0	-0.1
	baz=88,SNR=9.0						
113A	Mohawk Valley,	88.27	54	⇓P	P	03 33 46.0	-0.2
	baz=88						
STHS	Stebnicka Huta	88.30	325	eP	P	03 33 44.2	-1.8
STHS				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
U16A	Tuba City	88.49	50	⇓P	P	03 33 47.3	+0.1
	baz=88						
OJC	Ojcow	88.52	327	eP	P	03 33 45.7	-1.3
X15A	Humboldt	88.54	52	⇑P	P	03 33 47.8	+0.4
	baz=88,SNR=8.3						
U17A	Shonto	88.58	50	⇑P	P	03 33 47.9	+0.3
	baz=88						
WUAZ	Wupatki	88.63	51	⇓P	P	03 33 48.2	+0.3
	baz=88						
Y15A	Casa Rosa Ranc	88.73	53	⇓P	P	03 33 48.4	0.0
	baz=89,SNR=9.5						
W16A	Flagstaff	88.74	51	⇑P	P	03 33 48.4	0.0
	baz=89						
RSSD	Black Hills	88.77	41	eP	P	03 33 47.5	-0.8
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
RSSD	Black Hills	88.77	41	eP	P	03 33 47.5	-0.8
	comp=Z,1.8nm,0.6s,mb4.3						
NIE	Niedzica	88.77	326	eP	P	03 33 48.0	-0.2
X16A	Lo Mia Camp, P	89.14	52	⇑P	P	03 33 50.4	+0.1
	baz=89						
214A	Organ Pipe Nat	89.38	55	⇑P	P	03 33 51.6	+0.1
	baz=89						
Y16A	Circle Bar Ran	89.39	53	⇓P	P	03 33 51.5	0.0
	baz=89						
115A	Sonoran Desert	89.44	54	⇑P	P	03 33 51.8	+0.1
	baz=89						
V18A	Ganado	89.54	50	⇑P	P	03 33 52.2	+0.1
	baz=89						
OKC	Ostrava-Krasne	89.58	327	eP	P	03 33 51.1	-0.9
T19A	Beclabito	89.58	49	⇑P	P	03 33 52.3	0.0
	baz=90						
X17A	Forest Lakes	89.64	52	⇑P	P	03 33 53.0	+0.4
	baz=90						
MORC	Moravsky Berou	89.92	327	eP	P	03 33 52.5	-1.1
MORC				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
MORC	Moravsky Berou	89.92	327	eP	P	03 33 52.5	-1.1
	comp=Z,1.4nm,0.6s,mb4.3						
PSZ	Piszkesteto	89.93	325	eP	P	03 33 52.9	-0.8
Y17A	Roosevelt	89.94	52	⇑P	P	03 33 54.0	0.0
	baz=90						
VYHS	Vyhne	90.11	326	eP	P	03 33 54.0	-0.5
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
VYHS	Vyhne	90.11	326	eP	P	03 33 54.0	-0.5
	comp=Z,2.0nm,0.6s,mb4.4						
DPC	Dobruska-Polom	90.13	328	eP	P	03 33 54.1	-0.5
DPC	Dobruska-Polom	90.13	328	eP	P	03 33 53.6	-1.0
X18A	Snowflake	90.14	51	⇓P	P	03 33 54.1	-0.9
	baz=90						
UPC	Upice	90.17	328	eP	P	03 33 54.0	-0.7
ISCO	Idaho Springs	90.23	45	eP	P	03 33 55.2	-0.1
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ISCO	Idaho Springs	90.23	45	eP	P	03 33 55.1	-0.1
	comp=Z,1.9nm,0.9s,mb4.2						
W19A	Sanders	90.23	51	⇑P	P	03 33 55.6	+0.2
	baz=90						
KOLL	Kolacno	90.28	326	eP	P	03 33 54.0	-1.3
216A	Three Points,	90.35	54	⇑P	P	03 33 56.4	+0.4
	baz=90						
Y18A	Canyon Day Jun	90.47	52	⇑P	P	03 33 56.9	+0.3
	baz=90						
117A	Oracle	90.58	53	⇑P	P	03 33 57.0	0.0
	baz=90						
X19A	St. Johns	90.66	51	⇓P	P	03 33 57.4	+0.1
	baz=90						
PVCC	Panska Ves	90.83	329	eP	P	03 33 57.3	-0.5
PVCC	Panska Ves	90.83	329	eP	P	03 33 56.5	-1.3
BRG	Berggiesshubel	90.88	330	eP	P	03 33 57.1	-0.9
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
BRG	Berggiesshubel	90.88	330	eP	P	03 33 57.1	-1.0
	comp=Z,6.3nm,1.1s,mb4.7						
Y19A	Nutrioso	90.93	51	⇓P	P	03 33 59.1	+0.4
	baz=91						
217A	Green Valley	90.93	54	⇓P	P	03 33 58.9	+0.2
	baz=91						
CLL	Collm	91.01	330	⇓iP	P	03 33 57.2	-1.4
CLL				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
CLL	Collm	91.01	330	⇓iP	P	03 33 57.2	-1.4
	comp=Z,5.0nm,0.9s,mb4.6						
PRU	Pruhonice	91.22	329	eP	P	03 33 55.7	-3.9
TREC	Trest	91.24	328	eP	P	03 33 58.7	-1.0
218A	Dragoon	91.39	54	⇑P	P	03 34 01.3	+0.4
	baz=91						
SDCO	Great Sand Dun	91.45	47	eP	P	03 34 01.1	+0.1
	comp=Z,1.6nm,0.7s,mb4.3						
119A	Ashpeak Ranch,	91.52	53	⇑P	P	03 34 01.6	+0.2
	baz=91						
219A	White Tail Can	91.95	53	⇓P	P	03 34 03.5	+0.1
	baz=92						
319A	Douglas	92.26	54	⇑P	P	03 34 04.6	-0.2
	baz=92						
KHC	Kasperske Hory	92.26	329	eP	P	03 34 03.6	-0.9
KHC	Kasperske Hory	92.26	329	eP	P	03 34 03.3	-1.2
ANMO	Albuquerque	92.35	49	eP	P	03 34 05.7	+0.5
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ANMO	Albuquerque	92.35	49	eP	P	03 34 05.7	+0.5
	comp=Z,3.6nm,1.2s,mb4.5						
GEC2	GERESS Array S	92.41	328	eP	P	03 34 03.2	-1.9
GERES	GERESS Array B	92.41	328	P	P	03 34 03.5	-1.6
	comp=Z,2.9nm,0.7s,mb4.6,baz=43,slow=5.4,SNR=33						
GERES				PKKPbc	PKKPbc	03 51 16.9	-2.2
	comp=Z,0.3nm,0.6s,baz=240,slow=4.5,SNR=3.6						
GERES				LR	LR	04 21 36.9	
	comp=Z,17nm,20.6s,baz=77,slow=39						
GRF	Grafenberg Arr	92.96	330	eP	P	03 34 07.0	-0.6
GRF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
GRF	Grafenberg Arr	92.96	330	eP	P	03 34 07.0	-0.6
	comp=Z,4.0nm,0.8s,mb4.8						
PERS	Pernice	93.23	326	iP	P	03 34 07.8	-1.1
GOLS	Golise	93.39	325	iP	P	03 34 08.6	-1.1
PDKS	Podkum	93.68	326	iP	P	03 34 09.9	-1.2
JAVS	Javornik	94.27	326	iP	P	03 34 12.0	-1.7
CDF	Champ du Feu	95.65	331	eP	P	03 34 18.0	-2.0
	comp=Z,4.2nm,0.6s,mb4.7						
HINF	Hinteralfeld	96.29	331	eP	P	03 34 20.3	-2.6
MEZF	Maizieres J'vi	96.54	332	eP	P	03 34 22.2	-1.9
SCHQ	Schefferville	96.58	16	LR	LR	04 25 57.2	
	comp=Z,40nm,18.1s,baz=74,slow=40						
SCHQ	Schefferville	96.58	16	eP	P	03 34 23.6	-0.5
	comp=Z,0.7nm,0.5s,mb4.3						
TXAR	Lajitas Array	97.44	53	P	P	03 34 28.1	-0.4
	comp=Z,0.4nm,0.6s,mb4.0,baz=274,slow=2.0,SNR=7.6						
TXAR				pP	pP	03 34 59.0	+1.4
	comp=Z,0.7nm,0.8s,baz=284,slow=3.7,SNR=3.1						
TXAR				PKiKP	PKiKP	03 39 01.9	-1.0
	comp=Z,0.1nm,0.4s,baz=359,slow=1.5,SNR=5.6						
TXAR	Lajitas Array	97.44	53	P	P	03 34 28.1	-0.4
TXAR				pP	pP	03 34 59.0	+1.4
CABF	La Chapelle	97.55	331	eP	P	03 34 26.5	-2.1
LOR	Lormes	98.00	332	eP	P	03 34 28.5	-2.2
LPL	La Plagne	98.09	329	eP	P	03 34 29.4	-1.7
	comp=Z,4.6nm,0.6s,mb4.9						
LPG	La Plagne	98.09	329	eP	P	03 34 29.4	-1.7
	comp=Z,5.0nm,0.6s,mb4.9						
SSF	Saint Saulge	98.32	332	eP	P	03 34 29.8	-2.3
AVF	Avril sur Loir	98.59	332	eP	P	03 34 31.1	-2.2
MBDF	Montbardon	98.67	329	eP	P	03 34 29.6	-4.1
	comp=Z,2.4nm,0.7s,mb4.6						
TCF	Toulx Ste Croi	99.47	332	eP	Pdif	03 34 35.7	-1.5
TORD	Torodi Ar. Bea	124.88	309	PKP	PKPdf	03 39 53.7	-1.0
	comp=Z,1.8nm,0.7s,baz=41,slow=1.3,SNR=32						
TORD	Torodi Ar. Bea	124.88	309	PKP	PKPdf	03 39 53.7	-1.0
DBIC	Dimbokro	133.99	309	PKP	PKPdf	03 40 12.5	+0.4
	comp=Z,4.5nm,1.0s,baz=52,slow=7.0,SNR=3.1						
DBIC				SKPbc	SKPbc	03 43 28.3	-2.9
	comp=Z,2.0nm,0.8s,baz=74,slow=4.6,SNR=4.4						
DBIC	Dimbokro	133.99	309	PKP	PKPdf	03 40 12.5	+0.4
DBIC				SKPbc	SKPbc	03 43 28.3	-2.9
LIC	Lamto	134.43	309	ePKIKP	PKPdf	03 40 10.1	-2.8
	comp=Z,25nm,1.1s						
NNA	Nana	141.86	77	ePKPdf	PKPdf	03 40 25.7	-0.8
PLCA	Paso Flores	149.64	128	PKPbc	PKPbc	03 40 43.2	-0.5
	comp=Z,8.5nm,0.6s,baz=222,slow=2.1,SNR=47						
PLCA	Paso Flores	149.64	128	PKPbc	PKPbc	03 40 43.2	-0.5
LPAZ	La Paz	151.32	77	PKP	PKPdf	03 40 42.5	+0.3
	comp=Z,1.3nm,0.8s,baz=239,slow=6.1,SNR=6.5						
LPAZ				PKPbc	PKPbc	03 40 48.6	+0.3
	comp=Z,5.5nm,0.4s,baz=310,slow=2.9,SNR=44						
LPAZ	La Paz	151.32	77	ePKPdf	PKPdf	03 40 42.2	0.0
LPAZ				ePKPbc	PKPbc	03 40 48.2	-0.1
LVC	Limon Verde	152.53	91	ePKPbc	PKPbc	03 40 49.9	-1.0
LVC				ePKPab	PKPab	03 41 01.0	-0.8
CFAA	Coronel Fontan	153.59	110	PKPbc	PKPbc	03 40 51.2	-1.8
	comp=Z,0.4nm,0.7s,baz=262,slow=4.6,SNR=5.8						
CPUP	Villa Florida	163.44	97	PKP	PKPdf	03 40 56.0	-1.1
	comp=Z,1.0nm,0.6s,baz=65,slow=4.7,SNR=3.8						
CPUP				PKPab	PKPab	03 41 47.4	-1.5
	comp=Z,0.5nm,0.6s,baz=70,slow=4.4,SNR=4.0						
CPUP	Villa Florida	163.44	97	PKP	PKPdf	03 40 56.0	-1.1
CPUP				PKPab	PKPab	03 41 47.4	-1.5

NNC ***27*** *03:48:12.2±3.1, 4421N×7986E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=51.9km s-min=11.4km az=137.0*
ISCJB ***27*** *03:48:14.1±0.7, 4423N±007×7969E±009, h10km, Error ellipse: s-maj=12.6km s-min=3.9km az=136.0*
NEIC ***27*** *03:48:15.0±0.7, 4418N×7960E, h10km, Error ellipse: s-maj=12.9km s-min=5.5km az=142.0*
IDC ***27*** *03:48:16.7±1.9, 4432N×7995E, h0km, mb3.6/1, mb1 3.4/4, mb1mx3.2/24, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=42.6km s-min=14.9km az=132.0*
MOS ***27*** *03:48:16.9±1.7, 4429N×7957E, h33km, mb3.8/1, Error ellipse: s-maj=20.1km s-min=12.9km az=72.1*

ISC 27 03:48:15.1±0.7, 4416N±007×7970E±009, h10km, n30,
σ1§07/44, 15C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	Almaty	2.20	246	⇑P	Pb	03 48 56.2	+1.3
	31nm,0.2s						
KNDC				⇓S	Sn	03 49 17.4	-1.5
	237nm,0.5s						
ULHL	Ulahol	3.17	234	P	Pn	03 49 05.3	+0.3
	SNR=18						
MK31	Makanchi Array	3.20	34	⇑Pn	Pn	03 49 05.6	+0.2
	0.9nm,0.3s,baz=220,slow=13,SNR=155						
MK31				⇑Pg	Pg	03 49 12.1	-4.2
	11nm,0.5s,baz=223,slow=13,SNR=8.1						
MK31				⇑Sn	Sn	03 49 42.9	-0.6
	4.6nm,0.2s,baz=132,slow=8.2,SNR=5.1						
MK31				⇑Lg		03 49 49.9	
	36nm,0.4s,baz=214,slow=32,SNR=4.3						
MK31	Makanchi Array	3.20	34	PN	Pn	03 49 05.6	+0.2
MK31						03 49 12.1	
MK31						03 49 49.9	
MK31	Makanchi Array	3.20	34	Pn	Pn	03 49 05.6	+0.2
MK31				Pg	Pg	03 49 12.1	-4.2
MK31				Sn	Sn	03 49 42.9	-0.6
MK31				Lg		03 49 49.9	
MKAR	Makanchi Array	3.20	34	Pn	Pn	03 49 05.9	+0.5
	1.7nm,0.3s,baz=211,slow=15,SNR=23						
MKAR				Pg	Pg	03 49 12.6	-3.8
	8.0nm,0.3s,baz=218,slow=16,SNR=43						
MKAR				Sn	Sn	03 49 43.0	-0.6
	11nm,0.3s,baz=216,slow=24,SNR=10						
MKAR				Lg		03 49 50.5	
	22nm,0.3s,baz=207,slow=31,SNR=23						
MKAR	Makanchi Array	3.20	34	Pn	Pn	03 49 05.9	+0.5
MKAR				Pg	Pg	03 49 12.6	-3.8
MKAR				Sn	Sn	03 49 43.0	-0.6
MKAR				Lg		03 49 50.5	
TKM2	Tokmak 2	3.23	249	⇓Pn	Pn	03 49 05.5	-0.3
	1.4nm,0.4s						
TKM2				⇑Pg	Pg	03 49 13.2	-3.8
	6.1nm,0.3s						
TKM2				⇑Sn	Sn	03 49 51.4	+7.0
	18nm,0.2s						
TKM2				⇓Lg		03 49 57.4	
	149nm,0.8s						
TKM2	Tokmak 2	3.23	249	P	Pb	03 49 13.4	+0.9
	SNR=11						
TKM2	Tokmak 2	3.23	249	ePn	Pn	03 49 04.9	-1.0
CHMS	Chumysh	3.78	254	P	Pb	03 49 21.6	-0.2
	SNR=6.3						
USP	Ospenovka	3.88	258	P	Pb	03 49 22.7	-0.8
	SNR=13						
UCH	Uchtor	4.26	245	P	Pn	03 49 27.1	+7.2
	SNR=10.0						
UCH	Uchtor	4.26	245	ePn	Pn	03 49 20.0	+0.1
UCH				ePb	Pb	03 49 31.8	+1.8
EKS2	Erkin-Say	4.57	253	Pn	Pn	03 49 23.7	-0.5
AML	Almayashu	4.84	247	P	Pn	03 49 35.5	+7.5
	SNR=5.4						
AML	Almayashu	4.84	247	ePn	Pn	03 49 27.3	-0.6
KURBB	Kurchatov Arra	6.51	353	⇑Pn	Pn	03 49 51.3	+0.4
	0.1nm,0.2s						
KURBB				⇓Pg	Pg	03 50 11.8	-7.9
	1.1nm,0.6s						
KURBB				⇓Sn	Sn	03 51 07.5	+2.4
	3.4nm,0.5s						
KURBB				⇓Lg		03 51 38.3	
	14nm,0.7s						
KURK	Kurchatov	6.60	354	⇑Pn	Pn	03 49 52.5	+0.5
	5.4nm,0.8s						
KURK				⇑Pg	Pg	03 50 13.8	-7.6
	3.7nm,0.6s						
KURK				⇑Lg		03 51 36.8	
	19nm,0.6s						
KURK	Kurchatov	6.60	354	PN	Pn	03 49 52.5	+0.5
KURK				PN	Pb	03 50 13.8	+4.0
KK31	Karatay Array	6.75	264	⇑Pn	Pn	03 49 57.6	+3.4
	0.8nm,0.3s						
KK31				⇓Lg		03 51 45.8	
	13nm,0.6s,baz=77,slow=26,SNR=5.1						
KK31	Karatay Array	6.75	264	PN	Pn	03 49 57.5	+3.3
KK31						03 51 41.5	
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KK31				smax			
	comp=N,8.0nm,0.5s						
VOSK	Vostochnaya	10.34	329	⇓Pn	Pn	03 50 41.8	-1.4
	comp=N,0.7nm,0.7s						
VOSK				⇑Lg		03 53 35.4	
	comp=N,12nm,0.7s						
ZAL	Zalesovo	10.34	17	P	Pn	03 50 43.6	+0.3
ZALV	Zalesovo Beam	10.35	17	Pn	Pn	03 50 43.6	+0.1
	comp=N,0.4nm,0.3s,baz=213,slow=16,SNR=4.0						
ZALV				Lg		03 53 36.6	
	comp=N,0.8nm,0.3s,baz=195,slow=25,SNR=4.0						
BVA0	Borovoye Array	10.79	329	⇓Lg		03 53 51.1	
	comp=N,2.0nm,0.8s,baz=137,slow=28,SNR=10						
BVAR	Borovoye Array	10.79	329	Lg		03 53 49.7	
	comp=N,0.8nm,0.3s,baz=130,slow=29,SNR=13						
AB31	Akbulak array	14.47	298	⇑Pn	Pn	03 51 38.3	-1.4
	comp=N,0.6nm,0.6s,baz=100,slow=16,SNR=12						
AB31				⇑Lg		03 55 55.7	
	comp=N,1.5nm,0.6s						
SONM	Songino Array	18.87	69	P	Pn	03 52 35.7	-0.1
	comp=N,0.3nm,0.3s,baz=267,slow=12,SNR=4.8						
TORD	Torodi Ar. Bea	72.39	271	P	P	03 59 46.0	+4.5
	comp=N,0.2nm,0.4s,baz=34,slow=5.2,SNR=4.7						

KISR ***27*** *03:49:25.5, 3389N×4871E, h4km, ML2.4*
CSEM ***27*** *03:49:30.9±0.1, 3369N×4894E, h12km, ML2.8, Error ellipse: s-maj=2.4km s-min=1.8km az=132.0*
ISCJB ***27*** *03:49:31.0±0.7, 3370N±004×4896E±006, h10km, Error ellipse: s-maj=7.7km s-min=5.3km az=16.4*
THR ***27*** *03:49:33.3±0.8, 3370N×4903E, h44km±7km, ML2.8*

ISC 27 03:49:32.0±1.1, 3369N±005×4896E±007, h2km±13km, n9,
σ0§91/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	Ashtian	1.23	45	ePg	Pg	03 49 55.2	-0.4
ASAO				eSg	Sg	03 50 12.2	+0.6
ASAO				AML	AML	03 50 15.8	
	comp=E,147nm,0.6s						
ASAO				AML	AML	03 50 17.9	
	comp=N,147nm,0.7s						
ASAO	Ashtian	1.23	45	ePg	Pg	03 49 55.2	-0.4
	SNR=105						
ASAO				eSg	Sg	03 50 12.2	+0.6
	SNR=105						
SHGR	Shooshtar-Gavs	1.58	185	ePg	Pg	03 50 02.5	+0.3
SHGR				AML	AML	03 50 28.3	
	comp=N,118nm,0.4s						
SNGE	Sanandaj	1.94	317	ePn	Pn	03 50 05.6	-0.3
SNGE				eSg	Sg	03 50 34.6	+0.3
SNGE				AML	AML	03 50 37.6	
	comp=N,119nm,0.6s						
SNGE	Sanandaj	1.94	317	ePn	Pn	03 50 05.6	-0.3
	SNR=54						
SNGE				eSg	Sg	03 50 34.6	+0.3
	SNR=98						
MIB	Mutribah	4.11	200	eP	Pn	03 50 34.4	-1.4
	baz=196						
MIB				AML	AML	03 51 49.3	
	comp=Z,5.0nm,0.5s,baz=196						
NAY	Al-Naaiem	4.66	199	eP	Pn	03 50 42.9	-0.4
NAY				eS	Sn	03 51 40.3	+2.4
	comp=Z,1.2nm,0.7s						
NAY	Al-Naaiem	4.66	199	eP	Pn	03 50 42.9	-0.4
	baz=195						
NAY				eS	Sn	03 51 40.3	+2.4
	baz=195						
NAY				AML	AML	03 52 02.1	
	comp=Z,1.0nm,0.7s,baz=195						
RDF	Al-Radifah	4.90	195	eP	Pn	03 50 46.1	-0.5
	baz=192						
RDF				AML	AML	03 52 15.3	
	comp=Z,4.0nm,0.4s,baz=192						

NEIC ***27*** *04:09:02.8±1.5, 3588N×281E, h10km, MG4.2(MDD), Error ellipse: s-maj=18.1km s-min=4.8km az=153.0*
ISCJB ***27*** *04:09:04.9±0.3, 3626N±002×265E±002, h10km, Error ellipse: s-maj=3.5km s-min=2.8km az=176.4*
CSEM ***27*** *04:09:04.8±0.1, 3624N×256E, h2km, ML4.2, Error ellipse: s-maj=2.3km s-min=1.8km az=155.0*
CRAAG ***27*** *04:09:04.3, 3608N×275E, Ml4.2*
LDG ***27*** *04:09:06.4±0.2, 3598N×275E, h10km, Ml3.1/8, Error ellipse: s-maj=5.1km s-min=2.5km az=153.0*
MDD ***27*** *04:09:07.0±0.2, 3605N×277E, h0km, mb4.1/20, Error ellipse: s-maj=2.2km s-min=1.2km az=145.0, PRIMO*
CNRM ***27*** *04:09:08.8, 3601N×286E, h30km, MD4.2*

ISC 27 04:09:06.5±0.6, 3618N±003×270E±003, h16km±6km, n99,
σ1§23/151, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	Djebel Mahouad	0.21	84	P	Pg	04 09 09.8	-1.5
ADJB	Djebel Djouab	0.60	92	P	Pg	04 09 16.6	-1.7
ABA	Alger-Bouzarea	0.68	24	P	Pg	04 09 19.8	0.0
ABMS	Boumerdes	0.85	48	P	Pb	04 09 22.8	-0.1
EBNR	Beni Rached	0.95	277	P	Pb	04 09 24.4	-0.2
AKET	Djebel Ketaf	0.97	98	P	Pb	04 09 24.2	-0.7
ECHA	Ech Chlef	1.08	269	P	Pb	04 09 25.0	-1.8
ECHF	Ech Chlef	1.10	269	P	Pb	04 09 25.0	-2.1
EANR	'Ain N'Sour	1.32	260	P	Pn	04 09 30.0	-0.2
ETRT	Tiaret	1.38	236	P	Pn	04 09 31.0	-0.2
OKGL	Djebel Kef Gue	1.67	266	P	Pn	04 09 37.0	+1.9
OJGS	Djebel Guires	1.72	247	P	Pn	04 09 35.0	-0.8
OJBR	Djebel Berber	2.00	253	P	Pn	04 09 36.0	-3.7
SET	Setif	2.19	89	P	Pn	04 09 44.0	+1.8
CKHR	Kef el Ahmar	2.28	93	P	Pn	04 09 46.0	+2.4
DFRA	Djebel Bou Aff	2.59	81	P	Pg	04 09 55.0	-1.2
EIBI	Ibiza	3.04	340	P	Pn	04 09 54.8	+0.9
	14nm,0.2s,SNR=25						
EIBI				S	Sn	04 10 30.4	+0.4
	18nm,0.3s,SNR=4.6						
EIBI	Ibiza	3.04	340	P	Pn	04 09 54.8	+0.9
	14nm,0.2s,SNR=25						
EIBI				S	Sn	04 10 30.4	+0.4
	18nm,0.3s,SNR=4.6						
CASM	Ain Smara	3.07	87	P	Pg	04 10 04.0	-1.3
CKFL	Kef-Lekhel	3.26	85	P	Pg	04 10 07.0	-1.9
EBEN	Beniarda	3.43	318	P	Pn	04 09 59.6	+0.3
	1.1nm,0.1s,SNR=11						
EBEN				S	Sn	04 10 40.8	+1.2
	6.5nm,0.6s,SNR=7.2						
EBEN	Beniarda	3.43	318	P	Pn	04 09 59.6	+0.3
	1.1nm,0.1s,SNR=11						
EBEN				S	Sn	04 10 40.8	+1.2
	6.5nm,0.6s,SNR=7.2						
EMUR	La Murta	3.56	299	P	Pn	04 10 02.0	+0.8
	2.8nm,0.3s,SNR=5.6						
EMUR				S	Sn	04 10 44.0	+1.1
	5.1nm,0.5s						
EMUR	La Murta	3.56	299	P	Pn	04 10 02.0	+0.9
	2.8nm,0.3s,SNR=5.6						
EMUR				S	Sn	04 10 44.0	+1.1
	5.1nm,0.5s						
ETOS	Mallorca	3.58	1	P	Pn	04 10 02.0	+0.6
	15nm,0.3s,SNR=40						
ETOS				S	Sn	04 10 42.8	-0.6
	12nm,0.4s						
ETOS	Mallorca	3.58	1	P	Pn	04 10 02.0	+0.6
	15nm,0.3s,SNR=40						
ETOS				S	Sn	04 10 42.8	-0.6
	12nm,0.4s						
CMAH	Djebel Manchou	3.83	82	P	Pn

EQUE	**Quentar**	**5.04 284**	P	**Pn**	**04 10 21.5**	**+0.1**
	5.3nm,0.3s,SNR=12					
EQUE			S	**Sn**	**04 11 17.7**	**-1.6**
	6.9nm,0.4s,SNR=9.1					
EGUA	**Guajares**	**5.09 279**	P	**Pn**	**04 10 21.0**	**-1.1**
	0.7nm,0.4s,SNR=7.9					
EGUA			S	**Sn**	**04 11 19.8**	**-0.7**
	2.9nm,0.2s,SNR=7.9					
ERTA	**Horta de San J**	**5.12 339**	P	**Pn**	**04 10 22.8**	**+0.4**
	1.7nm,0.3s,SNR=7.2					
ERTA			S	**Sn**	**04 11 20.7**	**-0.4**
	4.7nm,0.5s					
ERTA	**Horta de San J**	**5.12 339**	P	**Pn**	**04 10 22.8**	**+0.3**
	1.7nm,0.3s,SNR=7.2					
ERTA			S	**Sn**	**04 11 20.7**	**-0.5**
	4.7nm,0.5s					
EPOB	**Poblet**	**5.32 347**	P	**Pn**	**04 10 25.9**	**+0.7**
	0.6nm,0.3s,SNR=7.9					
EPOB			S	**Sn**	**04 11 26.7**	**+0.6**
	3.5nm,1.5s,SNR=7.9					
EPOB	**Poblet**	**5.32 347**	P	**Pn**	**04 10 25.9**	**+0.7**
	0.6nm,0.3s,SNR=7.9					
EPOB			S	**Sn**	**04 11 26.7**	**+0.6**
	3.5nm,1.5s,SNR=7.9					
EMIR	**Miracle**	**5.80 351**	P	**Pn**	**04 10 33.1**	**+1.3**
	8.2nm,0.3s,SNR=11					
EMIR			S	**Sn**	**04 11 37.8**	**-0.2**
	2.9nm,0.3s					
EMIR	**Miracle**	**5.80 351**	P	**Pn**	**04 10 33.1**	**+1.3**
	8.2nm,0.3s,SNR=11					
ETOR	**Torete**	**5.95 323**	P	**Pn**	**04 10 36.9**	**+3.1**
	1.0nm,0.2s,SNR=4.0					
ETOR			S	**Sn**	**04 11 40.6**	**-1.0**
	2.8nm,0.5s					
ETOR	**Torete**	**5.95 323**	P	**Pn**	**04 10 33.1**	**-0.8**
ETOR	**Torete**	**5.95 323**	P	**Pn**	**04 10 36.9**	**+3.0**
	1.0nm,0.2s,SNR=4.0					
ETOR			S	**Sn**	**04 11 40.7**	**-0.9**
	2.8nm,0.5s					
ETOR	**Torete**	**5.95 323**	P	**Pn**	**04 10 33.1**	**-0.7**
ETOR			S	**Sn**	**04 11 40.6**	**-1.0**
TZK	**Tazeka**	**6.01 252**	*i* P	**Pn**	**04 10 36.0**	**+1.2**
TZK			*i* S	**Sn**	**04 11 40.0**	**-3.3**
EMIJ	**Mijas**	**6.04 276**	P	**Pn**	**04 10 32.6**	**-2.6**
	0.2nm,0.4s,SNR=7.9					
ESAC	**San Caprasio**	**6.06 337**	P	**Pn**	**04 10 39.2**	**+3.8**
	0.6nm,0.2s,SNR=4.9					
ESAC			S	**Sn**	**04 11 43.1**	**-1.3**
	7.2nm,1.3s,SNR=7.9					
ESAC	**San Caprasio**	**6.06 337**	P	**Pn**	**04 10 36.6**	**+1.2**
ESAC	**San Caprasio**	**6.06 337**	P	**Pn**	**04 10 36.6**	**+1.2**
ESAC			S	**Sn**	**04 11 43.1**	**-1.3**
EADA	**Adamuz**	**6.14 291**	P	**Pn**	**04 10 35.9**	**-0.6**
	0.1nm,0.6s,SNR=4.0					
EADA			S	**Sn**	**04 11 44.2**	**-2.2**
	1.9nm,1.4s,SNR=4.0					
EADA	**Adamuz**	**6.14 291**	P	**Pn**	**04 10 36.0**	**-0.5**
EJON	**La Jonquera**	**6.26 1**	P	**Pn**	**04 10 38.1**	**-0.1**
	0.1nm,0.3s,SNR=4.0					
EJON			S	**Sn**	**04 11 47.2**	**-2.2**
	6.1nm,1.7s,SNR=4.0					
EJON	**La Jonquera**	**6.26 1**	P	**Pn**	**04 10 38.1**	**-0.1**
	0.1nm,0.3s,SNR=4.0					
ESDC	**Sonseca Array**	**6.32 306**	P	**Pn**	**04 10 39.3**	**+0.4**
	1.0nm,0.6s,baz=122,slow=13,SNR=4.1					
ESDC	**Sonseca Array**	**6.32 306**	P	**Pn**	**04 10 39.3**	**+0.4**
	1.0nm,0.6s,SNR=4.1					
ECAB	**El Cabril**	**6.75 289**	P	**Pn**	**04 10 44.3**	**-0.7**
	0.9nm,0.5s,SNR=7.9					
ECAB	**El Cabril**	**6.75 289**	P	**Pn**	**04 10 44.3**	**-0.7**
	0.9nm,0.5s,SNR=7.9					
GUD	**Guadarrama**	**6.98 312**	P	**Pn**	**04 10 49.1**	**+1.0**
	0.1nm,0.5s,SNR=7.9					
GUD	**Guadarrama**	**6.98 312**	P	**Pn**	**04 10 49.1**	**+1.0**
	0.1nm,0.5s,SNR=7.9					
EPF	**Esparros**	**7.08 346**	*e*Pn	**Pn**	**04 10 51.2**	**+1.8**
EPF			*e*Sn	**Sn**	**04 12 08.6**	**-0.9**
	1.5nm,0.3s					
EPF	**Esparros**	**7.08 346**	P	**Pn**	**04 10 51.2**	**+1.8**
EPF			S	**Sn**	**04 12 08.6**	**-0.9**
	0.8nm,0.3s					
CZD	**Col de Zad**	**7.11 246**	*e*P	**Pn**	**04 10 52.0**	**+2.1**
CZD			*e*S	**Sn**	**04 12 09.0**	**-1.4**
MTLF	**Montolieu**	**7.16 357**	*e*Pn	**Pn**	**04 10 52.3**	**+1.8**
MTLF			*e*Sn	**Sn**	**04 12 10.2**	**-1.3**
	0.9nm,0.3s					
MTLF	**Montolieu**	**7.16 357**	P	**Pn**	**04 10 52.3**	**+1.8**
MTLF			S	**Sn**	**04 12 10.2**	**-1.3**
	0.4nm,0.3s					
ZFT	**Errachidia**	**7.16 237**	*e*P	**Pn**	**04 10 51.0**	**+0.4**
ZFT			*i* S	**Sn**	**04 12 07.0**	**-4.6**
ETSF	**Etsaut**	**7.17 340**	*e*Pn	**Pn**	**04 10 52.5**	**+1.9**
ETSF			*e*Sn	**Sn**	**04 12 10.5**	**-1.1**
	1.1nm,0.3s					
ETSF	**Etsaut**	**7.17 340**	P	**Pn**	**04 10 52.5**	**+1.9**
ETSF			S	**Sn**	**04 12 10.5**	**-1.1**
	0.6nm,0.3s					
SJPF	**Ste Jean**	**7.55 338**	*e*Pn	**Pn**	**04 10 57.6**	**+1.7**
SJPF			*e*Sn	**Sn**	**04 12 19.7**	**-1.5**
	1.3nm,0.3s					
SJPF	**Ste Jean**	**7.55 338**	P	**Pn**	**04 10 57.6**	**+1.7**
SJPF			S	**Sn**	**04 12 19.7**	**-1.5**
	0.6nm,0.3s					
EMIN	**Mina Concepcio**	**7.67 285**	P	**Pn**	**04 10 57.0**	**-0.5**
	0.4nm,0.4s,SNR=4.0					
EMIN	**Mina Concepcio**	**7.67 285**	P	**Pn**	**04 10 57.0**	**-0.5**
LMR	**La Mourre**	**7.72 21**	*e*Pn	**Pn**	**04 10 59.0**	**+0.8**
LMR			*e*Sn	**Sn**	**04 12 23.0**	**-2.3**
	1.7nm,0.3s					
LMR	**La Mourre**	**7.72 21**	P	**Pn**	**04 10 59.0**	**+0.8**
LMR			S	**Sn**	**04 12 23.0**	**-2.3**
	0.9nm,0.3s					
LASF	**Ste Croix**	**7.94 6**	*e*Pn	**Pn**	**04 11 02.0**	**+0.8**
LASF			*e*Sn	**Sn**	**04 12 28.1**	**-2.5**
	1.6nm,0.4s					
LASF	**Ste Croix**	**7.94 6**	P	**Pn**	**04 11 02.0**	**+0.8**
LASF			S	**Sn**	**04 12 28.1**	**-2.5**
	0.8nm,0.4s					
FRF	**La Foret Royal**	**7.97 21**	*e*Pn	**Pn**	**04 11 02.7**	**+1.1**
FRF			*e*Sn	**Sn**	**04 12 29.1**	**-2.3**
	2.3nm,0.3s					
FRF	**La Foret Royal**	**7.97 21**	P	**Pn**	**04 11 02.7**	**+1.1**
FRF			S	**Sn**	**04 12 29.1**	**-2.3**
	1.2nm,0.3s					
PGF	**Pioggiola**	**8.01 36**	*e*Pn	**Pn**	**04 11 02.8**	**+0.6**
PGF			*e*Sn	**Sn**	**04 12 29.1**	**-3.4**
	2.4nm,0.5s					
PGF	**Pioggiola**	**8.01 36**	P	**Pn**	**04 11 02.8**	**+0.6**
PGF			S	**Sn**	**04 12 29.1**	**-3.4**
	1.2nm,0.5s					
SMRF	**Simiane la Rot**	**8.09 15**	*e*Pn	**Pn**	**04 11 04.1**	**+0.8**
ELAN	**Lanestosa**	**8.48 328**	P	**Pn**	**04 11 11.3**	**+2.7**
	7.5nm,0.9s,SNR=6.6					
ELAN	**Lanestosa**	**8.48 328**	P	**Pn**	**04 11 11.4**	**+2.8**
CAF	**Calviac**	**8.75 357**	*e*Pn	**Pn**	**04 11 12.1**	**-0.2**
VIVF	**Saint-Julien-l**	**8.79 9**	*e*Pn	**Pn**	**04 11 14.3**	**+1.4**
ECAL	**Calabor**	**9.32 311**	P	**Pn**	**04 11 21.4**	**+1.3**
	4.3nm,0.7s,SNR=6.4					
ECAL	**Calabor**	**9.32 311**	P	**Pn**	**04 11 21.4**	**+1.2**
EARI	**Arriondas**	**9.36 322**	P	**Pn**	**04 11 24.1**	**+3.4**
	18nm,1.2s,SNR=6.8					
EARI	**Arriondas**	**9.36 322**	P	**Pn**	**04 11 24.1**	**+3.4**
LPG	**La Plagne**	**9.80 17**	*e*Pn	**Pn**	**04 11 27.1**	**+0.4**
LPL	**La Plagne**	**9.81 17**	*e*Pn	**Pn**	**04 11 28.1**	**+1.2**
EPON	**Pontenova**	**10.41 316**	P	**Pn**	**04 11 35.7**	**+0.7**
	0.5nm,0.4s,SNR=7.9					
EMAZ	**Mazaricos**	**11.26 310**	P	**Pn**	**04 11 47.2**	**+0.5**
	1.9nm,0.5s,SNR=7.9					
SGMF	**Saint Gilles**	**12.67 344**	*e*Pn	**Pn**	**04 12 06.3**	**+0.3**

IDC 27 04:12:42.6±6.4, 2314N×14253E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.9/3, Error ellipse: s-maj=258.5km s-min=32.6km az=70.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.55**	**191**	P	P	04 20 49.0	+0.7
	0.7nm,0.3s,baz=6.5,slow=9.1,SNR=43						
MKAR	**Makanchi Array**	**53.28**	**312**	P	P	04 22 03.2	0.0
	0.4nm,0.5s,baz=86,slow=8.8,SNR=4.2						
STKA	**Stephens Creek**	**54.71**	**181**	P	P	04 22 12.5	-1.1
	2.3nm,1.0s,baz=0.0,slow=6.1,SNR=3.9						

*CSEM **27** 04:16:57.5±0.1, 3146N×4974E, h10km, ML2.2, Error ellipse: s-maj=3.1km s-min=2.2km az=117.0*
*KISR **27** 04:16:57.5, 3150N×4950E, h14km, ML2.2*
*THR **27** 04:16:57.5±0.3, 3126N×4956E, h44km±8km, ML2.6*
*ISCJB **27** 04:16:58.2±0.9, 3146N±005×4971E±007, h10km, Error ellipse: s-maj=9.2km s-min=6.5km az=11.3*

ISC 27 04:16:59.2±0.9, 3146N±005×4972E±008, h10km, n9, σ0°60/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.01**	**310**	*e*Pg	**Pg**	**04 17 17.7**	**-1.0**
SHGR				*e*Sg	**Sg**	**04 17 32.5**	**+0.6**
SHGR				AML	AML	04 17 35.3	
	comp=N,118nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.01**	**310**	*e*Pg	**Pg**	**04 17 17.7**	**-1.0**
	SNR=107						
SHGR				*e*Sg	**Sg**	**04 17 32.5**	**+0.7**
	SNR=107						
MIB	**Mutribah**	**2.63**	**232**	*e*P	**Pn**	**04 17 40.9**	**-0.9**
	baz=228						
MIB				AML	AML	04 18 25.1	
	comp=Z,13nm,0.4s,baz=228						
NASN	**Na'in**	**2.94**	**62**	*e*Pn	**Pn**	**04 17 46.4**	**+0.3**
NAY	**Al-Naaiem**	**3.07**	**225**	*e*P	**Pn**	**04 17 47.4**	**-0.4**
NAY				*e*S	**Sn**	**04 18 24.9**	**+0.3**
	comp=Z,3.8nm,0.3s						
NAY	**Al-Naaiem**	**3.07**	**225**	*e*P	**Pn**	**04 17 47.4**	**-0.4**
	baz=222						
NAY				*e*S	**Sn**	**04 18 24.9**	**+0.3**
	baz=222						
NAY				AML	AML	04 18 27.1	
	comp=Z,4.0nm,0.3s,baz=222						
ASAO	**Ashtian**	**3.09**	**5**	*e*Pn	**Pn**	**04 17 48.3**	**+0.3**
ASAO				AML	AML	04 18 42.8	
	comp=N,15nm,0.5s						
RDF	**Al-Radifah**	**3.15**	**217**	*e*P	**Pn**	**04 17 48.8**	**-0.1**
RDF				*e*S	**Sn**	**04 18 27.3**	**+0.8**
	comp=N,12nm,0.3s						
RDF	**Al-Radifah**	**3.15**	**217**	*e*P	**Pn**	**04 17 48.9**	**0.0**
	baz=214						
RDF				*e*S	**Sn**	**04 18 27.3**	**+0.8**
	baz=214						
RDF				AML	AML	04 18 33.0	
	comp=Z,12nm,0.3s,baz=214						

*NIED **27** 04:48:00, 3430N×13980E, h92km, Mw4.1 Best double couple: M0:1.73000×10^15 NP1:φs10.00000°, δ90.00000°, λ-79.00000°. NP2:φs101.00000°, δ11.00000°, λ-179.00000°.*
*ISCJB **27** 04:48:30.9±0.3, 3430N±004×13977E±006, h115km±2km, mb4.0/18, Error ellipse: s-maj=8.5km s-min=5.4km az=159.8*
*JMA **27** 04:48:31.9±0.1, 3433N×13983E, h104km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs94.00000°, δ31.00000°, λ-179.00000°. NP2:φs3.00000°, δ89.00000°, λ-59.00000°. Principal axes: T Plg37.0000°, Azm66.0000°; N Plg31.0000°, Azm182.0000°; P Plg38.0000°, Azm300.0000°;*
JMA Felt I J1.
*NEIC **27** 04:48:32.0, 3433N×13983E, h104km, mb4.4/5, After JMA.*
*IDC **27** 04:48:32.1±0.8, 3427N×13972E, h113km±8km, mb3.6/12, mb1 3.9/13, mb1mx3.8/22, mbtmp3.6/13, MS2.5/2, Ms1 2.5/2, ms1mx2.0/34, Error ellipse: s-maj=21.5km s-min=12.7km az=71.0*

ISC 27 04:48:31.9±0.3, 3430N±004×13979E±006, h109km±2km, n48, σ0°76/58, mb4.0/18, 5C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.33**	**225**	P	**Pn**	**04 48 47.3**	**-0.3**
JMY				S	**Sn**	**04 48 59.6**	**+0.2**
JIM2	**Oshima 3**	**0.51**	**325**	⇑P	**Pn**	**04 48 48.2**	**-0.5**
JIM2				S	**Sn**	**04 49 00.7**	**-0.6**
JKO	**Kozu shima**	**0.55**	**258**	P	**Pn**	**04 48 48.7**	**-0.3**
JKO				S	**Sn**	**04 49 00.7**	**-1.1**
BSO3	**Boso 3**	**0.78**	**50**	P	**Pn**	**04 48 50.7**	**-0.1**
BSO3				S	**Sn**	**04 49 06.6**	**+1.5**
JIZS	**Izushimoda**	**0.86**	**299**	⇑P	**Pn**	**04 48 51.6**	**0.0**
JIZS				S	**Sn**	**04 49 05.3**	**-1.1**
BSO1	**Boso 1**	**1.04**	**70**	⇓P	**Pn**	**04 48 52.7**	**-0.7**
JOD2	**Odawara 2**	**1.12**	**329**	⇑P	**Pn**	**04 48 54.1**	**-0.2**
JOD2				S	**Sn**	**04 49 10.5**	**-0.7**
JHJ	**Hachijo jima 2**	**1.18**	**180**	P	**Pn**	**04 48 55.5**	**+0.6**
	2μm,0.3s,baz=314,slow=0.9,SNR=381						
JHJ				S	**Sn**	**04 49 12.6**	**+0.2**
	594nm,0.3s,baz=75,slow=22,SNR=31						
JHJ2	**Mitsune**	**1.19**	**179**	⇓P	**Pn**	**04 48 55.4**	**+0.4**
JHJ2				S	**Sn**	**04 49 13.1**	**+0.6**
SHZ3	**Shizuoka 3**	**1.51**	**301**	⇑P	**Pn**	**04 48 59.3**	**+0.6**
SHZ3				S	**Sn**	**04 49 19.7**	**+0.6**
JYN	**Shimob**	**1.57**	**320**	P	**Pn**	**04 49 00.0**	**+0.5**
TK04	**Tokai 4**	**1.59**	**274**	⇑P	**Pn**	**04 49 00.6**	**+1.0**
JRY	**Ryogami san**	**1.86**	**337**	⇓P	**Pn**	**04 49 03.4**	**+0.4**
TK01	**Tokai 1**	**1.90**	**254**	P	**Pn**	**04 49 03.8**	**+0.2**
JAG	**Ashikaga**	**2.14**	**353**	⇓P	**Pn**	**04 49 05.9**	**-0.6**
MJAR	**Matsushiro Arr**	**2.58**	**330**	P	**Pn**	**04 49 12.5**	**+0.2**
	40nm,0.3s,baz=153,slow=12,SNR=244						
MJAR				S	**Sn**	**04 49 39.6**	**-3.7**
	14nm,0.3s,baz=141,slow=18,SNR=12						
MAJO	**Matsushiro**	**2.58**	**330**	*e*Pn	**Pn**	**04 49 12.6**	**+0.3**
MAT	**Matsushiro**	**2.58**	**330**	P	**Pn**	**04 49 13.7**	**+1.4**
MAT				S	**Sn**	**04 49 43.2**	**-0.2**
CBIJ	**Chichi jima**	**7.47**	**163**	P	**Pn**	**04 50 15.3**	**-2.9**
	6.6nm,0.3s,baz=100,slow=23,SNR=4.3						
CBIJ				S	**Sn**	**04 51 32.6**	**-8.8**
	14nm,0.3s,baz=244,slow=24,SNR=4.2						
ASAJ	**Asahikawa**	**10.04**	**12**	S	**Sn**	**04 52 35.6**	**-7.9**
	1.2nm,0.3s,baz=77,slow=32,SNR=2.2						
ASAJ				LR	LR	04 55 25.1	
	comp=Z,32nm,20.1s,baz=134,slow=41						
KSRS	**Korea Array**	**10.13**	**291**	P	**Pn**	**04 50 57.1**	**+2.9**
	0.5nm,0.3s,baz=108,slow=14,SNR=15						
KSRS				LR	LR	04 54 03.6	
	comp=Z,29nm,21.5s,baz=90,slow=33						
SONM	**Songino Array**	**28.33**	**309**	P	**P**	**04 54 15.3**	**+0.1**
	1.1nm,0.5s,mb3.6,baz=108,slow=8.7,SNR=8.0						
MKAR	**Makanchi Array**	**44.50**	**304**	P	**P**	**04 56 31.8**	**-0.5**
	5.0nm,0.6s,mb4.4,baz=86,slow=11,SNR=58						
MKAR	**Makanchi Array**	**44.50**	**304**	P	**P**	**04 56 31.8**	**-0.5**
KURK	**Kurchatov**	**46.62**	**310**	*e*P	**P**	**04 56 48.0**	**-0.8**
	11nm,0.7s,mb4.7						
TKM2	**Tokmak 2**	**49.81**	**300**	P	**P**	**04 57 13.8**	**+0.4**
	SNR=9.9						
TKM2	**Tokmak 2**	**49.81**	**300**	*e*P	**P**	**04 57 13.7**	**+0.2**
	3.5nm,0.5s,mb4.5						
KBK	**Karagaybulak**	**50.33**	**300**	P	**P**	**04 57 17.7**	**+0.3**
	SNR=6.1						
USP	**Ospenovka**	**50.51**	**301**	P	**P**	**04 57 18.4**	**-0.4**
	SNR=5.4						
UCH	**Uchtor**	**50.74**	**299**	P	**P**	**04 57 21.6**	**+1.1**
	SNR=5.4						
UCH	**Uchtor**	**50.74**	**299**	*e*P	**P**	**04 57 21.4**	**+0.8**
	2.6nm,0.7s,mb4.4						
EKS2	**Erkin-Say**	**51.17**	**300**	*e*P	**P**	**04 57 23.6**	**-0.1**
	3.1nm,0.8s,mb4.4						
AML	**Almayashu**	**51.36**	**299**	P	**P**	**04 57 25.9**	**+0.8**
	SNR=19						
WRA	**Warramunga Arr**	**54.19**	**186**	P	**P**	**04 57 45.2**	**-0.9**
	1.6nm,0.6s,mb4.2,baz=2.7,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**57.92**	**186**	P	**P**	**04 58 12.7**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=20,slow=8.9,SNR=2.3						
ARCES	**ARCESS Array B**	**66.08**	**339**	P	**P**	**04 59 06.6**	**0.0**
	0.8nm,0.5s,mb3.8,baz=52,slow=7.7,SNR=11						
YKA	**Yellowknife Ar**	**66.83**	**29**	P	**P**	**04 59 11.3**	**-0.2**
	0.4nm,0.6s,mb3.4,baz=301,slow=6.8,SNR=3.5						
JOF	**Joensuu**	**67.75**	**332**	*ep*	**P**	**04 59 16.4**	**-0.9**
	4.4nm,0.4s,mb4.6						
KAF	**Kangasniemi**	**70.12**	**333**	*ep*	**P**	**04 59 31.3**	**-0.7**
	1.8nm,0.4s,mb4.2						
AKASG	**Malin Array Be**	**75.64**	**322**	P	**P**	**05 00 04.0**	**-0.7**
	1.6nm,0.3s,mb4.2,baz=50,slow=5.6,SNR=9.0						
NB2	**NORSAR Subarra**	**76.18**	**337**	P	**P**	**05 00 07.3**	**-0.3**
	comp=Z,1.6nm,0.8s,mb3.8,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**76.18**	**337**	P	**P**	**05 00 07.7**	**0.0**
	comp=Z,2.5nm,0.8s,mb4.0,baz=41,slow=5.8,SNR=7.0						
NVAR	**Mina Array Bea**	**77.70**	**52**	P	**P**	**05 00 16.0**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.4,baz=282,slow=6.6,SNR=5.8						
PDAR	**Pinedale Array**	**80.53**	**44**	P	**P**	**05 00 32.9**	**+0.9**
	comp=Z,0.3nm,0.6s,mb3.3,baz=270,slow=1.8,SNR=2.6						
GERES	**GERESS Array B**	**84.32**	**328**	P	**P**	**05 00 51.3**	**-0.2**
	comp=Z,1.1nm,0.6s,mb3.9,baz=35,slow=4.9,SNR=11						
TXAR	**Lajitas Array**	**92.84**	**51**	P	**P**	**05 01 33.6**	**+1.1**
	comp=Z,0.5nm,0.8s,mb3.9,baz=292,slow=3.9,SNR=6.6						
TORD	**Torodi Ar. Bea**	**118.25**	**312**	PKP	PKPdf	05 07 05.8	-1.1
	comp=Z,0.4nm,0.8s,baz=47,slow=0.7,SNR=4.1						
LPAZ	**La Paz**	**149.19**	**61**	PKPbc	PKPbc	05 08 08.8	+0.8
	comp=Z,0.5nm,0.5s,baz=270,slow=3.0,SNR=2.7						

IDC 27 04:52:27.1±2.0, 709S×14808E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, ML4.0/2, Error ellipse: s-maj=54.1km s-min=27.2km az=99.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.04**	**188**	Pn	Pn	04 55 34.2	+0.4
	0.5nm,0.3s,baz=347,slow=16,SNR=2.8						
WRA	**Warramunga Arr**	**18.46**	**225**	P	Pn	04 56 44.6	-0.1
	0.4nm,0.3s,baz=53,slow=11,SNR=33						
ASAR	**Alice Springs**	**21.38**	**218**	P	P	04 57 16.6	+0.2
	1.9nm,0.5s,baz=56,slow=9.1,SNR=29						
FITZ	**Fitzroy Crossi**	**24.45**	**241**	P	P	04 57 46.4	-1.4
	1.2nm,0.4s,baz=48,slow=11,SNR=16						
STKA	**Stephens Creek**	**25.40**	**193**	P	P	04 57 57.1	+0.8
	1.3nm,0.4s,baz=11,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**79.01**	**320**	P	P	05 04 32.6	-0.4
	0.1nm,0.5s,baz=100,slow=9.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**146.38**	**283**	PKPbc	PKPbc	05 12 11.4	+0.3
	0.1nm,0.3s,baz=82,slow=3.6,SNR=7.6						

*SZGRF **27** 05:37:00.5, 2698S×17928E, h33km, South of Fiji Islands*
*DJA **27** 05:37:48, 2586S×17982E, h397km, mB5.9/4*
*BJI **27** 05:37:56.9, 2570S×17960E, h497km, mB4.8, mb4.9*
*BGS **27** 05:37:56.9±1.5, 2573S×17961E, h497km, mb5.3(NEIC)*
*MOS **27** 05:37:56.0±0.9, 2549S×17955E, h483km, mb5.4/31, Error ellipse: s-maj=9.5km s-min=7.9km az=61.4*
*NEIC **27** 05:37:57.0±0.5, 2573S×17961E, h497km±5km, mb5.3/83, Error ellipse: s-maj=5.6km s-min=3.6km az=147.0*
*IDC **27** 05:37:56.5±0.4, 2571S×17960E, h490km±4km, mb4.8/32, mb1 4.8/34, mb1mx4.8/35, mbtmp4.7/34, Error ellipse: s-maj=7.1km s-min=6.3km az=17.0*
*ISCJB **27** 05:37:56.5±0.6, 2573S±004×17955E±003, h498km±6km, mb5.1/125, Error ellipse: s-maj=6.7km s-min=3.7km az=161.0*
*GCMT **27** 05:37:57.0±0.2, 2586S×17970E, h505km±1km, MW5.4/75, Moment Tensor Solution. s75,c125; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr1.19±.03; Mθθ-0.14±.05; Mφφ-1.05±.05; Mrθ0.33±.05; Mrφ-0.49±.04; Mθφ-0.85±.05; Best double couple: M0:1.52200×10^17 NP1:φs43.00000°, δ35.00000°, λ127.00000°. NP2: φs181.00000°, δ63.00000°, λ68.00000°. Principal axes: T 1.6020, Plg65.0000°, Azm52.0000°; N -0.1550, Plg20.0000°, Azm191.0000°; P -1.4420, Plg15.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s.*

ISC 27 05:37:57.6±0.5, 2572S±004×17959E±003, h499km±6km, h488km±2.5km: pP-P, n1156, σ0°66/712, mb5.1/124, 261C-223D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.16**	**148**	P	**P**	**05 39 15.6**	**-1.5**
	1μm,0.3s,baz=90,slow=11,SNR=34						
RAO				S	**S**	**05 40 22.8**	**+0.8**
	600nm,0.3s,baz=108,slow=22,SNR=9.2						
RAO	**Raoul Island**	**4.16**	**148**	*e*Pn	**P**	**05 39 17.0**	**-0.1**
DZM	**Mont Dzumac**	**12.56**	**284**	*e*P	**P**	**05 40 43.7**	**+1.6**
DZM	**Mont Dzumac**	**12.56**	**284**	*e*P	**P**	**05 40 43.6**	**+1.5**
URZ	**Urewera**	**12.68**	**189**	P	**P**	**05 40 40.6**	**-2.6**
	11nm,0.3s,baz=48,slow=1.6,SNR=43						
URZ				S	**S**	**05 42 53.5**	**-6.1**
	6.0nm,0.3s,baz=273,slow=14,SNR=3.2						
URZ				ScP	ScP	05 48 22.5	-0.7
	0.8nm,0.3s,baz=322,slow=21,SNR=5.2						
AFI	**Afiamalu**	**14.28**	**36**	P	**P**	**05 40 54.4**	**-6.0**
	33nm,0.3s,baz=34,slow=4.9,SNR=28						
AFI				S	**S**	**05 43 19.0**	**-12**
	15nm,0.3s,baz=49,slow=20,SNR=9.5						
AFI	**Afiamalu**	**14.28**	**36**	*e*P	**P**	**05 40 54.3**	**-6.1**
AFI				S	**S**	**05 43 21.5**	**-10**
AFI				pmax	pmax		
	comp=Z,355nm,0.8s						
AFI	**Afiamalu**	**14.28**	**36**	*e*P	**P**	**05 40 54.3**	**-6.1**
	comp=Z,355nm,0.8s						
AFI				S	**S**	**05 43 21.5**	**-10**
SNZO	**South Karori**	**16.07**	**193**	*e*P	**P**	**05 41 15.7**	**-3.0**
	comp=Z,67nm,0.8s						
SNZO				S	**S**	**05 43 55.5**	**-9.1**
RPZ	**Rata Peaks**	**19.25**	**199**	P	**P**	**05 41 47.4**	**-1.8**
	comp=Z,9.4nm,0.3s,baz=306,slow=1.0,SNR=33						
RPZ				S	**S**	**05 44 52.0**	**-5.8**
	comp=Z,1.7nm,0.3s,baz=53,slow=12,SNR=2.3						
RPZ	**Rata Peaks**	**19.25**	**199**	P	**P**	**05 41 47.4**	**-1.8**
RPZ				S	**S**	**05 44 52.0**	**-5.8**
HNR	**Honiara**	**24.70**	**307**	P	**P**	**05 42 36.6**	**

comp=Z,126nm,0.6s,mb5.5,baz=95,slow=8.5,SNR=773
ASAR ScP ScP 05 49 50.6 +1.9
comp=Z,6.0nm,0.8s,baz=115,slow=4.1,SNR=6.5
ASAR S **S** **05 50 37.7 -0.7**
comp=Z,16nm,0.7s,baz=101,slow=17,SNR=16
WB2 Warramunga Arr 41.93 268 ⇓*i*P **P** **05 45 03.5 -0.6**
WB2 *e*S **S** **05 50 43.6 -2.6**
WRAB Tennant Creek 41.94 268 P **P** **05 45 03.0 -1.2**
comp=Z,2μm,0.7s,SNR=90
WRAB Tennant Creek 41.94 268 *d iP* **P** **05 45 03.5 -0.7**
WRAB Tennant Creek 41.94 268 *e*P **P** **05 45 03.6 -0.6**
comp=Z,225nm,0.8s,mb5.7
WRAB *e*S **S** **05 50 46.1 -0.1**
WRA Warramunga Arr 41.94 268 P **P** **05 45 03.9 -0.3**
comp=Z,136nm,0.4s,mb5.8,baz=99,slow=7.2,SNR=1755
WRA ScP ScP 05 49 53.7 +2.7
comp=Z,6.3nm,0.7s,baz=102,slow=4.3,SNR=7.9
WRA S **S** **05 50 45.3 -1.0**
comp=Z,48nm,1.0s,baz=100,slow=15,SNR=23
WRA PKiKP PKiKP 05 53 50.5 -2.2
comp=Z,1.4nm,0.6s,baz=85,slow=0.1,SNR=8.9
WRA Warramunga Arr 41.94 268 P **P** **05 45 03.9 -0.3**
WRA ScP ScP 05 49 53.7 +2.7
WRA S **S** **05 50 45.3 -1.0**
FORT Forrest 45.35 251 *e*P **P** **05 45 29.3 -1.3**
comp=Z,329nm,0.6s,mb5.9
FORT *e*SCP ScP 05 50 06.8 +2.0
FORT *e*S **S** **05 51 32.8 -1.8**
KAKA Kakadu 46.13 277 ⇓*i*P **P** **05 45 35.6 -1.2**
comp=Z,260nm,0.5s,mb5.9
KAKA *e*SCP ScP 05 50 10.8 +2.5
KAKA *e*S **S** **05 51 43.8 -2.1**
FITZ Fitzroy Crossi 50.34 267 ⇓*i*P **P** **05 46 07.9 -0.3**
comp=Z,301nm,0.8s,mb5.7
FITZ *e*S **S** **05 52 43.4 -0.4**
FITZ Fitzroy Crossi 50.34 267 P **P** **05 46 07.9 -0.3**
comp=Z,162nm,0.8s,mb5.4,baz=113,slow=10.0,SNR=295
FITZ S **S** **05 52 44.5 +0.7**
comp=Z,3.1nm,0.8s,baz=262,slow=20,SNR=8.7
KHU Kahuku 50.78 31 *e*P **P** **05 46 11.8 +0.4**
STCH Steam Cracks 51.13 31 *e*P **P** **05 46 13.2 -0.7**
POHA Pohakuloa 51.27 31 *e*P **P** **05 46 14.3 -0.6**
comp=Z,222nm,0.9s,mb5.5
HON Honolulu 51.58 27 *e*P **P** **05 46 16.4 -0.7**
GUMO Guam 51.67 315 P **P** **05 46 16.6 -1.3**
comp=Z,130nm,0.8s,mb5.3,baz=157,slow=6.2,SNR=12
GUMO ScP ScP 05 50 32.8 +1.0
comp=Z,14nm,0.3s,baz=6.7,slow=22,SNR=3.0
GUMO Guam 51.67 315 *e*P **P** **05 46 17.5 -0.4**
GUMO pmax pmax
comp=Z,153nm,0.9s,mb5.3
GUMO Guam 51.67 315 *e*P **P** **05 46 17.5 -0.4**
comp=Z,153nm,0.9s,mb5.3
HKL Haleakala 51.77 29 *e*P **P** **05 46 18.4 -0.1**
SBA Scott Base 52.55 183 *e*P **P** **05 46 25.7 +2.4**
SBA pmax pmax
comp=Z,260nm,1.0s,mb5.5
SBA Scott Base 52.55 183 *e*P **P** **05 46 25.6 +2.3**
comp=Z,26nm,1.0s,mb4.5
KLBR Kellerberrin 53.96 248 *e*P **P** **05 46 32.9 -1.2**
comp=Z,33nm,0.8s,mb4.7
NWAO Narrogin (SRO) 54.16 247 P **P** **05 46 34.3 -1.2**
comp=Z,20nm,0.9s,mb4.4,baz=96,slow=3.1,SNR=7.2
MBWA Marble Bar 54.71 261 *e*P **P** **05 46 38.6 -1.0**
comp=Z,32nm,0.6s,mb4.8
BATI Baumata 55.00 276 P **P** **05 46 42.9 +1.1**
comp=Z,134nm,0.6s,mb5.5,baz=230,slow=1.5,SNR=14
CASY Casey 58.32 206 *e*P **P** **05 47 02.5 -1.2**
CBIJ Chichi jima 63.69 323 P **P** **05 47 39.1 -0.5**
comp=Z,20nm,0.4s,mb5.0,baz=281,slow=22,SNR=5.0
CBIJ S **S** **05 55 34.5 -0.3**
comp=Z,5.4nm,0.3s,baz=286,slow=23,SNR=2.1
QSPA South Pole Qui 64.37 180 P **P** **05 47 43.8 +0.6**
comp=Z,64nm,0.7s,mb5.3,baz=28,slow=1.6,SNR=323
QSPA pP pP 05 49 24.2 -1.3
comp=Z,5.3nm,0.6s,baz=25,slow=7.1,SNR=1.8
QSPA S **S** **05 55 44.0 +2.3**
comp=Z,1.4nm,1.0s,baz=181,slow=20,SNR=12
QSPA PKP2bc 06 16 28.3
comp=Z,6.6nm,1.0s,baz=263,slow=4.9,SNR=5.1
QSPA South Pole Qui 64.37 180 P **P** **05 47 43.8 +0.6**
QSPA pP pP 05 49 24.2 -1.3
QSPA S **S** **05 55 44.0 +2.3**
QSPA ⇑*e* 06 16 28.3
MIR Mirnyy 65.35 206 *e*P **P** **05 47 49.0 -0.6**
MIR pmax pmax
comp=Z,100nm,1.0s,mb5.4
TSM Tawau 66.78 287 ⇓P **P** **05 48 01.3 +1.9**
SDKM Sandakan 68.04 288 ⇓P **P** **05 48 08.3 +1.1**
KKM Kota Kinabalu 69.09 288 ⇑P **P** **05 48 15.3 +1.7**
JHJ Hachijo jima 2 69.70 325 P **P** **05 48 15.8 -1.0**
comp=Z,69nm,0.6s,mb5.3,baz=183,slow=11,SNR=7.5
BTM Bintulu 70.42 284 ⇓P **P** **05 48 23.3 +1.8**
SBUM Sibu 70.82 282 ⇓P **P** **05 48 25.3 +1.4**
KSM Kuching 72.06 281 *e*P **P** **05 48 30.9 -0.2**
MJAR Matsushiro Arr 73.19 326 P **P** **05 48 36.5 -0.7**
comp=Z,41nm,0.8s,mb5.0,baz=159,slow=5.6,SNR=67
MJAR S S 05 57 25.0 +0.4
comp=Z,0.8nm,0.3s,baz=356,slow=15,SNR=2.7
MAJO Matsushiro 73.19 326 *e*P **P** **05 48 36.7 -0.4**
MAJO pmax pmax
comp=Z,50nm,0.8s,mb5.1
MAJO Matsushiro 73.19 326 *e*P **P** **05 48 36.7 -0.5**
comp=Z,50nm,0.8s,mb5.1
MAT Matsushiro 73.19 326 P **P** **05 48 37.4 +0.3**
MAT S S 05 57 22.0 -2.6
MAW Mawson 75.92 201 P **P** **05 48 51.9 -0.3**
comp=Z,14nm,0.7s,mb4.6,baz=129,slow=6.9,SNR=37
MAW pP pP 05 50 37.7 -1.1
comp=Z,7.0nm,0.9s,baz=77,slow=6.3,SNR=4.4
AMKA Amchitka 76.76 360 *e*P **P** **05 48 55.8 -1.0**
ASAJ Asahikawa 77.32 334 P **P** **05 49 00.9 +0.9**
comp=Z,37nm,0.8s,mb5.0,baz=218,slow=8.1,SNR=22
ASAJ S S 05 58 14.2 +5.3
comp=Z,2.6nm,0.3s,baz=129,slow=32,SNR=2.1
ADK Adak 77.33 2 *e*P **P** **05 48 59.0 -0.9**
ADK pmax pmax
comp=Z,196nm,0.8s,mb5.7
ADK Adak 77.33 2 *e*P **P** **05 48 59.0 -1.0**
comp=Z,196nm,0.8s,mb5.7
PMSA Palmer Station 77.39 157 P **P** **05 49 00.3 +0.1**
comp=Z,26nm,0.8s,mb4.8,baz=204,slow=7.1,SNR=8.7
MYKOM Kota Tinggi 77.95 278 ⇓P **P** **05 49 04.5 +0.3**
KGM Kluang 78.53 278 ⇑P **P** **05 49 08.5 +1.2**
KSRS Korea Array 79.40 321 P **P** **05 49 11.9 +0.6**
comp=Z,22nm,0.7s,mb4.8,baz=136,slow=5.7,SNR=78
KSRS S S 05 58 30.8 -0.2
comp=Z,0.7nm,0.6s,baz=245,slow=23,SNR=3.4
SSE Sheshan 79.42 312 *e*P **P** **05 49 12.0 +0.4**
SSE PCP PcP 05 49 19.0 +1.3
SSE AP pP 05 50 58.0 -1.6
SSE PP PP 05 52 20.0 -1.0
SSE S S 05 58 30.0 -1.5
SSE SCS ScS 05 58 48.3 -0.7
SSE XS sS 06 01 40.3 -3.7
SSE AMB AMB
comp=Z,35nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,56nm,5.1s
YSS Yuzh-Sakhalins 79.62 335 *e*P **P** **05 49 12.5 +0.2**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 79.62 335 ⇑*i*P **P** **05 49 13.0 +0.7**
UNV Unalaska Valle 80.14 8 *e*P **P** **05 49 13.7 -1.2**
comp=Z,82nm,0.8s,mb5.3
KTGM Kuala Trenggan 80.18 281 ⇓P **P** **05 49 17.4 +1.3**
PET Petropavlovsk 80.50 347 *e*P **P** **05 49 16.3 -0.5**
PET *e**SP sP 05 51 54.0 -2.4
PET *e*S S 05 58 40.2 -1.5
PET pmax pmax
comp=Z,52nm,0.7s,mb5.2
PET Petropavlovsk 80.50 347 ⇑*i*P **P** **05 49 16.3 -0.5**
PEA0B Petropavlovsk- 80.78 347 *e*P **P** **05 49 17.9 -0.3**
PETK Petropavlovsk- 80.78 347 P **P** **05 49 17.9 -0.3**
comp=Z,66nm,0.8s,mb5.2,baz=124,slow=6.8,SNR=62
USHA Ushuaia 80.98 147 P **P** **05 49 19.8 +0.3**
comp=Z,22nm,0.9s,mb4.7,baz=283,slow=4.0,SNR=7.0
QIZ Qiongzhong 81.05 296 P **P** **05 49 21.0 +0.6**
QIZ S S 05 58 47.8 -0.9
QIZ AMB AMB
comp=Z,7.0nm,1.4s,mb4.0
QIZ AMB AMB
comp=Z,42nm,6.7s
SYO Syowa Base 81.16 194 ⇓*i*P **P** **05 49 17.4 -2.8**
SYO Syowa Base 81.16 194 ⇓*i*X 05 49 20.0

VLA Vladivostok 81.34 327 *e*P **P** **05 49 21.6 +0.3**
VLA pmax pmax
comp=Z,25nm,0.7s,mb4.8
VLA Vladivostok 81.34 327 ⇑*i*P **P** **05 49 21.3 0.0**
IPM Ipoh 81.67 279 ⇓P **P** **05 49 24.4 +0.6**
KULM Kulim 82.36 280 ⇑P **P** **05 49 28.5 +1.2**
SDPT Sand Point 82.53 11 *e*P **P** **05 49 26.5 -0.6**
comp=Z,234nm,1.8s,mb5.4
BSC Santa Cruz Isl 82.78 47 ⇓P **P** **05 49 29.2 +0.2**
baz=83,SNR=5.5
SNAA Sanae 82.86 179 *e*P **P** **05 49 27.5 -1.3**
SNAA *e* 05 49 31.3
SNAA Sanae 82.86 179 *e*P **P** **05 49 27.6 -1.2**
SNAA *PP pP 05 51 17.2 -0.6
SNAA pmax pmax
comp=Z,26nm,0.8s
SNAA Sanae 82.86 179 *e*P **P** **05 49 27.6 -1.1**
comp=Z,26nm,0.8s,mb4.8
SNAA pP pP 05 51 17.2 -0.6
SCI San Clemente I 82.89 48 ⇑P **P** **05 49 29.8 +0.3**
baz=83
FARB Farallon Islan 82.96 42 ⇑P **P** **05 49 29.7 0.0**
baz=83,SNR=8.5
V04C Ramage Ranch, 82.99 45 ⇓P **P** **05 49 30.2 +0.2**
baz=83,SNR=21
V03C Hunter Liggett 82.99 45 ⇓P **P** **05 49 30.4 +0.4**
baz=83,SNR=18
SBC Santa Barbara 83.00 47 ⇓P **P** **05 49 30.1 +0.1**
baz=83
HAST Hastings Reser 83.02 44 ⇑P **P** **05 49 30.4 +0.3**
baz=83,SNR=41
VNA3 Neumayer Olymp 83.09 177 *e*P **P** **05 49 28.9 -1.0**
BNLO Ben Lomond (Sa 83.11 43 ⇓P **P** **05 49 30.6 +0.1**
baz=83,SNR=12
PKM Peak Mountain 83.21 46 ⇓P **P** **05 49 31.6 +0.5**
baz=83,SNR=17
BLG Laguna Peak 83.23 47 ⇑P **P** **05 49 31.7 +0.5**
baz=83
JRSC Jasper Ridge 83.24 43 ⇑P **P** **05 49 31.2 +0.1**
baz=83,SNR=6.1
CIS Catalina Islan 83.25 48 ⇓P **P** **05 49 31.1 -0.2**
baz=83
MCCM Marconi Confer 83.32 42 ⇑P **P** **05 49 32.3 +0.8**
baz=84
MCCM Marconi Confer 83.32 42 *e*P **P** **05 49 31.2 -0.3**
comp=Z,77nm,0.9s,mb5.2
SAO San Andreas Ge 83.33 44 *e*P **P** **05 49 31.8 +0.2**
SAO pmax pmax
comp=Z,57nm,0.9s,mb5.1
SAO San Andreas Ge 83.33 44 *e*P **P** **05 49 31.8 +0.2**
comp=Z,57nm,0.9s,mb5.1
SMMC Simmler 83.34 46 ⇑P **P** **05 49 32.2 +0.5**
baz=84,SNR=15
PKD Parkfield 83.39 45 ⇑P **P** **05 49 32.0 0.0**
baz=84,SNR=40
MAIT Maitri 83.39 184 *e*P **P** **05 49 28.6 -2.8**
PTRM Twissleman Ran 83.42 45 *e*P **P** **05 49 32.7 +0.6**
U04C Hernandez Rese 83.49 45 ⇓P **P** **05 49 33.1 +0.7**
baz=84,SNR=55
VNA2 Neumayer--Watz 83.50 178 *e*P **P** **05 49 31.8 -0.2**
VNA2 *e* 05 49 35.1
FMP Fort Macarthur 83.50 48 ⇓P **P** **05 49 32.6 0.0**
baz=84
MDJ Mudanjiang 83.57 327 P **P** **05 49 33.3 +0.7**
MDJ AP pP 05 51 18.5 -3.5
MDJ XP sP 05 52 08.5 -4.5
MDJ PP PP 05 52 53.3 -1.2
MDJ S S 05 59 06.3 -6.4
MDJ SS SS 06 04 54.0 0.0
MDJ AMB AMB
comp=Z,38nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,80nm,3.8s
MDJ Mudanjiang 83.57 327 *e*P **P** **05 49 33.2 +0.6**
comp=Z,35nm,1.0s,mb4.8
PACP Pacheco Peak 83.58 44 ⇓P **P** **05 49 33.4 +0.5**
baz=84,SNR=40
WENL Wente Brothers 83.67 43 ⇓P **P** **05 49 33.7 +0.4**
baz=84,SNR=5.1
CVS Carmenet Viney 83.70 42 ⇑P **P** **05 49 33.4 -0.1**
baz=84,SNR=15
VNA1 Neumayer--Stat 83.74 177 *e*P **P** **05 49 33.0 -0.2**
V05C Boulder Hill, 83.75 45 ⇓P **P** **05 49 34.5 +0.8**
baz=84,SNR=5.7
HOPS Hopland 83.75 41 ⇓P **P** **05 49 33.9 +0.3**
baz=84,SNR=7.9
HOPS Hopland 83.75 41 *e*P **P** **05 49 33.9 +0.2**
comp=Z,110nm,1.0s,mb5.3
DECC Green Verdugo 83.80 47 ⇓P **P** **05 49 33.8 -0.3**
baz=84,SNR=8.1
WHN Wuhan 83.81 308 *e*P **P** **05 49 35.0 +0.8**
BDM Black Diamond 83.81 43 ⇑P **P** **05 49 34.3 +0.3**
baz=84
109C Camp Elliot, M 83.82 49 ⇑P **P** **05 49 34.0 -0.2**
baz=84,SNR=12
S04C Ingram Canyon, 83.86 43 ⇑P **P** **05 49 34.5 +0.3**
baz=84,SNR=31
T05C Eagle Field, D 83.89 44 ⇓P **P** **05 49 35.0 +0.6**
baz=84
U05C Westside ANR, 83.90 45 ⇑P **P** **05 49 34.9 +0.4**
baz=84
KCPM Cahto Peak 83.90 41 *e*P **P** **05 49 35.3 +1.0**
P01C Double 8 Ranch 83.90 41 ⇑P **P** **05 49 34.6 +0.2**
baz=84
LPIG La Paz 83.96 60 P **P** **05 49 35.2 +0.2**
comp=Z,61nm,0.9s,mb5.1,baz=70,slow=1.3,SNR=7.0
ARVC Arvin 83.99 46 ⇓P **P** **05 49 35.0 0.0**
baz=84,SNR=19
BAR Barrett 83.99 50 *e*P **P** **05 49 35.0 -0.1**
comp=Z,33nm,1.2s,mb4.7
KIPM Iron Peak 84.04 40 *e*P **P** **05 49 35.7 +0.6**
MNRC McLaughlin Nat 84.05 42 ⇑P **P** **05 49 35.7 +0.5**
baz=84,SNR=31
O01C Eel River Cons 84.05 40 ⇓P **P** **05 49 35.8 +0.7**
baz=84,SNR=13
Q03C Winters 84.16 42 ⇑P **P** **05 49 36.5 +0.9**
baz=84,SNR=20
MURC Murrieta 84.17 48 ⇑P **P** **05 49 36.1 +0.2**
baz=84,SNR=24
BFSC Mount Baldy St 84.24 48 ⇑P **P** **05 49 36.0 -0.2**
baz=84,SNR=22
VES Vestal, Richgr 84.26 46 ⇑P **P** **05 49 35.8 -0.4**
baz=84,SNR=34
MONP Monument Peak 84.29 49 ⇑P **P** **05 49 37.0 +0.5**
baz=84,SNR=44
DVTC Desert V Tower 84.38 50 ⇑P **P** **05 49 37.4 +0.5**
baz=84,SNR=25
JCC Jacoby Creek 84.38 39 ⇓P **P** **05 49 37.3 +0.6**
baz=85
S05C Merced 84.39 44 ⇓P **P** **05 49 36.6 -0.3**
baz=85,SNR=26
GASB Alder Springs 84.39 41 ⇓P **P** **05 49 37.9 +1.1**
baz=85,SNR=36
EDW2 Edwards Air Fo 84.40 47 ⇑P **P** **05 49 36.9 -0.1**
baz=85,SNR=62
RCTC Rector, Farmer 84.44 45 ⇑P **P** **05 49 36.5 -0.7**
baz=85,SNR=8.7
T06C Milleton Lake 84.57 45 ⇑P **P** **05 49 37.5 -0.2**
baz=85,SNR=86
R04C Big Horse Ranc 84.58 43 ⇑P **P** **05 49 37.1 -0.7**
baz=85
SUTB Sutter Butte 84.67 42 ⇑P **P** **05 49 37.7 -0.5**
baz=85,SNR=21
Q04C Lincoln 84.67 42 ⇓P **P** **05 49 38.1 -0.2**
baz=85,SNR=14
O02C Red Bluff 84.68 41 ⇓P **P** **05 49 39.1 +0.8**
baz=85,SNR=58
PFO Pinyon Flat Ob 84.68 49 P **P** **05 49 38.0 -0.4**
comp=Z,244nm,0.9s,mb5.8,SNR=19
PFO Pinyon Flat Ob 84.68 49 *e*P **P** **05 49 38.3 -0.1**
PFO pmax pmax
comp=Z,41nm,0.9s,mb5.1
PFO Pinyon Flat Ob 84.68 49 ⇓P **P** **05 49 38.5 +0.1**
baz=85,SNR=26
PFO Pinyon Flat Ob 84.68 49 *e*P **P** **05 49 38.3 -0.1**
comp=Z,41nm,0.9s,mb5.1
BBRC Big Bear Sol-O 84.75 48 ⇑P **P** **05 49 38.9 +0.2**
baz=85
SWSC Sam W. Stewart 84.75 50 ⇓P **P** **05 49 38.9 +0.2**
baz=85,SNR=30
CMB Columbia Colle 84.78 43 *e*P **P** **05 49 38.4 -0.4**
CMB pmax pmax
comp=Z,61nm,0.9s,mb5.2
CMB Columbia Colle 84.78 43 ⇑P **P** **05 49 38.4 -0.3**
baz=85,SNR=98
CMB Columbia Colle 84.78 43 *e*P **P** **05 49 38.4 -0.4**
comp=Z,61nm,0.9s,mb5.2

N02C Big Bar 84.80 40 ⇑P **P** **05 49 39.0 +0.2**
baz=85,SNR=18
HELL Mitchell Peak 84.81 45 ⇓P **P** **05 49 38.4 -0.5**
baz=85,SNR=46
KRMB Red Mountain 84.91 39 *e*P **P** **05 49 40.5 +1.2**
OHCM Honcut 84.92 42 *e*P **P** **05 49 38.9 -0.5**
LRMC Laurel Mountai 84.95 47 ⇓P **P** **05 49 39.5 -0.1**
baz=85,SNR=19
M01C Crescent City 85.00 39 ⇑P **P** **05 49 40.5 +0.7**
baz=85
LAVA Lava Cap Winer 85.01 43 ⇑P **P** **05 49 39.5 -0.4**
baz=85,SNR=47
KCC Kaiser Creek 85.01 44 ⇑P **P** **05 49 39.8 -0.1**
baz=85,SNR=32
O03C Acorn Hollow, 85.01 41 ⇑P **P** **05 49 39.8 -0.1**
baz=85,SNR=8.4
S06C San Francisco 85.02 44 ⇑P **P** **05 49 39.6 -0.3**
baz=85,SNR=35
ORV Oroville 85.05 42 ⇓P **P** **05 49 39.9 -0.1**
baz=85,SNR=39
RRX Edison Barstow 85.05 48 ⇓P **P** **05 49 40.1 -0.1**
baz=85
WDC Whiskeytown Da 85.08 40 *e*P **P** **05 49 40.3 +0.1**
WDC pmax pmax
comp=Z,70nm,0.9s,mb5.3
WDC Whiskeytown Da 85.08 40 ⇑P **P** **05 49 40.3 +0.1**
baz=85,SNR=32
WDC Whiskeytown Da 85.08 40 *e*P **P** **05 49 40.3 +0.1**
comp=Z,70nm,0.9s,mb5.3
CN2 Changchun 85.13 324 *e*P **P** **05 49 40.5 +0.2**
CN2 *e*AP pP 05 51 27.3 -2.9
CN2 *e*PP PP 05 53 08.0 +1.0
CN2 *e*S S 05 59 30.5 +2.6
CN2 *e*SS SS 06 05 22.5 +5.7
CN2 AMB AMB
comp=Z,90nm,0.8s,mb5.5
CN2 AMB AMB
comp=Z,200nm,3.0s
TIA Tai'an 85.21 314 *e*P **P** **05 49 41.5 +0.6**
BELC Belle Mtn. 85.22 49 ⇓P **P** **05 49 41.4 +0.4**
baz=85,SNR=63
CWC Cottonwood Cre 85.27 46 ⇑P **P** **05 49 41.1 -0.1**
baz=85,SNR=19
112A Yuma 85.36 51 ⇑P **P** **05 49 42.3 +0.6**
baz=86,SNR=15
R05C Kirkwood Meado 85.38 43 ⇑P **P** **05 49 41.7 0.0**
baz=86,SNR=54
BC3 Big Chuckw Mtn 85.39 49 ⇓P **P** **05 49 42.4 +0.6**
baz=86,SNR=30
M02C Callahan 85.42 40 ⇓P **P** **05 49 42.5 +0.6**
baz=86,SNR=23
MPMC Manual Prospec 85.42 46 ⇓P **P** **05 49 41.9 -0.1**
baz=86,SNR=38
P05C Yuba Gap, Truc 85.43 42 ⇑P **P** **05 49 42.0 +0.1**
baz=86,SNR=46
GSC Goldstone 85.43 47 *e*P **P** **05 49 42.0 0.0**
GSC pmax pmax
comp=Z,68nm,0.9s,mb5.3
GSC Goldstone 85.43 47 ⇑P **P** **05 49 42.0 0.0**
baz=86,SNR=50
GSC Goldstone 85.43 47 *e*P **P** **05 49 42.0 0.0**
comp=Z,68nm,0.9s,mb5.3
K01A Sixes 85.44 38 ⇑P **P** **05 49 42.4 +0.5**
baz=86
HEC Hector,Ludlow 85.47 48 ⇑P **P** **05 49 42.2 0.0**
baz=86,SNR=36
GLA Glamis 85.48 50 *e*P **P** **05 49 43.1 +0.8**
GLA pmax pmax
comp=Z,97nm,0.8s,mb5.5
GLA Glamis 85.48 50 ⇓P **P** **05 49 43.0 +0.8**
baz=86,SNR=51
GLA Glamis 85.48 50 *e*P **P** **05 49 43.1 +0.8**
comp=Z,97nm,0.8s,mb5.5
L02A Cave Junction 85.49 39 ⇑P **P** **05 49 42.8 +0.6**
baz=86
MLAC Mammoth Lakes 85.50 44 ⇑P **P** **05 49 42.6 +0.3**
baz=86
MTUM Tungsten Hills 85.50 45 *e*P **P** **05 49 42.5 +0.2**
TIN Tinemaha 85.54 45 ⇑P **P** **05 49 42.6 +0.1**
baz=86
KEBM Edson Butte 85.56 38 *e*P **P** **05 49 43.0 +0.6**
R07C Lee Vining 85.64 44 ⇓P **P** **05 49 43.1 +0.1**
baz=86,SNR=53
O05C Quincy 85.65 42 ⇑P **P** **05 49 43.1 +0.1**
baz=86,SNR=20
R06C Coleville 85.66 43 ⇑P **P** **05 49 43.2 +0.2**
baz=86,SNR=35
OHAK Old Harbor 85.72 14 *e*P **P** **05 49 42.6 -0.3**
comp=Z,90nm,0.9s,mb5.4
YBH Yreka Blue Hor 85.73 39 P **P** **05 49 43.6 +0.3**
comp=Z,38nm,0.8s,mb5.1,baz=203,slow=0.6,SNR=48
YBH Yreka Blue Hor 85.73 39 ⇓P **P** **05 49 43.7 +0.4**
baz=86,SNR=24
M03C McCloud 85.77 40 ⇓P **P** **05 49 43.7 +0.2**
baz=86,SNR=30
O04C Chester 85.78 41 ⇓P **P** **05 49 43.5 0.0**
baz=86,SNR=30
S08C White Mtn Res 85.84 45 ⇑P **P** **05 49 44.3 +0.4**
baz=86,SNR=120
HATC Hat Creek Radi 85.87 41 ⇑P **P** **05 49 44.1 +0.2**
baz=86,SNR=24
IRM Iron Mountain 85.89 49 ⇑P **P** **05 49 44.7 +0.5**
baz=86,SNR=56
GMRC Granite Mounta 85.89 48 ⇓P **P** **05 49 44.3 +0.1**
baz=86,SNR=42
KLR Kul'dur 85.93 331 *e*P **P** **05 49 41.0 -3.0**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,70nm,1.8s,mb5.0
BEKR Beckwourth 85.93 42 ⇑P **P** **05 49 44.1 -0.2**
baz=86,SNR=44
LBCM Butte Creek Ri 85.94 41 P **P** **05 49 44.2 -0.1**
WCN Washoe City 85.95 43 ⇓P **P** **05 49 44.6 +0.2**
baz=86,SNR=35
K02A Glendale 85.96 38 ⇑P **P** **05 49 44.7 +0.4**
baz=86,SNR=17
113A Mohawk Valley, 86.06 51 ⇑P **P** **05 49 45.3 +0.2**
baz=86,SNR=10
GRAC Grapevine Rang 86.06 46 ⇓P **P** **05 49 45.0 +0.1**
baz=86,SNR=21
FURC Furnace Creek, 86.08 46 ⇓P **P** **05 49 44.7 -0.4**
baz=86,SNR=18
Y12C Blythe 86.08 50 ⇑P **P** **05 49 45.4 +0.2**
baz=86,SNR=24
P06A Stead Airport, 86.09 42 ⇑P **P** **05 49 45.1 0.0**
baz=86,SNR=18
TUQ Turquoise Mtn. 86.09 48 ⇑P **P** **05 49 45.0 -0.2**
baz=86,SNR=15
SHOC Shoshone 86.13 47 ⇓P **P** **05 49 45.0 -0.3**
baz=86,SNR=20
HUMO Hull Mountain 86.15 39 ⇑P **P** **05 49 45.9 +0.6**
baz=86,SNR=18
HUMO Hull Mountain 86.15 39 *e*P **P** **05 49 45.8 +0.5**
comp=Z,66nm,1.1s,mb5.2
ELFS Eagle Lake Fie 86.18 41 ⇑P **P** **05 49 45.7 +0.3**
baz=86
M04C Macdoel 86.26 40 ⇑P **P** **05 49 45.9 +0.1**
baz=86,SNR=11
214A Organ Pipe Nat 86.28 52 ⇑P **P** **05 49 46.8 +0.6**
baz=86,SNR=51
J02A Umpqua 86.30 38 ⇑P **P** **05 49 46.4 +0.4**
baz=86,SNR=7.4
Q07A Schurz 86.31 43 ⇑P **P** **05 49 46.2 +0.1**
baz=86
NVAR Mina Array Bea 86.32 44 P **P** **05 49 46.6 +0.4**
comp=Z,58nm,0.8s,mb5.2,baz=224,slow=8.2,SNR=276
NVAR PP PP 05 53 16.4 -0.2
comp=Z,0.2nm,0.4s,baz=124,slow=8.0,SNR=2.8
NVAR PKiKP PKiKP 05 54 50.3 +0.4
comp=Z,0.5nm,0.7s,baz=205,slow=4.0,SNR=3.2
NVAR PKPPKP 06 15 47.8
comp=Z,0.7nm,0.8s,baz=81,slow=3.9,SNR=5.0
NVAR Mina Array Bea 86.32 44 P **P** **05 49 46.6 +0.4**
NVAR PP PP 05 53 16.4 -0.2
BUOR Burton Butte 86.34 39 P **P** **05 49 46.7 +0.6**
R08A Mina 86.39 44 ⇑P **P** **05 49 46.3 -0.2**
baz=87,SNR=18
KDAK Kodiak Island 86.39 15 P **P** **05 49 45.7 -0.3**
comp=Z,30nm,0.8s,mb5.0,baz=255,slow=1.9,SNR=7.5
KDAK Kodiak Island 86.39 15 *e*P **P** **05 49 46.5 +0.4**
M05C Lookout 86.39 40 ⇑P **P** **05 49 46.4 0.0**
baz=87,SNR=21
U10A Ash Meadows, A 86.39 47 ⇑P **P** **05 49 46.8 +0.2**
baz=87,SNR=11
PAHR Pah Rah Range 86.42 43 *e*P **P** **05 49 46.6 0.0**
comp=Z,70nm,0.8s,mb5.3

O06A	Flanigan	86.43	42	⇓P	P	05 49 46.5	-0.1
	baz=87,SNR=69						
LDFC	Landfair	86.44	48	eP	P	05 49 47.4	+0.6
	comp=Z,104nm,0.8s,mb5.5						
L04A	Klamath Falls	86.48	39	⇓P	P	05 49 47.0	+0.1
	baz=87,SNR=32						
I02A	Mapleton	86.58	37	⇓P	P	05 49 47.5	+0.2
	baz=87						
S09A	Goldfield	86.58	45	⇑P	P	05 49 46.9	-0.6
	baz=87,SNR=49						
NEE2	Needles Airpor	86.59	49	⇓P	P	05 49 47.8	+0.2
	baz=87						
Y13A	Salome	86.60	50	⇓P	P	05 49 48.2	+0.6
	baz=87,SNR=46						
P07A	Fallon	86.62	43	⇓P	P	05 49 47.6	0.0
	baz=87,SNR=6.8						
HOG	Hogback Mounta	86.63	39	P	P	05 49 47.9	+0.4
PDMCI	Parker Dam,Lak	86.65	49	⇑P	P	05 49 47.9	+0.1
	baz=87,SNR=17						
V11A	Goodsprings	86.65	48	⇑P	P	05 49 47.9	+0.1
	baz=87,SNR=30						
M06C	Likely Place G	86.69	41	⇓P	P	05 49 48.1	+0.2
	baz=87,SNR=27						
W12A	Cal Nev Ari	86.72	48	⇓P	P	05 49 48.5	+0.3
	baz=87,SNR=9.4						
TPNV	Topopah Spring	86.76	46	eP	P	05 49 48.4	+0.1
TPNV				pmax	pmax		
	comp=Z,79nm,0.8s,mb5.5						
TPNV	Topopah Spring	86.76	46	⇓P	P	05 49 48.3	0.0
	baz=87,SNR=164						
TPNV	Topopah Spring	86.76	46	eP	P	05 49 48.4	+0.1
	comp=Z,79nm,0.8s,mb5.5						
TPH	Tonopah	86.79	45	eP	P	05 49 48.5	+0.1
TPH				pmax	pmax		
	comp=Z,93nm,0.9s,mb5.5						
TPH	Tonopah	86.79	45	eP	P	05 49 48.5	+0.1
	comp=Z,94nm,0.9s,mb5.5						
N06A	Buffalo Meadow	86.79	42	⇑P	P	05 49 48.1	-0.2
	baz=87,SNR=59						
Q08A	Gabbs	86.81	44	⇓P	P	05 49 48.2	-0.3
	baz=87,SNR=102						
K04A	Chilquin	86.85	39	⇑P	P	05 49 48.8	+0.2
	baz=87						
I03A	Eugene	86.86	37	⇓P	P	05 49 48.8	+0.2
	baz=87,SNR=9.4						
H02A	Toledo	86.93	37	⇓P	P	05 49 48.9	0.0
	baz=87						
Z14A	Wintersburg	86.96	51	⇑P	P	05 49 49.8	+0.4
	baz=87,SNR=22						
V12A	Nelson	86.98	48	⇑P	P	05 49 49.5	+0.1
	baz=87,SNR=23						
R09A	Tonopah	86.98	45	⇓P	P	05 49 49.2	-0.1
	baz=87,SNR=67						
O07A	Toulon	87.01	42	⇓P	P	05 49 49.2	-0.2
	baz=87,SNR=96						
L05A	Lakeview	87.01	40	⇓P	P	05 49 49.9	+0.6
	baz=87,SNR=24						
U11A	Corn Creek	87.02	47	⇓P	P	05 49 49.8	+0.3
	baz=87,SNR=18						
J04A	Umpqua Nationa	87.03	39	⇓P	P	05 49 50.0	+0.6
	baz=87,SNR=55						
S10A	Tonopah Range,	87.10	45	⇓P	P	05 49 49.8	-0.1
	baz=87,SNR=260						
115A	Sonoran Desert	87.10	52	⇓P	P	05 49 50.5	+0.5
	baz=87,SNR=35						
P08A	Dixie Valley	87.21	43	⇓P	P	05 49 50.5	+0.1
	baz=87,SNR=5.3						
I04A	Tendick Farm,	87.22	38	⇓P	P	05 49 50.0	-0.3
	baz=87,SNR=36						
MOD	Modoc	87.23	40	⇓P	P	05 49 50.4	+0.1
	baz=87,SNR=26						
MOD	Modoc	87.23	40	eP	P	05 49 50.5	+0.1
	comp=Z,63nm,0.9s,mb5.3						
Y14A	Wickenburg	87.23	50	⇑P	P	05 49 50.8	+0.2
	baz=87,SNR=40						
Q09A	Carvers	87.26	44	⇑P	P	05 49 50.6	-0.1
	baz=87						
PLCA	Paso Flores	87.27	134	P	P	05 49 51.2	+0.4
	comp=Z,10nm,0.8s,mb4.6,baz=217,slow=4.8,SNR=22						
PLCA				PKKPbc	PKKPbc	06 07 38.6	-0.1
	comp=Z,2.7nm,0.8s,baz=204,slow=2.9,SNR=4.8						
PLCA	Paso Flores	87.27	134	eP	P	05 49 51.2	+0.4
PLCA				PKKPbc	PKKPbc	06 07 38.6	-0.1
216A	Three Points,	87.27	53	⇑P	P	05 49 51.7	+0.9
	baz=87,SNR=46						
W13A	Hualapai Mount	87.27	49	⇓P	P	05 49 51.1	+0.4
	baz=87,SNR=26						
H03A	Soap Creek Ran	87.31	37	⇓P	P	05 49 51.1	+0.4
	baz=88,SNR=12						
N07B	Gerlach	87.33	42	⇑P	P	05 49 50.8	0.0
	baz=88,SNR=44						
GYA	Guiyang	87.35	301	⇑iP	P	05 49 51.3	0.0
GYA				AP	pP	05 51 43.0	+1.1
GYA				XP	sP	05 52 31.5	-1.2
GYA				PP	PP	05 53 28.0	+3.0
GYA				SKS		05 59 32.5	
GYA				S	S	05 59 51.8	+2.0
GYA				XS	sS	06 03 04.5	-2.4
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,180nm,5.7s						
116A	Eloy	87.40	52	⇑P	P	05 49 52.2	+0.8
	baz=88,SNR=54						
K05A	Summer Lake	87.40	39	⇑P	P	05 49 51.6	+0.5
	baz=88,SNR=55						
HEBO	Mount Hebo	87.41	36	eP	P	05 49 52.3	+1.1
	comp=Z,119nm,1.0s,mb5.6						
IRO	Indian Ridge	87.44	38	P	P	05 49 51.4	+0.1
Z15A	Gila River Ind	87.47	51	⇑P	P	05 49 52.0	+0.3
	baz=88,SNR=13						
S11A	Rachel	87.48	46	⇑P	P	05 49 51.6	-0.1
	baz=88,SNR=27						
R10A	Warm Springs	87.50	45	⇓P	P	05 49 52.0	+0.2
	baz=88,SNR=47						
O08A	Rochester Mine	87.53	43	⇓P	P	05 49 51.9	+0.1
	baz=88,SNR=59						
J05A	Fort Rock	87.56	39	⇑P	P	05 49 52.4	+0.5
	baz=88,SNR=111						
M07A	Soldier Meadow	87.58	41	⇑P	P	05 49 52.2	+0.2
	baz=88,SNR=51						
U12A	Valley of Fire	87.58	47	⇓P	P	05 49 52.7	+0.5
	baz=88,SNR=45						
T11A	Corn Creek, Al	87.59	46	⇓P	P	05 49 52.5	+0.3
	baz=88,SNR=117						
X14A	Yava	87.61	50	⇑P	P	05 49 52.9	+0.6
	baz=88,SNR=47						
217A	Green Valley	87.61	53	⇑P	P	05 49 53.5	+1.0
	baz=88,SNR=149						
V13A	Grand Canyon W	87.63	48	⇓P	P	05 49 52.4	0.0
	baz=88,SNR=72						
T12A	Moapa	87.63	47	⇓P	P	05 49 52.5	+0.1
	baz=88,SNR=8.7						
Y15A	Casa Rosa Ranc	87.71	51	⇑P	P	05 49 53.3	+0.4
	baz=88,SNR=71						
P09A	Austin	87.71	44	⇓P	P	05 49 52.6	-0.1
	baz=88						
G03A	Yamhill	87.73	36	⇑P	P	05 49 52.9	+0.3
	baz=88,SNR=7.8						
Q10A	Clear Creek Ra	87.75	45	⇑P	P	05 49 52.8	-0.1
	baz=88,SNR=31						
K06A	Valley Falls	87.81	40	⇓P	P	05 49 53.4	+0.3
	baz=88,SNR=101						
N08A	GE Springer Mi	87.83	42	⇑P	P	05 49 53.1	-0.1
	baz=88,SNR=70						
L07A	Adell	87.86	41	⇑P	P	05 49 53.8	+0.5
	baz=88,SNR=103						
EFI	East Falkland	87.87	148	P	P	05 49 52.8	-0.6
	comp=Z,988nm,0.7s,SNR=11						
EFI	East Falkland	87.87	148	eP	P	05 49 53.1	-0.3
W14A	Seligman	87.88	49	⇑P	P	05 49 54.1	+0.5
	baz=88,SNR=53						
H04A	Detroit Lake	87.92	37	⇓P	P	05 49 53.2	-0.3
	baz=88,SNR=34						
TUC	Tucson	87.92	53	eP	P	05 49 54.7	+0.8
TUC				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.3						
TUC	Tucson	87.92	53	eP	P	05 49 54.7	+0.9
	comp=Z,48nm,0.8s,mb5.3						
U13A	Pakoon Wash	87.96	48	⇓P	P	05 49 54.3	+0.3
	baz=88,SNR=58						
F03A	Seaside	87.99	36	⇑P	P	05 49 54.2	+0.3
	baz=88,SNR=12						
ZIIG	Zihuatanejo	87.99	69	eP	P	05 49 53.5	-1.0
R11A	Troy Canyon, C	88.00	45	⇓P	P	05 49 53.7	-0.4
	baz=88,SNR=25						
SFJM	Santa Fe	88.01	66	iP	P	05 49 54.3	-0.3
Z16A	Peralta Trail,	88.01	51	⇓P	P	05 49 54.5	+0.3
	baz=88,SNR=14						
O09A	Fish Creek Ran	88.05	43	⇑P	P	05 49 54.0	-0.2
	baz=88,SNR=21						
S12A	Delamar Landin	88.05	46	⇓P	P	05 49 55.0	+0.7
	baz=88,SNR=54						
X15A	Humboldt	88.07	50	⇓P	P	05 49 55.0	+0.5
	baz=88,SNR=72						
BJT	Baijiatuau	88.08	317	eP	P	05 49 55.4	+1.0
BJT				pmax	pmax		
	comp=Z,13nm,0.5s						
BJT	Baijiatuau	88.08	317	eP	P	05 49 55.4	+0.9
	comp=Z,13nm,0.5s,mb4.9						
BJI	Beijing	88.08	317	P	P	05 49 53.0	-1.4
BJI				AP	pP	05 51 44.0	-1.3
BJI				XP	sP	05 52 32.8	-3.2
BJI				SKS		05 59 33.0	
BJI				S	S	06 00 00.3	+4.3
BJI				AMB	AMB		
	comp=Z,39nm,0.9s,mb5.1						
M08A	Happy Creek Ra	88.09	42	⇑P	P	05 49 54.6	+0.2
	baz=88,SNR=42						
117A	Oracle	88.09	52	⇑P	P	05 49 55.5	+0.8
	baz=88,SNR=70						
I05A	Bend	88.09	38	⇓P	P	05 49 54.6	+0.2
	baz=88,SNR=56						
G04A	Mulino	88.09	37	⇓P	P	05 49 54.3	-0.1
	baz=88,SNR=31						
V14A	Boquillas Ranc	88.10	49	⇑P	P	05 49 55.2	+0.6
	baz=88,SNR=88						
J06A	Christmas Vall	88.15	39	⇓P	P	05 49 54.6	-0.1
	baz=88,SNR=125						
P10A	Eureka	88.17	44	⇓P	P	05 49 54.8	-0.1
	baz=88,SNR=24						
BMN	Battle Mountai	88.18	43	eP	P	05 49 54.9	0.0
BMN				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.1						
BMN	Battle Mountai	88.18	43	eP	P	05 49 54.9	+0.1
	comp=Z,44nm,1.0s,mb5.1						
Q11A	Duckwater	88.24	45	⇓P	P	05 49 55.2	0.0
	baz=88,SNR=26						
N09A	Rock Creek Ran	88.25	42	⇑P	P	05 49 55.3	+0.2
	baz=88,SNR=23						
Y16A	Circle Bar Ran	88.27	51	⇑P	P	05 49 56.1	+0.7
	baz=88,SNR=105						
218A	Dragoon	88.27	53	⇓P	P	05 49 56.5	+1.0
	baz=88,SNR=54						
K07A	Rock Creek Ran	88.33	40	⇓P	P	05 49 55.9	+0.4
	baz=88						
T13A	Saint George	88.33	47	⇑P	P	05 49 56.0	+0.3
	baz=88,SNR=29						
E03A	Lebam	88.39	35	⇑P	P	05 49 55.9	+0.2
	baz=89,SNR=28						
H05A	Madras	88.42	38	⇓P	P	05 49 55.8	-0.1
	baz=89,SNR=20						
W15A	Williams	88.42	50	⇑P	P	05 49 56.7	+0.6
	baz=89,SNR=7.7						
U14A	Mt Trumbull	88.48	48	⇑P	P	05 49 57.0	+0.6
	baz=89,SNR=166						
BMW	Boistfort Moun	88.52	36	eP	P	05 49 56.7	+0.4
319A	Douglas	88.52	54	⇓P	P	05 49 57.7	+1.0
	baz=89,SNR=116						
WVOR	Wild Horse Val	88.53	41	P	P	05 49 56.5	0.0
O10A	Cortez Mining,	88.55	43	⇑P	P	05 49 56.6	0.0
	baz=89,SNR=15						
I06A	Prineville	88.55	39	⇑P	P	05 49 57.0	+0.5
	baz=89,SNR=186						
L08A	Fields	88.56	41	⇑P	P	05 49 56.8	+0.2
	baz=89,SNR=136						
P11A	Circle Ranch,	88.58	44	⇓P	P	05 49 56.7	-0.1
	baz=89,SNR=11						
X16A	Lo Mia Camp, P	88.58	51	⇑P	P	05 49 57.7	+0.8
	baz=89,SNR=132						
F04A	Amboy	88.59	36	⇓P	P	05 49 56.5	-0.1
	baz=89,SNR=43						
R12A	Pony Springs,	88.61	46	⇓P	P	05 49 57.1	+0.2
	baz=89,SNR=36						
Y17A	Roosevelt	88.61	51	⇓P	P	05 49 57.4	+0.4
	baz=89,SNR=42						
HOOD	Mount Hood Mea	88.61	37	eP	P	05 49 57.0	+0.2
	comp=Z,29nm,0.8s,mb5.2						
M09A	Marrel Ranch,	88.63	42	⇓P	P	05 49 57.4	+0.4
	baz=89,SNR=63						
D03A	Wishkah Elem.	88.65	35	⇑P	P	05 49 57.5	+0.6
	baz=89,SNR=8.9						
Z17A	San Carlos Hig	88.67	52	⇓P	P	05 49 57.9	+0.6
	baz=89,SNR=7.8						
VIPM	Ingram Point	88.67	38	P	P	05 49 57.3	+0.2
118A	Homack Ranch,	88.68	53	⇑P	P	05 49 58.2	+0.8
	baz=89						
S13A	Holt Ranch, En	88.68	47	⇑P	P	05 49 57.6	+0.3
	baz=89,SNR=66						
J07A	Hines	88.71	40	⇑P	P	05 49 57.4	+0.1
	baz=89,SNR=149						
VFP	Flag Point	88.72	37	P	P	05 49 57.2	0.0
CAIG	El Cayaco	88.75	71	eP	P	05 49 59.4	+1.4
G05A	Wamic	88.75	37	⇑P	P	05 49 57.4	0.0
	baz=89,SNR=11						
NLWA	Neilton Lookou	88.78	35	⇓P	P	05 49 57.9	+0.4
	baz=89,SNR=19						
NLWA	Neilton Lookou	88.78	35	eP	P	05 49 57.8	+0.3
	comp=Z,68nm,0.9s,mb5.5						
N10A	Dunphy	88.79	43	⇑P	P	05 49 57.8	+0.1
	baz=89,SNR=18						
K08A	Mann Creek Ran	88.80	41	⇓P	P	05 49 58.0	+0.3
	baz=89,SNR=200						
C03A	Quillayute Air	88.80	34	⇓P	P	05 49 58.3	+0.7
	baz=89						
SVW2	Sparrevohn	88.83	12	eP	P	05 49 55.9	-1.5
V15A	Kaibab Nationa	88.84	49	⇓P	P	05 49 58.7	+0.6
	baz=89,SNR=73						
219A	White Tail Can	88.86	54	⇑P	P	05 49 59.0	+0.7
	baz=89,SNR=36						
L09A	Wilkinson Ranc	88.86	41	⇓P	P	05 49 58.2	+0.2
	baz=89,SNR=8.4						
E04A	Onalaska	88.86	36	⇓P	P	05 49 58.4	+0.5
	baz=89,SNR=15						
Q12A	Willow Creek R	88.88	45	⇑P	P	05 49 58.1	-0.1
	baz=89,SNR=26						
W16A	Flagstaff	88.88	50	⇓P	P	05 49 58.9	+0.6
	baz=89,SNR=23						
T14A	Hurricane	88.91	48	⇑P	P	05 49 58.6	+0.3
	baz=89,SNR=39						
R13A	O'Grain Ranch,	88.94	46	⇑P	P	05 49 59.0	+0.5
	baz=89,SNR=28						
TDL	Tradedollar La	88.97	36	P	P	05 49 58.9	+0.5
H06A	Lindquist Farm	88.97	38	⇑P	P	05 49 58.5	0.0
	baz=89,SNR=180						
O11A	Cowboy Ranch,	88.98	44	⇑P	P	05 49 58.7	+0.1
	baz=89,SNR=43						
X17A	Forest Lakes	88.98	51	⇑P	P	05 49 59.6	+0.8
	baz=89,SNR=32						
CCUT	Cedar City	88.99	47	P	P	05 50 08.3	+10
I07A	Izee	89.03	39	⇑P	P	05 49 59.0	+0.3
	baz=89,SNR=186						
P12A	McGill	89.07	45	⇑P	P	05 49 59.2	+0.2
	baz=89,SNR=29						
F05A	White Salmon	89.08	37	⇑P	P	05 49 58.8	-0.1
	baz=89,SNR=8.7						
U15A	North Rim	89.09	48	⇑P	P	05 49 59.9	+0.7
	baz=89,SNR=123						
G06A	Carlson Farm,	89.12	38	⇓P	P	05 49 59.1	-0.1
	baz=89,SNR=58						
D04A	Dobbs Creek Ra	89.15	35	⇑P	P	05 50 00.1	+0.9
	baz=89,SNR=5.6						
MOIG	Morelia	89.17	68	eP	P	05 49 59.2	-0.8
J08A	Circle Bar Ran	89.18	40	⇑P	P	05 49 59.6	+0.1
	baz=89,SNR=148						
SEW	Seward	89.20	15	eP	P	05 49 57.9	-1.2
WUAZ	Wupatki	89.22	50	⇑P	P	05 50 00.2	+0.4
	baz=89,SNR=47						
WUAZ	Wupatki	89.22	50	eP	P	05 50 00.2	+0.3
	comp=Z,38nm,0.9s,mb5.2						
119A	Ashpeak Ranch,	89.22	53	⇑P	P	05 50 00.7	+0.7
	baz=89,SNR=18						
K09A	Rome	89.23	41	⇑P	P	05 49 59.9	+0.2
	baz=89,SNR=194						
Y18A	Canyon Day Jun	89.23	52	⇓P	P	05 50 00.8	+0.9
	baz=89,SNR=136						
S14A	Cedar City	89.23	47	⇑P	P	05 50 00.2	+0.4
	baz=89,SNR=20						
M10A	I.L. Ranch, Tu	89.24	42	⇑P	P	05 50 00.3	+0.6
	baz=89,SNR=90						
H07A	Lands Inn, Kim	89.31	39	⇓P	P	05 50 00.0	0.0
	baz=90,SNR=124						
N11A	Elko Archery C	89.32	43	⇑P	P	05 50 00.2	0.0
	baz=90,SNR=12						
E05A	Randle	89.35	36	⇑P	P	05 49 59.8	-0.3
	baz=90,SNR=48						
Q13A	Wheeler Ranch,	89.35	46	⇓P	P	05 50 00.3	0.0
	baz=90,SNR=57						
T15A	Red Dirt Ranch	89.35	48	⇑P	P	05 50 00.9	+0.5
	baz=90,SNR=54						
F06A	Goldendale	89.37	37	⇑P	P	05 50 00.3	+0.1
	baz=90,SNR=16						
SLKM	Skilak Lake	89.38	14	eP	P	05 49 59.3	-0.7
B04A	Port Angeles	89.41	34	⇓P	P	05 50 00.9	+0.5
	baz=90,SNR=5.8						
LON	Longmire	89.44	36	P	P	05 50 00.1	-0.5
W17A	Winslow	89.44	50	⇑P	P	05 50 01.2	+0.3
	baz=90,SNR=17						
C04A	Brinnon	89.46	35	⇓P	P	05 50 00.9	+0.3
	baz=90,SNR=39						
I08A	Drewsey	89.46	40	⇓P	P	05 50 00.8	+0.1
	baz=90,SNR=82						
Z19A	T-Link Ranch,	89.52	52	⇑P	P	05 50 01.9	+0.6
	baz=90						
XAN	Xi'an	89.57	308	P	P	05 49 57.8	-3.7
XAN				AP	pP	05 51 49.0	-3.7
XAN				SKS		05 59 41.0	
XAN				S	S	06 00 00.8	-9.1
XAN				AMB	AMB		
	comp=Z,33nm,0.9s,mb5.2						
XAN				AMB	AMB		
	comp=Z,37nm,5.5s						
ELK	Elko	89.59	44	P	P	05 50 01.4	-0.1
	comp=Z,30nm,1.0s,mb5.1,baz=238,slow=4.5,SNR=94						
J09A	Fry Pan Ranch,	89.60	40	⇑P	P	05 50 01.6	+0.2
	baz=90,SNR=64						
L10A	Juniper Basin	89.61	42	⇓P	P	05 50 01.6	+0.2
	baz=90,SNR=237						
D05A	Enumclaw	89.63	36	⇓P	P	05 50 01.8	+0.4
	baz=90,SNR=46						
O12A	Currie	89.63	44	⇑P	P	05 50 01.5	-0.1
	baz=90,SNR=39						
R14A	James Farms, M	89.63	47	⇑P	P	05 50 02.0	+0.3
	baz=90,SNR=9.0						
P13A	Bates Ranch, G	89.63	45	⇑P	P	05 50 01.8	+0.2
	baz=90,SNR=83						
M11A	Holland Ranch,	89.64	43	⇑P	P	05 50 02.1	+0.4
	baz=90,SNR=63						
G07A	Ruggs Ranch, H	89.67	38	⇓P	P	05 50 01.6	-0.1
	baz=90,SNR=27						
X18A	Snowflake	89.68	51	⇑P	P	05 50 02.6	+0.5
	baz=90,SNR=41						
S15A	Panquitch	89.72	47	⇓P	P	05 50 03.3	+1.2
	baz=90,SNR=73						
U16A	Tuba City	89.72	49	⇓P	P	05 50 02.7	+0.5
	baz=90,SNR=58						
E06A	Yakima	89.75	36	⇓P	P	05 50 01.9	-0.2
	baz=90,SNR=26						
H08A	Prairie City	89.78	39	⇓P	P	05 50 02.0	-0.2
	baz=90,SNR=17						
N12A	Clover Valley,	89.78	44	⇑P	P	05 50 02.4	+0.1
	baz=90,SNR=52						
KMI	Kunming	89.78	298	P	P	05 50 04.5	+1.8
KMI				AP	pP	05 51 53.3	-0.6
KMI				XP	sP	05 52 43.3	-1.1
KMI				SKS		05 59 46.8	
KMI				S	S	06 00 13.3	+1.1
KMI				XS	sS	06 03 27.5	-3.1
KMI				SS	SS	06 06 27.5	+2.9
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,88nm,6.2s						
K10A	MacKenzie Ranc	89.78	41	⇑P	P	05 50 02.5	+0.2
	baz=90,SNR=108						
CMAR	Chiang Mai Arr	89.81	291	P	P	05 50 04.2	+1.3
	comp=Z,5.8nm,0.9s,mb4.4,baz=140,slow=3.5,SNR=31						
CMAR				pP	pP	05 51 53.6	-0.5
	comp=Z,1.4nm,0.3s,baz=145,slow=4.9,SNR=3.3						
CMAR				PP	PP	05 53 43.5	-0.9
	comp=Z,9.4nm,0.9s,baz=127,slow=6.0,SNR=14						
CMAR				PKKPbc	PKKPbc	06 07 28.6	-3.5
	comp=Z,1.2nm,0.3s,baz=238,slow=13,SNR=5.9						
CMAR	Chiang Mai Arr	89.81	291	P	P	05 50 04.2	+1.3
CMAR				*PP	pP	05 51 53.6	-0.5
CMAR						05 53 43.6	
PGC	Sidney	89.82	34	eP	P	05 50 02.2	-0.1
	comp=Z,125nm,0.8s,mb5.8						
Q14A	Sevier Lake (B	89.84	46	⇓P	P	05 50 03.0	+0.4
	baz=90,SNR=104						
Y19A	Nutrioso	89.88	52	⇓P	P	05 50 03.7	+0.8
	baz=90,SNR=80						
F07A	Phinny Hill Vi	89.92	37	⇑P	P	05 50 02.6	-0.2
	baz=90,SNR=8.5						
T16A	Glen Canyon Da	89.92	48	⇑P	P	05 50 03.3	+0.3
	baz=90,SNR=32						
I09A	Lost Marbles R	89.98	40	⇓P	P	05 50 02.9	-0.2
	baz=90,SNR=29						
PLIG	Platanillo	90.00	70	eP	P	05 50 04.2	+0.4
RC01	Rabbit Creek A	90.01	14	eP	P	05 50 01.9	-1.0
	comp=Z,85nm,1.1s,mb5.5						
O13A	Hicks Ranch, I	90.03	45	⇓P	P	05 50 03.5	0.0
	baz=90,SNR=12						
SNB	Saturna Island	90.05	34	P	P	05 50 03.7	+0.4
R15A	Junction	90.07	47	⇓P	P	05 50 04.4	+0.7
	baz=90,SNR=34						
G08A	Pilot Rock	90.08	38	⇑P	P	05 50 03.6	0.0
	baz=90,SNR=76						
L11A	Cat Creek Ranc	90.09	42	⇓P	P	05 50 04.0	+0.3
	baz=90,SNR=149						
X19A	St. Johns	90.09	51	⇑P	P	05 50 04.3	+0.4
	baz=90,SNR=16						
C05A	Tolt Reservoir	90.11	35	⇓P	P	05 50 03.2	-0.4
	baz=90,SNR=33						
W18A	Petrified Fore	90.14	51	⇓P	P	05 50 04.1	-0.1
	baz=90,SNR=16						
M12A	Wells	90.17	43	⇓P	P	05 50 04.1	0.0
	baz=90,SNR=31						
J10A	Berg Farm, Mel	90.22	41	⇑P	P	05 50 04.2	-0.1
	baz=90,SNR=14						
D06A	Cle Elum	90.23	36	⇑P	P	05 50 04.2	-0.1
	baz=90,SNR=21						
A04A	Legoe Bay, Lum	90.24	34	⇑P	P	05 50 04.4	+0.1
	baz=90,SNR=22						
S16A	Weppner Ranch,	90.26	48	⇓P	P	05 50 04.4	-0.2
	baz=90,SNR=30						
B05A	Bryant	90.26	35	⇓P	P	05 50 04.2	-0.2
	baz=90,SNR=17						
K11A	Parker Ranch,	90.28	42	⇑P	P	05 50 04.7	+0.1

comp=Z,31nm,0.9s,mb5.2
M13A **Montello** 90.61 44 ⇊P P 05 50 06.2 +0.1
baz=91,SNR=113
RAGM **Ragged Mountai** 90.63 17 eP P 05 50 05.3 -0.4
R16A **Teasdale** 90.64 47 ⇊P P 05 50 06.8 +0.4
baz=91,SNR=52
C06A **Tall Timber Ra** 90.67 35 ⇊P P 05 50 05.7 -0.5
baz=91
RPW **Rockport** 90.68 35 eP P 05 50 05.6 -0.7
U18A **Rough Rock, Ch** 90.73 50 ⇊P P 05 50 06.8 -0.1
baz=91,SNR=18
B06A **Marblemount** 90.74 35 ⇊P P 05 50 05.8 -0.7
baz=91,SNR=8.4
A05A **Maple Falls** 90.74 34 ⇊P P 05 50 05.9 -0.6
baz=91,SNR=5.3
G09A **Cove** 90.74 39 ⇊P P 05 50 06.3 -0.3
baz=91,SNR=7.6
S17A **Black Ridge (B** 90.74 48 ⇑P P 05 50 06.3 -0.5
baz=91,SNR=27
E08A **Dider Farm, El** 90.76 37 ⇑P P 05 50 06.3 -0.4
baz=91,SNR=13
ETW **Entiat** 90.76 36 eP P 05 50 06.3 -0.4
MFID **Camas Ranch** 90.77 41 ⇑P P 05 50 06.7 -0.2
baz=91,SNR=86
DUG **Dugway** 90.81 45 eP P 05 50 07.3 +0.2
DUG pmax pmax
comp=Z,15nm,0.9s,mb4.9
DUG **Dugway** 90.81 45 ⇑P P 05 50 06.8 -0.3
baz=91,SNR=18
DUG **Dugway** 90.81 45 eP P 05 50 07.2 +0.2
comp=Z,15nm,0.9s,mb4.9
LNOR **Lincton Mounta** 90.81 38 eP P 05 50 06.3 -0.6
P15A **Leamington** 90.81 46 ⇑P P 05 50 07.2 +0.1
baz=91,SNR=18
K12A **Draper Farm, C** 90.88 42 ⇑P P 05 50 07.3 -0.1
baz=91,SNR=57
H10A **Noah's Angus R** 90.92 40 ⇊P P 05 50 06.8 -0.6
baz=91,SNR=32
F09A **S2 Ranch, Elgi** 90.92 38 ⇊P P 05 50 07.1 -0.3
baz=91,SNR=22
V19A **Window Rock** 90.93 50 ⇊P P 05 50 07.9 +0.1
baz=91,SNR=9.2
N14A **Grayback Hills** 90.94 44 ⇑P P 05 50 07.3 -0.3
baz=91,SNR=25
C07A **Waterville** 90.96 36 ⇑P P 05 50 06.9 -0.7
baz=91,SNR=7.8
SEY **Seymchan** 90.96 348 ⇑iP P 05 50 06.4 -0.8
DIV **Divide** 90.98 16 eP P 05 50 06.8 -0.6
comp=Z,13µm,0.6s
I11A **Placerville** 90.98 41 ⇊P P 05 50 07.7 -0.1
baz=91,SNR=68
PPM **Popocatepetl** 91.05 69 eP P 05 50 10.1 +1.4
BGU **Big Grassy Mou** 91.08 44 eP P 05 50 07.9 -0.4
O15A **The Old Anders** 91.08 45 ⇑P P 05 50 08.4 +0.1
baz=91,SNR=14
T18A **Mexican Hat** 91.11 49 ⇊P P 05 50 08.7 +0.1
baz=91,SNR=68
A06A **Chilliwack** 91.11 34 ⇊P P 05 50 07.7 -0.5
baz=91,SNR=9.5
J12A **Stokes Ranch,** 91.11 42 ⇊P P 05 50 08.6 +0.2
baz=91,SNR=115
G10A **Bishop Farm, J** 91.12 39 ⇑P P 05 50 07.8 -0.6
baz=91,SNR=37
PPLA **Purkeypile** 91.12 13 eP P 05 50 06.9 -1.1
comp=Z,23nm,1.1s,mb5.0
BMRM **Bremner River** 91.14 17 eP P 05 50 07.6 -0.5
NLU **North Lily Min** 91.15 46 eP P 05 50 08.8 +0.2
L13A **Double Diamond** 91.16 43 ⇊P P 05 50 08.7 +0.1
baz=91,SNR=28
D08A **Wollman Farm,** 91.18 37 ⇑P P 05 50 08.4 -0.2
baz=91,SNR=22
Q16A **Castle Valley** 91.18 47 ⇊P P 05 50 09.2 +0.3
baz=91,SNR=36
M14A **Sheep Mountain** 91.20 44 ⇑P P 05 50 08.8 0.0
baz=91,SNR=87
R17A **Hanksville Air** 91.22 47 ⇑P P 05 50 08.7 -0.3
baz=91,SNR=34
P16A **Fountain Green** 91.23 46 ⇊P P 05 50 09.7 +0.7
baz=91,SNR=11
E09A **Wood Farm, Sta** 91.28 38 ⇊P P 05 50 08.5 -0.6
baz=92
S18A **Hurst Farm, Bl** 91.31 48 ⇑P P 05 50 09.2 -0.3
baz=92,SNR=6.0
TMUT **Trail Mountain** 91.36 47 eP P 05 50 10.4 +0.7
WRAK **Wrangell Islan** 91.37 24 eP P 05 50 09.3 +0.1
comp=Z,23nm,0.8s,mb5.2
N15A **Stansbury Isla** 91.38 45 ⇊P P 05 50 09.7 0.0
baz=92,SNR=5.6
K13A **Stover Farm, H** 91.39 43 ⇊P P 05 50 09.9 +0.2
baz=92,SNR=68
B07A **Winthrop** 91.41 35 ⇊P P 05 50 09.1 -0.6
baz=92,SNR=8.4
H11A **Donnelly** 91.41 40 ⇊P P 05 50 09.4 -0.4
baz=92,SNR=62
HHC **Hu-ho-hao-te** 91.44 315 eP P 05 50 11.3 +1.3
HHC AP pP 05 51 59.5 -1.8
HHC XP sP 05 52 48.3 -3.5
HHC PP PP 05 53 59.5 +2.6
HHC SKS 05 59 57.5
HHC S S 06 00 28.5 +2.2
HHC SS SS 06 06 52.5 +4.7
HHC AMB AMB
comp=Z,18nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,77nm,5.5s
F10A **Beach Ranch, E** 91.46 39 ⇑P P 05 50 09.1 -0.8
baz=92,SNR=92
MPU **Maple Canyon** 91.47 46 eP P 05 50 10.4 +0.2
comp=Z,58nm,0.8s,mb5.6
TNA **Tin City** 91.49 5 eP P 05 50 09.5 -0.1
comp=Z,79nm,0.8s,mb5.7
NOQ **North Oquirrh** 91.50 45 eP P 05 50 10.5 +0.2
comp=Z,61nm,0.8s,mb5.6
D09A **Jones Farm, Ri** 91.52 37 ⇊P P 05 50 09.6 -0.5
baz=92,SNR=14
T19A **Beclabito** 91.53 50 ⇑P P 05 50 10.4 -0.1
baz=92,SNR=8.5
L14A **Malta** 91.56 43 ⇊P P 05 50 10.4 -0.1
baz=92,SNR=22
Y22C **IRIS PASSCAL I** 91.60 53 ⇑P P 05 50 11.1 +0.2
baz=92
LENM **Lemitar** 91.61 53 eP P 05 50 11.1 +0.2
LAZ **Ladron** 91.61 52 eP P 05 50 11.4 +0.5
A07A **Ashnola River,** 91.64 35 ⇊P P 05 50 10.3 -0.4
baz=92,SNR=25
SPUT **South Promonto** 91.65 44 eP P 05 50 11.5 +0.5
O16A **Springville** 91.66 46 ⇊P P 05 50 11.1 +0.1
baz=92,SNR=44
G11A **Walters Elk Ra** 91.67 39 ⇊P P 05 50 10.3 -0.7
baz=92,SNR=124
HIA **Hailar** 91.68 325 ⇑iP P 05 50 09.8 -1.1
HLID **Hailey** 91.70 42 ⇑P P 05 50 11.3 +0.1
baz=92,SNR=36
HLID **Hailey** 91.70 42 eP P 05 50 11.2 +0.1
comp=Z,13nm,0.9s,mb4.9
TXAR **Lajitas Array** 91.71 58 P P 05 50 11.9 +0.4
comp=Z,28nm,0.8s,mb5.2,baz=213,slow=6.2,SNR=252
TXAR PP PP 05 53 55.2 -4.0
comp=Z,1.6nm,1.0s,baz=230,slow=7.8,SNR=4.3
TXAR PKKPbc PKKPbc 06 07 28.6 +0.9
comp=Z,0.9nm,0.6s,baz=82,slow=3.5,SNR=11
TXAR **Lajitas Array** 91.71 58 P P 05 50 12.0 +0.5
TXAR 05 53 55.2
TXAR **Lajitas Array** 91.71 58 P P 05 50 11.9 +0.4
TXAR PP PP 05 53 55.2 -4.0
TXAR PKKPbc PKKPbc 06 07 28.6 +0.9
HVU **Hansel Valley** 91.71 44 eP P 05 50 11.2 0.0
HVU pmax pmax
comp=Z,50nm,0.9s,mb5.4
HVU **Hansel Valley** 91.71 44 eP P 05 50 11.2 0.0
comp=Z,50nm,0.9s,mb5.4
SRU **San Rafael** 91.71 47 eP P 05 50 11.1 -0.2
SRU pmax pmax
comp=Z,52nm,1.0s,mb5.4
SRU **San Rafael** 91.71 47 ⇑P P 05 50 11.2 -0.1
baz=92,SNR=85
SRU **San Rafael** 91.71 47 eP P 05 50 11.1 -0.1
comp=Z,52nm,1.0s,mb5.4
M15A **Larsen Ranch,** 91.74 44 ⇊P P 05 50 11.1 -0.3
baz=92,SNR=21
R18A **Canyonlands Na** 91.75 48 ⇑P P 05 50 11.1 -0.4
baz=92,SNR=20
J13A **Cove Ranch, Pi** 91.75 42 ⇊P P 05 50 11.6 +0.2
baz=92,SNR=49
B08A **Colville Reser** 91.76 36 ⇊P P 05 50 10.1 -1.1
baz=92,SNR=16
P17A **Butcher Ranch,** 91.76 47 ⇑P P 05 50 11.4 -0.1
baz=92,SNR=31
CD2 **Chengdu** 91.76 304 eP P 05 50 12.5 +0.8
CD2 AP pP 05 52 03.5 +0.4
CD2 XP sP 05 52 51.5 -2.1
CD2 PP PP 05 54 02.5 +2.9
CD2 SKS 05 59 58.8
CD2 S S 06 00 30.8 +1.2
CD2 SS SS 06 06 57.3 +4.5
CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.4
CD2 AMB AMB
comp=Z,90nm,8.4s
VHO **Vista Hermosa** 91.78 72 eP P 05 50 09.3 -2.8
E10A **Myers Farm, Un** 91.83 38 ⇊P P 05 50 10.8 -0.9
baz=92,SNR=13
BNM **Barren Site** 91.85 53 eP P 05 50 12.3 +0.2
K14A **Jones Ranch, D** 91.88 43 ⇑P P 05 50 11.9 -0.1
baz=92,SNR=54
JLU **Jordanelle** 91.91 45 eP P 05 50 12.2 0.0
S19A **Harvey Farm, M** 91.92 49 ⇊P P 05 50 12.0 -0.3
baz=92,SNR=22
LPM **Los Pinos Moun** 91.93 53 eP P 05 50 12.9 +0.6
DAU **Daniels Canyon** 91.93 46 eP P 05 50 12.9 +0.7
Q18A **Rafter H Ranch** 91.97 47 ⇊P P 05 50 12.0 -0.5
baz=92,SNR=32
C09A **Chrisman Ranch** 91.98 37 ⇑P P 05 50 11.6 -0.7
baz=92,SNR=11
H12A **Diamond D Ranc** 92.00 41 ⇑P P 05 50 12.1 -0.4
baz=92
F11A **Grangeville** 92.02 39 ⇑P P 05 50 10.6 -1.9
baz=92,SNR=22
N16A **Rees Ranch, Co** 92.07 45 ⇑P P 05 50 12.1 -0.8
baz=92,SNR=7.2
L15A **Malad City** 92.07 44 ⇊P P 05 50 12.6 -0.3
baz=92,SNR=46
I13A **Wildhorse Cree** 92.08 41 ⇊P P 05 50 12.8 0.0
baz=92,SNR=15
D10A **Wagner Farm, O** 92.08 38 ⇊P P 05 50 11.8 -1.0
baz=92,SNR=31
MVCO **Mesa Verde** 92.08 49 ⇊P P 05 50 12.6 -0.5
baz=92,SNR=9.3
MVCO **Mesa Verde** 92.08 49 eP P 05 50 13.0 0.0
comp=Z,8.2nm,0.8s,mb4.7
J14A **Carey** 92.11 42 ⇑P P 05 50 13.2 +0.2
baz=92
R19A **Curley Farm, L** 92.12 48 ⇊P P 05 50 12.7 -0.5
baz=92,SNR=22
O17A **Robinson Place** 92.15 46 ⇑P P 05 50 13.7 +0.5
baz=92
A08A **Turner Farm, O** 92.15 35 ⇊P P 05 50 12.5 -0.5
baz=92,SNR=14
P18A **Preston Nutter** 92.17 47 ⇊P P 05 50 13.3 -0.1
baz=92,SNR=32
M16A **Huntsville** 92.17 45 ⇑P P 05 50 13.0 -0.4
baz=92,SNR=33
E11A **Bogner Ranch,** 92.26 39 ⇊P P 05 50 12.7 -1.0
baz=92,SNR=12
K15A **Arbon** 92.36 43 ⇑P P 05 50 14.0 -0.1
baz=92,SNR=31
H13A **Challis** 92.36 41 ⇊P P 05 50 13.8 -0.4
baz=92,SNR=31
ANMO **Albuquerque** 92.37 52 P P 05 50 14.1 -0.3
comp=Z,14nm,0.8s,mb4.9,baz=215,slow=5.5,SNR=56
ANMO **Albuquerque** 92.37 52c iP P 05 50 14.2 -0.2
HWUT **Hardware Ranch** 92.37 44 eP P 05 50 13.8 -0.5
comp=Z,22nm,0.8s,mb5.1
B09A **Rice** 92.42 36 ⇑P P 05 50 13.3 -1.0
baz=93,SNR=13
BPAW **Bear Paw Mtn.** 92.45 12 eP P 05 50 11.8 -2.3
comp=Z,5.6nm,0.8s,mb4.5
F12A **Elk City** 92.46 39 ⇊P P 05 50 13.8 -0.7
baz=93,SNR=60
Q19A **Hogan Spring (** 92.47 48 ⇊P P 05 50 14.2 -0.5
baz=93,SNR=37
I14A **Mackay** 92.48 42 ⇑P P 05 50 14.9 +0.2
baz=93
N17A **Moffit Pass** 92.48 45 ⇊P P 05 50 14.7 0.0
baz=93,SNR=23
C10A **Spilker Farm,** 92.51 37 ⇑P P 05 50 13.8 -0.9
baz=93
A09A **Danville** 92.53 36 ⇊P P 05 50 14.1 -0.6
baz=93,SNR=13
D11A **Klaveano Farm,** 92.59 38 ⇑P P 05 50 13.7 -1.4
baz=93,SNR=8.6
O18A **Roosevelt** 92.66 46 ⇑P P 05 50 15.5 -0.2
baz=93,SNR=27
G13A **Cobalt** 92.67 40 ⇊P P 05 50 15.1 -0.4
baz=93,SNR=22
L16A **Fish Haven** 92.68 44 ⇊P P 05 50 15.3 -0.3
baz=93,SNR=36
J15A **Blackfoot** 92.81 43 ⇊P P 05 50 16.3 +0.1
baz=93
NEW **Newport** 92.88 37 eP P 05 50 15.4 -1.0
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW **Newport** 92.88 37 eP P 05 50 15.4 -1.0
comp=Z,8.0nm,0.8s,mb4.8
H14A **Leadore** 92.92 41 ⇊P P 05 50 16.5 -0.2
baz=93
F13A **Darby** 93.01 40 ⇊P P 05 50 16.1 -0.9
baz=93,SNR=45
HYT **Haines Junctio** 93.01 20 eP P 05 50 18.0 +1.3
K16A **Soda Springs** 93.02 43 ⇑P P 05 50 16.7 -0.5
baz=93,SNR=8.5
A10A **Northport** 93.07 36 ⇊P P 05 50 16.4 -0.8
baz=93,SNR=8.2
I15A **Monteview** 93.10 42 ⇊P P 05 50 17.5 -0.1
baz=93
D12A **Red Ives Fores** 93.14 38 ⇊P P 05 50 16.4 -1.3
baz=93
G14A **Jackson** 93.21 41 ⇑P P 05 50 17.6 -0.4
baz=93,SNR=5.2
J16A **Bone** 93.24 43 ⇑P P 05 50 18.3 +0.1
baz=93,SNR=19
N18A **Larsen Ranch,** 93.25 46 ⇑P P 05 50 17.6 -0.7
baz=93,SNR=17
AHID **Auburn Hatcher** 93.29 44 eP P 05 50 18.3 -0.1
comp=Z,23nm,0.9s,mb5.2
H15A **Lima** 93.35 41 ⇑P P 05 50 18.6 -0.1
baz=94
CMIG **Matias Romero** 93.37 73 P P 05 50 18.8 -0.6
comp=Z,14nm,0.9s,mb5.0,baz=274,slow=6.7,SNR=15
B11A **Sandpoint** 93.39 37 ⇊P P 05 50 17.8 -0.9
baz=94,SNR=6.6
E13A **Victor** 93.46 39 ⇑P P 05 50 17.8 -1.3
baz=94,SNR=9.9
RRI2 **Red Ridge** 93.46 43 eP P 05 50 19.4 +0.2
comp=Z,14nm,0.8s,mb5.0
N19A **John Jarvie Ra** 93.53 46 ⇊P P 05 50 18.5 -1.1
baz=94
F14A **Wisdom** 93.58 40 ⇑P P 05 50 18.7 -0.9
baz=94
I16A **Newdale** 93.64 43 ⇊P P 05 50 19.9 -0.2
baz=94
D13A **Huson** 93.67 39 ⇊P P 05 50 19.1 -1.0
baz=94
A11A **Hall Mountain,** 93.69 36 ⇑P P 05 50 19.9 -0.3
baz=94,SNR=13
G15A **Dillon** 93.74 41 ⇑P P 05 50 20.0 -0.4
baz=94,SNR=33
CFAA **Coronel Fontan** 93.75 128 P P 05 50 19.9 -1.1
comp=Z,1.6nm,0.8s,mb4.1
REDW **Red Top Meadow** 93.76 43 eP P 05 50 20.0 -0.5
comp=Z,11nm,0.9s,mb4.9
TPAW **Teton Pass** 93.77 43 eP P 05 50 20.5 -0.1
comp=Z,7.2nm,0.8s,mb4.8
COLA **College** 93.77 13 ⇑iP P 05 50 18.0 -2.1
DLMT **Dillon** 93.78 41 eP P 05 50 20.4 -0.3
comp=Z,12nm,0.9s,mb4.9
MSO **Missoula** 93.81 39 eP P 05 50 19.5 -1.3
comp=Z,2.7nm,0.7s,mb4.4
B12A **Libby** 93.83 37 ⇑P P 05 50 20.1 -0.6
baz=94,SNR=7.0
E14A **Clinton** 93.84 40 ⇑P P 05 50 19.8 -1.0
baz=94,SNR=10
SNOW **Snow King Moun** 93.87 43 eP P 05 50 21.0 0.0
comp=Z,20nm,0.9s,mb5.2
C13A **Hot Springs** 93.94 38 ⇊P P 05 50 20.5 -0.8
baz=94
IMW **Indian Meadow** 93.99 43 eP P 05 50 21.9 +0.3
comp=Z,17nm,0.8s,mb5.1
BILL **Bilibino** 94.00 355c iP P 05 50 20.2 -0.9
BILL pmax pmax
comp=Z,25nm,0.9s,mb5.2
LOHW **Long Hollow** 94.04 43 eP P 05 50 21.6 -0.2
comp=Z,6.5nm,0.8s,mb4.7
A12A **Yaak River Ran** 94.06 37 ⇊P P 05 50 21.1 -0.7
baz=94
F15A **Butte** 94.11 41 ⇑P P 05 50 21.5 -0.6
baz=94,SNR=7.9
QLMT **Earthquake Lak** 94.19 42 eP P 05 50 23.2 +0.7
LZH **Lanzhou** 94.19 308 ⇑P P 05 50 24.5 +1.8
LZH AP pP 05 52 14.8 +0.5
LZH XP sP 05 53 02.5 -2.2
LZH PP PP 05 54 22.5 +4.2
LZH SKS 06 00 12.5
LZH S S 06 00 52.0 +1.4
LZH XS sS 06 04 04.8 -6.3
LZH SS SS 06 07 32.5 +5.5
LZH AMB AMB
comp=Z,31nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,245nm,8.9s
D14A **Greenough** 94.20 39 ⇊P P 05 50 20.9 -1.5
baz=94,SNR=13
FLWY **Flagg Ranch** 94.23 43 eP P 05 50 23.2 +0.5
comp=Z,38nm,0.9s,mb5.4
PDAR **Pinedale Array** 94.25 44 P P 05 50 21.9 -0.9
comp=Z,9.1nm,1.1s,mb4.7,baz=202,slow=2.6,SNR=42
PDAR PP PP 05 54 14.7 -3.9
comp=Z,3.3nm,1.2s,baz=242,slow=5.9,SNR=5.7
PDAR PKKPbc PKKPbc 06 07 20.9 -0.9
comp=Z,0.5nm,0.7s,baz=46,slow=4.3,SNR=5.2
CHMT **Chamberlain Mo** 94.26 39 eP P 05 50 21.8 -0.9
E15A **Deer Lodge** 94.34 40 ⇑P P 05 50 22.2 -0.9
baz=94
YFT **Old Faithful** 94.35 42 P P 05 50 25.2 +2.0
B13A **Whitefish** 94.39 38 ⇑P P 05 50 21.8 -1.5
baz=95,SNR=6.0
SDCO **Great Sand Dun** 94.41 50 eP P 05 50 23.6 -0.1
comp=Z,8.5nm,0.9s,mb4.8
C14A **Swan Lake** 94.45 38 ⇑P P 05 50 22.3 -1.3
baz=95
BOZ **Bozeman (W)** 94.51 41 eP P 05 50 23.4 -0.5
BOZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BOZ **Bozeman (W)** 94.51 41 ⇊P P 05 50 23.2 -0.7
baz=95
BOZ **Bozeman (W)** 94.51 41 eP P 05 50 23.4 -0.5
comp=Z,8.4nm,0.8s,mb4.8
A13A **Flathead Natio** 94.73 37 ⇊P P 05 50 23.9 -1.0
baz=95
D15A **Lincoln** 94.74 39 ⇑P P 05 50 24.2 -0.8
baz=95,SNR=8.7
DAWY **Dawson** 95.07 17 eP P 05 50 25.3 -0.7
DAWY ePP PP 05 54 21.5 -2.8
WALA **Waterton Lakes** 95.08 37 eP P 05 50 25.9 -0.6
comp=Z,9.3nm,0.9s,mb4.8
EGAK **Eagle** 95.20 16 eP P 05 50 25.7 -0.9
comp=Z,29nm,0.9s,mb5.3
JCT **Junction City** 95.21 59 eP P 05 50 26.6 -0.9
JCT pmax pmax
comp=Z,15nm,1.0s,mb5.0
JCT **Junction City** 95.21 59 eP P 05 50 26.6 -0.9
comp=Z,15nm,1.0s,mb5.0
ISCO **Idaho Springs** 95.33 48 eP P 05 50 27.7 -0.1
ISCO pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ISCO **Idaho Springs** 95.33 48 eP P 05 50 27.7 -0.2
comp=Z,7.4nm,0.8s,mb4.8
COLD **Coldfoot** 95.40 11 eP P 05 50 26.7 -0.7
comp=Z,7.7nm,0.7s,mb4.8
COLD ePP PP 05 54 24.0 -2.8
RLMT **Red Lodge** 95.65 42 eP P 05 50 29.2 +0.1
comp=Z,11nm,0.9s,mb5.0
GCMT **Greycliff** 95.75 42 eP P 05 50 29.8 +0.2
YAK **Yakutsk** 96.13 339 ⇑iP P 05 50 29.3 -1.5
EGMT **Eagleton** 96.85 40 ⇊P P 05 50 33.5 -0.9
baz=97
SONM **Songino Array** 98.23 319 P Pdif 05 50 40.2 -0.7
comp=Z,2.0nm,0.8s,baz=131,slow=4.4,SNR=8.8
SONM pP pP 05 52 30.1 -2.4
comp=Z,0.2nm,0.3s,baz=95,slow=1.6,SNR=1.7
SONM PKKPbc PKKPbc 06 07 09.7 -1.5
comp=Z,1.3nm,0.7s,baz=264,slow=3.6,SNR=6.2
SONM **Songino Array** 98.23 319 P Pdif 05 50 40.2 -0.6
SONM *PP pP 05 52 30.1 -2.4
GTA **Gaotai** 98.56 310 eP Pdif 05 50 43.5 +1.2
GTA AP pP 05 52 38.5 +4.3
GTA XP sP 05 53 28.5 +4.0
GTA PP PP 05 54 57.5 +6.1
GTA SKS 06 00 31.5
GTA S Sdif 06 01 27.0 -0.4
GTA XS sS 06 04 51.0 +1.8
GTA SS SS 06 08 33.8 +6.0
GTA AMB AMB
comp=Z,5.0nm,1.5s,mb4.6
GTA AMB AMB
comp=Z,55nm,5.7s
ZAK **Zakamensk** 101.23 321 eP Pdif 05 50 52.4 -1.8
ZAK pmax pmax
comp=Z,2.0nm,1.6s
ZAK pmax pmax
comp=Z,2.0nm,1.5s
LPAZ **La Paz** 102.02 115 P Pdif 05 50 59.1 +1.4
comp=Z,1.3nm,0.7s,baz=236,slow=3.4,SNR=6.4
YKA **Yellowknife Ar** 102.16 26 P Pdif 05 50 57.1 -1.1
comp=Z,1.3nm,0.8s,baz=233,slow=4.6,SNR=6.9
YKA PKiKP PKiKP 05 55 14.8 -1.8
comp=Z,1.9nm,0.7s,baz=245,slow=1.7,SNR=14
YKA PKKPbc PKKPbc 06 06 57.8 -2.7
comp=Z,1.3nm,0.6s,baz=38,slow=2.6,SNR=16
CPUP **Villa Florida** 104.57 129 PKKPbc PKKPbc 06 06 51.4 -1.2
comp=Z,1.5nm,0.8s,baz=71,slow=3.9,SNR=3.7
ULM **Lac du Bonnet** 106.01 42 PKiKP PKiKP 05 55 21.5 -2.6
comp=Z,3.7nm,0.6s,baz=213,slow=4.8,SNR=4.3
ULM PP PP 05 55 43.9 -2.3
comp=Z,6.5nm,0.9s,baz=215,slow=7.0,SNR=3.2
ULM **Lac du Bonnet** 106.01 42 PKPdf PKiKP 05 55 21.5 -2.6
ULM PP PP 05 55 43.9 -2.3
PLAL **Pickwick Lake** 106.06 59 ePKPdf PKiKP 05 55 22.1 -2.6
TKL **Tuckaleechee C** 109.60 59 PKiKP PKiKP 05 55 29.2 -2.1
comp=Z,3.3nm,0.7s,baz=177,slow=6.2,SNR=8.3
BLA **Blacksburg** 112.64 58 ePKiKP PKiKP 05 55 35.9 -1.1
MK31 **Makanchi Array** 113.10 312 i PKiKP PKiKP 05 55 35.8 -1.8
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MKAR **Makanchi Array** 113.10 312 Pdif Pdif 05 51 49.5 +2.5
comp=Z,0.7nm,0.6s,baz=97,slow=5.6,SNR=11
MKAR PKiKP PKiKP 05 55 35.8 -1.8
comp=Z,5.4nm,0.7s,baz=78,slow=1.1,SNR=38
MKAR SKP 05 58 26.0
comp=Z,1.6nm,0.6s,baz=230,slow=1.3,SNR=5.3
MKAR PKKPbc PKKPbc 06 06 24.8 -1.2
comp=Z,4.3nm,0.8s,baz=292,slow=3.7,SNR=24
MKAR **Makanchi Array** 113.10 312 P Pdif 05 51 49.5 +2.6
MKAR 05 55 35.8
MKAR 06 06 24.8
ZALV **Zalesovo Beam** 113.11 320 PKiKP PKiKP 05 55 36.0 -1.4
comp=Z,3.3nm,0.4s,baz=138,slow=1.7,SNR=6.1
ZALV PKKPbc PKKPbc 06 06 25.1 -1.1
comp=Z,1.4nm,0.6s,baz=284,slow=4.8,SNR=4.1
ZAL **Zalesovo** 113.12 320 PKIKP PKiKP 05 55 36.0 -1.4
ZAL 06 06 25.1
NVS **Novosibirsk** 114.19 321 ePKIKP PKiKP 05 55 36.9 -2.5
SADO **Sadowa** 115.37 51 PKP PKPdf 05 55 40.1 -1.9
OPO **Ambohidratompo** 116.12 231 PKP PKPdf 05 55 43.6 -0.7
comp=Z,4.7nm,0.6s,baz=72,slow=1.5,SNR=7.5
KURK **Kurchatov** 116.25 316 ⇑ ePKIKP PKPdf 05 55 42.1 -1.4
ULHL **Ulahol** 116.34 306 P PKPdf 05 55 43.5 -0.5
SNR=8.3
TKM2 **Tokmak 2** 116.94 307 P PKPdf 05 55 43.9 -1.2
SNR=10
TKM2 **Tokmak 2** 116.94 307 ePKPdf PKPdf 05 55 44.2 -0.9
KZA **Kyzart** 117.03 306 P PKPdf 05 55 44.0 -1.3
SNR=10
KBK **Karagaybulak** 117.36 307 P PKPdf 05 55 45.3 -0.6
SNR=5.4
CHMS **Chumysh** 117.56 307 P PKPdf 05 55 45.0 -1.3
SNR=8.5
UCH **Uchtor** 117.59 306 P PKPdf 05 55 46.4 0.0
SNR=22
UCH **Uchtor** 117.59 306 ePKPdf PKPdf 05 55 46.5 +0.1
USP **Ospenovka** 117.79 307 P PKPdf 05 55 45.4 -1.4
SNR=16
BDFB **Brasilia** 118.06 126 PKP PKPdf 05 55 46.8 -1.3
comp=Z,2.0nm,0.7s,baz=221,slow=11,SNR=9.1
BDFB PKKPab PKKPab 06 06 14.3 -0.5
comp=Z,1.9nm,0.7s,baz=68,slow=11,SNR=6.5
AML **Almayashu** 118.18 306 P PKPdf 05 55 47.3 -0.3
SNR=19
AML **Almayashu** 118.18 306 ePKPdf PKPdf 05 55 47.4 -0.1
EKS2 **Erkin-Say** 118.21 306 P PKPdf 05 55 46.8 -0.7
SNR=9.4

EKS2 Erkin-Say 118.21 306 *e*PKPdf PKPdf 05 55 47.0 -0.6
LONY Lake Ozonia 118.55 51 *e*PKPdf PKPdf 05 55 46.5 -1.6
SJG San Juan 119.07 83 *e*PKIKP PKPdf 05 55 47.7 -2.2
CPD Cerro la Pandu 119.26 83 *e*PKIKP PKPdf 05 55 48.7 -1.6
HUMP Col San Antoni 119.35 83 *e*PKPdf PKPdf 05 55 48.8 -1.7
MTP Monte Pirata 119.60 83 *e*PKPdf PKPdf 05 55 48.6 -2.4
QUA2 Belchertown 119.79 54 *e*PKPdf PKPdf 05 55 49.2 -1.4
KBL Kabul 120.33 296 *e*PKIKP PKPdf 05 55 51.9 0.0
LBNH Lisbon 120.38 52 *e*PKIKP PKPdf 05 55 50.5 -1.2
LBNH 05 57 26.7
FFD Franklin Falls 120.47 53 *e*PKPdf PKPdf 05 55 51.1 -0.8
WES Weston 120.56 54 *e*PKIKP PKPdf 05 55 51.0 -1.1
BOSA Boshof 120.61 206 PKKPbc PKKPbc 06 05 58.4 -1.8
comp=Z,8.8nm,0.8s,baz=325,slow=4.4,SNR=11
KK31 Karatay Array 120.65 306 *i* PKIKP PKPdf 05 55 50.9 -1.4
KK31 pmax pmax
comp=Z,27nm,0.8s
VOSK Vostochnaya 121.17 318 PKIKP PKPdf 05 55 51.2 -1.7
VOSK pmax pmax
comp=Z,37nm,0.7s
BVAR Borovoye Array 121.54 318 PKP PKPdf 05 55 52.4 -1.3
comp=Z,23nm,0.5s,baz=89,slow=1.4,SNR=17
BVAR PKPbc PKKPbc 06 05 55.4 -1.1
comp=Z,1.2nm,0.7s,baz=278,slow=4.2,SNR=6.1
BRVK Borovoye 121.61 318⇑ *e*PKIKP PKPdf 05 55 52.2 -1.6
PKME Peaks-Kenny Pk 122.35 51 *e*PKPdf PKPdf 05 55 54.1 -1.4
LBTB Lobatse 123.64 209 PKP PKPdf 05 55 57.6 -1.1
comp=Z,8.4nm,0.7s,baz=149,slow=3.9,SNR=16
LBTB PKKPbc PKKPbc 06 05 46.4 -2.4
comp=Z,9.4nm,1.1s,baz=269,slow=5.7,SNR=4.3
LBTB Lobatse 123.64 209 PKP PKPdf 05 55 57.6 -1.1
LBTB PKKPbc PKKPbc 06 05 46.4 -2.4
SCHQ Schefferville 124.11 40 PKP PKPdf 05 55 56.8 -1.8
comp=Z,17nm,0.8s,baz=314,slow=1.7,SNR=17
KBS Kingsbay 126.43 357⇑ *e*PKIKP PKPdf 05 56 01.8 -0.6
SPB4 Spitsbergen Ar 126.90 356 *e*PKPdf PKPdf 05 56 02.9 -0.4
SPITS Spitsbergen Ar 126.90 356 PKP PKPdf 05 56 02.3 -1.0
comp=Z,19nm,0.5s,baz=9.7,slow=5.9,SNR=57
ARU Arti 128.11 323 *i* PKIKP PKPdf 05 56 05.2 -0.9
ARU 05 58 13.9
ARU Arti 128.11 323⇑ *e*PKP PKPdf 05 56 05.5 -0.6
AB31 Akbulak array 128.20 314⇑ *e*PKIKP PKPdf 05 56 06.4 -0.1
SOKR Solikamsk 128.33 327 *c i* PKIKP PKPdf 05 56 06.6 +0.2
SOKR pmax pmax
comp=Z,30nm,0.9s
SFJD Kangerlussuaq 128.59 23 PKP PKPdf 05 56 05.3 -1.4
SUMG Summit 128.73 14 *e*PKPdf PKPdf 05 56 07.0 +0.1
AKTK Aktyubinsk 129.33 315 PKP PKPdf 05 56 07.6 -1.0
AKTO Aktyubinsk 129.33 315 PKP PKPdf 05 56 07.6 -1.0
comp=Z,22nm,0.6s
LSZ Lusaka 130.64 218 PKP PKPdf 05 56 11.8 -0.4
comp=Z,17nm,0.7s,baz=121,slow=3.1,SNR=36
LSZ SKPbc SKPbc 05 58 50.4 +1.1
comp=Z,9.5nm,0.5s,baz=114,slow=4.0,SNR=20
TSUM Tsumeb 132.04 203 PKP PKPdf 05 56 14.5 -0.2
comp=Z,11nm,0.8s,baz=173,slow=2.0,SNR=13
TSUM SKPbc SKPbc 05 58 55.9 +1.7
comp=Z,4.4nm,0.7s,baz=108,slow=8.9,SNR=7.8
LVZ Lovozero 132.76 343⇑ *e*PKIKP PKPdf 05 56 13.7 -0.9
KEV Kevo 133.10 347 *ep* PKPdf 05 56 07.4 -7.8
comp=Z,2.7nm,0.3s
KEV Kevo 133.10 347 *ep* SKPbc 05 58 56.7 +0.5
comp=Z,14nm,0.7s
KEV Kevo 133.10 347 *e*PKHKP 05 56 07.4
KEV pmax pmax
comp=Z,3.0nm,0.3s
ARCES ARCESS Array B 133.58 348 PKhKP 05 56 08.0
comp=Z,3.7nm,0.5s,baz=100,slow=2.0,SNR=26
ARCES PKP PKPdf 05 56 14.6 -1.6
comp=Z,29nm,0.7s,baz=22,slow=1.3,SNR=32
ARCES SKPbc SKPbc 05 58 58.6 +0.9
comp=Z,24nm,0.7s,baz=46,slow=3.5,SNR=24
ARCES ARCESS Array B 133.58 348 PKP 05 56 08.0
ARCES PKP PKPdf 05 56 14.6 -1.6
ARCES SKPbc SKPbc 05 58 58.6 +0.9
KTK1 Kautokeino 134.45 348 *e*P PKPdf 05 56 17.2 -0.5
KTK1 *e*P 05 56 17.6
KTK1 Kautokeino 134.45 348 *e*P PKPdf 05 56 17.1 -0.6
JMIC Jan Mayen 134.46 4 PKP PKPdf 05 56 18.3 +0.5
comp=Z,32nm,0.7s,baz=134,slow=9.2,SNR=4.4
TRO Tromso 134.61 351 *e*P PKPdf 05 56 16.4 -1.6
TRO Tromso 134.61 351 *e*P PKPdf 05 56 10.6 -7.4
KMBO Kilima Mbogo 134.87 240 PKP PKPdf 05 56 21.1 +0.8
comp=Z,6.3nm,0.9s,baz=67,slow=3.4,SNR=8.8
KMBO SKP 05 59 06.0
comp=Z,5.0nm,0.8s,baz=58,slow=4.1,SNR=8.0
JOF Joensuu 137.30 339 *ep* 05 56 14.1
comp=Z,7.1nm,0.4s
JOF Joensuu 137.30 339 *ep* SKPbc 05 59 09.9 +0.5
comp=Z,30nm,0.6s
JOF Joensuu 137.30 339 *e*PHKKP 05 56 14.1
JOF pmax pmax
comp=Z,7.0nm,0.4s
UMR Umm Al-Rimmam 137.43 286 *e*P PKPdf 05 56 22.5 -1.9
baz=287
UMR AMb AMB 05 56 27.4
comp=Z,84nm,0.7s,baz=287
RDF Al-Radifah 137.49 286 *e*P PKPdf 05 56 22.3 -2.3
baz=286
RDF AMb AMB 05 56 28.2
comp=Z,108nm,0.7s,baz=286
MIB Mutribah 137.78 287 *e*P PKPdf 05 56 22.7 -2.4
baz=287
MIB AMb AMB 05 56 28.3
comp=Z,54nm,1.0s,baz=287
NAY Al-Naaiem 137.80 286 *e*P PKPdf 05 56 22.7 -2.4
baz=286
NAY AMb AMB 05 56 28.3
comp=Z,21nm,0.9s,baz=286
MOR8 Moi Rana 138.47 351 *e* PKPdf 05 56 15.7 -10
BORG Borgarnes 138.71 13 PKP PKPdf 05 56 26.0 +0.3
comp=Z,12nm,0.9s,baz=173,slow=2.4,SNR=4.3
VRHR Novokhopersk 139.24 320 *e*PKHKP 05 56 22.1
VRHR pmax pmax
comp=Z,20nm,0.4s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,0.9s
MOS Moscow 139.27 328 *e*PKIKP PKPdf 05 56 26.2 -0.8
MOS pmax pmax
comp=Z,39nm,0.8s
KAF Kangasniemi 139.44 341 *ep* 05 56 18.3
comp=Z,5.2nm,0.4s
KAF Kangasniemi 139.44 341 *ep* SKPbc 05 59 15.6 +0.3
comp=Z,23nm,0.6s
KAF Kangasniemi 139.44 341 *e*PKHKP 05 56 18.3
KAF pmax pmax
comp=Z,5.0nm,0.4s
GNI Garni 139.89 302 PKP PKPdf 05 56 28.8 +0.2
comp=Z,5.1nm,0.4s,baz=185,slow=8.8,SNR=6.2
OBN Obninsk 140.11 327⇑ *e*PKHKP 05 56 21.5
OBN *i* 05 56 29.3
OBN pmax pmax
comp=Z,12nm,0.5s
OBN pmax pmax
comp=Z,20nm,0.5s
OBN Obninsk 140.11 327⇑ *e*PKP PKPdf 05 56 29.4 +0.9
VRSR Storozhevoye 140.59 321 *e*PKHKP 05 56 23.0
VRSR pmax pmax
comp=Z,4.0nm,0.6s
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=E,2.0nm,1.6s
KIV Kislovodsk 140.73 309 *i* PKIKP PKPdf 05 56 28.9 -1.1
KIV pmax pmax
comp=Z,25nm,1.1s
KIV Kislovodsk 140.73 309 *i* P PKPdf 05 56 28.0 -2.0
KIV *i* PKP PKPdf 05 56 31.3 +1.3
HAKT HAKKARI 140.95 299 *i* P PKPdf 05 56 25.6 -5.0
AGRB Hanur-Agry 141.30 302 *e*P PKPdf 05 56 32.0 +0.8
BCA Borcka 142.03 305 *e*P PKPdf 05 56 28.7 -3.7
ERZM Erzurum 142.49 303 *i* P PKPdf 05 56 31.2 -2.1
SOC Sochi 142.91 309 *i* PKIKP PKPdf 05 56 31.1 -2.8
SOC *e*PPP 06 03 00.4
SOC *e*SS SS 06 18 19.6 +31
SOC pmax pmax
comp=Z,36nm,0.6s
DOMB Dombas 143.13 353 *e*P PKPdf 05 56 30.3 -3.4
DOMB AMb AMB 05 56 32.8
comp=Z,92nm,1.4s
MARD Mardin 143.29 299 *i* P PKPdf 05 56 33.1 -1.7
FVA Vagar 143.35 5 *e*P PKPdf 05 56 31.3 -2.8
FTO Torshavn 143.45 5 *e*P PKPdf 05 56 31.6 -2.7

EZC Erzincan 143.69 303 *e*P PKPdf 05 56 36.0 +0.5
GUMT Gumushane 143.81 304 *e*P PKPdf 05 56 35.1 -0.5
NB2 NORSAR Subarra 143.81 350 PKP PKPdf 05 56 32.5 -2.4
comp=Z,257nm,0.8s,baz=19,slow=3.8
NB2 NORSAR Subarra 143.81 350 PKP PKPdf 05 56 32.5 -2.4
baz=19,slow=3.8
NOA NORSAR Array B 143.81 350 PKP PKPdf 05 56 32.4 -2.5
comp=Z,202nm,0.8s,baz=21,slow=3.8,SNR=510
NOA NORSAR Array B 143.81 350 PKP PKPdf 05 56 32.4 -2.5
NAO01 NORSAR Array S 144.05 351 *e*PKPbc PKPdf 05 56 33.8 -1.6
ANN Anapa 144.12 312⇓ *i*PKIKP PKPdf 05 56 34.4 -1.6
ANN *e* 05 58 28.0
ANN pmax pmax
comp=Z,320nm,0.7s
PTK Pertek 144.16 301 *e*P PKPdf 05 56 36.2 -0.1
HFS Hagfors 144.25 348 PKP PKPdf 05 56 33.5 -2.2
comp=Z,137nm,0.4s,baz=72,slow=4.8,SNR=708
IZAR Zarasai 144.27 334 *e*P PKPdf 05 56 34.8 -1.1
IZAR AMb AMB 05 56 36.5
comp=Z,124nm,0.6s
SVRC Sivrice-ELAZID 144.31 301 *e*P PKPdf 05 56 36.7 +0.2
IDID Didziasalis 144.39 333 *e*P PKPdf 05 56 35.1 -1.0
IDID AMb AMB 05 56 37.0
comp=Z,68nm,0.8s
MNK Minsk 144.50 332 *e*PKHKP 05 56 31.0
MNK pmax pmax
comp=Z,480nm,1.0s
ELZG Elazig 144.54 301 *i* P PKPdf 05 56 38.0 +1.1
IIGN Ignalina 144.57 334 *e*P PKPdf 05 56 35.7 -0.7
IIGN AMb AMB 05 56 37.5
comp=Z,82nm,0.7s
GRSN GIRESUNGRSN 144.61 305 *i* P PKPdf 05 56 36.3 -0.6
URFA Urfa 144.83 299 *e*P PKPdf 05 56 37.5 +0.1
MALT Malatya 145.00 301 *e*P PKPdf 05 56 37.8 +0.1
MALT Malatya 145.00 301⇑ *i*P PKPdf 05 56 39.3 +1.6
MALT Malatya 145.00 301 P PKPdf 05 56 37.7 0.0
MALT *e*PKPbc PKPbc 05 56 38.0 -0.4
MYA Malataya 145.00 301 *e*P PKPdf 05 56 39.0 +1.3
ATAB Bozova 145.24 299 *i* P PKPdf 05 56 40.1 +1.9
DARE Darende-Malaty 145.37 302 *e*P PKPdf 05 56 39.5 +1.1
KONO Kongsberg 145.38 351⇑ *e*PKIKP PKPdf 05 56 37.5 -0.2
AKCD Akcadag 145.40 301 *i* P PKPdf 05 56 40.2 +1.8
RSDY Resadiye-TOKAT 145.43 305 *e*P PKPdf 05 56 39.6 +1.2
WAL1 Walls 145.47 1 *e*P PKPdf 05 56 37.3 -0.5
LRW Lerwick 145.60 1 P PKPdf 05 56 37.8 -0.2
LRW Lerwick 145.60 1 *e*P PKPdf 05 56 37.6 -0.4
LRW *e*P 05 56 37.8
SVSK Karacayir 145.78 304 *e*P PKPdf 05 56 39.2 +0.2
GZT Gaziantep 145.83 299 *i* P PKPdf 05 56 41.1 +1.9
BLS5 Blasjo 145.98 354 *e*P PKPdf 05 56 40.3 +1.6
BLS5 AMb AMB 05 56 44.2
comp=Z,54nm,0.8s
TOKT Tokat 146.03 305 *e*P PKPdf 05 56 40.2 +0.8
GAZ Gaziantep 146.13 299 *e*P PKPdf 05 56 41.5 +1.8
KVT Kavak 146.20 306 *e*P PKPdf 05 56 41.5 +1.8
SIM Simferopol' 146.26 314 *c i*PKIKP PKPdf 05 56 41.0 +1.4
SIM pmax pmax
comp=Z,91nm,0.8s
AKASG Malin Array Be 146.27 326 PKP PKPdf 05 56 37.6 -1.8
comp=Z,29nm,0.4s,baz=43,slow=3.6,SNR=135
AKASG PKPbc PKPbc 05 56 40.2 -1.4
comp=Z,30nm,0.4s,baz=42,slow=3.7,SNR=169
AKASG pPKPbc 05 58 33.7
comp=Z,0.9nm,0.4s,baz=37,slow=20,SNR=3.0
AKASG SKPbc SKPbc 05 59 33.2 +0.9
comp=Z,5.1nm,0.6s,baz=45,slow=3.0,SNR=4.7
AKASG Malin Array Be 146.27 326 PKHKP PKPdf 05 56 37.6 -1.9
AKASG 05 56 40.2
AKASG 05 58 33.7
AKASG Malin Array Be 146.27 326 PKP PKPdf 05 56 37.6 -1.8
AKASG PKPbc PKPbc 05 56 40.2 -1.4
AKASG pPKPbc 05 58 33.7
AKASG SKPbc SKPbc 05 59 33.2 +0.9
AKBB Malin Array Si 146.27 326 *e*PKIKP PKPdf 05 56 40.6 +1.1
SARI SarD1z-Kayseri 146.27 302 *e*P PKPdf 05 56 41.2 +1.4
KIEV Kiev 146.28 326 *e*PKIKP PKPdf 05 56 40.6 +1.1
KMRS Kahramanmaras 146.33 300 *e*P PKPdf 05 56 41.7 +1.7
DIKM Dikmen 146.61 307 *e*P PKPdf 05 56 42.1 +1.8
ANDN Andirin 146.75 300 *i* P PKPbc 05 56 43.8 +0.5
SUW Suwalki 146.75 334 *e*PKP PKPdf 05 56 41.9 +1.7
SUW *e* 05 56 44.9
SUW Suwalki 146.75 334 *e*PKP PKPdf 05 56 41.9 +1.7
SUW *e*PKPbc PKPbc 05 56 42.0 -0.8
SUW *e* 05 56 44.9
SUW *ep*PKPdf pPKPdf 05 58 42.5 +3.8
ASF Jabal al Asfar 146.84 290 PKPbc PKPbc 05 56 44.2 +0.4
comp=Z,50nm,0.7s,baz=340,slow=2.0,SNR=87
BNN Bunyan 146.89 302 *e*P PKPbc 05 56 43.4 -0.3
BOYT Boyabat 146.93 307 *i* P PKPbc 05 56 44.3 +0.6
COBT Iskenderun 146.99 298 *i* P PKPbc 05 56 44.8 +0.8
BYBT Boyabat 147.02 307 *e*P PKPbc 05 56 44.2 +0.3
RYO Tolsta 147.11 6 *e*P PKPdf 05 56 40.4 -0.2
HTY Hatay 147.14 297 *e*P PKPbc 05 56 44.4 -0.1
KOZT Kozan 147.17 300 *e*P PKPbc 05 56 45.2 +0.7
YAYL Yayladag 147.18 297 *i* P PKPbc 05 56 44.8 +0.3
RSC Scourie 147.22 5 *e*P PKPdf 05 56 40.3 -0.5
BZK Bozkurt 147.41 308 *e*P PKPbc 05 56 44.2 -0.8
YURE YUREGIR 147.44 299 *i* P PKPbc 05 56 45.2 0.0
REB Eisghbrachaidh 147.44 5 *e*P PKPdf 05 56 40.3 -0.8
CORM Corum 147.48 305 *e*P PKPbc 05 56 44.0 -1.2
RRH Rhenigidale 147.51 6 *e*P PKPdf 05 56 40.3 -1.0
RRR Rubha Reidh 147.66 5 *e*P PKPdf 05 56 41.6 +0.1
TOS Tosya 147.68 307 *e*P PKPbc 05 56 45.4 -0.3
RCY Rachaya 147.68 292 *e*P PKPbc 05 56 46.3 +0.3
MVH1 Achvaich 147.71 4 *e*P PKPdf 05 56 40.2 -1.4
BHL Bhannes 147.79 293 *e*P PKPbc 05 56 46.3 +0.1
CDAG Cicekdag 147.82 304 *i* P PKPbc 05 56 45.7 -0.4
KARA Karaisali 147.82 300 *e*P PKPbc 05 56 45.7 -0.4
BALT Daday 147.98 308 *i* P PKPbc 05 56 47.0 +0.5
NIG Nigde 147.99 301 *e*P PKPbc 05 56 46.0 -0.6
KAC Achnashellach 148.05 5 *e*P PKPdf 05 56 41.1 -1.1
MMAI Mount Meron Ar 148.06 292 PKPbc PKPbc 05 56 47.4 +0.5
comp=Z,85nm,0.5s,baz=72,slow=5.4,SNR=155
MMAI pPKPbc pPKPbc 05 58 41.6 -2.3
comp=Z,15nm,0.9s,baz=69,slow=4.6,SNR=5.0
MCD Coleburn Disti 148.10 3 *e*P PKPdf 05 56 42.6 +0.3
CANT Cankiri 148.10 306 *e*P PKPbc 05 56 46.3 -0.4
MDO Dochfour 148.18 4 *e*P PKPdf 05 56 42.0 -0.4
KPL Plockton 148.18 5 *e*P PKPdf 05 56 41.0 -1.4
MERS Mersin 148.31 299 *e*P PKPbc 05 56 46.8 -0.6
KAMT Kaman 148.38 304 *e*P PKPbc 05 56 47.0 -0.5
MME1 Meikle Cairn 148.38 3 *e*P PKPdf 05 56 41.8 -0.9
SAFT Safranbolu 148.57 308 *e*P PKPbc 05 56 47.7 -0.9
KAR1 Arisaig 148.58 6 *e*P PKPdf 05 56 40.9 -2.1
KIS Kishinev 148.59 320 *e*PKHKP PKPdf 05 56 46.0 +2.6
KIS *i* 05 56 53.0
KIS pmax pmax
comp=Z,210nm,1.3s
KIS Kishinev 148.59 320 *e*UNK PKPdf 05 56 46.0 +2.6
KIS XM 05 56 48.0
comp=Z,200nm,1.3s
COP Copenhagen 148.63 346 *i* PKHKP PKPdf 05 56 46.7 +3.5
COP pmax pmax
comp=Z,73nm,0.6s
COP Copenhagen 148.63 346 *i* P PKPbc 05 56 46.7 -0.9
comp=Z,73nm,0.6s
MEST Erdemli 148.66 299 *i* P PKPbc 05 56 48.2 -0.1
EREN Erenkoy 148.81 297 *e*P PKPbc 05 56 48.9 +0.2
ANTO Ankara 148.92 305 *e*P PKPbc 05 56 48.1 -0.7
ANTO Ankara 148.92 305⇑ *i*P PKPbc 05 56 48.5 -0.3
ANTO Ankara 148.92 305 P PKPbc 05 56 48.6 -0.2
LOD Lodumlu 148.94 305 *e*P PKPdf 05 56 46.4 +2.2
IKL Isikli 149.08 298 *e*P PKPbc 05 56 48.5 -0.9
SGKT Sivrigoynuk 149.24 307 *i* P PKPbc 05 56 48.6 -1.0
LFK Lefkose 149.36 296 *e*P PKPbc 05 56 49.8 -0.3
EAB Aberfoyle 149.43 4 *e*P PKPdf 05 56 43.1 -1.3
GKP Gorka Klasztor 149.47 339 *e*PKP PKPbc 05 56 49.1 -0.6
GKP *e* 05 56 49.9
GKP Gorka Klasztor 149.47 339 *e*PKP PKPbc 05 56 49.1 -0.6
GKP *e* 05 56 49.9
TLCR 149.53 317⇓ *i*P PKPbc 05 56 49.9 -0.2
TLCR 149.53 317 ⇓P PKPbc 05 56 49.9 -0.2
CSS Prodhromos 149.57 296 *e*PKPbc PKPbc 05 56 50.1 -0.4
ERMK Ermenek 149.62 299 *i* P PKPbc 05 56 51.1 +0.5
LADK Ladik-KONYA 149.69 302 *e*P PKPbc 05 56 49.2 -1.5
EDI Edinburgh 149.76 3 *e*P PKPdf 05 56 44.2 -0.8
ESY Stoneypath 149.79 2 *e*P PKPdf 05 56 43.7 -1.3
PGBU Glenifferbraes 149.79 5 *e*P PKPdf 05 56 43.2 -1.8
KDHN Kadinhani 149.80 303 *i* P PKPbc 05 56 50.0 -1.0
EAU Auchinoon 149.82 3 *e*P PKPdf 05 56 44.0 -1.1
KIZT Kizilcal 149.88 304 *e*P PKPbc 05 56 50.3 -0.8
MDU Mudurnu 149.88 307 *e*P PKPbc 05 56 50.6 -0.5

HDMB Hadim 149.89 300 *e*P PKPbc 05 56 49.9 -1.4
LEF Lefka 149.91 296 *e*P PKPbc 05 56 50.4 -0.9
HENT Hendek 149.99 308 *i* P PKPbc 05 56 50.8 -0.6
TIRR Tirgusor 150.13 316⇑ *i*P PKPbc 05 56 50.8 -0.8
TIRR Tirgusor 150.13 316 P PKPbc 05 56 51.3 -0.2
KWP Kalwaria 150.15 329 *e*PKP PKPbc 05 56 51.1 -0.3
KWP *e* 05 56 51.8
KWP Kalwaria 150.15 329⇑ *i*P PKPbc 05 56 51.0 -0.4
KWP Kalwaria 150.15 329 *e*PKP PKPbc 05 56 51.1 -0.3
KWP *e* 05 56 51.8
XSO Sourhope Farm 150.23 2 *e*P PKPdf 05 56 44.9 -0.8
HARR Harsova 150.32 317⇓ *i*P PKPbc 05 56 52.0 0.0
HARR Harsova 150.32 317 ⇓P PKPbc 05 56 52.0 0.0
EKA Eskdalemuir Ar 150.35 3 PKP PKPdf 05 56 44.8 -1.1
comp=Z,31nm,0.5s,baz=291,slow=1.9,SNR=18
EKA PKPbc PKPbc 05 56 50.4 -1.3
comp=Z,30nm,0.5s,baz=339,slow=2.6,SNR=135
ESK Eskdalemuir 150.36 3 *e*P PKPdf 05 56 44.4 -1.5
ESK Eskdalemuir 150.36 3 *e*PKPbc PKPbc 05 56 50.6 -1.1
VRI Vrincioaia 150.42 320⇑ *i*P PKPbc 05 56 51.4 -0.8
VRI Vrincioaia 150.42 320 P PKPbc 05 56 51.4 -0.8
ESKT Eskisehir 150.46 306 *i* P PKPbc 05 56 51.7 -0.8
PLOR Plostina 150.47 320⇓ *i*P PKPbc 05 56 51.5 -0.8
ECK Cauldkaine Hil 150.50 3 *e*P PKPdf 05 56 45.0 -1.1
BOLV Bolvadin 150.62 304 *i* P PKPbc 05 56 52.7 -0.2
BSEG Bad Segeberg 150.71 347 *e*PKPdf PKPdf 05 56 46.0 -0.5
BSEG *e*PKPbc PKPbc 05 56 52.1 -0.5
GAL1 Galloway 150.71 5 *e*P PKPdf 05 56 45.3 -1.2
GCD Castle Douglas 150.77 4 *e*P PKPdf 05 56 45.3 -1.3
KOLS Kolonicke sedl 150.84 329 *e*PKP PKPdf 05 56 46.7 -0.2
KOLS *e* 05 56 53.2
KOLS *e* 05 57 00.9
ADVT Abdulvahap 150.95 308 *e*P PKPbc 05 56 52.6 -1.0
SHUT Suhut-Afyon 150.97 304 *e*P PKPbc 05 56 53.1 -0.6
STHS Stebnicka Huta 150.97 330 *e*PKP PKPdf 05 56 46.6 -0.4
STHS *e* 05 56 53.3
OJC Ojcow 150.99 333 *e*PKPdf PKPdf 05 56 46.9 -0.1
OJC *i* PKPbc PKPbc 05 56 52.8 -0.5
UZH Uzhgorod 151.05 328 *e*PKIKP PKPbc 05 56 53.4 -0.1
UZH *i* 05 57 02.0
MLR Muntele Rosu 151.08 320⇑ *i*P PKPbc 05 56 52.9 -0.8
MLR Muntele Rosu 151.08 320 P PKPbc 05 56 53.3 -0.4
ALT Altintas 151.15 305 *e*P PKPbc 05 56 52.9 -1.1
YLV Yalova 151.16 308 *e*P PKPbc 05 56 52.9 -1.2
ISP Isparta 151.20 302 *e*P PKPbc 05 56 52.4 -1.9
ISP Isparta 151.20 302⇑ *i*P PKPbc 05 56 52.6 -1.6
ISP Isparta 151.20 302 P PKPbc 05 56 53.0 -1.2
RUE Ruedersdorf 151.20 342 *e*PKPbc PKPbc 05 56 53.3 -0.4
RUE Ruedersdorf 151.20 342 *e*PKPbc PKPbc 05 56 53.6 -0.2
BCK Bucak 151.24 302 *e*P PKPbc 05 56 53.0 -1.3
CRVS Cervenica-Dubn 151.24 329 *e*PKP PKPdf 05 56 46.8 -0.7
CRVS *e* 05 56 53.5
TKTP Tekketepe 151.29 303 *i* P PKPbc 05 56 53.3 -1.2
NIE Niedzica 151.38 331 *e*PKPdf PKPdf 05 56 48.4 +0.7
NIE *i* PKPbc PKPbc 05 56 54.3 +0.1
DMUB Kingscourt 151.44 8 *e*P PKPbc 05 56 52.8 -1.4
ULDT Uludag 151.49 308 *i* P PKPbc 05 56 54.2 -0.6
GDZ Gediz 151.60 305 *i* P PKPbc 05 56 53.9 -1.2
VOIR 151.63 320⇓ *i*P PKPbc 05 56 54.9 -0.1
VOIR 151.63 320 P PKPbc 05 56 55.1 +0.2
HPK Haverah Park 151.78 2 *e*P PKPdf 05 56 46.6 -1.5
KHAL Karahalli 151.82 304 *i* P PKPbc 05 56 54.9 -0.7
KSP Ksiaz 151.83 337 *e*PKP PKPbc 05 56 55.0 -0.2
KSP *e* 05 56 55.8
KSP Ksiaz 151.83 337⇑ *e*PKP PKPbc 05 56 54.9 -0.3
KSP *e*PKPdf PKiKP 05 56 55.8 +0.4
DCN Croghan 151.94 9 *e*P PKPbc 05 56 54.1 -1.3
ELL Elmali 151.95 300 *e*P PKPbc 05 56 54.6 -1.4
KECS Kecovo 151.99 330 *e*PKP PKPdf 05 56 48.4 -0.2
KECS *e* 05 56 55.6
KECS *e* 05 57 06.8
DLF Lyons Farm 152.08 8 *e*P PKPbc 05 56 54.0 -1.7
DRGR 152.08 325⇑ *i*P PKPbc 05 56 55.4 -0.5
DRGR 152.08 325 P PKPbc 05 56 55.4 -0.5
GOLH Golhisar 152.09 302 *i* P PKPbc 05 56 55.5 -0.8
NRDL Niedersach Rie 152.10 346 *e*PKPbc PKPbc 05 56 55.0 -0.8
LHO Holmfirth 152.19 2 *e*P PKPdf 05 56 47.5 -1.2
UPC Upice 152.21 337 *e*PKPDF PKPdf 05 56 49.3 +0.5
UPC ⇑*e*PKP PKPbc 05 56 55.5 -0.6
UPC *e*PKPAB PKPab 05 57 07.8 -0.4
DPC Dobruska-Polom 152.23 337 *e*PKPDF PKPdf 05 56 48.5 -0.4
DPC ⇑*e*PKP PKPbc 05 56 56.1 0.0
DPC *e*PKPAB PKPab 05 57 08.2 -0.1
MORC Moravsky Berou 152.24 335 *e*PKIKP PKPbc 05 56 56.0 -0.2
AKAS Kas 152.31 299 *i* P PKPbc 05 56 55.8 -0.9
KULA Kula-Manisa 152.39 305 *e*P PKPdf 05 56 52.9 +3.3
CLL Collm 152.47 342 *e*PKIKP PKPdf 05 56 49.0 -0.2
CLL *i* 05 56 55.8
CLL *i* 05 57 08.3
CLL Collm 152.47 342 *e*PKPdf PKPdf 05 56 48.5 -0.7
CLL *e*PKPbc PKPbc 05 56 55.8 -0.8
CLL *e*PKPab PKPab 05 57 08.7 -0.6
CLL Collm 152.47 342 *e*PKPdf PKPdf 05 56 49.0 -0.2
CLL ⇑*i*PKPbc PKPbc 05 56 55.8 -0.8
comp=Z,109nm,0.8s
CLL *i* PKPab PKPab 05 57 08.3 -1.0
comp=Z,59nm,0.7s
CLL *ep*PKPbc pPKPbc 05 58 52.0 -2.4
CLL *i* x x 05 59 10.6
CLL Collm 152.47 342 *e*PKP PKPdf 05 56 49.0 -0.2
CLL ⇑*i*PKP PKPbc 05 56 55.8 -0.8
CLL *i* PKP PKPab 05 57 08.3 -1.0
CLL *ep*PKP pPKPdf 05 58 52.0 +4.0
KBI1 Birley Grange 152.49 1 *e*P PKPdf 05 56 48.0 -1.2
BRG Berggiesshubel 152.57 340 *e*PKPdf PKPdf 05 56 48.7 -0.7
BRG *e*PKPbc PKPbc 05 56 56.3 -0.5
BRG Berggiesshubel 152.57 340 *e*PKP PKPdf 05 56 49.2 -0.2
comp=Z,12nm,1.1s
BRG *i* 05 56 56.3
comp=Z,54nm,0.6s
BRG *i* 05 57 09.5
comp=Z,50nm,0.8s
BRG *e* 05 58 55.1
comp=Z,8.0nm,1.1s
PSZ Piszkesteto 152.68 329⇑ *i*P PKPbc 05 56 56.3 -0.9
PSZ Piszkesteto 152.68 329 P PKPbc 05 56 56.7 -0.4
PVCC Panska Ves 152.68 339 *e*PKPDF PKPdf 05 56 48.9 -0.6
PVCC ⇑*e*PKP PKPbc 05 56 56.6 -0.5
PVCC *e*PKPAB PKPab 05 57 10.3 +0.1
FBE Freiberg 152.71 341 *e*PKPdf PKPdf 05 56 49.1 -0.5
FBE *e*PKPbc PKPbc 05 56 56.7 -0.4
FBE *e*PKPab PKPab 05 57 10.1 -0.2
KWE Weaver Farm 152.72 2 *e*P PKPdf 05 56 49.2 -0.3
VYHS Vyhne 152.72 331 *e*PKP PKPdf 05 56 48.9 -0.8
VYHS *e* 05 56 56.6
IBBN Ibbenburen 152.74 349 *e*PKPab PKPab 05 57 09.8 -0.6
SBD1 Bryn Du 152.77 4 *e*P PKPdf 05 56 48.5 -1.1
KOLL Kolacno 152.84 332 *e*PKP PKPbc 05 56 56.8 -0.7
AKS Akhisar 152.89 306 *e*P PKPbc 05 56 56.5 -1.4
VRAC Vranov 152.99 335 PKP PKPdf 05 56 49.8 -0.2
comp=Z,2.3nm,0.4s,baz=89,slow=14,SNR=4.0
VRAC PKPbc PKPbc 05 56 57.1 -0.7
comp=Z,7.1nm,0.6s,baz=254,slow=7.0,SNR=6.2
VRAC PKPab PKPab 05 57 11.3 -0.3
comp=Z,7.6nm,0.6s,baz=67,slow=4.0,SNR=6.8
VRAC Vranov 152.99 335⇓ *i*P PKPbc 05 56 57.8 0.0
AEU East Anglia Un 153.11 358 *e*P PKPdf 05 56 48.9 -1.2
PRU Pruhonice 153.15 338 *e*PKPDF PKPdf 05 56 49.0 -1.2
PRU ⇑*e*PKP PKPbc 05 56 57.5 -0.6
PRU *e*PKPAB PKPab 05 57 12.5 +0.3
HLM1 Long Mynd 153.17 3 *e*P PKPdf 05 56 49.0 -1.2
WTSB Winterswijk 153.22 350 *e*PKiKP PKPdf 05 56 51.1 +0.9
comp=Z,12nm,0.6s
WTSB Winterswijk 153.22 350⇑ *i*PKPpre PKPbc 05 56 57.2 -1.0
comp=Z,108nm,0.9s
TREC Trest 153.41 336⇑ *e*PKP PKPbc 05 56 58.0 -0.7
BZS Buzias 153.42 324⇓ *i*P PKPbc 05 56 58.0 -0.9
BZS Buzias 153.42 324 P PKPbc 05 56 58.3 -0.5
WERD Werda 153.44 342 *e*PKPdf PKPdf 05 56 49.9 -0.7
WERD *e*PKPab PKPab 05 57 13.0 -0.4
MOX Moxa 153.45 343 *e*PKP PKPdf 05 56 50.4 -0.2
MOX *e* 05 56 58.1
comp=Z,26nm,1.3s
MOX *e* 05 57 12.8
MOX Moxa 153.45 343 *e*PKPab PKPab 05 57 12.9 -0.6
KDAG Bornova 153.46 305 *i* P PKPbc 05 56 58.9 -0.3
MODS Modra-Piesok 153.47 333 *e*PKP PKPdf 05 56 50.0 -0.7
MODS *e* 05 56 58.5
MODS *e* 05 57 13.0
MODS Modra-Piesok 153.47 333 *e*PKP PKPdf 05 56 50.0 -0.7
MODS *e* 05 56 58.5

MODS e 05 57 13.1
GUNZ Gunzen 153.50 342 *e*PKPdf PKPdf 05 56 50.2 -0.5
GUNZ *e*PKPab PKPab 05 57 13.6 -0.1
WERN Wernitzgruen 153.56 341 *e*PKPdf PKPdf 05 56 50.3 -0.5
WERN *e*PKPab PKPab 05 57 13.9 -0.1
NKC Novy Kostel 153.59 341 *e*PKPDF PKPdf 05 56 47.6 -3.2
NKC ⇑*e*PKP PKPbc 05 56 58.8 -0.2
NKC *e*PKPAB PKPab 05 57 13.7 -0.4
HTR Trewern Hill 153.59 4 *e*P PKPdf 05 56 48.9 -1.9
MCH1 Michaelchurch 153.69 4 *e*P PKPdf 05 56 49.4 -1.5
MANZ Manzenberg 153.91 341 *e*PKPdf PKPdf 05 56 50.5 -0.8
MANZ *e*PKPbc PKPbc 05 56 59.1 -0.6
HGH Gray Hill 154.06 3 *e*P PKPdf 05 56 50.0 -1.5
KHC Kasperske Hory 154.21 339 *e*PKPDF PKPdf 05 56 50.6 -1.1
KHC ⇑*e*PKP PKPbc 05 56 59.8 -0.6
KHC *e*PKPAB PKPab 05 57 16.7 0.1
VTS Vitosha 154.34 317 ⇑*i*P PKPbc 05 56 59.7 -1.2
GEC2 GERESS Array S 154.41 338 *e*PKP2 PKPab 05 57 17.3 -0.4
GEC2 GERESS Array S 154.41 338 *e*PKPdf PKPdf 05 56 51.1 -0.9
GEC2 *e*PKPab PKPab 05 57 17.3 -0.4
GERES GERESS Array B 154.41 338 PKP PKPdf 05 56 51.0 -1.1
comp=Z,5.2nm,0.9s,baz=90,slow=1.3,SNR=21
GERES PKPbc PKPbc 05 57 00.4 -0.4
comp=Z,12nm,0.9s,baz=107,slow=1.4,SNR=16
GERES PKPab PKPab 05 57 17.2 -0.5
comp=Z,5.6nm,0.7s,baz=35,slow=4.9,SNR=8.3
GRA1 Grafenberg Arr 154.42 342 *e*PKPab PKPab 05 57 17.8 +0.1
GRF Grafenberg Arr 154.42 342 *e*PKPab PKPab 05 57 17.8 +0.1
WET Wettzell 154.42 340 *e*PKP2 PKPab 05 57 17.7 0.0
WET Wettzell 154.42 340 *e*PKPdf PKPdf 05 56 51.4 -0.6
WET *e*PKPab PKPab 05 57 17.7 0.0
PKSM Moragy 154.51 328 ⇑*i*P PKPdf 05 56 52.4 +0.1
PKSM Moragy 154.51 328 ⇑P PKPdf 05 56 52.4 +0.2
HGN Heimansgroeve 154.52 351 *e*PKiKP PKPbc 05 56 54.9 -6.1
HGN Heimansgroeve 154.52 351 ⇑*i*PKPpre PKPbc 05 57 00.7 -0.3
comp=Z,17nm,1.1s
HGN Heimansgroeve 154.52 351 *e*PKPab PKPab 05 57 16.5 -1.6
comp=Z,43nm,1.1s
BEBN Eben Emael 154.53 351 PKP PKPdf 05 56 50.3 -1.8
BEBN PKPbc PKPbc 05 57 00.6 -0.4
BEBN PKPab PKPab 05 57 17.5 -0.6
MEM Membach 154.66 350 PKP PKPdf 05 56 50.9 -1.4
MEM PKPbc PKPbc 05 57 00.4 -0.9
MEM PKPab PKPab 05 57 16.7 -2.0
BCLA Clavier 154.95 351 PKPbc PKPdf 05 57 01.1 +8.4
BCLA PKPab PKPab 05 57 19.0 -0.9
DOU Dourbes 155.36 352 PKP PKPdf 05 57 02.0 +8.7
DOU PKPab PKPab 05 57 20.2 -1.4
RUP Ruppelstein 155.37 348 PKIKP PKPdf 05 56 52.3 -1.0
VAY Valandovo 155.42 315 *e*PKP PKPdf 05 57 00.7 +7.0
BAIF Baives 155.44 353 *e*PKIKP PKPdf 05 56 53.8 +0.4
comp=Z,12nm,0.8s
WLF Walferdange 155.56 350 *e*PKPab PKPab 05 57 22.1 -0.4
GROS Grobnik 155.72 333 *e*PKPdf PKPdf 05 56 52.8 -1.0
SKO Skopje 155.77 317 *e*PKP PKPdf 05 56 59.3 +5.2
FUR Furstenfeldbru 155.78 341 *e*PKPab PKPab 05 57 23.7 +0.1
LANF Langenberg 155.91 347 PKP PKPdf 05 56 54.4 +0.4
KRUS Krusevo 156.23 316 *e*PKP PKPdf 05 57 03.8 +9.1
IDI Anoyia 156.26 300 PKP PKPdf 05 56 55.3 +0.4
comp=Z,10nm,0.8s,baz=238,slow=3.1,SNR=3.3
BFO Black Forest 156.41 345 *e*PKPab PKPab 05 57 25.5 -0.8
LJU Ljubljana 156.46 333 *e*PKPbc PKPdf 05 57 04.9 +10
VISS Visnje 156.52 332 *e*PKPdf PKPdf 05 56 54.0 -1.0
VISS *e*PKPbc PKPdf 05 57 05.0 +10
VISS *e*PKPab PKPab 05 57 26.1 -0.8
BOJS Bojanci 156.59 331 *e*PKPbc PKPdf 05 57 05.2 +10
BOJS *i* PKPab PKPab 05 57 27.2 0.0
ABTA Abfaltersbach 156.63 337 ⇑*i*P PKPdf 05 56 53.8 -1.3
comp=Z,10.0nm,0.8s
ECH Echery 156.77 347 PKP PKPdf 05 56 55.1 -0.1
ECH *e*PKPbc PKPab 05 57 27.5 -0.3
FELD Feldberg im Sc 156.91 345 PKP PKPdf 05 56 54.6 -0.8
FETA Feichten 156.97 340 ⇓*i*P PKPdf 05 56 53.7 -1.8
comp=Z,7.0nm,0.7s
THEF They Montfort 156.98 349 PKP PKPdf 05 56 55.1 -0.3
FLN La Foliniere 157.00 0 *e*PKIKP PKPdf 05 56 54.8 -0.6
MOF Molkenrain 157.12 347 PKP PKPdf 05 56 54.6 -1.0
LDF La Druitiere 157.17 360 *e*PKIKP PKPdf 05 56 54.9 -0.8
GRR Gorron 157.37 1 *e*PKIKP PKPdf 05 56 55.8 -0.1
DAVOX Davos/Dischmat 157.44 341 PKPab PKPab 05 57 30.9 +0.1
comp=Z,46nm,0.7s,baz=14,slow=4.0,SNR=19
SGMF Saint Gilles 157.44 4 *e*PKIKP PKPdf 05 56 55.5 -0.5
LOMF Lomont 157.66 347 PKP PKPdf 05 56 57.0 +0.7
QUIF Quistinic 157.74 5 *e*PKIKP PKPdf 05 56 56.0 -0.4
LOR Lormes 158.23 352 *e*PKIKP PKPdf 05 56 55.8 -1.2
comp=Z,14nm,0.9s
SSF Saint Saulge 158.47 353 *e*PKIKP PKPdf 05 56 56.1 -1.2
comp=Z,20nm,1.0s
CABF La Chapelle 158.52 348 *e*PKIKP PKPdf 05 56 56.7 -0.7
comp=Z,29nm,1.1s
AVF Avril sur Loir 158.76 353 *e*PKIKP PKPdf 05 56 57.3 -0.3
comp=Z,7.0nm,0.9s
SMF Signal de Mont 158.84 352 *e*PKIKP PKPdf 05 56 57.5 -0.2
BGF Bois d'Agland 159.04 354 *e*PKIKP PKPdf 05 56 56.9 -1.1
MFF Saint Martin d 159.16 359 *e*PKIKP PKPdf 05 56 57.7 -0.4
comp=Z,59nm,1.3s
TCF Toulx Ste Croi 159.37 355 *e*PKIKP PKPdf 05 56 57.2 -1.1
comp=Z,25nm,1.0s
LPL La Plagne 159.43 346 *e*PKIKP PKPdf 05 56 58.7 +0.3
LPG La Plagne 159.44 346 *e*PKIKP PKPdf 05 56 58.9 +0.4
PLDF La Plantade 159.54 352 PKP PKPdf 05 56 59.2 +0.7
PYM Petit Puy Mans 159.82 353 PKP PKPdf 05 56 58.9 0.0
BNI Bardonecchia 159.88 345 *e*PKIKP PKPdf 05 56 59.2 +0.2
LIC Lamto 160.12 166 *e*PKIKP PKPdf 05 56 58.8 -1.4
comp=Z,30nm,0.8s
MBDF Montbardon 160.16 345 *e*PKIKP PKPdf 05 56 59.4 +0.1
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 160.18 347 *e*PKIKP PKPdf 05 56 59.5 +0.2
comp=Z,10nm,0.8s
LBL Lubilhac 160.31 352 PKP PKPdf 05 56 59.4 0.0
RJF Les Rejaudoux 160.40 356 *e*PKIKP PKPdf 05 56 58.5 -1.0
comp=Z,20nm,0.9s
VIVF Saint-Julien-l 160.47 349 *e*PKIKP PKPdf 05 56 59.4 -0.2
DBIC Dimbokro 160.59 167 PKP PKPdf 05 56 59.5 -1.3
comp=Z,9.6nm,0.7s,baz=129,slow=2.6,SNR=13
DBIC PKPab PKPab 05 57 44.5 -0.8
comp=Z,21nm,0.8s,baz=169,slow=5.6,SNR=12
DBIC Dimbokro 160.59 167 PKP PKPdf 05 56 59.5 -1.3
DBIC PKPab PKPab 05 57 44.5 -0.8
SAOF Saorge 160.66 342 PKP PKPdf 05 57 01.1 +1.2
CAF Calviac 160.73 355 *e*PKIKP PKPdf 05 56 59.0 -0.9
comp=Z,15nm,0.9s
LFF La Frestale 160.80 358 *e*PKIKP PKPdf 05 56 59.6 -0.4
LUCF Luceram 160.80 343 PKP PKPdf 05 57 01.9 +1.9
SBF Sospel 160.80 343 *e*PKIKP PKPdf 05 56 59.3 -0.7
MVIF Mont Vial 160.85 343 PKP PKPdf 05 57 00.5 +0.4
SMRF Simiane la Rot 161.15 347 *e*PKIKP PKPdf 05 57 00.4 0.0
comp=Z,12nm,1.0s
FRF La Foret Royal 161.29 344 *e*PKIKP PKPdf 05 56 59.7 -0.8
comp=Z,25nm,1.1s
BBTS Babate 161.31 123 PKPab PKPab 05 57 47.8 -0.8
comp=Z,16nm,0.8s,baz=161,slow=3.0,SNR=3.5
LASF Ste Croix 161.36 350 *e*PKIKP PKPdf 05 57 00.7 +0.1
comp=Z,20nm,1.3s
EMAZ Mazaricos 161.44 20 PKP PKPdf 05 57 00.2 -0.5
EMAZ PKPab PKPab 05 57 46.9 -1.4
PGF Pioggiola 161.52 338 *e*PKIKP PKPdf 05 56 59.2 -1.6
comp=Z,14nm,0.8s
LMR La Mourre 161.54 344 *e*PKIKP PKPdf 05 57 00.1 -0.7
comp=Z,21nm,1.0s
EPON Pontenova 161.59 16 PKP PKPdf 05 56 59.2 -1.7
EPON PKPab PKPab 05 57 49.0 0.0
STS Santiago 161.62 19 PKIKP PKPdf 05 57 00.7 -0.2
EARI Arriondas 162.03 11 PKP PKPdf 05 57 00.9 -0.4
EARI PKPab PKPab 05 57 49.8 -1.1
MTLF Montolieu 162.29 354 *e*PKIKP PKPdf 05 57 01.3 -0.2
comp=Z,16nm,1.1s
ERUA La Rua 162.47 17 PKIKP PKPdf 05 57 01.8 0.0
SJPF Ste Jean 162.64 2 *e*PKIKP PKPdf 05 57 02.4 +0.5
comp=Z,28nm,1.1s
ELOB Lobios 162.70 20 PKP PKPdf 05 57 01.5 -0.5
ELOB PKPab PKPab 05 57 53.0 -1.0
EPF Esparros 162.72 358 *e*PKIKP PKPdf 05 57 01.1 -0.9
comp=Z,26nm,0.9s
PCAB Cabril 162.85 20 *e*PKPdf PKPdf 05 57 02.5 +0.3
PCAB Cabril 162.85 20 *e*PKPab PKPab 05 57 53.6 -1.0
ETSF Etsaut 162.86 0 *e*PKIKP PKPdf 05 57 02.4 +0.3
comp=Z,17nm,1.0s
ECAL Calabor 163.00 16 PKP PKPdf 05 57 02.1 -0.2
ECAL PKPab PKPab 05 57 54.8 -0.4
EBIE Bielsa 163.07 359 PKP PKPdf 05 57 01.0 -1.3
EBIE PKPab PKPab 05 57 55.0 -0.5
PBRG Braganca 163.13 16 *e*PKPab PKPab 05 57 54.8 -1.0
MVO Moncorvo 163.65 18 *e*PKPdf PKPdf 05 57 03.3 +0.4
MVO Moncorvo 163.65 18 *e*PKPab PKPab 05 57 57.4 -0.7
EMIR Miracle 163.77 355 PKP PKPdf 05 57 02.8 -0.2
EMIR PKPab PKPab 05 57 58.7 +0.1
VSL Villasalto 163.99 331 *e*PKPdf PKPdf 05 57 02.5 -0.8
MTE Manteigas 164.20 20 *e*PKPdf PKPdf 05 57 02.0 -1.4
MTE Manteigas 164.20 20 *e*PKPab PKPab 05 57 59.2 -1.4
PTOM Tomar 164.60 24 *e*PKPdf PKPdf 05 57 03.5 -0.3
PTOM Tomar 164.60 24 *e*PKPab PKPab 05 58 01.1 -1.3
PCBR Castelo Branco 164.73 21 *e*PKPdf PKPdf 05 57 03.6 -0.3
PCBR Castelo Branco 164.73 21 *e*PKPab PKPab 05 58 01.2 -1.7
ERTA Horta de San J 164.79 358 PKP PKPdf 05 57 04.2 +0.2
GUD Guadarrama 164.79 11 PKiKP PKPdf 05 57 04.5 +0.6
GUD 05 58 02.4
PMAFR Mafra 164.84 27 *e*PKPdf PKPdf 05 57 04.1 +0.1
PMAFR Mafra 164.84 27 *e*PKPab PKPab 05 58 02.3 -1.1
ETOR Torete 164.88 5 PKiKP PKPdf 05 57 04.2 +0.2
ETOR 05 58 03.8
PMRV Marv??o 165.13 22 *e*PKPdf PKPdf 05 57 03.8 -0.5
PMRV Marv??o 165.13 22 *e*PKPab PKPab 05 58 03.1 -1.6
EMOS Mosqueruela 165.40 0 PKP PKPdf 05 57 04.8 +0.3
EMOS PKPab PKPab 05 58 05.3 -0.5
PESTR Estremoz 165.56 23 *e*PKPdf PKPdf 05 57 04.0 -0.6
PESTR Estremoz 165.56 23 *e*PKPab PKPab 05 58 05.2 -1.4
EVO Evora 165.71 25 ⇑*i*PKIKP PKPdf 05 57 04.3 -0.5
comp=Z,45nm,0.8s
EVO Evora 165.71 25 *e*PKPdf PKPdf 05 57 04.2 -0.6
EVO Evora 165.71 25 *e*PKPab PKPab 05 58 05.8 -1.5
ESBB Sonseca Array 165.77 11 PKP PKPdf 05 57 04.4 -0.3
ESDC Sonseca Array 165.77 11 PKP PKPdf 05 57 04.7 -0.1
comp=Z,1.1nm,0.6s,baz=263,slow=0.9,SNR=5.4
ESDC PKPab PKPab 05 58 06.4 -1.1
comp=Z,24nm,0.9s,baz=345,slow=4.3,SNR=42
ESDC PP PP 06 01 55.0 -0.2
comp=Z,0.2nm,0.3s,baz=332,slow=5.1,SNR=4.5
ESDC Sonseca Array 165.77 11 PKP PKPdf 05 57 04.8 +0.1
EBAD Badajoz 165.86 22 PKP PKPdf 05 57 04.3 -0.5
EBAD PKPab PKPab 05 58 06.7 -1.3
PBEJ Beja 166.20 25 *e*PKPdf PKPdf 05 57 05.0 -0.2
PBEJ Beja 166.20 25 *e*PKPab PKPab 05 58 08.3 -1.2
PTEO Sao Teotonio 166.26 29 *e*PKPdf PKPdf 05 57 05.5 +0.3
PTEO Sao Teotonio 166.26 29 *e*PKPab PKPab 05 58 09.1 -0.7
PBAR Barrancos 166.38 23 *e*PKPdf PKPdf 05 57 04.9 -0.4
PBAR Barrancos 166.38 23 *e*PKPab PKPab 05 58 09.3 -0.9
MORF Marmelete 166.49 29 *e*PKPdf PKPdf 05 57 05.4 0.0
MORF Marmelete 166.49 29 *e*PKPab PKPab 05 58 09.5 -1.3
PFVI Vila Bisbo 166.56 30 *e*PKPdf PKPdf 05 57 04.6 -0.9
PFVI Vila Bisbo 166.56 30 *e*PKPab PKPab 05 58 09.9 -1.2
EGRO El Granado 166.78 25 PKP PKPdf 05 57 05.3 -0.3
EGRO PKPab PKPab 05 58 11.0 -1.0
PVAQ Vaqueiros 166.80 26 *e*PKPdf PKPdf 05 57 05.2 -0.4
PVAQ Vaqueiros 166.80 26 *e*PKPab PKPab 05 58 10.8 -1.4
PBDV Barranco-do-Ve 166.85 27 *e*PKPdf PKPdf 05 57 05.8 +0.1
PBDV Barranco-do-Ve 166.85 27 *e*PKPab PKPab 05 58 11.9 -0.5
EMIN Mina Concepcio 166.87 22 PKP PKPdf 05 57 05.5 -0.2
EMIN PKPab PKPab 05 58 11.3 -1.1
KEST Kesra 166.97 322 PKP PKPdf 05 57 05.2 -0.6
comp=Z,1.9nm,0.8s,baz=262,slow=1.8,SNR=6.9
KEST PKPab PKPab 05 58 13.1 +0.1
comp=Z,5.3nm,0.9s,baz=274,slow=0.3,SNR=10
ECAB El Cabril 166.97 18 PKP PKPdf 05 57 06.7 +0.9
ECAB PKPab PKPab 05 58 11.9 -1.0
EVIA Vianos 167.00 7 PKIKP PKPdf 05 57 06.0 +0.3
EVIA 05 58 12.8
EADA Adamuz 167.10 15 PKP PKPdf 05 57 05.5 -0.3
EADA PKPab PKPab 05 58 12.7 -0.7
EBAN Banos Encina 167.27 12 PKIKP PKPdf 05 57 06.4 +0.4
TORD Torodi Ar. Bea 167.34 189 PKP PKPdf 05 57 05.4 -1.3
comp=Z,11nm,0.7s,baz=305,slow=0.7,SNR=65
TORD PKPab PKPab 05 58 14.0 -0.9
comp=Z,16nm,0.7s,baz=166,slow=4.0,SNR=28
TORD pPKPab pPKPab 06 00 05.1 -1.8
comp=Z,11nm,1.2s,baz=176,slow=3.3,SNR=8.3
TORD PP PP 06 02 02.1 -0.9
comp=Z,2.0nm,0.8s,baz=147,slow=5.4,SNR=3.6
EQES Quesada 167.75 10 PKP PKPdf 05 57 06.0 -0.3
EQES PKPab PKPab 05 58 16.5 +0.3
ELUQ Luque 167.75 15 PKIKP PKPdf 05 57 06.4 +0.1
ESPR Espera 167.96 21 PKP PKPdf 05 57 06.5 0.0
ESPR PKPab PKPab 05 58 16.9 -0.4
MDT Midelt 172.03 26 PKP PKPdf 05 57 09.3 +0.4
comp=Z,10nm,0.8s,baz=73,slow=1.7,SNR=6.3
MDT PKPab PKPab 05 58 35.3 -0.1
comp=Z,8.6nm,0.8s,baz=342,slow=6.5,SNR=7.0

ISCJB ***27*** *05:40:31.3±0.6, 1632S×008×7184W×007, h10km, mb3.9/6, Error ellipse: s-maj=13.2km s-min=5.7km az=39.4*
NEIC ***27*** *05:40:32.4±0.8, 1629S×7182W, h10km, mb4.6/1, ML4.1(LIM), Error ellipse: s-maj=19.9km s-min=12.5km az=29.0*
NEIC Felt [III] at Arequipa.
IDC ***27*** *05:40:45.4±3.1, 1635S×7133W, h120km±28km, mb3.6/5, mb1 3.6/8, mb1mx3.4/20, mbtmp3.4/8, Error ellipse: s-maj=28.5km s-min=24.1km az=91.0*
ISC 27 05:40:33.2±0.6, 1628S±008×**7178W**±008, **h10km, n20,**
σ1§11/23, mb3.9/6, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.33**	**123**	⇓*i*P		**Pg**	**05 40 37.9**	**-1.9**
ARE				*i* S		**Sg**	**05 40 44.0**	**-0.3**
LPAZ	**La Paz**	**3.50**	**91**	P		**Pn**	**05 41 33.1**	**+5.3**
1.3nm,0.3s,baz=272,slow=12,SNR=24								
NNA	**Nana**	**6.51**	**310**	P		**Pn**	**05 42 13.3**	**+4.2**
1.2nm,0.3s,baz=129,slow=7.3,SNR=5.7								
NNA				S		**Sn**	**05 43 22.7**	**-0.8**
0.6nm,0.3s,baz=27,slow=21,SNR=1.6								
NNA	**Nana**	**6.51**	**310**	P		**Pn**	**05 42 13.3**	**+4.2**
NNA				S		**Sn**	**05 43 22.7**	**-0.8**
LVC	**Limon Verde**	**6.85**	**157**	P		**Pn**	**05 42 13.7**	**-0.1**
3.1nm,0.3s,baz=338,slow=8.9,SNR=13								
LVC				S		**Sn**	**05 43 32.6**	**+0.6**
2.4nm,0.3s,baz=32,slow=21,SNR=6.7								
LVC	**Limon Verde**	**6.85**	**157**	P		**Pn**	**05 42 13.7**	**-0.1**
LVC				S		**Sn**	**05 43 32.6**	**+0.6**
SIV	**San Ignacio**	**10.29**	**90**	P		**Pn**	**05 43 03.0**	**+1.9**
0.7nm,0.3s,baz=274,slow=14,SNR=10								
CFAA	**Coronel Fontan**	**15.59**	**169**	P		**Pn**	**05 44 17.4**	**+4.2**
0.1nm,0.3s,baz=336,slow=9.4,SNR=11								
BDFB	**Brasilia**	**22.86**	**92**	P		**P**	**05 45 36.5**	**-0.4**
1.0nm,0.8s,mb3.3,baz=239,slow=21,SNR=4.0								
PLCA	**Paso Flores**	**24.39**	**178**	P		**P**	**05 45 51.7**	**+0.1**
3.2nm,1.1s,mb3.7,baz=328,slow=9.5,SNR=2.2								
PLCA	**Paso Flores**	**24.39**	**178**	P		**P**	**05 45 51.7**	**+0.1**
TXAR	**Lajitas Array**	**54.81**	**326**	P		**P**	**05 50 05.4**	**+1.8**
0.5nm,1.0s,mb3.5,baz=160,slow=8.0,SNR=4.1								
TXAR	**Lajitas Array**	**54.81**	**326**	P		**P**	**05 50 05.4**	**+1.8**
ECSD	**EROS,Sioux Fal**	**63.91**	**340**	*e*P		**P**	**05 51 02.5**	**-3.7**
4.7nm,1.0s,mb4.5								
TORD	**Torodi Ar. Bea**	**78.28**	**73**	P		**P**	**05 52 29.8**	**-4.2**
3.4nm,0.8s,mb4.3,baz=249,slow=4.5,SNR=11								
TORD	**Torodi Ar. Bea**	**78.28**	**73**	P		**P**	**05 52 29.8**	**-4.3**
YKA	**Yellowknife Ar**	**85.40**	**342**	P		**P**	**05 53 10.3**	**-0.1**
1.5nm,0.7s,mb4.2,baz=135,slow=5.1,SNR=9.2								
HYT	**Haines Junctio**	**92.83**	**333**	*e*P		**P**	**05 53 45.3**	**-0.4**
MJAR	**Matsushiro Arr**	**146.62**	**313**	PKPbc		PKPbc	06 00 13.1	-2.4
0.9nm,0.3s,baz=57,slow=1.6,SNR=5.2								
SONM	**Songino Array**	**148.50**	**2**	PKPbc		PKPbc	06 00 18.2	-2.1
2.3nm,0.8s,baz=356,slow=2.5,SNR=6.0								

ISCJB ***27*** *05:53:16.5±1.3, 731S±008×14599E±009, h178km±12km, mb4.0/8, Error ellipse: s-maj=17.5km s-min=11.0km az=38.0*
NEIC ***27*** *05:53:18.2±1.2, 737S×14605E, h183km±12km, mb4.3/3, Error ellipse: s-maj=16.8km s-min=13.1km az=113.0*
IDC ***27*** *05:53:25.0±3.6, 750S×14584E, h242km±33km, mb3.7/7, mb1 3.8/9, mb1mx3.7/15, mbtmp3.7/9, Error ellipse: s-maj=26.6km s-min=12.0km az=99.0*
ISC 27 05:53:19.4±1.1, 748S±008×**14583E**±009, **h183**km±11km,
n21, σ1§08/21, mb4.0/8, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.32**	**146**	*e*Pn		**Pn**	**05 53 58.8**	**-1.3**
KAKA	**Kakadu**	**14.17**	**247**	*e*P		**Pn**	**05 56 32.3**	**+0.2**
7.6nm,0.4s								
KAKA	**Kakadu**	**14.17**	**247**	*e*Pn		**Pn**	**05 56 33.0**	**+0.9**
KAKA				*e*Sn		**Sn**	**05 59 08.3**	**-1.8**
WRAB	**Tennant Creek**	**16.64**	**221**	*e*P		**Pn**	**05 57 03.5**	**+1.2**
WB2	**Warramunga Arr**	**16.65**	**221**	*e*P		**Pn**	**05 57 03.3**	**+0.9**
WRA	**Warramunga Arr**	**16.66**	**221**	P		**Pn**	**05 57 03.9**	**+1.4**
0.7nm,0.3s,baz=43,slow=11,SNR=78								
WRA				S		**S**	**06 00 05.5**	**-1.0**
baz=41,slow=21,SNR=3.0								
ASAR	**Alice Springs**	**19.75**	**214**	P		**P**	**05 57 37.4**	**+2.1**
2.3nm,0.3s,baz=55,slow=8.7,SNR=67								
ASAR				S		**S**	**06 01 07.0**	**-0.9**
0.1nm,0.3s,baz=43,slow=18,SNR=3.1								
FITZ	**Fitzroy Crossi**	**22.31**	**240**	*e*P		**P**	**05 58 02.1**	**+0.1**
7.0nm,0.6s,mb4.3								
FITZ	**Fitzroy Crossi**	**22.31**	**240**	P		**P**	**05 58 01.9**	**-0.1**
2.4nm,0.4s,mb4.0,baz=55,slow=10,SNR=35								
STKA	**Stephens Creek**	**24.59**	**189**	*e*P		**P**	**05 58 23.1**	**+0.5**
2.9nm,0.3s,mb4.3								
STKA	**Stephens Creek**	**24.59**	**189**	P		**P**	**05 58 22.9**	**+0.2**
4.4nm,0.3s,mb4.4,baz=2.4,slow=8.6,SNR=19								
CMAR	**Chiang Mai Arr**	**52.95**	**300**	P		**P**	**06 02 18.1**	**+0.9**
2.5nm,0.4s,mb4.3,baz=120,slow=5.8,SNR=5.8								
CHTO	**Chiang Mai**	**53.10**	**300**	*e*P		**P**	**06 02 18.9**	**+0.5**
3.2nm,0.6s,mb4.2								
SONM	**Songino Array**	**65.14**	**332**	P		**P**	**06 03 40.5**	**0.0**
0.5nm,0.6s,mb3.6,baz=141,slow=5.5,SNR=3.6								
MKAR	**Makanchi Array**	**77.90**	**321**	P		**P**	**06 04 56.2**	**-0.7**
0.8nm,0.5s,mb3.6,baz=96,slow=7.7,SNR=11								
ZALV	**Zalesovo Beam**	**79.65**	**328**	P		**P**	**06 05 04.5**	**-1.8**
0.8nm,0.3s,mb3.8,baz=104,slow=6.1,SNR=1.6								
ZALV	**Zalesovo Beam**	**79.65**	**328**	P		**P**	**06 05 04.5**	**-1.8**
QSPA	**South Pole Qui**	**82.49**	**180**	P		**P**	**06 05 20.4**	**-0.5**
3.1nm,0.6s,mb4.1,baz=292,slow=1.2,SNR=21								
TORD	**Torodi Ar. Bea**	**144.30**	**282**	PKP		PKPdf	06 12 32.7	-1.9
5.4nm,0.7s,baz=67,slow=3.3,SNR=45								
TORD	**Torodi Ar. Bea**	**144.30**	**282**	PKP		PKPdf	06 12 32.7	-1.9
DBIC	**Dimbokro**	**150.90**	**270**	PKPbc		PKPbc	06 12 50.8	-0.6
5.0nm,0.6s,baz=82,slow=2.0,SNR=9.5								

NEIC ***27*** *05:58:11.2±3.9, 3122S×17820W, h20km±27km, mb4.6/7, Error ellipse: s-maj=18.6km s-min=12.9km az=106.0*
ISCJB ***27*** *05:58:12.2±0.6, 3132S±008×1783W±01, h35km, mb4.5/14, MS3.9/3, Error ellipse: s-maj=14.5km s-min=10.9km az=21.9*
IDC ***27*** *05:58:13.6±0.7, 3108S×17821W, h35km±5km, mb4.2/10, mb1 4.4/10, mb1mx4.2/18, mbtmp4.2/10, MS3.8/5, Ms1 3.8/5, ms1mx3.4/19, Error ellipse: s-maj=19.5km s-min=17.7km az=148.0*
ISC 27 05:58:13.8±0.6, 3129S±008×**1783W**±01, **h35**km, **n38,**
σ1§17/27, mb4.5/14, MS3.9/3, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.06**	**8**	Pn		**Pn**	**05 58 44.1**	**-1.8**
206nm,0.3s,baz=44,slow=23,SNR=5.1								
RAO				Sn		**Sn**	**05 59 03.5**	**-6.7**
489nm,0.3s,baz=96,slow=22,SNR=7.1								
RAO	**Raoul Island**	**2.06**	**8**	Pn		**Pn**	**05 58 44.1**	**-1.8**
RAO				Sn		**Sn**	**05 59 03.5**	**-6.8**
URZ	**Urewera**	**7.92**	**207**	Pn		**Pn**	**06 00 05.1**	**-1.3**
1.1nm,0.3s,baz=249,slow=16,SNR=26								
URZ				Sn		**Sn**	**06 01 31.6**	**-3.3**
4.0nm,0.3s,baz=115,slow=5.0,SNR=3.2								
RPZ	**Rata Peaks**	**15.01**	**211**	Pn		**Pn**	**06 01 41.7**	**-1.5**
0.3nm,0.3s,baz=27,slow=10,SNR=2.4								
RPZ				LR		LR	06 07 19.8	
comp=Z,351nm,20.0s,baz=56,slow=36								
RAR	**Rarotonga**	**19.36**	**63**	LR		LR	06 07 41.1	
comp=Z,311nm,20.1s,baz=236,slow=30								
PAE	**Paea**	**29.32**	**69**	*e*T			06 34 52.4	
226nm,0.2s								
PPT	**Papeete**	**29.37**	**69**	*e*LR		LR	06 11 37.0	
278nm,26.5s,baz=232								
PPT	**Papeete**	**29.37**	**69**	*e*T			06 34 56.0	
13nm,0.3s								
CTA	**Charters Tower**	**33.73**	**281**	*e*P		**P**	**06 04 53.7**	**+1.7**
4.2nm,0.5s,mb4.6								
CTA	**Charters Tower**	**33.73**	**281**	P		**P**	**06 04 53.6**	**+1.6**
5.1nm,0.5s,mb4.7,baz=102,slow=11,SNR=8.9								
STKA	**Stephens Creek**	**34.07**	**258**	*e*P		**P**	**06 04 56.6**	**+1.8**
3.0nm,1.0s,mb4.2								
STKA	**Stephens Creek**	**34.07**	**258**	P		**P**	**06 04 56.5**	**+1.7**
2.9nm,0.5s,mb4.5,baz=94,slow=13,SNR=12								
STKA				LR		LR	06 16 01.9	
comp=Z,175nm,21.0s,MS3.8,baz=25,slow=31								
RKT	**Rikitea**	**39.15**	**89**	*e*LR		LR	06 16 17.3	
240nm,28.5s,baz=278								
ASAR	**Alice Springs**	**42.85**	**268**	P		**P**	**06 06 08.6**	**0.0**
7.2nm,0.5s,mb4.6,baz=106,slow=7.5,SNR=114								
WB2	**Warramunga Arr**	**43.91**	**273**	*e*P		**P**	**06 06 16.7**	**-0.5**
WRAB	**Tennant Creek**	**43.91**	**273**	*e*P		**P**	**06 06 17.0**	**-0.3**
17nm,0.8s,mb4.8								
WRA	**Warramunga Arr**	**43.92**	**273**	P		**P**	**06 06 17.1**	**-0.2**
13nm,0.7s,mb4.8,baz=111,slow=8.1,SNR=128								
WRA				LR		LR	06 24 29.6	
comp=Z,109nm,18.4s,MS3.8,baz=305,slow=36								
FORT	**Forrest**	**45.61**	**256**	*e*P		**P**	**06 06 31.8**	**+1.1**
17nm,1.1s,mb4.9								
FITZ	**Fitzroy Crossi**	**52.14**	**271**	*e*P		**P**	**06 07 20.6**	**-0.3**
5.1nm,1.0s,mb4.4								
FITZ	**Fitzroy Crossi**	**52.14**	**271**	P		**P**	**06 07 20.7**	**-0.3**
2.5nm,0

σ0°93/114, **Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.39**	**28**	*e*Pg	**Pg**	**06 05 42.3**	**+0.1**
	SNR=21						
RUP	**Ruppelstein**	**0.39**	**28**	Pg	**Pg**	**06 05 42.2**	**+0.1**
RUP				Sg	**Sg**	**06 05 47.2**	**0.0**
WLF	**Walferdange**	**0.51**	**307**	*e*Pg	**Pg**	**06 05 46.3**	**+2.0**
	SNR=4.6						
WLF				*e*Sg	**Sg**	**06 05 52.9**	**+2.0**
	SNR=4.9						
WLF	**Walferdange**	**0.51**	**307**	P	**Pg**	**06 05 46.1**	**+1.7**
WLF	**Walferdange**	**0.51**	**307**	*e*Pg	**Pg**	**06 05 46.0**	**+1.6**
WLF				Sg	**Sg**	**06 05 52.9**	**+2.0**
	SNR=4.9						
WLF	**Walferdange**	**0.51**	**307**	*e*Pg	**Pg**	**06 05 46.0**	**+1.6**
LANF	**Langenberg**	**0.78**	**119**	Pg	**Pg**	**06 05 49.3**	**-0.2**
LANF	**Langenberg**	**0.78**	**119**	*e*Pg	**Pg**	**06 05 49.4**	**-0.1**
	SNR=8.0						
KTD	**Kalmit**	**0.86**	**92**	*e*Pg	**Pg**	**06 05 51.5**	**+0.5**
	SNR=9.2						
KTD	**Kalmit**	**0.86**	**92**	Pg	**Pg**	**06 05 51.3**	**+0.2**
KTD				Sg	**Sg**	**06 06 03.7**	**+1.5**
BGG	**Burgeitz**	**0.92**	**23**	*e*Pg	**Pg**	**06 05 52.5**	**+0.2**
BGG				*i* Sg	**Sg**	**06 06 04.9**	**+0.5**
	37nm,0.3s						
CDF	**Champ du Feu**	**1.00**	**160**	*e*Pn	**Pn**	**06 05 54.7**	**-1.3**
CDF				*e*Sg	**Sg**	**06 06 07.0**	**+0.1**
	66nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**160**	*e*Pn	**Pn**	**06 05 54.7**	**-1.3**
CDF				*e*Sg	**Sg**	**06 06 07.0**	**+0.1**
	33nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**160**	*e*Pg	**Pg**	**06 05 53.8**	**-0.1**
CDF				*e*Pn	**Pn**	**06 05 54.7**	**-1.3**
CDF				*e*Sg	**Sg**	**06 06 07.0**	**+0.1**
RFYF	**Reffroy**	**1.12**	**230**	*e*Pg	**Pg**	**06 05 57.2**	**+1.0**
	baz=53						
RFYF				*e*Sg	**Sg**	**06 06 11.8**	**+1.0**
	168nm,0.4s						
RFYF	**Reffroy**	**1.12**	**230**	*e*Pg	**Pg**	**06 05 57.2**	**+1.0**
RFYF				*e*Sg	**Sg**	**06 06 11.8**	**+1.0**
	84nm,0.4s						
ECH	**Echery**	**1.17**	**167**	Pg	**Pg**	**06 05 57.9**	**+0.8**
ECH	**Echery**	**1.17**	**167**	*e*Pg	**Pg**	**06 05 57.3**	**+0.2**
	SNR=14						
STB	**Steinbach**	**1.24**	**2**	*e*Pg	**Pg**	**06 05 58.4**	**0.0**
STB				*e*Sg	**Sg**	**06 06 15.1**	**+0.7**
	21nm,0.3s						
THEF	**They Montfort**	**1.25**	**205**	Pg	**Pg**	**06 05 59.5**	**+1.0**
THEF				Sg	**Sg**	**06 06 15.6**	**+0.9**
THEF	**They Montfort**	**1.25**	**205**	*e*Pg	**Pg**	**06 05 59.0**	**+0.5**
	SNR=13						
THEF	**They Montfort**	**1.25**	**205**	Pg	**Pg**	**06 05 59.0**	**+0.5**
	SNR=13						
THEF				Sg	**Sg**	**06 06 15.6**	**+0.9**
KLL	**Kalltalsperre**	**1.32**	**347**	*e*Pg	**Pg**	**06 05 59.8**	**-0.2**
LIBD	**Limburg**	**1.33**	**155**	Pg	**Pg**	**06 06 00.8**	**+0.7**
LIBD				Sg	**Sg**	**06 06 18.7**	**+1.4**
MEM	**Membach**	**1.35**	**339**	P	**Pg**	**06 06 00.6**	**+0.2**
TOD	**Tromm**	**1.35**	**79**	*e*Pg	**Pg**	**06 05 59.7**	**-0.8**
	SNR=9.9						
DREG	**Dreilaegerbach**	**1.35**	**345**	*e*Pg	**Pg**	**06 06 00.4**	**-0.2**
HAU	**Haudompre**	**1.38**	**192**	*e*Pg	**Pg**	**06 06 01.7**	**+0.6**
HAU				*e*Sg	**Sg**	**06 06 19.8**	**+0.8**
	88nm,0.3s						
HAU	**Haudompre**	**1.38**	**192**	*e*Pg	**Pg**	**06 06 01.7**	**+0.6**
HAU				*e*Sg	**Sg**	**06 06 19.8**	**+0.8**
	44nm,0.3s						
MEZF	**Maizieres J'vi**	**1.42**	**234**	*e*Pg	**Pg**	**06 06 02.6**	**+0.7**
	baz=58						
MEZF				*e*Sg	**Sg**	**06 06 20.8**	**+0.5**
	38nm,0.3s						
MEZF	**Maizieres J'vi**	**1.42**	**234**	*e*Pg	**Pg**	**06 06 02.6**	**+0.7**
MEZF				*e*Sg	**Sg**	**06 06 20.8**	**+0.5**
	19nm,0.3s						
BCLA	**Clavier**	**1.43**	**319**	P	**Pn**	**06 06 03.6**	**+1.8**
BFO	**Black Forest**	**1.46**	**134**	*e*Pn	**Pn**	**06 06 00.7**	**-1.5**
	SNR=1.9						
BFO				*e*Pg	**Pg**	**06 06 02.5**	**0.0**
	SNR=13						
BFO				*e*Sg	**Sg**	**06 06 19.6**	**-1.8**
	SNR=5.4						
BFO	**Black Forest**	**1.46**	**134**	Pg	**Pg**	**06 06 02.5**	**0.0**
	SNR=13						
BFO				*e*Sg	**Sg**	**06 06 22.4**	**+1.0**
BFO	**Black Forest**	**1.46**	**134**	*e*Pg	**Pg**	**06 06 00.7**	**-1.9**
BFO				*e*Sg	**Sg**	**06 06 22.4**	**+1.1**
GIVF	**Givet**	**1.47**	**301**	*e*Pg	**Pg**	**06 06 02.2**	**-0.6**
GIVF				*e*Sg	**Sg**	**06 06 22.3**	**+0.5**
	55nm,0.4s						
GIVF	**Givet**	**1.47**	**301**	*e*Pg	**Pg**	**06 06 02.2**	**-0.6**
GIVF				*e*Sg	**Sg**	**06 06 22.3**	**+0.5**
	28nm,0.4s						
HGN	**Heimansgroeve**	**1.51**	**339**	*e*Pg	**Pg**	**06 06 03.1**	**-0.4**
	3.3nm,0.2s						
HGN				*e*Sg	**Sg**	**06 06 22.2**	**-0.9**
HGN	**Heimansgroeve**	**1.51**	**339**	*e*Rg		06 06 45.2	
MOF	**Molkenrain**	**1.53**	**171**	Pg	**Pg**	**06 06 04.1**	**+0.2**
MOF				Sg	**Sg**	**06 06 24.5**	**+0.8**
MOF	**Molkenrain**	**1.53**	**171**	*e*Pg	**Pg**	**06 06 04.0**	**+0.1**
	SNR=18						
HINF	**Hinteralfeld**	**1.54**	**178**	*e*Pg	**Pg**	**06 06 04.3**	**+0.1**
HINF				*e*Sg	**Sg**	**06 06 24.7**	**+0.5**
	107nm,0.3s						
HINF	**Hinteralfeld**	**1.54**	**178**	*e*Pg	**Pg**	**06 06 04.3**	**+0.1**
HINF				*e*Sg	**Sg**	**06 06 24.7**	**+0.5**
	54nm,0.3s						
DOU	**Dourbes**	**1.59**	**298**	P	**Pn**	**06 06 04.1**	**0.0**
SFTF	**Sexfontaines**	**1.63**	**225**	*e*Pn	**Pn**	**06 06 03.9**	**-0.6**
SFTF				*e*Sg	**Sg**	**06 06 27.4**	**+0.5**
	35nm,0.3s						
SFTF	**Sexfontaines**	**1.63**	**225**	*e*Pn	**Pn**	**06 06 03.9**	**-0.6**
SFTF				*e*Sg	**Sg**	**06 06 27.4**	**+0.5**
	18nm,0.3s						
HOBG	**Hohbusch**	**1.67**	**12**	*e*Pg	**Pg**	**06 06 04.4**	**-2.2**
FELD	**Feldberg im Sc**	**1.69**	**151**	*e*Pg	**Pg**	**06 06 06.8**	**-0.3**
	SNR=8.3						
FELD	**Feldberg im Sc**	**1.69**	**151**	Pg	**Pg**	**06 06 06.7**	**-0.4**
BAIF	**Baives**	**1.81**	**294**	*e*Pg	**Pg**	**06 06 09.7**	**+0.4**
BAIF				*e*Sg	**Sg**	**06 06 32.8**	**+0.1**
	25nm,0.3s						
BAIF	**Baives**	**1.81**	**294**	*e*Pg	**Pg**	**06 06 09.7**	**+0.4**
BAIF				*e*Sg	**Sg**	**06 06 32.8**	**+0.1**
	12nm,0.3s						
BAIF	**Baives**	**1.81**	**294**	*e*P	**Pn**	**06 06 08.0**	**+1.0**
BAIF				*e*Pg	**Pg**	**06 06 09.7**	**+0.4**
BAIF				*e*Sg	**Sg**	**06 06 32.8**	**+0.1**
SPAK	**Spaichingen-Ko**	**1.83**	**133**	Pg	**Pg**	**06 06 09.4**	**-0.3**
LOMF	**Lomont**	**2.01**	**179**	Pg	**Pg**	**06 06 13.1**	**0.0**
UBBA	**Unterbreizbach**	**2.54**	**54**	*e*Sg	**Sg**	**06 06 56.7**	**+0.4**
	SNR=1.8						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pg	**Pg**	**06 06 27.6**	**-0.5**
CABF				*e*Sg	**Sg**	**06 07 03.8**	**-0.4**
	30nm,0.6s						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pg	**Pg**	**06 06 27.6**	**-0.5**
CABF				*e*Sg	**Sg**	**06 07 03.8**	**-0.4**
	15nm,0.6s						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pn	**Pn**	**06 06 19.8**	**-0.7**
CABF				*e*Pg	**Pg**	**06 06 27.6**	**-0.5**
CABF				*e*Sg	**Sg**	**06 07 03.8**	**-0.4**
LOR	**Lormes**	**2.86**	**224**	*e*Pn	**Pn**	**06 06 20.4**	**-1.0**
	baz=45						
LOR				*e*Sn	**Sn**	**06 06 54.6**	**-1.9**
LOR				*e*Sg	**Sg**	**06 07 06.1**	**-0.3**
	17nm,0.3s,baz=37						
LOR	**Lormes**	**2.86**	**224**	*e*Pn	**Pn**	**06 06 20.4**	**-1.0**
LOR				*e*Sn	**Sn**	**06 06 54.6**	**-1.9**
LOR				*e*Sg	**Sg**	**06 07 06.1**	**-0.3**
	8.6nm,0.3s						
SSF	**Saint Saulge**	**3.17**	**225**	*e*Pn	**Pn**	**06 06 24.6**	**-1.1**
SSF				*e*Sg	**Sg**	**06 07 15.0**	**-1.5**
	17nm,0.4s						
SSF	**Saint Saulge**	**3.17**	**225**	*e*Pn	**Pn**	**06 06 24.6**	**-1.1**
SSF				*e*Sg	**Sg**	**06 07 15.0**	**-1.5**
	8.4nm,0.4s						
AVF	**Avril sur Loir**	**3.44**	**223**	*e*Pn	**Pn**	**06 06 28.1**	**-1.4**
AVF				*e*Sg	**Sg**	**06 07 24.9**	**-0.3**
	13nm,0.6s						
AVF	**Avril sur Loir**	**3.44**	**223**	*e*Pn	**Pn**	**06 06 28.1**	**-1.4**
AVF				*e*Sg	**Sg**	**06 07 24.9**	**-0.3**
	6.5nm,0.6s						
FLN	**La Foliniere**	**4.81**	**266**	*e*Pn	**Pn**	**06 06 47.0**	**-1.2**
FLN				*e*Pg	**Pg**	**06 07 04.1**	**-2.6**
FLN				*e*Sn	**Sn**	**06 07 40.2**	**-4.4**
BRG	**Berggiesshubel**	**4.86**	**69**	SG	**Sg**	**06 08 07.1**	**-3.5**
	5.8nm,0.2s						

*ISCJB **27** 06:05:46.5±0.9, 519N±02×1760W±02, h100km, mb3.6/3, Error ellipse: s-maj=30.0km s-min=9.7km az=157.7*
*IDC **27** 06:05:48.0±3.4, 5207N×175.76W, h80km±9km, mb3.2/3, mb1 3.9/4, mb1mx3.3/24, mbtmp3.5/4, Error ellipse: s-maj=75.6km s-min=62.3km az=145.0*
*NEIC **27** 06:05:49.1, 5182N×17583W, h68km, mb4.0/1, ML3.6(AEIC), After AEIC.*
ISC 27 06:05:47.6±0.8, 519N±02×**1761W**±02**, h100**km**, n10,** σ1°**31**/12**, mb3.6**/3**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.35**	**263**	P	**Pn**	**06 06 00.5**	**-1.8**
ADK				S	**Sn**	**06 06 11.8**	**-1.6**
AMKA	**Amchitka**	**2.90**	**261**	P	**Pn**	**06 06 34.8**	**+2.9**
UNV	**Unalaska Valle**	**6.13**	**68**	P	**Pn**	**06 07 14.8**	**-0.7**
SPIA	**Saint Paul Isl**	**6.27**	**31**	P	**Pn**	**06 07 17.1**	**-0.2**
KDAK	**Kodiak Island**	**14.72**	**57**	P	**Pn**	**06 09 07.9**	**-2.6**
	3.2nm,0.3s,baz=268,slow=5.7,SNR=23						
KTH	**Kantishna Hill**	**17.64**	**39**	*e*P	**Pn**	**06 09 47.7**	**+1.2**
	4.7nm,0.5s						
KTH				*e*S	**S**	**06 13 03.1**	**+0.2**
DAWY	**Dawson**	**22.56**	**43**	*e*P	**P**	**06 10 39.6**	**+0.5**
YKA	**Yellowknife Ar**	**33.64**	**47**	P	**P**	**06 12 17.7**	**-0.3**
	0.3nm,0.4s,mb3.5,baz=281,slow=9.2,SNR=6.8						
YKA				PcP	PcP	06 14 57.3	+1.7
	0.2nm,0.4s,baz=276,slow=2.9,SNR=7.4						
PDAR	**Pinedale Array**	**44.55**	**74**	P	**P**	**06 13 50.0**	**+0.9**
	1.1nm,0.4s,mb3.9,baz=338,slow=2.9,SNR=14						
PDAR				pP	pP	06 14 10.8	-1.8
	0.6nm,0.6s,baz=306,slow=5.7,SNR=3.7						
PDAR				sP	sP	06 14 18.3	-5.5
	0.4nm,0.5s,baz=343,slow=4.7,SNR=2.4						
TXAR	**Lajitas Array**	**56.93**	**83**	P	**P**	**06 15 23.6**	**+1.4**
	0.2nm,0.6s,mb3.3,baz=301,slow=4.7,SNR=3.9						
TXAR				pP	pP	06 15 42.0	-4.5
	0.2nm,0.7s,baz=285,slow=4.2,SNR=2.7						

*ORF **27** 06:28:20.0, 3616N×2403E, h30km, mb4.4, ML5.8*
*PRU **27** 06:29:00.6, 3830N×2031E, h0km, M4.6*
*LDG **27** 06:29:01.4±0.1, 3843N×2052E, h10km, Mb4.8/31, Ms3.4/8, Error ellipse: s-maj=6.9km s-min=2.7km az=20.0*
*IDC **27** 06:29:01.6±0.5, 3834N×2042E, h0km, mb4.5/24, mb1 4.5/35, mb1mx4.5/39, mbtmp4.4/35, ML4.3/10, MS3.9/22, Ms1 3.9/22, ms1mx3.7/41, Error ellipse: s-maj=11.0km s-min=10.6km az=29.0*
*CSEM **27** 06:29:01.9±0.1, 3812N×2019E, h2km, mb4.7/21, Ms3.4, Error ellipse: s-maj=1.8km s-min=1.0km az=4.0*
*ISCJB **27** 06:29:02.8±0.3, 3828N±001×2038E±001, h19km±2km, mb4.6/104, MS4.1/33, Error ellipse: s-maj=2.3km s-min=1.6km az=17.6*
*MOS **27** 06:29:02.8±1.2, 3835N×2034E, h14km, mb5.0/24, MS4.2/10, Error ellipse: s-maj=3.2km s-min=2.1km az=105.8*
*PDG **27** 06:29:03.3±0.7, 3829N×2026E, h12km±2km, MD5.0/9, ML4.8/10, Error ellipse: s-maj=2.0km s-min=2.1km az=0.0*
*BGS **27** 06:29:03.2±2.3, 3869N×2115E, h15km±999km, mb4.7*
*HLW **27** 06:29:03.3, 3811N×2033E, h33km, Mb4.1*
*ATH **27** 06:29:03.0, 3825N×2033E, h14km±1km, MD4.5/21, ML4.6*
*NEIC **27** 06:29:03.0, 3825N×2033E, h14km, mb4.6/77, ML4.8(PDG), ML4.6(ATH), ML5.1(THE), After ATH.*
NEIC Felt [IV] at Argostolion. Also felt at Lixourion and Sami.
*BJI **27** 06:29:04.7, 3913N×2083E, h5km, mB5.0, mb4.8, Ms4.9, Msz4.5*
*THE **27** 06:29:05.1, 3831N×2044E, h0km, ML5.1*
*SZGRF **27** 06:29:12.8, 3889N×2008E, h10km, mb3.3, MS4.6, Greece*
ISC 27 06:29:03.7±0.3**, 3824N**±001×**2042E**±001**, h13**km±2km**, h16**km±1.1km**: pP-P, n794,** σ1°**31**/865**, mb4.6**/104**, MS4.1**/33**, 43C-38D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.15**	**115**	*e*Pg	**Pg**	**06 29 08.2**	**+0.9**
VLS	**Valsamata**	**0.15**	**115**	⇓*e*PG	**Pg**	**06 29 08.2**	**+0.8**
VLS				*e*SG	**Sg**	**06 29 11.5**	**+1.6**
KFL	**Anninata**	**0.32**	**114**	*e*Pg	**Pg**	**06 29 11.0**	**+0.8**
LKD	**Levkas**	**0.50**	**21**	*e*Pg	**Pg**	**06 29 13.6**	**0.0**
LKD				*e*Sg	**Sg**	**06 29 18.2**	**-2.1**
RLS	**Riolos of Patr**	**0.85**	**102**	⇓*e*PG	**Pg**	**06 29 20.1**	**0.0**
RLS				*e*SB	**Sb**	**06 29 33.5**	**+2.0**
EVR	**Evrytania**	**1.28**	**58**	*e*PG	**Pg**	**06 29 27.8**	**-0.6**
IGT	**Igoumenitsa**	**1.29**	**357**	*e*Pg	**Pg**	**06 29 27.9**	**-0.6**
IGT				*e*Sg	**Sg**	**06 29 46.0**	**+0.7**
IGT	**Igoumenitsa**	**1.29**	**357**	*e*Pg	**Pg**	**06 29 27.9**	**-0.7**
IGT				*e*Sg	**Sg**	**06 29 46.0**	**+0.6**
JAN	**Janina**	**1.45**	**13**	⇑*i*PB	**Pb**	**06 29 31.0**	**+0.4**
KEK	**Kerkira**	**1.55**	**342**	⇑*i*PG	**Pg**	**06 29 31.2**	**-2.3**
ITM	**Ithomi**	**1.60**	**131**	*e*PG	**Pg**	**06 29 33.8**	**-0.6**
MEV	**Metsovon**	**1.67**	**22**	*e*Pg	**Pg**	**06 29 35.0**	**-0.7**
AGG	**Agios Georgios**	**1.69**	**62**	*e*Pb	**Pb**	**06 29 33.6**	**-1.0**
AGG				*e*Sb	**Sb**	**06 29 56.3**	**+0.5**
VLX	**Vlachokerasia**	**1.78**	**119**	*e*Pb	**Pb**	**06 29 37.1**	**+1.0**
THL	**Klokotos Trika**	**1.82**	**43**	*e*Pb	**Pb**	**06 29 37.2**	**+0.4**
THL	**Klokotos Trika**	**1.82**	**43**	*e*Pg	**Pg**	**06 29 37.1**	**-1.5**
LTK	**Loutraki**	**2.02**	**95**	*e*Pn	**Pn**	**06 29 39.6**	**+2.1**
LTK				*e*Sn	**Sn**	**06 30 06.6**	**+4.1**
LKR	**Lokris**	**2.07**	**78**	*e*Pn	**Pn**	**06 29 40.9**	**+2.8**
LKR				*e*Sn	**Sn**	**06 30 07.3**	**+3.7**
LKR	**Lokris**	**2.07**	**78**	⇑*i*PN	**Pn**	**06 29 40.4**	**+2.3**
KZN	**Kozani**	**2.31**	**27**	⇑*i*PN	**Pn**	**06 29 43.5**	**+2.0**
DID	**Didima**	**2.35**	**107**	*e*Pn	**Pn**	**06 29 45.0**	**+3.1**
NEO	**Neokhori**	**2.44**	**63**	*e*PB	**Pb**	**06 29 45.2**	**-2.2**
XOR	**Xorichti**	**2.44**	**62**	*e*Pn	**Pn**	**06 29 45.3**	**+2.1**
LIT	**Litokhoron**	**2.46**	**40**	*e*Pn	**Pn**	**06 29 45.8**	**+2.4**
LIT				*e*Sn	**Sn**	**06 30 16.4**	**+3.1**
NAIG	**Nisos Aigina**	**2.47**	**100**	*e*PB	**Pb**	**06 29 45.5**	**-2.5**
VLI	**Veliai**	**2.51**	**126**	*e*PN	**Pn**	**06 29 47.3**	**+3.1**
ATH	**Athens Observa**	**2.62**	**95**	*e*PN	**Pn**	**06 29 47.9**	**+2.3**
KVR	**Kavouri**	**2.68**	**98**	*e*PB	**Pb**	**06 29 49.5**	**-1.9**
PTL	**Penteli**	**2.72**	**93**	*e*PN	**Pn**	**06 29 48.5**	**+1.4**
KYTH	**Kithira**	**2.86**	**132**	*e*PB	**Pb**	**06 29 52.1**	**-2.5**
BIA	**Bitola**	**2.86**	**14**	*e*Pn	**Pn**	**06 29 50.0**	**+1.0**
BIA	**Bitola**	**2.86**	**14**	*e*Pn	**Pn**	**06 29 50.5**	**+1.5**
BIA				*e*Sn	**Sn**	**06 30 26.8**	**+3.6**
BIA	**Bitola**	**2.86**	**14**	*e*Pn	**Pn**	**06 29 50.0**	**+1.0**
BIA				*e*Sn	**Sn**	**06 30 26.8**	**+3.5**
OHR	**Ohrid**	**2.88**	**6**	*e*Pn	**Pn**	**06 29 50.3**	**+1.1**
OHR				*e*Sn	**Sn**	**06 30 29.5**	**+5.7**
OHR	**Ohrid**	**2.88**	**6**	*e*Pn	**Pn**	**06 29 51.4**	**+2.1**
TIP	**Timpagrande**	**3.01**	**289**	Pn	**Pn**	**06 29 51.6**	**+0.5**
PAIG	**Paliouri**	**3.05**	**55**	*e*Pn	**Pn**	**06 29 52.9**	**+1.4**
THE	**Thessaloniki**	**3.10**	**39**	*e*Pn	**Pn**	**06 29 54.3**	**+2.0**
GRG	**Griva**	**3.12**	**29**	*e*Pn	**Pn**	**06 29 53.8**	**+1.3**
TIR	**Tirane**	**3.13**	**352**	*e*Pn	**Pn**	**06 29 53.5**	**+0.8**
TIR				Sn	**Sn**	**06 30 29.8**	**-0.1**
TIR	**Tirane**	**3.13**	**352**	*e*Pn	**Pn**	**06 29 53.5**	**+0.8**
TIR				Sn	**Sn**	**06 30 29.8**	**-0.1**
HORT	**Hortiatis**	**3.14**	**41**	*e*Pn	**Pn**	**06 29 54.4**	**+1.6**
PLG	**Polygyros**	**3.17**	**47**	*e*Pn	**Pn**	**06 29 55.1**	**+1.9**
PLG				*e*Sn	**Sn**	**06 30 34.8**	**+3.9**
PLG	**Polygyros**	**3.17**	**47**	*e*PN	**Pn**	**06 29 55.5**	**+2.3**
GRI	**Girifalco**	**3.19**	**282**	Pn	**Pn**	**06 29 53.9**	**+0.4**
KRUS	**Krusevo**	**3.19**	**11**	*e*Pn	**Pn**	**06 29 55.2**	**+1.8**
KRUS				*e*Sn	**Sn**	**06 30 34.5**	**+3.1**
KRUS	**Krusevo**	**3.19**	**11**	*e*Pn	**Pn**	**06 29 55.2**	**+1.7**
KRUS				*e*Sn	**Sn**	**06 30 34.4**	**+3.1**
SOH	**Sokhos**	**3.44**	**40**	*e*Pn	**Pn**	**06 29 59.4**	**+2.5**
SOI	**Samo**	**3.44**	**269**	Pn	**Pn**	**06 29 56.9**	**-0.1**
PE1	**Pezze di Greco**	**3.45**	**319**	*i* P	**Pn**	**06 29 57.1**	**0.0**
OUR	**Ouranopolis**	**3.47**	**52**	*e*Pn	**Pn**	**06 29 59.5**	**+2.2**
KNT	**Kendrikon**	**3.49**	**32**	*e*Pn	**Pn**	**06 29 59.6**	**+2.0**
VAY	**Valandovo**	**3.50**	**28**	*e*Pn	**Pn**	**06 29 59.8**	**+2.1**
VAY	**Valandovo**	**3.50**	**28**	*e*Pn	**Pn**	**06 29 58.1**	**+0.4**
VAY				*e*Sn	**Sn**	**06 30 39.5**	**+0.7**
VAY	**Valandovo**	**3.50**	**28**	*e*Pn	**Pn**	**06 29 59.8**	**+2.1**
VAY				*e*Sn	**Sn**	**06 30 39.5**	**+0.6**
CEL	**Celeste**	**3.56**	**272**	*e*Pn	**Pn**	**06 29 58.7**	**+0.1**
CEL	**Celeste**	**3.56**	**272**	*e*Pn	**Pn**	**06 29 58.7**	**+0.1**
SCLL	**Scilla**	**3.70**	**272**	Pn	**Pn**	**06 30 00.5**	**-0.1**
STIP	**Stip**	**3.71**	**21**	*e*Pn	**Pn**	**06 30 02.8**	**+2.1**
STIP	**Stip**	**3.71**	**21**	*e*Pn	**Pn**	**06 30 01.7**	**+1.1**
STIP				*e*Sn	**Sn**	**06 30 45.7**	**+1.6**
STIP	**Stip**	**3.71**	**21**	*e*Pn	**Pn**	**06 30 02.8**	**+2.2**
STIP				*e*Sn	**Sn**	**06 30 45.6**	**+1.5**
MTTG	**Motta San Giov**	**3.73**	**268**	Pn	**Pn**	**06 30 00.7**	**-0.3**
SKO	**Skopje**	**3.81**	**12**	*e*Pn	**Pn**	**06 30 03.4**	**+1.4**
SKO	**Skopje**	**3.81**	**12**	*e*Pn	**Pn**	**06 30 03.2**	**+1.2**
SKO				*e*Sn	**Sn**	**06 30 48.8**	**+2.2**
SKO	**Skopje**	**3.81**	**12**	*e*Pn	**Pn**	**06 30 03.4**	**+1.4**
SKO				*e*Sn	**Sn**	**06 30 48.8**	**+2.2**
ULC	**Ulcinj**	**3.83**	**347**	⇑*i*Pn	**Pn**	**06 30 01.5**	**-0.7**
ULC				*e*Sn	**Sn**	**06 30 46.3**	**-0.7**
MSI	**Messina ING**	**3.83**	**271**	Pn	**Pn**	**06 30 02.5**	**+0.2**
SG1	**Sgolgore (BA)**	**3.89**	**313**	*i* P	**Pn**	**06 30 02.9**	**-0.1**
BAI	**Bari**	**3.96**	**317**	*i* P	**Pn**	**06 30 04.1**	**+0.1**
CUC	**Castrocucco**	**3.98**	**297**	*e*Pn	**Pn**	**06 30 05.8**	**+1.4**
CUC				Sn	**Sn**	**06 30 50.0**	**-1.0**
CUC	**Castrocucco**	**3.98**	**297**	*e*Pn	**Pn**	**06 30 05.8**	**+1.3**
CUC				Sn	**Sn**	**06 30 50.0**	**-1.0**
KARN	**Karanos**	**3.99**	**134**	*e*Pn	**Pn**	**06 30 06.3**	**+1.9**
NVR	**Nevrokopi**	**4.08**	**39**	⇑*i*PN	**Pn**	**06 30 07.1**	**+1.3**
VAM	**Vamos**	**4.15**	**132**	*e*PN	**Pn**	**06 30 09.1**	**+2.4**
VAM	**Vamos**	**4.15**	**132**	*e*Pn	**Pn**	**06 30 08.6**	**+1.9**
KKB	**Krupnik**	**4.16**	**29**	P	**Pn**	**06 30 08.3**	**+1.5**
MMB	**Musomiste**	**4.20**	**36**	P	**Pn**	**06 30 08.1**	**+0.7**
BUM	**Brajici-Budva**	**4.22**	**344**	⇑*i*Pn	**Pn**	**06 30 06.8**	**-0.8**
BUM				*e*Sn	**Sn**	**06 30 56.8**	**+0.1**
APE	**Apeiranthos**	**4.22**	**105**	*e*PN	**Pn**	**06 30 12.5**	**+4.8**
APE	**Apeiranthos**	**4.22**	**105**	⇓*i*P	**Pn**	**06 30 13.6**	**+5.9**
CDT	**Castel del Mon**	**4.28**	**313**	*e*P	**Pn**	**06 30 03.9**	**-4.5**
PDG	**Podgorica**	**4.28**	**348**	*e*Pn	**Pn**	**06 30 08.0**	**-0.4**
PDG				*e*Sn	**Sn**	**06 30 58.3**	**+0.1**
TTG	**Podgorica**	**4.28**	**348**	*e*Pn	**Pn**	**06 30 08.0**	**-0.4**
TTG				*e*Sn	**Sn**	**06 30 58.3**	**+0.1**
THR5	**Thira Island,**	**4.33**	**113**	*e*Pn	**Pn**	**06 30 13.9**	**+4.7**
PVY	**Plav**	**4.36**	**356**	⇑*i*Pn	**Pn**	**06 30 10.4**	**+0.8**
PVY				*e*Sn	**Sn**	**06 31 01.1**	**+0.8**
THR3	**Thira Island,**	**4.37**	**113**	*e*Pn	**Pn**	**06 30 13.7**	**+4.0**
SSY	**Sortino**	**4.38**	**257**	Pn	**Pn**	**06 30 07.3**	**-2.5**
HAVL	**Avola**	**4.39**	**255**	Pn	**Pn**	**06 30 07.9**	**-2.1**
SLNA	**Salina**	**4.40**	**276**	Pn	**Pn**	**06 30 09.8**	**-0.3**
SANT	**Santorini**	**4.43**	**113**	*e*Pn	**Pn**	**06 30 11.0**	**+0.5**
SANT	**Santorini**	**4.43**	**113**	*e*Pn	**Pn**	**06 30 11.0**	**+0.5**
CHOS	**Chios island**	**4.44**	**86**	*e*Pn	**Pn**	**06 30 12.8**	**+2.2**
HCY	**Herceg Novi**	**4.45**	**341**	⇓*i*Pn	**Pn**	**06 30 09.8**	**-1.0**
HCY				*e*Sn	**Sn**	**06 31 02.0**	**-0.4**
GVD	**Gavdhos**	**4.50**	**138**	*e*PN	**Pn**	**06 30 15.0**	**+3.5**
MNO	**Monte Soro**	**4.53**	**268**	Pn	**Pn**	**06 30 12.2**	**+0.3**
MRLC	**Muro Lucano**	**4.57**	**305**	Pn	**Pn**	**06 30 14.1**	**+1.7**
SGO	**Sicignano**	**4.59**	**302**	Pn	**Pn**	**06 30 14.8**	**+2.1**
BEY	**Berane**	**4.64**	**355**	⇑*i*Pn	**Pn**	**06 30 13.9**	**+0.4**
BEY				*e*Sn	**Sn**	**06 31 07.3**	**+0.1**
IDI	**Anoyia**	**4.64**

YLV	Yalova	7.31	69	eP	Pn	06 30 48.2	-1.9
AOI	Ancona	7.40	318	Pn	Pn	06 30 51.3	0.0
	comp=Z,292nm,1.0s						
BZS	Buzias	7.42	7	⇑iP	Pn	06 30 51.0	-0.6
BZS	Buzias	7.42	7	P	Pn	06 30 52.2	+0.6
BZS	Buzias	7.42	7	⇑P	Pn	06 30 51.0	-0.6
CING	Cingoli	7.50	315	Pn	Pn	06 30 52.8	+0.1
	comp=Z,118nm,0.6s						
ADVT	Abdulvahap	7.55	70	eP	Pn	06 30 51.1	-2.3
NVLJ	Novalja	7.57	328	ePn	Pn	06 30 52.8	-0.8
NVLJ				Sn	Sn	06 32 13.2	-5.9
NVLJ	Novalja	7.57	328	ePn	Pn	06 32 52.7	-0.9
SNTG	Esanatoglia	7.57	314	Pn	Pn	06 30 54.2	+0.6
	comp=Z,108nm,0.5s						
ASS	Assisi	7.62	312	P	Pn	06 30 56.7	+2.4
ASS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASS	Assisi	7.62	312	P	Pn	06 30 56.7	+2.4
	comp=Z,4.0nm,0.3s						
ALT	Altintas	7.63	81	eP	Pn	06 30 53.1	-1.4
ELL	Elmali	7.69	98	eP	Pn	06 30 59.2	+3.9
SLUM		7.80	148	P	Pn	06 30 55.6	-1.2
MURB	Monte Urbino	7.81	312	Pn	Pn	06 30 59.1	+2.1
	comp=Z,231nm,0.4s						
SISC	Sisak	7.83	339	ePn	Pn	06 30 55.5	-1.6
SISC				Sn	Sn	06 32 20.8	-4.8
FSSB	Fossombrone	7.94	316	Pn	Pn	06 30 58.7	0.0
	comp=Z,264nm,0.5s						
SHUT	Suhut-Afyon	7.96	85	eP	Pn	06 30 58.6	-0.5
ISP	Isparta	7.97	90	eP	Pn	06 31 00.0	+0.8
ISP	Isparta	7.97	90	⇑iP	Pn	06 31 08.2	+9.0
VOIR		7.98	24	P	Pn	06 31 00.8	+1.6
PESA	Pesaro	8.07	317	Pn	Pn	06 31 00.8	+0.3
	comp=Z,291nm,0.6s						
PKSM	Moragy	8.07	351	P	Pn	06 30 59.1	-1.4
PKSM	Moragy	8.07	351	⇓iP	Pn	06 30 58.9	-1.6
PKSM	Moragy	8.07	351	⇓P	Pn	06 30 58.9	-1.6
CDCA	Citt' di Caste	8.10	313	P	Pn	06 31 03.9	+3.0
RSM	Repubblica di	8.28	316	P	Pn	06 31 04.3	+1.0
RSM				pmax	pmax		
	comp=Z,150nm,0.6s						
RSM	Repubblica di	8.28	316	P	Pn	06 31 04.3	+1.0
	comp=Z,150nm,0.6s						
MLR	Muntele Rosu	8.33	28	⇓iP	Pn	06 31 06.5	+2.4
GHAR	Gharyan	8.56	227	iP	Pn	06 31 04.8	-2.4
	SNR=98						
SFI	Santa Sofia	8.60	314	P	Pn	06 31 09.2	+1.5
SFI				pmax	pmax		
	comp=Z,174nm,1.1s						
SFI	Santa Sofia	8.60	314	P	Pn	06 31 09.2	+1.5
	comp=Z,174nm,1.1s						
TIRR	Tirgusor	8.64	42	⇑iP	Pn	06 31 10.3	+2.0
TIRR	Tirgusor	8.64	42	ePn	Pn	06 31 09.3	+1.0
	comp=Z,75nm,1.3s						
TIRR	Tirgusor	8.64	42	P	Pn	06 31 10.3	+2.0
TIRR	Tirgusor	8.64	42	ePn	Pn	06 31 09.3	+1.0
	comp=Z,75nm,1.3s						
CSNT	Castellina Chi	8.67	310	Pn	Pn	06 31 10.4	+1.7
	comp=Z,48nm,0.7s						
GRFL	Gerfalco	8.69	307	Pn	Pn	06 31 11.1	+2.2
	comp=Z,24nm,0.8s						
VSL	Villasalto	8.70	282	ePn	Pn	06 31 08.0	-1.2
	comp=Z,1μm,1.3s						
VSL	Villasalto	8.70	282	ePn	Pn	06 31 08.0	-1.2
	comp=Z,1μm,1.3s						
VSL				eSn	Sn	06 32 44.5	-2.6
DRGR		8.71	10	⇑iP	Pn	06 31 10.5	+1.2
DRGR		8.71	10	P	Pn	06 31 10.6	+1.3
DRGR		8.71	10	P	Pn	06 31 10.6	+1.3
KOGS	Kog	8.76	341	P	Pn	06 31 08.5	-1.5
VMG	Vicchio	8.80	313	Pn	Pn	06 31 12.8	+2.3
	comp=Z,286nm,1.4s						
PLOR	Plostina	8.90	29	⇓iP	Pn	06 31 14.4	+2.5
PLOR	Plostina	8.90	29	P	Pn	06 31 14.3	+2.4
LJU	Ljubljana	8.94	333	ePn	Pn	06 31 11.0	-1.4
LJU				eSn	Sn	06 32 47.0	-5.9
VRI	Vrincioaia	8.95	30	⇓iP	Pn	06 31 14.9	+2.4
VRI	Vrincioaia	8.95	30	P	Pn	06 31 14.8	+2.3
VRI	Vrincioaia	8.95	30	P	Pn	06 31 14.8	+2.3
SEI	Scarperia	8.97	313	Pn	Pn	06 31 15.2	+2.4
	comp=Z,149nm,0.5s						
HMAT	Matruh	9.00	140	⇓P	Pn	06 31 11.4	-1.9
VOY	Vojsko	9.17	330	⇑ePn	Pn	06 31 14.5	-1.0
VOY				eSn	Sn	06 32 52.3	-6.2
FNVD	Fontana Vidola	9.17	313	Pn	Pn	06 31 17.8	+2.2
	comp=Z,91nm,0.8s						
KEST	Kesra	9.21	258	Pn	Pn	06 31 15.7	-0.4
	comp=Z,0.7nm,0.3s,baz=57,slow=5.1,SNR=14						
KEST				Sn	Sn	06 32 56.5	-3.0
	comp=Z,0.3nm,0.3s,baz=29,slow=23,SNR=3.8						
KEST				LR	LR	06 35 42.5	
	comp=Z,192nm,18.7s,baz=9.9,slow=43						
BISS	Bistriski jare	9.27	337	⇑iPn	Pn	06 31 15.3	-1.6
BUD	Budapest	9.29	354	ePn	Pn	06 31 14.7	-2.6
BUD				eSn	Sn	06 32 58.3	-3.3
SOKA	Soboth	9.32	336	⇓iPn	Pn	06 31 16.2	-1.5
SOKA				⇑iSn	Sn	06 32 55.5	-6.7
OBKA	Obir	9.33	334	⇑iPn	Pn	06 31 16.4	-1.4
	SNR=22						
OBKA				⇑iSn	Sn	06 32 53.1	-9.4
OBKA	Obir	9.33	334	P	Pn	06 31 16.8	-1.0
DRE	Drenchia	9.38	330	⇓iP	Pn	06 31 17.0	-1.5
LADK	Ladik-KONYA	9.40	87	eP	Pn	06 31 18.2	-0.6
BDI	Bagni Di Lucca	9.41	311	P	Pn	06 31 20.9	+2.0
BDI				pmax	pmax		
	comp=Z,34nm,0.7s						
BDI	Bagni Di Lucca	9.41	311	P	Pn	06 31 20.9	+2.0
	comp=Z,34nm,0.7s						
KONT	Konya--Tatoy	9.42	88	eP	Pn	06 31 18.7	-0.4
COLI	Coloredo	9.46	329	⇑eP	Pn	06 31 18.0	-1.5
CORF	Corte	9.52	299	eP	Pn	06 31 21.8	+1.5
VLC	Villacollemand	9.59	311	ePn	Pn	06 31 21.3	-0.1
VLC	Villacollemand	9.59	311	ePn	Pn	06 31 21.3	-0.1
VLC				eSn	Sn	06 33 10.6	+1.6
BAD	Bernadia	9.60	329	⇑eP	Pn	06 31 20.0	-1.4
HDMB	Hadim	9.66	94	eP	Pn	06 31 23.8	+1.4
PSZ	Piszkesteto	9.68	358	⇓P	Pn	06 31 21.7	-0.9
PSZ	Piszkesteto	9.68	358	⇓e	Pn	06 31 21.5	-1.1
PSZ				eSn	Sn	06 33 06.4	-4.7
PSZ	Piszkesteto	9.68	358	⇓iP	Pn	06 31 21.6	-1.0
PSZ	Piszkesteto	9.68	358	ePn	Pn	06 31 20.9	-1.7
PSZ				eSn	Sn	06 33 06.4	-4.7
PSZ	Piszkesteto	9.68	358	ePn	Pn	06 31 20.9	-1.7
PTCC	Patocco-Chiusa	9.69	330	Pn	Pn	06 31 21.4	-1.3
	comp=Z,45nm,0.5s						
ARSA	Arzberg	9.70	340	iPn	Pn	06 31 21.2	-1.6
	SNR=16						
ARSA				⇓iSn	Sn	06 33 03.8	-7.7
MPRI	Monte Prat	9.71	328	⇓eP	Pn	06 31 21.0	-1.9
PGF	Pioggiola	9.71	300	eP	Pn	06 31 24.5	+1.5
	comp=Z,127nm,1.2s						
PGF	Pioggiola	9.71	300	eP	Pn	06 31 24.5	+1.5
	comp=Z,64nm,1.2s						
MYKA	Terra Mystica	9.76	331	⇓iPn	Pn	06 31 23.1	-0.6
MYKA				⇑iSn	Sn	06 33 05.6	-7.5
ANTO	Ankara	9.76	77	eP	Pn	06 31 20.5	-3.3
MLNI	Malnisio	9.79	326	⇑eP	Pn	06 31 23.0	-1.1
LJFR	Jufra	9.89	204	iP	Pn	06 31 23.3	-2.2
	SNR=97						
PLRO	Paularo	9.89	329	⇑eP	Pn	06 31 25.0	-0.4
ZOU	Zoufplan	9.96	329	⇓eP	Pn	06 31 26.0	-0.4
FVI	Forni Avoltri	10.07	328	P	Pn	06 31 27.2	-0.8
CTI	Castel Tesino	10.16	323	P	Pn	06 31 27.5	-1.6
KECS	Kecovo	10.24	0	ePN	Pn	06 31 29.8	-0.4
KECS				eSN	Sn	06 33 15.2	-10
ZST	Bratislava	10.24	347	eSN	Sn	06 33 17.3	-7.5
KBA	Koelnbreinsper	10.25	332	⇓iPn	Pn	06 31 29.4	-1.0
	SNR=24						
KBA				⇓iSn	Sn	06 33 18.9	-6.1
ABTA	Abfaltersbach	10.31	328	iPn	Pn	06 31 30.2	-0.9
	SNR=13						
ABTA				⇓iSn	Sn	06 33 20.3	-6.1
VYHS	Vyhne	10.31	354	ePN	Pn	06 31 30.4	-0.8
VYHS				eSN	Sn	06 33 20.5	-6.1
MODS	Modra-Piesok	10.38	348	ePN	Pn	06 31 31.3	-0.9
MODS				eSN	Sn	06 33 21.2	-7.1
SEST	Monte Rota	10.43	327	P	Pn	06 31 32.6	-0.3
KOLL	Kolacno	10.44	353	ePN	Pn	06 31 31.8	-1.1
KOLL				eSN	Sn	06 33 23.0	-6.6
KAMT	Kaman	10.44	80	eP	Pn	06 31 30.8	-2.2
MAGA	Magasa	10.47	319	P	Pn	06 31 32.4	-1.0
UZH	Uzhgorod	10.47	7	⇓iP	Pn	06 31 33.2	-0.2
UZH				eS	Sn	06 33 33.0	+2.4
UZH				MLR	MLR		
	comp=N,1μm,11.0s						
UZH				MLR	MLR		
	comp=Z,650nm,11.0s						
CANT	Cankiri	10.48	73	eP	Pn	06 31 30.7	-2.9
BOB	Bobbio (Coli)	10.49	312	P	Pn	06 31 36.5	+2.8
MOA	Molln	10.60	337	⇓iPn	Pn	06 31 33.9	-1.3
	SNR=21						
MOA				⇓iSn	Sn	06 33 26.5	-7.2
MOA	Molln	10.60	337	P	Pn	06 31 34.2	-1.0
APPI	Appiano	10.67	323	P	Pn	06 31 34.7	-1.4
CRVS	Cervenica-Dubn	10.69	4	ePN	Pn	06 31 36.0	-0.3
KIS	Kishinev	10.71	33	eP	Pn	06 31 38.0	+1.3
KIS				eS	Sn	06 33 38.0	+1.6
KIS				pmax	pmax		
	comp=Z,110nm,1.5s						
KIS				pmax	pmax		
	comp=E,130nm,1.7s						
KIS				MLR	MLR		
	comp=N,1μm,12.0s						
KIS				MLR	MLR		
	comp=E,2μm,12.0s						
KIS				MLR	MLR		
	comp=Z,2μm,12.0s						
KIS				MLR	MLR		
	comp=Z,2μm,12.0s						
KIS	Kishinev	10.71	33	eP	Pn	06 31 38.0	+1.3
	comp=Z,100nm,1.5s						
KIS	Kishinev	10.71	33	ePP		06 31 47.0	
KIS				eS	Sn	06 33 38.0	+1.6
KIS				eLg2		06 35 05.0	
KIS				eRg		06 35 24.0	
KIS				LRM		06 36 50.0	
	comp=Z,1μm,12.0s						
MABI	Malga Bissina	10.72	320	P	Pn	06 31 35.9	-0.9
IKL	Isikli	10.77	97	eP	Pn	06 31 39.2	+1.7
KOLS	Kolonicke sedl	10.77	7	ePN	Pn	06 31 37.9	+0.4
CSS	Prodhromos	10.88	104	ePn	Pn	06 31 39.2	+0.1
	comp=Z,14nm,0.8s						
CSS	Prodhromos	10.88	104	ePn	Pn	06 31 39.1	+0.1
	comp=Z,14nm,0.8s						
LFK	Lefkose	10.93	102	eP	Pn	06 31 43.5	+3.8
FIN	Finale Ligure	10.96	307	P	Pn	06 31 41.9	+1.9
BRMO	Bormio	11.08	321	P	Pn	06 31 41.6	-0.1
WTTA	Wattenberg	11.08	327	⇑iP	Pn	06 31 41.9	+0.1
WTTA				i		06 33 40.9	
WATA	Walderalm	11.16	327	⇑iPn	Pn	06 31 41.9	-1.0
	SNR=9.3						
WATA				⇓iSn	Sn	06 33 42.5	-5.0
NIE	Niedzica	11.18	360	eP	Pn	06 31 43.6	+0.6
STHS	Stebnicka Huta	11.19	3	ePN	Pn	06 31 43.6	+0.4
CORM	Corum	11.20	76	eP	Pn	06 31 40.4	-2.9
SAOF	Saorge	11.27	305	eP	Pn	06 31 45.8	+1.5
MERS	Mersin	11.28	93	eP	Pn	06 31 44.8	+0.2
REVF	Revere	11.29	303	eP	Pn	06 31 45.8	+1.2
SBF	Sospel	11.29	304	eP	Pn	06 31 45.6	+0.9
	comp=Z,53nm,0.9s						
SBF	Sospel	11.29	304	eP	Pn	06 31 45.6	+0.9
SBF				pmax	pmax		
	comp=Z,26nm,0.9s						
SBF	Sospel	11.29	304	eP	Pn	06 31 45.6	+0.9
	comp=Z,26nm,0.9s						
FETA	Feichten	11.30	324	⇓iPn	Pn	06 31 44.8	0.0
	SNR=14						
AUTN	L'Aution	11.36	305	eP	Pn	06 31 48.1	+2.6
LUCF	Luceram	11.36	304	eP	Pn	06 31 47.6	+2.0
MOTA	Moosalm	11.38	326	⇑iPn	Pn	06 31 45.0	-0.8
	SNR=9.7						
MOTA				⇑iSn	Sn	06 33 48.7	-3.9
VRAC	Vranov	11.40	347	Pn	Pn	06 31 44.1	-2.0
	comp=Z,0.6nm,0.3s,baz=180,slow=9.3,SNR=8.6						
VRAC	Vranov	11.40	347	⇓iP	Pn	06 31 45.5	-0.6
VRAC	Vranov	11.40	347	P	Pn	06 31 45.4	-0.7
TOUF	Mont Tournerai	11.48	304	eP	Pn	06 31 49.0	+1.8
MVIF	Mont Vial	11.49	304	eP	Pn	06 31 49.8	+2.4
KWP	Kalwaria	11.51	7	eP	Pn	06 31 49.3	+1.7
VAI	Varese	11.53	315	P	Pn	06 31 46.4	-1.4
STV	Sant Anna di V	11.53	305	P	Pn	06 31 50.7	+2.8
DAVOX	Davos/Dischmat	11.54	321	Pn	Pn	06 31 48.2	+0.3
	comp=Z,2.2nm,0.3s,baz=127,slow=15,SNR=20						
DAVOX				Sn	Sn	06 33 52.8	-3.7
	comp=Z,4.8nm,0.3s,baz=338,slow=21,SNR=5.7						
DAVOX				LR	LR	06 36 39.2	
	comp=Z,436nm,18.8s,baz=280,slow=40						
TUE	Stuetta	11.60	319	ePn	Pn	06 31 48.7	-0.1
	comp=Z,32nm,0.6s						
CALN	Calern	11.61	303	eP	Pn	06 31 50.1	+1.2
TREC	Trest	11.61	344	eP	Pn	06 31 48.2	-0.7
TREC				AMS	AMS	06 36 50.0	
	comp=Z,900nm,9.4s						
DAVOS	Davos	11.62	321	P	Pn	06 31 48.2	-0.9
DAVOS						06 33 52.8	
KARA	Karaisali	11.63	90	eP	Pn	06 31 48.8	-0.5
GEC2	GERESS Array S	11.66	338	ePn	Pn	06 31 48.0	-1.6
GEC2				eL		06 36 40.2	
	comp=Z,313nm,19.3s						
GERES	GERESS Array B	11.66	338	Pn	Pn	06 31 47.8	-1.9
	comp=Z,3.5nm,0.3s,baz=157,slow=14,SNR=41						
GERES				Sn	Sn	06 33 50.5	-9.1
	comp=Z,1.7nm,0.3s,baz=163,slow=24,SNR=4.0						
FRF	La Foret Royal	11.69	301	eP	Pn	06 31 50.5	+0.4
	comp=Z,16nm,0.6s						
FRF	La Foret Royal	11.69	301	eP	Pn	06 31 50.5	+0.4
FRF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
FRF	La Foret Royal	11.69	301	eP	Pn	06 31 50.5	+0.4
	comp=Z,7.9nm,0.6s						
DOI	San Damiano	11.70	306	P	Pn	06 31 52.8	+2.6
LMR	La Mourre	11.70	300	eP	Pn	06 31 51.4	+1.1
	comp=Z,18nm,0.9s						
LMR	La Mourre	11.70	300	eP	Pn	06 31 51.4	+1.1
LMR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LMR	La Mourre	11.70	300	eP	Pn	06 31 51.4	+1.1
	comp=Z,9.0nm,0.9s						
OKC	Ostrava-Krasne	11.71	353	eP	Pn	06 31 49.8	-0.5
OKC				AMS	AMS	06 37 40.0	
	comp=Z,1μm,10.9s						
OKC	Ostrava-Krasne	11.71	353	eP	Pn	06 31 50.0	-0.3
MORC	Moravsky Berou	11.72	351	⇓iP	Pn	06 31 50.1	-0.3
MORC	Moravsky Berou	11.72	351	ePn	Pn	06 31 49.6	-0.8
MORC	Moravsky Berou	11.72	351	ePn	Pn	06 31 49.6	-0.8
ORO	Oropa	11.83	313	P	Pn	06 31 51.2	-0.8
LVV	L'vov	11.86	11	eP	Pn	06 31 51.9	-0.5
LVV				MLR	MLR		
	comp=N,300nm,14.0s						
LVV				MLR	MLR		
	comp=E,400nm,14.0s						
LVV				MLR	MLR		
	comp=Z,200nm,14.0s						
FUR	Furstenfeldbru	11.94	329	ePn	Pn	06 31 52.3	-1.2
FUR				eL		06 37 33.0	
	comp=Z,487nm,19.0s						
KHC	Kasperske Hory	11.95	338	eP	Pn	06 31 51.7	-1.9
KHC				eS	Sn	06 33 58.8	-7.9
KHC				AMS	AMS	06 37 30.0	
	comp=Z,1μm,12.8s						
KHC	Kasperske Hory	11.95	338	eP	Pn	06 31 51.2	-2.4
BNN	Bunyan	12.10	82	eP	Pn	06 31 53.3	-2.4
MBDF	Montbardon	12.11	307	eP	Pn	06 31 57.1	+1.3
	comp=Z,73nm,1.0s						
MBDF	Montbardon	12.11	307	eP	Pn	06 31 57.1	+1.3
MBDF				pmax	pmax		
	comp=Z,37nm,1.0s						
MBDF	Montbardon	12.11	307	eP	Pn	06 31 57.1	+1.3
	comp=Z,36nm,1.0s						
AWBH		12.17	142	P	Pn	06 31 54.8	-1.9
WET	Wettzell	12.18	336	ePn	Pn	06 31 54.7	-2.1
WET				eL		06 37 59.0	
	comp=Z,451nm,18.2s						
KOZT	Kozan	12.21	89	eP	Pn	06 31 56.0	-1.2
SIM	Simferopol'	12.24	52	P	Pn	06 31 59.0	+1.4
SIM				pmax	pmax		
	comp=Z,50nm,11.9s						
SIM				MLR	MLR		
	comp=Z,400nm,12.4s						
SIM	Simferopol'	12.24	52	P	Pn	06 31 59.0	+1.4
	comp=Z,400nm,12.4s						
BNI	Bardonecchia	12.32	308	ePn	Pn	06 31 59.2	+0.5
BNI	Bardonecchia	12.32	308	ePn	Pn	06 31 59.2	+0.6
DPC	Dobruska-Polom	12.46	348	eP	Pn	06 32 00.1	-0.4
DPC				ex	x	06 32 08.7	
DPC				AMS	AMS	06 37 40.0	
	comp=Z,2μm,12.4s						
DPC	Dobruska-Polom	12.46	348	eP	Pn	06 31 59.9	-0.6
PRU	Pruhonice	12.47	342	eP	Pn	06 31 59.6	-1.2
PRU				ex	x	06 32 09.2	
PRU				AMS	AMS	06 38 40.0	
	comp=Z,1μm,9.2s						
PRU	Pruhonice	12.47	342	eP	Pn	06 31 59.8	-1.0
LPG	La Plagne	12.49	310	eP	Pn	06 32 01.8	+0.7
	comp=Z,36nm,0.7s						
LPG	La Plagne	12.49	310	eP	Pn	06 32 01.8	+0.7
LPG				pmax	pmax		
	comp=Z,18nm,0.7s						
LPG	La Plagne	12.49	310	eP	Pn	06 32 01.8	+0.7
	comp=Z,18nm,0.7s						
LPL	La Plagne	12.52	310	eP	Pn	06 32 01.6	+0.3
SMRF	Simiane la Rot	12.57	302	eP	Pn	06 32 03.5	+1.4
GLL	Jalalah	12.74	129	⇑P	Pn	06 32 03.1	-1.4
GLL				S	Sn	06 34 16.1	-10
ORIF	Oris-en-Rattie	12.76	306	eP	Pn	06 32 04.8	+0.1
	comp=Z,42nm,1.0s						
ORIF				eMLR	MLR		
	comp=Z,507nm,18.5s						
ORIF	Oris-en-Rattie	12.76	306	eP	Pn	06 32 04.8	+0.1
ORIF				pmax	pmax		
	comp=Z,21nm,1.0s						
ORIF	Oris-en-Rattie	12.76	306	eP	Pn	06 32 04.8	+0.1
	comp=Z,21nm,1.0s						
SARI	SarD1z-Kayseri	12.77	83	eP	Pn	06 31 60.0	-4.9
HFRF	Wahat Farafira	12.89	147	P	Pn	06 32 04.5	-2.2
HFRF	Wahat Farafira	12.89	147	P	Pn	06 32 04.4	-2.2
PVCC	Panska Ves	12.97	343	eP	Pn	06 32 06.6	-0.9
PVCC				AMS	AMS	06 38 00.0	
	comp=Z,700nm,10.1s						
OG01	Vacheresse	12.98	313	eP	Pn	06 32 09.8	+2.1
SVSK	Karacayir	12.99	77	eP	Pn	06 32 04.6	-3.4
KMRS	Kahramanmaras	13.05	88	eP	Pn	06 32 07.0	-1.6
MANZ	Manzenberg	13.16	336	ePn	Pn	06 32 07.5	-2.6
MANZ				eL		06 37 34.9	
	comp=Z,311nm,19.6s						
GRA1	Grafenberg Arr	13.21	333	ePn	Pn	06 32 09.0	-1.8
GRF	Grafenberg Arr	13.21	333	ePn	Pn	06 32 09.0	-1.8
GRF				eL		06 38 45.0	
	comp=Z,484nm,18.4s						
MMAI	Mount Meron Ar	13.25	109	Pn	Pn	06 32 12.8	+1.3
	comp=Z,2.8nm,0.3s,baz=340,slow=21,SNR=5.1						
SUZ		13.26	125	P	Pn	06 32 11.3	-0.4
NKC	Novy Kostel	13.27	337	eP	Pn	06 32 11.7	+0.1
NKC	Novy Kostel	13.27	337	eP	Pn	06 32 11.6	0.0
NKC				ex	x	06 32 19.3	
NKC				AMS	AMS	06 38 20.0	
	comp=Z,2μm,11.5s						
STU	Stuttgart	13.29	326	eP	Pn	06 32 10.9	-1.1
STU	Stuttgart	13.29	326	eL		06 39 09.2	
	comp=Z,273nm,18.3s						
GAZ	Gaziantep	13.34	89	eP	Pn	06 32 11.6	-1.1
BFO	Black Forest	13.37	323	eP	Pn	06 32 12.0	-1.0
BFO				e		06 34 33.8	
BFO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BFO	Black Forest	13.37	323	eL		06 37 27.0	
	comp=Z,183nm,21.0s						
BFO	Black Forest	13.37	323	ePn	Pn	06 32 12.0	-1.0
	comp=Z,8.4nm,0.6s						
BFO				eSn	Sn	06 34 33.8	-7.6
BRG	Berggiesshubel	13.44	342	eP	Pn	06 32 11.9	-2.0
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRG	Berggiesshubel	13.44	342	ePn	Pn	06 32 12.3	-1.6
BRG				eL		06 37 22.1	
	comp=Z,149nm,21.6s						
BRG	Berggiesshubel	13.44	342	eP	Pn	06 32 11.9	-2.0
	comp=Z,9.0nm,1.0s						
CABF	La Chapelle	13.48	313	eP	Pn	06 32 12.7	-1.8
	comp=Z,13nm,0.5s						
CABF	La Chapelle	13.48	313	eP	Pn	06 32 12.7	-1.8
CABF				pmax	pmax		
	comp=Z,6.0nm,0.4s						
CABF	La Chapelle	13.48	313	eP	Pn	06 32 12.7	-1.8
	comp=Z,6.4nm,0.4s						
VIVF	Saint-Julien-l	13.51	304	eP	Pn	06 32 15.1	+0.2
MOF	Molkenrain	13.64	319	eP	Pn	06 32 15.4	-1.3
LASF	Ste Croix	13.77	300	eP	Pn	06 32 18.9	+0.5
	comp=Z,36nm,1.3s						
LASF	Ste Croix	13.77	300	eP	Pn	06 32 18.9	+0.5
	comp=Z,18nm,1.3s						
HINF	Hinteralfeld	13.77	318	eP	Pn	06 32 16.6	-1.8
	comp=Z,24nm,0.5s						
HINF	Hinteralfeld	13.77	318	eP	Pn	06 32 16.6	-1.8
HINF				pmax	pmax		
	comp=Z,12nm,0.5s						
HINF	Hinteralfeld	13.77	318	eP	Pn	06 32 16.6	-1.8
	comp=Z,12nm,0.5s						
SSB	Saint Sauveur	13.77	306	eP	Pn	06 32 17.9	-0.6
ETOS	Mallorca	13.78	282	P	Pn	06 32 24.3	+5.7
	comp=Z,69nm,1.5s						
ECH	Echery	13.87	320	eP	Pn	06 32 19.2	-0.6
ECH	Echery	13.87	320	ePn	Pn	06 32 18.9	-0.9
MOX	Moxa	13.89	336	eP	Pn	06 32 18.6	-1.5
	comp=Z,47nm,1.0s						
MOX				e		06 32 29.7	
MOX							
	comp=Z,700nm,15.0s						
MOX	Moxa	13.89	336	ePn	Pn	06 32 18.6	-1.5
MOX				eL		06 38 07.5	
	comp=Z,330nm,19.2s						
KIE

RUE Ruedersdorf 14.97 344 *eL* 06 38 24.8
comp=Z,110nm,19.2s
LOR Lormes 15.12 312 *eP* **Pn 06 32 35.8 -1.0**
comp=Z,10nm,0.6s
LOR *e*MLR MLR
comp=Z,244nm,19.5s
LOR Lormes 15.12 312 *eP* **Pn 06 32 35.8 -1.0**
LOR pmax pmax
comp=Z,5.0nm,0.6s
LOR Lormes 15.12 312 *eP* **Pn 06 32 35.8 -1.0**
comp=Z,5.2nm,0.6s
MEZF Maizieres J'vi 15.14 318 *eP* **Pn 06 32 35.8 -1.3**
comp=Z,57nm,0.8s
MEZF Maizieres J'vi 15.14 318 *eP* **Pn 06 32 35.8 -1.3**
comp=Z,28nm,0.8s
AVF Avril sur Loir 15.19 310 *eP* **Pn 06 32 37.3 -0.4**
comp=Z,10.0nm,0.6s
AVF Avril sur Loir 15.19 310 *eP* **Pn 06 32 37.3 -0.4**
AVF pmax pmax
comp=Z,5.0nm,0.6s
AVF Avril sur Loir 15.19 310 *eP* **Pn 06 32 37.3 -0.4**
comp=Z,5.0nm,0.6s
EPOB Poblet 15.19 288 P **Pn 06 32 40.5 +2.7**
comp=Z,15nm,1.2s
SSF Saint Saulge 15.22 311 *eP* **Pn 06 32 37.5 -0.7**
comp=Z,18nm,0.8s
SSF Saint Saulge 15.22 311 *eP* **Pn 06 32 37.5 -0.7**
SSF pmax pmax
comp=Z,9.0nm,0.8s
SSF Saint Saulge 15.22 311 *eP* **Pn 06 32 37.5 -0.7**
comp=Z,9.2nm,0.8s
CAF Calviac 15.26 302 *eP* **Pn 06 32 38.2 -0.4**
comp=Z,8.6nm,0.7s
CAF Calviac 15.26 302 *eP* **Pn 06 32 38.2 -0.4**
CAF pmax pmax
comp=Z,4.0nm,0.7s
CAF Calviac 15.26 302 *eP* **Pn 06 32 38.2 -0.4**
comp=Z,4.3nm,0.7s
AKRG Al Kharijah 15.30 143 P **Pn 06 32 37.8 -1.5**
WLF Walferdange 15.33 323 *eL* 06 39 31.7
comp=Z,259nm,21.3s
BGF Bois d'Agland 15.39 308 *eP* **Pn 06 32 39.2 -1.2**
comp=Z,15nm,0.6s
BGF Bois d'Agland 15.39 308 *eP* **Pn 06 32 39.2 -1.2**
BGF pmax pmax
comp=Z,8.0nm,0.6s
BGF Bois d'Agland 15.39 308 *eP* **Pn 06 32 39.2 -1.2**
comp=Z,7.7nm,0.6s
SOC Sochi 15.53 64 *eP* **Pn 06 32 47.5 +5.3**
SOC *e* 06 35 45.2
SOC pmax pmax
comp=Z,97nm,1.0s
HHRG Al Ghardaqah 15.58 131 P **Pn 06 32 42.7 -0.2**
TCF Toulx Ste Croi 15.67 307 *eP* **Pn 06 32 43.8 -0.3**
ERTA Horta de San J 15.72 286 P **Pn 06 32 48.4 +3.7**
comp=Z,45nm,1.3s
RJF Les Rejaudoux 15.75 303 *eP* **Pn 06 32 45.0 -0.1**
comp=Z,31nm,1.2s
RJF *e*MLR MLR
comp=Z,166nm,19.5s
RJF Les Rejaudoux 15.75 303 *eP* **Pn 06 32 45.0 -0.1**
RJF pmax pmax
comp=Z,15nm,1.2s
RJF Les Rejaudoux 15.75 303 *eP* **Pn 06 32 45.0 -0.1**
comp=Z,15nm,1.2s
SUW Suwalki 15.89 6 *eP* **Pn 06 32 47.0 +0.2**
SUW *e* 06 32 49.9
SUW Suwalki 15.89 6 *eP* **Pn 06 32 47.0 +0.2**
SUW *e* 06 32 49.9
NRDL Niedersach Rie 15.96 337 *eL* 06 39 21.7
comp=Z,315nm,19.4s
EPF Esparros 15.97 294 *eP* **Pn 06 32 49.0 +1.1**
EBIE Bielsa 16.05 292 P **Pn 06 32 52.1 +3.1**
comp=Z,22nm,1.3s
MEM Membach 16.05 325 P **Pn 06 32 54.5 +5.6**
BUG Bochum--Univer 16.12 329 *eL* 06 40 01.6
comp=Z,243nm,21.6s
EBEN Beniarda 16.18 278 P **Pn 06 32 53.9 +3.2**
comp=Z,132nm,1.9s
HGN Heimansgroeve 16.20 325 *eS* **Sn 06 35 52.1 +2.0**
HGN Heimansgroeve 16.20 325⇑ *eP* **Pn 06 32 55.7 +4.9**
comp=Z,44nm,1.3s
BCLA Clavier 16.25 323 P **Pn 06 32 56.7 +5.3**
GIVF Givet 16.26 322 *eP* **Pn 06 32 51.3 -0.3**
comp=Z,42nm,0.7s
GIVF Givet 16.26 322 *eP* **Pn 06 32 51.3 -0.3**
GIVF pmax pmax
comp=Z,21nm,0.7s
GIVF Givet 16.26 322 *eP* **Pn 06 32 51.3 -0.3**
comp=Z,21nm,0.7s
HSFG 16.28 132 P **Pn 06 32 51.7 -0.3**
EMOS Mosqueruela 16.31 284 P **Pn 06 32 55.5 +3.2**
comp=Z,36nm,1.2s
BEBN Eben Emael 16.33 325 P **Pn 06 32 57.7 +5.2**
DOU Dourbes 16.37 321 P **Pn 06 32 55.2 +2.2**
ESAC San Caprasio 16.38 289 P **Pn 06 32 56.1 +2.9**
comp=Z,83nm,1.6s
ETSF Etsaut 16.59 293 *eP* **Pn 06 32 57.7 +1.8**
comp=Z,25nm,1.1s
ETSF Etsaut 16.59 293 *eP* **Pn 06 32 57.7 +1.8**
ETSF pmax pmax
comp=Z,12nm,1.1s
ETSF Etsaut 16.59 293 *eP* **Pn 06 32 57.7 +1.8**
comp=Z,12nm,1.1s
IBBN Ibbenburen 16.61 332 *eL* 06 40 16.6
comp=Z,236nm,19.7s
WTSB Winterswijk 16.72 330 *eP* **Pn 06 33 01.0 +3.6**
comp=Z,72nm,1.8s
UCC Uccle 16.95 323 P **Pn 06 33 03.9 +3.6**
RGN Rugen 17.02 346 *eL* 06 41 05.3
comp=Z,394nm,18.5s
MNK Minsk 17.03 15 *eP* **Pn 06 32 55.0 -6.4**
MNK pmax pmax
comp=Z,280nm,1.0s
EMUR La Murta 17.07 275 P **Pn 06 33 01.0 -0.9**
comp=Z,94nm,1.5s
EMUR La Murta 17.07 275 P **Pn 06 33 01.0 -0.9**
comp=Z,94nm,1.5s
BSEG Bad Segeberg 17.16 339 *eL* 06 40 11.0
comp=Z,190nm,19.6s
ETOB Tobarra 17.21 278 P **Pn 06 33 04.9 +1.2**
comp=Z,52nm,1.5s
ETOB Tobarra 17.21 278 P **Pn 06 33 04.9 +1.1**
comp=Z,52nm,1.5s
MFF Saint Martin d 17.30 305 *eP* **Pn 06 33 04.1 -0.6**
comp=Z,34nm,1.1s
MFF Saint Martin d 17.30 305 *eP* **Pn 06 33 04.1 -0.6**
MFF pmax pmax
comp=Z,17nm,1.1s
MFF Saint Martin d 17.30 305 *eP* **Pn 06 33 04.1 -0.6**
comp=Z,17nm,1.1s
EALK Alkurruntz 17.33 294 P **Pn 06 33 06.8 +1.6**
comp=Z,50nm,2.1s
ETOR Torete 17.52 286 P **Pn 06 33 09.8 +2.2**
ETOR pmax pmax
comp=Z,14nm,1.2s
ETOR Torete 17.52 286 P **Pn 06 33 09.8 +2.2**
comp=Z,14nm,1.2s
ETOR Torete 17.52 286 P **Pn 06 33 09.8 +2.2**
comp=Z,14nm,1.2s
AGRB Hanur-Agry 17.62 79 *eP* **Pn 06 33 07.2 -1.6**
KIV Kislovodsk 17.71 64 *i* P **Pn 06 33 11.1 +1.3**
KIV pmax pmax
comp=Z,69nm,1.2s
KIV MLR MLR
comp=Z,200nm,15.0s
KIV Kislovodsk 17.71 64 P **Pn 06 33 10.8 +1.0**
comp=Z,78nm,1.1s
KIV Kislovodsk 17.71 64 P **Pn 06 33 10.8 +0.9**
comp=Z,78nm,1.1s
EVIA Vianos 17.96 278 P **Pn 06 33 14.3 +1.3**
EVIA pmax pmax
comp=Z,7.0nm,0.8s
EVIA Vianos 17.96 278 P **Pn 06 33 14.3 +1.3**
comp=Z,7.2nm,0.8s
EVIA Vianos 17.96 278 P **Pn 06 33 14.3 +1.3**
comp=Z,7.2nm,0.8s
ENIJ Nijar 17.97 273 P **Pn 06 33 12.7 -0.4**
ENIJ pmax pmax
comp=Z,22nm,1.0s
ENIJ Nijar 17.97 273 P **Pn 06 33 12.7 -0.4**
comp=Z,22nm,1.0s
ECRI Cripan 17.98 291 P **Pn 06 33 14.3 +1.1**
ONI Oni 18.05 69 P **Pn 06 33 15.3 +1.3**
LDF La Druitiere 18.10 311 *eP* **Pn 06 33 14.1 -0.6**
HLG Helgoland 18.11 336 *eL* 06 41 58.0
comp=Z,318nm,18.9s
EHUE Huescar 18.13 276 P **Pn 06 33 15.1 0.0**
EHUE pmax pmax
comp=Z,13nm,1.0s
EHUE Huescar 18.13 276 P **Pn 06 33 15.1 0.0**
comp=Z,13nm,1.0s
EHUE Huescar 18.13 276 P **Pn 06 33 15.1 0.0**
comp=Z,13nm,1.0s
GOR Gori 18.49 71 P **Pn 06 33 17.8 -1.6**
EQES Quesada 18.51 276 P **Pn 06 33 20.0 +0.3**
comp=Z,69nm,1.8s
EQES Quesada 18.51 276 P **Pn 06 33 20.0 +0.3**
comp=Z,69nm,1.8s
VRSR Storozhevoye 18.54 40 *eP* **Pn 06 33 18.8 -1.1**
VRSR pmax pmax
comp=Z,8.0nm,0.7s
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.1s
VRSR MLR MLR
comp=Z,200nm,11.0s
VRSR MLR MLR
comp=N,80nm,10.0s
VRSR MLR MLR
comp=E,160nm,11.0s
VRSR Storozhevoye 18.54 40 *eP* **Pn 06 33 18.8 -1.1**
comp=E,80nm,10.0s
ELAN Lanestosa 18.73 293 P **Pn 06 33 21.5 -0.8**
comp=E,84nm,1.5s
ELAN Lanestosa 18.73 293 P **Pn 06 33 21.5 -0.8**
comp=E,84nm,1.5s
GNI Garni 18.94 77 *eP* **Pn 06 33 25.1 +0.2**
GNI Garni 18.94 77 P **Pn 06 33 25.6 +0.6**
comp=E,1.5nm,0.3s,baz=269,slow=0.9,SNR=30
GNI LR LR 06 40 50.8
comp=E,201nm,20.4s,baz=276,slow=38
GNI Garni 18.94 77 *c i*P **Pn 06 33 25.9 +1.0**
GNI pmax pmax
comp=Z,175nm,1.7s
GNI MLR MLR
comp=Z,600nm,15.0s
GNI Garni 18.94 77 *eP* **Pn 06 33 25.5 +0.6**
comp=Z,92nm,1.0s
GNI Garni 18.94 77 *eP* **Pn 06 33 25.5 +0.6**
comp=Z,92nm,1.0s
TBLG Delisi 18.94 72 P **Pn 06 33 23.7 -1.3**
ECOG Cogollos-Vega 18.98 275 P **Pn 06 33 25.7 +0.2**
ECOG pmax pmax
comp=Z,24nm,1.0s
ECOG Cogollos-Vega 18.98 275 P **Pn 06 33 25.7 +0.2**
comp=Z,24nm,1.0s
ECOG Cogollos-Vega 18.98 275 P **Pn 06 33 25.7 +0.2**
comp=Z,24nm,1.0s
ESDC Sonseca Array 19.01 282 P **Pn 06 33 25.0 -0.7**
comp=Z,0.3nm,0.3s,baz=78,slow=12,SNR=12
EBAN Banos Encina 19.02 277 P **Pn 06 33 25.5 -0.4**
EBAN pmax pmax
comp=Z,10.0nm,0.7s
EBAN Banos Encina 19.02 277 P **Pn 06 33 25.5 -0.4**
comp=Z,10.0nm,0.7s
EBAN Banos Encina 19.02 277 P **Pn 06 33 25.5 -0.3**
comp=Z,10.0nm,0.7s
EGUA Guajares 19.06 273 P **Pn 06 33 24.9 -1.6**
EGUA pmax pmax
comp=Z,128nm,1.1s
EGUA Guajares 19.06 273 P **Pn 06 33 24.9 -1.6**
comp=Z,128nm,1.1s
EGUA Guajares 19.06 273 P **Pn 06 33 24.9 -1.6**
comp=Z,128nm,1.1s
GUD Guadarrama 19.12 285 P **Pn 06 33 26.7 -0.4**
GUD pmax pmax
comp=Z,12nm,0.7s
GUD Guadarrama 19.12 285 P **Pn 06 33 26.7 -0.4**
comp=Z,12nm,0.7s
GUD Guadarrama 19.12 285 P **Pn 06 33 26.7 -0.3**
comp=Z,12nm,0.7s
PAB San Pablo 19.31 282 *eP* **Pn 06 33 28.1 -1.3**
PAB pmax pmax
comp=Z,21nm,1.1s
PAB San Pablo 19.31 282 *eP* **Pn 06 33 28.1 -1.3**
comp=Z,21nm,1.1s
PAB San Pablo 19.31 282 *eP* **Pn 06 33 28.1 -1.4**
comp=Z,21nm,1.1s
SGMF Saint Gilles 19.43 308 *eP* **Pn 06 33 29.3 -1.5**
ELUQ Luque 19.48 276 P **Pn 06 33 29.9 -1.6**
ELUQ pmax pmax
comp=Z,35nm,1.1s
ELUQ Luque 19.48 276 P **Pn 06 33 29.9 -1.6**
comp=Z,35nm,1.1s
ELUQ Luque 19.48 276 P **Pn 06 33 29.9 -1.6**
comp=Z,35nm,1.1s
EADA Adamuz 19.63 278 P **Pn 06 33 31.8 -1.5**
comp=Z,53nm,1.2s
EADA Adamuz 19.63 278 P **Pn 06 33 31.8 -1.5**
comp=Z,53nm,1.2s
VRHR Novokhopersk 19.73 43 *eP* **Pn 06 33 34.3 0.0**
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=Z,60nm,0.7s
VRHR pmax pmax
comp=E,70nm,0.6s
ROSF Rostrenen 19.91 308 *eP* **Pn 06 33 35.1 -1.3**
comp=E,54nm,1.1s
ROSF Rostrenen 19.91 308 *eP* **Pn 06 33 35.1 -1.3**
ROSF pmax pmax
comp=Z,27nm,1.1s
ROSF Rostrenen 19.91 308 *eP* **Pn 06 33 35.1 -1.3**
comp=Z,27nm,1.1s
TAM Tamanrasset 20.00 224 *eP* **P 06 33 37.9 +1.9**
TAM Tamanrasset 20.00 224 *eP* **P 06 33 37.9 +1.9**
EARI Arriondas 20.02 293 P **P 06 33 36.2 +0.1**
comp=Z,173nm,2.1s
EARI Arriondas 20.02 293 P **P 06 33 36.2 +0.1**
comp=Z,173nm,2.1s
EMIJ Mijas 20.07 273 P **P 06 33 37.7 +1.0**
comp=Z,46nm,1.6s
EMIJ Mijas 20.07 273 P **P 06 33 37.7 +1.0**
comp=Z,46nm,1.6s
OBN Obninsk 20.11 28 *c i*P **P 06 33 35.8 -1.1**
OBN *e*S **S 06 37 19.9 -2.3**
OBN pmax pmax
comp=Z,87nm,1.2s
OBN MLR MLR
comp=Z,900nm,18.0s,MS4.2
OBN Obninsk 20.11 28 *eP* **P 06 33 35.7 -1.2**
comp=Z,112nm,1.4s
ECAB El Cabril 20.30 278 P **P 06 33 39.2 0.0**
comp=Z,167nm,1.3s
ECAB El Cabril 20.30 278 P **P 06 33 39.2 0.0**
comp=Z,167nm,1.3s
ESPR Espera 20.86 274 P **P 06 33 45.7 +0.5**
comp=Z,21nm,1.2s
ESPR Espera 20.86 274 P **P 06 33 45.7 +0.5**
comp=Z,21nm,1.2s
CWF Charnwood Fore 20.91 321 *eP* **P 06 33 44.8 -0.8**
CWF AMb AMB 06 33 50.9
comp=Z,52nm,1.4s
MOS Moscow 20.97 28 *eP* **P 06 33 44.9 -1.4**
MOS pmax pmax
comp=Z,197nm,1.4s
MOS pmax pmax
comp=Z,300nm,1.4s
MOS MLR MLR
comp=Z,1μm,14.0s,MS4.4
MDT Midelt 21.05 263 P **P 06 33 47.1 -0.2**
comp=Z,10nm,0.9s,mb4.2,baz=82,slow=11,SNR=9.7
MDT LR LR 06 43 38.5
comp=Z,127nm,18.1s,MS3.3,baz=137,slow=42
MAK Makhachkala 21.06 68 *eP* **P 06 33 44.4 -2.9**
MAK *e* 06 34 06.7
MAK *e*S **S 06 37 40.4 -1.0**
MAK *e*SS 06 38 10.5
MAK pmax pmax
comp=Z,601nm,1.5s,mb5.7
ECAL Calabor 21.07 289 P **P 06 33 48.1 +0.7**
comp=Z,43nm,1.2s,mb4.7
ECAL Calabor 21.07 289 P **P 06 33 48.1 +0.6**
comp=Z,43nm,1.2s,mb4.7
PBRG Braganca 21.07 288 *eP* **P 06 33 48.0 +0.6**
comp=Z,30nm,1.6s,mb4.4
HGH Gray Hill 21.09 317⇑ *eP* **P 06 33 48.0 +0.4**
MVO Moncorvo 21.29 287 *eP* **P 06 33 49.6 -0.2**
comp=Z,29nm,1.4s,mb4.4
MVO *e*S **S 06 37 44.5 -1.4**
MVO Moncorvo 21.29 287 *eP* **P 06 33 49.5 -0.3**
KBI1 Birley Grange 21.32 322⇑ *eP* **P 06 33 49.9 -0.1**
EMIN Mina Concepcio 21.33 277 P **P 06 33 49.8 -0.5**
comp=Z,32nm,1.0s,mb4.6
EMIN Mina Concepcio 21.33 277 P **P 06 33 49.8 -0.5**
comp=Z,32nm,1.0s,mb4.6
KWE Weaver Farm 21.34 321⇑ *eP* **P 06 33 50.1 -0.1**
MCH1 Michaelchurch 21.38 318 *eP* **P 06 33 50.2 -0.4**
MCH1 AMb AMB 06 33 58.8
comp=Z,72nm,1.1s,mb4.9
EBAD Badajoz 21.45 280 P **P 06 33 50.1 -1.5**
comp=Z,30nm,1.3s,mb4.5
EBAD Badajoz 21.45 280 P **P 06 33 50.1 -1.5**
comp=Z,30nm,1.3s,mb4.5
PBAR Barrancos 21.55 278 *eP* **P 06 33 52.7 0.0**
comp=Z,68nm,1.7s,mb4.8
PBAR *e*S **S 06 37 48.8 -2.3**
HTR Trewern Hill 21.56 318 *eP* **P 06 33 52.3 -0.4**
HLM1 Long Mynd 21.59 319 *eP* **P 06 33 52.8 -0.1**
LHO Holmfirth 21.65 322 *eP* **P 06 33 53.8 +0.2**
PMRV Marv??o 21.67 282 *eP* **P 06 33 53.0 -0.9**
comp=Z,48nm,1.1s,mb4.8
PMRV *e*S **S 06 37 55.0 +1.6**
PCBR Castelo Branco 21.70 283 *eP* **P 06 33 53.6 -0.6**
comp=Z,40nm,1.2s,mb4.7
PCBR Castelo Branco 21.70 283 *eP* **P 06 33 53.4 -0.8**
MTE Manteigas 21.71 284 *eP* **P 06 33 53.9 -0.4**
comp=Z,47nm,1.4s,mb4.7
MTE *e*S **S 06 37 56.4 +2.2**
MTE Manteigas 21.71 284 *eP* **P 06 33 50.8 -3.5**
comp=Z,25nm,0.9s,mb4.6
HTL Hartland 21.71 314 *eP* **P 06 33 55.0 +0.7**
HTL AMb AMB 06 34 08.4
comp=Z,61nm,1.7s,mb4.8
PESTR Estremoz 21.88 280 *eP* **P 06 33 54.6 -1.6**
comp=Z,27nm,1.1s,mb4.6
PESTR *e*S **S 06 37 57.1 -0.5**
SBD1 Bryn Du 21.99 319⇑ *eP* **P 06 33 56.6 -0.6**
EGRO El Granado 22.00 277 P **P 06 33 56.7 -0.8**
comp=Z,23nm,1.1s,mb4.5
EGRO El Granado 22.00 277 P **P 06 33 56.7 -0.8**
comp=Z,23nm,1.1s,mb4.5
PCAB Cabril 22.03 288 *eP* **P 06 33 57.1 -0.7**
comp=Z,33nm,1.8s,mb4.5
PCAB Cabril 22.03 288 *eP* **P 06 33 57.0 -0.8**
ELOB Lobios 22.05 288 P **P 06 33 57.1 -0.9**
comp=Z,32nm,1.4s,mb4.5
ELOB Lobios 22.05 288 P **P 06 33 57.1 -0.9**
comp=Z,32nm,1.4s,mb4.5
PVAQ Vaqueiros 22.21 277 *eP* **P 06 34 00.7 +0.9**
comp=Z,24nm,1.5s,mb4.4
PVAQ *e*S **S 06 38 06.7 +2.7**
PBEJ Beja 22.22 278 *eP* **P 06 34 01.1 +1.3**
comp=Z,24nm,1.1s,mb4.5
EVO Evora 22.26 280 *eP* **P 06 34 00.7 +0.5**
comp=Z,13nm,0.9s,mb4.1
EVO *e*MLR MLR
comp=Z,139nm,17.0s,MS3.1
EVO Evora 22.26 280 *eP* **P 06 33 59.0 -1.2**
comp=Z,23nm,1.6s,mb4.4
HFS Hagfors 22.33 351 P **P 06 33 59.6 -1.1**
comp=Z,37nm,0.7s,mb5.0,baz=159,slow=9.5,SNR=51
HFA0 Hagfors New Ar 22.34 351 P **P 06 33 59.0 -1.8**
EVOP Sao Brissos 22.34 280 *eP* **P 06 34 00.7 -0.4**
comp=Z,6.7nm,0.9s,mb4.1
PBDV Barranco-do-Ve 22.41 276 *eP* **P 06 34 02.0 +0.1**
comp=Z,49nm,2.1s,mb4.6
PBDV *e*S **S 06 38 08.6 +0.7**
PTOM Tomar 22.43 283 *eP* **P 06 34 01.3 -0.8**
comp=Z,54nm,0.9s,mb5.0
KONO Kongsberg 22.52 346 *de*P **P 06 34 02.1 -0.7**
KONO Kongsberg 22.52 346 *eP* **P 06 34 02.1 -0.7**
MORF Marmelete 22.96 277 *eP* **P 06 34 08.1 +0.4**
comp=Z,26nm,1.7s,mb4.4
MORF *e*S **S 06 38 15.8 -1.8**
MORF Marmelete 22.96 277 *eP* **P 06 34 07.6 -0.1**
PTEO Sao Teotonio 22.97 277 *eP* **P 06 34 07.1 -0.7**
comp=Z,37nm,1.4s,mb4.6
XSO Sourhope Farm 23.02 326 *eP* **P 06 34 06.6 -1.6**
PFVI Vila Bisbo 23.13 276 *eP* **P 06 34 09.8 +0.3**
comp=Z,36nm,1.9s,mb4.5
PFVI *e*S **S 06 38 19.5 -0.9**
PFVI Vila Bisbo 23.13 276 *eP* **P 06 34 11.7 +2.2**
PMAFR Mafra 23.18 281 *eS* **S 06 38 19.4 -1.8**
EKA Eskdalemuir Ar 23.33 325 P **P 06 34 11.0 -0.4**
comp=Z,22nm,0.9s,mb4.6,baz=128,slow=9.7,SNR=37
ESK Eskdalemuir 23.34 325 *eP* **P 06 34 09.9 -1.6**
ESK AMb AMB 06 34 14.7
comp=Z,41nm,1.0s,mb4.8
ESK Eskdalemuir 23.34 325 *eP* **P 06 34 11.0 -0.5**
ESK pmax pmax
comp=Z,26nm,0.9s,mb4.7
ESK Eskdalemuir 23.34 325 *eP* **P 06 34 11.0 -0.5**
comp=Z,26nm,0.9s,mb4.7
ESK Eskdalemuir 23.34 325 *eP* **P 06 34 11.0 -0.6**
comp=Z,26nm,0.9s,mb4.7
NAO01 NORSAR Array S 23.41 348 *eP* **P 06 34 11.0 -1.2**
comp=Z,24nm,1.0s,mb4.6
NAO01 NORSAR Array S 23.41 348 *eP* **P 06 34 11.0 -1.1**
comp=Z,24nm,1.0s,mb4.6
ESY Stoneypath 23.45 326 *eP* **P 06 34 11.7 -1.0**
NB2 NORSAR Subarra 23.54 349 P **P 06 34 12.0 -1.5**
comp=Z,34nm,1.0s,mb4.7,baz=155,slow=10
NOA NORSAR Array B 23.54 349 P **P 06 34 12.7 -0.9**
comp=Z,10.0nm,0.7s,mb4.4,baz=156,slow=9.3,SNR=36
NOA LR LR 06 44 31.7
comp=Z,182nm,19.1s,MS3.6,baz=175,slow=40
EBL Broad Law 23.55 326 *eP* **P 06 34 13.2 -0.4**
EDI Edinburgh 23.71 326 *eP* **P 06 34 14.1 -1.0**
EDI AMb AMB 06 34 20.6
comp=Z,43nm,1.5s,mb4.7
MIB Mutribah 23.79 103 *eP* **P 06 34 17.0 +0.9**
baz=103
MIB AMb AMB 06 34 21.1
comp=Z,187nm,1.0s,mb5.5,baz=103
DLF Lyons Farm 23.89 318 *eP* **P 06 34 17.2 +0.4**
NAY Al-Naaiem 23.97 104 *eP* **P 06 34 17.9 +0.1**
baz=104
NAY AMb AMB 06 34 22.0
comp=Z,46nm,0.8s,mb5.0,baz=104
KAF Kangasniemi 24.18 7 *ep* **P 06 34 18.7 -0.6**
comp=Z,3.8nm,0.4s,mb4.2
KAF Kangasniemi 24.18 7 *eP* **P 06 34 18.7 -0.6**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.2
UMR Umm Al-Rimmam 24.19 103 *eP* **P 06 34 20.0 +0.2**
baz=103
UMR AMb AMB 06 34 25.1
comp=Z,93nm,0.9s,mb5.2,baz=103
DCN Croghan 24.31 317 *eP* **P 06 34 20.8 +0.2**
RDF Al-Radifah 24.37 104 *eP* **P 06 34 21.4 0.0**
baz=104
EAB Aberfoyle 24.38 325 *eP* **P 06 34 20.1 -1.2**
JOF Joensuu 25.59 12 *ep* **P 06 34 33.4 +1.3**
comp=Z,4.0nm,0.4s,mb4.3
JOF Joensuu 25.59 12 *eP* **P 06 34 33.4 +1.3**
JOF pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
AKTK Aktyubinsk 29.21 53 P **P 06 35 03.5 -1.3**
AKTK Aktyubinsk 29.21 53 P **P 06 35 03.5 -1.2**
AKTK LR LR 06 49 01.2
AKTO Aktyubinsk 29.21 53 P **P 06 35 03.5 -1.2**
comp=Z,1.7nm,0.4s,mb4.2,baz=248,slow=8.2,SNR=9.3
AKTO LR LR 06 49 01.2
comp=Z,185nm,18.1s,MS3.7,baz=98,slow=41
TORD Torodi Ar. Bea 30.03 219 P **P 06 35 12.3 0.0**
comp=Z,18nm,0.9s,mb4.8,baz=34,slow=9.1,SNR=66
TORD LR LR 06 49 12.1
comp=Z,192nm,18.1s,MS3.8,baz=25,slow=40
TORD Torodi Ar. Bea 30.03 219 P **P 06 35 12.3 0.0**
TORD LR LR 06 49 12.1
APA Apatity 30.27 10⇓ *i*P **P 06 35 06.5 -7.5**
APA pmax pmax
comp=Z,62nm,1.6s,mb5.1
APA MLR MLR
comp=Z,700nm,12.0s,MS4.5
ARU Arti 31.07 42 *d i*P **P 06 35 20.2 -0.9**
ARU *e* 06 36 18.2
ARU *e* 06 38 11.3
ARU *e*S **S 06 40 25.4 -0.4**
ARU pmax pmax
comp=Z,27nm,1.7s,mb4.8
ARU MLR MLR
comp=Z,396nm,14.0s,MS4.2
ARU Arti 31.07 42 *i* P **P 06 35 20.2 -0.9**
comp=Z,27nm,1.7s,mb4.8
ARU Arti 31.07 42 *eP* **P 06 35 19.9 -1.2**

comp=Z,7.2nm,0.4s,mb4.9
SOKR Solikamsk 31.43 35 *e*P **P 06 35 24.2 -0.1**
SOKR pmax pmax
comp=Z,20nm,1.2s,mb4.8
SOKR MLR MLR
comp=Z,400nm,19.0s,MS4.1
SOKR Solikamsk 31.43 35 *e*P **P 06 35 24.2 -0.1**
comp=Z,400nm,19.0s
ARCES ARCESS Array B 31.48 3 P **P 06 35 23.4 -1.1**
comp=Z,3.8nm,0.6s,mb4.4,baz=188,slow=10,SNR=31
ARCES PcP PcP 06 38 17.0 -0.2
comp=Z,0.8nm,0.5s,baz=212,slow=2.1,SNR=12
ARCES LR LR 06 49 12.5
comp=Z,289nm,18.8s,MS4.0,baz=293,slow=39
ARCES ARCESS Array B 31.48 3 P **P 06 35 23.5 -1.1**
ARCES 06 38 17.0
ARCES ARCESS Array B 31.48 3 P **P 06 35 23.4 -1.1**
ARCES PcP PcP 06 38 17.0 -0.2
ARCES LR LR 06 49 12.5
KEV Kevo 31.77 4 *e*p **P 06 35 26.1 -1.1**
comp=Z,1.0nm,0.4s,mb4.0
KEV Kevo 31.77 4 *e*P **P 06 35 26.1 -1.1**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
BRVK Borovoye 37.08 50 *e*P **P 06 36 13.5 +0.2**
BRVK 06 37 39.7
BRVK pmax pmax
comp=Z,27nm,1.6s,mb4.8
BRVK Borovoye 37.08 50 *e*P **P 06 36 13.5 +0.2**
comp=Z,27nm,1.6s,mb4.8
BRVK Borovoye 37.08 50 *e*P **P 06 36 13.5 +0.2**
comp=Z,27nm,1.6s,mb4.8
BRVK PP PP 06 37 39.6 +2.0
BVAR Borovoye Array 37.14 50 P **P 06 36 13.3 -0.5**
comp=Z,3.5nm,0.6s,mb4.3,baz=266,slow=5.9,SNR=11
BVAR PP PP 06 37 37.0 -1.3
comp=Z,3.0nm,0.6s,baz=250,slow=8.6,SNR=4.1
DBIC Dimbokro 38.88 223 P **P 06 36 28.7 -0.2**
comp=Z,11nm,0.8s,mb4.7,baz=11,slow=11,SNR=10
DBIC LR LR 06 53 38.7
comp=Z,282nm,18.9s,MS4.1,baz=8.6,slow=38
DBIC Dimbokro 38.88 223 P **P 06 36 28.7 -0.2**
DBIC LR LR 06 53 38.7
LIC Lamto 39.35 222 *e*P **P 06 36 32.4 -0.4**
comp=Z,43nm,0.8s,mb4.9
LIC *e*MLR MLR
comp=Z,328nm,22.8s,MS3.8
LIC Lamto 39.35 222 *e*P **P 06 36 32.4 -0.4**
comp=Z,22nm,0.8s,mb4.9
LIC LR LR
comp=Z,160nm,22.8s,MS3.8
EKS2 Erkin-Say 40.29 66 *e*P **P 06 36 40.2 -0.1**
comp=Z,26nm,1.1s,mb4.9
EKS2 Erkin-Say 40.29 66 *e*P **P 06 36 40.2 -0.1**
comp=Z,26nm,1.1s,mb4.9
AML Almayashu 40.34 67 *e*P **P 06 36 41.1 +0.3**
comp=Z,5.2nm,0.6s,mb4.4
AML *e*pP pP 06 36 45.8 +0.8
AML Almayashu 40.34 67 *e*P **P 06 36 41.1 +0.3**
comp=Z,5.2nm,0.6s,mb4.4
AML *e*pP pP 06 36 45.8 +0.8
FRU Bishkek 40.85 66 *e*P **P 06 36 45.0 0.0**
FRU *i* pP 06 36 49.5 +0.3
FRU *e* 06 38 29.0
UCH Uchtor 40.91 67 *e*P **P 06 36 46.3 +0.8**
comp=Z,8.2nm,1.1s,mb4.3
UCH Uchtor 40.91 67 *e*P **P 06 36 46.3 +0.8**
comp=Z,8.2nm,1.1s,mb4.3
TKM2 Tokmak 2 41.54 65 P **P 06 36 50.3 -0.4**
TKM2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
TKM2 Tokmak 2 41.54 65 P **P 06 36 50.3 -0.4**
comp=Z,3.2nm,0.7s,mb4.1
TKM2 Tokmak 2 41.54 65 P **P 06 36 50.3 -0.4**
comp=Z,3.2nm,0.7s,mb4.1
KMBO Kilima Mbogo 42.14 154 P **P 06 36 58.1 +2.3**
comp=Z,1.4nm,0.7s,mb3.7,baz=234,slow=23,SNR=5.1
KMBO LR LR 06 57 29.7
comp=Z,99nm,18.6s,MS3.7,baz=235,slow=40
KURK Kurchatov 42.30 53 *e*P **P 06 36 56.2 -0.6**
KURK pmax pmax
comp=Z,14nm,1.0s,mb4.5
KURK Kurchatov 42.30 53 *e*P **P 06 36 56.2 -0.6**
comp=Z,14nm,1.0s,mb4.5
KURK Kurchatov 42.30 53 *e*P **P 06 36 56.1 -0.7**
comp=Z,14nm,1.0s,mb4.5
NVS Novosibirsk 44.69 47 *e*P **P 06 37 15.4 -0.6**
NVS *e* 06 39 01.1
NVS pmax pmax
comp=Z,55nm,1.5s,mb5.2
NVS pmax pmax
comp=N,13nm,1.2s
NVS pmax pmax
comp=E,38nm,1.5s
MKAR Makanchi Array 45.34 58 P **P 06 37 20.4 -0.9**
comp=E,3.6nm,0.4s,mb4.5,baz=285,slow=6.4,SNR=67
MKAR PcP PcP 06 38 59.2 -1.4
comp=E,1.1nm,0.7s,baz=293,slow=2.8,SNR=1.9
MKAR PP PP 06 39 08.5 +1.3
comp=E,2.5nm,0.8s,baz=275,slow=6.0,SNR=3.6
MKAR LR LR 06 58 26.2
comp=E,142nm,21.9s,MS3.9,baz=170,slow=39
MKAR Makanchi Array 45.34 58 P **P 06 37 20.4 -0.9**
MKAR 06 38 59.3
MKAR 06 39 08.5
MKAR Makanchi Array 45.34 58 PcP PcP 06 38 59.2 -1.5
ZAL Zalesovo 45.70 48 P **P 06 37 23.3 -0.7**
ZAL 06 39 08.0
ZAA0 Zalesovo Array 45.71 48 *e*P **P 06 37 23.3 -0.8**
ZAA0 Zalesovo Array 45.71 48 *e*PP PP 06 39 10.2 -0.8
ZAA0 Zalesovo Array 45.71 48 *e*P **P 06 37 23.3 -0.8**
ZAA0 *e*PP PP 06 39 10.2 -0.8
ZALV Zalesovo Beam 45.71 48 P **P 06 37 23.3 -0.8**
comp=E,22nm,0.7s,mb5.2,baz=277,slow=8.5,SNR=74
ZALV PP PP 06 39 08.0 -3.0
comp=E,6.6nm,0.8s,baz=272,slow=8.5,SNR=2.8
ZALV LR LR 06 59 20.9
comp=E,179nm,18.0s,MS4.0,baz=317,slow=40
ZALV Zalesovo Beam 45.71 48 PP PP 06 39 08.0 -3.0
ZALV Zalesovo Beam 45.71 48 P **P 06 37 23.3 -0.8**
ZALV PP PP 06 39 08.0 -3.0
ZALV LR LR 06 59 20.9
WMQ Urumqi 49.80 61 P **P 06 37 58.3 +2.3**
WMQ AP pP 06 38 02.8 +2.6
WMQ XP sP 06 38 05.3 +3.5
WMQ PP PP 06 39 53.8 +3.3
WMQ AMB AMB
comp=Z,15nm,1.0s,mb5.0
WMQ LR LR
comp=N,113nm,23.2s,MS4.0
WMQ LR LR
comp=E,137nm,28.0s,MS4.0
WMQ LR LR
comp=Z,71nm,21.0s
POO Poona 50.22 97 *e*x x 06 37 57.0
LSZ Lusaka 53.73 171 LR LR 07 02 55.2
comp=Z,209nm,18.1s,MS4.2,baz=47,slow=38
MOY Mondy 55.77 48 *e*P **P 06 38 40.4 +0.4**
TLY Talaya 57.30 47 *e*P **P 06 38 51.5 +0.6**
TLY *e*S **S 06 46 58.4 +12**
TLY pmax pmax
comp=Z,18nm,1.3s,mb4.9
TLY MLR MLR
comp=Z,239nm,14.0s,MS4.5
ZAK Zakamensk 57.58 49 *e*P **P 06 38 53.1 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
LSA Lhasa 58.00 76 *e*P **P 06 38 54.7 -1.4**
LSA *e*PP pP 06 39 00.5 +0.1
LSA pmax pmax
comp=Z,11nm,0.6s,mb5.1
LSA Lhasa 58.00 76 *e*P **P 06 38 54.7 -1.4**
comp=Z,11nm,0.6s,mb5.0
LSA *e*pP pP 06 39 00.5 +0.1
LSA Lhasa 58.00 76 *e*P **P 06 38 54.7 -1.5**
comp=Z,11nm,0.6s,mb5.0
LSA *e*pP pP 06 39 00.5 +0.1
SCHQ Schefferville 58.36 317 P **P 06 38 58.2 0.0**
comp=Z,3.7nm,0.6s,mb4.6,baz=81,slow=4.6,SNR=8.7
SCHQ LR LR 07 01 28.4
comp=Z,73nm,21.0s,MS3.8,baz=41,slow=33
SCHQ Schefferville 58.36 317 P **P 06 38 58.2 0.0**
SCHQ LR LR 07 01 28.4
TIXI Tiksi 59.62 20 *d i*P **P 06 39 07.4 +0.6**
TIXI pmax pmax
comp=Z,14nm,1.7s,mb4.7
TIXI MLR MLR
comp=Z,900nm,20.0s,MS4.9
TIXI Tiksi 59.62 20 *e*P **P 06 39 05.3 -1.5**
comp=Z,4.4nm,0.8s,mb4.5
TIXI Tiksi 59.62 20 *e*P **P 06 39 05.3 -1.4**
comp=Z,4.4nm,0.8s,mb4.5
GTA Gaotai 59.87 62 ⇓P **P 06 39 08.8 -0.2**
GTA AP pP 06 39 13.5 +0.2
GTA XP sP 06 39 16.0 +1.1
GTA PP PP 06 41 22.5 +1.7
GTA S **S 06 47 18.8 -1.5**
GTA XS sS 06 47 26.3 -1.1
GTA SS SS 06 51 15.5 -0.6
GTA AMB AMB
comp=Z,7.0nm,1.3s,mb4.5
GTA AMB AMB
comp=Z,36nm,3.9s
GTA LR LR
comp=N,99nm,16.8s,MS4.2
GTA LR LR
comp=E,97nm,15.3s,MS4.2
GTA LR LR
comp=Z,118nm,18.0s,MS4.1
BOD Bodaibo 60.38 38 *e*P **P 06 39 11.2 -0.9**
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.9
SONM Songino Array 60.48 51 P **P 06 39 12.7 -0.3**
comp=Z,4.6nm,0.9s,mb4.5,baz=289,slow=9.0,SNR=23
LBTB Lobatse 63.11 175 LR LR 07 09 53.8
comp=Z,149nm,18.6s,MS4.2,baz=144,slow=39
LZH Lanzhou 64.25 63 ⇑P **P 06 39 38.0 -0.4**
LZH AP pP 06 39 42.8 0.0
LZH XP sP 06 39 45.3 +0.9
LZH PP PP 06 42 01.3 +1.8
LZH AMB AMB
comp=Z,23nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,54nm,7.6s
LZH LR LR
comp=N,407nm,16.3s
LZH LR LR
comp=Z,612nm,18.5s,MS4.8
YAK Yakutsk 65.10 29 *e*P **P 06 39 41.8 -1.7**
YAK pmax pmax
comp=Z,18nm,1.0s,mb5.1
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
BOSA Boshof 66.66 175 P **P 06 39 53.9 +0.1**
comp=E,2.1nm,0.7s,mb4.3,baz=345,slow=5.5,SNR=2.5
BOSA LR LR 07 10 39.2
comp=E,246nm,18.1s,MS4.5,baz=4.6,slow=37
BOSA Boshof 66.66 175 P **P 06 39 53.9 +0.1**
BOSA LR LR 07 10 39.1
CD2 Chengdu 66.82 68 *e*P **P 06 39 54.8 -0.4**
CD2 AP pP 06 39 59.5 0.0
CD2 XP sP 06 40 02.3 +1.2
CD2 PP PP 06 42 23.8 +1.7
CD2 S S 06 48 45.3 -2.1
CD2 XS sS 06 48 53.0 -1.5
CD2 SS SS 06 53 04.8 -0.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,20nm,5.8s
CD2 LR LR
comp=N,470nm,22.8s
CD2 LR LR
comp=E,130nm,13.2s
CD2 LR LR
comp=Z,130nm,15.6s
HHC Hu-ho-hao-te 67.07 55 *e*P **P 06 39 57.3 +0.7**
HHC XP sP 06 40 03.0 +0.5
HHC PP PP 06 42 26.3 +2.3
HHC PCS 06 44 30.0
HHC S S 06 48 46.8 -3.2
HHC AMB AMB
comp=Z,16nm,0.8s,mb5.1
HHC AMB AMB
comp=Z,68nm,4.2s
HHC LR LR
comp=N,147nm,14.3s,MS4.4
HHC LR LR
comp=E,136nm,16.7s,MS4.4
HHC LR LR
comp=Z,137nm,15.5s,MS4.3
XAN Xi'an 68.87 63 P **P 06 40 07.5 -0.5**
XAN AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
KMI Kunming 69.17 74 P **P 06 40 13.0 +3.0**
KMI AP pP 06 40 16.3 +1.9
KMI XP sP 06 40 18.0 +2.0
KMI PP PP 06 42 48.3 +5.7
KMI S S 06 49 16.0 +0.4
KMI XS sS 06 49 24.5 +1.8
KMI SS SS 06 53 42.0 +0.5
KMI AMB AMB
comp=Z,5.0nm,0.8s,mb4.5
KMI AMB AMB
comp=Z,17nm,3.1s
KMI LR LR
comp=N,150nm,15.8s,MS4.3
KMI LR LR
comp=E,94nm,19.7s,MS4.3
KMI LR LR
comp=Z,204nm,19.7s,MS4.4
CMAR Chiang Mai Arr 69.96 82 P **P 06 40 14.4 -0.5**
comp=Z,1.6nm,0.5s,mb4.2,baz=303,slow=7.8,SNR=9.8
CMAR Chiang Mai Arr 69.96 82 P **P 06 40 14.4 -0.6**
BJI Beijing 70.47 54 P **P 06 40 17.0 -0.8**
BJI AMB AMB
comp=Z,7.0nm,0.9s,mb4.6
BILL Biiibino 70.97 13 *e*P **P 06 40 20.4 0.0**
BILL pmax pmax
comp=Z,11nm,1.0s,mb4.7
GYA Guiyang 71.38 71 P **P 06 40 27.5 +4.0**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
YKA Yellowknife Ar 73.31 340 P **P 06 40 34.6 +0.2**
comp=Z,2.1nm,0.8s,mb4.1,baz=35,slow=5.6,SNR=18
YKA LR LR 07 14 13.5
comp=Z,37nm,18.7s,MS3.7,baz=100,slow=37
MCWV Mont Chateau 73.53 308 P **P 06 40 34.3 -1.9**
comp=Z,9.7nm,0.6s,mb4.9
MCWV Mont Chateau 73.53 308 P **P 06 40 34.3 -1.9**
comp=Z,9.7nm,0.6s,mb4.9
KLR Kul'dur 73.88 39 *e*P **P 06 40 34.2 -3.8**
KLR pmax pmax
comp=Z,45nm,1.6s,mb5.2
CN2 Changchun 73.90 47 *e*P **P 06 40 38.0 -0.3**
CN2 *e*XP sP 06 40 45.0 +0.8
CN2 *e*PP PP 06 43 23.8 +1.1
CN2 *e*S S 06 50 06.5 -3.2
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,18.0s,MS4.7
CN2 LR LR
comp=E,200nm,18.0s,MS4.7
CN2 LR LR
comp=Z,300nm,19.0s,MS4.6
COLD Coldfoot 74.61 356 *e*P **P 06 40 41.3 -0.7**
comp=Z,8.8nm,1.0s,mb4.6
COLD Coldfoot 74.61 356 *e*P **P 06 40 41.3 -0.7**
comp=Z,8.8nm,1.0s,mb4.6
ULM Lac du Bonnet 75.60 324 P **P 06 40 48.0 +0.1**
comp=Z,6.4nm,0.9s,mb4.6,baz=62,slow=4.9,SNR=4.7
ULM Lac du Bonnet 75.60 324 *e*P **P 06 40 48.5 +0.5**
ULM Lac du Bonnet 75.60 324 *e*P **P 06 40 48.5 +0.5**
IMA2 Indian Mountai 75.92 358 *e*P **P 06 40 50.2 +0.7**
COLA College 76.81 355 *e*P **P 06 40 54.3 -0.3**
BPAW Bear Paw Mtn. 77.77 356 *e*P **P 06 40 59.8 -0.2**
comp=Z,4.7nm,0.8s,mb4.5
BPAW Bear Paw Mtn. 77.77 356 *e*P **P 06 40 59.8 -0.2**
comp=Z,4.7nm,0.8s,mb4.5
BLO Bloomington 77.91 310 *e*P **P 06 41 02.6 +1.4**
BLO pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BLO Bloomington 77.91 310 *e*P **P 06 41 02.6 +1.4**
comp=Z,5.6nm,0.7s,mb4.6
BLO Bloomington 77.91 310 *e*P **P 06 41 02.6 +1.3**
comp=Z,5.6nm,0.7s,mb4.6
MCK McKinley 78.02 355 *e*P **P 06 41 02.0 +0.7**
MCK pmax pmax
comp=Z,11nm,1.1s,mb4.7
MCK McKinley 78.02 355 *e*P **P 06 41 02.0 +0.7**
comp=Z,11nm,1.1s,mb4.7
MCK McKinley 78.02 355 *e*P **P 06 41 02.0 +0.6**
comp=Z,11nm,1.1s,mb4.7
CHUM Lake Minchumin 78.05 357 *e*P **P 06 41 02.8 +1.2**
comp=Z,12nm,1.0s,mb4.8
CHUM Lake Minchumin 78.05 357 *e*P **P 06 41 02.8 +1.2**
comp=Z,12nm,1.0s,mb4.8
PPLA Purkeypile 79.03 357 *e*P **P 06 41 07.8 +0.8**
comp=Z,5.0nm,0.7s,mb4.5
PPLA Purkeypile 79.03 357 *e*P **P 06 41 07.8 +0.9**
comp=Z,5.0nm,0.7s,mb4.5
KSRS Korea Array 79.35 51 P **P 06 41 09.0 -0.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=316,slow=5.2,SNR=13
KSRS LR LR 07 22 13.4
comp=Z,78nm,18.1s,MS4.1,baz=165,slow=40
ECSD EROS,Sioux Fal 80.49 319 *e*P **P 06 41 16.2 +0.9**
YSS Yuzh-Sakhalins 80.76 36 *d i*P **P 06 41 17.6 +0.9**
YSS pmax pmax
comp=Z,73nm,1.7s,mb5.3
YSS MLR MLR
comp=Z,100nm,17.0s,MS4.2
YSS Yuzh-Sakhalins 80.76 36 *e*P **P 06 41 17.1 +0.5**
comp=Z,45nm,1.1s,mb5.3
YSS Yuzh-Sakhalins 80.76 36 *e*P **P 06 41 17.1 +0.5**
comp=Z,45nm,1.1s,mb5.3
FVM French Village 81.00 312 *e*P **P 06 41 19.2 +1.1**
FVM French Village 81.00 312 *e*P **P 06 41 19.2 +1.1**
PETK Petropavlovsk- 81.78 24 LR LR 07 22 28.3
comp=Z,127nm,18.5s,MS4.3,baz=132,slow=39
BDFB Brasilia 83.47 244 P **P 06 41 32.9 +1.7**
comp=Z,1.8nm,0.8s,mb4.1,baz=68,slow=23,SNR=2.9
KSU1 Kansas State U 83.76 316 *e*P **P 06 41 31.9 -0.6**
comp=Z,7.7nm,0.9s,mb4.8
KSU1 Kansas State U 83.76 316 *e*P **P 06 41 31.9 -0.6**
comp=Z,7.7nm,0.9s,mb4.8
WALA Waterton Lakes 84.13 332 *e*P **P 06 41 34.2 0.0**
comp=Z,6.7nm,1.4s,mb4.6
WALA Waterton Lakes 84.13 332 *e*P **P 06 41 34.2 +0.1**
comp=Z,6.7nm,1.4s,mb4.6
MIAR Mount Ida 85.20 311 P **P 06 41 40.6 +0.7**
MIAR pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MIAR Mount Ida 85.20 311 P **P 06 41 40.6 +0.7**
comp=Z,5.5nm,0.9s,mb4.7
CHMT Chamberlain Mo 85.64 330 *e*P **P 06 41 42.3 +0.5**
CHMT Chamberlain Mo 85.64 330 *e*P **P 06 41 42.3 +0.4**
NEW Newport 85.96 333 P **P 06 41 42.9 -0.5**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 85.96 333 P **P 06 41 42.9 -0.5**
comp=Z,3.4nm,0.8s,mb4.6
NEW Newport 85.96 333 P **P 06 41 42.9 -0.5**
comp=Z,3.4nm,0.8s,mb4.6
MSO Missoula 85.98 331 *e*P **P 06 41 44.1 +0.6**
comp=Z,19nm,2.1s,mb5.0
MSO Missoula 85.98 331 *e*P **P 06 41 44.1 +0.6**
comp=Z,19nm,2.1s,mb5.0
MJAR Matsushiro Arr 86.00 46 P **P 06 41 42.9 -0.9**
comp=Z,4.2nm,0.8s,mb4.7,baz=313,slow=5.3,SNR=9.4
MJAR Matsushiro Arr 86.00 46 P **P 06 41 42.9 -0.9**
MJAR Matsushiro Arr 86.00 46 P **P 06 41 42.9 -0.9**
BOZ Bozeman (W) 86.03 329 *e*P **P 06 41 45.8 +2.0**
BOZ pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
BOZ Bozeman (W) 86.03 329 *e*P **P 06 41 45.8 +2.0**
comp=Z,5.3nm,1.2s,mb4.7
PDAR Pinedale Array 87.45 326 P **P 06 41 51.1 +0.3**
comp=Z,0.5nm,0.7s,mb3.9,baz=70,slow=8.5,SNR=4.7
TPAW Teton Pass 87.48 327 *e*P **P 06 41 52.7 +1.8**
TPAW Teton Pass 87.48 327 *e*P **P 06 41 52.6 +1.7**
RRI2 Red Ridge 87.76 327 *e*P **P 06 41 52.2 -0.1**
comp=Z,3.7nm,0.9s,mb4.6
BMO Blue Mountains 88.92 331 *e*P **P 06 41 58.1 +0.4**
comp=Z,2.9nm,0.7s,mb4.7
BMO Blue Mountains 88.92 331 *e*P **P 06 41 58.1 +0.4**
comp=Z,2.9nm,0.7s,mb4.7
SMCO Snowmass 89.08 322 *e*P **P 06 41 56.1 -2.5**
SMCO Snowmass 89.08 322 *e*P **P 06 41 56.1 -2.5**
HWUT Hardware Ranch 89.27 326 *e*P **P 06 41 59.6 +0.2**
comp=Z,4.0nm,0.7s,mb4.9
HWUT Hardware Ranch 89.27 326 *e*P **P 06 41 59.6 +0.1**
comp=Z,4.0nm,0.7s,mb4.9
SRU San Rafael 90.81 324 *e*P **P 06 42 06.9 +0.2**
DUG Dugway 90.97 326 *e*P **P 06 42 07.1 -0.3**
DUG Dugway 90.97 326 *e*P **P 06 42 07.1 -0.3**
ANMO Albuquerque 92.10 319 *i* P **P 06 42 13.2 +0.5**
NVAR Mina Array Bea 94.78 329 P **P 06 42 26.1 +1.1**
comp=Z,0.6nm,0.8s,mb4.1,baz=35,slow=2.7,SNR=4.7
NVAR Mina Array Bea 94.78 329 P **P 06 42 26.0 +1.0**
TXAR Lajitas Array 94.87 313 P **P 06 42 26.9 +1.3**
comp=Z,0.6nm,0.8s,mb4.1,baz=67,slow=4.1,SNR=9.4
CPUP Villa Florida 97.00 242 LR LR 07 27 51.9
comp=Z,214nm,21.0s,MS4.6,baz=9.8,slow=36
WRA Warramunga Arr 120.62 92 PKP PKPdf 06 47 54.5 -0.9
comp=Z,0.4nm,0.7s,baz=311,slow=1.9,SNR=5.2
ASAR Alice Springs 122.26 96 PKP PKPdf 06 47 58.2 -0.3
comp=Z,0.3nm,0.7s,baz=233,slow=18,SNR=3.8

BJI ***27*** *06:50:29.0, 091N×12639E, h28km, mB4.8, mb4.9, Ms4.3, Msz4.0*
NEIC ***27*** *06:50:31.1±0.2, 127N×12640E, h10km, mb5.1/25, Error ellipse: s-maj=7.4km s-min=4.5km az=77.0*
MOS ***27*** *06:50:32.8±1.1, 129N×12628E, h33km, mb5.3/25, Error ellipse: s-maj=12.2km s-min=6.3km az=110.6*
ISCJB ***27*** *06:50:33.4±0.8, 129N±003×12644E±004, h38km±6km, mb5.0/84, MS3.9/18, Error ellipse: s-maj=6.4km s-min=4.4km az=155.0*
IDC ***27*** *06:50:34.3±2.9, 121N×12644E, h34km±22km, mb4.7/25, mb1 4.6/26, mb1mx4.6/27, mbtmp4.6/26, ML4.3/1, MS3.7/8, Ms1 3.7/8, ms1mx3.5/26, Error ellipse: s-maj=15.4km s-min=8.2km az=75.0*
DJA ***27*** *06:50:36, 138N×12659E, h54km, ML5.3/5*
ISC 27 06:50:36.3±0.7, 124N±003×12643E±004, h50km±6km, h8km±4.5km:pP-P,n228,σ1s17/215, mb5.0/84, MS3.9/18, 16C-8D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.04**	**115**	⇓*e*P	**Pn**	**06 50 48.0**	**-6.5**
TNE				*e*S	**Sn**	**06 51 00.0**	**-8.0**
MNI	**Manado**	**1.60**	**277**	P	**Pn**	**06 51 00.0**	**-2.2**
	0.0nm,0.0s						
LBMI	**Labuha**	**2.15**	**150**	P	**Pn**	**06 51 08.5**	**-1.1**
	0.0nm,0.0s						
AAI	**Ambon**	**5.20**	**160**	⇑*e*P	**Pn**	**06 51 51.5**	**0.0**
KDI	**Kendari**	**6.41**	**216**	P	**Pn**	**06 52 09.6**	**+1.4**
	138nm,1.0s						
KDI	**Kendari**	**6.41**	**216**	⇑*e*P	**Pn**	**06 52 08.7**	**+0.5**
KDI				*e*S	**Sn**	**06 53 25.9**	**+5.8**
PCI	**Palu**	**6.93**	**252**	P	**Pn**	**06 52 21.6**	**+6.4**
	216nm,1.1s						
PCI	**Palu**	**6.93**	**252**	⇑*e*P	**Pn**	**06 52 25.0**	**+10**
MYLDM	**Lahad Datu**	**8.83**	**297**	⇑P	**Pn**	**06 52 42.8**	**+1.4**
TSM	**Tawau**	**9.07**	**290**	⇓P	**Pn**	**06 52 45.6**	**+1.0**
KAPI	**Kappang**	**9.11**	**227**	Pn	**Pn**	**06 52 46.3**	**+1.1**
	411nm,0.9s,SNR=8.7						
KAPI	**Kappang**	**9.11**	**227**	*e*Pn	**Pn**	**06 52 46.1**	**+0.9**
SMKI	**Samarinda**	**9.37**	**260**	P	**Pn**	**06 52 53.8**	**+5.0**
	105nm,1.0s						
KKM	**Kota Kinabalu**	**11.26**	**295**	⇓P	**Pn**	**06 53 15.6**	**+1.1**
KKM	**Kota Kinabalu**	**11.26**	**295**	*e*Pn	**Pn**	**06 53 16.7**	**+2.1**
BATI	**Baumata**	**11.69**	**194**	Pn	**Pn**	**06 53 22.1**	**+1.6**
	2.4nm,0.3s,baz=79,slow=20,SNR=1.9						
SBUM	**Sibu**	**14.25**	**275**	⇑P	**Pn**	**06 53 55.8**	**+0.3**
KHKI	**Kahang-Kahang**	**14.40**	**228**	P	**Pn**	**06 54 06.6**	**+9.3**
	98nm,1.0s						
KMMI	**Kalianget**	**14.91**	**236**	P	**Pn**	**06 54 11.0**	**+6.9**
	335nm,1.1s						
STKI	**Sintang**	**15.00**	**266**	P	**Pn**	**06 54 09.8**	**+4.6**
	112nm,0.5s						
KAKA	**Kakadu**	**15.09**	**157**	*e*P	**Pn**	**06 54 04.1**	**-2.2**
	84nm,0.6s						
KSM	**Kuching**	**16.12**	**271**	⇑P	**Pn**	**06 54 21.2**	**+1.5**
KSM	**Kuching**	**16.12**	**271**	*e*P	**Pn**	**06 54 21.2**	**+1.5**
TRT	**Tretes**	**16.38**	**237**	⇑*e*P	**Pn**	**06 54 23.5**	**+0.6**
KRKI	**Karangkates**	**16.77**	**236**	P	**Pn**	**06 54 31.8**	**+4.0**
	463nm,1.1s						
SJI	**Sawahan**	**17.12**	**238**	P	**Pn**	**06 54 33.5**	**+1.2**
	97nm,1.0s						
BJII	**Banjamegara**	**18.73**	**243**	P	**Pn**	**06 54 54.0**	**+2.2**

80nm,1.4s
FITZ Fitzroy Crossi 19.23 182 *e*P Pn **06 54 55.5 -2.3**
18nm,0.6s
FITZ Fitzroy Crossi 19.23 182 P Pn **06 54 55.2 -2.6**
0.7nm,0.3s,baz=26,slow=11,SNR=26
PPBI Pangkal Pinang 20.57 261 P **P** **06 55 14.8 +3.7**
44nm,0.7s
DSRI Dabo 21.92 266 P **P** **06 55 30.4 +4.8**
47nm,1.2s,mb4.8
GUMO Guam 21.99 55 P **P** **06 55 24.8 -1.6**
30nm,0.6s,mb4.9,baz=334,slow=20,SNR=2.0
GUMO LR LR 07 04 17.8
comp=Z,49nm,18.3s,MS3.0,baz=240,slow=37
WRAB Tennant Creek 22.43 160 P **P** **06 55 29.7 -1.2**
1µm,0.7s,SNR=30
WRAB Tennant Creek 22.43 160 *d i*P **P** **06 55 30.0 -0.9**
WRAB Tennant Creek 22.43 160 *e*P **P** **06 55 29.9 -1.0**
WRA Warramunga Arr 22.43 160 P **P** **06 55 29.4 -1.5**
93nm,0.7s,mb5.3,baz=338,slow=10,SNR=244
WRA S **S** **06 59 32.7 -2.0**
4.1nm,0.8s,baz=343,slow=19,SNR=8.3
COEN Coen 22.43 133 *e*P **P** **06 55 31.4 +0.3**
12nm,0.8s,mb4.4
WB2 Warramunga Arr 22.43 160 *e*P **P** **06 55 29.5 -1.5**
WB2 *e*S **S** **06 59 31.3 -3.4**
MYKOM Kota Tinggi 22.58 272 ⇑P **P** **06 55 31.6 -1.0**
KGM Kluang 23.11 272 ⇑P **P** **06 55 37.9 -0.4**
MBWA Marble Bar 23.20 196 *e*P **P** **06 55 37.8 -1.2**
KTGM Kuala Trenggan 23.61 280 ⇑P **P** **06 55 40.3 -2.7**
YHNB Yeheng 23.80 349 *e*P **P** **06 55 42.8 -1.8**
39nm,0.8s,mb4.9
QIZ Qiongzhong 24.02 318 P **P** **06 55 44.8 -1.9**
QIZ S **S** **07 00 02.5 +1.9**
QIZ AMB AMB
comp=Z,15nm,0.9s,mb4.4
QIZ AMB AMB
comp=Z,61nm,6.5s
QIZ LR LR
comp=N,180nm,16.8s
QIZ LR LR
comp=Z,165nm,18.2s,MS3.5
FRIM Kepong 24.86 275 ⇑P **P** **06 55 55.1 +0.6**
KRJI Kerinci 25.18 262 P **P** **06 55 59.9 +2.5**
comp=Z,250nm,1.1s,mb5.7
JOW Kunigami 25.51 4 P **P** **06 56 01.0 +0.8**
comp=Z,67nm,0.9s,mb5.2,baz=199,slow=8.0,SNR=33
IPM Ipoh 25.57 278 ⇑P **P** **06 56 01.4 +0.5**
ASAR Alice Springs 25.80 164 P **P** **06 56 02.1 -0.7**
comp=Z,9.2nm,0.7s,mb4.4,baz=346,slow=7.4,SNR=96
ASAR S **S** **07 00 29.3 +0.5**
comp=Z,3.1nm,0.9s,baz=344,slow=18,SNR=5.3
PPI Padang Panjang 26.09 266 P **P** **06 56 05.0 -0.6**
comp=Z,54nm,0.8s,mb5.1
PSI Prapat 27.53 274 P **P** **06 56 17.4 -1.2**
comp=Z,48nm,1.0s,mb5.1,baz=114,slow=3.4,SNR=25
SBSI Sibolga 27.53 271 P **P** **06 56 16.6 -2.0**
comp=Z,124nm,0.9s,mb5.5
CTA Charters Tower 28.75 138 *e*P **P** **06 56 29.8 +0.4**
comp=Z,12nm,1.1s,mb4.5
CTA Charters Tower 28.75 138 P **P** **06 56 28.0 -1.4**
comp=Z,6.2nm,0.7s,mb4.4,baz=337,slow=14,SNR=3.0
CTA Charters Tower 28.75 138 *e*P **P** **06 56 29.8 +0.4**
CTA pmax pmax
comp=Z,12nm,1.1s
CBIJ Chichi jima 29.83 29 P **P** **06 56 37.4 -1.4**
comp=Z,54nm,0.7s,mb5.4,baz=274,slow=14,SNR=6.6
CBIJ LR LR 07 06 42.9
comp=Z,75nm,21.4s,MS3.3,baz=231,slow=32
GYA Guiyang 31.47 324 P **P** **06 56 56.8 +3.5**
GYA PP PP 06 58 01.3 -3.8
GYA S **S** **07 02 03.3 +5.3**
GYA SS SS 07 03 53.0 -21
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,70nm,4.9s
GYA LR LR
comp=N,480nm,17.8s,MS4.4
GYA LR LR
comp=E,450nm,17.6s,MS4.4
GYA LR LR
comp=Z,460nm,16.5s,MS4.2
FORT Forrest 31.87 177 *e*P **P** **06 56 57.2 +0.4**
comp=Z,26nm,0.4s,mb5.4
CMAR Chiang Mai Arr 31.94 304 P **P** **06 56 56.8 -0.8**
comp=Z,5.2nm,0.9s,mb4.4,baz=131,slow=7.5,SNR=22
CMAR PcP PcP 06 59 48.6 +1.5
comp=Z,1.2nm,0.3s,baz=148,slow=1.9,SNR=7.1
CMAR LR LR 07 10 25.2
comp=Z,152nm,19.8s,MS3.7,baz=117,slow=37
CMAR Chiang Mai Arr 31.94 304 P **P** **06 56 56.8 -0.8**
CMAR 06 59 48.6
CHTO Chiang Mai 32.12 305 *e*P **P** **06 56 58.3 -0.8**
KMI Kunming 32.97 318 P **P** **06 57 06.8 +0.3**
KMI AP pP 06 57 10.8 -8.6
KMI PP PP 06 58 20.8 -1.0
KMI S **S** **07 02 28.5 +7.0**
KMI AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
KMI AMB AMB
comp=Z,29nm,3.1s
KMI LR LR
comp=N,124nm,17.5s,MS3.9
KMI LR LR
comp=E,162nm,16.4s,MS3.9
KMI LR LR
comp=Z,204nm,19.9s,MS3.8
KLBR Kellerberrin 33.67 193 *e*P **P** **06 57 12.1 -0.4**
comp=Z,127nm,1.7s,mb5.6
MUN Mundaring 34.42 195 *e*P **P** **06 57 18.8 -0.2**
NWAO Narrogin (SRO) 35.07 194 P **P** **06 57 24.6 0.0**
comp=Z,14nm,0.7s,mb5.0,baz=37,slow=5.9,SNR=9.3
EIDS Eidsvold 35.62 140 *e*P **P** **06 57 37.4 +8.0**
STKA Stephens Creek 35.93 158 *e*P **P** **06 57 31.6 -0.4**
comp=Z,14nm,0.6s,mb5.1
STKA Stephens Creek 35.93 158 P **P** **06 57 31.8 -0.2**
comp=Z,16nm,0.7s,mb5.0,baz=332,slow=7.2,SNR=36
KS15 Wonju Array Si 36.05 2 *e*P **P** **06 57 35.1 +2.1**
KSRS Korea Array 36.07 2 P **P** **06 57 33.8 +0.7**
comp=Z,2.3nm,0.7s,mb4.2,baz=93,slow=15,SNR=6.6
KSRS PcP PcP 06 59 59.4 +0.9
comp=Z,2.8nm,0.7s,baz=174,slow=2.4,SNR=9.0
CD2 Chengdu 36.50 326 *e*P **P** **06 57 35.8 -1.1**
CD2 AP pP 06 57 40.0 -10
CD2 PP PP 06 59 01.0 +0.2
CD2 PCP PcP 06 59 58.0 -2.0
CD2 S **S** **07 03 17.5 +1.8**
CD2 SS SS 07 05 43.8 -13
CD2 SCS ScS 07 07 49.3 +0.1
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.8
CD2 AMB AMB
comp=Z,70nm,6.0s
CD2 LR LR
comp=N,430nm,19.2s,MS4.3
CD2 LR LR
comp=E,180nm,15.6s,MS4.3
CD2 LR LR
comp=Z,210nm,19.2s,MS3.9
XAN Xi'an 36.52 335 P **P** **06 57 33.0 -4.0**
XAN S **S** **07 03 09.0 -6.9**
XAN AMB AMB
comp=Z,7.0nm,0.9s,mb4.5
XAN AMB AMB
comp=Z,61nm,5.9s
XAN LR LR
comp=N,87nm,13.7s,MS3.8
XAN LR LR
comp=E,90nm,15.0s,MS3.8
XAN LR LR
comp=Z,99nm,13.2s,MS3.8
MJAR Matsushiro Arr 36.78 16 P **P** **06 57 37.6 -1.6**
comp=Z,7.2nm,0.7s,mb4.6,baz=183,slow=9.4,SNR=20
MJAR PcP PcP 07 00 01.4 +0.8
comp=Z,4.5nm,0.9s,baz=181,slow=2.8,SNR=6.8
MJAR LR LR 07 10 22.7
comp=Z,118nm,21.1s,MS3.6,baz=225,slow=32
MJAR Matsushiro Arr 36.78 16 P **P** **06 57 37.6 -1.6**
MJAR 07 00 01.4
MAJO Matsushiro 36.79 16 *e*P **P** **06 57 38.8 -0.4**
MAJO pmax pmax
comp=Z,18nm,1.0s,mb4.9
MAJO Matsushiro 36.79 16 *e*P **P** **06 57 38.8 -0.4**
comp=Z,18nm,1.0s,mb4.8
MAT Matsushiro 36.79 16 P **P** **06 57 39.1 -0.1**
DL2 Dalian 37.75 354 P **P** **06 57 48.0 +0.6**
DL2 AMB AMB
comp=Z,40nm,0.7s,mb5.3
ARMA Armidale 39.59 145 *e*P **P** **06 58 04.8 +1.9**
BJT Baijiatuau 39.72 348 *e*P **P** **06 58 03.3 -0.5**
BJT pmax pmax
comp=Z,14nm,0.7s
BJT Baijiatuau 39.72 348 *e*P **P** **06 58 03.2 -0.6**
comp=Z,14nm,0.7s,mb4.8
BJI Beijing 39.74 348 P **P** **06 58 03.0 -1.0**
BJI S **S** **07 04 10.8 +6.4**
BJI AMB AMB
comp=Z,9.0nm,0.8s,mb4.5
BJI AMB AMB
comp=Z,82nm,3.0s
BJI LR LR
comp=N,165nm,17.3s,MS4.1
BJI LR LR
comp=E,148nm,14.7s,MS4.1
BJI LR LR
comp=Z,132nm,26.1s
LZH Lanzhou 40.51 331 ⇑P **P** **06 58 10.0 -0.5**
LZH AP pP 06 58 14.8 -8.9
LZH XP sP 06 58 17.3 -12
LZH PP PP 06 59 47.5 +2.9
LZH *e*S **S** **07 04 19.5 +3.4**
LZH *e*SS SS 07 07 15.3 -2.0
LZH AMB AMB
comp=Z,35nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,176nm,5.5s
LZH LR LR
comp=N,657nm,14.0s
LZH LR LR
comp=Z,1µm,17.9s,MS4.8
SHL Shillong 41.15 309 *e*P **P** **06 58 14.5 -1.5**
HHC Hu-ho-hao-te 41.67 343 *e*P **P** **06 58 21.5 +1.6**
HHC XP sP 06 58 27.5 -11
HHC PP PP 07 00 02.5 +5.4
HHC S **S** **07 04 38.5 +5.4**
HHC SS SS 07 07 38.0 -2.2
HHC AMB AMB
comp=Z,14nm,0.6s,mb4.8
HHC AMB AMB
comp=Z,73nm,5.2s
HHC LR LR
comp=N,83nm,22.6s,MS3.9
HHC LR LR
comp=E,183nm,22.6s,MS3.9
HHC LR LR
comp=Z,149nm,23.8s,MS3.8
CAN Canberra 42.04 152 *e*P **P** **06 58 24.3 +1.2**
CNB Canberra Magne 42.21 152 *e*P **P** **06 58 25.6 +1.2**
TOO Toolangi 42.45 157 *e*P **P** **06 58 28.2 +1.8**
MDJ Mudanjiang 43.29 3 P **P** **06 58 33.3 +0.3**
MDJ PP PP 07 00 12.8 -1.6
MDJ S **S** **07 04 58.5 +1.7**
MDJ AMB AMB
comp=Z,17nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,38nm,4.5s
MDJ LR LR
comp=E,119nm,21.9s
MDJ LR LR
comp=Z,125nm,16.2s
MDJ Mudanjiang 43.29 3 *e*P **P** **06 58 33.2 +0.2**
comp=Z,18nm,1.0s,mb4.7
LSA Lhasa 43.89 314 P **P** **06 58 37.5 -0.7**
LSA Lhasa 43.89 314 *e*P **P** **06 58 38.0 -0.2**
LSA pmax pmax
comp=Z,12nm,0.7s,mb4.7
LSA Lhasa 43.89 314 *e*P **P** **06 58 38.0 -0.2**
comp=Z,12nm,0.7s,mb4.7
GTA Gaotai 45.09 331 *e*P **P** **06 58 46.8 -0.8**
GTA AP pP 06 58 51.0 -10
GTA S **S** **07 05 23.5 +0.3**
GTA SS SS 07 08 36.3 -11
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
GTA AMB AMB
comp=Z,74nm,4.8s
GTA LR LR
comp=N,110nm,17.7s,MS4.0
GTA LR LR
comp=E,83nm,16.5s,MS4.0
GTA LR LR
comp=Z,158nm,18.9s,MS4.0
YSS Yuzh-Sakhalins 47.71 15 *e*P **P** **06 59 08.1 +0.1**
YSS Yuzh-Sakhalins 47.71 15 ⇑*i*P **P** **06 59 07.7 -0.3**
KLR Kul'dur 48.03 5 *e*P **P** **06 59 05.1 -5.3**
HIA Hailar 48.19 354 *e*P **P** **06 59 11.7 +0.1**
SONM Songino Array 49.56 342 P **P** **06 59 21.6 -0.6**
comp=Z,4.2nm,0.7s,mb4.6,baz=161,slow=9.7,SNR=19
SONM PcP PcP 07 00 44.0 +0.7
comp=Z,2.8nm,1.0s,baz=158,slow=3.5,SNR=3.7
SONM LR LR 07 21 59.5
comp=Z,85nm,21.5s,MS3.7,baz=121,slow=38
SONM Songino Array 49.56 342 P **P** **06 59 21.6 -0.6**
SONM 07 00 44.0
HYB Hyderabad 49.72 292 *i*P **P** **06 59 22.0 -1.9**
ZAK Zakamensk 52.77 342 *e*P **P** **06 59 38.2 -8.0**
ZAK pmax pmax
comp=E,3.0nm,1.6s
DDI Dehra Dun 54.20 307 *ex* x 06 59 54.6
NDI New Delhi 54.26 305 *ex* x 06 59 50.0
WMQ Urumqi 54.60 326 P **P** **07 00 01.3 +1.6**
WMQ AP pP 07 00 05.8 -7.6
WMQ XP sP 07 00 08.3 -11
WMQ PP PP 07 02 05.0 +2.4
WMQ AMB AMB
comp=Z,19nm,0.9s,mb5.1
WMQ LR LR
comp=N,112nm,24.0s,MS4.1
WMQ LR LR
comp=E,129nm,20.8s,MS4.1
WMQ LR LR
comp=Z,129nm,24.3s,MS3.9
MOY Mondy 54.62 341 *e*P **P** **07 00 01.4 +1.7**
CLNS Chul'man 55.45 359 *e*P **P** **07 00 07.0 +1.4**
CLNS pmax pmax
comp=Z,12nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.9s
BOD Bodaibo 57.28 352 *e*P **P** **07 00 18.0 -0.6**
BOD pmax pmax
comp=Z,16nm,0.9s,mb5.0
PETK Petropavlovsk- 57.84 22 P **P** **07 00 23.1 +0.5**
comp=Z,7.3nm,0.6s,mb4.9,baz=184,slow=6.4,SNR=11
PETK PcP PcP 07 01 15.1 +0.4
comp=Z,9.4nm,1.0s,baz=204,slow=3.3,SNR=3.6
PETK Petropavlovsk- 57.84 22 P **P** **07 00 23.1 +0.5**
PETK PcP PcP 07 01 15.1 +0.4
MK31 Makanchi Array 59.44 326 *i*P **P** **07 00 32.6 -1.3**
MK31 pmax pmax
comp=Z,11nm,0.6s,mb5.1
MK31 Makanchi Array 59.44 326 *i*P **P** **07 00 32.7 -1.2**
MKAR Makanchi Array 59.44 326 P **P** **07 00 33.2 -0.6**
comp=Z,5.7nm,0.4s,mb4.9,baz=120,slow=8.7,SNR=82
MKAR PcP PcP 07 01 20.4 -0.8
comp=Z,5.7nm,0.7s,baz=120,slow=4.6,SNR=4.3
MKAR LR LR 07 28 02.2
comp=Z,111nm,20.1s,MS4.0,baz=258,slow=38
MKAR Makanchi Array 59.44 326 P **P** **07 00 33.2 -0.7**
MKAR 07 01 20.4
MKAR Makanchi Array 59.44 326 P **P** **07 00 33.2 -0.6**
MKAR PcP PcP 07 01 20.4 -0.8
MKAR LR LR 07 28 02.2
RPZ Rata Peaks 59.92 144 P **P** **07 00 36.7 -0.6**
comp=Z,6.8nm,0.5s,mb4.9,baz=87,slow=7.8,SNR=4.0
YAK Yakutsk 60.69 2 *e*P **P** **07 00 42.6 +0.4**
YAK pmax pmax
comp=Z,25nm,0.9s,mb5.3
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 60.69 2 *e*P **P** **07 00 42.8 +0.6**
KRAR Krasnoyarsk 60.95 339 *e*P **P** **07 00 43.7 -0.3**
KRAR pmax pmax
comp=Z,33nm,0.5s,mb5.7
KZA Kyzart 61.26 319 P **P** **07 00 46.9 +0.4**
SNR=12
TKM2 Tokmak 2 61.42 320 *e*P **P** **07 00 47.3 -0.2**
TKM2 pmax pmax
comp=Z,42nm,0.9s,mb5.6
TKM2 Tokmak 2 61.42 320 P **P** **07 00 46.9 -0.6**
SNR=12
TKM2 Tokmak 2 61.42 320 *e*P **P** **07 00 47.3 -0.2**
comp=Z,42nm,0.9s,mb5.6
UCH Uchtor 61.81 318 P **P** **07 00 50.7 +0.5**
SNR=15
UCH Uchtor 61.81 318 *e*P **P** **07 00 50.6 +0.4**
comp=Z,18nm,1.1s,mb5.1
USP Ospenovka 62.29 319 P **P** **07 00 52.2 -1.2**
SNR=13
AML Almayashu 62.31 318 P **P** **07 00 53.5 -0.1**
SNR=19
AML Almayashu 62.31 318 *e*P **P** **07 00 53.4 -0.1**
comp=Z,23nm,1.0s,mb5.3
EKS2 Erkin-Say 62.49 319 P **P** **07 00 54.6 -0.1**
SNR=12
EKS2 Erkin-Say 62.49 319 *e*P **P** **07 00 54.7 0.0**
comp=Z,9.0nm,0.8s,mb5.0
ZAA0 Zalesovo Array 62.67 334 *e*P **P** **07 00 54.6 -1.1**
ZALV Zalesovo Beam 62.67 334 P **P** **07 00 54.5 -1.2**
comp=Z,6.1nm,0.6s,mb4.9,baz=123,slow=5.5,SNR=12
ZAL Zalesovo 62.67 334 P **P** **07 00 54.5 -1.2**
KBL Kabul 62.81 309 *e*P **P** **07 00 56.1 -0.9**
KBL pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
KBL Kabul 62.81 309 *e*P **P** **07 00 56.1 -0.9**
comp=Z,8.3nm,0.6s,mb5.0
KURK Kurchatov 63.68 328 P **P** **07 01 01.5 -0.9**
comp=Z,389nm,0.7s,SNR=7.1
KURK Kurchatov 63.68 328 *e*P **P** **07 01 01.8 -0.7**
NVS Novosibirsk 63.95 334 *e*P **P** **07 01 02.0 -2.1**
SEY Seymchan 64.52 13 *i*P **P** **07 01 09.3 +1.6**
SEY Seymchan 64.52 13 *i*P **P** **07 01 09.3 +1.6**
KK31 Karatay Array 64.86 318 *i*P **P** **07 01 09.4 -0.9**
AMKA Amchitka 66.74 33 *e*P **P** **07 01 23.2 +0.9**
CASY Casey 68.32 187 *e*P **P** **07 01 33.6 +1.7**
comp=Z,8.7nm,1.0s,mb4.7
BVA0 Borovoye Array 69.24 328 *i*P **P** **07 01 37.0 -0.9**
BVA0 pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BVAR Borovoye Array 69.24 328 P **P** **07 01 37.4 -0.5**
comp=Z,9.9nm,0.8s,mb4.8,baz=128,slow=9.6,SNR=24
BRVK Borovoye 69.31 328 P **P** **07 01 38.1 -0.3**
comp=Z,102nm,1.1s,mb5.7,SNR=8.7
BRVK Borovoye 69.31 328 P **P** **07 01 37.7 -0.7**
BRVK pmax pmax
comp=Z,14nm,0.9s,mb4.9
BRVK Borovoye 69.31 328 *e*P **P** **07 01 38.1 -0.3**
TIXI Tiksi 70.32 1 *e*P **P** **07 01 43.8 -0.4**
TIXI pmax pmax
comp=Z,12nm,0.7s,mb4.9
TIXI Tiksi 70.32 1 *e*P **P** **07 01 43.4 -0.8**
comp=Z,11nm,0.8s,mb4.8
BILL Bilibino 72.03 15 *e*P **P** **07 01 55.7 +1.1**
BILL pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AB31 Akbulak array 73.89 321⇑*e*P **P** **07 02 04.0 -2.0**
AKTK Aktyubinsk 75.42 322 P **P** **07 02 13.8 -1.0**
AKTO Aktyubinsk 75.42 322 P **P** **07 02 13.8 -1.0**
comp=Z,9.5nm,0.7s,mb4.8,baz=110,slow=7.2,SNR=16
SVE Sverdlovsk 75.92 329⇓*e*P **P** **07 02 17.7 +0.2**
SVE pmax pmax
comp=Z,39nm,0.7s,mb5.5
ARU Arti 76.88 328 *d i*P **P** **07 02 21.6 -1.4**
ARU *e*S S 07 12 07.3 +0.4
ARU *e*SS SS 07 17 09.0 +4.9
ARU pmax pmax
comp=Z,36nm,1.0s,mb5.3
ARU Arti 76.88 328 *e*P **P** **07 02 22.4 -0.5**
SOKR Solikamsk 78.73 331 *e*P **P** **07 02 33.3 +0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SDPT Sand Point 79.42 34 *e*P **P** **07 02 37.8 +0.7**
UMR Umm Al-Rimmam 79.57 300 *e*P **P** **07 02 37.8 -0.7**
baz=300
RDF Al-Radifah 79.67 299 *e*P **P** **07 02 38.7 -0.4**
baz=299
RDF AMb AMB 07 02 41.0
comp=Z,48nm,1.0s,mb5.4,baz=299
MIB Mutribah 79.92 300 *e*P **P** **07 02 39.1 -1.3**
baz=300
MIB AMb AMB 07 02 41.7
comp=Z,66nm,0.9s,mb5.6,baz=300
NAY Al-Naaiem 79.96 299 *e*P **P** **07 02 39.6 -1.0**
baz=299
NAY AMb AMB 07 02 41.8
comp=Z,27nm,0.9s,mb5.2,baz=299
OPO Ambohidratompo 80.20 251 P **P** **07 02 42.2 +0.2**
comp=Z,4.8nm,0.8s,mb4.5,baz=75,slow=3.9,SNR=5.5
MAW Mawson 81.33 200 P **P** **07 02 47.7 +0.6**
comp=Z,3.9nm,0.7s,mb4.5,baz=36,slow=4.6,SNR=8.1
MAW LR LR 07 33 17.9
comp=Z,89nm,20.7s,MS4.1,baz=247,slow=32
GNI Garni 82.85 310 *e*P **P** **07 02 55.6 0.0**
SVW2 Sparrevohn 83.12 29 *e*P **P** **07 02 58.1 +1.5**
TTA Tatalina 83.25 27 *e*P **P** **07 02 58.6 +1.4**
KIV Kislovodsk 84.64 314⇑*e*P **P** **07 03 05.2 +0.5**
KIV pmax pmax
comp=Z,14nm,0.7s,mb5.2
IMA2 Indian Mountai 84.77 24 *e*P **P** **07 03 05.9 +1.0**
VRHR Novokhopersk 85.77 321 *e*P **P** **07 03 09.9 -0.3**
VRHR pmax pmax
comp=Z,70nm,0.8s,mb5.9
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.7s
RC01 Rabbit Creek A 85.94 29 *e*P **P** **07 03 10.7 -0.1**
comp=E,23nm,0.9s,mb5.4
PMR Palmer 86.27 28 *e*P **P** **07 03 12.3 -0.1**
PMR pmax pmax
comp=Z,15nm,0.9s,mb5.2
PMR Palmer 86.27 28 *e*P **P** **07 03 12.3 -0.1**
comp=Z,15nm,0.9s,mb5.2
COLD Coldfoot 86.29 23 *e*P **P** **07 03 13.6 +1.1**
comp=Z,14nm,1.0s,mb5.2
SOC Sochi 86.77 313 *e*P **P** **07 03 14.8 -0.5**
SOC *e* 07 06 37.2
SOC *e*PPP 07 08 32.5
SOC *e*S S 07 13 38.4 -11
SOC pmax pmax
comp=Z,28nm,0.9s,mb5.5
SOC Sochi 86.77 313 *i*P **P** **07 03 15.6 +0.3**
COLA College 87.06 25 *e*P **P** **07 03 17.6 +1.3**
COLA College 87.06 25 *e*P **P** **07 03 17.7 +1.4**
VRSR Storozhevoye 87.31 321 *e*P **P** **07 03 17.6 -0.2**
VRSR pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=N,1.0nm,0.4s
VRSR pmax pmax
comp=E,7.0nm,1.5s
DIV Divide 87.86 29 *e*P **P** **07 03 21.2 +1.1**
comp=E,14nm,1.0s,mb5.2
ANN Anapa 88.42 315 *e*P **P** **07 03 22.4 -0.8**
ANN *e* 07 13 58.2
ANN pmax pmax
comp=Z,26nm,0.8s,mb5.5
OBN Obninsk 88.92 325 *e*P **P** **07 03 24.7 -0.6**
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
KMBO Kilima Mbogo 89.20 269 P **P** **07 03 29.2 +1.7**
comp=Z,4.8nm,0.8s,mb4.9,baz=61,slow=21,SNR=8.4
KMBO LR LR 07 38 00.5
comp=Z,98nm,20.4s,MS4.2,baz=197,slow=32
KMBO Kilima Mbogo 89.20 269 *i*P **P** **07 03 28.6 +1.0**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 89.20 269 *e*P **P** **07 03 29.5 +2.0**
comp=Z,11nm,1.2s,mb5.0
KMBO LR LR 07 38 00.5
EGAK Eagle 89.92 25 *e*P **P** **07 03 30.2 +0.4**
comp=Z,5.5nm,0.9s,mb4.9
DAWY Dawson 90.73 26 *e*P **P** **07 03 34.5 +0.9**
QSPA South Pole Qui 91.16 180 P **P** **07 03 36.3 +1.1**
comp=Z,2.3nm,0.7s,mb4.6,baz=254,slow=0.9,SNR=15
QSPA South Pole Qui 91.16 180 P **P** **07 03 36.3 +1.1**
JOF Joensuu 91.25 333 *ep* **P** **07 03 39.8 +3.8**
comp=Z,1.4nm,0.4s,mb4.6
JOF Joensuu 91.25 333 *e*P **P** **07 03 39.8 +3.8**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.5
HYT Haines Junctio 91.90 29 *e*P **P** **07 03 41.3 +2.2**
ARCES ARCESS Array B 92.67 340 P **P** **07 03 41.4 -1.1**
comp=Z,5.1nm,0.8s,mb5.0,baz=72,slow=5.2,SNR=13

SKAG	Skagway	93.14	30	*e*P		P	07 03 46.3 +1.4
AKASG	Malin Array Be	93.62	321	P		P	07 03 45.6 -1.7
	comp=Z,1.2nm,0.5s,mb4.6,baz=69,slow=4.7,SNR=9.1						
KAF	Kangasniemi	93.65	332	*e*p		P	07 03 51.2 +4.1
	comp=Z,1.3nm,0.4s,mb4.7						
KAF	Kangasniemi	93.65	332	*e*P		P	07 03 51.2 +4.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.6						
WRAK	Wrangell Islan	95.18	33	*e*P		P	07 03 55.6 +1.4
	comp=Z,1.2nm,0.9s,mb5.3						
VRI	Vrinciooaia	95.88	316	‖ *i*P		P	07 03 59.7 +2.0
MLR	Muntele Rosu	96.47	316	‖ *i*P		P	07 04 02.9 +2.5
LSZ	Lusaka	98.27	255	P		P	07 04 09.3 +0.2
	comp=Z,1.1nm,0.3s,mb4.9,baz=160,slow=9.6,SNR=2.7						
NB2	NORSAR Subarra	100.87	333	P		Pdif	07 04 17.9 -2.0
	comp=Z,1.8nm,0.7s,baz=70,slow=4.8						
NOA	NORSAR Array B	100.87	333	P		Pdif	07 04 18.2 -1.7
	comp=Z,1.0nm,0.8s,baz=197,slow=18,SNR=3.6						
NOA	NORSAR Array B	100.87	333	P		Pdif	07 04 18.2 -1.7
YKA	Yellowknife Ar	101.88	25	P		Pdif	07 04 24.3 -0.1
	comp=Z,0.8nm,0.7s,baz=299,slow=4.4,SNR=6.9						
YKA				PKiKP	PKiKP		07 08 47.7 +0.8
	comp=Z,0.3nm,0.5s,baz=308,slow=2.0,SNR=6.8						
NVAR	Mina Array Bea	108.78	49	Pdiff		Pdif	07 04 57.2 +2.2
	comp=Z,0.4nm,0.8s,baz=248,slow=5.9,SNR=4.2						
NVAR				PKiKP	PKiKP		07 09 02.0 +1.6
	comp=Z,0.4nm,0.9s,baz=251,slow=2.8,SNR=2.9						
NVAR	Mina Array Bea	108.78	49	Pdif		Pdif	07 04 57.2 +2.2
NVAR				PKPdf	PKiKP		07 09 02.0 +1.6
YFT	Old Faithful	111.86	40	*e*PKPdf	PKiKP		07 09 09.0 +3.0
RSSD	Black Hills	116.33	38	*e*PKIKP	PKPdf		07 09 15.0 +0.4
SDCO	Great Sand Dun	118.40	45	*e*PKPdf	PKPdf		07 09 20.6 +1.9
ECSD	EROS,Sioux Fal	120.99	35	*e*PKPdf	PKPdf		07 09 23.7 +0.1
SCHQ	Schefferville	123.06	9	PKP	PKPdf		07 09 27.6 +0.4
	comp=Z,4.9nm,0.8s,baz=330,slow=1.5,SNR=9.2						
TXAR	Lajitas Array	123.34	53	PKP	PKPdf		07 09 29.3 +0.8
	comp=Z,1.2nm,0.7s,baz=210,slow=1.2,SNR=21						
TORD	Torodi Ar. Bea	123.37	287	PKP	PKPdf		07 09 28.9 -0.1
	comp=Z,2.3nm,0.8s,baz=10,slow=0.7,SNR=12						
TORD				PKKPbc	PKKPbc		07 19 19.2 +1.0
	comp=Z,0.5nm,0.6s,baz=226,slow=2.8,SNR=5.9						
TORD	Torodi Ar. Bea	123.37	287	PKP	PKPdf		07 09 28.9 -0.1
TORD				PKKPbc	PKKPbc		07 19 19.2 +1.0
JFWS	Jewell Farm	125.07	32	*e*PKIKP	PKPdf		07 09 31.3 -0.1
JCT	Junction City	125.89	50	*e*PKIKP	PKPdf		07 09 34.3 +0.9
MIAR	Mount Ida	128.32	43	*e*PKIKP	PKPdf		07 09 38.8 +0.9
ACSO	Alum Creek Sta	130.77	30	*e*PKPdf	PKPdf		07 09 43.5 +1.1
PLAL	Pickwick Lake	131.63	38	*e*PKPdf	PKPdf		07 09 44.6 +0.4
TKL	Tuckaleechee C	133.73	35	*e*PKIKP	PKPdf		07 09 49.0 +0.9
PLCA	Paso Flores	137.78	161	PKP	PKPdf		07 09 56.7 +1.2
	comp=Z,1.3nm,0.7s,baz=191,slow=4.2,SNR=5.3						
PLCA	Paso Flores	137.78	161	PKP	PKPdf		07 09 56.7 +1.2
LCO	Las Campanas	147.91	151	*e*PKPdf	PKPab		07 10 18.1 -1.2
BCIP	Isla Barro Col	151.87	68	*e*PKPdf	PKPbc		07 10 26.9 +0.2
CPUP	Villa Florida	154.79	172	PKPbc	PKPbc		07 10 32.9 0.0
	comp=Z,1.1nm,0.5s,baz=155,slow=2.9,SNR=5.2						
CPUP				PKPab	PKPab		07 10 48.5 +0.8
	comp=Z,2.4nm,0.6s,baz=188,slow=2.7,SNR=6.3						
LPAZ	La Paz	159.27	137	PKP	PKPdf		07 10 30.8 +0.7
	comp=Z,0.6nm,0.7s,baz=2.9,slow=2.5,SNR=3.9						

THR ***27*** *06:55:24.0±0.6, 3167N×5055E, h14km±5km, ML3.3*
CSEM ***27*** *06:55:25.5±0.1, 3172N×5050E, h20km, ML3.3, Error ellipse: s-maj=6.1km s-min=1.5km az=116.0*
ISCJB ***27*** *06:55:27.7±0.8, 3172N±008×5040E±009, h80km±17km, Error ellipse: s-maj=16.8km s-min=8.0km az=44.8*
ISC 27 06:55:29.0±0.8, 3173N±008×5039E±009, h76km±17km, n12, σ0§82/13, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.40	286	*e*Pg		Pn	06 55 52.3 -0.5
SHGR				AML	AML	06 56 27.1	
	comp=N,388nm,0.7s						
NASN	Na'in	2.31	62	*e*Pn		Pn	06 56 02.9 -2.1
NASN				*e*Sg		Sn	06 56 34.0 +1.5
NASN	Na'in	2.31	62	*e*Pn		Pn	06 56 02.8 -2.1
	SNR=52						
ASAO	Ashtian	2.83	354	*e*Pn		Pn	06 56 12.1 +0.1
ASAO				AML	AML	06 57 02.7	
	comp=N,74nm,0.7s						
GHVR	GHOM	2.85	15	*e*Pn		Pn	06 56 11.5 -0.7
GHVR				AML	AML	06 56 58.7	
	comp=N,75nm,0.7s						
UMR	Umm Al-Rimmam	3.16	227	*e*P		Pn	06 56 16.6 +0.1
MIB	Mutribah	3.25	235	*e*P		Pn	06 56 17.7 0.0
	baz=234						
MIB				AML	AML	06 57 10.7	
	comp=Z,33nm,0.7s,baz=234						
NAY	Al-Naaiem	3.67	229	*e*P		Pn	06 56 23.4 +0.1
	baz=228						
NAY				AML	AML	06 57 12.0	
	comp=Z,12nm,0.4s,baz=228						
RDF	Al-Radifah	3.72	222	*e*P		Pn	06 56 24.3 +0.3
	baz=222						
RDF				AML	AML	06 57 10.8	
	comp=Z,16nm,0.5s,baz=222						
DAMV	Damavand	4.11	18	*e*Pn		Pn	06 56 29.3 -0.1
SNGE	Sanandaj	4.21	324	*e*Pn		Pn	06 56 31.7 +1.0
SNGE				AML	AML	06 57 53.9	
	comp=N,36nm,0.8s						
NB2	NORSAR Subarra	38.86	331	P		P	07 02 46.5 0.0
	comp=Z,0.9nm,0.5s,baz=123,slow=8.6						

DDA ***27*** *07:01:05.8, 3951N×3754E, h7km±2km, Md3.4*
ISK ***27*** *07:01:05.8, 3950N×3749E, h4km, MD3.5*
CSEM ***27*** *07:01:06.5±0.0, 3950N×3749E, h10km, MD3.5, Error ellipse: s-maj=1.1km s-min=1.0km az=48.0*
ISCJB ***27*** *07:01:07.3±0.3, 3953N±002×3747E±003, h10km, Error ellipse: s-maj=3.9km s-min=2.8km az=158.1*
ISC 27 07:01:07.5±0.8, 3952N±002×3751E±004, h7km±7km, n38, σ0§81/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVSK	Karacayir	0.56	315	PG		Pg	07 01 27.3 -1.0
SVSK				*e*SG		Sg	07 01 28.1 +0.5
DARE	Darende-Malaty	0.61	158	*e*PG		Pg	07 01 24.2 +4.9
DARE				*e*SG		Sg	07 01 37.4 +10
RSDY	Resadiye-TOKAT	0.89	351	*e*PG		Pg	07 01 24.0 -0.5
RSDY				*e*SG		Sg	07 01 37.0 +1.0
SARI	SarD1z-Kayseri	1.05	217	*e*PN		Pn	07 01 32.4 +3.8
TOKT	Tokat	1.09	317	*e*PN		Pn	07 01 27.2 -2.0
AKCD	Akcadag	1.27	165	*i*P		Pn	07 01 30.3 -1.3
AKCD				*i*S		Sb	07 01 48.8 +0.6
MYA	Malataya	1.39	149	*e*PN		Pn	07 01 32.5 -0.8
MALT	Malatya	1.40	149	*e*PN		Pn	07 01 32.7 -0.8
BNN	Bunyan	1.46	243	*e*PN		Pn	07 01 33.3 -0.9
GRSN	GIRESUNGRSN	1.52	22	*i*P		Pn	07 01 34.3 -0.7
GRSN				*i*S		Sn	07 01 56.1 +1.1
ELZG	Elazig	1.54	131	*i*P		Pn	07 01 34.8 -0.5
ELZG				*i*S		Sn	07 01 55.6 +0.1
PTK	Pertek	1.59	113	*e*PN		Pn	07 01 35.7 -0.3
ESPY	Espiye-Giresun	1.67	33	*e*PN		Pn	07 01 37.1 -0.1
YOZ	Yozgat	1.70	275	*e*PN		Pn	07 01 37.0 -0.5
GUMT	Gumushane	1.78	58	*e*PN		Pn	07 01 38.7 +0.1
EZC	Erzincan	1.79	82	*e*PN		Pn	07 01 33.6 -5.2
SVRC	Sivrice-ELAZID	1.81	129	*e*PN		Pn	07 01 38.5 -0.5
KVT	Kavak	1.92	325	*e*PN		Pn	07 01 40.4 -0.1
KMRS	Kahramanmaras	2.07	194	*e*PN		Pn	07 01 41.9 -0.8
ANDN	Andirin	2.15	206	*i*P		Pn	07 01 45.1 +1.4
ANDN				*i*S		Sg	07 02 17.3 +0.9
GZT	Gaziantep	2.17	179	*i*P		Pb	07 01 47.9 +0.9
GZT				*i*S		Sb	07 02 15.1 +1.1
KTUT	Trabzon	2.26	49	*e*PN		Pn	07 01 45.5 +0.3
CORM	Corum	2.31	287	*e*PN		Pn	07 01 45.7 -0.3
URFA	Urfa	2.32	153	*e*PN		Pn	07 01 45.6 -0.5
GAZ	Gaziantep	2.36	186	*e*PN		Pn	07 01 46.1 -0.5
CTKT	Corum	2.36	299	*i*P		Pn	07 01 48.2 +1.6
CTKT				*i*S		Sg	07 02 22.8 -0.5
CDAG	Cicekdag	2.43	273	*i*P		Pn	07 01 48.5 +1.0
CDAG				*i*S		Sn	07 02 22.3 +4.8
KOZT	Kozan	2.43	213	*e*PN		Pn	07 01 47.0 -0.6
NIG	Nigde	2.67	239	*e*PN		Pn	07 01 50.5 -0.4
DIKM	Dikmen	2.73	322	*e*PN		Pn	07 01 52.0 +0.3
KAMT	Kaman	2.94	268	*e*PN		Pn	07 01 54.6 0.0
KARA	Karaisali	2.97	221	*e*PN		Pn	07 01 54.8 -0.3
EZM	Erzurum	2.99	81	*e*PN		Pn	07 01 55.8 +0.5
ERZM	Erzurum	3.00	81	*i*P		Pn	07 02 00.5 +5.1
TOS	Tosya	3.07	301	*e*PN		Pn	07 01 56.7 +0.3
ANTO	Ankara	3.66	277	*e*PN		Pn	07 02 05.1 +0.7
ARTV	Artvin	3.76	62	*i*P		Pn	07 02 11.8 +6.0
ARTV				*i*S		Sg	07 03 04.0 -4.3
AGRB	Hanur-Agry	4.24	88	*e*PN		Pn	07 02 13.5 +1.1

IDC ***27*** *07:19:57.1±2.0, 3128S×178.18W, h0km, mb4.3/3, mb1 4.5/5, mb1mx4.1/17, mbtmp4.3/5, ML3.1/1, Error ellipse: s-maj=43.5km s-min=26.7km az=107.0*
ISCJB ***27*** *07:19:58.1±2.8, 3135S±01×178.0W±05, h33km, mb4.2/3, Error ellipse: s-maj=60.7km s-min=8.7km az=15.0*
ISC 27 07:20:00.2±2.6, 312S±01×179W±05, h35km, n8, σ1§19/9, mb4.2/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.96	1	Pn		Pn	07 20 33.1 +2.2
	88nm,0.3s,baz=119,slow=21,SNR=2.2						
RAO				Sn		Sn	07 20 52.8 -1.4
	223nm,0.3s,baz=46,slow=23,SNR=6.7						
URZ	Urewera	8.12	209	Pn		Pn	07 21 54.0 -1.5
	0.3nm,0.3s,baz=43,slow=5.3,SNR=3.7						
URZ				Sn		Sn	07 23 26.3 +0.3
	1.4nm,0.3s,baz=356,slow=21,SNR=10						
STKA	Stephens Creek	34.35	258	*e*P		P	07 26 45.4 +1.7
	3.7nm,1.2s,mb4.2						
STKA	Stephens Creek	34.35	258	P		P	07 26 45.0 +1.3
	1.9nm,0.8s,mb4.1,baz=113,slow=9.0,SNR=6.7						
ASAR	Alice Springs	43.12	268	P		P	07 27 57.2 -0.1
	2.2nm,0.5s,mb4.2,baz=105,slow=7.8,SNR=42						
WB2	Warramunga Arr	44.17	273	*e*P		P	07 28 05.3 -0.5
WRA	Warramunga Arr	44.18	273	P		P	07 28 05.6 -0.3
	2.2nm,0.3s,mb4.3,baz=111,slow=8.0,SNR=62						
TORD	Torodi Ar. Bea	162.01	179	PKPab	PKPab		07 40 46.1 +1.7
	0.3nm,0.5s,baz=177,slow=4.0,SNR=6.6						

ISCJB ***27*** *07:43:38.5±0.6, 3841N±004×3937E±003, h1km±6km, Error ellipse: s-maj=6.0km s-min=4.4km az=11.5*
ISK ***27*** *07:43:38.4, 3842N×3933E, h5km, MD2.9*
DDA ***27*** *07:43:38.2, 3839N×3939E, h7km±7km, Md3.0*
CSEM ***27*** *07:43:38.0±0.1, 3842N×3935E, h5km, MD2.9, Error ellipse: s-maj=2.8km s-min=2.1km az=124.0*
ISC 27 07:43:39.2±0.6, 3842N±004×3936E±004, h7km±5km, n13, σ0§71/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.06	230	*e*PG		Pg	07 43 40.1 -0.7
ELZG	Elazig	0.31	286	*i*P		Pg	07 43 44.8 -0.4
ELZG				*i*S		Sg	07 43 50.2 +0.9
PTK	Pertek	0.48	3	*e*PG		Pg	07 43 48.1 -0.3
PTK				*e*SG		Sg	07 43 55.4 +0.8
MALT	Malatya	0.74	262	*e*PG		Pg	07 43 52.5 -1.0
MALT				*e*SG		Sg	07 44 04.1 +1.0
MYA	Malataya	0.74	263	*e*PG		Pg	07 43 52.5 -0.9
MYA				*e*SG		Sg	07 44 03.1 0.0
DIYA	Diyarbakir	0.77	129	*i*P		Pg	07 43 53.9 -0.1
DIYA				*i*S		Sg	07 44 05.5 +1.4
URFA	Urfa	1.06	204	*e*PG		Pg	07 43 59.3 -0.2
AKCD	Akcadag	1.14	264	*i*P		Pg	07 43 59.7 -1.3
AKCD				*i*S		Sg	07 44 16.7 +0.9
ATAB	Bozova	1.27	222	*i*P		Pn	07 44 03.3 +0.1
ATAB				*i*S		Sb	07 44 19.9 +0.2
EZC	Erzincan	1.38	15	*e*PN		Pn	07 44 04.4 -0.3
MARD	Mardin	1.57	134	*i*P		Pn	07 44 07.3 0.0
MARD				*i*S		Sn	07 44 27.5 -0.4
GZT	Gaziantep	1.77	234	*i*P		Pn	07 44 10.0 -0.2
GZT				*i*S		Sn	07 44 36.9 +4.0
GAZ	Gaziantep	2.11	235	*e*PN		Pn	07 44 15.2 +0.4

ISCJB ***27*** *07:55:59.9±0.4, 2818N±005×12855E±008, h115km±5km, mb3.4/3, Error ellipse: s-maj=14.3km s-min=4.4km az=31.9*
IDC ***27*** *07:55:59.4±3.9, 2817N×12909E, h92km±50km, mb3.1/3, mb1 3.4/4, mb1mx3.1/22, mbtmp3.1/4, Error ellipse: s-maj=150.9km s-min=16.5km az=99.0*
JMA ***27*** *07:56:00.4±0.1, 2823N×12848E, h108km±2km, M3.6*
NIED ***27*** *07:56:00, 2820N×12850E, h113km, Mw3.7 Best double couple: M=4.41000×10^14 NP1:φ=271.00000°, δ=65.00000°, λ=89.00000°. NP2:φ=92.00000°, δ=25.00000°, λ=91.00000°.*
NEIC ***27*** *07:56:00.5, 2823N×12848E, h108km, MG3.6(JMA), After JMA.*
ISC 27 07:56:00.9±0.4, 2818N±005×12853E±008, h109km±5km, n19, σ0§48/30, mb3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.54	137	P		Pn	07 56 18.0 +0.1
JTK				S		Sn	07 56 30.9 +0.2
JAM	Amami Oshima	0.97	76	P		Pn	07 56 21.4 -0.3
JAM				S		Sn	07 56 37.6 +0.2
JIH	Iheya	1.25	204	P		Pn	07 56 24.9 +0.2
JIH				S		Sn	07 56 42.7 0.0
JZK	Kikaishima	1.28	84	P		Pn	07 56 25.3 +0.3
JOW	Kunigami	1.36	190	P		Pn	07 56 26.1 0.0
JOW				S		Sn	07 56 45.4 +0.3
JOW	Kunigami	1.36	190	P		Pn	07 56 26.2 +0.1
	109nm,0.3s,baz=18,slow=6.5,SNR=931						
JOW				S		Sn	07 56 45.0 -0.2
	96nm,0.3s,baz=105,slow=26,SNR=13						
JAGN	Aguni-jima	1.96	216	P		Pn	07 56 33.2 -0.1
JAGN				S		Sn	07 56 57.7 -0.4
JNN	Nakanoshima	2.03	35	P		Pn	07 56 34.1 -0.1
JNN				S		Sn	07 56 59.4 -0.2
NAH1	Naha	2.11	201	P		Pn	07 56 35.4 +0.1
NAH1				S		Sn	07 57 00.9 -0.6
JJT2	Tamagusuku 2	2.15	199	P		Pn	07 56 36.2 +0.4
JJT2				S		Sn	07 57 02.8 +0.3
JKE	Kume jima 2	2.42	220	P		Pn	07 56 38.8 -0.4
JKE				S		Sn	07 57 08.3 -0.3
JKC	Kuchinoerabu	2.69	32	P		Pn	07 56 43.3 +0.5
JKC				*e*S		Sn	07 57 14.2 -0.9
JSJ	Shimokoshiki	3.63	16	P		Pn	07 56 55.4 +0.2
KSRS	Korea Array	9.26	357	P		Pn	07 58 12.1 +0.7
	0.1nm,0.3s,baz=180,slow=15,SNR=7.7						
TKM2	Tokmak 2	44.80	304	*e*P		P	08 04 04.7 +0.9
	48nm,1.1s						
FITZ	Fitzroy Crossi	46.10	184	P		P	08 04 14.4 +0.3
	baz=32,slow=9.5						
WRA	Warramunga Arr	48.17	173	P		P	08 04 30.3 +0.1
	0.9nm,0.8s,mb3.7,baz=354,slow=8.1,SNR=11						
ASAR	Alice Springs	51.81	174	P		P	08 04 57.8 +0.2
	0.3nm,0.5s,mb3.5,baz=1.7,slow=13,SNR=6.4						
YKA	Yellowknife Ar	76.65	25	P		P	08 07 37.7 -1.7
	0.2nm,0.8s,mb2.9,baz=296,slow=6.9,SNR=2.9						

CSEM ***27*** *07:56:09.3, 3212N×4911E, h14km, ML2.9, After THR*
THR ***27*** *07:56:09.3±0.3, 3212N×4911E, h14km±3km, ML2.9*
ISCJB ***27*** *07:56:10.2±0.8, 3214N±008×4911E±01, h10km, Error ellipse: s-maj=14.5km s-min=8.9km az=33.6*
ISC 27 07:56:10.9±0.7, 3220N±006×4911E±01, h10km, n8, σ0§86/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.24	248	*e*Pg		Pg	07 56 14.9 -0.8
ASAO	Ashtian	2.48	19	*e*Pn		Pn	07 56 52.4 +1.1
ASAO				*e*Sg		Sg	07 57 29.2 -1.4
ASAO				AML	AML	07 57 34.5	
	comp=N,65nm,0.5s						
ASAO	Ashtian	2.48	19	*e*Pn		Pn	07 56 52.4 +1.1
	SNR=52						
ASAO				*e*Sg		Sg	07 57 29.2 -1.4
	comp=N,65nm,0.5s,SNR=90						
MIB	Mutribah	2.81	212	*e*P		Pn	07 56 55.7 -0.1
	baz=212						
MIB				AML	AML	07 57 44.3	
	comp=Z,46nm,0.6s,baz=212						
NASN	Na'in	3.22	78	*e*Pn		Pn	07 57 01.5 0.0
NASN				AML	AML	07 58 04.1	
	comp=N,19nm,0.3s						
SNGE	Sanandaj	3.22	334	*e*Pn		Pn	07 57 02.9 +1.4
SNGE				AML	AML	07 57 58.0	
	comp=N,28nm,0.5s						
NAY	Al-Naaiem	3.33	209	*e*P		Pn	07 57 02.6 -0.4
	baz=208						
NAY				AML	AML	07 57 41.6	
	comp=Z,12nm,0.5s,baz=208						
RDF	Al-Radifah	3.51	202	*e*P		Pn	07 57 05.7 +0.2
	baz=202						
RDF				AML	AML	07 57 44.0	
	comp=Z,14nm,0.3s,baz=202						

ISCJB ***27*** *08:15:27.9±4.0, 503N±0.1×1775W±0.1, h25km±27km, mb3.9/10, Error ellipse: s-maj=19.8km s-min=12.9km az=155.1*
NEIC ***27*** *08:15:27.1, 5020N×17731W, h10km, ML3.1(AEIC), After AEIC.*
IDC ***27*** *08:15:35.3±6.5, 5032N×17732W, h75km±57km, mb3.5/10, mb1 3.7/12, mb1mx3.5/28, mbtmp3.6/12, ML4.2/2, Error ellipse: s-maj=53.0km s-min=17.8km az=6.0*
ISC 27 08:15:27.9±4.6, 504N±01×1775W±01, h9km±29km, n16, σ0§83/17, mb3.9/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	1.54	19	P		Pn	08 15 55.0 -0.6
ADK				S		Sn	08 16 15.5 -0.2
AMKA	Amchitka	2.25	296	P		Pn	08 16 04.4 -0.8
PETK	Petropavlovsk-	15.57	290	P		Pn	08 19 12.2 +4.8
	0.5nm,0.3s,baz=101,slow=18,SNR=5.0						
KDAK	Kodiak Island	16.28	54	P		Pn	08 19 18.4 +1.9
	1.9nm,0.3s,baz=256,slow=9.6,SNR=11						
KTH	Kantishna Hill	19.35	37	*e*P		Pn	08 19 54.1 -0.3
	13nm,1.1s						
YKA	Yellowknife Ar	35.29	46	P		P	08 22 23.0 +0.4
	0.6nm,0.6s,mb3.7,baz=279,slow=7.2,SNR=7.7						
PDAR	Pinedale Array	45.81	72	P		P	08 23 49.7 0.0
	0.3nm,0.6s,mb3.4,baz=302,slow=5.2,SNR=3.2						
SONM	Songino Array	47.83	298	P		P	08 24 06.3 +0.8
	0.4nm,0.5s,mb3.7,baz=40,slow=11,SNR=2.8						
SPITS	Spitsbergen Ar	51.38	356	P		P	08 24 32.0 -0.2
	2.2nm,0.7s,mb4.2,baz=329,slow=7.8,SNR=2.3						
TXAR	Lajitas Array	57.97	82	P		P	08 25 18.4 -2.3
	0.4nm,0.9s,mb3.5,baz=328,slow=4.4,SNR=4.0						
ARCES	ARCESS Array B	59.17	351	P		P	08 25 28.0 -0.3
	1.2nm,0.9s,mb3.9,baz=18,slow=6.6,SNR=3.4						
MKAR	Makanchi Array	61.28	310	P		P	08 25 43.3 +0.1
	0.3nm,0.3s,mb3.9,baz=64,slow=8.6,SNR=3.3						
BVAR	Borovoye Array	62.16	321	P		P	08 25 48.8 -0.2
	1.3nm,0.5s,mb4.3,baz=54,slow=7.5,SNR=7.8						
AKTK	Aktyubinsk	68.94	326	P		P	08 26 33.7 +0.8
AKTO	Aktyubinsk	68.94	326	P		P	08 26 33.7 +0.8
	2.8nm,0.7s,mb4.3,baz=40,slow=6.4,SNR=9.9						
AKASG	Malin Array Be	76.71	343	P		P	08 27 18.6 -0.4
	2.5nm,0.6s,mb4.3,baz=18,slow=6.0,SNR=7.1						

IDC 27 08:21:58.1±18.0, 761S×12940E, h147km±130km, mb3.5/1, mb1 3.1/3, mb1mx2.9/14, mbtmp2.9/3, ML2.9/2, Error ellipse: s-maj=131.2km s-min=107.1km az=165.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.16	159	P		Pn	08 24 59.3 -0.3
	0.1nm,0.3s,baz=341,slow=12,SNR=5.6						
WRA				S		Sn	08 27 25.9 +0.6
	0.1nm,0.3s,baz=339,slow=24,SNR=8.1						
ASAR	Alice Springs	16.54	165	P		Pn	08 25 41.7 0.0
	0.1nm,0.3s,baz=342,slow=12,SNR=4.3						
STKA	Stephens Creek	26.69	156	P		P	08 27 23.6 +0.1
	1.5nm,0.8s,baz=0.0,slow=10,SNR=4.1						

IDC ***27*** *08:24:08.7±1.5, 2820N×5162E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/23, mbtmp3.9/7, Error ellipse: s-maj=40.6km s-min=32.2km az=160.0*
ISCJB ***27*** *08:24:12.8±2.0, 2820N±007×516E±02, h39km±19km, mb3.9/7, Error ellipse: s-maj=24.0km s-min=11.4km az=169.5*
ISC 27 08:24:14.5±1.9, 2824N±008×516E±02, h38km±19km, n14, σ0§76/13, mb3.9/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDF	Al-Radifah	3.65	282	*e*P		Pn	08 25 08.8 +0.4
	baz=282						
RDF				AML	AML	08 26 10.0	
	comp=Z,30nm,0.6s,baz=282						
UMR	Umm Al-Rimmam	3.67	292	AML	AML	08 26 08.0	
	comp=Z,20nm,0.4s,baz=292						
NAY	Al-Naaiem	3.98	286	*e*P		Pn	08 25 12.6 -0.4
	baz=286						
NAY				AML	AML	08 26 18.4	
	comp=Z,6.0nm,0.6s,baz=286						
MIB	Mutribah	4.07	294	*e*P		Pn	08 25 14.3 +0.2
	baz=293						
MIB				AML	AML	08 26 20.8	
	comp=Z,13nm,0.7s,baz=293						
BTHS		4.23	190	P		Pn	08 25 16.7 +0.2
HRDDS		5.63	201	S		Sn	08 26 39.1 -0.1
MKAR	Makanchi Array	30.30	44	P		P	08 30 21.4 -0.6
	comp=Z,0.2nm,0.2s,mb3.4,baz=228,slow=5.6,SNR=2.4						
NB2	NORSAR Subarra	42.43	332	P		P	08 32 03.0 -2.2
	comp=Z,1.0nm,0.5s,mb3.7,baz=120,slow=8.6						
NOA	NORSAR Array B	42.43	332	P		P	08 32 03.4 -1.8
	comp=Z,1.0nm,0.7s,mb3.6,baz=121,slow=8.3,SNR=4.1						
ARCES	ARCESS Array B	44.01	347	P		P	08 32 18.6 +0.8
	comp=Z,1.7nm,1.0s,mb3.7

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.61**	**40**	*e*PG		**Pg**	**08 33 57.4**	**-0.9**
KMO				*e*			08 34 04.4	
KMO	**Kumora**	**0.61**	**40**	⇑*i*Pg		**Pg**	**08 33 57.4**	**-0.9**
KMO				*e*Sg		**Sg**	**08 34 05.2**	**-1.1**
KMO				Pmax				
	459nm,0.3s							
KMO				Smax				
	2μm,0.8s							
NIZ	**Nizh Angarsk**	**0.65**	**303**	*i* PG		**Pg**	**08 33 58.0**	**-1.1**
NIZ				*e*			08 34 06.5	
NIZ	**Nizh Angarsk**	**0.65**	**303**	*e*Pg		**Pg**	**08 33 58.1**	**-1.0**
NIZ				*e*Sg		**Sg**	**08 34 06.1**	**-1.5**
NIZ				Pmax				
	64nm,0.1s							
NIZ				Smax				
	1μm,0.2s							
YLYR	**Ulyunkhan**	**0.67**	**145**	⇑*i*Pg		**Pg**	**08 33 59.9**	**+0.4**
YLYR				*e*Sg		**Sg**	**08 34 09.6**	**+1.4**
YLYR				Pmax				
	511nm,0.2s							
YLYR				Smax				
	1μm,0.1s							
YLYR	**Ulyunkhan**	**0.67**	**145**	*i* Pg		**Pg**	**08 33 59.9**	**+0.4**
YLYR				*e*Sg		**Sg**	**08 34 09.4**	**+1.2**
YOA	**Uoyan**	**0.99**	**44**	*e*Pg		**Pg**	**08 34 04.8**	**-0.7**
YOA				*e*Sg		**Sg**	**08 34 18.6**	**+0.2**
YOA				Pmax				
	347nm,0.2s							
YOA				Smax				
	2μm,0.6s							
YOA	**Uoyan**	**0.99**	**44**	*i* Pg		**Pg**	**08 34 04.8**	**-0.7**
YOA				*i* Sg		**Sg**	**08 34 18.6**	**+0.2**
UKT	**Uakit**	**1.78**	**87**	*e*PN		**Pg**	**08 34 18.9**	**-1.7**
UKT				*e*			08 34 43.4	
UKT				pmax	pmax			
	comp=Z,350nm,0.3s							
UKT				smax				
	comp=N,444nm,0.4s							
UKT	**Uakit**	**1.78**	**87**	⇑*i*Pg		**Pg**	**08 34 18.9**	**-1.7**
UKT				*e*Sg		**Sg**	**08 34 42.9**	**-0.8**
UKT				Pmax				
	comp=N,355nm,0.3s							
UKT				Smax				
	comp=N,435nm,0.4s							
SYVR	**Suvo**	**1.80**	**190**	*e*PN		**Pn**	**08 34 19.9**	**+2.4**
SYVR				*e*			08 34 45.2	
SYVR				pmax	pmax			
	comp=Z,99nm,0.5s							
SYVR				smax				
	comp=E,593nm,0.8s							
SYVR	**Suvo**	**1.80**	**190**	*e*Pg		**Pg**	**08 34 20.0**	**-1.0**
SYVR				*e*Sg		**Sg**	**08 34 45.2**	**+1.0**
SYVR				Pmax				
	comp=E,97nm,0.4s							
SYVR				Smax				
	comp=E,417nm,0.3s							
SVKR	**Severomuysk**	**1.86**	**67**	⇑*i*PN		**Pn**	**08 34 20.4**	**+2.0**
SVKR				*e*			08 34 45.7	
SVKR				pmax	pmax			
	comp=Z,414nm,0.4s							
SVKR				smax				
	comp=N,1μm,1.6s							
SVKR	**Severomuysk**	**1.86**	**67**	*e*Pg		**Pg**	**08 34 20.5**	**-1.7**
SVKR				*e*Sg		**Sg**	**08 34 46.3**	**0.0**
SVKR				Pmax				
	comp=N,408nm,0.3s							
SVKR				Smax				
	comp=N,1μm,0.5s							
MXMB	**Maximikha**	**2.40**	**206**	*e*Pg		**Pg**	**08 34 30.8**	**-1.7**
MXMB				*e*Sg		**Sg**	**08 35 03.8**	**+0.2**
MXMB				Pmax				
	comp=N,81nm,0.5s							
MXMB				Smax				
	comp=N,1μm,0.8s							
OGRR	**Ongureny**	**2.46**	**225**	*e*Pn		**Pn**	**08 34 28.9**	**+2.2**
OGRR				*e*Pg		**Pg**	**08 34 31.7**	**-2.0**
OGRR				*e*			08 35 01.5	
OGRR				*e*Sg		**Sg**	**08 35 03.9**	**-1.7**
OGRR				Pmax				
	comp=N,44nm,0.3s							
OGRR				Smax				
	comp=N,355nm,0.3s							
OGRR	**Ongureny**	**2.46**	**225**	*e*Pn		**Pn**	**08 34 28.9**	**+2.2**
OGRR				*e*Pg		**Pg**	**08 34 32.4**	**-1.3**
OGRR				*e*Sg		**Sg**	**08 35 03.7**	**-1.9**
BOD	**Bodaibo**	**3.08**	**37**	*e*PN		**Pn**	**08 34 35.8**	**+0.6**
BOD				*e*			08 34 42.8	
BOD				*e*			08 35 12.9	
BOD				*e*			08 35 20.8	
BOD	**Bodaibo**	**3.08**	**37**	*e*Pn		**Pn**	**08 34 36.3**	**+1.1**
BOD				*e*			08 34 38.0	
BOD				*e*Pg		**Pg**	**08 34 41.0**	**-4.5**
BOD				*e*Sg		**Sg**	**08 35 21.4**	**-4.0**
BOD				Pmax				
	comp=N,29nm,0.3s							
BOD				Smax				
	comp=N,179nm,0.5s							
TRG	**Tyrgan**	**3.62**	**224**	*e*PN		**Pn**	**08 34 44.7**	**+2.1**
TRG				*e*			08 34 52.8	
TRG				*e*S		**Sn**	**08 35 26.4**	**+1.0**
TRG				*e*			08 35 38.6	
TRG				pmax	pmax			
	comp=Z,20nm,0.3s							
TRG				smax				
	comp=E,137nm,0.5s							
TRG	**Tyrgan**	**3.62**	**224**	*e*Pn		**Pn**	**08 34 44.6**	**+2.0**
TRG				*e*			08 35 29.6	
TRG				*e*Sg		**Sg**	**08 35 39.2**	**-3.6**
TRG				Smax				
	comp=E,141nm,0.5s							
CIT	**Chita**	**3.86**	**151**	*e*Sg		**Sg**	**08 35 47.8**	**-2.7**
CIT				Smax				
	comp=E,298nm,0.3s							
UUDB	**Ulan-Yde**	**3.95**	**207**	*e*Pg		**Pg**	**08 34 59.0**	**-3.1**
UUDB				*e*Sg		**Sg**	**08 35 50.2**	**-3.0**
UUDB				Pmax				
	comp=E,25nm,0.2s							
UUDB				Smax				
	comp=E,103nm,1.3s							
HRMR	**Khuramsha**	**4.36**	**211**	*e*Pn		**Pn**	**08 34 55.5**	**+2.8**
HRMR				*e*Pg		**Pg**	**08 35 05.3**	**-4.6**
HRMR				*e*Sg		**Sg**	**08 36 02.1**	**-4.2**
HRMR				Pmax				
	comp=E,41nm,0.4s							
HRMR				Smax				
	comp=E,414nm,0.5s							
CRS	**Chara**	**4.58**	**68**	*e*PN		**Pn**	**08 34 58.1**	**+2.3**
CRS				*e*			08 35 09.8	
CRS				*e*			08 36 09.5	
CRS				pmax	pmax			
	comp=Z,77nm,1.0s							
CRS				smax				
	comp=E,113nm,1.4s							
CRS	**Chara**	**4.58**	**68**	*e*Pn		**Pn**	**08 34 57.4**	**+1.6**
CRS				*e*Pg		**Pg**	**08 35 10.0**	**-4.3**
CRS				*e*Sg		**Sg**	**08 36 09.7**	**-3.9**
CRS				Pmax				
	comp=E,79nm,1.0s							
CRS				Smax				
	comp=E,118nm,1.1s							
IRK	**Irkutsk**	**4.88**	**232**	*e*PN		**Pn**	**08 35 02.7**	**+2.8**
IRK				*e*			08 35 16.4	
IRK				*e*S		**Sn**	**08 35 55.1**	**-1.2**
IRK				*e*			08 36 17.0	
IRK				pmax	pmax			
	comp=Z,126nm,0.2s							
IRK				smax				
	comp=E,336nm,0.4s							
KHNR	**Khani**	**5.50**	**70**	*e*Sg		**Sg**	**08 36 37.6**	**-5.4**
TUP	**Tupik**	**5.54**	**97**	*e*Pn		**Pn**	**08 35 10.8**	**+1.8**
TUP				*e*Sn		**Sn**	**08 36 11.8**	**-0.9**
TUP				*e*Sg		**Sg**	**08 36 39.6**	**-4.7**
TUP				Smax				
	comp=E,77nm,1.0s							
TLY	**Talaya**	**5.55**	**230**	*i* PN		**Pn**	**08 35 10.1**	**+1.0**
KPC	**Khapcheranga**	**5.84**	**168**	*e*PN		**Pn**	**08 35 14.1**	**+0.9**
KPC				*e*			08 35 34.8	
KPC				*e*			08 36 49.4	
KPC				pmax	pmax			
	comp=Z,11nm,0.5s							
KPC				smax				
	comp=E,75nm,1.1s							
KPC	**Khapcheranga**	**5.84**	**168**	*e*Pn		**Pn**	**08 35 13.9**	**+0.7**
KPC				*e*Pg		**Pg**	**08 35 34.1**	**-4.3**
KPC				*e*Sn		**Sn**	**08 36 19.0**	**-1.2**
KPC				*e*Sg		**Sg**	**08 36 49.6**	**-4.5**
KPC				Pmax				
	comp=E,12nm,0.6s							
KPC				Smax				
	comp=E,75nm,1.1s							
ZAK	**Zakamensk**	**6.68**	**224**	*e*PN		**Pn**	**08 35 28.5**	**+3.9**
ZAK				*e*			08 35 48.9	
ZAK				*e*S		**Sn**	**08 36 44.2**	**+3.6**
ZAK				*e*			08 37 12.6	
ZAK				pmax	pmax			
	comp=Z,4.0nm,0.4s							
ZAK				smax				
	comp=E,50nm,1.2s							
MOY	**Mondy**	**6.80**	**240**	*e*PN		**Pn**	**08 35 29.0**	**+2.7**
MOY				*e*			08 35 49.0	
MOY				*e*S		**Sn**	**08 36 41.6**	**-2.1**
MOY				pmax	pmax			
	comp=Z,5.0nm,0.2s							
MOY				smax				
	comp=E,106nm,1.0s							
MOY	**Mondy**	**6.80**	**240**	*e*Pn		**Pn**	**08 35 28.8**	**+2.5**
MOY				*e*			08 36 45.0	
MOY				*e*Sg		**Sg**	**08 37 16.5**	**-8.2**
MOY				Smax				
	comp=E,106nm,1.3s							
ORL	**Orlik**	**6.94**	**250**	*e*PN		**Pn**	**08 35 30.4**	**+2.3**
ORL				*e*S		**Sg**	**08 37 18.6**	**-10**
ORL				smax				
	comp=N,140nm,1.4s							
ORL	**Orlik**	**6.94**	**250**	*e*Pn		**Pn**	**08 35 30.4**	**+2.3**
ORL				*e*			08 36 48.8	
ORL				*e*Sg		**Sg**	**08 37 21.2**	**-7.8**
ORL				Smax				
	comp=N,141nm,1.3s							
SONM	**Songino Array**	**8.02**	**200**	Pn		**Pn**	**08 35 47.3**	**+4.3**
	comp=N,0.2nm,0.3s,baz=14,slow=12,SNR=3.6							
SONM				Pg		Pn	08 36 14.8	+32
	comp=N,0.5nm,0.3s,baz=17,slow=15,SNR=4.8							
SONM				Sn		**Sn**	**08 37 24.2**	**+11**
	comp=N,0.2nm,0.3s,baz=6.2,slow=17,SNR=2.4							
SONM				Lg			08 38 02.1	
	comp=N,1.2nm,0.3s,baz=12,slow=30,SNR=19							
SONM	**Songino Array**	**8.02**	**200**	PN		**Pn**	**08 35 47.3**	**+4.3**
SONM							08 36 14.8	
IENR	**Ienga**	**8.13**	**78**	*e*Pn		**Pn**	**08 35 45.9**	**+1.5**
IENR				*e*Sg		Sn	08 37 59.7	+43
HIA	**Hailar**	**8.36**	**134**	*i* PG		Px	08 36 19.8	
ZALV	**Zalesovo Beam**	**14.90**	**275**	Pn		**Pn**	**08 37 17.2**	**+0.2**
	comp=N,0.3nm,0.3s,baz=78,slow=9.7,SNR=6.6							
ZALV				Lg			08 41 34.6	
	comp=N,0.2nm,0.3s,baz=84,slow=29,SNR=2.2							
ZALV	**Zalesovo Beam**	**14.90**	**275**	Pn		**Pn**	**08 37 17.2**	**+0.2**
ZALV				Lg			08 41 34.6	
ZAL	**Zalesovo**	**14.92**	**275**	P		**Pn**	**08 37 17.2**	**0.0**
MKAR	**Makanchi Array**	**19.59**	**256**	P		**Pn**	**08 38 16.6**	**+0.8**
	comp=N,0.2nm,0.3s,baz=52,slow=11,SNR=4.6							
BVAR	**Borovoye Array**	**23.35**	**281**	P		**P**	**08 38 59.1**	**+4.3**
	comp=N,1.0nm,0.5s,baz=57,slow=11,SNR=5.0							

*CSEM **27** 08:45:53.8±0.1,3824N×3807E,h20km,MD2.5,Error ellipse: s-maj=2.3km s-min=1.7km az=172.0*
*ISK **27** 08:45:54.4,3824N×3811E,h20km,MD2.5*
*ISCJB **27** 08:45:55.2±1.0,3845N±006×3807E±005,h6km±6km, Error ellipse: s-maj=11.1km s-min=5.6km az=160.3*
*DDA **27** 08:45:58.9,3813N×3832E,h7km±2km,Md2.4*
ISC 27 08:45:55.6±0.9,3841N±006×3807E±005,h11km±6km,n9, σ0=72/15,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.17**	**226**	*i* P		**Pg**	**08 45 59.1**	**-0.3**
AKCD				*i* S		**Sg**	**08 46 02.2**	**+0.3**
AKCD	**Akcadag**	**0.17**	**226**	*i* P		**Pg**	**08 45 59.1**	**-0.2**
AKCD				*i* S		**Sg**	**08 46 02.2**	**+0.3**
MYA	**Malataya**	**0.29**	**107**	PG		**Pg**	**08 46 00.8**	**-0.7**
MYA				*e*SG		**Sg**	**08 46 05.6**	**+0.1**
MALT	**Malatya**	**0.29**	**109**	PG		**Pg**	**08 46 00.9**	**-0.7**
MALT				*e*SG		**Sg**	**08 46 05.5**	**-0.2**
ELZG	**Elazig**	**0.72**	**83**	*i* P		**Pg**	**08 46 09.3**	**-0.3**
ELZG				*i* S		**Sg**	**08 46 20.9**	**+1.9**
GZT	**Gaziantep**	**1.13**	**201**	*i* P		**Pb**	**08 46 17.7**	**+0.6**
GZT				*i* S		**Sb**	**08 46 31.9**	**+0.1**
URFA	**Urfa**	**1.14**	**148**	*e*PG		**Pg**	**08 46 13.4**	**-4.0**
PTK	**Pertek**	**1.14**	**65**	*e*PN		**Pn**	**08 46 16.7**	**-0.8**
SVSK	**Karacayir**	**1.72**	**331**	*e*PN		**Pn**	**08 46 25.7**	**+0.3**

*MOS **27** 09:03:33.8±1.0,4301N×4426E,h11km,mb4.2/1,Error ellipse: s-maj=12.6km s-min=7.1km az=98.2*
*ISCJB **27** 09:03:34.7±0.5,4303N±002×4425E±004,h10km,Error ellipse: s-maj=4.5km s-min=2.9km az=26.2*
*TIF **27** 09:03:34.4,4304N×4421E,h11km±1km*
ISC 27 09:03:35.6±0.5,4305N±002×4422E±004,h5km±13km,n17, σ0=79/31,7C-4D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KORR	**Kora**	**0.11**	**288**	⇓*i*PG		**Pg**	**09 03 37.5**	**-0.4**
ARNR	**Ardon**	**0.15**	**19**	⇑*i*PG		**Pg**	**09 03 38.0**	**-0.5**
ARNR				*i* S		**Sg**	**09 03 41.3**	**+0.8**
LACR	**Lac**	**0.23**	**165**	⇓*i*PG		**Pg**	**09 03 40.0**	**-0.1**
LACR				*i* S		**Sg**	**09 03 43.2**	**0.0**
KMSR	**Komsomolskaya**	**0.33**	**10**	⇓*i*PG		**Pg**	**09 03 42.1**	**+0.2**
KMSR				*e*S		**Sg**	**09 03 47.0**	**+0.8**
ZEI	**Tsey**	**0.36**	**220**	⇑*i*PG		**Pg**	**09 03 42.0**	**-0.6**
ZEI				*e*S		**Sg**	**09 03 47.5**	**+0.1**
LSNR	**Lesken**	**0.37**	**308**	⇑*i*PG		**Pg**	**09 03 42.4**	**-0.3**
LSNR				*i* S		**Sg**	**09 03 48.3**	**+0.8**
BTKR	**Batakoyurt**	**0.40**	**37**	*e*PG		**Pg**	**09 03 43.3**	**0.0**
BTKR				*e*S		**Sg**	**09 03 47.4**	**-1.2**
DIGR	**Digorskoe uzhe**	**0.49**	**252**	⇑*i*PG		**Pg**	**09 03 44.3**	**-0.7**
DIGR				*i* S		**Sg**	**09 03 51.4**	**0.0**
PRTR	**Priterechnaya**	**0.70**	**4**	*e*PG		**Pg**	**09 03 48.7**	**-0.4**
PRTR				*e*S		**Sg**	**09 03 58.7**	**+0.5**
ONI	**Oni**	**0.73**	**230**	P		**Pg**	**09 03 48.9**	**-0.7**
ONI				S		**Sg**	**09 03 59.5**	**+0.3**
TRKR	**Terskaya**	**0.77**	**29**	*e*PG		**Pg**	**09 03 49.9**	**-0.5**
TRKR				*e*S		**Sg**	**09 04 00.6**	**+0.2**
KUBR	**Kubataba**	**0.95**	**322**	⇓*i*PG		**Pg**	**09 03 54.0**	**+0.1**
KUBR				*i* S		**Sg**	**09 04 09.1**	**+2.9**
GOR	**Gori**	**1.07**	**184**	S		**Sg**	**09 04 13.1**	**+3.2**
PYA	**Pyatigorsk**	**1.29**	**320**	⇑*i*PG		**Pg**	**09 03 59.5**	**-0.9**
PYA				*i* S		**Sg**	**09 04 18.0**	**+0.8**
SHAR	**Shatzhatmas**	**1.32**	**302**	⇑*i*PG		**Pg**	**09 03 59.8**	**-1.2**
SHAR				*i* S		**Sg**	**09 04 18.2**	**+0.1**
TBLG	**Delisi**	**1.37**	**163**	S		**Sg**	**09 04 20.9**	**+1.2**
KIV	**Kislovodsk**	**1.43**	**310**	⇑*i*PG		**Pg**	**09 04 01.8**	**-1.3**
KIV				*i* S		**Sb**	**09 04 21.5**	**+0.2**

IDC 27 09:15:07.7±3.7,577S×10292E,h0km,mb3.6/5,mb1 3.8/5, mb1mx3.6/18,mbtmp3.6/5,Error ellipse: s-maj=159.1km s-min=22.3km az=56.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.62**	**118**	P		P	09 21 50.0	-0.2
	0.4nm,0.6s,baz=298,slow=11,SNR=5.8							
ASAR	**Alice Springs**	**34.71**	**124**	P		P	09 21 59.4	-0.3
	0.5nm,0.7s,baz=302,slow=7.2,SNR=4.7							
STKA	**Stephens Creek**	**44.49**	**131**	P		P	09 23 21.4	+0.4
	1.3nm,0.9s,baz=325,slow=12,SNR=2.9							
SONM	**Songino Array**	**53.47**	**3**	P		P	09 24 29.9	+0.3
	0.4nm,0.5s,baz=177,slow=7.2,SNR=2.8							
MKAR	**Makanchi Array**	**55.44**	**343**	P		P	09 24 43.7	-0.3
	0.2nm,0.2s,baz=152,slow=9.5,SNR=2.1							
TXAR	**Lajitas Array**	**145.65**	**44**	PKPbc		PKPbc	09 34 48.6	-0.5
	0.3nm,0.8s,baz=309,slow=0.8,SNR=3.9							

*BJI **27** 10:09:27.6,5569N×11069E,h9km,mB4.6,mb4.5,Ms4.4, Msz4.1*
*MOS **27** 10:09:28.9±0.9,5553N×11038E,h9km,mb4.9/65,Error ellipse: s-maj=6.0km s-min=4.3km az=101.1*
MOS Felt (II) at Severobaikal'sk, Kichera.
*LDG **27** 10:09:28.4±0.2,5572N×11044E,h10km,Mb5.0/38, Ms3.6/6,Error ellipse: s-maj=7.6km s-min=3.8km az=111.0*
*ISCJB **27** 10:09:29.5±0.1,5548N±002×11031E±003,h10km, mb4.7/136,MS3.8/28,Error ellipse: s-maj=2.5km s-min=1.8km az=141.8*
*IDC **27** 10:09:29.1±0.5,5555N×11040E,h0km,mb4.2/23, mb1 4.4/26,mb1mx4.4/30,mbtmp4.3/26,ML4.4/3,MS3.7/17, Ms1 3.7/17,ms1mx3.5/37,Error ellipse: s-maj=14.2km s-min=12.2km az=48.0*
*NEIC **27** 10:09:30.7±0.2,5548N×11041E,h10km,mb4.9/94,Error ellipse: s-maj=4.3km s-min=3.0km az=176.0*
*BYKL **27** 10:09:30.5±0.3,5549N×11046E,h11km±19km, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 50.00 74.00 -82.00 21 0 IEC + 203.00 18.00 -116.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 134.00 28.00 228.00 8.00 332.00 60.00 IEC + 0.00 0.00 0.00 0.00 0.00 0.00 IEC FELT I=III MSK at Kichera, II=III at Severobaykalsk.*
*SZGRF **27** 10:09:37.5,5636N×11026E,h33km,mb4.8,Lake Baykal, Russia, region*
ISC 27 10:09:31.1±0.1,5546N±001×11037E±002,h10km,n591, σ0=86/662,mb4.7/136,MS3.8/28,136C-116D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.57**	**305**	⇑*i*PG		**Pg**	**10 09 41.3**	**-0.9**
NIZ				*e*			10 09 49.8	
NIZ	**Nizh Angarsk**	**0.57**	**305**	⇑*i*Pg		**Pg**	**10 09 41.3**	**-0.9**
NIZ				Pmax			10 09 47.0	
	4μm,0.7s							
NIZ				*e*			10 09 48.6	
NIZ				*e*Sg		**Sg**	**10 09 50.1**	**+0.5**
NIZ				Smax			10 09 51.6	
	17μm,0.8s							
KMO	**Kumora**	**0.64**	**47**	*e*PG		**Pg**	**10 09 40.9**	**-2.6**
KMO				*e*			10 09 47.8	
KMO	**Kumora**	**0.64**	**47**	⇑*i*Pg		**Pg**	**10 09 40.8**	**-2.7**
KMO				Pmax			10 09 41.2	
	8μm,0.4s							
KMO				*i* Sg		**Sg**	**10 09 48.7**	**-3.2**
KMO				Smax			10 10 03.1	
	70μm,0.8s							
YLYR	**Ulyunkhan**	**0.74**	**142**	⇑*i*Pg		**Pg**	**10 09 43.1**	**-2.3**
YLYR				Pmax			10 09 43.7	
	6μm,0.7s							
YLYR				*e*Pb		**Pb**	**10 09 45.1**	**-1.0**
YLYR				*i* Sg		**Sg**	**10 09 53.0**	**-2.0**
YLYR				Smax			10 09 53.3	
	16μm,1.7s							
YLYR				Smax			10 10 00.6	
YLYR	**Ulyunkhan**	**0.74**	**142**	⇑*i*Pg		**Pg**	**10 09 43.2**	**-2.2**
YLYR				*e*Sg		**Sg**	**10 09 52.8**	**-2.2**
YOA	**Uoyan**	**1.02**	**48**	⇓*i*Pg		**Pg**	**10 09 48.0**	**-2.8**
YOA				*e*Pb		**Pb**	**10 09 49.9**	**-1.0**
YOA				max			10 09 50.9	
	7μm,0.5s							
YOA				*i* Sg		**Sg**	**10 10 01.9**	**-2.2**
YOA				*e*			10 10 06.9	
YOA				*e*			10 10 10.8	
YOA				max			10 10 11.8	
	49μm,1.0s							
YOA	**Uoyan**	**1.02**	**48**	⇓*i*Pg		**Pg**	**10 09 48.1**	**-2.7**
YOA				*i* Sg		**Sg**	**10 10 01.9**	**-2.2**
SYVR	**Suvo**	**1.81**	**187**	*e*PN		**Pn**	**10 10 03.4**	**+1.0**
SYVR				*e*			10 10 28.3	
SYVR				pmax	pmax			
	comp=Z,3μm,1.0s							
SYVR				smax				
	comp=N,20μm,1.0s							
SYVR	**Suvo**	**1.81**	**187**	⇑*i*Pg		**Pn**	**10 10 03.4**	**+1.0**
SYVR				*e*		**Pg**	**10 10 05.7**	**-0.2**
SYVR				max			10 10 06.2	
	comp=N,2μm,0.6s							
SYVR				*i* Sg		**Sn**	**10 10 27.6**	**+2.2**
SYVR				Smax			10 10 34.5	
	comp=N,20μm,1.6s							
UKT	**Uakit**	**1.85**	**88**	*e*PN		**Pn**	**10 10 02.2**	**-0.7**
UKT				*e*			10 10 25.9	
UKT	**Uakit**	**1.85**	**88**	⇑*i*Pg		**Pn**	**10 10 02.2**	**-0.7**
UKT				Pmax			10 10 03.8	
	comp=N,7μm,0.9s							
UKT				*e*Sg		**Sg**	**10 10 26.6**	**-4.1**
UKT				Smax			10 10 29.8	
	comp=N,2μm,0.4s							
UKT				Smax			10 10 29.8	
	comp=N,20μm,0.4s							
UKT				*e*			10 10 33.4	
SVKR	**Severomuysk**	**1.92**	**69**	*e*PN		**Pn**	**10 10 03.8**	**0.0**
SVKR				*e*			10 10 27.5	
SVKR				pmax	pmax			
	comp=Z,6μm,0.8s							
SVKR				smax				
	comp=N,27μm,1.6s							
SVKR	**Severomuysk**	**1.92**	**69**	⇑*i*Pg		**Pn**	**10 10 03.9**	**+0.1**
SVKR				Pmax			10 10 08.6	
	comp=N,6μm,0.5s							
SVKR				*i* Sg		**Sg**	**10 10 29.8**	**-3.0**
SVKR				Smax			10 10 31.0	
	comp=N,27μm,1.1s							
MXMB	**Maximikha**	**2.40**	**204**	⇑*i*Pn		**Pn**	**10 10 11.5**	**+1.1**
MXMB				*e*Pg		**Pg**	**10 10 14.5**	**-2.5**
MXMB				Pmax			10 10 16.3	
	comp=N,1μm,0.6s							
MXMB				*e*Sg		**Sg**	**10 10 47.3**	**-0.7**
MXMB				Smax			10 10 51.8	
	comp=N,31μm,1.0s							
OGRR	**Ongureny**	**2.43**	**223**	*e*PN		**Pn**	**10 10 12.1**	**+1.2**
OGRR				*e*			10 10 15.6	
OGRR				*e*			10 10 47.0	
OGRR				pmax	pmax			
	comp=Z,1μm,0.7s							
OGRR				smax				
	comp=E,7μm,1.4s							
OGRR	**Ongureny**	**2.43**	**223**	*e*Pn		**Pn**	**10 10 12.3**	**+1.4**
OGRR				*e*			10 10 14.7	
OGRR				*e*		**Pg**	**10 10 16.5**	**-1.2**
OGRR				max			10 10 17.1	
	comp=E,1μm,0.7s							
OGRR				*e*			10 10 23.2	
OGRR				*e*Sg		**Sg**	**10 10 46.6**	**-2.6**
OGRR				Smax			10 10 54.1	
	comp=E,7μm,1.4s							
BOD	**Bodaibo**	**3.10**	**39**	*e*PN		**Pn**	**10 10 18.8**	**-1.3**
BOD				*e*			10 10 26.7	
BOD				*e*S		**Sn**	**10 10 56.6**	**-0.6**
BOD				*e*			10 11 03.9	
BOD				pmax	pmax			
	comp=Z,465nm,0.3s							
BOD	**Bodaibo**	**3.10**	**39**	⇓*i*Pn		**Pn**	**10 10 19.2**	**-0.9**
	comp=Z,44nm,0.9s							
BOD				⇓*i*Pn		**Pn**	**10 10 19.2**	**-0.9**
	comp=Z,35nm,0.9s							
BOD				⇓*i*Pn		**Pn**	**10 10 19.2**	**-0.9**
	comp=Z,61nm,0.9s							
BOD				*e*			10 10 22.2	
BOD				max			10 10 22.6	
	comp=Z,776nm,0.3s							
BOD				Pg		**Pg**	**10 10 24.2**	**-6.4**
BOD				*e*Sn		**Sn**	**10 10 56.4**	**-0.8**
BOD				*i* Sg		**Sg**	**10 11 04.2**	**-6.6**
BOD				Smax			10 11 05.6	
	comp=Z,5μm,1.0s							
TRG	**

```
CIT                          e                    10 11 29.7
CIT                          pmax    pmax
        comp=Z,1µm,1.7s
CIT                          smax
        comp=E,6µm,1.7s
CIT     Chita        3.93 150 ePn     Pn          10 10 30.4 -1.0
CIT                          ePg     Pg          10 10 39.8 -6.5
CIT                          Pmax                10 10 43.2
        comp=E,1µm,1.5s
CIT                          e                    10 10 51.6
CIT                          e                    10 11 17.7
CIT                          eSg     Sg          10 11 29.9 -7.2
CIT                          Smax                10 11 36.0
        comp=E,7µm,1.6s
UUDB    Ulan-Yde     3.94 205 ePn     Pn          10 10 32.9 +1.3
UUDB                         ePg     Pg          10 10 42.8 -3.8
UUDB                         Pmax                10 10 45.8
        comp=E,811nm,1.1s
UUDB                         e                    10 10 47.5
UUDB                         eSn     Sn          10 11 13.5 -4.3
UUDB                         eSg     Sg          10 11 35.6 -2.0
UUDB                         e                    10 11 41.2
UUDB                         max                 10 11 50.7
        comp=E,3µm,1.6s
STDB    Stepnoy Dvoret 4.06 217 ePn      Pn          10 10 35.1 +1.9
STDB                         ePg     Pg          10 10 46.6 -2.2
STDB                         Pmax                10 10 55.3
        comp=E,575nm,0.9s
STDB                         e                    10 11 26.7
STDB                         eSg     Sg          10 11 40.1 -1.3
STDB                         Smax                10 11 46.8
        comp=E,13µm,1.5s
KAB     Kabansk      4.06 214 ePg     Pg          10 10 45.5 -3.4
KAB                          Pmax                10 10 55.5
        comp=E,1µm,0.7s
KAB                          e                    10 11 16.2
KAB                          eSg     Sg          10 11 40.8 -0.7
KAB                          e                    10 11 55.8
KAB                          max                 10 12 01.3
        comp=E,16µm,1.2s
HRMR    Khuramsha    4.34 209⇑iPn     Pn          10 10 38.4 +1.3
HRMR                         ePg     Pg          10 10 49.2 -5.1
HRMR                         Pmax                10 10 52.9
        comp=E,1µm,0.6s
HRMR                         eSn     Sn          10 11 24.3 -3.4
HRMR                         e                    10 11 33.2
HRMR                         i Sg    Sg          10 11 46.5 -4.0
HRMR                         e                    10 11 56.3
HRMR                         max                 10 11 58.3
        comp=E,9µm,0.9s
CRS     Chara        4.65  69 ePN      Pn          10 10 41.1 -0.2
CRS                          e                    10 10 52.8
CRS                          e                    10 11 53.1
CRS                          pmax    pmax
        comp=Z,2µm,1.1s
CRS                          smax
        comp=N,5µm,1.3s
CRS     Chara        4.65  69⇓iPn     Pn          10 10 41.2 -0.1
CRS                          ePg     Pg          10 10 53.3 -6.7
CRS                          Pmax                10 10 56.8
        comp=N,2µm,0.9s
CRS                          e                    10 11 38.1
CRS                          eSg     Sg          10 11 53.7 -6.5
CRS                          Smax                10 12 05.5
        comp=N,5µm,2.1s
IRK     Irkutsk      4.84 231 ePN      Pn          10 10 44.4 +0.5
IRK                          e                    10 10 59.3
IRK                          eS      Sn          10 11 40.7 +0.8
IRK                          e                    10 12 01.2
IRK                          pmax    pmax
        comp=Z,193nm,0.2s
IRK                          smax
        comp=N,7µm,0.9s
IRK     Irkutsk      4.84 231 e       Pn          10 10 48.2 +4.3
IRK                          e                    10 11 01.2
IRK                          max                 10 11 04.9
        comp=N,605nm,0.5s
IRK                          eSn     Sn          10 11 39.7 -0.2
IRK                          e                    10 11 43.9
IRK                          eSg     Sg          10 12 01.2 -5.1
IRK                          Smax                10 12 09.5
        comp=N,7µm,1.1s
LSTR    Listvyanka   4.87 225⇑iPn     Pn          10 10 44.6 +0.2
LSTR                         ePg     Pg          10 10 56.6 -7.8
LSTR                         Pmax                10 11 20.0
        comp=N,137nm,1.2s
LSTR                         e                    10 11 25.0
LSTR                         e                    10 11 42.8
LSTR                         eSg     Sg          10 12 01.8 -5.7
LSTR                         Smax                10 12 08.6
        comp=N,3µm,1.6s
LSTR                         e                    10 12 12.0
TLY     Talaya       5.51 229 ePN      Pn          10 10 53.1  0.0
TLY                          e                    10 11 09.5
TLY                          eS      Sn          10 11 56.2 -0.3
TLY                          e                    10 12 20.9
TLY                          pmax    pmax
        comp=Z,119nm,0.4s
TLY                          smax
        comp=E,1µm,1.1s
TLY     Talaya       5.51 229 ePn      Pn          10 10 53.5 +0.4
TLY                          e                    10 11 07.9
TLY                          ePg     Pg          10 11 10.8 -5.8
TLY                          Pmax                10 11 13.9
        comp=E,299nm,1.2s
TLY                          eSn     Sn          10 11 57.4 +0.9
TLY                          e                    10 12 10.9
TLY                          eSg     Sg          10 12 21.8 -6.1
TLY                          Smax                10 12 25.3
        comp=E,2µm,1.0s
TLY     Talaya       5.51 229 ePn      Pn          10 10 53.0 -0.1
TLY                          eSn     Sn          10 11 57.3 +0.8
KHNR    Khani        5.56  71 e       Pn          10 10 55.0 +1.1
KHNR                         e                    10 11 32.4
KHNR                         e                    10 11 56.3
KHNR                         eSg     Sg          10 12 19.9  -10
TUP     Tupik        5.62  97 ePN      Pn          10 10 53.4 -1.3
TUP                          e                    10 11 09.8
TUP                          eS      Sn          10 11 55.3 -3.9
TUP                          e                    10 12 21.0
TUP                          pmax    pmax
        comp=Z,288nm,0.8s
TUP                          smax
        comp=N,2µm,1.1s
TUP     Tupik        5.62  97⇑iPn     Pn          10 10 53.5 -1.2
TUP                          e                    10 11 02.1
TUP                          ⇑iPg    Pg          10 11 10.1 -8.6
TUP                          Pmax                10 11 14.5
        comp=N,370nm,1.2s
TUP                          e                    10 11 54.9
TUP                          e                    10 12 16.0
TUP                          eSg     Sg          10 12 24.7 -6.8
TUP                          e                    10 12 43.5
TUP                          max                 10 12 44.7
        comp=N,2µm,1.0s
KPC     Khapcheranga 5.89 167 ePN      Pn          10 10 57.5 -0.9
KPC                          e                    10 11 16.1
KPC                          eS      Sn          10 12 02.4 -3.5
KPC                          e                    10 12 32.7
KPC                          pmax    pmax
        comp=Z,225nm,1.0s
KPC                          smax
        comp=E,2µm,1.1s
KPC     Khapcheranga 5.89 167⇑iPn     Pn          10 10 57.2 -1.2
KPC                          e                    10 11 09.0
KPC                          ePg     Pg          10 11 17.1 -6.8
KPC                          Pmax                10 11 21.7
        comp=E,225nm,1.0s
KPC                          eSn     Sn          10 12 02.6 -3.3
KPC                          i Sg    Sg          10 12 32.7 -7.4
KPC                          e                    10 12 41.1
KPC                          max                 10 12 42.3
        comp=E,2µm,1.0s
ARS     Arshan       5.90 236 ePN      Pn          10 11 01.3 +2.8
ARS                          eS      Sn          10 12 06.4 +0.3
ARS                          eS      Sg          10 12 36.0 -4.4
ARS                          smax
        comp=E,6µm,0.8s
ZAK     Zakamensk    6.65 223 ePN      Pn          10 11 12.0 +3.3
ZAK                          e                    10 11 32.2
ZAK                          e                    10 12 23.1
ZAK                          e                    10 12 56.0
ZAK                          pmax    pmax
        comp=Z,84nm,0.8s
ZAK                          smax
        comp=E,1µm,1.1s
ZAK     Zakamensk    6.65 223⇑i       Pn          10 11 12.0 +3.3
ZAK                          e                    10 11 18.4
ZAK                          e                    10 11 27.7
ZAK                          max                 10 11 46.2
        comp=E,75nm,0.7s
ZAK                          e                    10 12 31.2
ZAK                          eSg     Sg          10 12 57.4 -6.9
ZAK                          Smax                10 13 07.0
        comp=E,1µm,1.3s
MOY     Mondy        6.75 240 ePN      Pn          10 11 11.9 +1.7
MOY                          e                    10 11 34.0
MOY                          eS      Sg          10 13 01.9 -5.8
MOY                          pmax    pmax
        comp=Z,321nm,1.3s
MOY                          smax
        comp=E,3µm,1.5s
MOY     Mondy        6.75 240⇑iPn     Pn          10 11 11.9 +1.7
MOY                          max                 10 11 18.6
        comp=E,339nm,1.4s
MOY                          e                    10 11 23.4
MOY                          e                    10 11 36.3
MOY                          eSn     Sn          10 12 28.8 +1.8
MOY                          eSg     Sg          10 13 02.3 -5.4
MOY                          e                    10 13 10.8
MOY                          e                    10 13 15.7
        comp=E,3µm,1.5s
ORL     Orlik        6.88 249 ePN      Pn          10 11 13.7 +1.8
ORL                          e                    10 11 35.9
ORL                          e                    10 13 05.2
ORL                          pmax    pmax
        comp=Z,306nm,1.1s
ORL                          smax
        comp=N,4µm,1.0s
ORL     Orlik        6.88 249⇓iPn     Pn          10 11 13.7 +1.8
        comp=N,113nm,1.7s
ORL                          ⇓iPn     Pn          10 11 13.7 +1.8
        comp=N,113nm,1.7s
ORL                          ⇑iPn     Pn          10 11 13.7 +1.8
        comp=N,94nm,1.7s
ORL                          eSn     Sn          10 12 31.0 +0.9
ORL                          eSg     Sg          10 13 04.6 -7.1
ORL                          Smax                10 13 10.8
        comp=N,4µm,1.5s
ORL                          e                    10 13 16.7
ORL                          e                    10 13 26.7
SONM    Songino Array  8.02 200 Pn        Pn          10 11 29.1 +1.5
        comp=N,3.8nm,0.3s,baz=11,slow=13,SNR=93
SONM                         Pg      Pn          10 11 56.5 +29
        comp=N,5.2nm,0.3s,baz=11,slow=14,SNR=8.2
SONM                         Lg                  10 13 42.7
        comp=N,4.7nm,0.3s,baz=4.1,slow=27,SNR=5.9
SONM                         LR      LR          10 14 42.7
        comp=N,159nm,18.1s,baz=14,slow=39
SONM    Songino Array  8.02 200 PN        Pn          10 11 29.1 +1.5
SONM                                             10 11 56.5
IENR    Iengra       8.20  79⇓iPn     Pn          10 11 29.1 -0.9
IENR                         ⇓iPg    Pn          10 11 57.5 +28
IENR                         i Sg    Sn          10 13 42.5 +40
CLNS    Chul'man     8.23  74 ePN      Pn          10 11 30.4  0.0
CLNS                         e                    10 11 59.3
CLNS                         eS      Sn          10 13 00.3 -3.0
CLNS                         pmax    pmax
        comp=Z,29nm,0.6s
CLNS                         pmax    pmax
        comp=N,4.0nm,0.3s
CLNS                         pmax    pmax
        comp=E,13nm,0.5s
CLNS                         pmax    pmax
        comp=Z,60nm,0.6s
CLNS                         pmax    pmax
        comp=N,13nm,0.4s
CLNS                         pmax    pmax
        comp=E,49nm,0.8s
CLNS                         smax
        comp=N,141nm,0.7s
CLNS                         smax
        comp=Z,53nm,0.7s
CLNS                         smax
        comp=E,79nm,0.8s
HIA     Hailar       8.44 133 ePN      Pn          10 11 30.7 -2.6
HIA                          pmax    pmax
        comp=Z,38nm,0.6s
HIA     Hailar       8.44 133 ePn      Pn          10 11 31.0 -2.3
HIA                          ePg     Pn          10 12 04.7  +31
HIA                          e                    10 12 42.5
HIA                          eSg     Sn          10 13 49.5  +41
HIA     Hailar       8.44 133 ePn      Pn          10 11 30.7 -2.7
        comp=Z,38nm,0.6s
ALDR    Aldan        8.79  63 e       Px          10 12 43.8
ALDR                         eSg     Sx          10 13 59.7
KRAR    Krasnoyarsk  9.88 280⇑iP       Pn          10 11 52.0 -1.1
BLRR    Bol'shaya Rech 10.77 264⇓eP      Pn          10 12 06.1 +0.9
YAK     Yakutsk     11.97  49 eP       Pn          10 12 14.1 -7.4
YAK                          pmax    pmax
        comp=N,2.0nm,0.4s
YAK                          pmax    pmax
        comp=Z,15nm,0.4s
YAK                          pmax    pmax
        comp=E,6.0nm,0.4s
YAK                          MLR     MLR
        comp=Z,302nm,9.0s
KLR     Kul'dur     14.45 107 eP       Pn          10 12 50.9 -4.5
KLR                          MLR     MLR
        comp=Z,3µm,7.0s
HHC     Hu-ho-hao-te 14.64 176 eP       Pn          10 12 59.0 +0.9
HHC                          XP      sP          10 13 05.0  -3.6
HHC                          PP                  10 13 10.3
HHC                          S       Sn          10 15 42.0 +1.7
HHC                          SS                  10 15 59.3
HHC                          PCP     PcP         10 18 11.8 +1.0
HHC                          AMB     AMB
        comp=Z,15nm,0.6s
HHC                          AMB     AMB
        comp=Z,88nm,5.9s
HHC                          LR      LR
        comp=N,616nm,9.5s
HHC                          LR      LR
        comp=E,549nm,7.7s
HHC                          LR      LR
        comp=Z,789nm,11.3s
ZAA0    Zalesovo Array 14.82 275 ePn      Pn          10 12 59.8 -0.7
ZALV    Zalesovo Beam  14.82 275 Pn       Pn          10 12 59.9 -0.6
        comp=Z,1.7nm,0.3s,baz=76,slow=10,SNR=120
ZALV                         Lg                  10 17 14.2
        comp=Z,0.1nm,0.3s,baz=96,slow=28,SNR=3.8
ZALV                         LR      LR          10 19 02.0
        comp=Z,332nm,18.1s,baz=162,slow=39
ZALV    Zalesovo Beam  14.82 275 Pn       Pn          10 12 59.9 -0.6
ZALV                         Lg                  10 17 14.2
ZALV                         LR      LR          10 19 02.0
ZAL     Zalesovo    14.84 275 P        Pn          10 12 59.9 -0.8
NVS     Novosibirsk 15.49 279 i P       Pn          10 13 07.5 -1.9
NVS                          i                   10 16 00.6
BJI     Beijing     15.90 164 P        Pn          10 13 17.3 +2.5
BJI                          S       Sn          10 16 16.5 +5.5
BJI                          AMB     AMB
        comp=Z,27nm,1.3s
BJT     Baijiatuau  15.92 164 eP       Pn          10 13 15.3 +0.2
BJT                          pmax    pmax
        comp=Z,12nm,0.6s
BJT     Baijiatuau  15.92 164 ePn      Pn          10 13 15.3 +0.2
        comp=Z,12nm,0.6s
MDJ     Mudanjiang  16.38 123 P        Pn          10 13 20.8 -0.1
MDJ                          AP      pP          10 13 26.0  -0.5
MDJ                          XP      sP          10 13 27.5  -0.3
MDJ                          S       Sn          10 16 22.5  0.0
MDJ                          AMB     AMB
        comp=Z,5.0nm,0.5s
MDJ                          AMB     AMB
        comp=Z,44nm,5.8s
MDJ                          LR      LR
        comp=N,1µm,6.8s
MDJ                          LR      LR
        comp=E,641nm,8.1s
MDJ                          LR      LR
        comp=Z,2µm,6.7s
GTA     Gaotai      17.54 208 eP       Pn          10 13 39.8 +4.3
GTA                          AP      pP          10 13 44.0 +4.6
GTA                          XP      sP          10 13 46.8 +6.1
GTA                          S       Sn          10 16 58.5 +7.9
GTA                          XS      sS          10 17 03.5 +0.5
GTA                          AMB     AMB
        comp=Z,6.0nm,1.2s
GTA                          AMB     AMB
        comp=Z,47nm,4.2s
GTA                          LR      LR
        comp=N,499nm,9.0s
GTA                          LR      LR
        comp=E,1µm,9.0s
GTA                          LR      LR
        comp=Z,493nm,9.3s
TIXI    Tiksi       18.07  19 eP       Pn          10 13 36.2 -5.6
TIXI                         eSS                 10 17 01.6
TIXI                         pmax    pmax
        comp=Z,50nm,1.0s
TIXI                         MLR     MLR
        comp=Z,293nm,8.0s
TIXI    Tiksi       18.07  19 ePn      Pn          10 13 36.1 -5.7
        comp=Z,35nm,0.6s
DL2     Dalian      18.20 151 P        Pn          10 13 46.5 +2.8
DL2                          eS      Sn          10 17 09.3 +2.6
DL2                          AMB     AMB
        comp=Z,20nm,0.9s
DL2                          LR      LR
        comp=N,390nm,15.9s
DL2                          LR      LR
        comp=E,200nm,12.5s
DL2                          LR      LR
        comp=Z,330nm,16.4s
WMQ     Urumqi      18.64 241 P        Pn          10 13 49.8 +0.8
WMQ                          AP      pP          10 13 53.5 +1.9
WMQ                          XP      sP          10 13 56.8 +3.9
WMQ                          PP                  10 14 05.8
WMQ                          eS      Sn          10 17 14.0 -3.3
WMQ                          SS                  10 17 38.5
WMQ                          PCP     PcP         10 18 19.0 +2.1
WMQ                          AMB     AMB
        comp=Z,8.0nm,0.6s
WMQ                          LR      LR
        comp=N,555nm,20.0s
WMQ                          LR      LR
        comp=E,372nm,21.6s
WMQ                          LR      LR
        comp=Z,142nm,20.0s
MK31    Makanchi Array 19.52 255 i P       Pn          10 14 00.1 +0.4
MK31                         pmax    pmax
        comp=Z,10.0nm,0.5s
MKAR    Makanchi Array 19.52 255 P        Pn          10 13 59.6 -0.1
        comp=Z,1.6nm,0.3s,baz=64,slow=11,SNR=44
MKAR                         S       Sn          10 17 35.9 -2.7
        baz=34,slow=11,SNR=2.1
MKAR                         Lg                  10 19 48.8
        comp=Z,0.1nm,0.3s,baz=153,slow=44,SNR=2.7
MKAR                         LR      LR          10 21 36.5
        comp=Z,482nm,19.4s,baz=46,slow=37
MKAR    Makanchi Array 19.52 255 P        Pn          10 13 59.6 -0.1
MKAR                         S       Sn          10 17 35.9 -2.7
KURK    Kurchatov   19.55 269 P        Pn          10 13 58.5 -1.4
KURK                         pmax    pmax
        comp=Z,33nm,0.8s
KURK    Kurchatov   19.55 269 eP       Pn          10 13 58.0 -1.8
        comp=Z,34nm,0.8s
TIA     Tai'an      19.80 164 eP       Pn          10 14 04.0 +1.0
LZH     Lanzhou     19.88 196 ⇑P       Pn          10 14 06.8 +2.8
LZH                          AP      pP          10 14 10.8 +5.6
LZH                          XP      sP          10 14 14.0 +7.5
LZH                          PP                  10 14 24.8
LZH                          S       Sn          10 17 44.5 -2.8
LZH                          XS      sS          10 17 49.8  -0.7
LZH                          SS                  10 18 11.5
LZH                          AMB     AMB
        comp=Z,76nm,1.5s
LZH                          AMB     AMB
        comp=Z,143nm,4.1s
LZH                          LR      LR
        comp=E,975nm,9.6s
LZH                          LR      LR
        comp=Z,1µm,10.9s
INCN    Inchon      21.09 142 eP       P           10 14 14.1 -1.3
        comp=Z,61nm,1.2s,mb4.8
XAN     Xi'an       21.44 183 P        P           10 14 20.8 +1.6
XAN                          AP                  10 14 23.8
XAN                          XP      sP          10 14 26.0 +2.6
XAN                          PP                  10 14 43.8
XAN                          S       S           10 18 13.0 -3.9
XAN                          AMB     AMB
        comp=Z,26nm,0.6s,mb4.7
XAN                          AMB     AMB
        comp=Z,46nm,5.7s
XAN                          LR      LR
        comp=N,279nm,10.5s
XAN                          LR      LR
        comp=E,196nm,8.6s
XAN                          LR      LR
        comp=Z,603nm,10.4s,MS4.3
KSRS    Korea Array 21.58 139 P        P           10 14 21.9 +1.2
        comp=Z,2.3nm,0.8s,mb3.6,baz=332,slow=10,SNR=8.0
KSRS                         Lg                  10 20 56.3
        comp=Z,18nm,1.3s,baz=339,slow=28,SNR=6.9
KSRS                         LR      LR          10 21 48.5
        comp=Z,88nm,21.0s,MS3.1,baz=333,slow=34
YSS     Yuzh-Sakhalins 21.83  99 eP       pP          10 14 39.5  +13
YSS                          MLR     MLR
        comp=Z,500nm,13.0s,MS4.1
YSS                          MLR     MLR
        comp=E,600nm,12.0s
SEY     Seymchan    22.41  53⇑eP       P           10 14 29.4  0.0
BVA0    Borovoye Array 23.27 281 i P       P           10 14 38.3 -0.3
BVA0                         pmax    pmax
        comp=Z,17nm,1.4s,mb4.3
BVAR    Borovoye Array 23.27 281 P        P           10 14 37.1 -1.5
        comp=Z,4.9nm,0.6s,mb4.2,baz=69,slow=9.7,SNR=16
BVAR                         LR      LR          10 24 25.4
        comp=Z,515nm,19.1s,MS4.0,baz=62,slow=38
BRVK    Borovoye    23.31 281 eP       P           10 14 38.4 -0.6
ASAJ    Asahikawa   23.48 105 LR       LR          10 24 15.8
        comp=Z,218nm,20.5s,MS3.6,baz=192,slow=38
CD2     Chengdu     24.98 194 eP       P           10 14 56.0 +1.3
CD2                          AP                  10 15 00.3
CD2                          XP      sP          10 15 03.5 +4.5
CD2                          PP                  10 15 33.5
CD2                          S       S           10 19 16.8 -1.5
CD2                          XS      sS          10 19 23.8 +0.5
CD2                          SS                  10 20 15.5
CD2                          AMB     AMB
        comp=Z,10.0nm,0.6s,mb4.5
CD2                          AMB     AMB
        comp=Z,40nm,4.8s
CD2                          LR      LR
        comp=N,200nm,10.8s
CD2                          LR      LR
        comp=E,360nm,7.2s
CD2                          LR      LR
        comp=Z,230nm,7.2s
TKM2    Tokmak 2    25.66 255 eP       P           10 15 01.9 +1.1
TKM2                         pmax    pmax
        comp=Z,23nm,1.1s,mb4.6
TKM2    Tokmak 2    25.66 255 eP       P           10 15 01.9 +1.1
        comp=Z,23nm,1.1s,mb4.6
FRU     Bishkek     26.26 256 eP       P           10 15 09.0 +2.8
UCH     Uchtor      26.72 255 eP       P           10 15 12.3 +2.0
        comp=Z,6.2nm,0.8s,mb4.2
MJAR    Matsushiro Arr 26.76 123 P        P           10 15 10.2 -0.6
        comp=Z,1.4nm,0.8s,mb3.6,baz=324,slow=11,SNR=5.2
MJAR                         LR      LR          10 26 09.1
        comp=Z,213nm,19.2s,MS3.7,baz=320,slow=37
EKS2    Erkin-Say   26.84 257 eP       P           10 15 13.8 +2.3
        comp=Z,8.5nm,0.8s,mb4.3
SVE     Sverdlovsk  27.26 294⇓eP       P           10 15 15.6 +0.5
SVE                          eS      S           10 19 58.6 +4.7
SVE                          pmax    pmax
        comp=Z,30nm,0.9s,mb4.8
SVE                          MLR     MLR
        comp=Z,576nm,14.0s,MS4.3
PETK    Petropavlovsk-  27.32  75 P        P           10 15 15.1 -0.6
        comp=Z,1.7nm,0.6s,mb3.8,baz=292,slow=7.6,SNR=2.3
PETK                         LR      LR          10 26 45.1
        comp=Z,177nm,18.7s,MS3.7,baz=34,slow=38
PETK    Petropavlovsk-  27.32  75 P        P           10 15 15.1 -0.6
PETK                         LR      LR          10 26 45.1
BILL    Bilibino    28.16  41 eP       P           10 15 22.8 -0.2
BILL                         pmax    pmax
        comp=Z,10.0nm,1.2s,mb4.3
KK31    Karatay Array 28.37 261 P        P           10 15 34.0 +8.8
KK31                         pmax    pmax
        comp=Z,1.0nm,0.3s,mb3.9
ARU     Arti        28.47 294d iP       P           10 15 25.1 -0.8
ARU                          e                    10 16 12.0
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ARU *e*S **S** **10 20 15.3 +2.3**
ARU *e*SS 10 21 33.7
ARU pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
ARU MLR MLR
comp=Z,476nm,16.0s,MS4.2
ARU Arti 28.47 294 *e*P **P** **10 15 24.7 -1.2**
comp=Z,7.9nm,0.5s,mb4.6
GYA Guiyang 29.10 187 P **P** **10 15 34.3 +2.6**
GYA PP PP 10 16 28.3 -9.1
GYA PCP PcP 10 18 42.8 +3.3
GYA S **S** **10 20 24.5 +1.2**
GYA SS SS 10 21 53.0 -34
GYA SCP ScP 10 22 22.8 +2.1
GYA SCS ScS 10 26 14.3 -0.5
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,90nm,4.9s
GYA LR LR
comp=N,480nm,15.8s,MS4.3
GYA LR LR
comp=E,420nm,14.5s,MS4.3
GYA LR LR
comp=Z,460nm,15.0s,MS4.2
JHJ Hachijo jima 2 30.30 125 LR LR 10 27 59.0
comp=Z,105nm,18.4s,MS3.5,baz=313,slow=37
KMI Kunming 30.82 194 P **P** **10 15 47.0 0.0**
KMI AP pP 10 15 51.0 +1.0
KMI PP PP 10 16 50.5 -6.0
KMI S **S** **10 20 51.0 +0.7**
KMI SS SS 10 22 33.3 -28
KMI AMB AMB
comp=Z,7.0nm,0.6s,mb4.7
KMI AMB AMB
comp=Z,52nm,4.0s
KMI LR LR
comp=N,90nm,15.0s,MS4.0
KMI LR LR
comp=E,212nm,13.1s,MS4.0
KMI LR LR
comp=Z,149nm,11.3s,MS3.9
AB31 Akbulak array 30.83 280 *i*P **P** **10 15 46.1 -0.8**
AB31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
AKTK Aktyubinsk 31.31 283 P **P** **10 15 50.8 -0.3**
AKTK LR LR 10 29 24.4
AKTO Aktyubinsk 31.31 283 P **P** **10 15 50.8 -0.3**
comp=Z,2.4nm,0.6s,mb4.2,baz=77,slow=11,SNR=10
AKTO LR LR 10 29 24.4
comp=Z,197nm,19.2s,MS3.8,baz=67,slow=38
CBIJ Chichi jima 36.50 128 LR LR 10 32 55.2
comp=Z,42nm,18.0s,MS3.3,baz=237,slow=38
SPITS Spitsbergen Ar 37.25 340 P **P** **10 16 41.2 -1.1**
comp=Z,7.2nm,0.9s,mb4.5,baz=28,slow=8.8,SNR=4.8
KEV Kevo 37.49 325 *e*p **P** **10 16 43.2 -1.2**
comp=Z,12nm,0.6s,mb4.9
KEV Kevo 37.49 325 *e*P **P** **10 16 43.2 -1.2**
KEV pmax pmax
comp=Z,12nm,0.6s,mb4.9
CMAR Chiang Mai Arr 37.94 198 P **P** **10 16 47.9 -0.8**
comp=Z,0.7nm,0.4s,mb3.8,baz=5.9,slow=8.4,SNR=6.6
ARCES ARCESS Array B 38.06 325 P **P** **10 16 48.0 -1.2**
comp=Z,4.9nm,0.6s,mb4.4,baz=64,slow=10,SNR=43
ARCES PcP PcP 10 19 04.8 +0.7
comp=Z,0.7nm,0.5s,baz=88,slow=4.2,SNR=3.7
ARCES LR LR 10 36 55.3
comp=Z,82nm,19.6s,MS3.5,baz=184,slow=43
ARCES ARCESS Array B 38.06 325 P **P** **10 16 48.1 -1.1**
ARCES 10 19 04.8
TNA Tin City 38.59 41 *e*P **P** **10 16 53.6 -0.1**
comp=Z,21nm,0.9s,mb4.9
TNA *e*PP PP 10 18 22.4 +0.7
JOF Joensuu 38.72 314 *e*p **P** **10 16 53.3 -1.5**
comp=Z,5.8nm,0.7s,mb4.4
JOF Joensuu 38.72 314 *e*P **P** **10 16 53.3 -1.5**
JOF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
VRSR Storozhevoye 41.01 295 *e*P **P** **10 17 13.3 -0.7**
VRSR pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
VRSR pmax pmax
comp=N,3.0nm,0.5s
VRSR pmax pmax
comp=E,4.0nm,0.8s
KAF Kangasniemi 41.14 315 *e*p **P** **10 17 13.7 -1.2**
comp=E,6.9nm,0.6s,mb4.5,baz=60,slow=7.9
KAF Kangasniemi 41.14 315 *e*P **P** **10 17 13.7 -1.2**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
GOF Gofitskoye 42.66 285 *e*P **P** **10 17 28.2 +0.7**
IMA2 Indian Mountai 43.42 36 *e*P **P** **10 17 33.2 -0.2**
KIV Kislovodsk 43.56 284 *e*P **P** **10 17 35.6 +0.8**
KIV pmax pmax
comp=Z,24nm,1.0s,mb4.9
KIV MLR MLR
comp=Z,100nm,17.0s,MS3.8
COLD Coldfoot 43.88 34 *e*P **P** **10 17 35.8 -1.4**
comp=Z,3.3nm,0.8s,mb4.1
CHUM Lake Minchumin 45.18 38 *e*P **P** **10 17 48.0 +0.5**
comp=Z,7.9nm,0.6s,mb4.7
BPAW Bear Paw Mtn. 45.51 37 *e*P **P** **10 17 49.6 -0.5**
comp=Z,2μm,0.6s
PPLA Purkeypile 45.83 39 *e*P **P** **10 17 52.7 0.0**
comp=Z,16nm,1.4s,mb4.8
KTH Kantishna Hill 45.87 38 *e*P **P** **10 17 53.4 +0.4**
comp=Z,21nm,1.3s,mb4.9
COLA College 46.09 35 *e*P **P** **10 17 54.7 0.0**
COLA pmax pmax
comp=Z,11nm,1.0s,mb4.7
COLA College 46.09 35 *e*P **P** **10 17 54.6 0.0**
comp=Z,11nm,1.0s,mb4.8
AKASG Malin Array Be 46.36 300 P **P** **10 17 55.6 -1.4**
comp=Z,10.0nm,0.6s,mb5.0,baz=46,slow=8.8,SNR=80
AKASG LR LR 10 39 18.0
comp=Z,282nm,18.1s,MS4.3,baz=30,slow=39
KIEV Kiev 46.38 300 *e*P **P** **10 17 55.6 -1.5**
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIEV Kiev 46.38 300 *e*P **P** **10 17 55.6 -1.5**
comp=Z,7.5nm,0.8s,mb4.7
MCK McKinley 46.45 37 *e*P **P** **10 17 57.5 0.0**
MCK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MCK McKinley 46.45 37 *e*P **P** **10 17 57.5 0.0**
comp=Z,6.0nm,0.6s,mb4.7
NB2 NORSAR Subarra 47.63 319 P **P** **10 18 06.1 -0.7**
comp=Z,11nm,0.7s,mb5.0,baz=48,slow=7.4
NOA NORSAR Array B 47.63 319 P **P** **10 18 05.2 -1.6**
comp=Z,9.0nm,0.7s,mb4.9,baz=50,slow=7.7,SNR=26
NOA LR LR 10 40 01.4
comp=Z,66nm,20.9s,MS3.6,baz=35,slow=38
NOA NORSAR Array B 47.63 319 P **P** **10 18 05.2 -1.6**
NOA LR LR 10 40 01.4
PMR Palmer 47.77 39 *e*P **P** **10 18 07.6 -0.2**
PMR *e* 10 19 37.1
PMR pmax pmax
comp=Z,13nm,1.1s,mb4.9
PMR Palmer 47.77 39 *e*P **P** **10 18 07.6 -0.2**
comp=Z,13nm,1.1s,mb4.9
PMR *e*PcP PcP 10 19 37.1 +0.5
EGAK Eagle 48.30 33 *e*P **P** **10 18 11.3 -0.6**
comp=Z,10nm,1.1s,mb4.8
DAWY Dawson 49.34 33 *e*P **P** **10 18 19.4 -0.5**
EYAK Cordova Ski Ar 49.69 39 *e*P **P** **10 18 22.5 -0.1**
comp=Z,8.4nm,0.7s,mb4.9
MALT Malatya 49.73 281 ⇑*i*P **P** **10 18 25.1 +1.8**
MALT Malatya 49.73 281 *e*P **P** **10 18 20.6 -2.6**
comp=Z,8.1nm,0.9s,mb4.8
BMRM Bremner River 49.80 38 *e*P **P** **10 18 23.7 +0.3**
KWP Kalwaria 50.24 302 *e*P **P** **10 18 27.1 +0.1**
KWP Kalwaria 50.24 302 ⇑*i*P **P** **10 18 27.4 +0.4**
KWP Kalwaria 50.24 302 *e*P **P** **10 18 27.1 +0.1**
BURAR Bucovina Array 50.37 299 ⇑*i*P **P** **10 18 27.8 -0.2**
KOLS Kolonicke sedl 50.92 302 *e*P **P** **10 18 32.2 +0.1**
STHS Stebnicka Huta 51.09 303 *e*P **P** **10 18 34.8 +1.4**
STHS pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
STHS Stebnicka Huta 51.09 303 *e*P **P** **10 18 34.8 +1.4**
comp=Z,2.3nm,0.6s,mb4.3
CRVS Cervenica-Dubn 51.34 302 *e*P **P** **10 18 34.0 -1.2**
MLR Muntele Rosu 51.46 296 ⇑*i*P **P** **10 18 37.1 +0.9**
VOIR 51.95 297 ⇑*i*P **P** **10 18 40.2 +0.4**
VOIR 51.95 297 ⇑P **P** **10 18 40.2 +0.3**
KECS Kecovo 52.09 303 *e*P **P** **10 18 41.2 +0.3**
KECS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KECS Kecovo 52.09 303 *e*P **P** **10 18 41.2 +0.3**
comp=Z,5.9nm,0.7s,mb4.6
HYT Haines Junctio 52.31 35 *e*P **P** **10 18 43.7 +1.4**
KSP Ksiaz 52.42 307 *e*P **P** **10 18 43.6 +0.4**
KSP Ksiaz 52.42 307 *e*P **P** **10 18 43.3 +0.1**
MORC Moravsky Berou 52.59 305 ⇓*i*P **P** **10 18 44.6 +0.1**
MORC Moravsky Berou 52.59 305 ⇓P **P** **10 18 44.6 +0.1**
DPC Dobruska-Polom 52.75 307 *e*P **P** **10 18 46.1 +0.4**
UPC Upice 52.78 307 *e*P **P** **10 18 45.9 0.0**
VYHS Vyhne 52.88 303 *e*P **P** **10 18 46.7 0.0**
VYHS pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
VYHS Vyhne 52.88 303 *e*P **P** **10 18 46.7 0.0**
comp=Z,2.1nm,0.6s,mb4.2
PVCC Panska Ves 53.42 308 *e*P **P** **10 18 50.7 +0.1**
BRG Berggiesshubel 53.45 308 *e*P **P** **10 18 50.7 -0.2**
BRG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BRG Berggiesshubel 53.45 308 *e*P **P** **10 18 51.2 +0.3**
comp=Z,10.0nm,0.8s,mb4.8
BRG Berggiesshubel 53.45 308 *e*P **P** **10 18 50.7 -0.2**
comp=Z,10.0nm,0.8s,mb4.8
BZS Buzias 53.55 299 ⇑*i*P **P** **10 18 52.1 +0.4**
CLL Collm 53.56 309 ⇓*i*P **P** **10 18 51.2 -0.5**
CLL pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CLL MLR MLR
comp=Z,200nm,18.6s,MS4.2
CLL Collm 53.56 309 *e*P **P** **10 18 51.6 -0.1**
comp=Z,9.0nm,1.1s,mb4.6
CLL Collm 53.56 309 ⇓*i*P **P** **10 18 51.2 -0.5**
comp=Z,8.0nm,0.7s,mb4.8
CLL *e*PcP PcP 10 19 57.0 -1.2
CLL *e*(SS) 10 30 30.0
CLL Lm 10 43 00.0
comp=Z,200nm,18.6s
FBE Freiberg 53.68 309 *e*P **P** **10 18 52.8 +0.2**
comp=Z,8.0nm,0.8s,mb4.7
PRU Pruhonice 53.81 307 *e*P **P** **10 18 53.4 -0.1**
NRDL Niedersach Rie 53.96 312 *e*P **P** **10 18 55.1 +0.5**
comp=Z,15nm,1.1s,mb4.8
WERN Wernitzgruen 54.57 309 *e*P **P** **10 18 59.7 +0.6**
comp=Z,9.0nm,0.8s,mb4.8
PKSM Moragy 54.59 302 ⇑*i*P **P** **10 18 59.0 -0.2**
PKSM Moragy 54.59 302 ⇑P **P** **10 18 59.0 -0.2**
MOX Moxa 54.65 310 *e*P **P** **10 18 59.7 +0.1**
MOX Moxa 54.65 310 *e*P **P** **10 19 00.2 +0.6**
comp=Z,12nm,0.7s,mb5.0
CONA Conrad Observa 54.68 305 ⇑*i*P **P** **10 19 00.7 +0.8**
comp=Z,3.3nm,0.7s,mb4.5
CONA Conrad Observa 54.68 305 ⇑*i*pP **P** **10 19 00.7 +0.8**
comp=Z,3.3nm,0.7s,mb4.5
KHC Kasperske Hory 54.87 307 *e*P **P** **10 19 01.5 +0.3**
VTS Vitosha 54.90 296 ⇑*i*P **P** **10 19 02.0 +0.5**
VTS Vitosha 54.90 296 ⇑P **P** **10 19 02.0 +0.4**
MANZ Manzenberg 54.91 309 *e*P **P** **10 19 02.0 +0.5**
comp=Z,4.0nm,1.2s,mb4.3
GEC2 GERESS Array S 55.02 307 *e*P **P** **10 19 02.8 +0.5**
GEC2 pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
GEC2 GERESS Array S 55.02 307 *e*P **P** **10 19 02.8 +0.5**
comp=Z,7.0nm,1.1s,mb4.6
GERES GERESS Array B 55.02 307 P **P** **10 19 01.6 -0.7**
comp=Z,2.2nm,0.7s,mb4.3,baz=56,slow=8.2,SNR=10
GERES LR LR 10 44 48.8
comp=Z,122nm,19.8s,MS4.0,baz=280,slow=39
IBBN Ibbenburen 55.09 313 *e*P **P** **10 19 02.8 +0.1**
comp=Z,22nm,1.1s,mb5.1
WET Wettzell 55.17 308 *e*P **P** **10 19 04.2 +0.8**
WET pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
WET Wettzell 55.17 308 *e*P **P** **10 19 04.2 +0.8**
comp=Z,10.0nm,1.2s,mb4.7
UBBA Unterbreizbach 55.23 311 *e*P **P** **10 19 03.7 -0.1**
comp=Z,25nm,1.9s,mb4.9
MOA Molln 55.48 306 ⇑*i*P **P** **10 19 06.3 +0.6**
comp=Z,7.0nm,1.0s,mb4.7
MOA Molln 55.48 306 ⇑*i*pP **P** **10 19 06.3 +0.6**
comp=Z,7.0nm,1.0s,mb4.7
GRA1 Grafenberg Arr 55.52 309 *e*P **P** **10 19 06.8 +0.9**
comp=Z,29nm,1.5s,mb5.1
GRF Grafenberg Arr 55.52 309 *e*P **P** **10 19 06.8 +0.9**
GRF pmax pmax
comp=Z,29nm,1.5s,mb5.1
GRF Grafenberg Arr 55.52 309 *e*P **P** **10 19 06.8 +0.9**
GRF pmax pmax
comp=Z,29nm,1.5s,mb5.1
GRF Grafenberg Arr 55.52 309 *e*P **P** **10 19 06.8 +0.9**
comp=Z,29nm,1.5s,mb5.1
PERS Pernice 55.97 304 *i*P **P** **10 19 09.7 +0.6**
SOKA Soboth 55.97 304 ⇑*i*P **P** **10 19 10.0 +0.8**
SOKA Soboth 55.97 304 ⇑*i*pP **P** **10 19 10.0 +0.8**
OBKA Obir 56.33 304 ⇓*i*P **P** **10 19 12.4 +0.7**
comp=Z,24nm,0.7s,mb5.4
OBKA Obir 56.33 304 ⇓*i*pP **P** **10 19 12.4 +0.7**
comp=Z,24nm,0.7s,mb5.4
KBA Koelnbreinsper 56.47 306 ⇑*i*P **P** **10 19 13.8 +1.0**
comp=Z,12nm,0.8s,mb5.0
KBA Koelnbreinsper 56.47 306 ⇑*i*pP **P** **10 19 13.8 +1.0**
comp=Z,12nm,0.8s,mb5.0
KBA Koelnbreinsper 56.47 306 ⇑*i*P **P** **10 19 13.8 +1.0**
KBA pmax pmax
comp=Z,12nm,0.8s,mb5.0
VNDS Vrh nad Dolski 56.55 304 *i*P **P** **10 19 13.4 0.0**
MYKA Terra Mystica 56.66 305 ⇑*i*P **P** **10 19 15.1 +0.9**
comp=Z,12nm,0.7s,mb5.0
MYKA Terra Mystica 56.66 305 ⇑*i*pP **P** **10 19 15.1 +0.9**
comp=Z,12nm,0.7s,mb5.0
ESK Eskdalemuir 57.03 321 *e*P **P** **10 19 15.9 -0.7**
MEM Membach 57.08 313 P **P** **10 19 17.1 0.0**
YKA Yellowknife Ar 57.26 23 P **P** **10 19 15.5 -2.6**
comp=Z,3.2nm,0.8s,mb4.4,baz=333,slow=7.3,SNR=9.9
SKDS Skadanscina 57.29 304 *i*P **P** **10 19 18.1 -0.4**
BCLA Clavier 57.52 313 P **P** **10 19 20.0 -0.1**
FETA Feichten 57.71 307 ⇑*i*P **P** **10 19 22.5 +0.9**
comp=Z,12nm,1.2s,mb4.8
FETA Feichten 57.71 307 ⇑*i*pP **P** **10 19 22.5 +0.9**
comp=Z,12nm,1.2s,mb4.8
BFO Black Forest 57.80 310 *e*P **P** **10 19 22.4 +0.2**
BFO pmax pmax
comp=Z,17nm,1.5s,mb4.8
BFO Black Forest 57.80 310 *e*P **P** **10 19 22.4 +0.2**
comp=Z,17nm,1.5s,mb4.8
GIVF Givet 57.96 313 *e*P **P** **10 19 22.4 -0.8**
DOU Dourbes 58.06 313 P **P** **10 19 23.7 -0.2**
CDF Champ du Feu 58.20 310 *e*P **P** **10 19 24.4 -0.6**
comp=Z,29nm,1.2s,mb4.9
CDF Champ du Feu 58.20 310 *e*P **P** **10 19 24.4 -0.6**
CDF pmax pmax
comp=Z,14nm,1.2s,mb4.9
CDF Champ du Feu 58.20 310 *e*P **P** **10 19 24.4 -0.6**
comp=Z,14nm,1.2s,mb4.9
BAIF Baives 58.25 313 *e*P **P** **10 19 24.5 -0.8**
TUE Stuetta 58.75 307 *e*P **P** **10 19 29.0 +0.1**
comp=Z,19nm,1.3s,mb5.0
HINF Hinteralfeld 58.84 310 *e*P **P** **10 19 28.6 -0.8**
comp=Z,11nm,0.8s,mb4.7
HINF Hinteralfeld 58.84 310 *e*P **P** **10 19 28.6 -0.8**
HINF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
HINF Hinteralfeld 58.84 310 *e*P **P** **10 19 28.6 -0.8**
comp=Z,5.6nm,0.8s,mb4.7
HAU Haudompre 58.91 310 *e*P **P** **10 19 29.1 -0.8**
comp=Z,28nm,1.2s,mb4.9
HAU *e*MLR MLR
comp=Z,83nm,22.2s,MS3.5
HAU Haudompre 58.91 310 *e*P **P** **10 19 29.1 -0.8**
HAU pmax pmax
comp=Z,14nm,1.2s,mb4.9
HAU MLR MLR
comp=Z,80nm,22.3s,MS3.8
HAU Haudompre 58.91 310 *e*P **P** **10 19 29.1 -0.8**
comp=Z,14nm,1.2s,mb4.9
HAU LR LR
comp=Z,80nm,22.3s,MS3.8
MEZF Maizieres J'vi 59.09 312 *e*P **P** **10 19 30.6 -0.5**
comp=Z,29nm,0.8s,mb5.1
MEZF Maizieres J'vi 59.09 312 *e*P **P** **10 19 30.6 -0.5**
comp=Z,29nm,0.8s,mb5.4
AQU L'Aquila 59.97 302 ⇓*i*P **P** **10 19 38.2 +0.9**
AQU L'Aquila 59.97 302 *e*P **P** **10 19 37.4 +0.1**
comp=Z,32nm,0.9s,mb5.3
CABF La Chapelle 60.10 310 *e*P **P** **10 19 36.7 -1.4**
comp=Z,6.9nm,0.7s,mb4.5
CABF La Chapelle 60.10 310 *e*P **P** **10 19 36.7 -1.4**
CABF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CABF La Chapelle 60.10 310 *e*P **P** **10 19 36.7 -1.4**
comp=Z,3.5nm,0.7s,mb4.5
LOR Lormes 60.55 311 *e*P **P** **10 19 40.0 -1.2**
comp=Z,36nm,1.0s,mb5.2
LOR *e*MLR MLR
comp=Z,72nm,22.5s,MS3.5
LOR Lormes 60.55 311 *e*P **P** **10 19 40.0 -1.2**
LOR pmax pmax
comp=Z,18nm,1.0s,mb5.2
LOR MLR MLR
comp=Z,70nm,22.5s,MS3.8
LOR Lormes 60.55 311 *e*P **P** **10 19 40.0 -1.2**
comp=Z,18nm,1.0s,mb5.2
LOR LR LR
comp=Z,70nm,22.5s,MS3.8
LPL La Plagne 60.66 308 *e*P **P** **10 19 41.9 -0.1**
comp=Z,27nm,1.1s,mb5.0
LPL La Plagne 60.66 308 *e*P **P** **10 19 41.9 -0.1**
LPL pmax pmax
comp=Z,13nm,1.1s,mb5.0
LPL La Plagne 60.66 308 *e*P **P** **10 19 41.9 -0.1**
comp=Z,13nm,1.1s,mb5.0
LPG La Plagne 60.66 308 *e*P **P** **10 19 42.3 +0.3**
TIP Timpagrande 60.71 297 *e*P **P** **10 19 43.1 +0.7**
SSF Saint Saulge 60.87 311 *e*P **P** **10 19 42.2 -1.2**
comp=Z,34nm,1.0s,mb5.1
SSF Saint Saulge 60.87 311 *e*P **P** **10 19 42.2 -1.2**
SSF pmax pmax
comp=Z,17nm,1.0s,mb5.1
SSF Saint Saulge 60.87 311 *e*P **P** **10 19 42.2 -1.2**
comp=Z,17nm,1.0s,mb5.1
BNI Bardonecchia 61.04 308 *e*P **P** **10 19 44.9 +0.3**
BNI pmax pmax
comp=Z,12nm,0.9s,mb5.0
BNI Bardonecchia 61.04 308 *e*P **P** **10 19 44.9 +0.3**
comp=Z,12nm,0.9s,mb5.0
SMF Signal de Mont 61.05 311 *e*P **P** **10 19 43.4 -1.2**
comp=Z,26nm,0.8s,mb5.1
SMF Signal de Mont 61.05 311 *e*P **P** **10 19 43.4 -1.2**
SMF pmax pmax
comp=Z,13nm,0.8s,mb5.1
SMF Signal de Mont 61.05 311 *e*P **P** **10 19 43.4 -1.2**
comp=Z,13nm,0.8s,mb5.1
HYF Humbligny 61.07 312 *e*P **P** **10 19 43.9 -0.9**
AVF Avril sur Loir 61.14 311 *e*P **P** **10 19 44.0 -1.2**
comp=Z,13nm,0.8s,mb4.8
AVF Avril sur Loir 61.14 311 *e*P **P** **10 19 44.0 -1.2**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
AVF Avril sur Loir 61.14 311 *e*P **P** **10 19 44.0 -1.2**
comp=Z,6.6nm,0.8s,mb4.8
LDF La Druitiere 61.17 315 *e*P **P** **10 19 43.8 -1.6**
comp=Z,34nm,0.7s,mb5.3
LDF La Druitiere 61.17 315 *e*P **P** **10 19 43.8 -1.6**
LDF pmax pmax
comp=Z,17nm,0.7s,mb5.3
LDF La Druitiere 61.17 315 *e*P **P** **10 19 43.8 -1.6**
comp=Z,17nm,0.7s,mb5.3
FLN La Foliniere 61.18 315 *e*P **P** **10 19 43.8 -1.7**
comp=Z,27nm,0.7s,mb5.2
FLN *e*MLR MLR
comp=Z,100nm,21.2s,MS3.6
FLN La Foliniere 61.18 315 *e*P **P** **10 19 43.8 -1.7**
FLN pmax pmax
comp=Z,13nm,0.7s,mb5.2
FLN MLR MLR
comp=Z,100nm,21.3s,MS3.9
FLN La Foliniere 61.18 315 *e*P **P** **10 19 43.8 -1.7**
comp=Z,13nm,0.7s,mb5.2
FLN LR LR
comp=Z,100nm,21.3s,MS3.9
MBDF Montbardon 61.25 308 *e*P **P** **10 19 45.4 -0.6**
comp=Z,23nm,1.1s,mb4.9
MBDF Montbardon 61.25 308 *e*P **P** **10 19 45.4 -0.6**
MBDF pmax pmax
comp=Z,11nm,1.1s,mb4.9
MBDF Montbardon 61.25 308 *e*P **P** **10 19 45.4 -0.6**
comp=Z,11nm,1.1s,mb4.9
ORIF Oris-en-Rattie 61.50 308 *e*P **P** **10 19 47.4 -0.3**
comp=Z,21nm,1.2s,mb4.8
ORIF *e*MLR MLR
comp=Z,136nm,17.5s,MS3.9
ORIF Oris-en-Rattie 61.50 308 *e*P **P** **10 19 47.4 -0.3**
ORIF pmax pmax
comp=Z,11nm,1.2s,mb4.9
ORIF Oris-en-Rattie 61.50 308 *e*P **P** **10 19 47.4 -0.3**
comp=Z,11nm,1.2s,mb4.8
BGF Bois d'Agland 61.54 312 *e*P **P** **10 19 46.8 -1.2**
comp=Z,12nm,0.6s,mb4.9
BGF Bois d'Agland 61.54 312 *e*P **P** **10 19 46.8 -1.2**
BGF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
BGF Bois d'Agland 61.54 312 *e*P **P** **10 19 46.8 -1.2**
comp=Z,6.3nm,0.6s,mb4.9
SBF Sospel 61.62 307 *e*P **P** **10 19 47.7 -0.8**
comp=Z,65nm,1.1s,mb5.3
SBF Sospel 61.62 307 *e*P **P** **10 19 47.7 -0.8**
SBF pmax pmax
comp=Z,32nm,1.1s,mb5.4
SBF Sospel 61.62 307 *e*P **P** **10 19 47.7 -0.8**
comp=Z,32nm,1.1s,mb5.4
GRR Gorron 61.63 315 *e*P **P** **10 19 46.8 -1.7**
comp=Z,12nm,0.7s,mb4.8
GRR Gorron 61.63 315 *e*P **P** **10 19 46.8 -1.7**
GRR pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
GRR Gorron 61.63 315 *e*P **P** **10 19 46.8 -1.7**
comp=Z,5.8nm,0.6s,mb4.9
CEL Celeste 61.85 297 *e*P **P** **10 19 48.5 -1.6**
comp=Z,23nm,1.1s,mb5.2
PGF Pioggiola 61.92 305 *e*P **P** **10 19 50.1 -0.4**
comp=Z,14nm,0.9s,mb4.8
PGF Pioggiola 61.92 305 *e*P **P** **10 19 50.1 -0.4**
PGF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
PGF Pioggiola 61.92 305 *e*P **P** **10 19 50.1 -0.4**
comp=Z,7.2nm,0.9s,mb4.8
TCF Toulx Ste Croi 62.03 312 *e*P **P** **10 19 50.3 -0.9**
comp=Z,27nm,1.0s,mb5.0
TCF Toulx Ste Croi 62.03 312 *e*P **P** **10 19 50.3 -0.9**
TCF pmax pmax
comp=Z,13nm,1.0s,mb5.0
TCF Toulx Ste Croi 62.03 312 *e*P **P** **10 19 50.3 -0.9**
comp=Z,13nm,1.0s,mb5.0
VIVF Saint-Julien-l 62.09 309 *e*P **P** **10 19 51.0 -0.6**
comp=Z,10.0nm,0.7s,mb4.7
VIVF Saint-Julien-l 62.09 309 *e*P **P** **10 19 51.0 -0.6**
VIVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
VIVF Saint-Julien-l 62.09 309 *e*P **P** **10 19 51.0 -0.6**
comp=Z,5.0nm,0.7s,mb4.8
FRF La Foret Royal 62.22 307 *e*P **P** **10 19 51.5 -1.0**
comp=Z,34nm,1.0s,mb5.1
FRF La Foret Royal 62.22 307 *e*P **P** **10 19 51.5 -1.0**
FRF pmax pmax
comp=Z,17nm,1.0s,mb5.1
FRF La Foret Royal 62.22 307 *e*P **P** **10 19 51.5 -1.0**
comp=Z,17nm,1.0s,mb5.1
BBB Bella Bella 62.34 36 P **P** **10 19 52.9 -0.3**
comp=Z,1.7nm,0.7s,mb4.3,baz=198,slow=15,SNR=2.4
SMRF Simiane la Rot 62.38 308 *e*P **P** **10 19 52.9 -0.7**
comp=Z,14nm,0.8s,mb4.8
SMRF Simiane la Rot 62.38 308 *e*P **P** **10 19 52.9 -0.7**
comp=Z,14nm,0.8s,mb5.1
SGMF Saint Gilles 62.41 316 *e*P **P** **10 19 52.6 -1.2**
comp=Z,24nm,0.7s,mb5.1
SGMF Saint Gilles 62.41 316 *e*P **P** **10 19 52.6 -1.2**
SGMF pmax pmax
comp=Z,12nm,0.7s,mb5.1
SGMF Saint Gilles 62.41 316 *e*P **P** **10 19 52.6 -1.2**
comp=Z,12nm,0.7s,mb5.1
LMR La Mourre 62.45 307 *e*P **P** **10 19 54.7 +0.6**
comp=Z,18nm,1.0s,mb4.9
LMR La Mourre 62.45 307 *e*P **P** **10 19 54.7 +0.6**
LMR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LMR La Mourre 62.45 307 *e*P **P** **10 19 54.7 +0.6**
comp=Z,9.0nm,1.0s,mb4.8
ROSF Rostrenen 62.63 317 *e*P **P** **10 19 53.9 -1.3**
comp=Z,26nm,0.8s,mb5.1
ROSF Rostrenen 62.63 317 *e*P **P** **10 19 53.9 -1.3**
ROSF pmax pmax
comp=Z,13nm,0.8s,mb5.1
ROSF Rostrenen 62.63 317 *e*P **P** **10 19 53.9 -1.3**
comp=Z,13nm,0.8s,mb5.1

MFF	Saint Martin d	62.76	313	eP	P	10 19 55.1	-1.0
	comp=Z,32nm,0.8s,mb5.2						
MFF	Saint Martin d	62.76	313	eP	P	10 19 55.1	-1.0
MFF				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.2						
MFF	Saint Martin d	62.76	313	eP	P	10 19 55.1	-1.0
	comp=Z,16nm,0.8s,mb5.2						
QUIF	Quistinic	62.93	316	eP	P	10 19 55.9	-1.3
	comp=Z,45nm,0.8s,mb5.3						
QUIF	Quistinic	62.93	316	eP	P	10 19 55.9	-1.3
QUIF				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.4						
QUIF	Quistinic	62.93	316	eP	P	10 19 55.9	-1.3
	comp=Z,22nm,0.8s,mb5.3						
LASF	Ste Croix	63.06	309	eP	P	10 19 58.1	-0.1
	comp=Z,29nm,1.2s,mb5.0						
RJF	Les Rejaudoux	63.10	312	eP	P	10 19 57.6	-0.8
	comp=Z,19nm,1.0s,mb4.9						
RJF				eMLR	MLR		
	comp=Z,82nm,20.2s,MS3.6						
RJF	Les Rejaudoux	63.10	312	eP	P	10 19 57.6	-0.8
RJF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
RJF				MLR	MLR		
	comp=Z,80nm,20.3s,MS3.9						
RJF	Les Rejaudoux	63.10	312	eP	P	10 19 57.6	-0.8
	comp=Z,9.7nm,1.0s,mb4.9						
RJF				LR	LR		
	comp=Z,80nm,20.3s,MS3.9						
CAF	Calviac	63.17	311	eP	P	10 19 58.6	-0.3
	comp=Z,9.3nm,0.8s,mb4.6						
CAF	Calviac	63.17	311	eP	P	10 19 58.6	-0.3
CAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
CAF	Calviac	63.17	311	eP	P	10 19 58.6	-0.3
	comp=Z,4.7nm,0.8s,mb4.7						
MTLF	Montolieu	64.37	310	eP	P	10 20 06.6	-0.2
	comp=Z,20nm,1.1s,mb4.7						
MTLF	Montolieu	64.37	310	eP	P	10 20 06.6	-0.2
MTLF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
MTLF	Montolieu	64.37	310	eP	P	10 20 06.6	-0.2
	comp=Z,9.8nm,1.1s,mb4.8						
EJON	La Jonquera	64.78	309	P	P	10 20 09.1	-0.5
	comp=Z,29nm,2.3s,mb4.9						
EPF	Esparros	65.43	311	eP	P	10 20 12.8	-0.9
	comp=Z,12nm,0.7s,mb4.7						
EPF	Esparros	65.43	311	eP	P	10 20 12.8	-0.9
EPF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
EPF	Esparros	65.43	311	eP	P	10 20 12.8	-0.9
	comp=Z,6.1nm,0.7s,mb4.7						
EBIE	Bielsa	65.80	311	P	P	10 20 16.9	+0.9
	comp=Z,74nm,3.4s						
EMIR	Miracle	65.81	309	P	P	10 20 16.1	-0.1
	comp=Z,93nm,3.6s						
EDM	Edmonton	65.85	27	eP	P	10 20 15.4	-0.8
ETSF	Etsaut	65.92	311	eP	P	10 20 17.1	+0.2
	comp=Z,6.1nm,0.6s,mb4.5						
ETSF	Etsaut	65.92	311	eP	P	10 20 17.1	+0.2
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ETSF	Etsaut	65.92	311	eP	P	10 20 17.1	+0.2
	comp=Z,3.0nm,0.6s,mb4.5						
SJPF	Ste Jean	66.03	312	eP	P	10 20 17.9	+0.3
	comp=Z,10nm,0.9s,mb4.6						
SJPF	Ste Jean	66.03	312	eP	P	10 20 17.9	+0.3
SJPF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
SJPF	Ste Jean	66.03	312	eP	P	10 20 17.9	+0.3
	comp=Z,5.1nm,0.9s,mb4.5						
EPOB	Poblet	66.47	309	P	P	10 20 20.1	-0.3
	comp=Z,19nm,1.1s,mb5.0						
KEST	Kesra	67.09	300	P	P	10 20 23.7	-0.8
	comp=Z,0.9nm,0.9s,mb3.8,baz=6.6,slow=11,SNR=4.7						
KEST				LR	LR	10 52 55.4	
	comp=Z,45nm,18.6s,MS3.7,baz=305,slow=39						
EARI	Arriondas	67.53	315	P	P	10 20 26.5	-0.7
	comp=Z,235nm,2.2s,mb5.8						
A07A	Ashnola River,	67.55	33	⇓P	P	10 20 26.2	-1.0
	baz=67						
B05A	Bryant	67.69	35	⇑P	P	10 20 27.7	-0.4
	baz=67						
JCW	Jim Creek	67.81	35	eP	P	10 20 28.5	-0.3
NLWA	Neilton Lookou	67.86	37	⇓P	P	10 20 29.3	+0.2
	baz=68						
A08A	Turner Farm, O	67.98	33	⇓P	P	10 20 29.6	-0.2
	baz=68						
A09A	Danville	68.17	32	⇓P	P	10 20 30.7	-0.4
	baz=68						
ETOR	Torete	68.27	311	P	P	10 20 32.5	+0.7
ETOR				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
ETOR	Torete	68.27	311	P	P	10 20 32.5	+0.7
	comp=Z,12nm,0.9s,mb4.9						
A10A	Northport	68.48	32	⇑P	P	10 20 32.6	-0.4
	baz=68						
B08A	Colville Reser	68.49	33	⇑P	P	10 20 32.7	-0.4
	baz=68						
D05A	Enumclaw	68.67	35	⇓P	P	10 20 34.0	-0.2
	baz=68						
ETW	Entiat	68.84	34	eP	P	10 20 34.9	-0.4
C07A	Waterville	68.85	34	⇑P	P	10 20 34.7	-0.6
	baz=68						
A11A	Hall Mountain,	68.85	31	⇑P	P	10 20 35.5	+0.1
	baz=68						
LON	Longmire	69.11	36	eP	P	10 20 36.1	-0.9
LON				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LON	Longmire	69.11	36	eP	P	10 20 36.1	-0.9
	comp=Z,2.6nm,0.7s,mb4.3						
GUD	Guadarrama	69.31	312	P	P	10 20 38.9	+0.6
GUD				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
GUD	Guadarrama	69.31	312	P	P	10 20 38.9	+0.6
	comp=Z,1.9nm,0.7s,mb4.1						
C09A	Chrisman Ranch	69.31	33	⇓P	P	10 20 37.8	-0.4
	baz=69						
D07A	Quincy	69.32	34	⇑P	P	10 20 37.6	-0.6
	baz=69						
WALA	Waterton Lakes	69.47	29	eP	P	10 20 38.5	-0.6
E06A	Yakima	69.57	35	⇓P	P	10 20 39.6	-0.2
	baz=69						
D08A	Wollman Farm,	69.77	34	⇑P	P	10 20 40.7	-0.4
	baz=69						
E07A	Sunnyside	69.92	34	⇓P	P	10 20 41.9	-0.1
	baz=70						
D09A	Jones Farm, Ri	69.96	33	⇓P	P	10 20 42.5	+0.3
	baz=70						
F05A	White Salmon	69.99	36	⇑P	P	10 20 42.6	+0.2
	baz=70						
ESDC	Sonseca Array	70.03	312	P	P	10 20 42.3	-0.4
	comp=Z,3.9nm,0.6s,mb4.5,baz=28,slow=6.6,SNR=12						
SCHQ	Schefferville	70.05	358	P	P	10 20 41.5	-1.2
	comp=Z,5.0nm,0.7s,mb4.6,baz=326,slow=5.1,SNR=6.9						
HAWA	Hanford	70.17	34	eP	P	10 20 43.9	+0.4
	comp=Z,7.9nm,1.2s,mb4.5						
E08A	Dider Farm, El	70.23	34	⇓P	P	10 20 43.8	-0.1
	baz=70						
G04A	Mulino	70.24	37	⇑P	P	10 20 43.6	-0.3
	baz=70						
EVIA	Vianos	70.26	310	P	P	10 20 45.6	+1.4
EVIA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
EVIA	Vianos	70.26	310	P	P	10 20 45.6	+1.4
	comp=Z,7.0nm,1.0s,mb4.5						
D10A	Wagner Farm, O	70.28	32	⇓P	P	10 20 44.2	0.0
	baz=70						
F07A	Phinny Hill Vi	70.48	35	⇓P	P	10 20 45.8	+0.4
	baz=70						
E09A	Wood Farm, Sta	70.50	33	⇑P	P	10 20 45.2	-0.4
	baz=70						
C13A	Hot Springs	70.53	30	⇓P	P	10 20 45.9	+0.2
	baz=70						
C14A	Swan Lake	70.68	30	⇑P	P	10 20 46.2	-0.4
	baz=70						
G06A	Carlson Farm,	70.83	36	⇑P	P	10 20 47.7	+0.2
	baz=70						
F08A	Pendleton	70.94	34	⇑P	P	10 20 48.7	+0.5
	baz=71						
EHUE	Huescar	70.99	310	P	P	10 20 50.4	+1.8
EHUE				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
EHUE	Huescar	70.99	310	P	P	10 20 50.4	+1.8
	comp=Z,2.5nm,1.1s,mb4.1						
I03A	Eugene	71.04	38	⇓P	P	10 20 48.9	+0.1
	baz=71						
D13A	Huson	71.09	31	⇓P	P	10 20 49.3	+0.2
	baz=71						
G07A	Ruggs Ranch, H	71.12	35	⇑P	P	10 20 49.5	+0.2
	baz=71						
E11A	Bogner Ranch,	71.24	32	⇓P	P	10 20 50.1	+0.1
	baz=71						
F10A	Beach Ranch, E	71.27	33	⇓P	P	10 20 50.2	0.0
	baz=71,SNR=9.0						
G08A	Pilot Rock	71.33	34	⇓P	P	10 20 50.8	+0.2
	baz=71						
D14A	Greenough	71.37	30	⇑P	P	10 20 50.8	0.0
	baz=71,SNR=13						
H06A	Lindquist Farm	71.38	36	⇓P	P	10 20 51.0	+0.2
	baz=71						
CHMT	Chamberlain Mo	71.60	30	eP	P	10 20 51.4	-0.8
F11A	Grangeville	71.67	32	⇓P	P	10 20 52.7	0.0
	baz=71,SNR=5.9						
E13A	Victor	71.76	31	⇓P	P	10 20 52.7	-0.5
	baz=71,SNR=7.0						
G10A	Bishop Farm, J	71.91	33	⇑P	P	10 20 54.2	+0.1
	baz=72,SNR=6.0						
ELUQ	Luque	71.93	311	P	P	10 20 55.1	+0.8
ELUQ				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
ELUQ	Luque	71.93	311	P	P	10 20 55.1	+0.8
	comp=Z,11nm,0.7s,mb4.9						
E14A	Clinton	71.98	30	⇓P	P	10 20 54.5	0.0
	baz=72						
K02A	Glendale	72.02	39	⇓P	P	10 20 55.0	+0.2
	baz=72						
F12A	Elk City	72.06	32	⇑P	P	10 20 54.4	-0.6
	baz=72						
G11A	Walters Elk Ra	72.08	33	⇑P	P	10 20 55.4	+0.3
	baz=72,SNR=9.6						
EBAD	Badajoz	72.09	313	P	P	10 20 55.3	+0.1
	comp=Z,22nm,1.7s,mb4.8						
J04A	Umpqua Nationa	72.09	38	⇑P	P	10 20 55.8	+0.6
	baz=72						
H08A	Prairie City	72.11	35	⇑P	P	10 20 55.7	+0.4
	baz=72						
I06A	Prineville	72.12	36	⇑P	P	10 20 56.1	+0.8
	baz=72						
I07A	Izee	72.23	35	⇓P	P	10 20 56.6	+0.5
	baz=72						
BMO	Blue Mountains	72.25	34	eP	P	10 20 56.0	-0.1
	comp=Z,5.9nm,0.9s,mb4.5						
H09A	Durkee	72.30	34	⇓P	P	10 20 56.6	+0.2
	baz=72						
F13A	Darby	72.31	31	⇑P	P	10 20 56.3	-0.1
	baz=72						
J05A	Fort Rock	72.35	37	⇓P	P	10 20 57.3	+0.6
	baz=72						
I08A	Drewsey	72.69	35	⇓P	P	10 20 59.3	+0.5
	baz=72						
EVO	Evora	72.69	314	eP	P	10 20 58.6	-0.3
	comp=Z,21nm,1.1s,mb4.7						
EVO				eMLR	MLR		
	comp=Z,78nm,17.0s,MS3.8						
J06A	Christmas Vall	72.75	36	⇓P	P	10 20 59.8	+0.7
	baz=72,SNR=5.6						
EMIN	Mina Concepcio	72.78	312	P	P	10 20 60.0	+0.5
	comp=Z,23nm,1.3s,mb5.0						
H11A	Donnelly	72.78	33	⇓P	P	10 20 59.7	+0.4
	baz=72,SNR=6.4						
I09A	Lost Marbles R	72.90	34	⇑P	P	10 21 00.0	0.0
	baz=73,SNR=8.0						
K05A	Summer Lake	72.97	37	⇓P	P	10 21 01.0	+0.6
	baz=73						
G13A	Cobalt	72.97	31	⇓P	P	10 20 59.8	-0.6
	baz=73						
L04A	Klamath Falls	73.11	38	⇑P	P	10 21 01.5	+0.2
	baz=73						
K06A	Valley Falls	73.12	36	⇑P	P	10 21 02.4	+1.1
	baz=73						
DLMT	Dillon	73.20	30	eP	P	10 21 01.6	-0.2
	comp=Z,2.6nm,0.6s,mb4.3						
YBH	Yreka Blue Hor	73.21	39	P	P	10 21 01.5	-0.4
	comp=Z,1.1nm,0.6s,mb3.9,baz=258,slow=9.3,SNR=3.2						
J08A	Circle Bar Ran	73.21	35	⇑P	P	10 21 02.5	+0.7
	baz=73						
BOZ	Bozeman (W)	73.21	29	⇓P	P	10 21 01.7	-0.1
	baz=73						
G15A	Dillon	73.41	30	⇓P	P	10 21 02.8	-0.2
	baz=73,SNR=6.5						
J09A	Fry Pan Ranch,	73.46	35	⇑P	P	10 21 03.7	+0.4
	baz=73						
I11A	Placerville	73.52	33	⇓P	P	10 21 03.4	-0.2
	baz=73						
K07A	Rock Creek Ran	73.55	36	⇓P	P	10 21 03.9	+0.1
	baz=73						
H14A	Leadore	73.66	31	⇑P	P	10 21 04.1	-0.4
	baz=73						
K08A	Mann Creek Ran	73.77	35	⇑P	P	10 21 05.3	+0.2
	baz=73						
H15A	Lima	73.87	30	⇑P	P	10 21 05.6	-0.1
	baz=74						
MOD	Modoc	73.90	37	⇓P	P	10 21 06.5	+0.6
	baz=74						
MOD	Modoc	73.90	37	eP	P	10 21 06.5	+0.6
	comp=Z,5.4nm,1.0s,mb4.4						
MFID	Camas Ranch	74.01	33	⇑P	P	10 21 06.3	-0.2
	baz=74						
K09A	Rome	74.05	35	⇑P	P	10 21 07.0	+0.2
	baz=74						
I13A	Wildhorse Cree	74.08	32	⇑P	P	10 21 07.2	+0.3
	baz=74						
L07A	Adell	74.12	36	⇑P	P	10 21 07.9	+0.7
	baz=74						
K10A	MacKenzie Ranc	74.25	34	⇓P	P	10 21 08.2	+0.2
	baz=74,SNR=6.2						
L08A	Fields	74.30	35	⇓P	P	10 21 08.6	+0.3
	baz=74						
HLID	Hailey	74.31	32	⇓P	P	10 21 07.9	-0.3
	baz=74						
J12A	Stokes Ranch,	74.38	33	⇓P	P	10 21 08.6	-0.1
	baz=74,SNR=6.4						
K11A	Parker Ranch,	74.52	34	⇓P	P	10 21 10.0	+0.4
	baz=74						
J13A	Cove Ranch, Pi	74.53	32	⇑P	P	10 21 09.9	+0.3
	baz=74						
L09A	Wilkinson Ranc	74.67	35	⇑P	P	10 21 10.9	+0.4
	baz=74						
J14A	Carey	74.79	32	⇑P	P	10 21 11.6	+0.5
	baz=74						
I16A	Newdale	74.88	30	⇓P	P	10 21 12.7	+1.1
	baz=74						
M08A	Happy Creek Ra	74.95	36	⇓P	P	10 21 12.8	+0.7
	baz=75						
K12A	Draper Farm, C	75.00	33	⇓P	P	10 21 13.0	+0.7
	baz=75						
L10A	Juniper Basin	75.01	34	⇑P	P	10 21 12.8	+0.4
	baz=75						
O04C	Chester	75.03	38	⇑P	P	10 21 13.1	+0.6
	baz=75						
J15A	Blackfoot	75.04	31	⇑P	P	10 21 13.0	+0.4
	baz=75						
N06A	Buffalo Meadow	75.08	37	⇑P	P	10 21 13.4	+0.6
	baz=75						
L11A	Cat Creek Ranc	75.16	34	⇓P	P	10 21 14.0	+0.8
	baz=75						
K13A	Stover Farm, H	75.24	32	⇑P	P	10 21 14.4	+0.7
	baz=75						
M09A	Marrel Ranch,	75.28	35	⇓P	P	10 21 14.9	+0.9
	baz=75						
LOHW	Long Hollow	75.37	29	eP	P	10 21 15.3	+0.8
J16A	Bone	75.40	30	⇓P	P	10 21 14.6	0.0
	baz=75						
L12A	House Creek Ra	75.41	33	⇓P	P	10 21 15.0	+0.3
	baz=75						
RRI2	Red Ridge	75.41	30	eP	P	10 21 14.3	-0.4
	comp=Z,21nm,1.9s,mb4.8						
SNOW	Snow King Moun	75.47	30	eP	P	10 21 14.9	-0.1
	comp=Z,32nm,2.3s,mb4.8						
REDW	Red Top Meadow	75.53	30	eP	P	10 21 16.2	+0.9
	comp=Z,10nm,1.5s,mb4.5						
K14A	Jones Ranch, D	75.61	32	⇑P	P	10 21 16.5	+0.7
	baz=75						
O06A	Flanigan	75.61	37	⇑P	P	10 21 16.6	+0.7
	baz=75						
N08A	GE Springer Mi	75.63	36	⇓P	P	10 21 16.4	+0.5
	baz=75						
K15A	Arbon	75.67	31	⇓P	P	10 21 16.7	+0.5
	baz=75						
BEKR	Beckwourth	75.69	38	⇓P	P	10 21 16.4	+0.1
	baz=75						
N09A	Rock Creek Ran	75.77	35	⇑P	P	10 21 17.6	+0.8
	baz=75						
L13A	Double Diamond	75.79	32	⇓P	P	10 21 18.2	+1.3
	baz=75						
M11A	Holland Ranch,	75.81	34	⇑P	P	10 21 18.2	+1.2
	baz=76						
O07A	Toulon	75.94	37	⇑P	P	10 21 18.5	+0.7
	baz=76						
L14A	Malta	76.05	32	⇓P	P	10 21 19.0	+0.7
	baz=76						
O08A	Rochester Mine	76.06	36	⇓P	P	10 21 19.2	+0.7
	baz=76						
M12A	Wells	76.10	33	⇓P	P	10 21 19.1	+0.4
	baz=76						
L15A	Malad City	76.34	31	⇑P	P	10 21 20.0	0.0
	baz=76						
N11A	Elko Archery C	76.39	34	⇓P	P	10 21 21.3	+1.1
	baz=76						
WCN	Washoe City	76.40	38	⇓P	P	10 21 21.3	+0.9
	baz=76						
PDAR	Pinedale Array	76.44	29	P	P	10 21 19.4	-1.2
	comp=Z,0.5nm,0.6s,mb3.6,baz=9.1,slow=4.2,SNR=6.8						
O09A	Fish Creek Ran	76.50	36	⇑P	P	10 21 21.3	+0.3
	baz=76						
M14A	Sheep Mountain	76.51	32	⇓P	P	10 21 21.1	+0.2
	baz=76						
LAVA	Lava Cap Winer	76.54	39	⇑P	P	10 21 20.9	-0.3
	baz=76						
N12A	Clover Valley,	76.58	34	⇓P	P	10 21 21.7	+0.3
	baz=76						
L16A	Fish Haven	76.61	31	⇑P	P	10 21 21.6	0.0
	baz=76						
ELK	Elko	76.61	34	eP	P	10 21 22.0	+0.4
ELK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ELK	Elko	76.61	34	eP	P	10 21 22.0	+0.4
	comp=Z,2.2nm,0.7s,mb4.2						
R05C	Kirkwood Meado	76.82	38	⇑P	P	10 21 22.3	-0.5
	baz=76						
O11A	Cowboy Ranch,	77.03	34	⇑P	P	10 21 24.4	+0.5
	baz=77						
N14A	Grayback Hills	77.15	32	⇑P	P	10 21 24.9	+0.3
	baz=77						
O12A	Currie	77.20	34	⇑P	P	10 21 25.0	+0.1
	baz=77						
Q08A	Gabbs	77.42	37	⇓P	P	10 21 26.5	+0.4
	baz=77						
O13A	Hicks Ranch, I	77.56	33	⇓P	P	10 21 27.0	+0.1
	baz=77						
NVAR	Mina Array Bea	77.68	37	P	P	10 21 27.9	+0.3
	comp=Z,1.4nm,0.7s,mb4.0,baz=306,slow=4.6,SNR=12						
R07C	Lee Vining	77.73	38	⇑P	P	10 21 27.9	0.0
	baz=77						
N17A	Moffit Pass	77.77	31	⇑P	P	10 21 28.0	-0.1
	baz=77						
WRA	Warramunga Arr	77.82	157	P	P	10 21 27.6	-0.7
	comp=Z,4.0nm,1.1s,mb4.3,baz=349,slow=6.0,SNR=24						
DUG	Dugway	77.87	32	eP	P	10 21 28.5	-0.1
DUG				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
DUG	Dugway	77.87	32	eP	P	10 21 28.5	-0.1
	comp=Z,5.2nm,1.1s,mb4.4						
P12A	McGill	77.87	34	⇓P	P	10 21 28.6	0.0
	baz=78						
P13A	Bates Ranch, G	78.17	34	⇓P	P	10 21 30.1	-0.2
	baz=78						
Q11A	Duckwater	78.20	35	⇓P	P	10 21 30.6	+0.1
	baz=78						
R09A	Tonopah	78.28	36	⇑P	P	10 21 30.7	-0.3
	baz=78						
Q12A	Willow Creek R	78.29	34	⇓P	P	10 21 31.4	+0.5
	baz=78						
NLU	North Lily Min	78.31	32	eP	P	10 21 31.2	+0.2
O17A	Robinson Place	78.49	31	⇑P	P	10 21 32.7	+0.7
	baz=78						
R10A	Warm Springs	78.49	36	⇓P	P	10 21 32.6	+0.5
	baz=78						
S08C	White Mtn Res	78.56	37	⇑P	P	10 21 33.3	+0.7
	baz=78						
P15A	Leamington	78.60	32	⇓P	P	10 21 33.0	+0.3
	baz=78						
Q13A	Wheeler Ranch,	78.62	34	⇑P	P	10 21 33.4	+0.6
	baz=78						
O18A	Roosevelt	78.63	30	⇑P	P	10 21 33.5	+0.7
	baz=78						
R11A	Troy Canyon, C	78.67	35	⇑P	P	10 21 33.3	+0.2
	baz=78						
S09A	Goldfield	78.69	37	⇓P	P	10 21 33.3	+0.1
	baz=78						
S10A	Tonopah Range,	78.72	36	⇑P	P	10 21 34.0	+0.6
	baz=78						
Q14A	Sevier Lake (B	78.83	33	⇓P	P	10 21 34.2	+0.2
	baz=78						
R12A	Pony Springs,	79.01	34	⇑P	P	10 21 35.0	+0.1
	baz=79						
Q15A	Fillmore	79.09	33	⇓P	P	10 21 35.7	+0.3
	baz=79						
P17A	Butcher Ranch,	79.15	31	⇑P	P	10 21 35.8	+0.1
	baz=79						
S11A	Rachel	79.26	36	⇓P	P	10 21 36.3	0.0
	baz=79						
MSU	Marysvale	79.61	33	eP	P	10 21 39.3	+1.1
Q18A	Rafter H Ranch	79.67	31	⇑P	P	10 21 38.0	-0.6
	baz=79						
T11A	Corn Creek, Al	79.80	35	⇑P	P	10 21 39.0	-0.3
	baz=80						
S13A	Holt Ranch, En	79.93	34	⇓P	P	10 21 40.0	0.0
	baz=80						
FURC	Furnace Creek,	79.94	37	⇑P	P	10 21 40.0	-0.1
	baz=80						
R16A	Teasdale	80.03	32	⇑P	P	10 21 40.8	+0.3
	baz=80						
Q19A	Hogan Spring (	80.06	30	⇑P	P	10 21 40.0	-0.7
	baz=80						
MPMC	Manual Prospec	80.10	38	⇑P	P	10 21 41.4	+0.5
	baz=80						
R17A	Hanksville Air	80.14	32	⇓P	P	10 21 40.7	-0.4
	baz=80						
S15A	Panguitch	80.32	33	⇓P	P	10 21 42.4	+0.3
	baz=80						
R18A	Canyonlands Na	80.41	31	⇑P	P	10 21 42.1	-0.4
	baz=80						
T13A	Saint George	80.43	35	⇑P	P	10 21 43.2	+0.5
	baz=80						
SHPR	Sheep Range	80.49	36	eP	P	10 21 44.1	+1.1
S16A	Weppner Ranch,	80.51	33	⇑P	P	10 21 43.7	+0.6
	baz=80						
T14A	Hurricane	80.65	34	⇑P	P	10 21 44.1	+0.2
	baz=80						
R19A	Curley Farm, L	80.68	31	⇑P	P	10 21 43.9	-0.1
	baz=80						
MIV	Mineville/With	80.79	3	eP	P	10 21 38.4	-6.1
S17A	Black Ridge (B	80.83	32	⇓P	P	10 21 45.0	+0.2
	baz=80						
S18A	Hurst Farm, Bl	81.02	31	⇓P	P	10 21 45.5	-0.3
	baz=81						
U14A	Mt Trumbull	81.21	34	⇑P	P	10 21 46.9	0.0
	baz=81						
S19A	Harvey Farm, M	81.22	31	⇑P	P	10 21 46.9	-0.1
	baz=81						
V12A	Nelson	81.30	36	⇑P	P	10 21 47.0	-0.4
	baz=81						
ASAR	Alice Springs	81.33	158	P	P	10 21 47.4	0.0
	comp=Z,0.6nm,0.5s,mb3.8,baz=357,slow=4.7,SNR=12						
T18A	Mexican Hat	81.57	31	⇑P	P	10 21 48.5	-0.3
	baz=81		

PFO	Pinyon Flat Ob	82.67	38	⇓P	P	10 21 55.0	+0.4
	baz=82						
V18A	Ganado	82.87	32	⇑P	P	10 21 56.0	+0.3
	baz=82						
BC3	Big Chuckw Mtn	82.98	37	⇓P	P	10 21 56.7	+0.5
	baz=83						
X15A	Humboldt	83.29	34	⇓P	P	10 21 57.8	0.0
	baz=83						
X16A	Lo Mia Camp, P	83.60	34	⇓P	P	10 21 59.9	+0.5
	baz=83						
GLA	Glamis	83.74	37	⇓P	P	10 22 00.5	+0.4
	baz=83						
Y15A	Casa Rosa Ranc	83.75	35	⇓P	P	10 22 00.5	+0.4
	baz=83						
X17A	Forest Lakes	83.88	33	⇑P	P	10 22 01.5	+0.7
	baz=84						
X18A	Snowflake	83.96	32	⇓P	P	10 22 02.1	+0.8
	baz=84						
Y16A	Circle Bar Ran	84.09	34	⇓P	P	10 22 02.5	+0.6
	baz=84						
X19A	St. Johns	84.26	32	⇓P	P	10 22 03.4	+0.6
	baz=84						
Y17A	Roosevelt	84.46	33	⇓P	P	10 22 04.0	+0.2
	baz=84						
ANMO	Albuquerque	84.60	30	eP	P	10 22 04.9	+0.4
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANMO	Albuquerque	84.60	30	eP	P	10 22 04.9	+0.4
	comp=Z,2.1nm,0.8s,mb4.3						
Y18A	Canyon Day Jun	84.63	33	⇑P	P	10 22 05.3	+0.6
	baz=84						
Y19A	Nutrioso	84.71	32	⇓P	P	10 22 05.8	+0.7
	baz=84						
LAZ	Ladron	84.92	30	eP	P	10 22 05.9	-0.2
214A	Organ Pipe Nat	85.42	36	⇓P	P	10 22 08.7	0.0
	baz=85						
119A	Ashpeak Ranch,	85.80	33	⇑P	P	10 22 11.2	+0.7
	baz=86						
217A	Green Valley	86.24	34	⇓P	P	10 22 12.7	0.0
	baz=86						
219A	White Tail Can	86.52	33	⇑P	P	10 22 14.5	+0.4
	baz=86						
WMOK	Wichita Mounta	86.76	24	eP	P	10 22 15.5	+0.3
WMOK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.9						
WMOK	Wichita Mounta	86.76	24	eP	P	10 22 15.5	+0.2
	comp=Z,8.8nm,1.2s,mb4.9						
UTMT	University of	87.09	15	eP	P	10 22 17.4	+0.5
319A	Douglas	87.09	33	⇑P	P	10 22 16.9	0.0
	baz=87						
TORD	Torodi Ar. Bea	89.54	293	P	P	10 22 28.4	-0.3
	comp=Z,1.6nm,0.7s,mb4.5,baz=36,slow=4.9,SNR=11						
TORD	Torodi Ar. Bea	89.54	293	P	P	10 22 28.4	-0.3
TXAR	Lajitas Array	90.66	29	P	P	10 22 33.2	-0.6
	comp=Z,0.5nm,0.8s,mb3.9,baz=338,slow=2.9,SNR=6.6						
TXAR	Lajitas Array	90.66	29	P	P	10 22 33.2	-0.6
DBIC	Dimbokro	98.41	295	LR	LR	11 11 23.1	
	comp=Z,46nm,19.4s,MS4.0,baz=215,slow=38						
QSPA	South Pole Qui	145.22	180	PKPbc	PKPbc	10 29 06.0	-0.7
	comp=Z,8.2nm,1.0s,baz=291,slow=1.8,SNR=14						
SNAA	Sanae	148.29	214	PKPbc	PKPbc	10 29 16.7	+1.0
	comp=Z,0.6nm,0.8s,baz=38,slow=12,SNR=4.1						
SNAA	Sanae	148.29	214	PKP2	PKPbc	10 29 16.7	+0.9
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CPUP	Villa Florida	149.55	338	PKP	PKPdf	10 29 15.3	-0.5
	comp=Z,1.7nm,0.6s,baz=184,slow=9.1,SNR=3.5						
CPUP				PKPbc	PKPbc	10 29 19.8	-0.5
	comp=Z,2.2nm,0.7s,baz=356,slow=5.1,SNR=5.6						
CPUP	Villa Florida	149.55	338	PKHKP	PKPdf	10 29 15.3	-0.5
CPUP						10 29 19.8	
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.6s						

IDC ***27*** *10:11:13.3±6.6,5147N×17600W,h0km,mb3.4/3,*
mb1 3.9/4,mb1mx3.6/24,mbtmp3.6/4,ML4.3/1,Error
ellipse: s-maj=131.1km s-min=72.3km az=104.0
ISCJB ***27*** *10:11:35.3±1.2,522N×05×1734W±02,h87km±15km,*
mb3.4/3,Error ellipse: s-maj=84.9km s-min=10.8km
az=166.5
NEIC ***27*** *10:11:37.3,5192N×17329W,h50km,ML3.3(AEIC),After*
AEIC.

ISC 27 10:11:36.5±1.2,522N±05×1734W±02,h80km±15km,n9,
σ0°55/10,mb3.4/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	2.06	263	P	Pn	10 12 09.0	-0.1
ADK				S	Sn	10 12 34.4	+0.4
NIKO	Nikolski	2.88	72	P	Pn	10 12 19.5	-0.6
UNV	Unalaska Valle	4.48	65	P	Pn	10 12 42.5	+0.7
AMKA	Amchitka	4.61	263	P	Pn	10 12 43.3	-0.4
KDAK	Kodiak Island	13.17	57	Pn	Pn	10 14 47.3	+7.4
	1.2nm,0.3s,baz=281,slow=13,SNR=6.4						
YKA	Yellowknife Ar	32.21	48	P	P	10 17 56.0	-0.5
	0.3nm,0.8s,mb3.1,baz=275,slow=9.4,SNR=3.5						
PDAR	Pinedale Array	42.85	76	P	P	10 19 27.4	+1.0
	0.7nm,0.6s,mb3.6,baz=311,slow=3.3,SNR=10						
TXAR	Lajitas Array	55.22	86	P	P	10 21 00.6	-0.4
	0.2nm,0.5s,mb3.4,baz=302,slow=6.7,SNR=4.3						
TXAR	Lajitas Array	55.22	86	P	P	10 21 00.6	-0.4

ISCJB ***27*** *10:22:52.9±1.6,3821N±006×2022E±009,h4km±8km,*
Error ellipse: s-maj=14.5km s-min=7.0km az=140.9
NEIC ***27*** *10:22:53.0,3816N×2023E,h11km,MD3.4(ATH),After*
ATH.
ATH ***27*** *10:22:53.0,3816N×2023E,h11km±3km,MD3.4/5*
CSEM ***27*** *10:22:54.9±0.1,3824N×2033E,h15km,ML3.7,Error*
ellipse: s-maj=3.0km s-min=1.2km az=53.0
THE ***27*** *10:22:55.3,3826N×2034E,h8km,ML3.7*

ISC 27 10:22:53.5±1.7,3820N±007×202E±01,h9km±8km,n13,
σ0°87/19,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.28	95	ePg	Pg	10 22 59.6	+0.6
VLS				eSg	Sg	10 23 02.8	+0.1
VLS	Valsamata	0.28	95	ePg	Pg	10 22 59.6	+0.6
VLS				eSg	Sg	10 23 02.9	+0.2
KFL	Anninata	0.44	102	ePg	Pg	10 23 02.5	+0.5
KFL				eSg	Sg	10 23 08.2	+0.4
KFL	Anninata	0.44	102	ePg	Pg	10 23 02.5	+0.4
KFL				eSg	Sg	10 23 08.2	+0.3
LKD	Levkas	0.60	33	ePg	Pg	10 23 04.8	-0.2
LKD				eSg	Sg	10 23 12.4	-0.4
RLS	Riolos of Patr	0.98	98	ePB	Pb	10 23 11.6	-1.0
RLS				eSB	Sb	10 23 25.3	-0.3
EVR	Evrytania	1.42	59	ePB	Pb	10 23 20.5	+0.4
JAN	Janina	1.53	18	ePB	Pb	10 23 22.8	+0.9
KEK	Kerkira	1.55	347	ePG	Pg	10 23 22.4	-0.7
ITM	Ithomi	1.68	127	ePB	Pb	10 23 24.3	-0.3
THL	Klokotos Trika	1.94	45	ePN	Pn	10 23 28.8	+2.2
LKR	Lokris	2.21	78	ePn	Pn	10 23 30.4	+0.1
LKR	Lokris	2.21	78	ePb	Pb	10 23 31.5	-2.1

ISCJB ***27*** *10:30:24.6±0.9,3885N±005×14174E±009,h71km±5km,*
mb3.5/2,Error ellipse: s-maj=13.0km s-min=6.8km
az=27.5
IDC ***27*** *10:30:26.2±3.1,3891N×14195E,h86km±27km,mb3.1/2,*
mb1 3.2/5,mb1mx3.1/23,mbtmp3.1/5,Error ellipse:
s-maj=42.7km s-min=25.8km az=101.0
JMA ***27*** *10:30:26.1,3884N×14165E,h66km±1km,M3.4*
JMA Felt I J1.

ISC 27 10:30:25.7±0.8,3886N±005×14172E±009,h66km±5km,
n15,σ0°86/26,mb3.5/2,5C-4D,Near east coast of
eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.23	350	⇑P	Pn	10 30 36.5	+0.5
OFUJ				S	Sn	10 30 43.8	+0.3
JMK	Ichinoseki	0.40	284	⇑P	Pn	10 30 37.2	0.0
JMK				S	Sn	10 30 45.2	-0.4
JIO	Ouri	0.49	216	⇑P	Pn	10 30 38.0	-0.1
JIO				S	Sn	10 30 46.4	-0.8
JOM	Ohasama	0.70	332	⇓P	Pn	10 30 40.8	+0.5
JOM				S	Sn	10 30 51.4	+0.3
JOU	Okura	0.96	240	⇑P	Pn	10 30 43.3	-0.2
JOU				S	Sn	10 30 56.3	-0.4
JYK	Kaneyama	1.06	274	⇓P	Pn	10 30 44.6	-0.2
JYK				S	Sn	10 30 58.9	-0.1
JMM	Marumori	1.23	217	⇑P	Pn	10 30 46.3	-0.6
JMM				S	Sn	10 31 01.9	-0.9
JYS	Shiratake	1.44	244	⇓P	Pn	10 30 49.9	+0.1
JYS				eS	Sn	10 31 07.7	-0.2
JYA	Atsumi	1.59	261	⇓P	Pn	10 30 51.7	0.0
JYA				eS	Sn	10 31 10.4	-1.0
MJAR	Matsushiro Arr	3.62	231	P	Pn	10 31 21.4	+2.2
	0.9nm,0.3s,baz=42,slow=12,SNR=7.9						
MJAR				S	Sn	10 32 11.3	+11
	0.8nm,0.3s,baz=90,slow=13,SNR=4.7						
MAT	Matsushiro	3.62	231	P	Pn	10 31 21.8	+2.5
MAT				S	Sn	10 32 02.8	+2.0
ASAJ	Asahikawa	5.30	7	P	Pn	10 31 41.8	-0.5
	2.0nm,0.3s,baz=217,slow=7.2,SNR=17						
KSRS	Korea Array	10.96	267	P	Pn	10 33 04.2	+4.6
	0.2nm,0.3s,baz=80,slow=14,SNR=4.3						
MKAR	Makanchi Array	43.38	301	P	P	10 38 20.7	-0.7
	0.3nm,0.3s,mb3.5,baz=84,slow=9.5,SNR=5.5						
WRA	Warramunga Arr	58.89	188	P	P	10 40 16.9	-0.9
	0.4nm,1.0s,mb3.4,baz=6.9,slow=7.2,SNR=4.8						

ISCJB ***27*** *10:31:32.7±0.4,3620N±002×2535E±005,h19km±4km,*
Error ellipse: s-maj=7.3km s-min=3.9km az=4.4
ATH ***27*** *10:31:32.0,3618N×2537E,h24km±2km,MD3.6/9*
CSEM ***27*** *10:31:32.7±0.1,3618N×2535E,h15km,ML3.6,Error*
ellipse: s-maj=2.4km s-min=1.5km az=98.0
THE ***27*** *10:31:33.1,3618N×2539E,h11km,ML3.6*
NEIC ***27*** *10:31:34.0,3612N×2530E,h10km,MD3.6(ATH),After*
ATH.

ISC 27 10:31:32.3±0.4,3617N±002×2535E±005,h16km±3km,n26,
σ0°99/35,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR6	Thira Island,	0.20	11	ePg	Pg	10 31 37.2	+0.3
THR1	Thera Island	0.22	23	ePg	Pg	10 31 37.3	-0.1
THR1				eSg	Sg	10 31 40.7	-0.1
SANT	Santorini	0.22	23	ePg	Pg	10 31 37.3	-0.1
SANT	Santorini	0.22	23	ePg	Pg	10 31 37.3	-0.1
SANT				eSg	Sg	10 31 40.6	-0.3
THR3	Thira Island,	0.25	10	ePg	Pg	10 31 38.0	+0.2
THR5	Thira Island,	0.25	360	ePg	Pg	10 31 38.3	+0.4
THR4	Thira Island,	0.30	7	ePg	Pg	10 31 39.1	+0.5
APE	Apeiranthos	0.91	9	ePg	Pg	10 31 50.0	-0.1
APE				eSg	Sg	10 32 02.8	+0.7
APE	Apeiranthos	0.91	9	ePn	Pn	10 31 49.9	-0.7
APE				eSn	Sn	10 32 02.0	-1.4
NPS	Neapolis	0.93	167	ePN	Pn	10 31 50.0	-0.7
NPS				eSN	Sn	10 32 02.3	-1.3
IDI	Anoyia	0.95	203	P	Pb	10 31 51.1	+0.6
LAST	Lasithi	1.01	174	ePg	Pg	10 31 51.7	-0.1
LAST				eSg	Sg	10 32 06.0	+1.0
LAST	Lasithi	1.01	174	P	Pb	10 31 52.4	+1.0
LAST				eSg	Sg	10 32 06.0	+1.0
LAST	Lasithi	1.01	174	P	Pb	10 31 52.4	+1.0
VAM	Vamos	1.20	231	ePN	Pn	10 31 55.5	+1.0
SIVA	Sivas	1.23	201	ePg	Pg	10 31 55.3	-0.7
SIVA				eSg	Sg	10 32 12.6	+0.6
ZKR	Zakros	1.26	146	ePg	Pg	10 31 55.4	-1.3
ZKR				eSg	Sg	10 32 12.7	-0.5
KARN	Karanos	1.39	237	ePg	Pg	10 31 57.6	-1.6
KARP	Karpathos	1.59	112	ePN	Pn	10 32 00.5	+0.6
GVD	Gavdhos	1.68	218	ePN	Pn	10 32 03.0	+2.0
KYTH	Kithira	1.87	274	ePB	Pb	10 32 04.5	-1.7
SMG	Samos	1.95	37	ePN	Pn	10 32 06.1	+1.3
VLI	Veliai	2.02	287	ePB	Pb	10 32 06.0	-2.7
DID	Didima	2.16	309	ePn	Pn	10 32 08.0	+0.3
CHOS	Chios island	2.29	14	ePn	Pn	10 32 09.3	-0.1
ITM	Ithomi	2.93	291	ePN	Pn	10 32 20.5	+2.2

ISCJB ***27*** *10:43:05.1±2.8,1819N±007×1472E±03,h48km±23km,*
mb3.5/8,Error ellipse: s-maj=40.3km s-min=11.0km
az=1.8
IDC ***27*** *10:43:06.8±3.8,1815N×14727E,h51km±33km,mb3.3/8,*
mb1 3.5/11,mb1mx3.5/23,mbtmp3.5/11,ML3.6/3,Error
ellipse: s-maj=41.4km s-min=14.6km az=90.0
NEIC ***27*** *10:43:08.5±2.2,1811N×14726E,h68km±19km,Error*
ellipse: s-maj=30.9km s-min=11.6km az=87.0

ISC 27 10:43:06.6±2.3,1819N±006×1472E±03,h48km±19km,n11,
σ0°56/13,mb3.5/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.11	207	P	Pn	10 44 21.5	+0.8
	3.7nm,0.3s,baz=12,slow=20,SNR=4.4						
GUMO				S	Sn	10 45 18.2	-0.2
	5.5nm,0.3s,baz=7.7,slow=20,SNR=3.1						
CBIJ	Chichi jima	10.02	333	P	Pn	10 45 27.3	-0.6
	1.2nm,0.3s,baz=269,slow=19,SNR=3.3						
CBIJ				S	Sn	10 47 13.7	-5.2
	1.7nm,0.3s,baz=296,slow=21,SNR=3.9						
MJAR	Matsushiro Arr	19.94	338	P	Pn	10 47 36.4	-0.1
	0.3nm,0.3s,baz=152,slow=11,SNR=3.3						
KSRS	Korea Array	25.60	322	P	P	10 48 31.5	+0.1
	0.5nm,0.6s,mb3.2,baz=141,slow=7.7,SNR=3.7						
WRA	Warramunga Arr	39.95	199	P	P	10 50 36.3	-0.1
	0.6nm,0.8s,mb3.4,baz=33,slow=8.7,SNR=6.0						
FITZ	Fitzroy Crossi	41.85	212	P	P	10 50 51.2	-0.9
	0.3nm,0.3s,mb3.4,baz=20,slow=15,SNR=2.2						
ASAR	Alice Springs	43.59	198	P	P	10 51 06.2	+0.1
	0.3nm,0.6s,mb3.2,baz=24,slow=8.3,SNR=4.6						
SONM	Songino Array	44.46	321	P	P	10 51 14.2	+1.3
	0.3nm,0.3s,mb3.5,baz=123,slow=5.1,SNR=3.3						
MKAR	Makanchi Array	59.87	314	P	P	10 53 06.9	-0.5
	0.2nm,0.3s,mb3.7,baz=80,slow=6.3,SNR=2.9						
BVAR	Borovoye Array	67.80	321	P	P	10 53 59.6	+0.2
	0.4nm,0.3s,mb3.9,baz=100,slow=7.7,SNR=3.2						
NVAR	Mina Array Bea	82.30	52	P	P	10 55 23.2	0.0
	0.7nm,1.0s,mb3.6,baz=255,slow=5.9,SNR=5.4						

ISCJB ***27*** *10:45:17.4±3.2,122N±02×1430E±02,h58km±29km,*
mb3.8/5,Error ellipse: s-maj=44.0km s-min=23.0km
az=33.5
NEIC ***27*** *10:45:19.8±2.5,1225N×143.10E,h66km±23km,Error*
ellipse: s-maj=37.6km s-min=20.7km az=109.0
IDC ***27*** *10:45:20.3±3.4,1224N×143.12E,h71km±31km,mb3.3/5,*
mb1 3.6/6,mb1mx3.4/20,mbtmp3.4/6,ML3.4/1,Error
ellipse: s-maj=39.8km s-min=22.5km az=116.0

ISC 27 10:45:19.7±2.9,123N±02×1431E±03,h64km±28km,n8,
σ0°60/11,mb3.8/5,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.21	53	P	Pn	10 45 53.8	-0.3
	10nm,0.3s,baz=192,slow=16,SNR=4.3						
GUMO				S	Sn	10 46 21.1	+0.7
	18nm,0.3s,baz=37,slow=22,SNR=9.9						
GUMO	Guam	2.21	53	ePn	Pn	10 45 53.8	-0.3
GUMO				eSn	Sn	10 46 19.6	-0.8
GUMO				S	Sn	10 46 21.1	+0.7
WRA	Warramunga Arr	33.12	195	P	P	10 51 49.9	0.0
	0.3nm,0.7s,mb3.3,baz=19,slow=9.5,SNR=2.6						
MKAR	Makanchi Array	61.24	317	P	P	10 55 28.9	+0.7
	0.2nm,0.3s,mb3.7,baz=88,slow=7.4,SNR=2.9						
YKA	Yellowknife Ar	84.85	27	P	P	10 57 46.8	-0.4
	0.2nm,0.4s,mb3.6,baz=287,slow=5.2,SNR=3.9						
ARCES	ARCESS Array B	87.81	342	P	P	10 58 00.7	-0.9
	0.6nm,0.3s,mb4.2,baz=76,slow=7.5,SNR=13						
NVAR	Mina Array Bea	89.13	51	P	P	10 58 09.1	+0.6
	0.4nm,0.6s,mb3.9,baz=251,slow=5.1,SNR=5.3						
NVAR	Mina Array Bea	89.13	51	P	P	10 58 09.1	+0.6

FUNV 27 11:40:04.9,917N×7015W,h5km,MW3.5,4C-2D,
Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANV	Sanarito	0.69	61	⇑eP	Pg	11 40 17.7	-0.4
SANV				eS	Sg	11 40 27.1	0.0
CURV	Curaringua	0.86	12	⇑eP	Pg	11 40 20.2	-1.2
CURV				eS	Sg	11 40 33.0	+0.5
SOCV	Socops	1.13	219	⇑eP	Pg	11 40 25.1	-1.5
TEPV	Terepaima	1.23	50	eP	Pg	11 40 27.1	-1.3
TEPV				eS	Sg	11 40 44.2	-0.2
VIGV	El Vigia	1.25	255	⇓iP	Pg	11 40 27.9	-0.9
VIGV				eS	Sg	11 40 44.3	-0.7
SIQV	Siquisique	1.51	13	⇑eP	Pn	11 40 32.7	+0.2
SIQV				eS	Sn	11 40 52.7	+0.1
DABV	Dabajuro	1.81	345	eP	Pn	11 40 36.5	-0.2
DABV				eS	Sn	11 40 59.8	-0.2
BAUV	El Baul	2.09	96	⇓eP	Pn	11 40 39.3	-1.3
BAUV				eS	Sn	11 41 06.1	-1.0
ELOV	Elorza	2.25	163	eP	Pn	11 40 42.3	-0.6
ELOV				eS	Sn	11 41 10.3	-0.7
CAPV	Capacho	2.51	239	eP	Pn	11 40 46.6	+0.3
CAPV				eS	Sn	11 41 15.9	-1.4
VIRV	Villa del Rosa	2.59	301	eP	Pn	11 40 46.7	-0.8
VIRV				eS	Sn	11 41 17.6	-1.8
TURV	Turiamo	2.60	61	eP	Pn	11 40 47.6	0.0
BIRV	Birongo	4.03	71	eP	Pn	11 41 06.9	-0.4
CAOV	Caicara del Or	4.21	116	eP	Pn	11 41 08.4	-1.4

ISCJB ***27*** *11:42:47.1±2.4,598N±008×1275E±02,h85km±25km,*
mb3.9/10,Error ellipse: s-maj=35.1km s-min=10.7km
az=164.2
IDC ***27*** *11:42:49.3±2.8,598N×12740E,h86km±27km,mb3.7/11,*
mb1 3.7/12,mb1mx3.6/20,mbtmp3.7/12,Error ellipse:
s-maj=35.2km s-min=11.6km az=74.0
NEIC ***27*** *11:42:49.2±1.7,594N×12736E,h86km±17km,mb3.9/2,*
Error ellipse: s-maj=29.5km s-min=8.0km az=76.0

ISC 27 11:42:48.7±2.2,596N±008×1274E±02,h81km±22km,n20,
σ0°85/22,mb3.9/10,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.16	301	P	Pn	11 43 22.4	-0.4
	31nm,0.3s,baz=104,slow=8.3,SNR=2.3						
DAV				S	Sn	11 43 49.0	+0.3
	28nm,0.3s,baz=268,slow=23,SNR=5.9						
DAV	Davao City (W)	2.16	301	P	Pn	11 43 22.4	-0.4
DAV				S	Sn	11 43 49.0	+0.3
KAKA	Kakadu	19.20	165	eP	Pn	11 47 04.6	-3.3
	5.3nm,0.5s						
KAKA	Kakadu	19.20	165	eP	Pn	11 47 05.3	-2.6
	47nm,0.5s						
JOW	Kunigami	20.78	2	P	P	11 47 24.1	+1.0
	4.1nm,0.6s,baz=176,slow=11,SNR=5.6						
FITZ	Fitzroy Crossi	23.97	184	eP	P	11 47 57.1	+1.4
	3.8nm,1.4s,mb3.5						
FITZ	Fitzroy Crossi	23.97	184	P	P	11 47 56.5	+0.9
	0.7nm,0.4s,mb3.3,baz=8,3,slow=11,SNR=7.7						
WRA	Warramunga Arr	26.61	165	P	P	11 48 19.5	-0.2
	4.1nm,0.3s,mb4.4,baz=342,slow=11,SNR=39						
WB2	Warramunga Arr	26.62	165	eP	P	11 48 19.7	+0.1
ASAR	Alice Springs	30.11	168	P	P	11 48 51.0	+0.4
	1.3nm,0.3s,mb4.0,baz=354,slow=8.4,SNR=52						
ASAR				PcP	PcP	11 51 52.1	+1.5
	0.6nm,0.5s,baz=354,slow=2.5,SNR=8.3						
KSRS	Korea Array	31.36	1	P	P	11 49 00.8	-0.7
	0.4nm,0.3s,mb3.6,baz=179,slow=9.0,SNR=3.9						
STKA	Stephens Creek	39.97	161	eP	P	11 50 16.1	+0.8
	2.7nm,1.1s,mb4.0						
STKA	Stephens Creek	39.97	161	P	P	11 50 15.9	+0.7
	1.6nm,0.4s,mb4.2,baz=334,slow=8.7,SNR=15						
STKA	Stephens Creek	39.97	161	eP	P	11 50 15.4	+0.1
SONM	Songino Array	45.44	340	P	P	11 51 00.2	+0.8
	0.3nm,0.4s,mb3.4,baz=152,slow=9.2,SNR=2.6						
PETK	Petropavlovsk-	53.11	22	P	P	11 51 58.1	+0.4
	3.1nm,1.0s,mb4.3,baz=210,slow=4.0,SNR=4.3						
MKAR	Makanchi Array	56.16	324	P	P	11 52 20.0	0.0
	0.4nm,0.4s,mb3.8,baz=130,slow=7.4,SNR=8.3						
ZALV	Zalesovo Beam	58.95	332	P	P	11 52 37.9	-1.5
	1.0nm,0.4s,mb4.2,baz=111,slow=8.1,SNR=4.3						
ARCES	ARCESS Array B	88.62	340	P	P	11 55 31.7	-0.6
	0.7nm,0.5s,mb4.0,baz=82,slow=6.3,SNR=14						
ARCES	ARCESS Array B	88.62	340	P	P	11 55 31.7	-0.6

MOS ***27*** *11:55:31.3±1.2,5552N×11041E,h14km,mb4.3/1,Error*
ellipse: s-maj=22.2km s-min=11.7km az=60.1

BYKL 27 11:55:32.0±0.2,5549N×11046E,h3km±11km,5C-1D,
Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	Kumora	0.58	46	ePG	Pg	11 55 42.5	-0.6
KMO				e		11 55 49.4	
KMO				pmax	pmax		
	comp=Z,103nm,0.3s						
KMO				smax			
	comp=N,1μm,0.9s						
KMO	Kumora	0.58	46	ePg	Pg	11 55 42.6	-0.5
KMO				eSg	Sg	11 55 50.3	-0.3
KMO				Pmax			
	comp=N,242nm,0.3s						
KMO				Smax			
	comp=N,1μm,0.9s						
NIZ	Nizh Angarsk	0.59	299	⇑iPg	Pg	11 55 43.0	-0.4
NIZ				eSg	Sg	11 55 51.5	+0.4
NIZ				Pmax			
	comp=N,62nm,0.1s						
NIZ				Smax			
	comp=N,390nm,0.2s						
YLYR	Ulyunkhan	0.73	147	⇑iPG	Pg	11 55 44.9	-1.2
YLYR				e		11 55 54.2	
YLYR				pmax	pmax		
	comp=Z,294nm,0.1s						
YLYR				smax			
	comp=N,420nm,0.1s						
YLYR	Ulyunkhan	0.73	147	⇓iPg	Pg	11 55 44.9	-1.2
	comp=N,232nm,0.4s						
YLYR				⇑iPg	Pg	11 55 44.9	-1.2
	comp=N,129nm,0.4s						
YLYR				⇑iPg	Pg	11 55 44.9	-1.2
	comp=N,254nm,0.4s						
YLYR				eSg	Sg	11 55 54.7	-0.9
YLYR				Pmax			
	comp=N,265nm,0.2s						
YLYR				Smax			
	comp=N,355nm,0.1s						
YOA	Uoyan	0.96	47	ePG	Pg	11 55 49.0	-1.4
YOA				i		11 56 02.7	
YOA				pmax	pmax		
	comp=Z,263nm,0.3s						
YOA				smax			
	comp=N,1μm,0.4s						
YOA	Uoyan	0.96	47	ePg	Pg	11 55 49.5	-0.9
YOA				eSg	Sg	11 56 03.1	+0.2
YOA				Pmax			
	comp=N,249nm,0.2s						
YOA				Smax			
	comp=N,1μm,0.3s						
UKT	Uakit	1.80	89	ePN	Pn	11 56 04

OGRR			*e*		11 56 48.7	
OGRR			pmax	pmax		
comp=Z,29nm,0.4s						
OGRR			smax			
comp=E,195nm,0.4s						
OGRR	**Ongureny**	**2.49 223**	*e*Pn	Pn	11 56 14.1	+0.7
OGRR			*e*Pg	Pg	11 56 16.2	-3.5
OGRR			*e*		11 56 46.3	
OGRR			*e*Sg	Sg	11 56 49.0	-2.9
OGRR			Pmax			
comp=E,26nm,0.4s						
OGRR			Smax			
comp=E,196nm,0.3s						
BOD	**Bodaibo**	**3.05 39**	*e*Pn	Pn	11 56 21.4	+0.4
BOD			*e*Sn	Sn	11 56 57.8	-0.1
BOD			*e*Sg	Sg	11 57 05.9	-3.9
BOD			Smax			
comp=E,95nm,0.6s						
ZRHB	**Zarechye**	**3.53 215**	*e*	Pn	11 56 33.3	+5.7
ZRHB			*e*		11 56 58.2	
ZRHB			*e*Sg	Sg	11 57 21.6	-3.7
ZRHB			Smax			
comp=E,150nm,1.1s						
TRG	**Tyrgan**	**3.65 223**	*e*Pn	Pn	11 56 30.3	+1.0
TRG			*e*Sg	Sg	11 57 23.9	-5.3
TRG			Smax			
comp=E,68nm,0.4s						
UUDB	**Ulan-Yde**	**3.99 206**	*e*Pg	Pg	11 56 43.1	-5.3
UUDB			*e*Sg	Sg	11 57 35.4	-4.7
UUDB			Pmax			
comp=E,23nm,0.6s						
UUDB			Smax			
comp=E,53nm,1.4s						
HRMR	**Khuramsha**	**4.40 210**	*e*Pg	Pg	11 56 50.5	-5.7
HRMR			*e*Sg	Sg	11 57 47.5	-5.6
HRMR			Pmax			
comp=E,26nm,0.4s						
HRMR			Smax			
comp=E,184nm,0.5s						
CRS	**Chara**	**4.58 69**	*e*PN	Pn	11 56 42.6	+0.5
CRS			*e*		11 56 54.9	
CRS			*e*		11 57 53.6	
CRS			pmax	pmax		
comp=Z,25nm,1.0s						
CRS			smax			
comp=N,87nm,1.3s						
CRS	**Chara**	**4.58 69**	*e*Pn	Pn	11 56 42.9	+0.8
CRS			*e*Pg	Pg	11 56 55.0	-4.8
CRS			*e*Sg	Sg	11 57 54.0	-5.1
CRS			Pmax			
comp=N,25nm,1.0s						
CRS			Smax			
comp=N,86nm,1.0s						
IRK	**Irkutsk**	**4.90 231**	*e*PN	Pg	11 57 00.8	-5.0
IRK			*e*S	Sn	11 57 41.8	-1.7
IRK			*e*		11 58 01.8	
IRK			pmax	pmax		
comp=Z,62nm,0.2s						
IRK			smax			
comp=E,200nm,0.4s						
TLY	**Talaya**	**5.57 230**	*e*PN	Pn	11 56 55.3	-0.4
TLY			*e*		11 57 11.3	
TLY			*e*		11 58 21.8	
TLY			pmax	pmax		
comp=Z,8.0nm,0.5s						
TLY			smax			
comp=N,51nm,1.0s						
TUP	**Tupik**	**5.57 97**	*e*PN	Pg	11 57 11.8	-6.9
TUP			*e*S	Sn	11 57 58.3	-1.9
TUP			*e*		11 58 24.0	
TUP			pmax	pmax		
comp=Z,6.0nm,0.5s						
TUP			smax			
comp=N,63nm,1.1s						
TUP	**Tupik**	**5.57 97**	*e*Pn	Pn	11 56 55.8	+0.1
TUP			*e*Sn	Sn	11 57 56.9	-3.3
TUP			*e*Sg	Sg	11 58 23.8	-7.1
TUP			Smax			
comp=N,63nm,1.2s						
KPC	**Khapcheranga**	**5.91 168**	*e*Pn	Pn	11 56 59.7	-0.7
KPC			*e*Pg	Pg	11 57 18.6	-6.6
KPC			*e*Sn	Sn	11 58 04.3	-4.2
KPC			*e*Sg	Sg	11 58 34.2	-7.5
KPC			Pmax			
comp=N,5.0nm,0.4s						
KPC			Smax			
comp=N,25nm,1.2s						
MOY	**Mondy**	**6.81 240**	*e*PN	Pn	11 57 13.7	+1.0
MOY			*e*		11 57 35.5	
MOY			*e*S	Sn	11 58 26.9	-3.8
MOY			*e*		11 59 01.9	
MOY			pmax	pmax		
comp=Z,3.0nm,0.4s						
MOY			smax			
comp=E,48nm,1.8s						
MOY	**Mondy**	**6.81 240**	*e*Pn	Pn	11 57 13.8	+1.1
MOY			*e*		11 58 31.0	
MOY			*e*Sg	Sg	11 59 03.4	-7.2
MOY			Smax			
comp=E,51nm,1.6s						
ORL	**Orlik**	**6.94 249**	*e*PN	Pn	11 57 14.8	+0.4
ORL			*e*S	Sn	11 58 31.7	-2.0
ORL			*e*S	Sg	11 59 06.0	-8.5
ORL			smax			
comp=N,52nm,1.5s						
ORL	**Orlik**	**6.94 249**	*e*Pn	Pn	11 57 15.1	+0.7
ORL			*e*Sn	Sn	11 58 31.1	-2.6
ORL			*e*Sg	Sg	11 59 06.1	-8.4
ORL			Smax			
comp=N,52nm,1.4s						

*ISCJB **27** 12:12:41.2±3.2, 03N±01×969E±02, h39km±26km, mb3.6/5, Error ellipse: s-maj=30.4km s-min=20.5km az=159.2*
*NEIC **27** 12:12:41.5±1.2, 0.17N×9675E, h30km, Error ellipse: s-maj=28.1km s-min=14.9km az=68.0*
*IDC **27** 12:12:43.9±8.4, 0.26N×9687E, h48km±72km, mb3.4/4, mb1 3.5/6, mb1mx3.3/20, mbtmp3.4/6, ML3.7/2, Error ellipse: s-maj=68.4km s-min=21.5km az=58.0*

ISC 27 12:12:41.5±5.3, 03N±01×969E±01, h25km±39km, n11, σ0°87/12, mb3.6/5, 2C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.24**	**33⇑**	*e*P	**Pn**	**12 13 02.0**	**-1.3**
GSI	**Gunungsitoli**	**1.24**	**33⇑**	*e*P	**Pn**	**12 13 02.0**	**-1.3**
PSI	**Prapat**	**3.24**	**39**	P	**Pn**	**12 13 31.2**	**+0.4**
1.6nm,0.3s,baz=294,slow=6.3,SNR=3.8							
PSI				S	**Sn**	**12 14 08.6**	**0.0**
2.7nm,0.3s,baz=183,slow=20,SNR=4.1							
PSI	**Prapat**	**3.24**	**39**	P	**Pn**	**12 13 31.2**	**+0.4**
PSI				S	**Sn**	**12 14 08.6**	**0.0**
CMAR	**Chiang Mai Arr**	**18.20**	**6**	P	**Pn**	**12 16 53.8**	**+1.3**
0.3nm,0.3s,baz=200,slow=12,SNR=4.2							
WRA	**Warramunga Arr**	**41.81**	**121**	P	**P**	**12 20 29.1**	**-0.3**
0.7nm,0.5s,mb3.5,baz=302,slow=8.9,SNR=18							
ASAR	**Alice Springs**	**43.08**	**126**	P	**P**	**12 20 40.2**	**+0.5**
0.1nm,0.4s,mb2.9,baz=295,slow=6.0,SNR=4.2							
KSRS	**Korea Array**	**46.79**	**34**	P	**P**	**12 21 12.8**	**+3.7**
0.6nm,0.5s,mb3.8,baz=221,slow=6.6,SNR=4.1							
MKAR	**Makanchi Array**	**48.08**	**347**	P	**P**	**12 21 17.9**	**-1.0**
0.3nm,0.3s,mb3.8,baz=154,slow=9.3,SNR=4.3							
MKAR				pP	pP	12 21 28.8	+2.1
0.6nm,0.4s,baz=159,slow=9.1,SNR=6.1							
ZALV	**Zalesovo Beam**	**54.44**	**351**	P	**P**	**12 22 06.5**	**+0.1**
1.2nm,0.6s,mb4.0,baz=176,slow=7.8,SNR=5.2							
ZALV				pP	pP	12 22 16.2	+1.9
1.5nm,0.5s,baz=168,slow=6.5,SNR=5.4							
TXAR	**Lajitas Array**	**144.63**	**32**	PKP	PKPdf	12 32 15.5	-1.1
0.2nm,0.7s,baz=270,slow=1.8,SNR=3.6							

*ISCJB **27** 12:14:59.9±0.3, 4423N±002×658E±003, h13km±4km, Error ellipse: s-maj=3.7km s-min=2.6km az=149.8*
*STR **27** 12:15:00.7±0.4, 4426N×660E, h5km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **27** 12:15:01.0, 4422N×661E, h2km, MD2.4(ROM), MD2.5(LDG), ML2.2(STR), After LDG.*
*LDG **27** 12:15:01.0±0.1, 4422N×661E, h2km, Md2.5/3, Ml2.4/7, Error ellipse: s-maj=1.5km s-min=1.1km az=71.0*
*ROM **27** 12:15:01.9±0.5, 4424N×668E, h10km, Md2.4/4, Ml1.5/3, Error ellipse: s-maj=5.8km s-min=3.6km az=76.0*

ISC 27 12:15:00.7±0.3, 4422N±002×659E±003, h14km±4km, n25, σ0°47/47, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALN	**Calern**	**0.52**	**155**	Pg	**Pg**	**12 15 11.2**	**+0.4**
CALN				Sg	**Sg**	**12 15 18.6**	**+0.9**
TOUF	**Mont Tournerai**	**0.52**	**113**	Pg	**Pg**	**12 15 10.7**	**-0.2**
MVIF	**Mont Vial**	**0.52**	**128**	Pg	**Pg**	**12 15 11.1**	**+0.2**
MVIF				Sg	**Sg**	**12 15 19.1**	**+1.3**
MBDF	**Montbardon**	**0.52**	**14**	*e*Pg	**Pg**	**12 15 11.1**	**+0.1**
MBDF				*e*Sg	**Sg**	**12 15 18.4**	**+0.4**
12nm,0.2s							
STV	**Sant Anna di V**	**0.53**	**87⇑**	*i*Pg	**Pg**	**12 15 11.1**	**0.0**
18nm,0.3s							
DOI	**San Damiano**	**0.55**	**59**	Pg	**Pg**	**12 15 11.5**	**0.0**
DOI				Sg	**Sg**	**12 15 19.2**	**+0.4**
41nm,0.2s							
LUCF	**Luceram**	**0.64**	**121**	Pg	**Pg**	**12 15 13.1**	**0.0**
LUCF				Sg	**Sg**	**12 15 22.4**	**+0.9**
AUTN	**L'Aution**	**0.64**	**110**	Pg	**Pg**	**12 15 13.0**	**-0.3**
AUTN				Sg	**Sg**	**12 15 22.1**	**+0.3**
FRF	**La Foret Royal**	**0.66**	**176**	*e*Pg	**Pg**	**12 15 13.2**	**-0.4**
FRF				*e*Sg	**Sg**	**12 15 21.7**	**-0.6**
14nm,0.2s							
SBF	**Sospel**	**0.71**	**120**	*e*Pg	**Pg**	**12 15 14.2**	**-0.2**
SBF				*e*Sg	**Sg**	**12 15 23.0**	**-0.7**
31nm,0.4s							
SAOF	**Saorge**	**0.73**	**108**	Pg	**Pg**	**12 15 14.7**	**-0.3**
SAOF				Sg	**Sg**	**12 15 24.3**	**-0.3**
SMRF	**Simiane la Rot**	**0.77**	**252**	*e*Pg	**Pg**	**12 15 16.1**	**+0.4**
SMRF				*e*Sg	**Sg**	**12 15 25.8**	**0.0**
16nm,0.3s							
BNI	**Bardonecchia**	**0.83**	**4**	*e*Pg	**Pg**	**12 15 16.2**	**-0.7**
BNI				*e*Sg	**Sg**	**12 15 28.1**	**+0.2**
ORIF	**Oris-en-Rattie**	**0.86**	**324**	*e*Pg	**Pg**	**12 15 17.2**	**-0.2**
ORIF				*e*Sg	**Sg**	**12 15 29.4**	**+0.6**
13nm,0.4s							
LMR	**La Mourre**	**0.89**	**184**	*e*Pn	**Pn**	**12 15 18.9**	**+0.2**
LMR				*e*Sg	**Sg**	**12 15 28.9**	**-0.6**
LMR				*e*Sn	**Sn**	**12 15 31.4**	**+0.1**
28nm,0.2s							
LMR	**La Mourre**	**0.89**	**184**	*e*Pg	**Pg**	**12 15 17.2**	**-0.7**
LMR				*e*Pn	**Pn**	**12 15 18.9**	**+0.2**
LMR				*e*Sg	**Sg**	**12 15 28.9**	**-0.6**
LMR				*e*Sn	**Sn**	**12 15 31.4**	**+0.1**
FIN	**Finale Ligure**	**1.16**	**90**	Pg	**Pg**	**12 15 22.7**	**-0.4**
LPG	**La Plagne**	**1.28**	**5**	*e*Sg	**Sg**	**12 15 41.9**	**-0.2**
9.9nm,0.4s							
LPL	**La Plagne**	**1.30**	**4**	*e*Pg	**Pg**	**12 15 25.5**	**-0.2**
LPL				*e*Sg	**Sg**	**12 15 42.1**	**-0.6**
9.8nm,0.4s							
LSD	**Lago del Serru**	**1.30**	**18**	Pg	**Pg**	**12 15 25.3**	**-0.4**
7.0nm,0.3s							
VIVF	**Saint-Julien-l**	**1.51**	**296**	*e*Pn	**Pn**	**12 15 28.1**	**+0.8**
VIVF				*e*Sn	**Sn**	**12 15 46.7**	**0.0**
VIVF				*e*Sg	**Sg**	**12 15 49.2**	**-0.2**
3.2nm,0.3s							
LASF	**Ste Croix**	**1.97**	**267**	*e*Pn	**Pn**	**12 15 34.0**	**+0.4**
LASF				*e*Sn	**Sn**	**12 15 57.6**	**-0.5**
1.4nm,0.2s							
PGF	**Pioggiola**	**2.42**	**133**	*e*Pn	**Pn**	**12 15 40.1**	**+0.3**
PGF				*e*Sn	**Sn**	**12 16 08.5**	**-0.7**
4.1nm,0.3s							
MTLF	**Montolieu**	**3.29**	**256**	*e*Pn	**Pn**	**12 15 51.8**	**+0.1**
CAF	**Calviac**	**3.31**	**284**	*e*Pn	**Pn**	**12 15 52.6**	**+0.6**

*ISCJB **27** 12:16:54.3±0.8, 237S±01×1796W±0.1, h350km, mb3.8/7, Error ellipse: s-maj=21.1km s-min=15.8km az=138.1*
*IDC **27** 12:16:54.8±14.0, 2362S×17955W, h343km±156km, mb3.4/6, mb1 3.7/7, mb1mx3.4/18, mbtmp3.4/7, Error ellipse: s-maj=60.0km s-min=23.9km az=21.0*
*NEIC **27** 12:16:54.3±4.3, 2364S×17953W, h337km±44km, mb4.5/2, Error ellipse: s-maj=24.2km s-min=15.0km az=197.0*

ISC 27 12:16:55.6±0.8, 237S±01×1796W±01, h350km, n14, σ0°56/12, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.81**	**190**	P	**P**	**12 20 07.4**	**-0.6**
1.0nm,0.3s,baz=17,slow=14,SNR=14							
RPZ	**Rata Peaks**	**21.42**	**199**	P	**P**	**12 21 16.8**	**+0.5**
4.3nm,0.4s,mb4.0,baz=23,slow=15,SNR=7.5							
CTA	**Charters Tower**	**31.85**	**270**	P	**P**	**12 22 51.0**	**+1.7**
4.1nm,0.4s,mb4.0,baz=89,slow=11,SNR=7.9							
CTAO	**Charters Tower**	**31.85**	**270**	*e*P	**P**	**12 22 49.8**	**+0.4**
30nm,1.5s,mb4.3							
ASAR	**Alice Springs**	**42.44**	**260**	P	**P**	**12 24 17.4**	**-0.1**
1.0nm,0.5s,mb3.2,baz=96,slow=7.8,SNR=37							
WB2	**Warramunga Arr**	**42.78**	**266**	*e*P	**P**	**12 24 19.5**	**-0.8**
WB2	**Warramunga Arr**	**42.78**	**266**	*e*P	**P**	**12 24 19.7**	**-0.5**
WRA	**Warramunga Arr**	**42.79**	**266**	P	**P**	**12 24 19.7**	**-0.6**
2.1nm,0.3s,mb3.7,baz=96,slow=8.4,SNR=174							
CASY	**Casey**	**60.48**	**206**	*e*P	**P**	**12 26 29.6**	**+0.5**
12nm,0.6s,mb4.5							
CASY				*e*pP	pP	12 27 36.1	-8.2
NVAR	**Mina Array Bea**	**84.33**	**44**	P	**P**	**12 28 48.9**	**-0.1**
0.2nm,0.5s,mb3.2,baz=224,slow=7.6,SNR=2.7							
JLU	**Jordanelle**	**89.94**	**45**	*e*P	**P**	**12 29 15.8**	**+0.1**
TXAR	**Lajitas Array**	**90.00**	**58**	P	**P**	**12 29 16.2**	**0.0**
0.4nm,0.6s,mb3.5,baz=217,slow=7.0,SNR=6.7							
NAO01	**NORSAR Array S**	**142.15**	**352**	*e*PKPdf	PKPdf	12 35 46.6	+0.6
BNI	**Bardonecchia**	**158.07**	**348**	*e*PKPdf	PKPdf	12 36 10.7	-0.2

*IDC **27** 12:31:07.6±8.4, 2629S×17877E, h578km±86km, mb3.3/5, mb1 3.5/7, mb1mx3.2/18, mbtmp3.4/7, Error ellipse: s-maj=125.3km s-min=42.3km az=62.0*
*ISCJB **27** 12:31:08.9±1.0, 2642S±0.10×1790E±0.2, h650km, mb4.0/6, Error ellipse: s-maj=18.4km s-min=12.3km az=176.0*
*NEIC **27** 12:31:08.7±1.8, 2629S×17886E, h611km±43km, mb4.1/4, Error ellipse: s-maj=31.9km s-min=14.1km az=130.0*

ISC 27 12:31:08.6±2.5, 263S±02×1788E±03, h607km±62km, n13, σ0°38/14, mb4.1/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.04**	**187**	P	**P**	**12 33 47.4**	**-0.2**
1.2nm,0.3s,baz=18,slow=3.2,SNR=8.5							
URZ				S	**S**	**12 35 52.1**	**-6.1**
0.6nm,0.3s,baz=197,slow=22,SNR=6.6							
AFI	**Afiamalu**	**15.12**	**37**	*e*P	**P**	**12 34 17.8**	**0.0**
RPZ	**Rata Peaks**	**18.52**	**198**	P	**P**	**12 34 48.6**	**+0.2**
1.3nm,0.3s,baz=41,slow=8.0,SNR=6.8							
CTA	**Charters Tower**	**30.53**	**275**	*e*P	**P**	**12 36 35.5**	**+0.9**
3.3nm,0.5s,mb4.2							
CTA	**Charters Tower**	**30.53**	**275**	P	**P**	**12 36 35.3**	**+0.7**
4.1nm,0.5s,mb4.3,baz=94,slow=9.9,SNR=5.6							
STKA	**Stephens Creek**	**32.92**	**251**	*e*P	**P**	**12 36 54.6**	**-0.1**
1.3nm,0.3s,mb4.0							
STKA	**Stephens Creek**	**32.92**	**251**	P	**P**	**12 36 54.8**	**+0.1**
1.8nm,0.4s,mb4.0,baz=89,slow=11,SNR=12							
ASAR	**Alice Springs**	**40.67**	**264**	P	**P**	**12 37 58.0**	**-0.1**
2.2nm,0.5s,mb3.9,baz=95,slow=7.7,SNR=44							
WB2	**Warramunga Arr**	**41.25**	**269**	*e*P	**P**	**12 38 02.3**	**-0.4**
WRA	**Warramunga Arr**	**41.26**	**269**	P	**P**	**12 38 02.4**	**-0.4**
2.9nm,0.4s,mb4.1,baz=104,slow=7.7,SNR=40							
KAKA	**Kakadu**	**45.54**	**278**	*e*P	**P**	**12 38 35.5**	**-0.4**
3.3nm,0.4s,mb4.2							
FITZ	**Fitzroy Crossi**	**49.65**	**268**	*e*P	**P**	**12 39 06.5**	**+0.1**
5.2nm,0.9s,mb4.0							
FITZ	**Fitzroy Crossi**	**49.65**	**268**	P	**P**	**12 39 07.1**	**+0.7**
2.0nm,0.5s,mb3.8,baz=143,slow=9.7,SNR=6.7							

*ISCJB **27** 12:53:27.9±0.6, 3902N±003×3939E±006, h10km, Error ellipse: s-maj=6.9km s-min=3.9km az=19.4*
*ISK **27** 12:53:27.7, 3898N×3944E, h13km, MD2.9*
*CSEM **27** 12:53:27.2±0.1, 3897N×3948E, h10km, MD2.9, Error ellipse: s-maj=4.2km s-min=1.5km az=102.0*

ISC 27 12:53:28.3±0.6, 3901N±003×3943E±006, h7km±6km, n15, σ0°75/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.12**	**193**	*e*PG	**Pg**	**12 53 31.1**	**+0.1**
PTK				*e*SG	**Sg**	**12 53 33.1**	**+0.3**
ELZG	**Elazig**	**0.62**	**214**	*i*P	**Pg**	**12 53 39.6**	**-0.7**
ELZG	**Elazig**	**0.62**	**214**	*i*P	**Pg**	**12 53 39.6**	**-0.6**
ELZG				*i*S	**Sg**	**12 53 48.3**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.64**	**188**	*e*PG	**Pg**	**12 53 39.8**	**-0.8**
SVRC				*e*SG	**Sg**	**12 53 48.9**	**-0.1**
EZC	**Erzincan**	**0.79**	**22**	*e*PG	**Pg**	**12 53 43.2**	**-0.4**
EZC				*e*SG	**Sg**	**12 53 54.4**	**+0.6**
MYA	**Malataya**	**1.04**	**229**	*e*PG	**Pg**	**12 53 47.8**	**-0.5**
MALT	**Malatya**	**1.05**	**229**	*e*PG	**Pg**	**12 53 48.0**	**-0.4**
MALT				*e*SG	**Sg**	**12 54 02.7**	**+0.7**
DIYA	**Diyarbakir**	**1.22**	**153**	*i*P	**Pb**	**12 53 50.9**	**-0.7**
DIYA	**Diyarbakir**	**1.22**	**153**	*i*P	**Pb**	**12 53 50.9**	**-0.7**
DIYA				*i*S	**Sg**	**12 54 08.6**	**+1.2**
AKCD	**Akcadag**	**1.38**	**239**	*i*P	**Pn**	**12 53 53.4**	**-0.5**
AKCD	**Akcadag**	**1.38**	**239**	*i*P	**Pn**	**12 53 53.4**	**-0.5**
AKCD				*i*S	**Sb**	**12 54 13.5**	**+1.4**
GUMT	**Gumushane**	**1.45**	**2**	*e*PN	**Pn**	**12 53 54.9**	**+0.1**
URFA	**Urfa**	**1.64**	**197**	*e*PN	**Pn**	**12 53 56.3**	**-1.2**
MARD	**Mardin**	**2.00**	**147**	*e*P	**Pn**	**12 54 05.9**	**+3.4**
SVSK	**Karacayir**	**2.08**	**296**	*e*PN	**Pn**	**12 54 03.8**	**+0.3**

*ISCJB **27** 13:06:40.6±2.4, 162S±07×1750W±04, h175km±18km, mb3.6/8, Error ellipse: s-maj=134.0km s-min=16.5km az=151.8*
*IDC **27** 13:06:40.4±3.0, 1656S×17476W, h164km±21km, mb3.4/7, mb1 3.7/8, mb1mx3.5/18, mbtmp3.4/8, Error ellipse: s-maj=108.6km s-min=14.4km az=150.0*
*NEIC **27** 13:06:41.4±2.0, 1663S×17475W, h174km±14km, mb3.8/1, Error ellipse: s-maj=86.4km s-min=11.2km az=151.0*

ISC 27 13:06:41.6±2.5, 163S±07×1749W±04, h171km±18km, n15, σ0°67/16, mb3.6/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.86**	**52**	P	**Pn**	**13 07 41.9**	**+1.1**
8.1nm,0.3s,baz=200,slow=12,SNR=31							
AFI				S	**Sn**	**13 08 26.0**	**-0.8**
64nm,0.3s,baz=20,slow=22,SNR=17							
AFI	**Afiamalu**	**3.86**	**52**	*e*Pn	**Pn**	**13 07 41.8**	**+1.1**
AFI				S	**Sn**	**13 08 26.0**	**-0.8**
STKA	**Stephens Creek**	**42.32**	**240**	P	**P**	**13 14 17.8**	**-0.9**
1.5nm,0.6s,mb3.8,baz=75,slow=11,SNR=5.2							
STKA	**Stephens Creek**	**42.32**	**240**	*e*P	**P**	**13 14 17.9**	**-0.8**
WB2	**Warramunga Arr**	**48.22**	**258**	*e*P	**P**	**13 15 05.3**	**0.0**
WRAB	**Tennant Creek**	**48.22**	**258**	*e*P	**P**	**13 15 05.2**	**0.0**
1.4nm,0.6s,mb3.8							
WRA	**Warramunga Arr**	**48.23**	**258**	P	**P**	**13 15 05.3**	**0.0**
1.2nm,0.5s,mb3.8,baz=94,slow=7.0,SNR=24							
ASAR	**Alice Springs**	**48.45**	**253**	P	**P**	**13 15 06.8**	**-0.3**
3.4nm,0.6s,mb4.2,baz=88,slow=8.8,SNR=55							
FITZ	**Fitzroy Crossi**	**56.60**	**259**	P	**P**	**13 16 07.8**	**+0.8**
0.7nm,0.6s,mb3.6,baz=90,slow=13,SNR=3.8							
NVAR	**Mina Array Bea**	**75.99**	**43**	P	**P**	**13 18 08.9**	**-1.0**
0.4nm,0.7s,mb3.2,baz=226,slow=9.5,SNR=4.3							
NVAR	**Mina Array Bea**	**75.99**	**43**	P	**P**	**13 18 08.9**	**-1.0**
TXAR	**Lajitas Array**	**82.33**	**57**	P	**P**	**13 18 44.9**	**+0.4**
0.3nm,0.8s,mb3.0,baz=231,slow=5.7,SNR=4.0							
TXAR	**Lajitas Array**	**82.33**	**57**	P	**P**	**13 18 44.9**	**+0.4**
PDAR	**Pinedale Array**	**83.92**	**42**	P	**P**	**13 18 53.0**	**+0.7**
0.7nm,0.8s,mb3.5,baz=180,slow=1.7,SNR=4.9							
GERES	**GERESS Array B**	**146.82**	**350**	PKPbc	PKPbc	13 26 04.5	+1.0
0.3nm,0.3s,baz=42,slow=3.1,SNR=4.2							

*IDC **27** 13:07:07.3±1.2, 979S×15951E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/15, mbtmp3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.7/21, Error ellipse: s-maj=39.0km s-min=7.9km az=145.0*
*ISCJB **27** 13:07:08.1±2.4, 99S±02×1598E±04, h30km±13km, mb3.8/8, Error ellipse: s-maj=78.1km s-min=19.1km az=21.3*
*NEIC **27** 13:07:08.7±1.9, 992S×15982E, h20km±11km, Error ellipse: s-maj=54.4km s-min=13.4km az=112.0*

ISC 27 13:07:08.7±2.6, 99S±02×1598E±05, h19km±14km, n11, σ0°42/12, mb3.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.50**	**15**	Pg	**Pg**	**13 07 18.8**	**0.0**
1μm,0.3s,baz=228,slow=1.7,SNR=823							
HNR				Lg		13 07 25.1	
8μm,0.3s,baz=82,slow=18,SNR=125							
HNR	**Honiara**	**0.50**	**15**	*e*Pg	**Pg**	**13 07 18.9**	**+0.1**
HNR				Lg		13 07 25.1	
HNR				*e*Sg	**Sg**	**13 07 25.5**	**0.0**
WRA	**Warramunga Arr**	**26.52**	**245**	P	**P**	**13 12 45.6**	**+0.2**
0.6nm,0.8s,mb3.2,baz=71,slow=8.4,SNR=5.0							
STKA	**Stephens Creek**	**27.61**	**215**	P	**P**	**13 12 55.2**	**+0.2**
3.6nm,1.0s,mb4.0,baz=50,slow=14,SNR=4.0							
STKA	**Stephens Creek**	**27.61**	**215**	P	**P**	**13 12 55.2**	**+0.2**
ASAR	**Alice Springs**	**28.26**	**238**	P	**P**	**13 13 00.2**	**-0.7**
0.5nm,0.9s,mb3.1,baz=63,slow=9.5,SNR=4.5							
MJAR	**Matsushiro Arr**	**50.49**	**337**	P	**P**	**13 16 04.8**	**-0.8**
1.3nm,0.6s,mb4.2,baz=168,slow=9.0,SNR=4.3							
PETK	**Petropavlovsk-**	**62.80**	**359**	P	**P**	**13 17 32.8**	**0.0**
2.3nm,0.8s,mb4.4,baz=145,slow=5.4,SNR=5.1							
CMAR	**Chiang Mai Arr**	**66.34**	**295**	P	**P**	**13 17 57.2**	**+0.5**
0.7nm,0.5s,mb3.9,baz=114,slow=4.2,SNR=3.9							
SONM	**Songino Array**	**74.39**	**326**	P	**P**	**13 18 45.9**	**+0.6**
0.7nm,0.6s,mb3.8,baz=115,slow=6.0,SNR=2.9							
MKAR	**Makanchi Array**	**88.75**	**318**	P	**P**	**13 20 01.1**	**-0.1**
0.6nm,0.6s,mb4.1,baz=82,slow=7.3,SNR=4.8							

*IDC **27** 13:45:56.7±0.7, 2631N×12650E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.2/20, mbtmp4.0/11, MS3.5/14, Ms1 3.6/14, ms1mx3.3/41, Error ellipse: s-maj=21.3km s-min=17.4km az=66.0*
*JMA **27** 13:45:58.1, 2626N×12660E, h10km, M4.6*
JMA Felt III J1.
*BJI **27** 13:45:59.3, 2580N×12687E, h45km, mB4.5, mb4.3, Ms4.0, Msz3.7*
*ISCJB **27** 13:45:59.3±0.5, 2618N±003×12668E±002, h23km±4km, mb4.2/27, MS3.7/16, Error ellipse: s-maj=5.1km s-min=2.7km az=145.3*
*MOS **27** 13:46:00.1±2.1, 2612N×12633E, h33km, mb4.2/4, Error ellipse: s-maj=16.3km s-min=9.4km az=97.7*
*NIED **27** 13:46:00, 2630N×12660E, h8km, Mw4.3 Best double couple: M0:2.86000×10^15 NP1:φ=277.00000°, δ=53.00000

HATJ	**Hateruma jima**	**3.35 232**	*e*S		**Sn**	**13 47 31.7 +0.6**
JAM	**Amami Oshima**	**3.43 49**	P		**Pn**	**13 46 52.6 +0.2**
JAM			S		**Sn**	**13 47 32.7 -0.2**
JZK	**Kikaishima**	**3.62 53**	P		**Pn**	**13 46 56.5 +1.4**
JZK			*e*S		**Sn**	**13 47 40.7 +2.9**
YOJ	**Yonaguni jima**	**3.73 244**	P		**Pn**	**13 46 57.5 +0.9**
YOJ			S		**Sn**	**13 47 41.1 +0.6**
JMZ	**Minamidaito 2**	**4.10 94**	P		**Pn**	**13 47 00.0 -1.7**
JMZ			S		**Sn**	**13 47 46.2 -3.4**
JNN	**Nakanoshima**	**4.62 37**	P		**Pn**	**13 47 10.4 +1.6**
JNN			*e*S		**Sn**	**13 48 03.1 +0.8**
TATO	**Taipei**	**4.84 257**	*e*P		**Pn**	**13 47 15.2 +3.4**
NACB	**Ninganchiao**	**5.02 248**	*e*P		**Pn**	**13 47 15.4 +1.1**
	88nm,0.9s					
YHNB	**Yeheng**	**5.03 254**	*e*P		**Pn**	**13 47 17.1 +2.8**
	154nm,0.8s					
SSE	**Sheshan**	**6.88 317**	*e*P		**Pn**	**13 47 42.0 +2.1**
SSE			AMB	AMB		
	comp=Z,28nm,0.8s					
SSE			AMB	AMB		
	comp=Z,47nm,9.2s					
SSE			LR	LR		
	comp=N,290nm,13.4s					
SSE			LR	LR		
	comp=E,519nm,13.4s					
SSE			LR	LR		
	comp=Z,374nm,11.2s					
QZH	**Quanzhou**	**7.41 262**	P		**Pn**	**13 47 51.3 +4.2**
QZH			*e*S		**Sn**	**13 49 14.8 +3.7**
QZH			LR	LR		
	comp=N,910nm,9.8s					
QZH			LR	LR		
	comp=E,700nm,10.5s					
QZH			LR	LR		
	comp=Z,500nm,10.8s					
NJ2	**Nanjing**	**9.01 312**	*e*P		**Pn**	**13 48 15.3 +6.3**
NJ2			XP			13 48 34.3
NJ2			S		**Sn**	**13 49 55.5 +5.1**
NJ2			AMB	AMB		
	comp=Z,10.0nm,0.6s					
NJ2			AMB	AMB		
	comp=Z,110nm,3.5s					
NJ2			LR	LR		
	comp=N,180nm,15.6s					
NJ2			LR	LR		
	comp=E,260nm,12.2s					
NJ2			LR	LR		
	comp=Z,260nm,12.2s					
KSRS	**Korea Array**	**11.30 5**	Pn		**Pn**	**13 48 44.7 +4.3**
	comp=Z,0.2nm,0.3s,baz=182,slow=14,SNR=18					
KSRS			LR	LR		13 53 04.6
	comp=Z,170nm,19.3s,baz=55,slow=38					
MAT	**Matsushiro**	**14.26 41**	P		**Pn**	**13 49 21.8 +0.9**
MJAR	**Matsushiro Arr**	**14.26 41**	Pn		**Pn**	**13 49 28.0 +7.1**
	comp=Z,0.2nm,0.3s,baz=226,slow=9.0,SNR=16					
MJAR			LR	LR		13 55 41.3
	comp=Z,164nm,18.7s,baz=230,slow=41					
MJAR	**Matsushiro Arr**	**14.26 41**	Pn		**Pn**	**13 49 28.0 +7.1**
MJAR			LR	LR		13 55 41.3
SNY	**Shenyang**	**15.82 351**	P		**Pn**	**13 49 48.5 +6.8**
SNY			S		**Sn**	**13 52 51.8 +15**
SNY			AMB	AMB		
	comp=Z,88nm,3.5s					
SNY			LR	LR		
	comp=N,236nm,14.7s					
SNY			LR	LR		
	comp=Z,232nm,11.6s					
BJI	**Beijing**	**16.37 330**	P		**Pn**	**13 49 50.5 +1.7**
BJI			S		**Sn**	**13 52 57.5 +7.1**
BJI			AMB	AMB		
	comp=Z,5.0nm,1.2s					
BJI			LR	LR		
	comp=N,171nm,21.9s					
BJI			LR	LR		
	comp=E,186nm,17.0s					
BJI			LR	LR		
	comp=Z,156nm,24.1s					
XAN	**Xi'an**	**17.24 301**	P		**Pn**	**13 50 01.3 +1.5**
XAN			AP	pP		13 50 11.0 +6.3
XAN			XP	sP		13 50 19.0 +13
XAN			S		**Sn**	**13 53 07.3 -4.1**
XAN			SS			13 53 33.0
XAN			AMB	AMB		
	comp=Z,2.0nm,0.9s					
XAN			AMB	AMB		
	comp=Z,82nm,6.6s					
XAN			LR	LR		
	comp=N,164nm,13.6s					
XAN			LR	LR		
	comp=E,136nm,13.8s					
XAN			LR	LR		
	comp=Z,239nm,13.8s					
CN2	**Changchun**	**17.62 357**	*e*P		**Pn**	**13 50 06.8 +2.4**
CN2			AMB	AMB		
	comp=Z,10.0nm,1.2s					
CN2			AMB	AMB		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,400nm,10.0s					
CN2			LR	LR		
	comp=E,200nm,10.0s					
CN2			LR	LR		
	comp=Z,200nm,11.0s					
GYA	**Guiyang**	**17.95 275**	P		**Pn**	**13 50 11.0 +2.3**
GYA			AP	pP		13 50 21.5 +8.9
GYA			PP			13 50 28.5
GYA			S		**Sn**	**13 53 26.8 -2.0**
GYA			XS	sS		13 53 43.8 +3.2
GYA			PCP	PcP		13 54 46.0 +1.7
GYA			AMB	AMB		
	comp=Z,10.0nm,0.8s					
GYA			AMB	AMB		
	comp=Z,90nm,4.5s					
GYA			LR	LR		
	comp=N,440nm,15.0s					
GYA			LR	LR		
	comp=E,410nm,14.6s					
GYA			LR	LR		
	comp=Z,430nm,14.7s					
HHC	**Hu-ho-hao-te**	**19.27 323**	*e*P		**Pn**	**13 50 27.5 +2.8**
HHC			AP	pP		13 50 38.5 +11
HHC			XP	sP		13 50 46.3 +18
HHC			S		**Sn**	**13 53 55.3 -5.3**
HHC			SS			13 54 23.3
HHC			PCP	PcP		13 54 48.3 +2.1
HHC			AMB	AMB		
	comp=Z,19nm,1.1s					
HHC			AMB	AMB		
	comp=Z,124nm,4.9s					
HHC			LR	LR		
	comp=N,305nm,13.1s					
HHC			LR	LR		
	comp=E,306nm,13.7s					
HHC			LR	LR		
	comp=Z,282nm,14.3s					
CD2	**Chengdu**	**20.67 289**⇑	*i*P		**P**	**13 50 38.8 -0.2**
CD2			AP			13 50 50.5
CD2			S		**S**	**13 54 21.5 -8.3**
CD2			XS	sS		13 54 39.3 +4.0
CD2			SS			13 54 54.3
CD2			AMB	AMB		
	comp=Z,20nm,1.1s					
CD2			AMB	AMB		
	comp=Z,50nm,5.2s					
CD2			LR	LR		
	comp=N,370nm,9.6s					
CD2			LR	LR		
	comp=E,330nm,10.8s					
CD2			LR	LR		
	comp=Z,300nm,9.6s					
KMI	**Kunming**	**21.61 272**	P		**P**	**13 50 48.8 -0.3**
KMI			AP			13 51 02.8
KMI			XP	sP		13 51 09.5 +15
KMI			PP			13 51 16.5
KMI			S		**S**	**13 54 42.3 -6.0**
KMI			XS	sS		13 55 02.0 +8.2
KMI			SS			13 55 19.8
KMI			AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.0					
KMI			AMB	AMB		
	comp=Z,47nm,5.4s					
KMI			LR	LR		
	comp=N,230nm,11.7s,MS3.9					
KMI			LR	LR		
	comp=E,154nm,11.3s,MS3.9					
KMI			LR	LR		
	comp=Z,178nm,10.3s,MS3.8					
LZH	**Lanzhou**	**21.86 302**	*e*P		**P**	**13 50 51.5 -0.2**
LZH			AP			13 51 00.8
LZH			XP	sP		13 51 05.0 +8.2
LZH			PP			13 51 16.5
LZH			*e*S		**S**	**13 54 45.5 -7.6**
LZH			AMB	AMB		
	comp=Z,29nm,1.2s,mb4.6					
LZH			AMB	AMB		
	comp=Z,102nm,4.0s					
LZH			LR	LR		
	comp=N,413nm,10.6s					
LZH			LR	LR		
	comp=Z,865nm,12.5s,MS4.4					
ASAJ	**Asahikawa**	**22.06 32**	LR	LR		14 00 12.3
	comp=Z,66nm,20.5s,MS3.0,baz=182,slow=39					
KLR	**Kul'dur**	**23.36 8**	*e*P		**P**	**13 51 11.0 +3.6**
HIA	**Hailar**	**23.68 349**	*i*P		**P**	**13 51 06.7 -3.9**
GTA	**Gaotai**	**26.05 307**	*e*P		**P**	**13 51 35.5 +3.2**
GTA			AP	pP		13 51 49.5 +13
GTA			S		**S**	**13 56 04.8 +1.7**
GTA			AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.8					
GTA			AMB	AMB		
	comp=Z,72nm,4.5s					
GTA			LR	LR		
	comp=N,214nm,16.5s,MS3.9					
GTA			LR	LR		
	comp=E,129nm,15.3s,MS3.9					
GTA			LR	LR		
	comp=Z,134nm,15.3s,MS3.6					
ULN	**Ulaanbaatar**	**26.59 330**	*e*P		**P**	**13 51 39.5 +2.4**
ULN			pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.1					
ULN	**Ulaanbaatar**	**26.59 330**	*e*P		**P**	**13 51 39.5 +2.4**
	comp=Z,8.2nm,1.2s,mb4.1					
CMAR	**Chiang Mai Arr**	**26.75 259**	P		**P**	**13 51 37.1 -1.7**
	comp=Z,0.8nm,0.7s,mb3.4,baz=60,slow=8.8,SNR=8.5					
CMAR			LR	LR		14 03 19.2
	comp=Z,77nm,18.6s,MS3.3,baz=125,slow=39					
CMAR	**Chiang Mai Arr**	**26.75 259**	*i*P		**P**	**13 51 38.0 -0.8**
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
SONM	**Songino Array**	**26.86 329**	P		**P**	**13 51 41.6 +2.0**
	comp=Z,5.2nm,0.7s,mb4.2,baz=144,slow=10,SNR=16					
SONM			LR	LR		14 03 31.9
	comp=Z,130nm,18.9s,MS3.5,baz=243,slow=40					
TLY	**Talaya**	**30.89 332**	*i*P		**P**	**13 52 12.9 -2.4**
WMQ	**Urumqi**	**36.07 309**	*e*P		**P**	**13 53 02.0 +1.4**
WMQ			AP	pP		13 53 15.8 +11
WMQ			XP	sP		13 53 22.0 +16
WMQ			AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5					
WMQ			LR	LR		
	comp=N,132nm,18.0s,MS3.8					
WMQ			LR	LR		
	comp=E,87nm,18.0s,MS3.8					
WMQ			LR	LR		
	comp=Z,79nm,20.1s,MS3.5					
KRAR	**Krasnoyarsk**	**38.53 330**	*e*P		**P**	**13 53 19.1 -2.1**
SEY	**Seymchan**	**40.49 18**	*i*P		**P**	**13 53 34.4 -3.1**
MKAR	**Makanchi Array**	**40.54 312**	P		**P**	**13 53 36.1 -2.1**
	comp=Z,0.9nm,0.5s,mb3.7,baz=98,slow=9.5,SNR=12					
MKAR			PcP	PcP		13 55 39.7 -0.7
	comp=Z,0.9nm,0.8s,baz=91,slow=2.7,SNR=5.1					
MKAR	**Makanchi Array**	**40.54 312**	P		**P**	**13 53 36.1 -2.1**
MKAR			PcP	PcP		13 55 39.7 -0.8
ZALV	**Zalesovo Beam**	**41.46 323**	P		**P**	**13 53 43.3 -2.4**
	comp=Z,0.7nm,0.3s,mb3.7,baz=120,slow=8.8,SNR=4.1					
ZALV			LR	LR		14 12 20.4
	comp=Z,38nm,18.5s,MS3.3,baz=164,slow=38					
ZAL	**Zalesovo**	**41.46 323**	P		**P**	**13 53 43.3 -2.4**
KURK	**Kurchatov**	**43.91 317**	*i*P		**P**	**13 54 03.4 -2.2**
KURK			pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.9					
FITZ	**Fitzroy Crossi**	**44.02 181**	*e*P		**P**	**13 54 06.9 +0.2**
	comp=Z,9.3nm,0.8s,mb4.6					
UCH	**Uchtor**	**45.32 304**	P		**P**	**13 54 16.6 -0.4**
	comp=Z,2.5nm,0.9s,mb4.0					
WRAB	**Tennant Creek**	**46.43 170**⇑	*e*P		**P**	**13 54 26.3 +0.5**
WRAB	**Tennant Creek**	**46.43 170**	*e*P		**P**	**13 54 26.2 +0.3**
	comp=Z,13nm,1.1s,mb4.8					
WRA	**Warramunga Arr**	**46.44 170**	P		**P**	**13 54 26.1 +0.2**
	comp=Z,5.5nm,0.8s,mb4.6,baz=352,slow=8.5,SNR=46					
WB2	**Warramunga Arr**	**46.44 170**	*e*P		**P**	**13 54 26.0 +0.1**
CTA	**Charters Tower**	**49.76 156**	LR	LR		14 13 31.4
	comp=Z,78nm,18.1s,MS3.8,baz=43,slow=33					
ASAR	**Alice Springs**	**50.03 171**	P		**P**	**13 54 54.5 +0.8**
	comp=Z,2.7nm,0.8s,mb4.3,baz=357,slow=7.6,SNR=46					
ARU	**Arti**	**56.58 322***c*	*i*P		**P**	**13 55 40.1 -1.4**
ARU			*e*S		**S**	**14 03 31.5 -1.4**
ARU			*e*SS	SS		14 07 12.9 -7.1
ARU			pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.2					
STKA	**Stephens Creek**	**59.45 165**	*e*P		**P**	**13 56 02.4 +0.6**
	comp=Z,3.3nm,0.8s,mb4.4					
STKA	**Stephens Creek**	**59.45 165**	P		**P**	**13 56 02.4 +0.5**
	comp=Z,3.4nm,0.8s,mb4.4,baz=324,slow=8.5,SNR=5.6					
MCK	**McKinley**	**64.41 29**	*e*P		**P**	**13 56 34.7 -0.1**
	comp=Z,28nm,1.6s,mb5.0					
COLA	**College**	**64.72 28**	*e*P		**P**	**13 56 36.4 -0.5**
EGAK	**Eagle**	**67.55 28**	*e*P		**P**	**13 56 54.5 -0.5**
	comp=Z,4.0nm,1.0s,mb4.4					
ARCES	**ARCESS Array B**	**69.55 338**	LR	LR		14 33 32.1
	comp=Z,43nm,20.4s,MS3.7,baz=300,slow=41					
HYT	**Haines Junctio**	**70.26 31**	*e*P		**P**	**13 57 12.2 +0.3**
AKASG	**Malin Array Be**	**74.67 319**	P		**P**	**13 57 36.2 -2.3**
	comp=Z,0.4nm,0.3s,mb3.8,baz=58,slow=5.9,SNR=3.0					
JMIC	**Jan Mayen**	**78.14 346**	LR	LR		14 33 42.9
	comp=Z,22nm,18.8s,MS3.5,baz=251,slow=37					
NOA	**NORSAR Array B**	**78.75 333**	P		**P**	**13 57 58.7 -2.6**
	comp=Z,0.5nm,0.5s,mb3.7,baz=56,slow=5.3,SNR=3.0					
NOA			LR	LR		14 36 51.1
	comp=Z,62nm,18.1s,MS4.0,baz=285,slow=39					
YKA	**Yellowknife Ar**	**79.16 24**	P		**P**	**13 58 03.0 -0.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=313,slow=5.7,SNR=12					
YKA			LR	LR		14 33 28.8
	comp=Z,16nm,18.2s,MS3.4,baz=55,slow=36					
YKA	**Yellowknife Ar**	**79.16 24**	P		**P**	**13 58 03.0 -0.5**
YKA			LR	LR		14 33 28.8
CLL	**Collm**	**83.40 325**	*e*P		**P**	**13 58 23.0 -3.2**
GERES	**GERESS Array B**	**84.40 322**	LR	LR		14 38 47.8
	comp=Z,56nm,18.8s,MS4.0,baz=61,slow=38					
EGMT	**Eagleton**	**90.48 34**	*e*P		**P**	**13 59 01.1 +0.3**
	comp=Z,6.5nm,1.0s,mb4.9					
HLID	**Hailey**	**90.83 40**	*e*P		**P**	**13 59 03.3 +0.7**
	comp=Z,2.6nm,1.0s,mb4.5					
NVAR	**Mina Array Bea**	**91.54 45**	P		**P**	**13 59 07.1 +1.1**
	comp=Z,0.4nm,0.7s,mb3.9,baz=295,slow=4.9,SNR=2.1					
HWUT	**Hardware Ranch**	**93.70 40**	*e*P		**P**	**13 59 16.9 +1.0**
	comp=Z,3.0nm,1.1s,mb4.6					
PDAR	**Pinedale Array**	**94.07 38**	P		**P**	**13 59 17.3 -0.2**
	comp=Z,0.6nm,0.9s,mb4.0,baz=322,slow=4.3,SNR=5.2					
KEST	**Kesra**	**94.63 314**	LR	LR		14 48 33.7
	comp=Z,22nm,19.9s,MS3.6,baz=232,slow=40					
SCHQ	**Schefferville**	**98.50 8**	LR	LR		14 44 56.7
	comp=Z,50nm,19.0s,MS4.0,baz=229,slow=36					

CASC 27 14:12:44.4±2.4, 806N×8296W, h5km±13km, MD4.1, 6C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.63**	**341**⇑	*e*P	Pg	14 12 56.4	-0.1
ACR				*e*S	Sg	14 13 05.6	+1.0
DVD	**David**	**0.63**	**53**	*e*P	Pg	14 12 56.5	0.0
DVD				*e*S	Sg	14 13 05.6	+0.9
BAR1		**1.23**	**344**⇓	*e*P	Pg	14 13 06.7	-1.2
BAR1				*e*S	Sg	14 13 23.3	-0.6
CNI	**Changuinola**	**1.42**	**18**⇓	*i*P	Pn	14 13 10.1	-0.9
BUS	**Buena Vista**	**1.69**	**332**⇑	*e*P	Pn	14 13 14.0	-0.5
BUS				*e*S	Sn	14 13 37.8	+1.2
QCR	**Quepos**	**1.81**	**319**⇑	*e*P	Pn	14 13 14.9	-1.3
QCR				*e*S	Sn	14 13 39.3	-0.3
LIO	**Limon**	**1.94**	**358**⇓	*e*P	Pn	14 13 19.1	+1.1
LIO				*e*S	Sn	14 13 43.8	+1.0
URSC	**Urasca**	**1.94**	**335**⇑	*e*P	Pn	14 13 18.1	0.0
URSC				*e*S	Sn	14 13 44.4	+1.4
LCR2	**La Lucha 2**	**1.97**	**328**	*e*P	Pn	14 13 18.1	-0.3
LCR2				⇑*e*P		14 13 18.2	
SJS	**Escuela Geolog**	**2.16**	**330**	*e*S	Sn	14 13 51.2	+2.9
PRS1	**Puriscal**	**2.33**	**325**	*e*P	Pn	14 13 22.4	-1.1
PRS1				⇑*e*P		14 13 22.4	
CGA2	**Cerro Gallo 2**	**2.45**	**323**⇓	*e*P	Pn	14 13 26.2	+1.2
CGA2				*e*S	Sn	14 13 58.0	+2.6
JCR	**Jicaral**	**2.77**	**310**	*e*P	Pn	14 13 29.7	+0.2
VCR	**Vista de Mar**	**3.34**	**308**	*e*P	Pn	14 13 37.0	-0.4

IDC ***27*** *14:16:58.4±1.7, 165N×127.46E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, MS2.7/1, Ms1 2.7/1, ms1mx1.8/31, Error ellipse: s-maj=105.8km s-min=22.8km az=68.0*

ISCJB ***27*** *14:17:13.1±1.6, 14N±03×127.1E±06, h14km±12km, mb3.8/4, Error ellipse: s-maj=97.8km s-min=24.6km az=158.7*

ISC 27 14:17:14.0±2.1, 15N±03×1274E±05, h138km±13km, n8, σ0§26/7, mb3.8/4, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**0.67**	**186**⇑	*e*P	**Pn**	**14 17 35.1**	**0.0**
FITZ	**Fitzroy Crossi**	**19.52**	**185**	P	**P**	**14 21 30.8**	**0.0**
	0.1nm,0.3s,baz=17,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**22.32**	**163**	P	**P**	**14 22 00.4**	**-0.2**
	1.8nm,0.3s,mb4.0,baz=340,slow=10,SNR=44						
WB2	**Warramunga Arr**	**22.32**	**163**	*e*P	**P**	**14 22 00.4**	**-0.2**
JOW	**Kunigami**	**25.24**	**2**	LR	LR	14 31 31.1	
	comp=Z,20nm,20.5s,baz=141,slow=35						
ASAR	**Alice Springs**	**25.75**	**166**	P	**P**	**14 22 32.0**	**+0.1**
	0.6nm,0.3s,mb3.6,baz=347,slow=7.2,SNR=27						
STKA	**Stephens Creek**	**35.77**	**159**	P	**P**	**14 24 00.2**	**+0.4**
	1.6nm,0.3s,mb4.1,baz=334,slow=10,SNR=7.5						
MKAR	**Makanchi Array**	**59.82**	**326**	P	**P**	**14 27 04.8**	**-0.1**
	0.4nm,0.4s,mb3.6,baz=112,slow=7.9,SNR=7.1						

ISCJB ***27*** *14:35:58.0±1.1, 6632N±006×1357W±02, h10km, Error ellipse: s-maj=10.9km s-min=8.3km az=170.6*

NEIC ***27*** *14:35:59.8±1.3, 6646N×13583W, h5km, ML2.6(AEIC), ML3.1(PGC), Error ellipse: s-maj=19.3km s-min=13.2km az=201.0*

PGC ***27*** *14:36:04.4, 6660N×13599W, h35km, ML3.1, 115km Wsw of Fort McPherson, Nt Northern Yukon Territory, Canada*

ISC 27 14:36:00.6±1.0, 6642N±006×1359W±02, h10km, n13, σ1§40/20, 5D, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGAK	**Eagle**	**2.73**	**235**	P	**Pn**	**14 36 42.6**	**-1.9**
EGAK				S	**Sn**	**14 37 07.8**	**-10**
DAWY	**Dawson**	**2.78**	**213**	⇓Pn	**Pn**	**14 36 46.6**	**+1.5**
DAWY				⇓Sn	**Sn**	**14 37 18.1**	**-0.5**
DAWY	**Dawson**	**2.78**	**213**	P	**Pn**	**14 36 47.1**	**+2.0**
DAWY				S	**Sn**	**14 37 17.4**	**-1.3**
BM3	**Burnt Mountain**	**3.56**	**290**	P	**Pn**	**14 36 57.4**	**+1.5**
BCA3	**Beaver Creek A**	**4.20**	**219**	P	**Pn**	**14 37 06.0**	**+1.3**
BCA3				S	**Sn**	**14 37 47.9**	**-5.8**
IL1	**Eielson Array**	**4.84**	**255**	P	**Pn**	**14 37 11.4**	**-2.0**
COLA	**College**	**5.18**	**258**	P	**Pn**	**14 37 16.4**	**-1.6**
HYT	**Haines Junctio**	**5.66**	**188**	⇓Pn	**Pn**	**14 37 28.5**	**+3.8**
HYT				⇑Sg	**Sg**	**14 39 02.2**	**0.0**
HYT	**Haines Junctio**	**5.66**	**188**	*e*Pn	**Pn**	**14 37 28.2**	**+3.5**
HYT				Sg	**Sg**	**14 39 02.2**	**0.0**
COLD	**Coldfoot**	**5.70**	**285**	P	**Pn**	**14 37 26.1**	**+1.0**
WHY	**Whitehorse**	**5.80**	**175**	⇑Pn	**Pn**	**14 37 27.9**	**+1.3**
RAGM	**Ragged Mountai**	**7.21**	**217**	*e*Pn	**Pn**	**14 37 46.3**	**+0.3**
YKW3	**Yellowknife Ar**	**9.95**	**103**	⇓Pn	**Pn**	**14 38 21.9**	**-1.4**
YKW3				⇓Sn	**Sn**	**14 40 04.8**	**-10**

NEIC ***27*** *14:57:23.9±1.8, 1441S×7692W, h10km, Error ellipse: s-maj=39.2km s-min=15.0km az=52.0*

IDC 27 14:57:23.8±2.3, 1426S×7662W, h0km, mb3.8/2, mb1 4.0/6, mb1mx3.8/20, mbtmp3.9/6, ML3.9/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=62.4km s-min=21.3km az=56.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.27**	**355**	Pn	Pn	14 58 02.4	-0.1
	18nm,0.3s,baz=184,slow=14,SNR=27						
NNA				Sn	Sn	14 58 32.0	+0.9
	131nm,0.3s,baz=199,slow=21,SNR=13						
ATAH	**Atahualpa**	**7.42**	**346**	Pn	Pn	14 59 14.0	+0.7
	1.0nm,0.3s,baz=335,slow=6.0,SNR=5.2						
ATAH				Sn	Sn	15 00 46.7	+8.4
	1.5nm,0.3s,baz=128,slow=18,SNR=3.0						
LPAZ	**La Paz**	**8.44**	**105**	Pn	Pn	14 59 29.9	+2.6
	0.4nm,0.3s,baz=276,slow=11,SNR=9.2						
LPAZ				Sn	Sn	15 01 15.8	+12
	0.1nm,0.3s,baz=24,slow=19,SNR=3.3						
LPAZ	**La Paz**	**8.44**	**105**	*e*Pn	Pn	14 59 30.0	+2.6
LPAZ				Sn	Sn	15 01 15.8	+12
LVC	**Limon Verde**	**11.07**	**140**	Pn	Pn	15 00 04.8	+1.4
	0.6nm,0.3s,baz=322,slow=12,SNR=5.3						
LVC	**Limon Verde**	**11.07**	**140**	*e*Pn	Pn	15 00 02.6	-0.8
SIV	**San Ignacio**	**15.11**	**99**	Pn	Pn	15 01 02.9	+4.1
	0.2nm,0.3s,baz=288,slow=16,SNR=4.4						
PCRV	**Puerto La Cruz**	**27.03**	**27**	LR	LR	15 14 41.9	
	comp=Z,104nm,20.2s,baz=4.2,slow=38						
TXAR	**Lajitas Array**	**50.59**	**329**	P	P	15 06 24.8	+0.2
	0.4nm,0.7s,baz=146,slow=8.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**82.19**	**74**	P	P	15 09 46.4	-1.0
	1.4nm,0.6s,baz=249,slow=4.2,SNR=11						

ISCJB ***27*** *15:08:59.9±0.5, 3708N±004×28.19E±004, h6km±6km, Error ellipse: s-maj=8.0km s-min=4.3km az=27.2*

DDA ***27*** *15:08:59.1, 3709N×2823E, h7km±4km, Md2.9*

CSEM ***27*** *15:08:59.5±0.2, 3709N×2817E, h8km, MD2.7, Error ellipse: s-maj=5.3km s-min=3.1km az=10.0*

ISK ***27*** *15:08:59.7, 3708N×2818E, h12km, MD2.7*

ISC 27 15:09:00.4±0.5, 3710N±005×2820E±004, h7km±6km, n11, σ0§87/18, 3C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.08**	**61**	PG	**Pg**	**15 09 02.8**	**+0.5**
YER				*e*SG	**Sg**	**15 09 05.1**	**+1.3**
MLSB	**Milas**	**0.39**	**301**	*e*PG	**Pg**	**15 09 08.0**	**0.0**
MLSB				*e*SG	**Sg**	**15 09 13.8**	**+0.6**
TURN	**Turunc**	**0.39**	**124**⇓	*i*P	**Pg**	**15 09 06.5**	**-1.6**
TURN				*i* S	**Sg**	**15 09 12.1**	**-1.2**
DALT	**Dalyan (Mudla)**	**0.48**	**133**	*e*PG	**Pg**	**15 09 09.5**	**-0.2**
BDRM	**Kayabasi**	**0.60**	**267**⇑	*i*P	**Pg**	**15 09 11.5**	**-0.5**
BDRM				*i* S	**Sg**	**15 09 20.6**	**+0.7**
AYDN	**Tasoluk**	**0.62**	**336**⇑	*i*P	**Pg**	**15 09 11.7**	**-0.6**
AYDN				*i* S	**Sg**	**15 09 19.6**	**-0.8**
BODT	**Bodrum**	**0.71**	**267**	*e*PG	**Pg**	**15 09 13.8**	**-0.3**
GCAM	**G?zelcaml?**	**0.98**	**308**	*e*P	**Pg**	**15 09 18.8**	**-0.3**
GCAM				*e*S	**Sg**	**15 09 32.4**	**+0.6**
AKAS	**Kas**	**1.42**	**127**⇑	*i*P	**Pn**	**15 09 27.3**	**+0.7**
AKAS				*i* S	**Sb**	**15 09 48.2**	**+2.7**
KULA	**Kula-Manisa**	**1.46**	**14**	*e*PN	**Pn**	**15 09 26.7**	**-0.4**
BLCB	**Balcova**	**1.58**	**325**	*e*PN	**Pn**	**15 09 28.5**	**-0.2**

CSEM ***27*** *15:15:10.8±0.1, 4351N×1034E, h12km, ML2.6/4, Error ellipse: s-maj=1.6km s-min=1.4km az=133.0*

ISCJB ***27*** *15:15:11.

GRFL	Gerfalco	0.58	125	Pg	Pg	15 15 21.9	-0.9
	15nm,0.4s						
BDI	Bagni Di Lucca	0.61	19	Pg	Pg	15 15 22.9	-0.4
BDI				Sg	Sg	15 15 31.1	-0.4
	194nm,0.6s						
VLC	Villacollemand	0.67	4	Pg	Pg	15 15 24.2	-0.3
VLC				Sg	Sg	15 15 33.3	-0.2
	153nm,0.7s						
SARO	Sassorosso	0.70	4	P	Pb	15 15 24.9	0.0
SARO				S	Sb	15 15 34.2	0.0
CSNT	Castellina Chi	0.70	91	Pg	Pg	15 15 24.6	-0.5
	93nm,0.9s						
PZZT	Monte Pizzetto	0.75	31⇑	iPg	Pg	15 15 25.7	-0.3
	189nm,0.3s						
CASP	Castiglione de	0.80	150	Pg	Pg	15 15 26.9	0.0
CASP				Sg	Sg	15 15 38.5	+1.0
	79nm,0.5s						
BACM	Baccana	0.81	347	P	Pb	15 15 26.7	-0.1
BACM				S	Sb	15 15 37.3	-0.1
VALM	Valbona	0.86	356	P	Pb	15 15 27.7	0.0
VALM				S	Sb	15 15 39.1	+0.2
GSCL	Gusciola	0.88	12	Pg	Pg	15 15 29.1	+0.6
	42nm,0.4s						
FNVD	Fontana Vidola	0.89	40	Pg	Pg	15 15 28.3	-0.3
	259nm,0.8s						
ERBM	Eremo	0.93	4	Pg	Pg	15 15 30.1	+0.7
	165nm,0.8s						
SEI	Scarperia	0.94	52	Pg	Pg	15 15 30.6	+1.1
	102nm,0.3s						
CODM	Codolo	0.97	339	P	Pb	15 15 29.4	0.0
CODM				S	Sb	15 15 42.1	+0.2
VMG	Vicchio	1.00	61	Pg	Pg	15 15 30.8	+0.1
	26nm,0.3s						
GRAM	Graiana	1.02	349	P	Pb	15 15 30.5	+0.1
GRAM				S	Sb	15 15 43.8	+0.4
ARCI	Arcidosso	1.05	127	Pg	Pg	15 15 31.6	-0.1
	45nm,0.5s						
MAON	Monte Argentar	1.21	151	Pg	Pg	15 15 34.1	-0.6
PGF	Pioggiola	1.35	227	ePn	Pn	15 15 35.3	+0.1
PGF				eSn	Sn	15 15 51.7	-0.9
	29nm,0.5s						
PGF	Pioggiola	1.35	227	ePn	Pn	15 15 35.3	+0.1
PGF				eSn	Sn	15 15 51.7	-0.9
	15nm,0.5s						
BOB	Bobbio (Coli)	1.43	334	Pg	Pg	15 15 38.1	-0.7
	63nm,1.0s						
FRF	La Foret Royal	2.68	273	ePn	Pn	15 15 54.0	+0.6
FRF				eSn	Sn	15 16 24.6	-0.7
	5.4nm,0.3s						
FRF	La Foret Royal	2.68	273	ePn	Pn	15 15 54.0	+0.6
FRF				eSn	Sn	15 16 24.6	-0.7
	2.7nm,0.3s						
LMR	La Mourre	2.79	268	ePn	Pn	15 15 54.4	-0.5
LMR				eSn	Sn	15 16 26.9	-1.1
	2.9nm,0.3s						
LMR	La Mourre	2.79	268	ePn	Pn	15 15 54.4	-0.5
LMR				eSn	Sn	15 16 26.9	-1.1
	1.5nm,0.3s						
MBDF	Montbardon	2.84	297	ePn	Pn	15 15 56.5	+0.8
MBDF				eSn	Sn	15 16 29.2	-0.2
	1.7nm,0.4s						
SMRF	Simiane la Rot	3.48	280	eP	Pn	15 16 06.8	+2.4
ORIF	Oris-en-Rattie	3.50	296	eP	Pn	15 16 09.1	+4.4
LASF	Ste Croix	4.72	279	ePn	Pn	15 16 21.9	+0.4

*IDC **27** 15:29:51.7±1.2, 3842N×2168E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.6/25, mbtmp3.8/7, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.0/36, Error ellipse: s-maj=28.6km s-min=20.9km az=83.0*
*ATH **27** 15:29:52.5, 3829N×2182E, h18km±1km, MD3.6/13, ML3.3*
*THE **27** 15:29:53.1, 3833N×2181E, h2km, ML2.3*
*ISCJB **27** 15:29:53.7±0.4, 3830N±002×2179E±003, h19km±4km, mb3.7/6, Error ellipse: s-maj=3.8km s-min=3.5km az=8.2*
*NEIC **27** 15:29:53.1, 3833N×2181E, h2km, ML3.3(ATH), ML4.0(THE), After THE.*
*CSEM **27** 15:29:53.1±0.1, 3831N×2178E, h12km, ML3.3, Error ellipse: s-maj=1.6km s-min=1.4km az=112.0*

ISC 27 15:29:53.1±0.4, 3831N±002×2181E±002, h10km±3km, n63, σ1°25/83, mb3.7/6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.37	227	ePB	Pg	15 30 00.2	-0.1
RLS				eSB	Sg	15 30 05.8	+0.6
EVR	Evrytania	0.61	360	ePB	Pb	15 30 04.0	-1.8
EVR				eSN	Sg	15 30 14.2	+1.3
AGG	Agios Georgios	0.82	30	ePg	Pg	15 30 07.7	-1.2
AGG				eSg	Sg	15 30 20.4	+0.8
KFL	Anninata	0.83	257	ePg	Pg	15 30 08.7	-0.4
KFL	Anninata	0.83	257	ePg	Pg	15 30 08.6	-0.4
LTK	Loutraki	0.96	107	ePg	Pg	15 30 11.7	+0.2
LTK				eSg	Sg	15 30 25.6	+1.7
VLS	Valsamata	0.97	263	ePg	Pg	15 30 10.6	-1.1
VLS				eSg	Sg	15 30 25.7	+1.4
VLS	Valsamata	0.97	263	ePB	Pb	15 30 10.5	-1.4
VLS				eSN	Sn	15 30 25.1	-1.4
VLS	Valsamata	0.97	263	ePg	Pg	15 30 10.6	-1.1
VLS				eSn	Sn	15 30 25.1	-1.4
VLS				eSg	Sg	15 30 25.7	+1.4
LKD	Levkas	0.99	294	ePg	Pg	15 30 10.7	-1.5
LKD				eSg	Sg	15 30 26.4	+1.3
LKR	Lokris	0.99	69	ePg	Pg	15 30 11.2	-1.1
LKR				eSg	Sg	15 30 26.1	+0.9
LKR	Lokris	0.99	69	ePN	Pn	15 30 11.0	-2.0
LKR				eSN	Sn	15 30 25.7	-1.4
LKR	Lokris	0.99	69	ePg	Pg	15 30 11.2	-1.0
LKR				eSg	Sg	15 30 26.0	+0.8
VLX	Vlachokerasia	1.04	154	ePg	Pg	15 30 12.5	-0.5
ITM	Ithomi	1.13	175	ePN	Pn	15 30 14.0	-0.9
THL	Klokotos Trika	1.27	7	ePg	Pg	15 30 16.7	-0.7
THL				eSg	Sg	15 30 34.0	+0.2
THL	Klokotos Trika	1.27	7	ePn	Pn	15 30 16.4	-0.4
THL	Klokotos Trika	1.27	7	ePg	Pg	15 30 16.7	-0.7
THL				eSg	Sg	15 30 34.0	+0.2
DID	Didima	1.38	125	ePg	Pg	15 30 18.7	-0.9
DID				eSg	Sg	15 30 38.4	+0.8
NAIG	Nisos Aigina	1.44	112	ePN	Pn	15 30 19.0	-0.1
NEO	Neokhori	1.49	47	ePN	Pn	15 30 20.0	+0.2
XOR	Xorichti	1.51	45	ePg	Pg	15 30 20.3	-1.8
ATH	Athens Observa	1.54	102	ePN	Pn	15 30 20.6	+0.1
JAN	Janina	1.54	331	ePN	Pn	15 30 21.4	+0.8
JAN	Janina	1.54	331	ePn	Pn	15 30 22.4	+1.8
KVR	Kavouri	1.62	107	ePN	Pn	15 30 22.5	+0.9
KVR	Kavouri	1.62	107	ePn	Pn	15 30 23.0	+1.4
PTL	Penteli	1.64	98	ePN	Pn	15 30 22.5	+0.6
IGT	Igoumenitsa	1.68	317	ePb	Pb	15 30 22.5	-1.6
VLI	Veliai	1.82	150	ePN	Pn	15 30 24.8	+0.4
AOS	Alonnisos	1.83	61	ePb	Pb	15 30 24.3	-2.4
LIT	Litokhoron	1.87	16	ePb	Pb	15 30 25.8	-1.4
KZN	Kozani	2.00	359	ePN	Pn	15 30 28.8	+2.0
KEK	Kerkira	2.10	313	ePN	Pn	15 30 29.8	+1.5
PAIG	Paliouri	2.18	41	ePn	Pn	15 30 29.1	-0.2
PLG	Polygyros	2.42	31	ePn	Pn	15 30 32.9	+0.2
PLG	Polygyros	2.42	31	ePn	Pn	15 30 32.8	+0.1
OUR	Ouranopolis	2.63	39	ePn	Pn	15 30 36.0	+0.4
BIA	Bitola	2.73	352	ePn	Pn	15 30 40.0	+3.1
BIA				eSn	Sn	15 31 15.2	+5.2
BIA	Bitola	2.73	352	ePn	Pn	15 30 40.0	+3.0
OHR	Ohrid	2.91	345	ePn	Pn	15 30 44.2	+4.9
OHR				eSn	Sn	15 31 16.9	+2.6
VAY	Valandovo	3.07	11	ePn	Pn	15 30 45.3	+3.7
VAY	Valandovo	3.07	11	ePn	Pn	15 30 45.2	+3.7
KRUS	Krusevo	3.09	352	ePn	Pn	15 30 45.3	+3.5
KRUS				eSn	Sn	15 31 16.9	-1.9
KRUS	Krusevo	3.09	352	ePn	Pn	15 30 45.3	+3.5
KRUS				eSn	Sn	15 31 16.8	-2.0
STIP	Stip	3.40	5	ePn	Pn	15 30 48.3	+2.2
STIP	Stip	3.40	5	ePn	Pn	15 30 48.2	+2.2
NVR	Nevrokopi	3.43	27	ePb	Pb	15 30 50.7	-3.1
VAM	Vamos	3.47	146	ePN	Pn	15 30 47.5	+0.4
MMB	Musomiste	3.59	24	eP	Pn	15 30 49.9	+1.1
KKB	Krupnik	3.69	15	eP	Pn	15 30 54.1	+4.0
IDI	Anoyia	3.90	140	Pn	Pn	15 30 56.0	+3.0
	2.3nm,0.3s,baz=320,slow=16,SNR=11						
IDI				Sn	Sn	15 31 43.8	+5.0
	2.0nm,0.3s,baz=326,slow=18,SNR=3.3						
RZN	Rozhen	4.05	33	eP	Pn	15 30 59.8	+4.8
VTS	Vitosha	4.41	14	eP	Pn	15 31 04.1	+4.1
DIVS	Divibare	5.95	347	ePn	Pn	15 31 22.1	+1.0
HFS	Hagfors	22.45	349	P	P	15 34 50.5	-1.3
	1.1nm,0.4s,mb3.7,baz=161,slow=14,SNR=7.8						
HFS				LR	LR	15 43 05.9	
	comp=Z,36nm,18.0s,baz=296,slow=36						
NOA	NORSAR Array B	23.70	347	P	P	15 35 03.8	-1.1
	1.0nm,0.7s,mb3.4,baz=154,slow=9.4,SNR=3.6						
TORD	Torodi Ar. Bea	30.78	221	P	P	15 36 09.1	+0.3
	0.4nm,0.6s,mb3.4,baz=30,slow=8.7,SNR=6.2						
TORD	Torodi Ar. Bea	30.78	221	P	P	15 36 09.1	+0.3
ARCES	ARCESS Array B	31.35	2	P	P	15 36 12.8	-0.5
	1.1nm,0.8s,mb3.7,baz=191,slow=8.9,SNR=4.1						
ARCES	ARCESS Array B	31.35	2	P	P	15 36 12.8	-0.5
MKAR	Makanchi Array	44.37	59	P	P	15 38 03.7	+0.3
	1.5nm,0.5s,mb4.0,baz=279,slow=7.5,SNR=34						
ZALV	Zalesovo Beam	44.85	48	P	P	15 38 07.1	0.0
	0.9nm,0.4s,mb4.0,baz=273,slow=8.8,SNR=4.2						

IDC 27 15:35:24.3±17.0, 2313S×17486W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/18, mbtmp4.2/5, Error ellipse: s-maj=315.8km s-min=134.7km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.21	267	P	P	15 42 29.6	+0.6
	6.6nm,0.5s,baz=97,slow=12,SNR=12						
STKA	Stephens Creek	39.38	247	P	P	15 42 56.3	+0.5
	1.6nm,0.7s,baz=90,slow=10,SNR=6.9						
ASAR	Alice Springs	46.81	259	P	P	15 43 55.5	-0.6
	0.7nm,0.3s,baz=100,slow=7.6,SNR=42						
WB2	Warramunga Arr	47.16	264	eP	P	15 43 57.9	-0.9
WRA	Warramunga Arr	47.17	264	P	P	15 43 58.1	-0.9
	2.2nm,0.3s,baz=103,slow=8.3,SNR=103						
FITZ	Fitzroy Crossi	55.60	263	eP	P	15 45 03.0	+0.8
	3.5nm,0.9s						
FITZ	Fitzroy Crossi	55.60	263	P	P	15 45 02.4	+0.3
	0.6nm,0.3s,baz=107,slow=7.9,SNR=7.9						

NEIC 27 15:57:28.7, 3972S×17465E, h144km, MG3.8(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.26	98	P	Pn	15 57 48.8	+0.5
WAZ				S	Sn	15 58 03.3	0.0
RAEZ	Rainy Point	0.47	335	P	Pn	15 57 49.2	0.0
VRZ	Vera Road	0.60	8	P	Pn	15 57 49.6	-0.3
NEZ	North Egmont	0.62	316	P	Pn	15 57 50.1	+0.1
PKE	Pukeiti	0.73	315	P	Pn	15 57 50.6	-0.2
NWEZ	Newall Road	0.75	306	P	Pn	15 57 50.1	-0.8
WNVZ	Wahianoa	0.83	62	P	Pn	15 57 51.5	0.0
DRZ	Dome Shelter	0.83	58	P	Pn	15 57 51.7	+0.2
FWVZ	Far West T-bar	0.84	57	P	Pn	15 57 51.5	0.0
FWVZ				S	Sn	15 58 06.5	-2.4
WPVZ	Whakapapa	0.86	54	P	Pn	15 57 51.6	-0.1
TWVZ	Taurewa	0.89	44	P	Pn	15 57 51.6	-0.3
TUVZ	Tukino	0.90	60	P	Pn	15 57 52.0	0.0
MOVZ	Moawhango	0.91	70	P	Pn	15 57 51.6	-0.5
NGZ	Ngauruhoe	0.92	54	P	Pn	15 57 52.0	-0.1
WTVZ	West Tongariro	0.94	51	P	Pn	15 57 52.2	-0.2
TSZ	Takapari Road	1.06	109	P	Pn	15 57 53.3	-0.1
KATZ	Kakaramea	1.10	48	P	Pn	15 57 53.7	-0.1
KIW	Kapiti Island	1.16	170	P	Pn	15 57 54.2	-0.1
MRZ	Mangatainoka R	1.18	143	P	Pn	15 57 54.4	-0.1
HIZ	Hauiti	1.21	8	P	Pn	15 57 54.2	-0.7
RATZ	Rangitukua	1.22	46	P	Pn	15 57 54.7	-0.2
WATZ	Wairara	1.31	40	P	Pn	15 57 55.8	0.0
CAW	Cannon Point	1.42	167	P	Pn	15 57 57.0	+0.1
WHTZ	Whakaora	1.46	44	P	Pn	15 57 57.4	0.0
MRW	Makara Radio	1.51	179	P	Pn	15 57 57.8	0.0
TCW	Tory Channel	1.52	191	P	Pn	15 57 58.0	+0.1
WEL	Wellington	1.57	177	P	Pn	15 57 58.3	-0.2
MTW	Mount Morrison	1.58	156	P	Pn	15 57 58.3	-0.3
SNZO	South Karori	1.59	179	P	Pn	15 57 58.5	-0.2
BHW	Baring Head	1.70	174	P	Pn	15 57 59.6	-0.3
MSWZ	Moikau Station	1.75	165	P	Pn	15 58 00.3	-0.2
PAWZ	Paruwai Farm	1.76	161	P	Pn	15 58 00.4	-0.2
NNZ	Nelson	1.78	213	P	Pn	15 58 00.6	-0.3
QRZ	Quartz Range	1.96	235	P	Pn	15 58 02.0	-1.0
BSWZ	Blackbirch Sta	2.08	196	P	Pn	15 58 04.3	0.0
URZ	Urewera	2.41	54	P	Pn	15 58 06.8	-1.6
THZ	Tophouse	2.44	212	P	Pn	15 58 08.2	-0.4
KNZ	Kokohu	2.44	74	P	Pn	15 58 07.7	-1.1
MWZ	Matawai	2.63	59	P	Pn	15 58 09.8	-1.3
KHZ	Kahutara	2.82	197	P	Pn	15 58 13.1	-0.4
DSZ	Denniston Nort	2.96	226	P	Pn	15 58 14.1	-1.2
PUZ	Puketiti	3.26	61	P	Pn	15 58 17.2	-1.9
LTZ	Lake Taylor	3.55	210	P	Pn	15 58 21.4	-1.4
CRLZ	Canterbury Las	4.14	201	P	Pn	15 58 28.4	-2.2
MQZ	McQueen's Vall	4.26	200	P	Pn	15 58 30.0	-2.1
WVZ	Waitaha Valley	4.46	220	P	Pn	15 58 32.6	-2.2
RPZ	Rata Peaks	4.81	213	P	Pn	15 58 37.9	-1.5
FOZ	Fox Glacier	5.34	222	P	Pn	15 58 42.5	-4.0
LBZ	Lake Benmore	5.73	214	P	Pn	15 58 48.9	-2.7
ODZ	Otahua Downs	6.09	208	P	Pn	15 58 54.7	-1.7
WKZ	Wanaka	6.59	217	P	Pn	15 58 59.7	-3.5
EAZ	Earnscleugh	6.78	214	P	Pn	15 59 02.6	-3.0

*ISCJB **27** 15:58:52.8±2.7, 211S±02×1789W±02, h609km±36km, mb3.6/6, Error ellipse: s-maj=33.6km s-min=21.8km az=168.5*
*NEIC **27** 15:58:53.3±0.8, 2070S×17883W, h600km, mb3.6/2, Error ellipse: s-maj=28.4km s-min=18.8km az=160.0*
*IDC **27** 15:58:56.2±3.1, 2135S×17866W, h658km±43km, mb3.0/4, mb1 3.4/5, mb1mx3.0/16, mbtmp3.1/5, Error ellipse: s-maj=46.2km s-min=16.0km az=161.0*

ISC 27 15:58:55.0±3.0, 213S±03×1787W±02, h630km±41km, n13, σ0°51/13, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.33	191	P	P	16 02 22.8	-0.3
	1.5nm,0.3s,baz=330,slow=1.7,SNR=16						
CTAO	Charters Tower	32.74	266	eP	P	16 04 39.0	+0.4
ASAR	Alice Springs	43.69	258	P	P	16 06 07.0	+0.5
	1.5nm,0.7s,mb3.7,baz=88,slow=7.4,SNR=41						
ASAR				S	S	16 11 53.6	+0.9
	1.1nm,0.9s,baz=94,slow=16,SNR=5.8						
WB2	Warramunga Arr	43.81	263	eP	P	16 06 07.2	-0.4
WB2	Warramunga Arr	43.81	263	eP	P	16 06 07.1	-0.5
WRA	Warramunga Arr	43.83	263	P	P	16 06 07.3	-0.4
	2.1nm,0.3s,mb4.2,baz=97,slow=7.4,SNR=96						
WRA				S	S	16 11 53.6	-1.2
	0.3nm,0.7s,baz=93,slow=14,SNR=3.2						
SBA	Scott Base	57.08	184	eP	P	16 07 46.8	+4.2
	1.0nm,0.5s,mb3.3						
NVAR	Mina Array Bea	82.04	44	P	P	16 10 10.8	-0.1
	0.4nm,0.5s,mb3.2,baz=224,slow=9.6,SNR=4.4						
NVAR	Mina Array Bea	82.04	44	P	P	16 10 10.8	-0.1
CMAR	Chiang Mai Arr	89.72	290	P	P	16 10 48.2	+0.1
	0.2nm,0.3s,mb3.4,baz=90,slow=2.7,SNR=4.5						
CHTO	Chiang Mai	89.86	290	eP	P	16 10 49.0	+0.2
	1.1nm,0.6s,mb3.9						
AKASG	Malin Array Be	143.33	330	PKP	PKPdf	16 17 15.7	-3.1
	2.1nm,0.4s,baz=43,slow=4.0,SNR=8.8						
GERES	GERESS Array B	150.73	343	PKPbc	PKPbc	16 17 36.4	-0.9
	0.5nm,0.6s,baz=96,slow=1.0,SNR=3.2						

*IDC **27** 16:20:25.4±0.7, 2741S×17637W, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.3/17, mbtmp4.1/13, ML4.9/1, Error ellipse: s-maj=26.6km s-min=17.0km az=143.0*
*NEIC **27** 16:20:27.0±0.5, 2744S×17635W, h10km, mb4.5/6, Error ellipse: s-maj=15.2km s-min=11.3km az=141.0*
*ISCJB **27** 16:20:29.0±0.6, 275S±01×1764W±01, h33km, mb4.2/15, Error ellipse: s-maj=16.9km s-min=13.7km az=136.5*

ISC 27 16:20:30.8±0.6, 275S±01×1764W±01, h35km, n38, σ1°00/34, mb4.2/15, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.20	217	Pn	Pn	16 21 06.3	+1.5
	298nm,0.3s,baz=80,slow=23,SNR=7.7						
RAO				Sn	Sn	16 21 35.9	+5.1
	743nm,0.3s,baz=101,slow=23,SNR=8.0						
RAO	Raoul Island	2.20	217	ePn	Pn	16 21 03.9	-1.0
RAO				Sn	Sn	16 21 35.9	+5.1
URZ	Urewera	12.03	205	Pn	Pn	16 23 10.7	-9.0
	0.7nm,0.3s,baz=14,slow=4.2,SNR=4.9						
URZ				Sn	Sn	16 25 25.5	-7.1
	2.8nm,0.3s,baz=158,slow=19,SNR=7.8						
AFI	Afiamalu	14.19	19	Pn	Pn	16 23 42.9	-6.4
	3.2nm,0.3s,baz=155,slow=22,SNR=6.3						
AFI	Afiamalu	14.19	19	eP	Pn	16 23 44.1	-5.3
RAR	Rarotonga	16.38	71	Pn	Pn	16 24 07.2	-11
	2.3nm,0.3s,baz=254,slow=12,SNR=3.5						
RPZ	Rata Peaks	19.09	209	P	Pn	16 24 47.1	-4.3
	1.2nm,0.3s,baz=49,slow=8.3,SNR=8.6						
CTA	Charters Tower	34.87	274	eP	P	16 27 20.4	+1.5
	8.7nm,1.2s,mb4.6						
CTA	Charters Tower	34.87	274	P	P	16 27 19.8	+0.8
	4.2nm,0.4s,mb4.7,baz=111,slow=8.1,SNR=11						
CTAO	Charters Tower	34.87	274	eP	P	16 27 20.0	+1.1
	3.8nm,0.4s,mb4.7						
STKA	Stephens Creek	36.60	253	eP	P	16 27 34.3	+0.7
	4.0nm,1.1s,mb4.2						
STKA	Stephens Creek	36.60	253	P	P	16 27 33.5	-0.2
	1.7nm,0.5s,mb4.2,baz=113,slow=16,SNR=16						
STKA	Stephens Creek	36.60	253	eP	P	16 27 34.0	+0.4
ASAR	Alice Springs	44.76	263	P	P	16 28 40.9	-0.2
	0.8nm,0.5s,mb3.8,baz=93,slow=6.4,SNR=24						
WB2	Warramunga Arr	45.48	268	eP	P	16 28 46.1	-0.8
WRAB	Tennant Creek	45.49	268	eP	P	16 28 46.5	-0.4
WRA	Warramunga Arr	45.50	268	P	P	16 28 45.7	-1.3
	1.2nm,0.3s,mb4.2,baz=105,slow=7.9,SNR=26						
SBA	Scott Base	51.02	185	eP	P	16 29 31.6	+2.8
	7.8nm,1.1s,mb4.5						
FITZ	Fitzroy Crossi	53.85	267	eP	P	16 29 50.9	+0.3
	3.4nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	53.85	267	P	P	16 29 49.2	-1.4
	1.3nm,0.9s,mb3.9,baz=100,slow=6.1,SNR=5.4						
CASY	Casey	58.35	207	eP	P	16 30 22.2	+0.2
	19nm,1.0s,mb5.1						
MAW	Mawson	75.50	200	P	P	16 32 12.0	+1.0
	1.4nm,0.7s,mb4.0,baz=135,slow=6.6,SNR=3.4						
MJAR	Matsushiro Arr	76.71	324	P	P	16 32 18.9	+0.6
	0.6nm,0.4s,mb3.8,baz=150,slow=5.2,SNR=4.6						
SYO	Syowa Base	80.24	192⇑	eP	P	16 32 35.4	-2.0
SNAA	Sanae	81.00	178	eP	P	16 32 40.8	-0.6
	6.5nm,1.4s,mb4.4						
KSRS	Korea Array	83.09	319	P	P	16 32 52.8	0.0
	1.1nm,0.8s,mb3.9,baz=142,slow=6.1,SNR=3.2						
NVAR	Mina Array Bea	85.15	42	P	P	16 33 03.2	-0.1
	1.2nm,0.8s,mb4.1,baz=226,slow=8.8,SNR=8.4						
NVAR	Mina Array Bea	85.15	42	P	P	16 33 03.2	-0.1
TXAR	Lajitas Array	89.63	56	P	P	16 33 25.1	0.0
	0.9nm,1.0s,mb4.0,baz=198,slow=7.8,SNR=5.4						
PDAR	Pinedale Array	93.06	43	P	P	16 33 40.2	-0.4
	0.3nm,0.7s,mb3.8,baz=157,slow=4.2,SNR=3.5						
CMAR	Chiang Mai Arr	93.80	289	P	P	16 33 46.1	+1.5
	0.5nm,0.6s,mb4.1,baz=157,slow=4.5,SNR=4.8						
MKAR	Makanchi Array	116.97	311	PKP	PKPdf	16 39 11.2	-0.3
	0.2nm,0.2s,baz=98,slow=1.5,SNR=3.2						
ARCES	ARCESS Array B	136.04	349	PKP	PKPdf	16 39 47.7	+0.5
	2.1nm,0.7s,baz=29,slow=2.8,SNR=14						
ARCES	ARCESS Array B	136.04	349	PKP	PKPdf	16 39 47.7	+0.5
NB2	NORSAR Subarra	146.08	353	PKP	PKPdf	16 40 06.6	+1.1
	comp=Z,2.7nm,0.6s,baz=11,slow=3.0						
NOA	NORSAR Array B	146.08	353	PKPbc	PKPbc	16 40 06.6	+0.2
	comp=Z,2.9nm,0.7s,baz=14,slow=4.6,SNR=12						
AKASG	Malin Array Be	149.75	327	PKPbc	PKPbc	16 40 16.1	-0.5
	comp=Z,3.1nm,0.9s,baz=41,slow=1.9,SNR=7.0						
TORD	Torodi Ar. Bea	165.60	172	PKPab	PKPab	16 41 30.4	-0.4
	comp=Z,2.0nm,0.7s,baz=195,slow=3.9,SNR=12						

IDC 27 17:05:30.5±3.5, 1833N×14814E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=114.6km s-min=21.9km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.66	214	Pn	Pn	17 06 55.9	0.0
	2.2nm,0.3s,baz=135,slow=20,SNR=5.4						
KSRS	Korea Array	26.02	321	P	P	17 11 06.0	+0.6
	1.5nm,0.9s,baz=148,slow=10,SNR=4.7						
WRA	Warramunga Arr	40.37	200	P	P	17 13 10.4	+0.2
	2.8nm,1.0s,baz=22,slow=9.2,SNR=8.2						
ASAR	Alice Springs	43.99	199	P	P	17 13 39.5	-0.2
	0.3nm,0.7s,baz=18,slow=8.5,SNR=6.3						
ZALV	Zalesovo Beam	59.72	322	P	P	17 15 36.5	-0.4
	0.7nm,0.5s,baz=111,slow=8.3,SNR=4.2						
MKAR	Makanchi Array	60.39	314	P	P	17 15 41.6	0.0
	0.3nm,0.3s,baz=86,slow=9.0,SNR=4.3						

*ISCJB **27** 17:06:19.0±4.7, 183N±0.1×1475E±03, h55km±34km, mb4.0/8, Error ellipse: s-maj=54.8km s-min=17.0km az=174.5*
*NEIC **27**

ISC 27 17:12:04.0±0.1,1731S±004×17227W±003,h35km, (h17km±3.2km:pP-P),n1310,σ0875/776,mb5.5/194, MS5.4/226,255C-313D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.41**	**8**	Pn	**Pn**	**17 12 47.4**	**-7.3**
	66nm,0.3s,baz=318,slow=4.6,SNR=38						
AFI				Sn	**Sn**	**17 13 24.1**	**-10**
	848nm,0.3s,baz=6.2,slow=22,SNR=15						
AFI				LR	LR	17 13 40.7	
	comp=Z,7μm,19.9s,baz=213,slow=30						
AFI	**Afiamalu**	**3.41**	**8**	P	**Pn**	**17 12 47.4**	**-7.4**
AFI						17 13 24.1	
AFI				pmax	pmax		
	comp=Z,66nm,0.3s						
AFI				smax			
	comp=N,848nm,0.3s						
AFI	**Afiamalu**	**3.41**	**8**	*e*Pn	**Pn**	**17 12 47.2**	**-7.6**
RAR	**Rarotonga**	**12.42**	**110**	Pn	**Pn**	**17 14 51.9**	**-6.5**
	comp=N,27nm,0.3s,baz=264,slow=8.2,SNR=24						
RAR				Sn	**Sn**	**17 16 57.9**	**-18**
	comp=N,4.3nm,0.3s,baz=114,slow=18,SNR=2.9						
RAO	**Raoul Island**	**12.97**	**203**	Sn	**Sn**	**17 17 18.1**	**-11**
	comp=N,67nm,0.3s,baz=75,slow=20,SNR=3.3						
RAO	**Raoul Island**	**12.97**	**203**	*e*P	**Pn**	**17 14 58.3**	**-7.5**
DZM	**Mont Dzumac**	**20.59**	**253**	*e*P	**P**	**17 16 36.9**	**-3.3**
	comp=N,170nm,1.5s						
PAE	**Paea**	**21.64**	**94**	*e*P	**P**	**17 16 49.5**	**-2.0**
	comp=N,3μm,1.4s,mb6.5						
PPT	**Papeete**	**21.65**	**94**	*e*P	**P**	**17 16 49.9**	**-1.7**
	comp=N,406nm,1.5s,mb5.6						
PPT				*e*LQ		17 20 59.8	
	comp=N,28μm,27.0s						
PPT				*e*LR	LR	17 21 49.1	
	comp=N,20μm,28.0s,baz=258						
PPT	**Papeete**	**21.65**	**94**	P	**P**	**17 16 53.4**	**+1.8**
	comp=N,21nm,0.4s,mb4.9,baz=174,slow=5.2,SNR=3.7						
PPT	**Papeete**	**21.65**	**94**	*e*P	**P**	**17 16 49.9**	**-1.7**
	comp=N,406nm,1.5s,mb5.6						
PPT				*e*LQ		17 20 59.8	
TIAR	**Tiarei**	**21.87**	**94**	*e*P	**P**	**17 16 52.1**	**-1.8**
	comp=N,3μm,1.3s,mb6.6						
TVO	**Taravao**	**21.95**	**95**	*e*P	**P**	**17 16 53.0**	**-1.8**
	comp=N,2μm,1.2s,mb6.4						
URZ	**Urewera**	**22.86**	**202**	P	**P**	**17 17 04.5**	**+0.3**
	comp=N,302nm,0.8s,mb5.8,baz=345,slow=4.4,SNR=42						
URZ				S	**S**	**17 21 10.4**	**-1.1**
	comp=N,23nm,0.7s,baz=108,slow=22,SNR=8.2						
MEH	**Mehetia**	**23.07**	**95**	*e*P	**P**	**17 17 03.8**	**-2.9**
	comp=N,12μm,1.5s						
PMOR	**Pomariorio Ree**	**23.52**	**88**	*e*P	**P**	**17 17 07.8**	**-3.5**
	comp=N,349nm,1.4s,mb5.6						
XMAS	**Kiritimati**	**24.16**	**39**	*e*P	**P**	**17 17 15.8**	**-1.2**
	comp=N,325nm,1.2s,mb5.6						
XMAS				LR	LR		
	comp=Z,6μm,20.0s,MS5.1						
SNZO	**South Karori**	**26.42**	**202**	PFAKE		17 17 50.0	+13
SNZO				LR	LR		
	comp=Z,5μm,19.0s,MS5.1						
HNR	**Honiara**	**28.12**	**283**	P	**P**	**17 17 51.7**	**-1.3**
	comp=Z,79nm,0.8s,mb5.4,baz=263,slow=5.8,SNR=4.3						
HNR				LR	LR	17 27 57.2	
	comp=Z,9μm,18.7s,MS5.4,baz=175,slow=34						
HNR	**Honiara**	**28.12**	**283**	P	**P**	**17 17 51.7**	**-1.2**
HNR				pmax	pmax		
	comp=Z,79nm,0.8s,mb5.4						
HNR				MLR	MLR		
	comp=Z,9μm,18.7s,MS5.4						
HNR	**Honiara**	**28.12**	**283**	*e*P	**P**	**17 17 53.8**	**+0.9**
	comp=Z,109nm,1.0s,mb5.4						
HNR				LR	LR		
	comp=Z,9μm,19.0s,MS5.4						
RPZ	**Rata Peaks**	**29.87**	**205**	P	**P**	**17 18 13.8**	**+5.6**
	comp=Z,39nm,0.7s,mb5.3,baz=102,slow=3.0,SNR=10						
ARMA	**Armidale**	**35.34**	**242**	*e*P	**P**	**17 18 51.3**	**-4.9**
RKT	**Rikitea**	**35.40**	**106**	*e*P	**P**	**17 18 54.5**	**-2.3**
	comp=Z,85nm,1.3s,mb5.5						
RKT				*e*S	**S**	**17 24 28.6**	**-0.8**
	comp=Z,1μm,28.5s						
RKT				*e*LQ		17 26 57.9	
	comp=Z,1μm,32.0s						
RKT				*e*LR	LR	17 28 02.2	
	comp=Z,12μm,30.2s,baz=275						
RKT	**Rikitea**	**35.40**	**106**	*e*P	**P**	**17 18 54.5**	**-2.3**
RKT				*e*S	**S**	**17 24 28.6**	**-0.8**
RKT				pmax	pmax		
	comp=Z,85nm,1.3s,mb5.5						
RKT	**Rikitea**	**35.40**	**106**	*e*P	**P**	**17 18 54.5**	**-2.3**
	comp=Z,85nm,1.3s,mb5.5						
RKT				*e*S	**S**	**17 24 28.6**	**-0.8**
RKT				*e*LQ		17 26 57.9	
RIV	**Riverview**	**36.63**	**236**	*e*P	**P**	**17 19 08.2**	**+1.0**
CNB	**Canberra Magne**	**38.49**	**235**	*e*P	**P**	**17 19 22.1**	**-0.9**
CNB				*e*PCP	PcP	17 21 37.1	+1.6
CNB				*e*S	**S**	**17 25 22.8**	**+6.5**
CAN	**Canberra**	**38.78**	**235**	*e*P	**P**	**17 19 22.3**	**-3.1**
	comp=Z,100nm,1.6s,mb5.3						
CTA	**Charters Tower**	**39.32**	**259**	*e*P	**P**	**17 19 27.4**	**-2.7**
	comp=Z,28nm,0.7s,mb5.1						
CTA				*e*		17 21 37.8	
CTA				*e*S	**S**	**17 25 29.8**	**+0.8**
CTA	**Charters Tower**	**39.32**	**259**	P	**P**	**17 19 27.9**	**-2.2**
	comp=Z,38nm,0.7s,mb5.2,baz=91,slow=11,SNR=36						
CTA				PcP	PcP	17 21 38.8	+0.4
	comp=Z,9.3nm,0.9s,baz=104,slow=4.6,SNR=3.0						
CTA				LR	LR	17 32 53.9	
	comp=Z,4μm,21.8s,MS5.2,baz=91,slow=32						
CTA	**Charters Tower**	**39.32**	**259**	P	**P**	**17 19 27.9**	**-2.2**
CTA						17 21 38.8	
CTA				pmax	pmax		
	comp=Z,38nm,0.7s						
CTA				MLR	MLR		
	comp=Z,4μm,21.8s						
CTAO	**Charters Tower**	**39.32**	**259**	P	**P**	**17 19 27.5**	**-2.6**
CTAO				pmax	pmax		
	comp=Z,110nm,1.2s,mb5.5						
CTAO	**Charters Tower**	**39.32**	**259**	*e*P	**P**	**17 19 27.1**	**-2.9**
	comp=Z,106nm,1.3s,mb5.4						
CTAO				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
KHU	**Kahuku**	**39.84**	**25**	P	**P**	**17 19 30.7**	**-3.6**
STCH	**Steam Cracks**	**40.17**	**26**	*e*P	**P**	**17 19 34.2**	**-2.7**
PMG	**Port Moresby**	**40.19**	**276**	*e*P	**P**	**17 19 36.4**	**-0.9**
PMG				pmax	pmax		
	comp=Z,30nm,0.8s						
PMG				MLR	MLR		
	comp=Z,3μm,19.0s						
PMG	**Port Moresby**	**40.19**	**276**	*e*P	**P**	**17 19 36.4**	**-0.9**
	comp=Z,30nm,0.8s,mb5.1						
PMG				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
POHA	**Pohakuloa**	**40.34**	**25**	*e*P	**P**	**17 19 38.3**	**0.0**
	comp=Z,200nm,1.5s,mb5.6						
POHA				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
KIP	**Kipapa**	**40.95**	**20**	P	**P**	**17 19 42.6**	**-0.8**
KIP				pmax	pmax		
	comp=Z,510nm,1.4s,mb6.0						
KIP	**Kipapa**	**40.95**	**20**	*e*P	**P**	**17 19 43.6**	**+0.1**
	comp=Z,514nm,1.4s,mb6.0						
KIP				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
TOO	**Toolangi**	**42.14**	**233**	*e*P	**P**	**17 19 52.3**	**-0.8**
TAU	**Tasmania Unive**	**42.70**	**225**	PFAKE		17 20 10.0	+12
TAU				LR	LR		
	comp=Z,5μm,20.0s,MS5.4						
COEN	**Coen**	**42.97**	**268**	*e*P	**P**	**17 19 58.4**	**-1.7**
	comp=Z,36nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**44.06**	**242**	*e*P	**P**	**17 20 07.2**	**-1.6**
	comp=Z,28nm,1.2s,mb4.9						
STKA				*e*S	**S**	**17 26 34.7**	**-4.3**
STKA	**Stephens Creek**	**44.06**	**242**	P	**P**	**17 20 07.3**	**-1.4**
	comp=Z,61nm,1.1s,mb5.2,baz=86,slow=8.7,SNR=36						
STKA				LR	LR	17 37 21.3	
	comp=Z,4μm,18.1s,MS5.3,baz=76,slow=35						
MIDW	**Midway**	**45.52**	**354**	PFAKE		17 20 30.0	+10
MIDW				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
WB2	**Warramunga Arr**	**50.48**	**258**	*e*P	**P**	**17 20 57.1**	**-1.8**
WB2				*e*PCS	PcS	17 26 12.7	-1.6
WB2				*e*S	**S**	**17 28 04.1**	**-6.6**
WB2	**Warramunga Arr**	**50.48**	**258**	*e*P	**P**	**17 20 57.1**	**-1.8**
WB2				*e*PcS	PcS	17 26 12.7	-1.6
WB2				*e*S	**S**	**17 28 04.1**	**-6.6**
WRAB	**Tennant Creek**	**50.49**	**258**	*e*P	**P**	**17 20 57.1**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,79nm,1.1s,mb5.7						
WRAB				MLR	MLR		
	comp=Z,3μm,22.0s,MS5.2						
WRAB	**Tennant Creek**	**50.49**	**258**	*e*P	**P**	**17 20 57.1**	**-1.8**
	comp=Z,79nm,1.1s,mb5.7						
WRAB				LR	LR		
	comp=Z,3μm,22.0s,MS5.2						
WRA	**Warramunga Arr**	**50.49**	**258**	P	**P**	**17 20 57.2**	**-1.9**
	comp=Z,19nm,0.5s,mb5.4,baz=96,slow=6.9,SNR=145						
WRA				PcP	PcP	17 22 17.5	+0.6
	comp=Z,15nm,1.0s,baz=88,slow=3.9,SNR=3.2						
WRA				S	**S**	**17 28 05.3**	**-5.6**
	comp=Z,1.6nm,1.1s,baz=94,slow=14,SNR=3.9						
WRA				LR	LR	17 40 34.5	
	comp=Z,2μm,20.4s,MS5.1,baz=85,slow=34						
WRA	**Warramunga Arr**	**50.49**	**258**	P	**P**	**17 20 57.2**	**-1.8**
WRA						17 22 17.5	
WRA				S	**S**	**17 28 05.3**	**-5.6**
ASAR	**Alice Springs**	**50.58**	**253**	P	**P**	**17 20 58.1**	**-1.5**
	comp=Z,150nm,0.8s,mb6.0,baz=89,slow=8.8,SNR=620						
ASAR				S	**S**	**17 28 07.7**	**-4.3**
	comp=Z,5.0nm,1.0s,baz=96,slow=16,SNR=15						
GUMO	**Guam**	**52.28**	**303**	P	**P**	**17 21 11.7**	**-0.7**
	comp=Z,42nm,0.9s,mb5.4,baz=201,slow=8.9,SNR=5.2						
GUMO	**Guam**	**52.28**	**303**	P	**P**	**17 21 11.7**	**-0.7**
GUMO				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.4						
GUMO	**Guam**	**52.28**	**303**	*e*P	**P**	**17 21 12.3**	**-0.1**
	comp=Z,90nm,1.1s,mb5.6						
GUMO				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
KAKA	**Kakadu**	**53.46**	**267**	*e*P	**P**	**17 21 19.3**	**-1.9**
	comp=Z,18nm,0.6s,mb5.2						
FORT	**Forrest**	**55.55**	**244**	*e*P	**P**	**17 21 34.6**	**-1.6**
	comp=Z,44nm,0.6s,mb5.7						
DRV	**Dumont d'Urvil**	**58.18**	**200**	P	**P**	**17 21 57.0**	**+2.8**
DRV				S	**S**	**17 30 13.0**	**+20**
DRV				L		17 36 00.0	
DRV				R		20 56 00.0	
FITZ	**Fitzroy Crossi**	**58.90**	**259**	*e*P	**P**	**17 21 59.3**	**-0.7**
	comp=Z,12nm,0.6s,mb5.1						
FITZ				*e*S	**S**	**17 29 59.8**	**-4.1**
FITZ	**Fitzroy Crossi**	**58.90**	**259**	P	**P**	**17 21 59.3**	**-0.7**
	comp=Z,13nm,1.0s,mb4.9,baz=130,slow=6.0,SNR=12						
FITZ				LR	LR	17 45 14.2	
	comp=Z,2μm,20.2s,MS5.2,baz=275,slow=34						
SBA	**Scott Base**	**61.45**	**185**	P	**P**	**17 22 18.1**	**+1.6**
SBA				pmax	pmax		
	comp=Z,440nm,1.9s,mb6.3						
SBA	**Scott Base**	**61.45**	**185**	*e*P	**P**	**17 22 18.3**	**+1.8**
	comp=Z,439nm,2.0s,mb6.2						
SBA				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
BATI	**Baumata**	**62.40**	**267**	P	**P**	**17 22 23.0**	**-1.0**
	comp=Z,32nm,0.7s,mb5.6,baz=133,slow=4.2,SNR=8.5						
CBIJ	**Chichi jima**	**62.46**	**314**	P	**P**	**17 22 22.9**	**-1.0**
	comp=Z,55nm,0.9s,mb5.7,baz=105,slow=20,SNR=4.8						
CBIJ				LR	LR	17 43 56.1	
	comp=Z,916nm,21.6s,MS4.9,baz=120,slow=31						
MBWA	**Marble Bar**	**63.89**	**255**	*e*P	**P**	**17 22 33.6**	**-0.1**
	comp=Z,39nm,1.0s,mb5.4						
MBWA				LR	LR		
	comp=Z,6μm,19.0s,MS5.8						
KLBR	**Kellerberrin**	**64.33**	**243**	*e*P	**P**	**17 22 35.9**	**-0.5**
	comp=Z,343nm,1.4s,mb6.2						
NWAO	**Narrogin (SRO)**	**64.65**	**241**	P	**P**	**17 22 38.8**	**+0.2**
	comp=Z,106nm,1.0s,mb5.8,baz=100,slow=5.8,SNR=17						
NWAO	**Narrogin (SRO)**	**64.65**	**241**	P	**P**	**17 22 38.8**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,106nm,1.0s						
NWAO	**Narrogin (SRO)**	**64.65**	**241**	*e*P	**P**	**17 22 39.1**	**+0.6**
	comp=Z,135nm,1.1s,mb5.9						
NWAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
KDI	**Kendari**	**65.08**	**274**	⇓*e*P	**P**	**17 22 41.7**	**+0.1**
KDI				*e*S	S	17 31 11.3	-11
MUN	**Mundaring**	**65.60**	**242**	*e*P	**P**	**17 22 45.0**	**+0.3**
DAV	**Davao City (W)**	**66.00**	**286**	LR	LR	17 51 05.1	
	comp=Z,3μm,18.3s,MS5.5,baz=52,slow=36						
DAV	**Davao City (W)**	**66.00**	**286**	⇑*P*	**P**	**17 22 47.8**	**+0.3**
DAV	**Davao City (W)**	**66.00**	**286**	PFAKE		17 23 00.0	+12
DAV				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
KAPI	**Kappang**	**67.52**	**272**	*e*P	**P**	**17 22 56.8**	**-0.4**
	comp=Z,122nm,1.1s,mb5.8						
KAPI				LR	LR		
	comp=Z,971nm,20.0s,MS5.0						
JHJ	**Hachijo jima 2**	**67.91**	**318**	P	**P**	**17 22 58.9**	**-0.3**
	comp=Z,87nm,0.8s,mb5.8,baz=172,slow=7.0,SNR=4.8						
CASY	**Casey**	**69.14**	**205**	*e*P	**P**	**17 23 06.4**	**-0.1**
CASY				*e*S	S	17 32 11.9	+2.5
CASY	**Casey**	**69.14**	**205**	*e*P	**P**	**17 23 06.4**	**-0.1**
CASY				*e*S	S	17 32 11.9	+2.5
CASY				LR	LR		
	comp=Z,806nm,20.0s,MS5.0						
SMY	**Shemya**	**70.74**	**351**	PFAKE		17 23 30.0	+14
SMY				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
UNV	**Unalaska Valle**	**71.03**	**4**	*e*P	**P**	**17 23 16.1**	**-2.0**
MJAR	**Matsushiro Arr**	**71.09**	**320**	P	**P**	**17 23 18.8**	**-0.1**
	comp=Z,18nm,1.1s,mb5.0,baz=156,slow=5.7,SNR=40						
MJAR				LR	LR	17 48 40.7	
	comp=Z,824nm,21.6s,MS5.0,baz=120,slow=31						
MJAR	**Matsushiro Arr**	**71.09**	**320**	P	**P**	**17 23 18.8**	**-0.1**
MJAR				LR	LR	17 48 40.7	
MAJO	**Matsushiro**	**71.09**	**320**	*e*P	**P**	**17 23 18.7**	**-0.1**
	comp=Z,111nm,1.6s,mb5.5						
MAJO				LR	LR		
	comp=Z,899nm,21.0s,MS5.0						
MAT	**Matsushiro**	**71.09**	**320**	P	**P**	**17 23 19.6**	**+0.8**
MAT				S	S	17 32 34.0	+1.0
SNCC	**San Nicolas Is**	**71.14**	**45**	⇓P	**P**	**17 23 19.6**	**+0.4**
	baz=71						
SNCC	**San Nicolas Is**	**71.14**	**45**	PFAKE		17 23 30.0	+11
SNCC				LR	LR		
	comp=Z,4μm,20.0s,MS5.7						
BSC	**Santa Cruz Isl**	**71.51**	**44**	⇑P	**P**	**17 23 21.9**	**+0.5**
	baz=72						
SCI	**San Clemente I**	**71.64**	**46**	⇓P	**P**	**17 23 22.9**	**+0.7**
	baz=72						
FARB	**Farallon Islan**	**71.67**	**39**	⇑P	**P**	**17 23 22.2**	**-0.1**
	baz=72						
V04C	**Ramage Ranch,**	**71.70**	**42**	⇓P	**P**	**17 23 23.2**	**+0.7**
	baz=72						
V03C	**Hunter Liggett**	**71.70**	**42**	⇓P	**P**	**17 23 23.0**	**+0.5**
	baz=72,SNR=6.9						
SBC	**Santa Barbara**	**71.72**	**44**	⇑P	**P**	**17 23 23.3**	**+0.6**
	baz=72						
HAST	**Hastings Reser**	**71.73**	**41**	⇑P	**P**	**17 23 22.9**	**+0.2**
	baz=72,SNR=10						
BNLO	**Ben Lomond (Sa**	**71.82**	**40**	⇓P	**P**	**17 23 23.3**	**+0.1**
	baz=72						
PKM	**Peak Mountain**	**71.93**	**43**	⇓P	**P**	**17 23 24.3**	**+0.4**
	baz=72,SNR=9.1						
JRSC	**Jasper Ridge**	**71.95**	**40**	⇓P	**P**	**17 23 24.2**	**+0.2**
	baz=72						
BLG	**Laguna Peak**	**71.96**	**44**	⇑P	**P**	**17 23 24.2**	**+0.1**
	baz=72						
CIS	**Catalina Islan**	**71.99**	**45**	⇓P	**P**	**17 23 24.3**	**0.0**
	baz=72						
KUR	**Kuril'sk**	**72.01**	**332**	P	**P**	**17 23 22.0**	**-2.2**
KUR				*e*S	S	17 32 42.0	-1.2
KUR				pmax	pmax		
	comp=Z,3μm,7.0s						
KUR				smax			
	comp=N,2μm,6.0s						
MCCM	**Marconi Confer**	**72.03**	**39**	⇓P	**P**	**17 23 25.3**	**+0.9**
	baz=72						
MCCM	**Marconi Confer**	**72.03**	**39**	PFAKE		17 23 30.0	+5.5
MCCM				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
SAO	**San Andreas Ge**	**72.03**	**41**	*e*P	**P**	**17 23 25.2**	**+0.7**
SAO				pmax	pmax		
	comp=Z,113nm,1.7s,mb5.5						
SAO				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.6						
SAO	**San Andreas Ge**	**72.03**	**41**	*e*P	**P**	**17 23 25.2**	**+0.7**
	comp=Z,113nm,1.7s,mb5.5						
SAO				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
YUK	**Yuzh-Kuril'sk**	**72.05**	**330**	*e*P	**P**	**17 23 23.0**	**-1.4**
YUK				*e*		17 26 13.2	
YUK				*e*S	S	17 32 51.0	+7.3
YUK				PS		17 33 18.9	
YUK				pmax	pmax		
	comp=Z,2μm,3.0s						
YUK				smax			
	comp=N,2μm,4.0s						
YUK				smax			
	comp=E,2μm,3.0s						
YUK				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.5						
SMMC	**Simmler**	**72.06**	**43**	⇓P	**P**	**17 23 25.2**	**+0.5**
	baz=72,SNR=6.5						
PKD	**Parkfield**	**72.10**	**42**	⇓P	**P**	**17 23 24.5**	**-0.5**
	baz=72,SNR=12						
TSM	**Tawau**	**72.18**	**280**	⇑P	**P**	**17 23 27.4**	**+1.4**
U04C	**Hernandez Rese**	**72.20**	**42**	⇑P	**P**	**17 23 26.1**	**+0.5**
	baz=72,SNR=14						
FMP	**Fort Macarthur**	**72.24**	**45**	⇓P	**P**	**17 23 25.7**	**-0.1**
	baz=72						
PACP	**Pacheco Peak**	**72.29**	**41**	⇓P	**P**	**17 23 26.6**	**+0.6**
	baz=72,SNR=16						
WENL	**Wente Brothers**	**72.38**	**40**	⇑P	**P**	**17 23 27.1**	**+0.5**
	baz=73						
CVS	**Carmenet Viney**	**72.42**	**39**	⇑P	**P**	**17 23 26.5**	**-0.3**
	baz=73						
NSHM	**Saint Helena R**	**72.44**	**39**	*e*P	**P**	**17 23 27.2**	**+0.3**
V05C	**Boulder Hill,**	**72.46**	**42**	⇓P	**P**	**17 23 27.8**	**+0.7**
	baz=73						
HOPS	**Hopland**	**72.47**	**38**	⇓P	**P**	**17 23 27.4**	**+0.3**
	baz=73						
HOPS	**Hopland**	**72.47**	**38**	PFAKE		17 23 40.0	+13
HOPS				LR	LR		
	comp=Z,4μm,19.0s,MS5.8						
JOW	**Kunigami**	**72.48**	**306**	P	**P**	**17 23 27.3**	**-0.1**
	comp=Z,43nm,1.1s,mb5.3,baz=146,slow=6.7,SNR=16						
JOW				LR	LR	17 49 59.5	
	comp=Z,607nm,19.9s,MS4.9,baz=307,slow=32						
BDM	**Black Diamond**	**72.53**	**40**	⇓P	**P**	**17 23 27.3**	**-0.1**
	baz=73						
DECC	**Green Verdugo**	**72.53**	**45**	⇓P	**P**	**17 23 27.3**	**-0.3**
	baz=73						
S04C	**Ingram Canyon,**	**72.57**	**40**	⇓P	**P**	**17 23 27.8**	**+0.1**
	baz=73,SNR=8.9						
109C	**Camp Elliot, M**	**72.58**	**46**	⇓P	**P**	**17 23 27.4**	**-0.4**
	baz=73						
T05C	**Eagle Field, D**	**72.60**	**41**	⇓P	**P**	**17 23 28.4**	**+0.5**
	baz=73						
U05C	**Westside ANR,**	**72.61**	**42**	⇑P	**P**	**17 23 28.2**	**+0.3**
	baz=73						
P01C	**Double 8 Ranch**	**72.63**	**38**	⇑P	**P**	**17 23 28.1**	**+0.1**
	baz=73						
MWC	**Mount Wilson**	**72.70**	**45**	*e*P	**P**	**17 23 28.5**	**0.0**
MWC				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
MWC				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.7						
MWC	**Mount Wilson**	**72.70**	**45**	*e*P	**P**	**17 23 28.5**	**0.0**
	comp=Z,5.1nm,0.4s,mb4.8						
MWC				LR	LR		
	comp=Z,4μm,19.0s,MS5.7						
ARVC	**Arvin**	**72.72**	**44**	⇓P	**P**	**17 23 28.6**	**0.0**
	baz=73						
QSPA	**South Pole Qui**	**72.75**	**180**	LR	LR	17 54 20.2	
	comp=Z,2μm,18.3s,MS5.5,baz=232,slow=35						
BAR	**Barrett**	**72.76**	**47**	*e*P	**P**	**17 23 29.0**	**+0.1**
	comp=Z,90nm,1.6s,mb5.5						
BAR				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
MNRC	**McLaughlin Nat**	**72.77**	**39**	⇓P	**P**	**17 23 29.4**	**+0.6**
	baz=73						
O01C	**Eel River Cons**	**72.79**	**37**	⇑P	**P**	**17 23 28.8**	**-0.2**
	baz=73						
Q03C	**Winters**	**72.87**	**39**	⇑P	**P**	**17 23 29.7**	**+0.2**
	baz=73						
MURC	**Murrieta**	**72.92**	**46**	⇑P	**P**	**17 23 29.4**	**-0.4**
	baz=73,SNR=5.4						
BFSC	**Mount Baldy St**	**72.98**	**45**	⇑P	**P**	**17 23 29.8**	**-0.4**
	baz=73,SNR=6.8						
VES	**Vestal, Richgr**	**72.98**	**43**	⇓P	**P**	**17 23 29.9**	**-0.2**
	baz=73,SNR=12						
MONP	**Monument Peak**	**73.06**	**47**	⇑P	**P**	**17 23 30.7**	**0.0**
	baz=73,SNR=19						
S05C	**Merced**	**73.10**	**41**	⇑P	**P**	**17 23 30.8**	**0.0**
	baz=73						
GASB	**Alder Springs**	**73.11**	**38**	⇑P	**P**	**17 23 30.0**	**-0.8**
	baz=73,SNR=6.3						
JCC	**Jacoby Creek**	**73.12**	**36**	⇑P	**P**	**17 23 30.3**	**-0.6**
	baz=73						
LPIG	**La Paz**	**73.12**	**57**	P	**P**	**17 23 32.4**	**+1.2**
	comp=Z,25nm,0.3s,mb5.6,baz=131,slow=8.6,SNR=4.6						
LPIG				LR	LR	17 48 36.9	
	comp=Z,1μm,19.0s,MS5.2,baz=180,slow=30						
EDW2	**Edwards Air Fo**	**73.13**	**44**	⇑P	**P**	**17 23 31.2**	**+0.1**
	baz=73,SNR=21						
DVTC	**Desert V Tower**	**73.15**	**47**	⇓P	**P**	**17 23 31.4**	**+0.1**
	baz=73,SNR=9.6						
RCTC	**Rector, Farmer**	**73.16**	**42**	⇑P	**P**	**17 23 30.6**	**-0.6**
	baz=73						
SKR	**Severo-Kuril's**	**73.18**	**340**	*e*P	**P**	**17 23 30.0**	**-1.0**
SKR				*e*		17 23 44.0	
SKR				*e*PPP		17 28 04.0	
SKR				*e*PS		17 33 29.0	
SKR				*e*		17 33 30.0	
SKR				*e*SS	SS	17 37 36.0	-2.7
SKR				*e*SSS		17 40 44.0	
SKR				pmax	pmax		
	comp=Z,1μm,4.0s						
SKR				MLR	MLR		
	comp=N,1μm,18.0s,MS5.4						
SKR				MLR	MLR		
	comp=E,1μm,18.0s,MS5.4						
SKR				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.3						
SDKM	**Sandakan**	**73.27**	**282**	⇓P	**P**

ORV	Oroville	73.77	39	⇓P	P	17 23 34.5	-0.2
	baz=74,SNR=8.4						
RRX	Edison Barstow	73.79	45	⇓P	P	17 23 34.8	-0.2
	baz=74						
WDC	Whiskeytown Da	73.81	37	eP	P	17 23 34.7	-0.3
WDC				pmax	pmax		
	comp=Z,101nm,1.7s,mb5.5						
WDC				MLR	MLR		
	comp=Z,5μm,19.0s,MS5.8						
WDC	Whiskeytown Da	73.81	37	⇑P	P	17 23 35.2	+0.2
	baz=74,SNR=8.3						
WDC	Whiskeytown Da	73.81	37	eP	P	17 23 34.7	-0.3
	comp=Z,101nm,1.7s,mb5.5						
WDC				LR	LR		
	comp=Z,5μm,19.0s,MS5.8						
BELC	Belle Mtn.	73.97	46	⇓P	P	17 23 36.1	+0.1
	baz=74,SNR=23						
CWC	Cottonwood Cre	73.98	43	⇓P	P	17 23 36.1	0.0
	baz=74,SNR=9.1						
R05C	Kirkwood Meado	74.09	40	⇑P	P	17 23 36.9	+0.2
	baz=74,SNR=17						
P05C	Yuba Gap, Truc	74.14	39	⇑P	P	17 23 36.8	-0.1
	baz=74,SNR=8.5						
MPMC	Manual Prospec	74.15	43	⇑P	P	17 23 37.5	+0.5
	baz=74,SNR=46						
BCPH	Baguio City Da	74.15	293	⇓eP	P	17 23 37.1	-0.3
112A	Yuma	74.15	48	⇓P	P	17 23 37.6	+0.5
	baz=74						
BC3	Big Chuckw Mtn	74.15	47	⇓P	P	17 23 37.8	+0.7
	baz=74,SNR=34						
GSC	Goldstone	74.16	44	eP	P	17 23 37.2	+0.1
GSC				pmax	pmax		
	comp=Z,109nm,1.7s,mb5.5						
GSC				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.7						
GSC	Goldstone	74.16	44	⇑P	P	17 23 37.1	-0.1
	baz=74,SNR=20						
GSC	Goldstone	74.16	44	eP	P	17 23 37.1	0.0
	comp=Z,109nm,1.7s,mb5.5						
GSC				LR	LR		
	comp=Z,4μm,19.0s,MS5.7						
M02C	Callahan	74.17	36	⇓P	P	17 23 37.5	+0.5
	baz=74						
APYP	Conner	74.17	295	eP	P	17 23 38.2	+0.7
DAC	Darwin (Calif)	74.21	43	PFAKE		17 23 50.0	+13
DAC				LR	LR		
	comp=Z,4μm,19.0s,MS5.7						
MLAC	Mammoth Lakes	74.21	42	⇑P	P	17 23 37.8	+0.5
	baz=74						
HEC	Hector,Ludlow	74.21	45	⇓P	P	17 23 37.1	-0.4
	baz=74,SNR=24						
K01A	Sixes	74.22	35	⇑P	P	17 23 37.0	-0.3
	baz=74						
MTUM	Tungsten Hills	74.22	42	eP	P	17 23 37.8	+0.4
L02A	Cave Junction	74.25	35	⇑P	P	17 23 37.2	-0.3
	baz=74						
TIN	Tinemaha	74.25	42	⇓P	P	17 23 37.7	+0.1
	baz=74						
GLA	Glamis	74.26	47	eP	P	17 23 38.0	+0.3
GLA				pmax	pmax		
	comp=Z,121nm,1.4s,mb5.6						
GLA				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.6						
GLA	Glamis	74.26	47	⇓P	P	17 23 37.9	+0.1
	baz=74,SNR=16						
GLA	Glamis	74.26	47	eP	P	17 23 38.0	+0.3
	comp=Z,122nm,1.4s,mb5.6						
GLA				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
KKM	Kota Kinabalu	74.32	282	⇑P	P	17 23 39.1	+0.5
KKM	Kota Kinabalu	74.32	282	eP	P	17 23 39.5	+0.9
	comp=Z,55nm,0.8s,mb5.5						
KKM				LR	LR		
	comp=Z,930nm,22.0s,MS5.0						
R07C	Lee Vining	74.36	41	⇓P	P	17 23 38.7	+0.6
	baz=75						
R06C	Coleville	74.37	40	⇓P	P	17 23 39.1	+0.8
	baz=75,SNR=18						
O05C	Quincy	74.37	39	⇑P	P	17 23 38.0	-0.2
	baz=75						
PET	Petropavlovsk	74.42	342	d iP	P	17 23 36.4	-1.8
PET				e		17 23 53.0	
PET				e		17 26 32.8	
PET				i S	S	17 33 11.9	+1.7
PET				ePS		17 33 45.9	
PET				ePPS		17 34 06.3	
PET				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
PET				pmax	pmax		
	comp=Z,400nm,6.2s						
PET	Petropavlovsk	74.42	342	⇑eP	P	17 23 36.6	-1.6
PET				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
YBH	Yreka Blue Hor	74.47	36	P	P	17 23 39.1	+0.4
	comp=Z,14nm,0.8s,mb4.9,baz=193,slow=1.9,SNR=13						
YBH	Yreka Blue Hor	74.47	36	eP	P	17 23 38.9	+0.1
YBH				pmax	pmax		
	comp=Z,190nm,1.9s						
YBH				MLR	MLR		
	comp=Z,3μm,19.0s						
YBH	Yreka Blue Hor	74.47	36	⇓P	P	17 23 39.0	+0.2
	baz=75,SNR=12						
YBH	Yreka Blue Hor	74.47	36	eP	P	17 23 38.9	+0.1
	comp=Z,190nm,1.9s,mb5.7						
YBH				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
O04C	Chester	74.50	38	⇓P	P	17 23 39.2	+0.2
	baz=75,SNR=9.5						
M03C	McCloud	74.51	37	⇓P	P	17 23 38.9	-0.1
	baz=75						
S08C	White Mtn Res	74.55	42	⇑P	P	17 23 39.9	+0.6
	baz=75,SNR=32						
HATC	Hat Creek Radi	74.59	38	⇑P	P	17 23 39.2	-0.3
	baz=75						
GMRC	Granite Mounta	74.64	45	⇓P	P	17 23 39.8	-0.1
	baz=75,SNR=36						
IRM	Iron Mountain	74.64	46	⇓P	P	17 23 40.3	+0.3
	baz=75,SNR=48						
BEKR	Beckwourth	74.64	39	⇓P	P	17 23 39.9	0.0
	baz=75,SNR=12						
WCN	Washoe City	74.66	40	⇑P	P	17 23 40.3	+0.3
	baz=75,SNR=7.5						
LBCM	Butte Creek Ri	74.67	38	P	P	17 23 39.9	0.0
K02A	Glendale	74.72	35	⇓P	P	17 23 40.2	0.0
	baz=75						
PETK	Petropavlovsk-	74.77	342	P	P	17 23 40.0	-0.3
	comp=Z,18nm,0.8s,mb5.0,baz=126,slow=8.1,SNR=20						
PETK				LR	LR	17 57 54.8	
	comp=Z,647nm,18.0s,MS5.0,baz=150,slow=37						
GRAC	Grapevine Rang	74.78	43	⇓P	P	17 23 41.2	+0.5
	baz=75,SNR=28						
FURC	Furnace Creek,	74.80	43	⇑P	P	17 23 40.9	+0.1
	baz=75,SNR=7.4						
P06A	Stead Airport,	74.81	39	⇓P	P	17 23 40.7	-0.1
	baz=75						
TUQ	Turquoise Mtn.	74.83	45	⇓P	P	17 23 41.1	+0.1
	baz=75,SNR=22						
Y12C	Blythe	74.85	47	⇑P	P	17 23 41.3	+0.1
	baz=75						
113A	Mohawk Valley,	74.86	48	⇓P	P	17 23 41.6	+0.4
	baz=75,SNR=25						
SHOC	Shoshone	74.86	44	⇓P	P	17 23 41.0	-0.1
	baz=75						
ELFS	Eagle Lake Fie	74.90	38	⇑P	P	17 23 40.7	-0.6
	baz=75,SNR=9.5						
HUMO	Hull Mountain	74.91	35	⇓P	P	17 23 41.7	+0.5
	baz=75,SNR=8.4						
HUMO	Hull Mountain	74.91	35	eP	P	17 23 41.5	+0.3
	comp=Z,145nm,2.0s,mb5.6						
HUMO				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
M04C	Macdoel	75.00	37	⇓P	P	17 23 42.1	+0.3
	baz=75,SNR=7.7						
Q07A	Schurz	75.02	40	⇓P	P	17 23 42.1	+0.1
	baz=75						
NVAR	Mina Array Bea	75.03	41	P	P	17 23 42.3	+0.2
	comp=Z,7.5nm,0.7s,mb4.7,baz=228,slow=10.0,SNR=64						
J02A	Umpqua	75.07	35	⇓P	P	17 23 42.1	-0.2
	baz=75						
R08A	Mina	75.10	41	⇓P	P	17 23 42.8	+0.3
	baz=75						
214A	Organ Pipe Nat	75.11	49	⇑P	P	17 23 43.0	+0.3
	baz=75,SNR=36						
U10A	Ash Meadows, A	75.12	44	⇑P	P	17 23 43.1	+0.4
	baz=75,SNR=13						
M05C	Lookout	75.12	37	⇓P	P	17 23 42.6	+0.1
	baz=75,SNR=14						
PAHR	Pah Rah Range	75.13	40	eP	P	17 23 42.8	+0.2
	comp=Z,44nm,1.3s,mb5.2						
O06A	Flanigan	75.15	39	⇑P	P	17 23 43.0	+0.2
	baz=75,SNR=25						
LDFC	Landfair	75.18	45	eP	P	17 23 43.6	+0.5
	comp=Z,36nm,0.3s,mb5.8						
L04A	Klamath Falls	75.22	36	⇑P	P	17 23 43.2	+0.1
	baz=76,SNR=11						
S09A	Goldfield	75.29	42	⇓P	P	17 23 43.5	-0.1
	baz=76,SNR=12						
P07A	Fallon	75.33	40	⇑P	P	17 23 44.0	+0.2
	baz=76						
NEE2	Needles Airpor	75.34	46	⇓P	P	17 23 43.9	-0.1
	baz=76						
I02A	Mapleton	75.36	34	⇓P	P	17 23 44.1	+0.2
	baz=76						
Y13A	Salome	75.37	47	⇑P	P	17 23 44.4	+0.3
	baz=76,SNR=12						
V11A	Goodsprings	75.39	45	⇓P	P	17 23 44.5	+0.3
	baz=76,SNR=7.2						
M06C	Likely Place G	75.42	38	⇓P	P	17 23 44.8	+0.5
	baz=76,SNR=6.9						
PDMCI	Parker Dam,Lak	75.42	47	⇑P	P	17 23 44.5	+0.1
	baz=76,SNR=14						
W12A	Cal Nev Ari	75.47	45	⇑P	P	17 23 45.2	+0.5
	baz=76						
TPNV	Topopah Spring	75.48	43	eP	P	17 23 44.8	+0.1
TPNV				pmax	pmax		
	comp=Z,272nm,2.0s,mb5.8						
TPNV				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.7						
TPNV	Topopah Spring	75.48	43	⇑P	P	17 23 45.0	+0.3
	baz=76						
TPNV	Topopah Spring	75.48	43	eP	P	17 23 44.8	+0.1
	comp=Z,272nm,2.0s,mb5.8						
TPNV				LR	LR		
	comp=Z,4μm,19.0s,MS5.7						
TPH	Tonopah	75.50	42	eP	P	17 23 45.1	+0.3
TPH				pmax	pmax		
	comp=Z,59nm,1.2s,mb5.4						
TPH				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.6						
TPH	Tonopah	75.50	42	eP	P	17 23 45.1	+0.3
	comp=Z,59nm,1.2s,mb5.4						
TPH				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
N06A	Buffalo Meadow	75.51	38	⇑P	P	17 23 44.8	0.0
	baz=76,SNR=21						
Q08A	Gabbs	75.52	41	⇑P	P	17 23 45.3	+0.4
	baz=76						
K04A	Chilquin	75.60	36	⇓P	P	17 23 45.2	-0.1
	baz=76						
I03A	Eugene	75.64	34	⇑P	P	17 23 45.0	-0.4
	baz=76						
YSS	Yuzh-Sakhalins	75.67	330	keP	P	17 23 45.8	+0.2
YSS				e	pP	17 23 57.0	+0.5
YSS				e		17 26 44.0	
YSS				ePPP		17 28 29.0	
YSS				eS	S	17 33 26.0	+1.6
YSS				ePS		17 33 48.0	
YSS				ePPS		17 34 06.0	
YSS				smax			
	comp=N,900nm,9.0s						
YSS	Yuzh-Sakhalins	75.67	330	i P	P	17 23 46.2	+0.6
YSS				LR	LR		
	comp=Z,286nm,20.0s,MS4.6						
R09A	Tonopah	75.69	42	⇓P	P	17 23 46.2	+0.3
	baz=76,SNR=28						
V12A	Nelson	75.72	45	⇑P	P	17 23 46.6	+0.5
	baz=76,SNR=9.1						
O07A	Toulon	75.72	39	⇓P	P	17 23 45.9	-0.1
	baz=76,SNR=16						
H02A	Toledo	75.73	33	⇓P	P	17 23 45.0	-1.0
	baz=76						
L05A	Lakeview	75.74	37	⇓P	P	17 23 46.4	+0.3
	baz=76,SNR=18						
U11A	Corn Creek	75.75	44	⇑P	P	17 23 46.2	-0.1
	baz=76						
Z14A	Wintersburg	75.75	48	⇑P	P	17 23 46.6	+0.2
	baz=76,SNR=8.3						
J04A	Umpqua Nationa	75.79	35	⇑P	P	17 23 46.6	+0.3
	baz=76,SNR=6.2						
S10A	Tonopah Range,	75.81	42	⇓P	P	17 23 46.8	+0.2
	baz=76,SNR=24						
115A	Sonoran Desert	75.92	49	⇓P	P	17 23 47.5	+0.2
	baz=76						
OHAK	Old Harbor	75.92	11	eP	P	17 23 45.9	-0.8
P08A	Dixie Valley	75.92	40	⇓P	P	17 23 47.8	+0.6
	baz=76						
MOD	Modoc	75.96	37	⇑P	P	17 23 47.3	0.0
	baz=76,SNR=12						
MOD	Modoc	75.96	37	eP	P	17 23 47.1	-0.2
	comp=Z,55nm,1.3s,mb5.3						
MOD				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
Q09A	Carvers	75.97	41	⇓P	P	17 23 47.6	+0.1
	baz=76						
I04A	Tendick Farm,	75.99	35	⇑P	P	17 23 47.1	-0.4
	baz=76,SNR=5.5						
Y14A	Wickenburg	76.02	47	⇓P	P	17 23 47.8	0.0
	baz=76,SNR=19						
W13A	Hualapai Mount	76.03	46	⇑P	P	17 23 48.5	+0.6
	baz=76,SNR=27						
COR	Corvallis	76.04	34	PFAKE		17 24 00.0	+12
COR				LR	LR		
	comp=Z,5μm,19.0s,MS5.8						
N07B	Gerlach	76.04	39	⇑P	P	17 23 47.8	0.0
	baz=76,SNR=7.9						
H03A	Soap Creek Ran	76.10	34	⇑P	P	17 23 48.2	+0.1
	baz=76						
216A	Three Points,	76.12	50	⇑P	P	17 23 48.8	+0.3
	baz=76,SNR=12						
MIR	Mirnyy	76.14	204	⇓i P	P	17 23 48.5	+0.5
MIR				pmax	pmax		
	comp=Z,300nm,1.8s,mb5.9						
MIR				pmax	pmax		
	comp=Z,2μm,3.0s						
K05A	Summer Lake	76.14	36	⇓P	P	17 23 48.8	+0.4
	baz=76,SNR=14						
S11A	Rachel	76.20	43	⇓P	P	17 23 48.9	+0.1
	baz=76						
R10A	Warm Springs	76.21	42	⇑P	P	17 23 49.5	+0.6
	baz=76,SNR=13						
116A	Eloy	76.23	49	⇑P	P	17 23 49.4	+0.3
	baz=76,SNR=6.2						
O08A	Rochester Mine	76.24	40	⇑P	P	17 23 49.2	+0.3
	baz=76,SNR=11						
Z15A	Gila River Ind	76.28	48	⇑P	P	17 23 49.6	+0.3
	baz=76						
J05A	Fort Rock	76.31	36	⇑P	P	17 23 49.5	+0.2
	baz=77,SNR=23						
T11A	Corn Creek, Al	76.32	44	⇑P	P	17 23 50.4	+0.9
	baz=76,SNR=40						
U12A	Valley of Fire	76.32	45	⇑P	P	17 23 50.0	+0.4
	baz=76,SNR=7.8						
BTM	Bintulu	76.34	278	⇑P	P	17 23 51.8	+1.6
T12A	Moapa	76.36	44	⇓P	P	17 23 50.2	+0.4
	baz=77						
V13A	Grand Canyon W	76.37	45	⇓P	P	17 23 49.5	-0.3
	baz=77,SNR=15						
X14A	Yava	76.38	47	⇑P	P	17 23 50.6	+0.7
	baz=77,SNR=29						
P09A	Austin	76.42	41	⇑P	P	17 23 50.1	0.0
	baz=77,SNR=5.7						
Q10A	Clear Creek Ra	76.46	42	⇑P	P	17 23 50.7	+0.5
	baz=77,SNR=9.7						
217A	Green Valley	76.47	50	⇑P	P	17 23 51.0	+0.5
	baz=77,SNR=26						
Y15A	Casa Rosa Ranc	76.50	48	⇑P	P	17 23 51.0	+0.4
	baz=77,SNR=57						
G03A	Yamhill	76.54	33	⇑P	P	17 23 50.5	0.0
	baz=77						
N08A	GE Springer Mi	76.55	39	⇑P	P	17 23 50.7	0.0
	baz=77,SNR=13						
K06A	Valley Falls	76.55	37	⇑P	P	17 23 50.9	+0.2
	baz=77,SNR=26						
NACB	Ninganchiao	76.56	301	eP	P	17 23 51.3	+0.1
KDAK	Kodiak Island	76.58	11	PFAKE		17 24 00.0	+10
KDAK				LR	LR		
	comp=Z,464nm,22.0s,MS4.8						
L07A	Adell	76.59	38	⇑P	P	17 23 51.3	+0.4
	baz=77,SNR=30						
W14A	Seligman	76.64	46	⇑P	P	17 23 52.2	+0.8
	baz=77,SNR=39						
U13A	Pakoon Wash	76.69	45	⇓P	P	17 23 52.4	+0.7
	baz=77,SNR=22						
H04A	Detroit Lake	76.70	34	⇑P	P	17 23 50.5	-1.0
	baz=77,SNR=11						
R11A	Troy Canyon, C	76.71	42	⇓P	P	17 23 51.8	+0.1
	baz=77,SNR=39						
O09A	Fish Creek Ran	76.76	40	⇓P	P	17 23 52.1	+0.2
	baz=77,SNR=14						
TUC	Tucson	76.77	50	eP	P	17 23 52.6	+0.5
TUC				pmax	pmax		
	comp=Z,74nm,1.4s,mb5.4						
TUC				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.5						
TUC	Tucson	76.77	50	eP	P	17 23 52.5	+0.4
	comp=Z,74nm,1.4s,mb5.4						
TUC				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
S12A	Delamar Landin	76.77	43	⇑P	P	17 23 52.9	+0.9
	baz=77,SNR=19						
M08A	Happy Creek Ra	76.81	39	⇑P	P	17 23 52.4	+0.2
	baz=77,SNR=14						
F03A	Seaside	76.81	33	⇓P	P	17 23 51.2	-0.8
	baz=77						
Z16A	Peralta Trail,	76.83	49	⇑P	P	17 23 52.9	+0.4
	baz=77,SNR=5.6						
X15A	Humboldt	76.85	47	⇓P	P	17 23 53.5	+0.9
	baz=77,SNR=18						
V14A	Boquillas Ranc	76.86	46	⇑P	P	17 23 53.6	+1.0
	baz=77,SNR=31						
I05A	Bend	76.86	35	⇓P	P	17 23 52.4	+0.1
	baz=77						
P10A	Eureka	76.89	41	⇓P	P	17 23 52.6	0.0
	baz=77,SNR=10						
G04A	Mulino	76.89	34	⇑P	P	17 23 52.0	-0.5
	baz=77						
BMN	Battle Mountai	76.89	40	eP	P	17 23 52.8	+0.1
BMN				pmax	pmax		
	comp=Z,53nm,1.5s,mb5.2						
BMN				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.5						
BMN	Battle Mountai	76.89	40	eP	P	17 23 52.8	+0.1
	comp=Z,53nm,1.5s,mb5.2						
BMN				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
J06A	Christmas Vall	76.89	36	⇑P	P	17 23 52.2	-0.4
	baz=77,SNR=27						
SBUM	Sibu	76.93	277	⇓P	P	17 23 54.4	+0.9
117A	Oracle	76.93	50	⇓P	P	17 23 53.9	+0.8
	baz=77,SNR=32						
Q11A	Duckwater	76.95	42	⇓P	P	17 23 53.4	+0.4
	baz=77,SNR=30						
YHNB	Yeheng	76.95	301	eP	P	17 23 54.1	+0.7
	comp=Z,203nm,1.3s,mb5.9						
YHNB				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
N09A	Rock Creek Ran	76.96	39	⇑P	P	17 23 52.9	-0.1
	baz=77,SNR=7.5						
TATO	Taipei	76.99	302	eP	P	17 23 54.1	+0.5
	comp=Z,444nm,1.7s,mb6.1						
TATO				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
K07A	Rock Creek Ran	77.06	37	⇑P	P	17 23 53.3	-0.2
	baz=77,SNR=29						
T13A	Saint George	77.07	44	⇑P	P	17 23 54.3	+0.5
	baz=77,SNR=8.7						
Y16A	Circle Bar Ran	77.07	48	⇑P	P	17 23 54.4	+0.6
	baz=77,SNR=15						
218A	Dragoon	77.14	50	⇓P	P	17 23 54.8	+0.6
	baz=77,SNR=11						
W15A	Williams	77.19	47	⇓P	P	17 23 55.2	+0.8
	baz=77						
E03A	Lebam	77.22	32	⇑P	P	17 23 53.7	-0.7
	baz=78,SNR=5.5						
U14A	Mt Trumbull	77.23	45	⇓P	P	17 23 55.5	+0.8
	baz=77,SNR=31						
O10A	Cortez Mining,	77.26	40	⇓P	P	17 23 55.2	+0.5
	baz=78						
WVOR	Wild Horse Val	77.26	38	P	P	17 23 54.6	-0.1
L08A	Fields	77.28	38	⇑P	P	17 23 55.0	+0.3
	baz=78						
P11A	Circle Ranch,	77.29	41	⇓P	P	17 23 55.0	+0.1
	baz=78						
I06A	Prineville	77.30	36	⇓P	P	17 23 55.3	+0.4
	baz=78,SNR=7.2						
R12A	Pony Springs,	77.33	43	⇓P	P	17 23 55.4	+0.2
	baz=78,SNR=10						
BMW	Boistfort Moun	77.34	32	eP	P	17 23 54.9	-0.1
M09A	Marrel Ranch,	77.35	39	⇑P	P	17 23 55.4	+0.2
	baz=78						
X16A	Lo Mia Camp, P	77.37	48	⇑P	P	17 23 56.5	+1.0
	baz=78,SNR=26						
F04A	Amboy	77.40	33	⇑P	P	17 23 55.1	-0.3
	baz=78						
HOOD	Mount Hood Mea	77.40	34	eP	P	17 23 55.7	+0.3
	comp=Z,49nm,1.2s,mb5.3						
S13A	Holt Ranch, En	77.41	44	⇓P	P	17 23 56.2	+0.6
	baz=78,SNR=21						
319A	Douglas	77.41	51	⇓P	P	17 23 56.4	+0.6
	baz=78,SNR=25						
Y17A	Roosevelt	77.43	49	⇑P	P	17 23 56.4	+0.6
	baz=78,SNR=26						
J07A	Hines	77.45	37	⇑P	P	17 23 55.8	+0.1
	baz=78,SNR=9.4						
Z17A	San Carlos Hig	77.49	49	⇑P	P	17 23 56.8	+0.6
	baz=78,SNR=8.8						
N10A	Dunphy	77.50	40	⇑P	P	17 23 56.2	+0.1
	baz=78						
D03A	Wishkah Elem.	77.50	32	⇓P	P	17 23 56.1	+0.2
	baz=78						
K08A	Mann Creek Ran	77.53	38	⇓P	P	17 23 56.3	+0.2
	baz=78,SNR=31						
118A	Homack Ranch,	77.53	50	⇑P	P	17 23 57.3	+0.8
	baz=78,SNR=30						
G05A	Wamic	77.53	34	⇑P	P	17 23 56.2	+0.1
	baz=78						
L09A	Wilkinson Ranc	77.58	38	⇓P	P	17 23 56.6	+0.2
	baz=78						
Q12A	Willow Creek R	77.59	42	⇓P	P	17 23 57.0	+0.4
	baz=78,SNR=17						
V15A	Kaibab Nationa	77.59	46	⇑P	P	17 23 57.8	+1.1
	baz=78,SNR=27						
T14A	Hurricane	77.64	45	⇓P	P	17 23 57.5	+0.5
	baz=78,SNR=12						
NLWA	Neilton Lookou	77.64	31	⇓P	P	17 23 56.9	+0.2
	baz=78,SNR=5.8						
NLWA	Neilton Lookou	77.64	31	eP	P	17 23 57.0	+0.4
	comp=Z,59nm,1.5s,mb5.3						
NLWA				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
W16A	Flagstaff	77.66	47	⇑P	P	17 23 57.8	+0.7
	baz=78,SNR=9.5						
R13A	O'Grain Ranch,	77.67	43	⇓P	P	17 23 57.9	+0.8
	baz=78						
C03A	Quillayute Air	77.68	31	⇑P	P	17 23 56.4	-0.5
	baz=78						
E04A	Onalaska	77.68	32	⇓P	P	17 23 56.9	0.0
	baz=78						
O11A	Cowboy Ranch,	77.69	41	⇓P	P	17 23 57.3	+0.1
	baz=78,SNR=31						
Z18A	Geronimo	77.70	49	⇓P	P	17 23 58.3	+0.9
	baz=78						
CCUT	Cedar City	77.72	44	eP	P	17 24 06.9	+10
	comp=Z,56nm,1.5s,mb5.3						
219A	White Tail Can	77.73	51	⇑P	P	17 23 58.2	+0.7
	baz=78,SNR=25						
H06A	Lindquist Farm	77.74	35	⇑P	P	17 23 56.9	-0.4
	baz=78,SNR=25						
X17A	Forest Lakes	77.78	48	⇑P	P	17 23 58.8	+1.0
	baz=78,SNR=11						
I07A	Izee	77.78	36	⇓P	P	17 23 57.9	+0.3
	baz=78,SNR=21						
P12A	McGill	77.78	42	⇑P	P	17 23 58.

comp=Z,133nm,1.9s,mb5.5
N11A Elko Archery C 78.03 40 ⇑P P 17 23 59.2 +0.1
baz=78
Y18A Canyon Day Jun 78.05 49 ⇓P P 17 24 00.0 +0.7
baz=78,SNR=15
Q13A Wheeler Ranch, 78.06 43 ⇑P P 17 23 59.4 +0.1
baz=78,SNR=19
H07A Lands Inn, Kim 78.07 36 ⇑P P 17 23 59.0 -0.2
baz=78,SNR=20
119A Ashpeak Ranch, 78.08 50 ⇑P P 17 24 00.0 +0.5
baz=78,SNR=21
T15A Red Dirt Ranch 78.09 45 ⇑P P 17 24 00.3 +0.8
baz=78,SNR=24
F06A Goldendale 78.16 34 ⇑P P 17 23 59.4 -0.2
baz=78
E05A Randle 78.16 33 ⇓P P 17 23 59.4 -0.2
baz=78,SNR=17
I08A Drewsey 78.20 37 ⇑P P 17 23 59.4 -0.5
baz=78,SNR=11
W17A Winslow 78.23 47 ⇓P P 17 24 01.0 +0.8
baz=78
KSRS Korea Array 78.28 315 P P 17 24 01.8 +1.3
comp=Z,32nm,1.1s,mb5.2,baz=129,slow=5.6,SNR=61
KSRS LR LR 17 52 22.8
comp=Z,498nm,20.7s,MS4.8,baz=115,slow=31
KSRS Korea Array 78.28 315 P P 17 24 01.8 +1.3
KSRS pmax pmax
comp=Z,32nm,1.1s,mb5.2
KSRS MLR MLR
comp=Z,498nm,20.7s,MS4.8
B04A Port Angeles 78.28 31 ⇓P P 17 24 00.1 -0.1
baz=78
ELK Elko 78.30 41 P P 17 24 00.8 +0.3
comp=Z,14nm,1.1s,mb4.8,baz=226,slow=5.2,SNR=43
ELK Elko 78.30 41 eP P 17 24 00.4 -0.1
ELK pmax pmax
comp=Z,51nm,1.4s
ELK MLR MLR
comp=Z,3μm,19.0s
ELK Elko 78.30 41 eP P 17 24 00.4 -0.1
comp=Z,51nm,1.4s,mb5.3
ELK LR LR
comp=Z,3μm,19.0s,MS5.6
C04A Brinnon 78.31 32 ⇑P P 17 24 00.2 -0.2
baz=79
L10A Juniper Basin 78.32 39 ⇓P P 17 24 00.7 +0.1
baz=79,SNR=27
J09A Fry Pan Ranch, 78.33 37 ⇓P P 17 24 00.4 -0.2
baz=79,SNR=20
O12A Currie 78.34 41 ⇑P P 17 24 00.6 -0.1
baz=79,SNR=17
P13A Bates Ranch, G 78.34 42 ⇑P P 17 24 00.9 +0.1
baz=79,SNR=10
R14A James Farms, M 78.35 44 ⇑P P 17 24 00.8 -0.1
baz=79
M11A Holland Ranch, 78.36 40 ⇑P P 17 24 01.2 +0.4
baz=79,SNR=25
Z19A T-Link Ranch, 78.36 50 ⇓P P 17 24 01.7 +0.7
baz=79,SNR=12
G07A Ruggs Ranch, H 78.44 35 ⇓P P 17 24 00.7 -0.4
baz=79,SNR=14
KSM Kuching 78.44 275 ⇑P P 17 24 03.5 +1.6
KSM Kuching 78.44 275 eP P 17 24 02.9 +1.0
comp=Z,376nm,1.1s,mb6.2
D05A Enumclaw 78.45 32 ⇓P P 17 24 01.1 -0.1
baz=79,SNR=8.3
S15A Panguitch 78.45 44 ⇑P P 17 24 03.1 +1.7
baz=79,SNR=8.0
N12A Clover Valley, 78.49 41 ⇓P P 17 24 01.6 +0.1
baz=79,SNR=19
X18A Snowflake 78.49 48 ⇓P P 17 24 02.2 +0.5
baz=79,SNR=9.6
K10A MacKenzie Ranc 78.50 38 ⇑P P 17 24 01.6 0.0
baz=79,SNR=42
H08A Prairie City 78.52 36 ⇑P P 17 24 01.4 -0.2
baz=79,SNR=11
E06A Yakima 78.56 33 ⇓P P 17 24 01.2 -0.6
baz=79,SNR=11
Q14A Sevier Lake (B 78.56 43 ⇓P P 17 24 02.5 +0.5
baz=79,SNR=44
T16A Glen Canyon Da 78.67 45 ⇓P P 17 24 03.4 +0.8
baz=79
F07A Phinny Hill Vi 78.70 34 ⇓P P 17 24 02.2 -0.4
baz=79
Y19A Nutrioso 78.70 49 ⇑P P 17 24 04.0 +1.1
baz=79,SNR=42
PGC Sidney 78.71 31 eP P 17 24 02.0 -0.6
comp=Z,230nm,1.7s,mb5.8
I09A Lost Marbles R 78.72 37 ⇓P P 17 24 02.1 -0.6
baz=79
O13A Hicks Ranch, I 78.74 42 ⇑P P 17 24 03.4 +0.4
baz=79
R15A Junction 78.80 44 ⇓P P 17 24 04.4 +1.1
baz=79
L11A Cat Creek Ranc 78.81 39 ⇓P P 17 24 03.4 +0.1
baz=79,SNR=42
G08A Pilot Rock 78.84 35 ⇑P P 17 24 03.4 0.0
baz=79,SNR=37
M12A Wells 78.89 40 ⇑P P 17 24 03.8 +0.1
baz=79,SNR=26
X19A St. Johns 78.91 49 ⇑P P 17 24 04.6 +0.6
baz=79,SNR=15
W18A Petrified Fore 78.94 48 ⇑P P 17 24 04.4 +0.3
baz=79
C05A Tolt Reservoir 78.94 32 ⇑P P 17 24 03.1 -0.8
baz=79,SNR=6.0
J10A Berg Farm, Mel 78.95 38 ⇓P P 17 24 03.7 -0.3
baz=79
VLA Vladivostok 78.97 322c iP P 17 24 04.5 +0.4
VLA eS S 17 34 06.0 +5.6
VLA pmax pmax
comp=Z,64nm,2.8s,mb5.1
VLA MLR MLR
comp=Z,700nm,17.8s,MS5.0
VLA Vladivostok 78.97 322 ⇑iP P 17 24 04.0 -0.1
S16A Weppner Ranch, 78.99 45 ⇑P P 17 24 04.7 +0.3
baz=79,SNR=7.7
K11A Parker Ranch, 79.00 39 ⇑P P 17 24 04.3 0.0
baz=79,SNR=24
MVU Marysvale 79.00 44 PFAKE 17 24 10.0 +5.6
MVU LR LR
comp=Z,4μm,19.0s,MS5.8
N13A Wendover, West 79.01 41 ⇑P P 17 24 04.6 +0.2
baz=79,SNR=12
MSU Marysvale 79.03 44 eP P 17 24 05.4 +0.8
comp=Z,64nm,1.5s,mb5.3
P14A Drum Mountains 79.03 43 ⇑P P 17 24 04.5 -0.1
baz=79,SNR=26
U17A Shonto 79.04 46 ⇑P P 17 24 05.5 +0.8
baz=79,SNR=9.9
D06A Cle Elum 79.05 33 ⇑P P 17 24 04.3 -0.1
baz=79
V18A Ganado 79.10 47 ⇑P P 17 24 05.9 +0.8
baz=79,SNR=24
BBB Bella Bella 79.11 26 P P 17 24 04.3 -0.3
comp=Z,30nm,1.1s,mb5.2,baz=235,slow=7.3,SNR=7.8
B05A Bryant 79.11 32 ⇓P P 17 24 04.4 -0.4
baz=79
A04A Legoe Bay, Lum 79.12 31 ⇑P P 17 24 04.6 -0.2
baz=79,SNR=8.9
JCW Jim Creek 79.15 32 eP P 17 24 04.6 -0.4
T17A Navajo Res., N 79.15 46 ⇓P P 17 24 06.3 +1.0
baz=79,SNR=8.8
Q15A Fillmore 79.16 43 ⇑P P 17 24 05.9 +0.6
baz=79,SNR=5.9
E07A Sunnyside 79.16 34 ⇑P P 17 24 04.8 -0.3
baz=79,SNR=6.7
INCN Inchon 79.16 315 eP P 17 24 07.5 +2.2
comp=Z,220nm,1.6s,mb5.8
INCN LR LR
comp=Z,778nm,22.0s,MS5.0
LTY Liberty 79.18 33 P P 17 24 04.7 -0.5
W19A Sanders 79.18 48 ⇑P P 17 24 06.2 +0.7
baz=79
H09A Durkee 79.18 36 ⇓P P 17 24 04.5 -0.8
baz=79,SNR=13
RSW Rattlesnake Hi 79.19 34 eP P 17 24 05.6 +0.3
comp=Z,161nm,1.9s,mb5.6
HAWA Hanford 79.22 34 eP P 17 24 05.1 -0.3
comp=Z,93nm,1.7s,mb5.4
L12A House Creek Ra 79.24 40 ⇑P P 17 24 06.0 +0.3
baz=80,SNR=10
F08A Pendleton 79.26 35 ⇓P P 17 24 05.2 -0.5
baz=80,SNR=9.4
SVW2 Sparrevohn 79.28 8 eP P 17 24 03.8 -1.6
M13A Montello 79.32 41 ⇓P P 17 24 06.1 0.0
baz=80,SNR=19
I10A Payette 79.32 37 ⇑P P 17 24 06.1 0.0
baz=80
SEW Seward 79.33 11 eP P 17 24 04.6 -1.1
comp=Z,10μm,1.3s
QZH Quanzhou 79.35 300 ⇓iP P 17 24 07.8 +1.1
QZH S S 17 34 09.5 +4.3
QZH AMB AMB
comp=Z,210nm,1.2s,mb5.9
QZH AMB AMB
comp=Z,3μm,7.1s
QZH LR LR
comp=N,470nm,13.9s
QZH LR LR
comp=E,1μm,21.8s
QZH LR LR
comp=Z,3μm,35.4s
R16A Teasdale 79.37 44 ⇑P P 17 24 07.4 +1.0
baz=80,SNR=12
S17A Black Ridge (B 79.48 45 ⇓P P 17 24 07.1 0.0
baz=80,SNR=12
G09A Cove 79.49 36 ⇑P P 17 24 06.7 -0.3
baz=80,SNR=13
MFID Camas Ranch 79.49 38 ⇑P P 17 24 06.9 -0.1
baz=80,SNR=12
C06A Tall Timber Ra 79.50 32 ⇑P P 17 24 06.3 -0.6
baz=80
BMO Blue Mountains 79.50 36 eP P 17 24 06.2 -0.8
comp=Z,53nm,1.5s,mb5.2
BMO ePP PP 17 27 06.0 -2.0
BMO LR LR
comp=Z,3μm,19.0s,MS5.6
U18A Rough Rock, Ch 79.50 47 ⇓P P 17 24 07.5 +0.3
baz=80,SNR=9.9
D07A Quincy 79.50 33 ⇓P P 17 24 07.1 +0.1
baz=80
DUG Dugway 79.53 42 eP P 17 24 06.9 -0.3
DUG pmax pmax
comp=Z,27nm,1.3s,mb5.0
DUG Dugway 79.53 42 ⇑P P 17 24 07.2 -0.1
baz=80
DUG Dugway 79.53 42 eP P 17 24 06.9 -0.4
comp=Z,27nm,1.3s,mb5.0
RPW Rockport 79.53 32 eP P 17 24 06.7 -0.4
comp=Z,36nm,1.8s,mb5.0
P15A Leamington 79.53 43 ⇓P P 17 24 07.7 +0.4
baz=80,SNR=10
E08AIder Farm, El 79.54 34 ⇓P P 17 24 06.6 -0.6
baz=80,SNR=5.4
SLKM Skilak Lake 79.56 11 eP P 17 24 06.0 -1.0
LNOR Lincton Mounta 79.58 35 eP P 17 24 07.1 -0.3
comp=Z,11nm,1.2s,mb4.7
ETW Entiat 79.58 33 eP P 17 24 07.0 -0.4
comp=Z,116nm,1.6s,mb5.6
B06A Marblemount 79.59 32 ⇑P P 17 24 06.8 -0.6
baz=80
K12A Draper Farm, C 79.59 39 ⇓P P 17 24 07.3 -0.3
baz=80,SNR=8.6
A05A Maple Falls 79.61 31 ⇑P P 17 24 06.9 -0.5
baz=80
N14A Grayback Hills 79.65 41 ⇓P P 17 24 07.9 0.0
baz=80,SNR=11
H10A Noah's Angus R 79.66 37 ⇓P P 17 24 07.2 -0.7
baz=80,SNR=32
F09A S2 Ranch, Elgi 79.68 35 ⇓P P 17 24 07.6 -0.3
baz=80,SNR=11
I11A Placerville 79.71 38 ⇑P P 17 24 07.6 -0.6
baz=80
V19A Window Rock 79.72 48 ⇓P P 17 24 08.8 +0.4
baz=80,SNR=6.9
C07A Waterville 79.77 33 ⇓P P 17 24 07.7 -0.7
baz=80,SNR=8.5
BGU Big Grassy Mou 79.79 41 eP P 17 24 08.9 +0.2
comp=Z,132nm,2.1s,mb5.5
O15A The Old Anders 79.79 42 ⇑P P 17 24 08.9 +0.2
baz=80
J12A Stokes Ranch, 79.83 39 ⇑P P 17 24 08.8 -0.1
baz=80,SNR=20
T18A Mexican Hat 79.86 46 ⇑P P 17 24 10.0 +0.9
baz=80,SNR=82
L13A Double Diamond 79.87 40 ⇓P P 17 24 09.4 +0.3
baz=80,SNR=14
G10A Bishop Farm, J 79.87 36 ⇑P P 17 24 08.5 -0.5
baz=80,SNR=12
M14A Sheep Mountain 79.91 41 ⇑P P 17 24 09.6 +0.3
baz=80,SNR=48
Q16A Castle Valley 79.91 44 ⇑P P 17 24 10.2 +0.8
baz=80,SNR=6.8
P16A Fountain Green 79.95 43 ⇑P P 17 24 10.4 +0.8
baz=80
R17A Hanksville Air 79.95 45 ⇑P P 17 24 09.7 +0.1
baz=80,SNR=17
SSE Sheshan 79.97 307 ⇓P P 17 24 10.5 +0.6
SSE S S 17 34 12.0 +0.5
SSE AMB AMB
comp=Z,36nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,603nm,8.0s
SSE LR LR
comp=N,204nm,26.1s,MS4.8
SSE LR LR
comp=E,499nm,26.1s,MS4.8
SSE LR LR
comp=Z,863nm,26.5s,MS5.0
SSE Sheshan 79.97 307 ⇓P P 17 24 10.6 +0.7
comp=Z,36nm,0.7s,mb5.4
SSE PcP PcP 17 24 18.1 +0.8
SSE S S 17 34 12.1 +0.6
SSE sS sS 17 34 17.6 -12
SSE ScS ScS 17 34 34.5 +2.2
SSE LR LR
comp=Z,860nm,26.5s,MS5.0
D08A Wollman Farm, 79.97 34 ⇑P P 17 24 09.2 -0.3
baz=80,SNR=13
A06A Chilliwack 79.97 31 ⇑P P 17 24 08.9 -0.5
baz=80
E09A Wood Farm, Sta 80.05 35 ⇑P P 17 24 09.0 -1.0
baz=80,SNR=14
S18A Hurst Farm, Bl 80.06 45 ⇓P P 17 24 10.4 +0.2
baz=80,SNR=7.0
TMUT Trail Mountain 80.08 44 eP P 17 24 11.4 +1.1
comp=Z,176nm,1.8s,mb5.7
N15A Stansbury Isla 80.09 42 ⇑P P 17 24 10.2 -0.1
baz=80
K13A Stover Farm, H 80.10 40 ⇑P P 17 24 10.4 +0.1
baz=80,SNR=9.1
H11A Donnelly 80.15 37 ⇓P P 17 24 09.9 -0.6
baz=80,SNR=7.9
MPU Maple Canyon 80.19 43 PFAKE 17 24 20.0 +9.2
MPU LR LR
comp=Z,3μm,19.0s,MS5.7
RC01 Rabbit Creek A 80.19 11 eP P 17 24 09.5 -0.8
comp=Z,259nm,1.7s,mb5.9
F10A Beach Ranch, E 80.22 35 ⇓P P 17 24 10.1 -0.7
baz=80,SNR=21
B07A Winthrop 80.24 32 ⇑P P 17 24 10.3 -0.6
baz=80,SNR=15
SIT Sitka 80.24 19 PFAKE 17 24 20.0 +9.3
SIT LR LR
comp=Z,2μm,19.0s,MS5.5
L14A Malta 80.27 40 ⇑P P 17 24 11.2 -0.1
baz=80,SNR=9.2
OD2 Odessa Site #2 80.29 34 eP P 17 24 10.6 -0.6
comp=Z,156nm,1.7s,mb5.7
T19A Beclabito 80.29 47 ⇑P P 17 24 12.3 +0.8
baz=80,SNR=27
D09A Jones Farm, Ri 80.30 34 ⇓P P 17 24 10.7 -0.6
baz=80,SNR=18
C08A Higginbotham F 80.36 33 ⇑P P 17 24 11.1 -0.5
baz=81,SNR=13
SPUT South Promonto 80.36 41 eP P 17 24 12.0 +0.2
comp=Z,37nm,1.8s,mb5.0
O16A Springville 80.38 43 ⇓P P 17 24 11.8 -0.1
baz=81
G11A Walters Elk Ra 80.41 36 ⇓P P 17 24 11.4 -0.6
baz=81,SNR=26
HLID Hailey 80.42 39 ⇓P P 17 24 12.3 +0.3
baz=81,SNR=29
HLID Hailey 80.42 39 eP P 17 24 12.1 +0.1
comp=Z,47nm,1.3s,mb5.3
HVU Hansel Valley 80.42 41 eP P 17 24 11.8 -0.2
HVU pmax pmax
comp=Z,94nm,1.8s,mb5.4
HVU Hansel Valley 80.42 41 eP P 17 24 11.8 -0.2
comp=Z,94nm,1.8s,mb5.4
SRU San Rafael 80.44 44 eP P 17 24 12.1 -0.1
SRU pmax pmax
comp=Z,39nm,1.5s,mb5.1
SRU San Rafael 80.44 44 ⇑P P 17 24 12.2 0.0
baz=81,SNR=17
SRU San Rafael 80.44 44 eP P 17 24 12.1 -0.1
comp=Z,58nm,1.5s,mb5.3
LAZ Ladron 80.45 50 eP P 17 24 13.0 +0.7
comp=Z,59nm,1.8s,mb5.2
M15A Larsen Ranch, 80.45 41 ⇓P P 17 24 11.9 -0.4
baz=81,SNR=10
Y22C IRIS PASSCAL I 80.45 50 ⇓P P 17 24 13.2 +0.8
baz=81
LENM Lemitar 80.46 50 eP P 17 24 13.5 +1.0
comp=Z,77nm,1.8s,mb5.3
J13A Cove Ranch, Pi 80.47 39 ⇑P P 17 24 12.7 +0.4
baz=81,SNR=21
CTU Camp Tracy 80.47 42 eP P 17 24 12.6 +0.2
comp=Z,50nm,1.5s,mb5.2
EYAK Cordova Ski Ar 80.48 13 eP P 17 24 10.8 -1.2
comp=Z,57nm,0.8s,mb5.5
P17A Butcher Ranch, 80.48 44 ⇓P P 17 24 12.9 +0.4
baz=81,SNR=7.9
A07A Ashnola River, 80.49 32 ⇓P P 17 24 11.9 -0.3
baz=81,SNR=14
R18A Canyonlands Na 80.49 45 ⇓P P 17 24 12.7 +0.2
baz=81,SNR=35
RAGM Ragged Mountai 80.57 13 eP P 17 24 12.1 -0.3
B08A Colville Reser 80.58 33 ⇓P P 17 24 11.2 -1.6
baz=81,SNR=10
K14A Jones Ranch, D 80.59 40 ⇑P P 17 24 12.8 -0.2
baz=81,SNR=6.3
E10A Myers Farm, Un 80.60 35 ⇑P P 17 24 12.2 -0.7
baz=81
JLU Jordanelle 80.62 42 eP P 17 24 13.4 +0.2
comp=Z,37nm,1.4s,mb5.1
DAU Daniels Canyon 80.64 43 eP P 17 24 13.5 +0.2
comp=Z,106nm,2.0s,mb5.4
S19A Harvey Farm, M 80.68 46 ⇓P P 17 24 14.3 +0.7
baz=81,SNR=15
Q18A Rafter H Ranch 80.69 44 ⇓P P 17 24 13.5 -0.1
baz=81,SNR=21
BNM Barren Site 80.70 50 eP P 17 24 14.4 +0.7
comp=Z,52nm,1.4s,mb5.3
WRAK Wrangell Islan 80.72 21 eP P 17 24 13.8 +0.5
comp=Z,23nm,0.3s,mb5.6
H12A Diamond D Ranc 80.72 38 ⇑P P 17 24 13.0 -0.6
baz=81,SNR=16
F11A Grangeville 80.77 36 ⇓P P 17 24 12.1 -1.8
baz=81
PMR Palmer 80.77 11 eP P 17 24 12.9 -0.5
PMR pmax pmax
comp=Z,236nm,2.0s,mb5.8
PMR MLR MLR
comp=Z,1μm,19.0s,MS5.2
PMR Palmer 80.77 11 eP P 17 24 12.8 -0.6
comp=Z,241nm,2.0s,mb5.8
PMR LR LR
comp=Z,1μm,19.0s,MS5.2
LPM Los Pinos Moun 80.78 50 eP P 17 24 14.8 +0.6
comp=Z,63nm,1.6s,mb5.3
TXAR Lajitas Array 80.78 55 P P 17 24 14.8 +0.6
comp=Z,30nm,1.2s,mb5.1,baz=220,slow=4.9,SNR=96
TXAR LR LR 17 55 53.1
comp=Z,1μm,18.2s,MS5.4,baz=110,slow=33
TXAR Lajitas Array 80.78 55 P P 17 24 14.8 +0.5
TXAR LR LR 17 55 53.1
C09A Chrisman Ranch 80.78 34 ⇑P P 17 24 13.0 -0.8
baz=81,SNR=5.9
N16A Rees Ranch, Co 80.78 42 ⇑P P 17 24 14.1 +0.1
baz=81
L15A Malad City 80.78 41 ⇑P P 17 24 13.8 -0.2
baz=81,SNR=10
I13A Wildhorse Cree 80.80 38 ⇓P P 17 24 14.2 +0.2
baz=81,SNR=14
J14A Carey 80.82 39 ⇓P P 17 24 14.8 +0.7
baz=81
MVCO Mesa Verde 80.85 47 ⇓P P 17 24 14.7 +0.2
baz=81
MVCO Mesa Verde 80.85 47 PFAKE 17 24 20.0 +5.5
MVCO LR LR
comp=Z,2μm,19.0s,MS5.5
D10A Wagner Farm, O 80.85 35 ⇑P P 17 24 13.2 -1.1
baz=81,SNR=8.1
O17A Robinson Place 80.86 43 ⇑P P 17 24 15.0 +0.5
baz=81
R19A Curley Farm, L 80.87 45 ⇓P P 17 24 14.4 -0.1
baz=81,SNR=5.3
M16A Huntsville 80.89 42 ⇑P P 17 24 14.6 +0.1
baz=81
P18A Preston Nutter 80.89 44 ⇑P P 17 24 15.0 +0.3
baz=81,SNR=8.2
A08A Turner Farm, O 80.99 32 ⇑P P 17 24 14.6 -0.3
baz=81,SNR=23
TTA Tatalina 80.99 7 eP P 17 24 14.6 0.0
TTA pmax pmax
comp=Z,279nm,1.8s,mb5.9
TTA Tatalina 80.99 7 eP P 17 24 14.6 0.0
comp=Z,279nm,1.8s,mb5.9
DIV Divide 81.00 13 eP P 17 24 13.8 -0.9
comp=Z,120nm,1.3s,mb5.7
E11A Bogner Ranch, 81.02 36 ⇑P P 17 24 14.1 -1.0
baz=81
PV10 Paradox Valley 81.06 45 eP P 17 24 15.8 +0.2
comp=Z,186nm,0.8s,mb6.1
K15A Arbon 81.07 40 ⇑P P 17 24 15.1 -0.4
baz=81,SNR=8.6
HWUT Hardware Ranch 81.08 41 eP P 17 24 15.2 -0.4
comp=Z,31nm,1.4s,mb5.0
HWUT LR LR
comp=Z,3μm,19.0s,MS5.6
H13A Challis 81.08 38 ⇓P P 17 24 15.5 0.0
baz=81,SNR=20
BMRM Bremner River 81.11 13 eP P 17 24 14.5 -0.8
comp=Z,294nm,1.6s,mb6.0
MDJ Mudanjiang 81.19 322 P P 17 24 17.0 +0.9
MDJ AP pP 17 24 20.3 -6.8
MDJ XP sP 17 24 21.5 -10
MDJ PP PP 17 27 22.3 +0.3
MDJ S S 17 34 29.8 +6.1
MDJ SS SS 17 39 44.8 +4.8
MDJ AMB AMB
comp=Z,35nm,1.4s,mb5.1
MDJ AMB AMB
comp=Z,794nm,7.3s
MDJ LR LR
comp=N,653nm,27.4s
MDJ LR LR
comp=E,837nm,33.6s
MDJ LR LR
comp=Z,1μm,31.6s,MS5.1
MDJ Mudanjiang 81.19 322 eP P 17 24 17.0 +0.9
comp=Z,74nm,1.5s,mb5.4
MDJ LR LR
comp=Z,970nm,22.0s,MS5.1
N17A Moffit Pass 81.20 42 ⇑P P 17 24 15.9 -0.3
baz=81
F12A Elk City 81.20 36 ⇓P P 17 24 15.7 -0.5
baz=81,SNR=56
ANMO Albuquerque 81.20 49 P P 17 24 16.8 +0.4
ANMO pmax pmax
comp=Z,45nm,1.4s
ANMO Albuquerque 81.20 49 eP P 17 24 17.0 +0.6
comp=Z,45nm,1.4s,mb5.2
ANMO LR LR
comp=Z,2μm,19.0s,MS5.5
I14A Mackay 81.20 39 ⇓P P 17 24 16.5 +0.4
baz=81
Q19A Hogan Spring (81.20 45 ⇓P P 17 24 16.7 +0.4
baz=81,SNR=18
B09A Rice 81.23 33 ⇓P P 17 24 15.1 -1.1
baz=82,SNR=7.6
C10A Spilker Farm, 81.30 34 ⇑P P 17 24 16.1 -0.5
baz=82
A09A Danville 81.35 32 ⇑P P 17 24 16.1 -0.8
baz=82,SNR=12
D11A Klaveano Farm, 81.36 35 ⇓P P 17 24 15.7 -1.3
baz=82,SNR=6.7
O18A Roosevelt 81.38 43 ⇓P P 17 24 17.2 0.0
baz=82
L16A Fish Haven 81.39 41 ⇓P P 17 24 16.9 -0.3
baz=82,SNR=5.8
G13A Cobalt 81.40 37 ⇑P P 17 24 17.1 -0.1
baz=82,SNR=20
PPLA Purkeypile 81.48 9 eP P 17 24 15.1 -2.1
comp=Z,60nm,1.6s,mb5.3
J15A Blackfoot 81.52 40 ⇓P P 17 24 18.3 +0.4
baz=82
H14A Leadore 81.64 38 ⇓P P 17 24 18.4 0.0
baz=82
B10A Chitwood Farm, 81.64 34 ⇓P P 17 24 17.7 -0.7
baz=82
NEW Newport 81.67 34 eP P 17 24 17.6 -1.0

NEW				pmax	pmax		
	comp=Z,33nm,1.6s						
NEW	**Newport**	**81.67**	**34**	*e*P	**P**	**17 24 17.6**	**-1.0**
	comp=Z,33nm,1.6s,mb5.0						
K16A	**Soda Springs**	**81.73**	**40**	⇑P	**P**	**17 24 19.1**	**+0.1**
	baz=82,SNR=8.7						
F13A	**Darby**	**81.74**	**37**	⇑P	**P**	**17 24 18.4**	**-0.6**
	baz=82,SNR=13						
I15A	**Monteview**	**81.82**	**39**	⇓P	**P**	**17 24 19.8**	**+0.4**
	baz=82						
A10A	**Northport**	**81.89**	**33**	⇑P	**P**	**17 24 19.1**	**-0.6**
	baz=82,SNR=15						
G14A	**Jackson**	**81.94**	**38**	⇓P	**P**	**17 24 20.2**	**+0.2**
	baz=82						
J16A	**Bone**	**81.95**	**40**	⇓P	**P**	**17 24 20.7**	**+0.6**
	baz=82,SNR=18						
N18A	**Larsen Ranch,**	**81.96**	**43**	⇑P	**P**	**17 24 20.1**	**-0.2**
	baz=82						
AHID	**Auburn Hatcher**	**82.00**	**41**	*e*P	**P**	**17 24 20.9**	**+0.5**
	comp=Z,7.3nm,0.5s,mb4.9						
AHID				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
PMSA	**Palmer Station**	**82.00**	**156**	*e*P	**P**	**17 24 20.2**	**+0.1**
	comp=Z,113nm,1.6s,mb5.5						
MCMT	**McKenzie Canyo**	**82.06**	**38**	*e*P	**P**	**17 24 20.9**	**+0.2**
	comp=Z,75nm,1.3s,mb5.5						
H15A	**Lima**	**82.07**	**38**	⇓P	**P**	**17 24 21.1**	**+0.3**
	baz=82						
RRI2	**Red Ridge**	**82.17**	**40**	*e*P	**P**	**17 24 21.3**	**0.0**
	comp=Z,76nm,1.5s,mb5.4						
NJ2	**Nanjing**	**82.18**	**307**	*e*P	**P**	**17 24 22.0**	**+0.4**
NJ2				AP	pP	17 24 26.5	-6.2
NJ2				XP	sP	17 24 29.8	-6.9
NJ2				PP	PP	17 27 31.0	+0.6
NJ2				S	S	17 34 36.0	+1.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,690nm,8.0s						
NJ2				LR	LR		
	comp=N,360nm,36.5s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,37.6s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,37.6s,MS5.1						
B11A	**Sandpoint**	**82.18**	**34**	⇑P	**P**	**17 24 20.5**	**-0.7**
	baz=82,SNR=17						
E13A	**Victor**	**82.20**	**36**	⇓P	**P**	**17 24 20.3**	**-1.1**
	baz=82,SNR=15						
SKAG	**Skagway**	**82.20**	**18**	*e*P	**P**	**17 24 21.2**	**+0.1**
	comp=Z,73nm,0.8s,mb5.7						
N19A	**John Jarvie Ra**	**82.24**	**43**	⇓P	**P**	**17 24 21.3**	**-0.4**
	baz=82						
KTH	**Kantishna Hill**	**82.30**	**9**	*e*P	**P**	**17 24 19.6**	**-1.9**
	comp=Z,162nm,1.6s,mb5.7						
TRF	**Thorofare Moun**	**82.30**	**10**	*e*P	**P**	**17 24 20.4**	**-1.1**
	comp=Z,471nm,2.0s,mb6.1						
F14A	**Wisdom**	**82.31**	**37**	⇑P	**P**	**17 24 20.9**	**-1.0**
	baz=82,SNR=7.1						
I16A	**Newdale**	**82.36**	**40**	⇑P	**P**	**17 24 23.0**	**+0.7**
	baz=83						
DCID1	**Drake Creek**	**82.39**	**40**	*e*P	**P**	**17 24 23.3**	**+0.8**
CHUM	**Lake Minchumin**	**82.40**	**9**	*e*P	**P**	**17 24 20.1**	**-1.9**
	comp=Z,178nm,1.6s,mb5.8						
D13A	**Huson**	**82.42**	**36**	⇓P	**P**	**17 24 21.4**	**-1.1**
	baz=83,SNR=23						
G15A	**Dillon**	**82.46**	**38**	⇑P	**P**	**17 24 22.8**	**0.0**
	baz=83,SNR=18						
REDW	**Red Top Meadow**	**82.47**	**40**	*e*P	**P**	**17 24 22.7**	**-0.1**
	comp=Z,106nm,1.6s,mb5.5						
TPAW	**Teton Pass**	**82.48**	**40**	*e*P	**P**	**17 24 22.6**	**-0.3**
	comp=Z,54nm,1.4s,mb5.3						
A11A	**Hall Mountain,**	**82.50**	**33**	⇑P	**P**	**17 24 22.8**	**-0.1**
	baz=83,SNR=15						
DLMT	**Dillon**	**82.51**	**38**	*e*P	**P**	**17 24 22.9**	**-0.1**
	comp=Z,103nm,1.8s,mb5.6						
MSO	**Missoula**	**82.56**	**36**	*e*P	**P**	**17 24 22.3**	**-1.0**
	comp=Z,45nm,1.5s,mb5.3						
MSO				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
E14A	**Clinton**	**82.58**	**37**	⇑P	**P**	**17 24 22.9**	**-0.4**
	baz=83,SNR=5.4						
SNOW	**Snow King Moun**	**82.58**	**40**	*e*P	**P**	**17 24 24.2**	**+0.7**
	comp=Z,44nm,1.2s,mb5.4						
B12A	**Libby**	**82.61**	**34**	⇓P	**P**	**17 24 23.2**	**-0.3**
	baz=83						
TNA	**Tin City**	**82.68**	**2**	*e*P	**P**	**17 24 23.4**	**0.0**
	comp=Z,11μm,0.7s						
C13A	**Hot Springs**	**82.70**	**35**	⇓P	**P**	**17 24 22.7**	**-1.2**
	baz=83,SNR=19						
IMW	**Indian Meadow**	**82.70**	**40**	*e*P	**P**	**17 24 24.3**	**+0.2**
	comp=Z,77nm,1.4s,mb5.5						
KLR	**Kul'dur**	**82.70**	**327**	*e*P	**P**	**17 24 20.7**	**-3.2**
KLR				*e*S	S	17 34 35.0	-4.1
KLR				pmax	pmax		
	comp=Z,68nm,1.6s,mb5.4						
KLR				pmax	pmax		
	comp=Z,1μm,8.5s						
HYT	**Haines Junctio**	**82.72**	**16**	*e*P	**P**	**17 24 25.4**	**+1.7**
LOHW	**Long Hollow**	**82.75**	**40**	*e*P	**P**	**17 24 24.4**	**0.0**
	comp=Z,84nm,1.7s,mb5.5						
MCK	**McKinley**	**82.79**	**10**	*e*P	**P**	**17 24 22.9**	**-1.1**
MCK				pmax	pmax		
	comp=Z,154nm,1.3s,mb5.9						
MCK	**McKinley**	**82.79**	**10**	*e*P	**P**	**17 24 22.9**	**-1.1**
	comp=Z,154nm,1.3s,mb5.9						
BPAW	**Bear Paw Mtn.**	**82.80**	**9**	*e*P	**P**	**17 24 20.8**	**-3.3**
BPAW				*e*P		17 24 22.1	
F15A	**Butte**	**82.83**	**38**	⇓P	**P**	**17 24 24.5**	**-0.2**
	baz=83,SNR=18						
A12A	**Yaak River Ran**	**82.86**	**34**	⇓P	**P**	**17 24 24.2**	**-0.5**
	baz=83						
QLMT	**Earthquake Lak**	**82.91**	**39**	*e*P	**P**	**17 24 25.7**	**+0.6**
	comp=Z,47nm,1.3s,mb5.4						
FLWY	**Flagg Ranch**	**82.95**	**40**	*e*P	**P**	**17 24 25.8**	**+0.5**
	comp=Z,110nm,1.4s,mb5.7						
D14A	**Greenough**	**82.95**	**36**	⇓P	**P**	**17 24 24.2**	**-1.1**
	baz=83,SNR=17						
BW06	**Boulder Array**	**82.96**	**41**	PFAKE		17 24 40.0	+15
BW06				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
PDAR	**Pinedale Array**	**82.96**	**41**	P	**P**	**17 24 25.0**	**-0.4**
	comp=Z,12nm,1.1s,mb4.8,baz=209,slow=2.7,SNR=61						
PDAR				PKKPbc	PKKPbc	17 42 48.8	-1.0
	comp=Z,1.1nm,1.1s,baz=72,slow=0.5,SNR=6.6						
PDAR				LR	LR	17 58 17.2	
	comp=Z,2μm,18.0s,MS5.6,baz=247,slow=34						
CHMT	**Chamberlain Mo**	**83.00**	**36**	*e*P	**P**	**17 24 24.7**	**-0.8**
	comp=Z,63nm,1.8s,mb5.3						
GZH	**Guangzhou**	**83.03**	**297**	P	**P**	**17 24 27.5**	**+1.3**
GZH				S	S	17 34 49.5	+6.0
GZH				AMB	AMB		
	comp=Z,2μm,6.7s						
GZH				LR	LR		
	comp=N,524nm,23.7s,MS4.9						
GZH				LR	LR		
	comp=E,363nm,24.1s,MS4.9						
GZH				LR	LR		
	comp=Z,2μm,36.1s						
YFT	**Old Faithful**	**83.06**	**39**	*e*P	**P**	**17 24 27.8**	**+1.9**
	comp=Z,52nm,1.4s,mb5.4						
E15A	**Deer Lodge**	**83.07**	**37**	⇑P	**P**	**17 24 25.3**	**-0.6**
	baz=83,SNR=14						
DLBC	**Dease Lake**	**83.08**	**21**	P	**P**	**17 24 25.5**	**-0.1**
	baz=204,slow=12						
DLBC	**Dease Lake**	**83.08**	**21**	*e*P	**P**	**17 24 24.8**	**-0.8**
YMR	**Madison River**	**83.10**	**39**	*e*P	**P**	**17 24 27.2**	**+1.1**
	comp=Z,142nm,1.5s,mb5.8						
YMR				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
B13A	**Whitefish**	**83.16**	**35**	⇑P	**P**	**17 24 25.5**	**-0.9**
	baz=83,SNR=6.7						
SDCO	**Great Sand Dun**	**83.19**	**47**	*e*P	**P**	**17 24 26.9**	**+0.2**
	comp=Z,46nm,1.5s,mb5.3						
SDCO				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
BOZ	**Bozeman (W)**	**83.23**	**38**	*e*P	**P**	**17 24 26.5**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,92nm,1.6s,mb5.6						
BOZ				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.5						
BOZ	**Bozeman (W)**	**83.23**	**38**	⇑P	**P**	**17 24 26.7**	**-0.1**
	baz=84						
BOZ	**Bozeman (W)**	**83.23**	**38**	*e*P	**P**	**17 24 26.5**	**-0.3**
	comp=Z,92nm,1.6s,mb5.6						
BOZ				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
CN2	**Changchun**	**83.24**	**320**	*e*P	**P**	**17 24 26.8**	**-0.1**
CN2				*e*XP	sP	17 24 33.8	-8.1
CN2				*e*S	S	17 34 46.0	+1.2
CN2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.5						
CN2				AMB	AMB		
	comp=Z,400nm,7.0s						
CN2				LR	LR		
	comp=N,500nm,23.0s,MS5.0						
CN2				LR	LR		
	comp=E,500nm,23.0s,MS5.0						
CN2				LR	LR		
	comp=Z,500nm,27.0s,MS4.8						
DL2	**Dalian**	**83.28**	**314**	*i* P	**P**	**17 24 28.3**	**+1.1**
DL2				S	S	17 34 48.3	+2.9
DL2				XS	sS	17 34 56.0	-7.7
DL2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.5						
DL2				AMB	AMB		
	comp=Z,470nm,5.3s						
DL2				LR	LR		
	comp=N,380nm,20.3s						
DL2				LR	LR		
	comp=E,310nm,27.0s						
DL2				LR	LR		
	comp=Z,460nm,21.1s,MS4.8						
YNR	**Norris Junctio**	**83.30**	**39**	*e*P	**P**	**17 24 28.4**	**+1.3**
	comp=Z,99nm,1.6s,mb5.6						
LKWY	**Lake**	**83.39**	**39**	PFAKE		17 24 40.0	+12
LKWY				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
D15A	**Lincoln**	**83.49**	**36**	⇓P	**P**	**17 24 27.8**	**-0.3**
	baz=84,SNR=25						
CMIG	**Matias Romero**	**83.50**	**70**	P	**P**	**17 24 29.3**	**+0.5**
	comp=Z,10nm,1.1s,mb4.8,baz=241,slow=4.5,SNR=10						
CMIG				LR	LR	17 54 58.2	
	comp=Z,3μm,18.1s,MS5.8,baz=244,slow=31						
HRY	**Holter Researc**	**83.70**	**37**	*e*P	**P**	**17 24 28.8**	**-0.3**
	comp=Z,81nm,1.2s,mb5.7						
USHA	**Ushuaia**	**83.74**	**146**	LR	LR	17 52 50.1	
	comp=Z,1μm,21.6s,MS5.2,baz=222,slow=29						
WALA	**Waterton Lakes**	**83.86**	**34**	*e*P	**P**	**17 24 29.0**	**-0.9**
	comp=Z,115nm,1.7s,mb5.7						
RWWY	**Rawlins**	**83.92**	**43**	*e*P	**P**	**17 24 30.2**	**-0.3**
	comp=Z,176nm,1.7s,mb5.9						
COLA	**College**	**84.03**	**10**	P	**P**	**17 24 29.8**	**-0.6**
COLA				pmax	pmax		
	comp=Z,180nm,1.2s,mb6.1						
COLA	**College**	**84.03**	**10**	*e*P	**P**	**17 24 29.4**	**-1.0**
COLA				*i* P		17 24 29.7	
COLA				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
ISCO	**Idaho Springs**	**84.08**	**45**	P	**P**	**17 24 31.7**	**+0.4**
ISCO				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.3						
ISCO	**Idaho Springs**	**84.08**	**45**	*e*P	**P**	**17 24 31.8**	**+0.6**
	comp=Z,42nm,1.6s,mb5.3						
ISCO				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
IMA2	**Indian Mountai**	**84.30**	**8**	*e*P	**P**	**17 24 31.6**	**-0.1**
JCT	**Junction City**	**84.30**	**56**	*e*P	**P**	**17 24 32.0**	**-0.6**
JCT				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.2						
JCT	**Junction City**	**84.30**	**56**	*e*P	**P**	**17 24 32.0**	**-0.6**
	comp=Z,27nm,1.4s,mb5.2						
RLMT	**Red Lodge**	**84.36**	**39**	*e*P	**P**	**17 24 32.6**	**+0.1**
	comp=Z,55nm,1.4s,mb5.5						
RLMT				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
GCMT	**Greycliff**	**84.47**	**39**	*e*P	**P**	**17 24 33.2**	**+0.1**
	comp=Z,56nm,1.5s,mb5.5						
QIZ	**Qiongzhong**	**84.62**	**292**	P	**P**	**17 24 35.8**	**+1.3**
QIZ				S	S	17 35 03.3	+3.6
QIZ				AMB	AMB		
	comp=Z,29nm,1.9s,mb5.1						
QIZ				AMB	AMB		
	comp=Z,1μm,8.8s						
QIZ				LR	LR		
	comp=E,851nm,24.1s						
QIZ				LR	LR		
	comp=Z,2μm,26.0s,MS5.3						
QIZ	**Qiongzhong**	**84.62**	**292**	*e*P	**P**	**17 24 35.5**	**+1.1**
	comp=Z,111nm,1.8s,mb5.7						
QIZ				LR	LR		
	comp=Z,995nm,21.0s,MS5.2						
SEY	**Seymchan**	**84.64**	**345**	*i* P	**P**	**17 24 33.1**	**-0.4**
SEY	**Seymchan**	**84.64**	**345**	*i* P	**P**	**17 24 33.1**	**-0.4**
AMTX	**Amarillo**	**84.68**	**51**	*e*P	**P**	**17 24 34.4**	**-0.1**
	comp=Z,201nm,1.8s,mb6.0						
AMTX				LR	LR		
	comp=Z,4μm,19.0s,MS5.8						
MYKOM	**Kota Tinggi**	**84.69**	**274**	⇓P	**P**	**17 24 35.9**	**+0.9**
KVTX	**Kingsville**	**84.69**	**59**	PFAKE		17 24 40.0	+5.3
KVTX				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
PHWY	**Pilot Hill**	**84.89**	**44**	*e*P	**P**	**17 24 35.3**	**0.0**
	comp=Z,51nm,1.6s,mb5.4						
DAWY	**Dawson**	**85.00**	**14**	*e*P	**P**	**17 24 35.3**	**0.0**
WHN	**Wuhan**	**85.06**	**304**	*e*P	**P**	**17 24 38.0**	**+1.6**
WHN				S	S	17 35 03.5	-0.1
WHN				LR	LR		
	comp=N,2μm,17.7s,MS5.5						
WHN				LR	LR		
	comp=E,725nm,16.1s,MS5.5						
WHN				LR	LR		
	comp=Z,1μm,18.0s,MS5.4						
EGAK	**Eagle**	**85.22**	**13**	*e*P	**P**	**17 24 36.1**	**-0.3**
	comp=Z,132nm,1.4s,mb5.9						
KGM	**Kluang**	**85.26**	**274**	⇑P	**P**	**17 24 39.0**	**+1.1**
TIA	**Tai'an**	**85.26**	**310**	*e*P	**P**	**17 24 38.8**	**+1.5**
TIA				S	S	17 35 06.0	+0.6
TIA				LR	LR		
	comp=N,507nm,18.0s						
EGMT	**Eagleton**	**85.59**	**37**	⇑P	**P**	**17 24 38.0**	**-0.7**
	baz=86						
EGMT	**Eagleton**	**85.59**	**37**	*e*P	**P**	**17 24 38.3**	**-0.3**
	comp=N,79nm,1.5s,mb5.7						
EGMT				LR	LR		
	comp=Z,4μm,19.0s,MS5.8						
MAW	**Mawson**	**86.34**	**198**	⇓*i*P	**P**	**17 24 42.5**	**+0.4**
	comp=Z,29nm,1.1s,mb5.4						
MAW				*e*		17 26 16.6	
MAW	**Mawson**	**86.34**	**198**	P	**P**	**17 24 42.6**	**+0.4**
	comp=Z,22nm,0.8s,mb5.4,baz=120,slow=6.7,SNR=43						
MAW				LR	LR	18 03 41.8	
	comp=Z,2μm,18.9s,MS5.5,baz=112,slow=36						
MAW	**Mawson**	**86.34**	**198**	⇓*i*P	**P**	**17 24 42.5**	**+0.4**
MAW				pmax	pmax		
	comp=Z,29nm,1.1s						
KTGM	**Kuala Trenggan**	**86.43**	**277**	⇑P	**P**	**17 24 46.0**	**+2.3**
BILL	**Bilibino**	**86.54**	**352**	*d* *i*P	**P**	**17 24 42.5**	**-0.4**
BILL				*e*		17 35 14.2	
BILL				*e*PS		17 36 24.2	
BILL				pmax	pmax		
	comp=Z,84nm,1.2s,mb5.8						
BILL				MLR	MLR		
	comp=Z,700nm,18.0s,MS5.1						
BILL	**Bilibino**	**86.54**	**352**	*i* P	**P**	**17 24 42.6**	**-0.3**
BILL				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
EDM	**Edmonton**	**86.54**	**31**	*e*P	**P**	**17 24 42.2**	**-1.0**
WMOK	**Wichita Mounta**	**86.80**	**52**	P	**P**	**17 24 44.1**	**-0.8**
WMOK				pmax	pmax		
	comp=Z,35nm,1.5s,mb5.4						
WMOK	**Wichita Mounta**	**86.80**	**52**	*e*P	**P**	**17 24 44.1**	**-0.9**
	comp=Z,35nm,1.5s,mb5.4						
LAO	**LASA Array**	**86.99**	**39**	PFAKE		17 25 00.0	+14
LAO				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
RSSD	**Black Hills**	**87.13**	**42**	*e*P	**P**	**17 24 44.6**	**-1.7**
RSSD				pmax	pmax		
	comp=Z,12nm,1.1s,mb5.0						
RSSD				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.7						
RSSD	**Black Hills**	**87.13**	**42**	*e*P	**P**	**17 24 44.6**	**-1.7**
	comp=Z,12nm,1.1s,mb5.0						
RSSD				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
FRIM	**Kepong**	**87.24**	**274**	⇑P	**P**	**17 24 49.7**	**+2.0**
HKT	**Hockley**	**87.27**	**58**	*e*P	**P**	**17 24 47.1**	**-0.3**
HKT				pmax	pmax		
	comp=Z,129nm,1.9s,mb5.8						
HKT	**Hockley**	**87.27**	**58**	*e*P	**P**	**17 24 47.1**	**-0.2**
	comp=Z,128nm,1.9s,mb5.8						
COCO	**West Island**	**87.28**	**258**	PFAKE		17 25 00.0	+12
COCO				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
PLCA	**Paso Flores**	**87.43**	**132**	P	**P**	**17 24 48.9**	**+0.8**
	comp=Z,11nm,0.9s,mb5.1,baz=255,slow=3.5,SNR=11						
PLCA				LR	LR	17 58 01.5	
	comp=Z,2μm,18.5s,MS5.6,baz=241,slow=32						
BJT	**Baijiatuau**	**87.56**	**313**	*e*P	**P**	**17 24 49.5**	**+1.0**
BJT				pmax	pmax		
	comp=Z,143nm,1.5s						
BJT				MLR	MLR		
	comp=Z,945nm,21.0s						
BJT	**Baijiatuau**	**87.56**	**313**	*e*P	**P**	**17 24 49.5**	**+1.0**
	comp=Z,143nm,1.5s,mb6.0						
BJT				LR	LR		
	comp=Z,945nm,21.0s,MS5.2						
BJI	**Beijing**	**87.56**	**313**	P	**P**	**17 24 49.5**	**+1.0**
BJI				SKS		17 35 15.3	
BJI				S	S	17 35 31.0	+3.4
BJI				AMB	AMB		
	comp=Z,63nm,1.5s,mb5.6						
BJI				AMB	AMB		
	comp=Z,1μm,5.8s						
BJI				LR	LR		
	comp=N,370nm,24.7s,MS4.9						
BJI				LR	LR		
	comp=E,400nm,25.9s,MS4.9						
BJI				LR	LR		
	comp=Z,1μm,29.7s,MS5.2						
BJI	**Beijing**	**87.56**	**313**	P	**P**	**17 24 49.4**	**+0.9**
	comp=Z,63nm,1.5s,mb5.6						
BJI				PP	PP	17 28 10.8	-3.3
BJI				SKS		17 35 15.2	
BJI				S	S	17 35 31.1	+3.5
BJI				SS	SS	17 41 06.6	-7.7
BJI				LR	LR		
	comp=Z,1μm,29.7s,MS5.2						
CBKS	**Cedar Bluff**	**87.74**	**48**	PFAKE		17 25 00.0	+11
CBKS				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
IPM	**Ipoh**	**88.18**	**275**	⇑P	**P**	**17 24 54.4**	**+2.3**
KULM	**Kulim**	**88.78**	**276**	⇑P	**P**	**17 24 57.5**	**+2.6**
NATX	**Nacogdoches**	**88.87**	**56**	*e*P	**P**	**17 24 55.9**	**+1.0**
	comp=Z,206nm,1.7s,mb6.2						
NATX				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
DGMT	**Dagmar**	**89.04**	**38**	*e*P	**P**	**17 24 54.7**	**-0.6**
	comp=Z,30nm,1.3s,mb5.5						
TIY	**Taiyuan**	**89.31**	**310**	*i* P	**P**	**17 24 59.0**	**+2.2**
TIY				AP	pP	17 25 03.8	-4.2
TIY				SKS		17 35 30.0	
TIY				S	S	17 35 45.0	+0.8
TIY				AMB	AMB		
	comp=Z,615nm,3.8s						
TIY				LR	LR		
	comp=N,400nm,14.1s,MS5.2						
TIY				LR	LR		
	comp=E,623nm,16.8s,MS5.2						
TIY				LR	LR		
	comp=Z,834nm,17.0s,MS5.2						
HIA	**Hailar**	**89.37**	**323**	*e*P	**P**	**17 24 57.4**	**+0.6**
HIA				pmax	pmax		
	comp=Z,86nm,1.5s						
HIA				MLR	MLR		
	comp=Z,928nm,21.0s						
HIA	**Hailar**	**89.37**	**323**	*e*P	**P**	**17 24 57.4**	**+0.6**
	comp=Z,86nm,1.5s,mb5.9						
HIA				LR	LR		
	comp=Z,928nm,21.0s,MS5.2						
TGUH	**Tegucigalpa,Un**	**89.45**	**75**	*e*P	**P**	**17 24 58.3**	**+0.3**
TGUH				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
PSI	**Prapat**	**89.69**	**273**	⇓*e*P	**P**	**17 24 59.7**	**+0.5**
PSI	**Prapat**	**89.69**	**273**	⇓*e*P	**P**	**17 24 59.7**	**+0.5**
PSI	**Prapat**	**89.69**	**273**	P	**P**	**17 24 59.2**	**0.0**
	comp=Z,39nm,1.1s,mb5.7,baz=177,slow=5.2,SNR=29						
GYA	**Guiyang**	**89.89**	**298**	⇑*i*P	**P**	**17 25 01.3**	**+1.5**
GYA				PP	PP	17 28 36.5	+3.4
GYA				SKS		17 35 29.5	
GYA				S	S	17 35 51.3	+1.2
GYA				SS	SS	17 41 52.8	+4.1
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.9						
GYA				AMB	AMB		
	comp=Z,150nm,4.9s						
GYA				LR	LR		
	comp=N,4μm,20.0s,MS6.0						
GYA				LR	LR		
	comp=E,3μm,19.6s,MS6.0						
GYA				LR	LR		
	comp=Z,4μm,20.7s,MS5.9						
KSU1	**Kansas State U**	**90.09**	**49**	PFAKE		17 25 10.0	+10
KSU1				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
CLNS	**Chul'man**	**90.42**	**331**	*e*P	**P**	**17 25 01.5**	**-0.1**
CLNS				*e*	pP	17 25 10.5	-2.2
CLNS				*e*		17 35 49.5	
CLNS				pmax	pmax		
	comp=Z,53nm,1.6s,mb5.6						
CLNS				MLR	MLR		
	comp=Z,624nm,23.0s,MS5.0						
TEIG	**Tepich**	**90.44**	**69**	P	**P**	**17 25 02.6**	**+0.1**
	comp=Z,2.6nm,0.4s,mb4.9,baz=318,slow=4.6,SNR=4.5						
TEIG	**Tepich**	**90.44**	**69**	*e*P	**P**	**17 25 02.5**	**0.0**
	comp=Z,40nm,1.5s,mb5.5						
TEIG				LR	LR		
	comp=Z,701nm,21.0s,MS5.1						
XAN	**Xi'an**	**90.62**	**305**	P	**P**	**17 25 04.0**	**+0.9**
XAN				AP	pP	17 25 07.5	-6.7
XAN				XP	sP	17 25 11.0	-7.2
XAN				PP	PP	17 28 37.3	-1.4
XAN				SKS		17 35 33.8	
XAN				S	S	17 35 57.0	+0.5
XAN				XS	sS	17 36 05.3	-10
XAN				SS	SS	17 42 02.8	+3.8
XAN				AMB	AMB		
	comp=Z,24nm,1.5s,mb5.3						
XAN				AMB	AMB		
	comp=Z,623nm,8.5s						
XAN				LR	LR		
	comp=N,259nm,18.1s,MS4.9						
XAN				LR	LR		
	comp=E,356nm,18.1s,MS4.9						
XAN				LR	LR		
	comp=Z,566nm,17.6s,MS5.1						
MIAR	**Mount Ida**	**90.70**	**54**	*e*P	**P**	**17 25 03.3**	**-0.1**
MIAR				pmax	pmax		
	comp=Z,95nm,2.0s,mb5.8						
MIAR	**Mount Ida**	**90.70**	**54**	*e*P	**P**	**17 25 03.3**	**-0.1**
	comp=Z,95nm,2.0s,mb5.8						
EFI	**East Falkland**	**90.72**	**145**	PFAKE		17 25 10.0	+6.8
EFI				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
VNA3	**Neumayer Olymp**	**90.86**	**174**	*e*P	**P**	**17 25 03.5**	**-0.1**
VNA3				*e*		17 25 04.9	
VNA3				*e*	pP	17 25 11.5	-3.2
SYO	**Syowa Base**	**90.95**	**191**	⇑*i*P	**P**	**17 25 01.9**

YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=Z,162nm,3.5s
YAK MLR MLR
comp=Z,442nm,19.0s,MS4.9
YAK MLR MLR
comp=N,296nm,24.0s,MS4.8
YAK MLR MLR
comp=E,272nm,22.0s,MS4.8
YAK Yakutsk 91.29 336 *i* P **P 17 25 04.3 -1.2**
YAK LR LR
comp=Z,515nm,20.0s,MS5.0
VNA2 Neumayer--Watz 91.37 175 *e*P **P 17 25 06.4 +0.5**
VNA2 *e* 17 25 07.5
VNA2 *e* pP 17 25 14.3 -2.8
YKA Yellowknife Ar 91.41 23 P **P 17 25 05.0 -1.0**
comp=Z,9.4nm,1.0s,mb5.1,baz=234,slow=4.2,SNR=29
YKA PP PP 17 28 40.3 -3.9
comp=Z,0.6nm,0.9s,baz=233,slow=7.0,SNR=4.1
YKA LR LR 18 05 03.8
comp=Z,316nm,18.2s,MS4.8,baz=170,slow=35
YKA Yellowknife Ar 91.41 23 P **P 17 25 05.0 -1.0**
YKA 17 28 40.4
YKA Yellowknife Ar 91.41 23 P **P 17 25 05.0 -1.0**
YKA PP PP 17 28 40.4 -3.9
YKA LR LR 18 05 03.8
LCO Las Campanas 91.44 121 PFAKE 17 25 20.0 +13
LCO LR LR
comp=Z,1μm,19.0s,MS5.5
VNA1 Neumayer--Stat 91.56 175 *e*P **P 17 25 07.3 +0.5**
VNA1 *e* 17 25 08.7
NNA Nana 91.57 103 LR LR 17 58 29.4
comp=Z,880nm,18.1s,MS5.2,baz=268,slow=30
NNA Nana 91.57 103 PFAKE 17 25 20.0 +12
NNA LR LR
comp=Z,1μm,20.0s,MS5.4
UALR University of 91.74 54 *e*P **P 17 25 07.0 -1.2**
comp=Z,8.5nm,0.8s,mb5.1
ECSD EROS,Sioux Fal 91.84 45 *e*P **P 17 25 06.6 -1.9**
comp=Z,31nm,1.4s,mb5.4
MAIT Maitri 92.10 181 *e*P **P 17 25 06.6 -2.7**
NVL N'lazarevskaya 92.11 181 *d i*P **P 17 25 09.8 +0.5**
NVL pmax pmax
comp=Z,69nm,1.9s,mb5.7
NVL MLR MLR
comp=N,1μm,19.3s
NVL MLR MLR
comp=E,115nm,9.7s
BTO Baotou 92.12 312 *e*P **P 17 25 08.8 -1.0**
VBMS Vicksburg 92.33 57 PFAKE 17 25 20.0 +9.0
VBMS LR LR
comp=Z,1μm,19.0s,MS5.4
KMI Kunming 92.83 295 P **P 17 25 15.8 +2.3**
KMI PP PP 17 28 59.0 +2.7
KMI SKS 17 35 47.3
KMI S S 17 36 16.8 0.0
KMI AMB AMB
comp=Z,41nm,1.4s,mb5.7
KMI AMB AMB
comp=Z,708nm,7.2s
KMI LR LR
comp=N,353nm,16.1s,MS5.3
KMI LR LR
comp=E,860nm,17.6s,MS5.3
KMI LR LR
comp=Z,1μm,17.6s,MS5.3
KMI Kunming 92.83 295 P **P 17 25 15.8 +2.3**
comp=Z,41nm,1.4s,mb5.7
KMI pP pP 17 25 28.4 +3.8
KMI sP sP 17 25 33.0 +4.4
KMI PP PP 17 28 59.0 +2.7
KMI PPP 17 31 01.7
KMI SKS 17 35 47.2
KMI S S 17 36 16.7 -0.1
KMI SS SS 17 42 34.4 +3.3
KMI SSS 17 46 11.2
KMI LR LR
comp=Z,1μm,17.6s,MS5.3
FFC Flin Flon 93.09 33 P **P 17 25 13.3 -0.7**
comp=Z,106nm,1.6s,mb6.0,SNR=6.0
FFC Flin Flon 93.09 33 *e*P **P 17 25 12.1 -1.9**
FFC pmax pmax
comp=Z,81nm,1.7s,mb5.9
FFC MLR MLR
comp=Z,2μm,19.0s,MS5.6
FFC Flin Flon 93.09 33 *e*P **P 17 25 12.1 -1.9**
comp=Z,81nm,1.7s,mb5.9
FFC LR LR
comp=Z,2μm,19.0s,MS5.6
SCIA State Center 93.52 47 PFAKE 17 25 30.0 +14
SCIA LR LR
comp=Z,1μm,19.0s,MS5.4
OTAV Otavalo 93.71 91 PFAKE 17 25 30.0 +12
OTAV LR LR
comp=Z,834nm,21.0s,MS5.2
CD2 Chengdu 93.73 301 ⇓ *i*P **P 17 25 18.5 +1.0**
CD2 AP pP 17 25 23.5 -5.2
CD2 XP sP 17 25 26.3 -6.4
CD2 PP PP 17 29 07.0 +3.7
CD2 SKS 17 35 51.3
CD2 S S 17 36 24.8 +0.3
CD2 XS sS 17 36 33.0 -10
CD2 SS SS 17 42 47.5 +3.7
CD2 AMB AMB
comp=Z,20nm,1.5s,mb5.3
CD2 AMB AMB
comp=Z,100nm,8.4s
CD2 LR LR
comp=N,710nm,21.6s,MS5.2
CD2 LR LR
comp=E,730nm,22.8s,MS5.2
CD2 LR LR
comp=Z,700nm,21.6s,MS5.1
OXF Oxford 93.94 55 PFAKE 17 25 30.0 +12
OXF LR LR
comp=Z,2μm,19.0s,MS5.5
AGMN Agassiz Refuge 94.02 41 *e*P **P 17 25 16.9 -1.5**
comp=Z,21nm,1.3s,mb5.4
CIT Chita 94.11 323 *e*P **P 17 25 19.5 +0.8**
CIT *e* 17 25 34.3
CIT pmax pmax
comp=Z,132nm,1.7s,mb6.1
CM31 Chiang Mai Arr 94.24 288 PFAKE 17 25 30.0 +10
CM31 LR LR
comp=Z,596nm,20.0s,MS5.0
CMAR Chiang Mai Arr 94.24 288 P **P 17 25 20.7 +0.6**
comp=Z,6.1nm,0.9s,mb5.0,baz=100,slow=2.7,SNR=44
CMAR PKIKP PKiKP 17 30 04.5 +0.4
comp=Z,0.7nm,0.6s,baz=126,slow=1.2,SNR=4.3
CMAR LR LR 18 09 23.7
comp=Z,476nm,18.6s,MS5.0,baz=278,slow=37
FVM French Village 94.25 52 *e*P **P 17 25 19.0 -0.7**
FVM pmax pmax
comp=Z,73nm,1.9s,mb5.8
FVM French Village 94.25 52 *e*P **P 17 25 19.0 -0.7**
comp=Z,96nm,1.9s,mb5.9
CHTO Chiang Mai 94.34 288 P **P 17 25 21.8 +1.2**
CHTO pmax pmax
comp=Z,68nm,1.8s,mb5.8
CHTO Chiang Mai 94.34 288 *e*P **P 17 25 21.9 +1.3**
comp=Z,68nm,1.8s,mb5.8
CHTO LR LR
comp=Z,600nm,19.0s,MS5.1
TRQA Tornquist 94.58 132 PFAKE 17 25 30.0 +8.6
TRQA LR LR
comp=Z,2μm,19.0s,MS5.7
ULM Lac du Bonnet 94.73 39 P **P 17 25 20.2 -1.4**
comp=Z,3.6nm,0.8s,mb4.8,baz=273,slow=7.3,SNR=4.6
ULM LR LR 18 05 35.9
comp=Z,4μm,18.1s,MS5.9,baz=246,slow=34
BRAL Brewton 94.77 59 PFAKE 17 25 30.0 +7.7
BRAL LR LR
comp=Z,880nm,19.0s,MS5.2
BCIP Isla Barro Col 94.98 82 PFAKE 17 25 30.0 +6.4
BCIP LR LR
comp=Z,670nm,20.0s,MS5.1
PLAL Pickwick Lake 95.13 55 PFAKE 17 25 30.0 +6.2
PLAL LR LR
comp=Z,1μm,20.0s,MS5.3
LVC Limon Verde 95.21 115 LR LR 17 57 38.6
comp=Z,890nm,21.4s,MS5.2,baz=37,slow=29
LVC Limon Verde 95.21 115 PFAKE 17 25 30.0 +5.4
LVC LR LR
comp=Z,2μm,20.0s,MS5.5
LZH Lanzhou 95.22 306 ⇑ P **P 17 25 25.0 +0.7**
LZH AP pP 17 25 29.8 -5.6
LZH XP sP 17 25 32.3 -7.1
LZH PP PP 17 29 17.0 +2.2
LZH SKS 17 35 59.3
LZH S S 17 36 37.5 +0.1
LZH SS SS 17 43 07.3 +2.4
LZH AMB AMB
comp=Z,47nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,215nm,8.6s
LZH LR LR
comp=N,623nm,16.5s
LZH LR LR
comp=Z,897nm,18.9s,MS5.3
LZH Lanzhou 95.22 306 ⇑ P **P 17 25 25.0 +0.7**
comp=Z,47nm,1.5s,mb5.7
LZH pP pP 17 25 29.8 -5.6
LZH sP sP 17 25 32.3 -7.1
LZH PP PP 17 29 17.1 +2.3
LZH SKS 17 35 59.2
LZH S S 17 36 37.5 +0.1
LZH sS sS 17 36 45.0 -11
LZH SS SS 17 43 07.3 +2.4
LZH LR LR
comp=Z,900nm,18.9s,MS5.3
JFWS Jewell Farm 95.92 47 *e*P **P 17 25 25.8 -1.5**
JFWS pmax pmax
comp=Z,78nm,1.9s,mb5.8
JFWS MLR MLR
comp=Z,2μm,19.0s,MS5.6
JFWS Jewell Farm 95.92 47 *e*P **P 17 25 25.8 -1.4**
comp=Z,78nm,1.9s,mb5.8
JFWS LR LR
comp=Z,2μm,19.0s,MS5.6
BOD Bodaibo 96.12 329 *e*P **P 17 25 25.5 -2.3**
BOD pmax pmax
comp=Z,6.0nm,1.6s,mb4.8
ULN Ulaanbaatar 96.57 318 PFAKE 17 25 40.0 +10
ULN LR LR
comp=Z,522nm,20.0s,MS5.0
SONM Songino Array 96.98 318 P **P 17 25 31.0 -0.9**
comp=Z,1.3nm,0.9s,mb4.4,baz=92,slow=1.9,SNR=6.7
SONM PP PP 17 29 31.4 +3.3
comp=Z,1.7nm,1.0s,baz=116,slow=6.8,SNR=5.0
SONM LR LR 18 03 54.1
comp=Z,542nm,20.3s,MS5.0,baz=106,slow=32
SONM Songino Array 96.98 318 P **P 17 25 31.0 -1.0**
SONM 17 29 31.4
TIXI Tiksi 97.12 344 *d i*P **P 17 25 31.2 -0.9**
TIXI *e*S SKSac 17 36 07.7 +1.7
TIXI pmax pmax
comp=Z,20nm,1.9s,mb5.2
TIXI MLR MLR
comp=Z,767nm,23.0s,MS5.1
TIXI Tiksi 97.12 344 *i* P **P 17 25 31.4 -0.7**
TIXI LR LR
comp=Z,706nm,20.0s,MS5.2
WCI Wyandotte Cave 97.43 52 PFAKE 17 25 40.0 +5.8
WCI LR LR
comp=Z,2μm,19.0s,MS5.5
COWI Conover 97.63 44 PFAKE 17 25 40.0 +5.1
COWI LR LR
comp=Z,1μm,22.0s,MS5.4
LPAZ La Paz 98.14 110 LR LR 18 02 50.1
comp=Z,669nm,18.5s,MS5.2,baz=306,slow=31
LPAZ La Paz 98.14 110 PFAKE 17 25 50.0 +12
LPAZ LR LR
comp=Z,780nm,20.0s,MS5.2
GOGA Godfrey 98.36 58 PFAKE 17 25 50.0 +11
GOGA LR LR
comp=Z,724nm,19.0s,MS5.2
DWPF Disney 98.68 63 PFAKE 17 25 50.0 +10
DWPF LR LR
comp=Z,635nm,19.0s,MS5.1
TKL Tuckaleechee C 98.69 55 P **P 17 25 38.6 -1.3**
comp=Z,0.7nm,0.3s,mb4.7,baz=233,slow=3.4,SNR=3.6
ROSC El Rosal 98.99 88 LR LR 18 02 52.2
comp=Z,320nm,18.1s,MS4.9,baz=208,slow=31
TZTN Tazewell 99.09 55 PFAKE 17 25 50.0 +8.3
TZTN LR LR
comp=Z,1μm,19.0s,MS5.4
GTA Gaotai 99.21 308 P **P 17 25 43.5 +1.3**
GTA AP pP 17 25 48.3 -5.1
GTA XP sP 17 25 50.5 -6.9
GTA PP PP 17 29 48.8 +3.4
GTA S S 17 37 14.0 +2.6
GTA XS sS 17 37 21.8 -8.2
GTA SS SS 17 44 10.5 +9.5
GTA AMB AMB
comp=Z,6.0nm,2.0s,mb4.8
GTA AMB AMB
comp=Z,226nm,7.8s
GTA LR LR
comp=N,398nm,20.4s,MS5.0
GTA LR LR
comp=E,273nm,21.6s,MS5.0
GTA LR LR
comp=Z,460nm,21.6s,MS4.9
TLY Talaya 99.80 321 *e*P Pdif 17 25 44.5 -0.1
TLY *e* 17 36 23.9
TLY *e*SSS 17 47 58.9
TLY pmax pmax
comp=Z,7.0nm,1.5s,mb4.9
TLY MLR MLR
comp=Z,1μm,19.0s,MS5.3
TLY Talaya 99.80 321 ⇑ *i*P Pdif 17 25 43.8 -0.8
TLY LR LR
comp=Z,1μm,20.0s,MS5.4
GLMI Grayling 100.36 46 PFAKE 17 26 00.0 +13
GLMI LR LR
comp=Z,2μm,19.0s,MS5.6
NHSC New Hope 100.95 59 PFAKE 17 26 00.0 +10
NHSC LR LR
comp=Z,878nm,20.0s,MS5.3
MCWV Mont Chateau 102.66 52 PFAKE 17 26 10.0 +13
MCWV LR LR
comp=Z,2μm,19.0s,MS5.5
CNNC Cliffs of the 103.27 57 PFAKE 17 26 10.0 +10
CNNC LR LR
comp=Z,1μm,19.0s,MS5.4
CPUP Villa Florida 103.36 123 PFAKE 17 26 10.0 +10
CPUP LR LR
comp=Z,547nm,20.0s,MS5.1
SDV Santo Domingo 103.63 85 PFAKE 17 26 10.0 +8.4
SDV LR LR
comp=Z,151nm,20.0s,MS4.5
LSA Lhasa 103.95 297 PFAKE 17 26 10.0 +7.0
LSA LR LR
comp=Z,365nm,20.0s,MS4.9
BINY Binghamton 105.99 50 PFAKE 17 30 30.0 +5.6
BINY LR LR
comp=Z,2μm,19.0s,MS5.7
NCB Newcomb 107.52 49 PFAKE 17 30 40.0 +13
NCB LR LR
comp=Z,1μm,19.0s,MS5.6
PALK Pallekele 108.35 272 PFAKE 17 30 40.0 +10
PALK LR LR
comp=Z,759nm,20.0s,MS5.3
WMQ Urumqi 108.94 311 PDIF Pdif 17 26 26.3 +1.1
WMQ PP PP 17 31 01.5 +3.8
WMQ S Sdif 17 38 33.0 +0.9
WMQ SS SS 17 46 17.0 +2.7
WMQ PP PP
comp=Z,67nm,8.0s
WMQ LR LR
comp=N,441nm,23.6s,MS5.1
WMQ LR LR
comp=E,436nm,26.0s,MS5.1
WMQ LR LR
comp=Z,631nm,24.4s,MS5.1
LBNH Lisbon 109.20 48 PFAKE 17 30 40.0 +10
LBNH LR LR
comp=Z,2μm,19.0s,MS5.7
HRV Adam Dziewonsk 109.29 50 PFAKE 17 30 40.0 +9.4
HRV LR LR
comp=Z,3μm,19.0s,MS5.9
WES Weston 109.45 50 PFAKE 17 30 40.0 +9.1
WES LR LR
comp=Z,2μm,20.0s,MS5.8
SJG San Juan 110.09 77 PFAKE 17 30 40.0 +7.2
SJG LR LR
comp=Z,1μm,19.0s,MS5.4
MDRS Chennai 110.25 278 *ex* x 17 30 28.0
PKME Peaks-Kenny Pk 111.15 48 PFAKE 17 30 40.0 +6.0
PKME LR LR
comp=Z,2μm,19.0s,MS5.6
ZALV Zalesovo Beam 111.39 322 PKiKP PKiKP 17 30 33.0 -1.1
comp=Z,1.2nm,0.6s,baz=51,slow=1.4,SNR=6.9
ZALV PP PP 17 31 14.4 -0.7
comp=Z,0.8nm,0.7s,baz=72,slow=6.7,SNR=3.6
ZAL Zalesovo 111.40 322 PKIKP PKiKP 17 30 33.0 -1.2
ZAL 17 31 14.4
NVS Novosibirsk 112.31 323 *i* PKIKP PKiKP 17 30 34.6 -1.3
NVS pmax pmax
comp=Z,11nm,1.7s
NVS pmax pmax
comp=E,5.0nm,1.3s
SCHQ Schefferville 112.85 37 PFAKE 17 30 50.0 +13
SCHQ LR LR
comp=Z,855nm,22.0s,MS5.3
MKAR Makanchi Array 112.93 314 PKiKP PKiKP 17 30 36.5 -0.8
comp=Z,1.3nm,0.6s,baz=62,slow=3.3,SNR=15
MKAR PKKPbc PKKPbc 17 41 24.8 -1.0
comp=Z,0.3nm,0.6s,baz=290,slow=4.3,SNR=5.2
GRGR Grenville 112.99 84 PFAKE 17 30 50.0 +12
GRGR LR LR
comp=Z,518nm,19.0s,MS5.1
BBSR BB Station 113.68 62 PFAKE 17 30 50.0 +11
BBSR LR LR
comp=Z,619nm,19.0s,MS5.2
KURK Kurchatov 115.28 318 *i* PKP PKiKP 17 30 41.4 -0.3
KURK LR LR
comp=Z,767nm,19.0s,MS5.3
BDFB Brasilia 116.03 118 PFAKE 17 30 50.0 +5.8
BDFB LR LR
comp=Z,640nm,19.0s,MS5.2
TKM2 Tokmak 2 117.72 310 *e*PKIKP PKPdf 17 30 46.4 -0.2
TKM2 MLR MLR
comp=Z,419nm,20.0s,MS5.1
SFJD Kangerlussuaq 117.96 22 PFAKE 17 31 00.0 +14
SFJD LR LR
comp=Z,1μm,19.0s,MS5.5
KBS Kingsbay 118.31 359 PFAKE 17 31 00.0 +13
KBS LR LR
comp=Z,593nm,20.0s,MS5.2
FRU Bishkek 118.44 310 *i* PKIKP PKPdf 17 30 48.0 0.0
FRU *e* 17 37 49.0
FRU pmax pmax
comp=Z,40nm,2.0s
UCH Uchtor 118.54 309 *e*PKPdf PKPdf 17 30 48.5 +0.3
UCH LR LR
comp=Z,402nm,19.0s,MS5.1
EKS2 Erkin-Say 119.06 310 *e*PKPdf PKPdf 17 30 48.6 -0.6
EKS2 LR LR
comp=Z,456nm,20.0s,MS5.1
AML Almayashu 119.15 309 *e*PKPdf PKPdf 17 30 49.4 -0.1
AML LR LR
comp=Z,573nm,20.0s,MS5.2
BVAR Borovoye Array 120.05 322 PKP PKPdf 17 30 50.4 -0.4
comp=Z,8.2nm,0.9s,baz=52,slow=2.4,SNR=27
BRVK Borovoye 120.10 322 *i* PKP PKPdf 17 30 50.4 -0.5
BRVK LR LR
comp=Z,516nm,20.0s,MS5.2
KBL Kabul 123.06 300 *e*PKIKP PKPdf 17 30 57.9 +0.7
SVE Sverdlovsk 124.32 328 ⇑ *i*PKIKP PKPdf 17 30 58.5 -0.4
SVE *e* 17 32 43.5
SVE *e*PPP 17 35 25.9
SVE *e*SS SS 17 49 37.8 +4.1
SVE *e*SSS 17 54 15.9
SVE pmax pmax
comp=Z,26nm,1.1s
SVE MLR MLR
comp=Z,741nm,19.0s,MS5.4
SOKR Solikamsk 124.97 332 *d i*PKIKP PKPdf 17 31 00.6 +0.5
SOKR pmax pmax
comp=Z,40nm,1.2s
ARU Arti 125.53 328 *i* PKIKP PKPdf 17 31 00.7 -0.5
ARU 17 32 48.8
ARU 17 38 04.4
ARU SS SS 17 49 43.8 -5.1
ARU Arti 125.53 328 *i* PKP PKPdf 17 31 00.8 -0.4
ARU LR LR
comp=Z,706nm,20.0s,MS5.3
KEV Kevo 126.23 352 *e*p PKPdf 17 31 01.7 -0.5
comp=Z,4.3nm,0.8s
KEV Kevo 126.23 352 *e*P PKPdf 17 31 01.7 -0.5
KEV LR LR
comp=Z,1μm,20.0s,MS5.5
LVZ Lovozero 126.59 348 PFAKE 17 31 10.0 +7.1
LVZ LR LR
comp=Z,754nm,20.0s,MS5.4
ARCES ARCESS Array B 126.64 352 PKP PKPdf 17 31 02.6 -0.4
comp=Z,7.3nm,0.8s,baz=343,slow=1.3,SNR=20
ABPO Ambohimpanom 126.99 229 PFAKE 17 31 20.0 +15
ABPO LR LR
comp=Z,2μm,20.0s,MS5.7
APA Apatity 127.12 348 *e*PKIKP PKPdf 17 31 06.0 +2.0
APA MLR MLR
comp=Z,1μm,16.0s,MS5.6
MSEY Mahe Island 128.05 250 PFAKE 17 31 20.0 +13
MSEY LR LR
comp=Z,955nm,20.0s,MS5.5
AKTK Aktyubinsk 128.15 321 PKP PKPdf 17 31 06.2 -0.2
AKTO Aktyubinsk 128.15 321 PKP PKPdf 17 31 06.2 -0.2
comp=Z,4.5nm,1.0s,baz=66,slow=2.4,SNR=17
BOSA Boshof 131.30 201 PKP PKPdf 17 31 13.3 +0.1
comp=Z,17nm,0.9s,baz=166,slow=4.9,SNR=11
BOSA Boshof 131.30 201 PKP PKPdf 17 31 13.3 +0.1
BOSA LR LR
comp=Z,1μm,21.0s,MS5.7
JOF Joensuu 131.58 346 *e*p PKPdf 17 31 11.9 -0.7
comp=Z,6.8nm,0.8s
JOF Joensuu 131.58 346 *e*PKIKP PKPdf 17 31 11.9 -0.7
JOF pmax pmax
comp=Z,7.0nm,0.8s
LBTB Lobatse 134.47 203 PFAKE 17 31 30.0 +11
LBTB LR LR
comp=Z,2μm,21.0s,MS5.8
MOS Moscow 135.42 336 *e*PKHKP 17 31 12.1
OBN Obninsk 136.29 336 *i* PKIKP PKPdf 17 31 22.0 +0.4
OBN *e* 17 34 01.9
OBN *e*SS SS 17 52 04.4 +4.3
OBN pmax pmax
comp=Z,18nm,0.9s
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.6
OBN Obninsk 136.29 336 *i* P PKPdf 17 31 22.1 +0.5
OBN LR LR
comp=Z,1μm,19.0s,MS5.6
MAK Makhachkala 137.71 316 *i* PKIKP PKPdf 17 31 21.4 -3.3
MAK *e* 17 34 09.2
MAK *e*SS SS 17 52 12.7 -5.7
MAK pmax pmax
comp=Z,21nm,1.3s
KIV Kislovodsk 140.35 320 *i* PKIKP PKPdf 17 31 29.6 +0.1
KIV *e* 17 34 28.8
KIV pmax pmax
comp=Z,22nm,1.2s
KIV Kislovodsk 140.35 320 ⇓ *i*P PKPdf 17 31 29.4 -0.1
KIV Kislovodsk 140.35 320 ⇓ P PKPdf 17 31 29.4 -0.1
KIV LR LR
comp=Z,626nm,20.0s,MS5.4
GNI Garni 140.77 313 PFAKE 17 31 40.0 +10
GNI LR LR
comp=Z,725nm,20.0s,MS5.4
ESK Eskdalemuir 141.15 10 PFAKE 17 31 40.0 +9.5
ESK LR LR
comp=Z,1μm,19.0s,MS5.7
COP Copenhagen 141.53 356 *i* PKHKP 17 31 27.7
COP pmax pmax
comp=Z,37nm,0.9s
COP MLR MLR
comp=Z,400nm,18.0s,MS5.2
COP Copenhagen 141.53 356 *i* P 17 31 27.7
comp=Z,37nm,0.9s
COP *i* 17 31 59.9
COP *i* 17 46 27.1
COP
comp=Z,400nm,18.0s
RDF Al-Radifah 141.77 295 *e*P PKPdf 17 31 26.6 -5.9
baz=296
RDF AMb AMB 17 31 30.2
comp=Z,33nm,1.7s,baz=296
MIB Mutribah 141.81 296 *e*P PKPdf 17 31 25.6 -6.9
baz=297
MIB AMb AMB 17 31 33.9
comp=Z,49nm,1.0s,baz=297
LSZ Lusaka 141.85 213 *e*PKHKP 17 31 29.1
LSZ MLR MLR

comp=Z,1µm,19.0s,MS5.6
NAY Al-Naaiem 141.98 295 *e*P PKPdf 17 31 26.6 -6.2
baz=296
NAY AMb AMB 17 31 37.2
comp=Z,15nm,1.2s,baz=296
RST Umm Al-Ruwaisa 142.15 296 *e*P PKPdf 17 31 26.6 -6.5
baz=297
RST AMb AMB 17 31 34.1
comp=Z,2.0nm,1.2s,baz=297
DCN Croghan 142.18 15 *e*P PKPdf 17 31 29.7 -2.7
ARTV Artvin 142.22 316⇓*i*P PKPdf 17 31 26.8 -6.1
SOC Sochi 142.37 321 *i* PKIKP PKPdf 17 31 33.3 +0.2
SOC *e* 17 34 37.4
SOC *e*SS SS 17 53 04.9 -7.7
SOC *e*SSS 17 58 22.9
SOC pmax pmax
comp=Z,20nm,1.0s
SOC MLR MLR
comp=Z,214nm,23.0s,MS4.8
DLF Lyons Farm 142.40 14 *e*P PKPdf 17 31 32.3 -0.5
TSUM Tsumeb 142.45 195 *e*PKPpre 17 31 29.1
TSUM LR LR
comp=Z,1µm,20.0s,MS5.7
AKASG Malin Array Be 142.51 337 PKhKP 17 31 28.1
comp=Z,0.7nm,0.4s,baz=35,slow=4.7,SNR=9.5
KIEV Kiev 142.52 338 *e*PKHKP 17 31 24.8
KIEV MLR MLR
comp=Z,1µm,19.0s,MS5.6
HAKT HAKKARI 142.55 310⇓*i*P PKPdf 17 31 28.8 -4.8
RGN Rugen 142.59 355 *e*L 18 23 57.3
comp=Z,468nm,22.0s
ANN Anapa 142.98 324 *i* PKHKP 17 31 27.2
ANN pmax pmax
comp=Z,34nm,1.4s
HLG Helgoland 143.20 360 *e*L 18 23 39.3
comp=Z,715nm,18.7s
BSEG Bad Segeberg 143.39 357 *e*L 18 24 27.8
comp=Z,771nm,20.0s
SBD1 Bryn Du 143.45 11 *e*P PKPdf 17 31 32.0 -2.7
BHD Baghdad 143.47 303 *i* x x 17 31 31.3
BHD *e*x x 17 31 47.0
BHD *e*x x 17 34 42.0
BHD *e*x x 17 38 06.0
MSL Mosul 143.49 308 *e*x x 17 31 35.0
KOPT Kop Dagi 143.74 315⇓*i*P PKPdf 17 31 34.6 -1.1
BNGL BINGOL 143.79 313⇓*i*P PKPdf 17 31 34.8 -1.0
MCH1 Michaelchurch 144.36 11 *e*P PKPdf 17 31 34.1 -2.2
MCH1 AMb AMB 17 31 39.4
comp=Z,63nm,1.5s
HAE Alders End 144.41 11 *e*P PKPdf 17 31 34.0 -2.4
RUE Ruedersdorf 144.58 354 *e*L 18 25 13.6
comp=Z,1µm,21.1s
SIM Simferopol' 144.68 327 *d i*PKIKP PKPdf 17 31 35.0 -2.1
SIM *e*SS SS 17 53 35.0 -3.7
SIM pmax pmax
comp=Z,130nm,11.3s
SIM MLR MLR
comp=Z,780nm,19.3s,MS5.5
HGH Gray Hill 144.74 11 *e*P PKPdf 17 31 35.0 -2.0
MARD Mardin 144.78 311⇓*i*P PKPdf 17 31 37.5 -0.1
NRDL Niedersach Rie 144.84 357 *e*L 18 23 33.1
comp=Z,732nm,21.3s
DIYA Diyarbakir 144.98 312⇓*i*P PKPdf 17 31 38.3 +0.5
HTL Hartland 145.00 13 *e*P PKPbc 17 31 36.0 -0.8
LVV L'vov 145.00 342⇑*i*PKIKP PKPdf 17 31 36.4 -1.1
LVV MLR MLR
comp=N,300nm,15.0s,MS5.4
LVV MLR MLR
comp=E,400nm,15.0s,MS5.4
LVV MLR MLR
comp=Z,200nm,15.0s,MS5.0
SWN1 Swindon 145.04 10⇓*e*P PKPbc 17 31 34.1 -2.8
SWN1 AMb AMB 17 31 39.2
comp=Z,205nm,1.5s
IBBN Ibbenburen 145.08 360 *e*L 18 22 48.0
comp=Z,1µm,21.2s
WOL Wolverton 145.33 10⇓*e*P PKPbc 17 31 37.4 -0.5
WOL AMb AMB 17 31 42.8
comp=Z,523nm,1.6s
WTSB Winterswijk 145.41 1⇓*e*PKP PKPdf 17 31 37.7 -0.4
comp=Z,176nm,1.8s
ELZG Elazig 145.50 314⇓*i*P PKPdf 17 31 40.1 +1.4
CSA1 St Austell 145.51 14⇓*e*P PKPdf 17 31 38.3 -0.1
KWP Kalwaria 145.56 343 *e*PKPdf 17 31 38.8 +0.4
KWP Kalwaria 145.56 343⇓*i*P PKPdf 17 31 38.7 +0.2
KWP Kalwaria 145.56 343⇓*e*PKP PKPdf 17 31 38.8 +0.3
KWP LR LR
comp=Z,1µm,19.0s,MS5.7
CCA1 Carmnenellis 145.58 15⇓*e*P PKPdf 17 31 38.5 0.0
KMBO Kilima Mbogo 145.62 241 PKPbc PKPbc 17 31 41.1 +1.2
comp=Z,104nm,1.1s,baz=96,slow=3.0,SNR=128
KMBO Kilima Mbogo 145.62 241 *e*PKPdf PKPdf 17 31 41.1 +1.4
KMBO LR LR
comp=Z,648nm,19.0s,MS5.4
DYA Yadsworthy 145.65 13 *e*P PKPdf 17 31 36.7 -1.9
DYA AMb AMB 17 31 41.8
comp=Z,576nm,1.6s
KIS Kishinev 145.66 334κ *i*PKP2 PKPab 17 31 38.0 -1.3
KIS *e* 17 35 02.0
KIS *e*PPP 17 38 16.0
KIS pmax pmax
comp=Z,440nm,1.8s
KIS MLR MLR
comp=N,500nm,18.0s
KIS MLR MLR
comp=Z,800nm,18.0s,MS5.5
KIS MLR MLR
comp=Z,1µm,18.0s
KIS Kishinev 145.66 334 *i* PKP PKPdf 17 31 38.0 -0.7
comp=Z,400nm,1.8s
KIS Kishinev 145.66 334 *e*PP PP 17 35 02.0 +2.8
KIS Kishinev 145.66 334 *e*PPP 17 38 16.0
CGW Gweek 145.66 15⇓*e*P PKPdf 17 31 38.9 +0.3
CMA1 Manaccan 145.71 15⇓*e*P PKPdf 17 31 38.9 +0.2
OJC Ojcow 145.76 346 *e*PKPbc PKPbc 17 31 38.7 -0.6
CLL Collm 145.82 354⇓*i*PKIKP PKPdf 17 31 38.7 -0.2
CLL *e* 17 31 54.0
CLL MLR MLR
comp=Z,900nm,21.4s,MS5.5
CLL Collm 145.82 354 *e*PKPbc PKPbc 17 31 39.1 -0.3
CLL *e*L 18 24 50.4
comp=Z,937nm,21.4s
CLL Collm 145.82 354⇓*i*PKPdf PKPdf 17 31 38.7 -0.2
comp=Z,230nm,1.4s
CLL *e*x x 17 31 54.0
CLL *e*x x 17 32 12.0
CLL *e*PKSdf 17 35 18.0
CLL *e*SKKSac SKKSac 17 41 51.0 +1.2
CLL *e*PSKS 17 45 09.0
CLL *e*PPPrev 17 46 12.0
CLL *e*PPS 17 47 32.0
CLL *e*SS SS 17 53 57.0 +6.4
CLL *e*PSPS 17 54 59.0
CLL *e*SSS 17 59 36.0
CLL *e*(SSSS) 18 04 00.0
CLL Collm 145.82 354⇓*i*PKP PKPdf 17 31 38.7 -0.2
CLL *e* 17 31 54.0
CLL *e*PKS 17 35 18.0
CLL *e*SKKS SKKSac 17 41 51.0 +1.2
CLL LR LR
comp=Z,900nm,21.4s,MS5.5
KSP Ksiaz 145.85 350 *e*PKPdf PKPdf 17 31 39.2 +0.3
KSP Ksiaz 145.85 350 *e*PKP PKPdf 17 31 38.8 -0.1
KSP *e* 17 31 53.8
TFO1 Folkestone 145.87 7 *e*P PKPdf 17 31 38.9 -0.1
TFO1 AMb AMB 17 31 42.0
comp=Z,865nm,1.5s
BUG Bochum--Univer 145.94 1 *e*PKPbc PKPbc 17 31 39.7 -0.1
BUG *e*L 18 22 42.1
comp=Z,1µm,19.7s
MALT Malatya 145.97 314⇓*i*P PKPdf 17 31 40.1 +0.6
MALT Malatya 145.97 314⇓P PKPdf 17 31 40.1 +0.5
MALT P 17 31 40.8
MALT LR LR
comp=Z,650nm,19.0s,MS5.4
IAS Iasi 146.01 336⇓*i*P PKPdf 17 31 39.9 +0.6
IAS Iasi 146.01 336 P PKPdf 17 31 39.4 0.0
BRG Berggiesshubel 146.15 353 *i* PKIKP PKPdf 17 31 39.2 -0.2
BRG *i* 17 31 54.8
BRG pmax pmax
comp=Z,217nm,1.8s
BRG MLR MLR
comp=N,399nm,20.7s,MS5.2
BRG MLR MLR
comp=E,139nm,18.8s,MS5.2
BRG MLR MLR
comp=Z,487nm,16.6s,MS5.4
BRG Berggiesshubel 146.15 353 *e*PKPbc PKPbc 17 31 40.7 +0.3
BRG *e*L 18 25 49.3
comp=Z,1µm,18.2s
BRG Berggiesshubel 146.15 353 *i* PKP PKPdf 17 31 39.2 -0.2
comp=Z,362nm,1.8s
BRG *i* 17 31 54.9
comp=Z,52nm,1.4s
BRG *i* 17 32 09.0
BRG SS x 17 55 32.0
BRG
comp=N,666nm,20.7s
BRG
comp=E,232nm,18.8s
BRG
comp=Z,813nm,16.6s
BRG Berggiesshubel 146.15 353 *i* PKP PKPdf 17 31 39.2 -0.2
BRG *i* 17 31 54.9
BRG *i* 17 32 09.0
BRG SS x 17 55 32.0
BRG LR LR
comp=Z,490nm,16.6s,MS5.4
STHS Stebnicka Huta 146.16 344 *e*PKP PKPdf 17 31 41.2 +1.7
FBE Freiberg 146.17 354 *e*PKPbc PKPbc 17 31 41.0 +0.6
UPC Upice 146.22 350 *e*PKP PKPdf 17 31 40.5 +0.9
UPC Upice 146.22 350 *e*PKP PKPdf 17 31 40.3 +0.7
KOLS Kolonicke sedl 146.31 343 *e*PKP PKPdf 17 31 40.9 +1.1
DPC Dobruska-Polom 146.32 350 *e*PKP PKPdf 17 31 40.2 +0.5
DPC *ep*PKP pPKPdf 17 31 41.6 -10
DPC Dobruska-Polom 146.32 350 *e*PKP PKPdf 17 31 40.5 +0.8
AKCD Akcadag 146.33 314⇓*i*P PKPdf 17 31 40.9 +0.7
NIE Niedzica 146.39 345 *e*PKPbc PKPbc 17 31 40.5 -0.7
PVCC Panska Ves 146.41 352 *e*PKP PKPdf 17 31 40.5 +0.6
PVCC AMS AMS 18 39 40.0
comp=Z,700nm,17.7s
PVCC Panska Ves 146.41 352 *e*PKP PKPdf 17 31 40.4 +0.5
ATAB Bozova 146.47 313⇓*i*P PKPab 17 31 43.2 +0.4
OKC Ostrava-Krasne 146.48 348 *e*PKP PKPdf 17 31 40.8 +0.8
OKC AMS AMS 18 42 10.0
comp=Z,500nm,18.7s
UCC Uccle 146.48 4 PKPbc PKPbc 17 31 40.9 -0.5
BOYT Boyabat 146.52 322⇓*i*P PKPbc 17 31 43.5 +1.7
UBBA Unterbreizbach 146.52 357 *e*PKPbc PKPbc 17 31 41.5 0.0
UBBA *e*L 18 23 47.4
comp=Z,1µm,21.0s
MENF Mencas 146.53 6 PKP PKPdf 17 31 40.8 +0.7
MENF Mencas 146.53 6 PKP PKPdf 17 31 41.1 +1.0
MENF PKP PKPdf 17 31 42.2 +2.1
BEBN Eben Emael 146.55 2 PKPbc PKPbc 17 31 42.0 +0.4
CRVS Cervenica-Dubn 146.57 343 *e*PKP PKPdf 17 31 41.0 +0.8
UZH Uzhgorod 146.58 342⇑*e*PKIKP PKPdf 17 31 40.2 0.0
UZH *i* 17 31 42.0
UZH *e* 17 31 57.0
UZH *e* 17 38 49.0
UZH MLR MLR
comp=E,340nm,16.0s
UZH MLR MLR
comp=Z,180nm,16.0s,MS5.0
HGN Heimansgroeve 146.59 2⇓*e*PKP PKPdf 17 31 41.8 +1.6
comp=Z,292nm,1.7s
MOX Moxa 146.60 356 *e*P PKPdf 17 31 40.7 +0.5
comp=Z,375nm,1.7s
MOX
comp=Z,800nm,20.0s
MOX Moxa 146.60 356 *e*PKPbc PKPbc 17 31 42.0 +0.3
MOX *e*L 18 24 19.6
comp=Z,1µm,22.0s
MORC Moravsky Berou 146.66 348⇓*i*P PKPdf 17 31 40.7 +0.4
MORC Moravsky Berou 146.66 348⇓P PKPdf 17 31 40.7 +0.3
MORC P 17 31 41.3
WERD Werda 146.74 355 *e*PKPbc PKPbc 17 31 42.5 +0.4
ASCN Ascension 146.74 137 PFAKE 17 31 50.0 +8.4
ASCN LR LR
comp=Z,944nm,19.0s,MS5.6
MEM Membach 146.75 2 PKP PKPdf 17 31 40.4 -0.1
MEM PKPbc PKPbc 17 31 42.4 +0.2
GUNZ Gunzen 146.82 355 *e*PKPbc PKPbc 17 31 42.9 +0.5
WERN Wernitzgruen 146.89 355 *e*PKPbc PKPbc 17 31 43.0 +0.4
BCLA Clavier 146.91 3 PKP PKPdf 17 31 39.9 -0.8
BCLA PKPbc PKPbc 17 31 42.5 -0.2
NKC Novy Kostel 146.94 354 *e*PKP PKPdf 17 31 41.5 +0.7
NKC *ep*PKP pPKPdf 17 31 43.1 -9.2
NKC AMS AMS 18 40 20.0
comp=Z,800nm,18.6s
PRU Pruhonice 146.94 352 *e*PKP PKPdf 17 31 40.9 +0.1
PRU *ep*PKP pPKPdf 17 31 43.1 -9.2
PRU AMS AMS 18 42 30.0
comp=Z,900nm,19.5s
PRU Pruhonice 146.94 352 *e*PKP PKPdf 17 31 41.0 +0.2
CTKT Corum 147.07 320⇓*i*P PKPab 17 31 44.7 -0.3
TLCR 147.08 332⇓*i*P PKPdf 17 31 43.1 +1.9
TLCR 147.08 332⇓P PKPdf 17 31 43.1 +1.9
DOU Dourbes 147.20 4 PKPbc PKPbc 17 31 42.0 -1.4
JSA Saint Aubin 147.20 12 *e*P PKPdf 17 31 40.8 -0.5
GIVF Givet 147.20 3 *e*PKIKP PKPdf 17 31 41.1 -0.1
BAIF Baives 147.21 4 *e*PKIKP PKPdf 17 31 41.2 0.0
KECS Kecovo 147.21 344 *e*PKP PKPbc 17 31 43.9 +0.4
MANZ Manzenberg 147.21 355 *e*PKPdf PKPdf 17 31 41.5 +0.3
MANZ *e*PKPbc PKPbc 17 31 44.1 +0.6
MANZ *e*L 18 24 33.9
comp=Z,1µm,21.2s
VRAC Vranov 147.28 349⇑*i*P PKPdf 17 31 41.5 +0.1
VRAC Vranov 147.28 349⇑P PKPdf 17 31 41.5 +0.1
VRI Vrincioaia 147.43 335⇑*i*P PKPbc 17 31 44.4 +0.2
VRI Vrincioaia 147.43 335⇑P PKPbc 17 31 44.4 +0.1
PLOR Plostina 147.47 335⇓*i*P PKPbc 17 31 43.9 -0.5
TREC Trest 147.48 351 *e*PKP PKPbc 17 31 44.7 +0.4
TREC AMS AMS 18 43 10.0
comp=Z,1µm,17.9s
GRA1 Grafenberg Arr 147.57 356 *e*PKPdf PKPdf 17 31 42.4 +0.5
GRA1 *e*PKPbc PKPbc 17 31 45.3 +0.8
GRA1 LR LR
comp=Z,1µm,20.7s,MS5.6
GRF Grafenberg Arr 147.57 356 *e*PKPdf PKPdf 17 31 42.4 +0.5
GRF *e*PKPbc PKPbc 17 31 45.3 +0.8
GRF *e*L 18 24 29.2
comp=Z,1µm,20.7s
GRFO Grafenberg 147.58 356 *e*PKPdf PKPdf 17 31 42.3 +0.4
GRFO *e*PKPbc PKPbc 17 31 45.2 +0.7
GRFO *e*L 18 24 29.2
comp=Z,1µm,20.7s
VYHS Vyhne 147.60 346 *e*PKP PKPdf 17 31 41.8 -0.1
VYHS *e* 17 31 45.1
KOLL Kolacno 147.62 347 *e*PKP PKPdf 17 31 42.6 +0.6
KOLL *e* 17 31 45.1
RUP Ruppelstein 147.68 1 PKIKP PKPdf 17 31 42.7 +0.7
WLF Walferdange 147.70 2 PKP PKPdf 17 31 41.5 -0.6
WLF PKPbc PKPbc 17 31 45.6 +0.8
WLF Walferdange 147.70 2 *e*PKPbc PKPbc 17 31 45.8 +0.9
WLF *e*L 18 22 43.3
comp=Z,2µm,19.5s
WLF Walferdange 147.70 2 *e*PKPbc PKPbc 17 31 45.4 +0.5
WLF LR LR
comp=Z,2µm,20.0s,MS5.8
ANDN Andirin 147.76 315⇓*i*P PKPdf 17 31 43.2 +0.6
ROSF Rostrenen 147.77 14 *e*PKIKP PKPdf 17 31 41.8 -0.4
comp=Z,150nm,1.6s
TOD Tromm 147.77 359 PKIKP PKPdf 17 31 42.9 +0.7
TIRR Tirgusor 147.82 332⇑*i*P PKPdf 17 31 42.0 -0.4
TIRR Tirgusor 147.82 332⇑P PKPdf 17 31 42.0 -0.5
HARR Harsova 147.86 332⇑*i*P PKPbc 17 31 46.0 +0.5
HARR Harsova 147.86 332⇑P PKPbc 17 31 46.0 +0.6
PSZ Piszkesteto 147.88 345⇓*e*PKP PKPbc 17 31 45.7 +0.3
PSZ Piszkesteto 147.88 345⇓*i*P PKPdf 17 31 43.9 +1.5
PSZ Piszkesteto 147.88 345 P PKPdf 17 31 43.4 +1.0
PSZ LR LR
comp=Z,998nm,20.0s,MS5.6
KHC Kasperske Hory 147.91 353 *e*PKP PKPdf 17 31 42.6 +0.2
KHC *ep*PKP pPKPdf 17 31 45.9 -8.0
KHC *ex* x 17 31 55.5
KHC AMS AMS 18 41 20.0
comp=Z,1µm,19.3s
KHC Kasperske Hory 147.91 353 *e*PKP PKPdf 17 31 42.7 +0.3
FLN La Foliniere 147.92 10 *e*PKIKP PKPdf 17 31 42.3 -0.2
FLN *e*MLR MLR
comp=Z,1µm,18.2s,MS5.4
FLN La Foliniere 147.92 10 *e*PKPdf PKPdf 17 31 42.3 -0.2
FLN LR LR
comp=Z,1µm,18.3s,MS5.7
CDAG Cicekdag 147.92 319⇓*i*P PKPdf 17 31 42.6 -0.2
WET Wettzell 147.97 354 *e*PKPdf PKPdf 17 31 42.6 +0.1
WET *e*PKPbc PKPbc 17 31 46.1 +0.5
WET *e*L 18 24 55.6
comp=Z,1µm,21.9s
SGMF Saint Gilles 148.01 13 *e*PKIKP PKPdf 17 31 42.3 -0.3
MLR Muntele Rosu 148.05 335⇓*i*P PKPbc 17 31 45.9 0.0
MLR Muntele Rosu 148.05 335⇓P PKPbc 17 31 45.9 0.0
MODS Modra-Piesok 148.05 348 *e*PKP PKPdf 17 31 43.3 +0.6
MODS *e* 17 31 46.6
DRGR 148.09 340⇓*i*P PKPdf 17 31 42.7 -0.1
DRGR 148.09 340⇓P PKPdf 17 31 42.7 -0.1
ISR Istrita 148.11 334⇑*i*P PKPbc 17 31 46.4 +0.3
LDF La Druitiere 148.15 10 *e*PKIKP PKPdf 17 31 42.6 -0.2
PENC Penc 148.16 345 *e*P PKPdf 17 31 43.3 +0.4
GEC2 GERESS Array S 148.17 353 *e*PKP2 PKPbc 17 31 46.6 +0.5
GEC2 MLR MLR
comp=Z,1µm,21.4s,MS5.7
GEC2 GERESS Array S 148.17 353 *e*PKPdf PKPdf 17 31 42.9 0.0
GEC2 *e*PKPbc PKPbc 17 31 46.6 +0.5
GEC2 *e*L 18 25 33.6
comp=Z,1µm,21.4s
GEC2 GERESS Array S 148.17 353 *e*PKPdf PKPdf 17 31 42.8 -0.1
GERES GERESS Array B 148.17 353 PKP PKPdf 17 31 42.4 -0.4
comp=Z,17nm,0.8s,baz=338,slow=1.4,SNR=15
GERES PKPbc PKPbc 17 31 46.3 +0.2
comp=Z,17nm,0.8s,baz=20,slow=3.1,SNR=96
QUIF Quistinic 148.19 14 *e*PKIKP PKPdf 17 31 42.6 -0.3
comp=Z,210nm,1.7s
GRR Gorron 148.22 11 *e*PKIKP PKPdf 17 31 42.8 -0.2
ZST Bratislava 148.25 348 *e*PKP PKPdf 17 31 44.7 +1.7
ZST *e* 17 31 47.3
ZST Bratislava 148.25 348 *e*PKP PKPdf 17 31 44.7 +1.7
ZST *e* 17 31 47.3
ZST LR LR
comp=Z,400nm,18.4s,MS5.2
LANF Langenberg 148.41 360 PKP PKPdf 17 31 44.0 +0.7
VOIR 148.44 336 PKP2 PKPbc 17 31 48.2 +1.2
VOIR 148.44 336⇓*i*P PKPdf 17 31 43.1 -0.3
VOIR 148.44 336⇓P PKPdf 17 31 43.1 -0.3
BUD Budapest 148.50 345⇓*e*PKP PKPbc 17 31 47.3 +0.2
PSN Preselentsi 148.53 331 P PKPbc 17 31 47.6 +0.4
STU Stuttgart 148.60 358 *e*PKPbc PKPbc 17 31 47.8 +0.6
STU *e*L 18 23 59.2
comp=Z,2µm,20.0s
STU Stuttgart 148.60 358 *e*PKPdf PKPdf 17 31 43.5 0.0
STU *e*PKPbc PKPbc 17 31 48.2 +0.9
YURE YUREGIR 148.64 314⇓*i*P PKPdf 17 31 44.8 +0.8
YAYL Yayladag 148.70 312⇓*i*P PKPdf 17 31 44.8 +0.6
SGKT Sivrigoynuk 148.72 323⇓*i*P PKiKP 17 31 49.1 -0.2
ANTO Ankara 148.74 321 PKP2 PKPbc 17 31 49.0 +1.1
ANTO Ankara 148.74 321⇓*i*P PKPdf 17 31 43.9 -0.2
ANTO Ankara 148.74 321⇓P PKPdf 17 31 43.9 -0.2
ANTO P 17 31 49.0
ANTO LR LR
comp=Z,533nm,20.0s,MS5.3
CONA Conrad Observa 148.74 349⇓*i*P PKiKP 17 31 48.4 -0.7
comp=Z,718nm,2.0s
CONA Conrad Observa 148.74 349⇑*i*PKPdf PKPdf 17 31 43.8 -0.1
comp=Z,390nm,4.6s,SNR=23
CONA ⇓*i*PKiKP PKiKP 17 31 48.4 -0.7
comp=Z,718nm,2.0s
FURI Furi 148.76 258 *e*P PKPdf 17 31 39.6 -5.3
MEZF Maizieres J'vi 148.81 3 *e*PKIKP PKPdf 17 31 44.2 +0.3
CDF Champ du Feu 148.98 1 *e*PKIKP PKPdf 17 31 44.0 -0.2
BFO Black Forest 149.06 359 *e*PKP2 PKPbc 17 31 48.9 +0.5
BFO MLR MLR
comp=Z,700nm,20.1s,MS5.5
BFO Black Forest 149.06 359 *e*PKPdf PKPdf 17 31 44.1 -0.2
BFO *e*PKPbc PKPbc 17 31 48.9 +0.5
BFO *e*L 18 23 12.4
comp=Z,680nm,20.1s
MOA Molln 149.07 351⇓*i*P PKiKP 17 31 48.8 -1.0
comp=Z,482nm,2.4s
MOA Molln 149.07 351⇓*i*PKPdf PKPdf 17 31 43.5 -0.9
comp=Z,223nm,4.1s,SNR=20
MOA ⇓*i*PKiKP PKiKP 17 31 48.8 -1.0
comp=Z,482nm,2.4s
FUR Furstenfeldbru 149.09 355 *e*PKPbc PKPbc 17 31 49.1 +0.6
FUR *e*L 18 24 34.6
comp=Z,986nm,20.2s
THEF They Montfort 149.13 2 PKP PKPdf 17 31 45.2 +0.7
ECH Echery 149.17 1 PKP PKPdf 17 31 45.2 +0.7
ECH *e*PKPdf PKPbc 17 31 48.4 -0.3
LIBD Limburg 149.24 0 PKHKP PKPdf 17 31 46.7 +2.1
PRD Provadia 149.26 331 P PKPbc 17 31 49.7 +0.6
SPAK Spaichingen-Ko 149.28 359 PKP PKPdf 17 31 45.0 +0.3
HAU Haudompre 149.37 2 *e*PKIKP PKPdf 17 31 45.0 +0.2
HAU *e*MLR MLR
comp=Z,1µm,18.8s,MS5.4
HAU Haudompre 149.37 2 *e*PKPdf PKPdf 17 31 45.0 +0.2
HAU LR LR
comp=Z,1µm,18.8s,MS5.7
ARSA Arzberg 149.46 350⇑*i*P PKiKP 17 31 49.5 -1.1
comp=Z,475nm,2.3s
ARSA Arzberg 149.46 350⇓*i*PKPdf PKPdf 17 31 44.6 -0.4
comp=Z,51nm,2.1s,SNR=34
ARSA ⇑*i*PKiKP PKiKP 17 31 49.5 -1.1
comp=Z,475nm,2.3s
BZS Buzias 149.49 341⇓*i*P PKPdf 17 31 44.9 -0.2
BZS Buzias 149.49 341⇓P PKPdf 17 31 44.9 -0.2
FELD Feldberg im Sc 149.51 360 PKP PKPdf 17 31 45.7 +0.6
MOF Molkenrain 149.54 1 PKP PKPdf 17 31 45.9 +0.8
HINF Hinteralfeld 149.57 1 *e*PKIKP PKPdf 17 31 45.0 -0.2
MEST Erdemli 149.78 315⇓*i*P PKPbc 17 31 51.0 +0.4
PKSM Moragy 149.79 345⇓*i*P PKPdf 17 31 45.2 -0.4
PKSM Moragy 149.79 345⇓P PKPdf 17 31 45.2 -0.4
PKSM ⇓*e*P 17 31 50.2
ZIMR 149.79 334 PKP2 PKPbc 17 31 51.4 +1.0
RETA Reutte 149.80 356⇓*i*P PKiKP 17 31 50.6 -0.7
comp=Z,548nm,2.1s
RETA Reutte 149.80 356⇑*i*PKPdf PKPdf 17 31 44.9 -0.6
comp=Z,230nm,4.0s,SNR=26
RETA ⇓*i*PKiKP PKiKP 17 31 50.6 -0.7
comp=Z,548nm,2.1s
HYF Humbligny 149.83 7 *e*PKIKP PKPdf 17 31 46.0 +0.4
SZH Strazhica 149.87 333 *e*P PKPbc 17 31 51.0 +0.4
WATA Walderalm 149.89 355⇑*i*P PKiKP 17 31 50.5 -1.0
comp=Z,193nm,1.6s
WATA Walderalm 149.89 355⇑*i*PKPdf PKPdf 17 31 45.2 -0.5
comp=Z,25nm,1.6s,SNR=13
WATA ⇑*i*PKiKP PKiKP 17 31 50.5 -1.0
comp=Z,193nm,1.6s
MOTA Moosalm 149.92 355⇓*i*P PKiKP 17 31 50.8 -0.7
comp=Z,214nm,1.5s
MOTA Moosalm 149.92 355⇑*i*PKPdf PKPdf 17 31 45.4 -0.4
comp=Z,30nm,1.6s,SNR=13
MOTA ⇓*i*PKiKP PKiKP 17 31 50.8 -0.7
comp=Z,214nm,1.5s
BBS Basel-Blauen 149.93 0 PKIKP PKPdf 17 31 46.2 +0.5
LOR Lormes 149.95 5 *e*PKIKP PKPdf 17 31 46.0 +0.2
comp=Z,82nm,1.3s
LOR *e*MLR MLR
comp=Z,2µm,19.8s,MS5.6
LOR Lormes 149.95 5 *e*PKPdf PKPdf 17 31 46.0 +0.2
LOR LR LR
comp=Z,2µm,19.8s,MS5.9
KBA Koelnbreinsper 149.95 352⇓*i*P PKiKP 17 31 50.5 -1.1
comp=Z,357nm,2.5s
KBA Koelnbreinsper 149.95 352⇑*i*PKPdf PKPdf 17 31 44.9 -0.9
comp=Z,129nm,2.9s,SNR=10
KBA ⇓*i*PKPbc PKPbc 17 31 50.5 -0.2
comp=Z,357nm,2.5s
WTTA Wattenberg 149.96 355⇓*i*P PKiKP 17 31 51.0 -0.6
comp=Z,575nm,2.0s
WTTA Wattenberg 149.96 355⇑*i*PKPdf PKPdf 17 31 45.8 0.0
comp=Z,65nm,1.9s,SNR=14
WTTA ⇓*i*PKiKP PKiKP 17 31 51.0 -0.6
comp=Z,575nm,2.0s
KDHN Kadinhani 149.99 320⇓*i*P PKPdf 17 31 45.8 -0.3
LOMF Lomont 150.03 1 PKP PKPdf 17 31 46.2 +0.3
DAVA Damuels 150.05 357⇑*i*P PKiKP 17 31 51.4 -0.4
comp=Z,463nm,1.9s
DAVA Damuels 150.05 357⇓*i*PKPdf PKPdf 17 31 46.1 +0.1
comp=Z,80nm,2.2s,SNR=22
DAVA ⇑*i*PKiKP PKiKP 17 31 51.4 -0.4
comp=Z,463nm,1.9s
MFF Saint Martin d 150.07 11 *e*PKIKP PKPdf 17 31 45.9 -0.1
comp=Z,90nm,1.4s
SOKA Soboth 150.10 350⇓*i*P PKPbc 17 31 50.8 -0.3
comp=Z,325nm,1.9s
SOKA Soboth 150.10 350⇑*i*PKPdf PKPdf 17 31 45.5 -0.6
comp=Z,59nm,2.1s
SOKA ⇓*i*PKPbc PKPbc 17 31 50.8 -0.3
comp=Z,325nm,1.9s
KOGS Kog 150.10 348 *e*PKPdf PKPdf 17 31 45.5 -0.5

KOGS *e*PKPbc PKPbc 17 31 50.7 -0.4
PERS Pernice 150.12 350 *e*PKPdf PKPdf 17 31 45.4 -0.7
PERS *e*PKPbc PKPbc 17 31 50.8 -0.3
SSF Saint Saulge 150.13 6 *e*PKIKP PKPdf 17 31 46.2 +0.1
comp=Z,80nm,1.3s
RHK3 Tenkes 150.19 345 *e*P PKPdf 17 31 46.0 -0.2
JMB Yambol 150.21 331 P PKPbc 17 31 52.1 +0.6
FETA Feichten 150.27 356 ⇓*i*P PkiKP 17 31 52.0 -0.3
comp=Z,404nm,1.9s
FETA Feichten 150.27 356 ⇓*i*PKPdf PKPdf 17 31 46.6 +0.3
comp=Z,42nm,1.7s,SNR=13
FETA ⇓*i*PkiKP PkiKP 17 31 52.0 -0.3
comp=Z,404nm,1.9s
MYKA Terra Mystica 150.35 352 ⇓*i*P PKPbc 17 31 51.0 -0.7
comp=Z,938nm,1.9s
MYKA Terra Mystica 150.35 352 ⇓*i*PKPdf PKPdf 17 31 45.7 -0.7
comp=Z,5μm,4.6s
MYKA ⇓*i*PKPbc PKPbc 17 31 51.0 -0.7
comp=Z,938nm,1.9s
ABTA Abfaltersbach 150.38 353 ⇓*i*P PKPbc 17 31 51.5 -0.2
comp=Z,336nm,1.9s
ABTA Abfaltersbach 150.38 353 ⇓*i*PKPdf PKPdf 17 31 45.9 -0.6
comp=Z,148nm,3.4s,SNR=48
ABTA ⇓*i*PKPbc PKPbc 17 31 51.5 -0.2
comp=Z,336nm,1.9s
AVF Avril sur Loir 150.38 6 *e*PKIKP PKPdf 17 31 46.3 -0.2
comp=Z,32nm,1.2s
BGF Bois d'Agland 150.55 7 *e*PKIKP PKPdf 17 31 46.8 0.0
SMF Signal de Mont 150.57 5 *e*PKIKP PKPdf 17 31 46.6 -0.2
PTCC Patocco-Chiusa 150.61 352 PKP PKPdf 17 31 46.5 -0.4
TCF Toulx Ste Croi 150.74 8 *e*PKIKP PKPdf 17 31 47.1 0.0
comp=Z,53nm,1.2s
CABF La Chapelle 150.75 2 *e*PKIKP PKPdf 17 31 47.9 +0.8
comp=Z,144nm,1.5s
ROBS Robic 150.75 352 *e*PKPdf PKPdf 17 31 46.4 -0.6
ROBS *e*PKPbc PKPbc 17 31 52.0 -0.6
LEGS Legarje 150.75 349 *i* PKPdf PKPdf 17 31 47.1 +0.1
EMAZ Mazaricos 150.75 26 PKP PKPbc 17 31 52.9 +0.1
GMNA Gemona 150.76 352 PKP PKPdf 17 31 47.3 +0.2
APPI Appiano 150.77 355 PKP PKPdf 17 31 46.9 -0.2
LJU Ljubljana 150.80 350 *e*PKPdf PKPdf 17 31 47.2 +0.1
LJU *e*PKPbc PKPbc 17 31 52.7 0.0
TUE Stuetta 150.89 358 *e*PKPdf PKPdf 17 31 47.3 0.0
TUE *e*PKPbc PKPbc 17 31 53.2 +0.3
VOY Vojsko 150.91 351 *e*PKPdf PKPdf 17 31 47.2 -0.1
VOY *e* 17 31 52.7
VOY *e* 17 32 17.0
VOY *e* 17 32 39.3
STS Santiago 150.98 25 PKIKP PKPbc 17 31 50.9 -2.4
SISC Sisak 151.01 347 P PKPdf 17 31 47.7 +0.2
DIM Dimitrovgrad 151.02 332 P PKPbc 17 31 53.6 +0.2
OG01 Vacheresse 151.05 2 PKP PKPdf 17 31 48.4 +0.9
AGO Saint Agoulin 151.09 7 PKP PKPdf 17 31 47.7 +0.1
EPON Pontenova 151.15 23 PKP PKPdf 17 31 50.5 +2.7
CTI Castel Tesino 151.16 354 PKIKP PKPdf 17 31 47.4 -0.3
GDZ Gediz 151.19 323 ⇓*i*P PKPdf 17 31 47.8 -0.2
BOJS Bojanci 151.19 349 *e*PKPdf PKPdf 17 31 47.8 0.0
BOJS *e*PKPbc PKPbc 17 31 54.2 +0.5
CSS Prodhromos 151.20 313 *e*PKPdf PKPdf 17 31 47.0 -1.1
CSS *e*PKPbc PKPbc 17 31 54.4 +0.3
PGB Panagyurishte 151.20 334 P PKPbc 17 31 54.0 +0.2
PLDF La Plantade 151.22 6 PKP PKPdf 17 31 49.1 +1.3
MABI Malga Bissina 151.24 356 PKP PKPbc 17 31 51.7 -2.1
OG05 Jujurieux 151.29 3 PKP PKPdf 17 31 48.7 +0.8
PLD Plovdiv 151.34 333 P PKPdf 17 31 47.0 -1.1
SKDS Skadanscina 151.36 351 *e*PKPdf PKPdf 17 31 47.7 -0.3
SKDS *e*PKPbc PKPbc 17 31 53.8 -0.3
PYM Petit Puy Mans 151.37 7 PKP PKPdf 17 31 48.6 +0.6
KDZ Kurdzhali 151.39 332 P PKPdf 17 31 47.6 -0.6
TKTP Tekketepe 151.39 321 ⇓*i*P PKPdf 17 31 48.2 -0.1
ISP Isparta 151.40 320 ⇑P PKPdf 17 31 46.9 -1.4
ISP LR LR
comp=Z,770nm,21.0s,MS5.5
VTS Vitosha 151.55 336 ⇓*i*P PKPbc 17 31 54.8 +0.2
VTS Vitosha 151.55 336 ⇓P PKPbc 17 31 54.8 +0.2
RJF Les Rejaudoux 151.61 9 *e*PKIKP PKPdf 17 31 48.5 +0.1
comp=Z,119nm,1.7s
RJF *e*MLR MLR
comp=Z,1μm,21.0s,MS5.4
RJF Les Rejaudoux 151.61 9 *e*PKPdf PKPdf 17 31 48.5 +0.1
RJF LR LR
comp=Z,1μm,21.0s,MS5.7
DEMI Demirci 151.66 324 ⇓*i*P PKPdf 17 31 48.3 -0.4
KHAL Karahalli 151.67 322 ⇓*i*P PKPdf 17 31 48.8 +0.1
RZN Rozhen 151.67 333 *e*P PKPbc 17 31 54.6 -0.3
COLF Collangettes 151.67 6 PKP PKPdf 17 31 49.5 +1.0
FRNF Fournols 151.67 8 PKP PKPdf 17 31 50.1 +1.6
BALY Balya 151.76 326 ⇓*i*P PKPdf 17 31 47.6 -1.2
EARI Arriondas 151.86 20 PKP PKPdf 17 31 51.8 +2.9
LPL La Plagne 151.86 1 *e*PKIKP PKPdf 17 31 49.7 +0.9
comp=Z,73nm,1.6s
LPG La Plagne 151.88 1 *e*PKIKP PKPdf 17 31 49.8 +1.0
comp=Z,78nm,1.5s
LBL Lubilhac 151.91 7 PKP PKPdf 17 31 49.8 +0.9
SSB Saint Sauveur 151.99 5 PKP PKPdf 17 31 49.5 +0.5
ELOB Lobios 152.03 26 PKP PKPbc 17 31 53.5 -2.3
CAF Calviac 152.06 9 *e*PKIKP PKPdf 17 31 49.3 +0.2
comp=Z,74nm,1.6s
GRN Grenoble 152.10 3 PKP PKPdf 17 31 50.7 +1.5
GDM Grand'Maison 152.16 2 PKP PKPdf 17 31 50.4 +1.2
NVLJ Novalja 152.17 349 P PKPdf 17 31 46.5 -2.8
PCAB Cabril 152.18 26 *e*PKPbc PKPbc 17 31 56.5 +0.4
MMB Musomiste 152.18 334 P PKPdf 17 31 48.4 -1.0
KKB Krupnik 152.21 335 P PKPbc 17 31 56.4 +0.2
BNI Bardonecchia 152.33 2 *e*PKIKP PKPdf 17 31 50.4 +0.9
BNI MLR MLR
comp=Z,2μm,19.0s,MS5.8
GOLH Golhisar 152.37 320 ⇓*i*P PKPbc 17 31 55.9 -0.7
VIVF Saint-Julien-I 152.42 5 *e*PKIKP PKPdf 17 31 50.2 +0.6
comp=Z,116nm,1.8s
ORIF Oris-en-Rattie 152.43 3 *e*PKIKP PKPdf 17 31 50.1 +0.4
comp=Z,58nm,1.4s
ORIF *e*MLR MLR
comp=Z,2μm,19.2s,MS5.6
ELAN Lanestosa 152.47 18 PKP PKPdf 17 31 52.4 +2.6
ECAL Calabor 152.50 24 PKP PKPbc 17 31 54.5 -2.3
BOB Bobbio (Coli) 152.59 357 PKIKP PKPdf 17 31 49.6 -0.3
MBDF Montbardon 152.65 1 *e*PKIKP PKPdf 17 31 50.4 +0.4
comp=Z,75nm,1.4s
STIP Stip 152.72 336 *e*PKP PKPdf 17 31 49.0 -1.2
OCF Saint Nazaire 152.74 4 PKP PKPdf 17 31 51.9 +1.8
OG26 St.-Nazaire-De 152.74 4 PKP PKPdf 17 31 51.9 +1.8
SKO Skopje 152.76 337 *e*PKP PKPdf 17 31 49.8 -0.5
VAY Valandovo 152.88 335 *e*PKP PKPdf 17 31 49.2 -1.3
DOI San Damiano 152.89 1 PKIKP PKPdf 17 31 50.8 +0.5
SURF Saint Ours 152.90 1 PKP PKPdf 17 31 52.1 +1.7
AKAS Kas 152.97 318 ⇓*i*P PKPdf 17 31 50.1 -0.6
PMAR Madeira 153.00 51 *e*PKPdf PKPdf 17 31 52.2 +1.3
PMAR Madeira 153.00 51 *e*PKPbc PKPbc 17 31 58.5 +0.3
EALK Alkurruntz 153.00 15 PKP PKPdf 17 31 51.9 +1.3
MVO Moncorvo 153.04 25 *e*PKPdf PKPdf 17 31 51.3 +0.6
MVO Moncorvo 153.04 25 *e*PKPbc PKPbc 17 31 58.4 +0.4
MVO Moncorvo 153.04 25 *e*PKPab PKPab 17 32 09.4 0.0
MVO Moncorvo 153.04 25 *e*PP PP 17 35 42.6 +0.7
ELIZ Elizondo 153.05 15 PKIKP PKPdf 17 31 52.1 +1.5
PVIS Viseu 153.05 27 *e*PKPdf PKPdf 17 31 51.5 +0.8
PVIS Viseu 153.05 27 *e*PKPbc PKPbc 17 31 57.9 -0.2
QLNO Quiliano 153.06 359 PKP PKPdf 17 31 49.9 -0.7
FNVD Fontana Vidola 153.07 355 PKP PKPdf 17 31 51.1 +0.5
AYDN Tasoluk 153.08 323 ⇓*i*P PKPdf 17 31 50.9 0.0
LASF Ste Croix 153.12 6 *e*PKIKP PKPdf 17 31 51.2 +0.5
comp=Z,133nm,1.8s
VLC Villacollemand 153.14 356 *e*PKPdf PKPdf 17 31 49.9 -0.8
VLC LR LR
comp=Z,608nm,20.0s,MS5.4
STON Ston 153.14 344 P PKPdf 17 31 48.7 -2.1
SJPF Ste Jean 153.17 15 *e*PKIKP PKPdf 17 31 51.4 +0.6
comp=Z,46nm,1.4s
TURN Turunc 153.18 321 ⇓*i*P PKPdf 17 31 51.6 +0.5
LARF Larrau 153.30 14 PKP PKPdf 17 31 52.1 +1.1
ECRI Cripan 153.31 17 PKIKP PKPbc 17 31 55.0 -3.6
KRUS Krusevo 153.35 337 *e*PKP PKPdf 17 31 50.1 -1.0
SMRF Simiane la Rot 153.35 3 *e*PKIKP PKPdf 17 31 51.8 +0.8
comp=Z,86nm,1.6s
TOUF Mont Tournerai 153.38 1 PKP PKPdf 17 31 52.2 +1.1
AUTN L'Aution 153.40 0 PKP PKPdf 17 31 52.4 +1.3
SAOF Saorge 153.41 0 PKP PKPdf 17 31 52.0 +0.9
REYF Montagne du Re 153.41 13 PKP PKPdf 17 31 50.7 -0.4
MTE Manteigas 153.46 27 *e*PKPdf PKPdf 17 31 51.8 +0.5
MTE Manteigas 153.46 27 *e*PKPbc PKPbc 17 31 59.0 0.0
MTE Manteigas 153.46 27 *e*PKPab PKPab 17 32 12.3 +1.1
MTE Manteigas 153.46 27 *e*PKPdf PKPdf 17 31 52.3 +1.0

MTE LR LR
comp=Z,861nm,19.0s,MS5.6
MVIF Mont Vial 153.49 1 PKP PKPdf 17 31 52.2 +1.0
LUCF Luceram 153.50 1 PKP PKPdf 17 31 51.9 +0.6
SBF Sospel 153.53 0 *e*PKIKP PKPdf 17 31 51.1 -0.2
comp=Z,52nm,1.2s
ETSF Etsaut 153.53 14 *e*PKIKP PKPdf 17 31 52.2 +0.9
comp=Z,54nm,1.4s
EPF Esparros 153.60 12 *e*PKIKP PKPdf 17 31 51.7 +0.3
comp=Z,56nm,1.4s
BADI Badiali 153.60 353 PKP PKPdf 17 31 52.1 +0.7
CING Cingoli 153.61 351 PKP PKPdf 17 31 51.7 +0.3
CALN Calern 153.63 1 PKP PKPdf 17 31 52.5 +1.1
MTLF Montolieu 153.63 9 *e*PKIKP PKPdf 17 31 51.6 +0.1
comp=Z,89nm,1.8s
REVF Revere 153.65 1 PKP PKPdf 17 31 52.1 +0.6
VIEF Viey 153.68 13 PKP PKPdf 17 31 51.5 0.0
OHR Ohrid 153.75 337 *e*PKP PKPdf 17 31 48.9 -2.8
MURB Monte Urbino 153.81 352 PKP PKPdf 17 31 51.7 0.0
FRF La Foret Royal 153.82 2 *e*PKIKP PKPdf 17 31 51.7 0.0
comp=Z,69nm,1.5s
PMAFR Mafra 153.82 31 *e*PKPdf PKPdf 17 31 52.5 +0.6
PMAFR Mafra 153.82 31 *e*PKPbc PKPbc 17 31 59.6 -0.2
PMAFR Mafra 153.82 31 *e*PKPab PKPab 17 32 12.5 -0.2
MLS Moulis 153.82 11 PKP PKPdf 17 31 51.3 -0.4
EBIE Bielsa 153.89 13 PKP PKPdf 17 31 53.1 +1.3
PCBR Castelo Branco 153.95 27 *e*PKPdf PKPdf 17 31 52.4 +0.4
PCBR Castelo Branco 153.95 27 *e*PKPbc PKPbc 17 32 00.4 +0.4
LMR La Mourre 154.04 2 *e*PKIKP PKPdf 17 31 52.0 0.0
comp=Z,57nm,1.6s
PMRV Marv??o 154.33 28 *e*PKPdf PKPdf 17 31 52.9 +0.3
PMRV Marv??o 154.33 28 *e*PKPbc PKPbc 17 32 00.7 -0.2
PMRV Marv??o 154.33 28 *e*PKPab PKPab 17 32 13.4 -1.5
FILF Fillols 154.45 9 PKP PKPdf 17 31 51.5 -1.1
GUD Guadarrama 154.58 21 PKIKP PKPdf 17 31 54.4 +1.5
EJON La Jonquera 154.60 8 PKP PKPdf 17 31 53.7 +0.9
ESAC San Caprasio 154.67 14 PKP PKPdf 17 31 54.6 +1.6
PESTR Estremoz 154.69 29 *e*PKPdf PKPdf 17 31 53.4 +0.3
PESTR Estremoz 154.69 29 *e*PKPbc PKPbc 17 32 01.1 -0.6
PESTR Estremoz 154.69 29 *e*PKPab PKPab 17 32 15.4 -1.1
EVO Evora 154.76 30 *e*PKIKP PKPdf 17 31 52.8 -0.4
comp=Z,124nm,1.6s
EVO *e*MLR MLR
comp=Z,2μm,19.8s,MS5.6
EVO Evora 154.76 30 *e*PKPdf PKPdf 17 31 53.6 +0.4
EVO Evora 154.76 30 *e*PKPab PKPab 17 32 16.4 -0.4
EVO Evora 154.76 30 *e*PP PP 17 35 52.1 +0.3
PGF Pioggiola 154.82 358 *e*PKIKP PKPdf 17 31 52.8 -0.4
comp=Z,90nm,1.6s
EMIR Miracle 154.91 11 PKP PKPdf 17 31 55.7 +2.4
CERT Cerreto 155.03 351 PKP PKPdf 17 31 53.0 -0.5
EBAD Badajoz 155.05 28 PKP PKPdf 17 31 54.9 +1.3
TOLF Tolfa 155.06 352 PKP PKPdf 17 31 53.8 +0.3
ETOR Torete 155.09 18 PKIKP PKPdf 17 31 54.9 +1.3
MIDA Miranda 155.11 348 PKP PKPdf 17 31 53.5 -0.1
PTEO Sao Teotonio 155.18 32 *e*PKPdf PKPdf 17 31 54.4 +0.6
PTEO Sao Teotonio 155.18 32 *e*PKPab PKPab 17 32 18.4 -0.2
PBEJ Beja 155.23 30 *e*PKPdf PKPdf 17 31 54.9 +1.0
EPOB Poblet 155.36 12 PKP PKPdf 17 31 54.0 +0.1
SANT Santorini 155.37 324 PFAKE 17 32 00.0 +5.9
SANT LR LR
comp=Z,847nm,20.0s,MS5.6
MORF Marmelete 155.40 33 *e*PKPdf PKPdf 17 31 55.0 +0.9
MORF Marmelete 155.40 33 *e*PKPbc PKPdf 17 32 03.5 +9.4
MORF Marmelete 155.40 33 *e*PKPab PKPab 17 32 19.4 -0.1
PFVI Vila Bisbo 155.44 33 *e*PKPdf PKPdf 17 31 55.1 +0.9
PFVI Vila Bisbo 155.44 33 *e*PKPab PKPab 17 32 19.6 -0.1
PAB San Pablo 155.48 23 *e*PKIKP PKPdf 17 31 55.2 +1.1
PAB MLR MLR
comp=Z,785nm,19.0s,MS5.5
ESDC Sonseca Array 155.50 22 PKP PKPdf 17 31 54.4 +0.2
comp=Z,0.3nm,0.3s,baz=320,slow=2.2,SNR=6.7
ESDC PKPbc PKPdf 17 32 03.5 +9.3
comp=Z,3.0nm,0.8s,baz=334,slow=2.3,SNR=15
ESDC PKPab PKPab 17 32 19.7 -0.2
comp=Z,0.5nm,0.4s,baz=325,slow=3.7,SNR=7.6
ESDC Sonseca Array 155.50 22 PKP PKPdf 17 31 53.2 -1.0
ESLA Sonseca Array 155.50 22 *e*PKPdf PKPdf 17 31 55.1 +0.9
ESLA LR LR
comp=Z,2μm,19.0s,MS6.0
PBAR Barrancos 155.51 29 *e*PKPdf PKPdf 17 31 54.7 +0.5
PBAR Barrancos 155.51 29 *e*PKPab PKPab 17 32 19.9 -0.1
ERTA Horta de San J 155.59 14 PKP PKPdf 17 31 55.0 +0.8
PVAQ Vaqueiros 155.80 31 *e*PKPdf PKPdf 17 31 55.3 +0.7
PVAQ Vaqueiros 155.80 31 *e*PKPab PKPab 17 32 21.2 0.0
EGRO El Granado 155.81 31 PKP PKPdf 17 31 56.0 +1.4
PBDV Barranco-do-Ve 155.81 32 *e*PKPdf PKPdf 17 31 55.2 +0.5
PBDV Barranco-do-Ve 155.81 32 *e*PKPab PKPab 17 32 21.6 +0.3
PBDV Barranco-do-Ve 155.81 32 *e*PP PP 17 36 01.7 +4.0
EMOS Mosqueruela 155.95 16 PKP PKPdf 17 31 56.8 +2.0
EMIN Mina Concepcio 156.07 29 PKP PKPdf 17 31 55.8 +0.9
EOSO Osorio 156.04 59 PKP PKPdf 17 31 52.6 -2.6
ECAB El Cabril 156.31 27 PKP PKPdf 17 31 56.6 +1.3
EADA Adamuz 156.58 25 PKP PKPdf 17 31 56.3 +0.6
EBAN Banos Encina 156.90 24 PKIKP PKPdf 17 31 56.9 +0.8
EVIA Vianos 156.94 21 PKIKP PKPdf 17 31 58.0 +1.9
ESPR Espera 157.12 29 PKP PKPdf 17 31 58.1 +1.7
ETOB Tobarra 157.25 19 PKP PKPdf 17 31 57.4 +1.0
SFS San Fernando 157.28 30 PFAKE 17 32 10.0 +13
SFS LR LR
comp=Z,1μm,20.0s,MS5.8
EQES Quesada 157.48 23 PKP PKPdf 17 31 58.6 +1.7
EJIF Jimena Fronter 157.63 29 PKIKP PKPdf 17 31 57.3 +0.3
EHUE Huescar 157.65 22 PKIKP PKPdf 17 31 58.3 +1.3
VSL Villasalto 157.85 357 *e*PKPdf PKPdf 17 31 57.9 +0.7
VSL LR LR
comp=Z,855nm,19.0s,MS5.6
CMAH Djebel Manchou 160.76 1 P PKPdf 17 32 01.0 +0.3
DFRA Djebel Bou Aff 160.77 5 P PKPdf 17 32 02.0 +1.3
CKFL Kef-Lekhel 160.96 3 P PKPdf 17 32 02.5 +1.6
CASM Ain Smara 161.09 3 P PKPdf 17 32 00.0 -1.1
ABSA Djebel Ababsia 161.11 1 P PKPdf 17 32 01.0 -0.1
KEST Kesra 161.59 356 PKP PKPdf 17 32 02.1 +0.5
comp=Z,3.2nm,1.1s,baz=208,slow=2.0,SNR=6.3
KEST PKPab PKPab 17 32 43.6 -2.6
comp=Z,2.4nm,0.9s,baz=141,slow=5.5,SNR=4.3
KEST PP PP 17 36 29.8 +1.2
comp=Z,1.0nm,0.9s,baz=160,slow=14,SNR=3.7
LIC Lamto 163.36 130 *e*PKIKP PKPdf 17 32 02.0 -2.0
comp=Z,160nm,1.5s
LIC *e*MLR MLR
comp=Z,1μm,20.0s
LIC Lamto 163.36 130 *e*PKIKP PKPdf 17 32 02.7 -1.3
comp=Z,130nm,1.5s
LIC Lamto 163.36 130 *e*PKPdf PKPdf 17 32 02.0 -2.0
LIC LR LR
comp=Z,600nm,20.0s
TIC Toumodi 163.64 129 *e*PKIKP PKPdf 17 32 02.9 -1.4
comp=Z,341nm,1.5s
KIC Kosan Boka 163.66 130 *e*PKIKP PKPdf 17 32 03.0 -1.3
comp=Z,288nm,1.4s
DBIC Dimbokro 163.78 129 PKP PKPdf 17 32 03.5 -0.9
comp=Z,20nm,1.2s,baz=145,slow=1.1,SNR=6.1
DBIC Dimbokro 163.78 129 PKP PKPdf 17 32 03.5 -0.9
DBIC LR LR
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 172.85 125 PKP PKPdf 17 32 09.0 -1.4
comp=Z,12nm,1.0s,baz=334,slow=1.1,SNR=48
TORD PKPab PKPab 17 33 35.7 -1.0
comp=Z,4.1nm,0.8s,baz=256,slow=2.2,SNR=10
TORD PP PP 17 37 32.7 +4.7
comp=Z,4.6nm,1.3s,baz=219,slow=6.0,SNR=5.8
TORD Torodi Ar. Bea 172.85 125 PKP PKPdf 17 32 09.0 -1.4
TORD PKPab PKPab 17 33 35.7 -1.0
TORD PP PP 17 37 32.7 +4.7
TAM Tamanrasset 174.16 20 *e*PKIKP PKPdf 17 32 11.5 +0.8

IDC ***27*** *17:13:59.8±1.3, 057N×126.12E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/17, mbtmp4.0/5, ML3.5/1, Error ellipse: s-maj=109.4km s-min=20.3km az=69.0*
NEIC ***27*** *17:14:00.9±0.7, 055N×126.19E, h10km, mb4.1/3, Error ellipse: s-maj=38.5km s-min=10.5km az=71.0*
DJA ***27*** *17:14:01, 065N×126.19E, h0km, ML4.0/3*
ISCJB ***27*** *17:14:02.3±0.7, 056N±009×126.3E±0.1, h33km, mb4.1/7, Error ellipse: s-maj=18.4km s-min=12.6km az=171.7*
ISC 27 17:14:04.3±0.7, 057N±009×1264E±01, h35km, n12, σ0§85/11, mb4.1/7, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**0.98**	**78**	⇓*e*P		**Pn**	**17 14 21.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**18.57**	**182**	P		**Pn**	**17 18 18.7**	**-0.1**
	0.1nm,0.3s,baz=30,slow=12,SNR=5.3							
WRAB	**Tennant Creek**	**21.82**	**160**	*e*P		**P**	**17 18 53.5**	**-0.2**
	4.2nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**21.82**	**160**	P		**P**	**17 18 54.0**	**+0.3**
	2.7nm,0.4s,mb4.0,baz=336,slow=12,SNR=59							
WB2	**Warramunga Arr**	**21.82**	**160**	*e*P		**P**	**17 18 53.8**	**+0.1**
MBWA	**Marble Bar**	**22.56**	**196**	*e*P		**P**	**17 18 59.8**	**-1.7**
	3.1nm,0.8s,mb3.8							
ASAR	**Alice Springs**	**25.17**	**164**	P		**P**	**17 19 28.5**	**+2.0**
	2.0nm,0.3s,mb4.1,baz=345,slow=11,SNR=130							
MKAR	**Makanchi Array**	**59.97**	**326**	P		**P**	**17 24 07.7**	**+0.5**
	0.7nm,0.4s,mb4.1,baz=113,slow=9.0,SNR=8.0							
MKAR				PcP		PcP	17 24 53.4	+0.3
	0.6nm,0.5s,baz=124,slow=3.2,SNR=4.5							
MKAR	**Makanchi Array**	**59.97**	**326**	P		**P**	**17 24 07.7**	**+0.5**
MKAR				PcP		PcP	17 24 53.4	+0.3
KURK	**Kurchatov**	**64.23**	**328**	*e*P		**P**	**17 24 35.9**	**+0.2**
	2.7nm,0.7s,mb4.4							
ARCES	**ARCESS Array B**	**93.28**	**340**	P		**P**	**17 27 14.6**	**-0.4**
	1.3nm,0.9s,mb4.4,baz=71,slow=5.8,SNR=3.9							
TORD	**Torodi Ar. Bea**	**123.54**	**286**	PKP		PKPdf	17 32 59.2	+0.1
	3.1nm,1.0s,baz=53,slow=2.6,SNR=3.1							

ISCJB ***27*** *17:15:37.6±1.0, 374N±007×1256E±0.1, h144km±9km, mb4.0/13, Error ellipse: s-maj=17.3km s-min=11.4km az=162.5*
NEIC ***27*** *17:15:38.8±4.3, 373N×12564E, h141km±45km, mb4.3/4, Error ellipse: s-maj=26.1km s-min=11.0km az=82.0*
MAN ***27*** *17:15:39, 386N×12567E, h143km, mb4.9, ML3.9, MS3.9*
IDC ***27*** *17:15:40.3±5.3, 368N×12550E, h153km±54km, mb3.7/11, mb1 3.8/11, mb1mx3.7/18, mbtmp3.7/11, MS3.6/1, Ms1 3.6/1, ms1mx2.5/30, Error ellipse: s-maj=29.5km s-min=13.0km az=82.0*
ISC 27 17:15:38.2±1.0, 370N±007×1257E±01, h133km±9km, n22, σ0§93/22, mb4.0/13, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.47**	**344**	*e*P		**Pn**	**17 16 18.0**	**-0.2**
GSPH				*e*S		**Sn**	**17 16 48.4**	**-0.6**
MATI	**Mati**	**3.28**	**11**	*e*P		**Pn**	**17 16 29.3**	**+0.7**
MATI				*e*S		**Sn**	**17 17 06.7**	**-0.9**
IPIL	**Ipil**	**5.08**	**323**	*e*P		**Pn**	**17 16 53.6**	**+1.1**
IPIL				*e*S		**Sn**	**17 17 50.9**	**+0.5**
BATI	**Baumata**	**13.95**	**188**	LR		LR	17 25 16.5	
	comp=Z,208nm,18.6s,baz=251,slow=41							
KAKA	**Kakadu**	**17.64**	**158**	*e*P		**Pn**	**17 19 33.1**	**-2.7**
	4.6nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.66**	**180**	*e*P		**P**	**17 20 18.4**	**+0.2**
	6.9nm,0.5s,mb4.3							
FITZ	**Fitzroy Crossi**	**21.66**	**180**	P		**P**	**17 20 18.4**	**+0.3**
	3.7nm,0.5s,mb4.0,baz=355,slow=8.3,SNR=20							
JOW	**Kunigami**	**23.14**	**6**	P		**P**	**17 20 33.7**	**+1.0**
	4.7nm,0.6s,mb4.1,baz=169,slow=16,SNR=5.3							
WRA	**Warramunga Arr**	**25.00**	**160**	P		**P**	**17 20 50.2**	**+0.5**
	12nm,0.8s,mb4.5,baz=339,slow=10,SNR=26							
WRA	**Warramunga Arr**	**25.00**	**160**	P		**P**	**17 20 50.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**29.96**	**301**	P		**P**	**17 21 34.0**	**-0.1**
	0.6nm,0.5s,mb3.5,baz=116,slow=9.6,SNR=5.6							
KSRS	**Korea Array**	**33.66**	**3**	P		**P**	**17 22 07.1**	**+0.9**
	3.0nm,0.7s,mb4.1,baz=181,slow=10,SNR=11							
MJAR	**Matsushiro Arr**	**34.67**	**18**	P		**P**	**17 22 14.3**	**-0.7**
	1.1nm,0.6s,mb3.6,baz=185,slow=8.5,SNR=3.7							
STKA	**Stephens Creek**	**38.49**	**158**	P		**P**	**17 22 48.4**	**+0.9**
	3.4nm,0.7s,mb4.1,baz=327,slow=7.3,SNR=4.5							
MDJ	**Mudanjiang**	**40.90**	**4**	*e*P		**P**	**17 23 07.7**	**+0.6**
	13nm,1.0s,mb4.5							
ASAJ	**Asahikawa**	**42.95**	**18**	P		**P**	**17 23 25.2**	**+1.4**
	1.8nm,0.6s,mb3.9,baz=229,slow=11,SNR=4.9							
SONM	**Songino Array**	**46.99**	**342**	PcP		PcP	17 25 25.4	-0.5
	1.3nm,0.9s,baz=170,slow=3.6,SNR=5.4							
MKAR	**Makanchi Array**	**56.97**	**326**	P		**P**	**17 25 08.9**	**-0.7**
	0.7nm,0.4s,mb3.8,baz=122,slow=7.3,SNR=7.1							
MKAR				PcP		PcP	17 26 03.4	0.0
	0.5nm,0.5s,baz=114,slow=4.1,SNR=3.4							
ZALV	**Zalesovo Beam**	**60.13**	**334**	P		**P**	**17 25 30.3**	**-1.1**
	0.2nm,0.3s,mb3.4,baz=151,slow=3.4,SNR=3.8							
KURK	**Kurchatov**	**61.19**	**328**	*e*P		**P**	**17 25 37.8**	**-0.9**
	2.9nm,0.9s,mb4.1							
ARCES	**ARCESS Array B**	**90.10**	**340**	P		**P**	**17 28 21.4**	**-1.3**
	1.5nm,0.7s,mb4.0,baz=65,slow=6.4,SNR=6.8							
TORD	**Torodi Ar. Bea**	**121.90**	**288**	PKP		PKPdf	17 34 17.4	-0.2
	3.2nm,0.9s,baz=95,slow=1.7,SNR=4.3							

MOS ***27*** *17:20:52.9±0.3, 4328N×4364E, h12km, mb3.7/1, Error ellipse: s-maj=24.9km s-min=11.0km az=118.4*
TIF ***27*** *17:20:52.9, 4328N×4360E, h16km±3km*
ISCJB ***27*** *17:20:53.8±0.5, 4328N±003×4360E±006, h10km±9km, Error ellipse: s-maj=7.9km s-min=4.2km az=160.3*
ISC 27 17:20:53.9±0.6, 4328N±003×4362E±007, h16km±9km, n9, σ0§46/18, 6C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LSNR	**Lesken**	**0.14**	**93**	⇑*i*PG		**Pg**	**17 20 57.6**	**-0.2**
LSNR				*i* S		**Sg**	**17 21 00.0**	**-0.4**
DIGR	**Digorskoe uzhe**	**0.38**	**184**	⇑*i*PG		**Pg**	**17 21 01.6**	**-0.1**
DIGR				*e*S		**Sg**	**17 21 07.0**	**0.0**
KORR	**Kora**	**0.38**	**121**	*i* PG		**Pg**	**17 21 01.8**	**+0.1**
KORR				*e*S		**Sg**	**17 21 07.4**	**+0.4**
KUBR	**Kubataba**	**0.54**	**344**	⇑*i*PG		**Pg**	**17 21 04.6**	**0.0**
KUBR				*i* S		**Sg**	**17 21 12.9**	**+1.1**
ZEI	**Tsey**	**0.55**	**158**	*e*PG		**Pg**	**17 21 04.3**	**-0.5**
ZEI				*e*S		**Sg**	**17 21 11.7**	**-0.5**
LACR	**Lac**	**0.68**	**132**	⇑*i*PG		**Pg**	**17 21 07.0**	**-0.1**
LACR				*e*S		**Sg**	**17 21 16.4**	**+0.4**
ONI	**Oni**	**0.71**	**190**	P		**Pg**	**17 21 07.7**	**-0.1**
ONI				S		**Sg**	**17 21 18.2**	**+1.0**
SHAR	**Shatzhatmas**	**0.83**	**304**	⇑*i*PG		**Pg**	**17 21 09.8**	**-0.3**
SHAR				*e*S		**Sb**	**17 21 20.9**	**0.0**
KIV	**Kislovodsk**	**0.95**	**315**	⇑*i*PG		**Pg**	**17 21 11.6**	**-0.

0.8nm,0.3s,baz=20,slow=24,SNR=3.4
WRA Lg 17 56 28.9
1.7nm,0.3s,baz=27,slow=30,SNR=6.1
WRA Warramunga Arr 15.63 204 P **Pn 17 51 47.2 -0.6**
WRA 17 54 36.7
BATI Baumata 17.70 254 P **Pn 17 52 16.6 +2.7**
16nm,0.3s,baz=148,slow=2.6,SNR=26
ASAR Alice Springs 19.20 200 P **Pn 17 52 34.0 +2.0**
2.3nm,0.3s,baz=30,slow=9.5,SNR=138
ASAR S **S 17 56 03.0 -3.7**
0.4nm,0.3s,baz=18,slow=22,SNR=3.9
ASAR Lg 17 58 24.2
0.6nm,0.3s,baz=23,slow=30,SNR=4.4
ASAR Alice Springs 19.20 200 P **Pn 17 52 34.1 +2.0**
ASAR S **S 17 56 03.0 -3.8**
HNR Honiara 19.23 103 P **Pn 17 52 31.7 -0.9**
3.4nm,0.3s,baz=241,slow=1.1,SNR=2.7
HNR Honiara 19.23 103 P **Pn 17 52 31.7 -0.9**
FITZ Fitzroy Crossi 19.43 229 *e*P **Pn 17 52 35.1 +0.2**
14nm,0.4s
FITZ *e*S **S 17 56 01.4 -10**
FITZ Fitzroy Crossi 19.43 229 P **Pn 17 52 35.5 +0.6**
2.5nm,0.3s,baz=58,slow=13,SNR=72
FITZ S **S 17 56 01.7 -10**
1.0nm,0.3s,baz=120,slow=16,SNR=5.6
FITZ Lg 17 58 32.2
0.5nm,0.3s,baz=139,slow=18,SNR=3.1
GUMO Guam 19.46 12 LR LR 17 58 20.9
comp=Z,243nm,18.3s,baz=43,slow=32
KAPI Kappang 21.09 271 *e*P **P 17 52 53.2 +1.5**
10nm,0.6s,mb4.3
MBWA Marble Bar 25.72 231 *e*P **P 17 53 39.5 +2.2**
STKA Stephens Creek 26.15 179 *e*P **P 17 53 45.9 +4.8**
7.5nm,0.8s,mb4.3
STKA *e*S S 17 58 49.7 +39
STKA Stephens Creek 26.15 179 P **P 17 53 46.0 +4.9**
4.3nm,0.7s,mb4.1,baz=345,slow=11,SNR=11
MJAR Matsushiro Arr 41.99 357 P **P 17 55 54.9 -3.0**
1.8nm,0.7s,mb3.8,baz=176,slow=8.7,SNR=6.7
PSI Prapat 42.78 280‖ *e*P **P 17 56 04.3 -0.3**
PSI Prapat 42.78 280‖ *e*P **P 17 56 04.3 -0.3**
KSRS Korea Array 44.51 345 P **P 17 56 17.3 -0.8**
8.7nm,1.1s,mb4.5,baz=163,slow=9.0,SNR=17
CMAR Chiang Mai Arr 47.80 301 P **P 17 56 44.4 0.0**
3.3nm,0.8s,mb4.4,baz=124,slow=6.3,SNR=26
CHTO Chiang Mai 47.95 301 *e*P **P 17 56 44.8 -0.8**
CHTO pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
CHTO Chiang Mai 47.95 301 *e*P **P 17 56 44.8 -0.8**
comp=Z,3.8nm,1.0s,mb4.4
KMI Kunming 48.07 311 P **P 17 56 47.0 +0.6**
KMI AMB AMB
comp=Z,6.0nm,1.3s,mb4.5
XAN Xi'an 49.69 325 P **P 17 56 58.0 -0.7**
XAN AP pP 17 57 05.8 -3.4
XAN AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
CN2 Changchun 51.12 346 *e*P **P 17 57 09.0 -0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
YSS Yuzh-Sakhalins 52.34 2 *e*P **P 17 57 17.3 -1.1**
YSS pmax pmax
comp=Z,11nm,0.9s,mb4.8
KLR Kul'dur 55.18 353 *e*P **P 17 57 35.2 -3.9**
HIA Hailar 57.67 344‖ *i*P **P 17 57 57.2 +0.4**
LSA Lhasa 59.24 309 *e*P **P 17 58 09.2 +1.0**
LSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
LSA Lhasa 59.24 309 *e*P **P 17 58 09.2 +1.1**
comp=Z,2.5nm,0.8s,mb4.3
PETK Petropavlovsk- 60.18 12 P **P 17 58 13.9 -0.2**
comp=Z,5.6nm,0.9s,mb4.6,baz=174,slow=5.8,SNR=8.4
SONM Songjino Array 61.26 334 P **P 17 58 22.5 +0.9**
comp=Z,0.8nm,0.6s,mb4.0,baz=128,slow=5.4,SNR=5.2
ZAK Zakamensk 64.53 334‖ *i*P **P 17 58 43.6 +0.3**
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
TRD Trivandrum 65.31 282‖ *e*P **P 17 58 54.0 +4.9**
TLY Talaya 65.34 335 *e*P **P 17 58 49.3 +0.8**
TLY pmax pmax
comp=Z,10.0nm,1.7s,mb4.6
BOD Bodaibo 66.85 345 *e*P **P 17 58 57.2 -0.9**
YAK Yakutsk 67.99 354 *e*P **P 17 59 06.8 +1.6**
YAK pmax pmax
comp=Z,15nm,1.4s,mb4.8
YAK pmax pmax
comp=N,5.0nm,1.6s
MKAR Makanchi Array 73.41 322 P **P 17 59 39.0 +0.4**
comp=N,3.9nm,0.8s,mb4.4,baz=101,slow=7.9,SNR=34
SBA Scott Base 73.47 174 *e*P **P 17 59 42.2 +3.7**
ZAA0 Zalesovo Array 75.53 330 *e*P **P 17 59 49.3 -1.4**
ZALV Zalesovo Beam 75.53 330 P **P 17 59 49.9 -0.9**
comp=N,2.4nm,0.9s,mb4.1,baz=92,slow=4.5,SNR=6.0
ZAL Zalesovo 75.53 330 P **P 17 59 49.9 -0.8**
BILL Bilibino 75.60 10 *e*P **P 17 59 51.6 +0.7**
BILL pmax pmax
comp=Z,27nm,2.5s,mb4.7
TKM2 Tokmak 2 76.15 317 *e*P **P 17 59 54.7 +0.2**
TKM2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
TKM2 Tokmak 2 76.15 317 *e*P **P 17 59 54.6 +0.1**
comp=Z,3.3nm,1.0s,mb4.2
UCH Uchtor 76.65 316 *e*P **P 17 59 51.4 -6.0**
comp=Z,6.1nm,0.6s,mb4.7
UCH *e* 18 00 27.9
NVS Novosibirsk 76.78 330 *i*P **P 17 59 57.2 -0.6**
NVS pmax pmax
comp=N,4.0nm,1.5s
NVS pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
NVS pmax pmax
comp=E,9.0nm,1.7s
EKS2 Erkin-Say 77.31 316 *e*P **P 18 00 01.3 +0.2**
comp=E,6.5nm,1.3s,mb4.4
KURK Kurchatov 77.33 325*c i*P **P 18 00 01.2 +0.2**
KURK pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
KURK Kurchatov 77.33 325 *e*P **P 18 00 01.1 +0.1**
comp=Z,7.2nm,0.9s,mb4.6
KBL Kabul 78.42 307 *e*P **P 18 00 07.6 +0.1**
KBL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KBL Kabul 78.42 307 *e*P **P 18 00 07.6 +0.1**
comp=Z,3.2nm,0.6s,mb4.4
BRVK Borovoye 83.00 325 *e*P **P 18 00 32.1 +0.6**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BRVK Borovoye 83.00 325 *e*P **P 18 00 32.1 +0.6**
comp=Z,6.9nm,0.9s,mb4.7
CHUM Lake Minchumin 85.01 24 *e*P **P 18 00 41.8 +0.2**
comp=Z,12nm,0.8s,mb5.1
KTH Kantishna Hill 85.45 25 *e*P **P 18 00 42.6 -1.2**
comp=Z,9.2nm,1.1s,mb4.8
ARU Arti 90.41 327*c i*P **P 18 01 06.6 -1.0**
ARU 18 04 42.0
ARU S S 18 11 29.1 -31
ARU SS SS 18 17 59.9 -0.7
ARU pmax pmax
comp=Z,8.0nm,1.7s,mb4.8
ARU Arti 90.41 327 *e*P **P 18 01 06.5 -1.2**
comp=Z,2.6nm,0.7s,mb4.7
DAWY Dawson 90.49 26 *e*P **P 18 01 08.9 +1.0**
TORD Torodi Ar. Bea 139.13 284 PKhKP 18 07 27.6
comp=Z,0.6nm,0.8s,baz=90,slow=1.4,SNR=2.9
TORD PKP PKPdf 18 07 35.5 +1.3
comp=Z,0.8nm,0.7s,baz=68,slow=1.1,SNR=5.3
KIC Kosan Boka 145.85 273 *e*PKIKP PKPdf 18 07 47.8 +1.6
comp=Z,75nm,1.1s
DBIC Dimbokro 145.97 274 PKPbc PKPbc 18 07 48.1 +1.0
comp=Z,4.8nm,0.5s,baz=109,slow=2.5,SNR=20
TIC Toumodi 146.13 274 *e*PKIKP PKPdf 18 07 47.9 +1.2
comp=Z,106nm,1.4s
LIC Lamto 146.13 273 *e*PKIKP PKPdf 18 07 48.1 +1.4
comp=Z,48nm,1.4s
SIV San Ignacio 149.43 135 PKPbc PKPbc 18 07 58.7 +2.3
comp=Z,2.7nm,1.0s,baz=206,slow=1.4,SNR=7.7

IDC 27 18:03:32.8±4.0,951S×10903E,h0km,mb3.4/3,mb1 3.7/4, mb1mx3.5/17,mbtmp3.5/4,ML3.6/1,Error ellipse: s-maj=201.2km s-min=26.0km az=46.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.24**	**120**	P	Pn	18 07 46.1	-1.4
	0.1nm,0.3s,baz=287,slow=11,SNR=5.5						
FITZ				S	Sn	18 10 55.5	-16
	0.1nm,0.3s,baz=162,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**26.55**	**116**	P	P	18 09 13.0	+0.4
	0.4nm,0.8s,baz=286,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**27.62**	**124**	P	P	18 09 22.6	+0.5
	0.6nm,1.1s,baz=297,slow=8.2,SNR=3.0						
MKAR	**Makanchi Array**	**60.92**	**339**	P	P	18 13 47.4	0.0
	0.3nm,0.7s,baz=154,slow=8.0,SNR=3.7						

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*ISCJB **27** 18:08:32.3±0.8,3928N±003×4106E±008,h7km±11km, Error ellipse: s-maj=10.4km s-min=5.3km az=179.8*
*DDA **27** 18:08:32.0,3928N×4116E,h7km±7km,Md2.8*
*ISK **27** 18:08:32.7,3946N×4086E,h21km,MD2.9*
*CSEM **27** 18:08:33.4±0.1,3947N×4087E,h30km,MD2.9,Error ellipse: s-maj=4.9km s-min=2.4km az=152.0*
ISC 27 18:08:32.5±0.7,3928N±003×4102E±008,h9km±9km,n9, σ1°32/15,2D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.34**	**163**‖	*i*P	Pg	18 08 38.6	-0.6
BNGL				*i* S	Sg	18 08 44.3	+0.7
EZM	**Erzurum**	**0.68**	**23**	*e*PG	Pg	18 08 45.0	-0.7
EZM				*e*SG	Sg	18 08 54.1	-0.5
ERZM	**Erzurum**	**0.68**	**23**	*e*P	Pg	18 08 44.1	-1.5
ERZM				*i* S	Sg	18 08 55.1	+0.5
KOPT	**Kop Dagi**	**0.84**	**332**‖	*i*P	Pg	18 08 48.4	-0.4
KOPT				*i* S	Sg	18 09 02.3	+2.5
EZC	**Erzincan**	**1.05**	**297**	*e*PN	Pn	18 08 54.8	+1.6
PTK	**Pertek**	**1.32**	**254**	*e*PN	Pn	18 08 56.0	-1.1
PTK				*e*SN	Sn	18 09 12.9	-1.9
AGRB	**Hanur-Agry**	**1.56**	**78**	*e*PN	Pn	18 09 01.2	+1.0
GUMT	**Gumushane**	**1.68**	**315**	*e*PN	Pn	18 08 58.4	-3.5
ELZG	**Elazig**	**1.77**	**245**	*e*P	Pn	18 09 05.3	+2.1
ELZG				*i* S	Sn	18 09 35.3	+10

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*ISCJB **27** 18:09:32.7±0.2,4949N±004×2851W±004,h10km, mb4.4/84,MS4.4/29,Error ellipse: s-maj=6.6km s-min=2.7km az=18.9*
*CSEM **27** 18:09:32.1±0.0,4954N×2844W,h10km,mb4.6/49,Ms4.1, Mw5.0,Error ellipse: s-maj=3.1km s-min=1.2km az=15.0*
*MOS **27** 18:09:32.3±0.9,4940N×2849W,h10km,mb4.6/31, MS4.4/6,Error ellipse: s-maj=9.9km s-min=5.8km az=169.4*
*IDC **27** 18:09:33.0±0.6,4947N×2856W,h0km,mb4.1/22, mb1 4.2/24,mb1mx4.2/34,mbtmp4.1/24,ML4.1/1,MS4.4/23, Ms1 4.4/23,ms1mx4.1/51,Error ellipse: s-maj=17.2km s-min=11.5km az=17.0*
*GCMT **27** 18:09:34.6±0.3,4943N×2836W,h14km±1km,MW5.0/71, Moment Tensor Solution. s14,c15; s71,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.31±.35; $M_{\theta\theta}$0.44±.19; $M_{\phi\phi}$3.87±.23; $M_{r\theta}$0.02±.51; $M_{\theta\phi}$0.50±.11; $M_{\phi r}$-1.20±.35; Best double couple: M_0=4.29700×10^{16} NP1:ϕ_s190.00000°,δ37.00000°,λ-86.00000°. NP2: ϕ_s6.00000°,δ53.00000°,λ-93.00000°. Principal axes: T 4.1090, Plg8.0000°, Azm98.0000°; N 0.3720, Plg2.0000°, Azm7.0000°; P -4.4840, Plg82.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 18:09:34.6±0.2,4953N×2849W,h10km,mb4.5/68 Error ellipse: s-maj=8.0km s-min=2.9km az=193.0*
*BJI **27** 18:09:34.5,4950N×2850W,h10km,mB5.3,mb4.7,Msz4.5*
ISC 27 18:09:34.6±0.2,4950N±004×2848W±003,h10km, (h13km±1.6km:pP-P),n320,σ1°10/306,mb4.4/82,MS4.4/29, 1C-1D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**14.98**	**109**	P	Pn	18 13 02.9	-3.3
	22nm,0.6s						
STS	**Santiago**	**15.28**	**108**	P	Pn	18 13 08.5	-1.7
STS				pmax	pmax		
	comp=Z,14nm,0.5s						
STS	**Santiago**	**15.28**	**108**	P	Pn	18 13 08.5	-1.7
	comp=Z,14nm,0.5s						
STS	**Santiago**	**15.28**	**108**	P	Pn	18 13 08.5	-1.8
	comp=Z,14nm,0.5s						
EPON	**Pontenova**	**15.93**	**105**	P	Pn	18 13 17.5	-1.2
	comp=Z,32nm,0.5s						
EPON	**Pontenova**	**15.93**	**105**	P	Pn	18 13 17.5	-1.1
	comp=Z,32nm,0.5s						
ELOB	**Lobios**	**16.15**	**110**	Pg	Pn	18 13 20.1	-1.4
ELOB				Lg		18 13 43.5	
EKA	**Eskdalemuir Ar**	**16.46**	**60**	Pn	Pn	18 13 26.3	+0.9
	comp=Z,0.4nm,0.3s,baz=254,slow=13,SNR=17						
ROSF	**Rostrenen**	**16.59**	**84**	*e*P	Pn	18 13 25.2	-1.9
QUIF	**Quistinic**	**16.76**	**86**	*e*P	Pn	18 13 27.3	-2.0
PVIS	**Viseu**	**16.93**	**113**	*e*P	Pn	18 13 30.7	-0.8
	comp=Z,27nm,1.6s						
SGMF	**Saint Gilles**	**17.07**	**84**	*e*P	Pn	18 13 30.2	-3.0
MVO	**Moncorvo**	**17.19**	**111**	*e*P	Pn	18 13 31.2	-3.5
	comp=Z,22nm,1.6s						
MVO				*e*S	Sn	18 17 05.7	+20
MVO	**Moncorvo**	**17.19**	**111**	*e*LR	LR	18 31 22.1	
	comp=Z,903nm,18.0s						
PMAFR	**Mafra**	**17.28**	**120**	*e*S	Sn	18 16 53.1	+5.1
PMAFR	**Mafra**	**17.28**	**120**	*e*LR	LR	18 37 03.9	
	comp=Z,1μm,18.0s						
MTE	**Manteigas**	**17.34**	**114**	*e*P	Pn	18 13 35.9	-0.7
	comp=Z,26nm,2.0s						
MTE				*e*S	Sn	18 16 49.9	+0.5
MTE	**Manteigas**	**17.34**	**114**	*e*LR	LR	18 32 04.0	
	comp=Z,810nm,18.0s						
PCBR	**Castelo Branco**	**17.73**	**115**	*e*P	Pn	18 13 41.6	+0.1
	comp=Z,22nm,2.7s						
PMRV	**Marv??o**	**18.05**	**116**	*e*P	Pn	18 13 44.8	-0.6
	comp=Z,21nm,1.7s						
PMRV				*e*S	Sn	18 17 14.5	+7.9
GRR	**Gorron**	**18.14**	**83**	*e*P	Pn	18 13 46.6	+0.1
	comp=Z,47nm,0.8s						
GRR	**Gorron**	**18.14**	**83**	*e*P	Pn	18 13 46.6	+0.1
GRR				pmax	pmax		
	comp=Z,24nm,0.8s						
GRR	**Gorron**	**18.14**	**83**	*e*P	Pn	18 13 46.6	+0.1
	comp=Z,24nm,0.8s						
EVOP	**Sao Brissos**	**18.23**	**119**	*e*P	Pn	18 13 45.9	-1.7
	comp=Z,11nm,1.1s						
EVO	**Evora**	**18.29**	**119**	*e*P	Pn	18 13 45.9	-2.4
	comp=Z,22nm,1.1s						
EVO				*e*MLR	MLR		
	comp=Z,905nm,20.0s						
EVO	**Evora**	**18.29**	**119**	*e*P	Pn	18 13 48.8	+0.5
	comp=Z,13nm,0.8s						
FLN	**La Foliniere**	**18.30**	**82**	*e*P	Pn	18 13 47.8	-0.6
	comp=Z,15nm,0.6s						
FLN				*e*MLR	MLR		
	comp=Z,2μm,19.2s						
FLN	**La Foliniere**	**18.30**	**82**	*e*P	Pn	18 13 47.8	-0.6
FLN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
FLN	**La Foliniere**	**18.30**	**82**	*e*P	Pn	18 13 47.8	-0.6
	comp=Z,7.3nm,0.6s						
PESTR	**Estremoz**	**18.30**	**118**	*e*P	Pn	18 13 47.6	-0.9
	comp=Z,12nm,2.1s						
PESTR				*e*S	Sn	18 17 21.5	+8.7
PESTR				A		18 48 57.6	
	comp=Z,585nm,18.0s						
LDF	**La Druitiere**	**18.57**	**82**	*e*P	Pn	18 13 50.5	-1.2
	comp=Z,19nm,0.9s						
LDF	**La Druitiere**	**18.57**	**82**	*e*P	Pn	18 13 50.5	-1.2
LDF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LDF	**La Druitiere**	**18.57**	**82**	*e*P	Pn	18 13 50.5	-1.2
	comp=Z,9.4nm,0.9s						
PTEO	**Sao Teotonio**	**18.59**	**123**	*e*P	Pn	18 13 51.8	-0.2
	comp=Z,36nm,1.6s						
EBAD	**Badajoz**	**18.71**	**117**	P	Pn	18 13 55.5	+2.0
	comp=Z,4.4nm,0.9s						
MORF	**Marmelete**	**18.80**	**123**	*e*LR	LR	18 33 39.5	
	comp=Z,924nm,18.0s						
PFVI	**Vila Bisbo**	**18.83**	**124**	*e*P	Pn	18 13 53.9	-1.0
	comp=Z,25nm,1.5s						
PFVI				*e*S	Sn	18 17 30.5	+5.0
PFVI	**Vila Bisbo**	**18.83**	**124**	*e*LR	LR	18 34 37.9	
	comp=Z,1μm,20.0s						
PBAR	**Barrancos**	**19.09**	**118**	*e*P	Pn	18 13 57.2	-0.9
	comp=Z,12nm,1.1s						
PBAR				*e*S	Sn	18 17 27.4	-4.4
PBAR				A		18 39 35.8	
	comp=Z,882nm,18.0s						
MFF	**Saint Martin d**	**19.11**	**88**	*e*P	Pn	18 13 57.7	-0.6
PBDV	**Barranco-do-Ve**	**19.24**	**122**	*e*P	Pn	18 13 59.3	-0.6
	comp=Z,22nm,1.6s						
PBDV				*e*S	Sn	18 17 38.3	+2.8
PBDV	**Barranco-do-Ve**	**19.24**	**122**	*e*LR	LR	18 34 17.5	
	comp=Z,912nm,18.0s						
PVAQ	**Vaqueiros**	**19.25**	**121**	*e*P	Pn	18 13 59.4	-0.5
	comp=Z,20nm,2.3s						
PVAQ				*e*S	Sn	18 17 38.3	+2.7
PVAQ				A		18 42 08.8	
	comp=Z,766nm,18.0s						
GUD	**Guadarrama**	**19.26**	**108**	P	Pn	18 14 02.7	+2.6
GUD				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GUD	**Guadarrama**	**19.26**	**108**	P	Pn	18 14 02.7	+2.6
	comp=Z,9.3nm,0.7s						
EGRO	**El Granado**	**19.29**	**120**	P	Pn	18 14 00.8	+0.4
	comp=Z,7.7nm,0.7s						
EGRO	**El Granado**	**19.29**	**120**	P	Pn	18 14 00.8	+0.4
	comp=Z,7.7nm,0.7s						
EMIN	**Mina Concepcio**	**19.58**	**119**	P	Pn	18 14 05.0	+1.0
	comp=Z,4.7nm,0.6s						
EMIN	**Mina Concepcio**	**19.58**	**119**	P	Pn	18 14 05.0	+1.0
	comp=Z,4.7nm,0.6s						
EALK	**Alkurruntz**	**19.58**	**98**	P	Pn	18 14 06.2	+2.2
	comp=Z,9.4nm,0.6s						
PAB	**San Pablo**	**19.80**	**111**	*e*P	Pn	18 14 03.2	-3.3
PAB				pmax	pmax		
	comp=Z,35nm,1.4s						
PAB	**San Pablo**	**19.80**	**111**	*e*P	Pn	18 14 03.2	-3.3
	comp=Z,35nm,1.4s						
PAB	**San Pablo**	**19.80**	**111**	*e*P	Pn	18 14 03.2	-3.3
	comp=Z,35nm,1.4s						
SJPF	**Ste Jean**	**19.82**	**98**	*e*P	Pn	18 14 05.4	-1.3
	comp=Z,27nm,0.9s						
SJPF	**Ste Jean**	**19.82**	**98**	*e*P	Pn	18 14 05.4	-1.3
SJPF				pmax	pmax		
	comp=Z,14nm,0.9s						
SJPF	**Ste Jean**	**19.82**	**98**	*e*P	Pn	18 14 05.4	-1.3
	comp=Z,14nm,0.9s						
ESDC	**Sonseca Array**	**19.95**	**110**	P	Pn	18 14 06.4	-2.0
	comp=Z,0.2nm,0.3s,baz=307,slow=9.9,SNR=8.0						
ESDC				LR	LR	18 20 08.5	
	comp=Z,1μm,20.4s,baz=295,slow=32						
ESDC	**Sonseca Array**	**19.95**	**110**	P	Pn	18 14 06.4	-2.0
ESDC				P		18 14 11.4	
ESDC				LR	LR	18 20 08.5	
ESLA	**Sonseca Array**	**19.95**	**110**	*e*P	Pn	18 14 07.1	-1.2
	comp=Z,0.9nm,0.7s						
ESLA	**Sonseca Array**	**19.95**	**110**	*e*P	Pn	18 14 07.1	-1.2
	comp=Z,0.9nm,0.7s						
LFF	**La Frestale**	**20.30**	**92**	*e*P	P	18 14 10.2	-0.2
ETSF	**Etsaut**	**20.35**	**98**	*e*P	P	18 14 11.5	+0.6
ETOR	**Torete**	**20.47**	**105**	P	P	18 14 13.4	+1.1
ETOR				pmax	pmax		
	comp=Z,13nm,0.7s						
ETOR	**Torete**	**20.47**	**105**	P	P	18 14 13.4	+1.1
	comp=Z,13nm,0.7s						
ETOR	**Torete**	**20.47**	**105**	P	P	18 14 13.4	+1.2
	comp=Z,12nm,0.7s						
EADA	**Adamuz**	**20.54**	**114**	P	P	18 14 14.5	+1.5
	comp=Z,7.2nm,0.8s						
EADA	**Adamuz**	**20.54**	**114**	P	P	18 14 14.5	+1.5
	comp=Z,7.2nm,0.8s						
RJF	**Les Rejaudoux**	**20.66**	**90**	*e*P	P	18 14 14.1	-0.2
	comp=Z,16nm,0.8s						
RJF				*e*MLR	MLR		
	comp=Z,1μm,19.2s,MS3.9						
RJF	**Les Rejaudoux**	**20.66**	**90**	*e*P	P	18 14 14.1	-0.2
RJF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RJF				MLR	MLR		
	comp=Z,1μm,19.3s,MS4.2						
RJF	**Les Rejaudoux**	**20.66**	**90**	*e*P	P	18 14 14.1	-0.2
	comp=Z,8.1nm,0.8s						
RJF				LR	LR		
	comp=Z,1μm,19.3s,MS4.2						
ESPR	**Espera**	**20.67**	**119**	P	P	18 14 17.3	+2.8
	comp=Z,14nm,0.9s						
VIEF	**Viey**	**20.73**	**98**	*e*P	P	18 14 16.3	+1.2
TCF	**Toulx Ste Croi**	**20.75**	**87**	*e*P	P	18 14 15.2	-0.1
SFJD	**Kangerlussuaq**	**20.84**	**335**	P	P	18 14 15.9	-0.2
	comp=Z,8.7nm,0.7s,baz=125,slow=10,SNR=3.4						
SFJD				LR	LR	18 20 38.2	
	comp=Z,1μm,19.3s,MS4.2,baz=64,slow=32						
EPF	**Esparros**	**20.86**	**97**	*e*P	P	18 14 16.6	+0.1
	comp=Z,15nm,0.9s						
EPF	**Esparros**	**20.86**	**97**	*e*P	P	18 14 16.6	+0.1
EPF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
EPF	**Esparros**	**20.86**	**97**	*e*P	P	18 14 16.6	+0.1
	comp=Z,7.3nm,0.9s						
EBIE	**Bielsa**	**20.90**	**98**	P	P	18 14 18.8	+1.9
	comp=Z,28nm,1.4s						
EBIE	**Bielsa**	**20.90**	**98**	P	P	18 14 18.8	+1.9
	comp=Z,28nm,1.4s						
ESAC	**San Caprasio**	**20.99**	**101**	P	P	18 14 21.9	+3.9
	comp=Z,7.6nm,0.5s						
UCC	**Uccle**	**20.99**	**74**	P	P	18 14 17.7	-0.2
	comp=Z,82nm,1.9s						
UCC	**Uccle**	**20.99**	**74**	P	P	18 14 17.6	-0.3
	comp=Z,82nm,1.9s						
BAIF	**Baives**	**21.03**	**76**	*e*P	P	18 14 17.5	-0.8
	comp=Z,20nm,0.8s,mb4.2						
BAIF	**Baives**	**21.03**	**76**	*e*P	P	18 14 17.5	-0.8
BAIF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.2						
BAIF	**Baives**	**21.03**	**76**	*e*P	P	18 14 17.5	-0.8
	comp=Z,10nm,0.8s,mb4.2						
BGF	**Bois d'Agland**	**21.08**	**86**	*e*P	P	18 14 18.6	-0.2
	comp=Z,47nm,0.6s,mb4.7						
BGF	**Bois d'Agland**	**21.08**	**86**	*e*P	P	18 14 18.6	-0.2
BGF				pmax	pmax		
	comp=Z,23nm,0.6s,mb4.7						
BGF	**Bois d'Agland**	**21.08**	**86**	*e*P	P	18 14 18.6	-0.2
	comp=Z,24nm,0.6s,mb4.7						
CAF	**Calviac**	**21.16**	**91**	*e*P	P	18 14 19.3	-0.5
	comp=Z,21nm,1.0s,mb4.1						
CAF	**Calviac**	**21.16**	**91**	*e*P	P	18 14 19.3	-0.5
CAF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.1						
CAF	**Calviac**	**21.16**	**91**	*e*P	P	18 14 19.3	-0.5
	comp=Z,11nm,1.0s,mb4.1						
DOU	**Dourbes**	**21.27**	**76**	P	P	18 14 20.4	-0.4
	comp=Z,32nm,1.9s,mb4.3						
DOU	**Dourbes**	**21.27**	**76**	P	P	18 14 20.3	-0.5
	comp=Z,32nm,1.9s,mb4.3						
AVF	**Avril sur Loir**	**21.33**	**85**	*e*P	P	18 14 21.1	-0.4
	comp=Z,31nm,0.8s,mb4.4						
AVF	**Avril sur Loir**	**21.33**	**85**	*e*P	P	18 14 21.1	-0.4
AVF				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.4						
AVF	**Avril sur Loir**	**21.33**	**85**	*e*P	P	18 14 21.1	-0.4
	comp=Z,15nm,0.8s,mb4.4						
SSF	**Saint Saulge**	**21.34**	**84**	*e*P	P	18 14 21.1	-0.6
	comp=Z,42nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**21.34**	**84**	*e*P	P	18 14 21.1	-0.6
SSF				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**21.34**	**84**	*e*P	P	18 14 21.1	-0.6
	comp=Z,21nm,0.9s,mb4.5						
MLS	**Moulis**	**21.39**	**97**	*e*P	P	18 14 23.8	+1.6
GIVF	**Givet**	**21.41**	**76**	*e*P	P	18 14 21.6	-0.8
AGO	**Saint Agoulin**	**21.44**	**87**	*e*P	P	18 14 23.6	+0.9
PYM	**Petit Puy Mans**	**21.46**	**88**	*e*P	P	18 14 22.9	-0.1
LOR	**Lormes**	**21.51**	**84**	*e*P	P	18 14 22.9	-0.5
	comp=Z,19nm,0.6s,mb4.4						
LOR				*e*MLR	MLR		
	comp=Z,2μm,19.2s,MS4.3						
LOR	**Lormes**	**21.51**	**84**

SMF Signal de Mont 21.70 85 *eP* **P 18 14 25.1 -0.4**
PLDF La Plantade 21.79 87 *eP* **P 18 14 26.7 +0.3**
LBL Lubilhac 21.82 89 *eP* **P 18 14 28.5 +1.7**
ERTA Horta de San J 21.91 102 P **P 18 14 29.2 +1.4**
comp=Z,2.3nm,0.5s,mb3.9
ERTA Horta de San J 21.91 102 P **P 18 14 29.2 +1.4**
comp=Z,2.3nm,0.5s,mb3.9
MEZF Maizieres J'vi 21.92 80 *eP* **P 18 14 27.3 -0.6**
MTLF Montolieu 21.94 95 *eP* **P 18 14 27.8 -0.3**
HGN Heimansgroeve 21.98 73 *eP* **P 18 14 27.2 -1.3**
comp=Z,26nm,1.7s,mb4.4
MEM Membach 22.06 74 P **P 18 14 29.2 -0.1**
comp=Z,12nm,1.3s,mb4.2
ETOB Tobarra 22.07 109 P **P 18 14 31.1 +1.6**
comp=Z,0.9nm,0.3s,mb3.7
ETOB Tobarra 22.07 109 P **P 18 14 31.1 +1.6**
comp=Z,0.9nm,0.3s,mb3.7
EPOB Poblet 22.18 100 P **P 18 14 32.8 +2.1**
comp=Z,1.0nm,0.6s,mb3.4
WLF Walferdange 22.34 76 P **P 18 14 33.3 +0.9**
comp=Z,13nm,1.8s,mb4.0
WLF Walferdange 22.34 76 P **P 18 14 33.2 +0.9**
comp=Z,13nm,1.8s,mb4.0
LASF Ste Croix 22.68 91 *eP* **P 18 14 34.7 -1.3**
HAU Haudompre 22.89 80 *eP* **P 18 14 37.1 -1.1**
comp=Z,19nm,0.6s,mb4.4
HAU *e*MLR MLR
comp=Z,2μm,19.5s,MS4.2
HAU Haudompre 22.89 80 *eP* **P 18 14 37.1 -1.1**
HAU pmax pmax
comp=Z,9.0nm,0.6s,mb4.4
HAU MLR MLR
comp=Z,2μm,19.5s,MS4.5
HAU Haudompre 22.89 80 *eP* **P 18 14 37.1 -1.1**
comp=Z,9.4nm,0.6s,mb4.4
HAU LR LR
comp=Z,2μm,19.5s,MS4.5
VIVF Saint-Julien-l 22.89 89 *eP* **P 18 14 36.7 -1.5**
RUP Ruppelstein 22.91 76 *eP* **P 18 14 39.9 +1.6**
CABF La Chapelle 23.16 84 *eP* **P 18 14 39.1 -2.0**
HINF Hinteralfeld 23.27 81 *eP* **P 18 14 41.2 -1.0**
ECH Echery 23.35 79 *eP* **P 18 14 42.9 -0.1**
CDF Champ du Feu 23.37 79 *eP* **P 18 14 42.4 -0.9**
comp=Z,18nm,0.9s,mb4.2
CDF Champ du Feu 23.37 79 *eP* **P 18 14 42.4 -0.9**
CDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
CDF Champ du Feu 23.37 79 *eP* **P 18 14 42.4 -0.9**
comp=Z,9.2nm,0.9s,mb4.2
MOF Molkenrain 23.44 80 *eP* **P 18 14 43.9 -0.1**
LANF Langenberg 23.56 77 *eP* **P 18 14 45.3 +0.1**
SUMG Summit 23.59 353 *eP* **P 18 14 46.0 +0.8**
comp=Z,34nm,1.6s,mb4.5
SUMG Summit 23.59 353 *eP* **P 18 14 46.0 +0.7**
comp=Z,34nm,1.6s,mb4.5
TZK Tazeka 23.62 122 *i* P **P 18 14 46.0 +0.1**
ORIF Oris-en-Rattie 23.66 88 *eP* **P 18 14 44.8 -1.3**
ORIF *e*MLR MLR
comp=Z,1μm,22.8s,MS3.9
SMRF Simiane la Rot 23.85 90 *eP* **P 18 14 46.4 -1.4**
SCHQ Schefferville 23.90 298 P **P 18 14 48.6 +0.4**
comp=Z,6.2nm,0.7s,mb4.1,baz=81,slow=9.5,SNR=9.1
SCHQ LR LR 18 21 50.5
comp=Z,1μm,20.7s,MS4.4,baz=118,slow=31
CZD Col de Zad 23.95 125 *i* P **P 18 14 50.0 +1.1**
LPL La Plagne 23.98 86 *eP* **P 18 14 49.0 0.0**
comp=Z,11nm,0.8s,mb4.0
LPL La Plagne 23.98 86 *eP* **P 18 14 49.0 0.0**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
LPL La Plagne 23.98 86 *eP* **P 18 14 49.0 0.0**
comp=Z,5.3nm,0.8s,mb4.0
FELD Feldberg im Sc 24.00 80 *eP* **P 18 14 50.7 +1.5**
LPG La Plagne 24.00 86 *eP* **P 18 14 49.2 0.0**
BNI Bardonecchia 24.12 87 *eP* **P 18 14 50.4 0.0**
BNI pmax pmax
comp=Z,19nm,1.5s,mb4.3
BNI Bardonecchia 24.12 87 *eP* **P 18 14 50.4 0.0**
comp=Z,19nm,1.5s,mb4.3
MBDF Montbardon 24.31 88 *eP* **P 18 14 50.8 -1.3**
comp=Z,10nm,0.8s,mb4.0
MBDF Montbardon 24.31 88 *eP* **P 18 14 50.8 -1.3**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
MBDF Montbardon 24.31 88 *eP* **P 18 14 50.8 -1.3**
comp=Z,5.1nm,0.8s,mb4.0
MDT Midelt 24.35 124 P **P 18 14 53.6 +1.1**
comp=Z,2.9nm,0.7s,mb3.8,baz=326,slow=12,SNR=9.6
FRF La Foret Royal 24.73 90 *eP* **P 18 14 54.4 -1.5**
comp=Z,18nm,1.1s,mb4.2
FRF La Foret Royal 24.73 90 *eP* **P 18 14 54.4 -1.5**
FRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.2
FRF La Foret Royal 24.73 90 *eP* **P 18 14 54.4 -1.5**
comp=Z,9.0nm,1.1s,mb4.2
LMR La Mourre 24.74 91 *eP* **P 18 14 55.1 -0.9**
comp=Z,9.8nm,0.9s,mb4.1
LMR La Mourre 24.74 91 *eP* **P 18 14 55.1 -0.9**
LMR pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
LMR La Mourre 24.74 91 *eP* **P 18 14 55.1 -0.9**
comp=Z,4.9nm,0.9s,mb4.1
NOA NORSAR Array B 24.97 47 P **P 18 14 59.1 +1.2**
comp=Z,2.0nm,1.0s,mb3.6,baz=263,slow=9.7,SNR=2.8
NOA LR LR 18 24 08.3
comp=Z,621nm,18.3s,MS4.2,baz=270,slow=35
TUE Stuetta 25.32 82 *eP* **P 18 15 03.6 +2.3**
comp=Z,30nm,1.4s,mb4.6
DAVOS Davos 25.48 81 P **P 18 15 05.5 +2.8**
GRA1 Grafenberg Arr 25.53 74 *eP* **P 18 15 04.5 +1.4**
comp=Z,32nm,1.2s,mb4.7
GRF Grafenberg Arr 25.53 74 *eP* **P 18 15 04.5 +1.4**
GRF pmax pmax
comp=Z,32nm,1.2s,mb4.7
GRF Grafenberg Arr 25.53 74 *eP* **P 18 15 04.5 +1.4**
GRF pmax pmax
comp=Z,32nm,1.2s,mb4.7
GRF Grafenberg Arr 25.53 74 *eP* **P 18 15 04.5 +1.4**
comp=Z,32nm,1.2s,mb4.7
MOX Moxa 25.55 72 *eP* **P 18 15 07.0 +3.7**
comp=Z,19nm,1.6s,mb4.4
MOX
comp=Z,600nm,21.0s
MOX Moxa 25.55 72 *eP* **P 18 15 07.0 +3.7**
MOX pmax pmax
comp=Z,19nm,1.6s,mb4.4
MOX MLR MLR
comp=Z,600nm,21.0s,MS4.1
DAVOX Davos/Dischmat 25.56 81 P **P 18 15 05.5 +2.1**
comp=Z,4.7nm,0.8s,mb4.1,baz=305,slow=13,SNR=8.5
DAVOX LR LR 18 24 46.4
comp=Z,1μm,19.0s,MS4.5,baz=331,slow=36
HFS Hagfors 26.07 50 LR LR 18 25 10.0
comp=Z,1μm,19.2s,MS4.4,baz=325,slow=36
CLL Collm 26.25 70 *eP* **P 18 15 10.0 +0.3**
CLL *ep*P pP 18 15 13.0 +0.3
CLL *ex* x 18 15 19.0
CLL Lm 18 24 00.0
comp=Z,900nm,21.4s
CLL Collm 26.25 70 P **P 18 15 13.0 +3.3**
CLL *e* 18 15 19.0
CLL LR LR
comp=Z,1μm,19.6s,MS4.4
PGF Pioggiola 26.72 91 *eP* **P 18 15 13.5 -0.5**
comp=Z,7.3nm,0.9s,mb3.9
PGF Pioggiola 26.72 91 *eP* **P 18 15 13.5 -0.5**
PGF pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
PGF Pioggiola 26.72 91 *eP* **P 18 15 13.5 -0.5**
comp=Z,3.7nm,0.9s,mb3.9
KHC Kasperske Hory 27.17 75 *eP* **P 18 15 16.5 -1.4**
KHC *ep*P pP 18 15 21.2 +0.3
KHC AMS AMS 18 25 00.0
comp=Z,1μm,20.9s
GEC2 GERESS Array S 27.33 75 *eP* **P 18 15 19.9 +0.5**
GERES GERESS Array B 27.33 75 P **P 18 15 20.1 +0.8**
comp=Z,1.3nm,0.8s,mb3.5,baz=284,slow=11,SNR=10
GERES LR LR 18 25 44.9
comp=Z,1μm,21.2s,MS4.4,baz=1.7,slow=36
PVCC Panska Ves 27.40 71 *ep*P pP 18 15 25.5 +2.5
PVCC AMS AMS 18 25 50.0
comp=Z,1μm,18.0s
PRU Pruhonice 27.53 72 *eP* **P 18 15 23.3 +2.2**
PRU AMS AMS 18 25 30.0
comp=Z,1μm,19.5s
TREC Trest 28.31 73 AMS AMS 18 25 20.0
comp=Z,1μm,22.1s
DPC Dobruska-Polom 28.53 71 *eP* **P 18 15 32.3 +2.2**
DPC AMS AMS 18 26 30.0
comp=Z,1μm,18.1s
VRAC Vranov 29.00 73 LR LR 18 26 26.2
comp=Z,1μm,20.8s,MS4.5,baz=330,slow=35
OKC Ostrava-Krasne 29.80 71 AMS AMS 18 27 20.0
comp=Z,1μm,16.2s
KEST Kesra 30.70 102 P **P 18 15 49.2 -0.2**
comp=Z,2.0nm,0.8s,mb4.0,baz=170,slow=4.2,SNR=5.1
LONY Lake Ozonia 31.40 279 *eP* **P 18 15 55.1 -0.4**
comp=Z,12nm,1.3s,mb4.6
LONY Lake Ozonia 31.40 279 *eP* **P 18 15 55.1 -0.4**
comp=Z,12nm,1.3s,mb4.6
ARCES ARCESS Array B 32.37 32 P **P 18 16 03.7 -0.1**
comp=Z,2.0nm,0.7s,mb4.1,baz=247,slow=8.6,SNR=13
ARCES ARCESS Array B 32.37 32 P **P 18 16 03.7 -0.1**
SPITS Spitsbergen Ar 33.15 15 P **P 18 16 11.5 +0.9**
comp=Z,7.2nm,1.1s,mb4.5,baz=228,slow=5.0,SNR=9.0
BBTS Babate 36.09 160 LR LR 18 29 14.0
comp=Z,177nm,18.4s,MS3.9,baz=82,slow=33
AKASG Malin Array Be 36.23 65 P **P 18 16 36.8 -0.6**
comp=Z,1.0nm,0.6s,mb3.9,baz=282,slow=8.8,SNR=8.2
OBN Obninsk 38.87 56 *eP* **P 18 16 59.5 -0.2**
OBN pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
ULM Lac du Bonnet 42.08 298 P **P 18 17 25.7 -0.6**
comp=Z,4.5nm,0.6s,mb4.3,baz=58,slow=8.7,SNR=8.4
ULM LR LR 18 33 05.7
comp=Z,632nm,18.1s,MS4.5,baz=213,slow=34
ULM Lac du Bonnet 42.08 298 P **P 18 17 25.7 -0.6**
ULM LR LR 18 33 05.7
CPCT Cooper Cave 42.68 273 *eP* **P 18 17 31.9 +0.5**
CPCT Cooper Cave 42.68 273 *eP* **P 18 17 31.9 +0.5**
SWET Sewanee 43.74 273 *eP* **P 18 17 41.7 +1.7**
SWET Sewanee 43.74 273 *eP* **P 18 17 41.7 +1.7**
ANN Anapa 43.79 70 *eP* **P 18 17 38.1 -2.1**
ANN pmax pmax
comp=Z,28nm,1.6s,mb4.7
ANN MLR MLR
comp=N,332nm,17.0s,MS4.6
ANN MLR MLR
comp=E,595nm,17.0s,MS4.6
ANN MLR MLR
comp=Z,705nm,17.0s,MS4.6
TORD Torodi Ar. Bea 43.91 135 P **P 18 17 40.9 -0.5**
comp=Z,2.1nm,0.6s,mb4.1,baz=336,slow=8.1,SNR=19
TORD Torodi Ar. Bea 43.91 135 P **P 18 17 40.9 -0.5**
FVM French Village 45.01 280 *eP* **P 18 17 50.8 +0.7**
FVM pmax pmax
comp=Z,12nm,0.8s,mb4.8
FVM French Village 45.01 280 *eP* **P 18 17 50.8 +0.7**
comp=Z,12nm,0.8s,mb4.8
FVM French Village 45.01 280 *eP* **P 18 17 50.8 +0.7**
comp=Z,12nm,0.8s,mb4.8
PLAL Pickwick Lake 45.28 275 *eP* **P 18 17 52.1 -0.1**
comp=Z,8.4nm,1.0s,mb4.5
PLAL Pickwick Lake 45.28 275 *eP* **P 18 17 52.1 -0.1**
comp=Z,8.5nm,1.0s,mb4.5
ECSD EROS,Sioux Fal 45.71 290 *eP* **P 18 17 55.6 +0.1**
comp=Z,13nm,1.3s,mb4.7
ECSD EROS,Sioux Fal 45.71 290 *eP* **P 18 17 55.6 +0.1**
comp=Z,13nm,1.3s,mb4.7
YKA Yellowknife Ar 46.21 320 P **P 18 17 59.4 +0.1**
comp=Z,3.0nm,0.9s,mb4.2,baz=66,slow=7.7,SNR=8.4
YKA PcP PcP 18 19 33.6 -1.1
comp=Z,0.6nm,0.6s,baz=66,slow=3.8,SNR=5.4
YKA LR LR 18 34 00.2
comp=Z,128nm,18.7s,MS3.9,baz=175,slow=32
YKA Yellowknife Ar 46.21 320 P **P 18 17 59.4 +0.1**
YKA 18 19 33.6
YKA Yellowknife Ar 46.21 320 PcP PcP 18 19 33.6 -1.1
YKA Yellowknife Ar 46.21 320 P **P 18 17 59.4 +0.1**
YKA PcP PcP 18 19 33.6 -1.1
YKA LR LR 18 34 00.2
DBIC Dimbokro 47.09 147 P **P 18 08 06.7 +0.1**
comp=Z,2.8nm,0.7s,mb4.3,baz=308,slow=14,SNR=4.4
KSU1 Kansas State U 48.30 285 *eP* **P 18 18 15.4 -0.5**
KSU1 Kansas State U 48.30 285 *eP* **P 18 18 15.4 -0.4**
MIAR Mount Ida 49.11 278 *eP* **P 18 18 21.7 -0.4**
MIAR pmax pmax
comp=Z,53nm,1.6s,mb5.3
MIAR Mount Ida 49.11 278 *eP* **P 18 18 21.7 -0.4**
comp=Z,53nm,1.6s,mb5.3
MIAR Mount Ida 49.11 278 *eP* **P 18 18 21.7 -0.4**
comp=Z,53nm,1.6s,mb5.3
PCRV Puerto La Cruz 49.36 230 LR LR 18 34 18.5
comp=Z,364nm,18.4s,MS4.4,baz=71,slow=30
ARU Arti 49.52 47 *d i* P **P 18 18 24.8 -0.2**
ARU *e* 18 20 15.2
ARU *e*S **S 18 25 28.8 -3.5**
ARU pmax pmax
comp=Z,10.0nm,2.5s,mb4.4
ARU Arti 49.52 47 *eP* **P 18 18 25.7 +0.7**
comp=Z,5.1nm,0.8s,mb4.6
ARU Arti 49.52 47 *eP* **P 18 18 25.7 +0.7**
comp=Z,5.1nm,0.8s,mb4.6
GNI Garni 50.86 71 LR LR 18 40 17.5
comp=Z,705nm,20.2s,MS4.7,baz=180,slow=36
EGMT Eagleton 51.07 301 *eP* **P 18 18 37.6 +0.8**
comp=Z,27nm,1.4s,mb5.0
EGMT Eagleton 51.07 301 *eP* **P 18 18 37.6 +0.8**
comp=Z,27nm,1.4s,mb5.0
GCMT Greycliff 52.30 299 *eP* **P 18 18 45.9 -0.1**
GCMT Greycliff 52.30 299 *eP* **P 18 18 45.9 -0.1**
RLMT Red Lodge 52.46 298 *eP* **P 18 18 47.5 +0.3**
comp=Z,24nm,1.5s,mb4.9
RLMT Red Lodge 52.46 298 *eP* **P 18 18 47.5 +0.3**
comp=Z,24nm,1.5s,mb4.9
WALA Waterton Lakes 52.76 305 *eP* **P 18 18 48.6 -0.8**
comp=Z,9.7nm,0.8s,mb4.8
WALA Waterton Lakes 52.76 305 *eP* **P 18 18 48.6 -0.8**
comp=Z,9.7nm,0.8s,mb4.8
HRY Holter Researc 52.98 301 *eP* **P 18 18 51.2 +0.1**
HRY Holter Researc 52.98 301 *eP* **P 18 18 51.2 +0.1**
CHMT Chamberlain Mo 53.65 302 *eP* **P 18 18 55.0 -1.0**
CHMT Chamberlain Mo 53.65 302 *eP* **P 18 18 55.0 -0.9**
PDAR Pinedale Array 54.03 296 P **P 18 18 58.0 -0.7**
comp=Z,4.5nm,0.9s,mb4.4,baz=60,slow=9.0,SNR=22
PDAR LR LR 18 39 19.5
comp=Z,398nm,18.4s,MS4.5,baz=67,slow=33
PDAR Pinedale Array 54.03 296 P **P 18 18 58.0 -0.8**
IMW Indian Meadow 54.15 298 *eP* **P 18 18 59.4 -0.3**
comp=Z,7.5nm,1.3s,mb4.5
IMW Indian Meadow 54.15 298 *eP* **P 18 18 59.4 -0.3**
comp=Z,7.5nm,1.3s,mb4.5
REDW Red Top Meadow 54.42 297 *eP* **P 18 19 02.5 +0.8**
comp=Z,35nm,1.4s,mb5.1
REDW Red Top Meadow 54.42 297 *eP* **P 18 19 02.5 +0.9**
comp=Z,35nm,1.4s,mb5.1
DAWY Dawson 54.65 330 *eP* **P 18 19 03.9 +0.9**
DAWY Dawson 54.65 330 *eP* **P 18 19 03.9 +0.9**
SDCO Great Sand Dun 54.67 289 *eP* **P 18 19 04.1 +0.5**
comp=Z,6.2nm,0.7s,mb4.8
SDCO Great Sand Dun 54.67 289 *eP* **P 18 19 04.1 +0.5**
comp=Z,6.2nm,0.7s,mb4.8
RRI2 Red Ridge 54.70 298 *eP* **P 18 19 01.8 -1.9**
comp=Z,15nm,1.4s,mb4.8
RRI2 Red Ridge 54.70 298 *eP* **P 18 19 01.8 -1.9**
comp=Z,15nm,1.4s,mb4.8
HWUT Hardware Ranch 55.92 296 *eP* **P 18 19 12.2 -0.3**
comp=Z,8.9nm,0.8s,mb4.8
HWUT Hardware Ranch 55.92 296 *eP* **P 18 19 12.2 -0.3**
comp=Z,8.9nm,0.8s,mb4.8
HYT Haines Junctio 56.17 326 *eP* **P 18 19 15.1 +1.1**
HYT Haines Junctio 56.17 326 *eP* **P 18 19 15.1 +1.1**
PV01 Paradox Valley 56.31 291 P **P 18 19 13.0 -2.4**
HLID Hailey 56.34 299 *eP* **P 18 19 15.1 -0.4**
comp=Z,21nm,1.6s,mb4.9
PV10 Paradox Valley 56.44 291 *eP* **P 18 19 16.1 -0.2**
PV10 Paradox Valley 56.44 291 *eP* **P 18 19 16.1 -0.2**
DAU Daniels Canyon 56.48 295 *eP* **P 18 19 15.6 -0.9**
DAU Daniels Canyon 56.48 295 *eP* **P 18 19 15.6 -1.0**
COLA College 56.70 334 *eP* **P 18 19 18.6 +0.9**
MVCO Mesa Verde 56.85 290 *eP* **P 18 19 17.7 -1.5**
comp=Z,9.3nm,1.0s,mb4.8
MVCO Mesa Verde 56.85 290 *eP* **P 18 19 17.7 -1.5**
comp=Z,9.3nm,1.0s,mb4.8
SRU San Rafael 56.87 293 *eP* **P 18 19 19.3 0.0**
SRU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
SRU San Rafael 56.87 293 *eP* **P 18 19 19.3 0.0**
comp=Z,4.3nm,0.6s,mb4.7
SRU San Rafael 56.87 293 *eP* **P 18 19 19.3 0.0**
comp=Z,4.3nm,0.6s,mb4.7
BRVK Borovoye 57.01 45 *eP* **P 18 19 20.2 +0.1**
BRVK pmax pmax
comp=Z,12nm,1.3s,mb4.8
BRVK Borovoye 57.01 45 *eP* **P 18 19 20.2 +0.1**
comp=Z,12nm,1.3s,mb4.8
BRVK Borovoye 57.01 45 *eP* **P 18 19 20.2 +0.1**
comp=Z,12nm,1.3s,mb4.8
ETW Entiat 57.05 306 *eP* **P 18 19 19.5 -0.9**
ETW Entiat 57.05 306 *eP* **P 18 19 19.5 -1.0**
BGU Big Grassy Mou 57.20 296 *eP* **P 18 19 21.3 -0.3**
BGU Big Grassy Mou 57.20 296 *eP* **P 18 19 21.3 -0.4**
DUG Dugway 57.54 295 *eP* **P 18 19 24.1 +0.1**
DUG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
DUG Dugway 57.54 295 *eP* **P 18 19 24.0 0.0**
comp=Z,8.2nm,0.9s,mb4.8
DUG Dugway 57.54 295 *eP* **P 18 19 24.1 0.0**
comp=Z,8.2nm,0.9s,mb4.8
MSU Marysvale 58.24 293 *eP* **P 18 19 29.8 +0.8**
MSU Marysvale 58.24 293 *eP* **P 18 19 29.8 +0.8**
TRF Thorofare Moun 58.47 333 *eP* **P 18 19 29.8 -0.4**
comp=Z,23nm,1.5s,mb5.0
TRF Thorofare Moun 58.47 333 *eP* **P 18 19 29.8 -0.5**
comp=Z,23nm,1.5s,mb5.0
KTH Kantishna Hill 58.58 334 *eP* **P 18 19 31.3 +0.3**
comp=Z,5μm,1.1s
ROSC El Rosal 58.92 237 LR LR 18 41 36.9
comp=Z,305nm,18.6s,MS4.5,baz=205,slow=33
TXAR Lajitas Array 59.00 280 P **P 18 19 34.1 -0.3**
comp=Z,1.5nm,0.8s,mb4.1,baz=68,slow=7.1,SNR=12
TXAR LR LR 18 43 56.3
comp=Z,773nm,20.1s,MS4.8,baz=5.0,slow=35
WVOR Wild Horse Val 59.45 301 *eP* **P 18 19 37.8 +0.5**
WVOR pmax pmax
comp=Z,27nm,1.4s,mb5.1
WVOR Wild Horse Val 59.45 301 *eP* **P 18 19 37.8 +0.5**
comp=Z,27nm,1.4s,mb5.1
WVOR Wild Horse Val 59.45 301 *eP* **P 18 19 37.8 +0.5**
comp=Z,27nm,1.4s,mb5.1
NVS Novosibirsk 61.38 38 *i* P **P 18 19 51.2 +0.9**
NVAR Mina Array Bea 61.91 297 P **P 18 19 54.8 +0.7**
comp=Z,0.8nm,0.7s,mb4.0,baz=34,slow=9.0,SNR=5.2
KURK Kurchatov 62.39 43 *c i* P **P 18 19 57.9 +0.7**
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
KURK Kurchatov 62.39 43 *eP* **P 18 19 57.4 +0.2**
comp=Z,7.8nm,1.1s,mb4.8
KURK Kurchatov 62.39 43 *eP* **P 18 19 57.4 +0.2**
comp=Z,7.8nm,1.1s,mb4.8
ZAA0 Zalesovo Array 62.67 38 *eP* **P 18 19 59.3 +0.3**
ZAL Zalesovo 62.67 38 P **P 18 19 59.0 0.0**
ZALV Zalesovo Beam 62.67 38 P **P 18 19 59.0 0.0**
comp=Z,0.9nm,0.7s,mb4.0,baz=304,slow=10,SNR=4.3
ZALV LR LR 18 48 37.4
comp=Z,198nm,18.4s,MS4.3,baz=144,slow=37
GSC Goldstone 63.14 294 *eP* **P 18 20 02.3 -0.1**
GSC pmax pmax
comp=Z,14nm,0.9s,mb5.1
GSC Goldstone 63.14 294 *eP* **P 18 20 02.3 -0.1**
comp=Z,14nm,0.9s,mb5.1
KRAR Krasnoyarsk 64.10 32 *eP* **P 18 20 08.2 -0.2**
KRAR pmax pmax
comp=Z,4.0nm,0.3s,mb4.9
EKS2 Erkin-Say 65.81 52 *eP* **P 18 20 21.7 +2.0**
comp=Z,24nm,1.6s,mb5.0
EKS2 Erkin-Say 65.81 52 *eP* **P 18 20 21.7 +1.9**
comp=Z,24nm,1.6s,mb5.0
UCH Uchtor 66.50 52 *eP* **P 18 20 27.3 +3.1**
comp=Z,13nm,1.4s,mb4.8
TKM2 Tokmak 2 66.55 51 *eP* **P 18 20 24.5 0.0**
TKM2 pmax pmax
comp=Z,16nm,1.5s,mb4.8
TKM2 Tokmak 2 66.55 51 *eP* **P 18 20 24.5 0.0**
comp=Z,16nm,1.5s,mb4.8
TKM2 Tokmak 2 66.55 51 *eP* **P 18 20 24.5 0.0**
comp=Z,16nm,1.5s,mb4.8
MKAR Makanchi Array 66.92 44 P **P 18 20 27.0 +0.2**
comp=Z,3.5nm,0.6s,mb4.6,baz=329,slow=5.8,SNR=50
MKAR LR LR 18 49 17.1
comp=Z,431nm,18.4s,MS4.7,baz=301,slow=36
YAK Yakutsk 67.46 11 *eP* **P 18 20 30.0 0.0**
YAK pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
YAK pmax pmax
comp=N,6.0nm,1.6s
BOD Bodaibo 68.67 20 *eP* **P 18 20 31.8 -5.8**
BOD pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
ATAH Atahualpa 71.04 233 LR LR 18 46 55.1
comp=Z,167nm,20.5s,MS4.3,baz=341,slow=32
SIV San Ignacio 71.29 213 P **P 18 20 54.3 +0.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=201,slow=23,SNR=3.6
ZAK Zakamensk 72.28 30 *eP* **P 18 20 59.5 -0.3**
ZAK *e* 18 23 37.1
ZAK pmax pmax
comp=Z,4.0nm,1.7s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.8
LPAZ La Paz 74.29 220 LR LR 18 50 28.4
comp=Z,172nm,19.1s,MS4.4,baz=220,slow=33
NNA Nana 74.49 229 LR LR 18 50 43.5
comp=Z,201nm,18.5s,MS4.4,baz=241,slow=33
SONM Songino Array 75.50 30 P **P 18 21 20.1 +1.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=326,slow=7.1,SNR=6.8
PETK Petropavlovsk- 77.64 356 P **P 18 21 29.2 -1.6**
comp=Z,1.3nm,0.7s,mb4.0,baz=0.0,slow=3.3,SNR=2.9
LVC Limon Verde 80.28 217 LR LR 18 53 51.6
comp=Z,175nm,19.9s,MS4.4,baz=140,slow=33
GTA Gaotai 80.42 38 *eP* **P 18 21 52.0 +5.8**
GTA AP pP 18 21 55.5 +6.0
GTA AMB AMB
comp=Z,2.0nm,1.4s,mb3.9
YSS Yuzh-Sakhalins 83.63 6 *eP* **P 18 22 04.5 +1.6**
YSS pmax pmax
comp=Z,33nm,1.7s,mb5.2
PLCA Paso Flores 97.18 211 LR LR 19 02 08.8
comp=Z,267nm,20.5s,MS4.7,baz=2.1,slow=32
WRA Warramunga Arr 147.47 31 PKPbc PKPbc 18 29 18.5 -0.2
comp=Z,2.1nm,0.8s,baz=334,slow=2.9,SNR=23
ASAR Alice Springs 150.74 35 PKPbc PKPbc 18 29 26.3 -0.7
comp=Z,3.1nm,0.7s,baz=356,slow=2.0,SNR=46

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*ISCJB **27** 18:11:35.6±1.0, 02S±02×912W±03, h10km, mb4.3/13, MS3.8/2, Error ellipse: s-maj=42.9km s-min=9.7km az=147.9*
*IDC **27** 18:11:35.7±1.1, 035S×9127W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.2/20, mbtmp4.2/10, MS3.9/2, Ms1 4.0/2, ms1mx3.3/25, Error ellipse: s-maj=50.3km s-min=14.3km az=56.0*
*NEIC **27** 18:11:36.6±0.7, 037S×9135W, h10km, mb4.6/4, Error ellipse: s-maj=31.2km s-min=8.7km az=59.0*
ISC 27 18:11:37.4±1.0, **03S**±02×**912W**±02, **h10**km, **n23**, σ0§**93**/20, **mb4.3**/13, **MS3.8**/2, **Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**20.58**	**8**	P	**P**	**18 16 18.0**	**+1.3**
	10nm,0.9s,baz=185,slow=10,SNR=4.9						
TEIG				LR	LR	18 23 20.8	
	comp=Z,261nm,20.0s,MS3.6,baz=300,slow=34						
LPAZ	**La Paz**	**27.78**	**126**	P	**P**	**18 17 28.0**	**+1.2**
	2.1nm,0.6s,mb4.0,baz=298,slow=8.4,SNR=10						
LPAZ				LR	LR	18 27 48.9	
	comp=Z,312nm,18.3s,MS3.9,baz=130,slow=35						
LVC	**Limon Verde**	**31.05**	**137**	P	**P**	**18 17 56.3**	**+0.6**
	4.6nm,0.8s,mb4.4,baz=323,slow=8.4,SNR=3.7						
LVC	**Limon Verde**	**31.05**	**137**	P	**P**	**18 17 56.3**	**+0.6**
TXAR	**Lajitas Array**	**31.75**	**339**	P	**P**	**18 18 03.1**	**+1.3**
	1.2nm,0.6s,mb3.9,baz=151,slow=10,SNR=17						
SIV	**San Ignacio**	**33.59**	**119**	P	**P**	**18 18 18.2**	**+0.1**
	6.2nm,0.9s,mb4.5,baz=288,slow=11,SNR=18						
WMOK	**Wichita Mounta**	**35.55**	**349**	*eP*	**P**	**18 18 35.0**	**+0.3**
	13nm,1.2s,mb4.8						
BNM	**Barren Site**	**37.17**	**339**	*eP*	**P**	**18 18 49.8**	**+1.1**
LAZ	**Ladron**	**37.59**	**338**	P	**P**	**18 18 51.5**	**-0.7**
CFAA	**Coronel Fontan**	**38.00**	**147**	P	**P**	**18 18 55.0**	**-0.7**
	0.4nm,0.6s,mb3.3,baz=308,slow=8.9,SNR=6.3						
ISCO	**Idaho Springs**	**42.00**	**343**	*eP*	**P**	**18 19 29.0**	**+0.1**
	6.5nm,0.8s,mb4.3						
ECSD	**EROS,Sioux Fal**	**44.08**	**354**	*eP*	**P**	**18 19 44.2**	**-1.5**
	29nm,1.2s,mb4.9						
BDFB	**Brasilia**	**45.29**	**112**	P	**P**	**18 19 55.0**	**-0.8**
	2.9nm,0.8s,mb4.1,baz=245,slow=17,SNR=6.4						
NVAR	**Mina Array Bea**	**45.87**	**330**	P	**P**	**18 20 00.8**	**+0.8**
	1.4nm,0.7s,mb4.0,baz=158,slow=7.4,SNR=11						
NVAR	**Mina Array Bea**	**45.87**	**330**	P	**P**	**18 20 00.8**	**+0.8**

PDAR Pinedale Array 45.91 341 PcP PcP 18 21 40.5 +3.3
0.7nm,0.8s,baz=143,slow=5.2,SNR=3.9
AGMN Agassiz Refuge 48.55 356 *e*P **P** 18 20 19.5 -1.2
2.1nm,0.6s,mb4.3
ULM Lac du Bonnet 50.49 356 P **P** 18 20 34.7 -0.8
7.6nm,0.8s,mb4.8,baz=181,slow=8.9,SNR=8.1
ULM Lac du Bonnet 50.49 356 P **P** 18 20 34.7 -0.9
1.3nm,0.7s,mb4.0,baz=150,slow=6.4,SNR=5.6
YKA Yellowknife Ar 65.05 348 P **P** 18 22 16.7 -0.9
1.3nm,0.7s,mb4.0,baz=150,slow=6.4,SNR=5.6
YKA Yellowknife Ar 65.05 348 P **P** 18 22 16.7 -0.9
WRA Warramunga Arr 131.07 243 PKP PKPdf 18 30 48.3 -2.2
0.3nm,0.7s,baz=110,slow=2.5,SNR=4.6
CMAR Chiang Mai Arr 159.36 332 PKPab PKPab 18 32 16.1 +1.6
0.6nm,0.6s,baz=22,slow=2.6,SNR=5.2

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*ISK **27** 18:16:00.3, 3931N×4095E, h5km, MD3.0*
*ISCJB **27** 18:16:01.1±0.7, 3927N±003×4098E±005, h0km±7km, Error ellipse: s-maj=6.7km s-min=5.0km az=19.3*
*CSEM **27** 18:16:01.7±0.1, 3932N×4096E, h10km, MD3.0, Error ellipse: s-maj=2.7km s-min=1.6km az=9.0*
*DDA **27** 18:16:01.6, 3927N×4107E, h7km±4km, Md2.6*
ISC 27 18:16:01.8±0.7, 3926N±003×4099E±005, h3km±8km, n12, σ0§92/20, 3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.34**	**158**	⇓*i*P	**Pg**	**18 16 08.0**	**-0.3**
BNGL				*i* S	**Sg**	**18 16 13.4**	**+0.9**
EZM	**Erzurum**	**0.70**	**24**	*e*PG	**Pg**	**18 16 14.2**	**-1.0**
EZM				*e*SG	**Sg**	**18 16 24.9**	**+0.5**
ERZM	**Erzurum**	**0.70**	**24**	⇓*i*P	**Pg**	**18 16 14.2**	**-1.2**
ERZM				*i* S	**Sg**	**18 16 23.9**	**-0.5**
KOPT	**Kop Dagi**	**0.84**	**333**	⇓*i*P	**Pg**	**18 16 18.1**	**0.0**
KOPT				*i* S	**Sg**	**18 16 31.6**	**+2.6**
KOPT	**Kop Dagi**	**0.84**	**333**	*i* P	**Pg**	**18 16 18.0**	**0.0**
KOPT				*i* S	**Sg**	**18 16 31.6**	**+2.6**
EZC	**Erzincan**	**1.03**	**298**	*e*PN	**Pn**	**18 16 26.8**	**+3.7**
HOMI	**Horasan**	**1.05**	**42**	*e*P	**Pg**	**18 16 21.4**	**-0.6**
HOMI				*i* S	**Sg**	**18 16 36.0**	**+0.4**
PTK	**Pertek**	**1.30**	**254**	*e*PN	**Pn**	**18 16 25.4**	**-1.4**
PTK				*e*SN	**Sn**	**18 16 44.8**	**+0.2**
AGRB	**Hanur-Agry**	**1.58**	**78**	*e*PN	**Pn**	**18 16 31.1**	**+0.4**
GUMT	**Gumushane**	**1.67**	**316**	*e*PN	**Pn**	**18 16 31.4**	**-0.5**
ELZG	**Elazig**	**1.74**	**245**	*e*P	**Pg**	**18 16 35.0**	**-0.2**
ELZG				*e*S	**Sg**	**18 17 04.4**	**+6.7**
CLDR	**Caldiran**	**2.28**	**92**	*e*PN	**Pn**	**18 16 41.2**	**+0.9**

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*ISCJB **27** 18:31:44.5±0.5, 4376N±003×757E±004, h21km±3km, Error ellipse: s-maj=5.2km s-min=4.1km az=143.6*
*LDG **27** 18:31:44.7±0.1, 4376N×762E, h9km, Md2.6/4, Ml2.4/9, Error ellipse: s-maj=1.7km s-min=1.4km az=112.0*
*STR **27** 18:31:45.4±0.3, 4381N×754E, h10km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ROM **27** 18:31:46.8±0.6, 4388N×758E, h10km, Md2.4/4, Ml1.6/2, Error ellipse: s-maj=7.7km s-min=2.5km az=18.0*
ISC 27 18:31:44.4±0.5, 4377N±002×757E±003, h19km±2km, n30, σ0§66/54, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBF	**Sospel**	**0.14**	**315**	*e*Pg	**Pg**	**18 31 48.6**	**0.0**
SBF	SNR=1.0			*e*Sg	**Sg**	**18 31 51.0**	**-0.4**
	230nm,0.2s						
REVF	**Revere**	**0.15**	**260**	Pg	**Pg**	**18 31 49.2**	**+0.5**
REVF				Sg	**Sg**	**18 31 52.0**	**+0.4**
LUCF	**Luceram**	**0.21**	**308**	Pg	**Pg**	**18 31 49.8**	**+0.3**
LUCF				Sg	**Sg**	**18 31 52.5**	**-0.5**
SAOF	**Saorge**	**0.22**	**357**	Pg	**Pg**	**18 31 49.8**	**+0.1**
SAOF				Sg	**Sg**	**18 31 52.5**	**-0.9**
AUTN	**L'Aution**	**0.25**	**336**	Pg	**Pg**	**18 31 50.5**	**+0.3**
AUTN				Sg	**Sg**	**18 31 54.0**	**-0.2**
MVIF	**Mont Vial**	**0.33**	**294**	Pg	**Pg**	**18 31 52.1**	**+0.6**
MVIF				Sg	**Sg**	**18 31 56.3**	**0.0**
TOUF	**Mont Tournerai**	**0.34**	**317**	Pg	**Pg**	**18 31 52.0**	**+0.3**
TOUF				Sg	**Sg**	**18 31 56.7**	**+0.1**
CALN	**Calern**	**0.49**	**269**	Pg	**Pg**	**18 31 55.3**	**+0.9**
CALN				Sg	**Sg**	**18 32 01.3**	**+0.2**
STV	**Sant Anna di V**	**0.51**	**340**	Pg	**Pg**	**18 31 55.0**	**+0.3**
STV				Sg	**Sg**	**18 32 01.4**	**-0.2**
	39nm,0.2s						
FIN	**Finale Ligure**	**0.64**	**46**	Pg	**Pg**	**18 31 57.8**	**+0.7**
FIN				Sg	**Sg**	**18 32 05.8**	**+0.2**
FRF	**La Foret Royal**	**0.70**	**253**	*e*Pg	**Pg**	**18 31 58.8**	**+0.6**
FRF	**La Foret Royal**	**0.70**	**253**	*e*Pn	**Pn**	**18 31 59.5**	**+0.2**
FRF	SNR=1.0			*e*Sg	**Sg**	**18 32 07.9**	**+0.4**
	30nm,0.2s,SNR=1.0						
DOI	**San Damiano**	**0.78**	**343**	Pg	**Pg**	**18 31 59.9**	**+0.3**
DOI				Sg	**Sg**	**18 32 09.6**	**-0.3**
	19nm,0.1s						
LMR	**La Mourre**	**0.88**	**241**	*e*Pg	**Pg**	**18 32 02.0**	**+0.4**
LMR	SNR=1.0			*e*Sg	**Sg**	**18 32 12.9**	**-0.4**
	27nm,0.2s,SNR=1.0						
PCP	**Piancastagn**	**1.05**	**42**	Pg	**Pg**	**18 32 05.4**	**+0.7**
MBDF	**Montbardon**	**1.12**	**329**	*e*Pg	**Pg**	**18 32 06.0**	**-0.1**
MBDF	SNR=1.0			*e*Sg	**Sg**	**18 32 20.7**	**-0.1**
	6.0nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.46**	**279**	*e*Pg	**Pg**	**18 32 11.7**	**-0.8**
SMRF				*e*Sn	**Sn**	**18 32 28.6**	**+0.3**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**18 32 31.5**	**0.0**
	12nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**1.60**	**139**	*e*Pn	**Pn**	**18 32 11.3**	**-0.4**
PGF				*e*Sn	**Sn**	**18 32 30.5**	**-1.4**
	2.1nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.67**	**314**	*e*Pg	**Pg**	**18 32 15.9**	**-0.7**
ORIF	SNR=1.0			*e*Sn	**Sn**	**18 32 33.9**	**+0.3**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**18 32 38.7**	**+0.3**
	5.7nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**1.83**	**342**	*e*Pg	**Pg**	**18 32 19.2**	**-0.3**
LPG	SNR=1.0			*e*Sg	**Sg**	**18 32 43.5**	**+0.2**
	6.7nm,0.4s						
LPL	**La Plagne**	**1.85**	**341**	*e*P	**Pn**	**18 32 17.8**	**+2.7**
LPL	SNR=1.0 **La Plagne**	**1.85**	**341**	*e*Pg	**Pg**	**18 32 19.4**	**-0.6**
LPL	SNR=1.0			*e*Sg	**Sg**	**18 32 44.1**	**+0.1**
	7.2nm,0.7s						
VIVF	**Saint-Julien-l**	**2.35**	**299**	*e*Pn	**Pn**	**18 32 22.2**	**+0.3**
VIVF				*e*Sn	**Sn**	**18 32 50.2**	**0.0**
	2.6nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**2.70**	**278**	*e*Pn	**Pn**	**18 32 27.3**	**+0.5**
LASF				*e*Sn	**Sn**	**18 32 58.6**	**-0.3**
	1.2nm,0.3s						
MTLF	**Montolieu**	**3.91**	**266**	*e*Pn	**Pn**	**18 32 43.0**	**-0.4**
CAF	**Calviac**	**4.12**	**288**	*e*Pn	**Pn**	**18 32 46.1**	**-0.1**
CAF	**Calviac**	**4.12**	**288**	*e*Pg	**Pg**	**18 33 00.9**	**-2.3**
	SNR=1.0						
RJF	**Les Rejaudoux**	**4.59**	**292**	*e*Pg	**Pg**	**18 33 09.7**	**-2.6**
	SNR=1.0						
EPF	**Esparros**	**5.32**	**265**	*e*Pn	**Pn**	**18 33 02.6**	**-0.2**
ETSF	**Etsaut**	**5.99**	**264**	*e*Pn	**Pn**	**18 33 12.3**	**+0.3**

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*TIF **27** 18:51:38.0, 4306N×4581E, h21km±2km*
*ISCJB **27** 18:51:39.5±1.4, 4307N±004×4552E±010, h10km, Error ellipse: s-maj=10.6km s-min=5.5km az=160.2*
*MOS **27** 18:51:46.5±1.2, 4286N×4495E, h15km, mb4.1/1, Error ellipse: s-maj=16.6km s-min=9.9km az=37.1*
ISC 27 18:51:47.3±1.1, 4293N±004×4497E±010, h5km±9km, n15, σ0§87/22, 2C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**0.51**	**259**	⇑*i*PG	**Pg**	**18 51 58.1**	**+1.1**
BTKR	**Batakoyurt**	**0.55**	**325**	⇓*i*PG	**Pg**	**18 51 56.8**	**-1.0**
BTKR				*i* S	**Sg**	**18 52 12.6**	**+7.7**
ARNR	**Ardon**	**0.57**	**298**	⇓*i*PG	**Pg**	**18 51 59.2**	**+0.9**
KMSR	**Komsomolskaya**	**0.67**	**312**	⇓*i*PG	**Pg**	**18 52 00.1**	**0.0**
KMSR				*e*S	**Sg**	**18 52 17.5**	**+8.8**
KORR	**Kora**	**0.68**	**284**	⇓*i*PG	**Pg**	**18 52 01.1**	**+0.7**
ZEI	**Tsey**	**0.80**	**259**	*e*PG	**Pg**	**18 52 02.0**	**-0.7**
LSNR	**Lesken**	**0.91**	**293**	⇑*i*PG	**Pg**	**18 52 04.3**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.02**	**269**	*e*PG	**Pg**	**18 52 06.2**	**-0.7**
GOR	**Gori**	**1.14**	**214**	P	**Pg**	**18 52 07.5**	**-1.6**
GOR				S	**Sg**	**18 52 30.3**	**+6.6**
ONI	**Oni**	**1.17**	**253**	P	**Pg**	**18 52 10.1**	**+0.3**
ONI				S	**Sg**	**18 52 33.3**	**+8.4**
TBLG	**Delisi**	**1.21**	**188**	P	**Pg**	**18 52 06.0**	**-4.4**
TBLG				S	**Sg**	**18 52 27.8**	**+1.7**
MTA	**Mtatsminda**	**1.24**	**186**	P	**Pn**	**18 52 06.1**	**-5.2**
MTA				S	**Sn**	**18 52 27.8**	**-0.6**
DGRG	**David-gareji**	**1.50**	**168**	P	**Pn**	**18 52 08.7**	**-6.2**
DGRG				S	**Sg**	**18 52 35.0**	**-0.6**
MAK	**Makhachkala**	**1.86**	**88**	*e*PN	**Pn**	**18 52 20.4**	**+0.5**
KIV	**Kislovodsk**	**1.96**	**303**	*e*PN	**Pn**	**18 52 21.6**	**+0.5**

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*DDA **27** 18:59:02.7, 4079N×2742E, h7km±2km, Md2.9*
*ISK **27** 18:59:02.3, 4079N×2744E, h12km, MD2.8*
*CSEM **27** 18:59:02.0±0.1, 4079N×2745E, h5km, MD2.8, Error ellipse: s-maj=1.7km s-min=1.3km az=169.0*
*ISCJB **27** 18:59:02.6±0.4, 4081N±002×2742E±003, h6km±3km, Error ellipse: s-maj=4.0km s-min=3.2km az=153.5*
*SOF **27** 18:59:04.4, 4052N×2695E, h13km, MD2.6*
*ATH **27** 18:59:12.3, 4033N×2599E, h10km, MD3.2/3*
ISC 27 18:59:02.9±0.3, 4081N±002×2742E±003, h8km±3km, n40, σ0§84/52, 3C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFT	**Murefte**	**0.10**	**258**	PG	**Pg**	**18 59 05.5**	**+0.1**
TKR	**Tekirdag**	**0.20**	**27**	PG	**Pg**	**18 59 07.4**	**+0.3**
TKR				*e*SG	**Sg**	**18 59 10.9**	**+1.0**
SART	**Tekirdag**	**0.22**	**236**	⇑*i*P	**Pg**	**18 59 07.5**	**+0.2**
SART				*i* S	**Sg**	**18 59 11.2**	**+1.0**
RKY	**Sarkoy-Tekirda**	**0.22**	**236**	PG	**Pg**	**18 59 07.4**	**+0.1**
RKY				*e*SG	**Sg**	**18 59 10.9**	**+0.7**
MRMT	**Marmara Adasi**	**0.25**	**146**	PG	**Pg**	**18 59 07.4**	**-0.4**
CRLT	**Corlu**	**0.40**	**37**	*e*PG	**Pg**	**18 59 10.8**	**+0.1**
EDC	**Edincik**	**0.57**	**143**	*e*PG	**Pg**	**18 59 13.6**	**-0.4**
BNT	**Bandirma**	**0.59**	**140**	*e*PG	**Pg**	**18 59 13.7**	**-0.7**
BNT				*e*SG	**Sg**	**18 59 21.8**	**-0.3**
LPK	**Lapseki**	**0.66**	**229**	*e*PG	**Pg**	**18 59 15.5**	**-0.2**
SLVT	**Silivri**	**0.73**	**55**	*e*PG	**Pg**	**18 59 16.8**	**-0.3**
CTT	**Catalca**	**0.84**	**66**	*e*PG	**Pg**	**18 59 18.7**	**-0.3**
ELBA	**Catalca**	**0.84**	**66**	*e*P	**Pg**	**18 59 18.9**	**-0.2**
ELBA				*e*S	**Sg**	**18 59 31.7**	**+1.7**
KCT	**Karacabey**	**0.90**	**127**	*e*PG	**Pg**	**18 59 19.3**	**-0.9**
ENEZ	**Enez**	**0.96**	**266**	*e*PG	**Pg**	**18 59 21.4**	**0.0**
BALY	**Balya**	**1.08**	**172**	*e*P	**Pg**	**18 59 23.1**	**-0.5**
BALY				*i* S	**Sg**	**18 59 38.5**	**+0.9**
BALY	**Balya**	**1.08**	**172**	*e*P	**Pg**	**18 59 23.1**	**-0.5**
BALY				*i* S	**Sg**	**18 59 38.5**	**+0.9**
BGKT	**Bogazkoy**	**1.09**	**70**	*e*PN	**Pn**	**18 59 23.2**	**-1.3**
BTOK	**Tokmak**	**1.15**	**156**	*e*P	**Pg**	**18 59 24.9**	**-0.1**
BTOK				*e*S	**Sg**	**18 59 40.2**	**+0.4**
EDRB	**Edirne**	**1.15**	**334**	*e*PN	**Pn**	**18 59 24.9**	**-0.4**
BALB	**Balikesir**	**1.22**	**163**	*e*PN	**Pn**	**18 59 25.6**	**-0.7**
ISK	**Istanbul-Kandi**	**1.27**	**78**	*e*PN	**Pn**	**18 59 26.2**	**-0.7**
EZN	**Ezine**	**1.29**	**221**	*e*PN	**Pn**	**18 59 26.4**	**-0.7**
KLYT	**Kilyos**	**1.31**	**70**	*e*PN	**Pn**	**18 59 26.8**	**-0.6**
GADA	**Gvkgeada**	**1.31**	**242**	*e*PN	**Pn**	**18 59 27.0**	**-0.5**
GEMT	**Gemlik**	**1.40**	**105**	*e*PN	**Pn**	**18 59 28.1**	**-0.7**
BOZC	**Bozcaada**	**1.42**	**228**	⇓*i*P	**Pn**	**18 59 28.7**	**-0.3**
BOZC				*i* S	**Sn**	**18 59 48.4**	**+0.5**
DURS	**Dursunbey**	**1.45**	**146**	⇑*i*P	**Pn**	**18 59 30.0**	**+0.5**
DURS				*i* S	**Sn**	**18 59 49.5**	**+0.8**
RDO	**Rodhopi**	**1.46**	**284**	*e*PB	**Pb**	**18 59 29.1**	**-1.2**
ULDT	**Uludag**	**1.47**	**116**	⇓*i*P	**Pn**	**18 59 30.4**	**+0.7**
ULDT				*i* S	**Sn**	**18 59 50.6**	**+1.5**
YLV	**Yalova**	**1.51**	**99**	*e*PN	**Pn**	**18 59 30.0**	**-0.2**
DST	**Dursunbey**	**1.52**	**142**	*e*PN	**Pn**	**18 59 29.6**	**-0.7**
AYVA	**Ayvalik**	**1.60**	**201**	⇑*i*P	**Pn**	**18 59 32.1**	**+0.6**
AYVA				*i* S	**Sn**	**18 59 53.4**	**+1.1**
HRT	**Hereke**	**1.71**	**89**	*e*PN	**Pn**	**18 59 33.4**	**+0.4**
KDZ	**Kurdzhali**	**1.73**	**300**	P	**Pn**	**18 59 35.2**	**+2.0**
PRK	**Paraskevi**	**1.79**	**210**	*e*PB	**Pb**	**18 59 33.1**	**-2.9**
DIM	**Dimitrovgrad**	**1.88**	**312**	P	**Pn**	**18 59 37.5**	**+2.1**
AKS	**Akhisar**	**1.95**	**171**	*e*PN	**Pn**	**18 59 35.9**	**-0.4**
RZN	**Rozhen**	**2.22**	**294**	P	**Pn**	**18 59 39.7**	**-0.3**
NVR	**Nevrokopi**	**2.74**	**283**	*e*PN	**Pn**	**18 59 47.1**	**-0.1**
MMB	**Musomiste**	**2.89**	**287**	*e*P	**Pg**	**18 59 56.6**	**-1.7**

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*IDC **27** 19:03:32.9±1.3, 4709N×15602E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/22, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=44.8km s-min=24.8km az=128.0*
*ISCJB **27** 19:03:35.6±5.1, 4722N±009×1560E±03, h28km±38km, mb3.5/3, Error ellipse: s-maj=35.9km s-min=13.2km az=15.4*
*MOS **27** 19:03:37.4±1.4, 4727N×15593E, h46km, mb3.8/1, Error ellipse: s-maj=82.1km s-min=27.4km az=81.0*
ISC 27 19:03:38.7±3.8, 473N±02×1559E±03, h39km±39km, n8, σ0§53/10, mb3.5/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.42**	**3**	*e*Pn	**Pn**	**19 04 30.0**	**+0.5**
SKR				*e*S	**Sn**	**19 05 08.5**	**-0.3**
SKR	comp=N,510nm,0.3s			smax			
SKR	comp=E,160nm,0.3s			smax			
PETK	**Petropavlovsk-**	**5.97**	**11**	Pn	**Pn**	**19 05 04.0**	**-0.3**
	comp=E,0.7nm,0.3s,baz=172,slow=14,SNR=13						
PETK				Sn	**Sn**	**19 06 16.6**	**+5.3**
	comp=E,0.4nm,0.3s,baz=143,slow=20,SNR=3.0						
KSRS	**Korea Array**	**22.76**	**255**	P	**P**	**19 08 37.8**	**+0.4**
	comp=E,1.1nm,0.7s,mb3.4,baz=63,slow=9.5,SNR=3.0						
KSRS	**Korea Array**	**22.76**	**255**	P	**P**	**19 08 37.8**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
ASAR	**Alice Springs**	**73.33**	**201**	P	**P**	**19 15 05.2**	**-0.8**
	comp=Z,0.8nm,1.2s,mb3.5,baz=12,slow=5.2,SNR=4.1						
ASAR	**Alice Springs**	**73.33**	**201**	P	**P**	**19 15 05.2**	**-0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.2s						
TXAR	**Lajitas Array**	**75.58**	**62**	P	**P**	**19 15 19.9**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=306,slow=4.7,SNR=6.5						
TXAR	**Lajitas Array**	**75.58**	**62**	P	**P**	**19 15 19.9**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC 27 19:10:48.7±3.3, 422S×13535E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.4/14, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=128.8km s-min=28.7km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.66**	**184**	Pn	Pn	19 14 29.1	-1.8
	0.1nm,0.3s,baz=360,slow=13,SNR=6.6						
WRA				Sn	Sn	19 17 21.4	-3.9
	0.1nm,0.3s,baz=8.4,slow=23,SNR=4.5						
FITZ	**Fitzroy Crossi**	**16.76**	**214**	Pn	Pn	19 14 45.3	+0.4
	0.1nm,0.3s,baz=27,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**19.39**	**184**	P	Pn	19 15 17.0	-0.3
	0.1nm,0.3s,baz=12,slow=11,SNR=20						
MKAR	**Makanchi Array**	**68.98**	**324**	P	P	19 21 55.9	+0.1
	0.1nm,0.4s,baz=119,slow=8.7,SNR=4.2						

IDC 27 19:29:02.0±13.0, 3089S×17943W, h407km±343km, mb2.9/3, mb1 3.2/4, mb1mx3.0/15, mbtmp3.1/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/6, Error ellipse: s-maj=536.6km s-min=166.4km az=109.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.09**	**39**	LR	LR	19 30 05.1	
	comp=Z,376nm,18.8s,baz=49,slow=30						
URZ	**Urewera**	**7.89**	**200**	P	P	19 30 55.6	-0.2
	13nm,0.3s,baz=21,slow=8.6,SNR=72						
URZ				S	S	19 32 17.3	-12
	4.0nm,0.3s,baz=70,slow=23,SNR=16						
STKA	**Stephens Creek**	**33.17**	**258**	P	P	19 35 02.7	+0.1
	2.1nm,1.1s,baz=106,slow=13,SNR=5.1						
ASAR	**Alice Springs**	**41.86**	**268**	P	P	19 36 14.2	-0.3
	0.6nm,1.1s,baz=113,slow=7.8,SNR=5.2						
WRA	**Warramunga Arr**	**42.89**	**273**	P	P	19 36 22.8	0.0
	0.4nm,0.3s,baz=111,slow=8.0,SNR=32						

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*ISCJB **27** 19:47:22.8±1.2, 3231N±007×494E±0.1, h10km, Error ellipse: s-maj=16.4km s-min=5.2km az=30.3*
*THR **27** 19:47:24.1±0.3, 3222N×49.19E, h41km±1km, ML2.5*
*KISR **27** 19:47:29.8, 3075N×4434E, h24km, ML1.8*
ISC 27 19:47:24.0±1.1, 3229N±006×493E±01, h10km, n6, σ1§03/9, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.48**	**248**	*e*Pg	**Pg**	**19 47 33.2**	**-0.3**
SHGR				*e*Sg	**Sg**	**19 47 40.0**	**+0.1**
SHGR				AML	AML	19 47 42.9	
	comp=N,507nm,0.3s						
SHGR				AML	AML	19 47 44.4	
	comp=E,435nm,0.4s						
ASAO	**Ashtian**	**2.32**	**14**	*e*Pn	**Pn**	**19 48 03.0**	**+0.7**
ASAO				*e*Sg	**Sg**	**19 48 38.8**	**+0.1**
ASAO				AML	AML	19 48 47.0	
	comp=N,17nm,0.5s						
ASAO				AML	AML	19 48 53.0	
	comp=E,21nm,0.4s						
MIB	**Mutribah**	**3.01**	**215**	*e*P	**Pn**	**19 48 15.5**	**+3.6**
	baz=109						
MIB				*e*S	**Sn**	**19 48 50.0**	**+2.0**
	baz=109						
MIB				AML	AML	19 49 01.7	
	comp=Z,4.0nm,0.4s,baz=109						
UMR	**Umm Al-Rimmam**	**3.06**	**207**	*e*P	**Pg**	**19 48 21.5**	**-1.3**
	baz=111						
UMR				AML	AML	19 48 57.4	
	comp=Z,6.0nm,0.3s,baz=111						
SNGE	**Sanandaj**	**3.24**	**330**	*e*Pn	**Pn**	**19 48 14.4**	**-0.6**
NAY	**Al-Naaiem**	**3.53**	**211**	*e*P	**Pn**	**19 48 18.0**	**-0.9**
	baz=120						
NAY				AML	AML	19 49 03.6	
	comp=Z,2.0nm,0.3s,baz=120						

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*NIED **27** 19:48:00, 2220N×12190E, h35km, Mw4.0 Best double couple: M0 1.14000×10^15 NP1:φs217.00000°, δ88.00000°, λ-121.00000°. NP2:φs123.00000°, δ31.00000°, λ-4.00000°.*
*ISCJB **27** 19:48:55.0±0.3, 2227N±002×12190E±002, h10km, mb3.6/6, Error ellipse: s-maj=3.2km s-min=2.1km az=169.1*
*NEIC **27** 19:48:56.1±0.7, 2233N×12197E, h10km, MG4.4(JMA), Error ellipse: s-maj=18.6km s-min=10.9km az=86.0*
*TAP **27** 19:48:57.1, 2226N×12176E, h24km, ML4.3*
TAP Felt I J at Chenggung, III J at Lanyu.
*JMA **27** 19:48:58.2±0.3, 2225N×12191E, h65km, M4.4*
*IDC **27** 19:49:04.5±4.9, 2251N×12224E, h95km±53km, mb3.5/6, mb1 3.6/8, mb1mx3.4/22, mbtmp3.5/8, Error ellipse: s-maj=35.8km s-min=17.2km az=69.0*
ISC 27 19:48:55.8±0.3, 2227N±002×12186E±002, h10km, n86, σ1§19/144, mb3.6/6, 11C-11D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.36**	**231**	⇓*i*P	**Pg**	**19 49 03.4**	**+0.4**
TTN	**Taitung**	**0.81**	**307**	⇑*i*P	**Pg**	**19 49 11.5**	**-0.1**
TTN				S	**Sg**	**19 49 22.4**	**+0.1**
TAW	**Tawu**	**0.89**	**276**	P	**Pg**	**19 49 11.5**	**-1.6**
TAW				S	**Sg**	**19 49 21.4**	**-3.3**
ECL	**Taimali**	**0.90**	**292**	⇑*i*P	**Pg**	**19 49 12.0**	**-1.1**
ECL				S	**Sg**	**19 49 22.8**	**-2.0**
TWG	**Pinlang**	**0.91**	**307**	P	**Pg**	**19 49 12.7**	**-0.7**
TWG				S	**Sg**	**19 49 24.1**	**-1.1**
CHKT	**Chengkung**	**0.94**	**331**	⇓*i*P	**Pg**	**19 49 13.2**	**-0.9**
CHKT				S	**Sg**	**19 49 24.6**	**-1.8**
TSEB	**Hengchuen, Pin**	**0.96**	**248**	⇑*i*P	**Pg**	**19 49 13.6**	**-0.7**
TSEB				S	**Sg**	**19 49 25.1**	**-1.7**
TWK1	**Hengchun**	**1.03**	**252**	⇑P	**Pg**	**19 49 13.8**	**-1.8**
TWK1				S	**Sg**	**19 49 24.7**	**-4.2**
HEN	**Hengchun**	**1.07**	**256**	⇑*i*P	**Pg**	**19 49 14.8**	**-1.6**
HEN				S	**Sg**	**19 49 26.6**	**-3.7**
SCZT	**Fangliau**	**1.15**	**275**	⇑*i*P	**Pg**	**19 49 15.8**	**-2.0**
SCZT				S	**Sb**	**19 49 31.1**	**-1.7**
TWF1	**Yuli**	**1.20**	**335**	⇓*i*P	**Pb**	**19 49 17.1**	**-1.5**
TWF1				S	**Sb**	**19 49 31.9**	**-2.3**
ELDTW	**Lidau**	**1.20**	**320**	P	**Pb**	**19 49 16.9**	**-1.8**
SSD	**Sandimen**	**1.23**	**293**	⇑*i*P	**Pn**	**19 49 17.2**	**-1.8**
EHY	**Hungye**	**1.33**	**338**	⇓*i*P	**Pn**	**19 49 19.2**	**-1.3**
EHY				S	**Sb**	**19 49 36.2**	**-1.7**
STYT	**Tauyuan**	**1.35**	**312**	⇓P	**Pn**	**19 49 19.9**	**-0.9**
TWP	**Hsiaoliuchiu**	**1.39**	**274**	*i* P	**Pn**	**19 49 22.4**	**+1.2**
TWP				S	**Sb**	**19 49 40.9**	**+1.3**
SGST	**Jiashian**	**1.43**	**305**	⇑P	**Pn**	**19 49 22.1**	**+0.3**
SGST				S	**Sn**	**19 49 41.6**	**+1.0**
TWM1	**Shoushan**	**1.44**	**293**	*e*P	**Pn**	**19 49 22.8**	**+0.8**
TWM1				S	**Sn**	**19 49 43.0**	**+2.1**
KAU	**Kaohsiung**	**1.46**	**282**	*e*P	**Pn**	**19 49 22.8**	**+0.5**
KAU				S	**Sn**	**19 49 41.4**	**-0.1**
YUS	**Yu-Shan**	**1.48**	**326**	⇓P	**Pn**	**19 49 22.1**	**-0.4**
YUS				S	**Sn**	**19 49 39.2**	**-2.6**
WTP	**Ta-pu**	**1.50**	**311**	*e*P	**Pn**	**19 49 23.

HATJ S Sn 19 50 06.7 -1.1
EGS 2.57 2 eP Pn 19 49 38.3 +0.8
IRIF Iriomote-Funau 2.69 40 P Pn 19 49 39.9 +0.8
IRIF S Sn 19 50 11.8 +0.1
TWA Mucha 2.71 355 eP Pn 19 49 40.1 +0.6
TATO Taipei 2.72 353 eP Pn 19 49 40.4 +0.8
TWB1 Santiao Chiao 2.73 3 eP Pn 19 49 39.7 0.0
JKRS Kuro-shima 2.79 45 P Pn 19 49 41.5 +1.0
JKRS S Sn 19 50 13.2 -1.0
NWF Wu-fen Shan 2.79 359 eP Pn 19 49 41.1 +0.5
NWF S Sn 19 50 14.9 +0.5
TWS1 Kuangyinshan 2.85 352 eP Pn 19 49 42.3 +0.9
TWS1 S Sn 19 50 16.7 +0.9
JIJ Ishigaki jima 2.96 45 P Pn 19 49 43.2 +0.3
JIJ S Sn 19 50 17.0 -1.6
TWY Chenhua 3.00 356 eP Pn 19 49 45.6 +2.1
JTJ Tarama 3.52 47 P Pn 19 49 51.6 +0.9
JTJ S Sn 19 50 31.3 -1.1
KNM Kinmen 3.80 305 eP Pn 19 49 54.5 0.0
JMJ Miyako jima 2 4.05 51 P Pn 19 49 58.8 +0.9
JMJ S Sn 19 50 44.9 -0.4
JOGS Gusukube 4.10 52 P Pn 19 49 59.8 +1.3
JOGS S Sn 19 50 46.4 -0.1
JKE Kume jima 2 6.05 47 P Pn 19 50 24.6 -0.7
JKE eS Sn 19 51 30.3 -4.3
JAGN Aguni-jima 6.53 48 P Pn 19 50 32.3 +0.4
JAGN eS Sn 19 51 42.1 -4.4
JOW Kunigami 7.40 51 P Pn 19 50 44.6 +0.6
JOW S Sn 19 52 04.2 -3.8
JOW Kunigami 7.40 51 P Pn 19 50 43.0 -0.9
2.0nm,0.3s,baz=160,slow=12,SNR=30
JOW S Sn 19 52 02.7 -5.3
1.7nm,0.3s,baz=119,slow=19,SNR=3.5
JOW Kunigami 7.40 51 eP Pn 19 50 43.4 -0.6
JTK Tokunoshima 8.46 48 P Pn 19 50 57.1 -1.4
JTK eS Sn 19 52 27.5 -6.6
JMZ Minamidaito 2 9.26 66 P Pn 19 51 06.6 -2.9
JMZ eS Sn 19 52 42.9 -11
KSRS Korea Array 16.02 18 P Pn 19 52 41.5 +0.2
0.2nm,0.3s,baz=195,slow=11,SNR=9.0
PSI Prapat 29.50 232 P P 19 55 04.0 +3.5
2.4nm,0.3s,mb4.4,baz=321,slow=20,SNR=3.8
PSI Prapat 29.50 232 P P 19 55 04.0 +3.5
MKAR Makanchi Array 40.15 317 P P 19 56 32.1 +0.2
0.9nm,0.6s,mb3.6,baz=110,slow=10,SNR=11
ZALV Zalesovo Beam 42.19 328 P P 19 56 47.4 -1.2
1.6nm,0.6s,mb3.9,baz=114,slow=7.5,SNR=9.5
WRA Warramunga Arr 43.69 163 P P 19 57 00.7 -0.4
0.2nm,0.5s,mb3.1,baz=344,slow=9.0,SNR=5.6
ASAR Alice Springs 47.14 165 P P 19 57 29.2 +0.8
0.1nm,0.4s,mb3.1,baz=342,slow=5.9,SNR=3.8
GERES GERESS Array B 84.71 321 P P 20 01 26.7 -3.4
0.3nm,0.6s,mb3.6,baz=90,slow=5.3,SNR=3.7

*MOS **27** 20:16:18.5±0.8, 037S×9125W, h10km, mb5.0/9, Error ellipse: s-maj=30.1km s-min=9.2km az=115.6*
*IDC **27** 20:16:18.4±0.8, 040S×9136W, h0km, mb4.5/16, mb1 4.6/16, mb1mx4.5/23, mbtmp4.5/16, MS4.0/19, Ms1 4.0/19, ms1mx3.8/31, Error ellipse: s-maj=40.2km s-min=11.0km az=57.0*
*ISCJB **27** 20:16:19.2±0.5, 03S±0.1×912W±0.1, h10km, mb4.7/37, MS4.0/16, Error ellipse: s-maj=24.1km s-min=6.4km az=145.9*
*NEIC **27** 20:16:21.7±0.4, 054S×9150W, mb5.0/23, Error ellipse: s-maj=15.2km s-min=6.0km az=56.0*
ISC 27 20:16:20.6±0.5, 046S±008×914W±01, h10km, (h23km±1.4km:pP-P), n78, σ1§07/66, mb4.7/37, MS4.0/16, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**14.51**	**117**	Pn	**Pn**	**20 19 55.4**	**+9.3**
	0.3nm,0.3s,baz=292,slow=21,SNR=6.0						
TGUH	**Tegucigalpa,Un**	**14.99**	**16**	eP	**Pn**	**20 19 55.5**	**+2.8**
	88nm,1.0s						
CMIG	**Matias Romero**	**17.78**	**349**	P	**Pn**	**20 20 30.8**	**+2.5**
	0.1nm,0.3s,baz=162,slow=11,SNR=6.8						
CMIG				LR	LR	20 25 50.4	
	comp=Z,512nm,18.5s,baz=41,slow=32						
ROSC	**El Rosal**	**17.85**	**73**	P	**Pn**	**20 20 32.3**	**+3.0**
	2.0nm,0.3s,baz=91,slow=20,SNR=8.2						
ROSC				LR	LR	20 26 32.3	
	comp=Z,260nm,19.0s,baz=229,slow=34						
NNA	**Nana**	**18.43**	**129**	P	**Pn**	**20 20 37.9**	**+1.5**
	0.4nm,0.3s,baz=294,slow=8.9,SNR=3.6						
NNA				LR	LR	20 26 04.9	
	comp=Z,538nm,21.5s,baz=319,slow=32						
TEIG	**Tepich**	**20.79**	**8**	P	**P**	**20 21 02.0**	**0.0**
	27nm,0.9s,baz=194,slow=6.8,SNR=13						
TEIG				LR	LR	20 28 03.1	
	comp=Z,367nm,19.0s,MS3.8,baz=117,slow=34						
LPAZ	**La Paz**	**27.81**	**126**	P	**P**	**20 22 11.2**	**+1.0**
	6.9nm,0.8s,mb4.3,baz=302,slow=8.5,SNR=24						
LPAZ				LR	LR	20 32 33.3	
	comp=Z,410nm,20.6s,MS4.0,baz=253,slow=35						
LVC	**Limon Verde**	**31.04**	**137**	P	**P**	**20 22 39.8**	**+1.0**
	12nm,0.9s,mb4.7,baz=307,slow=8.7,SNR=8.4						
LVC				LR	LR	20 32 01.2	
	comp=Z,271nm,21.2s,MS3.9,baz=134,slow=30						
LVC	**Limon Verde**	**31.04**	**137**	P	**P**	**20 22 39.8**	**+1.0**
LVC				LR	LR	20 32 01.2	
JCT	**Junction City**	**31.79**	**346**	eP	**P**	**20 22 45.3**	**0.0**
JCT				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
JCT	**Junction City**	**31.79**	**346**	eP	**P**	**20 22 45.3**	**-0.1**
	comp=Z,10nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**31.86**	**339**	P	**P**	**20 22 46.3**	**+0.3**
	comp=Z,2.9nm,0.7s,mb4.2,baz=151,slow=10,SNR=38						
TXAR				PcP	PcP	20 25 43.2	+6.4
	comp=Z,0.6nm,0.8s,baz=169,slow=7.3,SNR=4.5						
TXAR				LR	LR	20 34 24.9	
	comp=Z,605nm,18.9s,MS4.3,baz=255,slow=34						
TXAR	**Lajitas Array**	**31.86**	**339**	P	**P**	**20 22 46.3**	**+0.3**
TXAR						20 25 43.2	
SIV	**San Ignacio**	**33.66**	**119**	P	**P**	**20 23 01.4**	**-0.5**
	comp=Z,21nm,0.9s,mb5.0,baz=289,slow=11,SNR=68						
MIAR	**Mount Ida**	**34.88**	**357**	eP	**P**	**20 23 11.7**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
MIAR	**Mount Ida**	**34.88**	**357**	eP	**P**	**20 23 11.7**	**-0.6**
	comp=Z,19nm,1.0s,mb5.0						
WMOK	**Wichita Mounta**	**35.69**	**350**	eP	**P**	**20 23 18.6**	**-0.6**
WMOK				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
WMOK	**Wichita Mounta**	**35.69**	**350**	eP	**P**	**20 23 18.6**	**-0.6**
	comp=Z,34nm,1.2s,mb5.2						
AMTX	**Amarillo**	**36.45**	**346**	eP	**P**	**20 23 25.6**	**-0.1**
	comp=Z,36nm,1.4s,mb5.1						
TKL	**Tuckaleechee C**	**36.63**	**10**	LR	LR	20 39 09.7	
	comp=Z,103nm,19.2s,MS3.6,baz=85,slow=38						
BNM	**Barren Site**	**37.28**	**339**	eP	**P**	**20 23 33.7**	**+0.9**
BNM				e		20 23 39.9	
LPM	**Los Pinos Moun**	**37.43**	**339**	eP	**P**	**20 23 35.1**	**+1.1**
LPM				e		20 23 41.5	
LAZ	**Ladron**	**37.69**	**338**	eP	**P**	**20 23 37.4**	**+1.1**
CFAA	**Coronel Fontan**	**37.94**	**147**	P	**P**	**20 23 38.6**	**+0.1**
	comp=Z,1.7nm,0.8s,mb3.8,baz=309,slow=7.4,SNR=16						
CFAA				LR	LR	20 35 57.1	
	comp=Z,42nm,19.3s,MS3.3,baz=311,slow=31						
ANMO	**Albuquerque**	**37.94**	**340**	P	**P**	**20 23 38.1**	**-0.2**
	comp=Z,5.8nm,0.9s,mb4.3,baz=161,slow=9.6,SNR=9.1						
ANMO				LR	LR	20 38 21.9	
	comp=Z,633nm,18.0s,MS4.5,baz=344,slow=35						
USIN	**University of**	**38.39**	**5**	eP	**P**	**20 23 41.7**	**-0.4**
	comp=Z,62nm,1.1s,mb5.2						
KSU1	**Kansas State U**	**39.66**	**354**	eP	**P**	**20 23 52.1**	**-0.7**
	comp=Z,56nm,0.9s,mb5.3						
GLA	**Glamis**	**39.98**	**329**	eP	**P**	**20 23 56.1**	**+0.6**
GLA				e*PP	pP	20 24 02.6	+4.0
GLA				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.8						
GLA	**Glamis**	**39.98**	**329**	eP	**P**	**20 23 56.1**	**+0.6**
	comp=Z,23nm,1.2s,mb4.8						
GLA				epP	pP	20 24 02.6	+3.9
SDCO	**Great Sand Dun**	**40.19**	**343**	eP	**P**	**20 23 57.5**	**+0.3**
	comp=Z,57nm,1.1s,mb5.2						
WUAZ	**Wupatki**	**40.35**	**335**	eP	**P**	**20 23 59.5**	**+0.9**
	comp=Z,46nm,1.3s,mb5.0						
PV01	**Paradox Valley**	**41.54**	**339**	eP	**P**	**20 24 09.3**	**+1.0**
CPUP	**Villa Florida**	**41.68**	**131**	P	**P**	**20 24 08.8**	**-0.8**
	comp=Z,7.1nm,0.8s,mb4.3,baz=281,slow=9.1,SNR=10						
CPUP				LR	LR	20 41 56.7	
	comp=Z,139nm,18.7s,MS3.9,baz=303,slow=37						
ISCO	**Idaho Springs**	**42.13**	**344**	eP	**P**	**20 24 13.4**	**+0.3**
ISCO				pmax	pmax		
	comp=Z,29nm,1.5s,mb4.7						
ISCO	**Idaho Springs**	**42.13**	**344**	eP	**P**	**20 24 13.4**	**+0.4**
	comp=Z,29nm,1.5s,mb4.7						
GSC	**Goldstone**	**42.76**	**329**	eP	**P**	**20 24 19.0**	**+0.7**
GSC				e*PP	pP	20 24 25.5	+4.1
GSC				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
GSC	**Goldstone**	**42.76**	**329**	eP	**P**	**20 24 19.0**	**+0.6**
	comp=Z,5.7nm,0.6s,mb4.5						
GSC				epP	pP	20 24 25.4	+4.0
SRU	**San Rafael**	**43.11**	**338**	eP	**P**	**20 24 19.8**	**-1.3**
SRU				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
SRU	**San Rafael**	**43.11**	**338**	eP	**P**	**20 24 19.8**	**-1.3**
	comp=Z,9.8nm,1.2s,mb4.4						
MSU	**Marysvale**	**43.24**	**336**	eP	**P**	**20 24 20.4**	**-1.7**
TMUT	**Trail Mountain**	**43.53**	**338**	eP	**P**	**20 24 26.0**	**+1.5**
TPNV	**Topopah Spring**	**43.77**	**331**	eP	**P**	**20 24 26.8**	**+0.3**
TPNV				e*PP	pP	20 24 34.7	+5.1
TPNV				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
TPNV	**Topopah Spring**	**43.77**	**331**	eP	**P**	**20 24 26.8**	**+0.4**
	comp=Z,2.3nm,1.1s,mb3.8						
TPNV				epP	pP	20 24 34.6	+5.1
TPNV				esP	sP	20 24 38.7	+7.9
ECSD	**EROS,Sioux Fal**	**44.25**	**355**	eP	**P**	**20 24 28.4**	**-1.8**
	comp=Z,24nm,0.7s,mb5.0						
PLCA	**Paso Flores**	**44.33**	**157**	P	**P**	**20 24 30.9**	**0.0**
	comp=Z,8.9nm,1.0s,mb4.4,baz=328,slow=7.5,SNR=5.9						
PLCA				LR	LR	20 38 25.4	
	comp=Z,335nm,21.2s,MS4.2,baz=353,slow=30						
DUG	**Dugway**	**44.93**	**337**	eP	**P**	**20 24 36.1**	**+0.4**
DUG				e*PP	pP	20 24 42.5	+3.7
DUG				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.6						
DUG	**Dugway**	**44.93**	**337**	eP	**P**	**20 24 36.1**	**+0.4**
	comp=Z,14nm,1.3s,mb4.7						
DUG				epP	pP	20 24 42.5	+3.6
MTUM	**Tungsten Hills**	**45.24**	**329**	eP	**P**	**20 24 39.4**	**+1.2**
BDFB	**Brasilia**	**45.39**	**112**	P	**P**	**20 24 38.9**	**-0.9**
	comp=Z,9.3nm,0.8s,mb4.7,baz=270,slow=16,SNR=16						
BDFB				LR	LR	20 43 46.3	
	comp=Z,162nm,21.9s,MS3.9,baz=93,slow=36						
BGU	**Big Grassy Mou**	**45.64**	**337**	eP	**P**	**20 24 42.3**	**+1.0**
BGU				epP	pP	20 24 47.1	+2.6
HWUT	**Hardware Ranch**	**45.68**	**339**	eP	**P**	**20 24 42.3**	**+0.6**
	comp=Z,32nm,1.5s,mb5.0						
NVAR	**Mina Array Bea**	**45.94**	**330**	P	**P**	**20 24 43.8**	**+0.1**
	comp=Z,1.3nm,0.4s,mb4.2,baz=167,slow=8.8,SNR=13						
NVAR				PcP	PcP	20 26 27.6	+7.0
	comp=Z,2.7nm,1.0s,baz=144,slow=4.9,SNR=4.9						
PDAR	**Pinedale Array**	**46.03**	**341**	P	**P**	**20 24 43.5**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=152,slow=6.6,SNR=5.2						
PDAR				PcP	PcP	20 26 26.4	+5.6
	comp=Z,2.3nm,1.0s,baz=145,slow=5.4,SNR=7.1						
PDAR				LR	LR	20 43 22.3	
	comp=Z,250nm,19.2s,MS4.2,baz=166,slow=35						
ELK	**Elko**	**46.39**	**335**	P	**P**	**20 24 47.8**	**+0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=172,slow=8.5,SNR=6.2						
ELK				PcP	PcP	20 26 27.2	+5.1
	comp=Z,3.0nm,0.9s,baz=179,slow=2.9,SNR=4.5						
REDW	**Red Top Meadow**	**46.98**	**341**	eP	**P**	**20 24 50.5**	**-1.3**
	comp=Z,19nm,1.3s,mb4.9						
RRI2	**Red Ridge**	**47.13**	**340**	eP	**P**	**20 24 52.7**	**-0.2**
	comp=Z,29nm,1.7s,mb4.9						
LONY	**Lake Ozonia**	**47.31**	**16**	eP	**P**	**20 24 53.0**	**-1.4**
	comp=Z,8.0nm,0.9s,mb4.7						
HLID	**Hailey**	**48.43**	**338**	eP	**P**	**20 25 02.8**	**-0.3**
	comp=Z,18nm,1.3s,mb4.9						
AGMN	**Agassiz Refuge**	**48.72**	**356**	eP	**P**	**20 25 03.6**	**-1.6**
	comp=Z,32nm,1.2s,mb5.2						
AGMN				epP	pP	20 25 10.6	+2.2
BOZ	**Bozeman (W)**	**49.27**	**341**	eP	**P**	**20 25 09.4**	**-0.1**
BOZ				e*PP	pP	20 25 15.6	+2.9
BOZ				pmax	pmax		
	comp=Z,20nm,2.0s,mb4.8						
BOZ	**Bozeman (W)**	**49.27**	**341**	eP	**P**	**20 25 09.3**	**-0.1**
	comp=Z,20nm,2.0s,mb4.8						
BOZ				epP	pP	20 25 15.6	+3.0
ULM	**Lac du Bonnet**	**50.66**	**356**	P	**P**	**20 25 18.2**	**-1.8**
	comp=Z,16nm,0.8s,mb5.0,baz=177,slow=7.7,SNR=17						
ULM				LR	LR	20 47 11.1	
	comp=Z,126nm,21.9s,MS3.9,baz=88,slow=37						
ULM	**Lac du Bonnet**	**50.66**	**356**	P	**P**	**20 25 18.2**	**-1.8**
ULM				LR	LR	20 47 11.1	
USHA	**Ushuaia**	**57.37**	**164**	LR	LR	20 45 22.0	
	comp=Z,334nm,21.4s,MS4.4,baz=101,slow=30						
SCHQ	**Schefferville**	**58.69**	**16**	LR	LR	20 51 13.8	
	comp=Z,98nm,19.1s,MS4.0,baz=140,slow=36						
YKA	**Yellowknife Ar**	**65.19**	**348**	P	**P**	**20 27 00.1**	**-1.6**
	comp=Z,2.8nm,0.7s,mb4.4,baz=149,slow=6.3,SNR=15						
YKA				LR	LR	20 56 45.4	
	comp=Z,57nm,18.2s,MS3.8,baz=135,slow=37						
YKA	**Yellowknife Ar**	**65.19**	**348**	P	**P**	**20 27 00.1**	**-1.6**
YKA				LR	LR	20 56 45.4	
COLD	**Coldfoot**	**78.80**	**340**	eP	**P**	**20 28 22.3**	**-0.9**
	comp=Z,129nm,1.2s,mb5.7						
DBIC	**Dimbokro**	**86.62**	**83**	P	**P**	**20 29 02.9**	**-2.2**
	comp=Z,5.4nm,0.8s,mb4.8,baz=283,slow=7.7,SNR=8.4						
ESDC	**Sonseca Array**	**88.31**	**50**	LR	LR	21 02 25.7	
	comp=Z,44nm,20.8s,MS3.9,baz=250,slow=31						
ZALV	**Zalesovo Beam**	**126.60**	**3**	PKP	PKPdf	20 35 22.2	-2.0
	comp=Z,0.8nm,0.6s,baz=264,slow=1.4,SNR=3.0						
ZAL	**Zalesovo**	**126.61**	**3**	PKIKP	PKPdf	20 35 22.2	-2.0
ZAK	**Zakamensk**	**128.72**	**348**	eP	Pdif	20 32 04.8	-8.8
SONM	**Songino Array**	**130.35**	**344**	PKP	PKPdf	20 35 29.8	-1.7
	comp=Z,0.3nm,0.4s,baz=352,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**130.83**	**243**	PKP	PKPdf	20 35 31.2	-2.0
	comp=Z,1.3nm,0.9s,baz=102,slow=1.6,SNR=5.8						
KK31	**Karatay Array**	**134.56**	**19**	*i P*	Pdif	20 32 36.1	-3.5
LSA	**Lhasa**	**150.82**	**355**	ePKIKP	PKPbc	20 36 13.1	-1.0
LSA				e*PP		20 36 20.2	
CMAR	**Chiang Mai Arr**	**159.44**	**331**	PKPab	PKPab	20 37 03.3	+5.3
	comp=Z,2.4nm,1.0s,baz=15,slow=4.6,SNR=14						

*ISCJB **27** 20:18:20.7±0.6, 3940N±002×886W±005, h24km±6km, Error ellipse: s-maj=7.2km s-min=3.1km az=162.6*
*LDG **27** 20:18:20.7±0.2, 39.32N×9.10W, h5km, Md3.7/1, Ml3.0/3, Error ellipse: s-maj=3.7km s-min=1.9km az=73.0*
*NEIC **27** 20:18:20.5, 3936N×899W, h3km, ML3.0(LDG), MN2.6(MDD), After MDD.*
*IGIL **27** 20:18:21.2, 39.35N×897W, h2km, ML2.3*
*CSEM **27** 20:18:21.1±0.1, 39.34N×897W, h10km, ML2.9/23, Error ellipse: s-maj=2.9km s-min=1.3km az=72.0*
*MDD **27** 20:18:21.4±1.8, 3936N×894W, h19km±8km, mbLg2.6/18, Error ellipse: s-maj=13.4km s-min=6.2km az=72.0, PRIMO*
ISC 27 20:18:20.7±0.6, 3935N±002×891W±005, h14km±3km, n72, σ1§06/126, 2C, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALMR	**Almeirim**	**0.32**	**127**	eP	**Pg**	**20 18 28.0**	**+0.7**
ALMR				eS	**Sg**	**20 18 32.9**	**+1.2**
ALMR				eS	**Sg**	**20 18 32.9**	**+1.2**
ALMR				AML	AML	20 18 33.8	
	comp=E,286nm,0.1s						
LIS	**Lisbon**	**0.66**	**197**	eP	**Pg**	**20 18 33.1**	**-0.5**
LIS				eS	**Sg**	**20 18 41.0**	**-1.2**
LIS				AML	AML	20 18 42.6	
	comp=E,168nm,0.4s						
EVOP	**Sao Brissos**	**1.02**	**143**	ePn	**Pn**	**20 18 39.9**	**-0.7**
EVOP	**Sao Brissos**	**1.02**	**143**	ePg	**Pg**	**20 18 40.3**	**-0.1**
EVOP				eSn	**Sn**	**20 18 54.2**	**-0.6**
	comp=E,185nm,0.4s						
EVO	**Evora**	**1.08**	**139**	ePn	**Pn**	**20 18 39.9**	**-1.4**
EVO	**Evora**	**1.08**	**139**	ePg	**Pg**	**20 18 40.3**	**-1.1**
EVO				eSn	**Sn**	**20 18 54.2**	**-1.9**
	comp=E,370nm,0.4s						
MTE	**Manteigas**	**1.48**	**45**	eP	**Pn**	**20 18 47.0**	**+0.1**
MTE	**Manteigas**	**1.48**	**45**	eP	**Pn**	**20 18 47.0**	**+0.1**
EBAD	**Badajoz**	**1.59**	**111**	Pn	**Pn**	**20 18 48.2**	**-0.2**
	comp=E,2.9nm,0.1s,SNR=7.9						
EBAD				Pg	**Pg**	**20 18 50.8**	**-0.4**
	comp=E,20nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**20 19 10.2**	**+1.4**
	comp=E,15nm,0.1s,SNR=7.9						
EBAD				Lg		20 19 12.1	
	comp=E,54nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**1.59**	**111**	Pn	**Pn**	**20 18 48.2**	**-0.2**
	comp=E,2.9nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**1.59**	**111**	Pg	**Pg**	**20 18 50.8**	**-0.4**
	comp=E,20nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**20 19 10.2**	**+1.4**
	comp=E,15nm,0.1s,SNR=7.9						
EBAD				Lg		20 19 12.1	
	comp=E,54nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.13**	**148**	Pn	**Pn**	**20 18 55.7**	**-0.1**
	comp=E,2.0nm,0.1s,SNR=36						
EGRO				Pg	**Pg**	**20 19 00.2**	**-1.4**
	comp=E,3.6nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**20 19 22.9**	**+0.8**
	comp=E,0.2nm,0.2s,SNR=7.9						
EGRO				Lg		20 19 29.6	
	comp=E,8.7nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**2.13**	**148**	Pn	**Pn**	**20 18 55.7**	**-0.2**
	comp=E,2.0nm,0.1s,SNR=36						
EGRO	**El Granado**	**2.13**	**148**	Pg	**Pg**	**20 19 00.2**	**-1.3**
	comp=E,3.6nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**20 19 22.9**	**+0.8**
	comp=E,0.2nm,0.2s,SNR=7.9						
EGRO				Lg		20 19 29.6	
	comp=E,8.7nm,0.1s,SNR=5.0						
EMIN	**Mina Concepcio**	**2.36**	**131**	Pn	**Pn**	**20 18 59.3**	**+0.3**
	comp=E,0.4nm,0.1s,SNR=7.9						
EMIN				Pg	**Pg**	**20 19 04.1**	**-1.8**
	comp=E,3.4nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**20 19 28.4**	**+0.6**
	comp=E,2.2nm,0.1s,SNR=7.9						
EMIN				Lg		20 19 37.8	
	comp=E,3.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.36**	**131**	Pn	**Pn**	**20 18 59.3**	**+0.3**
	comp=E,0.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.36**	**131**	Pg	**Pg**	**20 19 04.1**	**-1.8**
	comp=E,3.4nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**20 19 28.4**	**+0.6**
	comp=E,2.2nm,0.1s,SNR=7.9						
EMIN				Lg		20 19 37.8	
	comp=E,3.9nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**2.59**	**14**	⇑Pn	**Pn**	**20 19 02.3**	**+0.1**
	comp=E,5.1nm,0.1s,SNR=18						
ELOB				Sn	**Sn**	**20 19 32.6**	**-1.0**
	comp=E,4.0nm,0.1s,SNR=7.9						
ELOB				Lg		20 19 43.4	
	comp=E,5.2nm,0.1s,SNR=4.0						
ELOB	**Lobios**	**2.59**	**14**	Pn	**Pn**	**20 19 02.3**	**+0.1**
	comp=E,5.1nm,0.1s,SNR=18						
ELOB				Sn	**Sn**	**20 19 32.6**	**-1.0**
	comp=E,4.0nm,0.1s,SNR=7.9						
ELOB				Lg		20 19 43.4	
	comp=E,5.2nm,0.1s,SNR=4.0						
ECAB	**El Cabril**	**3.01**	**114**	Pn	**Pn**	**20 19 08.7**	**+0.7**
	comp=E,1.7nm,0.1s,SNR=9.1						
ECAB				Pg	**Pg**	**20 19 16.6**	**-1.8**
	comp=E,5.1nm,0.2s,SNR=7.9						
ECAB				Sn	**Sn**	**20 19 44.6**	**+0.7**
	comp=E,0.0nm,0.2s,SNR=7.9						
ECAB				Lg		20 19 58.4	
	comp=E,36nm,0.3s,SNR=5.0						
ECAB	**El Cabril**	**3.01**	**114**	Pn	**Pn**	**20 19 08.7**	**+0.7**
	comp=E,1.7nm,0.1s,SNR=9.1						
ECAB	**El Cabril**	**3.01**	**114**	Pg	**Pg**	**20 19 16.6**	**-1.8**
	comp=E,5.1nm,0.2s,SNR=7.9						
ECAB				Sn	**Sn**	**20 19 44.6**	**+0.7**
	SNR=7.9						
ECAB				Lg		20 19 58.4	
	comp=E,36nm,0.3s,SNR=5.0						
ECAL	**Calabor**	**3.07**	**32**	⇑Pn	**Pn**	**20 19 09.4**	**+0.7**
	comp=E,16nm,0.2s,SNR=18						
ECAL				Sn	**Sn**	**20 19 45.7**	**+0.5**
	comp=E,2.8nm,0.1s,SNR=7.9						
ECAL				Lg		20 19 58.9	
	comp=E,23nm,0.4s,SNR=5.0						
ECAL	**Calabor**	**3.07**	**32**	Pn	**Pn**	**20 19 09.4**	**+0.7**
	comp=E,16nm,0.2s,SNR=18						
ECAL				Sn	**Sn**	**20 19 45.7**	**+0.4**
	comp=E,2.8nm,0.1s,SNR=7.9						
ECAL				Lg		20 19 58.9	
	comp=E,23nm,0.4s,SNR=5.0						
ESPR	**Espera**	**3.46**	**135**	Pn	**Pn**	**20 19 15.4**	**+1.3**
	comp=E,2.5nm,0.2s,SNR=8.7						
ESPR				Pg	**Pg**	**20 19 25.4**	**-1.5**
	comp=E,2.2nm,0.2s,SNR=7.9						
ESPR				Sn	**Sn**	**20 19 56.6**	**+1.8**
	comp=E,2.6nm,0.2s,SNR=7.9						
ESPR				Lg		20 20 13.8	
	comp=E,15nm,0.4s,SNR=5.0						
ESPR	**Espera**	**3.46**	**135**	Pn	**Pn**	**20 19 15.4**	**+1.3**
	comp=E,2.5nm,0.2s,SNR=8.7						
ESPR	**Espera**	**3.46**	**135**	Pg	**Pg**	**20 19 25.4**	**-1.4**
	comp=E,2.2nm,0.2s,SNR=7.9						
ESPR				Sn	**Sn**	**20 19 54.2**	**-0.6**
	comp=E,2.6nm,0.2s,SNR=7.9						
ESPR				Lg		20 20 13.8	
	comp=E,15nm,0.4s,SNR=5.0						
ESPR	**Espera**	**3.46**	**135**	Pn	**Pn**	**20 19 15.4**	**+1.3**
ESPR				Pg	**Pg**	**20 19 25.4**	**-1.5**
ESPR				Sn	**Sn**	**20 19 54.2**	**-0.6**
ESPR				Lg		20 20 13.8	
STS	**Santiago**	**3.54**	**4**	Pn

comp=E,0.2nm,0.1s,SNR=7.9
EQUE Sn **Sn** **20 20 27.3 -0.8**
comp=E,0.2nm,0.1s,SNR=7.9
EQUE Lg 20 20 55.5
comp=E,0.4nm,0.2s,SNR=7.9
EQES Quesada 4.83 107 Pn **Pn** **20 19 34.7 +1.8**
comp=E,0.3nm,0.2s,SNR=7.9
EQES Sn **Sn** **20 20 27.8 -0.9**
comp=E,0.2nm,0.1s,SNR=7.9
EQES Lg 20 20 57.2
comp=E,4.1nm,0.3s,SNR=7.9
EQES Quesada 4.83 107 Pn **Pn** **20 19 34.7 +1.8**
comp=E,0.3nm,0.2s,SNR=7.9
EQES Sn **Sn** **20 20 27.8 -0.9**
comp=E,0.2nm,0.1s,SNR=7.9
EQES Lg 20 20 57.2
comp=E,4.1nm,0.3s,SNR=7.9
EARI Arriondas 4.83 34 Pn **Pn** **20 19 33.9 +1.0**
comp=E,1.3nm,0.4s,SNR=20
EARI Sn **Sn** **20 20 28.8 +0.1**
comp=E,0.4nm,0.2s,SNR=7.9
EARI Arriondas 4.83 34 Pn **Pn** **20 19 33.9 +1.0**
comp=E,1.3nm,0.4s,SNR=20
EARI Sn **Sn** **20 20 26.5 -2.1**
comp=E,0.4nm,0.2s,SNR=7.9
EARI Arriondas 4.83 34 Pn **Pn** **20 19 33.9 +1.0**
EARI Sn **Sn** **20 20 26.5 -2.2**
EVIA Vianos 5.04 96 Lg 20 21 04.0
comp=E,5.6nm,0.4s,SNR=7.9
EVIA Vianos 5.04 96 Lg 20 21 04.0
comp=E,5.6nm,0.4s,SNR=7.9
EHUE Huescar 5.18 105 Pn **Pn** **20 19 39.5 +1.7**
comp=E,0.2nm,0.1s,SNR=7.9
EHUE Sn **Sn** **20 20 36.4 -0.9**
comp=E,0.2nm,0.2s,SNR=7.9
EHUE Lg 20 21 07.3
comp=E,1.1nm,0.2s,SNR=7.9
EBER Berja 5.34 115 Pn **Pn** **20 19 42.2 +2.3**
comp=E,0.8nm,0.2s,SNR=7.1
EBER Sn **Sn** **20 20 40.8 -0.5**
comp=E,0.4nm,0.2s,SNR=7.9
EBER Lg 20 21 12.4
comp=E,5.4nm,0.6s,SNR=7.9
EBER Berja 5.34 115 Pn **Pn** **20 19 42.2 +2.2**
comp=E,0.8nm,0.2s,SNR=7.1
EBER Sn **Sn** **20 20 40.8 -0.5**
comp=E,0.4nm,0.2s,SNR=7.9
ETOR Torete 5.46 72 Pn **Pn** **20 19 43.1 +1.5**
comp=E,2.2nm,0.1s,SNR=7.9
ETOR Sn **Sn** **20 20 42.6 -1.5**
comp=E,2.3nm,0.1s,SNR=7.9
ETOR Lg 20 21 16.3
comp=E,7.5nm,0.4s,SNR=7.9
ETOR Torete 5.46 72 Pn **Pn** **20 19 43.1 +1.5**
comp=E,2.2nm,0.1s,SNR=7.9
ETOR Sn **Sn** **20 20 42.6 -1.5**
comp=E,2.3nm,0.1s,SNR=7.9
ELAN Lanestosa 5.66 45 Pn **Pn** **20 19 44.8 +0.5**
comp=E,0.2nm,0.1s,SNR=7.6
ELAN Sn **Sn** **20 20 47.5 -1.6**
comp=E,0.1nm,0.1s,SNR=7.9
ELAN Lanestosa 5.66 45 Pn **Pn** **20 19 44.8 +0.5**
comp=E,0.2nm,0.1s,SNR=7.6
ELAN Sn **Sn** **20 20 47.5 -1.6**
comp=E,0.1nm,0.1s,SNR=7.9
ETOB Tobarra 5.78 95 Pn **Pn** **20 19 47.4 +1.5**
comp=E,0.1nm,0.1s,SNR=7.9
ETOB Sn **Sn** **20 20 51.7 -0.3**
comp=E,0.2nm,0.2s,SNR=7.9
ETOB Lg 20 21 25.7
comp=E,12nm,0.7s,SNR=7.9
ETOB Tobarra 5.78 95 Pn **Pn** **20 19 47.4 +1.4**
comp=E,0.1nm,0.1s,SNR=7.9
ETOB Sn **Sn** **20 20 51.7 -0.3**
comp=E,0.2nm,0.2s,SNR=7.9
ELIZ Elizondo 6.74 53 Pn **Pn** **20 20 00.3 +1.1**
comp=E,0.7nm,0.1s,SNR=7.9
SJPF Ste Jean 6.90 55 *e*Pn **Pn** **20 20 02.4 +1.0**
SJPF *e*Sn **Sn** **20 21 18.0 -1.7**
comp=E,0.7nm,0.2s
SJPF Ste Jean 6.90 55 *e*Pn **Pn** **20 20 02.4 +1.0**
SJPF *e*Sn **Sn** **20 21 18.0 -1.7**
comp=E,0.3nm,0.2s
ETSF Etsaut 7.23 58 *e*Pn **Pn** **20 20 06.8 +0.9**
ETSF *e*Sn **Sn** **20 21 25.9 -1.9**
comp=E,0.4nm,0.3s
ETSF Etsaut 7.23 58 *e*Pn **Pn** **20 20 06.8 +0.9**
ETSF *e*Sn **Sn** **20 21 25.9 -1.9**
comp=E,0.2nm,0.3s
ERTA Horta de San J 7.26 74 Pn **Pn** **20 20 07.8 +1.5**
SNR=7.9
EBIE Bielsa 7.61 61 Pn **Pn** **20 20 12.5 +1.4**
SNR=7.9
EBIE Bielsa 7.61 61 Pn **Pn** **20 20 12.5 +1.4**
EPF Esparros 7.88 59 *e*Pn **Pn** **20 20 16.3 +1.5**
LFF La Frestale 9.08 49 *e*Pn **Pn** **20 20 31.1 -0.2**
MFF Saint Martin d 9.68 39 *e*Pn **Pn** **20 20 39.1 -0.3**
RJF Les Rejaudoux 9.74 49 *e*Pn **Pn** **20 20 39.7 -0.6**
ROSF Rostrenen 9.86 22 *e*Pn **Pn** **20 20 41.7 -0.2**
GRR Gorron 10.73 30 *e*Pn **Pn** **20 20 53.9 0.0**

MAN ***27*** *20:22:01, 257N×127.14E, h25km, mb5.3, ML4.3, MS4.5*
MOS ***27*** *20:22:01.5±0.9, 283N×12742E, h33km, mb5.2/17, Error ellipse: s-maj=17.7km s-min=6.7km az=112.7*
BJI ***27*** *20:22:02.9, 250N×12736E, h66km, mB4.8, mb4.9, Ms3.9, Msz3.8*
IDC ***27*** *20:22:03.3±2.2, 278N×12750E, h33km±16km, mb4.6/19, mb1 4.7/21, mb1mx4.6/24, mbtmp4.7/21, ML4.6/2, MS3.7/13, Ms1 3.7/13, ms1mx3.6/26, Error ellipse: s-maj=21.2km s-min=9.0km az=81.0*
ISCJB ***27*** *20:22:03.3±0.5, 280N±002×12752E±004, h52km±4km, mb5.0/70, MS3.7/16, Error ellipse: s-maj=7.3km s-min=3.8km az=168.6*
NEIC ***27*** *20:22:05.1±1.0, 277N×12741E, h50km±9km, mb5.1/28, Error ellipse: s-maj=9.0km s-min=4.1km az=69.0*
DJA ***27*** *20:22:09, 294N×12758E, h82km, ML5.1/6*
ISC 27 20:22:05.4±0.5, 280N±002×12752E±004, h55km±4km, h52km±4.8km: pP-P, n170, σ0.95/174, mb5.0/70, MS3.7/16, 11C-11D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.00**	**184**	⇓*e*P	**Pn**	**20 22 33.5**	**-3.4**
MNI	**Manado**	**2.99**	**243**	P	**Pn**	**20 22 50.6**	**+0.1**
	0.0nm,0.0s						
LBMI	**Labuha**	**3.41**	**180**	P	**Pn**	**20 22 57.4**	**+1.2**
	0.0nm,0.0s						
GSPH	**General Santos**	**4.15**	**322**	*e*P	**Pn**	**20 23 04.7**	**-1.7**
GSPH				*e*S	**Sn**	**20 23 50.0**	**-3.7**
DAV	**Davao City (W)**	**4.66**	**336**	Pn	**Pn**	**20 23 13.5**	**+0.1**
	97nm,0.3s,baz=277,slow=5.6,SNR=9.8						
DAV				Sn	**Sn**	**20 24 13.9**	**+7.6**
	baz=135,slow=22,SNR=2.6						
DAV				LR	LR	20 25 22.6	
	comp=Z,1μm,20.2s,baz=118,slow=43						
DAV	**Davao City (W)**	**4.66**	**336**	Pn	**Pn**	**20 23 13.5**	**+0.1**
DAV				Sn	**Sn**	**20 24 13.9**	**+7.7**
DAV				LR	LR	20 25 22.6	
DMPH	**Davao City--Mi**	**4.71**	**335**	⇓*e*P	**Pn**	**20 23 14.1**	**+0.1**
KCP	**Kidapawan**	**4.83**	**330**	⇑*e*P	**Pn**	**20 23 16.2**	**+0.5**
CTBH	**Cotabato--PC H**	**5.47**	**324**	*e*P	**Pn**	**20 23 23.1**	**-1.3**
CTBH				*i* S	**Sn**	**20 24 27.3**	**+1.2**
BIPH	**Bislig**	**5.47**	**348**	⇑*i*P	**Pn**	**20 23 23.9**	**-0.6**
BIPH				*i* S	**Sn**	**20 24 33.6**	**+7.4**
BUKP	**Musuan**	**5.61**	**334**	*e*P	**Pn**	**20 23 27.3**	**+1.0**
BUTP	**Butuan**	**6.42**	**343**	*e*P	**Pn**	**20 23 38.4**	**+1.0**
AAI	**Ambon**	**6.47**	**174**	⇓*e*P	**Pn**	**20 23 37.5**	**-0.7**
ZMPH	**Zamboanga City**	**6.83**	**307**	⇓*e*P	**Pn**	**20 23 40.3**	**-2.7**
SCPH	**Surigao**	**7.23**	**344**	⇓*e*P	**Pn**	**20 23 49.4**	**+0.8**
MSLP	**Maasin**	**7.75**	**340**	*e*P	**Pn**	**20 23 55.0**	**-0.8**
TBP	**Tagbilaran**	**7.75**	**332**	*e*P	**Pn**	**20 23 55.0**	**-0.7**
KDI	**Kendari**	**8.30**	**216**	P	**Pn**	**20 24 02.4**	**-0.9**
	0.0nm,0.0s						
KDI	**Kendari**	**8.30**	**216**	⇓*e*P	**Pn**	**20 24 02.5**	**-0.8**
KDI				*e*S	**Sn**	**20 25 29.5**	**-6.2**
PCI	**Palu**	**8.51**	**245**	P	**Pn**	**20 24 06.9**	**+0.7**
	0.0nm,0.0s						
OCLP	**Ormoc**	**8.69**	**341**	*e*P	**Pn**	**20 24 09.5**	**+0.9**
MYLDM	**Lahad Datu**	**9.30**	**285**	⇓P	**Pn**	**20 24 18.1**	**+1.1**
TSM	**Tawau**	**9.74**	**279**	⇑P	**Pn**	**20 24 21.8**	**-1.1**
SDKM	**Sandakan**	**10.68**	**286**	⇓P	**Pn**	**20 24 35.4**	**-0.4**
KKM	**Kota Kinabalu**	**11.72**	**286**	⇑P	**Pn**	**20 24 50.1**	**0.0**
KKM	**Kota Kinabalu**	**11.72**	**286**	*e*P	**Pn**	**20 24 51.2**	**+1.2**
BATI	**Baumata**	**13.47**	**196**	P	**Pn**	**20 25 17.0**	**+3.0**
	0.0nm,0.0s						
BATI	**Baumata**	**13.47**	**196**	Pn	**Pn**	**20 25 12.3**	**-1.7**
	0.7nm,0.3s,baz=357,slow=15,SNR=2.1						
PLKI	**Palangkaraya**	**14.46**	**250**	P	**Pn**	**20 25 27.5**	**+0.4**
	216nm,0.9s						
SBUM	**Sibu**	**15.29**	**269**	⇓P	**Pn**	**20 25 38.7**	**+0.7**
KAKA	**Kakadu**	**16.16**	**162**	*e*P	**Pn**	**20 25 48.9**	**-0.2**
	41nm,0.7s						
KHKI	**Kahang-Kahang**	**16.25**	**227**	P	**Pn**	**20 25 54.2**	**+4.0**
	0.0nm,0.0s						
STKI	**Sintang**	**16.26**	**261**	P	**Pn**	**20 25 51.8**	**+1.4**
	0.0nm,0.0s						
KMMI	**Kalianget**	**16.69**	**234**	P	**Pn**	**20 25 59.8**	**+4.0**
	0.0nm,0.0s						
DNP	**Denpasar**	**16.75**	**227**	P	**Pn**	**20 26 00.1**	**+3.6**
	0.0nm,0.0s						
IGBI	**Denpasar**	**16.89**	**227**	P	**Pn**	**20 26 00.5**	**+2.3**
	0.0nm,0.0s						
KSM	**Kuching**	**17.25**	**266**	⇓P	**Pn**	**20 26 05.0**	**+2.3**
KRKI	**Karangkates**	**18.55**	**234**	P	**Pn**	**20 26 20.1**	**+1.5**
	0.0nm,0.0s						
SJI	**Sawahan**	**18.88**	**236**	P	**Pn**	**20 26 22.2**	**-0.3**
	0.0nm,0.0s						
GUMO	**Guam**	**20.23**	**57**	LR	LR	20 33 18.2	
	comp=Z,82nm,19.9s,MS3.1,baz=242,slow=33						
FITZ	**Fitzroy Crossi**	**20.85**	**185**	*e*P	**P**	**20 26 41.2**	**-1.6**
	16nm,0.4s						
FITZ				*e*S	**S**	**20 30 27.2**	**-5.3**
FITZ	**Fitzroy Crossi**	**20.85**	**185**	P	**P**	**20 26 41.4**	**-1.4**
	11nm,0.5s,baz=21,slow=11,SNR=51						
YHNB	**Yeheng**	**22.54**	**345**	*e*P	**P**	**20 26 59.7**	**-1.2**
	63nm,0.6s,mb5.2						
WRAB	**Tennant Creek**	**23.56**	**164**	*c i*P	**P**	**20 27 10.5**	**-0.7**
WRAB	**Tennant Creek**	**23.56**	**164**	*e*P	**P**	**20 27 10.3**	**-0.9**
	38nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**23.57**	**164**	P	**P**	**20 27 10.1**	**-1.1**
	22nm,0.5s,mb4.9,baz=331,slow=11,SNR=131						
WRA				S	**S**	**20 31 23.4**	**+1.9**
	2.1nm,0.7s,baz=344,slow=17,SNR=4.4						
WB2	**Warramunga Arr**	**23.57**	**164**	*e*P	**P**	**20 27 10.2**	**-1.1**
WB2				*e*S	**S**	**20 31 17.7**	**-3.9**
QZH	**Quanzhou**	**23.64**	**339**	P	**P**	**20 27 11.5**	**-0.4**
QZH				S	**S**	**20 31 24.8**	**+2.2**
QZH				AMB	AMB		
	comp=Z,80nm,0.6s,mb5.3						
QZH				LR	LR		
	comp=Z,510nm,23.8s,MS3.9						
QIZ	**Qiongzhong**	**23.65**	**314**	*e*P	**P**	**20 27 10.8**	**-1.2**
JOW	**Kunigami**	**23.91**	**2**	P	**P**	**20 27 14.7**	**+0.4**
	comp=Z,16nm,0.8s,mb4.5,baz=192,slow=9.1,SNR=12						
JOW				LR	LR	20 34 54.8	
	comp=Z,199nm,21.3s,MS3.6,baz=128,slow=32						
ASAR	**Alice Springs**	**27.03**	**167**	P	**P**	**20 27 42.1**	**-0.5**
	comp=Z,5.2nm,0.6s,mb4.2,baz=353,slow=6.9,SNR=77						
ASAR				PcP	PcP	20 31 03.5	+0.5
	comp=Z,2.5nm,0.6s,baz=354,slow=1.8,SNR=5.9						
ASAR				ScP	ScP	20 34 40.7	+1.8
	comp=Z,1.1nm,0.9s,baz=354,slow=0.9,SNR=4.2						
ASAR	**Alice Springs**	**27.03**	**167**	P	**P**	**20 27 42.2**	**-0.4**
ASAR						20 31 03.5	
CBIJ	**Chichi jima**	**27.95**	**29**	P	**P**	**20 27 49.5**	**-1.4**
	comp=Z,27nm,0.4s,mb5.2,baz=92,slow=24,SNR=15						
CBIJ				LR	LR	20 37 12.3	
	comp=Z,115nm,18.4s,MS3.5,baz=224,slow=32						
CTA	**Charters Tower**	**29.25**	**142**	*e*P	**P**	**20 28 10.9**	**+8.4**
	comp=Z,7.6nm,1.3s,mb4.3						
CTA	**Charters Tower**	**29.25**	**142**	P	**P**	**20 28 03.2**	**+0.7**
	comp=Z,5.2nm,0.8s,mb4.3,baz=276,slow=8.8,SNR=3.5						
CTA				LR	LR	20 41 22.4	
	comp=Z,175nm,19.2s,MS3.7,baz=148,slow=40						
CTA	**Charters Tower**	**29.25**	**142**	P	**P**	**20 28 03.2**	**+0.7**
CTA				*e*		20 28 10.9	
CTA	**Charters Tower**	**29.25**	**142**	P	**P**	**20 28 03.2**	**+0.7**
CTA				*e*P		20 28 10.9	
CTA				LR	LR	20 41 22.4	
WHN	**Wuhan**	**30.28**	**337**	P	**P**	**20 28 12.5**	**+1.0**
WHN				S	**S**	**20 33 07.8**	**+0.2**
WHN				LR	LR		
	comp=Z,630nm,28.0s,MS4.1						
CMAR	**Chiang Mai Arr**	**32.02**	**301**	P	**P**	**20 28 26.1**	**-0.9**
	comp=Z,10nm,0.8s,mb4.7,baz=115,slow=7.1,SNR=67						
CMAR				ScP	ScP	20 34 56.5	+1.4
	comp=Z,0.5nm,0.5s,baz=182,slow=1.9,SNR=4.7						
CMAR				LR	LR	20 42 34.1	
	comp=Z,81nm,18.4s,MS3.4,baz=130,slow=38						
CMAR	**Chiang Mai Arr**	**32.02**	**301**	⇑*e*P	**P**	**20 28 26.6**	**-0.4**
KMI	**Kunming**	**32.59**	**315**	P	**P**	**20 28 27.8**	**-4.1**
KMI				PP	PP	20 29 38.3	-8.1
KMI				S	**S**	**20 33 43.5**	**-0.4**
KMI				SS	SS	20 35 39.5	-26
KMI				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
KMI				AMB	AMB		
	comp=Z,99nm,4.4s						
KMI				LR	LR		
	comp=N,106nm,16.9s						
KMI				LR	LR		
	comp=E,124nm,24.7s						
KMI				LR	LR		
	comp=Z,126nm,23.6s						
FORT	**Forrest**	**33.39**	**179**	*e*P	**P**	**20 28 37.8**	**-1.0**
	comp=Z,36nm,0.8s,mb5.3						
FORT				*e*	pP	20 28 52.5	-0.2
KSRS	**Korea Array**	**34.49**	**1**	P	**P**	**20 28 48.4**	**+0.1**
	comp=Z,5.5nm,0.6s,mb4.7,baz=178,slow=9.6,SNR=24						
KSRS				LR	LR	20 40 55.7	
	comp=Z,98nm,20.7s,MS3.5,baz=169,slow=33						
MAT	**Matsushiro**	**35.00**	**15**	P	**P**	**20 28 52.5**	**-0.2**
MJAR	**Matsushiro Arr**	**35.00**	**15**	P	**P**	**20 28 51.8**	**-0.9**
	comp=Z,7.6nm,0.7s,mb4.8,baz=182,slow=9.7,SNR=26						
MJAR				LR	LR	20 41 18.5	
	comp=Z,196nm,20.3s,MS3.9,baz=190,slow=33						
KLBR	**Kellerberrin**	**35.44**	**194**	*e*P	**P**	**20 28 55.9**	**-0.6**
	comp=Z,52nm,0.9s,mb5.5						
XAN	**Xi'an**	**35.60**	**333**	P	**P**	**20 28 57.3**	**-0.6**
XAN				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
XAN				AMB	AMB		
	comp=Z,17nm,3.5s						
XAN				LR	LR		
	comp=N,77nm,20.1s,MS3.6						
XAN				LR	LR		
	comp=E,69nm,18.9s,MS3.6						
XAN				LR	LR		
	comp=Z,206nm,29.0s						
MUN	**Mundaring**	**36.21**	**196**	*e*P	**P**	**20 29 02.8**	**-0.3**
DL2	**Dalian**	**36.34**	**352**	P	**P**	**20 29 08.5**	**+4.4**
DL2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
NWAO	**Narrogin (SRO)**	**36.84**	**195**	P	**P**	**20 29 07.7**	**-0.8**
	comp=Z,32nm,0.6s,mb5.4,baz=25,slow=6.6,SNR=31						
STKA	**Stephens Creek**	**36.98**	**160**	*e*P	**P**	**20 29 09.2**	**-0.5**
	comp=Z,28nm,0.4s,mb5.5						
STKA	**Stephens Creek**	**36.98**	**160**	P	**P**	**20 29 09.5**	**-0.2**
	comp=Z,44nm,0.6s,mb5.5,baz=336,slow=7.3,SNR=77						
STKA				LR	LR	20 46 23.4	
	comp=Z,180nm,18.2s,MS3.9,baz=257,slow=40						
BJT	**Baijiatuau**	**38.45**	**346**	*e*P	**P**	**20 29 22.4**	**+0.4**
BJT				pmax	pmax		
	comp=Z,36nm,0.6s						
BJT	**Baijiatuau**	**38.45**	**346**	*e*P	**P**	**20 29 22.4**	**+0.4**
	comp=Z,36nm,0.6s,mb5.3						
BJI	**Beijing**	**38.47**	**346**	P	**P**	**20 29 22.8**	**+0.6**
BJI				AMB	AMB		
	comp=Z,54nm,0.7s,mb5.4						
LZH	**Lanzhou**	**39.70**	**329**	⇑P	**P**	**20 29 33.5**	**+1.0**
LZH				AP	pP	20 29 47.5	+0.9
LZH				XP	sP	20 29 55.5	+2.5
LZH				PP	PP	20 31 05.3	+0.7
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,69nm,4.7s						
ARMA	**Armidale**	**40.26**	**147**	*e*P	**P**	**20 29 38.1**	**+0.9**
BTO	**Baotou**	**40.83**	**340**	*e*P	**P**	**20 29 40.8**	**-0.9**
SHL	**Shillong**	**41.06**	**307**	*i* P	**P**	**20 29 44.0**	**+0.1**
SHL				*e*S	**S**	**20 35 51.0**	**-1.9**
MDJ	**Mudanjiang**	**41.69**	**2**	P	**P**	**20 29 49.0**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,37nm,3.2s						
MDJ	**Mudanjiang**	**41.69**	**2**	*e*P	**P**	**20 29 49.1**	**+0.4**
	comp=Z,15nm,0.9s,mb4.6						
CAN	**Canberra**	**42.93**	**154**	*e*P	**P**	**20 29 59.7**	**+0.7**
CNB	**Canberra Magne**	**43.09**	**154**	*e*P	**P**	**20 30 04.0**	**+3.8**
ASAJ	**Asahikawa**	**43.26**	**16**	LR	LR	20 46 29.5	
	comp=Z,113nm,20.6s,MS3.8,baz=184,slow=34						
TOO	**Toolangi**	**43.49**	**159**	*e*P	**P**	**20 30 05.0**	**+1.6**
LSA	**Lhasa**	**43.64**	**312**	P	**P**	**20 30 05.5**	**+0.7**
LSA	**Lhasa**	**43.64**	**312**	*e*P	**P**	**20 30 05.1**	**+0.3**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
LSA	**Lhasa**	**43.64**	**312**	*e*P	**P**	**20 30 05.1**	**+0.3**
	comp=Z,9.2nm,0.6s,mb4.7						
GTA	**Gaotai**	**44.30**	**329**	P	**P**	**20 30 10.8**	**+0.9**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
TAPN	**Taplejung**	**45.20**	**307**	*e*P	**P**	**20 30 16.6**	**-0.7**
	comp=Z,24nm,0.5s,mb5.3						
ODAN	**Odare**	**45.25**	**306**	*e*P	**P**	**20 30 16.9**	**-0.8**
	comp=Z,18nm,0.5s,mb5.2						
RAMN	**Ramite**	**45.93**	**306**	*e*P	**P**	**20 30 22.5**	**-0.6**
	comp=Z,26nm,0.6s,mb5.3						
YSS	**Yuzh-Sakhalins**	**45.93**	**15**	*e*P	**P**	**20 30 22.9**	**+0.1**
JIRN	**Jiri**	**46.55**	**306**	*e*P	**P**	**20 30 27.4**	**-0.6**
	comp=Z,15nm,0.3s,mb5.4						
HIA	**Hailar**	**46.77**	**353**	*e*P	**P**	**20 30 28.3**	**-1.0**
GUN	**Gumba**	**46.91**	**306**	*e*P	**P**	**20 30 30.3**	**-0.5**
	comp=Z,47nm,0.4s,mb5.8						
PKI	**Pulchoki**	**47.15**	**306**	*e*P	**P**	**20 30 31.6**	**-1.0**
	comp=Z,7.4nm,0.3s,mb5.1						
PKI	**Pulchoki**	**47.15**	**306**	*e*P	**P**	**20 30 31.6**	**-1.0**
PKI				pmax	pmax		
	comp=Z,7.0nm,0.3s,mb5.1						
PKIN	**Phulchoki**	**47.16**	**306**	*e*P	**P**	**20 30 31.6**	**-1.1**
	comp=Z,8.2nm,0.4s,mb5.0						
KKN	**Kakani**	**47.34**	**306**	*e*P	**P**	**20 30 33.2**	**-0.9**
	comp=Z,17nm,0.4s,mb5.3						
KKN	**Kakani**	**47.34**	**306**	*e*P	**P**	**20 30 33.2**	**-0.9**
KKN				pmax	pmax		
	comp=Z,17nm,0.4s,mb5.3						
DMN	**Daman**	**47.41**	**306**	*e*P	**P**	**20 30 33.5**	**-1.2**
	comp=Z,8.5nm,0.4s,mb5.0						
GKN	**Gorkha**	**47.95**	**306**	*e*P	**P**	**20 30 37.5**	**-1.3**
SONM	**Songino Array**	**48.43**	**341**	P	**P**	**20 30 43.2**	**+1.0**
	comp=Z,5.5nm,0.8s,mb4.7,baz=153,slow=8.7,SNR=30						
SONM				LR	LR	20 53 47.3	
	comp=Z,65nm,19.4s,MS3.6,baz=239,slow=39						
KOLN	**Koldanda**	**48.70**	**305**	*e*P	**P**	**20 30 44.0**	**-0.6**
	comp=Z,36nm,0.4s,mb5.8						
DANN	**Dangsing**	**48.80**	**306**	*e*P	**P**	**20 30 44.9**	**-0.5**
	comp=Z,46nm,0.4s,mb5.9						
HYB	**Hyderabad**	**50.17**	**290**	*i* P	**P**	**20 30 55.5**	**-0.5**
ZAK	**Zakamensk**	**51.66**	**340**	*e*P	**P**	**20 31 06.7**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.0s,mb3.7						
TLY	**Talaya**	**52.66**	**342**	*e*P	**P**	**20 31 15.8**	**+1.8**
TLY				*e*		20 38 55.9	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
TLY	**Talaya**	**52.66**	**342**	*e*P	**P**	**20 31 14.8**	**+0.8**
MOY	**Mondy**	**53.52**	**340**	*e*P	**P**	**20 31 21.8**	**+1.4**
MOY				pmax	pmax		
	comp=Z,22nm,1.8s,mb4.8						
WMQ	**Urumqi**	**53.94**	**325**	P	**P**	**20 31 24.5**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
WMQ				LR	LR		
	comp=N,119nm,24.6s,MS4.0						
WMQ				LR	LR		
	comp=E,99nm,25.2s,MS4.0						
WMQ				LR	LR		
	comp=Z,131nm,26.0s,MS3.9						
BOD	**Bodaibo**	**55.90**	**351**	⇓*e*P	**P**	**20 31 38.8**	**+1.3**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
PETK	**Petropavlovsk-**	**56.00**	**21**	P	**P**	**20 31 38.8**	**+0.6**
	comp=Z,2.4nm,0.5s,mb4.5,baz=172,slow=4.4,SNR=9.0						
MK31	**Makanchi Array**	**58.77**	**325**	*i* P	**P**	**20 31 58.3**	**+0.4**
MKAR	**Makanchi Array**	**58.77**	**325**	P	**P**	**20 31 58.3**	**+0.4**
	comp=Z,7.6nm,0.4s,mb5.1,baz=113,slow=7.9,SNR=153						
MKAR				LR	LR	20 59 31.2	
	comp=Z,47nm,18.3s,MS3.6,baz=253,slow=38						
YAK	**Yakutsk**	**59.12**	**1**	*e*P	**P**	**20 32 00.0**	**0.0**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK	**Yakutsk**	**59.12**	**1**	*i* P	**P**	**20 32 00.1**	**+0.1**
TKM2	**Tokmak 2**	**60.96**	**319**	*e*P	**P**	**20 32 13.5**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
TKM2	**Tokmak 2**	**60.96**	**319**	*e*P	**P**	**20 32 13.5**	**+0.4**
	comp=Z,5.2nm,0.7s,mb4.8						
UCH	**Uchtor**	**61.39**	**317**	*e*P	**P**	**20 32 17.0**	**+1.0**
	comp=Z,6.2nm,0.7s,mb4.8						
ZAA0	**Zalesovo Array**	**61.77**	**333**	*e*P	**P**	**20 32 17.9**	**-0.3**
ZALV	**Zalesovo Beam**	**61.77**	**333**	P	**P**	**20 32 18.1**	**-0.1**
	comp=Z,7.0nm,0.5s,mb5.1,baz=127,slow=6.9,SNR=37						
ZAL	**Zalesovo**	**61.77**	**333**	P	**P**	**20 32 18.2**	**-0.1**
EKS2	**Erkin-Say**	**62.06**	**318**	*e*P	**P**	**20 32 21.2**	**+0.7**
	comp=Z,5.2nm,0.6s,mb4.8						
KBL	**Kabul**	**62.71**	**308**	*e*P	**P**	**20 32 23.8**	**-1.2**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb5.0						
KBL	**Kabul**	**62.71**	**308**	*e*P	**P**	**20 32 23.8**	**-1.2**
	comp=Z,8.0nm,0.6s,mb5.0						
SEY	**Seymchan**	**62.76**	**12**	*e*P	**P**	**20 32 24.5**	**-0.3**
KURK	**Kurchatov**	**62.95**	**327**	*i* P	**P**	**20 32 26.5**	**+0.3**
KURK	**Kurchatov**	**62.95**	**327**	*i* P	**P**	**20 32 26.5**	**

baz=300
MIB AMb AMB 20 34 10.9
comp=Z,66nm,1.0s,mb5.5,baz=300
NAY Al-Naaiem 80.16 299 *e*P **P 20 34 09.8 -0.5**
baz=299
NAY AMb AMB 20 34 11.1
comp=Z,30nm,0.9s,mb5.2,baz=299
RST Umm Al-Ruwaisa 80.38 299 *e*P **P 20 34 10.9 -0.6**
baz=299
RST AMb AMB 20 34 12.1
comp=Z,2.0nm,0.7s,mb4.2,baz=299
KDAK Kodiak Island 82.25 32 P **P 20 34 22.0 +1.2**
comp=Z,7.3nm,0.6s,mb4.8,baz=208,slow=10.0,SNR=4.6
PPLA Purkeypile 83.10 27 *e*P **P 20 34 25.3 +0.3**
comp=Z,75nm,1.3s,mb5.6
MAW Mawson 83.16 200 *e*P **P 20 34 26.2 +1.0**
comp=Z,9.0nm,0.9s,mb4.8
MAW Mawson 83.16 200 P **P 20 34 26.4 +1.1**
comp=Z,15nm,1.0s,mb5.0,baz=61,slow=6.1,SNR=25
MAW Mawson 83.16 200 *e*P **P 20 34 26.2 +1.0**
MAW pmax pmax
comp=Z,9.0nm,0.9s
COLD Coldfoot 84.44 23 *e*P **P 20 34 33.9 +2.1**
comp=Z,7.9nm,0.9s,mb4.8
MALT Malatya 87.57 308 *e*P **P 20 34 49.5 +1.6**
MALT pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
MALT Malatya 87.57 308 *e*P **P 20 34 49.5 +1.5**
comp=Z,3.0nm,0.8s,mb4.6
ANN Anapa 88.11 315 *e*PKIKP **P 20 34 49.3 -1.0**
ANN Anapa 88.11 315 *e*P **P 20 34 49.5 -0.8**
ANN pmax pmax
comp=Z,52nm,1.7s,mb5.5
OBN Obninsk 88.27 325 *e*P **P 20 34 50.3 -0.6**
OBN pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
KMBO Kilima Mbogo 90.32 269 P **P 20 35 02.5 +1.1**
comp=Z,1.2nm,0.6s,mb4.4,baz=38,slow=16,SNR=4.1
KMBO Kilima Mbogo 90.32 269 P **P 20 35 02.5 +1.1**
ARCES ARCESS Array B 91.59 340 P **P 20 35 05.1 -1.0**
comp=Z,2.4nm,0.6s,mb4.7,baz=82,slow=6.9,SNR=25
ARCES ARCESS Array B 91.59 340 P **P 20 35 05.1 -1.0**
NOA NORSAR Array B 99.97 334 LR LR 21 27 30.8
comp=Z,58nm,19.7s,MS4.1,baz=5.0,slow=39
TXAR Lajitas Array 121.54 53 PKP PKPdf 20 40 55.1 +1.5
comp=Z,0.7nm,0.7s,baz=236,slow=1.6,SNR=8.3
TORD Torodi Ar. Bea 123.95 288 PKP PKPdf 20 40 59.0 +0.4
comp=Z,1.0nm,0.6s,baz=66,slow=1.6,SNR=14
TORD PKKPbc PKKPbc 20 50 45.1 +0.7
comp=Z,0.3nm,0.5s,baz=272,slow=2.9,SNR=6.6
PLCA Paso Flores 138.86 159 PKP PKPdf 20 41 27.5 +1.4
comp=Z,1.6nm,0.7s,baz=306,slow=3.7,SNR=3.3
LCO Las Campanas 148.69 148 *e*PKPbc PKPbc 20 41 48.8 +1.4
CPUP Villa Florida 156.14 169 PKP PKPdf 20 41 56.1 +1.5
comp=Z,0.3nm,0.3s,baz=118,slow=2.1,SNR=3.9
CPUP PKPab PKPab 20 42 20.4 -1.7
comp=Z,0.8nm,0.4s,baz=149,slow=3.5,SNR=4.7
LPAZ La Paz 159.59 132 PKP PKPdf 20 42 02.1 +3.0
comp=Z,2.0nm,1.0s,baz=53,slow=14,SNR=4.0
LPAZ PKPab PKPab 20 42 40.0 +2.6
comp=Z,0.9nm,0.8s,baz=216,slow=1.9,SNR=3.7
LPAZ La Paz 159.59 132 PKP PKPdf 20 42 02.1 +3.0
LPAZ PKPab PKPab 20 42 40.0 +2.6

IDC 27 20:42:41.2±7.4, 586S×14770E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/15, mbtmp3.6/4, Error ellipse: s-maj=113.1km s-min=65.3km az=34.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.09**	**222**	P	Pn	20 47 04.8	-1.5
	0.2nm,0.3s,baz=46,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.13**	**215**	P	P	20 47 38.3	-0.2
	0.6nm,0.6s,baz=52,slow=8.9,SNR=17						
FITZ	**Fitzroy Crossi**	**24.73**	**239**	P	P	20 48 04.9	+0.4
	1.3nm,0.6s,baz=53,slow=12,SNR=7.4						
STKA	**Stephens Creek**	**26.50**	**192**	P	P	20 48 20.8	+0.4
	4.3nm,1.2s,baz=16,slow=14,SNR=4.4						

*IDC **27** 21:00:14.3±0.5, 283N×12751E, h0km, mb4.6/21, mb1 4.7/21, mb1mx4.6/24, mbtmp4.6/21, MS3.8/13, Ms1 3.8/13, ms1mx3.6/28, Error ellipse: s-maj=21.5km s-min=9.7km az=82.0*
*MOS **27** 21:00:17.4±1.0, 286N×12757E, h33km, mb5.1/22, Error ellipse: s-maj=12.3km s-min=6.3km az=112.6*
*MAN **27** 21:00:19, 255N×12705E, h214km, mb5.4, ML4.4, MS4.6*
*ISCJB **27** 21:00:19.3±0.6, 276N±002×12753E±004, h51km±5km, mb4.9/90, MS3.9/28, Error ellipse: s-maj=6.8km s-min=3.8km az=173.1*
*BJI **27** 21:00:19.0, 267N×12742E, h52km, mB4.9, mb4.9, Ms4.2, Msz4.0*
*GCMT **27** 21:00:20.4±0.3, 286N×12742E, h16km, MW5.1/48, Moment Tensor Solution. s18,c24; s48,c79; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.28±.15; Mθθ0.53±.08; Mφφ-1.80±.13; Mrθ-3.20±.24; Mrφ-0.08±.09; Mθf~4.31±.27; Best double couple: M0:5.60200×10^16 NP1:φs334.00000°, δ13.00000°, λ30.00000°. NP2: φs215.00000°, δ84.00000°, λ101.00000°. Principal axes: T 5.6890, Plg50.0000°, Azm137.0000°; N -0.1680, Plg11.0000°, Azm34.0000°; P -5.5150, Plg38.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 21:00:20.4±0.7, 281N×12753E, h47km±6km, mb5.0/35 Error ellipse: s-maj=5.5km s-min=3.1km az=75.0*
*DJA **27** 21:00:25, 284N×12760E, h80km, ML5.1/4*
ISC 27 21:00:21.4±0.5, 274N±002×12755E±004, h55km±4km, h46km±1.3km: pP-P, n201, σ1§13/209, mb4.9/89, MS3.9/28, 15C-8D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.95**	**185⇑**	*e*P	**Pn**	**21 00 51.0**	**-1.2**
DAV	**Davao City (W)**	**4.72**	**336**	Pn	**Pn**	**21 01 28.4**	**-1.8**
	53nm,0.3s,baz=180,slow=7.1,SNR=8.3						
DAV				Sn	**Sn**	**21 02 29.6**	**+5.9**
	41nm,0.3s,baz=117,slow=19,SNR=3.9						
DAV	**Davao City (W)**	**4.72**	**336**	*e*Pn	**Pn**	**21 01 28.2**	**-2.0**
DAV				*e*Sn	**Sn**	**21 02 26.2**	**+2.5**
KCP	**Kidapawan**	**4.89**	**330⇑**	*e*P	**Pn**	**21 01 33.6**	**+1.1**
BIPH	**Bislig**	**5.53**	**348⇑**	*i*P	**Pn**	**21 01 43.2**	**+1.9**
BIPH				*i*S	**Sn**	**21 02 45.7**	**+2.1**
BUKP	**Musuan**	**5.67**	**334**	*e*P	**Pn**	**21 01 43.4**	**+0.2**
BUKP				*e*S	**Sn**	**21 02 49.0**	**+2.0**
AAI	**Ambon**	**6.42**	**174**	P	**Pn**	**21 01 59.4**	**+6.0**
	305nm,1.1s						
AAI	**Ambon**	**6.42**	**174⇑**	*e*P	**Pn**	**21 01 55.3**	**+1.9**
PAGZ	**Pagadian**	**6.55**	**321**	*e*P	**Pn**	**21 01 53.1**	**-2.1**
ZMPH	**Zamboanga City**	**6.88**	**308⇓**	*e*P	**Pn**	**21 01 56.4**	**-3.3**
IPIL	**Ipil**	**7.05**	**316**	*e*P	**Pn**	**21 01 59.3**	**-2.8**
SCPH	**Surigao**	**7.29**	**344⇑**	*e*P	**Pn**	**21 02 06.7**	**+1.4**
MSLP	**Maasin**	**7.81**	**340**	*e*P	**Pn**	**21 02 14.2**	**+1.6**
KDI	**Kendari**	**8.28**	**217**	P	**Pn**	**21 02 19.8**	**+0.9**
	90nm,1.1s						
KDI	**Kendari**	**8.28**	**217⇑**	*e*P	**Pn**	**21 02 17.7**	**-1.2**
KDI				*e*S	**Sn**	**21 03 52.9**	**+1.8**
PCI	**Palu**	**8.52**	**245**	P	**Pn**	**21 02 26.5**	**+4.3**
	95nm,1.1s						
GUIM	**Jordan**	**9.25**	**328**	*e*P	**Pn**	**21 02 29.4**	**-2.8**
MYLDM	**Lahad Datu**	**9.35**	**285**	⇑P	**Pn**	**21 02 34.1**	**+0.6**
TSM	**Tawau**	**9.78**	**279**	⇑P	**Pn**	**21 02 38.1**	**-1.4**
SDKM	**Sandakan**	**10.72**	**286**	⇑P	**Pn**	**21 02 51.0**	**-1.3**
KAPI	**Kappang**	**10.96**	**225**	Pn	**Pn**	**21 02 55.7**	**+0.1**
	159nm,0.5s,SNR=11						
KAPI	**Kappang**	**10.96**	**225**	*e*Pn	**Pn**	**21 02 55.2**	**-0.3**
KAPI				*e*Sn	**Sn**	**21 04 51.9**	**-4.8**
KDM	**Kudat**	**11.45**	**292**	⇑P	**Pn**	**21 03 03.2**	**+0.8**
KKM	**Kota Kinabalu**	**11.77**	**287**	⇓P	**Pn**	**21 03 07.9**	**+1.3**
KKM	**Kota Kinabalu**	**11.77**	**287**	*e*Pn	**Pn**	**21 03 07.1**	**+0.5**
KKM				Sn	**Sn**	**21 05 13.9**	**-2.6**
BATI	**Baumata**	**13.43**	**197**	Pn	**Pn**	**21 03 31.6**	**+2.3**
	1.6nm,0.3s,baz=228,slow=4.5,SNR=3.5						
BTM	**Bintulu**	**14.45**	**272**	⇓P	**Pn**	**21 03 42.2**	**-0.8**
SBUM	**Sibu**	**15.32**	**269**	⇓P	**Pn**	**21 03 52.9**	**-1.4**
KAKA	**Kakadu**	**16.10**	**163**	*e*P	**Pn**	**21 04 04.4**	**+0.1**
	29nm,0.7s						
KHKI	**Kahang-Kahang**	**16.23**	**227**	P	**Pn**	**21 04 13.0**	**+7.0**
	135nm,0.8s						
STKI	**Sintang**	**16.28**	**261**	P	**Pn**	**21 04 08.7**	**+2.1**
	74nm,1.3s						
KSM	**Kuching**	**17.27**	**266**	⇑P	**Pn**	**21 04 17.9**	**-1.1**
KSM	**Kuching**	**17.27**	**266**	*e*Pn	**Pn**	**21 04 17.9**	**-1.0**
KRKI	**Karangkates**	**18.55**	**234**	P	**Pn**	**21 04 38.2**	**+3.7**
	197nm,1.1s						
SJI	**Sawahan**	**18.87**	**236**	P	**Pn**	**21 04 40.0**	**+1.6**
	53nm,1.5s						
GUMO	**Guam**	**20.23**	**57**	P	**P**	**21 04 51.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.80**	**185**	*e*P	**P**	**21 04 58.1**	**-0.1**
	30nm,1.1s						
FITZ				*e*		21 08 44.8	
FITZ	**Fitzroy Crossi**	**20.80**	**185**	P	**P**	**21 04 58.1**	**-0.1**
	6.6nm,0.4s,baz=20,slow=12,SNR=25						
LEM	**Lembang**	**22.05**	**244**	P	**P**	**21 05 18.8**	**+7.1**
	54nm,1.2s,mb4.8						
NACB	**Ninganchiao**	**22.07**	**345**	P	**P**	**21 05 11.3**	**-0.5**
YHNB	**Yeheng**	**22.60**	**345**	*e*P	**P**	**21 05 16.6**	**-0.8**
	52nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**23.50**	**164**	P	**P**	**21 05 27.4**	**+0.8**
	233nm,1.1s,mb5.5,SNR=22						
WRAB	**Tennant Creek**	**23.50**	**164**	*d*iP	**P**	**21 05 28.0**	**+1.4**
WRAB	**Tennant Creek**	**23.50**	**164**	*e*P	**P**	**21 05 26.7**	**+0.2**
	51nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**23.51**	**164**	P	**P**	**21 05 26.3**	**-0.3**
	9.7nm,0.3s,mb4.7,baz=338,slow=10,SNR=80						
WRA				S	**S**	**21 09 44.3**	**+7.9**
	1.3nm,0.7s,baz=338,slow=19,SNR=4.3						
WB2	**Warramunga Arr**	**23.51**	**164**	*e*P	**P**	**21 05 26.6**	**0.0**
WB2				*e*S	**S**	**21 09 34.7**	**-1.8**
MYKOM	**Kota Tinggi**	**23.70**	**268**	⇓P	**P**	**21 05 27.2**	**-1.3**
QZH	**Quanzhou**	**23.70**	**339**	P	**P**	**21 05 28.3**	**0.0**
QZH				S	**S**	**21 09 41.0**	**+1.5**
QZH				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.2						
QZH				LR	LR		
	comp=Z,960nm,21.7s,MS4.2						
QIZ	**Qiongzhong**	**23.71**	**314**	P	**P**	**21 05 26.5**	**-2.0**
QIZ				XP	sP	21 05 44.5	-4.2
QIZ				S	**S**	**21 09 39.3**	**-0.4**
QIZ				XS	sS	21 10 00.8	-2.2
QIZ				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.5						
QIZ				AMB	AMB		
	comp=Z,94nm,3.3s						
QIZ				LR	LR		
	comp=N,162nm,20.9s						
QIZ				LR	LR		
	comp=Z,173nm,17.3s,MS3.6						
JOW	**Kunigami**	**23.96**	**2**	P	**P**	**21 05 29.6**	**-1.2**
	comp=Z,10nm,1.0s,mb4.2,baz=216,slow=11,SNR=4.2						
JOW				LR	LR	21 13 09.9	
	comp=Z,302nm,20.8s,MS3.8,baz=5.3,slow=32						
MBWA	**Marble Bar**	**24.96**	**198**	*e*P	**P**	**21 05 40.2**	**+0.4**
ASAR	**Alice Springs**	**26.97**	**167**	P	**P**	**21 05 58.0**	**+0.1**
	comp=Z,1.6nm,0.3s,mb4.0,baz=347,slow=6.8,SNR=44						
ASAR				S	**S**	**21 10 47.0**	**+15**
	comp=Z,0.8nm,0.9s,baz=351,slow=15,SNR=4.2						
CBIJ	**Chichi jima**	**27.98**	**29**	P	**P**	**21 06 05.2**	**-1.8**
	comp=Z,30nm,0.8s,mb5.0,baz=294,slow=18,SNR=5.4						
CBIJ				LR	LR	21 15 28.1	
	comp=Z,165nm,18.7s,MS3.6,baz=201,slow=33						
PSI	**Prapat**	**28.59**	**271**	P	**P**	**21 06 11.7**	**-1.0**
	comp=Z,2.7nm,0.5s,mb4.2,baz=166,slow=17,SNR=4.6						
SSE	**Sheshan**	**28.83**	**349**	*e*P	**P**	**21 06 16.0**	**+1.4**
SSE				AP	pP	21 06 27.8	-0.7
SSE				XP	sP	21 06 33.8	-1.2
SSE				S	**S**	**21 11 03.5**	**+2.7**
SSE				XS	sS	21 11 26.0	+1.6
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,75nm,7.3s						
SSE				LR	LR		
	comp=N,127nm,18.3s,MS3.6						
SSE				LR	LR		
	comp=E,62nm,18.2s,MS3.6						
SSE				LR	LR		
	comp=Z,160nm,20.5s,MS3.6						
WHN	**Wuhan**	**30.34**	**337**	*e*P	**P**	**21 06 29.0**	**+1.1**
WHN				*e*S	**S**	**21 11 28.3**	**+3.8**
WHN				LR	LR		
	comp=Z,879nm,22.8s,MS4.3						
GYA	**Guiyang**	**30.94**	**322⇑**	*i*P	**P**	**21 06 35.8**	**+2.5**
GYA				AP	pP	21 06 49.3	+2.0
GYA				XP	sP	21 06 54.5	+0.7
GYA				PP	PP	21 07 39.5	-4.6
GYA				PCP	PcP	21 09 31.8	+3.0
GYA				S	**S**	**21 11 36.5**	**+2.5**
GYA				SCP	ScP	21 13 09.8	+2.7
GYA				SCS	ScS	21 17 04.0	-0.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,130nm,6.0s						
GYA				LR	LR		
	comp=N,540nm,18.2s,MS4.4						
GYA				LR	LR		
	comp=E,480nm,17.9s,MS4.4						
GYA				LR	LR		
	comp=Z,440nm,18.8s,MS4.1						
CM31	**Chiang Mai Arr**	**32.08**	**301**	*e*P	**P**	**21 06 42.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**32.08**	**301**	P	**P**	**21 06 42.5**	**-0.8**
	comp=Z,14nm,0.9s,mb4.8,baz=117,slow=7.3,SNR=78						
CMAR				LR	LR	21 18 57.7	
	comp=Z,105nm,20.0s,MS3.5,baz=318,slow=35						
CHTO	**Chiang Mai**	**32.23**	**302**	*e*P	**P**	**21 06 43.4**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.1						
CHTO	**Chiang Mai**	**32.23**	**302**	*e*P	**P**	**21 06 43.4**	**-1.3**
	comp=Z,22nm,0.8s,mb5.0						
KMI	**Kunming**	**32.65**	**315**	P	**P**	**21 06 48.0**	**-0.3**
KMI				AP	pP	21 07 00.8	-1.5
KMI				XP	sP	21 07 07.0	-1.9
KMI				PP	PP	21 07 57.5	-5.5
KMI				S	**S**	**21 12 00.0**	**-0.7**
KMI				XS	sS	21 12 23.8	-0.6
KMI				SS	SS	21 14 00.5	-23
KMI				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.9						
KMI				AMB	AMB		
	comp=Z,105nm,3.7s						
KMI				LR	LR		
	comp=N,107nm,19.1s,MS3.8						
KMI				LR	LR		
	comp=E,163nm,20.8s,MS3.8						
KMI				LR	LR		
	comp=Z,220nm,23.3s,MS3.8						
FORT	**Forrest**	**33.34**	**179**	*e*P	**P**	**21 06 54.4**	**+0.2**
	comp=Z,20nm,0.9s,mb5.1						
HNR	**Honiara**	**34.47**	**111**	LR	LR	21 20 46.4	
	comp=Z,146nm,20.2s,MS3.7,baz=359,slow=36						
KSRS	**Korea Array**	**34.55**	**1**	P	**P**	**21 07 04.7**	**0.0**
	comp=Z,6.0nm,1.1s,mb4.5,baz=180,slow=11,SNR=15						
MJAR	**Matsushiro Arr**	**35.04**	**15**	P	**P**	**21 07 07.6**	**-1.4**
	comp=Z,2.8nm,0.8s,mb4.2,baz=184,slow=9.4,SNR=7.8						
MJAR				LR	LR	21 19 34.6	
	comp=Z,239nm,21.3s,MS3.9,baz=210,slow=33						
MAJO	**Matsushiro**	**35.04**	**15**	*e*P	**P**	**21 07 07.7**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MAJO	**Matsushiro**	**35.04**	**15**	*e*P	**P**	**21 07 07.7**	**-1.3**
	comp=Z,4.0nm,0.6s,mb4.5						
KLBR	**Kellerberrin**	**35.39**	**195**	*e*P	**P**	**21 07 12.0**	**0.0**
	comp=Z,80nm,1.1s,mb5.6						
XAN	**Xi'an**	**35.66**	**333**	P	**P**	**21 07 13.3**	**-1.0**
XAN				AP	pP	21 07 25.0	-3.4
XAN				XP	sP	21 07 31.0	-3.9
XAN				PP	PP	21 08 33.0	-3.2
XAN				S	**S**	**21 12 43.0**	**-3.9**
XAN				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.2						
XAN				AMB	AMB		
	comp=Z,52nm,4.8s						
XAN				LR	LR		
	comp=N,125nm,29.1s,MS3.7						
XAN				LR	LR		
	comp=E,168nm,31.1s,MS3.7						
XAN				LR	LR		
	comp=Z,311nm,28.8s,MS3.9						
CD2	**Chengdu**	**35.92**	**324**	*e*P	**P**	**21 07 17.8**	**+1.3**
CD2				AP	pP	21 07 29.8	-0.9
CD2				XP	sP	21 07 35.0	-2.2
CD2				PP	PP	21 08 40.5	+1.4
CD2				PCP	PcP	21 09 43.8	+1.1
CD2				S	**S**	**21 12 52.5**	**+1.5**
CD2				XS	sS	21 13 13.0	-1.9
CD2				SS	SS	21 15 16.8	-13
CD2				SCS	ScS	21 17 29.0	-0.9
CD2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,240nm,21.6s,MS4.2						
CD2				LR	LR		
	comp=E,320nm,16.8s,MS4.2						
CD2				LR	LR		
	comp=Z,210nm,16.8s,MS4.0						
MUN	**Mundaring**	**36.17**	**196**	*e*P	**P**	**21 07 18.5**	**-0.2**
DL2	**Dalian**	**36.40**	**352**	P	**P**	**21 07 24.5**	**+4.0**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NWAO	**Narrogin (SRO)**	**36.79**	**195**	P	**P**	**21 07 24.6**	**+0.7**
	comp=Z,11nm,0.4s,mb5.0,baz=12,slow=8.8,SNR=20						
STKA	**Stephens Creek**	**36.92**	**160**	*e*P	**P**	**21 07 25.3**	**+0.2**
	comp=Z,17nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**36.92**	**160**	P	**P**	**21 07 25.8**	**+0.7**
	comp=Z,13nm,0.4s,mb5.1,baz=347,slow=6.8,SNR=28						
STKA				LR	LR	21 23 37.8	
	comp=Z,181nm,20.3s,MS3.9,baz=264,slow=38						
STKA	**Stephens Creek**	**36.92**	**160**	*e*P	**P**	**21 07 25.8**	**+0.7**
	comp=Z,17nm,0.6s,mb5.0						
BJT	**Baijiatuau**	**38.51**	**346**	*e*P	**P**	**21 07 38.6**	**+0.2**
BJT				pmax	pmax		
	comp=Z,40nm,0.9s						
BJT	**Baijiatuau**	**38.51**	**346**	*e*P	**P**	**21 07 38.6**	**+0.2**
	comp=Z,40nm,0.9s,mb5.2						
BJI	**Beijing**	**38.53**	**346**	P	**P**	**21 07 38.8**	**+0.2**
BJI				S	**S**	**21 13 34.3**	**+3.9**
BJI				AMB	AMB		
	comp=Z,39nm,0.9s,mb5.1						
BJI				LR	LR		
	comp=N,73nm,23.3s,MS3.7						
BJI				LR	LR		
	comp=E,129nm,22.5s,MS3.7						
BJI				LR	LR		
	comp=Z,376nm,33.1s						
LZH	**Lanzhou**	**39.76**	**329**	⇑P	**P**	**21 07 49.8**	**+0.9**
LZH				AP	pP	21 08 02.5	-0.7
LZH				XP	sP	21 08 08.5	-1.1
LZH				PP	PP	21 09 26.3	+5.1
LZH				*e*S	**S**	**21 13 50.8**	**+1.7**
LZH				XS	sS	21 14 11.3	-1.9
LZH				*e*SS	SS	21 16 41.5	-5.3
LZH				AMB	AMB		
	comp=Z,41nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,183nm,5.2s						
LZH				LR	LR		
	comp=E,693nm,13.2s						
LZH				LR	LR		
	comp=Z,997nm,17.8s,MS4.7						
HHC	**Hu-ho-hao-te**	**40.59**	**341**	*e*P	**P**	**21 07 56.5**	**+0.9**
HHC				AP	pP	21 08 08.8	-1.2
HHC				XP	sP	21 08 13.5	-2.9
HHC				PP	PP	21 09 34.5	+4.4
HHC				PCS	PcS	21 13 48.3	+0.7
HHC				S	**S**	**21 14 03.3**	**+2.1**
HHC				XS	sS	21 14 22.8	-2.6
HHC				SCS	ScS	21 17 55.8	-0.5
HHC				AMB	AMB		
	comp=Z,44nm,1.3s,mb4.9						
HHC				AMB	AMB		
	comp=Z,205nm,4.9s						
HHC				LR	LR		
	comp=N,172nm,22.6s,MS4.0						
HHC				LR	LR		
	comp=E,170nm,25.0s,MS4.0						
HHC				LR	LR		
	comp=Z,199nm,27.4s,MS3.8						
BTO	**Baotou**	**40.89**	**339**	*e*P	**P**	**21 07 57.0**	**-1.1**
SHL	**Shillong**	**41.12**	**307**	*e*P	**P**	**21 08 01.0**	**+0.7**
MDJ	**Mudanjiang**	**41.74**	**2**	P	**P**	**21 08 06.0**	**+1.0**
MDJ				AP	pP	21 08 17.0	-2.4
MDJ				XP	sP	21 08 22.3	-3.5
MDJ				PP	PP	21 09 46.8	+4.3
MDJ				S	**S**	**21 14 21.5**	**+3.3**
MDJ				XS	sS	21 14 40.3	-2.1
MDJ				SCS	ScS	21 18 05.0	+1.9
MDJ				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,38nm,4.5s						
MDJ				LR	LR		
	comp=N,92nm,28.5s						
MDJ				LR	LR		
	comp=Z,128nm,26.4s,MS3.7						
CAN	**Canberra**	**42.87**	**154**	*e*P	**P**	**21 08 15.3**	**+0.9**
ASAJ	**Asahikawa**	**43.30**	**16**	P	**P**	**21 08 18.1**	**+0.4**
	comp=Z,2.7nm,0.3s,mb4.4,baz=192,slow=6.7,SNR=7.1						
LSA	**Lhasa**	**43.70**	**312**	P	**P**	**21 08 26.0**	**+4.8**
LSA	**Lhasa**	**43.70**	**312**	*e*P	**P**	**21 08 21.3**	**+0.1**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**43.70**	**312**	*e*P	**P**	**21 08 21.3**	**+0.1**
	comp=Z,8.0nm,0.8s,mb4.5						
GTA	**Gaotai**	**44.36**	**329**	*e*P	**P**	**21 08 26.3**	**0.0**
GTA				AP	pP	21 08 38.8	-2.0
GTA				XP	sP	21 08 44.3	-2.9
GTA				S	**S**	**21 14 57.0**	**+0.2**
GTA				XS	sS	21 15 18.0	-3.2
GTA				SS	SS	21 18 08.3	-8.9
GTA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
GTA				AMB	AMB		
	comp=Z,117nm,7.2s						
GTA				LR	LR		
	comp=N,168nm,22.8s,MS4.0						
GTA				LR	LR		
	comp=E,145nm,22.8s,MS4.0						
GTA				LR	LR		
	comp=Z,294nm,23.7s,MS4.1						
TAPN	**Taplejung**	**45.26**	**307**	*e*P	**P**	**21 08 33.4**	**-0.3**
	comp=Z,18nm,0.4s,mb5.2						
ODAN	**Odare**	**45.30**	**306**	*e*P	**P**	**21 08 33.0**	**-1.1**
	comp=Z,67nm,0.9s,mb5.5						
YSS	**Yuzh-Sakhalins**	**45.98**	**14**	*e*P	**P**	**21 08 37.6**	**-1.4**
YSS				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7						
RAMN	**Ramite**	**45.98**	**306**	*e*P	**P**	**21 08 38.9**	**-0.5**
	comp=Z,71nm,1.0s,mb5.5						
KLR	**Kul'dur**	**46.45**	**4**	*e*P	**P**	**21 08 39.2**	**-3.5**
HIA	**Hailar**	**46.83**	**353**	*e*P	**P**	**21 08 45.7**	**0.0**
HIA	**Hailar**	**46.83**	**353**	*e*P	**P**	**21 08 45.5**	**-0.2**
	comp=Z,34nm,1.1s,mb5.2						
GUN	**Gumba**	**46.96**	**306**	*e*P	**P**	**21 08 46.7**	**-0.4**
	comp=Z,47nm,0.5s,mb5.7						
PKI	**Pulchoki**	**47.20**	**306**	*e*P	**P**	**21 08 48.5**	**-0.5**
	comp=Z,8.4nm,0.3s,mb5.2						
PKI	**Pulchoki**	**47.20**	**306**	*e*P	**P**	**21 08 48.5**	**-0.5**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb5.1						
KKN	**Kakani**	**47.40**	**306**	*

comp=Z,12nm,1.2s,mb4.7
TLY MLR MLR
comp=Z,108nm,18.0s,MS3.9
TLY Talaya 52.72 342 *e*P **P 21 09 29.8 -0.5**
comp=Z,7.7nm,1.0s,mb4.6
IRK Irkutsk 53.01 342 *e*P **P 21 09 33.2 +0.7**
IRK pmax pmax
comp=Z,35nm,2.8s,mb4.8
MOY Mondy 53.58 340 *e*P **P 21 09 38.5 +1.8**
MOY pmax pmax
comp=Z,38nm,2.9s,mb4.8
WMQ Urumqi 54.00 325 P **P 21 09 41.8 +1.9**
WMQ AP pP 21 09 54.5 -0.2
WMQ XP sP 21 09 59.8 -1.3
WMQ PCP PcP 21 10 46.5 +2.0
WMQ PP PP 21 11 45.0 +3.2
WMQ SCP ScP 21 14 39.3 +1.2
WMQ SCS ScS 21 19 23.8 -0.7
WMQ SS SS 21 20 54.0 +0.1
WMQ AMB AMB
comp=Z,16nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,38nm,10.0s
WMQ LR LR
comp=N,279nm,26.8s,MS4.3
WMQ LR LR
comp=E,191nm,26.8s,MS4.3
WMQ LR LR
comp=Z,231nm,26.0s,MS4.1
DDI Dehra Dun 54.20 306 *e*x x 21 09 39.8
BOD Bodaibo 55.95 351 *e*P **P 21 09 51.5 -2.3**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
PETK Petropavlovsk- 56.04 21 P **P 21 09 54.0 -0.5**
comp=Z,2.2nm,0.7s,mb4.3,baz=218,slow=9.1,SNR=2.9
PETK LR LR 21 34 44.9
comp=Z,51nm,19.5s,MS3.6,baz=98,slow=37
THN Thein Dam 56.81 307 *e*x x 21 09 59.4
MK31 Makanchi Array 58.83 325 P **P 21 10 14.4 +0.2**
MK31 pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
MKAR Makanchi Array 58.83 325 P **P 21 10 14.3 +0.1**
comp=Z,5.5nm,0.4s,mb4.9,baz=115,slow=8.2,SNR=77
MKAR LR LR 21 36 46.8
comp=Z,82nm,19.3s,MS3.9,baz=247,slow=37
YAK Yakutsk 59.17 1 *e*P **P 21 10 14.2 -2.1**
YAK pmax pmax
comp=Z,12nm,1.1s,mb4.8
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.4s
YAK Yakutsk 59.17 1 *e*P **P 21 10 14.7 -1.6**
KZA Kyzart 60.89 318 P **P 21 10 30.5 +2.0**
SNR=8.0
TKM2 Tokmak 2 61.02 319 *e*P **P 21 10 29.3 -0.1**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
TKM2 Tokmak 2 61.02 319 P **P 21 10 30.8 +1.4**
SNR=8.9
TKM2 Tokmak 2 61.02 319 *e*P **P 21 10 29.3 0.0**
comp=Z,3.1nm,0.6s,mb4.6
UCH Uchtor 61.45 317 P **P 21 10 34.8 +2.5**
SNR=13
UCH Uchtor 61.45 317 *e*P **P 21 10 32.5 +0.3**
comp=Z,5.1nm,0.8s,mb4.7
ZAA0 Zalesovo Array 61.83 333 *e*P **P 21 10 33.8 -0.9**
ZALV Zalesovo Beam 61.83 333 P **P 21 10 34.2 -0.4**
comp=Z,17nm,1.0s,mb5.1,baz=116,slow=5.8,SNR=45
ZALV LR LR 21 41 33.8
comp=Z,39nm,18.2s,MS3.6,baz=225,slow=40
ZAL Zalesovo 61.83 333 P **P 21 10 34.3 -0.3**
USP Ospenovka 61.90 319 P **P 21 10 36.4 +1.1**
SNR=8.8
AML Almayashu 61.96 317 P **P 21 10 37.9 +2.2**
SNR=11
AML Almayashu 61.96 317 *e*P **P 21 10 36.6 +0.9**
comp=Z,7.9nm,0.8s,mb4.9
EKS2 Erkin-Say 62.12 318 P **P 21 10 38.5 +1.7**
SNR=11
EKS2 Erkin-Say 62.12 318 *e*P **P 21 10 37.0 +0.2**
comp=Z,4.7nm,0.8s,mb4.7
KBL Kabul 62.77 308 *e*P **P 21 10 40.9 -0.4**
KBL pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
KBL Kabul 62.77 308 *e*P **P 21 10 40.9 -0.3**
comp=Z,6.2nm,0.6s,mb4.9
SEY Seymchan 62.81 12 *e*P **P 21 10 41.4 +0.4**
KURK Kurchatov 63.01 327 P **P 21 10 42.7 +0.2**
comp=Z,298nm,1.1s,mb6.3,SNR=43
KURK Kurchatov 63.01 327 *e*P **P 21 10 42.8 +0.3**
KURK pmax pmax
comp=Z,48nm,1.0s,mb5.6
KURK Kurchatov 63.01 327 *e*P **P 21 10 42.8 +0.3**
comp=Z,48nm,1.0s,mb5.6
NVS Novosibirsk 63.12 333⇓ *i*P **P 21 10 42.5 -0.6**
NVS *i*S **S 21 19 09.5 -0.5**
NVS *e* 21 20 28.0
NVS pmax pmax
comp=N,24nm,1.4s
NVS pmax pmax
comp=E,20nm,1.4s
NVS pmax pmax
comp=Z,36nm,1.4s,mb5.3
NVS pmax pmax
comp=Z,11nm,2.0s,mb4.6
NVS pmax pmax
comp=N,10.0nm,2.1s
NVS pmax pmax
comp=E,19nm,2.5s
NVS smax
comp=N,20nm,2.0s
NVS smax
comp=E,24nm,2.0s
KK31 Karatay Array 64.51 317 *i*P **P 21 10 52.4 -0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
VOSK Vostochnaya 68.13 327 P **P 21 11 15.1 -0.5**
VOSK pmax pmax
comp=Z,35nm,1.1s,mb5.3
BVA0 Borovoye Array 68.59 327 *i*P **P 21 11 18.5 +0.1**
BVA0 pmax pmax
comp=Z,14nm,1.3s,mb4.7
BRVK Borovoye 68.66 327 P **P 21 11 19.7 +0.9**
comp=Z,276nm,1.0s,mb6.1,SNR=18
BRVK Borovoye 68.66 327 P **P 21 11 18.9 +0.1**
BRVK pmax pmax
comp=Z,62nm,1.1s,mb5.5
BRVK Borovoye 68.66 327 *e*P **P 21 11 19.3 +0.5**
BRVK pmax pmax
comp=Z,59nm,1.0s,mb5.5
BRVK Borovoye 68.66 327 *e*P **P 21 11 19.3 +0.5**
comp=Z,59nm,1.0s,mb5.5
TIXI Tiksi 68.81 0 *e*P **P 21 11 19.0 -0.5**
TIXI pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
CASY Casey 69.94 187 *e*P **P 21 11 26.7 +0.3**
comp=Z,4.5nm,0.8s,mb4.5
AB31 Akbulak array 73.43 321 *i*P **P 21 11 47.8 0.0**
AB31 pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
SVE Sverdlovsk 75.22 328 *e*P **P 21 11 58.5 +0.4**
SVE pmax pmax
comp=Z,16nm,0.7s,mb5.1
ARU Arti 76.20 328 P **P 21 12 03.0 -0.7**
comp=Z,120nm,0.6s,mb6.0,SNR=9.0
ARU Arti 76.20 328 *d i*P **P 21 12 02.9 -0.8**
ARU *e* pP 21 12 14.2 -5.0
ARU *e*S S 21 21 42.4 -1.2
ARU pmax pmax
comp=Z,19nm,1.0s,mb5.0
ARU Arti 76.20 328 *e*P **P 21 12 02.5 -1.2**
comp=Z,12nm,0.6s,mb5.0
UMR Umm Al-Rimmam 79.81 299 *e*P **P 21 12 23.6 -0.7**
baz=299
UMR AMb AMB 21 12 25.5
comp=Z,79nm,1.2s,mb5.5,baz=299
RDF Al-Radifah 79.92 299 *e*P **P 21 12 24.5 -0.5**
baz=299
RDF AMb AMB 21 12 26.7
comp=Z,75nm,1.2s,mb5.5,baz=299
MIB Mutribah 80.15 300 *e*P **P 21 12 25.0 -1.1**
baz=300
MIB AMb AMB 21 12 27.7
comp=Z,86nm,0.9s,mb5.7,baz=300
NAY Al-Naaiem 80.21 299 *e*P **P 21 12 25.4 -1.1**
baz=299
NAY AMb AMB 21 12 28.0
comp=Z,40nm,1.1s,mb5.3,baz=299
GNI Garni 82.74 310 LR LR 21 53 07.3
comp=Z,50nm,20.5s,MS3.9,baz=84,slow=38
GNI Garni 82.74 310 *e*P **P 21 12 40.1 +0.5**
GNI pmax pmax
comp=Z,32nm,1.7s
GNI Garni 82.74 310 P **P 21 12 40.0 +0.4**
MAW Mawson 83.12 200 P **P 21 12 42.4 +1.5**
comp=Z,11nm,0.9s,mb4.9,baz=55,slow=6.4,SNR=23
CHUM Lake Minchumin 83.20 26 P **P 21 12 40.3 -1.1**
comp=Z,16nm,1.4s,mb4.9
SBA Scott Base 83.25 172 *e*P **P 21 12 41.4 -0.1**
PMR Palmer 84.42 29 *e*P **P 21 12 46.8 -0.9**
COLD Coldfoot 84.48 23 *e*P **P 21 12 48.2 +0.3**
comp=Z,7.0nm,0.9s,mb4.8
COLA College 85.23 25 *e*P **P 21 12 50.6 -1.1**
VRHR Novokhopersk 85.32 321 *e*P **P 21 12 52.9 +0.4**
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRHR pmax pmax
comp=N,6.0nm,1.3s
VRHR pmax pmax
comp=E,8.0nm,0.6s
VRSR Storozhevoye 86.85 321 *e*P **P 21 13 01.7 +1.7**
VRSR pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,1.0s
MALT Malatya 87.63 308 *e*P **P 21 13 04.6 +0.5**
MALT pmax pmax
comp=Z,8.0nm,1.4s,mb4.8
MALT Malatya 87.63 308 *e*P **P 21 13 04.6 +0.5**
comp=Z,8.5nm,1.4s,mb4.8
ANN Anapa 88.17 315 *e*P **P 21 13 07.9 +1.4**
ANN *e* 21 23 30.6
ANN pmax pmax
comp=Z,38nm,1.1s,mb5.5
OBN Obninsk 88.33 325⇑ *e*P **P 21 13 07.7 +0.7**
OBN pmax pmax
comp=Z,30nm,1.3s,mb5.4
ASF Jabal al Asfar 89.11 302 LR LR 21 54 38.0
comp=Z,36nm,18.2s,MS3.8,baz=170,slow=37
KMBO Kilima Mbogo 90.35 269 P **P 21 13 18.9 +1.5**
comp=Z,1.6nm,0.8s,mb4.4,baz=60,slow=12,SNR=3.0
KMBO Kilima Mbogo 90.35 269 *e*P **P 21 13 18.5 +1.1**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 90.35 269 *e*P **P 21 13 18.5 +1.1**
comp=Z,4.4nm,1.0s,mb4.7
JOF Joensuu 90.42 333 *e*p **P 21 13 20.5 +3.8**
comp=Z,4.3nm,0.8s,mb4.8
JOF Joensuu 90.42 333 *e*P **P 21 13 20.5 +3.8**
JOF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
ARCES ARCESS Array B 91.65 340 P **P 21 13 21.3 -1.0**
comp=Z,2.1nm,0.8s,mb4.5,baz=80,slow=6.3,SNR=11
ARCES ARCESS Array B 91.65 340 P **P 21 13 21.3 -1.0**
SYO Syowa Base 91.81 201⇑ *e*P **P 21 13 23.0 +0.1**
AKASG Malin Array Be 93.17 321 P **P 21 13 28.6 -1.0**
comp=Z,1.6nm,0.6s,mb4.6,baz=71,slow=3.7,SNR=7.2
LSZ Lusaka 99.74 255 P Pdif 21 14 01.1 +1.8
comp=Z,0.7nm,0.6s,baz=129,slow=4.5,SNR=4.0
LSZ Lusaka 99.74 255 Pdif Pdif 21 14 00.7 +1.4
NOA NORSAR Array B 100.03 334 LR LR 22 05 46.6
comp=Z,76nm,19.8s,MS4.2,baz=45,slow=39
GERES GERESS Array B 103.36 322 Pdiff Pdif 21 14 17.6 +2.2
comp=Z,0.1nm,0.3s,baz=46,slow=3.9,SNR=4.4
TSUM Tsumeb 109.75 251 PKiKP PKiKP 21 18 48.0 +0.9
TXAR Lajitas Array 121.55 53 PKP PKPdf 21 19 11.3 +1.8
comp=Z,0.5nm,0.7s,baz=249,slow=0.8,SNR=7.6
TXAR Lajitas Array 121.55 53 PKP PKPdf 21 19 11.3 +1.7
TORD Torodi Ar. Bea 124.00 288 PKP PKPdf 21 19 15.2 +0.6
comp=Z,0.9nm,0.7s,baz=89,slow=1.5,SNR=11
TORD PP PP 21 21 01.3 +2.3
comp=Z,1.0nm,1.0s,baz=90,slow=4.9,SNR=3.6
TORD Torodi Ar. Bea 124.00 288 PKP PKPdf 21 19 15.2 +0.6
TORD PP PP 21 21 01.3 +2.3
DBIC Dimbokro 131.58 281 PKIKP PKPdf 21 19 28.9 -0.2
CFAA Coronel Fontan 147.66 154 PKPbc PKPbc 21 20 02.0 +1.6
comp=Z,0.6nm,0.8s,baz=240,slow=4.7,SNR=5.8
LCO Las Campanas 148.63 148 *e*PKPbc PKPbc 21 20 04.2 +1.2

*ISK **27** 21:04:45.9, 3675N×3460E, h4km, MD3.2*
*CSEM **27** 21:04:46.8±0.2, 3681N×3454E, h5km, MD3.2, Error ellipse: s-maj=5.8km s-min=4.3km az=149.0*
*ISCJB **27** 21:04:47.6±0.5, 3683N±005×3453E±005, h10km, Error ellipse: s-maj=7.7km s-min=4.5km az=146.6*
*DDA **27** 21:04:47.1, 3685N×3459E, h7km±3km, Md2.9*
ISC 27 21:04:47.5±0.7, 3681N±005×3460E±005, h5km±6km, n13, σ1§08/20, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.08**	**314**	*e*PG	**Pg**	**21 04 49.3**	**-0.1**
MERS				*e*SG	**Sg**	**21 04 51.9**	**+1.3**
MEST	**Erdemli**	**0.42**	**239**⇑	*i*P	**Pg**	**21 04 55.0**	**-0.7**
MEST				*i*S	**Sg**	**21 05 02.4**	**+1.1**
KARA	**Karaisali**	**0.58**	**39**	*e*PG	**Pg**	**21 04 58.1**	**-0.6**
IKL	**Isikli**	**0.93**	**232**	*e*PG	**Pg**	**21 05 03.4**	**-2.0**
IKL				*e*SG	**Sg**	**21 05 16.9**	**-0.5**
KOZT	**Kozan**	**1.19**	**55**	*e*PN	**Pn**	**21 05 10.1**	**-0.8**
NIG	**Nigde**	**1.30**	**0**	*e*PN	**Pn**	**21 05 12.2**	**-0.1**
ERMK	**Ermenek**	**1.36**	**263**	*e*P	**Pn**	**21 05 12.7**	**-0.5**
ERMK				*e*S	**Sb**	**21 05 33.2**	**+1.9**
YAYL	**Yayladag**	**1.44**	**122**	*e*P	**Pn**	**21 05 15.0**	**+0.7**
YAYL				*e*S	**Sb**	**21 05 36.0**	**+2.4**
ANDN	**Andirin**	**1.59**	**61**	*e*P	**Pn**	**21 05 16.2**	**-0.2**
ANDN				*e*S	**Sn**	**21 05 42.2**	**+4.8**
ANDN	**Andirin**	**1.59**	**61**	*e*P	**Pn**	**21 05 16.2**	**-0.2**
ANDN				*e*S	**Sn**	**21 05 42.2**	**+4.8**
HDMB	**Hadim**	**1.70**	**276**	*e*PN	**Pn**	**21 05 17.7**	**-0.1**
LFK	**Lefkose**	**1.75**	**210**	*e*PN	**Pn**	**21 05 17.4**	**-1.2**
SARI	**SarD1z-Kayseri**	**2.50**	**41**	*e*PN	**Pn**	**21 05 24.4**	**-4.5**

IDC 27 21:08:49.9±2.0, 347S×1179W, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.8/22, mbtmp4.1/6, MS3.1/3, Ms1 3.1/3, ms1mx2.8/30, Error ellipse: s-maj=73.2km s-min=26.2km az=87.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.22**	**35**	LR	LR	21 14 41.4	
comp=Z,36nm,20.4s,baz=140,slow=29							
TORD	**Torodi Ar. Bea**	**21.26**	**39**	P	P	21 13 37.9	0.0
6.1nm,1.0s,baz=224,slow=11,SNR=16							
TORD				LR	LR	21 20 59.7	
comp=Z,75nm,18.8s,baz=170,slow=34							
BDFB	**Brasilia**	**37.63**	**249**	LR	LR	21 28 13.0	
comp=Z,61nm,20.3s,baz=283,slow=31							
BOSA	**Boshof**	**43.19**	**129**	P	P	21 16 52.8	+0.1
3.2nm,0.9s,baz=294,slow=12,SNR=3.2							
GERES	**GERESS Array B**	**56.63**	**20**	P	P	21 18 35.2	+0.6
2.0nm,0.7s,baz=190,slow=6.6,SNR=20							
AKASG	**Malin Array Be**	**64.37**	**28**	P	P	21 19 27.2	-0.3
0.1nm,0.3s,baz=224,slow=6.2,SNR=5.4							
ARCES	**ARCESS Array B**	**77.12**	**13**	P	P	21 20 44.7	-0.1
1.4nm,0.7s,baz=197,slow=3.7,SNR=8.7							
MAW	**Mawson**	**80.98**	**158**	P	P	21 21 06.2	+0.1
1.4nm,0.3s,baz=275,slow=6.6,SNR=4.9							

*ISCJB **27** 21:30:02.3±0.4, 5047N±007×17745W±007, h33km, mb4.3/50, Error ellipse: s-maj=10.8km s-min=5.7km az=165.3*
*NEIC **27** 21:30:02.7±1.9, 5044N×17748W, h26km±13km, mb4.5/30, Error ellipse: s-maj=8.8km s-min=4.9km az=171.0*
*MOS **27** 21:30:02.1±0.8, 5042N×17745W, h33km, mb4.6/14, Error ellipse: s-maj=14.9km s-min=7.5km az=95.2*
*IDC **27** 21:30:05.7±5.1, 5046N×17739W, h51km±46km, mb3.7/18, mb1 4.0/20, mb1mx3.9/26, mbtmp3.8/20, ML4.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/26, Error ellipse: s-maj=18.5km s-min=14.3km az=163.0*
ISC 27 21:30:01.4±3.3, 5045N±008×17746W±007, h16km±19km, n124, σ0§82/123, mb4.3/50, 8C-2D, Andreanof Islands

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

AMKA Amchitka 2.25 296 P **Pn 21 30 36.8 -1.2**
UNV Unalaska Valle 7.55 59 *e*Pn **Pn 21 31 50.3 -0.4**
PETK Petropavlovsk- 15.58 289 P **Pn 21 33 41.0 +0.9**
0.5nm,0.3s,baz=93,slow=20,SNR=9.8
SVW2 Sparrevohn 16.20 40 *e*P **Pn 21 33 48.1 +0.1**
KDAK Kodiak Island 16.26 54 P **Pn 21 33 51.4 +2.5**
1.9nm,0.3s,baz=181,slow=7.0,SNR=8.1
TTA Tatalina 17.06 35 *e*P **Pn 21 34 00.2 +1.2**
PPLA Purkeypile 18.50 38 *e*P **Pn 21 34 17.9 +1.2**
83nm,1.6s
SEW Seward 18.51 48 *e*P **Pn 21 34 13.6 -3.3**
CHUM Lake Minchumin 18.98 35 *e*P **Pn 21 34 21.7 -0.8**
9.6nm,0.9s
KTH Kantishna Hill 19.33 37 *e*P **Pn 21 34 25.5 -1.2**
96nm,1.5s
BILL Bilibino 19.39 341⇑ *i*P **Pn 21 34 27.6 +0.2**
BILL pmax pmax
comp=Z,54nm,1.2s
BILL Bilibino 19.39 341 *e*P **Pn 21 34 27.2 -0.1**
comp=Z,19nm,0.4s
BPAW Bear Paw Mtn. 19.59 36 *e*P **Pn 21 34 28.9 -0.9**
comp=Z,15nm,0.9s
IMA2 Indian Mountai 19.83 29 *e*Pn **Pn 21 34 30.6 -2.0**
MCK McKinley 20.19 38 *e*P **P 21 34 36.0 +1.0**
COLA College 21.15 36 *e*P **P 21 34 45.6 +0.2**
COLD Coldfoot 21.64 29 *e*P **P 21 34 50.7 +0.1**
comp=Z,12nm,1.0s,mb4.3
EGAK Eagle 23.72 39 *e*P **P 21 35 11.5 -0.9**
comp=Z,9.6nm,0.9s,mb4.2
HYT Haines Junctio 24.44 50 *e*P **P 21 35 21.2 +2.2**
WRAK Wrangell Islan 27.13 60 P **P 21 35 46.7 +3.4**
DLBC Dease Lake 28.18 55 *e*P **P 21 35 53.1 +0.3**
TIXI Tiksi 31.87 331 *e*P **P 21 36 25.2 0.0**
TIXI pmax pmax
comp=Z,7.0nm,1.3s,mb4.3
KLR Kul'dur 32.27 288 *e*P **P 21 36 24.3 -4.6**
YKA Yellowknife Ar 35.27 46 P **P 21 36 55.1 +0.3**
comp=Z,4.1nm,0.9s,mb4.4,baz=276,slow=7.9,SNR=14
YKA LR LR 21 53 23.6
comp=Z,19nm,20.5s,baz=235,slow=40
EDM Edmonton 38.53 60 *e*P **P 21 37 23.2 +0.5**
BOD Bodaibo 39.22 308 *e*P **P 21 37 27.8 -0.6**
BOD pmax pmax
comp=Z,7.0nm,1.6s,mb4.1
KSRS Korea Array 40.52 273 P **P 21 37 39.9 +0.4**
comp=Z,2.1nm,0.8s,mb3.8,baz=58,slow=7.3,SNR=8.1
KSRS Korea Array 40.52 273 P **P 21 37 39.9 +0.4**
KSRS pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
HLID Hailey 42.38 74 *e*P **P 21 38 02.1 +7.4**
NVAR Mina Array Bea 42.83 83 P **P 21 37 58.3 0.0**
comp=Z,0.4nm,0.7s,baz=316,slow=8.4,SNR=4.4
RLMT Red Lodge 44.67 69 *e*P **P 21 38 13.6 +0.5**
TPNV Topopah Spring 45.02 83 *e*P **P 21 38 15.5 -0.5**
TPNV pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
TPNV Topopah Spring 45.02 83 *e*P **P 21 38 15.5 -0.5**
comp=Z,4.9nm,0.9s,mb4.3
BW06 Boulder Array 45.79 72 *e*P **P 21 38 28.3 +6.3**
comp=Z,4.4nm,1.1s,mb4.3
PDAR Pinedale Array 45.79 72 P **P 21 38 21.6 -0.4**
comp=Z,0.6nm,0.8s,mb3.6,baz=328,slow=5.3,SNR=4.9
ULN Ulaanbaatar 47.44 298 *e*P **P 21 38 35.0 +0.1**
ULN pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
ULN Ulaanbaatar 47.44 298 *e*P **P 21 38 35.0 +0.1**
comp=Z,3.4nm,1.1s,mb4.2
SONM Songino Array 47.83 298 P **P 21 38 38.8 +0.9**
comp=Z,2.1nm,0.9s,mb4.2,baz=43,slow=11,SNR=14
SONM PcP PcP 21 40 06.2 -0.2
comp=Z,1.3nm,0.8s,baz=60,slow=2.7,SNR=4.2
ZAK Zakamensk 48.17 302 *e*P **P 21 38 40.6 +0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
SMCO Snowmass 49.47 75 *e*P **P 21 38 57.8 +7.1**
comp=Z,5.6nm,0.8s,mb4.7
SPITS Spitsbergen Ar 51.37 356 P **P 21 39 04.0 -0.5**
comp=Z,2.7nm,0.5s,mb4.4,baz=36,slow=7.2,SNR=7.7
ANMO Albuquerque 52.45 78 *e*P **P 21 39 09.1 -4.0**
SUMG Summit 54.00 14 *e*P **P 21 39 23.4 -0.6**
comp=Z,3.3nm,0.9s,mb4.3
ZALV Zalesovo Beam 55.29 315 P **P 21 39 33.4 -0.2**
comp=Z,0.4nm,0.5s,mb3.7,baz=39,slow=9.3,SNR=2.4
ZAL Zalesovo 55.31 315 P **P 21 39 33.4 -0.3**
TXAR Lajitas Array 57.95 82 P **P 21 39 51.3 -1.6**
comp=Z,0.4nm,0.7s,mb3.5,baz=298,slow=5.3,SNR=5.6
ARCES ARCESS Array B 59.16 351 P **P 21 40 00.1 -0.6**
comp=Z,2.5nm,0.9s,mb4.2,baz=30,slow=8.4,SNR=9.0
KURK Kurchatov 60.28 315 *d i*P **P 21 40 08.5 -0.2**
KURK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
KURK Kurchatov 60.28 315 *e*P **P 21 40 08.3 -0.4**
comp=Z,3.0nm,0.6s,mb4.5
MKAR Makanchi Array 61.28 310 P **P 21 40 15.7 +0.1**
comp=Z,2.2nm,0.9s,mb4.3,baz=55,slow=7.0,SNR=16
HNR Honiara 62.79 205 P **P 21 40 26.8 +0.8**
comp=Z,31nm,0.4s,baz=109,slow=23,SNR=6.9
SVE Sverdlovsk 62.84 328 *e*P **P 21 40 27.2 +1.3**
SVE pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
ARU Arti 63.84 329 *d i*P **P 21 40 33.0 +0.5**
ARU *e* 21 42 50.1
ARU *e*S **S 21 49 13.9 +7.2**
ARU *e*SS SS 21 53 21.6 +7.7
ARU pmax pmax
comp=Z,12nm,1.7s,mb4.7
TZTN Tazewell 65.12 62 P **P 21 40 41.1 -0.1**
comp=Z,11nm,1.1s,mb4.8
TKM2 Tokmak 2 67.37 310 *e*P **P 21 40 56.1 +0.6**
TKM2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
TKM2 Tokmak 2 67.37 310 *e*P **P 21 40 56.1 +0.6**
comp=Z,2.1nm,0.8s,mb4.2
EKS2 Erkin-Say 68.44 311 *e*P **P 21 41 02.3 +0.1**
comp=Z,4.2nm,0.8s,mb4.5
LSA Lhasa 68.56 291 *e*P **P 21 41 03.8 +0.6**
LSA pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
LSA Lhasa 68.56 291 *e*P **P 21 41 03.8 +0.5**
comp=Z,1.8nm,0.8s,mb4.0
NB2 NORSAR Subarra 68.65 355 P **P 21 41 02.9 -0.4**
comp=Z,14nm,1.4s,mb4.7,baz=6.7,slow=6.5
NOA NORSAR Array B 68.65 355 P **P 21 41 03.5 +0.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=342,slow=4.6,SNR=3.0
AML Almayashu 68.89 311 *e*P **P 21 41 05.7 +0.6**
comp=Z,3.2nm,0.8s,mb4.3
OBN Obninsk 71.04 340 *e*P **P 21 41 18.1 0.0**
OBN pmax pmax
comp=Z,44nm,1.8s,mb5.1
CMAR Chiang Mai Arr 71.97 277 P **P 21 41 23.4 -0.8**
comp=Z,1.1nm,0.8s,mb3.9,baz=29,slow=6.8,SNR=10
AKASG Malin Array Be 76.70 343 P **P 21 41 51.2 0.0**
comp=Z,8.0nm,0.7s,mb4.8,baz=18,slow=5.7,SNR=26
AKASG Malin Array Be 76.70 343 P **P 21 41 51.2 0.0**
KIEV Kiev 76.71 343 *e*P **P 21 41 50.6 -0.7**
KIEV pmax pmax
comp=Z,13nm,0.8s,mb4.9
KIEV Kiev 76.71 343 *e*P **P 21 41 50.6 -0.7**
comp=Z,13nm,0.8s,mb4.9
KBL Kabul 77.08 309 *e*P **P 21 41 52.6 -1.1**
KBL pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KBL Kabul 77.08 309 *e*P **P 21 41 52.5 -1.2**
comp=Z,4.7nm,0.9s,mb4.4
BRG Berggiesshubel 78.59 353 *e*P **P 21 42 02.0 +0.2**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRG Berggiesshubel 78.59 353 *e*P **P 21 42 02.0 +0.2**
comp=Z,3.7nm,0.8s,mb4.4
KWP Kalwaria 78.82 347 *e*P **P 21 42 03.5 +0.4**
KWP pmax pmax
comp=Z,16nm,0.8s,mb5.0
KWP Kalwaria 78.82 347 *e*P **P 21 42 03.5 +0.4**
comp=Z,16nm,0.8s,mb5.0
STHS Stebnicka Huta 79.24 348 *e*P **P 21 42 04.5 -0.9**
KOLS Kolonicke sedl 79.56 347 *e*P **P 21 42 07.7 +0.5**
CRVS Cervenica-Dubn 79.71 347 *e*P **P 21 42 08.8 +0.8**
BAIF Baives 79.87 359 *e*P **P 21 42 08.5 -0.3**
comp=Z,28nm,1.1s,mb4.8
BAIF Baives 79.87 359 *e*P **P 21 42 08.5 -0.3**
BAIF pmax pmax
comp=Z,14nm,1.1s,mb4.8
BAIF Baives 79.87 359 *e*P **P 21 42 08.5 -0.3**
comp=Z,14nm,1.1s,mb4.8
KECS Kecovo 80.25 348 *e*P **P 21 42 07.5 -3.4**
KECS *e* pP 21 42 11.8 -4.3

KHC	Kasperske Hory	80.35	353	eP		P		21 42 12.2	+0.8
VYHS	Vyhne	80.45	349	eP		P		21 42 11.9	-0.1
GERES	GERESS Array B	80.63	353	P		P		21 42 13.5	+0.5
	comp=Z,1.0nm,0.8s,mb3.8,baz=19,slow=4.5,SNR=9.0								
FLN	La Foliniere	81.14	2	eP		P		21 42 15.8	+0.1
LDF	La Druitiere	81.32	2	eP		P		21 42 16.6	0.0
	comp=Z,21nm,1.0s,mb4.7								
LDF	La Druitiere	81.32	2	eP		P		21 42 16.6	0.0
LDF					pmax	pmax			
	comp=Z,11nm,1.0s,mb4.7								
LDF	La Druitiere	81.32	2	eP		P		21 42 16.6	0.0
	comp=Z,11nm,1.0s,mb4.7								
CONA	Conrad Observa	81.34	351	⇑iP		P		21 42 18.1	+1.4
	comp=Z,4.3nm,0.9s,mb4.4								
CONA	Conrad Observa	81.34	351	⇑iPcP		P		21 42 18.1	+1.4
	comp=Z,4.3nm,0.9s,mb4.4								
MEZF	Maizieres J'vi	81.41	358	eP		P		21 42 16.7	-0.4
	comp=Z,17nm,1.0s,mb4.6								
MEZF	Maizieres J'vi	81.41	358	eP		P		21 42 16.7	-0.4
	comp=Z,17nm,1.0s,mb4.9								
CDF	Champ du Feu	81.44	357	eP		P		21 42 16.6	-0.7
GRR	Gorron	81.50	2	eP		P		21 42 17.8	+0.2
	comp=Z,31nm,1.0s,mb4.9								
GRR	Gorron	81.50	2	eP		P		21 42 17.8	+0.2
GRR					pmax	pmax			
	comp=Z,15nm,1.0s,mb4.9								
GRR	Gorron	81.50	2	eP		P		21 42 17.8	+0.2
	comp=Z,15nm,1.0s,mb4.9								
WRA	Warramunga Arr	81.94	225	P		P		21 42 19.4	-0.7
	comp=Z,0.8nm,0.8s,mb3.7,baz=40,slow=6.4,SNR=4.3								
KBA	Koelnbreinsper	82.41	353	⇑iP		P		21 42 23.9	+1.5
	comp=Z,14nm,1.1s,mb4.8								
KBA	Koelnbreinsper	82.41	353	⇑iPcP		P		21 42 23.9	+1.5
	comp=Z,14nm,1.1s,mb4.8								
KBA	Koelnbreinsper	82.41	353	⇑iP		P		21 42 23.9	+1.5
KBA					pmax	pmax			
	comp=Z,14nm,1.1s,mb4.8								
SOKA	Soboth	82.66	351	⇑iP		P		21 42 24.7	+1.0
	comp=Z,7.8nm,1.1s,mb4.7								
SOKA	Soboth	82.66	351	⇑iPcP		P		21 42 24.7	+1.0
	comp=Z,7.8nm,1.1s,mb4.7								
LOR	Lormes	82.66	359	eP		P		21 42 22.9	-0.8
SSF	Saint Saulge	82.87	359	eP		P		21 42 24.0	-0.8
AVF	Avril sur Loir	83.14	359	eP		P		21 42 26.6	+0.4
	comp=Z,4.5nm,0.8s,mb4.3								
AVF	Avril sur Loir	83.14	359	eP		P		21 42 26.6	+0.4
AVF					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2								
AVF	Avril sur Loir	83.14	359	eP		P		21 42 26.6	+0.4
	comp=Z,2.3nm,0.8s,mb4.3								
SMF	Signal de Mont	83.29	359	eP		P		21 42 26.2	-0.7
	comp=Z,14nm,1.0s,mb4.6								
SMF	Signal de Mont	83.29	359	eP		P		21 42 26.2	-0.7
SMF					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.7								
SMF	Signal de Mont	83.29	359	eP		P		21 42 26.2	-0.7
	comp=Z,6.8nm,1.0s,mb4.6								
MFF	Saint Martin d	83.31	2	eP		P		21 42 26.4	-0.7
TCF	Toulx Ste Croi	83.65	0	eP		P		21 42 28.1	-0.7
LPL	La Plagne	84.35	357	eP		P		21 42 32.9	+0.5
LPG	La Plagne	84.37	357	eP		P		21 42 33.1	+0.6
BNI	Bardonecchia	84.82	357	eP		P		21 42 35.5	+0.7
BNI					pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.4								
BNI	Bardonecchia	84.82	357	eP		P		21 42 35.5	+0.7
	comp=Z,2.6nm,0.9s,mb4.4								
ORIF	Oris-en-Rattie	84.98	358	eP		P		21 42 35.7	+0.1
CAF	Calviac	85.01	0	eP		P		21 42 35.1	-0.7
MBDF	Montbardon	85.14	357	eP		P		21 42 36.4	0.0
ASAR	Alice Springs	85.38	224	P		P		21 42 38.0	+0.2
	comp=Z,0.4nm,0.8s,mb3.6,baz=37,slow=4.8,SNR=4.2								
STKA	Stephens Creek	89.61	214	P		P		21 42 57.4	-0.5
	comp=Z,3.0nm,1.1s,mb4.5,baz=14,slow=14,SNR=3.0								
ESDC	Sonseca Array	90.08	5	P		P		21 42 59.2	-1.1
	comp=Z,0.4nm,0.6s,mb3.9,baz=356,slow=3.5,SNR=5.8								
MAW	Mawson	146.25	217	PKPbc		PKPbc		21 49 39.4	-0.2
	comp=Z,1.4nm,0.6s,baz=96,slow=1.4,SNR=4.7								
BOSA	Boshof	152.24	313	PKPbc		PKPbc		21 49 54.9	-1.1
	comp=Z,2.5nm,0.9s,baz=304,slow=3.6,SNR=3.6								

*NIC **27** 21:46:12.7±0.3, 36.10N×3087E, h46km, mb4.1, ML3.8, MW3.5*
*ISK **27** 21:46:16.8, 3559N×3129E, h2km, ML3.6*
*ISCJB **27** 21:46:21.0±0.2, 3561N±002×3130E±003, h64km±8km, mb3.6/2, Error ellipse: s-maj=4.3km s-min=3.4km az=35.1*
*NEIC **27** 21:46:20.4, 3563N×3129E, h29km, ML3.5(ISK), ML3.8(NIC), After ISK.*
*CSEM **27** 21:46:20.5±0.0, 3564N×3129E, h40km, Mw3.5, Error ellipse: s-maj=1.3km s-min=1.1km az=37.0*
*IDC **27** 21:46:22.5±2.3, 3573N×3129E, h56km±44km, mb3.3/2, mb1 3.5/8, mb1mx3.2/26, mbtmp3.4/8, ML3.6/6, Error ellipse: s-maj=34.7km s-min=10.2km az=22.0*
*HLW **27** 21:46:24.7, 3546N×3116E, h24km, Mb3.3*
*DDA **27** 21:46:25.9, 3574N×3149E, h23km, Md3.6*
*ATH **27** 21:46:45.8, 3629N×2883E, h97km*

ISC 27 21:46:22.6±0.2, 3565N±002×3130E±003, h60km±9km, n79, σ1§15/103, mb3.6/2, 1C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	Akamas	1.05	126	P	Pn	21 46 38.4	-2.9
PPCY	Paphos	1.15	131	P	Pn	21 46 40.7	-1.9
ALFC	Alevga	1.17	114	P	Pn	21 46 39.8	-3.1
	18nm,0.2s						
ALFC				S	Sn	21 47 01.6	+3.6
ANTB	Antalya	1.35	338	ePN	Pn	21 46 44.1	-1.1
ANTB				eSN	Sn	21 47 04.6	+2.3
LEF	Lefka	1.41	112	ePN	Pn	21 46 43.4	-2.6
LEF				eSN	Sn	21 47 02.7	-0.8
LEF	Lefka	1.41	112	Pn	Pn	21 46 44.0	-2.0
LEF				Sg	Sn	21 47 02.0	-1.6
LEF				eSn	Sn	21 47 02.7	-0.9
LEF	Lefka	1.41	112	Pn	Pn	21 46 44.0	-2.0
LEF				Sg	Sn	21 47 02.0	-1.6
AKAS	Kas	1.49	293	eP	Pn	21 46 46.8	-0.3
AKAS				eS	Sn	21 47 13.5	+7.9
ELL	Elmali	1.57	315	ePN	Pn	21 46 47.2	-1.0
HDMB	Hadim	1.62	36	ePN	Pn	21 46 47.2	-1.7
HDMB				eSN	Sn	21 47 11.4	+2.5
HDMB	Hadim	1.62	36	Pn	Pn	21 46 47.2	-1.7
ERMK	Ermenek	1.64	52	eP	Pn	21 46 47.6	-1.5
ERMK				iS	Sn	21 47 10.7	+1.5
ERMK	Ermenek	1.64	52	eP	Pn	21 46 47.6	-1.5
ERMK				iS	Sn	21 47 10.6	+1.4
MAMC	Mammari	1.64	106	P	Pn	21 46 46.4	-2.7
CSS	Prodhromos	1.80	112	P	Pn	21 46 48.4	-2.9
	5.6nm,0.5s						
CSS				S	Sn	21 47 16.5	+3.4
LFK	Lefkose	1.86	101	ePN	Pn	21 46 51.2	-0.9
BCK	Bucak	1.89	343	ePN	Pn	21 46 51.8	-0.7
IKL	Isikli	2.02	72	ePN	Pn	21 46 53.3	-1.0
GOLH	Golhisar	2.11	319	iP	Pn	21 46 58.0	+2.4
GOLH				iS	Sn	21 47 29.1	+8.3
ISP	Isparta	2.28	344	ePN	Pn	21 46 57.8	0.0
ISP	Isparta	2.28	344	Pn	Pn	21 46 57.7	-0.1
PHNC	Paralimni	2.33	105	P	Pn	21 47 02.8	+4.3
	11nm,0.9s						
PHNC				S	Sn	21 47 35.7	+10
EREN	Erenkoy	2.34	92	ePN	Pn	21 46 57.9	-0.8
EREN	Erenkoy	2.34	92	Pn	Pn	21 46 58.9	+0.2
DALT	Dalyan (Mudla)	2.42	298	ePN	Pn	21 46 59.4	-0.4
DALT	Dalyan (Mudla)	2.42	298	Pn	Pn	21 46 60.0	+0.2
KONT	Konya--Tatoy	2.44	20	ePN	Pn	21 46 59.9	-0.2
KONT	Konya--Tatoy	2.44	20	Pn	Pn	21 47 00.5	+0.5
MEST	Erdemli	2.49	67	⇓iP	Pn	21 47 00.0	-0.6
MEST				iS	Sn	21 47 33.1	+3.3
TKTP	Tekketepe	2.51	342	eP	Pn	21 47 02.6	+1.6
TKTP				eS	Sn	21 47 35.3	+4.9
ARG	Arkhangelos	2.63	283	eP	Pn	21 47 02.5	-0.2
LADK	Ladik-KONYA	2.68	18	ePN	Pn	21 47 03.2	-0.2
YER	Yerkesik	2.85	302	ePN	Pn	21 47 05.3	-0.3
YER	Yerkesik	2.85	302	Pn	Pn	21 47 05.8	+0.2
MERS	Mersin	2.88	64	ePN	Pn	21 47 05.9	0.0
SHUT	Suhut-Afyon	2.96	349	ePN	Pn	21 47 07.1	+0.1
KHL	Karahalli	3.02	332	ePN	Pn	21 47 08.0	0.0
KHL	Karahalli	3.02	332	Pn	Pn	21 47 09.2	+1.3
KIZT	Kizilcal	3.26	8	ePN	Pn	21 47 11.3	+0.1
KIZT	Kizilcal	3.26	8	Pn	Pn	21 47 10.6	-0.6
KARP	Karpathos	3.37	269	eP	Pn	21 47 13.3	+0.6
KARA	Karaisali	3.43	61	ePN	Pn	21 47 13.8	+0.3
BODT	Bodrum	3.51	295	ePN	Pn	21 47 14.8	+0.2
BODT	Bodrum	3.51	295	Pn	Pn	21 47 14.6	-0.1
BODT	Bodrum	3.51	295	Pn	Pn	21 47 14.6	0.0
KULA	Kula-Manisa	3.55	324	ePN	Pn	21 47 15.6	+0.4
NIG	Nigde	3.62	46	ePN	Pn	21 47 16.5	+0.5
NIG	Nigde	3.62	46	Pn	Pn	21 47 17.4	+1.4
HTY	Hatay	3.96	82	ePN	Pn	21 47 21.2	+0.4
HTY	Hatay	3.96	82	Pn	Pn	21 47 20.1	-0.7
KOZT	Kozan	4.08	62	ePN	Pn	21 47 22.9	+0.5
SMG	Samos	4.13	301	eP	Pn	21 47 21.2	-1.9
IZM	Izmir	4.24	312	ePN	Pn	21 47 24.3	-0.2
IZM	Izmir	4.24	312	Pn	Pn	21 47 24.1	-0.4
MMAI	Mount Meron Ar	4.29	127	P	Pn	21 47 25.4	0.0
	15nm,0.3s,baz=302,slow=12,SNR=62						
MMAI				S	Sn	21 48 16.0	+1.8
	6.3nm,0.3s,baz=316,slow=28,SNR=6.9						
BLCB	Balcova	4.36	310	ePN	Pn	21 47 27.0	+0.7
BLCB	Balcova	4.36	310	Pn	Pn	21 47 25.4	-0.9
HRSH	Kfar Ka'horesh	4.42	131	P	Pn	21 47 37.1	+10
HRSH				S	Sn	21 48 30.5	+13
NPS	Neapolis	4.66	267	eP	Pn	21 47 30.1	-0.2
RSH		5.10	156	P	Pn	21 47 37.1	+0.7
RSH				S	Sn	21 48 30.5	-3.5
IDI	Anoyia	5.24	268	P	Pn	21 47 38.3	-0.1
	1.0nm,0.3s,baz=73,slow=13,SNR=19						
IDI				S	Sn	21 48 38.2	+0.8
	5.0nm,0.3s,baz=305,slow=21,SNR=8.5						
HMAT	Matruh	5.74	219	P	Pn	21 47 45.1	-0.1
HMAT				S	Sn	21 48 43.3	-6.5
ASF	Jabal al Asfar	5.81	125	P	Pn	21 47 47.0	+0.9
	0.5nm,0.3s,baz=200,slow=4.2,SNR=4.4						
ASF				S	Sn	21 48 55.7	+4.4
	0.3nm,0.3s,baz=187,slow=23,SNR=2.2						
SUZ		5.94	167	P	Pn	21 47 48.5	+0.7
SUZ		5.94	167	P	Pn	21 47 48.5	+0.6
HSAF	As Saff	6.02	178	P	Pn	21 47 49.3	+0.3
HNKL	Nakhl	6.14	158	⇓P	Pn	21 47 51.3	+0.7
MALT	Malatya	6.29	63	ePn	Pn	21 47 50.9	-1.9
	2.6nm,0.6s						
MALT				eSn	Sn	21 49 03.7	+0.5
ZNM		6.40	168	⇑eP	Pn	21 47 54.7	+0.5
SLUM		6.56	232	P	Pn	21 47 56.4	0.0
SLUM				S	Sn	21 49 03.4	-6.4
EIL	Elat	6.71	152	P	Pn	21 47 59.0	+0.5
	1.8nm,0.3s,baz=333,slow=9.1,SNR=9.6						
EIL				S	Sn	21 49 14.4	+0.8
	1.2nm,0.3s,baz=70,slow=17,SNR=3.9						
AWBH		7.58	196	P	Pn	21 48 10.5	0.0
HFRF	Wahat Farafira	8.85	198	P	Pn	21 48 27.9	+0.1
HDK1	Dakhla	10.21	190	P	Pn	21 48 47.4	+1.1
AKASG	Malin Array Be	15.12	355	P	Pn	21 49 51.6	-0.7
	0.3nm,0.3s,baz=175,slow=9.8,SNR=2.6						
GERES	GERESS Array B	18.48	321	P	Pn	21 50 34.4	+0.3
	0.1nm,0.3s,baz=126,slow=8.4,SNR=7.5						
ARCES	ARCESS Array B	34.09	356	P	P	21 52 59.5	-1.4
	1.4nm,1.0s,mb3.9,baz=158,slow=9.7,SNR=4.9						
ARCES	ARCESS Array B	34.09	356	P	P	21 52 59.5	-1.4
MKAR	Makanchi Array	39.30	57	P	P	21 53 46.1	+0.7
	0.4nm,0.6s,mb3.3,baz=263,slow=10.0,SNR=4.8						

*MOS **27** 22:21:53.9±0.9, 1890N×14505E, h575km, mb5.0/40, Error ellipse: s-maj=8.8km s-min=5.2km az=101.3*
*DJA **27** 22:21:53, 1893N×14520E, h553km, mb5.3/34*
*ISCJB **27** 22:21:54.4±0.5, 1887N±003×145.10E±003, h579km±6km, mb5.0/154, Error ellipse: s-maj=4.7km s-min=3.9km az=32.9*
*BJI **27** 22:21:54.9, 1903N×145.19E, h585km, mB4.8, mb5.1*
*IDC **27** 22:21:56.0±0.9, 1886N×14505E, h584km±10km, mb4.3/27, mb1 4.4/31, mb1mx4.4/33, mbtmp4.3/31, Error ellipse: s-maj=9.6km s-min=5.2km az=91.0*
*GCMT **27** 22:21:56.2±0.3, 1891N×145.13E, h561km±2km, MW5.3/67, Moment Tensor Solution. s67,c105; Duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.69±.03; $M_{\theta\theta}$0.38±.04; $M_{\phi\phi}$0.30±.04; $M_{r\theta}$0.17±.05; $M_{\theta\phi}$-0.45±.04; $M_{\phi r}$-0.61±.05; Best double couple: $M_0$0.97400×10^{17} NP1:ϕ_s=113.00000°, δ30.00000°, λ-126.00000°. NP2: ϕ_s=333.00000°, δ66.00000°, λ-71.00000°. Principal axes: T 0.9740, Plg19.0000°, Azm49.0000°; N 0.0010, Plg17.0000°, Azm145.0000°; P -0.9750, Plg64.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **27** 22:21:56.2±0.6, 1887N×14507E, h588km±7km, mb4.9/71 Error ellipse: s-maj=4.0km s-min=3.1km az=113.0*

ISC 27 22:21:55.5±0.6, 1888N±003×14512E±003, h576km±6km, h550km±5.3km: pP-P, n381, σ0§90/347, mb5.0/152, 21C-25D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.26	183	P	P	22 23 26.5	-2.7
	233nm,0.3s,baz=179,slow=3.5,SNR=54						
GUMO				S	S	22 24 38.1	-7.5
	105nm,0.3s,baz=8.5,slow=22,SNR=24						
GUMO	Guam	5.26	183	eP	P	22 23 26.2	-3.0
GUMO				eSn	S	22 24 37.8	-7.7
CBIJ	Chichi jima	8.61	342	P	P	22 23 59.2	-0.7
	22nm,0.3s,baz=278,slow=23,SNR=6.3						
CBIJ				S	S	22 25 39.5	-2.5
	11nm,0.3s,baz=260,slow=22,SNR=16						
JHJ	Hachijo jima 2	14.97	342	P	P	22 25 02.6	-1.5
	39nm,0.3s,baz=92,slow=19,SNR=32						
JOW	Kunigami	17.42	300	P	P	22 25 27.4	+0.6
	42nm,0.3s,baz=139,slow=9.7,SNR=137						
MJAR	Matsushiro Arr	18.62	342	P	P	22 25 36.1	-1.4
	6.3nm,0.3s,baz=168,slow=9.5,SNR=65						
MJAR				S	S	22 28 39.1	+1.2
	baz=125,slow=14,SNR=2.8						
MAJO	Matsushiro	18.62	342	eP	P	22 25 36.4	-1.2
MAJO				pmax	pmax		
	comp=Z,109nm,1.1s						
MAJO	Matsushiro	18.62	342	eP	P	22 25 36.4	-1.2
	comp=Z,110nm,1.1s						
MAT	Matsushiro	18.62	342	P	P	22 25 37.1	-0.5
MAT				S	S	22 28 32.0	-6.0
NACB	Ninganchiao	22.50	288	eP	P	22 26 12.3	-0.5
	comp=Z,84nm,0.5s,mb5.6						
TATO	Taipei	22.73	290	eP	P	22 26 15.9	+1.1
	comp=Z,39nm,0.4s,mb5.4						
YHNB	Yeheng	22.78	289	eP	P	22 26 15.2	-0.1
	comp=Z,128nm,0.7s,mb5.7						
KSRS	Korea Array	23.85	324	P	P	22 26 24.1	-0.4
	comp=Z,57nm,0.5s,mb5.4,baz=144,slow=9.0,SNR=256						
KSRS				ScP	ScP	22 32 31.4	-0.1
	comp=Z,14nm,0.9s,baz=135,slow=3.0,SNR=14						
KS15	Wonju Array Si	23.86	324	eP	P	22 26 23.6	-1.1
ASAJ	Asahikawa	25.25	356	P	P	22 26 37.8	+1.0
	comp=Z,40nm,0.5s,mb5.3,baz=223,slow=10,SNR=24						
ASAJ				S	S	22 30 21.9	-0.6
	comp=Z,7.0nm,0.6s,baz=55,slow=19,SNR=3.6						
QZH	Quanzhou	25.32	289	⇑iP	P	22 26 38.3	+0.6
QZH				AMB	AMB		
	comp=Z,220nm,0.7s,mb5.9						
QZH				AMB	AMB		
	comp=Z,580nm,2.7s,mb5.7						
VLA	Vladivostok	26.62	338	eP	P	22 26 47.2	-1.7
VLA				pmax	pmax		
	comp=Z,71nm,1.1s,mb5.2						
NJ2	Nanjing	27.02	304	eP	P	22 26 54.3	+1.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
YSS	Yuzh-Sakhalins	28.07	357	eP	P	22 27 01.0	-0.5
YSS				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.1						
YSS	Yuzh-Sakhalins	28.07	357	eP	P	22 27 01.8	+0.3
PMG	Port Moresby	28.18	176	eP	P	22 27 02.2	-0.7
PMG				pmax	pmax		
	comp=Z,18nm,0.4s						
PMG	Port Moresby	28.18	176	eP	P	22 27 02.2	-0.7
	comp=Z,18nm,0.4s,mb5.0						
DL2	Dalian	28.51	319	P	P	22 27 06.3	+0.8
DL2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.2						
MDJ	Mudanjiang	28.76	337	P	P	22 27 07.5	0.0
MDJ				PCP	PcP	22 29 59.3	+0.7
MDJ				S	S	22 31 16.8	-0.3
MDJ				SCS	ScS	22 36 41.3	+0.6
MDJ				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,67nm,4.6s						
MDJ	Mudanjiang	28.76	337	eP	P	22 27 07.5	0.0
	comp=Z,7.1nm,0.5s,mb4.5						
MYLDM	Lahad Datu	29.32	246	⇑P	P	22 27 15.0	+2.2
CN2	Changchun	29.84	331	eP	P	22 27 16.8	-0.1
CN2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
WHN	Wuhan	30.17	299	⇓P	P	22 27 20.3	+0.3
SDKM	Sandakan	30.23	248	⇑P	P	22 27 22.1	+1.5
TSM	Tawau	30.30	245	⇓P	P	22 27 22.8	+1.5
KKM	Kota Kinabalu	30.91	249	⇓P	P	22 27 28.0	+1.5
KKM	Kota Kinabalu	30.91	249	eP	P	22 27 26.8	+0.3
KLR	Kul'dur	32.14	343	eP	P	22 27 32.0	-4.4
KLR				eS	S	22 32 02.9	-6.0
BJT	Baijiatuau	32.62	316	eP	P	22 27 39.9	-0.7
BJT				pmax	pmax		
	comp=Z,24nm,0.4s						
BJT	Baijiatuau	32.62	316	eP	P	22 27 39.9	-0.7
	comp=Z,24nm,0.4s,mb5.2						
BJI	Beijing	32.63	316	P	P	22 27 40.5	-0.2
BJI				AMB	AMB		
	comp=Z,38nm,1.3s,mb4.9						
COEN	Coen	32.68	184	eP	P	22 27 41.4	0.0
	comp=Z,15nm,0.8s,mb4.7						
SKR	Severo-Kuril's	32.92	13	eP	P	22 27 42.5	-0.5
QIZ	Qiongzhong	33.33	276	P	P	22 27 48.5	+1.5
QIZ				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,159nm,6.3s						
KAKA	Kakadu	33.79	203	eP	P	22 27 50.0	-0.8
	comp=Z,43nm,1.0s,mb5.0						
KAKA				eS	S	22 32 32.6	-2.1
TIY	Taiyuan	34.12	310	P	P	22 27 54.5	+1.3
KAPI	Kappang	34.47	229	eP	P	22 27 55.9	-0.7
BTM	Bintulu	34.99	247	⇑P	P	22 28 02.2	+1.3
PEA0B	Petropavlovsk-	35.53	13	eP	P	22 28 05.6	+0.8
PETK	Petropavlovsk-	35.53	13	P	P	22 28 05.2	+0.5
	comp=Z,7.4nm,0.4s,mb4.5,baz=143,slow=6.7,SNR=18						
PETK				PcP	PcP	22 30 17.1	-0.4
	comp=Z,7.5nm,0.8s,baz=174,slow=1.5,SNR=4.1						
XAN	Xi'an	35.54	302	P	P	22 28 05.0	-0.2
XAN				AMB	AMB		
	comp=Z,39nm,0.8s,mb5.0						
XAN				AMB	AMB		
	comp=Z,183nm,6.8s						
PET	Petropavlovsk	35.67	14	eP	P	22 28 06.4	+0.5
BATI	Baumata	35.82	218	P	P	22 28 06.9	-0.8
	comp=Z,27nm,0.3s,mb5.2,baz=63,slow=1.4,SNR=6.8						
HHC	Hu-ho-hao-te	36.09	315	eP	P	22 28 10.0	+0.5
HHC				PP	PP	22 29 49.0	-5.1
HHC				AMB	AMB		
	comp=Z,44nm,1.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,301nm,5.6s						
SBUM	Sibu	36.10	247	⇓P	P	22 28 11.6	+1.5
GYA	Guiyang	36.18	289	⇑iP	P	22 28 10.3	-0.2
GYA				PP	PP	22 29 51.5	-3.7
GYA				PCP	PcP	22 30 21.0	+1.0
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,110nm,6.2s						
HIA	Hailar	36.54	332	eP	P	22 28 12.6	-0.5
HIA				pmax	pmax		
	comp=Z,50nm,0.4s						
HIA	Hailar	36.54	332	eP	P	22 28 12.6	-0.5
	comp=Z,50nm,0.4s,mb5.4						
BTO	Baotou	37.03	313	eP	P	22 28 16.5	-0.8
KSM	Kuching	38.25	247	⇓P	P	22 28 28.0	+0.4
KSM	Kuching	38.25	247	eP	P	22 28 26.8	-0.7
CTA	Charters Tower	38.74	178	eP	P	22 28 31.3	-0.1
	comp=Z,23nm,0.9s,mb4.7						
CTA				e		22 28 42.2	
CTA				e		22 28 55.2	
CTA	Charters Tower	38.74	178	P	P	22 28 31.1	-0.2
	comp=Z,31nm,0.7s,mb4.9,baz=357,slow=8.4,SNR=16						
CTA	Charters Tower	38.74	178	eP	P	22 28 31.3	-0.1
CTA				pmax	pmax		
	comp=Z,23nm,0.9s						
CTAO	Charters Tower	38.74	178	eP	P	22 28 31.3	-0.1
CD2	Chengdu	39.18	296	⇓iP	P	22 28 35.0	+0.1
CD2				PCP	PcP	22 30 31.0	+1.6
CD2				AMB	AMB		
	comp=Z,190nm,0.7s,mb5.7						
CD2				AMB	AMB		
	comp=Z,270nm,7.2s						
KMI	Kunming	39.66	287	P	P	22 28 40.0	+1.2
KMI				PP	PP	22 30 26.0	-1.3
KMI				AMB	AMB		
	comp=Z,61nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,262nm,3.1s						
WRAB	Tennant Creek	39.99	196	eP	P	22 28 41.2	-0.2
WRAB				pmax	pmax		
	comp=Z,34nm,0.7s,mb5.0						
WRAB	Tennant Creek	39.99	196	eP	P	22 28 41.2	-0.2
	comp=Z,34nm,0.7s,mb5.0						
WB2	Warramunga Arr	40.00	196	eP	P	22 28 41.1	-0.4
WB2				eS	S	22 34 04.0	-2.5
WB2	Warramun

YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=Z,11nm,0.6s,mb4.6
YAK smax
comp=N,146nm,2.2s
YAK smax
comp=E,265nm,2.5s
YAK Yakutsk 44.44 350 *e*P **P 22 29 15.2 -0.5**
comp=E,67nm,0.6s,mb5.3
BOD Bodaibo 45.13 337 *e*P **P 22 29 20.3 -0.7**
BOD pmax pmax
comp=Z,19nm,1.8s,mb4.3
FRIM Kepong 45.27 255 ⇑P **P 22 29 24.5 +1.7**
IPM Ipoh 45.34 257 ⇑P **P 22 29 24.6 +1.3**
KULM Kulim 45.39 259 ⇑P **P 22 29 25.4 +1.7**
ZAK Zakamensk 45.68 323 ⇑*i*P **P 22 29 25.2 -0.1**
ZAK *e* 22 30 50.6
ZAK pmax pmax
comp=Z,33nm,1.4s,mb4.7
TLY Talaya 46.10 325 ⇑P **P 22 29 29.1 +0.6**
SNR=12
TLY Talaya 46.10 325 *e*P **P 22 29 28.7 +0.2**
TLY *e*S **S 22 35 33.8 +1.3**
TLY *e*SS SS 22 38 13.6 -54
TLY pmax pmax
comp=Z,43nm,0.7s,mb5.1
TLY MLR MLR
comp=Z,55nm,14.0s
TLY Talaya 46.10 325 *e*P **P 22 29 28.5 0.0**
comp=Z,34nm,0.6s,mb5.0
MBWA Marble Bar 46.92 213 *e*P **P 22 29 34.3 -0.8**
comp=Z,30nm,0.8s,mb4.9
MBWA *e*PcP PcP 22 30 55.6 -0.3
MOY Mondy 47.55 324 *e*P **P 22 29 39.2 -0.2**
MOY pmax pmax
comp=Z,46nm,2.0s,mb4.7
NIKO Nikolski 49.17 35 *e*P **P 22 29 51.0 -0.4**
LSA Lhasa 49.98 293 P **P 22 30 00.0 +2.3**
LSA Lhasa 49.98 293 *e*P **P 22 29 59.8 +2.0**
comp=Z,81nm,0.4s,mb5.5
LSA *e*PcP PcP 22 31 07.4 +0.2
STKA Stephens Creek 50.58 184 *e*P **P 22 30 01.3 -0.6**
comp=Z,14nm,0.8s,mb4.5
STKA *e* 22 30 26.4
STKA *e*S **S 22 36 34.0 -0.2**
STKA Stephens Creek 50.58 184 P **P 22 30 01.4 -0.5**
comp=Z,11nm,0.5s,mb4.5,baz=350,slow=7.7,SNR=38
STKA Stephens Creek 50.58 184 *e*P **P 22 30 01.2 -0.7**
UNV Unalaska Valle 50.82 35 *e*P **P 22 30 02.6 -0.8**
comp=Z,38nm,0.4s,mb5.2
BILL Bilibino 50.94 10*c i*P **P 22 30 03.9 -0.1**
BILL pmax pmax
comp=Z,22nm,0.5s,mb4.8
BILL Bilibino 50.94 10 *e*P **P 22 30 03.6 -0.4**
comp=Z,22nm,0.4s,mb4.9
FORT Forrest 52.03 199 *e*P **P 22 30 11.9 -0.5**
comp=Z,46nm,1.0s,mb4.8
FORT *e* 22 30 56.2
TAPN Taplejung 53.09 290 *e*P **P 22 30 20.9 +0.7**
comp=Z,133nm,0.4s,mb5.7
ODAN Odare 53.41 290 *e*P **P 22 30 23.2 +0.8**
comp=Z,185nm,0.5s,mb5.7
TIXI Tiksi 53.63 354 *e*P **P 22 30 21.8 -1.4**
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
TIXI Tiksi 53.63 354 *e*P **P 22 30 21.9 -1.3**
comp=Z,4.8nm,0.6s,mb4.0
TIXI *e*PcP PcP 22 31 20.0 -0.2
KRAR Krasnoyarsk 53.72 327 *e*P **P 22 30 23.9 -0.2**
KRAR pmax pmax
comp=Z,29nm,0.5s,mb4.9
WMQ Urumqi 53.78 311 P **P 22 30 27.0 +2.3**
WMQ AP pP 22 32 11.0 -2.4
WMQ PP PP 22 32 38.3 +4.1
WMQ AMB AMB
comp=Z,132nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,33nm,7.6s
CAN Canberra 54.02 176 *e*P **P 22 30 25.8 -0.7**
CNB Canberra Magne 54.04 176 *e*P **P 22 30 26.9 +0.3**
CNB *e* 22 30 58.0
RAMN Ramite 54.10 290 *e*P **P 22 30 27.9 +0.6**
comp=Z,127nm,0.5s,mb5.5
JIRN Jiri 54.41 291 *e*P **P 22 30 30.9 +1.4**
comp=Z,497nm,0.5s,mb6.1
GUN Gumba 54.67 291 *e*P **P 22 30 32.4 +1.1**
comp=Z,347nm,0.4s,mb6.0
BOK Bokaro 55.06 286 *e*P **P 22 30 34.7 +0.7**
BOK AMb AMB 22 30 36.8
comp=Z,190nm,0.9s,mb5.4
PKI Pulchoki 55.11 291 *e*P **P 22 30 34.9 +0.5**
comp=Z,386nm,0.4s,mb6.1
PKIN Phulchoki 55.12 291 *e*P **P 22 30 34.9 +0.5**
comp=Z,436nm,0.4s,mb6.1
KKN Kakani 55.21 291 *e*P **P 22 30 35.6 +0.6**
comp=Z,187nm,0.5s,mb5.7
KKN Kakani 55.21 291 *e*P **P 22 30 35.6 +0.6**
KKN pmax pmax
comp=Z,187nm,0.5s,mb5.7
DMN Daman 55.38 291 *e*P **P 22 30 37.0 +0.8**
comp=Z,448nm,0.4s,mb6.2
POHA Pohakuloa 55.75 79 P **P 22 30 39.1 +0.2**
GKN Gorkha 55.76 291 *e*P **P 22 30 39.5 +0.7**
comp=Z,49nm,0.4s,mb5.1
TOO Toolangi 56.15 180 *e*P **P 22 30 41.7 +0.5**
TOO *e* 22 31 06.0
DANN Dangsing 56.50 292 *e*P **P 22 30 45.0 +1.0**
comp=Z,1000nm,0.5s
KLBR Kellerberrin 56.64 208 *e*P **P 22 30 43.7 -1.0**
comp=Z,74nm,1.2s,mb4.8
KOLN Koldanda 56.69 291 *e*P **P 22 30 45.7 +0.4**
comp=Z,145nm,0.6s,mb5.4
ZAA0 Zalesovo Array 57.54 323 *e*P **P 22 30 49.8 -0.8**
ZALV Zalesovo Beam 57.54 323 P **P 22 30 50.2 -0.3**
comp=Z,33nm,0.4s,mb4.8,baz=113,slow=8.8,SNR=238
ZALV PcP PcP 22 31 34.9 -1.1
comp=Z,8.1nm,0.4s,baz=122,slow=4.2,SNR=4.6
ZALV S **S 22 38 03.6 -1.2**
comp=Z,1.2nm,0.6s,baz=108,slow=12,SNR=3.4
ZAL Zalesovo 57.55 322 P **P 22 30 50.2 -0.4**
ZAL 22 31 34.9
ZAL S **S 22 38 03.6 -1.3**
MUN Mundaring 57.66 209 *e*P **P 22 30 51.1 -0.6**
MK31 Makanchi Array 57.94 314 P **P 22 30 53.7 +0.3**
MK31 pmax pmax
comp=Z,51nm,0.4s,mb5.0
MKAR Makanchi Array 57.95 314 P **P 22 30 53.9 +0.4**
comp=Z,58nm,0.4s,mb5.0,baz=85,slow=8.3,SNR=811
NWAO Narrogin (SRO) 58.00 208 P **P 22 30 53.4 -0.5**
comp=Z,26nm,1.0s,mb4.3,baz=46,slow=11,SNR=14
NWAO PcP PcP 22 31 37.8 -0.2
comp=Z,20nm,0.8s,baz=36,slow=4.9,SNR=4.8
NWAO Narrogin (SRO) 58.00 208 P **P 22 30 53.4 -0.5**
NWAO PcP PcP 22 31 37.8 -0.2
VIS Vishakhapatnam 58.41 280 *e*P **P 22 30 56.4 -0.7**
VIS AMb AMB 22 30 59.5
comp=Z,60nm,1.4s,mb4.5
NVS Novosibirsk 58.64 323 ⇓*i*P **P 22 30 57.7 -0.2**
NVS *i*S **S 22 38 11.4 -7.2**
NVS pmax pmax
comp=N,23nm,1.3s
NVS pmax pmax
comp=E,84nm,1.3s
NVS pmax pmax
comp=Z,86nm,1.3s,mb4.7
NVS smax
comp=N,97nm,2.1s
NVS smax
comp=E,40nm,1.9s
SVW2 Sparrevohn 58.94 29 *e*P **P 22 31 00.1 +0.3**
OHAK Old Harbor 59.01 34 *e*P **P 22 31 00.5 +0.1**
TTA Tatalina 59.34 27 *e*P **P 22 31 02.4 -0.1**
TTA pmax pmax
comp=Z,82nm,1.4s,mb4.7
TTA Tatalina 59.34 27 *e*P **P 22 31 02.4 -0.1**
comp=Z,82nm,1.4s,mb4.7
PTH Pithoragarh 59.49 294 *e*P **P 22 31 04.0 -0.1**
PTH *ex* x 22 33 35.0
KDAK Kodiak Island 59.51 33 P **P 22 31 03.7 0.0**
comp=Z,17nm,0.4s,mb4.7,baz=258,slow=1.3,SNR=22
KDAK Kodiak Island 59.51 33 P **P 22 31 03.7 0.0**
KURK Kurchatov 60.77 318 ⇑P **P 22 31 12.2 0.0**
SNR=61
KURK Kurchatov 60.77 318*d i*P **P 22 31 12.2 0.0**
KURK pmax pmax
comp=Z,274nm,1.3s,mb5.3
KURK Kurchatov 60.77 318 *e*P **P 22 31 12.1 -0.1**
comp=Z,179nm,0.4s,mb5.7
PPLA Purkeypile 61.00 28 *e*P **P 22 31 13.8 +0.4**
comp=Z,14nm,0.5s,mb4.5
PPLA PcP PcP 22 31 48.7 -1.0
CHUM Lake Minchumin 61.22 27 *e*P **P 22 31 15.1 +0.3**
comp=Z,23nm,0.6s,mb4.6
DDI Dehra Dun 61.28 295 *e*P **P 22 31 13.8 -2.1**
SLKM Skilak Lake 61.31 31 *e*P **P 22 31 14.7 -0.8**
FIB Fire Island 61.48 30 *e*P **P 22 31 17.1 +0.5**
TAU Tasmania Unive 61.51 178 *e*P **P 22 31 17.4 +0.4**
SEW Seward 61.60 31 *e*P **P 22 31 16.9 -0.5**
SEW PcP PcP 22 31 48.7 -3.5
RC01 Rabbit Creek A 61.67 30 *e*P **P 22 31 16.8 -1.1**
comp=Z,2μm,0.8s
NGP Nagpur 61.72 284 *e*P **P 22 31 16.5 -2.4**
NGP AMb AMB 22 31 18.5
comp=Z,71nm,2.1s,mb4.5
KTH Kantishna Hill 61.72 27 *e*P **P 22 31 18.2 +0.1**
comp=Z,2μm,0.7s
BPAW Bear Paw Mtn. 61.84 27 *e*P **P 22 31 18.8 -0.1**
comp=Z,34nm,0.6s,mb4.8
SMLA Simla 61.95 296 ⇓*i*P **P 22 31 20.3 +0.1**
SMLA AMb AMB 22 31 21.4
comp=Z,149nm,0.5s,mb5.5
TRF Thorofare Moun 61.97 27 *e*P **P 22 31 19.1 -0.6**
comp=Z,37nm,0.8s,mb4.7
PMR Palmer 62.07 30 *e*P **P 22 31 19.6 -0.8**
PMR pmax pmax
comp=Z,41nm,0.4s,mb5.0
PMR Palmer 62.07 30 *e*P **P 22 31 19.6 -0.8**
comp=Z,41nm,0.4s,mb5.0
NDI New Delhi 62.19 293 *e*P **P 22 31 22.0 +0.1**
TKM2 Tokmak 2 62.51 309 *e*P **P 22 31 24.3 +0.6**
TKM2 pmax pmax
comp=Z,44nm,0.3s,mb5.3
TKM2 Tokmak 2 62.51 309 P **P 22 31 24.6 +0.9**
SNR=111
TKM2 Tokmak 2 62.51 309 *e*P **P 22 31 24.3 +0.6**
comp=Z,44nm,0.3s,mb5.3
MCK McKinley 62.63 27 *e*P **P 22 31 23.0 -1.0**
MCK pmax pmax
comp=Z,11nm,0.5s,mb4.4
MCK McKinley 62.63 27 *e*P **P 22 31 23.0 -1.0**
comp=Z,11nm,0.5s,mb4.4
HYB Hyderabad 62.92 280 *i*P **P 22 31 26.5 -0.2**
comp=Z,57nm,0.8s,mb5.0
KBK Karagaybulak 63.00 309 P **P 22 31 27.6 +0.8**
SNR=40
COLD Coldfoot 63.01 23 *e*P **P 22 31 26.9 +0.6**
THN Thein Dam 63.04 297 *e*P **P 22 31 26.1 -1.2**
CHMS Chumysh 63.13 309 P **P 22 31 28.0 +0.4**
SNR=14
FRU Bishkek 63.24 309 ⇓*i*P **P 22 31 28.0 -0.3**
FRU *i* 22 33 59.5
FRU pmax pmax
comp=Z,110nm,2.1s,mb4.8
USP Ospenovka 63.31 310 P **P 22 31 29.1 +0.3**
SNR=38
UCH Uchtor 63.33 308 P **P 22 31 30.5 +1.6**
SNR=85
UCH Uchtor 63.33 308 *e*P **P 22 31 30.4 +1.5**
comp=Z,62nm,1.0s,mb4.9
UCH *e*PcP PcP 22 32 00.6 +0.9
AAK Ala-Archa 63.33 309 P **P 22 31 29.6 +0.6**
SNR=21
COLA College 63.34 26*d i*P **P 22 31 28.3 -0.3**
COLA College 63.34 26 *e*P **P 22 31 27.6 -1.0**
comp=Z,13nm,0.8s,mb4.3
EYAK Cordova Ski Ar 63.49 31 *e*P **P 22 31 29.4 -0.1**
PALK Pallekele 63.51 269 *e*P **P 22 31 30.9 +0.3**
DIV Divide 63.57 30 *e*P **P 22 31 30.4 +0.4**
comp=Z,40nm,0.4s,mb5.1
DIV *e*PcP PcP 22 32 00.9 +0.6
AKL Akola 63.67 284 *e*P **P 22 31 31.7 +0.2**
AKL AMb AMB 22 31 33.7
comp=Z,145nm,0.8s,mb5.4
EKS2 Erkin-Say 63.86 309 P **P 22 31 32.9 +0.6**
SNR=33
EKS2 Erkin-Say 63.86 309 *e*P **P 22 31 32.6 +0.4**
comp=Z,9.9nm,0.5s,mb4.4
EKS2 *e*PcP PcP 22 32 01.5 -0.4
AML Almayashu 63.94 308 P **P 22 31 34.2 +1.4**
SNR=99
AML Almayashu 63.94 308 *e*P **P 22 31 34.1 +1.3**
comp=Z,59nm,0.4s,mb5.3
AML *e*PcP PcP 22 32 02.9 +0.7
RAGM Ragged Mountai 64.00 31 *e*P **P 22 31 33.0 +0.2**
BMRM Bremner River 64.11 31 *e*P **P 22 31 34.1 +0.6**
URZ Urewera 64.28 152 P **P 22 31 34.8 -0.1**
comp=Z,2.6nm,0.3s,mb4.0,baz=18,slow=1.1,SNR=3.6
LATR Latur 64.56 282 *e*P **P 22 31 36.8 -0.3**
LATR AMb AMB 22 31 38.5
comp=Z,65nm,1.1s,mb5.0
AJM Ajmer 64.77 291 *e*P **P 22 31 38.2 -0.1**
AJM AMb AMB 22 31 40.0
comp=Z,109nm,0.7s,mb5.4
VOSK Vostochnaya 65.63 320 P **P 22 31 42.3 -0.9**
VOSK pmax pmax
comp=Z,40nm,0.4s,mb5.2
KOD Kodaikanal 65.73 273 *e*P **P 22 31 44.8 +0.3**
KOD AMb AMB 22 31 46.8
comp=Z,85nm,1.2s,mb5.0
BVA0 Borovoye Array 65.99 320 *i*P **P 22 31 45.1 -0.3**
BVA0 pmax pmax
comp=Z,19nm,0.5s,mb4.8
BVAR Borovoye Array 65.99 320 P **P 22 31 45.4 -0.1**
comp=Z,81nm,0.4s,mb5.5,baz=100,slow=7.8,SNR=766
BVAR S S 22 39 48.4 0.0
comp=Z,3.2nm,0.7s,baz=98,slow=11,SNR=6.0
BRVK Borovoye 66.05 320 ⇓P **P 22 31 45.8 0.0**
SNR=32
BRVK Borovoye 66.05 320 *e*P **P 22 31 45.5 -0.3**
BRVK pmax pmax
comp=Z,60nm,0.6s,mb5.2
BRVK Borovoye 66.05 320 *e*P **P 22 31 45.5 -0.3**
comp=Z,60nm,0.6s,mb5.2
EGAK Eagle 66.15 27 *e*P **P 22 31 46.0 -0.1**
comp=Z,13nm,0.5s,mb4.6
KK31 Karatay Array 66.23 310 *e*P **P 22 31 47.0 -0.1**
KK31 pmax pmax
comp=Z,38nm,0.5s,mb5.1
RPZ Rata Peaks 66.67 160 P **P 22 31 48.8 -0.9**
comp=Z,12nm,0.4s,mb4.6,baz=153,slow=3.1,SNR=5.6
TRD Trivandrum 66.69 271 *e*P **P 22 31 50.5 0.0**
TRD AMb AMB 22 31 51.7
comp=Z,65nm,0.3s,mb5.6
DAWY Dawson 66.85 28 *e*P **P 22 31 50.5 0.0**
KAD Karad 67.01 281 *e*P **P 22 31 51.5 -0.9**
KAD AMb AMB 22 31 53.0
comp=Z,67nm,0.3s,mb5.5
POO Poona 67.04 283 *e*P **P 22 31 52.0 -0.5**
POO AMb AMB 22 31 53.9
comp=Z,120nm,1.0s,mb5.3
HYT Haines Junctio 67.56 31 *e*P **P 22 31 57.2 +2.3**
GOA Goa 67.78 279 *e*P **P 22 31 56.7 -0.4**
GOA AMb AMB 22 31 58.5
comp=Z,82nm,1.7s,mb4.9
KBL Kabul 68.31 300 *e*P **P 22 31 59.7 -0.3**
KBL pmax pmax
comp=Z,43nm,0.5s,mb5.1
KBL Kabul 68.31 300 *e*P **P 22 31 59.7 -0.3**
comp=Z,43nm,0.5s,mb5.1
SKAG Skagway 68.64 33 *e*P **P 22 32 01.8 +0.3**
SIT Sitka 68.70 35 *e*P **P 22 32 02.8 +0.9**
BHJ Bhuj 69.83 288 *e*P **P 22 32 08.7 -0.6**
BHJ AMb AMB 22 32 11.3
comp=Z,76nm,0.5s,mb5.4
SVE Sverdlovsk 71.42 325 ⇑*e*P **P 22 32 18.1 +0.1**
SVE pmax pmax
comp=Z,69nm,1.1s,mb5.1
DLBC Dease Lake 71.44 34 P **P 22 32 19.0 +0.9**
baz=237,slow=3.3
ARU Arti 72.60 324*d i*P **P 22 32 24.6 -0.3**
ARU *e* 22 32 38.5
ARU *e**PP pP 22 34 19.6 -3.8
ARU *e* 22 35 15.3
ARU *e*S S 22 41 03.2 -0.7
ARU pmax pmax
comp=Z,60nm,0.5s,mb5.4
ARU Arti 72.60 324 *e*P **P 22 32 24.4 -0.5**
comp=Z,106nm,0.4s,mb5.7
AB31 Akbulak array 72.84 317 *i*P **P 22 32 25.8 -0.6**
AB31 pmax pmax
comp=Z,29nm,0.3s,mb5.3
SOKR Solikamsk 73.09 328*d i*P **P 22 32 27.2 -0.4**
SOKR pmax pmax
comp=Z,40nm,1.1s,mb4.9
AKTK Aktyubinsk 73.87 318 P **P 22 32 31.8 -0.4**
AKTO Aktyubinsk 73.87 318 P **P 22 32 31.8 -0.4**
comp=Z,17nm,0.5s,mb4.8,baz=83,slow=7.9,SNR=8.5
PGC Sidney 76.99 43 *e*P **P 22 32 49.7 +0.1**
comp=Z,17nm,0.8s,mb4.5
NLWA Neilton Lookou 77.02 44 *e*P **P 22 32 50.6 +0.9**
comp=Z,28nm,0.6s,mb4.9
OSD Olympics--Snow 77.03 44 P **P 22 32 51.1 +1.4**
HDW Hoodsport 77.49 44 P **P 22 32 53.4 +1.1**
BMW Boistfort Moun 77.67 45 *e*P **P 22 32 54.3 +1.0**
MBW Mount Baker 77.95 42 P **P 22 32 55.3 +0.6**
YKA Yellowknife Ar 78.09 28 P **P 22 32 54.7 -0.4**
comp=Z,9.9nm,0.5s,mb4.5,baz=287,slow=5.1,SNR=68
YKA S S 22 41 59.2 -3.4
comp=Z,0.7nm,0.7s,baz=285,slow=10.0,SNR=4.0
YKA Yellowknife Ar 78.09 28 P **P 22 32 54.7 -0.4**
YKA S S 22 41 59.2 -3.4
JCW Jim Creek 78.09 43 *e*P **P 22 32 56.3 +0.8**
RPW Rockport 78.29 43 P **P 22 32 56.7 +0.2**
TDL Tradedollar La 78.38 45 P **P 22 32 57.8 +0.8**
HUMO Hull Mountain 78.84 49 *e*P **P 22 33 00.7 +1.0**
comp=Z,12nm,0.5s,mb4.5
TBM Table Mountain 79.23 44 P **P 22 33 01.9 +0.3**
YBH Yreka Blue Hor 79.25 50 P **P 22 33 02.8 +1.0**
baz=328,slow=9.5
YBH Yreka Blue Hor 79.25 50 *e*P **P 22 33 02.4 +0.6**
ETW Entiat 79.28 43 *e*P **P 22 33 02.1 +0.3**
EBG Ellensburg 79.32 44 P **P 22 33 02.7 +0.6**
BUOR Burton Butte 79.44 49 P **P 22 33 03.5 +0.7**
WBK Wadi Bani Khal 79.53 290 ⇓P **P 22 33 04.0 +0.4**
SNR=8.2
WDC Whiskeytown Da 79.69 51 *e*P **P 22 33 04.4 +0.3**
WDC 22 33 10.4
WDC pmax pmax
comp=Z,38nm,1.5s,mb4.5
WDC Whiskeytown Da 79.69 51 *e*P **P 22 33 04.4 +0.3**
comp=Z,38nm,1.5s,mb4.5
WDC PcP PcP 22 33 10.4 +0.7
EPH Ephrata 79.83 43 P **P 22 33 04.8 +0.1**
BIDO Bidbid 80.03 291 ⇓P **P 22 33 06.6 +0.4**
SNR=14
LVZ Lovozero 80.07 339 ⇓*i*P **P 22 33 04.2 -1.4**
LVZ pmax pmax
comp=Z,31nm,1.3s,mb4.5
RSW Rattlesnake Hi 80.11 44 *e*P **P 22 33 07.0 +0.8**
HAWA Hanford 80.15 44 *e*P **P 22 33 06.3 -0.1**
comp=Z,15nm,1.0s,mb4.3
SMDO Samad 80.22 291 ⇓P **P 22 33 07.6 +0.3**
SNR=8.2
JMDO Jabal Madar 80.37 290 P **P 22 33 08.0 0.0**
SNR=7.0
OD2 Odessa Site #2 80.39 43 *e*P **P 22 33 07.4 -0.3**
HOQ Hoqain 80.73 292 P **P 22 33 10.3 +0.4**
SNR=20
MOD Modoc 80.93 49 *e*P **P 22 33 10.7 +0.1**
comp=Z,8.2nm,0.6s,mb4.3
BSY Bisya 81.06 291 ⇓P **P 22 33 12.0 +0.3**
SNR=12
LNOR Lincton Mounta 81.13 45 *e*P **P 22 33 11.3 -0.2**
NEW Newport 81.15 42 *e*P **P 22 33 11.6 +0.1**
HATD Hatta, Dubai 81.41 293 ⇑P **P 22 33 13.7 +0.3**
SNR=6.7
ASHO Ashiyiah 81.51 293 P **P 22 33 14.4 +0.5**
SNR=8.3
KEV Kevo 81.59 342 *e*p **P 22 33 12.0 -1.4**
comp=Z,14nm,0.3s,mb5.0
KEV Kevo 81.59 342 *e*P **P 22 33 12.0 -1.4**
KEV pmax pmax
comp=Z,14nm,0.3s,mb5.0
EDM Edmonton 81.77 37 *e*P **P 22 33 14.7 +0.1**
WVOR Wild Horse Val 81.95 48 *e*P **P 22 33 15.8 0.0**
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
WVOR Wild Horse Val 81.95 48 *e*P **P 22 33 15.8 +0.1**
comp=Z,4.7nm,0.8s,mb4.1
ARCES ARCESS Array B 82.16 342 P **P 22 33 15.6 -0.7**
comp=Z,9.8nm,0.4s,mb4.7,baz=87,slow=8.9,SNR=244
ARCES PKKPbc PKKPbc 22 51 38.4 -4.0
comp=Z,1.3nm,0.9s,baz=240,slow=2.4,SNR=3.7
ARCES ARCESS Array B 82.16 342 P **P 22 33 15.6 -0.7**
ARCES PKKPbc PKKPbc 22 51 38.4 -4.0
ARE0 ARCESS Array S 82.16 342 *e*P **P 22 33 15.7 -0.5**
WALA Waterton Lakes 82.89 41 *e*P **P 22 33 21.1 +0.7**
comp=Z,4.2nm,0.6s,mb4.2
KTK1 Kautokeino 83.12 342 ⇓*i*P **P 22 33 19.8 -1.2**
NVAR Mina Array Bea 83.46 52 P **P 22 33 24.5 +1.1**
comp=Z,8.3nm,0.4s,mb4.6,baz=272,slow=6.0,SNR=2.8
NVAR S S 22 42 53.5 -4.4
comp=Z,1.0nm,0.3s,baz=253,slow=7.6,SNR=4.3
JOF Joensuu 83.63 335 *e*p **P 22 33 21.7 -2.0**
comp=Z,16nm,0.3s,mb5.0
TRO Tromso 83.94 343 *e*P **P 22 33 24.1 -1.1**
TRO AMb AMB 22 33 26.7
comp=Z,64nm,1.6s,mb4.9
DAG Danmarks Havn 84.05 356 ⇑*i*P **P 22 33 24.9 -0.7**
DAG pmax pmax
comp=Z,13nm,0.9s,mb4.5
DAG Danmarks Havn 84.05 356 ⇑*i*P **P 22 33 24.9 -0.7**
comp=Z,13nm,0.9s,mb4.5
DAG *i* 22 35 56.0
CHMT Chamberlain Mo 84.07 42 *e*P **P 22 33 26.3 +0.1**
HLID Hailey 84.50 46 *e*P **P 22 33 28.9 +0.5**
comp=Z,11nm,0.8s,mb4.5
DGRG David-gareji 84.75 312 P **P 22 33 30.0 +0.3**
OBN Obninsk 84.83 327 ⇑*i*P **P 22 33 28.5 -1.3**
OBN pmax pmax
comp=Z,52nm,1.6s,mb4.9
ELK Elko 84.92 49 *e*P **P 22 33 31.4 +0.9**
VRSR Storozhevoye 85.03 323 *e*P **P 22 33 29.0 -1.8**
VRSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=N,5.0nm,1.5s
VRSR pmax pmax
comp=E,6.0nm,1.0s
HRY Holter Researc 85.05 42 *e*P **P 22 33 31.6 +0.6**
MTA Mtatsminda 85.07 312 P **P 22 33 30.5 -0.8**
MCMT McKenzie Canyo 85.09 44 *e*P **P 22 33 31.9 +0.6**
TBLG Delisi 85.09 312 P **P 22 33 30.8 -0.6**
TPNV Topopah Spring 85.49 53 P **P 22 33 33.6 +0.3**
GNI Garni 85.65 311 *e*P **P 22 33 34.2 +0.1**
GNI pmax pmax
comp=Z,28nm,1.3s
GNI Garni 85.65 311 *e*P **P 22 33 34.2 +0.2**
comp=Z,28nm,1.3s,mb4.7
ONI Oni 85.68 313 P **P 22 33 33.9 -0.3**
KIV Kislovodsk 85.69 315*d i*P **P 22 33 33.2 -0.9**
KIV pmax pmax
comp=Z,25nm,1.0s,mb4.8
KIV Kislovodsk 85.69 315 *e*P **P 22 33 32.9 -1.3**
comp=Z,19nm,0.8s,mb4.8
KAF Kangasniemi 86.03 336 *e*p **P 22 33 33.0 -2.4**
comp=Z,4.9nm,0.3s,mb4.6,baz=55,slow=4.6
KAF Kangasniemi 86.03 336 *e*P **P 22 33 33.0 -2.4**
KAF pmax pmax
comp=Z,5.0nm,0.3s,mb4.6
FLWY Flagg Ranch 86.80 44 *e*P **P 22 33 40.7 +1.3**
comp=Z,6.6nm,0.6s,mb4.5
DUG Dugway 86.84 49 *e*P **P 22 33 40.0 +0.3**
UMR Umm Al-Rimmam 87.05 300 *e*P **P 22 33 38.6 -2.3**
baz=300
HWUT Hardware Ranch 87.18 47 *e*P **P 22 33 42.0 +0.8**
comp=Z,3.9nm,0.5s,mb4.4
FFC Flin Flon 87.24 32 *e*P **P 22 33 41.2 0.0**
FFC pmax pmax
comp=Z,12nm,0.9s,mb4.6
FFC Flin Flon 87.24 32 *e*P **P 22 33 41.2 0.0**
comp=Z,12nm,0.9s,mb4.6
MIB Mutribah 87.27 300 *e*P **P 22 33 40.1 -1.8**
baz=300
MIB AMb AMB 22 33 41.6
comp=Z,69nm,0.6s,mb5.6,baz=300
RLMT Red Lodge 87.32 43 *e*P **P 22 33 42.9 +1.1**
comp=Z,5.9nm,0.6s,mb4.5
RDF Al-Radifah 87.40 300 *e*P **P 22 33 41.2 -1.4**
baz=300
RDF AMb AMB 22 33 45.3
comp=Z,40nm,0.4s,mb5.5,baz=300
MOR8 Moi Rana 87.53 342 *e*P **P 22 33 40.3 -2.0**
NAY Al-Naaiem 87.54 300 *e*P **P 22 33 41.3 -1.9**

baz=300
NAY AMb AMB 22 33 42.7
comp=Z,31nm,0.4s,mb5.4,baz=300
SOC Sochi 87.81 315 *e*P **P 22 33 42.8 -1.3**
SOC *e* 22 37 19.8
SOC *e*S S 22 43 16.9 -22
SOC *e* 22 43 43.9
SOC pmax pmax
comp=Z,16nm,0.6s,mb4.9
BW06 Boulder Array 88.09 45 *e*P **P 22 33 46.0 +0.5**
PDAR Pinedale Array 88.09 45 P **P 22 33 45.5 0.0**
comp=Z,1.6nm,0.4s,mb4.1,baz=212,slow=1.7,SNR=13
SUMG Summit 88.74 1 *e*P **P 22 33 47.9 0.0**
comp=Z,3.4nm,1.0s,mb4.1
ANN Anapa 88.80 317 *e*P **P 22 33 46.4 -2.3**
ANN *e**PP pP 22 35 48.6 -5.2
ANN *e* 22 43 20.4
ANN pmax pmax
comp=Z,31nm,1.0s,mb5.1
PV10 Paradox Valley 90.25 49 *e*P **P 22 33 56.4 +0.8**
PV01 Paradox Valley 90.68 49 *e*P **P 22 33 58.2 +0.6**
AKASG Malin Array Be 90.85 325 P **P 22 33 55.8 -2.3**
comp=Z,1.2nm,0.4s,mb4.2,baz=44,slow=5.8,SNR=11
MALT Malatya 90.88 311 *e*P **P 22 33 57.8 -0.7**
MALT pmax pmax
comp=Z,28nm,1.5s,mb5.0
MALT Malatya 90.88 311 *e*P **P 22 33 57.8 -0.7**
comp=Z,28nm,1.5s,mb5.0
RSSD Black Hills 91.12 42 *e*P **P 22 33 59.2 -0.3**
RSSD pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
RSSD Black Hills 91.12 42 *e*P **P 22 33 59.2 -0.2**
comp=Z,2.7nm,0.5s,mb4.4
ISCO Idaho Springs 92.04 47 *e*P **P 22 34 04.4 +0.6**
SUW Suwalki 92.06 330 *e*P **P 22 34 01.8 -1.8**
SUW pmax pmax
comp=Z,13nm,0.4s,mb5.3
SUW Suwalki 92.06 330 *e*P **P 22 34 01.8 -1.8**
comp=Z,13nm,0.4s,mb5.3
NB2 NORSAR Subarra 92.22 339 P **P 22 34 02.0 -2.1**
comp=Z,1.7nm,0.4s,mb4.4,baz=55,slow=4.6
NOA NORSAR Array B 92.22 339 P **P 22 34 02.4 -1.7**
comp=Z,2.2nm,0.5s,mb4.5,baz=45,slow=4.4,SNR=12
SDCO Great Sand Dun 93.04 48 *e*P **P 22 34 09.1 +0.7**
MIR Mirnyy 93.55 198⇑ *i*P **P 22 34 10.0 +0.1**
MIR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
ANMO Albuquerque 93.57 51 *e*P **P 22 34 11.0 +0.1**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 93.57 51 *e*P **P 22 34 11.0 +0.1**
comp=Z,2.1nm,0.9s,mb4.3
BNM Barren Site 93.80 52 *e*P **P 22 34 11.7 -0.3**
KWP Kalwaria 94.92 327 *e*P **P 22 34 15.4 -1.3**
TXAR Lajitas Array 98.19 55 P Pdif 22 34 32.1 +0.8
comp=Z,0.3nm,0.5s,baz=283,slow=3.6,SNR=6.2
TXAR PKKPbc PKKPbc 22 51 01.5 +0.1
comp=Z,1.1nm,0.7s,baz=131,slow=5.7,SNR=6.1
CLL Collm 98.53 332 *e*P Pdif 22 34 31.0 -1.8
CLL *e* 22 38 38.0
CLL *e*S Sdif 22 45 07.0 -5.0
CLL pmax pmax
comp=Z,11nm,1.2s,mb5.1
CLL Collm 98.53 332 *e*Pdif Pdif 22 34 31.0 -1.8
comp=Z,11nm,1.2s
CLL *e*PP PP 22 38 38.0 -4.2
CLL *e*Sdif Sdif 22 45 07.0 -5.0
CLL *e*SPP 22 47 36.0
CLL *e*SS SS 22 52 14.0 +1.2
CLL *e*SSS 22 56 12.0
CLL Collm 98.53 332 *e*Pdif Pdif 22 34 31.0 -1.8
comp=Z,11nm,1.2s
CLL *e*PP PP 22 38 38.0 -4.2
CLL *e*Sdif Sdif 22 45 07.0 -5.0
WMOK Wichita Mounta 99.24 49 P Pdif 22 34 35.9 -0.1
MOX Moxa 99.61 332 *e*(P) PP 22 38 37.3 -13
GERES GERESS Array B 99.93 330 P Pdif 22 34 37.6 -1.5
comp=Z,0.6nm,0.5s,baz=38,slow=6.4,SNR=9.1
GERES PP PP 22 38 53.6 +0.9
comp=Z,0.3nm,0.4s,baz=36,slow=9.8,SNR=4.1
GRF Grafenberg Arr 100.48 332 *e*PP PP 22 38 57.6 +0.8
MAW Mawson 104.37 203 Pdiff Pdif 22 34 59.1 +0.3
comp=Z,1.8nm,0.8s,baz=63,slow=8.7,SNR=6.3
MAW PP PP 22 39 24.6 -1.4
comp=Z,1.5nm,0.9s,baz=69,slow=7.1,SNR=3.8
CABF La Chapelle 105.07 332 *e*PKiKP PKiKP 22 39 12.2 -0.7
BNI Bardonecchia 105.98 331 *e*PKiKP PKiKP 22 39 14.3 -0.3
BNI *e*PP PP 22 39 37.4 +0.2
SAOF Saorge 106.37 329 *e*P PP 22 39 38.7 -1.3
AUTN L'Aution 106.43 330 *e*P PP 22 39 40.0 -0.4
TOUF Mont Tournerai 106.50 330 *e*P PP 22 39 39.9 -1.0
MVIF Mont Vial 106.63 330 *e*P PP 22 39 40.8 -1.1
PGF Pioggiola 106.72 328 *e*PKIKP PKiKP 22 39 14.6 -1.5
comp=Z,2.9nm,0.4s
LMR La Mourre 107.36 330 *e*PKIKP PKiKP 22 39 15.4 -1.8
QSPA South Pole Qui 108.69 180 PKiKP PKiKP 22 39 17.7 -0.9
comp=Z,3.2nm,0.9s,baz=334,slow=0.7,SNR=14
QSPA PP PP 22 39 57.6 +0.8
comp=Z,4.3nm,1.0s,baz=2.2,slow=5.2,SNR=4.5
QSPA PKKPbc PKKPbc 22 50 28.8 -3.1
comp=Z,0.5nm,0.4s,baz=140,slow=3.7,SNR=10
QSPA South Pole Qui 108.69 180 PKPdf PKiKP 22 39 17.7 -0.9
QSPA PP PP 22 39 57.6 +0.8
QSPA PKKPbc PKKPbc 22 50 28.8 -3.1
ETSF Etsaut 110.89 334 *e*PKIKP PKiKP 22 39 23.3 -0.6
comp=Z,1.7nm,0.5s
PBRG Braganca 114.25 337 *e*PKPdf PKiKP 22 39 29.8 -0.5
PCAB Cabril 114.79 338 *e*PKPdf PKPdf 22 39 31.6 +0.2
ESDC Sonseca Array 114.99 334 PKP PKPdf 22 39 31.3 -0.5
comp=Z,0.4nm,0.3s,baz=5.7,slow=2.7,SNR=9.4
ESDC PKKPab PKKPab 22 50 17.8 -1.9
comp=Z,0.8nm,0.9s,baz=226,slow=4.4,SNR=4.9
PVIS Viseu 115.62 338 *e*PKPdf PKPdf 22 39 33.2 +0.2
MTE Manteigas 115.77 337 *e*PKPdf PKPdf 22 39 33.2 -0.1
PCBR Castelo Branco 116.23 337 *e*PKPdf PKPdf 22 39 33.8 -0.4
PMRV Marv??o 116.56 336 *e*PKPdf PKPdf 22 39 35.1 +0.2
PESTR Estremoz 117.12 336 *e*PKPdf PKPdf 22 39 35.4 -0.6
PBAR Barrancos 117.51 335 *e*PKPdf PKPdf 22 39 36.4 -0.3
EVO Evora 117.58 336 *e*PKIKP PKPdf 22 39 35.6 -1.3
comp=Z,3.5nm,0.5s
EVO Evora 117.58 336 *e*PKPdf PKPdf 22 39 36.3 -0.6
PFVI Vila Bisbo 119.11 336 *e*PKPdf PKPdf 22 39 39.7 -0.2
LSZ Lusaka 119.88 263 *e*PKIKP PKPdf 22 39 42.2 +0.4
TAM Tamanrasset 122.79 315 *e*PKIKP PKPdf 22 39 47.5 +0.2
SNAA Sanae 123.99 192 *e*PKIKP PKPdf 22 39 47.2 -0.9
BOSA Boshof 124.60 248 PKP PKPdf 22 39 50.5 0.0
comp=Z,1.4nm,0.4s,baz=161,slow=12,SNR=9.3
TORD Torodi Ar. Bea 131.92 309 PKhKP 22 39 47.1
comp=Z,0.5nm,0.4s,baz=63,slow=2.0,SNR=29
TORD PKP PKPdf 22 40 04.6 -0.3
comp=Z,1.9nm,0.4s,baz=34,slow=1.4,SNR=23
TORD SKKPbc 22 52 05.0
comp=Z,1.2nm,0.9s,baz=248,slow=3.9,SNR=4.4
TORD Torodi Ar. Bea 131.92 309 PKP 22 39 47.1
TORD PKP PKPdf 22 40 04.6 -0.3
TORD SKKPbc 22 52 05.0
DBIC Dimbokro 141.01 308 PKhKP 22 40 15.5
comp=Z,9.8nm,0.4s,baz=36,slow=3.3,SNR=65
DBIC Dimbokro 141.01 308 PKP PKPdf 22 40 15.5 -6.2
KIC Kosan Boka 141.12 307 *e*PKIKP PKPdf 22 40 16.2 -5.7
comp=Z,69nm,1.0s
TIC Toumodi 141.15 308 *e*PKIKP PKPdf 22 40 16.5 -5.4
comp=Z,24nm,0.2s
TIC Toumodi 141.15 308 *e*PKPdf PKPdf 22 40 16.5 -5.4
LIC Lamto 141.43 307 *e*PKIKP PKPdf 22 40 16.0 -6.4
comp=Z,10nm,0.4s
LIC Lamto 141.43 307 *e*PKIKP PKPdf 22 40 15.8 -6.6
comp=Z,41nm,0.7s
PLCA Paso Flores 142.52 133 PKP PKPdf 22 40 21.0 -2.5
comp=Z,20nm,0.9s,baz=219,slow=4.0,SNR=21
PLCA Paso Flores 142.52 133 PKP PKPdf 22 40 21.0 -2.5
LCO Las Campanas 145.86 114 *e*PKP PKPdf 22 40 31.3 +1.6
CFAA Coronel Fontan 147.41 119 PKPbc PKPbc 22 40 35.2 -0.4
comp=Z,3.4nm,0.8s,baz=268,slow=2.9,SNR=29
LVC Limon Verde 148.00 103 PKPbc PKPbc 22 40 38.7 +1.3
comp=Z,19nm,0.8s,baz=270,slow=4.2,SNR=12
LVC Limon Verde 148.00 103 *e*PKPdf PKPdf 22 40 34.3 +0.9
LVC *e*PKPbc PKPbc 22 40 38.4 +1.0
LVC PKPbc PKPbc 22 40 38.7 +1.3
LPAZ La Paz 148.22 91 PKP PKPdf 22 40 35.0 +1.1
comp=Z,10.0nm,0.8s,baz=278,slow=1.5,SNR=15
LPAZ PKPbc PKPbc 22 40 39.3 +1.2
comp=Z,10.0nm,0.8s,baz=285,slow=1.2,SNR=19
TRQA Tornquist 149.64 135 *e*PKPbc PKPbc 22 40 40.4 -0.6
SIV San Ignacio 154.85 88 PKP PKPdf 22 40 43.6 -0.1
comp=Z,2.8nm,0.8s,baz=237,slow=1.2,SNR=15
SIV PKPab PKPab 22 41 11.5 +0.1
comp=Z,0.8nm,0.4s,baz=273,slow=8.4,SNR=4.6

SZGRF ***27*** *22:23:40.1, 1935N×14586E, h33km, Mariana Islands*
DJA ***27*** *22:24:18, 19.19N×14526E, h500km, mb5.4/28*
ISCJB ***27*** *22:24:26.0±0.4, 1885N±003×14506E±002, h586km±5km, mb5.0/131, Error ellipse: s-maj=3.9km s-min=3.5km az=179.2*
MOS ***27*** *22:24:26.7±0.9, 1894N×14503E, h596km, mb5.1/32, Error ellipse: s-maj=8.9km s-min=5.3km az=105.8*
BJI ***27*** *22:24:26.8, 1904N×145.16E, h593km, mB5.0, mb5.4*
IDC ***27*** *22:24:26.9±0.7, 1886N×14504E, h580km±7km, mb4.3/26, mb1 4.4/30, mb1mx4.4/32, mbtmp4.4/30, Error ellipse: s-maj=8.8km s-min=5.1km az=88.0*
NEIC ***27*** *22:24:28.3±0.7, 1891N×14507E, h602km±8km, mb5.0/59, Error ellipse: s-maj=4.3km s-min=3.6km az=115.0*
GCMT ***27*** *22:24:28.3±0.5, 1885N×14531E, h550km±4km, MW5.3/49, Moment Tensor Solution. s49,c63; Duration: 1s1*
Moment tensor: Scale 10^17Nm; Mrr-0.68±.04;
Mθθ0.40±.07; Mφφ0.27±.07; Mrθ0.11±.09; Mθφ-0.43±.07;
Mφr-0.69±.08; Best double couple: M0 1.00700×10^17
NP1:φs109.00000°, δ31.00000°, λ-133.00000°. NP2:
φs336.00000°, δ68.00000°, λ-68.00000°. Principal axes:
T 0.9700, Plg20.0000°, Azm50.0000°; N 0.0750,
Plg20.0000°, Azm148.0000°; P -1.0450, Plg61.0000°,
Azm279.0000°; nsta1 refers to body waves, cutoff=40s.
ISC 27 22:24:26.6±0.4, 1887N±003×14510E±002, h577km±5km, h555km±16.0km:pP-P, n510, σ0s82/468, mb5.0/128, 69C-99D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.26**	**182**	P	**P**	**22 25 58.2**	**-2.0**
GUMO	92nm,0.3s,baz=22,slow=11,SNR=2.7			S	**S**	**22 27 15.7**	**-0.9**
GUMO	**Guam**	**5.26**	**182**	P	**P**	**22 25 58.7**	**-1.5**
CBIJ	**Chichi jima**	**8.61**	**342**	P	**P**	**22 26 30.8**	**-0.2**
CBIJ	67nm,0.3s,baz=270,slow=20,SNR=4.1			S	**S**	**22 28 11.1**	**-2.1**
JHJ	**Hachijo jima 2**	**14.97**	**342**	P	**P**	**22 27 33.9**	**-1.3**
JHJ	14nm,0.3s,baz=271,slow=22,SNR=8.1			S	**S**	**22 30 07.3**	**-2.1**
JOW	**Kunigami**	**17.40**	**300**	P	**P**	**22 27 58.7**	**+1.0**
JOW	55nm,0.3s,baz=129,slow=9.5,SNR=56			S	**S**	**22 30 49.0**	**-0.6**
MJAR	**Matsushiro Arr**	**18.62**	**342**	P	**P**	**22 28 07.8**	**-0.9**
MJAR	0.1nm,0.3s,baz=78,slow=19,SNR=3.8			S	**S**	**22 31 10.3**	**+1.3**
MAJO	**Matsushiro**	**18.62**	**342**	*e*P	**P**	**22 28 08.2**	**-0.5**
MAJO	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			pmax	pmax		
MAJO	**Matsushiro**	**18.62**	**342**	*e*P	**P**	**22 28 08.2**	**-0.5**
MAT	**Matsushiro**	**18.62**	**342**	P	**P**	**22 28 08.5**	**-0.2**
MAT	0.5nm,0.3s,baz=164,slow=18,SNR=18			S	**S**	**22 31 08.0**	**-1.0**
NACB	**Ninganchiao**	**22.48**	**288**	*e*P	**P**	**22 28 43.5**	**-0.2**
TATO	**Taipei**	**22.71**	**290**	*e*P	**P**	**22 28 45.2**	**-0.6**
YHNB	**Yeheng**	**22.76**	**289**	*e*P	**P**	**22 28 46.5**	**+0.4**
KSRS	**Korea Array**	**23.84**	**324**	P	**P**	**22 28 55.4**	**-0.2**
KSRS	0.3nm,0.3s,baz=182,slow=4.3,SNR=10			PcP	PcP	22 32 18.4	+0.3
MJAR	**Matsushiro Arr**	**18.62**	**342**	P	**P**	**22 28 07.8**	**-0.9**
MJAR	0.8nm,0.3s,baz=162,slow=4.3,SNR=10			S	**S**	**22 31 10.3**	**+1.3**
MAJO	**Matsushiro**	**18.62**	**342**	*e*P	**P**	**22 28 08.2**	**-0.5**
MAJO	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			pmax	pmax		
MAJO	**Matsushiro**	**18.62**	**342**	*e*P	**P**	**22 28 08.2**	**-0.5**
MAT	**Matsushiro**	**18.62**	**342**	P	**P**	**22 28 08.5**	**-0.2**
MAT	0.5nm,0.3s,baz=164,slow=18,SNR=18			S	**S**	**22 31 08.0**	**-1.0**
NACB	**Ninganchiao**	**22.48**	**288**	*e*P	**P**	**22 28 43.5**	**-0.2**
TATO	**Taipei**	**22.71**	**290**	*e*P	**P**	**22 28 45.2**	**-0.6**
YHNB	**Yeheng**	**22.76**	**289**	*e*P	**P**	**22 28 46.5**	**+0.4**
KSRS	**Korea Array**	**23.84**	**324**	P	**P**	**22 28 55.4**	**-0.2**
KSRS	0.3nm,0.3s,baz=182,slow=4.3,SNR=10			PcP	PcP	22 32 18.4	+0.3
KS15	**Wonju Array Si**	**23.86**	**324**	*e*P	**P**	**22 28 55.4**	**-0.3**
ASAJ	**Asahikawa**	**25.26**	**356**	P	**P**	**22 29 07.9**	**-0.1**
ASAJ	0.3nm,0.3s,baz=182,slow=4.3,SNR=10			PcP	PcP	22 32 21.4	+0.3
ASAJ	**Asahikawa**	**25.26**	**356**	P	**P**	**22 29 07.9**	**-0.1**
ASAJ	0.8nm,0.3s,baz=162,slow=4.3,SNR=10			PcP	PcP	22 32 21.4	+0.3
QZH	**Quanzhou**	**25.30**	**289**⇓	*i*P	**P**	**22 29 09.0**	**+0.4**
QZH				S	**S**	**22 32 54.3**	**-0.6**
QZH	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			AMB	AMB		
QZH	**Quanzhou**	**25.30**	**289**⇓	*i*P	**P**	**22 29 09.0**	**+0.4**
QZH				S	**S**	**22 32 54.3**	**-0.6**
QZH	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			AMB	AMB		
MDJ	**Mudanjiang**	**28.75**	**337**	*e*P	**P**	**22 29 38.6**	**0.0**
CN2	**Changchun**	**29.84**	**331**	*e*P	**P**	**22 29 48.0**	**+0.1**
CN2				*e*S	**S**	**22 34 07.5**	**+2.6**
CN2	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			AMB	AMB		
CN2	**Changchun**	**29.84**	**331**	*e*P	**P**	**22 29 48.0**	**+0.1**
CN2				*e*S	**S**	**22 34 07.5**	**+2.6**
CN2	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			AMB	AMB		
WHN	**Wuhan**	**30.16**	**299**⇓	P	**P**	**22 29 51.8**	**+0.9**
WHN				XP	sP	22 32 34.3	+2.8
TSM	**Tawau**	**30.28**	**245**⇓	P	**P**	**22 29 53.2**	**+1.0**
KKM	**Kota Kinabalu**	**30.88**	**249**⇑	P	**P**	**22 29 59.0**	**+1.7**
KKM	**Kota Kinabalu**	**30.88**	**249**	*e*P	**P**	**22 29 58.4**	**+1.1**
KLR	**Kul'dur**	**32.14**	**343**	*e*P	**P**	**22 30 03.3**	**-4.2**
KLR				*e*S	**S**	**22 34 34.1**	**-5.8**
KLR	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			pmax	pmax		
KLR	**Kul'dur**	**32.14**	**343**	*e*P	**P**	**22 30 03.3**	**-4.2**
KLR				*e*S	**S**	**22 34 34.1**	**-5.8**
KLR	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			pmax	pmax		
BJT	**Baijiatuau**	**32.61**	**316**	*e*P	**P**	**22 30 11.5**	**-0.1**
BJT	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			pmax	pmax		
BJT	**Baijiatuau**	**32.61**	**316**	*e*P	**P**	**22 30 11.5**	**-0.1**
BJI	**Beijing**	**32.62**	**316**	P	**P**	**22 30 11.8**	**+0.1**
BJI	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			AMB	AMB		
QIZ	**Qiongzhong**	**33.31**	**276**	P	**P**	**22 30 18.3**	**+0.5**
KAKA	**Kakadu**	**33.77**	**203**	*e*P	**P**	**22 30 21.3**	**-0.4**
KAKA	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			*e*PP	PP	22 32 01.4	+1.5
KAKA				*e*S	**S**	**22 35 03.5**	**-2.0**
TIY	**Taiyuan**	**34.10**	**310**	*i*P	**P**	**22 30 25.5**	**+1.3**
TIY				S	**S**	**22 35 15.3**	**+5.3**
XAN	**Xi'an**	**35.53**	**302**	P	**P**	**22 30 36.0**	**-0.1**
XAN	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			PP	PP	22 32 19.8	+2.4
XAN				S	**S**	**22 35 32.5**	**+1.0**
XAN	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			PCS	PcS	22 36 37.5	+0.3
XAN				XS	sS	22 38 28.5	-1.6
XAN	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			AMB	AMB		
XAN	**Xi'an**	**35.53**	**302**	P	**P**	**22 30 36.0**	**-0.1**
XAN	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			PP	PP	22 32 19.8	+2.4
XAN				S	**S**	**22 35 32.5**	**+1.0**
XAN	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			PCS	PcS	22 36 37.5	+0.3
XAN				XS	sS	22 38 28.5	-1.6
XAN	7.5nm,0.3s,baz=167,slow=9.6,SNR=40			AMB	AMB		
PET	**Petropavlovsk-**	**35.55**	**13**	P	**P**	**22 30 36.0**	**+0.1**
PETK	comp=Z,7.5nm,0.6s,mb4.4,baz=180,slow=6.6,SNR=5.3			PcP	PcP	22 32 48.0	-0.6
PETK	comp=Z,9.2nm,0.8s,baz=135,slow=1.7,SNR=3.8			ScP	ScP	22 35 37.6	-2.7
PET	**Petropavlovsk**	**35.68**	**14**	*e*P	**P**	**22 30 36.7**	**-0.3**
PET				*e*S	**S**	**22 35 33.2**	**0.0**
PET				*e*SS	SS	22 38 34.7	-12
PET				pmax	pmax		
PET	comp=Z,21nm,0.5s,mb4.9			MLR	MLR		
PET	**Petropavlovsk**	**35.68**	**14**	*e*P	**P**	**22 30 36.4**	**-0.6**
BATI	**Baumata**	**35.80**	**218**	P	**P**	**22 30 37.7**	**-0.9**
BATI	comp=Z,35nm,0.4s,mb5.3,baz=32,slow=1.2,SNR=4.6			S	**S**	**22 35 33.6**	**-2.4**
HHC	**Hu-ho-hao-te**	**36.08**	**315**	*e*P	**P**	**22 30 41.3**	**+0.8**
HHC				PCP	PcP	22 32 53.5	+3.0
HHC				S	**S**	**22 35 39.0**	**-0.5**
HHC				XS	sS	22 38 36.0	-2.5
HHC				SS	SS	22 38 44.5	-10
HHC	comp=Z,85nm,0.9s,mb5.3			AMB	AMB		
HHC	**Hu-ho-hao-te**	**36.08**	**315**	*e*P	**P**	**22 30 41.3**	**+0.8**
HHC				PCP	PcP	22 32 53.5	+3.0
HHC				S	**S**	**22 35 39.0**	**-0.5**
HHC				XS	sS	22 38 36.0	-2.5
HHC				SS	SS	22 38 44.5	-10
HHC	comp=Z,85nm,0.9s,mb5.3			AMB	AMB		
GYA	**Guiyang**	**36.16**	**289**⇑	*i*P	**P**	**22 30 41.3**	**-0.1**
GYA				PP	PP	22 32 24.3	+0.3
GYA				PCP	PcP	22 32 52.8	+1.8
GYA				S	**S**	**22 35 42.5**	**+1.4**
GYA				SCP	ScP	22 35 45.8	+2.7
GYA				PCS	PcS	22 36 39.5	-0.3
GYA				XS	sS	22 38 37.3	-3.0
GYA				SCS	ScS	22 39 51.8	+0.6
GYA	comp=Z,20nm,0.8s,mb4.7			AMB	AMB		
GYA	**Guiyang**	**36.16**	**289**⇑	*i*P	**P**	**22 30 41.3**	**-0.1**
GYA				PP	PP	22 32 24.3	+0.3
GYA				PCP	PcP	22 32 52.8	+1.8
GYA				S	**S**	**22 35 42.5**	**+1.4**
GYA				SCP	ScP	22 35 45.8	+2.7
GYA				PCS	PcS	22 36 39.5	-0.3
GYA				XS	sS	22 38 37.3	-3.0
GYA				SCS	ScS	22 39 51.8	+0.6
GYA	comp=Z,20nm,0.8s,mb4.7			AMB	AMB		
HIA	**Hailar**	**36.54**	**332**	*e*P	**P**	**22 30 44.4**	**+0.2**
HIA	comp=Z,84nm,0.6s			pmax	pmax		
HIA	**Hailar**	**36.54**	**332**	*e*P	**P**	**22 30 44.4**	**+0.2**
BTO	**Baotou**	**37.02**	**313**	*e*P	**P**	**22 30 48.5**	**+0.2**
KSM	**Kuching**	**38.22**	**247**	*e*P	**P**	**22 30 58.2**	**-0.3**
KSM				*e*PcP	PcP	22 32 58.0	+0.3
CTA	**Charters Tower**	**38.73**	**178**	*e*P	**P**	**22 31 02.5**	**+0.1**
CTA	comp=Z,15nm,0.8s,mb4.6			*e*		22 31 13.4	
CTA				*e*		22 31 26.3	
CTA	**Charters Tower**	**38.73**	**178**	P	**P**	**22 31 02.6**	**+0.3**
CTA	**Charters Tower**	**38.73**	**178**	*e*P	**P**	**22 31 02.5**	**+0.1**
CTA	comp=Z,15nm,0.8s			pmax	pmax		
CTAO	**Charters Tower**	**38.73**	**178**	*e*P	**P**	**22 31 02.5**	**+0.1**
CTAO	comp=Z,17nm,0.7s,mb4.7			pmax	pmax		
CTAO	**Charters Tower**	**38.73**	**178**	*e*P	**P**	**22 31 02.5**	**+0.1**
CD2	**Chengdu**	**39.16**	**296**⇓	*i*P	**P**	**22 31 06.3**	**+0.5**
CD2				PCP	PcP	22 33 03.3	+2.9
CD2				S	**S**	**22 36 28.0**	**+2.8**
CD2				XS	sS	22 39 24.0	-3.0
CD2				SS	SS	22 39 39.5	-8.0
CD2	comp=Z,250nm,0.8s,mb5.8			AMB	AMB		
CD2	**Chengdu**	**39.16**	**296**⇓	*i*P	**P**	**22 31 06.3**	**+0.5**
CD2				PCP	PcP	22 33 03.3	+2.9
CD2				S	**S**	**22 36 28.0**	**+2.8**
CD2				XS	sS	22 39 24.0	-3.0
CD2				SS	SS	22 39 39.5	-8.0
CD2	comp=Z,310nm,6.2s			AMB	AMB		
KMI	**Kunming**	**39.64**	**287**	P	**P**	**22 31 11.5**	**+1.8**
KMI				PP	PP	22 32 58.5	+0.3
KMI				S	**S**	**22 36 33.8**	**+1.4**
KMI				SS	SS	22 39 48.8	-6.8
KMI	comp=Z,46nm,1.0s,mb5.0			AMB	AMB		
KMI	**Kunming**	**39.64**	**287**	P	**P**	**22 31 11.5**	**+1.8**
KMI				PP	PP	22 32 58.5	+0.3
KMI				S	**S**	**22 36 33.8**	**+1.4**
KMI				SS	SS	22 39 48.8	-6.8
KMI	comp=Z,216nm,4.4s			AMB	AMB		
WRAB	**Tennant Creek**	**39.98**	**196**	*e*P	**P**	**22 31 12.4**	**0.0**
WRAB				*e*S	**S**	**22 36 35.5**	**-1.7**
WRAB	comp=Z,43nm,0.4s,mb5.3			pmax	pmax		
WRAB	**Tennant Creek**	**39.98**	**196**	*e*P	**P**	**22 31 12.4**	**0.0**
WRAB	comp=Z,43nm,0.4s,mb5.3			*e*S	**S**	**22 36 35.5**	**-1.8**
WB2	**Warramunga Arr**	**39.99**	**196**	*e*P	**P**	**22 31 12.4**	**0.0**
WB2				*e*		22 32 01.2	
WB2				*e*PP	PP	22 33 03.3	+1.8
WB2				*e*S	**S**	**22 36 35.4**	**-2.0**
WRA	**Warramunga Arr**	**39.99**	**196**	P	**P**	**22 31 12.4**	**-0.1**
WRA	comp=Z,38nm,0.5s,mb5.2,baz=18,slow=8.4,SNR=81			PcP	PcP	22 33 03.1	0.0
WRA	comp=Z,10nm,0.6s,baz=2.1,slow=3.1,SNR=8.1			ScP	ScP	22 35 57.8	0.0
WRA	comp=Z,4.4nm,0.7s,baz=16,slow=4.6,SNR=6.3			S	**S**	**22 36 35.9**	**-1.5**
WRA	comp=Z,3.4nm,0.9s,baz=18,slow=14,SNR=5.3			PKiKP	PKiKP	22 40 10.3	-1.8
WRA	**Warramunga Arr**	**39.99**	**196**	P	**P**	**22 31 12.4**	**-0.1**
WRA	comp=Z,0.5nm,0.5s,baz=320,slow=1.5,SNR=5.8					22 33 03.1	
WRA				S	**S**	**22 36 35.9**	**-1.5**
WRA	**Warramunga Arr**	**39.99**	**196**	P	**P**	**22 31 12.4**	**-0.1**
WRA				PcP	PcP	22 33 03.1	0.0
WRA				ScP	ScP	22 35 57.8	0.0
WRA				S	**S**	**22 36 35.9**	**-1.5**
LZH	**Lanzhou**	**40.08**	**304**⇓	P	**P**	**22 31 14.5**	**+1.5**
LZH				AP	pP	22 32 51.5	-1.2
LZH				PP	PP	22 33 01.8	-0.2
LZH				S	**S**	**22 36 42.8**	**+4.3**
LZH				SS	SS	22 39 57.5	-4.8
LZH	comp=Z,185nm,1.2s,mb5.5			AMB	AMB		
LZH	**Lanzhou**	**40.08**	**304**⇓	P	**P**	**22 31 14.5**	**+1.5**
LZH	comp=Z,513nm,4.1s			AMB	AMB		
SMY	**Shemya**	**40.64**	**27**	*e*P	**P**	**22 31 18.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**41.42**	**209**	*e*P	**P**	**22 31 24.1**	**+0.3**
FITZ	comp=Z,65nm,0.6s,mb5.3			*e*		22 32 12.7	
FITZ				*e*PP	PP	22 33 08.3	-6.3
FITZ				*e*S	**S**	**22 36 55.0**	**-3.1**
FITZ	**Fitzroy Crossi**	**41.42**	**209**	P	**P**	**22 31 24.2**	**+0.3**
FITZ	comp=Z,25nm,0.4s,mb5.1,baz=31,slow=10,SNR=30			PcP	PcP	22 33 08.0	+0.1
FITZ	comp=Z,15nm,0.7s,baz=2.7,slow=4.7,SNR=4.9			S	**S**	**22 36 57.7**	**-0.4**
SONM	**Songino Array**	**42.65**	**322**	P	**P**	**22 31 33.9**	**+0.7**
SONM	comp=Z,6.5nm,0.8s,baz=290,slow=21,SNR=9.1			PcP	PcP	22 33 11.5	-0.2
SONM	comp=Z,12nm,0.7s,baz=128,slow=3.4,SNR=6.5			ScP	ScP	22 36 07.5	-0.6
SONM	comp=Z,3.4nm,0.5s,baz=135,slow=4.1,SNR=6.5			S	**S**	**22 37 16.0**	**+0.8**
SONM	**Songino Array**	**42.65**	**322**	P	**P**	**22 31 33.9**	**+0.8**
SONM	comp=Z,1.1nm,0.9s,baz=103,slow=15,SNR=3.1			pP	pP	22 33 11.5	-3.1
SONM				S	**S**	**22 37 16.0**

GTA AMB AMB
comp=Z,251nm,5.7s
SEY Seymchan 44.31 5⇑*i*P P 22 31 46.4 +0.7
YAK Yakutsk 44.45 350 *e*P P 22 31 45.6 -1.2
YAK *e* 22 33 15.4
YAK *e* 22 33 41.6
YAK *e*S **S 22 37 36.7 -3.4**
YAK *e* 22 40 35.9
YAK *e**SS sS 22 40 47.7 +1.0
YAK *e*SS SS 22 41 05.8 -6.2
YAK pmax pmax
comp=Z,136nm,0.9s,mb5.5
YAK pmax pmax
comp=E,4.0nm,0.5s
YAK pmax pmax
comp=N,41nm,1.1s
YAK pmax pmax
comp=Z,21nm,0.8s,mb4.7
YAK smax
comp=N,168nm,2.3s
YAK smax
comp=E,171nm,1.6s
YAK Yakutsk 44.45 350 *e*P P 22 31 45.6 -1.2
BOD Bodaibo 45.13 337⇓*i*P P 22 31 51.9 -0.1
BOD *e* 22 33 17.3
BOD pmax pmax
comp=Z,32nm,0.9s,mb4.8
KULM Kulim 45.36 259 ⇑P P 22 31 56.5 +1.9
ZAK Zakamensk 45.67 323⇑*i*P P 22 31 56.4 +0.1
ZAK *e* 22 33 21.5
ZAK *e* 22 37 52.0
ZAK *e* 22 40 48.0
ZAK pmax pmax
comp=Z,53nm,1.0s,mb5.0
TLY Talaya 46.10 325 P P 22 32 00.4 +0.9
SNR=16
TLY Talaya 46.10 325*d*i*P P 22 32 00.1 +0.6
TLY pmax pmax
comp=Z,72nm,0.8s,mb5.2
TLY Talaya 46.10 325 *e*P P 22 32 00.3 +0.8
comp=Z,70nm,0.8s,mb5.2
MBWA Marble Bar 46.90 213 *e*P P 22 32 06.0 0.0
comp=Z,62nm,0.6s,mb5.3
XMIS Christmas Isla 48.62 236 *e*P P 22 32 18.1 -0.8
LSA Lhasa 49.96 293 *e*P P 22 32 29.8 +1.2
STKA Stephens Creek 50.57 184 *e*P P 22 32 32.5 -0.4
comp=Z,15nm,0.6s,mb4.6
STKA *e* 22 32 56.5
STKA Stephens Creek 50.57 184 P P 22 32 32.6 -0.3
comp=Z,20nm,0.7s,mb4.7,baz=348,slow=7.1,SNR=14
UNV Unalaska Valle 50.84 35 *e*P P 22 32 33.9 -0.7
comp=Z,61nm,0.8s,mb5.1
UNV *e*PcP PcP 22 33 40.2 -0.8
BILL Bilibino 50.95 10*c*i*P P 22 32 34.9 -0.3
BILL pmax pmax
comp=Z,18nm,0.8s,mb4.5
BILL Bilibino 50.95 10 *e*P P 22 32 34.9 -0.2
FORT Forrest 52.01 199 *e*P P 22 32 43.1 -0.2
comp=Z,47nm,0.5s,mb5.1
FORT *e*PP PP 22 34 57.9 +7.8
FALS False Pass 52.90 35 *e*P P 22 32 48.9 -0.4
TAPN Taplejung 53.07 290 *e*P P 22 32 52.3 +1.2
comp=Z,165nm,0.6s,mb5.5
KIP Kipapa 53.22 77 *e*P P 22 32 52.4 +0.1
KIP pmax pmax
comp=Z,109nm,0.7s,mb5.3
KIP Kipapa 53.22 77 *e*P P 22 32 52.4 +0.2
comp=Z,109nm,0.7s,mb5.3
ODAN Odare 53.39 290 *e*P P 22 32 54.5 +1.2
comp=Z,194nm,0.6s,mb5.6
TIXI Tiksi 53.64 354 *i* P P 22 32 53.2 -1.1
TIXI pmax pmax
comp=Z,12nm,0.8s,mb4.3
TIXI Tiksi 53.64 354 *e*P P 22 32 52.8 -1.5
KRAR Krasnoyarsk 53.72 327 *e*P P 22 32 55.1 0.0
KRAR pmax pmax
comp=Z,92nm,1.3s,mb5.0
WMQ Urumqi 53.77 311 P P 22 32 58.0 +2.3
WMQ PP PP 22 35 09.3 +4.1
WMQ AMB AMB
comp=Z,139nm,0.8s,mb5.3
CAN Canberra 54.02 176 *e*P P 22 32 58.0 +0.5
CAN *e* 22 33 52.6
CNB Canberra Magne 54.04 176 *e*P P 22 32 58.0 +0.4
RAMN Ramite 54.08 290 *e*P P 22 32 59.2 +0.9
comp=Z,279nm,0.8s,mb5.6
JIRN Jiri 54.39 291 *e*P P 22 33 01.9 +1.5
comp=Z,611nm,0.6s,mb6.1
GUN Gumba 54.65 291 *e*P P 22 33 03.7 +1.5
comp=Z,347nm,0.6s,mb5.9
HKL Haleakala 54.95 78 *e*P P 22 33 06.1 +1.7
PKI Pulchoki 55.09 291 *e*P P 22 33 06.1 +0.8
comp=Z,378nm,0.5s,mb6.0
PKI Pulchoki 55.09 291 *e*P P 22 33 06.2 +0.9
PKI pmax pmax
comp=Z,310nm,0.5s,mb5.9
PKI Pulchoki 55.09 291 *e*P P 22 33 06.2 +0.9
comp=Z,310nm,0.5s,mb5.9
PKIN Phulchoki 55.10 291 *e*P P 22 33 06.2 +0.8
comp=Z,310nm,0.5s,mb5.9
KKN Kakani 55.19 291 *e*P P 22 33 06.9 +0.9
comp=Z,388nm,0.8s,mb5.8
KKN Kakani 55.19 291 *e*P P 22 33 06.9 +0.9
KKN pmax pmax
comp=Z,388nm,0.8s,mb5.8
DMN Daman 55.36 291 *e*P P 22 33 08.2 +1.1
comp=Z,305nm,0.5s,mb5.9
GKN Gorkha 55.74 291 *e*P P 22 33 10.6 +0.8
comp=Z,207nm,1.0s,mb5.3
POHA Pohakuloa 55.78 79 *e*P P 22 33 10.5 +0.3
POHA *e*PcP PcP 22 34 00.7 +0.1
CHGN Chignik 56.06 34 *e*P P 22 33 10.6 -0.8
TOO Toolangi 56.14 180 *e*P P 22 33 12.6 +0.4
DANN Dangsing 56.48 292 *e*P P 22 33 16.2 +1.3
comp=Z,1μm,0.6s
KLBR Kellerberrin 56.62 208 *e*P P 22 33 14.9 -0.7
comp=Z,64nm,0.6s,mb5.0
KLBR *e* 22 34 03.4
KLBR *e*PP PP 22 35 10.8 -20
KOLN Koldanda 56.67 291 *e*P P 22 33 17.0 +0.8
comp=Z,449nm,0.8s,mb5.8
ZAA0 Zalesovo Array 57.53 323 *e*P P 22 33 20.8 -0.8
ZALV Zalesovo Beam 57.53 323 P P 22 33 21.2 -0.3
comp=Z,53nm,0.6s,mb4.8,baz=104,slow=7.3,SNR=44
ZALV PcP PcP 22 34 05.9 -1.0
comp=Z,16nm,0.6s,baz=115,slow=3.7,SNR=6.2
ZALV ScP ScP 22 37 09.5 -2.4
comp=Z,2.3nm,0.6s,baz=103,slow=4.1,SNR=3.6
ZALV S **S 22 40 35.1 -0.6**
comp=Z,2.0nm,0.8s,baz=111,slow=8.1,SNR=4.8
ZALV Zalesovo Beam 57.53 323 P P 22 33 21.2 -0.3
ZALV PcP PcP 22 34 05.9 -1.0
ZALV ScP ScP 22 37 09.5 -2.4
ZALV S **S 22 40 35.1 -0.6**
ZAL Zalesovo 57.54 323 P P 22 33 21.3 -0.3
ZAL 22 34 05.9
ZAL 22 37 09.5
ZAL S **S 22 40 35.1 -0.7**
MUN Mundaring 57.65 209 *e*P P 22 33 22.2 -0.4
MUN *e*PP PP 22 35 23.5 -16
MK31 Makanchi Array 57.93 314 P P 22 33 24.9 +0.5
MK31 pmax pmax
comp=Z,55nm,0.5s,mb4.9
MKAR Makanchi Array 57.93 314 P P 22 33 25.1 +0.7
comp=Z,61nm,0.5s,mb5.0,baz=87,slow=9.2,SNR=50
MKAR PcP PcP 22 34 08.5 -0.2
comp=Z,18nm,0.8s,baz=64,slow=8.2,SNR=4.1
MKAR ScP ScP 22 37 12.6 -1.1
comp=Z,3.1nm,0.8s,baz=83,slow=5.9,SNR=4.4
MKAR S **S 22 40 41.2 +0.1**
comp=Z,1.1nm,0.7s,baz=85,slow=14,SNR=4.7
MKAR Makanchi Array 57.93 314 P P 22 33 25.1 +0.7
MKAR 22 34 08.5
MKAR S **S 22 40 41.2 +0.2**
MKAR Makanchi Array 57.93 314 P P 22 33 25.1 +0.7
MKAR PcP PcP 22 34 08.5 -0.2
MKAR ScP ScP 22 37 12.6 -1.2
MKAR S **S 22 40 41.2 +0.1**
NWAO Narrogin (SRO) 57.98 208 P P 22 33 24.7 -0.2
comp=Z,26nm,0.6s,mb4.6,baz=17,slow=8.0,SNR=15
NWAO PcP PcP 22 34 09.2 +0.2
comp=Z,25nm,0.7s,baz=45,slow=4.2,SNR=7.5
NWAO Narrogin (SRO) 57.98 208 P P 22 33 24.7 -0.2
NWAO PcP PcP 22 34 09.2 +0.2
NVS Novosibirsk 58.63 323⇓*i*P P 22 33 29.0 +0.1
NVS *e* 22 35 47.2
NVS *i*S **S 22 40 48.6 -1.0**
NVS pmax pmax
comp=Z,105nm,1.1s,mb4.9
NVS pmax pmax
comp=N,27nm,1.2s
NVS pmax pmax
comp=E,93nm,1.2s
NVS pmax pmax
comp=Z,24nm,2.0s,mb4.0
NVS pmax pmax
comp=N,12nm,1.9s
NVS pmax pmax
comp=E,15nm,1.9s
NVS smax
comp=N,48nm,2.0s
NVS smax
comp=E,25nm,1.6s
SVW2 Sparrevohn 58.95 29 *e*P P 22 33 30.5 -0.5
TTA Tatalina 59.36 27 *e*P P 22 33 33.7 +0.1
KDAK Kodiak Island 59.53 33 P P 22 33 34.7 -0.1
comp=E,12nm,0.4s,mb4.5,baz=271,slow=5.4,SNR=6.6
KDAK Kodiak Island 59.53 33 P P 22 33 34.7 -0.1
KURK Kurchatov 60.76 318 P P 22 33 43.6 +0.4
SNR=36
KURK Kurchatov 60.76 318 *e*P P 22 33 43.4 +0.2
PPLA Purkeypile 61.01 28 *e*P P 22 33 44.9 +0.3
comp=E,16nm,0.7s,mb4.3
PPLA *e*PcP PcP 22 34 23.3 +2.6
SLKM Skilak Lake 61.33 31 *e*P P 22 33 44.6 -2.1
IMA2 Indian Mountai 61.35 24 *e*P P 22 33 46.8 +0.1
TAU Tasmania Unive 61.50 178 *e*P P 22 33 47.8 -0.2
SEW Seward 61.62 31 *e*P P 22 33 48.0 -0.6
RC01 Rabbit Creek A 61.69 30 *e*P P 22 33 48.0 -1.0
BPAW Bear Paw Mtn. 61.86 27 *e*P P 22 33 49.9 -0.2
comp=E,42nm,1.0s,mb4.6
TRF Thorofare Moun 61.99 27 *e*P P 22 33 50.4 -0.6
comp=E,31nm,1.0s,mb4.5
ULHL Ulahol 62.03 308 P P 22 33 52.9 +1.2
SNR=7.0
PMR Palmer 62.08 30 *e*P P 22 33 50.1 -1.5
PMR pmax pmax
comp=Z,33nm,0.6s,mb4.7
PMR Palmer 62.08 30 *e*P P 22 33 50.1 -1.5
comp=Z,33nm,0.6s,mb4.7
TKM2 Tokmak 2 62.50 309 *e*P P 22 33 55.9 +1.3
TKM2 pmax pmax
comp=Z,30nm,0.5s,mb4.9
TKM2 Tokmak 2 62.50 309 P P 22 33 55.9 +1.2
SNR=26
TKM2 Tokmak 2 62.50 309 *e*P P 22 33 55.9 +1.2
comp=Z,30nm,0.5s,mb4.9
MCK McKinley 62.65 27 *e*P P 22 33 54.4 -0.8
MCK *e*P 22 33 54.6
KZA Kyzart 62.77 308 P P 22 33 58.6 +2.2
SNR=24
HYB Hyderabad 62.90 280⇓*i*P P 22 33 58.0 +0.3
comp=Z,104nm,1.0s,mb5.1
KBK Karagaybulak 62.98 309 P P 22 33 58.6 +0.9
SNR=8.0
COLD Coldfoot 63.02 23 *e*P P 22 33 57.8 +0.3
CHMS Chumysh 63.12 309 P P 22 33 59.1 +0.5
SNR=12
USP Ospenovka 63.30 310 P P 22 34 00.4 +0.6
SNR=13
UCH Uchtor 63.32 308 P P 22 34 01.7 +1.8
SNR=11
UCH Uchtor 63.32 308 *e*P P 22 34 01.6 +1.7
AAK Ala-Archa 63.32 309 P P 22 34 00.7 +0.8
SNR=12
COLA College 63.36 26 *e*P P 22 33 58.7 -1.0
PALK Pallekele 63.49 269 *e*P P 22 34 01.9 +0.4
comp=Z,40nm,0.9s,mb4.8
DIV Divide 63.59 30 *e*P P 22 34 01.2 -0.1
comp=Z,19nm,0.7s,mb4.5
EKS2 Erkin-Say 63.85 309 P P 22 34 03.8 +0.5
SNR=13
EKS2 Erkin-Say 63.85 309 *e*P P 22 34 03.8 +0.5
comp=Z,45nm,1.1s,mb4.7
EKS2 *e*PcP PcP 22 34 32.7 -0.2
AML Almayashu 63.93 308 P P 22 34 05.3 +1.6
SNR=18
AML Almayashu 63.93 308 *e*P P 22 34 05.1 +1.3
comp=Z,40nm,0.5s,mb5.0
AML *e*PcP PcP 22 34 33.6 +0.3
RAGM Ragged Mountai 64.02 31 *e*P P 22 34 04.1 +0.2
RAGM *e*PcP PcP 22 34 32.8 -0.4
BMRM Bremner River 64.13 31 *e*P P 22 34 04.5 -0.1
VOSK Vostochnaya 65.62 320 P P 22 34 13.4 -0.8
VOSK pmax pmax
comp=Z,46nm,0.5s,mb5.2
BVA2 Borovoye Array 65.98 320 P P 22 34 16.3 -0.1
BVA2 pmax pmax
comp=Z,23nm,0.5s,mb4.9
BVAR Borovoye Array 65.98 320 P P 22 34 16.6 +0.2
comp=Z,137nm,0.6s,mb5.6,baz=95,slow=7.8,SNR=68
BVAR S S 22 42 17.6 -1.7
comp=Z,3.3nm,0.8s,baz=98,slow=11,SNR=9.5
BRVK Borovoye 66.04 320 ⇑P P 22 34 17.2 +0.4
SNR=23
BRVK Borovoye 66.04 320 *e*P P 22 34 16.6 -0.2
EGAK Eagle 66.17 27 *e*P P 22 34 17.7 +0.3
KK31 Karatay Array 66.22 310 *i* P P 22 34 18.1 0.0
KK31 pmax pmax
comp=Z,46nm,0.5s,mb5.2
DAWY Dawson 66.86 28 *e*P P 22 34 22.1 +0.4
HYT Haines Junctio 67.58 31 *e*P P 22 34 28.2 +2.1
KBL Kabul 68.29 300 *e*P P 22 34 31.3 +0.3
KBL *e* 22 37 12.1
SKAG Skagway 68.66 33 *e*P P 22 34 32.8 +0.1
SIT Sitka 68.72 35 P P 22 34 33.0 -0.1
SVE Sverdlovsk 71.41 325⇑*e*P P 22 34 49.3 +0.3
SVE pmax pmax
comp=Z,99nm,0.9s,mb5.3
DLBC Dease Lake 71.46 34 P P 22 34 50.1 +0.9
baz=277,slow=3.9
DLBC Dease Lake 71.46 34 *e*P P 22 34 50.1 +0.8
ARU Arti 72.60 324*d*i*P P 22 34 55.8 -0.1
ARU *e* 22 35 08.0
ARU *e* 22 37 45.1
ARU *e*PPP 22 39 37.6
ARU *e*S S 22 43 33.8 -1.0
ARU pmax pmax
comp=Z,124nm,0.6s,mb5.6
ARU Arti 72.60 324 *e*P P 22 34 55.7 -0.2
AB31 Akbulak array 72.83 317 *i* P P 22 34 56.9 -0.4
AB31 pmax pmax
comp=Z,39nm,0.4s,mb5.3
SOKR Solikamsk 73.08 328*d*i*P P 22 34 58.5 -0.1
SOKR pmax pmax
comp=Z,100nm,1.1s,mb5.3
AKTK Aktyubinsk 73.86 318 P P 22 35 02.6 -0.6
AKTO Aktyubinsk 73.86 318 P P 22 35 02.6 -0.6
comp=Z,28nm,0.6s,mb5.0,baz=91,slow=8.3,SNR=29
C03A Quillayute Air 76.45 44 ⇓P P 22 35 18.6 +0.9
baz=76
NLWA Neilton Lookou 77.04 44 ⇑P P 22 35 21.7 +0.8
baz=77
NLWA Neilton Lookou 77.04 44 *e*P P 22 35 21.7 +0.8
comp=Z,36nm,0.7s,mb4.9
B04A Port Angeles 77.12 43 ⇓P P 22 35 22.2 +0.9
baz=77
D03A Wishkah Elem. 77.17 44 ⇓P P 22 35 22.7 +1.1
baz=77
E03A Lebam 77.45 45 ⇓P P 22 35 23.8 +0.6
baz=77
A04A Legoe Bay, Lum 77.48 43 ⇑P P 22 35 23.9 +0.7
baz=77
C04A Brinnon 77.55 44 ⇓P P 22 35 24.5 +0.8
baz=77
F03A Seaside 77.60 46 ⇓P P 22 35 24.8 +0.9
baz=78
K01A Sixes 77.74 49 ⇑P P 22 35 25.6 +0.8
baz=78
A05A Maple Falls 77.80 42 ⇑P P 22 35 25.2 +0.2
baz=78
I02A Mapleton 77.89 48 ⇑P P 22 35 26.2 +0.6
baz=78
G03A Yamhill 77.94 46 ⇑P P 22 35 26.3 +0.5
baz=78
B05A Bryant 77.98 43 ⇑P P 22 35 26.4 +0.4
baz=78
E04A Onalaska 78.00 45 ⇓P P 22 35 27.0 +0.9
baz=78
H03A Soap Creek Ran 78.10 47 ⇑P P 22 35 27.4 +0.8
baz=78
YKA Yellowknife Ar 78.10 28 P P 22 35 25.7 -0.6
comp=Z,6.5nm,0.5s,mb4.3,baz=287,slow=5.0,SNR=13
YKA pP pP 22 37 29.6 +2.3
comp=Z,3.0nm,0.7s,baz=289,slow=5.6,SNR=4.4
JCW Jim Creek 78.11 43 *e*P P 22 35 26.8 +0.1
A06A Chilliwack 78.16 42 ⇓P P 22 35 26.9 0.0
baz=78
M01C Crescent City 78.23 50 ⇑P P 22 35 28.1 +0.7
baz=78
J02A Umpqua 78.23 48 ⇓P P 22 35 27.9 +0.5
baz=78
I03A Eugene 78.28 47 ⇑P P 22 35 28.1 +0.5
baz=78
RPW Rockport 78.31 43 *e*P P 22 35 27.1 -0.7
D05A Enumclaw 78.33 44 ⇑P P 22 35 28.6 +0.7
baz=78
F04A Amboy 78.37 45 ⇓P P 22 35 28.3 +0.2
baz=78
C05A Tolt Reservoir 78.39 44 ⇑P P 22 35 28.4 +0.2
baz=78
K02A Glendale 78.45 49 ⇑P P 22 35 28.9 +0.3
baz=78
L02A Cave Junction 78.52 49 ⇑P P 22 35 29.5 +0.5
baz=78
E05A Randle 78.65 45 ⇑P P 22 35 29.5 -0.1
baz=78
C06A Tall Timber Ra 78.85 43 ⇓P P 22 35 30.6 0.0
baz=79
H04A Detroit Lake 78.86 47 ⇓P P 22 35 30.9 +0.2
baz=79
HUMO Hull Mountain 78.87 49 ⇓P P 22 35 31.2 +0.4
baz=79
A07A Ashnola River, 78.87 42 ⇑P P 22 35 30.8 +0.1
baz=79
O01C Eel River Cons 78.89 51 ⇑P P 22 35 31.7 +0.7
baz=79
SPITS Spitsbergen Ar 78.91 351 P P 22 35 29.8 -0.6
comp=Z,15nm,0.7s,mb4.4,baz=27,slow=4.8,SNR=11
I04A Tendick Farm, 78.94 47 ⇓P P 22 35 31.0 -0.1
baz=79,SNR=5.2
F05A White Salmon 79.03 45 ⇓P P 22 35 31.7 +0.1
baz=79
KBS Kingsbay 79.03 352⇓*i*P P 22 35 30.9 -0.1
KBS Kingsbay 79.03 352 *e*P P 22 35 30.5 -0.5
comp=Z,22nm,0.7s,mb4.6
D06A Cle Elum 79.08 44 ⇓P P 22 35 32.1 +0.3
baz=79
N02C Big Bar 79.09 51 ⇑P P 22 35 32.6 +0.6
baz=79
E06A Yakima 79.17 45 ⇓P P 22 35 32.7 +0.3
baz=79
B07A Winthrop 79.20 42 ⇑P P 22 35 32.5 +0.1
baz=79
M02C Callahan 79.26 50 ⇑P P 22 35 33.7 +0.8
baz=79
YBH Yreka Blue Hor 79.28 50 P P 22 35 33.6 +0.6
comp=Z,10nm,0.6s,mb4.4,baz=330,slow=2.6,SNR=17
YBH Yreka Blue Hor 79.28 50 ⇓P P 22 35 33.6 +0.6
baz=79
J04A Umpqua Nationa 79.30 48 ⇑P P 22 35 33.6 +0.5
baz=79
G05A Wamic 79.30 46 ⇓P P 22 35 33.2 +0.2
baz=79
ETW Entiat 79.30 43 *e*P P 22 35 32.9 -0.1
RES Resolute Bay 79.39 14 *e*P P 22 35 32.3 -0.7
P01C Double 8 Ranch 79.43 52 ⇓P P 22 35 34.1 +0.3
baz=79
C07A Waterville 79.45 43 ⇑P P 22 35 33.4 -0.4
baz=79
WBK Wadi Bani Khal 79.51 290 ⇑P P 22 35 35.1 +0.5
SNR=9.3
F06A Goldendale 79.52 45 ⇑P P 22 35 34.4 +0.3
baz=79
H05A Madras 79.53 46 ⇓P P 22 35 34.4 +0.2
baz=79
A08A Turner Farm, O 79.60 42 ⇓P P 22 35 34.6 +0.1
baz=80
I05A Bend 79.63 47 ⇓P P 22 35 35.1 +0.3
baz=80
O02C Red Bluff 79.64 51 ⇑P P 22 35 35.7 +0.8
baz=80
D07A Quincy 79.65 44 ⇓P P 22 35 34.9 +0.1
baz=80
WDC Whiskeytown Da 79.71 51 ⇓P P 22 35 35.5 +0.1
baz=80
B08A Colville Reser 79.73 42 ⇑P P 22 35 35.2 0.0
baz=80
K04A Chilquin 79.74 49 ⇓P P 22 35 35.7 +0.3
baz=80
L04A Klamath Falls 79.74 49 ⇑P P 22 35 35.7 +0.2
baz=80
HOPS Hopland 79.75 52 ⇓P P 22 35 35.6 +0.1
baz=80
G06A Carlson Farm, 79.76 46 ⇓P P 22 35 35.4 0.0
baz=80
M03C McCloud 79.83 50 ⇑P P 22 35 36.2 +0.3
baz=80
GASB Alder Springs 79.84 52 ⇓P P 22 35 36.6 +0.6
baz=80
M04C Macdoel 79.89 49 ⇓P P 22 35 36.6 +0.4
baz=80
J05A Fort Rock 79.90 48 ⇓P P 22 35 36.8 +0.6
baz=80,SNR=12
E07A Sunnyside 79.91 44 ⇑P P 22 35 36.5 +0.3
baz=80
BIDO Bidbid 80.01 291 P P 22 35 37.8 +0.6
SNR=16
A09A Danville 80.03 42 ⇑P P 22 35 36.9 +0.1
baz=80
F07A Phinny Hill Vi 80.05 45 ⇑P P 22 35 37.2 +0.2
baz=80
LVZ Lovozero 80.07 339⇑*i*P P 22 35 35.9 -0.7
LVZ pmax pmax
comp=Z,53nm,1.7s,mb4.6
C08A Higginbotham F 80.08 43 ⇓P P 22 35 36.9 -0.2
baz=80
H06A Lindquist Farm 80.11 46 ⇑P P 22 35 37.2 -0.1
baz=80,SNR=5.7
RSW Rattlesnake Hi 80.13 44 *e*P P 22 35 37.8 +0.4
FARB Farallon Islan 80.16 54 ⇓P P 22 35 38.0 +0.2
baz=80
HAWA Hanford 80.17 44 *e*P P 22 35 37.1 -0.4
comp=Z,12nm,0.9s,mb4.2
SMDO Samad 80.20 291 ⇑P P 22 35 38.5 +0.3
SNR=9.2
MNRC McLaughlin Nat 80.26 52 ⇓P P 22 35 38.9 +0.7
baz=80,SNR=5.7
K05A Summer Lake 80.30 48 ⇓P P 22 35 39.0 +0.7
baz=80
JMDO Jabal Madar 80.35 290 ⇓P P 22 35 39.2 +0.2
SNR=6.9
D08A Wollman Farm, 80.38 44 ⇑P P 22 35 38.6 0.0
baz=80
CVS Carmenet Viney 80.39 53 ⇓P P 22 35 38.8 -0.1
baz=80
G07A Ruggs Ranch, H 80.41 45 ⇓P P 22 35 38.7 -0.1
baz=80,SNR=5.4
OD2 Odessa Site #2 80.42 43 P P 22 35 38.7 -0.2
I06A Prineville 80.42 47 ⇓P P 22 35 39.1 +0.2
baz=80
HATC Hat Creek Radi 80.44 50 ⇓P P 22 35 39.3 +0.2
baz=80
E08A Dider Farm, El 80.46 44 ⇓P P 22 35 39.1 0.0
baz=80
B09A Rice 80.47 42 ⇑P P 22 35 39.1 0.0
baz=80,SNR=7.4
M05C Lookout 80.51 50 ⇑P P 22 35 39.7 +0.2
baz=80
L05A Lakeview 80.53 49 ⇑P P 22 35 39.8 +0.3
baz=80
C09A Chrisman Ranch 80.58 43 ⇓P P 22 35 39.7 0.0
baz=80
J06A Christmas Vall 80.67 48 ⇓P P 22 35 40.0 -0.2
baz=80
A10A Northport 80.67 41 ⇑P P 22 35 40.3 +0.2
baz=80,SNR=9.1
H07A Lands Inn, Kim 80.68 46 ⇓P P 22 35 40.2 -0.1
baz=81
HOQ Hoqain 80.71 292 ⇑P P 22 35 41.3 +0.5
SNR=20
K06A Valley Falls 80.73 48 ⇓P P 22 35 40.8 +0.2
baz=81,SNR=7.1
ORV Oroville 80.77 51 ⇓P P 22 35 40.5 -0.3
baz=81,SNR=5.6
D09A Jones Farm, Ri 80.78 43 ⇓P P 22 35 40.6 -0.1
baz=81
JRSC Jasper Ridge 80.83 54 ⇓P P 22 35 40.9 -0.3
baz=81

OHCM Honcut 80.84 52 *eP* **P 22 35 40.8 -0.4**
F08A Pendleton 80.85 45 ⇑P **P 22 35 41.4 +0.3**
baz=81,SNR=6.7
O04C Chester 80.85 51 ⇓P **P 22 35 41.6 +0.3**
baz=81
I07A Izee 80.87 47 ⇑P **P 22 35 41.3 0.0**
baz=81
G08A Pilot Rock 80.88 45 ⇓P **P 22 35 41.3 0.0**
baz=81
MOD Modoc 80.95 49 ⇓P **P 22 35 41.6 -0.1**
baz=81
M06C Likely Place G 81.03 50 ⇓P **P 22 35 42.5 +0.4**
baz=81
BSY Bisya 81.05 291 ⇓P **P 22 35 43.0 +0.4**
SNR=10
E09A Wood Farm, Sta 81.05 44 ⇓P **P 22 35 42.2 +0.1**
baz=81
WENL Wente Brothers 81.13 53 ⇓P **P 22 35 42.8 +0.1**
baz=81
NEW Newport 81.17 42 *eP* **P 22 35 42.3 -0.4**
NEW pmax pmax
comp=Z,12nm,0.9s
NEW Newport 81.17 42 *eP* **P 22 35 42.3 -0.4**
comp=Z,12nm,0.9s,mb4.3
J07A Hines 81.22 47 ⇑P **P 22 35 43.4 +0.4**
baz=81,SNR=12
H08A Prairie City 81.31 46 ⇑P **P 22 35 43.7 +0.2**
baz=81
A11A Hall Mountain, 81.43 41 ⇑P **P 22 35 44.6 +0.6**
baz=81
F09A S2 Ranch, Elgi 81.46 45 ⇓P **P 22 35 44.3 +0.1**
baz=81
K07A Rock Creek Ran 81.47 48 ⇓P **P 22 35 44.7 +0.3**
baz=81,SNR=9.5
ASHO Ashiyiah 81.49 293 ⇓P **P 22 35 45.3 +0.5**
SNR=6.5
S04C Ingram Canyon, 81.49 53 ⇓P **P 22 35 44.8 +0.2**
baz=81,SNR=5.0
P05C Yuba Gap, Truc 81.50 51 ⇑P **P 22 35 44.7 +0.1**
baz=81
BEKR Beckwourth 81.52 51 ⇓P **P 22 35 44.6 -0.1**
baz=81
I08A Drewsey 81.57 47 ⇑P **P 22 35 45.0 +0.2**
baz=81,SNR=7.4
LAVA Lava Cap Winer 81.57 52 ⇓P **P 22 35 44.7 -0.3**
baz=82,SNR=9.3
B11A Sandpoint 81.59 42 ⇓P **P 22 35 45.1 +0.2**
baz=82
KEV Kevo 81.59 342 *ep* **P 22 35 43.1 -1.3**
comp=Z,12nm,0.4s,mb4.8
KEV Kevo 81.59 342 *eP* **P 22 35 43.1 -1.3**
KEV pmax pmax
comp=Z,12nm,0.4s,mb4.8
L07A Adell 81.61 49 ⇑P **P 22 35 45.5 +0.5**
baz=82,SNR=9.0
N06A Buffalo Meadow 81.64 50 ⇑P **P 22 35 45.3 0.0**
baz=82
HAST Hastings Reser 81.65 55 ⇓P **P 22 35 45.6 +0.2**
baz=82,SNR=6.2
PACP Pacheco Peak 81.67 54 ⇓P **P 22 35 45.6 +0.1**
baz=82
G09A Cove 81.68 45 ⇓P **P 22 35 45.2 -0.1**
baz=82
E10A Myers Farm, Un 81.74 44 ⇓P **P 22 35 45.6 0.0**
baz=82
J08A Circle Bar Ran 81.80 47 ⇓P **P 22 35 46.2 +0.2**
baz=82,SNR=6.9
O06A Flanigan 81.82 50 ⇑P **P 22 35 46.2 0.0**
baz=82
F10A Beach Ranch, E 81.83 44 ⇓P **P 22 35 45.8 -0.3**
baz=82
H09A Durkee 81.95 46 ⇓P **P 22 35 46.9 +0.1**
baz=82
WVOR Wild Horse Val 81.97 48 *eP* **P 22 35 47.1 +0.2**
WVOR pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
WVOR Wild Horse Val 81.97 48 *eP* **P 22 35 47.1 +0.2**
comp=Z,9.8nm,0.9s,mb4.3
K08A Mann Creek Ran 81.99 48 ⇓P **P 22 35 47.0 0.0**
baz=82,SNR=12
V03C Hunter Liggett 82.00 55 ⇓P **P 22 35 47.5 +0.3**
baz=82
CMB Columbia Colle 82.05 53 ⇑P **P 22 35 47.3 -0.1**
baz=82,SNR=9.2
CMB Columbia Colle 82.05 53 *eP* **P 22 35 47.3 -0.1**
D11A Klaveano Farm, 82.06 43 ⇑P **P 22 35 47.1 -0.2**
baz=82
G10A Bishop Farm, J 82.11 45 ⇑P **P 22 35 47.5 0.0**
baz=82,SNR=7.0
I09A Lost Marbles R 82.11 46 ⇑P **P 22 35 47.4 -0.2**
baz=82
ARCES ARCESS Array B 82.16 342 P **P 22 35 46.6 -0.7**
comp=Z,48nm,0.7s,mb5.1,baz=60,slow=7.2,SNR=74
ARCES PKiKP PKiKP 22 41 02.3 -1.3
comp=Z,1.2nm,0.8s,baz=76,slow=1.5,SNR=3.7
WALA Waterton Lakes 82.91 41 *eP* **P 22 35 51.4 -0.1**
KTK1 Kautokeino 83.12 342 ⇓*iP* **P 22 35 51.1 -1.1**
KTK1 AMb AMB 22 35 52.3
comp=Z,54nm,1.5s,mb4.9
KTK1 Kautokeino 83.12 342 ⇓*iP* **P 22 35 51.1 -1.1**
comp=Z,52nm,1.4s,mb4.9
KTK1 Kautokeino 83.12 342 *i* **P 22 35 50.9 -1.2**
NVAR Mina Array Bea 83.48 52 P **P 22 35 55.3 +0.7**
comp=Z,15nm,0.7s,mb4.7,baz=276,slow=6.1,SNR=18
JOF Joensuu 83.62 335 *ep* **P 22 35 53.1 -1.6**
comp=Z,13nm,0.3s,mb4.9
JOF Joensuu 83.62 335 *eP* **P 22 35 53.1 -1.6**
JOF pmax pmax
comp=Z,13nm,0.3s,mb4.9
VRHR Novokhopersk 83.66 322 *eP* **P 22 35 53.2 -2.0**
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s,mb5.1
VRHR pmax pmax
comp=N,40nm,1.4s
TRO Tromso 83.94 343 ⇓*iP* **P 22 35 55.2 -1.0**
TRO AMb AMB 22 35 56.2
comp=Z,68nm,1.3s,mb5.0
TRO Tromso 83.94 343 ⇓*iP* **P 22 35 55.2 -1.0**
comp=Z,68nm,1.3s,mb5.0
MOS Moscow 84.01 327 *eP* **P 22 35 54.2 -2.6**
MOS pmax pmax
comp=Z,33nm,0.7s,mb5.0
CHMT Chamberlain Mo 84.09 42 *eP* **P 22 35 56.4 -1.0**
TPH Tonopah 84.40 52 *eP* **P 22 35 59.4 +0.3**
HLID Hailey 84.52 46 *eP* **P 22 36 00.1 +0.5**
OBN Obninsk 84.82 327 *d iP* **P 22 35 59.1 -1.7**
OBN pmax pmax
comp=Z,71nm,1.6s,mb5.0
OBN Obninsk 84.82 327 *eP* **P 22 36 00.0 -0.8**
ELK Elko 84.94 49 *eP* **P 22 36 01.9 +0.2**
VRSR Storozhevoye 85.03 323 *eP* **P 22 36 00.0 -1.9**
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=E,5.0nm,0.6s
MCMT McKenzie Canyo 85.11 44 *eP* **P 22 36 02.4 -0.1**
RBK Rabkut 85.30 287 ⇓P **P 22 36 04.2 +0.4**
SNR=5.7
TPNV Topopah Spring 85.51 53 *eP* **P 22 36 04.8 +0.3**
GNI Garni 85.64 311 *eP* **P 22 36 04.0 -1.1**
GNI pmax pmax
comp=Z,45nm,1.7s
GNI Garni 85.64 311 *eP* **P 22 36 01.8 -3.3**
comp=Z,20nm,1.1s,mb4.7
GSC Goldstone 85.65 54 *eP* **P 22 36 05.0 -0.2**
KIV Kislovodsk 85.68 315 *d iP* **P 22 36 04.2 -0.9**
KIV Kislovodsk 85.68 315 *eP* **P 22 36 04.3 -0.8**
comp=Z,30nm,0.8s,mb5.0
KAF Kangasniemi 86.03 336 *ep* **P 22 36 04.2 -2.2**
comp=Z,4.6nm,0.4s,mb4.5,baz=54,slow=4.6
KAF Kangasniemi 86.03 336 *eP* **P 22 36 04.2 -2.2**
KAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.5
ABTO Aybut 86.17 287 ⇓P **P 22 36 07.5 -0.5**
SNR=6.1
DUG Dugway 86.86 49 *eP* **P 22 36 10.5 -0.3**
DUG pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
DUG Dugway 86.86 49 *eP* **P 22 36 10.4 -0.4**
comp=Z,6.0nm,0.6s,mb4.5
LDFC Landfair 87.03 54 *eP* **P 22 36 11.3 -0.4**
UMR Umm Al-Rimmam 87.03 300 *eP* **P 22 36 10.4 -1.5**
baz=300
UMR AMb AMB 22 36 11.0
comp=Z,49nm,0.9s,mb5.2,baz=300
HWUT Hardware Ranch 87.20 47 *eP* **P 22 36 12.3 -0.1**
comp=Z,8.0nm,0.9s,mb4.5
FFC Flin Flon 87.25 32 *eP* **P 22 36 12.4 +0.1**
FFC pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
FFC Flin Flon 87.25 32 *eP* **P 22 36 12.4 +0.1**
comp=Z,4.8nm,0.8s,mb4.3
RDF Al-Radifah 87.38 300 *eP* **P 22 36 12.3 -1.2**
baz=300
RDF AMb AMB 22 36 13.2
comp=Z,59nm,0.8s,mb5.4,baz=300
NAY Al-Naaiem 87.53 300 *eP* **P 22 36 12.7 -1.5**
baz=300
NAY AMb AMB 22 36 13.2
comp=Z,80nm,0.6s,mb5.6,baz=300
MOR8 Moi Rana 87.53 342 *eP* **P 22 36 11.0 -2.4**
MOR8 AMb AMB 22 36 13.5
comp=Z,38nm,1.8s,mb4.8
MOR8 Moi Rana 87.53 342 *eP* **P 22 36 11.0 -2.4**
comp=Z,38nm,1.8s,mb4.8
RST Umm Al-Ruwaisa 87.64 300 *eP* **P 22 36 12.9 -1.8**
baz=300
RST AMb AMB 22 36 13.5
comp=Z,2.0nm,0.7s,mb4.0,baz=300
SOC Sochi 87.80 315 *eP* **P 22 36 14.1 -1.1**
SOC *ePPP* 22 41 54.8
SOC *eS* S 22 45 47.3 -23
SOC *e* 22 46 14.3
SOC *eSS* SS 22 52 16.0 +2.2
SOC *eSSS* 22 55 57.3
SOC pmax pmax
comp=Z,34nm,0.6s,mb5.2
BW06 Boulder Array 88.11 45 *eP* **P 22 36 16.3 -0.3**
PDAR Pinedale Array 88.11 45 P **P 22 36 16.6 0.0**
comp=Z,1.1nm,0.4s,mb3.9,baz=106,slow=0.6,SNR=6.6
PDAR PP PP 22 39 52.6 -1.2
comp=Z,0.6nm,0.7s,baz=297,slow=6.5,SNR=4.3
SUMG Summit 88.75 1 *eP* **P 22 36 19.0 +0.1**
comp=Z,3.6nm,0.8s,mb4.2
ANN Anapa 88.78 317 *eP* **P 22 36 19.2 -0.5**
ANN *e* 22 45 52.6
ANN pmax pmax
comp=Z,37nm,1.0s,mb5.2
SRU San Rafael 88.91 49 *eP* **P 22 36 20.4 0.0**
SRU pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
SRU San Rafael 88.91 49 *eP* **P 22 36 20.4 0.0**
comp=Z,8.6nm,0.7s,mb4.7
NSS Namsos 89.43 342 *eP* **P 22 36 19.8 -2.4**
NSS AMb AMB 22 36 31.6
comp=Z,66nm,1.6s,mb5.2
NSS Namsos 89.43 342 *eP* **P 22 36 19.8 -2.4**
comp=Z,66nm,1.6s,mb5.2
IZAR Zarasai 89.61 330 *eP* **P 22 36 22.2 -1.1**
IZAR AMb AMB 22 36 23.2
comp=Z,29nm,0.7s,mb5.2
IDID Didziasalis 89.62 330 *eP* **P 22 36 22.1 -1.3**
IDID AMb AMB 22 36 23.7
comp=Z,22nm,0.9s,mb5.0
IIGN Ignalina 89.84 330 *eP* **P 22 36 23.1 -1.2**
IIGN AMb AMB 22 36 24.2
comp=Z,19nm,0.6s,mb5.1
PV10 Paradox Valley 90.27 49 *eP* **P 22 36 26.6 -0.2**
PV01 Paradox Valley 90.70 49 *eP* **P 22 36 28.8 0.0**
AKASG Malin Array Be 90.84 325 P **P 22 36 26.7 -2.4**
comp=Z,3.3nm,0.6s,mb4.5,baz=51,slow=5.1,SNR=20
AKASG PP PP 22 40 14.1 -0.7
comp=Z,0.7nm,0.4s,baz=50,slow=8.0,SNR=4.6
KIEV Kiev 90.85 325 *eP* **P 22 36 26.4 -2.7**
KIEV pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KIEV Kiev 90.85 325 *eP* **P 22 36 26.4 -2.7**
comp=Z,4.0nm,0.7s,mb4.5
MALT Malatya 90.87 311 ⇑*iP* **P 22 36 29.1 -0.4**
MALT Malatya 90.87 311 ⇑P **P 22 36 29.1 -0.4**
RSSD Black Hills 91.14 42 *eP* **P 22 36 30.0 -0.6**
SUW Suwalki 92.06 330 *eP* **P 22 36 32.7 -1.9**
ISCO Idaho Springs 92.06 47 *eP* **P 22 36 35.2 +0.2**
NB2 NORSAR Subarra 92.21 339 P **P 22 36 33.2 -2.0**
comp=Z,5.8nm,0.6s,mb4.8,baz=53,slow=5.1
NOA NORSAR Array B 92.21 339 P **P 22 36 33.3 -1.8**
comp=Z,5.4nm,0.6s,mb4.8,baz=46,slow=4.5,SNR=16
NOA PP PP 22 40 22.1 -3.0
comp=Z,2.0nm,0.8s,baz=38,slow=7.4,SNR=3.9
SDCO Great Sand Dun 93.06 48 *eP* **P 22 36 39.8 +0.3**
MIR Mirnyy 93.54 198 ⇑*iP* **P 22 36 41.5 +0.6**
MIR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
MIR pmax pmax
comp=Z,10.0nm,1.5s,mb4.7
ANTO Ankara 94.09 314 ⇓*iP* **P 22 36 42.7 -1.5**
ANTO Ankara 94.09 314 ⇓P **P 22 36 42.6 -1.6**
BURAR Bucovina Array 94.73 324 ⇑*iP* **P 22 36 45.6 -1.3**
BURAR Bucovina Array 94.73 324 ⇑P **P 22 36 45.6 -1.3**
KWP Kalwaria 94.91 327 ⇑*iP* **P 22 36 45.9 -1.8**
KWP Kalwaria 94.91 327 ⇑P **P 22 36 45.9 -1.8**
STHS Stebnicka Huta 95.80 327 *eP* **P 22 36 48.1 -3.6**
BORG Borgarnes 96.00 354 *eP* **P 22 36 52.5 +0.3**
CRVS Cervenica-Dubn 96.00 326 *eP* **P 22 36 51.7 -0.9**
CRVS Cervenica-Dubn 96.00 326 *e* **P 22 36 51.7 -0.9**
DRGR 96.60 324 ⇓*iP* **P 22 36 53.7 -1.7**
DRGR 96.60 324 ⇓P **P 22 36 53.7 -1.6**
KECS Kecovo 96.77 327 PDIF **P 22 36 53.6 -2.5**
KECS Kecovo 96.77 327 *eP* **P 22 36 53.6 -2.5**
OKC Ostrava-Krasne 97.10 329 *eP* **P 22 36 56.0 -1.5**
MORC Moravsky Berou 97.44 329 *eP* **P 22 36 57.7 -1.3**
VYHS Vyhne 97.61 327 PDIF Pdif 22 36 58.7 -1.1
VYHS *ePP* PP 22 41 06.1 -0.5
VYHS Vyhne 97.61 327 *eP* Pdif 22 36 58.7 -1.1
VYHS *ePP* PP 22 41 06.1 -0.5
DPC Dobruska-Polom 97.65 330 *eP* Pdif 22 36 58.8 -1.2
DPC *ePP* PP 22 41 02.6 -4.1
KOLL Kolacno 97.78 327 PDIF Pdif 22 36 59.5 -1.1
KOLL Kolacno 97.78 327 *eP* Pdif 22 36 59.5 -1.1
TXAR Lajitas Array 98.21 55 P Pdif 22 37 03.2 +0.7
comp=Z,0.2nm,0.5s,baz=323,slow=4.1,SNR=2.8
TXAR PP PP 22 41 10.3 -1.5
comp=Z,1.0nm,1.0s,baz=281,slow=5.5,SNR=4.8
TXAR PKiKP PKiKP 22 41 32.3 +0.3
comp=Z,0.4nm,0.7s,baz=305,slow=3.2,SNR=2.7
TXAR PKKPbc PKKPbc 22 53 32.6 +0.2
comp=Z,2.2nm,0.7s,baz=148,slow=5.3,SNR=13
TXAR Lajitas Array 98.21 55 P Pdif 22 37 03.2 +0.7
TXAR PP PP 22 41 10.3 -1.5
BRG Berggiesshubel 98.40 331 *eP* PP 22 41 12.6 +0.3
comp=Z,5.0nm,1.0s
CLL Collm 98.52 332 *ePdif* Pdif 22 37 02.0 -1.9
comp=Z,8.0nm,1.0s
PRU Pruhonice 98.73 330 *ePDIF* Pdif 22 37 02.8 -2.0
PRU *ePP* PP 22 41 13.5 -1.4
PKSM Moragy 99.17 326 ⇓*iP* Pdif 22 37 05.0 -1.8
PKSM Moragy 99.17 326 ⇓P Pdif 22 37 05.0 -1.7
NKC Novy Kostel 99.53 331 *ePDIF* Pdif 22 37 06.9 -1.5
MOX Moxa 99.61 332 *eP* PP 22 41 21.8 +0.4
comp=Z,24nm,1.6s
KHC Kasperske Hory 99.78 330 *ePDIF* Pdif 22 37 08.1 -1.4
KHC *ePP* PP 22 41 23.1 +0.4
GERES GERESS Array B 99.92 330 P Pdif 22 37 08.0 -2.1
comp=Z,1.8nm,0.7s,baz=44,slow=4.1,SNR=12
GERES PP PP 22 41 21.8 -1.9
comp=Z,2.1nm,1.0s,baz=46,slow=7.6,SNR=5.9
GERES PKiKP PKiKP 22 41 34.5 +0.1
comp=Z,0.6nm,0.6s,baz=28,slow=2.3,SNR=4.8
GERES PKKPbc PKKPbc 22 53 25.8 -2.7
comp=Z,0.3nm,0.5s,baz=225,slow=1.7,SNR=5.1
GERES GERESS Array B 99.92 330 P Pdif 22 37 08.0 -2.1
GERES PP PP 22 41 21.8 -1.9
GRF Grafenberg Arr 100.47 332 *ePP* PP 22 41 28.5 +0.7
STU Stuttgart 102.05 332 *eP* Pdif 22 37 20.2 +0.6
OLIL Olney 104.08 40 *ePdif* Pdif 22 37 29.2 +0.6
comp=Z,42nm,0.7s
MAW Mawson 104.35 203 Pdiff Pdif 22 37 29.5 -0.3
comp=Z,1.2nm,0.6s,baz=81,slow=3.7,SNR=7.9
MAW PKiKP PKiKP 22 41 41.4 -0.4
comp=Z,0.4nm,0.3s,baz=329,slow=5.9,SNR=3.6
MAW PP PP 22 41 54.8 -2.1
comp=Z,2.1nm,0.9s,baz=74,slow=11,SNR=4.6
MAW PKKPbc PKKPbc 22 53 14.3 -1.6
comp=Z,0.7nm,0.7s,baz=274,slow=5.5,SNR=3.6
CABF La Chapelle 105.06 332 *ePKIKP* PKiKP 22 41 43.7 -0.2
SAOF Saorge 106.37 329 *eP* PP 22 42 09.6 -1.4
AUTN L'Aution 106.42 330 *eP* PP 22 42 09.9 -1.5
TOUF Mont Tournerai 106.49 330 *eP* PP 22 42 10.0 -2.0
MVIF Mont Vial 106.63 330 *eP* PP 22 42 11.2 -1.7
PGF Pioggiola 106.71 328 *ePKIKP* PKiKP 22 41 45.7 -1.4
comp=Z,9.4nm,0.7s
LMR La Mourre 107.36 330 *ePKIKP* PKiKP 22 41 46.7 -1.6
LASF Ste Croix 108.02 332 *ePKIKP* PKiKP 22 41 48.4 -1.1
QSPA South Pole Qui 108.68 180 PKiKP PKiKP 22 41 49.3 -0.3
comp=Z,2.2nm,0.5s,baz=349,slow=1.4,SNR=26
QSPA PP PP 22 42 28.3 +0.5
comp=Z,4.4nm,1.1s,baz=311,slow=4.1,SNR=4.3
QSPA South Pole Qui 108.68 180 PKPdf PKiKP 22 41 49.3 -0.3
QSPA PP PP 22 42 28.3 +0.5
ETSF Etsaut 110.88 334 *ePKIKP* PKiKP 22 41 54.5 -0.4
comp=Z,5.9nm,0.7s
KEST Kesra 111.41 322 PKiKP PKiKP 22 41 55.7 -0.4
comp=Z,0.4nm,0.7s,baz=185,slow=3.7,SNR=3.5
PBRG Braganca 114.25 337 *ePKPdf* PKiKP 22 42 00.6 -0.8
PCAB Cabril 114.79 338 *ePKPdf* PKPdf 22 42 02.3 -0.1
MVO Moncorvo 114.91 337 *ePKPdf* PKPdf 22 42 02.6 -0.1
ESDC Sonseca Array 114.99 334 PKP PKPdf 22 42 02.3 -0.6
comp=Z,0.7nm,0.4s,baz=6.2,slow=2.7,SNR=7.1
ESDC PP PP 22 43 10.2 -1.7
comp=Z,2.4nm,1.0s,baz=33,slow=7.7,SNR=5.4
ESDC PKKPab PKKPab 22 52 49.7 -1.1
comp=Z,0.4nm,0.7s,baz=216,slow=5.1,SNR=4.4
PVIS Viseu 115.62 337 *ePKPdf* PKPdf 22 42 04.4 +0.3
MTE Manteigas 115.77 337 *ePKPdf* PKPdf 22 42 04.1 -0.3
PCBR Castelo Branco 116.23 337 *ePKPdf* PKPdf 22 42 04.9 -0.4
PMRV Marv??o 116.56 336 *ePKPdf* PKPdf 22 42 05.9 0.0
PESTR Estremoz 117.12 336 *ePKPdf* PKPdf 22 42 06.4 -0.6
PBAR Barrancos 117.51 335 *ePKPdf* PKPdf 22 42 07.3 -0.5
EVO Evora 117.58 336 *ePKIKP* PKPdf 22 42 07.2 -0.7
comp=Z,4.9nm,0.5s
EVO Evora 117.58 336 *ePKPdf* PKPdf 22 42 07.6 -0.3
PBEJ Beja 117.96 336 *ePKPdf* PKPdf 22 42 08.4 -0.3
PBDV Barranco-do-Ve 118.67 336 *ePKPdf* PKPdf 22 42 10.8 +0.8
PTEO Sao Teotonio 118.71 336 *ePKPdf* PKPdf 22 42 10.0 -0.1
MORF Marmelete 118.89 336 *ePKPdf* PKPdf 22 42 10.4 -0.1
PFVI Vila Bisbo 119.11 336 *ePKPdf* PKPdf 22 42 10.4 -0.5
LSZ Lusaka 119.85 263 SKP 22 44 52.9
comp=Z,4.4nm,0.6s,baz=52,slow=2.0,SNR=7.5
LSZ Lusaka 119.85 263 *ePKIKP* PKPdf 22 42 12.6 -0.2
TAM Tamanrasset 122.78 315 *ePKIKP* PKPdf 22 42 18.7 +0.4
LBTB Lobatse 123.93 252 PKP PKPdf 22 42 20.4 0.0
comp=Z,23nm,0.7s,baz=145,slow=4.1,SNR=17
SNAA Sanae 123.98 192 PKP PKPdf 22 42 18.6 -0.5
comp=Z,4.6nm,0.7s,baz=131,slow=20
BOSA Boshof 124.57 248 PKP PKPdf 22 42 21.3 -0.2
comp=Z,4.8nm,0.8s,baz=200,slow=4.4,SNR=8.3
BOSA Boshof 124.57 248 PKP PKPdf 22 42 21.3 -0.2
PMSA Palmer Station 130.16 164 PKP PKPdf 22 42 29.8 -1.2
comp=Z,10nm,0.8s,baz=203,slow=3.3,SNR=6.8
PMSA SKPbc SKPbc 22 45 00.9 +0.1
comp=Z,11nm,0.7s,baz=186,slow=3.7,SNR=6.9
TSUM Tsumeb 130.54 261 SKPbc SKPbc 22 45 03.0 -0.7
comp=Z,19nm,0.7s,baz=60,slow=4.1,SNR=21
TORD Torodi Ar. Bea 131.90 309 PKiKP 22 42 16.9
comp=Z,0.8nm,0.7s,baz=55,slow=2.0,SNR=4.4
TORD PKP PKPdf 22 42 35.1 -0.8
comp=Z,3.1nm,0.5s,baz=30,slow=2.4,SNR=20
TORD SKPbc SKPbc 22 45 07.0 -1.7
comp=Z,4.1nm,0.6s,baz=41,slow=3.5,SNR=18
TORD SKKPbc 22 54 35.5
comp=Z,1.0nm,0.8s,baz=230,slow=4.4,SNR=7.4
TORD Torodi Ar. Bea 131.90 309 PKP 22 42 16.9
TORD PKP PKPdf 22 42 35.1 -0.8
TORD SKPbc SKPbc 22 45 07.0 -1.7
TORD SKKPbc 22 54 35.5
SJG San Juan 132.11 42 PKP PKPdf 22 42 36.5 +0.3
comp=Z,20nm,0.8s,baz=16,slow=7.2,SNR=9.2
SJG SKPbc SKPbc 22 45 08.0 -1.3
comp=Z,34nm,0.6s,baz=355,slow=3.6,SNR=18
HUMP Col San Antoni 132.28 41 *ePKPdf* PKPdf 22 42 35.0 -1.5
CPD Cerro la Pandu 132.32 42 *ePKIKP* PKPdf 22 42 36.2 -0.4
MTP Monte Pirata 132.50 41 *ePKPdf* PKPdf 22 42 36.1 -0.8
OTAV Otavalo 133.24 71 *ePKPdf* PKPdf 22 42 39.2 +0.7
USHA Ushuaia 135.96 153 PKP PKPdf 22 42 44.4 +2.2
comp=Z,5.7nm,0.6s,baz=176,slow=4.7,SNR=3.5
ATAH Atahualpa 136.12 80 PKP PKPdf 22 42 45.1 +1.4
comp=Z,5.0nm,0.7s,baz=286,slow=18,SNR=3.6
ATAH SKPbc SKPbc 22 45 23.1 +0.9
comp=Z,18nm,0.9s,baz=300,slow=2.8,SNR=7.9
DBIC Dimbokro 141.00 308 PKhKP 22 42 46.2
comp=Z,8.9nm,0.4s,baz=35,slow=3.5,SNR=19
DBIC SKPbc SKPbc 22 45 33.8 -1.9
comp=Z,5.9nm,0.5s,baz=52,slow=3.0,SNR=5.9
DBIC Dimbokro 141.00 308 PKP PKPdf 22 42 46.2 -6.5
DBIC SKPbc SKPbc 22 45 33.8 -1.9
LIC Lamto 141.41 307 *ePKIKP* PKPdf 22 42 47.1 -6.4
comp=Z,38nm,0.8s
PLCA Paso Flores 142.53 133 PKP PKPdf 22 42 52.0 -2.6
comp=Z,12nm,0.6s,baz=239,slow=4.8,SNR=18
PLCA SKPbc SKPbc 22 45 39.3 +0.7
comp=Z,2.2nm,0.5s,baz=200,slow=14,SNR=5.0
PLCA Paso Flores 142.53 133 PKP PKPdf 22 42 52.0 -2.6
PLCA SKPbc SKPbc 22 45 39.3 +0.7
LCO Las Campanas 145.88 114 *ePKP* PKPdf 22 43 01.9 +1.2
CFAA Coronel Fontan 147.43 119 PKPbc PKPbc 22 43 06.4 -0.3
comp=Z,3.2nm,0.8s,baz=254,slow=2.5,SNR=17
LVC Limon Verde 148.02 103 PKPbc PKPbc 22 43 09.2 +0.8
comp=Z,14nm,0.5s,baz=280,slow=4.0,SNR=8.6
LVC pPKPbc pPKPbc 22 45 21.6 +0.7
comp=Z,4.6nm,0.7s,baz=293,slow=7.3,SNR=3.6
LVC Limon Verde 148.02 103 *ePKPdf* PKPdf 22 43 05.5 +1.0
LVC *ePKPbc* PKPbc 22 43 09.8 +1.3
LPAZ La Paz 148.25 91 PKPbc PKPbc 22 43 10.8 +1.7
comp=Z,11nm,0.5s,baz=308,slow=3.3,SNR=18
LPAZ La Paz 148.25 91 PKPdf PKPdf 22 43 05.7 +0.7
LPAZ PKPbc PKPbc 22 43 10.8 +1.7
TRQA Tornquist 149.65 135 *ePKPbc* PKPbc 22 43 10.3 -1.7
SIV San Ignacio 154.88 88 PKP PKPdf 22 43 14.7 -0.1
comp=Z,2.9nm,0.6s,baz=240,slow=1.1,SNR=10
SIV PKPbc PKPdf 22 43 23.0 +8.1
comp=Z,2.0nm,0.8s,baz=149,slow=1.3,SNR=4.1
SIV PKPab PKPab 22 43 41.5 -1.0
comp=Z,1.8nm,0.6s,baz=270,slow=4.5,SNR=3.5
CPUP Villa Florida 158.03 114 PKP PKPdf 22 43 17.1 -1.5
comp=Z,0.9nm,0.6s,baz=193,slow=5.0,SNR=3.2
CPUP PKPab PKPab 22 43 55.9 0.0
comp=Z,3.5nm,0.7s,baz=252,slow=4.9,SNR=7.2
CPUP pPKPab pPKPab 22 46 08.8 +5.8
comp=Z,0.3nm,0.3s,baz=213,slow=12,SNR=4.9
CPUP Villa Florida 158.03 114 PKIKP PKPdf 22 43 17.1 -1.5
CPUP 22 43 55.9
CPUP Villa Florida 158.03 114 PKP PKPdf 22 43 17.1 -1.5
CPUP PKPab PKPab 22 43 55.9 0.0
CPUP pPKPab pPKPab 22 46 08.8 +5.8
BDFB Brasilia 167.07 78 PKP PKPdf 22 43 27.3 -0.3
comp=Z,0.7nm,0.3s,baz=105,slow=23,SNR=4.8

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*ISCJB **27** 22:31:15.3±0.2, 36.15N±001×11784W±002, h10km, Error ellipse: s-maj=1.9km s-min=1.6km az=45.0*
*NEIC **27** 22:31:15.2, 36.13N×117.91W, h6km, ML3.5(NCEDC), After NCEDC.*
ISC 27 22:31:16.0±0.2, 36.14N±001×117.86W±001, h10km, n74, σ1§18/141, 34C-37D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.31**	**105**	P	**Pg**	**22 31 21.9**	**-0.2**
	baz=0.3,SNR=1000						
MPMC				⇓S	**Sg**	**22 31 25.7**	**-0.6**
	baz=0.3						
CWC	**Cottonwood Cre**	**0.35**	**329**	P	**Pg**	**22 31 21.6**	**-1.2**
	baz=0.3,SNR=634						
CWC				⇓S	**Sg**	**22 31 26.3**	**-1.1**
	baz=0.3						
LRMC	**Laurel Mountai**	**0.68**	**168**	P	**Pg**	**22 31 28.2**	**-0.8**
	baz=0.7,SNR=74						
LRMC				⇓S	**Sg**	**22 31 37.2**	**-0.7**
	baz=0.7						
FURC	**Furnace Creek,**	**0.87**	**68**	P	**Pg**	**22 31 32.6**	**-0.2**
	baz=0.9,SNR=157						
FURC				⇓S	**Sg**	**22 31 45.5**	**+1.4**
	baz=0.9						
GRAC	**Grapevine Rang**	**0.94**	**25**	⇑P	**Pg**	**22 31 33.4**	**-0.7**
	baz=1.0,SNR=25						
GRAC				⇑S	**Sg**	**22 31 47.8**	**+1.4**
	baz=1.0						
TIN	**Tinemaha**	**0.96**	**342**	⇓P	**Pg**	**22 31 33.5**	**-0.9**
	baz=1.0						
TIN				⇑S	**Sg**	**22 31 46.5**	**-0.4**
	baz=1.0						
VES	**Vestal, Richgr**	**1.03**	**253**	⇓P	**Pg**	**22 31 34.2**	**-1.6**
	baz=1.0,SNR=6.2						

VES ⇑S **Sg** **22 31 47.8 -1.5**
baz=1.0
HELL Mitchell Peak 1.08 300 ⇑P **Pg** **22 31 34.6 -2.1**
baz=1.1
RCTC Rector, Farmer 1.13 279 ⇓P **Pb** **22 31 35.5 -2.1**
baz=1.1,SNR=15
RCTC ⇓S **Sb** **22 31 50.6 -1.7**
baz=1.1
GSC Goldstone 1.20 134 ⇓P **Pb** **22 31 37.9 -0.9**
baz=1.2,SNR=52
GSC ⇑S **Sb** **22 31 53.9 -0.4**
baz=1.2
GSC Goldstone 1.20 134 *e*P **Pb** **22 31 37.9 -0.8**
GSC *e*S **Sb** **22 31 55.0 +0.7**
EDW2 Edwards Air Fo 1.26 185 P **Pn** **22 31 38.4 -1.3**
baz=1.3,SNR=117
EDW2 ⇑S **Sb** **22 31 54.7 -1.4**
baz=1.3
U10A Ash Meadows, A 1.27 77 ⇓P **Pn** **22 31 39.3 -0.4**
baz=1.3
U10A ⇓S **Sb** **22 31 56.7 +0.5**
baz=1.3
ARVC Arvin 1.28 218 P **Pn** **22 31 38.9 -1.1**
baz=1.3,SNR=73
ARVC ⇑S **Sb** **22 31 55.7 -1.0**
baz=1.3
SHOC Shoshone 1.30 100 ⇑P **Pn** **22 31 39.3 -0.9**
baz=1.3,SNR=24
MTUM Tungsten Hills 1.33 335 *e*P **Pn** **22 31 39.8 -0.9**
MTUM *e*S **Sb** **22 31 57.2 -1.0**
S08C White Mtn Res 1.38 350 ⇑P **Pn** **22 31 41.0 -0.2**
baz=1.4
S08C ⇑S **Sb** **22 31 59.0 -0.4**
baz=1.4
RRX Edison Barstow 1.44 151 ⇓P **Pn** **22 31 42.7 +0.6**
baz=1.5,SNR=13
RRX ⇓S **Sn** **22 32 02.1 +1.0**
baz=1.5
TPNV Topopah Spring 1.53 58 P **Pn** **22 31 43.4 +0.1**
baz=1.6,SNR=268
TPNV ⇓S **Sn** **22 32 04.2 +1.0**
baz=1.6
TPNV Topopah Spring 1.53 58 *e*P **Pn** **22 31 43.3 +0.1**
TPNV *e*S **Sn** **22 32 05.7 +2.5**
S09A Goldfield 1.66 18 ⇓P **Pn** **22 31 45.5 +0.4**
baz=1.7
S09A ⇓S **Sn** **22 32 08.3 +1.8**
baz=1.7
KCC Kaiser Creek 1.66 316 ⇑P **Pn** **22 31 45.0 -0.2**
baz=1.6,SNR=33
KCC ⇓S **Sn** **22 32 06.1 -0.4**
baz=1.6
MLAC Mammoth Lakes 1.68 333 ⇑P **Pn** **22 31 46.0 +0.7**
baz=1.7,SNR=19
MLAC ⇑S **Sn** **22 32 08.5 +1.5**
baz=1.7
V05C Boulder Hill, 1.68 261 ⇑P **Pn** **22 31 45.9 +0.5**
baz=1.6
V05C ⇑Sb **Sb** **22 32 08.9 +0.8**
baz=1.6
T06C Millerton Lake 1.72 301 ⇓P **Pn** **22 31 45.6 -0.4**
baz=1.7
T06C ⇓S **Sn** **22 32 08.0 0.0**
baz=1.7
TUQ Turquoise Mtn. 1.73 114 P **Pn** **22 31 45.4 -0.6**
baz=1.8,SNR=74
TUQ ⇓Sb **Sb** **22 32 11.6 +2.2**
baz=1.8
HEC Hector,Ludlow 1.81 136 ⇓P **Pn** **22 31 46.4 -0.8**
baz=1.8,SNR=66
HEC ⇑Sb **Sb** **22 32 13.4 +1.5**
baz=1.8
U05C Westside ANR, 1.84 277 ⇑P **Pn** **22 31 48.1 +0.6**
baz=1.8
U05C ⇓S **Sn** **22 32 12.3 +1.4**
baz=1.8
BFSC Mount Baldy St 1.91 175 ⇓Sb **Sb** **22 32 15.7 +1.0**
baz=1.9
MWC Mount Wilson 1.92 185 *e*Pn **Pn** **22 31 49.1 +0.5**
MWC *e*Sn **Sn** **22 32 11.8 -1.1**
DECC Green Verdugo 1.93 192 ⇑Sb **Sb** **22 32 16.4 +1.2**
baz=1.9
SMMC Simmler 1.93 245 P **Pn** **22 31 49.1 +0.3**
baz=1.9,SNR=33
SMMC ⇑S **Sn** **22 32 14.4 +1.3**
baz=1.9
PTRM Twissleman Ran 1.97 256 *e*Pn **Pn** **22 31 48.5 -0.8**
PTRM *e*Sn **Sn** **22 32 08.5 -5.6**
V11A Goodsprings 1.99 98 ⇑P **Pn** **22 31 49.3 -0.4**
baz=2.0
TPH Tonopah 2.00 15 *e*Pn **Pn** **22 31 50.2 +0.5**
TPH *e*Pg **Pg** **22 31 52.8 -1.4**
TPH *e*Sn **Sn** **22 32 14.9 +0.2**
TPH *e*Sg **Sg** **22 32 20.1 0.0**
PKM Peak Mountain 2.02 233 ⇓P **Pn** **22 31 50.8 +0.6**
baz=2.0,SNR=97
PKM ⇓S **Sn** **22 32 16.8 +1.3**
baz=2.0
BBRC Big Bear Sol-O 2.03 157 ⇑Sb **Sb** **22 32 20.5 +2.3**
baz=2.0
PKD Parkfield 2.18 266 ⇓P **Pn** **22 31 52.4 +0.2**
baz=2.1,SNR=56
R09A Tonopah 2.19 17 ⇓P **Pn** **22 31 52.8 +0.5**
baz=2.2
R09A ⇑Sb **Sb** **22 32 25.9 +3.1**
baz=2.2
GMRC Granite Mounta 2.25 126 ⇓P **Pn** **22 31 52.1 -1.2**
baz=2.3
BLG Laguna Peak 2.25 206 ⇓Sb **Sb** **22 32 26.9 +2.2**
baz=2.2
S11A Rachel 2.26 48 ⇑Sb **Sb** **22 32 27.8 +2.9**
baz=2.3
SBC Santa Barbara 2.28 222 ⇑Sb **Sb** **22 32 27.2 +1.8**
baz=2.2
S05C Merced 2.32 302 ⇓S **Sn** **22 32 24.6 +1.9**
baz=2.3
U04C Hernandez Rese 2.37 276 ⇓P **Pn** **22 31 55.5 +0.6**
baz=2.3
U04C ⇓S **Sn** **22 32 25.3 +1.3**
baz=2.3
T05C Eagle Field, D 2.39 289 ⇑Sb **Sb** **22 32 29.1 +0.6**
baz=2.4
V12A Nelson 2.48 99 ⇑P **Pn** **22 31 56.0 -0.3**
baz=2.5
LDFC Landfair 2.48 115 *e*Pn **Pn** **22 31 54.8 -1.6**
LDFC *e*Pg **Pg** **22 32 00.3 -3.2**
LDFC *e*Sn **Sn** **22 32 27.5 +0.8**
LDFC *e*Sg **Sg** **22 32 35.6 -0.1**
V04C Ramage Ranch, 2.50 259 ⇓P **Pn** **22 31 57.2 +0.6**
baz=2.5,SNR=74
V04C ⇑S **Sn** **22 32 27.8 +0.8**
baz=2.5
W12A Cal Nev Ari 2.57 108 ⇑P **Pn** **22 31 57.5 -0.2**
baz=2.6
BSC Santa Cruz Isl 2.59 215 ⇓Sb **Sb** **22 32 36.5 +2.2**
baz=2.6
MURC Murrieta 2.59 168 ⇑Sb **Sb** **22 32 36.7 +2.3**
baz=2.6
BELC Belle Mtn. 2.63 144 ⇓P **Pn** **22 31 57.9 -0.5**
baz=2.6,SNR=7.4
V03C Hunter Liggett 2.74 268 ⇑P **Pn** **22 31 59.6 -0.3**
baz=2.7
CMB Columbia Colle 2.77 314 Pn **Pn** **22 32 00.3 0.0**
CMB *e*Pg **Pg** **22 32 04.5 -4.5**
CMB *e*Sn **Sn** **22 32 34.7 +1.0**
CMB *e*Sg **Sg** **22 32 38.8 -6.0**
PFO Pinyon Flat Ob 2.78 155 ⇑P **Pn** **22 32 00.2 -0.3**
baz=2.8,SNR=12
PFO Pinyon Flat Ob 2.78 155 *e*Pn **Pn** **22 32 00.1 -0.4**
PFO *e*Pg **Pg** **22 32 07.3 -2.0**
PFO *e*Sn **Sn** **22 32 34.0 0.0**
PFO *e*Sg **Sg** **22 32 43.1 -2.1**
SAO San Andreas Ge 2.96 283 Pn **Pn** **22 32 02.9 -0.1**
SAO *e*Sn **Sn** **22 32 37.9 -0.6**
IRM Iron Mountain 2.97 131 ⇑P **Pn** **22 32 02.0 -1.1**
baz=3.0
HAST Hastings Reser 2.99 276 ⇑P **Pn** **22 32 03.7 +0.3**
baz=3.0
U13A Pakoon Wash 3.16 84 ⇓P **Pn** **22 32 06.1 +0.4**
baz=3.2
W13A Hualapai Mount 3.40 107 ⇓P **Pn** **22 32 08.8 -0.2**
baz=3.4
BAR Barrett 3.59 164 *e*Pn **Pn** **22 32 10.5 -1.1**
BAR *e*Pg **Pg** **22 32 20.7 -4.1**
BAR *e*Sn **Sn** **22 32 54.0 -0.2**
BAR *e*Sg **Sg** **22 33 05.2 -6.1**
PAHR Pah Rah Range 3.76 342 *e*Pn **Pn** **22 32 11.1 -2.9**
PAHR *e*Pg **Pg** **22 32 25.8 -2.2**
PAHR Sn **Sn** **22 32 58.4 +0.2**
PAHR *e*Sg **Sg** **22 33 19.4 +2.8**
CCUT Cedar City 3.87 67 Pn **Pn** **22 32 13.3 -2.2**
CCUT *e*Pg **Pg** **22 32 26.2 -3.9**
GLA Glamis 3.97 140 *e*Pn **Pn** **22 32 16.7 -0.1**
GLA *e*Pg **Pg** **22 32 30.8 -1.2**
GLA *e*Sg **Sg** **22 33 25.3 +1.9**
OHCM Honcut 4.29 319 Pn **Pn** **22 32 22.2 +0.9**
OHCM *e*Pg **Pg** **22 32 31.6 -6.5**
OHCM *e*Sn **Sn** **22 33 10.8 -0.6**
OHCM *e*Sg **Sg** **22 33 26.5 -7.2**
NSHM Saint Helena R 4.46 304 Pn **Pn** **22 32 25.6 +1.9**
NSHM *e*Sn **Sn** **22 33 14.7 -1.0**
ELK Elko 5.04 23 *e*Pn **Pn** **22 32 32.7 +1.2**
17nm,0.7s
MSU Marysvale 5.11 61 Pn **Pn** **22 32 32.6 +0.1**
MSU *e*Pg **Pg** **22 32 51.6 -2.2**
MSU *e*Sn **Sn** **22 33 36.6 +5.1**
MSU *e*Sg **Sg** **22 34 00.8 +0.8**
WUAZ Wupatki 5.31 95 *e*Pn **Pn** **22 32 36.9 +1.6**
24nm,0.6s
WUAZ *e*Pg **Pg** **22 32 53.6 -4.0**
WUAZ *e*Sn **Sn** **22 33 36.8 +0.4**
WUAZ *e*Sg **Sg** **22 34 03.6 -2.8**
SRU San Rafael 6.53 61 Pn **Pn** **22 32 51.9 -0.2**
MVCO Mesa Verde 7.60 79 Pn **Pn** **22 33 02.1 -4.6**
8.1nm,0.8s
MVCO *e*Pg **Pg** **22 33 36.6 -4.8**
PV01 Paradox Valley 7.68 72 *e*Pn **Pn** **22 33 09.6 +1.7**
PV01 *e*Pg **Pg** **22 33 38.8 -4.2**

*ISCJB **27** 22:46:42.0±0.8, 26.39S±003×2740E±004, h7km±5km, mb3.5/3, Error ellipse: s-maj=5.6km s-min=4.4km az=7.6*
*PRE **27** 22:46:42.2±1.1, 2640S×2743E, h2km, ML3.4*
*IDC **27** 22:46:43.0±1.8, 2641S×2753E, h0km, mb3.5/3, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, ML3.7/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=35.3km s-min=31.0km az=119.0*
*NEIC **27** 22:46:43.7±1.2, 2640S×2752E, h5km, Error ellipse: s-maj=21.6km s-min=14.9km az=122.0*
ISC 27 22:46:42.9±0.7, 2640S±003×2742E±003, h3km±5km, n21, σ0°90/34, mb3.5/3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.53**	**185**	*e*P	**Pg**	**22 46 53.2**	**+0.1**
PRYS				*e*S	**Sg**	**22 47 00.1**	**+0.1**
PRYS				AML	AML	22 47 06.4	
	comp=Z,917nm,0.4s						
KSR	**Koster**	**0.71**	**319**	*e*P	**Pg**	**22 46 56.5**	**-0.1**
KSR				*e*S	**Sg**	**22 47 05.3**	**-0.6**
KSR				AML	AML	22 47 13.9	
	comp=Z,379nm,0.7s						
SLR	**Silverton**	**1.02**	**50**	*e*P	**Pg**	**22 47 02.1**	**-0.3**
SLR				*e*S	**Sg**	**22 47 15.8**	**+0.1**
SLR				AML	AML	22 47 20.9	
	comp=Z,507nm,0.2s						
SEK	**Senekal**	**1.93**	**175**	*e*P	**Pn**	**22 47 16.4**	**-0.2**
SEK				*e*S	**Sn**	**22 47 41.6**	**+0.3**
SEK				AML	AML	22 47 44.4	
	comp=Z,298nm,0.2s						
LBTB	**Lobatse**	**2.14**	**310**	Pn	**Pn**	**22 47 23.4**	**+3.9**
	comp=Z,37nm,0.3s,baz=142,slow=15,SNR=461						
LBTB				Lg		22 47 50.9	
	comp=Z,30nm,0.3s,baz=228,slow=19,SNR=6.0						
LBTB	**Lobatse**	**2.14**	**310**	Pn	**Pn**	**22 47 23.4**	**+3.9**
LBTB				Lg		22 47 50.9	
LBTB	**Lobatse**	**2.14**	**310**	*e*P	**Pn**	**22 47 20.1**	**+0.6**
LBTB				*e*S	**Sn**	**22 47 47.5**	**+0.9**
LBTB				AML	AML	22 47 52.2	
	comp=Z,371nm,0.3s						
BOSA	**Boshof**	**2.93**	**220**	Pn	**Pn**	**22 47 31.5**	**+1.2**
	comp=Z,5.2nm,0.3s,baz=45,slow=13,SNR=202						
BOSA				Lg		22 48 13.1	
	comp=Z,56nm,0.3s,baz=339,slow=11,SNR=39						
BOSA	**Boshof**	**2.93**	**220**	*e*P	**Pn**	**22 47 30.4**	**+0.1**
BOSA				*e*S	**Sn**	**22 48 05.9**	**0.0**
BOSA				AML	AML	22 48 14.1	
	comp=Z,127nm,0.3s						
POGA	**Pongola**	**3.87**	**105**	*e*P	**Pn**	**22 47 43.7**	**+0.4**
POGA				*e*S	**Sn**	**22 48 29.9**	**+0.7**
POGA				AML	AML	22 48 45.9	
	comp=Z,49nm,0.5s						
HVD	**Gariep Dam**	**4.52**	**201**	*e*P	**Pn**	**22 47 52.5**	**+0.3**
HVD				*e*S	**Sn**	**22 48 43.4**	**-1.8**
HVD				AML	AML	22 49 05.8	
	comp=Z,19nm,0.4s						
MOPA	**Mopani**	**4.61**	**52**	*e*P	**Pn**	**22 47 52.9**	**-0.6**
MOPA				*e*S	**Sn**	**22 48 44.6**	**-2.9**
MOPA				AML	AML	22 49 16.1	
	comp=Z,129nm,0.7s						
MSNA	**Messina**	**4.68**	**31**	*e*P	**Pn**	**22 47 53.8**	**-0.6**
MSNA				*e*S	**Sn**	**22 48 45.8**	**-3.5**
MSNA				AML	AML	22 49 12.1	
	comp=Z,24nm,0.2s						
UPI	**Upington**	**5.82**	**249**	*e*P	**Pn**	**22 48 10.2**	**+0.1**
UPI				*e*S	**Sn**	**22 49 14.7**	**-2.6**
UPI				AML	AML	22 49 49.1	
	comp=Z,20nm,0.5s						
KOMG	**Komaggas**	**9.40**	**247**	*e*P	**Pn**	**22 48 59.5**	**+0.2**
KOMG				*e*S	**Sn**	**22 50 40.6**	**-4.9**
KOMG				AML	AML	22 51 52.0	
	comp=Z,10nm,0.9s						
LSZ	**Lusaka**	**11.09**	**4**	Pn	**Pn**	**22 49 22.3**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=168,slow=12,SNR=7.0						
LSZ				Sn	**Sn**	**22 51 18.3**	**-8.6**
	comp=Z,0.1nm,0.3s,baz=18,slow=20,SNR=2.1						
LSZ				Lg		22 52 27.1	
	comp=Z,0.2nm,0.3s,baz=277,slow=19,SNR=3.0						
TSUM	**Tsumeb**	**11.55**	**306**	Pn	**Pn**	**22 49 29.2**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=128,slow=11,SNR=11						
TSUM				Lg		22 52 46.3	
	comp=Z,0.4nm,0.3s,baz=245,slow=20,SNR=8.0						
KMBO	**Kilima Mbogo**	**26.85**	**22**	P	**P**	**22 52 25.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**46.59**	**324**	P	**P**	**22 55 12.7**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=138,slow=6.2,SNR=16						
TORD				LR	LR	23 14 48.0	
	comp=Z,30nm,19.8s,baz=230,slow=36						
ESDC	**Sonseca Array**	**71.95**	**335**	P	**P**	**22 58 08.7**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=152,slow=5.4,SNR=4.4						
MKAR	**Makanchi Array**	**88.09**	**34**	P	**P**	**22 59 35.7**	**+1.2**
	comp=Z,0.1nm,0.5s,mb3.4,baz=245,slow=3.8,SNR=3.2						

*MOS **27** 23:12:36.2±1.2, 1700S×7027W, h111km, mb4.4/6, Error ellipse: s-maj=22.5km s-min=10.8km az=119.8*
*ISCJB **27** 23:12:37.6±0.5, 1712S±005×7046W±005, h127km±4km, mb4.3/34, Error ellipse: s-maj=10.0km s-min=6.9km az=39.7*
*NEIC **27** 23:12:38.2±0.5, 1712S×7038W, h116km±5km, mb4.3/24, Error ellipse: s-maj=8.6km s-min=5.4km az=55.0*
*IDC **27** 23:12:39.1±0.7, 1714S×7037W, h128km±6km, mb4.0/12, mb1 4.2/15, mb1mx4.1/20, mbtmp4.1/15, Error ellipse: s-maj=14.1km s-min=11.0km az=0.0*
ISC 27 23:12:37.5±0.6, 1712S±006×7031W±007, h110km±6km, n83, σ0°88/84, mb4.3/34, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.31**	**300**	⇓*i*P	**Pn**	**23 13 02.7**	**+0.6**
ARE				*i* S	**Sn**	**23 13 21.0**	**+0.4**
LPAZ	**La Paz**	**2.24**	**69**	P	**Pn**	**23 13 18.6**	**+5.0**
	63nm,0.3s,baz=251,slow=10,SNR=1709						
LPAZ				S	**Sn**	**23 13 48.0**	**+6.7**
	9.1nm,0.3s,baz=162,slow=25,SNR=6.5						
LVC	**Limon Verde**	**5.62**	**167**	P	**Pn**	**23 13 59.4**	**+0.6**
	15nm,0.3s,baz=352,slow=8.3,SNR=224						
LVC				S	**Sn**	**23 14 58.6**	**-3.6**
	49nm,0.3s,baz=222,slow=22,SNR=32						
LVC	**Limon Verde**	**5.62**	**167**	P	**Pn**	**23 13 59.4**	**+0.6**
LVC				S	**Sn**	**23 14 58.6**	**-3.6**
NNA	**Nana**	**8.12**	**308**	P	**Pn**	**23 14 31.3**	**-1.4**
	1.1nm,0.3s,baz=139,slow=9.3,SNR=3.9						
NNA				S	**Sn**	**23 15 56.3**	**-6.6**
	0.9nm,0.3s,baz=240,slow=20,SNR=2.2						
NNA	**Nana**	**8.12**	**308**	P	**Pn**	**23 14 31.3**	**-1.4**
NNA				S	**Sn**	**23 15 56.3**	**-6.6**
SIV	**San Ignacio**	**8.93**	**84**	P	**Pn**	**23 14 44.2**	**+0.5**
	1.8nm,0.3s,baz=276,slow=10.0,SNR=104						
SIV				S	**Sn**	**23 16 17.2**	**-5.3**
	0.5nm,0.3s,baz=241,slow=19,SNR=1.8						
LCO	**Las Campanas 11.85 182** *e*Pn **Pn**					**23 15 18.6**	**-4.3**
LCO				*e*Sn	**Sn**	**23 17 20.8**	**-12**
CFAA	**Coronel Fontan 14.55 173** P **Pn**					**23 15 58.6**	**+0.5**
	0.2nm,0.3s,baz=348,slow=14,SNR=9.4						
CFAA				S	**Sn**	**23 18 25.3**	**-13**
	0.1nm,0.3s,baz=211,slow=16,SNR=6.2						
OTAV	**Otavalo 19.02 334** *e*P **P**					**23 16 56.5**	**+5.5**
	4.0nm,0.6s						
BDFB	**Brasilia 21.44 89** P **P**					**23 17 17.7**	**+0.6**
	0.9nm,0.5s,mb3.4,baz=208,slow=27,SNR=3.2						
BDFB	**Brasilia 21.44 89** *e*P **P**					**23 17 18.4**	**+1.4**
TRQA	**Tornquist 22.11 162** *e*P **P**					**23 17 24.7**	**+0.8**
	2.2nm,0.5s,mb3.7						
PLCA	**Paso Flores 23.54 180** P **P**					**23 17 38.6**	**+0.9**
	8.0nm,0.7s,mb4.2,baz=353,slow=11,SNR=14						
PLCA	**Paso Flores 23.54 180** *e*P **P**					**23 17 38.4**	**+0.7**
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PLCA	**Paso Flores 23.54 180** *e*P **P**					**23 17 38.4**	**+0.6**
	comp=Z,5.7nm,0.6s,mb4.1						
AOPR	**Arecibo Observ 35.41 6** P **P**					**23 19 23.0**	**-0.1**
EFI	**East Falkland 35.83 167** P **P**					**23 19 25.1**	**-1.2**
TEIG	**Tepich 41.09 334** *e*P **P**					**23 20 10.2**	**-0.4**
	comp=Z,5.0nm,0.6s,mb4.5						
CMIG	**Matias Romero 41.73 323** P **P**					**23 20 16.0**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.0,baz=343,slow=0.6,SNR=4.5						
DWPF	**Disney 46.23 346** *e*P **P**					**23 20 52.8**	**+1.0**
	comp=Z,4.5nm,0.6s,mb4.4						
BBSR	**BB Station 49.50 6** *e*P **P**					**23 21 17.4**	**+0.5**
SWET	**Sewanee 54.12 344** *e*P **P**					**23 21 49.5**	**-1.6**
OXF	**Oxford 54.46 341** P **P**					**23 21 52.6**	**-1.1**
PLAL	**Pickwick Lake 54.49 342** *e*P **P**					**23 21 52.0**	**-1.9**
	comp=Z,1.0nm,0.4s,mb4.2						
PLAL				*e*PcP	PcP	23 22 54.6	-1.4
MIAR	**Mount Ida 55.94 337** *e*P **P**					**23 22 03.7**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
MIAR	**Mount Ida 55.94 337** *e*P **P**					**23 22 03.6**	**-0.6**
	comp=Z,4.3nm,0.7s,mb4.6						
TXAR	**Lajitas Array 56.30 325** P **P**					**23 22 06.6**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.2,baz=152,slow=9.4,SNR=32						
SIUC	**Southern Illin 57.37 342** *e*P **P**					**23 22 13.6**	**-0.7**
	comp=Z,41nm,0.6s						
FVM	**French Village 57.98 341** *e*P **P**					**23 22 17.3**	**-1.3**
FVM				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
FVM	**French Village 57.98 341** *e*P **P**					**23 22 17.3**	**-1.3**
	comp=Z,14nm,0.7s,mb5.1						
WMOK	**Wichita Mounta 58.24 332** *e*P **P**					**23 22 19.8**	**-0.7**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
WMOK	**Wichita Mounta 58.24 332** *e*P **P**					**23 22 19.8**	**-0.7**
	comp=Z,1.9nm,0.4s,mb4.5						
KSU1	**Kansas State U 61.10 337** *e*P **P**					**23 22 39.2**	**-0.8**
	comp=Z,12nm,0.9s,mb4.9						
LAZ	**Ladron 62.07 326** *e*P **P**					**23 22 47.1**	**+0.5**
ANMO	**Albuquerque 62.13 327** *e*P **P**					**23 22 47.5**	**+0.5**
JFWS	**Jewell Farm 62.48 344** *e*P **P**					**23 22 48.3**	**-0.9**
JFWS				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
JFWS	**Jewell Farm 62.48 344** *e*P **P**					**23 22 48.3**	**-1.0**
	comp=Z,11nm,0.6s,mb5.1						
SDCO	**Great Sand Dun 63.82 329** *e*P **P**					**23 22 58.3**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.2						
ECSD	**EROS,Sioux Fal 65.17 339** *e*P **P**					**23 23 06.2**	**-0.7**
	comp=Z,6.9nm,0.7s,mb4.6						
ISCO	**Idaho Springs 65.50 331** *e*P **P**					**23 23 10.0**	**+1.0**
PV01	**Paradox Valley 65.65 328** *e*P **P**					**23 23 10.6**	**+0.6**
SRU	**San Rafael 67.40 327** *e*P **P**					**23 23 22.0**	**+0.9**
EYMN	**Ely 67.48 345** *e*P **P**					**23 23 20.8**	**-0.7**
	comp=Z,37nm,1.6s,mb5.0						
MSU	**Marysvale 67.83 326** *e*P **P**					**23 23 25.4**	**+1.5**
SHPR	**Sheep Range 68.10 322** *e*P **P**					**23 23 27.1**	**+1.5**
RSSD	**Black Hills 68.29 335** *e*P **P**					**23 23 26.2**	**-0.4**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
RSSD	**Black Hills 68.29 335** *e*P **P**					**23 23 26.2**	**-0.4**
	comp=Z,2.4nm,0.7s,mb4.1						
DBIC	**Dimbokro 68.85 76** P **P**					**23 23 30.3**	**-0.5**
	comp=Z,5.1nm,0.6s,mb4.5,baz=236,slow=6.5,SNR=16						
DBIC				pP	pP	23 24 01.2	+3.1
	comp=Z,2.5nm,0.7s,baz=249,slow=4.6,SNR=2.1						
DBIC	**Dimbokro 68.85 76** *e*P **P**					**23 23 30.4**	**-0.4**
DBIC				*PP	pP	23 24 01.2	+3.0
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
DBIC	**Dimbokro 68.85 76** *e*P **P**					**23 23 30.4**	**-0.4**
	comp=Z,4.3nm,0.5s,mb4.5						
DBIC				pP	pP	23 24 01.2	+3.1
AGMN	**Agassiz Refuge 69.00 342** *e*P **P**					**23 23 30.5**	**-0.5**
	comp=Z,8.1nm,0.7s,mb4.7						
TPNV	**Topopah Spring 69.04 322** *e*P **P**					**23 23 32.8**	**+1.3**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
TPNV	**Topopah Spring 69.04 322** *e*P **P**					**23 23 32.8**	**+1.3**
	comp=Z,3.5nm,0.9s,mb4.2						
PDAR	**Pinedale Array 69.67 330** P **P**					**23 23 34.4**	**-0.8**
	comp=Z,0.9nm,0.5s,mb3.8,baz=119,slow=8.2,SNR=8.3						
HWUT	**Hardware Ranch 69.78 328** *e*P **P**					**23 23 36.1**	**+0.2**
	comp=Z,1.8nm,0.7s,mb4.0						
ULM	**Lac du Bonnet 70.76 343** P **P**					**23 23 40.6**	**-1.1**
	comp=Z,1.1nm,0.6s,mb4.9,baz=158,slow=5.5,SNR=20						
RRI2	**Red Ridge 70.95 330** *e*P **P**					**23 23 44.2**	**+1.2**
NVAR	**Mina Array Bea 71.24 322** P **P**					**23 23 45.2**	**+0.3**
	comp=Z,1.7nm,0.8s,mb3.9,baz=152,slow=7.7,SNR=6.2						
NVAR	**Mina Array Bea 71.24 322** P **P**					**23 23 45.2**	**+0.3**
RLMT	**Red Lodge 71.34 332** *e*P **P**					**23 23 45.1**	**-0.2**
	comp=Z,1.3nm,0.6s,mb3.9						
SCHQ	**Schefferville 71.72 2** P **P**					**23 23 46.3**	**-1.0**
	comp=Z,2.0nm,0.6s,mb4.1,baz=153,slow=4.5,SNR=3.4						
PAHR	**Pah Rah Range 72.72 322** *e*P **P**					**23 23 55.3**	**+1.6**
TORD	**Torodi Ar. Bea 77.19 72** P **P**					**23 24 19.4**	**-0.5**
	comp=Z,8.9nm,0.6s,mb4.6,baz=257,slow=5.6,SNR=149						
HAWA	**Hanford 77.22 327** *e*P **P**					**23 24 20.6**	**+1.2**
	comp=Z,2.6nm,0.6s,mb4.1						
ETW	**Entiat 78.44 328** *e*P **P**					**23 24 27.5**	**+1.3**
EDM	**Edmonton 79.25 335** *e*P **P**					**23 24 29.9**	**-0.5**
TSUM	**Tsumeb 82.60 108** *e*P **P**					**23 24 50.0**	**+0.9**
	comp=Z,1.6nm,0.6s,mb4.0						
ESDC	**Sonseca Array 83.68 45** P **P**					**23 24 53.7**	**-0.4**
	comp=Z,2.0nm,0.7s,mb4.0,baz=253,slow=5.1,SNR=14						
ESLA	**Sonseca Array 83.68 45** *e*P **P**					**23 24 54.4**	**+0.3**
	comp=Z,5.0nm,1.6s,mb4.1						
YKA	**Yellowknife Ar 86.63 341** P **P**					**23 25 08.1**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.4,baz=137,slow=4.8,SNR=24						
YKA				pP	pP	23 25 41.0	+4.2
	comp=Z,1.0nm,0.8s,baz=142,slow=3.6,SNR=2.5						
YKA	**Yellowknife Ar 86.63 341** P **P**					**23 25 08.2**	**-0.1**
YKA				pP	pP	23 25 41.0	+4.2
MAW	**Mawson 88.89 164** P **P**					**23 25 18.8**	**-0.4**
	comp=Z,1.7nm,0.9s,mb4.1,baz=294,slow=8.3,SNR=3.8						
DLBC	**Dease Lake 89.72 333** *e*P **P**					**23 25 23.4**	**+0.4**
SUMG	**Summit 91.96 9** *e*P **P**					**23 25 34.0**	**+0.8**
	comp=Z,0.9nm,0.5s,mb4.3						
WRA	**Warramunga Arr 135.93 214** PKP PKPdf					23 31 46.5	+0.1
	comp=Z,0.3nm,0.4s,baz=138,slow=1.7,SNR=7.8						
ZALV	**Zalesovo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**22.41**	**320**	LR	LR	23 27 29.3	
	comp=Z,42nm,18.9s,baz=84,slow=37						
GNI	**Garni**	**27.55**	**349**	LR	LR	23 32 41.3	
	comp=Z,62nm,18.7s,baz=222,slow=41						
MKAR	**Makanchi Array**	**42.44**	**32**	P	P	23 21 38.2	+0.4
	0.6nm,0.4s,baz=219,slow=7.4,SNR=6.0						
CMAR	**Chiang Mai Arr**	**46.00**	**77**	P	P	23 22 07.0	+0.3
	1.0nm,0.7s,baz=280,slow=8.1,SNR=5.2						
TORD	**Torodi Ar. Bea**	**48.29**	**276**	P	P	23 22 24.8	+0.1
	0.8nm,0.7s,baz=86,slow=8.6,SNR=7.7						
ZALV	**Zalesovo Beam**	**48.52**	**26**	P	P	23 22 25.1	-0.8
	0.6nm,0.5s,baz=244,slow=7.2,SNR=3.8						
ESDC	**Sonseca Array**	**55.16**	**309**	P	P	23 23 15.7	0.0
	0.1nm,0.4s,baz=103,slow=7.9,SNR=4.9						
WRA	**Warramunga Arr**	**87.97**	**111**	P	P	23 26 33.5	-0.3
	0.5nm,0.8s,baz=298,slow=4.1,SNR=6.3						

*ISCJB **27** 23:21:22.7±0.5, 2402S±004×70.1W±0.1, h58km±8km, mb4.1/4, Error ellipse: s-maj=16.5km s-min=5.7km az=10.6*
*NEIC **27** 23:21:24.7, 2392S×7080W, h48km, MD4.5(GUC), After GUC.*
*GUC **27** 23:21:24.7±0.9, 2392S×7080W, h48km±11km, MD4.5, ML4.2*
*IDC **27** 23:21:25.1±0.7, 2408S×6997W, h59km±6km, mb3.8/4, mb1 3.9/8, mb1mx3.7/19, mbtmp3.8/8, Error ellipse: s-maj=22.5km s-min=7.8km az=121.0*
ISC 27 23:21:24.3±0.5, 2395S±004×7018W±009, h61km±7km, n25, σ1§39/32, mb4.1/4, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.56**	**358**	⇓*e*P	**Pn**	**23 21 36.4**	**-0.6**
CEN1				*i* S	**Sn**	**23 21 45.6**	**-0.6**
CEN1				AML	AML	23 21 46.9	
	comp=N,9μm,0.4s						
CPN1	**Cerro Paranal**	**0.70**	**197**	*e*P	**Pn**	**23 21 40.8**	**+2.1**
CPN1				*i* S	**Sn**	**23 21 52.6**	**+3.5**
CPN1				AML	AML	23 21 54.4	
	comp=E,35μm,0.2s						
LVC	**Limon Verde**	**1.77**	**42**	P	**Pn**	**23 21 53.9**	**+1.2**
	comp=E,503nm,0.3s,baz=213,slow=10,SNR=4984						
LVC				S	**Sn**	**23 22 15.6**	**+1.3**
	comp=E,2μm,0.3s,baz=44,slow=20,SNR=91						
CDCH	**Caldera**	**3.16**	**190**	*e*P	**Pn**	**23 22 10.4**	**-1.2**
CDCH				*i* S	**Sn**	**23 22 45.8**	**-2.3**
VACH	**Vallenar**	**4.63**	**186**	*e*P	**Pn**	**23 22 35.7**	**+4.0**
VACH				*i* S	**Sn**	**23 23 28.6**	**+4.4**
LCO	**Las Campanas**	**5.06**	**185**	*e*Pn	**Pn**	**23 22 37.3**	**-0.3**
	comp=E,96nm,0.3s						
LCO				Sn	**Sn**	**23 23 31.4**	**-3.3**
TLL	**Tololo Astrono**	**6.21**	**185**	*e*P	**Pn**	**23 22 53.1**	**-0.3**
TLL				*i* S	**Sn**	**23 24 03.4**	**+0.4**
ARE	**Arequipa**	**7.55**	**350**	*e*P	**Pn**	**23 23 11.0**	**-0.8**
ARE				*e*S	**Sn**	**23 24 33.0**	**-3.0**
CFAA	**Coronel Fontan**	**7.81**	**168**	P	**Pn**	**23 23 15.3**	**0.0**
	comp=E,0.6nm,0.3s,baz=342,slow=13,SNR=27						
CFAA				S	**Sn**	**23 24 47.3**	**+5.0**
	comp=E,0.4nm,0.3s,baz=211,slow=8.1,SNR=3.4						
CFAA	**Coronel Fontan**	**7.81**	**168**	P	**Pn**	**23 23 15.3**	**0.0**
CFAA				S	**Sn**	**23 24 47.3**	**+5.0**
LPAZ	**La Paz**	**7.87**	**15**	P	**Pn**	**23 23 17.5**	**+1.5**
	comp=E,0.7nm,0.3s,baz=193,slow=7.4,SNR=8.2						
LPAZ	**La Paz**	**7.87**	**15**	P	**Pn**	**23 23 17.5**	**+1.5**
SIV	**San Ignacio**	**11.66**	**49**	P	**Pn**	**23 24 07.4**	**-0.6**
	comp=E,7.3nm,0.3s,baz=255,slow=10,SNR=101						
SIV				S	**Sn**	**23 26 02.9**	**-14**
	comp=E,0.8nm,0.3s,baz=186,slow=19,SNR=3.6						
CPUP	**Villa Florida**	**11.88**	**104**	P	**Pn**	**23 24 08.8**	**-2.1**
	comp=E,0.3nm,0.3s,baz=262,slow=12,SNR=4.2						
CPUP	**Villa Florida**	**11.88**	**104**	P	**Pn**	**23 24 08.8**	**-2.1**
TXAR	**Lajitas Array**	**62.00**	**327**	P	**P**	**23 31 40.6**	**+2.5**
	comp=E,0.3nm,0.7s,mb3.5,baz=149,slow=9.1,SNR=3.9						
TXAR				pP	pP	23 31 56.8	+2.2
	comp=E,0.6nm,0.7s,baz=139,slow=9.6,SNR=6.3						
TORD	**Torodi Ar. Bea**	**79.28**	**70**	P	**P**	**23 33 23.1**	**-0.6**
	comp=E,2.7nm,0.5s,mb4.4,baz=256,slow=5.2,SNR=62						
TORD				pP	pP	23 33 39.7	-0.9
	comp=E,1.5nm,0.4s,baz=257,slow=5.3,SNR=7.7						
TORD	**Torodi Ar. Bea**	**79.28**	**70**	P	**P**	**23 33 23.1**	**-0.6**
TORD				pP	pP	23 33 39.7	-0.9
MAW	**Mawson**	**82.33**	**164**	P	**P**	**23 33 40.3**	**+1.3**
	comp=E,1.2nm,0.5s,mb4.1,baz=210,slow=6.2,SNR=8.2						
BOSA	**Boshof**	**83.33**	**118**	P	**P**	**23 33 44.4**	**-0.6**
	comp=E,2.7nm,1.0s,mb4.2,baz=217,slow=5.1,SNR=3.1						
BOSA	**Boshof**	**83.33**	**118**	P	**P**	**23 33 44.4**	**-0.6**
ASAR	**Alice Springs**	**127.21**	**208**	PKP	PKPdf	23 40 23.5	+1.1
	comp=E,0.5nm,0.6s,baz=126,slow=1.9,SNR=5.0						
ASAR				pPKP	pPKPdf	23 40 40.4	+0.1
	comp=E,0.1nm,0.4s,baz=137,slow=3.4,SNR=1.7						
WRA	**Warramunga Arr**	**130.25**	**211**	PKP	PKPdf	23 40 29.7	+1.4
	comp=E,0.4nm,0.5s,baz=148,slow=1.6,SNR=10						
WRA				pPKP	pPKPdf	23 40 46.2	-0.1
	comp=E,1.1nm,1.2s,baz=166,slow=1.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**144.66**	**26**	PKP	PKPdf	23 40 53.5	-0.2
	comp=E,0.6nm,0.3s,baz=303,slow=4.0,SNR=8.0						
MKAR	**Makanchi Array**	**148.29**	**37**	PKPbc	PKPbc	23 41 04.4	+0.9
	comp=E,1.4nm,0.7s,baz=342,slow=2.8,SNR=12						
MKAR				pPKPbc	pPKPbc	23 41 21.7	+0.4

*ISCJB **27** 23:55:27.8±0.5, 1265N±009×44.4W±0.1, h10km, mb3.9/13, MS3.5/12, Error ellipse: s-maj=14.6km s-min=12.9km az=17.1*
*IDC **27** 23:55:27.8±0.8, 1268N×4431W, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.8/22, mbtmp3.7/10, MS3.5/12, Ms1 3.5/12, ms1mx3.3/26, Error ellipse: s-maj=30.0km s-min=18.3km az=128.0*
*NEIC **27** 23:55:29.2±0.6, 1264N×4431W, h10km, mb4.6/3, Error ellipse: s-maj=17.5km s-min=13.9km az=101.0*
ISC 27 23:55:29.8±0.5, 1264N±009×443W±01, h10km, n24, σ1§13/19, mb3.9/13, MS3.5/12, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**21.71**	**287**	LR	LR	00 06 02.3	
	comp=Z,48nm,18.8s,MS2.9,baz=126,slow=29						
SIV	**San Ignacio**	**32.91**	**211**	P	**P**	**00 02 05.6**	**+1.1**
	1.1nm,0.8s,mb3.8,baz=52,slow=9.3,SNR=4.7						
LPAZ	**La Paz**	**37.14**	**220**	P	**P**	**00 02 42.3**	**+1.3**
	2.0nm,0.9s,mb4.0,baz=31,slow=19,SNR=3.5						
LPAZ				LR	LR	00 17 49.6	
	comp=Z,138nm,20.1s,MS3.7,baz=74,slow=36						
LPAZ	**La Paz**	**37.14**	**220**	*e*P	**P**	**00 02 40.5**	**-0.5**
	11nm,1.2s,mb4.6						
LPAZ				LR	LR	00 17 49.6	
DBIC	**Dimbokro**	**39.34**	**95**	P	**P**	**00 03 02.0**	**+2.4**
	9.3nm,1.1s,mb4.4,baz=256,slow=8.3,SNR=4.9						
DBIC				LR	LR	00 16 41.7	
	comp=Z,43nm,19.0s,MS3.3,baz=5.4,slow=32						
ELN	**Prospectdale**	**40.72**	**313**	*e*P	**P**	**00 03 11.7**	**+1.0**
CPUP	**Villa Florida**	**40.74**	**198**	P	**P**	**00 03 10.8**	**-0.2**
	1.2nm,0.8s,mb3.6,baz=177,slow=9.3,SNR=3.0						
CPUP				LR	LR	00 20 14.1	
	comp=Z,52nm,20.0s,MS3.4,baz=18,slow=36						
TKL	**Tuckaleechee C**	**42.26**	**310**	*e*P	**P**	**00 03 20.2**	**-3.2**
ACSO	**Alum Creek Sta**	**43.65**	**316**	*e*P	**P**	**00 03 35.9**	**+1.2**
	7.1nm,0.4s,mb4.8						
ESDC	**Sonseca Array**	**44.59**	**45**	P	**P**	**00 03 42.4**	**+0.2**
	0.3nm,0.6s,mb3.3,baz=243,slow=8.4,SNR=6.8						
TORD	**Torodi Ar. Bea**	**44.83**	**84**	P	**P**	**00 03 43.8**	**-0.7**
	1.8nm,1.1s,mb3.8,baz=279,slow=8.4,SNR=3.8						
TORD				LR	LR	00 21 26.7	
	comp=Z,37nm,18.1s,MS3.4,baz=220,slow=35						
CFAA	**Coronel Fontan**	**49.60**	**207**	P	**P**	**00 04 20.5**	**-0.9**
	0.3nm,1.0s,mb3.3,baz=93,slow=23,SNR=3.6						
ULM	**Lac du Bonnet**	**56.19**	**323**	LR	LR	00 25 05.0	
	comp=Z,72nm,19.0s,MS3.8,baz=210,slow=32						
TXAR	**Lajitas Array**	**57.27**	**297**	P	**P**	**00 05 18.2**	**+0.3**
	0.6nm,0.8s,mb3.6,baz=120,slow=9.0,SNR=6.3						
TXAR				LR	LR	00 27 04.9	
	comp=Z,48nm,21.7s,MS3.6,baz=190,slow=33						
TXAR	**Lajitas Array**	**57.27**	**297**	P	**P**	**00 05 18.2**	**+0.3**
TXAR				LR	LR	00 27 04.9	
PLCA	**Paso Flores**	**58.39**	**203**	P	**P**	**00 05 24.6**	**-0.8**
	5.0nm,1.0s,mb4.5,baz=26,slow=11,SNR=4.1						
GERES	**GERESS Array B**	**59.70**	**40**	P	**P**	**00 05 32.9**	**-1.6**
	0.4nm,0.7s,mb3.5,baz=264,slow=6.8,SNR=3.4						
GERES				LR	LR	00 27 31.0	
	comp=Z,29nm,18.1s,MS3.5,baz=97,slow=32						
ISCO	**Idaho Springs**	**60.00**	**309**	*e*P	**P**	**00 05 36.7**	**-0.1**
	5.7nm,1.2s,mb4.5						
NOA	**NORSAR Array B**	**62.70**	**27**	LR	LR	00 27 05.7	
	comp=Z,28nm,18.7s,MS3.5,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**63.36**	**312**	P	**P**	**00 05 58.5**	**-0.8**
	0.2nm,0.3s,mb3.7,baz=99,slow=11,SNR=3.3						
PDAR				LR	LR	00 29 57.9	
	comp=Z,78nm,20.6s,MS3.9,baz=307,slow=33						
BGU	**Big Grassy Mou**	**65.75**	**309**	*e*P	**P**	**00 06 13.9**	**-1.1**
YKA	**Yellowknife Ar**	**69.78**	**332**	LR	LR	00 33 41.3	
	comp=Z,34nm,18.4s,MS3.6,baz=315,slow=33						
BOSA	**Boshof**	**78.72**	**123**	LR	LR	00 35 09.6	
	comp=Z,84nm,19.6s,MS4.1,baz=94,slow=30						
RAGM	**Ragged Mountai**	**84.16**	**331**	P	**P**	**00 08 02.5**	**+1.4**

*NEIC **28** 00:03:32.3, 3604N×271E, h0km, MG3.7(MDD), After MDD.*
*CSEM **28** 00:03:32.5±0.2, 3606N×278E, h2km, ML3.4, Error ellipse: s-maj=4.6km s-min=3.4km az=179.0*
*CRAAG **28** 00:03:32.0, 3610N×271E, Ml3.4*
*ISCJB **28** 00:03:33.9±0.8, 3625N±006×268E±007, h20km±13km, Error ellipse: s-maj=10.8km s-min=7.7km az=44.8*
*MDD **28** 00:03:33.8±0.6, 3614N×269E, h0km, mb3.5/10, Error ellipse: s-maj=8.5km s-min=4.5km az=179.0, PRIMO*
ISC 28 00:03:34.7±0.8, 3624N±005×276E±006, h17km±8km, n32, σ1§26/41, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.16**	**103**	P	**Pg**	**00 03 38.0**	**-1.0**
ADJB	**Djebel Djouab**	**0.56**	**98**	P	**Pg**	**00 03 44.0**	**-1.7**
ABA	**Alger-Bouzarea**	**0.61**	**21**	P	**Pg**	**00 03 47.8**	**+1.1**
ABMS	**Boumerdes**	**0.78**	**48**	P	**Pb**	**00 03 49.7**	**0.0**
AKET	**Djebel Ketaf**	**0.93**	**101**	P	**Pb**	**00 03 51.8**	**-0.5**
EBNR	**Beni Rached**	**0.99**	**273**	P	**Pb**	**00 03 56.2**	**+2.8**
ECHA	**Ech Chlef**	**1.13**	**266**	P	**Pn**	**00 03 57.6**	**+1.9**
ECHF	**Ech Chlef**	**1.15**	**266**	P	**Pn**	**00 03 57.6**	**+1.6**
EANR	**`Ain N'Sour**	**1.37**	**258**	P	**Pn**	**00 03 58.3**	**-0.7**
ETRT	**Tiaret**	**1.46**	**235**	P	**Pn**	**00 03 59.0**	**-1.2**
AKF	**Akfadou**	**1.51**	**74**	P	**Pn**	**00 04 02.9**	**+2.0**
EIBI	**Ibiza**	**3.00**	**338**	P	**Pn**	**00 04 21.8**	**+0.4**
	3.1nm,0.3s,SNR=8.4						
EIBI				S	**Sn**	**00 04 55.2**	**-1.9**
	7.1nm,0.6s						
EIBI	**Ibiza**	**3.00**	**338**	Pn	**Pn**	**00 04 21.8**	**+0.3**
	3.1nm,0.3s,SNR=8.4						
EBEN	**Beniarda**	**3.42**	**317**	P	**Pn**	**00 04 27.0**	**-0.2**
	0.1nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**00 05 07.0**	**-0.3**
	0.4nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.42**	**317**	Pn	**Pn**	**00 04 26.4**	**-0.8**
EBEN	**Beniarda**	**3.42**	**317**	Pn	**Pn**	**00 04 26.4**	**-0.8**
EBEN				Sn	**Sn**	**00 05 05.3**	**-2.0**
ETOS	**Mallorca**	**3.53**	**1**	P	**Pn**	**00 04 29.6**	**+0.9**
	3.0nm,0.4s,SNR=9.1						
ETOS				S	**Sn**	**00 05 09.4**	**-0.5**
	8.9nm,1.1s						
ETOS	**Mallorca**	**3.53**	**1**	Pn	**Pn**	**00 04 29.6**	**+1.0**
	3.0nm,0.4s,SNR=9.1						
ETOB	**Tobarra**	**4.19**	**306**	P	**Pn**	**00 04 38.4**	**+0.7**
	0.9nm,0.3s,SNR=9.7						
ETOB				S	**Sn**	**00 05 25.9**	**-0.2**
	4.9nm,0.8s						
ETOB	**Tobarra**	**4.19**	**306**	Pn	**Pn**	**00 04 38.4**	**+0.7**
	0.9nm,0.3s,SNR=9.7						
ETOB				Sn	**Sn**	**00 05 26.0**	**-0.2**
EBER	**Berja**	**4.59**	**280**	P	**Pn**	**00 04 40.9**	**-2.4**
	6.2nm,0.6s,SNR=7.9						
EBER	**Berja**	**4.59**	**280**	Pn	**Pn**	**00 04 40.4**	**-2.9**
	6.2nm,0.6s,SNR=7.9						
EBER	**Berja**	**4.59**	**280**	Pn	**Pn**	**00 04 40.4**	**-3.0**
EMOS	**Mosqueruela**	**4.84**	**329**	P	**Pn**	**00 04 47.4**	**+0.7**
	1.3nm,0.3s,SNR=8.5						
EMOS				S	**Sn**	**00 05 41.0**	**-1.4**
	11nm,1.3s						
EMOS	**Mosqueruela**	**4.84**	**329**	Pn	**Pn**	**00 04 47.4**	**+0.7**
	1.3nm,0.3s,SNR=8.5						
EQES	**Quesada**	**4.92**	**290**	P	**Pn**	**00 04 48.1**	**+0.3**
	1.1nm,0.4s,SNR=7.9						
EQES				S	**Sn**	**00 05 44.5**	**+0.2**
	0.7nm,0.4s,SNR=7.9						
EQES	**Quesada**	**4.92**	**290**	Pn	**Pn**	**00 04 48.1**	**+0.3**
	1.1nm,0.4s,SNR=7.9						
EQES				Sn	**Sn**	**00 05 44.5**	**+0.2**
	0.7nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**5.07**	**283**	P	**Pn**	**00 04 48.4**	**-1.5**
	0.1nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.08**	**339**	P	**Pn**	**00 04 51.3**	**+1.3**
	1.0nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.08**	**339**	Pn	**Pn**	**00 04 51.3**	**+1.3**
EMIR	**Miracle**	**5.75**	**351**	P	**Pn**	**00 05 00.7**	**+1.5**
	2.9nm,0.4s,SNR=4.6						
EMIR	**Miracle**	**5.75**	**351**	Pn	**Pn**	**00 05 00.8**	**+1.6**

*NEIC **28** 00:22:50.5, 1493N×6062W, h15km, MD3.9(TRN), After TRN.*
TRN 28 00:22:49.6, 1507N×6055W, h26km, MD3.9, M3.5(FDF), M3.0(FDF), 10C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**0.67**	**240**	⇑*i*P	Pb	00 23 04.9	+2.2
FDF				⇑*i*S	Sb	00 23 15.9	+4.3
FDF	**Fort de France**	**0.67**	**240**	*e*P	Pb	00 23 05.0	+2.3
FDF				*e*S	Sb	00 23 15.7	+4.0
BIM	**Bigot**	**0.75**	**222**	⇑*i*P	Pb	00 23 05.9	+2.0
BIM				⇑*i*S	Sb	00 23 17.5	+3.7
MGG	**Marie-Galante**	**1.12**	**319**	⇑*e*P	Pn	00 23 10.2	+0.6
TBG	**Guadaloupe-3**	**1.31**	**306**	⇑*e*P	Pn	00 23 13.3	+1.2
SLB	**Belfond**	**1.33**	**201**	⇓*i*P	Pn	00 23 14.3	+1.9
SLB				*e*S	Sn	00 23 31.0	+1.8
SLB	**Belfond**	**1.33**	**201**	⇓*i*P	Pn	00 23 14.3	+1.9
SLB				*e*S	Sn	00 23 30.5	+1.3
HMG	**Houelmont**	**1.43**	**309**	*e*P	Pn	00 23 15.2	+1.4
HMG				*e*S	Sn	00 23 35.5	+3.6
BCG	**Bois Riant Cap**	**1.44**	**314**	⇑*e*P	Pn	00 23 15.3	+1.3
SCG	**Saint Claude**	**1.45**	**311**	⇑*e*P	Pn	00 23 15.5	+1.4
SCG				⇑*e*S	Sn	00 23 36.5	+4.2
LZG	**Guadaloupe-1**	**1.59**	**312**	⇑*e*P	Pn	00 23 17.9	+1.9
SSV	**Crater Summit**	**1.84**	**200**	⇓*e*P	Pn	00 23 21.4	+1.9
SSV				*e*S	Sn	00 23 43.5	+1.4
SVV	**Soufriere Volc**	**1.86**	**200**	*e*P	Pn	00 23 22.0	+2.2
SVV				*e*S	Sn	00 23 44.8	+2.3
SVB	**Belmont**	**1.92**	**201**	*e*P	Pn	00 23 21.8	+1.3
SVB				*e*S	Sn	00 23 46.0	+2.2
GRSS	**Sisters**	**2.94**	**201**	*e*P	Pn	00 23 37.0	+2.3
GRSS				*e*S	Sn	00 24 11.3	+2.1
GRSS	**Sisters**	**2.94**	**201**	*e*P	Pn	00 23 37.0	+2.3
GRSS				*e*S	Sn	00 24 12.8	+3.5
GRIC	**Isle de Caille**	**2.95**	**200**	*e*P	Pn	00 23 37.7	+2.9
GRIC				*e*S	Sn	00 24 12.1	+2.8
GRW	**Mount Saint Ca**	**3.09**	**201**	*e*P	Pn	00 23 38.7	+1.9
GRW				*e*S	Sn	00 24 14.9	+2.1
GRW	**Mount Saint Ca**	**3.09**	**201**	*e*P	Pn	00 23 38.7	+1.9
GRW				*e*S	Sn	00 24 17.6	+4.8
TOSP	**Speyside**	**3.75**	**180**	*e*P	Pn	00 23 47.8	+1.9
TOSP				*e*S	Sn	00 24 22.9	-6.2

IDC 28 00:40:17.0±2.9, 415S×10238E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.9/19, mbtmp3.9/8, Error ellipse: s-maj=130.6km s-min=15.9km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.72**	**352**	P	P	00 45 18.8	-1.8
	0.9nm,0.3s,baz=215,slow=29,SNR=5.1						
FITZ	**Fitzroy Crossi**	**26.65**	**123**	P	P	00 45 57.3	-0.4
	1.7nm,0.9s,baz=185,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**34.87**	**119**	P	P	00 47 10.2	-0.1
	0.5nm,0.3s,baz=310,slow=9.1,SNR=45						
ASAR	**Alice Springs**	**36.08**	**125**	P	P	00 47 20.6	0.0
	0.5nm,0.5s,baz=298,slow=7.5,SNR=7.6						
STKA	**Stephens Creek**	**45.95**	**132**	P	P	00 48 42.0	+0.1
	1.7nm,0.5s,baz=323,slow=11,SNR=7.5						
SONM	**Songino Array**	**51.89**	**3**	P	P	00 49 28.9	+1.7
	0.3nm,0.5s,baz=196,slow=7.0,SNR=5.4						
MKAR	**Makanchi Array**	**53.75**	**343**	P	P	00 49 41.3	+0.3
	1.1nm,0.5s,baz=143,slow=8.2,SNR=15						
ZALV	**Zalesovo Beam**	**59.73**	**348**	P	P	00 50 22.9	-0.4
	1.9nm,0.4s,baz=186,slow=5.3,SNR=12						

*IDC **28** 01:06:45.8±1.8, 7025×115.10E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.9/17, mbtmp3.9/8, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/27, Error ellipse: s-maj=127.0km s-min=16.0km az=54.0*
*NEIC **28** 01:06:51.4±0.7, 7025×11524E, h40km, Error ellipse: s-maj=19.0km s-min=9.3km az=60.0*
*ISCJB **28** 01:06:53.1±0.7, 6965±006×11551E±006, h81km±10km, mb3.8/7, Error ellipse: s-maj=12.1km s-min=8.8km az=42.6*
*DJA **28** 01:06:53, 6865×11579E, h105km, ML4.6/7*
ISC 28 01:06:54.2±0.7, 6905±007×11551E±006, h63km±10km, n23, σ1§23/24, mb3.9/7, 1D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHKI	**Kahang-Kahang**	**1.46**	**176**	P	**Pn**	**01 07 18.2**	**-0.2**
	0.0nm,0.0s						
DNP	**Denpasar**	**1.79**	**189**	P	**Pn**	**01 07 24.7**	**+1.8**
	0.0nm,0.0s						
TRT	**Tretes**	**2.96**	**254**	⇓*e*P	**Pn**	**01 07 37.5**	**-1.3**
TRT				*e*S	**Sn**	**01 08 06.0**	**-7.1**
BWJI	**Bawean**	**3.02**	**290**	P	**Pn**	**01 07 44.5**	**+4.9**
	0.0nm,0.0s						
KRKI	**Karangkates**	**3.27**	**247**	P	**Pn**	**01 07 47.5**	**+4.4**
	0.0nm,0.0s						
BBKI	**Banjar Baru**	**3.48**	**349**	P	**Pn**	**01 07 46.9**	**+0.9**
	0.0nm,0.0s						
SJI	**Sawahan**	**3.80**	**257**	P	**Pn**	**01 07 51.0**	**+0.7**
	0.0nm,0.0s						
KAPI	**Kappang**	**4.62**	**66**	*e*Pn	**Pn**	**01 08 02.2**	**+0.6**
BJII	**Banjamegara**	**5.77**	**265**	P	**Pn**	**01 08 17.2**	**-0.1**
	0.0nm,0.0s						
BBSI	**Bau Bau**	**7.16**	**79**	P	**Pn**	**01 08 32.3**	**-4.1**
	0.0nm,0.0s						
KDI	**Kendari**	**7.66**	**68**	P	**Pn**	**01 08 39.7**	**-3.5**
	0.0nm,0.0s						
BATI	**Baumata**	**8.71**	**113**	LR	LR	01 12 44.7	
	comp=Z,305nm,21.1s,baz=253,slow=40						
MBWA	**Marble Bar**	**14.75**	**164**	*e*Pn	**Pn**	**01 10 16.2**	**-3.1**
FITZ	**Fitzroy Crossi**	**14.88**	**139**	Pn	**Pn**	**01 10 19.2**	**-1.9**
	0.1nm,0.3s,baz=138,slow=4.4,SNR=4.1						
FITZ				Sn	**Sn**	**01 13 00.1**	**-4.8**
	0.1nm,0.3s,baz=192,slow=21,SNR=3.8						
TLE	**Tual**	**17.18**	**87**	P	**Pn**	**01 10 49.3**	**-0.8**
	0.0nm,0.0s						
WRA	**Warramunga Arr**	**22.41**	**127**	P	**P**	**01 11 48.9**	**+1.2**
	6.5nm,0.6s,mb4.2,baz=301,slow=12,SNR=14						
ASAR	**Alice Springs**	**24.29**	**135**	P	**P**	**01 12 07.4**	**+1.5**
	2.3nm,0.9s,mb3.6,baz=302,slow=7.6,SNR=11						
CMAR	**Chiang Mai Arr**	**30.03**	**327**	P	**P**	**01 12 56.4**	**-1.0**
	0.8nm,0.3s,mb3.9,baz=142,slow=7.7,SNR=2.6						
STKA	**Stephens Creek**	**34.78**	**139**	P	**P**	**01 13 39.6**	**+0.9**
	1.8nm,0.8s,mb4.0,baz=315,slow=16,SNR=2.4						
SONM	**Songino Array**	**55.09**	**353**	P	**P**	**01 16 20.7**	**+1.1**
	0.3nm,0.5s,mb3.6,baz=167,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**61.06**	**335**	P	**P**	**01 17 01.4**	**0.0**
	0.5nm,0.5s,mb3.9,baz=149,slow=7.3,SNR=4.7						
MKAR	**Makanchi Array**	**61.06**	**335**	P	**P**	**01 17 01.4**	**0.0**
ZALV	**Zalesovo Beam**	**65.90**	**341**	P	**P**	**01 17 31.9**	**-1.3**
	0.6nm,0.5s,mb3.9,baz=159,slow=4.3,SNR=3.4						

*CSEM **28** 01:12:52.3±0.6, 3894N×2888W, h13km±6km, ML3.4, Error ellipse: s-maj=6.5km s-min=2.7km az=83.0, After PDA*
PDA 28 01:12:52.3±0.6, 3894N×2888W, h13km±6km, MD3.6, ML3.4, Error ellipse: s-maj=6.5km s-min=2.7km az=83.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.38**	**159**	*i* P	Pg	01 12 58.9	-1.0
CALA				*e*S	Sg	01 13 04.1	-0.8
CALA	**Caldeira**	**0.38**	**159**	*e*S	Sg	01 13 04.1	-0.8
HOR	**Horta**	**0.45**	**155**	*i* P	Pg	01 12 59.7	-1.5
HOR				*e*S	Sg	01 13 05.4	-1.8
HOR	**Horta**	**0.45**	**155**	*e*S	Sg	01 13 05.4	-1.8
ROSA	**Rosais**	**0.54**	**113**	*i* P	Pg	01 13 01.3	-1.6
ROSA				*e*S	Sg	01 13

SKR				pmax	pmax		
	comp=E,11μm,4.0s						
SKR				pmax	pmax		
	comp=Z,14μm,4.0s						
SKR				smax			
	comp=E,8μm,0.5s						
SKR				smax			
	comp=N,67μm,6.0s						
SKR				smax			
	comp=E,141μm,6.0s						
SKR	**Severo-Kuril's**	**1.53**	**49**	⇓*i*P	**Pn**	**01 16 32.0**	**-0.8**
MIPR	**Malaya Ipel'ka**	**3.01**	**30**	*i* P	**Pn**	**01 16 52.8**	**+1.3**
MIPR				*i* S	**Sn**	**01 17 29.0**	**+1.7**
RUS	**Russkaya**	**3.82**	**43**	*e*P	**Pn**	**01 17 01.2**	**-0.9**
RUS				*i* S	**Sn**	**01 17 43.5**	**-2.8**
PETK	**Petropavlovsk-**	**4.02**	**31**	P	**Pn**	**01 17 06.5**	**+1.6**
	comp=E,30nm,0.3s,baz=193,slow=10.0,SNR=339						
PETK				S	**Sn**	**01 17 54.0**	**+2.8**
	comp=E,34nm,0.3s,baz=123,slow=16,SNR=4.2						
PET	**Petropavlovsk**	**4.31**	**38**	α*i*PN	**Pn**	**01 17 08.7**	**0.0**
PET				*i* S	**Sn**	**01 17 56.3**	**-1.7**
PET				pmax	pmax		
	comp=Z,1μm,2.7s						
PET				pmax	pmax		
	comp=Z,381nm,0.7s						
PET				smax			
	comp=E,12μm,6.6s						
PET				MLR	MLR		
	comp=Z,3μm,11.0s						
PET				MLR	MLR		
	comp=N,6μm,10.0s						
PET				MLR	MLR		
	comp=E,12μm,11.0s						
PET	**Petropavlovsk**	**4.31**	**38**	*e*P	**Pn**	**01 17 09.4**	**+0.7**
PET				*i* S	**Sn**	**01 17 57.5**	**-0.5**
PET	**Petropavlovsk**	**4.31**	**38**	*e*Pn	**Pn**	**01 17 08.7**	**0.0**
INSR	**Institute**	**4.32**	**37**	*e*P	**Pn**	**01 17 08.9**	**+0.1**
INSR				*i* S	**Sn**	**01 17 57.7**	**-0.6**
AVH	**Avacha**	**4.52**	**36**	*e*P	**Pn**	**01 17 13.4**	**+1.8**
GNL	**Ganaly**	**4.60**	**28**	*e*P	**Pn**	**01 17 14.9**	**+2.3**
NLC	**Nalytchevo**	**4.70**	**40**	*e*P	**Pn**	**01 17 12.7**	**-1.2**
NLC				*i* S	**Sn**	**01 18 03.0**	**-4.3**
SPN	**Mys Shipunski**	**4.94**	**44**	*e*P	**Pn**	**01 17 15.7**	**-1.5**
SPN				*i* S	**Sn**	**01 18 08.3**	**-5.0**
KII	**Karymskiy**	**5.39**	**34**	*e*P	**Pn**	**01 17 24.8**	**+1.6**
KUR	**Kuril'sk**	**6.24**	**227**	⇓*i*PN	**Pn**	**01 17 32.8**	**-1.9**
KUR				*e*S	**Sn**	**01 18 42.5**	**-2.1**
KUR				pmax	pmax		
	comp=N,570nm,0.9s						
KUR				pmax	pmax		
	comp=E,500nm,0.9s						
KUR				pmax	pmax		
	comp=Z,2μm,0.9s						
KUR				pmax	pmax		
	comp=N,3μm,1.8s						
KUR				pmax	pmax		
	comp=E,4μm,1.8s						
KUR				pmax	pmax		
	comp=Z,9μm,1.8s						
KUR				smax			
	comp=N,8μm,3.0s						
KUR				smax			
	comp=E,11μm,3.0s						
KUR				smax			
	comp=N,6μm,0.9s						
KUR				smax			
	comp=E,3μm,0.9s						
TUMR	**Tumrok**	**6.63**	**30**	*e*P	**Pn**	**01 17 41.5**	**+1.5**
TUMR				*i* S	**Sn**	**01 18 52.5**	**-1.6**
MKZ	**Mys Kozlova**	**6.68**	**40**	*e*P	**Pn**	**01 17 38.4**	**-2.2**
MKZ				*i* S	**Sn**	**01 18 48.2**	**-6.9**
KMNR	**Kamenistaya**	**7.06**	**28**	*e*P	**Pn**	**01 17 47.4**	**+1.7**
KMNR				*i* S	**Sn**	**01 19 04.1**	**-0.2**
KOZ	**Kozyrevsk**	**7.21**	**26**	*e*P	**Pn**	**01 17 50.5**	**+2.8**
KOZR	**Kozyr**	**7.22**	**26**	PN	**Pn**	**01 17 50.5**	**+2.6**
KPT	**Kopyto**	**7.23**	**28**	*e*P	**Pn**	**01 17 49.5**	**+1.5**
KIRR	**Kirishev**	**7.25**	**28**	*e*P	**Pn**	**01 17 49.7**	**+1.3**
BZMR	**Bezymyannaya**	**7.28**	**29**	*e*P	**Pn**	**01 17 50.4**	**+1.6**
BZMR				*i* S	**Sn**	**01 19 10.8**	**+1.0**
SRDR	**Sredinnyy**	**7.39**	**24**	*e*P	**Pn**	**01 17 54.2**	**+4.0**
ZLN	**Zelenaya**	**7.45**	**29**	*e*P	**Pn**	**01 17 52.9**	**+1.9**
CIRR	**Tsirk**	**7.51**	**29**	*e*P	**Pn**	**01 17 53.2**	**+1.3**
KRSR	**Krestovskiy**	**7.54**	**28**	*e*P	**Pn**	**01 17 53.1**	**+0.8**
KLY	**Klyuchi**	**7.65**	**28**	*e*P	**Pn**	**01 17 55.5**	**+1.8**
UGL	**Uglegorsk**	**8.00**	**270**	⇑*i*PN	**Pn**	**01 18 04.5**	**+5.9**
UGL				pmax	pmax		
	comp=Z,627nm,1.0s						
UGL				pmax	pmax		
	comp=E,6μm,4.0s						
UGL				pmax	pmax		
	comp=Z,6μm,4.0s						
UGL				pmax	pmax		
	comp=N,2μm,3.0s						
UGL				MLR	MLR		
	comp=Z,8μm,22.0s						
UGL				MLR	MLR		
	comp=N,9μm,16.0s						
UGL				MLR	MLR		
	comp=E,11μm,18.0s						
BDR	**Baidarnaya**	**8.03**	**28**	*e*P	**Pn**	**01 17 59.8**	**+0.9**
OKH	**Okha**	**8.05**	**303**	⇓*i*PN	**Pn**	**01 18 06.0**	**+6.9**
OKH				pmax	pmax		
	comp=Z,6μm,4.0s						
OKH				MLR	MLR		
	comp=Z,4μm,9.0s						
YUK	**Yuzh-Kuril'sk**	**8.09**	**229**	⇓*i*PN	**Pn**	**01 17 59.8**	**0.0**
YUK				*i* S	**Sn**	**01 19 30.2**	**+0.7**
YUK				pmax	pmax		
	comp=N,100nm,0.5s						
YUK				pmax	pmax		
	comp=E,3μm,0.5s						
YUK				pmax	pmax		
	comp=Z,4μm,0.5s						
YUK				pmax	pmax		
	comp=Z,8μm,1.0s						
YUK				pmax	pmax		
	comp=N,6μm,0.8s						
YUK				smax			
	comp=N,3μm,0.6s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,6μm,2.0s						
YUK				smax			
	comp=E,8μm,1.0s						
YUK				MLR	MLR		
	comp=E,7μm,12.0s						
YUK				MLR	MLR		
	comp=Z,5μm,12.0s						
YUK				MLR	MLR		
	comp=N,6μm,10.0s						
YUK	**Yuzh-Kuril'sk**	**8.09**	**229**	⇓*i*P	**Pn**	**01 17 59.6**	**-0.2**
SRKR	**Sorokina**	**8.09**	**28**	*e*P	**Pn**	**01 18 00.9**	**+1.2**
SMKR	**Semkarok**	**8.13**	**29**	*e*P	**Pn**	**01 18 01.4**	**+1.2**
YSS	**Yuzh-Sakhalins**	**8.16**	**255**	κ*i*PN	**Pn**	**01 18 05.0**	**+4.2**
YSS				pmax	pmax		
	comp=N,550nm,1.3s						
YSS				pmax	pmax		
	comp=E,940nm,1.3s						
YSS				pmax	pmax		
	comp=Z,740nm,1.3s						
YSS				pmax	pmax		
	comp=E,4μm,4.0s						
YSS				pmax	pmax		
	comp=Z,3μm,4.0s						
YSS				MLR	MLR		
	comp=N,2μm,12.0s						
YSS				MLR	MLR		
	comp=Z,2μm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.16**	**255**	*i* P	**Pn**	**01 18 04.7**	**+3.9**
KBTR	**Krutoberegovo**	**8.30**	**35**	*e*P	**Pn**	**01 18 00.9**	**-1.6**
KBTR				*i* S	**Sn**	**01 19 25.8**	**-8.6**
JMP	**Maruseppu**	**9.40**	**237**	P	**Pn**	**01 18 19.8**	**+2.2**
JWK2	**Keihoku**	**9.46**	**247**	P	**Pn**	**01 18 23.2**	**+4.9**
ASAJ	**Asahikawa**	**9.75**	**239**	P	**Pn**	**01 18 26.4**	**+4.1**
ASAJ	**Asahikawa**	**9.75**	**239**	P	**Pn**	**01 18 23.3**	**+1.0**
	comp=Z,167nm,0.3s,baz=63,slow=10,SNR=746						
ASAJ				S	**Sn**	**01 20 12.9**	**+3.1**
	baz=178,slow=17,SNR=1.3						
ASAJ	**Asahikawa**	**9.75**	**239**	PN	**Pn**	**01 18 23.3**	**+1.0**
ASAJ				S	**Sn**	**01 20 12.9**	**+3.1**
ASAJ				pmax	pmax		
	comp=Z,167nm,0.3s						
JEM	**Erimo**	**10.91**	**229**	P	**Pn**	**01 18 36.6**	**-1.2**
JEW	**Eniwo**	**11.22**	**237**	P	**Pn**	**01 18 42.5**	**+0.7**
JSH	**Shimam**	**12.13**	**240**	P	**Pn**	**01 18 53.6**	**-0.2**
JOT	**Ohata**	**12.45**	**233**	P	**Pn**	**01 18 54.0**	**-4.1**
SMY	**Shemya**	**12.78**	**69**	*e*PN	**Pn**	**01 19 01.7**	**-0.6**
JTM	**Tenmabayashi**	**12.88**	**231**	P	**Pn**	**01 18 58.1**	**-5.6**
SEY	**Seymchan**	**13.31**	**356**	*d i*PN	**Pn**	**01 19 12.0**	**+3.0**
SEY	**Seymchan**	**13.31**	**356**	*i* P	**Pn**	**01 19 12.1**	**+3.1**
JOM	**Ohasama**	**13.78**	**227**	P	**Pn**	**01 19 10.4**	**-4.9**
KLR	**Kul'dur**	**14.66**	**277**	α*i*P	**Pn**	**01 19 27.8**	**+1.3**
KLR				pmax	pmax		
	comp=E,3.0nm,1.8s						
KLR				pmax	pmax		
	comp=Z,2.0nm,1.8s						
KLR				pmax	pmax		
	comp=N,1μm,7.5s						
KLR				pmax	pmax		
	comp=E,4μm,7.5s						
KLR				pmax	pmax		
	comp=Z,4μm,7.5s						
KLR				MLR	MLR		
	comp=Z,3μm,12.0s						
JYA	**Atsumi**	**15.23**	**229**	P	**Pn**	**01 19 33.2**	**-0.5**
JMM	**Marumori**	**15.30**	**224**	P	**Pn**	**01 19 30.1**	**-4.5**
AMKA	**Amchitka**	**15.97**	**74**	*e*Pn	**Pn**	**01 19 41.9**	**-0.9**
JSD	**Sado**	**16.38**	**231**	P	**Pn**	**01 19 50.8**	**+2.9**
VLA	**Vladivostok**	**16.75**	**255**	⇑*i*P	**Pn**	**01 19 51.9**	**-0.6**
VLA				pmax	pmax		
	comp=Z,524nm,1.7s						
VLA	**Vladivostok**	**16.75**	**255**	⇑*i*P	**Pn**	**01 19 52.1**	**-0.4**
JYT	**Yasato**	**16.92**	**223**	P	**Pn**	**01 19 52.3**	**-2.3**
MDJ	**Mudanjiang**	**17.51**	**263**	P	**Pn**	**01 20 01.0**	**-0.7**
MDJ				S	**S**	**01 23 16.0**	**-0.6**
MDJ				PCS	PcS	01 28 11.8	+0.9
MDJ				AMB	AMB		
	comp=Z,156nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,2μm,4.8s						
MDJ	**Mudanjiang**	**17.51**	**263**	*e*P	**Pn**	**01 20 01.6**	**-0.1**
	comp=Z,1μm,1.0s						
MAJO	**Matsushiro**	**17.58**	**228**	*e*P	**Pn**	**01 20 01.4**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,270nm,0.7s						
MAJO	**Matsushiro**	**17.58**	**228**	*e*P	**Pn**	**01 20 01.2**	**-1.4**
	comp=Z,265nm,0.7s						
MAT	**Matsushiro**	**17.58**	**228**	P	**Pn**	**01 20 01.2**	**-1.3**
MAT				S	**S**	**01 23 18.2**	**0.0**
MAT	**Matsushiro**	**17.58**	**228**	P	**Pn**	**01 20 02.4**	**-0.1**
MJAR	**Matsushiro Arr**	**17.58**	**228**	P	**Pn**	**01 20 01.6**	**-0.9**
	comp=Z,9.3nm,0.3s,baz=25,slow=11,SNR=89						
MJAR				S	**S**	**01 23 17.9**	**-0.3**
	baz=31,slow=22,SNR=5.8						
MJAR				LR	LR	01 27 49.3	
	comp=Z,504nm,18.6s,baz=45,slow=40						
MJAR				ScP	ScP	01 27 56.9	-2.0
	comp=Z,0.4nm,0.3s,baz=330,slow=1.0,SNR=6.0						
MJAR	**Matsushiro Arr**	**17.58**	**228**	P	**Pn**	**01 20 01.6**	**-0.9**
MJAR				S	**S**	**01 23 17.9**	**-0.3**
MJAR	**Matsushiro Arr**	**17.58**	**228**	P	**Pn**	**01 20 01.6**	**-0.9**
MJAR				S	**S**	**01 23 17.9**	**-0.3**
MJAR				LR	LR	01 27 49.3	
MJAR				ScP	ScP	01 27 56.9	-2.0
JRY	**Ryogami san**	**17.68**	**225**	P	**Pn**	**01 20 01.9**	**-1.9**
JOD2	**Odawara 2**	**18.22**	**223**	P	**P**	**01 20 08.4**	**-0.5**
YAK	**Yakutsk**	**18.37**	**321**	*d i*P	**P**	**01 20 13.0**	**+2.7**
YAK				*e*S	**S**	**01 23 35.6**	**+1.8**
YAK				pmax	pmax		
	comp=Z,2μm,0.9s						
YAK				pmax	pmax		
	comp=N,684nm,1.3s						
YAK				pmax	pmax		
	comp=E,1μm,1.2s						
YAK				smax			
	comp=N,2μm,2.0s						
YAK				smax			
	comp=E,806nm,2.0s						
YAK	**Yakutsk**	**18.37**	**321**	*e*P	**P**	**01 20 12.7**	**+2.4**
	comp=E,1μm,1.0s						
JGF	**Kuroka**	**18.74**	**228**	P	**P**	**01 20 15.0**	**+0.4**
CLNS	**Chul'man**	**18.87**	**303**	*d i*P	**P**	**01 20 19.5**	**+3.8**
CLNS				pmax	pmax		
	comp=Z,1μm,1.2s						
CLNS				pmax	pmax		
	comp=E,1μm,1.3s						
CLNS				pmax	pmax		
	comp=N,941nm,1.3s						
CLNS				MLR	MLR		
	comp=E,383nm,15.0s						
CLNS				MLR	MLR		
	comp=Z,840nm,16.0s						
CLNS				MLR	MLR		
	comp=N,481nm,16.0s						
JSG	**Sagara**	**19.12**	**224**	P	**P**	**01 20 21.3**	**+2.6**
BILL	**Bilibino**	**19.34**	**14**	κ*i*P	**P**	**01 20 20.3**	**-0.5**
BILL				pmax	pmax		
	comp=Z,161nm,1.0s						
BILL				MLR	MLR		
	comp=Z,600nm,15.0s						
BILL	**Bilibino**	**19.34**	**14**	*e*P	**P**	**01 20 20.9**	**+0.1**
	comp=Z,178nm,1.0s						
JHJ2	**Mitsune**	**19.75**	**218**	P	**P**	**01 20 26.1**	**+0.5**
JHJ	**Hachijo jima 2**	**19.76**	**218**	P	**P**	**01 20 25.8**	**+0.1**
	comp=Z,26nm,0.3s,baz=160,slow=2.7,SNR=23						
JHJ				S	**S**	**01 23 57.4**	**-4.4**
	comp=Z,8.1nm,0.3s,baz=104,slow=23,SNR=3.0						
JWT	**Wachi**	**19.96**	**231**	P	**P**	**01 20 27.5**	**-0.3**
JIE	**Ise**	**20.04**	**227**	P	**P**	**01 20 28.7**	**+0.1**
CN2	**Changchun**	**20.55**	**264**	*e*P	**P**	**01 20 32.5**	**-1.5**
CN2				*e*PP		01 21 01.0	
CN2				*e*S	**S**	**01 24 08.0**	**-9.1**
CN2				AMB	AMB		
	comp=Z,500nm,15.0s						
CN2				LR	LR		
	comp=N,2μm,16.0s						
CN2				LR	LR		
	comp=E,800nm,16.0s						
CN2				LR	LR		
	comp=Z,1μm,17.0s						
JAD	**Aida**	**20.86**	**233**	P	**P**	**01 20 39.4**	**+2.0**
JWZ	**Kozaga**	**21.21**	**227**	P	**P**	**01 20 41.4**	**+0.2**
JHS	**Saijyo**	**21.36**	**235**	P	**P**	**01 20 43.3**	**+0.5**
JMN	**Monobe**	**21.95**	**231**	P	**P**	**01 20 50.0**	**+0.9**
HIA	**Hailar**	**22.34**	**282**	*e*P	**P**	**01 20 53.2**	**+0.2**
HIA				pmax	pmax		
	comp=Z,173nm,0.8s						
HIA	**Hailar**	**22.34**	**282**	*e*P	**P**	**01 20 53.2**	**+0.2**
	comp=Z,173nm,0.8s,mb5.4						
KSRS	**Korea Array**	**22.56**	**247**	P	**P**	**01 20 55.5**	**+0.2**
	comp=Z,171nm,0.8s,mb5.4,baz=44,slow=11,SNR=283						
KSRS				PcP	PcP	01 24 44.4	+0.2
	comp=Z,8.3nm,1.0s,baz=63,slow=1.4,SNR=4.7						
KSRS				pPcP		01 25 15.8	
	comp=Z,4.2nm,0.8s,baz=3.3,slow=2.0,SNR=4.8						
KSRS				ScP	ScP	01 28 10.1	-0.5
	comp=Z,1.6nm,0.8s,baz=34,slow=1.6,SNR=5.1						
KSRS	**Korea Array**	**22.56**	**247**	P	**P**	**01 20 55.6**	**+0.2**
KSRS						01 24 44.4	
KSRS				pmax	pmax		
	comp=Z,171nm,0.8s,mb5.4						
KS15	**Wonju Array Si**	**22.59**	**247**	*e*P	**P**	**01 20 56.0**	**+0.3**
SNY	**Shenyang**	**22.70**	**261**	⇑P	**P**	**01 20 56.0**	**-0.8**
SNY				S	**S**	**01 24 52.5**	**-3.3**
SNY				AMB	AMB		
	comp=Z,187nm,1.2s,mb5.3						
SNY				LR	LR		
	comp=N,3μm,18.0s						
SNY				LR	LR		
	comp=E,946nm,16.2s						
SNY				LR	LR		
	comp=Z,2μm,29.4s						
INCN	**Inchon**	**23.31**	**249**	P	**P**	**01 21 04.0**	**+1.7**
	SNR=6.8						
INCN	**Inchon**	**23.31**	**249**	*e*P	**P**	**01 21 02.9**	**+0.5**
	comp=Z,283nm,1.1s,mb5.5						
JTU	**Tsushima**	**23.74**	**240**	P	**P**	**01 21 06.6**	**+0.3**
JNU	**Nakatsue**	**23.99**	**235**	P	**P**	**01 21 09.5**	**+1.0**
CBIJ	**Chichi jima**	**24.42**	**207**	P	**P**	**01 21 11.1**	**-1.4**
	comp=Z,114nm,0.9s,mb5.2,baz=86,slow=19,SNR=9.0						
CBIJ				S	**S**	**01 25 40.3**	**+17**
	comp=Z,19nm,0.5s,baz=271,slow=21,SNR=2.7						
CBIJ				ScP	ScP	01 28 11.9	-3.8
	comp=Z,56nm,0.9s,baz=274,slow=22,SNR=5.6						
BOD	**Bodaibo**	**24.83**	**305**	*e*P	**P**	**01 21 15.6**	**-0.4**
BOD				*e*		01 21 39.5	
BOD				pmax	pmax		
	comp=Z,82nm,1.6s,mb4.9						
TIXI	**Tiksi**	**24.89**	**341**	*d i*P	**P**	**01 21 15.6**	**-0.8**
TIXI				*e*PP		01 21 41.9	
TIXI				*e*SP	sP	01 21 55.9	+0.2
TIXI				*e*S	**S**	**01 25 28.7**	**-1.6**
TIXI				*e*SS	sS	01 26 16.1	+1.1
TIXI				*e*		01 32 03.9	
TIXI				pmax	pmax		
	comp=Z,146nm,1.2s,mb5.3						
TIXI	**Tiksi**	**24.89**	**341**	*e*P	**P**	**01 21 17.0**	**+0.6**
TNA	**Tin City**	**25.17**	**37**	*e*P	**P**	**01 21 19.5**	**+0.5**
	comp=Z,216nm,1.1s,mb5.5						
JSU	**Suzuyama**	**25.47**	**233**	P	**P**	**01 21 23.1**	**+1.1**
JFU	**Fukue jima 2**	**25.50**	**238**	P	**P**	**01 21 23.3**	**+1.1**
DL2	**Dalian**	**25.55**	**257**	*i* P	**P**	**01 21 21.8**	**-0.9**
DL2				AP	pP	01 21 48.3	+0.1
DL2				PCP	PcP	01 24 50.8	+0.2
DL2				S	**S**	**01 25 40.8**	**-0.6**
DL2				AMB	AMB		
	comp=Z,120nm,1.1s,mb5.2						
DL2				AMB	AMB		
	comp=Z,240nm,6.5s						
CIT	**Chita**	**25.58**	**291**	*e*P	**P**	**01 21 23.5**	**+0.7**
CIT				*e*	pP	01 21 50.6	+2.2
CIT				*e*		01 22 01.8	
CIT				*e*		01 24 47.7	
CIT				*e*		01 26 51.2	
JAM	**Amami Oshima**	**28.40**	**231**	P	**P**	**01 21 49.0**	**+0.8**
BJI	**Beijing**	**28.41**	**265**	P	**P**	**01 21 48.3**	**0.0**
BJI				S	**S**	**01 26 25.0**	**-1.5**
BJI				AMB	AMB		
	comp=Z,91nm,1.0s,mb5.3						
BJI				AMB	AMB		
	comp=Z,1.0nm,2.8s						
BJI				LR	LR		
	comp=N,2μm,19.8s						
BJI				LR	LR		
	comp=E,872nm,19.3s						
BJI				LR	LR		
	comp=Z,780nm,22.3s						
BJT	**Baijiatuau**	**28.43**	**265**	*e*P	**P**	**01 21 48.4**	**0.0**
BJT				pmax	pmax		
	comp=Z,99nm,1.0s						
BJT	**Baijiatuau**	**28.43**	**265**	*e*P	**P**	**01 21 48.4**	**0.0**
	comp=Z,99nm,1.0s,mb5.3						
TTA	**Tatalina**	**29.73**	**45**	*e*P	**P**	**01 21 59.5**	**-0.1**
JMZ	**Minamidaito 2**	**29.79**	**225**	P	**P**	**01 22 00.4**	**-0.2**
SVW2	**Sparrevohn**	**29.89**	**48**	*e*P	**P**	**01 22 01.0**	**-0.1**
JOW	**Kunigami**	**30.36**	**231**	P	**P**	**01 22 06.4**	**+0.8**
SSE	**Sheshan**	**30.97**	**246**	P	**P**	**01 22 11.8**	**+0.9**
SSE				AP	pP	01 22 37.0	+0.1
SSE				S	**S**	**01 27 06.5**	**-0.2**
SSE				XS	sS	01 27 53.3	+1.3
SSE				AMB	AMB		
	comp=Z,137nm,1.0s,mb5.6						
SSE				AMB	AMB		
	comp=Z,255nm,4.0s						
SSE				LR	LR		
	comp=N,783nm,17.4s						
SSE				LR	LR		
	comp=E,610nm,17.4s						
SSE				LR	LR		
	comp=Z,594nm,14.0s						
HHC	**Hu-ho-hao-te**	**30.98**	**270**	*e*P	**P**	**01 22 11.5**	**+0.6**
HHC				AP	pP	01 22 36.3	-0.6
HHC				PP	PP	01 23 16.8	-6.1
HHC				S	**S**	**01 27 06.3**	**-0.3**
HHC				PCS	PcS	01 28 48.5	+0.4
HHC				AMB	AMB		
	comp=Z,110nm,1.2s,mb5.5						
HHC				LR	LR		
	comp=N,1μm,16.1s						
HHC				LR	LR		
	comp=E,1μm,14.3s						
HHC				LR	LR		
	comp=Z,1μm,17.8s						
IMA2	**Indian Mountai**	**30.98**	**39**	*e*P	**P**	**01 22 10.8**	**+0.2**
IRK	**Irkutsk**	**31.10**	**294**	⇓*i*P	**P**	**01 22 12.2**	**+0.4**
IRK				*e*	pP	01 22 41.0	+3.2
IRK				*e*		01 25 05.1	
IRK				pmax	pmax		
	comp=Z,167nm,1.6s,mb5.5						
SONM	**Songino Array**	**31.20**	**285**	P	**P**	**01 22 13.0**	**+0.2**
	comp=Z,4.2nm,0.3s,mb4.6,baz=74,slow=7.7,SNR=44						
SONM				pP	pP	01 22 40.9	+2.1
	comp=Z,4.5nm,0.7s,baz=78,slow=8.0,SNR=3.6						
SONM				PcP	PcP	01 25 05.3	+0.8
	comp=Z,30nm,0.8s,baz=107,slow=1.9,SNR=17						
SONM				ScP	ScP	01 28 36.8	+0.5
	comp=Z,5.4nm,0.8s,baz=82,slow=2.3,SNR=6.6						
SONM				LR	LR	01 36 28.1	
	comp=Z,1μm,18.9s,baz=74,slow=39						
SONM	**Songino Array**	**31.20**	**285**	P	**P**	**01 22 13.0**	**+0.2**
SONM				*PP	pP	01 22 40.9	+2.1
SONM						01 25 05.3	
CHUM	**Lake Minchumin**	**31.42**	**43**	*e*P	**P**	**01 22 14.7**	**+0.1**
	comp=Z,26nm,0.7s,mb5.1						
PPLA	**Purkeypile**	**31.48**	**45**	*e*P	**P**	**01 22 15.6**	**+0.6**
	comp=Z,199nm,1.5s,mb5.6						
TLY	**Talaya**	**31.63**	**293**	⇓P	**P**	**01 22 17.6**	**+1.2**
	SNR=33						
TLY	**Talaya**	**31.63**	**293**	*d i*P	**P**	**01 22 17.3**	**+0.8**
TLY				*e*	pP	01 22 46.5	+4.0
TLY				*e*		01 23 33.3	
TLY				*e*PPP		01 23 45.8	
TLY				*e*		01 25 06.4	
TLY				*e*S	**S**	**01 27 16.3**	**-0.2**
TLY				*e*		01 28 07.4	
TLY				pmax	pmax		
	comp=Z,141nm,1.0s,mb5.7						
TLY				MLR	MLR		
	comp=Z,880nm,14.0s						
TLY	**Talaya**	**31.63**	**293**	*e*P	**P**	**01 22 18.3**	**+1.8**
	comp=Z,161nm,1.0s,mb5.7						
KDAK	**Kodiak Island**	**31.69**	**55**	LR	LR	01 34 59.8	
	comp=Z,503nm,20.9s,baz=285,slow=36						
KDAK	**Kodiak Island**	**31.69**	**55**	*e*P	**P**	**01 22 15.4**	**-1.5**
NJ2	**Nanjing**	**31.69**	**250**	*e*P	**P**	**01 22 17.8**	**+0.5**
NJ2				AP	pP	01 22 45.0	+1.7
NJ2				XP	sP	01 23 00.5	+3.5
NJ2				PP	PP	01 23 26.5	-4.5
NJ2				S	**S**	**01 27 14.5**	**-3.4**
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,220nm,8.4s						
NJ2				LR	LR		
	comp=N,520nm,23.0s						
NJ2				LR	LR		
	comp=E,740nm,16.7s						
NJ2				LR	LR		
	comp=Z,720nm,16.6s						
BPAW	**Bear Paw Mtn.**	**32.01**	**43**	*e*P	**P**	**01 22 19.7**	**0.0**
	comp=Z,53nm,0.8s,mb5.3						
KTH	**Kantishna Hill**	**32.04**	**44**	*e*P	**P**	**01 22 20.0**	**0.0**
	comp=Z,247nm,1.3s,mb5.8						
BTO	**Baotou**	**32.11**	**271**	*e*P	**P**	**01 22 20.5**	**-0.3**
TIY	**Taiyuan**	**32.13**	**264**	*i* P	**P**	**01 22 22.8**	**+1.7**
TIY				S	**S**	**01 27 26.5**	**+1.8**
TIY				AMB	AMB		
	comp=Z,612nm,1.3s,mb6.2						
TIY				LR	LR		
	comp=N,556nm,6.3s						
TIY				LR	LR		
	comp=E,561nm,6.1s						
TIY				LR	LR		
	comp=Z,677nm,8.4s						
ZAK	**Zakamensk**	**32.24**	**291**	*e*P	**P**	**01 22 22.8**	**+0.9**
ZAK				*e*	pP	01 22 50.9	+3.0
ZAK				*e*		01 23 40.9	
ZAK				pmax	pmax		
	comp

MOY pmax pmax
comp=Z,121nm,1.8s,mb5.4
COLA College 33.36 41 *i* P **P 01 22 30.9 -0.6**
COLA College 33.36 41 *e*P **P 01 22 31.6 +0.2**
comp=Z,174nm,1.0s,mb5.8
DIV Divide 34.63 48 *e*P **P 01 22 41.9 -0.6**
comp=Z,78nm,0.8s,mb5.6
BMRM Bremner River 35.22 48 *e*P **P 01 22 47.5 0.0**
TATO Taipei 35.45 238 *e*P **P 01 22 50.9 +1.1**
comp=Z,160nm,0.9s,mb5.8
WHN Wuhan 35.51 252⇑*i*P **P 01 22 50.5 +0.2**
WHN AP pP 01 23 19.3 +2.7
WHN S **S 01 28 11.3 -5.5**
WHN LR LR
comp=N,872nm,10.3s
WHN LR LR
comp=E,872nm,10.3s
WHN LR LR
comp=Z,999nm,13.5s
EGAK Eagle 36.22 41 *e*P **P 01 22 55.4 -0.6**
comp=Z,308nm,1.4s,mb6.0
XAN Xi'an 36.63 262 P **P 01 22 59.3 -0.5**
XAN PP PP 01 24 26.0 +0.6
XAN S **S 01 28 30.3 -3.5**
XAN SCS ScS 01 33 02.0 -0.7
XAN AMB AMB
comp=Z,73nm,1.4s,mb5.4
XAN AMB AMB
comp=Z,236nm,9.7s
XAN LR LR
comp=N,240nm,11.4s
XAN LR LR
comp=E,364nm,12.8s
XAN LR LR
comp=Z,435nm,15.2s
GUMO Guam 36.83 195 LR LR 01 37 14.9
comp=Z,218nm,20.0s,baz=274,slow=35
DAWY Dawson 37.09 42 *e*P **P 01 23 03.4 0.0**
QZH Quanzhou 37.09 241⇓*i*P **P 01 23 05.0 +1.1**
QZH S **S 01 28 39.8 -1.3**
QZH XS sS 01 29 31.3 +4.2
QZH SS SS 01 31 20.0 -8.3
QZH AMB AMB
comp=Z,2μm,2.0s,mb6.7
QZH LR LR
comp=N,730nm,8.6s
QZH LR LR
comp=E,1μm,9.8s
QZH LR LR
comp=Z,580nm,12.0s
HYT Haines Junctio 38.64 47 *e*P **P 01 23 18.6 +2.2**
LZH Lanzhou 38.66 269⇓P **P 01 23 17.5 +0.6**
LZH PP PP 01 24 51.3 +3.7
LZH PCP PcP 01 25 30.0 +3.5
LZH S **S 01 29 06.8 +2.3**
LZH PCS PcS 01 29 17.5 +1.5
LZH SS SS 01 31 52.8 -6.5
LZH AMB AMB
comp=Z,261nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,556nm,5.2s
LZH LR LR
comp=E,2μm,14.5s
LZH LR LR
comp=Z,2μm,16.8s
GTA Gaotai 39.36 276⇓*i*P **P 01 23 23.5 +0.8**
GTA AP pP 01 23 51.0 +1.6
GTA XP sP 01 24 04.8 +1.9
GTA PP PP 01 25 00.5 +5.3
GTA PCP PcP 01 25 30.0 +1.4
GTA SCP ScP 01 29 06.0 0.0
GTA S **S 01 29 17.0 +2.0**
GTA PCS PcS 01 29 19.0 +0.4
GTA SS SS 01 32 10.0 -3.2
GTA SCS ScS 01 33 17.3 -0.9
GTA AMB AMB
comp=Z,57nm,1.4s,mb5.2
GTA AMB AMB
comp=Z,565nm,6.0s
GTA LR LR
comp=N,786nm,17.1s
GTA LR LR
comp=E,724nm,17.7s
GTA LR LR
comp=Z,765nm,18.6s
SKAG Skagway 40.07 48 *e*P **P 01 23 29.2 +0.9**
SIT Sitka 40.88 52 *e*P **P 01 23 36.3 +1.3**
SIT pmax pmax
comp=Z,200nm,1.5s,mb5.7
SIT Sitka 40.88 52 *e*P **P 01 23 36.3 +1.3**
comp=Z,195nm,1.5s,mb5.7
GZH Guangzhou 41.57 245 P **P 01 23 36.5 -4.5**
GZH S **S 01 29 36.3 -12**
GZH AMB AMB
comp=Z,525nm,1.2s,mb6.1
GZH LR LR
comp=N,641nm,16.3s
GZH LR LR
comp=E,721nm,15.7s
ZAA0 Zalesovo Array 41.58 303 *e*P **P 01 23 40.3 -0.4**
ZALV Zalesovo Beam 41.58 303 P **P 01 23 40.4 -0.4**
comp=E,14nm,0.5s,mb5.0,baz=64,slow=7.2,SNR=90
ZALV pP pP 01 24 10.0 +2.3
comp=E,23nm,0.9s,baz=60,slow=7.0,SNR=6.6
ZALV PcP PcP 01 25 36.3 +0.8
comp=E,33nm,0.9s,baz=64,slow=3.4,SNR=12
ZALV ScP ScP 01 29 15.1 +0.7
comp=E,7.0nm,0.9s,baz=72,slow=4.8,SNR=6.0
ZALV LR LR 01 42 03.8
comp=E,226nm,19.5s,baz=68,slow=37
ZALV Zalesovo Beam 41.58 303 P **P 01 23 40.4 -0.4**
ZALV pP pP 01 24 10.0 +2.3
ZALV PcP PcP 01 25 36.3 +0.8
ZALV ScP ScP 01 29 15.1 +0.7
ZALV LR LR 01 42 03.8
ZAL Zalesovo 41.60 303 P **P 01 23 40.4 -0.5**
ZAL *PP pP 01 24 10.0 +2.2
ZAL 01 25 36.3
CD2 Chengdu 41.97 263 P **P 01 23 44.0 -0.2**
CD2 AP pP 01 24 11.0 -0.2
CD2 PP PP 01 25 26.3 +2.8
CD2 PCP PcP 01 25 38.0 +0.7
CD2 S **S 01 29 50.8 -3.1**
CD2 SS SS 01 32 59.0 -6.1
CD2 SCS ScS 01 33 33.0 -1.2
CD2 AMB AMB
comp=Z,310nm,1.0s,mb6.0
CD2 AMB AMB
comp=Z,580nm,4.5s
CD2 LR LR
comp=N,1μm,17.5s
CD2 LR LR
comp=E,750nm,18.0s
CD2 LR LR
comp=Z,560nm,20.5s
NVS Novosibirsk 42.07 305⇓*i*P **P 01 23 44.0 -0.7**
NVS *i* *PP pP 01 24 13.6 +1.9
NVS *i* 01 25 24.9
NVS *e* 01 25 56.8
NVS *e**SS **S 01 29 55.7 +0.9**
NVS pmax pmax
comp=E,174nm,1.8s
NVS pmax pmax
comp=Z,206nm,1.8s,mb5.6
NVS pmax pmax
comp=N,128nm,2.0s
CRAG Craig 42.62 53 *e*P **P 01 23 49.5 +0.3**
comp=N,32nm,0.8s,mb5.1
WRAK Wrangell Islan 42.64 52 *e*P **P 01 23 50.7 +1.3**
comp=N,36nm,0.2s,mb5.8
DLBC Dease Lake 43.01 48 *e*P **P 01 23 53.9 +1.7**
GYA Guiyang 43.17 255⇑*i*P **P 01 23 55.5 +1.5**
GYA AP pP 01 24 23.8 +2.7
GYA XP sP 01 24 37.0 +2.5
GYA PP PP 01 25 38.3 +1.8
GYA PCP PcP 01 25 43.8 +2.5
GYA PCS PcS 01 29 34.5 +0.4
GYA S **S 01 30 11.5 0.0**
GYA SCS ScS 01 33 40.5 -1.2
GYA AMB AMB
comp=Z,40nm,0.7s,mb5.3
GYA AMB AMB
comp=Z,190nm,5.2s
WMQ Urumqi 44.65 289 P **P 01 24 07.0 +1.4**
WMQ AP pP 01 24 34.0 +1.2
WMQ PCP PcP 01 25 48.0 +1.9
WMQ PP PP 01 25 54.0 +2.2
WMQ S **S 01 30 33.8 +1.2**
WMQ SCS ScS 01 33 50.8 +0.3
WMQ AMB AMB
comp=Z,211nm,1.2s,mb5.8
WMQ AMB AMB
comp=Z,158nm,8.6s
WMQ LR LR
comp=N,805nm,24.0s
WMQ LR LR
comp=E,787nm,28.0s
WMQ LR LR
comp=Z,605nm,24.0s
MK31 Makanchi Array 46.33 295 *i* P **P 01 24 18.6 -0.2**
MKAR Makanchi Array 46.33 295 P **P 01 24 18.8 0.0**
comp=Z,85nm,0.8s,mb5.5,baz=61,slow=7.5,SNR=411
MKAR pP pP 01 24 48.0 +1.7
comp=Z,80nm,0.9s,baz=61,slow=8.6,SNR=6.6
MKAR ScP ScP 01 29 34.4 +0.4
comp=Z,18nm,1.2s,baz=46,slow=3.5,SNR=10
MKAR LR LR 01 45 10.0
comp=Z,840nm,20.2s,baz=43,slow=38
MKAR Makanchi Array 46.33 295 P **P 01 24 18.8 0.0**
MKAR *PP pP 01 24 48.0 +1.8
MKAR Makanchi Array 46.33 295 P **P 01 24 18.8 0.0**
MKAR pP pP 01 24 48.0 +1.7
MKAR ScP ScP 01 29 34.4 +0.4
MKAR LR LR 01 45 10.0
KURK Kurchatov 46.43 302 P **P 01 24 19.6 +0.2**
SNR=84
KURK Kurchatov 46.43 302 *e*P **P 01 24 19.4 -0.1**
KURK Kurchatov 46.43 302 *i* P **P 01 24 19.3 -0.2**
KMI Kunming 46.60 258 P **P 01 24 21.8 +0.7**
KMI AP pP 01 24 47.5 -1.1
KMI PCP PcP 01 25 54.3 +1.1
KMI PP PP 01 26 11.5 -0.6
KMI S **S 01 30 58.5 -2.5**
KMI SCS ScS 01 34 02.3 -1.4
KMI AMB AMB
comp=Z,87nm,2.0s,mb5.1
KMI AMB AMB
comp=Z,595nm,10.4s
KMI LR LR
comp=N,475nm,15.3s
KMI LR LR
comp=E,377nm,15.3s
QIZ Qiongzhong 46.76 245 P **P 01 24 24.0 +1.5**
QIZ PP PP 01 26 14.3 +0.5
QIZ S **S 01 31 01.5 -1.9**
QIZ AMB AMB
comp=Z,176nm,1.4s,mb5.6
QIZ AMB AMB
comp=Z,439nm,5.9s
QIZ Qiongzhong 46.76 245 *e*P **P 01 24 24.3 +1.8**
comp=Z,398nm,1.4s,mb6.0
KIP Kipapa 46.89 109 *d i*P **P 01 24 21.2 -2.2**
RES Resolute Bay 47.79 20 *e*P **P 01 24 30.3 +0.6**
YKW3 Yellowknife Ar 48.07 39 *e*P **P 01 24 31.9 -0.1**
YKA Yellowknife Ar 48.10 39 P **P 01 24 32.5 +0.3**
comp=Z,41nm,0.6s,mb5.4,baz=299,slow=7.4,SNR=140
YKA pP pP 01 24 59.2 -0.6
comp=Z,8.5nm,0.7s,baz=306,slow=8.9,SNR=2.6
YKA ScP ScP 01 29 41.5 +0.4
comp=Z,2.2nm,1.0s,baz=293,slow=4.6,SNR=3.7
YKA LR LR 01 45 39.5
comp=Z,97nm,21.5s,baz=130,slow=37
YKA Yellowknife Ar 48.10 39 P **P 01 24 32.5 +0.2**
YKA *PP pP 01 24 59.2 -0.7
YKA Yellowknife Ar 48.10 39 P **P 01 24 32.5 +0.3**
YKA pP pP 01 24 59.2 -0.6
YKA ScP ScP 01 29 41.5 +0.4
YKA LR LR 01 45 39.5
VOSK Vostochnaya 49.48 307 P **P 01 24 42.4 -0.5**
VOSK pmax pmax
comp=Z,82nm,1.1s,mb5.6
BVA0 Borovoye Array 49.63 308 *i* P **P 01 24 43.6 -0.4**
BVA0 pmax pmax
comp=Z,29nm,1.6s,mb5.0
BRVK Borovoye 49.66 308 P **P 01 24 44.7 +0.4**
SNR=40
BRVK Borovoye 49.66 308 *e*P **P 01 24 44.6 +0.3**
BRVK pmax pmax
comp=Z,19nm,0.8s,mb5.1
BRVK Borovoye 49.66 308 *e*P **P 01 24 44.6 +0.3**
comp=Z,19nm,0.8s,mb5.1
POHA Pohakuloa 49.67 108 *e*P **P 01 24 44.0 -0.8**
comp=Z,498nm,1.2s,mb6.3
KBS Kingsbay 49.70 351 *e*P **P 01 24 42.9 -1.4**
KHU Kahuku 50.00 109 *e*P **P 01 24 46.5 -0.8**
STCH Steam Cracks 50.20 108 *e*P **P 01 24 47.8 -1.0**
C03A Quillayute Air 50.94 59⇑P **P 01 24 53.8 -0.1**
baz=51
LSA Lhasa 50.94 272 P **P 01 24 56.0 +1.8**
LSA Lhasa 50.94 272 *e*P **P 01 24 56.3 +2.1**
LSA pmax pmax
comp=Z,44nm,0.8s,mb5.5
LSA Lhasa 50.94 272 *e*P **P 01 24 56.3 +2.0**
comp=Z,44nm,0.8s,mb5.5
PGC Sidney 51.15 58 *e*P **P 01 24 55.3 -0.3**
OBC Olympics--Boni 51.16 58 P **P 01 24 55.7 +0.1**
B04A Port Angeles 51.46 58⇑P **P 01 24 57.7 -0.2**
baz=51
A04A Legoe Bay, Lum 51.52 57⇓P **P 01 24 58.0 -0.3**
baz=51,SNR=7.8
NLWA Neilton Lookou 51.64 59⇓P **P 01 24 59.5 +0.3**
baz=51
NLWA Neilton Lookou 51.64 59 *e*P **P 01 24 59.3 +0.1**
comp=Z,48nm,1.1s,mb5.4
NLWA *e*pP pP 01 25 26.6 -0.5
A05A Maple Falls 51.70 57⇓P **P 01 24 59.0 -0.6**
baz=52
D03A Wishkah Elem. 51.85 59⇓P **P 01 25 01.1 +0.4**
baz=52
C04A Brinnon 51.95 58⇑P **P 01 25 01.2 -0.3**
baz=52
A06A Chilliwack 51.97 56⇑P **P 01 25 00.9 -0.7**
baz=52
B05A Bryant 52.12 57⇓P **P 01 25 02.3 -0.4**
baz=52,SNR=18
SVE Sverdlovsk 52.23 316⇑*e*P **P 01 25 03.9 +0.5**
SVE *e* 01 25 52.5
SVE *e*S **S 01 32 22.7 +4.0**
SVE *e*SS SS 01 35 54.1 -2.8
SVE pmax pmax
comp=Z,173nm,1.5s,mb5.9
SVE MLR MLR
comp=Z,534nm,18.0s
JCW Jim Creek 52.25 57 *e*P **P 01 25 03.6 -0.1**
JCW *e*pP pP 01 25 31.4 -0.3
E03A Lebam 52.30 60⇑P **P 01 25 03.8 -0.3**
baz=52,SNR=8.9
B06A Marblemount 52.30 57⇑P **P 01 25 03.3 -0.8**
baz=52,SNR=6.7
SOKR Solikamsk 52.30 320 *d i*P **P 01 25 04.4 +0.5**
SOKR *e* pP 01 25 36.3 +4.4
SOKR pmax pmax
comp=Z,100nm,1.1s,mb5.8
RPW Rockport 52.33 57 P **P 01 25 03.6 -0.7**
RPW *e*pP pP 01 25 31.6 -0.7
D04A Dobbs Creek Ra 52.39 59⇑P **P 01 25 05.1 +0.3**
baz=52
TKM2 Tokmak 2 52.44 295 P **P 01 25 05.8 +0.6**
SNR=59
BMW Boistfort Moun 52.53 60 *e*P **P 01 25 05.9 +0.1**
A07A Ashnola River, 52.59 56⇑P **P 01 25 05.9 -0.3**
baz=52,SNR=33
F03A Seaside 52.66 60⇓P **P 01 25 06.6 -0.2**
baz=52
C05A Tolt Reservoir 52.67 58⇑P **P 01 25 06.1 -0.7**
baz=52,SNR=11
E04A Onalaska 52.74 59⇑P **P 01 25 07.4 0.0**
baz=52
D05A Enumclaw 52.80 58⇓P **P 01 25 07.5 -0.3**
baz=53,SNR=5.1
USP Ospenovka 52.88 296 P **P 01 25 09.0 +0.6**
SNR=85
CHMS Chumysh 52.89 295 P **P 01 25 08.9 +0.4**
SNR=21
KDM Kudat 52.94 229⇓P **P 01 25 09.8 +0.6**
C06A Tall Timber Ra 52.97 57⇓P **P 01 25 08.8 -0.2**
baz=53
KBK Karagaybulak 52.98 295 P **P 01 25 09.9 +0.7**
SNR=20
FRU Bishkek 53.07 295⇓*i*P **P 01 25 10.0 +0.1**
FRU *e* pP 01 25 39.0 +1.1
FRU *e* 01 32 31.0
FRU pmax pmax
comp=Z,200nm,2.0s,mb5.8
B07A Winthrop 53.07 56⇓P **P 01 25 09.3 -0.5**
baz=53,SNR=19
KZA Kyzart 53.15 294 P **P 01 25 11.9 +1.4**
SNR=49
LON Longmire 53.16 59 *e*P **P 01 25 10.1 -0.3**
G03A Yamhill 53.18 61⇓P **P 01 25 11.0 +0.4**
baz=53
A08A Turner Farm, O 53.24 55⇑P **P 01 25 10.5 -0.4**
baz=53,SNR=22
AAK Ala-Archa 53.27 295 P **P 01 25 11.9 +0.6**
SNR=24
E05A Randle 53.30 59⇓P **P 01 25 10.6 -0.8**
baz=53,SNR=11
F04A Amboy 53.30 60⇓P **P 01 25 10.8 -0.7**
baz=53,SNR=9.8
ARU Arti 53.39 316 P **P 01 25 11.8 -0.2**
ARU *e*S **S 01 32 31.7 -2.8**
ARU *e*SS SS 01 36 02.1 -13
ARU pmax pmax
comp=Z,45nm,1.3s,mb5.3
ARU MLR MLR
comp=Z,545nm,20.0s
ARU Arti 53.39 316 *e*P **P 01 25 11.8 -0.1**
comp=Z,451nm,1.3s,mb6.3
ARU *e*pP pP 01 25 41.6 +1.5
D06A Cle Elum 53.43 58⇑P **P 01 25 12.2 -0.2**
baz=53
ETW Entiat 53.46 57 *e*P **P 01 25 12.4 -0.2**
ETW *e*pP pP 01 25 40.5 -0.2
UCH Uchtor 53.50 295 P **P 01 25 13.9 +0.9**
SNR=14
B08A Colville Reser 53.56 56⇓P **P 01 25 13.0 -0.3**
baz=53,SNR=35
H03A Soap Creek Ran 53.56 62⇓P **P 01 25 14.0 +0.6**
baz=53
C07A Waterville 53.56 57⇑P **P 01 25 12.5 -0.8**
baz=53,SNR=15
TBM Table Mountain 53.58 58 P **P 01 25 13.2 -0.2**
A09A Danville 53.59 55⇑P **P 01 25 13.3 -0.3**
baz=53,SNR=51
CHTO Chiang Mai 53.59 256⇓P **P 01 25 14.9 +0.9**
SNR=75
CHTO Chiang Mai 53.59 256 P **P 01 25 14.7 +0.8**
CHTO pmax pmax
comp=Z,150nm,1.0s,mb6.0
CHTO Chiang Mai 53.59 256 *e*P **P 01 25 14.6 +0.7**
comp=Z,150nm,1.0s,mb6.0
I02A Mapleton 53.65 62⇑P **P 01 25 14.4 +0.3**
baz=54
EKS2 Erkin-Say 53.67 295 P **P 01 25 14.9 +0.7**
SNR=35
G04A Mulino 53.70 61⇓P **P 01 25 13.7 -0.7**
baz=54
DAG Danmarks Havn 53.72 358⇑*i*P **P 01 25 12.5 -1.6**
DAG *i* 01 26 18.4
DAG pmax pmax
comp=Z,70nm,0.9s,mb5.7
DAG Danmarks Havn 53.72 358⇑*i*P **P 01 25 12.5 -1.6**
comp=Z,6.7nm,0.9s,mb4.7
DAG *i* 01 26 18.4
EDM Edmonton 53.73 48 P **P 01 25 14.5 0.0**
EDM Edmonton 53.73 48 *e*P **P 01 25 14.3 -0.2**
EDM *e*pP pP 01 25 41.7 -0.9
E06A Yakima 53.74 58⇓P **P 01 25 14.5 -0.2**
baz=54,SNR=16
EBG Ellensburg 53.75 58 P **P 01 25 14.7 0.0**
CMAR Chiang Mai Arr 53.86 255 P **P 01 25 17.1 +1.2**
comp=Z,57nm,0.9s,mb5.6,baz=26,slow=7.4,SNR=193
CMAR pP pP 01 25 46.0 +2.0
comp=Z,12nm,0.9s,baz=31,slow=5.9,SNR=1.4
CMAR PcP PcP 01 26 20.4 +0.4
comp=Z,10.0nm,0.6s,baz=15,slow=2.6,SNR=7.1
CMAR ScP ScP 01 30 07.8 +1.1
comp=Z,12nm,1.0s,baz=19,slow=3.8,SNR=12
CMAR Chiang Mai Arr 53.86 255 P **P 01 25 17.1 +1.2**
CMAR *PP pP 01 25 46.1 +2.1
CMAR 01 26 20.4
SDKM Sandakan 53.87 228⇑P **P 01 25 17.0 +1.0**
F05A White Salmon 53.87 59⇑P **P 01 25 14.8 -0.8**
baz=54,SNR=6.6
D07A Quincy 53.90 57⇑P **P 01 25 15.1 -0.8**
baz=54,SNR=7.8
I03A Eugene 53.99 62⇑P **P 01 25 16.8 +0.3**
baz=54,SNR=5.5
KKM Kota Kinabalu 53.99 229⇑P **P 01 25 18.6 +1.7**
AML Almayashu 54.04 295 P **P 01 25 17.5 +0.6**
SNR=30
AML Almayashu 54.04 295 *e*P **P 01 25 17.4 +0.5**
comp=Z,92nm,1.3s,mb5.7
C08A Higginbotham F 54.05 56⇓P **P 01 25 16.3 -0.7**
baz=54,SNR=19
HOOD Mount Hood Mea 54.10 60 *e*P **P 01 25 17.2 -0.1**
comp=Z,78nm,1.0s,mb5.7
HOOD *e*pP pP 01 25 45.1 -0.3
A10A Northport 54.13 54⇓P **P 01 25 17.1 -0.4**
baz=54,SNR=16
B09A Rice 54.15 55⇓P **P 01 25 17.2 -0.4**
baz=54,SNR=13
H04A Detroit Lake 54.18 61⇓P **P 01 25 17.8 -0.1**
baz=54,SNR=11
J02A Umpqua 54.19 63⇑P **P 01 25 18.6 +0.6**
baz=54,SNR=17
VFP Flag Point 54.20 60 P **P 01 25 18.2 +0.1**
KSH Kashi 54.29 291 P **P 01 25 20.8 +2.0**
KSH AP pP 01 25 49.5 +2.6
KSH XP sP 01 26 04.5 +4.4
KSH PCP PcP 01 26 22.8 +1.4
KSH PP PP 01 27 25.8 +4.3
KSH SCP ScP 01 30 07.0 -1.3
KSH PCS PcS 01 30 21.0 +0.1
KSH S **S 01 32 45.8 -1.3**
KSH SCS ScS 01 34 53.5 -2.5
KSH SS SS 01 36 29.3 -0.9
KSH LR LR
comp=Z,2μm,16.2s
KSH LR LR
comp=N,1μm,8.6s
KSH LR LR
comp=E,1μm,8.3s
F06A Goldendale 54.32 59⇑P **P 01 25 18.5 -0.4**
baz=54
G05A Wamic 54.34 60⇓P **P 01 25 18.9 -0.1**
baz=54,SNR=12
E07A Sunnyside 54.35 58⇑P **P 01 25 18.7 -0.4**
baz=54,SNR=6.4
LVZ Lovozero 54.38 336 *i* P **P 01 25 17.8 -1.2**
LVZ Lovozero 54.38 336 *i* P **P 01 25 17.8 -1.2**
C09A Chrisman Ranch 54.46 56⇓P **P 01 25 19.4 -0.4**
baz=54,SNR=8.6
OD2 Odessa Site #2 54.47 56 *e*P **P 01 25 19.2 -0.7**
OD2 *e*pP pP 01 25 47.5 -0.7
D08A Wollman Farm, 54.56 57⇓P **P 01 25 19.9 -0.7**
baz=54,SNR=8.7
I04A Tendick Farm, 54.59 62⇑P **P 01 25 20.9 0.0**
baz=54,SNR=22
RSW Rattlesnake Hi 54.59 58 *e*P **P 01 25 21.0 +0.1**
RSW *e*pP pP 01 25 48.1 -0.9
K02A Glendale 54.60 64⇓P **P 01 25 21.3 +0.4**
baz=54,SNR=9.0
HAWA Hanford 54.63 58 *e*P **P 01 25 20.8 -0.3**
comp=E,40nm,1.3s,mb5.3
HAWA *e*pP pP 01 25 48.6 -0.7
F07A Phinny Hill Vi 54.71 59⇓P **P 01 25 21.9 +0.2**
baz=54,SNR=16
TSM Tawau 54.72 226⇑P **P 01 25 22.9 +0.8**
B10A Chitwood Farm, 54.72 55⇑P **P 01 25 21.2 -0.5**
baz=54
G06A Carlson Farm, 54.72 60⇓P **P 01 25 21.8 0.0**
baz=54,SNR=5.5
H05A Madras 54.75 60⇑P **P 01 25 22.0 0.0**
baz=54
TAPN Taplejung 54.75 272 *e*P **P 01 25 23.8 +1.5**
comp=E,140nm,1.0s,mb6.0
WIFE Three Sisters- 54.77 61 P **P 01 25 22.6 +0.4**
A11A Hall Mountain, 54.77 54⇑P **P 01 25 22.4 +0.3**
baz=55,SNR=20
NEW Newport 54.79 55 P **P 01 25 21.7 -0.6**
NEW pmax pmax
comp=Z,27nm,1.0s
NEW Newport 54.79 55 *e*P **P 01 25 21.7 -0.6**
comp=Z,27nm,1.1s,mb5.2
NEW *e*pP pP 01 25 49.7 -0.8

KEV **Kevo** 54.83 340 *ep* P 01 25 20.7 -1.5
comp=Z,9.2nm,0.6s,mb5.0
KEV **Kevo** 54.83 340 *eP* P 01 25 20.7 -1.5
KEV pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
E08A **Dider Farm, El** 54.83 58 ⇑P P 01 25 21.6 -0.9
baz=55
D09A **Jones Farm, Ri** 54.89 57 ⇑P P 01 25 21.9 -1.0
baz=55,SNR=9.4
L02A **Cave Junction** 54.91 64 ⇓P P 01 25 23.2 0.0
baz=55,SNR=10
APA **Apatity** 54.94 336 ⇓*i*P P 01 25 22.5 -0.6
APA *i* pP 01 25 54.5 +3.2
APA *i* 01 26 23.7
APA *i* S S 01 33 00.0 +4.9
APA pmax pmax
comp=Z,77nm,1.6s,mb5.5
APA MLR MLR
comp=Z,700nm,18.0s
C10A **Spilker Farm,** 54.97 55 ⇑P P 01 25 23.0 -0.5
baz=55
BBOR **Butler Butte** 55.00 63 P P 01 25 24.6 +0.8
HUMO **Hull Mountain** 55.01 63 ⇑P P 01 25 24.4 +0.4
baz=55,SNR=13
HUMO **Hull Mountain** 55.01 63 *eP* P 01 25 24.2 +0.3
comp=Z,57nm,1.4s,mb5.4
HUMO *ep*P pP 01 25 51.9 -0.3
I05A **Bend** 55.02 61 ⇓P P 01 25 24.4 +0.4
baz=55,SNR=7.1
B11A **Sandpoint** 55.09 54 ⇓P P 01 25 24.7 +0.3
baz=55,SNR=7.9
J04A **Umpqua Nationa** 55.11 62 ⇑P P 01 25 25.3 +0.6
baz=55,SNR=20
A12A **Yaak River Ran** 55.16 53 ⇑P P 01 25 25.5 +0.6
baz=55,SNR=6.9
H06A **Lindquist Farm** 55.20 60 ⇑P P 01 25 24.9 -0.3
baz=55,SNR=12
KTRM **Thompson Ridge** 55.20 64 P P 01 25 26.1 +0.8
G07A **Ruggs Ranch, H** 55.24 59 ⇓P P 01 25 24.6 -0.9
baz=55,SNR=11
KK31 **Karatay Array** 55.30 298 *i* P P 01 25 25.1 -0.9
KK31 pmax pmax
comp=Z,58nm,1.2s,mb5.5
KK31 **Karatay Array** 55.30 298 *i* P P 01 25 25.2 -0.8
ODAN **Odare** 55.30 272 *eP* P 01 25 26.7 +0.5
comp=Z,43nm,0.5s,mb5.7
E09A **Wood Farm, Sta** 55.31 57 ⇓P P 01 25 25.8 -0.2
baz=55,SNR=24
ARCES **ARCESS Array B** 55.33 341 P P 01 25 24.5 -1.3
comp=Z,13nm,0.8s,mb5.0,baz=42,slow=7.8,SNR=63
ARCES pP pP 01 25 56.1 +2.0
comp=Z,23nm,1.1s,baz=46,slow=8.7,SNR=4.1
ARCES PcP PcP 01 26 24.1 -0.7
comp=Z,8.0nm,0.8s,baz=6.9,slow=4.0,SNR=7.6
ARCES ScP ScP 01 30 13.5 +1.2
comp=Z,3.6nm,1.0s,baz=46,slow=5.2,SNR=3.7
ARCES LR LR 01 55 49.7
comp=Z,509nm,18.3s,baz=13,slow=43
ARCES **ARCESS Array B** 55.33 341 P P 01 25 24.5 -1.3
ARCES *PP pP 01 25 56.1 +2.1
ARCES 01 26 24.1
ARCES **ARCESS Array B** 55.33 341 P P 01 25 24.5 -1.3
ARCES pP pP 01 25 56.1 +2.0
ARCES PcP PcP 01 26 24.1 -0.7
ARCES ScP ScP 01 30 13.5 +1.2
ARCES LR LR 01 55 49.7
F08A **Pendleton** 55.41 58 ⇑P P 01 25 26.5 -0.3
baz=55
B12A **Libby** 55.48 54 ⇑P P 01 25 26.7 -0.4
baz=55
JCC **Jacoby Creek** 55.49 66 ⇓P P 01 25 28.0 +0.6
baz=55
JIRN **Jiri** 55.53 273 *eP* P 01 25 29.3 +1.5
comp=Z,18nm,0.2s,mb5.7
GUN **Gumba** 55.56 274 *eP* P 01 25 29.5 +1.4
comp=Z,94nm,0.4s,mb6.1
J05A **Fort Rock** 55.58 62 ⇓P P 01 25 28.9 +0.9
baz=55,SNR=63
G08A **Pilot Rock** 55.62 59 ⇑P P 01 25 28.2 -0.1
baz=55,SNR=14
BUOR **Burton Butte** 55.63 63 P P 01 25 29.0 +0.6
LNOR **Lincton Mounta** 55.63 58 *eP* P 01 25 28.3 0.0
LNOR *ep*P pP 01 25 56.3 -0.3
YBH **Yreka Blue Hor** 55.70 64 ⇑P P 01 25 29.3 +0.4
baz=56,SNR=22
K04A **Chilquin** 55.72 63 ⇑P P 01 25 29.3 +0.4
baz=56
H07A **Lands Inn, Kim** 55.72 60 ⇑P P 01 25 28.6 -0.4
baz=56,SNR=9.8
RAMN **Ramite** 55.75 272 *eP* P 01 25 30.0 +0.6
comp=Z,318nm,0.8s,mb6.4
I06A **Prineville** 55.76 61 ⇓P P 01 25 29.5 +0.2
baz=56,SNR=19
M02C **Callahan** 55.83 64 ⇓P P 01 25 30.6 +0.9
baz=56,SNR=12
E10A **Myers Farm, Un** 55.89 57 ⇑P P 01 25 29.5 -0.7
baz=56,SNR=12
L04A **Klamath Falls** 55.90 63 ⇓P P 01 25 30.9 +0.7
baz=56,SNR=12
N02C **Big Bar** 55.92 65 ⇓P P 01 25 30.9 +0.5
baz=56,SNR=5.8
F09A **S2 Ranch, Elgi** 55.94 58 ⇓P P 01 25 30.3 -0.2
baz=56,SNR=5.9
D11A **Klaveano Farm,** 55.96 56 ⇓P P 01 25 30.1 -0.6
baz=56,SNR=28
WALA **Waterton Lakes** 55.98 52 *eP* P 01 25 30.8 0.0
comp=Z,36nm,0.8s,mb5.5
WALA *ep*P pP 01 25 58.5 -0.6
KKN **Kakani** 56.03 274 *eP* P 01 25 32.0 +0.6
comp=Z,168nm,0.9s,mb6.0
KKN **Kakani** 56.03 274 *eP* P 01 25 32.0 +0.6
KKN pmax pmax
comp=Z,168nm,0.9s,mb6.1
O01C **Eel River Cons** 56.04 66 ⇓P P 01 25 31.9 +0.5
baz=56
I07A **Izee** 56.07 60 ⇓P P 01 25 31.7 +0.3
baz=56,SNR=25
PKI **Pulchoki** 56.09 274 *eP* P 01 25 32.5 +0.6
comp=Z,209nm,1.1s,mb6.1
PKI **Pulchoki** 56.09 274 *eP* P 01 25 32.5 +0.6
PKI pmax pmax
comp=Z,209nm,1.1s,mb6.1
PKIN **Phulchoki** 56.10 274 *eP* P 01 25 32.2 +0.3
comp=Z,265nm,1.4s,mb6.1
B13A **Whitefish** 56.12 53 ⇑P P 01 25 31.8 0.0
baz=56,SNR=27
K05A **Summer Lake** 56.13 62 ⇓P P 01 25 33.1 +1.2
baz=56,SNR=44
F10A **Beach Ranch, E** 56.15 57 ⇑P P 01 25 31.6 -0.4
baz=56,SNR=11
M04C **Macdoel** 56.17 64 ⇑P P 01 25 32.7 +0.5
baz=56,SNR=14
J06A **Christmas Vall** 56.22 61 ⇑P P 01 25 33.2 +0.7
baz=56,SNR=66
KTK1 **Kautokeino** 56.23 341 *eP* P 01 25 30.6 -1.6
KTK1 AMb AMB 01 25 34.2
comp=Z,81nm,1.9s,mb5.4
H08A **Prairie City** 56.26 59 ⇓P P 01 25 33.0 +0.2
baz=56,SNR=31
DMN **Daman** 56.27 274 *eP* P 01 25 33.9 +0.8
comp=Z,421nm,1.1s,mb6.4
G09A **Cove** 56.28 58 ⇓P P 01 25 32.8 -0.2
baz=56,SNR=6.5
GKN **Gorkha** 56.30 275 *eP* P 01 25 34.7 +1.4
comp=Z,101nm,1.0s,mb5.8
M03C **McCloud** 56.33 64 ⇑P P 01 25 33.8 +0.4
baz=56,SNR=5.0
K06A **Valley Falls** 56.45 62 ⇑P P 01 25 34.8 +0.6
baz=56,SNR=84
KIPM **Iron Peak** 56.45 66 *eP* P 01 25 34.7 +0.4
KIPM *ep*P pP 01 26 02.2 -0.4
E11A **Bogner Ranch,** 56.46 56 ⇓P P 01 25 33.2 -1.1
baz=56,SNR=19
C13A **Hot Springs** 56.50 54 ⇓P P 01 25 34.7 +0.2
baz=56,SNR=18
WDC **Whiskeytown Da** 56.52 65 ⇑P P 01 25 34.8 +0.1
baz=56,SNR=13
L05A **Lakeview** 56.59 63 ⇓P P 01 25 36.0 +0.9
baz=56,SNR=33
TRO **Tromso** 56.59 343 *eP* P 01 25 33.1 -1.6
TRO AMb AMB 01 25 36.5
comp=Z,67nm,1.9s,mb5.3
J07A **Hines** 56.62 61 ⇑P P 01 25 36.0 +0.6
baz=56,SNR=20
DANN **Dangsing** 56.63 276 *eP* P 01 25 36.6 +0.9
comp=Z,335nm,1.1s,mb6.3
O02C **Red Bluff** 56.63 66 ⇓P P 01 25 36.2 +0.7
baz=56,SNR=11
G10A **Bishop Farm, J** 56.63 58 ⇓P P 01 25 35.4 -0.1
baz=56,SNR=28
I08A **Drewsey** 56.70 60 ⇓P P 01 25 36.3 +0.4
baz=56,SNR=36
H09A **Durkee** 56.73 59 ⇑P P 01 25 36.4 +0.3
baz=56,SNR=15
P01C **Double 8 Ranch** 56.76 67 ⇓P P 01 25 36.5 +0.1
baz=57
LTIM **Timbered Crate** 56.76 64 P P 01 25 36.9 +0.5
F11A **Grangeville** 56.78 57 ⇑P P 01 25 36.2 -0.3
baz=57
BMO **Blue Mountains** 56.81 58 *eP* P 01 25 36.9 +0.2
comp=Z,31nm,1.1s,mb5.2
BMO *ep*P pP 01 26 04.3 -0.8
M05C **Lookout** 56.84 64 ⇓P P 01 25 37.2 +0.2
baz=57,SNR=25
D13A **Huson** 56.93 55 ⇑P P 01 25 37.0 -0.5
baz=57,SNR=19
MOD **Modoc** 56.99 63 ⇑P P 01 25 38.2 +0.2
baz=57,SNR=35
MOD **Modoc** 56.99 63 *eP* P 01 25 38.0 0.0
comp=Z,100nm,1.3s,mb5.7
MOD *ep*P pP 01 26 06.3 -0.1
HATC **Hat Creek Radi** 57.01 64 ⇓P P 01 25 38.3 +0.2
baz=57,SNR=9.5
GASB **Alder Springs** 57.01 66 ⇑P P 01 25 39.0 +0.9
baz=57,SNR=14
G11A **Walters Elk Ra** 57.03 57 ⇓P P 01 25 38.2 -0.1
baz=57,SNR=30
K07A **Rock Creek Ran** 57.09 61 ⇑P P 01 25 39.5 +0.8
baz=57,SNR=40
J08A **Circle Bar Ran** 57.10 60 ⇑P P 01 25 39.2 +0.4
baz=57,SNR=31
I09A **Lost Marbles R** 57.12 59 ⇑P P 01 25 38.6 -0.3
baz=57
KOLN **Koldanda** 57.13 275 *eP* P 01 25 39.4 +0.2
comp=Z,260nm,1.1s,mb6.2
AB31 **Akbulak array** 57.16 309 *i* P P 01 25 38.8 -0.3
O03C **Acorn Hollow,** 57.19 65 ⇓P P 01 25 40.2 +0.7
baz=57
H10A **Noah's Angus R** 57.28 58 ⇓P P 01 25 40.3 +0.2
baz=57,SNR=41
M06C **Likely Place G** 57.33 63 ⇑P P 01 25 40.7 +0.3
baz=57,SNR=8.7
F12A **Elk City** 57.36 56 ⇓P P 01 25 40.5 -0.1
baz=57,SNR=33
MSO **Missoula** 57.37 55 *eP* P 01 25 40.6 0.0
comp=Z,28nm,1.1s,mb5.2
MSO *ep*P pP 01 26 09.1 +0.1
D14A **Greenough** 57.44 54 ⇓P P 01 25 40.8 -0.3
baz=57,SNR=44
L07A **Adell** 57.47 62 ⇑P P 01 25 42.0 +0.6
baz=57,SNR=26
E13A **Victor** 57.49 55 ⇓P P 01 25 41.0 -0.5
baz=57,SNR=17
K08A **Mann Creek Ran** 57.50 61 ⇓P P 01 25 42.1 +0.5
baz=57,SNR=38
J09A **Fry Pan Ranch,** 57.52 60 ⇓P P 01 25 42.2 +0.5
baz=57,SNR=13
O04C **Chester** 57.54 64 ⇓P P 01 25 42.4 +0.5
baz=57,SNR=11
ELFS **Eagle Lake Fie** 57.56 64 ⇑P P 01 25 42.3 +0.3
baz=57
I10A **Payette** 57.57 59 ⇑P P 01 25 42.7 +0.6
baz=57,SNR=18
WVOR **Wild Horse Val** 57.60 61 *eP* P 01 25 42.5 +0.2
WVOR *e*PP pP 01 26 10.8 0.0
WVOR pmax pmax
comp=Z,44nm,1.0s,mb5.4
WVOR **Wild Horse Val** 57.60 61 *eP* P 01 25 42.5 +0.2
comp=Z,44nm,1.0s,mb5.4
WVOR *ep*P pP 01 26 10.8 +0.1
H11A **Donnelly** 57.62 58 ⇑P P 01 25 42.3 -0.1
baz=57,SNR=58
MNRC **McLaughlin Nat** 57.67 67 ⇓P P 01 25 43.2 +0.3
baz=58,SNR=13
CHMT **Chamberlain Mo** 57.68 54 *eP* P 01 25 42.7 -0.1
CHMT *ep*P pP 01 26 10.9 -0.4
SUMG **Summit** 57.70 5 *eP* P 01 25 42.2 -0.3
comp=Z,37nm,1.1s,mb5.3
ORV **Oroville** 57.79 65 ⇑P P 01 25 42.9 -0.7
baz=58,SNR=21
F13A **Darby** 57.83 56 ⇓P P 01 25 43.3 -0.6
baz=58,SNR=18
SUTB **Sutter Butte** 57.83 66 ⇑P P 01 25 43.1 -0.9
baz=58
JOSI **Joshimath** 57.84 281 *eP* P 01 25 44.7 +0.5
JOSI AMb AMB 01 25 46.5
comp=Z,232nm,1.0s,mb6.2
O05C **Quincy** 57.87 65 ⇓P P 01 25 44.3 0.0
baz=58,SNR=9.0
E14A **Clinton** 57.88 55 ⇑P P 01 25 44.0 -0.1
baz=58,SNR=24
L08A **Fields** 57.92 61 ⇓P P 01 25 44.9 +0.3
baz=58,SNR=21
OHCM **Honcut** 57.94 66 *eP* P 01 25 44.1 -0.6
OHCM *ep*P pP 01 26 12.4 -0.8
K09A **Rome** 57.95 60 ⇑P P 01 25 44.9 +0.2
baz=58,SNR=22
D15A **Lincoln** 57.98 54 ⇓P P 01 25 44.8 -0.1
baz=58,SNR=14
FFC **Flin Flon** 57.99 42 *eP* P 01 25 44.8 0.0
FFC *e*PP pP 01 26 13.5 +0.2
FFC pmax pmax
comp=Z,127nm,1.1s,mb5.9
FFC **Flin Flon** 57.99 42 *eP* P 01 25 44.8 0.0
comp=Z,127nm,1.1s,mb5.9
FFC *ep*P pP 01 26 13.5 +0.2
N06A **Buffalo Meadow** 58.00 63 ⇑P P 01 25 45.4 +0.3
baz=58,SNR=42
BTM **Bintulu** 58.00 231 ⇑P P 01 25 46.1 +0.7
CVS **Carmenet Viney** 58.00 67 ⇑P P 01 25 45.0 -0.2
baz=58
J10A **Berg Farm, Mel** 58.02 59 ⇑P P 01 25 45.0 -0.2
baz=58
KLP **Kalpa** 58.02 282 *eP* P 01 25 46.0 +0.6
KLP AMb AMB 01 25 47.9
comp=Z,44nm,0.5s,mb5.8
Q03C **Winters** 58.08 67 ⇓P P 01 25 46.4 +0.7
baz=58
FARB **Farallon Islan** 58.10 68 ⇑P P 01 25 45.6 -0.3
baz=58
I11A **Placerville** 58.15 58 ⇑P P 01 25 46.0 -0.1
baz=58,SNR=9.6
BEKR **Beckwourth** 58.26 64 ⇑P P 01 25 47.1 +0.1
baz=58,SNR=24
E15A **Deer Lodge** 58.32 54 ⇓P P 01 25 47.2 0.0
baz=58,SNR=19
Q04C **Lincoln** 58.33 66 ⇓P P 01 25 46.9 -0.5
baz=58
F14A **Wisdom** 58.33 55 ⇑P P 01 25 47.4 0.0
baz=58,SNR=5.5
G13A **Cobalt** 58.33 56 ⇓P P 01 25 47.2 -0.2
baz=58,SNR=49
H12A **Diamond D Ranc** 58.35 57 ⇑P P 01 25 47.1 -0.3
baz=58,SNR=18
FCC **Fort Churchill** 58.37 35 P P 01 25 47.6 +0.2
FCC pmax pmax
comp=Z,48nm,0.5s,mb5.8
FCC **Fort Churchill** 58.37 35 *eP* P 01 25 47.6 +0.2
comp=Z,48nm,0.5s,mb5.8
O06A **Flanigan** 58.38 64 ⇑P P 01 25 48.0 +0.3
baz=58,SNR=45
K10A **MacKenzie Ranc** 58.38 60 ⇑P P 01 25 48.4 +0.6
baz=58,SNR=30
M08A **Happy Creek Ra** 58.38 62 ⇓P P 01 25 48.4 +0.6
baz=58,SNR=32
BOK **Bokaro** 58.40 270 *eP* P 01 25 48.9 +0.8
BOK AMb AMB 01 25 52.0
comp=Z,80nm,1.4s,mb5.6
L09A **Wilkinson Ranc** 58.42 61 ⇓P P 01 25 48.3 +0.3
baz=58
N07B **Gerlach** 58.48 63 ⇑P P 01 25 48.8 +0.4
baz=58,SNR=28
P05C **Yuba Gap, Truc** 58.48 65 ⇓P P 01 25 48.2 -0.3
baz=58,SNR=7.7
MFID **Camas Ranch** 58.55 59 ⇓P P 01 25 49.0 +0.2
baz=58,SNR=14
HRY **Holter Researc** 58.56 54 *eP* P 01 25 48.4 -0.6
G14A **Jackson** 58.65 56 ⇑P P 01 25 48.9 -0.7
baz=58
P06A **Stead Airport,** 58.65 64 ⇓P P 01 25 50.0 +0.4
baz=58
LAVA **Lava Cap Winer** 58.76 66 ⇑P P 01 25 49.9 -0.6
baz=59,SNR=17
EGMT **Eagleton** 58.77 51 ⇓P P 01 25 50.1 -0.3
baz=58
EGMT **Eagleton** 58.77 51 *eP* P 01 25 50.2 -0.1
comp=Z,105nm,1.6s,mb5.6
EGMT *ep*P pP 01 26 18.5 -0.4
F15A **Butte** 58.78 55 ⇓P P 01 25 50.3 -0.1
baz=59,SNR=34
K11A **Parker Ranch,** 58.85 59 ⇓P P 01 25 51.2 +0.2
baz=59,SNR=17
WENL **Wente Brothers** 58.90 67 ⇑P P 01 25 51.5 +0.1
baz=59
M09A **Marrel Ranch,** 58.93 61 ⇓P P 01 25 51.8 +0.2
baz=59,SNR=20
O07A **Toulon** 58.93 63 ⇑P P 01 25 51.9 +0.3
baz=59,SNR=58
PAHR **Pah Rah Range** 58.93 64 *eP* P 01 25 51.6 0.0
comp=Z,62nm,1.1s,mb5.5
PAHR *ep*P pP 01 26 19.7 -0.5
N08A **GE Springer Mi** 58.96 62 ⇓P P 01 25 51.8 +0.1
baz=59,SNR=23
DDI **Dehra Dun** 58.96 281 *ex* x 01 25 49.8
BNLO **Ben Lomond (Sa** 58.97 68 ⇑P P 01 25 51.8 0.0
baz=59
R04C **Big Horse Ranc** 58.97 66 ⇓P P 01 25 51.4 -0.5
baz=59
WCN **Washoe City** 58.98 65 ⇓P P 01 25 52.2 +0.3
baz=59,SNR=10
SMLA **Simla** 58.98 283 *i* P P 01 25 51.9 -0.2
SMLA AMb AMB 01 25 53.5
comp=Z,213nm,0.6s,mb6.3
THN **Thein Dam** 59.02 285 *eP* P 01 25 51.8 -0.5
DLMT **Dillon** 59.04 55 *eP* P 01 25 52.0 -0.2
comp=Z,175nm,1.8s,mb5.8
DLMT *ep*P pP 01 26 20.7 -0.1
JOF **Joensuu** 59.04 333 *ep* P 01 25 50.8 -1.2
comp=Z,14nm,0.8s,mb5.0
JOF **Joensuu** 59.04 333 *eP* P 01 25 50.8 -1.2
JOF pmax pmax
comp=Z,14nm,0.8s,mb5.0
J12A **Stokes Ranch,** 59.06 58 ⇓P P 01 25 52.9 +0.5
baz=59,SNR=26
L10A **Juniper Basin** 59.06 60 ⇑P P 01 25 52.6 +0.2
baz=59,SNR=21
SBUM **Sibu** 59.08 231 ⇑P P 01 25 54.8 +1.9
H14A **Leadore** 59.11 56 ⇑P P 01 25 52.5 -0.3
baz=59,SNR=13
I13A **Wildhorse Cree** 59.16 57 ⇑P P 01 25 53.7 +0.5
baz=59,SNR=55
R05C **Kirkwood Meado** 59.19 65 ⇓P P 01 25 53.6 +0.3
baz=59,SNR=13
G15A **Dillon** 59.22 55 ⇓P P 01 25 53.4 -0.1
baz=59,SNR=46
S04C **Ingram Canyon,** 59.23 67 ⇑P P 01 25 53.1 -0.6
baz=59,SNR=5.1
HLID **Hailey** 59.23 58 ⇑P P 01 25 54.1 +0.5
baz=59
HLID **Hailey** 59.23 58 *eP* P 01 25 54.0 +0.4
comp=Z,74nm,1.5s,mb5.5
HLID *ep*P pP 01 26 22.5 +0.3
MCMT **McKenzie Canyo** 59.25 56 *eP* P 01 25 53.7 0.0
MCMT *ep*P pP 01 26 22.0 -0.4
N09A **Rock Creek Ran** 59.26 62 ⇓P P 01 25 54.5 +0.7
baz=59,SNR=17
BHK **Bhakra** 59.26 283 *ex* x 01 26 28.2
O08A **Rochester Mine** 59.27 63 ⇑P P 01 25 54.5 +0.6
baz=59,SNR=42
P07A **Fallon** 59.33 64 ⇑P P 01 25 54.5 +0.2
baz=59
BOZ **Bozeman (W)** 59.36 54 P P 01 25 54.6 +0.1
BOZ pmax pmax
comp=Z,37nm,0.9s,mb5.4
BOZ **Bozeman (W)** 59.36 54 ⇑P P 01 25 55.2 +0.7
baz=59
BOZ **Bozeman (W)** 59.36 54 *eP* P 01 25 55.2 +0.7
comp=Z,37nm,0.9s,mb5.4
BOZ *ep*P pP 01 26 22.8 -0.3
M10A **I.L. Ranch, Tu** 59.38 61 ⇑P P 01 25 55.2 +0.5
baz=59,SNR=32
L11A **Cat Creek Ranc** 59.40 60 ⇓P P 01 25 55.1 +0.3
baz=59,SNR=45
CMB **Columbia Colle** 59.44 66 ⇑P P 01 25 55.0 -0.1
baz=59,SNR=30
J13A **Cove Ranch, Pi** 59.47 58 ⇑P P 01 25 55.8 +0.6
baz=59,SNR=29
H15A **Lima** 59.50 56 ⇑P P 01 25 55.3 -0.2
baz=59,SNR=6.3
I14A **Mackay** 59.52 57 ⇓P P 01 25 56.1 +0.5
baz=59,SNR=31
K12A **Draper Farm, C** 59.57 59 ⇓P P 01 25 56.3 +0.3
baz=59,SNR=12
PACP **Pacheco Peak** 59.58 68 ⇑P P 01 25 56.0 -0.1
baz=59,SNR=14
R06C **Coleville** 59.67 65 ⇓P P 01 25 57.1 +0.4
baz=60,SNR=38
P08A **Dixie Valley** 59.70 63 ⇑P P 01 25 57.5 +0.6
baz=60
BMN **Battle Mountai** 59.71 62 *eP* P 01 25 57.3 +0.4
BMN *e*PP pP 01 26 25.7 +0.1
BMN pmax pmax
comp=Z,48nm,1.1s,mb5.4
BMN **Battle Mountai** 59.71 62 *eP* P 01 25 57.3 +0.4
comp=Z,48nm,1.1s,mb5.4
BMN *ep*P pP 01 26 25.7 +0.2
L12A **House Creek Ra** 59.83 59 ⇓P P 01 25 57.8 +0.1
baz=60,SNR=18
HAST **Hastings Reser** 59.83 68 ⇑P P 01 25 57.4 -0.5
baz=60,SNR=14
S06C **San Francisco** 59.86 66 ⇑P P 01 25 57.7 -0.3
baz=60,SNR=36
M11A **Holland Ranch,** 59.87 60 ⇑P P 01 25 58.7 +0.7
baz=60,SNR=17
J14A **Carey** 59.88 57 ⇓P P 01 25 59.0 +1.0
baz=60,SNR=22
O09A **Fish Creek Ran** 59.90 62 ⇑P P 01 25 58.7 +0.5
baz=60,SNR=33
N10A **Dunphy** 59.93 61 ⇓P P 01 25 58.9 +0.5
baz=60
S05C **Merced** 59.93 67 ⇓P P 01 25 57.9 -0.6
baz=60,SNR=5.3
I15A **Monteview** 59.99 56 ⇓P P 01 25 58.8 0.0
baz=60
QLMT **Earthquake Lak** 60.01 55 *eP* P 01 25 59.0 +0.1
QLMT *ep*P pP 01 26 28.3 +0.7
K13A **Stover Farm, H** 60.01 58 ⇑P P 01 25 59.0 0.0
baz=60
T05C **Eagle Field, D** 60.02 67 ⇓P P 01 25 59.0 -0.2
baz=60
H16A **Russell Place,** 60.19 55 ⇑P P 01 26 00.7 +0.5
baz=60,SNR=11
O10A **Cortez Mining,** 60.22 62 ⇓P P 01 26 00.8 +0.4
baz=60,SNR=8.2
V03C **Hunter Liggett** 60.27 68 ⇓P P 01 26 00.9 0.0
baz=60,SNR=8.1
GCMT **Greycliff** 60.30 53 *eP* P 01 26 01.6 +0.7
GCMT *ep*P pP 01 26 29.8 +0.3
N11A **Elko Archery C** 60.30 61 ⇓P P 01 26 01.5 +0.6
baz=60,SNR=5.1
U04C **Hernandez Rese** 60.31 68 ⇑P P 01 26 01.4 +0.3
baz=60,SNR=11
P09A **Austin** 60.34 63 ⇓P P 01 26 01.5 +0.3
baz=60,SNR=5.1
Q08A **Gabbs** 60.34 64 ⇑P P 01 26 01.1 -0.2
baz=60,SNR=34
YMR **Madison River** 60.36 55 *eP* P 01 26 02.1 +0.8
comp=Z,31nm,0.9s,mb5.3
M12A **Wells** 60.37 60 ⇑P P 01 26 02.0 +0.6
baz=60
NVAR **Mina Array Bea** 60.41 64 P P 01 26 02.1 +0.4
comp=Z,27nm,0.7s,mb5.4,baz=288,slow=7.7,SNR=175
NVAR pP pP 01 26 30.2 -0.3
comp=Z,10nm,0.7s,baz=298,slow=8.0,SNR=4.2
NVAR **Mina Array Bea** 60.41 64 P P 01 26 02.1 +0.4
NVAR pP pP 01 26 30.2 -0.3
J15A **Blackfoot** 60.42 57 ⇑P P 01 26 02.5 +0.8
baz=60,SNR=11
MOR8 **Moi Rana** 60.44 342 *eP* P 01 25 59.2 -2.3
MOR8 AMb AMB 01 26 02.0
comp=Z,48nm,1.6s,mb5.3
L13A **Double Diamond** 60.46 59 ⇓P P 01 26 02.5 +0.5
baz=60,SNR=15
YNR **Norris Junctio** 60.48 55 *eP* P 01 26 03.9 +1.8
YNR *ep*P pP 01 26 30.2 -0.7
T06C **Millerton Lake** 60.52 67 ⇑P P 01 26 02.2 -0.4
baz=60,SNR=14
KCC **Kaiser Creek** 60.55 66 ⇑P P 01 26 02.5 -0.2
baz=60,SNR=24
R08A **Mina** 60.58 64 ⇑P P 01 26 03.2 +0.3
baz=60

YFT **Old Faithful** 60.58 55 *eP* P 01 26 04.5 +1.7
YFT *epP* pP 01 26 33.1 +1.6
K14A **Jones Ranch, D** 60.58 58 ⇓P P 01 26 03.7 +0.9
baz=60,SNR=23
NDI **New Delhi** 60.61 281 *eP* P 01 26 02.0 -1.2
I16A **Newdale** 60.61 56 ⇓P P 01 26 03.6 +0.6
baz=60,SNR=7.5
MLAC **Mammoth Lakes** 60.63 65 ⇑P P 01 26 03.7 +0.4
baz=60
ELK **Elko** 60.63 61 P P 01 26 03.8 +0.6
ELK pmax pmax
comp=Z,20nm,0.9s
ELK **Elko** 60.63 61 *eP* P 01 26 03.8 +0.5
comp=Z,20nm,0.9s,mb5.1
ELK *epP* pP 01 26 31.7 -0.2
N12A **Clover Valley,** 60.67 60 ⇓P P 01 26 04.0 +0.5
baz=60,SNR=15
P10A **Eureka** 60.68 62 ⇓P P 01 26 04.1 +0.5
baz=60,SNR=11
U05C **Westside ANR,** 60.73 67 ⇑P P 01 26 04.1 +0.1
baz=60
LKWY **Lake** 60.73 55 *eP* P 01 26 05.7 +1.9
LKWY *e*PP* pP 01 26 33.4 +0.8
LKWY pmax pmax
comp=Z,18nm,0.8s,mb5.2
LKWY **Lake** 60.73 55 *eP* P 01 26 05.7 +1.9
comp=Z,18nm,0.8s,mb5.2
LKWY *epP* pP 01 26 33.4 +0.9
PKD **Parkfield** 60.74 68 ⇓P P 01 26 03.1 -0.9
baz=60,SNR=6.9
V04C **Ramage Ranch,** 60.74 68 ⇑P P 01 26 04.0 -0.1
baz=61,SNR=6.7
Q09A **Carvers** 60.79 63 ⇑P P 01 26 04.4 0.0
baz=61
AYAN **Aya Nagar** 60.80 281 *eP* P 01 26 03.3 -1.2
AYAN AMb AMB 01 26 05.8
comp=Z,38nm,0.9s,mb5.4
O11A **Cowboy Ranch,** 60.80 61 ⇑P P 01 26 04.6 +0.3
baz=61,SNR=13
M13A **Montello** 60.83 60 ⇑P P 01 26 04.9 +0.4
baz=61,SNR=25
K15A **Arbon** 60.84 57 ⇑P P 01 26 05.7 +1.1
baz=61,SNR=19
KSM **Kuching** 60.89 233 ⇓P P 01 26 07.2 +1.9
IMW **Indian Meadow** 60.89 56 *eP* P 01 26 06.4 +1.4
comp=Z,109nm,1.4s,mb5.7
IMW *epP* pP 01 26 34.5 +0.8
FLWY **Flagg Ranch** 60.90 55 *eP* P 01 26 06.3 +1.3
comp=Z,158nm,1.6s,mb5.8
FLWY *epP* pP 01 26 34.5 +0.8
J16A **Bone** 60.95 56 ⇑P P 01 26 06.3 +1.0
baz=61,SNR=19
RLMT **Red Lodge** 60.95 54 *eP* P 01 26 06.2 +0.9
comp=Z,140nm,1.4s,mb5.8
RLMT *epP* pP 01 26 33.1 -1.0
DCID1 **Drake Creek** 60.97 56 *eP* P 01 26 06.8 +1.3
MTUM **Tungsten Hills** 60.97 66 *eP* P 01 26 05.6 0.0
MTUM *epP* pP 01 26 33.8 -0.5
SONA **Sohna** 60.99 280 *eP* P 01 26 04.8 -1.0
SONA AMb AMB 01 26 07.1
comp=Z,58nm,1.1s,mb5.5
RRI2 **Red Ridge** 61.06 56 *eP* P 01 26 07.0 +1.0
comp=Z,49nm,0.8s,mb5.6
RRI2 *epP* pP 01 26 35.8 +1.0
KAF **Kangasniemi** 61.10 335 *ep* P 01 26 04.6 -1.4
comp=Z,15nm,0.8s,mb5.1,baz=35,slow=6.3
KAF **Kangasniemi** 61.10 335 *eP* P 01 26 04.6 -1.4
KAF pmax pmax
comp=Z,15nm,0.8s,mb5.1
S08C **White Mtn Res** 61.11 65 ⇓P P 01 26 06.9 +0.4
baz=61,SNR=25
P11A **Circle Ranch,** 61.14 62 ⇑P P 01 26 07.0 +0.3
baz=61,SNR=10.0
N13A **Wendover, West** 61.14 60 ⇑P P 01 26 06.8 +0.1
baz=61,SNR=11
TPAW **Teton Pass** 61.16 56 *eP* P 01 26 07.9 +1.1
comp=Z,196nm,1.5s,mb5.9
TPAW *epP* pP 01 26 36.6 +1.1
V05C **Boulder Hill,** 61.17 68 ⇑P P 01 26 07.0 +0.1
baz=61
M14A **Sheep Mountain** 61.19 59 ⇓P P 01 26 07.2 +0.2
baz=61,SNR=18
DGMT **Dagmar** 61.22 48 *eP* P 01 26 07.1 +0.1
comp=Z,117nm,1.1s,mb5.8
DGMT *epP* pP 01 26 34.7 -1.2
O12A **Currie** 61.23 61 ⇑P P 01 26 07.5 +0.2
baz=61,SNR=29
Q10A **Clear Creek Ra** 61.25 63 ⇑P P 01 26 07.3 -0.2
baz=61,SNR=18
R09A **Tonopah** 61.26 64 ⇓P P 01 26 07.4 0.0
baz=61,SNR=12
K16A **Soda Springs** 61.26 57 ⇓P P 01 26 08.2 +0.8
baz=61,SNR=21
LOHW **Long Hollow** 61.27 56 *eP* P 01 26 08.5 +1.0
comp=Z,180nm,1.6s,mb5.8
LOHW *epP* pP 01 26 37.0 +0.8
RCTC **Rector, Farmer** 61.27 67 ⇓P P 01 26 06.8 -0.8
baz=61
TPH **Tonopah** 61.28 64 P P 01 26 07.7 +0.1
TPH *e* pP 01 26 35.8 -0.6
TPH pmax pmax
comp=Z,120nm,1.4s,mb5.7
TPH **Tonopah** 61.28 64 *eP* P 01 26 07.7 0.0
comp=Z,61nm,1.0s,mb5.6
TPH *epP* pP 01 26 35.9 -0.5
SNOW **Snow King Moun** 61.28 56 *eP* P 01 26 07.7 +0.1
comp=Z,174nm,1.5s,mb5.9
SNOW *epP* pP 01 26 37.1 +0.7
REDW **Red Top Meadow** 61.30 56 *eP* P 01 26 08.9 +1.2
comp=Z,198nm,1.4s,mb6.0
REDW *epP* pP 01 26 37.5 +1.0
HVU **Hansel Valley** 61.32 58 *eP* P 01 26 08.0 +0.2
HVU *e*PP* pP 01 26 36.5 -0.1
HVU pmax pmax
comp=Z,20nm,1.1s,mb5.1
HVU **Hansel Valley** 61.32 58 *eP* P 01 26 08.0 +0.2
comp=Z,20nm,1.1s,mb5.0
HVU *epP* pP 01 26 36.5 -0.1
TIN **Tinemaha** 61.37 66 ⇓P P 01 26 08.9 +0.6
baz=61
L15A **Malad City** 61.38 58 ⇑P P 01 26 08.3 0.0
baz=61,SNR=18
KUDL **Kundal** 61.44 281 *eP* P 01 26 08.3 -0.6
KUDL AMb AMB 01 26 10.2
comp=Z,86nm,0.8s,mb5.8
LAO **LASA Array** 61.45 51 *eP* P 01 26 09.2 +0.6
comp=Z,79nm,0.9s,mb5.7
LAO *epP* pP 01 26 36.7 -0.7
SMMC **Simmler** 61.49 68 ⇓P P 01 26 08.7 -0.3
baz=61
S09A **Goldfield** 61.51 64 ⇑P P 01 26 09.2 +0.1
baz=61,SNR=28
AHID **Auburn Hatcher** 61.57 57 *eP* P 01 26 10.3 +0.8
comp=Z,13nm,0.9s,mb5.0
AHID *epP* pP 01 26 39.0 +0.7
KTGM **Kuala Trenggan** 61.60 242 ⇑P P 01 26 12.3 +2.2
Q11A **Duckwater** 61.67 63 ⇓P P 01 26 10.0 -0.2
baz=62,SNR=15
R10A **Warm Springs** 61.67 63 ⇓P P 01 26 10.2 -0.1
baz=62,SNR=12
P12A **McGill** 61.67 62 ⇑P P 01 26 10.3 0.0
baz=62,SNR=20
VES **Vestal, Richgr** 61.68 67 ⇓P P 01 26 09.1 -1.3
baz=62,SNR=12
M15A **Larsen Ranch,** 61.71 58 ⇑P P 01 26 10.8 +0.3
baz=62,SNR=9.0
N14A **Grayback Hills** 61.72 59 ⇓P P 01 26 10.6 +0.1
baz=62,SNR=14
KBL **Kabul** 61.73 291 *eP* P 01 26 10.0 -0.7
KBL *e*PP* pP 01 26 41.5 +2.0
KBL pmax pmax
comp=Z,99nm,1.3s,mb5.7
KBL **Kabul** 61.73 291 *eP* P 01 26 10.0 -0.7
comp=Z,99nm,1.3s,mb5.7
KBL *epP* pP 01 26 41.5 +2.0
S10A **Tonopah Range,** 61.75 64 ⇓P P 01 26 10.7 0.0
baz=62,SNR=22
BGU **Big Grassy Mou** 61.75 59 *eP* P 01 26 10.7 -0.1
BGU *epP* pP 01 26 39.2 -0.4
O13A **Hicks Ranch, I** 61.76 60 ⇓P P 01 26 10.8 0.0
baz=62
SPUT **South Promonto** 61.82 59 *eP* P 01 26 11.8 +0.6
SPUT *epP* pP 01 26 40.0 0.0
CWC **Cottonwood Cre** 61.87 66 ⇑P P 01 26 11.3 -0.3
baz=62,SNR=32
PKM **Peak Mountain** 61.88 68 ⇓P P 01 26 12.0 +0.3
baz=62,SNR=11
L16A **Fish Haven** 61.90 57 ⇓P P 01 26 12.2 +0.5
baz=62,SNR=16
GRAC **Grapevine Rang** 61.91 65 ⇑P P 01 26 12.2 +0.3
baz=62,SNR=26
Q12A **Willow Creek R** 62.01 62 ⇑P P 01 26 12.7 +0.2
baz=62,SNR=17
R11A **Troy Canyon, C** 62.04 63 ⇑P P 01 26 12.5 -0.3
baz=62,SNR=70
N15A **Stansbury Isla** 62.06 59 ⇑P P 01 26 13.0 +0.2
baz=62,SNR=21
HWUT **Hardware Ranch** 62.10 58 *eP* P 01 26 13.7 +0.6
comp=Z,169nm,1.7s,mb5.8
HWUT *epP* pP 01 26 42.0 +0.1
SFJD **Kangerlussuaq** 62.10 11 P P 01 26 12.2 -0.5
SFJD pmax pmax
comp=Z,200nm,1.0s,mb6.1
SFJD **Kangerlussuaq** 62.10 11 ⇓*iP* P 01 26 12.0 -0.7
comp=Z,201nm,1.0s,mb6.1
KAPI **Kappang** 62.17 220 *eP* P 01 26 12.8 -1.0
comp=Z,90nm,1.4s,mb5.6
P13A **Bates Ranch, G** 62.19 61 ⇑P P 01 26 13.9 +0.1
baz=62
SBC **Santa Barbara** 62.25 69 ⇑P P 01 26 14.2 0.0
baz=62
M16A **Huntsville** 62.27 58 ⇓P P 01 26 14.3 +0.1
baz=62,SNR=13
ARVC **Arvin** 62.32 68 ⇑P P 01 26 13.7 -0.9
baz=62
DUG **Dugway** 62.37 60 P P 01 26 15.3 +0.4
DUG pmax pmax
comp=Z,47nm,1.0s,mb5.5
DUG **Dugway** 62.37 60 ⇓P P 01 26 15.3 +0.4
baz=62
DUG **Dugway** 62.37 60 *eP* P 01 26 15.2 +0.3
comp=Z,47nm,1.1s,mb5.4
DUG *epP* pP 01 26 43.3 -0.4
BW06 **Boulder Array** 62.40 56 *eP* P 01 26 15.0 -0.1
comp=Z,46nm,0.9s,mb5.5
BW06 *epP* pP 01 26 44.1 +0.2
PDAR **Pinedale Array** 62.40 56 P P 01 26 15.3 +0.2
comp=Z,38nm,0.9s,mb5.4,baz=323,slow=2.2,SNR=208
PDAR pP pP 01 26 44.5 +0.5
comp=Z,40nm,1.0s,baz=318,slow=2.0,SNR=7.3
PDAR LR LR 01 53 05.9
comp=Z,165nm,20.7s,baz=232,slow=36
S11A **Rachel** 62.43 64 ⇓P P 01 26 15.5 +0.2
baz=62,SNR=18
NOQ **North Oquirrh** 62.45 59 *eP* P 01 26 15.8 +0.4
comp=Z,143nm,1.6s,mb5.8
NOQ *epP* pP 01 26 43.8 -0.5
MOS **Moscow** 62.46 325 *eP* P 01 26 10.9 -4.3
MOS *e*PP* pP 01 26 40.0 -4.1
MOS *e* 01 26 50.6
MOS *eS* S 01 34 23.4 -9.1
MOS *e*SS* sS 01 35 11.6 -11
MOS pmax pmax
comp=Z,500nm,2.0s,mb6.2
MOS pmax pmax
comp=Z,229nm,1.6s,mb6.0
MPMC **Manual Prospec** 62.48 66 ⇑P P 01 26 15.4 -0.3
baz=62,SNR=46
O15A **The Old Anders** 62.50 59 ⇓P P 01 26 16.3 +0.5
baz=62,SNR=5.3
Q13A **Wheeler Ranch,** 62.53 61 ⇑P P 01 26 16.2 +0.2
baz=62,SNR=10
FURC **Furnace Creek,** 62.58 65 ⇓P P 01 26 16.3 0.0
baz=62,SNR=78
BSC **Santa Cruz Isl** 62.60 69 ⇑P P 01 26 15.9 -0.7
baz=62
TPNV **Topopah Spring** 62.61 64 P P 01 26 16.6 +0.1
TPNV pmax pmax
comp=Z,56nm,1.0s,mb5.5
TPNV **Topopah Spring** 62.61 64 ⇑P P 01 26 16.6 +0.1
baz=62
TPNV **Topopah Spring** 62.61 64 *eP* P 01 26 16.5 0.0
comp=Z,56nm,0.9s,mb5.5
TPNV *epP* pP 01 26 44.7 -0.7
R12A **Pony Springs,** 62.62 62 ⇓P P 01 26 16.6 +0.1
baz=62,SNR=33
CTU **Camp Tracy** 62.62 59 *eP* P 01 26 17.1 +0.6
comp=Z,27nm,1.1s,mb5.1
CTU *epP* pP 01 26 45.5 0.0
P14A **Drum Mountains** 62.64 60 ⇓P P 01 26 17.1 +0.4
baz=62,SNR=37
N16A **Rees Ranch, Co** 62.66 58 ⇓P P 01 26 17.1 +0.2
baz=62,SNR=6.9
OSI **Osito Adit** 62.73 68 ⇑P P 01 26 17.5 +0.2
baz=62
LRMC **Laurel Mountai** 62.76 67 ⇓P P 01 26 17.0 -0.6
baz=63
JLU **Jordanelle** 62.85 59 *eP* P 01 26 18.4 +0.3
BLG **Laguna Peak** 62.87 69 ⇑P P 01 26 17.6 -0.7
baz=63
U10A **Ash Meadows, A** 62.92 65 ⇑P P 01 26 18.5 -0.1
baz=63,SNR=22
Q14A **Sevier Lake (B** 62.93 61 ⇓P P 01 26 18.8 +0.1
baz=63,SNR=62
NLU **North Lily Min** 62.95 59 *eP* P 01 26 19.2 +0.4
N17A **Moffit Pass** 62.96 58 ⇑P P 01 26 18.9 +0.1
baz=63,SNR=34
S12A **Delamar Landin** 62.97 63 ⇑P P 01 26 19.1 +0.2
baz=63,SNR=11
EDW2 **Edwards Air Fo** 62.99 67 ⇓P P 01 26 18.9 -0.2
baz=63,SNR=36
T11A **Corn Creek, Al** 63.01 64 ⇓P P 01 26 19.2 0.0
baz=63,SNR=64
KULM **Kulim** 63.06 244 ⇑P P 01 26 21.0 +1.2
DAU **Daniels Canyon** 63.09 59 *eP* P 01 26 20.5 +0.9
O16A **Springville** 63.09 59 ⇑P P 01 26 20.3 +0.6
baz=63
P15A **Leamington** 63.10 60 ⇑P P 01 26 19.9 +0.2
baz=63,SNR=8.6
MPU **Maple Canyon** 63.15 59 *eP* P 01 26 20.5 +0.5
comp=Z,38nm,1.1s,mb5.2
DECC **Green Verdugo** 63.22 68 ⇓P P 01 26 20.2 -0.3
baz=63
SHOC **Shoshone** 63.31 65 ⇑P P 01 26 20.7 -0.5
baz=63,SNR=6.8
OBN **Obninsk** 63.32 325κ *iP* P 01 26 20.0 -1.0
OBN *i *PP* pP 01 26 49.7 -0.2
OBN *e* 01 26 57.0
OBN *e* 01 28 41.0
OBN PPP 01 30 18.0
OBN *i S* S 01 34 41.7 -1.7
OBN *eSS* sS 01 35 21.8 -11
OBN *i* 01 35 59.4
OBN *eSSS* 01 41 44.5
OBN pmax pmax
comp=Z,400nm,1.6s,mb6.1
OBN pmax pmax
comp=Z,244nm,1.6s,mb5.9
OBN MLR MLR
comp=Z,400nm,18.0s
OBN **Obninsk** 63.32 325 *i P* P 01 26 20.0 -1.0
MWC **Mount Wilson** 63.40 68 *eP* P 01 26 21.2 -0.6
MWC pmax pmax
comp=Z,86nm,1.5s,mb5.5
MWC **Mount Wilson** 63.40 68 *eP* P 01 26 21.2 -0.6
comp=Z,86nm,1.5s,mb5.5
GSC **Goldstone** 63.41 66 P P 01 26 21.6 -0.2
GSC pmax pmax
comp=Z,35nm,1.0s,mb5.2
GSC **Goldstone** 63.41 66 ⇓P P 01 26 21.2 -0.6
baz=63,SNR=22
GSC **Goldstone** 63.41 66 *eP* P 01 26 21.6 -0.2
comp=Z,35nm,1.0s,mb5.2
P16A **Fountain Green** 63.42 60 ⇓P P 01 26 22.3 +0.5
baz=63
Q15A **Fillmore** 63.43 60 ⇑P P 01 26 21.9 0.0
baz=63,SNR=9.6
U11A **Corn Creek** 63.47 64 ⇓P P 01 26 22.4 +0.1
baz=63,SNR=5.9
IPM **Ipoh** 63.50 243 ⇑P P 01 26 23.8 +1.1
O17A **Robinson Place** 63.53 58 ⇓P P 01 26 22.8 +0.3
baz=63,SNR=20
R14A **James Farms, M** 63.55 61 ⇑P P 01 26 23.1 +0.3
baz=63
S13A **Holt Ranch, En** 63.56 62 ⇓P P 01 26 22.8 0.0
baz=63,SNR=32
N18A **Larsen Ranch,** 63.57 57 ⇓P P 01 26 22.6 -0.2
baz=63
RRX **Edison Barstow** 63.58 67 ⇑P P 01 26 23.2 +0.2
baz=63
FMP **Fort Macarthur** 63.61 68 ⇑P P 01 26 22.6 -0.6
baz=63
BFSC **Mount Baldy St** 63.63 68 ⇓P P 01 26 22.7 -0.6
baz=63,SNR=8.2
T12A **Moapa** 63.66 64 ⇑P P 01 26 23.5 0.0
baz=64,SNR=5.4
ULM **Lac du Bonnet** 63.79 42 P P 01 26 24.0 -0.1
comp=Z,35nm,0.8s,mb5.2,baz=316,slow=6.7,SNR=38
ULM pP pP 01 26 53.3 +0.2
comp=Z,7.4nm,0.7s,baz=310,slow=7.6,SNR=2.9
ULM LR LR 01 53 33.2
comp=Z,162nm,19.1s,baz=356,slow=35
TUQ **Turquoise Mtn.** 63.84 65 ⇑P P 01 26 24.6 -0.1
baz=64,SNR=31
S14A **Cedar City** 63.84 62 ⇓P P 01 26 24.7 0.0
baz=64,SNR=5.9
V11A **Goodsprings** 63.85 65 ⇑P P 01 26 24.8 +0.1
baz=64,SNR=16
O18A **Roosevelt** 63.88 58 ⇑P P 01 26 25.5 +0.6
baz=64,SNR=21
MSU **Marysvale** 63.88 61 P P 01 26 25.7 +0.8
MSU **Marysvale** 63.88 61 *eP* P 01 26 25.5 +0.6
TMUT **Trail Mountain** 63.88 59 *eP* P 01 26 25.4 +0.5
N19A **John Jarvie Ra** 63.90 57 ⇑P P 01 26 24.7 -0.3
baz=64,SNR=14
T13A **Saint George** 63.92 63 ⇑P P 01 26 25.6 +0.4
baz=64,SNR=33
SCI **San Clemente I** 63.96 69 ⇑P P 01 26 25.0 -0.5
baz=64
U12A **Valley of Fire** 63.96 64 ⇑P P 01 26 25.5 +0.1
baz=64,SNR=14
HEC **Hector,Ludlow** 64.01 66 ⇑P P 01 26 25.6 -0.2
baz=64,SNR=15
P17A **Butcher Ranch,** 64.02 59 ⇑P P 01 26 25.9 +0.1
baz=64,SNR=21
R15A **Junction** 64.03 61 ⇑P P 01 26 26.5 +0.6
baz=64,SNR=5.6
BBRC **Big Bear Sol-O** 64.05 67 ⇓P P 01 26 26.1 +0.1
baz=64
MYKOM **Kota Tinggi** 64.09 239 ⇑P P 01 26 28.7 +2.2
COEN **Coen** 64.13 192 *eP* P 01 26 26.0 -0.6
comp=Z,45nm,1.3s,mb5.1
FRIM **Kepong** 64.16 242 ⇓P P 01 26 28.3 +1.3
Q16A **Castle Valley** 64.17 60 ⇓P P 01 26 27.1 +0.3
baz=64,SNR=23
P18A **Preston Nutter** 64.19 59 ⇓P P 01 26 26.9 0.0
baz=64,SNR=27
KGM **Kluang** 64.20 240 ⇓P P 01 26 29.3 +2.1
V12A **Nelson** 64.27 65 ⇓P P 01 26 27.6 +0.2
baz=64,SNR=27
U13A **Pakoon Wash** 64.31 63 ⇓P P 01 26 27.9 +0.1
baz=64,SNR=57
MURC **Murrieta** 64.34 68 ⇑P P 01 26 27.2 -0.8
baz=64,SNR=8.4
O19A **Miners Draw (B** 64.34 57 ⇑P P 01 26 27.5 -0.4
baz=64,SNR=7.9
RSSD **Black Hills** 64.34 51 P P 01 26 28.0 +0.2
RSSD pmax pmax
comp=Z,42nm,1.0s,mb5.2
RSSD **Black Hills** 64.34 51 *eP* P 01 26 28.1 +0.3
comp=Z,42nm,0.9s,mb5.3
S15A **Panguitch** 64.36 61 ⇓P P 01 26 28.8 +0.8
baz=64,SNR=6.1
T14A **Hurricane** 64.37 62 ⇓P P 01 26 28.2 +0.1
baz=64,SNR=14
VRHR **Novokhopersk** 64.38 320 *eP* P 01 26 26.9 -1.0
VRHR pmax pmax
comp=N,70nm,0.9s
VRHR pmax pmax
comp=Z,90nm,0.9s,mb5.6
VRHR pmax pmax
comp=E,110nm,1.6s
SRU **San Rafael** 64.40 59 *eP* P 01 26 28.5 +0.2
SRU pmax pmax
comp=Z,46nm,0.9s,mb5.3
SRU **San Rafael** 64.40 59 ⇓P P 01 26 28.4 +0.2
baz=64
SRU **San Rafael** 64.40 59 *eP* P 01 26 28.5 +0.2
comp=Z,46nm,0.9s,mb5.3
RWWY **Rawlins** 64.40 55 *eP* P 01 26 28.2 0.0
comp=Z,30nm,1.1s,mb5.0
VIS **Vishakhapatnam** 64.41 267 *eP* P 01 26 28.3 -0.3
VIS AMb AMB 01 26 31.9
comp=Z,78nm,1.2s,mb5.4
R16A **Teasdale** 64.43 60 ⇓P P 01 26 29.2 +0.7
baz=64,SNR=44
GMRC **Granite Mounta** 64.44 66 ⇓P P 01 26 28.4 -0.3
baz=64,SNR=34
W12A **Cal Nev Ari** 64.55 65 ⇑P P 01 26 29.1 -0.3
baz=64,SNR=9.6
LDFC **Landfair** 64.56 65 *eP* P 01 26 29.3 -0.1
comp=Z,61nm,0.8s,mb5.5
Q18A **Rafter H Ranch** 64.62 59 ⇑P P 01 26 29.2 -0.5
baz=64,SNR=9.6
V13A **Grand Canyon W** 64.69 64 ⇑P P 01 26 30.2 0.0
baz=64,SNR=56
NGP **Nagpur** 64.71 273 *eP* P 01 26 29.6 -0.9
NGP AMb AMB 01 26 32.4
comp=Z,92nm,1.0s,mb5.6
S16A **Weppner Ranch,** 64.76 61 ⇑P P 01 26 31.1 +0.5
baz=64,SNR=60
U14A **Mt Trumbull** 64.76 63 ⇓P P 01 26 31.0 +0.3
baz=65,SNR=59
R17A **Hanksville Air** 64.77 60 ⇑P P 01 26 30.3 -0.4
baz=65,SNR=24
PFO **Pinyon Flat Ob** 64.78 67 P P 01 26 30.0 -0.9
PFO pmax pmax
comp=Z,40nm,1.6s,mb5.0
PFO **Pinyon Flat Ob** 64.78 67 ⇑P P 01 26 29.8 -1.0
baz=65,SNR=7.5
PFO **Pinyon Flat Ob** 64.78 67 *eP* P 01 26 30.2 -0.7
comp=Z,40nm,1.6s,mb5.0
PFO *epP* pP 01 26 58.5 -1.4
BELC **Belle Mtn.** 64.78 67 ⇓P P 01 26 30.1 -0.7
baz=65,SNR=14
T15A **Red Dirt Ranch** 64.80 62 ⇑P P 01 26 31.3 +0.3
baz=65,SNR=14
P19A **Cripple Cowboy** 64.89 58 ⇑P P 01 26 31.4 -0.1
baz=65,SNR=8.7
VOR **Voronezh** 64.89 322 ⇑*iP* P 01 26 30.0 -1.3
VOR pmax pmax
comp=Z,260nm,1.6s,mb5.8
109C **Camp Elliot, M** 64.89 68 ⇑P P 01 26 30.8 -0.8
baz=65
KAKA **Kakadu** 65.05 204 ⇑*iP* P 01 26 31.4 -1.2
comp=Z,52nm,0.5s,mb5.6
KAKA *epP* pP 01 27 01.0 -0.7
NEE2 **Needles Airpor** 65.07 65 ⇑P P 01 26 32.2 -0.5
baz=65
IRM **Iron Mountain** 65.18 66 ⇑P P 01 26 33.0 -0.4
baz=65,SNR=44
Q19A **Hogan Spring (** 65.21 59 ⇓P P 01 26 33.1 -0.4
baz=65,SNR=63
AGMN **Agassiz Refuge** 65.23 44 *eP* P 01 26 33.0 -0.6
comp=Z,63nm,1.1s,mb5.4
R18A **Canyonlands Na** 65.25 59 ⇑P P 01 26 33.2 -0.7
baz=65,SNR=75
U15A **North Rim** 65.27 62 ⇓P P 01 26 34.0 0.0
baz=65,SNR=34
W13A **Hualapai Mount** 65.27 64 ⇑P P 01 26 33.9 -0.1
baz=65,SNR=22
S17A **Black Ridge (B** 65.27 61 ⇑P P 01 26 34.0 +0.1
baz=65,SNR=55
VRSR **Storozhevoye** 65.29 321 *eP* P 01 26 32.9 -0.9
VRSR pmax pmax
comp=Z,30nm,1.2s,mb5.0
VRSR pmax pmax
comp=N,40nm,1.0s
VRSR pmax pmax
comp=E,30nm,1.0s
BAR **Barrett** 65.30 68 *eP* P 01 26 33.4 -0.8
comp=E,20nm,1.2s,mb4.8
BAR *epP* pP 01 27 01.8 -1.5
MONP **Monument Peak** 65.31 68 ⇓P P 01 26 34.1 -0.2
baz=65
T16A **Glen Canyon Da** 65.33 62 ⇑P P 01 26 33.6 -0.7
baz=65,SNR=5.7
BC3 **Big Chuckw Mtn** 65.35 67 ⇓P P 01 26 33.8 -0.7
baz=65,SNR=20
V14A **Boquillas Ranc** 65.35 64 ⇓P P 01 26 34.8 +0.3
baz=65,SNR=66
BATI **Baumata** 65.41 213 P P 01 26 33.7 -1.3
comp=E,32nm,0.7s,mb5.2,baz=56,slow=3.6,SNR=3.6
PHWY **Pilot Hill** 65.61 54 *eP* P 01 26 36.0 -0.1
PHWY *epP* pP 01 27 05.1 -0.1
SWSC **Sam W. Stewart** 65.64 67 ⇓P P 01 26 35.5 -0.9
baz=66
DVTC **Desert V Tower** 65.66 68 ⇓P P 01 26 36.1 -0.4
baz=66
W14A **Seligman** 65.66 64 ⇓P P 01 26 36.7 +0.3

baz=66,SNR=70
R19A Curley Farm, L 65.67 59 ⇓P **P 01 26 36.2 -0.3**
baz=66,SNR=15
PDMCI Parker Dam,Lak 65.68 65 ⇓P **P 01 26 36.1 -0.6**
baz=66,SNR=14
NB2 NORSAR Subarra 65.69 341 P **P 01 26 35.0 -1.2**
comp=Z,127nm,1.7s,mb5.5,baz=25,slow=6.5
NOA NORSAR Array B 65.69 341 P **P 01 26 35.2 -1.0**
comp=Z,11nm,0.8s,mb4.7,baz=25,slow=6.4,SNR=34
NOA pP pP 01 27 07.1 +1.8
comp=Z,6.5nm,0.8s,baz=26,slow=6.5,SNR=2.8
NOA LR LR 01 59 47.2
comp=Z,382nm,20.3s,baz=45,slow=40
NOA NORSAR Array B 65.69 341 P **P 01 26 35.3 -0.9**
NOA *PP pP 01 27 07.1 +1.8
S18A Hurst Farm, Bl 65.69 60 ⇑P **P 01 26 36.3 -0.3**
baz=66,SNR=54
T17A Navajo Res., N 65.72 61 ⇑P **P 01 26 36.1 -0.7**
baz=66,SNR=11
PV10 Paradox Valley 65.74 59 *e*P **P 01 26 37.5 +0.6**
PV10 *e*pP pP 01 27 06.2 +0.1
V15A Kaibab Nationa 65.76 63 ⇓P **P 01 26 37.5 +0.4**
baz=66,SNR=48
Y12C Blythe 65.84 66 ⇑P **P 01 26 37.2 -0.4**
baz=66,SNR=19
JASL Jaisalmer 65.84 284 *e*P **P 01 26 37.2 -0.6**
JASL AMb AMB 01 26 38.8
comp=Z,83nm,1.0s,mb5.5
BORG Borgarnes 65.84 358 *e*P **P 01 26 37.2 +0.1**
comp=Z,165nm,1.8s,mb5.6
PSI Prapat 66.08 244 P **P 01 26 40.1 +0.7**
comp=Z,44nm,0.9s,mb5.3,baz=12,slow=6.4,SNR=30
PSI pP pP 01 27 09.4 +0.8
comp=Z,40nm,1.0s,baz=332,slow=4.1,SNR=3.8
U17A Shonto 66.08 61 ⇓P **P 01 26 38.8 -0.3**
baz=66,SNR=16
S19A Harvey Farm, M 66.13 59 ⇓P **P 01 26 39.1 -0.4**
baz=66,SNR=56
U16A Tuba City 66.13 62 ⇓P **P 01 26 39.8 +0.3**
baz=66,SNR=23
GLA Glamis 66.14 67 *e*P **P 01 26 39.4 -0.2**
GLA *e* pP 01 27 08.0 -0.8
GLA pmax pmax
comp=Z,140nm,1.5s,mb5.6
GLA Glamis 66.14 67 ⇓P **P 01 26 39.2 -0.4**
baz=66,SNR=12
GLA Glamis 66.14 67 *e*P **P 01 26 39.4 -0.2**
comp=Z,34nm,1.0s,mb5.1
GLA *e*pP pP 01 27 07.9 -0.9
T18A Mexican Hat 66.15 60 ⇑P **P 01 26 39.1 -0.5**
baz=66,SNR=30
W15A Williams 66.16 63 ⇑P **P 01 26 40.1 +0.5**
baz=66,SNR=14
PV01 Paradox Valley 66.17 59 *e*P **P 01 26 39.8 +0.1**
Y13A Salome 66.20 65 ⇓P **P 01 26 39.6 -0.4**
baz=66,SNR=13
X14A Yava 66.29 64 ⇑P **P 01 26 40.9 +0.3**
baz=66,SNR=32
AKL Akola 66.35 274 *ex* x 01 26 35.9
AKL AMb AMB 01 26 46.1
comp=Z,89nm,1.9s,mb5.3
WUAZ Wupatki 66.43 63 ⇑P **P 01 26 41.7 +0.2**
baz=66
WUAZ Wupatki 66.43 63 *e*P **P 01 26 41.5 +0.1**
comp=Z,120nm,1.4s,mb5.5
WUAZ *e*pP pP 01 27 10.2 -0.5
ISCO Idaho Springs 66.60 56 P **P 01 26 43.2 +0.8**
ISCO pmax pmax
comp=Z,130nm,1.4s,mb5.6
ISCO Idaho Springs 66.60 56 *e*P **P 01 26 43.2 +0.8**
comp=Z,133nm,1.4s,mb5.6
ISCO *e* pP 01 27 11.3 -0.2
Y14A Wickenburg 66.60 65 ⇑P **P 01 26 42.3 -0.2**
baz=66,SNR=24
W16A Flagstaff 66.64 63 ⇓P **P 01 26 43.1 +0.3**
baz=66,SNR=14
112A Yuma 66.66 67 ⇑P **P 01 26 42.5 -0.4**
baz=66
X15A Humboldt 66.66 64 ⇓P **P 01 26 43.1 +0.2**
baz=66,SNR=52
T19A Beclabito 66.84 60 ⇑P **P 01 26 43.7 -0.3**
baz=67,SNR=19
MVCO Mesa Verde 66.87 59 *e*P **P 01 26 44.2 0.0**
comp=Z,145nm,1.4s,mb5.6
MVCO *e*PcP PcP 01 27 12.0 0.0
MNK Minsk 66.88 329⇑*e*P **P 01 26 40.0 -3.9**
113A Mohawk Valley, 66.98 66 ⇑P **P 01 26 44.2 -0.7**
baz=67,SNR=25
Y15A Casa Rosa Ranc 66.98 64 ⇓P **P 01 26 45.1 +0.1**
baz=67,SNR=33
Z14A Wintersburg 67.04 65 ⇑P **P 01 26 44.8 -0.5**
baz=67
V18A Ganado 67.12 62 ⇑P **P 01 26 46.0 +0.2**
baz=67,SNR=20
W17A Winslow 67.13 62 ⇑P **P 01 26 45.8 0.0**
baz=67
X16A Lo Mia Camp, P 67.17 63 ⇑P **P 01 26 46.7 +0.5**
baz=67,SNR=39
Y16A Circle Bar Ran 67.53 64 ⇓P **P 01 26 48.4 0.0**
baz=67,SNR=16
Z15A Gila River Ind 67.56 65 ⇑P **P 01 26 48.1 -0.5**
baz=67
X17A Forest Lakes 67.60 63 ⇑P **P 01 26 49.1 +0.3**
baz=67,SNR=15
V19A Window Rock 67.63 61 ⇑P **P 01 26 49.1 +0.1**
baz=67
W18A Petrified Fore 67.66 62 ⇑P **P 01 26 49.3 +0.1**
baz=67
HYB Hyderabad 67.73 271 *i* P **P 01 26 51.0 +1.2**
comp=Z,80nm,1.0s,mb5.5
HYB *e*PcP PcP 01 27 17.0 +1.2
HYB *e*PP pP 01 27 19.5 +0.4
HYB *e*S S 01 35 40.0 +2.0
MAK Makhachkala 67.74 311 *e*P **P 01 26 47.4 -2.2**
MAK *e* pP 01 27 15.1 -3.7
MAK *i* *SP sP 01 27 28.7 -3.1
MAK *e*PPP 01 30 58.5
MAK *e*S S 01 35 33.8 -3.7
MAK *i* 01 36 11.2
MAK *i* *SS sS 01 36 26.2 -1.7
MAK *e*SS SS 01 40 07.2 +7.2
MAK pmax pmax
comp=Z,879nm,1.8s,mb6.3
W19A Sanders 67.86 62 ⇓P **P 01 26 51.2 +0.7**
baz=68
115A Sonoran Desert 67.94 65 ⇓P **P 01 26 51.0 +0.1**
baz=68,SNR=24
Z16A Peralta Trail, 67.95 64 ⇑P **P 01 26 51.0 -0.1**
baz=68,SNR=11
X18A Snowflake 67.96 62 ⇑P **P 01 26 51.2 +0.2**
baz=68,SNR=9.9
Y17A Roosevelt 68.03 64 ⇓P **P 01 26 51.8 +0.2**
baz=68,SNR=31
GSI Gunungsitoli 68.07 244⇑*e*P **P 01 26 51.0 -1.0**
GSI Gunungsitoli 68.07 244⇑*e*P **P 01 26 51.0 -1.0**
214A Organ Pipe Nat 68.12 66 ⇓P **P 01 26 52.0 -0.1**
baz=68,SNR=20
SDCO Great Sand Dun 68.14 57 *e*P **P 01 26 52.5 +0.4**
comp=Z,82nm,1.6s,mb5.3
SDCO *e*PcP PcP 01 27 17.6 +0.3
SDCO *e*pP pP 01 27 21.2 -0.2
ECSD EROS,Sioux Fal 68.29 48 *e*P **P 01 26 52.4 -0.6**
comp=Z,48nm,0.9s,mb5.3
LATR Latur 68.30 273 *e*P **P 01 26 52.8 -0.6**
LATR AMb AMB 01 26 56.3
comp=Z,138nm,0.9s,mb5.8
116A Eloy 68.34 65 ⇑P **P 01 26 53.3 -0.2**
baz=68,SNR=12
X19A St. Johns 68.41 62 ⇑P **P 01 26 54.3 +0.4**
baz=68,SNR=28
Y18A Canyon Day Jun 68.45 63 ⇓P **P 01 26 54.5 +0.4**
baz=68,SNR=19
Z17A San Carlos Hig 68.54 64 ⇓P **P 01 26 54.8 +0.1**
baz=68
Y19A Nutrioso 68.77 62 ⇑P **P 01 26 56.6 +0.5**
baz=69,SNR=33
SUW Suwalki 68.78 332 *e*P **P 01 26 54.7 -1.1**
SUW Suwalki 68.78 332 P **P 01 26 55.1 -0.7**
SUW pmax pmax
comp=Z,75nm,1.0s,mb5.5
SUW Suwalki 68.78 332⇓*e*P **P 01 26 54.7 -1.1**
216A Three Points, 68.89 65 ⇑P **P 01 26 56.7 -0.2**
baz=69,SNR=11
117A Oracle 68.90 64 ⇓P **P 01 26 56.8 -0.1**
baz=69,SNR=22
Z18A Geronimo 68.94 64 ⇓P **P 01 26 57.5 +0.3**
baz=69

TUC Tucson 69.06 65 *e*P **P 01 26 57.8 -0.2**
TUC *e**PP pP 01 27 26.5 -0.8
TUC pmax pmax
comp=Z,46nm,1.4s,mb5.1
TUC Tucson 69.06 65 *e*P **P 01 26 57.8 -0.2**
comp=Z,46nm,1.4s,mb5.1
TUC *e*pP pP 01 27 26.4 -0.9
Z19A T-Link Ranch, 69.24 63 ⇓P **P 01 26 59.6 +0.6**
baz=69,SNR=12
BHJ Bhuj 69.24 282 *e*P **P 01 26 59.2 0.0**
BHJ AMb AMB 01 27 07.8
comp=Z,61nm,0.8s,mb5.5
118A Homack Ranch, 69.30 64 ⇑P **P 01 26 59.6 +0.2**
baz=69,SNR=45
KIV Kislovodsk 69.31 314 P **P 01 27 01.0 +1.7**
SNR=9.9
KIV Kislovodsk 69.31 314k *i*P **P 01 26 59.9 +0.6**
KIV *i* *PP pP 01 27 29.0 +0.3
KIV *i* pP 01 27 33.9 +5.2
KIV *e* 01 29 33.8
KIV *i* S S 01 35 57.9 +1.9
KIV *i* 01 36 35.4
KIV pmax pmax
comp=Z,400nm,2.1s,mb5.9
KIV pmax pmax
comp=Z,165nm,2.5s,mb5.4
KIV Kislovodsk 69.31 314⇑*i*P **P 01 27 00.4 +1.1**
KIV Kislovodsk 69.31 314 ⇑P **P 01 27 00.4 +1.2**
217A Green Valley 69.43 65 ⇓P **P 01 26 60.0 -0.2**
baz=69,SNR=21
AKASG Malin Array Be 69.53 326 P **P 01 26 59.4 -1.2**
comp=Z,11nm,0.5s,mb4.9,baz=33,slow=6.2,SNR=75
AKASG PcP PcP 01 27 22.1 -0.8
comp=Z,3.8nm,0.4s,baz=36,slow=4.9,SNR=7.2
AKASG pP pP 01 27 29.4 -0.5
comp=Z,8.9nm,0.8s,baz=33,slow=6.4,SNR=1.7
AKASG LR LR 02 02 41.3
comp=Z,328nm,19.4s,baz=30,slow=40
AKASG Malin Array Be 69.53 326 P **P 01 26 59.4 -1.1**
AKASG 01 27 22.1
AKASG *PP pP 01 27 29.4 -0.5
KIEV Kiev 69.54 326 *e*P **P 01 26 59.5 -1.1**
KIEV pmax pmax
comp=Z,92nm,1.3s,mb5.5
KIEV Kiev 69.54 326 *e*P **P 01 26 59.5 -1.1**
comp=Z,92nm,1.3s,mb5.5
119A Ashpeak Ranch, 69.60 63 ⇑P **P 01 27 01.2 -0.1**
baz=69,SNR=18
ANMO Albuquerque 69.64 60 *e*P **P 01 27 01.7 +0.2**
ANMO *e* 01 27 24.8
ANMO *e**PP pP 01 27 30.5 -0.4
ANMO pmax pmax
comp=Z,23nm,1.0s
ANMO Albuquerque 69.64 60 *e*P **P 01 27 01.7 +0.3**
comp=Z,23nm,1.0s,mb5.0
ANMO *e*PcP PcP 01 27 24.8 +1.1
ANMO *e*pP pP 01 27 30.5 -0.4
LAZ Ladron 69.65 61 *e*P **P 01 27 02.0 +0.5**
LAZ *e*pP pP 01 27 30.9 0.0
218A Dragoon 69.74 64 ⇑P **P 01 27 02.2 +0.1**
baz=70,SNR=43
MDRS Chennai 69.83 266 *e*P **P 01 27 03.1 +0.2**
MDRS AMb AMB 01 27 07.4
comp=Z,176nm,1.6s,mb5.6
CTA Charters Tower 69.84 188⇑*i*P **P 01 27 01.0 -1.7**
comp=Z,33nm,0.9s,mb5.2
CTA Charters Tower 69.84 188⇑*i*P **P 01 27 01.0 -1.7**
CTA pmax pmax
comp=Z,33nm,0.9s
CTAO Charters Tower 69.84 188 P **P 01 27 01.4 -1.3**
CTAO pmax pmax
comp=Z,61nm,1.0s,mb5.4
CTAO Charters Tower 69.84 188 *e*P **P 01 27 01.6 -1.1**
comp=Z,61nm,1.0s,mb5.4
CTAO *e*pP pP 01 27 30.5 -1.6
COWI Conover 69.87 42 *e*P **P 01 27 02.2 -0.5**
comp=Z,57nm,1.1s,mb5.3
LENM Lemitar 69.92 61 *e*P **P 01 27 03.6 +0.4**
LENM *e*pP pP 01 27 32.8 +0.1
DGRG David-gareji 69.92 311 P **P 01 27 05.5 +2.4**
POO Poona 69.97 275 *e*P **P 01 27 04.7 +1.0**
POO AMb AMB 01 27 08.4
comp=Z,145nm,1.8s,mb5.5
ONI Oni 70.00 313 P **P 01 27 04.1 +0.6**
LPM Los Pinos Moun 70.00 60 *e*P **P 01 27 04.3 +0.6**
LPM *e*pP pP 01 27 33.4 +0.2
Y22C IRIS PASSCAL I 70.02 61 ⇑P **P 01 27 04.2 +0.4**
baz=70
TBLG Delisi 70.02 311 P **P 01 27 03.9 +0.2**
MTA Mtatsminda 70.02 311 P **P 01 27 03.9 +0.2**
AFI Afiamalu 70.03 145 LR LR 01 58 41.0
comp=Z,263nm,18.2s,baz=25,slow=37
BNM Barren Site 70.13 61 *e*P **P 01 27 04.7 +0.3**
BNM *e*pP pP 01 27 34.3 +0.4
GOR Gori 70.13 312 P **P 01 27 04.4 +0.1**
219A White Tail Can 70.18 64 ⇑P **P 01 27 05.1 +0.3**
baz=70,SNR=38
SCHQ Schefferville 70.29 24 P **P 01 27 05.1 0.0**
comp=Z,47nm,0.7s,mb5.4,baz=348,slow=6.2,SNR=74
SCHQ LR LR 02 02 18.7
comp=Z,149nm,19.0s,baz=308,slow=39
SCHQ Schefferville 70.29 24 P **P 01 27 05.1 0.0**
SCHQ LR LR 02 02 18.7
319A Douglas 70.62 64 ⇑P **P 01 27 07.5 0.0**
baz=70,SNR=55
KAD Karad 70.64 274 *e*P **P 01 27 08.0 +0.2**
KAD AMb AMB 01 27 12.2
comp=Z,206nm,1.6s,mb5.7
SOC Sochi 70.96 316 *e*P **P 01 27 06.8 -2.6**
SOC *e* 01 27 27.0
SOC *e**SP sP 01 27 53.5 +1.8
SOC *e*PPP 01 31 34.3
SOC *e*S S 01 36 11.4 -3.9
SOC *e*SS SS 01 40 48.5 -0.9
SOC pmax pmax
comp=Z,39nm,0.9s,mb5.2
WAR Warsaw 70.97 332 *e*P **P 01 27 09.5 +0.2**
WAR Warsaw 70.97 332 *e*P **P 01 27 09.5 +0.2**
ANN Anapa 71.02 318c *i*P **P 01 27 07.1 -2.6**
ANN *e* 01 27 27.6
ANN *e**PP pP 01 27 36.2 -3.0
ANN *e* 01 29 44.4
ANN *e*S S 01 36 11.7 -4.2
ANN pmax pmax
comp=Z,125nm,1.8s,mb5.4
GKP Gorka Klasztor 71.18 334 *e*P **P 01 27 10.0 -0.5**
GKP Gorka Klasztor 71.18 334⇓*e*P **P 01 27 10.0 -0.5**
GNI Garni 71.22 310 ⇑P **P 01 27 12.5 +1.5**
SNR=9.4
GNI Garni 71.22 310 *i*P **P 01 27 12.3 +1.3**
SCIA State Center 71.30 47 *e*P **P 01 27 11.2 -0.2**
comp=Z,103nm,0.8s,mb5.7
SCIA *e*pP pP 01 27 39.7 -1.3
MCD Coleburn Disti 71.49 347 *e*P **P 01 27 11.8 -0.5**
WRAB Tennant Creek 71.55 200c *i*P **P 01 27 11.9 -1.1**
WRAB Tennant Creek 71.55 200 *e*P **P 01 27 11.8 -1.2**
comp=Z,40nm,0.8s,mb5.3
WRAB *e*PcP PcP 01 27 32.1 +0.5
WRAB *e*pP pP 01 27 41.1 -1.4
WB2 Warramunga Arr 71.56 200⇑*i*P **P 01 27 12.0 -1.1**
WB2 *e*pP pP 01 27 41.2 -1.4
WB2 *e*S S 01 36 20.2 -2.2
WRA Warramunga Arr 71.56 200 P **P 01 27 12.0 -1.1**
comp=Z,25nm,0.6s,mb5.2,baz=17,slow=6.6,SNR=246
WRA pP pP 01 27 41.4 -1.2
comp=Z,26nm,0.8s,baz=16,slow=6.6,SNR=7.1
WRA LR LR 01 55 25.3
comp=Z,106nm,19.7s,baz=15,slow=33
WRA Warramunga Arr 71.56 200 P **P 01 27 12.0 -1.1**
WRA *PP pP 01 27 41.4 -1.3
MDO Dochfour 71.78 348 *e*P **P 01 27 12.9 -1.1**
ARTV Artvin 71.79 313⇓*i*P **P 01 27 15.4 +1.0**
KAC Achnashellach 71.84 349 *e*P **P 01 27 13.2 -1.2**
JFWS Jewell Farm 71.89 44 *e*P **P 01 27 13.6 -1.3**
JFWS pmax pmax
comp=Z,30nm,1.2s,mb5.0
JFWS Jewell Farm 71.89 44 *e*P **P 01 27 13.6 -1.3**
comp=Z,30nm,1.2s,mb5.0
KPL Plockton 72.04 349 *e*P **P 01 27 14.8 -0.8**
KPL AMb AMB 01 27 20.1
comp=Z,32nm,1.8s,mb4.9
LVV L'vov 72.08 329⇑*i*P **P 01 27 09.3 -6.7**
LVV *i* pP 01 27 43.7 -1.9
LVV *e* 01 29 58.3

LVV *i* 01 31 40.9
LVV *e* 01 36 52.7
LVV *e* 01 37 00.9
FITZ Fitzroy Crossi 72.12 209 *e*P **P 01 27 16.5 +0.1**
comp=Z,27nm,0.6s,mb5.2
FITZ *e*pP pP 01 27 44.5 -1.6
FITZ *e*S S 01 36 28.8 -0.1
KSB Sheil Bridge 72.14 349 *e*P **P 01 27 15.5 -0.7**
DYDN Diyadin 72.20 311⇓*i*P **P 01 27 18.8 +1.9**
GOA Goa 72.21 273 *e*P **P 01 27 17.9 +0.6**
GOA AMb AMB 01 27 20.3
comp=Z,258nm,1.9s,mb5.7
SIM Simferopol' 72.32 320c*e*P **P 01 27 17.5 0.0**
SIM *PP pP 01 27 58.7 +12
SIM PPP 01 31 38.0
SIM S S 01 36 30.6 -0.2
SIM pmax pmax
comp=Z,57nm,0.8s,mb5.5
SIM pmax pmax
comp=Z,88nm,11.0s
AMTX Amarillo 72.33 57 *e*P **P 01 27 17.5 -0.2**
comp=Z,86nm,1.4s,mb5.4
AMTX *e*PcP PcP 01 27 36.7 +1.6
AMTX *e*pP pP 01 27 46.7 -0.6
BSEG Bad Segeberg 72.37 339 *e*P **P 01 27 18.0 +0.4**
comp=Z,82nm,1.5s,mb5.3
BSEG *e*PcP PcP 01 27 26.9 -8.0
KAR1 Arisaig 72.48 349 *e*P **P 01 27 17.6 -0.6**
KWP Kalwaria 72.69 329 *e*P **P 01 27 19.8 +0.2**
KWP Kalwaria 72.69 329⇓*i*P **P 01 27 19.6 0.0**
KWP Kalwaria 72.69 329⇓*e*P **P 01 27 19.8 +0.2**
HOMI Horasan 72.69 312⇓*i*P **P 01 27 20.6 +0.9**
KIS Kishinev 72.75 324b *i*P **P 01 27 18.0 -2.0**
KIS *i* *PP pP 01 27 48.5 -1.1
KIS *e* 01 30 00.0
KIS *e*PPP 01 31 46.0
KIS *e*S S 01 36 32.0 -3.6
KIS *e*PS 01 37 09.0
KIS pmax pmax
comp=N,160nm,1.6s
KIS pmax pmax
comp=Z,290nm,1.6s,mb5.9
KIS MLR MLR
comp=Z,400nm,18.0s
KIS MLR MLR
comp=N,200nm,16.0s
KIS MLR MLR
comp=E,300nm,20.0s
KIS MLR MLR
comp=Z,500nm,18.0s
KIS Kishinev 72.75 324 *i*P **P 01 27 18.0 -2.0**
comp=Z,300nm,1.6s,mb5.9
KIS *i*pP pP 01 27 48.5 -1.1
KIS Kishinev 72.75 324 *e*PP PP 01 30 00.0 -2.7
GLMI Grayling 72.80 40 *e*P **P 01 27 20.2 -0.1**
comp=Z,132nm,1.0s,mb5.7
EBH Black Hill 72.81 347 *e*P **P 01 27 19.4 -0.8**
RUE Ruedersdorf 72.83 336 *e*P **P 01 27 20.0 -0.4**
comp=Z,102nm,1.4s,mb5.5
RUE *e*PcP PcP 01 27 29.1 -7.8
EAB Aberfoyle 72.99 348 *e*P **P 01 27 20.4 -0.9**
ESY Stoneypath 73.00 347 *e*P **P 01 27 20.7 -0.6**
ESY AMb AMB 01 27 24.0
comp=Z,70nm,1.6s,mb5.2
IAS Iasi 73.06 325⇑*i*P **P 01 27 22.1 +0.3**
IAS Iasi 73.06 325 P **P 01 27 21.3 -0.5**
OJC Ojcow 73.11 331 *e*P **P 01 27 21.9 -0.2**
OJC *e*S S 01 36 41.3 +1.7
OJC L 02 06 00.1
comp=Z,0.3nm,19.7s
OJC Ojcow 73.11 331⇓*e*P **P 01 27 21.9 -0.2**
OJC *e*S S 01 36 41.3 +1.7
EAU Auchinoon 73.20 347 *e*P **P 01 27 21.4 -1.0**
STHS Stebnicka Huta 73.35 330 *i*P **P 01 27 23.8 +0.3**
STHS pmax pmax
comp=Z,29nm,0.7s,mb5.2
STHS Stebnicka Huta 73.35 330 *i*P **P 01 27 23.8 +0.3**
comp=Z,29nm,0.7s,mb5.2
XSO Sourhope Farm 73.36 346 *e*P **P 01 27 22.6 -0.8**
PGBU Glenifferbraes 73.38 348 *e*P **P 01 27 22.9 -0.6**
PGBU AMb AMB 01 27 26.6
comp=Z,237nm,1.5s,mb5.8
KOPT Kop Dagi 73.39 313⇓*i*P **P 01 27 25.4 +1.6**
KOLS Kolonicke sedl 73.43 329 *e*P **P 01 27 23.9 -0.1**
KOLS *e* 01 27 28.0
KOLS *e*PP PP 01 30 28.8 +20
BURAR Bucovina Array 73.55 327⇓*i*P **P 01 27 24.3 -0.4**
BURAR Bucovina Array 73.55 327 P **P 01 27 24.6 -0.2**
KSP Ksiaz 73.61 334 *e*P **P 01 27 24.9 -0.1**
KSP Ksiaz 73.61 334⇓*e*P **P 01 27 24.8 -0.2**
KSP *e*PcP PcP 01 27 41.1 +0.9
KSP *e*S S 01 36 40.2 -5.0
KSP LR LR
comp=Z,1μm,23.7s
NIE Niedzica 73.65 331 *e*P **P 01 27 25.5 +0.3**
ESK Eskdalemuir 73.67 347 *e*P **P 01 27 24.4 -0.9**
ESK AMb AMB 01 27 29.4
comp=Z,66nm,2.0s,mb5.0
ESK Eskdalemuir 73.67 347 *e*P **P 01 27 24.9 -0.4**
ESK pmax pmax
comp=Z,27nm,0.9s,mb5.0
ESK Eskdalemuir 73.67 347 *e*P **P 01 27 24.9 -0.4**
comp=Z,27nm,0.9s,mb5.0
UZH Uzhgorod 73.69 329⇓*i*P **P 01 27 25.2 -0.3**
UZH *i* 01 27 40.2
UZH *e* pP 01 27 54.0 -1.2
UZH *i*S S 01 36 43.0 -3.2
HAKT HAKKARI 73.73 309⇓*i*P **P 01 27 26.7 +0.8**
CRVS Cervenica-Dubn 73.73 330 *e*P **P 01 27 25.3 -0.4**
CRVS *e*S S 01 36 45.2 -1.4
KOD Kodaikanal 73.74 267 *e*P **P 01 27 27.3 +1.0**
KOD AMb AMB 01 27 29.0
comp=Z,233nm,1.1s,mb5.8
NRDL Niedersach Rie 73.75 338 *e*P **P 01 27 25.4 -0.3**
comp=Z,36nm,1.3s,mb4.9
NRDL *e*pP pP 01 28 03.7 +8.3
NRDL *e*S S 01 36 46.7 0.0
ECK Cauldkaine Hil 73.79 347 *e*P **P 01 27 25.3 -0.6**
PALK Pallekele 73.88 262 ⇓P **P 01 27 28.0 +0.9**
SNR=10.0
PALK Pallekele 73.88 262 *e*P **P 01 27 27.9 +0.8**
comp=Z,276nm,1.4s,mb5.8
BNGL BINGOL 73.91 312⇓*i*P **P 01 27 28.3 +1.4**
OKC Ostrava-Krasne 73.95 332 *e*P **P 01 27 26.9 -0.1**
OKC *e*x x 01 27 35.2
OKC *e*x x 01 30 45.5
OKC *e*S S 01 36 47.9 -1.2
OKC *e*SKS 01 37 21.4
OKC AMS AMS 02 02 10.0
comp=Z,500nm,22.8s
XAL Allendale 73.96 346 *e*P **P 01 27 26.3 -0.7**
UPC Upice 73.99 334 *e*P **P 01 27 27.1 -0.1**
UPC *e*x x 01 27 35.3
UPC *e*x x 01 30 43.5
UPC Upice 73.99 334 *e*P **P 01 27 27.2 0.0**
WMOK Wichita Mounta 74.00 55 P **P 01 27 27.0 -0.5**
WMOK pmax pmax
comp=Z,33nm,0.9s,mb5.1
WMOK Wichita Mounta 74.00 55 *e*P **P 01 27 27.1 -0.4**
comp=Z,33nm,0.8s,mb5.1
WMOK *e*pP pP 01 27 56.0 -1.2
DPC Dobruska-Polom 74.04 334 *e*P **P 01 27 27.6 +0.1**
DPC *e*x x 01 27 35.6
DPC *e*S S 01 36 49.0 -1.0
DPC *e*SKS 01 37 23.1
DPC AMS AMS 02 04 10.0
comp=Z,500nm,17.9s
DPC Dobruska-Polom 74.04 334 *e*P **P 01 27 27.9 +0.4**
CLL Collm 74.10 336⇓*i*P **P 01 27 27.0 -0.8**
CLL *i* 01 27 35.1
CLL *e**PP pP 01 28 00.0 +2.5
CLL *e*S S 01 36 48.0 -2.7
CLL pmax pmax
comp=Z,74nm,1.4s,mb5.2
CLL MLR MLR
comp=Z,300nm,18.3s
CLL Collm 74.10 336 *e*P **P 01 27 27.1 -0.7**
comp=Z,109nm,1.8s,mb5.3
CLL *e*S S 01 36 50.8 +0.1
CLL Collm 74.10 336⇓*i*P **P 01 27 27.0 -0.8**
comp=Z,74nm,1.4s,mb5.2
CLL *e*(pP) pP 01 28 00.0 +2.5
CLL *e*PP PP 01 30 18.0 +4.1

CLL *e*PPP 01 32 11.0
CLL *e*S S 01 36 48.0 -2.7
CLL *e*ScS ScS 01 37 27.0 +0.2
CLL *e*SS SS 01 41 24.0 -13
CLL *e*x x 01 42 36.0
CLL *es*SSS 01 45 54.0
CLL LmV 02 04 00.0
comp=Z,300nm,18.3s
CLL Collm 74.10 336 ⇓*i*P **P 01 27 27.0 -0.8**
comp=Z,74nm,1.4s,mb5.2
CLL *i* 01 27 35.1
CLL *ep*P pP 01 28 00.0 +2.5
CLL *e*S S 01 36 48.0 -2.7
CLL LR LR
comp=Z,300nm,18.3s
MORC Moravsky Berou 74.19 333 ⇓*i*P **P 01 27 28.3 -0.1**
MORC Moravsky Berou 74.19 333 ⇓P **P 01 27 28.3 0.0**
BRG Berggiesshubel 74.24 335 *i* P **P 01 27 28.1 -0.5**
BRG **SP* sP 01 28 10.0 -1.2
BRG *e* 01 30 11.8
BRG S S 01 36 49.0 -3.3
BRG pmax pmax
comp=Z,62nm,1.9s,mb5.0
BRG MLR MLR
comp=Z,360nm,19.0s
BRG Berggiesshubel 74.24 335 *e*P **P 01 27 28.1 -0.5**
comp=Z,39nm,1.4s,mb4.9
BRG Berggiesshubel 74.24 335 *i* P **P 01 27 28.1 -0.5**
comp=Z,103nm,1.9s,mb5.2
BRG sP sP 01 28 10.0 -1.2
BRG *ep*PP PP 01 30 11.8 -3.4
comp=Z,24nm,1.6s
BRG *e* 01 30 37.8
comp=Z,24nm,1.6s
BRG *e* 01 30 43.3
comp=Z,24nm,1.5s
BRG *e* 01 34 00.2
comp=Z,17nm,1.8s
BRG S S 01 36 49.0 -3.3
BRG *i* 01 37 27.0
BRG
comp=N,459nm,18.6s
BRG
comp=E,119nm,14.6s
BRG
comp=Z,606nm,19.0s
BRG Berggiesshubel 74.24 335 *i* P **P 01 27 28.1 -0.5**
comp=Z,62nm,1.9s,mb5.0
BRG sP sP 01 28 10.0 -1.2
BRG *e*PP PP 01 30 11.8 -3.4
BRG S S 01 36 49.0 -3.3
BRG LR LR
comp=Z,360nm,19.0s
TLCR 74.26 323 P **P 01 27 29.8 +0.9**
TLCR 74.26 323 ⇑*i*P **P 01 27 28.8 -0.1**
TLCR 74.26 323 ⇑P **P 01 27 28.8 -0.1**
CLZ Clausthal 74.28 338 *e*P **P 01 27 29.0 +0.1**
CLZ pmax pmax
comp=Z,96nm,1.3s,mb5.4
CLZ Clausthal 74.28 338 *e*P **P 01 27 29.0 +0.1**
comp=Z,96nm,1.3s,mb5.4
CLZ *ep*P pP 01 28 08.6 +10
GAL1 Galloway 74.33 348 *e*P **P 01 27 28.7 -0.3**
GAL1 AMb AMB 01 27 31.0
comp=Z,116nm,1.4s,mb5.4
FBE Freiberg 74.35 336 *e*P **P 01 27 28.9 -0.4**
comp=Z,74nm,1.5s,mb5.2
PVCC Panska Ves 74.38 335 *e*P **P 01 27 28.9 -0.5**
PVCC AMS AMS 02 03 10.0
comp=Z,700nm,23.1s
PVCC Panska Ves 74.38 335 *e*P **P 01 27 28.4 -1.0**
KECS Kecovo 74.41 330 *e*P **P 01 27 29.0 -0.7**
KECS *e* 01 27 40.0
KECS pmax pmax
comp=Z,21nm,1.3s,mb4.7
KECS Kecovo 74.41 330 *e*P **P 01 27 29.0 -0.7**
comp=Z,21nm,1.3s,mb4.7
KECS *e* 01 27 40.0
IBBN Ibbenburen 74.47 339 *e*P **P 01 27 29.8 -0.2**
comp=Z,126nm,1.2s,mb5.5
IBBN *e*PcP PcP 01 27 36.8 -7.1
VRI Vrincioaia 74.49 325 P **P 01 27 31.0 +0.8**
VRI Vrincioaia 74.49 325 ⇓*i*P **P 01 27 30.5 +0.3**
VRI Vrincioaia 74.49 325 ⇓P **P 01 27 30.5 +0.3**
PLOR Plostina 74.53 325 P **P 01 27 31.5 +1.1**
PLOR Plostina 74.53 325 ⇑*i*P **P 01 27 31.0 +0.6**
HPK Haverah Park 74.74 346 *e*P **P 01 27 31.3 -0.2**
HPK AMb AMB 01 27 33.8
comp=Z,242nm,1.6s,mb5.7
PRU Pruhonice 74.87 334 *e*P **P 01 27 32.3 0.0**
PRU *e*x x 01 27 39.1
PRU *e*x x 01 30 51.8
PRU *e*S S 01 36 59.2 -0.1
PRU *e*SKS 01 37 30.0
PRU AMS AMS 02 03 20.0
comp=Z,700nm,21.8s
PRU Pruhonice 74.87 334 *e*P **P 01 27 32.3 0.0**
PRU *e*S x 01 30 52.4
VRAC Vranov 74.89 333 P **P 01 27 32.9 +0.5**
VRAC Vranov 74.89 333 ⇓*i*P **P 01 27 32.6 +0.2**
VRAC Vranov 74.89 333 ⇓P **P 01 27 32.6 +0.2**
VYHS Vyhne 74.93 331 *e*P **P 01 27 32.7 0.0**
VYHS *e*S S 01 36 56.0 -4.0
VYHS pmax pmax
comp=Z,14nm,1.4s,mb4.5
VYHS Vyhne 74.93 331 *e*P **P 01 27 32.7 0.0**
VYHS *e*PP PP 01 30 54.2 +33
VYHS *e*S S 01 36 55.9 -4.1
VYHS *e*SCS ScS 01 37 31.1 -2.5
VYHS Vyhne 74.93 331 *e*P **P 01 27 32.7 0.0**
comp=Z,14nm,1.4s,mb4.5
VYHS *e*S S 01 36 56.0 -4.0
KOLL Kolacno 74.99 331 *e*P **P 01 27 32.7 -0.3**
KOLL *e*PCP PcP 01 27 40.7 -5.5
WTSB Winterswijk 75.01 340 ⇓*i*P **P 01 27 32.5 -0.6**
comp=Z,78nm,2.2s,mb5.0
HARR Harsova 75.02 324 P **P 01 27 34.1 +0.8**
HARR Harsova 75.02 324 ⇑*i*P **P 01 27 33.4 +0.1**
HARR Harsova 75.02 324 ⇑P **P 01 27 33.4 +0.1**
MSL Mosul 75.02 309 *ex* x 01 27 35.0
MSL *ex* x 01 37 33.0
WIM Isle of Man 75.02 347 *e*P **P 01 27 32.1 -1.0**
TIRR Tirgusor 75.03 323 P **P 01 27 34.5 +1.2**
TIRR Tirgusor 75.03 323 ⇓*i*P **P 01 27 33.0 -0.3**
TIRR Tirgusor 75.03 323 ⇓P **P 01 27 33.0 -0.3**
WERD Werda 75.06 336 *e*P **P 01 27 33.2 -0.2**
comp=Z,72nm,1.6s,mb5.2
MOX Moxa 75.06 336 *e*P **P 01 27 33.0 -0.4**
comp=Z,151nm,2.0s,mb5.4
MOX *e* 01 30 41.6
MOX
comp=Z,300nm,21.0s
MOX Moxa 75.06 336 *e*P **P 01 27 33.0 -0.4**
MOX pmax pmax
comp=Z,151nm,2.0s,mb5.4
MOX MLR MLR
comp=Z,300nm,21.0s
MOX Moxa 75.06 336 *e*P **P 01 27 33.1 -0.3**
comp=Z,50nm,1.5s,mb5.0
MLR Muntele Rosu 75.10 325 P **P 01 27 34.5 +0.8**
MLR Muntele Rosu 75.10 325 ⇑*i*P **P 01 27 33.9 +0.2**
MLR Muntele Rosu 75.10 325 ⇑P **P 01 27 33.9 +0.2**
PSZ Piszkesteto 75.10 330 P **P 01 27 34.3 +0.7**
PSZ Piszkesteto 75.10 330 *e*P **P 01 27 33.9 +0.3**
PSZ Piszkesteto 75.10 330 ⇑*i*P **P 01 27 33.9 +0.3**
PSZ Piszkesteto 75.10 330 ⇑P **P 01 27 33.9 +0.2**
GUNZ Gunzen 75.13 336 *e*P **P 01 27 33.7 -0.1**
comp=Z,48nm,1.1s,mb5.1
GUNZ *e*PcP PcP 01 27 40.6 -6.2
DRGR 75.14 328 ⇓*i*P **P 01 27 33.6 -0.3**
DRGR 75.14 328 P **P 01 27 33.9 0.0**
ISR Istrita 75.19 325 ⇑*i*P **P 01 27 34.8 +0.6**
WERN Wernitzgruen 75.19 336 *e*P **P 01 27 34.0 -0.1**
comp=Z,52nm,1.0s,mb5.2
WERN *e*PcP PcP 01 27 40.7 -6.4
NKC Novy Kostel 75.22 336 *e*P **P 01 27 33.8 -0.5**
NKC *ex* x 01 27 40.7
NKC *ex* x 01 30 54.1
NKC *e*S S 01 37 00.8 -2.4
NKC *e*SKS 01 37 33.0
NKC Novy Kostel 75.22 336 *e*P **P 01 27 33.9 -0.4**
TREC Trest 75.22 334 *e*P **P 01 27 34.4 +0.1**
TREC *ex* x 01 27 41.1
TREC *ex* x 01 30 55.9
TREC *e*S S 01 37 01.9 -1.4
TREC *e*SKS 01 37 32.1
TREC AMS AMS 02 02 40.0
comp=Z,700nm,25.1s
ASAR Alice Springs 75.26 199 P **P 01 27 34.6 -0.1**
comp=Z,18nm,0.7s,mb4.9,baz=15,slow=5.3,SNR=154
ASAR pP pP 01 28 03.9 -0.7
comp=Z,16nm,0.7s,baz=18,slow=5.4,SNR=6.5
SLM Saint Louis 75.28 47 P **P 01 27 34.3 -0.5**
SLM pmax pmax
comp=Z,17nm,0.6s,mb5.0
SLM Saint Louis 75.28 47 *e*P **P 01 27 34.4 -0.5**
comp=Z,17nm,0.6s,mb5.0
ELZG Elazig 75.30 313 ⇓*i*P **P 01 27 36.5 +1.5**
UBBA Unterbreizbach 75.31 337 *e*P **P 01 27 34.4 -0.4**
comp=Z,89nm,1.8s,mb5.2
TRD Trivandrum 75.37 266 *e*P **P 01 27 35.0 -0.7**
TRD AMb AMB 01 27 40.0
comp=Z,189nm,1.5s,mb5.6
MARD Mardin 75.37 311 ⇓*i*P **P 01 27 36.5 +1.1**
TXAR Lajitas Array 75.38 62 P **P 01 27 35.5 -0.1**
comp=Z,47nm,0.7s,mb5.4,baz=299,slow=4.2,SNR=676
TXAR pP pP 01 28 04.3 -1.1
comp=Z,17nm,0.8s,baz=305,slow=4.4,SNR=4.7
TXAR Lajitas Array 75.38 62 P **P 01 27 35.5 -0.1**
TXAR pP pP 01 28 04.3 -1.1
BUG Bochum--Univer 75.39 339 *e*P **P 01 27 34.8 -0.4**
comp=Z,71nm,1.5s,mb5.2
BUG *ep*P pP 01 28 15.0 +10
KBI1 Birley Grange 75.40 345 *e*P **P 01 27 34.6 -0.6**
BALT Daday 75.40 318 ⇓*i*P **P 01 27 38.3 +2.8**
VOIR 75.47 326 ⇓*i*P **P 01 27 36.2 +0.4**
VOIR 75.47 326 ⇓P **P 01 27 36.2 +0.3**
MODS Modra-Piesok 75.52 332 *e*P **P 01 27 36.7 +0.7**
MODS *e* 01 27 43.6
MODS *e*S S 01 37 06.7 +0.2
MODS pmax pmax
comp=Z,36nm,1.3s,mb4.9
MODS Modra-Piesok 75.52 332 *e*P **P 01 27 36.7 +0.7**
comp=Z,36nm,1.3s,mb4.9
MODS *e* 01 27 43.6
MODS *e*PP PP 01 31 00.5 +34
MODS *e*S S 01 37 06.7 +0.2
CTKT Corum 75.53 317 ⇓*i*P **P 01 27 37.4 +1.1**
MANZ Manzenberg 75.54 336 *e*P **P 01 27 36.1 0.0**
comp=Z,46nm,1.5s,mb5.0
MANZ *e*PcP PcP 01 27 41.7 -6.9
DMUB Kingscourt 75.56 349 *e*P **P 01 27 36.0 -0.2**
DMUB Kingscourt 75.56 349 *e*P **P 01 27 36.2 0.0**
KWE Weaver Farm 75.68 345 *e*P **P 01 27 35.4 -1.5**
FVM French Village 75.70 48 *e*P **P 01 27 36.6 -0.7**
FVM *e**PP pP 01 28 05.3 -1.8
FVM pmax pmax
comp=Z,16nm,0.8s,mb4.8
FVM French Village 75.70 48 *e*P **P 01 27 36.6 -0.7**
comp=Z,16nm,0.8s,mb4.8
FVM *ep*P pP 01 28 05.3 -1.9
MALT Malatya 75.72 313 P **P 01 27 38.9 +1.6**
MALT Malatya 75.72 313 ⇓*i*P **P 01 27 38.2 +0.9**
MALT Malatya 75.72 313 ⇓P **P 01 27 38.2 +0.8**
ZST Bratislava 75.73 332 *e*P **P 01 27 37.5 +0.3**
ZST *e* 01 27 44.3
ZST *e*S S 01 37 08.6 -0.3
ZST pmax pmax
comp=Z,129nm,1.7s,mb5.4
ZST MLR MLR
comp=Z,200nm,17.4s
ZST Bratislava 75.73 332 *e*P **P 01 27 37.5 +0.3**
ZST *e*PCP PcP 01 27 44.3 -5.1
ZST *e*PP PP 01 31 02.4 +35
ZST *e*S S 01 37 08.6 -0.3
ZST Bratislava 75.73 332 *e*P **P 01 27 37.5 +0.3**
comp=Z,129nm,1.7s,mb5.4
ZST *e* 01 27 44.3
ZST *e*PP PP 01 31 02.4 +35
ZST *e*S S 01 37 08.6 -0.3
ZST LR LR
comp=Z,200nm,17.4s
BUD Budapest 75.76 330 *e*P **P 01 27 37.7 +0.3**
WPM1 Penmaenmawr 75.77 347 *e*P **P 01 27 36.4 -1.0**
CWF Charnwood Fore 75.86 345 *e*P **P 01 27 37.5 -0.4**
CWF AMb AMB 01 27 41.0
comp=Z,217nm,1.5s,mb5.7
KHC Kasperske Hory 75.92 335 *e*P **P 01 27 38.6 +0.3**
KHC *ex* x 01 27 44.5
KHC *ex* x 01 30 59.6
KHC *e*S S 01 37 09.8 -1.1
KHC *e*SKS 01 37 38.2
KHC AMS AMS 02 04 30.0
comp=Z,700nm,18.8s
AKCD Akcadag 75.97 313 ⇓*i*P **P 01 27 40.0 +1.2**
SBD1 Bryn Du 76.02 346 *e*P **P 01 27 38.0 -0.8**
BUC1 Bucharest 76.04 325 P **P 01 27 40.4 +1.3**
BUC1 Bucharest 76.04 325 ⇑*i*P **P 01 27 39.5 +0.4**
BUC1 Bucharest 76.04 325 ⇑P **P 01 27 39.5 +0.5**
GRA1 Grafenberg Arr 76.04 336 *e*P **P 01 27 39.2 +0.2**
comp=Z,94nm,1.4s,mb5.3
GRA1 *e*PcP PcP 01 27 44.9 -5.8
GRA1 *e*S S 01 37 11.0 -1.2
GRF Grafenberg Arr 76.04 336 *e*P **P 01 27 39.2 +0.2**
GRF *e* 01 27 44.9
GRF *e*S S 01 37 11.0 -1.2
GRF pmax pmax
comp=Z,94nm,1.4s,mb5.3
GRF Grafenberg Arr 76.04 336 *e*P **P 01 27 39.2 +0.2**
GRF *e* 01 27 44.9
GRF *e*S S 01 37 11.0 -1.2
GRF pmax pmax
comp=Z,94nm,1.4s,mb5.3
GRF Grafenberg Arr 76.04 336 *e*P **P 01 27 39.2 +0.2**
comp=Z,94nm,1.4s,mb5.3
GRF *e*PcP PcP 01 27 44.9 -5.8
GRF *e*S S 01 37 11.0 -1.2
WET Wettzell 76.10 335 *e*P **P 01 27 39.6 +0.3**
WET pmax pmax
comp=Z,28nm,1.0s,mb5.0
WET Wettzell 76.10 335 *e*P **P 01 27 39.6 +0.3**
comp=Z,28nm,1.0s,mb5.0
DLF Lyons Farm 76.11 348 *e*P **P 01 27 38.9 -0.4**
DSB Dublin 76.13 348 *e*P **P 01 27 39.4 0.0**
comp=Z,180nm,1.5s,mb5.6
GEC2 GERESS Array S 76.14 334 P **P 01 27 39.6 0.0**
GEC2 GERESS Array S 76.14 334 *e*P **P 01 27 39.4 -0.2**
comp=Z,31nm,1.4s,mb4.8
GERES GERESS Array B 76.14 334 P **P 01 27 39.4 -0.1**
comp=Z,5.2nm,0.5s,mb4.5,baz=38,slow=5.4,SNR=57
GERES LR LR 02 04 52.6
comp=Z,732nm,20.8s,baz=19,slow=38
DCN Croghan 76.16 349 *e*P **P 01 27 39.4 -0.2**
OLIL Olney 76.20 46 *e*P **P 01 27 39.8 -0.3**
comp=Z,54nm,1.0s,mb5.2
OLIL *ep*P pP 01 28 09.9 0.0
ELDT Eldivan 76.24 318 ⇓*i*P **P 01 27 41.4 +1.1**
TNS Taunus Mts 76.25 338 *e*P **P 01 27 39.9 -0.2**
TNS *e* 01 27 45.6
TNS *e**PP pP 01 28 21.7 +12
TNS pmax pmax
comp=Z,41nm,1.2s,mb5.0
TNS Taunus Mts 76.25 338 *e*P **P 01 27 39.9 -0.2**
comp=Z,41nm,1.2s,mb5.0
TNS *e*PcP PcP 01 27 45.6 -6.0
TNS *ep*P pP 01 28 21.7 +12
HGN Heimansgroeve 76.33 340 ⇓*i*P **P 01 27 40.3 -0.3**
comp=Z,106nm,1.1s,mb5.5
HGN Heimansgroeve 76.33 340 *e*PP PP 01 30 34.6 +1.9
HGN Heimansgroeve 76.33 340 *i* S S 01 37 21.4 +6.1
HGN Heimansgroeve 76.33 340 *e*SS SS 01 42 16.5 +6.1
CONA Conrad Observa 76.34 333 *i* P **P 01 27 41.3 +0.6**
comp=Z,301nm,2.0s,mb5.7,SNR=26
BEBN Eben Emael 76.35 340 P **P 01 27 40.5 -0.3**
comp=Z,38nm,1.6s,mb4.9
ATAB Bozova 76.45 313 ⇓*i*P **P 01 27 43.0 +1.5**
MEM Membach 76.45 340 P **P 01 27 41.5 +0.3**
comp=Z,71nm,1.5s,mb5.2
HATD Hatta, Dubai 76.48 292 P **P 01 27 42.0 +0.1**
SNR=11
PRD Provadia 76.48 323 P **P 01 27 42.7 +1.1**
SIUC Southern Illin 76.49 47 *e*P **P 01 27 41.5 -0.2**
comp=Z,26nm,0.7s,mb5.1
SIUC *ep*P pP 01 28 10.6 -1.1
CDAG Cicekdag 76.53 316 ⇓*i*P **P 01 27 42.5 +0.5**
BZS Buzias 76.53 328 ⇓*i*P **P 01 27 41.3 -0.6**
BZS Buzias 76.53 328 P **P 01 27 41.6 -0.2**
BLO Bloomington 76.57 44 P **P 01 27 41.5 -0.7**
BLO pmax pmax
comp=Z,13nm,0.8s,mb4.7
BLO Bloomington 76.57 44 *e*P **P 01 27 41.7 -0.5**
comp=Z,13nm,0.8s,mb4.7
ASHO Ashiyiah 76.63 292 P **P 01 27 42.9 +0.2**
SNR=12
UCC Uccle 76.63 341 P **P 01 27 41.9 -0.4**
comp=Z,48nm,1.6s,mb5.0
JCT Junction City 76.69 59 *e*P **P 01 27 42.5 -0.5**
JCT *e**PP pP 01 28 12.1 -0.8
JCT pmax pmax
comp=Z,51nm,0.9s,mb5.2
JCT Junction City 76.69 59 *e*P **P 01 27 42.5 -0.5**
comp=Z,50nm,0.9s,mb5.2
JCT *ep*P pP 01 28 12.1 -0.8
HOQ Hoqain 76.69 291 P **P 01 27 43.5 +0.4**
SNR=11
SSW Stow on the Wo 76.70 345 *e*P **P 01 27 42.2 -0.4**
BHD Baghdad 76.70 306 *ex* x 01 27 38.0
BHD *ex* x 01 36 56.0
BHD *ex* x 01 37 40.0
TOD Tromm 76.73 338 *e*P **P 01 27 43.4 +0.5**
SKP1 Kophill 76.75 344 *e*P **P 01 27 42.4 -0.6**
SGKT Sivrigoynuk 76.77 319 ⇓*i*P **P 01 27 44.9 +1.6**
BCLA Clavier 76.79 340 P **P 01 27 43.4 +0.3**
comp=Z,55nm,1.6s,mb5.0
HTR Trewern Hill 76.82 346 *e*P **P 01 27 43.3 0.0**
MCH1 Michaelchurch 76.85 346 *e*P **P 01 27 43.3 -0.3**
MCH1 AMb AMB 01 27 46.7
comp=Z,147nm,1.5s,mb5.5
LONY Lake Ozonia 76.86 34 *e*P **P 01 27 42.7 -1.0**
comp=Z,78nm,1.5s,mb5.2
LONY *ep*P pP 01 28 12.7 -0.9
MIAR Mount Ida 76.86 52 P **P 01 27 43.2 -0.7**
MIAR pmax pmax
comp=Z,38nm,1.0s,mb5.1
MIAR Mount Ida 76.86 52 *e*P **P 01 27 43.4 -0.5**
comp=Z,38nm,1.0s,mb5.1
MIAR *ep*P pP 01 28 12.4 -1.4
ZIMR 76.88 325 P **P 01 27 44.5 +0.7**
ZIMR 76.88 325 ⇑*i*P **P 01 27 44.3 +0.5**
ZIMR 76.88 325 ⇑P **P 01 27 44.2 +0.5**
MOA Molln 76.88 334 *i* P **P 01 27 43.9 +0.2**
comp=Z,271nm,2.8s,mb5.5,SNR=14
CRAR CRAIOVA 76.88 326 P **P 01 27 44.2 +0.4**
CRAR CRAIOVA 76.88 326 ⇑*i*P **P 01 27 43.7 -0.1**
MBWA Marble Bar 76.93 213 *e*P **P 01 27 44.0 -0.2**
comp=Z,113nm,1.6s,mb5.3
MBWA *ep*P pP 01 28 13.0 -1.1
MBWA *es*P sP 01 28 24.1 -2.8
SZH Strazhica 76.99 324 P **P 01 27 44.9 +0.4**
PKSM Moragy 77.01 330 ⇓*i*P **P 01 27 43.6 -0.9**
PKSM Moragy 77.01 330 P **P 01 27 43.9 -0.6**
USIN University of 77.02 46 *e*P **P 01 27 44.6 -0.1**
comp=Z,89nm,0.9s,mb5.5
USIN *ep*P pP 01 28 13.7 -1.0
FRNY Flat Rock 77.02 33 *e*P **P 01 27 43.6 -1.0**
comp=Z,27nm,1.2s,mb4.9
FRNY *ep*P pP 01 28 13.5 -1.1
ANTO Ankara 77.03 318 ⇑P **P 01 27 46.5 +1.8**
SNR=10
ANTO Ankara 77.03 318 ⇓*i*P **P 01 27 45.1 +0.4**
ANTO Ankara 77.03 318 ⇓P **P 01 27 45.1 +0.4**
ARSA Arzberg 77.05 333 ⇓*i*P **P 01 27 45.1 +0.4**
comp=Z,246nm,1.9s,mb5.6,SNR=34
RUP Ruppelstein 77.06 339 *e*P **P 01 27 45.5 +0.8**
PARMO Parma 77.08 48 *e*P **P 01 27 45.0 0.0**
PARMO *ep*P pP 01 28 13.7 -1.3
JMDO Jabal Madar 77.11 289 ⇓P **P 01 27 46.1 +0.6**
SNR=11
SWN1 Swindon 77.13 345 *e*P **P 01 27 45.4 +0.4**
SWN1 AMb AMB 01 27 47.6
comp=Z,580nm,1.4s,mb6.1
HGH Gray Hill 77.17 346 *e*P **P 01 27 44.5 -0.8**
GIVF Givet 77.19 340 ⇓*i*P **P 01 27 45.1 -0.3**
comp=Z,217nm,1.4s,mb5.4
GIVF Givet 77.19 340 ⇓*i*P **P 01 27 45.1 -0.3**
GIVF pmax pmax
comp=Z,108nm,1.4s,mb5.4
GIVF Givet 77.19 340 ⇓*i*P **P 01 27 45.1 -0.3**
comp=Z,108nm,1.4s,mb5.4
WOL Wolverton 77.22 345 *e*P **P 01 27 45.6 0.0**
WOL AMb AMB 01 27 48.5
comp=Z,220nm,2.1s,mb5.5
DOU Dourbes 77.25 341 P **P 01 27 45.5 -0.2**
comp=Z,41nm,1.7s,mb4.9
ACSO Alum Creek Sta 77.26 41 *e*P **P 01 27 46.0 -0.1**
comp=Z,85nm,1.3s,mb5.3
ACSO *ep*P pP 01 28 16.0 0.0
ALLY Alegheny Colle 77.26 39 *e*P **P 01 27 45.9 -0.1**
comp=Z,250nm,1.4s,mb5.8
ALLY *ep*P pP 01 28 15.5 -0.4
ANDN Andirin 77.28 314 ⇓*i*P **P 01 27 47.5 +1.3**
WLF Walferdange 77.31 339 P **P 01 27 46.8 +0.7**
comp=Z,54nm,2.3s,mb4.9
WLF Walferdange 77.31 339 P **P 01 27 46.5 +0.4**
WLF pmax pmax
comp=Z,130nm,1.6s,mb5.4
WLF Walferdange 77.31 339 *e*P **P 01 27 46.3 +0.2**
comp=Z,52nm,1.4s,mb5.1
WLF Walferdange 77.31 339 *e*P **P 01 27 45.9 -0.2**
comp=Z,126nm,1.6s,mb5.4
MENF Mencas 77.31 342 *e*P **P 01 27 46.9 +0.8**
BAIF Baives 77.36 341 ⇓*i*P **P 01 27 46.2 -0.2**
comp=Z,235nm,1.3s,mb5.4
BAIF Baives 77.36 341 ⇓*i*P **P 01 27 46.2 -0.2**
BAIF pmax pmax
comp=Z,118nm,1.3s,mb5.5
BAIF Baives 77.36 341 ⇓*i*P **P 01 27 46.2 -0.2**
comp=Z,118nm,1.3s,mb5.5
BSY Bisya 77.39 290 P **P 01 27 47.2 +0.2**
SNR=12
STU Stuttgart 77.41 337 P **P 01 27 46.8 +0.1**
STU pmax pmax
comp=Z,65nm,1.2s,mb5.2
STU Stuttgart 77.41 337 *e*P **P 01 27 46.5 -0.2**
comp=Z,86nm,1.3s,mb5.3
STU *e*PcP PcP 01 27 50.8 -5.9
STU *e*S S 01 37 25.3 -1.8
STU Stuttgart 77.41 337 *e*P **P 01 27 46.7 0.0**
comp=Z,65nm,1.2s,mb5.2
JMB Yambol 77.42 323 *e*P **P 01 27 46.6 -0.3**
JMB Yambol 77.42 323 *e*P **P 01 27 47.9 +1.0**
FUR Furstenfeldbru 77.42 336 *e*P **P 01 27 46.8 0.0**
FUR *e* 01 27 51.7
FUR pmax pmax
comp=Z,124nm,1.0s,mb5.6
FUR Furstenfeldbru 77.42 336 *e*P **P 01 27 46.8 0.0**
comp=Z,124nm,1.0s,mb5.6
FUR *e*PcP PcP 01 27 51.7 -5.1
WCI Wyandotte Cave 77.44 45 *e*P **P 01 27 45.9 -1.1**
WCI *e**PP pP 01 28 16.5 -0.5
WCI pmax pmax
comp=Z,58nm,0.8s,mb5.4
WCI Wyandotte Cave 77.44 45 *e*P **P 01 27 45.9 -1.2**
comp=Z,58nm,0.8s,mb5.4
WCI *ep*P pP 01 28 16.5 -0.5
HBAR Harrisburg 77.52 49 *e*P **P 01 27 47.5 -0.1**
HBAR *ep*P pP 01 28 15.7 -1.9
NCB Newcomb 77.55 34 *e*P **P 01 27 46.7 -0.8**
comp=Z,96nm,1.6s,mb5.3
NCB *ep*P pP 01 28 17.1 -0.4
LANF Langenberg 77.56 338 *e*P **P 01 27 48.0 +0.5**
GLAT Glass 77.62 48 *e*P **P 01 27 48.5 +0.4**
GLAT *ep*P pP 01 28 17.5 -0.5
BISS Bistriski jare 77.71 333 ⇓*i*P **P 01 27 48.5 +0.1**
SOKA Soboth 77.71 333 ⇓*i*P **P 01 27 48.6 +0.2**
PERS Pernice 77.73 333 *i* P **P 01 27 48.6 +0.1**
PERS *e*S S 01 37 33.2 +2.6
GROS Grobnik 77.77 332 ⇓*i*P **P 01 27 48.6 -0.1**
UMR Umm Al-Rimmam 77.77 301 *e*P **P 01 27 48.7 -0.4**
baz=301
UMR AMb AMB 01 27 52.3
comp=Z,169nm,1.4s,mb5.6,baz=301
MIB Mutribah 77.79 302 *e*P **P 01 27 48.8 -0.3**
baz=302
MIB AMb AMB 01 27 52.4
comp=Z,116nm,1.1s,mb5.5,baz=302
KBA Koelnbreinsper 77.84 334 ⇓*i*P **P 01 27 49.8 +0.7**
comp=Z,314nm,1.4s,mb5.8,SNR=126
KBA Koelnbreinsper 77.84 334 ⇓*i*P **P 01 27 49.8 +0.7**
KBA pmax pmax
comp=Z,315nm,1.4s,mb5.8
KBA Koelnbreinsper 77.84 334 ⇓*i*P **P 01 27 49.8 +0.7**

comp=Z,314nm,1.4s,mb5.8
MDV Middlebury 77.89 33 *e*P **P 01 27 48.8 -0.7**
STR Strasbourg 77.94 338 *e*P **P 01 27 51.1 +1.5**
OBKA Obir 78.01 333 *i* P **P 01 27 50.2 +0.2**
comp=Z,345nm,2.2s,mb5.7,SNR=18
BFO Black Forest 78.03 338 P **P 01 27 50.2 0.0**
BFO pmax pmax
comp=Z,93nm,1.3s,mb5.3
BFO Black Forest 78.03 338 *e*P **P 01 27 49.7 -0.5**
comp=Z,53nm,1.2s,mb5.2
BFO *e*pP pP 01 28 28.2 +8.1
HTL Hartland 78.06 346 *e*P **P 01 27 49.0 -1.2**
HTL AMb AMB 01 27 52.6
comp=Z,120nm,1.6s,mb5.4
PKME Peaks-Kenny Pk 78.10 30 *e*P **P 01 27 50.7 +0.2**
comp=Z,92nm,1.5s,mb5.3
WATA Walderalm 78.10 335⇑*i*P **P 01 27 51.2 +0.6**
comp=Z,119nm,1.2s,mb5.5,SNR=21
WATA Walderalm 78.10 335⇑*i*P **P 01 27 51.2 +0.6**
WATA pmax pmax
comp=Z,119nm,1.2s,mb5.5
LBNH Lisbon 78.12 32 *e*P **P 01 27 51.0 +0.3**
LBNH *e**PP pP 01 28 20.1 -0.6
LBNH pmax pmax
comp=Z,93nm,1.5s,mb5.3
LBNH Lisbon 78.12 32 *e*P **P 01 27 51.0 +0.3**
comp=Z,93nm,1.5s,mb5.3
LBNH *e*pP pP 01 28 20.1 -0.6
SPAK Spaichingen-Ko 78.13 337 *e*P **P 01 27 51.6 +0.9**
WTTA Wattenberg 78.15 335 *i* P **P 01 27 51.6 +0.8**
comp=Z,458nm,1.6s,mb6.0,SNR=53
WTTA Wattenberg 78.15 335 *i* P **P 01 27 51.6 +0.8**
WTTA pmax pmax
comp=Z,458nm,1.6s,mb6.0
WTTA Wattenberg 78.15 335 *i* P **P 01 27 51.6 +0.8**
comp=Z,458nm,1.6s,mb6.0
MYKA Terra Mystica 78.17 333⇓*i*P **P 01 27 50.6 -0.3**
comp=Z,1µm,2.0s,mb6.2
DIM Dimitrovgrad 78.19 324 P **P 01 27 52.1 +1.0**
RETA Reutte 78.19 336⇓*i*P **P 01 27 51.3 +0.3**
comp=Z,363nm,2.5s,mb5.7,SNR=31
CDF Champ du Feu 78.21 338⇓*i*P **P 01 27 50.9 -0.2**
comp=Z,222nm,1.2s,mb5.5
CDF Champ du Feu 78.21 338⇓*i*P **P 01 27 50.9 -0.2**
CDF pmax pmax
comp=Z,111nm,1.2s,mb5.5
CDF Champ du Feu 78.21 338⇓*i*P **P 01 27 50.9 -0.2**
comp=Z,111nm,1.2s,mb5.5
MOTA Moosalm 78.22 335⇓*i*P **P 01 27 51.6 +0.4**
comp=Z,120nm,1.2s,mb5.5,SNR=75
MOTA Moosalm 78.22 335⇓*i*P **P 01 27 51.6 +0.4**
MOTA pmax pmax
comp=Z,120nm,1.2s,mb5.5
YURE YUREGIR 78.23 314⇓*i*P **P 01 27 52.6 +1.2**
NAY Al-Naaiem 78.27 301 *e*P **P 01 27 51.3 -0.5**
baz=301
NAY AMb AMB 01 27 54.8
comp=Z,102nm,1.6s,mb5.3,baz=301
PGB Panagyurishte 78.28 325 P **P 01 27 52.0 +0.4**
RDF Al-Radifah 78.35 301 *e*P **P 01 27 52.4 +0.1**
baz=301
RDF AMb AMB 01 27 56.1
comp=Z,296nm,1.6s,mb5.8,baz=301
LIBD Limburg 78.38 338 *e*P **P 01 27 52.1 0.0**
ABTA Abfaltersbach 78.38 334⇓*i*P **P 01 27 51.8 -0.3**
comp=Z,180nm,1.8s,mb5.5,SNR=28
SISC Sisak 78.39 331 P **P 01 27 51.9 -0.3**
DIVS Divibare 78.42 328 *e*P **P 01 27 51.5 -0.9**
ECH Echery 78.42 338 *e*P **P 01 27 53.0 +0.7**
BINY Binghamton 78.43 36 *e*P **P 01 27 51.9 -0.6**
comp=Z,84nm,1.5s,mb5.2
KDHN Kadinhani 78.43 317⇓*i*P **P 01 27 52.3 -0.3**
LJU Ljubljana 78.44 333 *e*P **P 01 27 51.8 -0.6**
LJU *e*PP PP 01 31 24.1 +34
PTCC Patocco-Chiusa 78.45 334 P **P 01 27 51.9 -0.6**
comp=Z,44nm,1.0s,mb5.2
PLD Plovdiv 78.46 324 *e*P **P 01 27 52.0 -0.7**
PLD Plovdiv 78.46 324 P **P 01 27 52.1 -0.5**
HNH Hanover 78.47 33 *e*P **P 01 27 52.6 -0.1**
comp=Z,311nm,1.7s,mb5.8
HNH *e*pP pP 01 28 21.5 -1.1
NATX Nacogdoches 78.48 54 *e*P **P 01 27 53.1 +0.2**
comp=Z,116nm,1.1s,mb5.5
NATX *e*pP pP 01 28 21.9 -1.0
DYA Yadsworthy 78.52 346 *e*P **P 01 27 52.5 -0.3**
DYA AMb AMB 01 27 54.9
comp=Z,311nm,1.5s,mb5.9
FELD Feldberg im Sc 78.53 338 *e*P **P 01 27 53.4 +0.5**
KDZ Kurdzhali 78.57 323 P **P 01 27 53.4 +0.1**
VTS Vitosha 78.60 325 P **P 01 27 53.3 -0.1**
VTS Vitosha 78.60 325⇓*i*P **P 01 27 53.0 -0.4**
VTS Vitosha 78.60 325 P **P 01 27 53.6 +0.2**
DAVA Damuels 78.60 336⇓*i*P **P 01 27 53.6 +0.3**
comp=Z,228nm,1.7s,mb5.7,SNR=30
FETA Feichten 78.62 336 *i* P **P 01 27 54.0 +0.6**
comp=Z,281nm,2.0s,mb5.8,SNR=39
VOY Vojsko 78.64 333 *e*P **P 01 27 53.0 -0.5**
VOY *e* 01 27 56.7
YAYL Yayladag 78.65 313⇓*i*P **P 01 27 54.3 +0.5**
MEZF Maizieres J'vi 78.65 340⇓*i*P **P 01 27 53.6 +0.1**
comp=Z,263nm,1.1s,mb5.7
MEZF Maizieres J'vi 78.65 340⇓*i*P **P 01 27 53.6 +0.1**
comp=Z,263nm,1.1s,mb6.0
THEF They Montfort 78.69 339 *e*P **P 01 27 54.4 +0.6**
BOJS Bojanci 78.70 332 *i* P **P 01 27 53.4 -0.5**
BOJS *i* PcP PcP 01 27 56.9 -5.4
BOJS *i* PP PP 01 31 24.2 +32
BOJS *e*S S 01 37 38.5 -2.6
JAVS Javornik 78.71 333 *i* P **P 01 27 53.0 -0.9**
CSA1 St Austell 78.74 347 *e*P **P 01 27 53.7 -0.4**
MOF Molkenrain 78.77 338 *e*P **P 01 27 54.6 +0.4**
BOLV Bolvadin 78.78 318⇓*i*P **P 01 27 54.7 +0.3**
RZN Rozhen 78.81 324 P **P 01 27 54.3 -0.2**
HAU Haudompre 78.81 339⇓*i*P **P 01 27 54.2 -0.3**
comp=Z,205nm,1.4s,mb5.5
HAU *e*MLR MLR
comp=Z,379nm,22.2s
HAU Haudompre 78.81 339⇓*i*P **P 01 27 54.2 -0.3**
HAU pmax pmax
comp=Z,102nm,1.4s,mb5.5
HAU MLR MLR
comp=Z,380nm,22.3s
HAU Haudompre 78.81 339⇓*i*P **P 01 27 54.2 -0.3**
comp=Z,102nm,1.4s,mb5.5
HAU LR LR
comp=Z,380nm,22.3s
HINF Hinteralfeld 78.87 338⇓*i*P **P 01 27 54.3 -0.5**
comp=Z,115nm,1.3s,mb5.3
HINF Hinteralfeld 78.87 338⇓*i*P **P 01 27 54.3 -0.5**
HINF pmax pmax
comp=Z,58nm,1.3s,mb5.2
HINF Hinteralfeld 78.87 338⇓*i*P **P 01 27 54.3 -0.5**
comp=Z,58nm,1.3s,mb5.2
FFD Franklin Falls 78.89 32 *e*P **P 01 27 54.7 -0.3**
comp=Z,12nm,0.6s,mb4.9
FFD *e*pP pP 01 28 24.8 -0.3
CCA1 Carnmenellis 78.96 347 *e*P **P 01 27 54.2 -1.0**
RDO Rodhopi 78.96 323 *e*P **P 01 27 55.3 -0.1**
OXF Oxford 78.97 49 *e*P **P 01 27 55.1 -0.4**
OXF *e**PP pP 01 28 24.2 -1.4
OXF pmax pmax
comp=Z,80nm,1.2s,mb5.4
OXF Oxford 78.97 49 *e*P **P 01 27 55.1 -0.5**
comp=Z,80nm,1.2s,mb5.4
OXF *e*pP pP 01 28 24.2 -1.4
ALN Alexandroupoli 78.97 323 *e*P **P 01 27 54.9 -0.6**
SKDS Skadanscina 79.04 333 *i* P **P 01 27 54.8 -0.9**
MCWV Mont Chateau 79.06 40 *e*P **P 01 27 55.9 0.0**
comp=Z,82nm,1.1s,mb5.5
DURS Dursunbey 79.09 320⇓*i*P **P 01 27 55.8 -0.3**
GDZ Gediz 79.10 319⇓*i*P **P 01 27 56.2 +0.1**
BTOK Tokmak 79.14 321⇓*i*P **P 01 27 58.0 +1.7**
BRMO Bormio 79.22 336 P **P 01 27 57.6 +0.9**
PLAL Pickwick Lake 79.24 48 *e*P **P 01 27 56.1 -0.9**
comp=Z,12nm,0.6s,mb4.9
PLAL *e*pP pP 01 28 25.4 -1.7
CTI Castel Tesino 79.26 335 P **P 01 27 56.5 -0.4**
CTI pmax pmax
comp=Z,210nm,1.7s,mb5.7
CTI Castel Tesino 79.26 335 P **P 01 27 56.5 -0.4**
comp=Z,210nm,1.7s,mb5.7
MMB Musomiste 79.27 325 P **P 01 27 57.0 -0.1**
KKB Krupnik 79.27 325 *e*P **P 01 27 56.8 -0.3**
HKT Hockley 79.27 56 *e*P **P 01 27 57.1 -0.2**
HKT *e**PP pP 01 28 26.7 -0.6
HKT pmax pmax
comp=Z,15nm,1.3s,mb4.7
HKT Hockley 79.27 56 *e*P **P 01 27 57.1 -0.1**
comp=Z,16nm,1.3s,mb4.7
HKT *e*pP pP 01 28 26.7 -0.7
PLE Pljevlja 79.31 328⇑*i*P **P 01 27 59.5 +2.3**
LOMF Lomont 79.31 338 *e*P **P 01 27 57.7 +0.5**
BALY Balya 79.32 321⇓*i*P **P 01 27 57.2 -0.1**
NVR Nevrokopi 79.42 324 *e*P **P 01 27 57.8 -0.1**
JSA Saint Aubin 79.43 345 *e*P **P 01 27 57.5 -0.2**
DEMI Demirci 79.46 320⇓*i*P **P 01 27 57.9 -0.2**
TUE Stuetta 79.50 336 *e*P **P 01 27 59.0 +0.8**
comp=Z,88nm,0.8s,mb5.6
IVA Berane 79.53 328⇑*i*P **P 01 27 59.2 +0.7**
FLN La Foliniere 79.54 343⇓*i*P **P 01 27 58.0 -0.4**
comp=Z,649nm,1.4s,mb6.0
FLN *e*MLR MLR
comp=Z,458nm,20.0s
FLN La Foliniere 79.54 343⇓*i*P **P 01 27 58.0 -0.4**
FLN pmax pmax
comp=Z,324nm,1.4s,mb6.0
FLN MLR MLR
comp=Z,460nm,20.0s
FLN La Foliniere 79.54 343⇓*i*P **P 01 27 58.0 -0.4**
comp=Z,324nm,1.4s,mb6.0
FLN LR LR
comp=Z,460nm,20.0s
MABI Malga Bissina 79.57 335 P **P 01 27 58.6 0.0**
UPM Unac-Piva 79.58 329⇑*i*P **P 01 27 58.8 +0.1**
TKTP Tekketepe 79.62 318⇓*i*P **P 01 27 59.1 +0.1**
LDF La Druitiere 79.63 343⇓*i*P **P 01 27 58.4 -0.5**
comp=Z,194nm,1.0s,mb5.6
LDF La Druitiere 79.63 343⇓*i*P **P 01 27 58.4 -0.5**
LDF pmax pmax
comp=Z,97nm,1.0s,mb5.6
LDF La Druitiere 79.63 343⇓*i*P **P 01 27 58.4 -0.5**
comp=Z,97nm,1.0s,mb5.6
NVLJ Novalja 79.67 332 P **P 01 27 57.1 -2.1**
KHAL Karahalli 79.70 319⇓*i*P **P 01 27 59.3 -0.1**
ISP Isparta 79.70 318 *e*P **P 01 27 59.1 -0.4**
ISP Isparta 79.70 318 P **P 01 27 59.6 +0.1**
ISP Isparta 79.70 318⇓*i*P **P 01 27 59.2 -0.3**
STIP Stip 79.75 326 *e*P **P 01 27 59.4 -0.3**
STIP Stip 79.75 326 *e*P **P 01 27 59.5 -0.1**
PVY Plav 79.75 328⇑*i*P **P 01 27 58.7 -1.0**
HRV Adam Dziewonsk 79.77 33 *e*P **P 01 27 59.6 -0.2**
HRV *e**PP pP 01 28 29.3 -0.6
HRV pmax pmax
comp=Z,53nm,1.4s,mb5.2
HRV Adam Dziewonsk 79.77 33 *e*P **P 01 27 59.6 -0.2**
comp=Z,53nm,1.4s,mb5.2
HRV *e*pP pP 01 28 29.3 -0.6
SKO Skopje 79.78 326 *e*P **P 01 28 00.1 +0.3**
SKO Skopje 79.78 326 *e*P **P 01 28 00.5 +0.7**
ARMA Armidale 79.80 182⇑*i*P **P 01 27 59.9 +0.1**
ARMA *e*pP pP 01 28 29.4 -0.5
BOZC Bozcaada 79.87 322⇓*i*P **P 01 27 59.2 -1.2**
NKY Niksic 79.90 328⇑*i*P **P 01 27 59.1 -1.3**
VAY Valandovo 79.93 325 *e*P **P 01 27 59.0 -1.7**
VAY Valandovo 79.93 325 *e*P **P 01 28 00.3 -0.4**
KNT Kendrikon 79.95 325 *e*P **P 01 28 02.1 +1.4**
WES Weston 79.96 33 *e*P **P 01 28 00.8 0.0**
WES *e**PP pP 01 28 30.6 -0.3
WES pmax pmax
comp=Z,229nm,1.4s,mb5.8
WES Weston 79.96 33 *e*P **P 01 28 00.8 0.0**
comp=Z,229nm,1.4s,mb5.8
WES *e*pP pP 01 28 30.6 -0.3
GRR Gorron 79.97 343⇓*i*P **P 01 28 00.6 -0.1**
comp=Z,679nm,1.3s,mb6.0
GRR Gorron 79.97 343⇓*i*P **P 01 28 00.6 -0.1**
GRR pmax pmax
comp=Z,339nm,1.3s,mb6.0
GRR Gorron 79.97 343⇓*i*P **P 01 28 00.6 -0.1**
comp=Z,339nm,1.3s,mb6.0
AKHS Akhisar 79.97 320⇓*i*P **P 01 28 00.5 -0.4**
BRY Bratogost 79.97 329⇑*i*P **P 01 27 59.2 -1.6**
SWET Sewanee 80.06 46 *e*P **P 01 28 00.7 -0.8**
SWET *e*pP pP 01 28 30.6 -0.9
TZTN Tazewell 80.06 44 *e*P **P 01 28 01.2 -0.2**
comp=Z,39nm,1.2s,mb5.1
TZTN *e*pP pP 01 28 29.6 -1.9
SOH Sokhos 80.07 324 *e*P **P 01 28 00.5 -0.9**
LOR Lormes 80.08 340⇓*i*P **P 01 28 01.0 -0.3**
comp=Z,422nm,1.5s,mb5.8
LOR *e*MLR MLR
comp=Z,489nm,21.0s
LOR Lormes 80.08 340⇓*i*P **P 01 28 01.0 -0.3**
LOR pmax pmax
comp=Z,211nm,1.5s,mb5.8
LOR MLR MLR
comp=Z,490nm,21.0s
LOR Lormes 80.08 340⇓*i*P **P 01 28 01.0 -0.3**
comp=Z,211nm,1.5s,mb5.8
LOR LR LR
comp=Z,490nm,21.0s
TTG Podgorica 80.15 328⇓*i*P **P 01 28 00.9 -0.9**
LOS Limnos 80.17 323 *e*P **P 01 28 03.0 +1.0**
CABF La Chapelle 80.18 338⇓*i*P **P 01 28 02.0 +0.1**
comp=Z,357nm,1.6s,mb5.7
CABF La Chapelle 80.18 338⇓*i*P **P 01 28 02.0 +0.1**
CABF pmax pmax
comp=Z,179nm,1.6s,mb5.7
CABF La Chapelle 80.18 338⇓*i*P **P 01 28 02.0 +0.1**
comp=Z,178nm,1.6s,mb5.7
PAL Palisades 80.24 35 *e*P **P 01 28 02.0 -0.3**
PAL *e**PP pP 01 28 31.4 -1.0
PAL pmax pmax
comp=Z,171nm,1.6s,mb5.6
PAL Palisades 80.24 35 *e*P **P 01 28 02.0 -0.3**
comp=Z,171nm,1.6s,mb5.6
PAL *e*pP pP 01 28 31.4 -1.0
OUR Ouranopolis 80.26 324 *e*P **P 01 28 03.1 +0.7**
STON Ston 80.28 329 P **P 01 28 00.6 -1.9**
PRK Paraskevi 80.29 322 *e*P **P 01 28 02.0 -0.6**
BRYW Bryant College 80.30 33 *e*P **P 01 28 02.4 -0.2**
comp=Z,549nm,1.8s,mb6.1
BRYW *e*pP pP 01 28 31.4 -1.3
GRG Griva 80.31 325 *e*P **P 01 28 01.7 -1.0**
HYF Humbligny 80.34 341 *e*P **P 01 28 02.9 +0.2**
SSF Saint Saulge 80.35 340⇓*i*P **P 01 28 02.6 -0.2**
comp=Z,78nm,1.0s,mb5.2
SSF Saint Saulge 80.35 340⇓*i*P **P 01 28 02.6 -0.2**
SSF pmax pmax
comp=Z,39nm,1.0s,mb5.2
SSF Saint Saulge 80.35 340⇓*i*P **P 01 28 02.6 -0.2**
comp=Z,39nm,1.0s,mb5.2
HORT Hortiatis 80.36 324 *e*P **P 01 28 02.4 -0.6**
KRUS Krusevo 80.38 326 *e*P **P 01 28 03.2 +0.2**
BUM Brajici-Budva 80.39 328⇑*i*P **P 01 28 03.0 -0.1**
THE Thessaloniki 80.39 325 *e*P **P 01 28 01.6 -1.5**
HCY Herceg Novi 80.39 328⇑*i*P **P 01 28 01.4 -1.7**
SGMF Saint Gilles 80.40 345⇓*i*P **P 01 28 02.9 -0.1**
comp=Z,313nm,1.0s,mb5.8
SGMF Saint Gilles 80.40 345⇓*i*P **P 01 28 02.9 -0.1**
SGMF pmax pmax
comp=Z,156nm,1.0s,mb5.8
SGMF Saint Gilles 80.40 345⇓*i*P **P 01 28 02.9 -0.1**
comp=Z,156nm,1.0s,mb5.8
PLG Polygyros 80.43 324 *e*P **P 01 28 02.3 -1.0**
PLG Polygyros 80.43 324 *e*P **P 01 28 02.5 -0.8**
ROSF Rostrenen 80.44 345⇓*i*P **P 01 28 03.3 0.0**
comp=Z,499nm,1.1s,mb6.0
ROSF Rostrenen 80.44 345⇓*i*P **P 01 28 03.3 0.0**
ROSF pmax pmax
comp=Z,250nm,1.1s,mb6.0
ROSF Rostrenen 80.44 345⇓*i*P **P 01 28 03.3 0.0**
comp=Z,250nm,1.1s,mb6.0
SDMD Soldier's Deli 80.49 38 *e*P **P 01 28 03.8 +0.1**
comp=Z,14nm,0.6s,mb5.0
CPCT Cooper Cave 80.53 45 *e*P **P 01 28 03.6 -0.4**
CPCT *e*pP pP 01 28 33.5 -0.6
ULC Ulcinj 80.56 328⇑*i*P **P 01 28 03.9 -0.1**
BHL Bhannes 80.59 312 *e*P **P 01 28 04.3 -0.1**
GOLH Golhisar 80.62 318⇓*i*P **P 01 28 04.3 -0.1**
AVF Avril sur Loir 80.64 340⇓*i*P **P 01 28 04.2 -0.1**
comp=Z,326nm,1.2s,mb5.7
AVF Avril sur Loir 80.64 340⇓*i*P **P 01 28 04.2 -0.1**
AVF pmax pmax
comp=Z,163nm,1.2s,mb5.7
AVF Avril sur Loir 80.64 340⇓*i*P **P 01 28 04.2 -0.1**
comp=Z,163nm,1.2s,mb5.7
BIA Bitola 80.66 326 *e*P **P 01 28 03.8 -0.7**
BIA Bitola 80.66 326 *e*P **P 01 28 03.1 -1.4**
SMF Signal de Mont 80.67 340⇓*i*P **P 01 28 04.4 -0.1**
comp=Z,498nm,1.2s,mb5.9
SMF Signal de Mont 80.67 340⇓*i*P **P 01 28 04.4 -0.1**
SMF pmax pmax
comp=Z,249nm,1.2s,mb5.9
SMF Signal de Mont 80.67 340⇓*i*P **P 01 28 04.4 -0.1**
comp=Z,249nm,1.2s,mb5.9
TKL Tuckaleechee C 80.70 44 *e*P **P 01 28 04.4 -0.4**
ELN Prospectdale 80.72 42 *e*P **P 01 28 04.5 -0.5**
ELN *e*pP pP 01 28 33.9 -1.3
PAIG Paliouri 80.72 324 *e*P **P 01 28 04.0 -0.9**
OHR Ohrid 80.77 326 *e*P **P 01 28 04.0 -1.1**
CSS Prodhromos 80.82 314 *e*P **P 01 28 05.0 -0.5**
QUIF Quistinic 80.83 345⇓*i*P **P 01 28 05.2 -0.1**
comp=Z,338nm,1.4s,mb5.7
QUIF Quistinic 80.83 345⇓*i*P **P 01 28 05.2 -0.1**
QUIF pmax pmax
comp=Z,169nm,1.4s,mb5.7
QUIF Quistinic 80.83 345⇓*i*P **P 01 28 05.2 -0.1**
comp=Z,169nm,1.4s,mb5.7
FNA Florina 80.84 326 *e*P **P 01 28 04.7 -0.9**
BLA Blacksburg 80.88 41 P **P 01 28 02.4 -3.4**
BLA pmax pmax
comp=Z,65nm,1.1s,mb5.4
BLA Blacksburg 80.88 41 *e*P **P 01 28 05.6 -0.2**
comp=Z,65nm,1.1s,mb5.4
BLA *e*pP pP 01 28 35.4 -0.6
BGF Bois d'Agland 80.97 340⇓*i*P **P 01 28 06.1 0.0**
comp=Z,127nm,1.2s,mb5.3
BGF Bois d'Agland 80.97 340⇓*i*P **P 01 28 06.1 0.0**
BGF pmax pmax
comp=Z,63nm,1.2s,mb5.3
BGF Bois d'Agland 80.97 340⇓*i*P **P 01 28 06.1 0.0**
comp=Z,63nm,1.2s,mb5.3
AYDN Tasoluk 80.98 320⇓*i*P **P 01 28 06.9 +0.6**
LIT Litokhoron 81.03 325 *e*P **P 01 28 05.2 -1.3**
BOB Bobbio (Coli) 81.05 335 P **P 01 28 07.3 +0.8**
LPL La Plagne 81.05 338⇓*i*P **P 01 28 07.4 +0.9**
comp=Z,140nm,0.7s,mb5.6
LPL La Plagne 81.05 338⇓*i*P **P 01 28 07.4 +0.9**
LPL pmax pmax
comp=Z,70nm,0.7s,mb5.6
LPL La Plagne 81.05 338⇓*i*P **P 01 28 07.4 +0.9**
comp=Z,70nm,0.7s,mb5.6
LPG La Plagne 81.07 338⇓*i*P **P 01 28 07.6 +1.0**
comp=Z,186nm,0.8s,mb5.7
LPG La Plagne 81.07 338⇓*i*P **P 01 28 07.6 +1.0**
LPG pmax pmax
comp=Z,93nm,0.8s,mb5.7
LPG La Plagne 81.07 338⇓*i*P **P 01 28 07.6 +1.0**
comp=Z,93nm,0.8s,mb5.7
CHOS Chios island 81.11 321 *e*P **P 01 28 06.0 -1.0**
KZN Kozani 81.11 325 *e*P **P 01 28 05.9 -1.1**
FNVD Fontana Vidola 81.14 334 P **P 01 28 08.1 +1.1**
CING Cingoli 81.26 332 P **P 01 28 07.7 0.0**
AOS Alonnisos 81.30 323 *e*P **P 01 28 07.7 -0.3**
TURN Turunc 81.34 319⇓*i*P **P 01 28 09.6 +1.4**
VLC Villacollemand 81.35 335 *e*P **P 01 28 09.1 +0.9**
comp=Z,218nm,1.5s,mb5.8
PLDF La Plantade 81.36 340 *e*P **P 01 28 08.8 +0.6**
TCF Toulx Ste Croi 81.37 341⇓*i*P **P 01 28 08.3 +0.1**
comp=Z,213nm,1.3s,mb5.5
TCF Toulx Ste Croi 81.37 341⇓*i*P **P 01 28 08.3 +0.1**
TCF pmax pmax
comp=Z,107nm,1.3s,mb5.5
TCF Toulx Ste Croi 81.37 341⇓*i*P **P 01 28 08.3 +0.1**
comp=Z,107nm,1.3s,mb5.5
AGO Saint Agoulin 81.39 340 *e*P **P 01 28 09.3 +1.0**
XOR Xorichti 81.40 324 *e*P **P 01 28 08.0 -0.5**
TAOE Nuku Hiva Isla 81.42 115 *e*S S 01 38 12.0 +1.7
comp=Z,1µm,29.7s
TAOE Nuku Hiva Isla 81.42 115 *e*LR LR 01 53 11.5
comp=Z,6µm,33.3s,baz=318
AKAS Kas 81.44 318⇓*i*P **P 01 28 08.3 -0.5**
GDM Grand'Maison 81.50 338 *e*P **P 01 28 10.7 +1.8**
BNI Bardonecchia 81.50 337 *e*P **P 01 28 09.8 +0.9**
BNI pmax pmax
comp=Z,102nm,1.2s,mb5.5
BNI Bardonecchia 81.50 337 *e*P **P 01 28 09.8 +0.8**
comp=Z,102nm,1.2s,mb5.5
MFF Saint Martin d 81.55 342⇓*i*P **P 01 28 09.3 +0.2**
comp=Z,434nm,1.4s,mb5.8
MFF Saint Martin d 81.55 342⇓*i*P **P 01 28 09.3 +0.2**
MFF pmax pmax
comp=Z,217nm,1.4s,mb5.8
MFF Saint Martin d 81.55 342⇓*i*P **P 01 28 09.3 +0.2**
comp=Z,217nm,1.4s,mb5.8
GRN Grenoble 81.55 338 *e*P **P 01 28 11.0 +1.8**
MURB Monte Urbino 81.56 333 P **P 01 28 10.0 +0.7**
BDRM Kayabasi 81.66 320⇓*i*P **P 01 28 09.6 -0.4**
THL Klokotos Trika 81.67 325 *e*P **P 01 28 08.0 -1.9**
PYM Petit Puy Mans 81.70 340 *e*P **P 01 28 10.9 +0.9**
PII Pisa 81.72 334 P **P 01 28 09.6 -0.5**
PII pmax pmax
comp=Z,30nm,0.8s,mb5.2
PII Pisa 81.72 334 P **P 01 28 09.6 -0.5**
comp=Z,30nm,0.8s,mb5.2
CSNT Castellina Chi 81.73 334 P **P 01 28 09.7 -0.4**
QLNO Quiliano 81.75 336 P **P 01 28 09.8 -0.5**
MEV Metsovon 81.77 325 *e*P **P 01 28 10.9 +0.4**
MBDF Montbardon 81.78 337⇓*i*P **P 01 28 10.7 +0.3**
comp=Z,131nm,1.1s,mb5.4
MBDF Montbardon 81.78 337⇓*i*P **P 01 28 10.7 +0.3**
MBDF pmax pmax
comp=Z,65nm,1.1s,mb5.4
MBDF Montbardon 81.78 337⇓*i*P **P 01 28 10.7 +0.3**
comp=Z,65nm,1.1s,mb5.4
URVA University of 81.78 39 *e*P **P 01 28 10.4 -0.2**
URVA *e*pP pP 01 28 40.0 -0.7
SSB Saint Sauveur 81.80 339 *e*P **P 01 28 11.0 +0.5**
SSB *e**PP pP 01 28 40.3 -0.4
ORIF Oris-en-Rattie 81.82 338⇓*i*P **P 01 28 11.3 +0.7**
comp=Z,229nm,0.9s,mb5.7
ORIF *e*MLR MLR
comp=Z,173nm,20.0s
ORIF Oris-en-Rattie 81.82 338⇓*i*P **P 01 28 11.3 +0.7**
ORIF pmax pmax
comp=Z,115nm,0.9s,mb5.7
ORIF Oris-en-Rattie 81.82 338⇓*i*P **P 01 28 11.3 +0.7**
comp=Z,115nm,0.9s,mb5.7
DOI San Damiano 81.87 337 P **P 01 28 09.5 -1.4**
STKA Stephens Creek 82.00 191 *e*P **P 01 28 10.8 -0.6**
comp=Z,10nm,0.6s,mb4.8
STKA *i* pP pP 01 28 40.3 -1.4
STKA Stephens Creek 82.00 191 P **P 01 28 11.1 -0.3**
comp=Z,19nm,0.9s,mb4.9,baz=358,slow=7.6,SNR=16
STKA pP pP 01 28 40.5 -1.2
comp=Z,12nm,0.9s,baz=353,slow=2.5,SNR=4.8
STKA LR LR 01 59 02.4
comp=Z,179nm,21.4s,baz=14,slow=32
SURF Saint Ours 82.00 337 *e*P **P 01 28 13.3 +1.7**
JAN Janina 82.02 326 *e*P **P 01 28 11.6 -0.1**
RGNG Rignano Grg 82.05 330 P **P 01 28 11.1 -0.8**
LKR Lokris 82.09 324 *e*P **P 01 28 09.2 -3.0**
LKR Lokris 82.09 324 *e*P **P 01 28 10.5 -1.6**
ARG Arkhangelos 82.09 319 *e*P **P 01 28 11.9 -0.3**
AQU L'Aquila 82.12 332 P **P 01 28 12.9 +0.7**
AQU pmax pmax
comp=Z,174nm,1.1s,mb5.8
AQU L'Aquila 82.12 332 P **P 01 28 12.9 +0.7**
comp=Z,174nm,1.1s,mb5.8
LBL Lubilhac 82.14 340 *e*P **P 01 28 13.0 +0.7**
VIVF Saint-Julien-l 82.17 339⇓*i*P **P 01 28 12.9 +0.5**
comp=Z,623nm,1.7s,mb5.9
VIVF Saint-Julien-l 82.17 339⇓*i*P **P 01 28 12.9 +0.5**
VIVF pmax pmax
comp=Z,311nm,1.7s,mb5.9
VIVF Saint-Julien-l 82.17 339⇓*i*P **P 01 28 12.9 +0.5**
comp=Z,311nm,1.7s,mb5.9
SAOF Saorge 82.27 336 *e*P **P 01 28 13.5 +0.5**
PTL Penteli 82.28 323 *e*P **P 01 28 12.0 -1.1**
AUTN L'Aution 82.30 337 *e*P **P 01 28 14.1 +1.0**
EVR Evrytania 82.32 325 *e*P **P 01 28 12.5 -0.8**
IGT Igoumenitsa 82.32 326 *e*P **P 01 28 12.7 -0.6**
TOUF Mont Tournerai 82.33 337 *e*P **P 01 28 14.2 +0.9**
LUCF Luceram 82.42 337 *e*P **P 01 28 14.7 +1.0**
SBF Sospel 82.42 336⇓*i*P **P 01 28 13.5 -0.3**
comp=Z,441nm,1.4s,mb5.8
SBF Sospel 82.42 336⇓*i*P **P 01 28 13.5 -0.3**
SBF pmax pmax
comp=Z,220nm,1.4s,mb5.8
SBF Sospel 82.42 336⇓*i*P **P 01 28 13.5 -0.3**
comp=Z,220nm,1.4s,mb5.8
RJF Les Rejaudoux 82.45 341⇓*i*P **P 01 28 14.0 +0.1**
comp=Z,621nm,1.4s,mb6.0

RJF *e*MLR MLR
comp=Z,373nm,20.2s
RJF Les Rejaudoux 82.45 341 ⇓*i*P **P 01 28 14.0 +0.1**
RJF pmax pmax
comp=Z,311nm,1.4s,mb6.0
RJF MLR MLR
comp=Z,370nm,20.3s
RJF Les Rejaudoux 82.45 341 ⇓*i*P **P 01 28 14.0 +0.1**
comp=Z,310nm,1.4s,mb6.0
RJF LR LR
comp=Z,370nm,20.3s
MVIF Mont Vial 82.46 337 *e*P **P 01 28 14.8 +0.8**
MIDA Miranda 82.50 331 P **P 01 28 14.6 +0.4**
REVF Revere 82.55 336 *e*P **P 01 28 15.1 +0.7**
CERT Cerreto 82.62 332 P **P 01 28 14.4 -0.4**
LTK Loutraki 82.65 323 *e*P **P 01 28 12.8 -2.3**
CALN Calern 82.66 337 *e*P **P 01 28 16.1 +1.1**
NAIG Nisos Aigina 82.68 323 *e*P **P 01 28 14.0 -1.2**
CAF Calviac 82.70 341 ⇓*i*P **P 01 28 15.7 +0.5**
comp=Z,583nm,1.4s,mb5.9
CAF Calviac 82.70 341 ⇓*i*P **P 01 28 15.7 +0.5**
CAF pmax pmax
comp=Z,292nm,1.4s,mb5.9
CAF Calviac 82.70 341 ⇓*i*P **P 01 28 15.7 +0.5**
comp=Z,292nm,1.4s,mb5.9
GOGA Godfrey 82.70 45 *e*P **P 01 28 14.8 -0.6**
GOGA *e**PP pP 01 28 44.7 -1.0
GOGA pmax pmax
comp=Z,46nm,1.5s,mb5.1
GOGA Godfrey 82.70 45 *e*P **P 01 28 14.8 -0.6**
comp=Z,46nm,1.5s,mb5.1
GOGA *e*pP pP 01 28 44.7 -1.0
SMRF Simiane la Rot 82.78 338 ⇓*i*P **P 01 28 16.3 +0.7**
comp=Z,641nm,1.6s,mb5.9
SMRF Simiane la Rot 82.78 338 ⇓*i*P **P 01 28 16.3 +0.7**
comp=Z,641nm,1.6s,mb6.2
TOLF Tolfa 82.81 333 P **P 01 28 15.7 -0.1**
RFI Roccamonfina 82.90 331 P **P 01 28 16.8 +0.5**
comp=Z,39nm,1.6s,mb5.0
FRF La Foret Royal 82.91 337 ⇓*i*P **P 01 28 16.1 -0.2**
comp=Z,630nm,1.5s,mb5.9
FRF La Foret Royal 82.91 337 ⇓*i*P **P 01 28 16.1 -0.2**
FRF pmax pmax
comp=Z,315nm,1.5s,mb5.9
FRF La Foret Royal 82.91 337 ⇓*i*P **P 01 28 16.1 -0.2**
comp=Z,315nm,1.5s,mb5.9
LKD Levkas 82.93 325 *e*P **P 01 28 16.3 -0.2**
BRAL Brewton 82.96 49 *e*P **P 01 28 16.8 +0.1**
comp=Z,23nm,0.6s,mb5.2
BRAL *e*pP pP 01 28 46.3 -0.8
LFF La Frestale 82.96 341 ⇓*i*P **P 01 28 16.8 +0.3**
comp=Z,790nm,1.4s,mb6.0
LFF La Frestale 82.96 341 ⇓*i*P **P 01 28 16.8 +0.3**
LFF pmax pmax
comp=Z,395nm,1.4s,mb6.0
LFF La Frestale 82.96 341 ⇓*i*P **P 01 28 16.8 +0.3**
comp=Z,395nm,1.4s,mb6.0
DID Didima 83.00 323 *e*P **P 01 28 14.1 -2.8**
KARP Karpathos 83.08 319 *e*P **P 01 28 17.0 -0.3**
LASF Ste Croix 83.10 339 ⇓*i*P **P 01 28 17.9 +0.6**
comp=Z,416nm,1.4s,mb5.8
WHFO Wadi Hawf 83.12 289 ⇑P **P 01 28 17.9 +0.1**
SNR=7.1
LMR La Mourre 83.15 337 ⇓*i*P **P 01 28 17.6 +0.1**
comp=Z,867nm,1.5s,mb6.1
LMR La Mourre 83.15 337 ⇓*i*P **P 01 28 17.6 +0.1**
LMR pmax pmax
comp=Z,433nm,1.5s,mb6.1
LMR La Mourre 83.15 337 ⇓*i*P **P 01 28 17.6 +0.1**
comp=Z,433nm,1.5s,mb6.1
RLS Riolos of Patr 83.20 324 *e*P **P 01 28 17.2 -0.7**
RIV Riverview 83.21 183 *e*P **P 01 28 17.8 +0.2**
PGF Pioggiola 83.23 335 ⇓*i*P **P 01 28 17.7 -0.2**
comp=Z,466nm,1.5s,mb5.8
PGF Pioggiola 83.23 335 ⇓*i*P **P 01 28 17.7 -0.2**
PGF pmax pmax
comp=Z,233nm,1.5s,mb5.8
PGF Pioggiola 83.23 335 ⇓*i*P **P 01 28 17.7 -0.2**
comp=Z,233nm,1.5s,mb5.8
PPT Papeete 83.28 127 *e*P **P 01 28 18.0 -0.4**
comp=Z,138nm,1.5s,mb5.6
PPT *e*pP pP 01 28 47.5 -1.2
comp=Z,113nm,1.4s
PPT Papeete 83.28 127 *e*LR LR 01 53 46.0
comp=Z,1μm,36.0s
PPT Papeete 83.28 127 P **P 01 28 17.8 -0.6**
comp=Z,58nm,0.7s,mb5.5,baz=229,slow=23,SNR=3.5
PPT LR LR 02 02 56.3
comp=Z,347nm,18.8s,baz=102,slow=34
PAE Paea 83.36 127 *e*P **P 01 28 18.3 -0.5**
comp=Z,546nm,1.1s,mb6.3
PAE Paea 83.36 127 *e*P **P 01 28 18.3 -0.5**
PAE pmax pmax
comp=Z,546nm,1.1s,mb6.3
TIAR Tiarei 83.39 127 *e*P **P 01 28 18.6 -0.4**
CORF Corte 83.42 335 *e*P **P 01 28 18.7 -0.2**
VLS Valsamata 83.42 325 *e*P **P 01 28 17.2 -1.8**
VLS Valsamata 83.42 325 *e*P **P 01 28 17.4 -1.6**
VLX Vlachokerasia 83.45 323 *e*P **P 01 28 19.2 +0.1**
FORT Forrest 83.45 203 *e*P **P 01 28 19.0 0.0**
comp=Z,45nm,0.6s,mb5.5
CUC Castrocucco 83.49 329 *e*P **P 01 28 18.6 -0.7**
comp=Z,40nm,1.1s,mb5.2
CNNC Cliffs of the 83.63 41 *e*P **P 01 28 20.2 +0.1**
comp=Z,19nm,0.5s,mb5.2
ITM Ithomi 83.79 324 *e*P **P 01 28 19.4 -1.5**
VLI Veliai 83.80 323 *e*P **P 01 28 16.5 -4.5**
ZKR Zakros 83.84 320 *e*P **P 01 28 20.1 -1.2**
NPS Neapolis 83.97 320 *e*P **P 01 28 20.5 -1.4**
COW Cow Castle Cre 83.98 44 *e*P **P 01 28 22.6 +0.6**
COW *e*pP pP 01 28 51.6 -0.8
LAST Lasithi 84.11 320 *e*P **P 01 28 21.0 -1.6**
KYTH Kithira 84.14 322 *e*P **P 01 28 22.0 -0.7**
MTLF Montolieu 84.17 340 ⇓*i*P **P 01 28 23.0 +0.3**
comp=Z,199nm,1.3s,mb5.5
MTLF Montolieu 84.17 340 ⇓*i*P **P 01 28 23.0 +0.3**
MTLF pmax pmax
comp=Z,99nm,1.3s,mb5.5
MTLF Montolieu 84.17 340 ⇓*i*P **P 01 28 23.0 +0.3**
comp=Z,99nm,1.3s,mb5.5
NHSC New Hope 84.45 43 *e*P **P 01 28 24.6 +0.2**
comp=Z,144nm,1.4s,mb5.6
NHSC *e*pP pP 01 28 53.8 -0.9
SIVA Sivas 84.52 320 *e*P **P 01 28 23.9 -0.7**
KARN Karanos 84.55 321 *e*P **P 01 28 23.2 -1.6**
CNB Canberra Magne 84.76 184 *e*P **P 01 28 24.9 -0.6**
MLS Moulis 84.78 341 *e*P **P 01 28 26.1 +0.3**
CARF Carcanieres 84.79 340 *e*P **P 01 28 26.1 +0.2**
SJAF Saint Jean de 84.83 339 *e*P **P 01 28 26.6 +0.5**
FILF Fillols 84.84 339 *e*P **P 01 28 26.7 +0.6**
EJON La Jonquera 84.87 339 P **P 01 28 26.5 +0.2**
comp=Z,16nm,0.9s,mb4.9
EPF Esparros 84.87 341 ⇓*i*P **P 01 28 25.5 -0.8**
comp=Z,52nm,0.7s,mb5.2
EPF Esparros 84.87 341 ⇓*i*P **P 01 28 25.5 -0.8**
EPF pmax pmax
comp=Z,26nm,0.7s,mb5.3
EPF Esparros 84.87 341 ⇓*i*P **P 01 28 25.5 -0.8**
comp=Z,26nm,0.7s,mb5.3
MELF Melles 84.94 341 *e*P **P 01 28 26.1 -0.5**
GVD Gavdhos 84.97 321 *e*P **P 01 28 26.5 -0.4**
REYF Montagne du Re 84.99 342 *e*P **P 01 28 26.1 -0.8**
CEL Celeste 85.02 328 *e*P **P 01 28 25.9 -1.2**
comp=Z,38nm,0.8s,mb5.4
EALK Alkurruntz 85.07 342 P **P 01 28 27.9 +0.6**
comp=Z,24nm,1.0s,mb5.1
VIEF Viey 85.08 341 *e*P **P 01 28 27.8 +0.5**
RESF Ens 85.09 341 *e*P **P 01 28 28.0 +0.6**
SLNA Salina 85.11 329 P **P 01 28 27.2 -0.3**
comp=Z,280nm,1.5s,mb6.0
VALF Valcebollere 85.11 340 *e*P **P 01 28 28.0 +0.5**
SJPF Ste Jean 85.11 342 *e*P **P 01 28 27.1 -0.4**
comp=Z,53nm,1.2s,mb5.1
SJPF Ste Jean 85.11 342 *e*P **P 01 28 27.1 -0.4**
SJPF pmax pmax
comp=Z,27nm,1.2s,mb5.0
SJPF Ste Jean 85.11 342 *e*P **P 01 28 27.1 -0.4**
comp=Z,27nm,1.2s,mb5.0
DGI Dorgali Grotta 85.12 334 P **P 01 28 27.7 +0.1**
ELIZ Elizondo 85.12 342 P **P 01 28 27.5 0.0**
ELIZ pmax pmax
comp=Z,26nm,1.0s,mb5.1
ELIZ Elizondo 85.12 342 P **P 01 28 27.5 0.0**
comp=Z,26nm,1.0s,mb5.1
SOI Samo 85.14 328 P **P 01 28 27.2 -0.5**
SOI pmax pmax
comp=Z,89nm,1.1s,mb5.6
SOI Samo 85.14 328 P **P 01 28 27.2 -0.5**
comp=Z,89nm,1.1s,mb5.6
LARF Larrau 85.14 342 *e*P **P 01 28 27.5 -0.1**
ETSF Etsaut 85.19 342 *e*P **P 01 28 27.6 -0.2**
comp=Z,27nm,0.8s,mb4.9
ETSF Etsaut 85.19 342 *e*P **P 01 28 27.6 -0.2**
ETSF pmax pmax
comp=Z,14nm,0.8s,mb4.9
ETSF Etsaut 85.19 342 *e*P **P 01 28 27.6 -0.2**
comp=Z,14nm,0.8s,mb4.9
EBIE Bielsa 85.25 341 P **P 01 28 28.8 +0.6**
comp=Z,21nm,0.8s,mb5.1
ELAN Lanestosa 85.42 344 P **P 01 28 28.7 -0.3**
comp=Z,42nm,0.9s,mb5.4
USI Ustica 85.51 330 P **P 01 28 29.4 -0.1**
EARI Arriondas 85.66 345 P **P 01 28 29.7 -0.5**
comp=Z,29nm,1.0s,mb5.2
EMIR Miracle 85.68 340 P **P 01 28 30.4 0.0**
comp=Z,22nm,0.7s,mb5.2
ECRI Cripan 85.85 343 P **P 01 28 30.9 -0.2**
ECRI pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ECRI Cripan 85.85 343 P **P 01 28 30.9 -0.3**
comp=Z,5.1nm,0.6s,mb4.6
EPON Pontenova 85.94 347 P **P 01 28 31.0 -0.5**
comp=Z,57nm,0.9s,mb5.5
VSL Villasalto 85.95 334 *e*P **P 01 28 31.6 0.0**
comp=Z,202nm,1.3s,mb5.9
ESAC San Caprasio 86.30 341 P **P 01 28 33.6 +0.2**
comp=Z,100nm,1.0s,mb5.7
EPOB Poblet 86.32 340 P **P 01 28 33.2 -0.3**
comp=Z,37nm,1.0s,mb5.3
EMAZ Mazaricos 86.58 348 P **P 01 28 33.7 -1.0**
comp=Z,50nm,1.2s,mb5.3
HMDC Modica 86.58 329 P **P 01 28 35.1 +0.3**
STS Santiago 86.58 347 P **P 01 28 34.1 -0.6**
STS pmax pmax
comp=Z,67nm,1.4s,mb5.4
STS Santiago 86.58 347 P **P 01 28 34.1 -0.6**
comp=Z,67nm,1.4s,mb5.4
ERUA La Rua 86.85 346 P **P 01 28 35.8 -0.2**
ERUA pmax pmax
comp=Z,16nm,1.0s,mb4.9
ERUA La Rua 86.85 346 P **P 01 28 35.8 -0.2**
comp=Z,16nm,1.0s,mb4.9
ERTA Horta de San J 86.86 341 P **P 01 28 35.6 -0.5**
comp=Z,18nm,0.9s,mb5.0
KLBR Kellerberrin 87.21 211 *e*P **P 01 28 36.9 -0.7**
comp=Z,31nm,0.6s,mb5.4
ECAL Calabor 87.23 346 P **P 01 28 37.6 -0.3**
comp=Z,12nm,0.8s,mb4.9
PBRG Braganca 87.36 346 *e*P **P 01 28 37.5 -1.0**
comp=Z,94nm,1.6s,mb5.5
ETOS Mallorca 87.43 338 P **P 01 28 39.2 +0.3**
comp=Z,71nm,1.2s,mb5.5
ETOR Torete 87.49 342 P **P 01 28 39.1 0.0**
ETOR pmax pmax
comp=Z,32nm,0.8s,mb5.3
ETOR Torete 87.49 342 P **P 01 28 39.1 -0.1**
comp=Z,32nm,0.8s,mb5.3
ELOB Lobios 87.50 347 P **P 01 28 38.5 -0.7**
comp=Z,21nm,0.9s,mb5.2
EMOS Mosqueruela 87.60 341 P **P 01 28 39.6 -0.1**
comp=Z,36nm,1.1s,mb5.3
PTS Pantelleria 87.62 331 P **P 01 28 40.3 +0.4**
PTS pmax pmax
comp=Z,387nm,1.2s,mb6.3
PTS Pantelleria 87.62 331 P **P 01 28 40.3 +0.4**
comp=Z,387nm,1.2s,mb6.3
PCAB Cabril 87.65 347 *e*P **P 01 28 39.3 -0.6**
comp=Z,90nm,1.6s,mb5.5
MVO Moncorvo 88.04 346 *e*P **P 01 28 40.9 -0.8**
comp=Z,121nm,1.4s,mb5.7
MVO Moncorvo 88.04 346 *e*S S 01 39 01.1 -14
GUD Guadarrama 88.06 344 P **P 01 28 41.5 -0.3**
GUD pmax pmax
comp=Z,70nm,1.4s,mb5.5
GUD Guadarrama 88.06 344 P **P 01 28 41.5 -0.3**
comp=Z,70nm,1.4s,mb5.5
MUN Mundaring 88.08 212 *e*P **P 01 28 41.4 -0.4**
DWPF Disney 88.08 47 *e*P **P 01 28 42.4 +0.2**
comp=Z,30nm,0.9s,mb5.3
DWPF *e*pP pP 01 29 12.5 -0.3
EIBI Ibiza 88.48 339 P **P 01 28 44.2 +0.4**
comp=Z,87nm,1.3s,mb5.6
NWAO Narrogin (SRO) 88.60 210 P **P 01 28 44.0 -0.2**
comp=Z,23nm,0.9s,mb5.2,baz=5.5,slow=4.5,SNR=5.9
PVIS Viseu 88.61 347 *e*P **P 01 28 43.8 -0.6**
comp=Z,98nm,1.5s,mb5.6
MTE Manteigas 88.86 346 *e*P **P 01 28 44.8 -0.8**
comp=Z,96nm,1.4s,mb5.6
MTE Manteigas 88.86 346 *e*S S 01 39 04.1 -19
MTE Manteigas 88.86 346 *e*P **P 01 28 44.9 -0.7**
comp=Z,103nm,1.5s,mb5.6
ESDC Sonseca Array 88.96 343 P **P 01 28 45.3 -0.8**
comp=Z,25nm,0.8s,mb5.3,baz=10.0,slow=4.2,SNR=142
ESDC pP pP 01 29 18.3 +1.5
comp=Z,6.8nm,0.9s,baz=357,slow=4.3,SNR=2.2
ESDC LR LR 02 14 04.1
comp=Z,327nm,19.6s,baz=5.0,slow=39
ESDC Sonseca Array 88.96 343 P **P 01 28 45.5 -0.6**
comp=Z,132nm,1.6s,mb5.7
ESLA Sonseca Array 88.96 343 *e*P **P 01 28 45.4 -0.7**
comp=Z,47nm,1.4s,mb5.3
EBEN Beniarda 89.14 340 P **P 01 28 47.6 +0.6**
comp=Z,54nm,1.2s,mb5.5
PAB San Pablo 89.16 344 ⇓*i*P **P 01 28 46.2 -0.8**
PAB pmax pmax
comp=Z,63nm,1.1s,mb5.6
PAB San Pablo 89.16 344 ⇓*i*P **P 01 28 46.2 -0.9**
comp=Z,64nm,1.1s,mb5.6
CMAH Djebel Manchou 89.18 334 P **P 01 28 47.0 -0.2**
CAEH 'Ain El Ouahch 89.20 334 P **P 01 28 48.0 +0.7**
PCBR Castelo Branco 89.40 346 *e*P **P 01 28 47.0 -1.2**
comp=Z,88nm,1.5s,mb5.6
KEST Kesra 89.44 332 P **P 01 28 48.8 +0.3**
comp=Z,28nm,0.9s,mb5.3,baz=315,slow=0.9,SNR=98
KEST LR LR 02 14 51.7
comp=Z,165nm,18.7s,baz=180,slow=39
ETOB Tobarra 89.48 341 P **P 01 28 48.5 -0.1**
comp=Z,24nm,0.9s,mb5.2
ABSA Djebel Ababsia 89.49 334 P **P 01 28 45.0 -3.7**
CKFL Kef-Lekhel 89.59 334 P **P 01 28 48.0 -1.1**
EVIA Vianos 89.68 342 P **P 01 28 49.4 -0.1**
EVIA pmax pmax
comp=Z,26nm,0.9s,mb5.4
EVIA Vianos 89.68 342 P **P 01 28 49.4 -0.1**
comp=Z,26nm,0.9s,mb5.4
DFRA Djebel Bou Aff 89.69 335 P **P 01 28 50.0 +0.4**
CASM Ain Smara 89.78 334 P **P 01 28 49.0 -1.0**
PMRV Marv??o 89.79 346 *e*P **P 01 28 48.7 -1.3**
comp=Z,106nm,1.6s,mb5.7
PMRV Marv??o 89.79 346 *e*S S 01 39 11.0 -21
URZ Urewera 89.88 162 LR LR 02 04 00.5
comp=Z,122nm,21.7s,baz=27,slow=32
CTEI Djebel Teioual 89.99 334 P **P 01 28 48.0 -3.0**
EMUR La Murta 90.19 341 P **P 01 28 51.3 -0.6**
comp=Z,6.8nm,0.8s,mb4.8
PESTR Estremoz 90.37 346 *e*P **P 01 28 51.4 -1.3**
comp=Z,76nm,1.3s,mb5.7
PESTR Estremoz 90.37 346 *e*S S 01 39 14.9 -22
EBAD Badajoz 90.39 345 P **P 01 28 51.7 -1.1**
comp=Z,97nm,1.5s,mb5.7
EBAN Banos Encina 90.39 343 P **P 01 28 52.7 -0.1**
EBAN pmax pmax
comp=Z,22nm,0.9s,mb5.3
EBAN Banos Encina 90.39 343 P **P 01 28 52.7 -0.1**
comp=Z,22nm,0.9s,mb5.3
EHUE Huescar 90.49 342 P **P 01 28 52.8 -0.5**
EHUE pmax pmax
comp=Z,117nm,1.5s,mb5.8
EHUE Huescar 90.49 342 P **P 01 28 52.8 -0.5**
comp=Z,117nm,1.5s,mb5.8
EADA Adamuz 90.54 343 P **P 01 28 52.8 -0.7**
comp=Z,23nm,0.9s,mb5.3
PMAFR Mafra 90.54 347 *e*P **P 01 28 52.2 -1.3**
comp=Z,91nm,1.7s,mb5.6
PMAFR Mafra 90.54 347 *e*S S 01 39 11.8 -27
EQES Quesada 90.60 342 P **P 01 28 53.3 -0.5**
comp=Z,25nm,1.0s,mb5.3
EVO Evora 90.76 346 ⇓*i*P **P 01 28 53.4 -1.1**
comp=Z,154nm,1.5s,mb5.6
EVO *e*MLR MLR
comp=Z,344nm,18.8s
EVO Evora 90.76 346 *e*P **P 01 28 53.4 -1.1**
comp=Z,82nm,1.5s,mb5.6
ECAB El Cabril 90.78 344 P **P 01 28 54.1 -0.5**
comp=Z,32nm,0.8s,mb5.5
PBAR Barrancos 90.96 345 *e*P **P 01 28 54.2 -1.2**
comp=Z,106nm,1.5s,mb5.8
PBAR Barrancos 90.96 345 *e*S S 01 39 15.4 -27
ECOG Cogollos-Vega 91.21 342 P **P 01 28 55.9 -0.7**
ECOG pmax pmax
comp=Z,15nm,1.0s,mb5.1
ECOG Cogollos-Vega 91.21 342 P **P 01 28 55.9 -0.7**
comp=Z,15nm,1.0s,mb5.1
ENIJ Nijar 91.23 341 P **P 01 28 55.6 -1.1**
ENIJ pmax pmax
comp=Z,28nm,1.3s,mb5.2
ENIJ Nijar 91.23 341 P **P 01 28 55.6 -1.1**
comp=Z,28nm,1.3s,mb5.2
PBEJ Beja 91.24 346 *e*P **P 01 28 56.2 -0.5**
comp=Z,100nm,1.7s,mb5.7
EMIN Mina Concepcio 91.30 345 P **P 01 28 56.2 -0.8**
comp=Z,21nm,0.9s,mb5.3
ELOJ Sierra Loja 91.45 343 P **P 01 28 57.4 -0.3**
ELOJ pmax pmax
comp=Z,18nm,0.9s,mb5.2
ELOJ Sierra Loja 91.45 343 P **P 01 28 57.4 -0.3**
comp=Z,18nm,0.9s,mb5.2
ERON Agron 91.50 343 P **P 01 28 57.1 -0.9**
comp=Z,9.7nm,0.6s,mb5.2
EGUA Guajares 91.64 342 P **P 01 28 57.5 -1.1**
EGUA pmax pmax
comp=Z,177nm,1.0s,mb6.2
EGUA Guajares 91.64 342 P **P 01 28 57.5 -1.1**
comp=Z,177nm,1.0s,mb6.2
EGRO El Granado 91.66 346 P **P 01 28 58.2 -0.5**
comp=Z,46nm,1.2s,mb5.6
PVAQ Vaqueiros 91.82 346 *e*P **P 01 28 58.6 -0.9**
comp=Z,85nm,1.3s,mb5.8
PVAQ Vaqueiros 91.82 346 *e*S S 01 39 23.1 -27
PTEO Sao Teotonio 91.84 347 *e*P **P 01 28 59.1 -0.4**
comp=Z,121nm,1.7s,mb5.8
PBDV Barranco-do-Ve 92.01 346 *e*P **P 01 28 59.6 -0.7**
comp=Z,113nm,1.5s,mb5.9
PBDV Barranco-do-Ve 92.01 346 *e*S S 01 39 24.4 -28
ESPR Espera 92.03 344 P **P 01 28 59.6 -0.8**
comp=Z,35nm,1.0s,mb5.5
MORF Marmelete 92.06 346 *e*P **P 01 28 59.3 -1.3**
comp=Z,117nm,1.4s,mb5.9
MORF Marmelete 92.06 346 *e*S S 01 39 23.6 -29
EMIJ Mijas 92.13 343 P **P 01 28 59.8 -1.1**
comp=Z,13nm,0.8s,mb5.2
PFVI Vila Bisbo 92.26 347 *e*P **P 01 29 00.6 -0.9**
comp=Z,106nm,1.7s,mb5.8
PFVI Vila Bisbo 92.26 347 *e*S S 01 39 25.9 -28
EJIF Jimena Fronter 92.37 344 P **P 01 29 01.4 -0.6**
EJIF pmax pmax
comp=Z,97nm,0.9s,mb6.0
EJIF Jimena Fronter 92.37 344 P **P 01 29 01.4 -0.6**
comp=Z,96nm,0.9s,mb6.0
RKT Rikitea 95.72 119 *e*LR LR 01 59 50.0
comp=Z,1μm,37.8s,baz=320
TAM Tamanrasset 102.67 331 *e*P Pdif 01 29 48.9 +0.2
TORD Torodi Ar. Bea 112.93 331 Pdiff Pdif 01 30 34.6 +0.4
comp=Z,1.5nm,1.0s,baz=9.6,slow=4.3,SNR=4.7
TORD PKiKP PKiKP 01 34 28.0 -0.2
comp=Z,2.4nm,0.7s,baz=12,slow=2.2,SNR=29
TORD PKKPbc PKKPbc 01 45 12.0 -1.3
comp=Z,2.0nm,1.2s,baz=219,slow=1.4,SNR=9.7
TORD PKKPab PKKPab 01 45 21.6 -4.5
comp=Z,3.3nm,1.1s,baz=210,slow=3.4,SNR=7.8
TORD Torodi Ar. Bea 112.93 331 Pdif Pdif 01 30 34.6 +0.4
TORD PKPdf PKiKP 01 34 28.0 -0.2
TORD PKKPbc PKKPbc 01 45 12.0 -1.3
TORD PKKPab PKKPab 01 45 21.6 -4.5
DBIC Dimbokro 121.00 336 PKP PKPdf 01 34 43.4 -0.4
comp=Z,10.0nm,0.7s,baz=6.9,slow=1.8,SNR=19
TIC Toumodi 121.06 336 *e*PKIKP PKPdf 01 34 43.4 -0.5
comp=Z,49nm,0.8s
KIC Kosan Boka 121.26 335 *e*PKIKP PKPdf 01 34 43.5 -0.8
comp=Z,79nm,1.0s
LIC Lamto 121.47 336 *e*PKIKP PKPdf 01 34 44.6 -0.1
comp=Z,19nm,0.7s
LIC *e*MLR MLR
comp=Z,153nm,20.5s
LIC Lamto 121.47 336 *e*PKIKP PKPdf 01 34 43.7 -1.0
comp=Z,71nm,1.2s
LIC Lamto 121.47 336 *e*PKPdf PKPdf 01 34 44.6 -0.1
LIC LR LR
comp=Z,80nm,20.5s
LSZ Lusaka 124.64 289 *e*PKIKP PKPdf 01 34 51.2 +0.6
LPAZ La Paz 132.25 61 PKP PKPdf 01 35 05.9 +0.9
comp=Z,0.9nm,0.6s,baz=151,slow=3.8,SNR=4.8
LPAZ pPKP pPKPdf 01 35 36.7 -0.4
comp=Z,1.6nm,0.8s,baz=354,slow=7.8,SNR=3.4
LPAZ La Paz 132.25 61 PKP PKPdf 01 35 05.9 +0.9
LPAZ pPKP pPKPdf 01 35 36.7 -0.4
TSUM Tsumeb 134.05 296 *e*PKPdf PKPdf 01 35 09.0 +0.6
MAW Mawson 135.12 213 PKP PKPdf 01 35 08.8 0.0
comp=Z,4.7nm,0.9s,baz=303,slow=4.4,SNR=7.0
MAW pPKP pPKPdf 01 35 40.5 -0.5
comp=Z,4.2nm,0.7s,baz=17,slow=2.7,SNR=5.1
SIV San Ignacio 135.85 53 PKhKP 01 34 59.3
comp=Z,1.7nm,0.5s,baz=281,slow=4.7,SNR=15
SIV PKP PKPdf 01 35 12.1 +0.3
comp=Z,1.4nm,0.5s,baz=263,slow=3.5,SNR=8.1
SIV pPKP pPKPdf 01 35 42.7 -1.2
comp=Z,2.0nm,0.7s,baz=143,slow=5.1,SNR=3.2
SIV San Ignacio 135.85 53 PKP PKPdf 01 35 12.1 +0.3
SIV pPKP pPKPdf 01 35 42.7 -1.2
BOSA Boshof 136.21 279 PKhKP 01 35 00.3
comp=Z,3.1nm,0.7s,baz=60,slow=10.0,SNR=4.8
BOSA PKP PKPdf 01 35 12.0 -0.1
comp=Z,12nm,0.8s,baz=70,slow=3.6,SNR=9.5
BOSA Boshof 136.21 279 PKIKP PKPdf 01 35 12.0 -0.2
BDFB Brasilia 141.49 36 PKhKP 01 35 15.9
comp=Z,1.9nm,0.6s,baz=332,slow=9.0,SNR=4.9
BDFB PKP PKPdf 01 35 22.6 +0.5
comp=Z,2.1nm,0.9s,baz=289,slow=24,SNR=4.0
BDFB Brasilia 141.49 36 PKP PKPdf 01 35 22.6 +0.5
CFAA Coronel Fontan 143.60 76 PKP PKPdf 01 35 22.1 -3.4
comp=Z,1.8nm,0.8s,baz=275,slow=2.6,SNR=7.6
SYO Syowa Base 143.82 214 ⇑*i*P PKPdf 01 35 20.4 -4.2
CPUP Villa Florida 146.28 58 PKPbc PKPbc 01 35 30.7 -0.9
comp=Z,8.4nm,0.5s,baz=305,slow=2.3,SNR=58
CPUP pPKP pPKPdf 01 36 01.2 -1.2
comp=Z,33nm,1.0s,baz=321,slow=3.7,SNR=6.7
CPUP Villa Florida 146.28 58 *e*PKPdf PKPdf 01 35 30.7 +0.5
CPUP *e*pPKPdf pPKPdf 01 36 01.4 -1.0
PLCA Paso Flores 147.59 91 PKPbc PKPbc 01 35 34.4 -0.5
comp=Z,23nm,0.8s,baz=289,slow=2.9,SNR=33
PLCA pPKPbc pPKPbc 01 36 05.2 -1.4
comp=Z,19nm,0.9s,baz=286,slow=4.0,SNR=4.4
PLCA Paso Flores 147.59 91 *e*PKPbc PKPbc 01 35 34.3 -0.5
PLCA *e*pPKPdf pPKPdf 01 36 05.3 +1.2
TRQA Tornquist 151.66 80 *e*PKPbc PKPbc 01 35 44.1 -0.8
NVL N'lazarevskaya 152.64 206 PKIKP PKPdf 01 35 35.2 -3.8
NVL pmax pmax
comp=Z,48nm,1.7s
MAIT Maitri 152.67 206 *e*P PKPdf 01 35 42.6 +3.6

*ISCJB **28** 01:48:01.9±0.6,2150S×004×6661W×007,h228km±7km, mb3.8/7, Error ellipse: s-maj=10.7km s-min=7.3km az=0.7*
*NEIC **28** 01:48:02.8±0.7,2148S×6661W,h221km±8km,mb4.4/2, Error ellipse: s-maj=11.2km s-min=9.4km az=64.0*
*IDC **28** 01:48:02.4±0.8,2144S×6657W,h216km±9km,mb3.6/6, mb1 3.7/14,mb1mx3.6/23,mbtmp3.7/14, Error ellipse: s-maj=13.1km s-min=10.0km az=90.0*
ISC 28 01:48:02.9±0.5,**2148S**×005×**6661W**×007,**h219**km±7km, **n28**,σ1§**18**/33,**mb3.8**/7,**1D,Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
LVC	**Limon Verde**	**2.42**	**242**	P	**Pn**	**01 48 48.6**	**+1.5**
	52nm,0.3s,baz=57,slow=7.5,SNR=461						
LVC				S	**S**	**01 49 21.8**	**0.0**
	100nm,0.3s,baz=241,slow=22,SNR=45						
LVC	**Limon Verde**	**2.42**	**242**	P	**Pn**	**01 48 48.6**	**+1.5**
LVC				S	**S**	**01 49 21.8**	**0.0**
LPAZ	**La Paz**	**5.36**	**344**	P	**Pn**	**01 49 23.8**	**+1.5**
	5.4nm,0.3s,baz=149,slow=9.0,SNR=120						
LPAZ				S	**S**	**01 50 24.2**	**-1.2**
	3.6nm,0.3s,baz=354,slow=14,SNR=22						
LPAZ	**La Paz**	**5.36**	**344**	P	**Pn**	**01 49 23.8**	**+1.5**
LPAZ				S	**S**	**01 50 24.2**	**-1.2**
ARE	**Arequipa**	**6.80**	**316**	⇓*i*P	**Pn**	**01 49 38.4**	**-2.3**
ARE				*i* S	**S**	**01 50 52.6**	**-6.1**

SIV San Ignacio 7.56 45 P **Pn 01 49 50.2 -0.4**
55nm,0.3s,baz=224,slow=14,SNR=1067
LCO Las Campanas 8.37 205 *e*Pn **Pn 01 49 59.2 -1.6**
13nm,0.5s
LCO *e*Sn **S 01 51 31.6 -3.8**
CPUP Villa Florida 9.77 121 P **Pn 01 50 18.5 -0.3**
0.6nm,0.3s,baz=291,slow=10,SNR=13
CPUP Villa Florida 9.77 121 P **Pn 01 50 18.5 -0.3**
CFAA Coronel Fontan 10.19 188 P **Pn 01 50 23.8 -0.5**
0.6nm,0.3s,baz=1.6,slow=13,SNR=32
CFAA S **S 01 52 10.4 -8.1**
1.3nm,0.3s,baz=159,slow=16,SNR=10
NNA Nana 13.60 312 P **Pn 01 51 09.0 +1.8**
5.4nm,0.3s,baz=140,slow=9.9,SNR=11
NNA Nana 13.60 312 P **Pn 01 51 09.0 +1.8**
SPB Sao Paulo 17.84 100 *e*P **P 01 51 57.2 +1.5**
ATAH Atahualpa 18.35 320 P **P 01 52 01.7 +0.3**
0.7nm,0.3s,baz=146,slow=8.7,SNR=7.6
BDFB Brasilia 18.55 75 P **P 01 52 04.5 +1.0**
0.6nm,0.3s,baz=257,slow=15,SNR=8.5
PLCA Paso Flores 19.49 189 P **P 01 52 14.8 +1.5**
1.1nm,0.3s,baz=2.8,slow=11,SNR=21
PLCA Paso Flores 19.49 189 P **P 01 52 14.8 +1.5**
TXAR Lajitas Array 61.86 323 P **P 01 57 58.9 -0.1**
0.4nm,0.6s,mb3.2,baz=152,slow=9.1,SNR=6.8
TXAR Lajitas Array 61.86 323 P **P 01 57 58.9 -0.1**
DBIC Dimbokro 66.68 72 P **P 01 58 29.2 -1.4**
3.4nm,0.8s,mb4.0,baz=197,slow=4.1,SNR=3.1
MSU Marysvale 73.39 324 *e*P **P 01 59 12.3 +1.5**
PDAR Pinedale Array 75.18 329 P **P 01 59 21.7 +0.7**
0.3nm,0.4s,mb3.3,baz=120,slow=8.8,SNR=2.9
TORD Torodi Ar. Bea 75.33 69 P **P 01 59 21.2 -1.3**
2.9nm,0.5s,mb4.2,baz=257,slow=5.6,SNR=95
SCHQ Schefferville 75.99 360 P **P 01 59 24.9 -0.4**
1.9nm,0.8s,mb3.8,baz=108,slow=6.4,SNR=2.8
BOSA Boshof 81.56 117 P **P 01 59 56.1 -0.3**
2.7nm,0.9s,mb3.9,baz=234,slow=4.0,SNR=6.3
WRAK Wrangell Islan 95.16 329 *e*P **P 02 00 59.5 -1.3**
2.1nm,0.8s,mb4.3
SPB4 Spitsbergen Ar 109.42 13 *e*PKP PKiKP 02 06 06.4 +0.3
MKAR Makanchi Array 144.33 37 PKP PKPdf 02 07 11.5 -1.1
0.3nm,0.5s,baz=344,slow=4.5,SNR=4.1

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*IDC **28** 01:52:06.2±1.1, 1672S×17274W, h0km, mb4.4/7, mb1 4.6/8, mb1mx4.2/23, mbtmp4.5/8, Error ellipse: s-maj=31.0km s-min=22.2km az=127.0*
*ISCJB **28** 01:52:08.4±0.6, 1673S±007×1726W±0.1, h33km, mb4.4/8, Error ellipse: s-maj=15.1km s-min=8.2km az=27.6*
*NEIC **28** 01:52:11.4±0.6, 1671S×17262W, h45km, mb4.6/2, Error ellipse: s-maj=15.8km s-min=12.5km az=148.0*
ISC 28 01:52:10.5±0.6, 1671S±007×17263W±010, h35km, n17, σ0§63/16, mb4.4/8, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.90**	**17**	Pn	**Pn**	**01 52 54.2**	**0.0**
	1.7nm,0.3s,baz=225,slow=20,SNR=3.2						
AFI				Sn	**Sn**	**01 53 27.8**	**0.0**
	32nm,0.3s,baz=75,slow=15,SNR=10						
AFI	**Afiamalu**	**2.90**	**17**	Pn	**Pn**	**01 52 54.2**	**0.0**
AFI				Sn	**Sn**	**01 53 27.8**	**0.0**
RAR	**Rarotonga**	**12.96**	**112**	Pn	**Pn**	**01 55 12.1**	**-0.1**
	4.8nm,0.3s,baz=119,slow=10,SNR=4.2						
URZ	**Urewera**	**23.29**	**201**	P	**P**	**01 57 14.4**	**-0.8**
	14nm,0.5s,mb4.7,baz=49,slow=2.7,SNR=17						
RPZ	**Rata Peaks**	**30.27**	**204**	P	**P**	**01 58 19.4**	**+1.2**
	5.6nm,0.8s,mb4.3,baz=39,slow=18,SNR=1.9						
CTA	**Charters Tower**	**39.09**	**259**	P	**P**	**01 59 33.5**	**-1.1**
	4.6nm,0.6s,mb4.4,baz=78,slow=11,SNR=3.3						
CTAO	**Charters Tower**	**39.09**	**259**	*e*P	**P**	**01 59 32.9**	**-1.7**
	29nm,1.7s,mb4.7						
STKA	**Stephens Creek**	**44.04**	**241**	P	**P**	**02 00 14.9**	**-0.2**
	3.2nm,0.7s,mb4.2,baz=18,slow=3.6,SNR=4.5						
STKA	**Stephens Creek**	**44.04**	**241**	*e*P	**P**	**02 00 15.0**	**0.0**
WB2	**Warramunga Arr**	**50.27**	**258**	*e*P	**P**	**02 01 04.0**	**+0.2**
WRAB	**Tennant Creek**	**50.27**	**258**	*e*P	**P**	**02 01 03.5**	**-0.2**
	1.8nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**50.28**	**258**	P	**P**	**02 01 04.2**	**+0.3**
	2.1nm,0.5s,mb4.4,baz=97,slow=7.0,SNR=122						
ASAR	**Alice Springs**	**50.42**	**253**	P	**P**	**02 01 05.5**	**+0.5**
	9.8nm,0.6s,mb5.0,baz=87,slow=8.6,SNR=102						
FITZ	**Fitzroy Crossi**	**58.67**	**259**	P	**P**	**02 02 05.2**	**+0.3**
	0.4nm,0.3s,mb3.9,baz=94,slow=16,SNR=5.7						
ARCES	**ARCESS Array B**	**126.00**	**352**	PKP	PKPdf	02 11 07.8	-0.5
	0.7nm,0.6s,baz=46,slow=6.9,SNR=3.9						
KMBO	**Kilima Mbogo**	**145.60**	**242**	PKPbc	PKPbc	02 11 48.0	+1.6
	0.6nm,0.4s,baz=199,slow=23,SNR=3.7						
GERES	**GERESS Array B**	**147.53**	**352**	PKPbc	PKPbc	02 11 53.2	+2.3
	0.5nm,0.6s,baz=20,slow=4.3,SNR=5.1						

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*SKHL **28** 01:53:19.3±0.5, 4666N×15335E, h84km±23km, mb5.4/3, msh6.1/4*
*ISCJB **28** 01:53:24.2±0.7, 4693N±007×15279E±0.10, h68km±6km, mb4.0/20, Error ellipse: s-maj=15.1km s-min=5.5km az=137.2*
*MOS **28** 01:53:25.5±1.4, 4708N×15280E, h72km, mb4.2/5, Error ellipse: s-maj=12.5km s-min=8.0km az=73.2*
*IDC **28** 01:53:28.6±2.6, 47.14N×15284E, h84km±23km, mb3.7/15, mb1 3.9/18, mb1mx3.9/25, mbtmp3.7/18, Error ellipse: s-maj=21.8km s-min=13.9km az=157.0*
*NEIC **28** 01:53:29.2±1.1, 47.16N×15283E, h88km±9km, mb4.4/2, Error ellipse: s-maj=14.7km s-min=8.3km az=137.0*
ISC 28 01:53:26.4±0.7, 4691N±007×15277E±010, h72km±6km, n75, σ0§24/86, mb4.0/20, 8C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.80**	**246**	*e*PN	**Pn**	**01 54 20.5**	**-2.0**
KUR				*e*S	**Sn**	**01 55 06.0**	**0.0**
KUR				pmax	pmax		
	comp=N,90nm,0.7s						
KUR				pmax	pmax		
	comp=E,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
KUR				smax			
	comp=N,490nm,0.5s						
KUR				smax			
	comp=E,230nm,0.5s						
KUR	**Kuril'sk**	**3.80**	**246**	*e*P	**Pn**	**01 54 20.5**	**-2.0**
KUR				AMB	AMB	01 54 25.8	
	comp=E,95nm,0.3s						
KUR				*e*S	**Sn**	**01 55 06.0**	**0.0**
KUR				A		01 55 26.0	
	comp=E,494nm,0.5s						
KUR				A		01 55 26.0	
	comp=E,228nm,0.5s						
SKR	**Severo-Kuril's**	**4.38**	**29**	*e*PN	**Pn**	**01 54 27.0**	**-3.3**
SKR				*e*S	**Sn**	**01 55 13.4**	**-6.5**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,260nm,0.9s						
SKR				smax			
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.38**	**29**	*e*P	**Pn**	**01 54 27.0**	**-3.3**
SKR				AMB	AMB	01 54 27.5	
	comp=Z,50nm,0.5s						
SKR				*e*S	**Sn**	**01 55 13.4**	**-6.5**
SKR				A		01 55 30.8	
	comp=Z,150nm,0.5s						
SKR				A		01 55 30.8	
	comp=Z,80nm,0.5s						
SKR				A		01 55 30.8	
	comp=Z,260nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**5.64**	**242**	*e*PN	**Pn**	**01 54 48.8**	**+1.1**
YUK				*e*S	**Sn**	**01 55 56.3**	**+5.2**
YUK				pmax	pmax		
	comp=Z,310nm,0.3s						
YUK				pmax	pmax		
	comp=N,150nm,0.4s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=N,370nm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.64**	**242**	*e*P	**Pn**	**01 54 48.8**	**+1.1**
YUK				AMB	AMB	01 54 49.7	
	comp=E,150nm,0.4s						
YUK				AMB	AMB	01 54 49.7	
	comp=E,310nm,0.2s						
YUK				*e*S	**Sn**	**01 55 56.3**	**+5.2**
YUK				A		01 56 11.5	
	comp=E,2μm,1.0s						
YUK				A		01 56 11.5	
	comp=E,2μm,0.6s						
YUK				A		01 56 11.8	
	comp=E,370nm,0.5s						
YUK				A		01 56 11.8	
	comp=E,380nm,0.5s						
NEM2	**Nemuro 2**	**6.10**	**237**	P	**Pn**	**01 54 53.0**	**-0.9**
NEM2				*e*S	**Sn**	**01 56 00.2**	**-2.1**
JRA	**Rausu**	**6.15**	**244**	P	**Pn**	**01 54 56.5**	**+2.0**
JNK	**Nakash**	**6.58**	**243**	P	**Pn**	**01 55 01.7**	**+1.2**
JTKR	**Abashiri--Toko**	**6.89**	**248**	P	**Pn**	**01 55 07.1**	**+2.4**
JAK	**Akkeshi**	**6.94**	**239**	P	**Pn**	**01 55 04.7**	**-0.6**
PEA0B	**Petropavlovsk-**	**6.97**	**25**	*e*Pn	**Pn**	**01 55 05.1**	**-0.6**
PETK	**Petropavlovsk-**	**6.97**	**25**	P	**Pn**	**01 55 05.4**	**-0.3**
	comp=E,0.7nm,0.3s,baz=190,slow=8.7,SNR=8.6						
PET	**Petropavlovsk**	**7.20**	**30**	*e*PN	**Pn**	**01 55 09.9**	**+1.1**
PET				MLR	MLR		
	comp=Z,200nm,12.0s						
JMP	**Maruseppu**	**7.22**	**250**	P	**Pn**	**01 55 12.2**	**+3.0**
JOB	**Onbets**	**7.50**	**241**	P	**Pn**	**01 55 13.8**	**+0.8**
JOB				*e*S	**Sn**	**01 56 35.8**	**-0.7**
ASAJ	**Asahikawa**	**7.67**	**252**	P	**Pn**	**01 55 22.8**	**+7.5**
ASAJ	**Asahikawa**	**7.67**	**252**	P	**Pn**	**01 55 19.4**	**+4.0**
	comp=Z,1.7nm,0.3s,baz=77,slow=12,SNR=16						
ASAJ	**Asahikawa**	**7.67**	**252**	PN	**Pn**	**01 55 19.4**	**+4.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.68**	**250**	P	**Pn**	**01 55 18.4**	**+3.0**
TYV	**Tymovskoe**	**7.75**	**304**	*e*P	**Pn**	**01 55 18.0**	**+1.7**
JCH	**Churui**	**7.95**	**241**	P	**Pn**	**01 55 18.5**	**-0.7**
JCH				*e*S	**Sn**	**01 56 45.1**	**-2.4**
JEM	**Erimo**	**8.44**	**238**	P	**Pn**	**01 55 26.3**	**+0.5**
JBT2	**Biratori 2**	**8.47**	**245**	P	**Pn**	**01 55 27.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**8.51**	**241**	P	**Pn**	**01 55 25.8**	**-1.0**
JKB	**Kayabe**	**9.78**	**243**	P	**Pn**	**01 55 43.5**	**-0.7**
JKB				*e*S	**Sn**	**01 57 27.7**	**-4.6**
JYM2	**Yakumo 2**	**10.07**	**246**	P	**Pn**	**01 55 48.1**	**+0.1**
JTM	**Tenmabayashi**	**10.43**	**238**	*e*S	**Sn**	**01 57 40.9**	**-7.2**
JANG	**Nango**	**10.45**	**235**	P	**Pn**	**01 55 49.4**	**-3.8**
JANG				*e*S	**Sn**	**01 57 40.6**	**-7.9**
JTH	**Tanohata**	**10.55**	**233**	*e*S	**Sn**	**01 57 40.3**	**-11**
JRG	**Rokugo**	**11.61**	**234**	P	**Pn**	**01 56 06.5**	**-2.6**
MJAR	**Matsushiro Arr**	**14.99**	**232**	P	**Pn**	**01 56 59.0**	**+4.9**
	comp=Z,0.6nm,0.3s,baz=36,slow=9.0,SNR=11						
VLA	**Vladivostok**	**15.23**	**263**	*e*iP	**Pn**	**01 57 00.6**	**+3.4**
VLA				pmax	pmax		
	comp=Z,38nm,0.6s						
SEY	**Seymchan**	**16.06**	**359**	*e*iP	**Pn**	**01 57 07.6**	**+0.1**
KSRS	**Korea Array**	**20.62**	**252**	P	**P**	**01 58 02.2**	**+2.5**
	comp=Z,1.6nm,0.6s,baz=61,slow=10,SNR=7.2						
KSRS	**Korea Array**	**20.62**	**252**	P	**P**	**01 58 02.3**	**+2.5**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BILL	**Bilibino**	**22.29**	**13**	*e*iP	**P**	**01 58 15.6**	**-1.7**
BILL				pmax	pmax		
	comp=Z,12nm,2.5s,mb3.8						
TIXI	**Tiksi**	**27.25**	**344**	*e*iP	**P**	**01 59 04.4**	**+1.1**
SONM	**Songino Array**	**31.06**	**289**	P	**P**	**01 59 37.7**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.2,baz=85,slow=4.8,SNR=3.1						
TLY	**Talaya**	**31.89**	**297**	*e*P	**P**	**01 59 43.3**	**-1.3**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
COLA	**College**	**36.16**	**39**	*e*iP	**P**	**02 00 20.9**	**-0.4**
ZALV	**Zalesovo Beam**	**42.33**	**306**	P	**P**	**02 01 11.3**	**-1.5**
	comp=Z,0.9nm,0.3s,mb4.0,baz=70,slow=9.8,SNR=3.7						
ZALV				PcP	PcP	02 03 05.3	+0.3
	comp=Z,0.5nm,0.3s,baz=116,slow=3.4,SNR=3.1						
ZAL	**Zalesovo**	**42.34**	**306**	P	**P**	**02 01 11.3**	**-1.6**
ZAL						02 03 05.3	
MKAR	**Makanchi Array**	**46.66**	**297**	P	**P**	**02 01 47.7**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.6,baz=68,slow=7.9,SNR=6.9						
MKAR				PcP	PcP	02 03 21.2	+1.2
	comp=Z,0.5nm,0.6s,baz=71,slow=3.4,SNR=3.7						
MKAR	**Makanchi Array**	**46.66**	**297**	*e*P	**P**	**02 01 50.8**	**+3.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.66**	**297**	P	**P**	**02 01 47.7**	**+0.3**
MKAR				PcP	PcP	02 03 21.2	+1.2
KURK	**Kurchatov**	**47.08**	**303**	⇑*e*iP	**P**	**02 01 50.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
BVAR	**Borovoye Array**	**50.57**	**309**	P	**P**	**02 02 17.1**	**-0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=243,slow=41,SNR=3.8						
YKA	**Yellowknife Ar**	**50.94**	**37**	P	**P**	**02 02 18.6**	**-1.3**
	comp=Z,1.0nm,0.6s,mb4.1,baz=297,slow=7.3,SNR=4.4						
YKA	**Yellowknife Ar**	**50.94**	**37**	P	**P**	**02 02 18.6**	**-1.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**52.18**	**256**	P	**P**	**02 02 32.6**	**+2.8**
	comp=Z,1.9nm,0.3s,mb4.5,baz=39,slow=6.9,SNR=6.3						
ARU	**Arti**	**54.73**	**317**	*e*iP	**P**	**02 02 47.3**	**-0.7**
ARU				*e**PP	pP	02 03 13.4	+7.2
ARU				*e*S	**S**	**02 10 19.0**	**-3.7**
ARU				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.3						
ARCES	**ARCESS Array B**	**57.62**	**341**	P	**P**	**02 03 07.8**	**-0.6**
	comp=Z,2.3nm,1.0s,mb4.2,baz=32,slow=7.1,SNR=4.4						
SUMG	**Summit**	**60.56**	**4**	*e*P	**P**	**02 03 28.6**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**62.57**	**62**	P	**P**	**02 03 42.6**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=296,slow=6.4,SNR=3.9						
PDAR	**Pinedale Array**	**64.84**	**54**	P	**P**	**02 03 57.9**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.7,baz=274,slow=2.4,SNR=6.7						
NB2	**NORSAR Subarra**	**68.00**	**341**	P	**P**	**02 04 17.3**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.0,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.00**	**341**	P	**P**	**02 04 17.4**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.1,baz=27,slow=6.3,SNR=8.1						
AKASG	**Malin Array Be**	**71.28**	**326**	P	**P**	**02 04 37.6**	**-0.1**
	comp=Z,2.3nm,0.3s,mb4.4,baz=33,slow=6.3,SNR=17						
AKASG	**Malin Array Be**	**71.28**	**326**	*e*P	**P**	**02 04 37.6**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KWP	**Kalwaria**	**74.56**	**329**	⇓*e*iP	**P**	**02 04 58.2**	**+1.0**
KWP	**Kalwaria**	**74.56**	**329**	⇓P	**P**	**02 04 58.2**	**+1.1**
BURAR	**Bucovina Array**	**75.32**	**326**	⇑*e*iP	**P**	**02 05 02.2**	**+0.6**
BURAR	**Bucovina Array**	**75.32**	**326**	⇑P	**P**	**02 05 02.2**	**+0.6**
CLL	**Collm**	**76.22**	**335**	⇑*e*iP	**P**	**02 05 06.4**	**-0.2**
	comp=Z,5.0nm,0.6s,mb4.4						
MLR	**Muntele Rosu**	**76.80**	**325**	⇑*e*iP	**P**	**02 05 10.9**	**+0.9**
MLR	**Muntele Rosu**	**76.80**	**325**	⇑P	**P**	**02 05 10.9**	**+0.9**
PSZ	**Piszkesteto**	**77.00**	**330**	⇑*e*iP	pP	02 05 25.4	-4.9
TXAR	**Lajitas Array**	**77.62**	**60**	P	**P**	**02 05 14.9**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.7,baz=303,slow=4.8,SNR=21						
TXAR	**Lajitas Array**	**77.62**	**60**	*e*P	**P**	**02 05 14.9**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KHC	**Kasperske Hory**	**77.99**	**334**	*e*P	**P**	**02 05 17.5**	**+0.9**
GERES	**GERESS Array B**	**78.21**	**334**	P	**P**	**02 05 18.3**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.4,baz=31,slow=5.9,SNR=4.7						
PKSM	**Moragy**	**78.91**	**329**	⇓*e*iP	**P**	**02 05 20.9**	**-0.8**
PKSM	**Moragy**	**78.91**	**329**	⇓P	**P**	**02 05 20.9**	**-0.8**
STKA	**Stephens Creek**	**79.07**	**190**	P	**P**	**02 05 23.7**	**+1.2**
	comp=Z,7.9nm,0.6s,mb4.7,baz=342,slow=10.0,SNR=5.4						

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*IDC **28** 01:59:02.9±0.7, 382S×13880E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.3/15, mbtmp4.3/13, ML4.6/2, Error ellipse: s-maj=31.5km s-min=15.1km az=83.0*
*NEIC **28** 01:59:05.5±0.5, 372S×13858E, h10km, mb4.5/6, Error ellipse: s-maj=16.4km s-min=7.4km az=81.0*
*ISCJB **28** 01:59:11.7±1.5, 393S±005×13852E±007, h83km±15km, mb4.1/13, Error ellipse: s-maj=11.5km s-min=8.3km az=20.1*
ISC 28 01:59:12.2±1.6, 388S±007×13850E±007, h69km±16km, h105km±1.0km: pP-P, n30, σ0§92/33, mb4.1/13, 1C-2D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**6.00**	**253**	⇓*e*P	**Pn**	**02 00 38.0**	**-0.5**
KAKA	**Kakadu**	**10.63**	**214**	⇑*e*iP	**Pn**	**02 01 44.2**	**+2.4**
	118nm,0.6s						
KAKA				*e*S	**Sn**	**02 03 38.7**	**-0.5**
COEN	**Coen**	**11.03**	**156**	*e*Pn	**Pn**	**02 01 47.2**	**-0.1**
	15nm,0.5s						
BATI	**Baumata**	**16.00**	**246**	Pn	**Pn**	**02 02 57.6**	**+4.3**
	1.4nm,0.3s,baz=107,slow=14,SNR=2.5						
BATI				Sn	**Sn**	**02 05 48.7**	**-1.3**
	baz=162,slow=19,SNR=1.6						
WRAB	**Tennant Creek**	**16.46**	**194**	*e*Pn	**Pn**	**02 02 59.2**	**+0.2**
	61nm,0.8s						
WB2	**Warramunga Arr**	**16.47**	**194**	*e*P	**Pn**	**02 02 58.5**	**-0.6**
WB2				*e*S	**S**	**02 05 52.6**	**-17**
WRA	**Warramunga Arr**	**16.48**	**194**	P	**Pn**	**02 02 59.0**	**-0.1**
	2.9nm,0.3s,baz=17,slow=12,SNR=57						
WRA				Sn	**Sn**	**02 05 53.9**	**-7.5**
	2.5nm,0.3s,baz=14,slow=22,SNR=9.3						
CTA	**Charters Tower**	**17.80**	**155**	*e*P	**Pn**	**02 03 15.2**	**-0.2**
	23nm,1.0s						
CTA	**Charters Tower**	**17.80**	**155**	P	**Pn**	**02 03 15.1**	**-0.3**
	3.5nm,0.3s,baz=335,slow=12,SNR=19						
CTAO	**Charters Tower**	**17.80**	**155**	*e*Pn	**Pn**	**02 03 15.4**	**-0.1**
	42nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.93**	**221**	⇓*e*iP	**Pn**	**02 03 29.2**	**+0.1**
	24nm,0.9s						
FITZ				*e*S	**S**	**02 06 50.6**	**-8.8**
FITZ	**Fitzroy Crossi**	**18.93**	**221**	P	**Pn**	**02 03 29.2**	**+0.1**
	1.1nm,0.3s,baz=46,slow=12,SNR=27						
FITZ				S	**S**	**02 06 51.2**	**-8.2**
	1.9nm,0.3s,baz=196,slow=20,SNR=7.6						
ASAR	**Alice Springs**	**20.17**	**192**	P	**P**	**02 03 42.0**	**+0.8**
	17nm,0.6s,baz=15,slow=9.2,SNR=120						
ASAR				S	**S**	**02 07 17.7**	**-6.3**
	2.1nm,0.6s,baz=10,slow=27,SNR=3.2						
MBWA	**Marble Bar**	**25.06**	**225**	*e*P	**P**	**02 04 31.2**	**+0.9**
	7.3nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**28.01**	**174**	*e*P	**P**	**02 04 56.8**	**0.0**
	2.7nm,0.8s,mb3.8						
JOW	**Kunigami**	**32.09**	**343**	P	**P**	**02 05 31.4**	**-1.5**
	2.5nm,0.5s,mb4.2,baz=142,slow=12,SNR=3.5						
MJAR	**Matsushiro Arr**	**40.21**	**360**	P	**P**	**02 06 40.3**	**-1.8**
	0.8nm,0.4s,mb3.9,baz=176,slow=9.5,SNR=3.7						
KSRS	**Korea Array**	**42.28**	**347**	P	**P**	**02 06 59.3**	**+0.3**
	1.5nm,0.7s,mb3.8,baz=165,slow=7.9,SNR=6.4						
CMAR	**Chiang Mai Arr**	**44.84**	**301**	P	**P**	**02 07 21.8**	**+1.8**
	0.8nm,0.3s,mb3.9,baz=126,slow=6.5,SNR=4.8						
CMAR				pP	pP	02 07 46.2	+9.1
	1.3nm,0.3s,baz=113,slow=6.7,SNR=1.2						
RPZ	**Rata Peaks**	**49.01**	**149**	P	**P**	**02 07 51.0**	**-1.0**
	12nm,0.8s,mb4.8,baz=346,slow=10.0,SNR=5.9						
SONM	**Songino Array**	**58.68**	**335**	P	**P**	**02 09 02.5**	**0.0**
	0.5nm,0.7s,mb3.7,baz=133,slow=6.3,SNR=3.8						
PETK	**Petropavlovsk-**	**59.03**	**13**	P	**P**	**02 09 05.2**	**+0.3**
	3.7nm,0.7s,mb4.5,baz=161,slow=4.4,SNR=6.8						
MKAR	**Makanchi Array**	**70.58**	**323**	P	**P**	**02 10 21.1**	**+1.0**
	1.2nm,0.7s,mb3.8,baz=112,slow=7.8,SNR=11						
MKAR				pP	pP	02 10 47.8	+9.3
	1.6nm,0.5s,baz=106,slow=8.9,SNR=7.6						
ZALV	**Zalesovo Beam**	**72.83**	**330**	P	**P**	**02 10 33.2**	**-0.3**
	1.0nm,0.6s,mb3.8,baz=103,slow=6.5,SNR=5.1						
BVAR	**Borovoye Array**	**80.14**	**325**	P	**P**	**02 11 15.5**	**+0.7**
	2.6nm,0.6s,mb4.2,baz=111,slow=7.7,SNR=11						
BVAR				pP	pP	02 11 41.9	+8.4
	1.1nm,0.5s,baz=117,slow=8.5,SNR=2.9						
MAW	**Mawson**	**80.97**	**202**	P	**P**	**02 11 18.3**	**-0.8**
	1.5nm,0.6s,mb4.0,baz=69,slow=8.5,SNR=6.4						
TORD	**Torodi Ar. Bea**	**136.36**	**285**	PKP	PKPdf	02 18 26.0	-1.2
	0.4nm,0.8s,baz=155,slow=1.6,SNR=5.1						
DBIC	**Dimbokro**	**143.41**	**276**	PKhKP		02 18 36.0	
	1.9nm,0.6s,baz=209,slow=2.9,SNR=6.2						
DBIC				pPKP	pPKPdf	02 19 08.6	+8.7
	4.1nm,0.8s,baz=63,slow=4.1,SNR=2.6						
LPAZ	**La Paz**	**146.92**	**128**	PKPbc	PKPbc	02 18 47.6	-0.3
	1.7nm,0.6s,baz=304,slow=2.3,SNR=9.1						
SIV	**San Ignacio**	**152.35**	**136**	PKPbc	PKPbc	02 19 00.8	-0.7
	0.8nm,0.5s,baz=275,slow=5.4,SNR=5.6						
SIV				pPKPbc	pPKPbc	02 19 30.8	+10
	1.0nm,0.6s,baz=212,slow=2.0,SNR=3.7						

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*MOS **28** 02:17:57.3±0.7, 153N×7954W, h33km, mb4.8/29, Error ellipse: s-maj=13.8km s-min=8.6km az=80.6*
*IGQ **28** 02:17:58.9, 127N×7924W, h12km±6km, Mb4.6, Ms4.4, Error ellipse: s-maj=8.6km s-min=2.4km az=72.3*
*BJI **28** 02:17:58.8, 160N×7930W, h26km, mB5.1, Ms5.0, Msz4.7*
*NEIC **28** 02:17:58.8±0.2, 157N×7925W, mb4.7/54, MD4.5(IGQ), Error ellipse: s-maj=6.0km s-min=3.9km az=37.0*
NEIC Felt at Esmeraldas. Also felt at Tumaco, Colombia.
*ISCJB **28** 02:17:59.4±0.5, 164N±003×7924W±003, h41km±6km, mb4.6/72, MS3.9/10, Error ellipse: s-maj=5.4km s-min=4.4km az=25.3*
*IDC **28** 02:18:02.7±1.9, 165N×7920W, h63km±18km, mb4.0/18, mb1 4.2/22, mb1mx4.1/27, mbtmp4.1/22, MS3.6/4, Ms1 3.6/4, ms1mx3.2/32, Error ellipse: s-maj=14.7km s-min=9.9km az=77.0*
ISC 28 02:18:01.4±0.5, 157N±003×7920W±003, h44km±5km, h25km±2.1km: pP-P, n462, σ0§73/449, mb4.6/72, MS3.9/10, 112C-124D, Near coast of Ecuador

| Code |

HUMP Col San Antoni 21.04 38 eP P 02 22 41.9 +0.2
comp=Z,23nm,0.9s,mb4.5
HUMP e 02 22 48.9
MTP Monte Pirata 21.19 38 eP P 02 22 43.6 +0.2
MTP e 02 22 52.2
CMIG Matias Romero 21.81 316 P P 02 22 47.3 -2.7
comp=Z,3.8nm,0.7s,mb3.9,baz=83,slow=6.2,SNR=2.8
FDF Fort de France 22.11 53 eP P 02 22 54.0 +0.8
SIV San Ignacio 25.01 135 P P 02 23 21.3 -0.1
comp=Z,3.1nm,0.6s,mb4.0,baz=320,slow=10.0,SNR=21
LVC Limon Verde 26.05 158 P P 02 23 32.5 +1.7
comp=Z,5.3nm,0.6s,mb4.2,baz=347,slow=5.3,SNR=4.1
LVC LR LR 02 36 01.2
comp=Z,166nm,18.2s,MS3.6,baz=325,slow=41
NHSC New Hope 31.38 358 eP P 02 24 18.8 +0.7
GOGA Godfrey 31.92 353 eP P 02 24 22.2 -0.7
GOGA pmax pmax
comp=Z,11nm,0.8s,mb4.7
GOGA Godfrey 31.92 353 eP P 02 24 22.2 -0.7
comp=Z,11nm,0.8s,mb4.7
SWET Sewanee 34.05 350 eP P 02 24 40.5 -1.0
CPCT Cooper Cave 34.06 352 eP P 02 24 41.2 -0.4
PLAL Pickwick Lake 34.25 347 eP P 02 24 41.5 -1.7
comp=Z,12nm,1.1s,mb4.7
JCT Junction City 34.76 328 eP P 02 24 47.3 -0.4
JCT pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
JCT Junction City 34.76 328 eP P 02 24 47.3 -0.4
comp=Z,8.2nm,1.2s,mb4.5
CPUP Villa Florida 34.87 144 P P 02 24 48.0 -0.6
comp=Z,1.9nm,0.9s,mb4.0,baz=323,slow=9.9,SNR=3.5
CPUP LR LR 02 41 06.1
comp=Z,210nm,20.9s,MS3.9,baz=315,slow=40
TZTN Tazewell 35.03 354 eP P 02 24 49.2 -0.7
MIAR Mount Ida 35.44 339 eP P 02 24 51.7 -1.8
MIAR pmax pmax
comp=Z,17nm,1.6s,mb4.7
MIAR Mount Ida 35.44 339 eP P 02 24 51.7 -1.8
comp=Z,17nm,1.6s,mb4.7
BLA Blacksburg 35.48 358 eP P 02 24 53.7 -0.1
BLA pmax pmax
comp=Z,23nm,1.1s,mb5.0
BLA Blacksburg 35.48 358 eP P 02 24 53.6 -0.1
comp=Z,23nm,1.1s,mb5.0
ELN Prospectdale 35.51 358 eP P 02 24 54.1 +0.1
URVA University of 35.85 2 eP P 02 24 56.8 -0.1
TXAR Lajitas Array 36.12 322 P P 02 24 59.4 0.0
comp=Z,1.1nm,0.9s,mb3.8,baz=134,slow=7.1,SNR=9.5
TXAR PcP PcP 02 27 24.7 0.0
comp=Z,2.1nm,0.9s,baz=146,slow=5.9,SNR=15
USIN University of 37.04 349 eP P 02 25 05.5 -1.6
WCI Wyandotte Cave 37.05 351 eP P 02 25 05.6 -1.6
WCI pmax pmax
comp=Z,11nm,0.9s,mb4.7
WCI Wyandotte Cave 37.05 351 eP P 02 25 05.6 -1.6
comp=Z,11nm,0.9s,mb4.7
FVM French Village 37.67 345 eP P 02 25 11.0 -1.5
FVM pmax pmax
comp=Z,14nm,1.0s,mb4.7
FVM French Village 37.67 345 eP P 02 25 11.0 -1.4
comp=Z,14nm,1.0s,mb4.7
WMOK Wichita Mounta 37.71 333 eP P 02 25 11.4 -1.4
SDMD Soldier's Deli 37.72 3 eP P 02 25 12.7 -0.1
comp=Z,14nm,0.9s,mb4.7
OLIL Olney 37.87 349 eP P 02 25 12.1 -2.0
comp=Z,36nm,1.1s,mb5.0
ACSO Alum Creek Sta 38.63 355 eP P 02 25 19.7 -0.8
comp=Z,13nm,0.8s,mb4.7
BINY Binghamton 40.55 4 eP P 02 25 37.3 +0.9
KSU1 Kansas State U 40.59 339 eP P 02 25 35.4 -1.4
comp=Z,13nm,0.8s,mb4.6
319A Douglas 41.06 319 ⇑P P 02 25 41.4 +0.5
baz=41,SNR=5.8
BNM Barren Site 41.32 325 eP P 02 25 43.6 +0.7
HRV Adam Dziewonsk 41.32 9 eP P 02 25 43.4 +0.6
HRV pmax pmax
comp=Z,15nm,0.8s,mb4.7
HRV Adam Dziewonsk 41.32 9 eP P 02 25 43.4 +0.6
comp=Z,14nm,0.8s,mb4.7
219A White Tail Can 41.45 320 ⇓P P 02 25 44.3 +0.2
baz=42,SNR=6.6
LAZ Ladron 41.79 324 eP P 02 25 46.7 -0.1
ANMO Albuquerque 41.80 326 eP P 02 25 47.4 +0.6
ANMO pmax pmax
comp=Z,11nm,0.6s
ANMO Albuquerque 41.80 326 eP P 02 25 47.4 +0.6
comp=Z,11nm,0.6s,mb4.7
218A Dragoon 41.95 319 ⇓P P 02 25 48.9 +0.8
baz=42
119A Ashpeak Ranch, 41.98 321 ⇑P P 02 25 49.1 +0.7
baz=42,SNR=5.1
SCIA State Center 42.09 344 eP P 02 25 47.5 -1.6
comp=Z,18nm,0.9s,mb4.7
FFD Franklin Falls 42.25 8 eP P 02 25 50.3 -0.1
comp=Z,15nm,0.9s,mb4.6
FFD epP pP 02 25 57.6 -4.9
118A Homack Ranch, 42.33 320 ⇑P P 02 25 51.6 +0.4
baz=42,SNR=6.0
217A Green Valley 42.33 318 ⇓P P 02 25 51.7 +0.5
baz=42
JFWS Jewell Farm 42.33 348 eP P 02 25 48.3 -2.7
HNH Hanover 42.40 7 eP P 02 25 51.8 +0.2
NCB Newcomb 42.45 5 eP P 02 25 52.4 +0.4
MDV Middlebury 42.58 6 eP P 02 25 53.6 +0.6
TUC Tucson 42.64 319 eP P 02 25 53.9 +0.2
TUC pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
TUC Tucson 42.64 319 eP P 02 25 53.9 +0.2
comp=Z,1.9nm,0.8s,mb3.9
Y19A Nutrioso 42.75 322 ⇓P P 02 25 55.3 +0.8
baz=43
117A Oracle 42.78 319 ⇑P P 02 25 55.3 +0.4
baz=43,SNR=6.8
PLCA Paso Flores 42.84 170 P P 02 25 54.9 -0.3
comp=Z,4.1nm,0.9s,mb4.1,baz=332,slow=8.6,SNR=6.1
216A Three Points, 42.89 318 ⇓P P 02 25 56.1 +0.3
baz=43
LONY Lake Ozonia 43.06 5 eP P 02 25 56.5 -0.3
X19A St. Johns 43.09 323 ⇓P P 02 25 57.9 +0.6
baz=43
Y18A Canyon Day Jun 43.11 321 ⇓P P 02 25 58.1 +0.6
baz=43
FRNY Flat Rock 43.36 6 eP P 02 25 59.8 +0.5
comp=Z,32nm,1.4s,mb4.8
116A Eloy 43.40 319 ⇑P P 02 26 00.1 +0.2
baz=44
214A Organ Pipe Nat 43.78 317 ⇑P P 02 26 03.1 +0.2
baz=44
W18A Petrified Fore 43.82 323 ⇓P P 02 26 04.3 +1.1
baz=44
115A Sonoran Desert 43.84 318 ⇓P P 02 26 03.7 +0.3
baz=44
X17A Forest Lakes 43.96 321 ⇓P P 02 26 05.4 +1.0
baz=44
Y16A Circle Bar Ran 44.09 320 ⇓P P 02 26 05.7 +0.3
baz=44,SNR=8.2
X16A Lo Mia Camp, P 44.41 321 ⇑P P 02 26 08.8 +0.8
baz=44,SNR=9.6
MVCO Mesa Verde 44.57 326 ⇓P P 02 26 09.3 +0.2
baz=45,SNR=6.7
MVCO Mesa Verde 44.57 326 eP P 02 26 09.5 +0.3
T19A Beclabito 44.59 325 ⇑P P 02 26 09.6 +0.3
baz=45
Y15A Casa Rosa Ranc 44.68 320 ⇑P P 02 26 10.5 +0.3
baz=45
ECSD EROS,Sioux Fal 44.75 342 eP P 02 26 07.9 -2.6
W16A Flagstaff 44.91 322 ⇑P P 02 26 12.9 +1.0
baz=45
X15A Humboldt 44.96 320 ⇑P P 02 26 12.9 +0.5
baz=45,SNR=5.5
ISCO Idaho Springs 45.00 331 eP P 02 26 12.9 +0.4
WUAZ Wupatki 45.09 322 ⇑P P 02 26 13.9 +0.6
baz=45,SNR=8.0
WUAZ Wupatki 45.09 322 eP P 02 26 14.1 +0.7
comp=Z,12nm,0.9s,mb4.7
Y14A Wickenburg 45.11 319 ⇑P P 02 26 13.9 +0.3
baz=45
PV01 Paradox Valley 45.27 327 eP P 02 26 14.8 +0.1
T18A Mexican Hat 45.29 325 ⇓P P 02 26 14.6 -0.3
baz=45,SNR=5.7
S19A Harvey Farm, M 45.30 326 ⇓P P 02 26 15.0 0.0
baz=45
U16A Tuba City 45.35 323 ⇑P P 02 26 15.7 +0.3
baz=46
X14A Yava 45.37 320 ⇓P P 02 26 15.9 +0.3
baz=46,SNR=9.0
U17A Shonto 45.38 324 ⇓P P 02 26 16.1 +0.5
baz=46
PV10 Paradox Valley 45.70 327 eP P 02 26 17.9 -0.2
T17A Navajo Res., N 45.73 324 ⇑P P 02 26 18.8 +0.3
baz=46,SNR=6.6
S18A Hurst Farm, Bl 45.75 325 ⇑P P 02 26 18.7 +0.2
baz=46,SNR=5.6
R19A Curley Farm, L 45.76 327 ⇑P P 02 26 18.9 +0.2
baz=46
V15A Kaibab Nationa 45.77 322 ⇑P P 02 26 19.6 +0.8
baz=46,SNR=6.9
W14A Seligman 45.96 321 ⇓P P 02 26 20.4 +0.2
baz=46
Y12C Blythe 46.00 318 ⇓P P 02 26 20.4 -0.2
baz=46
PDMCI Parker Dam,Lak 46.08 319 ⇓P P 02 26 21.1 -0.1
baz=46
PHWY Pilot Hill 46.10 332 eP P 02 26 21.2 0.0
PHWY pP pP 02 26 29.3 -4.2
S17A Black Ridge (B 46.17 325 ⇓P P 02 26 22.1 +0.3
baz=46,SNR=5.8
R18A Canyonlands Na 46.18 326 ⇓P P 02 26 21.6 -0.4
baz=46,SNR=6.6
V14A Boquillas Ranc 46.24 321 ⇑P P 02 26 23.1 +0.7
baz=46
Q19A Hogan Spring (46.24 327 ⇑P P 02 26 22.4 0.0
baz=46,SNR=11
U15A North Rim 46.24 322 ⇑P P 02 26 23.2 +0.8
baz=46
SWSC Sam W. Stewart 46.40 316 ⇓P P 02 26 23.6 -0.1
baz=46
W13A Hualapai Mount 46.40 320 ⇑P P 02 26 24.0 +0.3
baz=46,SNR=7.5
BC3 Big Chuckw Mtn 46.57 317 ⇑P P 02 26 24.9 -0.2
baz=47
P19A Cripple Cowboy 46.58 328 ⇑P P 02 26 25.4 +0.4
baz=47
R17A Hanksville Air 46.66 326 ⇑P P 02 26 25.8 +0.1
baz=47
IRM Iron Mountain 46.66 318 ⇑P P 02 26 26.0 +0.2
baz=47
S16A Weppner Ranch, 46.69 324 ⇓P P 02 26 26.3 +0.4
baz=47
U14A Mt Trumbull 46.78 322 ⇑P P 02 26 26.8 +0.1
baz=47
Q18A Rafter H Ranch 46.82 327 ⇓P P 02 26 27.3 +0.4
baz=47,SNR=8.3
V13A Grand Canyon W 46.93 321 ⇑P P 02 26 27.2 -0.6
baz=47
R16A Teasdale 47.01 325 ⇓P P 02 26 29.1 +0.7
baz=47
SRU San Rafael 47.04 326 ⇑P P 02 26 29.1 +0.5
baz=47,SNR=9.9
SRU San Rafael 47.04 326 eP P 02 26 28.6 0.0
O19A Miners Draw (B 47.14 329 ⇓P P 02 26 29.3 -0.1
baz=47,SNR=6.0
BELC Belle Mtn. 47.14 317 ⇓P P 02 26 29.2 -0.3
baz=47
U13A Pakoon Wash 47.27 321 ⇑P P 02 26 30.1 -0.4
baz=47
GMRC Granite Mounta 47.37 318 ⇑P P 02 26 30.8 -0.5
baz=48
V12A Nelson 47.41 320 ⇑P P 02 26 31.4 -0.1
baz=48,SNR=5.2
O18A Roosevelt 47.58 328 ⇑P P 02 26 33.3 +0.5
baz=48
N19A John Jarvie Ra 47.60 329 ⇓P P 02 26 32.8 -0.2
baz=48,SNR=8.3
RSSD Black Hills 47.76 336 eP P 02 26 34.3 +0.2
RSSD pmax pmax
comp=Z,25nm,1.0s,mb5.2
RSSD Black Hills 47.76 336 eP P 02 26 34.3 +0.2
comp=Z,24nm,1.0s,mb5.2
N18A Larsen Ranch, 47.92 329 ⇑P P 02 26 35.8 +0.4
baz=48
TUQ Turquoise Mtn. 47.93 319 ⇑P P 02 26 35.8 +0.2
baz=48
S13A Holt Ranch, En 47.95 323 ⇑P P 02 26 36.5 +0.8
baz=48,SNR=11
SHPR Sheep Range 48.08 321 eP P 02 26 37.5 +0.8
MPU Maple Canyon 48.28 327 eP P 02 26 38.7 +0.4
P15A Leamington 48.34 326 ⇓P P 02 26 39.3 +0.6
baz=48
O16A Springville 48.34 327 ⇑P P 02 26 39.0 +0.3
baz=48
DAU Daniels Canyon 48.35 327 eP P 02 26 38.8 0.0
DAU *PP pP 02 26 46.4 -4.8
GSC Goldstone 48.44 318 ⇑P P 02 26 39.9 +0.3
baz=48
GSC Goldstone 48.44 318 eP P 02 26 40.7 +1.1
N17A Moffit Pass 48.50 328 ⇓P P 02 26 40.4 +0.4
baz=49
Q14A Sevier Lake (B 48.52 324 ⇑P P 02 26 40.7 +0.6
baz=49,SNR=14
T11A Corn Creek, Al 48.57 321 ⇓P P 02 26 40.9 +0.4
baz=49
JLU Jordanelle 48.59 327 eP P 02 26 40.7 +0.1
AGMN Agassiz Refuge 48.72 345 eP P 02 26 39.8 -1.6
P14A Drum Mountains 48.80 325 ⇓P P 02 26 43.1 +0.9
baz=49,SNR=11
Q13A Wheeler Ranch, 48.93 324 ⇑P P 02 26 43.9 +0.6
baz=49,SNR=10
EDW2 Edwards Air Fo 48.99 317 ⇑P P 02 26 43.8 0.0
baz=49
TPNV Topopah Spring 49.04 320 eP P 02 26 44.0 -0.2
TPNV e*PP pP 02 26 52.1 -4.5
TPNV pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
TPNV Topopah Spring 49.04 320 ⇓P P 02 26 44.2 0.0
baz=49,SNR=6.0
TPNV Topopah Spring 49.04 320 eP P 02 26 44.0 -0.2
comp=Z,4.6nm,1.0s,mb4.5
TPNV epP pP 02 26 52.1 -4.5
DUG Dugway 49.06 326 eP P 02 26 44.0 -0.3
DUG pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
DUG Dugway 49.06 326 ⇑P P 02 26 44.5 +0.2
baz=49
DUG Dugway 49.06 326 eP P 02 26 44.0 -0.3
comp=Z,5.2nm,1.3s,mb4.4
PDAR Pinedale Array 49.18 331 P P 02 26 44.4 -0.7
comp=Z,1.9nm,0.6s,mb4.3,baz=122,slow=8.6,SNR=16
M16A Huntsville 49.19 328 ⇓P P 02 26 45.3 +0.1
baz=49
P13A Bates Ranch, G 49.26 324 ⇑P P 02 26 46.3 +0.6
baz=49,SNR=9.1
MPMC Manual Prospec 49.33 319 ⇓P P 02 26 46.1 -0.3
baz=49,SNR=6.2
HWUT Hardware Ranch 49.36 328 eP P 02 26 46.2 -0.3
Q12A Willow Creek R 49.47 323 ⇑P P 02 26 48.1 +0.8
baz=50
R11A Troy Canyon, C 49.49 322 ⇓P P 02 26 48.0 +0.4
baz=50
L16A Fish Haven 49.58 329 ⇑P P 02 26 47.6 -0.6
baz=50
N14A Grayback Hills 49.72 326 ⇓P P 02 26 49.2 -0.1
baz=50,SNR=6.7
M15A Larsen Ranch, 49.73 327 ⇓P P 02 26 49.2 -0.1
baz=50
P12A McGill 49.79 324 ⇓P P 02 26 50.4 +0.5
baz=50,SNR=5.7
GRAC Grapevine Rang 49.80 320 ⇑P P 02 26 50.0 +0.1
baz=50
Q11A Duckwater 49.84 323 ⇑P P 02 26 50.6 +0.4
baz=50,SNR=8.2
S10A Tonopah Range, 49.85 321 ⇓P P 02 26 50.5 +0.2
baz=50,SNR=5.5
S09A Goldfield 50.13 320 ⇓P P 02 26 52.5 +0.1
baz=50
O12A Currie 50.21 325 ⇓P P 02 26 53.4 +0.4
baz=50,SNR=10
M14A Sheep Mountain 50.25 327 ⇑P P 02 26 52.9 -0.4
baz=50,SNR=8.9
REDW Red Top Meadow 50.26 330 eP P 02 26 53.2 -0.1
comp=Z,12nm,1.1s,mb4.8
PKM Peak Mountain 50.26 316 ⇓P P 02 26 53.9 +0.4
baz=50,SNR=6.3
VES Vestal, Richgr 50.27 317 ⇓P P 02 26 54.2 +0.7
baz=50
LOHW Long Hollow 50.32 331 eP P 02 26 53.6 -0.1
TPAW Teton Pass 50.40 330 eP P 02 26 54.4 0.0
RRI2 Red Ridge 50.48 330 eP P 02 26 54.8 -0.2
comp=Z,9.6nm,0.9s,mb4.8
ULM Lac du Bonnet 50.53 346 P P 02 26 52.7 -2.5
comp=Z,10nm,0.5s,mb5.0,baz=158,slow=7.5,SNR=23
ULM Lac du Bonnet 50.53 346 P P 02 26 52.7 -2.5
L14A Malta 50.56 327 ⇓P P 02 26 55.2 -0.3
baz=51
S08C White Mtn Res 50.60 320 ⇓P P 02 26 56.4 +0.4
baz=51,SNR=12
M13A Montello 50.61 326 ⇑P P 02 26 55.7 -0.3
baz=51
IMW Indian Meadow 50.70 331 eP P 02 26 56.2 -0.3
comp=Z,4.6nm,0.6s,mb4.6
FLWY Flagg Ranch 50.72 331 eP P 02 26 56.3 -0.4
comp=Z,15nm,0.9s,mb4.9
N12A Clover Valley, 50.76 325 ⇓P P 02 26 57.0 -0.2
baz=51
MTUM Tungsten Hills 50.78 319 eP P 02 26 58.3 +0.9
RLMT Red Lodge 50.82 333 eP P 02 26 56.9 -0.6
comp=Z,2.3nm,0.6s,mb4.3
K14A Jones Ranch, D 50.88 328 ⇓P P 02 26 57.6 -0.4
baz=51
L13A Double Diamond 50.98 327 ⇓P P 02 26 59.5 +0.8
baz=51
J15A Blackfoot 51.09 329 ⇓P P 02 26 59.4 -0.1
baz=51
NVAR Mina Array Bea 51.23 321 P P 02 27 01.2 +0.5
comp=Z,5.9nm,1.0s,mb4.5,baz=144,slow=7.1,SNR=28
KCC Kaiser Creek 51.25 319 ⇓P P 02 27 00.8 -0.1
baz=51
Q08A Gabbs 51.25 321 ⇑P P 02 27 01.1 +0.3
baz=51,SNR=5.7
O10A Cortez Mining, 51.26 324 ⇓P P 02 27 01.3 +0.4
baz=51,SNR=5.5
GCMT Greycliff 51.51 333 eP P 02 27 02.2 -0.5
N10A Dunphy 51.53 324 ⇑P P 02 27 03.0 +0.1
baz=52
M11A Holland Ranch, 51.57 325 ⇓P P 02 27 03.2 0.0
baz=52
O09A Fish Creek Ran 51.59 323 ⇑P P 02 27 03.6 +0.1
baz=52,SNR=7.4
J14A Carey 51.60 328 ⇑P P 02 27 03.4 +0.1
baz=52,SNR=6.1
L12A House Creek Ra 51.60 326 ⇓P P 02 27 03.4 -0.1
baz=52,SNR=5.7
U04C Hernandez Rese 51.71 317 ⇑P P 02 27 04.7 +0.4
baz=52
BMN Battle Mountai 51.77 323 eP P 02 27 04.9 +0.1
BMN pmax pmax
comp=Z,16nm,1.1s,mb4.9
BMN Battle Mountai 51.77 323 eP P 02 27 04.9 +0.2
comp=Z,16nm,1.1s,mb4.9
V03C Hunter Liggett 51.84 316 ⇑P P 02 27 05.3 0.0
baz=52
S06C San Francisco 51.91 319 ⇓P P 02 27 06.1 +0.2
baz=52
S05C Merced 51.94 318 ⇑P P 02 27 06.2 +0.2
baz=52
I14A Mackay 51.98 329 ⇓P P 02 27 06.7 +0.5
baz=52
J13A Cove Ranch, Pi 51.99 328 ⇑P P 02 27 06.2 -0.1
baz=52,SNR=5.2
WAKR Walker 52.00 320 eP P 02 27 07.5 +1.0
R06C Coleville 52.02 320 ⇑P P 02 27 07.0 +0.4
baz=52
L11A Cat Creek Ranc 52.03 326 ⇑P P 02 27 06.5 -0.1
baz=52,SNR=7.4
M10A I.L. Ranch, Tu 52.06 325 ⇑P P 02 27 06.9 0.0
baz=52
H15A Lima 52.06 330 ⇓P P 02 27 08.0 +1.1
baz=52
N09A Rock Creek Ran 52.22 323 ⇓P P 02 27 07.8 -0.2
baz=52
HLID Hailey 52.23 328 ⇑P P 02 27 07.8 -0.3
baz=52,SNR=6.1
HLID Hailey 52.23 328 eP P 02 27 07.9 -0.2
comp=Z,3.1nm,1.1s,mb4.2
HAST Hastings Reser 52.25 317 ⇓P P 02 27 08.6 +0.3
baz=52
BOZ Bozeman (W) 52.31 332 eP P 02 27 08.2 -0.5
BOZ pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
BOZ Bozeman (W) 52.31 332 ⇓P P 02 27 08.3 -0.4
baz=52,SNR=7.4
BOZ Bozeman (W) 52.31 332 eP P 02 27 08.2 -0.4
comp=Z,9.7nm,1.3s,mb4.6
I13A Wildhorse Cree 52.32 328 ⇓P P 02 27 08.6 -0.1
baz=52,SNR=6.9
L10A Juniper Basin 52.38 325 ⇓P P 02 27 08.8 -0.4
baz=52,SNR=5.3
G15A Dillon 52.38 331 ⇓P P 02 27 09.0 -0.2
baz=52
J12A Stokes Ranch, 52.39 327 ⇓P P 02 27 08.9 -0.4
baz=52,SNR=7.6
PACP Pacheco Peak 52.40 317 ⇑P P 02 27 09.6 +0.1
baz=52
H14A Leadore 52.42 330 ⇑P P 02 27 09.7 +0.2
baz=52,SNR=5.3
R05C Kirkwood Meado 52.52 320 ⇓P P 02 27 10.9 +0.5
baz=53
LCCM Lewis and Clar 52.57 332 P P 02 27 10.3 -0.2
K11A Parker Ranch, 52.58 326 ⇓P P 02 27 10.5 -0.2
baz=53,SNR=11
O07A Toulon 52.62 322 ⇓P P 02 27 11.2 +0.1
baz=53
LRM Limekiln Ridge 52.84 331 eP P 02 27 12.6 +0.1
R04C Big Horse Ranc 52.84 319 ⇓P P 02 27 13.0 +0.4
baz=53,SNR=6.9
H13A Challis 52.84 329 ⇑P P 02 27 12.4 -0.2
baz=53
F15A Butte 52.87 331 ⇓P P 02 27 12.6 -0.1
baz=53,SNR=5.3
MFID Camas Ranch 52.90 327 ⇑P P 02 27 13.0 0.0
baz=53,SNR=6.3
LAVA Lava Cap Winer 52.98 320 ⇑P P 02 27 13.6 -0.2
baz=53
K10A MacKenzie Ranc 53.05 326 ⇓P P 02 27 14.4 +0.2
baz=53,SNR=17
M08A Happy Creek Ra 53.09 324 ⇓P P 02 27 14.0 -0.5
baz=53
H12A Diamond D Ranc 53.14 329 ⇑P P 02 27 14.9 +0.1
baz=53
G13A Cobalt 53.20 329 ⇓P P 02 27 14.9 -0.3
baz=53
P05C Yuba Gap, Truc 53.20 320 ⇑P P 02 27 15.8 +0.4
baz=53
O06A Flanigan 53.21 321 ⇓P P 02 27 15.2 -0.1
baz=53,SNR=6.6
EGMT Eagleton 53.27 335 ⇓P P 02 27 15.4 -0.2
baz=53
E15A Deer Lodge 53.36 332 ⇑P P 02 27 16.0 -0.4
baz=54
BEKR Beckwourth 53.37 321 ⇓P P 02 27 16.7 +0.1
baz=54,SNR=6.8
K09A Rome 53.49 325 ⇓P P 02 27 17.6 +0.2
baz=54,SNR=30
L08A Fields 53.53 324 ⇑P P 02 27 17.5 -0.2
baz=54,SNR=6.1
M07A Soldier Meadow 53.53 323 ⇑P P 02 27 17.2 -0.5
baz=54
N06A Buffalo Meadow 53.55 322 ⇑P P 02 27 18.1 +0.2
baz=54
F13A Darby 53.73 330 ⇓P P 02 27 18.5 -0.6
baz=54,SNR=5.6
D15A Lincoln 53.76 332 ⇑P P 02 27 19.0 -0.2
baz=54
OHCM Honcut 53.79 320 eP P 02 27 19.1 -0.6
WVOR Wild Horse Val 53.85 324 eP P 02 27 19.8 -0.2
WVOR pmax pmax
comp=Z,11nm,1.0s,mb4.7
WVOR Wild Horse Val 53.85 324 eP P 02 27 19.8 -0.2
comp=Z,11nm,1.0s,mb4.7
H11A Donnelly 53.85 328 ⇓P P 02 27 19.2 -0.8
baz=54
ORV Oroville 53.92 320 ⇑P P 02 27 21.0 +0.4
baz=54,SNR=9.1
K08A Mann Creek Ran 53.95 325 ⇓P P 02 27 20.8 +0.1
baz=54,SNR=11
L07A Adell 54.01 324 ⇓P P 02 27 21.0 -0.2
baz=54,SNR=5.9
SCHQ Schefferville 54.04 9 P P 02 27 19.5 -1.7
comp=Z,7.1nm,0.6s,mb4.8,baz=216,slow=3.0,SNR=13
SCHQ LR LR 02 49 51.4
comp=Z,62nm,19.5s,MS3.7,baz=116,slow=35
SCHQ Schefferville 54.04 9 P P 02 27 19.5 -1.7
SCHQ LR LR 02 49 51.4
E13A Victor 54.12 331 ⇓P P 02 27 21.1 -0.8
baz=54,SNR=5.3
H10A Noah's Angus R 54.17 328 ⇑P P 02 27 21.3 -1.0
baz=54
F12A Elk City 54.18 329 ⇑P P 02 27 22.1 -0.3
baz=54,SNR=14
MSO Missoula 54.28 331 eP P 02 27 22.8 -0.3
comp=Z,5.3nm,1.2s,mb4.3

I09A	Lost Marbles R	54.31	326	⇓P	P	02 27 22.9 -0.5
	baz=54,SNR=5.2					
J08A	Circle Bar Ran	54.33	325	⇓P	P	02 27 23.0 -0.5
	baz=54,SNR=7.2					
K07A	Rock Creek Ran	54.36	324	⇑P	P	02 27 23.0 -0.8
	baz=54					
G11A	Walters Elk Ra	54.45	329	⇓P	P	02 27 23.1 -1.3
	baz=55,SNR=5.5					
D13A	Huson	54.72	331	⇓P	P	02 27 25.9 -0.3
	baz=55,SNR=6.9					
C14A	Swan Lake	54.86	332	⇓P	P	02 27 27.7 +0.4
	baz=55					
E11A	Bogner Ranch,	55.07	329	⇓P	P	02 27 27.6 -1.2
	baz=55,SNR=5.7					
LASM	Arnica Sink	55.12	322	P	P	02 27 30.1 +0.8
D12A	Red Ives Fores	55.12	331	⇓P	P	02 27 28.7 -0.5
	baz=55					
C13A	Hot Springs	55.19	332	⇑P	P	02 27 29.4 -0.2
	baz=55					
J06A	Christmas Vall	55.23	324	⇑P	P	02 27 30.4 +0.4
	baz=55					
M03C	McCloud	55.27	321	⇓P	P	02 27 29.8 -0.6
	baz=55					
F10A	Beach Ranch, E	55.34	329	⇑P	P	02 27 30.6 -0.1
	baz=56					
K05A	Summer Lake	55.35	323	⇑P	P	02 27 30.7 -0.2
	baz=55					
I07A	Izee	55.37	325	⇑P	P	02 27 30.8 -0.2
	baz=56					
M04C	Macdoel	55.38	322	⇓P	P	02 27 31.4 +0.3
	baz=56					
F09A	S2 Ranch, Elgi	55.52	328	⇑P	P	02 27 32.4 +0.3
	baz=56					
D11A	Klaveano Farm,	55.61	330	⇓P	P	02 27 32.0 -0.7
	baz=56					
E10A	Myers Farm, Un	55.62	329	⇓P	P	02 27 32.2 -0.6
	baz=56					
B13A	Whitefish	55.63	332	⇑P	P	02 27 33.0 +0.2
	baz=56					
L04A	Klamath Falls	55.64	322	⇓P	P	02 27 32.8 -0.2
	baz=56					
I06A	Prineville	55.68	325	⇓P	P	02 27 33.9 +0.6
	baz=56					
H07A	Lands Inn, Kim	55.72	326	⇓P	P	02 27 32.9 -0.7
	baz=56					
G08A	Pilot Rock	55.82	327	⇑P	P	02 27 34.1 -0.1
	baz=56,SNR=8.6					
LNOR	Lincton Mounta	55.83	328	eP	P	02 27 34.0 -0.3
J05A	Fort Rock	55.89	324	⇓P	P	02 27 34.9 +0.1
	baz=56,SNR=8.9					
YBH	Yreka Blue Hor	55.89	322	⇓P	P	02 27 33.5 -1.3
	baz=56					
A13A	Flathead Natio	56.01	333	⇑P	P	02 27 35.7 +0.2
	baz=56					
F08A	Pendleton	56.05	327	⇓P	P	02 27 35.5 -0.3
	baz=56					
D10A	Wagner Farm, O	56.08	329	⇓P	P	02 27 35.2 -0.9
	baz=56					
E09A	Wood Farm, Sta	56.17	328	⇓P	P	02 27 36.7 -0.1
	baz=56					
G07A	Ruggs Ranch, H	56.19	327	⇓P	P	02 27 36.9 0.0
	baz=56					
H06A	Lindquist Farm	56.24	326	⇓P	P	02 27 37.6 +0.4
	baz=56					
J04A	Umpqua Nationa	56.38	323	⇑P	P	02 27 38.3 0.0
	baz=56,SNR=5.9					
I05A	Bend	56.42	325	⇑P	P	02 27 39.4 +0.8
	baz=56					
B11A	Sandpoint	56.58	331	⇓P	P	02 27 39.5 0.0
	baz=57					
D09A	Jones Farm, Ri	56.62	329	⇓P	P	02 27 39.7 -0.2
	baz=57					
H05A	Madras	56.69	325	⇑P	P	02 27 41.1 +0.6
	baz=57					
G06A	Carlson Farm,	56.71	326	⇑P	P	02 27 41.1 +0.5
	baz=57,SNR=5.1					
CROR	Criterion Ridg	56.76	326	P	P	02 27 41.8 +0.9
I04A	Tendick Farm,	56.88	324	⇑P	P	02 27 41.1 -0.7
	baz=57					
D08A	Wollman Farm,	56.93	329	⇑P	P	02 27 42.0 -0.1
	baz=57					
K02A	Glendale	56.95	322	⇑P	P	02 27 42.0 -0.3
	baz=57					
OD2	Odessa Site #2	57.04	329	eP	P	02 27 42.1 -0.8
C09A	Chrisman Ranch	57.09	330	⇓P	P	02 27 43.7 +0.5
	baz=57					
G05A	Wamic	57.10	326	⇑P	P	02 27 44.3 +0.9
	baz=57					
E07A	Sunnyside	57.11	328	⇓P	P	02 27 43.6 +0.2
	baz=57					
F06A	Goldendale	57.12	326	⇓P	P	02 27 44.4 +0.9
	baz=57					
BROR	Big Rock Looko	57.17	324	P	P	02 27 43.3 -0.6
H04A	Detroit Lake	57.26	325	⇑P	P	02 27 44.4 -0.1
	baz=57					
J02A	Umpqua	57.33	323	⇓P	P	02 27 44.9 -0.2
	baz=57					
B09A	Rice	57.44	330	⇑P	P	02 27 45.4 -0.2
	baz=58,SNR=10					
C08A	Higginbotham F	57.47	329	⇓P	P	02 27 46.1 +0.1
	baz=58					
I03A	Eugene	57.49	323	⇓P	P	02 27 46.1 -0.1
	baz=58					
F05A	White Salmon	57.56	326	⇑P	P	02 27 46.9 +0.3
	baz=58					
E06A	Yakima	57.70	327	⇑P	P	02 27 48.1 +0.6
	baz=58					
G04A	Mulino	57.74	325	⇑P	P	02 27 48.2 +0.4
	baz=58					
I02A	Mapleton	57.84	323	⇑P	P	02 27 48.8 +0.2
	baz=58					
H03A	Soap Creek Ran	57.90	324	⇓P	P	02 27 49.3 +0.2
	baz=58					
B08A	Colville Reser	57.99	330	⇓P	P	02 27 49.4 -0.1
	baz=58					
A09A	Danville	58.02	330	⇑P	P	02 27 49.6 -0.1
	baz=58					
D06A	Cle Elum	58.03	328	⇑P	P	02 27 50.3 +0.4
	baz=58					
E05A	Randle	58.14	327	⇑P	P	02 27 50.4 -0.3
	baz=58					
A08A	Turner Farm, O	58.35	330	⇓P	P	02 27 52.3 +0.3
	baz=58,SNR=6.9					
D05A	Enumclaw	58.65	327	⇓P	P	02 27 53.9 -0.3
	baz=59					
EDM	Edmonton	58.72	337	eP	P	02 27 52.9 -1.6
A07A	Ashnola River,	58.97	330	⇓P	P	02 27 57.0 +0.7
	baz=59,SNR=9.0					
E03A	Lebam	59.13	326	⇑P	P	02 27 57.7 +0.1
	baz=59					
RPW	Rockport	59.17	329	eP	P	02 27 57.3 -0.5
C04A	Brinnon	59.50	327	⇓P	P	02 27 59.7 -0.3
	baz=60					
NLWA	Neilton Lookou	59.80	326	⇓P	P	02 28 02.5 +0.4
	baz=60					
A04A	Legoe Bay, Lum	59.96	328	⇑P	P	02 28 03.3 +0.1
	baz=60,SNR=9.4					
B04A	Port Angeles	59.99	327	⇑P	P	02 28 04.0 +0.6
	baz=60					
YKA	Yellowknife Ar	66.27	343	P	P	02 28 43.2 -1.5
	comp=Z,4.8nm,0.8s,mb4.6,baz=138,slow=6.1,SNR=22					
YKA	Yellowknife Ar	66.27	343	P	P	02 28 43.2 -1.5
LIC	Lamto	74.10	84	eP	P	02 29 32.7 -1.0
	comp=Z,33nm,1.1s,mb5.2					
TIC	Toumodi	74.11	84	eP	P	02 29 32.4 -1.4
	comp=Z,7.5nm,0.2s,mb5.3					
DBIC	Dimbokro	74.27	84	P	P	02 29 33.5 -1.2
	comp=Z,4.0nm,0.8s,mb4.4,baz=278,slow=3.4,SNR=4.8					
EVO	Evora	74.35	50	eP	P	02 29 34.1 -0.6
	comp=Z,4.8nm,0.7s,mb4.2					
EVO				eMLR	MLR	
	comp=Z,53nm,22.2s,MS3.5					
KIC	Kosan Boka	74.38	84	eP	P	02 29 34.6 -0.8
	comp=Z,48nm,0.8s,mb5.5					
SUMG	Summit	75.28	12	eP	P	02 29 39.2 -0.1
	comp=Z,3.6nm,1.0s,mb4.3					
EGAK	Eagle	76.94	337	eP	P	02 29 48.4 -0.5
	comp=Z,28nm,1.6s,mb5.0					
ESDC	Sonseca Array	77.65	50	P	P	02 29 53.7 +0.3
	comp=Z,2.1nm,0.7s,mb4.2,baz=261,slow=6.0,SNR=19					
SJPF	Ste Jean	80.15	47	eP	P	02 30 07.7 +0.6
	comp=Z,12nm,1.0s,mb4.5					
SJPF	Ste Jean	80.15	47	eP	P	02 30 07.7 +0.6
SJPF				pmax	pmax	
	comp=Z,6.0nm,1.0s,mb4.5					
SJPF	Ste Jean	80.15	47	eP	P	02 30 07.7 +0.6
	comp=Z,6.3nm,1.0s,mb4.5					
ETSF	Etsaut	80.61	47	eP	P	02 30 10.2 +0.6
TORD	Torodi Ar. Bea	80.78	77	P	P	02 30 09.4 -1.6
	comp=Z,1.0nm,0.9s,mb3.7,baz=280,slow=4.9,SNR=10					
TORD				pP	pP	02 30 27.9 +3.7
	comp=Z,0.9nm,1.0s,baz=251,slow=4.4,SNR=3.1					
GRR	Gorron	81.08	41	eP	P	02 30 11.9 -0.1
	comp=Z,4.2nm,0.6s,mb4.3					
GRR	Gorron	81.08	41	eP	P	02 30 11.9 -0.1
GRR				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.2					
GRR	Gorron	81.08	41	eP	P	02 30 11.9 -0.1
	comp=Z,2.1nm,0.6s,mb4.2					
EPF	Esparros	81.28	47	eP	P	02 30 13.6 +0.4
MFF	Saint Martin d	81.34	43	eP	P	02 30 13.2 -0.2
	comp=Z,6.0nm,0.7s,mb4.3					
MFF	Saint Martin d	81.34	43	eP	P	02 30 13.2 -0.2
MFF				pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.3					
MFF	Saint Martin d	81.34	43	eP	P	02 30 13.2 -0.2
	comp=Z,3.0nm,0.7s,mb4.3					
FLN	La Foliniere	81.38	41	eP	P	02 30 13.6 0.0
FLN				eMLR	MLR	
	comp=Z,47nm,21.0s,MS3.5					
FLN	La Foliniere	81.38	41	eP	P	02 30 13.6 0.0
FLN				LR	LR	
	comp=Z,50nm,21.0s,MS3.9					
LDF	La Druitiere	81.60	41	eP	P	02 30 14.8 +0.1
	comp=Z,4.9nm,0.6s,mb4.3					
LDF	La Druitiere	81.60	41	eP	P	02 30 14.8 +0.1
LDF				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.2					
LDF	La Druitiere	81.60	41	eP	P	02 30 14.8 +0.1
	comp=Z,2.5nm,0.6s,mb4.3					
LFF	La Frestale	81.77	45	eP	P	02 30 15.7 0.0
	comp=Z,8.1nm,0.7s,mb4.5					
LFF	La Frestale	81.77	45	eP	P	02 30 15.7 0.0
LFF				pmax	pmax	
	comp=Z,4.0nm,0.7s,mb4.5					
LFF	La Frestale	81.77	45	eP	P	02 30 15.7 0.0
	comp=Z,4.1nm,0.7s,mb4.5					
RJF	Les Rejaudoux	82.35	45	eP	P	02 30 18.7 0.0
	comp=Z,27nm,1.3s,mb4.7					
RJF				eMLR	MLR	
	comp=Z,40nm,19.0s,MS3.5					
RJF	Les Rejaudoux	82.35	45	eP	P	02 30 18.7 0.0
RJF				pmax	pmax	
	comp=Z,14nm,1.3s,mb4.7					
RJF				MLR	MLR	
	comp=Z,40nm,19.0s,MS3.8					
RJF	Les Rejaudoux	82.35	45	eP	P	02 30 18.7 0.0
	comp=Z,14nm,1.3s,mb4.7					
RJF				LR	LR	
	comp=Z,40nm,19.0s,MS3.8					
MTLF	Montolieu	82.67	47	eP	P	02 30 20.4 -0.1
	comp=Z,25nm,1.5s,mb4.7					
MTLF	Montolieu	82.67	47	eP	P	02 30 20.4 -0.1
MTLF				pmax	pmax	
	comp=Z,13nm,1.5s,mb4.7					
MTLF	Montolieu	82.67	47	eP	P	02 30 20.4 -0.1
	comp=Z,13nm,1.5s,mb4.7					
CAF	Calviac	82.70	45	eP	P	02 30 20.7 +0.1
LASF	Ste Croix	83.92	46	eP	P	02 30 27.5 +0.6
	comp=Z,13nm,1.1s,mb4.7					
TAM	Tamanrasset	84.53	67	eP	P	02 30 31.5 +1.1
VIVF	Saint-Julien-l	84.55	45	eP	P	02 30 30.6 +0.6
UCC	Uccle	84.71	39	P	P	02 30 31.1 +0.3
	comp=Z,17nm,2.3s,mb4.8					
DOU	Dourbes	84.81	40	P	P	02 30 31.6 +0.4
	comp=Z,8.6nm,2.1s,mb4.5					
GIVF	Givet	84.96	40	eP	P	02 30 32.2 +0.2
SMRF	Simiane la Rot	85.15	46	eP	P	02 30 33.9 +0.8
	comp=Z,12nm,1.1s,mb4.6					
SMRF	Simiane la Rot	85.15	46	eP	P	02 30 33.9 +0.8
	comp=Z,12nm,1.1s,mb4.9					
ORIF	Oris-en-Rattie	85.41	45	eP	P	02 30 35.2 +0.9
	comp=Z,7.0nm,0.9s,mb4.5					
ORIF				eMLR	MLR	
	comp=Z,32nm,19.8s,MS3.4					
ORIF	Oris-en-Rattie	85.41	45	eP	P	02 30 35.2 +0.9
ORIF				pmax	pmax	
	comp=Z,4.0nm,0.9s,mb4.5					
ORIF	Oris-en-Rattie	85.41	45	eP	P	02 30 35.2 +0.9
	comp=Z,3.5nm,0.9s,mb4.5					
MEM	Membach	85.74	40	P	P	02 30 35.4 -0.5
	comp=Z,9.0nm,1.9s,mb4.7					
WLF	Walferdange	85.79	40	P	P	02 30 37.1 +1.0
	comp=Z,11nm,1.9s,mb4.8					
LMR	La Mourre	85.80	47	eP	P	02 30 36.4 0.0
	comp=Z,6.1nm,1.0s,mb4.5					
LMR	La Mourre	85.80	47	eP	P	02 30 36.4 0.0
LMR				pmax	pmax	
	comp=Z,3.0nm,1.0s,mb4.5					
LMR	La Mourre	85.80	47	eP	P	02 30 36.4 0.0
	comp=Z,3.0nm,1.0s,mb4.5					
HAU	Haudompre	85.85	42	eP	P	02 30 36.4 -0.1
HAU				eMLR	MLR	
	comp=Z,42nm,19.5s,MS3.5					
HAU	Haudompre	85.85	42	eP	P	02 30 36.4 -0.1
HAU				LR	LR	
	comp=Z,40nm,19.5s,MS3.8					
FRF	La Foret Royal	85.91	47	eP	P	02 30 36.9 0.0
	comp=Z,9.8nm,0.9s,mb4.7					
FRF	La Foret Royal	85.91	47	eP	P	02 30 36.9 0.0
FRF				pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.7					
FRF	La Foret Royal	85.91	47	eP	P	02 30 36.9 0.0
	comp=Z,4.9nm,0.9s,mb4.7					
LPL	La Plagne	86.03	45	eP	P	02 30 37.6 +0.2
	comp=Z,6.6nm,1.1s,mb4.5					
LPL	La Plagne	86.03	45	eP	P	02 30 37.6 +0.2
LPL				pmax	pmax	
	comp=Z,3.0nm,1.1s,mb4.4					
LPL	La Plagne	86.03	45	eP	P	02 30 37.6 +0.2
	comp=Z,3.3nm,1.1s,mb4.5					
MBDF	Montbardon	86.03	45	eP	P	02 30 38.1 +0.6
	comp=Z,7.7nm,1.0s,mb4.6					
MBDF	Montbardon	86.03	45	eP	P	02 30 38.1 +0.6
MBDF				pmax	pmax	
	comp=Z,4.0nm,1.0s,mb4.6					
MBDF	Montbardon	86.03	45	eP	P	02 30 38.1 +0.6
	comp=Z,3.8nm,1.0s,mb4.6					
LPG	La Plagne	86.04	45	eP	P	02 30 38.7 +1.2
CDF	Champ du Feu	86.49	42	eP	P	02 30 39.7 +0.1
	comp=Z,9.2nm,1.0s,mb4.7					
CDF	Champ du Feu	86.49	42	eP	P	02 30 39.7 +0.1
CDF				pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.7					
CDF	Champ du Feu	86.49	42	eP	P	02 30 39.7 +0.1
	comp=Z,4.6nm,1.0s,mb4.7					
SBF	Sospel	86.49	46	eP	P	02 30 39.7 0.0
ARCES	ARCESS Array B	93.65	20	P	P	02 31 10.7 -2.1
	comp=Z,1.7nm,0.9s,mb4.5,baz=320,slow=4.9,SNR=7.1					
ZALV	Zalesovo Beam	123.10	11	PKP	PKPdf	02 36 51.9 -1.2
	comp=Z,1.3nm,0.5s,baz=288,slow=1.4,SNR=5.4					
MKAR	Makanchi Array	129.16	16	PKP	PKPdf	02 37 03.8 -1.2
	comp=Z,1.1nm,0.8s,baz=351,slow=1.9,SNR=8.0					
SONM	Songino Array	130.55	355	PKP	PKPdf	02 37 06.6 -1.0
	comp=Z,0.9nm,0.8s,baz=340,slow=1.8,SNR=4.9					
STKA	Stephens Creek	131.16	228	PKP	PKPdf	02 37 06.4 -2.8
	comp=Z,1.4nm,0.7s,baz=156,slow=20,SNR=1.8					
WMQ	Urumqi	133.31	13	ePKP	PKPdf	02 37 12.5 -0.4
KSRS	Korea Array	133.75	330	PKP	PKPdf	02 37 12.5 -1.4
	comp=Z,0.5nm,0.3s,baz=21,slow=2.2,SNR=5.2					
HHC	Hu-ho-hao-te	136.65	348	ePKP	PKPdf	02 37 15.8 -3.4
HHC				PP	PP	02 40 02.0 +1.8
HHC				PKS		02 40 49.8
HHC				SKS	SKSdf	02 44 21.5 -5.2
HHC				SKKS	SKKSac	02 46 49.0 -3.7
HHC				SS	SS	02 57 58.8 -0.5
HHC				PP	PP	
	comp=Z,57nm,14.3s					
HHC				LR	LR	
	comp=N,105nm,19.0s,MS4.7					
HHC				LR	LR	
	comp=E,90nm,19.0s,MS4.7					
HHC				LR	LR	
	comp=Z,103nm,23.8s,MS4.5					
ASAR	Alice Springs	141.14	233	PKP	PKPdf	02 37 26.4 -1.5
	comp=Z,0.6nm,0.7s,baz=150,slow=1.9,SNR=5.8					
LZH	Lanzhou	142.43	356	ePKP	PKPdf	02 37 27.3 -2.6
LZH				APKP		02 37 38.0
LZH				XPKP		02 37 41.5
LZH				LR	LR	
	comp=N,139nm,18.5s					
LZH				LR	LR	
	comp=Z,182nm,20.3s,MS4.8					
WRA	Warramunga Arr	142.48	239	PKhKP		02 37 25.3
	comp=Z,1.3nm,0.7s,baz=109,slow=2.2,SNR=10.0					
WRA				PKP	PKPdf	02 37 28.4 -2.0
	comp=Z,1.2nm,0.7s,baz=108,slow=2.3,SNR=9.4					
WHN	Wuhan	145.55	339	PKP	PKPdf	02 37 32.0 -3.5
CD2	Chengdu	147.57	355	ePKP	PKPdf	02 37 35.5 -3.4
FITZ	Fitzroy Crossi	150.60	234	PKPbc	PKPbc	02 37 48.1 -1.5
	comp=Z,5.1nm,0.8s,baz=244,slow=1.2,SNR=10					
FITZ				PKPab	PKPab	02 37 55.3 -1.1
	comp=Z,4.5nm,0.8s,baz=161,slow=1.3,SNR=8.0					
GYA	Guiyang	151.56	349	ePKP	PKPdf	02 37 46.0 +0.6
GYA				XPKP		02 37 55.3
GYA				PKP2	PKPab	02 38 01.8 +1.8
GYA				PKS		02 41 18.0
GYA				PP	PP	02 41 33.8 +4.3
GYA				PP	PP	
	comp=Z,80nm,7.9s					
KMI	Kunming	153.40	356	PKP	PKPdf	02 37 46.5 -1.6
CMAR	Chiang Mai Arr	160.01	5	PKPab	PKPab	02 38 34.8 -1.4
	comp=Z,1.0nm,0.5s,baz=324,slow=6.5,SNR=5.2					
CMAR				pPKPab	pPKPab	02 38 49.5 -0.1
	comp=Z,1.0nm,0.3s,baz=50,slow=25,SNR=3.9					

ISCJB ***28*** *02:21:27.4±6.6, 166N±009×1278E±02, h11km±42km, mb3.9/5, Error ellipse: s-maj=27.6km s-min=14.0km az=16.8*

IDC ***28*** *02:21:29.1±1.6, 102N×12644E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=151.1km s-min=24.2km az=66.0*

NEIC ***28*** *02:21:30.0±0.7, 156N×12767E, h15km, mb4.2/2, Error ellipse: s-maj=59.6km s-min=14.7km az=72.0*

ISC 28 02:21:28.8±5.4, 16N±01×1278E±03, h8km±34km, n9, σ0°53/8, mb3.9/5, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	Ternate	0.91	207	⇓eP	Pg	02 21 46.0	-0.3
TNE				eS	Sg	02 21 58.5	+0.3
WRA	Warramunga Arr	22.36	164	P	P	02 26 26.9	-0.4
	1.6nm,0.4s,mb3.8,baz=339,slow=11,SNR=32						
WB2	Warramunga Arr	22.36	164	eP	P	02 26 27.5	+0.1
ASAR	Alice Springs	25.82	167	P	P	02 27 00.5	-0.1
	1.0nm,0.5s,mb3.6,baz=344,slow=12,SNR=12						
MKAR	Makanchi Array	59.88	326	P	P	02 31 34.8	-0.3
	0.6nm,0.5s,mb3.9,baz=108,slow=8.6,SNR=8.5						
KURK	Kurchatov	64.08	328	eP	P	02 32 03.0	-0.1
	1.0nm,0.6s,mb4.0						
WRAK	Wrangell Islan	94.14	33	eP	P	02 34 48.7	+0.8
	0.5nm,0.5s,mb4.2						
NOQ	North Oquirrh	111.31	45	ePKP	PKiKP	02 40 04.1	+0.4
LPAZ	La Paz	158.59	134	PKP	PKPdf	02 41 31.4	+3.5
	0.1nm,1.3s,baz=20,slow=8.0,SNR=4.5						

ISCJB ***28*** *02:31:26.9±0.4, 36.15N±002×25.40E±006, h14km±3km, Error ellipse: s-maj=7.7km s-min=3.3km az=0.7*

NEIC ***28*** *02:31:27.5, 36.19N×2537E, h55km, MD3.2(ATH), After ATH.*

ATH ***28*** *02:31:27.5, 36.19N×2537E, h33km±2km, MD3.2/4*

CSEM ***28*** *02:31:27.7±0.1, 36.15N×2541E, h12km, ML3.2, Error ellipse: s-maj=2.7km s-min=1.0km az=90.0*

THE ***28*** *02:31:27.8, 36.15N×2543E, h4km, ML3.2*

ISC 28 02:31:27.4±0.4, 3616N±002×2540E±006, h16km±3km, n18, σ0°67/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR6	Thira Island,	0.20	359	ePg	Pg	02 31 32.3	+0.2
THR6				eSg	Sg	02 31 35.6	+0.3
SANT	Santorini	0.22	12	ePg	Pg	02 31 32.2	-0.2
SANT				eSg	Sg	02 31 35.5	-0.3
SANT	Santorini	0.22	12	ePn	Pg	02 31 32.4	0.0
SANT				eSg	Sg	02 31 35.5	-0.3
SANT	Santorini	0.22	12	ePn	Pg	02 31 32.4	0.0
THR1	Thera Island	0.22	12	ePg	Pg	02 31 32.3	-0.1
THR1				eSg	Sg	02 31 35.4	-0.4
THR3	Thira Island,	0.25	360	ePg	Pg	02 31 33.0	+0.1
THR3				eSg	Sg	02 31 37.1	+0.4
THR5	Thira Island,	0.26	350	ePg	Pg	02 31 33.2	0.0
THR5				eSg	Sg	02 31 37.2	+0.2
THR4	Thira Island,	0.30	359	ePg	Pg	02 31 33.8	0.0
NPS	Neapolis	0.91	169	ePN	Pn	02 31 45.1	-0.4
NPS				eSN	Sn	02 31 58.3	0.0
APE	Apeiranthos	0.91	6	ePg	Pg	02 31 44.6	-0.5
APE				eSg	Sg	02 31 58.9	+1.7
APE	Apeiranthos	0.91	6	ePN	Pn	02 31 44.7	-0.9
APE				eSN	Sn	02 31 57.8	-0.6
LAST	Lasithi	1.00	176	ePg	Pg	02 31 46.2	-0.6
LAST				eSg	Sg	02 32 00.7	+0.9
VAM	Vamos	1.23	233	ePN	Pn	02 31 50.5	+0.5
VAM				eSN	Sn	02 32 07.5	+1.2
ZKR	Zakros	1.24	147	ePg	Pg	02 31 50.1	-1.2
ZKR				eSg	Sg	02 32 08.0	+0.6
SIVA	Sivas	1.24	203	ePg	Pg	02 31 50.7	-0.6
SIVA				eSg	Sg	02 32 07.8	+0.3
KARN	Karanos	1.43	238	ePg	Pg	02 31 53.4	-1.5
KARP	Karpathos	1.55	113	ePN	Pn	02 31 55.2	+0.8
VLI	Veliai	2.06	286	ePN	Pn	02 32 01.2	-0.2

ISCJB ***28*** *02:38:44.8±0.6, 280S±01×633E±01, h10km, mb4.1/12, MS4.0/3, Error ellipse: s-maj=21.6km s-min=14.4km az=15.7*

IDC ***28*** *02:38:45.2±0.7, 2800S×6326E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.9/22, mbtmp4.0/9, MS3.9/3, Ms1 3.9/3, ms1mx3.2/37, Error ellipse: s-maj=24.4km s-min=19.5km az=21.0*

NEIC ***28*** *02:38:46.6±0.4, 2798S×6327E, h10km, mb4.4/3, Error ellipse: s-maj=16.1km s-min=11.0km az=198.0*

ISC 28 02:38:46.8±0.6, 280S±01×633E±01, h10km, n18, σ0°67/14, mb4.1/12, MS4.0/3, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	33.76	266	P	P	02 45 30.7	+1.9
	4.8nm,1.1s,mb4.3,baz=194,slow=4.2,SNR=2.6						
LBTB				LR	LR	02 56 18.7	
	comp=Z,165nm,21.9s,MS3.7,baz=152,slow=31						
LSZ	Lusaka	34.85	284	P	P	02 45 37.5	-0.8
	1.1nm,0.6s,mb4.0,baz=144,slow=7.7,SNR=4.1						
MAW	Mawson	39.65	180	P	P	02 46 18.2	-0.2
	1.9nm,0.8s,mb3.9,baz=20,slow=5.6,SNR=5.5						
QSPA	South Pole Qui	62.17	180	P	P	02 49 07.3	-0.4
	3.3nm,1.0s,mb4.4,baz=295,slow=2.5,SNR=11						
QSPA	South Pole Qui	62.17	180	P	P	02 49 07.3	-0.4
ASAR	Alice Springs	62.92	104	P	P	02 49 14.0	+0.4
	2.0nm,0.7s,mb4.3,baz=249,slow=5.9,SNR=21						
WRA	Warramunga Arr	64.65	100	P	P	02 49 25.5	+0.4
	2.4nm,0.6s,m

187nm,0.2s
KMO Kumora 0.73 43⇑ *i*Pg Pg 02 40 57.0 -1.0
KMO *e*Sg Sg 02 41 07.1 -0.4
KMO Pmax
143nm,0.3s
KMO Smax
226nm,0.7s
SYVR Suvo 1.71 186 *e*Pg Pg 02 41 14.7 -1.9
SYVR *e*Sg Sg 02 41 38.1 -0.5
SYVR *e* 02 41 40.5
SYVR Pmax
27nm,0.2s
SYVR max
181nm,0.3s
UKT Uakit 1.89 84 *e*PN Pn 02 41 16.9 -0.1
UKT *e* 02 41 42.1
UKT pmax pmax
comp=Z,63nm,0.2s
UKT smax
comp=N,124nm,0.4s
UKT Uakit 1.89 84 *e*Pg Pg 02 41 17.1 -3.0
UKT *e*Sg Sg 02 41 42.2 -2.4
UKT Pmax
comp=N,63nm,0.2s
UKT Smax
comp=N,107nm,0.4s
SVKR Severomuysk 1.99 66 *e*PN Pn 02 41 19.5 +1.2
SVKR *e* 02 41 45.2
SVKR pmax pmax
comp=Z,74nm,0.5s
SVKR smax
comp=E,368nm,0.4s
SVKR Severomuysk 1.99 66 *e*Pg Pg 02 41 19.6 -2.3
SVKR *e*Sg Sg 02 41 45.4 -2.3
SVKR Pmax
comp=E,83nm,0.2s
SVKR Smax
comp=E,370nm,0.5s
MXMB Maximikha 2.29 204 *e*Pn Pn 02 41 22.9 +0.5
MXMB *e*Pg Pg 02 41 25.1 -2.6
MXMB *e*Sg Sg 02 41 55.9 -1.4
MXMB Pmax
comp=E,24nm,0.5s
MXMB Smax
comp=E,193nm,0.8s
OGRR Ongureny 2.33 224 *e*Pn Pn 02 41 24.2 +1.1
OGRR *e*Pg Pg 02 41 26.0 -2.6
OGRR *e*Sg Sg 02 41 57.1 -1.7
OGRR Pmax
comp=E,16nm,0.2s
OGRR Smax
comp=E,127nm,0.3s
ZRHB Zarechye 3.37 215 *e*Sg Sg 02 42 29.2 -2.8
ZRHB Smax
comp=E,119nm,1.1s
TRG Tyrgan 3.50 224 *e*Pn Pn 02 41 40.6 +1.5
TRG *e*Sg Sg 02 42 32.0 -4.1
TRG Smax
comp=E,42nm,0.6s
UUDB Ulan-Yde 3.83 205 *e*Sg Sg 02 42 42.0 -4.9
UUDB Smax
comp=E,29nm,0.5s
HRMR Khuramsha 4.24 210 *e*Pg Pg 02 41 59.2 -5.8
HRMR *e*Sg Sg 02 42 54.6 -5.2
HRMR Pmax
comp=E,8.0nm,0.1s
HRMR Smax
comp=E,108nm,0.6s
CRS Chara 4.71 67 *e*PN Pg 02 42 07.5 -6.6
CRS Chara 4.71 67 *e*Pg Pg 02 42 08.3 -5.8
CRS *e*Sg Sg 02 43 10.9 -4.2
CRS Pmax
comp=E,24nm,1.1s
CRS Smax
comp=E,48nm,1.4s
TUP Tupik 5.64 95 *e*Pn Pn 02 42 08.1 -0.4
TUP *e*Pg Pg 02 42 23.9 -7.9
TUP *e*Sg Sg 02 43 37.8 -7.0
TUP Pmax
comp=E,4.0nm,0.4s
TUP Smax
comp=E,24nm,1.2s
KPC Khapcheranga 5.79 167 *e*Pn Pn 02 42 09.4 -1.2
KPC *e* 02 42 30.2
KPC *e*Sg Sg 02 43 42.6 -7.2
KPC Smax
comp=E,18nm,0.9s
ARS Arshan 5.82 237 *e*Sn Sn 02 43 15.9 -2.2
ARS *e*Sg Sg 02 43 43.3 -7.3
ARS Smax
comp=E,85nm,0.5s
MOY Mondy 6.67 240 *e*PN Pn 02 42 25.0 +2.3
ORL Orlik 6.81 250 *e*Pn Pn 02 42 25.8 +1.2
ORL *e*S Sg 02 44 14.4 -8.1
ORL smax
comp=N,20nm,1.3s
ORL Orlik 6.81 250 *e*Pn Pn 02 42 26.0 +1.4
ORL *e* 02 43 43.5
ORL *e*Sg Sg 02 44 15.1 -7.4
ORL Smax
comp=N,18nm,0.4s
IENR Ienga 8.25 78 *e*Sg Sg 02 45 00.1 -8.3

ISCJB ***28*** *02:43:14.9±0.4, 36.15N±002×2538E±006, h15km±3km, Error ellipse: s-maj=7.9km s-min=3.1km az=3.5*
NEIC ***28*** *02:43:15.0, 36.17N×2537E, h27km, MD3.1(ATH), After ATH.*
CSEM ***28*** *02:43:15.9±0.1, 36.15N×2536E, h5km, ML3.3, Error ellipse: s-maj=2.6km s-min=0.9km az=94.0*
ATH ***28*** *02:43:15.0, 36.17N×2537E, h27km, MD3.1/4*
THE ***28*** *02:43:15.9, 36.17N×2541E, h4km, ML3.3*
ISC 28 02:43:15.4±0.4,**3617N**±002×**2539E**±006,**h17km**±3km,**n21,**
σ0°**64**/37,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR6	**Thira Island,**	**0.19**	**3**	*e*Pg	**Pg**	**02 43 20.1**	**+0.1**
THR6				*e*Sg	**Sg**	**02 43 22.6**	**-0.6**
THR6	**Thira Island,**	**0.19**	**3**	*e*Pg	**Pg**	**02 43 20.0**	**0.0**
THR6				*e*Sg	**Sg**	**02 43 22.6**	**-0.5**
SANT	**Santorini**	**0.21**	**16**	*e*Pg	**Pg**	**02 43 20.2**	**-0.1**
SANT				*e*Sg	**Sg**	**02 43 23.7**	**-0.1**
SANT	**Santorini**	**0.21**	**16**	*e*Pb	**Pg**	**02 43 20.3**	**0.0**
SANT				*e*Sb	**Sg**	**02 43 23.5**	**-0.2**
SANT	**Santorini**	**0.21**	**16**	*e*Pb	**Pg**	**02 43 20.3**	**0.0**
SANT				*e*Sb	**Sg**	**02 43 23.5**	**-0.2**
THR1	**Thera Island**	**0.21**	**16**	*e*Pg	**Pg**	**02 43 20.3**	**-0.1**
THR1				*e*Sg	**Sg**	**02 43 23.4**	**-0.3**
THR3	**Thira Island,**	**0.24**	**3**	*e*Pg	**Pg**	**02 43 21.0**	**+0.2**
THR3				*e*Sg	**Sg**	**02 43 24.2**	**-0.4**
THR5	**Thira Island,**	**0.25**	**353**	*e*Pg	**Pg**	**02 43 21.2**	**+0.2**
THR4	**Thira Island,**	**0.29**	**2**	*e*Pg	**Pg**	**02 43 21.9**	**+0.2**
APE	**Apeiranthos**	**0.91**	**7**	*e*Pg	**Pg**	**02 43 32.9**	**-0.1**
APE				*e*Sg	**Sg**	**02 43 46.3**	**+1.4**
APE	**Apeiranthos**	**0.91**	**7**	*e*PN	**Pn**	**02 43 32.5**	**-0.9**
APE				*e*SN	**Sn**	**02 43 45.7**	**-0.4**
APE	**Apeiranthos**	**0.91**	**7**	*e*Pg	**Pg**	**02 43 32.8**	**-0.2**
APE				*e*Sn	**Sn**	**02 43 45.7**	**-0.4**
APE				*e*Sg	**Sg**	**02 43 46.3**	**+1.4**
NPS	**Neapolis**	**0.92**	**168**	*e*PN	**Pn**	**02 43 32.7**	**-0.9**
NPS				*e*SN	**Sn**	**02 43 45.7**	**-0.7**
LAST	**Lasithi**	**1.01**	**176**	*e*Pg	**Pg**	**02 43 34.1**	**-0.8**
LAST				*e*Sg	**Sg**	**02 43 49.3**	**+1.2**
VAM	**Vamos**	**1.23**	**232**	*e*PN	**Pn**	**02 43 38.0**	**+0.2**
SIVA	**Sivas**	**1.24**	**202**	*e*Pg	**Pg**	**02 43 38.8**	**-0.6**
SIVA				*e*Sg	**Sg**	**02 43 56.1**	**+0.6**
ZKR	**Zakros**	**1.25**	**147**	*e*Pg	**Pg**	**02 43 39.4**	**-0.1**
ZKR				*e*Sg	**Sg**	**02 43 56.2**	**+0.4**
KARN	**Karanos**	**1.42**	**238**	*e*Pg	**Pg**	**02 43 41.7**	**-1.0**
KARP	**Karpathos**	**1.57**	**113**	*e*PN	**Pn**	**02 43 43.3**	**+0.8**
VLI	**Veliai**	**2.05**	**286**	*e*PN	**Pn**	**02 43 49.5**	**+0.4**
DID	**Didima**	**2.18**	**308**	*e*Pn	**Pn**	**02 43 52.1**	**+1.3**

ISCJB ***28*** *02:55:13.9±1.4, 247S±0.1×1795E±0.1, h512km±18km, mb4.0/16, Error ellipse: s-maj=20.3km s-min=15.5km az=171.1*
IDC ***28*** *02:55:14.2±1.6, 2462S×17965E, h509km±17km, mb3.6/14, mb1 3.8/15, mb1mx3.7/18, mbtmp3.6/15, Error ellipse: s-maj=14.9km s-min=14.6km az=173.0*
NEIC ***28*** *02:55:15.0±1.3, 2471S×17959E, h524km±15km, mb4.4/4, Error ellipse: s-maj=19.0km s-min=13.4km az=175.0*
ISC 28 02:55:14.8±1.3,**247S**±01×**1795E**±01,**h511km**±17km,**n56,**
σ0°**80**/27,**mb4.0**/16,**1C-1D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.07**	**154**	P	**P**	**02 56 43.6**	**+0.7**
	170nm,0.3s,baz=78,slow=22,SNR=3.8						
URZ	**Urewera**	**13.68**	**188**	P	**P**	**02 58 09.5**	**-1.2**
	4.8nm,0.3s,baz=46,slow=1.2,SNR=26						
RPZ	**Rata Peaks**	**20.20**	**198**	P	**P**	**02 59 14.2**	**-0.3**
	7.1nm,0.6s,baz=93,slow=11,SNR=7.8						
CTA	**Charters Tower**	**31.06**	**272**	*e*P	**P**	**03 00 51.8**	**+1.0**
	11nm,0.4s,mb4.7						
CTA	**Charters Tower**	**31.06**	**272**	P	**P**	**03 00 51.8**	**+1.0**
	13nm,0.4s,mb4.8,baz=91,slow=11,SNR=25						
STKA	**Stephens Creek**	**34.03**	**249**	*e*P	**P**	**03 01 16.8**	**+0.9**
	2.9nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**34.03**	**249**	P	**P**	**03 01 16.9**	**+1.0**
	3.5nm,0.4s,mb4.2,baz=91,slow=9.5,SNR=9.6						
STKA	**Stephens Creek**	**34.03**	**249**	*e*P	**P**	**03 01 15.7**	**-0.3**
ASAR	**Alice Springs**	**41.49**	**262**	P	**P**	**03 02 17.1**	**+0.1**
	2.6nm,0.3s,mb4.2,baz=97,slow=7.4,SNR=13						
WB2	**Warramunga Arr**	**41.92**	**267**	*e*P	**P**	**03 02 20.2**	**-0.2**
WB2	**Warramunga Arr**	**41.92**	**267**	*e*P	**P**	**03 02 20.2**	**-0.2**
WRA	**Warramunga Arr**	**41.93**	**267**	P	**P**	**03 02 20.3**	**-0.2**
	2.7nm,0.3s,mb4.2,baz=102,slow=6.9,SNR=233						
WRA				ScP	ScP	03 07 07.8	+1.9
	0.5nm,0.6s,baz=97,slow=3.8,SNR=6.0						
FORT	**Forrest**	**45.64**	**250**	*e*P	**P**	**03 02 47.6**	**-1.6**
	12nm,0.6s,mb4.6						
KAKA	**Kakadu**	**45.96**	**276**	*e*P	**P**	**03 02 51.2**	**-0.7**
	5.5nm,0.8s,mb4.1						
KAKA	**Kakadu**	**45.96**	**276**	*e*P	**P**	**03 02 51.3**	**-0.6**
	90nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**50.35**	**266**	*e*P	**P**	**03 03 25.5**	**+0.9**
	2.6nm,0.6s,mb3.8						
QSPA	**South Pole Qui**	**65.39**	**180**	P	**P**	**03 05 06.7**	**+0.8**
	1.1nm,0.6s,mb3.5,baz=16,slow=2.1,SNR=14						
QSPA	**South Pole Qui**	**65.39**	**180**	P	**P**	**03 05 06.7**	**+0.8**
MJAR	**Matsushiro Arr**	**72.31**	**326**	P	**P**	**03 05 46.9**	**-1.4**
	3.7nm,0.7s,mb3.9,baz=155,slow=5.7,SNR=10						
MAW	**Mawson**	**76.86**	**201**	P	**P**	**03 06 13.5**	**+0.1**
	0.9nm,0.5s,mb3.5,baz=118,slow=7.4,SNR=6.2						
KSRS	**Korea Array**	**78.58**	**320**	P	**P**	**03 06 23.6**	**+0.4**
	1.9nm,0.7s,mb3.6,baz=129,slow=5.1,SNR=4.2						
PETK	**Petropavlovsk-**	**79.77**	**347**	P	**P**	**03 06 28.8**	**-0.3**
	4.8nm,0.7s,mb3.9,baz=107,slow=7.4,SNR=10						
PETK	**Petropavlovsk-**	**79.77**	**347**	P	**P**	**03 06 28.8**	**-0.3**
NVAR	**Mina Array Bea**	**85.62**	**44**	P	**P**	**03 06 58.6**	**-0.4**
	0.9nm,0.7s,mb3.5,baz=220,slow=10,SNR=6.0						
CMAR	**Chiang Mai Arr**	**89.40**	**291**	P	**P**	**03 07 18.6**	**+1.5**
	1.4nm,0.7s,mb3.9,baz=144,slow=3.7,SNR=6.9						
TXAR	**Lajitas Array**	**91.21**	**58**	P	**P**	**03 07 25.9**	**+0.5**
	0.7nm,0.8s,mb3.7,baz=216,slow=6.7,SNR=11						
PDAR	**Pinedale Array**	**93.56**	**44**	P	**P**	**03 07 35.3**	**-0.5**
	0.3nm,0.6s,mb3.6,baz=256,slow=11,SNR=2.5						
NHSC	**New Hope**	**111.24**	**62**	*e*PKP	PKiKP	03 12 51.8	+1.3
MKAR	**Makanchi Array**	**112.38**	**313**	PKiKP	PKiKP	03 12 50.7	-1.5
	0.2nm,0.4s,baz=238,slow=2.2,SNR=3.9						
ARCES	**ARCESS Array B**	**132.58**	**348**	PKP	PKPdf	03 13 28.6	-1.6
	1.0nm,0.5s,baz=81,slow=1.7,SNR=9.5						
NB2	**NORSAR Subarra**	**142.80**	**351**	PKP	PKPdf	03 13 45.4	-3.7
	comp=Z,1.9nm,0.6s,baz=14,slow=3.0						
NOA	**NORSAR Array B**	**142.80**	**351**	PKP	PKPdf	03 13 45.8	-3.4
	comp=Z,3.9nm,0.8s,baz=16,slow=4.8,SNR=6.8						
HFS	**Hagfors**	**143.24**	**348**	PKP	PKPdf	03 13 46.7	-3.2
	comp=Z,14nm,0.3s,baz=62,slow=3.5,SNR=119						
AKASG	**Malin Array Be**	**145.40**	**326**	PKPbc	PKPbc	03 13 53.8	-1.4
	comp=Z,3.1nm,0.4s,baz=46,slow=4.3,SNR=9.2						
ASF	**Jabal al Asfar**	**146.43**	**291**	PKPbc	PKPbc	03 13 58.8	+0.2
	comp=Z,2.4nm,0.7s,baz=347,slow=2.3,SNR=4.1						
MMAI	**Mount Meron Ar**	**147.63**	**293**	PKPbc	PKPbc	03 14 02.0	+0.2
	comp=Z,4.1nm,0.5s,baz=75,slow=6.3,SNR=9.9						
EIL	**Elat**	**148.19**	**287**	PKPbc	PKPbc	03 14 01.8	-1.5
	comp=Z,2.4nm,0.7s,baz=130,slow=7.9,SNR=3.6						
EKA	**Eskdalemuir Ar**	**149.34**	**3**	PKPbc	PKPbc	03 14 04.2	-1.2
	comp=Z,1.0nm,0.4s,baz=353,slow=3.4,SNR=19						
MLR	**Muntele Rosu**	**150.27**	**321**	PKPbc	PKPbc	03 14 06.9	-0.9
	baz=18,slow=20						
NIE	**Niedzica**	**150.46**	**332**	*e*P	PKPbc	03 14 08.4	+0.2
MORC	**Moravsky Berou**	**151.30**	**335⇑**	*i*P	PKPbc	03 14 09.5	-0.6
CLL	**Collm**	**151.49**	**342⇓**	*i*PKPbc	PKPbc	03 14 09.7	-0.7
	comp=Z,9.0nm,0.7s						
BRG	**Berggiesshubel**	**151.60**	**341**	*i* P	PKPbc	03 14 10.3	-0.4
	comp=Z,4.8nm,0.5s						
BRG				*e*		03 14 21.5	
	comp=Z,3.2nm,0.7s						
GRA1	**Grafenberg Arr**	**153.44**	**343**	*e*PKP	PKPdf	03 14 05.4	-1.2
GERES	**GERESS Array B**	**153.45**	**339**	PKPbc	PKPbc	03 14 13.9	-0.9
	comp=Z,0.4nm,0.6s,baz=35,slow=4.9,SNR=3.9						
GERES				PKPab	PKPab	03 14 27.4	-2.2
	comp=Z,0.4nm,0.6s,baz=25,slow=3.5,SNR=5.6						
CDF	**Champ du Feu**	**155.56**	**347**	*e*PKP2	PKPab	03 14 37.5	-1.1
HAU	**Haudompre**	**156.12**	**349**	*e*PKP2	PKPab	03 14 39.9	-1.2
	comp=Z,5.9nm,0.6s						
HINF	**Hinteralfeld**	**156.21**	**348**	*e*PKP2	PKPab	03 14 40.1	-1.4
	comp=Z,3.3nm,0.6s						
GRR	**Gorron**	**156.35**	**1**	*e*PKP2	PKPab	03 14 42.6	+0.5
	comp=Z,62nm,1.3s						
SSF	**Saint Saulge**	**157.46**	**353**	*e*PKP2	PKPab	03 14 45.8	-1.1
	comp=Z,4.8nm,0.6s						
AVF	**Avril sur Loir**	**157.74**	**353**	*e*PKP2	PKPab	03 14 46.8	-1.3
SMF	**Signal de Mont**	**157.83**	**352**	*e*PKP2	PKPab	03 14 47.4	-1.1
	comp=Z,13nm,0.9s						
LPL	**La Plagne**	**158.43**	**346**	*e*PKP2	PKPab	03 14 50.4	-0.8
ORIF	**Oris-en-Rattie**	**159.18**	**347**	*e*PKP2	PKPab	03 14 54.1	-0.4
VIVF	**Saint-Julien-l**	**159.46**	**350**	*e*PKP2	PKPab	03 14 53.9	-1.8
TORD	**Torodi Ar. Bea**	**168.33**	**190**	PKP	PKPdf	03 14 21.1	-2.2
	comp=Z,0.5nm,1.0s,baz=309,slow=1.8,SNR=3.1						

ISCJB ***28*** *03:12:21.5±0.4, 36.14N±002×2528E±003, h7km±3km, mb3.3/3, Error ellipse: s-maj=4.1km s-min=2.9km az=14.7*
NEIC ***28*** *03:12:21.7±0.4, 36.16N×2537E, h10km, ML3.1(ATH), Error ellipse: s-maj=5.4km s-min=4.5km az=101.0*
DDA ***28*** *03:12:22.4, 3564N×2581E, h5km±5km, Md3.6*
ATH ***28*** *03:12:22.4, 36.19N×2537E, h38km±2km, MD3.6/12, ML3.6*
CSEM ***28*** *03:12:22.0±0.1, 36.15N×2532E, h12km, ML3.8, Error ellipse: s-maj=2.1km s-min=1.6km az=99.0*
HLW ***28*** *03:12:22.3, 3629N×2571E, h33km, Mb3.5*
THE ***28*** *03:12:22.7, 36.16N×2540E, h8km, ML3.8*
IDC ***28*** *03:12:23.9±2.5, 3594N×2560E, h32km±21km, mb3.3/3, mb1 3.4/5, mb1mx3.2/25, mbtmp3.3/5, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/23, Error ellipse: s-maj=37.1km s-min=21.0km az=116.0*
ISK ***28*** *03:12:25.2, 3569N×2559E, h38km, MD3.6*
ISC 28 03:12:22.0±0.4,**3614N**±002×**2527E**±003,**h6km**±3km,**n57,**
σ1°**15**/76,**mb3.3**/3,**1C-5D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR6	**Thira Island,**	**0.24**	**25**	*e*Pg	**Pg**	**03 12 27.1**	**+0.4**
SANT	**Santorini**	**0.27**	**33**	*e*Pg	**Pg**	**03 12 27.0**	**-0.4**
SANT				*e*Sg	**Sg**	**03 12 30.6**	**-0.4**
SANT	**Santorini**	**0.27**	**33**	P	**Pg**	**03 12 27.1**	**-0.3**
SANT				*e*Sg	**Sg**	**03 12 30.6**	**-0.4**
SANT	**Santorini**	**0.27**	**33**	P	**Pg**	**03 12 27.1**	**-0.3**
THR1	**Thera Island**	**0.27**	**33**	*e*Pg	**Pg**	**03 12 27.1**	**-0.3**
THR1				*e*Sg	**Sg**	**03 12 30.5**	**-0.5**
THR5	**Thira Island,**	**0.28**	**12**	*e*Pg	**Pg**	**03 12 28.1**	**+0.6**
THR3	**Thira Island,**	**0.29**	**21**	*e*Pg	**Pg**	**03 12 27.7**	**+0.1**
THR4	**Thira Island,**	**0.33**	**17**	*e*Pg	**Pg**	**03 12 28.7**	**+0.2**
IDI	**Anoyia**	**0.91**	**200**	Pg	**Pg**	**03 12 40.1**	**+0.7**
	60nm,0.3s,baz=358,slow=11,SNR=176						
IDI				Lg		03 12 53.0	
	357nm,0.3s,baz=309,slow=17,SNR=58						
NPS	**Neapolis**	**0.92**	**162**	*e*PB	**Pb**	**03 12 39.8**	**-0.6**
NPS				*e*SN	**Sn**	**03 12 53.7**	**-1.3**
APE	**Apeiranthos**	**0.95**	**13**	*e*Pg	**Pg**	**03 12 39.7**	**-0.6**
APE				*e*Sg	**Sg**	**03 12 53.1**	**+0.5**
LAST	**Lasithi**	**0.99**	**170**	*e*Pg	**Pg**	**03 12 41.1**	**+0.1**
LAST				*e*Sg	**Sg**	**03 12 55.7**	**+1.8**
VAM	**Vamos**	**1.14**	**230**	*e*PB	**Pb**	**03 12 44.5**	**+0.3**
VAM				*e*SN	**Sn**	**03 13 01.5**	**+1.0**
SIVA	**Sivas**	**1.18**	**199**	*e*Pg	**Pg**	**03 12 44.8**	**+0.1**
SIVA				*e*Sg	**Sg**	**03 13 02.3**	**+2.3**
ZKR	**Zakros**	**1.28**	**143**	*e*Pg	**Pg**	**03 12 45.5**	**-1.0**
ZKR				*e*Sg	**Sg**	**03 13 02.3**	**-0.9**
ZKR	**Zakros**	**1.28**	**143**	*e*Pg	**Pg**	**03 12 45.5**	**-1.1**
ZKR				*e*Sg	**Sg**	**03 13 02.3**	**-0.9**
KARN	**Karanos**	**1.33**	**237**	*e*Pg	**Pg**	**03 12 47.2**	**-0.2**
GVD	**Gavdhos**	**1.62**	**217**	*e*PB	**Pb**	**03 12 52.0**	**-0.3**
GVD	**Gavdhos**	**1.62**	**217**	*e*Pb	**Pb**	**03 12 52.8**	**+0.5**
KARP	**Karpathos**	**1.64**	**111**	*e*PN	**Pn**	**03 12 49.9**	**-1.6**
KARP				*e*SN	**Sn**	**03 13 09.5**	**-3.5**
KYTH	**Kithira**	**1.81**	**275**	*e*PN	**Pn**	**03 12 54.0**	**+0.2**
BODT	**Bodrum**	**1.88**	**60**	*e*PN	**Pn**	**03 12 56.7**	**+2.0**
BODT				*e*SN	**Sn**	**03 13 19.9**	**+1.2**
VLI	**Veliai**	**1.97**	**288**	*e*PN	**Pn**	**03 12 55.5**	**-0.5**
BDRM	**Kayabasi**	**1.98**	**62⇓**	*i*P	**Pn**	**03 12 57.7**	**+1.7**
BDRM				*i* S	**Sn**	**03 13 24.1**	**+2.9**
SMG	**Samos**	**2.00**	**38**	*e*PN	**Pn**	**03 12 54.4**	**-2.1**
KVR	**Kavouri**	**2.07**	**325**	*e*PB	**Pb**	**03 12 57.5**	**-2.5**
DID	**Didima**	**2.13**	**310**	*e*Pn	**Pn**	**03 12 57.5**	**-0.7**
NAIG	**Nisos Aigina**	**2.16**	**319**	*e*PN	**Pn**	**03 12 57.7**	**-0.8**
ATH	**Athens Observa**	**2.21**	**326**	*e*PN	**Pn**	**03 12 58.7**	**-0.6**
GCAM	**G?zelcaml?**	**2.21**	**45**	*e*P	**Pn**	**03 13 03.4**	**+4.1**
GCAM				*e*S	**Sn**	**03 13 33.2**	**+6.3**
PTL	**Penteli**	**2.21**	**330**	*e*PN	**Pn**	**03 12 58.5**	**-0.8**
ARG	**Arkhangelos**	**2.31**	**87**	*e*PN	**Pn**	**03 12 59.2**	**-1.4**
MLSB	**Milas**	**2.32**	**59**	*e*PN	**Pn**	**03 13 03.0**	**+2.3**
CHOS	**Chios island**	**2.33**	**15**	*e*Pn	**Pn**	**03 12 59.1**	**-1.8**
AYDN	**Tasoluk**	**2.58**	**53⇓**	*i*P	**Pn**	**03 13 09.4**	**+5.0**
AYDN				*i* S	**Sn**	**03 13 44.0**	**+8.0**
YER	**Yerkesik**	**2.62**	**67**	*e*PN	**Pn**	**03 13 06.9**	**+2.0**
VLX	**Vlachokerasia**	**2.63**	**299**	*e*Pn	**Pn**	**03 13 05.9**	**+0.9**
LTK	**Loutraki**	**2.63**	**316**	*e*Pn	**Pn**	**03 13 05.9**	**+0.8**
BLCB	**Balcova**	**2.65**	**32**	*e*PN	**Pn**	**03 13 11.1**	**+5.8**
IZM	**Izmir**	**2.75**	**35**	*e*PN	**Pn**	**03 13 12.1**	**+5.3**
KDAG	**Bornova**	**2.76**	**35**	*e*P	**Pn**	**03 13 14.3**	**+7.5**
KDAG				*e*S	**Sn**	**03 13 49.9**	**+9.3**
TURN	**Turunc**	**2.78**	**74⇓**	*i*P	**Pn**	**03 13 01.8**	**-5.3**
TURN				*i* S	**Sn**	**03 13 41.2**	**+0.2**
DALT	**Dalyan (Mudla)**	**2.78**	**76**	*e*PN	**Pn**	**03 13 07.4**	**+0.2**
ITM	**Ithomi**	**2.88**	**292**	*e*PN	**Pn**	**03 13 10.4**	**+1.9**
LKR	**Lokris**	**3.09**	**325**	*e*PN	**Pn**	**03 13 10.6**	**-0.8**
AKAS	**Kas**	**3.51**	**87⇓**	*i*P	**Pn**	**03 13 16.7**	**-0.4**
AKAS				*i* S	**Sn**	**03 14 05.4**	**+6.6**
NEO	**Neokhori**	**3.55**	**333**	*e*PN	**Pn**	**03 13 17.8**	**+0.1**
KULA	**Kula-Manisa**	**3.59**	**48**	*e*PN	**Pn**	**03 13 22.2**	**+3.9**
SLUM		**4.64**	**181**	P	**Pn**	**03 13 32.8**	**+0.1**
HMAT	**Matruh**	**5.26**	**163**	⇓P	**Pn**	**03 13 39.9**	**-1.3**
HMAT				S	**Sn**	**03 14 36.0**	**-6.1**
SWA2		**6.88**	**179**	⇑P	**Pn**	**03 14 02.7**	**-0.8**
SWA2				S	**Sn**	**03 15 17.1**	**-5.0**
AKASG	**Malin Array Be**	**14.83**	**10**	Pn	**Pn**	**03 15 53.1**	**+1.0**
	1.5nm,0.3s,baz=204,slow=11,SNR=5.3						
GERES	**GERESS Array B**	**15.27**	**330**	Pn	**Pn**	**03 16 02.3**	**+4.2**
	0.1nm,0.3s,baz=143,slow=12,SNR=3.5						
DAVOX	**Davos/Dischmat**	**15.66**	**317**	LR	LR	03 22 27.8	
	comp=Z,34nm,18.1s,baz=264,slow=38						
EKA	**Eskdalemuir Ar**	**27.30**	**324**	P	**P**	**03 18 07.7**	**+0.5**
	0.6nm,0.7s,mb3.2,baz=112,slow=8.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**31.20**	**229**	P	**P**	**03 18 41.0**	**-1.2**
	0.2nm,0.4s,mb3.3,baz=34,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**43.16**	**57**	P	**P**	**03 20 20.5**	**-2.9**
	0.3nm,0.5s,mb3.2,baz=260,slow=5.7,SNR=3.6						

IDC ***28*** *03:20:53.6±0.7, 658S×13032E, h0km, mb4.3/9, mb1 4.5/12, mb1mx4.4/16, mbtmp4.4/12, ML4.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/21, Error ellipse: s-maj=35.7km s-min=15.1km az=78.0*
NEIC ***28*** *03:20:55.7±0.5, 661S×13023E, h10km, mb4.9/8, Error ellipse: s-maj=16.4km s-min=7.2km az=70.0*
MOS ***28*** *03:20:56.4±1.1, 661S×13040E, h33km, mb5.1/2, Error ellipse: s-maj=40.6km s-min=12.2km az=109.1*
ISCJB ***28*** *03:21:03.5±0.8, 689S±005×13035E±005, h105km±10km, mb4.6/19, Error ellipse: s-maj=9.6km s-min=7.0km az=30.8*
DJA ***28*** *03:21:11, 738S×13034E, h126km, mb5.2/2*
ISC 28 03:21:01.0±1.7,**669S**±009×**13044E**±007,**h58km**±19km,
n45,σ1°**21**/44,**mb4.6**/19,**1D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.51**	**66⇓**	*e*P	**Pn**	**03 21 47.0**	**+7.5**
TLE				*e*S	**Sn**	**03 22 18.0**	**+9.1**
KAKA	**Kakadu**	**6.30**	**162**	*e*P	**Pn**	**03 22 34.3**	**+2.9**
	37nm,0.2s						
KAKA				*e*S	**Sn**	**03 23 41.3**	**-0.7**
BATI	**Baumata**	**7.56**	**242**	Pn	**Pn**	**03 22 49.7**	**+1.1**
	12nm,0.3s,baz=85,slow=3.8,SNR=11						
BATI				Sn	**Sn**	**03 24 13.9**	**+0.9**
	23nm,0.3s,baz=53,slow=23,SNR=6.9						
FITZ	**Fitzroy Crossi**	**12.27**	**202**	*e*P	**Pn**	**03 23 51.2**	**-1.9**
	48nm,0.3s						
FITZ				*e*S	Sx	03 25 58.1	
FITZ	**Fitzroy Crossi**	**12.27**	**202**	Pn	**Pn**	**03 23 51.2**	**-1.8**
	9.6nm,0.3s,baz=36,slow=12,SNR=136						
FITZ				Sn	Sx	03 25 58.8	
	5.0nm,0.3s,baz=51,slow=19,SNR=4.4						
FITZ				LR	LR	03 28 54.2	
	comp=Z,61nm,21.5s,baz=122,slow=39						
WRAB	**Tennant Creek**	**13.70**	**164**	*e*P	**Pn**	**03 24 11.3**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,11nm,0.3s						
WRAB	**Tennant Creek**	**13.70**	**164**	*e*Pn	**Pn**	**03 24 11.3**	**-1.3**
	comp=Z,11nm,0.3s						
WRA	**Warramunga Ar

EKS2	Erkin-Say	71.06 319	*e*P	P	03 32 13.9	+0.9
	comp=Z,6.4nm,0.7s,mb4.7					
ZALV	Zalesovo Beam	71.50 334	P	P	03 32 13.4	-2.1
	comp=Z,1.0nm,0.4s,mb4.1,baz=100,slow=4.5,SNR=3.8					
ZAL	Zalesovo	71.50 334	P	P	03 32 13.4	-2.1
MAW	Mawson	75.40 201	P	P	03 32 39.4	+1.2
	comp=Z,1.4nm,0.7s,mb4.0,baz=65,slow=4.4,SNR=8.6					
AKTK	Aktyubinsk	84.09 322	P	P	03 33 24.6	-1.0
AKTO	Aktyubinsk	84.09 322	P	P	03 33 24.6	-1.0
	comp=Z,1.4nm,0.4s,mb4.4,baz=149,slow=6.8,SNR=6.5					
TORD	Torodi Ar. Bea	129.18 281	PKP	PKPdf	03 40 02.6	-1.1
	comp=Z,0.5nm,0.6s,baz=72,slow=2.2,SNR=9.3					
CPUP	Villa Florida	146.32 167	PKPbc	PKPbc	03 40 36.5	+0.5
	comp=Z,0.3nm,0.3s,baz=129,slow=6.5,SNR=3.0					
LPAZ	La Paz	150.69 141	PKPbc	PKPbc	03 40 50.0	+2.3
	comp=Z,1.3nm,0.4s,baz=36,slow=3.2,SNR=21					

*ISCJB **28** 03:38:52.3±0.5, 5010N±003×1837E±003, h0km, Error ellipse: s-maj=4.6km s-min=2.7km az=14.8*
*CSEM **28** 03:38:53.8±0.3, 5010N×1844E, h1km±1km, ML1.9/3, Error ellipse: s-maj=6.7km s-min=3.2km az=14.0*
*IPEC **28** 03:38:53.3±0.1, 5009N×1842E, h7km±1km, ML1.9/3, Error ellipse: s-maj=1.6km s-min=0.7km az=162.0*
*PRU **28** 03:38:55.0, 5003N×1834E, h0km*

ISC 28 03:38:53.5±0.5, 5006N±003×1840E±003, h0km, n26, σ1§04/46, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.14 282		*e*Pg	Pg	03 38 57.8	+1.6
RAC				*e*Sg	Sg	03 39 00.6	+2.6
OKC	Ostrava-Krasne	0.27 217		Pg	Pg	03 38 59.3	+0.5
OKC				*e*Sg	Sg	03 39 03.8	+1.5
OKC	Ostrava-Krasne	0.27 217		*e*PG	Pg	03 38 59.4	+0.6
OKC				*e*SG	Sg	03 39 02.8	+0.5
	comp=Z,62nm,0.5s						
MORC	Moravsky Berou	0.62 244		*e*Pg	Pg	03 39 05.3	-0.1
MORC				*e*Sg	Sg	03 39 14.5	+1.0
OJC	Ojcow	0.91 79		*e*Pg	Pg	03 39 10.0	-1.0
OJC				*e*Sg	Sg	03 39 22.3	-0.5
OJC	Ojcow	0.91 79		*e*Pg	Pg	03 39 09.9	-1.1
OJC				*e*Sg	Sg	03 39 22.1	-0.7
JAVC	Velka Javorina	1.29 202		*e*Pn	Pn	03 39 18.4	-0.4
DPC	Dobruska-Polom	1.37 283		Pg	Pg	03 39 19.2	-0.6
DPC				*e*Sg	Sg	03 39 36.7	-0.8
DPC	Dobruska-Polom	1.37 283		*e*PG	Pg	03 39 19.2	-0.6
DPC				*e*SG	Sg	03 39 38.0	+0.5
	comp=Z,18nm,0.3s						
NIE	Niedzica	1.39 116		*e*Pg	Pg	03 39 19.8	-0.4
NIE				*e*Sg	Sg	03 39 37.3	-1.0
VRAC	Vranov	1.39 238		*e*Pn	Pn	03 39 19.0	-1.2
VRAC				*e*Sg	Sg	03 39 37.5	-0.8
KOLL	Kolacno	1.48 180		*e*PN	Pn	03 39 21.5	+0.2
KOLL				*e*SN	Sn	03 39 40.9	-0.4
KSP	Ksiaz	1.56 301		*e*Pg	Pg	03 39 24.4	+0.9
KSP				*e*Sg	Sg	03 39 43.8	+0.1
VYHS	Vyhne	1.59 170		*e*PN	Pn	03 39 22.2	-0.7
VYHS				*e*SN	Sn	03 39 44.5	+0.4
UPC	Upice	1.60 287		Pg	Pg	03 39 24.5	+0.3
UPC				Sg	Sg	03 39 44.6	-0.3
UPC	Upice	1.60 287		*e*PG	Pg	03 39 24.1	-0.1
UPC				*e*SG	Sg	03 39 44.2	-0.7
KRUC	Moravsky	1.64 234		*e*Pn	Pn	03 39 23.1	-0.5
KRUC				*e*Sg	Sg	03 39 45.3	-1.0
STHS	Stebnicka Huta	1.95 108		*e*PN	Pn	03 39 30.4	+2.5
STHS				*e*SN	Sn	03 39 57.9	+4.9
KECS	Kecovo	2.08 138		*e*PN	Pn	03 39 31.7	+2.0
CRVS	Cervenica-Dubn	2.30 119		*e*PN	Pn	03 39 35.7	+3.0
PRU	Pruhonice	2.49 270		Pg	Pg	03 39 40.0	-1.3
PRU				Sg	Sg	03 40 12.6	-0.9
PRU	Pruhonice	2.49 270		*e*PG	Pg	03 39 39.8	-1.5
PRU				*e*SG	Sg	03 40 10.5	-3.0
	comp=Z,4.5nm,0.7s						
PVCC	Panska Ves	2.50 282		Sg	Sg	03 40 13.9	-0.1
BRG	Berggiesshubel	2.97 288		SG	Sg	03 40 28.4	-0.4
	comp=Z,3.0nm,0.4s						
KHC	Kasperske Hory	3.27 255		Sg	Sg	03 40 38.9	+0.3
KHC	Kasperske Hory	3.27 255		*e*PG	Pg	03 39 56.5	+0.3
KHC				*e*SG	Sg	03 40 37.8	-0.8
	comp=Z,3.8nm,0.3s						

*NIED **28** 03:46:00, 2360N×12590E, h20km, Mw3.7 Best double couple: M0=4.10000×10^14 NP1:φ=251.00000°, δ=68.00000°, λ=-88.00000°. NP2:φ=64.00000°, δ=22.00000°, λ=-96.00000°.*
*IDC **28** 03:46:12.3±0.9, 2348N×12591E, h0km, mb3.9/5, mb1 3.9/8, mb1mx3.7/23, mbtmp3.9/8, ML3.6/3, MS3.2/3, Ms1 3.2/3, ms1mx2.6/40, Error ellipse: s-maj=34.5km s-min=16.1km az=87.0*
*ISCJB **28** 03:46:14.7±0.5, 2354N±004×12607E±003, h33km, mb3.9/8, Error ellipse: s-maj=5.8km s-min=4.2km az=178.8*
*NEIC **28** 03:46:15.7±4.2, 2349N×12603E, h23km±33km, mb4.1/2, Error ellipse: s-maj=12.8km s-min=11.8km az=160.0*
*JMA **28** 03:46:16.2±0.3, 2358N×12590E, h89km, M3.6*

ISC 28 03:46:15.6±1.9, 2355N±004×12601E±004, h25km±16km, n31, σ1§04/42, mb3.9/8, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	1.32 336		P	Pn	03 46 39.2	+0.8
JOGS				S	Sn	03 46 57.0	+1.8
JMJ	Miyako jima 2	1.41 333		P	Pn	03 46 40.2	+0.5
JMJ				S	Sn	03 46 58.4	+0.8
JTJ	Tarama	1.61 312		P	Pn	03 46 42.3	-0.1
JTJ				S	Sn	03 47 01.2	-1.2
JIJ	Ishigaki jima	1.89 296		P	Pn	03 46 45.9	-0.3
JIJ				S	Sn	03 47 07.9	-1.3
JKRS	Kuro-shima	1.95 291		P	Pn	03 46 47.0	-0.1
JKRS				S	Sn	03 47 10.8	0.0
HATJ	Hateruma jima	2.08 284		P	Pn	03 46 48.9	0.0
HATJ				*e*S	Sn	03 47 11.9	-2.1
IRIF	Iriomote-Funau	2.22 291		P	Pn	03 46 50.7	-0.2
IRIF				S	Sn	03 47 16.9	-0.6
JKE	Kume jima 2	2.85 14		P	Pn	03 46 59.1	-0.4
YOJ	Yonaguni jima	2.89 289		P	Pn	03 47 00.3	+0.3
JAGN	Aguni-jima	3.22 20		P	Pn	03 47 04.2	-0.4
JOW	Kunigami	3.86 32		P	Pn	03 47 12.8	-0.5
JOW	Kunigami	3.86 32		Pn	Pn	03 47 12.9	-0.4
	16nm,0.3s,baz=197,slow=24,SNR=109						
JOW				LR	LR	03 49 05.7	
	comp=Z,129nm,18.6s,baz=35,slow=44						
JIH	Iheya	3.89 27		P	Pn	03 47 13.4	-0.4
JIH				*e*S	Sn	03 47 56.0	-2.7
NACB	Ninganchiao	4.09 280		*e*Pn	Pn	03 47 17.6	+1.1
YHNB	Yeheng	4.38 286		*e*Pn	Pn	03 47 21.2	+0.7
JTK	Tokunoshima	4.98 32		P	Pn	03 47 28.0	-0.8
JTK				*e*S	Sn	03 48 21.0	-4.5
JMZ	Minamidaito 2	5.25 64		P	Pn	03 47 30.1	-2.4
JMZ				S	Sn	03 48 24.2	-8.0
JAM	Amami Oshima	5.82 33		P	Pn	03 47 39.6	-0.7
JAM				*e*S	Sn	03 48 41.1	-5.1
JZK	Kikaishima	5.93 36		P	Pn	03 47 41.9	0.0
JNN	Nakanoshima	7.15 28		P	Pn	03 47 58.7	+0.1
KSRS	Korea Array	13.95 6		Pn	Pn	03 49 32.7	+1.0
	0.1nm,0.3s,baz=213,slow=27,SNR=5.2						
KSRS				LR	LR	03 55 10.4	
	comp=Z,37nm,20.3s,baz=200,slow=38						
MJAR	Matsushiro Arr	16.68 36		Pn	Pn	03 50 09.9	+2.3
	0.1nm,0.3s,baz=230,slow=8.5,SNR=2.4						
ASAJ	Asahikawa	24.62 30		P	P	03 51 35.6	+1.8
	3.9nm,0.5s,mb4.2,baz=239,slow=16,SNR=5.7						
SONM	Songino Array	28.83 332		P	P	03 52 11.9	+0.2
	0.1nm,0.3s,mb3.1,baz=38,slow=42,SNR=2.8						
FITZ	Fitzroy Crossi	41.40 181		P	P	03 53 58.3	-1.7
	1.5nm,0.9s,mb3.6,baz=9.0,slow=16,SNR=3.9						
MKAR	Makanchi Array	41.89 315		P	P	03 54 04.8	+1.0
	0.7nm,0.6s,mb3.5,baz=101,slow=10,SNR=7.3						
WRAB	Tennant Creek	43.98 169		*e*P	P	03 54 20.3	-0.6
	1.6nm,0.5s,mb4.0						
WRA	Warramunga Arr	43.99 169		P	P	03 54 21.2	+0.3
	9.0nm,0.6s,mb4.7,baz=348,slow=8.9,SNR=103						
WB2	Warramunga Arr	43.99 169		*e*P	P	03 54 21.4	+0.4
TKM2	Tokmak 2	45.64 308		*e*P	P	03 54 35.5	+1.5
	1.3nm,0.7s,mb4.0						
ASAR	Alice Springs	47.56 170		P	P	03 54 50.1	+1.0
	1.4nm,0.5s,mb4.2,baz=356,slow=13,SNR=26						

IDC 28 03:57:10.2±2.7, 1536S×17782W, h386km±38km, mb3.2/5, mb1 3.5/6, mb1mx3.3/17, mbtmp3.3/6, Error ellipse: s-maj=130.9km s-min=15.0km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.03 77		P	Pn	03 58 42.6	0.0
	3.4nm,0.3s,baz=220,slow=4.5,SNR=4.6						
STKA	Stephens Creek	40.39 239		P	P	04 04 12.0	-0.5
	3.0nm,0.9s,baz=126,slow=10.0,SNR=3.0						
WRA	Warramunga Arr	45.70 257		P	P	04 04 54.5	-0.2
	0.5nm,0.4s,baz=93,slow=6.7,SNR=36						
ASAR	Alice Springs	46.07 252		P	P	04 04 57.8	+0.3
	3.0nm,0.5s,baz=87,slow=8.5,SNR=45						
NVAR	Mina Array Bea	77.21 44		P	P	04 08 23.1	+0.4
	1.0nm,0.7s,baz=225,slow=9.3,SNR=8.8						
TXAR	Lajitas Array	84.16 58		P	P	04 08 60.0	+0.5
	0.6nm,0.7s,baz=230,slow=7.1,SNR=9.4						
ARCES	ARCESS Array B	123.92 350		PKP	PKPdf	04 15 21.3	-1.0
	1.2nm,1.0s,baz=318,slow=1.6,SNR=3.9						

*IDC **28** 04:28:15.8±0.9, 1714S×17253W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.2/21, mbtmp4.3/9, ML2.0/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/28, Error ellipse: s-maj=37.1km s-min=18.7km az=130.0*
*ISCJB **28** 04:28:19.3±0.7, 1690S±0.10×1727W±0.2, h33km, mb4.3/10, MS3.6/3, Error ellipse: s-maj=25.3km s-min=8.3km az=29.4*
*NEIC **28** 04:28:22.2±0.7, 1703S×17257W, h45km, mb4.5/2, Error ellipse: s-maj=29.7km s-min=12.4km az=127.0*

ISC 28 04:28:19.2±5.5, 1705S±01×1726W±02, h22km±39km, n23, σ1§04/16, mb4.3/10, MS3.6/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.12 15		Pn	Pn	04 29 08.1	+0.9
	8.7nm,0.3s,baz=169,slow=20,SNR=8.0						
AFI				Sn	Sn	04 29 42.1	-1.8
	14nm,0.3s,baz=307,slow=20,SNR=4.3						
AFI				LR	LR	04 29 48.0	
	comp=Z,256nm,19.3s,baz=111,slow=28						
AFI	Afiamalu	3.12 15		Pn	Pn	04 29 08.1	+0.9
AFI				Sn	Sn	04 29 42.1	-1.8
PPT	Papeete	21.99 95		*e*LR	LR	04 38 05.2	
	181nm,27.2s,baz=258						
PPT	Papeete	21.99 95		LR	LR	04 39 54.2	
	comp=Z,182nm,18.2s,MS3.5,baz=255,slow=32						
URZ	Urewera	23.07 201		P	P	04 33 22.5	-0.8
	17nm,0.5s,mb4.8,baz=7.0,slow=5.5,SNR=12						
HNR	Honiara	27.73 282		LR	LR	04 43 33.0	
	comp=Z,192nm,21.6s,MS3.6,baz=176,slow=33						
RKT	Rikitea	35.80 106		*e*LR	LR	04 44 20.7	
	148nm,26.0s						
CTA	Charters Tower	39.08 259		P	P	04 35 44.0	-1.0
	7.8nm,0.7s,mb4.6,baz=41,slow=9.8,SNR=4.6						
HPO	Honuapo	39.54 26		*e*P	P	04 35 48.5	-0.2
WB2	Warramunga Arr	50.25 258		*e*P	P	04 37 13.9	-0.3
WRA	Warramunga Arr	50.26 258		P	P	04 37 13.8	-0.4
	2.9nm,0.5s,mb4.6,baz=97,slow=6.7,SNR=133						
ASAR	Alice Springs	50.39 253		P	P	04 37 15.1	-0.1
	26nm,0.8s,mb5.3,baz=89,slow=8.8,SNR=195						
FITZ	Fitzroy Crossi	58.66 259		*e*P	P	04 38 16.9	+1.5
	4.8nm,1.6s,mb4.3						
PETK	Petropavlovsk-	74.33 342		P	P	04 39 57.5	+2.8
	3.0nm,0.9s,mb4.2,baz=119,slow=12,SNR=4.1						
YBH	Yreka Blue Hor	74.37 36		LR	LR	05 04 34.4	
	comp=Z,38nm,19.9s,MS3.7,baz=76,slow=29						
NVAR	Mina Array Bea	74.97 41		P	P	04 39 58.3	-0.5
	0.3nm,0.6s,mb3.4,baz=232,slow=12,SNR=3.6						
PDAR	Pinedale Array	82.90 41		P	P	04 40 43.2	+1.0
	0.3nm,0.7s,mb3.4,baz=229,slow=3.5,SNR=3.6						
COLA	College	83.74 10		*e*P	P	04 40 46.8	+0.8
	6.1nm,0.9s,mb4.7						
MAW	Mawson	86.58 198		P	P	04 40 59.6	-0.9
	0.8nm,0.6s,mb4.2,baz=152,slow=5.3,SNR=4.0						
ARCES	ARCESS Array B	126.24 352		PKP	PKPdf	04 47 20.9	+1.5
	1.2nm,0.9s,baz=22,slow=1.3,SNR=3.5						
CLL	Collm	145.44 354		*e*PKPbc	PKPbc	04 47 57.0	+1.6
GERES	GERESS Array B	147.78 352		PKPbc	PKPbc	04 48 04.1	+1.8
	0.9nm,0.6s,baz=40,slow=2.3,SNR=8.5						
TORD	Torodi Ar. Bea	173.31 124		PKP	PKPdf	04 48 26.0	-1.8
	0.4nm,0.8s,baz=126,slow=1.1,SNR=3.4						

*ISCJB **28** 04:35:34.9±0.5, 3836N±002×2355E±003, h9km±3km, mb3.9/13, MS3.2/2, Error ellipse: s-maj=3.7km s-min=2.4km az=155.1*
*CSEM **28** 04:35:35.9±0.1, 3837N×2358E, h10km, mb4.3/3, Error ellipse: s-maj=1.4km s-min=1.0km az=62.0*
*ATH **28** 04:35:35.7, 3836N×2356E, h22km±1km, MD3.9/21*
*NEIC **28** 04:35:36.0, 3836N×2353E, h5km, mb4.2/3, MD3.9(ATH), ML4.4(THE), After THE.*
*THE **28** 04:35:36.0, 3836N×2353E, h4km, ML4.4*
*HLW **28** 04:35:37.8, 3721N×2122E, h33km, Mb3.4*
*IDC **28** 04:35:41.4±1.9, 3825N×2358E, h50km±23km, mb3.6/9, mb1 3.7/14, mb1mx3.6/29, mbtmp3.6/14, ML3.6/4, MS3.2/3, Ms1 3.3/3, ms1mx2.5/32, Error ellipse: s-maj=17.2km s-min=11.0km az=36.0*

ISC 28 04:35:35.6±0.5, 3836N±002×2359E±003, h1km±3km, n137, σ1§16/157, mb3.9/13, MS3.2/2, 12C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	Penteli	0.38 145		*e*PB	Pg	04 35 44.0	+1.1
ATH	Athens Observa	0.40 165		*e*PB	Pg	04 35 44.5	+1.2
ATH				*e*SB	Sg	04 35 50.1	+1.6
LKR	Lokris	0.54 302		*e*Pg	Pg	04 35 45.6	-0.3
LKR				*e*Sg	Sg	04 35 53.5	+0.5
LKR	Lokris	0.54 302		*e*Pn	Pg	04 35 46.1	+0.1
LKR				*e*Sg	Sg	04 35 53.5	+0.5
LKR				*e*Sn	Sg	04 35 54.2	+1.2
KVR	Kavouri	0.55 165		*e*PN	Pg	04 35 47.0	+0.8
LTK	Loutraki	0.59 235		*e*Pg	Pg	04 35 46.5	-0.5
LTK				*e*Sg	Sg	04 35 55.2	+0.6
LTK	Loutraki	0.59 235		*e*Pg	Pg	04 35 46.5	-0.4
LTK				*e*Sg	Sg	04 35 55.2	+0.6
NAIG	Nisos Aigina	0.61 187		*e*PB	Pg	04 35 47.5	+0.3
AOS	Alonnisos	0.84 16		*e*Pg	Pg	04 35 52.2	+0.6
AOS	Alonnisos	0.84 16		*e*Pg	Pg	04 35 52.2	+0.5
DID	Didima	0.90 198		*e*Pg	Pg	04 35 52.5	-0.3
DID				*e*Sg	Sg	04 36 05.5	+1.1
NEO	Neokhori	0.98 343	↑	*e*PN	Pn	04 35 54.3	-2.2
NEO				*e*SN	Sn	04 36 08.3	-2.7
XOR	Xorichti	1.05 343		*e*Pg	Pg	04 35 55.6	0.0
AGG	Agios Georgios	1.18 304		*e*Pg	Pn	04 35 57.0	-2.2
AGG				*e*Sg	Sn	04 36 13.4	-2.6
VLX	Vlachokerasia	1.38 224		*e*Pg	Pg	04 36 00.5	-1.5
EVR	Evrytania	1.50 292		*e*PN	Pg	04 36 03.3	-1.0
EVR				*e*SN	Sg	04 36 22.5	-1.2
PAIG	Paliouri	1.56 3		*e*Pg	Pn	04 36 03.1	-1.3
PAIG				*e*Sg	Sn	04 36 25.1	-0.3
RLS	Riolos of Patr	1.70 260		*e*PN	Pn	04 36 06.3	0.0
THL	Klokotos Trika	1.71 315		*e*Pb	Pb	04 36 05.3	-2.6
THL	Klokotos Trika	1.71 315	↑	*i*Pn	Pn	04 36 05.9	-0.6
VLI	Veliai	1.72 198	↑	*i*PN	Pn	04 36 06.0	-0.6
VLI	Veliai	1.72 198	↑	*i*Pb	Pb	04 36 05.0	-2.9
ITM	Ithomi	1.77 229	↑	*i*PN	Pn	04 36 07.3	+0.1
LIT	Litokhoron	1.93 334		*e*Pb	Pn	04 36 08.1	-1.5
CHOS	Chios island	1.94 89		*e*Pn	Pn	04 36 09.7	+0.1
OUR	Ouranopolis	1.99 9		*e*Pn	Pn	04 36 09.9	-0.5
APE	Apeiranthos	2.01 129		*e*Pn	Pn	04 36 10.6	0.0
APE	Apeiranthos	2.01 129	↓	*i*PB	Pb	04 36 10.6	-2.3
PLG	Polygyros	2.01 357		*e*Pn	Pn	04 36 09.4	-1.2
PLG	Polygyros	2.01 357	↑	*i*Pn	Pn	04 36 10.0	-0.6
KYTH	Kithira	2.12 192		*e*PB	Pb	04 36 11.5	-3.3
HORT	Hortiatis	2.26 351		*e*Pn	Pn	04 36 13.7	-0.3
PRK	Paraskevi	2.28 66		*e*PB	Pb	04 36 15.1	-2.3
THE	Thessaloniki	2.32 348		*e*Pn	Pn	04 36 14.2	-0.6
VLS	Valsamata	2.37 266		*e*PB	Pb	04 36 16.0	-2.9
VLS	Valsamata	2.37 266		*e*Pb	Pb	04 36 16.7	-2.2
KZN	Kozani	2.40 325		*e*PB	Pb	04 36 16.5	-3.0
SOH	Sokhos	2.46 356		*e*Pn	Pn	04 36 16.8	0.0
THR6	Thira Island,	2.47 144		*e*Pn	Pn	04 36 15.4	-1.4
THR6	Thira Island,	2.47 144		*e*Pn	Pn	04 36 15.4	-1.5
SANT	Santorini	2.49 143		*e*Pn	Pn	04 36 17.6	+0.5
SANT	Santorini	2.49 143		*e*Pn	Pn	04 36 17.6	+0.5
JAN	Janina	2.49 302		P	Pg	04 36 23.4	+0.1
GRG	Griva	2.75 341		*e*Pn	Pn	04 36 20.2	-0.5
IGT	Igoumenitsa	2.79 296		*e*Pn	Pn	04 36 20.0	-1.3
KNT	Kendrikon	2.85 349		*e*Pn	Pn	04 36 21.9	-0.2
KARN	Karanos	2.97 175		*e*Pn	Pn	04 36 23.6	-0.1
KARN	Karanos	2.97 175		*e*Pn	Pn	04 36 23.6	-0.1
VAM	Vamos	2.99 170		*e*PN	Pn	04 36 24.5	+0.4
NVR	Nevrokopi	2.99 4		*e*PN	Pn	04 36 23.5	-0.6
VAY	Valandovo	3.06 346		*e*Pn	Pn	04 36 24.9	-0.1
VAY				*e*Sn	Sg	04 37 07.0	-6.8
VAY	Valandovo	3.06 346		*e*Pn	Pn	04 36 24.3	-0.7
RDO	Rodhopi	3.16 28		*e*PN	Pn	04 36 25.9	-0.5
ALN	Alexandroupoli	3.17 36		*e*Pn	Pn	04 36 25.7	-0.8
BIA	Bitola	3.18 327		*e*Pn	Pn	04 36 28.7	+2.1
BIA				*e*Sn	Sn	04 37 12.7	+7.6
BIA	Bitola	3.18 327		*e*Pn	Pn	04 36 26.4	-0.2
IDI	Anoyia	3.24 161		P	Pn	04 36 28.3	+0.8
	5.9nm,0.3s,baz=311,slow=14,SNR=30						
IDI				S	Sn	04 37 05.2	-1.6
	12nm,0.3s,baz=290,slow=21,SNR=13						
SIVA	Sivas	3.48 163		*e*Pn	Pn	04 36 31.5	+0.7
OHR	Ohrid	3.49 323		*e*Pn	Pn	04 36 33.8	+2.9
OHR				*e*Sn	Sn	04 37 14.8	+2.1
OHR	Ohrid	3.49 323		*e*Pn	Pn	04 36 33.7	+2.8
OHR				*e*Sn	Sn	04 37 14.8	+2.1
STIP	Stip	3.50 343		*e*Pn	Pn	04 36 30.9	-0.1
STIP	Stip	3.50 343		*e*Pn	Pn	04 36 30.4	-0.7
KRUS	Krusevo	3.50 330		*e*Pn	Pn	04 36 32.1	+1.0
KRUS				*e*Sn	Sn	04 37 14.2	+1.1
KRUS	Krusevo	3.50 330		*e*Pn	Pn	04 36 32.0	+0.9
KRUS				*e*Sn	Sn	04 37 14.1	+1.0
GVD	Gavdhos	3.54 173		*e*PN	Pn	04 36 32.5	+0.9
GVD	Gavdhos	3.54 173		*e*Pn	Pn	04 36 33.5	+1.9
PLD	Plovdiv	3.83 13		*e*Pn	Pn	04 36 36.5	+0.8
VTS	Vitosha	4.23 356	↑	*i*P	Pn	04 36 42.8	+1.6
BARS	Barje	4.65 344	↑	*i*Pn	Pn	04 36 47.2	+0.4
SG1	Sgolgore (BA)	5.88 297		*i*Pn	Pn	04 37 03.8	0.0
GRUS	Gruza	5.93 339	↑	*i*Pn	Pn	04 37 06.8	+2.4
SOI	Samo	5.94 270		Pn	Pn	04 37 05.1	+0.5
	9.0nm,0.2s						
CEL	Celeste	6.05 271		*e*Pn	Pn	04 37 05.3	-0.8
	17nm,0.5s						
CEL	Celeste	6.05 271		*e*Pn	Pn	04 37 05.3	-0.8
	17nm,0.5s						
CUC	Castrocucco	6.25 288		P	Pn	04 37 12.3	+3.4
DIVS	Divibare	6.34 336	↑	*i*Pn	Pn	04 37 10.6	+0.6
FGMS	Monte Sant'Ang	6.74 302		Pn	Pn	04 37 15.5	-0.1
MS1	Monte Sant'Ang	6.75 302		*e*Pn	Pn	04 37 15.9	+0.2
SGO	Sicignano	6.77 292		Pn	Pn	04 37 17.2	+1.2
	22nm,0.4s						
RGNG	Rignano Grg	6.97 301		Pn	Pn	04 37 18.6	-0.2
VAE	Valguarnera	7.30 266		P	Pn	04 37 27.1	+3.8
	1.9nm,0.3s,baz=162,slow=3.2,SNR=2.9						
VAE				S	Sn	04 38 49.1	+2.2
	5.9nm,0.3s,baz=136,slow=6.3,SNR=5.3						
MLR	Muntele Rosu	7.34 13	↑	*i*P	Pn	04 37 24.9	+1.2
SGG	Gregorio Mates	7.70 296		Pn	Pn	04 37 32.1	+3.4
	30nm,0.5s						
HMAT	Matruh	7.80 157	↓	*i*P	Pn	04 37 29.7	-0.5
VRI	Vrincioaia	7.85 16	↓	*i*P	Pn	04 37 33.3	+2.5
SDI	San Donato	8.21 297		Pn	Pn	04 37 40.1	+4.4
	8.0nm,0.4s						
PKSM	Moragy	8.65 337	↓	*i*P	Pn	04 37 43.7	+1.9
BURAR	Bucovina Array	9.32 7	↑	*i*P	Pn	04 37 53.2	+2.2
BOJS	Bojanci	9.46 322		*i*Pn	Pn	04 37 54.4	+1.6
BOJS				*i*Sn	Sn	04 39 39.5	-0.2
VISS	Visnje	9.87 322		*i*Pn	Pn	04 37 58.0	-0.4
VISS				*i*Sn	Sn	04 39 50.7	+0.9
VISS	Visnje	9.87 322		*i*Pn	Pn	04 37 58.0	-0.5
JAVS	Javornik	10.32 320		*i*Pn	Pn	04 38 05.6	+0.9
JAVS				*i*Sn	Sn	04 40 00.6	-0.3
PERS	Pernice	10.36 326		*i*Pn	Pn	04 38 04.7	-0.5
MMAI	Mount Meron Ar	10.99 115		P	Pn	04 38 13.9	0.0
	1.8nm,0.3s,baz=304,slow=14,SNR=2.8						
KEST	Kesra	11.68 261		P	Pn	04 38 24.4	+1.1
	0.1nm,0.3s,baz=135,slow=2.8,SNR=3.5						
HFRF	Wahat Farafira	11.87 159	↓	*i*P	Pn	04 38 24.1	-1.8
HFRF				S	Sn	04 40 25.0	-14
HFRF	Wahat Farafira	11.87 159		P	Pn	04 38 24.0	-1.9
HFRF				S	Sn	04 40 25.0	-14
GERES	GERESS Array B	12.68 329		P	Pn	04 38 42.1	+5.2
	baz=157,slow=13,SNR=3.8						
KHC	Kasperske Hory

*ISCJB **28** 04:44:45.9±0.4,3954N±002×3856E±004, h10km, Error ellipse: s-maj=4.3km s-min=3.3km az=23.8*
*CSEM **28** 04:44:45.1±0.1,3953N×3854E, h8km, MD3.3, Error ellipse: s-maj=1.9km s-min=1.6km az=46.0*

ISC 28 04:44:46.6±0.7,3954N±003×3856E±004, h13km±5km, n26, σ0§94/39, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	Darende-Malaty	0.83	225	ePN	Pn	04 45 09.5	+5.6
PTK	Pertek	0.91	135	ePG	Pn	04 45 03.5	-1.6
PTK				eSG	Sn	04 45 17.4	-0.7
EZC	Erzincan	0.99	77	ePG	Pg	04 44 58.5	-7.2
EZC				eSG	Sg	04 45 09.0	-10
ELZG	Elazig	1.09	162	⇓iP	Pn	04 45 06.6	-0.9
ELZG				i S	Sn	04 45 22.3	-0.1
GUMT	Gumushane	1.16	37	ePN	Pn	04 45 07.6	-0.9
GUMT				eSN	Sn	04 45 25.3	+1.1
MYA	Malataya	1.22	185	ePN	Pn	04 45 08.1	-1.2
MYA				eSN	Sn	04 45 26.3	+0.7
MALT	Malatya	1.23	185	ePN	Pn	04 45 08.7	-0.7
SVSK	Karacayir	1.26	288	ePN	Pn	04 45 09.2	-0.8
RSDY	Resadiye-TOKAT	1.28	312	ePN	Pn	04 45 09.3	-0.8
RSDY	Resadiye-TOKAT	1.28	312	ePn	Pn	04 45 09.3	-0.8
SVRC	Sivrice-ELAZID	1.30	153	ePN	Pn	04 45 10.5	+0.2
AKCD	Akcadag	1.34	202	eP	Pn	04 45 11.1	+0.2
AKCD				i S	Sb	04 45 30.6	+2.0
AKCD	Akcadag	1.34	202	eP	Pn	04 45 11.1	+0.2
AKCD				i S	Sb	04 45 30.5	+2.0
ESPY	Espiye-Giresun	1.38	5	ePN	Pn	04 45 11.8	+0.2
GRSN	GIRESUNGRSN	1.40	351	i P	Pn	04 45 12.2	+0.4
GRSN				eS	Sn	04 45 30.6	+0.4
KOPT	Kop Dagi	1.57	72	⇓iP	Pg	04 45 17.0	+0.3
KOPT				i S	Sg	04 45 39.2	+2.1
MACK	Trabzon	1.68	33	eP	Pg	04 45 17.4	-1.4
MACK				eS	Sg	04 45 41.0	+0.4
MACK	Trabzon	1.68	33	eP	Pg	04 45 17.5	-1.4
MACK				eS	Sg	04 45 41.0	+0.3
SARI	SarD1z-Kayseri	1.69	240	ePN	Pg	04 45 20.5	+1.5
TOKT	Tokat	1.74	297	ePN	Pn	04 45 16.3	-0.2
URFA	Urfa	2.10	174	ePN	Pn	04 45 22.1	+0.7
EZM	Erzurum	2.19	80	ePN	Pn	04 45 23.7	+1.1
ERZM	Erzurum	2.19	80	eP	Pg	04 45 27.3	-1.4
ERZM				eS	Sg	04 46 02.3	+5.2
BNN	Bunyan	2.22	253	ePN	Pn	04 45 23.3	+0.2
YOZ	Yozgat	2.51	273	ePN	Pn	04 45 27.4	+0.3
CDAG	Cicekdag	3.24	273	eP	Pg	04 45 44.3	-4.3
CDAG				eS	Sg	04 46 30.2	-0.4

IDC 28 04:49:57.3±2.4, 1761S×17781W, h0km, mb4.0/5, mb1 4.4/5, mb1mx4.0/16, mbtmp4.0/5, Error ellipse: s-maj=209.2km s-min=23.4km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.25	259	P	P	04 58 16.6	-0.2
	1.4nm,0.5s,baz=96,slow=7.1,SNR=68						
ASAR	Alice Springs	45.42	254	P	P	04 58 18.2	+0.1
	5.3nm,0.5s,baz=87,slow=8.9,SNR=63						
NVAR	Mina Array Bea	78.82	44	P	P	05 02 03.5	+1.3
	0.5nm,0.7s,baz=232,slow=5.8,SNR=3.7						
TXAR	Lajitas Array	85.36	57	P	P	05 02 37.2	+0.5
	0.5nm,0.7s,baz=220,slow=5.8,SNR=7.7						
PDAR	Pinedale Array	86.75	43	P	P	05 02 42.1	-1.1
	0.4nm,0.6s,baz=239,slow=4.8,SNR=4.2						

MAN 28 05:30:35,982N×12258E, h63km, mb3.9, ML2.7, MS2.3, 4D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.80	126	i P	Pn	05 30 53.0	+2.4
SNPH				i S	Sn	05 31 05.5	+3.3
GUIM	Jordan	0.81	1	eP	Pn	05 30 53.3	+2.6
GUIM				eS	Sn	05 31 06.2	+3.9
TBP	Tagbilaran	1.27	96	⇓eP	Pn	05 30 58.3	+1.6
LLP	Lapu-Lapu	1.45	70	⇓iP	Pn	05 31 00.7	+1.6
LLP				i S	Sn	05 31 18.4	+1.1
RCP	Roxas	1.74	5	⇓eP	Pn	05 31 05.5	+2.5
RCP				i S	Sn	05 31 27.4	+3.1
CUYO	Cuyo Island	1.85	304	eP	Pn	05 31 06.5	+2.0
CUYO				eS	Sn	05 31 28.2	+1.4
IPIL	Ipil	2.02	180	⇓iP	Pn	05 31 07.5	+0.7
IPIL				i S	Sn	05 31 29.7	-1.2
PAGZ	Pagadian	2.11	158	eP	Pn	05 31 10.1	+2.0
PAGZ				eS	Sn	05 31 35.7	+2.5
MSLP	Maasin	2.27	82	eP	Pn	05 31 12.2	+2.1
MSLP				eS	Sn	05 31 39.5	+2.5
OTRP	Odiongan	2.59	348	eP	Pn	05 31 16.6	+2.0
OTRP				eS	Sn	05 31 47.2	+2.3
SJMP	San Jose	2.99	332	eP	Pn	05 31 22.1	+2.1
SJMP				eS	Sn	05 31 57.4	+2.6
BUKP	Musuan	3.12	128	eP	Pn	05 31 24.5	+2.7
ENPP	El Nido	3.40	294	eP	Pn	05 31 27.3	+1.7

*IDC **28** 05:43:52.0±1.5,3017S×17877E, h0km, mb4.0/3, mb1 4.2/4, mb1mx4.0/14, mbtmp4.0/4, ML4.3/2, Error ellipse: s-maj=46.0km s-min=22.7km az=168.0*
*ISCJB **28** 05:43:56.1±3.7,306S±02×1789E±03, h59km±56km, mb4.0/4, Error ellipse: s-maj=51.8km s-min=10.6km az=29.3*

ISC 28 05:43:57.8±3.6,305S±02×1789E±04, h60km±62km, n8, σ1§00/10, mb4.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.00	67	Pn	Pn	05 44 41.9	-1.0
	215nm,0.3s,baz=273,slow=23,SNR=5.9						
RAO				Sn	Sn	05 45 18.4	+0.7
	157nm,0.3s,baz=73,slow=19,SNR=2.6						
URZ	Urewera	7.90	190	Pn	Pn	05 45 50.5	+0.5
	0.6nm,0.3s,baz=194,slow=4.2,SNR=8.7						
URZ				Sn	Sn	05 47 17.6	-0.3
	12nm,0.3s,baz=76,slow=23,SNR=14						
STKA	Stephens Creek	31.87	258	eP	P	05 50 19.7	+2.5
	2.7nm,0.4s,mb4.4						
STKA	Stephens Creek	31.87	258	P	P	05 50 19.8	+2.5
	4.5nm,0.6s,mb4.5,baz=106,slow=11,SNR=12						
ASAR	Alice Springs	40.45	268	P	P	05 51 30.6	+0.1
	0.5nm,0.5s,mb3.5,baz=103,slow=7.3,SNR=9.7						
WB2	Warramunga Arr	41.44	274	eP	P	05 51 38.4	-0.3
WRA	Warramunga Arr	41.45	274	P	P	05 51 39.0	+0.2
	1.1nm,0.6s,mb3.7,baz=111,slow=8.0,SNR=29						
FORT	Forrest	43.45	256	eP	P	05 51 53.4	-1.6
	4.4nm,0.4s,mb4.5						

*ISCJB **28** 06:47:41.2±0.3, 1734N±004×9494W±003, h133km±3km, mb4.2/14, Error ellipse: s-maj=6.4km s-min=4.0km az=11.7*
*NEIC **28** 06:47:42.8, 1732N×9499W, h140km, mb4.2/17, MD4.5(MEX), After MEX.*
*IDC **28** 06:47:42.7±0.5, 1734N×9480W, h122km±4km, mb3.7/7, mb1 4.0/9, mb1mx3.6/25, mbtmp3.7/9, MS3.0/2, Ms1 3.1/2, ms1mx2.5/38, Error ellipse: s-maj=16.2km s-min=11.2km az=68.0*
*MEX **28** 06:47:42.8±1.5, 1732N×9499W, h140km±17km, MD4.5*

ISC 28 06:47:42.4±0.3, 1735N±004×9494W±003, h127km±3km, h135km±3.3km: pP-P, n53, σ1§37/71, mb4.1/14, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.26	169	P	Pn	06 48 00.2	+0.3
	1μm,0.3s,baz=333,slow=3.8						
CMIG				S	Sn	06 48 13.8	+0.6
	3μm,0.3s,baz=12,slow=20,SNR=376						
TUIG	Tuzandepetl	0.84	36	i P	Pn	06 48 04.3	+0.8
TUIG				i S	Sn	06 48 21.3	+1.7
VHO	Vista Hermosa	1.74	261	i P	Pn	06 48 13.6	+0.6
VHO				i S	Sn	06 48 35.4	-1.0
HUIG	Huatulco	1.93	216	eP	Pn	06 48 13.9	-1.4
HUIG				i S	Sn	06 48 39.5	-1.0
TPIG	Tehuac#an	2.54	295	eP	Pn	06 48 23.3	+0.3
TPIG				i S	Sn	06 48 52.8	-1.4
LVIG	Laguna Verde	2.75	330	i P	Pn	06 48 24.0	-1.6
CCIG	Comitan	2.88	111	eP	Pn	06 48 29.0	+1.6
CCIG				i S	Sn	06 49 02.9	+0.9
PNIG	Pinotepa	3.20	253	i P	Pn	06 48 29.3	-2.2
PNIG				i S	Sn	06 49 08.4	-1.0
THIG		3.53	133	i P	Pn	06 48 37.0	+1.1
THIG				i S	Sn	06 49 16.9	-0.4
PPM	Popocatepetl	3.90	297	i P	Pn	06 48 42.8	+2.0
PPM				i S	Sn	06 49 28.2	+2.2
SCIG	Sabancuy	3.92	65	i P	Pn	06 48 40.8	-0.1
SCIG				i S	Sn	06 49 24.1	-2.2
YAIG	Yautepec	4.21	292	i P	Pn	06 48 45.6	+0.8
YAIG				i S	Sn	06 49 30.9	-2.3
PLIG	Platanillo	4.47	284	eP	Pn	06 48 48.7	+0.4
PLIG				i S	Sn	06 49 34.4	-5.1
UNM	Universidad Na	4.48	297	i P	Pn	06 48 51.0	+2.5
UNM				i S	Sn	06 49 40.5	+0.6
MEIG	Mezcala	4.50	278	i P	Pn	06 48 48.6	-0.2
MEIG				i S	Sn	06 49 36.8	-3.5
DEIG	Demacu	4.87	308	eP	Pn	06 48 54.7	+1.1
CAIG	El Cayaco	5.10	267	i P	Pn	06 48 55.3	-1.5
CAIG				i S	Sn	06 49 49.8	-4.9
ZIIG	Zihuatanejo	6.24	273	i P	Pn	06 49 11.5	-0.6
ZIIG				i S	Sn	06 50 17.8	-4.3
TEIG	Tepich	6.93	65	P	Pn	06 49 20.0	-1.4
	22nm,0.3s,baz=265,slow=3.7,SNR=168						
TEIG				S	Sn	06 50 36.1	-2.7
	22nm,0.3s,baz=150,slow=23,SNR=10						
TEIG	Tepich	6.93	65	P	Pn	06 49 20.0	-1.4
TEIG				S	Sn	06 50 36.1	-2.7
TGUH	Tegucigalpa,Un	8.07	113	ePn	Pn	06 49 39.4	+2.5
	17nm,0.7s						
JCT	Junction City	13.81	342	ePn	Pn	06 50 53.2	+0.5
	4.1nm,0.4s						
TXAR	Lajitas Array	14.37	328	P	Pn	06 51 01.6	+1.8
	0.1nm,0.3s,baz=149,slow=12,SNR=13						
MIAR	Mount Ida	17.17	4	eP	Pn	06 51 34.1	-0.4
	7.4nm,0.7s						
MIAR				eS	S	06 54 49.8	+4.0
UALR	University of	17.51	7	eP	Pn	06 51 38.5	-0.1
	9.9nm,0.8s						
WMOK	Wichita Mounta	17.66	350	eP	Pn	06 51 41.4	+1.0
	6.9nm,0.6s						
WMOK				eS	S	06 54 59.7	+3.4
PLAL	Pickwick Lake	18.60	18	eP	P	06 51 48.2	-1.6
	2.5nm,0.5s						
SWET	Sewanee	19.52	23	eP	P	06 51 58.5	-1.4
BNM	Barren Site	19.74	330	eP	P	06 52 04.3	+2.0
CPCT	Cooper Cave	20.27	25	eP	P	06 52 06.6	-1.4
ANMO	Albuquerque	20.32	332	P	P	06 52 09.2	+0.7
	1.9nm,0.8s,baz=148,slow=12,SNR=9.7						
ANMO				pP		06 52 33.3	
	1.4nm,0.5s,baz=136,slow=12,SNR=4.3						
COW	Cow Castle Cre	20.47	36	eP	P	06 52 08.7	-1.4
NHSC	New Hope	20.57	37	eP	P	06 52 08.0	-3.1
	38nm,0.9s						
TUC	Tucson	20.67	319	eP	P	06 52 14.0	+1.8
	5.2nm,0.9s						
TKL	Tuckaleechee C	20.76	26	P	P	06 52 12.4	-0.8
	4.9nm,0.5s,baz=191,slow=12,SNR=15						
TKL				LR	LR	07 00 02.6	
	comp=Z,27nm,22.0s,baz=226,slow=36						
TZTN	Tazewell	21.61	26	eP	P	06 52 21.4	-0.9
	4.1nm,0.5s,mb4.0						
WCI	Wyandotte Cave	22.14	18	eP	P	06 52 25.9	-1.8
	16nm,0.9s,mb4.4						
MVCO	Mesa Verde	23.12	332	eP	P	06 52 38.6	+1.4
	2.6nm,0.8s,mb3.6						
WUAZ	Wupatki	23.27	324	eP	P	06 52 40.5	+1.9
	9.9nm,1.0s,mb4.1						
BLA	Blacksburg	23.57	30	eP	P	06 52 39.4	-1.9
	21nm,1.0s,mb4.4						
SCIA	State Center	24.52	3	eP	P	06 52 49.5	-0.5
	13nm,0.7s,mb4.5						
JFWS	Jewell Farm	25.80	8	eP	P	06 53 00.6	-0.9
	9.7nm,0.6s,mb4.4						
SNOW	Snow King Moun	29.28	336	eP	P	06 53 34.0	+1.4
	2.1nm,0.7s,mb3.9						
SNOW				ePP	pP	06 54 03.6	+3.7
NVAR	Mina Array Bea	29.30	320	P	P	06 53 35.0	+2.2
	2.0nm,0.7s,mb3.9,baz=133,slow=8.8,SNR=22						
NVAR				pP	pP	06 54 03.0	+2.8
	3.3nm,1.0s,baz=137,slow=9.1,SNR=8.1						
BMW	Boistfort Moun	37.31	327	eP	P	06 54 41.8	-0.4
LPAZ	La Paz	42.60	140	P	P	06 55 27.8	+1.6
	1.0nm,0.5s,mb3.8,baz=342,slow=6.5,SNR=7.8						
LPAZ				LR	LR	07 13 08.4	
	comp=Z,29nm,19.1s,baz=160,slow=36						
SIV	San Ignacio	47.03	133	P	P	06 56 01.6	+0.3
	1.4nm,0.5s,mb4.0,baz=313,slow=8.2,SNR=11						
SIV				pP	pP	06 56 30.5	+0.1
	0.7nm,0.6s,baz=322,slow=8.7,SNR=2.8						
YKA	Yellowknife Ar	47.15	348	P	P	06 56 01.1	-0.5
	1.0nm,0.6s,mb3.8,baz=154,slow=7.3,SNR=6.6						
YKA				pP	pP	06 56 32.6	+1.8
	1.2nm,0.7s,baz=154,slow=7.6,SNR=5.2						
YKA	Yellowknife Ar	47.15	348	P	P	06 56 01.1	-0.5
YKA				pP	pP	06 56 32.6	+1.9
PMR	Palmer	58.16	333	eP	P	06 57 21.8	-0.8
	4.7nm,0.5s,mb4.8						
PLCA	Paso Flores	62.07	159	P	P	06 57 49.9	+0.4
	5.3nm,0.9s,mb4.6,baz=313,slow=5.3,SNR=6.4						
WRA	Warramunga Arr	133.37	259	PKP	PKPdf	07 06 43.5	-0.7
	0.3nm,0.9s,baz=58,slow=1.3,SNR=12						
ASAR	Alice Springs	134.00	254	PKP	PKPdf	07 06 47.2	+1.8
	0.3nm,0.8s,baz=78,slow=1.9,SNR=3.9						

*NEIC **28** 06:58:12.2±0.5, 758N×9390E, h30km, mb4.5/5, Error ellipse: s-maj=18.8km s-min=8.1km az=61.0*
*ISCJB **28** 06:58:16.1±2.2, 773N±009×942E±02, h82km±21km, mb4.0/18, Error ellipse: s-maj=27.9km s-min=9.1km az=152.1*
*IDC **28** 06:58:16.7±3.4, 768N×9416E, h68km±30km, mb3.7/14, mb1 3.9/16, mb1mx3.8/25, mbtmp3.8/16, ML4.0/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/33, Error ellipse: s-maj=28.0km s-min=12.5km az=62.0*

ISC 28 06:58:17.7±1.8, 773N±009×942E±02, h81km±17km, n31, σ0§79/27, mb4.0/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.82	136	P	Pn	06 59 55.4	+0.3
	3.1nm,0.3s,baz=306,slow=8.5,SNR=11						
PSI				LR	LR	07 02 51.0	
	comp=Z,169nm,20.5s,baz=288,slow=40						
CMAR	Chiang Mai Arr	11.64	23	P	Pn	07 01 01.6	+0.7
	baz=212,slow=16,SNR=5.8						
ODAN	Odare	20.09	342	eP	P	07 02 45.1	+0.3
RAMN	Ramite	20.42	340	eP	P	07 02 48.4	0.0
	39nm,0.6s						
TAPN	Taplejung	20.45	343	eP	P	07 02 49.1	+0.4
	32nm,0.8s						
PKI	Pulchoki	21.41	338	eP	P	07 02 58.2	-0.8
	11nm,0.8s,mb4.2						
PKIN	Phulchoki	21.42	338	eP	P	07 02 58.2	-0.9
	11nm,0.8s,mb4.2						
KOLN	Koldanda	22.30	335	eP	P	07 03 07.2	-1.3
	11nm,0.6s,mb4.4						
DANN	Dangsing	22.74	336	eP	P	07 03 11.5	-1.6
AML	Almayashu	38.75	335	eP	P	07 05 34.2	+0.2
	4.5nm,0.8s,mb4.3						
MKAR	Makanchi Array	40.23	347	P	P	07 05 47.7	+1.3
	0.4nm,0.5s,mb3.5,baz=163,slow=7.3,SNR=3.4						
FITZ	Fitzroy Crossi	40.30	130	P	P	07 05 46.3	-1.0
	0.5nm,0.4s,mb3.7,baz=320,slow=16,SNR=5.7						
SONM	Songino Array	41.30	12	P	P	07 05 55.4	+0.3
	0.8nm,0.5s,mb3.8,baz=199,slow=8.1,SNR=4.4						
NWAO	Narrogin (SRO)	46.01	153	P	P	07 06 33.5	+0.5
	20nm,1.2s,mb4.7,baz=271,slow=7.7,SNR=5.8						
ZALV	Zalesovo Beam	46.70	352	P	P	07 06 38.0	-0.2
	1.6nm,0.3s,mb4.2,baz=157,slow=8.0,SNR=5.7						
WRA	Warramunga Arr	48.16	125	P	P	07 06 49.6	-0.4
	1.8nm,0.5s,mb4.2,baz=305,slow=8.7,SNR=101						
WRA				PcP	PcP	07 08 17.5	+1.0
	0.6nm,0.5s,baz=312,slow=2.9,SNR=5.9						
WRA	Warramunga Arr	48.16	125	P	P	07 06 49.6	-0.4
WRA				PcP	PcP	07 08 17.5	+1.0
WB2	Warramunga Arr	48.17	125	eP	P	07 06 49.7	-0.5
BVAR	Borovoye Array	49.13	341	P	P	07 06 59.5	+2.5
	0.4nm,0.5s,mb3.6,baz=132,slow=8.0,SNR=2.3						
ASAR	Alice Springs	49.81	130	P	P	07 07 02.4	-0.2
	1.8nm,0.5s,mb4.2,baz=305,slow=7.3,SNR=32						
ASAR				PcP	PcP	07 08 23.4	+1.0
	0.7nm,0.6s,baz=309,slow=3.7,SNR=4.8						
ARCES	ARCESS Array B	75.41	340	P	P	07 09 52.4	+0.1
	0.5nm,0.5s,mb3.5,baz=100,slow=5.1,SNR=8.2						
ARCES				LR	LR	07 45 12.2	
	comp=Z,42nm,18.7s,baz=116,slow=37						
ARCES	ARCESS Array B	75.41	340	P	P	07 09 52.4	+0.1
ARCES				LR	LR	07 45 12.2	
BOSA	Boshof	75.52	238	P	P	07 09 54.6	+0.9
	2.4nm,0.5s,mb4.2,baz=72,slow=5.4,SNR=9.3						
GERES	GERESS Array B	77.95	318	P	P	07 10 07.4	+0.4
	0.6nm,0.3s,mb3.8,baz=83,slow=5.5,SNR=6.1						
NOA	NORSAR Array B	79.87	331	P	P	07 10 16.6	-0.6
	0.9nm,0.7s,mb3.7,baz=92,slow=5.6,SNR=3.3						
TORD	Torodi Ar. Bea	90.65	283	P	P	07 11 11.9	-0.1
	0.4nm,0.7s,mb3.7,baz=86,slow=4.2,SNR=4.1						
ESDC	Sonseca Array	91.33	310	P	P	07 11 15.0	+0.3
	0.3nm,0.3s,mb3.9,baz=82,slow=4.9,SNR=3.6						
NVAR	Mina Array Bea	125.04	31	PKP	PKPdf	07 17 11.4	+2.3
	0.2nm,0.5s,baz=311,slow=1.9,SNR=3.0						
TXAR	Lajitas Array	139.35	24	PKP	PKPdf	07 17 37.5	+1.2
	0.1nm,0.3s,baz=203,slow=1.9,SNR=5.5						
CPUP	Villa Florida	147.19	232	PKPbc	PKPbc	07 17 52.7	+0.3
	1.9nm,0.7s,baz=151,slow=2.5,SNR=5.3						
CPUP	Villa Florida	147.19	232	PKPbc	PKPbc	07 17 52.7	+0.3

NEIC 28 07:19:43.0,3838S×17601E, h159km, MG4.0(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.82	213	P	Pn	07 20 06.9	-0.3
NGZ	Ngauruhoe	0.86	202	P	Pn	07 20 07.9	+0.4
BKZ	Black Stump Fm	0.87	155	P	Pn	07 20 07.8	+0.2
BKZ				S	Sn	07 20 26.6	+0.1
URZ	Urewera	0.87	82	P	Pn	07 20 07.4	-0.2
WPVZ	Whakapapa	0.90	204	P	Pn	07 20 08.1	+0.3
HIZ	Hauiti	0.92	261	P	Pn	07 20 07.6	-0.3
TUVZ	Tukino	0.93	197	P	Pn	07 20 08.4	+0.4
FWVZ	Far West T-bar	0.94	202	P	Pn	07 20 08.4	+0.3
DRZ	Dome Shelter	0.96	201	P	Pn	07 20 09.3	+1.0
DRZ				S	Sn	07 20 10.5	-17
WNVZ	Wahianoa	1.00	199	P	Pn	07 20 08.9	+0.3
MOVZ	Moawhango	1.05	191	P	Pn	07 20 08.9	-0.1
MOVZ				S	Sn	07 20 26.9	-2.0
MWZ	Matawai	1.19	88	P	Pn	07 20 10.4	+0.2
VRZ	Vera Road	1.23	232	P	Pn	07 20 10.5	-0.1
VRZ				S	Sn	07 20 33.1	+1.4
KNZ	Kokohu	1.45	117	P	Pn	07 20 13.0	+0.3
WAZ	Wanganui	1.59	210	P	Pn	07 20 13.7	-0.4
TSZ	Takapari Road	1.68	181	P	Pn	07 20 14.7	-0.3
PUZ	Puketiti	1.80	81	P	Pn	07 20 16.1	-0.2
MRZ	Mangatainoka R	2.30	188	P	Pn	07 20 20.6	-1.5
KIW	Kapiti Island	2.62	199	P	Pn	07 20 23.8	-2.1
MTW	Mount Morrison	2.80	188	P	Pn	07 20 25.9	-2.3
CAW	Cannon Point	2.82	195	P	Pn	07 20 26.1	-2.3
MRW	Makara Radio	3.02	199	P	Pn	07 20 28.3	-2.6
PAWZ	Paruwai Farm	3.03	188	P	Pn	07 20 28.5	-2.5
WEL	Wellington	3.06	198	P	Pn	07 20 28.7	-2.6
MSWZ	Moikau Station	3.09	191	P	Pn	07 20 29.2	-2.5
SNZO	South Karori	3.09	199	P	Pn	07 20 29.1	-2.7
TCW	Tory Channel	3.13	205	P	Pn	07 20 29.5	-2.7
NNZ	Nelson	3.48	215	P	Pn	07 20 33.4	-3.4
QRZ	Quartz Range	3.63	227	P	Pn	07 20 34.7	-4.0
BSWZ	Blackbirch Sta	3.71	206	P	Pn	07 20 36.7	-3.0
THZ	Tophouse	4.13	214	P	Pn	07 20 41.4	-3.7
KHZ	Kahutara	4.45	204	P	Pn	07 20 45.8	-3.5
DSZ	Denniston Nort	4.66	223	P	Pn	07 20 47.3	-4.7
LTZ	Lake Taylor	5.24	212	P	Pn	07 20 54.8	-4.8
MQZ	McQueen's Vall	5.90	204	P	Pn	07 21 02.7	-5.6
WVZ	Waitaha Valley	6.17	219	P	Pn	07 21 06.5	-5.4
RPZ	Rata Peaks	6.51	214	P	Pn	07 21 11.6	-4.9
FOZ	Fox Glacier	7.05	221	P	Pn	07 21 16.9	-6.7
LBZ	Lake Benmore	7.43	214	P	Pn	07 21 23.3	-5.3
ODZ	Otahua Downs	7.77	209	P	Pn	07 21 28.1	-5.1
JCZ	Jackson Bay	7.89	222	P	Pn	07 21 28.9	-5.8

*TEH **28** 08:30:05.5, 28.11N×5675E, h10km, ML4.2*
*IDC **28** 08:30:06.1±0.7, 2829N×5672E, h0km, mb4.2/19, mb1 4.2/22, mb1mx4.2/28, mbtmp4.1/22, ML3.6/2, MS3.3/12, Ms1 3.3/12, ms1mx3.1/37, Error ellipse: s-maj=18.9km s-min=14.2km az=164.0*
*ISCJB **28** 08:30:07.2±0.3, 2830N±003×5672E±004, h10km, mb4.2/32, MS3.2/8, Error ellipse: s-maj=4.7km s-min=3.6km az=170.7*
*CSEM **28** 08:30:09.3±0.1, 2820N×5670E, h15km, ML4.7/6, Error ellipse: s-maj=2.6km s-min=2.2km az=60.0*
*THR **28** 08:30:09.3±0.3, 2825N×5669E, h15km, ML3.8*
*MOS **28** 08:30:09.5±1.1, 2827N×5671E, h33km, mb4.5/7, Error ellipse: s-maj=13.4km s-min=9.8km az=102.4*
*NEIC **28** 08:30:10.2, 28.11N×5675E, h10km, mb4.3/11, ML3.8(THR), MN4.2(TEH), After TEH.*
*SZGRF **28** 08:30:11.8, 2801N×5646E, h33km, mb4.4, Southern Iran*

ISC 28 08:30:08.9±0.3, 2830N±003×5678E±004, h10km, n114, σ1§44/120, mb4.2/32, MS3.2/8, 10C-11D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	Banah	2.40	190	⇑P	Pn	08 30 49.2	+0.9
	SNR=88						
BANOM	Banah	2.40	190	Pn	Pn	08 30 48.8	+0.5
	SNR=15						
BANOM	Banah	2.40	190	P	Pn	08 30 49.2	+0.9
	SNR=88						
BANOM				Sn	Sn	08 31 18.4	+0.7
GHIR	Ghir-Karzin	3.34	271	ePn	Pn	08 31 02.1	+0.9
G

NASN	**Na'in**	**5.64**	**324**	*e*Pn	**Pn**	**08 31 35.2**	**+2.4**
NASN	**Na'in**	**5.64**	**324**	*e*Pn	**Pn**	**08 31 35.0**	**+2.2**
IGAR	**Gharneh**	**5.79**	**316**	*e*Pn	**Pn**	**08 31 37.2**	**+2.4**
IGAR				*e*		08 32 50.5	
IZEF	**Zefreh**	**5.98**	**321**⇓	*e*Pn	**Pn**	**08 31 39.2**	**+1.8**
IZEF				*e*		08 31 42.8	
IPIR	**Pirpir**	**6.70**	**312**⇓	*e*Pn	**Pn**	**08 31 50.0**	**+2.6**
IPIR				*e*		08 31 55.5	
IKLH	**Kolahrood**	**6.71**	**320**	*e*Pn	**Pn**	**08 31 50.3**	**+2.8**
IKLH				*e*		08 31 54.2	
IKLH	**Kolahrood**	**6.71**	**320**	Pn	**Pn**	**08 31 50.2**	**+2.7**
BTHS		**6.80**	**233**	P	**Pn**	**08 31 47.7**	**-1.1**
KFJS		**7.79**	**271**	P	**Pn**	**08 32 02.0**	**-0.4**
KFJS				S	**Sn**	**08 33 24.7**	**-6.0**
UMR	**Umm Al-Rimmam**	**8.04**	**281**	*e*P	**Pn**	**08 32 05.0**	**-0.7**
UMR	baz=282			AML	AML	08 33 35.7	
	comp=Z,47nm,0.4s,baz=282						
RDF	**Al-Radifah**	**8.13**	**277**	*e*P	**Pn**	**08 32 06.6**	**-0.4**
RDF	baz=278			AML	AML	08 33 36.8	
	comp=Z,31nm,0.5s,baz=278						
DAMV	**Damavand**	**8.37**	**332**	*e*Pn	**Pn**	**08 32 12.8**	**+2.5**
DAMV	**Damavand**	**8.37**	**332**	*e*Pn	**Pn**	**08 32 12.0**	**+1.7**
MIB	**Mutribah**	**8.40**	**283**	*e*P	**Pn**	**08 32 09.9**	**-0.8**
MIB	baz=284			AML	AML	08 33 41.3	
	comp=Z,33nm,0.5s,baz=284						
NAY	**Al-Naaiem**	**8.42**	**279**	*e*P	**Pn**	**08 32 10.2**	**-0.8**
NAY	baz=280			AML	AML	08 33 42.4	
	comp=Z,9.0nm,0.7s,baz=280						
ASAO	**Ashtian**	**8.49**	**319**	*e*Pn	**Pn**	**08 32 14.2**	**+2.3**
ASAO	**Ashtian**	**8.49**	**319**	*e*Pn	**Pn**	**08 32 14.0**	**+2.1**
MRVT	**Maraveh tapeh**	**9.36**	**357**	*e*Pn	**Pn**	**08 32 26.9**	**+3.1**
ASYS		**11.03**	**269**	S	**Sn**	**08 34 40.9**	**-9.3**
GNI	**Garni**	**15.44**	**323**	LR	LR	08 39 14.1	
	comp=Z,80nm,18.8s,baz=11,slow=36						
ASF	**Jabal al Asfar**	**17.61**	**288**	P	**Pn**	**08 34 13.9**	**-0.5**
ASF	comp=Z,0.6nm,0.3s,baz=93,slow=5.9,SNR=3.9			S	**Sn**	**08 37 25.7**	**-4.8**
	comp=Z,0.4nm,0.3s,baz=113,slow=5.3,SNR=3.3						
ASF				LR	LR	08 42 08.6	
	comp=Z,109nm,21.2s,baz=160,slow=41						
ASF	**Jabal al Asfar**	**17.61**	**288**	P	**Pn**	**08 34 13.9**	**-0.4**
ASF				S	**Sn**	**08 37 25.7**	**-4.8**
NDI	**New Delhi**	**17.97**	**84**	*e*P	**Pn**	**08 34 18.0**	**-0.9**
MMAI	**Mount Meron Ar**	**18.97**	**290**	P	**Pn**	**08 34 28.4**	**-2.7**
MMAI	baz=134,slow=55,SNR=2.0			LR	LR	08 43 05.2	
	comp=Z,70nm,21.9s,baz=80,slow=41						
EIL	**Elat**	**19.14**	**279**	P	**Pn**	**08 34 31.7**	**-1.5**
EIL	comp=Z,0.1nm,0.3s,baz=152,slow=23,SNR=2.1			LR	LR	08 43 18.7	
	comp=Z,122nm,21.8s,baz=281,slow=42						
AML	**Almayashu**	**19.48**	**40**	*e*P	**Pn**	**08 34 38.1**	**+1.0**
	comp=Z,8.8nm,0.8s						
AML	**Almayashu**	**19.48**	**40**	*e*P	**Pn**	**08 34 38.1**	**+0.9**
	comp=Z,8.8nm,0.8s						
UCH	**Uchtor**	**20.02**	**41**	*e*P	**P**	**08 34 46.0**	**+4.2**
	comp=Z,4.9nm,0.8s						
UCH	**Uchtor**	**20.02**	**41**	*e*P	**P**	**08 34 46.0**	**+4.3**
	comp=Z,4.9nm,0.8s						
TKM2	**Tokmak 2**	**21.07**	**41**	*e*P	**P**	**08 34 55.3**	**+2.1**
TKM2				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.2						
TKM2	**Tokmak 2**	**21.07**	**41**	*e*P	**P**	**08 34 55.3**	**+2.0**
	comp=Z,14nm,1.2s,mb4.2						
AKTK	**Aktyubinsk**	**22.13**	**2**	P	**P**	**08 35 04.4**	**-0.1**
AKTK	**Aktyubinsk**	**22.13**	**2**	P	**P**	**08 35 04.5**	**0.0**
AKTK				LR	LR	08 44 42.4	
AKTO	**Aktyubinsk**	**22.13**	**2**	P	**P**	**08 35 04.5**	**0.0**
	comp=Z,13nm,0.9s,mb4.4,baz=187,slow=12,SNR=12						
AKTO				LR	LR	08 44 42.4	
	comp=Z,71nm,21.6s,MS3.0,baz=170,slow=40						
BVAR	**Borovoye Array**	**26.68**	**18**	P	**P**	**08 35 47.4**	**-0.5**
	comp=Z,3.4nm,0.6s,mb4.0,baz=199,slow=8.6,SNR=11						
BVAR				LR	LR	08 45 44.6	
	comp=Z,31nm,21.7s,MS2.8,baz=31,slow=35						
MKAR	**Makanchi Array**	**27.20**	**40**	P	**P**	**08 35 52.4**	**-0.3**
	comp=Z,2.1nm,0.6s,mb3.9,baz=225,slow=7.5,SNR=14						
MKAR				LR	LR	08 47 21.4	
	comp=Z,57nm,18.3s,MS3.2,baz=238,slow=38						
AKASG	**Malin Array Be**	**30.56**	**325**	P	**P**	**08 36 19.6**	**-2.9**
	comp=Z,1.1nm,0.4s,mb4.0,baz=133,slow=8.6,SNR=4.9						
ZAL	**Zalesovo**	**32.80**	**31**	P	**P**	**08 36 41.3**	**-0.8**
ZAA0	**Zalesovo Array**	**32.81**	**31**	*e*P	**P**	**08 36 42.1**	**-0.2**
ZAA0	**Zalesovo Array**	**32.81**	**31**	*e*P	**P**	**08 36 42.1**	**-0.2**
ZALV	**Zalesovo Beam**	**32.81**	**31**	P	**P**	**08 36 41.2**	**-1.0**
	comp=Z,5.5nm,0.7s,mb4.6,baz=238,slow=9.2,SNR=13						
ZALV				LR	LR	08 50 34.5	
	comp=Z,30nm,20.0s,MS3.0,baz=92,slow=37						
CONA	**Conrad Observa**	**37.14**	**313**⇑	*i*P	**P**	**08 37 19.0**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.2						
MOA	**Molln**	**38.15**	**313**⇑	*i*P	**P**	**08 37 27.1**	**-1.1**
	comp=Z,7.2nm,0.7s,mb4.5						
JOF	**Joensuu**	**38.40**	**342**	*e*p	**P**	**08 37 29.9**	**-0.2**
	comp=Z,0.9nm,0.3s,mb4.0						
GEC2	**GERESS Array S**	**38.78**	**314**	*e*P	**P**	**08 37 32.7**	**-0.8**
GEC2	**GERESS Array S**	**38.78**	**314**	*e*P	**P**	**08 37 32.7**	**-0.8**
GERES	**GERESS Array B**	**38.78**	**314**	P	**P**	**08 37 32.3**	**-1.3**
	comp=Z,2.8nm,0.7s,mb4.1,baz=114,slow=8.9,SNR=20						
GERES				LR	LR	08 56 44.3	
	comp=Z,34nm,20.6s,MS3.2,baz=121,slow=41						
ABTA	**Abfaltersbach**	**39.05**	**310**⇑	*i*P	**P**	**08 37 35.3**	**-0.5**
	comp=Z,4.5nm,0.6s,mb4.4						
WTTA	**Wattenberg**	**39.74**	**311**⇓	*i*P	**P**	**08 37 40.5**	**-1.0**
	comp=Z,11nm,0.5s,mb4.8						
WTTA	**Wattenberg**	**39.74**	**311**⇓	*i*P	**P**	**08 37 40.5**	**-1.1**
WTTA				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.8						
MOTA	**Moosalm**	**40.11**	**311**⇓	*i*P	**P**	**08 37 43.7**	**-1.0**
	comp=Z,4.0nm,0.8s,mb4.2						
MOTA	**Moosalm**	**40.11**	**311**⇓	*i*P	**P**	**08 37 43.7**	**-1.0**
MOTA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
FETA	**Feichten**	**40.30**	**310**⇓	*i*P	**P**	**08 37 45.1**	**-1.2**
	comp=Z,12nm,0.6s,mb4.8						
GRA1	**Grafenberg Arr**	**40.57**	**315**	*e*P	**P**	**08 37 48.0**	**-0.4**
	comp=Z,7.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**40.57**	**315**	*e*P	**P**	**08 37 48.0**	**-0.4**
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**40.57**	**315**	*e*P	**P**	**08 37 48.0**	**-0.4**
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**40.57**	**315**	*e*P	**P**	**08 37 48.0**	**-0.4**
	comp=Z,7.0nm,0.9s,mb4.3						
DAVA	**Damuels**	**40.92**	**311**⇑	*i*P	**P**	**08 37 49.7**	**-1.6**
	comp=Z,20nm,0.6s,mb5.0						
ZAK	**Zakamensk**	**41.34**	**45**	*e*P	**P**	**08 37 47.2**	**-7.5**
ZAK				*e*		08 37 55.1	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
SONM	**Songino Array**	**42.83**	**49**	P	**P**	**08 38 06.7**	**-0.3**
	comp=Z,1.3nm,0.8s,mb3.7,baz=248,slow=9.0,SNR=6.6						
NB2	**NORSAR Subarra**	**44.57**	**330**	P	**P**	**08 38 18.7**	**-2.0**
	comp=Z,1.0nm,0.5s,mb3.9,baz=112,slow=7.9						
NOA	**NORSAR Array B**	**44.57**	**330**	P	**P**	**08 38 18.9**	**-1.9**
	comp=Z,1.2nm,0.6s,mb3.9,baz=116,slow=7.9,SNR=4.5						
NOA				LR	LR	08 59 04.6	
	comp=Z,32nm,21.0s,MS3.2,baz=265,slow=39						
KEV	**Kevo**	**44.89**	**346**	*e*p	**P**	**08 38 22.3**	**-0.9**
	comp=Z,0.9nm,0.4s,mb4.0						
KEV	**Kevo**	**44.89**	**346**	*e*P	**P**	**08 38 22.3**	**-0.9**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**45.05**	**345**	P	**P**	**08 38 23.4**	**-1.0**
	comp=Z,2.0nm,0.9s,mb4.0,baz=138,slow=7.4,SNR=10						
ARCES				LR	LR	09 03 01.5	
	comp=Z,28nm,18.0s,MS3.2,baz=100,slow=44						
BOD	**Bodaibo**	**49.17**	**36**	*e*P	**P**	**08 38 55.3**	**-1.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ESDC	**Sonseca Array**	**50.77**	**300**	P	**P**	**08 39 07.3**	**-1.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=76,slow=7.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**53.25**	**265**	P	**P**	**08 39 26.6**	**-1.4**
	comp=Z,4.3nm,0.7s,mb4.5,baz=63,slow=7.2,SNR=42						
TORD				LR	LR	09 04 55.5	
	comp=Z,89nm,18.3s,MS3.9,baz=55,slow=39						
KSRS	**Korea Array**	**59.18**	**61**	P	**P**	**08 40 07.8**	**-2.3**
	comp=Z,1.4nm,0.4s,mb4.3,baz=278,slow=7.2,SNR=7.4						
KSRS	**Korea Array**	**59.18**	**61**	P	**P**	**08 40 07.8**	**-2.3**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
DBIC	**Dimbokro**	**61.93**	**262**	P	**P**	**08 40 27.4**	**-1.8**
	comp=Z,0.9nm,0.3s,mb4.3,baz=165,slow=9.4,SNR=5.9						
BOSA	**Boshof**	**64.13**	**211**	P	**P**	**08 40 42.0**	**-1.5**
	comp=Z,1.1nm,0.4s,mb4.2,baz=7.8,slow=4.0,SNR=4.7						
PETK	**Petropavlovsk-**	**74.01**	**38**	P	**P**	**08 41 42.0**	**-2.6**
	comp=Z,1.6nm,0.9s,mb4.0,baz=22,slow=4.7,SNR=3.0						
PETK	**Petropavlovsk-**	**74.01**	**38**	P	**P**	**08 41 42.0**	**-2.6**
SCHQ	**Schefferville**	**84.14**	**331**	P	**P**	**08 42 39.1**	**-0.9**
	comp=Z,2.9nm,0.7s,mb4.5,baz=52,slow=17,SNR=2.5						
WRA	**Warramunga Arr**	**88.92**	**113**	P	**P**	**08 43 03.7**	**-0.2**
	comp=Z,1.1nm,0.7s,mb4.3,baz=313,slow=4.1,SNR=19						
YKA	**Yellowknife Ar**	**89.27**	**356**	P	**P**	**08 43 04.2**	**-0.6**
	comp=Z,0.9nm,0.7s,mb4.2,baz=1.9,slow=5.4,SNR=6.8						
YKA	**Yellowknife Ar**	**89.27**	**356**	P	**P**	**08 43 04.2**	**-0.6**
ASAR	**Alice Springs**	**90.46**	**117**	P	**P**	**08 43 11.0**	**-0.1**
	comp=Z,0.4nm,0.5s,mb4.0,baz=310,slow=4.6,SNR=10						

JMA 28 08:35:34.0±0.5, 4431N×14801E, h92km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.89**	**241**	P	Pn	08 36 05.2	+0.4
NEM2				*e*S	Sn	08 36 28.9	+0.6
JRA	**Rausu**	**2.11**	**261**	P	Pn	08 36 08.3	+0.6
JNK	**Nakash**	**2.48**	**254**	P	Pn	08 36 13.3	+0.7
JAK	**Akkeshi**	**2.74**	**243**	P	Pn	08 36 16.3	+0.3
JAK				*e*S	Sn	08 36 49.1	+0.8
JTKR	**Abashiri--Toko**	**2.97**	**265**	P	Pn	08 36 19.3	+0.2
JAR	**Ashorobuto**	**3.23**	**253**	P	Pn	08 36 23.6	+1.0
JCH	**Churui**	**3.78**	**245**	P	Pn	08 36 30.0	-0.1
JCH				*e*S	Sn	08 37 12.9	-0.6
JKK2	**Kamakawa 2**	**3.82**	**265**	P	Pn	08 36 30.9	+0.4
JKB	**Kayabe**	**5.65**	**247**	P	Pn	08 36 54.7	-0.7
JKB				*e*S	Sn	08 37 56.0	-3.0
JOT	**Ohata**	**5.89**	**243**	P	Pn	08 36 57.4	-1.3
JOT				*e*S	Sn	08 38 01.1	-3.8
JANG	**Nango**	**6.21**	**233**	*e*S	Sn	08 38 09.0	-3.7

*IDC **28** 08:43:55.7±2.1, 2747N×5792E, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.7/28, mbtmp3.9/9, ML4.1/1, MS3.3/8, Ms1 3.3/8, ms1mx3.0/40, Error ellipse: s-maj=53.3km s-min=19.6km az=156.0*

*MOS **28** 08:43:57.9±1.1, 2735N×5777E, h33km, mb4.5/1, Error ellipse: s-maj=21.2km s-min=15.5km az=94.6*

*ISCJB **28** 08:43:59.3±0.3, 2785N±003×5773E±004, h10km, mb3.9/8, MS3.3/5, Error ellipse: s-maj=5.6km s-min=4.0km az=177.8*

*CSEM **28** 08:44:00.8±0.1, 2783N×5767E, h15km, ML4.8/6, Error ellipse: s-maj=3.7km s-min=1.6km az=79.0*

*THR **28** 08:44:02.0±0.5, 2781N×5750E, h15km, ML3.8*

*NEIC **28** 08:44:02.1, 2782N×5750E, h15km, mb3.9/3, ML3.8(THR), MN4.0(TEH), After THR.*

*TEH **28** 08:44:24.8, 2829N×5665E, h10km, ML4.0*

ISC 28 08:44:00.8±0.3, 2783N±003×5774E±004, h10km, n76, σ1°36/76, mb3.9/8, MS3.3/5, 5C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**2.30**	**215**	⇑P	**Pn**	**08 44 39.2**	**+0.4**
	SNR=7.3						
BANOM	**Banah**	**2.30**	**215**	Pn	**Pn**	**08 44 38.4**	**-0.3**
	SNR=46						
BANOM	**Banah**	**2.30**	**215**	P	**Pn**	**08 44 39.2**	**+0.5**
	SNR=7.3						
BANOM				Sn	**Sn**	**08 45 07.3**	**+0.2**
ZHSF	**Zahedan**	**3.20**	**56**	*e*Pn	**Pb**	**08 44 56.6**	**-1.1**
ZHSF				AML	AML	08 45 58.9	
	comp=N,149nm,0.6s						
ZHSF	**Zahedan**	**3.20**	**56**	*e*Pn	**Pn**	**08 44 56.0**	**+4.9**
HATD	**Hatta, Dubai**	**3.32**	**206**	⇑P	**Pn**	**08 44 55.3**	**+2.5**
	SNR=7.0						
HATD	**Hatta, Dubai**	**3.32**	**206**	Pn	**Pn**	**08 44 51.1**	**-1.8**
	SNR=13						
HATD	**Hatta, Dubai**	**3.32**	**206**	P	**Pn**	**08 44 55.3**	**+2.4**
	SNR=7.0						
NAZ	**Nazwa, Dubai**	**3.39**	**214**	Pn	**Pn**	**08 44 53.7**	**-0.1**
NAZ	**Nazwa, Dubai**	**3.39**	**214**	P	**Pn**	**08 44 54.2**	**+0.4**
	SNR=9.2						
ASHO	**Ashiyiah**	**3.48**	**206**	⇓P	**Pn**	**08 44 56.2**	**+1.2**
	SNR=58						
ASHO	**Ashiyiah**	**3.48**	**206**	Pn	**Pn**	**08 44 54.9**	**-0.1**
	SNR=58						
ASHO	**Ashiyiah**	**3.48**	**206**	P	**Pn**	**08 44 56.2**	**+1.2**
	SNR=58						
FAQ	**Al Faqa, Dubai**	**3.63**	**213**	P	**Pn**	**08 44 57.5**	**+0.4**
	SNR=33						
ASUD	**Al Ashush, Dub**	**3.86**	**215**	P	**Pn**	**08 45 01.4**	**+1.2**
	SNR=10						
IBAF	**Bafgh**	**4.20**	**334**	*e*Pn	**Pn**	**08 45 08.6**	**+3.7**
IBAF				*e*		08 45 24.6	
GHIR	**Ghir-Karzin**	**4.23**	**277**	*e*Pn	**Pn**	**08 45 05.2**	**-0.1**
GHIR				AML	AML	08 46 23.9	
	comp=N,134nm,0.5s						
GHIR				AML	AML	08 46 29.4	
	comp=E,139nm,0.5s						
GHIR	**Ghir-Karzin**	**4.23**	**277**	*e*Pn	**Pn**	**08 45 05.0**	**-0.3**
HOQ	**Hoqain**	**4.25**	**185**	P	**Pn**	**08 45 04.7**	**-0.9**
	SNR=26						
BIDO	**Bidbid**	**4.30**	**175**	P	**Pn**	**08 45 05.7**	**-0.7**
	SNR=23						
ISRV	**Sarvestan**	**4.35**	**292**	*e*Pn	**Pn**	**08 45 07.1**	**+0.1**
ISRV				*e*Sg	**Sn**	**08 45 58.3**	**+0.5**
ISRV				*e*		08 46 06.0	
ISRV	**Sarvestan**	**4.35**	**292**	Pn	**Pn**	**08 45 07.0**	**0.0**
ISRV				Sg	**Sn**	**08 45 58.2**	**+0.4**
IPAR	**Pars**	**4.58**	**297**	*e*Pn	**Pn**	**08 45 10.3**	**+0.2**
IPAR				*e*		08 46 33.6	
IMOK	**Mouk**	**4.59**	**286**⇑	*e*Pn	**Pn**	**08 45 10.7**	**+0.4**
IMOK				*e*		08 46 08.5	
IKOO	**Kooshah**	**4.71**	**13**⇑	*e*Pn	**Pn**	**08 45 17.3**	**+5.4**
IKOO				*e*		08 46 46.5	
SMDO	**Samad**	**4.76**	**177**	P	**Pn**	**08 45 12.8**	**+0.2**
	SNR=19						
BSY	**Bisya**	**5.09**	**186**	P	**Pn**	**08 45 18.8**	**+1.6**
	SNR=23						
BSYO	**Bisya**	**5.10**	**185**	P	**Pn**	**08 45 18.8**	**+1.5**
	SNR=23						
IDAH	**Dahanechah**	**5.22**	**20**	*e*Pn	**Pn**	**08 45 24.6**	**+5.6**
IDAH				*e*		08 47 17.5	
ICHK	**Chekchek**	**5.26**	**327**	*e*Pn	**Pn**	**08 45 22.6**	**+3.1**
ICHK				*e*		08 47 07.8	
WBK	**Wadi Bani Khal**	**5.32**	**168**	⇓P	**Pn**	**08 45 20.5**	**+0.2**
	SNR=16						
JMDO	**Jabal Madar**	**5.45**	**176**	⇓P	**Pn**	**08 45 23.6**	**+1.5**
	SNR=13						
NASN	**Na'in**	**6.54**	**320**	*e*Pn	**Pn**	**08 45 38.7**	**+1.7**
NASN	**Na'in**	**6.54**	**320**	*e*Pn	**Pn**	**08 45 38.0**	**+1.0**
IGAR	**Gharneh**	**6.72**	**314**	*e*Pn	**Pn**	**08 45 40.2**	**+0.7**
IGAR				*e*		08 46 57.9	
IZEF	**Zefreh**	**6.88**	**318**⇓	*e*Pn	**Pn**	**08 45 42.3**	**+0.6**
IZEF				*e*		08 45 43.1	
SLWS		**7.05**	**246**	P	**Pn**	**08 45 42.3**	**-1.8**
BTHS		**7.26**	**240**	P	**Pn**	**08 45 44.7**	**-2.3**
IKLH	**Kolahrood**	**7.62**	**317**	Pn	**Pn**	**08 45 52.6**	**+0.6**
IKLH	**Kolahrood**	**7.62**	**317**⇑	*e*Pn	**Pn**	**08 45 52.7**	**+0.7**
IPIR	**Pirpir**	**7.65**	**311**	Pn	**Pn**	**08 45 53.8**	**+1.5**
IPIR	**Pirpir**	**7.65**	**311**	*e*Pn	**Pn**	**08 45 53.9**	**+1.6**
IPIR				*e*		08 47 22.1	
UMR	**Umm Al-Rimmam**	**8.97**	**283**	*e*P	**Pn**	**08 46 08.3**	**-2.2**
	baz=281						
RDF	**Al-Radifah**	**9.05**	**279**	*e*P	**Pn**	**08 46 08.9**	**-2.6**
	baz=277						
RDF				AML	AML	08 47 45.4	
	comp=Z,30nm,0.3s,baz=277						
DAMV	**Damavand**	**9.20**	**329**	*e*Pn	**Pn**	**08 46 15.2**	**+1.7**
DAMV	**Damavand**	**9.20**	**329**	*e*Pn	**Pn**	**08 46 15.0**	**+1.5**
MIB	**Mutribah**	**9.34**	**285**	*e*P	**Pn**	**08 46 12.9**	**-2.6**
	baz=283						
MIB				AML	AML	08 47 50.6	
	comp=Z,50nm,0.5s,baz=283						
NAY	**Al-Naaiem**	**9.34**	**281**	*e*P	**Pn**	**08 46 12.9**	**-2.7**
	baz=279						
NAY				AML	AML	08 47 51.3	
	comp=Z,26nm,0.5s,baz=279						
ASAO	**Ashtian**	**9.41**	**317**	*e*Pn	**Pn**	**08 46 18.6**	**+2.2**
ASAO	**Ashtian**	**9.41**	**317**	*e*Pn	**Pn**	**08 46 18.0**	**+1.6**
GNI	**Garni**	**16.32**	**322**	LR	LR	08 54 35.3	
	comp=Z,70nm,19.9s,baz=112,slow=38						
ASF	**Jabal al Asfar**	**18.56**	**289**	P	**Pn**	**08 48 15.8**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=296,slow=9.7,SNR=3.5						
ASF				S	Sn	08 51 24.7	-21
	comp=Z,0.2nm,0.3s,baz=60,slow=9.4,SNR=3.2						
ASF				LR	LR	08 56 57.1	
	comp=Z,57nm,20.6s,baz=137,slow=42						
MALT	**Malatya**	**19.23**	**308**	*e*P	**Pn**	**08 48 26.1**	**0.0**
MALT				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MALT	**Malatya**	**19.23**	**308**	*e*P	**Pn**	**08 48 26.1**	**0.0**
	comp=Z,4.6nm,0.7s						
MALT	**Malatya**	**19.23**	**308**	*e*P	**Pn**	**08 48 26.1**	**0.0**
	comp=Z,4.6nm,0.7s						
EKS2	**Erkin-Say**	**19.71**	**37**	*e*P	**Pn**	**08 48 33.1**	**+1.4**
	comp=Z,15nm,1.3s						
EKS2	**Erkin-Say**	**19.71**	**37**	*e*P	**Pn**	**08 48 33.1**	**+1.3**
	comp=Z,15nm,1.3s						
UCH	**Uchtor**	**19.82**	**39**	*e*P	**Pn**	**08 48 32.9**	**-0.2**
	comp=Z,8.4nm,1.4s						
UCH	**Uchtor**	**19.82**	**39**	*e*P	**Pn**	**08 48 32.9**	**-0.2**
	comp=Z,8.4nm,1.4s						
MMAI	**Mount Meron Ar**	**19.93**	**290**	LR	LR	08 56 06.5	
	comp=Z,36nm,18.6s,baz=40,slow=36						
EIL	**Elat**	**20.07**	**281**	P	**P**	**08 48 34.4**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=25,slow=9.1,SNR=4.0						
EIL				LR	LR	08 57 54.5	
	comp=Z,120nm,18.2s,MS3.3,baz=100,slow=41						
KIV	**Kislovodsk**	**20.14**	**327**	P	**P**	**08 48 36.0**	**+1.0**
KIV				*e*		08 48 46.1	
AKTK	**Aktyubinsk**	**22.57**	**0**	P	**P**	**08 49 02.1**	**+1.0**
AKTK				LR	LR	08 59 35.1	
AKTO	**Aktyubinsk**	**22.57**	**0**	P	**P**	**08 49 02.1**	**+1.0**
	comp=Z,1.1nm,0.4s,mb3.7,baz=169,slow=9.6,SNR=5.5						
AKTO				LR	LR	08 59 35.2	
	comp=Z,90nm,18.5s,MS3.2,baz=172,slow=41						
BVAR	**Borovoye Array**	**26.86**	**17**	P	**P**	**08 49 41.1**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.5,baz=202,slow=11,SNR=4.2						
BVAR				LR	LR	09 01 14.1	
	comp=Z,74nm,19.7s,MS3.2,baz=206,slow=38						
MKAR	**Makanchi Array**	**27.01**	**39**	P	**P**	**08 49 42.5**	**-0.4**
	comp=Z,1.4nm,0.6s,mb3.7,baz=224,slow=6.8,SNR=11						
MKAR				LR	LR	09 00 44.1	
	comp=Z,34nm,19.9s,MS2.9,baz=186,slow=37						
MKAR	**Makanchi Array**	**27.01**	**39**	P	**P**	**08 49 42.5**	**-0.4**
MKAR				LR	LR	09 00 44.1	
ZAL	**Zalesovo**	**32.77**	**30**	P	**P**	**08 50 31.1**	**-2.7**
ZALV	**Zalesovo Beam**	**32.78**	**30**	P	**P**	**08 50 31.1**	**-2.9**
	comp=Z,2.3nm,0.3s,mb4.6,baz=223,slow=8.9,SNR=7.5						
SONM	**Songino Array**	**42.49**	**48**	P	**P**	**08 51 53.2**	**-2.9**
	comp=Z,0.5nm,0.7s,mb3.3,baz=290,slow=4.2,SNR=2.6						
ARCES	**ARCESS Array B**	**45.72**	**345**	P	**P**	**08 52 20.5**	**-1.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=146,slow=8.1,SNR=5.7						
ARCES	**ARCESS Array B**	**45.72**	**345**	P	**P**	**08 52 20.5**	**-1.2**
BOD	**Bodaibo**	**49.04**	**36**	*e*P	**P**	**08 52 46.6**	**-1.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BOD	**Bodaibo**	**49.04**	**36**	*e*P	**P**	**08 52 46.6**	**-1.1**
	comp=Z,3.0nm,0.8s,mb4.4						
TORD	**Torodi Ar. Bea**	**54.07**	**266**	P	**P**	**08 53 23.6**	**-2.4**
	comp=Z,1.0nm,0.4s,mb4.1,baz=63,slow=7.2,SNR=17						
ULM	**Lac du Bonnet**	**98.82**	**343**	LR	LR	09 49 09.0	
	comp=Z,43nm,20.4s,MS3.9,baz=13,slow=39						

*IDC **28** 08:51:35.5±0.5, 150S×11960E, h0km, mb4.7/18, mb1 4.7/19, mb1mx4.6/23, mbtmp4.6/19, ML3.9/1, MS4.1/15, Ms1 4.1/15, ms1mx4.0/30, Error ellipse: s-maj=22.2km s-min=11.8km az=66.0*

*ISCJB **28** 08:51:39.0±1.0, 143S±003×11960E±005, h30km±7km, mb4.8/55, MS4.1/29, Error ellipse: s-maj=8.4km s-min=5.0km az=155.1*

*MOS **28** 08:51:38.9±1.1,

WB2 *e*S **S** **09 01 02.2 +5.7**
ASAR Alice Springs 26.04 149 P **P** **08 57 10.3 -1.2**
comp=Z,6.9nm,1.0s,mb4.2,baz=325,slow=6.6,SNR=30
ASAR PcP PcP 09 00 38.6 -0.3
comp=Z,1.5nm,0.9s,baz=342,slow=1.8,SNR=4.5
YHNB Yeheng 26.10 4 *e*P **P** **08 57 11.7 -0.3**
comp=Z,34nm,1.0s,mb4.8
CMAR Chiang Mai Arr 28.38 315 P **P** **08 57 32.6 0.0**
comp=Z,1.5nm,0.3s,mb4.0,baz=138,slow=8.5,SNR=11
CMAR PcP PcP 09 00 44.0 -0.6
comp=Z,1.2nm,0.3s,baz=173,slow=2.0,SNR=7.2
CMAR Chiang Mai Arr 28.38 315 *i* P **P** **08 57 34.4 +1.8**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
GUMO Guam 29.26 58 LR LR 09 08 58.4
comp=Z,184nm,19.0s,MS3.7,baz=45,slow=36
FORT Forrest 30.19 165 *e*P **P** **08 57 53.5 +5.0**
comp=Z,11nm,0.8s,mb4.6
GYA Guiyang 30.47 337 *e*P **P** **08 57 53.5 +2.4**
GYA AP pP 08 58 08.5 +5.8
GYA PP PP 08 58 58.5 -2.0
GYA PCP PcP 09 00 51.0 +1.2
GYA S **S** **09 02 53.8 +4.3**
GYA SCP ScP 09 04 29.3 +0.3
GYA PCS PcS 09 04 33.8 +0.2
GYA SCS ScS 09 08 22.5 -2.8
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,580nm,17.2s,MS4.4
GYA LR LR
comp=E,460nm,18.9s,MS4.4
GYA LR LR
comp=Z,480nm,19.8s,MS4.2
KMI Kunming 31.10 330 P **P** **08 57 59.8 +3.2**
KMI AP pP 08 58 13.0 +4.8
KMI PP PP 08 59 04.5 -2.9
KMI PCP PcP 09 00 54.0 +2.6
KMI S **S** **09 03 00.5 +1.2**
KMI SCS ScS 09 08 27.3 -1.1
KMI AMB AMB
comp=Z,12nm,2.0s,mb4.4
KMI AMB AMB
comp=Z,114nm,19.2s
KMI LR LR
comp=N,295nm,16.1s,MS4.3
KMI LR LR
comp=E,369nm,15.0s,MS4.3
KMI LR LR
comp=Z,291nm,15.0s,MS4.1
NWAO Narrogin (SRO) 31.31 184 P **P** **08 57 57.7 -0.7**
comp=Z,24nm,1.1s,mb5.0,baz=344,slow=11,SNR=4.3
NWAO Narrogin (SRO) 31.31 184 P **P** **08 57 57.7 -0.7**
CTA Charters Tower 31.97 127 *e*P **P** **08 58 04.4 +0.1**
comp=Z,12nm,0.9s,mb4.7
CTA *e*S S 09 03 39.1 +26
CTA Charters Tower 31.97 127 *e*P **P** **08 58 04.4 +0.1**
CTA pmax pmax
comp=Z,12nm,0.9s
WHN Wuhan 32.27 352 P **P** **08 58 10.5 +3.6**
NJ2 Nanjing 33.40 359 *e*P **P** **08 58 20.5 +3.8**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
CD2 Chengdu 35.58 336 *e*P **P** **08 58 36.5 +0.9**
CD2 AP pP 08 58 48.8 +1.4
CD2 XP sP 08 58 54.0 +1.5
CD2 S **S** **09 04 17.0 +8.3**
CD2 SCS ScS 09 08 45.8 -5.7
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,340nm,14.4s,MS4.3
CD2 LR LR
comp=E,290nm,18.0s,MS4.3
CD2 LR LR
comp=Z,340nm,13.2s,MS4.3
CBIJ Chichi jima 35.85 36 P **P** **08 58 37.3 -0.7**
comp=Z,28nm,0.8s,mb5.2,baz=279,slow=15,SNR=3.0
STKA Stephens Creek 36.66 148 *e*P **P** **08 58 44.7 -0.2**
comp=Z,10nm,1.0s,mb4.6
STKA Stephens Creek 36.66 148 P **P** **08 58 44.2 -0.6**
comp=Z,11nm,0.9s,mb4.7,baz=313,slow=8.2,SNR=15
STKA LR LR 09 15 57.1
comp=Z,505nm,19.7s,MS4.3,baz=246,slow=40
XAN Xi'an 36.76 345 P **P** **08 58 49.0 +3.4**
XAN AP pP 08 59 01.0 +3.6
XAN XP sP 08 59 07.3 +4.8
XAN S **S** **09 04 25.3 -1.3**
XAN AMB AMB
comp=Z,7.0nm,1.1s,mb4.4
XAN AMB AMB
comp=Z,55nm,8.5s
XAN LR LR
comp=N,112nm,15.3s,MS3.9
XAN LR LR
comp=E,98nm,15.6s,MS3.9
XAN LR LR
comp=Z,238nm,15.0s,MS4.1
KSRS Korea Array 39.55 10 P **P** **08 59 03.5 -5.6**
comp=Z,2.2nm,1.0s,mb3.8,baz=205,slow=9.7,SNR=6.2
KSRS LR LR 09 19 33.6
comp=Z,156nm,18.6s,MS3.9,baz=189,slow=42
LZH Lanzhou 40.18 340 *e*P **P** **08 59 18.8 +4.5**
LZH AP pP 08 59 31.3 +5.1
LZH PP PP 09 00 56.3 +8.8
LZH *e*S **S** **09 05 23.8 +5.6**
LZH XS sS 09 05 44.5 +6.5
LZH AMB AMB
comp=Z,39nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,178nm,5.4s
LZH LR LR
comp=N,593nm,14.0s
LZH LR LR
comp=Z,997nm,17.6s,MS4.7
LSA Lhasa 41.23 321 P **P** **08 59 25.3 +2.2**
BJT Baijiatuau 41.46 356 *e*P **P** **08 59 25.0 +0.2**
BJT pmax pmax
comp=Z,56nm,1.1s
BJT Baijiatuau 41.46 356 *e*P **P** **08 59 25.0 +0.2**
comp=Z,56nm,1.1s,mb5.1
BJI Beijing 41.48 356 P **P** **08 59 25.0 0.0**
BJI AP pP 08 59 39.0 +2.1
BJI XP sP 08 59 44.0 +2.0
BJI S **S** **09 05 40.5 +3.0**
BJI AMB AMB
comp=Z,27nm,1.1s,mb4.8
BJI LR LR
comp=N,232nm,21.0s,MS4.2
BJI LR LR
comp=E,211nm,19.2s,MS4.2
BJI LR LR
comp=Z,193nm,22.9s,MS3.9
MJAR Matsushiro Arr 41.67 23 P **P** **08 59 22.4 -4.2**
comp=Z,2.5nm,0.8s,mb3.9,baz=192,slow=8.4,SNR=7.5
MJAR LR LR 09 17 33.7
comp=Z,167nm,18.5s,MS4.0,baz=220,slow=37
ARMA Armidale 41.84 137 *e*P **P** **08 59 35.8 +7.7**
comp=Z,1.3nm,1.5s
HHC Hu-ho-hao-te 42.80 351 *e*P **P** **08 59 38.5 +2.8**
HHC AP pP 08 59 51.3 +3.7
HHC XP sP 08 59 56.0 +3.3
HHC PP PP 09 01 21.5 +5.8
HHC S **S** **09 06 01.0 +4.1**
HHC XS sS 09 06 22.5 +5.8
HHC SS SS 09 09 06.5 -2.7
HHC SCS ScS 09 09 31.5 -1.7
HHC AMB AMB
comp=Z,12nm,0.6s,mb4.8
HHC AMB AMB
comp=Z,104nm,7.1s
HHC LR LR
comp=N,237nm,17.8s,MS4.2
HHC LR LR
comp=E,179nm,21.4s,MS4.2
HHC LR LR
comp=Z,225nm,21.4s,MS4.0
SNY Shenyang 43.31 4 ⇑P **P** **08 59 38.3 -1.5**
SNY S **S** **09 06 02.0 -2.3**
SNY AMB AMB
comp=Z,67nm,3.5s
SNY LR LR
comp=N,262nm,19.2s,MS4.3
SNY LR LR
comp=E,143nm,14.7s,MS4.3
SNY LR LR
comp=Z,139nm,17.4s,MS3.9
CAN Canberra 43.36 144 *e*P **P** **08 59 41.5 +1.1**
HYB Hyderabad 44.56 297 *i* P **P** **08 59 51.5 +1.2**
HYB Hyderabad 44.56 297 *e*P **P** **08 59 56.5 +6.2**
GTA Gaotai 44.58 338 P **P** **08 59 51.0 +0.9**
GTA AP pP 09 00 04.3 +2.2
GTA XP sP 09 00 09.5 +2.4
GTA PP PP 09 01 37.3 +2.5
GTA S **S** **09 06 24.3 +1.3**
GTA XS sS 09 06 47.0 +4.0
GTA SS SS 09 09 38.0 -6.1
GTA AMB AMB
comp=Z,6.0nm,1.4s,mb4.2
GTA AMB AMB
comp=Z,105nm,6.9s
GTA LR LR
comp=N,178nm,18.3s,MS4.2
GTA LR LR
comp=E,222nm,20.7s,MS4.2
GTA LR LR
comp=Z,239nm,18.6s,MS4.2
CN2 Changchun 45.43 6 *e*P **P** **08 59 59.5 +2.7**
CN2 *e*S **S** **09 06 39.0 +3.8**
CN2 *e*SS SS 09 09 53.5 -6.1
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CN2 LR LR
comp=N,300nm,16.0s,MS4.4
CN2 LR LR
comp=E,200nm,16.0s,MS4.4
CN2 LR LR
comp=Z,200nm,17.0s,MS4.1
MDJ Mudanjiang 46.81 10 P **P** **09 00 06.8 -0.8**
MDJ AP pP 09 00 18.5 -1.1
MDJ XP sP 09 00 23.0 -1.7
MDJ PP PP 09 01 56.0 -2.2
MDJ SCP ScP 09 05 30.3 -0.3
MDJ PCS PcS 09 05 35.0 +0.1
MDJ XS sS 09 07 13.0 -1.9
MDJ AMB AMB
comp=Z,22nm,1.2s,mb5.0
MDJ AMB AMB
comp=Z,52nm,5.2s
MDJ LR LR
comp=N,83nm,18.1s,MS4.0
MDJ LR LR
comp=E,144nm,21.7s,MS4.0
MDJ LR LR
comp=Z,156nm,18.1s,MS4.0
MDJ Mudanjiang 46.81 10 *e*P **P** **09 00 07.3 -0.3**
comp=Z,49nm,1.4s,mb5.2
SONM Songino Array 50.48 349 P **P** **09 00 35.2 -0.6**
comp=Z,13nm,1.1s,mb4.9,baz=166,slow=8.7,SNR=38
KLR Kul'dur 51.65 10 *e*P **P** **09 00 38.8 -5.7**
WMQ Urumqi 53.39 332 *e*P **P** **09 00 59.5 +2.0**
WMQ AP pP 09 01 12.0 +2.3
WMQ XP sP 09 01 17.3 +2.6
WMQ PCP PcP 09 02 06.3 +1.9
WMQ PP PP 09 03 01.5 +3.2
WMQ AMB AMB
comp=Z,14nm,1.0s,mb4.8
WMQ LR LR
comp=N,253nm,28.0s,MS4.3
WMQ LR LR
comp=E,253nm,26.0s,MS4.3
WMQ LR LR
comp=Z,154nm,28.0s,MS3.9
ZAK Zakamensk 53.55 347 ⇑*i* P **P** **09 00 58.6 0.0**
ZAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
TLY Talaya 54.70 348 *e*P **P** **09 01 07.1 +0.2**
TLY *e*S **S** **09 08 43.2 -0.8**
TLY pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
TLY MLR MLR
comp=Z,108nm,20.0s,MS3.9
TLY Talaya 54.70 348 *e*P **P** **09 01 07.5 +0.6**
comp=Z,13nm,1.1s,mb4.9
MOY Mondy 55.28 346 *e*P **P** **09 01 11.9 +0.8**
MOY pmax pmax
comp=Z,35nm,1.9s,mb5.1
MK31 Makanchi Array 58.16 331 *e*P **P** **09 01 32.3 +0.6**
MKAR Makanchi Array 58.16 331 P **P** **09 01 31.7 0.0**
comp=Z,5.4nm,0.8s,mb4.6,baz=126,slow=8.0,SNR=27
MKAR LR LR 09 30 16.6
comp=Z,66nm,18.2s,MS3.8,baz=10,slow=40
MKAR Makanchi Array 58.16 331 P **P** **09 01 31.7 0.0**
MKAR LR LR 09 30 16.6
TKM2 Tokmak 2 59.29 324 *e*P **P** **09 01 40.8 +1.2**
TKM2 pmax pmax
comp=Z,15nm,1.2s,mb4.9
TKM2 Tokmak 2 59.29 324 *e*P **P** **09 01 40.8 +1.2**
comp=Z,15nm,1.2s,mb4.9
BOD Bodaibo 59.33 357 *e*P **P** **09 01 38.9 -0.6**
BOD pmax pmax
comp=Z,14nm,1.4s,mb4.8
KBL Kabul 59.34 312 *e*P **P** **09 01 40.9 +0.8**
KBL pmax pmax
comp=Z,11nm,0.8s,mb4.9
KBL Kabul 59.34 312 *e*P **P** **09 01 40.9 +0.8**
comp=Z,12nm,0.8s,mb5.0
UCH Uchtor 59.53 322 *e*P **P** **09 01 42.9 +1.7**
comp=Z,12nm,1.3s,mb4.8
UCH *e*pP pP 09 01 54.7 +1.0
AML Almayashu 59.98 322 *e*P **P** **09 01 45.5 +1.2**
comp=Z,17nm,1.3s,mb4.9
RPZ Rata Peaks 62.01 140 LR LR 09 29 11.5
comp=Z,408nm,19.1s,MS4.6,baz=209,slow=36
ZAL Zalesovo 62.33 338 P **P** **09 01 59.2 -0.8**
ZAA0 Zalesovo Array 62.33 338 *e*P **P** **09 01 59.6 -0.4**
ZALV Zalesovo Beam 62.33 338 P **P** **09 01 59.1 -0.9**
comp=Z,11nm,0.9s,mb5.0,baz=123,slow=5.5,SNR=23
ZALV LR LR 09 30 14.7
comp=Z,69nm,19.3s,MS3.8,baz=158,slow=37
ZALV Zalesovo Beam 62.33 338 P **P** **09 01 59.1 -0.9**
ZALV LR LR 09 30 14.7
KURK Kurchatov 62.63 332 *d i*P **P** **09 02 02.1 0.0**
PETK Petropavlovsk- 63.08 25 P **P** **09 02 04.4 -0.6**
comp=Z,1.5nm,0.9s,mb4.1,baz=322,slow=36,SNR=2.9
PETK LR LR 09 27 31.2
comp=Z,61nm,20.7s,MS3.8,baz=322,slow=34
NVS Novosibirsk 63.62 338 *e*P **P** **09 02 07.9 -0.6**
NVS pmax pmax
comp=Z,27nm,2.1s,mb4.9
NVS pmax pmax
comp=N,21nm,2.0s
NVS pmax pmax
comp=E,16nm,2.0s
YAK Yakutsk 63.86 5 *e*P **P** **09 02 07.8 -2.2**
YAK pmax pmax
comp=Z,30nm,0.9s,mb5.3
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,16nm,1.0s
YAK Yakutsk 63.86 5 *e*P **P** **09 02 09.0 -1.0**
comp=N,39nm,1.0s,mb5.4
YAK *e*pP pP 09 02 22.1 -0.4
URZ Urewera 64.00 132 LR LR 09 27 00.4
comp=N,133nm,21.4s,MS4.1,baz=26,slow=33
MIR Mirnyy 67.53 191 ⇓*i*P **P** **09 02 35.0 +1.4**
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.6
BVAR Borovoye Array 68.05 330 P **P** **09 02 36.4 -0.7**
comp=Z,6.7nm,0.8s,mb4.7,baz=138,slow=9.1,SNR=17
BRVK Borovoye 68.12 330 P **P** **09 02 38.8 +1.2**
comp=Z,116nm,1.3s,mb5.8,SNR=5.0
BRVK Borovoye 68.12 330 *e*P **P** **09 02 37.3 -0.3**
BRVK pmax pmax
comp=Z,12nm,1.2s,mb4.8
BRVK Borovoye 68.12 330 *e*P **P** **09 02 37.3 -0.3**
comp=Z,12nm,1.2s,mb4.8
TIXI Tiksi 73.30 3 *e*P **P** **09 03 06.9 -1.8**
TIXI pmax pmax
comp=Z,30nm,1.0s,mb5.2
TIXI MLR MLR
comp=Z,186nm,19.0s,MS4.4
TIXI Tiksi 73.30 3 *e*P **P** **09 03 07.4 -1.4**
comp=Z,24nm,0.9s,mb5.1
AKTK Aktyubinsk 73.48 324 P **P** **09 03 09.6 -0.6**
AKTO Aktyubinsk 73.48 324 P **P** **09 03 09.6 -0.6**
comp=Z,4.8nm,0.9s,mb4.4,baz=114,slow=5.7,SNR=10.0
SVE Sverdlovsk 74.83 331 *e*P **P** **09 03 17.8 -0.1**
SVE pmax pmax
comp=Z,39nm,1.2s,mb5.2
ARU Arti 75.68 330 *d i*P **P** **09 03 22.1 -0.7**
ARU *e* 09 06 09.0
ARU *e*PPP 09 07 56.5
ARU *e*S S 09 13 02.6 +1.6
ARU *e*SS SS 09 17 51.6 -1.5
ARU pmax pmax
comp=Z,24nm,1.7s,mb4.8
ARU Arti 75.68 330 *e*P **P** **09 03 22.5 -0.4**
comp=Z,32nm,1.3s,mb5.1
MAW Mawson 76.41 199 P **P** **09 03 25.9 -0.9**
comp=Z,9.9nm,1.0s,mb4.7,baz=29,slow=10,SNR=13
GNI Garni 79.41 311 LR LR 09 40 41.8
comp=Z,335nm,19.3s,MS4.7,baz=131,slow=37
KIV Kislovodsk 81.61 315 *e*P **P** **09 03 57.1 +1.3**
KIV *e* pP 09 04 07.3 -1.4
KMBO Kilima Mbogo 82.27 269 P **P** **09 04 01.6 +1.7**
comp=Z,0.8nm,0.3s,mb4.2,baz=71,slow=22,SNR=3.4
ASF Jabal al Asfar 84.58 302 P **P** **09 04 11.5 +0.1**
comp=Z,13nm,1.1s,mb5.0,baz=16,slow=1.3,SNR=12
SYO Syowa Base 84.98 201⇓*e*P **P** **09 04 11.2 -1.4**
SYO Syowa Base 84.98 201⇓*e*PcP PcP 09 04 15.4 -0.4
SYO Syowa Base 84.98 201⇑*e*pP pP 09 04 27.4 +1.9
VRSR Storozhevoye 85.14 322 *e*P **P** **09 04 12.9 -0.8**
VRSR pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=E,8.0nm,1.3s
MMAI Mount Meron Ar 85.91 303 P **P** **09 04 17.6 -0.4**
comp=E,8.3nm,0.9s,mb5.0,baz=86,slow=11,SNR=6.6
EIL Elat 86.05 300 P **P** **09 04 18.9 +0.1**
comp=E,11nm,1.0s,mb5.1,baz=131,slow=6.2,SNR=5.5
MOS Moscow 86.69 326 *e*P **P** **09 04 18.9 -2.4**
OBN Obninsk 87.22 325 *ke*P **P** **09 04 22.8 -1.1**
OBN *i* 09 04 28.0
OBN *e* pP 09 04 35.6 -1.3
OBN 09 14 45.0
OBN *e* 09 16 23.8
OBN pmax pmax
comp=Z,75nm,2.4s,mb5.5
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.2
OBN Obninsk 87.22 325 *e*P **P** **09 04 23.8 -0.1**
comp=Z,38nm,1.4s,mb5.4
LVZ Lovozero 89.47 338 *i* P **P** **09 04 33.8 -0.5**
AKASG Malin Array Be 91.37 320 LR LR 09 52 53.8
comp=Z,143nm,19.5s,MS4.4,baz=95,slow=40
ELAN Lanestosa 114.57 318 P PKiKP 09 10 15.0 -2.9
EBAN Banos Encina 116.69 313 P PKPdf 09 10 16.1 -6.1
EADA Adamuz 117.28 313 P PKPdf 09 10 25.1 +1.8
EMIJ Mijas 118.00 311 P PKPdf 09 10 28.2 +3.4
CPUP Villa Florida 152.14 186 PKPbc PKPbc 09 11 34.0 +0.1
comp=Z,1.9nm,0.7s,baz=90,slow=2.6,SNR=5.1
BDFB Brasilia 158.97 215 PKP PKPdf 09 11 36.8 +0.3
comp=Z,0.8nm,0.4s,baz=89,slow=23,SNR=2.8
BDFB PKPab PKPab 09 12 13.1 +0.3
comp=Z,2.8nm,0.9s,baz=240,slow=20,SNR=4.7

PRU ***28*** *09:05:28.5, 3781N×21.16E, h0km, M4.4*
IDC ***28*** *09:05:31.1±1.9, 3785N×2172E, h35km±16km, mb4.1/21, mb1 4.2/29, mb1mx4.1/38, mbtmp4.2/29, ML4.2/7, MS3.2/10, Ms1 3.2/10, ms1mx3.0/43, Error ellipse: s-maj=11.7km s-min=10.8km az=33.0*
CSEM ***28*** *09:05:32.9±0.1, 3772N×2161E, h60km, mb4.7/14, Ms2.9, Error ellipse: s-maj=1.6km s-min=1.0km az=25.0*
ISCJB ***28*** *09:05:33.2±0.2, 3782N±002×2160E±002, h76km±2km, mb4.6/52, Error ellipse: s-maj=3.2km s-min=2.0km az=34.4*
NEIC ***28*** *09:05:33.4, 3773N×2165E, h59km, mb4.4/25, MD4.2(ATH), MD4.8(PDG), After ATH.*
ATH ***28*** *09:05:33.4, 3773N×2165E, h61km±2km*
THE ***28*** *09:05:33.2, 3778N×2170E, h11km, ML5.0*
BJI ***28*** *09:05:33.4, 3770N×2160E, h59km, mB5.0, mb4.7, Ms4.9, Msz4.6*
MOS ***28*** *09:05:34.0±1.2, 3788N×2164E, h56km, mb4.7/20, Error ellipse: s-maj=4.4km s-min=2.4km az=101.6*
PDG ***28*** *09:05:34.2±0.5, 3780N×2164E, h38km±3km, MD4.8/8, ML4.8/10, Error ellipse: s-maj=1.1km s-min=1.1km az=90.0*
HLW ***28*** *09:05:37.4, 3728N×22.18E, h33km, Mb4.6*

ISC 28 09:05:34.5±0.2, 3780N±002×2160E±002, h69km±2km, n468, σ1§19/545, mb4.6/52, 65C-46D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.28**	**339**	⇓*i*P	**Pn**	**09 05 44.6**	**-0.8**
RLS				*e*S	**Sn**	**09 05 52.6**	**-0.8**
ITM	**Ithomi**	**0.67**	**157**	⇓*i*P	**Pn**	**09 05 47.3**	**-1.7**
VLS	**Valsamata**	**0.88**	**296**	*e*Pg	**Pn**	**09 05 51.9**	**+0.5**
VLS				*e*Sg	**Sn**	**09 06 06.8**	**+2.8**
VLS	**Valsamata**	**0.88**	**296**	*e*P	**Pn**	**09 05 52.0**	**+0.6**
EVR	**Evrytania**	**1.13**	**8**	⇓*i*P	**Pn**	**09 05 56.0**	**+1.4**
EVR	**Evrytania**	**1.13**	**8**	⇓*i*P	**Pn**	**09 05 56.6**	**+2.0**
AGG	**Agios Georgios**	**1.35**	**25**	*e*Pg	**Pn**	**09 05 57.5**	**0.0**
AGG				*e*Sg	**Sn**	**09 06 16.6**	**+1.8**
LKR	**Lokris**	**1.40**	**52**	*e*Pg	**Pn**	**09 05 57.7**	**-0.3**
LKR				*e*Sg	**Sn**	**09 06 16.3**	**+0.6**
LKR	**Lokris**	**1.40**	**52**	⇑*i*P	**Pn**	**09 05 58.0**	**0.0**
NAIG	**Nisos Aigina**	**1.50**	**91**	*e*P	**Pn**	**09 05 59.0**	**-0.4**
VLI	**Veliai**	**1.52**	**135**	⇓*i*P	**Pn**	**09 05 58.3**	**-1.3**
VLI				*e*S	**Sn**	**09 06 17.7**	**-0.9**
ATH	**Athens Observa**	**1.69**	**83**	⇑*i*P	**Pn**	**09 06 01.4**	**-0.5**
KVR	**Kavouri**	**1.72**	**88**	*e*P	**Pn**	**09 06 01.5**	**-0.8**
THL	**Klokotos Trika**	**1.80**	**10**	*e*Pb	**Pn**	**09 06 04.5**	**+1.2**
THL				*e*Sb	**Sn**	**09 06 27.6**	**+2.4**
THL	**Klokotos Trika**	**1.80**	**10**	*e*P	**Pn**	**09 06 04.4**	**+1.1**
THL	**Klokotos Trika**	**1.80**	**10**	*e*Pb	**Pn**	**09 06 04.6**	**+1.3**
THL				*e*Sb	**Sn**	**09 06 27.6**	**+2.4**
PTL	**Penteli**	**1.81**	**81**	*e*P	**Pn**	**09 06 03.0**	**-0.5**
KYTH	**Kithira**	**1.90**	**142**	*e*P	**Pn**	**09 06 04.0**	**-0.8**
KYTH	**Kithira**	**1.90**	**142**	*e*P	**Pn**	**09 06 05.0**	**+0.2**
JAN	**Janina**	**1.95**	**343**	⇓*i*P	**Pn**	**09 06 06.8**	**+1.4**
NEO	**Neokhori**	**1.98**	**40**	⇑*i*P	**Pn**	**09 06 06.3**	**+0.6**
NEO				*e*S	**Sn**	**09 06 30.3**	**+0.8**
IGT	**Igoumenitsa**	**2.00**	**331**	*e*Pn	**Pn**	**09 06 06.7**	**+0.7**
IGT				*e*Sn	**Sn**	**09 06 32.2**	**+2.1**
XOR	**Xorichti**	**2.00**	**38**	*e*Pb	**Pn**	**09 06 06.8**	**+0.6**
AOS	**Alonnisos**	**2.26**	**52**	*e*Pn	**Pn**	**09 06 09.6**	**+0.1**
KZN	**Kozani**	**2.51**	**3**	*e*P	**Pn**	**09 06 14.6**	**+1.6**
PAIG	**Paliouri**	**2.68**	**37**	*e*Pn	**Pn**	**09 06 15.3**	**0.0**
PAIG				*e*Sn	**Sn**	**09 06 46.8**	**+0.3**
PLG	**Polygyros**	**2.95**	**29**	*e*Pn	**Pn**	**09 06 19.1**	**+0.1**
PLG	**Polygyros**	**2.95**	**29**	⇓*i*P	**Pn**	**09 06 19.3**	**+0.4**
FNA	**Florina**	**2.99**	**357**	*e*Pn	**Pn**	**09 06 20.4**	**+1.0**
FNA				*e*Sn	**Sn**	**09 06 55.7**	**+1.6**
THE	**Thessaloniki**	**3.02**	**20**	*e*Pn	**Pn**	**09 06 19.9**	**0.0**
HORT	**Hortiatis**	**3.03**	**22**	*e*Pn	**Pn**	**09 06 20.6**	**+0.5**
HORT				*e*Sn	**Sn**	**09 06 54.0**	**-1.2**
OUR	**Ouranopolis**	**3.14**	**35**	*e*Pn	**Pn**	**09 06 21.5**	**-0.1**
VAM	**Vamos**	**3.17**	**138**	*e*P	**Pn**	**09 06 21.3**	**-0.7**
VAM	**Vamos**	**3.17**	**138**	*e*P	**Pn**	**09 06 20.3**	**-1.7**
APE	**Apeiranthos**	**3.21**	**102**	*e*Pn	**Pn**	**09 06 21.7**	**-0.8**
APE	**Apeiranthos**	**3.21**	**102**	*e*P	**Pn**	**09 06 21.9**	**-0.6**
APE	**Apeiranthos**	**3.21**	**102**	*i* P	**Pn**	**09 06 21.4**	**-1.1**
GRG	**Griva**	**3.22**	**11**	*e*Pn	**Pn**	**09 06 23.2**	**+0.6**
BIA	**Bitola**	**3.23**	**356**	*e*Pn	**Pn**	**09 06 23.3**	**+0.6**
BIA	**Bitola**	**3.23**	**356**	*i* Pn	**Pn**	**09 06 23.4**	**+0.7**
BIA				*e*Sn	**Sn**	**09 06 58.7**	**-1.2**
BIA	**Bitola**	**3.23**	**356**	*e*Pn	**Pn**	**09 06 23.3**	**+0.6**
BIA				*e*Sn	**Sn**	**09 06 58.7**	**-1.2**
THR5	**Thira Island,**	**3.30**	**114**	*e*Pn	**Pn**	**09 06 22.8**	**-0.9**
SOH	**Sokhos**	**3.31**	**24**	*e*Pn	**Pn**	**09 06 24.9**	**+0.9**
THR6	**Thira Island,**	**3.36**	**114**	*e*Pn	**Pn**	**09 06 24.7**	**+0.1**
OHR	**Ohrid**	**3.37**	**350**	*e*Pn	**Pn**	**09 06 25.4**	**+0.7**
OHR	**Ohrid**	**3.37**	**350**	*i* Pn	**Pn**	**09 06 25.3**	**+0.6**
OHR				*e*Sn	**Sn**	**09 07 02.9**	**-0.5**
OHR	**Ohrid**	**3.37**	**350**	*e*Pn	**Pn**	**09 06 25.4**	**+0.8**
OHR				*e*Sn	**Sn**	**09 07 02.9**	**-0.5**
SANT	**Santorini**	**3.40**	**114**	*e*Pn	**Pn**	**09 06 25.1**	**0.0**
SANT	**Santorini**	**3.40**	**114**	*e*Pn	**Pn**	**09 06 25.1**	**0.0**
LOS	**Limnos**	**3.46**	**51**	*e*Pn	**Pn**	**09 06 25.7**	**-0.1**
KNT	**Kendrikon**	**3.51**	**16**	*e*Pn	**Pn**	**09 06 27.3**	**+0.8**
GVD	**Gavdhos**	**3.57**	**145**	*e*P	**Pn**	**09 06 26.0**	**-1.4**

KRUS	Krusevo	3.58	356	*i* Pn	Pn	09 06 28.7 +1.2
KRUS				*e*Sn	Sn	09 07 09.6 +1.1
KRUS	Krusevo	3.58	356	*i* Pn	Pn	09 06 28.6 +1.1
KRUS				*e*Sn	Sn	09 07 09.6 +1.1
VAY	Valandovo	3.60	12	*e*Pn	Pn	09 06 28.1 +0.3
VAY	Valandovo	3.60	12	*i* Pn	Pn	09 06 28.1 +0.3
VAY				*e*Sn	Sn	09 07 08.6 -0.5
VAY	Valandovo	3.60	12	*e*Pn	Pn	09 06 28.1 +0.3
VAY				*e*Sn	Sn	09 07 08.6 -0.5
IDI	Anoyia	3.65	132	Pn	Pn	09 06 25.8 -2.7
	6.6nm,0.3s,baz=310,slow=11,SNR=17					
IDI				Pg	Pn	09 06 38.1 +10
	31nm,0.3s,baz=319,slow=18,SNR=20					
IDI				Sn	Sn	09 07 01.6 -8.7
	88nm,0.3s,baz=280,slow=19,SNR=6.8					
IDI				LR	LR	09 08 19.8
	comp=Z,220nm,18.6s,baz=124,slow=47					
IDI	Anoyia	3.65	132	Pg	Pn	09 06 38.1 +10
SRS	Serrai	3.66	24	*e*Pn	Pn	09 06 29.0 +0.4
TIR	Tirane	3.79	340	*e*Pn	Pn	09 06 31.8 +1.4
TIR	Tirane	3.79	340	*e*PN	Pn	09 06 31.9 +1.5
STIP	Stip	3.92	6	*i* Pn	Pn	09 06 33.2 +1.0
STIP				*e*Sn	Sn	09 07 18.2 +1.3
STIP	Stip	3.92	6	*e*Pn	Pn	09 06 32.9 +0.7
STIP				*e*Sn	Sn	09 07 18.1 +1.2
PRK	Paraskevi	3.94	67	*e*Pn	Pn	09 06 31.9 -0.5
PRK	Paraskevi	3.94	67	⇑*i*P	Pn	09 06 33.0 +0.5
PRK	Paraskevi	3.94	67	⇑*i*P	Pn	09 06 32.0 -0.5
QSH	Qafa e Shtames	3.94	341	*e*PN	Pn	09 06 32.4 -0.1
NVR	Nevrokopi	3.96	26	*e*P	Pn	09 06 33.6 +0.9
NVR				P		09 06 37.9
PHP	Peshkopia	3.98	347	*e*PN	Pn	09 06 33.2 +0.2
TIP	Timpagrande	4.04	291	P	Pn	09 06 34.7 +0.9
NPS	Neapolis	4.11	127	*e*P	Pn	09 06 34.5 -0.2
NPS	Neapolis	4.11	127	*e*P	Pn	09 06 36.0 +1.3
SMG	Samos	4.15	90	*e*P	Pn	09 06 35.4 0.0
SKO	Skopje	4.17	358	*e*Pn	Pn	09 06 36.6 +0.9
SKO	Skopje	4.17	358	*i* Pn	Pn	09 06 36.4 +0.8
SKO				*e*Sn	Sn	09 07 18.8 -4.3
SKO	Skopje	4.17	358	*e*Pn	Pn	09 06 36.6 +1.0
SKO				*e*Sn	Sn	09 07 18.8 -4.3
AYVA	Ayvalik	4.27	68	*i* P	Pn	09 06 36.9 0.0
PE1	Pezze di Greco	4.42	314	*e*Pn	Pn	09 06 39.0 0.0
PUK	Puka	4.44	343	*e*PN	Pn	09 06 40.2 +0.9
GCAM	G?zelcaml?	4.47	90	*i* P	Pn	09 06 39.5 -0.2
KDAG	Bornova	4.51	81	*i* P	Pn	09 06 40.7 +0.4
CEL	Celeste	4.53	278	*e*Pn	Pn	09 06 39.9 -0.6
CEL	Celeste	4.53	278	*e*Pn	Pn	09 06 39.9 -0.6
RDO	Rodhopi	4.53	41	*e*P	Pn	09 06 41.0 +0.6
RDO	Rodhopi	4.53	41	*e*P	Pn	09 06 40.5 +0.1
ULC	Ulcinj	4.54	337	*e*Pn	Pn	09 06 39.9 -0.7
ULC				*e*Sn	Sn	09 07 31.1 -0.9
ALN	Alexandroupoli	4.63	47	*e*Pn	Pn	09 06 41.7 -0.2
BDRM	Kayabasi	4.71	97	*i* P	Pn	09 06 43.1 +0.1
BCI	Bajram Curri	4.71	346	*e*PN	Pn	09 06 44.3 +1.3
SG1	Sgolgore (BA)	4.88	310	*i* Pn	Pn	09 06 45.4 +0.2
PLD	Plovdiv	4.92	28	*e*Pn	Pn	09 06 46.6 +0.8
VTS	Vitosha	4.95	14	⇓*i*P	Pn	09 06 48.1 +1.9
VTS	Vitosha	4.95	14	⇓P	Pn	09 06 48.1 +2.0
PVY	Plav	4.95	346	*e*Pn	Pn	09 06 47.0 +0.7
PVY				*e*Sn	Sn	09 07 41.7 -0.5
BUM	Brajici-Budva	4.95	336	*e*Pn	Pn	09 06 45.6 -0.7
BUM				*e*Sn	Sn	09 07 41.2 -1.0
PDG	Podgorica	4.96	340	*e*Pn	Pn	09 06 45.7 -0.7
PDG				*e*Sn	Sn	09 07 42.9 +0.5
TTG	Podgorica	4.96	340	*e*Pn	Pn	09 06 45.7 -0.7
TTG				*e*Sn	Sn	09 07 42.9 +0.5
AYDN	Tasoluk	4.98	90	*i* P	Pn	09 06 43.8 -2.9
KARP	Karpathos	5.00	115	*e*P	Pn	09 06 47.2 +0.2
AKHS	Akhisar	5.01	76	*i* P	Pn	09 06 46.3 -0.7
CUC	Castrocucco	5.01	298	*e*Pn	Pn	09 06 48.1 +1.0
	560nm,0.8s					
CUC	Castrocucco	5.01	298	*e*Pn	Pn	09 06 48.1 +0.9
	560nm,0.8s					
BALY	Balya	5.09	66	*i* P	Pn	09 06 47.9 -0.2
SART	Tekirdag	5.21	55	*i* P	Pn	09 06 49.1 -0.7
HCY	Herceg Novi	5.22	334	⇓*i*Pn	Pn	09 06 48.6 -1.3
HCY				*e*Sn	Sn	09 07 48.1 -0.6
BEY	Berane	5.23	346	⇑*i*Pn	Pn	09 06 50.5 +0.4
BEY				*e*Sn	Sn	09 07 49.1 +0.1
IVA	Berane	5.23	346	⇑*i*Pn	Pn	09 06 50.5 +0.4
IVA				*e*Sn	Sn	09 07 49.1 +0.1
NKY	Niksic	5.39	339	*e*Pn	Pn	09 06 51.5 -0.7
NKY				*e*Sn	Sn	09 07 52.8 -0.1
BTOK	Tokmak	5.40	67	*i* P	Pn	09 06 53.5 +1.1
ARG	Arkhangelos	5.46	105	*e*P	Pn	09 06 54.5 +1.3
BRY	Bratogost	5.61	336	⇓*i*Pn	Pn	09 06 53.9 -1.3
BRY				*e*Sn	Sn	09 07 57.2 -1.0
TURN	Turunc	5.66	97	*i* P	Pn	09 06 52.8 -3.1
VAE	Valguarnera	5.71	269	Pn	Pn	09 06 51.5 -5.2
	6.4nm,0.3s,baz=128,slow=17,SNR=2.3					
VAE				Sn	Sn	09 07 55.7 -5.1
	8.3nm,0.3s,baz=232,slow=8.7,SNR=3.6					
VAE				LR	LR	09 08 54.7
	comp=Z,244nm,21.2s,baz=281,slow=35					
DEMI	Demirci	5.73	75	*i* P	Pn	09 06 57.6 +0.7
UPM	Unac-Piva	5.78	340	⇓*i*Pn	Pn	09 06 57.2 -0.3
UPM				*e*Sn	Sn	09 08 01.5 -0.8
PLE	Pljevlja	5.78	344	⇓*i*Pn	Pn	09 06 57.8 +0.3
PLE				*e*Sn	Sn	09 08 00.9 -1.4
STON	Ston	5.88	331	*e*Pn	Pn	09 06 56.6 -2.3
STON				Sn	Sn	09 07 59.2 -5.7
LTBQ	Tobruq	6.04	161	*i* P	Pn	09 06 59.7 -1.4
	SNR=36					
KHAL	Karahalli	6.25	82	*i* P	Pn	09 07 05.3 +1.3
GDZ	Gediz	6.32	76	*i* P	Pn	09 07 02.5 -2.5
ULDT	Uludag	6.32	66	*i* P	Pn	09 07 05.6 +0.6
GOLH	Golhisar	6.36	93	*i* P	Pn	09 07 08.6 +3.2
AKAS	Kas	6.59	101	*i* P	Pn	09 07 09.4 +0.7
TKTP	Tekketepe	6.90	85	*i* P	Pn	09 07 14.6 +1.7
SLUM		6.96	154	⇓P	Pn	09 07 08.8 -5.0
SLUM				S	Sn	09 08 15.1 -16
ISP	Isparta	7.06	87	*i* P	Pn	09 07 16.5 +1.5
ISP	Isparta	7.06	87	*e*Pn	Pn	09 07 17.5 +2.5
	36nm,0.6s					
BOLV	Bolvadin	7.42	80	*i* P	Pn	09 07 22.3 +2.3
ESKT	Eskisehir	7.44	74	*i* P	Pn	09 07 22.0 +1.7
BZS	Buzias	7.81	0	⇓*i*P	Pn	09 07 24.9 -0.5
BZS	Buzias	7.81	0	⇓P	Pn	09 07 24.9 -0.4
HENT	Hendek	7.82	64	*i* P	Pn	09 07 26.7 +1.3
VOIR		8.06	18	⇑*i*P	Pn	09 07 31.5 +2.8
VOIR		8.06	18	⇑P	Pn	09 07 31.5 +2.8
HMAT	Matruh	8.08	144	⇓P	Pn	09 07 23.8 -5.3
KDHN	Kadinhani	8.32	82	*i* P	Pn	09 07 34.4 +2.1
TIRR	Tirgusor	8.41	36	*e*P	Pn	09 07 33.0 -0.5
TIRR				pmax	pmax	
	comp=Z,23nm,0.9s					
TIRR	Tirgusor	8.41	36	⇓*i*P	Pn	09 07 38.2 +4.7
TIRR	Tirgusor	8.41	36	*e*Pn	Pn	09 07 33.0 -0.5
	comp=Z,23nm,0.9s					
TIRR	Tirgusor	8.41	36	*e*Pn	Pn	09 07 33.0 -0.4
	comp=Z,23nm,0.9s					
TIRR				⇓P		09 07 38.2
NVLJ	Novalja	8.45	325	*e*Pn	Pn	09 07 32.4 -1.6
NVLJ				Sn	Sn	09 09 02.7 -5.0
SGKT	Sivrigoynuk	8.58	68	*i* P	Pn	09 07 36.7 +0.8
PKSM	Moragy	8.69	346	P	Pn	09 07 35.7 -1.6
PKSM	Moragy	8.69	346	⇑*i*P	Pn	09 07 35.3 -2.0
PKSM	Moragy	8.69	346	⇑P	Pn	09 07 35.3 -2.1
PLOR	Plostina	8.89	23	⇑*i*P	Pn	09 07 42.9 +2.9
VRI	Vrincioaia	8.93	24	⇓*i*P	Pn	09 07 44.0 +3.5
VRI	Vrincioaia	8.93	24	⇓P	Pn	09 07 44.0 +3.4
BOJS	Bojanci	9.04	330	*i* Pn	Pn	09 07 40.8 -1.4
BOJS				*e*Sn	Sn	09 09 18.2 -4.1
ERMK	Ermenek	9.10	94	*i* P	Pn	09 07 42.4 -0.6
SWA2		9.12	158	⇓P	Pn	09 07 39.2 -4.0
SWA2				S	Sn	09 09 07.9 -16
LEGS	Legarje	9.39	332	⇓*i*Pn	Pn	09 07 45.0 -1.9
LEGS				*i* Sn	Sn	09 09 25.2 -5.6
SKDS	Skadanscina	9.60	326	*i* Pn	Pn	09 07 48.0 -1.7
SKDS				*i* Sn	Sn	09 09 27.8 -8.0
VSL	Villasalto	9.71	284	*e*Pn	Pn	09 07 50.0 -1.3
	comp=Z,20nm,0.9s					
VSL	Villasalto	9.71	284	*e*Pn	Pn	09 07 50.0 -1.3
	comp=Z,20nm,0.9s					
LJU	Ljubljana	9.78	330	*e*Pn	Pn	09 07 50.5 -1.7
BALT	Daday	9.82	64	*i* P	Pn	09 07 54.0 +1.1
TRI	Trieste	9.83	326	*e*P	Pn	09 07 50.9 -2.0
TRI				pmax	pmax	
	comp=Z,25nm,0.6s					
TRI	Trieste	9.83	326	*e*Pn	Pn	09 07 50.9 -2.0
	comp=Z,25nm,0.6s					
TRI	Trieste	9.83	326	*e*Pn	Pn	09 07 50.9 -2.0
	comp=Z,25nm,0.6s					
JAVS	Javornik	9.85	328	*i* Pn	Pn	09 07 52.0 -1.1
JAVS				*i* Sn	Sn	09 09 36.5 -5.4
BUD	Budapest	9.87	350	⇑*e*	Pn	09 07 52.5 -0.8
BUD				*e*Sn	Sn	09 09 42.2 -0.1
BUD	Budapest	9.87	350	*e*S	Sn	09 09 42.2 -0.1
CSS	Prodhromos	9.88	103	*e*Pn	Pn	09 07 51.9 -1.6
	comp=Z,22nm,0.8s					
VOY	Vojsko	10.03	328	*e*Pn	Pn	09 07 54.3 -1.3
VOY				*e*Sn	Sn	09 09 40.1 -6.3
KEST	Kesra	10.04	262	Pn	Pn	09 07 55.3 -0.5
	comp=Z,0.5nm,0.3s,baz=15,slow=4.6,SNR=23					
KEST				Sn	Sn	09 09 42.9 -4.0
	comp=Z,0.3nm,0.3s,baz=30,slow=22,SNR=4.4					
KEST				LR	LR	09 12 06.4
	comp=Z,46nm,18.7s,baz=211,slow=39					
PERS	Pernice	10.05	334	*i* Pn	Pn	09 07 53.7 -2.2
PERS				*i* Sn	Sn	09 09 39.8 -7.2
MEST	Erdemli	10.09	93	*i* P	Pn	09 07 58.2 +1.8
SOKA	Soboth	10.12	333	⇓*i*Pn	Pn	09 07 55.0 -1.8
SOKA				⇑*i*Sn	Sn	09 09 40.7 -7.9
CDAG	Cicekdag	10.15	76	*i* P	Pn	09 07 57.8 +0.5
OBKA	Obir	10.15	331	⇓*i*Pn	Pn	09 07 55.0 -2.2
	comp=Z,25nm,0.8s,SNR=13					
OBKA				⇓*i*Sn	Sn	09 09 42.2 -7.2
BURAR	Bucovina Array	10.17	14	⇓*i*P	Pn	09 07 59.3 +1.8
BURAR	Bucovina Array	10.17	14	⇓P	Pn	09 07 59.3 +1.9
PSZ	Piszkesteto	10.19	354	⇓*e*P	Pn	09 07 57.6 -0.2
PSZ				*e*S	Sn	09 09 48.5 -1.9
PSZ	Piszkesteto	10.19	354	⇓*i*P	Pn	09 07 56.9 -0.9
PSZ	Piszkesteto	10.19	354	P	Pn	09 07 57.8 0.0
PSZ	Piszkesteto	10.19	354	⇓P	Pn	09 07 56.9 -0.9
ARSA	Arzberg	10.45	337	⇑*i*Pn	Pn	09 07 59.4 -2.0
	comp=Z,13nm,0.4s,SNR=11					
ARSA				⇑*i*Sn	Sn	09 09 49.4 -7.3
MYKA	Terra Mystica	10.61	329	⇑*i*Pn	Pn	09 08 01.9 -1.6
	comp=Z,70nm,1.5s					
MYKA				⇑*i*Sn	Sn	09 09 55.5 -5.1
KECS	Kecovo	10.71	356	*e*PN	Pn	09 08 04.5 -0.4
PGF	Pioggiola	10.74	300	*e*P	Pn	09 08 07.4 +2.1
	comp=Z,64nm,1.1s					
PGF	Pioggiola	10.74	300	*e*P	Pn	09 08 07.4 +2.1
PGF				pmax	pmax	
	comp=Z,32nm,1.1s					
PGF	Pioggiola	10.74	300	*e*P	Pn	09 08 07.4 +2.1
	comp=Z,32nm,1.1s					
UZH	Uzhgorod	10.84	2	*e*P	Pn	09 08 06.4 -0.3
VYHS	Vyhne	10.88	350	*e*PN	Pn	09 08 05.0 -2.2
VYHS				*e*SN	Sn	09 10 00.6 -6.5
VYHS	Vyhne	10.88	350	*e*Pn	Pn	09 08 05.0 -2.2
VYHS				*e*Sn	Sn	09 10 00.6 -6.5
VYHS				*e*		09 19 05.6
ZST	Bratislava	10.90	344	*e*P	Pn	09 08 06.6 -0.9
ZST				MLR	MLR	
	comp=Z,200nm,13.7s					
FVI	Forni Avoltri	10.95	326	Pn	Pn	09 08 08.6 +0.4
CONA	Conrad Observa	10.96	339	⇑*i*Pn	Pn	09 08 06.3 -2.0
	comp=Z,23nm,1.1s					
CONA				⇑*i*Sn	Sn	09 10 01.8 -7.3
CSNA	Conrad Observa	10.96	339	⇑*i*Pn	Pn	09 08 06.5 -1.8
	comp=Z,7.9nm,0.5s					
CSNA				⇑*i*Sn	Sn	09 10 01.9 -7.2
KOLL	Kolacno	11.03	349	*e*PN	Pn	09 08 06.4 -2.8
KOLL				*e*SN	Sn	09 10 08.5 -2.2
MODS	Modra-Piesok	11.03	345	*e*PN	Pn	09 08 07.8 -1.4
MODS				*e*SN	Sn	09 10 04.5 -6.3
MODS	Modra-Piesok	11.03	345	*e*Pn	Pn	09 08 07.8 -1.4
MODS				*e*Sn	Sn	09 10 04.5 -6.3
HMYD	Mayadein	11.05	134	⇓P	Pn	09 08 05.5 -4.1
CTI	Castel Tesino	11.08	321	P	Pn	09 08 09.5 -0.4
CTI				pmax	pmax	
	comp=Z,74nm,0.3s					
CTI	Castel Tesino	11.08	321	Pn	Pn	09 08 09.5 -0.4
	comp=Z,74nm,0.3s					
KBA	Koelnbreinsper	11.09	329	⇑*i*Pn	Pn	09 08 08.6 -1.5
	comp=Z,7.3nm,0.5s					
KBA				⇑*i*Sn	Sn	09 10 05.9 -6.4
KBA	Koelnbreinsper	11.09	329	⇑*i*P	Pn	09 08 08.6 -1.5
KBA				*i*		09 10 05.9
KBA				pmax	pmax	
	comp=Z,7.0nm,0.5s					
KBA	Koelnbreinsper	11.09	329	⇑*i*Pn	Pn	09 08 08.6 -1.5
	comp=Z,7.3nm,0.5s					
KBA				*i* Sn	Sn	09 10 05.9 -6.4
CRVS	Cervenica-Dubn	11.10	360	*e*PN	Pn	09 08 09.6 -0.6
KOLS	Kolonicke sedl	11.14	2	*e*PN	Pn	09 08 10.9 +0.1
ABTA	Abfaltersbach	11.19	326	⇑*i*Pn	Pn	09 08 10.4 -1.0
	comp=Z,24nm,1.0s					
ABTA				⇓*i*Sn	Sn	09 10 10.4 -4.2
AWBH		11.26	145	⇓P	Pn	09 08 07.4 -5.1
FYM	Al Fayyum	11.27	133	⇓P	Pn	09 08 07.9 -4.7
AYT	Al 'Ayyat	11.32	133	⇑P	Pn	09 08 08.8 -4.6
MOA	Molln	11.39	334	⇑*i*Pn	Pn	09 08 13.0 -1.2
	comp=Z,34nm,0.8s,SNR=16					
MOA				⇑*i*Sn	Sn	09 10 13.2 -6.4
MOA	Molln	11.39	334	⇑*i*Pn	Pn	09 08 13.0 -1.2
	comp=Z,34nm,0.8s					
MOA				*i* Sn	Sn	09 10 13.2 -6.4
KOT	Kottamia	11.57	130	⇑P	Pn	09 08 12.8 -3.9
APPI	Appiano	11.59	322	Pn	Pn	09 08 17.5 +0.6
	comp=Z,99nm,0.6s					
HSAF	As Saff	11.62	132	⇓P	Pn	09 08 12.8 -4.7
MABI	Malga Bissina	11.66	319	Pn	Pn	09 08 18.5 +0.6
HHAG	Hagoal	11.71	129	⇓P	Pn	09 08 14.6 -4.1
GLL	Jalalah	11.74	131	⇑P	Pn	09 08 14.6 -4.5
KWP	Kalwaria	11.86	4	*e*P	Pn	09 08 21.6 +1.1
KWP				pmax	pmax	
	comp=Z,23nm,1.1s					
KWP	Kalwaria	11.86	4	*e*P	Pn	09 08 21.6 +1.1
	comp=Z,23nm,1.1s					
WTTA	Wattenberg	11.97	325	⇑*i*P	Pn	09 08 21.5 -0.5
WTTA				pmax	pmax	
	comp=Z,55nm,1.0s					
WTTA	Wattenberg	11.97	325	⇑*i*Pn	Pn	09 08 21.5 -0.5
	comp=Z,55nm,1.0s					
WATA	Walderalm	12.05	325	⇑*i*Pn	Pn	09 08 22.2 -0.9
	comp=Z,74nm,1.0s					
WATA				⇓*i*Sn	Sn	09 10 30.8 -4.8
WATA	Walderalm	12.05	325	⇑*i*P	Pn	09 08 22.2 -0.9
WATA				*i*		09 10 30.8
WATA				pmax	pmax	
	comp=Z,74nm,1.0s					
VRAC	Vranov	12.06	344	Pn	Pn	09 08 21.4 -1.9
	comp=Z,0.7nm,0.3s,baz=178,slow=14,SNR=12					
VRAC	Vranov	12.06	344	P	Pn	09 08 21.4 -1.9
VRAC				pmax	pmax	
	comp=Z,1.0nm,0.3s					
VRAC	Vranov	12.06	344	P	Pn	09 08 21.6 -1.7
RSH		12.11	121	P	Pn	09 08 19.1 -5.0
LVV	L'vov	12.15	8	*e*P	Pn	09 08 25.9 +1.5
FETA	Feichten	12.21	322	⇑*i*Pn	Pn	09 08 25.7 +0.3
	comp=Z,19nm,1.0s					
MMAI	Mount Meron Ar	12.23	109	Pn	Pn	09 08 20.1 -5.5
	comp=Z,5.3nm,0.3s,baz=301,slow=12,SNR=7.2					
MMAI				Sn	Sn	09 10 27.6 -13
	comp=Z,16nm,0.3s,baz=308,slow=18,SNR=9.0					
SUZ		12.25	127	⇓P	Pn	09 08 21.2 -4.7
MOTA	Moosalm	12.27	324	⇑*i*P	Pn	09 08 25.6 -0.6
MOTA				pmax	pmax	
	comp=Z,60nm,1.0s					
MOTA	Moosalm	12.27	324	⇑*i*Pn	Pn	09 08 25.6 -0.5
	comp=Z,60nm,1.0s					
HRSH	Kfar Ka'horesh	12.28	110	⇓P	Pn	09 08 19.1 -7.3
SAOF	Saorge	12.29	305	*e*P	Pn	09 08 28.9 +2.5
SBF	Sospel	12.31	304	⇑*i*P	Pn	09 08 29.9 +3.1
	comp=Z,54nm,0.9s					
SBF	Sospel	12.31	304	⇑*i*P	Pn	09 08 29.9 +3.1
SBF				pmax	pmax	
	comp=Z,27nm,0.9s					
SBF	Sospel	12.31	304	⇑*i*P	Pn	09 08 29.9 +3.1
	comp=Z,27nm,0.9s					
MORC	Moravsky Berou	12.33	348	P	Pn	09 08 25.8 -1.1
MORC	Moravsky Berou	12.33	348	P	Pn	09 08 25.8 -1.1
AUTN	L'Aution	12.37	304	*e*P	Pn	09 08 30.5 +2.9
LUCF	Luceram	12.38	304	*e*P	Pn	09 08 30.9 +3.2
GEC2	GERESS Array S	12.44	335	*e*P	Pn	09 08 25.2 -3.3
GERES	GERESS Array B	12.44	335	Pn	Pn	09 08 26.5 -1.9
	comp=Z,1.5nm,0.3s,baz=150,slow=14,SNR=32					
GERES				Sn	Sn	09 10 38.0 -7.2
	comp=Z,1.2nm,0.3s,baz=151,slow=23,SNR=4.0					
DAVOX	Davos/Dischmat	12.47	320	Pn	Pn	09 08 31.0 +2.1
	comp=Z,1.8nm,0.3s,baz=146,slow=18,SNR=5.8					
DAVOX				Sn	Sn	09 10 42.1 -3.8
	comp=Z,1.5nm,0.3s,baz=283,slow=22,SNR=3.2					
TOUF	Mont Tournerai	12.50	304	*e*P	Pn	09 08 32.2 +2.9
TUE	Stuetta	12.55	318	*e*Pn	Pn	09 08 31.1 +1.1
	comp=Z,20nm,0.8s					
TUE	Stuetta	12.55	318	*e*Pn	Pn	09 08 31.1 +1.2
	comp=Z,20nm,0.8s					
DAVOS	Davos	12.55	320	P	Pn	09 08 31.0 +1.0
DAVOS						09 10 42.1
CALN	Calern	12.63	303	*e*P	Pn	09 08 31.3 +0.2
FRF	La Foret Royal	12.72	302	*e*P	Pn	09 08 34.6 +2.3
KHC	Kasperske Hory	12.73	335	*e*P	Pn	09 08 29.3 -3.1
KHC				*e*x	x	09 08 33.3
KHC				AMS	AMS	09 14 30.0
	comp=Z,200nm,11.8s					
KHC	Kasperske Hory	12.73	335	*e*P	Pn	09 08 31.9 -0.5
KHC				*e*		09 08 44.3
HNKL	Nakhl	12.93	124	⇓P	Pn	09 08 30.6 -4.7
WET	Wettzell	12.98	334	*e*P	Pn	09 08 34.2 -1.6
DPC	Dobruska-Polom	13.11	345	*e*P	Pn	09 08 36.0 -1.5
DPC				*e*x	x	09 08 44.4
DPC				AMS	AMS	09 14 20.0
	comp=Z,200nm,22.0s					
DPC	Dobruska-Polom	13.11	345	*e*P	Pn	09 08 36.9 -0.6
DPC				*e*		09 08 47.9
MBDF	Montbardon	13.12	307	*e*P	Pn	09 08 40.8 +3.1
	comp=Z,26nm,0.9s					
MBDF	Montbardon	13.12	307	*e*P	Pn	09 08 40.8 +3.1
MBDF				pmax	pmax	
	comp=Z,13nm,0.9s					
MBDF	Montbardon	13.12	307	*e*P	Pn	09 08 40.8 +3.1
	comp=Z,13nm,0.9s					
PRU	Pruhonice	13.20	340	*e*P	Pn	09 08 38.3 -0.4
PRU				*e*x	x	09 08 46.9
PRU				AMS	AMS	09 14 20.0
	comp=Z,200nm,12.8s					
PRU	Pruhonice	13.20	340	*e*P	Pn	09 08 38.5 -0.2
PRU				*e*		09 08 48.3
MALT	Malatya	13.28	83	⇓*i*P	Pn	09 08 42.5 +2.6
MALT	Malatya	13.28	83	P	Pn	09 08 42.3 +2.4
UPC	Upice	13.32	344	*e*P	Pn	09 08 38.0 -2.3
UPC				*e*x	x	09 08 50.1
SMRF	Simiane la Rot	13.60	302	*e*P	Pn	09 08 45.4 +1.4
ELZG	Elazig	13.71	82	*i* P	Pn	09 08 46.8 +1.3
ASF	Jabal al Asfar	13.74	110	Pn	Pn	09 08 44.4 -1.6
	comp=Z,0.2nm,0.3s,baz=332,slow=23,SNR=2.6					
ASF				Sn	Sn	09 11 10.0 -6.9
	comp=Z,0.8nm,0.3s,baz=165,slow=18,SNR=3.7					
ASF				LR	LR	09 14 57.2
	comp=Z,47nm,18.5s,baz=147,slow=41					
ASF	Jabal al Asfar	13.74	110	P	Pn	09 08 44.4 -1.6
ASF						09 11 10.0
EIL	Elat	13.74	122	Pn	Pn	09 08 40.2 -5.9
	comp=Z,0.6nm,0.3s,baz=338,slow=16,SNR=7.3					
EIL				Sn	Sn	09 11 00.1 -17
	comp=Z,6.9nm,0.3s,baz=254,slow=4.3,SNR=12					
ORIF	Oris-en-Rattie	13.77	306	*e*P	Pn	09 08 48.4 +2.0
ORIF				*e*MLR	MLR	
	comp=Z,218nm,21.2s					
MANZ	Manzenberg	13.96	334	*e*P	Pn	09 08 47.4 -1.4
KIEV	Kiev	13.99	20	*e*P	Pn	09 08 47.9 -1.3
KIEV				pmax	pmax	
	comp=Z,13nm,0.8s					
KIEV	Kiev	13.99	20	*e*Pn	Pn	09 08 47.9 -1.3
	comp=Z,13nm,0.8s					
KIEV	Kiev	13.99	20	*e*Pn	Pn	09 08 47.9 -1.3
	comp=Z,13nm,0.8s					
AKASG	Malin Array Be	14.00	20	Pn	Pn	09 08 45.3 -4.0
	comp=Z,1.5nm,0.3s,baz=211,slow=13,SNR=7.3					
GRA1	Grafenberg Arr	14.04	331	*e*P	Pn	09 08 47.8 -2.1
	comp=Z,200nm,21.1s					
GRF	Grafenberg Arr	14.04	331	*e*P	Pn	09 08 47.8 -2.1
GRF				*e*L		09 15 17.5
	comp=Z,204nm,21.1s					
NKC	Novy Kostel	14.05	335	*e*P	Pn	09 08 50.2 +0.2
NKC

SSF Saint Saulge 16.22 311⇑ *i*P Pn 09 09 22.1 +4.3
comp=Z,38nm,1.0s
WLF Walferdange 16.25 322 *e*P Pn 09 09 21.6 +3.4
WLF pmax pmax
comp=Z,25nm,1.0s
WLF Walferdange 16.25 322 *e*Pn Pn 09 09 21.6 +3.4
comp=Z,25nm,1.0s
SUW Suwalki 16.26 3 *e*P Pn 09 09 19.1 +0.9
TCF Toulx Ste Croi 16.68 307 *e*P Pn 09 09 25.4 +1.8
comp=Z,23nm,1.0s
TCF Toulx Ste Croi 16.68 307 *e*P Pn 09 09 25.4 +1.8
TCF pmax pmax
comp=Z,12nm,1.0s
TCF Toulx Ste Croi 16.68 307 *e*P Pn 09 09 25.4 +1.8
comp=Z,12nm,1.0s
KIV Kislovodsk 17.08 62 *c e*P Pn 09 09 29.3 +0.8
KIV *i* S S 09 12 32.7 -11
KIV pmax pmax
comp=Z,35nm,1.5s
KIV Kislovodsk 17.08 62 *e*P Pn 09 09 29.3 +0.8
comp=Z,35nm,1.5s
KIV *i* S S 09 12 32.7 -11
GIVF Givet 17.19 321⇑ *i*P Pn 09 09 34.5 +4.7
comp=Z,36nm,0.9s
GIVF Givet 17.19 321⇑ *i*P Pn 09 09 34.5 +4.7
GIVF pmax pmax
comp=Z,18nm,0.9s
GIVF Givet 17.19 321⇑ *i*P Pn 09 09 34.5 +4.7
comp=Z,18nm,0.9s
ONI Oni 17.35 67 P Pn 09 09 33.4 +1.5
BAIF Baives 17.47 320 *e*P Pn 09 09 34.6 +1.3
comp=Z,24nm,0.8s
BAIF Baives 17.47 320 *e*P Pn 09 09 34.6 +1.3
BAIF pmax pmax
comp=Z,12nm,0.8s
BAIF Baives 17.47 320 *e*P Pn 09 09 34.6 +1.3
comp=Z,12nm,0.8s
BSEG Bad Segeberg 17.91 338 *e*P Pn 09 09 32.4 -6.2
GNI Garni 18.14 75 P Pn 09 09 40.9 -0.6
comp=Z,1.0nm,0.3s,baz=238,slow=3.6,SNR=11
GNI Garni 18.14 75 *d i*P Pn 09 09 42.7 +1.2
GNI pmax pmax
comp=Z,57nm,1.5s
TBLG Delisi 18.21 70 P Pn 09 09 42.1 -0.2
MTA Mtatsminda 18.24 70 P Pn 09 09 42.4 -0.3
VRSR Storozhevoye 18.30 37 *e*P Pn 09 09 48.9 +5.5
MFF Saint Martin d 18.31 306⇑ *i*P Pn 09 09 45.3 +1.8
comp=Z,36nm,0.9s
MFF Saint Martin d 18.31 306⇑ *i*P Pn 09 09 45.3 +1.8
MFF pmax pmax
comp=Z,18nm,0.9s
MFF Saint Martin d 18.31 306⇑ *i*P Pn 09 09 45.3 +1.8
comp=Z,18nm,0.9s
DGRG David-gareji 18.66 71 P Pn 09 09 50.3 +2.5
LDF La Druitiere 19.10 311 *e*P Pn 09 09 53.0 +0.1
FLN La Foliniere 19.38 311 *e*P Pn 09 09 56.7 +0.4
FLN *e*MLR MLR
comp=Z,95nm,20.0s
GRR Gorron 19.45 310 *e*P Pn 09 09 57.6 +0.5
comp=Z,12nm,0.5s
GRR Gorron 19.45 310 *e*P Pn 09 09 57.6 +0.5
GRR pmax pmax
comp=Z,6.0nm,0.5s
GRR Gorron 19.45 310 *e*P Pn 09 09 57.6 +0.5
comp=Z,6.2nm,0.5s
ESDC Sonseca Array 20.01 283 P P 09 10 02.0 +0.5
comp=Z,1.6nm,0.5s,baz=79,slow=10,SNR=16
ESDC Sonseca Array 20.01 283 P P 09 10 03.1 +1.6
comp=Z,4.7nm,0.8s
ESDC Sonseca Array 20.01 283 P P 09 10 03.1 +1.6
comp=Z,4.7nm,0.8s
ESLA Sonseca Array 20.01 283 *e*Pn P 09 10 03.3 +1.8
comp=Z,3.3nm,0.9s
ESLA Sonseca Array 20.01 283 *e*Pn P 09 10 03.3 +1.9
comp=Z,3.3nm,0.9s
OBN Obninsk 20.08 26⇓ *e*P P 09 10 02.1 0.0
OBN pmax pmax
comp=Z,29nm,1.5s
OBN Obninsk 20.08 26 *e*P P 09 10 02.1 0.0
comp=Z,29nm,1.5s
GUD Guadarrama 20.13 286 P P 09 10 04.9 +2.1
GUD pmax pmax
comp=Z,10.0nm,0.7s
GUD Guadarrama 20.13 286 P P 09 10 04.9 +2.1
comp=Z,9.9nm,0.7s
GUD Guadarrama 20.13 286 P P 09 10 04.9 +2.2
comp=Z,9.9nm,0.7s
PAB San Pablo 20.32 283 *e*P P 09 10 06.1 +1.4
PAB pmax pmax
comp=Z,15nm,1.1s
PAB San Pablo 20.32 283 *e*Pn P 09 10 06.1 +1.4
comp=Z,15nm,1.1s
PAB San Pablo 20.32 283 *e*Pn P 09 10 06.1 +1.4
comp=Z,15nm,1.1s
TAM Tamanrasset 20.36 227 *e*P P 09 10 07.0 +1.7
TAM Tamanrasset 20.36 227 *e*P P 09 10 07.0 +1.7
SGMF Saint Gilles 20.44 308⇑ *i*P P 09 10 07.4 +1.4
comp=Z,57nm,1.0s
SGMF Saint Gilles 20.44 308⇑ *i*P P 09 10 07.4 +1.4
comp=Z,28nm,1.0s
SGMF Saint Gilles 20.44 308⇑ *i*P P 09 10 07.4 +1.4
comp=Z,28nm,1.0s
QUIF Quistinic 20.70 307 *e*P P 09 10 10.5 +1.7
comp=Z,22nm,0.8s
QUIF Quistinic 20.70 307 *e*P P 09 10 10.5 +1.7
comp=Z,11nm,0.8s
ROSF Rostrenen 20.91 308 *e*P P 09 10 12.1 +1.0
comp=Z,76nm,0.9s
ROSF Rostrenen 20.91 308 *e*P P 09 10 12.1 +1.0
comp=Z,38nm,0.9s
MOS Moscow 20.95 26 *e*P P 09 10 19.0 +7.6
VSU Vasula 20.95 8 *c i*P P 09 10 12.1 +0.7
VSU Vasula 20.95 8 *i*P P 09 10 12.1 +0.7
MDT Midelt 21.93 265 P P 09 10 22.5 +0.4
comp=Z,2.9nm,0.9s,mb3.6,baz=81,slow=9.8,SNR=5.7
MDT LR LR 09 19 25.3
comp=Z,36nm,18.4s,baz=285,slow=38
HFS Hagfors 22.92 350 P P 09 10 31.6 -0.7
comp=Z,8.3nm,0.4s,mb4.4,baz=160,slow=11,SNR=50
HFS LR LR 09 20 33.1
comp=Z,178nm,20.7s,baz=55,slow=39
HFS Hagfors 22.92 350 P P 09 10 31.6 -0.7
HFS LR LR 09 20 33.1
EVO Evora 23.25 281 *e*P P 09 10 45.5 +10
comp=Z,33nm,1.3s,mb4.2
EVO *e*MLR MLR
comp=Z,70nm,22.8s
NB2 NORSAR Subarra 24.17 348 P P 09 10 44.6 +0.7
comp=Z,17nm,0.9s,mb4.4,baz=152,slow=10
NOA NORSAR Array B 24.17 348 P P 09 10 44.8 +1.0
comp=Z,15nm,0.9s,mb4.3,baz=167,slow=10,SNR=21
EKA Eskdalemuir Ar 24.23 324 P P 09 10 45.2 +0.7
comp=Z,13nm,0.7s,mb4.3,baz=127,slow=8.7,SNR=43
EKA Eskdalemuir Ar 24.23 324 P P 09 10 45.2 +0.7
ESK Eskdalemuir 24.24 324 *e*P P 09 10 46.1 +1.5
ESK pmax pmax
comp=Z,29nm,1.0s,mb4.6
ESK Eskdalemuir 24.24 324 *e*P P 09 10 46.1 +1.5
comp=Z,29nm,1.0s,mb4.6
ESK Eskdalemuir 24.24 324 *e*Pn P 09 10 46.1 +1.4
comp=Z,29nm,1.0s,mb4.6
KAF Kangasniemi 24.52 5 *e p* P 09 10 48.5 +1.4
comp=Z,2.7nm,0.3s,mb4.2
KAF Kangasniemi 24.52 5 *e*P P 09 10 48.5 +1.4
KAF pmax pmax
comp=Z,3.0nm,0.3s,mb4.2
KLMR Klimovskoe 25.69 20 *e*P P 09 10 58.7 +1.0
KLMR pmax pmax
comp=Z,23nm,1.2s,mb4.5
KLMR Klimovskoe 25.69 20 *e*P P 09 10 58.7 +1.0
comp=Z,23nm,1.2s,mb4.5
JOF Joensuu 25.84 10 *e p* P 09 10 59.4 +0.3
comp=Z,2.3nm,0.3s,mb4.1
JOF Joensuu 25.84 10 *e*P P 09 10 59.4 +0.3
JOF pmax pmax
comp=Z,2.0nm,0.3s,mb4.0
AKTK Aktyubinsk 28.74 52 P P 09 11 24.3 -0.8
comp=Z,2.0nm,1.4s,mb3.5
AKTK Aktyubinsk 28.74 52 P P 09 11 24.1 -1.1
AKTO Aktyubinsk 28.74 52 P P 09 11 24.1 -1.1
comp=Z,2.4nm,0.3s,mb4.3,baz=250,slow=8.1,SNR=12
AKTO Aktyubinsk 28.74 52 P P 09 11 24.3 -0.8
AKTO pmax pmax
comp=Z,2.0nm,1.4s,mb3.5
TORD Torodi Ar. Bea 30.28 221 P P 09 11 40.1 +0.9
comp=Z,3.1nm,0.6s,mb4.1,baz=33,slow=9.1,SNR=26
TORD LR LR 09 24 53.2
comp=Z,65nm,18.6s,baz=60,slow=38
TORD Torodi Ar. Bea 30.28 221 P P 09 11 40.1 +0.9
TORD LR LR 09 24 53.2
ARU Arti 30.79 41 *d i*P P 09 11 42.5 -0.7
ARU *e* 09 12 43.3
ARU *e* 09 14 40.6
ARU *e*S S 09 16 42.7 +1.4
ARU *e*SS SS 09 18 26.6 -28
ARU pmax pmax
comp=Z,16nm,1.0s,mb4.7
ARU Arti 30.79 41 *e*P P 09 11 42.5 -0.7
comp=Z,11nm,0.8s,mb4.6
ARU Arti 30.79 41 *e*Pn P 09 11 42.5 -0.7
comp=Z,11nm,0.8s,mb4.6
SOKR Solikamsk 31.26 34 *e*P P 09 11 48.4 +1.1
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
SOKR Solikamsk 31.26 34 *e*P P 09 11 48.4 +1.1
comp=Z,10.0nm,0.9s,mb4.5
ARCES ARCESS Array B 31.87 3 P P 09 11 53.2 +0.7
comp=Z,2.4nm,0.5s,mb4.2,baz=189,slow=9.9,SNR=31
ARCES LR LR 09 25 32.0
comp=Z,49nm,19.6s,baz=240,slow=38
ARCES ARCESS Array B 31.87 3 P P 09 11 53.2 +0.7
ARCES LR LR 09 25 32.0
SVE Sverdlovsk 32.00 41⇓ *e*P P 09 11 54.1 +0.3
SVE *e*S S 09 17 03.2 +2.9
SVE pmax pmax
comp=Z,56nm,1.1s,mb5.2
SVE Sverdlovsk 32.00 41 *e*P P 09 11 54.1 +0.3
comp=Z,56nm,1.1s,mb5.2
KEV Kevo 32.15 4 *e p* P 09 11 56.0 +1.0
comp=Z,1.8nm,0.3s,mb4.3
KEV Kevo 32.15 4 *e*P P 09 11 56.0 +1.0
KEV pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
BRVK Borovoye 36.66 49 *e*P P 09 12 34.1 0.0
BRVK pmax pmax
comp=Z,23nm,0.9s,mb5.1
BRVK Borovoye 36.66 49 *e*P P 09 12 34.1 0.0
comp=Z,23nm,0.9s,mb5.1
BRVK Borovoye 36.66 49 *e*Pn P 09 12 34.0 -0.1
comp=Z,23nm,0.9s,mb5.1
BVA0 Borovoye Array 36.72 49 P P 09 12 34.5 -0.1
BVA0 pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BVA0 Borovoye Array 36.72 49 P P 09 12 34.5 -0.1
comp=Z,4.0nm,1.0s,mb4.3
BVAR Borovoye Array 36.72 49 P P 09 12 34.9 +0.3
comp=Z,6.8nm,0.6s,mb4.8,baz=256,slow=6.0,SNR=36
VOSK Vostochnaya 37.05 50 P P 09 12 37.2 -0.3
VOSK pmax pmax
comp=Z,16nm,1.0s,mb4.9
VOSK Vostochnaya 37.05 50 P P 09 12 37.2 -0.3
comp=Z,16nm,1.0s,mb4.9
KK31 Karatay Array 37.17 66 P P 09 12 38.1 -0.5
KK31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
KK31 Karatay Array 37.17 66 P P 09 12 38.1 -0.5
comp=Z,5.0nm,0.4s,mb4.8
DBIC Dimbokro 39.20 224 P P 09 12 57.0 +1.1
comp=Z,3.3nm,0.7s,mb4.3,baz=11,slow=16,SNR=3.9
DBIC LR LR 09 28 30.1
comp=Z,60nm,20.9s,baz=228,slow=35
EKS2 Erkin-Say 39.61 66 *e*Pn P 09 12 59.2 +0.1
comp=Z,14nm,0.8s,mb4.9
EKS2 Erkin-Say 39.61 66 *e*Pn P 09 12 59.2 +0.1
comp=Z,14nm,0.8s,mb4.9
AML Almayashu 39.66 67 *e*Pn P 09 12 59.9 +0.4
comp=Z,2.8nm,0.6s,mb4.3
AML Almayashu 39.66 67 *e*Pn P 09 12 59.9 +0.4
comp=Z,2.8nm,0.6s,mb4.3
LIC Lamto 39.66 224 *e*P P 09 13 00.8 +1.0
comp=Z,41nm,0.8s,mb5.0
LIC Lamto 39.66 224 *e*P P 09 13 00.8 +1.0
comp=Z,20nm,0.8s,mb5.0
FRU Bishkek 40.19 66 *e*P P 09 13 04.0 +0.1
FRU *e* pP 09 13 22.0 +1.1
FRU pmax pmax
comp=Z,40nm,1.6s,mb5.0
FRU Bishkek 40.19 66 *e*P P 09 13 04.0 +0.1
comp=Z,40nm,1.6s,mb5.0
UCH Uchtor 40.23 67 *e*Pn P 09 13 04.6 +0.3
comp=Z,3.7nm,0.9s,mb4.2
UCH Uchtor 40.23 67 *e*Pn P 09 13 04.6 +0.3
comp=Z,3.7nm,0.9s,mb4.2
SPITS Spitsbergen Ar 40.55 358 P P 09 13 06.5 +0.1
comp=Z,0.8nm,0.3s,mb4.0,baz=295,slow=14,SNR=10
KURK Kurchatov 41.82 53 P P 09 13 16.6 -0.6
KURK pmax pmax
comp=Z,23nm,0.8s,mb5.0
KURK Kurchatov 41.82 53 P P 09 13 16.6 -0.6
comp=Z,23nm,0.8s,mb5.0
NVS Novosibirsk 44.32 47⇑ *i*P P 09 13 38.2 +1.0
NVS *e*S S 09 20 04.2 -1.8
NVS pmax pmax
comp=Z,48nm,1.2s,mb5.1
NVS pmax pmax
comp=N,17nm,1.3s
NVS pmax pmax
comp=E,22nm,1.3s
NVS smax
comp=N,14nm,1.7s
MK31 Makanchi Array 44.78 58 *i*P P 09 13 40.3 -0.7
MK31 pmax pmax
comp=Z,4.0nm,0.3s,mb4.6
MKAR Makanchi Array 44.78 58 P P 09 13 40.0 -1.0
comp=Z,7.1nm,0.4s,mb4.8,baz=287,slow=6.4,SNR=48
ZAL Zalesovo 45.30 48 P P 09 13 44.5 -0.6
ZAA0 Zalesovo Array 45.31 48 *e*Pn P 09 13 44.6 -0.6
ZALV Zalesovo Beam 45.31 48 P P 09 13 44.5 -0.7
comp=Z,7.0nm,0.3s,mb4.8,baz=269,slow=8.2,SNR=30
NDI New Delhi 46.81 84 *e*P P 09 13 56.0 -1.3
DANN Dangsing 52.10 81 *e*P P 09 14 37.3 -0.3
KOLN Koldanda 52.24 82 *e*P P 09 14 37.8 -0.8
GKN Gorkha 52.94 81 *e*P P 09 14 42.8 -1.0
comp=Z,6.8nm,0.3s,mb5.1
DMN Daman 53.49 81 *e*P P 09 14 47.2 -0.7
comp=Z,33nm,0.5s
KKN Kakani 53.55 81 *e*P P 09 14 47.2 -1.0
PKIN Phulchoki 53.74 81 *e*P P 09 14 48.6 -1.0
comp=Z,6.4nm,0.3s,mb5.1
PKI Pulchoki 53.75 81 *e*P P 09 14 48.8 -0.9
comp=Z,14nm,0.5s,mb5.3
PKI Pulchoki 53.75 81 *e*P P 09 14 48.8 -0.9
PKI pmax pmax
comp=Z,14nm,0.5s,mb5.2
GUN Gumba 53.96 80 *e*P P 09 14 50.6 -0.7
comp=Z,39nm,0.4s
JIRN Jiri 54.32 81 *e*P P 09 14 53.3 -0.6
comp=Z,14nm,0.2s,mb5.6
RAMN Ramite 54.98 81 *e*P P 09 14 57.4 -1.3
comp=Z,67nm,0.8s
ODAN Odare 55.64 81 *e*P P 09 15 01.5 -1.9
comp=Z,14nm,0.3s,mb5.4
TAPN Taplejung 55.65 80 *e*P P 09 15 03.0 -0.5
comp=Z,22nm,0.4s,mb5.5
TLY Talaya 56.92 47 *e*P P 09 15 12.8 +0.6
TLY pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
ZAK Zakamensk 57.17 49 *e*P P 09 15 14.5 +0.6
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
GTA Gaotai 59.26 62 *e*P P 09 15 28.5 -0.2
GTA AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
SCHQ Schefferville 59.32 318 P P 09 15 29.8 +1.0
comp=Z,2.3nm,0.3s,mb4.7,baz=62,slow=8.1,SNR=13
SONM Songino Array 60.04 51 P P 09 15 33.3 -0.6
comp=Z,5.3nm,1.0s,mb4.5,baz=292,slow=7.8,SNR=20
BOD Bodaibo 60.15 38 *e*P P 09 15 33.8 -0.7
BOD *e* pP 09 15 56.5 +4.0
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
LZH Lanzhou 63.61 64 *e*P P 09 15 57.0 -1.1
LZH AMB AMB
comp=Z,18nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,83nm,4.3s
BOSA Boshof 66.15 176 P P 09 16 15.5 +1.1
comp=Z,2.6nm,0.9s,mb4.0,baz=34,slow=18,SNR=2.0
XAN Xi'an 68.24 63 P P 09 16 26.0 -1.9
XAN AMB AMB
comp=Z,2.0nm,0.6s,mb4.1
CMAR Chiang Mai Arr 69.10 82 P P 09 16 32.2 -1.2
comp=Z,5.6nm,0.8s,mb4.5,baz=304,slow=7.6,SNR=28
WHN Wuhan 73.99 64 P P 09 17 02.5 -0.2
YKA Yellowknife Ar 74.04 340 P P 09 17 01.9 -0.5
comp=Z,0.3nm,0.6s,baz=30,slow=6.4,SNR=4.3
YKA LR LR 09 49 04.3
comp=Z,21nm,19.7s,baz=35,slow=35
YKA Yellowknife Ar 74.04 340 P P 09 17 01.9 -0.5
YKA LR LR 09 49 04.3
ULM Lac du Bonnet 76.51 324 P P 09 17 16.6 -0.2
comp=Z,3.3nm,0.8s,mb4.1,baz=342,slow=4.4,SNR=3.8
VLA Vladivostok 77.62 45 *i*P P 09 17 31.6 +8.5
KSRS Korea Array 78.91 51 P P 09 17 29.8 -0.6
comp=Z,1.2nm,0.3s,mb4.1,baz=312,slow=4.4,SNR=7.5
KSRS Korea Array 78.91 51 P P 09 17 29.8 -0.6
KSRS pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
PDAR Pinedale Array 88.34 326 P P 09 18 18.8 +0.4
comp=Z,0.1nm,0.4s,baz=26,slow=7.1,SNR=2.5
WRA Warramunga Arr 119.67 93 PKP PKPdf 09 24 17.3 +0.5
comp=Z,0.3nm,0.4s,baz=313,slow=1.5,SNR=6.4
ASAR Alice Springs 121.28 97 PKP PKPdf 09 24 20.1 +0.3
comp=Z,0.3nm,0.3s,baz=292,slow=0.9,SNR=7.0

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*KISR **28** 09:06:54.6, 2831N×5628E, h33km, ML3.9*
*CSEM **28** 09:06:56.5±0.8, 2760N×5636E, h15km, ML3.7/3, Error ellipse: s-maj=25.4km s-min=6.7km az=52.0*
ISC 28 09:06:52.6±1.6, 2762N±007×569E±01, h10km, n14, σ0.88/18, 2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.77**	**197**	P	**Pn**	**09 07 23.0**	**-0.3**
	SNR=106						
BANOM				⇓S	**Sg**	09 07 52.4	+2.8
BANOM	**Banah**	**1.77**	**197**	Pn	**Pn**	**09 07 23.4**	**+0.1**
	SNR=106						
BANOM				Sn	**Sg**	09 07 49.6	0.0
HATD	**Hatta, Dubai**	**2.87**	**194**	Pn	**Pn**	**09 07 36.4**	**-2.0**
ASHO	**Ashiyiah**	**3.02**	**194**	⇓P	**Pn**	**09 07 40.6**	**+0.1**
	SNR=24						
ASHO	**Ashiyiah**	**3.02**	**194**	Pn	**Pn**	**09 07 39.6**	**-0.9**
FAQ	**Al Faqa, Dubai**	**3.09**	**202**	Pn	**Pn**	**09 07 41.8**	**+0.3**
ASUD	**Al Ashush, Dub**	**3.29**	**205**	Pn	**Pn**	**09 07 45.5**	**+1.2**
	SNR=27						
BTHS		**6.50**	**238**	P	**Pn**	**09 08 28.7**	**+0.3**
KFJS		**7.93**	**276**	P	**Pn**	**09 08 48.3**	**+0.3**
UMR	**Umm Al-Rimmam**	**8.29**	**286**	*e*P	**Pn**	**09 08 52.6**	**-0.3**
	baz=281						
UMR				AML	AML	09 10 27.5	
	comp=Z,14nm,0.4s,baz=281						
RDF	**Al-Radifah**	**8.33**	**281**	*e*P	**Pn**	**09 08 53.9**	**+0.4**
	baz=277						
RDF				AML	AML	09 10 30.3	
	comp=Z,11nm,0.3s,baz=277						
NAY	**Al-Naaiem**	**8.64**	**283**	*e*P	**Pn**	**09 08 58.0**	**+0.3**
NAY				*e*S	**Sn**	**09 10 30.6**	**-4.7**
NAY	**Al-Naaiem**	**8.64**	**283**	*e*P	**Pn**	**09 08 58.0**	**+0.2**
	baz=279						
NAY				*e*S	**Sn**	**09 10 30.6**	**-4.7**
	baz=279						
NAY				AML	AML	09 10 35.5	
	comp=Z,15nm,0.5s,baz=279						
LYLS		**10.37**	**240**	S	**Sn**	**09 11 16.8**	**-0.9**

IDC 28 09:15:43.1±30.0, 2369S×17843W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=572.2km s-min=140.9km az=92.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.13**	**248**	P	P	09 22 46.8	-0.3
	1.3nm,0.7s,baz=98,slow=7.1,SNR=2.6						
ASAR	**Alice Springs**	**43.48**	**260**	P	P	09 23 48.3	-0.1
	0.7nm,0.5s,baz=92,slow=7.7,SNR=18						
WRA	**Warramunga Arr**	**43.85**	**265**	P	P	09 23 51.7	+0.2
	0.8nm,0.3s,baz=103,slow=8.3,SNR=37						
FITZ	**Fitzroy Crossi**	**52.28**	**265**	P	P	09 24 56.6	-0.1
	0.6nm,0.5s,baz=131,slow=11,SNR=3.9						

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*TEH **28** 09:29:11.2, 2836N×5661E, h10km, ML4.7*
*BJI **28** 09:30:29.0, 2837N×5630E, h30km, mB5.0, mb4.8, Ms4.4, Msz4.2*
*IDC **28** 09:30:29.0±0.5, 2831N×5678E, h0km, mb4.7/26, mb1 4.8/29, mb1mx4.8/31, mbtmp4.7/29, ML4.8/3, MS3.9/22, Ms1 3.9/22, ms1mx3.8/32, Error ellipse: s-maj=14.3km s-min=10.9km az=173.0*
*ISCJB **28** 09:30:29.6±0.1, 2834N±002×5669E±002, h10km, mb4.8/183, MS3.9/27, Error ellipse: s-maj=3.1km s-min=2.5km az=32.7*
*CSEM **28** 09:30:30.8±0.0, 2831N×5673E, h15km, mb5.0/40, Ms4.2, Error ellipse: s-maj=2.8km s-min=1.6km az=15.0*
*NEIC **28** 09:30:30.9, 2817N×5674E, h15km, mb4.9/122, ML4.4(THR), MN4.7(TEH), After THR.*
*THR **28** 09:30:31.0±0.5, 2819N×5674E, h15km, ML4.3*
*BGS **28** 09:30:32.1±1.9, 2838N×5663E, h15km±999km, mb4.8*
*SZGRF **28** 09:30:34.4, 2838N×5623E, h10km, mb4.8, MS3.6, Southern Iran*
*MOS **28** 09:30:37.0±0.9, 2838N×5667E, h43km, mb5.1/77, Error ellipse: s-maj=6.0km s-min=3.4km az=128.0*
ISC 28 09:30:31.3±0.1, 2834N±002×5673E±002, h10km, (h25km±4.7km: pP-P), n570, σ0.98/576, mb4.8/183, MS3.9/27, 29C-40D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**2.44**	**189**	P	**Pn**	**09 31 11.6**	**+0.5**
	SNR=25						
BANOM				P		09 31 11.6	
	SNR=164						
BANOM	**Banah**	**2.44**	**189**	P	**Pn**	**09 31 11.6**	**+0.5**
	SNR=25						
BANOM				Sn	**Sn**	09 31 41.9	+1.0
GHIR	**Ghir-Karzin**	**3.30**	**270**	*e*Pn	**Pn**	**09 31 24.5**	**+1.5**
GHIR				AML	AML	09 32 32.2	
	comp=N,844nm,0.8s						
GHIR				AML	AML	09 32 37.8	
	comp=E,1μm,0.5s						
ISRV	**Sarvestan**	**3.34**	**289**	*e*Pn	**Pn**	**09 31 26.4**	**+2.9**
ISRV				*e*		09 32 31.6	
ISRV	**Sarvestan**	**3.34**	**289**	Pn	**Pn**	**09 31 26.3**	**+2.8**
IBAF	**Bafgh**	**3.40**	**343⇑**	*e*Pn	**Pn**	**09 31 27.6**	**+3.3**
IBAF				*e*Sg	**Sg**	**09 32 20.1**	**-0.2**
IBAF	**Bafgh**	**3.40**	**343⇑**	*e*Pn	**Pn**	**09 31 27.6**	**+3.3**
IBAF				*e*Sg	**Sg**	**09 32 20.1**	**-0.2**
IBAF				*e*		09 32 35.6	
NAZ	**Nazwa, Dubai**	**3.47**	**196**	Pn	**Pn**	**09 31 26.5**	**+1.2**
NAZ	**Nazwa, Dubai**	**3.47**	**196**	P	**Pn**	**09 31 26.9**	**+1.6**
	SNR=32						
HATD	**Hatta, Dubai**	**3.54**	**189**	⇑P	**Pn**	**09 31 28.6**	**+2.4**
	SNR=31						
HATD	**Hatta, Dubai**	**3.54**	**189**	Pn	**Pn**	**09 31 26.7**	**+0.4**
HATD	**Hatta, Dubai**	**3.54**	**189**	P	**Pn**	**09 31 28.6**	**+2.3**
	SNR=31						
IPAR	**Pars**	**3.55**	**296⇓**	*e*Pn	**Pn**	**09 31 30.1**	**+3.6**
IPAR				*e*		09 32 38.9	
IPAR	**Pars**	**3.55**	**296**	Pn	**Pn**	**09 31 30.0**	**+3.5**
IMEH	**Mehriz**	**3.55**	**329⇑**	*e*Pn	**Pn**	**09 31 30.4**	**+3.9**
IMEH				*e*Sg	**Sg**	**09 32 24.9**	**-0.6**
IMEH	**Mehriz**	**3.55**	**329⇑**	*e*Pn	**Pn**	**09 31 30.4**	**+3.9**
IMEH				*e*Sg	**Sg**	**09 32 24.9**	**-0.6**
IMEH				*e*		09 32 39.6	
IMEH	**Mehriz**	**3.55**	**329**	Pn	**Pn**	**09 31 30.3**	**+3.8**
IMEH				Sg	**Sg**	**09 32 24.9**	**-0.6**
IMOK	**Mouk**	**3.60**	**282**	*e*Pn	**Pn**	**09 31 30.0**	**+2.9**
IMOK				*e*		09 32 50.2	
IMOK	**Mouk**	**3.60**	**282**	Pn	**Pn**	**09 31 29.9**	**+2.8**
ASHO	**Ashiyiah**	**3.69**	**190**	⇓P	**Pn**	**09 31 29.2**	**+0.8**
	SNR=18						
FAQ	**Al Faqa, Dubai**	**3.72**	**196**	P	**Pn**	**09 31 29.7**	**+0.9**
	SNR=109						
ZHSF	**Zahedan**	**3.76**	**69**	*e*Pn	**Pn**	**09 31 31.4**	**+2.0**
ASUD	**Al Ashush, Dub**	**3.90**	**199**	P	**Pn**	**09 31 32.8**	**+1.5**
	SNR=162						
ICHK	**Chekchek**	**4.38**	**333⇓**	*e*Pn	**Pn**	**09 31 41.7**	**+3.8**
ICHK				*e*		09 33 06.9	
IKOO	**Kooshah**	**4.52**	**25**	*e*Pn	**Pn**	**09 31 43.8**	**+4.0**
IKOO				*e*		09 33 07.1	
HOQ	**Hoqain**	**4.76**	**174**	⇑P	**Pn**	**09 31 42.2**	**-1.0**

SNR=49
ITEG Tejag 4.87 20 *e*Pn **Pn 09 31 49.2 +4.7**
ITEG *e* 09 33 15.7
BIDO Bidbid 4.96 165 P **Pn 09 31 44.3 -1.5**
SNR=25
IDAH Dahanechah 5.15 31⇓*e*Pn **Pn 09 31 54.0 +5.5**
IDAH *e* 09 32 18.2
SMDO Samad 5.39 167 P **Pn 09 31 51.6 -0.1**
SNR=10
BSY Bisya 5.59 176 ⇓P **Pn 09 31 55.1 +0.7**
SNR=23
NASN Na'in 5.59 324 *e*Pn **Pn 09 31 57.7 +3.2**
NASN AML AML 09 34 00.8
comp=N,64nm,0.3s
BSYO Bisya 5.60 175 P **Pn 09 31 55.1 +0.4**
SNR=23
IGAR Gharneh 5.73 316 *e*Pn **Pn 09 31 59.7 +3.3**
IGAR *e* 09 33 09.9
IZEF Zefreh 5.92 321⇓*e*Pn **Pn 09 32 01.9 +2.9**
IZEF *e* 09 32 09.3
WBK Wadi Bani Khal 6.05 160 ⇓P **Pn 09 32 00.3 -0.5**
SNR=19
JMDO Jabal Madar 6.07 168 ⇑P **Pn 09 32 01.3 +0.2**
SNR=15
SLWS 6.49 238 P **Pn 09 32 04.5 -2.3**
IPIR Pirpir 6.64 312 *e*Pn **Pn 09 32 11.9 +3.0**
IPIR *e* 09 32 27.4
IPIR Pirpir 6.64 312 Pn **Pn 09 32 11.8 +2.9**
IKLH Kolahrood 6.65 320 *e*Pn **Pn 09 32 12.3 +3.2**
IKLH *e* 09 34 37.3
IKLH Kolahrood 6.65 320 Pn **Pn 09 32 12.2 +3.1**
GHVR GHOM 7.68 324 *e*Pn **Pn 09 32 27.6 +4.3**
UMR Umm Al-Rimmam 7.99 281 *e*P **Pn 09 32 27.3 -0.2**
UMR AML AML 09 33 57.5
comp=Z,111nm,0.5s
RDF Al-Radifah 8.09 276 *e*P **Pn 09 32 28.9 +0.1**
RDF AML AML 09 33 58.7
comp=Z,68nm,0.4s
DAMV Damavand 8.32 332 *e*Pn **Pn 09 32 35.6 +3.7**
MIB Mutribah 8.35 282 *e*P **Pn 09 32 31.6 -0.8**
MIB AML AML 09 34 05.5
comp=Z,106nm,0.6s
NAY Al-Naaiem 8.37 278 *e*P **Pn 09 32 32.2 -0.5**
NAY AML AML 09 34 04.6
comp=Z,39nm,0.6s
ASAO Ashtian 8.43 319 *e*Pn **Pn 09 32 36.5 +3.0**
MRVT Maraveh tapeh 9.31 357 *e*Pn **Pn 09 32 49.9 +4.3**
MRVT Maraveh tapeh 9.31 357 *e*Pn **Pn 09 32 49.8 +4.3**
SNR=52
SHAO Shalim 10.32 186 Pn **Pn 09 32 58.8 -0.6**
SNR=21
KBL Kabul 12.19 56 P **Pn 09 33 29.2 +4.2**
KBL pmax pmax
comp=Z,15nm,0.9s
KBL Kabul 12.19 56 P **Pn 09 33 29.2 +4.2**
comp=Z,15nm,0.9s
GNI Garni 15.38 323 Pn **Pn 09 34 15.3 +7.0**
comp=Z,3.3nm,0.3s,baz=351,slow=5.7,SNR=8.8
GNI Garni 15.38 323 *i* P **Pn 09 34 12.1 +3.8**
DGRG David-gareji 16.04 328 P **Pn 09 34 23.2 +6.3**
MTA Mtatsminda 16.50 327 P **Pn 09 34 26.9 +4.1**
TBLG Delisi 16.56 327 P **Pn 09 34 26.3 +2.8**
HAJJ Hajjah 17.48 227 *e*P **Pn 09 34 30.8 -4.5**
ASF Jabal al Asfar 17.55 287 P **Pn 09 34 36.9 +0.8**
comp=Z,2.8nm,0.3s,baz=318,slow=5.3,SNR=22
ASF S **Sn 09 37 42.3 -9.3**
comp=Z,0.2nm,0.3s,baz=318,slow=18,SNR=3.3
ASF LR LR 09 42 32.5
comp=Z,435nm,21.9s,baz=330,slow=41
ASF Jabal al Asfar 17.55 287 P **Pn 09 34 36.9 +0.8**
ASF S **Sn 09 37 42.3 -9.3**
BDHA Al Bayda' 17.66 218 *e*P **Pn 09 34 32.9 -4.6**
comp=Z,7.8nm,1.0s
BDHA Al Bayda' 17.66 218 *e*P **Pn 09 34 32.9 -4.7**
BDHA AMb AMB 09 34 33.4
comp=Z,16nm,1.0s
ONI Oni 17.83 326 P **Pn 09 34 44.8 +5.4**
SMLA Simla 17.97 76 *i* P **Pn 09 34 43.4 +2.2**
NDI New Delhi 18.01 84 *e*P **Pn 09 34 40.5 -1.3**
MALT Malatya 18.22 308 *e*P **Pn 09 34 45.8 +1.6**
MALT pmax pmax
comp=Z,17nm,0.6s
MALT Malatya 18.22 308 *e*P **Pn 09 34 45.8 +1.6**
comp=Z,17nm,0.6s
MALT Malatya 18.22 308 *e*P **Pn 09 34 45.8 +1.6**
comp=Z,17nm,0.6s
KK31 Karatay Array 18.46 33 P **Pn 09 34 49.2 +2.0**
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KK31 Karatay Array 18.46 33 P **Pn 09 34 49.2 +2.0**
comp=Z,9.0nm,0.7s
BHL Bhannes 18.87 292 *e*P **Pn 09 34 54.0 +1.8**
MMAI Mount Meron Ar 18.92 290 P **Pn 09 34 53.4 +0.6**
comp=Z,5.9nm,0.3s,baz=95,slow=16,SNR=14
MMAI S **Sn 09 38 17.6 -7.1**
comp=Z,1.4nm,0.3s,baz=114,slow=25,SNR=2.6
TRBA At Turbah 19.08 221 *e*P **Pn 09 34 49.8 -5.1**
EIL Elat 19.10 279 P **Pn 09 34 55.8 +0.8**
comp=Z,1.2nm,0.3s,baz=78,slow=6.3,SNR=9.5
EIL LR LR 09 43 41.4
comp=Z,581nm,20.5s,baz=100,slow=41
KIV Kislovodsk 19.23 328 *b i* P **Pn 09 34 57.8 +1.3**
KIV pmax pmax
comp=Z,29nm,1.3s
KIV MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 19.23 328 *e*P **Pn 09 34 57.7 +1.2**
comp=Z,27nm,0.8s
KIV Kislovodsk 19.23 328 *e*P **Pn 09 34 57.7 +1.2**
comp=Z,27nm,0.8s
AML Almayashu 19.48 41 P **Pn 09 35 01.0 +1.5**
SNR=32
AML Almayashu 19.48 41 *e*P **Pn 09 34 59.3 -0.2**
comp=Z,31nm,0.8s
AML Almayashu 19.48 41 Pn **Pn 09 35 00.6 +1.1**
SNR=43
AML Almayashu 19.48 41 *e*P **Pn 09 34 59.4 -0.1**
comp=Z,31nm,0.8s
EKS2 Erkin-Say 19.87 40 P **Pn 09 35 04.6 +0.5**
SNR=32
EKS2 Erkin-Say 19.87 40 *e*P **Pn 09 35 04.4 +0.3**
comp=Z,91nm,1.3s
EKS2 Erkin-Say 19.87 40 *e*P **Pn 09 35 04.4 +0.3**
comp=Z,92nm,1.3s
UCH Uchtor 20.02 42 P **P 09 35 05.4 +1.3**
SNR=15
AAK Ala-Archa 20.26 41 P **P 09 35 08.5 +1.8**
SNR=11
KZA Kyzart 20.36 43 P **P 09 35 12.3 +4.4**
SNR=36
FRU Bishkek 20.45 40 *e*P **P 09 35 13.0 +4.1**
FRU *e* 09 35 28.0
FRU pmax pmax
comp=Z,150nm,1.6s
FRU Bishkek 20.45 40 *e*P **P 09 35 13.0 +4.1**
comp=Z,150nm,1.6s
SOC Sochi 20.46 323 *i* P **P 09 35 08.6 -0.3**
SOC *e*'PP 09 35 28.1
SOC *e*S **S 09 38 52.0 -5.9**
SOC pmax pmax
comp=Z,33nm,0.7s
SOC MLR MLR
comp=Z,116nm,16.0s,MS3.3
SOC Sochi 20.46 323 *i* P **P 09 35 08.6 -0.3**
comp=Z,33nm,0.7s
SOC *e*S **S 09 38 52.0 -5.9**
USP Ospenovka 20.66 39 P **P 09 35 15.4 +4.2**
SNR=16
CSS Prodhromos 20.96 294 *e*P **P 09 35 15.4 +0.9**
comp=Z,45nm,0.9s
CSS Prodhromos 20.96 294 *e*P **P 09 35 15.4 +0.9**
comp=Z,45nm,0.9s
ULHL Ulahol 21.06 44 P **P 09 35 17.6 +2.2**
SNR=22
TKM2 Tokmak 2 21.07 41 P **P 09 35 17.1 +1.5**
SNR=10
TKM2 Tokmak 2 21.07 41 *e*P **P 09 35 16.6 +1.0**
TKM2 Tokmak 2 21.07 41 *e*P **P 09 35 16.6 +1.1**
AKTK Aktyubinsk 22.09 2 P **P 09 35 27.1 +0.7**
AKTK Aktyubinsk 22.09 2 P **P 09 35 27.1 +0.7**
AKTK LR LR 09 44 56.9
AKTO Aktyubinsk 22.09 2 P **P 09 35 27.1 +0.7**
comp=Z,12nm,0.5s,mb4.6,baz=176,slow=12,SNR=52
AKTO LR LR 09 44 56.9
comp=Z,295nm,19.6s,MS3.7,baz=172,slow=39

HYB Hyderabad 22.82 114 *i* P **P 09 35 35.5 +1.1**
HYB Hyderabad 22.82 114 *e*P **P 09 35 35.5 +1.1**
ANTO Ankara 22.84 306 *e*P **P 09 35 36.0 +1.5**
ANTO pmax pmax
comp=Z,22nm,0.6s,mb4.8
ANTO Ankara 22.84 306⇑*i*P **P 09 35 36.0 +1.5**
ANTO Ankara 22.84 306 *e*P **P 09 35 36.0 +1.5**
comp=Z,22nm,0.6s,mb4.8
ANTO Ankara 22.84 306 *e*P **P 09 35 36.0 +1.4**
comp=Z,22nm,0.6s,mb4.8
KOLN Koldanda 23.71 85 *e*P **P 09 35 43.9 +0.4**
comp=Z,103nm,1.1s,mb5.2
DANN Dangsing 23.78 83 *e*P **P 09 35 45.3 +1.1**
comp=Z,161nm,0.7s,mb5.6
ISP Isparta 23.86 300 *e*P **P 09 35 47.0 +2.2**
ISP pmax pmax
comp=Z,52nm,0.8s,mb5.0
ISP Isparta 23.86 300⇑*i*P **P 09 35 47.0 +2.2**
ISP Isparta 23.86 300 *e*P **P 09 35 47.0 +2.1**
comp=Z,52nm,0.8s,mb5.0
GKN Gorkha 24.59 84 *e*P **P 09 35 51.9 +0.3**
comp=Z,29nm,1.0s,mb4.8
DMN Daman 25.05 85 *e*P **P 09 35 56.3 +0.5**
comp=Z,44nm,0.8s,mb5.0
KKN Kakani 25.18 84 *e*P **P 09 35 57.6 +0.6**
comp=Z,99nm,0.5s,mb5.6
KKN Kakani 25.18 84 *e*P **P 09 35 57.6 +0.6**
KKN pmax pmax
comp=Z,99nm,0.5s,mb5.6
PKIN Phulchoki 25.31 85 *e*P **P 09 35 58.5 +0.3**
comp=Z,54nm,0.5s,mb5.3
PKI Pulchoki 25.32 85 *e*P **P 09 35 58.6 +0.3**
comp=Z,46nm,0.5s,mb5.3
PKI Pulchoki 25.32 85 *e*P **P 09 35 58.6 +0.3**
PKI pmax pmax
comp=Z,46nm,0.5s,mb5.3
VRHR Novokhopersk 25.43 337 *e*P **P 09 35 58.9 -0.1**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb4.9
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,4.0nm,0.3s
VRHR Novokhopersk 25.43 337 *e*P **P 09 35 58.9 -0.1**
comp=E,30nm,0.8s,mb4.9
GUN Gumba 25.69 84 *e*P **P 09 36 02.4 +0.8**
comp=E,172nm,0.8s,mb5.7
VRSR Storozhevoye 26.39 335 *e*P **P 09 36 07.3 -0.4**
VRSR pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=E,4.0nm,1.2s
VRSR Storozhevoye 26.39 335 *e*P **P 09 36 07.3 -0.4**
comp=E,1.0nm,0.5s,mb3.6
RAMN Ramite 26.47 86 *e*P **P 09 36 08.3 -0.4**
comp=E,31nm,0.6s,mb5.0
VOSK Vostochnaya 26.56 20 P **P 09 36 08.9 -0.3**
VOSK pmax pmax
comp=Z,14nm,0.8s,mb4.5
VOSK Vostochnaya 26.56 20 P **P 09 36 08.9 -0.3**
comp=Z,14nm,0.8s,mb4.5
BRVK Borovoye 26.66 18 P **P 09 36 10.9 +0.8**
SNR=8.8
BRVK Borovoye 26.66 18 *e*P **P 09 36 10.7 +0.7**
BRVK pmax pmax
comp=Z,12nm,0.7s,mb4.5
BRVK Borovoye 26.66 18 *e*P **P 09 36 10.7 +0.7**
comp=Z,12nm,0.7s,mb4.5
BVA0 Borovoye Array 26.66 19 P **P 09 36 09.7 -0.3**
BVA0 pmax pmax
comp=Z,6.0nm,1.2s,mb4.0
BVA0 Borovoye Array 26.66 19 P **P 09 36 09.7 -0.3**
comp=Z,6.0nm,1.2s,mb4.0
BVAR Borovoye Array 26.66 19 P **P 09 36 10.5 +0.4**
comp=Z,16nm,0.8s,mb4.6,baz=198,slow=9.0,SNR=37
BVAR PcP PcP 09 39 32.1 -1.6
comp=Z,2.0nm,0.6s,baz=180,slow=0.3,SNR=3.8
BVAR ScP ScP 09 43 12.6 -1.2
comp=Z,0.4nm,0.3s,baz=201,slow=7.9,SNR=3.8
BVAR LR LR 09 47 52.5
comp=Z,496nm,18.1s,MS4.1,baz=209,slow=39
BVAR Borovoye Array 26.66 19 P **P 09 36 10.5 +0.5**
BVAR 09 39 32.1
BVAR Borovoye Array 26.66 19 PcP PcP 09 39 32.1 -1.6
ODAN Odare 27.18 86 *e*P **P 09 36 14.6 -0.5**
MK31 Makanchi Array 27.19 40 *i* P **P 09 36 15.4 +0.4**
MK31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
MK31 Makanchi Array 27.19 40 *i* P **P 09 36 15.4 +0.4**
comp=Z,4.0nm,0.4s,mb4.3
MKAR Makanchi Array 27.19 40 P **P 09 36 15.5 +0.5**
comp=Z,7.8nm,0.6s,mb4.4,baz=222,slow=8.2,SNR=61
MKAR LR LR 09 47 10.8
comp=Z,223nm,21.1s,MS3.7,baz=244,slow=37
TIRR Tirgusor 27.71 313⇓*i*P **P 09 36 20.0 +0.3**
TIRR Tirgusor 27.71 313 ⇓P **P 09 36 20.0 +0.3**
KURK Kurchatov 27.81 31 P **P 09 36 20.9 +0.4**
KURK pmax pmax
comp=Z,17nm,1.5s,mb4.5
KURK Kurchatov 27.81 31 P **P 09 36 20.9 +0.4**
comp=Z,17nm,1.5s,mb4.5
KURK Kurchatov 27.81 31 *e*P **P 09 36 21.3 +0.8**
comp=Z,10nm,1.0s,mb4.4
IDI Anoyia 27.85 293 P **P 09 36 22.1 +1.1**
comp=Z,12nm,0.7s,mb4.6,baz=253,slow=13,SNR=6.4
ARU Arti 28.11 2 *e*P **P 09 36 23.0 0.0**
ARU *e* 09 37 16.7
ARU *e*S **S 09 41 00.1 -7.7**
VRI Vrincioaia 29.40 315⇑*i*P **P 09 36 36.0 +1.3**
MLR Muntele Rosu 29.74 313⇓*i*P **P 09 36 38.9 +1.2**
MLR Muntele Rosu 29.74 313 ⇓P **P 09 36 38.9 +1.3**
VOIR 30.29 313⇑*i*P **P 09 36 43.3 +0.7**
OBN Obninsk 30.47 337κ*e*P **P 09 36 44.1 +0.1**
OBN *e* 09 36 58.9
OBN 09 39 44.0
OBN S **S 09 41 41.0 -4.0**
OBN *e* 09 43 41.0
OBN pmax pmax
comp=Z,52nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.5
OBN Obninsk 30.47 337 *e*P **P 09 36 44.1 +0.1**
comp=Z,52nm,1.6s,mb5.0
OBN S **S 09 41 41.0 -4.0**
AKASG Malin Array Be 30.50 325 P **P 09 36 43.3 -1.1**
comp=Z,3.5nm,0.5s,mb4.4,baz=135,slow=8.5,SNR=14
KIEV Kiev 30.51 325 *e*P **P 09 36 42.9 -1.5**
KIEV pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
KIEV Kiev 30.51 325 *e*P **P 09 36 42.9 -1.5**
comp=Z,6.0nm,0.5s,mb4.7
KIEV Kiev 30.51 325 *e*P **P 09 36 42.9 -1.5**
comp=Z,6.5nm,0.5s,mb4.7
VTS Vitosha 30.56 307⇓*i*P **P 09 36 44.4 -0.6**
BURAR Bucovina Array 31.11 317⇑*i*P **P 09 36 50.4 +0.6**
BURAR Bucovina Array 31.11 317 ⇑P **P 09 36 50.4 +0.6**
SOKR Solikamsk 31.22 0 *e*P **P 09 36 51.5 +0.9**
SOKR pmax pmax
comp=Z,20nm,1.2s,mb4.8
SOKR MLR MLR
comp=Z,220nm,17.0s,MS3.9
SOKR Solikamsk 31.22 0 *e*P **P 09 36 51.5 +0.9**
comp=Z,220nm,17.0s
DRGR 32.32 314⇓*i*P **P 09 37 00.7 +0.3**
DRGR 32.32 314 ⇓P **P 09 37 00.7 +0.3**
BZS Buzias 32.60 311⇓*i*P **P 09 37 02.8 -0.1**
NVS Novosibirsk 32.70 29 *i* P **P 09 37 04.0 +0.3**
NVS pmax pmax
comp=Z,17nm,1.2s,mb4.8
NVS pmax pmax
comp=N,15nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.4s
NVS Novosibirsk 32.70 29 *i* P **P 09 37 04.0 +0.3**
comp=E,17nm,1.2s,mb4.8
ZAL Zalesovo 32.78 31 P **P 09 37 04.5 +0.1**
ZAA0 Zalesovo Array 32.80 31 *e*P **P 09 37 04.5 0.0**
ZAA0 Zalesovo Array 32.80 31 *e*P **P 09 37 04.5 -0.1**
ZALV Zalesovo Beam 32.80 31 P **P 09 37 04.5 -0.1**
comp=E,15nm,0.4s,mb5.3,baz=237,slow=9.1,SNR=64
ZALV LR LR 09 51 50.7
comp=E,219nm,18.3s,MS3.9,baz=226,slow=39
ZALV Zalesovo Beam 32.80 31 P **P 09 37 04.5 -0.1**
ZALV LR LR 09 51 50.7

LVV L'vov 32.84 320 *e*P **P 09 37 08.9 +4.0**
UZH Uzhgorod 33.32 317 *e*P **P 09 37 11.0 +1.9**
KOLS Kolonicke sedl 33.46 317 *e*P **P 09 37 11.2 +0.9**
CRVS Cervenica-Dubn 33.93 317 *e*P **P 09 37 15.1 +0.6**
CRVS *e*pP pP 09 37 25.7 +8.2
STHS Stebnicka Huta 34.27 318 *e*P **P 09 37 16.0 -1.4**
KECS Kecovo 34.36 316 *e*P **P 09 37 18.6 +0.4**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KECS Kecovo 34.36 316 *e*P **P 09 37 18.6 +0.4**
comp=Z,3.1nm,0.7s,mb4.3
KLMR Klimovskoe 34.52 345 *e*P **P 09 37 18.2 -1.2**
KLMR pmax pmax
comp=Z,24nm,1.3s,mb5.0
KLMR Klimovskoe 34.52 345 *e*P **P 09 37 18.2 -1.2**
comp=Z,24nm,1.3s,mb5.0
TIP Timpagrande 34.70 299 *e*P **P 09 37 21.5 +0.3**
comp=Z,18nm,1.0s,mb5.0
TIP Timpagrande 34.70 299 *e*P **P 09 37 21.5 +0.3**
comp=Z,18nm,1.0s,mb5.0
KMBO Kilima Mbogo 34.75 216 P **P 09 37 22.8 +0.9**
comp=Z,3.1nm,0.7s,mb4.3,baz=32,slow=15,SNR=6.6
KMBO LR LR 09 51 40.3
comp=Z,242nm,18.7s,MS4.0,baz=297,slow=37
KMBO Kilima Mbogo 34.75 216 P **P 09 37 22.8 +0.9**
KMBO LR LR 09 51 40.4
PKSM Moragy 34.76 311⇓*i*P **P 09 37 22.0 +0.3**
PKSM Moragy 34.76 311 ⇓P **P 09 37 22.0 +0.3**
VYHS Vyhne 35.38 315 *e*P **P 09 37 27.2 +0.2**
VYHS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
VYHS Vyhne 35.38 315 *e*P **P 09 37 27.2 +0.2**
comp=Z,2.0nm,0.7s,mb4.2
OJC Ojcow 35.46 318 *e*P **P 09 37 27.7 0.0**
CUC Castrocucco 35.51 300 *e*P **P 09 37 29.0 +0.8**
comp=Z,24nm,0.7s,mb5.2
CUC Castrocucco 35.51 300 *e*P **P 09 37 29.0 +0.8**
comp=Z,24nm,0.7s,mb5.2
KOLL Kolacno 35.68 315 *e*P **P 09 37 29.9 +0.3**
SGO Sicignano 35.96 301 P **P 09 37 33.7 +1.6**
SGO pmax pmax
comp=Z,13nm,0.2s,mb5.5
SGO Sicignano 35.96 301 P **P 09 37 33.7 +1.6**
comp=Z,13nm,0.2s,mb5.5
OKC Ostrava-Krasne 36.29 317 *e*P **P 09 37 34.9 +0.1**
OKC AMS AMS 09 49 10.0
comp=Z,300nm,25.6s
MODS Modra-Piesok 36.32 314 *e*P **P 09 37 35.1 +0.1**
ZST Bratislava 36.37 314 *e*P **P 09 37 36.0 +0.5**
ZST pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ZST Bratislava 36.37 314 *e*P **P 09 37 36.0 +0.5**
comp=Z,8.0nm,0.6s,mb4.8
MORC Moravsky Berou 36.63 317⇓*i*P **P 09 37 37.6 -0.1**
MORC Moravsky Berou 36.63 317 ⇓P **P 09 37 37.6 -0.1**
MIDA Miranda 36.88 303 P **P 09 37 41.8 +1.9**
VRAC Vranov 37.05 316 *e*P **P 09 37 41.3 0.0**
CONA Conrad Observa 37.08 313⇓*i*P **P 09 37 41.5 0.0**
comp=Z,11nm,0.9s,mb4.7,SNR=7.1
CSNA Conrad Observa 37.08 313⇓*i*P **P 09 37 41.5 0.0**
comp=Z,9.9nm,1.0s,mb4.6
CSNA Conrad Observa 37.08 313 P **P 09 37 41.5 -0.1**
comp=Z,9.9nm,1.0s,mb4.6
ARSA Arzberg 37.11 312⇓*i*P **P 09 37 42.0 +0.2**
comp=Z,22nm,1.1s,mb4.9,SNR=9.5
GTA Gaotai 37.12 61 P **P 09 37 42.5 +0.5**
GTA AP pP 09 37 49.3 +4.2
GTA XP sP 09 37 51.8 +5.4
GTA AMB AMB
comp=Z,20nm,1.0s,mb4.9
SOKA Soboth 37.29 311⇓*i*P **P 09 37 43.4 +0.1**
comp=Z,6.5nm,0.7s,mb4.6
VVLD Villa Vallelon 37.38 303 P **P 09 37 45.4 +1.2**
OBKA Obir 37.57 310⇓*i*P **P 09 37 45.8 +0.1**
comp=Z,12nm,1.0s,mb4.6
DPC Dobruska-Polom 37.57 317 *e*P **P 09 37 45.9 +0.2**
DPC Dobruska-Polom 37.57 317 *e*P **P 09 37 45.7 0.0**
DPC AMS AMS 09 52 30.0
comp=Z,200nm,34.4s
SKDS Skadanscina 37.71 309⇓*i*P **P 09 37 46.2 -0.8**
UPC Upice 37.81 317 *e*P **P 09 37 47.4 -0.3**
UPC Upice 37.81 317 *e*P **P 09 37 47.6 -0.1**
NRCA Norcia 37.88 304 P **P 09 37 49.3 +0.9**
comp=Z,8.2nm,0.8s,mb4.5
TRI Trieste 37.92 309 P **P 09 37 48.9 +0.2**
MOA Molln 38.09 313⇓*i*P **P 09 37 50.0 -0.1**
comp=Z,34nm,1.0s,mb5.0,SNR=15
MYKA Terra Mystica 38.20 310⇓*i*P **P 09 37 51.1 0.0**
comp=Z,14nm,0.9s,mb4.7
FSSB Fossombrone 38.25 306 P **P 09 37 52.4 +0.9**
comp=Z,10.0nm,0.4s,mb4.9
PTCC Patocco-Chiusa 38.35 310 P **P 09 37 52.5 +0.2**
comp=Z,18nm,0.6s,mb5.0
JOF Joensuu 38.35 342 *e*p **P 09 37 52.2 +0.1**
comp=Z,3.0nm,0.3s,mb4.5
JOF Joensuu 38.35 342 *e*P **P 09 37 52.2 +0.1**
JOF pmax pmax
comp=Z,3.0nm,0.3s,mb4.5
MURB Monte Urbino 38.37 305 P **P 09 37 54.4 +1.9**
GMNA Gemona 38.40 310 P **P 09 37 53.3 +0.6**
comp=Z,111nm,0.8s,mb5.6
KBA Koelnbreinsper 38.51 311⇓*i*P **P 09 37 53.8 +0.2**
comp=Z,35nm,1.1s,mb5.0,SNR=8.1
KBA Koelnbreinsper 38.51 311⇓*i*P **P 09 37 53.8 +0.2**
KBA pmax pmax
comp=Z,35nm,1.1s,mb5.0
PRU Pruhonice 38.53 316 *e*P **P 09 37 53.6 -0.2**
PRU AMS AMS 09 52 10.0
comp=Z,200nm,25.2s
PVCC Panska Ves 38.69 317 *e*P **P 09 37 54.8 -0.3**
GEC2 GERESS Array S 38.72 314 *e*P **P 09 37 55.6 +0.2**
GEC2 pmax pmax
comp=Z,16nm,0.9s,mb4.8
GEC2 GERESS Array S 38.72 314 *e*P **P 09 37 55.6 +0.2**
comp=Z,16nm,0.9s,mb4.8
GERES GERESS Array B 38.72 314 P **P 09 37 55.0 -0.4**
comp=Z,8.3nm,0.7s,mb4.6,baz=113,slow=9.4,SNR=45
GERES PcP PcP 09 40 06.4 -0.7
comp=Z,0.8nm,0.5s,baz=107,slow=1.0,SNR=3.2
GERES GERESS Array B 38.72 314 PcP PcP 09 40 06.4 -0.6
KHC Kasperske Hory 38.88 314 *e*P **P 09 37 56.8 +0.1**
KHC Kasperske Hory 38.88 314 *e*P **P 09 37 56.5 -0.2**
KHC x x 09 38 08.5
KHC AMS AMS 09 55 50.0
comp=Z,200nm,22.4s
SFI Santa Sofia 38.94 306 P **P 09 37 59.0 +1.7**
SFI pmax pmax
comp=Z,34nm,0.8s,mb5.1
SFI Santa Sofia 38.94 306 P **P 09 37 59.0 +1.7**
comp=Z,34nm,0.8s,mb5.1
ABTA Abfaltersbach 38.99 310⇓*i*P **P 09 37 57.7 +0.1**
comp=Z,34nm,1.3s,mb4.9,SNR=11
VMG Vicchio 39.17 306 P **P 09 38 01.2 +2.0**
comp=Z,49nm,0.8s,mb5.3
BRG Berggiesshubel 39.18 317 *e*P **P 09 37 58.6 -0.6**
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
BRG Berggiesshubel 39.18 317 *e*P **P 09 37 58.5 -0.7**
comp=Z,11nm,0.9s,mb4.6
BRG Berggiesshubel 39.18 317 *e*P **P 09 37 58.6 -0.5**
comp=Z,11nm,0.9s,mb4.6
KAF Kangasniemi 39.27 338 *e*p **P 09 38 00.8 +1.0**
comp=Z,1.7nm,0.3s,mb4.2
KAF Kangasniemi 39.27 338 *e*P **P 09 38 00.8 +1.0**
KAF pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
WET Wettzell 39.33 314 *e*P **P 09 38 00.1 -0.4**
WET pmax pmax
comp=Z,11nm,0.9s,mb4.6
WET Wettzell 39.33 314 *e*P **P 09 38 00.1 -0.4**
comp=Z,11nm,0.9s,mb4.6
CTI Castel Tesino 39.43 309 P **P 09 38 01.8 +0.4**
CTI pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
CTI Castel Tesino 39.43 309 P **P 09 38 01.8 +0.4**
comp=Z,8.0nm,0.5s,mb4.7
FNVD Fontana Vidola 39.50 306 P **P 09 38 03.8 +1.8**
WTTA Wattenberg 39.68 311 *i* P **P 09 38 03.1 -0.4**
comp=Z,72nm,1.2s,mb5.3,SNR=18
WTTA Wattenberg 39.68 311 *i* P **P 09 38 03.1 -0.4**
WTTA pmax pmax
comp=Z,72nm,1.2s,mb5.3
WATA Walderalm 39.74 311⇓*i*P **P 09 38 03.1 -0.8**
comp=Z,21nm,0.6s,mb5.0
WATA Walderalm 39.74 311⇓*i*P **P 09 38 03.1 -0.8**

WATA pmax pmax
comp=Z,21nm,0.6s,mb5.0
CMAR Chiang Mai Arr 39.80 95 P P 09 38 04.7 -0.1
comp=Z,0.9nm,0.3s,mb3.9,baz=274,slow=13,SNR=2.6
CMAR PcP PcP 09 40 10.3 -0.6
comp=Z,1.8nm,0.5s,baz=274,slow=4.5,SNR=4.4
CMAR LR LR 09 56 48.8
comp=Z,216nm,21.5s,MS4.0,baz=280,slow=40
CMAR Chiang Mai Arr 39.80 95 P **P 09 38 04.7 -0.1**
CMAR 09 40 10.4
BDI Bagni Di Lucca 39.86 306 P **P 09 38 05.4 +0.4**
CLL Collm 39.88 317 *eP* **P 09 38 05.4 +0.4**
comp=Z,21nm,1.0s,mb4.8
CLL Collm 39.88 317⇓ *iP* **P 09 38 04.9 -0.1**
comp=Z,21nm,1.0s,mb4.8
CLL *i* pP pP 09 38 09.4 +1.3
CLL *i* x x 09 38 19.7
CLL LmV 09 59 00.0
comp=Z,100nm,21.7s
CLL Collm 39.88 317⇓ *iP* **P 09 38 04.9 -0.1**
comp=Z,21nm,1.0s,mb4.8
CLL *i* pP
CLL *i*
GSCL Gusciola 39.90 306 P **P 09 38 06.5 +1.2**
comp=Z,25nm,1.0s,mb4.9
MANZ Manzenberg 40.04 315 *eP* **P 09 38 06.6 +0.2**
comp=Z,4.0nm,0.8s,mb4.2
MOTA Moosalm 40.05 311⇑ *iP* **P 09 38 05.8 -0.7**
comp=Z,18nm,0.5s,mb5.0,SNR=13
MOTA Moosalm 40.05 311⇑ *iP* **P 09 38 05.8 -0.8**
MOTA pmax pmax
comp=Z,18nm,0.5s,mb5.1
MABI Malga Bissina 40.21 309 P **P 09 38 08.7 +0.8**
FETA Feichten 40.24 310 *i* P **P 09 38 07.8 -0.3**
comp=Z,38nm,0.6s,mb5.3,SNR=54
LZH Lanzhou 40.29 67 *eP* **P 09 38 07.0 -1.6**
LZH AMB AMB
comp=Z,19nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,85nm,4.7s
RETA Reutte 40.31 311⇑ *iP* **P 09 38 07.8 -0.9**
comp=Z,16nm,0.7s,mb4.8
VSL Villasalto 40.43 299 *eP* **P 09 38 10.6 +0.8**
comp=Z,15nm,0.9s,mb4.7
VSL Villasalto 40.43 299 *eP* **P 09 38 10.6 +0.8**
comp=Z,15nm,0.9s,mb4.7
GRA1 Grafenberg Arr 40.51 315 *eP* **P 09 38 10.5 +0.2**
comp=Z,48nm,1.1s,mb5.0
GRA1 LR LR
comp=Z,100nm,21.5s,MS3.6
GRF Grafenberg Arr 40.51 315 *eP* **P 09 38 10.5 +0.2**
GRF pmax pmax
comp=Z,48nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,100nm,21.5s,MS3.6
GRF Grafenberg Arr 40.51 315 *eP* **P 09 38 10.5 +0.2**
GRF pmax pmax
comp=Z,48nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,100nm,21.5s,MS3.6
GRF Grafenberg Arr 40.51 315 *eP* **P 09 38 10.5 +0.2**
comp=Z,48nm,1.1s,mb5.0
GRF *eL* 09 58 38.9
comp=Z,96nm,21.5s
MOX Moxa 40.52 316 *eP* **P 09 38 10.3 -0.1**
comp=Z,9.0nm,1.2s,mb4.3
KEST Kesra 40.52 293 P **P 09 38 12.1 +1.5**
comp=Z,1.2nm,0.5s,mb3.8,baz=284,slow=1.6,SNR=5.0
KEST LR LR 09 59 38.5
comp=Z,99nm,18.3s,MS3.7,baz=260,slow=43
DAVA Damuels 40.86 311⇑ *iP* **P 09 38 12.7 -0.5**
comp=Z,44nm,0.6s,mb5.3,SNR=14
PGF Pioggiola 40.86 303 *eP* **P 09 38 12.1 -1.2**
comp=Z,38nm,1.1s,mb4.6
PGF Pioggiola 40.86 303 *eP* **P 09 38 12.1 -1.2**
PGF pmax pmax
comp=Z,19nm,1.1s,mb4.6
PGF Pioggiola 40.86 303 *eP* **P 09 38 12.1 -1.2**
comp=Z,19nm,1.1s,mb4.6
TUE Stuetta 41.08 309 *eP* **P 09 38 14.5 -0.6**
comp=Z,17nm,0.8s,mb4.7
TUE Stuetta 41.08 309 *eP* **P 09 38 14.5 -0.5**
comp=Z,17nm,0.8s,mb4.7
ZAK Zakamensk 41.34 45 *eP* **P 09 38 17.5 +0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
ZAK Zakamensk 41.34 45 *eP* **P 09 38 17.5 +0.4**
comp=Z,5.0nm,1.0s,mb4.1
TLY Talaya 41.89 43 P **P 09 38 23.5 +1.9**
SNR=5.4
TLY Talaya 41.89 43 *eP* **P 09 38 22.8 +1.2**
TLY *e* 09 48 14.9
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
TLY MLR MLR
comp=Z,263nm,14.0s,MS4.3
TLY Talaya 41.89 43 *eP* **P 09 38 22.5 +0.9**
comp=Z,4.5nm,0.8s,mb4.2
TLY *e*ScS ScS 09 48 14.9 -10
comp=Z,263nm,14.0s
TLY Talaya 41.89 43 *eP* **P 09 38 22.5 +0.9**
comp=Z,4.5nm,0.8s,mb4.2
NRDL Niedersach Rie 41.94 318 *eP* **P 09 38 23.0 +1.0**
comp=Z,30nm,1.2s,mb4.8
SAOF Saorge 42.03 305 *eP* **P 09 38 23.6 +0.7**
SBF Sospel 42.11 305 *eP* **P 09 38 22.3 -1.2**
comp=Z,41nm,0.7s,mb4.8
SBF Sospel 42.11 305 *eP* **P 09 38 22.3 -1.2**
SBF pmax pmax
comp=Z,21nm,0.7s,mb4.9
SBF Sospel 42.11 305 *eP* **P 09 38 22.3 -1.2**
comp=Z,21nm,0.7s,mb4.8
AUTN L'Aution 42.12 305 *eP* **P 09 38 23.6 0.0**
LUCF Luceram 42.17 305 *eP* **P 09 38 23.6 -0.5**
BSEG Bad Segeberg 42.26 320 *eP* **P 09 38 24.9 +0.4**
BSEG pmax pmax
comp=Z,22nm,1.3s,mb4.6
BSEG Bad Segeberg 42.26 320 *eP* **P 09 38 24.9 +0.4**
comp=Z,22nm,1.3s,mb4.6
TNS Taunus Mts 42.38 315 *eP* **P 09 38 26.2 +0.6**
TNS pmax pmax
comp=Z,33nm,1.2s,mb4.8
TNS Taunus Mts 42.38 315 *eP* **P 09 38 26.2 +0.6**
comp=Z,33nm,1.2s,mb4.8
FRF La Foret Royal 42.66 305 *eP* **P 09 38 26.4 -1.6**
MBDF Montbardon 42.66 306 *eP* **P 09 38 27.7 -0.3**
comp=Z,23nm,0.5s,mb4.8
MBDF Montbardon 42.66 306 *eP* **P 09 38 27.7 -0.3**
MBDF pmax pmax
comp=Z,11nm,0.5s,mb4.8
MBDF Montbardon 42.66 306 *eP* **P 09 38 27.7 -0.3**
comp=Z,11nm,0.5s,mb4.8
LMR La Mourre 42.74 304 *eP* **P 09 38 27.1 -1.6**
comp=Z,8.4nm,0.8s,mb4.2
LMR La Mourre 42.74 304 *eP* **P 09 38 27.1 -1.6**
LMR pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
LMR La Mourre 42.74 304 *eP* **P 09 38 27.1 -1.6**
comp=Z,4.2nm,0.8s,mb4.2
LPG La Plagne 42.75 307 *eP* **P 09 38 28.6 -0.1**
comp=Z,21nm,0.6s,mb4.8
LPG La Plagne 42.75 307 *eP* **P 09 38 28.6 -0.1**
LPG pmax pmax
comp=Z,11nm,0.6s,mb4.8
LPG La Plagne 42.75 307 *eP* **P 09 38 28.6 -0.1**
comp=Z,11nm,0.6s,mb4.8
BNI Bardonecchia 42.75 307 *eP* **P 09 38 27.9 -0.8**
BNI pmax pmax
comp=Z,12nm,0.7s,mb4.7
BNI Bardonecchia 42.75 307 *eP* **P 09 38 27.9 -0.8**
comp=Z,12nm,0.7s,mb4.7
LPL La Plagne 42.76 308 *eP* **P 09 38 28.7 -0.1**
CDF Champ du Feu 42.78 312 *eP* **P 09 38 27.1 -1.8**
ECH Echery 42.83 312 *eP* **P 09 38 28.2 -1.1**
SONM Songino Array 42.83 49 P **P 09 38 30.0 +0.7**
comp=Z,9.5nm,0.9s,mb4.5,baz=255,slow=8.5,SNR=36
SONM LR LR 09 58 04.0
comp=Z,320nm,20.2s,MS4.2,baz=73,slow=39
LOMF Lomont 42.92 310 *eP* **P 09 38 29.0 -1.1**
HINF Hinteralfeld 42.97 311 *eP* **P 09 38 28.8 -1.7**
comp=Z,9.7nm,0.6s,mb4.4
HINF Hinteralfeld 42.97 311 *eP* **P 09 38 28.8 -1.7**
HINF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
HINF Hinteralfeld 42.97 311 *eP* **P 09 38 28.8 -1.7**
comp=Z,4.8nm,0.6s,mb4.4
HFS Hagfors 43.01 330 LR LR 09 57 34.1

comp=Z,44nm,21.9s,MS3.3,baz=111,slow=38
ORIF Oris-en-Rattie 43.31 307 *eP* **P 09 38 31.7 -1.5**
comp=Z,14nm,0.8s,mb4.5
ORIF Oris-en-Rattie 43.31 307 *eP* **P 09 38 31.7 -1.5**
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
ORIF Oris-en-Rattie 43.31 307 *eP* **P 09 38 31.7 -1.5**
comp=Z,6.9nm,0.8s,mb4.5
CABF La Chapelle 43.33 309 *eP* **P 09 38 32.6 -0.8**
comp=Z,56nm,0.9s,mb5.0
CABF La Chapelle 43.33 309 *eP* **P 09 38 32.6 -0.8**
CABF pmax pmax
comp=Z,28nm,0.9s,mb5.0
CABF La Chapelle 43.33 309 *eP* **P 09 38 32.6 -0.8**
comp=Z,28nm,0.9s,mb5.0
HAU Haudompre 43.34 311 *eP* **P 09 38 31.7 -1.7**
GYA Guiyang 44.12 80 P **P 09 38 39.3 -0.7**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
VIVF Saint-Julien-l 44.16 306 *eP* **P 09 38 38.5 -1.6**
MEZF Maizieres J'vi 44.26 312 *eP* **P 09 38 40.0 -0.9**
SSB Saint Sauveur 44.28 307 *eP* **P 09 38 40.5 -0.5**
SSB Saint Sauveur 44.28 307 *eP* **P 09 38 40.5 -0.6**
NB2 NORSAR Subarra 44.51 330 P **P 09 38 41.6 -1.1**
comp=Z,4.0nm,0.6s,mb4.4,baz=116,slow=7.9
NOA NORSAR Array B 44.51 330 P **P 09 38 41.9 -0.8**
comp=Z,3.5nm,0.6s,mb4.4,baz=116,slow=7.9,SNR=15
NOA LR LR 09 59 01.6
comp=Z,56nm,21.6s,MS3.5,baz=90,slow=38
XAN Xi'an 44.62 69 P **P 09 38 42.5 -1.4**
XAN AP pP 09 38 49.3 +2.2
XAN AMB AMB
comp=Z,12nm,0.9s,mb4.7
XAN AMB AMB
comp=Z,58nm,5.5s
GIVF Givet 44.65 314 *eP* **P 09 38 43.8 -0.1**
comp=Z,52nm,1.0s,mb5.0
GIVF Givet 44.65 314 *eP* **P 09 38 43.8 -0.1**
GIVF pmax pmax
comp=Z,26nm,1.0s,mb5.0
GIVF Givet 44.65 314 *eP* **P 09 38 43.8 -0.1**
comp=Z,26nm,1.0s,mb5.0
LASF Ste Croix 44.70 305 *eP* **P 09 38 43.2 -1.2**
KEV Kevo 44.84 346 *ep* **P 09 38 44.6 -0.5**
comp=Z,3.4nm,0.3s,mb4.7
KEV Kevo 44.84 346 *eP* **P 09 38 44.6 -0.5**
KEV pmax pmax
comp=Z,3.0nm,0.3s,mb4.6
SMF Signal de Mont 44.87 309 *eP* **P 09 38 44.6 -1.2**
comp=Z,94nm,1.0s,mb5.3
SMF Signal de Mont 44.87 309 *eP* **P 09 38 44.6 -1.2**
SMF pmax pmax
comp=Z,47nm,1.0s,mb5.3
SMF Signal de Mont 44.87 309 *eP* **P 09 38 44.6 -1.2**
comp=Z,47nm,1.0s,mb5.3
LOR Lormes 44.92 310 *eP* **P 09 38 44.8 -1.3**
comp=Z,34nm,0.9s,mb4.9
LOR Lormes 44.92 310 *eP* **P 09 38 44.8 -1.3**
LOR pmax pmax
comp=Z,17nm,0.9s,mb4.9
LOR Lormes 44.92 310 *eP* **P 09 38 44.8 -1.3**
comp=Z,17nm,0.9s,mb4.9
PLDF La Plantade 44.97 308 *eP* **P 09 38 45.3 -1.3**
ARCES ARCESS Array B 45.00 345 P **P 09 38 46.3 -0.1**
comp=Z,3.3nm,0.5s,mb4.4,baz=136,slow=8.3,SNR=44
ARCES PcP PcP 09 40 26.3 -1.0
comp=Z,4.4nm,0.9s,baz=197,slow=2.5,SNR=4.0
ARCES ScP ScP 09 44 18.2 -1.7
comp=Z,0.9nm,0.9s,baz=141,slow=4.6,SNR=4.3
ARCES LR LR 10 03 50.2
comp=Z,87nm,19.7s,MS3.7,baz=282,slow=44
ARCES ARCESS Array B 45.00 345 P **P 09 38 46.3 -0.1**
ARCES 09 40 26.3
ARCES ARCESS Array B 45.00 345 PcP PcP 09 40 26.3 -1.0
ARCES ARCESS Array B 45.00 345 P **P 09 38 46.3 -0.1**
ARCES PcP PcP 09 40 26.3 -1.1
ARCES ScP ScP 09 44 18.2 -1.7
ARCES LR LR 10 03 50.2
BAIF Baives 45.03 314 *eP* **P 09 38 47.0 0.0**
comp=Z,81nm,1.2s,mb5.1
BAIF Baives 45.03 314 *eP* **P 09 38 47.0 0.0**
BAIF pmax pmax
comp=Z,41nm,1.2s,mb5.1
BAIF Baives 45.03 314 *eP* **P 09 38 47.0 0.0**
comp=Z,40nm,1.2s,mb5.1
SSF Saint Saulge 45.14 309 *eP* **P 09 38 46.8 -1.1**
comp=Z,56nm,0.9s,mb5.1
SSF Saint Saulge 45.14 309 *eP* **P 09 38 46.8 -1.1**
SSF pmax pmax
comp=Z,28nm,0.9s,mb5.1
SSF Saint Saulge 45.14 309 *eP* **P 09 38 46.8 -1.1**
comp=Z,28nm,0.9s,mb5.1
LBL Lubilhac 45.19 307 *eP* **P 09 38 48.0 -0.3**
AVF Avril sur Loir 45.22 309 *eP* **P 09 38 47.2 -1.3**
comp=Z,26nm,1.0s,mb4.7
AVF Avril sur Loir 45.22 309 *eP* **P 09 38 47.2 -1.3**
AVF pmax pmax
comp=Z,13nm,1.0s,mb4.7
AVF Avril sur Loir 45.22 309 *eP* **P 09 38 47.2 -1.3**
comp=Z,13nm,1.0s,mb4.7
AGO Saint Agoulin 45.32 308 *eP* **P 09 38 48.8 -0.5**
PYM Petit Puy Mans 45.38 308 *eP* **P 09 38 49.2 -0.7**
ETOS Mallorca 45.49 299 P **P 09 38 51.2 +0.4**
comp=Z,3.9nm,0.6s,mb4.4
ETOS Mallorca 45.49 299 P **P 09 38 51.2 +0.4**
comp=Z,3.9nm,0.6s,mb4.4
BGF Bois d'Agland 45.55 309 *eP* **P 09 38 50.0 -1.1**
comp=Z,67nm,1.1s,mb5.2
BGF Bois d'Agland 45.55 309 *eP* **P 09 38 50.0 -1.1**
BGF pmax pmax
comp=Z,33nm,1.1s,mb5.2
BGF Bois d'Agland 45.55 309 *eP* **P 09 38 50.0 -1.1**
comp=Z,33nm,1.1s,mb5.2
MTLF Montolieu 45.87 304 *eP* **P 09 38 53.0 -0.7**
comp=Z,12nm,0.8s,mb4.6
MTLF Montolieu 45.87 304 *eP* **P 09 38 53.0 -0.7**
MTLF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MTLF Montolieu 45.87 304 *eP* **P 09 38 53.0 -0.7**
comp=Z,6.2nm,0.8s,mb4.6
TCF Toulx Ste Croi 45.97 308 *eP* **P 09 38 53.7 -0.8**
comp=Z,32nm,0.9s,mb5.0
TCF Toulx Ste Croi 45.97 308 *eP* **P 09 38 53.7 -0.8**
TCF pmax pmax
comp=Z,16nm,0.9s,mb5.0
TCF Toulx Ste Croi 45.97 308 *eP* **P 09 38 53.7 -0.8**
comp=Z,16nm,0.9s,mb5.0
CAF Calviac 46.01 306 *eP* **P 09 38 54.1 -0.7**
comp=Z,17nm,0.7s,mb4.8
CAF Calviac 46.01 306 *eP* **P 09 38 54.1 -0.7**
CAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CAF Calviac 46.01 306 *eP* **P 09 38 54.1 -0.7**
comp=Z,8.4nm,0.7s,mb4.8
TAM Tamanrasset 46.25 275 *eP* **P 09 38 57.4 +0.4**
TAM Tamanrasset 46.25 275 *eP* **P 09 38 57.4 +0.4**
EMIR Miracle 46.39 302 P **P 09 38 58.8 +0.9**
comp=Z,10nm,0.9s,mb4.8
EMIR Miracle 46.39 302 P **P 09 38 58.8 +1.0**
comp=Z,10nm,0.9s,mb4.8
RJF Les Rejaudoux 46.41 307 *eP* **P 09 38 57.4 -0.6**
comp=Z,50nm,1.0s,mb5.1
RJF Les Rejaudoux 46.41 307 *eP* **P 09 38 57.4 -0.6**
RJF pmax pmax
comp=Z,25nm,1.0s,mb5.1
RJF Les Rejaudoux 46.41 307 *eP* **P 09 38 57.4 -0.6**
comp=Z,25nm,1.0s,mb5.1
EIBI Ibiza 46.67 298 P **P 09 39 03.7 +3.6**
comp=Z,9.1nm,0.8s,mb4.8
EPOB Poblet 46.75 301 P **P 09 39 00.7 +0.1**
comp=Z,11nm,1.0s,mb4.7
EPOB Poblet 46.75 301 P **P 09 39 00.7 0.0**
comp=Z,11nm,1.0s,mb4.7
LFF La Frestale 46.95 306 *eP* **P 09 39 00.8 -1.4**
comp=Z,33nm,0.7s,mb5.1
LFF La Frestale 46.95 306 *eP* **P 09 39 00.8 -1.4**
LFF pmax pmax
comp=Z,16nm,0.7s,mb5.1
LFF La Frestale 46.95 306 *eP* **P 09 39 00.8 -1.4**
comp=Z,16nm,0.7s,mb5.1
ERTA Horta de San J 47.33 301 P **P 09 39 05.6 +0.4**
comp=Z,8.6nm,1.0s,mb4.6
ERTA Horta de San J 47.33 301 P **P 09 39 05.6 +0.4**
comp=Z,8.6nm,1.0s,mb4.6
EBIE Bielsa 47.40 303 P **P 09 39 09.5 +3.7**
comp=Z,1.5nm,0.5s,mb4.2

MFF Saint Martin d 47.61 309 *eP* **P 09 39 06.0 -1.3**
comp=Z,15nm,0.8s,mb4.8
MFF Saint Martin d 47.61 309 *eP* **P 09 39 06.0 -1.3**
MFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MFF Saint Martin d 47.61 309 *eP* **P 09 39 06.0 -1.3**
comp=Z,7.3nm,0.8s,mb4.8
ETSF Etsaut 47.91 304 *eP* **P 09 39 09.0 -0.7**
comp=Z,16nm,0.8s,mb4.8
ETSF Etsaut 47.91 304 *eP* **P 09 39 09.0 -0.7**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ETSF Etsaut 47.91 304 *eP* **P 09 39 09.0 -0.7**
comp=Z,8.2nm,0.8s,mb4.8
FLN La Foliniere 47.94 311 *eP* **P 09 38 08.3 -1.5**
comp=Z,45nm,0.9s,mb5.2
FLN La Foliniere 47.94 311 *eP* **P 09 38 08.3 -1.5**
FLN pmax pmax
comp=Z,23nm,0.9s,mb5.2
FLN La Foliniere 47.94 311 *eP* **P 09 38 08.3 -1.5**
comp=Z,22nm,0.9s,mb5.2
EMOS Mosqueruela 47.98 300 P **P 09 39 11.3 +1.1**
comp=Z,3.5nm,0.5s,mb4.7
EMOS Mosqueruela 47.98 300 P **P 09 39 11.3 +1.1**
comp=Z,3.5nm,0.5s,mb4.7
GRR Gorron 48.17 311 *eP* **P 09 39 10.2 -1.4**
SJPF Ste Jean 48.39 304 *eP* **P 09 39 12.5 -0.9**
comp=Z,13nm,0.6s,mb4.9
SJPF Ste Jean 48.39 304 *eP* **P 09 39 12.5 -0.9**
SJPF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
SJPF Ste Jean 48.39 304 *eP* **P 09 39 12.5 -0.9**
comp=Z,6.7nm,0.6s,mb4.9
BOD Bodaibo 49.16 37 *eP* **P 09 39 18.4 -0.7**
BOD pmax pmax
comp=Z,35nm,1.1s,mb5.3
BOD Bodaibo 49.16 37 *eP* **P 09 39 18.4 -0.7**
comp=Z,35nm,1.1s,mb5.3
SGMF Saint Gilles 49.30 311 *eP* **P 09 39 19.0 -1.3**
comp=Z,39nm,0.8s,mb5.2
SGMF Saint Gilles 49.30 311 *eP* **P 09 39 19.0 -1.3**
SGMF pmax pmax
comp=Z,19nm,0.8s,mb5.2
SGMF Saint Gilles 49.30 311 *eP* **P 09 39 19.0 -1.3**
comp=Z,19nm,0.8s,mb5.2
XAL Allendale 49.59 319 *eP* **P 09 39 21.9 -0.5**
HGH Gray Hill 49.62 315⇑ *eP* **P 09 39 22.0 -0.7**
QUIF Quistinic 49.70 310 *eP* **P 09 39 21.9 -1.5**
comp=Z,108nm,1.1s,mb5.5
QUIF Quistinic 49.70 310 *eP* **P 09 39 21.9 -1.5**
QUIF pmax pmax
comp=Z,54nm,1.1s,mb5.5
QUIF Quistinic 49.70 310 *eP* **P 09 39 21.9 -1.5**
comp=Z,54nm,1.1s,mb5.5
XSO Sourhope Farm 49.70 320 *eP* **P 09 39 22.6 -0.7**
EVIA Vianos 49.70 298 P **P 09 39 24.3 +0.8**
EVIA pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
EVIA Vianos 49.70 298 P **P 09 39 24.3 +0.8**
comp=Z,10.0nm,0.5s,mb5.1
EVIA Vianos 49.70 298 P **P 09 39 24.3 +0.8**
comp=Z,9.6nm,0.5s,mb5.1
WHN Wuhan 49.76 73 P **P 09 39 24.0 -0.1**
MCH1 Michaelchurch 49.77 316 *eP* **P 09 39 22.5 -1.3**
ROSF Rostrenen 49.78 311 *eP* **P 09 39 22.7 -1.2**
comp=Z,44nm,1.0s,mb5.2
ROSF Rostrenen 49.78 311 *eP* **P 09 39 22.7 -1.2**
ROSF pmax pmax
comp=Z,22nm,1.0s,mb5.1
ROSF Rostrenen 49.78 311 *eP* **P 09 39 22.7 -1.2**
comp=Z,22nm,1.0s,mb5.2
EHUE Huescar 49.87 297 P **P 09 39 24.7 -0.1**
EHUE pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
EHUE Huescar 49.87 297 P **P 09 39 24.7 -0.1**
comp=Z,3.0nm,0.6s,mb4.5
EHUE Huescar 49.87 297 P **P 09 39 24.7 -0.1**
comp=Z,3.0nm,0.6s,mb4.5
HTR Trewern Hill 49.94 316⇑ *eP* **P 09 39 24.3 -0.9**
ESY Stoneypath 49.96 321⇑ *eP* **P 09 39 24.9 -0.4**
ESY Stoneypath 49.96 321⇑ *eP* **P 09 39 24.9 -0.3**
comp=Z,47nm,2.3s,mb5.1
LRW Lerwick 49.97 326 *eP* **P 09 39 24.4 -0.8**
LRW AMb AMB 09 39 29.0
comp=Z,47nm,2.3s,mb5.1
SBD1 Bryn Du 50.00 317 *eP* **P 09 39 25.3 -0.2**
EBL Broad Law 50.18 321⇑ *eP* **P 09 39 26.6 -0.4**
EBL Broad Law 50.18 321⇑ *eP* **P 09 39 26.5 -0.4**
EBER Berja 50.23 296 P **P 09 39 28.0 +0.4**
comp=Z,10nm,1.0s,mb4.8
EBER Berja 50.23 296 P **P 09 39 28.1 +0.4**
comp=Z,10nm,1.0s,mb4.8
EQES Quesada 50.25 297 P **P 09 39 27.6 -0.1**
comp=Z,9.6nm,0.4s,mb5.2
EQES Quesada 50.25 297 P **P 09 39 27.6 -0.1**
comp=Z,9.6nm,0.4s,mb5.2
MME1 Meikle Cairn 50.36 323⇑ *eP* **P 09 39 27.7 -0.5**
EBH Black Hill 50.50 321 *eP* **P 09 39 28.9 -0.5**
MCD Coleburn Disti 50.55 323 *eP* **P 09 39 28.9 -0.7**
ESDC Sonseca Array 50.71 300 P **P 09 39 29.6 -1.6**
comp=Z,1.2nm,0.5s,mb4.1,baz=68,slow=7.8,SNR=7.0
ESDC LR LR 10 04 47.1
comp=Z,77nm,18.7s,MS3.8,baz=10.0,slow=40
ESDC Sonseca Array 50.71 300 P **P 09 39 30.8 -0.3**
comp=Z,2.7nm,0.5s,mb4.4
ESDC Sonseca Array 50.71 300 P **P 09 39 30.8 -0.4**
comp=Z,2.7nm,0.5s,mb4.4
MLA1 Latheron 50.72 324 *eP* **P 09 39 30.3 -0.6**
EBAN Banos Encina 50.76 298 P **P 09 39 31.6 0.0**
EBAN pmax pmax
comp=Z,11nm,0.6s,mb5.0
EBAN Banos Encina 50.76 298 P **P 09 39 31.6 0.0**
comp=Z,11nm,0.6s,mb5.0
EBAN Banos Encina 50.76 298 P **P 09 39 31.6 +0.1**
comp=Z,11nm,0.6s,mb5.0
EGUA Guajares 50.78 296 P **P 09 39 32.0 +0.3**
EGUA pmax pmax
comp=Z,32nm,0.7s,mb5.4
EGUA Guajares 50.78 296 P **P 09 39 32.0 +0.3**
comp=Z,32nm,0.7s,mb5.4
EGUA Guajares 50.78 296 P **P 09 39 32.0 +0.3**
comp=Z,32nm,0.7s,mb5.4
EAB Aberfoyle 50.96 321⇑ *eP* **P 09 39 32.1 -0.6**
PAB San Pablo 51.02 299 *eP* **P 09 39 32.9 -0.6**
PAB pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PAB San Pablo 51.02 299 *eP* **P 09 39 32.9 -0.6**
comp=Z,5.0nm,0.8s,mb4.5
EADA Adamuz 51.38 298 P **P 09 39 36.1 -0.1**
comp=Z,8.2nm,0.9s,mb4.7
EADA Adamuz 51.38 298 P **P 09 39 36.1 -0.1**
comp=Z,8.2nm,0.9s,mb4.7
LSZ Lusaka 51.41 216 *eP* **P 09 39 38.9 +2.3**
LSZ pmax pmax
comp=Z,14nm,1.2s,mb4.8
LSZ Lusaka 51.41 216 *eP* **P 09 39 38.9 +2.3**
comp=Z,14nm,1.2s,mb4.8
KAC Achnashellach 51.63 323⇑ *eP* **P 09 39 37.2 -0.6**
comp=Z,24nm,1.8s,mb4.8
HIA Hailar 51.77 48 *eP* **P 09 39 39.4 +0.4**
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 51.77 48 *eP* **P 09 39 39.4 +0.4**
comp=Z,10.0nm,0.6s,mb4.9
HIA Hailar 51.77 48 *eP* **P 09 39 39.4 +0.4**
comp=Z,10nm,0.6s,mb4.9
EMIJ Mijas 51.78 296 P **P 09 39 38.2 -1.0**
comp=Z,10nm,0.5s,mb5.0
EMIJ Mijas 51.78 296 P **P 09 39 38.2 -1.0**
comp=Z,10nm,0.5s,mb5.0
KPL Plockton 51.81 322 *eP* **P 09 39 38.3 -0.7**
KPL AMb AMB 09 39 40.1
comp=Z,24nm,1.8s,mb4.8
KAR1 Arisaig 51.86 322⇑ *eP* **P 09 39 39.1 -0.4**
ECAB El Cabril 52.05 298 P **P 09 39 41.4 +0.2**
comp=Z,18nm,0.5s,mb5.3
ECAB El Cabril 52.05 298 P **P 09 39 41.4 +0.2**
comp=Z,18nm,0.5s,mb5.3
ZFT Errachidia 52.32 290 *i* P **P 09 39 44.0 +0.7**
EJIF Jimena Fronter 52.35 296 P **P 09 39 42.2 -1.3**
EJIF pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
EJIF Jimena Fronter 52.35 296 P **P 09 39 42.2 -1.3**
comp=Z,4.0nm,0.3s,mb4.8
EJIF Jimena Fronter 52.35 296 P **P 09 39 42.2 -1.3**
comp=Z,3.8nm,0.3s,mb4.8

PBRG Braganca 52.56 303 *eP* **P 09 39 45.9 +0.9**
comp=Z,23nm,1.2s,mb5.0
MVO Moncorvo 52.85 302 *eP* **P 09 39 47.5 +0.4**
comp=Z,20nm,1.6s,mb4.8
RSA Sarsar 52.93 294 *i* P **P 09 39 48.0 +0.2**
EMIN Mina Concepcio 53.08 298 P **P 09 39 48.5 -0.3**
comp=Z,3.6nm,0.6s,mb4.5
EMIN Mina Concepcio 53.08 298 P **P 09 39 48.5 -0.4**
comp=Z,3.6nm,0.6s,mb4.5
EBAD Badajoz 53.18 299 P **P 09 39 48.8 -0.8**
comp=Z,2.4nm,0.5s,mb4.4
EBAD Badajoz 53.18 299 P **P 09 39 48.8 -0.8**
comp=Z,2.4nm,0.5s,mb4.4
TORD Torodi Ar. Bea 53.22 265 P **P 09 39 49.0 -1.2**
comp=Z,14nm,0.5s,mb5.1,baz=63,slow=7.2,SNR=210
TORD LR LR 10 05 10.6
comp=Z,310nm,19.0s,MS4.4,baz=70,slow=39
TORD Torodi Ar. Bea 53.22 265 P **P 09 39 49.0 -1.2**
TORD LR LR 10 05 10.6
PBAR Barrancos 53.29 298 *eP* **P 09 39 50.0 -0.4**
comp=Z,17nm,1.4s,mb4.8
PBAR A 09 39 58.2
comp=Z,17nm,1.3s
PMRV Marv??o 53.37 300 *eP* **P 09 39 50.9 -0.1**
comp=Z,19nm,1.8s,mb4.7
PCBR Castelo Branco 53.37 300 *eP* **P 09 39 51.5 +0.5**
comp=Z,18nm,1.5s,mb4.8
ELOB Lobios 53.53 303 P **P 09 39 53.5 +1.4**
comp=Z,3.1nm,0.5s,mb4.5
ELOB Lobios 53.53 303 P **P 09 39 53.5 +1.4**
comp=Z,3.1nm,0.5s,mb4.5
PESTR Estremoz 53.61 299 *eP* **P 09 39 52.4 -0.3**
PBEJ Beja 53.96 298 *eP* **P 09 39 55.3 0.0**
comp=Z,18nm,1.7s,mb4.7
EVO Evora 53.99 299 *eP* **P 09 39 55.7 +0.2**
comp=Z,12nm,0.6s,mb4.7
EVO Evora 53.99 299 *eP* **P 09 39 55.6 +0.1**
comp=Z,12nm,2.3s,mb4.4
EVOP Sao Brissos 54.08 299 *eP* **P 09 39 55.7 -0.5**
comp=Z,5.8nm,0.6s,mb4.7
PFVI Vila Bisbo 54.88 297 *eP* **P 09 40 01.6 -0.4**
comp=Z,36nm,2.0s,mb5.0
YHNB Yeheng 57.36 78 *eP* **P 09 40 20.6 +0.7**
comp=Z,21nm,0.9s,mb5.2
YHNB Yeheng 57.36 78 *eP* **P 09 40 20.6 +0.6**
comp=Z,21nm,0.9s,mb5.2
YAK Yakutsk 57.43 32 *eP* **P 09 40 17.3 -2.6**
YAK pmax pmax
comp=Z,22nm,1.0s,mb5.1
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK MLR MLR
comp=Z,338nm,16.0s,MS4.5
YAK MLR MLR
comp=N,52nm,12.0s,MS4.4
YAK MLR MLR
comp=E,178nm,15.0s,MS4.4
KSRS Korea Array 59.20 61 P **P 09 40 30.9 -1.7**
comp=E,11nm,0.5s,mb5.2,baz=278,slow=7.2,SNR=54
KSRS LR LR 10 09 39.2
comp=E,79nm,19.8s,MS3.8,baz=114,slow=40
KSRS Korea Array 59.20 61 P **P 09 40 31.0 -1.6**
KSRS pmax pmax
comp=Z,11nm,0.5s,mb5.1
KSRS MLR MLR
comp=Z,79nm,19.8s,MS3.8
KLR Kul'dur 59.61 47 *eP* **P 09 40 30.2 -5.0**
TSUM Tsumeb 60.55 223 *eP* **P 09 40 42.8 +0.8**
comp=Z,9.7nm,0.9s,mb4.9
LBTB Lobatse 60.92 212 *eP* **P 09 40 44.4 0.0**
LBTB pmax pmax
comp=Z,15nm,0.9s,mb5.1
LBTB Lobatse 60.92 212 *eP* **P 09 40 44.4 0.0**
comp=Z,15nm,0.9s,mb5.1
LBTB Lobatse 60.92 212 *eP* **P 09 40 44.4 -0.1**
comp=Z,15nm,0.9s,mb5.1
DBIC Dimbokro 61.89 262 P **P 09 40 50.1 -1.2**
comp=Z,3.9nm,0.4s,mb4.9,baz=37,slow=8.5,SNR=22
DBIC LR LR 10 08 30.4
comp=Z,146nm,20.6s,MS4.1,baz=40,slow=37
LIC Lamto 62.25 262 *eP* **P 09 40 52.7 -1.1**
JOW Kunigami 62.53 73 P **P 09 40 53.9 -1.6**
comp=Z,9.0nm,0.7s,mb5.0,baz=75,slow=5.3,SNR=5.2
JOW Kunigami 62.53 73 P **P 09 40 53.8 -1.6**
BOSA Boshof 64.15 211 P **P 09 41 05.6 -0.3**
comp=Z,8.3nm,0.7s,mb4.9,baz=36,slow=6.4,SNR=16
BOSA LR LR 10 09 01.5
comp=Z,137nm,18.6s,MS4.2,baz=113,slow=36
SUMG Summit 64.77 341 *eP* **P 09 41 10.4 +0.9**
comp=Z,13nm,1.2s,mb4.8
SUMG Summit 64.77 341 *eP* **P 09 41 10.4 +1.0**
comp=Z,13nm,1.2s,mb4.8
YSS Yuzh-Sakhalins 67.30 48 *eP* **P 09 41 25.3 -0.9**
YSS pmax pmax
comp=Z,11nm,0.6s,mb5.1
YSS Yuzh-Sakhalins 67.30 48 *eP* **P 09 41 25.3 -0.9**
comp=Z,11nm,0.6s,mb5.1
YSS Yuzh-Sakhalins 67.30 48 *eP* **P 09 41 25.3 -0.9**
comp=Z,11nm,0.6s,mb5.1
MAJO Matsushiro 67.35 60 *eP* **P 09 41 25.6 -1.1**
MAJO pmax pmax
comp=Z,11nm,0.9s,mb4.9
MAJO Matsushiro 67.35 60 *eP* **P 09 41 25.6 -1.1**
comp=Z,11nm,0.9s,mb4.9
MAJO Matsushiro 67.35 60 *eP* **P 09 41 25.6 -1.1**
comp=Z,12nm,0.9s,mb4.9
MAT Matsushiro 67.35 60 P **P 09 41 25.7 -1.0**
MJAR Matsushiro Arr 67.35 60 P **P 09 41 25.1 -1.6**
comp=Z,4.3nm,0.8s,mb4.5,baz=292,slow=6.1,SNR=9.4
MJAR LR LR 10 12 52.4
comp=Z,74nm,20.1s,MS3.9,baz=30,slow=38
SEY Seymchan 67.66 29⇑ *eP* **P 09 41 27.5 -0.6**
BILL Bilibino 70.94 22⇓ *eP* **P 09 41 49.2 +0.8**
BILL *e* 09 42 10.6
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BILL MLR MLR
comp=Z,200nm,15.0s,MS4.5
BILL Bilibino 70.94 22 *eP* **P 09 41 49.2 +0.8**
comp=Z,200nm,15.0s
PETK Petropavlovsk- 74.00 38 P **P 09 42 04.7 -2.3**
comp=Z,5.3nm,0.8s,mb4.5,baz=327,slow=1.8,SNR=7.8
PETK LR LR 10 15 52.0
comp=Z,77nm,18.1s,MS4.0,baz=92,slow=37
FITZ Fitzroy Crossi 81.03 116 *eP* **P 09 42 46.7 0.0**
comp=Z,13nm,0.6s,mb5.0
MUN Mundaring 82.44 132 *eP* **P 09 42 52.8 -1.1**
COLD Coldfoot 82.59 10 *eP* **P 09 42 54.0 -0.2**
comp=Z,34nm,1.1s,mb5.3
COLD Coldfoot 82.59 10 *eP* **P 09 42 54.0 -0.1**
comp=Z,34nm,1.1s,mb5.3
IMA2 Indian Mountai 83.05 12 *eP* **P 09 42 56.0 -0.6**
IMA2 Indian Mountai 83.05 12 *eP* **P 09 42 56.0 -0.6**
NWAO Narrogin (SRO) 83.71 133 P **P 09 42 58.9 -1.5**
comp=Z,11nm,0.9s,mb5.0,baz=103,slow=2.0,SNR=3.2
NWAO Narrogin (SRO) 83.71 133 P **P 09 42 58.9 -1.5**
KAKA Kakadu 83.74 100⇓ *iP* **P 09 43 01.0 0.0**
comp=Z,39nm,0.7s,mb5.7
KAKA Kakadu 83.74 108 *eP* **P 09 43 00.7 -0.3**
SCHQ Schefferville 84.08 331 P **P 09 43 01.0 -1.1**
comp=Z,3.5nm,0.6s,mb4.7,baz=18,slow=3.2,SNR=6.5
CHUM Lake Minchumin 85.28 12 *eP* **P 09 43 07.3 -0.7**
comp=Z,28nm,1.1s,mb5.3
CHUM Lake Minchumin 85.28 12 *eP* **P 09 43 07.3 -0.7**
comp=Z,28nm,1.1s,mb5.3
BPAW Bear Paw Mtn. 85.33 12 *eP* **P 09 43 07.8 -0.4**
comp=Z,41nm,1.2s,mb5.4
BPAW Bear Paw Mtn. 85.33 12 *eP* **P 09 43 07.8 -0.4**
comp=Z,41nm,1.2s,mb5.4
TTA Tatalina 85.37 14 *eP* **P 09 43 08.5 0.0**
TTA pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
TTA Tatalina 85.37 14 *eP* **P 09 43 08.5 0.0**
comp=Z,4.0nm,0.6s,mb4.7
TTA Tatalina 85.37 14 *eP* **P 09 43 08.5 0.0**
comp=Z,3.9nm,0.6s,mb4.7
KTH Kantishna Hill 85.84 12 *eP* **P 09 43 09.7 -1.1**
comp=Z,4.8nm,0.6s,mb4.9
KTH Kantishna Hill 85.84 12 *eP* **P 09 43 09.7 -1.0**
comp=Z,4.8nm,0.6s,mb4.9
MCK McKinley 86.03 11 *eP* **P 09 43 10.7 -1.0**
MCK pmax pmax
comp=Z,13nm,0.9s,mb5.2
MCK McKinley 86.03 11 *eP* **P 09 43 10.7 -1.0**
comp=Z,13nm,0.9s,mb5.2
MCK McKinley 86.03 11 *eP* **P 09 43 10.7 -1.0**
comp=Z,13nm,0.9s,mb5.2

TRF Thorofare Moun 86.05 12 *eP* **P 09 43 11.8 0.0**
comp=Z,9.0nm,0.7s,mb5.1
TRF Thorofare Moun 86.05 12 *eP* **P 09 43 11.8 0.0**
comp=Z,9.0nm,0.7s,mb5.1
EGAK Eagle 86.15 8 *eP* **P 09 43 11.8 -0.5**
comp=Z,15nm,1.0s,mb5.2
EGAK Eagle 86.15 8 *eP* **P 09 43 11.8 -0.5**
comp=Z,15nm,1.0s,mb5.2
DAWY Dawson 87.04 7 *eP* **P 09 43 15.7 -0.9**
WRA Warramunga Arr 88.98 113 P **P 09 43 26.7 +0.1**
comp=Z,16nm,0.8s,mb5.4,baz=314,slow=4.0,SNR=142
WRA PKKPbc PKKPbc 10 01 03.6 -1.2
comp=Z,0.6nm,1.0s,baz=114,slow=2.4,SNR=5.1
WRAB Tennant Creek 88.98 113 *eP* **P 09 43 26.7 +0.1**
WRAB pmax pmax
comp=Z,21nm,0.9s,mb5.5
WRAB Tennant Creek 88.98 113 *eP* **P 09 43 26.7 +0.1**
comp=Z,21nm,0.9s,mb5.5
WB2 Warramunga Arr 88.99 113⇓ *iP* **P 09 43 26.7 +0.1**
YKA Yellowknife Ar 89.22 356 P **P 09 43 26.7 -0.3**
comp=Z,5.6nm,0.8s,mb5.0,baz=4.8,slow=5.7,SNR=39
YKA LR LR 10 27 29.4
comp=Z,36nm,19.8s,MS3.8,baz=295,slow=38
YKA Yellowknife Ar 89.22 356 P **P 09 43 26.7 -0.4**
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA MLR MLR
comp=Z,36nm,19.8s
YKA Yellowknife Ar 89.22 356 P **P 09 43 26.7 -0.4**
comp=Z,36nm,19.8s
FORT Forrest 89.86 125 *eP* **P 09 43 30.8 +0.3**
comp=Z,25nm,0.7s,mb5.7
HYT Haines Junctio 90.40 7 *eP* **P 09 43 34.6 +2.0**
ASAR Alice Springs 90.52 117 P **P 09 43 33.8 0.0**
comp=Z,4.8nm,0.5s,mb5.1,baz=308,slow=4.8,SNR=108
ULM Lac du Bonnet 98.07 343 LR LR 10 30 42.6
comp=Z,50nm,18.6s,MS4.0,baz=32,slow=37
EDM Edmonton 98.33 354 *eP* **P 09 44 08.9 -0.2**
EDM Edmonton 98.33 354 *eP* **P 09 44 08.9 -0.2**
TXAR Lajitas Array 119.67 340 PKP PKPdf 09 49 20.8 -1.2
comp=Z,0.4nm,0.7s,baz=150,slow=1.2,SNR=6.8
TXAR Lajitas Array 119.67 340 PKP PKPdf 09 49 20.8 -1.2
CFAA Coronel Fontan 132.63 252 PKP PKPdf 09 49 44.9 -1.7
comp=Z,0.1nm,0.4s,baz=261,slow=2.0,SNR=2.1

BJI ***28*** *09:35:34.3, 4200N×8735E, h19km, ML3.6*
NNC ***28*** *09:35:38.2±2.2, 4250N×8693E, h0km, mb3.8, mpv3.6,*
Error ellipse: s-maj=19.8km s-min=14.7km az=138.0
ISC 28 09:35:38.2±2.6, 420N±01×872E±01, h35km, n4, σ9°72/7, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.82**	**11**	PG		**Pn**	**09 36 06.8**	**-0.2**
WMQ				SG		**Sn**	**09 36 29.5**	**+0.7**
MK31	**Makanchi Array**	**5.91**	**325**	Pn		**Pn**	**09 37 03.2**	**0.0**
	1.0nm,0.2s,baz=136,slow=11,SNR=29							
MK31				⇓Sn		**Sn**	**09 38 09.3**	**-0.4**
	8.8nm,0.7s							
MK31				⇑Lg			09 38 29.9	
	6.7nm,0.6s,baz=133,slow=29,SNR=4.5							
TKM2	**Tokmak 2**	**8.62**	**280**	⇑Pn		**Pn**	**09 37 40.5**	**+0.1**
	4.2nm,0.6s							
TKM2				⇑Sn		**Sn**	**09 39 16.8**	**+0.5**
	7.4nm,1.0s							
TKM2				⇓Lg			09 40 06.1	
	10nm,0.8s							
KURBB	**Kurchatov Arra**	**10.46**	**328**	⇑Pn		**Pn**	**09 38 02.2**	**-3.4**
	0.9nm,1.1s							
KURBB				⇑Lg			09 41 12.1	
	2.6nm,0.7s							

ISCJB ***28*** *09:52:37.7±0.6, 2427S×003×6705W±006, h169km±6km, mb4.1/17, Error ellipse: s-maj=9.3km s-min=5.4km az=179.2*
NEIC ***28*** *09:52:38.6±0.6, 2421S×6708W, h164km±6km, mb4.5/6, Error ellipse: s-maj=9.2km s-min=6.2km az=89.0*
IDC ***28*** *09:52:39.6±0.8, 2414S×6703W, h170km±7km, mb3.9/13, mb1 4.1/18, mb1mx4.0/22, mbtmp3.9/18, Error ellipse: s-maj=13.7km s-min=9.7km az=72.0*
GUC ***28*** *09:52:41.5±0.6, 2427S×6769W, h220km, ML4.6*
ISC 28 09:52:38.6±0.5, 2427S±003×6703W±006, h162km±6km, n53, σ1°14/53, mb4.1/17, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.39**	**313**	P		**Pn**	**09 53 21.1**	**+2.1**
	37nm,0.3s,baz=130,slow=8.3,SNR=917							
LVC				S		**Sn**	**09 53 51.0**	**+4.8**
	190nm,0.3s,baz=9.2,slow=23,SNR=82							
LVC	**Limon Verde**	**2.39**	**313**	P		**Pn**	**09 53 21.1**	**+2.1**
LVC				S		**Sn**	**09 53 51.0**	**+4.8**
CEN1	**Los Morros**	**3.03**	**286**⇓	*iP*		**Pn**	**09 53 28.9**	**+2.1**
CEN1				*i* S		**Sn**	**09 54 04.2**	**+2.5**
CEN1				AML		AML	09 54 07.3	
	comp=E,2μm,0.6s							
CPN1	**Cerro Paranal**	**3.09**	**263**⇑	*eP*		**Pn**	**09 53 28.7**	**+1.2**
CPN1				*i* S		**Sn**	**09 54 04.9**	**+1.7**
CPN1				AML		AML	09 54 06.8	
	comp=N,838nm,0.2s							
CDCH	**Caldera**	**4.42**	**230**	*eP*		**Pn**	**09 53 43.7**	**-0.8**
CDCH				*i* S		**Sn**	**09 54 33.0**	**-2.1**
LCO	**Las Campanas**	**5.75**	**214**	*eP*		**Pn**	**09 54 01.6**	**-0.5**
	comp=N,81nm,0.8s							
TLL	**Tololo Astrono**	**6.77**	**209**	*eP*		**Pn**	**09 54 15.1**	**-0.4**
TLL				*i* S		**Sn**	**09 55 30.4**	**-1.1**
CFAA	**Coronel Fontan**	**7.38**	**188**	P		**Pn**	**09 54 25.1**	**+1.3**
	comp=N,0.2nm,0.3s,baz=357,slow=12,SNR=20							
CFAA				S		**Sn**	**09 55 44.6**	**-1.8**
	comp=N,0.4nm,0.3s,baz=294,slow=22,SNR=10							
LPAZ	**La Paz**	**8.01**	**352**	P		**Pn**	**09 54 33.0**	**+0.9**
	comp=N,4.4nm,0.3s,baz=152,slow=6.5,SNR=77							
LPAZ				S		**Sn**	**09 55 59.2**	**-2.3**
	comp=N,1.3nm,0.3s,baz=341,slow=21,SNR=12							
LPAZ	**La Paz**	**8.01**	**352**	P		**Pn**	**09 54 33.0**	**+0.9**
LPAZ				S		**Sn**	**09 55 59.2**	**-2.4**
SIV	**San Ignacio**	**9.96**	**35**	P		**Pn**	**09 54 56.4**	**-1.5**
	comp=N,3.8nm,0.3s,baz=221,slow=13,SNR=172							
SIV				S		**Sn**	**09 56 34.3**	**-14**
	comp=N,0.1nm,0.3s,baz=224,slow=15,SNR=7.4							
TRQA	**Tornquist**	**14.40**	**164**	*eP*		**Pn**	**09 55 55.7**	**+0.7**
	comp=N,37nm,0.6s							
NNA	**Nana**	**15.36**	**321**	P		**Pn**	**09 56 03.5**	**-3.4**
	comp=N,1.9nm,0.3s,baz=173,slow=8.1,SNR=3.7							
PLCA	**Paso Flores**	**16.68**	**189**	P		**Pn**	**09 56 23.6**	**+0.8**
	comp=N,0.6nm,0.3s,baz=2.3,slow=12,SNR=15							
PLCA	**Paso Flores**	**16.68**	**189**	*eP*		**Pn**	**09 56 24.0**	**+1.1**
SPB	**Sao Paulo**	**17.93**	**92**	*eP*		**Pn**	**09 56 37.5**	**-0.6**
VAO	**Valinhos**	**18.43**	**90**	(P)		**P**	**09 56 42.5**	**+0.7**
BDFB	**Brasilia**	**19.81**	**68**	P		**P**	**09 56 57.0**	**+0.1**
	comp=N,2.9nm,0.3s,baz=235,slow=17,SNR=115							
USHA	**Ushuaia**	**30.54**	**182**	P		**P**	**09 58 37.9**	**+1.4**
	comp=N,9.1nm,0.8s,mb4.5,baz=174,slow=7.5,SNR=3.0							
PMSA	**Palmer Station**	**40.55**	**178**	P		**P**	**10 00 02.0**	**+0.4**
	comp=N,4.4nm,0.8s,mb4.2,baz=349,slow=8.1,SNR=4.2							
SNAA	**Sanae**	**59.11**	**161**	*eP*		**P**	**10 02 21.3**	**-0.3**
	comp=N,20nm,1.4s,mb4.8							
JCT	**Junction City**	**62.85**	**328**	*eP*		**P**	**10 02 46.7**	**-0.7**
	comp=N,2.8nm,0.7s,mb4.2							
TXAR	**Lajitas Array**	**63.88**	**325**	P		**P**	**10 02 53.3**	**-0.8**
	comp=N,0.6nm,0.8s,mb3.5,baz=153,slow=8.1,SNR=8.2							
QSPA	**South Pole Qui**	**65.94**	**180**	P		**P**	**10 03 08.5**	**+1.8**
	comp=N,9.8nm,0.6s,mb4.8,baz=117,slow=5.4,SNR=31							
QSPA	**South Pole Qui**	**65.94**	**180**	P		**P**	**10 03 08.5**	**+1.8**
DBIC	**Dimbokro**	**67.92**	**71**	P		**P**	**10 03 19.5**	**-0.8**
	comp=N,1.5nm,0.6s,mb3.9,baz=272,slow=12,SNR=3.6							
ANMO	**Albuquerque**	**69.76**	**326**	*eP*		**P**	**10 03 32.1**	**+0.9**
	comp=N,2.9nm,1.1s,mb3.9							
SYO	**Syowa Base**	**73.31**	**159**⇑	*eP*		**P**	**10 03 51.6**	**-0.4**
TPNV	**Topopah Spring**	**76.53**	**321**	*eP*		**P**	**10 04 11.3**	**+0.5**
	comp=N,3.9nm,1.0s,mb4.0							
TOA0	**Torodi Ar. Sit**	**76.69**	**69**	*eP*		**P**	**10 04 11.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.69**	**69**	P		**P**	**10 04 11.9**	**-0.3**
	comp=N,2.2nm,0.4s,mb4.1,baz=256,slow=5.7,SNR=43							
PDAR	**Pinedale Array**	**77.36**	**329**	P		**P**	**10 04 15.2**	**-0.2**
	comp=N,0.7nm,0.8s,mb3.3,baz=142,slow=5.6,SNR=6.3							
ULM	**Lac du Bonnet**	**78.47**	**342**	P		**P**	**10 04 20.3**	**-1.0**
	comp=N,2.2nm,0.7s,mb3.9,baz=29,slow=2.8,SNR=3.4							
NVAR	**Mina Array Bea**	**78.73**	**321**	P		**P**	**10 04 23.5**	**+0.5**
	comp=N,0.7nm,0.7s,mb3.4,baz=154,slow=5.4,SNR=7.4							
NVAR	**Mina Array Bea**	**78.73**	**321**	P		**P**	**10 04 23.5**	**+0.5**
BOSA	**Boshof**	**80.64**	**117**	P		**P**	**10 04 34.4**	**+0.7**
	comp=N,3.1nm,0.4s,mb4.3,baz=286,slow=2.3,SNR=14							
BOSA	**Boshof**	**80.64**	**117**	P		**P**	**10 04 34.4**	**+0.7**
MAW	**Mawson**	**81.19**	**163**	P		**P**	**10 04 36.7**	**+0.8**
	comp=N,8.8nm,0.8s,mb4.4,baz=226,slow=6.8,SNR=28							
LBTB	**Lobatse**	**82.31**	**114**	*eP*		**P**	**10 04 42.6**	**0.0**
ETW	**Entiat**	**86.09**	**327**	*eP*		**P**	**10 05 01.3**	**+0.4**
ESDC	**Sonseca Array**	**86.61**	**44**	P		**P**	**10 05 04.7**	**+1.0**
	comp=N,0.4nm,0.3s,mb3.7,baz=296,slow=18,SNR=5.2							
EDM	**Edmonton**	**86.99**	**334**	*eP*		**P**	**10 05 04.0**	**-1.2**
YKA	**Yellowknife Ar**	**94.36**	**340**	P		**P**	**10 05 38.1**	**-1.2**
	comp=N,0.9nm,0.7s,mb4.0,baz=130,slow=5.2,SNR=7.5							
ASAR	**Alice Springs**	**128.20**	**205**	PKP		PKPdf	10 11 25.9	-0.4
	comp=N,2.9nm,0.7s,baz=130,slow=2.0,SNR=50							
ASAR				SKPbc			10 14 27.6	
	comp=N,0.2nm,0.6s,baz=140,slow=4.1,SNR=4.6							
AKTK	**Aktyubinsk**	**130.50**	**44**	PKP		PKPdf	10 11 30.6	+0.9
AKTK				SKPbc		SKPbc	10 14 36.2	-2.1
AKTO	**Aktyubinsk**	**130.50**	**44**	PKP		PKPdf	10 11 30.6	+0.9
	comp=N,0.6nm,0.5s,baz=164,slow=18,SNR=1.8							
AKTO				SKPbc		SKPbc	10 14 36.2	-2.1
	comp=N,1.4nm,0.7s,baz=274,slow=4.3,SNR=6.9							
WB2	**Warramunga Arr**	**131.37**	**207**	*eP*		PKPdf	10 11 32.1	-0.3
WRA	**Warramunga Arr**	**131.38**	**207**	PKP		PKPdf	10 11 32.1	-0.3
	comp=N,2.3nm,0.5s,baz=160,slow=1.7,SNR=58							
WRA				SKPbc		SKPbc	10 14 40.1	-2.4
	comp=N,1.2nm,0.7s,baz=151,slow=3.4,SNR=19							
PETK	**Petropavlovsk-**	**135.81**	**323**	PKP		PKPdf	10 11 39.1	-0.5
	comp=N,1.3nm,0.7s,baz=63,slow=2.7,SNR=4.1							
ZALV	**Zalesovo Beam**	**143.64**	**28**	PKP		PKPdf	10 11 52.0	-1.8
	comp=N,2.5nm,0.7s,baz=305,slow=2.4,SNR=7.3							
ZALV				SKPbc		SKPbc	10 15 15.8	-1.6
	comp=N,1.0nm,0.7s,baz=270,slow=3.0,SNR=4.1							
ZALV	**Zalesovo Beam**	**143.64**	**28**	PKP		PKPdf	10 11 52.0	-1.8
ZALV				SKPbc		SKPbc	10 15 15.8	-1.6
MKAR	**Makanchi Array**	**146.75**	**40**	PKPbc		PKPbc	10 11 59.0	-2.3
	comp=N,3.0nm,0.7s,baz=8.0,slow=1.9,SNR=23							
MJAR	**Matsushiro Arr**	**155.11**	**305**	PKPab		PKPab	10 12 37.4	-0.6
	comp=N,2.0nm,0.8s,baz=107,slow=1.7,SNR=6.2							

NEIC ***28*** *09:57:00.4, 3394S×72.12W, h39km, MD3.6(GUC), After GUC.*
GUC 28 09:57:00.4±0.6, 3394S×7212W, h39km±4km, MD3.6, 2C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.59**	**92**⇓	*iP*		Pn	09 57 12.4	0.0
LNV				*i* S		Sn	09 57 21.1	+0.3
TACH	**Talagante**	**1.03**	**74**⇑	*iP*		Pn	09 57 18.8	+0.5
TACH				*i* S		Sn	09 57 33.3	+1.8
SFDO	**San Fernando**	**1.14**	**127**⇑	*iP*		Pn	09 57 20.6	+0.7
SFDO				*i* S		Sn	09 57 36.6	+2.4
RCDM	**Rinconada Maip**	**1.19**	**68**⇓	*iP*		Pn	09 57 21.6	+1.1
RCDM				*i* S		Sn	09 57 36.9	+1.5
CACH	**El Canelo**	**1.28**	**98**⇓	*iP*		Pn	09 57 23.9	+2.1
PCH	**Pirque**	**1.38**	**77**⇓	*iP*		Pn	09 57 24.5	+1.4
CICH	**Cipreses**	**1.46**	**106**⇓	*iP*		Pn	09 57 25.6	+1.3

CSEM ***28*** *10:21:57.1±0.7, 2814N×58.11E, h70km±10km, ML3.9/2, Error ellipse: s-maj=50.0km s-min=18.3km az=120.0*
ISC 28 10:21:60.0±2.8, 284N±01×565E±02, h10km, n9, σ1°09/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**2.42**	**184**	Pn		**Pn**	**10 22 38.8**	**-0.8**
	SNR=10.0							
BANOM				Sn		**Sn**	**10 23 10.2**	**+1.0**
NAZ	**Nazwa, Dubai**	**3.43**	**193**	Pn		**Pn**	**10 22 53.5**	**+0.1**
HATD	**Hatta, Dubai**	**3.52**	**185**	Pn		**Pn**	**10 22 52.4**	**-2.3**
FAQ	**Al Faqa, Dubai**	**3.67**	**193**	Pn		**Pn**	**10 22 56.9**	**0.0**
	SNR=8.0							
ASUD	**Al Ashush, Dub**	**3.85**	**196**	Pn		**Pn**	**10 22 59.7**	**+0.5**
	SNR=20							
UMR	**Umm Al-Rimmam**	**7.79**	**281**	*eP*		**Pn**	**10 23 53.8**	**+0.5**
	baz=281							
RDF	**Al-Radifah**	**7.88**	**276**	*eP*		**Pn**	**10 23 56.2**	**+1.6**
	baz=277							
RDF				AML		AML	10 25 27.9	
	comp=Z,5.0nm,0.4s,baz=277							
MIB	**Mutribah**	**8.14**	**282**	*eP*		**Pn**	**10 23 57.6**	**-0.6**
	baz=283							
MIB				*e*S		**Sn**	**10 25 28.6**	**-1.7**
	baz=283							
MIB				AML		AML	10 25 32.0	
	comp=Z,3.0nm,0.5s,baz=283							
NAY	**Al-Naaiem**	**8.17**	**279**	*eP*		**Pn**	**10 23 59.7**	**+1.1**
	baz=279							
NAY				AML		AML	10 25 30.5	
	comp=Z,1.0nm,0.5s,baz=279							

SZGRF ***28*** *10:57:00.7, 4654N×14993E, h33km, mb4.8, Kuril Islands, Russia*
NIED ***28*** *10:57:00, 4530N×14970E, h165km, Mw4.2 Best double couple: M0:2.52000×1015 NP1:φ0=74.00000°, δ74.00000°, λ68.00000°. NP2:φ0=309.00000°, δ26.00000°, λ143.00000°.*
MOS ***28*** *10:57:07.1±0.8, 4623N×14950E, h124km, mb4.6/49, Error ellipse: s-maj=10.9km s-min=6.1km az=105.0*
ISCJB ***28*** *10:57:08.6±0.4, 4600N±005×14961E±005, h148km±4km, mb4.4/104, Error ellipse: s-maj=9.0km s-min=4.5km az=147.6*
NEIC ***28*** *10:57:09.9±0.8, 4608N×14955E, h144km±7km, mb4.6/67, Error ellipse: s-maj=8.8km s-min=4.3km az=160.0*
BJI ***28*** *10:57:09.1, 4644N×14993E, h169km, mB4.5, mb4.6*
IDC ***28*** *10:57:12.8±2.0, 4616N×14948E, h174km±18km, mb3.9/21, mb1 4.0/24, mb1mx3.9/28, mbtmp3.8/24, Error ellipse: s-maj=14.1km s-min=10.0km az=157.0*
JMA ***28*** *10:57:13.6±0.5, 4528N×14971E, h169km, M4.0*
ISC 28 10:57:09.9±0.4, 4611N±005×14953E±005, h140km±4km, n269, σ1°06/283, mb4.4/104, 19C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.46**	**233**	*e*PN		**Pn**	**10 57 38.0**	**-0.2**
KUR				*e*S		**Sn**	**10 58 00.5**	**+0.7**
KUR				pmax		pmax		
	comp=N,200nm,0.4s							
KUR				pmax		pmax		
	comp=E,80nm,0.4s							
KUR				pmax		pmax		
	comp=Z,570nm,0.4s							
KUR				smax				
	comp=N,4μm,3.0s							
KUR				smax				
	comp=E,5μm,3.0s							
KUR				smax				
	comp=N,1μm,0.5s							
KUR				smax				
	comp=E,570nm,0.5s							
YUK	**Yuzh-Kuril'sk**

JMP Maruseppu 4.85 246 P **Pn 10 58 23.9 +2.9**
JAR Ashorobuto 4.98 238 P **Pn 10 58 24.6 +1.9**
JOB Onbets 5.18 234 P **Pn 10 58 26.1 +0.6**
JOB eS **Sn 10 59 22.7 -1.7**
ASAJ Asahikawa 5.30 250 P **Pn 10 58 30.9 +3.9**
ASAJ Asahikawa 5.30 250 P **Pn 10 58 30.6 +3.6**
comp=N,3.3nm,0.3s,baz=79,slow=16,SNR=38
ASAJ Asahikawa 5.30 250 PN **Pn 10 58 30.6 +3.6**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
JKK2 Kamakawa 2 5.30 247 P **Pn 10 58 30.2 +3.1**
JCH Churui 5.64 234 P **Pn 10 58 31.1 -0.4**
JCH eS **Sn 10 59 31.2 -4.1**
JBT2 Biratori 2 6.12 240 P **Pn 10 58 38.4 +0.5**
JEM Erimo 6.15 231 P **Pn 10 58 38.5 +0.1**
JNBK Urakawa-nobuka 6.20 234 P **Pn 10 58 37.7 -1.3**
JNBK eS **Sn 10 59 43.8 -4.9**
SKR Severo-Kuril's 6.33 41 ePN **Pn 10 58 37.5 -3.3**
SKR e 10 59 52.5
JNB Noboribetsu 7.10 242 P **Pn 10 58 51.9 +0.8**
JNB eS **Sn 11 00 09.0 -1.4**
JKB Kayabe 7.44 238 P **Pn 10 58 54.7 -1.0**
JKB eS **Sn 11 00 12.8 -5.8**
JYM2 Yakumo 2 7.71 242 P **Pn 10 58 59.2 0.0**
JSR Shiriuchi 8.02 238 eS **Sn 11 00 27.6 -5.1**
JTM Tenmabayashi 8.13 232 P **Pn 10 59 02.8 -2.2**
JTM eS **Sn 11 00 26.0 -9.4**
JANG Nango 8.19 228 P **Pn 10 59 02.6 -3.2**
JANG eS **Sn 11 00 27.4 -9.3**
JOSM Okushiri--Mats 8.28 244 P **Pn 10 59 07.8 +0.9**
JTH Tanohata 8.34 225 P **Pn 10 59 03.5 -4.3**
JTH eS **Sn 11 00 31.1 -9.3**
PETK Petropavlovsk- 8.78 34 P **Pn 10 59 15.2 +1.7**
comp=Z,1.5nm,0.3s,baz=182,slow=8.3,SNR=16
PET Petropavlovsk 9.10 37 ePN **Pn 10 59 18.6 +0.7**
PET eS **Sn 11 00 58.0 -0.6**
PET pmax pmax
comp=Z,9.0nm,0.6s
PET smax
comp=E,12nm,0.6s
PET smax
comp=N,17nm,0.7s
OFUJ Ofunato 9.11 222 P **Pn 10 59 14.7 -3.3**
JRG Rokugo 9.37 227 P **Pn 10 59 19.1 -2.4**
JRG eS **Sn 11 00 58.1 -7.1**
JIO Ouri 9.76 221 P **Pn 10 59 22.8 -3.9**
JIO eS **Sn 11 01 04.5 -10**
JYA Atsumi 10.45 227 P **Pn 10 59 33.5 -2.3**
JFK Kawauchi 10.86 219 P **Pn 10 59 37.7 -3.7**
KLR Kul'dur 12.38 291 ePN **Pn 11 00 00.0 -1.1**
MJAR Matsushiro Arr 12.79 226 P **Pn 11 00 04.4 -2.1**
comp=N,0.3nm,0.3s,baz=26,slow=14,SNR=4.0
MDJ Mudanjiang 14.10 271 eP **Pn 11 00 25.6 +2.4**
comp=N,15nm,0.9s
CN2 Changchun 17.18 271 eP **Pn 11 01 01.5 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=N,200nm,12.0s
CN2 LR LR
comp=E,200nm,12.0s
CN2 LR LR
comp=Z,200nm,13.0s
KSRS Korea Array 18.25 249 P **P 11 01 13.6 +1.2**
comp=Z,0.3nm,0.3s,baz=58,slow=11,SNR=16
SNY Shenyang 19.13 266 ⇑P **P 11 01 23.3 +1.4**
SNY AMB AMB
comp=Z,23nm,0.8s
SNY LR LR
comp=N,88nm,7.2s
SNY LR LR
comp=E,69nm,3.6s
SNY LR LR
comp=Z,76nm,7.8s
YAK Yakutsk 19.61 332 eP **P 11 01 25.8 -1.0**
YAK eS **S 11 04 58.0 -2.2**
YAK pmax pmax
comp=Z,27nm,1.0s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,11nm,1.2s
YAK smax
comp=N,67nm,2.4s
BILL Bilibino 23.62 16 P **P 11 02 07.0 -0.6**
BILL e 11 02 45.1
BILL pmax pmax
comp=Z,6.0nm,0.5s,mb4.4
BOD Bodaibo 24.52 311 eP **P 11 02 14.5 -1.4**
BOD e 11 02 50.4
BJI Beijing 24.98 268 P **P 11 02 22.5 +2.2**
BJI AMB AMB
comp=Z,23nm,0.8s,mb4.8
BJT Baijiatuau 25.00 268 eP **P 11 02 21.6 +1.2**
BJT pmax pmax
comp=Z,17nm,0.8s
BJT Baijiatuau 25.00 268 eP **P 11 02 21.6 +1.1**
comp=Z,17nm,0.8s,mb4.6
TIXI Tiksi 27.43 346 eP **P 11 02 40.3 -1.6**
TIXI pmax pmax
comp=Z,12nm,0.9s,mb4.5
SONM Songino Array 29.20 289 P **P 11 02 57.6 -0.3**
comp=Z,1.4nm,0.6s,mb3.8,baz=83,slow=9.6,SNR=6.8
TLY Talaya 30.27 298 eP **P 11 03 00.0 -7.3**
TLY pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
ZAK Zakamensk 30.70 295 eP **P 11 03 11.0 -0.1**
ZAK e 11 06 03.5
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.7
WHN Wuhan 31.37 253 P **P 11 03 22.0 +4.8**
TTA Tatalina 34.53 41 eP **P 11 03 44.8 +0.5**
TTA pmax pmax
comp=Z,17nm,1.2s,mb4.5
TTA Tatalina 34.53 41 eP **P 11 03 44.8 +0.5**
comp=Z,17nm,1.2s,mb4.6
LZH Lanzhou 35.42 270 ⇑P **P 11 03 53.5 +1.3**
LZH AMB AMB
comp=Z,23nm,1.4s,mb4.6
LZH AMB AMB
comp=Z,83nm,4.7s
IMA2 Indian Mountai 35.77 36 eP **P 11 03 55.3 +0.4**
CHUM Lake Minchumin 36.23 40 eP **P 11 03 58.5 -0.3**
comp=Z,6.1nm,0.9s,mb4.2
PPLA Purkeypile 36.28 41 P **P 11 04 00.5 +1.2**
comp=Z,19nm,1.4s,mb4.5
KDAK Kodiak Island 36.42 50 P **P 11 03 60.0 -0.5**
comp=Z,7.2nm,0.7s,mb4.4,baz=42,slow=8.9,SNR=2.9
KDAK Kodiak Island 36.42 50 P **P 11 03 60.0 -0.5**
GTA Gaotai 36.61 278 P **P 11 04 03.8 +1.5**
GTA AMB AMB
comp=Z,20nm,0.9s,mb4.8
KTH Kantishna Hill 36.85 40 eP **P 11 04 05.3 +1.3**
comp=Z,21nm,1.1s,mb4.7
COLD Coldfoot 37.25 34 eP **P 11 04 07.9 +0.5**
comp=Z,5.0nm,0.5s,mb4.4
SEW Seward 37.76 46 eP **P 11 04 11.6 -0.1**
COLA College 38.17 38 eP **P 11 04 15.8 +0.7**
COLA pmax pmax
comp=Z,16nm,0.9s,mb4.7
COLA College 38.17 38 eP **P 11 04 15.8 +0.7**
comp=Z,16nm,0.9s,mb4.6
ZALV Zalesovo Beam 40.96 305 P **P 11 04 37.1 -1.3**
comp=Z,1.8nm,0.6s,mb3.9,baz=87,slow=7.6,SNR=4.4
ZALV PcP PcP 11 06 34.6 -1.1
comp=Z,3.0nm,0.8s,baz=57,slow=5.5,SNR=7.5
ZAL Zalesovo 40.98 305 P **P 11 04 37.1 -1.4**
ZAL 11 06 34.6
EGAK Eagle 41.03 38 eP **P 11 04 38.3 -0.5**
comp=Z,6.7nm,0.8s,mb4.3
MKAR Makanchi Array 45.02 296 P **P 11 05 10.7 -0.3**
comp=Z,6.2nm,0.7s,mb4.3,baz=67,slow=8.6,SNR=52
MKAR PcP PcP 11 06 48.2 -1.3
comp=Z,2.3nm,0.7s,baz=59,slow=4.8,SNR=6.7
MKAR Makanchi Array 45.02 296 P **P 11 05 10.7 -0.3**
MKAR PcP PcP 11 06 48.2 -1.4
KURK Kurchatov 45.64 303⇑eP **P 11 05 15.1 -0.8**
KURK pmax pmax
comp=Z,15nm,0.8s,mb4.7
KURK Kurchatov 45.64 303 eP **P 11 05 15.0 -0.9**
comp=Z,13nm,0.7s,mb4.7
BVAR Borovoye Array 49.33 309 P **P 11 05 43.3 -1.1**
comp=Z,3.1nm,0.7s,mb4.0,baz=69,slow=8.1,SNR=14
BVAR PcP PcP 11 07 03.7 -1.1
comp=Z,1.4nm,0.8s,baz=64,slow=3.4,SNR=4.1

CMAR Chiang Mai Arr 49.81 254 P **P 11 05 48.5 +0.1**
comp=Z,1.5nm,0.7s,mb3.7,baz=39,slow=7.8,SNR=12
CMAR Chiang Mai Arr 49.81 254⇑eP **P 11 05 49.5 +1.1**
TAPN Taplejung 51.65 271 eP **P 11 06 03.2 +1.1**
comp=Z,27nm,0.9s,mb4.9
ODAN Odare 52.17 271 eP **P 11 06 07.5 +1.5**
comp=Z,6.1nm,0.4s,mb4.6
EKS2 Erkin-Say 52.31 295 eP **P 11 06 07.3 +0.5**
comp=Z,4.1nm,0.7s,mb4.2
JIRN Jiri 52.51 273 eP **P 11 06 09.9 +1.4**
comp=Z,10nm,0.3s,mb5.1
SVE Sverdlovsk 52.59 316 eP **P 11 06 07.8 -0.8**
SVE pmax pmax
comp=Z,17nm,0.7s,mb4.9
RAMN Ramite 52.67 272 eP **P 11 06 10.5 +0.9**
comp=Z,38nm,0.6s,mb5.3
YKA Yellowknife Ar 52.90 35 P **P 11 06 10.9 +0.1**
comp=Z,4.3nm,0.7s,mb4.3,baz=300,slow=7.1,SNR=14
KKN Kakani 53.06 273 eP **P 11 06 14.0 +1.5**
comp=Z,39nm,0.7s,mb5.3
KKN Kakani 53.06 273 eP **P 11 06 14.0 +1.5**
KKN pmax pmax
comp=Z,39nm,0.7s,mb5.2
PKI Pulchoki 53.11 273 eP **P 11 06 13.8 +0.9**
PKIN Phulchoki 53.11 273 eP **P 11 06 13.7 +0.8**
comp=Z,12nm,0.6s,mb4.8
DMN Daman 53.30 273 eP **P 11 06 15.4 +1.2**
comp=Z,41nm,0.8s,mb5.2
GKN Gorkha 53.38 274 eP **P 11 06 15.7 +0.9**
comp=Z,25nm,1.0s,mb4.9
DANN Dangsing 53.77 275 eP **P 11 06 19.2 +1.5**
comp=Z,25nm,0.3s,mb5.4
ARU Arti 53.78 316e*i*P **P 11 06 16.3 -1.1**
ARU e 11 07 18.8
ARU e 11 08 15.4
ARU eS **S 11 13 37.7 -3.0**
ARU eSS SS 11 17 18.8 -3.9
ARU pmax pmax
comp=Z,19nm,1.0s,mb4.8
ARU Arti 53.78 316 eP **P 11 06 16.0 -1.4**
comp=Z,15nm,0.8s,mb4.8
KOLN Koldanda 54.24 274 eP **P 11 06 22.3 +1.2**
comp=Z,16nm,0.3s,mb5.2
ARCES ARCESS Array B 57.62 340 P **P 11 06 42.3 -2.2**
comp=Z,2.0nm,1.0s,mb3.9,baz=42,slow=9.7,SNR=4.0
KBL Kabul 59.97 290 eP **P 11 07 01.2 -0.1**
KBL pmax pmax
comp=Z,22nm,1.1s,mb4.9
KBL Kabul 59.97 290 eP **P 11 07 01.2 -0.1**
comp=Z,22nm,1.1s,mb4.9
SUMG Summit 61.48 3 eP **P 11 07 12.0 +1.1**
comp=Z,4.3nm,0.9s,mb4.3
MSO Missoula 62.10 51 eP **P 11 07 15.3 -0.1**
comp=Z,3.9nm,1.2s,mb4.1
BOZ Bozeman (W) 64.09 50 eP **P 11 07 29.1 +0.5**
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
BOZ Bozeman (W) 64.09 50 eP **P 11 07 29.1 +0.5**
comp=Z,2.0nm,0.6s,mb4.1
NVAR Mina Array Bea 64.91 60 P **P 11 07 34.3 +0.3**
comp=Z,2.0nm,0.8s,mb4.0,baz=292,slow=7.7,SNR=18
GCMT Greycliff 65.04 49 eP **P 11 07 35.1 +0.4**
REDW Red Top Meadow 66.00 52 eP **P 11 07 41.7 +0.8**
comp=Z,8.9nm,1.3s,mb4.4
HWUT Hardware Ranch 66.77 54 eP **P 11 07 46.2 +0.3**
comp=Z,1.5nm,0.7s,mb3.9
PDAR Pinedale Array 67.11 52 P **P 11 07 47.8 -0.2**
comp=Z,2.1nm,0.7s,mb4.1,baz=297,slow=1.5,SNR=21
TPNV Topopah Spring 67.11 60 eP **P 11 07 47.9 -0.2**
TPNV pmax pmax
comp=Z,2.0nm,1.2s,mb3.8
TPNV Topopah Spring 67.11 60 eP **P 11 07 47.9 -0.2**
comp=Z,2.4nm,1.2s,mb3.9
WRA Warramunga Arr 67.17 196 P **P 11 07 46.7 -1.8**
comp=Z,0.7nm,0.8s,mb3.6,baz=18,slow=6.4,SNR=2.5
NB2 NORSAR Subarra 67.99 340 P **P 11 07 51.9 -1.3**
comp=Z,3.4nm,0.7s,mb4.2,baz=30,slow=6.2
NOA NORSAR Array B 67.99 340 P **P 11 07 52.0 -1.3**
comp=Z,4.7nm,0.7s,mb4.3,baz=30,slow=6.3,SNR=16
NOA NORSAR Array B 67.99 340 P **P 11 07 52.0 -1.3**
HFS Hagfors 68.15 338 P **P 11 07 52.5 -1.7**
comp=Z,5.8nm,0.7s,mb4.4,baz=76,slow=6.3,SNR=7.5
ULM Lac du Bonnet 68.60 39 P **P 11 07 56.2 -0.9**
comp=Z,1.7nm,0.8s,mb3.9,baz=346,slow=8.3,SNR=3.3
KIV Kislovodsk 69.43 312⇑eP **P 11 08 04.4 +2.0**
KIV e 11 08 21.5
KIV pmax pmax
comp=Z,27nm,1.7s,mb4.7
PV10 Paradox Valley 70.38 55 eP **P 11 08 08.9 +0.6**
AKASG Malin Array Be 70.66 324 P **P 11 08 07.8 -2.0**
comp=Z,7.2nm,0.6s,mb4.6,baz=35,slow=6.2,SNR=23
AKASG Malin Array Be 70.66 324 *i* P **P 11 08 08.6 -1.2**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
ASAR Alice Springs 70.88 195 P **P 11 08 11.3 -0.1**
comp=Z,0.8nm,0.9s,mb3.5,baz=13,slow=6.4,SNR=2.4
MVCO Mesa Verde 71.50 55 eP **P 11 08 14.7 -0.4**
comp=Z,5.7nm,1.3s,mb4.1
ANMO Albuquerque 74.26 56⇑eP **P 11 08 32.2 +0.8**
BURAR Bucovina Array 74.71 325⇑*i*P **P 11 08 33.9 +0.1**
BURAR Bucovina Array 74.71 325 ⇑P **P 11 08 33.9 +0.1**
STHS Stebnicka Huta 74.78 328 eP **P 11 08 34.3 +0.2**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
STHS Stebnicka Huta 74.78 328 eP **P 11 08 34.3 +0.2**
comp=Z,4.8nm,0.8s,mb4.2
KOLS Kolonicke sedl 74.79 327 eP **P 11 08 34.3 +0.1**
SCHQ Schefferville 74.82 21 P **P 11 08 32.8 -1.5**
comp=Z,3.5nm,0.8s,mb4.1,baz=322,slow=3.7,SNR=4.1
CRVS Cervenica-Dubn 75.12 327 eP **P 11 08 36.3 +0.2**
MALT Malatya 75.73 311 ⇓*i*P **P 11 08 41.2 +1.4**
MALT Malatya 75.73 311 ⇓P **P 11 08 41.2 +1.4**
NRDL Niedersach Rie 75.79 336 eP **P 11 08 38.7 -1.2**
comp=Z,12nm,1.4s,mb4.3
MORC Moravsky Berou 75.80 330 ⇓*i*P **P 11 08 40.3 +0.3**
MORC Moravsky Berou 75.80 330 ⇓P **P 11 08 40.3 +0.3**
KECS Kecovo 75.83 328 eP **P 11 08 39.8 -0.4**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
KECS Kecovo 75.83 328 eP **P 11 08 39.8 -0.4**
comp=Z,2.2nm,0.9s,mb3.8
CLL Collm 75.97 334 eP **P 11 08 40.3 -0.6**
comp=Z,11nm,0.8s,mb4.5
CLL Collm 75.97 334 *i* P **P 11 08 40.2 -0.7**
comp=Z,16nm,1.1s,mb4.6
CLL LmV 11 53 00.0
comp=Z,200nm,18.1s
MLR Muntele Rosu 76.12 323⇑*i*P **P 11 08 42.7 +0.8**
MLR Muntele Rosu 76.12 323 ⇑P **P 11 08 42.7 +0.9**
DRGR 76.38 326 ⇓*i*P **P 11 08 43.4 +0.1**
DRGR 76.38 326 ⇓P **P 11 08 43.4 +0.1**
VYHS Vyhne 76.43 329 eP **P 11 08 43.3 -0.2**
VYHS pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
VYHS Vyhne 76.43 329 eP **P 11 08 43.3 -0.2**
comp=Z,0.9nm,0.5s,mb3.7
VRAC Vranov 76.53 330 P **P 11 08 44.1 0.0**
comp=Z,6.2nm,0.8s,mb4.3,baz=46,slow=8.0,SNR=7.2
VOIR 76.53 323⇑*i*P **P 11 08 44.8 +0.6**
VOIR 76.53 323 ⇑P **P 11 08 44.8 +0.6**
UMR Umm Al-Rimmam 76.80 299 eP **P 11 08 45.8 -0.2**
baz=299
UMR AMb AMB 11 08 46.6
comp=Z,32nm,0.6s,mb5.1,baz=299
MIB Mutribah 76.84 299 eP **P 11 08 46.2 0.0**
baz=299
MIB AMb AMB 11 08 47.3
comp=Z,33nm,1.1s,mb4.9,baz=299
MOX Moxa 76.98 334 eP **P 11 08 44.3 -2.3**
comp=Z,2.0nm,0.6s,mb3.9
MODS Modra-Piesok 77.08 330 eP **P 11 08 48.8 +1.6**
MODS pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
MODS Modra-Piesok 77.08 330 eP **P 11 08 48.8 +1.6**
comp=Z,4.3nm,0.8s,mb4.1
ZST Bratislava 77.30 330 eP **P 11 08 49.9 +1.5**
ZST pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
ZST Bratislava 77.30 330 eP **P 11 08 49.9 +1.5**
comp=Z,7.3nm,0.7s,mb4.4
NAY Al-Naaiem 77.30 299 eP **P 11 08 48.7 -0.1**
baz=299
NAY AMb AMB 11 08 49.8
comp=Z,17nm,1.5s,mb4.5,baz=299
RDF Al-Radifah 77.34 298 eP **P 11 08 49.5 +0.4**
baz=298

RDF AMb AMB 11 08 50.5
comp=Z,43nm,0.7s,mb5.2,baz=298
KHC Kasperske Hory 77.69 332 eP **P 11 08 50.0 -0.6**
BZS Buzias 77.78 325 ⇓*i*P **P 11 08 51.1 0.0**
BZS Buzias 77.78 325 ⇓P **P 11 08 51.1 -0.1**
GEC2 GERESS Array S 77.89 332 eP **P 11 08 50.7 -1.0**
GEC2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
GEC2 GERESS Array S 77.89 332 eP **P 11 08 50.7 -1.0**
comp=Z,4.0nm,0.7s,mb4.2
GERES GERESS Array B 77.89 332 P **P 11 08 51.2 -0.5**
comp=Z,2.3nm,0.5s,mb4.0,baz=49,slow=6.2,SNR=7.4
WET Wettzell 77.90 333 eP **P 11 08 52.4 +0.6**
WET pmax pmax
comp=Z,11nm,1.1s,mb4.4
WET Wettzell 77.90 333 eP **P 11 08 52.4 +0.6**
comp=Z,11nm,1.1s,mb4.4
GRA1 Grafenberg Arr 77.94 334 eP **P 11 08 52.5 +0.5**
comp=Z,8.0nm,0.6s,mb4.5
GRF Grafenberg Arr 77.94 334 eP **P 11 08 52.5 +0.5**
GRF pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
GRF Grafenberg Arr 77.94 334 eP **P 11 08 52.5 +0.5**
GRF pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
GRF Grafenberg Arr 77.94 334 eP **P 11 08 52.5 +0.5**
comp=Z,8.0nm,0.6s,mb4.5
TNS Taunus Mts 78.29 336 eP **P 11 08 53.8 -0.1**
TNS pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
TNS Taunus Mts 78.29 336 eP **P 11 08 53.8 -0.1**
comp=Z,5.0nm,0.7s,mb4.2
PKSM Moragy 78.42 328⇑*i*P **P 11 08 54.5 -0.2**
PKSM Moragy 78.42 328 ⇑P **P 11 08 54.5 -0.2**
SOKA Soboth 79.32 330⇑*i*P **P 11 08 59.5 -0.1**
comp=Z,7.0nm,0.7s,mb4.4
PERS Pernice 79.33 330 *i* P **P 11 08 59.9 +0.3**
KBA Koelnbreinsper 79.55 331⇑*i*P **P 11 09 01.9 +1.1**
comp=Z,16nm,0.8s,mb4.7
KBA Koelnbreinsper 79.55 331⇑*i*P **P 11 09 01.9 +1.1**
KBA pmax pmax
comp=Z,16nm,0.8s,mb4.7
VTS Vitosha 79.62 323 ⇓*i*P **P 11 09 01.8 +0.5**
VTS Vitosha 79.62 323 ⇓P **P 11 09 01.8 +0.5**
TXAR Lajitas Array 79.95 58 P **P 11 09 02.8 -0.5**
comp=Z,2.5nm,0.7s,mb4.0,baz=296,slow=4.2,SNR=39
WTTA Wattenberg 79.95 332 ⇓*i*P **P 11 09 03.9 +0.9**
comp=Z,13nm,0.6s,mb4.7
WTTA Wattenberg 79.95 332 ⇓*i*P **P 11 09 03.9 +0.9**
WTTA pmax pmax
comp=Z,13nm,0.6s,mb4.7
BFO Black Forest 80.02 335 eP **P 11 09 02.3 -1.0**
BFO pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
BFO Black Forest 80.02 335 eP **P 11 09 02.3 -1.0**
comp=Z,8.0nm,0.9s,mb4.3
CDF Champ du Feu 80.26 336 eP **P 11 09 04.1 -0.5**
comp=Z,13nm,0.9s,mb4.2
CDF Champ du Feu 80.26 336 eP **P 11 09 04.1 -0.5**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
CDF Champ du Feu 80.26 336 eP **P 11 09 04.1 -0.5**
comp=Z,6.7nm,0.9s,mb4.3
FETA Feichten 80.45 333⇑*i*P **P 11 09 05.5 -0.1**
comp=Z,7.1nm,1.0s,mb4.2
MEZF Maizieres J'vi 80.80 337 eP **P 11 09 07.3 -0.2**
DAVOS Davos 80.91 333 P **P 11 09 08.7 +0.6**
HINF Hinteralfeld 80.92 336 eP **P 11 09 07.4 -0.7**
DAVOX Davos/Dischmat 80.94 333 P **P 11 09 08.7 +0.4**
comp=Z,3.5nm,0.7s,mb4.1,baz=39,slow=4.4,SNR=6.4
FLN La Foliniere 81.95 340 eP **P 11 09 13.1 -0.5**
comp=Z,32nm,1.0s,mb4.6
FLN La Foliniere 81.95 340 eP **P 11 09 13.1 -0.5**
FLN pmax pmax
comp=Z,16nm,1.0s,mb4.6
FLN La Foliniere 81.95 340 eP **P 11 09 13.1 -0.5**
comp=Z,16nm,1.0s,mb4.6
LOR Lormes 82.25 337 eP **P 11 09 14.6 -0.5**
comp=Z,21nm,0.9s,mb4.5
LOR Lormes 82.25 337 eP **P 11 09 14.6 -0.5**
LOR pmax pmax
comp=Z,11nm,0.9s,mb4.5
LOR Lormes 82.25 337 eP **P 11 09 14.6 -0.5**
comp=Z,11nm,0.9s,mb4.5
GRR Gorron 82.39 341 eP **P 11 09 15.7 -0.1**
comp=Z,21nm,0.6s,mb4.6
GRR Gorron 82.39 341 eP **P 11 09 15.7 -0.1**
GRR pmax pmax
comp=Z,11nm,0.6s,mb4.7
GRR Gorron 82.39 341 eP **P 11 09 15.7 -0.1**
comp=Z,10nm,0.6s,mb4.6
SSF Saint Saulge 82.54 337 eP **P 11 09 16.1 -0.5**
comp=Z,19nm,1.0s,mb4.5
SSF Saint Saulge 82.54 337 eP **P 11 09 16.1 -0.5**
SSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
SSF Saint Saulge 82.54 337 eP **P 11 09 16.1 -0.5**
comp=Z,9.5nm,1.0s,mb4.5
AVF Avril sur Loir 82.83 337 eP **P 11 09 17.8 -0.3**
comp=Z,8.3nm,0.6s,mb4.3
AVF Avril sur Loir 82.83 337 eP **P 11 09 17.8 -0.3**
AVF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
AVF Avril sur Loir 82.83 337 eP **P 11 09 17.8 -0.3**
comp=Z,4.2nm,0.6s,mb4.3
SMF Signal de Mont 82.83 337 eP **P 11 09 17.8 -0.3**
comp=Z,23nm,0.9s,mb4.6
SMF Signal de Mont 82.83 337 eP **P 11 09 17.8 -0.3**
SMF pmax pmax
comp=Z,11nm,0.9s,mb4.6
SMF Signal de Mont 82.83 337 eP **P 11 09 17.8 -0.3**
comp=Z,11nm,0.9s,mb4.6
SGMF Saint Gilles 82.90 342 eP **P 11 09 18.4 -0.1**
comp=Z,52nm,0.9s,mb5.0
SGMF Saint Gilles 82.90 342 eP **P 11 09 18.4 -0.1**
SGMF pmax pmax
comp=Z,26nm,0.9s,mb5.0
SGMF Saint Gilles 82.90 342 eP **P 11 09 18.4 -0.1**
comp=Z,26nm,0.9s,mb5.0
ROSF Rostrenen 82.98 342 eP **P 11 09 18.9 0.0**
LPL La Plagne 83.03 335 eP **P 11 09 19.5 +0.3**
comp=Z,17nm,1.0s,mb4.4
LPL La Plagne 83.03 335 eP **P 11 09 19.5 +0.3**
LPL pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
LPL La Plagne 83.03 335 eP **P 11 09 19.5 +0.3**
comp=Z,8.4nm,1.0s,mb4.4
LPG La Plagne 83.05 335 eP **P 11 09 19.7 +0.4**
comp=Z,18nm,0.9s,mb4.5
LPG La Plagne 83.05 335 eP **P 11 09 19.7 +0.4**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
LPG La Plagne 83.05 335 eP **P 11 09 19.7 +0.4**
comp=Z,9.0nm,0.9s,mb4.5
QUIF Quistinic 83.35 342 eP **P 11 09 20.4 -0.4**
comp=Z,37nm,1.1s,mb4.7
QUIF Quistinic 83.35 342 eP **P 11 09 20.4 -0.4**
QUIF pmax pmax
comp=Z,19nm,1.1s,mb4.7
QUIF Quistinic 83.35 342 eP **P 11 09 20.4 -0.4**
comp=Z,18nm,1.1s,mb4.7
TCF Toulx Ste Croi 83.59 338 eP **P 11 09 21.2 -0.9**
comp=Z,11nm,0.8s,mb4.3
TCF Toulx Ste Croi 83.59 338 eP **P 11 09 21.2 -0.9**
TCF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
TCF Toulx Ste Croi 83.59 338 eP **P 11 09 21.2 -0.9**
comp=Z,5.7nm,0.8s,mb4.3
MBDF Montbardon 83.74 334 eP **P 11 09 22.4 -0.4**
comp=Z,8.3nm,0.7s,mb4.3
MBDF Montbardon 83.74 334 eP **P 11 09 22.4 -0.4**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
MBDF Montbardon 83.74 334 eP **P 11 09 22.4 -0.4**
comp=Z,4.2nm,0.7s,mb4.3
ORIF Oris-en-Rattie 83.83 335 eP **P 11 09 23.4 +0.1**
comp=Z,22nm,0.8s,mb4.6
ORIF Oris-en-Rattie 83.83 335 eP **P 11 09 23.4 +0.1**
ORIF pmax pmax
comp=Z,11nm,0.8s,mb4.6
ORIF Oris-en-Rattie 83.83 335 eP **P 11 09 23.4 +0.1**
comp=Z,11nm,0.8s,mb4.6
MFF Saint Martin d 83.90 340 eP **P 11 09 23.6 0.0**
comp=Z,34nm,0.8s,mb4.8
MFF Saint Martin d 83.90 340 eP **P 11 09 23.6 0.0**
MFF pmax pmax

comp=Z,17nm,0.8s,mb4.8
MFF Saint Martin d 83.90 340 *e*P P **11 09 23.6 0.0**
comp=Z,17nm,0.8s,mb4.8
VIVF Saint-Julien-l 84.24 336 *e*P P **11 09 25.4 0.0**
comp=Z,9.7nm,0.7s,mb4.3
VIVF Saint-Julien-l 84.24 336 *e*P P **11 09 25.4 0.0**
VIVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
VIVF Saint-Julien-l 84.24 336 *e*P P **11 09 25.4 0.0**
comp=Z,4.8nm,0.7s,mb4.3
SBF Sospel 84.32 333 *e*P P **11 09 24.9 -0.9**
comp=Z,29nm,0.9s,mb4.7
SBF Sospel 84.32 333 *e*P P **11 09 24.9 -0.9**
SBF pmax pmax
comp=Z,15nm,0.9s,mb4.7
SBF Sospel 84.32 333 *e*P P **11 09 24.9 -0.9**
comp=Z,15nm,0.9s,mb4.7
RJF Les Rejaudoux 84.69 338 *e*P P **11 09 27.8 +0.2**
comp=Z,22nm,0.9s,mb4.6
RJF Les Rejaudoux 84.69 338 *e*P P **11 09 27.8 +0.2**
RJF pmax pmax
comp=Z,11nm,0.9s,mb4.6
RJF Les Rejaudoux 84.69 338 *e*P P **11 09 27.8 +0.2**
comp=Z,11nm,0.9s,mb4.6
SMRF Simiane la Rot 84.78 335 *e*P P **11 09 28.5 +0.4**
FRF La Foret Royal 84.83 334 *e*P P **11 09 27.6 -0.8**
CAF Calviac 84.89 337 *e*P P **11 09 29.3 +0.6**
comp=Z,32nm,0.9s,mb4.7
CAF Calviac 84.89 337 *e*P P **11 09 29.3 +0.6**
CAF pmax pmax
comp=Z,16nm,0.9s,mb4.8
CAF Calviac 84.89 337 *e*P P **11 09 29.3 +0.6**
comp=Z,16nm,0.9s,mb4.8
PGF Pioggiola 85.00 332 *e*P P **11 09 29.0 -0.2**
comp=Z,16nm,1.1s,mb4.4
PGF Pioggiola 85.00 332 *e*P P **11 09 29.0 -0.2**
PGF pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
PGF Pioggiola 85.00 332 *e*P P **11 09 29.0 -0.2**
comp=Z,7.9nm,1.1s,mb4.4
LMR La Mourre 85.08 334 *e*P P **11 09 29.7 +0.1**
comp=Z,7.0nm,0.6s,mb4.3
LMR La Mourre 85.08 334 *e*P P **11 09 29.7 +0.1**
LMR pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
LMR La Mourre 85.08 334 *e*P P **11 09 29.7 +0.1**
comp=Z,3.5nm,0.6s,mb4.3
LASF Ste Croix 85.19 336 *e*P P **11 09 30.5 +0.4**
comp=Z,7.9nm,0.8s,mb4.2
LFF La Frestale 85.23 338 *e*P P **11 09 30.7 +0.4**
comp=Z,50nm,1.0s,mb4.9
LFF La Frestale 85.23 338 *e*P P **11 09 30.7 +0.4**
LFF pmax pmax
comp=Z,25nm,1.0s,mb4.9
LFF La Frestale 85.23 338 *e*P P **11 09 30.7 +0.4**
comp=Z,25nm,1.0s,mb4.9
MTLF Montolieu 86.32 337 *e*P P **11 09 36.3 +0.6**
comp=Z,9.9nm,0.9s,mb4.2
MTLF Montolieu 86.32 337 *e*P P **11 09 36.3 +0.6**
MTLF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
MTLF Montolieu 86.32 337 *e*P P **11 09 36.3 +0.6**
comp=Z,4.9nm,0.9s,mb4.2
EPF Esparros 87.11 338 *e*P P **11 09 39.6 0.0**
SJPF Ste Jean 87.44 339 *e*P P **11 09 40.3 -0.8**
ETSF Etsaut 87.47 338 *e*P P **11 09 40.6 -0.7**
comp=Z,5.3nm,0.7s,mb4.2
ETSF Etsaut 87.47 338 *e*P P **11 09 40.6 -0.7**
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
ETSF Etsaut 87.47 338 *e*P P **11 09 40.6 -0.7**
comp=Z,2.7nm,0.7s,mb4.2
TORD Torodi Ar. Bea 114.28 325 PKP PKiKP 11 15 31.1 -1.9
comp=Z,0.2nm,0.5s,baz=58,slow=1.6,SNR=2.6
PLCA Paso Flores 150.63 94 PKPbc PKPbc 11 16 43.3 -1.4
comp=Z,4.5nm,0.7s,baz=3.1,slow=0.9,SNR=8.7
CPUP Villa Florida 150.91 57 PKPbc PKPbc 11 16 44.7 -1.1
comp=Z,1.6nm,0.6s,baz=354,slow=2.8,SNR=5.5
CPUP Villa Florida 150.91 57 PKPbc PKPbc 11 16 44.7 -1.1

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*BJI **28** 11:04:56.0, 3590N×14140E, h10km, mB4.3, mb4.4, Ms3.7, Ms23.4*
*NEIC **28** 11:04:58.0±0.4, 3586N×14142E, h10km, mb4.6/8, MW4.2(NIED), Error ellipse: s-maj=9.1km s-min=8.2km az=221.0*
NEIC Recorded [1 JMA] in Ibaraki Prefecture.
*MOS **28** 11:04:59.4±1.1, 3591N×14144E, h33km, mb4.8/11, Error ellipse: s-maj=13.9km s-min=8.2km az=128.7*
*JMA **28** 11:05:00.1±0.1, 3598N×14146E, h42km±2km, M4.0*
JMA Felt I J1.
*NIED **28** 11:05:00, 3600N×14150E, h23km, Mw4.2 Best double couple: M₀2.16000×10¹⁵ NP1:φ₈22.00000°, δ72.00000°, λ84.00000°. NP2:φ₈222.00000°, δ19.00000°, λ109.00000°.*
*ISCJB **28** 11:05:00.4±0.7, 3592N±003×14145E±006, h41km±5km, mb4.3/33, MS3.7/9, Error ellipse: s-maj=8.3km s-min=4.9km az=175.4*
*IDC **28** 11:05:03.4±2.2, 3585N×14132E, h51km±19km, mb3.8/16, mb1 4.0/19, mb1mx4.0/25, mbtmp3.9/19, ML3.9/3, MS3.5/11, Ms1 3.6/11, ms1mx3.2/44, Error ellipse: s-maj=17.4km s-min=9.1km az=72.0*
ISC 28 11:04:58.9±1.5, 3595N±003×14150E±004, h16km±9km, h23km±5.7km: pP-P, n76, σ1§03/87, mb4.3/33, MS3.7/9, 5C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.58**	**245**	∥P	**Pb**		**11 05 11.6**	**+1.0**
CHOJ				*e*S	**Sb**		**11 05 20.1**	**+1.5**
JHO	**Hitachi**	**1.00**	**312**	∥P	**Pb**		**11 05 17.3**	**-0.6**
JYT	**Yasato**	**1.10**	**285**	∥P	**Pn**		**11 05 18.5**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.28**	**334**	∥P	**Pn**		**11 05 21.2**	**-1.0**
BSO1	**Boso 1**	**1.36**	**199**	P	**Pn**		**11 05 23.4**	**+0.2**
BSO1				*e*S	**Sn**		**11 05 40.6**	**-0.3**
BSO3	**Boso 3**	**1.40**	**216**	↑P	**Pn**		**11 05 24.1**	**+0.3**
JFK	**Kawauchi**	**1.50**	**341**	∥P	**Pn**		**11 05 24.6**	**-0.6**
JFK				*e*S	**Sn**		**11 05 43.9**	**-0.5**
JAG	**Ashikaga**	**1.73**	**287**	∥P	**Pn**		**11 05 27.6**	**-0.6**
JAG				*e*S	**Sn**		**11 05 48.6**	**-1.3**
JFT	**Otama**	**1.82**	**329**	∥P	**Pn**		**11 05 30.3**	**+0.7**
JFT				*e*S	**Sn**		**11 05 52.3**	**-0.1**
MJAR	**Matsushiro Arr**	**2.73**	**284**	P	**Pn**		**11 05 42.7**	**+0.7**
	30nm,0.3s,baz=101,slow=7.7,SNR=151							
MJAR				S	**Sn**		**11 06 14.3**	**-0.3**
	11nm,0.3s,baz=101,slow=12,SNR=5.9							
MJAR				LR	LR		11 06 51.6	
	comp=Z,657nm,19.6s,baz=120,slow=42							
MJAR	**Matsushiro Arr**	**2.73**	**284**	P	**Pn**		**11 05 42.7**	**+0.7**
MJAR				S	**Sn**		**11 06 14.3**	**-0.3**
MJAR	**Matsushiro Arr**	**2.73**	**284**	P	**Pn**		**11 05 42.7**	**+0.7**
MJAR				S	**Sn**		**11 06 14.3**	**-0.3**
MJAR				LR	LR		11 06 51.6	
MAJO	**Matsushiro**	**2.73**	**284**	*e*P	**Pn**		**11 05 42.8**	**+0.8**
MAT	**Matsushiro**	**2.73**	**284**	P	**Pn**		**11 05 43.7**	**+1.7**
MAT				*e*S	**Sn**		**11 06 14.6**	**-0.1**
JHJ	**Hachijo jima 2**	**3.16**	**207**	P	**Pn**		**11 05 47.6**	**-0.3**
	154nm,0.3s,baz=73,slow=20,SNR=57							
JHJ				S	**Sn**		**11 06 23.0**	**-2.3**
	297nm,0.3s,baz=47,slow=20,SNR=16							
JHJ				LR	LR		11 07 11.5	
	comp=Z,195nm,18.5s,baz=32,slow=43							
ASAJ	**Asahikawa**	**8.20**	**6**	P	**Pn**		**11 06 55.6**	**-1.5**
	1.8nm,0.3s,baz=240,slow=12,SNR=19							
ASAJ				S	**Sn**		**11 08 28.0**	**-1.4**
	0.7nm,0.3s,baz=99,slow=30,SNR=2.3							
ASAJ				LR	LR		11 10 48.8	
	comp=Z,178nm,20.4s,baz=177,slow=42							
ASAJ	**Asahikawa**	**8.20**	**6**	P	**Pn**		**11 06 55.7**	**-1.5**
ASAJ				S	**Sn**		**11 08 28.0**	**-1.4**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ASAJ				smax				
	comp=N,1.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,178nm,20.4s							
CBIJ	**Chichi jima**	**8.85**	**176**	P	**Pn**		**11 07 04.0**	**-2.1**
	comp=Z,17nm,0.3s,baz=323,slow=4.1,SNR=26							
CBIJ				S	**Sn**		**11 08 35.9**	**-10**
	comp=Z,13nm,0.3s,baz=6.8,slow=23,SNR=5.5							
KSRS	**Korea Array**	**11.01**	**282**	P	**Pn**		**11 07 36.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=98,slow=13,SNR=13							
KSRS				LR	LR		11 11 47.5	

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**11.04**	**4**	∥*e*P		**Pn**	**11 07 33.4**	**-2.6**
YSS				pmax	pmax			
	comp=Z,25nm,1.8s							
YSS	**Yuzh-Sakhalins**	**11.04**	**4**	*e*P		**Pn**	**11 07 33.5**	**-2.5**
	comp=Z,14nm,1.0s							
BJT	**Baijiatuau**	**20.36**	**289**	*e*P		**P**	**11 09 32.6**	**-2.0**
PETK	**Petropavlovsk-**	**20.60**	**29**	P		**P**	**11 09 39.8**	**+2.8**
	comp=Z,2.8nm,0.8s,baz=210,slow=12,SNR=3.7							
XAN	**Xi'an**	**26.70**	**276**	P		**P**	**11 10 35.5**	**-1.8**
XAN				AP		pP	11 10 41.5	-0.7
XAN				AMB		AMB		
	comp=Z,5.0nm,1.0s,mb4.0							
XAN				AMB		AMB		
	comp=Z,66nm,10.3s							
YAK	**Yakutsk**	**27.14**	**348**	*e*P		**P**	**11 10 39.4**	**-1.6**
YAK				pmax	pmax			
	comp=Z,15nm,1.1s,mb4.4							
YAK				pmax	pmax			
	comp=N,9.0nm,1.1s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.3s							
SONM	**Songino Array**	**28.46**	**306**	P		**P**	**11 10 52.9**	**-0.1**
	comp=E,2.8nm,0.6s,mb4.1,baz=107,slow=7.9,SNR=19							
SONM				LR		LR	11 22 53.9	
	comp=E,99nm,18.0s,MS3.5,baz=62,slow=38							
BOD	**Bodaibo**	**28.49**	**329**	*e*P		**P**	**11 10 52.8**	**-0.3**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.1							
ZAK	**Zakamensk**	**31.01**	**310**	*e*P		**P**	**11 11 15.3**	**-0.2**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb3.9							
TLY	**Talaya**	**31.10**	**312**	*e*P		**P**	**11 11 16.7**	**+0.4**
TLY				*e*S		**S**	**11 16 23.7**	**+2.7**
TLY				*e*SS		SS	11 18 07.5	-26
TLY				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.3							
TLY				MLR	MLR			
	comp=Z,90nm,14.0s,MS3.6							
GTA	**Gaotai**	**32.97**	**289**	*e*P		**P**	**11 11 33.8**	**+1.0**
GTA				AP		pP	11 11 37.5	-0.3
GTA				XP		sP	11 11 39.0	-0.8
GTA				AMB		AMB		
	comp=Z,3.0nm,1.0s,mb4.2							
BILL	**Bilibino**	**35.05**	**16**	↑*e*P		**P**	**11 11 51.8**	**+1.3**
BILL				SS		SS	11 19 39.0	-15
BILL				pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.6							
TIXI	**Tiksi**	**36.37**	**353**	↑*e*P		**P**	**11 12 01.3**	**-0.6**
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
CMAR	**Chiang Mai Arr**	**41.30**	**257**	P		**P**	**11 12 41.7**	**-2.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=38,slow=6.6,SNR=8.0							
CMAR	**Chiang Mai Arr**	**41.30**	**257**	↑*e*P		**P**	**11 12 43.9**	**+0.1**
WMQ	**Urumqi**	**41.40**	**298**	*e*P		**P**	**11 12 45.3**	**+1.0**
WMQ				AP		pP	11 12 55.3	+5.9
WMQ				AMB		AMB		
	comp=Z,17nm,0.8s,mb4.7							
WMQ				LR		LR		
	comp=N,51nm,20.0s							
WMQ				LR		LR		
	comp=Z,44nm,20.0s,MS3.3							
ZALV	**Zalesovo Beam**	**42.70**	**313**	P		**P**	**11 12 55.0**	**+0.2**
	comp=Z,3.6nm,0.5s,mb4.4,baz=86,slow=7.0,SNR=8.7							
ZALV				PcP		PcP	11 14 45.8	-0.5
	comp=Z,2.1nm,0.5s,baz=101,slow=3.7,SNR=4.1							
ZALV				LR		LR	11 31 37.5	
	comp=Z,56nm,18.3s,MS3.5,baz=107,slow=37							
ZAL	**Zalesovo**	**42.72**	**313**	P		**P**	**11 12 55.0**	**+0.1**
ZAL							11 14 45.8	
NVS	**Novosibirsk**	**43.65**	**315**	*e*P		**P**	**11 13 01.6**	**-0.8**
NVS				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.4							
NVS				pmax	pmax			
	comp=E,10.0nm,1.0s							
MKAR	**Makanchi Array**	**44.76**	**303**	P		**P**	**11 13 11.1**	**-0.3**
	comp=E,7.0nm,0.8s,mb4.5,baz=87,slow=10.0,SNR=38							
MKAR				LR		LR	11 32 32.8	
	comp=E,49nm,19.8s,MS3.4,baz=1.2,slow=37							
KURK	**Kurchatov**	**46.66**	**309**	*e*P		**P**	**11 13 26.1**	**-0.3**
KURK				pmax	pmax			
	comp=Z,18nm,0.8s,mb5.0							
KURK	**Kurchatov**	**46.66**	**309**	*e*P		**P**	**11 13 26.1**	**-0.4**
	comp=Z,18nm,0.8s,mb5.0							
TKM2	**Tokmak 2**	**50.22**	**299**	*e*P		**P**	**11 13 54.9**	**+1.0**
TKM2				pmax	pmax			
	comp=Z,57nm,1.0s							
TKM2	**Tokmak 2**	**50.22**	**299**	*e*P		**P**	**11 13 54.9**	**+1.0**
	comp=Z,56nm,1.0s							
UCH	**Uchtor**	**51.18**	**299**	*e*P		**P**	**11 14 03.1**	**+2.0**
BVAR	**Borovoye Array**	**51.36**	**313**	P		**P**	**11 14 02.4**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.5,baz=72,slow=6.7,SNR=17							
BVAR				PcP		PcP	11 15 15.9	-1.0
	comp=Z,2.1nm,0.7s,baz=99,slow=4.7,SNR=4.2							
BRVK	**Borovoye**	**51.42**	**313**	*e*P		**P**	**11 14 03.0**	**+0.2**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
BRVK	**Borovoye**	**51.42**	**313**	*e*P		**P**	**11 14 03.0**	**+0.2**
	comp=Z,3.3nm,0.6s,mb4.4							
EKS2	**Erkin-Say**	**51.57**	**299**	*e*P		**P**	**11 14 04.2**	**0.0**
	comp=Z,4.6nm,1.1s,mb4.3							
AML	**Almayashu**	**51.79**	**299**	*e*P		**P**	**11 14 07.2**	**+1.4**
	comp=Z,7.0nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**55.81**	**198**	*e*P		**P**	**11 14 35.9**	**+0.6**
	comp=Z,3.6nm,0.8s,mb4.5							
FITZ	**Fitzroy Crossi**	**55.81**	**198**	P		**P**	**11 14 35.7**	**+0.4**
	comp=Z,1.2nm,0.5s,mb4.2,baz=18,slow=13,SNR=3.6							
WRAB	**Tennant Creek**	**55.99**	**188**	*e*P		**P**	**11 14 36.3**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6							
WRAB	**Tennant Creek**	**55.99**	**188**	*e*P		**P**	**11 14 36.2**	**-0.3**
	comp=Z,3.5nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**56.00**	**188**	*e*P		**P**	**11 14 36.3**	**-0.3**
WRA	**Warramunga Arr**	**56.00**	**188**	P		**P**	**11 14 36.1**	**-0.5**
	comp=Z,3.3nm,0.7s,mb4.5,baz=3.5,slow=7.1,SNR=45							
SVE	**Sverdlovsk**	**56.01**	**319**	*e*P		**P**	**11 14 36.9**	**+0.5**
SVE				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb5.0							
ARU	**Arti**	**57.22**	**319**	*e i*P		**P**	**11 14 44.9**	**-0.1**
ARU				*e*			11 16 48.7	
ARU				*e*S		**S**	**11 22 42.9**	**+3.1**
ARU				*e*SS		SS	11 26 30.5	+2.1
ARU				pmax	pmax			
	comp=Z,14nm,1.0s,mb5.0							
ASAR	**Alice Springs**	**59.72**	**188**	P		**P**	**11 15 02.6**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=5.4,slow=5.0,SNR=19							
MBWA	**Marble Bar**	**60.42**	**203**	*e*P		**P**	**11 15 06.3**	**-1.2**
	comp=Z,2.5nm,0.6s,mb4.4							
YKA	**Yellowknife Ar**	**64.71**	**30**	P		**P**	**11 15 36.3**	**+0.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=292,slow=6.0,SNR=3.7							
ARCES	**ARCESS Array B**	**65.04**	**340**	P		**P**	**11 15 38.2**	**+0.4**
	comp=Z,2.3nm,0.8s,mb4.3,baz=46,slow=10,SNR=5.4							
ARCES				LR		LR	11 49 33.4	
	comp=Z,37nm,18.1s,MS3.6,baz=106,slow=41							
ARCES	**ARCESS Array B**	**65.04**	**340**	P		**P**	**11 15 38.2**	**+0.4**
ARCES				LR		LR	11 49 33.4	
OBN	**Obninsk**	**69.01**	**324**	P		**P**	**11 16 04.0**	**+0.7**
OBN							11 16 27.0	
KIV	**Kislovodsk**	**71.67**	**311**	P		**P**	**11 16 21.0**	**+1.2**
HFS	**Hagfors**	**75.11**	**336**	LR		LR	11 51 53.6	
	comp=Z,38nm,18.2s,MS3.7,baz=95,slow=37							
AKASG	**Malin Array Be**	**75.20**	**323**	P		**P**	**11 16 39.5**	**-1.0**
	comp=Z,2.6nm,0.4s,mb4.5,baz=48,slow=5.4,SNR=14							
AKASG	**Malin Array Be**	**75.20**	**323**	*i* P		**P**	**11 16 40.0**	**-0.4**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.4s							
NB2	**NORSAR Subarra**	**75.22**	**337**	P		**P**	**11 16 40.3**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.1,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**75.22**	**337**	P		**P**	**11 16 40.0**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=40,slow=5.6,SNR=4.1							
NOA				LR		LR	11 53 01.8	
	comp=Z,60nm,18.7s,MS3.9,baz=115,slow=38							
NVAR	**Mina Array Bea**	**75.58**	**53**	P		**P**	**11 16 44.8**	**+1.9**
	baz=289,slow=5.6							
PDAR	**Pinedale Array**	**78.38**	**45**	P		**P**	**11 16 59.6**	**+1.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=6.8,slow=3.7,SNR=3.5							
GERES	**GERESS Array B**	**83.67**	**328**	P		**P**	**11 17 26.9**	**+0.3**
	comp=Z,0.4nm,0.3s,mb4.0,baz=31,slow=3.1,SNR=3.9							
PPT	**Papeete**	**84.08**	**117**	LR		LR	11 49 42.0	
	comp=Z,178nm,19.0s,MS4.5,baz=218,slow=32							
TXAR	**Lajitas Array**	**90.73**	**52**	P		**P**	**11 18 01.9**	**+0.7**
	comp=Z,0.1nm,0.6s,mb3.3,baz=270,slow=2.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	**118.14**	**315**	PKP		PKPdf	11 23 45.0	-0.7
	comp=Z,0.3nm,0.7s,baz=9.5,slow=3.5,SNR=2.9							
LPAZ	**La Paz**	**147.17**	**61**	PKPbc		PKPbc	11 24 42.8	+1.1
	comp=Z,1.1nm,0.7s,baz=13,slow=10,SNR=6.0							

*ISCJB **28** 12:25:23.2±1.5, 1827S×009×17573W±008, h252km±13km, mb4.3/27, Error ellipse: s-maj=17.3km s-min=8.5km az=141.8*
*NEIC **28** 12:25:29.6±3.6, 1839S×17570W, h306km±36km, mb4.4/16, Error ellipse: s-maj=11.7km s-min=8.6km az=149.0*
*IDC **28** 12:25:29.8±2.0, 1845S×17566W, h305km±19km, mb4.1/14, mb1 4.3/14, mb1mx4.2/19, mbtmp4.1/14, Error ellipse: s-maj=13.3km s-min=10.0km az=126.0*
ISC 28 12:25:23.7±1.5, 1837S±009×17564W±009, h245km±14km, n46, σ0§62/48, mb4.3/27, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.78**	**40**	P		**Pn**	**12 26 48.6**	**-0.5**
	13nm,0.3s,baz=126,slow=23,SNR=22							
AFI				S		**S**	**12 27 49.9**	**-7.3**
	50nm,0.3s,baz=168,slow=23,SNR=8.8							
URZ	**Urewera**	**20.80**	**196**	P		**P**	**12 29 46.4**	**0.0**
	12nm,0.4s,baz=85,slow=3.6,SNR=19							
URZ				S		**S**	**12 33 21.5**	**-1.7**
	9.6nm,0.8s,baz=320,slow=22,SNR=7.7							
CTA	**Charters Tower**	**35.97**	**261**	*e*P		**P**	**12 32 01.9**	**+0.4**
	14nm,0.6s,mb4.7							
CTA	**Charters Tower**	**35.97**	**261**	P		**P**	**12 32 02.0**	**+0.5**
	18nm,0.7s,mb4.7,baz=92,slow=12							
CTAO	**Charters Tower**	**35.97**	**261**	*e*P		**P**	**12 32 01.9**	**+0.4**
	18nm,0.7s,mb4.7							
STKA	**Stephens Creek**	**40.73**	**242**	P		**P**	**12 32 41.8**	**+0.9**
	3.6nm,0.4s,mb4.1,baz=68,slow=8.1,SNR=5.7							
WB2	**Warramunga Arr**	**47.13**	**260**	↑*i*P		**P**	**12 33 31.2**	**-0.6**
WB2				*e*S		**S**	**12 39 59.7**	**-5.6**
WRAB	**Tennant Creek**	**47.13**	**260**	*e*P		**P**	**12 33 31.4**	**-0.4**
	26nm,0.5s,mb4.8							
WRA	**Warramunga Arr**	**47.14**	**260**	P		**P**	**12 33 31.7**	**-0.1**
	29nm,0.5s,mb4.9,baz=98,slow=6.4,SNR=905							
WRA				S		**S**	**12 40 00.0**	**-5.5**
	2.3nm,0.9s,baz=95,slow=14,SNR=11							
ASAR	**Alice Springs**	**47.20**	**254**	P		**P**	**12 33 32.6**	**+0.3**
	44nm,0.7s,mb4.9,baz=88,slow=8.9,SNR=503							
ASAR				S		**S**	**12 40 02.0**	**-4.3**
	2.0nm,0.8s,baz=94,slow=17,SNR=12							
KAKA	**Kakadu**	**50.21**	**269**	*e*P		**P**	**12 33 55.1**	**-0.1**
	28nm,0.6s,mb4.8							
FORT	**Forrest**	**52.20**	**245**	*e*P		**P**	**12 34 10.2**	**+0.5**
	8.7nm,0.5s,mb4.4							
FITZ	**Fitzroy Crossi**	**55.55**	**260**	*e*P		**P**	**12 34 34.2**	**+0.1**
	5.3nm,0.5s,mb4.3							
SBA	**Scott Base**	**60.14**	**184**	*e*P		**P**	**12 35 06.4**	**+1.4**
	9.1nm,0.9s,mb4.4							
MBWA	**Marble Bar**	**60.52**	**256**	*e*P		**P**	**12 35 06.5**	**-2.0**
MJAR	**Matsushiro Arr**	**69.87**	**322**	P		**P**	**12 36 08.3**	**+0.3**
	5.6nm,0.8s,mb4.2,baz=158,slow=6.3,SNR=18							
QSPA	**South Pole Qui**	**71.69**	**180**	P		**P**	**12 36 18.5**	**+0.2**
	16nm,0.8s,mb4.7,baz=47,slow=1.7,SNR=78							
QSPA	**South Pole Qui**	**71.69**	**180**	P		**P**	**12 36 18.5**	**+0.2**
PETK	**Petropavlovsk-**	**74.83**	**344**	P		**P**	**12 36 36.8**	**0.0**
	2.9nm,0.7s,mb4.0,baz=106,slow=9.2,SNR=8.5							
KSRS	**Korea Array**	**76.81**	**317**	P		**P**	**12 36 50.3**	**+1.8**
	3.0nm,0.9s,mb3.9,baz=131,slow=6.0,SNR=13							
NVAR	**Mina Array Bea**	**77.95**	**43**	P		**P**	**12 36 55.0**	**+0.2**
	4.4nm,0.7s,mb4.2,baz=225,slow=9.6,SNR=49							
LDFC	**Landfair**	**78.23**	**47**	*e*P		**P**	**12 36 56.6**	**+0.3**
	26nm,1.3s,mb4.7							
TPH	**Tonopah**	**78.45**	**43**	*e*P		**P**	**12 36 57.7**	**+0.2**
	2.5nm,0.6s,mb4.0							
TPNV	**Topopah Spring**	**78.47**	**45**	*e*P		**P**	**12 36 57.2**	**-0.4**
	4.3nm,0.7s,mb4.2							
TUC	**Tucson**	**79.92**	**51**	*e*P		**P**	**12 37 05.8**	**+0.2**
	1.5nm,0.8s,mb3.7							
WVOR	**Wild Horse Val**	**80.08**	**39**	*e*P		**P**	**12 37 06.2**	**+0.1**
	3.4nm,1.0s,mb3.9							
MSU	**Marysvale**	**82.03**	**45**	*e*P		**P**	**12 37 16.8**	**+0.2**
ETW	**Entiat**	**82.23**	**34**	*e*P		**P**	**12 37 17.3**	**-0.1**
HLID	**Hailey**	**83.27**	**40**	*e*P		**P**	**12 37 22.6**	**-0.2**
	3.2nm,1.0s,mb4.0							
SRU	**San Rafael**	**83.45**	**45**	*e*P		**P**	**12 37 23.7**	**-0.1**
	5.8nm,0.8s,mb4.4							
BNM	**Barren Site**	**83.85**	**51**	*e*P		**P**	**12 37 26.7**	**+0.7**
TXAR	**Lajitas Array**	**84.03**	**57**	P		**P**	**12 37 27.5**	**+0.5**
	6.6nm,0.9s,mb4.4,baz=216,slow=7.3,SNR=55							
TXAR	**Lajitas Array**	**84.03**	**57**	P		**P**	**12 37 27.5**	**+0.5**
PV10	**Paradox Valley**	**84.10**	**46**	*e*P		**P**	**12 37 26.8**	**-0.3**
MAW	**Mawson**	**84.31**	**199**	P		**P**	**12 37 27.4**	**-0.3**
	4.5nm,0.7s,mb4.3,baz=142,slow=7.0,SNR=12							
PV01	**Paradox Valley**	**84.31**	**47**	*e*P		**P**	**12 37 28.0**	**-0.2**
ANMO	**Albuquerque**	**84.34**	**50**	*e*P		**P**	**12 37 28.8**	**+0.4**
	1.2nm,0.4s,mb4.0							
MCK	**McKinley**	**84.43**	**12**	*e*P		**P**	**12 37 27.5**	**-0.7**
MCMT	**McKenzie Canyo**	**84.90**	**39**	*e*P		**P**	**12 37 30.6**	**-0.4**
COLA	**College**	**85.67**	**12**	*e*P		**P**

AYVA	**Ayvalik**	**1.21 151**	⇓*i*P	**Pn**	**12 45 13.8**	**-0.4**
AYVA			*i* S	**Sb**	**12 45 29.5**	**-0.3**
AYVA	**Ayvalik**	**1.21 151**	P	**Pn**	**12 45 13.7**	**-0.4**
AYVA			*i* S	**Sb**	**12 45 29.5**	**-0.3**
AYVA	**Ayvalik**	**1.21 151**	P	**Pn**	**12 45 13.7**	**-0.4**
AYVA			S	**Sb**	**12 45 29.4**	**-0.4**
KDZ	**Kurdzhali**	**1.34 343**	*i* P	**Pn**	**12 45 17.0**	**+1.0**
KDZ			S	**Sb**	**12 45 33.2**	**-0.4**
TKR	**Tekirdag**	**1.37 62**	*e*PN	**Pn**	**12 45 15.7**	**-0.6**
BALY	**Balya**	**1.44 115**	⇓*i*P	**Pn**	**12 45 17.2**	**-0.1**
BALY			*i* S	**Sn**	**12 45 34.9**	**-1.3**
BALY	**Balya**	**1.44 115**	*i* P	**Pn**	**12 45 17.2**	**-0.1**
BALY			*i* S	**Sn**	**12 45 34.8**	**-1.4**
EDC	**Edincik**	**1.47 90**	*e*PN	**Pn**	**12 45 17.3**	**-0.5**
EDC	**Edincik**	**1.47 90**	Pn	**Pn**	**12 45 17.2**	**-0.6**
OUR	**Ouranopolis**	**1.49 269**	*e*Pg	**Pg**	**12 45 17.3**	**-2.6**
BNT	**Bandirma**	**1.52 90**	*e*PN	**Pn**	**12 45 17.6**	**-0.8**
BNT	**Bandirma**	**1.52 90**	Pn	**Pn**	**12 45 17.5**	**-0.9**
CRLT	**Corlu**	**1.56 60**	*e*PN	**Pn**	**12 45 18.6**	**-0.4**
CRLT	**Corlu**	**1.56 60**	Pn	**Pn**	**12 45 18.7**	**-0.4**
EDRB	**Edirne**	**1.60 22**	*e*PN	**Pn**	**12 45 18.4**	**-1.1**
EDRB	**Edirne**	**1.60 22**	Pn	**Pn**	**12 45 17.7**	**-1.8**
RZN	**Rozhen**	**1.61 325**	*i* P	**Pn**	**12 45 22.1**	**+2.4**
BALB	**Balikesir**	**1.66 115**	*e*PN	**Pn**	**12 45 19.9**	**-0.5**
BALB	**Balikesir**	**1.66 115**	Pn	**Pn**	**12 45 20.3**	**-0.1**
DIM	**Dimitrovgrad**	**1.71 350**	*i* P	**Pn**	**12 45 22.8**	**+1.8**
DIM			S	**Sn**	**12 45 44.7**	**+1.8**
BTOK	**Tokmak**	**1.72 110**	⇓*i*P	**Pn**	**12 45 21.2**	**0.0**
BTOK			*i* S	**Sn**	**12 45 42.5**	**-0.7**
PAIG	**Paliouri**	**1.79 256**	*e*Pb	**Pb**	**12 45 21.1**	**-2.9**
KCT	**Karacabey**	**1.85 92**	*e*PN	**Pn**	**12 45 22.8**	**-0.3**
NVR	**Nevrokopi**	**1.85 303**	⇓*i*PN	**Pn**	**12 45 22.7**	**-0.3**
PLG	**Polygyros**	**1.90 271**	*e*Pb	**Pb**	**12 45 23.2**	**-2.8**
PLG			*e*Sb	**Sb**	**12 45 46.7**	**-3.1**
SLVT	**Silivri**	**1.93 63**	*e*PN	**Pn**	**12 45 24.3**	**+0.2**
SLVT			*e*SN	**Sn**	**12 45 49.0**	**+0.7**
SLVT	**Silivri**	**1.93 63**	Pn	**Pn**	**12 45 24.2**	**+0.1**
SLVT			*e*Sn	**Sn**	**12 45 49.0**	**+0.7**
SRS	**Serrai**	**1.93 294**	*e*Pb	**Pb**	**12 45 23.6**	**-2.9**
PLD	**Plovdiv**	**1.97 332**	*e*Pb	**Pb**	**12 45 24.7**	**-2.5**
CHOS	**Chios island**	**1.98 177**	*e*Pn	**Pn**	**12 45 24.6**	**-0.2**
CHOS			*e*Sn	**Sn**	**12 45 48.8**	**-0.8**
CHOS	**Chios island**	**1.98 177**	*e*Pn	**Pn**	**12 45 24.5**	**-0.3**
CHOS			*e*Sn	**Sn**	**12 45 48.8**	**-0.8**
AOS	**Alonnisos**	**1.99 234**	*e*Pn	**Pn**	**12 45 24.0**	**-0.9**
SOH	**Sokhos**	**2.02 284**	*e*Pn	**Pn**	**12 45 24.9**	**-0.4**
SOH			*e*Sn	**Sn**	**12 45 50.5**	**0.0**
CTT	**Catalca**	**2.05 67**	Pn	**Pn**	**12 45 24.0**	**-1.7**
ELBA	**Catalca**	**2.05 67**	*i* P	**Pn**	**12 45 23.8**	**-1.9**
ELBA			*i* S	**Sn**	**12 45 45.5**	**-5.7**
ELBA	**Catalca**	**2.05 67**	*i* P	**Pn**	**12 45 23.8**	**-1.9**
ELBA			*i* S	**Sn**	**12 45 45.5**	**-5.8**
MMB	**Musomiste**	**2.07 307**	*i* P	**Pn**	**12 45 26.4**	**+0.4**
AKS	**Akhisar**	**2.08 135**	*e*PN	**Pn**	**12 45 25.5**	**-0.6**
AKHS	**Akhisar**	**2.08 135**	⇓*i*P	**Pn**	**12 45 25.9**	**-0.2**
AKHS			*i* S	**Sn**	**12 45 51.1**	**-0.9**
AKHS	**Akhisar**	**2.08 135**	P	**Pn**	**12 45 25.8**	**-0.3**
AKHS			*i* S	**Sn**	**12 45 51.1**	**-0.9**
JMB	**Yambol**	**2.15 13**	*i* P	**Pn**	**12 45 31.0**	**+3.9**
BLCB	**Balcova**	**2.16 156**	*e*PN	**Pn**	**12 45 26.6**	**-0.6**
HORT	**Hortiatis**	**2.17 277**	*e*Pn	**Pn**	**12 45 27.0**	**-0.5**
HORT			*e*Sn	**Sn**	**12 45 54.0**	**-0.5**
KDAG	**Bornova**	**2.22 152**	*i* P	**Pn**	**12 45 27.0**	**-1.0**
KDAG			*i* S	**Sn**	**12 45 53.0**	**-2.4**
IZM	**Izmir**	**2.22 152**	*e*PN	**Pn**	**12 45 27.2**	**-0.9**
IZM	**Izmir**	**2.22 152**	Pn	**Pn**	**12 45 28.4**	**+0.3**
THE	**Thessaloniki**	**2.28 278**	*e*Pn	**Pn**	**12 45 29.0**	**+0.1**
THE			*e*Sn	**Sn**	**12 45 56.8**	**-0.3**
BGKT	**Bogazkoy**	**2.30 68**	*e*PN	**Pn**	**12 45 29.5**	**+0.3**
XOR	**Xorichti**	**2.34 246**	*e*Pn	**Pn**	**12 45 28.5**	**-1.2**
NEO	**Neokhori**	**2.34 244**	*e*PN	**Pn**	**12 45 28.9**	**-0.8**
KNT	**Kendrikon**	**2.44 290**	*e*Pn	**Pn**	**12 45 31.1**	**0.0**
ULDT	**Uludag**	**2.46 94**	⇓*i*P	**Pn**	**12 45 30.9**	**-0.5**
ULDT			*i* S	**Sn**	**12 46 02.3**	**+0.8**
ULDT	**Uludag**	**2.46 94**	*i* P	**Pn**	**12 45 30.9**	**-0.5**
ULDT			S	**Sn**	**12 46 02.2**	**+0.8**
ULDT	**Uludag**	**2.46 94**	P	**Pn**	**12 45 30.8**	**-0.6**
ULDT			S	**Sn**	**12 46 02.2**	**+0.8**
ISK	**Istanbul-Kandi**	**2.47 73**	*e*PN	**Pn**	**12 45 31.5**	**-0.1**
ISK	**Istanbul-Kandi**	**2.47 73**	Pn	**Pn**	**12 45 31.4**	**-0.2**
KLYT	**Kilyos**	**2.52 68**	*e*PN	**Pn**	**12 45 32.2**	**0.0**
KLYT	**Kilyos**	**2.52 68**	Pn	**Pn**	**12 45 32.1**	**-0.1**
DEMI	**Demirci**	**2.52 121**	⇓*i*P	**Pn**	**12 45 32.6**	**+0.4**
DEMI			*i* S	**Sn**	**12 46 07.0**	**+4.1**
KKB	**Krupnik**	**2.62 306**	*i* P	**Pn**	**12 45 39.5**	**+5.9**
YLV	**Yalova**	**2.63 85**	*e*PN	**Pn**	**12 45 33.2**	**+0.9**
LIT	**Litokhoron**	**2.65 265**	*e*Pn	**Pn**	**12 45 33.3**	**-0.7**
VAY	**Valandovo**	**2.73 292**	*e*Pn	**Pn**	**12 45 34.9**	**-0.1**
VAY			*e*Sn	**Sn**	**12 46 16.8**	**+8.8**
VAY	**Valandovo**	**2.73 292**	*e*Pn	**Pn**	**12 45 35.1**	**+0.1**
SMG	**Samos**	**2.75 165**	*e*PN	**Pn**	**12 45 35.1**	**-0.2**
GRG	**Griva**	**2.75 283**	*e*Pn	**Pn**	**12 45 35.9**	**+0.5**
KULA	**Kula-Manisa**	**2.81 130**	*e*PN	**Pn**	**12 45 36.6**	**+0.4**
PTL	**Penteli**	**2.82 215**	*e*PN	**Pn**	**12 45 36.0**	**-0.3**
PTL	**Penteli**	**2.82 215**	*e*Pn	**Pn**	**12 45 35.0**	**-1.3**
LKR	**Lokris**	**2.85 234**	*e*Pn	**Pn**	**12 45 35.8**	**-0.9**
LKR	**Lokris**	**2.85 234**	⇑*i*Pn	**Pn**	**12 45 35.9**	**-0.8**
GCAM	**G?zelcaml?**	**2.85 159**	*i* P	**Pn**	**12 45 35.9**	**-0.8**
GCAM			*i* S	**Sn**	**12 46 12.6**	**+1.6**
HRT	**Hereke**	**2.88 80**	*e*PN	**Pn**	**12 45 37.8**	**+0.7**
HRT	**Hereke**	**2.88 80**	Pn	**Pn**	**12 45 37.7**	**+0.6**
ADVT	**Abdulvahap**	**2.90 87**	*e*PN	**Pn**	**12 45 38.2**	**+0.7**
ADVT	**Abdulvahap**	**2.90 87**	Pn	**Pn**	**12 45 38.1**	**+0.6**
SILT	**Sile**	**2.92 73**	*e*PN	**Pn**	**12 45 37.4**	**-0.4**
SILT	**Sile**	**2.92 73**	Pn	**Pn**	**12 45 37.3**	**-0.4**
ATH	**Athens Observa**	**2.95 216**	*e*PN	**Pn**	**12 45 37.7**	**-0.4**
GDZ	**Gediz**	**3.02 114**	⇓*i*P	**Pn**	**12 45 39.6**	**+0.6**
GDZ			*i* S	**Sn**	**12 46 23.7**	**+8.5**
VTS	**Vitosha**	**3.02 318**	*i* P	**Pn**	**12 45 47.8**	**+8.7**
VTS	**Vitosha**	**3.02 318**	⇑*i*P	**Pn**	**12 45 39.8**	**+0.7**
VTS	**Vitosha**	**3.02 318**	P	**Pn**	**12 45 39.8**	**+0.7**
VTS			S	**Sn**	**12 46 16.2**	**+0.9**
VTS	**Vitosha**	**3.02 318**	⇑P	**Pn**	**12 45 39.8**	**+0.7**
VTS			S	**Sn**	**12 46 16.2**	**+0.9**
KVR	**Kavouri**	**3.05 214**	*e*PN	**Pn**	**12 45 39.0**	**-0.4**
AGG	**Agios Georgios**	**3.09 245**	*e*Pn	**Pn**	**12 45 39.9**	**-0.1**
AYDN	**Tasoluk**	**3.10 150**	⇓*i*P	**Pn**	**12 45 40.2**	**+0.1**
AYDN			*i* S	**Sn**	**12 46 26.8**	**+10**
AYDN	**Tasoluk**	**3.10 150**	*i* P	**Pn**	**12 45 40.2**	**+0.1**
THL	**Klokotos Trika**	**3.12 256**	*e*PN	**Pn**	**12 45 40.2**	**-0.2**
STIP	**Stip**	**3.13 296**	*e*Pn	**Pn**	**12 45 41.3**	**+0.7**
STIP			*e*Sn	**Sg**	**12 46 30.0**	**-1.7**
STIP	**Stip**	**3.13 296**	*e*Pn	**Pn**	**12 45 41.2**	**+0.6**
KZN	**Kozani**	**3.18 270**	*e*PN	**Pn**	**12 45 41.8**	**+0.5**
NAIG	**Nisos Aigina**	**3.23 217**	*e*PN	**Pn**	**12 45 41.5**	**-0.4**
LTK	**Loutraki**	**3.29 226**	*e*Pn	**Pn**	**12 45 42.2**	**-0.6**
APE	**Apeiranthos**	**3.31 186**	*e*PN	**Pn**	**12 45 43.0**	**-0.1**
APE	**Apeiranthos**	**3.31 186**	⇓*e*P	**Pn**	**12 45 41.9**	**-1.2**
APE	**Apeiranthos**	**3.31 186**	⇑*i*P	**Pn**	**12 45 41.8**	**-1.3**
APE	**Apeiranthos**	**3.31 186**	*e*Pn	**Pn**	**12 45 41.5**	**-1.6**
ZIMR		**3.31 353**	P	**Pn**	**12 45 43.5**	**+0.4**
ZIMR		**3.31 353**	⇑*i*P	**Pn**	**12 45 43.4**	**+0.3**
ZIMR		**3.31 353**	S	**Sn**	**12 46 23.0**	**+0.5**
ZIMR		**3.31 353**	⇑P	**Pn**	**12 45 43.4**	**+0.3**
ZIMR			S	**Sn**	**12 46 23.0**	**+0.5**
MLSB	**Milas**	**3.39 154**	*e*PN	**Pn**	**12 45 44.0**	**-0.1**
MLSB	**Milas**	**3.39 154**	Pn	**Pn**	**12 45 44.7**	**+0.6**
KHAL	**Karahalli**	**3.40 125**	⇓*i*P	**Pn**	**12 45 45.0**	**+0.7**
KHAL			*i* S	**Sn**	**12 46 25.6**	**+0.9**
KHL	**Karahalli**	**3.45 125**	*e*PN	**Pn**	**12 45 45.4**	**+0.4**
KHL	**Karahalli**	**3.45 125**	Pn	**Pn**	**12 45 44.7**	**-0.3**
BODT	**Bodrum**	**3.47 162**	*e*PN	**Pn**	**12 45 45.1**	**-0.2**
BODT	**Bodrum**	**3.47 162**	Pn	**Pn**	**12 45 43.1**	**-2.2**
ALT	**Altintas**	**3.48 111**	*e*PN	**Pn**	**12 45 45.8**	**+0.4**
ALT	**Altintas**	**3.48 111**	Pn	**Pn**	**12 45 46.3**	**+1.0**
EVR	**Evrytania**	**3.50 247**	*e*PN	**Pn**	**12 45 45.8**	**+0.1**
DID	**Didima**	**3.55 217**	*e*Pn	**Pn**	**12 45 45.7**	**-0.6**
BIA	**Bitola**	**3.57 282**	*e*Pn	**Pn**	**12 45 43.9**	**-2.6**
BIA			*e*Sn	**Sg**	**12 46 48.6**	**+2.9**
BIA	**Bitola**	**3.57 282**	*e*Pn	**Pn**	**12 45 47.2**	**+0.6**
KRUS	**Krusevo**	**3.69 287**	*i* Pn	**Pn**	**12 45 49.4**	**+1.1**
KRUS			*e*Sn	**Sg**	**12 46 50.9**	**+1.1**
KRUS	**Krusevo**	**3.69 287**	*i* Pn	**Pn**	**12 45 49.3**	**+1.0**
YER	**Yerkesik**	**3.71 150**	*e*PN	**Pn**	**12 45 48.7**	**+0.1**
YER	**Yerkesik**	**3.71 150**	Pn	**Pn**	**12 45 47.2**	**-1.4**
SKO	**Skopje**	**3.75 297**	*e*Pn	**Pn**	**12 45 49.8**	**+0.6**
SKO			*e*Sn	**Sg**	**12 46 54.6**	**+2.8**
SKO	**Skopje**	**3.75 297**	*e*Pn	**Pn**	**12 45 49.7**	**+0.6**
HENT	**Hendek**	**3.81 82**	*i* P	**Pn**	**12 45 49.6**	**-0.2**
HENT			*i* S	**Sn**	**12 46 41.3**	**+6.6**
ESKT	**Eskisehir**	**3.87 101**	⇓*i*P	**Pn**	**12 45 50.9**	**+0.1**
ESKT	**Eskisehir**	**3.87 101**	P	**Pn**	**12 45 50.8**	**0.0**
SEYT	**Eskypehyr**	**3.87 101**	*i* P	**Pn**	**12 45 50.9**	**+0.1**
BARS	**Barje**	**3.94 310**	P	**Pn**	**12 45 51.5**	**-0.2**
OHR	**Ohrid**	**3.97 282**	*e*Pn	**Pn**	**12 45 54.4**	**+2.2**
OHR			*e*Sn	**Sg**	**12 47 03.3**	**+4.5**
OHR	**Ohrid**	**3.97 282**	*e*Pn	**Pn**	**12 45 54.3**	**+2.1**
SHUT	**Suhut-Afyon**	**4.01 115**	*e*PN	**Pn**	**12 45 53.5**	**+0.9**
VLX	**Vlachokerasia**	**4.08 224**	*e*Pn	**Pn**	**12 45 53.4**	**-0.3**
TKTP	**Tekketepe**	**4.12 123**	*i* P	**Pn**	**12 45 55.2**	**+1.0**
TKTP			*i* S	**Sn**	**12 46 42.7**	**+0.2**
GOLH	**Golhisar**	**4.22 137**	*i* P	**Pn**	**12 45 56.4**	**+0.8**
GOLH			*i* S	**Sg**	**12 47 07.1**	**+0.4**
CVD	**Cernavoda**	**4.24 21**	⇑*i*P	**Pn**	**12 45 54.7**	**-1.1**
CVD	**Cernavoda**	**4.24 21**	⇑P	**Pn**	**12 45 54.7**	**-1.1**
CRAR	**CRAIOVA**	**4.26 339**	S	**Sn**	**12 46 45.3**	**-0.5**
KDZE	**Karadeniz Ereo**	**4.28 75**	*e*PN	**Pn**	**12 45 57.3**	**+0.9**
VLI	**Veliai**	**4.34 214**	*e*PN	**Pn**	**12 45 57.0**	**-0.2**
VLI	**Veliai**	**4.34 214**	*e*Pn	**Pn**	**12 45 54.4**	**-2.8**
ISP	**Isparta**	**4.36 124**	*e*PN	**Pn**	**12 45 58.1**	**+0.6**
ISP	**Isparta**	**4.36 124**	*e*Pn	**Pn**	**12 45 57.8**	**+0.3**
ISP	**Isparta**	**4.36 124**	⇑*i*P	**Pn**	**12 45 57.3**	**-0.2**
ITM	**Ithomi**	**4.47 226**	*e*PN	**Pn**	**12 45 59.1**	**+0.1**
TIRR	**Tirgusor**	**4.48 23**	⇑*i*P	**Pn**	**12 45 58.5**	**-0.6**
TIRR	**Tirgusor**	**4.48 23**	P	**Pn**	**12 45 58.5**	**-0.6**
TIRR			S	**Sn**	**12 46 52.0**	**+0.8**
TIRR	**Tirgusor**	**4.48 23**	⇑P	**Pn**	**12 45 58.5**	**-0.6**
TIRR			S	**Sn**	**12 46 52.0**	**+0.8**
ARG	**Arkhangelos**	**4.49 157**	*e*PN	**Pn**	**12 46 00.0**	**+0.7**
HARR	**Harsova**	**4.56 18**	⇑*i*P	**Pn**	**12 46 00.2**	**-0.1**
HARR	**Harsova**	**4.56 18**	P	**Pn**	**12 46 00.1**	**-0.1**
SRN	**Sarande**	**4.58 266**	*e*PN	**Pn**	**12 46 02.6**	**+2.1**
KYTH	**Kithira**	**4.67 210**	*e*PN	**Pn**	**12 46 02.0**	**+0.2**
KYTH	**Kithira**	**4.67 210**	*e*Pn	**Pn**	**12 46 01.0**	**-0.8**
VLS	**Valsamata**	**4.69 244**	*e*PN	**Pn**	**12 46 03.0**	**+1.0**
ELL	**Elmali**	**4.77 138**	*e*PN	**Pn**	**12 46 03.9**	**+0.8**
ELL	**Elmali**	**4.77 138**	Pn	**Pn**	**12 46 02.8**	**-0.3**
KIZT	**Kizilcal**	**4.82 106**	*e*PN	**Pn**	**12 46 04.7**	**+0.8**
BCI	**Bajram Curri**	**4.85 296**	*e*PN	**Pn**	**12 46 05.6**	**+1.4**
PUK	**Puka**	**4.86 292**	*e*PN	**Pn**	**12 46 06.5**	**+2.2**
KARP	**Karpathos**	**4.91 168**	*e*PN	**Pn**	**12 46 06.0**	**+0.9**
KARP	**Karpathos**	**4.91 168**	*e*Pn	**Pn**	**12 46 00.0**	**-5.1**
DJES	**Djerdap**	**4.98 331**	P	**Pn**	**12 46 06.0**	**0.0**
PVY	**Plav**	**5.00 298**	⇑*i*Pn	**Pn**	**12 46 06.3**	**0.0**
PVY			*e*Sn	**Sn**	**12 47 03.0**	**-1.1**
AKAS	**Kas**	**5.04 144**	*i* P	**Pn**	**12 46 08.2**	**+1.4**
AKAS			*i* S	**Sn**	**12 47 16.8**	**+12**
VOIR		**5.11 353**	⇓*i*P	**Pn**	**12 46 07.7**	**0.0**
VOIR		**5.11 353**	⇓P	**Pn**	**12 46 07.7**	**0.0**
MLR	**Muntele Rosu**	**5.12 0**	⇑*i*P	**Pn**	**12 46 08.6**	**+0.7**
MLR	**Muntele Rosu**	**5.12 0**	S	**Sn**	**12 47 14.4**	**+7.4**
MLR	**Muntele Rosu**	**5.12 0**	⇑P	**Pn**	**12 46 08.6**	**+0.7**
KDHN	**Kadinhani**	**5.13 109**	⇓*i*P	**Pn**	**12 46 08.6**	**+0.6**
IDI	**Anoyia**	**5.14 190**	Pn	**Pn**	**12 46 07.6**	**-0.6**
	1.6nm,0.3s,baz=338,slow=14,SNR=6.3					
IDI			LR	LR	12 48 17.0	
	comp=Z,317nm,21.1s,baz=261,slow=40					
BEY	**Berane**	**5.17 301**	*e*Sn	**Sn**	**12 47 07.9**	**-0.4**
IVA	**Berane**	**5.17 301**	⇑*i*Pn	**Pn**	**12 46 09.6**	**+1.0**
IVA			*e*Sn	**Sn**	**12 47 07.9**	**-0.4**
SAFT	**Safranbolu**	**5.20 78**	*e*PN	**Pn**	**12 46 09.9**	**+0.9**
BRD	**Bordesti**	**5.24 8**	⇓*i*P	**Pn**	**12 46 10.7**	**+1.1**
BRD	**Bordesti**	**5.24 8**	⇓P	**Pn**	**12 46 10.7**	**+1.1**
ZKR	**Zakros**	**5.25 177**	P	**Pn**	**12 46 09.2**	**-0.5**
TLCR		**5.26 23**	⇓*i*P	**Pn**	**12 46 10.1**	**+0.3**
TLCR		**5.26 23**	⇓P	**Pn**	**12 46 10.1**	**+0.2**
ANTO	**Ankara**	**5.28 93**	*e*PN	**Pn**	**12 46 12.0**	**+1.9**
ANTO	**Ankara**	**5.28 93**	⇑*i*P	**Pn**	**12 46 09.9**	**-0.2**
ANTO	**Ankara**	**5.28 93**	P	**Pn**	**12 46 10.3**	**+0.2**
ANTO	**Ankara**	**5.28 93**	*e*Pn	**Pn**	**12 46 12.0**	**+1.9**
ULC	**Ulcinj**	**5.29 290**	⇑*i*Pn	**Pn**	**12 46 10.9**	**+0.6**
ULC			*e*Sn	**Sn**	**12 47 10.0**	**-1.3**
PDG	**Podgorica**	**5.43 294**	*e*Sn	**Sn**	**12 47 13.4**	**-1.2**
TTG	**Podgorica**	**5.43 294**	⇓*i*Pn	**Pn**	**12 46 13.5**	**+1.4**
TTG			*e*Sn	**Sn**	**12 47 13.4**	**-1.2**
LADK	**Ladik-KONYA**	**5.44 111**	*e*PN	**Pn**	**12 46 13.5**	**+1.2**
LADK	**Ladik-KONYA**	**5.44 111**	Pn	**Pn**	**12 46 12.7**	**+0.4**
ODB	**Odobesti**	**5.46 8**	⇑*i*P	**Pn**	**12 46 13.6**	**+0.9**
ODB	**Odobesti**	**5.46 8**	⇑P	**Pn**	**12 46 13.6**	**+1.0**
PLOR	**Plostina**	**5.50 5**	⇓*i*P	**Pn**	**12 46 14.4**	**+1.2**
PLOR	**Plostina**	**5.50 5**	P	**Pn**	**12 46 14.2**	**+1.0**
VRI	**Vrincioaia**	**5.53 6**	⇑*i*P	**Pn**	**12 46 14.2**	**+0.7**
VRI	**Vrincioaia**	**5.53 6**	⇑P	**Pn**	**12 46 14.2**	**+0.7**
BUM	**Brajici-Budva**	**5.64 292**	⇑*i*Pn	**Pn**	**12 46 16.1**	**+1.1**
BUM			*e*Sn	**Sn**	**12 47 18.2**	**-1.6**
PLE	**Pljevlja**	**5.71 303**	⇓*i*Pn	**Pn**	**12 46 16.1**	**+0.1**
PLE			*e*Sn	**Sn**	**12 47 19.8**	**-1.8**
NKY	**Niksic**	**5.75 297**	⇓*i*Pn	**Pn**	**12 46 16.9**	**+0.4**
NKY			*e*Sn	**Sn**	**12 47 20.7**	**-1.8**
DIVS	**Divibare**	**5.78 312**	*e*Pn	**Pn**	**12 46 17.0**	**+0.1**
HCY	**Herceg Novi**	**5.96 293**	⇑*i*Pn	**Pn**	**12 46 19.8**	**+0.3**
HCY			*e*Sn	**Sn**	**12 47 27.1**	**-0.8**
UPM	**Unac-Piva**	**5.97 301**	⇓*i*Pn	**Pn**	**12 46 21.1**	**+1.6**
UPM			*e*Sn	**Sn**	**12 47 26.0**	**-1.9**
KAMT	**Kaman**	**6.07 97**	*e*PN	**Pn**	**12 46 21.9**	**+0.9**
KAMT	**Kaman**	**6.07 97**	Pn	**Pn**	**12 46 21.8**	**+0.9**
BRY	**Bratogost**	**6.09 297**	⇓*i*Pn	**Pn**	**12 46 22.0**	**+0.8**
BRY			*e*Sn	**Sn**	**12 47 28.9**	**-2.0**
BZS	**Buzias**	**6.13 330**	⇓P	**Pn**	**12 46 21.7**	**0.0**
BZS			S	**Sn**	**12 47 30.6**	**-1.2**
BZS	**Buzias**	**6.13 330**	⇓*i*P	**Pn**	**12 46 21.7**	**0.0**
BZS	**Buzias**	**6.13 330**	S	**Sn**	**12 47 30.6**	**-1.2**
BZS	**Buzias**	**6.13 330**	P	**Pn**	**12 46 21.5**	**-0.2**
BZS			S	**Sn**	**12 47 30.6**	**-1.2**
TREB	**Trebinje**	**6.16 295**	*e*Pn	**Pn**	**12 46 19.1**	**-3.1**
FGSL	**Fruska Gora**	**6.57 319**	*e*Pn	**Pn**	**12 46 28.1**	**+0.2**
STON	**Ston**	**6.66 295**	*e*Pn	**Pn**	**12 46 30.0**	**+1.0**
DRGR		**6.83 341**	P	**Pn**	**12 46 30.7**	**-0.7**
KIS	**Kishinev**	**6.95 17**	*e*P	**Pn**	**12 46 32.0**	**-1.0**
KIS			*e*		12 47 53.0	
KIS			pmax	pmax		
	comp=N,2µm,1.0s					
KIS			pmax	pmax		
	comp=E,800µm,1.0s					
KIS	**Kishinev**	**6.95 17**	*e*P	**Pn**	**12 46 32.0**	**-1.0**
KIS			*e*S	**Sn**	**12 47 43.0**	**-9.0**
	comp=E,800nm,1.0s					
KIS	**Kishinev**	**6.95 17**	*e*P	**Pn**	**12 46 32.0**	**-1.0**
KIS			*e*S	**Sn**	**12 47 53.0**	**+1.0**
SEV	**Sevastopol'**	**7.08 51**	⇑*i*P	**Pn**	**12 46 32.0**	**-2.8**
SEV			*e*S	**Sn**	**12 47 46.6**	**-8.6**
SEV			pmax	pmax		
	comp=Z,14nm,0.3s					
SEV			smax			
	comp=E,8.0nm,0.5s					
SEV			smax			
	comp=N,26nm,0.3s					
TIP	**Timpagrande**	**7.17 263**	P	**Pn**	**12 46 36.8**	**+0.7**
BURAR	**Bucovina Array**	**7.26 356**	⇓*i*P	**Pn**	**12 46 38.7**	**+1.4**
BURAR	**Bucovina Array**	**7.26 356**	⇓P	**Pn**	**12 46 38.7**	**+1.3**
YAL	**Yalta**	**7.34 53**	*e*P	**Pn**	**12 46 36.4**	**-2.0**
YAL			pmax	pmax		
	comp=Z,30nm,0.3s					
SIM	**Simferopol'**	**7.57 50**	*e*P	**Pn**	**12 46 40.2**	**-1.3**
SIM			*e*S	**Sn**	**12 48 00.3**	**-7.0**
SIM			pmax	pmax		
	comp=Z,119nm,0.9s					
SIM			smax			
	comp=E,162nm,0.7s					
SIM			smax			
	comp=N,257nm,0.9s					
ALU	**Alushta**	**7.59 53**	*e*P	**Pn**	**12 46 39.1**	**-2.8**
ALU			pmax	pmax		
	comp=Z,17nm,0.3s					
CUC	**Castrococco**	**7.76 270**	P	**Pn**	**12 46 47.7**	**+3.5**
BLY	**Banja Luka**	**7.80 307**	*e*Pn	**Pn**	**12 46 43.3**	**-1.4**
PKSM	**Moragy**	**7.90 320**	⇓*i*P	**Pn**	**12 46 45.4**	**-0.6**
PKSM	**Moragy**	**7.90 320**	P	**Pn**	**12 46 45.8**	**-0.2**
PKSM	**Moragy**	**7.90 320**	⇓P	**Pn**	**12 46 45.4**	**-0.7**
CSS	**Prodhromos**	**7.97 130**	*e*P	**Pn**	**12 46 49.2**	**+2.2**
	comp=Z,21nm,0.7s					
CSS	**Prodhromos**	**7.97 130**	*e*P	**Pn**	**12 46 49.2**	**+2.1**
	comp=Z,21nm,0.7s					
CEL	**Celeste**	**8.06 258**	P	**Pn**	**12 46 50.4**	**+2.0**
SUDU	**Sudak**	**8.06 53**	*e*P	**Pn**	**12 46 48.5**	**+0.2**
SUDU			*e*S	**Sn**	**12 48 15.5**	**-4.0**
SUDU			pmax	pmax		
	comp=Z,2.0nm,0.3s					
SUDU			smax			
	comp=N,12nm,0.4s					
SUDU			smax			
	comp=E,5.0nm,0.4s					
SUDU	**Sudak**	**8.06 53**	*e*P	**Pn**	**12 46 48.5**	**+0.2**
	comp=E,2.0nm,0.3s					
SGO	**Sicignano**	**8.11 275**	P	**Pn**	**12 46 50.0**	**+1.1**
SGO			pmax	pmax		
	comp=Z,17nm,0.3s					
SGO	**Sicignano**	**8.11 275**	Pn	**Pn**	**12 46 50.0**	**+1.1**
	comp=Z,17nm,0.3s					
KMPD	**K-Podol'skiy**	**8.20 2**	P	**Pn**	**12 46 50.0**	**-0.2**
PSZ	**Piszkesteto**	**8.71 332**	⇓*e*	**Pn**	**12 47 02.8**	**+5.7**
PSZ			*e*Sn	**Sn**	**12 48 31.5**	**-3.7**
KOLS	**Kolonicke sedl**	**8.95 344**	*e*PN	**Pn**	**12 47 00.5**	**0.0**
KOLS			*e*SN	**Sn**	**12 48 29.3**	**-12**
KOLS			*e*SG	Sn	12 49 41.9	+61
KECS	**Kecovo**	**9.00 336**	*e*P	**Pn**	**12 47 02.6**	**+1.5**
KECS			*e*		12 48 36.6	
KECS	**Kecovo**	**9.00 336**	*e*PN	**Pn**	**12 47 02.5**	**+1.4**
KECS			*e*SN	**Sn**	**12 48 36.6**	**-5.8**
KECS			*e*SG	Sn	12 49 51.5	+69
KECS	**Kecovo**	**9.00 336**	*e*Pn	**Pn**	**12 47 02.6**	**+1.5**
KECS			*e*Sn	**Sn**	**12 48 36.6**	**-5.8**
KECS			*e*Sg	Sn	12 49 51.5	+69
**CRVS

comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,50nm,19.7s
ZAL Zalesovo 41.07 50 P **P 12 52 34.5 -0.2**
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL MLR MLR
comp=Z,28nm,18.9s
ZAL Zalesovo 41.07 50 P **P 12 52 34.5 -0.2**
comp=Z,28nm,18.9s
ZALV Zalesovo Beam 41.08 50 P **P 12 52 34.5 -0.3**
comp=Z,0.7nm,0.5s,mb3.6,baz=266,slow=8.7,SNR=3.9
ZALV LR LR 13 12 46.9
comp=Z,28nm,18.9s,MS3.2,baz=238,slow=41
ZAK Zakamensk 52.93 52 *e*P **P 12 54 07.5 +0.2**
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb3.6
ZAK Zakamensk 52.93 52 *e*P **P 12 54 07.5 +0.2**
comp=Z,1.0nm,1.2s,mb3.6
SONM Songino Array 55.80 53 P **P 12 54 28.1 -0.2**
comp=Z,0.2nm,0.4s,mb3.5,baz=290,slow=9.0,SNR=2.1
CMAR Chiang Mai Arr 65.48 86 P **P 12 55 35.5 +0.8**
comp=Z,0.4nm,0.3s,mb3.9,baz=316,slow=5.0,SNR=3.0
CMAR Chiang Mai Arr 65.48 86 P **P 12 55 35.5 +0.8**
KSRS Korea Array 74.67 54 P **P 12 56 30.1 -0.8**
comp=Z,0.2nm,0.4s,mb3.4,baz=310,slow=6.2,SNR=2.6
TXAR Lajitas Array 96.36 317 P **P 12 58 22.9 +2.4**
comp=Z,0.5nm,0.9s,mb4.0,baz=104,slow=4.0,SNR=5.1
TXAR Lajitas Array 96.36 317 P **P 12 58 22.9 +2.5**
TXAR pmax pmax
comp=Z,1.0nm,0.9s

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*ISCJB **28** 13:17:57.4±1.5, 173S±03×179.1W±02, h479km±21km, mb3.7/10, Error ellipse: s-maj=46.8km s-min=12.3km az=149.4*
*NEIC **28** 13:17:58.7±1.0, 1734S×17902W, h486km±14km, mb3.7/3, Error ellipse: s-maj=30.9km s-min=8.1km az=149.0*
*IDC **28** 13:17:58.7±2.4, 1746S×17897W, h485km±32km, mb3.3/7, mb1 3.6/8, mb1mx3.4/17, mbtmp3.4/8, Error ellipse: s-maj=49.4km s-min=13.6km az=150.0*
ISC 28 13:17:58.7±1.5, 173S±03×1790W±02, h483km±21km, n20, σ0°57/19, mb3.7/10, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.78**	**65**	P	**P**	**13 19 52.5**	**0.0**
	2.9nm,0.3s,baz=14,slow=19,SNR=5.2						
CNB	**Canberra Magne**	**33.31**	**231**	*e*P	**P**	**13 23 55.5**	**+0.1**
TOO	**Toolangi**	**37.07**	**230**	*e*P	**P**	**13 24 27.3**	**+0.4**
STKA	**Stephens Creek**	**38.39**	**240**	*e*P	**P**	**13 24 38.2**	**+0.5**
	2.8nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**38.39**	**240**	P	**P**	**13 24 38.2**	**+0.5**
	3.1nm,0.4s,mb4.1,baz=90,slow=11,SNR=22						
STKA	**Stephens Creek**	**38.39**	**240**	*e*P	**P**	**13 24 37.9**	**+0.2**
WB2	**Warramunga Arr**	**44.14**	**259**	*e*P	**P**	**13 25 23.0**	**-0.7**
WB2	**Warramunga Arr**	**44.14**	**259**	*e*P	**P**	**13 25 23.3**	**-0.4**
WRAB	**Tennant Creek**	**44.14**	**259**	*e*P	**P**	**13 25 23.0**	**-0.7**
WRA	**Warramunga Arr**	**44.15**	**259**	P	**P**	**13 25 23.1**	**-0.7**
	0.8nm,0.6s,mb3.3,baz=98,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**44.37**	**254**	P	**P**	**13 25 25.5**	**0.0**
	7.1nm,0.4s,mb4.5,baz=90,slow=8.4,SNR=175						
KAKA	**Kakadu**	**46.99**	**269**	*e*P	**P**	**13 25 46.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**52.53**	**260**	*e*P	**P**	**13 26 26.9**	**+0.4**
	3.4nm,1.1s,mb3.6						
PETK	**Petropavlovsk-**	**72.97**	**346**	P	**P**	**13 28 39.3**	**+1.3**
	2.5nm,0.9s,mb3.8,baz=106,slow=5.1,SNR=3.5						
NVAR	**Mina Array Bea**	**79.43**	**44**	P	**P**	**13 29 14.7**	**+0.5**
	0.8nm,0.7s,mb3.4,baz=227,slow=10,SNR=10						
ELK	**Elko**	**82.65**	**43**	P	**P**	**13 29 30.7**	**-0.1**
	2.0nm,1.0s,mb3.6						
TRF	**Thorofare Moun**	**83.58**	**13**	P	**P**	**13 29 33.8**	**-1.1**
	3.3nm,0.7s,mb4.0						
TXAR	**Lajitas Array**	**86.20**	**58**	P	**P**	**13 29 48.4**	**-0.1**
	1.2nm,0.9s,mb3.5,baz=216,slow=6.4,SNR=7.9						
PDAR	**Pinedale Array**	**87.35**	**44**	P	**P**	**13 29 53.4**	**-0.3**
	0.7nm,0.7s,mb3.5,baz=230,slow=2.2,SNR=5.0						
CLL	**Collm**	**144.77**	**347**	⇓*i*PKPdf	PKPdf	13 36 39.8	0.0

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*SOF **28** 13:35:18.8, 4052N×2727E, h10km, MD2.7*
*ISCJB **28** 13:35:20.6±0.4, 4062N±003×2725E±003, h6km±4km, Error ellipse: s-maj=4.3km s-min=3.9km az=179.2*
*CSEM **28** 13:35:20.1±0.1, 4062N×2726E, h5km, MD2.8, Error ellipse: s-maj=1.5km s-min=1.3km az=177.0*
*DDA **28** 13:35:20.1, 4061N×2722E, h11km±3km, Md2.8*
*ISK **28** 13:35:20.2, 4063N×2724E, h10km, MD2.8*
ISC 28 13:35:20.8±0.4, 4062N±002×2726E±003, h5km±4km, n32, σ0°74/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKY	**Sarkoy-Tekirda**	**0.09**	**320**	PG	**Pg**	**13 35 22.8**	**0.0**
SART	**Tekirdag**	**0.09**	**322**	*i* P	**Pg**	**13 35 22.9**	**+0.1**
SART				*i* S	**Sg**	**13 35 25.1**	**+1.0**
MFT	**Murefte**	**0.17**	**7**	PG	**Pg**	**13 35 24.2**	**0.0**
MRMT	**Marmara Adasi**	**0.26**	**93**	*e*PG	**Pg**	**13 35 26.0**	**+0.1**
TKR	**Tekirdag**	**0.43**	**30**	*e*PG	**Pg**	**13 35 29.2**	**0.0**
TKR				*e*SG	**Sg**	**13 35 35.3**	**+0.6**
LPK	**Lapseki**	**0.45**	**237**	*e*PG	**Pg**	**13 35 29.5**	**0.0**
BNT	**Bandirma**	**0.57**	**117**	*e*PG	**Pg**	**13 35 31.5**	**-0.2**
BNT				*e*SG	**Sg**	**13 35 40.2**	**+1.0**
KCT	**Karacabey**	**0.91**	**112**	*e*PG	**Pg**	**13 35 38.3**	**0.0**
BALY	**Balya**	**0.92**	**162**	*i* P	**Pg**	**13 35 38.6**	**+0.2**
BALY				*i* S	**Sg**	**13 35 49.9**	**-0.5**
SLVT	**Silivri**	**0.95**	**49**	*e*PG	**Pg**	**13 35 39.0**	**-0.1**
CTT	**Catalca**	**1.04**	**59**	*e*PG	**Pg**	**13 35 40.6**	**-0.1**
ELBA	**Catalca**	**1.04**	**59**	*i* P	**Pg**	**13 35 40.4**	**-0.3**
ELBA				*i* S	**Sg**	**13 35 53.4**	**-0.8**
BTOK	**Tokmak**	**1.04**	**145**	*i* P	**Pg**	**13 35 41.0**	**+0.3**
BTOK				*i* S	**Sg**	**13 35 54.5**	**+0.2**
BTOK	**Tokmak**	**1.04**	**145**	*i* P	**Pg**	**13 35 41.0**	**+0.2**
BTOK				*i* S	**Sg**	**13 35 54.5**	**+0.2**
EZN	**Ezine**	**1.06**	**222**	*e*PG	**Pg**	**13 35 41.0**	**-0.2**
BALB	**Balikesir**	**1.09**	**154**	*e*PN	**Pn**	**13 35 41.8**	**-0.9**
BOZC	**Bozcaada**	**1.20**	**230**	*i* P	**Pg**	**13 35 42.4**	**-1.5**
BOZC				*i* S	**Sg**	**13 35 58.6**	**-0.9**
BGKT	**Bogazkoy**	**1.28**	**63**	*e*PN	**Pn**	**13 35 44.8**	**-0.6**
EDRB	**Edirne**	**1.29**	**343**	*e*PN	**Pn**	**13 35 44.5**	**-1.0**
AYVA	**Ayvalik**	**1.38**	**199**	*i* P	**Pn**	**13 35 46.6**	**-0.1**
AYVA				*i* S	**Sb**	**13 36 07.3**	**+2.3**
ISK	**Istanbul-Kandi**	**1.44**	**71**	*e*PN	**Pn**	**13 35 47.1**	**-0.5**
GEMT	**Gemlik**	**1.48**	**96**	*e*PN	**Pn**	**13 35 48.0**	**-0.2**
KLYT	**Kilyos**	**1.50**	**64**	*e*PN	**Pn**	**13 35 47.8**	**-0.5**
ULDT	**Uludag**	**1.51**	**108**	*i* P	**Pn**	**13 35 49.7**	**+1.1**
ULDT				*i* S	**Sn**	**13 36 08.8**	**+0.2**
YLV	**Yalova**	**1.61**	**91**	*e*PN	**Pn**	**13 35 50.2**	**+0.2**
KDZ	**Kurdzhali**	**1.73**	**307**	*i* P	**Pn**	**13 35 52.0**	**+0.4**
HRT	**Hereke**	**1.84**	**83**	*e*PN	**Pn**	**13 35 53.4**	**+0.2**
ADVT	**Abdulvahap**	**1.90**	**95**	*e*PN	**Pn**	**13 35 53.7**	**-0.3**
DIM	**Dimitrovgrad**	**1.93**	**318**	*i* P	**Pn**	**13 35 54.0**	**-0.4**
RZN	**Rozhen**	**2.20**	**300**	*i* P	**Pn**	**13 36 01.0**	**+3.0**
MMB	**Musomiste**	**2.84**	**291**	*i* P	**Pn**	**13 36 06.0**	**-0.8**
VTS	**Vitosha**	**3.62**	**304**	*i* P	**Pn**	**13 36 19.0**	**+1.4**

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*ISCJB **28** 13:36:56.1±1.4, 6.1S±0.1×12840E±0.10, h357km±12km, mb3.2/3, Error ellipse: s-maj=19.9km s-min=9.9km az=42.7*
*NEIC **28** 13:36:57.4±1.6, 6.10S×12826E, h350km±20km, mb4.3/2, Error ellipse: s-maj=21.4km s-min=12.8km az=59.0*
*IDC **28** 13:36:59.8±3.2, 624S×128.11E, h377km±33km, mb2.9/3, mb1 3.4/7, mb1mx3.2/16, mbtmp3.3/7, Error ellipse: s-maj=44.3km s-min=12.5km az=63.0*
ISC 28 13:36:58.5±1.4, 620S±009×1283E±01, h361km±14km, n15, σ0°74/22, mb3.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.06**	**229**	P	**Pn**	**13 38 30.9**	**+0.6**
	13nm,0.3s,baz=100,slow=0.6,SNR=29						
BATI				S	**S**	**13 39 44.3**	**-0.7**
	12nm,0.3s,baz=282,slow=21,SNR=11						
KAKA	**Kakadu**	**7.67**	**148**	*e*P	**Pn**	**13 38 48.4**	**-0.5**
	10nm,0.6s						
KAKA				*e*S	**S**	**13 40 14.6**	**-4.4**
KAKA	**Kakadu**	**7.67**	**148**	*e*Pn	**Pn**	**13 38 48.3**	**-0.6**
KAKA				*e*S	**S**	**13 40 14.6**	**-4.4**
FITZ	**Fitzroy Crossi**	**12.11**	**192**	*e*P	**P**	**13 39 41.3**	**+0.4**
	5.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**12.11**	**192**	P	**P**	**13 39 41.4**	**+0.5**
	0.7nm,0.3s,baz=30,slow=11,SNR=30						
FITZ	**Fitzroy Crossi**	**12.11**	**192**	*e*P	**P**	**13 39 41.0**	**+0.1**
WRAB	**Tennant Creek**	**14.88**	**157**	*e*P	**P**	**13 40 11.7**	**+0.4**
	22nm,0.6s						
WRA	**Warramunga Arr**	**14.88**	**157**	P	**P**	**13 40 11.9**	**+0.5**
	2.7nm,0.3s,baz=336,slow=12,SNR=201						
WRA				S	**S**	**13 42 50.1**	**-1.1**
	0.9nm,0.3s,baz=332,slow=21,SNR=16						
WB2	**Warramunga Arr**	**14.89**	**157**	*e*P	**P**	**13 40 11.8**	**+0.4**
WB2				*e*S	**S**	**13 42 49.9**	**-1.4**
WB2	**Warramunga Arr**	**14.89**	**157**	*e*P	**P**	**13 40 11.8**	**+0.5**
WB2				*e*S	**S**	**13 42 49.9**	**-1.4**
MBWA	**Marble Bar**	**17.02**	**208**	*e*P	**P**	**13 40 35.0**	**+0.5**
	3.2nm,0.4s						
ASAR	**Alice Springs**	**18.20**	**163**	P	**P**	**13 40 47.9**	**+0.9**
	1.1nm,0.3s,baz=342,slow=11,SNR=138						
ASAR				S	**S**	**13 43 57.2**	**+0.9**
	0.7nm,0.3s,baz=337,slow=20,SNR=14						
STKA	**Stephens Creek**	**28.42**	**156**	P	**P**	**13 42 21.7**	**+0.5**
	2.5nm,1.0s,mb3.4,baz=359,slow=12,SNR=3.6						
CMAR	**Chiang Mai Arr**	**37.91**	**311**	P	**P**	**13 43 42.0**	**-0.7**
	0.3nm,0.4s,mb2.8,baz=129,slow=7.1,SNR=4.2						
MKAR	**Makanchi Array**	**66.62**	**327**	P	**P**	**13 47 10.6**	**-0.5**
	0.3nm,0.5s,mb3.3,baz=115,slow=9.1,SNR=3.8						

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*NEIC **28** 13:52:27.3±1.5, 3032N×11398W, h10km, mb4.0/14, Error ellipse: s-maj=19.5km s-min=9.3km az=196.0*
*IDC **28** 13:52:27.8±1.6, 3053N×11375W, h0km, mb4.1/4, mb1 4.0/10, mb1mx3.8/26, mbtmp3.8/10, ML3.2/4, MS3.6/12, Ms1 3.6/12, ms1mx3.2/35, Error ellipse: s-maj=26.8km s-min=11.4km az=29.0*
*ISCJB **28** 13:52:28.9±0.8, 3060N±005×11377W±003, h15km±6km, mb4.1/5, MS3.6/8, Error ellipse: s-maj=8.8km s-min=3.7km az=11.0*
ISC 28 13:52:30.4±1.0, 3053N±005×11375W±003, h19km±8km, n164, σ1°31/178, mb4.1/5, MS3.6/8, 47C-58D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
214A	**Organ Pipe Nat**	**1.64**	**29**	⇓P	**Pn**	**13 52 56.2**	**-2.0**
	baz=2.2						
214A				⇓S	**Sn**	**13 53 20.8**	**+2.0**
	baz=2.2						
112A	**Yuma**	**2.12**	**341**	⇑P	**Pn**	**13 53 01.7**	**-3.2**
	baz=2.6						
113A	**Mohawk Valley,**	**2.23**	**360**	⇓P	**Pn**	**13 53 03.6**	**-2.8**
	baz=2.8						
216A	**Three Points,**	**2.45**	**53**	⇑P	**Pn**	**13 53 08.2**	**-1.3**
	baz=3.0						
216A				⇑S	**Sn**	**13 53 39.1**	**+0.2**
	baz=3.0						
115A	**Sonoran Desert**	**2.53**	**31**	⇓P	**Pn**	**13 53 09.2**	**-1.3**
	baz=3.1						
115A				⇑S	**Sn**	**13 53 40.0**	**-0.7**
	baz=3.1						
116A	**Eloy**	**2.68**	**40**	⇑P	**Pn**	**13 53 11.0**	**-1.6**
	baz=3.2						
GLA	**Glamis**	**2.68**	**340**	⇑P	**Pn**	**13 53 09.2**	**-3.4**
	baz=3.2						
GLA	**Glamis**	**2.68**	**340**	*e*Pn	**Pn**	**13 53 09.5**	**-3.1**
217A	**Green Valley**	**2.81**	**63**	⇓P	**Pn**	**13 53 13.5**	**-0.8**
	baz=3.2						
217A				⇓S	**Sn**	**13 53 47.4**	**-0.3**
	baz=3.2						
Z14A	**Wintersburg**	**2.91**	**13**	⇑P	**Pn**	**13 53 14.0**	**-1.7**
	baz=3.5,SNR=35						
DVTC	**Desert V Tower**	**2.92**	**317**	⇑P	**Pn**	**13 53 13.8**	**-2.1**
	baz=3.2						
SWSC	**Sam W. Stewart**	**2.97**	**325**	⇓P	**Pn**	**13 53 14.2**	**-2.3**
	baz=3.3						
TUC	**Tucson**	**3.10**	**54**	*e*Pn	**Pn**	**13 53 16.8**	**-1.6**
MONP	**Monument Peak**	**3.27**	**317**	⇑P	**Pn**	**13 53 18.3**	**-2.4**
	baz=3.6						
Y13A	**Salome**	**3.28**	**359**	⇓P	**Pn**	**13 53 18.4**	**-2.4**
	baz=3.8						
Y12C	**Blythe**	**3.28**	**349**	⇓P	**Pn**	**13 53 18.4**	**-2.4**
	baz=3.8						
117A	**Oracle**	**3.28**	**51**	⇓P	**Pn**	**13 53 19.5**	**-1.3**
	baz=3.8						
117A				⇓S	**Sn**	**13 53 59.0**	**-0.3**
	baz=3.8						
BAR	**Barrett**	**3.29**	**312**	*e*Pn	**Pn**	**13 53 17.4**	**-3.5**
BAR				*e*Sn	**Sn**	**13 54 04.0**	**+4.5**
Z16A	**Peralta Trail,**	**3.43**	**35**	⇑P	**Pn**	**13 53 21.5**	**-1.4**
	baz=4.0						
BC3	**Big Chuckw Mtn**	**3.44**	**336**	⇓P	**Pn**	**13 53 20.2**	**-2.8**
	baz=3.9						
Y14A	**Wickenburg**	**3.46**	**10**	⇓P	**Pn**	**13 53 21.6**	**-1.7**
	baz=4.0,SNR=13						
218A	**Dragoon**	**3.49**	**65**	⇑P	**Pn**	**13 53 23.0**	**-0.7**
	baz=3.9						
218A				⇑S	**Sn**	**13 54 04.4**	**0.0**
	baz=3.9						
Y15A	**Casa Rosa Ranc**	**3.62**	**19**	⇑P	**Pn**	**13 53 23.7**	**-1.9**
	baz=4.2,SNR=14						
109C	**Camp Elliot, M**	**3.70**	**310**	⇓P	**Pn**	**13 53 24.5**	**-2.1**
	baz=3.9						
109C				⇓S	**Sn**	**13 54 06.4**	**-3.4**
	baz=3.9						
PDMCI	**Parker Dam,Lak**	**3.78**	**355**	⇑P	**Pn**	**13 53 25.4**	**-2.3**
	baz=4.3						
IRM	**Iron Mountain**	**3.81**	**342**	⇓P	**Pn**	**13 53 25.4**	**-2.7**
	baz=4.3						
PFO	**Pinyon Flat Ob**	**3.83**	**324**	⇑P	**Pn**	**13 53 26.2**	**-2.2**
	baz=4.2						
PFO	**Pinyon Flat Ob**	**3.83**	**324**	*e*Pn	**Pn**	**13 53 25.7**	**-2.7**
PFO				*e*Pg	**Pg**	**13 53 44.2**	**+0.3**
118A	**Homack Ranch,**	**3.85**	**56**	⇓P	**Pn**	**13 53 27.9**	**-0.8**
	baz=4.3						
Y16A	**Circle Bar Ran**	**3.86**	**29**	⇓P	**Pn**	**13 53 27.6**	**-1.2**
	baz=4.4						
Z17A	**San Carlos Hig**	**3.92**	**44**	⇓S	**Sn**	**13 54 15.9**	**+0.6**
	baz=4.5						
319A	**Douglas**	**3.93**	**76**	⇑P	**Pn**	**13 53 29.6**	**-0.2**
	baz=4.3						
319A				⇓S	**Sn**	**13 54 15.4**	**0.0**
	baz=4.3						
BELC	**Belle Mtn.**	**3.95**	**332**	⇑P	**Pn**	**13 53 28.2**	**-1.8**
	baz=4.4						
X14A	**Yava**	**4.00**	**10**	⇑P	**Pn**	**13 53 29.2**	**-1.5**
	baz=4.6,SNR=57						
Y17A	**Roosevelt**	**4.01**	**37**	⇓P	**Pn**	**13 53 29.7**	**-1.1**
	baz=4.6						
Y17A				⇑S	**Sn**	**13 54 16.7**	**-0.6**
	baz=4.6						
Z18A	**Geronimo**	**4.06**	**50**	⇑S	**Sn**	**13 54 19.4**	**+0.8**
	baz=4.6						
219A	**White Tail Can**	**4.12**	**68**	⇓P	**Pn**	**13 53 31.9**	**-0.4**
	baz=4.5						
219A				⇓S	**Sn**	**13 54 19.4**	**-0.6**
	baz=4.5						
X15A	**Humboldt**	**4.15**	**18**	⇑P	**Pn**	**13 53 31.9**	**-0.9**
	baz=4.7,SNR=12						
X16A	**Lo Mia Camp, P**	**4.34**	**26**	⇓P	**Pn**	**13 53 35.1**	**-0.4**
	baz=4.9						
119A	**Ashpeak Ranch,**	**4.40**	**58**	⇓P	**Pn**	**13 53 35.7**	**-0.6**
	baz=4.9						
119A				⇑S	**Sn**	**13 54 25.9**	**-1.1**
	baz=4.9						
Y18A	**Canyon Day Jun**	**4.52**	**43**	⇓P	**Pn**	**13 53 36.9**	**-1.0**
	baz=5.1						
GMRC	**Granite Mounta**	**4.54**	**340**	⇓P	**Pn**	**13 53 36.6**	**-1.5**
	baz=5.0						
X17A	**Forest Lakes**	**4.54**	**32**	⇓P	**Pn**	**13 53 37.6**	**-0.6**
	baz=5.1						
W13A	**Hualapai Mount**	**4.56**	**359**	⇓P	**Pn**	**13 53 36.9**	**-1.5**
	baz=5.1						
W13A				⇓S	**Sn**	**13 54 28.2**	**-2.8**
	baz=5.1						
LDFC	**Landfair**	**4.68**	**346**	*e*P	**Pn**	**13 53 38.5**	**-1.6**
W14A	**Seligman**	**4.71**	**7**	⇓P	**Pn**	**13 53 40.0**	**-0.5**
	baz=5.3						
Z19A	**T-Link Ranch,**	**4.71**	**53**	⇓P	**Pn**	**13 53 40.4**	**-0.1**
	baz=5.2						
Z19A				⇑S	**Sn**	**13 54 33.7**	**-0.8**
	baz=5.2						
W15A	**Williams**	**4.80**	**15**	⇓P	**Pn**	**13 53 41.8**	**0.0**
	baz=5.4						
W16A	**Flagstaff**	**4.92**	**22**	⇑P	**Pn**	**13 53 43.8**	**+0.4**
	baz=5.5						
Y19A	**Nutrioso**	**5.12**	**47**	⇑P	**Pn**	**13 53 46.2**	**+0.1**
	baz=5.6						
Y19A				⇓S	**Sn**	**13 54 44.8**	**+0.1**
	baz=5.6						
V14A	**Boquillas Ranc**	**5.12**	**6**	⇓P	**Pn**	**13 53 46.0**	**-0.1**
	baz=5.7,SNR=76						
X18A	**Snowflake**	**5.12**	**38**	⇑P	**Pn**	**13 53 45.9**	**-0.2**
	baz=5.7						
MWC	**Mount Wilson**	**5.18**	**316**	*e*Pg	**Pg**	**13 54 02.8**	**-6.9**
	49nm,1.0s						
MWC				*e*Sg	**Sg**	**13 55 07.8**	**-9.0**
W17A	**Winslow**	**5.21**	**29**	⇓P	**Pn**	**13 53 47.4**	**+0.1**
	baz=5.8						
W17A				⇓S	**Sn**	**13 54 47.0**	**0.0**
	baz=5.8						
TUQ	**Turquoise Mtn.**	**5.22**	**340**	⇑P	**Pn**	**13 53 46.2**	**-1.3**
	baz=5.7						
V12A	**Nelson**	**5.27**	**350**	⇑P	**Pn**	**13 53 47.3**	**-0.8**
	baz=5.8						
V13A	**Grand Canyon W**	**5.31**	**358**	⇑P	**Pn**	**13 53 48.3**	**-0.5**
	baz=5.9						
WUAZ	**Wupatki**	**5.36**	**21**	⇓P	**Pn**	**13 53 49.6**	**+0.1**
	baz=5.9,SNR=16						
WUAZ	**Wupatki**	**5.36**	**21**	*e*P	**Pn**	**13 53 49.4**	**-0.1**
	68nm,0.8s						
GSC	**Goldstone**	**5.41**	**332**	⇓S	**Sn**	**13 54 50.9**	**-0.9**
	baz=5.8						
GSC	**Goldstone**	**5.41**	**332**	*e*P	**Pn**	**13 53 48.6**	**-1.5**
	49nm,0.9s						
X19A	**St. Johns**	**5.42**	**43**	⇑P	**Pn**	**13 53 50.5**	**+0.3**
	baz=6.0						
X19A				⇓S	**Sn**	**13 54 52.1**	**+0.1**
	baz=6.0						
V15A	**Kaibab Nationa**	**5.44**	**14**	⇑P	**Pn**	**13 53 50.7**	**+0.2**
	baz=6.0,SNR=53						
W18A	**Petrified Fore**	**5.69**	**35**	⇑P	**Pn**	**13 53 54.2**	**+0.3**
	baz=6.2						
W18A				⇑S	**Sn**	**13 54 59.0**	**+0.3**
	baz=6.2						
OSI	**Osito Adit**	**5.85**	**315**	*e*Pg	**Pb**	**13 54 17.0**	**+5.2**
	26nm,0.8s						
W19A	**Sanders**	**5.86**	**38**	⇓P	**Pn**	**13 53 56.7**	**+0.4**
	baz=6.4						
W19A				⇑S	**Sn**	**13 55 01.4**	**-1.6**
	baz=6.4						
U13A	**Pakoon Wash**	**5.88**	**358**	⇓P	**Pn**	**13 53 56.2**	**-0.3**
	baz=6.4						
U14A	**Mt Trumbull**	**5.89**	**4**	⇑P	**Pn**	**13 53 56.9**	**+0.1**
	baz=6.5,SNR=22						
U12A	**Valley of Fire**	**5.93**	**354**	⇓P	**Pn**	**13 53 56.2**	**-1.0**
	baz=6.5						
U15A	**North Rim**	**6.01**	**11**	P	**Pn**	**13 53 59.2**	**+0.9**
	baz=6.6,SNR=87						
U16A	**Tuba City**	**6.01**	**21**	⇓P	**Pn**	**13 53 59.6**	**+1.2**
	baz=6.6						
V18A	**Ganado**	**6.08**	**31**	⇑P	**Pn**	**13 53 59.8**	**+0.5**
	baz=6.7						
T12A	**Moapa**	**6.23**	**353**	⇓P	**Pn**	**13 54 01.1**	**-0.4**
	baz=6.8						
U10A	**Ash Meadows, A**	**6.26**	**341**	⇓P	**Pn**	**13 54 01.7**	**-0.1**
	baz=6.7						
MPMC	**Manual Prospec**	**6.34**	**331**	⇑P	**Pn**	**13 54 02.5**	**-0.4**
	baz=6.7						
T13A	**Saint George**	**6.48**	**359**	⇑P	**Pn**	**13 54 04.8**	**0.0**
	baz=7.0						
V19A	**Window Rock**	**6.51**	**36**	⇓P	**Pn**	**13 54 05.8**	**+0.6**
	baz=7.1						
T14A	**Hurricane**	**6.54**	**5**	⇑P	**Pn**	**13 54 06.1**	**+0.5**
	baz=7.1						
T15A	**Red Dirt Ranch**	**6.57**	**10**	⇑P	**Pn**	**13 54 06.8**	**+0.7**
	baz=7.2,SNR=9.6						
U17A	**Shonto**	**6.58**	**22**	⇑P	**Pn**	**13 54 07.2**	**+1.0**
	baz=7.2						
TPNV	**Topopah Spring**	**6.73**	**343**	⇑P	**Pn**	**13 54 08.6**	**+0.3**
	baz=7.2						
TPNV	**Topopah Spring**	**6.73**	**343**	*e*P	**Pn**	**13 54 08.1**	**-0.2**
	17nm,0.8s						
LAZ	**Ladron**	**6.79**	**54**	*e*P	**Pn**	**13 54 09.6**	**+0.5**
T11A	**Corn Creek, Al**	**6.81**	**350**	⇓P	**Pn**	**13 54 09.0**	**-0.3**
	baz=7.3						
CCUT	**Cedar City**	**7.01**	**3**	*e*P	**Pn**	**13 54 20.2**	**+8.1**
BNM	**Barren Site**	**7.03**	**57**	*e*P	**Pn**	**13 54 12.4**	**+0.1**
S13A	**Holt Ranch, En**	**7.04**	**359**	⇓P	**Pn**	**13 54 12.3**	**-0.1**
	baz=7.6						
LPIG	**La Paz**	**7.09**	**154**	LR	LR	13 57 09.7	
	comp=Z,288nm,18.1s,baz=3.5,slow=40						
LPM	**Los Pinos Moun**	**7.10**	**56**	Pn	**Pn**	**13 54 09.8**	**-3.5**
S12A	**Delamar Landin**	**7.12**	**353**	⇑P	**Pn**	**13 54 13.5**	**-0.1**
	baz=7.7						
S11A	**Rachel**	**7.29**	**347**	⇑P	**Pn**	**13 54 16.0**	**+0.1**
	baz=7.8						
T18A	**Mexican Hat**	**7.34**	**25**	⇓P	**Pn**	**13 54 17.6**	**+1.0**
	baz=7.9						
S16A	**Weppner Ranch,**	**7.40**	**13**	⇑P	**Pn**	**13 54 18.6**	**+1.3**
	baz=8.0						
T19A	**Beclabito**	**7.42**	**31**	⇓P	**Pn**	**13 54 18.9**	**+1.2**
	baz=8.0						
S17A	**Black Ridge (B**	**7.50**	**18**	⇓P	**Pn**	**13 54 20.2**	**+1.4**
	baz=8.1						
HELL	**Mitchell Peak**	**7.55**	**326**	⇓P	**Pn**	**13 54 20.2**	**+0.8**
	baz=7.9						
ANMO	**Albuquerque**	**7.56**	**52**	Pn	**Pn**	**13 54 20.4**	**+0.8**
	0.2nm,0.3s,baz=248,slow=7.7,SNR=4.3						
ANMO				Lg		13 56 30.6	
	0.8nm

8.7nm,1.2s
MCMT McKenzie Canyo 14.29 3 *e*Pn **Pn 13 55 55.5 +3.8**
QLMT Earthquake Lak 14.40 7 *e*Pn **Pn 13 55 55.9 +2.7**
HBO Huckleberry Mo 14.93 335 P **Pn 13 56 04.5 +4.1**
IRO Indian Ridge 15.05 336 P **Pn 13 56 06.0 +4.0**
BOZ Bozeman (W) 15.19 6 *e*P **Pn 13 56 06.9 +3.1**
6.4nm,1.0s
GCMT Greycliff 15.57 11 P **Pn 13 56 14.3 +5.5**
RSSD Black Hills 15.60 27 *e*P **Pn 13 56 10.9 +1.7**
16nm,1.1s
LNOR Lincton Mounta 15.72 348 P **Pn 13 56 14.9 +4.1**
HOOD Mount Hood Mea 16.02 339 *e*P **Pn 13 56 17.3 +2.7**
29nm,1.0s
MSO Missoula 16.28 360 *e*P **Pn 13 56 19.8 +1.9**
22nm,1.4s
CHMT Chamberlain Mo 16.37 1 *e*P **Pn 13 56 21.9 +2.9**
KSU1 Kansas State U 16.45 54 *e*Pn **Pn 13 56 20.8 +0.6**
HAWA Hanford 16.47 346 *e*P **Pn 13 56 22.1 +1.8**
6.1nm,1.1s
RSW Rattlesnake Hi 16.48 346 *e*P **Pn 13 56 23.2 +2.7**
LAO LASA Array 17.16 18 *e*P **Pn 13 56 30.2 +1.1**
31nm,1.0s
EBG Ellensburg 17.19 344 P **Pn 13 56 32.4 +3.0**
LON Longmire 17.36 341 *e*P **Pn 13 56 33.3 +1.7**
23nm,1.5s
EGMT Eagleton 17.74 9 *e*P **Pn 13 56 38.0 +1.7**
29nm,1.2s
ETW Entiat 17.79 345 *e*P **Pn 13 56 36.7 -0.2**
NEW Newport 17.90 353 *e*P **Pn 13 56 39.8 +1.5**
8.2nm,0.9s
WALA Waterton Lakes 18.51 360 *e*P **Pn 13 56 47.8 +2.1**
15nm,1.3s
NLWA Neilton Lookou 18.56 338 *e*P **Pn 13 56 48.1 +1.8**
8.5nm,1.0s
ECSD EROS,Sioux Fal 18.94 41 *e*P **Pn 13 56 52.2 +1.2**
8.5nm,1.2s
DGMT Dagmar 19.35 19 *e*P **Pn 13 56 56.9 +1.1**
47nm,1.2s
CMIG Matias Romero 21.79 124 LR LR 14 05 55.8
comp=Z,158nm,18.9s,MS3.4,baz=284,slow=37
AGMN Agassiz Refuge 22.40 33 *e*P **P 13 57 28.3 +0.7**
4.5nm,0.7s,mb4.0
EDM Edmonton 22.68 1 P **P 13 57 30.1 -0.4**
ULM Lac du Bonnet 23.84 29 P **P 13 57 42.6 +0.3**
3.5nm,0.8s,mb3.9,baz=232,slow=14,SNR=4.4
BBB Bella Bella 24.09 338 LR LR 14 07 49.9
comp=Z,123nm,20.4s,MS3.4,baz=138,slow=38
TEIG Tepich 25.15 108 LR LR 14 09 14.1
comp=Z,86nm,19.7s,MS3.3,baz=240,slow=40
TKL Tuckaleechee C 25.58 70 LR LR 14 08 42.2
comp=Z,262nm,18.8s,MS3.8,baz=88,slow=38
DLBC Dease Lake 30.06 343 P **P 13 58 39.5 +1.4**
baz=159,slow=8.6
YKA Yellowknife Ar 31.98 359 P **P 13 58 55.5 +0.5**
0.7nm,0.6s,mb3.7,baz=179,slow=8.5,SNR=3.7
YKA LR LR 14 12 29.6
comp=Z,45nm,21.4s,MS3.1,baz=160,slow=38
SCHQ Schefferville 41.13 40 LR LR 14 16 07.6
comp=Z,97nm,19.2s,MS3.7,baz=314,slow=34
PETK Petropavlovsk- 65.39 318 P **P 14 03 10.7 -0.8**
3.9nm,0.9s,mb4.5,baz=69,slow=13,SNR=6.6
ARCES ARCESS Array B 75.93 14 LR LR 14 37 20.1
comp=Z,40nm,18.4s,MS3.8,baz=88,slow=36
HNR Honiara 91.57 260 LR LR 14 36 36.4
comp=Z,67nm,21.2s,MS4.0,baz=178,slow=29
ZALV Zalesovo Beam 94.35 349 P **P 14 05 49.7 +1.1**
0.9nm,0.6s,mb4.4,baz=14,slow=6.5,SNR=3.5

*CSEM **28** 14:09:40.2±0.3,37.19N×2820E,h27km±3km,MD2.9,Error ellipse: s-maj=13.9km s-min=5.5km az=33.0*
*ISK **28** 14:09:41.2,3706N×2811E,h5km,MD2.9*
*ISCJB **28** 14:09:42.5±0.7,3717N±007×2813E±007,h11km±9km, Error ellipse: s-maj=13.4km s-min=4.7km az=37.3*
*DDA **28** 14:09:42.8,3726N×2824E,h7km±8km,Md2.7*
ISC 28 14:09:42.9±0.7,3716N±007×2814E±007,h10km±9km,n8, σ1§01/13,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**103**	*e*PG	**Pg**	**14 09 45.2**	**-0.6**
YER				*e*SG	**Sg**	**14 09 48.0**	**+0.2**
MLSB	**Milas**	**0.32**	**295**	*e*PG	**Pg**	**14 09 49.5**	**+0.2**
MLSB				*e*SG	**Sg**	**14 09 55.7**	**+2.1**
TURN	**Turunc**	**0.47**	**128**	*i* P	**Pg**	**14 09 51.6**	**-0.4**
TURN				*i* S	**Sg**	**14 09 59.0**	**+0.7**
AYDN	**Tasoluk**	**0.54**	**338**	*i* P	**Pg**	**14 09 52.4**	**-1.0**
AYDN				*i* S	**Sg**	**14 10 00.4**	**-0.1**
DALT	**Dalyan (Mudla)**	**0.56**	**134**	*e*PG	**Pg**	**14 09 52.4**	**-1.4**
BODT	**Bodrum**	**0.67**	**262**	*e*PG	**Pg**	**14 09 54.5**	**-1.4**
ELL	**Elmali**	**1.48**	**106**	*e*PN	**Pn**	**14 10 09.9**	**+0.4**
AKAS	**Kas**	**1.50**	**128**	*i* P	**Pg**	**14 10 13.2**	**+1.5**
AKAS				*i* S	**Sg**	**14 10 35.8**	**+4.6**

*IDC **28** 14:24:57.1±1.1,1125S×11840E,h0km,mb4.0/4, mb1 4.2/7,mb1mx3.9/17,mbtmp4.1/7,ML4.4/3,Error ellipse: s-maj=39.8km s-min=19.4km az=55.0*
*NEIC **28** 14:24:58.8±0.7,11.13S×11873E,h10km,mb4.3/3,Error ellipse: s-maj=18.3km s-min=9.6km az=56.0*
*ISCJB **28** 14:24:59.9±0.6,11.12S±005×11882E±007,h33km, mb4.2/5,Error ellipse: s-maj=10.0km s-min=6.7km az=165.4*
ISC 28 14:25:01.8±0.6,1115S±006×11877E±009,h35km,n21, σ1§21/27,mb4.2/5,1C-2D,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.10**	**46⇓**	*e*P	**Pn**	**14 25 39.7**	**+5.2**
WSI				*e*S	**Sn**	**14 25 57.0**	**-2.5**
BATI	**Baumata**	**4.90**	**79**	Pn	**Pn**	**14 26 18.2**	**+5.2**
26nm,0.3s,baz=278,slow=2.7,SNR=38							
BATI				Sn	**Sn**	**14 27 14.4**	**+5.9**
14nm,0.3s,baz=232,slow=7.8,SNR=3.8							
TRT	**Tretes**	**6.95**	**299⇑**	*e*P	**Pn**	**14 26 35.0**	**-6.3**
FITZ	**Fitzroy Crossi**	**9.59**	**137**	*e*P	**Pn**	**14 27 16.6**	**-0.8**
9.5nm,0.3s							
FITZ				*e*S	**Sn**	**14 28 58.0**	**-5.9**
FITZ	**Fitzroy Crossi**	**9.59**	**137**	Pn	**Pn**	**14 27 17.2**	**-0.2**
2.0nm,0.3s,baz=332,slow=12,SNR=25							
FITZ				Sn	**Sn**	**14 28 58.1**	**-5.8**
1.2nm,0.3s,baz=176,slow=22,SNR=4.6							
MBWA	**Marble Bar**	**9.99**	**175**	*e*Pn	**Pn**	**14 27 19.7**	**-3.3**
44nm,0.3s							
MBWA				*e*Sn	Sx	14 28 57.2	
KAKA	**Kakadu**	**13.46**	**98**	*e*P	**Pn**	**14 28 10.7**	**+0.2**
MNI	**Manado**	**13.89**	**26⇓**	*e*P	**Pn**	**14 28 16.0**	**-0.3**
KKM	**Kota Kinabalu**	**17.27**	**351**	*e*Pn	**Pn**	**14 29 00.6**	**+0.2**
WRA	**Warramunga Arr**	**17.35**	**122**	P	**Pn**	**14 29 00.8**	**-0.6**
0.6nm,0.3s,baz=290,slow=14,SNR=18							
WRA				S	Sx	14 32 05.4	
0.3nm,0.3s,baz=300,slow=24,SNR=4.4							
WRAB	**Tennant Creek**	**17.35**	**122**	*e*P	**Pn**	**14 29 01.7**	**+0.3**
3.2nm,0.6s							
WB2	**Warramunga Arr**	**17.36**	**122**	*e*P	**Pn**	**14 29 01.4**	**-0.1**
WB2				*e*S	Sx	14 32 02.3	
WB2	**Warramunga Arr**	**17.36**	**122**	*e*P	**Pn**	**14 29 00.8**	**-0.7**
WB2				*e*S	Sx	14 32 02.3	
ASAR	**Alice Springs**	**19.04**	**133**	P	**Pn**	**14 29 24.2**	**+2.2**
0.9nm,0.3s,baz=322,slow=14,SNR=40							
ASAR				S	**S**	**14 32 48.9**	**-6.6**
0.2nm,0.3s,baz=311,slow=24,SNR=6.2							
KLBR	**Kellerberrin**	**20.36**	**182**	*e*P	**P**	**14 29 37.1**	**+1.7**
12nm,0.7s							
KLBR				*e*S	Sx	14 33 00.2	
MUN	**Mundaring**	**20.86**	**186**	*e*P	**P**	**14 29 44.6**	**+3.8**
MUN				*e*S	Sx	14 33 12.8	
FORT	**Forrest**	**21.35**	**158**	*e*P	**P**	**14 29 48.0**	**+1.9**
11nm,0.5s,mb4.4							
FORT				*e*S	**S**	**14 33 35.8**	**-5.4**
NWAO	**Narrogin (SRO)**	**21.72**	**183**	P	**P**	**14 29 48.7**	**-1.3**
5.4nm,0.5s,mb4.3,baz=0.0,slow=10,SNR=5.9							
CMAR	**Chiang Mai Arr**	**35.33**	**326**	P	**P**	**14 31 54.0**	**0.0**
0.5nm,0.6s,mb3.6,baz=142,slow=9.0,SNR=2.5							
MKAR	**Makanchi Array**	**66.26**	**333**	P	**P**	**14 35 46.9**	**+0.5**
1.8nm,0.5s,mb4.3,baz=149,slow=7.4,SNR=31							
ZALV	**Zalesovo Beam**	**70.96**	**340**	P	**P**	**14 36 15.2**	**-0.4**
1.3nm,0.4s,mb4.2,baz=143,slow=5.7,SNR=6.4							

*ISCJB **28** 14:31:11.3±0.6,965N±003×126.17E±006,h84km±4km, mb4.4/20,Error ellipse: s-maj=9.6km s-min=4.2km az=164.2*

*MAN **28** 14:31:12,964N×126.10E,h38km,mb5.0,ML3.9,MS4.0*
MAN INTENSITY II - SURIGAO CITY, SIARGAO ISLAND.
*NEIC **28** 14:31:14.2±1.4,957N×126.11E,h97km±12km,mb4.4/3, Error ellipse: s-maj=15.5km s-min=5.0km az=60.0*
*IDC **28** 14:31:14.4±2.8,954N×12605E,h98km±27km,mb3.9/11, mb1 4.0/12,mb1mx3.8/21,mbtmp3.9/12,Error ellipse: s-maj=27.7km s-min=12.1km az=76.0*
ISC 28 14:31:12.4±0.6,964N±003×12616E±006,h78km±4km,n67, σ0§98/78,mb4.4/20,3C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.68**	**282⇑**	*e*P	**Pn**	**14 31 28.8**	**+1.1**
SCPH				*e*S	**Sn**	**14 31 36.7**	**-2.3**
BUTP	**Butuan**	**0.85**	**219**	*e*P	**Pn**	**14 31 27.6**	**-2.5**
BUTP				*e*S	**Sn**	**14 31 40.2**	**-2.2**
MSLP	**Maasin**	**1.38**	**291**	*e*P	**Pn**	**14 31 35.8**	**-0.2**
MSLP				*e*S	**Sn**	**14 31 55.8**	**+2.0**
PLP	**Palo**	**1.91**	**323⇓**	*e*P	**Pn**	**14 31 42.8**	**-0.3**
PLP				*e*S	**Sn**	**14 32 04.8**	**-1.6**
BUKP	**Musuan**	**2.06**	**212**	*e*P	**Pn**	**14 31 44.6**	**-0.5**
BUKP				*e*S	**Sn**	**14 32 11.6**	**+1.6**
BESP	**Borongan**	**2.08**	**340**	*e*P	**Pn**	**14 31 45.2**	**0.0**
OCLP	**Ormoc**	**2.08**	**313**	*e*P	**Pn**	**14 31 46.1**	**+0.8**
LLP	**Lapu-Lapu**	**2.27**	**287⇓**	*e*P	**Pn**	**14 31 47.9**	**+0.1**
LLP				*i* S	**Sn**	**14 32 13.6**	**-1.3**
TBP	**Tagbilaran**	**2.27**	**271⇓**	*e*P	**Pn**	**14 31 47.5**	**-0.3**
TBP				*e*S	**Sn**	**14 32 14.2**	**-0.7**
DAV	**Davao City (W)**	**2.62**	**193**	P	**Pn**	**14 31 53.4**	**+0.8**
128nm,0.3s,baz=303,slow=4.9,SNR=4.5							
DAV	**Davao City (W)**	**2.62**	**193**	*e*Pn	**Pn**	**14 31 53.5**	**+0.9**
DMPH	**Davao City--Mi**	**2.62**	**194⇑**	*i*P	**Pn**	**14 31 53.2**	**+0.5**
DMPH				*i* S	Sn	14 31 59.3	-24
MATI	**Mati**	**2.68**	**178**	*e*P	**Pn**	**14 31 54.4**	**+1.0**
MATI				*e*S	**Sn**	**14 32 27.7**	**+2.8**
CTBH	**Cotabato--PC H**	**3.06**	**218⇑**	*i*P	**Pn**	**14 31 57.9**	**-0.6**
CTBH				*i* S	**Sn**	**14 32 34.6**	**+0.4**
CNP	**Catarman**	**3.21**	**333**	*e*P	**Pn**	**14 32 00.9**	**+0.3**
CNP				*e*S	**Sn**	**14 32 36.6**	**-1.1**
PAGZ	**Pagadian**	**3.28**	**237**	*e*P	**Pn**	**14 32 01.4**	**-0.1**
GUIM	**Jordan**	**3.65**	**286**	*e*P	**Pn**	**14 32 06.6**	**0.0**
RCP	**Roxas**	**3.87**	**300⇓**	*e*P	**Pn**	**14 32 10.5**	**+1.0**
IPIL	**Ipil**	**4.00**	**243**	*e*P	**Pn**	**14 32 11.0**	**-0.3**
OTRP	**Odiongan**	**4.88**	**304**	*e*P	**Pn**	**14 32 25.4**	**+2.0**
CUYO	**Cuyo Island**	**5.21**	**284**	*e*P	**Pn**	**14 32 28.5**	**+0.7**
SJMP	**San Jose**	**5.69**	**300**	*e*P	**Pn**	**14 32 36.9**	**+2.5**
BUSP	**Coron**	**6.31**	**292**	*e*P	**Pn**	**14 32 43.9**	**+1.0**
ENPP	**El Nido**	**6.81**	**284**	*e*P	**Pn**	**14 32 49.7**	**0.0**
CAUP	**Cauayan**	**8.40**	**330**	*e*P	**Pn**	**14 33 10.9**	**-0.5**
QIZ	**Qiongzhong**	**18.35**	**302**	*e*P	**Pn**	**14 35 22.4**	**+0.7**
BATI	**Baumata**	**19.87**	**187**	P	**Pn**	**14 35 41.0**	**+1.2**
2.6nm,0.3s,baz=85,slow=23,SNR=4.3							
KAKA	**Kakadu**	**23.06**	**164**	*e*P	**P**	**14 36 11.0**	**-0.5**
19nm,0.6s,mb4.6							
KAKA	**Kakadu**	**23.06**	**164**	*e*P	**P**	**14 36 10.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**27.57**	**181**	*e*P	**P**	**14 36 51.7**	**-0.6**
4.1nm,0.7s,mb4.1							
FITZ	**Fitzroy Crossi**	**27.57**	**181**	P	**P**	**14 36 52.3**	**+0.1**
0.9nm,0.6s,mb3.5,baz=356,slow=19,SNR=9.1							
FITZ	**Fitzroy Crossi**	**27.57**	**181**	*e*P	**P**	**14 36 52.5**	**+0.3**
KSRS	**Korea Array**	**27.74**	**3**	P	**P**	**14 36 54.5**	**+0.9**
1.3nm,0.7s,mb3.6,baz=182,slow=9.5,SNR=8.7							
CMAR	**Chiang Mai Arr**	**27.79**	**291**	P	**P**	**14 36 54.8**	**+0.5**
2.0nm,0.7s,mb3.7,baz=97,slow=7.3,SNR=13							
CHTO	**Chiang Mai**	**27.88**	**292**	*e*P	**P**	**14 36 53.3**	**-1.8**
WRAB	**Tennant Creek**	**30.47**	**165**	*e*P	**P**	**14 37 16.9**	**-1.1**
1.9nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**30.48**	**165**	P	**P**	**14 37 17.1**	**-1.0**
1.4nm,0.7s,mb3.7,baz=342,slow=8.7,SNR=16							
WB2	**Warramunga Arr**	**30.48**	**165**	*e*P	**P**	**14 37 16.2**	**-1.9**
WB2				*e*S	**S**	**14 42 07.1**	**-6.8**
WB2	**Warramunga Arr**	**30.48**	**165**	*e*P	**P**	**14 37 17.0**	**-1.1**
WB2				*e*S	**S**	**14 42 07.1**	**-6.8**
ASAR	**Alice Springs**	**33.95**	**167**	P	**P**	**14 37 47.9**	**-0.6**
1.1nm,0.4s,mb4.0,baz=352,slow=6.7,SNR=26							
FORT	**Forrest**	**40.23**	**177**	*e*P	**P**	**14 38 41.7**	**+0.2**
13nm,0.5s,mb5.0							
TAPN	**Taplejung**	**40.28**	**301**	*e*P	**P**	**14 38 42.3**	**+0.2**
12nm,0.4s,mb5.1							
ODAN	**Odare**	**40.40**	**300**	*e*P	**P**	**14 38 43.5**	**+0.4**
34nm,0.8s,mb5.2							
RAMN	**Ramite**	**41.10**	**300**	*e*P	**P**	**14 38 49.5**	**+0.6**
JIRN	**Jiri**	**41.66**	**301**	*e*P	**P**	**14 38 54.2**	**+0.7**
15nm,0.4s,mb5.1							
KLBR	**Kellerberrin**	**41.78**	**191**	*e*P	**P**	**14 38 53.7**	**-0.6**
76nm,1.8s,mb5.1							
GUN	**Gumba**	**42.00**	**301**	*e*P	**P**	**14 38 56.8**	**+0.6**
PKI	**Pulchoki**	**42.30**	**301**	*e*P	**P**	**14 38 58.5**	**-0.1**
PKIN	**Phulchoki**	**42.31**	**301**	*e*P	**P**	**14 38 58.4**	**-0.3**
MUN	**Mundaring**	**42.46**	**193**	*e*P	**P**	**14 38 59.9**	**+0.1**
KKN	**Kakani**	**42.47**	**301**	*e*P	**P**	**14 39 00.2**	**+0.2**
DMN	**Daman**	**42.56**	**300**	*e*P	**P**	**14 39 00.9**	**+0.1**
NWAO	**Narrogin (SRO)**	**43.18**	**191**	P	**P**	**14 39 04.7**	**-0.8**
4.0nm,0.5s,mb4.4,baz=360,slow=12,SNR=7.9							
NWAO	**Narrogin (SRO)**	**43.18**	**191**	P	**P**	**14 39 04.7**	**-0.8**
STKA	**Stephens Creek**	**43.84**	**161**	*e*P	**P**	**14 39 10.7**	**-0.2**
3.8nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**43.84**	**161**	P	**P**	**14 39 10.0**	**-0.9**
4.1nm,0.5s,mb4.5,baz=329,slow=7.0,SNR=16							
STKA	**Stephens Creek**	**43.84**	**161**	*e*P	**P**	**14 39 10.7**	**-0.2**
KOLN	**Koldanda**	**43.89**	**300**	*e*P	**P**	**14 39 11.6**	**+0.1**
23nm,0.8s,mb5.0							
DANN	**Dangsing**	**43.92**	**301**	*e*P	**P**	**14 39 11.8**	**+0.1**
PETK	**Petropavlovsk-**	**50.25**	**24**	P	**P**	**14 40 02.6**	**+2.1**
4.1nm,0.5s,mb4.7,baz=205,slow=2.2,SNR=41							
MK31	**Makanchi Array**	**52.46**	**323**	*e*P	**P**	**14 40 16.6**	**-0.6**
MKAR	**Makanchi Array**	**52.46**	**323**	P	**P**	**14 40 16.9**	**-0.4**
1.8nm,0.5s,mb4.3,baz=119,slow=8.0,SNR=29							
ZALV	**Zalesovo Beam**	**55.13**	**332**	P	**P**	**14 40 35.1**	**-1.4**
0.7nm,0.4s,mb4.0,baz=141,slow=7.1,SNR=3.6							
AML	**Almayashu**	**56.08**	**315**	*e*P	**P**	**14 40 44.4**	**+0.8**
278nm,1.2s							
BRVK	**Borovoye**	**62.19**	**326**	*e*P	**P**	**14 41 25.1**	**-0.5**
2.6nm,0.6s,mb4.4							
ARCES	**ARCESS Array B**	**84.75**	**340**	P	**P**	**14 43 37.1**	**-0.5**
0.8nm,0.6s,mb3.9,baz=84,slow=5.9,SNR=8.5							
TORD	**Torodi Ar. Bea**	**120.40**	**291**	PKP	PKPdf	14 49 55.8	0.0
0.3nm,0.5s,baz=63,slow=1.8,SNR=2.4							

*ISCJB **28** 14:59:27.0±0.5,3870N±003×2198E±004,h9km±7km, Error ellipse: s-maj=5.4km s-min=4.3km az=0.7*
*NEIC **28** 14:59:27.2,3873N×2193E,h29km,MD3.3(ATH),After ATH.*
*ATH **28** 14:59:27.2,3873N×2193E,h30km±1km,MD3.3/6*
*CSEM **28** 14:59:28.1±0.1,3869N×2200E,h12km,MD3.3,Error ellipse: s-maj=2.7km s-min=2.0km az=79.0*
*THE **28** 14:59:28.9,3870N×2204E,h8km,ML3.0*
ISC 28 14:59:27.9±0.5,3870N±003×2199E±004,h16km±6km,n17, σ0§85/25,1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.26**	**328⇓**	*i*PB	**Pg**	**14 59 33.3**	**-0.2**
EVR				*e*SB	**Sg**	**14 59 38.3**	**+0.9**
AGG	**Agios Georgios**	**0.42**	**39**	*e*Pg	**Pg**	**14 59 36.5**	**+0.1**
AGG				*e*Sg	**Sg**	**14 59 42.5**	**+0.3**
RLS	**Riolos of Patr**	**0.76**	**213**	*e*PN	**Pg**	**14 59 42.1**	**-0.5**
RLS				*e*SN	**Sg**	**14 59 53.8**	**+1.3**
LKR	**Lokris**	**0.80**	**93**	*e*Pg	**Pg**	**14 59 42.3**	**-1.1**
LKR				*e*Sg	**Sg**	**14 59 54.2**	**+0.3**
THL	**Klokotos Trika**	**0.87**	**2**	*e*Pg	**Pg**	**14 59 44.5**	**-0.2**
THL				*e*Sg	**Sg**	**14 59 58.1**	**+1.9**
THL	**Klokotos Trika**	**0.87**	**2**	*e*PN	**Pg**	**14 59 44.1**	**-0.7**
THL	**Klokotos Trika**	**0.87**	**2**	*e*Pn	**Pg**	**14 59 44.7**	**-0.1**
THL				*e*Sg	**Sg**	**14 59 58.1**	**+1.9**
LTK	**Loutraki**	**1.02**	**131**	*e*Pg	**Pg**	**14 59 47.2**	**-0.5**
LTK				*e*Sg	**Sg**	**15 00 02.3**	**+1.3**
NEO	**Neokhori**	**1.14**	**57**	*e*PN	**Pg**	**14 59 49.0**	**-0.2**
XOR	**Xorichti**	**1.16**	**54**	*e*Pg	**Pg**	**14 59 50.0**	**-0.2**
VLS	**Valsamata**	**1.21**	**245**	*e*PN	**Pg**	**14 59 49.7**	**-1.5**
MEV	**Metsovon**	**1.24**	**332**	*e*Pg	**Pg**	**14 59 51.7**	**0.0**
LIT	**Litokhoron**	**1.46**	**15**	*e*Pg	**Pg**	**14 59 55.1**	**-0.8**
LIT				*e*Sg	**Sg**	**15 00 13.9**	**-1.0**
DID	**Didima**	**1.54**	**140**	*e*Pg	**Pg**	**14 59 56.3**	**-1.3**
AOS	**Alonnisos**	**1.55**	**72**	*e*Pg	**Pn**	**14 59 55.4**	**+0.5**
PAIG	**Paliouri**	**1.80**	**46**	*e*Pb	**Pn**	**14 59 58.6**	**+0.3**
VLI	**Veliai**	**2.11**	**159**	*e*PN	**Pn**	**15 00 03.5**	**+0.9**

PRU 28 15:03:03.9,4978N×1852E,h0km,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.25**	**284**	*e*PG	Pg	**15 03 08.7**	**+0.1**
OKC				*e*SG	Sg	**15 03 12.6**	**+0.7**
VYHS	**Vyhne**	**1.30**	**171**	*e*PN	Pn	**15 03 27.6**	**-1.7**
VYHS				*e*SN	Sn	**15 03 46.2**	**-1.2**
VYHS	**Vyhne**	**1.30**	**171**	*e*Sn	Sn	**15 03 46.2**	**-1.2**
DPC	**Dobruska-Polom**	**1.53**	**293**	*e*PG	Pg	**15 03 30.7**	**-2.4**
DPC				*e*SG	Sg	**15 03 52.2**	**-0.7**
comp=Z,1.5nm,0.4s							

*ATH **28** 15:05:23.3,3979N×2010E,h5km±4km,MD4.0/11*
*IDC **28** 15:05:24.1±1.2,3977N×2023E,h0km,mb3.6/6,mb1 3.7/8, mb1mx3.6/26,mbtmp3.6/8,ML3.6/2,Error ellipse: s-maj=27.7km s-min=19.1km az=69.0*
*ISCJB **28** 15:05:25.8±0.2,3972N±002×2014E±002,h10km,mb3.6/5, Error ellipse: s-maj=2.8km s-min=2.0km az=145.3*
*PDG **28** 15:05:25.7±0.5,3971N×2019E,h11km±1km,ML3.6/10, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*
*THE **28** 15:05:26.1,3975N×2017E,h1km,ML4.2*
*NEIC **28** 15:05:26.1,3975N×2017E,h2km,MD4.0(ATH), ML3.6(PDG),ML4.2(THE),After THE.*
*TIR **28** 15:05:27.2±7.1,4010N×1968E,h6km±40km*
*CSEM **28** 15:05:27.6±0.1,3972N×2026E,h8km,ML4.2,Error ellipse: s-maj=1.7km s-min=1.3km az=55.0*
ISC 28 15:05:26.9±0.2,3971N±002×2018E±002,h10km,n125, σ1§30/182,mb3.6/5,18C-7D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.22**	**146**	*e*Pg	**Pg**	**15 05 30.4**	**-1.0**
IGT				*e*Sg	**Sg**	**15 05 34.8**	**+0.4**
SRN	**Sarande**	**0.22**	**321**	*e*PN	**Pg**	**15 05 29.5**	**-1.9**
JAN	**Janina**	**0.52**	**96**	*e*PG	**Pg**	**15 05 34.5**	**-2.6**
JAN				*e*SB	**Sg**	**15 05 43.0**	**-1.0**
MEV	**Metsovon**	**0.81**	**85**	*e*Pg	**Pg**	**15 05 40.3**	**-2.3**
LKD	**Levkas**	**1.07**	**160**	*e*Pg	**Pg**	**15 05 46.2**	**-1.3**
LKD				*e*Sg	**Sg**	**15 06 03.3**	**+2.0**
KZN	**Kozani**	**1.36**	**64**	*e*PB	**Pn**	**15 05 49.9**	**-2.1**
KZN				*e*SB	**Sn**	**15 06 09.4**	**-0.7**
THL	**Klokotos Trika**	**1.43**	**95**	*e*Pg	**Pn**	**15 05 51.2**	**-1.7**
THL				*e*Sg	**Sn**	**15 06 12.8**	**+1.1**
THL	**Klokotos Trika**	**1.43**	**95**	*e*Pg	**Pn**	**15 05 51.3**	**-1.6**
THL				*e*Sg	**Sn**	**15 06 12.8**	**+1.1**
OHR	**Ohrid**	**1.48**	**19**	*e*Pg	**Pg**	**15 05 52.2**	**-3.1**
OHR				*e*Sg	**Sg**	**15 06 12.4**	**-2.1**
OHR	**Ohrid**	**1.48**	**19**	*i* PG	**Pg**	**15 05 52.2**	**-3.1**
OHR				*i* SG	**Sg**	**15 06 12.4**	**-2.0**
OHR	**Ohrid**	**1.48**	**19**	*e*Pn	**Pn**	**15 05 52.8**	**-0.8**
OHR				*e*Sn	**Sn**	**15 06 14.4**	**+1.4**
OHR	**Ohrid**	**1.48**	**19**	*e*Pn	**Pn**	**15 05 52.7**	**-0.9**
OHR				*e*Sn	**Sn**	**15 06 14.3**	**+1.4**
EVR	**Evrytania**	**1.50**	**122**	*e*PB	**Pn**	**15 05 53.9**	**+0.1**
VLS	**Valsamata**	**1.57**	**168**	*e*Pg	**Pn**	**15 05 54.4**	**-0.4**
VLS				*e*Sg	**Sn**	**15 06 16.2**	**+1.1**
VLS	**Valsamata**	**1.57**	**168**	*e*Pb	**Pn**	**15 05 54.8**	**0.0**
VLS				*e*Sg	**Sn**	**15 06 16.2**	**+1.1**
BIA	**Bitola**	**1.57**	**34**	*e*Pg	**Pn**	**15 05 53.7**	**-1.2**
BIA				*e*Sg	**Sn**	**15 06 15.3**	**0.0**
BIA	**Bitola**	**1.57**	**34**	*e*Pn	**Pn**	**15 05 53.5**	**-1.4**
BIA				*e*Sn	**Sn**	**15 06 16.8**	**+1.5**
BIA	**Bitola**	**1.57**	**34**	*e*Pg	**Pn**	**15 05 53.7**	**-1.2**
BIA				*e*Sg	**Sg**	**15 06 15.3**	**-2.2**
BIA				*e*Sn	**Sn**	**15 06 16.8**	**+1.5**
TIR	**Tirane**	**1.65**	**352**	*e*Pn	**Pn**	**15 05 54.8**	**-1.2**
KFL	**Anninata**	**1.67**	**163**	*e*Pb	**Pn**	**15 05 56.4**	**+0.3**
AGG	**Agios Georgios**	**1.81**	**112**	*e*Pb	**Pn**	**15 05 57.4**	**-0.7**
AGG				*e*Sb	**Sn**	**15 06 22.2**	**+1.2**
QSH	**Qafa e Shtames**	**1.82**	**354**	*e*PN	**Pg**	**15 06 00.0**	**-1.8**
LIT	**Litokhoron**	**1.82**	**77**	*e*Pb	**Pn**	**15 05 57.6**	**-0.7**
LIT				*e*Sb	**Sn**	**15 06 22.4**	**+1.0**
KRUS	**Krusevo**	**1.85**	**26**	*e*Pn	**Pn**	**15 05 59.2**	**+0.5**
KRUS				*e*Sn	**Sn**	**15 06 23.2**	**+1.2**
KRUS	**Krusevo**	**1.85**	**26**	*e*Pn	**Pn**	**15

VLI	**Veliai**	**3.70**	**143**	*e*Pn	**Pn**	**15 06 25.5**	**+1.4**
VLI	**Veliai**	**3.70**	**143**	*e*Pn	**Pn**	**15 06 24.5**	**+0.4**
FGMS	**Monte Sant'Ang**	**3.78**	**303**	Pn	**Pn**	**15 06 24.7**	**-0.5**
MS1	**Monte Sant'Ang**	**3.78**	**303**	*e*Pn	**Pn**	**15 06 26.0**	**+0.7**
SGO	**Sicignano**	**3.83**	**284**	Pn	**Pn**	**15 06 28.8**	**+3.0**
RGNG	**Rignano Grg**	**4.00**	**301**	Pn	**Pn**	**15 06 27.5**	**-0.8**
FG5	**Orsara di Pugl**	**4.06**	**294**	Pn	**Pn**	**15 06 30.6**	**+1.6**
PGB	**Panagyurishte**	**4.14**	**45**	*e*P	**Pn**	**15 06 32.0**	**+1.9**
GRUS	**Gruza**	**4.19**	**5**	*e*Pn	**Pn**	**15 06 32.9**	**+2.0**
BOLS	**Boljevac**	**4.32**	**17**	*e*Pn	**Pn**	**15 06 32.9**	**+0.2**
DIVS	**Divibare**	**4.39**	**358**	*e*Pn	**Pn**	**15 06 34.1**	**+0.6**
DIVS				*e*Sn	**Sn**	**15 07 26.9**	**+2.3**
INTR	**Introdacqua**	**5.28**	**298**	Pn	**Pn**	**15 06 47.4**	**+1.6**
61nm,0.7s							
FGSL	**Fruska Gora**	**5.45**	**357**	*e*Pn	**Pn**	**15 06 48.5**	**+0.4**
FGSL				*e*Sn	**Sn**	**15 07 52.2**	**+1.4**
BLY	**Banja Luka**	**5.50**	**337**	*e*Sn	**Sn**	**15 07 48.7**	**-3.4**
TERO	**Teramo**	**5.75**	**303**	Pn	**Pn**	**15 06 52.3**	**+0.1**
IDI	**Anoyia**	**5.79**	**138**	Pn	**Pn**	**15 06 51.9**	**-1.0**
1.2nm,0.3s,baz=47,slow=6.6,SNR=6.8							
IDI				Sn	**Sn**	**15 07 54.8**	**-4.5**
5.4nm,0.3s,baz=265,slow=13,SNR=10							
BZS	**Buzias**	**6.00**	**10**	⇓*i*P	**Pn**	**15 06 55.3**	**-0.3**
NRCA	**Norcia**	**6.17**	**303**	Pn	**Pn**	**15 06 57.9**	**-0.1**
PKSM	**Moragy**	**6.59**	**351**	⇑*i*P	**Pn**	**15 07 03.7**	**-0.1**
PKSM	**Moragy**	**6.59**	**351**	⇑P	**Pn**	**15 07 03.7**	**-0.1**
BOJS	**Bojanci**	**6.83**	**330**	*i* Pn	**Pn**	**15 07 05.6**	**-1.5**
BOJS				*i* Sn	**Sn**	**15 08 21.7**	**-3.2**
VISS	**Visnje**	**7.24**	**329**	*i* Pn	**Pn**	**15 07 11.8**	**-1.0**
VISS				*i* Sn	**Sn**	**15 08 32.3**	**-2.7**
DRGR		**7.31**	**14**	⇑*i*P	**Pn**	**15 07 15.0**	**+1.3**
DRGR		**7.31**	**14**	S	**Sn**	**15 08 35.0**	**-1.7**
DRGR		**7.31**	**14**	⇑P	**Pn**	**15 07 15.0**	**+1.2**
DRGR				S	**Sn**	**15 08 35.0**	**-1.7**
SKDS	**Skadanscina**	**7.39**	**324**	*i* Pn	**Pn**	**15 07 12.9**	**-1.9**
SKDS				*i* Sn	**Sn**	**15 08 33.5**	**-5.1**
JAVS	**Javornik**	**7.64**	**326**	*i* Pn	**Pn**	**15 07 16.2**	**-1.9**
JAVS				*i* Sn	**Sn**	**15 08 40.7**	**-4.0**
VRI	**Vrincioaia**	**7.81**	**36**	⇑*i*P	**Pn**	**15 07 20.4**	**-0.1**
VRI	**Vrincioaia**	**7.81**	**36**	⇑P	**Pn**	**15 07 20.4**	**-0.2**
VOY	**Vojsko**	**7.82**	**326**	*e*Pn	**Pn**	**15 07 20.0**	**-0.7**
VOY				*e*		15 07 22.7	
VOY				*e*Sn	**Sn**	**15 08 45.6**	**-3.6**
PERS	**Pernice**	**7.84**	**334**	*i* Pn	**Pn**	**15 07 19.3**	**-1.7**
PERS				*i* Sn	**Sn**	**15 08 44.0**	**-5.7**
OBKA	**Obir**	**7.94**	**331**	⇑*i*Pn	**Pn**	**15 07 20.8**	**-1.5**
OBKA				⇓*i*Sn	**Sn**	**15 08 45.9**	**-6.2**
KECS	**Kecovo**	**8.77**	**1**	*e*PN	**Pn**	**15 07 34.5**	**+0.8**
KBA	**Koelnbreinsper**	**8.88**	**328**	⇑*i*Pn	**Pn**	**15 07 35.0**	**-0.2**
KBA				⇑*i*Sn	**Sn**	**15 09 07.5**	**-7.7**
MODS	**Modra-Piesok**	**8.91**	**347**	*e*PN	**Pn**	**15 07 41.5**	**+5.9**
CRVS	**Cervenica-Dubn**	**9.23**	**5**	*e*PN	**Pn**	**15 07 45.8**	**+5.8**
GERES	**GERESS Array B**	**10.24**	**335**	Pn	**Pn**	**15 07 51.7**	**-2.1**
0.2nm,0.3s,baz=157,slow=14,SNR=6.4							
HFS	**Hagfors**	**20.84**	**351**	P	**P**	**15 10 07.6**	**-0.9**
2.4nm,0.7s,baz=147,slow=12,SNR=5.1							
NB2	**NORSAR Subarra**	**22.06**	**348**	P	**P**	**15 10 19.7**	**-1.9**
comp=Z,1.8nm,0.8s,mb3.5,baz=160,slow=11							
NOA	**NORSAR Array B**	**22.06**	**348**	P	**P**	**15 10 20.1**	**-1.5**
comp=Z,1.7nm,0.8s,mb3.5,baz=159,slow=9.7,SNR=4.3							
ARCES	**ARCESS Array B**	**30.02**	**4**	P	**P**	**15 11 35.6**	**+0.1**
comp=Z,1.3nm,0.8s,mb3.7,baz=197,slow=8.1,SNR=3.7							
TORD	**Torodi Ar. Bea**	**31.07**	**217**	P	**P**	**15 11 44.6**	**-0.7**
comp=Z,0.8nm,0.7s,mb3.7,baz=29,slow=9.2,SNR=5.6							
MKAR	**Makanchi Array**	**44.74**	**60**	P	**P**	**15 13 37.7**	**-2.5**
comp=Z,0.5nm,0.6s,mb3.5,baz=279,slow=7.5,SNR=6.0							
MKAR	**Makanchi Array**	**44.74**	**60**	P	**P**	**15 13 37.7**	**-2.5**
ZALV	**Zalesovo Beam**	**44.88**	**49**	P	**P**	**15 13 38.7**	**-2.6**
comp=Z,0.5nm,0.4s,mb3.7,baz=256,slow=12,SNR=2.9							

MOS ***28*** *15:26:38.2±0.3,5191N×14046E,h8km,mb4.1/1,Error ellipse: s-maj=4.5km s-min=3.3km az=101.9*

SKHL 28 15:26:34.3±0.3,5252N×13969E,h21km±3km,mb4.5/5, 1C-1D,Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**0.87**	**43**	⇓*i*Pg	Pb	15 26 49.5	-1.2
NKL				AMB	AMB	15 26 50.0	
610nm,0.3s							
NKL				*e*Sg	Sb	15 27 00.5	-1.4
NKL				A		15 27 01.5	
2μm,0.3s							
OKH	**Okha**	**2.21**	**61**	*e*Pg	Pn	15 27 16.0	+6.3
OKH				AMB	AMB	15 27 18.9	
232nm,0.9s							
OKH				*e*Sg	Sn	15 27 45.9	+9.5
OKH				A		15 27 49.3	
787nm,0.7s							
GRNR	**Gornyy**	**2.69**	**231**	⇑*i*Pn	Pn	15 27 15.0	-1.2
GRNR				*e*Pg	Pn	15 27 21.6	+5.4
GRNR				AMB	AMB	15 27 22.5	
190nm,0.5s							
GRNR				AMB	AMB	15 27 22.5	
170nm,0.5s							
GRNR				AMB	AMB	15 27 22.5	
140nm,0.5s							
GRNR				*e*Sg	Sn	15 27 56.0	+7.9
GRNR				A		15 28 04.2	
665nm,0.5s							
UGL	**Uglegorsk**	**3.76**	**155**	*e*Pg	Pn	15 27 40.5	+9.5
UGL				AMB	AMB	15 27 41.0	
28nm,0.6s							
UGL				pPg		15 27 45.5	
UGL				sPg		15 27 49.7	
UGL				*e*Sg	Sn	15 28 29.0	+14
UGL				A		15 28 30.0	
108nm,0.5s							
UGL				A		15 28 30.0	
154nm,0.5s							
EKMR	**Ekimchan**	**4.13**	**280**	*e*Pn	Pn	15 27 36.6	+0.6
EKMR				sPn		15 27 45.4	
EKMR				*e*Pg	Pn	15 27 50.0	+14
EKMR				AMB	AMB	15 27 55.5	
40nm,0.5s							
EKMR				*e*Sg	Sn	15 28 44.3	+21
EKMR				A		15 28 51.6	
360nm,0.6s							
EKMR				A		15 28 51.6	
160nm,0.6s							
YSS	**Yuzh-Sakhalins**	**5.92**	**159**	*e*Pn	Pn	15 28 02.5	+1.9
KLR	**Kul'dur**	**6.01**	**240**	*e*Pg	Pn	15 28 23.7	+22
BMKR	**Bomnak**	**6.82**	**293**	*e*rx	rx	15 28 20.9	
BMKR				*e*Sg	Sn	15 30 06.3	+36
BMKR				A		15 30 12.3	
43nm,0.7s							
TEY	**Ternei**	**7.76**	**196**	*e*Sg	Sn	15 30 37.0	+44
TEY				A		15 30 47.5	
42nm,0.7s							
KROS	**Kirovskiy**	**7.83**	**289**	*e*Pn	Pn	15 28 27.9	+1.1
KROS				*e*Sg	Sn	15 30 38.1	+43
KROS				A		15 30 47.3	
38nm,0.6s							

ISCJB ***28*** *15:32:59.6±0.7,3526S±005×11608E±009,h10km, mb4.4/13,Error ellipse: s-maj=10.6km s-min=7.2km az=3.2*
BJI ***28*** *15:33:00.8,35.15S×116.18E,h18km,mB4.6,mb4.8*
NEIC ***28*** *15:33:00.0±0.6,3548S×11586E,h10km,mb4.6/3, ML4.6(AUST),Error ellipse: s-maj=11.7km s-min=9.4km az=113.0*
NEIC Felt at Albany.
IDC ***28*** *15:33:01.8±4.3,3540S×11580E,h17km±24km,mb4.0/8, mb1 4.2/9,mb1mx4.0/15,mbtmp4.1/9,ML2.5/1,MS3.4/1, Ms1 3.4/1,ms1mx3.0/20,Error ellipse: s-maj=28.4km s-min=19.1km az=94.0*
AUST ***28*** *15:33:04.3,3543S×11594E,h18km,ML4.6*

ISC 28 15:33:01.7±0.7,3527S±005×11610E±008,h10km, (h30km±1.1km:pP-P),n43,σ1§47/62,mb4.4/13,3C-2D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKGY	**Rocky Gully**	**0.98**	**48**	⇓*i*P	**Pg**	**15 33 24.6**	**+4.0**
RKGY				*e*		15 33 34.1	
RKGY				*e*S	**Sg**	**15 33 39.5**	**+6.2**
8μm,0.2s							
NWAO	**Narrogin (SRO)**	**2.52**	**22**	*e*PG	**Pg**	**15 33 53.0**	**+2.9**
NWAO	**Narrogin (SRO)**	**2.52**	**22**	*e*S	**Sn**	**15 34 16.6**	**+3.1**
15μm,0.5s							
NWAO				*e*		15 34 28.1	
NWAO	**Narrogin (SRO)**	**2.52**	**22**	Pn	**Pn**	**15 33 46.1**	**+3.4**
41nm,0.3s,baz=201,slow=8.9,SNR=328							
NWAO				Pg	**Pg**	**15 33 53.0**	**+2.9**
95nm,0.3s,baz=210,slow=13,SNR=43							
NWAO				Sn	**Sn**	**15 34 16.7**	**+3.2**
540nm,0.3s,baz=114,slow=16,SNR=22							
NWAO				Lg		15 34 27.3	
2μm,0.3s,baz=118,slow=21,SNR=5.9							
NWAO				LR	LR	15 35 02.2	
comp=Z,606nm,18.1s,baz=77,slow=44							
NWAO	**Narrogin (SRO)**	**2.52**	**22**	⇑*i*P	**Pn**	**15 33 46.0**	**+3.3**
NWAO				*e*Pg	**Pg**	**15 33 53.0**	**+2.9**
NWAO				*e*S	**Sn**	**15 34 16.6**	**+3.1**
NWAO				*e*		15 34 28.1	
MUN	**Mundaring**	**3.29**	**2**	*e*P	**Pn**	**15 33 55.5**	**+2.2**
MUN				*e*S	**Sn**	**15 34 33.2**	**+0.8**
KLBR	**Kellerberrin**	**3.92**	**21**	*e*P	**Pn**	**15 34 04.7**	**+2.7**
KLBR				*e*S	**Sn**	**15 34 47.4**	**-0.7**
300nm,0.2s							
BLDU	**Ballidu**	**4.67**	**6**	*e*P	**Pn**	**15 34 14.0**	**+1.7**
BLDU				*e*S	**Sn**	**15 35 05.9**	**-0.7**
225nm,1.0s							
MORW	**Morawa**	**6.19**	**360**	*e*P	**Pn**	**15 34 33.9**	**+0.8**
MORW				*e*S	**Sn**	**15 35 41.9**	**-2.0**
106nm,0.3s							
MORW	**Morawa**	**6.19**	**360**	*e*P	**Pn**	**15 34 33.9**	**+0.8**
106nm,0.3s							
MORW				*e*S	**Sn**	**15 35 41.9**	**-2.0**
KMBL	**Kambalda**	**6.21**	**53**	*e*P	**Pn**	**15 34 34.9**	**+1.4**
KMBL				*e*S	**Sn**	**15 35 41.4**	**-3.2**
858nm,0.3s							
KMBL	**Kambalda**	**6.21**	**53**	*e*P	**Pn**	**15 34 34.9**	**+1.4**
858nm,0.3s							
KMBL				*e*S	**Sn**	**15 35 41.4**	**-3.2**
MEEK	**Meekatharra**	**8.87**	**15**	*e*P	**Pn**	**15 35 10.3**	**+0.3**
MEEK				*e*S	**Sn**	**15 36 41.6**	**-8.5**
124nm,0.3s							
MEEK	**Meekatharra**	**8.87**	**15**	*e*P	**Pn**	**15 35 10.3**	**+0.3**
124nm,0.3s							
MEEK				*e*S	**Sn**	**15 36 41.6**	**-8.5**
FORT	**Forrest**	**10.99**	**69**	⇑*i*P	**Pn**	**15 35 39.2**	**+0.2**
FORT				*e*S	**Sn**	**15 37 35.4**	**-6.7**
132nm,0.4s							
FORT	**Forrest**	**10.99**	**69**	⇑*i*P	**Pn**	**15 35 39.2**	**+0.2**
132nm,0.4s							
FORT				*e*S	**Sn**	**15 37 35.4**	**-6.7**
MBWA	**Marble Bar**	**14.42**	**14**	*e*Pn	**Pn**	**15 36 21.9**	**-4.0**
31nm,0.7s							
MBWA				*e*Sn	**Sn**	**15 38 51.6**	**-14**
FITZ	**Fitzroy Crossi**	**19.09**	**29**	*e*P	**Pn**	**15 37 23.0**	**-2.3**
FITZ				*e*S	**Sn**	**15 40 39.9**	**-19**
16nm,0.5s							
FITZ	**Fitzroy Crossi**	**19.09**	**29**	P	**Pn**	**15 37 23.0**	**-2.3**
1.0nm,0.3s,baz=200,slow=12,SNR=31							
FITZ				S	**Sn**	**15 40 42.4**	**-17**
1.4nm,0.3s,baz=322,slow=22,SNR=3.8							
FITZ	**Fitzroy Crossi**	**19.09**	**29**	*e*P	**Pn**	**15 37 23.0**	**-2.3**
16nm,0.5s							
FITZ				*e*S	**Sn**	**15 40 39.9**	**-19**
ASAR	**Alice Springs**	**19.31**	**58**	P	**Pn**	**15 37 26.5**	**-1.5**
1.9nm,0.3s,baz=231,slow=12,SNR=130							
ASAR				S	**Sn**	**15 40 47.9**	**-17**
1.6nm,0.3s,baz=235,slow=23,SNR=21							
STKA	**Stephens Creek**	**21.50**	**88**	⇓*i*P	**P**	**15 37 52.4**	**+1.7**
STKA	**Stephens Creek**	**21.50**	**88**	P	**P**	**15 37 52.3**	**+1.7**
4.6nm,0.5s,mb4.0,baz=264,slow=7.6,SNR=25							
WRA	**Warramunga Arr**	**22.18**	**51**	P	**P**	**15 37 59.3**	**+1.3**
7.1nm,0.5s,mb4.3,baz=222,slow=13,SNR=53							
WRA				S	**S**	**15 41 55.6**	**-6.8**
5.3nm,0.6s,baz=219,slow=22,SNR=7.1							
WB2	**Warramunga Arr**	**22.19**	**51**	*e*P	**P**	**15 37 59.5**	**+1.4**
WB2				*e*S	**S**	**15 41 53.1**	**-9.5**
WRAB	**Tennant Creek**	**22.19**	**51**	*e*P	**P**	**15 37 59.6**	**+1.5**
8.7nm,0.5s,mb4.4							
WRAB				*e*S	**S**	**15 41 50.0**	**-13**
KAKA	**Kakadu**	**26.89**	**37**	*e*P	**P**	**15 38 48.5**	**+5.6**
QSPA	**South Pole Qui**	**54.85**	**180**	P	**P**	**15 42 29.5**	**-2.1**
4.5nm,0.7s,mb4.6,baz=317,slow=2.7,SNR=32							
CMAR	**Chiang Mai Arr**	**55.86**	**340**	P	**P**	**15 42 39.2**	**-0.2**
3.4nm,0.9s,mb4.4,baz=184,slow=6.3,SNR=26							
XAN	**Xi'an**	**69.28**	**354**	P	**P**	**15 44 08.5**	**-0.4**
XAN				AP	pP	15 44 16.5	+4.4
XAN				AMB	AMB		
comp=Z,7.0nm,0.8s,mb4.6							
XAN				AMB	AMB		
comp=Z,23nm,5.7s							
LZH	**Lanzhou**	**71.91**	**350**	*e*P	**P**	**15 44 25.3**	**+0.4**
LZH				AP	pP	15 44 34.5	+6.4
LZH				XP	sP	15 44 38.0	+8.7
LZH				AMB	AMB		
comp=Z,15nm,1.3s,mb4.8							
LZH				AMB	AMB		
comp=Z,62nm,4.3s							
KSRS	**Korea Array**	**73.19**	**10**	P	**P**	**15 44 33.0**	**+0.5**
comp=Z,0.6nm,0.7s,mb3.6,baz=187,slow=4.9,SNR=5.0							
MJAR	**Matsushiro Arr**	**74.35**	**18**	P	**P**	**15 44 39.3**	**0.0**
comp=Z,2.4nm,0.7s,mb4.2,baz=190,slow=6.9,SNR=7.9							
GTA	**Gaotai**	**75.82**	**347**	P	**P**	**15 44 48.0**	**+0.3**
GTA				AP	pP	15 44 57.3	+6.3
GTA				XP	sP	15 45 01.0	+8.8
GTA				AMB	AMB		
comp=Z,8.0nm,0.8s,mb4.7							
SONM	**Songino Array**	**83.19**	**353**	P	**P**	**15 45 27.4**	**-0.2**
comp=Z,2.4nm,0.8s,mb4.3,baz=173,slow=5.5,SNR=15							
UCH	**Uchtor**	**86.00**	**330**	*e*P	**P**	**15 45 40.9**	**-1.2**
comp=Z,20nm,2.1s,mb5.0							
MKAR	**Makanchi Array**	**87.17**	**337**	P	**P**	**15 45 44.9**	**-2.7**
comp=Z,0.1nm,0.3s,mb3.6,baz=151,slow=6.3,SNR=3.5							
MKAR	**Makanchi Array**	**87.17**	**337**	P	**P**	**15 45 44.9**	**-2.7**
TORD	**Torodi Ar. Bea**	**117.34**	**267**	PKP	PKPdf	15 51 44.8	-3.1
comp=Z,0.4nm,1.0s,baz=111,slow=1.4,SNR=3.6							
NVAR	**Mina Array Bea**	**136.88**	**69**	PKP	PKPdf	15 52 25.1	+0.6
comp=Z,0.1nm,0.4s,baz=240,slow=2.9,SNR=3.6							
PDAR	**Pinedale Array**	**144.10**	**64**	PKP	PKPdf	15 52 35.4	-2.0
comp=Z,2.2nm,0.8s,baz=217,slow=1.5,SNR=16							
ANMO	**Albuquerque**	**145.38**	**78**	PKPbc	PKPbc	15 52 39.6	-0.1
comp=Z,3.4nm,0.8s,baz=265,slow=6.3,SNR=7.5							
TXAR	**Lajitas Array**	**146.04**	**89**	PKPbc	PKPbc	15 52 41.8	-0.2
comp=Z,1.2nm,0.8s,baz=221,slow=5.3,SNR=11							

JMA 28 15:49:31.3±0.2,2843N×14044E,h440km,M3.6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.04**	**130**	P	P	15 50 30.8	-0.4
CBIJ				S	S	15 51 19.1	-0.5
JHHJ	**Haha-jima-NKT**	**2.37**	**139**	P	P	15 50 34.0	+0.8
JHHJ				S	S	15 51 22.8	-0.4
JHJ2	**Mitsune**	**4.70**	**354**	P	P	15 50 52.9	+0.8
JHJ2				*e*S	S	15 51 57.6	-0.4
BSO1	**Boso 1**	**6.22**	**4**	*e*S	S	15 52 25.1	-0.9
JIE	**Ise**	**6.75**	**333**	P	P	15 51 14.0	+1.1
JYT	**Yasato**	**7.78**	**359**	P	P	15 51 25.3	+1.3
JHO	**Hitachi**	**8.16**	**1**	P	P	15 51 30.3	+2.2
JHO				*e*S	S	15 53 02.7	-1.3

ISCJB ***28*** *15:57:41.2±0.2,4517N±001×648E±002,h10km±2km, Error ellipse: s-maj=2.2km s-min=1.8km az=135.1*
GEN ***28*** *15:57:42.0,4516N×647E,h4km,ML2.0*
NEIC ***28*** *15:57:42.9,4516N×647E,h10km,MD2.5(ROM), ML2.6(STR),ML2.7(LDG),After STR.*
CSEM ***28*** *15:57:42.6±0.1,4515N×656E,h5km,ML2.8/17,Error ellipse: s-maj=1.0km s-min=0.9km az=49.0*
STR ***28*** *15:57:42.9±0.3,4516N×647E,h10km,Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ROM ***28*** *15:57:43.0±0.3,4514N×660E,h8km±1km,Md2.5/10, Ml1.9/8,Error ellipse: s-maj=4.3km s-min=1.8km az=89.0*
LDG ***28*** *15:57:43.6±0.1,4517N×648E,h2km,Md2.7/4,Ml2.7/18, Error ellipse: s-maj=1.5km s-min=0.9km az=55.0*

ISC 28 15:57:42.2±0.2,4517N±001×649E±002,h13km±2km,n90, σ0§95/186,2C,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNI	**Bardonecchia**	**0.18**	**132**	⇑*i*Pg	**Pg**	**15 57 45.8**	**-0.5**
BNI				Sg	**Sg**	**15 57 48.0**	**-1.1**
340nm,0.3s							
GDM	**Grand'Maison**	**0.27**	**277**	Pg	**Pg**	**15 57 48.1**	**+0.3**
GDM				Sg	**Sg**	**15 57 52.1**	**+0.5**
RRL	**Rocca Remolon**	**0.33**	**140**	P	**Pg**	**15 57 48.6**	**-0.2**
LPG	**La Plagne**	**0.37**	**29**	*e*Pg	**Pg**	**15 57 50.0**	**+0.3**
LPG				*e*Sg	**Sg**	**15 57 56.0**	**+1.2**
27nm,0.2s							
LPG	**La Plagne**	**0.37**	**29**	*e*Pg	**Pg**	**15 57 50.0**	**+0.3**
LPG				*e*Sg	**Sg**	**15 57 56.0**	**+1.2**
14nm,0.2s							
LPL	**La Plagne**	**0.38**	**26**	*e*Pg	**Pg**	**15 57 50.3**	**+0.4**
LPL				*e*Sg	**Sg**	**15 57 56.3**	**+1.2**
42nm,0.2s							
LPL	**La Plagne**	**0.38**	**26**	*e*Pg	**Pg**	**15 57 50.3**	**+0.4**
LPL				*e*Sg	**Sg**	**15 57 56.3**	**+1.2**
21nm,0.2s							
MBDF	**Montbardon**	**0.49**	**156**	*e*Pg	**Pg**	**15 57 51.4**	**-0.4**
MBDF				*e*Sg	**Sg**	**15 57 57.9**	**-0.4**
119nm,0.4s							
MBDF	**Montbardon**	**0.49**	**156**	*e*Pg	**Pg**	**15 57 51.4**	**-0.4**
MBDF				*e*Sg	**Sg**	**15 57 57.9**	**-0.4**
60nm,0.4s							
ORIF	**Oris-en-Rattie**	**0.50**	**240**	*e*Pg	**Pg**	**15 57 52.1**	**0.0**
SNR=1.0							
ORIF				*e*Sg	**Sg**	**15 57 58.1**	**-0.7**
115nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.50**	**240**	*e*Pg	**Pg**	**15 57 52.1**	**0.0**
SNR=1.0							
ORIF				*e*Sg	**Sg**	**15 57 58.1**	**-0.7**
58nm,0.3s							
GRN	**Grenoble**	**0.53**	**278**	Pg	**Pg**	**15 57 53.7**	**+1.0**
GRN				Sg	**Sg**	**15 58 00.7**	**+0.9**
RSP	**Reno Superiore**	**0.54**	**92**	⇑*i*Pg	**Pg**	**15 57 52.9**	**+0.1**
RSP				Sg	**Sg**	**15 58 00.4**	**+0.4**
71nm,0.2s							
LSD	**Lago del Serru**	**0.55**	**58**	Pg	**Pg**	**15 57 52.8**	**-0.2**
LSD				Sg	**Sg**	**15 57 59.8**	**-0.5**
68nm,0.4s							
MRGE	**Morge**	**0.72**	**34**	Pg	**Pg**	**15 57 56.9**	**+0.7**
31nm,0.9s							
SURF	**Saint Ours**	**0.73**	**162**	Pg	**Pg**	**15 57 56.1**	**-0.2**
SURF				Sg	**Sg**	**15 58 05.8**	**-0.1**
DOI	**San Damiano**	**0.86**	**141**	Pg	**Pg**	**15 57 57.8**	**-1.0**
DOI				Sg	**Sg**	**15 58 09.2**	**-0.8**
91nm,0.4s							
TRAV	**Traversella**	**0.95**	**68**	Pg	**Pg**	**15 58 00.5**	**0.0**
TRAV				Sg	**Sg**	**15 58 12.5**	**-0.4**
33nm,0.3s							
TRAV	**Traversella**	**0.95**	**68**	Pg	**Pg**	**15 58 00.5**	**0.0**
TRAV				S	**Sg**	**15 58 12.3**	**-0.6**
OCF	**Saint Nazaire**	**1.03**	**235**	Pg	**Pg**	**15 58 02.9**	**+0.7**
OCF				Sg	**Sg**	**15 58 17.2**	**+1.6**
OG26	**St.-Nazaire-De**	**1.03**	**235**	Pg	**Pg**	**15 58 02.9**	**+0.7**
OG26				Sg	**Sg**	**15 58 17.2**	**+1.6**
STV	**Sant Anna di V**	**1.10**	**147**	Pg	**Pg**	**15 58 02.9**	**-0.5**
STV				Sg	**Sg**	**15 58 16.8**	**-0.9**
34nm,0.7s							
ORO	**Oropa**	**1.14**	**66**	Pg	**Pg**	**15 58 04.2**	**-0.1**
23nm,0.2s							
ENR	**Entracque**	**1.15**	**145**	P	**Pb**	**15 58 02.9**	**-1.1**
ENR				S	**Sb**	**15 58 16.8**	**-2.1**
TOUF	**Mont Tournerai**	**1.28**	**155**	Pg	**Pg**	**15 58 06.5**	**-0.3**
VIVF	**Saint-Julien-l**	**1.33**	**257**	*e*Pg	**Pg**	**15 58 08.3**	**+0.5**
SNR=1.0							
VIVF				*e*Sg	**Sg**	**15 58 25.4**	**+0.3**
32nm,0.2s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.33**	**257**	*e*Pg	**Pg**	**15 58 08.3**	**+0.5**
SNR=1.0							
VIVF				*e*Sg	**Sg**	**15 58 25.4**	**+0.3**
16nm,0.2s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.33**	**257**	*e*Pn	**Pn**	**15 58 07.2**	**+0.7**
VIVF				*e*Pg	**Pg**	**15 58 08.3**	**+0.5**
VIVF				*e*Sg	**Sg**	**15 58 25.4**	**+0.3**
AUTN	**L'Aution**	**1.35**	**150**	Pg	**Pg**	**15 58 09.0**	**+0.8**
MVIF	**Mont Vial**	**1.36**	**159**	Pg	**Pg**	**15 58 09.3**	**+0.9**
SMRF	**Simiane la Rot**	**1.36**	**209**	*e*Pg	**Pg**	**15 58 09.3**	**+0.9**
SMRF				*e*Sg	**Sg**	**15 58 26.9**	**+0.8**
13nm,0.4s,SNR=1.0							
SMRF	**Simiane la Rot**	**1.36**	**209**	*e*Pg	**Pg**	**15 58 09.3**	**+0.9**
SMRF				*e*Sg	**Sg**	**15 58 26.9**	**+0.8**
6.7nm,0.4s,SNR=1.0							
SMRF	**Simiane la Rot**	**1.36**	**209**	*e*Pn	**Pn**	**15 58 08.0**	**+1.1**
SMRF				*e*Pg	**Pg**	**15 58 09.3**	**+0.9**
SMRF				*e*Sg	**Sg**	**15 58 26.9**	**+0.8**
SSB	**Saint Sauveur**	**1.38**	**275**	Pg	**Pg**	**15 58 08.3**	**-0.5**
SSB				Sg	**Sg**	**15 58 27.5**	**+0.7**
SAOF	**Saorge**	**1.41**	**147**	Pg	**Pg**	**15 58 09.6**	**+0.3**
SAOF				Sg	**Sg**	**15 58 28.0**	**+0.5**
LUCF	**Luceram**	**1.42**	**154**	Pg	**Pg**	**15 58 10.2**	**+0.7**
LUCF				S

SMF	**Signal de Mont**	**2.37**	**309**	*e*Pg		**Pg**	**15 58 27.3**	**-0.3**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**15 58 56.6**	**-1.7**
	8.0nm,0.2s,SNR=1.0							
SMF	**Signal de Mont**	**2.37**	**309**	*e*P		**Pn**	**15 58 23.9**	**+3.2**
	SNR=1.0							
SMF	**Signal de Mont**	**2.37**	**309**	*e*Pg		**Pg**	**15 58 27.3**	**-0.3**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**15 58 56.6**	**-1.7**
	4.0nm,0.2s,SNR=1.0							
SMF	**Signal de Mont**	**2.37**	**309**	*e*Pn		**Pn**	**15 58 21.4**	**+0.7**
SMF				*e*P			15 58 23.9	
SMF				*e*Pg		**Pg**	**15 58 27.3**	**-0.3**
SMF				*e*Sg		**Sg**	**15 58 56.6**	**-1.7**
AGO	**Saint Agoulin**	**2.52**	**292**	Pg		**Pg**	**15 58 30.6**	**+0.1**
PYM	**Petit Puy Mans**	**2.52**	**285**	Pg		**Pg**	**15 58 29.4**	**-1.1**
HINF	**Hinteralfeld**	**2.66**	**5**	*e*Sg		**Sg**	**15 59 09.1**	**+1.5**
	3.6nm,0.2s,SNR=1.0							
HINF	**Hinteralfeld**	**2.66**	**5**	*e*Sg		**Sg**	**15 59 09.1**	**+1.5**
	1.8nm,0.2s,SNR=1.0							
AVF	**Avril sur Loir**	**2.72**	**308**	*e*Pg		**Pg**	**15 58 33.7**	**-0.7**
	SNR=1.0							
AVF				*e*Sg		**Sg**	**15 59 08.1**	**-1.6**
	4.6nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**2.72**	**308**	*e*Pg		**Pg**	**15 58 33.7**	**-0.7**
	SNR=1.0							
AVF				*e*Sg		**Sg**	**15 59 08.1**	**-1.6**
	2.3nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**2.72**	**308**	*e*Pn		**Pn**	**15 58 26.6**	**+1.0**
AVF				*e*Pg		**Pg**	**15 58 33.7**	**-0.7**
AVF				*e*Sg		**Sg**	**15 59 08.1**	**-1.6**
LOR	**Lormes**	**2.78**	**320**	*e*Pg		**Pg**	**15 58 34.5**	**-1.0**
	SNR=1.0							
LOR				*e*Sg		**Sg**	**15 59 10.6**	**-1.0**
	5.8nm,0.3s,SNR=1.0							
LOR	**Lormes**	**2.78**	**320**	*e*Pg		**Pg**	**15 58 34.5**	**-1.0**
	SNR=1.0							
LOR				*e*Sg		**Sg**	**15 59 10.6**	**-1.0**
	2.9nm,0.3s,SNR=1.0							
LOR	**Lormes**	**2.78**	**320**	*e*Pn		**Pn**	**15 58 26.9**	**+0.4**
LOR				*e*Pg		**Pg**	**15 58 34.5**	**-1.0**
LOR				*e*Sg		**Sg**	**15 59 10.6**	**-1.0**
SSF	**Saint Saulge**	**2.81**	**313**	*e*Pg		**Pg**	**15 58 34.5**	**-1.6**
	SNR=1.0							
SSF				*e*Sg		**Sg**	**15 59 11.6**	**-0.8**
	3.9nm,0.3s,SNR=1.0							
SSF	**Saint Saulge**	**2.81**	**313**	*e*Pg		**Pg**	**15 58 34.5**	**-1.6**
	SNR=1.0							
SSF				*e*Sg		**Sg**	**15 59 11.6**	**-0.8**
	2.0nm,0.3s,SNR=1.0							
SSF	**Saint Saulge**	**2.81**	**313**	*e*Pn		**Pn**	**15 58 27.7**	**+0.9**
SSF				*e*Pg		**Pg**	**15 58 34.5**	**-1.6**
SSF				*e*Sg		**Sg**	**15 59 11.6**	**-0.8**
HAU	**Haudompre**	**2.84**	**358**	*e*Pg		**Pg**	**15 58 37.5**	**+0.9**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**15 59 12.6**	**-0.7**
	7.5nm,0.2s,SNR=1.0							
HAU	**Haudompre**	**2.84**	**358**	*e*Pg		**Pg**	**15 58 37.5**	**+0.9**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**15 59 12.6**	**-0.7**
	3.8nm,0.2s,SNR=1.0							
BGF	**Bois d'Agland**	**2.90**	**300**	*e*Pg		**Pg**	**15 58 37.3**	**-0.5**
	SNR=1.0							
BGF				*e*Sg		**Sg**	**15 59 15.1**	**-0.3**
	10nm,0.3s,SNR=1.0							
BGF	**Bois d'Agland**	**2.90**	**300**	*e*Pg		**Pg**	**15 58 37.3**	**-0.5**
	SNR=1.0							
BGF				*e*Sg		**Sg**	**15 59 15.1**	**-0.3**
	5.2nm,0.3s,SNR=1.0							
BGF	**Bois d'Agland**	**2.90**	**300**	*e*Pn		**Pn**	**15 58 29.0**	**+0.9**
BGF				*e*Pg		**Pg**	**15 58 37.3**	**-0.5**
BGF				*e*Sg		**Sg**	**15 59 15.1**	**-0.3**
CAF	**Calviac**	**3.15**	**267**	*e*Pg		**Pg**	**15 58 41.6**	**-1.0**
	SNR=1.0							
CAF				*e*Sg		**Sg**	**15 59 21.6**	**-1.7**
	3.8nm,0.4s,SNR=1.0							
CAF	**Calviac**	**3.15**	**267**	*e*Pg		**Pg**	**15 58 41.6**	**-1.0**
	SNR=1.0							
CAF				*e*Sg		**Sg**	**15 59 21.6**	**-1.7**
	1.9nm,0.4s,SNR=1.0							
CAF	**Calviac**	**3.15**	**267**	*e*Pn		**Pn**	**15 58 32.5**	**+1.0**
CAF				*e*Pg		**Pg**	**15 58 41.6**	**-1.0**
CAF				*e*Sg		**Sg**	**15 59 21.6**	**-1.7**
MTLF	**Montolieu**	**3.58**	**241**	*e*Pg		**Pg**	**15 58 49.3**	**-1.4**
MTLF				*e*Sg		**Sg**	**15 59 35.1**	**-1.9**
	2.2nm,0.3s							
MTLF	**Montolieu**	**3.58**	**241**	*e*Pg		**Pg**	**15 58 49.3**	**-1.4**
MTLF				*e*Sg		**Sg**	**15 59 35.1**	**-1.9**
	1.1nm,0.3s							
LFF	**La Frestale**	**4.08**	**269**	*e*Pg		**Pg**	**15 58 58.6**	**-1.8**
	SNR=1.0							

IDC 28 16:13:24.8±4.0,342S×15026E,h0km,mb3.4/3,mb1 3.7/3, mb1mx3.5/14,mbtmp3.5/3,MS3.0/2,Ms1 3.0/2, ms1mx2.8/19,Error ellipse: s-maj=100.6km s-min=37.3km az=95.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**11.33**	**122**	LR	LR	16 19 54.3	
	comp=Z,153nm,20.6s,baz=357,slow=34						
GUMO	**Guam**	**17.72**	**343**	LR	LR	16 23 32.5	
	comp=Z,25nm,20.3s,baz=271,slow=34						
WRA	**Warramunga Arr**	**22.61**	**222**	P	P	16 18 26.9	-0.3
	1.8nm,0.7s,baz=48,slow=10,SNR=12						
ASAR	**Alice Springs**	**25.59**	**217**	P	P	16 18 56.4	+0.5
	0.5nm,0.6s,baz=52,slow=8.9,SNR=13						
FITZ	**Fitzroy Crossi**	**28.19**	**237**	P	P	16 19 23.3	+4.0
	1.0nm,0.6s,baz=49,slow=11,SNR=4.9						
CMAR	**Chiang Mai Arr**	**55.00**	**295**	P	P	16 22 58.2	-0.2
	0.6nm,0.9s,baz=116,slow=5.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**147.47**	**289**	PKPbc	PKPbc	16 33 11.2	-0.7
	0.4nm,0.7s,baz=82,slow=2.2,SNR=2.7						

*IDC **28** 16:21:28.5±0.5,5128N×17804W,h0km,mb4.1/24, mb1 4.3/26,mb1mx4.2/29,mbtmp4.1/26,ML4.4/2,MS3.8/16, Ms1 3.8/16,ms1mx3.6/37,Error ellipse: s-maj=18.1km s-min=11.1km az=161.0*

*MOS **28** 16:21:32.4±1.2,5123N×17808W,h33km,mb4.6/14,Error ellipse: s-maj=11.4km s-min=8.7km az=83.5*

*ISCJB **28** 16:21:33.5±0.7,5125N±005×17807W±003,h39km±6km, mb4.5/72,MS3.9/23,Error ellipse: s-maj=9.1km s-min=3.1km az=0.1*

*BJI **28** 16:21:33.0,5140N×17844W,h29km,mB4.8,mb4.6,Ms4.5, Msz4.1*

*NEIC **28** 16:21:35.1±0.8,5121N×178.13W,h45km±6km,mb4.4/32, ML4.5(AEIC),Error ellipse: s-maj=9.1km s-min=4.3km az=175.0*

ISC 28 16:21:36.1±0.7,5129N±005×17809W±003,h47km±5km, h36km±.6km;pP-P,n296,σ0982/292,mb4.5/72,MS3.9/23, 60C-68D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.64**	**274**	P	**Pn**	**16 21 59.8**	**-2.6**
AMKA				S	**Sn**	**16 22 21.5**	**-0.9**
SMY	**Shemya**	**5.04**	**290**	P	**Pn**	**16 22 48.7**	**-0.3**
SMY				S	**Sn**	**16 23 48.5**	**+2.6**
NIKO	**Nikolski**	**5.93**	**70**	P	**Pn**	**16 23 00.4**	**-0.9**
OKCE	**Okmok Cone E**	**6.45**	**67**	P	**Pn**	**16 23 08.8**	**+0.5**
SPIA	**Saint Paul Isl**	**7.47**	**35**	P	**Pn**	**16 23 23.5**	**+1.1**
UNV	**Unalaska Valle**	**7.51**	**66**	P	**Pn**	**16 23 22.8**	**-0.1**
SDPT	**Sand Point**	**11.28**	**62**	*e*P	**Pn**	**16 24 14.7**	**+0.2**
PET	**Petropavlovsk**	**14.37**	**286**	*e*P	**Pn**	**16 24 59.3**	**+2.7**
PET				*e*S	**Sn**	**16 27 38.0**	**+3.7**
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
PETK	**Petropavlovsk-**	**14.94**	**286**	Pn	**Pn**	**16 25 01.3**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=91,slow=16,SNR=3.2						
OHAK	**Old Harbor**	**15.61**	**58**	*e*P	**Pn**	**16 25 10.6**	**-2.0**
	comp=Z,13nm,0.4s						
SVW2	**Sparrevohn**	**15.83**	**43**	*e*P	**Pn**	**16 25 19.0**	**+3.5**
KDAK	**Kodiak Island**	**16.10**	**56**	Pn	**Pn**	**16 25 14.8**	**-4.1**
	comp=Z,9.8nm,0.3s,baz=273,slow=8.1,SNR=14						
KDAK				Sn	**Sn**	**16 28 15.6**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=267,slow=19,SNR=3.8						
KDAK	**Kodiak Island**	**16.10**	**56**	*e*P	**Pn**	**16 25 14.5**	**-4.4**
	comp=Z,20nm,0.4s						
TTA	**Tatalina**	**16.61**	**37**	*e*P	**Pn**	**16 25 28.8**	**+3.5**
SLKM	**Skilak Lake**	**18.01**	**48**	*e*P	**Pn**	**16 25 41.2**	**-1.4**
PPLA	**Purkeypile**	**18.09**	**40**	*e*P	**Pn**	**16 25 45.2**	**+1.6**
	comp=Z,13nm,0.5s						
SEW	**Seward**	**18.26**	**50**	*e*P	**Pn**	**16 25 42.7**	**-2.9**
RC01	**Rabbit Creek A**	**18.43**	**47**	*e*P	**Pn**	**16 25 47.9**	**+0.2**
BILL	**Bilibino**	**18.46**	**341**	*e*P	**Pn**	**16 25 50.4**	**+2.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s						
BILL	**Bilibino**	**18.46**	**341**	*e*P	**Pn**	**16 25 49.5**	**+1.5**
	comp=Z,17nm,0.4s						
KTH	**Kantishna Hill**	**18.91**	**39**	*e*P	**Pn**	**16 25 52.7**	**-0.7**
	comp=Z,21nm,0.8s						
TRF	**Thorofare Moun**	**19.12**	**40**	*e*P	**Pn**	**16 25 54.3**	**-1.6**
	comp=Z,23nm,0.8s						
IMA2	**Indian Mountai**	**19.30**	**31**	*e*P	**Pn**	**16 25 58.1**	**+0.1**
MCK	**McKinley**	**19.78**	**40**	*e*P	**Pn**	**16 26 02.0**	**-1.8**
MCK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MCK	**McKinley**	**19.78**	**40**	*e*P	**Pn**	**16 26 02.0**	**-1.9**
	comp=Z,8.2nm,0.5s						
DIV	**Divide**	**20.28**	**48**	*e*P	**P**	**16 26 07.8**	**+0.4**
	comp=Z,14nm,0.4s						
RAGM	**Ragged Mountai**	**20.64**	**51**	*e*P	**P**	**16 26 13.5**	**+2.2**
COLA	**College**	**20.71**	**37**	*e*P	**P**	**16 26 13.7**	**+1.7**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
COLA	**College**	**20.71**	**37**	*e*P	**P**	**16 26 13.7**	**+1.7**
	comp=Z,8.5nm,0.6s						
BMRM	**Bremner River**	**20.80**	**49**	*e*P	**P**	**16 26 14.9**	**+2.0**
COLD	**Coldfoot**	**21.10**	**30**	*e*P	**P**	**16 26 16.8**	**+0.6**
	comp=Z,79nm,0.8s,mb5.1						
EGAK	**Eagle**	**23.32**	**41**	*e*P	**P**	**16 26 37.9**	**-1.9**
	comp=Z,7.9nm,0.6s,mb4.3						
DAWY	**Dawson**	**23.87**	**43**	*e*P	**P**	**16 26 43.7**	**-1.0**
YSS	**Yuzh-Sakhalins**	**25.77**	**276**	*e*P	**P**	**16 27 02.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**25.77**	**276**	*e*P	**P**	**16 27 01.9**	**-0.3**
	comp=Z,6.1nm,0.7s,mb4.2						
ASAJ	**Asahikawa**	**27.15**	**270**	P	**P**	**16 27 13.2**	**-1.4**
	comp=Z,3.5nm,0.9s,mb3.9,baz=31,slow=12,SNR=2.8						
ASAJ				LR	LR	16 37 25.7	
	comp=Z,130nm,19.5s,MS3.5,baz=160,slow=35						
ASAJ	**Asahikawa**	**27.15**	**270**	P	**P**	**16 27 13.3**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,131nm,19.5s						
KLR	**Kul'dur**	**31.64**	**286**	*e*P	**P**	**16 27 49.8**	**-4.6**
MJAR	**Matsushiro Arr**	**34.21**	**262**	P	**P**	**16 28 16.9**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=52,slow=6.5,SNR=4.0						
MJAR				LR	LR	16 40 15.0	
	comp=Z,177nm,21.2s,MS3.8,baz=75,slow=33						
YKA	**Yellowknife Ar**	**34.97**	**46**	P	**P**	**16 28 20.6**	**-2.6**
	comp=Z,1.3nm,0.6s,mb4.1,baz=274,slow=9.4,SNR=3.6						
YKA				LR	LR	16 44 28.0	
	comp=Z,57nm,18.2s,MS3.4,baz=170,slow=40						
B05A	**Bryant**	**35.54**	**72**	⇓P	**P**	**16 28 29.0**	**+0.7**
	baz=36						
A07A	**Ashnola River,**	**36.21**	**70**	⇑P	**P**	**16 28 35.1**	**+1.0**
	baz=36,SNR=7.2						
LON	**Longmire**	**36.41**	**74**	*e*P	**P**	**16 28 36.3**	**+0.6**
F04A	**Amboy**	**36.43**	**76**	⇑P	**P**	**16 28 36.5**	**+0.5**
	baz=36						
B07A	**Winthrop**	**36.63**	**71**	⇑P	**P**	**16 28 38.6**	**+1.0**
	baz=36						
ETW	**Entiat**	**36.90**	**72**	*e*P	**P**	**16 28 40.0**	**+0.1**
A08A	**Turner Farm, O**	**36.91**	**70**	⇑P	**P**	**16 28 40.5**	**+0.5**
	baz=37						
C07A	**Waterville**	**37.02**	**72**	⇑P	**P**	**16 28 41.8**	**+0.9**
	baz=37						
B08A	**Colville Reser**	**37.14**	**71**	⇓P	**P**	**16 28 43.1**	**+1.1**
	baz=37						
H04A	**Detroit Lake**	**37.20**	**78**	⇓P	**P**	**16 28 42.3**	**-0.2**
	baz=37						
A09A	**Danville**	**37.31**	**70**	⇑P	**P**	**16 28 44.9**	**+1.5**
	baz=37						
G05A	**Wamic**	**37.45**	**76**	⇓P	**P**	**16 28 45.3**	**+0.7**
	baz=37						
I04A	**Tendick Farm,**	**37.52**	**79**	⇓P	**P**	**16 28 45.9**	**+0.7**
	baz=37						
C08A	**Higginbotham F**	**37.58**	**71**	⇑P	**P**	**16 28 46.5**	**+0.8**
	baz=38						
A10A	**Northport**	**37.91**	**69**	⇓P	**P**	**16 28 49.3**	**+0.9**
	baz=38						
RSW	**Rattlesnake Hi**	**37.92**	**74**	*e*P	**P**	**16 28 49.1**	**+0.5**
D08A	**Wollman Farm,**	**38.00**	**72**	⇑P	**P**	**16 28 49.2**	**0.0**
	baz=38						
CN2	**Changchun**	**38.01**	**281**	*e*P	**P**	**16 28 49.8**	**+0.5**
H06A	**Lindquist Farm**	**38.31**	**77**	⇓P	**P**	**16 28 51.2**	**-0.6**
	baz=38						
YBH	**Yreka Blue Hor**	**38.45**	**82**	P	**P**	**16 28 52.5**	**-0.6**
	comp=Z,1.6nm,0.7s,mb3.9,baz=344,slow=1.5,SNR=3.7						
EDM	**Edmonton**	**38.47**	**61**	*e*P	**P**	**16 28 52.2**	**-0.8**
A11A	**Hall Mountain,**	**38.62**	**68**	⇑P	**P**	**16 28 55.1**	**+0.7**
	baz=38,SNR=7.9						
E09A	**Wood Farm, Sta**	**38.73**	**73**	⇓P	**P**	**16 28 55.7**	**+0.4**
	baz=39						
G08A	**Pilot Rock**	**38.86**	**75**	⇓P	**P**	**16 28 56.7**	**+0.3**
	baz=39						
D10A	**Wagner Farm, O**	**38.99**	**72**	⇑P	**P**	**16 28 57.6**	**+0.1**
	baz=39						
K05A	**Summer Lake**	**39.03**	**80**	⇑P	**P**	**16 28 58.6**	**+0.7**
	baz=39						
I07A	**Izee**	**39.16**	**77**	⇓P	**P**	**16 28 58.9**	**0.0**
	baz=39,SNR=9.3						
J06A	**Christmas Vall**	**39.20**	**78**	⇑P	**P**	**16 28 59.4**	**+0.1**
	baz=39						
E10A	**Myers Farm, Un**	**39.37**	**72**	⇓P	**P**	**16 29 00.9**	**+0.2**
	baz=39						
K06A	**Valley Falls**	**39.39**	**79**	⇓P	**P**	**16 29 00.9**	**+0.1**
	baz=39						
F10A	**Beach Ranch, E**	**39.55**	**73**	⇑P	**P**	**16 29 02.4**	**+0.1**
	baz=40						
J07A	**Hines**	**39.65**	**78**	⇓P	**P**	**16 29 03.0**	**0.0**
	baz=40						
C12B	**Naegeli Ranch,**	**39.73**	**70**	⇓P	**P**	**16 29 03.5**	**-0.2**
	baz=40						
A13A	**Flathead Natio**	**39.76**	**68**	⇓P	**P**	**16 29 03.6**	**-0.3**
	baz=40						
I08A	**Drewsey**	**39.82**	**77**	⇓P	**P**	**16 29 04.6**	**+0.1**
	baz=40,SNR=6.6						
MOD	**Modoc**	**39.85**	**80**	⇓P	**P**	**16 29 04.9**	**+0.2**
	baz=40						
MOD	**Modoc**	**39.85**	**80**	*e*P	**P**	**16 29 05.3**	**+0.6**
	comp=Z,3.9nm,0.6s,mb4.3						
G10A	**Bishop Farm, J**	**39.97**	**74**	⇑P	**P**	**16 29 05.9**	**+0.2**
	baz=40,SNR=5.3						
WALA	**Waterton Lakes**	**39.99**	**67**	*e*P	**P**	**16 29 06.2**	**+0.4**
	comp=Z,3.0nm,0.7s,mb4.1						
K07A	**Rock Creek Ran**	**40.06**	**79**	⇓P	**P**	**16 29 06.6**	**+0.1**
	baz=40,SNR=7.0						
KSRS	**Korea Array**	**40.09**	**271**	P	**P**	**16 29 06.3**	**-0.5**
	comp=Z,1.9nm,0.8s,mb3.9,baz=58,slow=7.3,SNR=7.1						
KSRS				LR	LR	16 43 13.2	
	comp=Z,121nm,21.2s,MS3.7,baz=349,slow=32						
KSRS	**Korea Array**	**40.09**	**271**	P	**P**	**16 29 06.3**	**-0.5**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KSRS				MLR	MLR		
	comp=Z,121nm,21.2s,MS3.7						
D12A	**Red Ives Fores**	**40.13**	**71**	⇓P	**P**	**16 29 07.5**	**+0.5**
	baz=40						
J08A	**Circle Bar Ran**	**40.17**	**77**	⇓P	**P**	**16 29 07.9**	**+0.5**
	baz=40						
C13A	**Hot Springs**	**40.28**	**69**	⇑P	**P**	**16 29 09.0**	**+0.8**
	baz=40						
E12A	**Beaver Dam Sad**	**40.32**	**72**	⇓P	**P**	**16 29 08.4**	**-0.2**
	baz=40						
L07A	**Adell**	**40.38**	**80**	⇓P	**P**	**16 29 09.3**	**+0.2**
	baz=40						
G11A	**Walters Elk Ra**	**40.43**	**73**	⇑P	**P**	**16 29 09.5**	**0.0**
	baz=40						
K08A	**Mann Creek Ran**	**40.51**	**78**	⇓P	**P**	**16 29 10.2**	**0.0**
	baz=40,SNR=6.8						
H10A	**Noah's Angus R**	**40.56**	**75**	⇑P	**P**	**16 29 10.9**	**+0.2**
	baz=40						
WVOR	**Wild Horse Val**	**40.58**	**79**	*e*P	**P**	**16 29 11.7**	**+0.9**
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
WVOR	**Wild Horse Val**	**40.58**	**79**	*e*P	**P**	**16 29 11.7**	**+0.9**
	comp=Z,4.8nm,0.8s,mb4.2						
J09A	**Fry Pan Ranch,**	**40.62**	**77**	⇑P	**P**	**16 29 11.4**	**+0.3**
	baz=40						
D13A	**Huson**	**40.64**	**70**	⇓P	**P**	**16 29 10.9**	**-0.3**
	baz=40						
C14A	**Swan Lake**	**40.72**	**69**	⇑P	**P**	**16 29 11.9**	**+0.1**
	baz=41						
N06A	**Buffalo Meadow**	**40.79**	**81**	⇓P	**P**	**16 29 12.9**	**+0.3**
	baz=41						
M07A	**Soldier Meadow**	**40.84**	**80**	⇑P	**P**	**16 29 13.2**	**+0.3**
	baz=41,SNR=10						
F12A	**Elk City**	**40.85**	**72**	P	**P**	**16 29 12.8**	**-0.2**
	baz=41,SNR=9.0						
BEKR	**Beckwourth**	**40.98**	**83**	⇓P	**P**	**16 29 14.7**	**+0.6**
	baz=41						
D14A	**Greenough**	**41.20**	**70**	⇓P	**P**	**16 29 16.0**	**+0.1**
	baz=41						
N07B	**Gerlach**	**41.31**	**81**	⇑P	**P**	**16 29 17.0**	**+0.1**
	baz=41						
F13A	**Darby**	**41.38**	**72**	⇓P	**P**	**16 29 17.6**	**+0.3**
	baz=41						
CHMT	**Chamberlain Mo**	**41.44**	**70**	*e*P	**P**	**16 29 18.5**	**+0.7**
K10A	**MacKenzie Ranc**	**41.47**	**77**	⇑P	**P**	**16 29 18.1**	**0.0**
	baz=41						
E14A	**Clinton**	**41.55**	**70**	⇑P	**P**	**16 29 18.3**	**-0.5**
	baz=42						
H12A	**Diamond D Ranc**	**41.73**	**74**	⇑P	**P**	**16 29 19.8**	**-0.4**
	baz=42						
D15A	**Lincoln**	**41.80**	**69**	⇓P	**P**	**16 29 21.0**	**+0.3**
	baz=42						
G13A	**Cobalt**	**41.81**	**73**	⇓P	**P**	**16 29 21.0**	**+0.2**
	baz=42						
K11A	**Parker Ranch,**	**41.99**	**76**	⇑P	**P**	**16 29 21.8**	**-0.6**
	baz=42						
E15A	**Deer Lodge**	**42.05**	**70**	⇓P	**P**	**16 29 22.5**	**-0.3**
	baz=42						
L10A	**Juniper Basin**	**42.11**	**78**	⇑P	**P**	**16 29 23.4**	**+0.1**
	baz=42						
N09A	**Rock Creek Ran**	**42.16**	**80**	⇑P	**P**	**16 29 24.3**	**+0.5**
	baz=42						
J12A	**Stokes Ranch,**	**42.29**	**75**	⇑P	**P**	**16 29 24.8**	**0.0**
	baz=42						
M10A	**I.L. Ranch, Tu**	**42.39**	**78**	⇑P	**P**	**16 29 25.1**	**-0.5**
	baz=42						
L11A	**Cat Creek Ranc**	**42.50**	**77**	⇑P	**P**	**16 29 26.2**	**-0.3**
	baz=42,SNR=6.7						
I13A	**Wildhorse Cree**	**42.52**	**74**	⇑P	**P**	**16 29 26.4**	**-0.2**
	baz=42,SNR=9.2						
HLID	**Hailey**	**42.53**	**75**	⇑P	**P**	**16 29 26.7**	**0.0**
	baz=42						
HLID	**Hailey**	**42.53**	**75**	*e*P	**P**	**16 29 26.1**	**-0.6**
	comp=Z,3.6nm,0.9s,mb4.1						
H14A	**Leadore**	**42.59**	**73**	⇓P	**P**	**16 29 27.0**	**-0.1**
	baz=42						
K12A	**Draper Farm, C**	**42.76**	**76**	⇓P	**P**	**16 29 28.5**	**-0.1**
	baz=43						
J13A	**Cove Ranch, Pi**	**42.77**	**75**	⇑P	**P**	**16 29 28.6**	**-0.1**
	baz=43,SNR=6.5						
MCMT	**McKenzie Canyo**	**42.78**	**72**	*e*P	**P**	**16 29 28.6**	**-0.2**
M11A	**Holland Ranch,**	**42.90**	**78**	⇓P	**P**	**16 29 29.9**	**+0.1**
	baz=43						
EGMT	**Eagleton**	**42.91**	**66**	⇓P	**P**	**16 29 30.0**	**+0.3**
	baz=43						
I14A	**Mackay**	**42.91**	**74**	⇑P	**P**	**16 29 29.8**	**0.0**
	baz=43						
L12A	**House Creek Ra**	**42.96**	**77**	⇑P	**P**	**16 29 30.1**	**-0.1**
	baz=43						
BOZ	**Bozeman (W)**	**43.06**	**70**	*e*P	**P**	**16 29 30.3**	**-0.7**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**43.06**	**70**	⇓P	**P**	**16 29 31.0**	**0.0**
	baz=43						
BOZ	**Bozeman (W)**	**43.06**	**70**	*e*P	**P**	**16 29 30.3**	**-0.7**
	comp=Z,2.4nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**43.12**	**83**	P	**P**	**16 29 29.9**	**-1.6**
	comp=Z,0.9nm,0.8s,mb3.5,baz=286,slow=9.9,SNR=7.0						
NVAR	**Mina Array Bea**	**43.12**	**83**	P	**P**	**16 29 29.9**	**-1.6**
J14A	**Carey**	**43.21**	**74**	⇓P	**P**	**16 29 32.5**	**+0.3**
	baz=43						
ELK	**Elko**	**43.64**	**78**	*e*P	**P**	**16 29 36.2**	**+0.5**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ELK	**Elko**	**43.64**	**78**	*e*P	**P**	**16 29 36.2**	**+0.5**
	comp=Z,3.2nm,0.8s,mb4.1						
L13A	**Double Diamond**	**43.65**	**76**	⇑P	**P**	**16 29 35.7**	**-0.1**
	baz=44						
N12A	**Clover Valley,**	**43.70**	**78**	⇑P	**P**	**16 29 36.5**	**+0.3**
	baz=44						
O11A	**Cowboy Ranch,**	**43.74**	**79**	⇓P	**P**	**16 29 37.0**	**+0.5**
	baz=44						
HELL	**Mitchell Peak**	**43.75**	**86**	⇑P	**P**	**16 29 37.0**	**+0.4**
	baz=44						
H16A	**Russell Place,**	**43.80**	**71**	⇓P	**P**	**16 29 37.6**	**+0.7**
	baz=44						
J15A	**Blackfoot**	**43.82**	**74**	⇑P	**P**	**16 29 38.0**	**+0.9**
	baz=44						
M13A	**Montello**	**43.94**	**77**	⇓P	**P**	**16 29 38.2**	**+0.1**
	ba

baz=48,SNR=8.6
R17A Hanksville Air 47.83 78 ⇑P **P 16 30 08.3 -0.5**
baz=48
U15A North Rim 48.10 81 ⇓P **P 16 30 10.6 -0.3**
baz=48
P19A Cripple Cowboy 48.13 76 ⇓P **P 16 30 11.1 -0.1**
baz=48,SNR=8.4
HHC Hu-ho-hao-te 48.15 286 *eP* **P 16 30 11.8 +0.6**
HHC AP pP 16 30 21.8 -2.3
HHC XP sP 16 30 25.3 -4.3
HHC PP PP 16 32 02.8 -0.7
HHC PCS PcS 16 35 34.5 +0.7
HHC S **S 16 37 07.3 +0.8**
HHC XS sS 16 37 24.0 -4.1
HHC SCS ScS 16 39 58.5 -1.3
HHC AMB AMB
comp=Z,14nm,0.7s,mb5.1
HHC AMB AMB
comp=Z,67nm,7.5s
HHC LR LR
comp=N,138nm,16.6s,MS4.3
HHC LR LR
comp=E,236nm,20.2s,MS4.3
HHC LR LR
comp=Z,219nm,19.0s,MS4.2
S17A Black Ridge (B 48.26 79 ⇓P **P 16 30 12.1 -0.1**
baz=48
R18A Canyonlands Na 48.35 78 ⇓P **P 16 30 11.9 -1.0**
baz=48
Q19A Hogan Spring (48.38 77 ⇑P **P 16 30 12.4 -0.7**
baz=48
S18A Hurst Farm, Bl 48.72 78 ⇓P **P 16 30 15.3 -0.4**
baz=49,SNR=8.1
T18A Mexican Hat 49.15 79 ⇑P **P 16 30 18.6 -0.4**
baz=49
S19A Harvey Farm, M 49.22 78 ⇑P **P 16 30 18.8 -0.7**
baz=49,SNR=6.0
PV01 Paradox Valley 49.32 77 *eP* **P 16 30 19.1 -1.1**
ULM Lac du Bonnet 49.36 57 P **P 16 30 19.7 -0.7**
comp=Z,1.4nm,0.5s,mb4.3,baz=328,slow=9.8,SNR=2.6
ULM LR LR 16 51 29.2
comp=Z,90nm,18.1s,MS3.8,baz=275,slow=36
ULM Lac du Bonnet 49.36 57 P **P 16 30 19.7 -0.7**
ULM LR LR 16 51 29.1
T19A Beclabito 49.87 79 ⇓P **P 16 30 23.7 -0.7**
baz=50,SNR=13
SPITS Spitsbergen Ar 50.50 356 P **P 16 30 27.5 -1.2**
comp=Z,1.9nm,0.4s,mb4.5,baz=80,slow=11,SNR=8.2
SDCO Great Sand Dun 51.44 75 *eP* **P 16 30 36.1 -0.1**
comp=Z,2.1nm,0.8s,mb4.1
LAZ Ladron 52.61 80 P **P 16 30 45.4 +0.4**
ZALV Zalesovo Beam 54.42 314 P **P 16 30 58.6 +0.6**
comp=Z,0.4nm,0.3s,mb3.8,baz=35,slow=5.3,SNR=2.8
ZALV PcP PcP 16 32 00.9 -0.1
comp=Z,3.2nm,0.7s,baz=41,slow=4.5,SNR=12
ZALV LR LR 16 55 05.9
comp=Z,78nm,20.3s,MS3.8,baz=244,slow=37
ZAL Zalesovo 54.44 314 P **P 16 30 58.6 +0.5**
ZAL 16 32 01.0
LZH Lanzhou 55.84 287 *eP* **P 16 31 09.5 +1.0**
LZH AP pP 16 31 19.8 -1.8
LZH XP sP 16 31 23.5 -3.5
LZH *eP*PP PP 16 33 15.3 +2.2
LZH AMB AMB
comp=Z,15nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,47nm,6.5s
LZH LR LR
comp=E,213nm,16.3s
LZH LR LR
comp=Z,327nm,18.6s,MS4.4
GTA Gaotai 56.02 292 P **P 16 31 09.5 -0.2**
GTA AP pP 16 31 19.8 -3.0
GTA XP sP 16 31 23.5 -4.8
GTA S **S 16 38 56.5 +2.0**
GTA XS sS 16 39 13.5 -2.9
GTA SS SS 16 42 43.5 +3.0
GTA AMB AMB
comp=Z,10.0nm,1.5s,mb4.6
GTA AMB AMB
comp=Z,74nm,4.2s
GTA LR LR
comp=N,172nm,17.1s,MS4.3
GTA LR LR
comp=E,130nm,18.0s,MS4.3
GTA LR LR
comp=Z,206nm,17.7s,MS4.3
WMOK Wichita Mounta 57.49 74 *eP* **P 16 31 18.5 -1.7**
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
WMOK Wichita Mounta 57.49 74 *eP* **P 16 31 18.5 -1.7**
comp=Z,2.8nm,0.8s,mb4.3
JMIC Jan Mayen 57.80 4 LR LR 16 57 43.0
comp=Z,41nm,19.4s,MS3.5,baz=42,slow=38
TXAR Lajitas Array 58.23 82 P **P 16 31 24.9 -0.5**
comp=Z,0.5nm,0.5s,mb3.8,baz=300,slow=6.3,SNR=7.6
TXAR LR LR 16 53 20.4
comp=Z,64nm,19.1s,MS3.8,baz=330,slow=33
TXAR Lajitas Array 58.23 82 P **P 16 31 24.9 -0.5**
TXAR LR LR 16 53 20.4
ARCES ARCESS Array B 58.26 350 P **P 16 31 23.5 -1.6**
comp=Z,1.4nm,0.6s,mb4.1,baz=23,slow=7.6,SNR=16
CD2 Chengdu 59.43 282 *eP* **P 16 31 34.5 +0.7**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
WMQ Urumqi 59.77 303 *eP* **P 16 31 39.0 +3.1**
WMQ AP pP 16 31 49.0 -0.2
WMQ XP sP 16 31 53.0 -1.6
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.5
SCHQ Schefferville 59.80 39 P **P 16 31 35.1 -0.8**
comp=Z,1.5nm,0.7s,mb4.1,baz=325,slow=12,SNR=2.7
SCHQ LR LR 16 59 11.3
comp=Z,178nm,18.4s,MS4.2,baz=263,slow=38
MKAR Makanchi Array 60.44 309 P **P 16 31 38.8 -1.7**
comp=Z,1.2nm,0.5s,mb4.2,baz=59,slow=5.9,SNR=11
MKAR LR LR 16 58 22.2
comp=Z,117nm,20.7s,MS4.0,baz=35,slow=37
GYA Guiyang 60.78 277 P **P 16 31 42.8 -0.3**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
JOF Joensuu 63.80 345 *ep* **P 16 32 02.2 -0.5**
comp=Z,1.5nm,0.3s,mb4.5
JOF Joensuu 63.80 345 *eP* **P 16 32 02.2 -0.5**
JOF pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
KMI Kunming 64.18 278 P **P 16 32 06.3 +0.5**
KMI AP pP 16 32 17.3 -1.9
KMI XP sP 16 32 21.5 -3.0
KMI PP PP 16 34 29.5 +2.4
KMI S **S 16 40 38.5 -1.1**
KMI XS sS 16 40 56.5 -5.4
KMI SS SS 16 44 49.3 +0.3
KMI AMB AMB
comp=Z,3.0nm,2.0s,mb4.0
KMI AMB AMB
comp=Z,127nm,16.0s
KMI LR LR
comp=N,95nm,11.6s
KMI LR LR
comp=E,143nm,17.9s
KMI LR LR
comp=Z,102nm,16.0s,MS4.1
ELN Prospectdale 66.12 60 P **P 16 32 18.0 -0.2**
NB2 NORSAR Subarra 67.78 355 P **P 16 32 27.9 -0.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=5.0,slow=6.5
NOA NORSAR Array B 67.78 355 P **P 16 32 27.3 -1.1**
comp=Z,1.2nm,0.7s,mb4.0,baz=4.7,slow=6.3,SNR=5.2
NOA LR LR 17 01 08.8
comp=Z,41nm,20.8s,MS3.6,baz=165,slow=35
NOA NORSAR Array B 67.78 355 P **P 16 32 27.3 -1.1**
NOA LR LR 17 01 08.8
LSA Lhasa 67.89 290 P **P 16 32 32.5 +2.9**
LSA Lhasa 67.89 290 *eP* **P 16 32 31.7 +2.1**
LSA pmax pmax
comp=Z,12nm,0.8s,mb5.0
LSA Lhasa 67.89 290 *eP* **P 16 32 31.7 +2.1**
comp=Z,12nm,0.8s,mb5.0
AML Almayashu 68.03 310 *eP* **P 16 32 30.8 +0.5**
comp=Z,2.7nm,0.8s,mb4.3
TAOE Nuku Hiva Isla 68.26 139 *e*LR LR 16 53 09.2
comp=Z,821nm,23.2s
HFS Hagfors 68.53 354 LR LR 17 02 28.8
comp=Z,67nm,19.1s,MS3.9,baz=267,slow=36
SHL Shillong 70.51 287 *ex* **P 16 32 45.0 -0.8**
CMAR Chiang Mai Arr 71.47 276 P **P 16 32 51.1 -0.6**
comp=Z,1.0nm,0.7s,mb3.9,baz=21,slow=6.4,SNR=8.5
CMAR LR LR 17 05 34.6
comp=Z,65nm,20.6s,MS3.9,baz=150,slow=37
TAPN Taplejung 71.66 291 *eP* **P 16 32 53.8 +1.0**
comp=Z,54nm,0.9s,mb5.5
ODAN Odare 72.21 291 *eP* **P 16 32 56.5 +0.4**
comp=Z,14nm,0.8s,mb5.0
GUN Gumba 72.31 293 *eP* **P 16 32 57.3 +0.7**
comp=Z,58nm,0.4s
JIRN Jiri 72.31 292 *eP* **P 16 32 57.6 +0.9**
comp=Z,66nm,0.8s,mb5.6
RAMN Ramite 72.61 291 *eP* **P 16 32 59.1 +0.6**
comp=Z,52nm,0.8s,mb5.5
KKN Kakani 72.74 293 *eP* **P 16 32 59.5 +0.3**
comp=Z,20nm,0.6s,mb5.2
PKI Pulchoki 72.83 293 *eP* **P 16 33 00.1 +0.3**
PKIN Phulchoki 72.84 293 *eP* **P 16 32 59.9 +0.1**
comp=Z,11nm,0.5s,mb5.0
GKN Gorkha 72.95 293 *eP* **P 16 33 01.3 +0.8**
PPT Papeete 72.97 152 *e*LR LR 16 55 18.0
comp=Z,100nm,22.0s
DMN Daman 72.98 293 *eP* **P 16 33 00.8 +0.1**
comp=Z,26nm,0.8s,mb5.2
DANN Dangsing 73.19 294 *eP* **P 16 33 02.3 +0.4**
comp=Z,50nm,0.7s,mb5.5
KOLN Koldanda 73.73 294 *eP* **P 16 33 05.2 +0.2**
comp=Z,21nm,0.9s,mb5.1
AKASG Malin Array Be 75.77 342 P **P 16 33 15.2 -1.3**
comp=Z,1.0nm,0.3s,mb4.2,baz=19,slow=5.9,SNR=9.9
AKASG LR LR 17 09 44.4
comp=Z,50nm,20.9s,MS3.8,baz=15,slow=38
BATI Baumata 79.15 238 P **P 16 33 36.5 +0.7**
comp=Z,17nm,0.8s,mb5.0,baz=66,slow=10.0,SNR=3.0
BURAR Bucovina Array 79.47 344 ⇓*i*P **P 16 33 37.1 0.0**
BURAR Bucovina Array 79.47 344 ⇓P **P 16 33 37.1 0.0**
GERES GERESS Array B 79.74 352 P **P 16 33 38.8 +0.2**
comp=Z,0.7nm,0.8s,mb3.7,baz=25,slow=4.4,SNR=5.5
FLN La Foliniere 80.31 2 *eP* **P 16 33 42.0 +0.3**
FLN *e*MLR MLR
comp=Z,64nm,21.2s,MS3.6
CDF Champ du Feu 80.57 356 *eP* **P 16 33 42.4 -0.7**
DRGR 80.67 346 ⇓*i*P **P 16 33 44.1 +0.4**
DRGR 80.67 346 ⇓P **P 16 33 44.1 +0.4**
GRR Gorron 80.68 2 *eP* **P 16 33 43.0 -0.6**
comp=Z,22nm,0.9s,mb4.8
SGMF Saint Gilles 80.77 3 *eP* **P 16 33 42.0 -2.1**
PLOR Plostina 80.91 343 ⇓*i*P **P 16 33 46.3 +1.4**
HINF Hinteralfeld 81.19 357 *eP* **P 16 33 45.3 -1.1**
comp=Z,4.2nm,0.6s,mb4.2
MLR Muntele Rosu 81.39 343 ⇑*i*P **P 16 33 48.6 +1.1**
MLR Muntele Rosu 81.39 343 ⇑P **P 16 33 48.6 +1.1**
VOIR 81.60 344 ⇓*i*P **P 16 33 49.8 +1.2**
VOIR 81.60 344 ⇓P **P 16 33 49.8 +1.2**
LOR Lormes 81.81 359 *eP* **P 16 33 49.0 -0.7**
LOR *e*MLR MLR
comp=Z,22nm,18.5s,MS3.2
BZS Buzias 81.99 346 ⇓*i*P **P 16 33 50.1 -0.5**
BZS Buzias 81.99 346 ⇓P **P 16 33 50.1 -0.6**
SSF Saint Saulge 82.02 359 *eP* **P 16 33 50.1 -0.7**
WRA Warramunga Arr 82.26 224 P **P 16 33 50.4 -1.8**
comp=Z,0.7nm,0.4s,mb3.9,baz=31,slow=5.8,SNR=23
AVF Avril sur Loir 82.30 359 *eP* **P 16 33 51.5 -0.7**
SMF Signal de Mont 82.43 359 *eP* **P 16 33 51.6 -1.4**
comp=Z,9.1nm,0.7s,mb4.5
SMF Signal de Mont 82.43 359 *eP* **P 16 33 51.6 -1.4**
SMF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SMF Signal de Mont 82.43 359 *eP* **P 16 33 51.6 -1.4**
comp=Z,4.6nm,0.7s,mb4.5
MFF Saint Martin d 82.48 1 *eP* **P 16 33 52.6 -0.6**
comp=Z,10.0nm,0.6s,mb4.6
TCF Toulx Ste Croi 82.81 360 *eP* **P 16 33 54.0 -0.9**
RKT Rikitea 83.21 141 *e*LR LR 17 00 03.2
comp=Z,203nm,27.0s
CAF Calviac 84.17 360 *eP* **P 16 34 01.6 -0.3**
comp=Z,5.5nm,0.6s,mb4.6
CAF Calviac 84.17 360 *eP* **P 16 34 01.6 -0.3**
CAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
CAF Calviac 84.17 360 *eP* **P 16 34 01.6 -0.3**
comp=Z,2.8nm,0.6s,mb4.6
MBDF Montbardon 84.28 357 *eP* **P 16 34 02.5 0.0**
comp=Z,8.9nm,0.9s,mb4.6
MBDF Montbardon 84.28 357 *eP* **P 16 34 02.5 0.0**
MBDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MBDF Montbardon 84.28 357 *eP* **P 16 34 02.5 0.0**
comp=Z,4.4nm,0.9s,mb4.6
VTS Vitosha 84.68 344 ⇑*i*P **P 16 34 04.6 0.0**
VTS Vitosha 84.68 344 ⇑P **P 16 34 04.6 0.0**
FITZ Fitzroy Crossi 84.76 233 P **P 16 34 04.5 -0.7**
comp=Z,1.7nm,0.5s,mb4.4,baz=12,slow=3.3,SNR=14
SMRF Simiane la Rot 85.06 357 *eP* **P 16 34 06.7 +0.3**
comp=Z,16nm,0.9s,mb4.8
SMRF Simiane la Rot 85.06 357 *eP* **P 16 34 06.7 +0.3**
comp=Z,16nm,0.9s,mb5.2
SBF Sospel 85.11 356 *eP* **P 16 34 05.9 -0.8**
comp=Z,28nm,0.9s,mb5.1
SBF Sospel 85.11 356 *eP* **P 16 34 05.9 -0.8**
SBF pmax pmax
comp=Z,14nm,0.9s,mb5.1
SBF Sospel 85.11 356 *eP* **P 16 34 05.9 -0.8**
comp=Z,14nm,0.9s,mb5.1
MALT Malatya 85.21 332 ⇑*i*P **P 16 34 06.8 -0.5**
MALT Malatya 85.21 332 ⇑P **P 16 34 06.8 -0.5**
FRF La Foret Royal 85.44 357 *eP* **P 16 34 08.2 -0.1**
comp=Z,17nm,0.9s,mb4.9
FRF La Foret Royal 85.44 357 *eP* **P 16 34 08.2 -0.1**
FRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
FRF La Foret Royal 85.44 357 *eP* **P 16 34 08.2 -0.1**
comp=Z,8.7nm,0.9s,mb4.9
ASAR Alice Springs 85.72 223 P **P 16 34 08.4 -1.3**
comp=Z,0.9nm,0.5s,mb4.3,baz=24,slow=5.9,SNR=52
MTLF Montolieu 85.75 360 *eP* **P 16 34 09.5 -0.4**
comp=Z,7.2nm,0.9s,mb4.6
EPF Esparros 86.05 1 *eP* **P 16 34 10.2 -1.2**
ETSF Etsaut 86.17 2 *eP* **P 16 34 11.8 -0.2**
PGF Pioggiola 86.34 355 *eP* **P 16 34 12.1 -0.7**
comp=Z,16nm,0.7s,mb5.0
ESDC Sonseca Array 89.27 5 P **P 16 34 26.5 -0.4**
comp=Z,0.5nm,0.4s,mb4.2,baz=347,slow=5.7,SNR=3.5
STKA Stephens Creek 90.09 213 P **P 16 34 29.8 -0.7**
comp=Z,1.5nm,0.5s,mb4.5,baz=323,slow=5.5,SNR=7.7
TORD Torodi Ar. Bea 115.84 0 PKP PKPdf 16 40 11.6 -1.9
comp=Z,0.3nm,0.4s,baz=351,slow=2.4,SNR=5.5
DBIC Dimbokro 121.98 8 PKP PKPdf 16 40 23.9 -1.5
comp=Z,1.6nm,0.4s,baz=331,slow=2.9,SNR=7.9
QSPA South Pole Qui 141.04 180 PKP PKPdf 16 41 00.8 +1.6
comp=Z,1.2nm,0.7s,baz=290,slow=1.2,SNR=8.2
MAW Mawson 146.68 218 PKPbc PKPbc 16 41 09.7 -1.5
comp=Z,1.6nm,0.5s,baz=55,slow=8.1,SNR=4.5
BOSA Boshof 151.37 313 PKPbc PKPbc 16 41 23.2 -1.0
comp=Z,3.0nm,0.5s,baz=334,slow=1.4,SNR=12
BOSA PKPab PKPab 16 41 31.3 -1.2
comp=Z,3.8nm,0.6s,baz=40,slow=4.3,SNR=6.7
BOSA Boshof 151.37 313 PKPbc PKPbc 16 41 23.2 -1.0
BOSA PKPab PKPab 16 41 31.3 -1.2

*ISCJB **28** 16:40:43.7±0.7,5278S±009×1395E±03,h10km,mb4.1/7, MS3.8/9, Error ellipse: s-maj=22.9km s-min=12.7km az=2.8*
*IDC **28** 16:40:44.9±1.4,5262S×13966E,h0km,mb3.9/5, mb1 4.2/5,mb1mx4.0/11,mbtmp4.0/5,MS3.8/9,Ms1 3.9/9, ms1mx3.6/25,Error ellipse: s-maj=88.5km s-min=30.1km az=88.0*
*NEIC **28** 16:40:46.4±0.6,5273S×13964E,h10km,mb4.4/2,Error ellipse: s-maj=22.6km s-min=11.9km az=88.0*
ISC 28 16:40:45.6±0.7,**5284S**±0009×**1395E**±03,**h10km,n25,**
σ0:**84**/15,**mb4.0/6,MS3.8**/9,**West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	**Casey**	**19.67**	**216**	*eP*	**Pn**	**16 45 14.7**	**-1.0**
CASY	**Casey**	**19.67**	**216**	*eP*	**Pn**	**16 45 16.6**	**+0.9**
STKA	**Stephens Creek**	**21.00**	**5**	*eP*	**P**	**16 45 28.9**	**-0.1**
5.7nm,1.1s							
STKA	**Stephens Creek**	**21.00**	**5**	P	**P**	**16 45 28.8**	**-0.2**
4.4nm,0.9s,baz=158,slow=12,SNR=6.0							
STKA				LR	LR	16 52 26.9	
comp=Z,292nm,18.9s,MS3.7,baz=195,slow=34							
STKA	**Stephens Creek**	**21.00**	**5**	*eP*	**P**	**16 45 28.9**	**0.0**
RPZ	**Rata Peaks**	**22.71**	**79**	LR	LR	16 52 05.1	
comp=Z,389nm,21.2s,MS3.8,baz=339,slow=30							
FORT	**Forrest**	**23.58**	**335**	*eP*	**P**	**16 45 58.6**	**+2.2**
15nm,1.1s,mb4.3							
NWAO	**Narrogin (SRO)**	**25.56**	**312**	LR	LR	16 52 39.9	
comp=Z,75nm,20.3s,MS3.2,baz=300,slow=28							
SNZO	**South Karori**	**26.31**	**78**	*eP*	**P**	**16 46 21.9**	**+0.7**
SBA	**Scott Base**	**26.98**	**168**	*eP*	**P**	**16 46 26.5**	**-0.4**
8.8nm,1.2s,mb4.2							
ASAR	**Alice Springs**	**29.44**	**349**	P	**P**	**16 46 48.9**	**-0.4**
1.4nm,0.9s,mb3.7,baz=169,slow=8.7,SNR=10							
ASAR				PcP	PcP	16 49 53.6	-1.2
0.4nm,0.8s,baz=176,slow=3.1,SNR=4.5							
WB2	**Warramunga Arr**	**33.08**	**351**	*eP*	**P**	**16 47 20.8**	**-0.5**
WB2	**Warramunga Arr**	**33.08**	**351**	*eP*	**P**	**16 47 20.4**	**-0.9**
WRA	**Warramunga Arr**	**33.08**	**351**	P	**P**	**16 47 20.7**	**-0.6**
4.9nm,1.0s,mb4.4,baz=172,slow=7.0,SNR=15							
WRA				PcP	PcP	16 50 02.9	-1.7
0.4nm,0.7s,baz=172,slow=2.1,SNR=4.2							
WRAB	**Tennant Creek**	**33.09**	**351**	*eP*	**P**	**16 47 20.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**36.33**	**337**	LR	LR	17 01 38.7	
comp=Z,120nm,20.3s,MS3.7,baz=26,slow=35							
MAW	**Mawson**	**38.01**	**217**	LR	LR	17 02 03.3	
comp=Z,382nm,19.8s,MS4.2,baz=73,slow=33							
PPT	**Papeete**	**64.66**	**86**	LR	LR	17 16 17.2	
comp=Z,81nm,18.3s,MS4.0,baz=315,slow=33							
CMAR	**Chiang Mai Arr**	**79.22**	**321**	P	**P**	**16 52 51.4**	**+0.7**
0.5nm,0.8s,mb3.5,baz=202,slow=5.4,SNR=4.4							
CMAR				LR	LR	17 27 28.7	
comp=Z,86nm,20.0s,MS4.1,baz=337,slow=35							
BOSA	**Boshof**	**80.83**	**234**	LR	LR	17 22 15.7	
comp=Z,110nm,19.5s,MS4.2,baz=128,slow=31							
KSRS	**Korea Array**	**90.48**	**351**	P	**P**	**16 53 46.4**	**-0.5**
0.5nm,0.8s,mb3.9,baz=185,slow=6.1,SNR=3.3							
KSRS				LR	LR	17 37 58.8	
comp=Z,18nm,18.2s,MS3.5,baz=230,slow=38							
CPUP	**Villa Florida**	**99.81**	**165**	P	Pdif	16 54 33.5	+3.5
0.9nm,0.3s,baz=143,slow=5.1,SNR=8.8							
BBTS	**Babate**	**137.45**	**215**	PKP	PKPdf	17 00 11.1	+1.7
7.9nm,0.4s,baz=159,slow=2.6,SNR=3.3							
ARCES	**ARCESS Array B**	**146.21**	**325**	PKPbc	PKPbc	17 00 24.6	+0.1
1.9nm,0.7s,baz=95,slow=5.1,SNR=7.8							
GERES	**GERESS Array B**	**146.25**	**285**	PKPbc	PKPbc	17 00 26.1	+0.8
0.4nm,0.5s,baz=50,slow=1.5,SNR=2.8							

*IDC **28** 17:20:39.1±2.2,7825×10785E,h0km,mb3.6/5,mb1 3.9/6, mb1mx3.6/19,mbtmp3.8/6,ML4.5/1,Error ellipse: s-maj=96.6km s-min=26.1km az=48.0*
*NEIC **28** 17:20:47.3±1.2,7435×10836E,h52km±17km,mb4.5/1, Error ellipse: s-maj=18.0km s-min=11.8km az=94.0*
NEIC Felt [II] at Pangandaran.
*ISCJB **28** 17:20:49.6±1.2,7685±0.1×10817E±0.10,h99km±10km, mb3.5/4,Error ellipse: s-maj=25.5km s-min=14.9km az=161.3*
*DJA **28** 17:20:55,7595×10850E,h70km,ML3.5/1*
ISC 28 17:20:51.0±1.2,**7785**±01×**10821E**±010,**h92**km±11km,**n11,**
σ0:**78**/13,**mb3.5/4,1D,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**1.53**	**77**	⇓*eP*	**Pn**	**17 21 17.3**	**+0.2**
BJII				*eS*	**Sn**	**17 21 36.8**	**-0.2**
XMIS	**Christmas Isla**	**3.75**	**222**	*eP*	**Pn**	**17 21 46.8**	**+0.1**
XMIS				*eS*	**Sn**	**17 22 24.7**	**-5.2**
KSM	**Kuching**	**9.34**	**13**	P	**Pn**	**17 22 55.3**	**-7.4**
BATI	**Baumata**	**15.47**	**100**	Pn	**Pn**	**17 24 25.1**	**+1.0**
1.7nm,0.3s,baz=288,slow=4.1,SNR=3.8							
FITZ	**Fitzroy Crossi**	**19.87**	**123**	P	**Pn**	**17 25 15.4**	**-2.0**
1.9nm,0.7s,baz=263,slow=4.9,SNR=6.5							
WRA	**Warramunga Arr**	**28.09**	**118**	P	**P**	**17 26 34.3**	**+0.1**
0.7nm,0.9s,mb3.2,baz=291,slow=12,SNR=9.9							
ASAR	**Alice Springs**	**29.31**	**126**	P	**P**	**17 26 45.1**	**+0.1**
0.4s,0.6s,mb3.2,baz=302,slow=8.5,SNR=12							
STKA	**Stephens Creek**	**39.29**	**132**	P	**P**	**17 28 12.0**	**+1.0**
3.2nm,0.9s,mb4.1,baz=316,slow=10.0,SNR=6.9							
STKA	**Stephens Creek**	**39.29**	**132**	P	**P**	**17 28 11.6**	**+0.6**
8.1nm,1.2s,mb4.4							
MKAR	**Makanchi Array**	**58.94**	**339**	P	**P**	**17 30 40.2**	**-0.3**
0.2nm,0.5s,mb3.4,baz=148,slow=8.5,SNR=3.9							
MKAR	**Makanchi Array**	**58.94**	**339**	P	**P**	**17 30 40.2**	**-0.3**

*BJI **28** 17:23:27.2,171N×12700E,h91km,mB4.7,mb4.6*
*MAN **28** 17:23:28,237N×12701E,h31km,mb5.3,ML4.3,MS4.6*
*ISCJB **28** 17:23:28.3±0.6,231N±004×12701E±009,h63km±5km, mb4.5/33,Error ellipse: s-maj=16.2km s-min=4.4km az=165.0*
*IDC **28** 17:23:31.9±3.7,223N×127.10E,h88km±34km,mb3.9/12, mb1 4.0/12,mb1mx3.9/19,mbtmp3.9/12,Error ellipse: s-maj=36.1km s-min=10.4km az=73.0*
*NEIC **28** 17:23:32.3±0.4,226N×12706E,mb4.6/11,Error ellipse: s-maj=16.6km s-min=6.3km az=74.0*
*DJA **28** 17:23:33,234N×12722E,h71km,ML4.7/5*
ISC 28 17:23:29.9±0.6,**231N**±003×**12714E**±009,**h67**km±5km,
h97km±2.3km:**pP-P,n57,**σ1:**08**/66,**mb4.5**/33,**2C-2D,**
Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.53**	**171**	⇓*eP*	**Pn**	**17 23 52.0**	**-3.2**
TNE				*eS*	**Sn**	**17 24 14.0**	**-0.2**
MNI	**Manado**	**2.45**	**250**	P	**Pn**	**17 24 09.3**	**+1.7**
0.0nm,0.0s							
LBMI	**Labuha**	**2.95**	**173**	P	**Pn**	**17 24 17.1**	**+2.7**
0.0nm,0.0s							
GSPH	**General Santos**	**4.34**	**330**	*eP*	**Pn**	**17 24 31.8**	**-1.6**
GSPH				*eS*	**Sn**	**17 25 19.9**	**-2.9**
MATI	**Mati**	**4.69**	**349**	*eP*	**Pn**	**17 24 37.5**	**-0.7**
MATI				*eS*	**Sn**	**17 25 30.7**	**-0.6**
BUKP	**Musuan**	**5.91**	**340**	*eP*	**Pn**	**17 24 54.6**	**-0.2**
AAI	**Ambon**	**6.05**	**170**	P	**Pn**	**17 25 01.3**	**+4.5**
0.0nm,0.0s							
PAGZ	**Pagadian**	**6.65**	**326**	*eP*	**Pn**	**17 25 05.6**	**+0.5**
IPIL	**Ipil**	**7.09**	**320**	*eP*	**Pn**	**17 25 10.3**	**-0.8**
KDI	**Kendari**	**7.69**	**216**	P	**Pn**	**17 25 21.2**	**+2.0**
0.0nm,0.0s							
KDI	**Kendari**	**7.69**	**216**	⇓*eP*	**Pn**	**17 25 19.9**	**+0.7**
KDI				*eS*	**Sn**	**17 26 40.2**	**-4.7**
PCI	**Palu**	**7.96**	**246**	P	**Pn**	**17 25 27.7**	**+4.7**
0.0nm,0.0s							
MSLP	**Maasin**	**8.10**	**344**	*eP*	**Pn**	**17 25 24.9**	**0.0**
BATI	**Baumata**	**12.90**	**195**	P	**Pn**	**17 26 37.3**	**+6.9**
3.5nm,0.3s,baz=87,slow=8.7,SNR=5.8							
KAKA	**Kakadu**	**15.82**	**161**	*eP*	**Pn**	**17 27 11.9**	**+3.2**
16nm,0.8s							
FITZ	**Fitzroy Crossi**	**20.33**	**184**	*eP*	**P**	**17 27 59.5**	**-1.3**
9.1nm,0.9s							
FITZ	**Fitzroy Crossi**	**20.33**	**184**	P	**P**	**17 27 59.6**	**-1.2**
2.6nm,0.6s,baz=14,slow=12,SNR=16							
WRAB	**Tennant Creek**	**23.21**	**163**	*eP*	**P**	**17 28 30.5**	**-0.8**
22nm,0.6s,mb4.7							
WRA	**Warramunga Arr**	**23.21**	**163**	P	**P**	**17 28 30.4**	**-1.0**
21nm,0.4s,mb4.8,baz=344,slow=11,SNR=156							
WRA				S	**S**	**17 32 36.3**	**-1.9**
1.8nm,1.1s,baz=329,slow=16,SNR=4.6							
WB2	**Warramunga Arr**	**23.22**	**163**	⇑*i*P	**P**	**17 28 30.4**	**-1.0**
WB2				*eS*	**S**	**17 32 38.2**	**-0.1**
JOW	**Kunigami**	**24.41**	**2**	P	**P**	**17 28 43.4**	**+1.1**
10nm,0.9s,mb4.2,baz=188,slow=10,SNR=3.9							
MBWA	**Marble Bar**	**24.42**	**197**	*eP*	**P**	**17 28 42.9**	**+0.5**
26nm,1.0s,mb4.5							
ASAR	**Alice Springs**	**26.64**	**166**	P	**P**	**17 29 01.9**	**-0.6**
2.6nm,0.4s,mb4.1,baz=347,slow=7.2,SNR=87							
NJ2	**Nanjing**	**30.60**	**346**	*eP*	**P**	**17 29 40.3**	**+2.7**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.7							
GYA	**Guiyang**	**31.03**	**323**	P	**P**	**17 29 42.5**	**+1.0**
GYA				AP	pP	17 30 05.8	+8.2
GYA				XP	sP	17 30 16.5	+11
GYA				PP	PP	17 30 49.3	-3.4
GYA				PCP	PcP	17 32 37.5	+1.4
GYA				S	**S**	**17 34 41.8**	**-0.1**
GYA				XS	sS	17 35 19.5	+10
GYA				SCP	ScP	17 36 11.5	-1.9
GYA				PCS	PcS	17 36 20.0	-0.3
GYA				SCS	ScS	17 40 06.8	-3.8
GYA				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.5							
GYA				AMB	AMB		
comp=Z,80nm,4.5s							
GYA				LR	LR		
comp=N,380nm,17.8s							
GYA				LR	LR		
comp=E,260nm,18.2s							

GYA				LR	LR		
	comp=Z,480nm,19.6s						
CMAR	**Chiang Mai Arr**	**31.95**	**302**	P	**P**	**17 29 49.4**	**-0.3**
	comp=Z,2.2nm,0.8s,mb3.9,baz=121,slow=7.5,SNR=14						
CHTO	**Chiang Mai**	**32.11**	**303**	*e*P	**P**	**17 29 50.4**	**-0.7**
	comp=Z,6.2nm,0.9s,mb4.3						
KMI	**Kunming**	**32.67**	**316**	P	**P**	**17 29 56.5**	**+0.6**
KMI				AP	pP	17 30 17.0	+4.9
KMI				XP	sP	17 30 27.5	+7.6
KMI				PP	PP	17 31 10.5	-0.4
KMI				S	**S**	**17 35 01.5**	**-6.0**
KMI				SS	SS	17 37 10.0	-21
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.3						
KMI				AMB	AMB		
	comp=Z,105nm,14.4s						
KMI				LR	LR		
	comp=N,63nm,5.6s						
KMI				LR	LR		
	comp=E,67nm,4.7s						
KMI				LR	LR		
	comp=Z,76nm,5.3s						
FORT	**Forrest**	**32.91**	**179**	*e*P	**P**	**17 29 57.1**	**-0.8**
	comp=Z,16nm,0.7s,mb5.0						
COCO	**West Island**	**33.37**	**244**	*e*P	**P**	**17 29 60.0**	**-2.2**
	comp=Z,45nm,0.4s,mb5.7						
KLBR	**Kellerberrin**	**34.87**	**194**	*e*P	**P**	**17 30 15.0**	**+0.1**
	comp=Z,41nm,1.3s,mb5.1						
KSRS	**Korea Array**	**34.98**	**1**	P	**P**	**17 30 16.0**	**+0.2**
	comp=Z,1.2nm,0.9s,mb3.7,baz=172,slow=10,SNR=5.2						
MUN	**Mundaring**	**35.64**	**196**	*e*P	**P**	**17 30 21.8**	**+0.3**
CD2	**Chengdu**	**36.03**	**325**	*e*P	**P**	**17 30 26.0**	**+1.1**
CD2				AP	pP	17 30 48.5	+7.3
CD2				XP	sP	17 30 59.8	+11
CD2				PP	PP	17 31 50.5	+2.6
CD2				S	**S**	**17 35 56.8**	**-2.3**
CD2				XS	sS	17 36 35.5	+8.5
CD2				SS	SS	17 38 24.5	-14
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
NWAO	**Narrogin (SRO)**	**36.27**	**194**	P	**P**	**17 30 27.0**	**+0.1**
	comp=Z,8.0nm,0.8s,mb4.7,baz=59,slow=7.9,SNR=8.8						
STKA	**Stephens Creek**	**36.66**	**159⇑**	*i*P	**P**	**17 30 30.1**	**-0.1**
	comp=Z,8.9nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**36.66**	**159**	P	**P**	**17 30 30.2**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9,baz=334,slow=7.5,SNR=21						
BJI	**Beijing**	**38.85**	**347**	P	**P**	**17 30 50.8**	**+2.2**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
LZH	**Lanzhou**	**39.93**	**330**	*e*P	**P**	**17 30 57.0**	**-0.6**
LZH				PP	PP	17 32 34.3	+3.7
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,55nm,5.6s						
LZH				LR	LR		
	comp=E,427nm,13.7s						
LZH				LR	LR		
	comp=Z,613nm,18.0s						
HHC	**Hu-ho-hao-te**	**40.87**	**342**	*e*P	**P**	**17 31 06.8**	**+1.5**
HHC				AP	pP	17 31 30.3	+8.4
HHC				XP	sP	17 31 41.0	+11
HHC				PP	PP	17 32 46.5	+5.8
HHC				S	**S**	**17 37 11.5**	**-0.4**
HHC				XS	sS	17 37 50.8	+11
HHC				SS	SS	17 40 12.3	-3.3
HHC				SCS	ScS	17 41 00.0	-4.0
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,80nm,7.5s						
HHC				LR	LR		
	comp=N,177nm,16.1s						
HHC				LR	LR		
	comp=E,182nm,15.5s						
HHC				LR	LR		
	comp=Z,172nm,17.3s						
LSA	**Lhasa**	**43.68**	**312**	P	**P**	**17 31 28.0**	**-0.4**
LSA	**Lhasa**	**43.68**	**312**	*e*P	**P**	**17 31 29.1**	**+0.6**
	comp=Z,4.8nm,0.7s,mb4.3						
GTA	**Gaotai**	**44.52**	**330**	*e*P	**P**	**17 31 31.5**	**-3.4**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb3.9						
ULN	**Ulaanbaatar**	**48.59**	**342**	*e*P	**P**	**17 32 06.2**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.1						
ULN				pP	pP	17 32 29.6	+6.0
SONM	**Songino Array**	**48.77**	**342**	P	**P**	**17 32 08.7**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=160,slow=7.3,SNR=4.7						
WMQ	**Urumqi**	**54.12**	**325**	P	**P**	**17 32 49.0**	**+0.9**
WMQ				AP	pP	17 33 12.5	+7.2
WMQ				XP	sP	17 33 23.8	+11
WMQ				PCP	PcP	17 33 52.8	+0.7
WMQ				PP	PP	17 34 53.3	+3.0
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
WMQ				LR	LR		
	comp=N,57nm,20.0s						
WMQ				LR	LR		
	comp=Z,44nm,20.0s						
MKAR	**Makanchi Array**	**58.95**	**326**	P	**P**	**17 33 22.2**	**-0.2**
	comp=Z,0.6nm,0.4s,mb4.0,baz=111,slow=7.8,SNR=15						
MKAR	**Makanchi Array**	**58.95**	**326**	P	**P**	**17 33 22.2**	**-0.2**
ZALV	**Zalesovo Beam**	**62.03**	**333**	P	**P**	**17 33 43.0**	**-0.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=98,slow=2.2,SNR=3.9						
KURK	**Kurchatov**	**63.15**	**328**	*e*P	**P**	**17 33 50.9**	**+0.2**
	comp=Z,7.8nm,0.9s,mb4.6						
KURK				pP	pP	17 34 12.8	+4.5
AKTK	**Aktyubinsk**	**75.02**	**322**	P	**P**	**17 35 05.0**	**+0.7**
AKTO	**Aktyubinsk**	**75.02**	**322**	P	**P**	**17 35 05.0**	**+0.7**
	comp=Z,0.7nm,0.4s,mb3.7,baz=105,slow=11,SNR=4.0						
UMR	**Umm Al-Rimmam**	**79.66**	**299**	*e*P	**P**	**17 35 30.7**	**+0.1**
	baz=299						
UMR				AMb	AMB	17 35 31.7	
	comp=Z,13nm,0.7s,mb4.9,baz=299						
RDF	**Al-Radifah**	**79.77**	**299**	*e*P	**P**	**17 35 31.5**	**+0.2**
	baz=299						
RDF				AMb	AMB	17 35 32.7	
	comp=Z,16nm,1.2s,mb4.7,baz=299						
MIB	**Mutribah**	**80.00**	**300**	*e*P	**P**	**17 35 32.1**	**-0.4**
	baz=300						
MIB				AMb	AMB	17 35 33.4	
	comp=Z,30nm,0.9s,mb5.1,baz=300						
NAY	**Al-Naaiem**	**80.06**	**299**	*e*P	**P**	**17 35 32.4**	**-0.5**
	baz=299						
NAY				AMb	AMB	17 35 33.6	
	comp=Z,13nm,0.8s,mb4.8,baz=299						
LOHW	**Long Hollow**	**111.09**	**41**	*e*Pdif	Pdif	17 37 56.2	-0.7

*NEIC **28** 17:36:55.6±4.1,3968N×24.19E,h11^{km}±27^{km}, MD3.5(ATH),Error ellipse: s-maj=34.7km s-min=10.4km az=125.0*
*ISCJB **28** 17:36:56.5±0.5,3974N±003×24.14E±004,h15^{km}±5^{km}, Error ellipse: s-maj=5.0km s-min=4.4km az=11.6*
*ATH **28** 17:36:56.4,3970N×24.17E,h36^{km}±6^{km},MD3.5/5*
*THE **28** 17:36:57.5,3973N×24.14E,h11^{km},ML2.9*
*CSEM **28** 17:36:57.5±0.1,3972N×24.15E,h19^{km},ML2.9,Error ellipse: s-maj=2.5km s-min=2.2km az=127.0*

ISC 28 17:36:57.2±0.5,3973N±003×2414E±004,h17km±5km**,n20,** σ0**57**/31**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.41**	**299**	*e*Pg	**Pg**	**17 37 05.8**	**+0.3**
PAIG				*e*Sg	**Sg**	**17 37 12.3**	**+1.2**
AOS	**Alonnisos**	**0.60**	**200**	*e*Pg	**Pg**	**17 37 08.3**	**-0.7**
AOS				*e*Sg	**Sg**	**17 37 17.1**	**+0.2**
AOS	**Alonnisos**	**0.60**	**200**	*e*Pg	**Pg**	**17 37 08.3**	**-0.7**
AOS				*e*Sg	**Sg**	**17 37 17.1**	**+0.1**
OUR	**Ouranopolis**	**0.61**	**349**	*e*Pg	**Pg**	**17 37 09.6**	**+0.3**
LOS	**Limnos**	**0.75**	**74**	*e*Pg	**Pg**	**17 37 11.8**	**-0.2**
LOS				*e*Sg	**Sg**	**17 37 22.5**	**+0.6**
XOR	**Xorichti**	**0.82**	**244**	*e*Pg	**Pg**	**17 37 13.1**	**-0.1**
XOR				*e*Sg	**Sg**	**17 37 24.6**	**+0.6**
XOR	**Xorichti**	**0.82**	**244**	*e*Pg	**Pg**	**17 37 13.1**	**-0.1**
XOR				*e*Sg	**Sg**	**17 37 24.6**	**+0.6**
NEO	**Neokhori**	**0.83**	**239**	*e*PN	**Pg**	**17 37 13.1**	**-0.2**
NEO				*e*SN	**Sg**	**17 37 24.2**	**0.0**
PLG	**Polygyros**	**0.83**	**320**	*e*Pg	**Pg**	**17 37 12.7**	**-0.8**
PLG				*e*Sg	**Sg**	**17 37 25.1**	**+0.6**
PLG	**Polygyros**	**0.83**	**320**	*e*PN	**Pg**	**17 37 13.0**	**-0.5**
PLG				*e*SN	**Sg**	**17 37 25.0**	**+0.5**
HORT	**Hortiatis**	**1.18**	**318**	*e*Pg	**Pg**	**17 37 18.9**	**-1.0**
HORT				*e*Sg	**Sg**	**17 37 35.2**	**-0.1**
SOH	**Sokhos**	**1.24**	**331**	*e*Pg	**Pg**	**17 37 20.2**	**-1.0**
SOH				*e*Sg	**Sg**	**17 37 37.3**	**-0.2**
LIT	**Litokhoron**	**1.32**	**287**	*e*Pg	**Pg**	**17 37 22.0**	**-0.7**
LKR	**Lokris**	**1.40**	**220**	*e*PN	**Pn**	**17 37 21.1**	**-0.7**
AGG	**Agios Georgios**	**1.57**	**244**	*e*Pg	**Pn**	**17 37 24.8**	**+0.5**
NVR	**Nevrokopi**	**1.63**	**353**	*e*PB	**Pn**	**17 37 25.3**	**+0.3**
KNT	**Kendrikon**	**1.71**	**327**	*e*Pb	**Pn**	**17 37 26.9**	**+0.7**
RDO	**Rodhopi**	**1.77**	**37**	*e*PN	**Pn**	**17 37 26.4**	**-0.5**
GRG	**Griva**	**1.81**	**313**	*e*Pb	**Pn**	**17 37 27.7**	**+0.2**
CHOS	**Chios island**	**2.01**	**131**	*e*Pn	**Pn**	**17 37 30.8**	**+0.6**

IDC 28 17:41:02.5±2.2,502N×12655E,h0^{km}**,mb3.3**/3**,mb1 3.5**/3**, mb1mx3.3**/17**,mbtmp3.3**/3**,Error ellipse: s-maj=169.6km s-min=25.6km az=66.0,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.96**	**163**	P	P	17 46 36.9	0.0
	0.6nm,0.5s,baz=343,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**29.40**	**166**	P	P	17 47 07.8	+0.1
	0.3nm,0.8s,baz=345,slow=6.9,SNR=6.2						
MKAR	**Makanchi Array**	**56.41**	**325**	P	P	17 50 45.8	0.0
	0.2nm,0.6s,baz=113,slow=8.5,SNR=2.7						

MAN 28 17:44:17,923N×12568E,h5^{km}**,mb4.0,ML2.7,MS2.4,1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.27**	**193**	*e*P	Pg	17 44 22.5	+0.4
BUTP				*e*S	Sg	17 44 27.8	+2.2
SCPH	**Surigao**	**0.58**	**341⇑**	*e*P	Pg	17 44 29.0	+0.7
SCPH				*e*S	Sg	17 44 38.2	+2.4
MSLP	**Maasin**	**1.21**	**318**	*e*P	Pg	17 44 38.2	-2.1
MSLP				*e*S	Sg	17 44 59.0	+3.0
BUKP	**Musuan**	**1.47**	**205**	*e*P	Pn	17 44 43.8	-0.5
BUKP				*e*S	Sn	17 45 04.6	+0.7
PAGZ	**Pagadian**	**2.66**	**239**	*e*P	Pn	17 44 59.9	-0.6

NEIC 28 17:58:58.8,4164S×17279E,h95^{km}**,ML4.1**(WEL)**,After WELL.,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.15**	**145**	P	Pn	17 59 11.4	-0.8
THZ				S	Sn	17 59 19.8	-2.4
NNZ	**Nelson**	**0.61**	**47**	P	Pn	17 59 14.6	-0.3
DSZ	**Denniston Nort**	**0.75**	**261**	P	Pn	17 59 15.9	-0.2
BSWZ	**Blackbirch Sta**	**0.82**	**96**	P	Pn	17 59 17.1	+0.3
QRZ	**Quartz Range**	**0.83**	**346**	P	Pn	17 59 16.7	-0.4
KHZ	**Kahutara**	**0.96**	**145**	P	Pn	17 59 18.2	-0.1
CMWZ	**Cape Campbell**	**1.07**	**96**	P	Pn	17 59 20.3	+0.7
CMWZ				S	Sn	17 59 39.4	+4.1
TCW	**Tory Channel**	**1.20**	**70**	P	Pn	17 59 21.3	+0.3
LTZ	**Lake Taylor**	**1.21**	**199**	P	Pn	17 59 21.4	+0.2
SNZO	**South Karori**	**1.48**	**78**	P	Pn	17 59 23.9	-0.5
MRW	**Makara Radio**	**1.49**	**75**	P	Pn	17 59 24.2	-0.5
MRW				S	Sn	17 59 42.2	-2.1
WEL	**Wellington**	**1.53**	**77**	P	Pn	17 59 24.6	-0.5
BHW	**Baring Head**	**1.58**	**82**	P	Pn	17 59 24.9	-0.8
KIW	**Kapiti Island**	**1.78**	**65**	P	Pn	17 59 28.1	-0.1
CAW	**Cannon Point**	**1.79**	**74**	P	Pn	17 59 27.7	-0.8
MSWZ	**Moikau Station**	**1.86**	**84**	P	Pn	17 59 28.1	-1.2
CRLZ	**Canterbury Las**	**1.94**	**184**	P	Pn	17 59 29.3	-1.0
PAWZ	**Paruwai Farm**	**2.00**	**83**	P	Pn	17 59 29.6	-1.5
MQZ	**McQueen's Vall**	**2.07**	**183**	P	Pn	17 59 30.6	-1.4
WVZ	**Waitaha Valley**	**2.09**	**226**	P	Pn	17 59 32.8	+0.5
MTW	**Mount Morrison**	**2.10**	**78**	P	Pn	17 59 30.9	-1.5
MRZ	**Mangatainoka R**	**2.32**	**66**	P	Pn	17 59 34.2	-1.1
RPZ	**Rata Peaks**	**2.44**	**211**	P	Pn	17 59 36.1	-0.8
WAZ	**Wanganui**	**2.52**	**42**	P	Pn	17 59 39.6	+1.7
NEZ	**North Egmont**	**2.57**	**23**	P	Pn	17 59 39.9	+1.3
PKE	**Pukeiti**	**2.61**	**21**	P	Pn	17 59 40.6	+1.4
TSZ	**Takapari Road**	**2.88**	**58**	P	Pn	17 59 41.3	-1.4
VRZ	**Vera Road**	**2.93**	**32**	P	Pn	17 59 44.8	+1.4
FOZ	**Fox Glacier**	**2.99**	**229**	P	Pn	17 59 43.2	-1.0
WNVZ	**Wahianoa**	**3.15**	**44**	P	Pn	17 59 48.1	+1.7
DRZ	**Dome Shelter**	**3.17**	**43**	P	Pn	17 59 51.6	+4.9
MOVZ	**Moawhango**	**3.17**	**46**	P	Pn	17 59 46.4	-0.3
FWVZ	**Far West T-bar**	**3.18**	**42**	P	Pn	17 59 48.0	+1.2
WPVZ	**Whakapapa**	**3.21**	**42**	P	Pn	17 59 49.7	+2.4
TUVZ	**Tukino**	**3.22**	**44**	P	Pn	17 59 48.2	+0.8
NGZ	**Ngauruhoe**	**3.27**	**42**	P	Pn	17 59 50.2	+2.3
TWVZ	**Taurewa**	**3.27**	**39**	P	Pn	17 59 50.1	+2.1
WTVZ	**West Tongariro**	**3.31**	**41**	P	Pn	17 59 50.9	+2.4
LBZ	**Lake Benmore**	**3.34**	**214**	P	Pn	17 59 47.6	-1.4
KATZ	**Kakaramea**	**3.46**	**41**	P	Pn	17 59 55.0	+4.4
HIZ	**Hauiti**	**3.50**	**28**	P	Pn	17 59 51.6	+0.5
WATZ	**Wairara**	**3.69**	**39**	P	Pn	17 59 56.7	+3.0
ODZ	**Otahua Downs**	**3.75**	**204**	P	Pn	17 59 53.5	-0.9
BKZ	**Black Stump Fm**	**3.75**	**50**	P	Pn	17 59 53.2	-1.3
JCZ	**Jackson Bay**	**3.83**	**229**	P	Pn	17 59 55.6	0.0
WKZ	**Wanaka**	**4.21**	**220**	P	Pn	17 59 58.6	-2.1
EAZ	**Earnscleugh**	**4.40**	**214**	P	Pn	18 00 01.8	-1.4
TOZ	**Tahuroa Road**	**4.43**	**29**	P	Pn	18 00 04.6	+0.9
MSZ	**Milford Sound**	**4.67**	**228**	P	Pn	18 00 06.8	-0.1
URZ	**Urewera**	**4.73**	**46**	P	Pn	18 00 04.8	-3.0
TUZ	**Tuapeka**	**4.88**	**207**	P	Pn	18 00 08.5	-1.3
MKAZ	**Moumakai**	**4.88**	**23**	P	Pn	18 00 10.6	+0.8
MWZ	**Matawai**	**4.91**	**49**	P	Pn	18 00 07.3	-2.9
MLZ	**Mavora Lakes**	**5.00**	**221**	P	Pn	18 00 12.1	+0.7
KUZ	**Kuaotunu**	**5.39**	**26**	P	Pn	18 00 17.6	+0.9
WCZ	**Waipu Caves**	**5.82**	**13**	P	Pn	18 00 23.4	+0.8

*ISCJB **28** 18:17:34.4±1.1,1322S±009×764W±0.1,h66^{km}±10^{km}, mb4.2/12,Error ellipse: s-maj=22.7km s-min=5.9km az=141.6*
*IDC **28** 18:17:36.0±1.5,1319S×7629W,h62^{km}±11^{km},mb3.7/5, mb1 3.7/10,mb1mx3.6/22,mbtmp3.5/10,MS3.4/2, Ms1 3.4/2,ms1mx2.9/22,Error ellipse: s-maj=35.4km s-min=9.8km az=52.0*
*NEIC **28** 18:17:36.4±1.3,1322S×7634W,h69^{km}±11^{km},mb4.5/7, Error ellipse: s-maj=26.7km s-min=9.5km az=54.0*
NEIC Felt [III] at Chincha Alta.

ISC 28 18:17:35.8±1.0,1326S±008×**764W**±01,**h59**km±9km**,n26,** σ1**08**/26**,mb4.3**/12**,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.33**	**342**	P	**Pn**	**18 17 57.4**	**-0.7**
	48nm,0.3s,baz=161,slow=13,SNR=70						
NNA				S	**Sn**	**18 18 14.5**	**-0.4**
	132nm,0.3s,baz=286,slow=11,SNR=14						
ATAH	**Atahualpa**	**6.51**	**342**	P	**Pn**	**18 19 07.1**	**-2.0**
	0.4nm,0.3s,baz=88,slow=12,SNR=2.3						
ATAH				S	**Sn**	**18 20 23.3**	**+1.3**
	1.6nm,0.3s,baz=156,slow=7.6,SNR=2.7						
LPAZ	**La Paz**	**8.57**	**112**	P	**Pn**	**18 19 36.6**	**-0.6**
	0.3nm,0.3s,baz=293,slow=11,SNR=9.1						
LPAZ				S	**Sn**	**18 21 12.8**	**+0.4**
	baz=211,slow=23,SNR=3.7						
LPAZ	**La Paz**	**8.57**	**112**	P	**Pn**	**18 19 36.6**	**-0.6**
LPAZ				S	**Sn**	**18 21 12.8**	**+0.4**
LVC	**Limon Verde**	**11.73**	**144**	P	**Pn**	**18 20 22.3**	**+1.9**
	0.3nm,0.3s,baz=318,slow=12,SNR=4.3						
LVC				S	**Sn**	**18 22 29.8**	**+0.1**
	0.4nm,0.3s,baz=92,slow=18,SNR=7.3						
LVC				LR	LR	18 23 58.8	
	comp=Z,95nm,19.8s,baz=236,slow=33						
OTAV	**Otavalo**	**13.56**	**351**	*e*Pn	**Pn**	**18 20 49.6**	**+4.2**
	5.1nm,0.8s						
SIV	**San Ignacio**	**15.10**	**102**	P	**Pn**	**18 21 06.3**	**+0.6**
	0.1nm,0.3s,baz=277,slow=15,SNR=3.8						
CFAA	**Coronel Fontan**	**19.75**	**159**	P	**Pn**	**18 22 02.3**	**-0.5**
	0.0nm,0.3s,baz=333,slow=8.8,SNR=5.3						
TEIG	**Tepich**	**35.26**	**340**	P	**P**	**18 24 25.3**	**+0.3**
	8.1nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**49.85**	**328**	P	**P**	**18 26 24.2**	**+1.1**
	0.6nm,0.8s,mb3.7,baz=141,slow=8.1,SNR=6.0						
LAZ	**Ladron**	**55.67**	**329**	P	**P**	**18 27 06.8**	**+0.8**
TUC	**Tucson**	**55.98**	**325**	*e*P	**P**	**18 27 14.1**	**+5.7**
	6.9nm,0.8s,mb4.7						
SDCO	**Great Sand Dun**	**57.61**	**333**	*e*P	**P**	**18 27 20.1**	**+0.3**
	1.0nm,0.8s,mb3.9						
WUAZ	**Wupatki**	**58.72**	**327**	*e*P	**P**	**18 27 20.7**	**-6.8**
	16nm,1.8s,mb4.8						
HWUT	**Hardware Ranch**	**63.49**	**331**	P	**P**	**18 27 59.4**	**-0.3**
	3.2nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**64.64**	**325**	P	**P**	**18 28 08.2**	**+0.8**
	1.5nm,0.8s,mb4.1,baz=160,slow=6.7,SNR=7.6						
ULM	**Lac du Bonnet**	**65.50**	**346**	P	**P**	**18 28 11.9**	**-0.8**
	2.0nm,0.2s,mb4.8,baz=140,slow=20,SNR=10.0						
MOD	**Modoc**	**68.14**	**326**	P	**P**	**18 28 31.1**	**+1.4**
	3.5nm,0.9s,mb4.4						
SNAA	**Sanae**	**72.35**	**161**	*e*P	**P**	**18 28 52.4**	**-2.6**
	6.5nm,1.3s,mb4.4						
YKA	**Yellowknife Ar**	**81.17**	**343**	P	**P**	**18 29 44.2**	**-0.4**
	1.3nm,0.6s,mb4.0,baz=199,slow=5.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**81.73**	**74**	P	**P**	**18 29 46.6**	**-2.1**
	2.4nm,0.8s,mb4.2,baz=263,slow=5.5,SNR=12						
GERES	**GERESS Array B**	**99.93**	**42**	LR	LR	19 16 06.5	
	comp=Z,23nm,18.0s,baz=60,slow=35						
ASAR	**Alice Springs**	**132.82**	**219**	PKP	PKPdf	18 36 43.1	-1.9
	0.2nm,0.8s,baz=69,slow=1.3,SNR=4.4						
WRA	**Warramunga Arr**	**135.22**	**223**	PKP	PKPdf	18 36 48.0	-1.6
	0.7nm,0.8s,baz=131,slow=1.7,SNR=5.8						
SONM	**Songino Array**	**145.45**	**357**	PKPbc	PKPbc	18 37 07.2	0.0
	4.9nm,0.8s,baz=342,slow=3.0,SNR=26						
KSRS	**Korea Array**	**147.56**	**322**	PKPbc	PKPbc	18 37 12.4	-1.4
	0.6nm,0.8s,baz=50,slow=2.1,SNR=4.4						

*ISCJB **28** 18:24:14.3±0.4,2981N±009×4260W±008,h10^{km}, mb4.2/22,MS3.5/19,Error ellipse: s-maj=13.5km s-min=10.0km az=164.2*
*IDC **28** 18:24:14.2±0.7,2985N×4253W,h0^{km},mb3.9/12, mb1 4.1/12,mb1mx4.0/24,mbtmp3.9/12,MS3.5/19, Ms1 3.5/19,ms1mx3.4/29,Error ellipse: s-maj=22.0km s-min=17.8km az=134.0*
*NEIC **28** 18:24:15.9±0.4,2982N×4258W,h10^{km},mb4.5/10,Error ellipse: s-maj=14.0km s-min=10.7km az=162.0*
*SZGRF **28** 18:24:18.9,2962N×4275W,h33^{km},mb4.4,Northern Mid-Atlantic Ridge*

ISC 28 18:24:16.2±0.4,2984N±009×**4254W**±008,**h10**km,**n46,** σ1**17**/32,**mb4.2**/22,**MS3.5**/19,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**24.83**	**248**	P	**P**	**18 29 42.2**	**+3.4**
BBTS	**Babate**	**28.32**	**117**	LR	LR	18 38 39.6	
	comp=Z,216nm,19.4s,MS3.8,baz=73,slow=31						
PCRV	**Puerto La Cruz**	**28.42**	**231**	LR	LR	18 39 59.3	
	comp=Z,52nm,20.5s,MS3.1,baz=66,slow=33						
SCHQ	**Schefferville**	**30.46**	**332**	LR	LR	18 41 37.7	
	comp=Z,100nm,18.3s,MS3.5,baz=277,slow=34						
MDT	**Midelt**	**32.42**	**75**	LR	LR	18 41 12.9	
	comp=Z,180nm,18.1s,MS3.8,baz=2.8,slow=31						
ESDC	**Sonseca Array**	**32.97**	**62**	LR	LR	18 41 17.0	
	comp=Z,62nm,20.6s,MS3.3,baz=210,slow=31						
SDV	**Santo Domingo**	**33.55**	**237**	LR	LR	18 41 40.9	
	comp=Z,29nm,21.6s,MS3.0,baz=215,slow=31						
TKL	**Tuckaleechee C**	**34.97**	**291**	P	**P**	**18 31 14.8**	**+6.2**
	8.2nm,0.5s,mb4.9,baz=78,slow=16,SNR=4.7						
ROSC	**El Rosal**	**38.96**	**237**	LR	LR	18 46 18.8	
	comp=Z,102nm,18.8s,MS3.7,baz=13,slow=34						
DBIC	**Dimbokro**	**42.26**	**115**	LR	LR	18 48 04.8	
	comp=Z,177nm,18.0s,MS4.0,baz=269,slow=34						
KEST	**Kesra**	**43.60**	**68**	P	**P**	**18 32 22.9**	**+2.1**
	1.3nm,0.9s,mb3.7,baz=47,slow=5.8,SNR=6.0						
KEST				LR	LR	18 47 40.0	
	comp=Z,38nm,19.2s,MS3.3,baz=192,slow=32						
TOA0	**Torodi Ar. Sit**	**44.09**	**102**	*e*P	**P**	**18 32 24.8**	**0.0**
TORD	**Torodi Ar. Bea**	**44.09**	**102**	P	**P**	**18 32 24.9**	**+0.1**
	2.5nm,0.8s,mb4.0,baz=303,slow=6.7,SNR=12						
TORD				LR	LR	18 49 31.7	
	comp=Z,105nm,18.7s,MS3.8,baz=245,slow=34						
ULM	**Lac du Bonnet**	**44.55**	**313**	LR	LR	18 49 20.1	
	comp=Z,45nm,20.1s,MS3.4,baz=57,slow=34						
GRA1	**Grafenberg Arr**	**44.77**	**48**	*e*P	**P**	**18 32 31.1**	**+1.3**
	6.0nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**44.77**	**48**	*e*P	**P**	**18 32 31.1**	**+1.3**
	comp=Z,6.0nm,1.2s,mb4.3						
BDFB	**Brasilia**	**45.52**	**187**	P	**P**	**18 32 36.3**	**+0.2**
	comp=Z,0.7nm,0.4s,mb4.0,baz=61,slow=21,SNR=3.0						
KHC	**Kasperske Hory**	**46.26**	**49**	*e*P	**P**	**18 32 42.0**	**+0.3**
GERES	**GERESS Array B**	**46.33**	**49**	P	**P**	**18 32 42.7**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=257,slow=5.3,SNR=4.4						
GERES				LR	LR	18 49 17.7	
	comp=Z,26nm,19.6s,MS3.2,baz=94,slow=32						
NOA	**

GUMO	**Guam**	**5.52 211**	*e*Pn	**Pn**	**18 35 43.9**	**-1.4**
GUMO			*e*Sn	**Sn**	**18 36 49.5**	**+2.0**
GUMO			LR	LR	18 37 50.4	
CBIJ	**Chichi jima**	**10.07 330**	Pn	**Pn**	**18 36 45.6**	**-2.1**
	4.2nm,0.3s,baz=90,slow=23,SNR=7.0					
DAV	**Davao City (W)**	**24.35 245**	P	**P**	**18 39 39.5**	**-0.9**
	190nm,0.3s,baz=130,slow=22,SNR=8.2					
KSRS	**Korea Array**	**25.75 322**	P	**P**	**18 39 52.7**	**-0.2**
	3.2nm,0.9s,mb3.9,baz=146,slow=8.6,SNR=15					
KSRS			LR	LR	18 48 59.2	
	comp=Z,55nm,19.3s,MS3.1,baz=135,slow=34					
YSS	**Yuzh-Sakhalins**	**28.79 353⇑**	*e*P	**P**	**18 40 19.6**	**-0.4**
YSS			pmax	pmax		
	comp=Z,13nm,1.5s,mb4.4					
WRAB	**Tennant Creek**	**40.29 200**	*e*P	**P**	**18 41 59.0**	**-0.5**
WRAB			pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8					
WRAB	**Tennant Creek**	**40.29 200**	*e*P	**P**	**18 41 59.0**	**-0.5**
	comp=Z,18nm,1.0s,mb4.8					
WB2	**Warramunga Arr**	**40.30 200**	*e*P	**P**	**18 41 59.4**	**-0.2**
WRA	**Warramunga Arr**	**40.30 200**	P	**P**	**18 41 59.0**	**-0.6**
	comp=Z,10nm,1.0s,mb4.5,baz=20,slow=9.3,SNR=29					
WRA			PcP	PcP	18 44 03.5	+0.7
	comp=Z,0.3nm,0.5s,baz=19,slow=3.3,SNR=4.7					
FITZ	**Fitzroy Crossi**	**42.28 212**	*e*P	**P**	**18 42 15.5**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.0					
FITZ	**Fitzroy Crossi**	**42.28 212**	P	**P**	**18 42 15.7**	**-0.1**
	comp=Z,1.4nm,0.7s,mb3.7,baz=181,slow=22,SNR=11					
ASAR	**Alice Springs**	**43.93 198**	P	**P**	**18 42 28.9**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.7,baz=18,slow=6.4,SNR=23					
ULN	**Ulaanbaatar**	**44.23 321⇑**	*e*P	**P**	**18 42 31.5**	**+0.2**
ULN	**Ulaanbaatar**	**44.23 321**	P	**P**	**18 42 31.8**	**+0.4**
	comp=Z,1.8nm,0.9s,mb3.8					
SONM	**Songino Array**	**44.61 321**	P	**P**	**18 42 35.1**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.6,baz=133,slow=10,SNR=6.7					
SONM			LR	LR	18 59 28.8	
	comp=Z,44nm,20.9s,MS3.4,baz=332,slow=34					
YAK	**Yakutsk**	**45.41 348⇑**	*e*P	**P**	**18 42 40.6**	**+0.2**
YAK			pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7					
YAK	**Yakutsk**	**45.41 348**	*e*P	**P**	**18 42 40.0**	**-0.5**
	comp=Z,10.0nm,0.8s,mb4.7					
CMAR	**Chiang Mai Arr**	**46.20 278**	P	**P**	**18 42 45.5**	**-1.9**
	comp=Z,1.4nm,0.9s,mb3.9,baz=64,slow=7.0,SNR=7.9					
ZAK	**Zakamensk**	**47.57 323**	*e*P	**P**	**18 42 49.3**	**-8.4**
ZAK			pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.9					
MBWA	**Marble Bar**	**47.94 216**	*e*P	**P**	**18 42 60.0**	**-0.9**
	comp=Z,8.7nm,0.9s,mb4.8					
STKA	**Stephens Creek**	**50.32 187**	*e*P	pP	18 43 34.6	+5.2
	comp=Z,3.3nm,1.4s					
BILL	**Bilibino**	**51.01 9**	P	**P**	**18 43 25.0**	**+1.4**
BILL			*e*	pP	18 43 36.4	+2.3
LSA	**Lhasa**	**52.46 294**	P	**P**	**18 43 36.1**	**+1.0**
LSA			pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5					
LSA	**Lhasa**	**52.46 294**	P	**P**	**18 43 36.1**	**+0.9**
	comp=Z,7.9nm,1.4s,mb4.5					
ZAA0	**Zalesovo Array**	**59.45 322**	*e*P	**P**	**18 44 24.3**	**-0.4**
ZALV	**Zalesovo Beam**	**59.45 322**	P	**P**	**18 44 24.3**	**-0.4**
	comp=Z,1.9nm,0.8s,mb4.2,baz=98,slow=7.6,SNR=8.4					
ZALV	**Zalesovo Beam**	**59.45 322**	P	**P**	**18 44 24.3**	**-0.4**
ZAL	**Zalesovo**	**59.46 322**	P	**P**	**18 44 24.3**	**-0.5**
MKAR	**Makanchi Array**	**60.09 314**	P	**P**	**18 44 28.1**	**-1.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=93,slow=9.4,SNR=20					
MKAR	**Makanchi Array**	**60.09 314⇑**	*e*P	**P**	**18 44 30.0**	**+0.8**
KURK	**Kurchatov**	**62.81 318**	*e*P	**P**	**18 44 47.2**	**-0.3**
KURK			pmax	pmax		
	comp=Z,21nm,1.5s,mb5.0					
KURK	**Kurchatov**	**62.81 318**	*e*P	**P**	**18 44 47.2**	**-0.3**
	comp=Z,21nm,1.5s,mb5.0					
TKM2	**Tokmak 2**	**64.76 309**	*e*P	**P**	**18 45 02.1**	**+1.6**
TKM2			pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2					
TKM2	**Tokmak 2**	**64.76 309**	*e*P	**P**	**18 45 02.1**	**+1.6**
	comp=Z,2.1nm,0.8s,mb4.2					
UCH	**Uchtor**	**65.59 309**	*e*P	**P**	**18 45 07.3**	**+1.4**
	comp=Z,2.9nm,1.2s,mb4.2					
EKS2	**Erkin-Say**	**66.11 309**	P	**P**	**18 45 09.9**	**+0.6**
AML	**Almayashu**	**66.20 309**	P	**P**	**18 45 11.6**	**+1.7**
ARU	**Arti**	**74.45 325**	P	**P**	**18 46 00.4**	**+0.4**
ARU	**Arti**	**74.45 325**	P	**P**	**18 46 00.1**	**+0.1**
LPAZ	**La Paz**	**145.71 92**	PKPbc	PKPbc	18 54 05.2	+3.6
	comp=Z,0.7nm,0.7s,baz=209,slow=5.5,SNR=3.6					
LPAZ	**La Paz**	**145.71 92**	PKPbc	PKPbc	18 54 05.2	+3.6

MAN 28 18:38:59,592N×12630E,h30km,mb5.0,ML3.9,MS4.0, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.02**	**358**	*e*P	Pn	18 39 16.6	-0.8
MATI				*e*S	Sn	18 39 31.1	+0.4
GSPH	**General Santos**	**1.36**	**277⇑**	*e*P	Pn	18 39 18.4	-3.5
GSPH				*e*S	Sn	18 39 32.5	-6.4
DMPH	**Davao City--Mi**	**1.40**	**326⇑**	*i*P	Pn	18 39 22.9	+0.4
DMPH				*i* S	Sn	18 39 41.0	+0.9
BUKP	**Musuan**	**2.31**	**328**	*e*P	Pn	18 39 36.2	+1.2
BUKP				*e*S	Sn	18 40 03.1	+0.8
IPIL	**Ipil**	**4.14**	**297**	*e*P	Pn	18 40 02.7	+2.4

MAN 28 19:09:49,925N×12306E,h1km,mb4.1,ML3.0,MS2.7, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.20**	**62**	*i*P	Pg	19 09 53.3	+0.5
TBP	**Tagbilaran**	**0.90**	**61**	*e*P	Pg	19 10 06.3	0.0
TBP				*e*S	Sg	19 10 18.3	+0.2
LLP	**Lapu-Lapu**	**1.39**	**40**	*e*P	Pn	19 10 14.0	-1.5
LLP				*e*S	Sg	19 10 32.1	-1.4
PAGZ	**Pagadian**	**1.43**	**167**	*e*P	Pn	19 10 16.6	+0.5
PAGZ				*e*S	Sg	19 10 35.9	+0.9
GUIM	**Jordan**	**1.44**	**341**	*e*P	Pn	19 10 16.7	+0.4
GUIM				*e*S	Sg	19 10 36.4	+1.0
IPIL	**Ipil**	**1.53**	**198**	*e*P	Pn	19 10 18.9	+1.4
IPIL				*e*S	Sn	19 10 42.0	+3.9
MSLP	**Maasin**	**1.98**	**64**	*e*P	Pn	19 10 24.8	+1.1
MSLP				*e*S	Sn	19 10 51.0	+1.9

*ISCJB **28** 19:41:36.0±0.5,3906N±005×11052E±005,h10km, mb3.6/8,Error ellipse: s-maj=7.0km s-min=5.2km az=162.4*
*IDC **28** 19:41:36.8±1.8,3903N×11042E,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.5/22,mbtmp3.6/5,ML3.3/1,Error ellipse: s-maj=48.3km s-min=18.7km az=72.0*
*BJI **28** 19:41:37.3,3901N×11020E,h13km,mB4.0,ML3.3,Ms3.3, Msz3.2*
*NEIC **28** 19:41:38.8±0.6,3901N×11026E,h10km,mb3.8/5,Error ellipse: s-maj=10.3km s-min=8.7km az=91.0*
ISC 28 19:41:38.6±0.5,3903N±005×11040E±005,h10km,n18, σ0°86/22,mb3.6/8,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**1.60**	**350**	*e*P	**Pn**	**19 42 06.5**	**-0.5**
BJT	**Baijiatuau**	**4.57**	**76**	Pn	**Pn**	**19 42 50.2**	**+2.4**
BJT				*e*Sg	**Sg**	**19 44 05.9**	**+0.5**
BJI	**Beijing**	**4.58**	**75**	PG	**Pg**	**19 43 01.8**	**-4.5**
BJI				SG	**Sg**	**19 44 04.3**	**-1.4**
BJI				Smax			
	comp=N,50nm,0.6s						
BJI				Smax			
	comp=E,38nm,0.6s						
XAN	**Xi'an**	**5.12**	**194**	P	**Pn**	**19 42 55.8**	**+0.5**
XAN				LR	LR		
	comp=N,83nm,3.6s						
XAN				LR	LR		
	comp=E,64nm,3.9s						
XAN				LR	LR		
	comp=Z,112nm,3.3s						
LZH	**Lanzhou**	**5.97**	**243**	PG	**Pg**	**19 43 24.5**	**-8.5**
LZH				SG	**Sg**	**19 44 41.5**	**-8.9**
LZH				Smax			
	comp=N,51nm,1.2s						
LZH				Smax			
	comp=E,63nm,1.2s						
LZH				LR	LR		
	comp=N,187nm,5.6s						
LZH				LR	LR		
	comp=Z,203nm,7.5s						

ULN	**Ulaanbaatar**	**9.16 346**	*e*Pn	**Pn**	**19 43 49.6**	**-1.1**
	comp=Z,2.0nm,0.7s					
SONM	**Songino Array**	**9.27 343**	Pn	**Pn**	**19 43 52.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=159,slow=13,SNR=37					
SONM			Sn	**Sn**	**19 45 37.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=166,slow=26,SNR=6.9					
SONM			Lg		19 46 29.4	
	comp=Z,0.2nm,0.3s,baz=154,slow=28,SNR=8.0					
CD2	**Chengdu**	**9.76 216**	*e*P	**Pn**	**19 43 59.8**	**+0.9**
CD2			AMB	AMB		
	comp=Z,20nm,4.2s					
LSA	**Lhasa**	**18.38 245**	P	**Pn**	**19 45 53.0**	**-0.6**
LSA	**Lhasa**	**18.38 245**	*e*Pn	**Pn**	**19 45 53.1**	**-0.4**
	comp=Z,5.5nm,0.8s					
MKAR	**Makanchi Array**	**21.92 300**	P	**P**	**19 46 31.4**	**-0.4**
	comp=Z,2.2nm,0.8s,mb3.6,baz=108,slow=12,SNR=19					
CHTO	**Chiang Mai**	**22.46 209**	P	**P**	**19 46 36.9**	**-0.9**
	comp=Z,4.0nm,1.2s,mb3.7					
CMAR	**Chiang Mai Arr**	**22.78 209**	P	**P**	**19 46 40.8**	**-0.5**
	comp=Z,3.8nm,0.8s,mb3.9,baz=15,slow=9.3,SNR=25					
ZALV	**Zalesovo Beam**	**22.91 319**	P	**P**	**19 46 43.0**	**+0.7**
	comp=Z,0.3nm,0.4s,mb3.0,baz=103,slow=10,SNR=2.4					
KURK	**Kurchatov**	**25.17 308**	*e*P	**P**	**19 47 03.3**	**-0.6**
	comp=Z,5.7nm,1.2s,mb4.0					
TKM2	**Tokmak 2**	**26.44 290**	P	**P**	**19 47 15.0**	**-0.5**
	comp=Z,1.1nm,0.7s,mb3.5					
UCH	**Uchtor**	**27.30 288**	*e*P	**P**	**19 47 24.2**	**+1.0**
	comp=Z,2.3nm,1.0s,mb3.7					
ASAR	**Alice Springs**	**66.13 156**	P	**P**	**19 52 25.9**	**-0.1**
	comp=Z,0.2nm,0.6s,mb3.4,baz=338,slow=5.8,SNR=4.3					

IDC 28 19:51:39.3±2.5,1281S×16758E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.6/16,mbtmp3.6/3,Error ellipse: s-maj=111.2km s-min=37.8km az=144.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.63**	**253**	P	P	19 58 13.2	+0.1
	0.3nm,0.5s,baz=83,slow=8.6,SNR=6.6						
ASAR	**Alice Springs**	**33.67**	**246**	P	P	19 58 22.1	-0.1
	0.7nm,0.7s,baz=75,slow=9.2,SNR=14						
CMAR	**Chiang Mai Arr**	**74.46**	**293**	P	P	20 03 20.3	+0.3
	0.3nm,0.7s,baz=124,slow=6.2,SNR=4.7						
ARCES	**ARCESS Array B**	**118.48**	**346**	PKP	PKPdf	20 10 27.5	-0.9
	0.9nm,0.4s,baz=74,slow=2.3,SNR=23						
ESDC	**Sonseca Array**	**152.22**	**346**	PKPbc	PKPbc	20 11 38.1	+0.8
	0.2nm,0.5s,baz=29,slow=3.4,SNR=4.2						

*SZGRF **28** 19:55:17.8,3421N×3337E,h33km,mb4.5,MS2.9,Cyprus region*
*BJI **28** 19:55:17.5,3535N×3330E,h10km,mB4.7,mb4.7,Ms4.5, Msz4.4*
*ISK **28** 19:55:17.5,3481N×3350E,h8km,ML4.3*
*IDC **28** 19:55:18.2±0.7,3495N×3359E,h0km,mb4.1/15, mb1 4.2/21,mb1mx4.2/29,mbtmp4.1/21,ML4.4/5,MS3.5/14, Ms1 3.5/14,ms1mx3.3/34,Error ellipse: s-maj=16.9km s-min=12.2km az=22.0*
*CSEM **28** 19:55:18.6±0.0,3485N×3351E,h15km,mb4.3/20,Ms3.2, Mw3.6,Error ellipse: s-maj=0.9km s-min=0.8km az=82.0*
*ISCJB **28** 19:55:19.8±0.3,3486N±001×3349E±002,h22km±2km, mb4.2/71,MS3.6/19,Error ellipse: s-maj=2.6km s-min=1.8km az=143.5*
*NEIC **28** 19:55:19.9,3490N×3350E,h11km,mb4.3/55,ML4.2(NIC), ML4.2(ISK),After NIC.*
NEIC Felt [IV] at Larnaca and [III] at Nicosia.
*GII **28** 19:55:19.9±0.6,3486N×3353E,h7km±2km,mb4.1/5, ML3.8/9,Mw2.9/2*
*NIC **28** 19:55:19.9±0.2,3490N×3350E,h11km,ML4.2,MW3.6*
NIC Felt earthquake; Maximum Intensity 4; Felt I=IV MM at Larnaca and I=III MM at Nicosia.
*MOS **28** 19:55:21.0±1.3,3486N×3355E,h33km,mb4.5/41,Error ellipse: s-maj=7.5km s-min=3.3km az=117.1*
*HLW **28** 19:55:22.5,3472N×3353E,h14km,Mb4.0*
*GRAL **28** 19:55:22.9±0.4,3482N×3352E,h26km±181km,MD4.3*
*NSSC **28** 19:55:28.4,3494N×3426E,h15km±22km*
ISC 28 19:55:20.2±0.4,3488N±001×3351E±002,h11km±2km, h14km±1.1km:pP-P,n416,σ1°07/445,mb4.2/71,MS3.6/19, 25C-36D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSS	**Prodhromos**	**0.17**	**298**	⇑P	**Pg**	**19 55 23.7**	**-0.3**
	33nm,0.2s						
CSS				S	**Sg**	**19 55 26.9**	**+0.3**
CSS	**Prodhromos**	**0.17**	**298⇑**	*i*P	**Pg**	**19 55 23.7**	**-0.3**
	33nm,0.2s						
CSS	**Prodhromos**	**0.17**	**298⇑**	*i*P	**Pg**	**19 55 23.7**	**-0.3**
CSS				S	**Sg**	**19 55 26.9**	**+0.3**
MAMC	**Mammari**	**0.38**	**320**	⇓*i*P	**Pg**	**19 55 27.1**	**-0.6**
LFK	**Lefkose**	**0.40**	**2**	PG	**Pg**	**19 55 27.6**	**-0.5**
LFK				*e*SG	**Sg**	**19 55 34.4**	**+1.0**
PHNC	**Paralimni**	**0.44**	**74**	⇓*e*P	**Pg**	**19 55 29.0**	**+0.1**
SZAC	**Souni-Zanaja**	**0.53**	**257**	P	**Pg**	**19 55 30.1**	**-0.5**
LEF	**Lefka**	**0.56**	**295**	*e*PG	**Pg**	**19 55 30.1**	**-1.1**
LEF				*e*SG	**Sg**	**19 55 38.4**	**-0.2**
ALFC	**Alevga**	**0.80**	**290**	P	**Pg**	**19 55 33.6**	**-2.0**
	53nm,0.3s						
ALFC				S	**Sg**	**19 55 46.2**	**+0.1**
EREN	**Erenkoy**	**0.84**	**40**	*e*PG	**Pg**	**19 55 34.7**	**-1.8**
PPCY	**Paphos**	**0.96**	**270**	P	**Pg**	**19 55 38.2**	**-0.5**
AKMC	**Akamas**	**0.98**	**279**	P	**Pg**	**19 55 38.3**	**-0.8**
MEST	**Erdemli**	**1.78**	**17**	*i*P	**Pn**	**19 55 48.0**	**-2.8**
MEST				*i*S	**Sn**	**19 56 13.7**	**+0.3**
ERMK	**Ermenek**	**1.82**	**345**	*i*P	**Pn**	**19 55 49.5**	**-2.0**
ERMK				*i*S	**Sn**	**19 56 11.6**	**-2.9**
BHL	**Bhannes**	**2.02**	**118**	*e*P	**Pn**	**19 55 54.2**	**0.0**
BHL				*e*S	**Sn**	**19 56 17.1**	**-2.3**
BHL	**Bhannes**	**2.02**	**118**	*e*P	**Pn**	**19 55 54.2**	**0.0**
BHL				*e*S	**Sn**	**19 56 17.0**	**-2.4**
MATL	**Matirih**	**2.05**	**132**	*e*P	**Pn**	**19 55 54.1**	**-0.5**
HWQ	**Hawqa**	**2.10**	**106**	*e*P	**Pn**	**19 55 55.2**	**+0.1**
HWQ	**Hawqa**	**2.10**	**106**	*e*P	**Pn**	**19 55 55.2**	**0.0**
MERS	**Mersin**	**2.14**	**22**	*e*PN	**Pn**	**19 55 56.1**	**+0.2**
ARNB	**Al Arnab**	**2.23**	**63**	⇑P	**Pn**	**19 55 57.1**	**0.0**
ARNB	**Al Arnab**	**2.23**	**63**	⇑*i*P	**Pn**	**19 55 57.1**	**0.0**
HDMB	**Hadim**	**2.24**	**338**	*e*PN	**Pn**	**19 55 55.8**	**-1.3**
HDMB				*e*SN	**Sn**	**19 56 25.5**	**+0.7**
HNTI	**Hanita**	**2.26**	**142**	Pn	**Pn**	**19 55 57.0**	**-0.5**
HNTI				Sn	**Sn**	**19 56 26.0**	**+0.6**
BIDA	**Albida**	**2.31**	**86**	⇑*i*P	**Pn**	**19 55 57.1**	**-1.0**
SLNF	**Slenfeh**	**2.33**	**71**	⇑P	**Pn**	**19 55 56.7**	**-1.7**
SLNF	**Slenfeh**	**2.33**	**71**	⇑*i*P	**Pn**	**19 55 56.7**	**-1.7**
RCY	**Rachaya**	**2.37**	**125**	*e*P	**Pn**	**19 55 58.9**	**0.0**
RCY				*e*S	**Sn**	**19 56 25.7**	**-2.2**
MMAI	**Mount Meron Ar**	**2.44**	**139**	Pn	**Pn**	**19 55 59.4**	**-0.5**
	233nm,0.3s,baz=325,slow=11,SNR=533						
MMAI				Sn	**Sn**	**19 56 29.7**	**0.0**
	175nm,0.3s,baz=317,slow=28,SNR=15						
HRI	**Mount Hermon**	**2.45**	**131**	Pn	**Pn**	**19 56 00.1**	**+0.1**
KSDI	**Kefar Szold**	**2.45**	**133**	Pn	**Pn**	**19 55 59.9**	**-0.2**
WRDH	**Warideh**	**2.45**	**74**	⇑P	**Pn**	**19 55 59.8**	**-0.4**
WRDH	**Warideh**	**2.45**	**74**	⇑*i*P	**Pn**	**19 55 59.8**	**-0.3**
FKH	**Fakeheh**	**2.47**	**104**	*e*P	**Pn**	**19 56 00.7**	**+0.3**
FKH	**Fakeheh**	**2.47**	**104**	*e*P	**Pn**	**19 56 00.6**	**+0.3**
HTY	**Hatay**	**2.47**	**59**	*e*PN	**Pn**	**19 55 59.5**	**-0.9**
BRBR	**Barbar**	**2.50**	**125**	⇑P	**Pn**	**19 56 02.2**	**+1.5**
BRBR				⇑S	**Sn**	**19 56 28.3**	**-2.9**
BRBR	**Barbar**	**2.50**	**125**	⇑*i*P	**Pn**	**19 56 02.2**	**+1.5**
BRBR				⇑*i*S	**Sn**	**19 56 28.3**	**-2.9**
OFRI	**'Ofer**	**2.57**	**151**	Pn	**Pn**	**19 56 01.1**	**-0.6**
BTCH	**Batrach**	**2.67**	**64**	⇑*i*P	**Pn**	**19 56 03.2**	**+0.1**
KARA	**Karaisali**	**2.68**	**27**	*e*PN	**Pn**	**19 56 03.2**	**0.0**
KSHT	**Keshet**	**2.69**	**134**	Pn	**Pn**	**19 56 03.7**	**+0.3**
COBT	**Iskenderun**	**2.77**	**53**	*i*P	**Pn**	**19 56 04.1**	**-0.3**
COBT				*i*S	**Sn**	**19 56 38.5**	**+0.7**
MMLI	**Mount Malkishu**	**2.91**	**146**	Pn	**Pn**	**19 56 06.8**	**+0.4**
MMLI				Sn	**Sn**	**19 56 42.8**	**+1.5**
SLTI	**Sal'it**	**2.93**	**154**	Pn	**Pn**	**19 56 06.0**	**-0.6**
SLTI				Sn	**Sn**	**19 56 43.1**	**+1.4**
ANTB	**Antalya**	**3.07**	**312**	*e*PN	**Pn**	**19 56 08.5**	**-0.2**
DRWC	**Darouich**	**3.10**	**55**	⇑P	**Pn**	**19 56 09.7**	**+0.8**
DRWC	**Darouich**	**3.10**	**55**	⇑*i*P	**Pn**	**19 56 09.7**	**+0.7**
HMDT	**Nahal Hemdat**	**3.11**	**147**	Pn	**Pn**	**19 56 09.8**	**+0.6**
HMDT				Sn	**Sn**	**19 56 47.5**	**+1.2**
KONT	**Konya--Tatoy**	**3.19**	**343**	*e*PN	**Pn**	**19 56 10.2**	**-0.1**
ROOS	**tl_alroos**	**3.20**	**102**	⇑P	**Pn**	**19 56 11.5**	**+1.1**
ROOS	**tl_alroos**	**3.20**	**102**	⇑*i*P	**Pn**	**19 56 11.5**	**+1.2**

KOZT	**Kozan**	**3.20**	**35**	*e*PN	**Pn**	**19 56 10.5**	**+0.1**
NIG	**Nigde**	**3.34**	**15**	*e*PN	**Pn**	**19 56 12.5**	**+0.2**
LADK	**Ladik-KONYA**	**3.44**	**345**	*e*PN	**Pn**	**19 56 13.0**	**-0.7**
SALA	**Sala**	**3.45**	**128**	⇓P	**Pn**	**19 56 15.4**	**+1.7**
SALA				⇑S	**Sn**	**19 56 54.2**	**-0.3**
SALA	**Sala**	**3.45**	**128**	⇓*i*P	**Pn**	**19 56 15.4**	**+1.6**
SALA				⇑*i*S	**Sn**	**19 56 54.2**	**-0.4**
AKAS	**Kas**	**3.46**	**294**	*i*P	**Pn**	**19 56 15.8**	**+1.8**
AKAS				*i* S	**Sn**	**19 57 02.7**	**+7.8**
ELL	**Elmali**	**3.47**	**303**	*e*PN	**Pn**	**19 56 14.2**	**+0.1**
BCK	**Bucak**	**3.50**	**318**	*e*PN	**Pn**	**19 56 14.5**	**0.0**
DSI	**Dead Sea**	**3.66**	**154**	Pn	**Pn**	**19 56 17.2**	**+0.6**
YTIR	**Yattir**	**3.76**	**159**	Pn	**Pn**	**19 56 18.9**	**+0.8**
YTIR				Sn	**Sn**	**19 57 03.8**	**+1.6**
GAZ	**Gaziantep**	**3.77**	**52**	*e*PN	**Pn**	**19 56 18.7**	**+0.5**
KMRS	**Kahramanmaras**	**3.79**	**45**	*e*PN	**Pn**	**19 56 18.9**	**+0.4**
ISP	**Isparta**	**3.82**	**322**	*e*PN	**Pn**	**19 56 19.1**	**+0.2**
ISP	**Isparta**	**3.82**	**322**	*e*PN	**Pn**	**19 56 19.6**	**+0.6**
MZDA	**Masada**	**3.89**	**156**	Pn	**Pn**	**19 56 20.6**	**+0.8**
ASF	**Jabal al Asfar**	**3.91**	**133**	Pn	**Pn**	**19 56 20.6**	**+0.5**
	14nm,0.3s,baz=187,slow=7.9,SNR=84						
ASF				Sn	**Sn**	**19 57 05.9**	**-0.1**
	6.9nm,0.3s,baz=3.6,slow=22,SNR=3.2						
ASF				LR	LR	19 58 10.7	
	comp=Z,172nm,18.4s,baz=14,slow=44						
ASF	**Jabal al Asfar**	**3.91**	**133**	P	**Pn**	**19 56 20.6**	**+0.4**
ASF						19 57 05.9	
RSH		**3.92**	**177**	P	**Pn**	**19 56 19.6**	**-0.6**
RTMI	**Retamim**	**3.94**	**165**	Pn	**Pn**	**19 56 20.4**	**-0.3**
KIZT	**Kizilcal**	**4.20**	**342**	*e*PN	**Pn**	**19 56 24.6**	**+0.4**
SHUT	**Suhut-Afyon**	**4.37**	**328**	*e*PN	**Pn**	**19 56 26.9**	**+0.5**
BNN	**Bunyan**	**4.38**	**25**	*e*PN	**Pn**	**19 56 27.4**	**+0.8**
DALT	**Dalyan (Mudla)**	**4.39**	**297**	*e*PN	**Pn**	**19 56 27.2**	**+0.5**
RMNI	**Mount Ramon**	**4.40**	**166**	Pn	**Pn**	**19 56 27.6**	**+0.7**
KAMT	**Kaman**	**4.48**	**2**	*e*PN	**Pn**	**19 56 28.2**	**+0.2**
ZFRI	**Zfri**	**4.54**	**162**	Pn	**Pn**	**19 56 29.4**	**+0.6**
SARI	**SarD1z-Kayseri**	**4.57**	**33**	*e*PN	**Pn**	**19 56 25.3**	**-3.9**
PRNI	**Paran**	**4.69**	**164**	Pn	**Pn**	**19 56 31.7**	**+0.9**
KHL	**Karahalli**	**4.70**	**318**	*e*PN	**Pn**	**19 56 31.7**	**+0.7**
YER	**Yerkesik**	**4.80**	**299**	*e*PN	**Pn**	**19 56 33.1**	**+0.7**
KRMI	**Paran Flat**	**4.86**	**168**	Pn	**Pn**	**19 56 33.5**	**+0.3**
HNKL	**Nakhl**	**4.95**	**175**	⇑P	**Pn**	**19 56 34.4**	**-0.2**
HNKL				S	**Sn**	**19 57 25.6**	**-6.2**
HNKL	**Nakhl**	**4.95**	**175**	P	**Pn**	**19 56 34.3**	**-0.2**
YOZ	**Yozgat**	**4.96**	**16**	*e*PN	**Pn**	**19 56 35.4**	**+0.8**
ALT	**Altintas**	**4.98**	**328**	*e*PN	**Pn**	**19 56 35.3**	**+0.5**
URFA	**Urfa**	**5.00**	**58**	*e*PN	**Pn**	**19 56 36.2**	**+1.1**
HRFI	**Mount Harif**	**5.00**	**165**	Pn	**Pn**	**19 56 35.6**	**+0.5**
ANTO	**Ankara**	**5.01**	**354**	*e*PN	**Pn**	**19 56 36.6**	**+1.3**
ANTO	**Ankara**	**5.01**	**354**	⇓*i*P	**Pn**	**19 56 38.1**	**+2.8**
ANTO	**Ankara**	**5.01**	**354**	*e*P	**Pn**	**19 56 34.3**	**-1.0**
ANTO	**Ankara**	**5.01**	**354**	*e*Pn	**Pn**	**19 56 36.6**	**+1.3**
ANTO	**Ankara**	**5.01**	**354**	*e*Pn	**Pn**	**19 56 34.3**	**-0.9**
ANTO				⇓P		19 56 38.1	
HHAG	**Hagoal**	**5.06**	**194**	⇑P	**Pn**	**19 56 35.5**	**-0.5**
SUZ		**5.06**	**187**	P	**Pn**	**19 56 35.5**	**-0.5**
KOT	**Kottamia**	**5.14**	**197**	⇓P	**Pn**	**19 56 37.0**	**-0.1**
KOT				S	**Sn**	**19 57 31.2**	**-5.2**
MBRI	**Mt Berech**	**5.21**	**166**	Pn	**Pn**	**19 56 39.0**	**+0.9**
MALT	**Malatya**	**5.23**	**48**	⇓*i*P	**Pn**	**19 56 40.1**	**+1.8**
MALT	**Malatya**	**5.23**	**48**	*e*Pn	**Pn**	**19 56 38.7**	**+0.4**
MALT	**Malatya**	**5.23**	**48**	*e*Pn	**Pn**	**19 56 38.6**	**+0.4**
MALT	**Malatya**	**5.23**	**48**	Pn	**Pn**	**19 56 39.6**	**+1.3**
MLSB	**Milas**	**5.23**	**299**	*e*PN	**Pn**	**19

TIP Timpagrande 14.05 293 *e*Pn **Pn 19 58 37.6 -1.6**
BURAR Bucovina Array 14.16 336⇓*i*P **Pn 19 58 50.3 +10**
DRGR 14.42 329⇓*i*P **Pn 19 58 56.1 +12**
CUC Castrocucco 14.95 295 *e*Pn **Pn 19 58 49.4 -2.0**
comp=Z,35nm,0.7s
CUC Castrocucco 14.95 295 *e*Pn **Pn 19 58 49.4 -2.0**
comp=Z,35nm,0.7s
PKSM Moragy 15.96 320⇓*i*P **Pn 19 59 05.9 +1.3**
UZH Uzhgorod 16.06 332 *e*P **Pn 19 59 08.0 +2.1**
KIEV Kiev 16.11 350 *e*P **Pn 19 59 05.1 -1.4**
KIEV pmax pmax
comp=Z,15nm,0.5s
KIEV Kiev 16.11 350 *e*P **Pn 19 59 05.1 -1.4**
comp=Z,15nm,0.5s
KIEV Kiev 16.11 350 *e*Pn **Pn 19 59 05.1 -1.4**
comp=Z,16nm,0.5s
AKASG Malin Array Be 16.12 350 Pn **Pn 19 59 03.4 -3.1**
comp=Z,1.5nm,0.3s,baz=165,slow=11,SNR=16
AKASG Malin Array Be 16.12 350 *i* P **Pn 19 59 05.9 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG Malin Array Be 16.12 350 *i* P **Pn 19 59 05.9 -0.6**
comp=Z,5.0nm,0.4s
KOLS Kolonicke sedl 16.32 333 *e*P **Pn 19 59 11.9 +2.8**
LVV L'vov 16.47 338 *e*P **Pn 19 59 14.7 +3.6**
PSZ Piszkesteto 16.52 326 *e*P **Pn 19 59 15.2 +3.5**
PSZ pmax pmax
comp=Z,13nm,1.0s
PSZ Piszkesteto 16.52 326⇑*e*P **Pn 19 59 15.5 +3.8**
PSZ Piszkesteto 16.52 326⇓*i*P **Pn 19 59 15.8 +4.1**
PSZ Piszkesteto 16.52 326 *e*Pn **Pn 19 59 15.2 +3.5**
comp=Z,13nm,1.0s
MIDA Miranda 16.55 300 P **Pn 19 59 15.7 +3.6**
CRVS Cervenica-Dubn 16.61 331 *e*P **Pn 19 59 15.4 +2.6**
KECS Kecovo 16.68 328 *e*P **Pn 19 59 16.8 +3.0**
KECS pmax pmax
comp=Z,5.0nm,1.4s
KECS Kecovo 16.68 328 *e*P **Pn 19 59 16.8 +3.0**
comp=Z,4.8nm,1.4s
KWP Kalwaria 16.74 335 *e*P **Pn 19 59 15.6 +1.1**
KWP pmax pmax
comp=Z,72nm,0.9s
KWP Kalwaria 16.74 335⇓*i*P **Pn 19 59 17.8 +3.3**
KWP Kalwaria 16.74 335 *e*P **Pn 19 59 15.6 +1.1**
comp=Z,72nm,0.9s
KWP Kalwaria 16.74 335 *e*Pn **Pn 19 59 15.6 +1.1**
comp=Z,72nm,0.9s
STHS Stebnicka Huta 17.10 332 *e*P **Pn 19 59 21.4 +2.3**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 17.10 332 *e*P **Pn 19 59 21.4 +2.3**
comp=Z,5.3nm,0.9s
PTQR Pietraquaria 17.27 300 P **Pn 19 59 25.0 +3.8**
comp=Z,29nm,0.8s
VYHS Vyhne 17.43 326 *e*P **Pn 19 59 25.0 +1.9**
VYHS pmax pmax
comp=Z,6.0nm,1.4s
VYHS Vyhne 17.43 326 *e*P **Pn 19 59 25.0 +1.9**
comp=Z,5.5nm,1.4s
FIAM Fiamignano 17.55 301 P **Pn 19 59 26.5 +1.8**
KOLL Kolacno 17.69 325 *e*P **Pn 19 59 27.8 +1.5**
PDKS Podkum 17.93 314 *i* Pn **Pn 19 59 30.6 +1.3**
ZST Bratislava 18.06 322 *e*P **Pn 19 59 33.9 +3.0**
ZST pmax pmax
comp=Z,6.0nm,0.7s
ZST Bratislava 18.06 322 *e*P **Pn 19 59 33.8 +2.9**
ZST Bratislava 18.06 322 *e*P **Pn 19 59 33.9 +3.0**
comp=Z,6.1nm,0.7s
MODS Modra-Piesok 18.09 323 *e*P **Pn 19 59 31.1 -0.2**
FSSB Fossombrone 18.27 305 P **Pn 19 59 37.0 +3.5**
ARSA Arzberg 18.30 318⇑*i*P **Pn 19 59 34.5 +0.7**
comp=Z,7.7nm,0.7s,SNR=6.5
TRI Trieste 18.50 312 *e*P **Pn 19 59 36.2 -0.1**
TRI pmax pmax
comp=Z,16nm,0.9s
TRI Trieste 18.50 312 *e*P **Pn 19 59 36.2 -0.1**
comp=Z,16nm,0.9s
TRI Trieste 18.50 312 *e*Pn **Pn 19 59 36.2 0.0**
comp=Z,16nm,0.9s
BADI Badiali 18.56 304 P **Pn 19 59 40.8 +3.7**
OKC Ostrava-Krasne 18.71 328 *e*P **Pn 19 59 39.3 +0.4**
OKC AMS AMS 20 08 20.0
comp=Z,100nm,13.0s
MORC Moravsky Berou 18.94 327⇓*i*P **Pn 19 59 41.6 0.0**
MORC Moravsky Berou 18.94 327 *e*P **Pn 19 59 39.4 -2.2**
MORC Moravsky Berou 18.94 327 *e*Pn **Pn 19 59 39.4 -2.3**
MYKA Terra Mystica 19.03 314⇑*i*P **Pn 19 59 43.0 +0.3**
comp=Z,13nm,0.7s
VRAC Vranov 19.05 324 P **Pn 19 59 42.3 -0.7**
comp=Z,0.4nm,0.3s,baz=146,slow=10,SNR=4.0
VRAC LR LR 20 08 11.4
comp=Z,61nm,19.5s,baz=136,slow=41
VRAC Vranov 19.05 324⇓*i*P **Pn 19 59 43.3 +0.3**
PTCC Patocco-Chiusa 19.09 313 P **Pn 19 59 44.5 +1.1**
comp=Z,15nm,1.0s
MOA Molln 19.34 318⇓*i*P **Pn 19 59 46.3 -0.2**
comp=Z,2.9nm,0.6s
TREC Trest 19.58 323 AMS AMS 20 08 50.0
comp=Z,100nm,13.8s
VSL Villasalto 19.75 291 *e*P **Pn 19 59 51.3 -0.2**
comp=Z,48nm,1.0s
VSL Villasalto 19.75 291 *e*P **Pn 19 59 51.3 -0.2**
comp=Z,48nm,1.0s
DPC Dobruska-Polom 19.90 326 *e*P **Pn 19 59 51.4 -1.7**
DPC Dobruska-Polom 19.90 326 *e*P **Pn 19 59 51.3 -1.8**
DPC AMS AMS 20 09 10.0
comp=Z,200nm,11.7s
CTI Castel Tesino 19.96 311 P **Pn 19 59 52.6 -1.3**
UPC Upice 20.15 326 *e*P **P 19 59 54.4 +0.2**
UPC Upice 20.15 326 *e*P **P 19 59 54.3 +0.1**
GEC2 GERESS Array S 20.22 320 *e*P **P 19 59 54.8 -0.2**
GEC2 pmax pmax
comp=Z,23nm,1.3s
GEC2 GERESS Array S 20.22 320 *e*P **P 19 59 54.8 -0.2**
comp=Z,23nm,1.3s
GERES GERESS Array B 20.22 320 P **P 19 59 54.2 -0.8**
comp=Z,4.7nm,0.6s,baz=121,slow=11,SNR=34
OBN Obninsk 20.34 5⇑*e*P **P 19 59 55.2 -1.1**
OBN pmax pmax
comp=Z,22nm,0.8s
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.3
OBN Obninsk 20.34 5 *e*P **P 19 59 55.2 -1.1**
comp=Z,100nm,15.0s
OBN Obninsk 20.34 5 *e*P **P 19 59 54.4 -1.8**
comp=Z,25nm,0.8s
APPI Appiano 20.41 311 P **P 20 00 01.2 +4.1**
KHC Kasperske Hory 20.46 320 *e*P **P 19 59 57.4 -0.2**
KHC Kasperske Hory 20.46 320 *e*P **P 19 59 57.0 -0.6**
KHC AMS AMS 20 09 30.0
comp=Z,100nm,15.7s
SUW Suwalki 20.46 342 *e*P **P 19 59 56.1 -1.4**
SUW pmax pmax
comp=Z,49nm,1.0s
SUW Suwalki 20.46 342 *e*P **P 19 59 56.1 -1.4**
comp=Z,49nm,1.0s
PRU Pruhonice 20.50 323 *e*P **P 19 59 57.7 -0.4**
PRU Pruhonice 20.50 323 *e*P **P 19 59 57.1 -1.0**
PRU AMS AMS 20 09 20.0
comp=Z,100nm,13.1s
WTTA Wattenberg 20.54 314⇑*i*P **P 19 59 58.6 +0.2**
comp=Z,8.8nm,0.7s,SNR=6.3
WTTA Wattenberg 20.54 314⇑*i*P **P 19 59 58.6 +0.2**
WTTA pmax pmax
comp=Z,9.0nm,0.7s
PGF Pioggiola 20.56 299 *e*P **P 19 59 57.3 -1.4**
comp=Z,10nm,0.6s
PGF Pioggiola 20.56 299 *e*P **P 19 59 57.3 -1.4**
PGF pmax pmax
comp=Z,5.0nm,0.6s
PGF Pioggiola 20.56 299 *e*P **P 19 59 57.3 -1.4**
comp=Z,5.1nm,0.6s
MABI Malga Bissina 20.68 310 P **P 20 00 02.7 +2.7**
WET Wettzell 20.84 319 *e*P **P 20 00 01.7 0.0**
WET pmax pmax
comp=Z,43nm,0.8s
WET Wettzell 20.84 319 *e*P **P 20 00 01.7 0.0**
comp=Z,43nm,0.8s
PVCC Panska Ves 20.84 324 *e*P **P 20 00 02.5 +0.8**
PVCC Panska Ves 20.84 324 *e*P **P 20 00 01.3 -0.4**
PVCC AMS AMS 20 09 50.0
comp=Z,200nm,13.9s
MOTA Moosalm 20.89 313⇓*i*P **P 20 00 00.7 -1.6**
comp=Z,6.2nm,0.5s
MOTA Moosalm 20.89 313⇓*i*P **P 20 00 00.7 -1.6**

MOTA pmax pmax
comp=Z,6.0nm,0.5s
FETA Feichten 20.97 312⇓*i*P **P 20 00 05.2 +2.1**
comp=Z,10nm,0.8s,SNR=12
MOS Moscow 21.05 6 *e*P **P 20 00 01.9 -2.0**
MOS *e* 20 00 21.0
MOS pmax pmax
comp=Z,59nm,1.0s,mb4.9
BRG Berggiesshubel 21.37 324 *e*P **P 20 00 07.3 -0.1**
BRG S **S 20 04 16.0 +12**
BRG pmax pmax
comp=Z,10.0nm,1.1s,mb4.1
BRG MLR MLR
comp=N,63nm,11.8s,MS3.4
BRG MLR MLR
comp=E,71nm,12.1s,MS3.4
BRG MLR MLR
comp=Z,109nm,9.7s
BRG Berggiesshubel 21.37 324 *e*P **P 20 00 07.1 -0.3**
comp=Z,16nm,1.1s,mb4.3
BRG Berggiesshubel 21.37 324 *e*P **P 20 00 07.3 -0.1**
comp=Z,9.5nm,1.1s,mb4.0
BRG Berggiesshubel 21.37 324 *e*P **P 20 00 07.3 -0.1**
comp=Z,16nm,1.1s,mb4.3
BRG S **S 20 04 16.0 +12**
BRG
comp=N,105nm,11.8s
BRG
comp=E,119nm,12.1s
BRG
comp=Z,182nm,9.7s
DAVOX Davos/Dischmat 21.38 311 LR LR 20 09 55.7
comp=Z,66nm,19.9s,MS3.0,baz=266,slow=41
DAVA Damuels 21.60 312⇑*i*P **P 20 00 10.8 +0.8**
comp=Z,10nm,0.8s,mb4.3
FBE Freiberg 21.68 324 *e*P **P 20 00 12.9 +2.1**
comp=Z,29nm,1.5s,mb4.5
NKC Novy Kostel 21.71 321 *e*P **P 20 00 10.0 -1.1**
MANZ Manzenberg 21.74 320 *e*P **P 20 00 11.2 -0.2**
comp=Z,34nm,0.9s,mb4.8
WERN Wernitzgruen 21.78 321 *e*P **P 20 00 12.4 +0.6**
comp=Z,13nm,0.9s,mb4.4
GUNZ Gunzen 21.85 322 *e*P **P 20 00 13.3 +0.8**
comp=Z,23nm,0.9s,mb4.6
WERD Werda 21.91 322 *e*P **P 20 00 14.7 +1.5**
comp=Z,18nm,0.9s,mb4.5
SBF Sospel 21.99 302 *e*P **P 20 00 14.3 +0.1**
comp=Z,21nm,0.8s,mb4.3
SBF Sospel 21.99 302 *e*P **P 20 00 14.3 +0.1**
SBF pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
SBF Sospel 21.99 302 *e*P **P 20 00 14.3 +0.1**
comp=Z,10nm,0.8s,mb4.3
GRA1 Grafenberg Arr 22.04 319 *e*P **P 20 00 15.1 +0.5**
comp=Z,11nm,0.9s,mb4.3
GRF Grafenberg Arr 22.04 319 *e*P **P 20 00 15.1 +0.5**
comp=Z,11nm,0.9s,mb4.3
GRF *e*L 20 08 57.6
comp=Z,48nm,20.2s
CLL Collm 22.10 324⇓*i*P **P 20 00 16.3 +1.0**
CLL pmax pmax
comp=Z,16nm,1.3s,mb4.3
CLL MLR MLR
comp=Z,200nm,15.2s,MS3.6
CLL Collm 22.10 324 *e*P **P 20 00 16.1 +0.8**
comp=Z,8.0nm,0.8s,mb4.2
CLL Collm 22.10 324⇓*i*P **P 20 00 16.3 +1.0**
comp=Z,14nm,1.3s,mb4.2
CLL *i* pP 20 00 18.6
CLL *i* x x 20 00 29.1
CLL *i* (PP) 20 00 34.0
CLL *e*S **S 20 04 24.0 +5.3**
CLL Collm 22.10 324⇓*i*P **P 20 00 16.3 +1.0**
comp=Z,14nm,1.3s,mb4.2
CLL *i* 20 00 18.6
CLL *e*S **S 20 04 24.0 +5.3**
CLL LR LR
comp=Z,200nm,15.2s,MS3.6
MOX Moxa 22.38 321 *e*P **P 20 00 17.5 -0.7**
comp=Z,21nm,1.1s,mb4.5
MOX Moxa 22.38 321 *e*P **P 20 00 17.5 -0.7**
MOX pmax pmax
comp=Z,21nm,1.1s,mb4.5
MOX Moxa 22.38 321 *e*P **P 20 00 18.1 -0.1**
comp=Z,20nm,1.1s,mb4.5
FRF La Foret Royal 22.47 301 *e*P **P 20 00 19.4 +0.1**
comp=Z,8.2nm,0.7s,mb4.0
FRF La Foret Royal 22.47 301 *e*P **P 20 00 19.4 +0.1**
FRF pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
FRF La Foret Royal 22.47 301 *e*P **P 20 00 19.4 +0.1**
comp=Z,4.1nm,0.7s,mb4.0
LMR La Mourre 22.52 300 *e*P **P 20 00 20.2 +0.4**
MBDF Montbardon 22.69 304 *e*P **P 20 00 21.3 -0.3**
comp=Z,13nm,0.7s,mb4.2
MBDF Montbardon 22.69 304 *e*P **P 20 00 21.3 -0.3**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
MBDF Montbardon 22.69 304 *e*P **P 20 00 21.3 -0.3**
comp=Z,6.4nm,0.7s,mb4.2
BNI Bardonecchia 22.84 304 *e*P **P 20 00 23.0 -0.2**
BNI *e* 20 00 27.1
BNI pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
BNI Bardonecchia 22.84 304 *e*P **P 20 00 23.0 -0.2**
comp=Z,6.0nm,0.8s,mb4.1
BNI Bardonecchia 22.84 304 *e*P **P 20 00 23.0 -0.2**
comp=Z,6.0nm,0.8s,mb4.1
BNI *e*P 20 00 27.1
LPG La Plagne 22.93 306 *e*P **P 20 00 24.9 +0.8**
comp=Z,20nm,0.8s,mb4.3
LPG La Plagne 22.93 306 *e*P **P 20 00 24.9 +0.8**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
LPG La Plagne 22.93 306 *e*P **P 20 00 24.9 +0.8**
comp=Z,10nm,0.8s,mb4.3
LPL La Plagne 22.95 306 *e*P **P 20 00 23.8 -0.5**
comp=Z,11nm,0.8s,mb4.1
LPL La Plagne 22.95 306 *e*P **P 20 00 23.8 -0.5**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
LPL La Plagne 22.95 306 *e*P **P 20 00 23.8 -0.5**
comp=Z,5.4nm,0.8s,mb4.1
BFO Black Forest 23.00 313 *e*P **P 20 00 24.2 -0.7**
BFO pmax pmax
comp=Z,16nm,0.9s,mb4.5
BFO Black Forest 23.00 313 *e*P **P 20 00 24.2 -0.7**
comp=Z,16nm,0.9s,mb4.5
UBBA Unterbreizbach 23.32 320 *e*P **P 20 00 27.4 -0.8**
comp=Z,6.0nm,0.9s,mb4.0
SMRF Simiane la Rot 23.32 301 *e*P **P 20 00 27.2 -1.1**
AKTK Aktyubinsk 23.64 41 P **P 20 00 30.0 -1.4**
AKTO Aktyubinsk 23.64 41 P **P 20 00 30.0 -1.4**
comp=Z,6.4nm,1.0s,mb4.0,baz=252,slow=11,SNR=11
ECH Echery 23.66 312 *e*P **P 20 00 30.8 -0.8**
CDF Champ du Feu 23.67 313 *e*P **P 20 00 30.0 -1.7**
comp=Z,20nm,1.0s,mb4.2
CDF Champ du Feu 23.67 313 *e*P **P 20 00 30.0 -1.7**
CDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
CDF Champ du Feu 23.67 313 *e*P **P 20 00 30.0 -1.7**
comp=Z,10.0nm,1.0s,mb4.2
HINF Hinteralfeld 23.69 311 *e*P **P 20 00 30.4 -1.4**
comp=Z,3.8nm,0.5s,mb3.8
HINF Hinteralfeld 23.69 311 *e*P **P 20 00 30.4 -1.4**
HINF pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
HINF Hinteralfeld 23.69 311 *e*P **P 20 00 30.4 -1.4**
comp=Z,1.9nm,0.5s,mb3.8
CLZ Clausthal 23.72 323 *e*P **P 20 00 31.1 -1.0**
CLZ pmax pmax
comp=Z,19nm,0.8s,mb4.6
CLZ Clausthal 23.72 323 *e*P **P 20 00 31.1 -1.0**
comp=Z,19nm,0.8s,mb4.6
CABF La Chapelle 23.73 308 *e*P **P 20 00 31.1 -1.1**
comp=Z,18nm,1.0s,mb4.2
CABF La Chapelle 23.73 308 *e*P **P 20 00 31.1 -1.1**
CABF pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
CABF La Chapelle 23.73 308 *e*P **P 20 00 31.1 -1.1**
comp=Z,9.2nm,1.0s,mb4.2
TNS Taunus Mts 23.84 318 *e*P **P 20 00 32.3 -0.9**
TNS pmax pmax
comp=Z,16nm,1.4s,mb4.3
TNS Taunus Mts 23.84 318 *e*P **P 20 00 32.3 -0.9**
comp=Z,16nm,1.4s,mb4.3
HAU Haudompre 24.07 311 *e*P **P 20 00 34.4 -1.0**

HAU *e*MLR MLR
comp=Z,98nm,22.8s,MS2.9
HAU Haudompre 24.07 311 *e*P **P 20 00 34.4 -1.0**
HAU LR LR
comp=Z,100nm,22.8s,MS3.2
VIVF Saint-Julien-l 24.16 303 *e*P **P 20 00 36.2 0.0**
NRDL Niedersach Rie 24.25 324 *e*P **P 20 00 36.6 -0.3**
comp=Z,8.0nm,1.2s,mb4.0
LASF Ste Croix 24.55 301 *e*P **P 20 00 40.0 +0.2**
comp=Z,33nm,1.3s,mb4.4
WLF Walferdange 24.88 315 P **P 20 00 42.4 -0.3**
WLF Walferdange 24.88 315 *e*P **P 20 00 41.7 -1.0**
WLF pmax pmax
comp=Z,5.0nm,0.6s,mb4.2
WLF Walferdange 24.88 315 *e*P **P 20 00 41.7 -1.0**
comp=Z,5.1nm,0.6s,mb4.2
BSEG Bad Segeberg 25.05 327 *e*P **P 20 00 43.2 -1.0**
BSEG pmax pmax
comp=Z,13nm,1.0s,mb4.4
BSEG Bad Segeberg 25.05 327 *e*P **P 20 00 43.2 -1.0**
comp=Z,13nm,1.0s,mb4.4
MEZF Maizieres J'vi 25.06 312 *e*P **P 20 00 43.0 -1.4**
comp=Z,18nm,0.8s,mb4.4
MEZF Maizieres J'vi 25.06 312 *e*P **P 20 00 43.0 -1.4**
comp=Z,18nm,0.8s,mb4.7
BUG Bochum--Univer 25.11 319 *e*P **P 20 00 44.4 -0.3**
comp=Z,8.0nm,0.9s,mb4.2
SMF Signal de Mont 25.21 307 *e*P **P 20 00 44.4 -1.3**
comp=Z,17nm,0.8s,mb4.3
SMF Signal de Mont 25.21 307 *e*P **P 20 00 44.4 -1.3**
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
SMF Signal de Mont 25.21 307 *e*P **P 20 00 44.4 -1.3**
comp=Z,8.6nm,0.8s,mb4.3
SSF Saint Saulge 25.55 308 *e*P **P 20 00 46.7 -2.2**
comp=Z,8.0nm,0.8s,mb4.0
SSF Saint Saulge 25.55 308 *e*P **P 20 00 46.7 -2.2**
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
SSF Saint Saulge 25.55 308 *e*P **P 20 00 46.7 -2.2**
comp=Z,4.0nm,0.8s,mb4.0
AVF Avril sur Loir 25.57 307 *e*P **P 20 00 48.3 -0.7**
MTLF Montolieu 25.59 299 *e*P **P 20 00 50.0 +0.7**
BCLA Clavier 25.71 316 P **P 20 00 49.7 -0.5**
comp=Z,14nm,2.2s,mb4.1
BCLA AP pP 20 00 53.3 -0.4
GIVF Givet 25.85 315 *e*P **P 20 00 51.8 +0.3**
DOU Dourbes 25.98 315 P **P 20 00 52.0 -0.6**
comp=Z,8.4nm,2.5s,mb3.8
DOU AP pP 20 00 55.5 -0.6
BAIF Baives 26.19 314 *e*P **P 20 00 52.9 -1.7**
comp=Z,12nm,0.7s,mb4.2
BAIF Baives 26.19 314 *e*P **P 20 00 52.9 -1.7**
BAIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
BAIF Baives 26.19 314 *e*P **P 20 00 52.9 -1.7**
comp=Z,6.2nm,0.7s,mb4.2
TCF Toulx Ste Croi 26.20 305 *e*P **P 20 00 54.9 +0.2**
RJF Les Rejaudoux 26.44 303 *e*P **P 20 00 56.2 -0.7**
comp=Z,47nm,1.4s,mb4.5
RJF *e*MLR MLR
comp=Z,89nm,20.5s,MS3.0
RJF Les Rejaudoux 26.44 303 *e*P **P 20 00 56.2 -0.7**
RJF pmax pmax
comp=Z,24nm,1.4s,mb4.5
RJF MLR MLR
comp=Z,90nm,20.5s,MS3.3
RJF Les Rejaudoux 26.44 303 *e*P **P 20 00 56.2 -0.7**
comp=Z,24nm,1.4s,mb4.5
RJF LR LR
comp=Z,90nm,20.5s,MS3.3
TAM Tamanrasset 27.22 251 *e*P **P 20 01 06.3 +2.1**
ARU Arti 27.48 31*c i*P **P 20 01 07.2 +1.0**
ARU *e* 20 01 51.3
ARU *e*S **S 20 05 48.9 +2.3**
ARU *e*SS 20 07 01.2
ARU pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
ARU Arti 27.48 31 P **P 20 01 04.8 -1.3**
comp=Z,4.9nm,1.0s,mb4.0
ETSF Etsaut 27.56 297 *e*P **P 20 01 08.2 +1.2**
comp=Z,7.3nm,0.8s,mb4.0
ETSF Etsaut 27.56 297 *e*P **P 20 01 08.2 +1.2**
ETSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
ETSF Etsaut 27.56 297 *e*P **P 20 01 08.2 +1.2**
comp=Z,3.7nm,0.8s,mb4.1
KAF Kangasniemi 27.63 353 *e*p **P 20 01 10.8 +3.4**
comp=Z,5.4nm,0.7s,mb4.3
KAF Kangasniemi 27.63 353 *e*P **P 20 01 10.8 +3.4**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
MFF Saint Martin d 27.85 305 *e*P **P 20 01 07.5 -2.1**
comp=Z,20nm,1.1s,mb4.4
MFF Saint Martin d 27.85 305 *e*P **P 20 01 07.5 -2.1**
MFF pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
MFF Saint Martin d 27.85 305 *e*P **P 20 01 07.5 -2.1**
comp=Z,10nm,1.1s,mb4.4
JOF Joensuu 28.09 358 *e*p **P 20 01 10.1 -1.4**
comp=Z,5.8nm,0.6s,mb4.4
JOF Joensuu 28.09 358 *e*P **P 20 01 10.1 -1.4**
JOF pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
HFS Hagfors 28.36 339 P **P 20 01 13.1 -0.8**
comp=Z,3.9nm,0.7s,mb4.1,baz=138,slow=11,SNR=7.2
HFS LR LR 20 14 21.1
comp=Z,68nm,18.7s,MS3.3,baz=173,slow=40
SVE Sverdlovsk 28.62 32 *e*P **P 20 01 16.6 +0.3**
NAO01 NORSAR Array S 29.78 338 *e*P **P 20 01 25.2 -1.4**
comp=Z,7.2nm,0.8s,mb4.5
NB2 NORSAR Subarra 29.83 338 P **P 20 01 26.4 -0.6**
comp=Z,7.8nm,0.9s,mb4.4,baz=141,slow=9.3
NOA NORSAR Array B 29.83 338 P **P 20 01 26.0 -0.9**
comp=Z,4.8nm,0.8s,mb4.2,baz=142,slow=9.4,SNR=12
NOA LR LR 20 15 15.5
comp=Z,82nm,18.3s,MS3.4,baz=140,slow=40
NOA NORSAR Array B 29.83 338 P **P 20 01 26.0 -0.9**
NOA LR LR 20 15 15.5
ESDC Sonseca Array 30.05 290 P **P 20 01 29.3 +0.1**
comp=Z,1.4nm,0.6s,mb3.9,baz=80,slow=9.5,SNR=11
ESLA Sonseca Array 30.05 290 P **P 20 01 30.7 +1.4**
comp=Z,0.7nm,0.8s,mb3.4
MDT Midelt 31.61 277 P **P 20 01 44.4 +1.4**
comp=Z,2.0nm,0.9s,mb4.0,baz=101,slow=8.7,SNR=5.2
ARCES ARCESS Array B 34.99 355 P **P 20 02 10.8 -1.2**
comp=Z,1.4nm,0.5s,mb4.2,baz=167,slow=10,SNR=17
ARCES LR LR 20 18 18.3
comp=Z,126nm,18.2s,MS3.7,baz=199,slow=40
ARCES ARCESS Array B 34.99 355 P **P 20 02 10.8 -1.2**
ARCES LR LR 20 18 18.3
TOA0 Torodi Ar. Sit 35.98 241 P **P 20 02 22.0 +0.8**
TORD Torodi Ar. Bea 35.98 241 P **P 20 02 21.4 +0.2**
comp=Z,0.7nm,0.8s,mb3.7,baz=45,slow=8.5,SNR=5.3
TORD LR LR 20 17 49.8
comp=Z,50nm,19.6s,MS3.3,baz=195,slow=38
TORD Torodi Ar. Bea 35.98 241 P **P 20 02 21.4 +0.2**
TORD LR LR 20 17 49.8
KURK Kurchatov 36.07 50 *e*P **P 20 02 21.4 -0.2**
KURK pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KURK Kurchatov 36.07 50 *e*P **P 20 02 21.4 -0.2**
comp=Z,3.7nm,1.1s,mb4.2
MKAR Makanchi Array 38.20 57 P **P 20 02 39.2 -0.5**
comp=Z,1.6nm,0.8s,mb3.8,baz=265,slow=7.2,SNR=12
MKAR PcP PcP 20 04 53.5 -0.5
comp=Z,0.5nm,0.6s,baz=251,slow=3.7,SNR=4.3
MKAR Makanchi Array 38.20 57 PcP PcP 20 04 53.5 -0.6
NVS Novosibirsk 39.48 44 *e*P **P 20 02 51.4 +1.1**
NVS pmax pmax
comp=Z,9.0nm,1.4s,mb4.3
NVS pmax pmax
comp=N,4.0nm,1.3s
ZAL Zalesovo 40.26 46 P **P 20 02 54.7 -2.1**
ZALV Zalesovo Beam 40.27 46 P **P 20 02 54.7 -2.2**
comp=N,1.1nm,0.6s,mb3.8,baz=266,slow=9.7,SNR=4.2
ZALV LR LR 20 22 01.0
comp=N,24nm,18.5s,MS3.1,baz=232,slow=40
WMQ Urumqi 42.18 61 *e*P **P 20 03 12.0 -0.8**
DBIC Dimbokro 45.09 241 LR LR 20 26 10.3
comp=N,54nm,18.4s,MS3.5,baz=308,slow=41
SUMG Summit 51.72 339 P **P 20 04 30.3 +3.4**
comp=N,3.0nm,1.0s,mb4.2
SUMG Summit 51.72 339 P **P 20 04 30.3 +3.4**
comp=N,3.0nm,1.0s,mb4.2
ZAK Zakamensk 51.73 50 *e*P **P 20 04 27.8 +0.5**

ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
ZAK Zakamensk 51.73 50 *e*P **P 20 04 27.8 +0.5**
comp=Z,2.0nm,1.3s,mb3.9
GTA Gaotai 51.98 64 *e*P **P 20 04 30.8 +1.5**
GTA XP sP 20 04 37.0 +2.8
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.2
SONM Songino Array 54.29 52 P **P 20 04 46.7 +0.5**
comp=Z,2.3nm,1.1s,mb4.0,baz=288,slow=7.2,SNR=10
SONM LR LR 20 31 13.8
comp=Z,168nm,18.0s,MS4.2,baz=32,slow=40
ULN Ulaanbaatar 54.71 52 *e*P **P 20 04 49.4 +0.1**
ULN pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
ULN Ulaanbaatar 54.71 52 *e*P **P 20 04 49.4 +0.1**
comp=Z,1.9nm,1.0s,mb4.1
ULN Ulaanbaatar 54.71 52 *e*P **P 20 04 49.4 +0.2**
comp=Z,1.9nm,1.0s,mb4.1
LZH Lanzhou 56.08 67 *e*P **P 20 04 59.0 -0.4**
LZH AP pP 20 05 03.8 +0.9
LZH XP sP 20 05 06.3 +2.0
LZH PP PP 20 07 05.3 +1.1
LZH AMB AMB
comp=Z,16nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,52nm,8.1s
LZH LR LR
comp=N,215nm,17.0s
LZH LR LR
comp=Z,269nm,19.7s,MS4.3
SFJD Kangerlussuaq 56.19 332 LR LR 20 31 04.0
comp=Z,26nm,19.3s,MS3.3,baz=146,slow=38
BOD Bodaibo 56.39 39 *e*P **P 20 05 00.2 -1.0**
BOD pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BOD Bodaibo 56.39 39 *e*P **P 20 05 00.2 -1.0**
comp=Z,7.0nm,1.1s,mb4.6
CD2 Chengdu 58.01 73 *e*P **P 20 05 13.3 +0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,20nm,5.4s
CHTO Chiang Mai 59.58 87 *e*P **P 20 05 22.9 -1.3**
CHTO pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
CHTO Chiang Mai 59.58 87 *e*P **P 20 05 22.9 -1.3**
comp=Z,1.2nm,0.9s,mb3.9
CHTO Chiang Mai 59.58 87 *e*P **P 20 05 22.9 -1.2**
comp=Z,1.2nm,0.9s,mb3.9
KMI Kunming 59.69 79 P **P 20 05 26.3 +1.5**
KMI PP PP 20 07 39.3 +2.8
KMI S **S 20 13 31.8 -3.7**
KMI SS SS 20 17 29.0 -2.1
KMI AMB AMB
comp=Z,3.0nm,1.5s,mb4.1
KMI AMB AMB
comp=Z,95nm,8.1s
KMI LR LR
comp=N,113nm,15.1s,MS4.3
KMI LR LR
comp=E,79nm,10.6s,MS4.3
KMI LR LR
comp=Z,95nm,17.7s
CMAR Chiang Mai Arr 59.76 88 P **P 20 05 24.7 -0.7**
comp=Z,1.4nm,0.8s,mb4.1,baz=292,slow=8.4,SNR=11
CMAR Chiang Mai Arr 59.76 88 P **P 20 05 24.7 -0.7**
HHC Hu-ho-hao-te 60.00 59 *e*P **P 20 05 26.3 -0.4**
HHC PP PP 20 07 40.0 +1.2
HHC S **S 20 13 35.5 -3.6**
HHC SCS ScS 20 15 12.0 -5.2
HHC SS SS 20 17 32.3 -2.9
HHC AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
HHC AMB AMB
comp=Z,79nm,8.8s
HHC LR LR
comp=N,93nm,17.8s,MS4.1
HHC LR LR
comp=E,94nm,21.4s,MS4.1
HHC LR LR
comp=Z,83nm,19.0s,MS3.9
GYA Guiyang 62.23 76 P **P 20 05 42.0 -0.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
YAK Yakutsk 62.59 32⇓*e*P **P 20 05 43.2 -0.7**
YAK pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
YAK Yakutsk 62.59 32 *e*P **P 20 05 43.2 -0.7**
comp=Z,9.0nm,0.7s,mb5.0
YAK Yakutsk 62.59 32 *e*P **P 20 05 42.6 -1.3**
comp=Z,10nm,0.7s,mb5.1
BOSA Boshof 63.63 188 LR LR 20 36 24.3
comp=Z,128nm,18.7s,MS4.1,baz=146,slow=39
SCHQ Schefferville 67.73 322 P **P 20 06 17.1 -0.3**
comp=Z,3.8nm,0.8s,mb4.5,baz=63,slow=6.8,SNR=3.7
CN2 Changchun 68.13 51 *e*P **P 20 06 19.8 -0.3**
VLA Vladivostok 72.54 49 *i*P **P 20 06 46.5 -0.6**
KSRS Korea Array 72.88 56 P **P 20 06 48.0 -1.2**
comp=Z,1.5nm,0.7s,mb4.0,baz=300,slow=5.3,SNR=7.1
KSRS LR LR 20 43 31.8
comp=Z,51nm,18.9s,MS3.8,baz=330,slow=40
KSRS Korea Array 72.88 56 P **P 20 06 48.1 -1.1**
KSRS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
KSRS MLR MLR
comp=Z,51nm,18.9s,MS3.8
MJAR Matsushiro Arr 80.24 52 P **P 20 07 29.5 -1.4**
comp=Z,0.6nm,0.6s,mb3.7,baz=304,slow=3.1,SNR=4.5
MJAR Matsushiro Arr 80.24 52 P **P 20 07 29.5 -1.4**

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*JMA **28** 20:04:47.8±0.2,2283N×12257E,h75km,M2.9*
TAP 28 20:04:47.1,2273N×12239E,h46km±1km,ML3.5,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.81**	**18**	P	Pn	20 05 15.7	-0.2
YOJ				S	Sn	20 05 37.2	-0.5
HATJ	**Hateruma jima**	**1.85**	**44**	P	Pn	20 05 15.7	-0.7
HATJ				S	Sn	20 05 36.3	-2.3
IRIF	**Iriomote-Funau**	**2.02**	**37**	P	Pn	20 05 18.1	-0.5
IRIF				S	Sn	20 05 40.4	-2.2
JKRS	**Kuro-shima**	**2.11**	**44**	P	Pn	20 05 19.5	-0.5
JKRS				S	Sn	20 05 42.9	-2.1
JIJ	**Ishigaki jima**	**2.29**	**44**	P	Pn	20 05 21.3	-1.1
JIJ				S	Sn	20 05 46.3	-3.0
JTJ	**Tarama**	**2.85**	**48**	P	Pn	20 05 29.5	-0.6
JTJ				S	Sn	20 06 00.8	-2.3
JOGS	**Gusukube**	**3.42**	**53**	S	Sn	20 06 15.3	-2.0

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*IDC **28** 20:43:00.1±1.6,105S×12037E,h0km,mb3.5/4,mb1 3.6/4, mb1mx3.5/16,mbtmp3.5/4,Error ellipse: s-maj=169.1km s-min=21.5km az=63.0*
*ISCJB **28** 20:43:03.8±1.0,09S±01×1204E±0.1,h33km,mb3.5/4, Error ellipse: s-maj=26.2km s-min=13.8km az=43.0*
ISC 28 20:43:06.2±1.0,10S±02×1203E±02,h35km,n6,σ1$16/6, mb3.5/4,1C-1D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.42**	**281**⇑	*e*P	**Pn**	20 43 16.0	**+0.2**
KDI	**Kendari**	**3.79**	**141**⇓	*e*P	**Pn**	20 44 03.2	**+1.1**
KDI				*e*S	Sn	20 45 15.6	+30
WRA	**Warramunga Arr**	**23.35**	**145**	P	**P**	20 48 08.0	**-3.8**
	2.1nm,0.8s,mb3.6,baz=316,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.15**	**151**	P	**P**	20 48 36.2	**-1.1**
	0.4nm,0.6s,mb3.1,baz=348,slow=15,SNR=5.4						
SONM	**Songino Array**	**50.10**	**348**	P	**P**	20 51 57.8	**0.0**
	0.4nm,0.7s,mb3.5,baz=160,slow=4.6,SNR=2.8						
MKAR	**Makanchi Array**	**58.05**	**330**	P	**P**	20 52 55.8	**0.0**
	0.2nm,0.3s,mb3.6,baz=134,slow=8.3,SNR=4.2						

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*ISCJB **28** 21:10:07.0±0.8,4996N±003×8772E±008,h10km,Error ellipse: s-maj=7.6km s-min=4.6km az=14.4*
*NNC **28** 21:10:08.3±1.9,4965N×8769E,h0km,mb4.1,mpv3.9, Error ellipse: s-maj=15.3km s-min=9.0km az=80.0*
*IDC **28** 21:10:08.1±2.0,4980N×8775E,h0km,ML3.8/4,Error ellipse: s-maj=21.1km s-min=15.8km az=83.0*
*NEIC **28** 21:10:09.2±0.9,4985N×8770E,h10km,Error ellipse: s-maj=12.8km s-min=11.3km az=168.0*

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*MOS **28** 21:10:14.6±1.0,4993N×8693E,h33km,mb4.6/1,Error ellipse: s-maj=13.9km s-min=9.7km az=93.4*
ISC 28 21:10:09.7±0.7,4989N±003×8776E±007,h10km,n29, σ1$37/44,4C-7D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKR	**Ust'-Kan**	**2.18**	**300**	*e*PN	**Pb**	21 10 49.1	**0.0**
TASR	**Tashtagol**	**2.88**	**2**	*e*PN	**Pn**	21 10 58.5	**+3.0**
TASR				*e*	**Sg**	21 11 39.5	**-2.4**
ELT	**Yel'tsovka**	**3.51**	**345**	*e*PN	**Pn**	21 11 05.8	**+1.6**
ELT				*e*	**Sg**	21 11 58.8	**-3.4**
CERR	**Cheremushki**	**3.75**	**36**	*e*PN	**Pb**	21 11 17.0	**+1.1**
CERR				*i*	**Sg**	21 12 05.0	**-5.0**
ZAL	**Zalesovo**	**4.45**	**337**	PN	**Pn**	21 11 17.6	**+0.5**
ZAL					**Sg**	21 12 32.4	**+0.1**
ZAA0	**Zalesovo Array**	**4.45**	**337**	*e*Pn	**Pn**	21 11 17.7	**+0.6**
ZAA0				*e*Sn	**Sn**	21 12 11.3	**+2.3**
ZALV	**Zalesovo Beam**	**4.45**	**337**	Pn	**Pn**	21 11 17.6	**+0.5**
	4.4nm,0.3s,baz=156,slow=14,SNR=63						
ZALV				Lg		21 12 32.4	
	9.8nm,0.3s,baz=158,slow=27,SNR=9.5						
MK31	**Makanchi Array**	**4.78**	**232**	⇑Pn	**Pn**	**21 11 22.0**	**+0.3**
	2.4nm,0.3s,baz=60,slow=13,SNR=222						
MK31				⇓Pg	**Pg**	**21 11 34.1**	**-7.1**
	9.9nm,0.4s,baz=55,slow=14,SNR=20						
MK31				⇓Sn	**Sn**	**21 12 19.3**	**+2.1**
	9.3nm,0.3s						
MK31				⇓Lg		21 12 33.0	
	36nm,0.5s,baz=48,slow=31,SNR=6.4						
MK31	**Makanchi Array**	**4.78**	**232**	*e*PN	**Pn**	**21 11 21.9**	**+0.2**
MK31				*i*		21 11 34.1	
MK31						21 12 19.2	
MK31				pmax	pmax		
	comp=Z,5.0nm,0.2s						
MK31				smax			
	comp=N,11nm,0.3s						
MKAR	**Makanchi Array**	**4.78**	**232**	Pn	**Pn**	**21 11 21.9**	**+0.2**
	comp=N,6.1nm,0.3s,baz=53,slow=15,SNR=103						
MKAR				Lg		21 12 39.0	
	comp=N,8.9nm,0.3s,baz=54,slow=27,SNR=7.7						
NVS	**Novosibirsk**	**5.68**	**333**	*e*PN	**Pn**	**21 11 34.7**	**+0.7**
NVS				*e*		21 11 54.7	
NVS				*e*		21 12 40.2	
KURK	**Kurchatov**	**5.91**	**282**	⇓Pn	**Pn**	**21 11 37.3**	**+0.1**
	comp=N,20nm,0.6s						
KURK				⇓Sn	**Sn**	**21 12 47.7**	**+2.8**
	comp=N,54nm,0.7s						
KURK				⇑Lg		21 13 16.3	
	comp=N,123nm,0.7s						
KURK	**Kurchatov**	**5.91**	**282**	*e*PN	**Pn**	**21 11 37.5**	**+0.3**
KURK				*e*		21 12 44.1	
KURK				pmax	pmax		
	comp=Z,11nm,1.9s						
KURK	**Kurchatov**	**5.91**	**282**	*e*Pn	**Pn**	**21 11 37.5**	**+0.3**
	comp=Z,11nm,1.9s						
KURK				*e*Sn	**Sn**	**21 12 44.0**	**-0.9**
KURBB	**Kurchatov Arra**	**5.96**	**281**	Pn	**Pn**	**21 11 38.0**	**+0.1**
KURBB				Sn	**Sn**	**21 12 49.2**	**+3.0**
KURBB				Lg		21 13 18.8	
VOSK	**Vostochnaya**	**10.88**	**292**	⇑Pn	**Pn**	**21 12 45.3**	**+0.1**
	comp=Z,1.2nm,0.4s						
VOSK				⇑Sn	**Sn**	**21 14 47.5**	**+0.6**
	comp=Z,4.7nm,0.7s						
VOSK	**Vostochnaya**	**10.88**	**292**	P	**Pn**	**21 12 43.7**	**-1.5**
VOSK						21 14 43.8	
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VOSK				smax			
	comp=N,5.0nm,0.7s						
TKM2	**Tokmak 2**	**10.90**	**235**	P	**Pn**	**21 12 44.1**	**-1.5**
TKM2				*e*		21 14 47.1	
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TKM2	**Tokmak 2**	**10.90**	**235**	Pn	**Pn**	**21 12 44.1**	**-1.5**
	comp=Z,2.5nm,0.6s						
TKM2				*e*Sn	**Sn**	**21 14 47.1**	**-0.5**
BVA0	**Borovoye Array**	**11.28**	**293**	⇓Pn	**Pn**	**21 12 49.9**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=107,slow=14,SNR=13						
BVA0				⇓Sn	**Sn**	**21 14 57.4**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=104,slow=24,SNR=9.2						
BVA0	**Borovoye Array**	**11.28**	**293**	*e*P	**Pn**	**21 12 48.7**	**-2.0**
BVA0				*e*		21 14 51.4	
BVA0				smax			
	comp=N,1.0nm,0.4s						
BVAR	**Borovoye Array**	**11.28**	**293**	Pn	**Pn**	**21 12 49.8**	**-0.9**
	comp=N,0.9nm,0.3s,baz=106,slow=16,SNR=20						
BVAR				Sn	**Sn**	**21 14 51.2**	**-5.5**
	comp=N,0.9nm,0.3s,baz=104,slow=22,SNR=8.9						
BVAR				Lg		21 16 11.0	
	baz=113,slow=33						
BVAR	**Borovoye Array**	**11.28**	**293**	P	**Pn**	**21 12 49.8**	**-0.9**
BVAR						21 14 51.2	
BRVK	**Borovoye**	**11.35**	**293**	*e*P	**Pn**	**21 12 49.6**	**-2.0**
BRVK				*e*		21 14 53.1	
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**11.35**	**293**	*e*Pn	**Pn**	**21 12 49.5**	**-2.1**
	comp=Z,3.6nm,0.6s						
BRVK				*e*Sn	**Sn**	**21 14 53.1**	**-5.2**
EKS2	**Erkin-Say**	**12.06**	**238**	Pn	**Pn**	**21 13 07.2**	**+5.7**
SONM	**Songino Array**	**12.45**	**92**	Pn	**Pn**	**21 13 06.7**	**-0.1**
	baz=291,slow=12						
SONM				Lg		21 16 35.9	
	comp=Z,0.1nm,0.3s,baz=274,slow=31,SNR=9.9						
AKTK	**Aktyubinsk**	**19.01**	**283**	P	**Pn**	**21 14 29.5**	**-2.5**
AKTO	**Aktyubinsk**	**19.01**	**283**	P	**Pn**	**21 14 29.5**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=93,slow=11,SNR=8.1						

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*IDC **28** 21:29:53.3±1.2,095N×12620E,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.6/15,mbtmp3.7/5,Error ellipse: s-maj=129.9km s-min=18.8km az=68.0*
*NEIC **28** 21:29:54.9±0.7,069N×12561E,h10km,mb4.1/1,Error ellipse: s-maj=119.0km s-min=9.2km az=66.0*
*ISCJB **28** 21:29:56.1±1.3,10N±01×12635E±009,h36km±14km, mb3.8/6,Error ellipse: s-maj=22.7km s-min=10.3km az=33.6*
ISC 28 21:29:53.1±1.5,10N±01×12627E±007,h0km±11km,n10, σ0$49/11,mb3.8/6,2D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.11**	**100**⇓	*e*P	**Pg**	**21 30 14.5**	**-0.1**
MNI	**Manado**	**1.50**	**288**⇓	*e*P	**Pn**	**21 30 21.5**	**+0.2**
MNI				*e*S	**Sg**	**21 30 41.5**	**0.0**
WRAB	**Tennant Creek**	**22.24**	**160**	*e*P	**P**	**21 34 51.1**	**-0.6**
	7.8nm,1.1s,mb4.0						
WRA	**Warramunga Arr**	**22.25**	**160**	P	**P**	**21 34 51.9**	**+0.2**
	1.1nm,0.4s,mb3.7,baz=339,slow=11,SNR=24						
WB2	**Warramunga Arr**	**22.25**	**160**	*e*P	**P**	**21 34 51.9**	**+0.2**
ASAR	**Alice Springs**	**25.60**	**164**	P	**P**	**21 35 24.2**	**+0.1**
	0.9nm,0.4s,mb3.7,baz=346,slow=10,SNR=15						
STKA	**Stephens Creek**	**35.76**	**157**	P	**P**	**21 36 54.3**	**+0.4**
	1.5nm,0.6s,mb4.0,baz=348,slow=6.8,SNR=3.6						
SONM	**Songino Array**	**49.75**	**343**	P	**P**	**21 38 48.4**	**+1.1**
	0.2nm,0.5s,mb3.3,baz=163,slow=5.6,SNR=2.5						
MK31	**Makanchi Array**	**59.56**	**326**	*e*P	**P**	**21 39 57.7**	**-0.8**
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	**21 39 57.9**	**-0.6**
	0.5nm,0.4s,mb3.9,baz=122,slow=6.7,SNR=9.1						

IDC 28 21:43:03.4±4.2,631S×10108E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.6/18,mbtmp3.7/5,MS3.8/2,Ms1 3.8/2, ms1mx3.1/25,Error ellipse: s-maj=158.6km s-min=28.1km az=54.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**22.68**	**101**	LR	LR	21 58 47.6	
	comp=Z,335nm,18.5s,baz=236,slow=42						
CMAR	**Chiang Mai Arr**	**24.70**	**355**	P	P	21 48 26.4	+0.1
	0.9nm,0.7s,baz=181,slow=8.9,SNR=8.4						
WRA	**Warramunga Arr**	**35.01**	**116**	P	P	21 49 58.8	+0.9
	0.9nm,0.8s,baz=287,slow=12,SNR=5.3						
CTA	**Charters Tower**	**45.90**	**112**	LR	LR	22 09 55.9	
	comp=Z,79nm,22.0s,baz=50,slow=35						
SONM	**Songino Array**	**54.12**	**4**	P	P	21 52 29.8	-0.3
	1.4nm,0.7s,baz=186,slow=8.0,SNR=13						
MKAR	**Makanchi Array**	**55.45**	**344**	P	P	21 52 39.9	+0.2
	0.3nm,0.6s,baz=166,slow=8.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**61.58**	**349**	P	P	21 53 24.1	+1.7
	0.4nm,0.4s,baz=147,slow=2.9,SNR=3.0						
TXAR	**Lajitas Array**	**147.30**	**43**	PKPbc	PKPbc	22 02 46.7	-2.9
	0.3nm,0.8s,baz=348,slow=3.8,SNR=3.9						

IDC 28 21:54:25.9±4.4,1466S×16717E,h0km,mb4.1/6, mb1 4.1/6,mb1mx3.9/16,mbtmp4.0/6,Error ellipse: s-maj=135.2km s-min=32.3km az=121.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.96**	**229**	P	P	22 00 27.4	+0.2
	3.5nm,0.6s,baz=36,slow=7.3,SNR=15						
WRA	**Warramunga Arr**	**31.75**	**256**	P	P	22 00 52.1	+0.1
	0.2nm,0.3s,baz=83,slow=8.6,SNR=6.7						
ASAR	**Alice Springs**	**32.61**	**249**	P	P	22 00 59.2	-0.3
	1.0nm,0.6s,baz=82,slow=9.8,SNR=9.4						
SONM	**Songino Array**	**82.38**	**324**	P	P	22 06 50.6	+0.8
	0.4nm,0.6s,baz=162,slow=6.1,SNR=4.0						
MKAR	**Makanchi Array**	**97.08**	**316**	P	P	22 08 00.4	+0.4
	0.4nm,0.6s,baz=91,slow=7.6,SNR=3.3						
ZALV	**Zalesovo Beam**	**97.28**	**324**	P	P	22 07 59.4	-1.2
	0.4nm,0.2s,baz=73,slow=5.3,SNR=3.0						

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*IDC **28** 22:16:25.9±0.7,5033N×17760W,h0km,mb3.9/14, mb1 4.2/15,mb1mx4.1/24,mbtmp4.0/15,MS3.2/5, Ms1 3.2/5,ms1mx2.8/35,Error ellipse: s-maj=22.9km s-min=17.2km az=172.0*
*BJI **28** 22:16:28.4,5002N×17799W,h26km,mB4.8,mb4.7, Msz4.3*
*ISCJB **28** 22:16:29.7±0.5,5032N±008×17757W±007,h33km, mb4.2/40,MS3.3/6,Error ellipse: s-maj=11.7km s-min=5.0km az=160.5*
*MOS **28** 22:16:30.0±1.1,5037N×17765W,h33km,mb4.6/16,Error ellipse: s-maj=17.4km s-min=8.9km az=107.5*
*NEIC **28** 22:16:31.5±0.4,5032N×17762W,h35km,mb4.4/18, MS4.1/1,ML3.7(AEIC),Error ellipse: s-maj=10.9km s-min=6.3km az=163.0*
*SZGRF **28** 22:16:42.9,5194N×17929W,h33km,mb4.8,Andreanof Islands, Aleutian Islands, United States*
ISC 28 22:16:31.6±0.5,5032N±007×17759W±007,h35km, (h27km±5.4km:pP-P),n89,σ1$00/92,mb4.2/40,MS3.3/6, 17C-2D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**2.24**	**300**	P	**Pn**	**22 17 03.1**	**-3.0**
AMKA				*e*Sn	**Sn**	**22 17 26.6**	**-5.9**
NIKO	**Nikolski**	**6.06**	**61**	P	**Pn**	**22 17 56.8**	**-1.8**
UNV	**Unalaska Valle**	**7.69**	**58**	*e*Pn	**Pn**	**22 18 20.5**	**-0.5**
UNV				*e*Sn	**Sn**	**22 19 47.2**	**+0.4**
PETK	**Petropavlovsk-**	**15.54**	**290**	Pn	**Pn**	**22 20 07.2**	**-0.7**
	baz=82,slow=19,SNR=6.7						
SVW2	**Sparrevohn**	**16.35**	**40**	*e*P	**Pn**	**22 20 11.6**	**-6.6**
SVW2				*e*Sn	**Sn**	**22 23 19.4**	**+1.2**
KDAK	**Kodiak Island**	**16.41**	**53**	Pn	**Pn**	**22 20 13.8**	**-5.1**
	0.8nm,0.3s,baz=282,slow=9.3,SNR=4.0						
TTA	**Tatalina**	**17.22**	**35**	*e*P	**Pn**	**22 20 27.0**	**-2.1**
PPLA	**Purkeypile**	**18.66**	**38**	*e*P	**Pn**	**22 20 46.8**	**+0.2**
	8.0nm,0.9s						
SEW	**Seward**	**18.67**	**48**	*e*P	**Pn**	**22 20 43.0**	**-3.8**
CHUM	**Lake Minchumin**	**19.13**	**35**	*e*P	**Pn**	**22 20 51.4**	**-1.0**
	9.9nm,1.0s						
BILL	**Bilibino**	**19.48**	**342**⇑	*e*P	**Pn**	**22 20 55.3**	**-1.2**
BILL				pmax	pmax		
	comp=Z,58nm,1.8s						
BILL	**Bilibino**	**19.48**	**342**	*e*P	**Pn**	**22 20 55.2**	**-1.4**
	comp=Z,18nm,0.6s						
KTH	**Kantishna Hill**	**19.48**	**37**	*e*P	**Pn**	**22 20 55.0**	**-1.6**
	comp=Z,38nm,1.2s						
BPAW	**Bear Paw Mtn.**	**19.74**	**36**	*e*P	**Pn**	**22 20 57.9**	**-1.8**
	comp=Z,21nm,1.2s						
IMA2	**Indian Mountai**	**19.99**	**29**	*e*P	**Pn**	**22 21 00.6**	**-2.0**
SEY	**Seymchan**	**20.55**	**319**⇑	*i*P	**P**	**22 21 08.2**	**+1.4**
BMRM	**Bremner River**	**21.21**	**47**	*e*P	**P**	**22 21 14.8**	**+0.9**
BMRM				*e*S	**S**	**22 25 09.6**	**+2.2**
COLD	**Coldfoot**	**21.80**	**29**	*e*P	**P**	**22 21 21.0**	**+0.8**
	comp=Z,7.0nm,1.0s,mb4.0						
EGAK	**Eagle**	**23.88**	**39**	*e*P	**P**	**22 21 41.2**	**-0.2**
	comp=Z,4.4nm,0.8s,mb3.9						
EGAK				*e*S	**S**	**22 25 55.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**26.20**	**278**⇓	*e*P	**P**	**22 22 03.3**	**+0.5**
YSS				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.6						
ASAJ	**Asahikawa**	**27.49**	**272**	LR	LR	22 33 13.0	
	comp=Z,22nm,18.4s,MS2.8,baz=203,slow=37						
KLR	**Kul'dur**	**32.22**	**288**	*e*P	**P**	**22 22 51.2**	**-5.0**
BOD	**Bodaibo**	**39.23**	**308**	*e*P	**P**	**22 23 54.8**	**-1.3**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
KSRS	**Korea Array**	**40.44**	**273**	P	**P**	**22 24 06.2**	**-0.2**
	comp=Z,1.5nm,0.4s,mb4.0,baz=56,slow=8.2,SNR=10						
KSRS				LR	LR	22 40 44.8	
	comp=Z,11nm,18.0s,MS2.8,baz=225,slow=36						
NVAR	**Mina Array Bea**	**42.93**	**82**	P	**P**	**22 24 25.8**	**-1.0**
	comp=Z,0.3nm,0.3s,mb3.4,baz=316,slow=4.1,SNR=4.4						
TPNV	**Topopah Spring**	**45.12**	**83**	*e*P	**P**	**22 24 45.0**	**+0.6**
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
TPNV	**Topopah Spring**	**45.12**	**83**	*e*P	**P**	**22 24 45.0**	**+0.7**
	comp=Z,2.9nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**45.91**	**72**	P	**P**	**22 24 51.2**	**+0.7**
	comp=Z,0.4nm,0.4s,mb3.7,baz=336,slow=3.3,SNR=6.3						
TLY	**Talaya**	**47.29**	**304**	*e*P	**P**	**22 25 01.5**	**+0.3**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
ULN	**Ulaanbaatar**	**47.43**	**298**⇑	*e*P	**P**	**22 25 02.0**	**-0.3**
SONM	**Songino Array**	**47.82**	**298**	P	**P**	**22 25 05.6**	**+0.3**
	comp=Z,1.6nm,0.9s,mb4.1,baz=62,slow=10,SNR=9.4						
SONM				LR	LR	22 46 26.1	
	comp=Z,45nm,18.0s,MS3.5,baz=297,slow=38						
ZAK	**Zakamensk**	**48.17**	**302**	*e*P	**P**	**22 25 07.9**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
WHN	**Wuhan**	**53.51**	**275**	P	**P**	**22 25 46.5**	**-2.0**
ZALV	**Zalesovo Beam**	**55.32**	**315**	LR	LR	22 49 24.5	
	comp=Z,28nm,18.6s,MS3.4,baz=83,slow=36						
LZH	**Lanzhou**	**56.43**	**288**	*e*P	**P**	**22 26 09.5**	**0.0**
LZH				AP	pP	22 26 15.8	-4.3
LZH				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,62nm,4.3s						
GTA	**Gaotai**	**56.68**	**293**	*e*P	**P**	**22 26 11.5**	**+0.2**
GTA				AP	pP	22 26 15.5	-6.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.7s,mb4.2						
TXAR	**Lajitas Array**	**58.06**	**81**	P	**P**	**22 26 20.6**	**-0.5**
	comp=Z,0.4nm,0.7s,mb3.6,baz=301,slow=5.5,SNR=6.0						
ARCES	**ARCESS Array B**	**59.27**	**351**	P	**P**	**22 26 27.8**	**-1.2**
	comp=Z,2.4nm,0.7s,mb4.3,baz=25,slow=7.5,SNR=14						
KURK	**Kurchatov**	**60.31**	**315**⇑	*e*P	**P**	**22 26 35.6**	**-0.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.5						
MKAR	**Makanchi Array**	**61.30**	**310**	P	**P**	**22 26 42.3**	**-0.9**
	comp=Z,1.0nm,0.6s,mb4.1,baz=49,slow=8.2,SNR=14						
MKAR				LR	LR	22 52 48.3	
	comp=Z,33nm,18.8s,MS3.5,baz=296,slow=36						
ARU	**Arti**	**63.91**	**329***e*	*i*P	**P**	**22 27 00.6**	**+0.2**
ARU				*e*		22 27 35.2	
ARU				*e*S	**S**	**22 35 36.

KIEV	**Kiev**	**76.81**	**343**	*e*P	**P**	**22 28 18.9**	**-0.3**
KIEV				*e*	pP	22 28 28.7	-1.5
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KIEV	**Kiev**	**76.81**	**343**	*e*P	**P**	**22 28 18.9**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.5						
KIEV				*e*	pP	22 28 28.7	-1.5
KBL	**Kabul**	**77.10**	**309**	*e*P	**P**	**22 28 20.3**	**-0.9**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KBL	**Kabul**	**77.10**	**309**	*e*P	**P**	**22 28 20.3**	**-0.9**
	comp=Z,4.1nm,0.9s,mb4.4						
CLL	**Collm**	**78.36**	**353**	*i* P	**P**	**22 28 27.8**	**-0.1**
	comp=Z,14nm,1.6s,mb4.6						
CLL	**Collm**	**78.36**	**353**	P	**P**	**22 28 27.8**	**-0.1**
CLL				LR	LR		
	comp=Z,100nm,20.1s,MS4.1						
KWP	**Kalwaria**	**78.93**	**347**	⇑ *i*P	**P**	**22 28 31.9**	**+0.8**
STHS	**Stebnicka Huta**	**79.34**	**348**	*e*P	**P**	**22 28 34.4**	**+1.1**
STHS				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
STHS	**Stebnicka Huta**	**79.34**	**348**	*e*P	**P**	**22 28 34.3**	**+1.0**
STHS	**Stebnicka Huta**	**79.34**	**348**	*e*P	**P**	**22 28 34.4**	**+1.1**
	comp=Z,4.1nm,1.3s,mb4.2						
KOLS	**Kolonicke sedl**	**79.67**	**347**	*e*P	**P**	**22 28 35.0**	**-0.1**
KIV	**Kislovodsk**	**79.77**	**332**	P	**P**	**22 28 36.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
CRVS	**Cervenica-Dubn**	**79.82**	**347**	*e*P	**P**	**22 28 38.0**	**+2.1**
GRA1	**Grafenberg Arr**	**80.09**	**354**	*e*P	**P**	**22 28 38.3**	**+0.9**
	comp=Z,11nm,1.5s,mb4.6						
GRF	**Grafenberg Arr**	**80.09**	**354**	*e*P	**P**	**22 28 38.3**	**+0.9**
GRF				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.6						
GRF	**Grafenberg Arr**	**80.09**	**354**	*e*P	**P**	**22 28 38.3**	**+0.9**
GRF				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.6						
GRF	**Grafenberg Arr**	**80.09**	**354**	*e*P	**P**	**22 28 38.3**	**+0.9**
	comp=Z,11nm,1.5s,mb4.6						
KECS	**Kecovo**	**80.36**	**348**	*e*P	**P**	**22 28 39.6**	**+0.7**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
KECS	**Kecovo**	**80.36**	**348**	*e*P	**P**	**22 28 39.5**	**+0.6**
KECS	**Kecovo**	**80.36**	**348**	*e*P	**P**	**22 28 39.6**	**+0.7**
	comp=Z,2.3nm,0.9s,mb4.1						
KHC	**Kasperske Hory**	**80.47**	**353**	⇑ *e*P	**P**	**22 28 39.7**	**+0.2**
BURAR	**Bucovina Array**	**80.49**	**345**	⇑ *i*P	**P**	**22 28 40.4**	**+0.8**
GERES	**GERESS Array B**	**80.75**	**352**	P	**P**	**22 28 41.2**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=22,slow=5.0,SNR=7.4						
MODS	**Modra-Piesok**	**80.86**	**350**	*e*P	**P**	**22 28 42.9**	**+1.3**
MODS				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.2						
MODS	**Modra-Piesok**	**80.86**	**350**	*e*P	**P**	**22 28 42.9**	**+1.3**
	comp=Z,5.2nm,1.5s,mb4.2						
ZST	**Bratislava**	**81.06**	**350**	*e*P	**P**	**22 28 42.3**	**-0.3**
ZST				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZST	**Bratislava**	**81.06**	**350**	*e*P	**P**	**22 28 42.3**	**-0.3**
	comp=Z,4.4nm,0.8s,mb4.4						
DRGR		**81.69**	**346**	⇑ *i*P	**P**	**22 28 46.6**	**+0.6**
WRA	**Warramunga Arr**	**81.79**	**225**	P	**P**	**22 28 45.5**	**-1.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=33,slow=6.0,SNR=3.9						
MLR	**Muntele Rosu**	**82.41**	**344**	⇓ *i*P	**P**	**22 28 51.7**	**+1.9**
KBA	**Koelnbreinsper**	**82.53**	**352**	⇑ *i*P	**P**	**22 28 51.7**	**+1.4**
	comp=Z,11nm,0.8s,mb4.9						
KBA	**Koelnbreinsper**	**82.53**	**352**	⇑ *i*PcP	**P**	**22 28 51.7**	**+1.4**
	comp=Z,11nm,0.8s,mb4.9						
KBA	**Koelnbreinsper**	**82.53**	**352**	⇑ *i*P	**P**	**22 28 51.7**	**+1.3**
KBA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
SOKA	**Soboth**	**82.77**	**351**	⇑ *i*P	**P**	**22 28 52.7**	**+1.0**
	comp=Z,9.4nm,1.4s,mb4.6						
SOKA	**Soboth**	**82.77**	**351**	⇑ *i*PcP	**P**	**22 28 52.7**	**+1.0**
	comp=Z,9.4nm,1.4s,mb4.6						
FETA	**Feichten**	**82.78**	**354**	⇑ *i*P	**P**	**22 28 52.7**	**+1.0**
	comp=Z,5.9nm,1.3s,mb4.5						
FETA	**Feichten**	**82.78**	**354**	⇑ *i*PcP	**P**	**22 28 52.7**	**+1.0**
	comp=Z,5.9nm,1.3s,mb4.5						
BNI	**Bardonecchia**	**84.94**	**357**	*e*P	**P**	**22 29 03.3**	**+0.5**
BNI				*e*	pP	22 29 13.8	0.0
BNI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
BNI	**Bardonecchia**	**84.94**	**357**	*e*P	**P**	**22 29 03.3**	**+0.6**
	comp=Z,5.6nm,1.0s,mb4.7						
BNI				*e*	pP	22 29 13.8	0.0
ASAR	**Alice Springs**	**85.23**	**224**	P	**P**	**22 29 04.5**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.7,baz=30,slow=7.7,SNR=4.6						
STKA	**Stephens Creek**	**89.45**	**214**	P	**P**	**22 29 24.9**	**+0.4**
	comp=Z,1.8nm,0.6s,mb4.6,baz=346,slow=8.3,SNR=5.0						
MAW	**Mawson**	**146.10**	**217**	PKPbc	PKPbc	22 36 06.3	-0.1
	comp=Z,2.2nm,0.7s,baz=237,slow=3.8,SNR=5.6						
BOSA	**Boshof**	**152.26**	**313**	PKPbc	PKPbc	22 36 23.2	-0.1
	comp=Z,1.8nm,0.8s,baz=351,slow=3.6,SNR=4.0						

ISCJB ***28*** *22:30:03.9±0.6, 5026N±004×1900E±003, h0km, Error ellipse: s-maj=6.1km s-min=2.8km az=13.3*
NEIC ***28*** *22:30:04.7, 5022N×1913E, h2km, ML2.5(PRU), After PRU.*
WAR ***28*** *22:30:04.7, 5020N×1912E, ML2.5, Mining Induced*
PRU ***28*** *22:30:05.7, 5023N×1896E, h0km*

ISC 28 22:30:04.8±0.5, 5024N±004×1900E±003, h0km, n20, σ1⅊32/35, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.51**	**92**	*i* Pg	**Pg**	**22 30 13.1**	**-1.5**
OJC				*e*Sg	**Sg**	22 30 19.5	-1.8
OKC	**Ostrava-Krasne**	**0.68**	**234**	*e*PG	**Pg**	**22 30 18.7**	**+0.9**
OKC				*e*SG	**Sg**	**22 30 28.2**	**+1.5**
	comp=Z,14nm,0.2s						
OKC	**Ostrava-Krasne**	**0.68**	**234**	*e*Pg	**Pg**	**22 30 18.5**	**+0.7**
OKC				*e*Sg	**Sg**	**22 30 28.8**	**+2.1**
MORC	**Moravsky Berou**	**1.05**	**244**	*e*P	**Pg**	**22 30 25.6**	**+0.7**
MORC				*e*S	**Sg**	**22 30 39.2**	**+0.8**
STHS	**Stebnicka Huta**	**1.67**	**119**	*e*PN	**Pn**	**22 30 35.0**	**-0.3**
STHS				*e*SN	**Sn**	**22 30 58.4**	**+1.0**
KOLL	**Kolacno**	**1.71**	**193**	*e*PN	**Pn**	**22 30 36.2**	**+0.4**
KOLL				*e*SN	**Sn**	**22 30 57.4**	**-0.9**
DPC	**Dobruska-Polom**	**1.72**	**275**	*e*PG	**Pg**	**22 30 35.6**	**-2.1**
DPC				*e*SG	**Sg**	**22 30 59.8**	**-0.2**
	comp=Z,14nm,0.2s						
DPC	**Dobruska-Polom**	**1.72**	**275**	*e*Pg	**Pg**	**22 30 35.8**	**-1.9**
DPC				*e*Sg	**Sg**	**22 31 01.3**	**+1.3**
VYHS	**Vyhne**	**1.75**	**184**	*e*PN	**Pn**	**22 30 34.8**	**-1.6**
VYHS				*e*SN	**Sn**	**22 30 56.9**	**-2.5**
KSP	**Ksiaz**	**1.83**	**290**	*e*Pg	**Pg**	**22 30 40.8**	**+1.0**
KSP				*e*Sg	**Sg**	**22 31 05.6**	**+2.2**
UPC	**Upice**	**1.93**	**279**	*e*SG	**Sg**	**22 31 08.4**	**+1.7**
KECS	**Kecovo**	**2.01**	**151**	*e*PN	**Pn**	**22 30 38.8**	**-1.1**
KECS				*e*SN	**Sn**	**22 31 07.4**	**+1.6**
CRVS	**Cervenica-Dubn**	**2.09**	**129**	*e*PN	**Pn**	**22 30 41.9**	**+0.9**
CRVS				*e*SN	**Sn**	**22 31 09.0**	**+1.3**
MODS	**Modra-Piesok**	**2.19**	**212**	*e*SN	**Sn**	**22 31 09.6**	**-0.4**
KOLS	**Kolonicke sedl**	**2.50**	**120**	*e*PG	**Pg**	**22 30 53.2**	**+0.5**
KOLS				*e*SN	**Sn**	**22 31 20.4**	**+2.6**
PRU	**Pruhonice**	**2.88**	**267**	*e*PG	**Pg**	**22 30 58.7**	**-1.2**
PRU				*e*SG	**Sg**	**22 31 34.9**	**-2.4**
	comp=Z,4.6nm,0.5s						
BRG	**Berggiesshubel**	**3.29**	**283**	SG	**Sg**	**22 31 49.5**	**-0.7**
	comp=Z,2.7nm,0.5s						
KHC	**Kasperske Hory**	**3.69**	**255**	*e*PN	**Pn**	**22 31 03.0**	**0.0**
KHC				*ex*	x	22 31 09.7	
KHC				*e*SG	**Sg**	**22 32 01.9**	**-1.4**
	comp=Z,4.5nm,0.5s						
CLL	**Collm**	**3.95**	**288**	*e*Sg	**Sg**	**22 32 18.0**	**+6.4**
NKC	**Novy Kostel**	**4.21**	**272**	*e*SG	**Sg**	**22 32 19.6**	**-0.2**

MOS ***28*** *22:46:38.6±0.9, 032S×91.15W, h10km, mb5.4/26, Error ellipse: s-maj=13.8km s-min=5.3km az=105.3*
ISCJB ***28*** *22:46:38.4±0.3, 038S±005×91.16W±004, h10km, mb5.0/78, MS4.6/30, Error ellipse: s-maj=8.0km s-min=4.6km az=36.5*
IDC ***28*** *22:46:38.0±0.6, 041S×9131W, h0km, mb4.6/20, mb1 4.7/23, mb1mx4.6/27, mbtmp4.6/23, ML3.7/3, MS4.5/26, Ms1 4.5/26, ms1mx4.4/30, Error ellipse: s-maj=21.8km s-min=11.4km az=53.0*
NEIC ***28*** *22:46:39.6±0.2, 046S×9122W, h10km, mb5.2/64, Error ellipse: s-maj=7.1km s-min=4.2km az=56.0*
NEIC Felt at Puerto Ayora.
BJI ***28*** *22:46:39.6, 050S×9120W, h10km, mB5.3, Ms5.2, Msz4.9*

GCMT ***28*** *22:46:39.6±0.3, 049S×9151W, h15km, MW5.2/73, Moment Tensor Solution. s49,c69; s73,c123; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.83±.17; Mθθ=4.29±.12; Mφφ=-3.46±.18; Mrθ=6.64±.39; Mrφ=-3.31±.12; Mθφ=-0.25±.54; Best double couple: M0=7.99500×10¹⁶ NP1:φs=161.00000°, δ35.00000°, λ=-7.00000°. NP2: φs=256.00000°, δ86.00000°, λ=-125.00000°. Principal axes: T 9.4920, Plg32.0000°, Azm15.0000°; N -2.9940, Plg35.0000°, Azm259.0000°; P -6.4970, Plg39.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 22:46:40.0±0.3, 043S±005×9118W±004, h10km, n598, σ0⅊67/531, mb5.0/78, MS4.6/30, 138C-166D, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**12.74**	**87**	*e*Pn	**Pn**	**22 49 47.0**	**+5.6**
TGUH	**Tegucigalpa,Un**	**14.90**	**15**	*e*Pn	**Pn**	**22 50 16.7**	**+5.9**
CCIG	**Comitan**	**16.63**	**357**	⇑ *i*P	**Pn**	**22 50 36.4**	**+3.0**
SCX	**San Cristobal**	**17.11**	**355**	*i* P	**Pn**	**22 50 44.0**	**+4.5**
ROSC	**El Rosal**	**17.63**	**72**	P	**Pn**	**22 50 48.3**	**+2.4**
	1.6nm,0.3s,baz=87,slow=16,SNR=12						
ROSC				LR	LR	22 56 51.1	
	comp=Z,1μm,19.6s,baz=222,slow=34						
ROSC	**El Rosal**	**17.63**	**72**	*e*Pn	**Pn**	**22 50 52.3**	**+6.4**
ROSC				LR	LR	22 56 51.1	
CMIG	**Matias Romero**	**17.79**	**348**	P	**Pn**	**22 50 47.5**	**-0.4**
	0.2nm,0.3s,baz=162,slow=9.7,SNR=18						
CMIG				LR	LR	22 56 10.2	
	comp=Z,2μm,19.1s,baz=156,slow=32						
VHO	**Vista Hermosa**	**18.23**	**343**	*e*P	**Pn**	**22 50 49.9**	**-3.4**
NNA	**Nana**	**18.28**	**129**	P	**Pn**	**22 50 54.1**	**+0.1**
	1.0nm,0.3s,baz=281,slow=17,SNR=2.2						
NNA				LR	LR	22 56 44.3	
	comp=Z,2μm,18.2s,baz=307,slow=33						
NNA	**Nana**	**18.28**	**129**	*e*Pn	**Pn**	**22 50 57.6**	**+3.6**
	16nm,0.6s						
NNA				LR	LR	22 56 44.4	
PPM	**Popocatepetl**	**20.71**	**340**	*i* P	**P**	**22 51 23.7**	**+3.1**
TEIG	**Tepich**	**20.72**	**8**	P	**P**	**22 51 21.4**	**+0.7**
	27nm,0.6s,baz=199,slow=5.5,SNR=18						
TEIG				LR	LR	22 58 32.1	
	comp=Z,2μm,18.2s,MS4.4,baz=30,slow=34						
TEIG	**Tepich**	**20.72**	**8**	*e*Pn	**P**	**22 51 21.8**	**+1.1**
	89nm,0.9s						
SDV	**Santo Domingo**	**22.46**	**65**	P	**P**	**22 51 42.3**	**+2.8**
	11nm,0.3s,mb4.7,baz=210,slow=16,SNR=4.2						
SDV				LR	LR	22 59 03.5	
	comp=Z,828nm,21.3s,MS4.1,baz=259,slow=33						
SDV	**Santo Domingo**	**22.46**	**65**	*e*P	**P**	**22 51 43.8**	**+4.3**
	95nm,1.4s,mb5.0						
SDV				LR	LR	22 59 03.5	
LPAZ	**La Paz**	**27.66**	**126**	P	**P**	**22 52 30.9**	**+2.7**
	11nm,0.6s,mb4.7,baz=295,slow=7.1,SNR=63						
LPAZ				LR	LR	23 02 53.4	
	comp=Z,2μm,21.0s,MS4.6,baz=299,slow=35						
PCRV	**Puerto La Cruz**	**28.43**	**68**	P	**P**	**22 52 36.6**	**+1.4**
	9.6nm,0.7s,mb4.5,baz=18,slow=14,SNR=2.8						
HKT	**Hockley**	**30.53**	**352**	*e*P	**P**	**22 52 53.6**	**0.0**
HKT				pmax	pmax		
	comp=Z,53nm,1.8s,mb5.1						
HKT	**Hockley**	**30.53**	**352**	*e*P	**P**	**22 52 53.6**	**0.0**
	comp=Z,53nm,1.8s,mb5.1						
LPIG	**La Paz**	**30.64**	**324**	LR	LR	23 02 04.0	
	comp=Z,713nm,21.8s,MS4.3,baz=6.4,slow=30						
SJG	**San Juan**	**30.74**	**52**	P	**P**	**22 52 56.9**	**+1.2**
	comp=Z,7.5nm,0.4s,mb4.9,baz=332,slow=19,SNR=3.7						
SJG	**San Juan**	**30.74**	**52**	*e*P	**P**	**22 53 03.1**	**+7.4**
CPD	**Cerro la Pandu**	**30.89**	**52**	*e*P	**P**	**22 52 57.5**	**+0.6**
CPD				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.2						
CPD	**Cerro la Pandu**	**30.89**	**52**	*e*P	**P**	**22 52 57.5**	**+0.5**
	comp=Z,32nm,0.8s,mb5.2						
LVC	**Limon Verde**	**30.91**	**137**	*e*P	**P**	**22 53 00.0**	**+2.9**
	comp=Z,36nm,1.1s,mb5.1						
JCT	**Junction City**	**31.81**	**346**	*e*P	**P**	**22 53 05.4**	**+0.5**
JCT				*e*		22 56 03.5	
TXAR	**Lajitas Array**	**31.91**	**339**	P	**P**	**22 53 05.9**	**+0.1**
	comp=Z,5.7nm,0.7s,mb4.5,baz=157,slow=9.8,SNR=76						
TXAR				PcP	PcP	22 55 56.6	+0.2
	comp=Z,0.6nm,0.8s,baz=151,slow=6.6,SNR=3.4						
TXAR				LR	LR	23 04 44.8	
	comp=Z,2μm,18.9s,MS4.9,baz=295,slow=34						
TXAR	**Lajitas Array**	**31.91**	**339**	P	**P**	**22 53 05.9**	**+0.1**
TXAR						22 55 56.6	
NATX	**Nacogdoches**	**32.18**	**354**	*e*P	**P**	**22 53 09.3**	**+1.1**
GOGA	**Godfrey**	**34.43**	**11**	*e*P	**P**	**22 53 27.4**	**-0.4**
LCO	**Las Campanas**	**34.50**	**147**	*e*P	**P**	**22 53 30.2**	**+1.7**
	comp=Z,49nm,1.0s,mb5.4						
GDL2	**Guadalupe Moun**	**34.76**	**340**	*e*P	**P**	**22 53 31.1**	**+0.4**
OXF	**Oxford**	**34.79**	**3**	*e*P	**P**	**22 53 30.1**	**-0.8**
OXF				pmax	pmax		
	comp=Z,91nm,1.1s,mb5.6						
OXF	**Oxford**	**34.79**	**3**	*e*P	**P**	**22 53 30.1**	**-0.8**
	comp=Z,90nm,1.1s,mb5.6						
MIAR	**Mount Ida**	**34.86**	**357**	*e*P	**P**	**22 53 31.6**	**+0.1**
MIAR				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.3						
MIAR	**Mount Ida**	**34.86**	**357**	*e*P	**P**	**22 53 31.6**	**+0.1**
	comp=Z,36nm,1.0s,mb5.3						
NHSC	**New Hope**	**34.93**	**16**	*e*P	**P**	**22 53 32.6**	**+0.5**
	comp=Z,78nm,1.2s,mb5.5						
UALR	**University of**	**35.03**	**358**	*e*P	**P**	**22 53 33.3**	**+0.3**
COW	**Cow Castle Cre**	**35.04**	**15**	*e*P	**P**	**22 53 33.4**	**+0.3**
COW				*e*PP	PP	22 54 49.9	-2.8
PLAL	**Pickwick Lake**	**35.34**	**4**	*e*P	**P**	**22 53 34.4**	**-1.3**
	comp=Z,72nm,2.2s,mb5.2						
PLAL				*e*PcP	PcP	22 56 04.8	-1.1
WMOK	**Wichita Mounta**	**35.70**	**349**	*e*P	**P**	**22 53 38.2**	**-0.5**
WMOK				*e*		22 56 14.1	
SWET	**Sewanee**	**35.80**	**7**	*e*P	**P**	**22 53 39.6**	**0.0**
SWET				*e*PcP	PcP	22 56 07.0	-0.3
HBAR	**Harrisburg**	**35.80**	**1**	*e*P	**P**	**22 53 38.2**	**-1.3**
319A	**Douglas**	**35.99**	**333**	⇑ P	**P**	**22 53 41.4**	**+0.2**
	baz=36,SNR=20						
CPCT	**Cooper Cave**	**36.23**	**9**	*e*P	**P**	**22 53 44.6**	**+1.4**
AMTX	**Amarillo**	**36.48**	**345**	*e*P	**P**	**22 53 45.4**	**0.0**
	comp=Z,79nm,1.4s,mb5.5						
219A	**White Tail Can**	**36.51**	**334**	⇓ P	**P**	**22 53 46.1**	**+0.4**
	baz=36,SNR=23						
GLAT	**Glass**	**36.55**	**3**	*e*P	**P**	**22 53 45.5**	**-0.5**
TKL	**Tuckaleechee C**	**36.56**	**10**	LR	LR	23 09 11.1	
	comp=Z,381nm,18.6s,MS4.2,baz=211,slow=37						
TKL	**Tuckaleechee C**	**36.56**	**10**	*e*P	**P**	**22 53 46.1**	**+0.1**
218A	**Dragoon**	**36.84**	**333**	⇓ P	**P**	**22 53 48.8**	**+0.3**
	baz=37,SNR=5.7						
217A	**Green Valley**	**37.03**	**332**	⇓ P	**P**	**22 53 50.1**	**-0.1**
	baz=37,SNR=25						
119A	**Ashpeak Ranch,**	**37.18**	**334**	⇓ P	**P**	**22 53 51.8**	**+0.4**
	baz=37,SNR=12						
BNM	**Barren Site**	**37.33**	**339**	*e*P	**P**	**22 53 53.7**	**+1.0**
Y22C	**IRIS PASSCAL I**	**37.37**	**338**	⇑ P	**P**	**22 53 54.0**	**+1.0**
	baz=37						
118A	**Homack Ranch,**	**37.37**	**333**	⇑ P	**P**	**22 53 53.1**	**+0.1**
	baz=37,SNR=15						
TZTN	**Tazewell**	**37.46**	**10**	*e*P	**P**	**22 53 53.9**	**+0.2**
	comp=Z,72nm,2.0s,mb5.2						
TZTN				*e*PcP	PcP	22 56 12.3	+0.1
TUC	**Tucson**	**37.46**	**332**	*e*P	**P**	**22 53 52.8**	**-1.0**
LENM	**Lemitar**	**37.47**	**338**	*e*P	**P**	**22 53 55.0**	**+1.2**
LPM	**Los Pinos Moun**	**37.47**	**339**	*e*P	**P**	**22 53 55.0**	**+1.2**
216A	**Three Points,**	**37.53**	**331**	⇓ P	**P**	**22 53 54.8**	**+0.4**
	baz=37						
Z19A	**T-Link Ranch,**	**37.62**	**335**	⇓ P	**P**	**22 53 55.5**	**+0.4**
	baz=37						
117A	**Oracle**	**37.66**	**332**	⇓ P	**P**	**22 53 55.4**	**0.0**
	baz=37,SNR=20						
LAZ	**Ladron**	**37.74**	**338**	*e*P	**P**	**22 53 56.8**	**+0.7**
Z18A	**Geronimo**	**37.77**	**334**	⇓ P	**P**	**22 53 57.0**	**+0.5**
	baz=38						
ANMO	**Albuquerque**	**37.98**	**339**	P	**P**	**22 53 58.5**	**+0.3**
	comp=Z,11nm,1.0s,mb4.6,baz=155,slow=9.1,SNR=25						
ANMO				LR	LR	23 08 41.6	
	comp=Z,2μm,18.4s,MS5.0,baz=159,slow=35						
ANMO	**Albuquerque**	**37.98**	**339**	*e*P	**P**	**22 53 58.6**	**+0.4**
SIUC	**Southern Illin**	**37.99**	**3**	*e*P	**P**	**22 53 58.5**	**+0.3**
	comp=Z,58nm,0.9s,mb5.3						
116A	**Eloy**	**38.11**	**331**	⇓ P	**P**	**22 53 59.1**	**-0.1**
	baz=38,SNR=15						
Z17A	**San Carlos Hig**	**38.15**	**333**	⇓ P	**P**	**22 53 59.8**	**+0.3**
	baz=38,SNR=6.3						
214A	**Organ Pipe Nat**	**38.16**	**330**	⇑ P	**P**	**22 53 59.6**	**-0.2**
	baz=38,SNR=14						
Y19A	**Nutrioso**	**38.18**	**335**	⇑ P	**P**	**22 54 00.9**	**+1.1**
	baz=38,SNR=21						
FVM	**French Village**	**38.23**	**1**	*e*P	**P**	**22 54 00.0**	**-0.2**
USIN	**University of**	**38.34**	**4**	*e*P	**P**	**22 54 01.3**	**+0.2**
Y18A	**Canyon Day Jun**	**38.36**	**334**	⇑ P	**P**	**22 54 01.6**	**+0.2**
	baz=38,SNR=6.1						
115A	**Sonoran Desert**	**38.47**	**331**	⇑ P	**P**	**22 54 02.6**	**+0.2**
	baz=38,SNR=10						
X19A	**St. Johns**	**38.60**	**336**	⇑ P	**P**	**22 54 04.0**	**+0.6**
	baz=38,SNR=16						
Z16A	**Peralta Trail,**	**38.62**	**332**	⇓ P	**P**	**22 54 03.8**	**+0.3**
	baz=38						
Y17A	**Roosevelt**	**38.65**	**333**	⇓ P	**P**	**22 54 04.0**	**+0.2**
	baz=38,SNR=5.6						
ELN	**Prospectdale**	**38.69**	**13**	*e*P	**P**	**22 54 04.4**	**+0.3**
WCI	**Wyandotte Cave**	**38.73**	**6**	*e*P	**P**	**22 54 03.6**	**-0.8**
WCI				*e*		22 56 22.4	
WCI				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.2						
WCI	**Wyandotte Cave**	**38.73**	**6**	*e*P	**P**	**22 54 03.6**	**-0.7**
	comp=Z,55nm,1.0s,mb5.2						
WCI				*e*PcP	PcP	22 56 22.4	+6.3
BLA	**Blacksburg**	**38.75**	**14**	*e*P	**P**	**22 54 04.9**	**+0.3**
BLA				*e*		22 56 22.0	
BLA				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.2						
BLA	**Blacksburg**	**38.75**	**14**	*e*P	**P**	**22 54 04.9**	**+0.3**
	comp=Z,55nm,1.2s,mb5.2						
BLA				*e*PcP	PcP	22 56 22.0	+5.8
Z15A	**Gila River Ind**	**38.92**	**331**	⇓ P	**P**	**22 54 06.5**	**+0.4**
	baz=39						
X18A	**Snowflake**	**38.97**	**335**	⇑ P	**P**	**22 54 07.2**	**+0.8**
	baz=39,SNR=12						
OLIL	**Oliney**	**39.07**	**4**	*e*P	**P**	**22 54 06.7**	**-0.5**
	comp=Z,82nm,1.1s,mb5.4						
OLIL				*e*PcP	PcP	22 56 17.3	+0.1
Y16A	**Circle Bar Ran**	**39.09**	**333**	⇓ P	**P**	**22 54 07.7**	**+0.2**
	baz=39,SNR=18						
X17A	**Forest Lakes**	**39.17**	**334**	⇑ P	**P**	**22 54 08.7**	**+0.5**
	baz=39,SNR=8.7						
W19A	**Sanders**	**39.24**	**336**	⇑ P	**P**	**22 54 09.2**	**+0.5**
	baz=39						
113A	**Mohawk Valley,**	**39.30**	**329**	⇑ P	**P**	**22 54 08.8**	**-0.5**
	baz=39,SNR=6.7						
Z14A	**Wintersburg**	**39.36**	**331**	⇓ P	**P**	**22 54 09.8**	**0.0**
	baz=39,SNR=8.4						
W18A	**Petrified Fore**	**39.38**	**336**	⇓ P	**P**	**22 54 10.4**	**+0.5**
	baz=39,SNR=5.6						
X16A	**Lo Mia Camp, P**	**39.52**	**333**	⇑ P	**P**	**22 54 11.5**	**+0.4**
	baz=39,SNR=16						
112A	**Yuma**	**39.54**	**328**	⇑ P	**P**	**22 54 10.9**	**-0.3**
	baz=39						
Y15A	**Casa Rosa Ranc**	**39.55**	**332**	⇓ P	**P**	**22 54 11.5**	**+0.2**
	baz=39,SNR=18						
V19A	**Window Rock**	**39.63**	**337**	⇓ P	**P**	**22 54 12.0**	**0.0**
	baz=39,SNR=6.1						
BLO	**Bloomington**	**39.64**	**6**	*e*P	**P**	**22 54 11.5**	**-0.5**
BLO				*e*		22 56 25.4	
BLO				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.2						
BLO	**Bloomington**	**39.64**	**6**	*e*P	**P**	**22 54 11.5**	**-0.4**
	comp=Z,36nm,0.7s,mb5.2						
BLO				*e*PcP	PcP	22 56 25.4	+6.4
KSU1	**Kansas State U**	**39.65**	**353**	*e*P	**P**	**22 54 12.2**	**+0.2**
W17A	**Winslow**	**39.76**	**335**	⇑ P	**P**	**22 54 13.7**	**+0.6**
	baz=40						
CBKS	**Cedar Bluff**	**39.83**	**350**	*e*P	**P**	**22 54 14.0**	**+0.4**
CBKS				pmax	pmax		
	comp=Z,65nm,1.2s,mb5.2						
CBKS	**Cedar Bluff**	**39.83**	**350**	*e*P	**P**	**22 54 14.0**	**+0.4**
	comp=Z,66nm,1.2s,mb5.2						
X15A

W12A **Cal Nev Ari** 41.86 330 ⇑P P 22 54 30.7 +0.2
baz=42
V13A **Grand Canyon W** 41.88 332 ⇑P P 22 54 31.0 +0.4
baz=42,SNR=16
PV10 **Paradox Valley** 41.97 339 eP P 22 54 31.3 +0.1
U14A **Mt Trumbull** 41.97 333 ⇓P P 22 54 32.2 +0.8
baz=42,SNR=15
R19A **Curley Farm, L** 41.97 339 ⇓P P 22 54 31.2 0.0
baz=42
S17A **Black Ridge (B** 41.99 337 ⇓P P 22 54 31.4 0.0
baz=42,SNR=11
BBRC **Big Bear Sol-O** 42.11 328 ⇓P P 22 54 33.7 +1.3
baz=42
T15A **Red Dirt Ranch** 42.12 334 ⇓P P 22 54 33.2 +0.7
baz=42
ISCO **Idaho Springs** 42.15 343 eP P 22 54 33.1 +0.4
ISCO e 22 56 35.0
ISCO pmax pmax
comp=Z,36nm,0.9s,mb5.0
ISCO **Idaho Springs** 42.15 343 eP P 22 54 33.1 +0.4
comp=Z,36nm,0.9s,mb5.0
ISCO ePcP PcP 22 56 35.0 +7.9
V12A **Nelson** 42.19 331 ⇓P P 22 54 33.2 +0.1
baz=42,SNR=18
HEC **Hector,Ludlow** 42.23 329 ⇓P P 22 54 34.3 +0.8
baz=42
R18A **Canyonlands Na** 42.29 338 ⇓P P 22 54 34.2 +0.3
baz=42,SNR=28
U13A **Pakoon Wash** 42.33 332 ⇑P P 22 54 34.6 +0.4
baz=42,SNR=14
S16A **Weppner Ranch,** 42.38 336 ⇑P P 22 54 34.8 +0.1
baz=42,SNR=20
T14A **Hurricane** 42.46 334 ⇓P P 22 54 35.7 +0.4
baz=42
BFSC **Mount Baldy St** 42.49 327 ⇓P P 22 54 35.7 +0.2
baz=42
TUQ **Turquoise Mtn.** 42.50 330 ⇓P P 22 54 35.8 +0.2
baz=42,SNR=14
Q19A **Hogan Spring (** 42.56 339 ⇓P P 22 54 35.6 -0.5
baz=42,SNR=13
V11A **Goodsprings** 42.57 330 ⇑P P 22 54 35.9 -0.3
baz=42,SNR=5.6
U12A **Valley of Fire** 42.61 332 ⇓P P 22 54 36.9 +0.4
baz=42
RRX **Edison Barstow** 42.62 328 ⇓P P 22 54 37.2 +0.5
baz=42
R17A **Hanksville Air** 42.63 337 ⇓P P 22 54 36.5 -0.2
baz=42,SNR=6.7
S15A **Panguitch** 42.66 335 ⇓P P 22 54 37.3 +0.4
baz=42,SNR=6.2
MWC **Mount Wilson** 42.70 326 P P 22 54 36.0 -1.3
T13A **Saint George** 42.80 333 ⇑P P 22 54 38.1 +0.1
baz=43,SNR=6.9
R16A **Teasdale** 42.82 336 ⇑P P 22 54 38.1 -0.1
baz=43,SNR=7.3
GSC **Goldstone** 42.84 329 ⇑P P 22 54 38.2 -0.2
baz=43,SNR=8.5
GSC **Goldstone** 42.84 329 eP P 22 54 39.2 +0.8
DECC **Green Verdugo** 42.87 326 ⇓P P 22 54 38.9 +0.2
baz=43
T12A **Moapa** 42.93 332 ⇓P P 22 54 39.3 +0.2
baz=43
SHPR **Sheep Range** 42.97 331 eP P 22 54 40.1 +0.7
SHPR ePcP PcP 22 56 37.6 +7.7
U11A **Corn Creek** 43.01 331 ⇑P P 22 54 40.5 +0.7
baz=43
Q18A **Rafter H Ranch** 43.01 338 ⇓P P 22 54 39.3 -0.4
baz=43,SNR=17
SHOC **Shoshone** 43.04 330 ⇓P P 22 54 39.9 -0.1
baz=43,SNR=6.7
ALLY **Alegheny Colle** 43.05 12 eP P 22 54 39.4 -0.7
ALLY ePP PP 22 56 20.2 0.0
ALLY ePcP PcP 22 56 30.6 +0.6
P19A **Cripple Cowboy** 43.07 340 ⇑P P 22 54 40.0 -0.1
baz=43,SNR=6.2
R15A **Junction** 43.08 335 ⇑P P 22 54 41.0 +0.7
baz=43
S14A **Cedar City** 43.08 334 ⇓P P 22 54 40.9 +0.6
baz=43
EDW2 **Edwards Air Fo** 43.15 327 ⇑P P 22 54 40.6 -0.4
baz=43,SNR=14
JFWS **Jewell Farm** 43.15 1 eP P 22 54 39.8 -1.0
JFWS pmax pmax
comp=Z,43nm,0.9s,mb5.2
JFWS **Jewell Farm** 43.15 1 eP P 22 54 39.8 -1.0
comp=Z,42nm,0.9s,mb5.2
SRU **San Rafael** 43.16 338 ⇓P P 22 54 40.7 -0.2
baz=43,SNR=9.7
SRU **San Rafael** 43.16 338 eP P 22 54 41.4 +0.4
BLG **Laguna Peak** 43.18 325 ⇓P P 22 54 41.5 +0.3
baz=43
S13A **Holt Ranch, En** 43.24 333 ⇓P P 22 54 42.0 +0.4
baz=43,SNR=19
Q16A **Castle Valley** 43.24 337 ⇓P P 22 54 41.4 -0.2
baz=43,SNR=7.3
MSU **Marysvale** 43.30 336 eP P 22 54 42.9 +0.9
OSI **Osito Adit** 43.36 326 ⇓P P 22 54 43.0 +0.4
baz=43
LRMC **Laurel Mountai** 43.44 328 ⇑P P 22 54 43.6 +0.4
baz=43,SNR=8.9
R14A **James Farms, M** 43.47 335 ⇓P P 22 54 43.7 +0.3
baz=43
U10A **Ash Meadows, A** 43.47 330 ⇑P P 22 54 43.7 +0.3
baz=43,SNR=14
PHWY **Pilot Hill** 43.51 344 eP P 22 54 43.4 -0.3
PHWY ePcP PcP 22 56 38.8 +7.2
P18A **Preston Nutter** 43.51 339 ⇑P P 22 54 43.5 -0.3
baz=43,SNR=13
P17A **Butcher Ranch,** 43.56 338 ⇓P P 22 54 43.5 -0.6
baz=43,SNR=7.9
T11A **Corn Creek, Al** 43.59 332 ⇑P P 22 54 44.4 0.0
baz=43,SNR=9.2
TMUT **Trail Mountain** 43.59 337 eP P 22 54 45.3 +1.0
O19A **Miners Draw (B** 43.71 340 ⇓P P 22 54 45.7 +0.3
baz=44
S12A **Delamar Landin** 43.71 333 ⇓P P 22 54 46.1 +0.8
baz=44
FURC **Furnace Creek,** 43.78 330 ⇑P P 22 54 46.1 +0.1
baz=44,SNR=10
MPMC **Manual Prospec** 43.78 329 ⇑P P 22 54 46.2 +0.2
baz=44,SNR=39
ARVC **Arvin** 43.80 327 ⇑P P 22 54 46.5 +0.3
baz=44
Q15A **Fillmore** 43.80 336 ⇑P P 22 54 46.3 +0.3
baz=44
TPNV **Topopah Spring** 43.85 331 eP P 22 54 47.6 +1.1
O18A **Roosevelt** 43.99 339 ⇓P P 22 54 47.9 +0.3
baz=44
ISA **Isabella** 44.00 327 ⇓P P 22 54 47.9 +0.1
baz=44,SNR=6.0
ISA **Isabella** 44.00 327 eP P 22 54 48.6 +0.8
P16A **Fountain Green** 44.03 337 ⇑P P 22 54 48.9 +1.0
baz=44
PAL **Palisades** 44.12 19 eP P 22 54 48.7 +0.1
PAL pmax pmax
comp=Z,50nm,1.1s,mb5.2
PAL **Palisades** 44.12 19 eP P 22 54 48.6 0.0
comp=Z,50nm,1.1s,mb5.2
Q14A **Sevier Lake (B** 44.16 335 ⇑P P 22 54 49.8 +0.9
baz=44,SNR=16
S11A **Rachel** 44.16 332 ⇓P P 22 54 49.9 +0.9
baz=44
PKM **Peak Mountain** 44.18 326 ⇑P P 22 54 49.1 -0.1
baz=44
R12A **Pony Springs,** 44.19 333 ⇑P P 22 54 50.1 +0.9
baz=44,SNR=7.6
O17A **Robinson Place** 44.19 338 ⇑P P 22 54 49.1 -0.1
baz=44,SNR=12
ECSD **EROS,Sioux Fal** 44.23 354 eP P 22 54 48.2 -1.2
P15A **Leamington** 44.24 336 ⇑P P 22 54 50.0 +0.3
baz=44
N19A **John Jarvie Ra** 44.26 340 ⇓P P 22 54 49.8 0.0
baz=44
PLCA **Paso Flores** 44.27 157 P P 22 54 51.1 +1.2
comp=Z,19nm,1.1s,mb4.8,baz=334,slow=10,SNR=15
PLCA LR LR 23 09 43.7
comp=Z,1µm,18.7s,MS4.8,baz=326,slow=31
PLCA **Paso Flores** 44.27 157 eP P 22 54 50.3 +0.4
PLCA pmax pmax
comp=Z,38nm,1.3s
PLCA **Paso Flores** 44.27 157 eP P 22 54 50.3 +0.4
comp=Z,38nm,1.3s,mb5.0
PLCA LR LR 23 09 43.7
RWWY **Rawlins** 44.36 343 eP P 22 54 51.0 +0.5
comp=Z,57nm,1.4s,mb5.1
CWC **Cottonwood Cre** 44.38 329 ⇓P P 22 54 51.6 +0.8
baz=44

GRAC **Grapevine Rang** 44.45 330 ⇓P P 22 54 51.6 +0.3
baz=44,SNR=6.8
Q13A **Wheeler Ranch,** 44.45 334 ⇑P P 22 54 51.4 +0.1
baz=44,SNR=7.7
VES **Vestal, Richgr** 44.46 327 ⇑P P 22 54 51.5 0.0
baz=44,SNR=7.2
O16A **Springville** 44.49 338 ⇑P P 22 54 51.5 -0.1
baz=44
NLU **North Lily Min** 44.49 337 eP P 22 54 53.0 +1.4
N18A **Larsen Ranch,** 44.50 340 ⇑P P 22 54 51.2 -0.5
baz=44,SNR=10
DAU **Daniels Canyon** 44.57 338 eP P 22 54 52.9 +0.6
P14A **Drum Mountains** 44.58 336 ⇑P P 22 54 53.0 +0.7
baz=44,SNR=14
SMMC **Simmler** 44.58 326 ⇓P P 22 54 52.6 +0.2
baz=44
BINY **Binghamton** 44.59 16 eP P 22 54 52.5 +0.1
comp=Z,24nm,1.0s,mb5.0
R11A **Troy Canyon, C** 44.65 332 ⇑P P 22 54 53.1 +0.2
baz=44,SNR=11
S10A **Tonopah Range,** 44.79 331 ⇑P P 22 54 54.2 +0.2
baz=45,SNR=15
JLU **Jordanelle** 44.81 338 eP P 22 54 55.4 +1.3
P13A **Bates Ranch, G** 44.86 335 ⇑P P 22 54 54.9 +0.3
baz=45,SNR=13
N17A **Moffit Pass** 44.88 339 ⇑P P 22 54 54.6 -0.1
baz=45,SNR=7.0
RCTC **Rector, Farmer** 44.90 327 ⇑P P 22 54 54.6 -0.3
baz=45
O15A **The Old Anders** 44.92 337 ⇓P P 22 54 55.9 +0.8
baz=45
TIN **Tinemaha** 44.92 329 ⇓P P 22 54 55.7 +0.6
baz=45
V05C **Boulder Hill,** 44.93 326 ⇑P P 22 54 56.0 +0.8
baz=45
R10A **Warm Springs** 44.94 332 ⇓P P 22 54 55.4 +0.2
baz=45,SNR=7.4
S09A **Goldfield** 44.94 330 ⇑P P 22 54 55.2 0.0
baz=45,SNR=6.1
DUG **Dugway** 44.99 336 eP P 22 54 56.1 +0.5
DUG pmax pmax
comp=Z,32nm,1.4s,mb5.0
DUG **Dugway** 44.99 336 eP P 22 54 56.1 +0.5
comp=Z,32nm,1.4s,mb5.0
CTU **Camp Tracy** 45.00 338 eP P 22 54 57.4 +1.7
N16A **Rees Ranch, Co** 45.05 338 ⇑P P 22 54 56.5 +0.4
baz=45
Q11A **Duckwater** 45.08 333 ⇑P P 22 54 56.3 -0.1
baz=45,SNR=19
BDFB **Brasilia** 45.19 112 P P 22 54 58.3 +0.7
comp=Z,11nm,0.8s,mb4.7,baz=272,slow=18,SNR=24
BDFB LR LR 23 14 06.5
comp=Z,673nm,19.9s,MS4.6,baz=98,slow=36
BDFB **Brasilia** 45.19 112 eP P 22 54 58.4 +0.8
BDFB LR LR 23 14 06.5
TPH **Tonopah** 45.21 331 eP P 22 54 58.6 +1.2
TPH pmax pmax
comp=Z,28nm,1.2s,mb5.0
TPH **Tonopah** 45.21 331 eP P 22 54 58.6 +1.2
comp=Z,28nm,1.2s,mb5.0
S08C **White Mtn Res** 45.24 329 ⇑P P 22 54 57.8 +0.2
baz=45,SNR=6.5
P12A **McGill** 45.26 334 ⇓P P 22 54 58.0 +0.2
baz=45,SNR=9.7
R09A **Tonopah** 45.27 331 ⇓P P 22 54 57.9 +0.1
baz=45,SNR=12
MTUM **Tungsten Hills** 45.33 329 eP P 22 54 59.1 +0.7
O13A **Hicks Ranch, I** 45.41 335 ⇓P P 22 54 59.5 +0.5
baz=45
Q10A **Clear Creek Ra** 45.41 332 ⇓P P 22 55 00.1 +1.1
baz=45
N15A **Stansbury Isla** 45.47 337 ⇑P P 22 54 59.3 -0.1
baz=45,SNR=11
M16A **Huntsville** 45.50 338 ⇑P P 22 54 59.6 0.0
baz=45
MLAC **Mammoth Lakes** 45.68 329 ⇓P P 22 55 01.6 +0.5
baz=45
KCC **Kaiser Creek** 45.70 328 ⇑P P 22 55 01.2 0.0
baz=46,SNR=6.1
N14A **Grayback Hills** 45.70 337 ⇓P P 22 55 00.9 -0.2
baz=46,SNR=23
BGU **Big Grassy Mou** 45.70 337 eP P 22 55 00.9 -0.3
BGU ePcP PcP 22 56 38.6 -0.5
P11A **Circle Ranch,** 45.70 333 ⇓P P 22 55 01.7 +0.5
baz=46
HWUT **Hardware Ranch** 45.73 339 eP P 22 55 01.4 0.0
comp=Z,59nm,1.4s,mb5.3
HWUT ePcP PcP 22 56 39.1 -0.2
BRYW **Bryant College** 45.73 21 eP P 22 55 02.1 +0.6
QUA2 **Belchertown** 45.77 20 P P 22 55 00.9 -0.9
comp=Z,333nm,1.8s,mb6.0
Q09A **Carvers** 45.79 331 ⇑P P 22 55 02.0 0.0
baz=46
V03C **Hunter Liggett** 45.79 325 ⇑P P 22 55 02.4 +0.4
baz=46
SPUT **South Promonto** 45.80 338 eP P 22 55 02.9 +0.9
RSSD **Black Hills** 45.81 347 eP P 22 55 01.8 -0.2
O12A **Currie** 45.85 335 ⇓P P 22 55 02.4 0.0
baz=46,SNR=6.9
R08A **Mina** 45.86 330 ⇑P P 22 55 03.1 +0.6
baz=46
M15A **Larsen Ranch,** 45.93 338 ⇓P P 22 55 02.5 -0.5
baz=46,SNR=13
NVAR **Mina Array Bea** 46.02 330 P P 22 55 04.0 +0.2
comp=Z,4.0nm,0.7s,mb4.5,baz=161,slow=8.7,SNR=33
NVAR PcP PcP 22 56 40.9 +0.6
comp=Z,0.7nm,0.7s,baz=148,slow=5.3,SNR=2.1
L16A **Fish Haven** 46.04 339 ⇑P P 22 55 03.7 -0.2
baz=46
BW06 **Boulder Array** 46.07 341 eP P 22 55 03.7 -0.4
PDAR **Pinedale Array** 46.07 341 P P 22 55 03.5 -0.6
comp=Z,1.7nm,0.9s,mb4.0,baz=157,slow=7.9,SNR=13
PDAR LR LR 23 13 51.5
comp=Z,1µm,18.0s,MS4.8,baz=168,slow=36
P10A **Eureka** 46.08 333 ⇑P P 22 55 04.9 +0.7
baz=46
TRQA **Tornquist** 46.08 148 eP P 22 55 04.5 +0.2
comp=Z,49nm,1.4s,mb5.2
N13A **Wendover, West** 46.11 336 ⇓P P 22 55 04.8 +0.4
baz=46
O11A **Cowboy Ranch,** 46.13 334 ⇓P P 22 55 04.6 -0.1
baz=46,SNR=6.6
Q08A **Gabbs** 46.17 331 ⇓P P 22 55 05.4 +0.4
baz=46,SNR=6.1
WES **Weston** 46.22 20 eP P 22 55 05.5 +0.2
HAST **Hastings Reser** 46.23 326 ⇑P P 22 55 05.1 -0.4
baz=46,SNR=7.1
HRV **Adam Dziewonsk** 46.25 20 eP P 22 55 06.0 +0.5
HRV pmax pmax
comp=Z,19nm,0.9s,mb5.0
HRV **Adam Dziewonsk** 46.25 20 eP P 22 55 06.0 +0.5
comp=Z,19nm,0.9s,mb5.0
SADO **Sadowa** 46.25 12 P P 22 55 04.4 -1.1
baz=230,slow=8.7
M14A **Sheep Mountain** 46.31 337 ⇓P P 22 55 05.3 -0.8
baz=46,SNR=26
HVU **Hansel Valley** 46.33 338 eP P 22 55 06.8 +0.6
P09A **Austin** 46.34 332 ⇓P P 22 55 06.6 +0.3
baz=46
ACCN **Adirondack Com** 46.35 18 eP P 22 55 07.4 +1.1
comp=Z,49nm,1.6s,mb5.2
COWI **Conover** 46.37 2 eP P 22 55 05.5 -0.9
COWI ePcP PcP 22 56 47.9 +6.5
L15A **Malad City** 46.38 338 ⇑P P 22 55 06.1 -0.4
baz=46
S06C **San Francisco** 46.39 328 ⇑P P 22 55 06.6 -0.1
baz=46
ELK **Elko** 46.45 335 P P 22 55 07.1 -0.1
comp=Z,4.0nm,0.9s,mb4.4,baz=144,slow=6.9,SNR=19
ELK LR LR 23 14 06.0
comp=Z,549nm,18.9s,MS4.5,baz=146,slow=36
ELK **Elko** 46.45 335 eP P 22 55 07.1 -0.1
N12A **Clover Valley,** 46.46 335 ⇑P P 22 55 06.6 -0.6
baz=46,SNR=7.7
M13A **Montello** 46.52 336 ⇑P P 22 55 07.3 -0.4
baz=46,SNR=10
PACP **Pacheco Peak** 46.52 326 ⇑P P 22 55 07.9 +0.1
baz=46
O10A **Cortez Mining,** 46.64 333 ⇓P P 22 55 08.8 +0.2
baz=46
WAKR **Walker** 46.65 329 eP P 22 55 09.5 +0.8
NCB **Newcomb** 46.72 17 eP P 22 55 09.0 -0.2
comp=Z,38nm,1.6s,mb5.1
L14A **Malta** 46.73 337 ⇑P P 22 55 08.2 -1.1
baz=46,SNR=7.7
N11A **Elko Archery C** 46.73 334 ⇓P P 22 55 09.2 -0.1
baz=46

CMB **Columbia Colle** 46.79 328 eP P 22 55 09.7 -0.1
CMB pmax pmax
comp=Z,24nm,1.4s,mb4.9
CMB **Columbia Colle** 46.79 328 ⇑P P 22 55 09.4 -0.5
baz=47
CMB **Columbia Colle** 46.79 328 eP P 22 55 09.7 -0.2
comp=Z,24nm,1.4s,mb4.9
K16A **Soda Springs** 46.81 339 ⇓P P 22 55 09.6 -0.4
baz=47
O09A **Fish Creek Ran** 46.85 333 ⇓P P 22 55 10.3 0.0
baz=47
M12A **Wells** 46.87 335 ⇓P P 22 55 09.9 -0.5
baz=47,SNR=7.4
P08A **Dixie Valley** 46.89 331 ⇓P P 22 55 10.6 0.0
baz=47
S04C **Ingram Canyon,** 46.91 327 ⇓P P 22 55 10.6 -0.2
baz=47
N10A **Dunphy** 46.98 334 ⇓P P 22 55 11.3 0.0
baz=47
K15A **Arbon** 47.02 338 ⇓P P 22 55 10.7 -0.9
baz=47
REDW **Red Top Meadow** 47.02 340 eP P 22 55 10.9 -0.7
L13A **Double Diamond** 47.05 337 ⇓P P 22 55 11.3 -0.5
baz=47
FFD **Franklin Falls** 47.07 19 eP P 22 55 12.1 +0.1
FFD ePP PP 22 57 05.4 +2.6
BMN **Battle Mountai** 47.08 333 eP P 22 55 12.3 +0.3
SNOW **Snow King Moun** 47.08 341 eP P 22 55 11.9 -0.1
comp=Z,36nm,1.0s,mb5.3
BNLO **Ben Lomond (Sa** 47.11 326 ⇓P P 22 55 12.3 -0.1
baz=47
R05C **Kirkwood Meado** 47.12 329 ⇓P P 22 55 12.7 +0.2
baz=47,SNR=10
K14A **Jones Ranch, D** 47.14 338 ⇓P P 22 55 11.8 -0.7
baz=47
LOHW **Long Hollow** 47.16 341 eP P 22 55 12.4 -0.3
P07A **Fallon** 47.17 331 ⇓P P 22 55 12.8 0.0
baz=47
RRI2 **Red Ridge** 47.17 340 eP P 22 55 11.9 -0.8
TPAW **Teton Pass** 47.17 340 eP P 22 55 12.6 -0.1
comp=Z,18nm,0.8s,mb5.0
J16A **Bone** 47.21 340 ⇑P P 22 55 12.9 -0.1
baz=47
LONY **Lake Ozonia** 47.22 16 eP P 22 55 12.4 -0.6
R04C **Big Horse Ranc** 47.24 328 ⇑P P 22 55 13.8 +0.4
baz=47
M11A **Holland Ranch,** 47.25 335 ⇓P P 22 55 13.4 0.0
baz=47,SNR=11
JRSC **Jasper Ridge** 47.34 326 ⇓P P 22 55 13.8 -0.4
baz=47
DCID1 **Drake Creek** 47.34 340 eP P 22 55 14.0 -0.1
O08A **Rochester Mine** 47.40 332 ⇓P P 22 55 14.1 -0.5
baz=47,SNR=5.1
WCN **Washoe City** 47.41 330 ⇓P P 22 55 15.0 +0.3
baz=47
LAVA **Lava Cap Winer** 47.51 328 ⇑P P 22 55 15.4 0.0
baz=47
L12A **House Creek Ra** 47.52 336 ⇑P P 22 55 15.3 -0.2
baz=47
IMW **Indian Meadow** 47.53 341 eP P 22 55 15.3 -0.2
IMW ePcP PcP 22 56 45.5 0.0
PAHR **Pah Rah Range** 47.54 330 eP P 22 55 16.2 +0.6
comp=Z,23nm,1.2s,mb5.1
K13A **Stover Farm, H** 47.58 337 ⇓P P 22 55 15.8 -0.1
baz=47
J15A **Blackfoot** 47.61 339 ⇑P P 22 55 15.6 -0.5
baz=47
FLWY **Flagg Ranch** 47.62 341 eP P 22 55 17.9 +1.7
O07A **Toulon** 47.64 331 ⇓P P 22 55 16.3 -0.2
baz=47,SNR=6.9
M10A **I.L. Ranch, Tu** 47.65 334 ⇓P P 22 55 16.6 +0.1
baz=47,SNR=6.1
LBNH **Lisbon** 47.67 19 eP P 22 55 16.5 -0.1
LBNH pmax pmax
comp=Z,20nm,1.2s,mb5.0
LBNH **Lisbon** 47.67 19 eP P 22 55 16.5 0.0
comp=Z,20nm,1.2s,mb5.0
I16A **Newdale** 47.69 340 ⇓P P 22 55 16.5 -0.3
baz=48
FRNY **Flat Rock** 47.70 17 eP P 22 55 17.0 +0.2
L11A **Cat Creek Ranc** 47.85 335 ⇑P P 22 55 18.0 0.0
baz=48
P05C **Yuba Gap, Truc** 47.85 329 ⇓P P 22 55 18.4 +0.3
baz=48
K12A **Draper Farm, C** 47.89 336 ⇓P P 22 55 18.3 0.0
baz=48
Q04C **Lincoln** 47.91 328 ⇑P P 22 55 18.7 +0.2
baz=48
J14A **Carey** 47.94 338 ⇓P P 22 55 18.7 0.0
baz=48,SNR=9.5
M09A **Marrel Ranch,** 47.97 333 ⇑P P 22 55 18.7 -0.3
baz=48
YFT **Old Faithful** 47.99 341 eP P 22 55 20.1 +1.0
L10A **Juniper Basin** 48.08 335 ⇑P P 22 55 19.3 -0.5
baz=48
RLMT **Red Lodge** 48.11 343 eP P 22 55 19.6 -0.4
comp=Z,39nm,1.9s,mb5.1
O06A **Flanigan** 48.11 330 ⇑P P 22 55 20.3 +0.2
baz=48
CVS **Carmenet Viney** 48.13 327 ⇑P P 22 55 20.7 +0.4
baz=48
RKT **Rikitea** 48.13 239 eLR LR 23 09 06.9
comp=Z,494nm,28.5s
N07B **Gerlach** 48.17 332 ⇑P P 22 55 20.8 +0.3
baz=48
EYMN **Ely** 48.18 360 eP P 22 55 19.1 -1.3
comp=Z,22nm,1.0s,mb5.2
MCCM **Marconi Confer** 48.22 326 ⇓P P 22 55 21.5 +0.5
baz=48
J13A **Cove Ranch, Pi** 48.25 338 ⇑P P 22 55 21.2 +0.1
baz=48
OHCM **Honcut** 48.33 328 eP P 22 55 28.3 +6.5
NSHM **Saint Helena R** 48.34 327 eP P 22 55 21.9 0.0
H16A **Russell Place,** 48.35 341 ⇑P P 22 55 21.4 -0.4
baz=48,SNR=6.0
M08A **Happy Creek Ra** 48.41 333 ⇓P P 22 55 22.4 0.0
baz=48,SNR=6.5
I14A **Mackay** 48.43 339 ⇓P P 22 55 22.2 -0.3
baz=48
K11A **Parker Ranch,** 48.46 336 ⇓P P 22 55 22.2 -0.5
baz=48
HLID **Hailey** 48.48 337 eP P 22 55 23.0 +0.1
J12A **Stokes Ranch,** 48.48 337 ⇑P P 22 55 22.6 -0.3
baz=48,SNR=7.6
ORV **Oroville** 48.50 329 ⇓P P 22 55 23.1 0.0
baz=48,SNR=5.9
O05C **Quincy** 48.50 329 ⇑P P 22 55 23.6 +0.5
baz=48
QLMT **Earthquake Lak** 48.52 341 eP P 22 55 23.9 +0.8
L09A **Wilkinson Ranc** 48.55 334 ⇑P P 22 55 23.5 0.0
baz=48
N06A **Buffalo Meadow** 48.56 331 ⇓P P 22 55 23.4 -0.1
baz=48,SNR=6.5
I13A **Wildhorse Cree** 48.67 338 ⇑P P 22 55 24.1 -0.2
baz=48,SNR=12
AGMN **Agassiz Refuge** 48.70 356 eP P 22 55 23.4 -1.1
M07A **Soldier Meadow** 48.74 332 ⇑P P 22 55 24.9 0.0
baz=48
H15A **Lima** 48.74 340 ⇓P P 22 55 24.9 0.0
baz=48
K10A **MacKenzie Ranc** 48.82 335 ⇓P P 22 55 24.7 -0.8
baz=49,SNR=6.3
O04C **Chester** 48.85 330 ⇑P P 22 55 25.9 +0.1
baz=49
ELFS **Eagle Lake Fie** 48.90 330 ⇑P P 22 55 25.9 -0.2
baz=49
MFID **Camas Ranch** 48.91 336 ⇓P P 22 55 25.5 -0.7
baz=49
HOPS **Hopland** 48.93 327 ⇓P P 22 55 26.3 -0.2
baz=49
HOPS **Hopland** 48.93 327 eP P 22 55 25.9 -0.6
L08A **Fields** 48.99 333 ⇑P P 22 55 26.0 -0.8
baz=49
H14A **Leadore** 49.00 339 ⇓P P 22 55 26.7 -0.1
baz=49,SNR=13
MCMT **McKenzie Canyo** 49.00 340 eP P 22 55 26.8 0.0
MCMT ePcP PcP 22 56 53.2 +2.5
K09A **Rome** 49.12 334 ⇑P P 22 55 27.7 -0.1
baz=49,SNR=12
G15A **Dillon** 49.17 340 ⇓P P 22 55 28.2 0.0
baz=49
GASB **Alder Springs** 49.21 328 ⇓P P 22 55 28.7 +0.1
baz=49
L07A **Adell** 49.31 332 ⇑P P 22 55 28.9 -0.3
baz=49,SNR=6.2
BOZ **Bozeman (W)** 49.31 341 eP P 22 55 28.4 -0.8

BOZ pmax pmax
comp=Z,46nm,1.8s,mb5.2
BOZ Bozeman (W) 49.31 341 *e*P **P 22 55 28.4 -0.8**
comp=Z,46nm,1.8s,mb5.2
WVOR Wild Horse Val 49.31 333 *e*P **P 22 55 29.1 -0.2**
WVOR pmax pmax
comp=Z,40nm,1.8s,mb5.2
WVOR Wild Horse Val 49.31 333 *e*P **P 22 55 29.1 -0.2**
comp=Z,40nm,1.8s,mb5.1
DLMT Dillon 49.38 340 *e*P **P 22 55 29.9 +0.1**
comp=Z,33nm,1.5s,mb5.2
P01C Double 8 Ranch 49.41 327 ⇓P **P 22 55 30.0 -0.1**
baz=49
PKME Peaks-Kenny Pk 49.45 20 *e*P **P 22 55 30.3 0.0**
comp=Z,30nm,0.8s,mb5.4
K08A Mann Creek Ran 49.48 334 ⇑P **P 22 55 30.0 -0.6**
baz=49
H12A Diamond D Ranc 49.49 338 ⇑P **P 22 55 29.6 -1.0**
baz=49,SNR=12
G14A Jackson 49.57 339 ⇓P **P 22 55 30.9 -0.4**
baz=49
O02C Red Bluff 49.63 328 ⇓P **P 22 55 31.7 0.0**
baz=49
EMMW East Machias 49.64 22 *e*P **P 22 55 34.3 +2.6**
M05C Lookout 49.66 330 ⇓P **P 22 55 32.0 0.0**
baz=49
MOD Modoc 49.67 332 ⇑P **P 22 55 31.8 -0.2**
baz=49
MOD Modoc 49.67 332 *e*P **P 22 55 31.6 -0.4**
G13A Cobalt 49.72 339 ⇓P **P 22 55 31.5 -0.9**
baz=50,SNR=5.5
LRM Limekiln Ridge 49.73 341 *e*P **P 22 55 32.7 +0.2**
F15A Butte 49.76 341 ⇓P **P 22 55 32.4 -0.3**
baz=50
K07A Rock Creek Ran 49.79 333 ⇑P **P 22 55 32.8 -0.1**
baz=50
WDC Whiskeytown Da 49.79 329 ⇑P **P 22 55 32.3 -0.7**
baz=50
I10A Payette 49.86 336 ⇓P **P 22 55 33.4 -0.1**
baz=50
J08A Circle Bar Ran 49.98 334 ⇓P **P 22 55 34.3 -0.1**
baz=50
DGMT Dagmar 49.99 349 *e*P **P 22 55 34.1 -0.3**
comp=Z,34nm,1.0s,mb5.3
DGMT *e*PcP PcP 22 57 01.4 +7.1
L05A Lakeview 50.03 331 ⇓P **P 22 55 34.9 0.0**
baz=50
O01C Eel River Cons 50.15 327 ⇑P **P 22 55 35.6 -0.1**
baz=50
H10A Noah's Angus R 50.26 336 ⇓P **P 22 55 36.1 -0.4**
baz=50
E15A Deer Lodge 50.33 341 ⇑P **P 22 55 36.1 -0.8**
baz=50
M04C Macdoel 50.33 330 ⇓P **P 22 55 36.5 -0.6**
baz=50
K06A Valley Falls 50.34 332 ⇑P **P 22 55 36.8 -0.3**
baz=50
F13A Darby 50.35 339 ⇑P **P 22 55 36.4 -0.8**
baz=50
I08A Drewsey 50.46 334 ⇓P **P 22 55 37.5 -0.5**
baz=50
K05A Summer Lake 50.58 332 ⇓P **P 22 55 38.4 -0.5**
baz=50
ULM Lac du Bonnet 50.64 356 P **P 22 55 37.8 -1.4**
comp=Z,13nm,0.5s,mb5.1,baz=181,slow=7.1,SNR=26
ULM LR LR 23 17 30.8
comp=Z,504nm,21.1s,MS4.5,baz=219,slow=37
J06A Christmas Vall 50.64 333 ⇓P **P 22 55 38.7 -0.7**
baz=50
L04A Klamath Falls 50.65 331 ⇓P **P 22 55 38.6 -0.8**
baz=50
F12A Elk City 50.66 338 ⇑P **P 22 55 38.6 -0.9**
baz=50
BMO Blue Mountains 50.70 336 *e*P **P 22 55 38.8 -1.0**
YBH Yreka Blue Hor 50.73 330 P **P 22 55 38.6 -1.4**
comp=Z,3.6nm,0.9s,mb4.3,baz=150,slow=5.9,SNR=3.7
YBH LR LR 23 14 23.9
comp=Z,374nm,21.8s,MS4.4,baz=150,slow=33
YBH Yreka Blue Hor 50.73 330 ⇓P **P 22 55 39.1 -0.9**
baz=50
YBH Yreka Blue Hor 50.73 330 *e*P **P 22 55 39.0 -1.0**
G11A Walters Elk Ra 50.74 337 ⇑P **P 22 55 39.7 -0.4**
baz=50,SNR=6.6
D15A Lincoln 50.83 341 ⇑P **P 22 55 39.8 -0.9**
baz=51
E13A Victor 50.87 340 ⇓P **P 22 55 40.1 -0.9**
baz=51
CHMT Chamberlain Mo 50.96 341 *e*P **P 22 55 41.2 -0.5**
G10A Bishop Farm, J 50.99 337 ⇑P **P 22 55 41.2 -0.8**
baz=51
H08A Prairie City 50.99 335 ⇓P **P 22 55 41.4 -0.6**
baz=51
I07A Izee 51.01 334 ⇓P **P 22 55 41.3 -0.8**
baz=51
F11A Grangeville 51.11 338 ⇓P **P 22 55 42.3 -0.6**
baz=51
MSO Missoula 51.12 340 *e*P **P 22 55 43.0 +0.2**
J05A Fort Rock 51.17 332 ⇑P **P 22 55 43.1 -0.3**
baz=51,SNR=5.5
D14A Greenough 51.19 341 ⇑P **P 22 55 42.7 -0.7**
baz=51
G09A Cove 51.24 336 ⇓P **P 22 55 43.2 -0.7**
baz=51
H07A Lands Inn, Kim 51.44 334 ⇑P **P 22 55 44.8 -0.5**
baz=51
L02A Cave Junction 51.49 329 ⇓P **P 22 55 45.6 -0.2**
baz=51
D13A Huson 51.52 340 ⇑P **P 22 55 45.1 -0.8**
baz=51,SNR=7.6
E11A Bogner Ranch, 51.52 338 ⇑P **P 22 55 44.6 -1.3**
baz=51
J04A Umpqua Nationa 51.55 331 ⇑P **P 22 55 45.7 -0.5**
baz=51
F09A S2 Ranch, Elgi 51.65 336 ⇓P **P 22 55 46.4 -0.4**
baz=51
G08A Pilot Rock 51.74 335 ⇑P **P 22 55 46.9 -0.7**
baz=52,SNR=7.6
K02A Glendale 51.88 330 ⇓P **P 22 55 47.9 -0.7**
baz=52
H06A Lindquist Farm 51.89 334 ⇓P **P 22 55 48.3 -0.4**
baz=52
LNOR Lincton Mounta 51.93 336 *e*P **P 22 55 48.1 -0.9**
G07A Ruggs Ranch, H 52.02 335 ⇑P **P 22 55 49.1 -0.5**
baz=52
C13A Hot Springs 52.07 340 ⇓P **P 22 55 49.2 -0.7**
baz=52
I04A Tendick Farm, 52.12 332 ⇓P **P 22 55 49.1 -1.3**
baz=52
D11A Klaveano Farm, 52.15 338 ⇑P **P 22 55 50.1 -0.5**
baz=52
J02A Umpqua 52.36 330 ⇑P **P 22 55 51.8 -0.4**
baz=52
E09A Wood Farm, Sta 52.40 337 ⇑P **P 22 55 51.4 -1.1**
baz=52
G06A Carlson Farm, 52.41 334 ⇓P **P 22 55 52.1 -0.5**
baz=52
D10A Wagner Farm, O 52.51 338 ⇑P **P 22 55 52.4 -0.9**
baz=52
B13A Whitefish 52.63 341 ⇓P **P 22 55 53.4 -0.8**
baz=52
I03A Eugene 52.66 331 ⇑P **P 22 55 53.9 -0.6**
baz=52
RSW Rattlesnake Hi 52.89 336 *e*P **P 22 55 55.9 -0.2**
WALA Waterton Lakes 53.05 341 *e*P **P 22 55 57.6 +0.3**
H03A Soap Creek Ran 53.20 332 ⇓P **P 22 55 57.8 -0.6**
baz=53
F05A White Salmon 53.28 334 ⇑P **P 22 55 58.7 -0.3**
baz=53
B11A Sandpoint 53.34 339 ⇓P **P 22 55 58.5 -0.9**
baz=53
OD2 Odessa Site #2 53.34 337 *e*P **P 22 56 00.0 +0.6**
OD2 *e*PcP PcP 22 57 12.9 +6.0
NEW Newport 53.46 339 *e*P **P 22 55 59.1 -1.2**
NEW *e* 22 57 13.3
E06A Yakima 53.59 335 ⇑P **P 22 56 00.4 -0.9**
baz=53
A11A Hall Mountain, 53.78 340 ⇑P **P 22 56 01.9 -0.7**
baz=54
C08A Higginbotham F 53.79 337 ⇓P **P 22 56 02.3 -0.4**
baz=54
LON Longmire 54.11 334 *e*P **P 22 56 04.9 -0.1**
ETW Entiat 54.16 336 *e*P **P 22 56 04.6 -0.8**
ETW *e*PcP PcP 22 57 11.8 +1.9
B08A Colville Reser 54.37 337 ⇑P **P 22 56 06.0 -0.9**
baz=54
A08A Turner Farm, O 54.83 338 ⇑P **P 22 56 09.6 -0.7**
baz=55

JCW Jim Creek 55.28 335 *e*P **P 22 56 12.8 -0.7**
RPW Rockport 55.31 336 *e*P **P 22 56 12.4 -1.3**
A07A Ashnola River, 55.34 337 ⇑P **P 22 56 13.3 -0.6**
baz=55,SNR=5.6
NLWA Neilton Lookou 55.50 334 *e*P **P 22 56 18.4 +3.2**
FFC Flin Flon 55.68 352 *e*P **P 22 56 15.1 -1.2**
FFC pmax pmax
comp=Z,28nm,1.4s,mb5.1
FFC Flin Flon 55.68 352 *e*P **P 22 56 15.1 -1.2**
comp=Z,28nm,1.4s,mb5.1
EDM Edmonton 56.57 344 *e*P **P 22 56 21.7 -1.0**
EFI East Falkland 58.17 156 *i* P **P 22 56 31.2 -2.9**
SCHQ Schefferville 58.59 16 P **P 22 56 35.4 -1.5**
comp=Z,2.2nm,0.7s,mb4.3,baz=202,slow=9.7,SNR=5.5
SCHQ LR LR 23 21 24.1
comp=Z,412nm,21.4s,MS4.5,baz=213,slow=36
SCHQ Schefferville 58.59 16 *e*P **P 22 56 36.2 -0.7**
comp=Z,70nm,1.7s,mb5.4
SCHQ LR LR 23 21 24.1
FCC Fort Churchill 59.06 358 *e*P **P 22 56 39.1 -1.0**
PPT Papeete 59.86 250 *e*LQ 23 12 04.0
comp=Z,966nm,29.0s
PPT *e*LR LR 23 14 28.7
comp=Z,364nm,24.8s
PPT Papeete 59.86 250 LR LR 23 15 55.0
comp=Z,237nm,21.6s,MS4.3,baz=96,slow=29
BBB Bella Bella 60.90 335 LR LR 23 21 40.8
comp=Z,200nm,19.2s,MS4.3,baz=326,slow=35
YKA Yellowknife Ar 65.20 348 P **P 22 57 19.5 -1.7**
comp=Z,5.3nm,0.9s,mb4.5,baz=151,slow=6.6,SNR=6.0
YKA LR LR 23 27 14.8
comp=Z,166nm,18.6s,MS4.3,baz=140,slow=37
DLBC Dease Lake 66.21 339 *e*P **P 22 57 28.1 +0.3**
DAWY Dawson 73.36 340 *e*P **P 22 58 11.0 -0.8**
BMRM Bremner River 73.49 336 *e*P **P 22 58 12.5 -0.1**
EGAK Eagle 74.40 340 *e*P **P 22 58 17.1 -0.8**
comp=Z,44nm,1.9s,mb5.1
KDAK Kodiak Island 75.51 331 LR LR 23 30 44.8
comp=Z,244nm,18.1s,MS4.5,baz=2.1,slow=35
PPLA Purkeypile 77.56 336 *e*P **P 22 58 34.7 -1.2**
comp=Z,74nm,1.7s,mb5.3
BPAW Bear Paw Mtn. 77.63 337 *e*P **P 22 58 34.5 -1.8**
comp=Z,22nm,1.4s,mb4.9
CHUM Lake Minchumin 78.05 337 *e*P **P 22 58 39.7 +1.1**
comp=Z,27µm,1.2s
SVW2 Sparrevohn 78.26 333 *e*P **P 22 58 38.4 -1.5**
COLD Coldfoot 78.84 340 *e*P **P 22 58 42.3 -0.6**
comp=Z,37nm,1.6s,mb5.1
COLD *e*PcP PcP 22 58 49.6 -2.0
TTA Tatalina 79.17 335 *e*P **P 22 58 44.6 -0.2**
IMA2 Indian Mountai 79.54 338 *e*P **P 22 58 45.6 -1.2**
SUMG Summit 79.90 14 *e*P **P 22 58 48.8 +0.2**
PFVI Vita Bisbo 84.15 53 *e*LR LR 23 25 39.6
comp=Z,142nm,19.3s
PBDV Barranco-do-Ve 84.87 53 *e*S S 23 09 47.7 +3.5
PBDV Barranco-do-Ve 84.87 53 *e*LR LR 23 27 03.6
comp=Z,151nm,15.9s
PVAQ Vaqueiros 85.05 53 *e*S S 23 09 46.5 +0.5
PVAQ Vaqueiros 85.05 53 *e*LR LR 23 26 24.8
comp=Z,159nm,14.8s
PVIS Viseu 85.17 49 *e*P **P 22 59 23.7 +6.9**
PESTR Estremoz 85.26 51 *e*S S 23 09 48.6 +0.6
PESTR Estremoz 85.26 51 *e*LR LR 23 27 44.2
comp=Z,184nm,20.8s
MTE Manteigas 85.42 50 *e*S S 23 09 52.5 +3.1
MTE Manteigas 85.42 50 *e*LR LR 23 31 12.3
comp=Z,169nm,28.2s
PCBR Castelo Branco 85.42 50 *e*P **P 22 59 25.1 +7.0**
comp=Z,41nm,1.4s,mb5.4
PMRV Marv??o 85.46 51 *e*P **P 22 59 25.1 +6.8**
PMRV Marv??o 85.46 51 *e*S S 23 09 52.8 +2.9
PMRV Marv??o 85.46 51 *e*LR LR 23 28 04.8
comp=Z,164nm,29.5s
PBAR Barrancos 85.64 52 *e*S S 23 09 53.6 +1.8
PBAR Barrancos 85.64 52 *e*LR LR 23 27 17.3
comp=Z,152nm,24.6s
MVO Moncorvo 85.86 49 *e*P **P 22 59 27.4 +7.2**
MVO Moncorvo 85.86 49 *e*S S 23 09 55.7 +1.9
LIC Lamto 86.22 84 *e*P **P 22 59 21.4 -1.2**
comp=Z,96nm,1.4s,mb5.8
TIC Toumodi 86.23 83 *e*P **P 22 59 21.5 -1.1**
comp=Z,36nm,0.9s,mb5.6
DBIC Dimbokro 86.39 83 P **P 22 59 22.6 -0.8**
comp=Z,5.8nm,0.6s,mb5.0,baz=270,slow=6.5,SNR=18
DBIC LR LR 23 38 36.3
comp=Z,189nm,18.2s,MS4.5,baz=249,slow=36
DBIC Dimbokro 86.39 83 *e*P **P 22 59 22.4 -1.0**
DBIC pmax pmax
comp=Z,5.0nm,0.6s
DBIC Dimbokro 86.39 83 *e*P **P 22 59 22.4 -1.0**
comp=Z,5.1nm,0.6s,mb4.9
DBIC LR LR 23 38 36.3
KIC Kosan Boka 86.50 84 *e*P **P 22 59 22.8 -1.2**
comp=Z,33nm,0.7s,mb5.7
ESDC Sonseca Array 88.12 50 P **P 22 59 30.8 -0.4**
comp=Z,0.5nm,0.5s,mb4.0,baz=281,slow=4.3,SNR=7.7
ESDC LR LR 23 31 47.2
comp=Z,165nm,21.8s,MS4.4,baz=305,slow=31
ESLA Sonseca Array 88.12 50 *e*P **P 22 59 38.4 +7.2**
SNAA Sanae 89.07 162 *e*P **P 22 59 34.4 -0.7**
SNAA *e* 23 03 04.0
SNAA pmax pmax
comp=Z,5.0nm,1.0s
SNAA Sanae 89.07 162 *e*P **P 22 59 34.4 -0.7**
comp=Z,5.1nm,1.0s,mb4.8
SNAA *e*PP PP 23 03 04.0 -0.8
ESK Eskdalemuir 89.19 35 *e*P **P 22 59 35.4 -0.5**
TORD Torodi Ar. Bea 92.89 77 P **P 22 59 52.4 -1.6**
comp=Z,0.6nm,0.9s,mb4.0,baz=280,slow=5.0,SNR=3.8
TORD LR LR 23 39 26.9
comp=Z,200nm,19.7s,MS4.6,baz=240,slow=34
BILL Bilibino 95.08 338 P **P 23 00 02.0 -0.9**
BILL *e* 23 00 09.4
BILL pmax pmax
comp=Z,5.0nm,1.4s,mb4.8
BILL MLR MLR
comp=Z,400nm,18.0s,MS4.9
NOA NORSAR Array B 96.37 29 LR LR 23 40 06.1
comp=Z,95nm,20.2s,MS4.3,baz=285,slow=33
CLL Collm 99.18 38 *e*SKSac SKSac 23 11 07.0 +6.7
CLL *e*Sdif S 23 11 51.0 -2.4
CLL *e*PS PS 23 13 18.0 -2.8
CLL *e*PPS 23 14 04.0
CLL *e*SS SS 23 18 43.0 +1.6
CLL *e*SSS 23 22 30.0
CLL *e*SSSS 23 25 30.0
CLL LmV 23 41 00.0
comp=Z,100nm,20.1s
BRG Berggiesshubel 99.84 38 *e*(P) PP 23 04 40.0 +11
comp=Z,5.2nm,1.2s
BRG
comp=N,180nm,24.1s
BRG
comp=E,97nm,20.4s
BRG
comp=Z,117nm,14.7s
BRVK Borovoye 125.32 14 *e*PKIKP PKPdf 23 05 39.6 -1.6
CN2 Changchun 125.89 328 *e*PKP PKPdf 23 05 37.0 -5.5
ZAA0 Zalesovo Array 126.56 3 *e*PKPdf PKPdf 23 05 41.8 -1.7
ZALV Zalesovo Beam 126.56 3 PKP PKPdf 23 05 41.7 -1.8
comp=Z,3.7nm,0.5s,baz=276,slow=1.6,SNR=25
ZALV PP PP 23 07 43.2 +4.8
comp=Z,1.3nm,0.7s,baz=340,slow=8.1,SNR=5.4
ZALV Zalesovo Beam 126.56 3 PKP PKPdf 23 05 41.7 -1.8
ZALV PP PP 23 07 43.2 +4.8
ZAL Zalesovo 126.57 3 PKIKP PKPdf 23 05 41.7 -1.8
ZAL 23 07 43.2
KS15 Wonju Array Si 128.50 320 *e*PKPdf PKPdf 23 05 43.6 -4.1
ZAK Zakamensk 128.73 348 *e*PKIKP PKPdf 23 05 47.2 -0.5
ZAK pmax pmax
comp=Z,3.0nm,1.5s
KURK Kurchatov 129.15 8 *e*PKIKP PKPdf 23 05 47.7 -0.8
ASAR Alice Springs 130.13 238 PKP PKPdf 23 05 49.9 -1.4
comp=Z,1.3nm,0.8s,baz=130,slow=2.9,SNR=8.6
ULN Ulaanbaatar 130.17 344 *i* PKIKP PKPdf 23 05 50.4 -0.2
SONM Songino Array 130.37 345 PKP PKPdf 23 05 50.8 -0.2
comp=Z,1.4nm,0.9s,baz=353,slow=1.1,SNR=9.5
SONM PP PP 23 08 10.3 +6.7
comp=Z,0.3nm,0.7s,baz=346,slow=4.9,SNR=4.5
WB2 Warramunga Arr 131.04 243 *e*P PKPdf 23 05 51.4 -1.6
WRA Warramunga Arr 131.05 243 PKP PKPdf 23 05 51.8 -1.2
comp=Z,2.9nm,0.7s,baz=100,slow=2.4,SNR=41
BJI Beijing 133.36 331 PKP PKPdf 23 05 57.0 +0.1
BJI PP PP 23 08 23.0 -0.3
BJI SKS SKSdf 23 13 07.8 -0.7

BJI SS SS 23 26 06.5 -0.9
BJI PP PP
comp=Z,121nm,8.8s
BJI LR LR
comp=N,153nm,20.5s,MS4.8
BJI LR LR
comp=E,68nm,17.2s,MS4.8
BJI LR LR
comp=Z,145nm,19.7s,MS4.7
MKAR Makanchi Array 133.47 6 PKP PKPdf 23 05 54.5 -2.3
comp=Z,0.2nm,0.3s,baz=19,slow=2.2,SNR=5.9
MKAR PP PP 23 08 26.2 +2.8
comp=Z,0.2nm,0.2s,baz=42,slow=5.0,SNR=5.6
HHC Hu-ho-hao-te 134.78 336 *e*PKP PKPdf 23 05 55.3 -4.2
HHC XPKP 23 06 07.0
HHC PP PP
comp=Z,60nm,13.1s
HHC LR LR
comp=N,233nm,19.0s,MS5.3
HHC LR LR
comp=E,529nm,20.2s,MS5.3
HHC LR LR
comp=Z,220nm,17.8s,MS4.9
EKS2 Erkin-Say 135.83 16 *e*PKPdf PKPdf 23 06 01.1 -0.3
TKM2 Tokmak 2 136.06 14 *e*PKIKP PKPdf 23 06 01.3 -0.5
AML Almayashu 136.30 16 *e*PKPdf PKPdf 23 06 02.9 +0.6
UCH Uchtor 136.44 15 *e*PKPdf PKPdf 23 06 03.3 +0.7
WMQ Urumqi 136.78 1 *e*PKP PKPdf 23 06 02.8 -0.3
WMQ LR LR
comp=N,276nm,24.3s,MS5.0
WMQ LR LR
comp=E,143nm,23.0s,MS5.0
WMQ LR LR
comp=Z,225nm,26.0s,MS4.8
NJ2 Nanjing 137.65 321 *e*PKP PKPdf 23 06 01.8 -3.3
WHN Wuhan 141.47 323 PKP PKPdf 23 06 12.0 -0.1
LZH Lanzhou 141.87 340 *e*PKP PKPdf 23 06 08.5 -4.2
LZH XPKP 23 06 13.3
LZH *e*PP PP 23 09 16.3 +0.3
LZH SKKS SKKSac 23 16 04.8 -6.1
LZH PP PP
comp=Z,137nm,9.3s
LZH LR LR
comp=E,217nm,18.5s
LZH LR LR
comp=Z,273nm,20.2s,MS5.0
CD2 Chengdu 146.53 336 *e*PKP PKPdf 23 06 20.3 -0.6
CD2 PKP2 PKPab 23 06 25.0 +1.8
CD2 PP PP 23 09 47.8 +3.7
CD2 PKS 23 09 56.3
CD2 SKS SKSdf 23 13 23.8 -6.5
CD2 PP PP
comp=Z,150nm,10.2s
CD2 LR LR
comp=N,180nm,26.4s
CD2 LR LR
comp=E,130nm,16.8s
CD2 LR LR
comp=Z,260nm,24.0s,MS4.9
DDI Dehra Dun 148.55 18 *ex* x 23 06 22.0
GYA Guiyang 148.94 328 PKP PKPdf 23 06 24.5 -0.5
GYA PKP2 PKPab 23 06 35.0 +2.1
GYA PKS 23 09 58.0
GYA PP PP
comp=Z,190nm,5.7s
GYA LR LR
comp=N,280nm,22.2s,MS5.1
GYA LR LR
comp=E,160nm,21.9s,MS5.1
GYA LR LR
comp=Z,180nm,24.8s,MS4.8
LSA Lhasa 150.81 356 PKP PKPdf 23 06 28.0 +0.1
LSA Lhasa 150.81 356 *e*PKPdf PKPdf 23 06 28.5 +0.6
DANN Dangsing 151.81 9 *e*P PKPbc 23 06 35.2 -0.6
comp=Z,161nm,0.9s
KMI Kunming 152.00 332 PKP PKPdf 23 06 29.3 -0.5
KOLN Koldanda 152.35 10 *e*P PKPbc 23 06 36.0 -1.1
comp=Z,66nm,1.0s
GUN Gumba 152.53 6 *e*P PKPbc 23 06 36.2 -1.3
KKN Kakani 152.58 7 *e*P PKPbc 23 06 36.3 -1.3
comp=Z,52nm,1.1s
DMN Daman 152.74 7 *e*P PKPbc 23 06 36.6 -1.3
PKIN Phulchoki 152.81 7 *e*P PKPbc 23 06 36.3 -1.8
comp=Z,14nm,0.9s
PKI Pulchoki 152.81 7 *e*P PKPbc 23 06 36.5 -1.6
comp=Z,33nm,0.9s
TAPN Taplejung 153.21 2 *e*P PKPdf 23 06 35.7 +4.1
RAMN Ramite 153.54 4 *e*P PKPbc 23 06 36.9 -2.8
ODAN Odare 153.68 3 *e*P PKPbc 23 06 37.5 -2.5
CHTO Chiang Mai 159.20 332 PKIKP PKPdf 23 06 39.3 -0.3
CMAR Chiang Mai Arr 159.51 332 PKP PKPdf 23 06 39.6 -0.4
comp=Z,0.9nm,0.7s,baz=253,slow=1.0,SNR=8.0
CMAR PKPab PKPab 23 07 16.9 -0.8
comp=Z,0.6nm,0.4s,baz=18,slow=4.0,SNR=4.3

MAN 28 22:53:32,1646N×12017E,h31km,mb4.2,ML3.1,MS2.8, 3D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.26**	**253**	*e*P	Pb	22 53 42.0	+3.0
BOLP				*e*S	Sb	22 53 51.1	+7.5
BCPH	**Baguio City Da**	**0.41**	**101**	⇓*e*P	Pb	22 53 44.2	+3.2
BCPH				*e*S	Sb	22 53 54.3	+7.1
SCZP	**Santa Cruz**	**0.72**	**200**	*e*P	Pn	22 53 46.1	0.0
SCZP				*e*S	Sb	22 53 58.1	+2.4
PCPH	**Palayan**	**1.26**	**135**	⇓*e*P	Pn	22 53 53.2	-0.3
PCPH				*e*S	Sn	22 54 10.4	+0.9
ABRA	**Dolores**	**1.29**	**24**	*e*P	Pn	22 53 54.1	+0.1
ABRA				*e*S	Sn	22 54 12.1	+1.9
BALP	**Baler**	**1.53**	**118**	*e*P	Pn	22 53 58.1	+0.8
BALP				*e*S	Sn	22 54 19.8	+3.7
CAUP	**Cauayan**	**1.66**	**73**	*e*P	Pn	22 54 00.9	+1.9
APYP	**Conner**	**1.73**	**36**	*e*P	Pn	22 54 00.1	+0.1
APYP				*e*S	Sn	22 54 22.9	+1.8
PIP	**Pasuquin**	**1.91**	**13**	⇓*e*P	Pn	22 54 02.5	+0.2
PIP				*e*S	Sn	22 54 28.7	+3.4
POLP	**Polilio Island**	**2.42**	**135**	*e*P	Pn	22 54 13.0	+3.5
POLP				*e*S	Sn	22 54 41.6	+3.4
LUBP	**Lubang**	**2.71**	**178**	*e*P	Pn	22 54 12.5	-1.0

*ISCJB **28** 23:15:46.2±0.5,3879N±004×2176E±004,h10km±6km, Error ellipse: s-maj=7.9km s-min=4.0km az=151.8*
*NEIC **28** 23:15:46.9,3880N×2174E,h11km,MD3.2(ATH),After ATH.*
*CSEM **28** 23:15:46.6±0.1,3879N×2173E,h12km,MD3.2,Error ellipse: s-maj=3.1km s-min=1.6km az=148.0*
*THE **28** 23:15:46.9,3882N×2173E,h11km,ML2.5*
*ATH **28** 23:15:47.0,3881N×2175E,h12km±2km,MD3.2/7*
ISC 28 23:15:46.6±0.5,3879N±004×2177E±004,h13km±6km,n16, σ0°64/24,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.14**	**15**	*e*PG	**Pg**	**23 15 49.7**	**-0.4**
EVR				*e*SG	**Sg**	**23 15 52.7**	**+0.1**
AGG	**Agios Georgios**	**0.50**	**62**	*e*Pg	**Pg**	**23 15 56.2**	**-0.3**
AGG				*e*Sg	**Sg**	**23 16 04.5**	**+1.3**
RLS	**Riolos of Patr**	**0.76**	**198**	*e*PB	**Pb**	**23 16 02.1**	**+0.3**
THL	**Klokotos Trika**	**0.80**	**14**	*e*Pg	**Pg**	**23 16 01.9**	**-0.3**
THL				*e*Sg	**Sg**	**23 16 12.9**	**+0.2**
THL	**Klokotos Trika**	**0.80**	**14**	*e*Pg	**Pg**	**23 16 01.8**	**-0.4**
THL				*e*Sg	**Sg**	**23 16 12.9**	**+0.2**
LKD	**Levkas**	**0.88**	**265**	*e*Pg	**Pg**	**23 16 03.1**	**-0.5**
LKD				*e*Sg	**Sg**	**23 16 15.6**	**+0.5**
LKR	**Lokris**	**0.97**	**98**	*e*Pg	**Pg**	**23 16 05.5**	**0.0**
LKR	**Lokris**	**0.97**	**98**	*e*Pb	**Pb**	**23 16 06.0**	**+0.6**
VLS	**Valsamata**	**1.10**	**237**	*e*Pg	**Pg**	**23 16 06.5**	**-1.4**
VLS				*e*Sg	**Sg**	**23 16 23.4**	**+1.1**
VLS	**Valsamata**	**1.10**	**237**	*e*PN	**Pn**	**23 16 07.9**	**+0.1**
VLS	**Valsamata**	**1.10**	**237**	*e*Pg	**Pg**	**23 16 06.9**	**-1.0**
VLS				*e*Sg	**Sg**	**23 16 23.4**	**+1.1**
JAN	**Janina**	**1.12**	**321**	*e*PN	**Pn**	**23 16 07.8**	**-0.2**
NEO	**Neokhori**	**1.25**	**65**	*e*PB	**Pb**	**23 16 10.5**	**+0.5**
XOR	**Xorichti**	**1.25**	**62**	*e*Pg	**Pg**	**23 16 09.6**	**-1.2**
XOR				*e*Sg	**Sg**	**23 16 27.0**	**-0.1**
DID	**Didima**	**1.73**	**137**	*e*Pb	**Pb**	**23 16 17.3**	**-0.8**
KNT	**Kendrikon**	**2.53**	**20**	*e*Pn	**Pn**	**23 16 27.4**	**+0.1**

*IDC **28** 23:28:21.9±1.3,2545N×11785E,h0km,mb3.6/5, mb1 3.9/7,mb1mx3.7/22,mbtmp3.7/7,ML4.7/1,MS3.4/3, Ms1 3.5/3,ms1mx2.8/29,Error ellipse: s-maj=28.5km s-min=24.4km az=81.0*

*NEIC **28** 23:28:23.8±0.4,2547N×11783E,h10km,mb4.2/5,Error ellipse: s-maj=12.9km s-min=6.1km az=200.0*

*BJI **28** 23:28:23.4,2551N×11776E,h11km,mB4.5,mb4.4,ML4.8, Ms4.2,Msz4.1*

*ISCJB **28** 23:28:24.8±1.4,2551N±006×11786E±004,h29km±12km, mb4.0/9,MS3.7/2,Error ellipse: s-maj=10.6km s-min=5.3km az=20.9*

*MOS **28** 23:28:25.7±1.1,2558N×11787E,h33km,mb4.4/3,Error ellipse: s-maj=20.1km s-min=18.9km az=99.8*

ISC 28 23:28:25.4±1.2,2545N±007×11785E±004,h20km±11km, n31,σ0°99/41,mb4.0/9,MS3.7/2,1C-1D,Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**0.85**	**127**	*i* PG	**Pb**	**23 28 41.0**	**-0.4**
QZH				SG	**Sb**	**23 28 53.0**	**+0.6**
QZH				Smax			
	comp=N,14μm,0.6s						
QZH				Smax			
	comp=E,8μm,1.0s						
YHNB	**Yeheng**	**3.29**	**103**	*e*Pn	**Pn**	**23 29 15.4**	**-0.5**
YHNB				*e*Pg	**Pn**	**23 29 30.6**	**+15**
YHNB				*e*Sn	**Sn**	**23 29 54.0**	**-0.5**
YHNB				*e*Sg	**Sn**	**23 30 11.9**	**+17**
TATO	**Taipei**	**3.33**	**97**	*e*Pn	**Pn**	**23 29 16.6**	**+0.2**
TATO				*e*Sn	**Sn**	**23 29 55.6**	**+0.2**
NACB	**Ninganchiao**	**3.64**	**110**	*e*Pn	**Pn**	**23 29 20.7**	**+0.2**
NACB				*e*Pg	**Pn**	**23 29 36.4**	**+16**
NACB				*e*Sn	**Sn**	**23 30 03.4**	**+0.5**
NJ2	**Nanjing**	**6.63**	**7**	*e*P	**Pn**	**23 29 58.8**	**-2.9**
NJ2				S	**Sn**	**23 31 09.0**	**-7.7**
NJ2				Smax			
	comp=N,380nm,0.8s						
NJ2				Smax			
	comp=E,600nm,0.8s						
JOW	**Kunigami**	**9.47**	**79**	LR	LR	23 34 27.2	
	comp=E,158nm,18.3s,baz=55,slow=38						
GYA	**Guiyang**	**10.11**	**278**	P	**Pn**	**23 30 47.5**	**-2.0**
GYA				S	**Sn**	**23 32 36.3**	**-6.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
GYA				AMB	AMB		
	comp=Z,80nm,5.4s						
GYA				LR	LR		
	comp=N,900nm,8.8s						
GYA				LR	LR		
	comp=E,410nm,9.5s						
GYA				LR	LR		
	comp=Z,830nm,8.9s						
XAN	**Xi'an**	**11.54**	**320**	P	**Pn**	**23 31 10.8**	**+1.8**
XAN				AP		23 31 14.0	
XAN				AMB	AMB		
	comp=Z,4.0nm,1.2s						
XAN				AMB	AMB		
	comp=Z,60nm,5.0s						
XAN				LR	LR		
	comp=N,431nm,8.8s						
XAN				LR	LR		
	comp=E,460nm,8.8s						
XAN				LR	LR		
	comp=Z,471nm,10.3s						
CD2	**Chengdu**	**13.56**	**297**	*e*P	**Pn**	**23 31 35.8**	**-0.8**
CD2				AP		23 31 39.0	
CD2				XP		23 31 43.0	
CD2				PP		23 31 47.0	
CD2				S	**Sn**	**23 34 07.3**	**+0.6**
CD2				SS		23 34 21.0	
CD2				AMB	AMB		
	comp=Z,20nm,0.6s						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,410nm,9.6s						
CD2				LR	LR		
	comp=E,600nm,10.8s						
CD2				LR	LR		
	comp=Z,810nm,9.1s						
KSRS	**Korea Array**	**14.72**	**33**	Pn	**Pn**	**23 31 50.6**	**-1.8**
	baz=240,slow=9.3,SNR=3.2						
KSRS				Lg		23 36 07.8	
	comp=Z,0.4nm,0.3s,baz=204,slow=28,SNR=5.6						
LZH	**Lanzhou**	**16.02**	**315**	*e*P	**Pn**	**23 32 14.5**	**+5.0**
LZH				AP	pP	23 32 16.8	-1.8
LZH				XP	sP	23 32 19.3	-1.9
LZH				PP		23 32 26.5	
LZH				*e*S	**Sn**	**23 35 07.0**	**+0.5**
LZH				XS	sS	23 35 13.5	-16
LZH				SS		23 35 26.8	
LZH				AMB	AMB		
	comp=Z,31nm,1.1s						
LZH				AMB	AMB		
	comp=Z,165nm,4.2s						
LZH				LR	LR		
	comp=N,398nm,7.5s						
LZH				LR	LR		
	comp=Z,576nm,10.2s						
SNY	**Shenyang**	**17.01**	**15**	⇑P	**Pn**	**23 32 24.3**	**+2.3**
SNY				AMB	AMB		
	comp=Z,12nm,0.5s						
SNY				LR	LR		
	comp=N,432nm,9.6s						
SNY				LR	LR		
	comp=E,794nm,10.5s						
SNY				LR	LR		
	comp=Z,202nm,9.8s						
CMAR	**Chiang Mai Arr**	**18.85**	**252**	Pn	**Pn**	**23 32 45.9**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=61,slow=10.0,SNR=6.9						
CMAR				LR	LR	23 40 24.6	
	comp=Z,48nm,21.4s,baz=50,slow=38						
CN2	**Changchun**	**19.33**	**17**	*e*P	**Pn**	**23 32 48.8**	**-1.6**
CN2				*e*S	**Sn**	**23 36 20.0**	**-6.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,10.0s						
CN2				LR	LR		
	comp=E,400nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
GTA	**Gaotai**	**20.57**	**317**	*e*P	**P**	**23 33 07.0**	**+4.1**
GTA				AP		23 33 10.5	
GTA				XP	sP	23 33 12.0	+0.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s						
GTA				AMB	AMB		
	comp=Z,59nm,5.1s						
GTA				LR	LR		
	comp=N,119nm,13.2s,MS3.5						
GTA				LR	LR		
	comp=E,102nm,14.1s,MS3.5						
GTA				LR	LR		
	comp=Z,152nm,16.5s,MS3.4						
MJAR	**Matsushiro Arr**	**20.62**	**53**	P	**P**	**23 33 04.3**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=262,slow=10,SNR=4.0						
LSA	**Lhasa**	**24.02**	**286**	*e*P	**P**	**23 33 39.4**	**+0.4**
LSA				*e*		23 37 22.0	
LSA				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.2						
LSA	**Lhasa**	**24.02**	**286**	*e*P	**P**	**23 33 39.4**	**+0.4**
	comp=Z,16nm,1.5s,mb4.2						
LSA				*e*PcP	PcP	23 37 22.0	+1.4
SONM	**Songino Array**	**24.10**	**341**	P	**P**	**23 33 39.3**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.4,baz=155,slow=11,SNR=9.1						
MK31	**Makanchi Array**	**35.32**	**316**	*e*P	**P**	**23 35 19.6**	**+0.5**
MKAR	**Makanchi Array**	**35.32**	**316**	P	**P**	**23 35 18.6**	**-0.5**
	comp=Z,1.8nm,0.9s,mb4.0,baz=116,slow=8.4,SNR=8.2						
ZALV	**Zalesovo Beam**	**37.55**	**328**	P	**P**	**23 35 37.6**	**-0.4**
	comp=Z,0.6nm,0.3s,mb3.8,baz=131,slow=7.9,SNR=3.8						
ZAL	**Zalesovo**	**37.55**	**328**	P	**P**	**23 35 37.7**	**-0.4**
TKM2	**Tokmak 2**	**38.59**	**308**	*e*P	**P**	**23 35 47.1**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
TKM2	**Tokmak 2**	**38.59**	**308**	*e*P	**P**	**23 35 47.0**	**+0.1**
	comp=Z,3.4nm,1.0s,mb4.0						
UCH	**Uchtor**	**39.23**	**306**	*e*P	**P**	**23 35 52.4**	**0.0**
	comp=Z,5.5nm,1.2s,mb4.2						
AML	**Almayashu**	**39.81**	**306**	*e*P	**P**	**23 35 56.9**	**-0.3**
	comp=Z,5.3nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**47.89**	**159**	P	**P**	**23 37 01.4**	**-0.8**
	comp=Z,1.2nm,0.9s,mb3.9,baz=346,slow=8.9,SNR=4.9						
ARU	**Arti**	**52.27**	**323**	*e*P	**P**	**23 37 34.5**	**-0.6**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
ARU	**Arti**	**52.27**	**323**	*e*P	**P**	**23 37 34.5**	**-0.6**
	comp=Z,4.4nm,1.1s,mb4.3						
NOA	**NORSAR Array B**	**75.67**	**331**	LR	LR	00 16 32.4	
	comp=Z,51nm,18.2s,MS3.9,baz=30,slow=38						

KRSC 29 00:26:55.9±0.9,5623N×16152E,h94km±34km,ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMKR	**Semkarok**	**0.35**	**355**	*e*P	Pn	00 27 10.9	+0.9
SMKR				*i* S	Sn	00 27 21.7	+1.1
BDR	**Baidarnaya**	**0.38**	**333**	*i* P	Pn	00 27 11.1	+0.9
BDR				*i* S	Sn	00 27 22.1	+1.3
CIRR	**Tsirk**	**0.45**	**255**	*e*P	Pn	00 27 11.4	+0.8
CIRR				*i* S	Sn	00 27 22.7	+1.1
ZLN	**Zelenaya**	**0.45**	**242**	*e*P	Pn	00 27 11.7	+1.0
ZLN				*i* S	Sn	00 27 23.3	+1.6
SRKR	**Sorokina**	**0.47**	**335**	*i* P	Pn	00 27 11.7	+0.9
SRKR				*i* S	Sn	00 27 23.1	+1.2
KLY	**Klyuchi**	**0.49**	**280**	*e*P	Pn	00 27 10.7	-0.2
KLY				*i* S	Sn	00 27 21.3	-0.8
KRSR	**Krestovskiy**	**0.53**	**269**	*i* P	Pn	00 27 11.7	+0.5
KRSR				*i* S	Sn	00 27 23.1	+0.4
BZMR	**Bezymyannaya**	**0.65**	**243**	*e*P	Pn	00 27 13.5	+1.3
BZMR				*i* S	Sn	00 27 26.0	+1.6
KIRR	**Kirishev**	**0.72**	**248**	*e*P	Pn	00 27 13.7	+0.9
KIRR				*i* S	Sn	00 27 26.2	+0.7
KBTR	**Krutoberegovo**	**0.73**	**91**	*e*P	Pn	00 27 13.8	+0.9
KBTR				*i* S	Sn	00 27 26.9	+1.2
KPT	**Kopyto**	**0.77**	**251**	*e*P	Pn	00 27 14.0	+0.6
KPT				*i* S	Sn	00 27 27.3	+0.8
KMNR	**Kamenistaya**	**0.86**	**237**	*e*P	Pn	00 27 15.3	+1.0
KMNR				*i* S	Sn	00 27 29.7	+1.6
KOZ	**Kozyrevsk**	**0.94**	**260**	*e*P	Pn	00 27 15.8	+0.7
KOZ				*i* S	Sn	00 27 30.2	+0.6
SRDR	**Sredinnyy**	**1.01**	**276**	*e*P	Pn	00 27 16.6	+0.7
SRDR				*i* S	Sn	00 27 31.1	+0.1
TUMR	**Tumrok**	**1.23**	**220**	*e*P	Pn	00 27 20.1	+1.7
TUMR				*i* S	Sn	00 27 37.5	+2.1
MKZ	**Mys Kozlova**	**1.68**	**176**	*e*P	Pn	00 27 24.5	+0.4
MKZ				*i* S	Sn	00 27 45.6	+0.1
GNL	**Ganaly**	**3.27**	**221**	*e*P	Pn	00 27 47.3	+2.2
NLC	**Nalytchevo**	**3.31**	**203**	*e*P	Pn	00 27 47.5	+1.8
NLC				*i* S	Sn	00 28 25.3	+1.2
AVH	**Avacha**	**3.38**	**210**	*e*P	Pn	00 27 50.8	+4.3
PET	**Petropavlovsk**	**3.62**	**209**	*e*P	Pn	00 27 52.7	+3.0
PET				*e*S	Sn	00 28 34.9	+3.5
RUS	**Russkaya**	**4.19**	**206**	*e*P	Pn	00 27 59.2	+1.7
RUS				*i* S	Sn	00 28 46.1	+0.8
MIPR	**Malaya Ipel'ka**	**4.85**	**217**	*e*P	Pn	00 28 09.4	+3.0
ALID	**Alaid**	**6.44**	**216**	P	Pn	00 28 33.3	+5.3

*ISCJB **29** 00:48:05.8±0.2,3657N±002×2693E±002,h148km±2km, mb3.8/7,Error ellipse: s-maj=3.5km s-min=2.4km az=15.2*

*CSEM **29** 00:48:05.8±0.1,3656N×2691E,h141km,Mw3.1,Error ellipse: s-maj=1.5km s-min=1.3km az=22.0*

*IDC **29** 00:48:05.5±1.2,3667N×2695E,h123km±17km,mb3.6/7, mb1 3.6/12,mb1mx3.5/29,mbtmp3.6/12,Error ellipse: s-maj=20.9km s-min=10.3km az=178.0*

*HLW **29** 00:48:07.1,3652N×2708E,h33km,Mb4.2*

*NEIC **29** 00:48:07.8,3665N×2667E,h19km,mb3.6/8,MD4.0(ATH), After ATH.*

*NIC **29** 00:48:08.4±0.1,3725N×2757E,h81km,ML3.3,MW3.1*

*THE **29** 00:48:09.5,3659N×2701E,h127km,ML3.5*

*ATH **29** 00:48:09.4,3668N×2675E,h82km±8km*

*GII **29** 00:48:12.3±2.4,3615N×2729E,h31km±6km,mb4.1/2, ML3.7/5*

*DDA **29** 00:48:15.4,3652N×2777E,h7km±3km,Md3.4*

ISC 29 00:48:06.8±0.2,3657N±002×2693E±002,h142km±2km, n155,σ1°06/186,mb3.8/7,5C-2D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.65**	**39**	*i* P	**Pn**	**00 48 28.0**	**-0.1**
BDRM				*i* S	**Sn**	**00 48 43.4**	**-0.9**
ARG	**Arkhangelos**	**1.03**	**110**	*e*P	**Pn**	**00 48 31.9**	**+0.9**
ARG				*e*S	**Sn**	**00 48 48.7**	**-0.8**
SMG	**Samos**	**1.14**	**356**	P	**Pn**	**00 48 31.6**	**-0.5**
GCAM	**G?zelcaml?**	**1.16**	**12**	*e*P	**Pn**	**00 48 32.3**	**+0.1**
GCAM				*i* S	**Sn**	**00 48 50.6**	**-1.1**
SANT	**Santorini**	**1.20**	**261**	*e*Pg	**Pn**	**00 48 33.0**	**+0.3**
SANT	**Santorini**	**1.20**	**261**	*e*P	**Pn**	**00 48 33.2**	**+0.5**
SANT	**Santorini**	**1.20**	**261**	*e*P	**Pn**	**00 48 33.2**	**+0.5**
THR1	**Thera Island**	**1.20**	**261**	*e*Pg	**Pn**	**00 48 33.0**	**+0.3**
APE	**Apeiranthos**	**1.23**	**294**	*e*Pg	**Pn**	**00 48 33.0**	**0.0**
THR4	**Thira Island,**	**1.24**	**266**	*e*Pg	**Pn**	**00 48 33.3**	**+0.3**
THR3	**Thira Island,**	**1.24**	**263**	*e*Pg	**Pn**	**00 48 33.4**	**+0.4**
THR6	**Thira Island,**	**1.25**	**261**	*e*Pg	**Pn**	**00 48 33.6**	**+0.5**
THR5	**Thira Island,**	**1.28**	**264**	*e*Pg	**Pn**	**00 48 33.5**	**+0.1**
THR5	**Thira Island,**	**1.28**	**264**	*e*Pg	**Pn**	**00 48 33.5**	**0.0**
AYDN	**Tasoluk**	**1.33**	**34**	*i* P	**Pn**	**00 48 34.3**	**+0.3**
AYDN				*i* S	**Sn**	**00 48 53.7**	**-1.1**
TURN	**Turunc**	**1.38**	**77**	⇑*i* P	**Pn**	**00 48 31.7**	**-2.7**
TURN				*i* S	**Sn**	**00 48 49.2**	**-6.3**
ZKR	**Zakros**	**1.56**	**202**	*e*Pg	**Pn**	**00 48 37.8**	**+1.3**
ZKR				*e*Sg	**Sn**	**00 48 58.4**	**-0.7**
NPS	**Neapolis**	**1.68**	**220**	*e*P	**Pn**	**00 48 38.1**	**+0.3**
NPS				*e*S	**Sn**	**00 48 59.3**	**-2.2**
LAST	**Lasithi**	**1.83**	**221**	*e*Pb	**Pn**	**00 48 39.8**	**+0.3**
LAST				*e*Sb	**Sn**	**00 49 04.2**	**-0.3**
CHOS	**Chios island**	**1.95**	**339**	*e*Pb	**Pn**	**00 48 40.7**	**-0.1**
DNZL	**Cakiroluk**	**2.03**	**56**	*i* P	**Pn**	**00 48 42.3**	**+0.5**
DNZL				*i* S	**Sn**	**00 49 08.7**	**+0.1**
IDI	**Anoyia**	**2.09**	**233**	P	**Pn**	**00 48 42.7**	**+0.2**
	34nm,0.3s,baz=22,slow=16,SNR=874						
IDI				S	**Sn**	**00 49 08.9**	**-1.0**
	115nm,0.3s,baz=20,slow=12,SNR=15						
AKAS	**Kas**	**2.18**	**98**	*i* P	**Pn**	**00 48 44.3**	**+0.7**
AKAS				*i* S	**Sn**	**00 49 13.0**	**+1.1**
GOLH	**Golhisar**	**2.21**	**72**	*i* P	**Pn**	**00 48 45.0**	**+1.1**
GOLH				*i* S	**Sn**	**00 49 12.9**	**+0.4**
SIVA	**Sivas**	**2.31**	**229**	*e*Pn	**Pn**	**00 48 46.1**	**+0.9**
SIVA				*e*Sn	**Sn**	**00 49 15.7**	**+0.9**
SIVA	**Sivas**	**2.31**	**229**	P	**Pn**	**00 48 46.7**	**+1.5**
SIVA				*e*Sn	**Sn**	**00 49 15.7**	**+0.9**
SIVA	**Sivas**	**2.31**	**229**	P	**Pn**	**00 48 46.7**	**+1.5**
VAM	**Vamos**	**2.50**	**243**	*e*P	**Pn**	**00 48 48.0**	**+0.5**
VAM				*e*S	**Sn**	**00 49 17.0**	**-1.8**
VAM	**Vamos**	**2.50**	**243**	*e*Pb	**Pn**	**00 48 47.0**	**-0.5**
VAM				*e*Sn	**Sn**	**00 49 17.0**	**-1.8**
KARN	**Karanos**	**2.71**	**245**	*e*Pn	**Pn**	**00 48 50.7**	**+0.6**
KHAL	**Karahalli**	**2.72**	**48**	*i* P	**Pn**	**00 48 50.5**	**+0.3**
KHAL				*i* S	**Sn**	**00 49 23.8**	**0.0**
PRK	**Paraskevi**	**2.73**	**349**	P	**Pn**	**00 48 50.8**	**+0.5**
DEMI	**Demirci**	**2.85**	**29**	*i* P	**Pn**	**00 48 52.2**	**+0.4**
GVD	**Gavdhos**	**2.88**	**234**	*e*P	**Pn**	**00 48 54.0**	**+1.6**
GVD	**Gavdhos**	**2.88**	**234**	*e*Pn	**Pn**	**00 48 53.0**	**+0.6**
DID	**Didima**	**3.10**	**289**	*e*Pn	**Pn**	**00 48 55.8**	**+0.7**
ISP	**Isparta**	**3.13**	**65**	*e*Pn	**Pn**	**00 48 55.2**	**-0.3**
KYTH	**Kithira**	**3.15**	**266**	*e*P	**Pn**	**00 48 56.5**	**+0.7**
VLI	**Veliai**	**3.22**	**274**	*e*P	**Pn**	**00 48 57.0**	**+0.4**
VLI	**Veliai**	**3.22**	**274**	*e*Pn	**Pn**	**00 48 55.5**	**-1.1**
LTK	**Loutraki**	**3.48**	**296**	*e*Pn	**Pn**	**00 49 01.0**	**+1.0**
AOS	**Alonnisos**	**3.55**	**318**	*e*Pn	**Pn**	**00 49 01.6**	**+0.7**
VLX	**Vlachokerasia**	**3.73**	**284**	*e*Pn	**Pn**	**00 49 04.4**	**+1.1**
LKR	**Lokris**	**3.75**	**305**	*e*Pn	**Pn**	**00 49 04.3**	**+0.8**
ITM	**Ithomi**	**4.06**	**280**	*e*Pn	**Pn**	**00 49 08.6**	**+1.0**
ITM				*e*Sn	**Sn**	**00 49 53.7**	**-1.0**
PAIG	**Paliouri**	**4.22**	**324**	*e*Pn	**Pn**	**00 49 10.1**	**+0.5**
AGG	**Agios Georgios**	**4.39**	**305**	*e*Pn	**Pn**	**00 49 13.1**	**+1.1**
RLS	**Riolos of Patr**	**4.60**	**291**	*e*P	**Pn**	**00 49 17.1**	**+2.4**
RLS	**Riolos of Patr**	**4.60**	**291**	*e*Pn	**Pn**	**00 49 17.3**	**+2.6**
AKMC	**Akamas**	**4.65**	**108**	P	**Pn**	**00 49 14.7**	**-0.7**
EVR	**Evrytania**	**4.69**	**302**	*e*P	**Pn**	**00 49 17.8**	**+1.9**
PPCY	**Paphos**	**4.71**	**109**	P	**Pn**	**00 49 15.5**	**-0.7**
ALFC	**Alevga**	**4.81**	**105**	P	**Pn**	**00 49 16.4**	**-1.2**
	4.2nm,0.2s						
ALFC				S	**Sn**	**00 50 09.7**	**-2.9**
ERMK	**Ermenek**	**4.81**	**87**	*i* P	**Pn**	**00 49 20.1**	**+2.6**
ERMK				*i* S	**Sn**	**00 50 15.5**	**+2.9**
THL	**Klokotos Trika**	**4.90**	**309**	*e*Pn	**Pn**	**00 49 19.7**	**+1.0**
THL	**Klokotos Trika**	**4.90**	**309**	*e*P	**Pn**	**00 49 20.2**	**+1.5**
SLUM		**5.26**	**196**	⇓P	**Pn**	**00 49 23.7**	**+0.2**
MAMC	**Mammari**	**5.29**	**103**	P	**Pn**	**00 49 22.6**	**-1.3**
VLS	**Valsamata**	**5.30**	**290**	*e*Pn	**Pn**	**00 49 23.7**	**-0.3**
VLS	**Valsamata**	**5.30**	**290**	*e*P	**Pn**	**00 49 26.5**	**+2.5**
VLS	**Valsamata**	**5.30**	**290**	*e*Pn	**Pn**	**00 49 25.0**	**+1.0**
LKD	**Levkas**	**5.42**	**295**	*e*Pn	**Pn**	**00 49 26.3**	**+0.7**
CSS	**Prodhromos**	**5.44**	**105**	P	**Pn**	**00 49 25.0**	**-0.9**
CSS				S	**Sn**	**00 50 24.6**	**-3.1**
CSS	**Prodhromos**	**5.44**	**105**	*e*Pn	**Pn**	**00 49 24.8**	**-1.2**
HMAT	**Matruh**	**5.46**	**179**	P	**Pn**	**00 49 26.3**	**+0.1**
HMAT				S	**Sn**	**00 50 23.1**	**-5.1**
GRG	**Griva**	**5.63**	**322**	*e*Pn	**Pn**	**00 49 29.3**	**+0.8**
JAN	**Janina**	**5.70**	**305**	*e*P	**Pn**	**00 49 31.0**	**+1.7**
JAN	**Janina**	**5.70**	**305**	*e*Pn	**Pn**	**00 49 32.0**	**+2.7**
MEST	**Erdemli**	**5.81**	**88**	*e*P	**Pn**	**00 49 32.8**	**+2.1**
MEST				*e*S	**Sn**	**00 50 36.6**	**+0.2**
PHNC	**Paralimni**	**5.98**	**103**	P	**Pn**	**00 49 33.8**	**+0.7**
IGT	**Igoumenitsa**	**5.99**	**302**	*e*Pn	**Pn**	**00 49 33.6**	**+0.4**
SWA2		**7.41**	**190**	⇑P	**Pn**	**00 49 51.8**	**-0.5**
SWA2				S	**Sn**	**00 51 09.5**	**-5.5**
HMYD	**Mayadein**	**7.49**	**153**	P	**Pn**	**00 49 53.6**	**+0.2**
BHL	**Bhannes**	**7.62**	**108**	*e*Pn	**Pn**	**00 49 53.2**	**-1.8**
AYT	**Al 'Ayyat**	**7.70**	**151**	P	**Pn**	**00 49 56.9**	**+0.6**
HWQ	**Hawqa**	**7.71**	**105**	*e*Pn	**Pn**	**00 49 55.7**	**-0.5**
OFRI	**'Ofer**	**7.72**	**118**	Pn	**Pn**	**00 49 56.2**	**-0.2**
KOT	**Kottamia**	**7.79**	**147**	P	**Pn**	**00 49 57.6**	**+0.2**
MMC7	**Mount Meron ar**	**7.81**	**114**	Pn	**Pn**	**00 49 56.7**	**-0.9**
MMA0	**Mount Meron ar**	**7.82**	**114**	Pn	**Pn**	**00 49 56.7**	**-1.0**
MMAI	**Mount Meron Ar**	**7.82**	**114**	P	**Pn**	**00 49 57.0**	**-0.7**
	16nm,0.3s,baz=307,slow=11,SNR=82						
MMAI				S	**Sn**	**00 51 21.2**	**-3.6**
	8.6nm,0.3s,baz=306,slow=27,SNR=11						
HHAG	**Hagoal**	**7.89**	**145**	P	**Pn**	**00 49 58.8**	**+0.1**
HRSH	**Kfar Ka'horesh**	**7.89**	**117**	P	**Pn**	**00 49 59.1**	**+0.4**
RCY	**Rachaya**	**7.91**	**110**	*e*Pn	**Pn**	**00 49 58.1**	**-0.9**
HSAF	**As Saff**	**7.94**	**149**	P	**Pn**	**00 49 59.5**	**+0.1**
RSH		**7.95**	**133**	P	**Pn**	**00 49 59.1**	**-0.4**
SLTI	**Sal'it**	**7.97**	**120**	Pn	**Pn**	**00 49 58.6**	**-1.2**
GLL	**Jalalah**	**8.04**	**149**	⇑P	**Pn**	**00 50 00.6**	**-0.1**
MMLI	**Mount Malkishu**	**8.13**	**118**	Pn	**Pn**	**00 50 01.7**	**-0.2**
KSHT	**Keshet**	**8.13**	**113**	Pn	**Pn**	**00 50 01.8**	**-0.2**
HMDT	**Nahal Hemdat**	**8.30**	**119**	Pn	**Pn**	**00 50 04.0**	**-0.2**
SUZ		**8.33**	**142**	⇑P	**Pn**	**00 50 04.8**	**+0.1**
AWBH		**8.39**	**168**	⇓P	**Pn**	**00 50 05.2**	**-0.2**
TIP	**Timpagrande**	**8.46**	**291**	*e*Pn	**Pn**	**00 50 04.2**	**-2.0**
	9.3nm,0.2s						
TIP	**Timpagrande**	**8.46**	**291**	*e*Pn	**Pn**	**00 50 04.2**	**-2.1**
	9.3nm,0.2s						
RTMI	**Retamim**	**8.48**	**128**	Pn	**Pn**	**00 50 06.2**	**-0.4**
RTMI				Sn	**Sn**	**00 51 35.8**	**-5.0**
DSI	**Dead Sea**	**8.60**	**123**	Pn	**Pn**	**00 50 08.2**	**0.0**
GRI	**Girifalco**	**8.63**	**288**	Pn	**Pn**	**00 50 06.7**	**-1.9**
ZAF		**8.66**	**145**	P	**Pn**	**00 50 10.1**	**+1.0**
ZNM		**8.73**	**143**	P	**Pn**	**00 50 10.4**	**+0.4**
SOI	**Samo**	**8.79**	**283**	Pn	**Pn**	**00 50 08.6**	**-2.2**
	12nm,0.7s						
HNKL	**Nakhl**	**8.87**	**136**	⇑P	**Pn**	**00 50 11.6**	**-0.2**
HNKL				S	**Sn**	**00 51 43.6**	**-6.5**
CEL	**Celeste**	**8.94**	**284**	*e*Pn	**Pn**	**00 50 10.3**	**-2.4**
	13nm,0.6s						
CEL	**Celeste**	**8.94**	**284**	*e*Pn	**Pn**	**00 50 10.3**	**-2.4**
	13nm,0.6s						
KRMI	**Paran Flat**	**9.15**	**132**	Pn	**Pn**	**00 50 14.9**	**-0.7**
KRMI				Sn	**Sn**	**00 51 51.2**	**-5.9**
PRNI	**Paran**	**9.16**	**130**	Pn	**Pn**	**00 50 15.0**	**-0.7**
ASF	**Jabal al Asfar**	**9.33**	**115**	P	**Pn**	**00 50 18.3**	**+0.3**
	0.9nm,0.3s,baz=12,slow=16,SNR=9.7						
ASF				S	**Sn**	**00 52 03.6**	**+2.3**
	0.5nm,0.3s,baz=91,slow=14,SNR=3.9						
CUC	**Castrococco**	**9.38**	**295**	*e*Pn	**Pn**	**00 50 17.3**	**-1.3**
	31nm,0.6s						
CUC	**Castrococco**	**9.38**	**295**	*e*Pn	**Pn**	**00 50 17.3**	**-1.3**
	31nm,0.6s						
CUC				*e*Sn	**Sn**	**00 51 49.8**	**-13**
HRFI	**Mount Harif**	**9.40**	**132**	Pn	**Pn**	**00 50 18.7**	**-0.2**
HAVL	**Avola**	**9.48**	**276**	Pn	**Pn**	**00 50 17.8**	**-2.2**
MBRI	**Mt Berech**	**9.50**	**133**	Pn	**Pn**	**00 50 20.3**	**0.0**
GRB	**Gharib**	**9.64**	**147**	P	**Pn**	**00 50 23.1**	**+1.0**
HMDC	**Modica**	**9.76**	**276**	Pn	**Pn**	**00 50 22.6**	**-1.0**
SLNA	**Salina**	**9.81**	**285**	Pn	**Pn**	**00 50 22.0**	**-2.3**
	21nm,0.3s						
VAE	**Valguarnera**	**10.05**	**279**	P	**Pn**	**00 50 28.0**	**+0.4**
	0

ISC 29 00:56:42.0±1.1, 468N±02×1555E±02, h35km, n10, σ0°77/10, mb4.0/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.47**	**12**	Pn	**Pn**	**00 58 14.0**	**-0.6**
	0.4nm,0.3s,baz=174,slow=15,SNR=4.5						
ASAJ	**Asahikawa**	**9.43**	**258**	Pn	**Pn**	**00 58 54.1**	**-1.1**
	0.4nm,0.3s,baz=78,slow=20,SNR=4.6						
MJAR	**Matsushiro Arr**	**16.43**	**238**	Pn	**Pn**	**01 00 30.1**	**+0.2**
	baz=46,slow=13,SNR=4.9						
KURK	**Kurchatov**	**48.66**	**304**	P	**P**	**01 05 23.8**	**+1.5**
	2.3nm,1.0s,mb4.2,baz=66,slow=7.9,SNR=6.8						
KURK	**Kurchatov**	**48.66**	**304**	P	**P**	**01 05 23.8**	**+1.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
BVAR	**Borovoye Array**	**52.05**	**310**	P	**P**	**01 05 48.0**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=62,slow=6.9,SNR=9.3						
BVAR	**Borovoye Array**	**52.05**	**310**	P	**P**	**01 05 48.0**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**63.40**	**55**	P	**P**	**01 07 07.9**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.6,baz=324,slow=4.5,SNR=3.4						
TXAR	**Lajitas Array**	**76.05**	**62**	P	**P**	**01 08 25.5**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=303,slow=4.4,SNR=25						
TXAR	**Lajitas Array**	**76.05**	**62**	P	**P**	**01 08 25.5**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						

NIED ***29*** *01:15:00, 2190N×12170E, h8km, Mw4.8 Best double couple: M0=2.06000×10^16 NP1:φs=353.00000°, δ68.00000°, λ103.00000°. NP2:φs=140.00000°, δ25.00000°, λ60.00000°.*
JMA ***29*** *01:15:28.2±0.5, 2186N×12171E, h0km, M5.0*
ISCJB ***29*** *01:15:29.6±0.1, 2180N±001×12147E±002, h28km, mb5.1/176, MS4.2/39, Error ellipse: s-maj=2.5km s-min=1.8km az=177.3*
BJI ***29*** *01:15:29.2, 2192N×12127E, h12km, mB4.7, mb4.7, ML4.6, Ms4.6, Msz4.5*
TAP ***29*** *01:15:29.4, 2190N×12136E, h14km, ML5.0*
TAP Felt I J at Kaohsiung, I J at Tawa, I J at Hengchun, I J at Hengchun, II J, III J at Lanyu.
MOS ***29*** *01:15:30.6±0.9, 2183N×12147E, h33km, mb5.3/87, MS4.3/16, Error ellipse: s-maj=8.9km s-min=4.2km az=122.6*
NEIC ***29*** *01:15:31.2±0.1, 2179N×12150E, mb5.2/124, ML5.2(TAP), Error ellipse: s-maj=4.2km s-min=3.6km az=81.0*
NEIC Recorded [3 TAP] in T'ai-tung and [1 TAP] in P'ing-tung Counties.
IDC ***29*** *01:15:31.3±0.6, 2177N×12142E, h28km±4km, mb4.7/23, mb1 4.8/26, mb1mx4.8/29, mbtmp4.8/26, ML4.4/3, MS4.0/15, Ms1 4.1/15, ms1mx3.8/30, Error ellipse: s-maj=13.8km s-min=10.4km az=68.0*
GCMT ***29*** *01:15:31.2±0.4, 2190N×12152E, h15km±1km, MW4.9/65, Moment Tensor Solution. s27,c31; s65,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.56±.14; Mθθ0.04±.08; Mφφ-2.60±.11; Mrθ0.97±.20; Mrφ0.64±.06; Mθφ1.11±.19; Best double couple: M0=3.03200×10^16 NP1:φs=147.00000°, δ40.00000°, λ56.00000°. NP2: φs=8.00000°, δ58.00000°, λ115.00000°. Principal axes: T 3.1670, Plg67.0000°, Azm327.0000°; N -0.2760, Plg21.0000°, Azm175.0000°; P -2.8960, Plg10.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA ***29*** *01:15:38, 22.17N×12174E, h76km, mb5.3/24*
SZGRF ***29*** *01:15:39.2, 2294N×12090E, h31km, mb5.3, Taiwan*

ISC 29 01:15:31.5±0.1, 2183N±001×12144E±002, h29km, h29km±1.0km: pP-P, n562, σ1§08/615, mb5.1/176, MS4.2/39, 72C-22D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.23**	**26**	⇑i/P	**Pb**	**01 15 35.3**	**-2.8**
TSEB	**Hengchuen, Pin**	**0.51**	**278**	⇑i/P	**Pb**	**01 15 40.2**	**-1.9**
TWK1	**Hengchun**	**0.60**	**281**	⇑i/P	**Pb**	**01 15 40.7**	**-3.0**
TWK1				S	**Sb**	**01 15 48.6**	**-3.2**
HEN	**Hengchun**	**0.68**	**285**	⇑i/P	**Pb**	**01 15 42.0**	**-2.9**
TAW	**Tawu**	**0.73**	**316**	⇓P	**Pb**	**01 15 41.9**	**-3.8**
TAW				S	**Sb**	**01 15 51.0**	**-4.5**
ECL	**Taimali**	**0.89**	**329**	P	**Pn**	**01 15 44.0**	**-4.0**
ECL				S	**Sb**	**01 15 54.6**	**-5.3**
SCZT	**Fangliau**	**0.94**	**305**	⇑P	**Pn**	**01 15 45.8**	**-2.9**
SCZT				S	**Sn**	**01 15 57.0**	**-4.1**
TTN	**Taitung**	**0.96**	**343**	P	**Pn**	**01 15 46.8**	**-2.3**
TTN				S	**Sn**	**01 15 60.0**	**-1.8**
TWG	**Pinlang**	**1.04**	**341**	⇓i/P	**Pn**	**01 15 46.6**	**-3.6**
TWG				S	**Sn**	**01 15 59.5**	**-4.3**
TWP	**Hsiaoliuchiu**	**1.13**	**297**	⇑P	**Pn**	**01 15 51.2**	**-0.1**
TWP				S	**Sn**	**01 16 07.4**	**+1.6**
SSD	**Sandimen**	**1.18**	**321**	*e*P	**Pn**	**01 15 48.9**	**-3.2**
CHKT	**Chengkung**	**1.26**	**357**	P	**Pn**	**01 15 50.8**	**-2.5**
CHKT				S	**Sn**	**01 16 07.1**	**-2.1**
KAU	**Kaohsiung**	**1.28**	**305**	*e*P	**Pn**	**01 15 53.0**	**-0.5**
KAU				S	**Sn**	**01 16 09.0**	**-0.7**
TWM1	**Shoushan**	**1.37**	**316**	*e*P	**Pn**	**01 15 54.5**	**-0.1**
ELDTW	**Lidau**	**1.41**	**344**	*e*P	**Pn**	**01 15 51.9**	**-3.4**
STYT	**Tauyuan**	**1.47**	**335**	*e*P	**Pn**	**01 15 53.7**	**-2.4**
SGST	**Jiashian**	**1.48**	**328**	*e*P	**Pn**	**01 15 55.3**	**-0.9**
SGST				S	**Sn**	**01 16 14.9**	**+0.4**
TWF1	**Yuli**	**1.52**	**355**	*e*P	**Pn**	**01 15 53.4**	**-3.3**
TWF1				S	**Sn**	**01 16 13.7**	**-1.9**
CHN1	**Nanshi**	**1.59**	**328**	⇓P	**Pn**	**01 15 57.1**	**-0.7**
CHN1				S	**Sn**	**01 16 18.7**	**+1.4**
WTP	**Ta-pu**	**1.60**	**332**	*e*P	**Pn**	**01 15 56.9**	**-1.0**
WTP				S	**Sn**	**01 16 18.1**	**+0.5**
TAI1	**Yung-k'ang**	**1.65**	**317**	*e*P	**Pn**	**01 15 57.5**	**-1.0**
TAI1				S	**Sn**	**01 16 18.1**	**-0.7**
EHY	**Hungye**	**1.67**	**356**	*e*P	**Pn**	**01 15 55.7**	**-3.1**
EHY				S	**Sn**	**01 16 17.6**	**-1.7**
TWK	**Hsinying**	**1.68**	**328**	P	**Pn**	**01 15 57.9**	**-1.0**
TWK				S	**Sn**	**01 16 20.0**	**+0.5**
CHN4	**Tsaushan**	**1.71**	**333**	⇓P	**Pn**	**01 15 58.7**	**-0.6**
CHN4				S	**Sn**	**01 16 21.6**	**+1.5**
YUS	**Yu-Shan**	**1.71**	**345**	P	**Pn**	**01 15 57.6**	**-1.8**
YUS				S	**Sn**	**01 16 19.3**	**-1.0**
SCLT	**Jiali**	**1.77**	**319**	*e*P	**Pn**	**01 15 59.4**	**-0.7**
SCLT				S	**Sn**	**01 16 21.2**	**-0.5**
ALS	**Alishan**	**1.77**	**341**	*e*P	**Pn**	**01 15 58.9**	**-1.4**
ALS				S	**Sn**	**01 16 22.6**	**+0.8**
CHN8	**Yiju**	**1.89**	**323**	*e*P	**Pn**	**01 15 59.3**	**-2.5**
CHN8				S	**Sn**	**01 16 24.2**	**-0.5**
CHY	**Chiayi**	**1.91**	**331**	P	**Pn**	**01 16 01.2**	**-0.8**
CHY				S	**Sn**	**01 16 25.0**	**-0.1**
ESL	**Shilin**	**1.97**	**360**	*e*P	**Pn**	**01 16 02.1**	**-0.9**
WGK	**Gukeng**	**2.02**	**336**	*e*P	**Pn**	**01 16 03.2**	**-0.4**
WGK				S	**Sn**	**01 16 28.4**	**+0.6**
SMLT	**Sun Moon Lake**	**2.10**	**346**	P	**Pn**	**01 16 04.7**	**-0.1**
SMLT				S	**Sn**	**01 16 31.7**	**+1.7**
WSF	**Szhu**	**2.12**	**328**	*e*P	**Pn**	**01 16 02.9**	**-2.2**
WSF				S	**Sn**	**01 16 28.1**	**-2.3**
TYC	**Yuchr**	**2.13**	**345**	⇓i/P	**Pn**	**01 16 05.1**	**-0.1**
TYC				S	**Sn**	**01 16 31.4**	**+0.7**
HWA	**Hwalien**	**2.14**	**4**	*e*P	**Pn**	**01 16 04.1**	**-1.2**
HWA				S	**Sn**	**01 16 32.2**	**+1.3**
WNT	**Mingjian**	**2.15**	**341**	*e*P	**Pn**	**01 16 05.5**	**0.0**
WNT				S	**Sn**	**01 16 32.3**	**+1.0**
TWD	**Chiawan**	**2.24**	**4**	*e*P	**Pn**	**01 16 05.4**	**-1.3**
TWD				S	**Sn**	**01 16 33.4**	**0.0**
WTCT	**Ta-ch'eng**	**2.29**	**332**	*e*P	**Pn**	**01 16 05.5**	**-1.9**
WTCT				S	**Sn**	**01 16 33.4**	**-1.2**
WHF	**Hehuan Shan**	**2.31**	**356**	*e*P	**Pn**	**01 16 06.1**	**-1.6**
WHF				S	**Sn**	**01 16 34.9**	**-0.1**
NACB	**Ninganchiao**	**2.34**	**3**	*e*Pn	**Pn**	**01 16 06.9**	**-1.1**
NACB				*e*Sn	**Sn**	**01 16 36.4**	**+0.7**
TCU	**Taichung**	**2.41**	**343**	*e*P	**Pn**	**01 16 08.3**	**-0.7**
TCU				S	**Sn**	**01 16 38.4**	**+0.8**
TWT	**Tachien**	**2.42**	**354**	*e*P	**Pn**	**01 16 08.9**	**-0.3**
TWT				S	**Sn**	**01 16 39.1**	**+1.2**
PNG	**Penghu**	**2.46**	**315**	⇓i/P	**Pn**	**01 16 07.2**	**-2.4**
PNG				S	**Sn**	**01 16 35.1**	**-3.5**
TWQ1	**Liyutan**	**2.58**	**346**	*e*P	**Pn**	**01 16 11.3**	**0.0**
TWQ1				S	**Sn**	**01 16 42.4**	**+0.6**
NNS	**Nan Shan**	**2.60**	**359**	*e*P	**Pn**	**01 16 12.1**	**+0.5**
ENA	**Nanau**	**2.60**	**6**	*e*P	**Pn**	**01 16 10.7**	**-0.9**
NSY	**Sanyi**	**2.65**	**346**	*e*P	**Pn**	**01 16 12.2**	**-0.1**
NSY				S	**Sn**	**01 16 44.7**	**+1.3**
TWC	**Suao**	**2.79**	**8**	P	**Pn**	**01 16 13.8**	**-0.4**
TWC				S	**Sn**	**01 16 48.2**	**+1.3**
ENTT	**Nioudou**	**2.80**	**2**	*e*P	**Pn**	**01 16 13.8**	**-0.5**
ENTT				S	**Sn**	**01 16 48.1**	**+1.0**
NSTT	**Nanjuang**	**2.82**	**352**	*e*P	**Pn**	**01 16 14.8**	**+0.2**
NSTT				S	**Sn**	**01 16 49.3**	**+1.7**
YHNB	**Yeheng**	**2.83**	**359**	*e*Pn	**Pn**	**01 16 14.0**	**-0.7**
YHNB				*e*Sn	**Sn**	**01 16 49.0**	**+1.2**
NSK	**Sanguang**	**2.83**	**358**	*e*P	**Pn**	**01 16 14.2**	**-0.6**
TWE	**Neicheng**	**2.88**	**4**	*e*P	**Pn**	**01 16 15.6**	**+0.1**
TWE				S	**Sn**	**01 16 50.8**	**+1.6**
HSN	**Hsinchu**	**2.99**	**352**	*e*P	**Pn**	**01 16 19.0**	**+2.0**
YOJ	**Yonaguni jima**	**2.99**	**29**	P	**Pn**	**01 16 16.4**	**-0.6**
YOJ				*e*S	**Sn**	**01 16 51.4**	**-0.4**
YOJ	**Yonaguni jima**	**2.99**	**29**	*e*P	**Pn**	**01 16 15.4**	**-1.6**
YOJ				S	**Sn**	**01 16 51.2**	**-0.6**
EGS		**3.03**	**8**	P	**Pn**	**01 16 18.1**	**+0.6**
EGS				S	**Sn**	**01 16 53.8**	**+0.9**
HATJ	**Hateruma jima**	**3.10**	**44**	P	**Pn**	**01 16 17.1**	**-1.5**
HATJ				*e*S	**Sn**	**01 16 53.3**	**-1.4**
TATO	**Taipei**	**3.13**	**1**	*e*Pn	**Pn**	**01 16 19.4**	**+0.5**
TWA	**Mucha**	**3.14**	**2**	*e*P	**Pn**	**01 16 19.8**	**+0.7**
TWA				S	**Sn**	**01 16 57.4**	**+1.9**
TAP1	**Taipei**	**3.19**	**1**	*e*P	**Pn**	**01 16 20.5**	**+0.7**
TWB1	**Santiao Chiao**	**3.20**	**9**	P	**Pn**	**01 16 20.7**	**+0.8**
TWB1				S	**Sn**	**01 16 59.0**	**+1.9**
NWF	**Wu-fen Shan**	**3.24**	**5**	*e*P	**Pn**	**01 16 21.1**	**+0.7**
NWF				S	**Sn**	**01 17 00.4**	**+2.4**
TWS1	**Kuangyinshan**	**3.25**	**360**	*e*P	**Pn**	**01 16 21.3**	**+0.6**
TWS1				S	**Sn**	**01 17 00.3**	**+1.9**
IRIF	**Iriomote-Funau**	**3.26**	**40**	P	**Pn**	**01 16 19.6**	**-1.1**
JKRS	**Kuro-shima**	**3.37**	**44**	P	**Pn**	**01 16 20.9**	**-1.2**
TWY	**Chenhua**	**3.43**	**2**	*e*P	**Pn**	**01 16 23.7**	**+0.6**
JIJ	**Ishigaki jima**	**3.54**	**44**	P	**Pn**	**01 16 23.0**	**-1.5**
JIJ				*e*S	**Sn**	**01 17 04.7**	**-0.7**
KNM	**Kinmen**	**3.78**	**313**	*e*P	**Pn**	**01 16 27.0**	**-0.8**
KNM				S	**Sn**	**01 17 09.3**	**-2.1**
PCYT	**Pengchaiyu**	**3.83**	**9**	*e*P	**Pn**	**01 16 28.9**	**+0.5**
PCYT				S	**Sn**	**01 17 13.5**	**+1.0**
QZH	**Quanzhou**	**4.06**	**320**	⇓*i*P	**Pn**	**01 16 29.5**	**-2.2**
QZH				S	**Sn**	**01 17 09.5**	**-8.7**
QZH				Smax			
	comp=N,1μm,0.8s						
QZH				Smax			
	comp=E,1μm,0.7s						
QZH				LR	LR		
	comp=N,5μm,11.0s						
QZH				LR	LR		
	comp=E,2μm,7.7s						
QZH				LR	LR		
	comp=Z,6μm,9.2s						
JTJ	**Tarama**	**4.10**	**46**	P	**Pn**	**01 16 31.2**	**-1.0**
JTJ				*e*S	**Sn**	**01 17 17.8**	**-1.4**
JMJ	**Miyako jima 2**	**4.62**	**49**	P	**Pn**	**01 16 39.4**	**0.0**
JMJ	**Miyako jima 2**	**4.62**	**49**	*e*P	**Pn**	**01 16 40.9**	**+1.5**
JKE	**Kume jima 2**	**6.62**	**46**	P	**Pn**	**01 17 06.2**	**-0.7**
HKC	**Hong Kong Obse**	**6.76**	**275**	*i* P	**Pn**	**01 17 07.0**	**-1.8**
GZH	**Guangzhou**	**7.59**	**281**	P	**Pn**	**01 17 16.5**	**-3.8**
GZH				Smax			
	comp=N,312nm,1.1s						
GZH				Smax			
	comp=E,208nm,1.0s						
GZH				LR	LR		
	comp=N,3μm,12.3s						
GZH				LR	LR		
	comp=E,4μm,13.1s						
JOW	**Kunigami**	**7.97**	**50**	P	**Pn**	**01 17 25.8**	**+0.3**
JOW				*e*S	**Sn**	**01 18 52.5**	**-2.2**
JOW	**Kunigami**	**7.97**	**50**	Pn	**Pn**	**01 17 25.1**	**-0.3**
	comp=E,13nm,0.3s,baz=215,slow=12,SNR=34						
JOW				LR	LR	01 20 54.3	
	comp=E,2μm,20.3s,baz=137,slow=40						
JOW	**Kunigami**	**7.97**	**50**	*e*P	**Pn**	**01 17 24.5**	**-1.0**
JTK	**Tokunoshima**	**9.03**	**47**	P	**Pn**	**01 17 38.0**	**-2.0**
SSE	**Sheshan**	**9.23**	**359**	P	**Pn**	**01 17 44.5**	**+1.8**
SSE				S	**Sn**	**01 19 30.0**	**+4.5**
SSE				AMB	AMB		
	comp=Z,46nm,0.7s						
SSE				AMB	AMB		
	comp=Z,85nm,6.9s						
SSE				LR	LR		
	comp=N,1μm,11.8s						
SSE				LR	LR		
	comp=E,2μm,11.8s						
SSE				LR	LR		
	comp=Z,2μm,11.5s						
JAM	**Amami Oshima**	**9.88**	**47**	P	**Pn**	**01 17 48.3**	**-3.3**
NJ2	**Nanjing**	**10.44**	**348**	*e*P	**Pn**	**01 18 02.0**	**+2.8**
NJ2				AP		01 18 09.8	
NJ2				PP		01 18 11.5	
NJ2				XP		01 18 14.0	
NJ2				S	**Sn**	**01 20 00.0**	**+4.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,50nm,4.0s						
NJ2				LR	LR		
	comp=N,490nm,14.0s						
NJ2				LR	LR		
	comp=E,2μm,10.4s						
NJ2				LR	LR		
	comp=Z,2μm,10.4s						
WHN	**Wuhan**	**10.76**	**325**	⇓P	**Pn**	**01 18 01.0**	**-2.6**
WHN				XP		01 18 15.3	
WHN				S	**Sn**	**01 19 59.3**	**-3.8**
WHN				LR	LR		
	comp=N,1μm,7.1s						
WHN				LR	LR		
	comp=E,5μm,10.9s						
WHN				LR	LR		
	comp=Z,4μm,10.6s						
QIZ	**Qiongzhong**	**11.23**	**258**	*e*Pn	**Pn**	**01 18 12.6**	**+2.5**
	comp=Z,82nm,1.0s						
GYA	**Guiyang**	**14.26**	**292**	⇓*i*P	**Pn**	**01 18 51.0**	**-0.4**
GYA				AP		01 18 58.3	
GYA				XP	sP	01 19 03.0	-7.0
GYA				S	**Sn**	**01 21 21.3**	**-7.3**
GYA				AMB	AMB		
	comp=Z,30nm,1.0s						
GYA				AMB	AMB		
	comp=Z,110nm,5.8s						
GYA				LR	LR		
	comp=N,2μm,11.7s						
GYA				LR	LR		
	comp=E,3μm,12.3s						
GYA				LR	LR		
	comp=Z,3μm,12.9s						
XAN	**Xi'an**	**16.42**	**320**	P	**Pn**	**01 19 18.5**	**-1.4**
XAN				AP	pP	01 19 24.3	-5.9
XAN				XP	sP	01 19 30.3	-3.7
XAN				PP		01 19 32.8	
XAN				S	**Sn**	**01 22 18.3**	**-3.0**
XAN				XS	sS	01 22 29.3	-16
XAN				SS		01 22 37.3	
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s						
XAN				AMB	AMB		
	comp=Z,48nm,3.1s						
XAN				LR	LR		
	comp=N,1μm,9.0s						
XAN				LR	LR		
	comp=E,1μm,10.0s						
XAN				LR	LR		
	comp=Z,2μm,12.2s						
KKM	**Kota Kinabalu**	**16.49**	**199**	*e*P	**Pn**	**01 19 22.8**	**+2.0**
KS15	**Wonju Array Si**	**16.53**	**18**	*e*Pn	**Pn**	**01 19 22.5**	**+1.3**
KSRS	**Korea Array**	**16.55**	**18**	Pn	**Pn**	**01 19 22.4**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=200,slow=13,SNR=52						
KSRS				LR	LR	01 25 58.3	
	comp=Z,289nm,20.4s,baz=198,slow=38						
KMI	**Kunming**	**17.47**	**284**	P	**Pn**	**01 19 34.0**	**+0.9**
KMI				AP	pP	01 19 41.5	-0.4
KMI				XP	sP	01 19 44.5	-1.1
KMI				PP		01 19 48.8	
KMI				S	**Sn**	**01 22 40.5**	**-6.3**
KMI				XS	sS	01 22 57.5	-9.1
KMI				SS		01 23 08.5	
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s						
KMI				AMB	AMB		
	comp=Z,117nm,4.4s						
KMI				LR	LR		
	comp=N,1μm,13.0s						
KMI				LR	LR		
	comp=E,1μm,12.7s						
KMI				LR	LR		
	comp=Z,1μm,12.7s						
TIY	**Taiyuan**	**17.64**	**336**	*e*P	**Pn**	**01 19 38.0**	**+2.9**
TIY				S	**Sn**	**01 22 56.8**	**+6.1**
TIY				AMB	AMB		
	comp=Z,352nm,4.9s						
TIY				LR	LR		
	comp=N,3μm,10.2s						
TIY				LR	LR		
	comp=E,2μm,12.6s						
TIY				LR	LR		
	comp=Z,3μm,10.8s						
CD2	**Chengdu**	**18.23**	**303**	⇑*i*P	**Pn**	**01 19 43.5**	**+1.1**
CD2				AP	pP	01 19 51.0	+0.8
CD2				XP	sP	01 19 55.0	+1.0
CD2				PP		01 19 59.0	
CD2				S	**Sn**	**01 23 04.0**	**-1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=E,1μm,12.0s						
CD2				LR	LR		
	comp=Z,1μm,10.0s						
BJT	**Baijiatuau**	**18.68**	**347**	*e*P	**Pn**	**01 19 48.6**	**+0.8**
BJT				pmax	pmax		
	comp=Z,26nm,0.8s						
BJT	**Baijiatuau**	**18.68**	**347**	*e*P	**Pn**	**01 19 48.6**	**+0.9**
	comp=Z,26nm,0.8s						
BJI	**Beijing**	**18.70**	**347**	P	**Pn**	**01 19 48.3**	**+0.3**
BJI				S	**Sn**	**01 23 18.3**	**+2.0**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.1s						
BJI				AMB	AMB		
	comp=Z,177nm,6.1s						
BJI				LR	LR		
	comp=N,1μm,12.6s						
BJI				LR	LR		
	comp=E,856nm,11.4s						
BJI				LR	LR		
	comp=Z,580nm,15.2s						
CBIJ	**Chichi jima**	**19.59**	**70**	P	**Pn**	**01 19 59.2**	**+0.4**
	comp=Z,5.6nm,0.3s,baz=204,slow=4.3,SNR=13						
CBIJ				LR	LR	01 26 07.7	
	comp=Z,392nm,20.1s,baz=267,slow=32						
JHJ	**Hachijo jima 2**	**19.75**	**51**	P	**Pn**	**01 20 03.4**	**+2.7**
	comp=Z,2.0nm,0.3s,baz=235,slow=20,SNR=7.0						
JHJ				LR	LR	01 28 07.3	
	comp=Z,359nm,18.4s,baz=235,slow=38						
SNY	**Shenyang**	**20.02**	**5**	⇑P	**P**	**01 20 07.8**	**+5.9**
SNY				AMB	AMB		
	comp=Z,121nm,11.4s						
SNY				LR	LR		
	comp=N,508nm,15.1s,MS4.4						
SNY				LR	LR		
	comp=E,1μm,16.1s,MS4.4						
SNY				LR	LR		
	comp=Z,1μm,11.6s,MS4.4						
MAJO	**Matsushiro**	**20.67**	**41**	*e*P	**P**	**01 20 11.2**	**+2.2**
MAJO				pmax	pmax		
	comp=Z,51nm,1.0s						
MAJO	**Matsushiro**	**20.67**	**41**	*e*P	**P**	**01 20 11.2**	**+2.2**
	comp=Z,51nm,1.0s						
MAT	**Matsushiro**	**20.67**	**41**	P	**P**	**01 20 12.0**	**+3.0**
MAT				S	**S**	**01 23 59.0**	**+0.6**
MJAR	**Matsushiro Arr**	**20.67**	**41**	P	**P**	**01 20 11.4**	**+2.4**
	comp=Z,31nm,0.9s,baz=231,slow=10,SNR=70						
MJAR				LR	LR	01 28 39.3	
	comp=Z,279nm,21.9s,MS3.6,baz=220,slow=38						
HHC	**Hu-ho-hao-te**	**20.73**	**338**	*e*P	**P**	**01 20 11.0**	**+1.4**
HHC				AP		01 20 19.3	
HHC				XP	sP	01 20 22.8	+1.6
HHC				PP		01 20 32.3	
HHC				S	**S**	**01 23 56.8**	**-2.7**
HHC				PCP	PcP	01 24 19.5	+1.0
HHC				SS		01 24 27.8	
HHC				AMB	AMB		
	comp=Z,55nm,1.3s						
HHC				AMB	AMB		
	comp=Z,127nm,3.6s						
HHC				LR	LR		
	comp=N,882nm,14.3s,MS4.6						
HHC				LR	LR		
	comp=E,1μm,14.3s,MS4.6						
HHC				LR	LR		
	comp=Z,1μm,13.7s,MS4.4						
LZH	**Lanzhou**	**20.90**	**317**	P	**P**	**01 20 13.0**	**+1.4**
LZH				AP		01 20 20.8	
LZH				XP	sP	01 20 23.8	+0.6
LZH				PP		01 20 36.3	
LZH				S	**S**	**01 23 58.0**	**-5.1**
LZH				AMB	AMB		
	comp=Z,108nm,1.0s						
LZH				AMB	AMB		
	comp=Z,384nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,11.6s						
LZH				LR	LR		
	comp=Z,1μm,12.0s,MS4.6						
BTO	**Baotou**	**21.08**	**335**	*e*P	**P**	**01 20 12.8**	**-0.6**
CHTO	**Chiang Mai**	**21.31**	**266**	⇓P	**P**	**01 20 18.2**	**+2.1**
	SNR=15						
CHTO	**Chiang Mai**	**21.31**	**266**	*e*P	**P**	**01 20 17.2**	**+1.1**
CM31	**Chiang Mai Arr**	**21.39**	**265**	*e*P	**P**	**01 20 18.9**	**+2.0**
	comp=Z,14nm,0.7s,mb4.4						
CMAR	**Chiang Mai Arr**	**21.39**	**265**	P	**P**	**01 20 18.0**	**+1.1**
	comp=Z,13nm,0.8s,mb4.3,baz=68,slow=8.5,SNR=32						
CMAR				PcP	PcP	01 24 20.9	+0.7
	comp=Z,6.9nm,0.6s,baz=65,slow=0.4,SNR=22						
CMAR				ScP	ScP	01 27 55.2	0.0
	comp=Z,1.4nm,0.8s,baz=13,slow=1.2,SNR=4.5						
CMAR				LR	LR	01 30 30.3	
	comp=Z,565nm,19.0s,MS4.0,baz=299,slow=42						
CMAR	**Chiang Mai Arr**	**21.39**	**265**	P	**P**	**01 20 18.1**	**+1.2**
CMAR						01 24 21.0	
CN2	**Changchun**	**22.16**	**8**	*e*P	**P**	**01 20 26.3**	**+1.3**
CN2				*e*AP		01 20 33.3	
CN2				*e*PP		01 20 53.0	
CN2				*e*S	**S**	**01 24 26.0**	**-1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,600nm,11.0s,MS4.6						
CN2				LR	LR		
	comp=E,1μm,11.0s,MS4.6						
CN2				LR	LR		
	comp=Z,600nm,13.0s,MS4.2						
VLA	**Vladivostok**	**22.95**	**20**	*e*P	**P**	**01 20 33.4**	**+0.1**
VLA				S	**S**	**01 24 46.0**	**+4.4**
VLA				pmax	pmax		
	comp=Z,43nm,1.0s,mb4.8						
VLA				MLR	ML

comp=N,597nm,12.9s,MS4.4
GTA LR LR
comp=E,468nm,11.4s,MS4.4
GTA LR LR
comp=Z,382nm,13.2s,MS4.1
KAPI Kappang 26.73 184 *e*P **P** **01 21 07.9 -0.8**
comp=Z,106nm,1.3s,mb5.2
HIA Hailar 27.41 358 *e*P **P** **01 21 13.8 -0.6**
HIA pmax pmax
comp=Z,9.0nm,0.4s
HIA Hailar 27.41 358 *e*P **P** **01 21 13.8 -0.6**
comp=Z,8.9nm,0.4s,mb4.7
ASAJ Asahikawa 28.28 33 P **P** **01 21 22.4 +0.1**
comp=Z,14nm,0.6s,mb4.8,baz=249,slow=17,SNR=10
ASAJ LR LR 01 33 07.1
comp=Z,347nm,21.2s,MS3.9,baz=186,slow=37
LSA Lhasa 28.32 292 P **P** **01 21 24.5 +1.6**
LSA Lhasa 28.32 292 *e*P **P** **01 21 25.4 +2.5**
LSA pmax pmax
comp=Z,26nm,0.7s,mb5.0
LSA Lhasa 28.32 292 *e*P **P** **01 21 25.4 +2.5**
comp=Z,26nm,0.7s,mb5.0
ULN Ulaanbaatar 28.44 339 P **P** **01 21 23.3 -0.3**
SNR=17
ULN Ulaanbaatar 28.44 339 *e*P **P** **01 21 23.0 -0.6**
ULN pmax pmax
comp=Z,21nm,0.9s,mb4.8
ULN Ulaanbaatar 28.44 339 *e*P **P** **01 21 23.0 -0.6**
comp=Z,22nm,0.9s,mb4.8
KLR Kul'dur 28.54 14 *e*P **P** **01 21 17.8 -6.7**
SONM Songino Array 28.63 339 P **P** **01 21 24.7 -0.6**
comp=Z,15nm,0.9s,mb4.7,baz=155,slow=9.4,SNR=63
SONM PcP PcP 01 24 37.3 +1.5
comp=Z,2.4nm,0.9s,baz=109,slow=3.1,SNR=4.1
SONM ScP ScP 01 28 15.2 +0.1
comp=Z,0.3nm,0.4s,baz=152,slow=2.8,SNR=3.8
SONM LR LR 01 33 58.9
comp=Z,335nm,18.6s,MS4.0,baz=330,slow=39
SONM Songino Array 28.63 339 P **P** **01 21 24.7 -0.6**
SONM 01 24 37.3
PSI Prapat 28.93 232⇓*e*P **P** **01 21 29.4 +1.0**
PSI Prapat 28.93 232 P **P** **01 21 29.0 +0.6**
comp=Z,22nm,0.8s,mb4.9,baz=31,slow=4.9,SNR=6.0
PSI PcP PcP 01 24 37.7 +0.6
comp=Z,7.1nm,0.7s,baz=45,slow=2.5,SNR=5.0
PSI LR LR 01 31 52.0
comp=Z,507nm,18.7s,MS4.2,baz=217,slow=34
PSI Prapat 28.93 232 P **P** **01 21 29.0 +0.6**
PSI 01 24 37.7
PSI Prapat 28.93 232 P **P** **01 21 29.0 +0.6**
PSI PcP PcP 01 24 37.7 +0.6
PSI LR LR 01 31 52.0
YSS Yuzh-Sakhalins 30.42 29 *e*P **P** **01 21 40.8 -0.4**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 30.42 29 *e*P **P** **01 21 41.8 +0.5**
comp=Z,30nm,0.8s,mb5.1
TAPN Taplejung 31.10 287 *e*P **P** **01 21 49.2 +1.7**
comp=Z,49nm,0.9s,mb5.3
TAPN *e*P 01 24 42.8
ODAN Odare 31.37 286 *e*P **P** **01 21 51.1 +1.2**
comp=Z,58nm,0.8s,mb5.5
ODAN *e*P 01 24 44.4
ZAK Zakamensk 31.87 338 *e*P **P** **01 21 52.0 -2.0**
ZAK *e* 01 24 44.1
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
ZAK pmax pmax
comp=Z,3.0nm,1.9s,mb3.8
RAMN Ramite 32.08 286 *e*P **P** **01 21 57.4 +1.3**
comp=Z,94nm,0.9s,mb5.6
RAMN *e*P 01 24 46.1
GUN Gumba 32.75 288 *e*P **P** **01 22 03.5 +1.5**
comp=Z,108nm,0.9s,mb5.8
GUN *e*P 01 24 46.6
TLY Talaya 32.85 339 P **P** **01 22 02.1 -0.4**
SNR=7.2
TLY Talaya 32.85 339 *e*P **P** **01 22 01.6 -0.9**
TLY *e*S **S** **01 27 16.4 -1.5**
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,471nm,14.0s,MS4.3
TLY Talaya 32.85 339 *e*P **P** **01 22 01.7 -0.8**
comp=Z,8.0nm,0.7s,mb4.8
PKI Pulchoki 33.15 287 *e*P **P** **01 22 06.2 +0.7**
PKI *e* 01 24 48.5
PKI pmax pmax
comp=Z,43nm,0.9s,mb5.4
PKI Pulchoki 33.15 287 *e*P **P** **01 22 06.2 +0.7**
comp=Z,43nm,0.9s,mb5.4
PKI *e*P 01 24 48.5
KKN Kakani 33.27 288 *e*P **P** **01 22 07.1 +0.5**
KKN *e* 01 24 48.8
KKN pmax pmax
comp=Z,65nm,0.9s,mb5.6
KKN Kakani 33.27 288 *e*P **P** **01 22 07.1 +0.5**
comp=Z,65nm,0.9s,mb5.6
KKN *e*P 01 24 48.8
DMN Daman 33.42 287 *e*P **P** **01 22 08.0 +0.1**
comp=Z,58nm,0.9s,mb5.5
DMN *e*P 01 24 49.7
GKN Gorkha 33.85 288 *e*P **P** **01 22 12.5 +0.9**
comp=Z,18nm,1.0s,mb4.9
DANN Dangsing 34.64 289 *e*P **P** **01 22 19.1 +0.7**
comp=Z,44nm,0.8s,mb5.4
DANN *e*P 01 24 52.0
KOLN Koldanda 34.76 288 *e*P **P** **01 22 19.9 +0.4**
comp=Z,74nm,0.9s,mb5.6
KOLN *e*P 01 24 52.8
WMQ Urumqi 35.48 316 P **P** **01 22 26.5 +1.0**
WMQ AP pP 01 22 36.3 +2.2
WMQ XP sP 01 22 40.3 +2.6
WMQ PP PP 01 23 47.0 +0.7
WMQ PCP PcP 01 24 55.8 +1.3
WMQ *e*S **S** **01 27 59.0 +0.1**
WMQ SCP ScP 01 28 37.8 -0.7
WMQ SS SS 01 30 20.0 -14
WMQ SCS ScS 01 32 40.5 -2.4
WMQ AMB AMB
comp=Z,14nm,0.8s,mb4.9
WMQ LR LR
comp=N,266nm,18.0s,MS4.1
WMQ LR LR
comp=E,242nm,20.8s,MS4.1
WMQ LR LR
comp=Z,172nm,21.6s,MS3.8
KAKA Kakadu 35.98 162 *e*P **P** **01 22 27.2 -2.8**
comp=Z,28nm,0.8s,mb5.2
BOD Bodaibo 36.35 353 *e*P **P** **01 22 30.4 -2.3**
DDI Dehra Dun 39.69 292 *e*x x 01 23 01.6
FITZ Fitzroy Crossi 39.90 174 *e*P **P** **01 23 01.6 -1.4**
comp=Z,26nm,1.0s,mb4.9
FITZ *e*PCP PcP 01 25 09.3 +0.9
FITZ Fitzroy Crossi 39.90 174 P **P** **01 23 01.7 -1.3**
comp=Z,24nm,1.1s,mb4.9,baz=7.8,slow=9.8,SNR=30
MK31 Makanchi Array 40.21 318 *i* P **P** **01 23 05.5 +0.1**
MK31 pmax pmax
comp=Z,43nm,1.2s,mb5.0
MK31 Makanchi Array 40.21 318 *e*P **P** **01 23 05.4 +0.1**
MK31 *e*PcP PcP 01 25 09.1 +0.1
MKAR Makanchi Array 40.21 318 P **P** **01 23 05.9 +0.5**
comp=Z,15nm,0.9s,mb4.7,baz=109,slow=9.6,SNR=77
MKAR PcP PcP 01 25 09.1 +0.1
comp=Z,4.2nm,0.7s,baz=88,slow=4.9,SNR=6.2
MKAR ScP ScP 01 28 57.0 +0.7
comp=Z,1.7nm,0.9s,baz=97,slow=6.2,SNR=6.1
MKAR LR LR 01 41 33.4
comp=Z,218nm,18.4s,MS4.0,baz=115,slow=39
MKAR Makanchi Array 40.21 318 P **P** **01 23 05.9 +0.5**
MKAR 01 25 09.1
YAK Yakutsk 40.57 6 *i* P **P** **01 23 06.2 -1.9**
YAK pmax pmax
comp=Z,23nm,0.6s,mb5.0
PETK Petropavlovsk- 41.70 32 P **P** **01 23 17.1 -0.4**
comp=Z,0.6nm,0.5s,baz=236,slow=7.9,SNR=2.9
PETK LR LR 01 41 18.7
comp=Z,108nm,20.3s,MS3.7,baz=227,slow=37
PET Petropavlovsk 42.13 33 *e*P **P** **01 23 22.5 +1.5**
PET *e*S **S** **01 29 37.2 -1.5**
PET pmax pmax
comp=Z,18nm,0.8s,mb4.8
PET pmax pmax
comp=Z,200nm,3.5s
PET MLR MLR
comp=Z,200nm,20.0s,MS4.0
PET MLR MLR
comp=Z,200nm,15.0s
ZAA0 Zalesovo Array 42.35 328 *e*P **P** **01 23 22.4 -0.4**
ZALV Zalesovo Beam 42.35 328 P **P** **01 23 22.4 -0.4**
comp=Z,31nm,0.9s,mb4.9,baz=114,slow=7.2,SNR=85
ZALV PcP PcP 01 25 14.5 -1.4
comp=Z,3.0nm,0.6s,baz=117,slow=3.7,SNR=4.3
ZALV LR LR 01 42 39.4
comp=Z,122nm,19.7s,MS3.8,baz=119,slow=38
ZAL Zalesovo 42.36 328 P **P** **01 23 22.5 -0.4**
ZAL 01 25 14.5
MBWA Marble Bar 42.76 182 *e*P **P** **01 23 24.9 -1.6**
comp=Z,29nm,1.6s,mb4.8
WRAB Tennant Creek 43.38 162 P **P** **01 23 29.6 -1.9**
comp=Z,156nm,0.8s,mb5.8,SNR=7.6
WRAB Tennant Creek 43.38 162⇓*e*P **P** **01 23 30.1 -1.4**
WRAB Tennant Creek 43.38 162 *e*P **P** **01 23 29.7 -1.8**
comp=Z,20nm,0.8s,mb4.9
WRA Warramunga Arr 43.39 162 P **P** **01 23 29.8 -1.8**
comp=Z,19nm,0.8s,mb4.9,baz=345,slow=8.8,SNR=24
WRA PcP PcP 01 25 19.0 -0.8
comp=Z,2.9nm,0.7s,baz=344,slow=3.9,SNR=4.8
WB2 Warramunga Arr 43.39 162 *e*P **P** **01 23 29.8 -1.8**
WB2 *e*pP pP 01 23 33.8 -6.6
WB2 *e*PCP PcP 01 25 19.2 -0.6
WB2 *e*S **S** **01 29 57.2 -0.7**
TKM2 Tokmak 2 43.42 310 *e*P **P** **01 23 33.0 +1.3**
TKM2 *e* 01 25 20.1
TKM2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
TKM2 Tokmak 2 43.42 310 *e*P **P** **01 23 33.0 +1.3**
comp=Z,9.5nm,0.8s,mb4.6
TKM2 *e*PcP PcP 01 25 20.1 +0.4
NVS Novosibirsk 43.62 329 *e*P **P** **01 23 32.4 -0.7**
NVS *e* 01 30 01.2
NVS pmax pmax
comp=Z,41nm,1.4s,mb5.0
NVS pmax pmax
comp=N,25nm,1.5s
NVS pmax pmax
comp=E,29nm,1.4s
UCH Uchtor 44.04 309 *e*P **P** **01 23 38.5 +1.8**
comp=E,23nm,1.2s,mb4.8
UCH *e* 01 25 23.4
UCH LR LR
comp=Z,242nm,20.0s,MS4.1
KURK Kurchatov 44.06 322 P **P** **01 23 36.9 +0.2**
comp=Z,211nm,0.9s,mb5.9,SNR=26
KURK Kurchatov 44.06 322 ⇓P **P** **01 23 36.8 +0.1**
SNR=20
KURK Kurchatov 44.06 322 P **P** **01 23 37.1 +0.4**
comp=Z,30nm,0.9s,mb5.0,baz=115,slow=8.0,SNR=58
KURK Kurchatov 44.06 322 *e*P **P** **01 23 36.9 +0.2**
KURK pmax pmax
comp=Z,39nm,1.0s,mb5.1
KURK Kurchatov 44.06 322 *e*P **P** **01 23 36.9 +0.2**
comp=Z,39nm,1.0s,mb5.1
FRU Bishkek 44.10 310 *e*P **P** **01 23 36.0 -1.2**
FRU *e* pP 01 23 46.0 0.0
AML Almayashu 44.62 308 *e*P **P** **01 23 43.0 +1.7**
comp=Z,24nm,1.1s,mb4.9
EKS2 Erkin-Say 44.67 309 *e*P **P** **01 23 42.2 +0.5**
comp=Z,10nm,1.2s,mb4.5
SEY Seymchan 46.10 19 *i* P **P** **01 23 52.3 -0.4**
KK31 Karatay Array 47.11 309 *i* P **P** **01 24 01.7 +0.8**
KK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KBL Kabul 47.42 297 *e*P **P** **01 24 04.8 +1.3**
KBL *e* 01 25 34.1
KBL pmax pmax
comp=Z,40nm,1.2s,mb5.2
KBL Kabul 47.42 297 *e*P **P** **01 24 04.8 +1.3**
comp=Z,40nm,1.2s,mb5.2
KBL *e*PcP PcP 01 25 34.1 +0.3
CTA Charters Tower 48.20 148 P **P** **01 24 09.4 -0.2**
comp=Z,8.4nm,0.7s,mb4.9,baz=319,slow=9.3,SNR=6.0
CTAO Charters Tower 48.20 148 *e*P **P** **01 24 09.9 +0.3**
CTAO pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
CTAO Charters Tower 48.20 148 *e*P **P** **01 24 09.9 +0.3**
comp=Z,10nm,0.8s,mb4.9
VOSK Vostochnaya 49.22 322 P **P** **01 24 16.8 -0.2**
VOSK pmax pmax
comp=Z,15nm,1.3s,mb4.9
BVA0 Borovoye Array 49.65 322 *i* P **P** **01 24 20.3 -0.1**
BVA0 pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
BVAR Borovoye Array 49.65 322 P **P** **01 24 20.6 +0.2**
comp=Z,5.6nm,0.6s,mb4.8,baz=110,slow=9.1,SNR=27
BVAR PcP PcP 01 25 41.2 -0.2
comp=Z,5.2nm,0.6s,baz=82,slow=4.3,SNR=6.6
BVAR ScP ScP 01 29 36.3 +1.3
comp=Z,0.9nm,0.7s,baz=116,slow=3.4,SNR=3.6
BVAR Borovoye Array 49.65 322 P **P** **01 24 20.6 +0.2**
BVAR 01 25 41.2
BRVK Borovoye 49.72 322 P **P** **01 24 21.7 +0.8**
comp=Z,118nm,0.6s,mb6.1,SNR=9.5
BRVK Borovoye 49.72 322 ⇑P **P** **01 24 21.2 +0.2**
SNR=13
BRVK Borovoye 49.72 322 *e*P **P** **01 24 20.6 -0.3**
BRVK pmax pmax
comp=Z,11nm,0.5s,mb5.1
BRVK Borovoye 49.72 322 *e*P **P** **01 24 20.6 -0.3**
comp=Z,11nm,0.5s,mb5.1
TIXI Tiksi 50.02 3 *e*P **P** **01 24 21.6 -1.3**
TIXI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,285nm,14.0s,MS4.4
TIXI Tiksi 50.02 3 *e*P **P** **01 24 21.8 -1.1**
comp=Z,6.3nm,0.6s,mb4.8
FORT Forrest 52.69 173 *e*P **P** **01 24 39.7 -3.7**
comp=Z,45nm,0.9s,mb5.4
FORT Forrest 52.69 173 *e*P **P** **01 24 43.2 -0.1**
comp=Z,8.1nm,0.9s,mb4.7
KLBR Kellerberrin 53.23 184 *e*P **P** **01 24 46.0 -1.3**
comp=Z,25nm,0.8s,mb5.2
BILL Bilibino 53.81 19⇓*e*P **P** **01 24 51.9 +0.7**
BILL *e* 01 25 56.2
BILL *e*S **S** **01 32 21.8 -1.9**
BILL pmax pmax
comp=Z,15nm,1.8s,mb4.6
BILL MLR MLR
comp=Z,100nm,18.0s,MS3.9
NWAO Narrogin (SRO) 54.60 184 P **P** **01 24 56.0 -1.3**
comp=Z,11nm,0.7s,mb5.0,baz=16,slow=9.5,SNR=6.7
SVE Sverdlovsk 56.08 325⇓*e*P **P** **01 25 07.8 0.0**
SVE pmax pmax
comp=Z,29nm,0.9s,mb5.3
SVE MLR MLR
comp=Z,281nm,16.0s,MS4.5
AKTK Aktyubinsk 56.63 317 P **P** **01 25 11.9 +0.1**
AKTO Aktyubinsk 56.63 317 P **P** **01 25 11.9 +0.1**
comp=Z,5.3nm,0.7s,mb4.7,baz=89,slow=6.4,SNR=13
STKA Stephens Creek 56.78 159 *e*P **P** **01 25 12.5 -0.5**
comp=Z,10nm,0.6s,mb5.0
STKA *e*pP pP 01 25 15.9 -6.1
STKA Stephens Creek 56.78 159 P **P** **01 25 12.5 -0.5**
comp=Z,22nm,0.7s,mb5.3,baz=340,slow=5.9,SNR=34
ARU Arti 57.13 324 P **P** **01 25 15.0 -0.2**
comp=Z,186nm,0.6s,mb6.3,SNR=12
ARU Arti 57.13 324*c i*P **P** **01 25 14.9 -0.3**
ARU *e* 01 27 18.0
ARU *e*S **S** **01 33 06.8 -1.6**
ARU pmax pmax
comp=Z,46nm,1.7s,mb5.2
ARU Arti 57.13 324 *e*P **P** **01 25 15.0 -0.2**
comp=Z,19nm,0.7s,mb5.2
SOKR Solikamsk 58.62 327*c i*P **P** **01 25 25.2 -0.4**
SOKR pmax pmax
comp=Z,30nm,1.2s,mb5.2
SOKR MLR MLR
comp=Z,300nm,20.0s,MS4.4
ARMA Armidale 59.50 150 *e*P **P** **01 25 33.5 +1.4**
CNB Canberra Magne 62.70 154 *e*P **P** **01 25 54.3 +0.6**
CNB *e*pP pP 01 25 57.6 -5.2
TOO Toolangi 63.27 159 *e*P **P** **01 25 58.0 +0.6**
TOO *e*pP pP 01 26 01.3 -5.3
DGRG David-gareji 65.67 307 P **P** **01 26 20.9 +7.6**
MTA Mtatsminda 66.07 307 P **P** **01 26 18.3 +2.5**
TBLG Delisi 66.10 307 P **P** **01 26 18.6 +2.5**
MIB Mutribah 66.17 294 *e*P **P** **01 26 16.4 -0.3**
baz=294
MIB AMb AMB 01 26 29.3
comp=Z,29nm,1.1s,mb5.2,baz=294
RDF Al-Radifah 66.18 293 *e*P **P** **01 26 16.7 0.0**
baz=293
RDF AMb AMB 01 26 23.9
comp=Z,63nm,1.2s,mb5.5,baz=293
GNI Garni 66.34 305 *e*P **P** **01 26 19.3 +1.7**
GNI pmax pmax
comp=Z,23nm,1.0s
GNI Garni 66.34 305 *e*P **P** **01 26 19.3 +1.7**
comp=Z,23nm,1.0s,mb5.2
NAY Al-Naaiem 66.37 293 *e*P **P** **01 26 17.6 -0.4**
baz=293
NAY AMb AMB 01 26 20.8
comp=Z,16nm,0.9s,mb5.0,baz=293
ONI Oni 66.92 308 P **P** **01 26 22.4 +1.2**
VRHR Novokhopersk 67.01 318 *e*P **P** **01 26 24.6 +2.9**
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.6
VRHR pmax pmax
comp=N,30nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.4s
KIV Kislovodsk 67.26 310 P **P** **01 26 25.1 +1.8**
SNR=8.1
KIV Kislovodsk 67.26 310*ce*P **P** **01 26 23.8 +0.4**
KIV *i* 01 26 35.0
KIV *e* 01 26 51.6
KIV *e* 01 28 52.9
KIV *e*S S 01 35 17.8 +1.3
KIV pmax pmax
comp=Z,39nm,1.9s,mb5.1
KIV MLR MLR
comp=Z,100nm,20.0s,MS4.0
KIV Kislovodsk 67.26 310 *e*P **P** **01 26 24.7 +1.4**
comp=Z,33nm,0.8s,mb5.4
TTA Tatalina 67.42 29 *e*P **P** **01 26 23.8 -0.3**
TTA pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TTA Tatalina 67.42 29 *e*P **P** **01 26 23.8 -0.3**
comp=Z,4.5nm,0.6s,mb4.7
SVW2 Sparrevohn 67.77 31 *e*P **P** **01 26 26.6 +0.3**
IMA2 Indian Mountai 68.19 26 *e*P **P** **01 26 29.1 +0.3**
VRSR Storozhevoye 68.52 318 *e*P **P** **01 26 30.4 -0.8**
VRSR pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
VRSR pmax pmax
comp=N,2.0nm,0.5s
VRSR pmax pmax
comp=E,4.0nm,0.8s
MOS Moscow 68.81 323 *e*P **P** **01 26 30.8 -2.1**
MOS *e* 01 26 49.5
MOS pmax pmax
comp=Z,35nm,0.8s,mb5.3
CHUM Lake Minchumin 68.99 28 *e*P **P** **01 26 34.8 +0.9**
comp=Z,10nm,1.1s,mb4.7
PPLA Purkeypile 69.17 29 *e*P **P** **01 26 34.8 -0.2**
comp=Z,20nm,1.3s,mb4.9
SOC Sochi 69.44 310 *e*P **P** **01 26 40.7 +3.6**
SOC *e* 01 29 07.6
SOC *e*S S 01 35 45.6 +3.1
SOC *e*SS SS 01 40 11.5 +1.7
SOC MLR MLR
comp=Z,169nm,22.0s,MS4.2
OBN Obninsk 69.50 322⇓*e*P **P** **01 26 35.9 -1.2**
OBN *e* 01 26 58.1
OBN *e* 01 29 07.1
OBN *e*S S 01 35 42.7 0.0
OBN *e*SS SS 01 40 11.6 +1.6
OBN pmax pmax
comp=Z,54nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
OBN Obninsk 69.50 322 *e*P **P** **01 26 35.9 -1.2**
comp=Z,23nm,0.9s,mb5.1
OBN LR LR
comp=Z,102nm,21.0s,MS4.0
BPAW Bear Paw Mtn. 69.55 28 *e*P **P** **01 26 37.0 -0.3**
comp=Z,9.8nm,1.1s,mb4.7
ANN Anapa 70.81 311 *e*P **P** **01 26 54.3 +8.9**
ANN pmax pmax
comp=Z,90nm,1.5s,mb5.5
JOF Joensuu 70.87 331 *e*p **P** **01 26 45.4 0.0**
comp=Z,3.2nm,0.4s,mb4.6
JOF Joensuu 70.87 331 *e*P **P** **01 26 45.4 0.0**
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
KEV Kevo 71.24 338 *e*p **P** **01 26 47.2 -0.4**
comp=Z,2.7nm,0.4s,mb4.5
KEV Kevo 71.24 338 *e*P **P** **01 26 47.2 -0.4**
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
MALT Malatya 71.51 305⇑*i*P **P** **01 26 51.1 +1.3**
MALT Malatya 71.51 305 *e*P **P** **01 26 51.2 +1.5**
comp=Z,14nm,0.9s,mb4.9
MALT LR LR
comp=Z,126nm,20.0s,MS4.2
ARCES ARCESS Array B 71.80 338 P **P** **01 26 50.5 -0.5**
comp=Z,5.4nm,0.6s,mb4.7,baz=68,slow=9.6,SNR=20
ARCES ARCESS Array B 71.80 338 P **P** **01 26 50.5 -0.5**
ARE0 ARCESS Array S 71.80 338 *e*P **P** **01 26 50.4 -0.5**
SIM Simferopol' 73.08 312 *e*P **P** **01 26 57.6 -1.4**
SIM *e*S S 01 36 31.0 +6.4
SIM pmax pmax
comp=Z,22nm,1.1s,mb5.0
SIM MLR MLR
comp=Z,300nm,18.0s,MS4.6
KAF Kangasniemi 73.31 331 *e*p **P** **01 27 00.2 +0.1**
comp=Z,3.3nm,0.4s,mb4.6
KAF Kangasniemi 73.31 331 *e*P **P** **01 27 00.2 +0.1**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
EGAK Eagle 73.57 26 *e*P **P** **01 27 01.2 -0.4**
comp=Z,6.1nm,0.8s,mb4.6
AFI Afiamalu 74.49 112 LR LR 01 53 23.7
comp=Z,93nm,21.2s,MS4.0,baz=83,slow=30
AKASG Malin Array Be 74.78 319 P **P** **01 27 08.2 -0.7**
comp=Z,7.0nm,0.6s,mb4.8,baz=61,slow=5.6,SNR=50
AKBB Malin Array Si 74.78 319 *e*P **P** **01 27 08.0 -0.9**
KIEV Kiev 74.80 319 *e*P **P** **01 27 08.0 -1.0**
KIEV pmax pmax
comp=Z,34nm,1.3s,mb5.1
KIEV Kiev 74.80 319 *e*P **P** **01 27 08.0 -1.0**
comp=Z,34nm,1.3s,mb5.1
ANTO Ankara 75.35 307 *e*P **P** **01 27 13.3 +0.9**
ANTO pmax pmax
comp=Z,11nm,0.8s,mb4.8
ANTO Ankara 75.35 307 *e*P **P** **01 27 13.3 +0.9**
comp=Z,11nm,0.8s,mb4.8
CSS Prodhromos 76.35 302 *e*P **P** **01 27 18.6 +0.4**
comp=Z,18nm,0.8s,mb5.0
HYT Haines Junctio 76.41 30 *e*P **P** **01 27 20.9 +3.0**
TLCR 76.63 313⇓*i*P **P** **01 27 20.4 +0.8**
IAS Iasi 76.85 316 P **P** **01 27 21.0 +0.2**
TIRR Tirgusor 77.12 313⇑*i*P **P** **01 27 22.5 +0.2**
TIRR Tirgusor 77.12 313 ⇑P **P** **01 27 22.5 +0.2**
SUW Suwalki 77.31 323 *e*P **P** **01 27 23.0 -0.2**
SUW Suwalki 77.31 323 *e*P **P** **01 27 23.0 -0.2**
HARR Harsova 77.38 313⇑*i*P **P** **01 27 24.9 +1.1**
HARR Harsova 77.38 313 P **P** **01 27 24.9 +1.2**
VRI Vrincioaia 77.81 315⇓*i*P **P** **01 27 26.8 +0.6**
VRI Vrincioaia 77.81 315 P **P** **01 27 27.3 +1.1**
PLOR Plostina 77.87 315⇓*i*P **P** **01 27 27.6 +1.1**
SKAG Skagway 77.92 31 *e*P **P** **01 27 27.4 +1.0**
BURAR Bucovina Array 78.23 317⇑*i*P **P** **01 27 28.6 +0.2**
LVV L'vov 78.23 319 *e*P **P** **01 27 28.0 -0.4**
MLR Muntele Rosu 78.45 314⇑*i*P **P** **01 27 30.1 +0.4**
MLR Muntele Rosu 78.45 314 P **P** **01 27 30.7 +1.0**
DAG Danmarks Havn 78.72 351⇑*i*P **P** **01 27 30.1 -0.6**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
DAG Danmarks Havn 78.72 351⇑*i*P **P** **01 27 30.1 -0.6**
comp=Z,4.5nm,0.8s,mb4.5
KWP Kalwaria 79.10 319 *e*P **P** **01 27 33.7 +0.5**
KWP Kalwaria 79.10 319⇑*i*P **P** **01 27 33.4 +0.2**
KWP Kalwaria 79.10 319⇑*e*P **P** **01 27 33.7 +0.5**
KOLS Kolonicke sedl 79.61 319 *e*P **P** **01 27 36.0 0.0**
KOLS *e*pP pP 01 27 42.9 -2.5
KOLS Kolonicke sedl 79.61 319 *e*P **P** **01 27 36.1 +0.1**
KOLS *e* pP 01 27 42.9 -2.5
UZH Uzhgorod 79.71 318⇑*i*P **P** **01 27 37.2 +0.6**
UZH *e* 01 27 43.8
STHS Stebnicka Huta 80.07 319 *e*P **P** **01 27 38.7 +0.2**
STHS pmax pmax
comp=Z,16nm,1.0s,mb4.9
STHS Stebnicka Huta 80.07 319 *e*P **P** **01 27 38.7 +0.2**
comp=Z,16nm,1.0s,mb4.9
DRGR 80.11 316⇑*i*P **P** **01 27 39.1 +0.3**

DRGR 80.11 316 P P 01 27 39.2 +0.4
CRVS Cervenica-Dubn 80.12 319 *e*P P 01 27 39.5 +0.7
CRVS Cervenica-Dubn 80.12 319 *e*P P 01 27 39.6 +0.8
NB2 NORSAR Subarra 80.41 332 P P 01 27 39.1 -1.0
comp=Z,8.6nm,0.6s,mb4.9,baz=59,slow=5.6
NOA NORSAR Array B 80.41 332 P P 01 27 39.3 -0.8
comp=Z,13nm,0.8s,mb4.9,baz=60,slow=5.3,SNR=20
NOA pP pP 01 27 49.3 -0.1
comp=Z,5.6nm,0.7s,baz=62,slow=5.4,SNR=6.6
NOA LR LR 02 07 17.8
comp=Z,111nm,19.2s,MS4.2,baz=50,slow=39
NOA NORSAR Array B 80.41 332 P P 01 27 39.3 -0.8
NOA *PP pP 01 27 49.3 -0.1
OJC Ojcow 80.63 320 *i* P P 01 27 41.7 +0.2
OJC *e*PcP PcP 01 27 48.2 0.0
NIE Niedzica 80.63 320 *e*P P 01 27 42.8 +1.3
NAO01 NORSAR Array S 80.64 332 *e*P P 01 27 40.8 -0.6
comp=Z,7.9nm,0.8s,mb4.7
KECS Kecovo 80.88 319 *i* P P 01 27 43.0 +0.1
KECS *e* 01 27 49.4
KECS pmax pmax
comp=Z,12nm,1.1s,mb4.7
KECS Kecovo 80.88 319 *i* P P 01 27 43.0 +0.1
comp=Z,12nm,1.1s,mb4.7
KECS *e* 01 27 49.4
BZS Buzias 81.25 316⇓*i*P P 01 27 44.8 -0.1
BZS Buzias 81.25 316 P P 01 27 44.7 -0.2
VTS Vitosha 81.31 312⇑*i*P P 01 27 46.1 +0.8
VTS Vitosha 81.31 312 ⇑P P 01 27 46.1 +0.8
PSZ Piszkesteto 81.46 318 *e*P P 01 27 46.3 +0.3
PSZ pmax pmax
comp=Z,19nm,1.0s,mb5.0
PSZ Piszkesteto 81.46 318⇑*e*P P 01 27 46.1 +0.1
PSZ Piszkesteto 81.46 318⇑*i*P P 01 27 46.2 +0.2
PSZ Piszkesteto 81.46 318 *e*P P 01 27 46.3 +0.4
comp=Z,19nm,1.0s,mb5.0
LIKS Likavka 81.50 319 *e*P P 01 27 47.0 +0.9
OKC Ostrava-Krasne 81.76 320⇑*i*P P 01 27 47.6 +0.1
OKC *e*pP pP 01 27 56.1 -0.7
OKC Ostrava-Krasne 81.76 320 *e*P P 01 27 47.9 +0.4
VYHS Vyhne 81.89 319 *e*P P 01 27 48.6 +0.4
VYHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VYHS Vyhne 81.89 319 *e*P P 01 27 48.6 +0.4
comp=Z,7.2nm,0.9s,mb4.6
KOLL Kolacno 82.12 319 *i* P P 01 27 49.8 +0.4
MORC Moravsky Berou 82.14 321⇑*i*P P 01 27 49.8 +0.3
MORC Moravsky Berou 82.14 321 *e*P P 01 27 49.8 +0.4
comp=Z,18nm,1.1s,mb4.9
MORC *e*pP pP 01 27 58.7 -0.1
BUD Budapest 82.18 318⇑*e*P P 01 27 50.2 +0.5
VAY Valandovo 82.23 311⇑*i*P P 01 27 49.2 -1.0
STIP Stip 82.36 312 *i* P P 01 27 49.9 -0.9
KSP Ksiaz 82.42 322 *e*P P 01 27 51.5 +0.6
KSP Ksiaz 82.42 322⇑*e*P P 01 27 51.3 +0.4
KSP *e*PcP PcP 01 27 55.8 -0.3
KSP *e*pP pP 01 27 59.4 -0.9
DPC Dobruska-Polom 82.61 321⇑*i*P P 01 27 52.6 +0.7
DPC *e*pP pP 01 28 00.6 -0.7
DPC AMS AMS 02 10 00.0
comp=Z,100nm,14.1s
DPC Dobruska-Polom 82.61 321 *e*P P 01 27 52.7 +0.8
DPC *e*pP pP 01 28 01.3 0.0
UPC Upice 82.72 322⇑*i*P P 01 27 53.0 +0.5
UPC Upice 82.72 322 *e*P P 01 27 53.2 +0.7
UPC *e*pP pP 01 28 05.2 +3.3
SKO Skopje 82.76 312 *i* P P 01 27 54.0 +1.0
MODS Modra-Piesok 82.88 319 *i* P P 01 27 53.9 +0.5
VRAC Vranov 82.90 320⇑*i*P P 01 27 54.1 +0.7
VRAC Vranov 82.90 320 P P 01 27 54.3 +0.9
PKSM Moragy 82.93 317⇑*i*P P 01 27 53.4 -0.3
PKSM Moragy 82.93 317 ⇑P P 01 27 53.4 -0.3
ZST Bratislava 83.06 319 *e*P P 01 27 54.6 +0.3
ZST pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
ZST Bratislava 83.06 319 *e*P P 01 27 54.6 +0.3
comp=Z,7.7nm,1.1s,mb4.7
RUE Ruedersdorf 83.10 324 *e*P P 01 27 54.9 +0.4
comp=Z,42nm,1.1s,mb5.4
RUE *e*pP pP 01 28 04.0 +0.2
KRUS Krusevo 83.13 312 *i* P P 01 27 54.8 0.0
PVCC Panska Ves 83.54 322⇑*e*P P 01 27 57.2 +0.4
PVCC *e*pP pP 01 28 05.9 -0.2
PVCC Panska Ves 83.54 322 *e*P P 01 27 57.6 +0.8
TREC Trest 83.56 321⇑*i*P P 01 27 57.2 +0.3
TREC *e*pP pP 01 28 05.9 -0.3
TREC AMS AMS 02 09 30.0
comp=Z,100nm,17.0s
BRG Berggiesshubel 83.74 323 *e*P P 01 27 58.0 +0.2
BRG pmax pmax
comp=Z,16nm,1.2s,mb5.0
BRG MLR MLR
comp=N,62nm,12.9s,MS4.4
BRG MLR MLR
comp=E,89nm,14.0s,MS4.4
BRG MLR MLR
comp=Z,125nm,13.4s,MS4.5
BRG Berggiesshubel 83.74 323 *e*P P 01 27 57.9 +0.1
comp=Z,27nm,1.2s,mb5.2
BRG Berggiesshubel 83.74 323 *e*P P 01 27 58.0 +0.2
comp=Z,27nm,1.2s,mb5.2
BRG
comp=N,104nm,12.9s
BRG
comp=E,149nm,14.0s
BRG
comp=Z,209nm,13.4s
PRU Pruhonice 83.80 322⇑*i*P P 01 27 58.4 +0.3
PRU *e*pP pP 01 28 07.1 -0.4
PRU AMS AMS 02 08 50.0
comp=Z,100nm,15.0s
PRU Pruhonice 83.80 322 *e*P P 01 27 58.8 +0.7
PRU *e*pP pP 01 28 07.2 -0.3
CONA Conrad Observa 83.93 319⇑*i*P P 01 27 59.3 +0.5
comp=Z,55nm,1.4s,mb5.5,SNR=22
CSNA Conrad Observa 83.93 319⇑*i*P P 01 27 59.4 +0.6
comp=Z,54nm,1.4s,mb5.5
FBE Freiberg 84.05 323 *e*P P 01 27 59.7 +0.3
comp=Z,47nm,1.1s,mb5.5
CLL Collm 84.07 323⇑*i*P P 01 27 59.3 -0.1
CLL *i* *PP pP 01 28 08.2 -0.6
CLL pmax pmax
comp=Z,14nm,1.0s,mb5.0
CLL Collm 84.07 323 *e*P P 01 27 59.4 0.0
comp=Z,33nm,1.0s,mb5.4
CLL *e*pP pP 01 28 08.6 -0.2
CLL Collm 84.07 323⇑*i*P P 01 27 59.3 -0.1
comp=Z,33nm,1.0s,mb5.4
CLL *e*PcP PcP 01 28 03.0 -0.3
CLL *i* pP pP 01 28 08.2 -0.6
comp=Z,28nm,1.1s
CLL *i* sPcP 01 28 14.1
CLL *e*S S 01 38 32.0 +10
CLL LmH 02 03 00.0
comp=N,300nm,19.5s
CLL LmH 02 03 00.0
comp=E,200nm,19.3s
CLL Collm 84.07 323⇑*i*P P 01 27 59.3 -0.1
comp=E,33nm,1.0s,mb5.4
CLL *i* pP pP 01 28 08.2 -0.6
CLL *e*S S 01 38 32.0 +10
BSEG Bad Segeberg 84.25 326 *e*P P 01 28 00.6 +0.3
BSEG pmax pmax
comp=Z,24nm,1.1s,mb5.2
BSEG Bad Segeberg 84.25 326 *e*P P 01 28 00.6 +0.3
comp=Z,24nm,1.1s,mb5.2
KHC Kasperske Hory 84.75 321⇑*i*P P 01 28 03.1 +0.2
KHC *e*pP pP 01 28 11.8 -0.5
KHC AMS AMS 02 11 10.0
comp=Z,200nm,13.8s
KHC Kasperske Hory 84.75 321 *e*P P 01 28 03.3 +0.4
KHC *e*pP pP 01 28 12.0 -0.3
GROS Grobnik 84.80 318 *i* P P 01 28 03.1 -0.1
GEC2 GERESS Array S 84.81 321 *e*P P 01 28 03.5 +0.3
GEC2 *e**PP pP 01 28 12.8 +0.2
GEC2 pmax pmax
comp=Z,30nm,1.0s,mb5.4
GEC2 GERESS Array S 84.81 321 *e*P P 01 28 03.5 +0.3
comp=Z,30nm,1.0s,mb5.4
GEC2 *e*pP pP 01 28 12.8 +0.2
GERES GERESS Array B 84.81 321 P P 01 28 03.8 +0.6
comp=Z,16nm,0.8s,mb5.2,baz=57,slow=4.9,SNR=108
GERES pP pP 01 28 12.7 +0.1
comp=Z,12nm,0.9s,baz=57,slow=4.9,SNR=14

SUMG Summit 84.86 354 *e*P P 01 28 03.0 0.0
comp=Z,6.9nm,0.7s,mb4.9
WERD Werda 84.86 323 *e*P P 01 28 03.8 +0.3
comp=Z,22nm,1.2s,mb5.2
NKC Novy Kostel 84.89 322⇑*i*P P 01 28 03.4 -0.2
NKC *e*pP pP 01 28 11.5 -1.5
NKC Novy Kostel 84.89 322 *e*P P 01 28 03.5 -0.1
GUNZ Gunzen 84.89 323 *e*P P 01 28 03.9 +0.3
comp=Z,28nm,1.0s,mb5.3
WERN Wernitzgruen 84.90 323 *e*P P 01 28 03.8 +0.1
comp=Z,23nm,1.0s,mb5.3
MOA Molln 84.93 320⇑*i*P P 01 28 04.2 +0.4
comp=Z,44nm,1.3s,mb5.4,SNR=17
PERS Pernice 84.95 318 *i* P P 01 28 04.0 0.0
PERS *i* pP pP 01 28 13.2 -0.2
SOKA Soboth 84.99 318⇑*i*P P 01 28 04.3 +0.1
YKA Yellowknife Ar 85.04 23 P P 01 28 04.2 +0.2
comp=Z,6.5nm,0.6s,mb4.9,baz=310,slow=4.9,SNR=17
YKA pP pP 01 28 13.2 -0.3
comp=Z,8.6nm,0.9s,baz=314,slow=4.8,SNR=6.4
YKA Yellowknife Ar 85.04 23⇑*e*P P 01 28 04.1 0.0
YKA Yellowknife Ar 85.04 23 P P 01 28 04.2 +0.1
YKA pP pP 01 28 13.2 -0.3
NRDL Niedersach Rie 85.08 325 *e*P P 01 28 05.0 +0.5
comp=Z,32nm,1.3s,mb5.3
WET Wettzell 85.15 321 *e*P P 01 28 05.5 +0.6
WET pmax pmax
comp=Z,30nm,1.5s,mb5.2
WET Wettzell 85.15 321 *e*P P 01 28 05.5 +0.6
comp=Z,30nm,1.5s,mb5.2
MOX Moxa 85.16 323 *e*P P 01 28 05.2 +0.3
comp=Z,31nm,1.6s,mb5.2
MOX *e* pP 01 28 13.9 -0.4
MOX
comp=Z,200nm,16.0s
MOX Moxa 85.16 323 *e*P P 01 28 05.2 +0.3
MOX *e* pP 01 28 13.9 -0.4
MOX pmax pmax
comp=Z,31nm,1.6s,mb5.2
MOX MLR MLR
comp=Z,200nm,16.0s,MS4.6
MOX Moxa 85.16 323 *e*P P 01 28 05.1 +0.2
comp=Z,23nm,1.2s,mb5.2
MOX *e*pP pP 01 28 14.3 0.0
MANZ Manzenberg 85.19 322 *e*P P 01 28 05.2 +0.1
comp=Z,14nm,1.1s,mb5.0
CLZ Clausthal 85.26 324 *e*P P 01 28 05.9 +0.5
CLZ pmax pmax
comp=Z,37nm,1.1s,mb5.4
CLZ Clausthal 85.26 324 *e*P P 01 28 05.9 +0.5
comp=Z,37nm,1.1s,mb5.4
OBKA Obir 85.36 318⇓*i*P P 01 28 06.0 0.0
comp=Z,26nm,1.6s,mb5.1
BOJS Bojanci 85.38 317 *i* P P 01 28 06.3 +0.2
BOJS *i* pP pP 01 28 15.1 -0.4
VISS Visnje 85.50 318 *i* P P 01 28 06.9 +0.2
LJU Ljubljana 85.59 318 *i* P P 01 28 07.2 0.0
LJU *i* pP pP 01 28 15.8 -0.8
CEY Cerknica 85.79 318 *i* P P 01 28 08.3 +0.2
KBA Koelnbreinsper 85.84 319⇑*i*P P 01 28 08.0 -0.4
comp=Z,7.5nm,1.1s,mb4.8,SNR=6.6
KBA Koelnbreinsper 85.84 319⇑*i*P P 01 28 08.0 -0.4
KBA pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
GRA1 Grafenberg Arr 85.84 322 *e*P P 01 28 09.1 +0.7
comp=Z,32nm,1.4s,mb5.4
GRA1 *e*pP pP 01 28 18.0 +0.2
GRF Grafenberg Arr 85.84 322 *e*P P 01 28 09.1 +0.7
GRF *e**PP pP 01 28 18.0 +0.2
GRF pmax pmax
comp=Z,32nm,1.4s,mb5.4
GRF Grafenberg Arr 85.84 322 *e*P P 01 28 09.1 +0.7
GRF *e**PP pP 01 28 18.0 +0.2
GRF pmax pmax
comp=Z,32nm,1.4s,mb5.4
GRF Grafenberg Arr 85.84 322 *e*P P 01 28 09.1 +0.7
comp=Z,32nm,1.4s,mb5.4
GRF *e*pP pP 01 28 18.0 +0.2
JAVS Javornik 85.94 318 *i* P P 01 28 08.7 -0.2
UBBA Unterbreizbach 85.97 324 *e*P P 01 28 09.3 +0.3
comp=Z,21nm,1.5s,mb5.2
PTCC Patocco-Chiusa 86.14 319 P P 01 28 09.7 -0.2
comp=Z,39nm,1.8s,mb5.3
IBBN Ibbenburen 86.41 326 *e*P P 01 28 11.5 +0.4
comp=Z,39nm,1.1s,mb5.5
ABTA Abfaltersbach 86.50 319⇓*i*P P 01 28 10.6 -1.1
comp=Z,22nm,1.5s,mb5.2,SNR=8.6
FUR Furstenfeldbru 86.55 321 *e*P P 01 28 12.6 +0.7
FUR pmax pmax
comp=Z,37nm,1.5s,mb5.4
FUR Furstenfeldbru 86.55 321 *e*P P 01 28 12.6 +0.7
comp=Z,37nm,1.5s,mb5.4
WTTA Wattenberg 86.78 320⇑*i*P P 01 28 12.6 -0.4
comp=Z,29nm,1.7s,mb5.2
WTTA Wattenberg 86.78 320⇑*i*P P 01 28 12.6 -0.4
WTTA pmax pmax
comp=Z,29nm,1.7s,mb5.2
RGNG Rignano Grg 86.86 314 P P 01 28 13.4 -0.2
TNS Taunus Mts 87.12 324 *e*P P 01 28 14.9 +0.2
TNS pmax pmax
comp=Z,20nm,1.7s,mb5.1
TNS Taunus Mts 87.12 324 *e*P P 01 28 14.9 +0.2
comp=Z,20nm,1.7s,mb5.1
TIP Timpagrande 87.16 311 *e*P P 01 28 15.6 +0.5
comp=Z,21nm,1.4s,mb5.2
FETA Feichten 87.43 320⇑*i*P P 01 28 15.9 -0.3
comp=Z,26nm,2.2s,mb5.1
GRI Girifalco 87.55 311 P P 01 28 18.0 +1.0
GRI pmax pmax
comp=Z,11nm,0.8s,mb5.1
GRI Girifalco 87.55 311 P P 01 28 18.0 +1.0
comp=Z,11nm,0.8s,mb5.2
TERO Teramo 87.75 315 P P 01 28 18.2 +0.4
SNTG Esanatoglia 87.88 316 P P 01 28 19.8 +1.4
comp=Z,42nm,1.1s,mb5.6
BRMO Bormio 87.92 320 P P 01 28 19.9 +1.4
NRCA Norcia 87.97 316 P P 01 28 19.8 +0.9
comp=Z,31nm,1.4s,mb5.3
AQU L'Aquila 88.00 315 P P 01 28 20.1 +1.1
SOI Samo 88.14 310 P P 01 28 20.5 +0.7
SOI pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
SOI Samo 88.14 310 P P 01 28 20.5 +0.7
comp=Z,6.8nm,0.6s,mb5.0
PTQR Pietraquaria 88.16 315 P P 01 28 20.4 +0.6
comp=Z,20nm,0.9s,mb5.3
CEL Celeste 88.17 311 *e*P P 01 28 20.1 +0.1
comp=Z,44nm,1.1s,mb5.6
CASY Casey 88.22 184 *e*P P 01 28 18.8 -0.5
SFI Santa Sofia 88.27 317 P P 01 28 22.0 +1.7
SFI pmax pmax
comp=Z,18nm,1.0s,mb5.3
SFI Santa Sofia 88.27 317 P P 01 28 22.0 +1.7
comp=Z,18nm,1.0s,mb5.2
MTTG Motta San Giov 88.43 310 P P 01 28 22.0 +0.8
VMG Vicchio 88.43 317 P P 01 28 23.2 +2.2
comp=Z,35nm,1.0s,mb5.5
SEI Scarperia 88.50 317 P P 01 28 23.5 +2.1
comp=Z,62nm,0.7s,mb6.0
TUE Stuetta 88.53 320 *e*P P 01 28 21.7 +0.3
comp=Z,7.9nm,0.8s,mb5.1
FNVD Fontana Vidola 88.60 318 P P 01 28 23.4 +1.6
WLF Walferdange 88.68 324 P P 01 28 22.9 +0.8
comp=Z,13nm,1.2s,mb5.1
WLF Walferdange 88.68 324 *e*P P 01 28 22.8 +0.7
WLF *e**PP pP 01 28 31.5 0.0
WLF pmax pmax
comp=Z,31nm,1.1s,mb5.5
WLF Walferdange 88.68 324 *e*P P 01 28 22.8 +0.7
comp=Z,34nm,1.2s,mb5.5
WLF *e*pP pP 01 28 31.8 +0.3
WLF Walferdange 88.68 324 *e*P P 01 28 22.8 +0.7
comp=Z,31nm,1.1s,mb5.5
WLF *e*pP pP 01 28 31.5 0.0
BCLA Clavier 88.72 325 P P 01 28 22.4 +0.1
CDF Champ du Feu 88.72 323 *e*P P 01 28 21.8 -0.5
comp=Z,30nm,1.2s,mb5.2
CDF Champ du Feu 88.72 323 *e*P P 01 28 21.8 -0.5
CDF pmax pmax
comp=Z,15nm,1.2s,mb5.2
CDF Champ du Feu 88.72 323 *e*P P 01 28 21.8 -0.5
comp=Z,15nm,1.2s,mb5.2
SLNA Salina 88.78 311 P P 01 28 22.5 -0.3
comp=Z,19nm,0.6s,mb5.6
GSCL Gusciola 88.84 318 P P 01 28 24.2 +1.2
comp=Z,15nm,0.8s,mb5.4

GIVF Givet 89.16 325 *e*P P 01 28 23.9 -0.4
DOU Dourbes 89.28 325 P P 01 28 25.4 +0.5
comp=Z,8.3nm,2.0s,mb4.7
HINF Hinteralfeld 89.28 322⇑*i*P P 01 28 24.0 -1.0
comp=Z,15nm,1.1s,mb4.9
HINF Hinteralfeld 89.28 322⇑*i*P P 01 28 24.0 -1.0
HINF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
HINF Hinteralfeld 89.28 322⇑*i*P P 01 28 24.0 -1.0
comp=Z,7.5nm,1.1s,mb4.9
HAU Haudompre 89.47 323⇑*i*P P 01 28 24.9 -0.9
comp=Z,17nm,1.0s,mb5.0
HAU *e*MLR MLR
comp=Z,169nm,19.0s,MS4.2
HAU Haudompre 89.47 323⇑*i*P P 01 28 24.9 -0.9
HAU pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,170nm,19.0s,MS4.5
HAU Haudompre 89.47 323⇑*i*P P 01 28 24.9 -0.9
comp=Z,8.4nm,1.0s,mb5.0
HAU LR LR
comp=Z,170nm,19.0s,MS4.5
BAIF Baives 89.51 325 *e*P P 01 28 25.4 -0.6
comp=Z,26nm,1.4s,mb5.1
BAIF Baives 89.51 325 *e*P P 01 28 25.4 -0.6
BAIF pmax pmax
comp=Z,13nm,1.4s,mb5.1
BAIF Baives 89.51 325 *e*P P 01 28 25.4 -0.6
comp=Z,13nm,1.4s,mb5.1
MEZF Maizieres J'vi 89.92 323 *e*P P 01 28 27.6 -0.3
comp=Z,77nm,1.4s,mb5.5
MEZF Maizieres J'vi 89.92 323 *e*P P 01 28 27.6 -0.3
comp=Z,77nm,1.4s,mb5.8
CABF La Chapelle 90.37 321 *e*P P 01 28 29.6 -0.5
comp=Z,16nm,1.1s,mb5.0
CABF La Chapelle 90.37 321 *e*P P 01 28 29.6 -0.5
CABF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
CABF La Chapelle 90.37 321 *e*P P 01 28 29.6 -0.5
comp=Z,8.3nm,1.1s,mb5.0
FIN Finale Ligure 90.39 319 P P 01 28 30.0 -0.2
LPG La Plagne 90.58 320 *e*P P 01 28 31.3 +0.2
comp=Z,26nm,1.1s,mb5.2
LPG La Plagne 90.58 320 *e*P P 01 28 31.3 +0.2
LPG pmax pmax
comp=Z,13nm,1.1s,mb5.2
LPG La Plagne 90.58 320 *e*P P 01 28 31.3 +0.2
comp=Z,13nm,1.1s,mb5.2
LPL La Plagne 90.58 320 *e*P P 01 28 31.1 0.0
comp=Z,30nm,1.1s,mb5.2
LPL La Plagne 90.58 320 *e*P P 01 28 31.1 0.0
LPL pmax pmax
comp=Z,15nm,1.1s,mb5.2
LPL La Plagne 90.58 320 *e*P P 01 28 31.1 0.0
comp=Z,15nm,1.1s,mb5.2
PGF Pioggiola 90.75 317⇑*i*P P 01 28 32.0 +0.1
comp=Z,82nm,0.9s,mb5.8
PGF Pioggiola 90.75 317⇑*i*P P 01 28 32.0 +0.1
PGF pmax pmax
comp=Z,41nm,0.9s,mb5.8
PGF Pioggiola 90.75 317⇑*i*P P 01 28 32.0 +0.1
comp=Z,41nm,0.9s,mb5.8
BNI Bardonecchia 90.87 320 *e*P P 01 28 33.1 +0.7
BNI pmax pmax
comp=Z,16nm,1.1s,mb5.3
BNI Bardonecchia 90.87 320 *e*P P 01 28 33.1 +0.7
comp=Z,16nm,1.1s,mb5.3
MBDF Montbardon 90.98 320 *e*P P 01 28 32.1 -0.9
comp=Z,16nm,1.1s,mb5.0
MBDF Montbardon 90.98 320 *e*P P 01 28 32.1 -0.9
MBDF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
MBDF Montbardon 90.98 320 *e*P P 01 28 32.1 -0.9
comp=Z,7.9nm,1.1s,mb5.0
SBF Sospel 91.04 319 *e*P P 01 28 32.6 -0.7
comp=Z,43nm,1.0s,mb5.4
SBF Sospel 91.04 319 *e*P P 01 28 32.6 -0.7
SBF pmax pmax
comp=Z,22nm,1.0s,mb5.4
SBF Sospel 91.04 319 *e*P P 01 28 32.6 -0.7
comp=Z,22nm,1.0s,mb5.4
LON Longmire 91.09 38 *e*P pP 01 28 44.2 +1.3
LON Longmire 91.09 38 *e*pP pP 01 28 44.2 +1.3
LOR Lormes 91.28 323⇑*i*P P 01 28 33.5 -0.8
comp=Z,32nm,1.2s,mb5.2
LOR *e*MLR MLR
comp=Z,140nm,21.0s,MS4.1
LOR Lormes 91.28 323⇑*i*P P 01 28 33.5 -0.8
LOR pmax pmax
comp=Z,16nm,1.2s,mb5.2
LOR MLR MLR
comp=Z,140nm,21.0s,MS4.4
LOR Lormes 91.28 323⇑*i*P P 01 28 33.5 -0.8
comp=Z,16nm,1.2s,mb5.2
LOR LR LR
comp=Z,140nm,21.0s,MS4.4
ORIF Oris-en-Rattie 91.42 320 *e*P P 01 28 34.7 -0.3
comp=Z,23nm,1.1s,mb5.1
ORIF *e*MLR MLR
comp=Z,171nm,20.2s,MS4.2
ORIF Oris-en-Rattie 91.42 320 *e*P P 01 28 34.7 -0.3
ORIF pmax pmax
comp=Z,11nm,1.1s,mb5.1
ORIF Oris-en-Rattie 91.42 320 *e*P P 01 28 34.7 -0.3
comp=Z,11nm,1.1s,mb5.1
ETW Entiat 91.44 37 *e*P P 01 28 35.8 +0.8
SSF Saint Saulge 91.59 323 *e*P P 01 28 35.1 -0.6
comp=Z,25nm,1.2s,mb5.1
SSF Saint Saulge 91.59 323 *e*P P 01 28 35.1 -0.6
SSF pmax pmax
comp=Z,12nm,1.2s,mb5.1
SSF Saint Saulge 91.59 323 *e*P P 01 28 35.1 -0.6
comp=Z,12nm,1.2s,mb5.1
SMF Signal de Mont 91.64 322 *e*P P 01 28 35.3 -0.7
comp=Z,60nm,1.2s,mb5.5
SMF Signal de Mont 91.64 322 *e*P P 01 28 35.3 -0.7
SMF pmax pmax
comp=Z,30nm,1.2s,mb5.5
SMF Signal de Mont 91.64 322 *e*P P 01 28 35.3 -0.7
comp=Z,30nm,1.2s,mb5.5
FRF La Foret Royal 91.69 319 *e*P P 01 28 35.7 -0.5
comp=Z,29nm,1.2s,mb5.2
FRF La Foret Royal 91.69 319 *e*P P 01 28 35.7 -0.5
FRF pmax pmax
comp=Z,15nm,1.2s,mb5.2
FRF La Foret Royal 91.69 319 *e*P P 01 28 35.7 -0.5
comp=Z,14nm,1.2s,mb5.2
AVF Avril sur Loir 91.83 323⇑*i*P P 01 28 36.2 -0.7
comp=Z,32nm,1.1s,mb5.3
AVF Avril sur Loir 91.83 323⇑*i*P P 01 28 36.2 -0.7
AVF pmax pmax
comp=Z,16nm,1.1s,mb5.3
AVF Avril sur Loir 91.83 323⇑*i*P P 01 28 36.2 -0.7
comp=Z,16nm,1.1s,mb5.3
LMR La Mourre 91.89 319 *e*P P 01 28 36.8 -0.4
comp=Z,37nm,1.3s,mb5.3
LMR La Mourre 91.89 319 *e*P P 01 28 36.8 -0.4
LMR pmax pmax
comp=Z,19nm,1.3s,mb5.3
LMR La Mourre 91.89 319 *e*P P 01 28 36.8 -0.4
comp=Z,19nm,1.3s,mb5.3
VSL Villasalto 92.06 314 *e*P P 01 28 38.3 +0.3
comp=Z,20nm,1.0s,mb5.4
VSL *e*pP pP 01 28 47.2 -0.3
VIVF Saint-Julien-l 92.17 321 *e*P P 01 28 37.9 -0.5
comp=Z,16nm,1.1s,mb5.0
VIVF Saint-Julien-l 92.17 321 *e*P P 01 28 37.9 -0.5
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
VIVF Saint-Julien-l 92.17 321 *e*P P 01 28 37.9 -0.5
comp=Z,8.1nm,1.0s,mb5.0
BGF Bois d'Agland 92.25 323 *e*P P 01 28 38.0 -0.8
comp=Z,46nm,1.4s,mb5.3
BGF Bois d'Agland 92.25 323 *e*P P 01 28 38.0 -0.8
BGF pmax pmax
comp=Z,23nm,1.4s,mb5.3
BGF Bois d'Agland 92.25 323 *e*P P 01 28 38.0 -0.8
comp=Z,23nm,1.4s,mb5.3
FLN La Foliniere 92.75 326 *e*P P 01 28 39.9 -1.1
comp=Z,18nm,0.9s,mb5.2
FLN *e*MLR MLR
comp=Z,189nm,17.8s,MS4.3
FLN La Foliniere 92.75 326 *e*P P 01 28 39.9 -1.1
FLN pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
FLN MLR MLR

comp=Z,190nm,17.8s,MS4.6
FLN La Foliniere 92.77 326 *e*P **P 01 28 39.9 -1.1**
comp=Z,9.0nm,0.9s,mb5.2
FLN LR LR
comp=Z,190nm,17.8s,MS4.6
TCF Toulx Ste Croi 92.77 323 *e*P **P 01 28 40.9 -0.3**
comp=Z,20nm,1.0s,mb5.2
TCF Toulx Ste Croi 92.77 323 *e*P **P 01 28 40.9 -0.3**
TCF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
TCF Toulx Ste Croi 92.77 323 *e*P **P 01 28 40.9 -0.3**
comp=Z,10nm,1.0s,mb5.2
NEW Newport 92.79 35 *e*P **P 01 28 41.8 +0.5**
NEW pmax pmax
comp=Z,6.0nm,1.2s
NEW Newport 92.79 35 *e*P **P 01 28 41.8 +0.6**
comp=Z,5.6nm,1.2s,mb4.9
GRR Gorron 93.17 326 *e*P **P 01 28 41.9 -1.1**
comp=Z,93nm,1.5s,mb5.7
GRR Gorron 93.17 326 *e*P **P 01 28 41.9 -1.1**
GRR pmax pmax
comp=Z,47nm,1.5s,mb5.7
GRR Gorron 93.17 326 *e*P **P 01 28 41.9 -1.1**
comp=Z,46nm,1.5s,mb5.7
CAF Calviac 93.65 322 *e*P **P 01 28 45.2 -0.1**
comp=Z,57nm,1.7s,mb5.4
CAF Calviac 93.65 322 *e*P **P 01 28 45.2 -0.1**
CAF pmax pmax
comp=Z,29nm,1.7s,mb5.4
CAF Calviac 93.65 322 *e*P **P 01 28 45.2 -0.1**
comp=Z,29nm,1.7s,mb5.4
RJF Les Rejaudoux 93.74 322 *e*P **P 01 28 45.8 +0.1**
comp=Z,30nm,1.0s,mb5.4
RJF *e*MLR MLR
comp=Z,106nm,20.5s,MS4.0
RJF Les Rejaudoux 93.74 322 *e*P **P 01 28 45.8 +0.1**
RJF pmax pmax
comp=Z,15nm,1.0s,mb5.4
RJF MLR MLR
comp=Z,110nm,20.5s,MS4.3
RJF Les Rejaudoux 93.74 322 *e*P **P 01 28 45.8 +0.1**
comp=Z,15nm,1.0s,mb5.4
RJF LR LR
comp=Z,110nm,20.5s,MS4.3
MFF Saint Martin d 93.89 324 *e*P **P 01 28 45.7 -0.6**
comp=Z,36nm,1.3s,mb5.3
MFF Saint Martin d 93.89 324 *e*P **P 01 28 45.7 -0.6**
MFF pmax pmax
comp=Z,18nm,1.3s,mb5.3
MFF Saint Martin d 93.89 324 *e*P **P 01 28 45.7 -0.6**
comp=Z,18nm,1.3s,mb5.3
WALA Waterton Lakes 93.96 33 *e*pP pP 01 28 55.7 -0.3
KEST Kesra 93.98 311 P **P 01 28 47.1 +0.1**
comp=Z,3.1nm,1.0s,mb4.7,baz=314,slow=3.5,SNR=9.4
LFF La Frestale 94.40 322 *e*P **P 01 28 48.8 +0.1**
comp=Z,25nm,1.1s,mb5.2
LFF La Frestale 94.40 322 *e*P **P 01 28 48.8 +0.1**
LFF pmax pmax
comp=Z,12nm,1.1s,mb5.2
LFF La Frestale 94.40 322 *e*P **P 01 28 48.8 +0.1**
comp=Z,12nm,1.1s,mb5.2
MTLF Montolieu 94.48 320 *e*P **P 01 28 48.6 -0.5**
comp=Z,23nm,1.5s,mb5.1
MTLF Montolieu 94.48 320 *e*P **P 01 28 48.6 -0.5**
MTLF pmax pmax
comp=Z,11nm,1.5s,mb5.1
MTLF Montolieu 94.48 320 *e*P **P 01 28 48.6 -0.5**
comp=Z,11nm,1.5s,mb5.1
FFC Flin Flon 95.18 24 *e*P **P 01 28 52.0 -0.1**
FFC pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
FFC Flin Flon 95.18 24 *e*P **P 01 28 52.0 -0.1**
comp=Z,2.8nm,0.6s,mb4.9
PPT Papeete 95.46 107 LR LR 02 04 31.4
comp=Z,180nm,20.2s,MS4.5,baz=290,slow=31
SJPF Ste Jean 96.63 322 *e*P **P 01 28 57.1 -1.9**
CMB Columbia Colle 96.86 45 *e*P **P 01 28 59.5 -0.6**
CMB *e*?PP pP 01 29 09.9 +0.3
CMB pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
CMB Columbia Colle 96.86 45 *e*P **P 01 28 59.5 -0.6**
comp=Z,5.1nm,1.0s,mb4.9
CMB *e*pP pP 01 29 09.9 +0.3
NVAR Mina Array Bea 97.98 43 P **P 01 29 03.8 -1.3**
comp=Z,0.2nm,0.3s,mb4.1,baz=313,slow=3.7,SNR=3.3
NVAR pP pP 01 29 16.1 +1.4
comp=Z,1.3nm,0.8s,baz=274,slow=4.0,SNR=4.7
LSZ Lusaka 98.50 257 *e*P **P 01 29 06.8 -1.0**
LSZ pmax pmax
comp=Z,3.0nm,0.6s,mb5.0
LSZ Lusaka 98.50 257 *e*P **P 01 29 06.8 -1.0**
comp=Z,2.8nm,0.6s,mb5.0
TORD Torodi Ar. Bea 111.44 295 PKiKP PKiKP 01 34 01.7 -2.0
comp=Z,0.9nm,0.7s,baz=39,slow=2.5,SNR=8.0
TXAR Lajitas Array 113.10 42 PKiKP PKiKP 01 34 08.6 +2.0
comp=Z,0.5nm,0.5s,baz=322,slow=2.0,SNR=7.4
TXAR Lajitas Array 113.10 42 PKPdf PKiKP 01 34 08.6 +2.0
DBIC Dimbokro 120.25 292 PKP PKPdf 01 34 19.9 -0.8
comp=Z,3.8nm,0.7s,baz=38,slow=4.2,SNR=11
DBIC Dimbokro 120.25 292 *e*PKPdf PKPdf 01 34 19.9 -0.9
KIC Kosan Boka 120.30 292 *e*PKP2 PKPdf 01 34 19.5 -1.3
comp=Z,32nm,0.7s
TIC Toumodi 120.40 292 *e*PKP2 PKPdf 01 34 18.7 -2.3
comp=Z,79nm,1.3s
LIC Lamto 120.62 292 *e*PKP2 PKPdf 01 34 20.3 -1.1
comp=Z,28nm,0.8s
LIC Lamto 120.62 292⇑ *i*PKIKP PKPdf 01 34 20.1 -1.3
comp=Z,18nm,0.8s
LIC *e*MLR MLR
comp=Z,103nm,21.0s,MS4.1
LIC Lamto 120.62 292⇑ *i*PKPdf PKPdf 01 34 20.1 -1.3
LIC LR LR
comp=Z,50nm,21.0s,MS4.1
GRGR Grenville 146.11 5 *e*PKPdf PKPdf 01 35 08.3 -0.5
SDV Santo Domingo 147.25 22 *e*PKPbc PKPbc 01 35 12.8 -0.2
ROSC El Rosal 149.31 32 PKPbc PKPbc 01 35 18.3 -0.2
comp=Z,8.4nm,0.7s,baz=86,slow=18,SNR=7.8
ROSC El Rosal 149.31 32 *e*PKPbc PKPbc 01 35 19.2 +0.8
OTAV Otavalo 150.71 44 *e*PKPdf PKPdf 01 35 16.8 +0.4
OTAV *e*PKPbc PKPbc 01 35 23.5 +1.7
PLCA Paso Flores 158.59 154 PKP PKPdf 01 35 26.4 0.0
comp=Z,1.7nm,1.0s,baz=251,slow=18,SNR=1.9
BDFB Brasilia 168.27 300 PKP PKPdf 01 35 34.6 -1.5
comp=Z,0.9nm,0.7s,baz=65,slow=21,SNR=3.4
LPAZ La Paz 169.40 60 PKP PKPdf 01 35 37.5 +0.6
comp=Z,1.7nm,0.9s,baz=343,slow=6.6,SNR=5.0
LPAZ La Paz 169.40 60 *e*PKPdf PKPdf 01 35 37.4 +0.6
LPAZ *e*PKPab PKPab 01 36 49.5 -0.2

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*NEIC **29** 01:18:19.7, 3451N×3367E, h6km, ML3.1(NIC), After NIC.*
*NIC **29** 01:18:19.7±0.4, 3451N×3367E, h6km, ML3.1, MW3.0*
*ISK **29** 01:18:19.4, 3442N×3348E, h11km, MD3.3*
*CSEM **29** 01:18:21.0±0.3, 3446N×3347E, h15km, Mw3.0, Error ellipse: s-maj=5.6km s-min=3.4km az=172.0*
ISC 29 01:18:19.2±1.5, 3436N±007×3356E±005, h8km±5km, n20, σ1§00/29, Cypruss region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSS	**Prodhromos**	**0.63**	**342**	P	**Pg**	**01 18 29.8**	**-1.5**
CSS	4.7nm,0.3s			S	**Sg**	**01 18 38.9**	**-0.6**
CSS	**Prodhromos**	**0.63**	**342**	*e*Pg	**Pg**	**01 18 29.8**	**-1.5**
CSS				*e*Sg	**Sg**	**01 18 38.8**	**-0.7**
SZAC	**Souni-Zanaja**	**0.69**	**305**	P	**Pg**	**01 18 34.0**	**+1.6**
SZAC	22nm,0.2s			S	**Sg**	**01 18 43.5**	**+2.2**
PHNC	**Paralimni**	**0.75**	**31**	P	**Pg**	**01 18 30.9**	**-2.7**
PHNC	4.7nm,0.5s			S	**Sg**	**01 18 44.4**	**+1.1**
MAMC	**Mammari**	**0.86**	**341**	P	**Pg**	**01 18 35.7**	**+0.1**
LFK	**Lefkose**	**0.92**	**358**	*e*PG	**Pg**	**01 18 37.0**	**+0.2**
LEF	**Lefka**	**0.94**	**324**	*e*PG	**Pg**	**01 18 36.8**	**-0.4**
LEF				*e*SG	**Sg**	**01 18 48.7**	**-0.7**
ALFC	**Alevga**	**1.12**	**315**	P	**Pg**	**01 18 40.5**	**-0.2**
ALFC	12nm,0.2s			S	**Sg**	**01 18 54.9**	**-0.4**
PPCY	**Paphos**	**1.13**	**298**	P	**Pg**	**01 18 41.5**	**+0.6**
AKMC	**Akamas**	**1.21**	**303**	P	**Pb**	**01 18 42.2**	**-0.2**
EREN	**Erenkoy**	**1.27**	**23**	*e*PN	**Pn**	**01 18 43.1**	**-0.1**
IKL	**Isikli**	**1.88**	**3**	*e*PN	**Pn**	**01 18 51.2**	**-0.3**
MEST	**Erdemli**	**2.27**	**12**	*e*P	**Pn**	**01 18 58.0**	**+1.1**
MEST	**Erdemli**	**2.27**	**12**	*e*P	**Pn**	**01 18 58.0**	**+1.0**
MEST				*e*S	**Sn**	**01 19 25.1**	**0.0**
ERMK	**Ermenek**	**2.34**	**347**	*e*P	**Pn**	**01 18 59.1**	**+1.2**
ERMK	**Ermenek**	**2.34**	**347**	*e*P	**Pn**	**01 18 59.1**	**+1.2**
ERMK				*i* S	**Sn**	**01 19 27.4**	**+0.7**
HDMB	**Hadim**	**2.74**	**342**	*e*PN	**Pn**	**01 19 03.8**	**+0.4**
AKAS	**Kas**	**3.74**	**301**	*e*P	**Pn**	**01 19 13.6**	**-3.5**
AKAS	**Kas**	**3.74**	**301**	*e*P	**Pn**	**01 19 13.6**	**-3.5**
AKAS				*e*S	**Sn**	**01 20 00.6**	**-0.7**
AYDN	**Tasoluk**	**5.66**	**307**	*e*P	**Pn**	**01 19 42.5**	**-1.1**

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*CSEM **29** 01:23:23.3±0.2, 3688N×2685E, h15km, MD3.1, Error ellipse: s-maj=7.3km s-min=2.9km az=19.0*
*ISK **29** 01:23:27.5, 3682N×2716E, h22km, MD3.2*
*DDA **29** 01:23:30.3, 3686N×2764E, h7km±8km, Md3.1*
ISC 29 01:23:27.0±1.8, 3675N±006×2712E±010, h15km±8km, n11, σ0§49/18, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.35**	**26**	*e*PG	**Pg**	**01 23 34.2**	**+0.1**
BODT				*e*SG	**Sg**	**01 23 38.8**	**0.0**
BDRM	**Kayabasi**	**0.41**	**39**	*i* P	**Pg**	**01 23 34.3**	**-0.9**
BDRM				*i* S	**Sg**	**01 23 40.4**	**-0.4**
MLSB	**Milas**	**0.76**	**44**	*e*PG	**Pg**	**01 23 41.7**	**0.0**
MLSB				*e*SG	**Sg**	**01 23 52.0**	**+0.3**
GCAM	**G?zelcaml?**	**0.95**	**5**	*i* P	**Pg**	**01 23 45.4**	**0.0**
GCAM				*i* S	**Sg**	**01 23 59.1**	**+1.2**
YER	**Yerkesik**	**1.01**	**67**	*e*PG	**Pg**	**01 23 45.8**	**-0.6**
AYDN	**Tasoluk**	**1.09**	**33**	*i* P	**Pb**	**01 23 47.2**	**-0.4**
AYDN				*i* S	**Sb**	**01 24 01.5**	**-0.2**
TURN	**Turunc**	**1.20**	**84**	*i* P	**Pn**	**01 23 42.6**	**-6.6**
TURN				*i* S	**Sb**	**01 23 56.0**	**-8.6**
DALT	**Dalyan (Mudla)**	**1.22**	**89**	*e*PN	**Pn**	**01 23 49.4**	**-0.1**
BLCB	**Balcova**	**1.63**	**358**	*e*PN	**Pn**	**01 23 55.0**	**-0.3**
IZM	**Izmir**	**1.65**	**4**	*e*PN	**Pn**	**01 23 55.2**	**-0.2**
AKAS	**Kas**	**2.07**	**104**	*e*P	**Pn**	**01 24 02.1**	**+1.0**
AKAS				*e*S	**Sg**	**01 24 33.7**	**+0.3**

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*ISCJB **29** 01:24:44.5±0.4, 4052N±002×2346E±004, h10km±4km, Error ellipse: s-maj=5.0km s-min=3.3km az=152.7*
*NEIC **29** 01:24:44.7, 4049N×2351E, h18km, MD3.2(ATH), After ATH.*
*ATH **29** 01:24:44.7, 4049N×2351E, h18km±1km, MD3.2/4*
*THE **29** 01:24:45.3, 4052N×2345E, h1km, ML2.9*
*CSEM **29** 01:24:45.3±0.1, 4052N×2347E, h6km, MD3.2, Error ellipse: s-maj=1.8km s-min=1.4km az=56.0*
ISC 29 01:24:45.0±0.4, 4053N±002×2347E±004, h10km±4km, n24, σ0§72/39, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLG	**Polygyros**	**0.16**	**188**	*e*Pg	**Pg**	**01 24 48.3**	**-0.2**
PLG				*e*Sg	**Sg**	**01 24 50.2**	**-0.7**
PLG	**Polygyros**	**0.16**	**188**	*e*PB	**Pg**	**01 24 48.3**	**-0.2**
PLG				*e*SB	**Sg**	**01 24 50.5**	**-0.4**
HORT	**Hortiatis**	**0.29**	**283**	*e*Pg	**Pg**	**01 24 50.8**	**0.0**
HORT				*e*Sg	**Sg**	**01 24 54.4**	**-0.4**
SOH	**Sokhos**	**0.30**	**343**	*e*Pg	**Pg**	**01 24 51.4**	**+0.3**
SOH				*e*Sg	**Sg**	**01 24 55.7**	**+0.6**
SOH	**Sokhos**	**0.30**	**343**	*e*Pg	**Pg**	**01 24 51.3**	**+0.3**
SOH				*e*Sg	**Sg**	**01 24 55.7**	**+0.6**
THE	**Thessaloniki**	**0.40**	**284**	*e*Pg	**Pg**	**01 24 52.4**	**-0.4**
THE				*e*Sg	**Sg**	**01 24 57.6**	**-0.5**
OUR	**Ouranopolis**	**0.44**	**117**	*e*Pg	**Pg**	**01 24 53.6**	**+0.1**
OUR				*e*Sg	**Sg**	**01 25 00.2**	**+1.0**
PAIG	**Paliouri**	**0.63**	**165**	*e*Pg	**Pg**	**01 24 56.3**	**-0.8**
PAIG				*e*Sg	**Sg**	**01 25 05.3**	**0.0**
KNT	**Kendrikon**	**0.76**	**325**	*e*Pg	**Pg**	**01 24 59.5**	**-0.3**
KNT				*e*Sg	**Sg**	**01 25 10.5**	**+0.8**
LIT	**Litokhoron**	**0.87**	**240**	*e*Pg	**Pg**	**01 25 01.6**	**0.0**
LIT				*e*Sg	**Sg**	**01 25 13.4**	**+0.4**
LIT	**Litokhoron**	**0.87**	**240**	*e*Pg	**Pg**	**01 25 01.6**	**-0.1**
LIT				*e*Sg	**Sg**	**01 25 13.4**	**+0.5**
NVR	**Nevrokopi**	**0.87**	**20**	*e*PN	**Pn**	**01 25 01.6**	**-1.6**
NVR				*e*SN	**Sn**	**01 25 14.5**	**-1.4**
GRG	**Griva**	**0.92**	**298**	*e*Pg	**Pg**	**01 25 02.8**	**+0.2**
VAY	**Valandovo**	**1.04**	**319**	*e*Pg	**Pg**	**01 25 04.4**	**-0.6**
VAY				*e*Sg	**Sg**	**01 25 19.9**	**+1.3**
VAY	**Valandovo**	**1.04**	**319**	*i* Pg	**Pg**	**01 25 04.4**	**-0.6**
VAY				*e*Sg	**Sg**	**01 25 19.3**	**+0.7**
VAY	**Valandovo**	**1.04**	**319**	*i* Pg	**Pg**	**01 25 04.3**	**-0.7**
VAY				*e*Sg	**Sg**	**01 25 19.9**	**+1.3**
NEO	**Neokhori**	**1.24**	**189**	*e*PN	**Pn**	**01 25 08.2**	**-0.1**
KZN	**Kozani**	**1.32**	**261**	*e*PN	**Pn**	**01 25 10.5**	**+1.1**
THL	**Klokotos Trika**	**1.48**	**230**	*e*PN	**Pn**	**01 25 12.2**	**+0.6**
FNA	**Florina**	**1.61**	**280**	*e*Pg	**Pg**	**01 25 14.5**	**-1.4**
RDO	**Rodhopi**	**1.68**	**68**	*e*PN	**Pn**	**01 25 15.3**	**+0.9**
KRUS	**Krusevo**	**1.88**	**297**	*e*Pg	**Pb**	**01 25 19.7**	**+0.3**
KRUS	**Krusevo**	**1.88**	**297**	*e*Pg	**Pb**	**01 25 19.6**	**+0.2**
EVR	**Evrytania**	**2.06**	**219**	*e*PN	**Pn**	**01 25 20.3**	**+0.7**

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*CSEM **29** 01:29:25.8±0.8, 3736N×2468W, h10km, ML3.3, Error ellipse: s-maj=6.0km s-min=2.6km az=79.0, After PDA*
PDA 29 01:29:25.8±0.8, 3736N×2468W, h10km, MD3.7, ML3.3, Error ellipse: s-maj=6.0km s-min=2.6km az=79.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.47**	**221**	*e*P	Pg	01 29 33.8	-1.2
PSMN				*e*S	Sg	01 29 39.8	-1.4
CMLA	**Cha da Macela**	**0.78**	**301**	*e*P	Pg	01 29 37.8	-3.1
CMLA				*e*S	Sg	01 29 47.5	-3.5
CMLA	308nm,0.3s			A		01 29 50.7	
CMLA	**Cha da Macela**	**0.78**	**301**	*e*P	Pg	01 29 37.8	-3.1
CMLA				*e*S	Sg	01 29 47.5	-3.5
PDA	**Ponta Delgada**	**0.87**	**296**	*e*P	Pg	01 29 39.3	-3.3
PDA				*e*S	Sg	01 29 49.4	-4.5
PSCM	**Serra do Cume**	**2.34**	**306**	*e*P	Pn	01 30 00.1	-4.2
PSCM				*e*S	Sn	01 30 25.5	-7.6
PSCM	40nm,0.4s			A		01 30 28.5	
PSCM	**Serra do Cume**	**2.34**	**306**	*e*P	Pn	01 30 00.1	-4.2
PSCM				*e*S	Sn	01 30 25.5	-7.6
PMAN	**Manadas**	**2.98**	**296**	*e*P	Pn	01 30 08.8	-4.2
PMAN				*e*S	Sn	01 30 40.5	-8.3
PMAN	51nm,0.3s			A		01 30 43.9	
PMAN	**Manadas**	**2.98**	**296**	*e*P	Pn	01 30 08.8	-4.2
PMAN				*e*S	Sn	01 30 40.5	-8.3
PGRA	**Graciosa**	**3.09**	**304**	*e*P	Pn	01 30 10.4	-4.2
ROSA	**Rosais**	**3.12**	**297**	*e*P	Pn	01 30 10.8	-4.2
ROSA				*e*S	Sn	01 30 44.7	-7.6
PICO	**Pico**	**3.17**	**292**	*e*P	Pn	01 30 11.9	-3.8
PICO				*e*S	Sn	01 30 45.5	-8.1
HOR	**Horta**	**3.33**	**292**	*e*S	Sn	01 30 49.6	-7.9
CALA	**Caldeira**	**3.40**	**292**	*e*P	Pn	01 30 14.9	-4.0
CALA				*e*S	Sn	01 30 51.5	-7.8
PMAR	**Madeira**	**7.87**	**124**	*e*P	Pn	01 31 16.4	-3.9
PMAR				*e*S	Sn	01 32 38.8	-11
PMAR	6.9nm,0.9s			A		01 32 52.5	

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*IDC **29** 01:41:46.3±0.8, 622S×15081E, h0km, mb4.4/10, mb1 4.6/10, mb1mx4.4/14, mbtmp4.4/10, MS3.3/3, Ms1 3.3/3, ms1mx3.1/18, Error ellipse: s-maj=32.3km s-min=18.8km az=111.0*
*ISCJB **29** 01:41:52.8±3.3, 63S±01×1507E±02, h57km±27km, mb4.3/16, MS3.1/2, Error ellipse: s-maj=29.6km s-min=18.0km az=26.3*
*NEIC **29** 01:41:53.3±2.4, 626S×15081E, h51km±20km, mb4.4/11, Error ellipse: s-maj=19.6km s-min=13.0km az=112.0*
ISC 29 01:41:53.4±3.0, 63S±01×1508E±02, h48km±26km, n34, σ0§92/25, mb4.3/16, MS3.1/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.76**	**229**	*e*Pn	**Pn**	**01 43 02.9**	**+0.3**
PMG				*e*Sn	**Sn**	**01 43 56.9**	**+0.4**
CTA	**Charters Tower**	**14.43**	**197**	LR	LR	01 49 56.4	
	comp=Z,173nm,19.6s,baz=49,slow=34						
KAKA	**Kakadu**	**19.18**	**249**	*e*P	**Pn**	**01 46 13.3**	**-1.2**
	9.4nm,0.5s						
GUMO	**Guam**	**20.57**	**343**	LR	LR	01 53 22.1	
	comp=Z,36nm,18.2s,MS2.8,baz=261,slow=34						
WRAB	**Tennant Creek**	**20.96**	**228**	*e*P	**P**	**01 46 32.2**	**-0.4**
	21nm,0.6s						
WB2	**Warramunga Arr**	**20.97**	**228**	*e*P	**P**	**01 46 32.4**	**-0.2**
WRA	**Warramunga Arr**	**20.98**	**228**	P	**P**	**01 46 32.7**	**0.0**
	18nm,0.7s,baz=50,slow=10,SNR=48						
STKA	**Stephens Creek**	**26.89**	**197**	*e*P	**P**	**01 47 28.9**	**-1.0**
	8.1nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**26.89**	**197**	P	**P**	**01 47 29.1**	**-0.8**
	11nm,0.8s,mb4.5,baz=351,slow=9.1,SNR=21						
STKA				LR	LR	01 58 24.6	
	comp=Z,118nm,20.6s,MS3.4,baz=23,slow=37						
FITZ	**Fitzroy Crossi**	**27.20**	**242**	*e*P	**P**	**01 47 32.8**	**0.0**
	11nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.20**	**242**	P	**P**	**01 47 32.7**	**-0.1**
	3.7nm,0.5s,mb4.1,baz=78,slow=8.9,SNR=16						
MBWA	**Marble Bar**	**33.50**	**241**	*e*P	**P**	**01 48 29.8**	**+1.2**
	2.7nm,0.7s,mb4.3						
KSRS	**Korea Array**	**48.44**	**336**	P	**P**	**01 50 31.9**	**+0.9**
	3.3nm,0.6s,mb4.5,baz=157,slow=8.3,SNR=11						
PETK	**Petropavlovsk-**	**59.43**	**5**	P	**P**	**01 51 49.0**	**-1.9**
	1.8nm,0.6s,mb4.3,baz=178,slow=7.4,SNR=4.0						
ULN	**Ulaanbaatar**	**66.19**	**329**	*e*P	**P**	**01 52 36.6**	**+0.6**
	1.1nm,0.7s,mb4.0						
SONM	**Songino Array**	**66.51**	**329**	P	**P**	**01 52 38.4**	**+0.4**
	1.2nm,0.6s,mb4.1,baz=143,slow=6.9,SNR=7.6						
MK31	**Makanchi Array**	**80.11**	**320**	*e*P	**P**	**01 53 58.0**	**-0.3**
MKAR	**Makanchi Array**	**80.11**	**320**	P	**P**	**01 53 57.5**	**-0.8**
	0.9nm,0.7s,mb3.8,baz=101,slow=6.4,SNR=7.0						
ZALV	**Zalesovo Beam**	**81.26**	**327**	P	**P**	**01 54 02.3**	**-1.9**
	1.4nm,0.6s,mb4.1,baz=110,slow=5.7,SNR=6.8						
TKM2	**Tokmak 2**	**83.50**	**314**	*e*P	**P**	**01 54 16.9**	**+0.7**
	1.1nm,0.7s,mb4.0						
KURK	**Kurchatov**	**83.68**	**322**	*e*P	**P**	**01 54 16.0**	**-1.0**
	1.8nm,0.6s,mb4.4						
AML	**Almayashu**	**84.67**	**313**	*e*P	**P**	**01 54 24.1**	**+1.9**
	5.7nm,1.0s,mb4.7						
EKS2	**Erkin-Say**	**84.73**	**314**	*e*P	**P**	**01 54 22.8**	**+0.3**
	1.6nm,0.8s,mb4.2						
EGAK	**Eagle**	**86.49**	**23**	*e*P	**P**	**01 54 30.7**	**0.0**
	5.2nm,0.9s,mb4.8						
NVAR	**Mina Array Bea**	**94.56**	**52**	P	**P**	**01 55 10.4**	**+1.3**
	0.6nm,0.6s,mb4.2,baz=259,slow=8.0,SNR=6.7						
YKA	**Yellowknife Ar**	**97.65**	**28**	P	**P**	**01 55 22.8**	**+0.2**
	1.7nm,0.8s,mb4.7,baz=280,slow=4.5,SNR=4.1						
PDAR	**Pinedale Array**	**101.31**	**48**	P	Pdif	01 55 40.5	+1.3
	0.5nm,0.8s,baz=270,slow=1.5,SNR=5.6						
AKASG	**Malin Array Be**	**114.48**	**323**	PKP	PKiKP	02 00 26.3	-1.8
	0.4nm,0.5s,baz=80,slow=1.4,SNR=3.5						
GERES	**GERESS Array B**	**124.21**	**327**	PKP	PKPdf	02 00 47.4	+0.6
	1.1nm,0.7s,baz=54,slow=2.3,SNR=11						
LPAZ	**La Paz**	**135.46**	**121**	PKhKP		02 01 03.8	
	335nm,0.5s,baz=232,slow=0.8,SNR=1250						
TOA0	**Torodi Ar. Sit**	**148.79**	**285**	*e*PKPbc	PKPbc	02 01 36.0	-0.6
TORD	**Torodi Ar. Bea**	**148.79**	**285**	PKPbc	PKPbc	02 01 36.9	+0.3
	6.4nm,0.7s,baz=32,slow=3.0,SNR=69						
TORD	**Torodi Ar. Bea**	**148.79**	**285**	PKPbc	PKPbc	02 01 36.9	+0.3
BDFB	**Brasilia**	**151.36**	**140**	PKPbc	PKPbc	02 01 42.5	-0.3
	1.0nm,0.7s,baz=208,slow=27,SNR=4.1						

IDC 29 01:49:08.2±1.0, 290N×12794E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/15, mbtmp3.9/5, Error ellipse: s-maj=65.6km s-min=21.5km az=74.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.55**	**165**	P	P	01 54 21.0	+0.4
	0.5nm,0.4s,baz=347,slow=9.9,SNR=4.6						
WB2	**Warramunga Arr**	**23.55**	**165**	*e*S	P	01 54 16.1	-4.5
STKA	**Stephens Creek**	**36.94**	**160**	P	P	01 56 19.4	+0.4
	0.9nm,0.4s,baz=346,slow=9.8,SNR=5.0						
SONM	**Songino Array**	**48.47**	**341**	P	P	01 57 53.4	+0.9
	0.7nm,0.6s,baz=153,slow=8.3,SNR=4.3						
PETK	**Petropavlovsk-**	**55.75**	**21**	P	P	01 58 46.3	-0.3
	2.7nm,0.8s,baz=167,slow=5.0,SNR=4.9						
MKAR	**Makanchi Array**	**58.92**	**325**	P	P	01 59 09.9	+0.8
	0.6nm,0.4s,baz=125,slow=6.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**124.33**	**288**	PKP	PKPdf	02 08 07.7	-2.5
	0.2nm,0.6s,baz=61,slow=1.6,SNR=5.1						

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*ISCJB **29** 02:03:25.2±0.5, 3704N±003×3091E±004, h105km±6km, Error ellipse: s-maj=6.1km s-min=4.4km az=150.7*
*CSEM **29** 02:03:25.5±0.1, 3717N×3090E, h90km±1km, MD3.2, Error ellipse: s-maj=2.6km s-min=2.1km az=159.0*
*ISK **29** 02:03:26.6, 3714N×3084E, h99km, MD3.2*
*DDA **29** 02:03:28.0, 3717N×3080E, h50km±7km, Md3.2*
*GII **29** 02:03:28.5±0.8, 3681N×3071E, h32km, ML2.6/3*
ISC 29 02:03:26.2±0.5, 3706N±003×3088E±004, h101km±6km, n35, σ0§97/54, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**0.24**	**229**	*e*PG	**Pn**	**02 03 40.8**	**0.0**
ANTB				*e*SG	**Sn**	**02 03 52.4**	**+0.9**
BCK	**Bucak**	**0.46**	**330**	*e*PG	**Pn**	**02 03 41.4**	**-0.5**
BCK				*e*SG	**Sn**	**02 03 53.1**	**-0.5**
ISP	**Isparta**	**0.83**	**339**	*e*PG	**Pn**	**02 03 44.2**	**-0.8**
ISP				*e*SG	**Sn**	**02 03 58.7**	**-0.5**
ISP	**Isparta**	**0.83**	**339**	Pg	**Pn**	**02 03 44.4**	**-0.7**
ISP				Sg	**Sn**	**02 03 58.3**	**-0.9**
ELL	**Elmali**	**0.84**	**248**	*e*PG	**Pn**	**02 03 46.5**	**+1.3**
GOLH	**Golhisar**	**1.07**	**280**	*i* P	**Pn**	**02 03 47.5**	**0.0**
GOLH				*i* S	**Sn**	**02 04 02.6**	**-0.9**
TKTP	**Tekketepe**	**1.07**	**336**	*i* P	**Pn**	**02 03 47.2**	**-0.4**
TKTP				*i* S	**Sn**	**02 04 04.1**	**+0.4**
HDMB	**Hadim**	**1.29**	**94**	*e*PN	**Pn**	**02 03 51.6**	**+1.7**
AKAS	**Kas**	**1.32**	**232**	*i* P	**Pn**	**02 03 50.9**	**+0.5**
AKAS				*i* S	**Sn**	**02 04 09.2**	**+0.5**
KONT	**Konya--Tatoy**	**1.47**	**53**	*e*PN	**Pn**	**02 03 53.2**	**+1.1**
SHUT	**Suhut-Afyon**	**1.51**	**350**	*e*PN	**Pn**	**02 03 52.5**	**-0.2**

LKR			*e*Sg	**Sg**	02 11 40.5	+0.4
LKR	**Lokris**	**0.26 148**	*e*PG	**Pg**	02 11 36.6	0.0
LKR			*e*SG	**Sg**	02 11 41.5	+1.4
AGG	**Agios Georgios**	**0.41 291**	*e*Pg	**Pg**	02 11 39.4	-0.1
AGG			*e*Sg	**Sg**	02 11 46.7	+1.8
NEO	**Neokhori**	**0.53 36**	*e*PB	**Pg**	02 11 41.8	0.0
NEO			*e*SB	**Sg**	02 11 49.0	+0.3
NEO	**Neokhori**	**0.53 36**	*e*Pb	**Pg**	02 11 41.8	0.0
NEO			*e*Sb	**Sg**	02 11 49.4	+0.7
XOR	**Xorichti**	**0.57 30**	*e*Pg	**Pg**	02 11 42.8	+0.4
XOR			*e*Sg	**Sg**	02 11 51.2	+1.3
EVR	**Evrytania**	**0.79 273**	*e*PB	**Pb**	02 11 47.3	-0.4
LTK	**Loutraki**	**0.86 172**	*e*Pg	**Pg**	02 11 47.7	-0.2
LTK			*e*Sg	**Sg**	02 11 59.8	+0.8
AOS	**Alonnisos**	**0.87 70**	*e*Pg	**Pg**	02 11 47.8	-0.5
AOS			*e*Sg	**Sg**	02 12 00.5	+0.9
THL	**Klokotos Trika**	**0.93 318**	*e*Pg	**Pg**	02 11 49.6	+0.2
THL	**Klokotos Trika**	**0.93 318**	*e*Pg	**Pg**	02 11 48.5	-0.9
ATH	**Athens Observa**	**1.14 142**	*e*PB	**Pb**	02 11 53.5	-0.1
ATH			*e*SB	**Sb**	02 12 09.1	+0.4
PTL	**Penteli**	**1.16 135**	*e*PN	**Pn**	02 11 53.5	-0.7
NAIG	**Nisos Aigina**	**1.23 155**	*e*PG	**Pg**	02 11 55.0	-0.1
PAIG	**Paliouri**	**1.24 32**	*e*Pg	**Pg**	02 11 54.4	-0.9
PAIG			*e*Sg	**Sg**	02 12 13.2	+1.7
LIT	**Litokhoron**	**1.25 348**	*e*Pg	**Pg**	02 11 54.9	-0.7
KVR	**Kavouri**	**1.28 144**	*e*PB	**Pb**	02 11 56.0	0.0
RLS	**Riolos of Patr**	**1.34 233**	*e*PG	**Pg**	02 11 57.1	-0.1
DID	**Didima**	**1.40 167**	*e*Pg	**Pg**	02 11 57.4	-1.1
DID			*e*Sg	**Sg**	02 12 16.3	-0.3
DID	**Didima**	**1.40 167**	*e*Pg	**Pg**	02 11 57.3	-1.1
DID			*e*Sg	**Sg**	02 12 16.3	-0.3
VLX	**Vlachokerasia**	**1.54 193**	*e*Pg	**Pg**	02 11 59.2	-1.8
PLG	**Polygyros**	**1.57 18**	*e*Pg	**Pg**	02 11 59.0	-2.6
PLG	**Polygyros**	**1.57 18**	*e*Pn	**Pn**	02 11 59.2	-0.7
OUR	**Ouranopolis**	**1.71 31**	*e*Pb	**Pb**	02 12 01.0	-2.3
HORT	**Hortiatis**	**1.73 7**	*e*Pb	**Pb**	02 12 01.5	-2.2
ITM	**Ithomi**	**1.83 203**	*e*PN	**Pn**	02 12 05.6	+2.1
SOH	**Sokhos**	**1.99 12**	*e*Pn	**Pn**	02 12 05.8	+0.1
GRG	**Griva**	**2.11 351**	*e*Pn	**Pn**	02 12 06.6	-0.6
VLI	**Veliai**	**2.15 178**	*e*PN	**Pn**	02 12 11.0	+3.1
KNT	**Kendrikon**	**2.29 1**	*e*Pn	**Pn**	02 12 10.0	+0.2
NVR	**Nevrokopi**	**2.60 17**	*e*PB	**Pb**	02 12 14.8	-3.7
KRUS	**Krusevo**	**2.77 335**	*e*Pn	**Pn**	02 12 18.8	+2.4
KRUS	**Krusevo**	**2.77 335**	*e*Pn	**Pn**	02 12 18.7	+2.3
STIP	**Stip**	**2.86 350**	*e*Pn	**Pn**	02 12 18.8	+1.2
STIP	**Stip**	**2.86 350**	*e*Pn	**Pn**	02 12 18.7	+1.1

*IDC **29** 02:54:44.4±1.1, 49.4N×94.36E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.0/21, mbtmp4.1/9, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx3.3/23, Error ellipse: s-maj=48.8km s-min=17.3km az=51.0*

*NEIC **29** 02:54:48.0±8.8, 46.5N×94.10E, h28km±58km, mb4.3/7, Error ellipse: s-maj=49.0km s-min=9.1km az=57.0*

*ISCJB **29** 02:54:51.8±3.6, 49.N±01×945E±02, h70km±30km, mb4.1/14, Error ellipse: s-maj=45.3km s-min=11.7km az=150.0*

ISC 29 02:54:53.3±3.3, 49.N±02×945E±02, h69km±27km, n25, σ0.86/22, mb4.1/14, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.91**	**115**	Pn	**Pn**	**02 56 03.8**	**-0.9**
	4.8nm,0.3s,baz=314,slow=14,SNR=12						
PSI				LR	LR	02 58 13.9	
	comp=Z,451nm,20.3s,baz=298,slow=41						
CMAR	**Chiang Mai Arr**	**14.20**	**18**	Pn	**Pn**	**02 58 11.3**	**+0.2**
	0.8nm,0.3s,baz=210,slow=12,SNR=13						
CHTO	**Chiang Mai**	**14.54**	**17**	*e*Pn	**Pn**	**02 58 18.2**	**+2.6**
	4.6nm,0.8s						
LSA	**Lhasa**	**24.90**	**353**	*e*P	**P**	**03 00 09.7**	**-0.2**
	5.9nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**38.30**	**127**	*e*P	**P**	**03 02 07.3**	**-0.2**
	3.2nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**38.30**	**127**	P	**P**	**03 02 07.1**	**-0.5**
	2.3nm,0.7s,mb4.1,baz=270,slow=2.5,SNR=9.2						
UCH	**Uchtor**	**41.22**	**337**	*e*P	**P**	**03 02 31.5**	**0.0**
	1.6nm,0.7s,mb4.0						
AML	**Almayashu**	**41.46**	**337**	*e*P	**P**	**03 02 33.7**	**+0.3**
	3.3nm,0.6s,mb4.3						
MK31	**Makanchi Array**	**43.07**	**348**	*e*P	**P**	**03 02 45.4**	**-1.0**
MKAR	**Makanchi Array**	**43.07**	**348**	P	**P**	**03 02 45.4**	**-1.0**
	1.4nm,0.5s,mb3.9,baz=162,slow=6.9,SNR=14						
MKAR	**Makanchi Array**	**43.07**	**348**	P	**P**	**03 02 45.4**	**-1.0**
SONM	**Songino Array**	**44.02**	**12**	P	**P**	**03 02 52.5**	**-1.5**
	1.1nm,0.6s,mb3.8,baz=190,slow=8.4,SNR=8.4						
WRA	**Warramunga Arr**	**46.31**	**123**	P	**P**	**03 03 13.3**	**+0.7**
	5.4nm,0.6s,mb4.5,baz=302,slow=9.1,SNR=29						
WRAB	**Tennant Creek**	**46.32**	**123**	*e*P	**P**	**03 03 13.2**	**+0.5**
	6.3nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**46.33**	**123**	*e*P	**P**	**03 03 13.3**	**+0.6**
KURK	**Kurchatov**	**47.59**	**346**	*e*P	**P**	**03 03 23.4**	**+1.4**
	8.5nm,1.1s,mb4.5						
ZALV	**Zalesovo Beam**	**49.56**	**353**	P	**P**	**03 03 36.2**	**-0.9**
	2.9nm,0.5s,mb4.5,baz=190,slow=6.2,SNR=9.5						
MLR	**Muntele Rosu**	**71.53**	**316**	P	**P**	**03 06 07.3**	**+0.3**
	0.5nm,0.3s,mb3.8,baz=162,slow=6.4,SNR=3.5						
MORC	**Moravsky Berou**	**77.85**	**320**	*e*P	**P**	**03 06 43.6**	**+0.1**
	2.2nm,0.9s,mb3.9						
ARCES	**ARCESS Array B**	**78.18**	**340**	P	**P**	**03 06 44.7**	**-0.2**
	1.1nm,0.8s,mb3.6,baz=87,slow=7.5,SNR=4.4						
ARCES	**ARCESS Array B**	**78.18**	**340**	P	**P**	**03 06 44.7**	**-0.2**
GERES	**GERESS Array B**	**80.27**	**319**	P	**P**	**03 06 57.2**	**+0.5**
	0.8nm,0.8s,mb3.6,baz=96,slow=7.0,SNR=8.4						
PDAR	**Pinedale Array**	**127.83**	**22**	PKP	PKPdf	03 13 54.0	+2.5
	0.2nm,0.5s,baz=48,slow=2.7,SNR=2.5						
TXAR	**Lajitas Array**	**141.80**	**26**	PKP	PKPdf	03 14 20.1	+2.2
	0.2nm,0.6s,baz=330,slow=1.4,SNR=3.5						
LPAZ	**La Paz**	**159.48**	**235**	PKP	PKPdf	03 14 44.0	-1.1
	12nm,0.4s,baz=330,slow=21,SNR=57						

*NIED **29** 03:00:00, 21.70N×121.60E, h32km, Mw5.4 Best double couple: M0 1.63000×10^17 NP1:φs 105.00000°, δ 88.00000°, λ -15.00000°. NP2:φs 195.00000°, δ 75.00000°, λ -178.00000°.*

*JMA **29** 03:00:13.9±0.3, 21.73N×121.65E, h0km, M5.3*

*ISCJB **29** 03:00:15.4±0.4, 21.77N±001×121.43E±001, h16km±2km, mb5.6/261, MS5.0/203, Error ellipse: s-maj=2.2km s-min=2.1km az=137.7*

*TAP **29** 03:00:16.4, 21.95N×121.32E, h7km, ML5.3*

TAP Felt I J at Chiayi, I J at Jiali, I J at Tsaushan, I J at Yungkang, I J at Dapu, I J at Shoushan, I J at Chenggung, I J at Kaohsiung, I J at Sandimen, I J at Taitung, I J at Fangliau, I J at Taimali, I J at Tawa, II J at Hengchun, I J at Hengchun, II J, IV J at Lanyu.

*BJI **29** 03:00:16.3, 22.01N×121.30E, h10km, mB5.6, mb5.1, ML5.0, Ms5.5, Msz5.3*

*NEIC **29** 03:00:18.0±0.1, 21.79N×121.43E, mb5.7/180, MS4.9/161, ML5.5(TAP), Error ellipse: s-maj=3.1km s-min=3.1km az=124.0*

NEIC Recorded [4 TAP] in T'ai-tung, [2 TAP] in P'ing-tung and [1 TAP] in Hua-lien and Kao-hsiung Counties.

*SZGRF **29** 03:00:17.4, 21.67N×121.96E, h30km, mb6.0, MS5.3, Taiwan region*

*MOS **29** 03:00:17.4±1.5, 21.90N×121.51E, h33km, mb5.8/106, MS5.1/42, Error ellipse: s-maj=13.1km s-min=6.7km az=100.7*

*IDC **29** 03:00:17.9±1.9, 21.75N×121.52E, h24km±11km, mb5.1/26, mb1 5.2/28, mb1mx5.2/29, mbtmp5.1/28, ML4.7/2, MS4.8/23, Ms1 4.8/23, ms1mx4.6/35, Error ellipse: s-maj=13.4km s-min=9.9km az=83.0*

*GCMT **29** 03:00:18.0±0.1, 21.88N×121.48E, h13km, MW5.4/99, Moment Tensor Solution. s83, c156; s99, c238; Duration: 1*3 Moment tensor: Scale 10^17 Nm; Mrr 1.48±.02; Mθθ 0.07±.01; Mφφ -1.55±.02; Mrθ -0.04±.04; Mθφ -0.01±.01; Mφr 0.80±.05; Best double couple: M0 1.71500×10^17 NP1:φs 182.00000°, δ 31.00000°, λ 93.00000°. NP2:φs 359.00000°, δ 59.00000°, λ 88.00000°. Principal axes: T 1.6810, Plg 76.0000°, Azm 264.0000°; N 0.0720, Plg 1.0000°, Azm 360.0000°; P -1.7500, Plg 14.0000°, Azm 90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*DJA **29** 03:00:20, 21.81N×121.46E, h30km, mb5.7/16*

*ORF **29** 03:00:41.7, 28.57N×123.27E, h30km, mb5.5*

ISC 29 03:00:16.9±0.5, 21.80N±001×121.43E±001, h16km±2km, h27km±.7km: pP-P, n1324, σ0.93/1228, mb5.6/261, MS5.0/203, 26.6C-143D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.26**	**25**	⇑*i*P	**Pg**	**03 00 22.6**	**0.0**
TSEB	**Hengchuen, Pin**	**0.50**	**281**	⇑*i*P	**Pg**	**03 00 27.2**	**+0.2**
TWK1	**Hengchun**	**0.60**	**284**	⇑*i*P	**Pg**	**03 00 27.7**	**-1.0**
HEN	**Hengchun**	**0.67**	**288**	⇑*i*P	**Pg**	**03 00 29.0**	**-1.1**
TAW	**Tawu**	**0.74**	**318**	P	**Pb**	**03 00 29.1**	**-2.4**
TAW				S	**Sb**	**03 00 37.6**	**-3.8**
ECL	**Taimali**	**0.91**	**331**	*e*P	**Pb**	**03 00 31.3**	**-3.0**
SCZT	**Fangliau**	**0.94**	**307**	⇑P	**Pb**	**03 00 32.8**	**-2.0**
TTN	**Taitung**	**0.98**	**345**	P	**Pb**	**03 00 34.2**	**-1.4**
TTN				S	**Sb**	**03 00 48.0**	**-0.3**
TWG	**Pinlang**	**1.07**	**342**	⇓P	**Pb**	**03 00 33.7**	**-3.3**
TWG				S	**Sb**	**03 00 46.7**	**-4.0**
TWP	**Hsiaoliuchiu**	**1.13**	**299**	⇑P	**Pn**	**03 00 38.1**	**+0.1**
SSD	**Sandimen**	**1.20**	**322**	*e*P	**Pn**	**03 00 36.5**	**-2.5**
KAU	**Kaohsiung**	**1.29**	**306**	*e*P	**Pn**	**03 00 40.3**	**0.0**
CHKT	**Chengkung**	**1.29**	**357**	P	**Pn**	**03 00 37.8**	**-2.5**
CHKT				S	**Sb**	**03 00 54.9**	**-2.3**
TWM1	**Shoushan**	**1.38**	**318**	*e*P	**Pn**	**03 00 41.5**	**0.0**
ELDTW	**Lidau**	**1.43**	**345**	*e*P	**Pn**	**03 00 39.5**	**-2.7**
SGST	**Jiashian**	**1.50**	**329**	*e*P	**Pn**	**03 00 42.6**	**-0.5**
SGST				S	**Sn**	**03 01 02.3**	**0.0**
TWF1	**Yuli**	**1.55**	**355**	*e*P	**Pn**	**03 00 41.0**	**-2.8**
CHN1	**Nanshi**	**1.61**	**329**	*e*P	**Pn**	**03 00 44.3**	**-0.4**
CHN1				S	**Sn**	**03 01 05.9**	**+0.8**
WTP	**Ta-pu**	**1.62**	**332**	⇓P	**Pn**	**03 00 44.3**	**-0.5**
TAI1	**Yung-k'ang**	**1.66**	**318**	*e*P	**Pn**	**03 00 44.7**	**-0.7**
TAI1				S	**Sn**	**03 01 04.8**	**-1.5**
EHY	**Hungye**	**1.70**	**357**	*e*P	**Pn**	**03 00 43.4**	**-2.5**
TWK	**Hsinying**	**1.70**	**329**	⇓P	**Pn**	**03 00 45.9**	**0.0**
CHN4	**Tsaushan**	**1.73**	**333**	P	**Pn**	**03 00 46.0**	**-0.2**
CHN4				S	**Sn**	**03 01 08.5**	**+0.5**
YUS	**Yu-Shan**	**1.74**	**345**	*e*P	**Pn**	**03 00 45.1**	**-1.3**
SCLT	**Jiali**	**1.78**	**320**	*e*P	**Pn**	**03 00 47.0**	**0.0**
SCLT				S	**Sn**	**03 01 09.1**	**-0.2**
ALS	**Alishan**	**1.80**	**341**	P	**Pn**	**03 00 46.2**	**-1.0**
CHN8	**Yiju**	**1.91**	**324**	P	**Pn**	**03 00 48.3**	**-0.4**
CHN8				S	**Sn**	**03 01 11.2**	**-1.2**
CHY	**Chiayi**	**1.93**	**331**	P	**Pn**	**03 00 48.4**	**-0.6**
CHY				S	**Sn**	**03 01 12.0**	**-0.9**
ESL	**Shilin**	**2.00**	**0**	*e*P	**Pn**	**03 00 48.7**	**-1.4**
WGK	**Gukeng**	**2.04**	**337**	*e*P	**Pn**	**03 00 50.5**	**-0.1**
WGK				S	**Sn**	**03 01 17.0**	**+1.3**
SMLT	**Sun Moon Lake**	**2.13**	**347**	*e*P	**Pn**	**03 00 52.0**	**+0.2**
SMLT				S	**Sn**	**03 01 19.2**	**+1.3**
WSF	**Szhu**	**2.14**	**329**	*e*P	**Pn**	**03 00 51.2**	**-0.8**
WSF				S	**Sn**	**03 01 17.4**	**-0.8**
TYC	**Yuchr**	**2.16**	**346**	⇓P	**Pn**	**03 00 52.2**	**0.0**
TYC				S	**Sn**	**03 01 19.2**	**+0.6**
HWA	**Hwalien**	**2.17**	**4**	*e*P	**Pn**	**03 00 51.9**	**-0.5**
WNT	**Mingjian**	**2.18**	**342**	⇓P	**Pn**	**03 00 52.5**	**+0.1**
WNT				S	**Sn**	**03 01 20.1**	**+0.9**
TWD	**Chiawan**	**2.27**	**4**	*e*P	**Pn**	**03 00 53.1**	**-0.7**
TWD				S	**Sn**	**03 01 20.9**	**-0.5**
WTCT	**Ta-ch'eng**	**2.31**	**333**	*e*P	**Pn**	**03 00 53.5**	**-0.8**
WTCT				S	**Sn**	**03 01 20.8**	**-1.6**
WHF	**Hehuan Shan**	**2.34**	**356**	*e*P	**Pn**	**03 00 53.9**	**-0.7**
WHF				S	**Sn**	**03 01 23.3**	**+0.3**
NACB	**Ninganchiao**	**2.37**	**4**	⇓*i*Pn	**Pn**	**03 00 53.1**	**-2.0**
NACB				*e*Sn	**Sn**	**03 01 21.2**	**-2.6**
TCU	**Taichung**	**2.44**	**344**	*e*P	**Pn**	**03 00 56.0**	**0.0**
TWT	**Tachien**	**2.45**	**355**	*e*P	**Pn**	**03 00 56.1**	**-0.2**
PNG	**Penghu**	**2.47**	**316**	⇑P	**Pn**	**03 00 54.4**	**-2.1**
PNG				S	**Sn**	**03 01 22.5**	**-3.7**
TWQ1	**Liyutan**	**2.61**	**347**	*e*P	**Pn**	**03 00 59.0**	**+0.7**
TWQ1				S	**Sn**	**03 01 30.8**	**+1.1**
NNS	**Nan Shan**	**2.63**	**359**	*e*P	**Pn**	**03 00 58.6**	**0.0**
ENA	**Nanau**	**2.63**	**6**	*e*P	**Pn**	**03 00 58.5**	**-0.2**
NSY	**Sanyi**	**2.67**	**347**	*e*P	**Pn**	**03 00 59.7**	**+0.4**
NSY				S	**Sn**	**03 01 33.1**	**+1.7**
TWC	**Suao**	**2.82**	**8**	P	**Pn**	**03 01 01.5**	**+0.2**
TWC				S	**Sn**	**03 01 37.0**	**+2.0**
ENTT	**Nioudou**	**2.83**	**2**	*e*P	**Pn**	**03 01 00.9**	**-0.5**
ENTT				S	**Sn**	**03 01 35.4**	**+0.2**
NSTT	**Nanjuang**	**2.84**	**352**	*e*P	**Pn**	**03 01 03.4**	**+1.7**
NSTT				S	**Sn**	**03 01 37.7**	**+2.2**
YHNB	**Yeheng**	**2.85**	**359**	*e*Pn	**Pn**	**03 01 01.2**	**-0.6**
NSK	**Sanguang**	**2.86**	**359**	*e*P	**Pn**	**03 01 01.7**	**-0.2**
TWE	**Neicheng**	**2.91**	**4**	*e*P	**Pn**	**03 01 03.5**	**+0.9**
ILA	**Ilan**	**2.96**	**6**	*e*P	**Pn**	**03 01 05.1**	**+1.8**
HSN	**Hsinchu**	**3.02**	**352**	*e*P	**Pn**	**03 01 07.0**	**+3.0**
YOJ	**Yonaguni jima**	**3.02**	**28**	P	**Pn**	**03 01 04.1**	**0.0**
YOJ				S	**Sn**	**03 01 40.4**	**+0.5**
YOJ	**Yonaguni jima**	**3.02**	**28**	*e*P	**Pn**	**03 01 03.6**	**-0.5**
YOJ				S	**Sn**	**03 01 39.6**	**-0.3**
EGS		**3.06**	**9**	*e*P	**Pn**	**03 01 05.8**	**+1.2**
HATJ	**Hateruma jima**	**3.13**	**44**	P	**Pn**	**03 01 04.7**	**-0.9**
HATJ				S	**Sn**	**03 01 43.3**	**+0.6**
TATO	**Taipei**	**3.16**	**1**	P	**Pn**	**03 01 08.9**	**+3.0**
	SNR=45						
TATO	**Taipei**	**3.16**	**1**	*e*Pn	**Pn**	**03 01 06.1**	**+0.1**
TATO				*e*Sn	**Sn**	**03 01 45.7**	**+2.3**
NCU	**National Centr**	**3.16**	**356**	*e*P	**Pn**	**03 01 07.7**	**+1.7**
TWA	**Mucha**	**3.17**	**3**	*e*P	**Pn**	**03 01 06.8**	**+0.7**
TAP1	**Taipei**	**3.22**	**1**	*e*P	**Pn**	**03 01 08.3**	**+1.4**
TAP1				S	**Sn**	**03 01 46.8**	**+1.9**
TWB1	**Santiao Chiao**	**3.23**	**9**	P	**Pn**	**03 01 08.0**	**+1.0**
TWB1				S	**Sn**	**03 01 47.6**	**+2.4**
NWF	**Wu-fen Shan**	**3.27**	**6**	*e*P	**Pn**	**03 01 08.2**	**+0.7**
NWF				S	**Sn**	**03 01 48.7**	**+2.6**
TWS1	**Kuangyinshan**	**3.28**	**360**	*e*P	**Pn**	**03 01 08.5**	**+0.8**
TWS1				S	**Sn**	**03 01 48.0**	**+1.6**
IRIF	**Iriomote-Funau**	**3.29**	**40**	P	**Pn**	**03 01 07.0**	**-0.8**
IRIF				S	**Sn**	**03 01 46.8**	**+0.2**
JKRS	**Kuro-shima**	**3.39**	**44**	P	**Pn**	**03 01 08.2**	**-1.0**
JKRS				S	**Sn**	**03 01 48.3**	**-0.8**
TWY	**Chenhua**	**3.46**	**3**	*e*P	**Pn**	**03 01 11.2**	**+1.1**
JIJ	**Ishigaki jima**	**3.57**	**44**	P	**Pn**	**03 01 10.8**	**-0.8**
JIJ				S	**Sn**	**03 01 52.1**	**-1.4**
KNM	**Kinmen**	**3.79**	**314**	*e*P	**Pn**	**03 01 14.4**	**-0.3**
KNM				S	**Sn**	**03 01 56.8**	**-2.2**
PCYT	**Pengchaiyu**	**3.85**	**9**	P	**Pn**	**03 01 16.5**	**+0.9**
PCYT				S	**Sn**	**03 02 02.6**	**+2.0**
QZH	**Quanzhou**	**4.07**	**321**	⇑*i*P	**Pn**	**03 01 17.0**	**-1.5**
QZH				S	**Sn**	**03 01 57.0**	**-8.9**
QZH				Smax			
	comp=N,3μm,1.0s						
QZH				Smax			
	comp=E,4μm,0.9s						
QZH				LR	LR		
	comp=N,23μm,5.9s						
QZH				LR	LR		
	comp=E,60μm,10.5s						
QZH				LR	LR		
	comp=Z,56μm,9.7s						
JTJ	**Tarama**	**4.13**	**46**	P	**Pn**	**03 01 18.6**	**-0.7**
JTJ				S	**Sn**	**03 02 07.2**	**-0.1**
JMJ	**Miyako jima 2**	**4.65**	**49**	P	**Pn**	**03 01 26.8**	**+0.4**
JMJ				S	**Sn**	**03 02 19.2**	**-0.9**
JMJ	**Miyako jima 2**	**4.65**	**49**	*e*P	**Pn**	**03 01 27.6**	**+1.1**
JOGS	**Gusukube**	**4.69**	**50**	P	**Pn**	**03 01 26.3**	**-0.8**
JOGS				S	**Sn**	**03 02 21.6**	**+0.4**
JKE	**Kume jima 2**	**6.65**	**46**	P	**Pn**	**03 01 53.5**	**-0.5**
JKE				S	**Sn**	**03 03 08.3**	**-1.1**
HKC	**Hong Kong Obse**	**6.75**	**276**	*i*P	**Pn**	**03 01 54.0**	**-1.3**
NBP	**Mount Natib**	**7.09**	**188**	⇓*e*P	**Pn**	**03 02 02.3**	**+2.3**
JAGN	**Aguni-jima**	**7.13**	**47**	P	**Pn**	**03 02 00.5**	**-0.1**
JAGN				*e*S	**Sn**	**03 03 21.3**	**0.0**
GZH	**Guangzhou**	**7.59**	**281**	P	**Pn**	**03 02 03.0**	**-3.9**
GZH				LR	LR		
	comp=N,27μm,12.9s						
GZH				LR	LR		
	comp=E,34μm,12.2s						
JIH	**Iheya**	**7.91**	**48**	P	**Pn**	**03 02 12.4**	**+1.1**
JOW	**Kunigami**	**8.00**	**50**	P	**Pn**	**03 02 13.6**	**+1.1**
JOW				*e*S	**Sn**	**03 03 39.0**	**-3.7**
JOW	**Kunigami**	**8.00**	**50**	Pn	**Pn**	**03 02 13.7**	**+1.2**
	comp=E,38nm,0.3s,baz=208,slow=9.4,SNR=96						
JOW				Sn	**Sn**	**03 03 41.4**	**-1.3**
	comp=E,7.8nm,0.3s,baz=323,slow=30,SNR=3.6						
JOW				LR	LR	03 06 06.7	
	comp=E,15μm,18.0s,baz=237,slow=44						
JOW	**Kunigami**	**8.00**	**50**	*e*P	**Pn**	**03 02 12.1**	**-0.4**
JTK	**Tokunoshima**	**9.06**	**47**	P	**Pn**	**03 02 27.1**	**0.0**
JTK				*e*S	**Sn**	**03 04 06.3**	**-2.5**
SSE	**Sheshan**	**9.26**	**359**	P	**Pn**	**03 02 31.5**	**+1.8**
SSE				S	**Sn**	**03 04 18.0**	**+4.4**
SSE				AMB	AMB		
	comp=Z,62nm,0.9s						
SSE				AMB	AMB		
	comp=Z,329nm,9.5s						
SSE				LR	LR		
	comp=N,12μm,12.5s						
SSE				LR	LR		
	comp=E,13μm,12.5s						
SSE				LR	LR		
	comp=Z,15μm,11.0s						
JMZ	**Minamidaito 2**	**9.81**	**64**	P	**Pn**	**03 02 36.9**	**-0.5**
JMZ				*e*S	**Sn**	**03 04 19.9**	**-7.4**
JAM	**Amami Oshima**	**9.91**	**47**	P	**Pn**	**03 02 36.8**	**-1.8**
JAM				*e*S	**Sn**	**03 04 24.8**	**-4.7**
NJ2	**Nanjing**	**10.46**	**348**	*e*P	**Pn**	**03 02 47.5**	**+1.2**
NJ2				AP		03 02 52.0	
NJ2				PP		03 02 54.0	
NJ2				XP		03 02 55.0	
NJ2				S	**Sn**	**03 04 45.0**	**+1.8**
NJ2				XS		03 04 56.0	
NJ2				AMB	AMB		
	comp=Z,230nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,480nm,7.6s						
NJ2				LR	LR		
	comp=N,5μm,13.7s						
NJ2				LR	LR		
	comp=E,15μm,10.8s						
NJ2				LR	LR		
	comp=Z,15μm,10.8s						
WHN	**Wuhan**	**10.78**	**325**	P	**Pn**	**03 02 48.3**	**-2.3**
WHN				S	**Sn**	**03 04 43.8**	**-7.1**
WHN				LR	LR		
	comp=N,31μm,8.3s						
WHN				LR	LR		
	comp=E,43μm,11.6s						
WHN				LR	LR		
	comp=Z,36μm,10.5s						
QIZ	**Qiongzhong**	**11.21**	**258**	P	**Pn**	**03 02 56.3**	**-0.2**
QIZ				S	**Sn**	**03 05 03.3**	**+1.7**
QIZ				AMB	AMB		
	comp=Z,423nm,2.3s						
QIZ				LR	LR		
	comp=E,13μm,13.5s						
QIZ				LR	LR		
	comp=Z,18μm,11.5s						
QIZ	**Qiongzhong**	**11.21**	**258**	*e*Pn	**Pn**	**03 02 56.1**	**-0.4**
TBP	**Tagbilaran**	**12.27**	**169**	*e*P	**Pn**	**03 03 13.8**	**+2.8**
GYA	**Guiyang**	**14.25**	**292**	⇓*i*P	**Pn**	**03 03 37.8**	**-0.3**
GYA				AP	pP	03 03 43.0	-6.9
GYA				XP	sP	03 03 47.5	-4.5
GYA				S	**Sn**	**03 06 08.3**	**-7.7**
GYA				AMB	AMB		
	comp=Z,80nm,1.5s						
GYA				AMB	AMB		
	comp=Z,430nm,3.6s						
GYA				LR	LR		
	comp=N,16μm,12.0s						
GYA				LR	LR		
	comp=E,22μm,12.3s						
GYA				LR	LR		
	comp=Z,25μm,12.3s						
TIA	**Tai'an**	**14.84**	**346**	*e*P	**Pn**	**03 03 41.8**	**-4.3**
TIA				S	**Sn**	**03 06 36.5**	**+6.3**
TIA				LR	LR		
	comp=N,7μm,10.0s						
TIA				LR	LR		
	comp=E,13μm,10.0s						
DAV	**Davao City (W)**	**15.18**	**164**	LR	LR	03 11 14.9	
	comp=E,5μm,19.4s,baz=350,slow=44						
DAV	**Davao City (W)**	**15.18**	**164**	⇓*e*P	**Pn**	**03 03 51.0**	**+0.2**
KDM	**Kudat**	**15.45**	**197**	⇑P	**Pn**	**03 03 58.0**	**+3.7**
INCN	**Inchon**	**16.26**	**15**	*e*Pn	**Pn**	**03 04 06.0**	**+1.4**
XAN	**Xi'an**	**16.44**	**321**	P	**Pn**	**03 04 06.8**	**-0.1**
XAN				AP	pP	03 04 16.3	+2.2
XAN				S	**Sn**	**03 07 11.3**	**+2.3**
XAN				AMB	AMB		
	comp=Z,37nm,1.2s						
XAN				AMB	AMB		
	comp=Z,359nm,4.4s						
XAN				LR	LR		
	comp=N,10μm,9.6s						
XAN				LR	LR		
	comp=E,13μm,10.2s						
XAN				LR	LR		
	comp=Z,17μm,11.9s						
KKM	**Kota Kinabalu**	**16.46**	**199**	*e*Pn	**Pn**	**03 04 08.9**	**+1.7**
KS15	**Wonju Array Si**	**16.56**	**18

BJI LR LR
comp=E,10μm,15.2s
BJI LR LR
comp=Z,4μm,16.4s
JAA Atsumi 18.81 44 P **Pn 03 04 40.1 +3.8**
JGM Miyama 19.24 41 P **Pn 03 04 43.7 +2.3**
JAO Obara 19.29 43 P **Pn 03 04 44.6 +2.5**
HMMJ Hamamatsu 2 19.32 44 P **Pn 03 04 45.2 +2.7**
JGF Kuroka 19.56 42 P **Pn 03 04 47.1 +1.7**
CBIJ Chichi jima 19.61 70 P **Pn 03 04 48.2 +2.3**
comp=Z,13nm,0.3s,baz=216,slow=3.3,SNR=34
CBIJ S **Sn 03 08 30.1 +4.3**
comp=Z,0.4nm,0.3s,baz=329,slow=22,SNR=1.5
CBIJ LR LR 03 10 57.6
comp=Z,2μm,21.9s,baz=258,slow=33
JNY Yasuok 19.73 43 P **Pn 03 04 49.5 +2.2**
SHZ3 Shizuoka 3 19.77 44 P **Pn 03 04 49.8 +2.0**
JHJ Hachijo jima 2 19.77 51 P **Pn 03 04 49.8 +1.9**
comp=Z,6.6nm,0.3s,baz=24,slow=4.5,SNR=5.4
JHJ S **Sn 03 08 36.1 +6.3**
comp=Z,5.5nm,0.3s,baz=108,slow=17,SNR=2.6
JHJ LR LR 03 13 05.5
comp=Z,1μm,18.5s,baz=246,slow=39
JHJ2 Mitsune 19.79 51 P **Pn 03 04 50.5 +2.4**
JGN Niukaw 19.95 40 P **Pn 03 04 51.1 +1.2**
JIZS Izushimoda 20.00 46 P **P 03 04 52.4 +3.5**
SNY Shenyang 20.05 5 ⇑P **P 03 04 50.5 +1.2**
SNY AP 03 04 59.5
SNY XP sP 03 05 03.0 +7.1
SNY PP 03 05 13.3
SNY AMB AMB
comp=Z,1μm,7.0s
SNY LR LR
comp=N,5μm,10.2s,MS5.4
SNY LR LR
comp=E,8μm,12.0s,MS5.4
SNY LR LR
comp=Z,9μm,10.8s,MS5.4
BTM Bintulu 20.19 205 ⇓P **P 03 04 52.6 +1.6**
JTT Ttatey 20.21 40 P **P 03 04 55.3 +4.2**
JNT Takato 20.23 42 P **P 03 04 53.8 +2.5**
AJI Ajiro2 20.34 46 P **P 03 04 55.7 +3.2**
JOD2 Odawara 2 20.46 45 P **P 03 04 58.1 +4.3**
MAJO Matsushiro 20.70 41 *e*P **P 03 04 57.5 +1.1**
MAJO pmax pmax
comp=Z,430nm,1.4s
MAJO Matsushiro 20.70 41⇑*e*P **P 03 04 57.3 +1.0**
comp=Z,429nm,1.4s
MAJO LR LR
comp=Z,3μm,19.0s,MS4.7
MAT Matsushiro 20.70 41 P **P 03 04 58.1 +1.7**
MAT S **S 03 08 52.0 +5.0**
MJAR Matsushiro Arr 20.70 41 P **P 03 04 58.3 +2.0**
comp=Z,40nm,0.8s,baz=233,slow=9.2,SNR=70
MJAR LR LR 03 13 18.5
comp=Z,2μm,19.5s,MS4.5,baz=225,slow=38
HHC Hu-ho-hao-te 20.75 338 *e*P **P 03 04 58.0 +1.1**
HHC AP 03 05 06.5
HHC XP sP 03 05 10.8 +7.3
HHC PP 03 05 20.3
HHC S **S 03 08 43.0 -5.0**
HHC PCP PcP 03 09 05.5 -0.5
HHC SS 03 09 14.5
HHC AMB AMB
comp=Z,159nm,1.4s
HHC AMB AMB
comp=Z,1μm,3.9s
HHC LR LR
comp=N,7μm,13.7s,MS5.4
HHC LR LR
comp=E,10μm,13.7s,MS5.4
HHC LR LR
comp=Z,9μm,13.1s,MS5.3
LZH Lanzhou 20.91 317 ⇑P **P 03 05 00.3 +1.6**
LZH AP 03 05 06.5
LZH XP sP 03 05 10.8 +5.4
LZH PP 03 05 23.3
LZH S **S 03 08 53.0 +1.6**
LZH AMB AMB
comp=Z,224nm,1.0s
LZH AMB AMB
comp=Z,1μm,4.1s
LZH LR LR
comp=N,9μm,11.5s
LZH LR LR
comp=Z,14μm,13.0s,MS5.5
BTO Baotou 21.10 335 *e*P **P 03 05 00.0 -0.6**
BTO AMB AMB
comp=Z,23nm,1.6s,mb4.3
SBUM Sibu 21.22 206 ⇑P **P 03 05 03.9 +1.8**
CHTO Chiang Mai 21.30 266 P **P 03 05 04.8 +1.9**
SNR=72
CHTO Chiang Mai 21.30 266⇑*i*P **P 03 05 04.2 +1.2**
CHTO pmax pmax
comp=Z,283nm,1.5s,mb5.4
CHTO MLR MLR
comp=Z,4μm,19.0s,MS4.8
CHTO Chiang Mai 21.30 266⇑*i*P **P 03 05 04.2 +1.2**
comp=Z,283nm,1.5s,mb5.4
CHTO LR LR
comp=Z,4μm,19.0s,MS4.8
CM31 Chiang Mai Arr 21.37 265 *e*P **P 03 05 05.3 +1.5**
comp=Z,87nm,1.1s,mb5.0
CM31 LR LR
comp=Z,4μm,21.0s,MS4.8
CMAR Chiang Mai Arr 21.37 265 P **P 03 05 05.5 +1.8**
comp=Z,45nm,1.0s,mb4.8,baz=72,slow=9.3,SNR=135
CMAR PcP PcP 03 09 08.8 +1.2
comp=Z,17nm,0.8s,baz=85,slow=2.0,SNR=26
CMAR ScP ScP 03 12 44.6 +0.6
comp=Z,5.3nm,0.9s,baz=90,slow=1.1,SNR=9.1
CMAR LR LR 03 14 07.6
comp=Z,4μm,19.5s,MS4.8,baz=80,slow=39
CMAR Chiang Mai Arr 21.37 265 P **P 03 05 05.6 +1.8**
CMAR 03 09 08.9
CN2 Changchun 22.19 8 ⇑P **P 03 05 14.0 +1.7**
CN2 *e*AP 03 05 23.0
CN2 *e*PP 03 05 41.5
CN2 *e*S **S 03 09 12.0 -4.2**
CN2 SS 03 09 53.3
CN2 AMB AMB
comp=Z,40nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,7μm,14.0s,MS5.4
CN2 LR LR
comp=E,8μm,14.0s,MS5.4
CN2 LR LR
comp=Z,6μm,12.0s,MS5.2
KSM Kuching 22.93 210 *e*P **P 03 05 20.3 -0.1**
VLA Vladivostok 22.98 20*d i*P **P 03 05 20.3 -0.4**
VLA *e*S **S 03 09 30.7 +0.2**
VLA pmax pmax
comp=Z,252nm,1.9s,mb5.3
VLA MLR MLR
comp=Z,5μm,16.4s,MS5.0
VLA Vladivostok 22.98 20⇓*i*P **P 03 05 20.0 -0.7**
MDJ Mudanjiang 23.73 15 P **P 03 05 28.0 -0.3**
MDJ AP 03 05 34.3
MDJ XP sP 03 05 36.5 +1.3
MDJ PCP PcP 03 09 11.5 -0.4
MDJ PCS PcS 03 12 51.3 0.0
MDJ AMB AMB
comp=Z,37nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,1μm,6.2s
MDJ LR LR
comp=E,6μm,16.1s
MDJ LR LR
comp=Z,5μm,12.5s,MS5.2
MDJ Mudanjiang 23.73 15⇑*i*P **P 03 05 26.6 -1.7**
comp=Z,65nm,1.1s,mb5.0
MDJ LR LR
comp=Z,3μm,19.0s,MS4.7
GUMO Guam 23.75 106 P **P 03 05 30.2 +1.4**
comp=Z,138nm,0.8s,mb5.5,baz=213,slow=4.2,SNR=9.5
GUMO LR LR 03 14 19.8
comp=Z,2μm,20.3s,MS4.5,baz=101,slow=36
GUMO Guam 23.75 106 *e*P **P 03 05 29.3 +0.5**
GUMO pmax pmax
comp=Z,829nm,1.4s,mb6.0
GUMO MLR MLR
comp=Z,2μm,19.0s,MS4.6
GUMO Guam 23.75 106 *e*P **P 03 05 29.3 +0.5**
comp=Z,829nm,1.4s,mb6.0
GUMO LR LR
comp=Z,2μm,19.0s,MS4.6
IMP Imphal 25.41 282 *e*P **P 03 05 44.0 +0.1**
IMP *ex* x 03 12 57.0
GTA Gaotai 25.47 318 P **P 03 05 44.5 +0.3**
GTA AP pP 03 05 52.0 +2.9
GTA XP sP 03 05 55.5 +4.4
GTA PCP PcP 03 09 16.8 +0.9
GTA S **S 03 10 09.3 -1.4**
GTA XS sS 03 10 20.8 +2.0
GTA SCP ScP 03 12 53.3 -1.4
GTA PCS PcS 03 12 56.3 0.0
GTA SCS ScS 03 16 40.5 -3.0
GTA AMB AMB
comp=Z,31nm,1.3s,mb4.7
GTA AMB AMB
comp=Z,1μm,6.9s
GTA LR LR
comp=N,5μm,12.3s,MS5.4
GTA LR LR
comp=E,4μm,11.4s,MS5.4
GTA LR LR
comp=Z,4μm,14.7s,MS5.0
MYKOM Kota Tinggi 26.24 223 ⇑P **P 03 05 53.2 +1.8**
KAPI Kappang 26.70 184 P **P 03 05 54.0 -1.5**
comp=Z,989nm,1.1s,mb6.2,SNR=13
KAPI Kappang 26.70 184 P **P 03 05 55.2 -0.3**
SNR=18
KAPI Kappang 26.70 184 *e*P **P 03 05 54.4 -1.1**
comp=Z,480nm,1.5s,mb5.8
KAPI LR LR
comp=Z,975nm,20.0s,MS4.4
SHL Shillong 27.29 284⇓*i*P **P 03 06 02.0 +1.2**
SHL *e*PCP PcP 03 09 21.0 +0.6
SHL *e*S **S 03 10 40.0 +0.2**
SHL *e*PCS PcS 03 13 01.0 -1.2
HIA Hailar 27.44 358 *e*P **P 03 06 00.3 -1.6**
HIA Hailar 27.44 358 *e*P **P 03 05 59.6 -2.2**
comp=Z,28nm,0.7s,mb4.9
HIA LR LR
comp=Z,4μm,19.0s,MS5.0
TPI Tanjungpandan 27.88 211⇑*e*P **P 03 06 00.9 -5.2**
ASAJ Asahikawa 28.32 33 P **P 03 06 10.1 +0.3**
comp=Z,40nm,0.7s,mb5.2,baz=233,slow=11,SNR=29
ASAJ LR LR 03 18 57.6
comp=Z,3μm,18.6s,MS4.9,baz=251,slow=40
LSA Lhasa 28.32 292 P **P 03 06 11.5 +1.5**
LSA LR LR
comp=N,3μm,11.5s,MS5.4
LSA LR LR
comp=E,6μm,16.4s,MS5.4
LSA LR LR
comp=Z,10μm,14.7s,MS5.5
LSA Lhasa 28.32 292⇑*e*P **P 03 06 11.4 +1.4**
LSA pmax pmax
comp=Z,185nm,1.6s,mb5.5
LSA MLR MLR
comp=Z,8μm,19.0s,MS5.3
LSA Lhasa 28.32 292⇑*e*P **P 03 06 11.3 +1.3**
comp=Z,185nm,1.6s,mb5.5
LSA LR LR
comp=Z,8μm,19.0s,MS5.3
KLR Kul'dur 28.57 14 *e*P **P 03 06 07.5 -4.5**
KLR pmax pmax
comp=Z,1μm,7.0s
SONM Songino Array 28.65 339 P **P 03 06 12.7 0.0**
comp=Z,18nm,0.7s,mb4.9,baz=156,slow=9.7,SNR=78
SONM PcP PcP 03 09 24.9 +1.7
comp=Z,3.6nm,0.8s,baz=161,slow=2.9,SNR=5.3
SONM ScP ScP 03 13 02.4 -1.7
comp=Z,3.6nm,0.9s,baz=172,slow=2.9,SNR=5.9
SONM LR LR 03 18 45.5
comp=Z,3μm,19.1s,MS4.9,baz=152,slow=38
SONM SKKP 03 35 27.0
comp=Z,0.7nm,0.7s,baz=127,slow=4.5,SNR=5.2
SONM Songino Array 28.65 339 P **P 03 06 12.7 0.0**
SONM 03 09 24.9
PSI Prapat 28.90 232 P **P 03 06 16.2 +0.9**
comp=Z,64nm,1.1s,mb5.3,baz=23,slow=6.3,SNR=30
PSI PcP PcP 03 09 24.6 0.0
comp=Z,36nm,1.0s,baz=47,slow=2.3,SNR=6.3
PSI ScP ScP 03 13 05.3 -0.1
comp=Z,15nm,1.0s,baz=48,slow=3.1,SNR=6.5
PSI Prapat 28.90 232 P **P 03 06 16.2 +0.9**
PSI 03 09 24.6
PSI Prapat 28.90 232 P **P 03 06 16.2 +0.9**
PSI PcP PcP 03 09 24.6 0.0
PSI ScP ScP 03 13 05.3 -0.1
YUK Yuzh-Kuril'sk 30.00 37 *e*P **P 03 06 23.5 -1.2**
YUK 03 07 22.0
YUK pmax pmax
comp=N,2μm,5.0s
YUK pmax pmax
comp=E,3μm,5.0s
YUK pmax pmax
comp=Z,3μm,5.0s
YUK MLR MLR
comp=Z,3μm,14.0s,MS5.1
YUK MLR MLR
comp=N,3μm,16.0s,MS5.2
YUK MLR MLR
comp=E,3μm,17.0s,MS5.2
YSS Yuzh-Sakhalins 30.45 29*ce*P **P 03 06 27.0 -1.7**
YSS *e**SP sP 03 06 40.0 +4.4
YSS *e* 03 07 22.0
YSS *e*PPP 03 07 47.0
YSS *e*S **S 03 11 26.0 -3.1**
YSS pmax pmax
comp=Z,100nm,1.2s,mb5.4
YSS pmax pmax
comp=Z,700nm,5.0s
YSS MLR MLR
comp=N,2μm,19.0s
YSS MLR MLR
comp=Z,2μm,19.0s,MS4.7
YSS Yuzh-Sakhalins 30.45 29 *e*P **P 03 06 28.8 +0.1**
comp=Z,168nm,1.4s,mb5.6
YSS LR LR
comp=Z,607nm,19.0s,MS4.3
CAL Calcutta 30.63 278 *e*P **P 03 06 31.2 +0.7**
CAL AMb AMB 03 06 33.1
comp=Z,1μm,0.3s
CAL *ex* x 03 12 57.4
TAPN Taplejung 31.10 287 *e*P **P 03 06 36.8 +2.1**
comp=Z,125nm,1.0s,mb5.7
TAPN *e*P PcP 03 09 31.5 +1.5
ODAN Odare 31.36 286 *e*P **P 03 06 38.5 +1.5**
comp=Z,191nm,1.2s,mb5.8
ODAN *e*P PcP 03 09 31.9 +1.2
LEM Lembang 31.51 207⇓*i*P **P 03 06 41.3 +3.0**
ZAK Zakamensk 31.89 338⇑*i*P **P 03 06 40.5 -0.9**
ZAK *e* 03 07 39.8
ZAK *e* 03 08 01.7
ZAK *e* 03 09 32.6
ZAK pmax pmax
comp=Z,20nm,1.0s,mb4.9
RAMN Ramite 32.07 286 *e*P **P 03 06 44.1 +0.9**
comp=Z,157nm,0.8s,mb5.9
RAMN *e*P 03 09 33.7
GUN Gumba 32.75 288 *e*P **P 03 06 50.7 +1.6**
comp=Z,242nm,1.0s,mb6.1
GUN *e*P PcP 03 09 33.7 -0.8
BOK Bokaro 32.78 280 *e*P **P 03 06 51.3 +1.9**
BOK AMb AMB 03 06 54.0
comp=Z,115nm,1.6s,mb5.5
TLY Talaya 32.87 339 P **P 03 06 50.7 +0.8**
comp=Z,268nm,0.8s,mb6.2,SNR=9.5
TLY Talaya 32.87 339 P **P 03 06 50.2 +0.3**
SNR=16
TLY Talaya 32.87 339 *e*P **P 03 06 49.6 -0.3**
TLY *e*PPP 03 08 08.9
TLY *e*S **S 03 12 08.6 +1.9**
TLY *e*SS SS 03 14 09.0 -19
TLY pmax pmax
comp=Z,57nm,1.0s,mb5.5
TLY MLR MLR
comp=Z,5μm,15.0s,MS5.3
TLY Talaya 32.87 339 *e*P **P 03 06 48.9 -1.0**
comp=Z,44nm,1.0s,mb5.3
TLY *e*pP pP 03 06 54.9 +0.1
TLY LR LR
comp=Z,2μm,21.0s,MS4.8
PKI Pulchoki 33.15 287 *e*P **P 03 06 53.5 +0.8**
PKI *e* PcP 03 09 36.3 +0.7
PKI pmax pmax
comp=Z,316nm,1.3s,mb6.1
PKI Pulchoki 33.15 287 *e*P **P 03 06 53.5 +0.8**
comp=Z,316nm,1.3s,mb6.1
PKI *e*P PcP 03 09 36.3 +0.7
IRK Irkutsk 33.16 341⇓*i*P **P 03 06 51.8 -0.6**
IRK *e* 03 09 40.9
IRK *e* 03 14 09.1
IRK pmax pmax
comp=Z,165nm,1.4s,mb5.8
PKIN Phulchoki 33.16 287 *e*P **P 03 06 53.4 +0.6**
comp=Z,330nm,1.6s,mb6.0
KKN Kakani 33.27 288 *e*P **P 03 06 54.4 +0.7**
KKN *e* 03 09 36.5
KKN pmax pmax
comp=Z,239nm,1.1s,mb6.0
KKN Kakani 33.27 288 *e*P **P 03 06 54.4 +0.7**
comp=Z,239nm,1.1s,mb6.0
KKN *e*P PcP 03 09 36.5 +0.6
DMN Daman 33.42 287 *e*P **P 03 06 55.5 +0.5**
comp=Z,112nm,0.9s,mb5.8
DMN *e*P PcP 03 09 37.1 +0.7
MOY Mondy 33.77 337 *e*P **P 03 06 57.5 -0.3**
MOY pmax pmax
comp=Z,111nm,2.4s,mb5.4
GKN Gorkha 33.85 288 *e*P **P 03 06 59.3 +0.5**
comp=Z,74nm,1.0s,mb5.6
DANN Dangsing 34.64 289 *e*P **P 03 07 06.3 +0.7**
comp=Z,292nm,1.2s,mb6.1
DANN *e*P PcP 03 09 40.4 +0.6
CLNS Chul'man 35.08 3 *e*P **P 03 07 13.6 +4.6**
CLNS *e**PP pP 03 07 26.7 +13
CLNS *e* 03 08 26.7
CLNS *e*PPP 03 08 42.2
CLNS *e* 03 09 40.7
CLNS *e*S **S 03 12 46.7 +5.9**
CLNS *e*SSS 03 15 24.9
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.9s,mb4.9
CLNS smax
comp=N,64nm,11.5s
CLNS smax
comp=E,109nm,12.0s
CLNS MLR MLR
comp=Z,3μm,12.0s,MS5.3
CLNS MLR MLR
comp=N,2μm,10.0s,MS5.2
CLNS MLR MLR
comp=E,1μm,11.0s,MS5.2
WMQ Urumqi 35.49 316 P **P 03 07 14.8 +2.0**
WMQ AP pP 03 07 22.0 +4.3
WMQ XP sP 03 07 25.5 +5.8
WMQ PP PP 03 08 35.3 +1.9
WMQ PCP PcP 03 09 43.3 +1.3
WMQ S **S 03 12 47.8 +0.3**
WMQ XS sS 03 13 00.5 +4.9
WMQ SCP ScP 03 13 26.5 -0.9
WMQ SCS ScS 03 17 30.0 -1.8
WMQ AMB AMB
comp=Z,66nm,1.4s,mb5.4
WMQ AMB AMB
comp=Z,179nm,8.6s
WMQ LR LR
comp=N,2μm,16.6s,MS5.0
WMQ LR LR
comp=E,2μm,20.3s,MS5.0
WMQ LR LR
comp=Z,1μm,15.0s
KAKA Kakadu 35.96 161 *e*P **P 03 07 13.8 -3.2**
comp=Z,70nm,0.8s,mb5.6
KAKA *e*S PcP 03 09 43.4 -0.4
VIS Vishakhapatnam 36.03 270 *e*P **P 03 07 17.3 -0.3**
VIS AMb AMB 03 07 21.4
comp=Z,87nm,1.7s,mb5.4
BOD Bodaibo 36.38 353 *e*P **P 03 07 17.7 -2.5**
BOD pmax pmax
comp=Z,12nm,1.1s,mb4.7
PTH Pithoragarh 37.78 290 *ex* x 03 07 38.9
NGP Nagpur 39.35 277 *i* P **P 03 07 43.5 -2.3**
NGP *ex* x 03 13 40.9
SKR Severo-Kuril's 39.55 35 *e*P **P 03 07 44.5 -2.5**
SKR *e* PP 03 09 28.0 +10
SKR *e* PcP 03 09 52.5 -1.8
SKR *e* 03 17 14.0
SKR *e*SS ScS 03 17 46.0 -8.5
SKR pmax pmax
comp=E,1μm,6.0s
SKR pmax pmax
comp=Z,1μm,6.0s
DDI Dehra Dun 39.68 292 *e*P **P 03 07 46.6 -1.8**
FITZ Fitzroy Crossi 39.87 174 *e*P **P 03 07 48.3 -1.7**
comp=Z,83nm,1.1s,mb5.4
FITZ *e*PP PP 03 09 27.6 +5.8
FITZ *e*PCP PcP 03 10 04.1 +8.4
FITZ Fitzroy Crossi 39.87 174 P **P 03 07 48.6 -1.3**
comp=Z,74nm,1.1s,mb5.3,baz=3.8,slow=10,SNR=54
PMG Port Moresby 39.99 138 PFAKE 03 08 00.0 +8.9
PMG LR LR
comp=Z,674nm,19.0s,MS4.5
MDRS Chennai 40.14 264 *e*P **P 03 07 50.9 -1.5**
MDRS ⇑*e*P 03 07 52.0
MDRS AMb AMB 03 07 57.2
comp=Z,280nm,1.2s,mb5.9
MDRS *ex* x 03 09 44.0
MK31 Makanchi Array 40.22 318⇑*e*P **P 03 07 52.8 +0.1**
MK31 *e**PP pP 03 07 59.4 +1.7
MK31 *e* 03 09 56.9
MKAR Makanchi Array 40.22 318 P **P 03 07 53.7 +1.0**
comp=Z,24nm,0.7s,mb5.0,baz=112,slow=10,SNR=175
MKAR PcP PcP 03 09 56.8 +0.3
comp=Z,7.2nm,0.6s,baz=120,slow=3.3,SNR=8.9
MKAR ScP ScP 03 13 44.7 -0.5
comp=Z,2.4nm,0.8s,baz=104,slow=5.2,SNR=4.1
MKAR LR LR 03 26 20.2
comp=Z,2μm,19.4s,MS5.0,baz=111,slow=39
MKAR Makanchi Array 40.22 318 P **P 03 07 53.7 +1.0**
MKAR 03 09 56.8
MKAR Makanchi Array 40.22 318 P **P 03 07 53.7 +1.0**
MKAR PcP PcP 03 09 56.8 +0.3
MKAR ScP ScP 03 13 44.7 -0.5
MKAR LR LR 03 26 20.2
NDI New Delhi 40.40 289 *e*P **P 03 07 54.0 -0.4**
SMLA Simla 40.48 293 *i* P **P 03 07 56.3 +1.3**
SMLA *ex* x 03 08 02.0
comp=Z,293nm,0.8s
HYB Hyderabad 40.53 272 *i* P **P 03 07 56.5 +0.9**
HYB Hyderabad 40.53 272 *e*P **P 03 07 56.5 +0.9**
YAK Yakutsk 40.60 6 *e*P **P 03 07 54.5 -1.1**
YAK *e**PP pP 03 08 04.3 +3.7
YAK *e* 03 09 56.3
YAK *e* 03 10 05.5
YAK *e* 03 14 02.3
YAK pmax pmax
comp=Z,25nm,0.9s,mb4.8
YAK pmax pmax
comp=N,17nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK MLR MLR
comp=Z,3μm,13.0s,MS5.4
YAK MLR MLR
comp=N,3μm,16.0s,MS5.3
YAK MLR MLR
comp=E,789nm,12.0s,MS5.3
YAK Yakutsk 40.60 6 P **P 03 07 54.7 -0.9**
comp=E,62nm,0.8s,mb5.3
YAK LR LR
comp=Z,1μm,19.0s,MS4.8
SDNR Sundarnagar 40.66 293 *e*P **P 03 07 57.6 +1.1**
COCO West Island 41.52 218 PFAKE 03 08 10.0 +6.3
COCO LR LR
comp=Z,617nm,22.0s,MS4.4
PETK Petropavlovsk- 41.73 32 P **P 03 08 04.7 -0.3**
comp=Z,2.2nm,0.5s,baz=201,slow=2.9,SNR=8.6
PETK PcP PcP 03 10 00.3 -0.9
comp=Z,4.8nm,0.9s,baz=201,slow=2.3,SNR=3.5
PETK LR LR 03 27 40.1
comp=Z,999nm,18.3s,MS4.7,baz=228,slow=39
THN Thein Dam 41.77 295 *e*P **P 03 08 04.9 -0.7**
PALK Pallekele 41.83 256 P **P 03 08 08.4 +2.0**
comp=Z,321nm,1.0s,mb5.9,SNR=5.1

PALK Pallekele 41.83 256 *e*P **P 03 08 08.3 +2.0**
PALK LR LR
comp=Z,2µm,22.0s,MS4.9
PET Petropavlovsk 42.16 33 *e*P **P 03 08 07.0 -1.5**
PET *e* 03 09 47.9
PET *e*PPP 03 10 08.3
PET *e*S **S 03 14 25.1 -2.5**
PET pmax pmax
comp=Z,32nm,0.8s,mb5.0
PET pmax pmax
comp=Z,600nm,5.5s
PET pmax pmax
comp=Z,400nm,8.7s
PET MLR MLR
comp=Z,800nm,17.0s,MS4.7
PET MLR MLR
comp=Z,600nm,12.0s
PET Petropavlovsk 42.16 33 *e*P **P 03 08 08.5 0.0**
PET LR LR
comp=Z,2µm,21.0s,MS4.9
ZALV Zalesovo Beam 42.37 328 P **P 03 08 10.2 0.0**
comp=Z,41nm,0.7s,mb5.2,baz=113,slow=8.0,SNR=117
ZALV PcP PcP 03 10 02.7 -0.7
comp=Z,7.3nm,0.6s,baz=104,slow=3.2,SNR=4.7
ZALV ScP ScP 03 13 51.3 -2.2
comp=Z,2.8nm,0.9s,baz=126,slow=4.1,SNR=3.6
ZALV Zalesovo Beam 42.37 328 P **P 03 08 10.2 0.0**
ZALV PcP PcP 03 10 02.7 -0.7
ZALV ScP ScP 03 13 51.3 -2.2
ZAL Zalesovo 42.38 328 P **P 03 08 10.2 -0.1**
ZAL 03 10 02.7
KSH Kashi 42.42 305 *e*P **P 03 08 13.8 +3.0**
KSH AP pP 03 08 22.0 +6.2
KSH XP sP 03 08 25.3 +7.5
KSH PP PP 03 09 56.5 +7.4
KSH PCP PcP 03 10 06.0 +2.2
KSH SCP ScP 03 13 54.0 -0.1
KSH PCS PcS 03 13 57.3 +1.6
KSH S **S 03 14 35.0 +3.1**
KSH XS sS 03 14 47.8 +7.7
KSH SCS ScS 03 18 11.0 -1.2
KSH AMB AMB
comp=Z,329nm,1.2s,mb5.8
KSH AMB AMB
comp=Z,3µm,4.8s
MBWA Marble Bar 42.73 182⇑ *e*P **P 03 08 11.8 -1.6**
comp=Z,41nm,1.1s,mb5.1
MBWA *e*PcP PcP 03 10 02.8 -2.2
MBWA *e*ScP ScP 03 13 53.9 -1.6
MBWA LR LR
comp=Z,1µm,19.0s,MS4.8
AJM Ajmer 42.77 286 *e*P **P 03 08 14.3 +0.4**
AJM AMb AMB 03 08 17.0
comp=Z,170nm,1.4s,mb5.6
WRAB Tennant Creek 43.36 162 P **P 03 08 17.0 -1.5**
comp=Z,407nm,0.8s,mb6.2,SNR=19
WRAB Tennant Creek 43.36 162*c i*P **P 03 08 17.2 -1.3**
WRAB Tennant Creek 43.36 162⇑ *e*P **P 03 08 16.8 -1.8**
comp=Z,89nm,1.1s,mb5.4
WRAB LR LR
comp=Z,997nm,20.0s,MS4.7
WRA Warramunga Arr 43.36 162 P **P 03 08 16.8 -1.8**
comp=Z,35nm,0.7s,mb5.2,baz=345,slow=8.8,SNR=94
WRA ScP ScP 03 13 58.7 +0.7
comp=Z,3.5nm,0.9s,baz=344,slow=4.0,SNR=5.6
WRA S **S 03 14 42.6 -3.4**
comp=Z,5.0nm,1.0s,baz=345,slow=14,SNR=6.2
WB2 Warramunga Arr 43.37 162 *e*P **P 03 08 16.8 -1.8**
WB2 *e*PP PP 03 10 05.7 +6.0
WB2 *e*PCP PcP 03 10 19.5 +12
WB2 *e*S **S 03 14 39.8 -6.2**
TKM2 Tokmak 2 43.43 310⇑ *e*P **P 03 08 20.0 +1.0**
TKM2 pmax pmax
comp=Z,102nm,1.4s,mb5.4
TKM2 Tokmak 2 43.43 310 P **P 03 08 21.0 +2.0**
SNR=19
TKM2 Tokmak 2 43.43 310⇑ *e*P **P 03 08 20.0 +1.0**
comp=Z,102nm,1.4s,mb5.4
NVS Novosibirsk 43.64 329⇑ *i*P **P 03 08 19.5 -1.0**
NVS *i* S **S 03 14 47.9 -1.5**
NVS *e*SS SS 03 18 13.0 +8.5
NVS pmax pmax
comp=Z,149nm,1.6s,mb5.5
NVS pmax pmax
comp=N,137nm,1.7s
NVS pmax pmax
comp=E,114nm,1.5s
NVS smax
comp=E,136nm,2.5s
UCH Uchtor 44.05 309 P **P 03 08 26.1 +2.2**
SNR=32
UCH Uchtor 44.05 309⇑ *i*P **P 03 08 26.2 +2.2**
comp=E,538nm,0.7s,mb6.4
CHMS Chumysh 44.05 310 P **P 03 08 25.5 +1.5**
SNR=8.6
KURK Kurchatov 44.07 322 P **P 03 08 24.5 +0.5**
comp=E,586nm,1.2s,mb6.2,SNR=34
KURK Kurchatov 44.07 322 P **P 03 08 24.2 +0.2**
SNR=113
KURK Kurchatov 44.07 322⇑ *i*P **P 03 08 23.9 -0.1**
KURK *e**PP pP 03 08 29.3 +0.2
KURK pmax pmax
comp=Z,114nm,1.0s,mb5.6
KURK MLR MLR
comp=Z,2µm,19.0s,MS5.1
KURK Kurchatov 44.07 322⇑ *i*P **P 03 08 23.9 -0.1**
comp=Z,114nm,1.0s,mb5.6
KURK *e*pP pP 03 08 29.3 +0.2
KURK LR LR
comp=Z,2µm,19.0s,MS5.1
FRU Bishkek 44.11 310⇑ *e*P **P 03 08 25.0 +0.5**
FRU pmax pmax
comp=Z,130nm,2.1s,mb5.3
KAD Karad 44.62 273 *e*P **P 03 08 30.0 +1.2**
KAD AMb AMB 03 08 31.2
comp=Z,51nm,1.5s,mb5.1
AML Almayashu 44.63 308 P **P 03 08 31.2 +2.6**
SNR=20
AML Almayashu 44.63 308⇑ *e*P **P 03 08 30.0 +1.4**
comp=Z,88nm,1.1s,mb5.5
AML *e*pP pP 03 08 35.4 +1.8
POO Poona 44.65 275⇑ *i*P **P 03 08 29.8 +0.7**
POO AMb AMB 03 08 31.9
comp=Z,98nm,1.3s,mb5.5
EKS2 Erkin-Say 44.68 309 P **P 03 08 30.9 +1.9**
SNR=11
EKS2 Erkin-Say 44.68 309⇑ *e*P **P 03 08 29.9 +1.0**
comp=Z,76nm,1.7s,mb5.2
TRD Trivandrum 44.75 260⇑ *i*P **P 03 08 29.4 -0.5**
TRD AMb AMB 03 08 35.2
comp=Z,151nm,1.5s,mb5.6
SEY Seymchan 46.14 19 *i*P **P 03 08 39.9 -0.3**
KK31 Karatay Array 47.12 309 *i*P **P 03 08 48.7 +0.5**
KK31 pmax pmax
comp=Z,63nm,1.2s,mb5.4
KK31 Karatay Array 47.12 309 *i*P **P 03 08 48.8 +0.6**
KBL Kabul 47.42 297⇑ *i*P **P 03 08 51.6 +0.9**
KBL *e* 03 10 21.5
KBL pmax pmax
comp=Z,316nm,1.4s,mb6.0
KBL Kabul 47.42 297⇑ *i*P **P 03 08 51.6 +0.9**
comp=Z,316nm,1.4s,mb6.0
KBL *e*PcP PcP 03 10 21.5 +0.3
BHJ Bhuj 47.64 282 *e*P **P 03 08 52.4 -0.2**
BHJ AMb AMB 03 08 57.0
comp=Z,186nm,1.7s,mb5.8
CTA Charters Tower 48.19 148 *e*P **P 03 08 57.0 +0.3**
comp=Z,22nm,0.9s,mb5.2
CTA *e*PCP PcP 03 10 32.5 +8.5
CTA *e*PP PP 03 11 09.1 +20
CTA *e*S **S 03 15 59.2 +3.8**
CTA Charters Tower 48.19 148 *e*P **P 03 08 57.0 +0.3**
CTA *e*S **S 03 15 59.2 +3.8**
CTA pmax pmax
comp=Z,23nm,0.9s
CTAO Charters Tower 48.19 148 *e*P **P 03 08 57.3 +0.6**
CTAO pmax pmax
comp=Z,36nm,1.0s,mb5.4
CTAO Charters Tower 48.19 148 *e*P **P 03 08 56.8 +0.1**
comp=Z,36nm,1.0s,mb5.4
CTAO LR LR
comp=Z,1µm,22.0s,MS4.8
HNR Honiara 48.90 125 LR LR 03 26 02.3
comp=Z,1µm,18.7s,MS4.9,baz=357,slow=32
HNR Honiara 48.90 125 PFAKE 03 09 10.0 +7.6
HNR LR LR
comp=Z,2µm,20.0s,MS5.0
VOSK Vostochnaya 49.23 322 P **P 03 09 03.5 -0.9**
VOSK pmax pmax
comp=Z,61nm,1.4s,mb5.4
BVA0 Borovoye Array 49.67 322 *i*P **P 03 09 06.8 -0.9**
BVA0 pmax pmax
comp=Z,63nm,2.4s,mb5.2
BVAR Borovoye Array 49.67 322 P **P 03 09 08.4 +0.6**
comp=Z,20nm,0.6s,mb5.3,baz=108,slow=7.9,SNR=46
BVAR PcP PcP 03 10 29.0 +0.1
comp=Z,13nm,0.7s,baz=103,slow=4.6,SNR=6.7
BRVK Borovoye 49.74 322 P **P 03 09 09.5 +1.2**
comp=Z,338nm,1.4s,mb6.2,SNR=17
BRVK Borovoye 49.74 322 P **P 03 09 08.7 +0.5**
SNR=47
BRVK Borovoye 49.74 322 *e*P **P 03 09 08.6 +0.3**
BRVK Borovoye 49.74 322⇑ *i*P **P 03 09 08.4 +0.1**
comp=Z,63nm,1.1s,mb5.6
BRVK *e*PcP PcP 03 10 29.1 -0.1
BRVK LR LR
comp=Z,961nm,19.0s,MS4.8
TIXI Tiksi 50.05 3*c i*P **P 03 09 06.9 -3.5**
TIXI *e*S **S 03 16 12.8 -7.7**
TIXI pmax pmax
comp=Z,52nm,1.1s,mb5.5
TIXI Tiksi 50.05 3 *e*P **P 03 09 07.9 -2.5**
comp=Z,35nm,0.9s,mb5.4
SMY Shemya 50.52 39 PFAKE 03 09 30.0 +16
SMY LR LR
comp=Z,702nm,19.0s,MS4.7
FORT Forrest 52.66 173 *e*P **P 03 09 29.8 -0.6**
comp=Z,85nm,1.0s,mb5.6
FORT *e*sP sP 03 09 45.9 +8.4
FORT *e*PCP PcP 03 10 35.1 -5.1
KLBR Kellerberrin 53.20 184 *e*P **P 03 09 34.0 -0.4**
comp=Z,118nm,1.0s,mb5.8
KLBR *e*PCP PcP 03 10 41.9 -0.4
AMKA Amchitka 53.31 41 *e*P **P 03 09 35.1 +0.1**
MUN Mundaring 53.71 186 *e*P **P 03 09 34.0 -4.1**
BILL Bilibino 53.84 19⇓ *e*P **P 03 09 38.2 -0.5**
BILL *e* 03 10 44.8
BILL *e*S **S 03 17 12.4 -0.3**
BILL pmax pmax
comp=Z,20nm,2.0s,mb4.7
BILL MLR MLR
comp=Z,1µm,16.0s,MS5.0
NWAO Narrogin (SRO) 54.57 184 P **P 03 09 44.6 +0.3**
comp=Z,68nm,1.0s,mb5.6,baz=10,slow=8.3,SNR=9.1
NWAO Narrogin (SRO) 54.57 184 *e*P **P 03 09 44.8 +0.5**
NWAO Narrogin (SRO) 54.57 184 *e*P **P 03 09 43.9 -0.4**
comp=Z,96nm,1.1s,mb5.7
MIDW Midway 55.34 70 PFAKE 03 10 00.0 +10
MIDW LR LR
comp=Z,720nm,19.0s,MS4.8
SVE Sverdlovsk 56.10 325⇑ *e*P **P 03 09 55.7 +0.5**
SVE *e*S **S 03 17 47.7 +4.4**
SVE pmax pmax
comp=Z,132nm,1.5s,mb5.7
SVE MLR MLR
comp=Z,2µm,14.0s,MS5.4
AKTK Aktyubinsk 56.64 317 *i*P **P 03 09 59.3 +0.1**
AKTO Aktyubinsk 56.64 317 P **P 03 09 59.3 +0.1**
STKA Stephens Creek 56.76 159 *e*P **P 03 09 59.2 -0.9**
comp=Z,28nm,0.8s,mb5.3
STKA *e*PCP PcP 03 10 45.5 -10
STKA *e*PP PP 03 11 10.6 -56
STKA Stephens Creek 56.76 159 P **P 03 10 00.1 0.0**
comp=Z,37nm,0.9s,mb5.4,baz=336,slow=6.9,SNR=51
STKA LR LR 03 35 30.4
comp=Z,478nm,18.4s,MS4.6,baz=115,slow=37
ARU Arti 57.15 324 P **P 03 10 02.2 -0.4**
comp=Z,464nm,0.6s,SNR=11
ARU Arti 57.15 324*c i*P **P 03 10 02.5 -0.1**
ARU *e* 03 10 54.8
ARU *e* 03 12 07.2
ARU *e*S **S 03 17 57.3 +0.1**
ARU *e*SS SS 03 21 38.2 -7.7
ARU pmax pmax
comp=Z,161nm,1.7s,mb5.8
ARU MLR MLR
comp=Z,1µm,15.0s,MS5.2
ARU Arti 57.15 324 *e*P **P 03 10 02.0 -0.6**
comp=Z,124nm,1.3s,mb5.8
ARU LR LR
comp=Z,1µm,20.0s,MS5.0
WBK Wadi Bani Khal 57.44 284 ⇑P **P 03 10 06.6 +1.4**
SNR=11
BIDO Bidbid 58.01 285 P **P 03 10 10.9 +1.6**
SNR=25
SMDO Samad 58.18 284 P **P 03 10 12.0 +1.5**
SNR=17
JMDO Jabal Madar 58.27 283 ⇑P **P 03 10 12.1 +0.9**
SNR=10
SOKR Solikamsk 58.64 327*c i*P **P 03 10 13.1 +0.1**
SOKR S **S 03 18 19.1 +2.5**
SOKR pmax pmax
comp=Z,60nm,1.4s,mb5.4
SOKR MLR MLR
comp=Z,3µm,18.0s,MS5.5
HOQ Hoqain 58.73 285 P **P 03 10 15.6 +1.3**
SNR=35
BSY Bisya 59.01 284 P **P 03 10 17.7 +1.4**
SNR=14
ARMA Armidale 59.48 150 *e*P **P 03 10 20.4 +1.2**
HATD Hatta, Dubai 59.53 287 P **P 03 10 21.7 +1.8**
SNR=8.8
ASHO Ashiyiah 59.63 287 P **P 03 10 21.9 +1.4**
SNR=17
DZM Mont Dzumac 61.87 132 *e*P **P 03 10 36.4 +0.7**
RIV Riverview 62.15 152 *e*P **P 03 10 38.1 +0.8**
CAN Canberra 62.54 155⇑ *i*P **P 03 10 40.5 +0.6**
CNB Canberra Magne 62.68 154 *e*P **P 03 10 41.1 +0.3**
RBK Rabkut 63.02 279 P **P 03 10 44.2 +0.6**
SNR=9.2
TOO Toolangi 63.25 159 *e*P **P 03 10 44.9 +0.3**
WHFO Wadi Hawf 63.31 280 P **P 03 10 46.3 +0.8**
SNR=5.8
ABTO Aybut 63.90 279 ⇑P **P 03 10 49.9 +0.5**
SNR=6.2
MAK Makhachkala 63.92 308*c i*P **P 03 10 49.6 +0.5**
MAK *e* 03 11 29.3
MAK *i* S **S 03 19 24.2 -0.1**
MAK pmax pmax
comp=Z,195nm,1.5s,mb5.9
MAK MLR MLR
comp=Z,2µm,13.0s,MS5.4
DGRG David-gareji 65.68 307 P **P 03 11 01.8 +1.2**
UMR Umm Al-Rimmam 65.91 294 *e*P **P 03 11 02.6 +0.3**
baz=294
UMR AMb AMB 03 11 04.3
comp=Z,112nm,1.7s,mb5.6,baz=294
MTA Mtatsminda 66.08 307 P **P 03 11 03.7 +0.5**
TBLG Delisi 66.11 307 P **P 03 11 03.7 +0.3**
MIB Mutribah 66.17 294 *e*P **P 03 11 03.9 -0.1**
baz=294
MIB AMb AMB 03 11 13.8
comp=Z,101nm,0.8s,mb5.9,baz=294
RDF Al-Radifah 66.18 293 *e*P **P 03 11 04.4 +0.3**
baz=293
RDF AMb AMB 03 11 06.6
comp=Z,207nm,1.5s,mb5.9,baz=293
GNI Garni 66.35 305 P **P 03 11 06.9 +1.9**
SNR=29
GNI Garni 66.35 305 P **P 03 11 04.1 -0.9**
comp=Z,10nm,0.8s,mb4.9,baz=138,slow=3.7,SNR=19
GNI Garni 66.35 305⇑ *e*P **P 03 11 06.1 +1.1**
GNI pmax pmax
comp=Z,152nm,1.3s
GNI MLR MLR
comp=Z,787nm,19.0s
GNI Garni 66.35 305⇑ *e*P **P 03 11 06.0 +1.1**
comp=Z,152nm,1.3s,mb5.9
GNI LR LR
comp=Z,787nm,19.0s,MS4.9
NAY Al-Naaiem 66.37 293 *e*P **P 03 11 04.9 -0.4**
baz=293
NAY AMb AMB 03 11 08.7
comp=Z,73nm,1.5s,mb5.5,baz=293
GOR Gori 66.54 308 P **P 03 11 08.1 +1.9**
ONI Oni 66.93 308 P **P 03 11 09.3 +0.6**
VRHR Novokhopersk 67.03 318 *e*P **P 03 11 08.6 -0.5**
VRHR pmax pmax
comp=Z,90nm,1.1s,mb5.7
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,150nm,1.2s
DYDN Diyadin 67.25 305 *i*P **P 03 11 12.5 +1.8**
KIV Kislovodsk 67.27 310 P **P 03 11 11.9 +1.1**
comp=E,441nm,1.6s,mb6.2,SNR=20
KIV Kislovodsk 67.27 310 P **P 03 11 12.0 +1.2**
SNR=37
KIV Kislovodsk 67.27 310*c i*P **P 03 11 11.5 +0.7**
KIV *e* 03 13 35.5
KIV *e*S S 03 20 10.0 +4.8
KIV pmax pmax
comp=Z,152nm,1.4s,mb5.8
KIV MLR MLR
comp=Z,900nm,17.0s,MS5.1
KIV Kislovodsk 67.27 310⇑ *i*P **P 03 11 11.2 +0.4**
comp=Z,179nm,1.4s,mb5.9
KIV *e*pP pP 03 11 16.2 +0.2
KIV LR LR
comp=Z,1µm,19.0s,MS5.1
TTA Tatalina 67.45 29 *e*P **P 03 11 11.6 0.0**
HAKT HAKKARI 67.59 303 *i*P **P 03 11 13.8 +0.9**
SVW2 Sparrevohn 67.80 31 *e*P **P 03 11 14.7 +0.9**
BHD Baghdad 67.91 298 *e*x x 03 11 16.0
BHD *e*x x 03 20 15.0
IMA2 Indian Mountai 68.23 26 *e*P **P 03 11 16.1 -0.3**
ARTV Artvin 68.28 307 *i*P **P 03 11 18.0 +0.8**
MSL Mosul 68.33 302 *e*x x 03 11 18.5
MSL *e*x x 03 20 18.0
VOR Voronezh 68.45 319⇓ *i*P **P 03 11 17.0 -1.1**
VOR pmax pmax
comp=Z,300nm,1.8s,mb6.0
HOMI Horasan 68.51 306 *i*P **P 03 11 20.0 +1.3**
TATV Tatvan 68.53 304 *i*P **P 03 11 20.0 +1.2**
VRSR Storozhevoye 68.53 318 *e*P **P 03 11 17.6 -1.0**
VRSR *e**PP pP 03 11 25.4 +1.6
VRSR *e*S S 03 20 18.1 -2.0
VRSR pmax pmax
comp=Z,30nm,1.3s,mb5.1
VRSR pmax pmax
comp=N,8.0nm,1.1s
VRSR pmax pmax
comp=E,30nm,1.4s
VRSR smax
comp=E,60nm,4.9s
VRSR smax
comp=Z,20nm,3.5s
VRSR smax
comp=N,50nm,3.8s
TAU Tasmania Unive 68.67 160 *e*P **P 03 11 19.0 -0.4**
comp=N,158nm,1.3s,mb5.8
MOS Moscow 68.83 323 *e*P **P 03 11 16.3 -4.0**
MOS *e* 03 11 40.3
MOS *e*S S 03 20 20.5 -2.9
MOS pmax pmax
comp=Z,500nm,2.0s,mb6.1
MOS pmax pmax
comp=Z,249nm,1.6s,mb5.9
ERZM Erzurum 68.94 306 *i*P **P 03 11 23.2 +1.8**
CHUM Lake Minchumin 69.02 28 *e*P **P 03 11 21.2 -0.1**
comp=Z,9.0nm,0.7s,mb4.8
PPLA Purkeypile 69.20 29 *e*P **P 03 11 22.8 +0.3**
comp=Z,58nm,1.3s,mb5.3
BNGL BINGOL 69.30 305 *i*P **P 03 11 25.0 +1.4**
APA Apatity 69.31 336⇑ *i*P **P 03 11 23.0 -0.1**
APA *i* 03 13 58.0
APA *i*S S 03 20 29.0 +0.2
APA pmax pmax
comp=Z,51nm,1.1s,mb5.4
APA MLR MLR
comp=Z,1µm,14.0s,MS5.3
BEST Besiri 69.42 304 *i*P **P 03 11 26.9 +2.5**
OHAK Old Harbor 69.43 35 *e*P **P 03 11 25.0 +1.0**
comp=Z,9.8nm,0.4s,mb5.1
SOC Sochi 69.45 310*c i*P **P 03 11 23.6 -0.8**
SOC *e**PP pP 03 11 32.8 +3.1
SOC *e**SP sP 03 11 36.8 +5.2
SOC *e* 03 11 45.8
SOC *e* 03 13 53.2
SOC *e*PPP 03 15 31.9
SOC *e*S S 03 20 30.4 -0.9
SOC *e**SS sS 03 20 47.4 +7.5
SOC *e* 03 21 24.0
SOC pmax pmax
comp=Z,50nm,1.0s,mb5.4
SOC pmax pmax
comp=Z,300nm,5.3s
COLD Coldfoot 69.49 25 *e*P **P 03 11 23.5 -0.7**
comp=Z,28nm,1.2s,mb5.1
OBN Obninsk 69.51 322 P **P 03 11 24.1 -0.5**
comp=Z,681nm,1.8s,mb6.3,SNR=6.4
OBN Obninsk 69.51 322*c i*P **P 03 11 23.7 -0.9**
OBN *e* 03 13 56.2
OBN *e*S S 03 20 34.0 +2.5
OBN pmax pmax
comp=Z,278nm,1.7s,mb5.9
OBN MLR MLR
comp=Z,1µm,20.0s,MS5.1
OBN Obninsk 69.51 322 *e*P **P 03 11 24.5 -0.1**
comp=Z,102nm,1.0s,mb5.7
OBN LR LR
comp=Z,1µm,20.0s,MS5.2
KOPT Kop Dagi 69.58 306 *i*P **P 03 11 26.6 +1.4**
BPAW Bear Paw Mtn. 69.58 28 *e*P **P 03 11 24.4 -0.4**
comp=Z,106nm,1.6s,mb5.5
MSEY Mahe Island 69.66 256 PFAKE 03 11 40.0 +14
MSEY LR LR
comp=Z,581nm,19.0s,MS4.8
KTH Kantishna Hill 69.68 28 *e*P **P 03 11 25.2 -0.2**
comp=Z,11nm,0.9s,mb4.8
KDAK Kodiak Island 69.72 35 P **P 03 11 27.0 +1.2**
comp=Z,189nm,0.7s,mb6.1,SNR=7.3
KDAK Kodiak Island 69.72 35 *e*P **P 03 11 26.1 +0.3**
comp=Z,27nm,0.8s,mb5.2
KDAK LR LR
comp=Z,123nm,19.0s,MS4.2
MARD Mardin 69.93 303 *i*P **P 03 11 28.1 +0.6**
RC01 Rabbit Creek A 70.61 31 *e*P **P 03 11 31.7 +0.5**
comp=Z,60nm,1.6s,mb5.3
COLA College 70.80 27 *e*P **P 03 11 32.6 +0.3**
COLA College 70.80 27 *e*P **P 03 11 31.7 -0.6**
comp=Z,32nm,1.3s,mb5.1
COLA LR LR
comp=Z,320nm,19.0s,MS4.6
PMR Palmer 70.81 30 *e*P **P 03 11 33.2 +0.8**
PMR pmax pmax
comp=Z,49nm,1.6s,mb5.2
PMR Palmer 70.81 30 *e*P **P 03 11 31.1 -1.4**
comp=Z,49nm,1.6s,mb5.2
PMR LR LR
comp=Z,448nm,21.0s,MS4.7
ANN Anapa 70.82 311 *e*P **P 03 11 32.3 -0.5**
ANN *e**PP pP 03 11 42.5 +4.4
ANN *e* 03 14 05.1
ANN *e*S S 03 20 46.4 -0.9
ANN *e*SS SS 03 25 20.4 +1.1
ANN pmax pmax
comp=Z,267nm,1.5s,mb6.0
JOF Joensuu 70.89 331 *e*p **P 03 11 32.2 -0.7**
comp=Z,19nm,0.5s,mb5.3
JOF Joensuu 70.89 331 *e*P **P 03 11 32.2 -0.7**
JOF pmax pmax
comp=Z,19nm,0.5s,mb5.3
KEV Kevo 71.27 339 *e*p **P 03 11 34.6 -0.4**
comp=Z,23nm,0.7s,mb5.2
KEV Kevo 71.27 339 *e*P **P 03 11 34.6 -0.4**
KEV pmax pmax
comp=Z,23nm,0.7s,mb5.2
MALT Malatya 71.52 305⇑ *i*P **P 03 11 38.4 +1.2**
MALT Malatya 71.52 305 *e*P **P 03 11 38.4 +1.2**
comp=Z,63nm,1.1s,mb5.5
MALT LR LR
comp=Z,474nm,20.0s,MS4.8
ATAB Bozova 71.82 304 *i*P **P 03 11 39.9 +0.9**
ARCES ARCESS Array B 71.83 338 P **P 03 11 38.1 -0.3**
comp=Z,12nm,0.7s,mb5.0,baz=72,slow=7.6,SNR=40
ARE0 ARCESS Array S 71.83 338 *e*P **P 03 11 38.1 -0.3**
SPB4 Spitsbergen Ar 71.85 348 *e*P **P 03 11 38.4 -0.1**
AKCD Akcadag 71.91 305 *i*P **P 03 11 40.1 +0.6**
PUL Pulkovo 71.98 328⇑ *e*P **P 03 11 40.6 +1.1**
BJO Bjornoya 72.38 344 AMS AMS 03 49 27.9
comp=Z,2µm,20.8s,MS5.3
KBS Kingsbay 72.40 349 *e*P **P 03 11 40.7 -1.0**
KBS *e*S S 03 20 58.5 -6.0
KBS AMS AMS 03 49 04.2
comp=Z,3µm,15.5s,MS5.7

KBS Kingsbay 72.40 349⇑ eP P 03 11 42.8 +1.0
GZT Gaziantep 72.41 304 i P P 03 11 42.8 +0.3
DIV Divide 72.49 31 eP P 03 11 42.7 +0.1
comp=Z,44nm,1.2s,mb5.3
KTK1 Kautokeino 72.74 338 eP P 03 11 43.7 -0.2
KTK1 AMb AMB 03 11 47.4
comp=Z,111nm,1.6s,mb5.5
KTK1 Kautokeino 72.74 338 eP P 03 11 43.3 -0.6
comp=Z,111nm,1.6s,mb5.5
BMRM Bremner River 73.08 31 eP P 03 11 45.9 -0.2
SIM Simferopol' 73.09 312c iP P 03 11 45.2 -1.2
SIM eS S 03 21 13.0 -0.3
SIM pmax pmax
comp=Z,75nm,1.3s,mb5.5
SIM MLR MLR
comp=Z,800nm,17.0s,MS5.1
RAGM Ragged Mountai 73.19 31 eP P 03 11 46.9 +0.1
KAF Kangasniemi 73.33 331 ep P 03 11 47.0 -0.5
comp=Z,11nm,0.5s,mb5.1,baz=71,slow=5.7
KAF Kangasniemi 73.33 331 eP P 03 11 47.0 -0.5
KAF pmax pmax
comp=Z,11nm,0.5s,mb5.0
EGAK Eagle 73.61 26 eP P 03 11 47.9 -1.1
comp=Z,27nm,1.0s,mb5.1
EGAK LR LR
comp=Z,446nm,21.0s,MS4.7
COBT Iskenderun 73.64 303 i P P 03 11 50.7 +0.9
CTKT Corum 73.69 308 i P P 03 11 51.1 +1.0
YAYL Yayladag 73.88 303 i P P 03 11 51.4 +0.1
KIP Kipapa 73.97 73 PFAKE 03 12 00.0 +8.0
KIP LR LR
comp=Z,896nm,20.0s,MS5.0
TRO Tromso 74.01 339 eP P 03 11 50.2 -1.2
TRO eS S 03 21 22.3 -0.7
TRO AMS AMS 03 51 45.5
comp=Z,818nm,14.0s,MS5.2
YURE YUREGIR 74.04 304 i P P 03 11 53.0 +0.8
VSU Vasula 74.09 327⇑ iP P 03 11 52.0 0.0
CDAG Cicekdag 74.25 307 i P P 03 11 53.4 +0.1
ASF Jabal al Asfar 74.29 299 P P 03 11 54.8 +1.0
comp=Z,21nm,1.1s,mb5.0,baz=339,slow=0.7,SNR=43
BALT Daday 74.47 309 i P P 03 11 55.9 +1.2
AFI Afiamalu 74.49 112 LR LR 03 39 43.5
comp=Z,286nm,19.1s,MS4.6,baz=315,slow=32
DAWY Dawson 74.55 27 eP P 03 11 54.3 -0.3
MNK Minsk 74.58 323⇓ eP P 03 11 52.0 -3.0
MNK pmax pmax
comp=Z,630nm,1.5s,mb6.3
ELDT Eldivan 74.72 308 i P P 03 11 56.5 +0.4
AKASG Malin Array Be 74.80 319 P P 03 11 56.1 -0.2
comp=Z,35nm,0.9s,mb5.3,baz=65,slow=5.0,SNR=130
AKBB Malin Array Si 74.80 319 eP P 03 11 55.8 -0.5
KIEV Kiev 74.81 319 eP P 03 11 55.1 -1.3
KIEV pmax pmax
comp=Z,176nm,1.4s,mb5.8
KIEV MLR MLR
comp=Z,808nm,20.0s,MS5.0
KIEV Kiev 74.81 319 eP P 03 11 55.1 -1.2
comp=Z,176nm,1.4s,mb5.8
KIEV LR LR
comp=Z,808nm,20.0s,MS5.0
BHL Bhannes 74.82 301 eP P 03 11 57.0 +0.3
IDID Didziasalis 74.96 324 eP P 03 11 57.4 +0.3
IDID AMb AMB 03 12 00.8
comp=Z,63nm,1.2s,mb5.4
IZAR Zarasai 75.10 324 eP P 03 11 58.4 +0.4
IZAR AMb AMB 03 12 01.6
comp=Z,62nm,1.4s,mb5.4
IIGN Ignalina 75.23 324 eP P 03 11 59.0 +0.2
IIGN AMb AMB 03 12 02.5
comp=Z,52nm,1.4s,mb5.3
MEST Erdemli 75.25 304 i P P 03 11 59.4 +0.2
ANTO Ankara 75.36 307 P P 03 12 01.1 +1.3
SNR=15
ANTO Ankara 75.36 307⇑ iP P 03 11 59.9 +0.1
ANTO Ankara 75.36 307 eP P 03 12 00.1 +0.4
comp=Z,111nm,1.4s,mb5.6
ANTO LR LR
comp=Z,653nm,21.0s,MS4.9
SGKT Sivrigoynuk 75.70 308 i P P 03 12 02.4 +0.7
HKL Haleakala 75.75 73 eP P 03 11 54.8 -7.5
HKL e*PP pP 03 12 18.3 +11
PHNC Paralimni 75.79 302 P P 03 12 01.8 -0.5
KIS Kishinev 76.10 315α iP P 03 12 03.5 -0.4
KIS eS S 03 21 44.0 -2.9
KIS ePS 03 22 30.0
KIS pmax pmax
comp=Z,300nm,1.2s,mb6.1
KIS pmax pmax
comp=Z,800nm,6.0s
KIS MLR MLR
comp=E,1μm,17.0s
KIS MLR MLR
comp=Z,1μm,17.0s,MS5.3
KIS MLR MLR
comp=Z,1μm,16.0s
KIS Kishinev 76.10 315⇑ iP P 03 12 03.5 -0.4
comp=Z,300nm,1.2s,mb6.1
KIS Kishinev 76.10 315 ePP PP 03 15 08.0 +14
ERMK Ermenek 76.19 304 i P P 03 12 06.0 +1.5
KDHN Kadinhani 76.25 306 i P P 03 12 04.6 -0.3
CSS Prodhromos 76.35 302 P P 03 12 05.4 -0.1
comp=Z,1.2nm,1.2s
CSS Prodhromos 76.35 302 eP P 03 12 05.2 -0.4
MAMC Mammari 76.38 303 P P 03 12 07.0 +1.3
LOF Lofoten 76.39 338 eP P 03 12 06.6 +1.5
LOF AMb AMB 03 12 10.1
comp=Z,114nm,1.9s,mb5.5
HYT Haines Junctio 76.44 30 eP P 03 12 07.4 +1.9
ALFC Alevga 76.87 303 P P 03 12 08.1 -0.4
comp=Z,1.1nm,1.1s
MOR8 Moi Rana 76.88 336 eP P 03 12 06.1 -1.8
MOR8 AMb AMB 03 12 15.2
comp=Z,90nm,1.6s,mb5.5
MOR8 Moi Rana 76.88 336 eP P 03 12 06.1 -1.8
comp=Z,90nm,1.5s,mb5.5
ESKT Eskisehir 76.89 307 i P P 03 12 08.7 +0.2
TIRR Tirgusor 77.13 313 eP P 03 12 09.9 +0.1
TIRR pmax pmax
comp=Z,71nm,1.4s,mb5.4
TIRR Tirgusor 77.13 313⇑ iP P 03 12 10.7 +0.9
TIRR Tirgusor 77.13 313 eP P 03 12 09.8 +0.1
comp=Z,71nm,1.4s,mb5.4
SUW Suwalki 77.33 323 eP P 03 12 10.2 -0.5
SUW Suwalki 77.33 323⇑ eP P 03 12 10.2 -0.5
RAO Raoul Island 77.38 129 LR LR 03 39 43.1
comp=Z,107nm,18.6s,MS4.2,baz=293,slow=31
HARR Harsova 77.39 313⇑ iP P 03 12 12.2 +1.0
HARR Harsova 77.39 313 P P 03 12 12.6 +1.4
ODB Odobesti 77.64 314⇑ iP P 03 12 13.8 +1.3
ISP Isparta 77.66 306 eP P 03 12 11.3 -1.5
ISP Isparta 77.66 306 eP P 03 12 13.4 +0.6
ISP Isparta 77.66 306⇑ iP P 03 12 12.2 -0.6
TKTP Tekketepe 77.74 306 i P P 03 12 12.4 -0.8
VRI Vrincioaia 77.83 315⇑ iP P 03 12 14.4 +0.8
VRI Vrincioaia 77.83 315 P P 03 12 14.8 +1.2
PLOR Plostina 77.88 315⇓ iP P 03 12 15.0 +1.1
SKAG Skagway 77.95 31 eP P 03 12 14.6 +0.5
comp=Z,19nm,0.9s,mb5.0
ULDT Uludag 77.96 308 i P P 03 12 14.7 +0.2
GDZ Gediz 78.04 307 i P P 03 12 14.3 -0.6
ELBA Catalca 78.15 310 i P P 03 12 14.9 -0.7
BURAR Bucovina Array 78.24 317⇓ iP P 03 12 16.7 +0.8
BURAR Bucovina Array 78.24 317 P P 03 12 16.4 +0.6
LVV L'vov 78.24 319 eP P 03 12 16.0 +0.2
LVV e 03 15 14.4
LVV eS S 03 22 07.2 -2.9
KHAL Karahalli 78.26 307 i P P 03 12 15.3 -0.9
MLR Muntele Rosu 78.47 314 P P 03 12 17.7 +0.5
comp=Z,34nm,0.9s,mb5.2,baz=348,slow=5.4
MLR Muntele Rosu 78.47 314⇓ iP P 03 12 17.9 +0.7
MLR Muntele Rosu 78.47 314 P P 03 12 18.0 +0.9
NSS Namsos 78.52 335 AMS AMS 03 51 48.0
comp=Z,1μm,14.0s,MS5.3
GOLH Golhisar 78.56 306 i P P 03 12 17.5 -0.4
DEMI Demirci 78.62 307 i P P 03 12 17.6 -0.5
DAG Danmarks Havn 78.75 351⇓ eP P 03 12 16.6 -1.6
DAG pmax pmax
comp=Z,67nm,1.2s,mb5.5
DAG Danmarks Havn 78.75 351⇓ iP P 03 12 16.6 -1.6
comp=Z,67nm,1.2s,mb5.5
DAG Danmarks Havn 78.75 351⇓ eP P 03 12 16.6 -1.6
comp=Z,67nm,1.2s,mb5.5
BUC1 Bucharest 78.79 313 P P 03 12 20.2 +1.2

DNZL Cakiroluk 78.81 306 i P P 03 12 19.5 +0.3
AKAS Kas 78.85 305 i P P 03 12 18.4 -1.0
SIT Sitka 78.88 33 PFAKE 03 12 30.0 +11
SIT LR LR
comp=Z,673nm,19.0s,MS5.0
BTOK Tokmak 78.89 308 i P P 03 12 19.8 +0.2
JMB Yambol 79.03 311 eP P 03 12 20.8 +0.4
VOIR 79.08 315⇑ iP P 03 12 21.1 +0.6
VOIR 79.08 315 P P 03 12 20.9 +0.4
KWP Kalwaria 79.11 319 eP P 03 12 20.9 +0.3
KWP eS S 03 22 17.6 -1.9
KWP Kalwaria 79.11 319⇑ iP P 03 12 20.9 +0.3
KWP Kalwaria 79.11 319⇑ eP P 03 12 21.0 +0.4
KWP eS S 03 22 17.6 -1.8
WAR Warsaw 79.17 322 eP P 03 12 22.4 +1.6
WAR Warsaw 79.17 322 eP P 03 12 22.4 +1.5
BALY Balya 79.19 308 i P P 03 12 20.6 -0.7
AKHS Akhisar 79.34 308 i P P 03 12 21.7 -0.4
URZ Urewera 79.35 139 LR LR 03 41 07.0
comp=Z,503nm,20.9s,MS4.8,baz=110,slow=31
TURN Turunc 79.41 305 i P P 03 12 23.9 +1.4
ZIMR 79.47 313⇓ iP P 03 12 23.9 +1.2
ZIMR 79.47 313 P P 03 12 23.7 +1.0
KOLS Kolonicke sedl 79.63 319 eP P 03 12 23.5 0.0
KOLS e 03 12 48.1
KOLS eS S 03 22 23.2 -1.7
AYDN Tasoluk 79.69 306 i P P 03 12 24.5 +0.5
UZH Uzhgorod 79.72 318⇓ iP P 03 12 23.7 -0.3
UZH e 03 12 33.7
UZH e 03 15 31.0
UZH eS S 03 22 21.7 -4.3
UZH e 03 23 12.0
UZH e 03 27 28.0
UZH e 03 30 51.0
KDAG Bornova 79.90 307 i P P 03 12 25.6 +0.5
ALN Alexandroupoli 79.94 310 eP P 03 12 24.7 -0.6
AYVA Ayvalik 80.02 308 i P P 03 12 26.1 +0.3
STHS Stebnicka Huta 80.08 319 eP P 03 12 26.6 +0.7
STHS e 03 12 43.4
STHS pmax pmax
comp=Z,58nm,1.3s,mb5.3
STHS Stebnicka Huta 80.08 319 eP P 03 12 26.6 +0.7
comp=Z,58nm,1.3s,mb5.3
STHS e 03 12 43.4
DRGR 80.13 316⇓ iP P 03 12 26.4 +0.2
DRGR 80.13 316 P P 03 12 26.6 +0.4
CRVS Cervenica-Dubn 80.14 319 eP P 03 12 26.8 +0.6
CRVS e 03 12 46.0
CRVS eS S 03 22 27.1 -3.2
GCAM G?zelcaml? 80.16 307 i P P 03 12 26.6 +0.1
RDO Rodhopi 80.22 310 eP P 03 12 26.4 -0.4
BDRM Kayabasi 80.22 306 i P P 03 12 27.0 +0.1
BOZC Bozcaada 80.30 309 i P P 03 12 26.6 -0.7
CRAR CRAIOVA 80.30 314⇓ iP P 03 12 28.2 +1.0
PRK Paraskevi 80.34 308 eP P 03 12 27.4 -0.2
PRK Paraskevi 80.34 308 eP P 03 12 27.2 -0.3
NB2 NORSAR Subarra 80.43 332 P P 03 12 26.8 -0.7
comp=Z,192nm,1.7s,mb5.8,baz=61,slow=5.3
NOA NORSAR Array B 80.43 332 P P 03 12 27.0 -0.5
comp=Z,11nm,0.6s,mb5.0,baz=65,slow=5.2,SNR=45
NOA LR LR 03 52 14.5
comp=Z,2μm,18.3s,MS5.5,baz=70,slow=39
PLD Plovdiv 80.47 311 eP P 03 12 28.1 0.0
WRAK Wrangell Islan 80.64 33 PFAKE 03 12 40.0 +11
WRAK LR LR
comp=Z,351nm,19.0s,MS4.7
NIE Niedzica 80.64 320 eP P 03 12 29.6 +0.7
OJC Ojcow 80.64 320 iP P 03 12 29.0 +0.1
OJC eSP sP 03 12 43.2 +7.1
OJC eS S 03 22 33.9 -1.7
OJC L 03 49 21.6
comp=Z,0.8nm,18.7s
OJC Ojcow 80.64 320⇑ iP P 03 12 29.0 +0.1
OJC eSP sP 03 12 43.2 +7.1
OJC eS S 03 22 33.9 -1.7
NAO01 NORSAR Array S 80.66 332 eP P 03 12 28.6 -0.2
comp=Z,8.3nm,0.6s,mb4.8
NAO01 LR LR
comp=Z,2μm,19.0s,MS5.4
DOMB Dombas 80.85 334 eP P 03 12 29.5 -0.3
DOMB AMb AMB 03 12 32.9
comp=Z,112nm,1.4s,mb5.6
DOMB Dombas 80.85 334 eP P 03 12 29.5 -0.3
comp=Z,112nm,1.4s,mb5.6
DLBC Dease Lake 80.88 30 eP P 03 12 31.6 +1.6
GKP Gorka Klasztor 80.89 324 eP P 03 12 29.6 -0.5
GKP eS S 03 22 45.3 +7.2
GKP Gorka Klasztor 80.89 324⇑ eP P 03 12 29.6 -0.6
GKP eS S 03 22 45.3 +7.3
KECS Kecovo 80.89 319 eP P 03 12 30.7 +0.4
KECS pmax pmax
comp=Z,68nm,1.4s,mb5.4
KECS Kecovo 80.89 319 eP P 03 12 30.7 +0.4
comp=Z,68nm,1.4s,mb5.4
JMIC Jan Mayen 81.18 345 eP P 03 12 31.3 -0.1
JMIC eS S 03 22 37.6 -2.9
JMIC AMS AMS 03 52 57.6
comp=Z,901nm,16.4s,MS5.2
MOL Molde 81.20 335 AMS AMS 03 53 05.2
comp=Z,1μm,20.6s,MS5.3
BZS Buzias 81.27 316⇓ iP P 03 12 32.7 +0.4
BZS Buzias 81.27 316 P P 03 12 32.5 +0.2
VTS Vitosha 81.33 312⇓ iP P 03 12 33.8 +1.1
VTS Vitosha 81.33 312 P P 03 12 33.6 +0.9
PSZ Piszkesteto 81.48 318⇑ eP P 03 12 33.6 +0.2
PSZ Piszkesteto 81.48 318⇑ iP P 03 12 33.5 +0.1
PSZ Piszkesteto 81.48 318 eP P 03 12 34.1 +0.7
comp=Z,131nm,1.4s,mb5.7
PSZ LR LR
comp=Z,902nm,20.0s,MS5.1
LIKS Likavka 81.52 319 eP P 03 12 34.7 +1.1
OUR Ouranopolis 81.61 310 eP P 03 12 33.6 -0.6
OKC Ostrava-Krasne 81.77 320 eP P 03 12 34.7 -0.2
OKC eS S 03 22 44.9 -2.4
OKC ex x 03 23 40.0
OKC AMS AMS 03 51 50.0
comp=Z,700nm,13.3s
OKC Ostrava-Krasne 81.77 320 eP P 03 12 35.6 +0.7
KONO Kongsberg 81.80 332 eP P 03 12 34.5 -0.4
KONO eS S 03 22 39.1 -8.1
KONO AMS AMS 03 53 05.2
comp=Z,2μm,18.2s,MS5.5
SOH Sokhos 81.87 311 eP P 03 12 34.4 -1.2
VYHS Vyhne 81.90 319 eP P 03 12 35.9 +0.3
VYHS pmax pmax
comp=Z,72nm,1.6s,mb5.3
VYHS Vyhne 81.90 319 eP P 03 12 35.9 +0.3
comp=Z,72nm,1.6s,mb5.3
VYHS eS S 03 22 47.1 -1.6
SANT Santorini 81.95 306 eP P 03 12 34.5 -1.7
THR1 Thera Island 81.95 306 eP P 03 12 35.7 -0.5
THR4 Thira Island, 81.97 306 eP P 03 12 34.8 -1.5
PAIG Paliouri 81.97 310 eP P 03 12 34.8 -1.4
PLG Polygyros 81.97 310 eP P 03 12 35.3 -0.9
PLG Polygyros 81.97 310 eP P 03 12 34.9 -1.2
THR6 Thira Island, 82.00 306 eP P 03 12 35.8 -0.7
THR5 Thira Island, 82.02 306 eP P 03 12 35.4 -1.1
KNT Kendrikon 82.07 311 eP P 03 12 35.6 -1.1
AOS Alonnisos 82.11 309 eP P 03 12 36.6 -0.3
KOLL Kolacno 82.13 319 eP P 03 12 37.7 +0.9
KOLL epP pP 03 12 45.6 +3.4
HORT Hortiatis 82.14 310 eP P 03 12 35.1 -1.9
MORC Moravsky Berou 82.15 321⇑ iP P 03 12 37.1 +0.2
MORC Moravsky Berou 82.15 321 eP P 03 12 37.1 +0.2
comp=Z,116nm,1.4s,mb5.6
BUD Budapest 82.19 318⇑ eP P 03 12 37.3 +0.1
THE Thessaloniki 82.22 311 eP P 03 12 36.2 -1.3
VAY Valandovo 82.24 311 eP P 03 12 36.5 -1.0
VAY Valandovo 82.24 311⇑ iP P 03 12 36.4 -1.1
COP Copenhagen 82.36 327⇑ eP P 03 12 38.0 +0.1
COP i S S 03 22 55.5 +2.4
COP pmax pmax
comp=Z,80nm,1.1s,mb5.6
COP MLR MLR
comp=Z,700nm,18.0s,MS5.1
COP Copenhagen 82.36 327⇑ iP P 03 12 38.0 +0.1
comp=Z,80nm,1.1s,mb5.6
COP i S S 03 22 55.5 +2.4
COP
comp=Z,690nm,18.0s
COP Copenhagen 82.36 327⇑ eP P 03 12 38.0 +0.1
comp=Z,80nm,1.1s,mb5.6

COP i S S 03 22 55.5 +2.4
COP LR LR
comp=Z,700nm,18.0s,MS5.1
STIP Stip 82.36 312 eP P 03 12 37.5 -0.7
STIP Stip 82.36 312 eP P 03 12 37.4 -0.8
LAST Lasithi 82.37 305 eP P 03 12 37.7 -0.7
KSP Ksiaz 82.43 322 eP P 03 12 38.7 +0.3
KSP eS S 03 22 53.3 -0.8
KSP Ksiaz 82.43 322⇑ eP P 03 12 38.5 +0.1
KSP e*PP pP 03 12 45.4 +1.7
KSP eS S 03 22 52.0 -2.1
KSP Ksiaz 82.43 322⇑ eP P 03 12 38.5 +0.1
KSP epP pP 03 12 45.4 +1.7
KSP eS S 03 22 52.0 -2.1
KSP LR LR
comp=Z,2μm,19.4s,MS5.5
GRG Griva 82.49 311 eP P 03 12 37.9 -1.0
XOR Xorichti 82.53 309 eP P 03 12 38.1 -1.0
DPC Dobruska-Polom 82.63 321 eP P 03 12 39.4 0.0
DPC epP pP 03 12 47.1 +2.4
DPC eS S 03 22 53.2 -2.9
DPC ex x 03 23 48.6
DPC AMS AMS 03 54 40.0
comp=Z,1μm,12.8s
DPC Dobruska-Polom 82.63 321 eP P 03 12 39.6 +0.2
DPC e 03 12 47.2
UPC Upice 82.74 322 eP P 03 12 41.0 +1.0
UPC Upice 82.74 322 eP P 03 12 40.8 +0.8
LIT Litokhoron 82.75 310 eP P 03 12 38.8 -1.5
SKO Skopje 82.77 312 eP P 03 12 40.7 +0.4
SKO Skopje 82.77 312⇑ iP P 03 12 40.9 +0.5
MODS Modra-Piesok 82.90 319 eP P 03 12 41.6 +0.8
MODS epP pP 03 12 49.5 +3.3
MODS eS S 03 22 58.8 -0.1
VRAC Vranov 82.91 320⇑ iP P 03 12 41.4 +0.5
VRAC Vranov 82.91 320 P P 03 12 41.9 +1.0
DIVS Divibare 82.92 315 eP P 03 12 39.4 -1.6
LKR Lokris 82.94 309 eP P 03 12 39.5 -1.7
LKR Lokris 82.94 309 eP P 03 12 39.5 -1.8
SIVA Sivas 82.94 305 eP P 03 12 40.1 -1.2
PKSM Moragy 82.94 317⇑ iP P 03 12 41.1 0.0
PKSM Moragy 82.94 317 P P 03 12 41.0 -0.1
OPO Ambohidratompo 82.96 247 P P 03 12 42.5 +0.8
comp=Z,11nm,0.8s,mb4.9,baz=49,slow=4.4,SNR=13
ZST Bratislava 83.08 319 eP P 03 12 42.6 +0.8
ZST e pP 03 12 47.8 +0.7
ZST pmax pmax
comp=Z,74nm,1.5s,mb5.5
ZST MLR MLR
comp=Z,500nm,13.6s,MS5.0
ZST Bratislava 83.08 319 eP P 03 12 42.6 +0.8
ZST epP pP 03 12 47.8 +0.7
ZST Bratislava 83.08 319 eP P 03 12 42.6 +0.8
comp=Z,74nm,1.5s,mb5.5
ZST e pP 03 12 47.8 +0.7
ZST LR LR
comp=Z,500nm,13.6s,MS5.0
RUE Ruedersdorf 83.12 324 eP P 03 12 43.0 +1.1
comp=Z,172nm,1.1s,mb6.0
ABPO Ambohimpanom 83.12 246 P P 03 12 43.0 +0.6
comp=Z,271nm,0.9s,mb6.3,SNR=7.4
ABPO Ambohimpanom 83.12 246 eP P 03 12 43.0 +0.5
comp=Z,48nm,1.0s,mb5.5
ABPO LR LR
comp=Z,676nm,21.0s,MS5.0
KRUS Krusevo 83.14 312 eP P 03 12 42.1 -0.1
KZN Kozani 83.19 311 eP P 03 12 41.3 -1.2
DID Didima 83.19 308 eP P 03 12 39.0 -3.6
LTK Loutraki 83.20 308 eP P 03 12 39.1 -3.5
BIA Bitola 83.22 311 eP P 03 12 41.5 -1.2
BIA Bitola 83.22 311 eP P 03 12 40.8 -1.9
BER Bergen 83.26 333 eP P 03 12 43.0 +0.5
BER AMb AMB 03 12 54.2
comp=Z,128nm,1.6s,mb5.7
BER eSKS 03 22 59.3
BER AMS AMS 03 53 50.9
comp=Z,2μm,19.1s,MS5.4
BER Bergen 83.26 333 eP P 03 12 43.0 +0.6
BER pmax pmax
comp=Z,128nm,1.6s,mb5.7
BER MLR MLR
comp=Z,2μm,19.1s,MS5.4
BER Bergen 83.26 333 eP P 03 12 43.0 +0.5
comp=Z,128nm,1.6s,mb5.7
BER LR LR
comp=Z,2μm,19.1s,MS5.4
VAM Vamos 83.26 305 eP P 03 12 41.9 -1.1
FNA Florina 83.28 311 eP P 03 12 41.5 -1.5
AGG Agios Georgios 83.28 309 eP P 03 12 40.3 -2.7
THL Klokotos Trika 83.30 310 eP P 03 12 39.9 -3.2
THL Klokotos Trika 83.30 310 eP P 03 12 40.5 -2.6
IVA Berane 83.47 314⇓ iP P 03 12 44.5 +0.6
KARN Karanos 83.47 305 eP P 03 12 43.7 -0.4
PVY Plav 83.53 313⇑ iP P 03 12 44.0 -0.2
OHR Ohrid 83.55 312 eP P 03 12 42.3 -2.1
OHR Ohrid 83.55 312⇑ iP P 03 12 42.5 -1.8
BCI Bajram Curri 83.56 313 ePN P 03 12 44.8 +0.4
PVCC Panska Ves 83.56 322 eP P 03 12 44.4 +0.2
PVCC epP pP 03 12 53.3 +3.8
PVCC eS S 03 23 03.2 -2.3
PVCC AMS AMS 03 55 00.0
comp=Z,1μm,12.9s
PVCC Panska Ves 83.56 322 eP P 03 12 45.1 +0.9
PVCC e 03 12 53.6
TREC Trest 83.57 321 eP P 03 12 44.4 +0.1
TREC eS S 03 23 04.7 -1.0
TREC AMS AMS 03 55 10.0
comp=Z,1μm,15.0s
PLE Pljevlja 83.62 314⇑ iP P 03 12 46.2 +1.5
EVR Evrytania 83.69 309 eP P 03 12 43.4 -1.7
VLI Velíai 83.71 307 eP P 03 12 42.5 -2.8
BRG Berggiesshubel 83.76 323⇓ iP P 03 12 45.1 -0.1
BRG i 03 12 53.0
BRG 03 15 58.7
BRG S S 03 23 05.0 -2.5
BRG PS 03 23 51.0
BRG pmax pmax
comp=Z,116nm,1.6s,mb5.8
BRG MLR MLR
comp=N,565nm,12.6s,MS5.3
BRG MLR MLR
comp=E,690nm,13.8s,MS5.3
BRG MLR MLR
comp=Z,899nm,13.3s,MS5.3
BRG Berggiesshubel 83.76 323 eP P 03 12 45.3 +0.1
comp=Z,193nm,1.6s,mb6.0
BRG Berggiesshubel 83.76 323⇓ iP P 03 12 45.1 -0.1
comp=Z,194nm,1.6s,mb6.0
BRG i 03 12 53.0
comp=Z,116nm,1.2s
BRG PP PP 03 15 58.7 +0.9
comp=Z,10nm,1.3s
BRG S S 03 23 05.0 -2.5
BRG PS 03 23 51.0
BRG SS SS 03 29 05.0 +31
BRG
comp=N,944nm,12.6s
BRG
comp=E,1μm,13.8s
BRG
comp=Z,2μm,13.3s
BRG Berggiesshubel 83.76 323⇓ iP P 03 12 45.1 -0.1
comp=Z,116nm,1.6s,mb5.8
BRG i 03 12 53.0
BRG PP PP 03 15 58.7 +0.9
BRG S S 03 23 05.0 -2.5
BRG PS 03 23 51.0
BRG SS SS 03 29 05.0 +31
BRG LR LR
comp=Z,900nm,13.3s,MS5.3
MEV Metsovon 83.77 310 eP P 03 12 44.9 -0.7
PUK Puka 83.81 313 ePN P 03 12 46.0 +0.3
PRU Pruhonice 83.81 322 eP P 03 12 45.7 +0.2
PRU epP pP 03 12 54.3 +3.4
PRU eS S 03 23 03.5 -4.6
PRU AMS AMS 03 55 30.0
comp=Z,1μm,13.0s
PRU Pruhonice 83.81 322 eP P 03 12 46.2 +0.7
PRU e 03 12 53.9
VLX Vlachokerasia 83.88 308 eP P 03 12 44.2 -1.9
CONA Conrad Observa 83.94 319⇑ iP P 03 12 46.6 +0.4
comp=Z,333nm,1.6s,mb6.2,SNR=109
CSNA Conrad Observa 83.95 319⇓ iP P 03 12 46.6 +0.4

comp=Z,324nm,1.6s,mb6.2
UPM Unac-Piva 84.00 314⇑iP P 03 12 47.1 +0.5
TTG Podgorica 84.08 313⇑iP P 03 12 46.9 -0.1
CLL Collm 84.09 323⇓iP P 03 12 47.3 +0.4
CLL i *PP pP 03 12 55.1 +2.9
CLL eS S 03 23 10.0 -0.8
CLL pmax pmax
comp=Z,33nm,1.4s,mb5.3
CLL MLR MLR
comp=Z,2μm,16.9s,MS5.6
CLL Collm 84.09 323 eP P 03 12 45.8 -1.1
CLL eP 03 12 46.5
comp=Z,173nm,1.4s
CLL epP pP 03 12 55.1 +2.9
CLL Collm 84.09 323⇓iP P 03 12 47.3 +0.4
comp=Z,171nm,1.4s,mb6.0
CLL i pP pP 03 12 55.1 +2.9
comp=Z,185nm,1.3s
CLL esPcP 03 13 00.0
CLL eS S 03 23 10.0 -0.8
CLL ePS 03 23 56.0
CLL eSS SS 03 28 38.0 -0.7
CLL ex x 03 29 43.0
CLL ex x 03 33 30.0
CLL LmH 03 48 00.0
comp=N,2μm,19.5s
CLL LmH 03 48 00.0
comp=E,1μm,20.4s
CLL Collm 84.09 323⇓iP P 03 12 47.3 +0.4
comp=E,171nm,1.4s,mb6.0
CLL i pP pP 03 12 55.1 +2.9
CLL eS S 03 23 10.0 -0.8
CLL LR LR
comp=Z,2μm,16.9s,MS5.6
JAN Janina 84.09 310 eP P 03 12 46.1 -1.0
NKY Niksic 84.10 314⇑iP P 03 12 47.1 0.0
BSEG Bad Segeberg 84.27 326 eP P 03 12 47.9 +0.1
BSEG pmax pmax
comp=Z,149nm,1.4s,mb5.9
BSEG Bad Segeberg 84.27 326 eP P 03 12 47.9 +0.1
comp=Z,149nm,1.4s,mb5.9
RLS Riolos of Patr 84.28 309 eP P 03 12 47.4 -0.8
ULC Ulcinj 84.28 313⇓iP P 03 12 48.3 +0.2
ITM Ithomi 84.28 308 eP P 03 12 46.6 -1.6
BRY Bratogost 84.37 314⇑iP P 03 12 48.4 -0.1
BUM Brajici-Budva 84.38 313⇑iP P 03 12 48.4 -0.2
ARSA Arzberg 84.45 319⇓iP P 03 12 48.8 0.0
comp=Z,235nm,1.8s,mb6.0,SNR=18
IGT Igoumenitsa 84.51 310 eP P 03 12 47.3 -2.0
HCY Herceg Novi 84.59 314⇑iP P 03 12 49.3 -0.3
SRN Sarande 84.60 311 ePN P 03 12 48.0 -1.8
LKD Levkas 84.61 309 eP P 03 12 48.4 -1.4
SISC Sisak 84.69 317 P P 03 12 50.5 +0.4
KFL Anninata 84.75 309 eP P 03 12 49.8 -0.7
KHC Kasperske Hory 84.76 321c iP P 03 12 50.7 +0.3
KHC Kasperske Hory 84.76 321 eP P 03 12 49.9 -0.5
KHC epP pP 03 12 59.2 +3.5
KHC eS S 03 23 14.5 -3.2
KHC ex x 03 24 02.2
KHC AMS AMS 03 55 50.0
comp=Z,2μm,13.8s
KHC Kasperske Hory 84.76 321 eP P 03 12 50.9 +0.5
GROS Grobnik 84.81 318 eP P 03 12 50.4 -0.2
GEC2 GERESS Array S 84.82 321 eP P 03 12 50.7 0.0
GEC2 pmax pmax
comp=Z,113nm,1.1s,mb5.9
GEC2 GERESS Array S 84.82 321 eP P 03 12 50.7 0.0
comp=Z,113nm,1.1s,mb5.9
GERES GERESS Array B 84.82 321 P P 03 12 51.4 +0.8
comp=Z,29nm,0.7s,mb5.5,baz=57,slow=4.9,SNR=244
GERES LR LR 03 56 24.9
comp=Z,672nm,18.0s,MS5.1,baz=259,slow=40
VLS Valsamata 84.86 309 eP P 03 12 50.0 -1.1
VLS Valsamata 84.86 309 eP P 03 12 49.8 -1.3
SUMG Summit 84.88 354 eP P 03 12 50.6 +0.1
comp=Z,19nm,0.7s,mb5.3
NKC Novy Kostel 84.90 322 eP P 03 12 50.8 -0.2
NKC epP pP 03 12 59.2 +2.8
NKC AMS AMS 03 55 50.0
comp=Z,2μm,13.3s
NKC Novy Kostel 84.90 322 eP P 03 12 50.9 -0.1
NKC e 03 12 58.7
GOLS Golise 84.93 318⇑iP P 03 12 51.2 -0.1
GOLS ePP PP 03 16 12.7 +5.2
MOA Molln 84.94 320⇑iP P 03 12 51.5 +0.2
comp=Z,326nm,1.8s,mb6.2,SNR=51
STON Ston 84.94 314 P P 03 12 50.5 -0.9
PERS Pernice 84.97 318⇑iP P 03 12 51.2 -0.3
PERS e 03 24 06.3
SOKA Soboth 85.00 318⇑iP P 03 12 51.3 -0.4
KMBO Kilima Mbogo 85.01 267 P P 03 12 53.9 +1.7
SNR=21
KMBO Kilima Mbogo 85.01 267 P P 03 12 53.6 +1.4
comp=Z,42nm,1.1s,mb5.5,baz=36,slow=7.4,SNR=36
KMBO LR LR 03 47 54.9
comp=Z,536nm,21.1s,MS4.9,baz=152,slow=34
KMBO Kilima Mbogo 85.01 267 eP P 03 12 53.3 +1.0
comp=Z,49nm,1.0s,mb5.6
KMBO LR LR
comp=Z,543nm,21.0s,MS4.9
YKW3 Yellowknife Ar 85.02 23 eP P 03 12 50.5 -0.8
YKA Yellowknife Ar 85.07 23 P P 03 12 50.8 -0.8
comp=Z,14nm,0.6s,mb5.2,baz=309,slow=4.9,SNR=40
YKA PKKP PKKPbc 03 30 53.4 -6.4
comp=Z,2.0nm,0.7s,baz=132,slow=2.5,SNR=12
YKA LR LR 03 56 28.7
comp=Z,131nm,18.1s,MS4.4,baz=120,slow=40
YKA Yellowknife Ar 85.07 23 P P 03 12 50.8 -0.8
YKA PKKP PKKPbc 03 30 53.4 -6.4
YKA LR LR 03 56 28.6
NRDL Niedersach Rie 85.09 325 eP P 03 12 52.3 +0.4
comp=Z,214nm,1.5s,mb6.0
NRDL epP pP 03 13 00.6 +3.3
WET Wettzell 85.17 321 eP P 03 12 52.7 +0.3
WET e*PP pP 03 13 00.9 +3.2
WET pmax pmax
comp=Z,142nm,1.6s,mb5.8
WET Wettzell 85.17 321 eP P 03 12 52.7 +0.3
comp=Z,142nm,1.6s,mb5.8
WET epP pP 03 13 00.9 +3.2
MOX Moxa 85.17 323 eP P 03 12 52.0 -0.4
comp=Z,155nm,1.6s,mb5.9
MOX
comp=Z,2μm,17.0s
MOX Moxa 85.17 323 eP P 03 12 52.0 -0.4
MOX pmax pmax
comp=Z,155nm,1.6s,mb5.9
MOX MLR MLR
comp=Z,2μm,17.0s,MS5.5
MOX Moxa 85.17 323 eP P 03 12 52.3 -0.1
comp=Z,165nm,1.6s,mb5.9
MANZ Manzenberg 85.21 322 eP P 03 12 52.9 +0.3
comp=Z,124nm,1.5s,mb5.8
CLZ Clausthal 85.27 324 eP P 03 12 53.2 +0.3
CLZ pmax pmax
comp=Z,220nm,1.4s,mb6.1
CLZ Clausthal 85.27 324 eP P 03 12 53.2 +0.3
comp=Z,220nm,1.4s,mb6.1
OBKA Obir 85.38 318⇓iP P 03 12 53.2 -0.3
comp=Z,158nm,1.6s,mb5.9,SNR=17
BOJS Bojanci 85.39 317⇑eP P 03 12 53.6 0.0
BOJS ePP PP 03 16 16.5 +5.2
BOJS eS S 03 23 22.2 -1.8
VNDS Vrh nad Dolski 85.47 318 iP P 03 12 53.7 -0.2
LJU Ljubljana 85.60 318⇑iP P 03 12 54.3 -0.3
LJU e 03 24 16.0
KBA Koelnbreinsper 85.85 319⇑iP P 03 12 55.2 -0.6
comp=Z,103nm,1.7s,mb5.8,SNR=17
KBA Koelnbreinsper 85.85 319⇑iP P 03 12 55.2 -0.6
KBA pmax pmax
comp=Z,103nm,1.7s,mb5.8
GRA1 Grafenberg Arr 85.86 322 eP P 03 12 56.2 +0.4
comp=Z,214nm,1.6s,mb6.1
GRA1 eS S 03 23 26.5 -1.9
GRA1 LR LR
comp=Z,1μm,19.0s,MS5.3
GRF Grafenberg Arr 85.86 322 eP P 03 12 56.2 +0.4
GRF eS S 03 23 26.5 -1.9
GRF pmax pmax
comp=Z,214nm,1.6s,mb6.1
GRF MLR MLR
comp=Z,1μm,19.0s,MS5.3
GRF Grafenberg Arr 85.86 322 eP P 03 12 56.2 +0.4
comp=Z,214nm,1.6s,mb6.1
GRF eS S 03 23 26.5 -1.9
GRF eL 03 56 22.1
comp=Z,1μm,19.0s
MYKA Terra Mystica 85.88 319⇑iP P 03 12 55.2 -0.8
comp=Z,429nm,1.9s,mb6.4
KNDS Knezji Dol 85.92 318⇑iP P 03 12 56.1 -0.2
KNDS eS S 03 23 31.2 +1.9
JAVS Javornik 85.96 318 iP P 03 12 55.8 -0.6
UBBA Unterbreizbach 85.98 324 eP P 03 12 56.3 -0.1
comp=Z,141nm,1.6s,mb6.0
UBBA epP pP 03 13 05.4 +3.6
NVLJ Novalja 86.05 317 P P 03 12 55.4 -1.5
ROBS Robic 86.14 319⇑eP P 03 12 55.8 -1.5
TRI Trieste 86.23 318 eP P 03 12 57.5 -0.2
TRI pmax pmax
comp=Z,142nm,1.4s,mb6.0
TRI Trieste 86.23 318 eP P 03 12 57.5 -0.3
comp=Z,142nm,1.4s,mb6.0
GMNA Gemona 86.29 319 P P 03 12 58.2 +0.2
comp=Z,232nm,1.2s,mb6.3
IBBN Ibbenburen 86.43 326 eP P 03 12 58.7 +0.1
comp=Z,219nm,1.4s,mb6.2
ABTA Abfaltersbach 86.51 319⇑iP P 03 12 57.6 -1.5
comp=Z,98nm,1.6s,mb5.8,SNR=30
FUR Furstenfeldbru 86.56 321 eP P 03 12 59.7 +0.4
FUR pmax pmax
comp=Z,326nm,1.8s,mb6.3
FUR Furstenfeldbru 86.56 321 eP P 03 12 59.7 +0.4
comp=Z,326nm,1.8s,mb6.3
FGMS Monte Sant'Ang 86.61 314 P P 03 12 59.4 -0.3
comp=Z,99nm,1.3s,mb5.9
WTTA Wattenberg 86.79 320⇑iP P 03 12 60.0 -0.5
comp=Z,214nm,1.9s,mb6.1,SNR=16
WTTA Wattenberg 86.79 320⇑iP P 03 13 00.0 -0.5
WTTA pmax pmax
comp=Z,214nm,1.9s,mb6.0
WATA Walderalm 86.79 320⇓iP P 03 12 60.0 -0.5
comp=Z,74nm,1.6s,mb5.7,SNR=12
WATA Walderalm 86.79 320⇓iP P 03 13 00.0 -0.5
WATA pmax pmax
comp=Z,74nm,1.6s,mb5.7
MOTA Moosalm 87.07 320⇓iP P 03 13 01.7 -0.1
comp=Z,33nm,1.3s,mb5.4,SNR=11
MOTA Moosalm 87.07 320⇓iPcP P 03 13 01.7 -0.1
comp=Z,33nm,1.3s,mb5.4,SNR=11
MOTA Moosalm 87.07 320⇓iP P 03 13 01.8 0.0
MOTA pmax pmax
comp=Z,33nm,1.3s,mb5.4
WTSB Winterswijk 87.11 326⇑iP P 03 13 01.4 -0.5
comp=Z,95nm,1.9s,mb5.7
WTSB Winterswijk 87.11 326 i x x 03 13 06.3
comp=Z,59nm,2.2s
BUG Bochum--Univer 87.14 325 eP P 03 13 01.7 -0.4
comp=Z,149nm,1.4s,mb6.0
TNS Taunus Mts 87.14 324 eP P 03 13 02.2 +0.1
TNS pmax pmax
comp=Z,84nm,1.6s,mb5.7
TNS Taunus Mts 87.14 324 eP P 03 13 02.2 +0.1
comp=Z,84nm,1.6s,mb5.7
TIP Timpagrande 87.17 311 eP P 03 13 02.0 -0.5
comp=Z,146nm,1.6s,mb6.0
TIP ePP PP 03 16 29.7 +3.8
TIP LR LR
comp=Z,609nm,19.0s,MS5.0
RETA Reutte 87.20 321⇑iP P 03 13 01.9 -0.6
comp=Z,246nm,4.6s
TOD Tromm 87.26 323 eP P 03 13 02.1 -0.6
CTI Castel Tesino 87.37 319 P P 03 13 02.7 -0.6
CTI pmax pmax
comp=Z,91nm,1.5s,mb5.8
CTI Castel Tesino 87.37 319 P P 03 13 02.7 -0.6
comp=Z,91nm,1.5s,mb5.8
APPI Appiano 87.42 320 P P 03 13 02.3 -1.2
FETA Feichten 87.45 320⇑iP P 03 13 03.0 -0.7
comp=Z,145nm,2.2s,mb5.8,SNR=17
STU Stuttgart 87.47 322 eP P 03 13 03.7 0.0
comp=Z,82nm,1.7s,mb5.7
STU epP pP 03 13 13.0 +3.9
STU Stuttgart 87.47 322 eP P 03 13 03.6 -0.1
CUC Castrocucco 87.47 312 eP P 03 13 03.0 -0.9
comp=Z,65nm,1.4s,mb5.7
CING Cingoli 87.67 316 P P 03 13 05.3 +0.5
MIDA Miranda 87.78 314 P P 03 13 05.4 0.0
DAVA Damuels 87.82 321⇑iP P 03 13 05.0 -0.4
comp=Z,445nm,4.7s,SNR=10
BRMO Bormio 87.93 320 P P 03 13 06.0 0.0
RAR Rarotonga 87.96 114 LR LR 03 43 53.0
comp=Z,206nm,21.7s,MS4.5,baz=169,slow=30
AQU L'Aquila 88.02 315 P P 03 13 07.3 +0.8
AQU pmax pmax
comp=Z,196nm,1.5s,mb6.1
AQU L'Aquila 88.02 315 P P 03 13 07.3 +0.8
comp=Z,196nm,1.5s,mb6.1
SPAK Spaichingen-Ko 88.04 322 eP P 03 13 06.2 -0.3
RFI Roccamonfina 88.12 314 P P 03 13 07.3 +0.3
comp=Z,16nm,1.6s,mb5.0
LANF Langenberg 88.14 323 eP P 03 13 06.4 -0.5
MURB Monte Urbino 88.16 316 P P 03 13 07.8 +0.7
RUP Ruppelstein 88.18 324 eP P 03 13 07.1 0.0
CEL Celeste 88.18 311 eP P 03 13 07.5 +0.1
comp=Z,236nm,1.3s,mb6.3
BFO Black Forest 88.19 322 eP P 03 13 06.6 -0.6
BFO pmax pmax
comp=Z,60nm,1.9s,mb5.5
BFO Black Forest 88.19 322 eP P 03 13 06.6 -0.6
comp=Z,60nm,1.9s,mb5.5
CASY Casey 88.19 184 eP P 03 13 06.2 -0.3
CASY LR LR
comp=Z,371nm,21.0s,MS4.8
HGN Heimansgroeve 88.22 325⇑iP P 03 13 06.5 -0.7
comp=Z,42nm,1.5s,mb5.4
HGN Heimansgroeve 88.22 325 i x x 03 13 11.4
comp=Z,38nm,2.4s
HGN Heimansgroeve 88.22 325 ePP PP 03 16 38.5 +4.7
HGN Heimansgroeve 88.22 325 eSS SS 03 29 45.8 +6.7
MEM Membach 88.26 325 P P 03 13 07.1 -0.3
comp=Z,25nm,1.6s,mb5.2
SCLL Scilla 88.31 311 P P 03 13 08.1 +0.1
comp=Z,10nm,0.5s,mb5.3
BEBN Eben Emael 88.33 325 P P 03 13 07.5 -0.3
comp=Z,15nm,1.9s,mb4.9
TUE Stuetta 88.55 320 eP P 03 13 08.3 -0.6
comp=Z,81nm,1.4s,mb5.9
MTCE Montecelio 88.60 315 P P 03 13 08.5 -0.8
FELD Feldberg im Sc 88.61 322 eP P 03 13 08.3 -0.9
FNVD Fontana Vidola 88.61 318 P P 03 13 10.5 +1.2
WLF Walferdange 88.69 324 P P 03 13 10.2 +0.6
comp=Z,60nm,1.2s,mb5.8
WLF Walferdange 88.69 324 eP P 03 13 09.6 +0.1
comp=Z,120nm,1.3s,mb6.1
WLF epP pP 03 13 18.3 +3.4
WLF Walferdange 88.69 324 eP P 03 13 10.2 +0.7
comp=Z,110nm,1.2s,mb6.1
WLF epP pP 03 13 18.1 +3.2
WLF LR LR
comp=Z,1μm,20.0s,MS5.3
BCLA Clavier 88.74 325 P P 03 13 09.0 -0.7
comp=Z,32nm,1.9s,mb5.3
CDF Champ du Feu 88.74 323 eP P 03 13 09.3 -0.5
comp=Z,97nm,1.2s,mb5.7
CDF Champ du Feu 88.74 323 eP P 03 13 09.3 -0.5
CDF pmax pmax
comp=Z,48nm,1.2s,mb5.7
CDF Champ du Feu 88.74 323 eP P 03 13 09.3 -0.5
comp=Z,48nm,1.2s,mb5.7
CSNT Castellina Chi 88.84 317 P P 03 13 08.9 -1.5
C03A Quillayute Air 88.90 38 ⇓P P 03 13 10.2 -0.4
baz=89
ECH Echery 88.91 322 eP P 03 13 09.9 -0.7
ECH Echery 88.91 322 eP P 03 13 10.4 -0.2
ECH epP pP 03 13 18.5 +2.5
ERBM Eremo 88.93 318 P P 03 13 12.1 +1.3
UCC Uccle 89.03 326 P P 03 13 10.5 -0.5
comp=Z,46nm,1.7s,mb5.5
TOLF Tolfa 89.07 315 P P 03 13 11.3 -0.2
BORG Borgarnes 89.07 345 PFAKE 03 13 20.0 +9.0
BORG LR LR
comp=Z,720nm,20.0s,MS5.1
VLC Villacollemand 89.08 318 eP P 03 13 13.4 +1.9
comp=Z,83nm,1.3s,mb5.9
VLC LR LR
comp=Z,853nm,21.0s,MS5.2
MOF Molkenrain 89.12 322 eP P 03 13 09.9 -1.7
PGC Sidney 89.16 37 eP P 03 13 12.7 +0.9
comp=Z,87nm,1.2s,mb6.0
GIVF Givet 89.17 325 eP P 03 13 11.2 -0.6
comp=Z,112nm,1.3s,mb5.7
GIVF Givet 89.17 325 eP P 03 13 11.2 -0.6
GIVF pmax pmax
comp=Z,56nm,1.3s,mb5.7
GIVF Givet 89.17 325 eP P 03 13 11.2 -0.6
comp=Z,56nm,1.3s,mb5.7
MNO Monte Soro 89.17 311 P P 03 13 12.9 +0.8
MNO pmax pmax
comp=Z,50nm,0.6s,mb6.0
MNO Monte Soro 89.17 311 P P 03 13 12.9 +0.8
comp=Z,50nm,0.6s,mb6.0
SNB Saturna Island 89.24 37 P P 03 13 12.7 +0.6
DOU Dourbes 89.30 325 P P 03 13 11.5 -0.9
comp=Z,12nm,1.0s,mb5.2
HINF Hinteralfeld 89.30 322 eP P 03 13 11.4 -1.0
comp=Z,89nm,1.5s,mb5.6
HINF Hinteralfeld 89.30 322 eP P 03 13 11.4 -1.0
HINF pmax pmax
comp=Z,45nm,1.5s,mb5.6
HINF Hinteralfeld 89.30 322 eP P 03 13 11.4 -1.0
comp=Z,45nm,1.5s,mb5.6
B04A Port Angeles 89.44 37 ⇑P P 03 13 12.9 -0.2
baz=89
HAU Haudompre 89.48 323 eP P 03 13 12.3 -1.0
comp=Z,60nm,1.1s,mb5.5
HAU eMLR MLR
comp=Z,2μm,17.8s,MS5.2
HAU Haudompre 89.48 323 eP P 03 13 12.3 -1.0
HAU pmax pmax
comp=Z,30nm,1.1s,mb5.5
HAU MLR MLR
comp=Z,2μm,17.8s,MS5.5
HAU Haudompre 89.48 323 eP P 03 13 12.3 -1.0
comp=Z,30nm,1.1s,mb5.5
HAU LR LR
comp=Z,2μm,17.8s,MS5.5
HVZN Vizzini 89.50 310 P P 03 13 13.7 +0.1
BAIF Baives 89.53 325⇑iP P 03 13 12.9 -0.5
comp=Z,107nm,1.5s,mb5.7
BAIF Baives 89.53 325⇑iP P 03 13 12.9 -0.5
BAIF pmax pmax
comp=Z,54nm,1.5s,mb5.7
BAIF Baives 89.53 325⇑iP P 03 13 12.9 -0.5
comp=Z,54nm,1.5s,mb5.7
A04A Legoe Bay, Lum 89.53 37 ⇓P P 03 13 13.5 0.0
baz=89
LOMF Lomont 89.56 322 eP P 03 13 12.5 -1.2
THEF They Montfort 89.57 323 eP P 03 13 12.8 -0.9
NLWA Neilton Lookou 89.60 38 ⇓P P 03 13 14.1 +0.2
baz=89
NLWA Neilton Lookou 89.60 38 eP P 03 13 14.9 +1.1
comp=Z,42nm,1.2s,mb5.6
NLWA LR LR
comp=Z,319nm,20.0s,MS4.7
A05A Maple Falls 89.72 36 ⇑P P 03 13 13.7 -0.6
baz=90
D03A Wishkah Elem. 89.80 38 ⇓P P 03 13 14.8 0.0
baz=90
USI Ustica 89.87 312 P P 03 13 15.2 -0.1
comp=Z,104nm,1.0s,mb6.1
HDW Hoodsport 89.92 38 P P 03 13 16.7 +1.4
C04A Brinnon 89.93 38 ⇓P P 03 13 15.0 -0.4
baz=90
MEZF Maizieres J'vi 89.94 323 eP P 03 13 15.0 -0.4
comp=Z,235nm,1.3s,mb6.1
MEZF Maizieres J'vi 89.94 323 eP P 03 13 15.0 -0.4
comp=Z,235nm,1.3s,mb6.4
MBW Mount Baker 89.94 36 P P 03 13 16.1 +0.7
ESK Eskdalemuir 89.94 332 eP P 03 13 15.4 +0.1
ESK e*PP pP 03 13 23.4 +2.8
ESK pmax pmax
comp=Z,62nm,1.5s,mb5.7
ESK MLR MLR
comp=Z,1μm,20.0s,MS5.3
ESK Eskdalemuir 89.94 332 eP P 03 13 15.4 +0.2
comp=Z,62nm,1.5s,mb5.7
ESK epP pP 03 13 23.4 +2.7
ESK LR LR
comp=Z,1μm,20.0s,MS5.3
A06A Chilliwack 89.99 36 ⇓P P 03 13 15.1 -0.5
baz=90
B05A Bryant 90.12 37 ⇓P P 03 13 16.1 -0.1
baz=90
E03A Lebam 90.23 39 ⇑P P 03 13 16.6 -0.2
baz=90
JCW Jim Creek 90.25 37 P P 03 13 17.9 +1.0
B06A Marblemount 90.32 36 ⇑P P 03 13 16.8 -0.4
baz=90
RPW Rockport 90.34 36 P P 03 13 17.9 +0.6
CABF La Chapelle 90.39 321 eP P 03 13 16.9 -0.6
comp=Z,143nm,1.6s,mb5.7
CABF La Chapelle 90.39 321 eP P 03 13 16.9 -0.6
CABF pmax pmax
comp=Z,71nm,1.6s,mb5.8
CABF La Chapelle 90.39 321 eP P 03 13 16.9 -0.6
comp=Z,71nm,1.6s,mb5.8
FIN Finale Ligure 90.40 319 P P 03 13 17.1 -0.5
BMW Boistfort Moun 90.46 39 eP P 03 13 18.9 +1.0
BMW e*PP pP 03 13 27.6 +4.4
F03A Seaside 90.56 39 ⇑P P 03 13 18.3 0.0
baz=90
LPG La Plagne 90.60 320 eP P 03 13 18.6 +0.1
comp=Z,157nm,1.1s,mb5.9
LPG La Plagne 90.60 320 eP P 03 13 18.6 +0.1
LPG pmax pmax
comp=Z,78nm,1.1s,mb6.0
LPG La Plagne 90.60 320 eP P 03 13 18.6 +0.1
comp=Z,78nm,1.1s,mb6.0
LPL La Plagne 90.60 320⇑iP P 03 13 18.5 0.0
comp=Z,142nm,1.2s,mb5.9
LPL La Plagne 90.60 320⇑iP P 03 13 18.5 0.0
LPL pmax pmax
comp=Z,71nm,1.2s,mb5.9
LPL La Plagne 90.60 320⇑iP P 03 13 18.5 0.0
comp=Z,71nm,1.2s,mb5.9
A07A Ashnola River, 90.62 35 ⇑P P 03 13 18.4 -0.1
baz=90,SNR=11
MIR Mirnyy 90.65 191⇓iP P 03 13 19.0 +1.0
MIR pmax pmax
comp=Z,100nm,1.0s,mb6.1
C05A Tolt Reservoir 90.67 37 ⇑P P 03 13 18.0 -0.8
baz=90
E04A Onalaska 90.69 38 ⇑P P 03 13 18.8 -0.2
baz=90
RMW Rattlesnake Mo 90.73 37 P P 03 13 20.3 +1.2
PGF Pioggiola 90.76 317⇑iP P 03 13 19.4 0.0
comp=Z,243nm,0.9s,mb6.2
PGF Pioggiola 90.76 317⇑iP P 03 13 19.4 0.0
PGF pmax pmax
comp=Z,122nm,0.9s,mb6.2
PGF Pioggiola 90.76 317⇑iP P 03 13 19.4 0.0
comp=Z,122nm,0.9s,mb6.2
D05A Enumclaw 90.78 38 ⇑P P 03 13 19.1 -0.3
baz=91
CORF Corte 90.79 317 eP P 03 13 19.8 +0.3
BNI Bardonecchia 90.88 320 eP P 03 13 19.4 -0.5
BNI e 03 16 55.2
BNI Bardonecchia 90.88 320 eP P 03 13 19.4 -0.4
comp=Z,118nm,1.3s,mb6.1
BNI ePP PP 03 16 55.2 0.0
BNI LR LR
comp=Z,1μm,20.0s,MS5.4
GSM Grass Mountain 90.88 38 P P 03 13 20.8 +1.0
SAOF Saorge 90.92 319 eP P 03 13 19.5 -0.6
C06A Tall Timber Ra 90.98 37 ⇑P P 03 13 19.8 -0.4
baz=91
AUTN L'Aution 90.99 319 eP P 03 13 20.0 -0.4
MBDF Montbardon 91.00 320 eP P 03 13 19.6 -0.8
comp=Z,89nm,1.4s,mb5.6
MBDF Montbardon 91.00 320 eP P 03 13 19.6 -0.8
MBDF pmax pmax
comp=Z,45nm,1.4s,mb5.6
MBDF Montbardon 91.00 320 eP P 03 13 19.6 -0.8
comp=Z,45nm,1.4s,mb5.6
SBF Sospel 91.06 319 eP P 03 13 20.1 -0.6
comp=Z,141nm,1.1s,mb5.9
SBF Sospel 91.06 319 eP P 03 13 20.1 -0.6
SBF pmax pmax
comp=Z,70nm,1.1s,mb5.9
SBF Sospel 91.06 319 eP P 03 13 20.1 -0.6
comp=Z,70nm,1.1s,mb5.9
G03A Yamhill 91.06 40 ⇑P P 03 13 20.7 +0.1
baz=91
TOUF Mont Tournerai 91.09 319 eP P 03 13 20.5 -0.4
LUCF Luceram 91.09 319 eP P 03 13 20.7 -0.2
B07A Winthrop 91.10 36 ⇓P P 03 13 20.1 -0.7

baz=91,SNR=12
TDL Tradedollar La 91.11 38 P P 03 13 21.8 +0.9
LON Longmire 91.12 38 P P 03 13 20.4 -0.6
REVF Revere 91.16 319 eP P 03 13 20.4 -0.8
MVIF Mont Vial 91.21 319 eP P 03 13 20.3 -1.1
F04A Amboy 91.23 39 ⇑P P 03 13 20.8 -0.7
baz=91
E05A Randle 91.26 38 ⇑P P 03 13 21.2 -0.4
baz=91
A08A Turner Farm, O 91.27 35 ⇑P P 03 13 21.7 +0.1
baz=91,SNR=13
SFJD Kangerlussuaq 91.27 357 eP P 03 13 20.4 -0.8
SFJD pmax pmax
comp=Z,71nm,1.4s,mb5.8
SFJD MLR MLR
comp=Z,555nm,20.0s,MS5.0
SFJD Kangerlussuaq 91.27 357 eP P 03 13 20.4 -0.8
comp=Z,71nm,1.4s,mb5.8
SFJD LR LR
comp=Z,555nm,20.0s,MS5.0
LOR Lormes 91.29 323⇑iP P 03 13 20.9 -0.8
comp=Z,190nm,1.3s,mb6.0
LOR eMLR MLR
comp=Z,1μm,19.0s,MS5.0
LOR Lormes 91.29 323⇑iP P 03 13 20.9 -0.8
LOR pmax pmax
comp=Z,95nm,1.3s,mb6.0
LOR MLR MLR
comp=Z,1μm,19.0s,MS5.3
LOR Lormes 91.29 323⇑iP P 03 13 20.9 -0.8
comp=Z,95nm,1.3s,mb6.0
LOR LR LR
comp=Z,1μm,19.0s,MS5.3
H03A Soap Creek Ran 91.40 40 ⇓P P 03 13 22.8 +0.5
baz=91
D06A Cle Elum 91.42 37 ⇓P P 03 13 22.4 +0.1
baz=91
ORIF Oris-en-Rattie 91.43 320⇑iP P 03 13 22.2 -0.2
comp=Z,249nm,1.6s,mb6.0
ORIF eMLR MLR
comp=Z,1μm,17.2s,MS5.0
ORIF Oris-en-Rattie 91.43 320⇑iP P 03 13 22.2 -0.2
ORIF pmax pmax
comp=Z,124nm,1.6s,mb6.0
ORIF Oris-en-Rattie 91.43 320⇑iP P 03 13 22.2 -0.2
comp=Z,124nm,1.6s,mb6.0
I02A Mapleton 91.44 41 ⇓P P 03 13 22.5 0.0
baz=91
COR Corvallis 91.44 40 eP P 03 13 23.3 +0.8
COR pmax pmax
comp=Z,49nm,1.2s,mb5.7
COR MLR MLR
comp=Z,71nm,19.0s,MS4.1
COR Corvallis 91.44 40 eP P 03 13 23.3 +0.8
comp=Z,49nm,1.2s,mb5.7
COR LR LR
comp=Z,71nm,19.0s,MS4.1
CALN Calern 91.45 319 eP P 03 13 22.2 -0.3
ETW Entiat 91.47 37 eP P 03 13 22.8 +0.2
ETW epP pP 03 13 31.5 +3.6
DGI Dorgali Grotta 91.50 315 P P 03 13 22.8 0.0
EDM Edmonton 91.56 29 eP P 03 13 23.5 +0.7
C07A Waterville 91.57 36 ⇑P P 03 13 22.5 -0.6
baz=91,SNR=9.7
TBM Table Mountain 91.57 37 P P 03 13 24.1 +1.1
B08A Colville Reser 91.58 36 ⇑P P 03 13 22.6 -0.4
baz=91,SNR=15
G04A Mulino 91.59 39 ⇑P P 03 13 23.1 -0.1
baz=91
SSF Saint Saulge 91.61 323⇑iP P 03 13 22.5 -0.7
comp=Z,137nm,1.2s,mb5.8
SSF Saint Saulge 91.61 323⇑iP P 03 13 22.5 -0.7
SSF pmax pmax
comp=Z,69nm,1.2s,mb5.9
SSF Saint Saulge 91.61 323⇑iP P 03 13 22.5 -0.7
comp=Z,69nm,1.2s,mb5.9
A09A Danville 91.62 35 ⇑P P 03 13 23.0 -0.2
baz=91,SNR=8.4
WTV Waterville 91.63 36 P P 03 13 23.8 +0.5
SMF Signal de Mont 91.66 322 eP P 03 13 22.7 -0.7
comp=Z,243nm,1.3s,mb6.1
SMF Signal de Mont 91.66 322 eP P 03 13 22.7 -0.7
SMF pmax pmax
comp=Z,122nm,1.3s,mb6.1
SMF Signal de Mont 91.66 322 eP P 03 13 22.7 -0.7
comp=Z,122nm,1.3s,mb6.1
K01A Sixes 91.68 42 ⇓P P 03 13 23.8 +0.2
baz=92
FRF La Foret Royal 91.70 319⇑iP P 03 13 23.1 -0.6
comp=Z,183nm,1.5s,mb5.9
FRF La Foret Royal 91.70 319⇑iP P 03 13 23.1 -0.6
FRF pmax pmax
comp=Z,91nm,1.5s,mb5.9
FRF La Foret Royal 91.70 319⇑iP P 03 13 23.1 -0.6
comp=Z,91nm,1.5s,mb5.9
E06A Yakima 91.72 38 ⇓P P 03 13 23.1 -0.6
baz=92,SNR=22
EBG Ellensburg 91.74 37 P P 03 13 24.6 +0.8
F05A White Salmon 91.81 38 ⇓P P 03 13 24.1 -0.1
baz=92
AVF Avril sur Loir 91.85 323 eP P 03 13 23.5 -0.8
comp=Z,148nm,1.1s,mb5.9
AVF Avril sur Loir 91.85 323 eP P 03 13 23.5 -0.8
AVF pmax pmax
comp=Z,74nm,1.1s,mb5.9
AVF Avril sur Loir 91.85 323 eP P 03 13 23.5 -0.8
comp=Z,74nm,1.1s,mb5.9
LMR La Mourre 91.91 319⇑iP P 03 13 24.2 -0.5
comp=Z,284nm,1.5s,mb6.1
LMR La Mourre 91.91 319⇑iP P 03 13 24.2 -0.5
LMR pmax pmax
comp=Z,142nm,1.5s,mb6.1
LMR La Mourre 91.91 319⇑iP P 03 13 24.2 -0.5
comp=Z,142nm,1.5s,mb6.1
D07A Quincy 91.91 37 ⇑P P 03 13 23.8 -0.8
baz=92,SNR=5.1
OG26 St.-Nazaire-De 91.96 320 eP P 03 13 25.0 +0.1
OCF Saint Nazaire 91.96 320 eP P 03 13 25.0 +0.1
HYF Humbligny 91.97 323 eP P 03 13 24.8 -0.1
HOOD Mount Hood Mea 92.01 39 eP P 03 13 26.0 +0.9
comp=Z,52nm,1.2s,mb5.7
SSB Saint Sauveur 92.02 321 eP P 03 13 24.9 -0.2
SSB Saint Sauveur 92.02 321 eP P 03 13 25.2 0.0
H04A Detroit Lake 92.05 40 ⇓P P 03 13 25.0 -0.3
baz=92
VSL Villasalto 92.07 314 eP P 03 13 25.2 -0.2
comp=Z,134nm,1.3s,mb6.1
VSL epP pP 03 13 33.9 +3.1
VSL LR LR
comp=Z,456nm,19.0s,MS4.9
C08A Higginbotham F 92.08 36 ⇓P P 03 13 24.5 -0.8
baz=92,SNR=9.3
BROR Big Rock Looko 92.12 40 P P 03 13 26.3 +0.7
SMRF Simiane la Rot 92.13 319 eP P 03 13 25.4 -0.3
comp=Z,82nm,1.4s,mb5.6
SMRF Simiane la Rot 92.13 319 eP P 03 13 25.4 -0.3
comp=Z,82nm,1.4s,mb5.9
A10A Northport 92.16 34 ⇑P P 03 13 26.0 +0.3
baz=92,SNR=5.7
PLDF La Plantade 92.17 322 eP P 03 13 26.0 +0.2
VIVF Saint-Julien-l 92.18 321 eP P 03 13 25.3 -0.6
comp=Z,144nm,1.7s,mb5.7
VIVF Saint-Julien-l 92.18 321 eP P 03 13 25.3 -0.6
VIVF pmax pmax
comp=Z,72nm,1.7s,mb5.7
VIVF Saint-Julien-l 92.18 321 eP P 03 13 25.3 -0.6
comp=Z,72nm,1.7s,mb5.7
B09A Rice 92.18 35 ⇑P P 03 13 25.9 +0.1
baz=92,SNR=9.2
G05A Wamic 92.25 39 ⇑P P 03 13 26.3 0.0
baz=92
BGF Bois d'Agland 92.27 323⇑iP P 03 13 25.5 -0.8
comp=Z,108nm,1.5s,mb5.7
BGF Bois d'Agland 92.27 323⇑iP P 03 13 25.5 -0.8
BGF pmax pmax
comp=Z,54nm,1.5s,mb5.7
BGF Bois d'Agland 92.27 323⇑iP P 03 13 25.5 -0.8
comp=Z,54nm,1.5s,mb5.7
F06A Goldendale 92.27 38 ⇑P P 03 13 26.1 -0.2
baz=92
K02A Glendale 92.31 42 ⇓P P 03 13 26.3 -0.2
baz=92
E07A Sunnyside 92.34 37 ⇓P P 03 13 26.6 0.0
baz=92,SNR=7.4
COLF Collangettes 92.38 321 eP P 03 13 26.1 -0.7
AGO Saint Agoulin 92.40 322 eP P 03 13 27.4 +0.5
M01C Crescent City 92.40 43 ⇑P P 03 13 26.3 -0.7
baz=92
I04A Tendick Farm, 92.41 41 ⇓P P 03 13 27.1 +0.1
baz=92
OD2 Odessa Site #2 92.49 36 eP P 03 13 27.3 +0.1
L02A Cave Junction 92.57 42 ⇓P P 03 13 27.7 0.0
baz=92
D08A Wollman Farm, 92.57 36 ⇓P P 03 13 27.3 -0.3
baz=92
RSW Rattlesnake Hi 92.59 37 eP P 03 13 28.7 +1.0
HAWA Hanford 92.62 37 eP P 03 13 28.7 +0.9
comp=Z,43nm,1.6s,mb5.6
HAWA LR LR
comp=Z,207nm,21.0s,MS4.6
H05A Madras 92.64 39 ⇑P P 03 13 27.8 -0.2
baz=92
G06A Carlson Farm, 92.66 39 ⇑P P 03 13 28.0 -0.1
baz=92,SNR=10
F07A Phinny Hill Vi 92.68 38 ⇓P P 03 13 28.1 -0.1
baz=92
HUMO Hull Mountain 92.72 42 ⇓P P 03 13 28.8 +0.4
baz=93
HUMO Hull Mountain 92.72 42 eP P 03 13 28.9 +0.5
comp=Z,8.6nm,1.0s,mb5.1
HUMO LR LR
comp=Z,385nm,22.0s,MS4.8
FLN La Foliniere 92.76 326 eP P 03 13 27.2 -1.3
comp=Z,106nm,1.5s,mb5.8
FLN eMLR MLR
comp=Z,2μm,21.2s,MS5.2
FLN La Foliniere 92.76 326 eP P 03 13 27.2 -1.3
FLN pmax pmax
comp=Z,53nm,1.5s,mb5.8
FLN MLR MLR
comp=Z,2μm,21.3s,MS5.5
FLN La Foliniere 92.76 326 eP P 03 13 27.2 -1.3
comp=Z,53nm,1.5s,mb5.8
FLN LR LR
comp=Z,2μm,21.3s,MS5.5
TCF Toulx Ste Croi 92.78 323⇑iP P 03 13 28.2 -0.4
comp=Z,128nm,1.3s,mb5.9
TCF Toulx Ste Croi 92.78 323⇑iP P 03 13 28.2 -0.4
TCF pmax pmax
comp=Z,64nm,1.3s,mb5.9
TCF Toulx Ste Croi 92.78 323⇑iP P 03 13 28.2 -0.4
comp=Z,64nm,1.3s,mb5.9
A11A Hall Mountain, 92.80 34 ⇑P P 03 13 29.1 +0.4
baz=93
LBL Lubilhac 92.80 321 eP P 03 13 29.0 +0.2
NEW Newport 92.82 35 eP P 03 13 29.0 +0.2
comp=Z,25nm,1.1s,mb5.6
NEW epP pP 03 13 37.7 +3.5
NEW LR LR
comp=Z,374nm,20.0s,MS4.8
E08A Dider Farm, El 92.83 37 ⇑P P 03 13 28.6 -0.2
baz=93
KTRM Thompson Ridge 92.84 43 P P 03 13 30.7 +1.7
I05A Bend 92.89 40 ⇑P P 03 13 29.1 -0.1
baz=93
J04A Umpqua Nationa 92.90 41 ⇓P P 03 13 29.0 -0.2
baz=93
D09A Jones Farm, Ri 92.91 36 ⇑P P 03 13 29.2 0.0
baz=93,SNR=6.4
C10A Spilker Farm, 93.00 35 ⇑P P 03 13 29.6 0.0
baz=93
VIPM Ingram Point 93.08 39 P P 03 13 31.0 +1.0
LASF Ste Croix 93.10 320 eP P 03 13 29.8 -0.4
comp=Z,60nm,1.4s,mb5.5
B11A Sandpoint 93.12 34 ⇑P P 03 13 30.4 +0.3
baz=93,SNR=11
H06A Lindquist Farm 93.12 39 ⇓P P 03 13 30.0 -0.2
baz=93,SNR=9.4
A12A Yaak River Ran 93.18 34 ⇑P P 03 13 30.7 +0.3
baz=93
GRR Gorron 93.19 326 eP P 03 13 29.7 -0.8
comp=Z,145nm,1.7s,mb5.8
GRR Gorron 93.19 326 eP P 03 13 29.7 -0.8
GRR pmax pmax
comp=Z,72nm,1.7s,mb5.8
GRR Gorron 93.19 326 eP P 03 13 29.7 -0.8
comp=Z,72nm,1.7s,mb5.8
G07A Ruggs Ranch, H 93.20 38 ⇑P P 03 13 30.4 -0.1
baz=93,SNR=10
E09A Wood Farm, Sta 93.32 37 ⇓P P 03 13 30.6 -0.5
baz=93,SNR=6.9
YBH Yreka Blue Hor 93.36 42 ⇑P P 03 13 31.2 -0.1
baz=93
YBH Yreka Blue Hor 93.36 42 eP P 03 13 32.7 +1.3
comp=Z,26nm,1.3s,mb5.5
YBH epP pP 03 13 40.7 +3.9
YBH LR LR
comp=Z,254nm,19.0s,MS4.7
F08A Pendleton 93.39 37 ⇑P P 03 13 31.5 0.0
baz=93
J05A Fort Rock 93.40 41 ⇑P P 03 13 31.2 -0.4
baz=93,SNR=13
M02C Callahan 93.45 43 ⇓P P 03 13 31.8 0.0
baz=93
N02C Big Bar 93.47 43 ⇑P P 03 13 31.9 0.0
baz=93
D10A Wagner Farm, O 93.48 36 ⇑P P 03 13 31.3 -0.5
baz=93
B12A Libby 93.50 34 ⇑P P 03 13 32.0 +0.1
baz=93
O01C Eel River Cons 93.51 44 ⇑P P 03 13 31.7 -0.4
baz=93
G08A Pilot Rock 93.59 38 ⇑P P 03 13 32.4 0.0
baz=93,SNR=6.0
L04A Klamath Falls 93.62 42 ⇓P P 03 13 32.3 -0.3
baz=94
LNOR Lincton Mounta 93.63 37 eP P 03 13 32.8 +0.3
I06A Prineville 93.64 40 ⇑P P 03 13 32.9 +0.2
baz=94,SNR=6.6
CAF Calviac 93.66 322 eP P 03 13 32.8 +0.1
comp=Z,102nm,1.6s,mb5.7
CAF Calviac 93.66 322 eP P 03 13 32.8 +0.1
CAF pmax pmax
comp=Z,51nm,1.6s,mb5.7
CAF Calviac 93.66 322 eP P 03 13 32.8 +0.1
comp=Z,51nm,1.6s,mb5.7
LHEM Herd Peak 93.72 42 P P 03 13 33.8 +0.8
RJF Les Rejaudoux 93.75 322 eP P 03 13 33.1 0.0
comp=Z,146nm,1.1s,mb6.0
RJF eMLR MLR
comp=Z,1μm,20.5s,MS5.0
RJF Les Rejaudoux 93.75 322 eP P 03 13 33.1 0.0
RJF pmax pmax
comp=Z,73nm,1.1s,mb6.0
RJF MLR MLR
comp=Z,1μm,20.5s,MS5.3
RJF Les Rejaudoux 93.75 322 eP P 03 13 33.1 0.0
comp=Z,73nm,1.1s,mb6.0
RJF LR LR
comp=Z,1μm,20.5s,MS5.3
M04C Modoel 93.87 42 ⇑P P 03 13 33.6 -0.2
baz=94,SNR=6.7
MFF Saint Martin d 93.91 324 eP P 03 13 33.3 -0.5
comp=Z,152nm,1.6s,mb5.9
MFF Saint Martin d 93.91 324 eP P 03 13 33.3 -0.5
MFF pmax pmax
comp=Z,76nm,1.6s,mb5.9
MFF Saint Martin d 93.91 324 eP P 03 13 33.3 -0.5
comp=Z,76nm,1.6s,mb5.9
E10A Myers Farm, Un 93.91 36 ⇓P P 03 13 33.7 -0.1
baz=94
K05A Summer Lake 93.93 41 ⇓P P 03 13 34.3 +0.3
baz=94,SNR=8.7
F09A S2 Ranch, Elgi 93.94 37 ⇑P P 03 13 33.9 0.0
baz=94
M03C McCloud 93.98 43 ⇓P P 03 13 34.0 -0.3
baz=94
I07A Izee 93.98 39 ⇓P P 03 13 34.0 -0.2
baz=94,SNR=6.5
WALA Waterton Lakes 93.99 33 eP P 03 13 34.2 +0.1
comp=Z,44nm,1.3s,mb5.7
WALA epP pP 03 13 43.8 +4.3
D11A Klaveano Farm, 93.99 35 ⇓P P 03 13 33.7 -0.5
baz=94,SNR=9.0
KEST Kesra 93.99 311 P P 03 13 34.2 -0.2
comp=Z,5.9nm,1.0s,mb5.0,baz=328,slow=1.3,SNR=22
KEST LR LR 04 06 53.3
comp=Z,193nm,19.5s,MS4.6,baz=4.2,slow=42
J06A Christmas Vall 94.07 40 ⇓P P 03 13 34.2 -0.4
baz=94,SNR=16
WDC Whiskeytown Da 94.09 43 eP P 03 13 34.9 +0.1
WDC pmax pmax
comp=Z,21nm,1.3s,mb5.4
WDC MLR MLR
comp=Z,317nm,22.0s,MS4.7
WDC Whiskeytown Da 94.09 43 eP P 03 13 35.5 +0.7
WDC Whiskeytown Da 94.09 43 ⇓P P 03 13 33.9 -0.9
baz=94
WDC Whiskeytown Da 94.09 43 eP P 03 13 34.9 +0.1
comp=Z,21nm,1.3s,mb5.4
WDC LR LR
comp=Z,317nm,22.0s,MS4.7
B13A Whitefish 94.14 34 ⇑P P 03 13 34.8 0.0
baz=94
O02C Red Bluff 94.15 44 ⇑P P 03 13 34.9 -0.2
baz=94,SNR=6.7
SGMF Saint Gilles 94.16 326 eP P 03 13 33.7 -1.2
comp=Z,89nm,1.4s,mb5.7
SGMF Saint Gilles 94.16 326 eP P 03 13 33.7 -1.2
SGMF pmax pmax
comp=Z,44nm,1.4s,mb5.7
SGMF Saint Gilles 94.16 326 eP P 03 13 33.7 -1.2
comp=Z,44nm,1.4s,mb5.7
H08A Prairie City 94.21 38 ⇑P P 03 13 35.7 +0.5
baz=94,SNR=7.0
G09A Cove 94.27 37 ⇓P P 03 13 35.3 -0.2
baz=94,SNR=7.4
K06A Valley Falls 94.27 41 ⇓P P 03 13 35.5 -0.1
baz=94,SNR=14
L05A Lakeview 94.35 41 ⇑P P 03 13 36.1 +0.2
baz=94,SNR=7.0
LFF La Frestale 94.41 322 eP P 03 13 36.1 -0.1
comp=Z,191nm,1.6s,mb6.0
LFF La Frestale 94.41 322 eP P 03 13 36.1 -0.1
LFF pmax pmax
comp=Z,95nm,1.6s,mb6.0
LFF La Frestale 94.41 322 eP P 03 13 36.1 -0.1
comp=Z,95nm,1.6s,mb6.0
E11A Bogner Ranch, 94.48 36 ⇑P P 03 13 36.1 -0.4
baz=94
GASB Alder Springs 94.48 44 ⇑P P 03 13 36.2 -0.4
baz=94,SNR=10
MTLF Montolieu 94.50 320 eP P 03 13 36.1 -0.5
comp=Z,12nm,0.9s,mb5.0
MTLF Montolieu 94.50 320 eP P 03 13 36.1 -0.5
MTLF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
MTLF Montolieu 94.50 320 eP P 03 13 36.1 -0.5
comp=Z,6.0nm,0.9s,mb5.0
J07A Hines 94.50 40 ⇓P P 03 13 36.9 +0.3
baz=94
D12A Red Ives Fores 94.51 35 ⇑P P 03 13 36.2 -0.4
baz=94
C13A Hot Springs 94.53 34 ⇓P P 03 13 36.6 0.0
baz=94
FCC Fort Churchill 94.54 18 eP P 03 13 36.1 -0.3
FCC pmax pmax
comp=Z,27nm,1.0s,mb5.6
FCC Fort Churchill 94.54 18 eP P 03 13 35.7 -0.7
comp=Z,27nm,1.0s,mb5.6
M05C Lookout 94.54 42 ⇓P P 03 13 36.6 -0.2
baz=94
HOPS Hopland 94.61 45 ⇓P P 03 13 36.5 -0.7
baz=94
HOPS Hopland 94.61 45 PFAKE 03 13 50.0 +13
HOPS LR LR
comp=Z,538nm,20.0s,MS5.0
I08A Drewsey 94.63 39 ⇑P P 03 13 37.2 +0.1
baz=94
G10A Bishop Farm, J 94.63 37 ⇑P P 03 13 36.6 -0.5
baz=94,SNR=11
HATC Hat Creek Radi 94.65 43 ⇓P P 03 13 36.5 -0.8
baz=94
H09A Durkee 94.70 38 ⇑P P 03 13 37.7 +0.2
baz=94
MOD Modoc 94.75 41 ⇑P P 03 13 37.2 -0.6
baz=95,SNR=9.5
MOD Modoc 94.75 41 eP P 03 13 38.5 +0.7
comp=Z,12nm,0.9s,mb5.3
MOD epP pP 03 13 47.3 +4.1
MOD LR LR
comp=Z,285nm,19.0s,MS4.8
BMO Blue Mountains 94.79 38 eP P 03 13 38.2 +0.3
comp=Z,10.0nm,1.2s,mb5.1
BMO epP pP 03 13 46.9 +3.6
BMO ePKKPbc PKKPbc 03 30 34.4 -0.8
BMO LR LR
comp=Z,300nm,19.0s,MS4.8
F11A Grangeville 94.80 36 ⇑P P 03 13 36.9 -1.0
baz=95
C14A Swan Lake 94.90 34 ⇑P P 03 13 38.1 -0.3
baz=95
K07A Rock Creek Ran 94.94 40 ⇓P P 03 13 38.7 0.0
baz=95,SNR=15
D13A Huson 94.96 35 ⇓P P 03 13 38.1 -0.5
baz=95
J08A Circle Bar Ran 95.01 39 ⇓P P 03 13 38.9 -0.1
baz=95,SNR=6.3
G11A Walters Elk Ra 95.04 37 ⇑P P 03 13 38.5 -0.6
baz=95
M06C Likely Place G 95.04 42 ⇑P P 03 13 38.8 -0.3
baz=95,SNR=5.5
I09A Lost Marbles R 95.07 38 ⇑P P 03 13 38.9 -0.3
baz=95
O04C Chester 95.16 43 ⇓P P 03 13 39.0 -0.7
baz=95,SNR=11
MCCM Marconi Confer 95.19 46 PFAKE 03 13 50.0 +10
MCCM LR LR
comp=Z,219nm,22.0s,MS4.6
FFC Flin Flon 95.21 24 eP P 03 13 39.7 +0.1
comp=Z,21nm,1.0s,mb5.5
FFC epP pP 03 13 47.7 +2.7
FFC LR LR
comp=Z,378nm,21.0s,MS4.8
ELFS Eagle Lake Fie 95.22 43 ⇑P P 03 13 39.7 -0.2
baz=95
H10A Noah's Angus R 95.27 38 ⇓P P 03 13 39.4 -0.7
baz=95,SNR=10
L07A Adell 95.27 41 ⇓P P 03 13 40.0 -0.2
baz=95,SNR=16
ORV Oroville 95.32 44 ⇑P P 03 13 39.7 -0.7
baz=95,SNR=9.3
FARB Farallon Islan 95.36 46 ⇑P P 03 13 40.0 -0.6
baz=95
CVS Carmenet Viney 95.36 45 ⇑P P 03 13 39.8 -0.9
baz=95
K08A Mann Creek Ran 95.37 40 ⇑P P 03 13 40.3 -0.3
baz=95,SNR=6.6
F12A Elk City 95.38 36 ⇑P P 03 13 40.1 -0.5
baz=95
MSO Missoula 95.40 35 eP P 03 13 41.0 +0.4
comp=Z,11nm,1.3s,mb5.1
MSO epP pP 03 13 49.3 +3.2
MSO ePKKPbc PKKPbc 03 30 33.5 -0.1
MSO LR LR
comp=Z,218nm,20.0s,MS4.6
J09A Fry Pan Ranch, 95.44 39 ⇓P P 03 13 40.7 -0.2
baz=95,SNR=6.3
OHCM Honcut 95.45 44 eP P 03 13 40.4 -0.7
OHCM epP pP 03 13 49.6 +3.1
WVOR Wild Horse Val 95.46 40 PFAKE 03 13 50.0 +9.0
WVOR LR LR
comp=Z,295nm,22.0s,MS4.7
PPT Papeete 95.46 107 eSP SP 03 26 12.2 -3.1
comp=Z,564nm,29.2s
PPT eSS SS 03 31 27.4 +1.3
comp=Z,288nm,26.0s
PPT Papeete 95.46 107 eLR LR 03 44 30.1
comp=Z,1μm,32.5s
PPT Papeete 95.46 107 LR LR 03 46 57.1
comp=Z,343nm,22.0s,MS4.8,baz=299,slow=29
D14A Greenough 95.47 34 ⇓P P 03 13 40.0 -0.9
baz=95
E13A Victor 95.52 35 ⇑P P 03 13 40.9 -0.3
baz=95
I10A Payette 95.54 38 ⇑P P 03 13 41.5 +0.2
baz=95
H11A Donnelly 95.61 37 ⇑P P 03 13 41.1 -0.6
baz=95
N06A Buffalo Meadow 95.70 42 ⇓P P 03 13 41.9 -0.2
baz=96,SNR=14
CHMT Chamberlain Mo 95.71 34 eP P 03 13 41.9 -0.2
M07A Soldier Meadow 95.74 41 ⇑P P 03 13 42.6 +0.3
baz=96,SNR=5.4
L08A Fields 95.78 40 ⇑P P 03 13 42.3 -0.1
baz=96,SNR=6.7
EPF Esparros 95.79 321 eP P 03 13 42.0 -0.5
comp=Z,41nm,1.6s,mb5.3
EPF Esparros 95.79 321 eP P 03 13 42.0 -0.5
EPF pmax pmax
comp=Z,21nm,1.6s,mb5.3
EPF Esparros 95.79 321 eP P 03 13 42.0 -0.5

comp=Z,21nm,1.6s,mb5.3
Q04C Lincoln 95.80 44 ⇓P **P 03 13 42.3 -0.4**
baz=96
K09A Rome 95.84 40 ⇑P **P 03 13 42.3 -0.5**
baz=96,SNR=11
BEKR Beckwourth 95.88 43 ⇑P **P 03 13 42.5 -0.5**
baz=96,SNR=9.8
E14A Clinton 95.91 35 ⇓P **P 03 13 42.6 -0.3**
baz=96
D15A Lincoln 96.01 34 ⇓P **P 03 13 43.1 -0.3**
baz=96
P05C Yuba Gap, Truc 96.04 44 ⇑P **P 03 13 43.2 -0.5**
baz=96
O06A Flanigan 96.04 43 ⇑P **P 03 13 43.1 -0.6**
baz=96,SNR=16
I11A Placerville 96.13 38 ⇑P **P 03 13 43.7 -0.4**
baz=96
M08A Happy Creek Ra 96.19 41 ⇑P **P 03 13 44.5 +0.1**
baz=96,SNR=6.2
BNLO Ben Lomond (Sa 96.22 46 ⇑P **P 03 13 44.1 -0.5**
baz=96
N07B Gerlach 96.22 42 ⇓P **P 03 13 44.1 -0.4**
baz=96,SNR=8.4
LAVA Lava Cap Winer 96.26 44 ⇓P **P 03 13 44.1 -0.6**
baz=96,SNR=5.7
P06A Stead Airport, 96.28 43 ⇑P **P 03 13 44.4 -0.4**
baz=96
L09A Wilkinson Ranc 96.28 40 ⇓P **P 03 13 44.4 -0.4**
baz=96
K10A MacKenzie Ranc 96.30 39 ⇑P **P 03 13 45.2 +0.4**
baz=96
E15A Deer Lodge 96.35 34 ⇓P **P 03 13 44.9 -0.1**
baz=96
G13A Cobalt 96.35 36 ⇓P **P 03 13 44.8 -0.2**
baz=96
H12A Diamond D Ranc 96.35 37 ⇑P **P 03 13 44.4 -0.6**
baz=96
F14A Wisdom 96.36 35 ⇓P **P 03 13 44.8 -0.2**
baz=96
ETSF Etsaut 96.39 321 *e*P **P 03 13 45.1 -0.2**
comp=Z,12nm,1.0s,mb5.0
ETSF Etsaut 96.39 321 *e*P **P 03 13 45.1 -0.2**
ETSF pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
ETSF Etsaut 96.39 321 *e*P **P 03 13 45.1 -0.2**
comp=Z,6.3nm,1.0s,mb5.0
MFID Camas Ranch 96.51 38 ⇓P **P 03 13 45.3 -0.5**
baz=96
S04C Ingram Canyon, 96.57 45 ⇓P **P 03 13 45.9 -0.3**
baz=96
WCN Washoe City 96.58 43 ⇓P **P 03 13 45.8 -0.4**
baz=96
PAHR Pah Rah Range 96.58 43 *e*P **P 03 13 47.0 +0.8**
comp=Z,19nm,1.2s,mb5.4
PAHR *ep*P pP 03 13 55.0 +3.5
O07A Toulon 96.64 42 ⇓P **P 03 13 46.1 -0.3**
baz=96,SNR=8.2
SJPF Ste Jean 96.65 322 *e*P **P 03 13 44.9 -1.5**
comp=Z,96nm,1.7s,mb5.7
SJPF Ste Jean 96.65 322 *e*P **P 03 13 44.9 -1.5**
SJPF pmax pmax
comp=Z,48nm,1.7s,mb5.7
SJPF Ste Jean 96.65 322 *e*P **P 03 13 44.9 -1.5**
comp=Z,48nm,1.7s,mb5.7
H13A Challis 96.68 36 ⇑P **P 03 13 46.2 -0.3**
baz=96
R05C Kirkwood Meado 96.72 44 ⇑P **P 03 13 46.3 -0.5**
baz=96,SNR=8.7
N08A GE Springer Mi 96.73 41 ⇓P **P 03 13 47.1 +0.2**
baz=97,SNR=6.4
EGMT Eagleton 96.74 32 ⇓P **P 03 13 46.5 -0.3**
baz=96
EGMT Eagleton 96.74 32 *e*P **P 03 13 47.5 +0.8**
comp=Z,27nm,1.5s,mb5.5
EGMT LR LR
comp=Z,404nm,19.0s,MS4.9
M09A Marrel Ranch, 96.77 40 ⇓P **P 03 13 46.8 -0.2**
baz=97
K11A Parker Ranch, 96.79 39 ⇑P **P 03 13 46.9 -0.2**
baz=97
F15A Butte 96.81 35 ⇑P **P 03 13 46.8 -0.3**
baz=97
LRM Limekiln Ridge 96.84 35 *e*P **P 03 13 47.8 +0.6**
LRM *ep*P pP 03 13 55.4 +2.8
PACP Pacheco Peak 96.88 46 ⇓P **P 03 13 47.1 -0.4**
baz=97
CMB Columbia Colle 96.89 45 ⇑P **P 03 13 47.0 -0.7**
baz=97,SNR=15
CMB Columbia Colle 96.89 45 *e*P **P 03 13 47.6 -0.1**
comp=Z,21nm,1.1s,mb5.5
CMB *ep*P pP 03 13 56.2 +3.2
CMB LR LR
comp=Z,213nm,19.0s,MS4.7
SAO San Andreas Ge 96.90 46 PFAKE 03 14 00.0 +12
SAO LR LR
comp=Z,335nm,19.0s,MS4.8
L10A Juniper Basin 96.96 39 ⇑P **P 03 13 48.2 +0.3**
baz=97
O08A Rochester Mine 97.01 42 ⇑P **P 03 13 48.1 -0.1**
baz=97,SNR=8.8
HAST Hastings Reser 97.04 46 ⇑P **P 03 13 48.0 -0.3**
baz=97
N09A Rock Creek Ran 97.06 41 ⇑P **P 03 13 48.7 +0.3**
baz=97
DLMT Dillon 97.06 35 *e*P **P 03 13 47.5 -0.7**
comp=Z,31nm,1.6s,mb5.5
DLMT *e*PKKPbc PKKPbc 03 30 28.8 -0.3
I13A Wildhorse Cree 97.17 37 ⇓P **P 03 13 49.3 +0.6**
baz=97
R06C Coleville 97.22 44 ⇑P **P 03 13 49.0 -0.1**
baz=97,SNR=6.7
HLID Hailey 97.22 37 ⇑P **P 03 13 49.4 +0.4**
baz=97
HLID Hailey 97.22 37 *e*P **P 03 13 50.0 +1.0**
comp=Z,4.1nm,0.9s,mb4.9
HLID LR LR
comp=Z,364nm,20.0s,MS4.9
WAKR Walker 97.24 44 *e*P **P 03 13 49.4 +0.2**
G15A Dillon 97.25 35 ⇓P **P 03 13 48.7 -0.4**
baz=97
M10A I.L. Ranch, Tu 97.25 40 ⇓P **P 03 13 49.1 -0.1**
baz=97
S05C Merced 97.32 45 ⇓P **P 03 13 48.9 -0.7**
baz=97
L11A Cat Creek Ranc 97.32 39 ⇓P **P 03 13 49.5 +0.1**
baz=97
S06C San Francisco 97.33 44 ⇓P **P 03 13 48.9 -0.7**
baz=97,SNR=10
T05C Eagle Field, D 97.34 46 ⇓P **P 03 13 49.9 +0.2**
baz=97
BOZ Bozeman (W) 97.39 34 ⇑P **P 03 13 49.5 -0.2**
baz=97
BOZ Bozeman (W) 97.39 34 *e*P **P 03 13 50.8 +1.1**
BOZ LR LR
comp=Z,263nm,19.0s,MS4.7
V03C Hunter Liggett 97.45 47 ⇑P **P 03 13 50.5 +0.3**
baz=97
J13A Cove Ranch, Pi 97.46 37 ⇑P **P 03 13 50.6 +0.6**
baz=97
BMN Battle Mountai 97.50 41 PFAKE 03 14 00.0 +10
BMN LR LR
comp=Z,252nm,20.0s,MS4.7
K12A Draper Farm, C 97.53 38 ⇑P **P 03 13 50.4 +0.1**
baz=97
I14A Mackay 97.53 37 ⇑P **P 03 13 50.8 +0.4**
baz=97
U04C Hernandez Rese 97.57 46 ⇓P **P 03 13 50.5 -0.2**
baz=97
O09A Fish Creek Ran 97.68 41 ⇑P **P 03 13 51.5 +0.4**
baz=98,SNR=5.8
R07C Lee Vining 97.73 44 ⇑P **P 03 13 51.4 0.0**
baz=98
M11A Holland Ranch, 97.75 40 ⇑P **P 03 13 52.1 +0.7**
baz=98
T06C Millerton Lake 97.92 45 ⇑P **P 03 13 51.6 -0.7**
baz=98,SNR=8.7
PKD Parkfield 97.97 46 ⇑P **P 03 13 52.5 0.0**
baz=98
Q08A Gabbs 97.99 43 ⇓P **P 03 13 52.8 +0.3**
baz=98
KCC Kaiser Creek 98.00 45 ⇓P **P 03 13 52.0 -0.6**
baz=98,SNR=9.5
NVAR Mina Array Bea 98.01 43 P **P 03 13 51.9 -0.7**
comp=Z,1.8nm,0.8s,mb4.7,baz=268,slow=4.0,SNR=19
NVAR Mina Array Bea 98.01 43 P **P 03 13 51.9 -0.7**
H16A Russell Place, 98.22 35 ⇑P **P 03 13 54.3 +0.9**
baz=98
YMR Madison River 98.39 35 PFAKE 03 14 10.0 +16
YMR LR LR
comp=Z,415nm,22.0s,MS4.9
L13A Double Diamond 98.42 38 ⇓P **P 03 13 55.2 +0.7**
baz=98
J15A Blackfoot 98.43 37 ⇓P **P 03 13 54.8 +0.4**
baz=98
LSZ Lusaka 98.48 257 P **P 03 13 53.8 -1.2**
comp=Z,6.7nm,0.7s,mb5.3,baz=69,slow=4.8,SNR=18
LSZ Lusaka 98.48 257 *e*P **P 03 13 53.6 -1.5**
comp=Z,7.6nm,0.7s,mb5.3
LSZ LR LR
comp=Z,791nm,21.0s,MS5.2
ELK Elko 98.51 40 PFAKE 03 14 10.0 +15
ELK LR LR
comp=Z,285nm,20.0s,MS4.8
N12A Clover Valley, 98.56 40 ⇓P **P 03 13 55.7 +0.6**
baz=98
RCTC Rector, Farmer 98.63 45 ⇓P **P 03 13 55.7 +0.2**
baz=98
S08C White Mtn Res 98.64 44 ⇓P **P 03 13 55.7 +0.2**
baz=98
LKWY Lake 98.76 35 PFAKE 03 14 10.0 +14
LKWY LR LR
comp=Z,464nm,20.0s,MS5.0
R09A Tonopah 98.90 43 ⇑P **P 03 13 56.9 +0.2**
baz=99
TPH Tonopah 98.91 43 *e*P **P 03 13 57.1 +0.4**
TPH pmax pmax
comp=Z,6.0nm,0.8s,mb5.2
TPH MLR MLR
comp=Z,251nm,20.0s,MS4.7
TPH Tonopah 98.91 43 *e*P **P 03 13 57.1 +0.4**
comp=Z,5.7nm,0.8s,mb5.2
TPH LR LR
comp=Z,251nm,20.0s,MS4.7
IMW Indian Meadow 98.92 35 *e*P **P 03 13 57.3 +0.7**
comp=Z,5.9nm,1.2s,mb5.0
IMW *e*PKKPbc PKKPbc 03 30 23.3 -0.7
MAW Mawson 98.93 199 P **P 03 13 54.2 -1.7**
comp=Z,4.8nm,1.1s,mb5.0,baz=42,slow=8.5,SNR=4.6
MAW Mawson 98.93 199 *e*P **P 03 13 56.3 +0.4**
MAW pmax pmax
comp=Z,1.0nm,0.3s
MAW MLR MLR
comp=Z,469nm,20.0s
MAW Mawson 98.93 199 *e*P **P 03 13 56.3 +0.4**
comp=Z,1.0nm,0.3s,mb4.8
MAW LR LR
comp=Z,469nm,20.0s,MS5.0
RLMT Red Lodge 98.97 34 PFAKE 03 14 10.0 +13
RLMT LR LR
comp=Z,364nm,19.0s,MS4.9
DGMT Dagmar 99.03 29 PFAKE 03 14 10.0 +13
DGMT LR LR
comp=Z,383nm,21.0s,MS4.9
S09A Goldfield 99.11 43 ⇓P **P 03 13 58.1 +0.5**
baz=99
M14A Sheep Mountain 99.14 38 ⇓P **P 03 13 58.2 +0.6**
baz=99
REDW Red Top Meadow 99.33 36 *e*P **P 03 13 52.7 -5.7**
comp=Z,42nm,2.5s,mb5.5
R10A Warm Springs 99.36 42 ⇑P **P 03 13 59.6 +0.9**
baz=99
LAO LASA Array 99.39 31 PFAKE 03 14 10.0 +11
LAO LR LR
comp=Z,420nm,22.0s,MS4.9
S10A Tonopah Range, 99.39 43 ⇓P **P 03 13 58.9 +0.1**
baz=99
ISA Isabella 99.51 46 ⇓P **P 03 13 59.7 +0.3**
baz=99
ISA Isabella 99.51 46 PFAKE 03 14 10.0 +11
ISA LR LR
comp=Z,302nm,21.0s,MS4.8
AHID Auburn Hatcher 99.59 36 *e*Pdif **P 03 14 03.6 +4.0**
comp=Z,11nm,0.4s,mb5.6
AHID LR LR
comp=Z,285nm,21.0s,MS4.8
N14A Grayback Hills 99.65 39 ⇓P Pdif 03 14 00.6 +0.9
baz=100
M15A Larsen Ranch, 99.68 38 ⇑P Pdif 03 14 00.3 +0.4
baz=100
DAC Darwin (Calif) 99.73 45 PFAKE 03 14 10.0 +10
DAC LR LR
comp=Z,282nm,21.0s,MS4.8
R11A Troy Canyon, C 99.77 42 ⇑P Pdif 03 14 01.2 +1.0
baz=100
MPMC Manual Prospec 99.92 45 ⇓P Pdif 03 14 01.2 +0.3
baz=100
HWUT Hardware Ranch 100.09 37 *e*P Pdif 03 14 02.5 +0.9
comp=Z,7.1nm,1.4s
HWUT *e*Pdif Pdif 03 14 03.3 +1.6
HWUT *e*PKKPbc PKKPbc 03 30 21.1 +0.5
HWUT LR LR
comp=Z,259nm,20.0s,MS4.7
FURC Furnace Creek, 100.09 44 ⇓P Pdif 03 14 02.3 +0.6
baz=100
LRMC Laurel Mountai 100.14 45 ⇓P Pdif 03 14 02.2 +0.3
baz=100
TPNV Topopah Spring 100.20 43 *e*P Pdif 03 14 02.8 +0.7
TPNV Topopah Spring 100.20 43 ⇓P Pdif 03 14 02.4 +0.3
baz=100
TPNV Topopah Spring 100.20 43 *e*Pdif Pdif 03 14 01.7 -0.4
TPNV LR LR
comp=Z,231nm,20.0s,MS4.7
EDW2 Edwards Air Fo 100.28 46 ⇑P Pdif 03 14 03.2 +0.7
baz=100
DUG Dugway 100.29 39 *e*Pdif Pdif 03 14 04.2 +1.6
DUG LR LR
comp=Z,278nm,20.0s,MS4.8
ESLA Sonseca Array 100.41 320 PFAKE 03 14 10.0 +6.9
ESLA LR LR
comp=Z,3μm,20.0s,MS5.8
BW06 Boulder Array 100.43 36 *e*Pdif Pdif 03 14 04.2 +1.0
BW06 LR LR
comp=Z,318nm,19.0s,MS4.8
PDAR Pinedale Array 100.43 36 P Pdif 03 14 03.4 +0.3
comp=Z,0.4nm,0.8s,baz=34,slow=0.5,SNR=4.9
PDAR PKKPbc PKKPbc 03 30 17.7 -2.0
comp=Z,1.1nm,0.9s,baz=129,slow=2.1,SNR=6.3
U10A Ash Meadows, A 100.47 44 ⇓P Pdif 03 14 04.4 +1.1
baz=100
P14A Drum Mountains 100.52 40 ⇑P Pdif 03 14 04.0 +0.4
baz=100
MWC Mount Wilson 100.62 47 PFAKE 03 14 20.0 +16
MWC LR LR
comp=Z,440nm,20.0s,MS5.0
T11A Corn Creek, Al 100.67 43 ⇓P Pdif 03 14 03.9 -0.4
baz=100
PAB San Pablo 100.72 320 PFAKE 03 14 20.0 +16
PAB LR LR
comp=Z,699nm,20.0s,MS5.2
Q14A Sevier Lake (B 100.78 40 ⇑P Pdif 03 14 05.4 +0.7
baz=101
GSC Goldstone 100.82 45 ⇓P Pdif 03 14 05.8 +0.9
baz=101
GSC Goldstone 100.82 45 *e*Pdif Pdif 03 14 06.9 +2.0
GSC LR LR
comp=Z,332nm,20.0s,MS4.8
ULM Lac du Bonnet 101.04 23 PFAKE 03 14 20.0 +14
ULM LR LR
comp=Z,575nm,20.0s,MS5.1
MPU Maple Canyon 101.09 39 PFAKE 03 14 20.0 +14
MPU LR LR
comp=Z,1μm,20.0s,MS5.4
MVO Moncorvo 101.20 323 *e*PP PP 03 18 18.5 +3.4
MVO Moncorvo 101.20 323 *e*LQ 03 50 18.5
MVO *e*LR LR 03 57 44.1
comp=Z,813nm,12.0s
TUQ Turquoise Mtn. 101.32 45 ⇑P Pdif 03 14 08.1 +1.0
baz=101
MVU Marysvale 101.73 40 PFAKE 03 14 20.0 +11
MVU LR LR
comp=Z,226nm,20.0s,MS4.7
MTE Manteigas 102.01 323 *e*PP PP 03 18 22.5 +1.4
MTE Manteigas 102.01 323 *e*LR LR 03 57 49.4
comp=Z,802nm,21.6s
MTE Manteigas 102.01 323 PFAKE 03 14 20.0 +10
MTE LR LR
comp=Z,984nm,20.0s,MS5.3
PFO Pinyon Flat Ob 102.06 46 PFAKE 03 14 20.0 +10
PFO LR LR
comp=Z,409nm,21.0s,MS4.9
RSSD Black Hills 102.31 32 *e*P Pdif 03 14 11.9 +0.4
RSSD pmax pmax
comp=Z,11nm,1.5s
RSSD MLR MLR
comp=Z,81nm,19.0s,MS4.3
RSSD Black Hills 102.31 32 *e*Pdif Pdif 03 14 11.9 +0.4
comp=Z,11nm,1.5s
RSSD LR LR
comp=Z,81nm,19.0s,MS4.3
BAR Barrett 102.46 47 PFAKE 03 14 20.0 +7.8
BAR LR LR
comp=Z,998nm,22.0s,MS5.3
PMRV Marv??o 102.57 322 *e*PP PP 03 18 28.2 +2.8
PMRV Marv??o 102.57 322 *e*LQ 03 51 55.2
PMRV *e*LR LR 03 58 24.8
comp=Z,770nm,32.5s
AGMN Agassiz Refuge 102.64 24 PFAKE 03 14 20.0 +7.0
AGMN LR LR
comp=Z,317nm,19.0s,MS4.9
PESTR Estremoz 103.06 321 *e*PP PP 03 18 32.0 +2.9
PESTR Estremoz 103.06 321 *e*LQ 03 52 32.8
PESTR *e*LR LR 03 58 16.2
comp=Z,1μm,22.3s
PBAR Barrancos 103.20 321 *e*PP PP 03 18 30.6 +0.4
PBAR Barrancos 103.20 321 *e*LQ 03 52 21.6
PBAR *e*LR LR 03 59 03.5
comp=Z,567nm,31.6s
SCHQ Schefferville 103.35 5 PFAKE 03 14 30.0 +14
SCHQ LR LR
comp=Z,960nm,20.0s,MS5.3
GLA Glamis 103.48 46 PFAKE 03 14 30.0 +13
GLA LR LR
comp=Z,337nm,21.0s,MS4.8
SFS San Fernando 103.83 319 PFAKE 03 14 30.0 +12
SFS LR LR
comp=Z,2μm,19.0s,MS5.6
PVAQ Vaqueiros 104.12 320 *e*PP PP 03 18 38.6 +1.6
PVAQ Vaqueiros 104.12 320 *e*LQ 03 51 27.5
PVAQ *e*LR LR 03 57 13.8
comp=Z,565nm,24.1s
WUAZ Wupatki 104.17 42 PFAKE 03 14 30.0 +10
WUAZ LR LR
comp=Z,271nm,21.0s,MS4.8
SMCO Snowmass 104.31 37 *e*Pdif Pdif 03 14 26.1 +5.7
SMCO *e*PP PP 03 18 31.1 -7.3
PBDV Barranco-do-Ve 104.35 320 *e*PP PP 03 18 41.1 +2.3
PBDV Barranco-do-Ve 104.35 320 *e*LQ 03 54 22.8
PBDV *e*LR LR 03 59 54.5
comp=Z,879nm,15.4s
EYMN Ely 104.54 22 PFAKE 03 14 30.0 +8.6
EYMN LR LR
comp=Z,476nm,20.0s,MS5.0
ISCO Idaho Springs 104.62 36 PFAKE 03 14 30.0 +8.2
ISCO LR LR
comp=Z,409nm,21.0s,MS4.9
MORF Marmelete 104.73 321 *e*LQ 03 54 59.0
MORF *e*LR LR 03 59 41.7
comp=Z,880nm,20.6s
MVCO Mesa Verde 104.79 39 PFAKE 03 14 30.0 +7.5
MVCO LR LR
comp=Z,269nm,19.0s,MS4.8
PFVI Vila Bisbo 104.95 321 *e*PP PP 03 18 45.3 +2.1
PFVI Vila Bisbo 104.95 321 *e*LQ 03 53 53.7
PFVI *e*LR LR 03 59 01.8
comp=Z,845nm,24.5s
ECSD EROS,Sioux Fal 106.03 28 *e*PKKPbc PKKPbc 03 30 05.0 +1.7
SDCO Great Sand Dun 106.14 37 PFAKE 03 18 50.0 +9.3
SDCO LR LR
comp=Z,402nm,20.0s,MS5.0
TUC Tucson 106.61 44 PFAKE 03 18 50.0 +8.3
TUC LR LR
comp=Z,303nm,20.0s,MS4.8
COWI Conover 106.95 22 PFAKE 03 18 50.0 +8.0
COWI LR LR
comp=Z,511nm,20.0s,MS5.1
ANMO Albuquerque 107.54 40 *e*PKP PKiKP 03 18 43.2 -0.2
ANMO LR LR
comp=Z,300nm,19.0s,MS4.9
CBKS Cedar Bluff 108.42 33 PFAKE 03 19 00.0 +15
CBKS LR LR
comp=Z,327nm,20.0s,MS4.9
SCIA State Center 108.97 27 *e*PKKPbc PKKPbc 03 29 55.7 +1.6
JFWS Jewell Farm 109.30 24 PFAKE 03 19 00.0 +14
JFWS LR LR
comp=Z,506nm,20.0s,MS5.1
TSUM Tsumeb 109.32 256 PFAKE 03 19 00.0 +13
TSUM LR LR
comp=Z,522nm,21.0s,MS5.1
GLMI Grayling 109.56 19 PFAKE 03 19 00.0 +13
GLMI LR LR
comp=Z,627nm,21.0s,MS5.2
KSU1 Kansas State U 109.73 31 PFAKE 03 19 00.0 +13
KSU1 LR LR
comp=Z,385nm,19.0s,MS5.0
RKT Rikitea 110.20 108 *e*LR LR 03 51 23.8
comp=Z,678nm,33.2s
AMTX Amarillo 110.34 37 PFAKE 03 19 00.0 +11
AMTX LR LR
comp=Z,297nm,20.0s,MS4.9
TOA0 Torodi Ar. Sit 111.44 295 *e*PP PP 03 19 32.2 +0.6
TOA0 *e*PKKPbc PKKPbc 03 29 46.0 +0.6
TOA0 *ep*PKKP 03 29 49.1
TOA0 *e*PKKPab PKKPab 03 29 56.0 -0.3
TOA0 *e*PKKPdf PKKPdf 03 30 03.8 +0.1
TORD Torodi Ar. Bea 111.44 295 PKiKP PKiKP 03 18 50.3 -0.9
comp=Z,2.6nm,0.8s,baz=11,slow=2.9,SNR=15
TORD PP PP 03 19 31.6 0.0
comp=Z,2.6nm,1.1s,baz=65,slow=5.1,SNR=4.1
TORD PKKPbc PKKPbc 03 29 45.8 +0.4
comp=Z,3.1nm,0.8s,baz=251,slow=2.6,SNR=13
TORD PKKPab PKKPab 03 29 54.5 -1.9
comp=Z,10nm,0.9s,baz=260,slow=4.2,SNR=25
TORD PKKP PKKPdf 03 30 03.5 -0.2
comp=Z,3.4nm,0.8s,baz=261,slow=2.4,SNR=5.4
WMOK Wichita Mounta 112.03 35 *e*PKKPbc PKKPbc 03 29 44.3 +0.3
LONY Lake Ozonia 112.30 12 PFAKE 03 19 00.0 +7.9
LONY LR LR
comp=Z,501nm,20.0s,MS5.1
PKME Peaks-Kenny Pk 112.55 8 PFAKE 03 19 00.0 +7.5
PKME LR LR
comp=Z,595nm,21.0s,MS5.2
NCB Newcomb 113.00 12 PFAKE 03 19 00.0 +6.6
NCB LR LR
comp=Z,493nm,21.0s,MS5.1
TXAR Lajitas Array 113.13 42 PKiKP PKiKP 03 18 53.6 -0.5
comp=Z,1.5nm,0.8s,baz=307,slow=1.8,SNR=11
TXAR PKKPbc PKKPbc 03 29 42.4 +2.2
comp=Z,0.6nm,0.9s,baz=147,slow=3.0,SNR=4.3
TXAR PKKPab PKKPab 03 29 48.7 -0.9
comp=Z,0.4nm,0.9s,baz=142,slow=6.3,SNR=4.8
TXAR Lajitas Array 113.13 42 PKPdf PKiKP 03 18 53.6 -0.5
TXAR PKKPbc PKKPbc 03 29 42.4 +2.2
TXAR PKKPab PKKPab 03 29 48.7 -0.9
LBNH Lisbon 113.15 10 PFAKE 03 19 10.0 +16
LBNH LR LR
comp=Z,504nm,20.0s,MS5.1
SIUC Southern Illin 114.15 26 *e*PKKPbc PKKPbc 03 29 37.0 +0.1
ACSO Alum Creek Sta 114.22 20 PFAKE 03 19 10.0 +14
ACSO LR LR
comp=Z,390nm,20.0s,MS5.0
BINY Binghamton 114.32 14 PFAKE 03 19 10.0 +14
BINY LR LR
comp=Z,646nm,21.0s,MS5.2
JCT Junction City 114.65 39 *e*PKIKP PKiKP 03 18 56.2 -0.8
JCT MLR MLR
comp=Z,244nm,21.0s,MS4.8
MIAR Mount Ida 114.83 31 *e*PKKPbc PKKPbc 03 29 34.2 -0.4
MIAR *e*PKKPab PKKPab 03 29 37.6 -4.7
MIAR LR LR
comp=Z,441nm,21.0s,MS5.0
WCI Wyandotte Cave 114.86 24 PFAKE 03 19 10.0 +13
WCI LR LR
comp=Z,75nm,19.0s,MS4.3
HRV Adam Dziewonsk 114.90 11 PFAKE 03 19 10.0 +13
HRV LR LR
comp=Z,444nm,22.0s,MS5.0
WES Weston 115.06 10 PFAKE 03 19 10.0 +13
WES LR LR
comp=Z,609nm,19.0s,MS5.2
MCWV Mont Chateau 115.71 18 PFAKE 03 19 10.0 +11
MCWV LR LR
comp=Z,569nm,21.0s,MS5.2
NATX Nacogdoches 116.51 34 PFAKE 03 19 10.0 +9.5
NATX LR LR
comp=Z,327nm,19.0s,MS5.0
OXF Oxford 116.79 28 PFAKE 03 19 10.0 +9.0
OXF LR LR
comp=Z,450nm,21.0s,MS5.1
NVL N'lazarevskaya 116.85 200 *e*PKIKP PKPdf 03 19 00.6 +0.7
NVL pmax pmax

comp=Z,21nm,1.2s
MAIT Maitri 116.88 200 *e*PKPab PKPdf 03 18 57.7 -2.2
PLAL Pickwick Lake 116.96 27 *e*PKPdf PKPdf 03 18 59.0 -2.3
PLAL LR LR
comp=Z,584nm,20.0s,MS5.2
HKT Hockley 117.29 36 *e*PKIKP PKPdf 03 19 01.5 -0.6
HKT MLR MLR
comp=Z,86nm,19.0s,MS4.4
TZTN Tazewell 117.36 23 PFAKE 03 19 10.0 +8.0
TZTN LR LR
comp=Z,404nm,21.0s,MS5.0
SWET Sewanee 117.64 25 *e*PKKPab PKKPab 03 29 27.4 -2.7
BLA Blacksburg 117.79 20 PFAKE 03 19 10.0 +7.1
BLA LR LR
comp=Z,452nm,19.0s,MS5.1
KVTX Kingsville 117.94 40 PFAKE 03 19 10.0 +6.6
KVTX LR LR
comp=Z,399nm,19.0s,MS5.1
CPCT Cooper Cave 117.97 24 *e*PKKPab PKKPab 03 29 26.8 -1.8
VBMS Vicksburg 118.20 31 PFAKE 03 19 20.0 +16
VBMS LR LR
comp=Z,437nm,20.0s,MS5.1
GOGA Godfrey 120.18 24 *e*PKKPbc PKKPbc 03 29 14.4 -1.1
GOGA *e*PKKPab PKKPab 03 29 17.9 -1.0
GOGA LR LR
comp=Z,511nm,20.0s,MS5.2
DBIC Dimbokro 120.25 292 PKP PKPdf 03 19 07.6 -0.6
comp=Z,8.6nm,0.6s,baz=25,slow=2.7,SNR=23
DBIC PKKPbc PKKPbc 03 29 16.4 +1.7
comp=Z,4.2nm,0.8s,baz=273,slow=4.9,SNR=3.7
DBIC Dimbokro 120.25 292 *e*PKPdf PKPdf 03 19 07.0 -1.1
DBIC LR LR
comp=Z,332nm,20.0s,MS5.0
KIC Kosan Boka 120.30 292 *e*PKIKP PKPdf 03 19 07.4 -0.9
comp=Z,95nm,0.8s
CNNC Cliffs of the 120.38 18 PFAKE 03 19 20.0 +12
CNNC LR LR
comp=Z,553nm,19.0s,MS5.2
TIC Toumodi 120.40 292 *e*PKIKP PKPdf 03 19 07.4 -1.1
comp=Z,63nm,0.8s
LIC Lamto 120.61 292 *e*PKIKP PKPdf 03 19 07.9 -1.0
comp=Z,45nm,0.7s
LIC Lamto 120.61 292⇑*i*PKIKP PKPdf 03 19 07.8 -1.1
comp=Z,27nm,0.7s
LIC *e*MLR MLR
comp=Z,521nm,18.5s,MS4.9
LIC Lamto 120.61 292⇑*i*PKPdf PKPdf 03 19 07.8 -1.1
LIC LR LR
comp=Z,260nm,18.5s,MS4.9
BRAL Brewton 120.80 28 PFAKE 03 19 20.0 +11
BRAL LR LR
comp=Z,455nm,20.0s,MS5.1
SNAA Sanae 121.05 198 *e*PKPdf PKPdf 03 19 05.7 -2.2
SNAA *e* 03 19 16.2
SNAA *e* 03 19 21.3
SNAA Sanae 121.05 198 *e*PKPdf PKPdf 03 19 06.5 -1.4
NHSC New Hope 121.63 21 PFAKE 03 19 20.0 +10
NHSC LR LR
comp=Z,564nm,20.0s,MS5.2
VNA2 Neumayer--Watz 122.70 198 *e*PKPdf PKPdf 03 19 11.4 +0.3
VNA2 *e* 03 19 20.2
VNA1 Neumayer--Watz 123.09 198 *e*PKPdf PKPdf 03 19 10.5 -1.4
VNA1 *e* 03 19 20.5
VNA1 *e* 03 19 25.7
DWPF Disney 125.69 25 PFAKE 03 19 30.0 +12
DWPF LR LR
comp=Z,110nm,19.0s,MS4.5
BBSR BB Station 125.82 6 PFAKE 03 19 30.0 +12
BBSR LR LR
comp=Z,256nm,19.0s,MS4.9
TEIG Tepich 129.13 37 PFAKE 03 19 40.0 +15
TEIG LR LR
comp=Z,426nm,22.0s,MS5.1
TGUH Tegucigalpa,Un 134.58 41 PFAKE 03 19 50.0 +15
TGUH LR LR
comp=Z,341nm,21.0s,MS5.0
SJG San Juan 139.65 11 PFAKE 03 20 00.0 +15
SJG LR LR
comp=Z,318nm,21.0s,MS5.0
CPD Cerro la Pandu 139.76 11 *e*PKIKP PKPdf 03 19 46.4 +1.5
BCIP Isla Barro Col 142.81 36 *e*PKPdf PKPdf 03 19 46.8 -3.8
BCIP LR LR
comp=Z,300nm,21.0s,MS5.0
GRSS Sisters 145.98 5 *e* PKPdf 03 19 53.6 -2.4
GRIC Isle de Caille 146.00 5 *e* PKPdf 03 19 54.3 -1.8
GRHS Sauteurs 146.05 5 *e* PKPdf 03 19 54.7 -1.4
GRW Mount Saint Ca 146.12 5 *e* PKPdf 03 19 55.0 -1.2
GRGR Grenville 146.14 5 *e*PKPbc PKPbc 03 19 56.1 -1.1
GRGR LR LR
comp=Z,344nm,22.0s,MS5.1
SDV Santo Domingo 147.29 22 *e*PKPbc PKPbc 03 19 59.8 -0.7
SDV LR LR
comp=Z,121nm,20.0s,MS4.7
ROSC El Rosal 149.34 32 PKPbc PKPbc 03 20 05.9 -0.1
comp=Z,5.5nm,0.6s,baz=92,slow=23,SNR=8.8
ROSC El Rosal 149.34 32 *e*PKPdf PKPdf 03 20 02.5 +0.9
ROSC PKPbc PKPbc 03 20 05.9 -0.1
OTAV Otavalo 150.74 44 *e*PKPdf PKPdf 03 20 04.7 +0.8
OTAV LR LR
comp=Z,227nm,21.0s,MS5.0
PLCA Paso Flores 158.57 154 PKP PKPdf 03 20 17.2 +3.4
comp=Z,0.6nm,0.6s,baz=303,slow=3.0,SNR=3.3
PLCA Paso Flores 158.57 154 *e*PKPdf PKPdf 03 20 14.2 +0.4
BDFB Brasilia 168.28 300 PKP PKPdf 03 20 22.8 -0.8
comp=Z,3.4nm,1.1s,baz=319,slow=5.0,SNR=5.0
BDFB PKPab PKPab 03 21 32.5 +0.5
comp=Z,4.6nm,1.1s,baz=76,slow=3.1,SNR=5.4
BDFB Brasilia 168.28 300 PKP PKPdf 03 20 22.8 -0.8
BDFB PKPab PKPab 03 21 32.5 +0.5
BDFB LR LR
comp=Z,592nm,22.0s
LPAZ La Paz 169.43 60 PKP PKPdf 03 20 24.3 -0.1
comp=Z,9.2nm,1.1s,baz=2.0,slow=4.6,SNR=22
LPAZ PKPab PKPab 03 21 36.5 -0.6
comp=Z,16nm,1.3s,baz=313,slow=3.9,SNR=5.9
LPAZ La Paz 169.43 60 *e*PKPdf PKPdf 03 20 25.1 +0.8
LPAZ LR LR
comp=Z,286nm,20.0s
LVC Limon Verde 170.38 97 *e*PKPdf PKPdf 03 20 26.0 +1.3
LVC *e*PKPab PKPab 03 21 42.9 +1.4
LVC LR LR
comp=Z,591nm,19.0s
CPUP Villa Florida 175.35 194 PKP PKPdf 03 20 26.2 -0.5
comp=Z,11nm,1.2s,baz=180,slow=0.5,SNR=6.7
CPUP PKPab PKPab 03 22 02.6 -0.3
comp=Z,8.6nm,1.0s,baz=127,slow=3.7,SNR=11
CPUP Villa Florida 175.35 194 *e*PKPdf PKPdf 03 20 26.0 -0.7

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*ISCJB **29** 03:45:20.3±0.4, 4033N±002×2708E±003, h5km±4km, Error ellipse: s-maj=4.0km s-min=3.3km az=167.3*
*CSEM **29** 03:45:20.1±0.1, 4032N×2708E, h10km, MD3.0, Error ellipse: s-maj=1.4km s-min=1.0km az=158.0*
*DDA **29** 03:45:20.4, 4031N×2708E, h10km±2km, Md2.9*
*ISK **29** 03:45:20.1, 4031N×2709E, h8km, MD3.0*
ISC 29 03:45:20.7±0.3,**4033N**±002×**2707E**±003,**h9**km±4km,**n27,**
σ0°52/40,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.24**	**280**	*e*PG	**Pg**	**03 45 26.0**	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.37**	**12**	*e*PG	**Pg**	**03 45 28.3**	**+0.4**
RKY				*e*SG	**Sg**	**03 45 33.8**	**+1.0**
SART	**Tekirdag**	**0.37**	**13**	*i* P	**Pg**	**03 45 28.3**	**+0.3**
MFT	**Murefte**	**0.48**	**19**	*e*PG	**Pg**	**03 45 30.5**	**+0.3**
MRMT	**Marmara Adasi**	**0.48**	**55**	*e*PG	**Pg**	**03 45 29.8**	**-0.3**
MRMT				*e*SG	**Sg**	**03 45 36.6**	**+0.1**
EDC	**Edincik**	**0.60**	**88**	*e*PG	**Pg**	**03 45 32.2**	**-0.2**
EDC				*e*SG	**Sg**	**03 45 40.9**	**+0.6**
BNT	**Bandirma**	**0.65**	**87**	*e*PG	**Pg**	**03 45 32.5**	**-0.7**
BALY	**Balya**	**0.72**	**144**	*i* P	**Pg**	**03 45 34.3**	**-0.3**
BALY				*i* S	**Sg**	**03 45 44.4**	**+0.4**
EZN	**Ezine**	**0.76**	**229**	*e*PG	**Pg**	**03 45 35.2**	**-0.2**
ENEZ	**Enez**	**0.81**	**300**	*e*PG	**Pg**	**03 45 36.3**	**0.0**
GADA	**Gvkgeada**	**0.91**	**262**	*e*PG	**Pg**	**03 45 38.1**	**-0.1**
BOZC	**Bozcaada**	**0.92**	**238**	*i* P	**Pg**	**03 45 38.1**	**-0.3**
BOZC				*i* S	**Sg**	**03 45 50.8**	**+0.4**
BALB	**Balikesir**	**0.93**	**138**	*e*PG	**Pg**	**03 45 37.7**	**-0.8**
BTOK	**Tokmak**	**0.93**	**127**	*i* P	**Pg**	**03 45 38.0**	**-0.5**
BTOK				*i* S	**Sg**	**03 45 50.5**	**-0.1**
ALN	**Alexandroupoli**	**0.97**	**306**	*e*P	**Pg**	**03 45 38.7**	**-0.6**
ALN				*e*S	**Sg**	**03 45 51.9**	**0.0**
KCT	**Karacabey**	**0.98**	**93**	*e*PG	**Pg**	**03 45 39.2**	**-0.4**
AYVA	**Ayvalik**	**1.06**	**196**	*i* P	**Pg**	**03 45 41.0**	**-0.1**
AYVA				*i* S	**Sg**	**03 45 55.5**	**+0.6**
PRK	**Paraskevi**	**1.25**	**210**	*e*P	**Pn**	**03 45 43.8**	**-0.5**
PRK				*e*S	**Sb**	**03 46 01.1**	**+0.6**
PRK	**Paraskevi**	**1.25**	**210**	*e*P	**Pn**	**03 45 43.8**	**-0.5**
PRK				*e*S	**Sb**	**03 46 01.1**	**+0.6**
DURS	**Dursunbey**	**1.30**	**124**	*i* P	**Pn**	**03 45 44.8**	**-0.2**
DURS				*i* S	**Sb**	**03 46 02.3**	**+0.3**
CTT	**Catalca**	**1.31**	**51**	*e*PN	**Pn**	**03 45 45.2**	**0.0**
ELBA	**Catalca**	**1.31**	**51**	*i* P	**Pn**	**03 45 44.5**	**-0.8**
ELBA				*i* S	**Sb**	**03 46 01.4**	**-1.2**
BGKT	**Bogazkoy**	**1.54**	**56**	*e*PN	**Pn**	**03 45 48.6**	**+0.2**
LOS	**Limnos**	**1.58**	**256**	*e*P	**Pn**	**03 45 48.4**	**-0.5**
ULDT	**Uludag**	**1.59**	**96**	*i* P	**Pn**	**03 45 50.5**	**+1.5**
ULDT				*i* S	**Sn**	**03 46 10.3**	**+0.6**
GEMT	**Gemlik**	**1.62**	**86**	*e*PN	**Pn**	**03 45 49.4**	**0.0**
YLV	**Yalova**	**1.77**	**82**	*e*PN	**Pn**	**03 45 51.8**	**+0.3**

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*CSEM **29** 04:03:07.2, 2824N×5689E, h14km, ML3.5, After TEH*
ISC 29 04:04:24.3±5.1,**285N**±02×**568E**±02,**h15**km±29km,**n7,**
σ0°54/9,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**3.27**	**341**	*e*Pn	**Pn**	**04 05 15.9**	**+1.0**
ISRV	**Sarvestan**	**3.34**	**286**	*e*Pn	**Pn**	**04 05 15.5**	**-0.5**
IMEH	**Mehriz**	**3.45**	**327**	*e*Pn	**Pn**	**04 05 17.0**	**-0.5**
IPAR	**Pars**	**3.54**	**293**	*e*Pn	**Pn**	**04 05 18.9**	**+0.2**
IPAR				*e*Sg	**Sg**	**04 06 17.8**	**-0.2**
ICHK	**Chekchek**	**4.27**	**332**	*e*Pn	**Pn**	**04 05 29.3**	**+0.6**
IKOO	**Kooshah**	**4.36**	**25**	*e*Pn	**Pn**	**04 05 29.3**	**-0.7**
ITEG	**Tejag**	**4.71**	**21**	*e*Pn	**Pn**	**04 05 35.2**	**+0.5**
ITEG				*e*Sn	**Sn**	**04 06 28.7**	**-0.3**

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*ISCJB **29** 04:13:47.2±0.2, 3311N±001×11601W±001, h10km, Error ellipse: s-maj=1.8km s-min=1.8km az=152.6*
*NEIC **29** 04:13:48.6, 3311N×11605W, h12km, ML3.6(PAS), After PAS.*
*ECX **29** 04:13:48.9±0.8, 3311N×11606W, h4km±5km, MD3.5, ML3.6*
*IDC **29** 04:13:52.2±2.8, 3329N×11558W, h0km, mb1 3.3/3, mb1mx3.2/24, mbtmp2.8/3, ML3.2/3, Error ellipse: s-maj=49.2km s-min=13.0km az=47.0*
ISC 29 04:13:47.2±0.3,**3312N**±001×**11602W**±001,**h3**km±2km,**n95,**
σ1°**25**/149,**45C-40D,Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRR	**Carrizo Plain**	**0.24**	**169**	⇓*i*P	**Pg**	**04 13 53.1**	**+1.4**
SWSC	**Sam W. Stewart**	**0.26**	**133**	⇑P	**Pg**	**04 13 53.6**	**+1.5**
	baz=0.3,SNR=1000						
SWSC				⇑S	**Sg**	**04 13 57.5**	**+1.9**
	baz=0.3						
COK	**Cook Ranch**	**0.36**	**137**	⇓*i*P	**Pg**	**04 13 56.1**	**+1.9**
MONP	**Monument Peak**	**0.41**	**236**	P	**Pg**	**04 13 55.9**	**+0.9**
	baz=0.4,SNR=1000						
MONP				⇓S	**Sg**	**04 14 01.1**	**+0.9**
	baz=0.4						
FRK	**Frink**	**0.43**	**49**	⇑*i*P	**Pg**	**04 13 57.0**	**+1.6**
DVTC	**Desert V Tower**	**0.46**	**188**	⇑P	**Pg**	**04 13 57.0**	**+0.9**
	baz=0.4,SNR=300						
DVTC				⇑S	**Sg**	**04 14 03.3**	**+1.3**
	baz=0.4						
YUH	**Yuha Desert**	**0.48**	**170**	⇓*i*P	**Pg**	**04 13 57.3**	**+1.0**
RMX	**La Rumorosa**	**0.52**	**185**	⇑*e*P	**Pg**	**04 13 58.0**	**+0.9**
RMX				*e*S	**Sg**	**04 14 05.0**	**+1.2**
SGL	**Mount Signal**	**0.53**	**152**	⇓*i*P	**Pg**	**04 13 58.5**	**+1.1**
PFO	**Pinyon Flat Ob**	**0.61**	**323**	⇓P	**Pg**	**04 13 59.7**	**+0.9**
	baz=0.6,SNR=1000						
PFO				⇓S	**Sg**	**04 14 07.7**	**+1.0**
	baz=0.6						
PFO	**Pinyon Flat Ob**	**0.61**	**323**	*e*Pg	**Pg**	**04 13 59.5**	**+0.7**
PFO				*e*Sg	**Sg**	**04 14 07.2**	**+0.4**
HAY	**Hayfield**	**0.67**	**28**	⇑*i*P	**Pg**	**04 14 01.3**	**+1.3**
BAR	**Barrett**	**0.70**	**232**	⇓*i*P	**Pg**	**04 14 00.8**	**+0.2**
BAR	**Barrett**	**0.70**	**232**	*e*Pg	**Pg**	**04 14 00.7**	**+0.1**
BAR				*e*Sg	**Sg**	**04 14 09.1**	**-0.6**
BC3	**Big Chuckw Mtn**	**0.71**	**41**	P	**Pg**	**04 14 02.1**	**+1.3**
	baz=0.7,SNR=1000						
BC3				⇑S	**Sg**	**04 14 12.3**	**+2.1**
	baz=0.7						
EML	**El Monte Cty P**	**0.73**	**252**	⇑*i*P	**Pg**	**04 14 01.3**	**+0.2**
BELC	**Belle Mtn.**	**0.88**	**1**	P	**Pg**	**04 14 04.7**	**+0.7**
	baz=0.9,SNR=966						
BELC				⇓S	**Sg**	**04 14 16.7**	**+1.2**
	baz=0.9						
109C	**Camp Elliot, M**	**0.94**	**256**	P	**Pg**	**04 14 05.0**	**-0.2**
	baz=0.9,SNR=1000						
109C				⇑S	**Sg**	**04 14 17.0**	**-0.4**
	baz=0.9						
CBX	**Cerro Bola**	**0.97**	**214**	⇑*e*P	**Pg**	**04 14 05.7**	**0.0**
CBX				*e*S	**Sg**	**04 14 18.2**	**0.0**
GLA	**Glamis**	**1.00**	**94**	P	**Pg**	**04 14 06.2**	**-0.3**
	baz=1.0,SNR=467						
GLA				⇓S	**Sg**	**04 14 20.0**	**+0.5**
	baz=1.0						
GLA	**Glamis**	**1.00**	**94**	*e*Pg	**Pg**	**04 14 06.1**	**-0.3**
GLA				*e*Sg	**Sg**	**04 14 20.6**	**+1.2**
MURC	**Murrieta**	**1.10**	**296**	P	**Pg**	**04 14 07.6**	**-0.6**
	baz=1.1,SNR=341						
MURC				⇑S	**Sg**	**04 14 22.5**	**+0.1**
	baz=1.1						
IRM	**Iron Mountain**	**1.27**	**35**	⇓P	**Pg**	**04 14 10.4**	**-1.0**
	baz=1.3,SNR=466						
IRM				⇑S	**Sg**	**04 14 28.5**	**+0.6**
	baz=1.3						
112A	**Yuma**	**1.34**	**115**	⇓P	**Pn**	**04 14 10.7**	**-2.1**
	baz=1.4,SNR=69						
112A				⇑S	**Sg**	**04 14 28.7**	**-1.7**
	baz=1.4						
ENX	**Ensenada**	**1.35**	**204**	⇑*e*P	**Pn**	**04 14 12.1**	**-0.8**
ENX				*e*S	**Sg**	**04 14 29.9**	**-0.6**
ENX				⇓*e*		04 14 34.0	
	comp=N,895nm,0.4s						
BBRC	**Big Bear Sol-O**	**1.36**	**327**	⇑P	**Pn**	**04 14 12.0**	**-1.1**
	baz=1.4,SNR=80						
BBRC				⇑Sb	**Sb**	**04 14 31.5**	**+0.3**
	baz=1.4						
Y12C	**Blythe**	**1.40**	**63**	⇓P	**Pn**	**04 14 12.1**	**-1.5**
	baz=1.4,SNR=187						
Y12C				⇓Sb	**Sb**	**04 14 32.7**	**+0.5**
	baz=1.4						
PBX	**Punta Banda**	**1.50**	**204**	*e*P	**Pn**	**04 14 14.9**	**0.0**
PBX				*e*S	**Sn**	**04 14 34.2**	**-0.7**
PBX				⇓*e*		04 14 36.8	
	comp=N,1μm,0.8s						
PBX				⇓*e*		04 14 37.7	
	comp=E,1μm,0.8s						
ECNX	**Esteban Cantu**	**1.54**	**199**	*e*P	**Pn**	**04 14 15.4**	**-0.1**
ECNX				*e*S	**Sn**	**04 14 35.7**	**-0.2**
GMRC	**Granite Mounta**	**1.68**	**10**	⇑P	**Pn**	**04 14 16.3**	**-1.1**
	baz=1.7,SNR=28						
GMRC				⇑Sb	**Sb**	**04 14 41.4**	**+1.0**
	baz=1.7						
HEC	**Hector,Ludlow**	**1.73**	**352**	⇑P	**Pn**	**04 14 16.7**	**-1.3**
	baz=1.7,SNR=231						
HEC				⇑Sb	**Sb**	**04 14 43.1**	**+1.6**
	baz=1.7						
BFSC	**Mount Baldy St**	**1.76**	**310**	⇑P	**Pn**	**04 14 17.3**	**-1.2**
	baz=1.7						
BFSC				⇓Sb	**Sb**	**04 14 42.6**	**-0.1**
	baz=1.7						
113A	**Mohawk Valley,**	**1.93**	**100**	⇑P	**Pn**	**04 14 19.2**	**-1.6**
	baz=2.0						
113A				⇓Sb	**Sb**	**04 14 48.1**	**+0.7**
	baz=2.0						
RRX	**Edison Barstow**	**1.94**	**335**	⇓Sb	**Sb**	**04 14 48.9**	**+1.3**
	baz=1.9						
Y13A	**Salome**	**1.96**	**69**	⇓P	**Pn**	**04 14 20.1**	**-1.2**
	baz=2.0,SNR=28						
Y13A				⇓Sb	**Sb**	**04 14 49.6**	**+1.3**
	baz=2.0						
PDMCI	**Parker Dam,Lak**	**1.96**	**53**	⇑Sb	**Sb**	**04 14 49.4**	**+1.0**
	baz=2.0						
FMP	**Fort Macarthur**	**1.99**	**288**	⇓Sb	**Sb**	**04 14 49.1**	**-0.1**
	baz=2.0						
NEE2	**Needles Airpor**	**2.02**	**35**	⇑Sb	**Sb**	**04 14 51.8**	**+1.9**
	baz=2.0						
CIS	**Catalina Islan**	**2.02**	**279**	⇑S	**Sn**	**04 14 46.5**	**-1.2**
	baz=2.0						
MWC	**Mount Wilson**	**2.02**	**304**	*e*Pn	**Pn**	**04 14 23.9**	**+1.7**
MWC				*e*Sg	**Sg**	**04 14 50.2**	**-2.0**
LDFC	**Landfair**	**2.10**	**21**	*e*Pg	**Pg**	**04 14 27.9**	**+0.5**
SCI	**San Clemente I**	**2.13**	**267**	⇑S	**Sn**	**04 14 49.2**	**-1.3**
	baz=2.1						
DECC	**Green Verdugo**	**2.23**	**301**	⇓Sb	**Sb**	**04 14 56.6**	**+0.5**
	baz=2.2						
GSC	**Goldstone**	**2.27**	**344**	*e*Pn	**Pn**	**04 14 24.8**	**-0.7**
GSC				*e*Pg	**Pg**	**04 14 29.9**	**-0.9**
GSC				*e*Sg	**Sg**	**04 15 00.8**	**+0.7**
TUQ	**Turquoise Mtn.**	**2.31**	**2**	⇑P	**Pn**	**04 14 25.2**	**-0.9**
	baz=2.3,SNR=68						
TUQ				⇓Sb	**Sb**	**04 15 00.8**	**+2.3**
	baz=2.3						
W12A	**Cal Nev Ari**	**2.38**	**23**	⇓Sb	**Sb**	**04 15 02.9**	**+2.6**
	baz=2.4						
EDW2	**Edwards Air Fo**	**2.40**	**318**	⇑P	**Pn**	**04 14 26.2**	**-1.1**
	baz=2.4						
EDW2				⇓Sb	**Sb**	**04 15 02.6**	**+1.6**
	baz=2.4						
Z14A	**Wintersburg**	**2.59**	**84**	P	**Pn**	**04 14 28.8**	**-1.1**
	baz=2.6,SNR=21						
W13A	**Hualapai Mount**	**2.65**	**41**	⇓P	**Pn**	**04 14 30.1**	**-0.7**
	baz=2.7,SNR=23						
W13A				⇑Sb	**Sb**	**04 15 10.9**	**+2.6**
	baz=2.7						
OSI	**Osito Adit**	**2.70**	**304**	⇑Sb	**Sb**	**04 15 10.5**	**+1.0**
	baz=2.7						
BLG	**Laguna Peak**	**2.73**	**292**	⇑Sb	**Sb**	**04 15 11.7**	**+1.4**
	baz=2.7						
LRMC	**Laurel Mountai**	**2.73**	**330**	⇓Sb	**Sb**	**04 15 13.4**	**+3.0**
	baz=2.7						
V11A	**Goodsprings**	**2.76**	**10**	⇓P	**Pn**	**04 14 31.8**	**-0.4**
	baz=2.8,SNR=8.2						
V11A				⇑Sb	**Sb**	**04 15 14.8**	**+3.6**
	baz=2.8						
V12A	**Nelson**	**2.77**	**20**	⇑P	**Pn**	**04 14 31.7**	**-0.8**
	baz=2.8,SNR=9.3						
V12A				⇑Sb	**Sb**	**04 15 15.6**	**+3.8**
	baz=2.8						
SHOC	**Shoshone**	**2.78**	**356**	⇓Sb	**Sb**	**04 15 15.4**	**+3.4**
	baz=2.8						
X14A	**Yava**	**2.93**	**62**	⇓P	**Pn**	**04 14 34.1**	**-0.6**
	baz=3.0,SNR=59						
214A	**Organ Pipe Nat**	**2.95**	**112**	P	**Pn**	**04 14 33.2**	**-1.6**
	baz=3.0,SNR=25						
ARVC	**Arvin**	**3.07**	**311**	⇓Sb	**Sb**	**04 15 22.5**	**+2.1**
	baz=3.1						
MPMC	**Manual Prospec**	**3.17**	**338**	⇑P	**Pn**	**04 14 37.1**	**-0.8**
	baz=3.2,SNR=12						
Y15A	**Casa Rosa Ranc**	**3.19**	**74**	⇓P	**Pn**	**04 14 37.3**	**-0.9**
	baz=3.2,SNR=47						
V13A	**Grand Canyon W**	**3.20**	**31**	⇓P	**Pn**	**04 14 38.9**	**+0.6**
	baz=3.2						
W14A	**Seligman**	**3.21**	**49**	⇑P	**Pn**	**04 14 39.2**	**+0.7**
	baz=3.2						
115A	**Sonoran Desert**	**3.22**	**96**	P	**Pn**	**04 14 38.0**	**-0.6**
	baz=3.2,SNR=21						
ISA	**Isabella**	**3.25**	**322**	⇑P	**Pn**	**04 14 38.2**	**-0.7**
	baz=3.2						
ISA	**Isabella**	**3.25**	**322**	*e*Pg	**Pg**	**04 14 47.6**	**-1.8**
ISA				*e*Sg	**Sg**	**04 15 28.2**	**-3.3**
U10A	**Ash Meadows, A**	**3.30**	**356**	⇑P	**Pn**	**04 14 39.4**	**-0.3**
	baz=3.3						
X15A	**Humboldt**	**3.43**	**66**	⇓P	**Pn**	**04 14 41.4**	**-0.1**
	baz=3.5,SNR=46						
V14A	**Boquillas Ranc**	**3.48**	**43**	⇓P	**Pn**	**04 14 43.0**	**+0.8**
	baz=3.5						
116A	**Eloy**	**3.68**	**98**	⇑P	**Pn**	**04 14 44.1**	**-0.8**
	baz=3.7,SNR=7.1						
U13A	**Pakoon Wash**	**3.70**	**27**	⇓P	**Pn**	**04 14 45.5**	**+0.3**
	baz=3.7,SNR=18						
TPNV	**Topopah Spring**	**3.83**	**357**	⇓P	**Pn**	**04 14 47.0**	**+0.1**
	baz=3.8						
TPNV	**Topopah Spring**	**3.83**	**357**	*e*Pn	**Pn**	**04 14 47.3**	**+0.4**
TPNV				*e*Pg	**Pg**	**04 14 58.5**	**-1.9**
TPNV				*e*Sg	**Sg**	**04 15 46.7**	**-3.4**
Y16A	**Circle Bar Ran**	**3.87**	**77**	⇑P	**Pn**	**04 14 47.5**	**-0.1**
	baz=3.9						
X16A	**Lo Mia Camp, P**	**4.03**	**70**	⇑P	**Pn**	**04 14 49.8**	**+0.1**
	baz=4.1						
U14A	**Mt Trumbull**	**4.04**	**35**	⇑P	**Pn**	**04 14 50.4**	**+0.6**
	baz=4.1						
W16A	**Flagstaff**	**4.21**	**61**	⇑P	**Pn**	**04 14 51.5**	**-0.8**
	baz=4.2						
Y17A	**Roosevelt**	**4.37**	**81**	⇓P	**Pn**	**04 14 53.6**	**-0.7**
	baz=4.4,SNR=51						
117A	**Oracle**	**4.48**	**96**	⇑P	**Pn**	**04 14 55.2**	**-0.7**
	baz=4.5,SNR=16						
TUC	**Tucson**	**4.49**	**99**	*e*Pn	**Pn**	**04 14 55.2**	**-0.8**
TUC				*e*Sg	**Sg**	**04 16 09.5**	**-1.8**
WUAZ	**Wupatki**	**4.53**	**57**	*e*Pn	**Pn**	**04 14 57.9**	**+1.3**
WUAZ				*e*Sg	**Sg**	**04 16 11.8**	**-0.8**
MTUM	**Tungsten Hills**	**4.71**	**334**	*e*Pg	**Pg**	**04 15 14.2**	**-3.1**
MTUM				*e*Sg	**Sg**	**04 16 18.2**	**-0.2**
CCUT	**Cedar City**	**4.93**	**25**	*e*Pg	**Pg**	**04 15 11.9**	**-10**
CCUT				*e*Sg	**Sg**	**04 16 25.0**	**-0.4**
TPH	**Tonopah**	**5.04**	**349**	*e*Pn	**Pn**	**04 15 04.7**	**+1.1**
	comp=E,9.0nm,0.6s						
TPH				*e*Pg	**Pg**	**04 15 20.5**	**-3.2**
NVAR	**Mina Array Bea**	**5.61**	**341**	Pn	**Pn**	**04 15 16.7**	**+5.2**
	comp=E,0.3nm,0.3s,baz=164,slow=15,SNR=6.5						
NVAR				Pg	**Pg**	**04 15 28.8**	**-6.0**
	comp=E,0.8nm,0.3s,baz=159,slow=17,SNR=16						
NVAR				Lg		04 16 47.7	
	comp=E,0.2nm,0.3s,baz=160,slow=21,SNR=2.1						
CMB	**Columbia Colle**	**6.06**	**325**	*e*Pn	**Pn**	**04 15 17.2**	**-0.4**
	comp=E,4.6nm,0.9s						
CMB				*e*Pg	**Pg**	**04 15 37.7**	**-5.6**
CMB				*e*Sg	**Sg**	**04 16 57.4**	**-4.3**
MSU	**Marysvale**	**6.22**	**29**	*e*Pn	**Pn**	**04 15 24.4**	**+4.5**
MSU				*e*Pg	**Pg**	**04 15 44.1**	**-2.2**
MVCO	**Mesa Verde**	**7.39**	**54**	*e*Pn	**Pn**	**04 15 37.4**	**+1.5**
	comp=E,7.9nm,0.6s						
MVCO				*e*Pg	**Pg**	**04 16 03.2**	**-5.5**
MVCO				*e*Sg	**Sg**	**04 17 45.2**	**+0.8**
DUG	**Dugway**	**7.52**	**19**	*e*Pg	**Pg**	**04 16 10.3**	**-0.8**
DUG				*e*Sg	**Sg**	**04 17 42.9**	**-5.5**
ELK	**Elko**	**7.64**	**4**	Pg	**Pg**	**04 16 12.5**	**-0.9**
	comp=E,0.2nm,0.3s,baz=210,slow=15,SNR=12						
ELK				Lg		04 17 49.7	
	comp=E,0.2nm,0.3s,baz=87,slow=22,SNR=3.6						
ELK	**

GHIR				*e*Sg	**Sn**	**04 21 49.9**	**+14**
	SNR=90						
ISRV	**Sarvestan**	**3.25**	**291**	*e*Pn	**Pn**	**04 20 58.5**	**-1.8**
ISRV	**Sarvestan**	**3.25**	**291**	*e*Pn	**Pn**	**04 20 58.9**	**-1.4**
ISRV				*e*		04 22 14.0	
IBAF	**Bafgh**	**3.44**	**345**	*e*Pn	**Pn**	**04 21 04.0**	**+1.0**
IBAF				*e*		04 22 08.0	
IPAR	**Pars**	**3.48**	**298**	*e*Pn	**Pn**	**04 21 02.0**	**-1.5**
IPAR				*e*		04 22 12.3	
IMEH	**Mehriz**	**3.56**	**332**	*e*Pn	**Pn**	**04 21 05.8**	**+1.1**
IMEH				*e*Sn	**Sn**	**04 21 48.7**	**+2.8**
IMEH	**Mehriz**	**3.56**	**332**	*e*Pn	**Pn**	**04 21 05.8**	**+1.1**
IMEH				*e*Sn	**Sn**	**04 21 48.7**	**+2.8**
IMEH				*e*		04 22 32.5	
ASHO	**Ashiyiah**	**3.59**	**188**	⇑P	**Pn**	**04 21 05.0**	**-0.1**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**3.61**	**195**	P	**Pn**	**04 21 06.0**	**+0.6**
	SNR=7.9						
ASUD	**Al Ashush, Dub**	**3.79**	**198**	P	**Pn**	**04 21 09.0**	**+1.2**
ZHSF	**Zahedan**	**3.91**	**69**	*e*Pn	**Pn**	**04 21 09.1**	**-0.4**
ZHSF				*e*Sg	**Sb**	**04 22 06.3**	**+0.1**
ICHK	**Chekchek**	**4.40**	**335**	*e*Pn	**Pn**	**04 21 17.0**	**+0.8**
ICHK	**Chekchek**	**4.40**	**335**	*e*Pn	**Pn**	**04 21 16.8**	**+0.6**
ICHK				*e*		04 21 35.0	
IKOO	**Kooshah**	**4.65**	**26**	*e*Pn	**Pn**	**04 21 19.8**	**+0.2**
IKOO	**Kooshah**	**4.65**	**26**	*e*Pn	**Pn**	**04 21 19.6**	**0.0**
IKOO				*e*		04 22 52.5	
ITEG	**Tejag**	**4.99**	**21**	*e*Pn	**Pn**	**04 21 25.1**	**+0.9**
ITEG	**Tejag**	**4.99**	**21**	*e*Pn	**Pn**	**04 21 25.0**	**+0.8**
ITEG				*e*		04 22 49.6	
BTHS		**6.65**	**232**	P	**Pn**	**04 21 46.1**	**-1.0**
RDF	**Al-Radifah**	**7.97**	**277**	*e*P	**Pn**	**04 22 04.9**	**-0.4**
	baz=280						
RDF				AML	AML	04 23 33.5	
	comp=Z,7.0nm,0.6s,baz=280						
MIB	**Mutribah**	**8.24**	**283**	*e*P	**Pn**	**04 22 09.0**	**0.0**
NAY	**Al-Naaiem**	**8.26**	**279**	*e*P	**Pn**	**04 22 08.5**	**-0.7**
	baz=282						
NAY				AML	AML	04 23 39.6	
	comp=Z,4.0nm,0.5s,baz=282						
ASYS		**10.86**	**269**	S	**Sn**	**04 24 40.3**	**-5.3**

*IDC **29** 04:27:23.8±1.3,3369N×7334E,h0km,mb4.0/7, mb1 4.1/10,mb1mx3.8/24,mbtmp4.0/10,ML3.9/3,Error ellipse: s-maj=25.8km s-min=23.2km az=21.0*
*MOS **29** 04:27:26.1±1.6,3363N×7358E,h33km,mb4.4/1,Error ellipse: s-maj=14.8km s-min=9.1km az=95.3*
*NDI **29** 04:27:27.6±3.0,3381N×7332E,h53km,ML4.0, mb4.0(NEIC)*
*ISCJB **29** 04:27:28.3±0.5,3363N±004×7360E±005,h67km±8km, mb3.8/7,Error ellipse: s-maj=7.7km s-min=4.5km az=139.4*
*NEIC **29** 04:27:28.8±0.8,3358N×7365E,h53km±10km,mb4.0/1, Error ellipse: s-maj=11.0km s-min=5.5km az=57.0*
*NNC **29** 04:27:29.4±2.8,3404N×7295E,h0km,mb3.9,Error ellipse: s-maj=29.9km s-min=27.2km az=151.0*
ISC 29 04:27:29.3±0.4,3366N±003×7356E±005,h50km±8km,n71, σ1§34/82,mb3.9/7,3C-9D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.25**	**269**	⇓P	**Pn**	**04 27 30.6**	**-7.4**
CEP	**Cherat**	**1.39**	**277**	⇓P	**Pn**	**04 27 51.3**	**-1.0**
JMU	**Jammu**	**1.46**	**130**	*e*P	**Pn**	**04 27 52.0**	**-1.3**
JMU				*e*S	**Sn**	**04 28 11.0**	**-0.3**
THW	**Thamme Wali**	**1.75**	**241**	⇑P	**Pn**	**04 27 57.3**	**0.0**
SARP	**Sargodha**	**1.89**	**204**	P	**Pn**	**04 27 59.8**	**+0.6**
THN	**Thein Dam**	**2.18**	**124**	*e*P	**Pn**	**04 28 05.0**	**+1.8**
THN				*e*x	x	04 28 36.4	
DLH	**Dalhousie**	**2.31**	**118**	*e*P	**Pn**	**04 28 07.0**	**+2.2**
DLH				*e*x	x	04 28 40.0	
PONG	**Pong**	**2.63**	**130**	*e*P	**Pn**	**04 28 10.0**	**+0.6**
PONG				*e*x	x	04 28 48.0	
SDNR	**Sundarnagar**	**3.59**	**126**	*e*P	**Pn**	**04 28 23.5**	**+1.0**
SDNR				*e*S	**Sn**	**04 29 05.5**	**+1.8**
KBL	**Kabul**	**3.85**	**284**	*e*P	**Pn**	**04 28 26.4**	**+0.4**
SMLA	**Simla**	**3.96**	**129**	*i* P	**Pn**	**04 28 29.7**	**+2.2**
SMLA				*i* x	x	04 29 31.0	
SMLA				*e*x	x	04 29 35.5	
	comp=E,3μm,0.4s						
SMLA				*e*x	x	04 29 36.0	
	comp=N,2μm,0.4s						
KLP	**Kalpa**	**4.49**	**117**	*e*P	**Pn**	**04 28 38.0**	**+3.2**
KLP				*e*S	**Sn**	**04 29 26.3**	**+0.6**
KLP				AML	AML	04 29 52.1	
	comp=N,1μm,0.5s						
KLP				AML	AML	04 29 53.0	
	comp=E,1μm,0.7s						
DDI	**Dehra Dun**	**5.06**	**130**	*e*P	**Pn**	**04 28 42.0**	**-0.7**
DDI				*e*x	x	04 29 49.0	
NDI	**New Delhi**	**5.87**	**147**	*e*P	**Pn**	**04 28 56.0**	**+2.3**
NDI				*e*x	x	04 30 04.5	
JOSI	**Joshimath**	**5.95**	**120**	*e*P	**Pn**	**04 28 56.4**	**+1.5**
AYAN	**Aya Nagar**	**6.00**	**148**	*e*P	**Pn**	**04 28 56.3**	**+0.8**
AYAN				AML	AML	04 30 47.8	
	comp=Z,35nm,0.2s						
SONA	**Sohna**	**6.18**	**150**	*e*P	**Pn**	**04 28 58.8**	**+0.8**
SONA				*e*S	**Sn**	**04 30 06.4**	**-1.1**
SONA				AML	AML	04 30 53.3	
	comp=E,96nm,0.5s						
SONA				AML	AML	04 31 02.6	
	comp=N,43nm,0.2s						
PTH	**Pithoragarh**	**7.00**	**124**	*e*P	**Pn**	**04 29 10.0**	**+0.8**
PTH				*e*x	x	04 30 29.8	
AJM	**Ajmer**	**7.22**	**172**	*e*P	**Pn**	**04 29 11.0**	**-1.3**
AJM				*e*S	**Sn**	**04 30 28.8**	**-4.1**
AJM				AML	AML	04 31 23.7	
	comp=N,32nm,0.2s						
AJM				AML	AML	04 31 24.2	
	comp=E,82nm,0.4s						
AML	**Almayashu**	**8.46**	**1**	P	**Pn**	**04 29 31.3**	**+2.1**
	SNR=33						
AML	**Almayashu**	**8.46**	**1**	*e*Pn	**Pn**	**04 29 30.6**	**+1.4**
	comp=E,24nm,0.4s						
UCH	**Uchtor**	**8.59**	**5**	P	**Pn**	**04 29 32.8**	**+1.9**
	SNR=31						
UCH	**Uchtor**	**8.59**	**5**	*e*Pn	**Pn**	**04 29 32.5**	**+1.6**
	comp=E,37nm,1.1s						
EKS2	**Erkin-Say**	**8.99**	**1**	P	**Pn**	**04 29 38.9**	**+2.5**
	SNR=23						
EKS2	**Erkin-Say**	**8.99**	**1**	*e*Pn	**Pn**	**04 29 37.2**	**+0.8**
	comp=E,20nm,0.5s						
KBK	**Karagaybulak**	**9.05**	**7**	P	**Pn**	**04 29 40.9**	**+3.7**
	SNR=5.2						
TKM2	**Tokmak 2**	**9.38**	**9**	⇓P	**Pn**	**04 29 41.9**	**+0.1**
	comp=E,4.7nm,0.5s						
TKM2				⇓S	**Sn**	**04 31 24.8**	**-1.1**
	comp=E,6.3nm,0.7s						
TKM2	**Tokmak 2**	**9.38**	**9**	*e*P	**Pn**	**04 29 42.5**	**+0.7**
TKM2				*e*		04 31 23.7	
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TKM2	**Tokmak 2**	**9.38**	**9**	P	**Pn**	**04 29 43.5**	**+1.7**
	SNR=15						
TKM2	**Tokmak 2**	**9.38**	**9**	*e*Pn	**Pn**	**04 29 42.5**	**+0.7**
	comp=Z,8.2nm,0.5s						
TKM2				*e*Sn	**Sn**	**04 31 23.7**	**-2.1**
KK31	**Karatay Array**	**9.73**	**347**	⇑P	**Pn**	**04 29 45.8**	**-0.8**
	comp=Z,7.6nm,0.3s,baz=167,slow=11,SNR=160						
KK31				⇑S	**Sn**	**04 31 30.2**	**-4.1**
	comp=Z,4.0nm,0.5s,baz=170,slow=25						
DANN	**Dangsing**	**10.22**	**118**	*e*P	**Pn**	**04 29 52.9**	**-0.5**
	comp=Z,29nm,0.2s						
KOLN	**Koldanda**	**10.44**	**122**	*e*P	**Pn**	**04 29 56.3**	**-0.1**
	comp=Z,21nm,0.3s						
DMN	**Daman**	**11.62**	**118**	*e*P	**Pn**	**04 30 11.4**	**-1.1**
	comp=Z,39nm,0.6s						
KKN	**Kakani**	**11.65**	**117**	*e*P	**Pn**	**04 30 11.3**	**-1.6**
	comp=Z,73nm,0.6s						
KKN	**Kakani**	**11.65**	**117**	*e*P	**Pn**	**04 30 11.3**	**-1.6**
KKN				pmax	pmax		
	comp=Z,73nm,0.6s						
PKIN	**Phulchoki**	**11.86**	**118**	*e*P	**Pn**	**04 30 14.0**	**-1.7**
	comp=Z,45nm,0.5s						
PKIN				*e*S	**Sn**	**04 32 21.2**	**-5.3**
PKI	**Pulchoki**	**11.87**	**118**	*e*P	**Pn**	**04 30 14.3**	**-1.6**
	comp=Z,89nm,0.6s						
PKI				*e*S	**Sn**	**04 32 22.5**	**-4.3**
PKI	**Pulchoki**	**11.87**	**118**	*e*P	**Pn**	**04 30 14.3**	**-1.6**
PKI				*e*S	**Sn**	**04 32 22.5**	**-4.3**
PKI				pmax	pmax		
	comp=Z,89nm,0.6s						
GUN	**Gumba**	**12.04**	**115**	*e*P	**Pn**	**04 30 15.7**	**-2.5**
	comp=Z,41nm,0.4s						
JIRN	**Jiri**	**12.40**	**115**	*e*P	**Pn**	**04 30 21.6**	**-1.6**
	comp=Z,56nm,0.4s						
RAMN	**Ramite**	**13.09**	**117**	*e*P	**Pn**	**04 30 31.1**	**-1.5**
	comp=Z,21nm,0.4s						
TAPN	**Taplejung**	**13.72**	**114**	*e*P	**Pn**	**04 30 38.0**	**-3.1**
	comp=Z,13nm,0.4s						
ODAN	**Odare**	**13.73**	**116**	*e*P	**Pn**	**04 30 38.4**	**-2.9**
MK31	**Makanchi Array**	**14.70**	**24**	⇓P	**Pn**	**04 30 56.0**	**+1.9**
	comp=Z,2.0nm,0.7s,baz=178,slow=6.6,SNR=14						
MK31	**Makanchi Array**	**14.70**	**24**	*e*Pn	**Pn**	**04 30 56.0**	**+1.9**
MKAR	**Makanchi Array**	**14.70**	**24**	Pn	**Pn**	**04 30 52.2**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=209,slow=12,SNR=8.6						
HYB	**Hyderabad**	**16.79**	**163**	*i* P	**Pn**	**04 31 21.0**	**0.0**
KURBB	**Kurchatov Arra**	**17.34**	**11**	⇓P	**Pn**	**04 31 27.9**	**+0.3**
	comp=Z,0.6nm,0.6s						
KURK	**Kurchatov**	**17.44**	**11**	⇓P	**Pn**	**04 31 29.9**	**+1.1**
	comp=Z,5.9nm,1.1s						
KURK	**Kurchatov**	**17.44**	**11**	P	**Pn**	**04 31 25.9**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=195,slow=12,SNR=15						
KURK	**Kurchatov**	**17.44**	**11**	*e*P	**Pn**	**04 31 26.7**	**-2.2**
KURK				pmax	pmax		
	comp=Z,15nm,1.4s						
KURK	**Kurchatov**	**17.44**	**11**	*e*P	**Pn**	**04 31 26.7**	**-2.1**
	comp=Z,15nm,1.4s						
AB31	**Akbulak array**	**18.58**	**331**	P	**Pn**	**04 31 40.3**	**-2.4**
	comp=Z,1.4nm,0.5s,baz=144,slow=11,SNR=44						
BVA0	**Borovoye Array**	**19.49**	**354**	⇓P	**Pn**	**04 31 53.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=168,slow=11,SNR=3.6						
BVAR	**Borovoye Array**	**19.49**	**354**	P	**Pn**	**04 31 51.9**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=169,slow=9.1,SNR=9.1						
AKTK	**Aktyubinsk**	**20.28**	**330**	P	**P**	**04 32 00.8**	**+0.2**
AKTO	**Aktyubinsk**	**20.28**	**330**	⇓P	**P**	**04 32 00.4**	**-0.3**
	comp=Z,1.9nm,0.8s						
AKTO	**Aktyubinsk**	**20.28**	**330**	P	**P**	**04 32 00.8**	**+0.2**
	comp=Z,6.4nm,0.5s,baz=149,slow=8.8,SNR=17						
ZAL	**Zalesovo**	**21.78**	**18**	P	**P**	**04 32 17.0**	**+0.3**
ZAA0	**Zalesovo Array**	**21.79**	**18**	*e*P	**P**	**04 32 16.8**	**-0.1**
ZALV	**Zalesovo Beam**	**21.79**	**18**	P	**P**	**04 32 16.9**	**+0.1**
	comp=Z,4.7nm,0.4s,mb4.3,baz=212,slow=12,SNR=12						
NVS	**Novosibirsk**	**22.24**	**15**	*e*P	**P**	**04 32 21.4**	**-0.2**
NVS				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
NVS				pmax	pmax		
	comp=N,4.0nm,0.4s						
ARU	**Arti**	**25.00**	**340**	*e*P	**P**	**04 32 49.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**27.27**	**117**	P	**P**	**04 33 11.5**	**+2.4**
	comp=N,0.9nm,0.3s,mb3.7,baz=303,slow=9.1,SNR=5.6						
SONM	**Songino Array**	**28.38**	**50**	P	**P**	**04 33 22.0**	**+3.3**
	comp=N,1.1nm,0.8s,mb3.5,baz=250,slow=10.0,SNR=6.4						
ARCES	**ARCESS Array B**	**44.56**	**338**	P	**P**	**04 35 36.6**	**+0.8**
	comp=N,3.0nm,0.8s,mb4.2,baz=115,slow=8.6,SNR=16						
NOA	**NORSAR Array B**	**47.91**	**324**	P	**P**	**04 36 02.4**	**+0.1**
	comp=N,0.5nm,0.8s,mb3.6,baz=100,slow=7.4,SNR=2.7						
TOA0	**Torodi Ar. Sit**	**67.82**	**271**	*e*P	**P**	**04 38 22.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**67.82**	**271**	P	**P**	**04 38 22.4**	**-0.1**
	comp=N,0.9nm,0.7s,mb3.9,baz=45,slow=5.7,SNR=9.3						
TORD	**Torodi Ar. Bea**	**67.82**	**271**	P	**P**	**04 38 22.4**	**-0.1**

*SZGRF **29** 04:27:33.6,5152N×15836E,h33km,mb4.9,Near east coast of Kamchatka Peninsula, Russia*
*ISCJB **29** 04:27:36.0±0.4,5167N±003×15843E±005,h72km±3km, mb4.4/10,Error ellipse: s-maj=6.7km s-min=3.3km az=135.8*
*KRSC **29** 04:27:35.8±0.1,5169N×15863E,h36km±36km,ML5.1*
*BJI **29** 04:27:35.2,5183N×15870E,h94km,mB4.5,mb4.3*
*MOS **29** 04:27:35.2±0.8,5170N×15835E,h63km,mb4.9/49, MS4.0/5,Error ellipse: s-maj=9.8km s-min=4.6km az=86.8*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
*IDC **29** 04:27:36.7±0.7,5192N×15818E,h60km±6km,mb4.0/21, mb1 4.3/22,mb1mx4.2/25,mbtmp4.1/22,MS3.7/15, Ms1 3.7/15,ms1mx3.4/30,Error ellipse: s-maj=18.2km s-min=11.2km az=155.0*
*NEIC **29** 04:27:37.7±0.6,5179N×15826E,h70km±4km,mb4.6/77, Error ellipse: s-maj=5.7km s-min=3.6km az=170.0*
ISC 29 04:27:37.7±0.4,5172N±003×15834E±005,h71km±2km, h60km±1.7km:pP-P,n286,σ1§01/301,mb4.4/110,55C-10D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.72**	**9**	*i* P	**Pn**	**04 27 50.6**	**-2.3**
RUS				*i* S	**Sn**	**04 28 01.2**	**-3.0**
MIPR	**Malaya Ipel'ka**	**1.12**	**300**	*e*P	**Pn**	**04 27 58.1**	**+0.3**
MIPR				*i* S	**Sn**	**04 28 14.3**	**+1.5**
PET	**Petropavlovsk**	**1.32**	**8**κ	*i*PN	**Pn**	**04 27 58.7**	**-1.6**
PET				*e*S	**Sn**	**04 28 16.2**	**-1.1**
PET				pmax	pmax		
	comp=Z,909nm,0.4s						
PET				pmax	pmax		
	comp=Z,2μm,0.7s						
PET				smax			
	comp=E,10μm,0.5s						
PET				smax			
	comp=N,14μm,0.5s						
PET	**Petropavlovsk**	**1.32**	**8**	*e*P	**Pn**	**04 27 58.8**	**-1.5**
PET				*i* S	**Sn**	**04 28 16.0**	**-1.3**
PET	**Petropavlovsk**	**1.32**	**8**	*e*Pn	**Pn**	**04 27 58.6**	**-1.7**
PET				*e*Sn	**Sn**	**04 28 15.8**	**-1.5**
INSR	**Institute**	**1.36**	**7**	*e*P	**Pn**	**04 27 59.4**	**-1.4**
INSR				*i* S	**Sn**	**04 28 17.1**	**-1.1**
PEA0B	**Petropavlovsk-**	**1.44**	**345**	*e*Pn	**Pn**	**04 28 01.6**	**-0.4**
PETK	**Petropavlovsk-**	**1.44**	**345**	P	**Pn**	**04 28 01.6**	**-0.3**
	comp=N,217nm,0.3s,baz=117,slow=18,SNR=2639						
PETK				S	**Sn**	**04 28 22.5**	**+2.3**
	comp=N,186nm,0.3s,baz=147,slow=17,SNR=11						
AVH	**Avacha**	**1.57**	**9**	*e*P	**Pn**	**04 28 02.9**	**-0.7**
AVH				*i* S	**Sn**	**04 28 21.8**	**-1.3**
NLC	**Nalytchevo**	**1.58**	**23**	*e*P	**Pn**	**04 28 00.6**	**-3.1**
NLC				*i* S	**Sn**	**04 28 18.5**	**-4.9**
SPN	**Mys Shipunski**	**1.73**	**36**	*e*P	**Pn**	**04 28 03.8**	**-1.8**
SPN				*i* S	**Sn**	**04 28 24.1**	**-2.7**
SKR	**Severo-Kuril's**	**1.74**	**234**κ	*i*PN	**Pn**	**04 28 04.0**	**-1.9**
SKR				*e*S	**Sn**	**04 28 25.4**	**-1.8**
SKR				pmax	pmax		
	comp=N,230nm,0.5s						
SKR				pmax	pmax		
	comp=E,390nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				pmax	pmax		
	comp=N,1μm,2.0s						
SKR				pmax	pmax		
	comp=E,1μm,2.0s						
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				smax			
	comp=N,7μm,0.5s						
SKR				smax			
	comp=E,8μm,0.5s						
SKR				smax			
	comp=N,13μm,4.0s						
SKR				smax			
	comp=E,13μm,4.0s						
ALID	**Alaid**	**1.94**	**245**	P	**Pn**	**04 28 09.0**	**+0.4**
ALID				*i* S	**Sn**	**04 28 33.3**	**+1.2**
GNL	**Ganaly**	**1.99**	**353**	*e*P	**Pn**	**04 28 09.2**	**0.0**
GNL				*i* S	**Sn**	**04 28 34.3**	**+1.1**
KII	**Karymskiy**	**2.42**	**16**	*e*P	**Pn**	**04 28 15.0**	**+0.1**
KII				*i* S	**Sn**	**04 28 43.4**	**-0.1**
MKZ	**Mys Kozlova**	**3.50**	**34**	*e*P	**Pn**	**04 28 27.3**	**-2.4**
MKZ				*i* S	**Sn**	**04 29 05.4**	**-4.4**
TUMR	**Tumrok**	**3.73**	**16**	*e*P	**Pn**	**04 28 33.7**	**+0.9**
TUMR				*i* S	**Sn**	**04 29 15.6**	**+0.2**
KMNR	**Kamenistaya**	**4.20**	**15**	*e*P	**Pn**	**04 28 41.2**	**+2.0**
KMNR				*i* S	**Sn**	**04 29 30.7**	**+3.8**
KPT	**Kopyto**	**4.40**	**14**	*e*P	**Pn**	**04 28 44.0**	**+2.1**
KIRR	**Kirishev**	**4.41**	**15**	*e*P	**Pn**	**04 28 42.8**	**+0.8**
BZMR	**Bezymyannaya**	**4.41**	**16**	*e*P	**Pn**	**04 28 43.6**	**+1.5**
KOZ	**Kozyrevsk**	**4.44**	**11**	*e*P	**Pn**	**04 28 43.4**	**+0.9**
KOZR	**Kozyr**	**4.45**	**11**	PN	**Pn**	**04 28 43.4**	**+0.8**
ZLN	**Zelenaya**	**4.55**	**18**	*e*P	**Pn**	**04 28 46.0**	**+2.1**
SRDR	**Sredinnyy**	**4.68**	**9**	*e*P	**Pn**	**04 28 47.3**	**+1.6**
KRSR	**Krestovskiy**	**4.69**	**15**	*e*P	**Pn**	**04 28 47.2**	**+1.3**
KLY	**Klyuchi**	**4.80**	**16**	P	**Pn**	**04 28 49.8**	**+2.4**
BDR	**Baidarnaya**	**5.14**	**18**	*e*P	**Pn**	**04 28 54.2**	**+2.2**
BDR				*i* S	**Sn**	**04 29 52.5**	**+2.5**
SMKR	**Semkarok**	**5.21**	**19**	*e*P	**Pn**	**04 28 54.1**	**+1.2**
SRKR	**Sorokina**	**5.22**	**17**	*e*P	**Pn**	**04 28 55.2**	**+2.2**
KBTR	**Krutoberegovo**	**5.22**	**29**	*e*P	**Pn**	**04 28 52.0**	**-1.1**
KUR	**Kuril'sk**	**9.51**	**231**	PN	**Pn**	**04 29 52.0**	**+0.3**
KUR				S	**Sn**	**04 31 40.0**	**+3.2**
KUR				smax			
	comp=N,110nm,0.8s						
KUR				smax			
	comp=E,80nm,0.8s						
SMY	**Shemya**	**9.73**	**78**	*e*PN	**Pn**	**04 29 51.5**	**-3.2**
SMY				pmax	pmax		
	comp=Z,114nm,0.5s						
SMY	**Shemya**	**9.73**	**78**	*e*Pn	**Pn**	**04 29 51.5**	**-3.2**
	comp=Z,114nm,0.5s						
SMY				*e*Sn	**Sn**	**04 31 32.0**	**-10**
YSS	**Yuzh-Sakhalins**	**11.22**	**251**⇑	*e*PN	**Pn**	**04 30 13.9**	**-1.2**
YSS				pmax	pmax		
	comp=Z,32nm,1.1s						
SEY	**Seymchan**	**11.69**	**346**⇑	*e*PN	**Pn**	**04 30 22.0**	**+0.7**
ASAJ	**Asahikawa**	**12.99**	**240**	P	**Pn**	**04 30 40.5**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=56,slow=8.3,SNR=24						
ASAJ				LR	LR	04 35 02.2	
	comp=Z,199nm,20.5s,baz=249,slow=34						
ASAJ	**Asahikawa**	**12.99**	**240**	PN	**Pn**	**04 30 40.5**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,199nm,20.5s						
BILL	**Biliibino**	**16.82**	**10**⇑	*e*P	**Pn**	**04 31 30.4**	**+2.2**
BILL				pmax	pmax		
	comp=Z,23nm,1.5s						
KLR	**Kul'dur**	**17.07**	**272**	*e*P	**Pn**	**04 31 29.8**	**-1.7**
YAK	**Yakutsk**	**18.59**	**315**	*e*P	**Pn**	**04 31 49.8**	**+0.1**
YAK				*e*S	**S**	**04 35 17.5**	**+0.9**
YAK				pmax	pmax		
	comp=E,7.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,31nm,0.8s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.7s						
YAK				smax			
	comp=N,35nm,2.4s						
YAK				smax			
	comp=E,44nm,2.3s						
YAK				MLR	MLR		
	comp=Z,152nm,19.0s						
YAK				MLR	MLR		
	comp=N,91nm,20.0s						
YAK	**Yakutsk**	**18.59**	**315**	*e*P	**Pn**	**04 31 49.2**	**-0.6**
	comp=N,53nm,0.7s						
CLNS	**Chul'man**	**20.05**	**298**	*e*P	**P**	**04 32 13.2**	**+8.5**
CLNS				pmax	pmax		
	comp=Z,21nm,0.8s						
CLNS				pmax	pmax		
	comp=E,20nm,0.7s						
CLNS				pmax	pmax		
	comp=N,13nm,0.8s						
MDJ	**Mudanjiang**	**20.35**	**261**	P	**P**	**04 32 09.3**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,94nm,10.2s						
MDJ				LR	LR		
	comp=N,248nm,24.8s						
MDJ				LR	LR		
	comp=Z,197nm,19.5s						
MDJ	**Mudanjiang**	**20.35**	**261**	*e*P	**P**	**04 32 06.9**	**-1.2**
	comp=Z,27nm,1.1s						
MAJO	**Matsushiro**	**20.85**	**231**	*e*P	**P**	**04 32 14.0**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,30nm,0.6s						
MAJO	**Matsushiro**	**20.85**	**231**	*e*P	**P**	**04 32 14.0**	**+0.5**
	comp=Z,30nm,0.6s						
MAT	**Matsushiro**	**20.85**	**231**	P	**P**	**04 32 14.9**	**+1.4**
MAT				*e*S	S	04 35 41.0	-21
MJAR	**Matsushiro Arr**	**20.85**	**231**	P	**P**	**04 32 14.0**	**+0.5**
	comp=Z,19nm,0.8s,baz=26,slow=11,SNR=66						
MJAR				LR	LR	04 40 27.5	
	comp=Z,197nm,20.3s,baz=220,slow=37						
MJAR	**Matsushiro Arr**	**20.85**	**231**	P	**P**	**04 32 14.0**	**+0.5**
MJAR				LR	LR	04 40 27.4	
TIXI	**Tiksi**	**23.91**	**337**	*e*P	**P**	**04 32 44.0**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.2						
TIXI	**Tiksi**	**23.91**	**337**	*e*P	**P**	**04 32 44.0**	**-0.4**
	comp=Z,10nm,0.8s,mb4.2						
HIA	**Hailar**	**24.48**	**280**	*e*P	**P**	**04 32 49.2**	**-0.6**
HIA				*e*		04 33 02.6	
HIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HIA	**Hailar**	**24.48**	**280**	*e*P	**P**	**04 32 49.1**	**-0.7**
	comp=Z,8.8nm,0.7s,mb4.2						
HIA				*e*		04 33 02.6	
KSRS	**Korea Array**	**25.70**	**248**	P	**P**	**04 33 01.9**	**+0.9**
	comp=Z,3.6nm,0.7s,mb3.9,baz=46,slow=9.0,SNR=12						
KSRS				LR	LR	04 41 55.4	
	comp=Z,92nm,21.3s,baz=247,slow=33						
KSRS	**Korea Array**	**25.70**	**248**	P	**P**	**04 33 02.0**	**+1.0**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
KSRS				MLR	MLR		
	comp=Z,92nm,21.3s						
BOD	**Bodaibo**	**25.90**	**301**	*e*P	**P**	**04 33 04.7**	**+2.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
TTA	**Tatalina**	**26.47**	**47**	*e*P	**P**	**04 33 07.2**	**-0.5**
TTA				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.2		

BVAR LR LR 04 59 49.1
comp=Z,146nm,19.2s,baz=67,slow=38
BVAR Borovoye Array 50.40 308 P **P 04 36 24.5 -2.8**
BVAR 04 37 43.8
MOD Modoc 53.79 66 *e*P **P 04 36 53.6 +1.0**
comp=Z,9.4nm,1.1s,mb4.7
TKM2 Tokmak 2 53.91 296 *e*P **P 04 36 52.3 -1.2**
TKM2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
TKM2 Tokmak 2 53.91 296 *e*P **P 04 36 52.3 -1.3**
comp=Z,2.1nm,0.7s,mb4.3
ARCES ARCESS Array B 54.25 341 P **P 04 36 55.1 -0.5**
comp=Z,1.9nm,0.7s,mb4.2,baz=54,slow=7.2,SNR=8.3
ARCES LR LR 05 06 01.8
comp=Z,77nm,18.4s,baz=190,slow=43
WVOR Wild Horse Val 54.39 65 *e*P **P 04 36 57.8 +0.8**
WVOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
WVOR Wild Horse Val 54.39 65 *e*P **P 04 36 57.8 +0.8**
comp=Z,3.8nm,0.9s,mb4.4
OHCM Honcut 54.79 69 *e*P **P 04 37 00.2 +0.2**
SUMG Summit 55.45 6 *e*P **P 04 37 04.6 +0.4**
comp=Z,2.6nm,0.6s,mb4.4
BOZ Bozeman (W) 56.10 58 *e*P **P 04 37 09.6 +0.4**
BOZ pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BOZ Bozeman (W) 56.10 58 *e*P **P 04 37 09.6 +0.3**
comp=Z,1.4nm,0.8s,mb4.0
CHTO Chiang Mai 56.56 258 *e*P **P 04 37 13.9 +1.0**
CHTO pmax pmax
comp=Z,22nm,1.0s,mb5.1
CHTO Chiang Mai 56.56 258 *e*P **P 04 37 13.9 +1.0**
comp=Z,22nm,1.0s,mb5.1
CMAR Chiang Mai Arr 56.84 257 P **P 04 37 16.0 +1.2**
comp=Z,7.9nm,0.7s,mb4.8,baz=24,slow=7.0,SNR=40
CMAR LR LR 05 05 28.3
comp=Z,45nm,21.1s,baz=185,slow=40
CMAR Chiang Mai Arr 56.84 257⇑ *e*P **P 04 37 16.2 +1.4**
NVAR Mina Array Bea 57.24 68 P **P 04 37 18.1 +0.7**
comp=Z,1.7nm,0.6s,mb4.2,baz=298,slow=7.4,SNR=10
ELK Elko 57.42 64 *e*P **P 04 37 19.6 +1.0**
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK Elko 57.42 64 *e*P **P 04 37 19.6 +0.9**
comp=Z,1.6nm,0.7s,mb4.2
IMW Indian Meadow 57.64 59 *e*P **P 04 37 21.6 +1.4**
comp=Z,2.3nm,0.8s,mb4.3
IMW *e* pP 04 37 37.8 -0.7
RLMT Red Lodge 57.69 57 *e*P **P 04 37 21.0 +0.6**
comp=Z,8.1nm,1.1s,mb4.7
RLMT *e*pP pP 04 37 38.1 -0.7
RRI2 Red Ridge 57.81 60 *e*P **P 04 37 23.2 +1.9**
comp=Z,2.4nm,0.8s,mb4.3
AKTK Aktyubinsk 57.95 312 P **P 04 37 20.1 -2.1**
AKTO Aktyubinsk 57.95 312 P **P 04 37 20.1 -2.1**
comp=Z,0.9nm,0.4s,mb4.2,baz=65,slow=11,SNR=4.4
LOHW Long Hollow 58.01 59 *e*P **P 04 37 23.7 +1.0**
comp=Z,3.7nm,1.3s,mb4.2
JOF Joensuu 58.35 335 *e*p **P 04 37 23.7 -1.1**
comp=Z,1.2nm,0.3s,mb4.4
JOF Joensuu 58.35 335 *e*P **P 04 37 23.7 -1.1**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
HWUT Hardware Ranch 58.86 61 *e*P **P 04 37 29.4 +0.7**
comp=Z,2.3nm,0.8s,mb4.3
BW06 Boulder Array 59.15 59 *e*P **P 04 37 31.1 +0.5**
comp=Z,2.6nm,0.8s,mb4.3
BW06 *e*pP pP 04 37 45.8 -3.3
DUG Dugway 59.15 63 *e*P **P 04 37 31.4 +0.7**
DUG pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
DUG Dugway 59.15 63 *e*P **P 04 37 31.4 +0.7**
comp=Z,4.6nm,1.1s,mb4.4
PDAR Pinedale Array 59.15 59 P **P 04 37 31.2 +0.6**
comp=Z,2.4nm,0.7s,mb4.3,baz=324,slow=2.9,SNR=25
PDAR pP pP 04 37 47.3 -1.8
comp=Z,2.2nm,0.8s,baz=328,slow=2.7,SNR=5.1
KAF Kangasniemi 60.32 336 *e*p **P 04 37 37.4 -1.0**
comp=Z,1.5nm,0.4s,mb4.4
KAF Kangasniemi 60.32 336 *e*P **P 04 37 37.4 -1.0**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
ULM Lac du Bonnet 60.55 45 P **P 04 37 39.5 -0.6**
comp=Z,3.0nm,1.0s,mb4.3,baz=315,slow=7.1,SNR=4.8
RSSD Black Hills 61.07 55 *e*P **P 04 37 44.1 +0.3**
RSSD *e**PP pP 04 37 59.4 -2.9
RSSD pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
RSSD Black Hills 61.07 55 *e*P **P 04 37 44.1 +0.3**
comp=Z,4.1nm,0.6s,mb4.6
RSSD *e*pP pP 04 37 59.4 -3.0
SRU San Rafael 61.17 63 *e*P **P 04 37 45.4 +0.9**
SRU pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
SRU San Rafael 61.17 63 *e*P **P 04 37 45.4 +0.9**
comp=Z,3.4nm,0.7s,mb4.5
NB2 NORSAR Subarra 64.55 343 P **P 04 38 05.7 -0.9**
comp=Z,2.5nm,0.4s,mb4.4,baz=30,slow=6.5
NOA NORSAR Array B 64.55 343 P **P 04 38 05.8 -0.8**
comp=Z,2.2nm,0.4s,mb4.4,baz=14,slow=5.4,SNR=16
NOA LR LR 05 12 03.2
comp=Z,31nm,19.9s,baz=5.0,slow=41
NAO01 NORSAR Array S 64.79 343 *e*P **P 04 38 07.2 -1.0**
comp=Z,1.5nm,0.3s,mb4.3
ECSD EROS,Sioux Fal 65.02 51 *e*P **P 04 38 09.2 -0.7**
comp=Z,4.6nm,1.0s,mb4.3
ANMO Albuquerque 66.41 63⇑ *e*P **P 04 38 21.5 +2.4**
ANMO Albuquerque 66.41 63 *e*P **P 04 38 19.3 +0.2**
comp=Z,1.4nm,0.8s,mb3.8
SCHQ Schefferville 67.36 26 P **P 04 38 24.3 -0.5**
comp=Z,2.5nm,0.5s,mb4.3,baz=308,slow=5.0,SNR=9.1
SCHQ Schefferville 67.36 26 P **P 04 38 24.3 -0.5**
AKASG Malin Array Be 69.22 328 P **P 04 38 35.2 -1.2**
comp=Z,2.7nm,0.3s,mb4.5,baz=29,slow=6.9,SNR=5.2
AKASG LR LR 05 10 29.9
comp=Z,56nm,20.3s,baz=55,slow=37
AKASG Malin Array Be 69.22 328 *i* P **P 04 38 35.4 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 69.22 328 P **P 04 38 35.2 -1.2**
AKASG LR LR 05 10 29.9
WMOK Wichita Mounta 70.74 58 *e*P **P 04 38 46.6 +0.6**
WMOK *e**PP pP 04 39 01.2 -3.7
WMOK pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
WMOK Wichita Mounta 70.74 58 *e*P **P 04 38 46.6 +0.6**
comp=Z,2.8nm,0.9s,mb4.1
WMOK *e*pP pP 04 39 01.2 -3.7
TXAR Lajitas Array 72.18 65 P **P 04 38 55.0 +0.2**
comp=Z,2.5nm,0.8s,mb4.1,baz=300,slow=4.6,SNR=35
TXAR pP pP 04 39 11.9 -1.8
comp=Z,2.5nm,0.7s,baz=296,slow=4.6,SNR=9.3
TXAR Lajitas Array 72.18 65 P **P 04 38 55.0 +0.2**
TXAR pP pP 04 39 11.9 -1.8
ESK Eskdalemuir 72.23 349 *e*P **P 04 38 53.7 -0.9**
ESK pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
ESK Eskdalemuir 72.23 349 *e*P **P 04 38 53.7 -0.9**
comp=Z,9.5nm,0.6s,mb4.8
STHS Stebnicka Huta 72.82 332 *e*P **P 04 38 58.2 0.0**
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
STHS Stebnicka Huta 72.82 332 *e*P **P 04 38 58.2 0.0**
comp=Z,4.2nm,1.1s,mb4.2
KOLS Kolonicke sedl 72.95 331 *e*P **P 04 38 59.5 +0.5**
CRVS Cervenica-Dubn 73.22 332 *e*P **P 04 39 00.2 -0.4**
CLL Collm 73.24 338 *e*P **P 04 38 59.7 -1.0**
comp=Z,20nm,1.6s,mb4.7
CLL Collm 73.24 338⇓ *i*P **P 04 39 00.0 -0.7**
comp=Z,20nm,1.6s,mb4.7
CLL Collm 73.24 338⇓ *i*P **P 04 39 00.0 -0.7**
comp=Z,20nm,1.6s,mb4.7
DPC Dobruska-Polom 73.32 336 *e*P **P 04 39 01.1 0.0**
DPC Dobruska-Polom 73.32 336 *e*P **P 04 39 01.3 -0.2**
CLZ Clausthal 73.33 340 *e*P **P 04 39 00.5 -0.7**
CLZ pmax pmax
comp=Z,30nm,1.6s,mb4.9
CLZ Clausthal 73.33 340 *e*P **P 04 39 00.5 -0.7**
comp=Z,30nm,1.6s,mb4.9
MORC Moravsky Berou 73.52 335 *e*P **P 04 39 01.4 -1.0**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
MORC Moravsky Berou 73.52 335 *e*P **P 04 39 01.4 -1.0**
comp=Z,3.1nm,0.8s,mb4.1
MOX Moxa 74.18 339 *e*P **P 04 39 06.0 -0.2**
comp=Z,24nm,2.2s,mb4.5
WERD Werda 74.20 338 *e*P **P 04 39 06.2 -0.1**
comp=Z,12nm,1.5s,mb4.4
GUNZ Gunzen 74.28 338 *e*P **P 04 39 06.4 -0.3**
comp=Z,10.0nm,1.3s,mb4.4
WERN Wernitzgruen 74.34 338 *e*P **P 04 39 06.5 -0.6**
comp=Z,8.0nm,1.4s,mb4.3
VYHS Vyhne 74.34 333 *e*P **P 04 39 06.1 -1.0**
BUG Bochum--Univer 74.34 342 *e*P **P 04 39 06.0 -1.1**
comp=Z,10.0nm,1.0s,mb4.5
UBBA Unterbreizbach 74.37 340 *e*P **P 04 39 07.1 -0.2**
comp=Z,4.0nm,0.9s,mb4.2
WRAB Tennant Creek 74.37 203 *e*P **P 04 39 07.2 -0.3**
WRAB pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
WRAB Tennant Creek 74.37 203 *e*P **P 04 39 07.2 -0.3**
comp=Z,7.6nm,1.0s,mb4.4
WRA Warramunga Arr 74.38 203 P **P 04 39 07.8 +0.2**
comp=Z,3.2nm,0.9s,mb4.1,baz=19,slow=6.1,SNR=11
WRA pP pP 04 39 24.7 -2.0
comp=Z,1.8nm,0.8s,baz=17,slow=6.1,SNR=3.7
MANZ Manzenberg 74.68 338 *e*P **P 04 39 08.8 -0.3**
comp=Z,12nm,1.6s,mb4.4
MODS Modra-Piesok 74.88 334 *e*P **P 04 39 11.3 +1.0**
KHC Kasperske Hory 75.13 337 *e*P **P 04 39 11.6 -0.1**
KHC Kasperske Hory 75.13 337 *e*P **P 04 39 11.7 0.0**
GRA1 Grafenberg Arr 75.16 339 *e*P **P 04 39 12.1 +0.2**
comp=Z,24nm,1.4s,mb4.7
GRF Grafenberg Arr 75.16 339 *e*P **P 04 39 12.1 +0.2**
GRF pmax pmax
comp=Z,24nm,1.4s,mb4.7
GRF Grafenberg Arr 75.16 339 *e*P **P 04 39 12.1 +0.2**
GRF pmax pmax
comp=Z,24nm,1.4s,mb4.7
GRF Grafenberg Arr 75.16 339 *e*P **P 04 39 12.1 +0.2**
comp=Z,24nm,1.4s,mb4.7
TNS Taunus Mts 75.26 341 *e*P **P 04 39 12.1 -0.3**
TNS pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
TNS Taunus Mts 75.26 341 *e*P **P 04 39 12.1 -0.3**
WET Wettzell 75.29 337 *e*P **P 04 39 12.2 -0.4**
WET pmax pmax
comp=Z,15nm,1.4s,mb4.5
WET Wettzell 75.29 337 *e*P **P 04 39 12.2 -0.4**
comp=Z,15nm,1.4s,mb4.5
GEC2 GERESS Array S 75.36 337 *e*P **P 04 39 12.5 -0.5**
GEC2 pmax pmax
comp=Z,14nm,1.6s,mb4.4
GEC2 GERESS Array S 75.36 337 *e*P **P 04 39 12.5 -0.5**
comp=Z,14nm,1.6s,mb4.4
GERES GERESS Array B 75.36 337 P **P 04 39 12.5 -0.5**
comp=Z,1.1nm,0.4s,mb4.0,baz=36,slow=5.2,SNR=14
GERES LR LR 05 17 11.1
comp=Z,78nm,18.5s,baz=282,slow=40
MEM Membach 75.38 342 P **P 04 39 12.9 -0.2**
comp=Z,11nm,1.1s,mb4.5
CONA Conrad Observa 75.66 335⇑ *i*P **P 04 39 14.9 +0.1**
comp=Z,6.9nm,1.1s,mb4.3
CSNA Conrad Observa 75.66 335⇓ *i*P **P 04 39 14.9 +0.1**
comp=Z,6.3nm,1.0s,mb4.3
BCLA Clavier 75.69 343 P **P 04 39 14.6 -0.3**
GIVF Givet 76.09 343 *e*P **P 04 39 16.8 -0.3**
DOU Dourbes 76.13 343 P **P 04 39 17.5 +0.1**
comp=Z,7.8nm,2.1s,mb4.1
MOA Molln 76.15 336⇓ *i*P **P 04 39 17.1 -0.5**
comp=Z,7.0nm,1.1s,mb4.3
BAIF Baives 76.24 343 *e*P **P 04 39 17.8 -0.2**
WLF Walferdange 76.25 342 *e*P **P 04 39 19.4 +1.3**
comp=Z,21nm,1.5s,mb4.7
SOKA Soboth 77.03 335⇑ *i*P **P 04 39 22.4 -0.1**
BFO Black Forest 77.08 340 *e*P **P 04 39 22.4 -0.4**
BFO pmax pmax
comp=Z,29nm,2.0s,mb4.7
BFO Black Forest 77.08 340 *e*P **P 04 39 22.4 -0.4**
comp=Z,29nm,2.0s,mb4.7
KBA Koelnbreinsper 77.10 336⇑ *i*P **P 04 39 23.2 +0.3**
comp=Z,33nm,1.2s,mb5.0
KBA Koelnbreinsper 77.10 336⇑ *i*P **P 04 39 23.2 +0.3**
KBA pmax pmax
comp=Z,33nm,1.2s,mb4.9
GROS Grobnik 77.11 335 *e*P **P 04 39 22.7 -0.3**
CDF Champ du Feu 77.22 341⇑ *i*P **P 04 39 23.2 -0.4**
comp=Z,16nm,0.9s,mb4.5
CDF Champ du Feu 77.22 341⇑ *i*P **P 04 39 23.2 -0.4**
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
CDF Champ du Feu 77.22 341⇑ *i*P **P 04 39 23.2 -0.4**
comp=Z,8.0nm,0.9s,mb4.5
OBKA Obir 77.32 335⇑ *i*P **P 04 39 23.9 -0.3**
comp=Z,14nm,1.1s,mb4.6
WTTA Wattenberg 77.34 337⇑ *i*P **P 04 39 24.5 +0.3**
comp=Z,19nm,1.1s,mb4.8
WTTA Wattenberg 77.34 337⇑ *i*P **P 04 39 24.5 +0.2**
WTTA pmax pmax
comp=Z,19nm,1.1s,mb4.7
MOTA Moosalm 77.39 338⇓ *i*P **P 04 39 24.6 0.0**
comp=Z,18nm,1.2s,mb4.7
MOTA Moosalm 77.39 338⇓ *i*P **P 04 39 24.6 +0.1**
MOTA pmax pmax
comp=Z,18nm,1.2s,mb4.7
MEZF Maizieres J'vi 77.58 342 *e*P **P 04 39 25.6 0.0**
comp=Z,14nm,0.4s,mb4.7
MEZF Maizieres J'vi 77.58 342 *e*P **P 04 39 25.6 0.0**
comp=Z,14nm,0.4s,mb5.1
ABTA Abfaltersbach 77.61 337⇑ *i*P **P 04 39 25.7 -0.1**
comp=Z,16nm,1.3s,mb4.6
CRES Cresnjev 77.71 334 *e*P **P 04 39 25.7 -0.6**
DAVA Damuels 77.73 339⇑ *i*P **P 04 39 26.1 -0.3**
comp=Z,13nm,1.2s,mb4.6
FETA Feichten 77.78 338⇑ *i*P **P 04 39 26.8 +0.1**
comp=Z,6.4nm,0.7s,mb4.5
HAU Haudompre 77.80 341 *e*P **P 04 39 26.4 -0.4**
comp=Z,9.1nm,0.6s,mb4.4
HAU *e*MLR MLR
comp=Z,88nm,21.2s
HAU Haudompre 77.80 341 *e*P **P 04 39 26.4 -0.4**
HAU pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
HAU MLR MLR
comp=Z,90nm,21.3s
HAU Haudompre 77.80 341 *e*P **P 04 39 26.4 -0.4**
comp=Z,4.6nm,0.6s,mb4.4
HAU LR LR
comp=Z,90nm,21.3s
HINF Hinteralfeld 77.88 341 *e*P **P 04 39 26.5 -0.7**
FLN La Foliniere 78.27 346 *e*P **P 04 39 29.0 -0.4**
comp=Z,9.5nm,0.4s,mb4.5
FLN *e*MLR MLR
comp=Z,57nm,21.5s
FLN La Foliniere 78.27 346 *e*P **P 04 39 29.0 -0.4**
FLN pmax pmax
comp=Z,5.0nm,0.4s,mb4.6
FLN MLR MLR
comp=Z,60nm,21.5s
FLN La Foliniere 78.27 346 *e*P **P 04 39 29.0 -0.4**
comp=Z,4.8nm,0.4s,mb4.6
FLN LR LR
comp=Z,60nm,21.5s
TUE Stuetta 78.62 339 *e*P **P 04 39 31.9 +0.5**
comp=Z,7.5nm,0.7s,mb4.6
GRR Gorron 78.70 346 *e*P **P 04 39 31.6 -0.1**
comp=Z,40nm,0.8s,mb5.0
GRR Gorron 78.70 346 *e*P **P 04 39 31.6 -0.1**
GRR pmax pmax
comp=Z,20nm,0.8s,mb5.0
GRR Gorron 78.70 346 *e*P **P 04 39 31.6 -0.1**
comp=Z,20nm,0.8s,mb5.0
LOR Lormes 78.99 343⇑ *i*P **P 04 39 33.1 -0.3**
comp=Z,31nm,0.6s,mb5.0
LOR *e*MLR MLR
comp=Z,119nm,22.2s
LOR Lormes 78.99 343⇑ *i*P **P 04 39 33.1 -0.3**
LOR pmax pmax
comp=Z,15nm,0.6s,mb5.0
LOR MLR MLR
comp=Z,120nm,22.3s
LOR Lormes 78.99 343⇑ *i*P **P 04 39 33.1 -0.3**
comp=Z,15nm,0.6s,mb5.0
LOR LR LR
comp=Z,120nm,22.3s
SGMF Saint Gilles 79.07 347 *e*P **P 04 39 33.6 -0.2**
CABF La Chapelle 79.19 341 *e*P **P 04 39 34.8 +0.4**
comp=Z,4.6nm,0.5s,mb4.3
CABF La Chapelle 79.19 341 *e*P **P 04 39 34.8 +0.4**
CABF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
CABF La Chapelle 79.19 341 *e*P **P 04 39 34.8 +0.4**
comp=Z,2.3nm,0.5s,mb4.3
HYF Humbligny 79.21 343 *e*P **P 04 39 34.8 +0.2**
SSF Saint Saulge 79.25 343⇑ *i*P **P 04 39 34.6 -0.2**
comp=Z,20nm,0.5s,mb4.9
SSF Saint Saulge 79.25 343⇑ *i*P **P 04 39 34.6 -0.2**
SSF pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
SSF Saint Saulge 79.25 343⇑ *i*P **P 04 39 34.6 -0.2**
comp=Z,10nm,0.5s,mb4.9
AVF Avril sur Loir 79.54 343⇑ *i*P **P 04 39 36.3 -0.1**
comp=Z,35nm,0.6s,mb5.1
AVF Avril sur Loir 79.54 343⇑ *i*P **P 04 39 36.3 -0.1**
AVF pmax pmax
comp=Z,17nm,0.6s,mb5.0
AVF Avril sur Loir 79.54 343⇑ *i*P **P 04 39 36.3 -0.1**
comp=Z,17nm,0.6s,mb5.1
SMF Signal de Mont 79.59 342⇑ *i*P **P 04 39 36.4 -0.3**
comp=Z,10nm,0.5s,mb4.6
SMF Signal de Mont 79.59 342⇑ *i*P **P 04 39 36.4 -0.3**
SMF pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
SMF Signal de Mont 79.59 342⇑ *i*P **P 04 39 36.4 -0.3**
comp=Z,5.1nm,0.5s,mb4.6
BGF Bois d'Agland 79.86 343 *e*P **P 04 39 38.1 0.0**
comp=Z,19nm,0.4s,mb4.9
BGF Bois d'Agland 79.86 343 *e*P **P 04 39 38.1 0.0**
BGF pmax pmax
comp=Z,10.0nm,0.4s,mb5.0
BGF Bois d'Agland 79.86 343 *e*P **P 04 39 38.1 0.0**
comp=Z,9.6nm,0.4s,mb5.0
MBWA Marble Bar 80.05 216 *e*P **P 04 39 39.7 +0.4**
comp=Z,8.5nm,1.1s,mb4.5
LPL La Plagne 80.10 340⇑ *i*P **P 04 39 40.2 +0.8**
comp=Z,18nm,0.5s,mb4.9
LPL La Plagne 80.10 340⇑ *i*P **P 04 39 40.2 +0.8**
LPL pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
LPL La Plagne 80.10 340⇑ *i*P **P 04 39 40.2 +0.8**
comp=Z,8.9nm,0.5s,mb4.8
LPG La Plagne 80.11 340⇑ *i*P **P 04 39 40.4 +0.9**
comp=Z,18nm,0.5s,mb4.9
LPG La Plagne 80.11 340⇑ *i*P **P 04 39 40.4 +0.9**
LPG pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
LPG La Plagne 80.11 340⇑ *i*P **P 04 39 40.4 +0.9**
comp=Z,9.2nm,0.5s,mb4.9
TCF Toulx Ste Croi 80.23 343⇑ *i*P **P 04 39 40.3 +0.2**
comp=Z,24nm,0.7s,mb4.8
TCF Toulx Ste Croi 80.23 343⇑ *i*P **P 04 39 40.3 +0.2**
TCF pmax pmax
comp=Z,12nm,0.7s,mb4.8
TCF Toulx Ste Croi 80.23 343⇑ *i*P **P 04 39 40.3 +0.2**
comp=Z,12nm,0.7s,mb4.8
MFF Saint Martin d 80.33 345⇑ *i*P **P 04 39 40.9 +0.3**
comp=Z,13nm,0.6s,mb4.6
MFF Saint Martin d 80.33 345⇑ *i*P **P 04 39 40.9 +0.3**
MFF pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
MFF Saint Martin d 80.33 345⇑ *i*P **P 04 39 40.9 +0.3**
comp=Z,6.3nm,0.6s,mb4.6
BNI Bardonecchia 80.55 340 *e*P **P 04 39 42.1 +0.2**
BNI pmax pmax
comp=Z,13nm,1.2s,mb4.6
BNI Bardonecchia 80.55 340 *e*P **P 04 39 42.1 +0.2**
comp=Z,12nm,1.2s,mb4.6
MBDF Montbardon 80.84 340 *e*P **P 04 39 43.5 +0.1**
comp=Z,7.1nm,0.5s,mb4.4
MBDF Montbardon 80.84 340 *e*P **P 04 39 43.5 +0.1**
MBDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
MBDF Montbardon 80.84 340 *e*P **P 04 39 43.5 +0.1**
comp=Z,3.5nm,0.5s,mb4.5
ORIF Oris-en-Rattie 80.85 341⇑ *i*P **P 04 39 44.0 +0.6**
comp=Z,6.4nm,0.5s,mb4.5
ORIF *e*MLR MLR
comp=Z,82nm,22.0s
ORIF Oris-en-Rattie 80.85 341⇑ *i*P **P 04 39 44.0 +0.6**
ORIF pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
ORIF Oris-en-Rattie 80.85 341⇑ *i*P **P 04 39 44.0 +0.6**
comp=Z,3.2nm,0.4s,mb4.5
VIVF Saint-Julien-l 81.15 341 *e*P **P 04 39 45.4 +0.3**
comp=Z,17nm,0.7s,mb4.7
VIVF Saint-Julien-l 81.15 341 *e*P **P 04 39 45.4 +0.3**
VIVF pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
VIVF Saint-Julien-l 81.15 341 *e*P **P 04 39 45.4 +0.3**
comp=Z,8.6nm,0.7s,mb4.7
RJF Les Rejaudoux 81.31 344⇑ *i*P **P 04 39 46.4 +0.5**
comp=Z,13nm,0.6s,mb4.6
RJF *e*MLR MLR
comp=Z,119nm,20.8s
RJF Les Rejaudoux 81.31 344⇑ *i*P **P 04 39 46.4 +0.5**
RJF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
RJF MLR MLR
comp=Z,120nm,20.8s
RJF Les Rejaudoux 81.31 344⇑ *i*P **P 04 39 46.4 +0.5**
comp=Z,6.7nm,0.6s,mb4.7
RJF LR LR
comp=Z,120nm,20.8s
SBF Sospel 81.52 339 *e*P **P 04 39 47.0 0.0**
comp=Z,7.7nm,0.5s,mb4.5
SBF Sospel 81.52 339 *e*P **P 04 39 47.0 0.0**
SBF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
SBF Sospel 81.52 339 *e*P **P 04 39 47.0 0.0**
comp=Z,3.8nm,0.5s,mb4.5
CAF Calviac 81.58 343⇑ *i*P **P 04 39 48.0 +0.7**
comp=Z,16nm,0.5s,mb4.8
CAF Calviac 81.58 343⇑ *i*P **P 04 39 48.0 +0.7**
CAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
CAF Calviac 81.58 343⇑ *i*P **P 04 39 48.0 +0.7**
comp=Z,7.9nm,0.5s,mb4.8
LFF La Frestale 81.80 344 *e*P **P 04 39 49.0 +0.5**
comp=Z,19nm,0.7s,mb4.8
LFF La Frestale 81.80 344 *e*P **P 04 39 49.0 +0.5**
LFF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
LFF La Frestale 81.80 344 *e*P **P 04 39 49.0 +0.5**
comp=Z,9.6nm,0.7s,mb4.7
SMRF Simiane la Rot 81.81 340 *e*P **P 04 39 49.3 +0.7**
FRF La Foret Royal 81.98 340 *e*P **P 04 39 48.9 -0.6**
LASF Ste Croix 82.06 342 *e*P **P 04 39 50.5 +0.6**
comp=Z,3.6nm,0.5s,mb4.2
PGF Pioggiola 82.41 338⇑ *i*P **P 04 39 51.2 -0.5**
comp=Z,3.6nm,0.5s,mb4.2
PGF Pioggiola 82.41 338⇑ *i*P **P 04 39 51.2 -0.5**
PGF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
PGF Pioggiola 82.41 338⇑ *i*P **P 04 39 51.2 -0.5**
comp=Z,1.8nm,0.5s,mb4.2
PPT Papeete 82.55 131 LR LR 05 09 00.9
comp=Z,36nm,21.4s,baz=321,slow=30
MTLF Montolieu 83.08 343 *e*P **P 04 39 55.6 +0.4**
TIP Timpagrande 83.47 331 *e*P **P 04 39 56.8 -0.4**
comp=Z,12nm,1.0s,mb4.7
EPF Esparros 83.72 344 *e*P **P 04 39 59.3 +0.8**
EIL Elat 84.97 313 P **P 04 40 04.8 -0.3**
comp=Z,3.5nm,0.6s,mb4.5,baz=33,slow=4.6,SNR=4.1
ESDC Sonseca Array 87.68 346 P **P 04 40 17.7 -0.4**
comp=Z,1.1nm,0.6s,mb4.1,baz=8.0,slow=4.4,SNR=9.9
KEST Kesra 88.77 335 P **P 04 40 23.5 +0.1**
comp=Z,1.6nm,0.6s,mb4.2,baz=236,slow=1.3,SNR=9.2
TORD Torodi Ar. Bea 112.29 335 PKIKP PKIKP 04 46 05.2 -0.2
comp=Z,0.2nm,0.5s,baz=12,slow=2.7,SNR=5.3
PLCA Paso Flores 145.06 91 PKPbc PKPbc 04 47 05.5 -0.2
comp=Z,0.6nm,0.4s,baz=292,slow=4.9,SNR=2.0

KNET ***29*** *04:36:51.3±0.5,4122N×7404E,h4km±3km,ml2.6,Error ellipse: s-maj=3.9km s-min=2.2km az=49.0*
ISC 29 04:36:50.6±1.8,4120N±008×740E±01,h3km±9km,n11,
σ1$05/16,9C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.95**	**348**	P	**Pn**	**04 37 09.7**	**-1.2**
	58nm,0.1s,SNR=126						
AML				⇑S	**Sn**	**04 37 24.0**	**-1.1**
	323nm,0.3s						
UCH	**Uchtor**	**1.11**	**22**	⇑P	**Pn**	**04 37 12.5**	**-0.6**
	29nm,0.2s,SNR=27						
UCH				⇓S	**Sn**	**04 37 28.6**	**-0.3**
	101nm,0.3s						
KZA	**Kyzart**	**1.31**	**47**	⇑P	**Pg**	**04 37 15.2**	**-0.5**

16nm,0.2s,SNR=21
EKS2 Erkin-Say 1.47 355 P Pn 04 37 19.0 +1.0
15nm,0.2s,SNR=46
KBK Karagaybulak 1.64 27 ⇑P Pg 04 37 21.9 0.0
21nm,0.1s,SNR=12
KBK ⇑S Sg 04 37 44.5 +1.4
117nm,0.2s
CHMS Chumysh 1.90 18 ⇑P Pg 04 37 26.2 -0.7
9.3nm,0.2s,SNR=8.9
CHMS ⇑S Sg 04 37 52.8 +1.3
18nm,0.2s
ULHL Ulahol 2.01 58 ⇓P Pn 04 37 26.7 +1.3
18nm,0.2s,SNR=7.7
USP Ospenovka 2.11 11 ⇑P Pg 04 37 30.0 -1.0
14nm,0.3s,SNR=19
TKM2 Tokmak 2 2.11 35 ⇓Pn Pg 04 37 29.9 -1.1
12nm,0.4s
TKM2 ⇓Sn Sg 04 37 58.4 0.0
42nm,0.6s
TKM2 Tokmak 2 2.11 35 ⇓P Pg 04 37 29.9 -1.2
14nm,0.2s,SNR=27
KK31 Karatay Array 3.19 308 ⇑Pn Pn 04 37 43.9 +2.2
1.9nm,0.2s,baz=129,slow=13,SNR=44
KK31 ⇓Lg 04 38 31.8
8.6nm,0.3s,baz=128,slow=29,SNR=9.4

DJA 29 04:43:34,372N×9588E,h90km,ML4.5/2,2D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.86**	**342**	⇓*eP*	Pn	04 43 55.0	-9.4
BSI				*eS*	Sn	04 44 17.0	-10
GSI	**Gunungsitoli**	**2.94**	**145**	⇓*eP*	Pn	04 44 20.0	+1.3

BJI 29 04:54:10.1,2211N×11877E,h28km,mB4.1,mb4.2, ML4.2,Ms4.2,Msz4.1,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.83**	**357**	P	Pn	04 54 55.0	+1.6
QZH				S	Sn	04 55 22.0	-4.5
QZH				Smax			
comp=N,460nm,0.4s
QZH Smax
comp=E,1μm,0.6s
GZH Guangzhou 5.11 282 P Pn 04 55 26.3 +1.5
GZH S Sn 04 56 18.8 -4.0
GZH Smax
comp=N,327nm,0.7s
GZH Smax
comp=E,257nm,0.7s
CD2 Chengdu 16.03 306 *eP* Pn 04 57 54.5 +0.9
CD2 AMB AMB
comp=Z,10.0nm,0.7s
CD2 AMB AMB
comp=Z,20nm,3.8s

*ISK **29** 05:03:11.7, 41.15N×4236E, h24km, MD2.9*
*CSEM **29** 05:03:12.4±0.3, 4104N×4227E, h10km, MD2.7, Error ellipse: s-maj=9.5km s-min=5.3km az=34.0*
*DDA **29** 05:03:12.9, 4098N×4214E, h7km±6km, Md2.7*
*ISCJB **29** 05:03:13.1±0.9, 4109N±006×4233E±006, h24km, Error ellipse: s-maj=9.5km s-min=5.0km az=37.5*
ISC 29 05:03:13.1±0.7,4096N±004×4219E±005,h7km±8km,n10, σ0.98/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARTV	**Artvin**	**0.30**	**319**	*iP*	Pg	05 03 19.7	+0.6
ARTV				*iS*	Sg	05 03 24.6	+1.6
BCA	**Borcka**	**0.65**	**319**	*e*PG	Pg	05 03 25.1	-0.5
BCA				*e*SG	Sg	05 03 34.2	+0.1
KARS	**Kars**	**0.77**	**116**	*e*PG	Pg	05 03 27.6	-0.3
KARS				*e*SG	Sg	05 03 38.5	+0.7
HOMI	**Horasan**	**0.94**	**194**	*iP*	Pg	05 03 30.1	-1.0
HOMI				*iS*	Sg	05 03 42.6	-0.6
PZAR	**Pazar-Rize**	**1.00**	**283**	*e*PN	Pn	05 03 32.0	-1.6
ERZM	**Erzurum**	**1.23**	**211**	*iP*	Pn	05 03 36.9	+0.3
ERZM				*iS*	Sb	05 03 54.0	+1.4
EZM	**Erzurum**	**1.23**	**211**	*e*PN	Pn	05 03 37.1	+0.4
KOPT	**Kop Dagi**	**1.60**	**235**	*iP*	Pg	05 03 43.4	-0.3
KOPT				*iS*	Sg	05 04 06.0	+1.6
MACK	**Trabzon**	**1.84**	**270**	*iP*	Pg	05 03 46.1	-2.2
MACK				*iS*	Sg	05 04 11.6	-0.5
GUMT	**Gumushane**	**2.12**	**257**	*e*PN	Pn	05 03 49.2	+0.2

IDC 29 05:18:32.0±5.8,029S×9113W,h0km,mb3.3/3,mb1 3.7/3, mb1mx3.5/18,mbtmp3.3/3,Error ellipse: s-maj=379.3km s-min=28.8km az=50.0,Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**27.70**	**126**	P	P	05 24 22.9	+0.7
0.9nm,1.1s,baz=278,slow=7.1,SNR=4.7
TXAR Lajitas Array 31.79 339 P P 05 24 58.5 +0.2
0.1nm,0.5s,baz=150,slow=9.2,SNR=3.8
NVAR Mina Array Bea 45.92 330 P P 05 26 56.7 +0.1
0.1nm,0.5s,baz=165,slow=7.5,SNR=2.7

*ISCJB **29** 05:26:19.6±1.8, 0.1S±05×909W±06, h10km, mb3.7/9, Error ellipse: s-maj=104.7km s-min=13.2km az=141.0*
*IDC **29** 05:26:19.1±2.5, 024S×9107W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/19, mbtmp3.7/7, MS3.4/3, Ms1 3.4/3, ms1mx2.9/26, Error ellipse: s-maj=140.9km s-min=17.7km az=51.0*
*NEIC **29** 05:26:20.6±1.6, 022S×9102W, h10km, mb3.8/2, Error ellipse: s-maj=91.8km s-min=11.5km az=51.0*
ISC 29 05:26:21.1±1.9,02S±05×910W±06,h10km,n12,σ1.00/10, mb3.7/9,Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**14.26**	**119**	LR	LR	05 34 09.6
comp=Z,129nm,21.1s,baz=163,slow=33
CMIG Matias Romero 17.59 348 LR LR 05 35 49.3
comp=Z,76nm,18.4s,baz=352,slow=32
LPAZ La Paz 27.64 127 P P 05 32 10.5 +1.2
0.7nm,0.6s,mb3.5,baz=291,slow=6.4,SNR=6.0
LPAZ La Paz 27.64 127 *eP* P 05 32 10.0 +0.7
1.8nm,1.5s,mb3.5
TXAR Lajitas Array 31.75 339 P P 05 32 45.8 +0.2
0.5nm,0.6s,mb3.5,baz=156,slow=11,SNR=7.8
TXAR LR LR 05 44 14.8
comp=Z,93nm,19.5s,baz=0.0,slow=34
SIV San Ignacio 33.42 119 P P 05 33 01.1 +0.7
2.9nm,1.1s,mb4.1,baz=283,slow=12,SNR=11
WUAZ Wupatki 40.28 334 *eP* P 05 33 58.6 0.0
3.7nm,1.0s,mb4.1
CPUP Villa Florida 41.54 131 P P 05 34 07.3 -1.8
0.2nm,0.4s,mb3.1,baz=252,slow=6.4,SNR=3.1
PDAR Pinedale Array 45.90 341 P P 05 34 47.3 +3.4
0.4nm,0.9s,mb3.3,baz=173,slow=8.2,SNR=2.6
NVAR Mina Array Bea 45.91 330 P P 05 34 44.2 +0.2
0.5nm,0.8s,mb3.5,baz=154,slow=8.8,SNR=4.5
ELK Elko 46.32 334 P P 05 34 47.2 0.0
0.5nm,0.4s,mb3.8,baz=196,slow=7.4,SNR=3.2
ULM Lac du Bonnet 50.41 356 P P 05 35 17.5 -1.1
1.6nm,0.6s,mb4.2,baz=169,slow=5.8,SNR=3.1

*CSEM **29** 05:38:17.0±0.2, 3805N×4277E, h2km, MD3.0, Error ellipse: s-maj=7.6km s-min=4.9km az=111.0*
*ISCJB **29** 05:38:18.6±0.5, 3802N±003×4282E±004, h10km, Error ellipse: s-maj=4.9km s-min=3.7km az=143.8*
*ISK **29** 05:38:18.4, 3792N×4293E, h19km, MD3.0*
*DDA **29** 05:38:19.0, 3808N×4274E, h7km±5km, Md2.8*
ISC 29 05:38:18.2±0.6,3801N±003×4283E±004,h1km±6km,n11, σ0.93/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.59**	**211**	*e*PG	Pg	05 38 30.1	+0.5
SIRT *e*SG Sg 05 38 38.7 +1.4
VANT Van 0.62 46 *e*PG Pg 05 38 30.1 0.0
VANT *e*SG Sg 05 38 38.8 +0.7
TATV Tatvan 0.66 319 *iP* Pg 05 38 29.7 -1.2
TATV *iS* Sg 05 38 38.4 -1.0
TVAN Van 0.69 41 *iP* Pg 05 38 31.3 -0.1
TVAN *iS* Sg 05 38 43.5 +3.2
TVAN Van 0.69 41 *iP* Pg 05 38 31.3 -0.1
TVAN *iS* Sg 05 38 43.5 +3.2
HAKT HAKKARI 0.83 123 *iP* Pn 05 38 36.4 -0.6
HAKT *iS* Sg 05 38 50.4 +5.4
HKR Hakkari 0.85 121 *e*PG Pg 05 38 33.2 -1.2
BEST Besiri 1.23 265 *iP* Pg 05 38 41.1 -0.8
BEST *iS* Sg 05 38 59.0 +1.1
AGRB Hanur-Agry 1.57 5 *e*PN Pn 05 38 46.8 -0.4
AGRB *e*SN Sn 05 39 08.4 +0.4
BNGL BINGOL 1.61 306 *iP* Pn 05 38 47.6 -0.2
BNGL *iS* Sn 05 39 10.6 +1.4
MARD Mardin 1.77 247 *iP* Pn 05 38 49.1 -0.8
MARD *iS* Sn 05 39 12.7 -0.3

*ISCJB **29** 06:12:40.6±1.2, 355N±0.1×23.1E±0.2, h103km±18km, Error ellipse: s-maj=29.7km s-min=9.9km az=148.8*
*HLW **29** 06:12:41.9, 3567N×2334E, h33km, Mb3.5*
*CSEM **29** 06:12:46.6±1.1, 3574N×2332E, h2km, MD3.3, Error ellipse: s-maj=64.0km s-min=13.7km az=47.0*
*ATH **29** 06:12:46.4, 3583N×2331E, h44km±2km, MD3.2/4*
ISC 29 06:12:41.9±1.3,355N±01×231E±02,h94km±24km,n11, σ1.35/17,5C-2D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.82**	**359**	*e*P	Pn	06 12 58.0	-1.9
VAM Vamos 0.94 93 ⇑*iP* Pn 06 13 02.8 +1.7
VAM *e*S Sn 06 13 15.0 -0.6
VAM Vamos 0.94 93 ⇑*i*Pb Pn 06 13 01.8 +0.7
VAM *e*Sb Sn 06 13 17.8 +2.2
VLI Veliai 1.26 356 ⇑*iP* Pn 06 13 04.0 -0.9
VLI *e*S Sn 06 13 17.0 -5.2
VLI Veliai 1.26 356 ⇑*i*Pg Pn 06 13 04.8 -0.1
VLI *e*Sb Sn 06 13 21.6 -0.6
ITM Ithomi 1.94 333 ⇓*iP* Pn 06 13 16.0 +2.6
ITM Ithomi 1.94 333 ⇓*i*Pn Pn 06 13 19.4 +6.0
SLUM 4.35 155 ⇑P Pn 06 13 47.2 +1.5
SLUM S Sn 06 14 34.6 -0.6
HMAT Matruh 5.51 141 P Pn 06 14 02.4 +0.9
HMAT S Sn 06 15 01.3 -2.2
RSH 10.00 114 P Pn 06 15 02.3 -0.2
HRSH Kfar Ka'horesh 10.51 102 P Pn 06 15 02.3 -7.2

*IDC **29** 06:26:17.6±0.8, 659N×12356E, h0km, mb4.0/8, mb1 4.1/9, mb1mx4.0/20, mbtmp4.0/9, ML4.4/1, MS3.4/2, Ms1 3.5/2, ms1mx2.9/25, Error ellipse: s-maj=25.6km s-min=16.1km az=56.0*
*ISCJB **29** 06:26:18.7±2.1, 671N±006×12369E±008, h21km±16km, mb3.9/9, MS3.3/2, Error ellipse: s-maj=15.2km s-min=7.9km az=154.0*
*MAN **29** 06:26:19, 685N×12366E, h8km, mb4.9, ML3.8, MS3.9*
*NEIC **29** 06:26:22.7±0.5, 663N×12363E, h35km, mb4.6/1, Error ellipse: s-maj=14.9km s-min=8.5km az=60.0*
ISC 29 06:26:19.1±1.8,675N±005×12369E±008,h11km±12km, n16,σ1.03/22,mb3.9/9,MS3.3/2,2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.72**	**50**	*e*P	Pg	06 26 32.7	-0.5
CTBH *e*S Sg 06 26 42.4 -0.3
GSPH General Santos 1.42 118 ⇓*e*P Pg 06 26 48.6 +2.1
GSPH *e*S Sg 06 27 11.9 +7.0
IPIL Ipil 1.51 313 ⇓*e*P Pn 06 26 45.5 -0.6
IPIL *e*S Sn 06 27 04.9 -0.8
DAV Davao City (W) 1.91 80 Pn Pg 06 26 53.5 -2.2
133nm,0.3s,baz=247,slow=3.8,SNR=26
DAV Sn Sg 06 27 22.8 +2.3
128nm,0.3s,baz=272,slow=23,SNR=7.8
DAV Davao City (W) 1.91 80 *e*Pn Pg 06 26 53.9 -1.9
DAV Sn Sg 06 27 19.9 -0.6
TBP Tagbilaran 2.92 3 *e*P Pn 06 27 06.1 +0.6
TBP *e*S Sn 06 27 40.4 -0.3
KAKA Kakadu 21.20 156 *e*P P 06 31 04.7 -0.2
31nm,1.1s,mb4.6
FITZ Fitzroy Crossi 24.77 176 P P 06 31 41.3 +0.3
1.3nm,0.6s,mb3.6,baz=7.7,slow=13,SNR=6.0
CMAR Chiang Mai Arr 26.76 298 P P 06 31 59.3 +0.2
0.8nm,0.4s,mb3.6,baz=121,slow=8.9,SNR=6.1
CMAR LR LR 06 41 50.4
comp=Z,48nm,20.8s,MS3.0,baz=130,slow=35
WRA Warramunga Arr 28.52 159 P P 06 32 12.9 -1.9
1.1nm,0.8s,mb3.6,baz=342,slow=9.4,SNR=5.9
WB2 Warramunga Arr 28.53 159 P P 06 32 14.4 -0.5
STKA Stephens Creek 42.05 157 P P 06 34 10.0 -0.8
5.2nm,0.9s,mb4.2,baz=341,slow=6.5,SNR=5.3
SONM Songino Array 43.51 343 P P 06 34 23.8 +1.2
0.3nm,0.4s,mb3.3,baz=152,slow=6.5,SNR=3.0
MKAR Makanchi Array 53.36 326 P P 06 35 39.8 +1.3
0.5nm,0.6s,mb3.6,baz=114,slow=7.7,SNR=6.8
MKAR LR LR 07 00 09.6
comp=Z,56nm,18.3s,MS3.6,baz=175,slow=38
ZALV Zalesovo Beam 56.54 334 P P 06 36 02.0 +0.6
1.2nm,0.3s,mb4.4,baz=124,slow=7.8,SNR=2.6
KURK Kurchatov 57.58 328 P P 06 36 09.6 +0.7
0.7nm,0.8s,mb3.8,baz=127,slow=5.1,SNR=4.1

*NIED **29** 06:50:00, 2170N×12220E, h11km, Mw3.8 Best double couple: M0:5.35000×10^14 NP1:φs311.00000°, δ61.00000°, λ79.00000°. NP2:φs153.00000°, δ31.00000°, λ109.00000°.*
*IDC **29** 06:50:27.9±1.2, 2172N×12131E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.8/20, mbtmp3.8/8, ML3.4/2, MS2.7/1, Ms1 2.7/1, ms1mx1.9/29, Error ellipse: s-maj=31.3km s-min=23.9km az=71.0*
*NEIC **29** 06:50:29.2±0.8, 2180N×12144E, h10km, MG3.8(JMA), Error ellipse: s-maj=17.0km s-min=12.1km az=90.0*
*ISCJB **29** 06:50:29.6±0.6, 2180N±004×12148E±003, h26km, mb3.6/5, Error ellipse: s-maj=5.7km s-min=3.4km az=172.5*
*TAP **29** 06:50:30.4, 2190N×12141E, h26km, ML3.7*
TAP Felt II J at Lanyu.
*JMA **29** 06:50:31.7±0.5, 2172N×122.19E, h0km, M3.8*
ISC 29 06:50:29.0±0.7,2188N±004×12149E±003,h3km±4km,n52, σ1.10/72,mb3.6/5,2C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.17**	**19**	⇑*iP*	Pg	06 50 36.1	+3.9
TSEB Hengchuen, Pin 0.55 272 S Sg 06 50 50.5 +3.7
TWK1 Hengchun 0.64 276 ⇑*iP* Pg 06 50 41.9 +0.5
TWK1 S Sg 06 50 50.2 +0.6
HEN Hengchun 0.71 280 P Pg 06 50 43.1 +0.4
HEN S Sg 06 50 51.6 -0.3
TAW Tawu 0.73 311 P Pg 06 50 42.9 -0.1
TAW S Sg 06 50 52.1 -0.3
ECL Taimali 0.87 325 P Pg 06 50 45.0 -0.7
ECL S Sg 06 50 56.2 -0.8
TTN Taitung 0.93 340 *e*P Pg 06 50 47.6 +0.8
SCZT Fangliau 0.94 301 *e*P Pg 06 50 47.0 -0.2
TWG Pinlang 1.01 337 P Pg 06 50 47.4 -1.0
TWG S Sg 06 50 59.4 -2.2
TWP Hsiaoliuchiu 1.15 294 *e*P Pg 06 50 51.8 +0.8
SSD Sandimen 1.17 317 *e*P Pg 06 50 51.9 +0.4
CHKT Chengkung 1.22 355 *e*P Pg 06 50 51.0 -1.4
KAU Kaohsiung 1.29 302 *e*P Pg 06 50 53.9 +0.1
TWM1 Shoushan 1.36 314 *e*P Pn 06 50 55.0 +0.1
ELDTW Lidau 1.37 341 *e*P Pn 06 50 52.8 -2.3
SGST Jiashian 1.46 325 *e*P Pn 06 50 56.5 +0.2
SGST S Sb 06 51 16.2 +0.4
TWF1 Yuli 1.47 353 *e*P Pn 06 50 54.5 -2.0
CHN1 Nanshi 1.57 326 *e*P Pn 06 50 58.0 +0.1
CHN1 S Sn 06 51 18.3 -0.5
WTP Ta-pu 1.58 329 ⇓P Pn 06 50 58.1 +0.1
WTP S Sn 06 51 18.8 -0.2
EHY Hungye 1.62 354 *e*P Pn 06 50 57.0 -1.5
TWK Hsinying 1.66 326 *e*P Pn 06 50 58.8 -0.3
YUS Yu-Shan 1.68 343 *e*P Pn 06 50 58.5 -0.7
CHN4 Tsaushan 1.68 331 *e*P Pn 06 50 59.4 +0.1
CHN4 S Sn 06 51 21.8 +0.4
ALS Alishan 1.74 339 *e*P Pn 06 51 00.3 +0.1
CHY Chiayi 1.89 329 *e*P Pn 06 51 02.5 +0.3
SMLT Sun Moon Lake 2.06 345 *e*P Pn 06 51 05.5 +0.8
SMLT S Sn 06 51 32.1 +1.2
TYC Yuchr 2.10 344 P Pn 06 51 05.8 +0.8
TYC S Sn 06 51 32.3 +0.6
WHF Hehuan Shan 2.26 355 *e*P Pn 06 51 07.8 +0.4
NACB Ninganchiao 2.28 2 *e*Pn Pn 06 51 08.2 +0.6
NACB *e*Sn Sn 06 51 38.8 +2.5
PNG Penghu 2.45 314 *e*P Pn 06 51 07.7 -2.3
PNG S Sn 06 51 36.9 -3.5
TWQ1 Liyutan 2.54 345 *e*P Pn 06 51 12.5 +1.3
NNS Nan Shan 2.55 358 *e*P Pn 06 51 12.9 +1.7
TWC Suao 2.73 7 *e*P Pn 06 51 14.4 +0.6
ENTT Nioudou 2.75 1 *e*P Pn 06 51 16.1 +2.1
ENTT S Sn 06 51 47.3 -0.4
YHNB Yeheng 2.78 358 *e*Pn Pn 06 51 15.5 +1.1
YHNB *e*Sn Sn 06 51 49.0 +0.6
YOJ Yonaguni jima 2.92 28 P Pn 06 51 19.7 +3.3
YOJ *e*S Sn 06 51 54.3 +2.2
EGS 2.98 8 *e*P Pn 06 51 18.2 +1.1
HATJ Hateruma jima 3.04 44 P Pn 06 51 18.5 +0.5
HATJ S Sn 06 51 53.2 -1.7
TATO Taipei 3.08 360 Pn Pn 06 51 18.3 -0.3
IRIF Iriomote-Funau 3.19 40 P Pn 06 51 20.9 +0.7
JKRS Kuro-shima 3.30 44 P Pn 06 51 22.3 +0.7
JKRS *e*S Sn 06 51 59.5 -1.8
JIJ Ishigaki jima 3.47 44 P Pn 06 51 24.2 +0.2
JIJ S Sn 06 52 03.6 -2.0
KNM Kinmen 3.78 312 *e*P Pn 06 51 26.4 -1.8
JTJ Tarama 4.03 46 P Pn 06 51 32.2 +0.5
JTJ S Sn 06 52 17.4 -2.0
JOW Kunigami 7.91 50 Pn Pn 06 52 25.9 +1.0
0.9nm,0.3s,baz=127,slow=18,SNR=3.3
JOW LR LR 06 55 52.9
comp=Z,49nm,21.0s,baz=289,slow=40
KSRS Korea Array 16.49 18 Pn Pn 06 54 21.6 +0.3
0.2nm,0.3s,baz=199,slow=13,SNR=4.5
MJAR Matsushiro Arr 20.60 41 P P 06 55 13.4 +4.1
2.8nm,0.6s,baz=230,slow=10.0,SNR=12
SONM Songino Array 28.60 338 P P 06 56 25.2 -1.2
0.9nm,0.8s,mb3.5,baz=155,slow=8.6,SNR=4.6
MKAR Makanchi Array 40.20 318 P P 06 58 07.0 +0.3
1.0nm,0.9s,mb3.5,baz=104,slow=10,SNR=6.8
ZALV Zalesovo Beam 42.33 328 P P 06 58 23.8 -0.3
1.5nm,0.7s,mb3.7,baz=114,slow=7.2,SNR=5.5
WRA Warramunga Arr 43.42 162 P P 06 58 31.5 -1.7
0.5nm,0.7s,mb3.4,baz=345,slow=9.0,SNR=2.8
GERES GERESS Array B 84.80 321 P P 07 03 04.5 -0.3
0.2nm,0.3s,mb3.7,baz=74,slow=4.9,SNR=4.3

*ISCJB **29** 07:09:53.5±2.2, 131S±03×1118W±04, h10km, mb3.6/8, MS3.9/12, Error ellipse: s-maj=71.6km s-min=15.4km az=148.7*
*IDC **29** 07:09:54.0±2.4, 1304S×11176W, h0km, mb3.5/7, mb1 3.9/7, mb1mx3.8/16, mbtmp3.5/7, MS3.9/12, Ms1 3.9/12, ms1mx3.7/18, Error ellipse: s-maj=80.1km s-min=21.3km az=58.0*
*NEIC **29** 07:09:55.4±1.3, 1307S×11178W, h10km, mb4.2/1, Error ellipse: s-maj=47.6km s-min=13.8km az=58.0*
*GCMT **29** 07:09:55.4±0.4, 1345S×11214W, h12km, MW4.9/64, Moment Tensor Solution. s16,c17; s64,c87; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.14±.09; Mθθ1.02±.08; Mφφ-0.87±.10; Mrθ0.00±.23; Mrφ2.21±.07; Mθφ0.87±.29; Best double couple: M0:2.55900×10^16 NP1:φs101.00000°, δ70.00000°, λ-5.00000°. NP2: φs192.00000°, δ85.00000°, λ-160.00000°. Principal axes: T 2.5660, Plg10.0000°, Azm325.0000°; N -0.0110, Plg70.0000°, Azm205.0000°; P -2.5520, Plg17.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 29 07:09:55.9±2.2,131S±03×1118W±04,h10km,n19, σ0.62/10,mb3.6/8,MS3.9/12,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**33.37**	**83**	LR	LR	07 27 17.6
comp=Z,233nm,18.5s,MS3.9,baz=75,slow=31
PPT Papeete 36.72 258 LR LR 07 26 57.3
comp=Z,213nm,20.8s,MS3.9,baz=117,slow=28
ROSC El Rosal 41.21 67 LR LR 07 31 22.8
comp=Z,60nm,22.0s,MS3.4,baz=346,slow=31
LPAZ La Paz 42.26 100 P P 07 17 48.9 -0.9
2.1nm,1.0s,mb3.7,baz=284,slow=8.3,SNR=6.0
LPAZ LR LR 07 29 50.3
comp=Z,67nm,20.0s,MS3.5,baz=301,slow=28
TXAR Lajitas Array 42.86 10 P P 07 17 54.9 +0.5
0.1nm,0.4s,mb2.9,baz=169,slow=10,SNR=3.2
TXAR LR LR 07 32 38.8
comp=Z,116nm,18.9s,MS3.8,baz=60,slow=32
TXAR Lajitas Array 42.86 10 P P 07 17 54.9 +0.5
TXAR LR LR 07 32 38.8
CFAA Coronel Fontan 43.94 122 P P 07 18 03.5 +0.3
0.1nm,0.4s,mb2.9,baz=304,slow=8.1,SNR=3.9
PLCA Paso Flores 45.32 135 P P 07 18 14.1 0.0
2.0nm,1.0s,mb3.9,baz=292,slow=7.7,SNR=2.8
PLCA LR LR 07 32 01.2
comp=Z,486nm,22.0s,MS4.4,baz=108,slow=29
PLCA Paso Flores 45.32 135 P P 07 18 14.1 0.0
PLCA LR LR 07 32 01.2
SIV San Ignacio 49.05 100 P P 07 18 44.1 +0.5
1.3nm,1.0s,mb3.9,baz=265,slow=10,SNR=5.1
NVAR Mina Array Bea 51.59 353 P P 07 19 01.7 -0.6
1.2nm,0.9s,mb3.8,baz=192,slow=11,SNR=8.4
CPUP Villa Florida 52.56 113 LR LR 07 35 48.9
comp=Z,79nm,19.5s,MS3.8,baz=8.4,slow=30
PDAR Pinedale Array 55.59 2 P P 07 19 30.9 -0.7
0.4nm,0.7s,mb3.5,baz=147,slow=3.5,SNR=4.7
PDAR LR LR 07 40 26.8
comp=Z,117nm,18.8s,MS4.0,baz=311,slow=33
IMW Indian Meadow 56.69 1 *eP* P 07 19 40.3 +0.9
3.2nm,1.2s,mb4.2
IMW PcP PcP 07 20 36.0 +0.5
YKA Yellowknife Ar 75.34 359 LR LR 07 51 42.2
comp=Z,68nm,18.5s,MS4.0,baz=155,slow=33
QSPA South Pole Qui 77.04 180 LR LR 07 47 31.9
comp=Z,74nm,21.1s,MS4.0,baz=113,slow=29
SCHQ Schefferville 77.52 25 LR LR 07 54 58.8
comp=Z,134nm,19.7s,MS4.3,baz=35,slow=35
SNAA Sanae 83.51 162 LR LR 07 51 59.6
comp=Z,35nm,18.6s,MS3.8,baz=198,slow=30
MKAR Makanchi Array 144.36 343 PKP PKPdf 07 29 31.8 -0.7
0.3nm,0.8s,baz=42,slow=4.5,SNR=2.6

*NIED **29** 07:10:00, 2170N×12200E, h20km, Mw3.7 Best double couple: M0:4.07000×10^14 NP1:φs281.00000°, δ72.00000°, λ63.00000°. NP2:φs160.00000°, δ32.00000°, λ144.00000°.*
*ISCJB **29** 07:10:22.8±1.0, 2185N±005×12149E±003, h13km±5km, Error ellipse: s-maj=9.3km s-min=4.8km az=166.8*
*TAP **29** 07:10:22.9, 2182N×12139E, h16km, ML3.5*
TAP Felt II J at Lanyu.
*JMA **29** 07:10:23.8±0.5, 2175N×122.01E, h0km, M3.8*
ISC 29 07:10:23.0±0.9,2187N±006×12148E±004,h7km±5km,n36, σ1.19/48,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.18**	**22**	*iP*	Pg	07 10 29.3	+2.6
TSEB Hengchuen, Pin 0.54 273 P Pg 07 10 34.2 +0.8
TSEB S Sg 07 10 41.8 +1.4
TWK1 Hengchun 0.63 277 P Pg 07 10 34.7 -0.5
TWK1 S Sg 07 10 42.4 -1.0
HEN Hengchun 0.70 281 *e*P Pg 07 10 35.7 -0.8
TAW Tawu 0.73 312 *e*P Pg 07 10 36.2 -0.8
ECL Taimali 0.87 326 *e*P Pg 07 10 38.7 -1.1
TTN Taitung 0.93 341 *e*P Pg 07 10 42.7 +1.8
SCZT Fangliau 0.94 302 *e*P Pg 07 10 40.3 -0.8
TWG Pinlang 1.02 338 *e*P Pg 07 10 40.9 -1.7
TWP Hsiaoliuchiu 1.14 295 *e*P Pg 07 10 45.0 +0.1
SSD Sandimen 1.17 318 *e*P Pg 07 10 44.6 -0.9
CHKT Chengkung 1.23 355 *e*P Pn 07 10 44.1 -2.5
CHKT S Sn 07 11 00.3 -3.2
TWM1 Shoushan 1.36 314 *e*P Pn 07 10 48.1 -0.3
SGST Jiashian 1.46 326 *e*P Pg 07 10 50.3 -0.8
SGST S Sg 07 11 10.3 +0.2
TWF1 Yuli 1.48 354 *e*P Pn 07 10 49.8 -0.3
TWF1 S Sn 07 11 08.9 -0.9
CHN1 Nanshi 1.58 326 P Pn 07 10 51.8 +0.4
CHN1 S Sn 07 11 12.4 +0.3
WTP Ta-pu 1.59 330 *e*P Pn 07 10 51.5 0.0
WTP S Sn 07 11 12.8 +0.5
EHY Hungye 1.64 355 *e*P Pn 07 10 51.0 -1.2
TWK Hsinying 1.66 327 *e*P Pn 07 10 52.6 0.0
YUS Yu-Shan 1.68 343 *e*P Pn 07 10 53.1 +0.2

CHN4	**Tsaushan**	**1.69 331**	*e*P	**Pn**	**07 10 53.0**	**+0.1**
CHN4			S	**Sn**	**07 11 16.1**	**+1.3**
ALS	**Alishan**	**1.75 339**	*e*P	**Pn**	**07 10 54.1**	**+0.4**
SMLT	**Sun Moon Lake**	**2.07 345**	*e*P	**Pn**	**07 10 59.4**	**+1.1**
TYC	**Yuchr**	**2.10 344**	*e*P	**Pn**	**07 10 58.5**	**-0.1**
WHF	**Hehuan Shan**	**2.27 355**	*e*P	**Pn**	**07 11 01.4**	**+0.4**
PNG	**Penghu**	**2.45 314**	*e*P	**Pn**	**07 11 00.4**	**-3.0**
TWQ1	**Liyutan**	**2.55 345**	*e*P	**Pn**	**07 11 06.1**	**+1.3**
NNS	**Nan Shan**	**2.56 358**	*e*P	**Pn**	**07 11 07.0**	**+2.0**
TWC	**Suao**	**2.75 7**	*e*P	**Pn**	**07 11 09.0**	**+1.5**
ENTT	**Nioudou**	**2.76 2**	*e*P	**Pn**	**07 11 09.6**	**+2.0**
NSK	**Sanguang**	**2.79 358**	*e*P	**Pn**	**07 11 07.8**	**-0.4**
YOJ	**Yonaguni jima**	**2.94 28**	P	**Pn**	**07 11 11.8**	**+1.6**
YOJ			*e*S	**Sn**	**07 11 47.9**	**+2.1**
HATJ	**Hateruma jima**	**3.06 44**	P	**Pn**	**07 11 11.5**	**-0.3**
JKRS	**Kuro-shima**	**3.31 44**	P	**Pn**	**07 11 15.4**	**+0.1**
JKRS			*e*S	**Sn**	**07 11 52.9**	**-2.1**
JIJ	**Ishigaki jima**	**3.49 44**	P	**Pn**	**07 11 17.5**	**-0.2**
JIJ			*e*S	**Sn**	**07 11 57.2**	**-2.1**
JTJ	**Tarama**	**4.05 46**	P	**Pn**	**07 11 25.6**	**+0.2**
JTJ			*e*S	**Sn**	**07 12 09.9**	**-3.2**

*NNC **29** 07:13:30.5±1.0, 43.12N×77.22E, h0km, mb2.9, mpv2.9, Error ellipse: s-maj=8.0km s-min=6.4km az=32.0*
*ISCJB **29** 07:13:32.4±1.1, 432N±0.1×772E±0.1, h10km, Error ellipse: s-maj=22.1km s-min=8.3km az=152.8*

ISC 29 07:13:33.3±1.1, 432N±01×771E±01, h10km, n12, σ0§97/14, 6C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.09 268**		⇑P	**Pg**	**07 13 34.5**	**-1.2**
	188nm,0.5s						
KNDC				⇑S	**Sg**	**07 13 37.8**	**+0.4**
	527nm,0.4s						
TKM2	**Tokmak 2**	**1.13 255**		⇓P	**Pb**	**07 13 53.8**	**-1.1**
	9.9nm,0.5s						
TKM2				⇑S	**Sb**	**07 14 10.0**	**+0.3**
	4.8nm,0.2s						
TKM2	**Tokmak 2**	**1.13 255**		P	**Pb**	**07 13 54.0**	**-0.9**
	SNR=18						
ULHL	**Ulahol**	**1.16 213**		P	**Pb**	**07 13 54.8**	**-0.6**
	SNR=10						
KBK	**Karagaybulak**	**1.67 251**		P	**Pn**	**07 14 03.9**	**+1.4**
	SNR=20						
USP	**Ospenovka**	**1.89 272**		P	**Pn**	**07 14 06.5**	**+0.9**
	SNR=15						
AAK	**Ala-Archa**	**1.99 254**		P	**Pn**	**07 14 08.4**	**+1.4**
	SNR=7.5						
UCH	**Uchtor**	**2.14 243**		P	**Pb**	**07 14 12.2**	**+0.1**
	SNR=16						
EKS2	**Erkin-Say**	**2.49 258**		P	**Pb**	**07 14 18.1**	**0.0**
	SNR=8.8						
AML	**Almayashu**	**2.73 248**		P	**Pb**	**07 14 21.8**	**-0.3**
	SNR=11						
KK31	**Karatay Array**	**4.81 271**		⇑Pg	**Pg**	**07 15 02.5**	**-2.9**
	0.3nm,0.4s,baz=87,slow=17,SNR=5.4						
KK31				⇑Lg		07 16 04.2	
	1.2nm,0.5s,baz=90,slow=24,SNR=4.4						
MK31	**Makanchi Array**	**5.14 44**		⇓Pn	**Pn**	**07 14 50.1**	**-0.1**
	0.4nm,0.3s,baz=222,slow=15,SNR=11						
MK31				⇑Lg		07 16 13.3	
	1.4nm,0.7s,baz=226,slow=29,SNR=5.7						

*ATH **29** 07:30:55.9, 3560N×2618E, h33km±6km, MD3.5/8*
*CSEM **29** 07:30:56.7±0.1, 3556N×2622E, h30km, ML4.1, Error ellipse: s-maj=2.0km s-min=1.5km az=53.0*
*THE **29** 07:30:56.5, 3558N×2621E, h6km, ML4.1*
*NEIC **29** 07:30:56.5, 3558N×2621E, h6km, ML3.5(ATH), After THE.*
*ISCJB **29** 07:30:56.5±0.5, 3555N±003×2624E±003, h28km±5km, Error ellipse: s-maj=5.1km s-min=4.0km az=144.7*
*HLW **29** 07:30:59.7, 3556N×2652E, h33km, Mb2.9*

ISC 29 07:30:56.8±0.6, 3557N±003×2623E±004, h23km±6km, n31, σ0§93/45, 6C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.45 182**		*e*Pg	**Pb**	**07 31 05.6**	**-0.5**
ZKR				*e*Sg	**Sb**	**07 31 12.8**	**+0.4**
NPS	**Neapolis**	**0.59 239**		⇓*i*PN	**Pn**	**07 31 08.1**	**-1.7**
NPS				*e*SN	**Sb**	**07 31 15.8**	**-0.6**
LAST	**Lasithi**	**0.74 237**		*e*Pg	**Pb**	**07 31 10.5**	**-0.4**
KARP	**Karpathos**	**0.76 91**		⇑*i*PN	**Pn**	**07 31 11.5**	**-0.6**
KARP				*e*SN	**Sn**	**07 31 23.2**	**+0.4**
SANT	**Santorini**	**1.02 322**		*e*Pg	**Pn**	**07 31 15.0**	**-0.7**
SANT				*e*Sg	**Sb**	**07 31 29.0**	**+0.3**
SANT	**Santorini**	**1.02 322**		*e*Pn	**Pn**	**07 31 15.1**	**-0.6**
SANT				*e*Sn	**Sn**	**07 31 28.6**	**-0.7**
SANT				*e*Sg	**Sb**	**07 31 29.0**	**+0.3**
SANT	**Santorini**	**1.02 322**		*e*Pn	**Pn**	**07 31 15.1**	**-0.6**
SANT				*e*Sn	**Sn**	**07 31 28.6**	**-0.7**
THR1	**Thera Island**	**1.02 322**		*e*Pg	**Pn**	**07 31 15.2**	**-0.5**
THR1				*e*Sg	**Sb**	**07 31 29.2**	**+0.5**
THR1	**Thera Island**	**1.02 322**		*e*Pg	**Pn**	**07 31 15.1**	**-0.6**
THR1				*e*Sg	**Sb**	**07 31 29.2**	**+0.5**
THR6	**Thira Island,**	**1.04 320**		*e*Pg	**Pn**	**07 31 15.6**	**-0.4**
THR6				*e*Sg	**Sb**	**07 31 30.2**	**+0.9**
THR3	**Thira Island,**	**1.08 321**		*e*Pg	**Pn**	**07 31 16.2**	**-0.3**
THR3				*e*Sg	**Sb**	**07 31 31.1**	**+0.7**
THR5	**Thira Island,**	**1.11 320**		*e*Pg	**Pn**	**07 31 16.6**	**-0.4**
THR4	**Thira Island,**	**1.12 323**		*e*Pg	**Pn**	**07 31 17.1**	**0.0**
IDI	**Anoyia**	**1.13 256**		P	**Pn**	**07 31 17.2**	**0.0**
SIVA	**Sivas**	**1.29 245**		*e*Pg	**Pn**	**07 31 20.1**	**+0.7**
SIVA				*e*Sg	**Sn**	**07 31 37.2**	**+1.3**
APE	**Apeiranthos**	**1.60 339**		*e*Pg	**Pn**	**07 31 23.2**	**-0.5**
APE	**Apeiranthos**	**1.60 339**		⇓*i*Pn	**Pn**	**07 31 23.2**	**-0.5**
VAM	**Vamos**	**1.67 265**		⇓*i*PN	**Pn**	**07 31 24.7**	**+0.1**
ARG	**Arkhangelos**	**1.67 67**		⇑*i*PB	**Pb**	**07 31 25.9**	**-0.9**
ARG				*e*SN	**Sn**	**07 31 46.2**	**+0.9**
KARN	**Karanos**	**1.90 266**		*e*Pb	**Pb**	**07 31 27.2**	**-3.5**
SMG	**Samos**	**2.19 13**		⇑*i*PN	**Pn**	**07 31 31.5**	**-0.3**
KYTH	**Kithira**	**2.69 286**		*e*PN	**Pn**	**07 31 39.2**	**+0.3**
CHOS	**Chios island**	**2.82 357**		*e*Pn	**Pn**	**07 31 40.5**	**0.0**
VLI	**Veliai**	**2.91 294**		⇑*i*PN	**Pn**	**07 31 40.6**	**-1.0**
AOS	**Alonnisos**	**4.06 333**		*e*Pn	**Pn**	**07 31 58.5**	**+1.0**
SLUM		**4.15 192**		P	**Pn**	**07 32 01.5**	**+2.7**
HMAT	**Matruh**	**4.52 171**		P	**Pn**	**07 32 05.6**	**+1.8**
HMAT				S	**Sn**	**07 32 53.3**	**-2.3**
RSH		**7.77 124**		P	**Pn**	**07 32 48.3**	**-0.2**
SUZ		**7.97 134**		⇑P	**Pn**	**07 32 51.6**	**+0.4**
HRSH	**Kfar Ka'horesh**	**8.03 108**		⇑P	**Pn**	**07 32 48.3**	**-3.7**
HFRF	**Wahat Farafira**	**8.58 167**		P	**Pn**	**07 33 01.1**	**+1.5**

*ISCJB **29** 07:53:16.1±0.2, 4294N±001×111W±001, h10km, Error ellipse: s-maj=2.2km s-min=1.4km az=158.5*
*STR **29** 07:53:17.4±0.3, 4279N×109W, h5km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **29** 07:53:17.4, 4279N×109W, h5km, ML3.0(STR), After STR.*
*INMG **29** 07:53:18.1±1.4, 4287N×106W, h3km±3km, ML3.0, Error ellipse: s-maj=3.0km s-min=2.0km az=38.0*
*LDG **29** 07:53:18.9±0.1, 4288N×111W, h3km, Md3.4/4, Ml3.8/32, Error ellipse: s-maj=1.8km s-min=1.3km az=165.0*
*MDD **29** 07:53:18.2±0.2, 4286N×110W, h7km±2km, mbLg3.1/27, Error ellipse: s-maj=2.7km s-min=1.7km az=165.0, PRIMO*
*CSEM **29** 07:53:19.0±0.0, 4285N×108W, h5km, ML3.7/46, Error ellipse: s-maj=0.9km s-min=0.7km az=140.0*

ISC 29 07:53:18.0±0.2, 4292N±001×107W±001, h14km±1km, n237, σ1§33/414, 10C-5D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.14 27**		Pg	**Pg**	**07 53 22.7**	**+1.0**
LARF	**Larrau**	**0.14 27**		Pg	**Pg**	**07 53 22.7**	**+1.0**
LARF				Lg		07 53 26.6	
EORO	**Oroz-Betelu**	**0.17 263**		⇓Pg	**Pg**	**07 53 21.4**	**-0.8**
	313nm,0.1s,SNR=18						
EORO				Lg		07 53 24.1	
	2μm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.17 263**		Pg	**Pg**	**07 53 21.4**	**-0.8**
	313nm,0.1s,SNR=18						
EORO				Lg		07 53 24.1	
	2μm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.23 331**		*e*Pg	**Pg**	**07 53 23.8**	**+0.7**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**07 53 27.7**	**+1.2**
	3μm,0.4s						
SJPF	**Ste Jean**	**0.23 331**		*e*Pg	**Pg**	**07 53 23.8**	**+0.7**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**07 53 27.7**	**+1.2**
	2μm,0.4s						
IPRE	**Itoiz**	**0.23 242**		⇑Pg	**Pg**	**07 53 21.8**	**-1.3**
	346nm,0.2s,SNR=18						
IPRE				Lg		07 53 25.2	
	2μm,0.4s,SNR=7.9						
IPRE	**Itoiz**	**0.23 242**		Pg	**Pg**	**07 53 21.8**	**-1.4**
	346nm,0.2s,SNR=18						
IPRE				Lg		07 53 25.2	
	2μm,0.4s,SNR=7.9						
IZUN	**Zunzarren**	**0.29 259**		⇑Pg	**Pg**	**07 53 23.2**	**-0.8**
	182nm,0.1s,SNR=18						
IZUN				Lg		07 53 28.0	
	458nm,0.2s,SNR=7.9						
IZUN	**Zunzarren**	**0.29 259**		Pg	**Pg**	**07 53 23.2**	**-0.9**
	182nm,0.1s,SNR=18						
IZUN				Lg		07 53 28.0	
	458nm,0.2s,SNR=7.9						
ORDF	**Ordiarp**	**0.32 19**		Pg	**Pg**	**07 53 26.0**	**+1.4**
ORDF				Sg	**Sg**	**07 53 32.7**	**+3.7**
ORDF	**Ordiarp**	**0.32 19**		Pg	**Pg**	**07 53 26.1**	**+1.5**
ORDF				Lg		07 53 31.4	
ATE	**Arette**	**0.32 58**		Pg	**Pg**	**07 53 25.9**	**+1.2**
ATE				Lg		07 53 32.0	
IUSE	**Utxeti**	**0.35 275**		⇑Pg	**Pg**	**07 53 24.8**	**-0.4**
	95nm,0.1s,SNR=18						
IUSE				Lg		07 53 30.1	
	274nm,0.2s,SNR=34						
IUSE	**Utxeti**	**0.35 275**		Pg	**Pg**	**07 53 24.8**	**-0.4**
	95nm,0.1s,SNR=18						
IUSE				Lg		07 53 30.1	
	274nm,0.2s,SNR=34						
IUNC	**Unciti**	**0.35 243**		⇑Pg	**Pg**	**07 53 24.2**	**-0.9**
	55nm,0.3s,SNR=18						
IUNC				Lg		07 53 30.6	
	607nm,0.2s,SNR=31						
IUNC	**Unciti**	**0.35 243**		Pg	**Pg**	**07 53 24.2**	**-1.0**
	55nm,0.3s,SNR=18						
OSSF	**Osses**	**0.37 338**		Pg	**Pg**	**07 53 26.5**	**+1.0**
OSSF				Sg	**Sg**	**07 53 33.1**	**+2.6**
OSSF	**Osses**	**0.37 338**		Pg	**Pg**	**07 53 26.6**	**+1.0**
OSSF				Lg		07 53 32.5	
ETSF	**Etsaut**	**0.38 92**		*e*Pg	**Pg**	**07 53 25.9**	**+0.2**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**07 53 32.4**	**+1.6**
	1μm,0.2s						
ETSF	**Etsaut**	**0.38 92**		*e*Pg	**Pg**	**07 53 25.9**	**+0.2**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**07 53 32.4**	**+1.6**
	750nm,0.2s						
FDAF	**Les Forges d'A**	**0.38 104**		Pg	**Pg**	**07 53 25.6**	**-0.2**
FDAF				Lg		07 53 32.3	
EARA	**Aranguren**	**0.40 249**		⇓Pg	**Pg**	**07 53 25.2**	**-0.9**
	542nm,0.3s,SNR=18						
EARA				Lg		07 53 32.5	
	777nm,0.2s,SNR=60						
ELIZ	**Elizondo**	**0.42 307**		⇑Pg	**Pg**	**07 53 26.8**	**+0.4**
	143nm,0.2s,SNR=18						
ELIZ				Lg		07 53 32.2	
	249nm,0.2s,SNR=27						
EALK	**Alkurruntz**	**0.44 314**		⇑Pg	**Pg**	**07 53 27.3**	**+0.5**
	26nm,0.1s,SNR=18						
EALK				Lg		07 53 34.4	
	2μm,0.3s,SNR=5.0						
REYF	**Montagne du Re**	**0.52 73**		Pg	**Pg**	**07 53 29.0**	**+0.7**
REYF				Sg	**Sg**	**07 53 36.7**	**+1.4**
REYF	**Montagne du Re**	**0.52 73**		Pg	**Pg**	**07 53 29.0**	**+0.7**
REYF				Lg		07 53 37.1	
VIEF	**Viey**	**0.81 92**		Pg	**Pg**	**07 53 33.4**	**-0.3**
VIEF				Sg	**Sg**	**07 53 44.5**	**+0.2**
VIEF	**Viey**	**0.81 92**		Pg	**Pg**	**07 53 33.3**	**-0.4**
VIEF				Lg		07 53 45.0	
LABF	**Labassere**	**0.85 81**		Pg	**Pg**	**07 53 34.6**	**0.0**
LABF				Sg	**Sg**	**07 53 46.6**	**+0.9**
LABF	**Labassere**	**0.85 81**		Pg	**Pg**	**07 53 34.4**	**-0.2**
LABF				Lg		07 53 46.2	
EBIE	**Bielsa**	**0.92 104**		⇓Pg	**Pg**	**07 53 35.1**	**-0.8**
	12nm,0.2s,SNR=18						
EBIE				Lg		07 53 50.2	
	256nm,0.2s,SNR=5.0						
EBIE	**Bielsa**	**0.92 104**		Pg	**Pg**	**07 53 35.1**	**-0.8**
	12nm,0.2s,SNR=18						
RESF	**Ens**	**1.04 95**		Pg	**Pg**	**07 53 37.5**	**-0.7**
RESF				Sg	**Sg**	**07 53 53.1**	**+1.3**
RESF	**Ens**	**1.04 95**		Pg	**Pg**	**07 53 37.5**	**-0.7**
RESF				Lg		07 53 53.1	
EPF	**Esparros**	**1.04 83**		*e*Pn	**Pn**	**07 53 38.0**	**-0.2**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**07 53 53.5**	**+1.7**
	588nm,0.3s						
EPF	**Esparros**	**1.04 83**		*e*Pn	**Pn**	**07 53 38.0**	**-0.2**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**07 53 53.5**	**+1.7**
	294nm,0.3s						
ECRI	**Cripan**	**1.10 254**		⇑Pg	**Pg**	**07 53 39.2**	**-0.1**
	20nm,0.3s,SNR=18						
ECRI				Lg		07 53 55.0	
	251nm,0.4s,SNR=7.9						
ECRI	**Cripan**	**1.10 254**		Pg	**Pg**	**07 53 39.2**	**-0.1**
ECRI				Lg		07 53 55.0	
ECRI				Lg		07 53 55.1	
ESAC	**San Caprasio**	**1.27 159**		⇑Pg	**Pg**	**07 53 41.4**	**-1.2**
	29nm,0.3s,SNR=18						
ESAC				Lg		07 53 59.1	
	1μm,0.4s,SNR=16						
ESAC	**San Caprasio**	**1.27 159**		⇑Pg	**Pg**	**07 53 41.3**	**-1.3**
ESAC	**San Caprasio**	**1.27 159**		⇑Pg	**Pg**	**07 53 41.4**	**-1.2**
ESAC				Lg		07 53 58.1	
ESAC				Lg		07 53 59.1	
MELF	**Melles**	**1.35 91**		Pg	**Pg**	**07 53 43.0**	**-1.0**
MELF				Sg	**Sg**	**07 54 02.5**	**+1.0**
MELF	**Melles**	**1.35 91**		Pg	**Pg**	**07 53 43.0**	**-1.0**
MELF				Lg		07 54 02.9	
MLS	**Moulis**	**1.59 88**		Pg	**Pg**	**07 53 48.0**	**-0.6**
MLS				Sg	**Sg**	**07 54 10.4**	**+1.1**
MLS	**Moulis**	**1.59 88**		Pg	**Pg**	**07 53 47.0**	**-1.6**
MLS				Lg		07 54 13.1	
SALF	**Salau**	**1.67 95**		Pg	**Pg**	**07 53 49.3**	**-0.8**
SALF				Sg	**Sg**	**07 54 13.2**	**+1.4**
SALF	**Salau**	**1.67 95**		Pg	**Pg**	**07 53 49.3**	**-0.8**
SALF				Lg		07 54 12.5	
ELAN	**Lanestosa**	**1.76 281**		Pg	**Pg**	**07 53 50.2**	**-1.6**
	17nm,0.2s,SNR=52						
ELAN				Lg		07 54 13.9	
	30nm,0.2s,SNR=12						
ELAN	**Lanestosa**	**1.76 281**		Pg	**Pg**	**07 53 50.2**	**-1.6**
	17nm,0.2s,SNR=52						
ELAN	**Lanestosa**	**1.76 281**		Pg	**Pg**	**07 53 50.2**	**-1.5**
ELAN				Lg		07 54 15.3	
ELAN				Lg		07 54 15.6	
GRBF	**Gourbit**	**1.92 91**		Pg	**Pg**	**07 53 53.9**	**-0.9**
EMIR	**Miracle**	**2.17 117**		Pn	**Pn**	**07 53 54.2**	**+0.6**
	8.3nm,0.2s,SNR=34						
EMIR				Pg	**Pg**	**07 53 58.3**	**-1.3**
	48nm,0.3s,SNR=7.9						
EMIR				Lg		07 54 26.6	
	343nm,0.4s,SNR=18						
EMIR	**Miracle**	**2.17 117**		Pn	**Pn**	**07 53 54.2**	**+0.5**
	8.3nm,0.2s,SNR=34						
EMIR	**Miracle**	**2.17 117**		Pg	**Pg**	**07 53 58.3**	**-1.3**
	48nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.17 117**		Pn	**Pn**	**07 53 54.2**	**+0.6**
EMIR				Pg	**Pg**	**07 53 58.3**	**-1.3**
EMIR				Lg		07 54 26.6	
EMIR				Lg		07 54 28.3	
LPEF	**Le Peyrat**	**2.19 88**		Pg	**Pg**	**07 53 58.4**	**-1.7**
LPEF				Lg		07 54 28.0	
ETOR	**Torete**	**2.22 200**		Pn	**Pn**	**07 53 55.3**	**+0.9**
	27nm,0.2s,SNR=26						
ETOR				Pg	**Pg**	**07 53 58.2**	**-2.3**
	52nm,0.4s,SNR=9.5						
ETOR				Sn	**Sn**	**07 54 22.8**	**+1.3**
	4.8nm,0.7s,SNR=5.0						
ETOR				Lg		07 54 26.8	
	218nm,0.6s,SNR=5.8						
ETOR	**Torete**	**2.22 200**		Pn	**Pn**	**07 53 55.3**	**+0.9**
ETOR				Pg	**Pg**	**07 53 58.2**	**-2.3**
ETOR				Sn	**Sn**	**07 54 24.0**	**+2.5**
ETOR				Lg		07 54 29.6	
ERTA	**Horta de San J**	**2.22 151**		Pn	**Pn**	**07 53 54.7**	**+0.3**
	1.1nm,0.1s,SNR=7.1						
ERTA				Pg	**Pg**	**07 53 58.1**	**-2.5**
	12nm,0.2s,SNR=14						
ERTA				Lg		07 54 27.4	
	165nm,0.6s,SNR=16						
ERTA	**Horta de San J**	**2.22 151**		Pn	**Pn**	**07 53 54.7**	**+0.3**
	1.1nm,0.1s,SNR=7.1						
ERTA	**Horta de San J**	**2.22 151**		Pg	**Pg**	**07 53 59.8**	**-0.8**
	12nm,0.2s,SNR=14						
ERTA	**Horta de San J**	**2.22 151**		Pn	**Pn**	**07 53 54.7**	**+0.3**
ERTA				Pg	**Pg**	**07 53 59.8**	**-0.8**
ERTA				Lg		07 54 27.1	
ERTA				Lg		07 54 27.4	
EPOB	**Poblet**	**2.24 134**		Pn	**Pn**	**07 53 55.1**	**+0.5**
	1.4nm,0.1s,SNR=13						
EPOB				Pg	**Pg**	**07 53 59.0**	**-1.9**
	26nm,0.4s,SNR=17						
EPOB				Lg		07 54 27.7	
	50nm,0.3s,SNR=11						
EPOB	**Poblet**	**2.24 134**		Pn	**Pn**	**07 53 55.1**	**+0.5**
	1.4nm,0.1s,SNR=13						
EPOB	**Poblet**	**2.24 134**		Pg	**Pg**	**07 53 59.0**	**-1.9**
	26nm,0.4s,SNR=17						
VALF	**Valcebollere**	**2.34 102**		Pg	**Pg**	**07 54 02.1**	**-0.7**
VALF				Sg	**Sg**	**07 54 33.3**	**+0.2**
VALF	**Valcebollere**	**2.34 102**		Pg	**Pg**	**07 53 59.3**	**-3.5**
VALF				Lg		07 54 33.6	
CARF	**Carcanieres**	**2.35 94**		Pg	**Pg**	**07 54 01.0**	**-2.0**
CARF				Sg	**Sg**	**07 54 33.6**	**+0.1**
CARF	**Carcanieres**	**2.35 94**		Pg	**Pg**	**07 54 00.9**	**-2.2**
CARF				Lg		07 54 33.8	
LFF	**La Frestale**	**2.41 32**		*e*P	**Pn**	**07 54 00.7**	**+3.7**
LFF	**La Frestale**	**2.41 32**		*e*Pg	**Pg**	**07 54 04.7**	**+0.4**
LFF				*e*Sn	**Sn**	**07 54 27.4**	**+1.1**
LFF				*e*Sg	**Sg**	**07 54 36.0**	**+0.5**
	159nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**2.41 32**		Pn	**Pn**	**07 53 57.8**	**+0.8**
LFF				Pg	**Pg**	**07 54 04.7**	**+0.4**
LFF				Sn	**Sn**	**07 54 27.4**	**+1.1**
LFF				Lg		07 54 36.0	
	80nm,0.3s						
LFF	**La Frestale**	**2.41 32**		*e*P	**Pn**	**07 54 00.7**	**+3.7**
LFF	**La Frestale**	**2.41 32**		*e*Pg	**Pg**	**07 54 04.7**	**+0.4**
LFF				*e*Sn	**Sn**	**07 54 27.4**	**+1.1**
LFF				*e*Sg	**Sg**	**07 54 36.0**	**+0.5**
	80nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**2.41 32**		*e*Pn	**Pn**	**07 53 57.8**	**+0.8**
LFF				*e*Pg	**Pg**	**07 54 04.7**	**+0.4**
LFF				*e*Sn	**Sn**	**07 54 27.4**	**+1.1**
LFF				*e*Sg	**Sg**	**07 54 36.0**	**+0.5**
MTLF	**Montolieu**	**2.45 79**		*e*Pg	**Pg**	**07 54 05.6**	**+0.7**
MTLF				*e*Sn	**Sn**	**07 54 28.0**	**+0.9**
	67nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**2.45 79**		Pn	**Pn**	**07 53 59.7**	**+2.2**
MTLF				Pg	**Pg**	**07 54 05.6**	**+0.7**
MTLF				Sn	**Sn**	**07 54 28.0**	**+0.9**
	0.0nm,0.3s						
MTLF	**Montolieu**	**2.45 79**		*e*Pg	**Pg**	**07 54 05.6**	**+0.7**
MTLF				*e*Sn	**Sn**	**07 54 28.0**	**+0.9**
	34nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**2.45 79**		*e*Pn	**Pn**	**07 53 59.7**	**+2.2**
MTLF				*e*Pg	**Pg**	**07 54 05.6**	**+0.7**
MTLF				*e*Sn	**Sn**	**07 54 28.0**	**+0.9**
EMOS	**Mosqueruela**	**2.59 170**		Pn	**Pn**	**07 54 00.9**	**+1.5**
	1.7nm,0.2s,SNR=4.0						
EMOS				Pg	**Pg**	**07 54 05.0**	**-2.7**
	2.0nm,0.2s,SNR=13						
EMOS				Lg		07 54 41.1	
	53nm,0.4s,SNR=9.8						
EMOS	**Mosqueruela**	**2.59 170**		Pn	**Pn**	**07 54 00.9**	**+1.5**
	1.7nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**2.59 170**		Pg	**Pg**	**07 54 05.0**	**-2.7**
	2.0nm,0.2s,SNR=13						
LRDF	**Laroque-de-Fa**	**2.65 88**		Pn	**Pn**	**07 54 03.8**	**+3.5**
LRDF				Sn	**Sn**	**07 54 38.9**	**+6.7**
FILF	**Fillols**	**2.70 96**		Pn	**Pn**	**07 54 03.0**	**+2.0**
FILF				Lg		07 54 42.0	
SJAF	**Saint Jean de**	**2.95 97**		Pg	**Pg**	**07 54 12.9**	**-1.6**
SJAF	**Saint Jean de**	**2.95 97**		Pg	**Pg**	**07 54 11.9**	**-2.6**
SJAF				Lg		07 54 50.5	
EJON	**La Jonquera**	**2.96 98**		Pn	**Pn**	**07 54 07.4**	**+2.9**
	3.3nm,0.2s,SNR=7.9						
EJON				Pg	**Pg**	**07 54 11.6**	**-3.1**
	7.0nm,0.2s,SNR=9.4						
EJON				Lg		07 54 51.7	
	217nm,0.5s,SNR=18						
EJON	**La Jonquera**	**2.96 98**		Pn	**Pn**	**07 54 07.4**	**+2.9**
	3.3nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.96 98**		Pg	**Pg**	**07 54 11.6**	**-3.1**
	7.0nm,0.2s,SNR=9.4						
CAF	**Calviac**	**3.03 47**		*e*P	**Pn**	**07 54 09.3**	**+3.8**
CAF				*e*Sn	**Sn**	**07 54 42.0**	**+0.5**
	128nm,0.3s,SNR=1.0						
CAF	**Calviac**	**3.03 47**		Pn	**Pn**	**07 54 06.4**	**+0.9**
CAF				Sn	**Sn**	**07 54 42.0**	**+0.5**
	64nm,0.3s						
CAF	**Calviac**	**3.03 47**		*e*P	**Pn**	**07 54 09.3**	**+3.8**
CAF	

ESDC				Lg			07 55 18.5	
	19nm,0.6s,baz=35,slow=27,SNR=7.8							
ESDC	**Sonseca Array**	**3.90**	**215**	Pn		**Pn**	**07 54 17.5**	**0.0**
	5.7nm,0.3s,SNR=13							
ESDC	**Sonseca Array**	**3.90**	**215**	Pg		**Pg**	**07 54 30.2**	**-2.6**
	21nm,0.5s,SNR=21							
ESDC				Sn		**Sn**	**07 55 01.9**	**-1.1**
	0.8nm,0.5s,SNR=7.7							
ESDC	**Sonseca Array**	**3.90**	**215**	Pn		**Pn**	**07 54 17.5**	**0.0**
ESDC				Pg		**Pg**	**07 54 30.2**	**-2.5**
ESDC				Sn		**Sn**	**07 55 01.9**	**-1.2**
ESDC				Lg			07 55 18.5	
ESDC				S		**Sn**	**07 55 19.9**	**+17**
ESLA	**Sonseca Array**	**3.90**	**215**	*e*Pn		**Pn**	**07 54 18.6**	**+1.1**
ESLA				*e*Sn		**Sn**	**07 55 03.0**	**0.0**
ESLA	**Sonseca Array**	**3.90**	**215**	*e*Pn		**Pn**	**07 54 18.6**	**+1.1**
ESLA				*e*Sn		**Sn**	**07 55 03.0**	**0.0**
TCF	**Toulx Ste Croi**	**4.11**	**34**	*e*Pn		**Pn**	**07 54 19.7**	**-0.6**
	SNR=1.0							
TCF				*e*Sn		**Sn**	**07 55 07.2**	**-0.9**
	56nm,0.4s,SNR=1.0							
TCF	**Toulx Ste Croi**	**4.11**	**34**	*e*Pn		**Pn**	**07 54 19.7**	**-0.6**
	SNR=1.0							
TCF				*e*Sn		**Sn**	**07 55 07.2**	**-0.9**
	28nm,0.4s,SNR=1.0							
PAB	**San Pablo**	**4.17**	**217**	*e*Pn		**Pn**	**07 54 21.7**	**+0.5**
PAB	**San Pablo**	**4.17**	**217**	*e*Pn		**Pn**	**07 54 21.7**	**+0.4**
EBEN	**Beniarda**	**4.26**	**171**	Pn		**Pn**	**07 54 23.8**	**+1.4**
	2.3nm,0.3s,SNR=4.0							
EBEN	**Beniarda**	**4.26**	**171**	Pn		**Pn**	**07 54 23.8**	**+1.4**
	2.3nm,0.3s,SNR=4.0							
ETOB	**Tobarra**	**4.28**	**185**	Pn		**Pn**	**07 54 24.1**	**+1.4**
	0.4nm,0.1s,SNR=4.7							
ETOB				Lg			07 55 34.0	
	28nm,0.5s,SNR=7.9							
ETOB	**Tobarra**	**4.28**	**185**	Pn		**Pn**	**07 54 24.1**	**+1.4**
	0.4nm,0.1s,SNR=4.7							
EIBI	**Ibiza**	**4.29**	**154**	Pn		**Pn**	**07 54 21.9**	**-0.9**
	1.1nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**4.29**	**154**	Pn		**Pn**	**07 54 22.0**	**-0.9**
ETOS	**Mallorca**	**4.29**	**136**	Pn		**Pn**	**07 54 23.2**	**+0.3**
	1.2nm,0.2s,SNR=7.0							
ETOS				Sn		**Sn**	**07 55 14.5**	**+1.8**
	2.6nm,0.3s,SNR=5.0							
ETOS	**Mallorca**	**4.29**	**136**	Pn		**Pn**	**07 54 23.2**	**+0.3**
	1.2nm,0.2s,SNR=7.0							
ETOS				Sn		**Sn**	**07 55 11.7**	**-1.0**
	2.6nm,0.3s,SNR=5.0							
ETOS	**Mallorca**	**4.29**	**136**	P		**Pn**	**07 54 23.2**	**+0.3**
ETOS				Sn		**Sn**	**07 55 11.7**	**-1.1**
ECAL	**Calabor**	**4.30**	**259**	Pn		**Pn**	**07 54 23.9**	**+0.9**
	16nm,0.3s,SNR=16							
ECAL				Pg		**Pg**	**07 54 37.8**	**-2.7**
	13nm,0.3s,SNR=8.2							
ECAL				Sn		**Sn**	**07 55 12.3**	**-0.7**
	49nm,0.4s,SNR=7.9							
ECAL				Lg			07 55 33.9	
	37nm,0.4s,SNR=4.7							
ECAL	**Calabor**	**4.30**	**259**	Pn		**Pn**	**07 54 23.9**	**+0.9**
	16nm,0.3s,SNR=16							
ECAL	**Calabor**	**4.30**	**259**	Pg		**Pg**	**07 54 37.8**	**-2.7**
	13nm,0.3s,SNR=8.2							
ECAL				Sn		**Sn**	**07 55 12.3**	**-0.7**
	49nm,0.4s,SNR=7.9							
ECAL	**Calabor**	**4.30**	**259**	Pn		**Pn**	**07 54 23.9**	**+0.9**
ECAL				Sn		**Sn**	**07 55 12.3**	**-0.7**
ECAL				Lg			07 55 36.1	
PBRG	**Braganca**	**4.34**	**257**	*e*Pn		**Pn**	**07 54 24.2**	**+0.6**
PBRG				*e*Sn		**Sn**	**07 55 13.4**	**-0.5**
PBRG				A			07 55 40.6	
	21nm,0.5s							
PBRG	**Braganca**	**4.34**	**257**	*e*Pn		**Pn**	**07 54 24.2**	**+0.6**
PBRG				*e*Sn		**Sn**	**07 55 13.4**	**-0.5**
	21nm,0.5s							
EVIA	**Vianos**	**4.41**	**195**	Pn		**Pn**	**07 54 25.9**	**+1.5**
	1.0nm,0.1s,SNR=5.2							
EVIA				Pg		**Pg**	**07 54 39.4**	**-3.0**
	3.8nm,0.2s,SNR=7.9							
EVIA				Lg			07 55 36.4	
	20nm,0.6s,SNR=4.7							
EVIA	**Vianos**	**4.41**	**195**	Pn		**Pn**	**07 54 25.9**	**+1.5**
EVIA				Pg		**Pg**	**07 54 39.4**	**-3.0**
EVIA				Lg			07 55 39.5	
EPON	**Pontenova**	**4.47**	**277**	Pn		**Pn**	**07 54 27.5**	**+2.2**
	4.4nm,0.2s,SNR=7.8							
EPON				Sn		**Sn**	**07 55 19.4**	**+2.4**
	10nm,0.3s,SNR=6.2							
EPON	**Pontenova**	**4.47**	**277**	Pn		**Pn**	**07 54 27.5**	**+2.3**
	4.4nm,0.2s,SNR=7.8							
EPON				Sn		**Sn**	**07 55 19.4**	**+2.4**
	10nm,0.3s,SNR=6.2							
ERUA	**La Rua**	**4.51**	**265**	Pn		**Pn**	**07 54 27.4**	**+1.6**
	1.2nm,0.2s,SNR=7.9							
ERUA				Sn		**Sn**	**07 55 19.9**	**+2.0**
	13nm,0.4s,SNR=7.9							
ERUA	**La Rua**	**4.51**	**265**	Pn		**Pn**	**07 54 27.4**	**+1.6**
	1.2nm,0.2s,SNR=7.9							
ERUA				Sn		**Sn**	**07 55 17.5**	**-0.5**
	13nm,0.4s,SNR=7.9							
ERUA	**La Rua**	**4.51**	**265**	Pn		**Pn**	**07 54 27.4**	**+1.6**
ERUA				Sn		**Sn**	**07 55 17.5**	**-0.5**
VIVF	**Saint-Julien-l**	**4.58**	**63**	*e*Pn		**Pn**	**07 54 28.5**	**+1.7**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**07 55 19.3**	**-0.5**
	29nm,0.4s,SNR=1.0							
VIVF	**Saint-Julien-l**	**4.58**	**63**	*e*Pn		**Pn**	**07 54 28.5**	**+1.7**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**07 55 19.3**	**-0.5**
	14nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**4.59**	**36**	*e*Pn		**Pn**	**07 54 26.9**	**0.0**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**07 55 19.2**	**-0.8**
	254nm,0.5s							
BGF				*e*Sg		**Sg**	**07 55 44.7**	**-0.6**
	SNR=1.0							
BGF	**Bois d'Agland**	**4.59**	**36**	*e*Pn		**Pn**	**07 54 26.9**	**0.0**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**07 55 19.2**	**-0.8**
	127nm,0.5s							
BGF				*e*Sg		**Sg**	**07 55 44.7**	**-0.6**
	SNR=1.0							
SSB	**Saint Sauveur**	**4.68**	**58**	Pn		**Pn**	**07 54 31.0**	**+2.8**
SSB				Sn		**Sn**	**07 55 27.9**	**+5.6**
MVO	**Moncorvo**	**4.77**	**250**	*e*Pn		**Pn**	**07 54 29.9**	**+0.5**
MVO				*e*Sn		**Sn**	**07 55 23.2**	**-1.2**
MVO				*e*Sg		**Sg**	**07 55 45.0**	**-6.1**
MVO				A			07 55 51.7	
	36nm,0.5s							
MVO	**Moncorvo**	**4.77**	**250**	*e*Pn		**Pn**	**07 54 29.9**	**+0.5**
MVO				*e*Sn		**Sn**	**07 55 23.2**	**-1.2**
SMRF	**Simiane la Rot**	**4.96**	**75**	*e*Pn		**Pn**	**07 54 34.4**	**+2.4**
	SNR=1.0							
SMRF				*e*Sn		**Sn**	**07 55 28.1**	**-0.9**
	SNR=1.0							
SMRF				*e*Sg		**Sg**	**07 55 55.4**	**-1.7**
	17nm,0.5s,SNR=1.0							
SMRF	**Simiane la Rot**	**4.96**	**75**	*e*Pn		**Pn**	**07 54 34.4**	**+2.4**
	SNR=1.0							
SMRF				*e*Sn		**Sn**	**07 55 28.1**	**-0.9**
	SNR=1.0							
SMRF				*e*Sg		**Sg**	**07 55 55.4**	**-1.7**
	8.4nm,0.5s,SNR=1.0							
AVF	**Avril sur Loir**	**4.99**	**38**	*e*Pn		**Pn**	**07 54 31.0**	**-1.4**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**07 55 28.1**	**-1.8**
	44nm,0.7s							
AVF	**Avril sur Loir**	**4.99**	**38**	*e*Pn		**Pn**	**07 54 31.0**	**-1.4**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**07 55 28.1**	**-1.8**
	22nm,0.7s							
HYF	**Humbligny**	**5.08**	**30**	*e*Pn		**Pn**	**07 54 34.8**	**+1.1**
SMF	**Signal de Mont**	**5.11**	**41**	*e*Pn		**Pn**	**07 54 33.7**	**-0.4**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**07 55 30.7**	**-2.2**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**07 56 00.7**	**-1.4**
	16nm,0.4s,SNR=1.0							
SMF	**Signal de Mont**	**5.11**	**41**	*e*Pn		**Pn**	**07 54 33.7**	**-0.4**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**07 55 30.7**	**-2.2**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**07 56 00.7**	**-1.4**
	7.8nm,0.4s,SNR=1.0							
QUIF	**Quistinic**	**5.21**	**344**	*e*Pn		**Pn**	**07 54 36.6**	**+1.1**
	SNR=1.0							
QUIF				*e*Sn		**Sn**	**07 55 33.7**	**-1.6**
	15nm,0.3s,SNR=1.0							
QUIF	**Quistinic**	**5.21**	**344**	Sn		**Sn**	**07 55 33.7**	**-1.6**
	0.0nm,0.3s							
QUIF	**Quistinic**	**5.21**	**344**	*e*Pn		**Pn**	**07 54 36.6**	**+1.1**
	SNR=1.0							
QUIF				*e*Sn		**Sn**	**07 55 33.7**	**-1.6**
	7.5nm,0.3s,SNR=1.0							
EHUE	**Huescar**	**5.22**	**193**	Pn		**Pn**	**07 54 34.9**	**-0.8**
	0.7nm,0.1s,SNR=7.9							
SSF	**Saint Saulge**	**5.27**	**36**	*e*Pn		**Pn**	**07 54 35.5**	**-0.7**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**07 55 35.2**	**-1.4**
	62nm,0.5s							
SSF	**Saint Saulge**	**5.27**	**36**	*e*Pn		**Pn**	**07 54 35.5**	**-0.7**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**07 55 35.2**	**-1.4**
	31nm,0.5s							
ELOB	**Lobios**	**5.28**	**261**	Pn		**Pn**	**07 54 37.5**	**+1.1**
	1.2nm,0.1s,SNR=5.3							
ELOB				Sn		**Sn**	**07 55 36.1**	**-0.9**
	14nm,0.4s,SNR=4.8							
ELOB				Lg			07 56 05.7	
	50nm,0.7s,SNR=4.9							
ELOB	**Lobios**	**5.28**	**261**	Pn		**Pn**	**07 54 37.5**	**+1.1**
	1.2nm,0.1s,SNR=5.3							
ELOB				Sn		**Sn**	**07 55 36.1**	**-0.9**
	14nm,0.4s,SNR=4.8							
PCAB	**Cabril**	**5.29**	**259**	*e*Pn		**Pn**	**07 54 37.6**	**+1.0**
PCAB				*e*Sn		**Sn**	**07 55 36.9**	**-0.5**
PCAB				A			07 56 14.9	
	21nm,0.5s							
PCAB	**Cabril**	**5.29**	**259**	*e*Pn		**Pn**	**07 54 37.6**	**+1.0**
PCAB				*e*Sn		**Sn**	**07 55 36.9**	**-0.5**
	21nm,0.5s							
EQES	**Quesada**	**5.33**	**197**	Pn		**Pn**	**07 54 38.5**	**+1.4**
	0.5nm,0.1s,SNR=4.9							
EQES				Pg		**Pg**	**07 54 55.4**	**-4.7**
	6.1nm,0.3s,SNR=7.9							
EQES				Lg			07 56 04.9	
	6.6nm,0.4s,SNR=7.9							
EQES	**Quesada**	**5.33**	**197**	Pn		**Pn**	**07 54 38.5**	**+1.4**
	0.5nm,0.1s,SNR=4.9							
EQES	**Quesada**	**5.33**	**197**	Pg		**Pg**	**07 54 56.7**	**-3.4**
	6.1nm,0.3s,SNR=7.9							
EQES	**Quesada**	**5.33**	**197**	Pn		**Pn**	**07 54 38.5**	**+1.4**
EQES				Lg			07 56 08.0	
ORIF	**Oris-en-Rattie**	**5.41**	**66**	*e*Pn		**Pn**	**07 54 40.2**	**+2.0**
	SNR=1.0							
ORIF				*e*Sn		**Sn**	**07 55 39.2**	**-0.9**
	12nm,0.4s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**5.41**	**66**	*e*Pn		**Pn**	**07 54 40.2**	**+2.0**
	SNR=1.0							
ORIF				*e*Sn		**Sn**	**07 55 39.2**	**-0.9**
	6.2nm,0.4s,SNR=1.0							
SGMF	**Saint Gilles**	**5.44**	**349**	*e*Pn		**Pn**	**07 54 39.6**	**+1.0**
	SNR=1.0							
SGMF				*e*Sn		**Sn**	**07 55 38.5**	**-2.4**
	SNR=1.0							
SGMF				*e*Sg		**Sg**	**07 56 09.9**	**-2.7**
	11nm,0.4s,SNR=1.0							
SGMF	**Saint Gilles**	**5.44**	**349**	*e*Pn		**Pn**	**07 54 39.6**	**+1.0**
	SNR=1.0							
SGMF				*e*Sn		**Sn**	**07 55 38.5**	**-2.4**
	SNR=1.0							
SGMF				*e*Sg		**Sg**	**07 56 09.9**	**-2.7**
	5.6nm,0.4s,SNR=1.0							
EADA	**Adamuz**	**5.44**	**211**	Pn		**Pn**	**07 54 39.4**	**+0.8**
	0.5nm,0.1s,SNR=6.2							
EADA				Sn		**Sn**	**07 55 41.7**	**+0.7**
	1.6nm,0.2s,SNR=5.0							
EADA				Lg			07 56 10.4	
	7.9nm,0.4s,SNR=5.4							
EADA	**Adamuz**	**5.44**	**211**	Pn		**Pn**	**07 54 39.4**	**+0.8**
	0.5nm,0.1s,SNR=6.2							
EADA				Sn		**Sn**	**07 55 38.2**	**-2.8**
	1.6nm,0.2s,SNR=5.0							
EADA	**Adamuz**	**5.44**	**211**	Pn		**Pn**	**07 54 39.4**	**+0.8**
EADA				Sn		**Sn**	**07 55 38.2**	**-2.8**
EADA				Lg			07 56 10.4	
MTE	**Manteigas**	**5.46**	**245**	*e*Sg		**Sg**	**07 56 07.0**	**-6.2**
MTE				A			07 56 12.7	
	25nm,0.7s							
GRR	**Gorron**	**5.48**	**2**	*e*Pg		**Pg**	**07 55 00.6**	**-2.2**
	SNR=1.0							
GRR				*e*Sn		**Sn**	**07 55 40.2**	**-1.6**
	16nm,0.2s							
GRR	**Gorron**	**5.48**	**2**	Pn		**Pn**	**07 54 39.7**	**+0.6**
GRR				Pg		**Pg**	**07 55 00.6**	**-2.2**
GRR				Sn		**Sn**	**07 55 40.2**	**-1.6**
	7.9nm,0.2s							
GRR	**Gorron**	**5.48**	**2**	*e*Pg		**Pg**	**07 55 00.6**	**-2.2**
	SNR=1.0							
GRR				*e*Sn		**Sn**	**07 55 40.2**	**-1.6**
	7.9nm,0.2s							
GRR	**Gorron**	**5.48**	**2**	*e*Pn		**Pn**	**07 54 39.7**	**+0.6**
GRR				*e*Pg		**Pg**	**07 55 00.6**	**-2.2**
GRR				*e*Sn		**Sn**	**07 55 40.2**	**-1.6**
PVIS	**Viseu**	**5.55**	**249**	*e*Sn		**Sn**	**07 55 42.8**	**-0.9**
PVIS				A			07 56 27.0	
	14nm,0.6s							
LMR	**La Mourre**	**5.56**	**83**	*e*P		**Pn**	**07 54 44.5**	**+4.2**
	SNR=1.0							
LMR				*e*Sn		**Sn**	**07 55 42.7**	**-1.3**
	22nm,0.7s							
LMR	**La Mourre**	**5.56**	**83**	*e*P		**Pn**	**07 54 44.5**	**+4.2**
	SNR=1.0							
LMR				*e*Sn		**Sn**	**07 55 42.7**	**-1.3**
	11nm,0.7s							
LOR	**Lormes**	**5.58**	**37**	*e*Pn		**Pn**	**07 54 39.1**	**-1.4**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**07 55 42.5**	**-1.9**
	32nm,0.4s							
LOR	**Lormes**	**5.58**	**37**	*e*Pn		**Pn**	**07 54 39.1**	**-1.4**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**07 55 42.5**	**-1.9**
	16nm,0.4s							
ROSF	**Rostrenen**	**5.64**	**345**	*e*Pn		**Pn**	**07 54 43.0**	**+1.7**
	SNR=1.0							
ROSF				*e*Sn		**Sn**	**07 55 43.2**	**-2.6**
	10.0nm,0.2s,SNR=1.0							
ROSF	**Rostrenen**	**5.64**	**345**	*e*Pn		**Pn**	**07 54 43.0**	**+1.7**
	SNR=1.0							
ROSF				*e*Sn		**Sn**	**07 55 43.2**	**-2.6**
	5.0nm,0.2s,SNR=1.0							
FRF	**La Foret Royal**	**5.68**	**81**	*e*Pn		**Pn**	**07 54 43.8**	**+1.9**
	SNR=1.0							
FRF				*e*Sn		**Sn**	**07 55 44.4**	**-2.4**
	SNR=1.0							
FRF				*e*Sg		**Sg**	**07 56 16.8**	**-3.4**
	12nm,0.6s,SNR=1.0							
FRF	**La Foret Royal**	**5.68**	**81**	Pn		**Pn**	**07 54 43.8**	**+1.9**
FRF				Sn		**Sn**	**07 55 44.4**	**-2.4**
FRF				Lg			07 56 16.8	
	5.9nm,0.6s							
FRF	**La Foret Royal**	**5.68**	**81**	*e*Pn		**Pn**	**07 54 43.8**	**+1.9**
	SNR=1.0							
FRF				*e*Sg		**Sg**	**07 56 16.8**	**-3.4**
	5.9nm,0.6s,SNR=1.0							
PCBR	**Castelo Branco**	**5.71**	**240**	*e*Sg		**Sg**	**07 56 20.4**	**-1.0**
PCBR				A			07 56 36.1	
	16nm,0.6s							
PCBR	**Castelo Branco**	**5.71**	**240**	*e*Sg		**Sg**	**07 56 20.4**	**-1.0**
	16nm,0.6s							
EMAZ	**Mazaricos**	**5.80**	**273**	Pn		**Pn**	**07 54 44.3**	**+0.8**
	3.9nm,0.2s,SNR=7.8							
EMAZ				Sn		**Sn**	**07 55 48.8**	**-1.1**
	18nm,0.4s,SNR=7.9							
EMAZ	**Mazaricos**	**5.80**	**273**	Pn		**Pn**	**07 54 44.3**	**+0.7**
	3.9nm,0.2s,SNR=7.8							
EMAZ				Sn		**Sn**	**07 55 48.8**	**-1.1**
	18nm,0.4s,SNR=7.9							
ECAB	**El Cabril**	**5.86**	**216**	Pn		**Pn**	**07 54 44.9**	**+0.5**
	0.2nm,0.0s,SNR=7.9							
ECAB				Sn		**Sn**	**07 55 50.6**	**-0.7**
	1.7nm,0.2s,SNR=7.9							
ECAB				Lg			07 56 22.4	
	12nm,0.5s,SNR=4.0							
ECAB	**El Cabril**	**5.86**	**216**	Pn		**Pn**	**07 54 44.9**	**+0.5**
	0.2nm,0.0s,SNR=7.9							
ECAB				Sn		**Sn**	**07 55 49.3**	**-2.0**
	1.7nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**5.86**	**216**	Pn		**Pn**	**07 54 44.9**	**+0.5**
ECAB				Sn		**Sn**	**07 55 49.3**	**-2.0**
ECAB				Lg			07 56 22.4	
PMRV	**Marv??o**	**5.90**	**236**	*e*Pn		**Pn**	**07 54 44.8**	**-0.2**
PMRV				*e*Sn		**Sn**	**07 55 51.4**	**-1.0**
PMRV				*e*Sg		**Sg**	**07 56 26.6**	**-0.9**
PMRV				A			07 56 34.3	
	21nm,0.7s							
PMRV	**Marv??o**	**5.90**	**236**	*e*Pn		**Pn**	**07 54 44.8**	**-0.2**
PMRV				*e*Sg		**Sg**	**07 56 26.6**	**-0.9**
	21nm,0.7s							
MBDF	**Montbardon**	**5.96**	**70**	*e*Sn		**Sn**	**07 55 52.2**	**-1.5**
	9.6nm,0.5s							
MBDF	**Montbardon**	**5.96**	**70**	*e*Sn		**Sn**	**07 55 52.2**	**-1.5**
	4.8nm,0.5s							
EQUE	**Quentar**	**5.99**	**198**	Pn		**Pn**	**07 54 47.6**	**+1.5**
	1.3nm,0.3s,SNR=7.9							
EQUE				Lg			07 56 27.7	
	4.0nm,0.3s,SNR=5.6							
BNI	**Bardonecchia**	**5.99**	**66**	*e*Pn		**Pn**	**07 54 45.7**	**-0.4**
EBAD	**Badajoz**	**6.13**	**229**	Pn		**Pn**	**07 54 49.1**	**+1.0**
	0.9nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**6.13**	**229**	Pn		**Pn**	**07 54 49.1**	**+1.0**
EBER	**Berja**	**6.17**	**194**	Pn		**Pn**	**07 54 50.3**	**+1.7**
	1.3nm,0.2s,SNR=7.9							
EBER				Lg			07 56 32.6	
	106nm,1.6s,SNR=7.9							
EBER	**Berja**	**6.17**	**194**	Pn		**Pn**	**07 54 51.6**	**+2.9**
EBER	**Berja**	**6.17**	**194**	Pn		**Pn**	**07 54 51.6**	**+3.0**
EBER				Lg			07 56 36.7	
LPL	**La Plagne**	**6.18**	**62**	*e*Pn		**Pn**	**07 54 49.9**	**+1.1**
LPL				*e*Sn		**Sn**	**07 55 58.1**	**-1.1**
	5.8nm,0.3s							
LPL	**La Plagne**	**6.18**	**62**	*e*Pn		**Pn**	**07 54 49.9**	**+1.1**
LPL				*e*Sn		**Sn**	**07 55 58.1**	**-1.1**
	2.9nm,0.3s							
LPG	**La Plagne**	**6.19**	**63**	*e*P		**Pn**	**07 54 54.6**	**+5.7**
	SNR=1.0							
SBF	**Sospel**	**6.27**	**78**	*e*Pn		**Pn**	**07 54 51.4**	**+1.4**
	SNR=1.0							
SBF				*e*Sn		**Sn**	**07 55 59.9**	**-1.5**
	8.8nm,0.3s							
SBF	**Sospel**	**6.27**	**78**	*e*Pn		**Pn**	**07 54 51.4**	**+1.4**
	SNR=1.0							
SBF				*e*Sn		**Sn**	**07 55 59.9**	**-1.5**
	4.4nm,0.3s							
CABF	**La Chapelle**	**6.29**	**52**	*e*Pn		**Pn**	**07 54 52.0**	**+1.7**
	SNR=1.0							
CABF				*e*Sn		**Sn**	**07 55 59.8**	**-2.2**
	13nm,0.5s,SNR=1.0							
CABF	**La Chapelle**	**6.29**	**52**	*e*Pn		**Pn**	**07 54 52.0**	**+1.7**
	SNR=1.0							
CABF				*e*Sn		**Sn**	**07 55 59.8**	**-2.2**
	6.4nm,0.5s,SNR=1.0							
PESTR	**Estremoz**	**6.38**	**233**	*e*Pn		**Pn**	**07 54 52.5**	**+0.9**
PESTR				*e*Sg		**Sg**	**07 56 38.9**	**-3.9**
PESTR				A			07 56 48.2	
	9.0nm,0.5s							
PESTR	**Estremoz**	**6.38**	**233**	*e*Pn		**Pn**	**07 54 52.5**	**+0.9**
PESTR				*e*Sg		**Sg**	**07 56 38.9**	**-3.9**
	9.0nm,0.5s							
PBAR	**Barrancos**	**6.56**	**226**	*e*Pn		**Pn**	**07 54 54.6**	**+0.6**
PBAR				*e*Sn		**Sn**	**07 56 06.9**	**-1.7**
PBAR				*e*Sg		**Sg**	**07 56 43.4**	**-5.1**
PBAR				A			07 56 57.8	
	10nm,0.5s							
EMIN	**Mina Concepcio**	**6.69**	**222**	Pn		**Pn**	**07 54 56.5**	**+0.7**
	0.3nm,0.2s,SNR=7.9							
EMIN				Sn		**Sn**	**07 56 12.6**	**+1.0**
	1.2nm,0.3s,SNR=7.9							
EMIN				Lg			07 56 49.3	
	9.7nm,0.7s,SNR=7.9							
EMIN	**Mina Concepcio**	**6.69**	**222**	Pn		**Pn**	**07 54 56.5**	**+0.8**
EMIN				Sn		**Sn**	**07 56 07.6**	**-4.1**
EMIN	**Mina Concepcio**	**6.69**	**222**	Pn		**Pn**	**07 54 56.5**	**+0.7**
EMIN				Sn		**Sn**	**07 56 07.6**	**-4.1**
EMIN				Lg			07 56 51.5	
SFTF	**Sexfontaines**	**6.81**	**37**	*e*Pn		**Pn**	**07 54 58.3**	**+0.9**
	baz=224							
SFTF				*e*Sn		**Sn**	**07 56 11.4**	**-3.2**
	24nm,0.4s							
SFTF	**Sexfontaines**	**6.81**	**37**	*e*Pn		**Pn**	**07 54 58.3**	**+0.9**
SFTF				*e*Sn		**Sn**	**07 56 11.4**	**-3.2**
	12nm,0.4s							
PGF	**Pioggiola**	**7.43**	**89**	*e*Pn		**Pn**	**07 55 07.6**	**+1.7**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**07 56 28.0**	**-1.8**
	13nm,0.5s,SNR=1.0							
PGF	**Pioggiola**	**7.43**	**89**	*e*Pn		**Pn**	**07 55 07.6**	**+1.7**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**07 56 28.0**	**-1.8**
	6.6nm,0.5s,SNR=1.0							
PVAQ	**Vaqueiros**	**7.49**	**225**	*e*Pn		**Pn**	**07 55 06.7**	**-0.1**
PVAQ				*e*Sg		**Sn**	**07 57 18.1**	**+47**
PVAQ				A			07 57 41.3	
	5.6nm,0.7s							
PVAQ	**Vaqueiros**	**7.49**	**225**	*e*Pn		**Pn**	**07 55 06.7**	**-0.1**
PVAQ				*e*Sg

ESKT	Eskisehir	0.79	209	*i* P	Pb	07 58 47.3 +0.8
ESKT				*i* S	Sb	07 58 57.4 +0.7
SEYT	Eskypehyr	0.79	209	*i* P	Pb	07 58 47.3 +0.8
SEYT				*i* S	Sb	07 58 57.4 +0.7
GPA	Golpazari	0.80	276	*e*PG	Pb	07 58 45.1 -1.6
GPA				*e*SG	Sb	07 58 56.9 -0.2
LOD	Lodumlu	1.14	106	*e*PN	Pn	07 58 52.3 +0.2
ANTO	Ankara	1.16	106	*e*PN	Pn	07 58 52.9 +0.4
ADVT	Abdulvahap	1.25	281	*e*PN	Pn	07 58 53.4 -0.4
KIZT	Kizilcal	1.39	163	*e*PN	Pn	07 58 56.2 +0.6
SAFT	Safranbolu	1.45	44	*e*PN	Pn	07 58 56.4 -0.1
ALT	Altintas	1.50	220	*e*PN	Pn	07 58 57.3 +0.3
YLV	Yalova	1.55	284	*e*PN	Pn	07 58 58.6 +0.7
SILT	Sile	1.60	307	*e*PN	Pn	07 58 57.9 -0.6
KDHN	Kadinhani	1.79	160	*e*P	Pn	07 58 57.7 -3.4
KDHN				*e*S	Sn	07 59 19.2 -3.9

MOS ***29*** *08:19:46.9±1.0, 827S×7405W, h147km, mb4.5/21, Error ellipse: s-maj=21.6km s-min=6.8km az=119.4*
ISCJB ***29*** *08:19:47.6±0.8, 833S±005×7409W±005, h156km±8km, mb4.6/80, Error ellipse: s-maj=9.9km s-min=5.3km az=137.7*
IDC ***29*** *08:19:48.9±0.5, 839S×7412W, h154km±3km, mb4.3/16, mb1 4.4/22, mb1mx4.4/26, mbtmp4.3/22, Error ellipse: s-maj=13.4km s-min=8.6km az=60.0*
BJI ***29*** *08:19:49.1, 840S×7400W, h155km, mB4.8*
NEIC ***29*** *08:19:49.1±0.2, 836S×7405W, mb4.7/71, Error ellipse: s-maj=7.0km s-min=3.7km az=59.0*
NEIC Felt [II] at Pucallpa. Also felt at Campoverde.
ISC 29 08:19:48.9±0.8, 836S±005×7405W±005, h151km±7km, h158km±1.4km; pP-P, n507, σ0±55/481, mb4.6/80, 146C-157D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.52**	**287**	P	**Pn**	**08 20 53.9**	**-2.1**
	168nm,0.3s,baz=96,slow=5.2,SNR=549						
ATAH				S	**Sn**	**08 21 42.5**	**-5.7**
	54nm,0.3s,baz=78,slow=9.3,SNR=2.5						
NNA	**Nana**	**4.53**	**217**	P	**Pn**	**08 20 54.8**	**-1.4**
	28nm,0.3s,baz=54,slow=7.0,SNR=14						
NNA				S	**Sn**	**08 21 43.6**	**-4.9**
	213nm,0.3s,baz=143,slow=23,SNR=25						
NNA	**Nana**	**4.53**	**217**	*e*Pn	**Pn**	**08 20 55.2**	**-0.9**
NNA				*e*Sn	**Sn**	**08 21 43.6**	**-5.0**
OTAV	**Otavalo**	**9.61**	**333**	*e*Pn	**Pn**	**08 22 04.2**	**+0.5**
	40nm,0.8s						
LPAZ	**La Paz**	**9.77**	**144**	P	**Pn**	**08 22 06.2**	**+0.3**
	2.5nm,0.3s,baz=325,slow=11,SNR=72						
LPAZ	**La Paz**	**9.77**	**144**	*e*P	**Pn**	**08 22 06.3**	**+0.4**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
LPAZ	**La Paz**	**9.77**	**144**	*e*Pn	**Pn**	**08 22 06.3**	**+0.4**
	comp=Z,1.6nm,1.0s						
ROSC	**El Rosal**	**13.14**	**359**	P	**Pn**	**08 22 52.2**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=287,slow=19,SNR=2.2						
ROSC	**El Rosal**	**13.14**	**359**	Pn	**Pn**	**08 22 51.5**	**+1.5**
SIV	**San Ignacio**	**14.77**	**122**	P	**Pn**	**08 23 11.6**	**+1.1**
	comp=Z,13nm,0.3s,baz=293,slow=11,SNR=122						
LVC	**Limon Verde**	**15.00**	**161**	P	**Pn**	**08 23 14.4**	**+1.0**
	comp=Z,4.1nm,0.3s,baz=340,slow=7.0,SNR=19						
LVC	**Limon Verde**	**15.00**	**161**	*e*Pn	**Pn**	**08 23 14.4**	**+1.0**
BCIP	**Isla Barro Col**	**18.34**	**342**	*e*P	**P**	**08 23 52.2**	**+0.1**
	comp=Z,99nm,2.2s						
PCRV	**Puerto La Cruz**	**20.66**	**27**	P	**P**	**08 24 19.1**	**+2.0**
	comp=Z,14nm,0.9s,baz=66,slow=3.1,SNR=7.5						
PCRV				pP		08 24 46.2	
	comp=Z,25nm,0.6s,baz=186,slow=6.3,SNR=8.1						
CFAA	**Coronel Fontan**	**23.75**	**168**	P	**P**	**08 24 47.9**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=354,slow=8.4,SNR=14						
CFAA	**Coronel Fontan**	**23.75**	**168**	P	**P**	**08 24 47.9**	**+0.5**
CPUP	**Villa Florida**	**23.90**	**140**	P	**P**	**08 24 47.9**	**-1.1**
	comp=Z,9.6nm,0.6s,mb4.5,baz=310,slow=9.4,SNR=47						
CPUP	**Villa Florida**	**23.90**	**140**	*e*P	**P**	**08 24 47.8**	**-1.1**
CPUP				pmax	pmax		
	comp=Z,45nm,0.5s						
CPUP	**Villa Florida**	**23.90**	**140**	*e*P	**P**	**08 24 47.8**	**-1.2**
	comp=Z,45nm,0.5s,mb5.2						
BDFB	**Brasilia**	**26.45**	**108**	P	**P**	**08 25 12.9**	**+0.8**
	comp=Z,6.5nm,0.6s,mb4.5,baz=267,slow=21,SNR=14						
SJG	**San Juan**	**27.44**	**16**	P	**P**	**08 25 24.2**	**+3.3**
	comp=Z,17nm,0.4s,mb5.0,baz=158,slow=6.1,SNR=7.3						
SJG				pP	pP	08 25 53.2	+0.7
	comp=Z,10.0nm,0.2s,baz=320,slow=21,SNR=2.5						
AOPR	**Arecibo Observ**	**27.50**	**15**	*e*P	**P**	**08 25 21.7**	**+0.3**
	comp=Z,40nm,1.9s,mb4.7						
MTP	**Monte Pirata**	**27.60**	**18**	*e*P	**P**	**08 25 20.7**	**-1.5**
TRQA	**Tornquist**	**31.51**	**162**	*e*P	**P**	**08 25 56.3**	**-0.3**
	comp=Z,31nm,1.8s,mb4.7						
TEIG	**Tepich**	**31.67**	**334**	P	**P**	**08 25 58.7**	**+0.4**
	comp=Z,10nm,0.8s,mb4.6,baz=174,slow=15,SNR=5.3						
TEIG	**Tepich**	**31.67**	**334**	*e*P	**P**	**08 25 58.3**	**+0.1**
	comp=Z,29nm,1.5s,mb4.8						
PLCA	**Paso Flores**	**32.38**	**175**	P	**P**	**08 26 04.5**	**+0.3**
	comp=Z,5.8nm,0.5s,mb4.6,baz=348,slow=8.6,SNR=30						
PLCA				PcP	PcP	08 28 48.9	+0.6
	comp=Z,3.9nm,0.6s,baz=332,slow=3.7,SNR=9.1						
PLCA				ScP	ScP	08 32 17.4	-0.7
	comp=Z,1.6nm,1.0s,baz=318,slow=2.4,SNR=3.5						
PLCA	**Paso Flores**	**32.38**	**175**	*e*P	**P**	**08 26 04.3**	**+0.1**
PLCA				*e*		08 28 49.0	
PLCA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PLCA	**Paso Flores**	**32.38**	**175**	*e*P	**P**	**08 26 04.3**	**+0.1**
	comp=Z,7.3nm,0.8s,mb4.5						
PLCA				*e*PcP	PcP	08 28 49.0	+0.7
CAM3	**Guarapari**	**34.62**	**114**	⇓*i*P	**P**	**08 26 23.2**	**-0.6**
CAM3				*i*		08 26 24.2	
CAM3				*i*		08 26 25.3	
CAM3				*i*		08 26 28.4	
CAM3				*i*	pP	08 26 58.0	+1.8
CAM3				*i*		08 27 44.3	
GOGA	**Godfrey**	**42.50**	**348**	*e*P	**P**	**08 27 28.9**	**-0.5**
GOGA				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.2						
GOGA	**Godfrey**	**42.50**	**348**	*e*P	**P**	**08 27 28.9**	**-0.5**
	comp=Z,7.0nm,1.1s,mb4.2						
KVTX	**Kingsville**	**42.51**	**328**	*e*P	**P**	**08 27 32.2**	**+2.6**
SWET	**Sewanee**	**44.77**	**346**	P	**P**	**08 27 46.4**	**-1.2**
PLAL	**Pickwick Lake**	**45.10**	**344**	*e*P	**P**	**08 27 47.2**	**-3.0**
JCT	**Junction City**	**45.86**	**328**	*e*P	**P**	**08 27 56.4**	**+0.2**
JCT				*e*		08 29 31.0	
JCT				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
JCT	**Junction City**	**45.86**	**328**	*e*P	**P**	**08 27 56.4**	**+0.2**
	comp=Z,5.9nm,0.9s,mb4.2						
JCT				*e*PcP	PcP	08 29 31.0	+0.1
MIAR	**Mount Ida**	**46.51**	**338**	*e*P	**P**	**08 28 00.0**	**-1.2**
MIAR				*e*		08 29 32.8	
MIAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
MIAR	**Mount Ida**	**46.51**	**338**	*e*P	**P**	**08 27 60.0**	**-1.2**
	comp=Z,2.4nm,0.6s,mb4.0						
MIAR				*e*PcP	PcP	08 29 32.8	-0.4
TXAR	**Lajitas Array**	**47.10**	**324**	P	**P**	**08 28 06.0**	**+0.1**
	comp=Z,5.3nm,0.5s,mb4.4,baz=150,slow=8.9,SNR=157						
TXAR				pP	pP	08 28 40.6	+0.8
	comp=Z,1.8nm,0.7s,baz=152,slow=8.4,SNR=3.2						
TXAR				PcP	PcP	08 29 35.3	-0.1
	comp=Z,1.7nm,0.8s,baz=111,slow=5.5,SNR=6.7						
FVM	**French Village**	**48.58**	**343**	*e*P	**P**	**08 28 16.0**	**-1.1**
BLO	**Bloomington**	**48.69**	**347**	*e*P	**P**	**08 28 16.7**	**-1.2**
WMOK	**Wichita Mounta**	**48.84**	**333**	*e*P	**P**	**08 28 18.4**	**-0.7**
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
WMOK	**Wichita Mounta**	**48.84**	**333**	*e*P	**P**	**08 28 18.4**	**-0.7**
	comp=Z,4.0nm,0.8s,mb4.1						
ACSO	**Alum Creek Sta**	**49.05**	**351**	*e*P	**P**	**08 28 19.8**	**-0.9**
	comp=Z,3.8nm,0.9s,mb4.0						
ACSO				*e*pP	pP	08 28 55.4	+0.6
GDL2	**Guadalupe Moun**	**49.64**	**326**	*e*P	**P**	**08 28 25.8**	**+0.5**
AMTX	**Amarillo**	**50.33**	**330**	*e*P	**P**	**08 28 29.5**	**-0.9**
	comp=Z,20nm,1.2s,mb4.6						
BINY	**Binghamton**	**50.35**	**358**	*e*P	**P**	**08 28 31.0**	**+0.6**
	comp=Z,20nm,0.9s,mb4.8						
KSU1	**Kansas State U**	**51.66**	**338**	*e*P	**P**	**08 28 39.3**	**-1.1**
	comp=Z,11nm,0.8s,mb4.5						
KSU1				*e*pP	pP	08 29 14.6	-0.2
319A	**Douglas**	**51.94**	**321**	⇑P	**P**	**08 28 42.9**	**+0.3**
	baz=52,SNR=12						
MDV	**Middlebury**	**52.12**	**1**	*e*P	**P**	**08 28 43.9**	**+0.3**
BNM	**Barren Site**	**52.36**	**326**	*e*P	**P**	**08 28 44.5**	**-1.0**
219A	**White Tail Can**	**52.36**	**322**	⇓P	**P**	**08 28 45.8**	**+0.2**
	baz=52,SNR=10						
LBNH	**Lisbon**	**52.39**	**2**	*e*P	**P**	**08 28 46.0**	**+0.4**
LBNH				*PP	pP	08 29 22.0	+1.8
LBNH				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
LBNH	**Lisbon**	**52.39**	**2**	*e*P	**P**	**08 28 46.0**	**+0.5**
	comp=Z,6.7nm,0.9s,mb4.3						
LBNH				pP	pP	08 29 22.0	+1.8
CBKS	**Cedar Bluff**	**52.67**	**335**	*e*P	**P**	**08 28 48.0**	**+0.3**
CBKS				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
CBKS	**Cedar Bluff**	**52.67**	**335**	*e*P	**P**	**08 28 48.0**	**+0.2**
	comp=Z,14nm,0.8s,mb4.7						
LONY	**Lake Ozonia**	**52.74**	**360**	*e*P	**P**	**08 28 46.6**	**-1.5**
	comp=Z,11nm,1.6s,mb4.3						
218A	**Dragoon**	**52.83**	**321**	⇓P	**P**	**08 28 49.2**	**+0.1**
	baz=53,SNR=11						
LAZ	**Ladron**	**52.83**	**325**	*e*P	**P**	**08 28 49.7**	**+0.7**
ANMO	**Albuquerque**	**52.86**	**326**	*d*P	**P**	**08 28 49.0**	**-0.2**
ANMO	**Albuquerque**	**52.86**	**326**	*e*P	**P**	**08 28 48.9**	**-0.3**
	comp=Z,9.3nm,1.0s,mb4.5						
ANMO				*e*pP	pP	08 29 24.3	+0.5
119A	**Ashpeak Ranch,**	**52.92**	**322**	⇓P	**P**	**08 28 49.9**	**+0.2**
	baz=53,SNR=6.2						
FRNY	**Flat Rock**	**52.95**	**0**	*e*P	**P**	**08 28 49.8**	**+0.1**
	comp=Z,11nm,1.1s,mb4.5						
SCIA	**State Center**	**53.02**	**342**	*e*P	**P**	**08 28 48.9**	**-1.4**
	comp=Z,8.9nm,0.6s,mb4.7						
JFWS	**Jewell Farm**	**53.13**	**345**	*e*P	**P**	**08 28 49.4**	**-1.6**
JFWS				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
JFWS	**Jewell Farm**	**53.13**	**345**	*e*P	**P**	**08 28 49.4**	**-1.6**
	comp=Z,12nm,0.6s,mb4.8						
217A	**Green Valley**	**53.17**	**320**	⇑P	**P**	**08 28 51.5**	**-0.1**
	baz=53,SNR=8.6						
118A	**Homack Ranch,**	**53.24**	**322**	⇓P	**P**	**08 28 52.1**	**+0.1**
	baz=53,SNR=8.7						
Z19A	**T-Link Ranch,**	**53.26**	**323**	⇑P	**P**	**08 28 52.3**	**0.0**
	baz=53						
TUC	**Tucson**	**53.51**	**321**	*e*P	**P**	**08 28 53.6**	**-0.5**
TUC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
TUC	**Tucson**	**53.51**	**321**	*e*P	**P**	**08 28 53.6**	**-0.5**
	comp=Z,4.6nm,0.8s,mb4.3						
PKME	**Peaks-Kenny Pk**	**53.55**	**4**	*e*P	**P**	**08 28 54.4**	**+0.3**
	comp=Z,9.4nm,0.7s,mb4.6						
117A	**Oracle**	**53.66**	**321**	⇑P	**P**	**08 28 55.1**	**-0.1**
	baz=54,SNR=11						
Y19A	**Nutrioso**	**53.72**	**324**	⇑P	**P**	**08 28 56.0**	**+0.5**
	baz=54,SNR=8.5						
216A	**Three Points,**	**53.73**	**320**	⇓P	**P**	**08 28 55.5**	**-0.1**
	baz=54,SNR=5.2						
Z17A	**San Carlos Hig**	**53.99**	**322**	⇓P	**P**	**08 28 57.4**	**-0.2**
	baz=54						
Y18A	**Canyon Day Jun**	**54.06**	**323**	⇑P	**P**	**08 28 58.0**	**0.0**
	baz=54,SNR=5.2						
X19A	**St. Johns**	**54.08**	**324**	⇓P	**P**	**08 28 58.3**	**+0.2**
	baz=54						
116A	**Eloy**	**54.26**	**321**	⇑P	**P**	**08 28 59.2**	**-0.3**
	baz=54,SNR=6.4						
SDCO	**Great Sand Dun**	**54.47**	**329**	*e*P	**P**	**08 29 01.2**	**+0.3**
	comp=Z,10nm,0.8s,mb4.6						
Y17A	**Roosevelt**	**54.49**	**322**	⇑P	**P**	**08 29 00.9**	**-0.2**
	baz=55,SNR=6.2						
X18A	**Snowflake**	**54.53**	**324**	⇑P	**P**	**08 29 01.6**	**+0.2**
	baz=55,SNR=6.5						
214A	**Organ Pipe Nat**	**54.57**	**319**	⇓P	**P**	**08 29 01.7**	**0.0**
	baz=55,SNR=7.6						
Z16A	**Peralta Trail,**	**54.61**	**321**	⇓P	**P**	**08 29 01.8**	**-0.2**
	baz=55,SNR=8.8						
X17A	**Forest Lakes**	**54.91**	**323**	⇓P	**P**	**08 29 04.5**	**+0.4**
	baz=55,SNR=8.3						
Y16A	**Circle Bar Ran**	**55.00**	**322**	⇓P	**P**	**08 29 05.2**	**+0.4**
	baz=55,SNR=10						
X16A	**Lo Mia Camp, P**	**55.35**	**322**	⇓P	**P**	**08 29 07.5**	**+0.3**
	baz=56,SNR=13						
V18A	**Ganado**	**55.36**	**325**	⇑P	**P**	**08 29 07.4**	**+0.1**
	baz=56						
Y15A	**Casa Rosa Ranc**	**55.58**	**321**	⇑P	**P**	**08 29 08.8**	**-0.1**
	baz=56,SNR=7.3						
MVCO	**Mesa Verde**	**55.64**	**327**	⇑P	**P**	**08 29 09.3**	**0.0**
	baz=56						
MVCO	**Mesa Verde**	**55.64**	**327**	*e*P	**P**	**08 29 10.2**	**+0.9**
	comp=Z,7.8nm,1.0s,mb4.5						
T19A	**Beclabito**	**55.65**	**326**	⇓P	**P**	**08 29 09.4**	**0.0**
	baz=56						
113A	**Mohawk Valley,**	**55.71**	**319**	⇓P	**P**	**08 29 09.6**	**-0.2**
	baz=56						
ECSD	**EROS,Sioux Fal**	**55.75**	**340**	*e*P	**P**	**08 29 07.9**	**-2.1**
	comp=Z,4.9nm,0.8s,mb4.4						
W16A	**Flagstaff**	**55.86**	**323**	⇑P	**P**	**08 29 10.9**	**0.0**
	baz=56						
X15A	**Humboldt**	**55.88**	**322**	⇑P	**P**	**08 29 11.0**	**0.0**
	baz=56,SNR=7.3						
Y14A	**Wickenburg**	**55.98**	**321**	⇑P	**P**	**08 29 11.8**	**0.0**
	baz=56						
WUAZ	**Wupatki**	**56.06**	**323**	⇓P	**P**	**08 29 12.7**	**+0.4**
	baz=56						
WUAZ	**Wupatki**	**56.06**	**323**	*e*P	**P**	**08 29 12.8**	**+0.5**
	comp=Z,11nm,0.8s,mb4.7						
ISCO	**Idaho Springs**	**56.12**	**331**	*e*P	**P**	**08 29 12.0**	**-0.7**
ISCO				*e*		08 30 09.3	
ISCO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
ISCO	**Idaho Springs**	**56.12**	**331**	*e*P	**P**	**08 29 12.0**	**-0.7**
	comp=Z,6.6nm,0.8s,mb4.5						
ISCO				*e*PcP	PcP	08 30 09.3	+0.4
X14A	**Yava**	**56.27**	**321**	⇓P	**P**	**08 29 14.0**	**+0.2**
	baz=56,SNR=7.5						
T18A	**Mexican Hat**	**56.34**	**326**	⇓P	**P**	**08 29 13.9**	**-0.4**
	baz=56,SNR=12						
U16A	**Tuba City**	**56.35**	**324**	⇑P	**P**	**08 29 14.5**	**+0.1**
	baz=56,SNR=6.4						
PV01	**Paradox Valley**	**56.35**	**328**	*e*P	**P**	**08 29 15.0**	**+0.6**
W15A	**Williams**	**56.36**	**323**	⇓P	**P**	**08 29 15.0**	**+0.6**
	baz=56						
S19A	**Harvey Farm, M**	**56.37**	**327**	⇓P	**P**	**08 29 14.2**	**-0.3**
	baz=56,SNR=14						
U17A	**Shonto**	**56.40**	**325**	⇑P	**P**	**08 29 14.9**	**+0.2**
	baz=57						
Y13A	**Salome**	**56.42**	**320**	⇓P	**P**	**08 29 14.9**	**0.0**
	baz=57,SNR=6.3						
GLA	**Glamis**	**56.58**	**319**	⇑P	**P**	**08 29 15.9**	**-0.1**
	baz=57						
V15A	**Kaibab Nationa**	**56.74**	**323**	⇓P	**P**	**08 29 17.6**	**+0.5**
	baz=57,SNR=6.1						
T17A	**Navajo Res., N**	**56.76**	**325**	⇑P	**P**	**08 29 17.6**	**+0.3**
	baz=57,SNR=15						
S18A	**Hurst Farm, Bl**	**56.80**	**326**	⇓P	**P**	**08 29 17.5**	**0.0**
	baz=57,SNR=12						
Y12C	**Blythe**	**56.82**	**320**	⇓P	**P**	**08 29 17.8**	**0.0**
	baz=57						
R19A	**Curley Farm, L**	**56.84**	**327**	⇓P	**P**	**08 29 17.5**	**-0.3**
	baz=57,SNR=6.0						
W14A	**Seligman**	**56.88**	**322**	⇑P	**P**	**08 29 18.5**	**+0.3**
	baz=57,SNR=9.2						
T16A	**Glen Canyon Da**	**57.15**	**325**	⇓P	**P**	**08 29 20.2**	**+0.1**
	baz=57						
V14A	**Boquillas Ranc**	**57.17**	**322**	⇓P	**P**	**08 29 20.6**	**+0.4**
	baz=57,SNR=11						
S17A	**Black Ridge (B**	**57.21**	**326**	⇓P	**P**	**08 29 20.5**	**+0.1**
	baz=57						
U15A	**North Rim**	**57.23**	**324**	⇓P	**P**	**08 29 20.9**	**+0.4**
	baz=57,SNR=10.0						
PHWY	**Pilot Hill**	**57.23**	**332**	*e*P	**P**	**08 29 21.0**	**+0.6**
R18A	**Canyonlands Na**	**57.25**	**327**	⇑P	**P**	**08 29 20.1**	**-0.5**
	baz=57,SNR=8.1						
W13A	**Hualapai Mount**	**57.30**	**321**	⇓P	**P**	**08 29 21.4**	**+0.3**
	baz=57,SNR=11						
Q19A	**Hogan Spring (**	**57.33**	**328**	⇑P	**P**	**08 29 21.0**	**-0.2**
	baz=58,SNR=30						
BC3	**Big Chucky Mtn**	**57.36**	**319**	⇑P	**P**	**08 29 21.5**	**-0.1**
	baz=58,SNR=6.8						
IRM	**Iron Mountain**	**57.48**	**320**	⇓P	**P**	**08 29 22.4**	**0.0**
	baz=58,SNR=18						
MONP	**Monument Peak**	**57.52**	**318**	⇑P	**P**	**08 29 22.7**	**0.0**
	baz=58						
P19A	**Cripple Cowboy**	**57.68**	**328**	⇓P	**P**	**08 29 23.6**	**-0.1**
	baz=58,SNR=12						
T15A	**Red Dirt Ranch**	**57.68**	**324**	⇑P	**P**	**08 29 24.2**	**+0.4**
	baz=58,SNR=10						
R17A	**Hanksville Air**	**57.72**	**326**	⇓P	**P**	**08 29 23.8**	**-0.1**
	baz=58,SNR=16						
S16A	**Weppner Ranch,**	**57.72**	**325**	⇑P	**P**	**08 29 23.9**	**-0.1**
	baz=58,SNR=9.0						
U14A	**Mt Trumbull**	**57.74**	**323**	⇑P	**P**	**08 29 24.6**	**+0.4**
	baz=58,SNR=9.2						
V13A	**Grand Canyon W**	**57.85**	**322**	⇑P	**P**	**08 29 25.0**	**+0.1**
	baz=58,SNR=12						
Q18A	**Rafter H Ranch**	**57.90**	**327**	⇑P	**P**	**08 29 25.1**	**0.0**
	baz=58,SNR=6.0						
BELC	**Belle Mtn.**	**57.93**	**319**	⇓P	**P**	**08 29 25.5**	**0.0**
	baz=58						
PFO	**Pinyon Flat Ob**	**57.99**	**318**	*e*P	**P**	**08 29 26.5**	**+0.6**
PFO				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.5						
PFO	**Pinyon Flat Ob**	**57.99**	**318**	⇓P	**P**	**08 29 26.1**	**+0.2**
	baz=58						
PFO	**Pinyon Flat Ob**	**57.99**	**318**	*e*P	**P**	**08 29 26.5**	**+0.6**
	comp=Z,11nm,1.4s,mb4.5						
R16A	**Teasdale**	**58.05**	**326**	⇓P	**P**	**08 29 26.3**	**+0.1**
	baz=58,SNR=7.5						
SRU	**San Rafael**	**58.11**	**327**	⇑P	**P**	**08 29 26.5**	**-0.2**
	baz=58,SNR=7.1						
T14A	**Hurricane**	**58.12**	**324**	⇑P	**P**	**08 29 27.1**	**+0.3**
	baz=58						
S15A	**Panguitch**	**58.12**	**325**	⇑P	**P**	**08 29 27.1**	**+0.3**
	baz=58						
EYMN	**Ely**	**58.15**	**346**	*e*P	**P**	**08 29 25.2**	**-1.5**
	comp=Z,8.6nm,0.9s,mb4.6						
GMRC	**Granite Mounta**	**58.20**	**320**	⇓P	**P**	**08 29 27.6**	**+0.2**
	baz=58,SNR=5.4						
U13A	**Pakoon Wash**	**58.21**	**322**	⇑P	**P**	**08 29 27.6**	**+0.1**
	baz=58						
O19A	**Miners Draw (B**	**58.25**	**329**	⇓P	**P**	**08 29 27.3**	**-0.2**
	baz=58,SNR=17						
V12A	**Nelson**	**58.30**	**321**	⇓P	**P**	**08 29 27.9**	**-0.1**
	baz=58,SNR=6.6						
Q16A	**Castle Valley**	**58.33**	**326**	⇓P	**P**	**08 29 28.2**	**0.0**
	baz=58						
P18A	**Preston Nutter**	**58.34**	**328**	⇓P	**P**	**08 29 28.5**	**+0.3**
	baz=58						
RWWY	**Rawlins**	**58.35**	**331**	*e*P	**P**	**08 29 28.5**	**+0.2**
	comp=Z,24nm,1.2s,mb4.9						
R15A	**Junction**	**58.45**	**325**	⇑P	**P**	**08 29 29.3**	**+0.3**
	baz=59						
P17A	**Butcher Ranch,**	**58.49**	**327**	⇓P	**P**	**08 29 29.2**	**-0.1**
	baz=59,SNR=6.5						
U12A	**Valley of Fire**	**58.57**	**322**	⇑P	**P**	**08 29 30.0**	**+0.1**
	baz=59						
T13A	**Saint George**	**58.58**	**323**	⇑P	**P**	**08 29 30.1**	**+0.1**
	baz=59						
MSU	**Marysvale**	**58.60**	**325**	*e*P	**P**	**08 29 31.0**	**+0.9**
CCUT	**Cedar City**	**58.62**	**324**	*e*P	**P**	**08 29 40.0**	**+10**
S14A	**Cedar City**	**58.65**	**324**	⇑P	**P**	**08 29 30.6**	**+0.2**
	baz=59						
HEC	**Hector,Ludlow**	**58.66**	**320**	⇓P	**P**	**08 29 30.7**	**+0.1**
	baz=59						
O18A	**Roosevelt**	**58.68**	**328**	⇑P	**P**	**08 29 30.8**	**+0.2**
	baz=59,SNR=8.0						
N19A	**John Jarvie Ra**	**58.72**	**329**	⇑P	**P**	**08 29 30.5**	**-0.4**
	baz=59,SNR=14						
V11A	**Goodsprings**	**58.73**	**321**	⇑P	**P**	**08 29 31.0**	**-0.1**
	baz=59						
TUQ	**Turquoise Mtn.**	**58.78**	**320**	⇓P	**P**	**08 29 31.5**	**+0.1**
	baz=59,SNR=6.1						
RSSD	**Black Hills**	**58.87**	**335**	*e*P	**P**	**08 29 31.7**	**-0.1**
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.4						
RSSD	**Black Hills**	**58.87**	**335**	*e*P	**P**	**08 29 31.7**	**-0.1**
	comp=Z,8.1nm,1.2s,mb4.4						
S13A	**Holt Ranch, En**	**58.93**	**324**	⇓P	**P**	**08 29 33.0**	**+0.6**
	baz=59,SNR=12						
SHPR	**Sheep Range**	**59.00**	**322**	*e*P	**P**	**08 29 33.1**	**+0.3**
O17A	**Robinson Place**	**59.01**	**328**	⇑P	**P**	**08 29 33.2**	**+0.3**
	baz=59,SNR=20						
N18A	**Larsen Ranch,**	**59.03**	**329**	⇑P	**P**	**08 29 33.2**	**+0.2**
	baz=59,SNR=14						
GSC	**Goldstone**	**59.26**	**320**	⇓P	**P**	**08 29 34.6**	**-0.1**
	baz=59						
GSC	**Goldstone**	**59.26**	**320**	*e*P	**P**	**08 29 34.8**	**+0.1**
FMP	**Fort Macarthur**	**59.27**	**317**	⇑P	**P**	**08 29 34.7**	**-0.1**

baz=61,SNR=6.3
L15A Malad City 61.17 328 ⇑P P 08 29 47.1 -0.5
baz=61,SNR=22
O12A Currie 61.25 325 ⇑P P 08 29 48.6 +0.5
baz=61,SNR=26
Q10A Clear Creek Ra 61.25 323 ⇓P P 08 29 48.8 +0.6
baz=61,SNR=6.1
R09A Tonopah 61.28 322 ⇓P P 08 29 48.5 +0.1
baz=61,SNR=5.5
M14A Sheep Mountain 61.33 327 ⇑P P 08 29 48.2 -0.4
baz=62,SNR=27
N13A Wendover, West 61.35 326 ⇓P P 08 29 48.7 0.0
baz=62
K16A Soda Springs 61.36 329 ⇓P P 08 29 49.0 +0.2
baz=62,SNR=8.7
REDW Red Top Meadow 61.38 330 *eP* **P 08 29 48.9 0.0**
comp=Z,6.0nm,0.6s,mb4.6
ULM Lac du Bonnet 61.38 344 P **P 08 29 47.4 -1.5**
comp=Z,9.4nm,0.6s,mb4.8,baz=163,slow=7.2,SNR=21
SNOW Snow King Moun 61.41 330 *eP* **P 08 29 49.1 0.0**
comp=Z,6.9nm,0.6s,mb4.7
S08C White Mtn Res 61.49 321 ⇑P P 08 29 50.3 +0.5
baz=62,SNR=11
HELL Mitchell Peak 61.52 320 ⇓P P 08 29 50.0 -0.1
baz=62
RRI2 Red Ridge 61.60 330 *eP* **P 08 29 51.0 +0.6**
comp=Z,16nm,0.7s,mb5.0
MTUM Tungsten Hills 61.64 321 *eP* **P 08 29 51.2 +0.3**
L14A Malta 61.65 328 ⇓P P 08 29 50.3 -0.5
baz=62,SNR=26
M13A Montello 61.67 327 ⇓P P 08 29 51.0 0.0
baz=62
O11A Cowboy Ranch, 61.67 325 ⇓P P 08 29 51.2 +0.2
baz=62,SNR=9.1
J16A Bone 61.69 330 ⇓P P 08 29 51.1 0.0
baz=62,SNR=11
K15A Arbon 61.74 329 ⇑P P 08 29 51.1 -0.2
baz=62,SNR=11
N12A Clover Valley, 61.81 326 ⇑P P 08 29 51.8 -0.1
baz=62
IMW Indian Meadow 61.82 331 *eP* **P 08 29 51.9 0.0**
comp=Z,15nm,1.2s,mb4.7
FLWY Flagg Ranch 61.84 331 *eP* **P 08 29 52.2 +0.2**
comp=Z,16nm,0.8s,mb4.9
RLMT Red Lodge 61.95 332 *eP* **P 08 29 52.7 0.0**
comp=Z,8.1nm,0.9s,mb4.5
K14A Jones Ranch, D 61.97 328 ⇑P P 08 29 52.3 -0.6
baz=62,SNR=14
LKWY Lake 62.06 331 *eP* **P 08 29 54.6 +1.2**
LKWY pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
LKWY Lake 62.06 331 *eP* **P 08 29 54.6 +1.2**
comp=Z,9.6nm,0.6s,mb4.8
L13A Double Diamond 62.06 327 ⇓P P 08 29 53.3 -0.2
baz=62,SNR=26
I16A Newdale 62.07 330 ⇓P P 08 29 53.6 +0.1
baz=62,SNR=15
KCC Kaiser Creek 62.10 320 ⇓P P 08 29 53.4 -0.5
baz=62
M12A Wells 62.12 326 ⇓P P 08 29 53.5 -0.5
baz=62,SNR=6.6
NVAR Mina Array Bea 62.15 322 P **P 08 29 54.2 0.0**
comp=Z,3.2nm,0.7s,mb4.2,baz=138,slow=6.9,SNR=33
NVAR pP pP 08 30 31.6 +1.8
comp=Z,2.5nm,0.7s,baz=145,slow=5.7,SNR=6.5
NVAR Mina Array Bea 62.15 322 P **P 08 29 54.2 0.0**
NVAR pP pP 08 30 31.6 +1.8
P09A Austin 62.16 323 ⇑P P 08 29 54.4 +0.2
baz=62
YFT Old Faithful 62.18 331 *eP* **P 08 29 56.0 +1.7**
Q08A Gabbs 62.19 322 ⇓P P 08 29 54.4 -0.1
baz=62
J15A Blackfoot 62.20 329 ⇓P P 08 29 54.5 +0.1
baz=62,SNR=13
O10A Cortez Mining, 62.27 324 ⇓P P 08 29 55.3 +0.4
baz=62,SNR=6.6
YMR Madison River 62.40 331 *eP* **P 08 29 57.0 +1.3**
comp=Z,27nm,0.7s,mb5.2
U04C Hernandez Rese 62.48 318 ⇓P P 08 29 56.3 -0.1
baz=63
K13A Stover Farm, H 62.52 328 ⇑P P 08 29 56.4 -0.2
baz=63
N10A Dunphy 62.55 325 ⇓P P 08 29 56.8 0.0
baz=63
H16A Russell Place, 62.56 331 ⇓P P 08 29 57.6 +0.8
baz=63,SNR=33
V03C Hunter Liggett 62.58 318 ⇑P P 08 29 57.0 -0.1
baz=63
O09A Fish Creek Ran 62.59 324 ⇑P P 08 29 57.3 +0.2
baz=63,SNR=7.4
M11A Holland Ranch, 62.62 326 ⇑P P 08 29 57.3 0.0
baz=63
GCMT Greycliff 62.64 333 *eP* **P 08 29 57.5 +0.2**
I15A Monteview 62.66 330 ⇑P P 08 29 57.7 +0.3
baz=63
L12A House Creek Ra 62.67 327 ⇑P P 08 29 57.7 +0.1
baz=63,SNR=10
J14A Carey 62.70 329 ⇑P P 08 29 58.1 +0.4
baz=63,SNR=24
S05C Merced 62.76 320 ⇑P P 08 29 58.1 -0.2
baz=63,SNR=5.3
BMN Battle Mountai 62.77 324 *eP* **P 08 29 58.6 +0.3**
BMN pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
BMN Battle Mountai 62.77 324 *eP* **P 08 29 58.6 +0.3**
comp=Z,5.8nm,0.6s,mb4.6
S06C San Francisco 62.77 320 ⇑P P 08 29 58.3 0.0
baz=63,SNR=11
P08A Dixie Valley 62.81 323 ⇑P P 08 29 59.0 +0.4
baz=63
WAKR Walker 62.89 321 *eP* **P 08 29 59.8 +0.7**
R06C Coleville 62.91 321 ⇓P P 08 29 59.8 +0.5
baz=63
K12A Draper Farm, C 62.95 327 ⇓P P 08 29 59.7 +0.3
baz=63,SNR=21
HAST Hastings Reser 63.00 318 ⇓P P 08 29 59.6 -0.2
baz=63
J13A Cove Ranch, Pi 63.09 328 ⇑P P 08 30 00.3 0.0
baz=63,SNR=18
L11A Cat Creek Ranc 63.09 326 ⇓P P 08 30 00.4 0.0
baz=63,SNR=17
I14A Mackay 63.09 329 ⇓P P 08 30 00.8 +0.5
baz=63,SNR=21
M10A I.L. Ranch, Tu 63.10 325 ⇓P P 08 30 00.6 +0.2
baz=63
H15A Lima 63.18 330 ⇑P P 08 30 01.5 +0.6
baz=63,SNR=8.2
PACP Pacheco Peak 63.18 319 ⇓P P 08 30 01.0 -0.1
baz=63
CMB Columbia Colle 63.21 320 ⇓P P 08 30 01.1 -0.1
baz=63
N09A Rock Creek Ran 63.22 324 ⇑P P 08 30 01.1 -0.1
baz=63
O08A Rochester Mine 63.23 323 ⇑P P 08 30 01.2 -0.1
baz=63,SNR=7.0
SCHQ Schefferville 63.25 5 P **P 08 30 00.8 -0.3**
comp=Z,9.5nm,0.6s,mb4.8,baz=209,slow=6.4,SNR=21
SCHQ pP pP 08 30 36.6 -0.4
comp=Z,16nm,0.8s,baz=186,slow=6.2,SNR=8.9
SCHQ Schefferville 63.25 5 *eP* **P 08 30 01.1 0.0**
comp=Z,16nm,1.1s,mb4.8
HLID Hailey 63.33 328 ⇑P P 08 30 02.2 +0.3
baz=64
HLID Hailey 63.33 328 *eP* **P 08 30 02.4 +0.5**
comp=Z,6.6nm,0.8s,mb4.5
R05C Kirkwood Meado 63.41 321 ⇑P P 08 30 03.1 +0.5
baz=64,SNR=6.1
I13A Wildhorse Cree 63.42 329 ⇑P P 08 30 02.9 +0.4
baz=64,SNR=30
L10A Juniper Basin 63.43 326 ⇓P P 08 30 02.7 +0.1
baz=64,SNR=17
MCMT McKenzie Canyo 63.43 330 *eP* **P 08 30 03.2 +0.7**
J12A Stokes Ranch, 63.48 328 ⇓P P 08 30 02.8 0.0
baz=64,SNR=6.9
S04C Ingram Canyon, 63.50 319 ⇓P P 08 30 03.1 -0.1
baz=64
G15A Dillon 63.50 331 ⇓P P 08 30 03.0 0.0
baz=64,SNR=7.9
H14A Leadore 63.54 330 ⇑P P 08 30 03.6 +0.4
baz=64,SNR=25
M09A Marrel Ranch, 63.55 325 ⇓P P 08 30 03.6 +0.2
baz=64
O07A Toulon 63.58 323 ⇑P P 08 30 03.5 -0.1
baz=64
WCN Washoe City 63.58 322 ⇓P P 08 30 04.1 +0.5
baz=64,SNR=7.5
PAHR Pah Rah Range 63.60 322 *eP* **P 08 30 04.6 +0.8**
comp=Z,10nm,0.9s,mb4.7

K11A Parker Ranch, 63.65 327 ⇓P P 08 30 04.1 +0.1
baz=64,SNR=18
R04C Big Horse Ranc 63.69 320 ⇑P P 08 30 04.5 +0.2
baz=64
DLMT Dillon 63.70 331 *eP* **P 08 30 04.5 +0.2**
comp=Z,8.2nm,0.9s,mb4.6
BNLO Ben Lomond (Sa 63.83 318 ⇓P P 08 30 05.0 -0.4
baz=64
H13A Challis 63.95 329 ⇑P P 08 30 06.1 +0.2
baz=64,SNR=13
LRM Limekiln Ridge 63.96 331 *eP* **P 08 30 06.0 0.0**
MFID Camas Ranch 63.98 327 ⇓P P 08 30 06.5 +0.4
baz=64,SNR=60
F15A Butte 64.00 331 ⇓P P 08 30 06.1 -0.1
baz=64,SNR=6.9
N07B Gerlach 64.02 323 ⇑P P 08 30 06.3 -0.2
baz=64
G14A Jackson 64.03 330 ⇑P P 08 30 06.4 0.0
baz=64
L09A Wilkinson Ranc 64.06 325 ⇓P P 08 30 06.7 0.0
baz=64,SNR=7.2
M08A Happy Creek Ra 64.10 324 ⇓P P 08 30 06.8 -0.1
baz=64,SNR=5.6
K10A MacKenzie Ranc 64.11 326 ⇑P P 08 30 07.1 +0.1
baz=64,SNR=18
H12A Diamond D Ranc 64.25 329 ⇑P P 08 30 08.2 +0.3
baz=64,SNR=19
BEKR Beckwourth 64.29 322 ⇓P P 08 30 08.6 +0.3
baz=64,SNR=11
G13A Cobalt 64.31 330 ⇑P P 08 30 08.3 0.0
baz=64,SNR=26
I11A Placerville 64.38 328 ⇑P P 08 30 08.6 -0.2
baz=64,SNR=29
EGMT Eagleton 64.39 334 ⇓P P 08 30 08.5 -0.2
baz=65
E15A Deer Lodge 64.49 331 ⇑P P 08 30 09.3 -0.1
baz=65,SNR=6.8
M07A Soldier Meadow 64.52 324 ⇓P P 08 30 09.1 -0.6
baz=65
K09A Rome 64.54 326 ⇑P P 08 30 09.9 +0.1
baz=65,SNR=62
L08A Fields 64.56 325 ⇓P P 08 30 09.8 -0.2
baz=65,SNR=11
SUTB Sutter Butte 64.80 321 ⇓P P 08 30 11.2 -0.4
baz=65,SNR=5.0
ORV Oroville 64.81 321 ⇑P P 08 30 11.9 +0.3
baz=65,SNR=25
F13A Darby 64.85 330 ⇑P P 08 30 11.7 -0.1
baz=65,SNR=8.8
D15A Lincoln 64.89 332 ⇑P P 08 30 12.1 +0.2
baz=65,SNR=6.3
E14A Clinton 64.89 331 ⇑P P 08 30 12.1 +0.1
baz=65,SNR=8.8
H11A Donnelly 64.95 328 ⇑P P 08 30 11.8 -0.7
baz=65,SNR=8.9
J09A Fry Pan Ranch, 64.98 326 ⇑P P 08 30 12.4 -0.3
baz=65,SNR=9.5
K08A Mann Creek Ran 64.98 325 ⇓P P 08 30 12.2 -0.5
baz=65
O04C Chester 65.01 322 ⇓P P 08 30 13.0 +0.1
baz=65,SNR=11
L07A Adell 65.02 324 ⇓P P 08 30 13.3 +0.3
baz=65,SNR=11
CHMT Chamberlain Mo 65.14 331 *eP* **P 08 30 13.6 0.0**
E13A Victor 65.25 331 ⇑P P 08 30 14.4 +0.1
baz=65,SNR=24
F12A Elk City 65.29 329 ⇓P P 08 30 14.4 -0.2
baz=65,SNR=20
D14A Greenough 65.38 331 ⇑P P 08 30 15.0 -0.1
baz=66,SNR=7.5
I09A Lost Marbles R 65.38 327 ⇓P P 08 30 14.5 -0.7
baz=66,SNR=7.7
J08A Circle Bar Ran 65.38 326 ⇑P P 08 30 14.9 -0.4
baz=66,SNR=11
K07A Rock Creek Ran 65.39 325 ⇑P P 08 30 14.5 -0.8
baz=66
MSO Missoula 65.40 331 *eP* **P 08 30 15.8 +0.5**
comp=Z,14nm,1.0s,mb4.8
MSO pP pP 08 30 53.3 +2.0
MOD Modoc 65.50 324 ⇑P P 08 30 15.9 -0.2
baz=66,SNR=14
G11A Walters Elk Ra 65.56 329 ⇓P P 08 30 15.9 -0.4
baz=66,SNR=25
GASB Alder Springs 65.63 320 ⇓P P 08 30 17.3 +0.4
baz=66
M05C Lookout 65.67 323 ⇑P P 08 30 17.1 -0.1
baz=66,SNR=8.6
BMO Blue Mountains 65.73 328 *eP* **P 08 30 16.7 -0.8**
F11A Grangeville 65.84 329 ⇑P P 08 30 17.5 -0.6
baz=66,SNR=28
D13A Huson 65.84 331 ⇓P P 08 30 18.2 +0.1
baz=66,SNR=11
L05A Lakeview 65.91 324 ⇓P P 08 30 18.6 -0.1
baz=66
P01C Double 8 Ranch 65.92 320 ⇓P P 08 30 18.8 0.0
baz=66
G10A Bishop Farm, J 65.93 328 ⇑P P 08 30 18.7 0.0
baz=66,SNR=23
O02C Red Bluff 65.98 321 ⇓P P 08 30 18.3 -0.8
baz=66
C14A Swan Lake 65.99 332 ⇑P P 08 30 19.3 +0.3
baz=66
K06A Valley Falls 66.03 324 ⇓P P 08 30 19.6 +0.1
baz=66,SNR=6.9
WDC Whiskeytown Da 66.06 321 *eP* **P 08 30 17.6 -2.0**
WDC pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
WDC Whiskeytown Da 66.06 321 ⇓P P 08 30 17.6 -2.1
baz=66,SNR=5.1
WDC Whiskeytown Da 66.06 321 *eP* **P 08 30 17.6 -2.1**
comp=Z,6.2nm,0.8s,mb4.5
E11A Bogner Ranch, 66.19 329 ⇑P P 08 30 19.8 -0.6
baz=66,SNR=24
M03C McCloud 66.21 322 ⇑P P 08 30 19.4 -1.2
baz=66
H08A Prairie City 66.24 327 ⇑P P 08 30 21.0 +0.2
baz=66,SNR=20
D12A Red Ives Fores 66.25 330 ⇑P P 08 30 20.5 -0.2
baz=66
J06A Christmas Vall 66.26 325 ⇓P P 08 30 20.9 0.0
baz=66,SNR=19
G09A Cove 66.27 328 ⇑P P 08 30 20.9 +0.1
baz=66,SNR=34
C13A Hot Springs 66.31 331 ⇑P P 08 30 21.3 +0.2
baz=66,SNR=16
M04C Macdoel 66.34 323 ⇓P P 08 30 21.4 -0.1
baz=66,SNR=5.7
K05A Summer Lake 66.36 324 ⇓P P 08 30 22.0 +0.5
baz=66,SNR=7.8
I07A Izee 66.42 326 ⇑P P 08 30 22.1 +0.2
baz=67,SNR=32
O01C Eel River Cons 66.60 320 ⇓P P 08 30 23.6 +0.5
baz=67
F09A S2 Ranch, Elgi 66.62 328 ⇓P P 08 30 23.3 +0.1
baz=67,SNR=19
N02C Big Bar 66.67 321 ⇓P P 08 30 23.4 -0.1
baz=67,SNR=11
D11A Klaveano Farm, 66.72 330 ⇑P P 08 30 23.2 -0.6
baz=67,SNR=8.6
I06A Prineville 66.73 325 ⇑P P 08 30 24.1 +0.3
baz=67,SNR=13
E10A Myers Farm, Un 66.73 329 ⇑P P 08 30 23.5 -0.3
baz=67,SNR=6.6
B13A Whitefish 66.76 332 ⇓P P 08 30 23.8 -0.1
baz=67
H07A Lands Inn, Kim 66.78 326 ⇓P P 08 30 24.0 -0.2
baz=67,SNR=11
YBH Yreka Blue Hor 66.84 322 *eP* **P 08 30 23.2 -1.4**
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 66.84 322 ⇑P P 08 30 23.4 -1.2
baz=67
YBH Yreka Blue Hor 66.84 322 *eP* **P 08 30 23.2 -1.4**
comp=Z,5.9nm,0.9s,mb4.4
J05A Fort Rock 66.90 324 ⇓P P 08 30 25.0 0.0
baz=67,SNR=10
G08A Pilot Rock 66.90 327 ⇑P P 08 30 24.9 0.0
baz=67,SNR=10
LNOR Lincton Mounta 66.92 328 *eP* **P 08 30 24.7 -0.3**
WALA Waterton Lakes 67.00 333 *eP* **P 08 30 25.6 +0.1**
comp=Z,6.5nm,0.7s,mb4.6
WALA pP pP 08 31 04.1 +2.5
F08A Pendleton 67.13 328 ⇑P P 08 30 25.9 -0.5
baz=67
D10A Wagner Farm, O 67.20 329 ⇑P P 08 30 26.1 -0.6
baz=67,SNR=13
G07A Ruggs Ranch, H 67.27 327 ⇑P P 08 30 26.9 -0.3
baz=67

E09A Wood Farm, Sta 67.28 329 ⇓P P 08 30 27.0 -0.3
baz=67
H06A Lindquist Farm 67.29 326 ⇓P P 08 30 27.8 +0.5
baz=67,SNR=11
B12A Libby 67.35 331 ⇑P P 08 30 28.0 +0.3
baz=68
J04A Umpqua Nationa 67.38 324 ⇑P P 08 30 28.0 0.0
baz=68,SNR=5.4
I05A Bend 67.46 325 ⇑P P 08 30 28.7 +0.3
baz=68
L02A Cave Junction 67.62 322 ⇓P P 08 30 29.3 -0.2
baz=68
B11A Sandpoint 67.70 331 ⇓P P 08 30 29.8 -0.1
baz=68,SNR=8.4
A12A Yaak River Ran 67.71 332 ⇑P P 08 30 30.3 +0.3
baz=68,SNR=7.4
D09A Jones Farm, Ri 67.73 329 ⇓P P 08 30 29.8 -0.3
baz=68,SNR=8.4
G06A Carlson Farm, 67.78 326 ⇓P P 08 30 31.1 +0.7
baz=68,SNR=5.1
I04A Tendick Farm, 67.89 324 ⇑P P 08 30 30.5 -0.7
baz=68
K02A Glendale 67.91 323 ⇓P P 08 30 31.0 -0.3
baz=68,SNR=7.3
HAWA Hanford 67.92 328 *eP* **P 08 30 31.1 -0.2**
comp=Z,5.9nm,0.5s,mb4.6
NEW Newport 67.95 331 *eP* **P 08 30 31.0 -0.4**
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 67.95 331 *eP* **P 08 30 31.0 -0.5**
comp=Z,7.4nm,1.0s,mb4.4
D08A Wollman Farm, 68.04 329 ⇑P P 08 30 31.9 -0.1
baz=68
A11A Hall Mountain, 68.06 331 ⇑P P 08 30 32.2 +0.1
baz=68
OD2 Odessa Site #2 68.15 329 P **P 08 30 33.1 +0.4**
G05A Wamic 68.15 326 ⇓P P 08 30 32.8 +0.1
baz=68
E07A Sunnyside 68.20 328 ⇑P P 08 30 33.3 +0.3
baz=68,SNR=5.2
C09A Chrisman Ranch 68.20 330 ⇓P P 08 30 33.4 +0.4
baz=68,SNR=7.8
H04A Detroit Lake 68.30 325 ⇓P P 08 30 33.1 -0.5
baz=68,SNR=5.2
J02A Umpqua 68.31 323 ⇓P P 08 30 34.0 +0.2
baz=68,SNR=6.8
I03A Eugene 68.50 324 ⇓P P 08 30 35.3 +0.3
baz=69
B09A Rice 68.56 330 ⇑P P 08 30 35.0 -0.2
baz=69,SNR=15
EPH Ephrata 68.58 329 P **P 08 30 35.7 +0.4**
C08A Higginbotham F 68.58 329 ⇑P P 08 30 35.3 -0.1
baz=69,SNR=5.5
F05A White Salmon 68.63 326 ⇓P P 08 30 35.8 +0.1
baz=69
A10A Northport 68.65 331 ⇑P P 08 30 35.8 +0.1
baz=69
D07A Quincy 68.67 328 ⇓P P 08 30 36.4 +0.4
baz=69,SNR=21
G04A Mulino 68.78 325 ⇓P P 08 30 36.6 -0.1
baz=69
E06A Yakima 68.79 327 ⇑P P 08 30 37.1 +0.4
baz=69,SNR=5.0
FCC Fort Churchill 68.83 349 *eP* **P 08 30 35.9 -0.8**
FCC pmax pmax
comp=Z,34nm,1.6s,mb4.8
FCC Fort Churchill 68.83 349 *eP* **P 08 30 35.9 -0.8**
comp=Z,34nm,1.6s,mb4.8
I02A Mapleton 68.84 324 ⇓P P 08 30 37.2 +0.1
baz=69
H03A Soap Creek Ran 68.92 325 ⇓P P 08 30 37.9 +0.3
baz=69,SNR=5.1
WTV Waterville 68.99 329 P **P 08 30 38.1 +0.2**
C07A Waterville 69.04 329 ⇓P P 08 30 38.2 0.0
baz=69,SNR=18
B08A Colville Reser 69.10 330 ⇑P P 08 30 38.2 -0.4
baz=69,SNR=10
A09A Danville 69.14 330 ⇓P P 08 30 38.4 -0.4
baz=69,SNR=7.3
F04A Amboy 69.19 326 ⇓P P 08 30 38.8 -0.4
baz=69
E05A Randle 69.22 327 ⇑P P 08 30 39.0 -0.3
baz=69
A08A Turner Farm, O 69.47 330 ⇑P P 08 30 40.7 -0.1
baz=70,SNR=6.3
B07A Winthrop 69.57 329 ⇑P P 08 30 41.1 -0.4
baz=70
D05A Enumclaw 69.73 327 ⇑P P 08 30 42.3 -0.1
baz=70,SNR=9.3
EDM Edmonton 69.82 336 *eP* **P 08 30 42.0 -0.9**
BMW Boistfort Moun 69.97 326 *eP* **P 08 30 44.5 +0.6**
A07A Ashnola River, 70.08 330 ⇑P P 08 30 45.0 +0.4
baz=70,SNR=11
RPW Rockport 70.27 329 P **P 08 30 45.1 -0.6**
B06A Marblemount 70.30 329 ⇑P P 08 30 45.3 -0.6
baz=70
JCW Jim Creek 70.33 328 *eP* **P 08 30 45.5 -0.6**
LIC Lamto 70.33 80 *eP* **P 08 30 46.3 -0.5**
comp=Z,22nm,0.5s,mb5.1
TIC Toumodi 70.42 80 *eP* **P 08 30 46.5 -0.9**
comp=Z,20nm,0.3s,mb5.3
TIC Toumodi 70.42 80 *eP* **P 08 30 46.5 -0.9**
TIC pmax pmax
comp=Z,20nm,0.3s,mb5.3
B05A Bryant 70.46 328 ⇓P P 08 30 46.1 -0.8
baz=71,SNR=6.5
DBIC Dimbokro 70.58 80 P **P 08 30 47.9 -0.4**
comp=Z,12nm,0.5s,mb4.9,baz=244,slow=5.0,SNR=49
DBIC pP pP 08 31 25.4 +0.5
comp=Z,4.4nm,0.4s,baz=219,slow=7.0,SNR=3.2
DBIC Dimbokro 70.58 80 *eP* **P 08 30 48.0 -0.4**
DBIC *PP pP 08 31 25.1 +0.2
DBIC pmax pmax
comp=Z,12nm,0.5s
DBIC Dimbokro 70.58 80 *eP* **P 08 30 48.0 -0.4**
comp=Z,12nm,0.5s,mb4.9
DBIC pP pP 08 31 25.1 +0.2
C04A Brinnon 70.58 327 ⇑P P 08 30 47.5 -0.1
baz=71,SNR=5.4
HDW Hoodsport 70.58 327 P **P 08 30 47.8 +0.2**
KIC Kosan Boka 70.63 80 *eP* **P 08 30 48.1 -0.6**
comp=Z,76nm,0.8s,mb5.5
NLWA Neilton Lookou 70.87 327 ⇑P P 08 30 50.0 +0.6
baz=71
NLWA Neilton Lookou 70.87 327 *eP* **P 08 30 50.2 +0.8**
comp=Z,13nm,0.7s,mb4.8
NLWA *e*pP pP 08 31 30.9 +4.9
A05A Maple Falls 70.91 329 ⇑P P 08 30 49.4 -0.2
baz=71,SNR=11
VDB Vedder Mountai 70.94 329 P **P 08 30 49.3 -0.5**
A04A Legoe Bay, Lum 71.06 328 ⇓P P 08 30 50.6 +0.1
baz=71,SNR=6.0
B04A Port Angeles 71.07 327 ⇓P P 08 30 50.7 +0.1
baz=71
MCW Mount Constitu 71.10 328 P **P 08 30 51.1 +0.3**
PGC Sidney 71.41 328 *eP* **P 08 30 53.2 +0.7**
VNA1 Neumayer--Stat 74.25 162 *eP* **P 08 31 10.2 +1.2**
VNA1 *e* 08 31 17.0
VNA1 *e* 08 31 23.3
VNA2 Neumayer--Watz 74.61 162 *eP* **P 08 31 11.9 +0.8**
SNAA Sanae 76.24 162 *eP* **P 08 31 20.4 0.0**
SNAA *e* 08 31 26.4
SNAA *e* 08 31 32.8
SNAA *e* pP 08 31 59.8 +2.4
SNAA Sanae 76.24 162 *eP* **P 08 31 20.7 +0.3**
SNAA pmax pmax
comp=Z,5.0nm,0.6s
SNAA Sanae 76.24 162 *eP* **P 08 31 20.7 +0.3**
comp=Z,5.2nm,0.6s,mb4.3
YKA Yellowknife Ar 77.23 342 P **P 08 31 25.1 -0.9**
comp=Z,4.2nm,0.4s,mb4.4,baz=142,slow=5.9,SNR=32
YKA pP pP 08 32 03.7 +0.6
comp=Z,3.8nm,0.6s,baz=141,slow=5.6,SNR=5.2
YKA Yellowknife Ar 77.23 342 P **P 08 31 25.1 -0.9**
YKA pP pP 08 32 03.7 +0.6
TOA0 Torodi Ar. Sit 78.19 75 *eP* **P 08 31 31.9 -0.4**
TORD Torodi Ar. Bea 78.19 75 P **P 08 31 31.7 -0.6**
comp=Z,5.3nm,0.4s,mb4.5,baz=258,slow=4.7,SNR=114
TORD pP pP 08 32 09.8 +0.2
comp=Z,3.1nm,0.7s,baz=277,slow=4.7,SNR=2.8
TORD Torodi Ar. Bea 78.19 75 P **P 08 31 31.7 -0.7**
TORD pP pP 08 32 09.8 +0.2
ESDC Sonseca Array 80.31 47 P **P 08 31 43.4 0.0**
comp=Z,1.3nm,0.5s,mb3.8,baz=262,slow=5.3,SNR=10
SUMG Summit 84.00 10 *eP* **P 08 32 02.4 +0.6**
comp=Z,4.7nm,0.7s,mb4.3
SUMG *e*pP pP 08 32 40.8 +1.3

DAWY	Dawson	87.03	336	*e*P	P	08 32 17.1	+0.1
KEST	Kesra	89.51	54	P	P	08 32 31.2	+1.9
	comp=Z,0.9nm,0.5s,mb4.0,baz=241,slow=5.5,SNR=5.6						
SYO	Syowa Base	90.47	161⇑	*e*P	P	08 32 31.6	-1.6
COLA	College	90.73	336	*d i*P	P	08 32 33.9	-0.5
COLA	College	90.73	336	*e*P	P	08 32 34.2	-0.2
	comp=Z,11nm,0.9s,mb4.9						
KTH	Kantishna Hill	91.64	334	*e*P	P	08 32 38.9	+0.3
	comp=Z,6.6nm,0.8s,mb4.7						
BPAW	Bear Paw Mtn.	91.81	335	*e*P	P	08 32 38.5	-0.9
	comp=Z,9.1nm,0.8s,mb4.9						
PPLA	Purkeypile	92.02	333	*e*P	P	08 32 40.1	-0.3
	comp=Z,8.5nm,1.0s,mb4.7						
COLD	Coldfoot	92.34	338	*e*P	P	08 32 41.8	+0.1
	comp=Z,2.7nm,0.8s,mb4.3						
NOA	NORSAR Array B	94.96	29	P	P	08 32 52.8	-1.2
	comp=Z,0.8nm,0.8s,mb4.0,baz=258,slow=4.6,SNR=2.4						
ARCES	ARCESS Array B	101.13	21	PKKPbc	PKKPbc	08 49 30.6	-4.1
	comp=Z,0.5nm,0.4s,baz=95,slow=3.9,SNR=5.8						
STKA	Stephens Creek	127.46	219	PKP	PKPdf	08 38 35.5	-1.1
	comp=Z,1.9nm,0.7s,baz=20,slow=2.3,SNR=9.6						
STKA				pPKP	pPKPdf	08 39 14.8	-1.6
	comp=Z,1.9nm,0.7s,baz=286,slow=8.0,SNR=2.4						
ZALV	Zalesovo Beam	131.46	17	PKP	PKPdf	08 38 43.4	-0.1
	comp=Z,5.2nm,0.6s,baz=318,slow=2.0,SNR=11						
ZALV				pPKP	pPKPdf	08 39 23.9	+0.5
	comp=Z,4.8nm,0.8s,baz=298,slow=3.2,SNR=4.6						
ZALV				SKPbc	SKPbc	08 41 54.0	-0.9
	comp=Z,1.0nm,0.4s,baz=329,slow=7.4,SNR=3.5						
ZAL	Zalesovo	131.47	17	PKIKP	PKPdf	08 38 43.4	0.0
ZAL						08 39 23.9	
KURK	Kurchatov	132.10	23	*e*PKIKP	PKPdf	08 38 45.3	+0.6
MK31	Makanchi Array	136.69	24	*e*PKIKP	PKPdf	08 38 53.6	+0.1
MKAR	Makanchi Array	136.69	24	PKP	PKPdf	08 38 53.5	0.0
	comp=Z,1.5nm,0.6s,baz=338,slow=2.0,SNR=17						
MKAR				pPKP	pPKPdf	08 39 32.8	-0.6
	comp=Z,1.7nm,0.7s,baz=344,slow=2.5,SNR=3.3						
ZAK	Zakamensk	138.06	3	*e*PKIKP	PKPdf	08 38 55.5	-0.4
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MJAR	Matsushiro Arr	139.43	319	PKP	PKPdf	08 38 57.5	-1.3
	comp=Z,1.5nm,0.8s,baz=68,slow=4.2,SNR=5.0						
WB2	Warramunga Arr	140.34	225	*e*P	PKPdf	08 38 52.4	-8.6
WRA	Warramunga Arr	140.35	225	PKhKP		08 38 52.4	
	comp=Z,1.0nm,0.7s,baz=134,slow=2.9,SNR=19						
WRA				PKP	PKPdf	08 38 59.9	-1.1
	comp=Z,5.1nm,0.4s,baz=137,slow=1.6,SNR=35						
WRA				pPKP	pPKPdf	08 39 42.2	+1.3
	comp=Z,1.7nm,0.3s,baz=122,slow=2.0,SNR=3.9						
SONM	Songino Array	140.66	360	PKhKP		08 38 53.4	
	comp=Z,0.5nm,0.5s,baz=339,slow=3.7,SNR=3.3						
SONM				PKP	PKPdf	08 38 58.4	-2.3
	comp=Z,1.0nm,0.6s,baz=336,slow=3.4,SNR=5.4						
SONM				SKPbc	SKPbc	08 42 21.8	-1.5
	comp=Z,0.3nm,0.4s,baz=120,slow=2.0,SNR=2.8						
SONM	Songino Array	140.66	360	PKHKP		08 38 53.4	
SONM						08 38 58.4	
CN2	Changchun	140.81	338	*e*PKP	PKPdf	08 38 59.3	-1.8
CN2				PP	PP	08 42 05.0	+3.1
WMQ	Urumqi	141.25	21	*e*PKP	PKPdf	08 39 00.5	-1.4
KSRS	Korea Array	144.86	329	PKP	PKPdf	08 39 07.0	-1.5
	comp=Z,10nm,0.7s,baz=49,slow=3.7,SNR=29						
KSRS				pPKP	pPKPdf	08 39 48.5	0.0
	comp=Z,1.3nm,0.3s,baz=258,slow=28,SNR=2.8						
KAKA	Kakadu	146.37	232	*e*P	PKPdf	08 39 07.2	-4.5
	comp=Z,33nm,0.6s						
KAKA	Kakadu	146.37	232	*e*P	PKPdf	08 39 07.2	-4.5
KAKA				*e*PKPdf	PKPdf	08 39 12.0	+0.4
HHC	Hu-ho-hao-te	147.27	352	*e*PKP	PKPdf	08 39 10.3	-2.1
HHC				APKP		08 39 51.8	
HHC				XPKP		08 40 09.5	
HHC				PKS		08 42 44.3	
HHC				SKS	SKSdf	08 46 00.5	-6.7
HHC				SKKS	SKKSac	08 49 14.3	-4.1
HHC				PP	PP		
	comp=Z,61nm,16.7s						
HHC				LR	LR		
	comp=N,127nm,25.0s						
HHC				LR	LR		
	comp=E,127nm,22.6s						
HHC				LR	LR		
	comp=Z,97nm,26.2s						
FITZ	Fitzroy Crossi	147.30	216	*e*P	PKPdf	08 39 15.0	+1.9
	comp=Z,40nm,0.8s						
MBWA	Marble Bar	147.69	205	*e*PKPbc	PKPbc	08 39 15.9	-0.7
GTA	Gaotai	148.60	9	*e*PKP	PKPdf	08 39 15.0	+0.3
GTA				XPKP		08 40 14.5	
LZH	Lanzhou	152.34	4	*e*PKP	PKPdf	08 39 21.0	+0.4
LZH				APKP		08 40 02.0	
LZH				XPKP		08 40 20.0	
LZH				PP	PP	08 43 14.5	+5.1
LZH				SKKS	SKKSac	08 49 45.5	-1.1
LZH				*e*SS	SS	09 02 27.0	+1.7
LZH				PP	PP		
	comp=Z,110nm,6.0s						
NJ2	Nanjing	153.56	335	*e*PKP	PKPdf	08 39 21.3	-1.2
WHN	Wuhan	156.58	342	PKP	PKPdf	08 39 25.5	-1.1
CD2	Chengdu	157.47	5	*e*PKP	PKPdf	08 39 25.0	-2.8
CD2				PKP2	PKPab	08 39 59.5	-0.4
CD2				APKP		08 40 07.8	
CD2				XPKP		08 40 24.5	
CD2				PP	PP	08 43 40.0	+2.0
CD2				SKS	SKSdf	08 46 13.3	-6.6
CD2				SKKS	SKKSac	08 50 10.0	-4.2
CD2				SS	SS	09 03 17.5	-3.4
CD2				PP	PP		
	comp=Z,80nm,10.2s						
CD2				LR	LR		
	comp=N,130nm,21.2s						
CD2				LR	LR		
	comp=Z,120nm,22.4s						
GYA	Guiyang	161.99	358	PKP	PKPdf	08 39 32.5	-0.5
GYA				APKP		08 40 15.8	
GYA				PKP2	PKPab	08 40 21.5	+1.9
GYA				XPKP		08 40 31.3	
GYA				PKS		08 43 05.5	
GYA				PP	PP	08 44 06.8	+4.4
GYA				SKS	SKSdf	08 46 19.0	-5.2
GYA				SKKS	SKKSac	08 50 38.3	+0.5
GYA				PP	PP		
	comp=Z,50nm,8.1s						
KMI	Kunming	163.05	10	PKP	PKPdf	08 39 32.5	-1.6
CMAR	Chiang Mai Arr	167.87	33	PKP	PKPdf	08 39 36.5	-1.7
	comp=Z,1.8nm,0.7s,baz=304,slow=2.9,SNR=7.6						

*ISCJB **29** 08:54:26.6±0.6, 2971N±006×1412E±02, h53km±15km, mb3.8/2, Error ellipse: s-maj=33.7km s-min=4.7km az=166.2*
*JMA **29** 08:54:26.9±0.1, 2979N×14148E, h46km, M4.0*
*IDC **29** 08:54:28.1±2.1, 2962N×14084E, h52km±24km, mb3.5/2, mb1 3.8/5, mb1mx3.4/21, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=50.6km s-min=14.7km az=79.0*

ISC 29 08:54:28.3±0.6, 2967N±006×1412E±02, h48km±14km, n18, σ1°24/28, mb3.8/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	2.72	161	P	Pn	08 55 09.9	+0.5
CBIJ				*e*S	Sn	08 55 39.3	-1.8
CBIJ	Chichi jima	2.72	161	P	Pn	08 55 10.0	+0.6
	22nm,0.3s,baz=279,slow=20,SNR=36						
CBIJ				S	Sn	08 55 38.1	-2.9
	35nm,0.3s,baz=302,slow=24,SNR=11						
JHHJ	Haha-jima-NKT	3.16	163	P	Pn	08 55 16.8	+1.3
JHHJ				*e*S	Sn	08 55 51.4	-0.5
JHJ2	Mitsune	3.62	342	P	Pn	08 55 21.3	-0.5
JHJ2				*e*S	Sn	08 56 00.1	-3.1
JHJ	Hachijo jima 2	3.63	341	P	Pn	08 55 21.1	-0.9
	3.0nm,0.3s,baz=232,slow=19,SNR=4.6						
JHJ				S	Sn	08 56 02.9	-0.8
	14nm,0.3s,baz=238,slow=23,SNR=6.8						
BSO1	Boso 1	4.97	358	P	Pn	08 55 39.9	-0.4
BSO1				*e*S	Sn	08 56 34.7	-1.8
BSO3	Boso 3	5.15	354	P	Pn	08 55 44.0	+1.3
BSO3				*e*S	Sn	08 56 40.8	0.0
JIM2	Oshima 3	5.24	344	P	Pn	08 55 44.9	+0.8
BSO4	Boso 4	5.35	353	*e*S	Sn	08 56 45.8	0.0
JOD2	Odawara 2	5.85	343	P	Pn	08 55 56.0	+3.7
JHU	Hanno	6.36	346	P	Pn	08 56 01.2	+1.7
JHU				*e*S	Sn	08 57 10.1	-0.7
JRY	Ryogami san	6.61	344	P	Pn	08 56 06.1	+3.3
JAG	Ashikaga	6.89	348	P	Pn	08 56 07.4	+0.8
JAG				*e*S	Sn	08 57 23.7	+0.1
JHO	Hitachi	6.94	356	P	Pn	08 56 06.3	-1.0
JHO				*e*S	Sn	08 57 19.8	-5.1
MJAR	Matsushiro Arr	7.29	341	P	Pn	08 56 12.5	+0.4
	0.7nm,0.3s,baz=154,slow=13,SNR=8.4						
MAT	Matsushiro	7.29	341	P	Pn	08 56 15.0	+2.9
WRA	Warramunga Arr	49.76	188	P	P	09 03 14.5	-1.6
	0.6nm,0.5s,mb3.9,baz=6.7,slow=7.8,SNR=18						
NVAR	Mina Array Bea	79.63	52	P	P	09 06 31.9	+1.2
	0.5nm,0.5s,mb3.7,baz=288,slow=6.4,SNR=6.4						

IDC 29 09:03:24.4±7.5, 525N×9417E, h62km±56km, mb3.6/5, mb1 3.7/7, mb1mx3.4/21, mbtmp3.6/7, ML3.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.9/24, Error ellipse: s-maj=108.4km s-min=21.2km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	5.33	117	P	Pn	09 04 41.8	+0.2
	0.8nm,0.3s,baz=322,slow=18,SNR=4.9						
PSI				LR	LR	09 06 32.7	
	comp=Z,104nm,20.7s,baz=141,slow=35						
CMAR	Chiang Mai Arr	13.93	19	P	Pn	09 06 40.6	+1.7
	0.6nm,0.3s,baz=215,slow=11,SNR=8.0						
MKAR	Makanchi Array	42.64	348	P	P	09 11 14.9	+0.2
	1.8nm,0.6s,baz=160,slow=7.6,SNR=7.0						
SONM	Songino Array	43.71	12	P	P	09 11 22.5	-0.9
	0.3nm,0.3s,baz=186,slow=10,SNR=4.1						
KSRS	Korea Array	44.45	39	LR	LR	09 31 59.7	
	comp=Z,40nm,18.9s,baz=235,slow=39						
WRA	Warramunga Arr	46.76	124	P	P	09 11 48.2	+0.3
	0.6nm,0.5s,baz=300,slow=9.7,SNR=12						
KURK	Kurchatov	47.15	347	P	P	09 11 50.2	-0.3
	0.7nm,0.4s,baz=171,slow=6.7,SNR=4.0						
ZALV	Zalesovo Beam	49.15	353	P	P	09 12 05.6	-0.3
	1.0nm,0.3s,baz=167,slow=7.2,SNR=3.0						

*MOS **29** 09:08:16.4±1.6, 5541N×11044E, h9km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=36.8km az=135.5*

BYKL 29 09:08:16.5±0.3, 5548N×11043E, h2km±15km, 2C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIZ	Nizh Angarsk	0.58	301	*i*Pg	Pg	09 08 27.4	-0.3
NIZ				*e*Sg	Sg	09 08 35.8	+0.5
NIZ				*e*Sb	Sg	09 08 44.0	+8.7
NIZ				Pmax			
	46nm,0.2s						
NIZ				max			
	229nm,0.2s						
KMO	Kumora	0.60	47	*e*Pg	Pg	09 08 26.9	-1.0
KMO				*e*Pb	Pg	09 08 29.9	+2.0
KMO				*e*Sg	Sg	09 08 34.5	-1.2
KMO				max			
	174nm,0.3s						
KMO				Smax			
	295nm,0.6s						
YLYR	Ulyunkhan	0.74	145⇑	*i*Pg	Pg	09 08 29.4	-1.2
YLYR				*e*Sg	Sg	09 08 39.2	-0.9
YLYR				Pmax			
	64nm,0.2s						
YLYR				Smax			
	136nm,0.2s						
YOA	Uoyan	0.98	48	*e*PG	Pg	09 08 33.7	-1.6
YOA				*i*		09 08 46.8	
YOA				pmax	pmax		
	comp=Z,92nm,0.2s						
YOA				smax			
	comp=N,507nm,0.4s						
YOA	Uoyan	0.98	48	*e*Sg	Sg	09 08 48.1	+0.1
YOA				Smax			
	comp=N,477nm,0.4s						
UKT	Uakit	1.82	88	*e*PN	Pn	09 08 48.7	-0.1
UKT				*e*		09 09 12.9	
UKT				pmax	pmax		
	comp=Z,54nm,0.3s						
UKT				smax			
	comp=N,503nm,0.3s						
UKT	Uakit	1.82	88	*e*Pg	Pg	09 08 48.7	-2.6
UKT				*e*Sg	Sg	09 09 13.0	-1.9
UKT				Pmax			
	comp=N,55nm,0.3s						
UKT				Smax			
	comp=N,509nm,0.3s						
SYVR	Suvo	1.84	188	*e*Pg	Pg	09 08 49.4	-2.4
SYVR				*e*Sg	Sg	09 09 14.7	-0.9
SYVR				Pmax			
	comp=N,38nm,0.5s						
SYVR				Smax			
	comp=N,169nm,0.7s						
SVKR	Severomuysk	1.88	69	*e*Sg	Sg	09 09 15.9	-0.9
SVKR				Smax			
	comp=N,643nm,0.4s						
MXMB	Maximikha	2.43	205	*e*Pg	Pg	09 09 00.2	-2.8
MXMB				*e*Sg	Sg	09 09 33.3	-1.2
MXMB				Pmax			
	comp=N,300nm,0.4s						
MXMB				Smax			
	comp=N,236nm,0.5s						
OGRR	Ongureny	2.47	223	*e*Pn	Pn	09 08 58.5	+0.8
OGRR				*e*Pg	Pg	09 09 00.7	-3.1
OGRR				*e*Sg	Sg	09 09 33.4	-2.4
OGRR				Pmax			
	comp=N,16nm,0.3s						
OGRR				Smax			
	comp=N,92nm,0.4s						
BOD	Bodaibo	3.06	39	*e*Pn	Pn	09 09 05.9	0.0
BOD				*e*		09 09 43.2	
BOD				*e*Sg	Sg	09 09 50.3	-4.5
BOD				Smax			
	comp=N,317nm,0.7s						
TRG	Tyrgan	3.63	223	*e*Pn	Pn	09 09 14.8	+1.1
TRG				*e*Sg	Sg	09 10 08.3	-4.8
TRG				Smax			
	comp=N,38nm,0.6s						
UUDB	Ulan-Yde	3.98	206	*e*Sg	Sg	09 10 20.9	-3.2
UUDB				Smax			
	comp=N,32nm,0.8s						
HRMR	Khuramsha	4.38	210	*e*Pg	Pg	09 09 34.8	-5.6
HRMR				*e*Sg	Sg	09 10 31.4	-5.7
HRMR				Pmax			
	comp=N,20nm,0.5s						
HRMR				Smax			
	comp=N,120nm,1.0s						
CRS	Chara	4.61	69	*e*PN	Pg	09 09 38.6	-6.1
CRS				*e*		09 10 37.8	
CRS				pmax	pmax		
	comp=Z,15nm,1.5s						
CRS				smax			
	comp=E,66nm,1.5s						
CRS	Chara	4.61	69	*e*Pg	Pg	09 09 38.8	-5.9
CRS				*e*Sg	Sg	09 10 38.1	-6.2
CRS				Pmax			
	comp=E,11nm,0.8s						
CRS				Smax			
	comp=E,66nm,1.1s						
TLY	Talaya	5.55	230	*e*PN	Pn	09 09 38.8	-1.2
TLY				*e*		09 09 55.3	
TLY				*e*		09 11 06.5	
TLY				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TLY				smax			
	comp=N,30nm,0.9s						
TLY	Talaya	5.55	230	*e*Pn	Pn	09 09 39.0	-1.0
TLY				*e*Pg	Pg	09 09 56.8	-6.0
TLY				*e*Sn	Sn	09 10 42.3	-2.0
TLY				*e*Sg	Sg	09 11 07.7	-6.9
TLY				Pmax			
	comp=N,4.0nm,0.4s						
TLY				Smax			
	comp=N,30nm,1.0s						
TUP	Tupik	5.59	97	*e*Pn	Pn	09 09 40.1	-0.4
TUP				*e*Sn	Sn	09 10 41.7	-3.6
TUP				*e*Sg	Sg	09 11 09.7	-6.2
TUP				Smax			
	comp=N,41nm,1.3s						
KPC	Khapcheranga	5.91	168	*e*Pn	Pn	09 09 45.3	+0.4
KPC				*e*Pg	Pg	09 10 02.7	-6.9
KPC				*e*Sn	Sn	09 10 49.7	-3.4
KPC				*e*Sg	Sg	09 11 18.9	-7.1
KPC				Pmax			
	comp=N,2.0nm,0.3s						
KPC				Smax			
	comp=N,17nm,1.1s						
ARS	Arshan	5.94	236	*e*Pn	Pn	09 09 46.5	+1.1
ARS				*e*Sn	Sn	09 10 51.7	-2.3
ARS				*e*Sg	Sg	09 11 19.4	-7.8
ARS				Smax			
	comp=N,86nm,0.6s						
MOY	Mondy	6.79	240	*e*Pn	Pn	09 09 58.5	+1.4
MOY				*e*		09 11 13.3	
MOY				*e*Sg	Sg	09 11 45.2	-9.3
MOY				Smax			
	comp=N,26nm,1.3s						
ORL	Orlik	6.92	249	*e*PN	Pn	09 09 59.8	+1.0
ORL				*e*S	Sg	09 11 51.6	-6.8
ORL				smax			
	comp=N,39nm,1.5s						
ORL	Orlik	6.92	249	*e*Pn	Pn	09 09 59.8	+1.0
ORL				*e*		09 11 16.2	
ORL				*e*Sg	Sg	09 11 51.8	-6.6
ORL				Smax			
	comp=N,38nm,1.5s						
IENR	Iengra	8.16	79	*e*Sg	Sg	09 12 28.9	-9.3

*ISCJB **29** 09:55:14.9±3.4, 249S±01×1796E±02, h479km±44km, mb3.8/8, Error ellipse: s-maj=30.9km s-min=20.1km az=5.0*
*IDC **29** 09:55:18.9±2.9, 2525S×17990E, h538km±43km, mb3.4/8, mb1 3.5/9, mb1mx3.3/17, mbtmp3.4/9, Error ellipse: s-maj=43.5km s-min=20.3km az=148.0*

ISC 29 09:55:16.3±3.0, 250S±02×1797E±02, h490km±44km, n13, σ0°71/13, mb3.8/8, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	13.40	189	P	P	09 58 08.3	-1.3
	1.6nm,0.3s,baz=300,slow=5.2,SNR=11						
URZ				S	S	10 00 33.2	+0.7
	0.7nm,0.3s,baz=217,slow=23,SNR=9.4						
CTA	Charters Tower	31.26	272	*i*P	P	10 00 56.3	+1.0
	4.0nm,0.3s,mb4.3						
CTA	Charters Tower	31.26	272	P	P	10 00 56.4	+1.2
	6.2nm,0.3s,mb4.5,baz=99,slow=12,SNR=9.4						
STKA	Stephens Creek	34.10	250	P	P	10 01 19.9	+0.6
	0.6nm,0.4s,mb3.4,baz=95,slow=12,SNR=3.9						
ASAR	Alice Springs	41.63	262	P	P	10 02 21.2	+0.2
	1.7nm,0.4s,mb3.8,baz=93,slow=8.0,SNR=32						
WB2	Warramunga Arr	42.10	267	*i*P	P	10 02 24.2	-0.6
WRA	Warramunga Arr	42.11	267	P	P	10 02 24.5	-0.4
	2.7nm,0.3s,mb4.2,baz=99,slow=7.0,SNR=203						
WRA				S	S	10 08 07.2	-1.3
	0.6nm,1.0s,baz=100,slow=13,SNR=4.5						
FITZ	Fitzroy Crossi	50.52	267	P	P	10 03 29.1	+0.2
	2.0nm,0.6s,mb3.6,baz=128,slow=7.2,SNR=7.9						
MJAR	Matsushiro Arr	72.68	326	P	P	10 05 53.1	-0.5
	1.7nm,0.7s,mb3.7,baz=156,slow=6.0,SNR=6.1						
KSRS	Korea Array	78.94	320	P	P	10 06 29.1	+0.7
	1.3nm,0.7s,mb3.6,baz=136,slow=6.4,SNR=5.6						
PETK	Petropavlovsk-	80.12	347	P	P	10 06 34.3	+0.1
	1.9nm,0.6s,mb3.8,baz=123,slow=6.7,SNR=5.7						
NB2	NORSAR Subarra	143.13	351	PKP	PKPdf	10 13 50.1	-3.2
	comp=Z,0.8nm,0.6s,baz=19,slow=3.7						
NOA	NORSAR Array B	143.13	351	PKP	PKPdf	10 13 50.2	-3.1
	comp=Z,1.7nm,0.8s,baz=16,slow=5.0,SNR=4.0						

IDC 29 09:57:20.4±11.0, 554N×9478E, h198km±98km, mb3.2/6, mb1 3.3/7, mb1mx3.1/22, mbtmp3.2/7, MS3.1/1, Ms1 3.1/1, ms1mx2.4/17, Error ellipse: s-maj=102.1km s-min=15.6km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	4.95	123	LR	LR	10 00 40.0	
	comp=Z,167nm,18.4s,baz=63,slow=40						
CMAR	Chiang Mai Arr	13.46	17	P	Pn	10 00 23.9	+0.1
	baz=219,slow=11,SNR=5.5						
MKAR	Makanchi Array	42.49	347	P	P	10 04 55.9	-0.1
	1.1nm,0.5s,baz=160,slow=7.0,SNR=6.3						
SONM	Songino Array	43.30	11	P	P	10 05 02.4	0.0
	0.3nm,0.5s,baz=190,slow=7.3,SNR=3.2						
WRA	Warramunga Arr	46.41	124	P	P	10 05 27.5	0.0
	0.5nm,0.5s,baz=301,slow=10.0,SNR=8.2						
KURK	Kurchatov	47.01	346	P	P	10 05 30.8	-0.8
	1.2nm,0.4s,baz=166,slow=7.0,SNR=5.8						
ASAR	Alice Springs	47.95	129	P	P	10 05 39.2	-0.1
	0.5nm,0.8s,baz=302,slow=7.4,SNR=4.5						
ZALV	Zalesovo Beam	48.94	352	P	P	10 05 46.9	+0.5
	0.9nm,0.2s,baz=184,slow=7.0,SNR=3.6						

IDC 29 10:18:58.3±2.9, 2213N×14348E, h164km±27km, mb3.3/9, mb1 3.4/11, mb1mx3.3/23, mbtmp3.3/11, Error ellipse: s-maj=27.5km s-min=14.6km az=88.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	5.08	347	P	Pn	10 20 12.2	-0.7
	9.2nm,0.3s,baz=243,slow=23,SNR=18						
CBIJ				S	Sn	10 21 07.0	-4.4
	10nm,0.3s,baz=291,slow=23,SNR=12						
MJAR	Matsushiro Arr	15.07	343	P	Pn	10 22 21.8	-1.1
	0.5nm,0.3s,baz=164,slow=7.8,SNR=4.7						
KSRS	Korea Array	20.34	322	P	P	10 23 23.7	+1.9
	4.0nm,0.7s,baz=148,slow=8.4,SNR=19						
ASAJ	Asahikawa	21.94	358	P	P	10 23 39.3	+0.6
	3.4nm,0.8s,baz=245,slow=14,SNR=6.0						
SONM	Songino Array	39.18	320	P	P	10 26 10.3	+0.1
	0.6nm,0.4s,baz=128,slow=7.5,SNR=5.1						
WRA	Warramunga Arr	42.76	193	P	P	10 26 39.8	+0.1
	0.2nm,0.3s,baz=17,slow=9.2,SNR=19						
ASAR	Alice Springs	46.47	192	P	P	10 27 08.8	-0.2
	0.2nm,0.5s,baz=19,slow=9.0,SNR=3.9						
ZALV	Zalesovo Beam	54.04	321	P	P	10 28 04.8	-0.8
	0.7nm,0.4s,baz=98,slow=10,SNR=3.4						
MKAR	Makanchi Array	54.61	312	P	P	10 28 09.4	-0.4
	0.5nm,0.5s,baz=85,slow=11,SNR=4.6						
YKA	Yellowknife Ar	75.94	28	P	P	10 30 26.2	-0.6
	0.7nm,0.4s,baz=291,slow=5.7,SNR=4.4						
NVAR	Mina Array Bea	82.66	52	P	P	10 31 04.5	+0.8
	0.8nm,0.7s,baz=266,slow=6.1,SNR=9.1						

*TEH **29** 11:24:28.1, 3453N×5052E, h2km, ML3.6*
*ISCJB **29** 11:25:05.7±0.5, 3456N±003×5054E±003, h0km±5km, Error ellipse: s-maj=4.3km s-min=3.8km az=168.2*
*CSEM **29** 11:25:06.4±0.1, 3456N×5053E, h16km, ML3.2, Error ellipse: s-maj=1.5km s-min=1.3km az=134.0*
*THR **29** 11:25:06.8±0.3, 3460N×5050E, h14km±3km, ML3.2*

ISC 29 11:25:06.8±0.5, 3457N±003×5054E±003, h2km±4km, n32, σ0°83/53, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAO	Ashtian	0.42	267	*e*Pg	Pg	11 25 15.1	+0.2
ASAO				*e*Sg	Sg	11 25 21.1	+0.6
GHVR	GHOM	0.63	98	*e*Pg	Pg	11 25

IKLH	**Kolahrood**	**1.52**	**145**	*e*Pg	**Pn**	**11 25 33.7**	**-1.2**
IKLH				*e*Sg	**Sn**	**11 25 53.6**	**-1.6**
IKLH				*e*	**Sg**	**11 25 55.1**	**-0.4**
DAMV	**Damavand**	**1.58**	**48**	*e*Pg	**Pg**	**11 25 36.0**	**-1.1**
DAMV				*e*Sg	**Sg**	**11 25 57.4**	**-0.2**
DAMV				AML	AML	11 25 59.9	
	comp=N,329nm,0.3s						
DAMV	**Damavand**	**1.58**	**48**	*e*Pg	**Pg**	**11 25 36.0**	**-1.1**
	SNR=90						
DAMV				*e*Sg	**Sg**	**11 25 57.4**	**-0.2**
	SNR=90						
IDMV	**Damavand**	**1.58**	**50**	*e*Pg	**Pg**	**11 25 35.5**	**-1.7**
IDMV				*e*		11 26 00.4	
IPIR	**Pirpir**	**1.90**	**171**	*e*Pg	**Pn**	**11 25 41.3**	**+1.1**
IFIR	**Firoozkooh**	**2.11**	**59**	*e*Pn	**Pn**	**11 25 43.5**	**+0.5**
IFIR				*e*Sn	**Sn**	**11 26 10.6**	**+0.8**
IFIR	**Firoozkooh**	**2.11**	**59**	*e*Pn	**Pn**	**11 25 43.5**	**+0.5**
IFIR				*e*Sn	**Sn**	**11 26 10.6**	**+0.8**
IFIR				*e*		11 26 15.5	
ILAS	**Lasjerd**	**2.15**	**67**	*e*Pn	**Pn**	**11 25 44.0**	**+0.5**
ILAS				*e*Sn	**Sn**	**11 26 11.4**	**+0.7**
ILAS	**Lasjerd**	**2.15**	**67**	*e*Pn	**Pn**	**11 25 44.0**	**+0.5**
ILAS				*e*Sn	**Sn**	**11 26 11.4**	**+0.7**
ILAS				*e*		11 26 19.2	
IPRN	**Peran**	**2.22**	**41**	*e*Pn	**Pn**	**11 25 45.0**	**+0.4**
IPRN				*e*		11 26 21.3	
IZEF	**Zefreh**	**2.24**	**138**	*e*Pn	**Pn**	**11 25 44.9**	**+0.1**
IZEF				*e*Sn	**Sn**	**11 26 12.6**	**-0.4**
IZEF	**Zefreh**	**2.24**	**138**	*e*Pn	**Pn**	**11 25 45.4**	**+0.6**
IZEF				*e*Sn	**Sn**	**11 26 12.6**	**-0.4**
IZEF				*e*		11 26 17.5	
IALA	**Alasht**	**2.39**	**50**	*e*Pn	**Pn**	**11 25 47.5**	**+0.5**
IALA	**Alasht**	**2.39**	**50**	*e*Pn	**Pn**	**11 25 47.2**	**+0.2**
IALA				*e*		11 26 23.0	
ISHM	**Shahmirzad**	**2.57**	**60**	*e*Pn	**Pn**	**11 25 49.7**	**+0.3**
ISHM				*e*		11 26 28.6	
NASN	**Na'in**	**2.59**	**132**	*e*Pn	**Pn**	**11 25 51.3**	**+1.7**
NASN				AML	AML	11 26 27.2	
	comp=E,91nm,0.2s						
NASN				AML	AML	11 26 29.0	
	comp=N,94nm,0.3s						
IANJ	**Anjilo**	**2.91**	**71**	*e*Pn	**Pn**	**11 25 53.6**	**-0.5**
IANJ				*e*		11 26 51.0	
MIB	**Mutribah**	**5.47**	**211**	*e*P	**Pn**	**11 26 29.7**	**+0.4**
UMR	**Umm Al-Rimmam**	**5.55**	**206**	*e*P	**Pn**	**11 26 30.1**	**-0.2**
NAY	**Al-Naaiem**	**6.00**	**209**	*e*P	**Pn**	**11 26 36.5**	**-0.1**
	baz=209						
NAY				AML	AML	11 27 42.2	
	comp=Z,2.0nm,0.6s,baz=209						
RDF	**Al-Radifah**	**6.17**	**205**	*e*P	**Pn**	**11 26 39.3**	**+0.4**
	baz=205						
RDF				AML	AML	11 27 48.3	
	comp=Z,4.0nm,0.6s,baz=205						

ISCJB ***29*** *11:47:34.5±1.3, 28N±0.1×1280E±0.2, h33km, mb4.1/6, Error ellipse: s-maj=26.5km s-min=19.1km az=148.6*
NEIC ***29*** *11:47:36.3±1.0, 275N×128.16E, h35km, mb4.3/2, Error ellipse: s-maj=20.5km s-min=14.4km az=58.0*
IDC ***29*** *11:47:41.0±7.4, 263N×12789E, h73km±65km, mb3.8/6, mb1 3.9/7, mb1mx3.6/18, mbtmp3.8/7, ML4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/22, Error ellipse: s-maj=64.4km s-min=20.7km az=63.0*

ISC 29 11:47:36.5±1.3, 27N±01×1281E±0.2, h35km, n10, σ0§53/10, mb4.1/6, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.38**	**227**	P	**Pn**	**11 50 16.5**	**-0.2**
	1.3nm,0.3s,baz=75,slow=19,SNR=3.1						
FITZ	**Fitzroy Crossi**	**20.85**	**187**	P	**P**	**11 52 16.8**	**+1.3**
	1.1nm,0.4s,baz=37,slow=11,SNR=15						
FITZ				LR	LR	12 00 20.9	
	comp=Z,67nm,20.4s,baz=194,slow=37						
WRAB	**Tennant Creek**	**23.34**	**165**	*e*P	**P**	**11 52 41.8**	**-0.2**
	2.5nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**23.34**	**165**	P	**P**	**11 52 42.0**	**0.0**
	2.8nm,0.6s,mb3.9,baz=344,slow=10,SNR=74						
WB2	**Warramunga Arr**	**23.35**	**165**	⇓*i*P	**P**	**11 52 41.8**	**-0.3**
ASAR	**Alice Springs**	**26.84**	**168**	P	**P**	**11 53 13.8**	**0.0**
	0.3nm,0.4s,mb3.2,baz=347,slow=7.2,SNR=6.7						
ASAR				PcP	PcP	11 56 35.5	-0.6
	0.4nm,0.5s,baz=358,slow=2.4,SNR=4.6						
STKA	**Stephens Creek**	**36.72**	**161**	*e*P	**P**	**11 54 39.9**	**-0.5**
	2.5nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**36.72**	**161**	P	**P**	**11 54 41.1**	**+0.6**
	3.7nm,0.5s,mb4.4,baz=333,slow=8.1,SNR=14						
NWAO	**Narrogin (SRO)**	**36.94**	**195**	P	**P**	**11 54 41.6**	**-0.7**
	28nm,1.2s,mb5.0,baz=31,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**59.17**	**325**	P	**P**	**11 57 34.0**	**+0.1**
	0.6nm,0.5s,mb3.9,baz=115,slow=8.1,SNR=8.2						

CSEM 29 12:04:29.9±0.5, 4294N×634W, h0km, ML3.5/1, Error ellipse: s-maj=4.9km s-min=3.9km az=155.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.71**	**303**	Pg	Pg	12 04 43.3	-0.2
	8.5nm,0.3s,SNR=23						
EPON				Lg		12 04 51.8	
	3.1nm,0.2s						
ERUA	**La Rua**	**0.81**	**228**	Pg	Pg	12 04 44.7	-0.7
	SNR=7.9						
ERUA				Lg		12 04 56.5	
	5.6nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**0.90**	**66**	Pg	Pg	12 04 46.1	-1.0
	14nm,0.9s,SNR=17						
EARI				Lg		12 04 59.6	
	1.3nm,0.2s						
ECAL	**Calabor**	**1.04**	**197**	Pg	Pg	12 04 48.7	-1.1
	26nm,0.5s,SNR=29						
ECAL				Lg		12 05 02.8	
	2.5nm,0.1s,SNR=16						
ELOB	**Lobios**	**1.67**	**231**	Pg	Pg	12 05 00.3	-1.5
	5.3nm,0.7s,SNR=6.2						
ELOB				Lg		12 05 21.9	
	2.0nm,0.2s,SNR=6.9						
ELAN	**Lanestosa**	**2.15**	**81**	Pn	Pn	12 05 04.4	-2.5
	5.2nm,0.5s,SNR=5.9						
ELAN				Sn	Sn	12 05 33.0	-1.2
	14nm,0.6s						

IDC 29 12:26:27.1±4.3, 746S×15633E, h136km±52km, mb3.6/4, mb1 3.7/5, mb1mx3.4/16, mbtmp3.6/5, Error ellipse: s-maj=44.8km s-min=29.9km az=145.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.08**	**119**	P	Pn	12 27 29.2	+1.1
	9.5nm,0.3s,baz=259,slow=10,SNR=3.9						
HNR				S	Sn	12 28 15.5	0.0
	6.7nm,0.3s,baz=90,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**24.66**	**238**	P	P	12 31 35.5	+0.2
	2.5nm,0.8s,baz=65,slow=9.1,SNR=14						
CMAR	**Chiang Mai Arr**	**62.17**	**295**	P	P	12 36 33.8	-0.6
	1.6nm,0.8s,baz=124,slow=5.1,SNR=7.8						
SONM	**Songino Array**	**70.44**	**327**	P	P	12 37 27.0	+0.5
	0.4nm,0.6s,baz=130,slow=5.8,SNR=3.4						
MKAR	**Makanchi Array**	**84.62**	**318**	P	P	12 38 45.2	-0.1
	2.1nm,0.7s,baz=100,slow=6.3,SNR=14						
TORD	**Torodi Ar. Bea**	**154.42**	**285**	PKPbc	PKPbc	12 46 13.1	+0.6
	0.5nm,1.0s,baz=60,slow=1.1,SNR=2.5						

TIR ***29*** *12:30:14.7±1.3, 4166N×1941E, h12km±218km, ML2.9*
ISCJB ***29*** *12:30:14.5±0.4, 4154N±003×2017E±003, h3km±4km, Error ellipse: s-maj=5.6km s-min=2.5km az=41.1*
CSEM ***29*** *12:30:15.1±0.2, 4157N×2020E, h12km, ML3.6, Error ellipse: s-maj=5.7km s-min=2.6km az=35.0*
NEIC ***29*** *12:30:15.2, 4153N×2011E, h8km, ML3.0(PDG), ML3.6(THE), After PDG.*
PDG ***29*** *12:30:15.2±0.3, 4153N×2011E, h8km±1km, MD3.0/2, ML3.0/9, Error ellipse: s-maj=1.0km s-min=1.1km az=0.0*
THE ***29*** *12:30:16.0, 4163N×2030E, h8km, ML3.6*

ISC 29 12:30:15.7±0.4, 4155N±003×2018E±003, h8km±4km, n35, σ1§30/60, 5C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSH	**Qafa e Shtames**	**0.21**	**264**	*e*PG	**Pg**	**12 30 22.7**	**+2.8**
QSH				*i* SG	**Sg**	**12 30 29.5**	**+6.7**
PUK	**Puka**	**0.54**	**336**	*e*PG	**Pg**	**12 30 25.2**	**-1.0**
PUK				*i* SG	**Sg**	**12 30 32.7**	**-0.6**
OHR	**Ohrid**	**0.63**	**133**	*e*Pg	**Pg**	**12 30 27.6**	**-0.3**
OHR				*e*Sg	**Sg**	**12 30 37.7**	**+1.5**
OHR	**Ohrid**	**0.63**	**133**	*i* Pg	**Pg**	**12 30 27.2**	**-0.7**
OHR				*i* Sg	**Sg**	**12 30 38.0**	**+1.9**
ULC	**Ulcinj**	**0.81**	**301**	⇑*i*Pg	**Pg**	**12 30 29.6**	**-1.7**
ULC				*e*Sg	**Sg**	**12 30 41.7**	**-0.2**
KRUS	**Krusevo**	**0.82**	**102**	*i* Pg	**Pg**	**12 30 30.9**	**-0.5**
KRUS				*i* Sg	**Sg**	**12 30 43.3**	**+1.2**
KRUS	**Krusevo**	**0.82**	**102**	*i* Pg	**Pg**	**12 30 30.9**	**-0.5**
KRUS				*i* Sg	**Sg**	**12 30 43.3**	**+1.2**
BCI	**Bajram Curri**	**0.82**	**354**	*e*PG	**Pg**	**12 30 32.5**	**+1.0**
BIA	**Bitola**	**1.01**	**121**	*e*Pg	**Pg**	**12 30 34.5**	**-0.5**
BIA				*e*Sg	**Sg**	**12 30 49.4**	**+1.3**
BIA	**Bitola**	**1.01**	**121**	*i* Pg	**Pg**	**12 30 34.3**	**-0.7**
BIA				*i* Sg	**Sg**	**12 30 48.7**	**+0.7**
SKO	**Skopje**	**1.03**	**65**	*e*Pg	**Pg**	**12 30 35.0**	**-0.4**
SKO				*e*Sg	**Sg**	**12 30 48.4**	**-0.4**
SKO	**Skopje**	**1.03**	**65**	*i* Pg	**Pg**	**12 30 34.9**	**-0.6**
SKO				*i* Sg	**Sg**	**12 30 48.5**	**-0.3**
SKO	**Skopje**	**1.03**	**65**	*e*Pg	**Pg**	**12 30 35.0**	**-0.5**
SKO				*i* Sg	**Sg**	**12 30 48.5**	**-0.4**
PVY	**Plav**	**1.06**	**352**	⇓*i*Pg	**Pg**	**12 30 35.4**	**-0.6**
PVY				*e*Sg	**Sg**	**12 30 51.2**	**+1.4**
PDG	**Podgorica**	**1.12**	**322**	⇓*i*Pg	**Pg**	**12 30 35.1**	**-2.1**
PDG				*e*Sg	**Sg**	**12 30 52.4**	**+0.7**
TTG	**Podgorica**	**1.12**	**322**	⇓*i*Pg	**Pg**	**12 30 35.1**	**-2.1**
TTG				*e*Sg	**Sg**	**12 30 52.4**	**+0.7**
FNA	**Florina**	**1.18**	**130**	*e*Pg	**Pg**	**12 30 37.8**	**-0.5**
FNA				*e*Sg	**Sg**	**12 30 54.6**	**+1.0**
BUM	**Brajici-Budva**	**1.22**	**309**	⇓*i*Pg	**Pg**	**12 30 36.9**	**-2.2**
BUM				*e*Sg	**Sg**	**12 30 55.9**	**+1.0**
BEY	**Berane**	**1.34**	**351**	⇓*i*Pg	**Pg**	**12 30 40.4**	**-1.0**
BEY				*e*Sg	**Sg**	**12 31 00.3**	**+1.5**
IVA	**Berane**	**1.34**	**351**	⇓*i*Pg	**Pg**	**12 30 40.4**	**-1.0**
IVA				*e*Sg	**Sg**	**12 31 00.3**	**+1.5**
STIP	**Stip**	**1.51**	**84**	*i* Pn	**Pn**	**12 30 42.6**	**-0.3**
STIP	**Stip**	**1.51**	**84**	*i* Pn	**Pn**	**12 30 42.6**	**-0.4**
NKY	**Niksic**	**1.54**	**326**	*e*Pg	**Pg**	**12 30 43.3**	**-2.0**
NKY				*e*Sg	**Sg**	**12 31 06.2**	**+0.9**
HCY	**Herceg Novi**	**1.55**	**306**	⇑*i*Pg	**Pg**	**12 30 42.8**	**-2.5**
HCY				*e*Sg	**Sg**	**12 31 06.1**	**+0.7**
SRN	**Sarande**	**1.67**	**185**	*e*PG	**Pg**	**12 30 49.6**	**+1.9**
VAY	**Valandovo**	**1.81**	**96**	*e*Pb	**Pb**	**12 30 45.9**	**-3.1**
VAY	**Valandovo**	**1.81**	**96**	*i* Pn	**Pn**	**12 30 46.0**	**-1.1**
VAY	**Valandovo**	**1.81**	**96**	*i* Pn	**Pn**	**12 30 45.9**	**-1.2**
BRY	**Bratogost**	**1.82**	**319**	⇑*i*Pn	**Pn**	**12 30 47.1**	**-0.2**
BRY				*e*Sn	**Sn**	**12 31 13.0**	**+2.5**
PLE	**Pljevlja**	**1.88**	**342**	⇑*i*Pn	**Pn**	**12 30 48.9**	**+0.9**
PLE				*e*Sn	**Sn**	**12 31 14.9**	**+3.0**
UPM	**Unac-Piva**	**1.91**	**331**	⇑*i*Pn	**Pn**	**12 30 49.6**	**+1.2**
UPM				*e*Sn	**Sn**	**12 31 15.3**	**+2.7**
KNT	**Kendrikon**	**2.08**	**100**	*e*Pn	**Pn**	**12 30 49.7**	**-1.1**
PE1	**Pezze di Greco**	**2.21**	**251**	*e*Pn	**Pn**	**12 30 51.3**	**-1.3**
DIVS	**Divibare**	**2.56**	**357**	*e*Pn	**Pn**	**12 30 57.6**	**+0.2**
DIVS				*e*Sn	**Sn**	**12 31 27.9**	**-0.7**
SG1	**Sgolgore (BA)**	**2.74**	**256**	*e*Pn	**Pn**	**12 30 59.2**	**-0.7**

IDC 29 12:32:28.8±1.5, 1560S×17544W, h301km±26km, mb3.0/3, mb1 3.3/4, mb1mx3.0/17, mbtmp3.0/4, Error ellipse: s-maj=204.3km s-min=18.7km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.93**	**65**	P	Pn	12 33 35.1	+0.9
	3.1nm,0.3s,baz=276,slow=22,SNR=7.2						
AFI				S	S	12 34 26.9	+0.2
	7.1nm,0.3s,baz=328,slow=22,SNR=7.1						
WRA	**Warramunga Arr**	**47.88**	**257**	P	P	12 40 37.3	-0.2
	0.1nm,0.3s,baz=93,slow=7.6,SNR=17						
WRA				PcP	PcP	12 42 00.5	-0.4
	0.1nm,0.5s,baz=96,slow=3.5,SNR=3.8						
ASAR	**Alice Springs**	**48.17**	**252**	P	P	12 40 39.8	+0.1
	2.4nm,0.6s,baz=87,slow=7.8,SNR=49						
NVAR	**Mina Array Bea**	**75.81**	**43**	P	P	12 43 42.5	+0.4
	0.2nm,0.6s,baz=224,slow=7.5,SNR=2.8						

IDC ***29*** *12:36:49.5±0.9, 3338S×17825W, h0km, mb4.4/6, mb1 4.6/7, mb1mx4.2/18, mbtmp4.4/7, ML3.9/1, Error ellipse: s-maj=29.6km s-min=21.6km az=117.0*
NEIC ***29*** *12:36:51.0±0.9, 3350S×17824W, h10km, mb4.4/1, Error ellipse: s-maj=27.6km s-min=13.7km az=121.0*
ISCJB ***29*** *12:36:51.2±5.5, 335S±01×1783W±02, h22km±40km, mb4.4/6, Error ellipse: s-maj=29.8km s-min=12.4km az=31.3*

ISC 29 12:36:54.0±5.4, 335S±01×1783W±02, h27km±40km, n17, σ0§86/13, mb4.4/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.06**	**217**	Pn	**Pn**	**12 38 22.2**	**+0.4**
	2.8nm,0.3s,baz=106,slow=2.0,SNR=50						
URZ				Sn	**Sn**	**12 39 29.6**	**-0.7**
	31nm,0.3s,baz=307,slow=14,SNR=5.3						
RPZ	**Rata Peaks**	**13.18**	**216**	Pn	**Pn**	**12 39 55.7**	**-3.6**
	1.3nm,0.3s,baz=211,slow=16,SNR=6.6						
RPZ				Sn	**Sn**	**12 42 11.8**	**-13**
	1.2nm,0.3s,baz=149,slow=22,SNR=11						
AFI	**Afiamalu**	**20.35**	**19**	P	**P**	**12 41 28.3**	**-0.1**
	25nm,0.8s,baz=99,slow=13,SNR=3.6						
ASAR	**Alice Springs**	**42.77**	**270**	P	**P**	**12 44 49.4**	**0.0**
	4.2nm,0.7s,mb4.3,baz=110,slow=7.3,SNR=53						
WB2	**Warramunga Arr**	**44.02**	**275**	*e*P	**P**	**12 44 59.3**	**-0.2**
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**12 44 59.3**	**-0.3**
	2.6nm,0.6s,mb4.1,baz=115,slow=8.2,SNR=27						
FITZ	**Fitzroy Crossi**	**52.15**	**272**	*e*P	**P**	**12 46 04.0**	**+1.6**
	3.9nm,0.7s,mb4.5						
QSPA	**South Pole Qui**	**56.66**	**180**	P	**P**	**12 46 35.5**	**+1.2**
	4.4nm,0.7s,mb4.6,baz=27,slow=2.1,SNR=38						
PETK	**Petropavlovsk-**	**88.70**	**346**	P	**P**	**12 49 44.2**	**-0.2**
	2.2nm,0.8s,mb4.5,baz=120,slow=7.1,SNR=5.9						
PETK	**Petropavlovsk-**	**88.70**	**346**	P	**P**	**12 49 44.2**	**-0.2**
NVAR	**Mina Array Bea**	**90.66**	**43**	P	**P**	**12 49 52.9**	**-1.1**
	1.0nm,0.7s,mb4.2,baz=224,slow=8.9,SNR=12						
NB2	**NORSAR Subarra**	**151.72**	**350**	PKP	PKPbc	12 56 43.9	-1.3
	comp=Z,1.1nm,0.6s,baz=11,slow=2.6						
NOA	**NORSAR Array B**	**151.72**	**350**	PKPbc	PKPbc	12 56 44.2	-1.0
	comp=Z,1.8nm,0.7s,baz=14,slow=4.1,SNR=7.2						
NOA				PKPab	PKPab	12 56 53.7	-0.4
	comp=Z,0.8nm,0.6s,baz=18,slow=4.2,SNR=3.5						
LIC	**Lamto**	**152.19**	**166**	*e*PKP1	PKPab	12 57 00.5	+3.2
	comp=Z,69nm,1.7s						
KIC	**Kosan Boka**	**152.38**	**166**	*e*PKP1	PKPab	12 57 00.3	+2.2
	comp=Z,182nm,2.1s						
TIC	**Toumodi**	**152.60**	**165**	*e*PKP1	PKPab	12 57 01.4	+2.4
	comp=Z,19nm,0.2s						
TORD	**Torodi Ar. Bea**	**159.78**	**180**	PKPab	PKPab	12 57 28.9	-0.7
	comp=Z,0.6nm,0.7s,baz=184,slow=3.0,SNR=4.1						

NIED ***29*** *13:02:00, 28.10N×141.50E, h44km, Mw4.0 Best double couple: M0=1.01000×10^15 NP1:φs=4.00000°, δ88.00000°, λ112.00000°. NP2:φs=99.00000°, δ23.00000°, λ6.00000°.*
MOS ***29*** *13:02:46.9±1.1, 28.19N×141.06E, h33km, mb4.6/2, Error ellipse: s-maj=33.1km s-min=11.1km az=103.4*
ISCJB ***29*** *13:02:48.2±0.7, 2823N±005×1413E±0.1, h45km±8km, mb4.0/14, Error ellipse: s-maj=22.0km s-min=5.0km az=162.2*
IDC ***29*** *13:02:49.9±1.8, 2821N×141.15E, h43km±17km, mb3.6/11, mb1 3.8/13, mb1mx3.7/22, mbtmp3.7/13, ML3.8/2, MS2.8/3, Ms1 2.8/3, ms1mx2.1/28, Error ellipse: s-maj=26.1km s-min=14.0km az=68.0*
JMA ***29*** *13:02:51.0±0.2, 28.14N×141.48E, h54km, M4.5*
JMA Felt I J1.
NEIC ***29*** *13:02:53.7±1.3, 2820N×141.06E, h77km±11km, mb4.4/2, Error ellipse: s-maj=16.2km s-min=8.6km az=83.0*
NEIC Recorded [1 JMA] in the Chichijima-retto.

ISC 29 13:02:50.0±0.6, 2821N±005×1414E±01, h48km±7km, n47, σ1§32/53, mb4.0/14, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.31**	**148**	P	**Pn**	**13 03 12.2**	**+0.3**
CBIJ				*e*S	**Sn**	**13 03 26.8**	**-1.3**
CBIJ	**Chichi jima**	**1.31**	**148**	P	**Pn**	**13 03 12.2**	**+0.3**
	257nm,0.3s,baz=64,slow=12,SNR=717						
CBIJ				S	**Sn**	**13 03 26.9**	**-1.3**
	2μm,0.3s,baz=300,slow=20,SNR=75						
JHHJ	**Haha-jima-NKT**	**1.72**	**156**	P	**Pn**	**13 03 17.9**	**+0.4**
JHHJ				*e*S	**Sn**	**13 03 36.4**	**-1.8**
JHJ2	**Mitsune**	**5.07**	**345**	P	**Pn**	**13 04 03.3**	**-0.2**
JHJ2				*e*S	**Sn**	**13 04 55.5**	**-5.3**
JHJ	**Hachijo jima 2**	**5.09**	**344**	P	**Pn**	**13 04 03.2**	**-0.5**
	11nm,0.3s,baz=225,slow=21,SNR=18						
JHJ				S	**Sn**	**13 04 56.0**	**-5.2**
	18nm,0.3s,baz=72,slow=20,SNR=5.8						
BSO3	**Boso 3**	**6.62**	**354**	P	**Pn**	**13 04 26.1**	**+1.5**
BSO4	**Boso 4**	**6.82**	**353**	P	**Pn**	**13 04 30.3**	**+2.9**
JWZ	**Kozaga**	**7.21**	**319**	P	**Pn**	**13 04 35.6**	**+2.8**
JOD2	**Odawara 2**	**7.30**	**345**	P	**Pn**	**13 04 37.6**	**+3.5**
JHU	**Hanno**	**7.83**	**347**	P	**Pn**	**13 04 42.9**	**+1.6**
JHU				*e*S	**Sn**	**13 06 07.7**	**-0.8**
JYT	**Yasato**	**8.06**	**353**	P	**Pn**	**13 04 45.4**	**+1.0**
JYT				*e*S	**Sn**	**13 06 11.7**	**-2.5**
JRY	**Ryogami san**	**8.07**	**345**	P	**Pn**	**13 04 47.6**	**+3.1**
JAG	**Ashikaga**	**8.36**	**349**	P	**Pn**	**13 04 48.8**	**+0.3**
JHO	**Hitachi**	**8.41**	**355**	P	**Pn**	**13 04 48.4**	**-0.8**
JHO				*e*S	**Sn**	**13 06 17.1**	**-5.6**
MJAR	**Matsushiro Arr**	**8.73**	**343**	P	**Pn**	**13 04 55.3**	**+1.6**
	1.1nm,0.3s,baz=128,slow=29,SNR=16						
MJAR				S	**Sn**	**13 06 29.5**	**-1.3**
	0.1nm,0.3s,baz=167,slow=21,SNR=5.1						
MAJO	**Matsushiro**	**8.74**	**343**	*e*P	**Pn**	**13 04 57.2**	**+3.5**
MAT	**Matsushiro**	**8.74**	**343**	P	**Pn**	**13 04 57.0**	**+3.3**
MAT				*e*S	**Sn**	**13 06 30.4**	**-0.4**
MAT	**Matsushiro**	**8.74**	**343**	P	**Pn**	**13 04 57.1**	**+3.4**
JMK	**Ichinoseki**	**10.71**	**359**	P	**Pn**	**13 05 19.3**	**-1.5**
JMK				*e*S	**Sn**	**13 07 11.4**	**-7.9**
KSRS	**Korea Array**	**14.60**	**313**	LR	LR	13 11 22.1	
	comp=Z,27nm,19.1s,baz=230,slow=36						
ASAJ	**Asahikawa**	**15.90**	**3**	P	**Pn**	**13 06 29.0**	**-1.4**
	0.5nm,0.3s,baz=211,slow=5.5,SNR=6.7						
ASAJ				LR	LR	13 11 36.2	
	comp=Z,43nm,21.1s,baz=188,slow=33						
ASAJ	**Asahikawa**	**15.90**	**3**	P	**Pn**	**13 06 29.0**	**-1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**22.26**	**343**	*e*P	**P**	**13 07 40.2**	**-2.6**
ZALV	**Zalesovo Beam**	**48.20**	**319**	P	**P**	**13 11 24.5**	**-1.0**
	comp=Z,0.5nm,0.4s,mb3.9,baz=92,slow=5.0,SNR=3.0						
ZALV				PcP	PcP	13 12 52.1	-0.1
	comp=Z,0.8nm,0.4s,baz=89,slow=3.9,SNR=3.3						
ZAL	**Zalesovo**	**48.21**	**319**	P	**P**	**13 11 24.5**	**-1.1**
ZAL						13 12 52.1	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**48.21**	**319**	P	**P**	**13 11 24.6**	**-1.0**
ZAL						13 12 52.1	
WRAB	**Tennant Creek**	**48.34**	**189**	*e*P	**P**	**13 11 27.1**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**48.34**	**189**	*e*P	**P**	**13 11 27.1**	**+0.2**
	comp=Z,2.3nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**48.35**	**189**	*e*P	**P**	**13 11 27.5**	**+0.5**
WRA	**Warramunga Arr**	**48.35**	**189**	P	**P**	**13 11 27.6**	**+0.5**
	comp=Z,1.4nm,0.3s,mb4.4,baz=6.4,slow=7.7,SNR=80						
WRA				ScP	ScP	13 16 41.9	-2.0
	comp=Z,0.4nm,0.9s,baz=359,slow=4.7,SNR=5.1						
MKAR	**Makanchi Array**	**49.24**	**309**	P	**P**	**13 11 32.6**	**-1.1**
	comp=Z,0.2nm,0.6s,mb3.3,baz=88,slow=7.4,SNR=3.8						
KURK	**Kurchatov**	**51.72**	**314**	P	**P**	**13 11 51.1**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=91,slow=8.0,SNR=4.1						
ASAR	**Alice Springs**	**52.08**	**189**	P	**P**	**13 11 55.5**	**+0.3**
	comp=Z,0.3nm,0.3s,mb3.7,baz=14,slow=8.3,SNR=8.7						
ARCES	**ARCESS Array B**	**72.27**	**341**	P	**P**	**13 14 10.9**	**+1.0**
	comp=Z,2.0nm,0.5s,mb4.3,baz=69,slow=7.8,SNR=18						
JOF	**Joensuu**	**73.78**	**333**	*e*p	**P**	**13 14 19.4**	**+0.4**
	comp=Z,4.7nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**76.17**	**334**	*e*p	**P**	**13 14 33.1**	**+0.3**
	comp=Z,2.9nm,0.6s,mb4.4						
KAF	**Kangasniemi**	**76.17**	**334**	*e*P	**P**	**13 14 33.1**	**+0.3**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
NVAR	**Mina Array Bea**	**80.37**	**52**	P	**P**	**13

ISC 29 13:38:38.3±0.7, 3586N±003×14100E±006, h23km±4km, n25, σ0°98/32, mb3.5/8, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.19	217	⇓P	Pb	13 38 44.4	+0.7
CHOJ				eS	Sb	13 38 48.3	+1.0
JYT	Yasato	0.75	300	⇑P	Pb	13 38 52.0	-0.7
JYT				S	Sb	13 39 01.9	-0.7
JHO	Hitachi	0.83	335	⇑P	Pb	13 38 53.6	-0.5
JHO				eS	Sb	13 39 05.0	+0.2
BSO4	Boso 4	1.02	212	P	Pn	13 38 58.0	+0.8
BSO3	Boso 3	1.13	201	P	Pn	13 38 57.6	-1.0
BSO1	Boso 1	1.20	181	P	Pn	13 38 58.0	-1.6
MJAR	Matsushiro Arr	2.36	288	Pn	Pn	13 39 15.8	+0.2
	5.6nm,0.3s,baz=96,slow=8.9,SNR=56						
MJAR				Sn	Sn	13 39 43.6	-0.3
	5.9nm,0.3s,baz=140,slow=14,SNR=4.8						
MAJO	Matsushiro	2.36	288	ePn	Pn	13 39 15.9	+0.3
MAT	Matsushiro	2.36	288	P	Pn	13 39 16.8	+1.2
MAT				eS	Sn	13 39 43.8	-0.1
JHJ	Hachijo jima 2	2.91	201	Pn	Pn	13 39 22.6	-0.6
	17nm,0.3s,baz=60,slow=4.8,SNR=18						
JHJ				Sn	Sn	13 39 56.6	-0.8
	24nm,0.3s,baz=221,slow=24,SNR=6.1						
ASAJ	Asahikawa	8.34	8	Pn	Pn	13 40 36.9	-0.8
	1.6nm,0.3s,baz=223,slow=10.0,SNR=18						
ASAJ				Sn	Sn	13 42 08.9	-2.2
	baz=198,slow=20,SNR=2.0						
CBIJ	Chichi jima	8.79	173	Pn	Pn	13 40 41.5	-2.5
	5.6nm,0.3s,baz=239,slow=18,SNR=24						
CBIJ				Sn	Sn	13 42 12.9	-9.4
	2.3nm,0.3s,baz=261,slow=19,SNR=3.7						
KSRS	Korea Array	10.63	282	LR	LR	13 45 10.4	
	comp=Z,58nm,21.8s,baz=100,slow=37						
YSS	Yuzh-Sakhalins	11.16	6	ePn	Pn	13 41 15.2	-1.1
	15nm,0.8s						
PETK	Petropavlovsk-	20.87	29	P	P	13 43 19.9	+1.5
	1.2nm,0.8s,baz=206,slow=9.9,SNR=3.5						
PETK				LR	LR	13 50 27.7	
	comp=Z,31nm,21.6s,baz=334,slow=34						
SONM	Songino Array	28.19	306	P	P	13 44 28.9	+0.1
	0.5nm,0.6s,mb3.3,baz=107,slow=8.0,SNR=2.8						
ZALV	Zalesovo Beam	42.47	313	P	P	13 46 32.0	+0.7
	0.7nm,0.4s,mb3.6,baz=74,slow=11,SNR=2.6						
MK31	Makanchi Array	44.47	303	ePn	P	13 46 47.7	+0.2
MKAR	Makanchi Array	44.47	303	P	P	13 46 48.1	+0.6
	1.2nm,0.6s,mb3.8,baz=83,slow=10,SNR=9.4						
BMRM	Bremner River	52.00	37	eP	P	13 47 45.3	0.0
WRA	Warramunga Arr	55.85	188	P	P	13 48 13.4	-0.5
	0.6nm,0.6s,mb3.8,baz=5.7,slow=6.8,SNR=5.9						
ASAR	Alice Springs	59.58	188	P	P	13 48 41.1	+1.0
	0.6nm,0.7s,mb3.7,baz=13,slow=9.1,SNR=4.5						
NOA	NORSAR Array B	75.14	337	P	P	13 50 19.7	+1.5
	0.4nm,0.7s,mb3.5,baz=46,slow=6.0,SNR=2.4						
NVAR	Mina Array Bea	75.96	53	P	P	13 50 24.8	+1.5
	0.1nm,0.3s,mb3.2,baz=282,slow=4.5,SNR=3.5						
TXAR	Lajitas Array	91.10	52	P	P	13 51 42.4	+1.1
	0.1nm,0.4s,mb3.5,baz=285,slow=4.5,SNR=3.7						

IDC 29 13:39:10.8±4.1, 289S×14083E, h0km, mb3.6/2, mb1 4.2/3, mb1mx3.7/13, mbtmp3.9/3, ML4.2/1, Error ellipse: s-maj=149.0km s-min=28.5km az=90.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.10	200	P	Pn	13 43 23.3	-0.6
	0.9nm,0.3s,baz=18,slow=12,SNR=36						
ASAR	Alice Springs	21.72	197	P	P	13 44 03.9	+0.1
	2.1nm,0.6s,baz=30,slow=9.9,SNR=36						
MKAR	Makanchi Array	71.22	322	P	P	13 50 32.1	+0.3
	0.3nm,0.4s,baz=110,slow=6.9,SNR=4.4						

*IDC **29** 14:00:41.3±5.7, 3672N×7182E, h72km±50km, mb3.5/8, mb1 3.8/13, mb1mx3.6/26, mbtmp3.7/13, ML4.1/5, Error ellipse: s-maj=35.1km s-min=19.4km az=21.0*
*ISCJB **29** 14:00:49.8±0.3, 3713N±002×7192E±005, h168km±5km, mb3.6/8, Error ellipse: s-maj=6.4km s-min=3.8km az=175.1*
*MOS **29** 14:00:49.1±1.4, 3716N×7192E, h147km, mb4.6/1, Error ellipse: s-maj=16.3km s-min=8.8km az=88.4*
*NEIC **29** 14:00:50.8±0.6, 3712N×7197E, h160km±7km, mb4.6/10, Error ellipse: s-maj=7.9km s-min=4.7km az=62.0*
*BJI **29** 14:00:53.2, 3745N×7197E, h159km*
*NNC **29** 14:00:55.5±5.0, 3757N×7166E, h194km±43km, mb3.1, mpv4.4, Error ellipse: s-maj=45.8km s-min=23.7km az=12.0*

ISC 29 14:00:50.8±0.3, 3712N±002×7195E±005, h160km±5km, n74, σ1°19/92, mb3.6/8, 8C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.29	181	P	Pn	14 01 43.6	+1.4
CEP				S	Sn	14 02 24.0	+2.0
KBL	Kabul	3.50	223	ePn	Pn	14 01 45.5	+0.7
KBL				eSn	Sn	14 02 25.7	-1.0
CHCP	Chirah Chowk	3.62	162	P	Pn	14 01 47.7	+1.3
KSH	Kashi	3.96	52	eP	Pn	14 01 53.3	+2.6
KSH				S	Sn	14 02 39.3	+1.8
KSH				Smax			
	comp=N,733nm,0.8s						
KSH				Smax			
	comp=E,777nm,0.6s						
THW	Thamme Wali	4.32	182	⇑P	Pn	14 01 56.4	+0.9
JMU	Jammu	5.02	150	eS	Sn	14 03 00.0	-2.2
AML	Almayashu	5.18	15	P	Pn	14 02 07.6	+1.0
	SNR=208						
AML	Almayashu	5.18	15	ePn	Pn	14 02 07.5	+0.9
	comp=E,238nm,0.5s						
AML				eSn	Sn	14 03 02.6	-3.4
UCH	Uchtor	5.47	20	P	Pn	14 02 11.6	+1.2
	SNR=93						
UCH	Uchtor	5.47	20	ePn	Pn	14 02 11.5	+1.1
	comp=E,89nm,0.6s						
UCH				eSn	Sn	14 03 10.2	-2.6
DLH	Dalhousie	5.64	143	eP	Pn	14 02 12.0	-0.7
DLH				eS	Sn	14 03 13.0	-3.9
EKS2	Erkin-Say	5.71	14	P	Pn	14 02 14.5	+0.9
	SNR=18						
EKS2	Erkin-Say	5.71	14	ePn	Pn	14 02 13.9	+0.3
	comp=E,18nm,0.6s						
AAK	Ala-Archa	5.84	19	P	Pn	14 02 16.7	+1.3
	SNR=49						
KBK	Karagaybulak	5.99	22	P	Pn	14 02 18.8	+1.5
	SNR=13						
KK31	Karatay Array	6.08	350	⇑P	Pn	14 02 18.7	+0.3
	comp=E,31nm,0.3s,baz=174,slow=14,SNR=741						
KK31				⇑S	Sn	14 03 23.2	-4.0
	comp=E,56nm,0.3s,baz=175,slow=24,SNR=19						
ULHL	Ulahol	6.09	32	P	Pn	14 02 19.4	+0.7
	SNR=9.6						
CHMS	Chumysh	6.25	19	P	Pn	14 02 21.9	+1.1
	SNR=18						
TKM2	Tokmak 2	6.43	25	⇓P	Pn	14 02 23.2	+0.1
	comp=E,17nm,0.8s						
TKM2				⇑S	Sn	14 03 33.8	-1.9
	comp=E,16nm,0.8s						
TKM2	Tokmak 2	6.43	25	ePN	Pn	14 02 23.8	+0.6
TKM2				pmax	pmax		
	comp=Z,36nm,0.7s						
TKM2	Tokmak 2	6.43	25	P	Pn	14 02 24.1	+0.9
	SNR=17						
TKM2	Tokmak 2	6.43	25	ePn	Pn	14 02 23.8	+0.6
	comp=Z,36nm,0.7s						
USP	Ospenovka	6.44	17	P	Pn	14 02 24.0	+0.7
	SNR=12						
SDNR	Sundarnagar	6.98	142	eP	Pn	14 02 29.4	-1.1
SDNR				eS	Sn	14 03 43.0	-5.9
SMLA	Simla	7.38	143	i P	Pn	14 02 34.6	-1.2
SMLA				i S	Sn	14 03 52.1	-6.4
SMLA				ex	x	14 03 59.5	
	comp=N,630nm,0.3s						
SMLA				ex	x	14 04 00.6	
	comp=E,930nm,0.3s						
KLP	Kalpa	7.63	135	eP	Pn	14 02 38.6	-0.5
KLP				eS	Sn	14 03 58.5	-6.0
KLP				AML	AML	14 04 06.5	
	comp=N,182nm,0.8s						
KLP				AML	AML	14 04 07.2	
	comp=E,189nm,0.4s						
JOSI	Joshimath	9.10	134	eP	Pn	14 02 57.8	-1.0
JOSI				eS	Sn	14 04 32.2	-7.7
JOSI				AML	AML	14 04 39.6	
	comp=E,230nm,0.8s						
JOSI				AML	AML	14 04 40.4	
	comp=N,216nm,0.7s						
NDI	New Delhi	9.51	151	eP	Pn	14 03 03.5	-0.6
NDI				eS	Sn	14 04 41.0	-8.6
SONA	Sohna	9.84	153	eP	Pn	14 03 06.8	-1.7
SONA				eS	Sn	14 04 48.6	-9.2
MK31	Makanchi Array	12.34	35	⇓P	Pn	14 03 41.0	0.0
	comp=N,1.1nm,0.5s,baz=202,slow=8.2,SNR=5.8						
MK31	Makanchi Array	12.34	35	ePn	Pn	14 03 41.0	0.0
MKAR	Makanchi Array	12.34	35	P	Pn	14 03 41.1	+0.1
	comp=N,0.1nm,0.3s,baz=225,slow=12,SNR=14						
DANN	Dangsing	13.23	128	eP	Pn	14 03 52.3	-0.2
	comp=N,18nm,0.4s						
KOLN	Koldanda	13.54	130	eP	Pn	14 03 55.2	-1.3
	comp=N,16nm,0.6s						
KURBB	Kurchatov Arra	14.30	17	⇑P	Pn	14 04 03.4	-2.4
	comp=N,0.7nm,0.5s						
KURK	Kurchatov	14.40	17	⇑P	Pn	14 04 04.2	-2.9
	comp=N,9.6nm,1.2s						
KURK	Kurchatov	14.40	17	P	Pn	14 04 03.5	-3.6
	comp=N,0.3nm,0.3s,baz=208,slow=11,SNR=11						
KURK	Kurchatov	14.40	17	ePn	Pn	14 04 04.7	-2.4
KURK				eP		14 04 10.4	
KKN	Kakani	14.59	126	eP	Pn	14 04 10.0	+0.4
	comp=N,15nm,0.4s						
KKN	Kakani	14.59	126	eP	Pn	14 04 10.0	+0.4
KKN				pmax	pmax		
	comp=Z,15nm,0.4s						
DMN	Daman	14.60	127	eP	Pn	14 04 10.1	+0.3
	comp=Z,11nm,0.4s						
PKIN	Phulchoki	14.81	126	eP	Pn	14 04 13.2	+0.9
	comp=Z,6.3nm,0.3s						
PKI	Pulchoki	14.82	126	eP	Pn	14 04 13.2	+0.7
AB31	Akbulak array	14.94	328	⇑P	Pn	14 04 12.3	-1.4
	comp=Z,3.0nm,0.5s,baz=141,slow=12,SNR=107						
AB31				⇑S	Sn	14 06 50.0	-10
	comp=Z,5.6nm,0.6s						
JIRN	Jiri	15.27	124	eP	Pn	14 04 19.0	+0.9
	comp=Z,24nm,0.4s						
VOSK	Vostochnaya	15.62	358	⇓P	Pn	14 04 19.9	-2.2
	comp=Z,3.9nm,0.7s						
BVA0	Borovoye Array	15.94	357	⇓P	Pn	14 04 24.7	-1.3
	comp=Z,0.9nm,0.7s,baz=159,slow=9.9,SNR=5.2						
BVAR	Borovoye Array	15.94	357	P	Pn	14 04 25.4	-0.7
	comp=Z,1.1nm,0.3s,baz=166,slow=13,SNR=23						
BRVK	Borovoye	15.98	356	eP	Pn	14 04 24.9	-1.6
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	Borovoye	15.98	356	ePn	Pn	14 04 24.9	-1.6
	comp=Z,5.4nm,0.8s						
RAMN	Ramite	16.02	125	eP	Pn	14 04 26.5	-0.7
	comp=Z,23nm,0.5s						
TAPN	Taplejung	16.49	122	eP	Pn	14 04 33.8	+0.8
	comp=Z,11nm,0.4s						
ODAN	Odare	16.60	124	eP	Pn	14 04 34.5	+0.2
	comp=Z,6.9nm,0.4s						
AKTK	Aktyubinsk	16.64	327	P	Pn	14 04 34.4	-0.3
AKTK				S	S	14 07 28.4	-11
AKTO	Aktyubinsk	16.64	327	⇓P	Pn	14 04 32.5	-2.1
	comp=Z,0.9nm,0.9s						
AKTO				⇓S	S	14 07 28.8	-11
	comp=Z,1.0nm,0.8s						
AKTO	Aktyubinsk	16.64	327	P	Pn	14 04 34.4	-0.3
	comp=Z,1.2nm,0.3s,baz=132,slow=8.8,SNR=11						
AKTO				S	S	14 07 28.4	-11
	comp=Z,0.2nm,0.3s,baz=174,slow=22,SNR=4.2						
ZAL	Zalesovo	19.02	24	P	P	14 05 01.2	+1.1
ZAA0	Zalesovo Array	19.04	24	eP	P	14 05 01.2	+0.9
ZALV	Zalesovo Beam	19.04	24	P	P	14 05 01.2	+0.8
	comp=Z,1.2nm,0.3s,baz=223,slow=10,SNR=42						
NVS	Novosibirsk	19.33	20	eP	P	14 04 59.1	-4.4
AKASG	Malin Array Be	33.16	308	P	P	14 07 12.8	+1.1
	comp=Z,0.3nm,0.3s,mb3.5,baz=80,slow=7.5,SNR=3.5						
ARCES	ARCESS Array B	40.87	337	P	P	14 08 17.6	+1.1
	comp=Z,2.4nm,1.0s,mb3.8,baz=52,slow=7.9,SNR=3.8						
NB2	NORSAR Subarra	44.35	323	P	P	14 08 45.4	+0.8
	comp=Z,1.2nm,0.6s,mb3.7,baz=94,slow=7.9						
NOA	NORSAR Array B	44.35	323	P	P	14 08 45.3	+0.7
	comp=Z,1.0nm,0.6s,mb3.6,baz=94,slow=7.6,SNR=4.4						
ESDC	Sonseca Array	57.84	298	P	P	14 10 26.7	+1.2
	comp=Z,0.5nm,0.3s,mb3.8,baz=63,slow=7.7,SNR=3.5						
ESLA	Sonseca Array	57.84	298	eP	P	14 10 26.3	+0.8
TOA0	Torodi Ar. Sit	66.49	269	eP	P	14 11 22.6	-0.9
TORD	Torodi Ar. Bea	66.49	269	P	P	14 11 22.6	-0.9
	comp=Z,1.1nm,0.5s,mb4.0,baz=49,slow=6.0,SNR=24						
YKA	Yellowknife Ar	80.59	3	P	P	14 12 48.5	+3.5
	comp=Z,0.6nm,0.5s,mb3.5,baz=353,slow=5.1,SNR=3.1						
WRA	Warramunga Arr	81.67	123	P	P	14 12 51.2	-0.2
	comp=Z,0.5nm,0.8s,mb3.2,baz=324,slow=4.9,SNR=9.4						
WRA	Warramunga Arr	81.67	123	P	P	14 12 51.2	-0.1
WRA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRAB	Tennant Creek	81.68	123	eP	P	14 12 51.7	+0.4
WB2	Warramunga Arr	81.68	123	eP	P	14 12 51.0	-0.4
ASAR	Alice Springs	83.99	126	P	P	14 13 03.4	+0.2
	comp=Z,0.4nm,0.9s,mb3.2,baz=315,slow=4.6,SNR=5.8						

*IDC **29** 14:14:41.4±1.7, 1434S×7680W, h0km, mb3.8/4, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, ML3.6/4, MS2.8/1, Ms1 2.9/1, ms1mx2.5/22, Error ellipse: s-maj=48.5km s-min=19.5km az=53.0*
*NEIC **29** 14:14:42.9±0.8, 1429S×7680W, h10km, mb4.2/2, Error ellipse: s-maj=22.3km s-min=10.2km az=53.0*
*ISCJB **29** 14:14:43.2±1.0, 1455S±006×7699W±010, h33km, mb3.8/4, Error ellipse: s-maj=15.1km s-min=6.4km az=151.7*

ISC 29 14:14:45.7±0.9, 1439S±008×770W±01, h35km, n17, σ1°52/24, mb3.8/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.40	3	Pn	Pn	14 15 20.4	-2.0
	2.0nm,0.3s,baz=183,slow=15,SNR=3.6						
NNA				Sn	Sn	14 15 52.9	+2.4
	109nm,0.3s,baz=36,slow=18,SNR=22						
NNA	Nana	2.40	3	ePn	Pn	14 15 20.2	-2.2
NNA				Sn	Sn	14 15 52.9	+2.4
NNA				eSg	Sn	14 15 54.7	+4.2
ATAH	Atahualpa	7.48	349	Pn	Pn	14 16 34.9	+2.6
	0.4nm,0.3s,baz=176,slow=15,SNR=2.8						
ATAH				Sn	Sn	14 17 53.6	-2.3
	0.7nm,0.3s,baz=32,slow=14,SNR=2.6						
LPAZ	La Paz	8.73	104	Pn	Pn	14 16 49.7	+0.1
	0.3nm,0.3s,baz=312,slow=8.2,SNR=6.5						
LPAZ				Sn	Sn	14 18 28.4	+1.6
	0.1nm,0.3s,baz=16,slow=19,SNR=2.2						
LPAZ				LR	LR	14 20 36.5	
	comp=Z,62nm,21.4s,baz=330,slow=41						
LPAZ	La Paz	8.73	104	ePn	Pn	14 16 48.8	-0.7
LPAZ				Sn	Sn	14 18 28.4	+1.6
LPAZ				LR	LR	14 20 36.5	
LVC	Limon Verde	11.19	138	Pn	Pn	14 17 22.3	-0.8
	0.2nm,0.3s,baz=299,slow=11,SNR=7.8						
LVC				Sn	Sn	14 19 21.4	-5.7
	0.3nm,0.3s,baz=88,slow=23,SNR=2.6						
LVC				Lg		14 20 25.8	
	0.2nm,0.3s,baz=229,slow=20,SNR=2.8						
LVC	Limon Verde	11.19	138	ePn	Pn	14 17 22.4	-0.8
LVC				Sn	Sn	14 19 21.4	-5.7
LVC				Lg		14 20 25.8	
SIV	San Ignacio	15.43	98	Pn	Pn	14 18 20.0	-0.8
	0.1nm,0.3s,baz=234,slow=16,SNR=2.8						
CPUP	Villa Florida	21.88	126	P	P	14 19 33.7	-1.9
	0.4nm,0.4s,mb3.2,baz=273,slow=5.3,SNR=3.2						
CPUP	Villa Florida	21.88	126	eP	P	14 19 33.6	-2.0
	3.6nm,0.3s,mb4.3						
TXAR	Lajitas Array	50.54	329	P	P	14 23 41.9	+1.1
	0.2nm,0.8s,mb3.1,baz=155,slow=5.0,SNR=2.7						
SNAA	Sanae	71.45	161	eP	P	14 26 04.5	+2.4
DBIC	Dimbokro	74.51	79	P	P	14 26 20.5	-0.8
	2.6nm,1.0s,mb4.1,baz=237,slow=6.2,SNR=3.7						
DBIC	Dimbokro	74.51	79	eP	P	14 26 20.7	-0.6
	2.3nm,0.8s,mb4.2						
TOA0	Torodi Ar. Sit	82.55	74	eP	P	14 27 05.7	+0.1
TORD	Torodi Ar. Bea	82.55	74	P	P	14 27 05.9	+0.3
	1.6nm,0.7s,mb4.2,baz=267,slow=5.2,SNR=8.8						
SONM	Songino Array	146.54	356	PKPbc	PKPbc	14 34 25.5	+2.1
	0.2nm,0.4s,baz=4.1,slow=1.9,SNR=3.4						

*ISCJB **29** 14:26:58.3±0.4, 4003N±002×2435E±002, h9km±3km, Error ellipse: s-maj=2.8km s-min=2.6km az=161.9*
*NEIC **29** 14:26:59.2, 3999N×2435E, h6km, ML3.6(ATH), ML4.0(THE), After ATH.*
*CSEM **29** 14:26:59.6±0.1, 4001N×2436E, h20km, ML4.0, Error ellipse: s-maj=1.6km s-min=1.4km az=168.0*
*SOF **29** 14:26:59.8, 4022N×2450E, h6km, MD3.6*
*ATH **29** 14:26:59.1, 4008N×2434E, h30km±2km, MD3.6/13, ML3.4*
*THE **29** 14:26:59.2, 3999N×2435E, h5km, ML4.0*
*BEO **29** 14:27:01.3±3.7, 41.14N×26.12E*
*ISK **29** 14:27:06.6, 4028N×2499E, h15km, ML3.4*

ISC 29 14:26:58.9±0.4, 4001N±002×2435E±002, h9km±3km, n103, σ1°25/123, 13C-18D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.43	320	ePg	Pg	14 27 08.0	+0.6
PAIG	Paliouri	0.52	262	ePg	Pg	14 27 09.5	+0.5
PAIG				eSg	Sg	14 27 16.7	+0.9
LOS	Limnos	0.57	97	ePg	Pg	14 27 09.8	0.0
LOS				eSg	Sg	14 27 17.6	+0.3
PLG	Polygyros	0.78	298	ePg	Pg	14 27 14.3	+0.3
PLG				eSg	Sg	14 27 25.5	+1.3
PLG	Polygyros	0.78	298	⇑iPN	Pn	14 27 14.3	-1.9
PLG				eSN	Sg	14 27 24.2	0.0
PLG	Polygyros	0.78	298	⇓iPn	Pn	14 27 14.3	-1.9
AOS	Alonnisos	0.91	204	ePg	Pg	14 27 16.0	-0.3
AOS				eSg	Sg	14 27 28.8	+0.7
XOR	Xorichti	1.10	235	ePg	Pg	14 27 19.7	-0.3
XOR				eSg	Sg	14 27 35.6	+1.5
NEO	Neokhori	1.11	232	⇑iPB	Pb	14 27 19.9	-0.4
NEO	Neokhori	1.11	232	⇑iPn	Pn	14 27 19.7	-1.0
NEO				eSn	Sn	14 27 35.0	-1.2
SOH	Sokhos	1.11	317	ePg	Pg	14 27 20.4	+0.1
SOH				eSg	Sg	14 27 36.2	+1.4
HORT	Hortiatis	1.12	302	ePg	Pg	14 27 20.1	-0.4
HORT				eSg	Sg	14 27 35.9	+0.8
GADA	Gvkgeada	1.20	81	ePG	Pg	14 27 21.1	-0.9
GADA				eSG	Sg	14 27 30.6	-7.0
THE	Thessaloniki	1.23	301	ePg	Pg	14 27 22.1	-0.4
BOZC	Bozcaada	1.32	97	i P	Pn	14 27 22.4	-1.1
NVR	Nevrokopi	1.39	345	⇓iPN	Pn	14 27 23.8	-0.7
NVR				eSN	Sn	14 27 41.3	-1.8
NVR	Nevrokopi	1.39	345	⇓iPn	Pn	14 27 23.9	-0.6
NVR				eSn	Sn	14 27 41.3	-1.8
LIT	Litokhoron	1.43	274	ePg	Pg	14 27 24.4	-1.9
RDO	Rodhopi	1.46	38	⇓iPB	Pb	14 27 24.0	-2.2
RDO				eSN	Sn	14 27 43.3	-1.3
RDO	Rodhopi	1.46	38	⇑iPn	Pn	14 27 24.1	-1.3
EZN	Ezine	1.53	96	ePN	Pn	14 27 27.9	+1.5
EZN				eSN	Sn	14 27 44.2	-2.2
ENEZ	Enez	1.56	61	ePG	Pg	14 27 25.9	-2.9
ENEZ				eSG	Sg	14 27 40.5	-8.5
KNT	Kendrikon	1.60	317	ePg	Pg	14 27 27.2	-2.3
MMB	Musomiste	1.65	344	i P	Pn	14 27 27.5	-0.6
PRK	Paraskevi	1.67	116	ePb	Pb	14 27 28.2	-1.6
PRK				eSb	Sb	14 27 49.7	-1.1
PRK	Paraskevi	1.67	116	⇓iPB	Pb	14 27 28.6	-1.2
PRK				eSB	Sb	14 27 51.0	+0.1
PRK	Paraskevi	1.67	116	⇓iPn	Pn	14 27 28.5	+0.2
PRK	Paraskevi	1.67	116	P	Pn	14 27 31.6	+3.3
PRK				eSb	Sb	14 27 49.7	-1.2
PRK	Paraskevi	1.67	116	⇓iPn	Pn	14 27 28.5	+0.2
PRK				P		14 27 31.6	
RZN	Rozhen	1.70	9	P	Pn	14 27 28.6	-0.2
LKR	Lokris	1.71	218	ePb	Pb	14 27 28.0	-2.5
LKR	Lokris	1.71	218	⇑iPN	Pn	14 27 28.1	-0.8
LKR				eSN	Sn	14 27 51.6	+0.7
GRG	Griva	1.76	303	ePb	Pb	14 27 30.1	-1.3
GRG	Griva	1.76	303	ePb	Pb	14 27 30.1	-1.3
KDZ	Kurdzhali	1.83	26	i P	Pn	14 27 29.2	-1.4
AGG	Agios Georgios	1.84	239	ePb	Pb	14 27 30.9	-1.8
AGG				eSb	Sb	14 27 55.1	-0.9
THL	Klokotos Trika	1.85	257	ePb	Pb	14 27 30.8	-2.2
THL	Klokotos Trika	1.85	257	⇓iPN	Pn	14 27 30.8	0.0
THL	Klokotos Trika	1.85	257	⇑iPn	Pn	14 27 35.9	+0.1
VAY	Valandovo	1.89	315	ePb	Pb	14 27 31.4	-2.2
VAY	Valandovo	1.89	315	i Pn	Pn	14 27 34.5	+3.2
VAY	Valandovo	1.89	315	i Pn	Pn	14 27 34.4	+3.1
PTL	Penteli	1.99	191	ePN	Pn	14 27 33.0	+0.3
PTL	Penteli	1.99	191	ePb	Pb	14 27 35.5	+0.2
KZN	Kozani	2.00	280	⇓iPB	Pb	14 27 33.3	-2.1
KZN	Kozani	2.00	280	⇓iPn	Pn	14 27 33.4	+0.5
ATH	Athens Observa	2.09	194	ePN	Pn	14 27 34.8	+0.7
ATH	Athens Observa	2.09	194	ePb	Pb	14 27 38.5	+1.6
CHOS	Chios island	2.09	140	ePn	Pn	14 27 34.0	-0.1
CHOS	Chios island	2.09	140	ePn	Pn	14 27 34.0	-0.1
KKB	Krupnik	2.09	333	i P	Pn	14 27 34.7	+0.5
PLD	Plovdiv	2.12	7	ePn	Pn	14 27 35.0	+0.5
PLD	Plovdiv	2.12	7	i P	Pn	14 27 35.1	+0.6
KVR	Kavouri	2.22	192	ePN	Pn	14 27 37.0	+1.1
KVR	Kavouri	2.22	192	ePb	Pb	14 27 40.5	+1.3
DIM	Dimitrovgrad	2.23	23	i P	Pn	14 27 35.9	-0.2
EVR	Evrytania	2.25	242	⇓iPN	Pn	14 27 37.3	+1.0
EVR	Evrytania	2.25	242	⇓iPb	Pb	14

*ISCJB **29** 14:49:03.8±0.8, 1396N±006×9233W±003, h33km, mb4.1/2, Error ellipse: s-maj=8.6km s-min=4.0km az=11.0*
*CASC **29** 14:49:03.8±2.5, 1378N×9216W, h29km±12km, MD4.1, mb4.1(NEIC)*
*NEIC **29** 14:49:05.9, 1393N×9237W, h20km, mb4.1/2, MD4.5(MEX), After MEX.*
*MEX **29** 14:49:05.9±1.0, 1392N×9235W, h24km±41km, MD4.5*
ISC 29 14:49:05.4±1.2, 1400N±006×9226W±003, h31km±9km, n18, σ1°00/29, mb4.1/2, 3C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.68**	**62**	⇑*eP*	**Pb**	**14 49 18.7**	**-0.1**
JAT				*eS*	**Sb**	**14 49 28.1**	**+0.2**
THIG		**0.90**	**359**	*i P*	**Pn**	**14 49 20.3**	**-1.6**
THIG				*i S*	**Sn**	**14 49 33.9**	**0.0**
FUG	**Fuego 3**	**1.44**	**72**	⇑*eP*	**Pn**	**14 49 28.1**	**-1.3**
FG6		**1.44**	**67**	⇓*eP*	**Pn**	**14 49 28.4**	**-0.9**
PCG	**Pacaya**	**1.65**	**76**	*eP*	**Pn**	**14 49 31.2**	**-1.0**
PCG				*eS*	**Sn**	**14 49 50.9**	**-1.4**
NBG	**Las Nubes**	**1.94**	**72**	⇑*eP*	**Pn**	**14 49 36.5**	**+0.3**
NBG				*eS*	**Sn**	**14 50 00.8**	**+1.3**
CCIG	**Comitan**	**2.27**	**3**	*i P*	**Pn**	**14 49 42.1**	**+1.3**
CCIG				*i S*	**Sn**	**14 50 08.0**	**+0.3**
SCX	**San Cristobal**	**2.74**	**352**	*i P*	**Pn**	**14 49 48.0**	**+0.8**
SCX				*i S*	**Sn**	**14 50 19.6**	**+0.2**
TGIG		**2.88**	**343**	*i P*	**Pn**	**14 49 48.8**	**-0.4**
TGIG				*i S*	**Sn**	**14 50 22.4**	**-0.5**
VHO	**Vista Hermosa**	**5.29**	**306**	*i P*	**Pn**	**14 50 22.5**	**+0.2**
VHO				*i S*	**Sn**	**14 51 20.7**	**-1.5**
PNIG	**Pinotepa**	**6.15**	**293**	*eP*	**Pn**	**14 50 33.9**	**-0.2**
PNIG				*i S*	**Sn**	**14 51 40.5**	**-2.9**
UTMO	**Huajuapan**	**6.56**	**306**	*i P*	**Pn**	**14 50 40.5**	**+0.8**
UTMO				*i S*	**Sn**	**14 51 53.0**	**-0.5**
TEIG	**Tepich**	**7.26**	**31**	*e*Pn	**Pn**	**14 50 49.6**	**+0.2**
	27nm,0.6s						
PPM	**Popocatepetl**	**7.92**	**310**	*i P*	**Pn**	**14 50 59.5**	**+1.1**
PPM				*i S*	**Sn**	**14 52 27.1**	**+0.1**
AMTX	**Amarillo**	**22.47**	**339**	*eP*	**P**	**14 54 01.3**	**-0.7**
	5.4nm,0.5s,mb4.2						
BNM	**Barren Site**	**23.92**	**329**	*eP*	**P**	**14 54 18.6**	**+2.0**
LAZ	**Ladron**	**24.37**	**329**	*eP*	**P**	**14 54 22.5**	**+1.8**
HLID	**Hailey**	**35.06**	**331**	*eP*	**P**	**14 55 56.5**	**+1.1**
	1.0nm,0.6s,mb3.9						

*ISCJB **29** 14:49:54.7±1.5, 190N±02×649W±0.1, h87km±24km, Error ellipse: s-maj=40.2km s-min=9.7km az=159.6*
*TRN **29** 14:49:54.4, 1898N×6491W, h72km*
*NEIC **29** 14:49:55.8, 1896N×6488W, h83km, MD3.7(RSPR), After RSPR.*
*RSPR **29** 14:49:55.8, 1896N×6488W, h83km±3km, MD3.7/11, MD3.7/11*
ISC 29 14:49:55.1±1.5, 190N±02×6487W±010, h84km±25km, n18, σ0°37/27, 16C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.56**	**114**	⇑*eP*	**Pn**	**14 50 09.3**	**-0.5**
ABV				*eS*	**Sn**	**14 50 21.2**	**+0.4**
TBVI	**Tortola**	**0.59**	**156**	⇓*eP*	**Pn**	**14 50 10.2**	**0.0**
TBVI				*eS*	**Sn**	**14 50 21.3**	**0.0**
MTP	**Monte Pirata**	**1.07**	**217**	⇑*eP*	**Pn**	**14 50 15.9**	**+0.5**
MTP				*eS*	**Sn**	**14 50 30.2**	**-0.3**
CBYP	**Canovanas**	**1.16**	**234**	⇑*eP*	**Pn**	**14 50 16.0**	**-0.3**
CBYP	**Canovanas**	**1.16**	**234**	⇑*eP*	**Pn**	**14 50 16.1**	**-0.2**
HUMP	**Col San Antoni**	**1.23**	**229**	⇑*eP*	**Pn**	**14 50 17.1**	**-0.2**
HUMP	**Col San Antoni**	**1.23**	**229**	⇑*eP*	**Pn**	**14 50 17.8**	**+0.5**
HUMP				*eS*	**Sn**	**14 50 33.7**	**-0.2**
HUMP	**Col San Antoni**	**1.23**	**229**	⇑*eP*	**Pn**	**14 50 17.1**	**-0.2**
HUMP				*eS*	**Sn**	**14 50 33.7**	**-0.2**
CPD	**Cerro la Pandu**	**1.35**	**227**	⇑*eP*	**Pn**	**14 50 19.2**	**+0.5**
SJG	**San Juan**	**1.48**	**235**	⇑*eP*	**Pn**	**14 50 20.0**	**-0.4**
SJG	**San Juan**	**1.48**	**235**	⇑*eP*	**Pn**	**14 50 20.0**	**-0.3**
SJG	**San Juan**	**1.48**	**235**	⇑*eP*	**Pn**	**14 50 20.1**	**-0.2**
SJG				*eS*	**Sn**	**14 50 39.0**	**-0.4**
SJG	**San Juan**	**1.48**	**235**	*e*Pn	**Pn**	**14 50 19.6**	**-0.8**
CELP	**Cerrillos**	**1.84**	**242**	⇑*eP*	**Pn**	**14 50 24.9**	**-0.1**
CELP				*eS*	**Sn**	**14 50 48.0**	**+0.1**
AOPR	**Arecibo Observ**	**1.89**	**251**	⇑*eP*	**Pn**	**14 50 25.3**	**-0.3**
AOPR				*eS*	**Sn**	**14 50 49.3**	**+0.5**
ICM	**Isla Caja Muer**	**1.89**	**236**	⇑*eP*	**Pn**	**14 50 26.4**	**+0.7**
LRS	**Lares**	**1.98**	**251**	⇑*eP*	**Pn**	**14 50 26.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.33**	**246**	⇑*eP*	**Pn**	**14 50 31.5**	**0.0**
CRPR				*eS*	**Sn**	**14 50 59.5**	**+0.2**

*IDC **29** 15:06:49.9±0.6, 279N×12729E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.1/18, mbtmp4.1/11, Error ellipse: s-maj=38.8km s-min=13.6km az=74.0*
*NEIC **29** 15:06:59.8±2.6, 274N×12725E, h82km±24km, mb4.2/8, Error ellipse: s-maj=14.5km s-min=5.7km az=65.0*
*ISCJB **29** 15:07:03.8±3.4, 271N±009×127.1E±0.1, h138km±34km, mb4.0/17, Error ellipse: s-maj=25.5km s-min=10.4km az=154.0*
ISC 29 15:07:03.6±3.6, 270N±009×1272E±01, h120km±35km, n29, σ0°53/28, mb4.1/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**13.30**	**195**	Pn	**Pn**	**15 10 08.8**	**+1.0**
	6.4nm,0.3s,baz=123,slow=5.2,SNR=10						
KSM	**Kuching**	**16.91**	**266**	*eP*	**Pn**	**15 10 52.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.73**	**184**	P	**P**	**15 11 34.0**	**-0.7**
	2.2nm,0.7s,baz=24,slow=11,SNR=7.7						
WRAB	**Tennant Creek**	**23.57**	**163**	*eP*	**P**	**15 12 04.4**	**+0.9**
	6.8nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**23.58**	**163**	P	**P**	**15 12 02.9**	**-0.6**
	2.4nm,0.5s,mb3.8,baz=334,slow=11,SNR=29						
WRA				PcP	PcP	15 15 47.8	+2.3
	0.4nm,0.8s,baz=334,slow=2.2,SNR=3.4						
WB2	**Warramunga Arr**	**23.58**	**163**	*eP*	**P**	**15 12 03.1**	**-0.4**
WB2	**Warramunga Arr**	**23.58**	**163**	*eP*	**P**	**15 12 03.0**	**-0.5**
JOW	**Kunigami**	**24.01**	**2**	P	**P**	**15 12 07.2**	**-0.2**
	12nm,0.9s,mb4.2,baz=209,slow=6.2,SNR=4.4						
MBWA	**Marble Bar**	**24.81**	**197**	*eP*	**P**	**15 12 15.0**	**+0.2**
	1.5nm,0.5s,mb3.7						
ASAR	**Alice Springs**	**27.02**	**166**	P	**P**	**15 12 34.4**	**-0.2**
	0.9nm,0.6s,mb3.5,baz=341,slow=6.3,SNR=14						
ASAR				PcP	PcP	15 15 56.4	+3.1
	0.3nm,0.6s,baz=349,slow=2.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**31.79**	**301**	P	**P**	**15 13 16.9**	**-0.1**
	1.4nm,0.9s,mb3.7,baz=114,slow=7.3,SNR=10						
CHTO	**Chiang Mai**	**31.94**	**302**	P	**P**	**15 13 17.7**	**-0.6**
	1.0nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**37.02**	**159**	*eP*	**P**	**15 14 03.1**	**+1.3**
	3.2nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**37.02**	**159**	P	**P**	**15 14 00.8**	**-0.9**
	6.0nm,0.8s,mb4.6,baz=332,slow=10.0,SNR=14						
STKA	**Stephens Creek**	**37.02**	**159**	*eP*	**P**	**15 14 01.0**	**-0.8**
	7.6nm,0.9s,mb4.6						
BJT	**Baijiatuau**	**38.46**	**346**	*eP*	**P**	**15 14 14.0**	**+0.1**
	17nm,0.8s,mb4.9						
LSA	**Lhasa**	**43.46**	**312**	*eP*	**P**	**15 14 55.1**	**+0.1**
	2.4nm,0.5s,mb4.2						
SONM	**Songino Array**	**48.41**	**341**	P	**P**	**15 15 34.2**	**+0.6**
	1.6nm,0.6s,mb4.0,baz=158,slow=8.2,SNR=13						
SONM				PcP	PcP	15 17 00.8	+2.7
	0.5nm,0.6s,baz=159,slow=4.2,SNR=2.7						
PETK	**Petropavlovsk-**	**56.21**	**22**	P	**P**	**15 16 30.3**	**-0.7**
	3.1nm,0.8s,mb4.4,baz=197,slow=6.0,SNR=7.6						
MK31	**Makanchi Array**	**58.65**	**325**	*eP*	**P**	**15 16 48.3**	**0.0**
MKAR	**Makanchi Array**	**58.65**	**325**	P	**P**	**15 16 48.5**	**+0.2**
	1.2nm,0.5s,mb4.2,baz=120,slow=8.4,SNR=10						
ZALV	**Zalesovo Beam**	**61.70**	**333**	P	**P**	**15 17 08.7**	**-0.3**
	0.8nm,0.5s,mb4.0,baz=134,slow=8.5,SNR=5.4						
ZALV	**Zalesovo Beam**	**61.70**	**333**	P	**P**	**15 17 08.7**	**-0.3**
KURK	**Kurchatov**	**62.84**	**328**	*eP*	**P**	**15 17 16.7**	**+0.1**
BRVK	**Borovoye**	**68.49**	**327**	*eP*	**P**	**15 17 53.2**	**+0.4**
	3.0nm,0.9s,mb4.1						
ARU	**Arti**	**76.04**	**328**	*eP*	**P**	**15 18 38.0**	**+0.3**
	3.0nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**91.56**	**340**	P	**P**	**15 19 57.0**	**+0.5**
	2.6nm,0.8s,mb4.5,baz=69,slow=6.9,SNR=5.3						
ARCES	**ARCESS Array B**	**91.56**	**340**	P	**P**	**15 19 57.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**123.67**	**288**	PKP	PKPdf	15 25 50.8	+2.6
	0.5nm,0.8s,baz=51,slow=2.2,SNR=3.1						

*NEIC **29** 15:08:30.8, 2619S×7047W, h50km, MG3.5(GUC), After GUC.*
NEIC Felt [III] at Chanaral.
GUC 29 15:08:30.8±0.5, 2619S×7047W, h50km, ML3.5, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.94**	**200**	⇓*iP*	Pn	15 08 48.0	+0.3
CDCH				*i* S	Sn	15 08 59.4	-0.7
CPN1	**Cerro Paranal**	**1.55**	**2**	*eP*	Pn	15 08 57.4	+1.4
CPN1				*i* S	Sn	15 09 17.0	+2.0
CPN1				AML	AML	15 09 21.2	
	comp=E,514nm,0.4s						
VACH	**Vallenar**	**2.40**	**186**	*eP*	Pn	15 09 07.7	+0.2
VACH				*i* S	Sn	15 09 36.5	+0.9
VACH				AML	AML	15 09 39.8	
	comp=E,870nm,0.3s						
VACH	**Vallenar**	**2.40**	**186**	*eP*	Pn	15 09 07.7	+0.2
VACH				*i* S	Sn	15 09 36.5	+0.9
ANCH	**Antofagasta**	**2.49**	**1**	*eP*	Pn	15 09 09.4	+0.5
CEN1	**Los Morros**	**2.79**	**5**	*eP*	Pn	15 09 11.1	-1.9
CEN1				*i* S	Sn	15 09 41.7	-3.8
CEN1				AML	AML	15 10 00.7	
	comp=E,120nm,0.4s						
LCO	**Las Campanas**	**2.82**	**184**	*e*Pn	Pn	15 09 15.9	+2.5
LVC	**Limon Verde**	**3.83**	**22**	*e*Pn	Pn	15 09 32.1	+4.8

KRSC 29 15:08:31.9±0.7, 5006N×15659E, h5km±5km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.05**	**321**	*eP*	Pg	15 08 52.9	+0.9
ALID				*i* S	Sg	15 09 08.4	+2.8
MIPR	**Malaya Ipel'ka**	**2.22**	**3**	*eP*	Pn	15 09 09.9	+0.6
RUS	**Russkaya**	**2.67**	**26**	*eP*	Pn	15 09 17.6	+2.2
RUS				*i* S	Sn	15 09 51.5	+3.4
PET	**Petropavlovsk**	**3.24**	**23**	*eP*	Pn	15 09 25.6	+2.3
PET				*i* S	Sn	15 10 05.9	+3.8
AVH	**Avacha**	**3.48**	**22**	*eP*	Pn	15 09 29.7	+3.1
AVH				*i* S	Sn	15 10 11.8	+3.7
SPN	**Mys Shipunski**	**3.72**	**34**	*eP*	Pn	15 09 32.7	+2.8
SPN				*i* S	Sn	15 10 15.8	+1.7
GNL	**Ganaly**	**3.74**	**12**	*eP*	Pn	15 09 30.8	+0.7
MKZ	**Mys Kozlova**	**5.50**	**33**	*eP*	Pn	15 09 55.1	+0.8
MKZ				*i* S	Sn	15 10 56.6	-1.2
KBTR	**Krutoberegovo**	**7.21**	**29**	P	Pn	15 10 18.7	+0.9

*IDC **29** 15:35:05.1±1.8, 191N×9674E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=53.2km s-min=23.3km az=52.0*
*NEIC **29** 15:35:10.1±1.1, 201N×9684E, h30km, Error ellipse: s-maj=25.4km s-min=13.1km az=220.0*
*ISCJB **29** 15:35:12.5±1.9, 22N±01×97.1E±02, h63km±15km, mb3.7/4, Error ellipse: s-maj=30.3km s-min=18.4km az=155.0*
*DJA **29** 15:35:12, 219N×9676E, h33km, ML4.2/2*
ISC 29 15:35:13.1±2.2, 21N±01×970E±02, h50km±19km, n10, σ0°78/10, mb3.7/4, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.00**	**146**	⇓*eP*	**Pn**	**15 35 31.0**	**+0.1**
PSI	**Prapat**	**2.01**	**71**	Pn	**Pn**	**15 35 44.8**	**+0.1**
	3.2nm,0.3s,baz=304,slow=5.5,SNR=12						
KSM	**Kuching**	**13.30**	**93**	*eP*	**Pn**	**15 38 19.0**	**-0.3**
WRA	**Warramunga Arr**	**42.69**	**123**	P	**P**	**15 43 05.8**	**+0.5**
	1.0nm,0.7s,mb3.7,baz=303,slow=9.0,SNR=7.1						
WB2	**Warramunga Arr**	**42.70**	**123**	*eP*	**P**	**15 43 06.6**	**+1.1**
ASAR	**Alice Springs**	**44.10**	**128**	P	**P**	**15 43 15.1**	**-1.7**
	0.4nm,0.9s,mb3.1,baz=298,slow=8.0,SNR=3.0						
MK31	**Makanchi Array**	**46.29**	**346**	*eP*	**P**	**15 43 33.5**	**-0.2**
MKAR	**Makanchi Array**	**46.29**	**346**	P	**P**	**15 43 33.0**	**-0.7**
	0.5nm,0.4s,mb3.8,baz=167,slow=7.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**52.60**	**351**	P	**P**	**15 44 22.6**	**+0.9**
	1.0nm,0.4s,mb4.1,baz=173,slow=7.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**52.60**	**351**	P	**P**	**15 44 22.6**	**+0.9**

*ISCJB **29** 15:59:20.5±4.0, 03N±01×1262E±02, h75km±39km, mb4.2/8, Error ellipse: s-maj=37.0km s-min=14.5km az=145.9*
*DJA **29** 15:59:21, 015N×12646E, h18km, ML4.0/2*
*NEIC **29** 15:59:22.9±2.2, 025N×12621E, h80km±21km, mb4.5/2, Error ellipse: s-maj=22.2km s-min=9.2km az=56.0*
*IDC **29** 15:59:23.2±5.1, 026N×12616E, h83km±49km, mb3.8/6, mb1 3.9/8, mb1mx3.6/19, mbtmp3.8/8, ML3.8/2, Error ellipse: s-maj=42.1km s-min=17.1km az=64.0*
ISC 29 15:59:22.0±3.2, 03N±01×1263E±02, h69km±32km, n16, σ0°51/15, mb4.2/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.35**	**231**	P	**Pn**	**16 01 20.6**	**+0.1**
	2.3nm,0.3s,baz=50,slow=5.9,SNR=8.4						
KAKA	**Kakadu**	**14.28**	**155**	*e*Pn	**Pn**	**16 02 41.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**18.27**	**182**	P	**Pn**	**16 03 30.5**	**-0.3**
	0.1nm,0.3s,baz=4.4,slow=13,SNR=4.7						
WRAB	**Tennant Creek**	**21.59**	**159**	*eP*	**P**	**16 04 05.9**	**-0.3**
	16nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**21.59**	**159**	P	**P**	**16 04 06.0**	**-0.3**
	5.7nm,0.6s,mb4.0,baz=332,slow=11,SNR=80						
WB2	**Warramunga Arr**	**21.60**	**159**	*eP*	**P**	**16 04 06.0**	**-0.3**
WB2	**Warramunga Arr**	**21.60**	**159**	*eP*	**P**	**16 04 06.0**	**-0.3**
ASAR	**Alice Springs**	**24.93**	**163**	P	**P**	**16 04 39.3**	**+0.5**
	7.1nm,0.8s,mb4.2,baz=346,slow=12,SNR=125						
FORT	**Forrest**	**30.93**	**177**	*eP*	**P**	**16 05 32.5**	**+0.1**
	9.1nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**35.12**	**157**	P	**P**	**16 06 09.4**	**+0.5**
	2.3nm,0.8s,mb4.1,baz=336,slow=8.9,SNR=7.6						
STKA	**Stephens Creek**	**35.12**	**157**	*eP*	**P**	**16 06 09.2**	**+0.3**
PETK	**Petropavlovsk-**	**58.80**	**22**	P	**P**	**16 09 13.1**	**+0.1**
	0.7nm,0.5s,mb4.0,baz=187,slow=5.7,SNR=9.7						
MK31	**Makanchi Array**	**60.14**	**327**	*eP*	**P**	**16 09 23.1**	**+0.7**
MKAR	**Makanchi Array**	**60.14**	**327**	P	**P**	**16 09 21.0**	**-1.4**
	0.6nm,0.3s,mb4.1,baz=113,slow=7.5,SNR=9.3						
KURK	**Kurchatov**	**64.41**	**329**	P	**P**	**16 09 51.2**	**+0.4**
	0.6nm,0.3s,mb3.9,baz=132,slow=6.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**123.47**	**286**	PKP	PKPdf	16 18 11.1	-1.3
	0.2nm,0.7s,baz=38,slow=2.6,SNR=1.9						

*ISCJB **29** 16:18:09.2±0.1, 2103S±003×6839W±003, h135km, mb5.1/181, Error ellipse: s-maj=4.1km s-min=3.4km az=41.7*
*MOS **29** 16:18:09.6±1.0, 2066S×6838W, h126km, mb5.2/62, MS4.4/5, Error ellipse: s-maj=9.0km s-min=6.1km az=97.0*
*BJI **29** 16:18:10.7, 2090S×6840W, h134km, mB5.2*
*GCMT **29** 16:18:10.8±0.1, 2109S×6881W, h146km, MW5.5/95, Moment Tensor Solution. s86,c160; s95,c178; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.68±.03; $M_{\theta\theta}$0.36±.04; $M_{\phi\phi}$0.31±.04; $M_{r\theta}$1.22±.02; $M_{\theta\phi}$0.21±.03; $M_{\phi r}$-1.86±.03; Best double couple: $M_0$2.26200×10^{17} NP1:ϕ_s168.00000°, δ6.00000°, λ-70.00000°. NP2:ϕ_s328.00000°, δ85.00000°, λ-92.00000°. Principal axes: T 1.9950, Plg40.0000°, Azm59.0000°; N 0.5350, Plg2.0000°, Azm328.0000°; P -2.5300, Plg50.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **29** 16:18:10.2±0.3, 2101S×6853W, h133km±2km, mb4.8/25, mb1 4.9/28, mb1mx4.9/29, mbtmp4.8/28, MS4.3/16, Ms1 4.3/16, ms1mx4.1/38 Error ellipse: s-maj=7.8km s-min=4.5km az=88.0*
*LDG **29** 16:18:10.9±0.3, 2042S×6843W, h131km, Mb5.3/23, Ms4.2/9, Error ellipse: s-maj=20.2km s-min=11.2km az=20.0*
*NEIC **29** 16:18:10.8±0.1, 2095S×6836W, mb5.2/155, Error ellipse: s-maj=4.9km s-min=3.6km az=218.0*
NEIC Felt [III] at Alto Hospicio, Calama, Camina, Huara, Iquique, Maria Elena, Mejillones, Pica, Pozo Almonte and Tocopilla; [II] at Arica and Sierra Gorda, Chile.
*DJA **29** 16:19:00, 2304S×6716W, h516km, mb5.0/6*
ISC 29 16:18:11.3±0.1, 2098S±003×6832W±003, h136km, h136km±.4km: pP-P, n916, σ0°68/816, mb5.1/181, 241C-186D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.71**	**199**	P	**Pn**	**16 18 39.4**	**-2.8**
	3μm,0.3s,baz=12,slow=9.1						
LVC				S	**Sn**	**16 19 01.3**	**-4.6**
	3μm,0.3s,baz=98,slow=23,SNR=84						
LVC	**Limon Verde**	**1.71**	**199**	⇑*iP*	**Pn**	**16 18 39.1**	**-3.1**
LVC				*eS*	**Sn**	**16 19 01.1**	**-4.9**
CEN1	**Los Morros**	**2.96**	**216**	⇓*iP*	**Pn**	**16 18 55.3**	**-2.3**
CEN1				*i* S	**Sn**	**16 19 28.9**	**-4.5**
ANCH	**Antofagasta**	**3.31**	**215**	⇑*iP*	**Pn**	**16 18 56.8**	**-5.3**
ANCH				*i* S	**Sn**	**16 19 32.0**	**-9.4**
CPN1	**Cerro Paranal**	**4.10**	**208**	*eP*	**Pn**	**16 19 07.2**	**-5.3**
CPN1				*i* S	**Sn**	**16 19 51.3**	**-8.9**
LPAZ	**La Paz**	**4.67**	**2**	P	**Pn**	**16 19 20.4**	**+0.3**
	118nm,0.3s,baz=180,slow=7.6,SNR=1053						
LPAZ				S	**Sn**	**16 20 15.6**	**+1.9**
	11nm,0.3s,baz=27,slow=24,SNR=2.6						
LPAZ	**La Paz**	**4.67**	**2**	*eP*	**Pn**	**16 19 20.5**	**+0.4**
ARE	**Arequipa**	**5.41**	**326**	*eP*	**Pn**	**16 19 24.0**	**-6.0**
ARE				*eS*	**Sn**	**16 20 15.0**	**-16**
CDCH	**Caldera**	**6.48**	**200**	⇑*iP*	**Pn**	**16 19 36.4**	**-7.9**
CDCH				*i* S	**Sn**	**16 20 41.6**	**-15**
VACH	**Vallenar**	**7.88**	**196**	⇓*iP*	**Pn**	**16 19 55.6**	**-7.4**
VACH				*i* S	**Sn**	**16 21 19.4**	**-11**
LCO	**Las Campanas**	**8.28**	**195**	*eP*	**Pn**	**16 20 00.8**	**-7.6**
	366nm,0.3s						
LCO				*e*S	**Sn**	**16 21 30.8**	**-10**
SIV	**San Ignacio**	**8.48**	**55**	P	**Pn**	**16 20 09.5**	**-1.8**
	311nm,0.3s,baz=247,slow=12,SNR=3164						
SIV				S	**Sn**	**16 21 43.1**	**-2.3**
	baz=337,slow=22,SNR=11						
TLL	**Tololo Astrono**	**9.42**	**193**	⇓*iP*	**Pn**	**16 20 16.1**	**-7.5**
TLL				*i* S	**Sn**	**16 21 57.4**	**-10**
CFAA	**Coronel Fontan**	**10.58**	**180**	P	**Pn**	**16 20 33.0**	**-6.1**
	3.1nm,0.3s,baz=6.1,slow=12,SNR=60						
CFAA				S	**Sn**	**16 22 23.6**	**-12**
	2.2nm,0.3s,baz=244,slow=17,SNR=7.2						
CPUP	**Villa Florida**	**11.39**	**120**	P	**Pn**	**16 20 48.4**	**-1.6**
	10nm,0.3s,baz=283,slow=12,SNR=168						
NNA	**Nana**	**12.11**	**316**	P	**Pn**	**16 20 54.0**	**-5.4**
	3.9nm,0.3s,baz=194,slow=13,SNR=3.6						
NNA				S	**Sn**	**16 23 00.4**	**-13**
	8.3nm,0.3s,baz=125,slow=16,SNR=3.2						
NNA	**Nana**	**12.11**	**316**	P	**Pn**	**16 20 54.0**	**-5.4**
	12nm,0.8s						
NNA				S	**Sn**	**16 23 00.4**	**-13**
ATAH	**Atahualpa**	**16.98**	**324**	P	**Pn**	**16 21 57.9**	**-2.8**
	1.4nm,0.3s,baz=28,slow=1.4,SNR=12						
ATAH				S	**S**	**16 25 07.2**	**-2.6**
	0.5nm,0.3s,baz=75,slow=22,SNR=2.0						
TRQA	**Tornquist**	**17.88**	**163**	*eP*	**Pn**	**16 22 07.0**	**-4.3**
	233nm,1.1s						
SPB	**Sao Paulo**	**19.50**	**102**	*eP*	**P**	**16 22 27.4**	**-0.5**
PLCA	**Paso Flores**	**19.78**	**185**	P	**P**	**16 22 29.6**	**-1.1**
	4.4nm,0.3s,baz=8.3,slow=13,SNR=281						
PLCA				S	**S**	**16 26 06.8**	**+0.6**
	0.1nm,0.3s,baz=235,slow=15,SNR=1.7						
PLCA	**Paso Flores**	**19.78**	**185**	*eP*	**P**	**16 22 29.3**	**-1.4**
PLCA				pmax	pmax		
	comp=Z,240nm,0.8s						
PLCA	**Paso Flores**	**19.78**	**185**	*eP*	**P**	**16 22 29.3**	**-1.4**
	comp=Z,240nm,0.8s						
VAO	**Valinhos**	**19.90**	**100**	⇑*eP*	**P**	**16 22 31.5**	**-0.8**
VAO				*i*		16 22 33.0	
VAO				*i*		16 22 39.0	
VAO				*i*		16 22 40.1	
VAO				*i*		16 22 50.3	
BDFB	**Brasilia**	**19.99**	**78**	P	**P**	**16 22 33.6**	**+0.3**
	comp=Z,123nm,0.5s,baz=256,slow=15,SNR=58						
BDFB				S	**S**	**16 26 14.2**	**+3.5**
	comp=Z,9.7nm,0.7s,baz=100,slow=26,SNR=1.9						
BDFB				LR	LR	16 31 44.5	
	comp=Z,2μm,21.6s,baz=72,slow=40						
BDFB	**Brasilia**	**19.99**	**78**	P	**P**	**16 22 33.6**	**+0.4**
BDFB				S	**S**	**16 26 14.2**	**+3.5**
OTAV	**Otavalo**	**23.30**	**334**	*eP*	**P**	**16 23 08.0**	**+0.9**
	comp=Z,39nm,0.8s,mb4.9						
CAM3	**Guarapari**	**25.97**	**94**	⇓*iP*	**P**	**16 23 25.7**	**-5.6**
CAM3				*i*		16 23 30.4	
CAM3				*i*		16 23 31.7	
CAM3				*i*		16 23 35.1	
CAM3				*i*		16 23 40.6	
CAM3				*i*		16 23 59.4	
CAM3				*i*		16 24 10.2	
ROSC	**El Rosal**	**26.35**	**346**	P	**P**	**16 23 35.3**	**+0.6**
	comp=Z,14nm,0.5s,mb4.9,baz=90,slow=20,SNR=6.9						
ROSC				S	**S**	**16 27 58.7**	**+0.9**
	comp=Z,3.6nm,0.3s,baz=284,slow=19,SNR=1.9						
ROSC	**El Rosal**	**26.35**	**346**	*eP*	**P**	**16 23 35.2**	**+

COW Cow Castle Cre 55.33 347 *eP* **P 16 27 30.9 0.0**
COW *epP* pP 16 28 02.5 -0.3
GOGA Godfrey 55.99 345 *eP* **P 16 27 33.7 -1.8**
GOGA *e**PP pP 16 28 05.5 -2.1
GOGA pmax pmax
comp=Z,11nm,1.0s,mb4.6
GOGA Godfrey 55.99 345 *eP* **P 16 27 33.7 -1.8**
comp=Z,12nm,1.0s,mb4.7
GOGA *epP* pP 16 28 05.5 -2.1
HKT Hockley 57.15 331 *eP* **P 16 27 43.3 -0.5**
HKT *e**PP pP 16 28 14.4 -1.6
HKT pmax pmax
comp=Z,11nm,0.9s,mb4.7
HKT Hockley 57.15 331 *eP* **P 16 27 43.3 -0.5**
comp=Z,11nm,0.9s,mb4.7
HKT *epP* pP 16 28 14.4 -1.6
CPCT Cooper Cave 58.19 344 *eP* **P 16 27 50.2 -0.7**
CPCT *epP* pP 16 28 21.6 -1.6
NATX Nacogdoches 58.20 334 *eP* **P 16 27 51.0 -0.1**
TKL Tuckaleechee C 58.20 345 P **P 16 27 50.3 -0.7**
comp=Z,16nm,0.8s,mb4.9,baz=163,slow=8.8,SNR=17
TKL pP pP 16 28 21.0 -2.3
comp=Z,22nm,0.9s,baz=148,slow=10,SNR=5.4
TKL sP sP 16 28 36.3 -1.9
comp=Z,42nm,0.9s,baz=153,slow=10,SNR=6.3
TKL S **S 16 35 40.1 -1.9**
comp=Z,0.9nm,0.3s,baz=163,slow=5.6,SNR=2.7
TKL LR LR 16 56 28.5
comp=Z,168nm,21.4s,baz=314,slow=40
TKL Tuckaleechee C 58.20 345 *eP* **P 16 27 49.8 -1.2**
TKL *epP* pP 16 28 21.5 -1.9
SWET Sewanee 58.34 343 *eP* **P 16 27 50.5 -1.5**
SWET *epP* pP 16 28 22.8 -1.5
OXF Oxford 58.72 340 *eP* **P 16 27 52.9 -1.7**
OXF *e**PP pP 16 28 25.4 -1.6
OXF pmax pmax
comp=Z,46nm,0.8s,mb5.4
OXF Oxford 58.72 340 *eP* **P 16 27 52.9 -1.7**
comp=Z,46nm,0.8s,mb5.4
OXF *epP* pP 16 28 25.4 -1.6
PLAL Pickwick Lake 58.73 341 *eP* **P 16 27 52.7 -2.0**
comp=Z,60nm,1.0s,mb5.4
BLA Blacksburg 58.99 349 *eP* **P 16 27 56.7 +0.2**
BLA pmax pmax
comp=Z,151nm,1.4s,mb5.6
BLA Blacksburg 58.99 349 *eP* **P 16 27 56.7 +0.2**
comp=Z,151nm,1.4s,mb5.6
TZTN Tazewell 59.00 346 *eP* **P 16 27 55.5 -1.0**
comp=Z,55nm,1.3s,mb5.2
ELN Prospectdale 59.07 348 *eP* **P 16 27 57.3 +0.3**
ELN *epP* pP 16 28 29.3 -0.1
JCT Junction City 59.45 328 *eP* **P 16 27 58.4 -1.3**
JCT *e**PP pP 16 28 30.8 -1.4
JCT pmax pmax
comp=Z,35nm,0.9s,mb5.2
JCT Junction City 59.45 328 *eP* **P 16 27 58.4 -1.4**
comp=Z,35nm,0.9s,mb5.2
JCT *epP* pP 16 28 30.8 -1.4
UALR University of 59.97 337 *eP* **P 16 28 01.8 -1.4**
comp=Z,28nm,1.0s,mb5.0
MIAR Mount Ida 60.22 336 *eP* **P 16 28 03.5 -1.4**
MIAR *e**PP pP 16 28 35.9 -1.5
MIAR pmax pmax
comp=Z,31nm,0.6s,mb5.3
MIAR Mount Ida 60.22 336 *eP* **P 16 28 03.5 -1.4**
comp=Z,31nm,0.6s,mb5.3
MIAR *epP* pP 16 28 35.9 -1.5
VNA3 Neumayer Olymp 60.39 161 *eP* **P 16 28 06.1 +0.5**
VNA3 *e* 16 28 13.1
VNA3 *e* pP 16 28 41.9 +3.8
VNA3 *e* 16 28 56.7
TXAR Lajitas Array 60.52 325 P **P 16 28 05.8 -1.3**
comp=Z,2.7nm,0.6s,mb4.2,baz=151,slow=8.4,SNR=40
TXAR pP pP 16 28 37.4 -2.3
comp=Z,6.2nm,1.1s,baz=132,slow=6.9,SNR=5.3
TXAR sP sP 16 28 53.1 -1.4
comp=Z,12nm,0.9s,baz=140,slow=8.2,SNR=9.3
TXAR S **S 16 36 10.5 -1.6**
comp=Z,0.2nm,0.3s,baz=149,slow=36,SNR=3.0
TXAR Lajitas Array 60.52 325 P **P 16 28 05.8 -1.3**
TXAR pP pP 16 28 37.4 -2.3
TXAR sP sP 16 28 53.1 -1.4
TXAR S **S 16 36 10.5 -1.6**
VNA1 Neumayer--Stat 60.59 161 *eP* **P 16 28 07.9 +0.9**
VNA1 *e* 16 28 15.4
VNA1 *e* pP 16 28 43.8 +4.3
VNA1 *e* 16 28 58.4
SDMD Soldier's Deli 60.60 352 *eP* **P 16 28 04.3 -3.1**
comp=Z,37nm,0.7s,mb5.3
LPIG La Paz 60.65 315 P **P 16 28 07.0 -1.1**
comp=Z,18nm,0.3s,mb5.3,baz=62,slow=7.1,SNR=3.1
VNA2 Neumayer--Watz 60.96 161 *eP* **P 16 28 09.9 +0.4**
VNA2 *e* 16 28 16.6
VNA2 *e* pP 16 28 46.0 +4.0
VNA2 *e* 16 29 00.6
MCWV Mont Chateau 61.28 350 *eP* **P 16 28 12.3 +0.3**
comp=Z,35nm,0.8s,mb5.2
MCWV *epP* pP 16 28 44.0 -0.6
RKT Rikitea 61.32 254 *eLR* LR 16 46 29.2
comp=Z,924nm,35.8s
BBTS Babate 61.97 59 S **S 16 36 33.4 +2.5**
comp=Z,4.5nm,0.3s,baz=72,slow=2.1,SNR=2.0
BBTS LR LR 16 55 32.3
comp=Z,284nm,18.1s,baz=237,slow=36
ACSO Alum Creek Sta 62.41 347 *eP* **P 16 28 19.0 -0.5**
comp=Z,80nm,1.3s,mb5.4
ACSO *epP* pP 16 28 51.0 -1.3
ACSO *esP* sP 16 29 06.2 -0.9
WMOK Wichita Mounta 62.52 332 *eP* **P 16 28 18.3 -2.1**
WMOK *e* 16 28 58.2
WMOK pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
WMOK Wichita Mounta 62.52 332 *eP* **P 16 28 18.3 -2.1**
comp=Z,9.2nm,0.8s,mb4.7
WMOK *ePcP* PcP 16 28 58.2 -0.1
SNAA Sanae 62.59 161 *eP* **P 16 28 20.1 -0.3**
SNAA *e* pP 16 28 56.5 +3.4
SNAA *e* 16 29 11.9
BRYW Bryant College 62.65 357 *eP* **P 16 28 19.2 -1.9**
comp=Z,41nm,0.6s,mb5.4
BINY Binghamton 63.26 354 *eP* **P 16 28 24.2 -0.9**
comp=Z,26nm,0.8s,mb5.1
ALLY Alegheny Colle 63.27 350 *eP* **P 16 28 25.4 +0.2**
comp=Z,47nm,0.9s,mb5.3
ALLY *epP* pP 16 28 57.5 -0.5
AMTX Amarillo 63.96 330 *eP* **P 16 28 28.4 -1.5**
comp=Z,34nm,1.1s,mb5.1
AMTX *epP* pP 16 29 01.2 -1.5
HNH Hanover 64.47 357 *eP* **P 16 28 33.5 +0.5**
comp=Z,33nm,1.1s,mb5.1
NCB Newcomb 64.86 355 *eP* **P 16 28 34.5 -1.0**
comp=Z,15nm,0.8s,mb4.9
NCB *epP* pP 16 29 07.6 -0.9
LBNH Lisbon 64.98 357 *eP* **P 16 28 36.2 -0.1**
LBNH pmax pmax
comp=Z,28nm,0.8s,mb5.1
LBNH Lisbon 64.98 357 *eP* **P 16 28 36.2 -0.1**
comp=Z,28nm,0.8s,mb5.1
319A Douglas 65.22 322 ⇑P **P 16 28 37.8 -0.4**
baz=65,SNR=18
KSU1 Kansas State U 65.37 336 *eP* **P 16 28 37.5 -1.4**
comp=Z,29nm,0.8s,mb5.2
LONY Lake Ozonia 65.53 355 *eP* **P 16 28 38.4 -1.5**
comp=Z,43nm,1.1s,mb5.2
219A White Tail Can 65.66 322 ⇓P **P 16 28 40.8 -0.3**
baz=66,SNR=17
FRNY Flat Rock 65.67 356 *eP* **P 16 28 40.0 -0.8**
comp=Z,8.7nm,0.6s,mb4.8
BNM Barren Site 65.84 326 *eP* **P 16 28 41.7 -0.4**
PKME Peaks-Kenny Pk 65.93 359 *eP* **P 16 28 42.1 -0.3**
comp=Z,24nm,0.6s,mb5.2
LPM Los Pinos Moun 65.97 326 *eP* **P 16 28 43.0 0.0**
LPM *epP* pP 16 29 15.0 -1.0
LPM *esP* sP 16 29 30.0 -0.7
218A Dragoon 66.10 322 ⇓P **P 16 28 43.3 -0.5**
baz=66,SNR=17
SADO Sadowa 66.17 352 S S 16 37 19.7 -2.0
119A Ashpeak Ranch, 66.26 323 ⇓P **P 16 28 44.7 -0.1**
baz=66,SNR=7.4
LAZ Ladron 66.31 326 *eP* **P 16 28 45.2 +0.1**
LAZ *epP* pP 16 29 17.1 -1.0
LAZ *esP* sP 16 29 32.2 -0.7
CBKS Cedar Bluff 66.37 334 *eP* **P 16 28 44.5 -0.9**
CBKS *e**PP pP 16 29 17.7 -0.7
CBKS *e**SP sP 16 29 32.3 -0.9
CBKS pmax pmax
comp=Z,80nm,0.8s,mb5.6
CBKS Cedar Bluff 66.37 334 *eP* **P 16 28 44.5 -0.8**
comp=Z,80nm,0.8s,mb5.6
CBKS *epP* pP 16 29 17.7 -0.8
CBKS *esP* sP 16 29 32.3 -0.9
ANMO Albuquerque 66.37 326 S S 16 37 23.6 -0.9
comp=Z,0.7nm,0.5s,baz=11,slow=9.4,SNR=2.1
ANMO Albuquerque 66.37 326 *eP* **P 16 28 44.9 -0.6**
ANMO *e**PP pP 16 29 17.7 -0.9
ANMO *e**SP sP 16 29 32.1 -1.2
ANMO pmax pmax
comp=Z,20nm,1.0s
ANMO Albuquerque 66.37 326 *eP* **P 16 28 44.9 -0.5**
comp=Z,20nm,1.0s,mb4.9
ANMO *epP* pP 16 29 17.7 -0.8
ANMO *esP* sP 16 29 32.1 -1.2
217A Green Valley 66.40 321 ⇑P **P 16 28 45.5 -0.2**
baz=67,SNR=16
118A Homack Ranch, 66.54 322 ⇑P **P 16 28 46.2 -0.4**
baz=67,SNR=16
Z19A T-Link Ranch, 66.63 323 ⇓P **P 16 28 47.3 +0.2**
baz=67,SNR=6.6
SCIA State Center 66.68 340 *eP* **P 16 28 45.7 -1.5**
comp=Z,31nm,0.8s,mb5.2
SCIA *esP* sP 16 29 34.3 -0.8
JFWS Jewell Farm 66.71 343 *eP* **P 16 28 45.8 -1.6**
JFWS *e**PP pP 16 29 18.6 -1.9
JFWS *e**SP sP 16 29 34.0 -1.3
JFWS pmax pmax
comp=Z,77nm,1.0s,mb5.5
JFWS Jewell Farm 66.71 343 *eP* **P 16 28 45.8 -1.7**
comp=Z,77nm,1.0s,mb5.5
JFWS *epP* pP 16 29 18.6 -2.0
JFWS *esP* sP 16 29 34.0 -1.3
TUC Tucson 66.77 322 *eP* **P 16 28 47.6 -0.5**
TUC *e**PP pP 16 29 19.3 -1.9
TUC *e**SP sP 16 29 35.4 -0.5
TUC pmax pmax
comp=Z,57nm,1.4s,mb5.2
TUC Tucson 66.77 322 *eP* **P 16 28 47.5 -0.5**
comp=Z,57nm,1.4s,mb5.2
TUC *epP* pP 16 29 19.3 -1.9
TUC *esP* sP 16 29 35.4 -0.5
Z18A Geronimo 66.91 323 ⇓P **P 16 28 48.6 -0.3**
baz=67
117A Oracle 66.93 322 ⇑P **P 16 28 48.9 -0.2**
baz=67,SNR=25
216A Three Points, 66.94 321 ⇑P **P 16 28 49.1 0.0**
baz=67,SNR=14
MAIT Maitri 67.09 159⇑*iP* **P 16 28 48.4 -1.1**
Y19A Nutrioso 67.11 324 ⇓P **P 16 28 50.5 +0.3**
baz=67,SNR=45
NVL N'lazarevskaya 67.12 159*diP* **P 16 28 51.2 +1.5**
NVL *e**PP pP 16 29 26.2 +3.3
NVL *eS* S 16 37 35.2 +2.6
NVL pmax pmax
comp=Z,95nm,1.2s,mb5.5
Z17A San Carlos Hig 67.31 322 ⇓P **P 16 28 51.3 -0.1**
baz=68
Y18A Canyon Day Jun 67.42 323 ⇑P **P 16 28 51.9 -0.2**
baz=68,SNR=7.9
X19A St. Johns 67.48 324 ⇑P **P 16 28 52.4 -0.1**
baz=68,SNR=10
116A Eloy 67.49 321 ⇑P **P 16 28 52.4 -0.2**
baz=68
LIC Lamto 67.72 74 *eP* **P 16 28 54.3 -0.1**
comp=Z,388nm,1.2s,mb6.0
LIC Lamto 67.72 74⇑*iP* **P 16 28 54.4 0.0**
comp=Z,171nm,0.9s,mb5.5,baz=260
LIC *e*MLR MLR
comp=Z,442nm,23.0s
LIC Lamto 67.72 74⇑*iP* **P 16 28 54.4 0.0**
comp=Z,85nm,0.9s,mb5.5
LIC LR LR
comp=Z,220nm,23.0s
214A Organ Pipe Nat 67.72 320 ⇑P **P 16 28 53.9 -0.2**
baz=68,SNR=23
Y17A Roosevelt 67.81 323 ⇑P **P 16 28 54.4 -0.2**
baz=68,SNR=32
Z16A Peralta Trail, 67.89 322 ⇓P **P 16 28 55.0 -0.1**
baz=68
115A Sonoran Desert 67.90 321 ⇓P **P 16 28 55.4 +0.2**
baz=68,SNR=6.1
TIC Toumodi 67.90 73 *eP* **P 16 28 55.6 0.0**
comp=Z,892nm,1.1s,mb6.4
X18A Snowflake 67.92 324 ⇓P **P 16 28 55.5 +0.3**
baz=68
KIC Kosan Boka 68.03 74 *eP* **P 16 28 56.5 +0.1**
comp=Z,1μm,0.9s
W19A Sanders 68.05 325 ⇓P **P 16 28 55.9 -0.2**
baz=68,SNR=11
DBIC Dimbokro 68.06 73 P **P 16 28 56.6 0.0**
comp=Z,223nm,0.8s,mb5.9,baz=219,slow=6.3,SNR=245
DBIC *pP* pP 16 29 30.1 +0.2
comp=Z,42nm,1.0s,baz=275,slow=7.2,SNR=2.0
DBIC S S 16 37 47.0 +1.4
comp=Z,3.8nm,1.1s,baz=99,slow=20,SNR=5.9
DBIC LR LR 16 57 42.7
comp=Z,170nm,21.8s,baz=268,slow=35
DBIC Dimbokro 68.06 73 *eP* **P 16 28 56.2 -0.4**
DBIC *e**PP pP 16 29 29.6 -0.2
DBIC pmax pmax
comp=Z,230nm,0.8s
DBIC Dimbokro 68.06 73 *eP* **P 16 28 56.2 -0.4**
comp=Z,230nm,0.8s,mb6.0
DBIC *epP* pP 16 29 29.6 -0.3
SDCO Great Sand Dun 68.08 329 *eP* **P 16 28 55.8 -0.4**
comp=Z,68nm,1.3s,mb5.2
SDCO *epP* pP 16 29 29.0 -0.4
SDCO sP sP 16 29 44.1 -0.1
W18A Petrified Fore 68.24 324 ⇓P **P 16 28 57.1 -0.2**
baz=68,SNR=8.4
X17A Forest Lakes 68.26 323 ⇓P **P 16 28 57.9 +0.5**
baz=68,SNR=8.7
Z15A Gila River Ind 68.28 321 ⇓P **P 16 28 57.4 -0.1**
baz=68
Y16A Circle Bar Ran 68.31 322 ⇓P **P 16 28 58.0 +0.3**
baz=68,SNR=14
V19A Window Rock 68.32 325 ⇓P **P 16 28 57.6 -0.1**
baz=68,SNR=9.8
X16A Lo Mia Camp, P 68.68 323 ⇓P **P 16 29 00.3 +0.4**
baz=69,SNR=11
W17A Winslow 68.75 324 ⇑P **P 16 29 00.9 +0.5**
baz=69
Z14A Wintersburg 68.79 321 ⇓P **P 16 29 01.0 +0.3**
baz=69
V18A Ganado 68.79 325 ⇓P **P 16 29 00.6 -0.1**
baz=69
Y15A Casa Rosa Ranc 68.85 322 ⇓P **P 16 29 01.0 0.0**
baz=69,SNR=9.8
113A Mohawk Valley, 68.86 320 ⇓P **P 16 29 01.3 +0.1**
baz=69
T19A Beclabito 69.15 326 ⇑P **P 16 29 02.4 -0.4**
baz=69,SNR=6.3
MVCO Mesa Verde 69.16 327 ⇑P **P 16 29 02.9 0.0**
baz=69
MVCO Mesa Verde 69.16 327 *eP* **P 16 29 02.9 0.0**
comp=Z,13nm,0.4s,mb5.0
MVCO pP pP 16 29 36.2 -0.1
MVCO *esP* sP 16 29 50.7 -0.2
X15A Humboldt 69.18 322 ⇑P **P 16 29 03.4 +0.3**
baz=69,SNR=16
112A Yuma 69.19 319 ⇑P **P 16 29 03.2 0.0**
baz=69
QSPA South Pole Qui 69.21 180 S S 16 38 00.5 +3.3
comp=Z,1.7nm,1.1s,baz=348,slow=20,SNR=5.2
W16A Flagstaff 69.22 323 ⇓P **P 16 29 04.1 +0.7**
baz=69,SNR=18
Y14A Wickenburg 69.23 321 ⇑P **P 16 29 03.5 +0.1**
baz=69
ECSD EROS,Sioux Fal 69.44 338 *eP* **P 16 29 02.8 -1.6**
comp=Z,54nm,1.3s,mb5.1
ECSD *esP* sP 16 29 51.4 -1.0
WUAZ Wupatki 69.44 324 ⇑P **P 16 29 05.1 +0.5**
baz=70
WUAZ Wupatki 69.44 324 *eP* **P 16 29 05.2 +0.5**
comp=Z,76nm,1.0s,mb5.4
WUAZ *epP* pP 16 29 38.5 +0.5
WUAZ *esP* sP 16 29 53.1 +0.4
EGOM La Gomera 69.46 47 ⇑P **P 16 29 04.5 -0.5**
comp=Z,267nm,1.8s,mb5.7
X14A Yava 69.54 322 ⇑P **P 16 29 05.8 +0.4**
baz=70,SNR=17
RW3 Ridgway 69.55 328 *eP* **P 16 28 57.8 -7.5**
Y13A Salome 69.63 321 ⇑P **P 16 29 06.1 +0.2**
baz=70,SNR=5.5
W15A Williams 69.70 323 ⇑P **P 16 29 06.9 +0.7**
baz=70,SNR=8.9
GLA Glamis 69.70 319 *eP* **P 16 29 06.3 0.0**
GLA *e**PP pP 16 29 38.3 -1.4
GLA *e**SP sP 16 29 54.2 -0.1
GLA pmax pmax
comp=Z,52nm,1.5s,mb5.0
GLA Glamis 69.70 319 ⇓P **P 16 29 06.3 0.0**
baz=70,SNR=6.4
GLA Glamis 69.70 319 *eP* **P 16 29 06.3 0.0**
comp=Z,52nm,1.5s,mb5.0
GLA *epP* pP 16 29 38.3 -1.4
GLA *esP* sP 16 29 54.2 -0.1
U16A Tuba City 69.76 324 ⇑P **P 16 29 06.9 +0.3**
baz=70
ISCO Idaho Springs 69.77 330 *eP* **P 16 29 06.7 +0.1**
ISCO *e**PP pP 16 29 38.5 -1.5
ISCO *e**SP sP 16 29 54.7 +0.1
ISCO pmax pmax
comp=Z,54nm,1.6s,mb5.0
ISCO Idaho Springs 69.77 330 *eP* **P 16 29 06.7 +0.1**
comp=Z,54nm,1.6s,mb5.0
ISCO *epP* pP 16 29 38.5 -1.5
ISCO *esP* sP 16 29 54.7 +0.1
T18A Mexican Hat 69.83 326 ⇓P **P 16 29 06.7 -0.2**
baz=70,SNR=44
U17A Shonto 69.85 325 ⇑P **P 16 29 07.6 +0.4**
baz=70,SNR=19
S19A Harvey Farm, M 69.90 327 ⇑P **P 16 29 07.5 0.0**
baz=70,SNR=16
PV01 Paradox Valley 69.91 327 *eP* **P 16 29 07.9 +0.4**
PV01 *ePcP* PcP 16 29 30.0 +1.1
PV01 *epP* pP 16 29 40.4 -0.4
PV01 *esP* sP 16 29 55.6 +0.1
Y12C Blythe 70.00 320 ⇓P **P 16 29 08.3 +0.2**
baz=70,SNR=5.8
V15A Kaibab Nationa 70.11 323 ⇑P **P 16 29 09.8 +1.0**
baz=70,SNR=34
PDMCI Parker Dam,Lak 70.15 321 ⇑P **P 16 29 09.0 -0.1**
baz=70
W14A Seligman 70.19 322 ⇑P **P 16 29 09.7 +0.5**
baz=70,SNR=13
DVTC Desert V Tower 70.21 318 ⇑P **P 16 29 09.6 +0.1**
baz=70,SNR=7.1
SWSC Sam W. Stewart 70.22 319 ⇑P **P 16 29 09.8 +0.3**
baz=70
T17A Navajo Res., N 70.22 325 ⇓P **P 16 29 10.1 +0.8**
baz=70,SNR=11
S18A Hurst Farm, Bl 70.31 326 ⇑P **P 16 29 10.4 +0.5**
baz=70,SNR=57
PV10 Paradox Valley 70.33 327 *eP* **P 16 29 09.7 -0.4**
PV10 *esP* sP 16 29 57.3 -0.8
R19A Curley Farm, L 70.38 327 ⇑P **P 16 29 10.1 -0.2**
baz=71
BC3 Big Chuckw Mtn 70.49 320 ⇑P **P 16 29 11.4 +0.3**
baz=71,SNR=16
V14A Boquillas Ranc 70.50 322 ⇓P **P 16 29 12.1 +1.0**
baz=71,SNR=43
MONP Monument Peak 70.57 318 ⇓P **P 16 29 12.0 +0.4**
baz=71,SNR=9.8
W13A Hualapai Mount 70.57 322 ⇑P **P 16 29 12.3 +0.7**
baz=71,SNR=19
BAR Barrett 70.58 318 *eP* **P 16 29 11.9 +0.2**
comp=Z,37nm,1.0s,mb5.1
BAR *ePcP* PcP 16 29 31.9 -0.1
BAR *epP* pP 16 29 44.1 -1.0
BAR *esP* sP 16 29 59.4 -0.4
T16A Glen Canyon Da 70.59 324 ⇓P **P 16 29 11.9 +0.3**
baz=71,SNR=6.1
U15A North Rim 70.61 324 ⇑P **P 16 29 12.6 +0.8**
baz=71,SNR=46
IRM Iron Mountain 70.66 320 ⇑P **P 16 29 12.3 +0.1**
baz=71,SNR=21
S17A Black Ridge (B 70.69 325 ⇑P **P 16 29 12.5 +0.3**
baz=71,SNR=12
NEE2 Needles Airpor 70.76 321 ⇓P **P 16 29 12.7 -0.1**
baz=71
R18A Canyonlands Na 70.78 326 ⇑P **P 16 29 12.5 -0.2**
baz=71,SNR=18
Q19A Hogan Spring (70.88 327 ⇓P **P 16 29 13.3 -0.1**
baz=71,SNR=9.7
PHWY Pilot Hill 70.90 331 *eP* **P 16 29 13.4 0.0**
PHWY *epP* pP 16 29 46.8 -0.1
PHWY *esP* sP 16 30 01.1 -0.4
109C Camp Elliot, M 70.99 318 ⇑P **P 16 29 14.0 -0.2**
baz=71
BELC Belle Mtn. 71.06 320 ⇓P **P 16 29 15.0 +0.5**
baz=71,SNR=10
PFO Pinyon Flat Ob 71.07 319 P **P 16 29 15.0 +0.4**
comp=Z,123nm,1.1s,mb5.5,SNR=7.0
PFO Pinyon Flat Ob 71.07 319 *eP* **P 16 29 14.7 +0.1**
PFO *e* 16 29 34.1
PFO *e**PP pP 16 29 47.5 -0.6
PFO *e**SP sP 16 30 02.7 -0.1
PFO pmax pmax
comp=Z,26nm,1.1s,mb4.9
PFO Pinyon Flat Ob 71.07 319 ⇑P **P 16 29 15.1 +0.4**
baz=71,SNR=9.4
PFO Pinyon Flat Ob 71.07 319 *eP* **P 16 29 14.7 +0.1**
comp=Z,26nm,1.1s,mb4.9
PFO *ePcP* PcP 16 29 34.1 +0.1
PFO *epP* pP 16 29 47.5 -0.6
PFO *esP* sP 16 30 02.7 -0.1
T15A Red Dirt Ranch 71.09 324 ⇓P **P 16 29 15.8 +1.1**
baz=71,SNR=18
U14A Mt Trumbull 71.10 323 ⇑P **P 16 29 15.6 +0.8**
baz=71,SNR=67
V13A Grand Canyon W 71.16 322 ⇑P **P 16 29 15.7 +0.6**
baz=71,SNR=37
S16A Weppner Ranch, 71.18 325 ⇑P **P 16 29 15.5 +0.3**
baz=71,SNR=14
R17A Hanksville Air 71.22 326 ⇑P **P 16 29 15.7 +0.2**
baz=72,SNR=42
P19A Cripple Cowboy 71.26 328 ⇑P **P 16 29 15.8 +0.2**
baz=72,SNR=37
LDFC Landfair 71.27 321 *eP* **P 16 29 16.6 +0.8**
comp=Z,29nm,1.0s,mb5.0
LDFC *epP* pP 16 29 49.7 +0.4
LDFC *esP* sP 16 30 04.1 +0.1
W12A Cal Nev Ari 71.28 321 ⇑P **P 16 29 15.9 0.0**
baz=72
GMRC Granite Mounta 71.39 320 ⇑P **P 16 29 17.0 +0.5**
baz=72,SNR=33
Q18A Rafter H Ranch 71.44 327 ⇑P **P 16 29 16.7 0.0**
baz=72,SNR=9.4
T14A Hurricane 71.51 324 ⇓P **P 16 29 17.8 +0.6**
baz=72,SNR=11
MURC Murrieta 71.53 318 ⇑P **P 16 29 17.8 +0.4**
baz=72
R16A Teasdale 71.53 325 ⇓P **P 16 29 17.4 +0.1**
baz=72,SNR=11
U13A Pakoon Wash 71.54 323 ⇑P **P 16 29 18.0 +0.6**
baz=72,SNR=12
S15A Panguitch 71.56 324 ⇑P **P 16 29 18.3 +0.8**
baz=72
V12A Nelson 71.57 322 ⇓P **P 16 29 17.7 +0.1**
baz=72,SNR=15
SRU San Rafael 71.64 327 *eP* **P 16 29 17.5 -0.4**
SRU *e**PP pP 16 29 51.2 -0.3
SRU *e**SP sP 16 30 06.0 -0.1
SRU pmax pmax
comp=Z,39nm,0.9s,mb5.1
SRU San Rafael 71.64 327 ⇑P **P 16 29 17.7 -0.2**
baz=72
SRU San Rafael 71.64 327 *eP* **P 16 29 17.5 -0.4**
comp=Z,39nm,0.9s,mb5.1
SRU *epP* pP 16 29 51.2 -0.3
SRU *esP* sP 16 30 06.0 -0.2
EYMN Ely 71.70 344 *eP* **P 16 29 15.0 -3.0**
comp=Z,20nm,0.9s,mb4.8
EYMN *epP* pP 16 29 50.1 -1.5
EYMN *esP* sP 16 30 05.1 -1.1
BBRC Big Bear Sol-O 71.80 319 ⇓P **P 16 29 19.8 +0.9**
baz=72
HEC Hector,Ludlow 71.83 320 ⇑P **P 16 29 19.6 +0.5**
baz=72,SNR=18
Q16A Castle Valley 71.83 326 ⇑P **P 16 29 19.3 +0.2**
baz=72,SNR=10
O19A Miners Draw (B 71.84 328 ⇑P **P 16 29 18.8 -0.3**
baz=72,SNR=14
U12A Valley of Fire 71.88 322 ⇓P **P 16 29 19.6 +0.2**
baz=72,SNR=11
P18A Preston Nutter 71.89 327 ⇑P **P 16 29 20.0 +0.6**
baz=72,SNR=23
R15A Junction 71.90 325 ⇑P **P 16 29 19.9 +0.4**
baz=72,SNR=6.3

T13A Saint George 71.94 323 ⇓P P 16 29 20.3 +0.5
baz=72,SNR=7.4
SCI San Clemente I 71.96 317 ⇑P P 16 29 19.8 -0.2
baz=72
V11A Goodsprings 71.98 321 ⇓P P 16 29 20.5 +0.5
baz=72,SNR=5.7
TUQ Turquoise Mtn. 72.00 321 ⇑P P 16 29 20.4 +0.3
baz=72,SNR=15
RWWY Rawlins 72.00 330 *e*P **P 16 29 20.0 0.0**
comp=Z,14nm,0.8s,mb4.7
RWWY *ep*P pP 16 29 53.7 +0.1
RWWY *es*P sP 16 30 08.3 +0.1
P17A Butcher Ranch, 72.03 327 ⇑P P 16 29 20.4 +0.2
baz=72,SNR=13
S14A Cedar City 72.06 324 ⇑P P 16 29 21.3 +0.9
baz=72
MSU Marysvale 72.07 325 *e*P **P 16 29 20.9 +0.4**
MSU *e**PP pP 16 29 54.4 +0.3
MSU *e**SP sP 16 30 07.9 -0.8
TMUT Trail Mountain 72.14 326 *e*P **P 16 29 21.5 +0.6**
TMUT *ep*P pP 16 29 54.6 +0.1
CIS Catalina Islan 72.15 318 ⇑P P 16 29 20.7 -0.4
baz=72
T12A Moapa 72.19 322 ⇓P P 16 29 21.8 +0.5
baz=72
BFSC Mount Baldy St 72.24 319 ⇑P P 16 29 22.0 +0.4
baz=72,SNR=12
O18A Roosevelt 72.25 328 ⇓P P 16 29 21.7 +0.1
baz=72
RRX Edison Barstow 72.26 320 ⇓P P 16 29 22.6 +0.9
baz=72
FMP Fort Macarthur 72.28 318 ⇓P P 16 29 21.6 -0.3
baz=72
S13A Holt Ranch, En 72.31 323 ⇑P P 16 29 22.9 +1.0
baz=72,SNR=23
N19A John Jarvie Ra 72.32 329 ⇑P P 16 29 21.4 -0.5
baz=73
U11A Corn Creek 72.36 322 ⇓P P 16 29 22.8 +0.5
baz=73
R14A James Farms, M 72.37 324 ⇓P P 16 29 23.0 +0.8
baz=73
GSC Goldstone 72.43 320 *e*P **P 16 29 23.2 +0.5**
GSC *e**PP pP 16 29 55.7 -0.6
GSC *e**SP sP 16 30 11.3 +0.4
GSC pmax pmax
comp=Z,11nm,0.2s,mb5.2
GSC Goldstone 72.43 320 ⇓P P 16 29 23.3 +0.6
baz=73,SNR=11
GSC Goldstone 72.43 320 *e*P **P 16 29 23.2 +0.4**
comp=Z,10nm,0.2s,mb5.2
GSC *ep*P pP 16 29 55.7 -0.6
GSC *es*P sP 16 30 11.3 +0.4
MWC Mount Wilson 72.47 318 *e*P **P 16 29 23.3 +0.3**
MWC *e**PP pP 16 29 55.2 -1.4
MWC *e**SP sP 16 30 11.6 +0.4
MWC pmax pmax
comp=Z,37nm,1.1s,mb5.0
MWC Mount Wilson 72.47 318 *e*P **P 16 29 23.2 +0.2**
comp=Z,37nm,1.1s,mb5.0
MWC *ep*P pP 16 29 55.2 -1.4
MWC *es*P sP 16 30 11.6 +0.4
SHOC Shoshone 72.53 321 ⇓P P 16 29 23.1 -0.2
baz=73
Q15A Fillmore 72.53 325 ⇑P P 16 29 23.4 +0.2
baz=73
O17A Robinson Place 72.56 327 ⇑P P 16 29 23.8 +0.3
baz=73,SNR=47
RSSD Black Hills 72.57 334 *e*P **P 16 29 23.3 0.0**
RSSD *e**PP pP 16 29 56.3 -0.7
RSSD *e**SP sP 16 30 11.0 -0.6
RSSD pmax pmax
comp=Z,19nm,0.9s,mb4.8
RSSD Black Hills 72.57 334 *e*P **P 16 29 23.3 0.0**
comp=Z,19nm,0.9s,mb4.8
RSSD *ep*P pP 16 29 56.3 -0.7
RSSD *es*P sP 16 30 11.0 -0.5
P16A Fountain Green 72.60 326 ⇑P P 16 29 24.4 +0.8
baz=73
N18A Larsen Ranch, 72.63 328 ⇓P P 16 29 23.4 -0.3
baz=73,SNR=11
DECC Green Verdugo 72.66 318 ⇑P P 16 29 24.0 -0.1
baz=73
R13A O'Grain Ranch, 72.80 324 ⇓P P 16 29 26.0 +1.1
baz=73,SNR=22
T11A Corn Creek, Al 72.84 322 ⇓P P 16 29 25.8 +0.7
baz=73,SNR=27
EDW2 Edwards Air Fo 72.87 319 ⇑P P 16 29 25.2 -0.1
baz=73,SNR=16
S12A Delamar Landin 72.89 323 ⇓P P 16 29 26.1 +0.8
baz=73,SNR=6.7
MPU Maple Canyon 72.89 327 *e*P **P 16 29 25.6 +0.3**
comp=Z,21nm,0.9s,mb4.9
MPU *ep*P pP 16 29 59.0 +0.1
MPU *es*P sP 16 30 13.4 -0.2
P15A Leamington 72.90 326 ⇑P P 16 29 25.8 +0.4
baz=73,SNR=5.2
U10A Ash Meadows, A 72.91 321 ⇓P P 16 29 26.2 +0.7
baz=73
O16A Springville 72.96 327 ⇓P P 16 29 26.2 +0.5
baz=73,SNR=7.5
DAU Daniels Canyon 72.99 327 *e*P **P 16 29 26.7 +0.8**
DAU *e**PP pP 16 30 00.0 +0.4
DAU *e**SP sP 16 30 13.3 -0.9
Q14A Sevier Lake (B 73.00 325 ⇑P P 16 29 26.7 +0.7
baz=73,SNR=41
BLG Laguna Peak 73.03 318 ⇓P P 16 29 26.3 0.0
baz=73
NLU North Lily Min 73.07 326 *e*P **P 16 29 26.8 +0.4**
NLU *ep*P pP 16 30 00.3 +0.3
NLU *es*P sP 16 30 15.2 +0.5
LRMC Laurel Mountai 73.08 320 ⇓P P 16 29 27.0 +0.4
baz=73,SNR=16
OSI Osito Adit 73.14 318 ⇑P P 16 29 26.9 0.0
baz=73
OSI Osito Adit 73.14 318 *e*P **P 16 29 26.7 -0.2**
comp=Z,9.0nm,0.4s,mb4.8
OSI *ep*P pP 16 29 59.9 -0.7
N17A Moffit Pass 73.17 328 ⇓P P 16 29 27.5 +0.5
baz=73,SNR=18
TPNV Topopah Spring 73.23 322 *e*P **P 16 29 27.9 +0.5**
TPNV *e**PP pP 16 30 00.9 -0.1
TPNV pmax pmax
comp=Z,82nm,1.4s,mb5.3
TPNV Topopah Spring 73.23 322 ⇑P P 16 29 27.9 +0.6
baz=73
TPNV Topopah Spring 73.23 322 *e*P **P 16 29 27.9 +0.5**
comp=Z,82nm,1.4s,mb5.3
TPNV *ep*P pP 16 30 00.9 -0.2
JLU Jordanelle 73.23 327 *e*P **P 16 29 27.8 +0.5**
JLU *ep*P pP 16 30 00.9 -0.1
JLU *es*P sP 16 30 15.3 -0.3
AGMN Agassiz Refuge 73.24 341 *e*P **P 16 29 26.2 -1.0**
comp=Z,23nm,1.0s,mb4.8
AGMN *es*P sP 16 30 14.7 -0.7
FURC Furnace Creek, 73.26 321 ⇓P P 16 29 28.0 +0.4
baz=74,SNR=22
R12A Pony Springs, 73.26 324 ⇓P P 16 29 28.4 +0.8
baz=74,SNR=42
BSC Santa Cruz Isl 73.31 317 ⇑P P 16 29 27.9 -0.1
baz=74
P14A Drum Mountains 73.33 325 ⇓P P 16 29 28.6 +0.7
baz=74,SNR=40
MPMC Manual Prospec 73.35 320 ⇑P P 16 29 28.4 +0.3
baz=74,SNR=17
Q13A Wheeler Ranch, 73.38 324 ⇑P P 16 29 29.0 +0.8
baz=74
S11A Rachel 73.42 322 ⇓P P 16 29 29.5 +1.0
baz=74
N16A Rees Ranch, Co 73.44 327 ⇑P P 16 29 29.1 +0.6
baz=74,SNR=6.8
O15A The Old Anders 73.52 326 ⇑P P 16 29 29.6 +0.6
baz=74,SNR=5.1
ARVC Arvin 73.55 319 ⇓P P 16 29 29.5 +0.2
baz=74
DUG Dugway 73.63 326 *e*P **P 16 29 29.6 -0.1**
DUG *e**PP pP 16 30 03.6 +0.2
DUG *e**SP sP 16 30 18.3 +0.3
DUG pmax pmax
comp=Z,58nm,1.2s,mb5.2
DUG Dugway 73.63 326 ⇑P P 16 29 30.1 +0.4
baz=74
DUG Dugway 73.63 326 *e*P **P 16 29 29.6 -0.1**
comp=Z,58nm,1.2s,mb5.2
DUG *ep*P pP 16 30 03.6 +0.2
DUG *es*P sP 16 30 18.3 +0.3
ISA Isabella 73.68 319 *e*P **P 16 29 30.2 +0.1**
ISA *e**PP pP 16 30 03.4 -0.4
ISA *e**SP sP 16 30 18.4 0.0
ISA pmax pmax
comp=Z,72nm,1.3s,mb5.2
ISA Isabella 73.68 319 ⇓P P 16 29 30.4 +0.3
baz=74,SNR=36
ISA Isabella 73.68 319 *e*P **P 16 29 30.2 +0.1**
comp=Z,72nm,1.3s,mb5.2
ISA *ep*P pP 16 30 03.4 -0.4
ISA *es*P sP 16 30 18.4 +0.1
R11A Troy Canyon, C 73.82 323 ⇓P P 16 29 31.5 +0.7
baz=74,SNR=27
M16A Huntsville 73.85 327 ⇓P P 16 29 30.8 -0.1
baz=74,SNR=8.8
Q12A Willow Creek R 73.89 324 ⇑P P 16 29 31.4 +0.2
baz=74
GRAC Grapevine Rang 73.92 321 ⇑P P 16 29 31.7 +0.3
baz=74,SNR=9.8
PDAR Pinedale Array 73.94 330 P **P 16 29 30.8 -0.6**
comp=Z,5.3nm,0.9s,mb4.3,baz=150,slow=6.8,SNR=34
PDAR pP pP 16 30 04.5 -0.6
comp=Z,5.8nm,1.0s,baz=165,slow=6.2,SNR=3.2
PDAR sP sP 16 30 18.6 -1.1
comp=Z,5.5nm,0.9s,baz=134,slow=6.4,SNR=3.0
PDAR S S 16 38 51.5 -0.8
comp=Z,0.7nm,1.0s,baz=86,slow=7.6,SNR=2.7
CWC Cottonwood Cre 73.96 320 ⇓P P 16 29 32.1 +0.4
baz=74,SNR=5.3
N15A Stansbury Isla 73.99 327 ⇓P P 16 29 31.6 -0.1
baz=74
PKM Peak Mountain 74.01 318 ⇑P P 16 29 32.4 +0.4
baz=74,SNR=20
HWUT Hardware Ranch 74.04 328 *e*P **P 16 29 31.6 -0.4**
comp=Z,34nm,0.8s,mb5.1
HWUT *ep*P pP 16 30 05.5 -0.2
HWUT *es*P sP 16 30 20.2 -0.1
S10A Tonopah Range, 74.10 322 ⇑P P 16 29 32.9 +0.5
baz=74,SNR=34
VES Vestal, Richgr 74.17 319 ⇓P P 16 29 33.2 +0.3
baz=74,SNR=8.3
R10A Warm Springs 74.18 323 ⇓P P 16 29 33.9 +1.0
baz=74,SNR=7.9
O13A Hicks Ranch, I 74.20 325 ⇑P P 16 29 32.9 -0.1
baz=74
Q11A Duckwater 74.20 323 ⇑P P 16 29 33.3 +0.3
baz=74,SNR=28
P12A McGill 74.23 324 ⇓P P 16 29 33.8 +0.6
baz=74,SNR=16
L16A Fish Haven 74.28 328 ⇑P P 16 29 33.0 -0.4
baz=74
BGU Big Grassy Mou 74.28 326 *e*P **P 16 29 33.1 -0.3**
BGU *ep*P pP 16 30 07.1 -0.1
BGU *es*P sP 16 30 22.0 +0.2
N14A Grayback Hills 74.31 326 ⇑P P 16 29 33.6 0.0
baz=74,SNR=7.2
S09A Goldfield 74.32 322 ⇑P P 16 29 33.9 +0.2
baz=74,SNR=7.6
M15A Larsen Ranch, 74.38 327 ⇑P P 16 29 33.6 -0.4
baz=75,SNR=18
SMMC Simmler 74.39 318 ⇑P P 16 29 35.1 +0.9
baz=75,SNR=21
TIN Tinemaha 74.46 321 ⇑P P 16 29 35.1 +0.6
baz=75
TPH Tonopah 74.56 322 *e*P **P 16 29 35.5 +0.4**
TPH *e**PP pP 16 30 09.2 +0.3
TPH *e**SP sP 16 30 23.5 0.0
TPH pmax pmax
comp=Z,64nm,1.3s,mb5.1
TPH Tonopah 74.56 322 *e*P **P 16 29 35.5 +0.4**
comp=Z,64nm,1.3s,mb5.1
TPH *ep*P pP 16 30 09.2 +0.2
TPH *es*P sP 16 30 23.5 0.0
RCTC Rector, Farmer 74.58 319 ⇓P P 16 29 34.3 -1.0
baz=75
R09A Tonopah 74.59 322 ⇓P P 16 29 35.8 +0.5
baz=75,SNR=21
Q10A Clear Creek Ra 74.61 323 ⇓P P 16 29 36.0 +0.6
baz=75,SNR=13
AHID Auburn Hatcher 74.68 329 *e*P **P 16 29 35.5 -0.2**
comp=Z,20nm,0.8s,mb4.8
AHID *ep*P pP 16 30 09.4 -0.1
HELL Mitchell Peak 74.69 320 ⇓P P 16 29 35.9 0.0
baz=75,SNR=36
V05C Boulder Hill, 74.69 319 ⇑P P 16 29 36.4 +0.4
baz=75
O12A Currie 74.71 325 ⇑P P 16 29 35.8 -0.1
baz=75,SNR=26
S08C White Mtn Res 74.72 321 ⇓P P 16 29 36.8 +0.7
baz=75,SNR=22
L15A Malad City 74.74 328 ⇑P P 16 29 35.6 -0.5
baz=75,SNR=25
P11A Circle Ranch, 74.75 324 ⇑P P 16 29 36.5 +0.3
baz=75
HVU Hansel Valley 74.77 327 *e*P **P 16 29 35.8 -0.5**
HVU *e**PP pP 16 30 09.3 -0.8
HVU *e**SP sP 16 30 24.4 -0.2
HVU pmax pmax
comp=Z,38nm,1.0s,mb5.0
HVU Hansel Valley 74.77 327 *e*P **P 16 29 35.8 -0.5**
comp=Z,38nm,1.0s,mb5.0
HVU *ep*P pP 16 30 09.3 -0.8
HVU *es*P sP 16 30 24.4 -0.2
N13A Wendover, West 74.84 326 ⇓P P 16 29 36.7 +0.1
baz=75
MTUM Tungsten Hills 74.86 321 *e*P **P 16 29 37.1 +0.2**
MTUM *ep*P pP 16 30 09.8 -0.8
MTUM *es*P sP 16 30 25.6 +0.4
M14A Sheep Mountain 74.86 327 ⇑P P 16 29 36.7 -0.1
baz=75,SNR=17
K16A Soda Springs 74.96 329 ⇑P P 16 29 37.8 +0.5
baz=75,SNR=23
ULM Lac du Bonnet 74.99 342 P **P 16 29 36.1 -1.2**
comp=Z,19nm,0.6s,mb4.9,baz=154,slow=6.2,SNR=24
ULM pP pP 16 30 09.2 -1.9
comp=Z,17nm,1.0s,baz=161,slow=5.9,SNR=3.3
ULM sP sP 16 30 24.8 -0.9
comp=Z,35nm,0.9s,baz=151,slow=4.3,SNR=6.0
ULM S S 16 38 59.1 -4.5
comp=Z,2.4nm,0.8s,baz=51,slow=17,SNR=2.3
ULM Lac du Bonnet 74.99 342 *e*P **P 16 29 35.8 -1.5**
comp=Z,47nm,1.0s,mb5.1
ULM *es*P sP 16 30 24.6 -1.1
REDW Red Top Meadow 75.01 329 *e*P **P 16 29 37.5 -0.1**
comp=Z,67nm,1.3s,mb5.1
REDW *ep*P pP 16 30 11.6 +0.3
REDW *es*P sP 16 30 25.7 -0.2
SNOW Snow King Moun 75.04 329 *e*P **P 16 29 37.9 +0.2**
comp=Z,25nm,0.8s,mb4.9
SNOW *ep*P pP 16 30 11.9 +0.3
SNOW *es*P sP 16 30 26.1 0.0
Q09A Carvers 75.06 322 ⇑P P 16 29 38.5 +0.5
baz=75
LOHW Long Hollow 75.08 330 *e*P **P 16 29 38.1 +0.1**
comp=Z,20nm,0.7s,mb4.8
LOHW *ep*P pP 16 30 12.0 +0.2
LOHW *es*P sP 16 30 25.8 -0.6
O11A Cowboy Ranch, 75.11 324 ⇓P P 16 29 38.6 +0.3
baz=75,SNR=6.0
U05C Westside ANR, 75.13 319 ⇑P P 16 29 38.3 -0.2
baz=75
PKD Parkfield 75.14 318 ⇑P P 16 29 38.4 -0.1
baz=75,SNR=11
V04C Ramage Ranch, 75.14 318 ⇑P P 16 29 39.1 +0.6
baz=75
TPAW Teton Pass 75.15 329 *e*P **P 16 29 38.4 0.0**
comp=Z,112nm,1.5s,mb5.3
TPAW *ep*P pP 16 30 12.6 +0.4
TPAW *es*P sP 16 30 26.9 +0.2
M13A Montello 75.19 326 ⇑P P 16 29 38.3 -0.3
baz=75
P10A Eureka 75.19 323 ⇑P P 16 29 39.5 +0.8
baz=75,SNR=11
L14A Malta 75.20 327 ⇓P P 16 29 38.5 -0.2
baz=75,SNR=24
MLAC Mammoth Lakes 75.20 321 ⇓P P 16 29 39.9 +1.0
baz=75
RRI2 Red Ridge 75.22 329 *e*P **P 16 29 38.8 0.0**
comp=Z,87nm,1.0s,mb5.3
RRI2 *ep*P pP 16 30 13.0 +0.4
RRI2 *es*P sP 16 30 27.3 +0.1
R08A Mina 75.26 322 ⇓P P 16 29 39.6 +0.4
baz=76,SNR=5.2
N12A Clover Valley, 75.28 325 ⇓P P 16 29 39.0 -0.2
baz=76
KCC Kaiser Creek 75.29 320 ⇓P P 16 29 38.9 -0.5
baz=76,SNR=12
J16A Bone 75.31 329 ⇑P P 16 29 39.4 +0.1
baz=76,SNR=11
ELK Elko 75.31 325 S S 16 39 09.8 +2.1
comp=Z,0.2nm,0.3s,baz=196,slow=17,SNR=3.5
ELK Elko 75.31 325 *e*P **P 16 29 39.6 +0.2**
ELK *e**PP pP 16 30 12.5 -0.7
ELK *e**SP sP 16 30 27.2 -0.6
ELK pmax pmax
comp=Z,10.0nm,1.0s
ELK Elko 75.31 325 *e*P **P 16 29 39.6 +0.2**
comp=Z,10nm,1.0s,mb4.4
ELK *ep*P pP 16 30 12.5 -0.7
ELK *es*P sP 16 30 27.2 -0.5
T06C Millerton Lake 75.32 320 ⇑P P 16 29 40.6 +1.1
baz=76
K15A Arbon 75.32 328 ⇑P P 16 29 38.8 -0.6
baz=76,SNR=14
NVAR Mina Array Bea 75.43 322 S S 16 39 10.9 +1.9
comp=Z,0.2nm,0.3s,baz=20,slow=12,SNR=2.5
IMW Indian Meadow 75.45 330 *e*P **P 16 29 40.2 +0.2**
comp=Z,62nm,1.1s,mb5.2
IMW *ep*P pP 16 30 14.4 +0.5
IMW *es*P sP 16 30 28.6 +0.1
FLWY Flagg Ranch 75.48 330 *e*P **P 16 29 41.2 +1.0**
comp=Z,99nm,1.0s,mb5.4
FLWY *ep*P pP 16 30 14.8 +0.7
FLWY *es*P sP 16 30 29.1 +0.5
Q08A Gabbs 75.50 322 ⇑P P 16 29 40.4 -0.1
baz=76
SCHQ Schefferville 75.51 1 P **P 16 29 39.5 -0.6**
comp=Z,7.5nm,0.8s,mb4.4,baz=191,slow=4.3,SNR=7.7
SCHQ pP pP 16 30 13.1 -0.9
comp=Z,14nm,0.8s,baz=200,slow=5.7,SNR=3.6
SCHQ sP sP 16 30 28.9 +0.3
comp=Z,14nm,0.8s,baz=154,slow=5.1,SNR=3.0
SCHQ S S 16 39 07.5 -1.7
comp=Z,1.8nm,0.8s,baz=249,slow=14,SNR=2.1
SCHQ Schefferville 75.51 1 *e*P **P 16 29 39.3 -0.9**
comp=Z,38nm,1.1s,mb4.9
SCHQ *ep*P pP 16 30 13.0 -1.0
SCHQ *es*P sP 16 30 28.5 -0.1
P09A Austin 75.53 323 ⇑P P 16 29 41.1 +0.5
baz=76
K14A Jones Ranch, D 75.54 327 ⇑P P 16 29 40.0 -0.6
baz=76,SNR=6.5
U04C Hernandez Rese 75.56 319 ⇑P P 16 29 41.0 +0.1
baz=76,SNR=27
LAO LASA Array 75.56 334 *e*P **P 16 29 40.5 -0.2**
comp=Z,26nm,1.1s,mb4.8
LAO *ep*P pP 16 30 15.2 +0.8
LAO *es*P sP 16 30 29.2 +0.2
L13A Double Diamond 75.60 327 ⇓P P 16 29 41.2 +0.2
baz=76,SNR=24
V03C Hunter Liggett 75.62 318 ⇓P P 16 29 41.7 +0.5
baz=76,SNR=5.2
M12A Wells 75.62 326 ⇓P P 16 29 41.0 -0.1
baz=76
RLMT Red Lodge 75.62 331 *e*P **P 16 29 40.9 -0.1**
comp=Z,70nm,1.3s,mb5.1
RLMT *ep*P pP 16 30 15.3 +0.4
RLMT *es*P sP 16 30 29.1 -0.3
N11A Elko Archery C 75.63 325 ⇓P P 16 29 41.2 0.0
baz=76
O10A Cortez Mining, 75.68 324 ⇑P P 16 29 41.9 +0.4
baz=76
I16A Newdale 75.70 329 ⇑P P 16 29 41.6 +0.1
baz=76
LKWY Lake 75.71 330 *e*P **P 16 29 42.9 +1.4**
LKWY *e**PP pP 16 30 16.8 +1.4
LKWY pmax pmax
comp=Z,19nm,0.9s,mb4.7
LKWY Lake 75.71 330 *e*P **P 16 29 42.9 +1.3**
comp=Z,19nm,0.9s,mb4.7
LKWY *ep*P pP 16 30 16.8 +1.4
J15A Blackfoot 75.80 328 ⇓P P 16 29 42.3 +0.2
baz=76,SNR=24
YFT Old Faithful 75.82 330 *e*P **P 16 29 43.6 +1.4**
T05C Eagle Field, D 75.83 319 ⇓P P 16 29 42.9 +0.5
baz=76
S05C Merced 75.91 320 ⇑P P 16 29 43.1 +0.2
baz=76,SNR=11
S06C San Francisco 75.97 320 ⇓P P 16 29 43.4 +0.2
baz=76,SNR=30
PPT Papeete 75.98 256 *e*S S 16 39 16.9 +0.9
comp=Z,446nm,30.0s
PPT Papeete 75.98 256 *e*LQ 16 50 19.4
comp=Z,726nm,33.0s
PPT *e*LR LR 16 53 09.8
comp=Z,653nm,37.2s
O09A Fish Creek Ran 75.98 323 ⇓P P 16 29 43.3 +0.1
baz=76,SNR=7.8
N10A Dunphy 75.98 324 ⇑P P 16 29 43.2 0.0
baz=76
HAST Hastings Reser 76.05 318 ⇓P P 16 29 43.7 0.0
baz=76
YMR Madison River 76.05 330 *e*P **P 16 29 44.4 +1.0**
YMR *ep*P pP 16 30 18.3 +0.9
YMR *es*P sP 16 30 32.8 +0.9
Q07A Schurz 76.06 322 ⇓P P 16 29 44.5 +0.8
baz=76
K13A Stover Farm, H 76.07 327 ⇑P P 16 29 43.9 +0.2
baz=76,SNR=7.1
M11A Holland Ranch, 76.09 325 ⇓P P 16 29 44.2 +0.4
baz=76,SNR=8.7
P08A Dixie Valley 76.15 323 ⇑P P 16 29 45.2 +1.1
baz=76
R06C Coleville 76.16 321 ⇑P P 16 29 45.1 +0.8
baz=76,SNR=12
L12A House Creek Ra 76.19 326 ⇓P P 16 29 44.8 +0.5
baz=76,SNR=15
H16A Russell Place, 76.21 330 ⇑P P 16 29 44.9 +0.5
baz=76,SNR=22
DGMT Dagmar 76.22 336 *e*P **P 16 29 44.2 -0.1**
comp=Z,41nm,1.1s,mb5.0
DGMT *ep*P pP 16 30 18.8 +0.5
DGMT *es*P sP 16 30 32.8 0.0
I15A Monteview 76.27 329 ⇑P P 16 29 45.3 +0.6
baz=76,SNR=11
J14A Carey 76.28 328 ⇓P P 16 29 45.4 +0.6
baz=76,SNR=25
PACP Pacheco Peak 76.28 319 ⇓P P 16 29 45.1 +0.1
baz=76
GCMT Greycliff 76.32 332 *e*P **P 16 29 44.9 -0.1**
GCMT *ep*P pP 16 30 19.4 +0.5
GCMT *es*P sP 16 30 33.4 0.0
QLMT Earthquake Lak 76.39 330 *e*P **P 16 29 46.1 +0.7**
QLMT *ep*P pP 16 30 20.4 +1.1
CMB Columbia Colle 76.39 320 *e*P **P 16 29 45.3 -0.3**
CMB pmax pmax
comp=Z,11nm,1.1s,mb4.4
CMB Columbia Colle 76.39 320 ⇑P P 16 29 45.3 -0.3
baz=77
CMB Columbia Colle 76.39 320 *e*P **P 16 29 45.3 -0.3**
comp=Z,11nm,1.1s,mb4.4
SBA Scott Base 76.43 190 *e*P **P 16 29 46.2 +0.9**
SBA *e**PP pP 16 30 18.5 -0.7
SBA pmax pmax
comp=Z,54nm,1.2s,mb5.0
SBA Scott Base 76.43 190 *e*P **P 16 29 46.2 +0.9**
comp=Z,54nm,1.2s,mb5.0
SBA *ep*P pP 16 30 18.5 -0.7
K12A Draper Farm, C 76.48 327 ⇓P P 16 29 46.7 +0.7
baz=77,SNR=18
P07A Fallon 76.51 322 ⇑P P 16 29 46.8 +0.6
baz=77
M10A I.L. Ranch, Tu 76.56 325 ⇓P P 16 29 46.6 +0.2
baz=77
L11A Cat Creek Ranc 76.59 326 ⇓P P 16 29 46.9 +0.3
baz=77,SNR=19
O08A Rochester Mine 76.60 323 ⇑P P 16 29 46.5 -0.2
baz=77
S04C Ingram Canyon, 76.62 319 ⇓P P 16 29 46.9 0.0
baz=77,SNR=5.4
N09A Rock Creek Ran 76.63 324 ⇑P P 16 29 46.2 -0.6
baz=77
R05C Kirkwood Meado 76.65 321 ⇓P P 16 29 47.3 +0.3
baz=77,SNR=10.0
J13A Cove Ranch, Pi 76.66 327 ⇓P P 16 29 47.4 +0.5
baz=77,SNR=6.1
TOA0 Torodi Ar. Sit 76.67 70 *e*P **P 16 29 46.9 -0.8**
TOA0 *ep*P pP 16 30 21.0 -0.5
TOA0 sP sP 16 30 35.0 -1.1
TORD Torodi Ar. Bea 76.67 70 P **P 16 29 47.3 -0.3**
comp=Z,123nm,0.8s,mb5.6,baz=252,slow=5.2,SNR=492
TORD pP pP 16 30 20.9 -0.6
comp=Z,21nm,0.8s,baz=254,slow=5.5,SNR=1.3

TORD S S 16 39 22.7 -0.8
comp=Z,2.4nm,0.9s,baz=244,slow=12,SNR=10.0
TORD LR LR 17 03 55.3
comp=Z,388nm,18.1s,baz=245,slow=36
TORD Torodi Ar. Bea 76.67 70 P P 16 29 47.3 -0.3
TORD pP pP 16 30 20.9 -0.6
TORD S S 16 39 22.7 -0.8
TORD LR LR 17 03 55.3
I14A Mackay 76.69 328 ⇑P P 16 29 47.8 +0.7
baz=77,SNR=17
SYO Syowa Base 76.79 159 ⇑iP P 16 29 46.0 -1.4
SYO Syowa Base 76.79 159 ⇓iPcP PcP 16 29 53.2 -4.9
SYO Syowa Base 76.79 159 ⇓epP pP 16 30 21.7 +0.4
H15A Lima 76.80 329 ⇑P P 16 29 48.2 +0.5
baz=77,SNR=7.4
WCN Washoe City 76.85 321 ⇑P P 16 29 48.6 +0.5
baz=77
R04C Big Horse Ranc 76.87 320 ⇑P P 16 29 48.2 0.0
baz=77
HLID Hailey 76.90 327 ⇑P P 16 29 48.8 +0.5
baz=77
HLID Hailey 76.90 327 *e*P **P 16 29 48.7 +0.4**
comp=Z,52nm,1.1s,mb5.1
HLID *e*pP pP 16 30 21.6 -0.6
HLID *e*sP sP 16 30 36.8 0.0
BNLO Ben Lomond (Sa 76.90 319 ⇓P P 16 29 48.7 +0.3
baz=77
PAHR Pah Rah Range 76.91 322 *e*P **P 16 29 48.9 +0.4**
comp=Z,60nm,0.9s,mb5.2
PAHR *e*pP pP 16 30 22.2 -0.2
PAHR *e*sP sP 16 30 36.8 -0.2
L10A Juniper Basin 76.91 325 ⇑P P 16 29 49.0 +0.6
baz=77,SNR=39
N08A GE Springer Mi 76.92 323 ⇓P P 16 29 48.3 -0.2
baz=77
O07A Toulon 76.92 323 ⇑P P 16 29 48.2 -0.3
baz=77,SNR=10
WENL Wente Brothers 76.96 319 ⇑P P 16 29 49.1 +0.4
baz=77
M09A Marrel Ranch, 76.98 324 ⇑P P 16 29 48.9 +0.1
baz=77,SNR=12
I13A Wildhorse Cree 77.01 328 ⇓P P 16 29 49.5 +0.6
baz=77,SNR=27
J12A Stokes Ranch, 77.02 327 ⇑P P 16 29 49.7 +0.7
baz=77,SNR=22
MCMT McKenzie Canyo 77.06 329 *e*P **P 16 29 49.7 +0.5**
MCMT *e*pP pP 16 30 23.5 +0.4
MCMT *e*sP sP 16 30 38.1 +0.5
LAVA Lava Cap Winer 77.07 321 ⇓P P 16 29 49.2 -0.2
baz=77,SNR=6.3
BOZ Bozeman (W) 77.10 330 *e*P **P 16 29 49.2 -0.1**
BOZ *e**PP pP 16 30 23.2 -0.1
BOZ *e**SP sP 16 30 36.8 -1.0
BOZ pmax pmax
comp=Z,31nm,1.3s,mb4.8
BOZ Bozeman (W) 77.10 330 ⇑P P 16 29 49.0 -0.4
baz=77
BOZ Bozeman (W) 77.10 330 *e*P **P 16 29 49.2 -0.1**
comp=Z,31nm,1.3s,mb4.8
BOZ *e*pP pP 16 30 23.1 -0.2
BOZ *e*sP sP 16 30 36.8 -1.0
JRSC Jasper Ridge 77.12 319 ⇑P P 16 29 49.5 -0.1
baz=77
G15A Dillon 77.14 330 ⇑P P 16 29 50.1 +0.5
baz=77,SNR=8.3
H14A Leadore 77.15 329 ⇑P P 16 29 49.4 -0.2
baz=77
K11A Parker Ranch, 77.17 326 ⇓P P 16 29 50.2 +0.4
baz=77,SNR=14
P06A Stead Airport, 77.18 322 ⇓P P 16 29 50.4 +0.4
baz=77
BDM Black Diamond 77.24 319 ⇑P P 16 29 50.9 +0.6
baz=77
DLMT Dillon 77.33 330 *e*P **P 16 29 51.1 +0.4**
comp=Z,65nm,1.3s,mb5.1
DLMT *e*pP pP 16 30 25.0 +0.4
P05C Yuba Gap, Truc 77.35 321 ⇑P P 16 29 51.3 +0.4
baz=78,SNR=12
N07B Gerlach 77.39 323 ⇓P P 16 29 51.0 -0.1
baz=78,SNR=26
O06A Flanigan 77.47 322 ⇑P P 16 29 51.7 +0.2
baz=78,SNR=7.4
Q04C Lincoln 77.51 320 ⇑P P 16 29 52.4 +0.6
baz=78
M08A Happy Creek Ra 77.51 324 ⇓P P 16 29 51.7 -0.1
baz=78,SNR=8.0
L09A Wilkinson Ranc 77.51 325 ⇑P P 16 29 51.7 0.0
baz=78
MFID Camas Ranch 77.51 327 ⇑P P 16 29 52.1 +0.4
baz=78,SNR=12
H13A Challis 77.55 328 ⇓P P 16 29 52.3 +0.4
baz=78,SNR=34
BEKR Beckwourth 77.58 322 ⇑P P 16 29 52.7 +0.5
baz=78,SNR=6.1
K10A MacKenzie Ranc 77.61 326 ⇓P P 16 29 52.2 -0.1
baz=78,SNR=13
F15A Butte 77.64 330 ⇑P P 16 29 52.5 +0.1
baz=78,SNR=17
G14A Jackson 77.66 329 ⇑P P 16 29 53.0 +0.5
baz=78
Q03C Winters 77.76 320 ⇑P P 16 29 53.7 +0.5
baz=78
FARB Farallon Islan 77.77 319 ⇑P P 16 29 53.0 -0.3
baz=78
H12A Diamond D Ranc 77.83 328 ⇑P P 16 29 53.7 +0.2
baz=78,SNR=26
CVS Carmenet Viney 77.84 319 ⇑P P 16 29 53.7 0.0
baz=78
N06A Buffalo Meadow 77.86 323 ⇑P P 16 29 53.8 +0.1
baz=78,SNR=25
OHCM Honcut 77.89 321 *e*P **P 16 29 54.1 +0.2**
OHCM *e*pP pP 16 30 27.1 -0.8
OHCM *e*sP sP 16 30 42.6 +0.1
M07A Soldier Meadow 77.91 323 ⇓P P 16 29 53.9 -0.1
baz=78,SNR=22
G13A Cobalt 77.92 329 ⇑P P 16 29 54.1 +0.2
baz=78,SNR=99
O05C Quincy 77.96 321 ⇑P P 16 29 54.6 +0.3
baz=78
L08A Fields 78.00 324 ⇑P P 16 29 53.8 -0.6
baz=78,SNR=16
SUTB Sutter Butte 78.00 320 ⇑P P 16 29 54.1 -0.4
baz=78
J10A Berg Farm, Mel 78.01 326 ⇑P P 16 29 54.2 -0.3
baz=78
K09A Rome 78.01 325 ⇓P P 16 29 54.3 -0.2
baz=78,SNR=20
F14A Wisdom 78.03 330 ⇑P P 16 29 55.1 +0.6
baz=78,SNR=18
ORV Oroville 78.04 321 ⇓P P 16 29 54.9 +0.2
baz=78,SNR=20
NSHM Saint Helena R 78.05 319 *e*P **P 16 29 54.5 -0.3**
NSHM *e*pP pP 16 30 28.1 -0.8
NSHM *e*sP sP 16 30 44.0 +0.6
EGMT Eagleton 78.08 333 ⇓P P 16 29 54.2 -0.5
baz=78
EGMT Eagleton 78.08 333 *e*P **P 16 29 53.9 -0.9**
comp=Z,68nm,1.1s,mb5.2
EGMT *e*pP pP 16 30 28.4 -0.5
EGMT *e*sP sP 16 30 43.1 -0.2
E15A Deer Lodge 78.15 330 ⇓P P 16 29 55.1 0.0
baz=78,SNR=9.7
ELFS Eagle Lake Fie 78.28 322 ⇓P P 16 29 56.4 +0.3
baz=78,SNR=25
O04C Chester 78.29 322 ⇓P P 16 29 56.0 -0.1
baz=78
WVOR Wild Horse Val 78.32 324 *e*P **P 16 29 54.6 -1.6**
WVOR pmax pmax
comp=Z,19nm,1.4s,mb4.5
WVOR Wild Horse Val 78.32 324 *e*P **P 16 29 54.6 -1.6**
comp=Z,19nm,1.4s,mb4.5
SUR Sutherland 78.36 120 *e*P **P 16 29 59.0 +2.1**
comp=Z,17nm,0.9s,mb4.7
L07A Adell 78.42 324 ⇑P P 16 29 56.9 +0.1
baz=79
K08A Mann Creek Ran 78.44 325 ⇓P P 16 29 56.8 0.0
baz=79,SNR=8.8
J09A Fry Pan Ranch, 78.47 326 ⇓P P 16 29 56.8 -0.2
baz=79
F13A Darby 78.47 329 ⇑P P 16 29 57.1 +0.1
baz=79,SNR=57
I10A Payette 78.49 327 ⇑P P 16 29 56.7 -0.4
baz=79
H11A Donnelly 78.52 327 ⇑P P 16 29 56.8 -0.4
baz=79
M06C Likely Place G 78.52 323 ⇑P P 16 29 57.7 +0.4
baz=79,SNR=7.9

E14A Clinton 78.53 330 ⇑P P 16 29 58.0 +0.8
baz=79,SNR=5.2
D15A Lincoln 78.55 331 ⇓P P 16 29 57.9 +0.5
baz=79
CHMT Chamberlain Mo 78.79 330 *e*P **P 16 29 59.0 +0.3**
H10A Noah's Angus R 78.81 327 ⇓P P 16 29 58.4 -0.4
baz=79,SNR=9.9
K07A Rock Creek Ran 78.83 324 ⇓P P 16 29 59.5 +0.6
baz=79,SNR=18
GASB Alder Springs 78.83 320 ⇓P P 16 29 59.0 0.0
baz=79,SNR=16
HATC Hat Creek Radi 78.83 322 ⇑P P 16 29 58.7 -0.3
baz=79,SNR=12
J08A Circle Bar Ran 78.86 325 ⇑P P 16 29 59.0 -0.1
baz=79,SNR=9.3
E13A Victor 78.88 330 ⇑P P 16 29 59.4 +0.3
baz=79,SNR=9.5
MOD Modoc 78.88 323 ⇑P P 16 29 59.2 -0.1
baz=79,SNR=23
MOD Modoc 78.88 323 *e*P **P 16 29 59.0 -0.3**
comp=Z,29nm,1.0s,mb4.9
MOD *e*pP pP 16 30 32.8 -0.6
MOD *e*sP sP 16 30 47.8 -0.1
I09A Lost Marbles R 78.89 326 ⇑P P 16 29 59.0 -0.3
baz=79,SNR=8.1
F12A Elk City 78.90 329 ⇑P P 16 29 59.1 -0.2
baz=79,SNR=11
M05C Lookout 79.00 322 ⇑P P 16 30 00.0 0.0
baz=79,SNR=18
D14A Greenough 79.03 330 ⇑P P 16 29 60.0 0.0
baz=79
MSO Missoula 79.05 330 *e*P **P 16 30 00.5 +0.4**
comp=Z,6.9nm,1.1s,mb4.2
MSO *e*pP pP 16 30 33.5 -0.7
P01C Double 8 Ranch 79.08 320 ⇑P P 16 30 00.7 +0.3
baz=79,SNR=5.0
G11A Walters Elk Ra 79.14 328 ⇓P P 16 30 00.2 -0.4
baz=79,SNR=26
O02C Red Bluff 79.20 321 ⇓P P 16 30 00.4 -0.7
baz=79,SNR=6.3
L05A Lakeview 79.28 323 ⇑P P 16 30 01.4 -0.1
baz=80
BMO Blue Mountains 79.28 327 P P 16 30 01.2 -0.2
I08A Drewsey 79.29 326 ⇑P P 16 30 01.8 +0.3
baz=80,SNR=37
WDC Whiskeytown Da 79.31 321 *e*P **P 16 29 59.8 -1.9**
WDC pmax pmax
comp=Z,15nm,0.7s,mb4.7
WDC Whiskeytown Da 79.31 321 *e*P **P 16 29 59.8 -1.9**
comp=Z,15nm,0.7s,mb4.7
J07A Hines 79.32 325 ⇑P P 16 30 02.1 +0.5
baz=80,SNR=15
H09A Durkee 79.33 327 ⇓P P 16 30 01.5 -0.2
baz=80
F11A Grangeville 79.43 328 ⇑P P 16 30 01.8 -0.4
baz=80,SNR=11
K06A Valley Falls 79.45 324 ⇑P P 16 30 03.0 +0.7
baz=80,SNR=27
D13A Huson 79.48 330 ⇑P P 16 30 02.2 -0.2
baz=80,SNR=17
G10A Bishop Farm, J 79.49 327 ⇓P P 16 30 03.2 +0.7
baz=80,SNR=22
M03C McCloud 79.51 322 ⇓P P 16 30 02.3 -0.5
baz=80
C14A Swan Lake 79.65 331 ⇓P P 16 30 03.4 +0.1
baz=80
TSUM Tsumeb 79.66 107 *e*P **P 16 30 05.0 +0.8**
comp=Z,57nm,0.8s,mb5.2
M04C Macdoel 79.67 322 ⇑P P 16 30 03.4 -0.2
baz=80,SNR=20
J06A Christmas Vall 79.69 324 ⇑P P 16 30 03.5 -0.1
baz=80,SNR=22
K05A Summer Lake 79.75 324 ⇓P P 16 30 04.3 +0.3
baz=80,SNR=31
H08A Prairie City 79.76 326 ⇓P P 16 30 04.1 +0.1
baz=80,SNR=13
E11A Bogner Ranch, 79.79 329 ⇑P P 16 30 03.6 -0.6
baz=80
LHEM Herd Peak 79.79 322 P P 16 30 04.4 +0.2
O01C Eel River Cons 79.79 320 ⇓P P 16 30 04.8 +0.5
baz=80
G09A Cove 79.82 327 ⇑P P 16 30 04.1 -0.2
baz=80,SNR=40
I07A Izee 79.90 325 ⇑P P 16 30 05.4 +0.6
baz=80,SNR=25
N02C Big Bar 79.91 321 ⇑P P 16 30 05.0 +0.1
baz=80,SNR=22
L04A Klamath Falls 79.96 323 ⇓P P 16 30 05.2 +0.1
baz=80
C13A Hot Springs 79.96 330 ⇑P P 16 30 05.1 +0.1
baz=80,SNR=8.5
M02C Callahan 80.01 322 ⇓P P 16 30 04.9 -0.5
baz=80
YBH Yreka Blue Hor 80.14 322 P P 16 30 04.9 -1.2
comp=Z,12nm,0.8s,mb4.5,baz=119,slow=4.1,SNR=22
YBH pP pP 16 30 39.1 -1.2
comp=Z,10nm,0.9s,baz=138,slow=5.2,SNR=4.5
YBH sP sP 16 30 53.8 -1.0
comp=Z,6.7nm,0.7s,baz=86,slow=2.9,SNR=2.9
YBH S S 16 39 59.0 -0.5
comp=Z,1.0nm,0.6s,baz=195,slow=3.8,SNR=1.5
YBH LR LR 17 09 43.2
comp=Z,87nm,18.2s,baz=127,slow=39
YBH Yreka Blue Hor 80.14 322 *e*P **P 16 30 04.7 -1.4**
YBH *e**PP pP 16 30 38.9 -1.4
YBH *e**SP sP 16 30 53.9 -0.9
YBH pmax pmax
comp=Z,18nm,1.1s
YBH Yreka Blue Hor 80.14 322 ⇑P P 16 30 05.4 -0.7
baz=80
YBH Yreka Blue Hor 80.14 322 *e*P **P 16 30 04.7 -1.4**
comp=Z,18nm,1.1s,mb4.6
YBH *e*pP pP 16 30 38.9 -1.4
YBH *e*sP sP 16 30 53.9 -1.0
K04A Chilquin 80.15 323 ⇑P P 16 30 06.3 +0.2
baz=80
F09A S2 Ranch, Elgi 80.18 327 ⇑P P 16 30 05.7 -0.6
baz=80,SNR=11
I06A Prineville 80.19 325 ⇓P P 16 30 06.9 +0.6
baz=80
H07A Lands Inn, Kim 80.28 326 ⇓P P 16 30 06.8 0.0
baz=80,SNR=13
J05A Fort Rock 80.31 324 ⇑P P 16 30 07.1 +0.1
baz=80,SNR=22
E10A Myers Farm, Un 80.32 328 ⇓P P 16 30 07.0 +0.1
baz=80
JCC Jacoby Creek 80.34 321 ⇑P P 16 30 06.9 -0.3
baz=80
D11A Klaveano Farm, 80.34 329 ⇓P P 16 30 06.4 -0.6
baz=81
B13A Whitefish 80.42 331 ⇓P P 16 30 07.5 0.0
baz=81,SNR=6.9
G08A Pilot Rock 80.43 326 ⇑P P 16 30 07.6 0.0
baz=81,SNR=17
LNOR Lincton Mounta 80.48 327 *e*P **P 16 30 07.2 -0.6**
LNOR *e**PP pP 16 30 41.1 -1.0
PFVI Vila Bisbo 80.50 44 *e*P **P 16 30 07.9 -0.2**
comp=Z,59nm,1.3s,mb5.0
WALA Waterton Lakes 80.67 332 *e*P **P 16 30 08.4 -0.4**
comp=Z,38nm,1.1s,mb4.9
WALA *e*pP pP 16 30 43.1 +0.1
F08A Pendleton 80.68 327 ⇑P P 16 30 08.3 -0.6
baz=81
KRMB Red Mountain 80.71 321 *e*P **P 16 30 09.3 +0.1**
KRMB *e*pP pP 16 30 43.2 -0.2
KRMB *e*sP sP 16 30 57.8 0.0
MORF Marmelete 80.71 44 *e*P **P 16 30 09.6 +0.3**
comp=Z,61nm,1.3s,mb5.1
FFC Flin Flon 80.72 341 *e*P **P 16 30 08.1 -0.8**
FFC *e**PP pP 16 30 41.7 -1.4
FFC *e**SP sP 16 30 56.1 -1.5
FFC pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
FFC Flin Flon 80.72 341 *e*P **P 16 30 08.1 -0.8**
comp=Z,10nm,1.0s,mb4.4
FFC *e*pP pP 16 30 41.7 -1.4
FFC *e*sP sP 16 30 56.1 -1.5
J04A Umpqua Nationa 80.77 323 ⇓P P 16 30 09.3 -0.1
baz=81,SNR=12
H06A Lindquist Farm 80.78 325 ⇓P P 16 30 09.9 +0.5
baz=81,SNR=29
G07A Ruggs Ranch, H 80.78 326 ⇑P P 16 30 10.0 +0.5
baz=81,SNR=15
PTEO Sao Teotonio 80.80 44 *e*P **P 16 30 11.2 +1.5**
comp=Z,119nm,1.6s,mb5.3
D10A Wagner Farm, O 80.80 329 ⇓P P 16 30 08.6 -0.9
baz=81,SNR=12

HUMO Hull Mountain 80.84 322 *e*P **P 16 30 08.6 -1.2**
comp=Z,17nm,1.1s,mb4.6
E09A Wood Farm, Sta 80.86 328 ⇓P P 16 30 09.3 -0.5
baz=81,SNR=6.5
I05A Bend 80.90 324 ⇑P P 16 30 10.4 +0.3
baz=81
L02A Cave Junction 80.92 322 ⇓P P 16 30 10.3 0.0
baz=81
MDT Midelt 80.99 50 P P 16 30 12.1 +1.2
comp=Z,13nm,0.9s,mb4.6,baz=205,slow=5.2,SNR=21
MDT pP pP 16 30 45.9 +0.7
comp=Z,24nm,1.1s,baz=252,slow=5.9,SNR=6.0
MDT S S 16 40 13.6 +4.8
comp=Z,0.2nm,0.3s,baz=176,slow=4.7,SNR=1.7
MDT LR LR 17 05 26.5
comp=Z,101nm,21.4s,baz=165,slow=35
MDT Midelt 80.99 50 P P 16 30 12.1 +1.2
MDT pP pP 16 30 45.9 +0.7
MDT S S 16 40 13.6 +4.8
MDT LR LR 17 05 26.5
B12A Libby 81.01 330 ⇓P P 16 30 10.5 0.0
baz=81,SNR=8.0
M01C Crescent City 81.03 321 ⇑P P 16 30 10.8 -0.1
baz=81
PBDV Barranco-do-Ve 81.14 45 *e*P **P 16 30 12.4 +0.8**
comp=Z,59nm,1.4s,mb5.0
H05A Madras 81.20 325 ⇓P P 16 30 12.3 +0.6
baz=81
K02A Glendale 81.25 322 ⇑P P 16 30 12.0 0.0
baz=81,SNR=13
G06A Carlson Farm, 81.27 326 ⇑P P 16 30 12.2 +0.2
baz=82,SNR=8.5
HBO Huckleberry Mo 81.27 324 P P 16 30 12.1 0.0
I04A Tendick Farm, 81.29 324 ⇓P P 16 30 11.4 -0.8
baz=82,SNR=10
E08A Dider Farm, El 81.30 327 ⇓P P 16 30 11.7 -0.5
baz=82
D09A Jones Farm, Ri 81.32 328 ⇑P P 16 30 12.0 -0.2
baz=82,SNR=7.9
DBO Dodson Butte 81.33 323 P P 16 30 12.3 -0.1
F07A Phinny Hill Vi 81.34 326 ⇓P P 16 30 13.2 +0.8
baz=82
B11A Sandpoint 81.34 330 ⇓P P 16 30 11.7 -0.6
baz=82
C10A Spilker Farm, 81.36 329 ⇑P P 16 30 12.3 -0.1
baz=82
A12A Yaak River Ran 81.37 331 ⇑P P 16 30 12.6 +0.1
baz=82
PVAQ Vaqueiros 81.38 45 *e*P **P 16 30 13.0 +0.2**
comp=Z,33nm,1.8s,mb4.7
HAWA Hanford 81.47 327 *e*P **P 16 30 13.1 0.0**
comp=Z,18nm,0.9s,mb4.7
HAWA *e*pP pP 16 30 47.0 -0.4
HAWA *e*sP sP 16 31 01.3 -0.5
RSW Rattlesnake Hi 81.50 327 *e*P **P 16 30 13.5 +0.3**
RSW *e*pP pP 16 30 46.4 -1.1
RSW *e*sP sP 16 31 02.3 +0.3
GBL Gable Mountain 81.58 327 P P 16 30 14.0 +0.4
EGRO El Granado 81.60 45 ⇑P P 16 30 14.6 +0.6
comp=Z,77nm,1.6s,mb5.1
BROR Big Rock Looko 81.62 324 P P 16 30 13.4 -0.5
D08A Wollman Farm, 81.62 328 ⇓P P 16 30 13.8 0.0
baz=82,SNR=8.2
PBEJ Beja 81.63 44 *e*P **P 16 30 14.8 +0.7**
comp=Z,33nm,1.6s,mb4.7
G05A Wamic 81.64 325 ⇓P P 16 30 14.5 +0.6
baz=82,SNR=6.8
B10A Chitwood Farm, 81.65 329 ⇑P P 16 30 13.2 -0.8
baz=82
J02A Umpqua 81.67 323 ⇓P P 16 30 14.3 +0.1
baz=82,SNR=8.2
F06A Goldendale 81.70 326 ⇓P P 16 30 14.6 +0.3
baz=82
A11A Hall Mountain, 81.71 330 ⇑P P 16 30 13.7 -0.5
baz=82,SNR=11
H04A Detroit Lake 81.74 324 ⇓P P 16 30 13.8 -0.7
baz=82,SNR=9.5
OD2 Odessa Site #2 81.74 328 P P 16 30 14.8 +0.3
E07A Sunnyside 81.75 327 ⇑P P 16 30 14.9 +0.4
baz=82
C09A Chrisman Ranch 81.81 329 ⇓P P 16 30 14.4 -0.4
baz=82,SNR=8.4
EVO Evora 81.83 43 ⇑*i*P **P 16 30 15.4 +0.3**
comp=Z,78nm,1.3s,mb4.9
EVO *e*pP pP 16 30 50.7 +1.2
EVO *e*MLR MLR
comp=Z,181nm,21.2s
EVO Evora 81.83 43 *e*P **P 16 30 15.8 +0.7**
comp=Z,30nm,1.5s,mb4.7
K01A Sixes 81.83 322 ⇓P P 16 30 14.8 -0.2
baz=82
HOOD Mount Hood Mea 81.87 325 *e*P **P 16 30 15.3 +0.2**
comp=Z,32nm,1.0s,mb4.9
HOOD *e*pP pP 16 30 48.9 -0.6
I03A Eugene 81.89 323 ⇑P P 16 30 15.1 -0.2
baz=82,SNR=9.2
F05A White Salmon 82.13 326 ⇑P P 16 30 16.4 -0.2
baz=82
C08A Higginbotham F 82.18 328 ⇓P P 16 30 16.2 -0.5
baz=82
B09A Rice 82.18 329 ⇑P P 16 30 15.9 -0.9
baz=82,SNR=7.5
I02A Mapleton 82.22 323 ⇓P P 16 30 16.8 -0.2
baz=82,SNR=5.1
G04A Mulino 82.24 325 ⇓P P 16 30 16.6 -0.5
baz=82
D07A Quincy 82.24 327 ⇓P P 16 30 17.5 +0.4
baz=82
PBAR Barrancos 82.25 44 *e*P **P 16 30 17.3 -0.1**
comp=Z,31nm,1.6s,mb4.7
EMIN Mina Concepcio 82.27 45 ⇑P P 16 30 17.6 +0.2
comp=Z,62nm,1.2s,mb5.1
PESTR Estremoz 82.29 43 *e*P **P 16 30 18.1 +0.6**
comp=Z,42nm,1.3s,mb4.9
A10A Northport 82.29 330 ⇑P P 16 30 16.3 -1.0
baz=82
COR Corvallis 82.29 324 *e*P **P 16 30 17.5 +0.1**
COR *e**PP pP 16 30 50.7 -1.1
COR pmax pmax
comp=Z,33nm,1.2s,mb4.8
COR Corvallis 82.29 324 *e*P **P 16 30 17.5 +0.1**
comp=Z,33nm,1.2s,mb4.8
COR *e*pP pP 16 30 50.7 -1.1
ESPR Espera 82.31 46 ⇑P P 16 30 18.6 +0.9
comp=Z,59nm,1.2s,mb5.1
E06A Yakima 82.32 326 ⇓P P 16 30 17.2 -0.3
baz=82,SNR=7.0
H03A Soap Creek Ran 82.34 324 ⇑P P 16 30 17.8 +0.2
baz=82
EJIF Jimena Fronter 82.34 46 P P 16 30 19.4 +1.5
EJIF pmax pmax
comp=Z,33nm,1.4s,mb4.8
EJIF Jimena Fronter 82.34 46 P P 16 30 19.4 +1.5
comp=Z,33nm,1.4s,mb4.8
MPOR Mary's Peak 82.38 324 P P 16 30 18.6 +0.7
WTV Waterville 82.57 328 P P 16 30 19.0 +0.2
EBAD Badajoz 82.60 44 ⇑P P 16 30 18.7 -0.5
comp=Z,221nm,2.6s,mb5.4
C07A Waterville 82.62 328 ⇓P P 16 30 18.7 -0.3
baz=83,SNR=15
F04A Amboy 82.67 325 ⇑P P 16 30 18.7 -0.7
baz=83
D06A Cle Elum 82.68 327 ⇓P P 16 30 18.9 -0.5
baz=83
ETW Entiat 82.69 327 P P 16 30 19.8 +0.3
B08A Colville Reser 82.71 328 ⇓P P 16 30 18.3 -1.1
baz=83,SNR=5.3
E05A Randle 82.73 326 ⇑P P 16 30 18.9 -0.8
baz=83,SNR=5.4
G03A Yamhill 82.74 324 ⇓P P 16 30 19.6 -0.1
baz=83
A09A Danville 82.77 329 ⇓P P 16 30 18.8 -0.9
baz=83,SNR=7.2
PCBR Castelo Branco 82.91 43 *e*P **P 16 30 21.1 +0.4**
comp=Z,28nm,1.4s,mb4.8
HEBO Mount Hebo 82.94 324 *e*P **P 16 30 21.3 +0.6**
HEBO *e*pP pP 16 30 55.9 +0.8
A08A Turner Farm, O 83.09 329 ⇑P P 16 30 21.1 -0.3
baz=83,SNR=18
PVIS Viseu 83.15 42 *e*P **P 16 30 22.8 +0.8**
comp=Z,36nm,1.7s,mb4.8
B07A Winthrop 83.16 328 ⇑P P 16 30 21.1 -0.7
baz=83,SNR=18
MTE Manteigas 83.19 42 *e*P **P 16 30 22.3 +0.1**
comp=Z,58nm,1.6s,mb5.1
BOSA Boshof 83.20 118 P P 16 30 23.0 +0.4
comp=Z,28nm,0.9s,mb5.0,baz=253,slow=3.9,SNR=33

BOSA S S 16 40 31.7 -0.1
comp=Z,4.0nm,1.1s,baz=14,slow=18,SNR=2.9
BOSA Boshof 83.20 118 *e*P **P 16 30 22.6 -0.1**
BOSA pmax pmax
comp=Z,29nm,0.9s,mb5.0
BOSA Boshof 83.20 118 *e*P **P 16 30 22.6 0.0**
comp=Z,29nm,0.9s,mb5.0
ECAB El Cabril 83.26 45 P **P 16 30 22.8 +0.2**
comp=Z,99nm,1.5s,mb5.3
D05A Enumclaw 83.26 326 ⇓P **P 16 30 22.2 -0.2**
baz=84
C05A Tolt Reservoir 83.44 327 ⇓P **P 16 30 22.1 -1.2**
baz=84
BMW Boistfort Moun 83.45 325 *e*P **P 16 30 22.8 -0.6**
BMW *e**PP pP 16 30 57.0 -0.8
EDM Edmonton 83.53 335 *e*P **P 16 30 21.9 -1.7**
EDM *e**PP pP 16 30 56.2 -1.8
EDM *e**SP sP 16 31 10.6 -1.8
ELOJ Sierra Loja 83.61 46 P **P 16 30 25.8 +1.4**
ELOJ pmax pmax
comp=Z,37nm,1.0s,mb5.1
ELOJ Sierra Loja 83.61 46 P **P 16 30 25.8 +1.4**
comp=Z,37nm,1.0s,mb5.1
PCAB Cabril 83.64 41 *e*P **P 16 30 24.8 +0.4**
comp=Z,56nm,1.6s,mb5.0
E03A Lebam 83.68 325 ⇑P **P 16 30 24.4 -0.1**
baz=84
A07A Ashnola River, 83.69 329 ⇓P **P 16 30 24.3 -0.1**
baz=84,SNR=21
ELOB Lobios 83.71 41 ⇓P **P 16 30 25.3 +0.5**
comp=Z,118nm,2.3s,mb5.2
ELUQ Luque 83.75 46 P **P 16 30 26.6 +1.5**
ELUQ pmax pmax
comp=Z,14nm,0.6s,mb4.9
ELUQ Luque 83.75 46 P **P 16 30 26.6 +1.4**
comp=Z,14nm,0.6s,mb4.9
RPW Rockport 83.85 328 *e*P **P 16 30 24.1 -1.2**
RPW *e*pP pP 16 30 58.5 -1.3
EADA Adamuz 83.87 45 ⇑P **P 16 30 25.8 +0.1**
comp=Z,78nm,1.6s,mb5.2
B06A Marblemount 83.88 328 ⇓P **P 16 30 24.2 -1.3**
baz=84,SNR=6.9
JCW Jim Creek 83.89 327 *e*P **P 16 30 24.5 -1.1**
JCW *e*pP pP 16 30 58.5 -1.6
MVO Moncorvo 83.94 42 *e*P **P 16 30 25.9 -0.1**
comp=Z,67nm,1.6s,mb5.1
B05A Bryant 84.02 327 ⇑P **P 16 30 25.1 -1.1**
baz=84,SNR=6.0
ECOG Cogollos-Vega 84.08 46 P **P 16 30 26.8 0.0**
ECOG pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
ECOG Cogollos-Vega 84.08 46 P **P 16 30 26.8 0.0**
comp=Z,6.5nm,0.7s,mb4.5
TAM Tamanrasset 84.10 63 *e*P **P 16 30 28.0 +0.8**
C04A Brinnon 84.11 326 ⇑P **P 16 30 26.3 -0.4**
baz=84,SNR=6.5
D03A Wishkah Elem. 84.15 326 ⇑P **P 16 30 26.5 -0.4**
baz=84
A06A Chilliwack 84.26 328 ⇑P **P 16 30 26.4 -1.0**
baz=84
EBER Berja 84.34 47 P **P 16 30 27.6 -0.5**
comp=Z,109nm,1.4s,mb5.4
NLWA Neilton Lookou 84.38 326 ⇑P **P 16 30 27.6 -0.4**
baz=85
EBAN Banos Encina 84.40 46 ⇓P **P 16 30 29.3 +0.9**
EBAN pmax pmax
comp=Z,55nm,0.9s,mb5.3
EBAN Banos Encina 84.40 46 ⇓P **P 16 30 29.3 +1.0**
comp=Z,55nm,0.9s,mb5.3
A05A Maple Falls 84.50 328 ⇑P **P 16 30 27.8 -0.7**
baz=85
ECAL Calabor 84.56 41 P **P 16 30 29.5 +0.4**
comp=Z,119nm,1.5s,mb5.4
ERUA La Rua 84.57 41 P **P 16 30 29.0 -0.1**
ERUA pmax pmax
comp=Z,22nm,0.8s,mb4.9
ERUA La Rua 84.57 41 P **P 16 30 29.0 -0.1**
comp=Z,22nm,0.8s,mb4.9
B04A Port Angeles 84.61 326 ⇑P **P 16 30 29.1 0.0**
baz=85
A04A Legoe Bay, Lum 84.63 327 ⇑P **P 16 30 29.0 -0.2**
baz=85,SNR=8.8
MCW Mount Constitu 84.66 327 P **P 16 30 29.4 0.0**
MAW Mawson 84.67 163 P **P 16 30 29.5 +0.2**
comp=Z,25nm,0.9s,mb5.0,baz=218,slow=6.0,SNR=66
MAW *e*pP pP 16 31 05.2 +1.4
comp=Z,16nm,0.9s,baz=230,slow=7.5,SNR=4.4
MAW *e*sP sP 16 31 19.9 +1.6
comp=Z,13nm,0.9s,baz=218,slow=8.5,SNR=3.4
MAW S S 16 40 45.4 +0.4
comp=Z,0.9nm,0.9s,baz=276,slow=13,SNR=2.0
MAW LR LR 17 08 44.5
comp=Z,144nm,18.7s,baz=359,slow=36
MAW Mawson 84.67 163 *e*P **P 16 30 29.2 -0.1**
MAW *e**PP pP 16 31 04.9 +1.1
MAW pmax pmax
comp=Z,42nm,1.1s
MAW Mawson 84.67 163 *e*P **P 16 30 29.2 -0.1**
comp=Z,42nm,1.1s,mb5.1
MAW *e*pP pP 16 31 04.9 +1.1
EQES Quesada 84.69 46 P **P 16 30 29.5 -0.3**
comp=Z,147nm,1.6s,mb5.5
PAB San Pablo 84.76 44 *e*P **P 16 30 30.3 +0.1**
PAB pmax pmax
comp=Z,97nm,1.4s,mb5.3
PAB San Pablo 84.76 44 *e*P **P 16 30 30.3 +0.1**
comp=Z,96nm,1.4s,mb5.3
ENIJ Nijar 84.84 47 P **P 16 30 30.8 +0.2**
ENIJ pmax pmax
comp=Z,68nm,1.2s,mb5.2
ENIJ Nijar 84.84 47 P **P 16 30 30.8 +0.1**
comp=Z,68nm,1.2s,mb5.2
PGC Sidney 84.96 327 *e*P **P 16 30 30.3 -0.6**
comp=Z,44nm,1.0s,mb5.2
PGC *e*pP pP 16 31 04.8 -0.6
EHUE Huescar 85.02 46 P **P 16 30 31.3 -0.2**
EHUE pmax pmax
comp=Z,25nm,1.0s,mb4.9
EHUE Huescar 85.02 46 P **P 16 30 31.2 -0.2**
comp=Z,25nm,1.0s,mb4.9
ESDC Sonseca Array 85.08 44 P **P 16 30 32.4 +0.7**
comp=Z,20nm,1.0s,mb4.8,baz=240,slow=5.1,SNR=47
ESDC pP pP 16 31 06.7 +0.4
comp=Z,8.0nm,1.0s,baz=242,slow=4.3,SNR=3.2
ESDC S S 16 40 45.7 -4.2
comp=Z,0.2nm,0.3s,baz=343,slow=23,SNR=2.4
ESDC LR LR 17 02 48.9
comp=Z,225nm,21.9s,baz=205,slow=31
ESDC Sonseca Array 85.08 44 P **P 16 30 32.3 +0.6**
comp=Z,40nm,1.3s,mb5.0
ESLA Sonseca Array 85.08 44 *e*P **P 16 30 32.2 +0.4**
comp=Z,34nm,1.5s,mb4.8
GUD Guadarrama 85.47 43 P **P 16 30 34.7 +1.0**
GUD pmax pmax
comp=Z,14nm,1.0s,mb4.7
GUD Guadarrama 85.47 43 P **P 16 30 34.7 +1.0**
comp=Z,14nm,1.0s,mb4.6
EVIA Vianos 85.50 46 P **P 16 30 34.3 +0.4**
EVIA pmax pmax
comp=Z,18nm,0.9s,mb4.8
EVIA Vianos 85.50 46 P **P 16 30 34.3 +0.4**
comp=Z,18nm,0.9s,mb4.8
SFJD Kangerlussuaq 88.71 7 S S 16 41 03.4 -20
comp=Z,4.8nm,0.5s,baz=105,slow=16,SNR=2.1
ETSF Etsaut 88.94 43 *e*P **P 16 30 52.6 +2.3**
comp=Z,46nm,1.3s,mb4.9
ETSF Etsaut 88.94 43 *e*P **P 16 30 52.6 +2.3**
ETSF pmax pmax
comp=Z,23nm,1.3s,mb5.0
ETSF Etsaut 88.94 43 *e*P **P 16 30 52.6 +2.3**
comp=Z,23nm,1.3s,mb4.9
EPF Esparros 89.58 43 *e*P **P 16 30 53.7 +0.4**
QUIF Quistinic 89.96 38 *e*P **P 16 30 54.2 -0.7**
comp=Z,26nm,1.0s,mb4.8
QUIF Quistinic 89.96 38 *e*P **P 16 30 54.2 -0.7**
QUIF pmax pmax
comp=Z,13nm,1.0s,mb4.8
QUIF Quistinic 89.96 38 *e*P **P 16 30 54.2 -0.7**
comp=Z,13nm,1.0s,mb4.8
DRV R 17 01 00.0
DRV Dumont d'Urvil 90.07 191 SP SP 16 42 47.0 +4.5
ROSF Rostrenen 90.12 37 *e*P **P 16 30 55.0 -0.7**
comp=Z,129nm,1.5s,mb5.3
ROSF Rostrenen 90.12 37 *e*P **P 16 30 55.0 -0.7**
ROSF pmax pmax
comp=Z,65nm,1.5s,mb5.3
ROSF Rostrenen 90.12 37 *e*P **P 16 30 55.0 -0.7**
comp=Z,65nm,1.5s,mb5.3
SGMF Saint Gilles 90.48 38 *e*P **P 16 30 56.6 -0.8**
comp=Z,94nm,1.5s,mb5.2
SGMF Saint Gilles 90.48 38 *e*P **P 16 30 56.6 -0.8**
SGMF pmax pmax
comp=Z,47nm,1.5s,mb5.2
SGMF Saint Gilles 90.48 38 *e*P **P 16 30 56.6 -0.8**
comp=Z,47nm,1.5s,mb5.2
LSZ Lusaka 90.52 106 LR LR 17 10 53.1
comp=Z,214nm,18.2s,baz=254,slow=35
LSZ Lusaka 90.52 106 *e*P **P 16 31 00.7 +2.3**
LSZ pmax pmax
comp=Z,17nm,1.1s,mb5.0
LSZ Lusaka 90.52 106 *e*P **P 16 31 00.7 +2.3**
comp=Z,17nm,1.1s,mb5.0
LFF La Frestale 90.77 42 *e*P **P 16 30 58.5 -0.3**
comp=Z,104nm,1.2s,mb5.4
LFF La Frestale 90.77 42 *e*P **P 16 30 58.5 -0.3**
LFF pmax pmax
comp=Z,52nm,1.2s,mb5.4
LFF La Frestale 90.77 42 *e*P **P 16 30 58.5 -0.3**
comp=Z,52nm,1.2s,mb5.4
YKA Yellowknife Ar 90.88 340 P **P 16 30 58.1 -0.7**
comp=Z,18nm,0.8s,mb5.2,baz=132,slow=4.5,SNR=40
YKA pP pP 16 31 32.7 -1.0
comp=Z,17nm,0.7s,baz=135,slow=4.7,SNR=7.0
YKA sP sP 16 31 47.2 -0.8
comp=Z,7.9nm,0.7s,baz=138,slow=4.5,SNR=2.1
YKA S S 16 41 17.1 -27
comp=Z,1.4nm,0.9s,baz=135,slow=50,SNR=2.7
YKA Yellowknife Ar 90.88 340 P **P 16 30 58.1 -0.7**
YKA pP pP 16 31 32.7 -1.0
YKA sP sP 16 31 47.2 -0.8
YKA S S 16 41 17.1 -27
MTLF Montolieu 90.93 43 *e*P **P 16 30 59.4 -0.2**
MTLF *e*pP pP 16 31 33.2 -1.3
MFF Saint Martin d 91.05 40 *e*P **P 16 30 59.8 -0.2**
comp=Z,50nm,1.1s,mb5.2
MFF Saint Martin d 91.05 40 *e*P **P 16 30 59.8 -0.2**
MFF pmax pmax
comp=Z,25nm,1.1s,mb5.2
MFF Saint Martin d 91.05 40 *e*P **P 16 30 59.8 -0.2**
comp=Z,25nm,1.1s,mb5.2
RJF Les Rejaudoux 91.43 42 *e*P **P 16 31 01.4 -0.4**
comp=Z,61nm,1.3s,mb5.2
RJF *e*MLR MLR
comp=Z,200nm,22.2s
RJF Les Rejaudoux 91.43 42 *e*P **P 16 31 01.4 -0.4**
RJF pmax pmax
comp=Z,30nm,1.3s,mb5.2
RJF MLR MLR
comp=Z,200nm,22.3s
RJF Les Rejaudoux 91.43 42 *e*P **P 16 31 01.4 -0.4**
comp=Z,30nm,1.3s,mb5.2
RJF LR LR
comp=Z,200nm,22.3s
GRR Gorron 91.53 38 *e*P **P 16 31 01.3 -0.9**
comp=Z,67nm,1.2s,mb5.2
GRR Gorron 91.53 38 *e*P **P 16 31 01.3 -0.9**
GRR pmax pmax
comp=Z,33nm,1.2s,mb5.2
GRR Gorron 91.53 38 *e*P **P 16 31 01.3 -0.9**
comp=Z,33nm,1.2s,mb5.2
CAF Calviac 91.59 42 *e*P **P 16 31 02.4 -0.2**
comp=Z,24nm,1.2s,mb4.8
CAF *e*pP pP 16 31 36.2 -1.3
CAF Calviac 91.59 42 *e*P **P 16 31 02.4 -0.2**
CAF *e**PP pP 16 31 36.2 -1.3
CAF pmax pmax
comp=Z,12nm,1.2s,mb4.8
CAF Calviac 91.59 42 *e*P **P 16 31 02.4 -0.2**
comp=Z,12nm,1.2s,mb4.8
CAF *e*pP pP 16 31 36.2 -1.3
FLN La Foliniere 91.93 38 *e*P **P 16 31 03.5 -0.5**
comp=Z,138nm,1.5s,mb5.5
FLN *e*MLR MLR
comp=Z,143nm,22.0s
FLN La Foliniere 91.93 38 *e*P **P 16 31 03.5 -0.5**
FLN pmax pmax
comp=Z,69nm,1.5s,mb5.5
FLN MLR MLR
comp=Z,140nm,22.0s
FLN La Foliniere 91.93 38 *e*P **P 16 31 03.5 -0.5**
comp=Z,69nm,1.5s,mb5.5
FLN LR LR
comp=Z,140nm,22.0s
TCF Toulx Ste Croi 92.32 41 *e*P **P 16 31 05.3 -0.6**
KEST Kesra 92.56 53 P **P 16 31 08.1 +0.8**
comp=Z,2.4nm,0.9s,mb4.3,baz=223,slow=2.7,SNR=6.5
KEST LR LR 17 16 01.1
comp=Z,112nm,18.1s,baz=290,slow=37
BGF Bois d'Agland 92.84 41 *e*P **P 16 31 07.9 -0.4**
CASY Casey 93.00 180 *e*P **P 16 31 09.4 +0.5**
comp=Z,54nm,1.0s,mb5.6
CASY *e*pP pP 16 31 44.4 +0.7
CASY *e*sP sP 16 31 59.1 +1.0
VIVF Saint-Julien-l 93.20 43 *e*P **P 16 31 10.3 +0.3**
comp=Z,16nm,1.1s,mb4.8
VIVF Saint-Julien-l 93.20 43 *e*P **P 16 31 10.3 +0.3**
VIVF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
VIVF Saint-Julien-l 93.20 43 *e*P **P 16 31 10.3 +0.3**
comp=Z,8.1nm,1.1s,mb4.8
AVF Avril sur Loir 93.25 41 *e*P **P 16 31 09.6 -0.6**
comp=Z,33nm,1.2s,mb5.0
AVF Avril sur Loir 93.25 41 *e*P **P 16 31 09.6 -0.6**
AVF pmax pmax
comp=Z,17nm,1.2s,mb5.0
AVF Avril sur Loir 93.25 41 *e*P **P 16 31 09.6 -0.6**
comp=Z,17nm,1.2s,mb5.0
SSF Saint Saulge 93.47 41 *e*P **P 16 31 10.4 -0.8**
comp=Z,31nm,1.4s,mb5.0
SSF *e*pP pP 16 31 44.0 -2.1
SSF Saint Saulge 93.47 41 *e*P **P 16 31 10.4 -0.8**
SSF *e**PP pP 16 31 44.0 -2.1
SSF pmax pmax
comp=Z,16nm,1.4s,mb5.0
SSF Saint Saulge 93.47 41 *e*P **P 16 31 10.4 -0.8**
comp=Z,16nm,1.4s,mb5.0
SSF *e*pP pP 16 31 44.0 -2.1
SMF Signal de Mont 93.49 41 *e*P **P 16 31 11.0 -0.3**
comp=Z,95nm,1.4s,mb5.4
SMF Signal de Mont 93.49 41 *e*P **P 16 31 11.0 -0.3**
SMF pmax pmax
comp=Z,47nm,1.4s,mb5.4
SMF Signal de Mont 93.49 41 *e*P **P 16 31 11.0 -0.3**
comp=Z,47nm,1.4s,mb5.4
LMR La Mourre 93.73 45 *e*P **P 16 31 12.7 +0.2**
comp=Z,101nm,1.5s,mb5.4
LMR La Mourre 93.73 45 *e*P **P 16 31 12.7 +0.2**
LMR pmax pmax
comp=Z,51nm,1.5s,mb5.4
LMR La Mourre 93.73 45 *e*P **P 16 31 12.7 +0.2**
comp=Z,50nm,1.5s,mb5.4
LOR Lormes 93.78 41 *e*P **P 16 31 11.9 -0.7**
comp=Z,16nm,0.8s,mb4.9
LOR *e*pP pP 16 31 45.4 -2.1
LOR *e*MLR MLR
comp=Z,210nm,18.8s
LOR Lormes 93.78 41 *e*P **P 16 31 11.9 -0.7**
LOR *e**PP pP 16 31 45.4 -2.1
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LOR MLR MLR
comp=Z,210nm,18.8s
LOR Lormes 93.78 41 *e*P **P 16 31 11.9 -0.7**
comp=Z,7.9nm,0.8s,mb4.9
LOR *e*pP pP 16 31 45.4 -2.1
LOR LR LR
comp=Z,210nm,18.8s
EKA Eskdalemuir Ar 93.89 31 P **P 16 31 11.8 -1.1**
comp=Z,4.3nm,1.0s,mb4.5,baz=240,slow=2.8,SNR=7.2
ORIF Oris-en-Rattie 94.00 43 *e*P **P 16 31 14.4 +0.7**
comp=Z,35nm,1.4s,mb5.0
ORIF *e*MLR MLR
comp=Z,240nm,21.0s
ORIF Oris-en-Rattie 94.00 43 *e*P **P 16 31 14.4 +0.7**
ORIF pmax pmax
comp=Z,18nm,1.4s,mb5.0
ORIF Oris-en-Rattie 94.00 43 *e*P **P 16 31 14.4 +0.7**
comp=Z,18nm,1.4s,mb5.0
DLBC Dease Lake 94.00 332 *e*P **P 16 31 12.3 -1.0**
DLBC *e*pP pP 16 31 48.2 -0.1
MBDF Montbardon 94.49 44 *e*P **P 16 31 16.5 +0.6**
comp=Z,42nm,1.5s,mb5.0
MBDF Montbardon 94.49 44 *e*P **P 16 31 16.5 +0.6**
MBDF pmax pmax
comp=Z,21nm,1.5s,mb5.0
MBDF Montbardon 94.49 44 *e*P **P 16 31 16.5 +0.6**
comp=Z,21nm,1.5s,mb5.0
LPL La Plagne 94.80 43 *e*P **P 16 31 18.2 +0.9**
comp=Z,26nm,1.2s,mb5.0
LPL La Plagne 94.80 43 *e*P **P 16 31 18.2 +0.9**
LPL pmax pmax
comp=Z,13nm,1.2s,mb5.0
LPL La Plagne 94.80 43 *e*P **P 16 31 18.2 +0.9**
comp=Z,13nm,1.2s,mb5.0
LPG La Plagne 94.80 43 *e*P **P 16 31 18.4 +1.0**
URZ Urewera 94.95 226 LR LR 17 04 49.3
comp=Z,180nm,18.0s,baz=39,slow=30
MEZF Maizieres J'vi 95.05 40 *e*P **P 16 31 18.1 -0.3**
BAIF Baives 95.24 38 *e*P **P 16 31 18.6 -0.6**
SUMG Summit 95.47 9 *e*P **P 16 31 21.1 +1.3**
comp=Z,2.1nm,1.1s,mb4.3
DOU Dourbes 95.48 38 P **P 16 31 20.3 0.0**
GIVF Givet 95.62 38 *e*P **P 16 31 20.4 -0.5**
HAU Haudompre 95.62 41 *e*P **P 16 31 20.3 -0.7**
HAU *e*MLR MLR
comp=Z,145nm,18.2s
HAU Haudompre 95.62 41 *e*P **P 16 31 20.3 -0.7**
HAU LR LR
comp=Z,140nm,18.3s
RPZ Rata Peaks 95.74 219 LR LR 17 05 25.6
comp=Z,134nm,19.6s,baz=63,slow=30
HINF Hinteralfeld 95.84 41 *e*P **P 16 31 21.4 -0.6**
WLF Walferdange 96.20 39 P **P 16 31 24.2 +0.6**
comp=Z,16nm,1.7s,mb5.1
WLF Walferdange 96.20 39 *e*Pdiff **P 16 31 24.1 +0.5**
CDF Champ du Feu 96.35 40 *e*P **P 16 31 23.9 -0.4**
DAVOX Davos/Dischmat 97.31 43 PP PP 16 35 24.8 -2.7
comp=Z,3.2nm,0.9s,baz=327,slow=14,SNR=3.4
BUG Bochum--Univer 97.59 38 *e*Pdiff **P 16 31 29.7 -0.1**
TNS Taunus Mts 97.78 39 *e*Pdiff **P 16 31 30.5 -0.2**
IBBN Ibbenburen 98.22 37 *e*Pdiff **P 16 31 33.0 +0.4**
GRA1 Grafenberg Arr 99.24 40 *e*Pdif 16 31 37.4
GRF Grafenberg Arr 99.24 40 *e*Pdiff 16 31 37.4
NRDL Niedersach Rie 99.62 37 *e*Pdiff Pdif 16 31 39.2 +0.1
KBA Koelnbreinsper 99.63 43 ⇓*i*P PP 16 35 37.7 -7.4
comp=Z,8.2nm,1.2s
KBA Koelnbreinsper 99.63 43 ⇑*i*Pdiff Pdif 16 31 40.0 +0.8
KBA ⇑*i*PP PP 16 35 38.4 -6.7
comp=Z,8.2nm,1.2s
MOX Moxa 99.82 40 *e*P Pdif 16 31 40.4 +0.4
MOX
comp=Z,100nm,20.0s
MOX Moxa 99.82 40 *e*Pdiff Pdif 16 31 40.1 +0.1
BSEG Bad Segeberg 100.27 36 *e*Pdiff Pdif 16 31 39.9 -2.1
GEC2 GERESS Array S 100.46 42 *e*Pdiff Pdif 16 31 42.6 -0.3
GERES GERESS Array B 100.46 42 PP PP 16 35 48.8 -2.6
comp=Z,0.9nm,0.7s,baz=222,slow=7.2,SNR=5.0
CLL Collm 100.87 39 *i* P Pdif 16 31 44.8 +0.1
CLL *e* 16 42 15.0
CLL pmax pmax
comp=Z,20nm,1.5s
CLL MLR MLR
comp=Z,200nm,22.4s
CLL Collm 100.87 39 *i* Pdif Pdif 16 31 44.8 +0.1
comp=Z,12nm,1.5s
CLL *es*Pdif 16 32 33.0
CLL *i* PP PP 16 35 48.5 -5.9
comp=Z,9.0nm,1.2s
CLL *es*PP 16 36 37.0
CLL *e*SKSac SKSac 16 42 15.0 +4.5
CLL *e*Sdif Sdif 16 43 20.0 +9.1
CLL *e*SP SP 16 44 46.0 +4.2
CLL *es*PS 16 45 39.0
CLL *e*SS SS 16 50 05.0 -7.2
CLL Collm 100.87 39 *i* Pdif Pdif 16 31 44.8 +0.1
comp=Z,12nm,1.5s
CLL *e* 16 31 51.0
CLL *i* PP PP 16 35 48.5 -5.9
CLL *e*SKS 16 42 15.0
CLL *e*Sdif Sdif 16 43 20.0 +9.1
CLL LR LR
comp=Z,200nm,22.4s
VRAC Vranov 102.41 42 PP PP 16 36 03.9 -2.2
comp=Z,3.1nm,0.7s,baz=229,slow=9.3,SNR=4.5
NOA NORSAR Array B 103.20 29 PP PP 16 36 11.0 -0.6
comp=Z,7.1nm,1.1s,baz=249,slow=7.5,SNR=4.0
HFS Hagfors 104.08 31 PP PP 16 36 16.8 -1.4
comp=Z,17nm,1.1s,baz=173,slow=2.5,SNR=10
NIE Niedzica 104.78 42 *e*PKP PKiKP 16 36 17.1 +0.5
AKASG Malin Array Be 110.66 42 PP PP 16 37 04.2 -2.3
comp=Z,2.0nm,0.8s,baz=255,slow=8.4,SNR=6.4
AKASG PKKPbc PKKPbc 16 47 26.0 -2.3
comp=Z,1.0nm,0.5s,baz=72,slow=2.9,SNR=6.4
ARCES ARCESS Array B 110.80 22 PKKPbc PKKPbc 16 47 25.2 -3.1
comp=Z,1.7nm,0.8s,baz=104,slow=5.1,SNR=5.6
ASF Jabal al Asfar 113.37 63 PP PP 16 37 24.1 -2.3
comp=Z,1.4nm,0.6s,baz=105,slow=6.4,SNR=3.7
OBN Obninsk 115.42 38 *e*PKIKP PKPdf 16 36 38.8 +2.3
OBN *e* 16 37 39.2
OBN *e*PS PS 16 47 24.2 +2.2
OBN pmax pmax
comp=Z,5.0nm,1.0s
ANN Anapa 115.51 49 *i* PKIKP PKPdf 16 36 36.9 -0.1
ANN *e* 16 43 14.5
ANN pmax pmax
comp=Z,34nm,1.5s
SOC Sochi 117.05 51 *i* PKIKP PKPdf 16 36 44.1 +4.1
SOC *e* 16 37 56.7
SOC *e*PPP 16 40 27.3
SOC *e* 16 43 12.8
KIV Kislovodsk 119.22 51 *e*PKIKP PKPdf 16 36 44.9 +0.7
KIV *e* 16 38 09.9
KIV pmax pmax
comp=Z,6.0nm,1.2s
STKA Stephens Creek 120.13 209 *e*P PKPdf 16 36 45.7 -0.7
comp=Z,4.1nm,0.9s
STKA Stephens Creek 120.13 209 PKP PKPdf 16 36 46.2 -0.2
comp=Z,4.5nm,0.9s,baz=319,slow=6.0,SNR=6.4
BILL Bilibino 122.24 339 *e*PKIKP PKPdf 16 36 49.6 +0.4
BILL *e* 16 38 28.7
BILL *e*PS PS 16 48 21.8 -0.9
BILL pmax pmax
comp=Z,3.0nm,1.0s
FORT Forrest 126.18 198 *e*P PKPdf 16 36 57.3 -0.8
comp=Z,17nm,0.7s
MUN Mundaring 127.16 185 *e*P PKPdf 16 36 59.5 -0.4
KLBR Kellerberrin 127.40 187 *e*P PKPdf 16 37 00.0 -0.4
comp=Z,12nm,0.6s
ARU Arti 127.42 34 *i* PKIKP PKPdf 16 36 59.3 -0.2
ARU 16 38 57.4
ARU Arti 127.42 34 PKPdf PKPdf 16 37 00.2 +0.7
SEY Seymchan 129.84 337 *c i* PKIKP PKPdf 16 37 04.4 +0.5
ASAR Alice Springs 130.62 207 PKhKP 16 36 46.0
comp=Z,0.5nm,0.5s,baz=151,slow=2.1,SNR=5.1
ASAR PKP PKPdf 16 37 05.8 -1.0
comp=Z,14nm,0.9s,baz=131,slow=1.8,SNR=55
ASAR pPKP pPKPdf 16 37 41.5 -1.7
comp=Z,3.0nm,0.8s,baz=136,slow=2.1,SNR=2.5
ASAR sPKP 16 37 55.8
comp=Z,2.1nm,0.9s,baz=154,slow=2.2,SNR=5.0
ASAR SKP 16 40 29.2
comp=Z,0.9nm,0.7s,baz=148,slow=4.0,SNR=5.5
PET Petropavlovsk 131.98 324 ⇓*i* PKIKP PKPdf 16 37 08.2 -0.1
PETK Petropavlovsk- 132.47 324 PKhKP 16 36 55.8
comp=Z,2.2nm,0.9s,baz=140,slow=7.7,SNR=4.6
PETK PKP PKPdf 16 37 09.2 0.0
comp=Z,9.7nm,1.0s,baz=98,slow=4.8,SNR=11
PETK pPKP pPKPdf 16 37 43.9 -1.7
comp=Z,7.1nm,0.9s,baz=79,slow=7.7,SNR=6.0
PETK sPKP 16 37 59.9
comp=Z,5.3nm,0.9s,baz=73,slow=5.1,SNR=4.5
WB2 Warramunga Arr 133.67 210 *e*P 16 36 56.3
WB2 *e*S SKPdf 16 40 39.7 +4.6
WRA Warramunga Arr 133.68 210 PKhKP 16 36 58.6
comp=Z,1.2nm,0.8s,baz=148,slow=1.0,SNR=17
WRA PKP PKPdf 16 37 12.2 -0.3
comp=Z,12nm,0.8s,baz=157,slow=1.8,SNR=57
WRA pPKP pPKPdf 16 37 48.0 -1.0
comp=Z,3.4nm,0.7s,baz=153,slow=1.7,SNR=3.6
WRA sPKP 16 38 00.9
comp=Z,3.5nm,0.7s,baz=160,slow=1.3,SNR=7.7
WRA SKPab 16 40 29.8
comp=Z,2.2nm,0.9s,baz=156,slow=3.0,SNR=4.7
WRA Warramunga Arr 133.68 210 PKHKP 16 36 58.6
WRA 16 37 12.2
WRA 16 37 48.0
WRA 16 38 00.9
WRAB Tennant Creek 133.68 210 ⇓*i* PKIKP PKPdf 16 37 13.4 +0.9

WRAB	Tennant Creek	133.68	210	*e*PKPdf	PKPdf	16 37 12.0	-0.5
BVAR	Borovoye Array	135.06	34	PKhKP		16 37 09.5
	comp=Z,0.6nm,0.4s,baz=272,slow=37,SNR=2.7					
BVAR				PKP	PKPdf	16 37 14.7	+0.7
	comp=Z,1.0nm,0.5s,baz=270,slow=4.4,SNR=7.7					
BVAR				pPKP	pPKPdf	16 37 50.6	+0.1
	comp=Z,1.8nm,0.8s,baz=147,slow=3.5,SNR=2.1					
BVAR				SKPab		16 40 36.0
	comp=Z,1.0nm,0.6s,baz=278,slow=2.2,SNR=3.6					
YAK	Yakutsk	137.13	348	↑*i*PKIKP	PKPdf	16 37 17.4	-0.2
MBWA	Marble Bar	137.38	191	*e*PKPdf	PKPdf	16 37 18.8	-0.6
FITZ	Fitzroy Crossi	138.82	200	PKhKP		16 37 11.5
	comp=Z,2.9nm,0.8s,baz=182,slow=7.3,SNR=6.1					
FITZ				PKP	PKPdf	16 37 21.8	-0.3
	comp=Z,12nm,0.8s,baz=182,slow=5.7,SNR=21					
NVS	Novosibirsk	139.97	25	*e*PKIKP	PKPdf	16 37 23.6	+0.6
NVS				*e*		16 37 59.4
NVS				*e*		16 40 24.4
NVS				pmax	pmax	
	comp=N,7.0nm,1.2s					
NVS				pmax	pmax	
	comp=E,3.0nm,1.2s					
NVS				pmax	pmax	
	comp=Z,9.0nm,1.2s					
KURK	Kurchatov	140.60	33	PKhKP		16 37 19.1
	comp=Z,0.8nm,0.8s,baz=300,slow=3.7,SNR=3.0					
KURK				PKP	PKPdf	16 37 25.3	+1.0
	comp=Z,3.2nm,0.8s,baz=302,slow=2.8,SNR=13					
KURK	Kurchatov	140.60	33	↓*i*PKIKP	PKPdf	16 37 23.0	-1.3
KURK	Kurchatov	140.60	33	PKP		16 37 19.1
KURK				*e*PKPdf	PKPdf	16 37 25.1	+0.8
KAKA	Kakadu	140.79	213	*e*P	PKPdf	16 37 19.7	-6.1
	comp=Z,10.0nm,0.6s					
KAKA	Kakadu	140.79	213	*e*P	PKPdf	16 37 19.7	-6.1
KAKA				*e*PKPdf	PKPdf	16 37 25.1	-0.7
ZAA0	Zalesovo Array	141.25	25	*e*PKPdf	PKPdf	16 37 25.5	+0.1
ZAL	Zalesovo	141.25	25	PKIKP		16 37 22.1
ZALV	Zalesovo Beam	141.25	25	PKhKP		16 37 22.1
	comp=Z,5.3nm,0.6s,baz=11,slow=1.5,SNR=10					
ZALV				PKP	PKPdf	16 37 25.7	+0.3
	comp=Z,5.4nm,0.6s,baz=234,slow=1.3,SNR=20					
ZALV				pPKP	pPKPdf	16 38 01.6	-0.3
	comp=Z,6.8nm,0.7s,baz=302,slow=3.1,SNR=2.7					
ZALV				SKPbc	SKPbc	16 40 49.2	-0.5
	comp=Z,7.1nm,1.1s,baz=333,slow=8.1,SNR=4.6					
ZALV	Zalesovo Beam	141.25	25	PKP		16 37 22.1
ZALV				PKP	PKPdf	16 37 25.7	+0.3
ZALV				pPKP	pPKPdf	16 38 01.6	-0.2
ZALV				SKPbc	SKPbc	16 40 49.2	-0.5
AML	Almayashu	141.79	48	*e*PKPpre		16 37 23.3
FRU	Bishkek	142.16	46	*e*PKIKP	PKPdf	16 37 24.0	-3.4
FRU				*e*		16 40 31.0
UCH	Uchtor	142.32	47	*e*PKPpre		16 37 25.6
TKM2	Tokmak 2	142.78	46	*e*PKIKP	PKPdf	16 37 24.8	-3.7
BOD	Bodaibo	143.17	358	*e*PKHKP		16 37 24.6
BOD				pmax	pmax	
	comp=Z,7.0nm,1.5s					
YSS	Yuzh-Sakhalins	143.87	323	*c i*PKIKP	PKPdf	16 37 28.3	-1.9
YSS	Yuzh-Sakhalins	143.87	323	*e*PKPpre		16 37 27.5
KSH	Kashi	144.35	51	*e*PKP	PKPdf	16 37 31.5	+0.2
KSH				PKS		16 41 05.5
KSH				SKS	SKSdf	16 44 22.5	-5.6
KSH				PP	PP	
	comp=Z,395nm,4.4s					
KSH				LR	LR	
	comp=N,462nm,6.3s					
KSH				LR	LR	
	comp=E,449nm,5.6s					
KSH				LR	LR	
	comp=Z,453nm,6.4s					
MK31	Makanchi Array	144.90	36	*e*PKIKP	PKPdf	16 37 31.9	-0.1
MKAR	Makanchi Array	144.90	36	PKP	PKPdf	16 37 32.2	+0.1
	comp=Z,6.6nm,0.4s,baz=321,slow=3.4,SNR=96					
MKAR				pPKP	pPKPdf	16 38 07.5	-1.0
	comp=Z,13nm,0.7s,baz=312,slow=4.4,SNR=4.0					
MKAR				SKPbc	SKPbc	16 41 00.7	+1.8
	comp=Z,4.5nm,1.0s,baz=300,slow=3.2,SNR=3.8					
MKAR	Makanchi Array	144.90	36	PKIKP	PKPdf	16 37 32.2	+0.2
MKAR						16 38 07.5
BATI	Baumata	146.84	202	PKPbc	PKPbc	16 37 38.0	-0.4
	comp=Z,125nm,1.0s,baz=215,slow=3.2,SNR=14					
SMLA	Simla	147.51	65	*e*P	PKPdf	16 37 36.2	-0.7
SMLA				AMb	AMB	16 37 44.4
	comp=Z,86nm,0.8s					
GUMO	Guam	147.52	262	PKPbc	PKPbc	16 37 39.0	-1.2
	comp=Z,121nm,0.9s,baz=178,slow=7.9,SNR=4.2					
KLR	Kul'dur	147.59	335	*e*PKHKP		16 37 32.3
NDI	New Delhi	147.88	69	*e*P	PKPdf	16 37 35.0	-2.7
MOY	Mondy	148.26	13	*e*PKIKP	PKPdf	16 37 39.2	+1.7
MOY				pmax	pmax	
	comp=Z,25nm,1.3s					
IRK	Irkutsk	148.27	9	*e*PKIKP	PKPdf	16 37 38.5	+1.0
IRK				*e*		16 38 16.3
IRK				pmax	pmax	
	comp=Z,42nm,2.3s					
DDI	Dehra Dun	148.39	66	*e*P	PKPdf	16 37 39.0	+0.5
HYB	Hyderabad	148.55	91	*i* PKP	PKPab	16 37 47.0	+0.3
HYB	Hyderabad	148.55	91	*e*PKP	PKPbc	16 37 44.0	+1.2
HYB				*e*		16 38 20.0
TLY	Talaya	148.72	10	*e*PKP2	PKPbc	16 37 42.8	+0.6
TLY				*e*		17 00 07.5
TLY				pmax	pmax	
	comp=Z,11nm,1.3s					
TLY	Talaya	148.72	10	*e*PKPbc	PKPbc	16 37 42.8	+0.6
CIT	Chita	148.99	358	*e*PKIKP	PKPdf	16 37 41.0	+2.3
CIT				*e*	PKPbc	16 37 43.8	+0.9
WMQ	Urumqi	149.73	36	PKP	PKPbc	16 37 43.5	-1.5
WMQ				APKP		16 38 18.0
WMQ				XPKP		16 38 31.5
WMQ				PKS		16 41 17.0
WMQ				PP	PP	16 41 25.8	+6.7
WMQ				SKS	SKSdf	16 44 33.8	-1.7
WMQ				SKKS	SKKSac	16 47 57.5	+0.2
WMQ				SS	SS	17 00 24.8	+1.7
WMQ				PP	PP	
	comp=Z,65nm,11.0s					
WMQ				LR	LR	
	comp=N,122nm,26.0s					
WMQ				LR	LR	
	comp=E,128nm,24.8s					
WMQ				LR	LR	
	comp=Z,143nm,26.0s					
ZAK	Zakamensk	149.92	11	*e*PKHKP	PKPdf	16 37 41.0	+0.8
ZAK				pmax	pmax	
	comp=Z,9.0nm,1.9s					
PTH	Pithoragarh	150.37	67	*e*P	PKPdf	16 37 40.8	-0.8
CBIJ	Chichi jima	151.53	288	PKPbc	PKPbc	16 37 48.0	-1.8
	comp=Z,34nm,0.8s,baz=90,slow=9.0,SNR=3.6					
CBIJ				pPKPbc	pPKPbc	16 38 23.9	-2.2
	comp=Z,31nm,0.8s,baz=112,slow=21,SNR=2.4					
MDJ	Mudanjiang	152.16	332	*e*PKPbc	PKPbc	16 37 49.7	-0.9
MJAR	Matsushiro Arr	152.17	310	PKPbc	PKPbc	16 37 49.8	-1.2
	comp=Z,19nm,0.9s,baz=82,slow=1.8,SNR=44					
MJAR				pPKPbc	pPKPbc	16 38 26.0	-1.3
	comp=Z,13nm,0.9s,baz=85,slow=2.5,SNR=5.6					
MAJO	Matsushiro	152.18	310	*e*PKIKP	PKPbc	16 37 50.1	-0.8
MAJO				*e*		16 38 00.1
MAT	Matsushiro	152.18	310	PKP	PKPbc	16 37 50.7	-0.3
JHJ	Hachijo jima 2	152.29	302	PKPbc	PKPbc	16 37 50.5	-0.9
	comp=Z,86nm,0.8s,baz=182,slow=6.9,SNR=7.5					
SONM	Songino Array	152.87	8	PKP	PKPdf	16 37 44.8	0.0
	comp=Z,3.4nm,0.9s,baz=300,slow=0.4,SNR=21					
KAPI	Kappang	152.98	198	PKPbc	PKPbc	16 37 52.6	-0.8
	comp=Z,44nm,0.9s,baz=231,slow=3.7,SNR=12					
KAPI	Kappang	152.98	198	*e*PKPbc	PKPbc	16 37 52.2	-1.2
CN2	Changchun	154.52	336	*e*PKP	PKPdf	16 37 47.8	+0.5
CN2				XPKP		16 38 32.0
CN2				PP	PP	16 41 50.0	+4.1
PSI	Prapat	158.07	144	PKPab	PKPab	16 38 26.5	-0.3
	comp=Z,3.5nm,0.4s,baz=261,slow=7.9,SNR=3.7					
KSRS	Korea Array	158.37	323	PKP	PKPdf	16 37 52.9	+0.4
	comp=Z,5.0nm,0.9s,baz=44,slow=1.1,SNR=14					
KSRS				PKPab	PKPab	16 38 26.6	-0.9
	comp=Z,8.0nm,0.9s,baz=59,slow=4.4,SNR=14					
GTA	Gaotai	159.00	26	*e*PKP	PKPdf	16 37 54.0	+0.8
GTA				APKP		16 38 30.0
LSA	Lhasa	159.54	61	PKP	PKPdf	16 37 53.0	-1.1
HHC	Hu-ho-hao-te	160.19	0	*e*PKP	PKPdf	16 37 53.0	-1.5
HHC				APKP		16 38 27.8
HHC				XPKP		16 38 42.0
HHC				PKS		16 41 25.0
HHC				PP	PP	16 42 17.3	+0.6
HHC				SKS	SKSdf	16 44 40.0	-7.1
HHC				SKKS	SKKSac	16 48 49.8	-3.4
HHC				SS	SS	17 02 11.3	-3.5
HHC				PP	PP	
	comp=Z,92nm,13.1s					
HHC				LR	LR	
	comp=N,113nm,20.2s					
HHC				LR	LR	
	comp=E,118nm,17.8s					
HHC				LR	LR	
	comp=Z,111nm,19.0s					
BJI	Beijing	160.62	350	PKP	PKPdf	16 37 54.5	-0.5
BJI				APKP		16 38 29.5
BJI				XPKP		16 38 42.8
BJI				PP	PP	16 42 18.5	-0.6
BJI				SKS	SKSdf	16 44 47.5	0.0
BJI				SS	SS	17 02 21.5	+2.1
BJI				PP	PP	
	comp=Z,26nm,15.7s					
BJI				LR	LR	
	comp=N,84nm,28.6s					
BJI				LR	LR	
	comp=E,78nm,34.9s					
SHL	Shillong	161.25	72	*e*P	PKPdf	16 37 55.0	-1.1
LZH	Lanzhou	163.46	23	*e*PKP	PKPdf	16 37 56.5	-1.5
LZH				APKP		16 38 35.5
LZH				XPKP		16 38 42.5
LZH				PP	PP	16 42 36.0	+1.5
LZH				SKKS	SKKSac	16 49 10.0	-0.2
LZH				PP	PP	
	comp=Z,144nm,6.5s					
LZH				LR	LR	
	comp=N,126nm,18.6s					
LZH				LR	LR	
	comp=Z,190nm,20.0s					
JOW	Kunigami	163.75	294	PKP	PKPdf	16 37 58.8	+0.3
	comp=Z,11nm,1.0s,baz=125,slow=8.8,SNR=3.8					
JOW				PKPab	PKPab	16 38 50.1	-1.4
	comp=Z,12nm,0.8s,baz=258,slow=3.7,SNR=5.4					
XAN	Xi'an	166.77	10	PKP	PKPdf	16 38 00.8	-0.1
NJ2	Nanjing	167.25	331	*e*PKP	PKPdf	16 37 57.8	-3.5
CMAR	Chiang Mai Arr	167.75	100	PKP	PKPdf	16 38 01.7	-0.3
	comp=Z,1.8nm,0.9s,baz=262,slow=1.9,SNR=13					
CMAR				pPKP	pPKPdf	16 38 37.7	-1.0
	comp=Z,1.7nm,0.8s,baz=261,slow=1.1,SNR=3.5					
CMAR				PKPab	PKPab	16 39 09.2	-0.1
	comp=Z,2.4nm,0.7s,baz=268,slow=7.4,SNR=12					
CMAR				pPKPab	pPKPab	16 39 46.8	+2.4
	comp=Z,2.0nm,0.9s,baz=258,slow=4.9,SNR=2.1					
CMAR				PP	PP	16 42 56.8	-1.8
	comp=Z,1.9nm,0.9s,baz=267,slow=5.3,SNR=5.5					
CMAR	Chiang Mai Arr	167.75	100	PKIKP	PKPdf	16 38 01.7	-0.3
CMAR						16 38 37.7
CMAR						16 39 09.3
CMAR						16 42 56.8
CD2	Chengdu	167.82	34	*e*PKP	PKPdf	16 38 01.3	-0.4
CD2				APKP		16 38 36.3
CD2				XPKP		16 38 48.3
CD2				PKP2	PKPab	16 39 10.8	+1.6
CD2				PP	PP	16 43 00.3	+2.9
CD2				SKS	SKSdf	16 44 50.8	-2.3
CD2				SKKS	SKKSac	16 49 32.3	0.0
CD2				SS	SS	17 03 35.3	+0.9
CD2				PP	PP	
	comp=Z,130nm,8.4s					
CD2				LR	LR	
	comp=N,170nm,20.4s					
CD2				LR	LR	
	comp=E,230nm,18.0s					
CD2				LR	LR	
	comp=Z,240nm,21.6s					
CHTO	Chiang Mai	167.83	98	*e*PKIKP	PKPdf	16 38 01.3	-0.7
WHN	Wuhan	170.18	346	PKP	PKPdf	16 38 03.8	+0.6
KMI	Kunming	170.80	62	PKP	PKPdf	16 38 02.8	-0.9
GYA	Guiyang	172.87	39	PKP	PKPdf	16 38 01.0	-3.6
GYA				APKP		16 38 41.5
GYA				XPKP		16 38 54.8
GYA				PKP2	PKPab	16 39 31.5	-0.2
GYA				PKS		16 41 35.8
GYA				PP	PP	16 43 25.5	+2.7
GYA				SKKS	SKKSac	16 50 01.0	+3.9
GYA				PP	PP	
	comp=Z,200nm,4.2s					
GYA				LR	LR	
	comp=N,210nm,25.7s					
GYA				LR	LR	
	comp=E,150nm,24.3s					
GYA				LR	LR	
	comp=Z,200nm,24.9s					

ISCJB ***29*** *16:23:26.2±0.6, 3935N±003×2045E±009, h6km±7km, Error ellipse: s-maj=11.3km s-min=4.5km az=174.9*
ATH ***29*** *16:23:26.7, 3938N×2026E, h32km, MD3.0/3*
THE ***29*** *16:23:26.6, 3931N×2025E, h7km, ML2.8*
CSEM ***29*** *16:23:27.1±0.2, 3940N×2038E, h20km, ML2.8, Error ellipse: s-maj=5.8km s-min=3.6km az=74.0*

ISC 29 16:23:26.4±0.7, 3934N±003×2034E±010, h17km±7km, n10, σ0=92/16, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.19	359	*e*Pg	Pg	16 23 31.1	-0.1
IGT				*e*Sg	Sg	16 23 34.9	+0.6
JAN	Janina	0.51	52	*e*PN	Pg	16 23 38.0	+1.4
KEK	Kerkira	0.56	312	*e*PB	Pb	16 23 37.5	-0.1
LKD	Levkas	0.68	159	*e*Pg	Pg	16 23 39.1	-0.7
LKD				*e*Sg	Sg	16 23 49.3	+0.5
VLS	Valsamata	1.18	170	*e*Pg	Pg	16 23 48.0	-1.2
VLS				*e*Sg	Sg	16 24 05.2	+0.5
VLS	Valsamata	1.18	170	*e*Pb	Pb	16 23 49.0	+0.7
VLS				*e*Sg	Sg	16 24 05.2	+0.5
VLS				*e*Sn	Sn	16 24 07.0	+3.3
KFL	Anninata	1.28	164	*e*Pg	Pg	16 23 50.0	-1.2
AGG	Agios Georgios	1.58	101	*e*Pb	Pb	16 23 54.9	-0.2
LIT	Litokhoron	1.83	65	*e*Pb	Pb	16 23 58.4	-0.9
KRUS	Krusevo	2.14	19	*i* Pn	Pg	16 24 11.5	+4.0
KRUS				*i* Sn	Sg	16 24 34.8	-0.5

IDC ***29*** *16:42:19.5±1.1, 867S×108.44E, h0km, mb4.0/8, mb1 4.0/8, mb1mx3.9/17, mbtmp4.0/8, MS3.3/1, Ms1 3.3/1, ms1mx2.9/38, Error ellipse: s-maj=51.2km s-min=18.8km az=55.0*
ISCJB ***29*** *16:42:26.8±1.2, 861S×009×10856E±009, h70km±12km, mb3.9/8, Error ellipse: s-maj=16.8km s-min=14.1km az=136.4*
NEIC ***29*** *16:42:29.5±2.2, 870S×108.48E, h80km±24km, Error ellipse: s-maj=25.6km s-min=9.6km az=221.0*
NEIC Felt [II] at Yogyakarta.
DJA ***29*** *16:42:31, 850S×10874E, h61km, ML3.6/2*

ISC 29 16:42:27.9±1.3, 861S±009×10858E±010, h60km±13km, n18, σ0=59/17, mb3.9/8, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	1.69	42	↓*e*P	Pn	16 42 55.2	0.0
BJII				*e*S	Sn	16 43 07.2	-8.6
XMIS	Christmas Isla	3.44	237	*e*Pn	Pn	16 43 18.9	-0.1
FITZ	Fitzroy Crossi	19.08	121	LR	LR	16 54 11.3
	comp=Z,88nm,19.9s,baz=62,slow=37					
WRA	Warramunga Arr	27.34	117	P	P	16 48 08.0	+0.5
	1.0nm,0.9s,mb3.3,baz=289,slow=11,SNR=6.6					
WRAB	Tennant Creek	27.35	117	P	P	16 48 07.7	+0.1
WB2	Warramunga Arr	27.36	117	*e*P	P	16 48 06.6	-1.0
ASAR	Alice Springs	28.49	125	P	P	16 48 18.3	+0.6
	0.2nm,0.5s,mb3.0,baz=301,slow=9.1,SNR=4.7					
ASAR				PcP	PcP	16 51 29.4	+0.9
	0.2nm,0.5s,baz=311,slow=2.1,SNR=6.0					
STKA	Stephens Creek	38.41	132	P	P	16 49 42.5	-1.2
	1.2nm,0.6s,mb3.8,baz=268,slow=11,SNR=2.8					
STKA	Stephens Creek	38.41	132	*e*P	P	16 49 44.8	+1.1
SONM	Songino Array	56.22	358	P	P	16 52 02.6	+0.8
	1.0nm,0.5s,mb4.1,baz=178,slow=7.9,SNR=13					
MK31	Makanchi Array	59.92	339	*e*P	P	16 52 27.4	-0.2
MKAR	Makanchi Array	59.92	339	P	P	16 52 28.2	+0.5
	1.6nm,0.5s,mb4.3,baz=150,slow=7.6,SNR=13					
ZAA0	Zalesovo Array	65.47	345	*e*P	P	16 53 04.0	-0.5
ZALV	Zalesovo Beam	65.47	345	P	P	16 53 04.1	-0.4
	1.9nm,0.3s,mb4.5,baz=152,slow=6.7,SNR=9.4					
PETK	Petropavlovsk-	74.24	28	P	P	16 53 57.7	-0.6
	0.8nm,0.4s,mb4.0,baz=148,slow=2.1,SNR=12					
PETK	Petropavlovsk-	74.24	28	P	P	16 53 57.7	-0.6
ARCES	ARCESS Array B	95.58	339	P	P	16 55 46.6	+0.4
	1.0nm,0.7s,mb4.4,baz=81,slow=8.3,SNR=3.9					
BDFB	Brasilia	146.56	224	PKPbc	PKPbc	17 02 01.9	-1.8
	2.5nm,0.5s,baz=157,slow=7.7,SNR=4.2					

ISCJB ***29*** *16:46:32.9±0.7, 3927N±003×41.10E±007, h10km, Error ellipse: s-maj=8.1km s-min=4.6km az=9.7*
CSEM ***29*** *16:46:32.3±0.2, 3931N×4091E, h2km, MD2.6, Error ellipse: s-maj=5.5km s-min=3.5km az=141.0*
DDA ***29*** *16:46:32.5, 3927N×4107E, h7km±2km, Md2.9*
ISK ***29*** *16:46:32.4, 3938N×4092E, h5km, MD2.6*

ISC 29 16:46:33.2±0.9, 3926N±003×4101E±008, h0km±12km, n6, σ0=98/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	BINGOL	0.33	161	*i* P	Pg	16 46 38.9	-0.5
BNGL				*i* S	Sg	16 46 44.6	+0.9
EZM	Erzurum	0.70	23	*e*PG	Pg	16 46 45.8	-0.7
EZM				*e*SG	Sg	16 46 55.4	-0.2
ERZM	Erzurum	0.70	23	*i* P	Pg	16 46 45.3	-1.2
ERZM				*i* S	Sg	16 46 55.9	+0.2
KOPT	Kop Dagi	0.85	332	*i* P	Pg	16 46 49.4	-0.2
KOPT				*i* S	Sg	16 47 02.9	+2.3
PTK	Pertek	1.31	254	*e*PN	Pn	16 46 57.5	-1.2
PTK				*e*SN	Sn	16 47 16.9	0.0
AGRB	Hanur-Agry	1.57	78	*e*PN	Pn	16 47 03.4	+1.2

NIED ***29*** *16:49:00, 2180N×12170E, h5km, Mw3.9 Best double couple: M0:8.84000×10^14 NP1:φ0=2.00000°, δ76.00000°, λ101.00000°. NP2:φ0=142.00000°, δ18.00000°, λ51.00000°.*
IDC ***29*** *16:49:41.7±1.2, 2175N×12144E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/18, mbtmp3.5/5, ML3.4/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/24, Error ellipse: s-maj=46.6km s-min=21.3km az=71.0*
ISCJB ***29*** *16:49:43.1±0.6, 2180N±003×12155E±003, h16km±4km, mb3.4/4, Error ellipse: s-maj=5.0km s-min=4.3km az=171.3*
TAP ***29*** *16:49:45.2, 2190N×12141E, h22km, ML3.8*
TAP Felt II J at Lanyu.
NEIC ***29*** *16:49:46.5±0.7, 2190N×12150E, h35km, MG3.7(JMA), Error ellipse: s-maj=24.1km s-min=10.1km az=84.0*
JMA ***29*** *16:49:46.6±0.2, 2175N×12174E, h76km, M3.7*

ISC 29 16:49:44.7±0.8, 2183N±003×12147E±002, h19km±5km, n72, σ1=21/95, mb3.4/4, 2C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.23	20	↑*i*P	Pg	16 49 50.7	+0.5
TWK1	Hengchun	0.63	281	↑*i*P	Pb	16 49 56.5	-0.5
TWK1				S	Sb	16 50 04.9	-0.4
HEN	Hengchun	0.70	285	*i* P	Pb	16 49 57.9	-0.3
HEN				S	Sb	16 50 06.3	-1.3
TAW	Tawu	0.75	315	P	Pb	16 49 57.7	-1.4
TAW				S	Sb	16 50 06.8	-2.2
EAST	Anshuo	0.80	314	↓*i*P	Pb	16 49 58.5	-1.5
EAST				S	Sb	16 50 07.8	-2.6
ECL	Taimali	0.90	328	*e*P	Pb	16 49 59.8	-2.0
SCZT	Fangliau	0.96	305	*e*P	Pb	16 50 01.4	-1.3
TTN	Taitung	0.97	342	*e*P	Pb	16 50 02.1	-0.8
TTN				S	Sb	16 50 16.5	+1.1
TWG	Pinlang	1.06	340	↓*i*P	Pb	16 50 02.2	-2.1
TWG				S	Sb	16 50 14.3	-3.4
TWP	Hsiaoliuchiu	1.15	297	*e*P	Pn	16 50 07.1	+1.4
SSD	Sandimen	1.20	320	*e*P	Pn	16 50 04.7	-1.7
CHKT	Chengkung	1.27	356	*e*P	Pn	16 50 06.3	-1.1
CHKT				S	Sn	16 50 21.4	-2.6
KAU	Kaohsiung	1.30	305	*e*P	Pn	16 50 08.5	+0.6
TWM1	Shoushan	1.39	316	*e*P	Pn	16 50 10.0	+1.0
ELDTW	Lidau	1.42	343	*e*P	Pn	16 50 07.4	-2.0
SGST	Jiashian	1.50	327	*e*P	Pn	16 50 10.4	0.0
TWF1	Yuli	1.53	354	*e*P	Pn	16 50 10.3	-0.7
CHN1	Nanshi	1.61	327	*e*P	Pn	16 50 12.9	+0.8
CHN1				S	Sn	16 50 33.8	+1.5
WTP	Ta-pu	1.62	331	↓*i*P	Pn	16 50 12.8	+0.6
WTP				S	Sn	16 50 34.0	+1.4
EHY	Hungye	1.68	355	*e*P	Pn	16 50 12.3	-0.7
TWK	Hsinying	1.70	328	*e*P	Pn	16 50 13.8	+0.6
YUS	Yu-Shan	1.72	344	*e*P	Pn	16 50 13.1	-0.5
ALS	Alishan	1.79	340	*e*P	Pn	16 50 14.6	+0.1
CHN8	Yiju	1.91	323	*e*P	Pn	16 50 16.1	0.0
CHN5	Tsauling	1.91	338	*e*P	Pn	16 50 17.1	+0.9
CHN5				S	Sn	16 50 43.0	+3.3
CHY	Chiayi	1.92	330	*e*P	Pn	16 50 17.0	+0.7
CHY				S	Sn	16 50 40.7	+0.6
ESL	Shilin	1.98	359	*e*P	Pn	16 50 17.1	-0.1
WGK	Gukeng	2.03	336	*e*P	Pn	16 50 18.2	+0.4
SMLT	Sun Moon Lake	2.12	346	*e*P	Pn	16 50 20.5	+1.5
SMLT				S	Sn	16 50 46.4	+1.6
WSF	Szhu	2.14	328	*e*P	Pn	16 50 18.8	-0.6
WSF				S	Sn	16 50 45.3	0.0
TYC	Yuchr	2.15	345	*e*P	Pn	16 50 20.6	+1.2
TYC				S	Sn	16 50 46.7	+1.3
WNT	Mingjian	2.17	341	*e*P	Pn	16 50 21.6	+1.9
TWD	Chiawan	2.25	3	*e*P	Pn	16 50 20.5	-0.4
WHF	Hehuan Shan	2.32	355	*e*P	Pn	16 50 22.7	+0.9
WHF				S	Sn	16 50 51.1	+1.3
NACB	Ninganchiao	2.34	3	*e*Pn	Pn	16 50 21.6	-0.5
TCU	Taichung	2.42	343	*e*P	Pn	16 50 23.0	-0.3
TWT	Tachien	2.43	354	*e*P	Pn	16 50 25.6	+2.2
PNG	Penghu	2.48	315	*e*P	Pn	16 50 22.2	-1.8
PNG				S	Sn	16 50 51.6	-2.1
TWQ1	Liyutan	2.59	346	*e*P	Pn	16 50 27.8	+2.2
ENA	Nanau	2.60	6	*e*P	Pn	16 50 25.4	-0.3
NNS	Nan Shan	2.60	358	*e*P	Pn	16 50 27.3	+1.5
NSY	Sanyi	2.66	346	*e*P	Pn	16 50 28.4	+1.9
TWC	Suao	2.79	7	*e*P	Pn	16 50 29.2	+0.8
TWC				S	Sn	16 51 01.4	-0.1
ENTT	Nioudou	2.80	2	*e*P	Pn	16 50 28.9	+0.4
ENTT				S	Sn	16 51 01.2	-0.6
NSTT	Nanj

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.13**	**76**	*e*P	Pg	16 52 58.8	-0.4
KLOF				*e*S	Sg	16 53 00.7	-0.1
KLOF				AML	AML	16 53 03.4	
	comp=Z,33μm,0.1s						
PRYS	**Parys**	**0.55**	**190**	*e*P	Pg	16 53 06.9	-0.3
PRYS				*e*S	Sg	16 53 15.5	+1.2
PRYS				AML	AML	16 53 21.0	
	comp=Z,604nm,0.4s						
KSR	**Koster**	**0.74**	**316**	*e*P	Pg	16 53 11.1	+0.4
KSR				*e*S	Sg	16 53 20.9	+0.6
KSR				AML	AML	16 53 29.7	
	comp=Z,756nm,0.2s						
SLR	**Silverton**	**0.97**	**49**	*e*P	Pg	16 53 15.9	+0.6
SLR				*e*S	Sg	16 53 28.9	+1.0
SLR				AML	AML	16 53 36.0	
	comp=Z,862nm,0.2s						
SWZ	**Schweizer**	**2.07**	**247**	*e*P	Pn	16 53 33.0	+0.6
SWZ				*e*S	Sn	16 53 59.8	+1.0
SWZ				AML	AML	16 54 03.1	
	comp=Z,620nm,0.3s						
BOSA	**Boshof**	**2.97**	**221**	*e*P	Pn	16 53 46.0	+1.2
BOSA				*e*S	Sn	16 54 20.8	-0.2
BOSA				AML	AML	16 54 29.4	
	comp=Z,70nm,0.4s						
MOPA	**Mopani**	**4.57**	**52**	*e*P	Pn	16 54 07.0	+0.3
MOPA				*e*S	Sn	16 54 59.2	-1.1
MOPA				AML	AML	16 55 24.5	
	comp=Z,253nm,0.6s						
PKA	**Prieska**	**5.30**	**231**	*e*P	Pn	16 54 17.0	+0.3
PKA				*e*S	Sn	16 55 16.2	-2.2
PKA				AML	AML	16 55 47.4	
	comp=Z,82nm,0.5s						
UPI	**Upington**	**5.87**	**249**	*e*P	Pn	16 54 24.7	+0.1
UPI				*e*S	Sn	16 55 30.4	-2.0
UPI				AML	AML	16 56 04.2	
	comp=Z,44nm,0.4s						
SUR	**Sutherland**	**8.33**	**223**	*e*P	Pn	16 55 00.1	+1.7
SUR				*e*S	Sn	16 56 29.8	-3.4

BJI ***29*** *17:02:11.7, 720S×14600E, h167km, mB4.5, mb4.6*
ISCJB ***29*** *17:02:12.3±1.3, 7.18S±009×1460E±0.1, h166km±15km, mb4.0/15, Error ellipse: s-maj=17.6km s-min=13.0km az=30.2*
IDC ***29*** *17:02:12.7±5.2, 722S×14628E, h164km±46km, mb3.6/13, mb1 3.6/14, mb1mx3.6/16, mbtmp3.6/14, Error ellipse: s-maj=34.8km s-min=12.4km az=89.0*
NEIC ***29*** *17:02:13.7±1.1, 721S×14601E, h168km±12km, mb4.3/2, Error ellipse: s-maj=13.5km s-min=10.2km az=125.0*
ISC 29 17:02:13.5±1.3, 721S±009×14599E±010, h161km±15km, n35, σ0s82/27, mb4.0/15, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.47**	**152**	*e*P	**Pn**	**17 02 53.9**	**-0.9**
CTA	**Charters Tower**	**12.80**	**179**	P	**Pn**	**17 05 18.4**	**+8.6**
	0.5nm,0.3s,baz=3.8,slow=15,SNR=4.5						
HNR	**Honiara**	**13.98**	**100**	P	**Pn**	**17 05 26.8**	**+2.0**
	4.1nm,0.3s,baz=264,slow=13,SNR=4.3						
KAKA	**Kakadu**	**14.42**	**247**	*e*P	**Pn**	**17 05 30.5**	**+0.2**
	11nm,0.4s						
WB2	**Warramunga Arr**	**16.96**	**221**	*e*P	**Pn**	**17 06 00.8**	**-0.5**
WRA	**Warramunga Arr**	**16.97**	**221**	P	**Pn**	**17 06 01.3**	**-0.1**
	0.3nm,0.3s,baz=48,slow=11,SNR=13						
ASAR	**Alice Springs**	**20.06**	**214**	P	**P**	**17 06 34.6**	**+0.3**
	0.7nm,0.5s,baz=58,slow=8.8,SNR=39						
FITZ	**Fitzroy Crossi**	**22.59**	**239**	P	**P**	**17 07 01.8**	**+1.2**
	1.5nm,0.6s,mb3.6,baz=63,slow=12,SNR=11						
STKA	**Stephens Creek**	**24.88**	**189**	P	**P**	**17 07 21.4**	**+0.1**
	0.7nm,0.4s,mb3.5,baz=26,slow=13,SNR=8.3						
STKA	**Stephens Creek**	**24.88**	**189**	P	**P**	**17 07 21.4**	**+0.1**
JOW	**Kunigami**	**37.95**	**334**	P	**P**	**17 09 15.6**	**0.0**
	6.5nm,0.5s,mb4.5,baz=138,slow=11,SNR=6.2						
MJAR	**Matsushiro Arr**	**44.13**	**351**	P	**P**	**17 10 04.0**	**-1.9**
	1.6nm,0.7s,mb3.8,baz=184,slow=8.4,SNR=5.1						
MJAR	**Matsushiro Arr**	**44.13**	**351**	P	**P**	**17 10 04.0**	**-1.9**
KSRS	**Korea Array**	**47.53**	**340**	P	**P**	**17 10 32.9**	**+0.3**
	2.9nm,0.8s,mb4.0,baz=171,slow=9.0,SNR=8.7						
CMAR	**Chiang Mai Arr**	**52.95**	**299**	P	**P**	**17 11 14.8**	**+1.2**
	3.7nm,0.7s,mb4.2,baz=122,slow=5.8,SNR=30						
XAN	**Xi'an**	**53.99**	**322**	P	**P**	**17 11 21.0**	**+0.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
PETK	**Petropavlovsk-**	**60.91**	**8**	P	**P**	**17 12 08.5**	**-0.4**
	comp=Z,1.2nm,0.6s,mb3.9,baz=169,slow=8.5,SNR=3.8						
GTA	**Gaotai**	**63.04**	**321**	*e*P	**P**	**17 12 24.5**	**+1.0**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.2						
SONM	**Songino Array**	**64.98**	**332**	P	**P**	**17 12 36.7**	**+0.8**
	comp=Z,1.2nm,0.6s,mb3.9,baz=149,slow=6.9,SNR=11						
MK31	**Makanchi Array**	**77.80**	**321**	*e*P	**P**	**17 13 53.1**	**+0.3**
MKAR	**Makanchi Array**	**77.80**	**321**	P	**P**	**17 13 53.1**	**+0.3**
	comp=Z,1.8nm,0.6s,mb3.9,baz=96,slow=7.0,SNR=21						
ZAA0	**Zalesovo Array**	**79.50**	**328**	*e*P	**P**	**17 14 01.0**	**-1.0**
ZALV	**Zalesovo Beam**	**79.50**	**328**	P	**P**	**17 14 01.0**	**-1.0**
	comp=Z,2.2nm,0.5s,mb4.1,baz=107,slow=4.9,SNR=12						
MAW	**Mawson**	**80.75**	**203**	P	**P**	**17 14 08.0**	**-0.5**
	comp=Z,1.0nm,0.7s,mb3.5,baz=70,slow=10,SNR=3.3						
KURK	**Kurchatov**	**81.58**	**324**	P	**P**	**17 14 12.9**	**-0.2**
	comp=Z,1.4nm,0.8s,mb3.6,baz=107,slow=4.4,SNR=7.7						
EKS2	**Erkin-Say**	**81.99**	**315**	*e*P	**P**	**17 14 15.2**	**-0.3**
	comp=Z,2.4nm,0.8s,mb3.9						
QSPA	**South Pole Qui**	**82.76**	**180**	P	**P**	**17 14 17.9**	**-0.9**
TOA0	**Torodi Ar. Sit**	**144.40**	**282**	*e*PKPdf	PKPdf	17 21 29.8	-1.7
TORD	**Torodi Ar. Bea**	**144.40**	**282**	PKP	PKPdf	17 21 29.9	-1.6
	comp=Z,6.1nm,0.7s,baz=73,slow=3.0,SNR=36						
TORD	**Torodi Ar. Bea**	**144.40**	**282**	PKP	PKPdf	17 21 29.9	-1.6
KIC	**Kosan Boka**	**150.93**	**270**	*e*PKIKP	PKPbc	17 21 47.7	-0.5
	comp=Z,50nm,1.1s						
DBIC	**Dimbokro**	**151.06**	**271**	PKPbc	PKPbc	17 21 48.2	-0.3
	comp=Z,7.3nm,0.6s,baz=102,slow=1.5,SNR=20						
DBIC	**Dimbokro**	**151.06**	**271**	PKPbc	PKPbc	17 21 48.2	-0.3
LIC	**Lamto**	**151.21**	**270**	*e*PKIKP	PKPbc	17 21 48.3	-0.5
	comp=Z,26nm,0.7s						
TIC	**Toumodi**	**151.22**	**271**	*e*PKIKP	PKPbc	17 21 48.4	-0.4
	comp=Z,75nm,0.9s						

IDC ***29*** *17:05:46.4±4.8, 283S×13874E, h52km±45km, mb3.9/14, mb1 3.9/17, mb1mx3.9/18, mbtmp3.9/17, ML4.0/3, Error ellipse: s-maj=26.3km s-min=13.4km az=77.0*
ISCJB ***29*** *17:05:47.6±2.0, 293S±006×1386E±0.1, h81km±19km, mb4.0/14, Error ellipse: s-maj=18.8km s-min=9.4km az=6.8*
ISC 29 17:05:47.1±2.6, 290S±009×1386E±01, h57km±25km, n24, σ0s87/25, mb4.0/14, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.49**	**212**	*e*P	**Pn**	**17 08 30.1**	**+1.6**
	15nm,0.4s						
KAKA				*e*S	**Sn**	17 10 33.2	-2.2
BATI	**Baumata**	**16.50**	**243**	P	**Pn**	**17 09 41.2**	**+6.2**
	6.4nm,0.3s,baz=65,slow=1.4,SNR=20						
WB2	**Warramunga Arr**	**17.44**	**193**	*e*P	**Pn**	**17 09 46.7**	**+0.2**
WRA	**Warramunga Arr**	**17.44**	**193**	P	**Pn**	**17 09 46.7**	**+0.2**
	0.8nm,0.3s,baz=17,slow=13,SNR=17						
WRA				S	**S**	**17 12 46.1**	**-19**
	0.4nm,0.3s,baz=15,slow=22,SNR=5.0						
CTA	**Charters Tower**	**18.65**	**157**	P	**Pn**	**17 10 01.0**	**-0.2**
	0.4nm,0.3s,baz=291,slow=24,SNR=3.2						
FITZ	**Fitzroy Crossi**	**19.73**	**219**	*e*P	**Pn**	**17 10 13.5**	**-0.7**
	5.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.73**	**219**	P	**Pn**	**17 10 13.6**	**-0.6**
	0.1nm,0.3s,baz=34,slow=15,SNR=8.4						
FITZ				S	**S**	**17 13 44.0**	**-7.8**
	0.1nm,0.3s,baz=92,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**21.14**	**192**	P	**P**	**17 10 27.9**	**+0.5**
	0.9nm,0.4s,mb3.5,baz=18,slow=11,SNR=6.3						
ASAR				S	**S**	**17 14 12.9**	**-6.5**
	0.7nm,0.8s,baz=11,slow=16,SNR=3.6						
STKA	**Stephens Creek**	**28.96**	**175**	P	**P**	**17 11 41.8**	**+0.6**
	0.7nm,0.6s,mb3.6,baz=98,slow=23,SNR=3.9						
MJAR	**Matsushiro Arr**	**39.24**	**360**	P	**P**	**17 13 08.1**	**-1.9**
	0.9nm,0.6s,mb3.6,baz=187,slow=8.9,SNR=3.6						
PSI	**Prapat**	**40.06**	**278**	P	**P**	**17 13 18.2**	**+1.0**
	4.9nm,0.5s,mb4.5,baz=331,slow=12,SNR=6.5						
KSRS	**Korea Array**	**41.36**	**347**	P	**P**	**17 13 27.7**	**+0.2**
	0.6nm,0.6s,mb3.4,baz=155,slow=8.2,SNR=4.5						
CMAR	**Chiang Mai Arr**	**44.43**	**300**	P	**P**	**17 13 53.8**	**+1.1**
	0.8nm,0.7s,mb3.6,baz=118,slow=5.5,SNR=4.3						
CMAR				PcP	PcP	17 15 36.9	+1.1
	0.6nm,0.8s,baz=172,slow=2.5,SNR=5.2						
RPZ	**Rata Peaks**	**49.78**	**149**	P	**P**	**17 14 33.9**	**-0.2**
	18nm,0.8s,mb5.1,baz=338,slow=5.4,SNR=3.6						
SONM	**Songino Array**	**57.84**	**335**	P	**P**	**17 15 33.0**	**+0.2**
	0.5nm,0.6s,mb3.7,baz=149,slow=7.2,SNR=4.1						
PETK	**Petropavlovsk-**	**58.07**	**13**	P	**P**	**17 15 33.7**	**-0.6**
	0.6nm,0.5s,mb3.9,baz=173,slow=9.5,SNR=4.0						
MKAR	**Makanchi Array**	**69.87**	**322**	P	**P**	**17 16 52.2**	**+0.3**
	3.7nm,0.6s,mb4.5,baz=104,slow=8.2,SNR=36						
ZALV	**Zalesovo Beam**	**72.04**	**330**	P	**P**	**17 17 03.8**	**-1.1**
	0.8nm,0.5s,mb3.9,baz=118,slow=6.6,SNR=4.8						
KURK	**Kurchatov**	**73.81**	**325**	P	**P**	**17 17 15.2**	**-0.3**
	2.2nm,0.8s,mb4.2,baz=115,slow=5.4,SNR=7.9						
MAW	**Mawson**	**81.91**	**202**	P	**P**	**17 18 00.1**	**-0.1**
	3.5nm,0.9s,mb4.3,baz=38,slow=8.0,SNR=5.8						
QSPA	**South Pole Qui**	**87.05**	**180**	P	**P**	**17 18 26.5**	**+0.5**
	6.1nm,0.7s,mb5.0,baz=339,slow=2.6,SNR=51						
TORD	**Torodi Ar. Bea**	**136.20**	**286**	PKP	PKPdf	17 25 02.0	-1.2
	0.7nm,0.8s,baz=51,slow=4.6,SNR=3.6						
DBIC	**Dimbokro**	**143.40**	**277**	PKhKP		17 25 12.6	
	1.5nm,0.6s,baz=72,slow=4.5,SNR=3.6						
LPAZ	**La Paz**	**147.43**	**127**	PKPbc	PKPbc	17 25 25.6	0.0
	1.6nm,0.8s,baz=292,slow=2.8,SNR=7.8						

CSEM ***29*** *17:25:59.7±0.0, 3913N×4118E, h10km, MD3.0, Error ellipse: s-maj=0.9km s-min=0.7km az=161.0*
ISK ***29*** *17:25:59.8, 3914N×4118E, h9km, MD3.0*
ISCJB ***29*** *17:26:02.8±0.6, 3926N±003×4116E±007, h22km±7km, Error ellipse: s-maj=8.8km s-min=5.7km az=178.0*
DDA ***29*** *17:26:02.5, 3926N×4106E, h7km±2km, Md2.9*
ISC 29 17:26:02.9±0.7, 3927N±003×4114E±007, h17km±5km, n9, σ1s15/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.32**	**179**	*i*P	**Pg**	**17 26 08.7**	**-0.9**
BNGL				*i*S	**Sg**	**17 26 14.5**	**+0.2**
EZM	**Erzurum**	**0.66**	**15**	PG	**Pg**	**17 26 15.4**	**-0.4**
EZM				*e*SG	**Sg**	**17 26 26.6**	**+2.1**
KOPT	**Kop Dagi**	**0.90**	**326**	*i*P	**Pb**	**17 26 19.1**	**-0.9**
KOPT				*i*S	**Sb**	**17 26 32.2**	**+0.7**
KOPT	**Kop Dagi**	**0.90**	**326**	*i*P	**Pb**	**17 26 19.0**	**-0.9**
KOPT				*i*S	**Sb**	**17 26 32.2**	**+0.7**
BEST	**Besiri**	**1.38**	**176**	*i*P	**Pn**	**17 26 28.4**	**+1.1**
BEST				*i*S	**Sn**	**17 26 47.8**	**+2.6**
PTK	**Pertek**	**1.41**	**255**	*e*PN	**Pn**	**17 26 26.3**	**-1.4**
PTK				*e*SN	**Sn**	**17 26 45.8**	**-0.1**
AGRB	**Hanur-Agry**	**1.47**	**77**	*e*PN	**Pn**	**17 26 27.3**	**-1.1**
MARD	**Mardin**	**1.98**	**188**	*i*P	**Pn**	**17 26 36.6**	**+1.1**
MARD				*i*S	**Sn**	**17 26 59.5**	**-0.3**
CLDR	**Caldiran**	**2.16**	**93**	*e*PN	**Pn**	**17 26 36.6**	**-1.4**

IDC 29 17:26:29.8±8.8, 1135S×16586E, h82km±64km, mb3.7/4, mb1 3.8/5, mb1mx3.5/17, mbtmp3.8/5, ML4.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/25, Error ellipse: s-maj=63.4km s-min=40.4km az=92.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.12**	**288**	P	Pn	17 27 57.4	-0.3
	8.8nm,0.3s,baz=93,slow=14,SNR=8.8						
HNR				S	Sn	17 29 07.2	+0.9
	3.1nm,0.3s,baz=91,slow=20,SNR=1.8						
HNR				LR	LR	17 30 15.9	
	comp=Z,96nm,18.4s,baz=178,slow=37						
STKA	**Stephens Creek**	**30.30**	**224**	P	P	17 32 34.0	+0.7
	1.5nm,0.7s,baz=80,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**31.48**	**250**	P	P	17 32 43.9	-0.1
	1.2nm,0.7s,baz=84,slow=8.9,SNR=9.2						
ASAR	**Alice Springs**	**32.76**	**244**	P	P	17 32 54.8	-0.3
	1.6nm,0.6s,baz=67,slow=10.0,SNR=38						
ASAR				PcP	PcP	17 35 38.5	-0.4
	0.2nm,0.9s,baz=78,slow=2.2,SNR=4.3						
MKAR	**Makanchi Array**	**93.82**	**317**	P	P	17 39 38.0	+0.1
	0.2nm,0.3s,baz=97,slow=6.2,SNR=4.2						

NEIC ***29*** *17:39:59.8, 1749N×10141W, h19km, MD3.9(MEX), After MEX.*
MEX 29 17:39:59.8±1.0, 1749N×10141W, h19km±22km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.13**	**337**	*i*P	Pg	17 40 02.7	-1.2
ZIIG				*i*S	Sg	17 40 06.0	-0.7
CAIG	**El Cayaco**	**1.18**	**112**	*i*P	Pn	17 40 17.6	-3.7
CAIG				*i*S	Sb	17 40 31.8	-4.6
ACX	**Acapulco**	**1.56**	**113**	*i*P	Pn	17 40 24.4	-2.1
ACX				*i*S	Sn	17 40 41.8	-4.4
MEIG	**Mezcala**	**1.76**	**75**	*e*P	Pn	17 40 27.3	-2.0
MEIG				*i*S	Sn	17 40 46.6	-4.7
PLIG	**Platanillo**	**2.03**	**63**	*i*P	Pn	17 40 30.9	-2.1
PLIG				*i*S	Sn	17 40 52.5	-5.3
MZVM		**2.68**	**50**	*i*P	Pn	17 40 39.6	-2.3
MZVM				*i*S	Sn	17 41 10.0	-3.8
PPM	**Popocatepetl**	**3.08**	**59**	*e*P	Pn	17 40 49.8	+2.4
PPM				*i*S	Sn	17 41 27.9	+4.2
IIO	**Organos**	**3.30**	**50**	*i*P	Pn	17 40 47.1	-3.4
IIO				*i*S	Sn	17 41 26.5	-2.7
PNIG	**Pinotepa**	**3.33**	**109**	*e*P	Pn	17 40 51.2	+0.3
PNIG				*i*S	Sn	17 41 26.9	-3.0
UTMO	**Huajuapan**	**3.46**	**84**	*i*P	Pn	17 40 52.4	-0.2
UTMO				*i*S	Sn	17 41 36.6	+3.5

MOS 29 18:03:17.3±1.7, 4288N×4675E, h16km, mb3.8/1, 1C, Error ellipse: s-maj=15.6km s-min=10.0km az=14.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRNR	**Karanay**	**0.13**	**116**	*i*PG	Pg	18 03 23.4	+2.4
KRNR				*i*S	Sg	18 03 29.4	+6.0
DBC	**Dubki**	**0.15**	**22**	*i*PG	Pg	18 03 23.0	+1.7
DBC				*i*S	Sg	18 03 28.0	+4.0
DLMR	**Dylym**	**0.21**	**334**	*e*PG	Pg	18 03 21.0	-1.1
DLMR				pmax	pmax		
	comp=Z,79nm,0.3s						
BTLR	**Botlikh**	**0.45**	**241**	*i*PG	Pg	18 03 24.3	-2.0
BTLR				pmax	pmax		
	comp=Z,53nm,0.2s						
BTKR	**Batakoyurt**	**1.69**	**288**	*e*PN	Pn	18 03 48.2	+2.1
BTKR				*i*S	Sn	18 04 10.2	+2.8
LACR	**Lac**	**1.81**	**269**	⇑*i*PN	Pn	18 03 48.5	+0.8
ARNR	**Ardon**	**1.84**	**280**	*e*PN	Pn	18 03 50.1	+1.9
KMSR	**Komsomolskaya**	**1.87**	**286**	*e*PN	Pn	18 03 50.8	+2.3
KORR	**Kora**	**1.98**	**277**	*e*PN	Pn	18 03 52.5	+2.4
ZEI	**Tsey**	**2.10**	**268**	*e*PN	Pn	18 03 52.8	+1.0
LSNR	**Lesken**	**2.19**	**281**	*e*PN	Pn	18 03 55.2	+2.2
LSNR				*e*S	Sn	18 04 21.7	+2.0
DIGR	**Digorskoe uzhe**	**2.33**	**271**	*e*PN	Pn	18 03 56.0	+1.1
DIGR				*e*S	Sn	18 04 23.7	+0.5

CSEM ***29*** *18:06:56.6, 3649N×2191E, h5km, MD3.5/4, After ATH*
ATH 29 18:06:56.7, 3650N×2192E, h5km, MD3.5/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.68**	**0**	*e*PB	Pb	18 07 10.0	-1.0
VLI	**Veliai**	**0.85**	**75**	*e*PB	Pb	18 07 14.0	+0.1
KYTH	**Kithira**	**0.93**	**103**	*e*PG	Pg	18 07 13.7	-0.8
VAM	**Vamos**	**2.15**	**120**	*e*PG	Pg	18 07 36.5	-1.4

ISCJB ***29*** *18:11:05.1±0.8, 2024S±005×6879W±02, h132km±9km, mb3.8/3, Error ellipse: s-maj=27.1km s-min=8.0km az=8.8*
NEIC ***29*** *18:11:05.8±0.9, 2021S×6874W, h124km±9km, mb3.9/1, Error ellipse: s-maj=18.7km s-min=9.6km az=104.0*
IDC ***29*** *18:11:05.7±1.0, 2023S×6868W, h117km±9km, mb3.7/5, mb1 3.7/8, mb1mx3.5/19, mbtmp3.7/8, Error ellipse: s-maj=34.0km s-min=8.0km az=100.0*
ISC 29 18:11:06.3±0.8, 2024S±005×687W±02, h123km±9km, n14, σ0s86/13, mb3.9/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.38**	**185**	P	**Pn**	**18 11 44.1**	**-0.6**
	37nm,0.3s,baz=9.2,slow=12,SNR=240						
LVC				S	**Sn**	**18 12 14.1**	**0.0**
	45nm,0.3s,baz=271,slow=20,SNR=16						
LPAZ	**La Paz**	**3.96**	**8**	P	**Pn**	**18 12 06.8**	**+1.3**
	12nm,0.3s,baz=198,slow=6.4,SNR=234						
LPAZ				S	**Sn**	**18 12 51.5**	**+0.2**
	0.3nm,0.3s,baz=182,slow=9.7,SNR=2.0						
SIV	**San Ignacio**	**8.38**	**61**	P	**Pn**	**18 13 03.8**	**-1.3**
	2.7nm,0.3s,baz=239,slow=14,SNR=70						
CFAA	**Coronel Fontan**	**11.33**	**178**	S	**Sn**	**18 15 40.9**	**-8.3**
	0.1nm,0.3s,baz=86,slow=21,SNR=3.3						
TRQA	**Tornquist**	**18.69**	**163**	*e*P	**P**	**18 15 15.4**	**+0.5**
	3.3nm,0.5s						
BDFB	**Brasilia**	**20.19**	**80**	P	**P**	**18 15 31.7**	**+0.3**
	2.4nm,0.4s,baz=247,slow=16,SNR=3.3						
PLCA	**Paso Flores**	**20.49**	**184**	P	**P**	**18 15 34.4**	**0.0**
	5.1nm,0.8s,baz=8.1,slow=13,SNR=12						
SWET	**Sewanee**	**57.52**	**343**	*e*P	**P**	**18 20 40.7**	**-2.1**
SNAA	**Sanae**	**63.40**	**161**	P	**P**	**18 21 23.3**	**+1.0**
	0.2nm,0.5s,mb3.3,baz=260,slow=12,SNR=6.0						
DBIC	**Dimbokro**	**68.18**	**74**	P	**P**	**18 21 54.0**	**+0.2**
	4.7nm,0.6s,mb4.5,baz=236,slow=6.8,SNR=10						
TORD	**Torodi Ar. Bea**	**76.74**	**71**	P	**P**	**18 22 44.5**	**-0.1**
	1.0nm,0.4s,mb3.9,baz=254,slow=5.5,SNR=24						
YKA	**Yellowknife Ar**	**90.07**	**341**	pP	pP	18 24 21.2	-2.3
	1.0nm,0.7s,baz=131,slow=4.1,SNR=3.8						
ASAR	**Alice Springs**	**131.12**	**208**	PKP	PKPdf	18 30 03.7	-0.6
	0.3nm,1.0s,baz=129,slow=1.4,SNR=4.6						
MKAR	**Makanchi Array**	**144.49**	**35**	PKP	PKPdf	18 30 27.2	-0.7
	0.2nm,0.5s,baz=135,slow=0.6,SNR=3.2						

MDD ***29*** *18:35:49.6±5.4, 3382N×736W, h0km, mb3.7/4, Error ellipse: s-maj=59.3km s-min=35.0km az=115.0, PRIMO SIN SOLUCI*
CSEM ***29*** *18:35:50.2±1.1, 3358N×699W, h30km, ML1.9, Error ellipse: s-maj=21.2km s-min=19.5km az=16.0*
INMG 29 18:35:48.8±0.7, 3345N×766W, h31km, ML1.9, Error ellipse: s-maj=7.7km s-min=5.8km az=83.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.80**	**346**	*e*Sn	Sn	18 37 26.2	-2.5
PVAQ	**Vaqueiros**	**3.94**	**359**	*e*Pn	Pn	18 36 46.6	-0.6
PVAQ				*e*Sn	Sn	18 37 29.3	-3.1
PVAQ				A		18 37 35.2	
	2.2nm,0.7s						
PVAQ	**Vaqueiros**	**3.94**	**359**	*e*Pn	Pn	18 36 46.6	-0.6
PVAQ				*e*Sn	Sn	18 37 29.3	-3.1
EGRO	**El Granado**	**4.08**	**2**	P	Pn	18 36 48.4	-0.6
	0.5nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**4.08**	**2**	P	Pn	18 36 48.4	-0.6
	0.5nm,0.1s,SNR=4.0						
PTEO	**Sao Teotonio**	**4.18**	**348**	*e*Pn	Pn	18 36 49.7	-0.7
PTEO				*e*Sn	Sn	18 37 35.7	-2.4
EMIN	**Mina Concepcio**	**4.38**	**10**	P	Pn	18 36 51.5	-1.7
	0.6nm,0.2s,SNR=7.9						
EMIN				S	Sn	18 37 40.4	-2.7
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.38**	**10**	P	Pn	18 36 51.5	-1.7
	0.6nm,0.2s,SNR=7.9						
EMIN				S	Sn	18 37 40.4	-2.7
	0.5nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**4.74**	**6**	*e*Pn	Pn	18 36 57.7	-0.4
PBAR				*e*Sn	Sn	18 37 49.8	-2.2
ECAB	**El Cabril**	**4.96**	**21**	P	Pn	18 37 00.5	-0.6
	1.6nm,0.2s,SNR=7.9						
ECAB				S	Sn	18 37 53.6	-3.7
	1.1nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.96**	**21**	P	Pn	18 37 00.5	-0.6
	1.6nm,0.2s,SNR=7.9						
ECAB				S	Sn	18 37 53.7	-3.7
	1.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.33**	**27**	P	Pn	18 37 04.8	-1.4
	0.7nm,0.1s,SNR=7.9						
EADA				S	Sn	18 38 03.6	-2.9
	0.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.33**	**27**	P	Pn	18 37 04.8	-1.4
	0.7nm,0.1s,SNR=7.9						
EADA				S	Sn	18 38 03.6	-2.9
	0.7nm,0.2s,SNR=7.9						

IDC ***29*** *18:49:21.3±0.8, 1063S×11246E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.0/20, mbtmp4.0/12, ML4.0/2, Error ellipse: s-maj=26.9km s-min=15.5km az=59.0*
NEIC ***29*** *18:49:22.5±0.5, 1070S×11239E, h10km, mb4.4/3, Error ellipse: s-maj=13.1km s-min=8.8km az=215.0*
ISCJB ***29*** *18:49:24.9±0.7, 1053S±009×11262E±010, h33km, mb4.0/12, Error ellipse: s-maj=16.5km s-min=10.2km az=136.5*
DJA ***29*** *18

FCH AML AML 18 51 26.6
comp=N,161nm,0.1s
CICH Cipreses 1.93 144 *e*P Pn 18 51 14.2 +1.7

*DJA **29** 18:53:56,200N×9642E,h83km,ML3.8/2*
*IDC **29** 18:53:59.3±2.0,293N×9680E,h0km,mb3.9/6,mb1 3.9/6, mb1mx3.6/19,mbtmp3.9/6,ML2.8/1,Error ellipse: s-maj=57.4km s-min=20.3km az=53.0*
*NEIC **29** 18:54:00.3±1.3,275N×9671E,h10km,mb3.9/1,Error ellipse: s-maj=33.2km s-min=13.2km az=51.0*
*ISCJB **29** 18:54:02.5±1.4,30N±02×968E±02,h33km,mb3.8/7,Error ellipse: s-maj=32.2km s-min=8.6km az=44.3*
ISC 29 18:54:04.7±1.4,30N±02×968E±02,h35km,n12,σ1§20/13, mb3.8/7,1C-1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.10**	**95⇑**	*e*P	**Pn**	**18 54 36.1**	**-1.3**
PSI	**Prapat**	**2.10**	**95**	Pn	**Pn**	**18 54 36.2**	**-1.2**
2.7nm,0.3s,baz=165,slow=1.2,SNR=5.6							
BSI	**Banda Aceh**	**2.93**	**329⇓**	*e*P	**Pn**	**18 54 41.0**	**-7.8**
BSI				*e*S	**Sn**	**18 55 20.0**	**-2.7**
CMAR	**Chiang Mai Arr**	**15.52**	**8**	Pn	**Pn**	**18 57 44.4**	**+3.4**
0.1nm,0.3s,baz=197,slow=11,SNR=9.3							
LSA	**Lhasa**	**27.11**	**349**	P	**P**	**18 59 46.8**	**+2.4**
1.5nm,0.6s,mb3.7							
WRA	**Warramunga Arr**	**43.30**	**123**	P	**P**	**19 02 02.7**	**-0.8**
0.7nm,0.6s,mb3.5,baz=301,slow=9.2,SNR=5.1							
KSRS	**Korea Array**	**44.61**	**36**	P	**P**	**19 02 13.6**	**-0.1**
0.6nm,0.6s,mb3.6,baz=216,slow=10,SNR=3.2							
ASAR	**Alice Springs**	**44.77**	**128**	P	**P**	**19 02 15.4**	**+0.2**
0.3nm,0.7s,mb3.2,baz=299,slow=7.8,SNR=4.4							
MK31	**Makanchi Array**	**45.43**	**346**	*e*P	**P**	**19 02 20.4**	**+0.3**
MKAR	**Makanchi Array**	**45.43**	**346**	P	**P**	**19 02 19.9**	**-0.2**
2.0nm,0.6s,mb4.1,baz=153,slow=8.2,SNR=20							
SONM	**Songino Array**	**45.43**	**9**	P	**P**	**19 02 20.7**	**+0.7**
0.9nm,0.4s,mb4.0,baz=188,slow=9.4,SNR=10							
ZALV	**Zalesovo Beam**	**51.75**	**351**	P	**P**	**19 03 08.8**	**+0.3**
3.3nm,0.6s,mb4.4,baz=177,slow=7.4,SNR=16							

MEX 29 19:03:40.5±1.2,1492N×9430W,h15km±25km,MD4.0,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.97**	**90**	*i*P	Pn	19 04 09.1	-4.2
THIG				*i*S	Sn	19 04 34.0	-3.7
TGIG		**2.17**	**31**	*i*P	Pn	19 04 13.1	-2.9
TGIG				*i*S	Sn	19 04 37.9	-4.8
SCX	**San Cristobal**	**2.41**	**41**	*i*P	Pn	19 04 17.5	-2.0
SCX				*i*S	Sn	19 04 44.5	-4.2
CCIG	**Comitan**	**2.49**	**57**	*i*P	Pn	19 04 18.8	-1.6
CCIG				*i*S	Sn	19 04 45.8	-4.7
VHO	**Vista Hermosa**	**3.17**	**313**	*e*P	Pn	19 04 27.4	-2.5
VHO				*i*S	Sn	19 05 04.4	-3.0
UTMO	**Huajuapan**	**4.43**	**311**	*e*P	Pn	19 04 44.5	-2.7
UTMO				*i*S	Sn	19 05 36.8	-1.9

*NEIC **29** 19:18:04.5,1651N×9897W,h12km,MD3.5(MEX),After MEX.*
MEX 29 19:18:04.5±0.7,1651N×9897W,h12km±9km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.81**	**98**	*i*P	Pg	19 18 17.6	-2.6
PNIG				*i*S	Sg	19 18 28.3	-2.6
ACX	**Acapulco**	**0.98**	**291**	*i*P	Pb	19 18 20.5	-2.9
ACX				*i*S	Sg	19 18 32.3	-3.8
CAIG	**El Cayaco**	**1.35**	**293**	*i*P	Pn	19 18 24.4	-4.7
CAIG				*i*S	Sb	19 18 41.9	-5.2
UTMO	**Huajuapan**	**1.72**	**40**	*i*P	Pn	19 18 30.7	-3.5
UTMO				*i*S	Sn	19 18 51.1	-4.9
VHO	**Vista Hermosa**	**2.21**	**75**	*i*P	Pn	19 18 39.0	-1.9
VHO				*i*S	Sn	19 19 04.5	-3.7
PPM	**Popocatepetl**	**2.56**	**7**	*e*P	Pn	19 18 44.1	-1.7
PPM				*i*S	Sn	19 19 13.5	-3.4

*TEH **29** 19:32:18.6,2837N×5670E,h8km,ML3.9*
*IDC **29** 19:33:56.7±0.8,2831N×5668E,h0km,mb4.0/17, mb1 4.1/20,mb1mx4.0/32,mbtmp4.0/20,ML3.1/3,MS3.1/5, Ms1 3.1/5,ms1mx2.7/38,Error ellipse: s-maj=20.4km s-min=14.7km az=9.0*
*MOS **29** 19:34:00.5±0.8,2841N×5670E,h33km,mb4.4/8,Error ellipse: s-maj=12.3km s-min=9.0km az=119.3*
*THR **29** 19:34:01.1±0.3,2850N×5662E,h18km±4km,ML3.6*
*NEIC **29** 19:34:01.1,2850N×5662E,h18km,mb4.1/12, ML3.6(THR),After THR.*
*ISCJB **29** 19:34:02.0±0.5,2828N±003×5666E±004,h54km±4km, mb4.1/30,Error ellipse: s-maj=5.2km s-min=4.7km az=14.8*
*CSEM **29** 19:34:02.0±0.1,2838N×5670E,h20km,Ms3.8,Error ellipse: s-maj=2.3km s-min=1.8km az=86.0*
ISC 29 19:34:03.5±0.4,2826N±003×5667E±004,h53km±4km, n118,σ0§95/132,mb4.1/30,5C-2D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.71**	**3**	*e*Pg	**Pn**	**19 34 28.6**	**-2.3**
KRBR				*e*Sg	**Sn**	**19 34 48.8**	**-2.9**
KRBR				AML	AML	19 35 09.6	
comp=E,766nm,0.7s							
KRBR	**Kerman**	**1.71**	**3**	*e*Pg	**Pn**	**19 34 28.6**	**-2.4**
SNR=92							
KRBR				*e*Sg	**Sn**	**19 34 48.8**	**-2.9**
SNR=92							
BANOM	**Banah**	**2.35**	**188**	P	**Pn**	**19 34 39.2**	**-0.5**
SNR=42							
BANOM				⇓S	**Sn**	**19 34 54.8**	**-13**
BANOM	**Banah**	**2.35**	**188**	Pn	**Pn**	**19 34 39.2**	**-0.5**
SNR=19							
BANOM				Sn	**Sn**	**19 35 07.5**	**+0.1**
GHIR	**Ghir-Karzin**	**3.25**	**271**	*e*Pn	**Pn**	**19 34 52.8**	**+0.8**
GHIR				*e*Sg	**Sn**	**19 35 41.3**	**+12**
GHIR				AML	AML	19 36 02.4	
comp=N,144nm,0.5s							
GHIR				AML	AML	19 36 03.7	
comp=E,161nm,0.5s							
GHIR	**Ghir-Karzin**	**3.25**	**271**	*e*Pn	**Pn**	**19 34 52.8**	**+0.8**
SNR=52							
GHIR				*e*Sg	**Sn**	**19 35 41.3**	**+12**
SNR=91							
ISRV	**Sarvestan**	**3.31**	**290**	*e*Pn	**Pn**	**19 34 55.1**	**+2.3**
ISRV				*e*		19 36 13.1	
NAZ	**Nazwa, Dubai**	**3.38**	**196**	Pn	**Pn**	**19 34 54.7**	**+0.9**
SNR=15							
IBAF	**Bafgh**	**3.45**	**344**	Pn	**Pn**	**19 34 55.5**	**+0.8**
SNR=1.0							
IBAF				Sn	**Sn**	**19 35 34.1**	**-0.2**
SNR=1.0							
IBAF	**Bafgh**	**3.45**	**344**	*e*Pn	**Pn**	**19 34 55.5**	**+0.8**
IBAF				*e*Sn	**Sn**	**19 35 34.1**	**-0.2**
IBAF				*e*		19 35 57.2	
IPAR	**Pars**	**3.54**	**297**	Pn	**Pn**	**19 34 57.2**	**+1.3**
SNR=1.0							
IPAR				Sn	**Sn**	**19 35 38.2**	**+1.7**
SNR=1.0							
IPAR	**Pars**	**3.54**	**297**	*e*Pn	**Pn**	**19 34 57.2**	**+1.3**
IPAR				*e*Sn	**Sn**	**19 35 38.2**	**+1.7**
IPAR				*e*		19 36 15.2	
IMOK	**Mouk**	**3.56**	**284**	*e*Pn	**Pn**	**19 34 58.3**	**+2.0**
IMOK				*e*		19 36 41.0	
IMEH	**Mehriz**	**3.59**	**331**	Pn	**Pn**	**19 34 57.5**	**+0.8**
SNR=1.0							
IMEH				Sn	**Sn**	**19 35 38.1**	**+0.3**
SNR=1.0							
IMEH	**Mehriz**	**3.59**	**331**	*e*Pn	**Pn**	**19 34 57.5**	**+0.8**
IMEH				*e*Sn	**Sn**	**19 35 38.1**	**+0.3**
IMEH				*e*		19 36 10.1	
ASHO	**Ashiyiah**	**3.61**	**189**	P	**Pn**	**19 34 56.7**	**-0.2**
SNR=28							
FAQ	**Al Faqa, Dubai**	**3.63**	**196**	Pn	**Pn**	**19 34 57.1**	**-0.2**
ASUD	**Al Ashush, Dub**	**3.82**	**199**	Pn	**Pn**	**19 35 00.3**	**+0.5**
SNR=47							
ZHSF	**Zahedan**	**3.84**	**69**	*e*Pn	**Pn**	**19 35 01.2**	**+1.1**
IKOO	**Kooshah**	**4.61**	**25**	*e*Pn	**Pn**	**19 35 11.0**	**+0.4**
IKOO				*e*		19 36 36.0	
ITEG	**Tejag**	**4.95**	**21**	*e*Pn	**Pn**	**19 35 16.0**	**+0.7**
ITEG				*e*		19 36 50.7	
IDAH	**Dahanechah**	**5.25**	**31**	*e*Pn	**Pn**	**19 35 19.2**	**-0.1**
IDAH				*e*		19 35 44.8	
NASN	**Na'in**	**5.62**	**325**	*e*Pn	**Pn**	**19 35 23.5**	**-0.9**
IGAR	**Gharneh**	**5.75**	**317**	*e*Pn	**Pn**	**19 35 26.9**	**+0.7**
IZEF	**Zefreh**	**5.94**	**322**	*e*Pn	**Pn**	**19 35 29.3**	**+0.4**
IPIR	**Pirpir**	**6.65**	**313**	*e*Pn	**Pn**	**19 35 39.6**	**+1.0**
IPIR				*e*		19 35 58.8	
BTHS		**6.71**	**233**	P	**Pn**	**19 35 38.4**	**-1.1**
BOQSS		**6.93**	**252**	S	**Sn**	**19 36 54.8**	**-5.0**
ISFB	**Sefidab**	**7.15**	**329**	*e*Pn	**Pn**	**19 35 45.8**	**+0.3**
UMR	**Umm Al-Rimmam**	**7.95**	**281**	*e*P	**Pn**	**19 35 54.8**	**-1.7**
baz=281							
UMR				AML	AML	19 37 24.0	
comp=Z,7.0nm,0.3s,baz=281							
RDF	**Al-Radifah**	**8.05**	**277**	*e*P	**Pn**	**19 35 57.0**	**-0.7**
RDF	**Al-Radifah**	**8.05**	**277**	*e*P	**Pn**	**19 35 57.0**	**-0.7**
baz=276							
RDF				AML	AML	19 37 28.4	
comp=Z,18nm,0.5s,baz=276							
MIB	**Mutribah**	**8.31**	**283**	*e*P	**Pn**	**19 35 59.4**	**-2.0**
baz=282							
MIB				AML	AML	19 37 34.5	
comp=Z,14nm,0.6s,baz=282							
NAY	**Al-Naaiem**	**8.33**	**279**	*e*P	**Pn**	**19 36 00.5**	**-1.1**
baz=278							
NAY				AML	AML	19 37 32.0	
comp=Z,8.0nm,0.8s,baz=278							
HRDDS		**8.40**	**232**	P	**Pn**	**19 36 00.6**	**-2.0**
ASAO	**Ashtian**	**8.45**	**319**	*e*Pn	**Pn**	**19 36 02.6**	**-0.6**
RST	**Umm Al-Ruwaisa**	**8.57**	**281**	*e*P	**Pn**	**19 36 03.6**	**-1.3**
baz=280							
RST				AML	AML	19 37 39.3	
comp=Z,0.5nm,0.6s,baz=280							
ASYS		**10.94**	**269**	S	**Sn**	**19 38 30.3**	**-7.8**
GNI	**Garni**	**15.41**	**323**	Pn	**Pn**	**19 37 38.5**	**+1.1**
comp=Z,0.3nm,0.3s,baz=13,slow=22,SNR=1.7							
GNI				LR	LR	19 43 05.2	
comp=Z,49nm,19.4s,baz=106,slow=36							
GNI	**Garni**	**15.41**	**323**	Pn	**Pn**	**19 37 38.5**	**+1.1**
GNI				LR	LR	19 43 05.2	
ASF	**Jabal al Asfar**	**17.53**	**288**	P	**Pn**	**19 38 05.3**	**+1.2**
comp=Z,0.3nm,0.3s,baz=40,slow=7.8,SNR=3.2							
ASF				S	**S**	**19 41 14.5**	**-9.5**
comp=Z,0.3nm,0.3s,baz=124,slow=5.1,SNR=2.6							
ASF				LR	LR	19 45 57.1	
comp=Z,50nm,19.7s,baz=37,slow=41							
ASF	**Jabal al Asfar**	**17.53**	**288**	P	**Pn**	**19 38 05.3**	**+1.2**
ASF				S	**S**	**19 41 14.5**	**-9.4**
MMAI	**Mount Meron Ar**	**18.90**	**290**	P	**Pn**	**19 38 19.8**	**-0.9**
comp=Z,0.5nm,0.3s,baz=324,slow=37,SNR=3.1							
MMAI				LR	LR	19 46 54.1	
comp=Z,51nm,21.8s,baz=60,slow=41							
EIL	**Elat**	**19.06**	**279**	P	**Pn**	**19 38 21.5**	**-1.1**
comp=Z,0.4nm,0.3s,baz=76,slow=6.4,SNR=2.7							
EIL				LR	LR	19 47 08.0	
comp=Z,111nm,18.1s,baz=106,slow=42							
EIL	**Elat**	**19.06**	**279**	P	**Pn**	**19 38 21.5**	**-1.1**
EIL				LR	LR	19 47 08.0	
AML	**Almayashu**	**19.57**	**41**	P	**Pn**	**19 38 28.2**	**-0.4**
comp=Z,3.6nm,0.7s,SNR=1.0							
AML	**Almayashu**	**19.57**	**41**	*e*P	**Pn**	**19 38 28.2**	**-0.4**
comp=Z,3.6nm,0.7s							
EKS2	**Erkin-Say**	**19.96**	**39**	P	**Pn**	**19 38 32.2**	**-1.0**
comp=Z,7.5nm,1.1s,SNR=1.0							
EKS2	**Erkin-Say**	**19.96**	**39**	*e*P	**Pn**	**19 38 32.2**	**-1.0**
comp=Z,7.5nm,1.1s							
UCH	**Uchtor**	**20.11**	**41**	P	**P**	**19 38 34.1**	**+1.4**
comp=Z,2.9nm,0.9s,SNR=1.0							
UCH	**Uchtor**	**20.11**	**41**	*e*P	**P**	**19 38 34.1**	**+1.4**
comp=Z,2.9nm,0.9s							
TKM2	**Tokmak 2**	**21.16**	**41**	*e*P	**P**	**19 38 48.0**	**+3.9**
TKM2				pmax	pmax		
comp=Z,6.0nm,1.1s,mb3.8							
TKM2	**Tokmak 2**	**21.16**	**41**	*e*P	**P**	**19 38 48.0**	**+3.8**
comp=Z,5.7nm,1.1s,mb3.8							
AKTK	**Aktyubinsk**	**22.17**	**2**	P	**P**	**19 38 53.9**	**-0.9**
AKTK	**Aktyubinsk**	**22.17**	**2**	P	**P**	**19 38 53.9**	**-0.9**
AKTO	**Aktyubinsk**	**22.17**	**2**	P	**P**	**19 38 53.9**	**-0.9**
comp=Z,3.2nm,0.8s,mb3.8,baz=178,slow=12,SNR=7.2							
BR131	**Keskin Array S**	**22.19**	**307**	P	**P**	**19 38 57.2**	**+2.0**
SNR=1.0							
BR131	**Keskin Array S**	**22.19**	**307**	*e*P	**P**	**19 38 57.2**	**+2.1**
comp=Z,3.4nm,0.8s,mb3.8							
BVAR	**Borovoye Array**	**26.74**	**19**	P	**P**	**19 39 37.7**	**-0.2**
comp=Z,2.2nm,0.8s,mb3.7,baz=201,slow=7.9,SNR=9.2							
MK31	**Makanchi Array**	**27.28**	**40**	*e*P	**P**	**19 39 43.0**	**+0.2**
MK31	**Makanchi Array**	**27.28**	**40**	*e*P	**P**	**19 39 43.0**	**+0.2**
MKAR	**Makanchi Array**	**27.28**	**40**	P	**P**	**19 39 43.0**	**+0.2**
comp=Z,1.3nm,0.7s,mb3.6,baz=226,slow=7.7,SNR=14							
KURK	**Kurchatov**	**27.90**	**31**	P	**P**	**19 39 47.1**	**-1.2**
comp=Z,1.0nm,0.8s,mb3.5,baz=228,slow=8.8,SNR=8.1							
KURK				LR	LR	19 50 28.9	
comp=Z,28nm,21.7s,baz=200,slow=36							
AKASG	**Malin Array Be**	**30.53**	**325**	P	**P**	**19 40 11.3**	**-0.3**
comp=Z,0.9nm,0.4s,mb3.9,baz=135,slow=8.3,SNR=4.9							
ZAL	**Zalesovo**	**32.88**	**31**	P	**P**	**19 40 32.1**	**0.0**
ZAA0	**Zalesovo Array**	**32.89**	**31**	*e*P	**P**	**19 40 32.1**	**-0.2**
ZAA0	**Zalesovo Array**	**32.89**	**31**	*e*P	**P**	**19 40 32.1**	**-0.2**
ZALV	**Zalesovo Beam**	**32.89**	**31**	P	**P**	**19 40 32.1**	**-0.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=240,slow=9.4,SNR=14							
MOA	**Molln**	**38.10**	**313⇑**	*i*P	**P**	**19 41 17.7**	**+0.6**
comp=Z,4.9nm,0.9s,mb4.2							
MOA	**Molln**	**38.10**	**313⇑**	*i*P	**P**	**19 41 17.7**	**+0.6**
comp=Z,4.9nm,0.9s,mb4.2							
GERES	**GERESS Array B**	**38.74**	**314**	P	**P**	**19 41 22.0**	**-0.4**
comp=Z,0.9nm,0.7s,mb3.6,baz=115,slow=9.0,SNR=11							
KHC	**Kasperske Hory**	**38.90**	**314**	*e*P	**P**	**19 41 21.9**	**-1.8**
KHC				*ex*	x	19 41 32.7	
MOTA	**Moosalm**	**40.06**	**311⇑**	*i*P	**P**	**19 41 33.7**	**+0.2**
comp=Z,2.5nm,0.6s,mb4.1							
MOTA	**Moosalm**	**40.06**	**311⇑**	*i*P	**P**	**19 41 33.7**	**+0.2**
MOTA				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.2							
FETA	**Feichten**	**40.25**	**310⇑**	*i*P	**P**	**19 41 35.3**	**+0.3**
comp=Z,4.6nm,0.9s,mb4.2							
DAVOX	**Davos/Dischmat**	**40.78**	**310**	*i*P	**P**	**19 41 39.2**	**-0.2**
comp=Z,1.2nm,0.4s,mb3.9,baz=14,slow=7.7,SNR=5.3							
DAVOS	**Davos**	**40.85**	**310**	P	**P**	**19 41 39.2**	**-0.8**
DAVA	**Damuels**	**40.87**	**311⇓**	*i*P	**P**	**19 41 40.1**	**0.0**
comp=Z,6.3nm,0.8s,mb4.3							
ZAK	**Zakamensk**	**41.43**	**45**	*e*P	**P**	**19 41 45.2**	**+0.5**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.7s,mb3.5							
ZAK	**Zakamensk**	**41.43**	**45**	P	**P**	**19 41 45.2**	**+0.5**
comp=Z,2.0nm,1.7s,mb3.5,SNR=1.0							
MBDF	**Montbardon**	**42.66**	**306**	*e*P	**P**	**19 41 54.9**	**+0.1**
comp=Z,5.6nm,0.7s,mb4.1							
MBDF	**Montbardon**	**42.66**	**306**	*e*P	**P**	**19 41 54.9**	**+0.1**
MBDF				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.1							
MBDF	**Montbardon**	**42.66**	**306**	P	**P**	**19 41 54.9**	**+0.1**
comp=Z,3.0nm,0.7s,mb4.1,SNR=1.0							
MBDF	**Montbardon**	**42.66**	**306**	*e*P	**P**	**19 41 54.9**	**+0.1**
comp=Z,2.8nm,0.7s,mb4.1							
LPG	**La Plagne**	**42.75**	**308**	*e*P	**P**	**19 41 56.0**	**+0.5**
LPL	**La Plagne**	**42.77**	**308**	*e*P	**P**	**19 41 56.1**	**+0.5**
SONM	**Songino Array**	**42.92**	**49**	P	**P**	**19 41 57.3**	**+0.5**
comp=Z,0.9nm,0.7s,mb3.6,baz=289,slow=11,SNR=7.6							
HFS	**Hagfors**	**43.04**	**330**	P	**P**	**19 41 56.7**	**-0.9**
comp=Z,1.2nm,0.7s,mb3.8,baz=246,slow=18,SNR=2.6							
SMF	**Signal de Mont**	**44.88**	**309**	*e*P	**P**	**19 42 12.9**	**+0.3**
comp=Z,15nm,0.9s,mb4.5							
SMF	**Signal de Mont**	**44.88**	**309**	*e*P	**P**	**19 42 12.9**	**+0.3**
SMF				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.5							
SMF	**Signal de Mont**	**44.88**	**309**	P	**P**	**19 42 12.9**	**+0.3**
comp=Z,7.0nm,0.9s,mb4.5,SNR=1.0							
SMF	**Signal de Mont**	**44.88**	**309**	*e*P	**P**	**19 42 12.9**	**+0.3**
comp=Z,7.3nm,0.9s,mb4.5							
LOR	**Lormes**	**44.92**	**310**	*e*P	**P**	**19 42 13.1**	**+0.2**
BAIF	**Baives**	**45.04**	**314**	*e*P	**P**	**19 42 14.3**	**+0.5**
comp=Z,34nm,1.3s,mb4.7							
ARCES	**ARCESS Array B**	**45.05**	**345**	P	**P**	**19 42 14.1**	**+0.5**
comp=Z,1.9nm,0.8s,mb4.0,baz=146,slow=9.7,SNR=3.7							
SSF	**Saint Saulge**	**45.15**	**309**	*e*P	**P**	**19 42 14.3**	**-0.4**
comp=Z,15nm,1.1s,mb4.5							
AVF	**Avril sur Loir**	**45.23**	**309**	*e*P	**P**	**19 42 14.9**	**-0.4**
TCF	**Toulx Ste Croi**	**45.98**	**308**	*e*P	**P**	**19 42 21.1**	**-0.2**
comp=Z,6.0nm,0.8s,mb4.3							
TCF	**Toulx Ste Croi**	**45.98**	**308**	*e*P	**P**	**19 42 21.1**	**-0.2**
TCF				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
TCF	**Toulx Ste Croi**	**45.98**	**308**	P	**P**	**19 42 21.1**	**-0.2**
comp=Z,3.0nm,0.8s,mb4.3,SNR=1.0							
TCF	**Toulx Ste Croi**	**45.98**	**308**	*e*P	**P**	**19 42 21.1**	**-0.2**
comp=Z,3.0nm,0.8s,mb4.3							
RJF	**Les Rejaudoux**	**46.41**	**307**	*e*P	**P**	**19 42 25.0**	**+0.3**
comp=Z,17nm,1.0s,mb4.6							
RJF	**Les Rejaudoux**	**46.41**	**307**	*e*P	**P**	**19 42 25.0**	**+0.3**
RJF				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7							
RJF	**Les Rejaudoux**	**46.41**	**307**	P	**P**	**19 42 25.0**	**+0.3**
comp=Z,9.0nm,1.0s,mb4.7,SNR=1.0							
RJF	**Les Rejaudoux**	**46.41**	**307**	*e*P	**P**	**19 42 25.0**	**+0.3**
comp=Z,8.6nm,1.0s,mb4.6							
BOD	**Bodaibo**	**49.25**	**36**	*e*P	**P**	**19 42 45.2**	**-1.3**
TOA0	**Torodi Ar. Sit**	**53.16**	**265**	*e*P	**P**	**19 43 16.4**	**0.0**
TOA0	**Torodi Ar. Sit**	**53.16**	**265**	*e*P	**P**	**19 43 16.4**	**0.0**
TORD	**Torodi Ar. Bea**	**53.16**	**265**	P	**P**	**19 43 16.6**	**+0.2**
comp=Z,2.9nm,0.6s,mb4.4,baz=59,slow=6.8,SNR=19							
KSRS	**Korea Array**	**59.28**	**61**	P	**P**	**19 43 58.4**	**-1.4**
comp=Z,1.3nm,0.7s,mb4.1,baz=273,slow=7.2,SNR=4.0							
KSRS	**Korea Array**	**59.28**	**61**	P	**P**	**19 43 58.4**	**-1.3**
KSRS				pmax	pmax		
comp=Z,1.0nm,0.7s,mb4.0							
FITZ	**Fitzroy Crossi**	**81.05**	**116**	P	**P**	**19 46 14.2**	**+1.1**
comp=Z,1.4nm,0.9s,mb3.9,baz=239,slow=8.2,SNR=5.1							
WRA	**Warramunga Arr**	**89.00**	**113**	P	**P**	**19 46 54.2**	**+1.3**
comp=Z,1.9nm,0.8s,mb4.5,baz=317,slow=4.0,SNR=15							
YKA	**Yellowknife Ar**	**89.29**	**356**	P	**P**	**19 46 53.9**	**+0.3**
comp=Z,1.4nm,0.8s,mb4.4,baz=2.2,slow=5.9,SNR=4.8							
YKA	**Yellowknife Ar**	**89.29**	**356**	P	**P**	**19 46 53.9**	**+0.3**
YKA	**Yellowknife Ar**	**89.29**	**356**	P	**P**	**19 46 53.9**	**+0.3**
ASAR	**Alice Springs**	**90.53**	**117**	P	**P**	**19 47 01.1**	**+1.1**
comp=Z,0.7nm,0.5s,mb4.2,baz=305,slow=4.8,SNR=17							
ASAR	**Alice Springs**	**90.53**	**117**	P	**P**	**19 47 01.1**	**+1.1**

*NEIC **29** 19:48:45.9,2961S×7128W,h72km,MG3.9(GUC),After GUC.*
GUC 29 19:48:45.9±0.5,2961S×7128W,h72km±2km,ML3.9,3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.30**	**174⇑**	*i*P	Pn	19 48 57.5	+0.2
LSCH				*i*S	Sn	19 49 05.8	+0.2
TLL	**Tololo Astrono**	**0.70**	**143**	*e*P	Pn	19 49 02.0	+1.1
TLL				*i*S	Sn	19 49 13.7	+1.8
LCO	**Las Campanas**	**0.78**	**41**	*e*P	Pn	19 49 02.1	+0.3
LCO				*e*S	Sn	19 49 14.0	+0.4
VACH	**Vallenar**	**1.13**	**24⇑**	*i*P	Pn	19 49 06.4	+0.3
VACH				*i*S	Sn	19 49 21.7	+0.7
VACH				AML	AML	19 49 23.5	
comp=N,4μm,0.1s							
VACH	**Vallenar**	**1.13**	**24⇑**	*i*P	Pn	19 49 06.4	+0.3
VACH				*i*S	Sn	19 49 21.7	+0.7
PEL	**Peldehue**	**3.56**	**172**	*e*P	Pn	19 49 39.4	+0.7
PEL				*i*S	Sn	19 50 20.1	+0.5
PEL				AML	AML	19 50 21.6	
comp=E,146nm,0.3s							
RCDM	**Rinconada Maip**	**3.89**	**174**	*i*S	Sn	19 50 27.9	+0.2
RCDM				AML	AML	19 50 30.1	
comp=N,136nm,0.4s							

*IDC **29** 19:51:10.9±0.7,2537N×9996E,h0km,mb3.9/11, mb1 4.0/12,mb1mx3.8/25,mbtmp3.9/12,ML3.7/1,MS3.3/2, Ms1 3.3/2,ms1mx2.5/32,Error ellipse: s-maj=31.0km s-min=13.0km az=73.0*
*BJI **29** 19:51:11.7,2542N×100.11E,h14km,mB4.3,mb3.9,ML3.9, Ms3.9,Msz3.6*
*ISCJB **29** 19:51:14.1±1.1,2535N±005×10004E±008,h35km±12km, mb3.9/13,MS3.2/2,Error ellipse: s-maj=11.6km s-min=8.7km az=6.4*
*NEIC **29** 19:51:16.8±1.5,2536N×10003E,h41km±17km,mb3.8/2, Error ellipse: s-maj=21.3km s-min=7.5km az=63.0*
ISC 29 19:51:16.8±0.9,2535N±005×10004E±008,h41km±10km, n23,σ0§93/26,mb3.9/13,MS3.2/2,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.46**	**95**	P	**Pn**	**19 51 53.5**	**-0.9**
KMI				PG	**Pn**	**19 51 56.5**	**+2.1**
KMI				SG	**Sn**	**19 52 30.3**	**+7.1**
KMI				Smax			
comp=N,740nm,0.7s							
KMI				Smax			
comp=E,935nm,0.7s							
KMI				LR	LR		
comp=N,591nm,3.8s							
KMI				LR	LR		
comp=E,848nm,3.8s							
KMI				LR	LR		
comp=Z,870nm,4.7s				

comp=Z,2.1nm,1.0s,mb4.2,baz=90,slow=7.4,SNR=4.5
NOA NORSAR Array B 67.61 328 P P 20 02 07.8 -1.2
comp=Z,1.0nm,0.7s,mb4.0,baz=78,slow=6.4,SNR=3.6
GERES GERESS Array B 69.03 315 LR LR 20 34 33.8
comp=Z,31nm,20.3s,MS3.5,baz=83,slow=38

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*DJA **29** 20:24:03, 198N×9535E, h33km, ML4.4/2*
*IDC **29** 20:24:08.2±1.2, 209N×9595E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.8/21, mbtmp3.9/10, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/34, Error ellipse: s-maj=41.9km s-min=19.4km az=50.0*
*NEIC **29** 20:24:09.9±0.7, 208N×9600E, h10km, mb4.5/1, Error ellipse: s-maj=19.1km s-min=10.5km az=224.0*
*ISCJB **29** 20:24:11.7±0.9, 211N±01×961E±01, h33km, mb4.0/9, Error ellipse: s-maj=20.1km s-min=10.0km az=38.0*
ISC 29 20:24:13.7±0.9, 21N±01×962E±01, h35km, n17, σ0§90/17, mb4.0/9, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.62**	**119**	⇑*eP*	**Pn**	**20 24 38.0**	**-1.9**
PSI	**Prapat**	**2.85**	**76**	⇑*eP*	**Pn**	**20 24 56.9**	**+0.1**
PSI	**Prapat**	**2.85**	**76**	Pn	**Pn**	**20 24 57.2**	**+0.4**
1.9nm,0.3s,baz=263,slow=6.9,SNR=11							
PSI	**Prapat**	**2.85**	**76**	Pn	**Pn**	**20 24 57.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**16.48**	**9**	Pn	**Pn**	**20 28 02.7**	**+0.3**
baz=196,slow=10,SNR=14							
LSA	**Lhasa**	**27.86**	**351**	*eP*	**P**	**20 30 00.3**	**+0.2**
9.3nm,1.0s,mb4.4							
WRA	**Warramunga Arr**	**43.39**	**122**	P	**P**	**20 32 14.3**	**+1.1**
1.2nm,0.8s,mb3.6,baz=302,slow=8.6,SNR=5.9							
UCH	**Uchtor**	**44.42**	**337**	*eP*	**P**	**20 32 22.4**	**+1.3**
ASAR	**Alice Springs**	**44.77**	**127**	P	**P**	**20 32 25.4**	**+1.2**
0.5nm,0.6s,mb3.5,baz=298,slow=7.8,SNR=8.2							
MK31	**Makanchi Array**	**46.13**	**347**	*eP*	**P**	**20 32 34.2**	**-0.4**
MKAR	**Makanchi Array**	**46.13**	**347**	P	**P**	**20 32 34.5**	**-0.1**
3.2nm,0.9s,mb4.3,baz=159,slow=7.8,SNR=21							
SONM	**Songino Array**	**46.41**	**10**	P	**P**	**20 32 36.7**	**-0.1**
1.5nm,0.6s,mb4.1,baz=187,slow=9.1,SNR=14							
ZAA0	**Zalesovo Array**	**52.52**	**352**	*eP*	**P**	**20 33 22.6**	**-0.6**
ZALV	**Zalesovo Beam**	**52.52**	**352**	P	**P**	**20 33 22.9**	**-0.3**
3.0nm,0.6s,mb4.4,baz=178,slow=6.8,SNR=16							
ARCES	**ARCESS Array B**	**81.34**	**340**	P	**P**	**20 36 25.9**	**-0.3**
1.8nm,0.9s,mb4.0,baz=72,slow=4.0,SNR=3.5							
GERES	**GERESS Array B**	**83.45**	**319**	P	**P**	**20 36 38.4**	**+0.7**
0.5nm,0.8s,mb3.6,baz=320,slow=4.4,SNR=4.5							
NOA	**NORSAR Array B**	**85.72**	**331**	P	**P**	**20 36 46.9**	**-1.9**
0.9nm,0.9s,mb4.0,baz=108,slow=7.4,SNR=3.1							

IDC 29 20:45:14.2±5.6, 721S×11974E, h281km±51km, mb2.6/2, mb1 2.8/4, mb1mx2.6/17, mbtmp2.7/4, Error ellipse: s-maj=189.3km s-min=24.4km az=56.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.90**	**128**	P	Pn	20 46 31.7	+1.9
2.7nm,0.3s,baz=157,slow=3.5,SNR=8.7							
BATI				S	S	20 47 29.4	-1.0
3.2nm,0.3s,baz=303,slow=15,SNR=4.1							
WRA	**Warramunga Arr**	**19.00**	**133**	P	P	20 49 16.3	+0.6
0.1nm,0.3s,baz=305,slow=12,SNR=12							
ASAR	**Alice Springs**	**21.28**	**142**	P	P	20 49 39.2	+0.1
0.2nm,0.4s,baz=315,slow=8.7,SNR=6.3							
MKAR	**Makanchi Array**	**63.21**	**332**	P	P	20 55 12.5	-0.3
0.2nm,0.4s,baz=120,slow=8.5,SNR=4.9							

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*ISCJB **29** 21:49:41.0±0.4, 3644N±004×7101E±009, h127km±7km, mb3.6/5, Error ellipse: s-maj=11.5km s-min=6.1km az=11.8*
*NEIC **29** 21:49:41.2±1.0, 3632N×7118E, h119km±9km, mb4.5/3, Error ellipse: s-maj=19.7km s-min=9.3km az=119.0*
*IDC **29** 21:49:43.8±8.3, 3629N×7096E, h143km±79km, mb3.4/6, mb1 3.4/10, mb1mx3.2/26, mbtmp3.3/10, Error ellipse: s-maj=39.6km s-min=24.0km az=25.0*
*MOS **29** 21:49:43.2±1.5, 3630N×7084E, h152km, mb4.5/1, Error ellipse: s-maj=27.7km s-min=12.4km az=83.8*
*NNC **29** 21:49:46.0±2.9, 3704N×6973E, h0km, mb3.7, mpv3.9, Error ellipse: s-maj=23.0km s-min=16.1km az=1.0*
ISC 29 21:49:42.2±0.4, 3645N±004×7098E±009, h119km±7km, n35, σ1§00/43, mb3.6/5, 3C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.48**	**220**	*eP*n	**Pn**	**21 50 22.1**	**+0.6**
KBL				*e*Sn	**Sn**	**21 50 51.7**	**-0.1**
CEP	**Cherat**	**2.73**	**164**	P	**Pn**	**21 50 25.4**	**+0.6**
CEP				S	**Sn**	**21 50 58.0**	**+0.4**
CHCP	**Chirah Chowk**	**3.35**	**145**	P	**Pn**	**21 50 33.3**	**+0.2**
THW	**Thamme Wali**	**3.70**	**170**	P	**Pn**	**21 50 36.8**	**-0.8**
AML	**Almayashu**	**6.05**	**19**	P	**Pn**	**21 51 08.9**	**-0.3**
SNR=58							
AML	**Almayashu**	**6.05**	**19**	*e*Pn	**Pn**	**21 51 08.6**	**-0.6**
45nm,0.4s							
UCH	**Uchtor**	**6.39**	**24**	P	**Pn**	**21 51 13.6**	**-0.2**
SNR=19							
UCH	**Uchtor**	**6.39**	**24**	*e*Pn	**Pn**	**21 51 12.9**	**-0.8**
7.1nm,0.4s							
KZA	**Kyzart**	**6.52**	**29**	P	**Pn**	**21 51 15.3**	**-0.3**
SNR=7.2							
EKS2	**Erkin-Say**	**6.57**	**18**	P	**Pn**	**21 51 15.8**	**-0.4**
SNR=9.6							
EKS2	**Erkin-Say**	**6.57**	**18**	*e*Pn	**Pn**	**21 51 15.7**	**-0.5**
6.7nm,0.6s							
KK31	**Karatay Array**	**6.66**	**357**	⇓P	**Pn**	**21 51 16.6**	**-0.7**
3.0nm,0.3s,baz=176,slow=12,SNR=65							
KK31				⇑S	**Sn**	**21 52 29.3**	**-2.4**
6.9nm,0.3s,baz=186,slow=24,SNR=12							
AAK	**Ala-Archa**	**6.75**	**23**	P	**Pn**	**21 51 19.1**	**+0.5**
SNR=9.8							
KBK	**Karagaybulak**	**6.92**	**25**	P	**Pn**	**21 51 24.2**	**+3.3**
SNR=5.4							
CHMS	**Chumysh**	**7.16**	**23**	P	**Pn**	**21 51 24.3**	**+0.2**
SNR=11							
USP	**Ospenovka**	**7.33**	**21**	P	**Pn**	**21 51 25.8**	**-0.7**
SNR=11							
TKM2	**Tokmak 2**	**7.38**	**27**	⇓P	**Pn**	**21 51 35.3**	**+8.2**
4.7nm,0.5s							
TKM2				⇓S	**Sn**	**21 53 01.0**	**+12**
7.9nm,0.8s							
MK31	**Makanchi Array**	**13.34**	**36**	⇓P	**Pn**	**21 52 59.5**	**+13**
0.4nm,0.4s,baz=246,slow=29,SNR=2.6							
MKAR	**Makanchi Array**	**13.34**	**36**	P	**Pn**	**21 52 50.9**	**+4.2**
0.5nm,0.3s,baz=224,slow=10.0,SNR=3.7							
AB31	**Akbulak array**	**15.12**	**331**	⇑P	**Pn**	**21 53 08.9**	**-0.5**
0.2nm,0.3s							
AB31				⇑S	**S**	**21 55 44.3**	**-21**
0.9nm,0.4s							
KURK	**Kurchatov**	**15.29**	**19**	P	**Pn**	**21 53 11.7**	**+0.4**
0.1nm,0.3s,baz=207,slow=10,SNR=9.3							
BVAR	**Borovoye Array**	**16.58**	**359**	P	**Pn**	**21 53 29.8**	**+2.4**
0.4nm,0.3s,baz=160,slow=10,SNR=8.4							
AKTK	**Aktyubinsk**	**16.82**	**330**	P	**Pn**	**21 53 32.3**	**+2.0**
AKTK				S	**S**	**21 56 24.9**	**-13**
AKTO	**Aktyubinsk**	**16.82**	**330**	⇓P	**Pn**	**21 53 30.4**	**+0.1**
0.2nm,0.7s							
AKTO				⇓S	**S**	**21 56 26.6**	**-11**
0.2nm,0.7s							
AKTO	**Aktyubinsk**	**16.82**	**330**	P	**Pn**	**21 53 32.3**	**+2.0**
0.4nm,0.3s,baz=141,slow=8.2,SNR=9.3							
AKTO				S	**S**	**21 56 24.9**	**-13**
0.1nm,0.3s,baz=158,slow=23,SNR=2.7							
ZAL	**Zalesovo**	**19.95**	**24**	P	**P**	**21 54 05.2**	**+0.6**
ZAA0	**Zalesovo Array**	**19.97**	**24**	*eP*	**P**	**21 54 05.0**	**+0.2**
ZALV	**Zalesovo Beam**	**19.97**	**24**	P	**P**	**21 54 05.2**	**+0.4**
3.3nm,0.5s,baz=222,slow=11,SNR=20							
ARCES	**ARCESS Array B**	**41.19**	**338**	P	**P**	**21 57 15.0**	**+0.5**
1.0nm,0.6s,mb3.8,baz=99,slow=7.6,SNR=7.9							
NB2	**NORSAR Subarra**	**44.42**	**323**	P	**P**	**21 57 41.3**	**+0.7**
comp=Z,0.7nm,0.5s,mb3.6,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.42**	**323**	P	**P**	**21 57 41.1**	**+0.5**
comp=Z,1.2nm,0.7s,mb3.8,baz=96,slow=7.8,SNR=5.5							
TORD	**Torodi Ar. Bea**	**65.70**	**269**	P	**P**	**22 00 13.2**	**-1.1**
comp=Z,0.2nm,0.4s,mb3.3,baz=47,slow=5.7,SNR=8.9							
BOSA	**Boshof**	**77.70**	**220**	P	**P**	**22 01 23.6**	**-2.0**
comp=Z,4.4nm,1.1s,mb4.1,baz=180,slow=3.0,SNR=3.6							
WRA	**Warramunga Arr**	**81.97**	**122**	P	**P**	**22 01 47.9**	**-1.0**
comp=Z,0.4nm,0.8s,mb3.3,baz=326,slow=5.0,SNR=4.0							
WRA	**Warramunga Arr**	**81.97**	**122**	P	**P**	**22 01 47.9**	**-1.0**
WRA				pmax	pmax		
comp=Z,1.0nm,0.7s							

IDC 29 21:52:12.1±5.0, 038N×9034W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.6/3, Error ellipse: s-maj=365.4km s-min=28.5km az=50.0, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**27.47**	**128**	P	P	21 58 00.9	+0.8
1.1nm,0.9s,baz=318,slow=11,SNR=3.8							
TXAR	**Lajitas Array**	**31.48**	**337**	P	P	21 58 36.1	+0.5
0.5nm,0.8s,baz=152,slow=10.0,SNR=4.8							
NVAR	**Mina Array Bea**	**45.75**	**329**	P	P	22 00 35.3	-0.1
1.3nm,1.0s,baz=158,slow=7.3,SNR=5.5							

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*ISCJB **29** 21:58:30.5±0.8, 02S±02×910W±03, h10km, mb3.9/9, Error ellipse: s-maj=49.1km s-min=12.4km az=149.7*
*IDC **29** 21:58:31.1±1.3, 013S×9092W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.8/19, mbtmp3.6/6, Error ellipse: s-maj=81.4km s-min=19.4km az=55.0*
*NEIC **29** 21:58:32.3±0.6, 019S×9101W, h10km, mb4.7/3, Error ellipse: s-maj=39.3km s-min=10.0km az=60.0*
ISC 29 21:58:32.5±0.8, 02S±02×910W±03, h10km, n10, σ0§75/10, mb3.9/9, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**27.67**	**126**	P	**P**	**22 04 21.9**	**+1.0**
0.4nm,0.4s,mb3.4,baz=322,slow=12,SNR=3.1							
TXAR	**Lajitas Array**	**31.75**	**339**	P	**P**	**22 04 57.2**	**+0.3**
0.3nm,0.5s,mb3.4,baz=153,slow=10,SNR=5.3							
TXAR	**Lajitas Array**	**31.75**	**339**	P	**P**	**22 04 57.2**	**+0.3**
SIV	**San Ignacio**	**33.47**	**119**	P	**P**	**22 05 11.6**	**-0.5**
3.9nm,1.1s,mb4.3,baz=291,slow=12,SNR=11							
WMOK	**Wichita Mounta**	**35.51**	**349**	*eP*	**P**	**22 05 28.8**	**-0.7**
2.2nm,1.1s,mb4.0							
CFAA	**Coronel Fontan**	**37.96**	**147**	P	**P**	**22 05 49.6**	**-0.9**
0.1nm,0.3s,mb3.0,baz=17,slow=11,SNR=3.7							
WUAZ	**Wupatki**	**40.28**	**334**	P	**P**	**22 06 10.1**	**+0.2**
26nm,1.1s,mb4.9							
PLCA	**Paso Flores**	**44.43**	**158**	P	**P**	**22 06 44.8**	**+1.2**
1.8nm,1.0s,mb3.8,baz=216,slow=8.7,SNR=3.2							
NVAR	**Mina Array Bea**	**45.90**	**330**	P	**P**	**22 06 55.5**	**+0.3**
0.1nm,0.3s,mb3.2,baz=168,slow=6.4,SNR=3.6							
PMSA	**Palmer Station**	**67.35**	**168**	*eP*	**P**	**22 09 26.6**	**-0.9**
15nm,1.0s,mb5.0							

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*IDC **29** 22:01:28.0±0.9, 046S×9143W, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.1/25, mbtmp4.1/18, ML3.2/3, MS4.1/1, Ms1 4.1/1, ms1mx2.9/32, Error ellipse: s-maj=31.7km s-min=12.3km az=54.0*
*ISCJB **29** 22:01:28.9±0.6, 040S±009×913W±01, h10km, mb4.1/21, Error ellipse: s-maj=19.1km s-min=7.4km az=139.7*
*MOS **29** 22:01:28.1±1.1, 036S×9124W, h10km, mb4.5/5, Error ellipse: s-maj=35.7km s-min=13.1km az=113.2*
*NEIC **29** 22:01:30.2±0.5, 046S×9133W, h10km, mb4.3/9, Error ellipse: s-maj=16.5km s-min=7.4km az=52.0*
ISC 29 22:01:30.7±0.6, 041S±009×913W±01, h10km, n41, σ1§21/38, mb4.1/21, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**14.45**	**117**	Pn	**Pn**	**22 04 57.0**	**+1.5**
0.2nm,0.3s,baz=305,slow=18,SNR=2.8							
CMIG	**Matias Romero**	**17.74**	**349**	P	**Pn**	**22 05 37.7**	**-0.3**
0.2nm,0.3s,baz=193,slow=11,SNR=3.3							
ROSC	**El Rosal**	**17.75**	**73**	P	**Pn**	**22 05 38.5**	**+0.3**
0.7nm,0.3s,baz=253,slow=10,SNR=3.2							
TEIG	**Tepich**	**20.72**	**8**	P	**P**	**22 06 11.6**	**+0.1**
8.7nm,0.8s,baz=270,slow=12,SNR=3.0							
SDV	**Santo Domingo**	**22.57**	**65**	P	**P**	**22 06 32.9**	**+1.5**
4.4nm,0.7s,mb4.0,baz=280,slow=7.4,SNR=5.0							
LPAZ	**La Paz**	**27.77**	**126**	P	**P**	**22 07 20.8**	**+0.8**
2.1nm,0.6s,mb4.0,baz=300,slow=6.9,SNR=13							
LPAZ	**La Paz**	**27.77**	**126**	*eP*	**P**	**22 07 20.2**	**+0.2**
LPAZ				pmax	pmax		
comp=Z,2.0nm,0.5s							
LPAZ	**La Paz**	**27.77**	**126**	*eP*	**P**	**22 07 20.2**	**+0.2**
comp=Z,2.2nm,0.5s,mb4.0							
TXAR	**Lajitas Array**	**31.84**	**339**	P	**P**	**22 07 56.0**	**0.0**
comp=Z,1.5nm,0.8s,mb3.9,baz=154,slow=10,SNR=14							
TXAR	**Lajitas Array**	**31.84**	**339**	P	**P**	**22 07 56.0**	**0.0**
SIV	**San Ignacio**	**33.61**	**119**	P	**P**	**22 08 11.5**	**-0.1**
comp=Z,6.5nm,0.9s,mb4.5,baz=287,slow=10,SNR=23							
MIAR	**Mount Ida**	**34.83**	**357**	*eP*	**P**	**22 08 21.6**	**-0.4**
MIAR				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.4							
MIAR	**Mount Ida**	**34.83**	**357**	*eP*	**P**	**22 08 21.6**	**-0.4**
comp=Z,5.1nm,1.1s,mb4.4							
WMOK	**Wichita Mounta**	**35.65**	**349**	*eP*	**P**	**22 08 27.9**	**-1.1**
WMOK				*e*		22 10 57.8	
WMOK				pmax	pmax		
comp=Z,9.0nm,1.1s,mb4.6							
WMOK	**Wichita Mounta**	**35.65**	**349**	*eP*	**P**	**22 08 27.9**	**-1.1**
comp=Z,9.3nm,1.1s,mb4.6							
WMOK				*e*PcP	PcP	22 10 57.8	+0.3
ANMO	**Albuquerque**	**37.92**	**340**	P	**P**	**22 08 48.5**	**+0.1**
comp=Z,1.8nm,0.8s,mb3.9,baz=126,slow=8.9,SNR=5.0							
CFAA	**Coronel Fontan**	**37.94**	**147**	P	**P**	**22 08 48.8**	**+0.2**
comp=Z,0.5nm,0.9s,mb3.2,baz=304,slow=7.5,SNR=4.3							
SDCO	**Great Sand Dun**	**40.16**	**342**	P	**P**	**22 09 07.7**	**+0.6**
comp=Z,12nm,1.8s,mb4.3							
WUAZ	**Wupatki**	**40.34**	**334**	*eP*	**P**	**22 09 09.5**	**+0.9**
comp=Z,6.0nm,0.8s,mb4.4							
ISCO	**Idaho Springs**	**42.10**	**344**	*eP*	**P**	**22 09 22.4**	**-0.6**
MSU	**Marysvale**	**43.23**	**336**	*eP*	**P**	**22 09 33.3**	**+1.1**
ECSD	**EROS,Sioux Fal**	**44.20**	**354**	*eP*	**P**	**22 09 38.3**	**-1.6**
comp=Z,9.0nm,0.8s,mb4.5							
PLCA	**Paso Flores**	**44.34**	**157**	P	**P**	**22 09 40.0**	**-1.1**
comp=Z,3.3nm,1.1s,mb4.0,baz=342,slow=11,SNR=3.8							
DUG	**Dugway**	**44.92**	**337**	*eP*	**P**	**22 09 47.8**	**+2.1**
DUG				pmax	pmax		
comp=Z,5.0nm,1.3s,mb4.2							
DUG	**Dugway**	**44.92**	**337**	*eP*	**P**	**22 09 47.8**	**+2.1**
comp=Z,4.9nm,1.3s,mb4.2							
MTUM	**Tungsten Hills**	**45.24**	**329**	*eP*	**P**	**22 09 50.3**	**+1.9**
BDFB	**Brasilia**	**45.33**	**112**	P	**P**	**22 09 48.6**	**-0.8**
comp=Z,4.4nm,0.8s,mb4.3,baz=274,slow=14,SNR=7.8							
HWUT	**Hardware Ranch**	**45.66**	**339**	*eP*	**P**	**22 09 52.6**	**+0.9**
RSSD	**Black Hills**	**45.76**	**347**	P	**P**	**22 09 49.8**	**-2.6**
NVAR	**Mina Array Bea**	**45.94**	**330**	P	**P**	**22 09 54.2**	**+0.4**
comp=Z,0.8nm,0.3s,mb4.1,baz=185,slow=30,SNR=4.9							
PDAR	**Pinedale Array**	**46.01**	**341**	P	**P**	**22 09 53.5**	**-0.8**
comp=Z,0.2nm,0.4s,mb3.4,baz=150,slow=7.6,SNR=3.1							
PDAR				PP	PP	22 11 36.4	-5.9
comp=Z,0.7nm,0.8s,baz=143,slow=5.2,SNR=4.7							
ELK	**Elko**	**46.38**	**335**	P	**P**	**22 09 57.0**	**-0.4**
comp=Z,0.5nm,0.5s,mb3.7,baz=180,slow=4.0,SNR=2.9							
ELK	**Elko**	**46.38**	**335**	*eP*	**P**	**22 09 58.6**	**+1.3**
ELK				pmax	pmax		
comp=Z,8.0nm,1.2s							
ELK	**Elko**	**46.38**	**335**	*eP*	**P**	**22 09 58.6**	**+1.3**
comp=Z,7.6nm,1.2s,mb4.5							
MOD	**Modoc**	**49.59**	**332**	*eP*	**P**	**22 10 23.8**	**+1.6**
comp=Z,1.2nm,0.6s,mb4.1							
ULM	**Lac du Bonnet**	**50.62**	**356**	P	**P**	**22 10 27.4**	**-2.4**
comp=Z,6.1nm,0.9s,mb4.5,baz=197,slow=5.3,SNR=5.3							
YKA	**Yellowknife Ar**	**65.15**	**348**	P	**P**	**22 12 09.1**	**-2.5**
comp=Z,0.6nm,0.7s,mb3.7,baz=148,slow=6.1,SNR=3.2							
DBIC	**Dimbokro**	**86.52**	**83**	P	**P**	**22 14 12.8**	**-2.0**
comp=Z,2.5nm,0.9s,mb4.4,baz=282,slow=4.5,SNR=3.8							
ZALV	**Zalesovo Beam**	**126.54**	**3**	PKP	PKPdf	22 20 31.2	-2.9
comp=Z,0.6nm,0.6s,baz=308,slow=1.9,SNR=3.1							
ZAL	**Zalesovo**	**126.55**	**3**	PKIKP	PKPdf	22 20 31.3	-2.9
SONM	**Songino Array**	**130.32**	**344**	PKP	PKPdf	22 20 39.6	-1.9
comp=Z,0.2nm,0.4s,baz=347,slow=1.9,SNR=2.4							

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*IDC **29** 22:10:06.8±0.5, 045S×9147W, h0km, mb5.2/20, mb1 5.3/22, mb1mx5.2/25, mbtmp5.2/22, ML3.8/2, MS4.8/26, Ms1 4.8/26, ms1mx4.7/31, Error ellipse: s-maj=17.1km s-min=9.9km az=66.0*
*ISCJB **29** 22:10:06.6±0.2, 061S±003×9139W±002, h10km, mb5.5/116, MS4.8/186, Error ellipse: s-maj=4.2km s-min=2.9km az=36.2*
*MOS **29** 22:10:07.4±1.0, 042S×9132W, h10km, mb5.8/33, MS4.7/52, Error ellipse: s-maj=10.1km s-min=4.6km az=105.8*
*BJI **29** 22:10:09.4, 060S×9130W, h22km, mB5.4, Ms5.3, Msz5.0*
*GCMT **29** 22:10:10.4±0.2, 054S×9153W, h23km, MW5.4/83, Moment Tensor Solution. s75,c124; s83,c185; Duration: 1§2 Moment tensor: Scale 1017Nm; Mrr-0.23±.03; Mθθ1.11±.02; Mφφ-0.87±.03; Mrθ0.71±.04; Mθφ-0.94±.02; Mφr0.29±.04; Best double couple: Mo1.57100×1017 NP1:φ§156.00000°, δ60.00000°, λ-6.00000°. NP2:φ§249.00000°, δ85.00000°, λ-150.00000°. Principal axes: T 1.6490, Plg17.0000°, Azm18.0000°; N -0.1560, Plg59.0000°, Azm257.0000°; P -1.4940, Plg25.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **29** 22:10:10.4±0.2, 056S×9134W, mb5.6/84, MS4.8/156 Error ellipse: s-maj=5.1km s-min=3.2km az=54.0*
ISC 29 22:10:08.2±0.2, 064S±003×9137W±002, h10km, (h7km±1.8km:pP-P), n966, σ0§94/903, mb5.5/116, MS4.8/186, 206C-215D, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**12.33**	**41**	*eP*	**Pn**	**22 13 06.7**	**+2.8**
CGA2	**Cerro Gallo 2**	**12.62**	**33**	*eP*	**Pn**	**22 13 13.0**	**+5.0**
BUS	**Buena Vista**	**12.65**	**37**	*eP*	**Pn**	**22 13 12.6**	**+4.3**
LCR2	**La Lucha 2**	**12.65**	**35**	*eP*	**Pn**	**22 13 11.0**	**+2.6**
BAR1		**12.68**	**39**	*eP*	**Pn**	**22 13 11.6**	**+2.9**
BRU2	**Volcan**	**12.75**	**43**	*eP*	**Pn**	**22 13 11.7**	**+2.0**
BRU2				⇓*eP*		22 13 11.8	
URSC	**Urasca**	**12.86**	**36**	*eP*	**Pn**	**22 13 14.2**	**+3.0**
FORC	**Fortuna**	**12.89**	**31**	*eP*	**Pn**	**22 13 14.2**	**+2.5**
OTAV	**Otavalo**	**12.95**	**86**	*e*Pn	**Pn**	**22 13 15.2**	**+2.8**
MADN	**Villa Maderas**	**13.30**	**26**	*eP*	**Pn**	**22 13 21.2**	**+4.0**
CONN	**Concepcion**	**13.40**	**25**	⇓*iP*	**Pn**	**22 13 22.5**	**+3.9**
LIO	**Limon**	**13.44**	**38**	*eP*	**Pn**	**22 13 22.2**	**+3.0**
CRUN	**El Crucero**	**13.51**	**22**	*eP*	**Pn**	**22 13 24.9**	**+4.8**
APON	**Apoyo**	**13.54**	**23**	*eP*	**Pn**	**22 13 23.6**	**+3.1**
MASN	**Masaya**	**13.57**	**22**	*eP*	**Pn**	**22 13 24.4**	**+3.4**
COPN	**Copaltepe**	**13.59**	**20**	⇑*eP*	**Pn**	**22 13 24.9**	**+3.7**
COPN				AMb	AMB	22 13 27.7	
comp=Z,2μm,1.3s							
CSAN		**13.65**	**21**	*eP*	**Pn**	**22 13 26.0**	**+3.9**
XAVN	**Gruta Xavier**	**13.65**	**21**	*eP*	**Pn**	**22 13 25.6**	**+3.5**
TISN	**Laguna Tiscapa**	**13.67**	**22**	*eP*	**Pn**	**22 13 26.1**	**+3.8**
LEON	**Leon**	**13.71**	**19**	⇓*iP*	**Pn**	**22 13 25.9**	**+3.1**
WILN	**Americas 2**	**13.72**	**22**	⇓*eP*	**Pn**	**22 13 25.7**	**+2.7**
CNGN	**Cerro Negro**	**13.85**	**19**	*eP*	**Pn**	**22 13 27.7**	**+2.9**
TEL3	**Telica 3**	**13.87**	**19**	⇓*eP*	**Pn**	**22 13 28.1**	**+3.0**
HUEN		**13.88**	**22**	⇓*eP*	**Pn**	**22 13 28.6**	**+3.3**
TELN	**Telica**	**13.90**	**19**	⇓*eP*	**Pn**	**22 13 29.0**	**+3.5**
CNCH	**Conchagua**	**14.26**	**14**	⇑*eP*	x	22 13 33.3	
VSM	**San Miguel**	**14.31**	**12**	⇓*eP*	x	22 13 34.4	
ATAH	**Atahualpa**	**14.40**	**116**	Pn	**Pn**	**22 13 39.4**	**+7.1**
comp=Z,1.1nm,0.3s,baz=304,slow=11,SNR=11							
ATAH				Sn	**Sn**	**22 16 27.7**	**+15**
comp=Z,0.5nm,0.3s,baz=16,slow=20,SNR=3.8							
ATAH				LR	LR	22 17 03.5	
comp=Z,681nm,21.5s,baz=295,slow=28							
BOQS	**Boqueron**	**14.43**	**8**	⇓*eP*	x	22 13 35.2	
SBLS	**San Blas**	**14.49**	**7**	⇓*eP*	x	22 13 36.2	
CAHU	**Cacacuatique**	**14.65**	**12**	⇑*eP*	x	22 13 38.0	
BCIP	**Isla Barro Col**	**15.06**	**49**	*e*Pn	**Pn**	**22 13 42.6**	**+1.3**
TGUH	**Tegucigalpa,Un**	**15.15**	**15**	*e*Pn	**Pn**	**22 13 45.0**	**+2.5**
CCIG	**Comitan**	**16.83**	**357**	*iP*	**Pn**	**22 14 07.1**	**+2.9**
HUIG	**Huatulco**	**16.96**	**344**	*iP*	**Pn**	**22 14 07.7**	**+1.9**
SCX	**San Cristobal**	**17.31**	**356**	*iP*	**Pn**	**22 14 11.8**	**+1.7**
ROSC	**El Rosal**	**17.87**	**72**	P	**Pn**	**22 14 19.6**	**+2.3**
comp=Z,2.2nm,0.3s,baz=117,slow=5.6,SNR=54							
ROSC				S	**Sn**	**22 17 43.2**	**+6.5**
comp=Z,0.7nm,0.3s,baz=253,slow=19,SNR=1.6							
ROSC				LR	LR	22 20 31.3	
comp=Z,3μm,18.7s,baz=48,slow=35							
ROSC	**El Rosal**	**17.87**	**72**	*e*Pn	**Pn**	**22 14 19.4**	**+2.2**
CMIG	**Matias Romero**	**17.95**	**349**	P	**Pn**	**22 14 19.6**	**+1.4**
comp=Z,0.4nm,0.3s,baz=164,slow=8.7,SNR=37

LVC ePP PP 22 17 37.8 +2.8
LVC ePcP PcP 22 19 23.6 +1.6
LVC eS **S** **22 21 27.3 -2.1**
LVC LR LR
comp=Z,2µm,20.0s,MS4.8
SJG San Juan 31.02 52 P **P** **22 16 27.0 +0.6**
comp=Z,44nm,0.9s,mb5.3,baz=304,slow=4.5,SNR=12
SJG LR LR 22 28 38.5
comp=Z,1µm,18.3s,MS4.7,baz=42,slow=36
SJG San Juan 31.02 52 eP **P** **22 16 28.1 +1.7**
SJG PcP PcP 22 19 22.6 +0.2
SJG LR LR
comp=Z,1µm,21.0s,MS4.6
BRAL Brewton 31.74 7 eP **P** **22 16 34.4 +1.9**
comp=Z,165nm,1.3s,mb5.7
BRAL ePcP PcP 22 19 28.2 +4.1
BRAL eS **S** **22 21 32.0 -10**
BRAL LR LR
comp=Z,941nm,20.0s,MS4.5
JCT Junction City 31.97 346 eP **P** **22 16 34.5 -0.1**
JCT eS **S** **22 21 45.5 -0.6**
JCT MLR MLR
comp=Z,531nm,21.0s,MS4.2
TXAR Lajitas Array 32.04 339 P **P** **22 16 35.4 +0.2**
comp=Z,28nm,0.9s,mb5.1,baz=152,slow=11,SNR=225
TXAR PcP PcP 22 19 24.9 -0.1
comp=Z,1.3nm,0.8s,baz=160,slow=2.7,SNR=4.8
TXAR LR LR 22 28 14.3
comp=Z,5µm,19.0s,MS5.2,baz=90,slow=34
TXAR PKKP 22 41 49.0
comp=Z,0.2nm,0.8s,baz=324,slow=11,SNR=2.3
TXAR Lajitas Array 32.04 339 P **P** **22 16 35.4 +0.2**
TXAR 22 19 24.9
TXAR Lajitas Array 32.04 339 P **P** **22 16 35.4 +0.2**
TXAR PcP PcP 22 19 24.9 -0.1
TXAR LR LR 22 28 14.3
TXAR PKKP 22 41 49.0
GRGR Grenville 32.11 66 eP **P** **22 16 42.4 +6.3**
GRGR LR LR
comp=Z,500nm,22.0s,MS4.2
NATX Nacogdoches 32.37 355 eP **P** **22 16 38.8 +0.7**
comp=Z,201nm,1.1s,mb5.9
NATX ePP PP 22 17 49.5 -1.8
NATX ePcP PcP 22 19 25.9 +0.1
NATX eS **S** **22 22 00.3 +8.0**
NATX LR LR
comp=Z,697nm,20.0s,MS4.3
VBMS Vicksburg 32.69 1 eP **P** **22 16 40.6 -0.3**
VBMS LR LR
comp=Z,910nm,19.0s,MS4.5
SIV San Ignacio 33.55 119 P **P** **22 16 50.5 +1.9**
comp=Z,156nm,1.0s,mb5.9,baz=292,slow=11,SNR=349
FDF Fort de France 33.57 62 eP **P** **22 16 48.8 0.0**
FDF eS S 22 21 46.7 -25
BBGH Gun Hill 34.38 65 P **P** **22 16 55.6 -0.2**
BBGH eS **S** **22 22 28.2 +4.3**
BBGH LR LR
comp=Z,2µm,22.0s,MS4.8
LCO Las Campanas 34.43 147 eP **P** **22 16 58.5 +2.4**
comp=Z,231nm,1.0s,mb6.1
LCO PP PP 22 18 16.4 +2.3
LCO LR LR
comp=Z,3µm,22.0s,MS5.0
GOGA Godfrey 34.67 12 eP **P** **22 16 57.0 -1.1**
GOGA e 22 18 16.3
GOGA e 22 19 32.1
GOGA MLR MLR
comp=Z,666nm,19.0s,MS4.4
GOGA Godfrey 34.67 12 eP **P** **22 16 57.0 -1.1**
GOGA ePP PP 22 18 16.3 -0.6
GOGA ePcP PcP 22 19 32.1 -0.1
GOGA eS **S** **22 22 09.5 -19**
GOGA LR LR
comp=Z,666nm,19.0s,MS4.4
GDL2 Guadalupe Moun 34.90 341 eP **P** **22 17 01.9 +1.8**
OXF Oxford 35.01 3 eP **P** **22 16 59.6 -1.4**
comp=Z,217nm,1.2s,mb6.0
OXF ePP PP 22 18 20.0 -0.5
OXF ePcP PcP 22 19 32.6 -0.6
OXF eS **S** **22 22 26.0 -7.1**
OXF LR LR
comp=Z,1µm,20.0s,MS4.6
MIAR Mount Ida 35.06 357 eP **P** **22 17 01.0 -0.4**
MIAR e 22 18 20.1
MIAR e 22 19 33.4
MIAR pmax pmax
comp=Z,137nm,1.0s,mb5.8
MIAR MLR MLR
comp=Z,649nm,19.0s,MS4.4
MIAR Mount Ida 35.06 357 eP **P** **22 17 01.0 -0.4**
comp=Z,137nm,1.0s,mb5.8
MIAR ePP PP 22 18 20.1 -1.0
MIAR ePcP PcP 22 19 33.4 0.0
MIAR eS **S** **22 22 44.8 +11**
MIAR LR LR
comp=Z,649nm,19.0s,MS4.4
NHSC New Hope 35.18 16 eP **P** **22 17 02.0 -0.5**
NHSC ePcP PcP 22 19 33.8 +0.1
NHSC eS **S** **22 22 25.4 -10**
NHSC LR LR
comp=Z,572nm,19.0s,MS4.3
UALR University of 35.24 359 eP **P** **22 17 02.8 -0.2**
comp=Z,94nm,1.0s,mb5.7
UALR ePP PP 22 18 26.4 +3.3
UALR ePcP PcP 22 19 39.2 +5.3
TLL Tololo Astrono 35.28 148 ⇓↑P **P** **22 17 07.1 +3.7**
COW Cow Castle Cre 35.30 16 eP **P** **22 17 03.2 -0.3**
COW ePcP PcP 22 19 33.6 -0.4
PLAL Pickwick Lake 35.57 5 eP **P** **22 17 04.5 -1.4**
comp=Z,147nm,2.1s,mb5.5
PLAL ePP PP 22 18 27.9 +1.2
PLAL ePcP PcP 22 19 34.0 -0.8
PLAL eS S 22 22 21.3 -20
MET Memphis--Engin 35.60 2 eP **P** **22 17 05.8 -0.2**
WMOK Wichita Mounta 35.87 350 eP **P** **22 17 07.7 -0.7**
WMOK e 22 18 32.2
WMOK e 22 19 35.9
WMOK MLR MLR
comp=Z,639nm,19.0s,MS4.4
WMOK Wichita Mounta 35.87 350 eP **P** **22 17 07.7 -0.7**
WMOK ePP PP 22 18 32.2 +2.1
WMOK ePcP PcP 22 19 35.9 +0.2
WMOK eS **S** **22 22 55.8 +10**
WMOK LR LR
comp=Z,639nm,19.0s,MS4.4
JSC Jenkinsville 36.01 14 eP **P** **22 17 08.9 -0.7**
HBAR Harrisburg 36.01 1 eP **P** **22 17 09.4 -0.2**
HBAR ePcP PcP 22 19 36.9 +0.8
SWET Sewanee 36.03 8 eP **P** **22 17 08.8 -1.0**
SWET ePP PP 22 18 30.8 -1.0
319A Douglas 36.09 333 ⇑↑P **P** **22 17 11.0 +0.6**
baz=36,SNR=44
HALT Halls 36.41 3 eP **P** **22 17 12.7 -0.3**
GNAR Gosnell 36.44 2 eP **P** **22 17 13.4 +0.2**
GNAR ePP PP 22 18 35.1 -1.2
CPCT Cooper Cave 36.47 9 eP **P** **22 17 13.1 -0.4**
CPCT ePP PP 22 18 33.2 -3.4
CPCT ePcP PcP 22 19 37.5 0.0
219A White Tail Can 36.61 334 ⇓P **P** **22 17 15.5 +0.7**
baz=36,SNR=56
AMTX Amarillo 36.63 346 eP **P** **22 17 14.8 -0.1**
AMTX ePP PP 22 18 42.4 +3.9
AMTX ePcP PcP 22 19 41.1 +3.1
AMTX LR LR
comp=Z,1µm,21.0s,MS4.6
GLAT Glass 36.77 3 eP **P** **22 17 15.6 -0.5**
TKL Tuckaleechee C 36.80 10 P **P** **22 17 15.6 -0.8**
comp=Z,21nm,1.1s,mb4.9,baz=180,slow=8.9,SNR=14
TKL LR LR 22 32 40.6
comp=Z,758nm,18.8s,MS4.5,baz=188,slow=37
TKL Tuckaleechee C 36.80 10 eP **P** **22 17 15.3 -1.0**
TKL e 22 18 41.2
TKL Tuckaleechee C 36.80 10 eP **P** **22 17 15.3 -1.0**
TKL ePP PP 22 18 41.2 +1.0
TKL eS **S** **22 22 42.7 -18**
UTMT University of 36.87 3 eP **P** **22 17 16.0 -0.9**
UTMT ePP PP 22 18 40.3 -0.7
218A Dragoon 36.94 333 ⇑↑P **P** **22 17 18.3 +0.7**
baz=36,SNR=33
217A Green Valley 37.13 332 ⇓P **P** **22 17 19.9 +0.7**
baz=37,SNR=133
PARMO Parma 37.14 2 eP **P** **22 17 18.8 -0.5**
119A Ashpeak Ranch, 37.29 335 ⇑↑P **P** **22 17 21.2 +0.7**
baz=37,SNR=27

BNM Barren Site 37.45 339 eP **P** **22 17 23.1 +1.2**
BNM ePcP PcP 22 19 41.2 +0.7
118A Homack Ranch, 37.47 334 ⇑↑P **P** **22 17 22.6 +0.5**
baz=37,SNR=45
Y22C IRIS PASSCAL I 37.49 339 ⇓↑P **P** **22 17 23.6 +1.4**
baz=37
TUC Tucson 37.56 332 eP **P** **22 17 23.4 +0.5**
TUC pmax pmax
comp=Z,68nm,1.1s,mb5.3
TUC MLR MLR
comp=Z,2µm,19.0s,MS4.9
TUC Tucson 37.56 332 eP **P** **22 17 23.4 +0.6**
comp=Z,68nm,1.1s,mb5.3
TUC LR LR
comp=Z,2µm,19.0s,MS4.9
LENM Lemitar 37.59 339 eP **P** **22 17 24.0 +0.9**
LPM Los Pinos Moun 37.60 339 eP **P** **22 17 24.6 +1.5**
216A Three Points, 37.62 331 ⇓↑P **P** **22 17 23.9 +0.5**
baz=37,SNR=10.0
TZTN Tazewell 37.70 10 eP **P** **22 17 23.4 -0.5**
comp=Z,227nm,2.2s,mb5.5
TZTN ePP PP 22 18 53.9 +3.8
TZTN eS **S** **22 23 09.2 -5.1**
TZTN LR LR
comp=Z,836nm,20.0s,MS4.5
Z19A T-Link Ranch, 37.73 335 ⇓↑P **P** **22 17 24.9 +0.7**
baz=37,SNR=6.5
117A Oracle 37.76 333 ⇓↑P **P** **22 17 25.1 +0.5**
baz=37,SNR=42
CFAA Coronel Fontan 37.78 147 P **P** **22 17 27.9 +3.2**
comp=Z,12nm,0.9s,mb4.6,baz=316,slow=7.8,SNR=106
CNNC Cliffs of the 37.85 18 eP **P** **22 17 24.3 -0.9**
CNNC ePP PP 22 18 51.5 -0.3
CNNC eS **S** **22 23 11.6 -4.9**
CNNC LR LR
comp=Z,861nm,21.0s,MS4.5
LAZ Ladron 37.86 339 eP **P** **22 17 26.2 +0.8**
LAZ ePcP PcP 22 19 43.4 +1.7
Z18A Geronimo 37.88 334 ⇓↑P **P** **22 17 26.5 +1.0**
baz=38
FCH Farellones 38.07 151 ⇓↑P **P** **22 17 30.6 +3.5**
ANMO Albuquerque 38.12 340 P **P** **22 17 28.0 +0.5**
comp=Z,37nm,0.9s,mb5.1,baz=154,slow=9.8,SNR=65
ANMO LR LR 22 32 11.1
comp=Z,5µm,18.2s,MS5.4,baz=274,slow=35
ANMO Albuquerque 38.12 340 eP **P** **22 17 28.0 +0.5**
ANMO e 22 18 55.9
ANMO e 22 19 43.0
ANMO pmax pmax
comp=Z,75nm,1.1s
ANMO MLR MLR
comp=Z,5µm,19.0s
ANMO Albuquerque 38.12 340 eP **P** **22 17 28.0 +0.4**
comp=Z,75nm,1.1s,mb5.3
ANMO ePP PP 22 18 55.9 +1.1
ANMO ePcP PcP 22 19 43.0 +0.4
ANMO LR LR
comp=Z,5µm,19.0s,MS5.3
116A Eloy 38.20 332 ⇑↑P **P** **22 17 28.8 +0.5**
baz=38,SNR=15
SIUC Southern Illin 38.21 3 eP **P** **22 17 28.3 0.0**
SIUC ePP PP 22 18 57.8 +2.0
SIUC ePcP PcP 22 19 44.0 +1.3
214A Organ Pipe Nat 38.25 330 ⇓↑P **P** **22 17 29.3 +0.6**
baz=38,SNR=33
Z17A San Carlos Hig 38.25 334 ⇓↑P **P** **22 17 29.4 +0.7**
baz=38,SNR=14
Y19A Nutrioso 38.30 336 ⇑↑P **P** **22 17 30.3 +1.2**
baz=38,SNR=49
FVM French Village 38.44 1 eP **P** **22 17 29.1 -1.1**
FVM e 22 19 42.9
Y18A Canyon Day Jun 38.47 335 ⇓↑P **P** **22 17 31.0 +0.5**
baz=38,SNR=9.6
USIN University of 38.56 5 eP **P** **22 17 30.8 -0.4**
USIN ePP PP 22 19 01.5 +1.9
115A Sonoran Desert 38.57 331 ⇑↑P **P** **22 17 32.1 +0.8**
baz=38,SNR=29
X19A St. Johns 38.72 336 ⇑↑P **P** **22 17 33.4 +0.8**
baz=38,SNR=30
Z16A Peralta Trail, 38.72 333 ⇓↑P **P** **22 17 33.0 +0.4**
baz=38
Y17A Roosevelt 38.75 334 ⇑↑P **P** **22 17 33.2 +0.3**
baz=38,SNR=12
ELN Prospectdale 38.94 14 eP **P** **22 17 33.1 -1.3**
ELN ePcP PcP 22 19 44.9 -0.2
WCI Wyandotte Cave 38.96 6 eP **P** **22 17 33.5 -1.0**
WCI e 22 19 45.1
WCI MLR MLR
comp=Z,534nm,19.0s,MS4.4
WCI Wyandotte Cave 38.96 6 eP **P** **22 17 33.5 -1.0**
WCI ePcP PcP 22 19 45.1 0.0
WCI eS **S** **22 23 19.5 -14**
WCI LR LR
comp=Z,534nm,19.0s,MS4.4
BLA Blacksburg 39.00 14 eP **P** **22 17 34.0 -0.9**
BLA e 22 19 02.8
BLA e 22 19 41.3
BLA eS **S** **22 23 35.4 +1.5**
BLA pmax pmax
comp=Z,216nm,1.4s,mb5.7
BLA MLR MLR
comp=Z,845nm,20.0s,MS4.6
BLA Blacksburg 39.00 14 eP **P** **22 17 34.0 -0.9**
comp=Z,216nm,1.4s,mb5.7
BLA ePP PP 22 19 02.8 -1.7
BLA ePcP PcP 22 19 41.3 -3.9
BLA eS **S** **22 23 35.4 +1.5**
BLA LR LR
comp=Z,845nm,20.0s,MS4.6
Z15A Gila River Ind 39.02 332 ⇓↑P **P** **22 17 35.7 +0.6**
baz=39
X18A Snowflake 39.08 335 ⇑↑P **P** **22 17 36.5 +0.9**
baz=39,SNR=13
SLM Saint Louis 39.09 1 eP **P** **22 17 35.1 -0.6**
SLM e 22 19 44.8
SLM pmax pmax
comp=Z,108nm,1.1s,mb5.5
SLM Saint Louis 39.09 1 eP **P** **22 17 35.1 -0.6**
comp=Z,108nm,1.1s,mb5.5
SLM ePcP PcP 22 19 44.8 -0.7
Y16A Circle Bar Ran 39.19 333 ⇓↑P **P** **22 17 37.4 +0.8**
baz=39,SNR=36
X17A Forest Lakes 39.28 334 ⇑↑P **P** **22 17 38.4 +1.1**
baz=39,SNR=33
OLIL Olney 39.29 4 eP **P** **22 17 36.7 -0.6**
comp=Z,121nm,0.9s,mb5.6
W19A Sanders 39.35 336 ⇓↑P **P** **22 17 38.5 +0.6**
baz=39,SNR=9.7
113A Mohawk Valley, 39.38 330 ⇓↑P **P** **22 17 38.8 +0.7**
baz=39,SNR=12
Z14A Wintersburg 39.45 331 ⇓↑P **P** **22 17 39.5 +0.8**
baz=39,SNR=7.0
W18A Petrified Fore 39.50 336 ⇑↑P **P** **22 17 39.9 +0.7**
baz=39,SNR=13
112A Yuma 39.62 329 ⇓↑P **P** **22 17 40.7 +0.6**
baz=39,SNR=5.3
X16A Lo Mia Camp, P 39.63 334 ⇑↑P **P** **22 17 41.2 +0.9**
baz=39,SNR=35
Y15A Casa Rosa Ranc 39.65 332 ⇑↑P **P** **22 17 41.0 +0.6**
baz=39,SNR=42
V19A Window Rock 39.75 337 ⇓↑P **P** **22 17 41.9 +0.7**
baz=39,SNR=29
KSU1 Kansas State U 39.84 354 eP **P** **22 17 41.4 -0.4**
KSU1 ePP PP 22 19 17.0 +3.5
KSU1 ePcP PcP 22 19 47.8 -0.1
KSU1 LR LR
comp=Z,782nm,20.0s,MS4.5
BLO Bloomington 39.87 6 eP **P** **22 17 40.6 -1.5**
BLO pmax pmax
comp=Z,119nm,0.8s,mb5.7
BLO Bloomington 39.87 6 eP **P** **22 17 40.6 -1.5**
comp=Z,120nm,0.8s,mb5.7
W17A Winslow 39.87 335 ⇓↑P **P** **22 17 42.9 +0.6**
baz=40,SNR=13
CBKS Cedar Bluff 40.01 350 eP **P** **22 17 43.1 -0.2**
CBKS e 22 19 23.0
CBKS e 22 19 49.1
CBKS eS **S** **22 23 49.7 +0.8**
CBKS pmax pmax
comp=Z,143nm,1.0s,mb5.7
CBKS MLR MLR
comp=Z,648nm,21.0s,MS4.5
CBKS Cedar Bluff 40.01 350 eP **P** **22 17 43.1 -0.2**
comp=Z,143nm,1.0s,mb5.7
CBKS ePP PP 22 19 23.0 +7.6

CBKS ePcP PcP 22 19 49.1 +0.7
CBKS eS **S** **22 23 49.7 +0.8**
CBKS LR LR
comp=Z,648nm,21.0s,MS4.5
X15A Humboldt 40.04 333 ⇑↑P **P** **22 17 44.4 +0.7**
baz=40,SNR=31
V18A Ganado 40.09 336 ⇓↑P **P** **22 17 44.2 +0.2**
baz=40,SNR=6.7
URVA University of 40.11 17 eP **P** **22 17 42.7 -1.5**
GLA Glamis 40.15 329 eP **P** **22 17 45.4 +0.8**
GLA e 22 19 51.3
GLA MLR MLR
comp=Z,846nm,20.0s,MS4.6
GLA Glamis 40.15 329 ⇓↑P **P** **22 17 45.1 +0.5**
baz=40,SNR=17
GLA Glamis 40.15 329 eP **P** **22 17 45.4 +0.8**
GLA ePcP PcP 22 19 51.3 +2.3
GLA eS **S** **22 23 38.5 -13**
GLA LR LR
comp=Z,846nm,20.0s,MS4.6
W16A Flagstaff 40.24 334 ⇑↑P **P** **22 17 46.2 +1.0**
baz=40,SNR=20
Y13A Salome 40.25 331 ⇓↑P **P** **22 17 46.0 +0.6**
baz=40,SNR=8.5
X14A Yava 40.33 332 ⇓↑P **P** **22 17 47.0 +0.9**
baz=40,SNR=28
SDCO Great Sand Dun 40.36 343 eP **P** **22 17 46.9 +0.6**
comp=Z,218nm,1.6s,mb5.6
SDCO ePcP PcP 22 19 49.9 +0.4
SDCO eS **S** **22 23 38.8 -16**
SDCO LR LR
comp=Z,2µm,19.0s,MS5.0
DVTC Desert V Tower 40.52 327 ⇓↑P **P** **22 17 48.6 +1.0**
baz=40,SNR=9.0
WUAZ Wupatki 40.53 335 ⇓↑P **P** **22 17 48.6 +1.0**
baz=40,SNR=62
WUAZ Wupatki 40.53 335 eP **P** **22 17 48.9 +1.2**
WUAZ ePP PP 22 19 20.9 -0.2
WUAZ ePcP PcP 22 19 57.9 +7.7
WUAZ LR LR
comp=Z,2µm,19.0s,MS4.9
Y12C Blythe 40.55 330 ⇓↑P **P** **22 17 48.5 +0.6**
baz=40,SNR=17
SWSC Sam W. Stewart 40.57 328 ⇓↑P **P** **22 17 48.7 +0.6**
baz=40,SNR=7.9
W15A Williams 40.63 333 ⇓↑P **P** **22 17 49.9 +1.4**
baz=40,SNR=28
T19A Beclabito 40.72 338 ⇑↑P **P** **22 17 49.2 0.0**
baz=40,SNR=19
PDMCI Parker Dam,Lak 40.79 331 ⇓↑P **P** **22 17 50.4 +0.5**
baz=40,SNR=12
BAR Barrett 40.85 327 eP **P** **22 17 50.8 +0.4**
comp=Z,111nm,1.1s,mb5.4
BAR eS **S** **22 24 04.7 +2.9**
BAR LR LR
comp=Z,1µm,19.0s,MS4.7
MVCO Mesa Verde 40.87 339 PFAKE 22 18 00.0 +10
MVCO LR LR
comp=Z,3µm,20.0s,MS5.1
MONP Monument Peak 40.87 327 ⇑↑P **P** **22 17 51.2 +0.6**
baz=40,SNR=5.5
BC3 Big Chuckw Mtn 40.95 329 ⇑↑P **P** **22 17 51.9 +0.8**
baz=40,SNR=39
U16A Tuba City 40.95 335 ⇑↑P **P** **22 17 52.1 +0.9**
baz=40,SNR=26
W14A Seligman 41.03 333 ⇑↑P **P** **22 17 53.0 +1.1**
baz=41,SNR=23
V15A Kaibab Nationa 41.13 334 ⇓↑P **P** **22 17 53.5 +0.9**
baz=41,SNR=29
U17A Shonto 41.16 336 ⇓↑P **P** **22 17 53.6 +0.7**
baz=41,SNR=26
IRM Iron Mountain 41.19 329 ⇑↑P **P** **22 17 53.8 +0.7**
baz=41,SNR=16
109C Camp Elliot, M 41.25 326 ⇓↑P **P** **22 17 53.8 +0.2**
baz=41
T18A Mexican Hat 41.31 337 ⇓↑P **P** **22 17 54.3 +0.2**
baz=41,SNR=79
W13A Hualapai Mount 41.32 332 ⇓↑P **P** **22 17 55.3 +1.1**
baz=41,SNR=63
BBSR BB Station 41.39 35 eP **P** **22 17 54.7 -0.1**
comp=Z,142nm,1.2s,mb5.5
BBSR eS **S** **22 24 07.3 -2.5**
BBSR LR LR
comp=Z,990nm,20.0s,MS4.7
ACSO Alum Creek Sta 41.39 10 eP **P** **22 17 53.8 -0.9**
ACSO ePcP PcP 22 19 57.3 +4.5
ACSO eS **S** **22 24 06.9 -2.6**
ACSO LR LR
comp=Z,707nm,22.0s,MS4.5
V14A Boquillas Ranc 41.39 333 ⇓↑P **P** **22 17 55.8 +1.0**
baz=41,SNR=20
NEE2 Needles Airpor 41.40 331 ⇑↑P **P** **22 17 55.5 +0.6**
baz=41
PFO Pinyon Flat Ob 41.44 328 eP **P** **22 17 56.0 +0.8**
PFO e 22 19 54.0
PFO pmax pmax
comp=Z,86nm,1.1s,mb5.3
PFO MLR MLR
comp=Z,2µm,20.0s,MS5.0
PFO Pinyon Flat Ob 41.44 328 ⇑↑P **P** **22 17 56.1 +0.8**
baz=41,SNR=10
PFO Pinyon Flat Ob 41.44 328 eP **P** **22 17 56.0 +0.8**
comp=Z,86nm,1.1s,mb5.3
PFO ePcP PcP 22 19 54.0 +0.8
PFO eS **S** **22 23 58.4 -12**
PFO LR LR
comp=Z,2µm,20.0s,MS5.0
MCWV Mont Chateau 41.47 13 eP **P** **22 17 53.5 -1.8**
MCWV ePP PP 22 19 30.5 -0.7
MCWV ePcP PcP 22 19 58.1 +5.0
MCWV LR LR
comp=Z,893nm,20.0s,MS4.6
BELC Belle Mtn. 41.50 328 ⇑↑P **P** **22 17 56.6 +0.9**
baz=41,SNR=27
T17A Navajo Res., N 41.56 336 ⇑↑P **P** **22 17 56.9 +0.8**
baz=41,SNR=17
S19A Harvey Farm, M 41.57 339 ⇓↑P **P** **22 17 56.6 +0.3**
baz=41,SNR=39
U15A North Rim 41.69 334 ⇑↑P **P** **22 17 58.3 +1.1**
baz=41,SNR=38
PV01 Paradox Valley 41.72 339 eP **P** **22 17 58.4 +1.0**
PV01 ePP PP 22 19 34.5 +0.5
T16A Glen Canyon Da 41.83 336 ⇓↑P **P** **22 17 59.1 +0.8**
baz=41,SNR=11
MURC Murrieta 41.83 327 ⇑↑P **P** **22 17 59.0 +0.5**
baz=41
S18A Hurst Farm, Bl 41.84 338 ⇑↑P **P** **22 17 58.9 +0.4**
baz=41,SNR=23
LDFC Landfair 41.89 330 eP **P** **22 18 00.7 +1.8**
LDFC eS **S** **22 24 07.5 -10**
GMRC Granite Mounta 41.93 330 ⇓↑P **P** **22 18 00.1 +0.9**
baz=42,SNR=34
W12A Cal Nev Ari 41.95 331 ⇓↑P **P** **22 17 59.9 +0.5**
baz=42
V13A Grand Canyon W 41.98 332 ⇑↑P **P** **22 18 00.5 +0.9**
baz=42,SNR=52
SDMD Soldier's Deli 42.02 17 eP **P** **22 17 59.1 -0.7**
SDMD ePcP PcP 22 19 54.7 -0.2
U14A Mt Trumbull 42.07 333 ⇑↑P **P** **22 18 01.3 +1.0**
baz=42,SNR=36
PV10 Paradox Valley 42.10 339 eP **P** **22 18 00.8 +0.3**
R19A Curley Farm, L 42.10 339 ⇓↑P **P** **22 18 00.6 +0.1**
baz=42,SNR=6.1
S17A Black Ridge (B 42.11 337 ⇓↑P **P** **22 18 01.2 +0.6**
baz=42,SNR=27
BBRC Big Bear Sol-O 42.19 328 ⇓↑P **P** **22 18 02.6 +1.3**
baz=42
T15A Red Dirt Ranch 42.23 335 ⇓↑P **P** **22 18 02.5 +0.9**
baz=42,SNR=11
V12A Nelson 42.28 331 ⇓↑P **P** **22 18 02.7 +0.6**
baz=42,SNR=27
ISCO Idaho Springs 42.30 344 eP **P** **22 18 02.4 +0.2**
ISCO e 22 19 56.8
ISCO MLR MLR
comp=Z,2µm,20.0s,MS4.9
ISCO Idaho Springs 42.30 344 eP **P** **22 18 02.4 +0.2**
ISCO ePcP PcP 22 19 56.8 +0.9
ISCO eS **S** **22 24 32.7 +10**
ISCO LR LR
comp=Z,2µm,20.0s,MS4.9
HEC Hector,Ludlow 42.31 329 ⇑↑P **P** **22 18 03.6 +1.3**
baz=42,SNR=25
CIS Catalina Islan 42.36 326 ⇑↑P **P** **22 18 03.0 +0.3**
baz=42,SNR=5.2
SCIA State Center 42.38 358 eP **P** **22 18 02.0 -0.8**
comp=Z,135nm,1.1s,mb5.5

SCIA ePcP PcP 22 19 58.8 +2.7
SCIA eS **S** **22 24 12.3 -12**
SCIA LR LR
comp=Z,1µm,21.0s,MS4.7
R18A Canyonlands Na 42.42 338 ⇑P **P** **22 18 03.3 +0.2**
baz=42,SNR=60
U13A Pakoon Wash 42.43 333 ⇑P **P** **22 18 04.0 +0.7**
baz=42,SNR=37
S16A Weppner Ranch, 42.50 336 ⇑P **P** **22 18 04.3 +0.5**
baz=42,SNR=19
BFSC Mount Baldy St 42.56 327 ⇑P **P** **22 18 05.1 +0.6**
baz=42,SNR=9.8
T14A Hurricane 42.57 334 ⇑P **P** **22 18 05.2 +0.8**
baz=42
TUQ Turquoise Mtn. 42.58 330 ⇓P **P** **22 18 05.4 +0.9**
baz=42,SNR=90
V11A Goodsprings 42.66 331 ⇓P **P** **22 18 05.7 +0.5**
baz=42,SNR=13
Q19A Hogan Spring (42.69 339 ⇑P **P** **22 18 05.5 +0.1**
baz=42,SNR=27
RRX Edison Barstow 42.70 328 ⇑P **P** **22 18 06.6 +1.1**
baz=42
MVL Millersville 42.71 17 *eP* **P** **22 17 55.6 -10**
comp=Z,70nm,1.0s,mb5.3
MVL ePP PP 22 19 43.7 -1.0
U12A Valley of Fire 42.71 332 ⇑P **P** **22 18 06.0 +0.5**
baz=42,SNR=7.9
R17A Hanksville Air 42.75 337 ⇑P **P** **22 18 06.1 +0.3**
baz=42,SNR=12
MWC Mount Wilson 42.77 327 *eP* **P** **22 18 07.5 +1.4**
MWC e 22 20 02.0
MWC eS **S** **22 24 35.8 +5.7**
MWC pmax pmax
comp=Z,116nm,1.1s,mb5.5
MWC MLR MLR
comp=Z,766nm,22.0s,MS4.5
MWC Mount Wilson 42.77 327 *eP* **P** **22 18 07.5 +1.4**
comp=Z,116nm,1.1s,mb5.5
MWC ePcP PcP 22 20 02.0 +4.4
MWC eS **S** **22 24 35.8 +5.7**
MWC LR LR
comp=Z,766nm,22.0s,MS4.5
S15A Panguitch 42.78 335 ⇑P **P** **22 18 07.2 +1.1**
baz=42,SNR=11
SNCC San Nicolas Is 42.88 324 PFAKE 22 18 20.0 +13
SNCC LR LR
comp=Z,1µm,19.0s,MS4.7
T13A Saint George 42.90 333 ⇓P **P** **22 18 07.9 +0.9**
baz=42,SNR=10
GSC Goldstone 42.93 329 *eP* **P** **22 18 08.4 +1.1**
GSC e 22 20 04.0
GSC eS **S** **22 24 39.7 +7.3**
GSC pmax pmax
comp=Z,110nm,1.0s,mb5.5
GSC Goldstone 42.93 329 ⇓P **P** **22 18 08.3 +1.0**
baz=42,SNR=21
GSC Goldstone 42.93 329 *eP* **P** **22 18 08.4 +1.1**
comp=Z,110nm,1.0s,mb5.5
GSC ePcP PcP 22 20 04.0 +5.9
GSC eS **S** **22 24 39.7 +7.3**
R16A Teasdale 42.94 337 ⇓P **P** **22 18 08.1 +0.7**
baz=42,SNR=21
DECC Green Verdugo 42.94 327 ⇓P **P** **22 18 08.6 +1.1**
baz=43
T12A Moapa 43.03 332 ⇓P **P** **22 18 08.7 +0.5**
baz=43,SNR=6.3
SHPR Sheep Range 43.06 332 *eP* **P** **22 18 09.1 +0.7**
U11A Corn Creek 43.10 331 ⇑P **P** **22 18 09.5 +0.8**
baz=43,SNR=5.9
SHOC Shoshone 43.12 330 ⇓P **P** **22 18 09.6 +0.7**
baz=43,SNR=28
Q18A Rafter H Ranch 43.13 339 ⇑P **P** **22 18 09.3 +0.3**
baz=43,SNR=31
S14A Cedar City 43.19 335 ⇓P **P** **22 18 10.6 +1.2**
baz=43,SNR=12
R15A Junction 43.20 336 ⇑P **P** **22 18 10.1 +0.6**
baz=43,SNR=7.3
P19A Cripple Cowboy 43.20 340 ⇓P **P** **22 18 09.6 +0.1**
baz=43,SNR=34
EDW2 Edwards Air Fo 43.23 327 ⇓P **P** **22 18 10.3 +0.5**
baz=43,SNR=36
BLG Laguna Peak 43.24 326 ⇑P **P** **22 18 10.6 +0.7**
baz=43,SNR=5.8
SRU San Rafael 43.29 338 ⇓P **P** **22 18 10.3 +0.1**
baz=43,SNR=22
SRU San Rafael 43.29 338 *eP* **P** **22 18 10.8 +0.6**
ALLY Alegheny Colle 43.30 12 *eP* **P** **22 18 09.7 -0.6**
comp=Z,88nm,0.9s,mb5.5
ALLY ePP PP 22 19 49.4 -1.6
S13A Holt Ranch, En 43.34 334 ⇓P **P** **22 18 11.7 +1.1**
baz=43,SNR=20
Q16A Castle Valley 43.36 337 ⇓P **P** **22 18 11.5 +0.7**
baz=43,SNR=18
JFWS Jewell Farm 43.37 1 *eP* **P** **22 18 09.3 -1.5**
JFWS e 22 19 58.7
JFWS MLR MLR
comp=Z,1µm,22.0s,MS4.7
MSU Marysvale 43.41 336 *eP* **P** **22 18 11.8 +0.6**
MSU e 22 20 02.0
OSI Osito Adit 43.43 327 ⇑P **P** **22 18 12.3 +0.9**
baz=43
OSI Osito Adit 43.43 327 *eP* **P** **22 18 12.1 +0.7**
comp=Z,187nm,1.3s,mb5.7
OSI ePcP PcP 22 20 01.9 +2.1
BSC Santa Cruz Isl 43.48 325 ⇑P **P** **22 18 12.9 +1.0**
baz=43
LRMC Laurel Mountai 43.52 328 ⇓P **P** **22 18 13.0 +0.9**
baz=43,SNR=99
U10A Ash Meadows, A 43.56 330 ⇓P **P** **22 18 13.3 +0.9**
baz=43,SNR=12
R14A James Farms, M 43.58 335 ⇓P **P** **22 18 13.4 +0.9**
baz=43
P18A Preston Nutter 43.64 339 ⇓P **P** **22 18 13.3 +0.3**
baz=43,SNR=20
PHWY Pilot Hill 43.66 345 *eP* **P** **22 18 12.9 -0.3**
PHWY PcP PcP 22 20 00.6 +0.2
PHWY eS **S** **22 24 43.3 +0.3**
T11A Corn Creek, Al 43.68 332 ⇑P **P** **22 18 14.1 +0.7**
baz=43,SNR=25
P17A Butcher Ranch, 43.69 338 ⇓P **P** **22 18 13.4 0.0**
baz=43,SNR=22
TMUT Trail Mountain 43.71 338 *eP* **P** **22 18 14.5 +1.0**
TMUT ePcP PcP 22 20 02.5 +1.9
S12A Delamar Landin 43.81 333 ⇑P **P** **22 18 15.3 +0.9**
baz=43,SNR=10
O19A Miners Draw (B 43.84 340 ⇓P **P** **22 18 14.9 +0.3**
baz=43
FURC Furnace Creek, 43.86 330 ⇑P **P** **22 18 15.5 +0.6**
baz=44,SNR=30
MPMC Manual Prospec 43.86 329 ⇓P **P** **22 18 15.5 +0.6**
baz=44,SNR=49
ARVC Arvin 43.87 327 ⇑P **P** **22 18 15.6 +0.7**
baz=44
R13A O'Grain Ranch, 43.89 334 ⇓P **P** **22 18 16.2 +1.1**
baz=44,SNR=22
Q15A Fillmore 43.91 336 ⇑P **P** **22 18 15.5 +0.3**
baz=44
TPNV Topopah Spring 43.94 331 *eP* **P** **22 18 16.5 +1.0**
TPNV e 22 20 02.8
TPNV MLR MLR
comp=Z,1µm,19.0s,MS4.9
TPNV Topopah Spring 43.94 331 ⇑P **P** **22 18 16.5 +1.0**
baz=44,SNR=67
TPNV Topopah Spring 43.94 331 *eP* **P** **22 18 16.5 +1.0**
TPNV ePcP PcP 22 20 02.8 +1.4
TPNV eS **S** **22 24 58.7 +12**
TPNV LR LR
comp=Z,1µm,19.0s,MS4.9
ISA Isabella 44.08 328 ⇑P **P** **22 18 17.4 +0.8**
baz=44,SNR=19
ISA Isabella 44.08 328 *eP* **P** **22 18 17.4 +0.8**
ISA e 22 20 15.5
ISA eScP ScP 22 23 52.7 -1.4
ISA eS **S** **22 25 03.6 +14**
ISA LR LR
comp=Z,638nm,19.0s,MS4.6
DAC Darwin (Calif) 44.08 329 PFAKE 22 18 30.0 +13
DAC LR LR
comp=Z,2µm,22.0s,MS4.9
O18A Roosevelt 44.12 339 ⇓P **P** **22 18 17.4 +0.5**
baz=44,SNR=9.1
P16A Fountain Green 44.15 337 ⇓P **P** **22 18 17.9 +0.7**
baz=44
PLCA Paso Flores 44.15 157 P **P** **22 18 19.8 +2.7**
comp=Z,68nm,1.1s,mb5.3,baz=328,slow=9.0,SNR=72
PLCA LR LR 22 33 21.6
comp=Z,2µm,18.2s,MS5.1,baz=327,slow=31
CPNY Central Park 44.17 19 *eP* **P** **22 18 16.5 -0.8**
PKM Peak Mountain 44.24 326 ⇓P **P** **22 18 18.3 +0.4**
baz=44,SNR=21
S11A Rachel 44.26 332 ⇑P **P** **22 18 19.0 +1.0**
baz=44,SNR=7.5
Q14A Sevier Lake (B 44.27 335 ⇑P **P** **22 18 18.8 +0.7**
baz=44,SNR=49
R12A Pony Springs, 44.29 334 ⇓P **P** **22 18 19.0 +0.7**
baz=44,SNR=23
O17A Robinson Place 44.32 339 ⇓P **P** **22 18 18.9 +0.4**
baz=44,SNR=33
P15A Leamington 44.36 337 ⇑P **P** **22 18 19.0 +0.2**
baz=44
PAL Palisades 44.38 19 *eP* **P** **22 18 18.2 -0.8**
PAL pmax pmax
comp=Z,64nm,0.9s,mb5.3
PAL Palisades 44.38 19 *eP* **P** **22 18 18.2 -0.7**
comp=Z,64nm,0.9s,mb5.3
N19A John Jarvie Ra 44.40 341 ⇑P **P** **22 18 18.7 -0.3**
baz=44
ECSD EROS,Sioux Fal 44.42 355 *eP* **P** **22 18 17.8 -1.5**
ECSD e 22 20 02.5
ECSD eScP ScP 22 23 40.9 -14
ECSD eS **S** **22 24 50.7 -3.3**
ECSD LR LR
comp=Z,840nm,20.0s,MS4.7
CWC Cottonwood Cre 44.46 329 ⇓P **P** **22 18 20.4 +0.8**
baz=44,SNR=6.7
MPU Maple Canyon 44.49 338 *eP* **P** **22 18 21.3 +1.4**
MPU e 22 20 11.3
MPU eScP ScP 22 23 27.5 -28
MPU eS **S** **22 24 58.9 +3.7**
MPU LR LR
comp=Z,4µm,19.0s,MS5.4
RWWY Rawlins 44.51 343 *eP* **P** **22 18 20.4 +0.4**
GRAC Grapevine Rang 44.53 330 ⇑P **P** **22 18 21.0 +0.8**
baz=44,SNR=8.8
VES Vestal, Richgr 44.53 327 ⇑P **P** **22 18 20.8 +0.6**
baz=44,SNR=14
Q13A Wheeler Ranch, 44.55 335 ⇑P **P** **22 18 20.9 +0.5**
baz=44,SNR=14
NLU North Lily Min 44.61 337 *eP* **P** **22 18 21.7 +0.9**
NLU ePcP PcP 22 20 04.3 +0.6
O16A Springville 44.61 338 ⇓P **P** **22 18 20.7 -0.1**
baz=44,SNR=8.2
N18A Larsen Ranch, 44.64 340 ⇑P **P** **22 18 20.9 -0.1**
baz=44,SNR=20
SMMC Simmler 44.65 326 ⇓P **P** **22 18 21.9 +0.7**
baz=44,SNR=9.6
P14A Drum Mountains 44.69 336 ⇑P **P** **22 18 22.3 +0.9**
baz=44,SNR=35
DAU Daniels Canyon 44.70 338 *eP* **P** **22 18 21.8 +0.3**
DAU e 22 20 05.1
R11A Troy Canyon, C 44.75 333 ⇑P **P** **22 18 22.5 +0.6**
baz=44,SNR=23
BINY Binghamton 44.85 16 *eP* **P** **22 18 22.0 -0.6**
BINY ePcP PcP 22 20 04.1 -0.3
BINY eScP ScP 22 23 55.7 -1.4
BINY eS **S** **22 25 02.0 +1.8**
BINY LR LR
comp=Z,745nm,20.0s,MS4.6
S10A Tonopah Range, 44.88 331 ⇑P **P** **22 18 23.7 +0.7**
baz=44,SNR=24
JLU Jordanelle 44.94 338 *eP* **P** **22 18 24.8 +1.4**
P13A Bates Ranch, G 44.97 335 ⇑P **P** **22 18 24.3 +0.6**
baz=45,SNR=31
RCTC Rector, Farmer 44.97 328 ⇓P **P** **22 18 23.5 -0.2**
baz=45
Q12A Willow Creek R 44.98 334 ⇑P **P** **22 18 23.8 +0.1**
baz=45
V05C Boulder Hill, 45.00 327 ⇓P **P** **22 18 25.0 +0.9**
baz=45
TIN Tinemaha 45.01 329 ⇓P **P** **22 18 24.9 +0.9**
baz=45,SNR=5.2
N17A Moffit Pass 45.01 339 ⇑P **P** **22 18 24.5 +0.6**
baz=45,SNR=31
S09A Goldfield 45.03 331 ⇓P **P** **22 18 24.6 +0.5**
baz=45,SNR=15
R10A Warm Springs 45.03 332 ⇓P **P** **22 18 25.3 +1.1**
baz=45,SNR=14
O15A The Old Anders 45.04 337 ⇑P **P** **22 18 24.8 +0.6**
baz=45
DUG Dugway 45.10 337 *eP* **P** **22 18 24.9 +0.1**
DUG e 22 20 05.6
DUG eS **S** **22 25 03.3 -0.7**
DUG pmax pmax
comp=Z,95nm,1.2s,mb5.5
DUG MLR MLR
comp=Z,2µm,21.0s,MS5.0
DUG Dugway 45.10 337 ⇓P **P** **22 18 25.2 +0.5**
baz=45,SNR=56
DUG Dugway 45.10 337 *eP* **P** **22 18 24.9 +0.1**
comp=Z,95nm,1.2s,mb5.5
DUG ePcP PcP 22 20 05.6 +0.3
DUG eScP ScP 22 23 58.8 +0.6
DUG eS **S** **22 25 03.3 -0.7**
DUG LR LR
comp=Z,2µm,21.0s,MS5.0
CTU Camp Tracy 45.13 338 *eP* **P** **22 18 25.6 +0.7**
CTU ePcP PcP 22 20 06.1 +0.7
N16A Rees Ranch, Co 45.18 338 ⇑P **P** **22 18 25.9 +0.6**
baz=45,SNR=11
Q11A Duckwater 45.18 333 ⇓P **P** **22 18 26.4 +1.0**
baz=45,SNR=51
NOQ North Oquirrh 45.23 338 *eP* **P** **22 18 25.5 -0.3**
BDFB Brasilia 45.29 111 P **P** **22 18 27.8 +1.2**
comp=Z,86nm,0.8s,mb5.6,baz=267,slow=13,SNR=122
BDFB LR LR 22 37 45.0
comp=Z,2µm,18.4s,MS5.2,baz=100,slow=36
TPH Tonopah 45.30 331 *eP* **P** **22 18 27.3 +1.0**
TPH eS **S** **22 25 18.2 +11**
TPH MLR MLR
comp=Z,1µm,20.0s,MS4.9
S08C White Mtn Res 45.32 330 ⇓P **P** **22 18 27.7 +1.2**
baz=45,SNR=21
R09A Tonopah 45.36 331 ⇑P **P** **22 18 27.3 +0.5**
baz=45,SNR=30
P12A McGill 45.37 334 ⇓P **P** **22 18 27.4 +0.6**
baz=45,SNR=22
V04C Ramage Ranch, 45.37 326 ⇓P **P** **22 18 27.7 +0.7**
baz=45,SNR=5.8
MTUM Tungsten Hills 45.41 329 *eP* **P** **22 18 28.0 +0.8**
PKD Parkfield 45.41 326 ⇑P **P** **22 18 27.6 +0.3**
baz=45,SNR=41
U05C Westside ANR, 45.47 327 ⇓P **P** **22 18 27.9 +0.2**
baz=45
Q10A Clear Creek Ra 45.51 332 ⇑P **P** **22 18 29.1 +1.1**
baz=45,SNR=16
O13A Hicks Ranch, I 45.52 336 ⇓P **P** **22 18 28.8 +0.7**
baz=45
N15A Stansbury Isla 45.59 337 ⇑P **P** **22 18 28.9 +0.3**
baz=45,SNR=18
M16A Huntsville 45.62 339 ⇑P **P** **22 18 29.3 +0.4**
baz=45,SNR=11
T06C Milleton Lake 45.74 328 ⇑P **P** **22 18 29.3 -0.5**
baz=45,SNR=6.7
MLAC Mammoth Lakes 45.76 329 ⇓P **P** **22 18 30.8 +0.8**
baz=45,SNR=7.3
KCC Kaiser Creek 45.78 329 ⇑P **P** **22 18 30.2 +0.1**
baz=45,SNR=18
P11A Circle Ranch, 45.80 334 ⇑P **P** **22 18 30.8 +0.5**
baz=45,SNR=12
N14A Grayback Hills 45.81 337 ⇓P **P** **22 18 30.6 +0.3**
baz=45,SNR=49
BGU Big Grassy Mou 45.82 337 *eP* **P** **22 18 30.5 +0.1**
BGU ePcP PcP 22 20 07.0 -0.8
U04C Hernandez Rese 45.85 326 ⇓P **P** **22 18 31.5 +0.7**
baz=46,SNR=13
V03C Hunter Liggett 45.85 326 ⇑P **P** **22 18 31.7 +1.0**
baz=46,SNR=8.7
HWUT Hardware Ranch 45.86 339 *eP* **P** **22 18 30.4 -0.3**
HWUT ePcP PcP 22 20 08.1 +0.2
HWUT eScP ScP 22 24 03.0 +1.7
HWUT eS **S** **22 25 15.6 +0.8**
HWUT LR LR
comp=Z,4µm,19.0s,MS5.4
Q09A Carvers 45.88 332 ⇓P **P** **22 18 31.6 +0.7**
baz=46,SNR=5.9
SPUT South Promonto 45.92 338 *eP* **P** **22 18 31.6 +0.4**
SPUT PcP PcP 22 20 09.0 +0.8
R08A Mina 45.95 331 ⇓P **P** **22 18 32.3 +0.9**
baz=46,SNR=6.9
O12A Currie 45.96 335 ⇑P **P** **22 18 32.1 +0.6**
baz=46,SNR=14
RSSD Black Hills 45.98 347 *eP* **P** **22 18 31.3 -0.3**
RSSD e 22 18 38.2
RSSD eS **S** **22 25 24.9 +8.4**
RSSD pmax pmax
comp=Z,68nm,1.3s,mb5.4
RSSD MLR MLR
comp=Z,788nm,20.0s,MS4.7
RSSD Black Hills 45.98 347 *eP* **P** **22 18 31.3 -0.3**
comp=Z,68nm,1.3s,mb5.4
RSSD e 22 18 38.2
RSSD eS **S** **22 25 24.9 +8.4**
RSSD LR LR
comp=Z,788nm,20.0s,MS4.7
BRYW Bryant College 46.00 21 *eP* **P** **22 18 31.0 -0.8**
BRYW ePcP PcP 22 20 07.6 -0.8
TRQA Tornquist 46.01 147 *eP* **P** **22 18 33.3 +1.4**
TRQA ePcP PcP 22 20 09.2 +0.7
TRQA LR LR
comp=Z,2µm,19.0s,MS5.1
QUA2 Belchertown 46.04 20 *eP* **P** **22 18 30.9 -1.2**
comp=Z,17nm,1.0s,mb4.9
QUA2 e 22 18 37.9
QUA2 ePcP PcP 22 20 08.0 -0.5
M15A Larsen Ranch, 46.06 338 ⇑P **P** **22 18 32.1 -0.2**
baz=46,SNR=41
NVAR Mina Array Bea 46.11 330 P **P** **22 18 33.0 +0.2**
comp=Z,20nm,0.9s,mb5.1,baz=165,slow=9.3,SNR=85
NVAR PcP PcP 22 20 08.6 -0.3
comp=Z,4.3nm,1.0s,baz=163,slow=3.5,SNR=1.8
NVAR Mina Array Bea 46.11 330 P **P** **22 18 33.0 +0.2**
NVAR PcP PcP 22 20 08.6 -0.3
L16A Fish Haven 46.17 339 ⇑P **P** **22 18 32.5 -0.6**
baz=46,SNR=8.1
P10A Eureka 46.18 333 ⇑P **P** **22 18 33.8 +0.6**
baz=46,SNR=9.3
T05C Eagle Field, D 46.18 327 ⇓P **P** **22 18 33.3 0.0**
baz=46
BW06 Boulder Array 46.21 341 PFAKE 22 18 50.0 +17
BW06 LR LR
comp=Z,2µm,20.0s,MS5.1
PDAR Pinedale Array 46.21 341 P **P** **22 18 32.5 -1.0**
comp=Z,6.0nm,1.0s,mb4.5,baz=139,slow=7.0,SNR=36
PDAR PcP PcP 22 20 08.6 -0.6
comp=Z,2.7nm,0.8s,baz=134,slow=7.7,SNR=2.4
PDAR PP PP 22 20 15.7 -6.2
comp=Z,14nm,0.9s,baz=140,slow=5.1,SNR=10
PDAR LR LR 22 37 12.0
comp=Z,2µm,20.3s,MS5.0,baz=167,slow=35
R07C Lee Vining 46.22 329 ⇓P **P** **22 18 34.5 +1.0**
baz=46,SNR=10
N13A Wendover, West 46.23 336 ⇓P **P** **22 18 34.0 +0.4**
baz=46
O11A Cowboy Ranch, 46.24 334 ⇑P **P** **22 18 34.1 +0.4**
baz=46,SNR=16
Q08A Gabbs 46.26 331 ⇑P **P** **22 18 34.4 +0.4**
baz=46,SNR=8.8
HAST Hastings Reser 46.30 326 ⇑P **P** **22 18 34.8 +0.6**
baz=46,SNR=12
S05C Merced 46.33 328 ⇑P **P** **22 18 34.4 -0.1**
baz=46,SNR=5.7
M14A Sheep Mountain 46.43 337 ⇓P **P** **22 18 35.3 0.0**
baz=46,SNR=54
P09A Austin 46.43 332 ⇑P **P** **22 18 35.6 +0.3**
baz=46,SNR=6.5
HVU Hansel Valley 46.45 338 *eP* **P** **22 18 35.5 +0.1**
HVU e 22 18 42.5
HVU e 22 20 09.8
HVU e 22 20 16.7
S06C San Francisco 46.47 329 ⇓P **P** **22 18 35.9 +0.3**
baz=46,SNR=8.1
WES Weston 46.48 20 *eP* **P** **22 18 35.2 -0.4**
WES MLR MLR
comp=Z,1µm,19.0s,MS4.9
L15A Malad City 46.50 338 ⇓P **P** **22 18 35.3 -0.4**
baz=46,SNR=9.4
SAO San Andreas Ge 46.51 326 *eP* **P** **22 18 36.5 +0.6**
SAO e 22 18 43.3
SAO e 22 20 11.2
SAO eS **S** **22 25 26.0 +1.6**
SAO MLR MLR
comp=Z,707nm,19.0s,MS4.6
SAO San Andreas Ge 46.51 326 *eP* **P** **22 18 36.5 +0.6**
SAO e 22 18 43.3
SAO ePcP PcP 22 20 11.2 +0.9
SAO eScP ScP 22 24 21.5 +17
SAO eS **S** **22 25 26.0 +1.6**
SAO LR LR
comp=Z,707nm,19.0s,MS4.6
HRV Adam Dziewonsk 46.51 20 *eP* **P** **22 18 35.1 -0.7**
HRV e 22 18 42.1
HRV eS **S** **22 25 18.7 -5.5**
HRV pmax pmax
comp=Z,20nm,1.3s,mb4.9
HRV MLR MLR
comp=Z,1µm,20.0s,MS4.8
HRV Adam Dziewonsk 46.51 20 *eP* **P** **22 18 35.1 -0.7**
comp=Z,20nm,1.3s,mb4.9
HRV e 22 18 42.1
HRV eScP ScP 22 23 59.0 -5.0
HRV eS **S** **22 25 18.7 -5.5**
HRV LR LR
comp=Z,1µm,20.0s,MS4.8
ELK Elko 46.56 335 *eP* **P** **22 18 36.5 +0.2**
ELK e 22 18 42.6
ELK e 22 20 11.3
ELK e 22 20 17.5
ELK eS **S** **22 25 21.1 -3.9**
ELK pmax pmax
comp=Z,130nm,1.6s
ELK MLR MLR
comp=Z,1µm,19.0s
ELK Elko 46.56 335 *eP* **P** **22 18 36.5 +0.3**
comp=Z,130nm,1.6s,mb5.6
ELK e 22 18 42.6
ELK ePcP PcP 22 20 11.3 +0.9
ELK e 22 20 17.5
ELK eS **S** **22 25 21.1 -3.9**
ELK LR LR
comp=Z,1µm,19.0s,MS4.9
N12A Clover Valley, 46.57 335 ⇑P **P** **22 18 36.7 +0.4**
baz=46,SNR=17
COWI Conover 46.58 2 *eP* **P** **22 18 34.9 -1.4**
COWI ePcP PcP 22 20 10.4 0.0
COWI eS **S** **22 25 29.4 +4.2**
COWI LR LR
comp=Z,506nm,20.0s,MS4.5
PACP Pacheco Peak 46.60 327 ⇓P **P** **22 18 37.0 +0.5**
baz=46,SNR=13
ACCN Adirondack Com 46.61 18 *eP* **P** **22 18 37.6 +1.0**
ACCN e 22 18 44.0
M13A Montello 46.63 336 ⇑P **P** **22 18 36.7 -0.1**
baz=46,SNR=9.8
AHID Auburn Hatcher 46.71 340 *eP* **P** **22 18 36.8 -0.6**
AHID eS **S** **22 25 32.2 +5.1**
AHID LR LR
comp=Z,2µm,19.0s,MS5.0
WAKR Walker 46.73 330 *eP* **P** **22 18 38.6 +0.9**
O10A Cortez Mining, 46.74 334 ⇓P **P** **22 18 38.2 +0.5**
baz=46,SNR=7.1
Q07A Schurz 46.75 330 ⇓P **P** **22 18 38.3 +0.6**
baz=46,SNR=5.6
R06C Coleville 46.75 330 ⇑P **P** **22 18 38.6 +0.8**
baz=46,SNR=15
N11A Elko Archery C 46.83 335 ⇑P **P** **22 18 38.6 +0.2**
baz=46
L14A Malta 46.85 338 ⇓P **P** **22 18 37.9 -0.6**
baz=46,SNR=8.5
CMB Columbia Colle 46.87 328 ⇓P **P** **22 18 38.5 -0.2**
baz=46,SNR=8.7
CMB Columbia Colle 46.87 328 *eP* **P** **22 18 39.1 +0.4**
CMB eScP ScP 22 24 14.2 +8.6
CMB eS **S** **22 25 37.0 +7.5**
CMB LR LR
comp=Z,493nm,20.0s,MS4.5
K16A Soda Springs 46.94 340 ⇑P **P** **22 18 38.5 -0.7**
baz=46
O09A Fish Creek Ran 46.95 333 ⇑P **P** **22 18 39.5 +0.2**
baz=46,SNR=17
NCB Newcomb 46.98 17 *eP* **P** **22 18 38.4 -1.1**
NCB e 22 18 44.4
NCB ePcP PcP 22 20 11.4 -0.4
NCB ePP PP 22 20 30.8 +0.8
NCB eS **S** **22 25 34.9 +4.0**
NCB LR LR
comp=Z,1µm,20.0s,MS4.8
S04C Ingram Canyon, 46.98 327 ⇓P **P** **22 18 39.8 +0.2**

baz=47,SNR=7.5
M12A Wells 46.99 336 ⇓P P 22 18 39.2 -0.3
baz=47,SNR=14
P08A Dixie Valley 46.99 332 ⇑P P 22 18 39.8 +0.2
baz=47
N10A Dunphy 47.09 334 ⇓P P 22 18 40.7 +0.3
baz=47
K15A Arbon 47.15 339 ⇑P P 22 18 39.9 -0.9
baz=47,SNR=9.2
REDW Red Top Meadow 47.16 341 *e*P **P 22 18 40.4 -0.5**
REDW PcP PcP 22 20 11.2 -1.3
REDW *e*ScP ScP 22 23 57.3 -9.4
REDW *e*S **S 22 25 24.6 -8.9**
L13A Double Diamond 47.17 337 ⇑P P 22 18 40.6 -0.4
baz=47,SNR=9.0
BNLO Ben Lomond (Sa 47.17 326 ⇓P P 22 18 41.2 +0.1
baz=47,SNR=7.9
BMN Battle Mountai 47.18 333 *e*P **P 22 18 41.3 +0.2**
BMN *e* 22 18 48.0
BMN *e* 22 20 12.8
BMN *e*S **S 22 25 31.0 -2.8**
BMN pmax pmax
comp=Z,109nm,1.2s,mb5.7
BMN MLR MLR
comp=Z,1µm,20.0s,MS4.9
BMN Battle Mountai 47.18 333 *e*P **P 22 18 41.3 +0.2**
comp=Z,109nm,1.2s,mb5.7
BMN *e* 22 18 48.0
BMN *e*PcP PcP 22 20 12.8 +0.2
BMN *e*S **S 22 25 31.0 -2.8**
BMN LR LR
comp=Z,1µm,20.0s,MS4.9
R05C Kirkwood Meado 47.21 329 ⇑P P 22 18 42.0 +0.7
baz=47,SNR=7.5
SNOW Snow King Moun 47.22 341 *e*P **P 22 18 41.5 +0.2**
SNOW *e*S **S 22 25 41.1 +6.9**
P07A Fallon 47.26 331 ⇓P P 22 18 42.3 +0.6
baz=47
K14A Jones Ranch, D 47.26 338 ⇑P P 22 18 40.7 -1.0
baz=47,SNR=7.7
WENL Wente Brothers 47.30 327 ⇑P P 22 18 43.0 +0.9
baz=47,SNR=5.5
LOHW Long Hollow 47.30 341 *e*P **P 22 18 41.5 -0.5**
LOHW PcP PcP 22 20 14.6 +1.6
LOHW *e*S **S 22 25 38.9 +3.4**
RRI2 Red Ridge 47.30 340 *e*P **P 22 18 41.5 -0.5**
comp=Z,153nm,1.5s,mb5.7
RRI2 *e*PcP PcP 22 20 13.2 +0.2
RRI2 *e*S **S 22 25 24.1 -11**
TPAW Teton Pass 47.31 341 *e*P **P 22 18 41.6 -0.4**
TPAW *e*PcP PcP 22 20 15.6 +2.6
TPAW *e*S **S 22 25 36.8 +1.2**
MDV Middlebury 47.32 18 *e*P **P 22 18 40.7 -1.4**
R04C Big Horse Ranc 47.32 328 ⇓P P 22 18 43.0 +0.7
baz=47
FFD Franklin Falls 47.33 20 *e*P **P 22 18 41.9 -0.4**
comp=Z,8.2nm,0.5s,mb4.9
FFD *e* 22 18 48.1
FFD PcP PcP 22 20 15.2 +2.2
FFD *e* 22 20 21.0
FFD *e*S S 22 26 26.9 +51
HNH Hanover 47.33 19 *e*P **P 22 18 41.8 -0.4**
HNH *e* 22 18 48.0
HNH *e*PcP PcP 22 20 13.4 +0.3
J16A Bone 47.34 340 ⇑P P 22 18 41.8 -0.5
baz=47,SNR=14
M11A Holland Ranch, 47.36 335 ⇑P P 22 18 42.7 +0.2
baz=47,SNR=26
JRSC Jasper Ridge 47.41 326 ⇓P P 22 18 43.3 +0.4
baz=47,SNR=6.5
LONY Lake Ozonia 47.47 16 *e*P **P 22 18 42.0 -1.3**
LONY *e* 22 18 48.6
LONY PcP PcP 22 20 17.4 +3.9
LONY *e*PP PP 22 20 37.0 +2.2
LONY *e*S **S 22 25 41.9 +4.1**
LONY LR LR
comp=Z,987nm,20.0s,MS4.8
DCID1 Drake Creek 47.48 340 *e*P **P 22 18 43.6 +0.3**
DCID1 *e*PcP PcP 22 20 14.4 +0.8
DCID1 *e* 22 20 21.2
DCID1 *e*S **S 22 25 43.5 +5.5**
O08A Rochester Mine 47.49 332 ⇑P P 22 18 43.6 +0.1
baz=47,SNR=6.0
WCN Washoe City 47.50 330 ⇑P P 22 18 44.1 +0.5
baz=47,SNR=9.0
LAVA Lava Cap Winer 47.59 329 ⇑P P 22 18 44.4 +0.1
baz=47,SNR=10.0
BDM Black Diamond 47.60 327 ⇑P P 22 18 45.0 +0.6
baz=47,SNR=7.4
PAHR Pah Rah Range 47.63 331 *e*P **P 22 18 45.7 +1.1**
PAHR *e* 22 18 52.1
PAHR *e*PcP PcP 22 20 14.9 +0.7
SAC San Andreas 47.63 326 *e*P **P 22 18 52.2 +7.5**
L12A House Creek Ra 47.64 336 ⇑P P 22 18 44.3 -0.4
baz=47,SNR=13
N09A Rock Creek Ran 47.65 333 ⇑P P 22 18 44.3 -0.5
baz=47
IMW Indian Meadow 47.66 341 *e*P **P 22 18 44.5 -0.3**
IMW *e*PcP PcP 22 20 14.2 0.0
IMW *e* 22 20 21.5
IMW *e*S **S 22 25 54.0 +13**
K13A Stover Farm, H 47.70 337 ⇑P P 22 18 44.3 -0.8
baz=47
O07A Toulon 47.73 331 ⇓P P 22 18 45.1 -0.3
baz=47,SNR=6.6
J15A Blackfoot 47.73 339 ⇓P P 22 18 44.8 -0.5
baz=47,SNR=14
FLWY Flagg Ranch 47.75 341 *e*P **P 22 18 45.5 0.0**
FLWY *e*PcP PcP 22 20 16.8 +2.2
FLWY *e*S **S 22 25 42.9 +1.0**
M10A I.L. Ranch, Tu 47.76 334 ⇓P P 22 18 45.4 -0.2
baz=47,SNR=8.2
I16A Newdale 47.83 340 ⇑P P 22 18 45.7 -0.4
baz=47
P06A Stead Airport, 47.86 330 ⇓P P 22 18 46.9 +0.5
baz=48
RKT Rikitea 47.86 239 *e*LR LR 22 32 35.7
comp=Z,420nm,25.0s,baz=66
N08A GE Springer Mi 47.87 333 ⇑P P 22 18 46.2 -0.3
baz=48
LBNH Lisbon 47.93 19 *e*P **P 22 18 46.0 -0.8**
LBNH *e* 22 18 52.6
LBNH *e* 22 20 13.9
LBNH *e*S **S 22 25 35.6 -8.8**
LBNH pmax pmax
comp=Z,20nm,1.4s,mb5.0
LBNH MLR MLR
comp=Z,827nm,20.0s,MS4.7
LBNH Lisbon 47.93 19 *e*P **P 22 18 46.0 -0.9**
comp=Z,20nm,1.4s,mb5.0
LBNH *e* 22 18 52.5
LBNH *e*PcP PcP 22 20 13.9 -1.3
LBNH *e*S **S 22 25 35.6 -8.7**
LBNH LR LR
comp=Z,827nm,20.0s,MS4.7
P05C Yuba Gap, Truc 47.93 329 ⇑P P 22 18 47.6 +0.6
baz=48,SNR=17
FRNY Flat Rock 47.95 17 *e*P **P 22 18 46.1 -0.9**
FRNY *e* 22 18 52.4
FRNY *e*PcP PcP 22 20 14.9 -0.4
FRNY PP PP 22 20 38.2 -1.0
L11A Cat Creek Ranc 47.96 336 ⇓P P 22 18 46.8 -0.3
baz=48,SNR=13
Q04C Lincoln 47.98 328 ⇑P P 22 18 48.2 +0.8
baz=48,SNR=6.1
K12A Draper Farm, C 48.01 337 ⇑P P 22 18 47.0 -0.5
baz=48
FARB Farallon Islan 48.04 326 ⇑P P 22 18 47.9 +0.1
baz=48
J14A Carey 48.06 338 ⇑P P 22 18 47.6 -0.3
baz=48,SNR=30
M09A Marrel Ranch, 48.08 334 ⇓P P 22 18 47.7 -0.3
baz=48,SNR=8.1
LKWY Lake 48.09 342 PFAKE 22 19 00.0 +12
LKWY LR LR
comp=Z,3µm,20.0s,MS5.2
YFT Old Faithful 48.13 341 *e*P **P 22 18 49.7 +1.3**
YFT *e*PcP PcP 22 20 17.9 +2.0
YFT *e* 22 20 24.7
Q03C Winters 48.17 328 ⇓P P 22 18 49.6 +0.7
baz=48,SNR=7.1
L10A Juniper Basin 48.18 335 ⇑P P 22 18 48.5 -0.4
baz=48,SNR=12
O06A Flanigan 48.20 331 ⇑P P 22 18 49.0 0.0
baz=48,SNR=9.8
CVS Carmenet Viney 48.20 327 ⇓P P 22 18 49.0 -0.1
baz=48,SNR=7.3
BEKR Beckwourth 48.23 330 ⇓P P 22 18 49.5 +0.3
baz=48,SNR=10
RLMT Red Lodge 48.25 343 *e*P **P 22 18 47.9 -1.4**
comp=Z,52nm,1.6s,mb5.3
RLMT *e*PcP PcP 22 20 16.2 -0.1
RLMT *e*S **S 22 25 53.3 +4.4**
RLMT LR LR
comp=Z,1µm,21.0s,MS4.8
N07B Gerlach 48.26 332 ⇑P P 22 18 49.3 -0.2
baz=48,SNR=7.3
I15A Monteview 48.28 340 ⇑P P 22 18 49.4 -0.1
baz=48
MCCM Marconi Confer 48.29 326 ⇓P P 22 18 49.9 +0.1
baz=48,SNR=8.4
MCCM Marconi Confer 48.29 326 *e*P **P 22 18 51.0 +1.2**
MCCM *e* 22 18 56.2
MCCM *e*S **S 22 25 54.9 +5.1**
MCCM LR LR
comp=Z,769nm,20.0s,MS4.7
YNR Norris Junctio 48.31 342 *e*P **P 22 18 50.4 +0.6**
YNR *e*PcP PcP 22 20 18.3 +1.7
SPB Sao Paulo 48.32 122 *e*P **P 22 18 49.9 -0.3**
YMR Madison River 48.36 341 *e*P **P 22 18 50.5 +0.4**
comp=Z,62nm,1.4s,mb5.5
YMR *e* 22 18 57.2
YMR *e* 22 20 24.7
J13A Cove Ranch, Pi 48.37 338 ⇓P P 22 18 49.7 -0.6
baz=48,SNR=13
EYMN Ely 48.39 360 *e*P **P 22 18 48.4 -2.0**
comp=Z,93nm,1.3s,mb5.7
EYMN *e* 22 18 54.9
EYMN *e*PcP PcP 22 20 21.6 +4.8
EYMN *e*PP PP 22 20 43.8 +0.8
EYMN *e*ScP ScP 22 23 55.8 -16
EYMN *e*S **S 22 25 43.3 -7.5**
EYMN LR LR
comp=Z,882nm,21.0s,MS4.7
OHCM Honcut 48.41 329 *e*P **P 22 18 50.8 +0.1**
OHCM *e* 22 18 57.9
OHCM *e*PcP PcP 22 20 17.6 +0.5
NSHM Saint Helena R 48.41 327 *e*P **P 22 18 51.3 +0.6**
NSHM *e* 22 18 58.0
NSHM *e*PcP PcP 22 20 17.9 +0.9
H16A Russell Place, 48.48 341 ⇓P P 22 18 50.9 -0.2
baz=48,SNR=12
SUTB Sutter Butte 48.49 328 ⇑P P 22 18 51.1 -0.1
baz=48,SNR=5.7
VAO Valinhos 48.50 121 (P) **P 22 18 51.8 +0.1**
M08A Happy Creek Ra 48.52 333 ⇑P P 22 18 50.8 -0.6
baz=48,SNR=7.7
I14A Mackay 48.56 339 ⇑P P 22 18 52.0 +0.2
baz=48,SNR=31
K11A Parker Ranch, 48.58 336 ⇑P P 22 18 51.4 -0.5
baz=48,SNR=6.2
ORV Oroville 48.58 329 ⇑P P 22 18 52.2 +0.3
baz=48,SNR=12
MNRC McLaughlin Nat 48.58 328 ⇑P P 22 18 52.4 +0.4
baz=48,SNR=58
O05C Quincy 48.59 330 ⇑P P 22 18 52.4 +0.4
baz=48,SNR=9.9
J12A Stokes Ranch, 48.60 337 ⇓P P 22 18 51.5 -0.6
baz=48,SNR=21
HLID Hailey 48.60 338 ⇑P P 22 18 51.9 -0.1
baz=48,SNR=35
HLID Hailey 48.60 338 *e*P **P 22 18 52.0 -0.1**
HLID *e* 22 18 59.0
HLID *e*PcP PcP 22 20 18.6 +0.9
HLID *e* 22 20 25.2
HLID *e*ScP ScP 22 24 17.4 +4.7
HLID *e*S **S 22 26 00.1 +6.2**
HLID LR LR
comp=Z,1µm,20.0s,MS4.9
N06A Buffalo Meadow 48.65 331 ⇓P P 22 18 52.5 0.0
baz=48,SNR=9.9
L09A Wilkinson Ranc 48.65 334 ⇑P P 22 18 52.0 -0.5
baz=48,SNR=8.0
QLMT Earthquake Lak 48.66 341 *e*P **P 22 18 52.9 +0.4**
QLMT *e* 22 19 00.4
QLMT *e*PcP PcP 22 20 18.6 +0.8
QLMT *e* 22 20 25.9
I13A Wildhorse Cree 48.79 338 ⇑P P 22 18 53.5 0.0
baz=48,SNR=20
M07A Soldier Meadow 48.83 332 ⇓P P 22 18 53.5 -0.4
baz=48,SNR=9.9
H15A Lima 48.87 340 ⇓P P 22 18 54.5 +0.3
baz=48,SNR=9.9
AGMN Agassiz Refuge 48.90 356 *e*P **P 22 18 52.8 -1.4**
AGMN *e* 22 18 59.7
AGMN *e*PcP PcP 22 20 17.0 -1.6
AGMN S **S 22 26 03.8 +5.9**
AGMN LR LR
comp=Z,750nm,19.0s,MS4.7
LAO LASA Array 48.90 346 *e*P **P 22 18 53.6 -0.8**
LAO *e* 22 19 00.3
LAO PcP PcP 22 20 19.2 +0.6
LAO *e* 22 20 25.5
LAO *e*ScP ScP 22 24 16.4 +2.4
LAO *e*S **S 22 26 01.9 +3.8**
LAO LR LR
comp=Z,1µm,20.0s,MS4.9
K10A MacKenzie Ranc 48.93 335 ⇑P P 22 18 54.2 -0.4
baz=48,SNR=8.8
O04C Chester 48.94 330 ⇑P P 22 18 54.8 0.0
baz=48,SNR=6.3
GCMT Greycliff 48.98 343 *e*P **P 22 18 54.2 -0.7**
GCMT *e*PcP PcP 22 20 22.0 +3.1
ELFS Eagle Lake Fie 48.99 330 ⇓P P 22 18 55.3 +0.2
baz=49
HOPS Hopland 49.00 327 ⇓P P 22 18 55.4 +0.2
baz=49,SNR=8.0
HOPS Hopland 49.00 327 *e*P **P 22 18 56.0 +0.7**
HOPS *e* 22 19 02.8
HOPS *e*S **S 22 25 60.0 +0.2**
HOPS LR LR
comp=Z,1µm,20.0s,MS4.8
MFID Camas Ranch 49.03 336 ⇑P P 22 18 54.7 -0.7
baz=49,SNR=14
L08A Fields 49.09 334 ⇑P P 22 18 55.0 -0.9
baz=49,SNR=6.5
H14A Leadore 49.13 339 ⇓P P 22 18 56.0 -0.1
baz=49
MCMT McKenzie Canyo 49.13 340 *e*P **P 22 18 55.7 -0.4**
MCMT PcP PcP 22 20 23.3 +3.8
K09A Rome 49.23 334 ⇓P P 22 18 56.5 -0.4
baz=49,SNR=41
TAOE Nuku Hiva Isla 49.24 259 *e*LR LR 22 33 09.2
comp=Z,2µm,26.1s
GASB Alder Springs 49.29 328 ⇓P P 22 18 58.2 +0.8
baz=49,SNR=46
G15A Dillon 49.30 340 ⇑P P 22 18 57.2 -0.3
baz=49
M06C Likely Place G 49.31 331 ⇓P P 22 18 57.5 -0.1
baz=49,SNR=8.0
L07A Adell 49.41 333 ⇑P P 22 18 58.0 -0.2
baz=49,SNR=12
WVOR Wild Horse Val 49.42 333 *e*P **P 22 18 57.9 -0.4**
WVOR *e* 22 19 04.5
WVOR *e* 22 20 21.4
WVOR *e*S **S 22 26 01.1 -4.3**
WVOR pmax pmax
comp=Z,112nm,1.7s,mb5.6
WVOR MLR MLR
comp=Z,1µm,20.0s,MS4.9
WVOR Wild Horse Val 49.42 333 *e*P **P 22 18 57.9 -0.4**
comp=Z,112nm,1.7s,mb5.6
WVOR *e* 22 19 04.5
WVOR *e*PcP PcP 22 20 21.4 +0.8
WVOR *e* 22 20 28.6
WVOR *e*ScP ScP 22 24 13.3 -3.0
WVOR *e*S **S 22 26 01.1 -4.3**
WVOR LR LR
comp=Z,1µm,20.0s,MS4.9
J10A Berg Farm, Mel 49.42 336 ⇑P P 22 18 57.5 -0.8
baz=49
BOZ Bozeman (W) 49.45 341 *e*P **P 22 18 57.5 -1.0**
BOZ *e* 22 19 04.9
BOZ *e* 22 20 20.5
BOZ *e*S **S 22 26 14.3 +8.6**
BOZ MLR MLR
comp=Z,2µm,20.0s,MS5.1
BOZ Bozeman (W) 49.45 341 ⇑P P 22 18 57.6 -0.9
baz=49,SNR=28
BOZ Bozeman (W) 49.45 341 *e*P **P 22 18 57.5 -1.0**
BOZ *e* 22 19 04.9
BOZ *e*PcP PcP 22 20 20.5 -0.2
BOZ *e* 22 20 27.8
BOZ *e*S **S 22 26 14.3 +8.5**
BOZ LR LR
comp=Z,2µm,20.0s,MS5.1
LBCM Butte Creek Ri 49.46 330 P **P 22 18 58.5 -0.2**
P01C Double 8 Ranch 49.49 327 ⇓P P 22 18 59.4 +0.5
baz=49,SNR=9.2
I11A Placerville 49.50 337 ⇑P P 22 18 58.5 -0.4
baz=49,SNR=5.8
HATC Hat Creek Radi 49.50 330 ⇓P P 22 18 58.6 -0.4
baz=49,SNR=5.4
DLMT Dillon 49.51 340 *e*P **P 22 18 58.9 -0.1**
DLMT *e* 22 19 06.0
DLMT *e* 22 20 28.8
DLMT *e*S **S 22 26 07.8 +1.1**
K08A Mann Creek Ran 49.59 334 ⇓P P 22 18 58.9 -0.7
baz=49,SNR=9.6
H12A Diamond D Ranc 49.61 338 ⇓P P 22 18 59.4 -0.4
baz=49,SNR=25
G14A Jackson 49.70 340 ⇑P P 22 18 59.5 -1.0
baz=49
O02C Red Bluff 49.71 328 ⇓P P 22 18 59.8 -0.8
baz=49,SNR=8.7
PKME Peaks-Kenny Pk 49.72 20 *e*P **P 22 18 59.4 -1.1**
comp=Z,110nm,1.2s,mb5.8
PKME *e* 22 19 06.5
PKME *e*S **S 22 26 12.3 +2.8**
PKME LR LR
comp=Z,894nm,19.0s,MS4.8
M05C Lookout 49.76 331 ⇓P P 22 19 00.7 -0.2
baz=49,SNR=10.0
MOD Modoc 49.77 332 ⇑P P 22 19 00.3 -0.7
baz=49,SNR=64
MOD Modoc 49.77 332 P **P 22 19 00.7 -0.3**
J09A Fry Pan Ranch, 49.77 335 ⇑P P 22 19 00.5 -0.5
baz=49,SNR=11
KCPM Cahto Peak 49.77 327 *e*P **P 22 19 01.9 +0.8**
KCPM *e* 22 19 08.1
KIPM Iron Peak 49.81 328 *e*P **P 22 19 02.0 +0.6**
KIPM *e* 22 19 09.7
KIPM *e*PcP PcP 22 20 21.8 -0.3
KIPM *e* 22 20 31.1
G13A Cobalt 49.85 339 ⇑P P 22 19 00.8 -0.7
baz=49,SNR=13
LRM Limekiln Ridge 49.87 341 *e*P **P 22 19 01.3 -0.5**
LRM *e* 22 19 07.3
LRM *e*PcP PcP 22 20 24.7 +2.5
WDC Whiskeytown Da 49.87 329 *e*P **P 22 18 59.7 -2.2**
WDC *e* 22 19 06.4
WDC *e* 22 20 21.8
WDC *e*S **S 22 26 12.8 +0.9**
WDC pmax pmax
comp=Z,86nm,1.5s,mb5.6
WDC MLR MLR
comp=Z,519nm,20.0s,MS4.5
WDC Whiskeytown Da 49.87 329 ⇑P P 22 18 59.9 -1.9
baz=50,SNR=7.8
WDC Whiskeytown Da 49.87 329 *e*P **P 22 18 59.7 -2.2**
comp=Z,86nm,1.5s,mb5.6
WDC *e* 22 19 06.4
WDC *e*PcP PcP 22 20 21.8 -0.6
WDC *e*S **S 22 26 12.8 +0.9**
WDC LR LR
comp=Z,519nm,20.0s,MS4.5
K07A Rock Creek Ran 49.89 333 ⇑P P 22 19 01.6 -0.4
baz=50,SNR=6.7
F15A Butte 49.90 341 ⇓P P 22 19 01.0 -1.0
baz=50,SNR=7.9
EMMW East Machias 49.90 22 *e*P **P 22 19 01.4 -0.6**
I10A Payette 49.98 336 ⇓P P 22 19 01.8 -0.8
baz=50,SNR=5.5
J08A Circle Bar Ran 50.08 334 ⇓P P 22 19 02.4 -1.0
baz=50,SNR=7.5
L05A Lakeview 50.13 331 ⇓P P 22 19 03.5 -0.2
baz=50,SNR=9.8
DGMT Dagmar 50.16 349 *e*P **P 22 19 03.2 -0.7**
comp=Z,126nm,1.0s,mb5.9
DGMT *e* 22 19 09.6
DGMT *e* 22 20 29.2
DGMT *e*ScP ScP 22 24 17.2 -2.1
DGMT *e*S **S 22 26 13.3 -2.3**
DGMT LR LR
comp=Z,663nm,20.0s,MS4.6
F14A Wisdom 50.17 340 ⇓P P 22 19 03.1 -0.9
baz=50
M03C McCloud 50.17 330 ⇑P P 22 19 03.1 -1.1
baz=50
H11A Donnelly 50.18 337 ⇓P P 22 19 03.1 -1.1
baz=50
O01C Eel River Cons 50.23 328 ⇑P P 22 19 03.5 -1.1
baz=50
I09A Lost Marbles R 50.27 335 ⇑P P 22 19 03.6 -1.2
baz=50,SNR=5.1
H10A Noah's Angus R 50.37 337 ⇑P P 22 19 03.9 -1.7
baz=50,SNR=5.4
M04C Macdoel 50.41 331 ⇓P P 22 19 05.2 -0.7
baz=50,SNR=8.5
K06A Valley Falls 50.44 333 ⇑P P 22 19 05.4 -0.7
baz=50,SNR=7.2
N02C Big Bar 50.45 329 ⇑P P 22 19 05.8 -0.4
baz=50,SNR=20
E15A Deer Lodge 50.46 341 ⇑P P 22 19 05.0 -1.2
baz=50,SNR=7.0
J07A Hines 50.46 334 ⇑P P 22 19 05.3 -1.0
baz=50
F13A Darby 50.48 339 ⇑P P 22 19 05.1 -1.2
baz=50,SNR=16
I08A Drewsey 50.57 335 ⇓P P 22 19 05.7 -1.4
baz=50
M02C Callahan 50.63 329 ⇓P P 22 19 06.5 -1.1
baz=50,SNR=6.9
K05A Summer Lake 50.68 332 ⇑P P 22 19 07.9 -0.1
baz=50,SNR=16
L04A Klamath Falls 50.74 331 ⇑P P 22 19 07.8 -0.6
baz=50,SNR=6.9
E14A Clinton 50.74 340 ⇓P P 22 19 07.4 -0.8
baz=50
J06A Christmas Vall 50.74 333 ⇓P P 22 19 07.8 -0.6
baz=50,SNR=8.4
F12A Elk City 50.79 339 ⇓P P 22 19 07.5 -1.2
baz=50,SNR=16
H09A Durkee 50.81 336 ⇓P P 22 19 07.1 -1.7
baz=50,SNR=6.5
YBH Yreka Blue Hor 50.81 330 *e*P **P 22 19 07.6 -1.3**
YBH *e* 22 19 13.9
YBH *e* 22 20 27.4
YBH *e*S **S 22 26 35.5 +11**
YBH pmax pmax
comp=Z,40nm,1.0s
YBH MLR MLR
comp=Z,802nm,21.0s
YBH Yreka Blue Hor 50.81 330 ⇑P P 22 19 07.4 -1.6
baz=50,SNR=9.7
YBH Yreka Blue Hor 50.81 330 *e*P **P 22 19 07.6 -1.4**
comp=Z,40nm,1.0s,mb5.3
YBH *e* 22 19 13.9
YBH *e*PcP PcP 22 20 27.4 +1.6
YBH *e* 22 20 30.7
YBH *e*S **S 22 26 35.5 +11**
YBH LR LR
comp=Z,802nm,21.0s,MS4.7
BMO Blue Mountains 50.81 336 *e*P **P 22 19 07.1 -1.8**
comp=Z,60nm,1.7s,mb5.2
BMO *e* 22 19 14.0
BMO *e*PcP PcP 22 20 25.5 -0.2
BMO *e*pPcP 22 20 33.0
BMO *e*S **S 22 26 24.2 -0.6**
BMO LR LR
comp=Z,1µm,20.0s,MS5.0
JCC Jacoby Creek 50.82 328 ⇓P P 22 19 09.0 -0.1
baz=50,SNR=8.5
ULM Lac du Bonnet 50.84 356 P **P 22 19 07.3 -1.7**
comp=Z,106nm,0.9s,mb5.8,baz=177,slow=7.5,SNR=84
ULM LR LR 22 41 00.4
comp=Z,993nm,21.4s,MS4.8,baz=174,slow=37
G11A Walters Elk Ra 50.86 338 ⇑P P 22 19 07.9 -1.4
baz=50,SNR=21
D15A Lincoln 50.97 341 ⇓P P 22 19 09.0 -1.0
baz=50,SNR=8.9
K04A Chilquin 50.99 331 ⇑P P 22 19 09.4 -0.9
baz=51
E13A Victor 51.00 340 ⇓P P 22 19 09.2 -1.0
baz=51,SNR=8.0
EGMT Eagleton 51.04 344 ⇑P P 22 19 09.4 -1.1

baz=51,SNR=6.2
EGMT Eagleton 51.04 344 *e*P **P 22 19 09.4 -1.1**
comp=Z,56nm,1.4s,mb5.3
EGMT *e* 22 19 17.1
EGMT *e*PcP PcP 22 20 27.2 +0.8
EGMT *e*S **S 22 26 36.0 +8.1**
EGMT LR LR
comp=Z,1µm,19.0s,MS5.0
CHMT Chamberlain Mo 51.09 341 *e*P **P 22 19 10.2 -0.8**
CHMT *e* 22 19 17.5
CHMT *e*PcP PcP 22 20 28.5 +1.8
CHMT *e* 22 20 33.8
G10A Bishop Farm, J 51.10 337 ⇓P **P 22 19 09.5 -1.6**
baz=51,SNR=12
I07A Izee 51.11 334 ⇑P **P 22 19 10.7 -0.5**
baz=51,SNR=16
F11A Grangeville 51.23 338 ⇑P **P 22 19 10.4 -1.6**
baz=51,SNR=6.4
MSO Missoula 51.25 340 *e*P **P 22 19 10.3 -1.8**
comp=Z,60nm,1.5s,mb5.3
MSO *e* 22 19 18.7
MSO *e*PcP PcP 22 20 28.1 +0.9
MSO *e* 22 20 34.6
MSO *e*S **S 22 26 22.2 -8.6**
MSO LR LR
comp=Z,922nm,21.0s,MS4.8
KRMB Red Mountain 51.27 329 *e*P **P 22 19 12.1 -0.3**
KRMB *e* 22 19 19.1
KRMB *e*PcP PcP 22 20 28.3 +0.8
KRMB *e* 22 20 35.4
J05A Fort Rock 51.27 332 ⇓P **P 22 19 11.8 -0.6**
baz=51,SNR=11
I06A Prineville 51.31 333 ⇓P **P 22 19 12.5 -0.2**
baz=51,SNR=7.2
D14A Greenough 51.32 341 ⇑P **P 22 19 11.7 -1.0**
baz=51,SNR=11
G09A Cove 51.36 336 ⇑P **P 22 19 11.4 -1.6**
baz=51,SNR=6.1
H07A Lands Inn, Kim 51.54 334 ⇓P **P 22 19 13.6 -0.8**
baz=51
L02A Cave Junction 51.57 330 ⇑P **P 22 19 14.1 -0.6**
baz=51,SNR=7.0
HUMO Hull Mountain 51.58 330 ⇓P **P 22 19 14.6 -0.1**
baz=51
HUMO Hull Mountain 51.58 330 *e*P **P 22 19 16.4 +1.7**
comp=Z,10nm,0.8s,mb4.8
HUMO *e*PcP PcP 22 20 26.9 -1.7
HUMO *e* 22 20 36.0
HUMO *e*S **S 22 26 37.7 +2.2**
HUMO LR LR
comp=Z,753nm,21.0s,MS4.7
M01C Crescent City 51.61 329 ⇓P **P 22 19 14.3 -0.7**
baz=51
E11A Bogner Ranch, 51.65 338 ⇓P **P 22 19 13.5 -1.6**
baz=51,SNR=9.8
J04A Umpqua Nationa 51.65 332 ⇓P **P 22 19 14.7 -0.5**
baz=51,SNR=8.5
D13A Huson 51.66 340 ⇓P **P 22 19 14.2 -1.0**
baz=51,SNR=22
F10A Beach Ranch, E 51.71 337 ⇓P **P 22 19 14.7 -0.9**
baz=51,SNR=12
F09A S2 Ranch, Elgi 51.76 337 ⇑P **P 22 19 14.9 -1.1**
baz=51,SNR=6.4
G08A Pilot Rock 51.85 335 ⇓P **P 22 19 15.8 -0.9**
baz=51,SNR=11
KBO Bosley Butte 51.93 329 *e*P **P 22 19 16.8 -0.5**
KBO *e* 22 19 24.3
KBO *e*PcP PcP 22 20 30.9 +1.0
I05A Bend 51.96 333 ⇓P **P 22 19 16.9 -0.6**
baz=52
K02A Glendale 51.97 330 ⇓P **P 22 19 16.8 -0.8**
baz=52,SNR=11
H06A Lindquist Farm 51.99 334 ⇑P **P 22 19 17.1 -0.7**
baz=52,SNR=6.2
LNOR Lincton Mounta 52.05 336 *e*P **P 22 19 17.0 -1.1**
E10A Myers Farm, Un 52.09 338 ⇓P **P 22 19 17.3 -1.2**
baz=52
C13A Hot Springs 52.20 340 ⇑P **P 22 19 18.4 -0.9**
baz=52,SNR=7.8
HBO Huckleberry Mo 52.20 332 P **P 22 19 18.9 -0.5**
I04A Tendick Farm, 52.21 332 ⇑P **P 22 19 18.0 -1.4**
baz=52
D11A Klaveano Farm, 52.28 339 ⇑P **P 22 19 18.3 -1.5**
baz=52,SNR=5.0
H05A Madras 52.32 333 ⇓P **P 22 19 19.5 -0.7**
baz=52
J02A Umpqua 52.45 331 ⇓P **P 22 19 20.8 -0.4**
baz=52,SNR=8.2
KEBM Edson Butte 52.47 330 *e*P **P 22 19 22.4 +1.2**
KEBM *e* 22 19 29.0
KEBM *e*PcP PcP 22 20 34.2 +2.3
CROR Criterion Ridg 52.47 334 P **P 22 19 20.7 -0.6**
K01A Sixes 52.49 330 ⇑P **P 22 19 21.2 -0.2**
baz=52
E09A Wood Farm, Sta 52.52 337 ⇑P **P 22 19 20.0 -1.6**
baz=52,SNR=10
G06A Carlson Farm, 52.52 334 ⇑P **P 22 19 21.2 -0.4**
baz=52,SNR=8.6
D10A Wagner Farm, O 52.63 338 ⇓P **P 22 19 21.4 -1.0**
baz=52,SNR=9.8
F07A Phinny Hill Vi 52.74 335 ⇑P **P 22 19 22.7 -0.6**
baz=52
I03A Eugene 52.76 331 ⇓P **P 22 19 22.7 -0.7**
baz=52,SNR=7.7
B13A Whitefish 52.77 341 ⇑P **P 22 19 22.9 -0.5**
baz=52
H04A Detroit Lake 52.78 333 ⇓P **P 22 19 22.4 -1.2**
baz=52,SNR=5.1
G05A Wamic 52.82 334 ⇓P **P 22 19 23.4 -0.4**
baz=52
E08A Dider Farm, El 52.86 336 ⇓P **P 22 19 22.6 -1.6**
baz=52
HAWA Hanford 52.98 336 *e*P **P 22 19 24.2 -0.7**
comp=Z,150nm,1.8s,mb5.6
HAWA *e* 22 19 30.6
HAWA *e* 22 20 41.4
HAWA LR LR
comp=Z,1µm,22.0s,MS4.9
F06A Goldendale 53.00 335 ⇓P **P 22 19 24.3 -0.9**
baz=53
RSW Rattlesnake Hi 53.00 336 *e*P **P 22 19 24.9 -0.3**
RSW *e* 22 19 32.4
RSW *e* 22 20 41.0
D09A Jones Farm, Ri 53.03 337 ⇓P **P 22 19 24.2 -1.2**
baz=53,SNR=7.0
HOOD Mount Hood Mea 53.03 334 *e*P **P 22 19 24.9 -0.5**
comp=Z,140nm,1.5s,mb5.7
HOOD *e* 22 19 32.3
HOOD *e*PcP PcP 22 20 32.4 -1.6
HOOD *e* 22 20 41.6
I02A Mapleton 53.05 331 ⇑P **P 22 19 25.0 -0.6**
baz=53,SNR=5.6
WALA Waterton Lakes 53.19 342 *e*P **P 22 19 26.0 -0.5**
WALA *e*PcP PcP 22 20 35.0 +0.5
WALA *e* 22 20 41.7
B12A Libby 53.23 340 ⇓P **P 22 19 26.5 -0.3**
baz=53
COR Corvallis 53.23 332 *e*P **P 22 19 26.8 -0.1**
comp=Z,448nm,1.8s,mb6.1
COR *e* 22 19 33.8
COR *e* 22 20 42.4
COR LR LR
comp=Z,894nm,22.0s,MS4.8
E07A Sunnyside 53.24 336 ⇑P **P 22 19 26.4 -0.6**
baz=53,SNR=5.6
D08A Wollman Farm, 53.27 337 ⇑P **P 22 19 25.7 -1.4**
baz=53
C10A Spilker Farm, 53.28 338 ⇑P **P 22 19 25.7 -1.5**
baz=53
H03A Soap Creek Ran 53.29 332 ⇑P **P 22 19 26.6 -0.7**
baz=53,SNR=7.7
G04A Mulino 53.32 333 ⇓P **P 22 19 26.6 -1.0**
baz=53
F05A White Salmon 53.38 334 ⇓P **P 22 19 27.2 -0.8**
baz=53,SNR=6.3
OD2 Odessa Site #2 53.46 337 *e*P **P 22 19 27.6 -1.0**
OD2 *e* 22 19 35.5
OD2 *e* 22 20 42.8
B11A Sandpoint 53.47 339 ⇓P **P 22 19 27.3 -1.3**
baz=53
CAM3 Guarapari 53.49 115 *e*P **P 22 19 29.3 0.0**
CAM3 *i* pP 22 19 30.4 -2.1
CAM3 *i* 22 19 37.7
CAM3 *i* 22 19 49.5
CAM3 *i* 22 20 09.1
NEW Newport 53.59 339 *e*P **P 22 19 27.9 -1.6**

NEW *e* 22 19 35.0
NEW *e* 22 20 35.9
NEW *e*S **S 22 27 06.8 +4.0**
NEW pmax pmax
comp=Z,54nm,1.7s
NEW MLR MLR
comp=Z,2µm,20.0s
NEW Newport 53.59 339 *e*P **P 22 19 27.9 -1.6**
comp=Z,54nm,1.7s,mb5.2
NEW *e* 22 19 35.0
NEW *e*PcP PcP 22 20 35.9 -0.1
NEW *e* 22 20 42.8
NEW *e*S **S 22 27 06.8 +4.0**
NEW LR LR
comp=Z,2µm,20.0s,MS5.1
H02A Toledo 53.63 331 ⇓P **P 22 19 29.3 -0.5**
baz=53
C09A Chrisman Ranch 53.63 338 ⇑P **P 22 19 28.7 -1.1**
baz=53
A12A Yaak River Ran 53.65 340 ⇑P **P 22 19 29.8 0.0**
baz=53
B10A Chitwood Farm, 53.66 339 ⇓P **P 22 19 28.6 -1.4**
baz=53
E06A Yakima 53.70 335 ⇑P **P 22 19 29.3 -1.0**
baz=53,SNR=9.1
G03A Yamhill 53.77 332 ⇑P **P 22 19 30.0 -0.8**
baz=53
EPH Ephrata 53.78 337 P **P 22 19 30.3 -0.6**
D07A Quincy 53.80 336 ⇓P **P 22 19 30.1 -1.0**
baz=53,SNR=5.4
F04A Amboy 53.85 334 ⇑P **P 22 19 29.9 -1.5**
baz=53
A11A Hall Mountain, 53.91 340 ⇑P **P 22 19 30.9 -0.9**
baz=54,SNR=13
HEBO Mount Hebo 53.91 332 *e*P **P 22 19 33.2 +1.3**
comp=Z,327nm,1.6s,mb6.0
HEBO *e* 22 19 38.7
HEBO PcP PcP 22 20 35.5 -1.8
C08A Higginbotham F 53.91 337 ⇓P **P 22 19 30.9 -1.0**
baz=54,SNR=12
E05A Randle 54.05 334 ⇓P **P 22 19 31.5 -1.4**
baz=54
B09A Rice 54.10 338 ⇑P **P 22 19 32.1 -1.1**
baz=54
D06A Cle Elum 54.16 336 ⇓P **P 22 19 32.7 -1.0**
baz=54
LON Longmire 54.21 335 P **P 22 19 32.8 -1.3**
C07A Waterville 54.23 336 ⇑P **P 22 19 33.1 -1.1**
baz=54
ETW Entiat 54.27 336 *e*P **P 22 19 34.3 -0.2**
ETW *e* 22 19 41.9
ETW *e*PcP PcP 22 20 39.9 +1.2
ETW *e* 22 20 46.4
A10A Northport 54.35 339 ⇓P **P 22 19 33.5 -1.5**
baz=54,SNR=6.9
F03A Seaside 54.36 333 ⇓P **P 22 19 34.8 -0.4**
baz=54
E04A Onalaska 54.49 334 ⇓P **P 22 19 35.7 -0.4**
baz=54
B08A Colville Reser 54.49 337 ⇑P **P 22 19 34.8 -1.2**
baz=54,SNR=9.8
BMW Boistfort Moun 54.62 333 *e*P **P 22 19 36.4 -0.7**
BMW *e* 22 20 40.1
BMW Boistfort Moun 54.62 333 *e*P **P 22 19 36.4 -0.6**
BMW *e*PcP PcP 22 20 40.1 +0.1
BMW *e* 22 20 47.4
D05A Enumclaw 54.63 335 ⇓P **P 22 19 35.6 -1.5**
baz=54
A09A Danville 54.72 338 ⇑P **P 22 19 36.6 -1.1**
baz=54,SNR=7.6
C06A Tall Timber Ra 54.76 336 ⇑P **P 22 19 36.7 -1.3**
baz=54
E03A Lebam 54.83 333 ⇑P **P 22 19 37.8 -0.8**
baz=54
B07A Winthrop 54.88 337 ⇓P **P 22 19 38.4 -0.5**
baz=54
C05A Tolt Reservoir 54.90 335 ⇓P **P 22 19 37.3 -1.7**
baz=54
D04A Dobbs Creek Ra 54.92 334 ⇓P **P 22 19 38.7 -0.5**
baz=54
A08A Turner Farm, O 54.96 338 ⇓P **P 22 19 38.6 -0.8**
baz=54,SNR=5.8
D03A Wishkah Elem. 55.35 334 ⇑P **P 22 19 42.2 -0.1**
baz=55
PNT Penticton 55.38 338 P **P 22 19 42.1 -0.4**
JCW Jim Creek 55.40 336 *e*P **P 22 19 41.2 -1.4**
JCW *e*PcP PcP 22 20 44.1 +1.1
RPW Rockport 55.43 336 P **P 22 19 41.7 -1.1**
A07A Ashnola River, 55.46 337 ⇓P **P 22 19 42.4 -0.6**
baz=55,SNR=13
C04A Brinnon 55.46 335 ⇑P **P 22 19 41.8 -1.3**
baz=55
B06A Marblemount 55.47 336 ⇑P **P 22 19 41.6 -1.6**
baz=55
B05A Bryant 55.52 336 ⇓P **P 22 19 41.6 -1.9**
baz=55
NLWA Neilton Lookou 55.61 334 ⇓P **P 22 19 43.2 -0.9**
baz=55,SNR=6.7
NLWA Neilton Lookou 55.61 334 *e*P **P 22 19 44.1 0.0**
comp=Z,48nm,1.0s,mb5.5
NLWA *e* 22 19 51.0
NLWA *e*PcP PcP 22 20 44.8 +1.1
NLWA *e* 22 20 50.0
NLWA LR LR
comp=Z,845nm,20.0s,MS4.8
FFC Flin Flon 55.87 353 *e*P **P 22 19 44.9 -1.0**
FFC *e* 22 19 51.4
FFC *e* 22 20 48.8
FFC pmax pmax
comp=Z,86nm,1.3s,mb5.6
FFC MLR MLR
comp=Z,1µm,19.0s,MS4.9
FFC Flin Flon 55.87 353 *e*P **P 22 19 44.9 -1.0**
comp=Z,86nm,1.3s,mb5.6
FFC *e* 22 19 51.4
FFC *e* 22 20 48.8
FFC LR LR
comp=Z,1µm,19.0s,MS4.9
A06A Chilliwack 55.93 337 ⇑P **P 22 19 45.3 -1.2**
baz=56
B04A Port Angeles 55.95 334 ⇓P **P 22 19 46.2 -0.5**
baz=56
A05A Maple Falls 56.09 336 ⇑P **P 22 19 46.0 -1.6**
baz=56
A04A Legoe Bay, Lum 56.13 335 ⇓P **P 22 19 46.7 -1.2**
baz=56
PGC Sidney 56.39 335 *e*P **P 22 19 48.6 -1.1**
comp=Z,52nm,1.0s,mb5.5
PGC *e* 22 19 56.1
PGC *e*PcP PcP 22 20 47.7 +0.9
PGC *e* 22 20 54.2
EDM Edmonton 56.72 344 *e*P **P 22 19 50.7 -1.3**
EDM *e* 22 19 57.9
EDM *e* 22 20 48.9
EDM Edmonton 56.72 344 *e*P **P 22 19 50.7 -1.3**
EDM *e* 22 19 57.9
EDM PcP PcP 22 20 48.9 +0.9
EDM *e* 22 20 53.5
USHA Ushuaia 57.19 164 P **P 22 19 56.0 +0.7**
comp=Z,37nm,1.2s,mb5.3,baz=293,slow=2.9,SNR=4.7
EFI East Falkland 58.06 156 *e*P **P 22 20 02.9 +1.4**
comp=Z,326nm,1.3s,mb6.2
EFI *e*PP PP 22 22 16.4 +6.3
EFI LR LR
comp=Z,2µm,20.0s,MS5.2
SCHQ Schefferville 58.85 16 P **P 22 20 05.2 -1.7**
comp=Z,6.5nm,0.8s,mb4.7,baz=224,slow=4.9,SNR=6.0
SCHQ LR LR 22 44 54.0
comp=Z,765nm,21.6s,MS4.8,baz=215,slow=36
SCHQ Schefferville 58.85 16 P **P 22 20 05.2 -1.7**
SCHQ LR LR 22 44 54.0
FCC Fort Churchill 59.26 358 *e*P **P 22 20 08.2 -1.5**
FCC *e* 22 20 15.4
FCC *e* 22 20 56.0
FCC *e* 22 22 17.7
FCC pmax pmax
comp=Z,154nm,1.0s,mb6.0
FCC Fort Churchill 59.26 358 *e*P **P 22 20 08.2 -1.5**
comp=Z,154nm,1.0s,mb6.0
FCC *e* 22 20 15.3
FCC *e*PcP PcP 22 20 56.0 -1.8
FCC *e* 22 21 05.2
FCC *e*PP PP 22 22 17.7 -3.1
PPT Papeete 59.61 250 *e*S **S 22 28 28.3 +4.7**
comp=Z,920nm,26.8s

PPT *e*LQ 22 35 23.5
comp=Z,3µm,29.0s
PPT *e*LR LR 22 37 55.0
comp=Z,216nm,21.8s,baz=70
PPT Papeete 59.61 250 LR LR 22 38 51.9
comp=Z,378nm,18.6s,MS4.6,baz=85,slow=29
YKA Yellowknife Ar 65.37 348 P **P 22 20 48.9 -1.7**
comp=Z,18nm,0.8s,mb5.2,baz=149,slow=6.3,SNR=52
YKA LR LR 22 50 44.2
comp=Z,339nm,18.7s,MS4.6,baz=145,slow=37
WRAK Wrangell Islan 65.78 336 PFAKE 22 21 00.0 +6.7
WRAK LR LR
comp=Z,1µm,19.0s,MS5.0
KHU Kahuku 66.00 291 *e*P **P 22 20 56.1 +0.6**
KHU *e* 22 21 03.8
KHU *e* 22 21 28.3
POHA Pohakuloa 66.00 292 *e*P **P 22 20 56.5 +1.0**
POHA *e* 22 21 03.1
POHA *e*PcP PcP 22 21 27.3 +1.1
XMAS Kiritimati 66.12 273 *e*P **P 22 20 57.1 +0.7**
XMAS *e* 22 21 03.9
XMAS PcP PcP 22 21 26.8 0.0
XMAS *e* 22 21 31.2
DLBC Dease Lake 66.34 339 P **P 22 20 56.0 -0.9**
baz=170,slow=5.9
DLBC Dease Lake 66.34 339 *e*P **P 22 20 56.9 0.0**
DLBC *e* 22 21 04.3
DLBC *e*PcP PcP 22 21 28.1 +1.4
DLBC *e* 22 21 34.3
PMSA Palmer Station 67.00 168 *e*P **P 22 21 02.0 +1.0**
PMSA *e* 22 21 09.1
PMSA *e*PcP PcP 22 21 29.2 -0.2
PMSA *e* 22 21 37.4
SIT Sitka 67.42 336 *e*P **P 22 21 04.0 +0.2**
SIT 22 21 30.9
SIT MLR MLR
comp=Z,914nm,22.0s,MS5.0
HON Honolulu 68.55 293 *e*P **P 22 21 11.3 -0.3**
HON *e* 22 21 20.1
HON *e* 22 21 36.0
KIP Kipapa 68.57 293 *e*P **P 22 21 11.9 +0.1**
comp=Z,396nm,1.5s,mb6.1
KIP *e* 22 21 19.4
RAR Rarotonga 69.67 248 LR LR 22 43 54.4
comp=Z,271nm,18.2s,MS4.5,baz=354,slow=29
HYT Haines Junctio 70.74 338 *e*P **P 22 21 26.8 +2.5**
HYT *e* 22 21 34.7
HYT *e*PP PP 22 24 00.4 -0.8
CMLA Cha da Macela 71.48 50 P **P 22 21 29.4 0.0**
SFJD Kangerlussuaq 73.29 16 PFAKE 22 21 50.0 +10
SFJD LR LR
comp=Z,786nm,20.0s,MS5.0
RAGM Ragged Mountai 73.31 335 *e*P **P 22 21 40.5 +0.7**
RAGM *e* 22 21 47.3
DAWY Dawson 73.49 340 *e*P **P 22 21 39.9 -0.9**
DAWY *e* 22 21 46.7
BMRM Bremner River 73.60 336 *e*P **P 22 21 41.7 +0.2**
BMRM *e* 22 21 48.6
DIV Divide 74.17 336 *e*P **P 22 21 51.0 +6.2**
comp=Z,36nm,1.3s,mb5.2
DIV *e*PP PP 22 24 30.9 +0.4
MENT Mentasta 74.36 338 *e*P **P 22 21 46.0 +0.1**
MENT *e* 22 21 53.6
MENT PcP PcP 22 22 00.2 -0.4
MENT *e*PP PP 22 24 32.4 +0.4
SEW Seward 75.21 334 *e*P **P 22 21 50.4 -0.5**
SEW *e* 22 21 57.1
RES Resolute Bay 75.25 359 P **P 22 21 45.5 -5.4**
comp=Z,2µm,1.4s
RES *e* 22 21 56.4
RES *e*PP PP 22 24 39.4 0.0
KDAK Kodiak Island 75.61 331 *e*P **P 22 21 52.8 -0.4**
KDAK *e* 22 21 59.3
KDAK 22 22 07.0
KDAK pmax pmax
comp=Z,115nm,1.7s,mb5.5
KDAK Kodiak Island 75.61 331 *e*P **P 22 21 52.8 -0.4**
comp=Z,115nm,1.7s,mb5.5
KDAK *e* 22 21 59.3
KDAK PcP PcP 22 22 07.0 +0.9
SLKM Skilak Lake 75.74 334 *e*P **P 22 21 53.7 -0.2**
SLKM *e* 22 22 01.3
PMR Palmer 75.80 335 *e*P **P 22 21 53.2 -1.0**
PMR *e* 22 22 00.5
PMR MLR MLR
comp=Z,410nm,19.0s,MS4.8
RC01 Rabbit Creek A 75.81 335 *e*P **P 22 21 54.4 +0.1**
comp=Z,105nm,1.4s,mb5.6
RC01 *e* 22 22 00.7
RC01 *e*PcP PcP 22 22 05.7 -1.2
FIB Fire Island 76.03 335 *e*P **P 22 21 55.8 +0.2**
comp=Z,172nm,1.3s,mb5.8
FIB *e*PcP PcP 22 22 02.2 -5.6
COLA College 76.95 339 *e*P **P 22 22 00.9 +0.2**
COLA *e* 22 22 07.5
COLA *e* 22 22 11.7
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
COLA MLR MLR
comp=Z,651nm,19.0s,MS5.0
COLA College 76.95 339 *e*P **P 22 22 00.9 +0.1**
comp=Z,7.6nm,0.8s,mb4.7
COLA *e* 22 22 07.5
COLA *e*PcP PcP 22 22 11.7 0.0
COLA *e* 22 22 18.0
COLA LR LR
comp=Z,651nm,19.0s,MS5.0
ASCN Ascension 77.04 98 *e*P **P 22 22 02.0 -0.3**
ASCN *e*PcP PcP 22 22 12.3 -0.9
KTH Kantishna Hill 77.47 337 *e*P **P 22 22 02.8 -0.9**
KTH *e* 22 22 10.2
PPLA Purkeypile 77.67 336 *e*P **P 22 22 04.6 -0.2**
comp=Z,178nm,1.4s,mb5.8
PPLA *e* 22 22 11.6
BPAW Bear Paw Mtn. 77.75 337 *e*P **P 22 22 03.8 -1.4**
BPAW *e* 22 22 11.2
BPAW PcP PcP 22 22 16.2 +1.0
BPAW *e*PP PP 22 24 59.2 -1.4
CHUM Lake Minchumin 78.17 337 *e*P **P 22 22 06.3 -1.2**
CHUM *e* 22 22 13.4
SVW2 Sparrevohn 78.37 333 *e*P **P 22 22 07.4 -1.3**
SVW2 *e* 22 22 14.7
SDPT Sand Point 78.78 327 *e*P **P 22 22 09.8 -1.3**
SDPT *e* 22 22 17.8
COLD Coldfoot 78.97 340 *e*P **P 22 22 11.9 0.0**
comp=Z,89nm,1.3s,mb5.5
COLD *e* 22 22 19.6
IMA2 Indian Mountai 79.67 338 *e*P **P 22 22 14.8 -0.9**
IMA2 *e* 22 22 22.5
SUMG Summit 80.15 14 *e*P **P 22 22 18.5 +0.3**
comp=Z,31nm,1.3s,mb5.1
SUMG *e* 22 22 25.1
AFI Afiamalu 80.54 256 LR LR 22 48 27.1
comp=Z,212nm,21.4s,MS4.5,baz=70,slow=29
AKUT Akutan 81.42 325 *e*P **P 22 22 24.1 -1.3**
comp=Z,99nm,0.8s,mb5.8
AKUT *e* 22 22 32.0
UNV Unalaska Valle 81.77 325 *e*P **P 22 22 26.0 -1.3**
comp=Z,157nm,1.3s,mb5.8
UNV *e* 22 22 33.6
BORG Borgarnes 82.16 24 *e*P **P 22 22 28.0 -1.0**
BORG MLR MLR
comp=Z,575nm,19.0s
NIKO Nikolski 82.98 323 *e*P **P 22 22 34.0 +0.4**
comp=Z,224nm,1.4s,mb6.0
NIKO *e* 22 22 40.3
PFVI Vila Bisbo 84.43 53 *e*P **P 22 22 40.9 -0.5**
comp=Z,86nm,1.4s,mb5.7
PFVI Vila Bisbo 84.43 53 *e*S S 22 33 11.4 +3.4
PFVI Vila Bisbo 84.43 53 *e*LR LR 22 49 56.3
comp=Z,266nm,22.0s
PTEO Sao Teotonio 84.55 52 *e*P **P 22 22 42.2 +0.2**
comp=Z,59nm,1.1s,mb5.6
MORF Marmelete 84.58 53 *e*P **P 22 22 42.1 -0.1**
comp=Z,72nm,1.7s,mb5.5
PBDV Barranco-do-Ve 85.15 53 *e*S S 22 33 18.0 +2.8
PBDV Barranco-do-Ve 85.15 53 *e*LR LR 22 49 03.8
comp=Z,308nm,20.0s
EVO Evora 85.19 51 *e*P **P 22 22 43.4 -1.8**
comp=Z,109nm,1.4s,mb5.5
EVO Evora 85.19 51 *e*P **P 22 22 44.6 -0.6**
comp=Z,35nm,1.4s,mb5.3
PBEJ Beja 85.26 52 *e*P **P 22 22 45.6 0.0**

comp=Z,51nm,1.8s,mb5.3
PVAQ Vaqueiros 85.33 53 *e*P **P 22 22 45.6 -0.3**
comp=Z,47nm,1.4s,mb5.4
PVAQ Vaqueiros 85.33 53 *e*S S 22 33 17.9 +0.9
PVAQ *e*SS SS 22 39 08.4 +17
PVAQ Vaqueiros 85.33 53 *e*LR LR 22 50 44.4
comp=Z,283nm,20.0s
PVIS Viseu 85.46 49 *e*P **P 22 22 46.1 -0.4**
comp=Z,69nm,1.7s,mb5.5
PESTR Estremoz 85.54 51 *e*P **P 22 22 47.4 +0.5**
comp=Z,36nm,1.4s,mb5.4
PESTR Estremoz 85.54 51 *e*S S 22 33 20.2 +1.2
PESTR *e*SS SS 22 38 58.0 +3.3
PESTR Estremoz 85.54 51 *e*LR LR 22 51 05.8
comp=Z,302nm,22.0s
MTE Manteigas 85.70 50 *e*P **P 22 22 47.1 -0.6**
comp=Z,48nm,1.6s,mb5.5
MTE Manteigas 85.70 50 *e*S S 22 33 21.0 +0.6
MTE *e*SS SS 22 38 57.1 +0.2
MTE Manteigas 85.70 50 *e*LR LR 22 54 45.0
comp=Z,312nm,22.0s
MTE Manteigas 85.70 50 PFAKE 22 23 00.0 +12
MTE LR LR
comp=Z,397nm,21.0s,MS4.8
PCBR Castelo Branco 85.70 50 *e*P **P 22 22 47.2 -0.5**
comp=Z,66nm,1.5s,mb5.7
PMRV Marv??o 85.74 51 *e*P **P 22 22 46.8 -1.1**
comp=Z,29nm,1.2s,mb5.4
PMRV Marv??o 85.74 51 *e*S S 22 33 21.8 +0.9
PMRV Marv??o 85.74 51 *e*LR LR 22 51 00.0
comp=Z,317nm,22.0s
PBAR Barrancos 85.92 52 *e*P **P 22 22 48.4 -0.5**
comp=Z,30nm,1.8s,mb5.2
PBAR Barrancos 85.92 52 *e*S S 22 33 25.5 +2.7
PBAR *e*SS SS 22 39 17.1 +17
PBAR Barrancos 85.92 52 *e*LR LR 22 51 06.1
comp=Z,227nm,20.0s
MVO Moncorvo 86.14 49 *e*P **P 22 22 50.2 +0.3**
comp=Z,52nm,1.8s,mb5.5
MVO Moncorvo 86.14 49 *e*S S 22 33 25.6 +0.8
MVO *e*SS SS 22 39 07.9 +4.5
MVO Moncorvo 86.14 49 *e*LR LR 22 54 30.8
comp=Z,200nm,18.0s
LIC Lamto 86.43 84 *e*P **P 22 22 50.9 -1.0**
comp=Z,192nm,0.9s,mb6.3
LIC Lamto 86.43 84⇓ *i*P **P 22 22 51.1 -0.8**
comp=Z,132nm,0.9s,mb5.9,baz=269
LIC Lamto 86.43 84⇓ *i*P **P 22 22 51.1 -0.8**
comp=Z,66nm,0.9s,mb5.9
TIC Toumodi 86.44 83 *e*P **P 22 22 50.9 -1.0**
comp=Z,187nm,0.8s,mb6.3
SFS San Fernando 86.48 54 PFAKE 22 23 00.0 +8.4
SFS LR LR
comp=Z,286nm,19.0s,MS4.7
DBIC Dimbokro 86.61 83 P **P 22 22 51.8 -0.9**
comp=Z,25nm,0.7s,mb5.5,baz=249,slow=4.1,SNR=46
DBIC LR LR 23 01 57.2
comp=Z,460nm,18.5s,MS4.9,baz=250,slow=36
DAG Danmarks Havn 86.69 13⇑ *i*P **P 22 22 58.2 +6.3**
DAG pmax pmax
comp=Z,42nm,1.3s,mb5.5
DAG Danmarks Havn 86.69 13⇑ *i*P **P 22 22 58.2 +6.3**
comp=Z,42nm,1.3s,mb5.5
KIC Kosan Boka 86.72 84 *e*P **P 22 22 52.3 -1.0**
comp=Z,211nm,0.9s,mb6.4
MIDW Midway 86.77 298 P **P 22 22 54.7 +1.5**
MIDW *e* 22 22 59.9
MIDW LR LR
comp=Z,300nm,20.0s,MS4.7
VNA1 Neumayer--Stat 87.11 161 *e*P **P 22 22 54.9 +0.9**
VNA1 *e* pP 22 22 56.7 -0.6
VNA1 *e* 22 23 03.9
VNA2 Neumayer--Watz 87.42 161 *e*P **P 22 22 56.0 +0.5**
VNA2 *e* pP 22 22 57.7 -1.1
VNA2 *e* 22 23 05.8
PAB San Pablo 88.10 51 *e*P **P 22 22 59.2 -0.2**
PAB *e* 22 23 06.7
PAB pmax pmax
comp=Z,42nm,1.5s,mb5.5
PAB MLR MLR
comp=Z,517nm,21.0s,MS4.9
PAB San Pablo 88.10 51 *e*P **P 22 22 59.2 -0.2**
comp=Z,42nm,1.5s,mb5.4
PAB *e* 22 23 06.7
PAB LR LR
comp=Z,517nm,21.0s,MS4.9
JMIC Jan Mayen 88.26 19 *e*SKS 22 33 25.8
JMIC AMS AMS 22 58 24.0
comp=Z,155nm,36.2s,MS4.2
ESDC Sonseca Array 88.40 50 P **P 22 23 00.2 -0.6**
comp=Z,6.0nm,1.0s,mb4.8,baz=280,slow=4.3,SNR=18
ESDC LR LR 22 55 28.0
comp=Z,317nm,21.6s,MS4.7,baz=265,slow=31
ESDC Sonseca Array 88.40 50 P **P 22 23 00.2 -0.6**
ESDC LR LR 22 55 28.0
ESLA Sonseca Array 88.40 50 *e*P **P 22 22 60.0 -0.9**
comp=Z,15nm,1.8s,mb4.9
ESLA *e* 22 23 08.2
ESLA LR LR
comp=Z,3μm,22.0s,MS5.6
SNAA Sanae 88.93 162 *e*P **P 22 23 01.6 -1.0**
SNAA *e* pP 22 23 03.5 -2.5
SNAA *e* 22 23 11.1
SNAA Sanae 88.93 162 *e*P **P 22 23 03.3 +0.7**
SNAA pmax pmax
comp=Z,30nm,1.3s
SNAA Sanae 88.93 162 *e*P **P 22 23 03.3 +0.6**
comp=Z,30nm,1.3s,mb5.5
FUNA Funafuti 89.35 262 PFAKE 22 23 20.0 +14
FUNA LR LR
comp=Z,4μm,19.0s,MS5.9
ESK Eskdalemuir 89.47 35 *e*P **P 22 23 05.0 -0.5**
ESK MLR MLR
comp=Z,299nm,21.0s,MS4.7
SGMF Saint Gilles 89.68 42 *e*P **P 22 23 05.3 -1.3**
comp=Z,229nm,1.8s,mb5.9
SGMF Saint Gilles 89.68 42 *e*P **P 22 23 05.3 -1.3**
SGMF pmax pmax
comp=Z,114nm,1.8s,mb5.9
SGMF Saint Gilles 89.68 42 *e*P **P 22 23 05.3 -1.3**
comp=Z,114nm,1.8s,mb5.9
AMKA Amchitka 90.08 321 *e*P **P 22 23 10.2 +1.8**
URZ Urewera 90.81 232 LR LR 22 53 27.3
comp=Z,241nm,20.9s,MS4.6,baz=73,slow=29
SBA Scott Base 91.88 192 *e*P **P 22 23 16.1 -0.2**
SBA *e* pP 22 23 19.8 +0.1
SBA pmax pmax
comp=Z,57nm,2.0s,mb5.5
SBA MLR MLR
comp=Z,559nm,20.0s,MS5.0
SBA Scott Base 91.88 192 *e*P **P 22 23 16.1 -0.2**
comp=Z,57nm,2.0s,mb5.6
SBA *e* pP 22 23 19.8 +0.2
SBA LR LR
comp=Z,559nm,20.0s,MS5.0
TCF Toulx Ste Croi 92.94 44 *e*P **P 22 23 19.1 -2.7**
comp=Z,128nm,1.9s,mb5.7
TCF Toulx Ste Croi 92.94 44 *e*P **P 22 23 19.1 -2.7**
TCF pmax pmax
comp=Z,64nm,1.9s,mb5.7
TCF Toulx Ste Croi 92.94 44 *e*P **P 22 23 19.1 -2.7**
comp=Z,64nm,1.9s,mb5.7
TOA0 Torodi Ar. Sit 93.13 77 *e*P **P 22 23 21.6 -1.7**
TORD Torodi Ar. Bea 93.13 77 P **P 22 23 21.6 -1.7**
comp=Z,2.2nm,0.9s,mb4.6,baz=268,slow=2.4,SNR=8.9
TORD PP PP 22 27 04.2 -2.5
comp=Z,2.6nm,1.1s,baz=271,slow=4.0,SNR=4.9
TORD LR LR 23 02 46.1
comp=Z,500nm,19.8s,MS5.0,baz=285,slow=34
KBS Kingsbay 93.17 11 *e*SKS 22 33 53.9
KBS *i* 22 35 54.5
KBS AMS AMS 23 06 01.4
comp=Z,410nm,18.9s,MS4.9
KBS Kingsbay 93.17 11 PFAKE 22 23 30.0 +7.7
KBS LR LR
comp=Z,451nm,20.0s,MS4.9
SMY Shemya 93.26 323 P **P 22 23 23.4 +0.3**
MAIT Maitri 93.71 161 *e*P **P 22 23 23.7 -1.1**
SPB4 Spitsbergen Ar 94.22 11 P **P 22 23 27.2 +0.1**
RPZ Rata Peaks 95.05 226 LR LR 22 59 23.7
comp=Z,310nm,18.6s,MS4.8,baz=273,slow=31
BILL Bilibino 95.21 338⇑ *e*P **P 22 23 33.6 +1.8**
BILL *e* 22 27 23.1
BILL pmax pmax
comp=Z,15nm,1.2s,mb5.3
BILL MLR MLR
comp=Z,500nm,13.0s,MS5.2
BILL Bilibino 95.21 338 *e*P **P 22 23 33.5 +1.8**
comp=Z,60nm,1.3s,mb5.9
BILL *e* 22 23 38.9
BILL LR LR
comp=Z,895nm,20.0s,MS5.2
WLF Walferdange 95.36 40 P **P 22 23 32.3 -0.6**
WLF MLR MLR
comp=Z,364nm,20.0s,MS4.8
KONO Kongsberg 96.09 30 *e*SKS 22 34 08.8
KONO AMS AMS 23 00 35.3
comp=Z,228nm,25.4s,MS4.5
BNI Bardonecchia 96.14 45 PFAKE 22 23 50.0 +13
BNI LR LR
comp=Z,280nm,21.0s,MS4.7
NAO01 NORSAR Array S 96.52 29 P **P 22 23 39.5 +1.6**
TAM Tamanrasset 96.60 67 *e*P **P 22 23 38.8 -0.3**
TAM *e* 22 23 49.8
NOA NORSAR Array B 96.64 29 LR LR 23 03 45.5
comp=Z,174nm,20.0s,MS4.5,baz=280,slow=33
BFO Black Forest 96.93 42 PFAKE 22 23 50.0 +10
BFO LR LR
comp=Z,295nm,20.0s,MS4.8
TRO Tromso 97.57 19 *e*SKS 22 34 19.2
TRO *e*SS SS 22 41 47.0 +0.8
TRO AMS AMS 23 06 31.6
comp=Z,187nm,18.8s,MS4.6
TUE Stuetta 97.84 43 *e*P **P 22 23 43.7 -0.5**
TUE *e* 22 23 50.9
VSL Villasalto 98.70 50 PFAKE 22 24 00.0 +12
VSL LR LR
comp=Z,355nm,21.0s,MS4.8
VLC Villacollemand 98.88 45 PFAKE 22 24 00.0 +11
VLC LR LR
comp=Z,174nm,20.0s,MS4.5
CLL Collm 99.46 38 *e*SKSac SKSac 22 34 34.0 +4.0
CLL LmV 22 05 00.0
comp=Z,200nm,20.8s
CLL *e*Sdif S 22 35 24.0 0.0
CLL *e*SP SP 22 36 47.0 -3.3
CLL *e*PPS 22 37 42.0
CLL *e*x x 22 40 38.0
CLL *e*SS SS 22 42 13.0 -0.7
CLL *e*SSS 22 45 58.0
CLL *e*x x 22 46 34.0
ARCES ARCESS Array B 99.75 19 PKKPbc PKKPbc 22 40 14.8 -1.0
comp=Z,3.0nm,0.9s,baz=316,slow=8.6,SNR=3.9
KEV Kevo 100.12 18 PFAKE 22 24 00.0 +5.8
KEV LR LR
comp=Z,273nm,20.0s,MS4.8
GERES GERESS Array B 100.37 40 PKKPbc PKKPbc 22 40 12.4 -1.0
comp=Z,0.1nm,0.3s,baz=117,slow=2.1,SNR=4.2
TRI Trieste 101.00 44 PFAKE 22 24 10.0 +12
TRI LR LR
comp=Z,220nm,20.0s,MS4.7
PET Petropavlovsk 102.43 324 PFAKE 22 24 20.0 +16
PET LR LR
comp=Z,270nm,22.0s,MS4.7
LVZ Lovozero 103.46 18 PFAKE 22 24 20.0 +11
LVZ LR LR
comp=Z,280nm,20.0s,MS4.8
PSZ Piszkesteto 104.60 40 PFAKE 22 24 30.0 +16
PSZ LR LR
comp=Z,269nm,19.0s,MS4.8
TIXI Tiksi 104.61 348 *e*P Pdif 22 24 19.5 +5.4
TIXI pmax pmax
comp=Z,12nm,1.3s
TIXI Tiksi 104.61 348 *e*Pdif Pdif 22 24 14.2 +0.1
comp=Z,11nm,1.3s
TIXI *e* 22 24 19.3
TIXI LR LR
comp=Z,407nm,20.0s,MS5.0
KWP Kalwaria 105.88 38 PFAKE 22 28 40.0 +7.6
KWP LR LR
comp=Z,308nm,20.0s,MS4.8
TSUM Tsumeb 107.65 110 *e*PKiKP PKiKP 22 28 36.1 -0.5
TSUM *e*PP PP 22 28 56.4 -0.4
TSUM LR LR
comp=Z,1μm,20.0s,MS5.4
SUR Sutherland 108.27 124 PFAKE 22 28 50.0 +13
SUR LR LR
comp=Z,1μm,21.0s,MS5.4
KIEV Kiev 109.39 35 PKiKP PKiKP 22 28 36.3 -2.6
KIEV LR LR
comp=Z,452nm,20.0s,MS5.0
AKASG Malin Array Be 109.40 35 PKiKP PKiKP 22 28 37.0 -1.9
comp=Z,1.1nm,0.7s,baz=271,slow=3.1,SNR=5.5
MAW Mawson 109.56 170 PKiKP PKiKP 22 28 39.6 +0.8
OBN Obninsk 111.24 29 *e*PKiKP PKiKP 22 28 41.3 -1.0
OBN *e*PS PS 22 38 50.1 -3.2
OBN *e*SS SS 22 44 53.3 -0.7
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 111.24 29 PFAKE 22 28 50.0 +7.7
OBN LR LR
comp=Z,248nm,19.0s,MS4.8
CASY Casey 111.42 189 PFAKE 22 28 50.0 +7.7
CASY LR LR
comp=Z,569nm,19.0s,MS5.2
YAK Yakutsk 111.42 341 PFAKE 22 28 50.0 +7.5
YAK LR LR
comp=Z,334nm,21.0s,MS4.9
SANT Santorini 111.76 51 PFAKE 22 29 00.0 +16
SANT LR LR
comp=Z,155nm,19.0s,MS4.6
BOSA Boshof 112.87 121 PFAKE 22 29 00.0 +14
BOSA LR LR
comp=Z,865nm,20.0s,MS5.3
YSS Yuzh-Sakhalins 114.17 323 PFAKE 22 29 00.0 +12
YSS LR LR
comp=Z,88nm,20.0s,MS4.4
ISP Isparta 115.14 48 PFAKE 22 29 00.0 +10
ISP LR LR
comp=Z,154nm,20.0s,MS4.6
ANTO Ankara 116.05 45 PFAKE 22 29 00.0 +8.0
ANTO LR LR
comp=Z,150nm,20.0s,MS4.6
BR131 Keskin Array S 116.71 45 *e*PKPdf PKPdf 22 28 52.0 -1.3
BR131 *e* 22 28 59.9
LSZ Lusaka 118.24 108 PFAKE 22 29 10.0 +13
LSZ LR LR
comp=Z,1μm,19.0s,MS5.5
CSS Prodhromos 118.28 50 PFAKE 22 29 10.0 +14
CSS LR LR
comp=Z,59nm,21.0s,MS4.2
ARU Arti 119.34 19 *i* PKIKP PKPdf 22 28 56.2 -1.6
ARU 22 30 15.4
ARU SP SP 22 40 05.7 +1.1
ARU Arti 119.34 19 *e*PKPdf PKPdf 22 28 56.8 -1.0
ARU PP PP 22 30 16.5 -1.6
STKA Stephens Creek 120.44 232 PKP PKPdf 22 29 00.8 +0.1
comp=Z,2.4nm,0.8s,baz=246,slow=16,SNR=3.3
KIV Kislovodsk 120.65 37 PFAKE 22 29 10.0 +9.3
KIV LR LR
comp=Z,184nm,19.0s,MS4.7
MALT Malatya 120.68 45 *e*PKIKP PKPdf 22 29 00.5 -0.5
MALT *e* 22 29 08.2
MALT MLR MLR
comp=Z,153nm,20.0s,MS4.6
PMG Port Moresby 120.89 259 PKIKP PKPdf 22 28 59.7 -2.3
MJAR Matsushiro Arr 121.92 314 PP PP 22 30 42.7 +5.9
comp=Z,0.7nm,0.4s,baz=62,slow=4.2,SNR=5.0
MAJO Matsushiro 121.92 314 PFAKE 22 29 10.0 +6.6
MAJO LR LR
comp=Z,367nm,20.0s,MS5.0
MAT Matsushiro 121.92 314 PP PP 22 30 41.2 +4.4
ASF Jabal al Asfar 122.08 52 PKP PKPdf 22 29 03.6 -0.2
comp=Z,6.9nm,0.9s,baz=120,slow=0.7,SNR=11
MDJ Mudanjiang 123.17 326 PDIF Pdif 22 25 35.8 -0.8
MDJ PKP PKPdf 22 29 05.3 -0.2
MDJ SS SS 22 47 31.8 +2.3
MDJ PP PP
comp=Z,29nm,18.5s
MDJ LR LR
comp=E,180nm,30.2s
MDJ LR LR
comp=Z,153nm,24.1s
MDJ Mudanjiang 123.17 326 PFAKE 22 29 20.0 +14
MDJ LR LR
comp=Z,242nm,20.0s,MS4.8
GNI Garni 124.02 40 PKP PKPdf 22 29 06.1 -1.2
comp=Z,2.2nm,0.6s,baz=18,slow=4.3,SNR=4.4
GNI Garni 124.02 40 *e*PKPdf PKPdf 22 29 06.3 -1.0
GNI *e*PP PP 22 30 50.6 -0.1
GNI LR LR
comp=Z,164nm,20.0s,MS4.7
HIA Hailar 124.69 336 PFAKE 22 29 20.0 +12
HIA LR LR
comp=Z,331nm,21.0s,MS5.0
BRVK Borovoye 125.57 14 *e*PKIKP PKPdf 22 29 09.3 -0.6
BRVK *e* 22 29 16.6
NVS Novosibirsk 125.79 4 *e*PKIKP PKPdf 22 29 08.3 -1.9
NVS pmax pmax
comp=N,4.0nm,1.4s
NVS pmax pmax
comp=E,7.0nm,1.4s
NVS pmax pmax
comp=Z,13nm,1.4s
CN2 Changchun 125.96 328 *e*PKP PKPdf 22 29 07.3 -3.6
CN2 PP PP 22 31 04.0 +0.6
CN2 LR LR
comp=N,300nm,18.0s,MS5.1
CN2 LR LR
comp=E,200nm,18.0s,MS5.1
CN2 LR LR
comp=Z,300nm,21.0s,MS4.9
ZAA0 Zalesovo Array 126.78 3 *e*PKPdf PKPdf 22 29 10.9 -1.2
ZAA0 *e* 22 29 18.6
ZALV Zalesovo Beam 126.78 3 PKP PKPdf 22 29 10.2 -1.9
comp=Z,3.1nm,0.5s,baz=309,slow=1.6,SNR=21
ZALV PP PP 22 31 10.0 +1.9
comp=Z,5.0nm,0.8s,baz=348,slow=6.5,SNR=6.8
ZALV Zalesovo Beam 126.78 3 PKP PKPdf 22 29 10.2 -1.9
ZALV PP PP 22 31 10.0 +1.9
ZAL Zalesovo 126.79 3 PKIKP PKPdf 22 29 10.2 -2.0
ZAL 22 31 10.0
TLY Talaya 127.59 348 PFAKE 22 29 30.0 +16
TLY LR LR
comp=Z,218nm,21.0s,MS4.8
MOY Mondy 128.10 350 *e*PKIKP PKPdf 22 29 14.7 0.0
MOY pmax pmax
comp=Z,19nm,1.7s
KSRS Korea Array 128.50 320 PKP PKPdf 22 29 14.8 -1.1
comp=Z,2.4nm,0.9s,baz=13,slow=1.5,SNR=6.7
KMBO Kilima Mbogo 128.59 92 PKP PKPdf 22 29 16.7 -0.1
comp=Z,1.6nm,0.8s,baz=43,slow=24,SNR=3.2
KMBO Kilima Mbogo 128.59 92 *e*PKPdf PKPdf 22 29 17.3 +0.5
KMBO LR LR
comp=Z,654nm,22.0s,MS5.3
ZAK Zakamensk 128.89 348⇓ *i*PKIKP PKPdf 22 29 15.8 -0.5
ZAK *e* 22 31 27.1
ZAK pmax pmax
comp=Z,7.0nm,1.2s
INCN Inchon 129.31 321 PFAKE 22 29 30.0 +12
INCN LR LR
comp=Z,403nm,22.0s,MS5.1
KURK Kurchatov 129.39 8 *d i*PKIKP PKPdf 22 29 16.0 -1.2
KURK Kurchatov 129.39 8 *e*PKPdf PKPdf 22 29 16.3 -0.9
KURK *e* 22 29 24.4
KURK *e*PP PP 22 31 22.6 -2.7
KURK LR LR
comp=Z,563nm,20.0s,MS5.3
ASAR Alice Springs 129.85 238 PKP PKPdf 22 29 18.5 -0.4
comp=Z,5.4nm,1.0s,baz=114,slow=2.4,SNR=20
ULN Ulaanbaatar 130.32 344 PFAKE 22 29 30.0 +11
ULN LR LR
comp=Z,365nm,20.0s,MS5.1
SONM Songino Array 130.53 344 PKP PKPdf 22 29 18.6 -0.9
comp=Z,5.8nm,1.1s,baz=24,slow=0.6,SNR=18
SONM PP PP 22 31 41.0 +8.2
comp=Z,1.1nm,0.9s,baz=3.7,slow=3.8,SNR=4.6
WB2 Warramunga Arr 130.77 243 *e*PKP PKPdf 22 29 20.2 -0.5
WB2 *e*pPKP pPKPdf 22 29 28.5 +4.3
WB2 Warramunga Arr 130.77 243 *e*PKPdf PKPdf 22 29 20.9 +0.1
WB2 *e* 22 29 29.0
WB2 *e*PP PP 22 31 38.2 +2.0
WRAB Tennant Creek 130.78 243⇓ *i*PKIKP PKPdf 22 29 20.4 -0.4
WRAB Tennant Creek 130.78 243 *e*PKPdf PKPdf 22 29 21.1 +0.3
WRAB *e* 22 29 28.8
WRAB PP PP 22 31 38.0 +1.8
WRAB LR LR
comp=Z,214nm,19.0s,MS4.9
WRA Warramunga Arr 130.78 243 PKP PKPdf 22 29 20.4 -0.4
comp=Z,7.8nm,0.9s,baz=100,slow=2.8,SNR=34
MIB Mutribah 131.18 50 *e*P PKPdf 22 29 20.1 -1.1
MIB AMb AMB 22 29 30.6
comp=Z,63nm,1.2s
FORT Forrest 131.23 227 *e*PKPdf PKPdf 22 29 22.2 +0.9
BJI Beijing 133.45 331 PKP PKPdf 22 29 25.3 0.0
BJI XPKP 22 29 30.3
BJI PP PP 22 31 52.0 -0.1
BJI SKS SKSdf 22 36 36.8 -0.1
BJI SS SS 22 49 36.8 +0.1
BJI LR LR
comp=N,209nm,20.6s,MS4.9
BJI LR LR
comp=E,122nm,20.3s,MS4.9
BJT Baijiatuau 133.47 331 PFAKE 22 29 40.0 +15
BJT LR LR
comp=Z,451nm,21.0s,MS5.2
MK31 Makanchi Array 133.70 6 *e*PKIKP 22 29 17.6
MK31 *e* 22 29 24.5
MK31 *e* 22 31 49.4
MK31 Makanchi Array 133.70 6 *e*P 22 29 17.6
MK31 *e*PKPdf PKPdf 22 29 24.5 -1.0
MK31 *e* 22 29 31.7
MK31 *e*PP PP 22 31 49.4 -3.7
MKAR Makanchi Array 133.70 6 PKhKP 22 29 17.7
comp=Z,1.4nm,1.1s,baz=343,slow=3.8,SNR=5.1
MKAR PKP PKPdf 22 29 24.1 -1.4
comp=Z,2.6nm,0.9s,baz=346,slow=2.5,SNR=12
MKAR PP PP 22 31 59.1 +6.0
comp=Z,3.7nm,1.0s,baz=0.2,slow=5.3,SNR=5.7
HHC Hu-ho-hao-te 134.90 335 *e*PKP PKPdf 22 29 26.3 -1.6
HHC PP PP 22 32 05.0 +3.9
HHC PKS 22 33 01.0
HHC PP PP
comp=Z,184nm,15.5s
HHC LR LR
comp=N,225nm,23.8s,MS4.9
HHC LR LR
comp=E,178nm,22.6s,MS4.9
HHC LR LR
comp=Z,238nm,20.2s,MS4.9
ABPO Ambohimpanom 134.91 118 PFAKE 22 29 40.0 +11
ABPO LR LR
comp=Z,994nm,19.0s,MS5.5
EKS2 Erkin-Say 136.09 16 *e*P PKPdf 22 29 20.2 -10
EKS2 *e*PKPdf PKPdf 22 29 30.6 +0.5
EKS2 *e* 22 29 38.4
EKS2 *e*PP PP 22 32 09.4 +1.0
EKS2 LR LR
comp=Z,286nm,20.0s,MS5.0
FRU Bishkek 136.15 15 *e*PKIKP PKPdf 22 29 30.0 -0.2
TKM2 Tokmak 2 136.31 14 *e*PKIKP PKPdf 22 29 30.1 -0.4
TKM2 MLR MLR
comp=Z,318nm,21.0s,MS5.0
AML Almayashu 136.56 16 *e*PKPdf PKPdf 22 29 30.4 -0.6
AML LR LR
comp=Z,346nm,22.0s,MS5.0
UCH Uchtor 136.69 15 *e*PKPdf PKPdf 22 29 31.3 0.0
UCH *e*PP PP 22 32 09.5 -2.7
UCH LR LR
comp=Z,319nm,22.0s,MS5.0
WMQ Urumqi 137.00 1 PKP PKPdf 22 29 32.0 +0.2
WMQ PP PP 22 32 18.3 +4.4
WMQ PKS 22 33 06.8
WMQ SKS SKSdf 22 36 41.3 -1.6
WMQ SKKS SKKSac 22 39 09.3 -0.8
WMQ SS SS 22 50 21.0 +2.8
WMQ PP PP
comp=Z,77nm,10.0s
WMQ LR LR
comp=N,512nm,24.0s,MS5.2
WMQ LR LR
comp=E,333nm,23.8s,MS5.2
WMQ LR LR
comp=Z,354nm,25.0s,MS5.0
NJ2 Nanjing 137.69 321 *e*PKP PKPdf 22 29 29.5 -3.9
FITZ Fitzroy Crossi 139.12 241 *e*P PKPdf 22 29 35.5 -0.9
comp=Z,6.4nm,0.9s
FITZ *e*pPKP pPKPdf 22 29 45.8 +6.0
FITZ Fitzroy Crossi 139.12 241 *e*PKPdf PKPdf 22 29 35.3 -1.0
KSH Kashi 139.61 15 *e*PKP PKPdf 22 29 37.8 +1.1
KSH PP PP 22 32 34.0 +3.7
KSH PKS 22 33 12.5
KSH SKS SKSdf 22 36 46.0 -1.5
KSH SKKS SKKSac 22 39 24.5 -1.3
KSH SS SS 22 50 48.8 -0.6

GTA	**Gaotai**	**140.08**	**346**	PKP	PKPdf	22 29 36.3	-1.3
GTA				PP	PP	22 32 37.8	+4.7
GTA				PKS		22 33 14.5	
GTA				SKS	SKSdf	22 36 45.0	-3.2
GTA				SKKS	SKKSac	22 39 25.8	-2.7
GTA				SS	SS	22 50 58.3	+3.4
GTA				PP	PP		
	comp=Z,106nm,7.5s						
GTA				LR	LR		
	comp=N,204nm,22.5s,MS5.0						
GTA				LR	LR		
	comp=E,166nm,19.2s,MS5.0						
GTA				LR	LR		
	comp=Z,277nm,22.8s,MS5.0						
TATO	**Taipei**	**140.09**	**310**	PFAKE		22 29 50.0	+12
TATO				LR	LR		
	comp=Z,211nm,21.0s,MS4.9						
YHNB	**Yeheng**	**140.33**	**310**	PFAKE		22 29 50.0	+12
YHNB				LR	LR		
	comp=Z,213nm,19.0s,MS4.9						
WHN	**Wuhan**	**141.52**	**323**	PKP	PKPdf	22 29 34.5	-5.9
KBL	**Kabul**	**141.62**	**26**	*e*PKHKP		22 29 33.0	
XAN	**Xi'an**	**141.72**	**332**	PKP	PKPdf	22 29 35.5	-5.2
LZH	**Lanzhou**	**142.01**	**340**	*e*PKP	PKPdf	22 29 41.0	-0.1
LZH				APKP		22 30 05.5	
LZH				PP	PP	22 32 51.0	+5.9
LZH				SS	SS	22 51 13.0	-4.6
LZH				PP	PP		
	comp=Z,155nm,6.4s						
LZH				LR	LR		
	comp=N,141nm,18.0s						
LZH				LR	LR		
	comp=Z,214nm,19.1s,MS4.9						
DAV	**Davao City (W)**	**142.61**	**281**	PFAKE		22 29 50.0	+7.2
DAV				LR	LR		
	comp=Z,186nm,20.0s,MS4.8						
MSEY	**Mahe Island**	**146.46**	**99**	*e*PKP2	PKPab	22 29 51.1	-0.7
MSEY				MLR	MLR		
	comp=Z,518nm,19.0s,MS5.3						
CD2	**Chengdu**	**146.65**	**336**	*e*PKP	PKPdf	22 29 49.5	+0.1
CD2				PKP2	PKPab	22 29 52.5	+0.6
CD2				APKP		22 29 59.8	
CD2				PP	PP	22 33 17.5	+4.5
CD2				SKS	SKSdf	22 36 53.0	-5.7
CD2				SKKS	SKKSac	22 40 02.5	-4.1
CD2				SS	SS	22 52 08.5	-2.6
CD2				PP	PP		
	comp=Z,180nm,9.6s						
CD2				LR	LR		
	comp=N,310nm,19.2s,MS5.2						
CD2				LR	LR		
	comp=E,290nm,20.4s,MS5.2						
CD2				LR	LR		
	comp=Z,380nm,22.8s,MS5.1						
SMLA	**Simla**	**147.79**	**19**	*e*P	PKPdf	22 29 50.6	-0.7
SMLA				AMb	AMB	22 30 02.9	
	comp=Z,124nm,1.3s						
KAPI	**Kappang**	**148.41**	**259**	PFAKE		22 30 00.0	+7.2
KAPI				LR	LR		
	comp=Z,226nm,20.0s,MS5.0						
DDI	**Dehra Dun**	**148.81**	**18**	*e*P	PKPdf	22 29 50.0	-3.0
GYA	**Guiyang**	**149.01**	**327**	PKP	PKPdf	22 29 53.3	-0.1
GYA				PKP2	PKPab	22 30 01.0	-0.4
GYA				PKS		22 33 25.8	
GYA				PP	PP	22 33 32.3	+5.1
GYA				SKKS	SKKSac	22 40 16.0	-4.0
GYA				SS	SS	22 52 32.0	-6.4
GYA				PP	PP		
	comp=Z,140nm,3.6s						
GYA				LR	LR		
	comp=N,290nm,25.0s,MS5.1						
GYA				LR	LR		
	comp=E,210nm,24.1s,MS5.1						
GYA				LR	LR		
	comp=Z,260nm,24.4s,MS4.9						
NDI	**New Delhi**	**150.05**	**20**	*e*P	PKPdf	22 29 54.0	-1.0
PTH	**Pithoragarh**	**150.15**	**15**	*ex*	x	22 30 00.9	
LSA	**Lhasa**	**151.00**	**355**	PKP	PKPdf	22 29 56.0	-0.4
LSA	**Lhasa**	**151.00**	**355**	*e*PKIKP	PKPdf	22 29 57.8	+1.4
LSA				*e*		22 30 03.3	
LSA				MLR	MLR		
	comp=Z,287nm,21.0s,MS5.0						
LSA	**Lhasa**	**151.00**	**355**	*e*PKPdf	PKPdf	22 29 57.8	+1.3
LSA				*e*PKPbc	PKPbc	22 30 03.3	+1.1
LSA				*e*PKPab	PKPab	22 30 10.2	+0.8
LSA				LR	LR		
	comp=Z,287nm,21.0s,MS5.0						
KKM	**Kota Kinabalu**	**151.96**	**282**	PFAKE		22 30 10.0	+12
KKM				LR	LR		
	comp=Z,162nm,20.0s,MS4.8						
KMI	**Kunming**	**152.10**	**332**	PKP	PKPdf	22 29 58.5	+0.3
QIZ	**Qiongzhong**	**152.31**	**313**	PFAKE		22 30 10.0	+11
QIZ				LR	LR		
	comp=Z,204nm,21.0s,MS4.9						
SHL	**Shillong**	**155.02**	**353**	*e*P	PKPdf	22 30 02.0	-0.4
CHTO	**Chiang Mai**	**159.30**	**331**	*e*PKIKP	PKPdf	22 30 07.3	-0.7
CHTO				*e*		22 30 44.3	
CHTO				MLR	MLR		
	comp=Z,281nm,21.0s,MS5.1						
CMAR	**Chiang Mai Arr**	**159.60**	**331**	PKP	PKPdf	22 30 08.3	0.0
	comp=Z,2.0nm,0.8s,baz=311,slow=1.3,SNR=13						
CMAR				PKPab	PKPab	22 30 46.5	+0.1
	comp=Z,1.2nm,0.5s,baz=23,slow=3.8,SNR=4.3						
CMAR				PP	PP	22 34 34.6	+8.0
	comp=Z,0.9nm,0.3s,baz=23,slow=4.7,SNR=5.5						
PALK	**Pallekele**	**169.71**	**50**	PKPdf	PKPdf	22 30 15.8	-1.5
PALK				LR	LR		
	comp=Z,433nm,21.0s						

IDC 29 22:47:39.9±16.0, 1860S×17846W, h454km±198km, mb3.1/4, mb1 3.4/4, mb1mx3.1/16, mbtmp3.1/4, Error ellipse: s-maj=205.6km s-min=45.5km az=166.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.46**	**260**	P	P	22 55 09.6	+0.1
	0.9nm,0.3s,baz=96,slow=7.5,SNR=57						
ASAR	**Alice Springs**	**44.56**	**255**	P	P	22 55 09.9	-0.3
	2.0nm,0.8s,baz=89,slow=8.6,SNR=14						
TXAR	**Lajitas Array**	**86.41**	**58**	P	P	22 59 33.9	+0.5
	0.2nm,0.6s,baz=218,slow=7.9,SNR=4.6						
PDAR	**Pinedale Array**	**87.89**	**43**	P	P	22 59 40.0	-0.1
	0.4nm,0.6s,baz=218,slow=4.2,SNR=3.3						
GERES	**GERESS Array B**	**148.26**	**345**	PKPbc	PKPbc	23 06 33.4	-0.4
	0.1nm,0.3s,baz=21,slow=2.7,SNR=5.6						

*NEIC **29** 23:40:07.3, 1831N×6865W, h65km, MD3.6(RSPR), After RSPR.*

RSPR 29 23:40:07.3, 1831N×6865W, h65km±13km, MD3.6/4, MD3.6/4, 4C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.50**	**102**↑	*e*P	Pn	23 40 31.8	-0.3
CRPR				*e*S	Sn	23 40 49.9	-0.9
AOPR	**Arecibo Observ**	**1.81**	**89**↑	*e*P	Pn	23 40 36.2	0.0
AOPR				*e*S	Sn	23 40 57.3	-0.9
CBYP	**Canovanas**	**2.66**	**90**↑	*e*P	Pn	23 40 46.7	-1.1
CBYP				*e*S	Sn	23 41 18.6	-0.3
MTP	**Monte Pirata**	**2.96**	**94**↑	*e*P	Pn	23 40 51.0	-0.8
MTP				*e*S	Sn	23 41 26.4	+0.1

*ISCJB **30** 00:18:02.7±1.7, 69S±0.1×130.1E±0.1, h111km±32km, Error ellipse: s-maj=22.8km s-min=19.2km az=7.6*
*IDC **30** 00:18:20.9±13.0, 802S×12923E, h226km±103km, mb3.7/1, mb1 3.6/3, mb1mx3.1/14, mbtmp3.4/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/24, Error ellipse: s-maj=152.0km s-min=94.9km az=66.0*
*NEIC **30** 00:18:23.3±10.0, 827S×12968E, h206km±30km, mb4.1/4, Error ellipse: s-maj=121.2km s-min=31.8km az=174.0*

ISC 30 00:18:03.7±1.7, 698S±007×1301E±01, h84km±25km, n10, σ1§16/15, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.97**	**63**↓	*e*P	**Pn**	**00 18 47.0**	**-1.6**
TLE				*e*S	**Sn**	**00 19 24.0**	**+0.7**
KAKA	**Kakadu**	**6.16**	**158**	*e*P	**Pn**	**00 19 40.3**	**+8.3**
	4.5nm,0.2s						
KAKA				*e*S	**Sn**	**00 20 49.3**	**+8.3**
FITZ	**Fitzroy Crossi**	**11.87**	**201**	*e*P	**Pn**	**00 20 49.3**	**-0.6**
	2.9nm,0.6s						
FITZ				*e*S	**Sn**	**00 22 43.2**	**-17**
WRAB	**Tennant Creek**	**13.53**	**163**	*e*Pn	**Pn**	**00 21 13.5**	**+1.4**
	13nm,1.0s						
WRAB				*e*S	**Sn**	**00 23 41.7**	**+0.9**
WRA	**Warramunga Arr**	**13.54**	**163**	P	**Pn**	**00 21 13.9**	**+1.7**
	0.1nm,0.3s,baz=333,slow=13,SNR=16						
WRA				S	**Sn**	**00 23 39.6**	**-1.4**
	0.9nm,0.3s,baz=336,slow=22,SNR=7.7						
WB2	**Warramunga Arr**	**13.54**	**163**	*e*P	**Pn**	**00 21 12.9**	**+0.7**
WB2				*e*S	**Sn**	**00 23 39.9**	**-1.2**
ASAR	**Alice Springs**	**17.00**	**168**	P	**Pn**	**00 21 56.9**	**+0.7**
	1.1nm,0.3s,baz=347,slow=11,SNR=89						
STKA	**Stephens Creek**	**27.00**	**158**	*e*P	**P**	**00 23 36.5**	**-1.3**
	2.4nm,0.8s						
STKA	**Stephens Creek**	**27.00**	**158**	P	**P**	**00 23 36.5**	**-1.3**
	2.4nm,0.6s,baz=336,slow=12,SNR=6.9						
KSRS	**Korea Array**	**44.25**	**358**	LR	LR	00 45 49.6	
	comp=Z,27nm,19.2s,baz=180,slow=36						

*IGQ **30** 00:39:57.0, 032N×7998W, h8km±3km, Mb4.7, Ms4.6, Error ellipse: s-maj=5.6km s-min=2.0km az=60.1*
*ISCJB **30** 00:40:02.9±0.7, 024N±004×7994W±006, h55km±7km, mb4.2/2/1, MS3.8/10, Error ellipse: s-maj=10.3km s-min=5.9km az=169.6*
*NEIC **30** 00:40:04.0±1.3, 0.16N×7986W, h54km±12km, mb4.6/10, MD4.6(IGQ), Error ellipse: s-maj=14.4km s-min=7.9km az=65.0*
NEIC Felt at Bahia de Caraquez and Guayaquil.
*IDC **30** 00:40:06.3±2.0, 020N×7992W, h78km±19km, mb3.8/16, mb1 4.0/20, mb1mx4.0/26, mbtmp3.9/20, MS3.8/15, Ms1 3.8/15, ms1mx3.7/24, Error ellipse: s-maj=17.3km s-min=10.2km az=79.0*

ISC 30 00:40:04.7±0.7, 027N±004×7983W±007, h54km±7km, n86, σ1§28/78, mb4.2/21, MS3.8/10, 1C-10D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.65**	**216**	⇑P	**Pn**	**00 40 10.3**	**-7.6**
PINO	**Pino**	**1.29**	**109**	⇓P	**Pn**	**00 40 24.8**	**-1.6**
TERV	**Terraza Guagua**	**1.30**	**110**	⇓P	**Pn**	**00 40 25.1**	**-1.4**
GGP	**Refugio Guagua**	**1.31**	**110**	⇓P	**Pn**	**00 40 25.1**	**-1.5**
JUA2	**San Juan 2**	**1.31**	**111**	⇓P	**Pn**	**00 40 25.4**	**-1.3**
OTAV	**Otavalo**	**1.38**	**91**	*e*Pn	**Pn**	**00 40 25.8**	**-1.8**
QIL2	**Quilotoa**	**1.45**	**141**	P	**Pn**	**00 40 26.1**	**-2.5**
COTA	**Cotacachi**	**1.49**	**87**	⇓P	**Pn**	**00 40 28.6**	**-0.6**
CHIS	**Cerro-Chispas-**	**1.58**	**214**	P	**Pn**	**00 40 23.6**	**-6.8**
CAMI	**Rancho Maria**	**1.62**	**125**	⇓P	**Pn**	**00 40 30.7**	**-0.2**
VC1	**Cotopaxi 1**	**1.69**	**122**	⇓P	**Pn**	**00 40 31.8**	**0.0**
TAMB	**Tambo**	**1.74**	**123**	⇓P	**Pn**	**00 40 32.8**	**+0.2**
ANTI	**Antisana**	**1.81**	**113**	⇓P	**Pn**	**00 40 33.7**	**+0.2**
CAYA	**Cayambe**	**1.85**	**96**	⇓P	**Pn**	**00 40 34.4**	**+0.4**
PISA	**Pisayambo**	**1.95**	**132**	P	**Pn**	**00 40 35.7**	**+0.3**
PORT	**Chimborazo Vol**	**2.02**	**148**	P	**Pn**	**00 40 35.5**	**-0.8**
IGUA	**Igualata**	**2.11**	**146**	P	**Pn**	**00 40 37.3**	**-0.3**
JUI6	**Juive**	**2.16**	**141**	P	**Pn**	**00 40 38.5**	**+0.2**
JUI6	**Juive**	**2.16**	**141**	S	**Sn**	**00 41 07.3**	**+3.5**
BIL2	**Estacion Bilba**	**2.16**	**142**	P	**Pn**	**00 40 38.2**	**-0.1**
RUN5	**Runtun**	**2.18**	**140**	P	**Pn**	**00 40 39.1**	**+0.5**
RETU	**Refugio**	**2.19**	**141**	P	**Pn**	**00 40 40.3**	**+1.6**
RETU	**Refugio**	**2.19**	**141**	S	**Sn**	**00 41 08.2**	**+3.4**
CONE	**Cono NE Rev Vo**	**2.21**	**99**	P	**Pn**	**00 40 40.0**	**+1.1**
ULBA	**Ulba**	**2.22**	**140**	P	**Pn**	**00 40 39.0**	**-0.1**
ULBA	**Ulba**	**2.22**	**140**	S	**Sn**	**00 41 07.5**	**+2.2**
LAV3	**Lava3-Reventad**	**2.23**	**99**	P	**Pn**	**00 40 41.1**	**+2.0**
ARRY	**Arrayan**	**2.23**	**142**	P	**Pn**	**00 40 39.0**	**-0.3**
PATA	**Patacocha**	**2.24**	**142**	P	**Pn**	**00 40 39.6**	**+0.2**
PATA	**Patacocha**	**2.24**	**142**	S	**Sn**	**00 41 07.2**	**+1.3**
ROSC	**El Rosal**	**7.14**	**50**	P	**Pn**	**00 41 50.9**	**+4.3**
	9.2nm,0.3s,baz=75,slow=2.7,SNR=14						
ROSC				S	**Sn**	**00 43 12.8**	**+6.5**
	0.7nm,0.3s,baz=96,slow=23,SNR=3.1						
ROSC				LR	LR	00 44 51.0	
	comp=Z,681nm,20.5s,baz=217,slow=39						
ROSC	**El Rosal**	**7.14**	**50**	*e*Pn	**Pn**	**00 41 49.6**	**+3.1**
ATAH	**Atahualpa**	**7.36**	**169**	P	**Pn**	**00 41 52.0**	**+2.4**
	3.4nm,0.3s,baz=35,slow=4.5,SNR=13						
ATAH				S	**Sn**	**00 43 17.4**	**+5.6**
	8.9nm,0.3s,baz=104,slow=20,SNR=4.1						
ATAH				LR	LR	00 44 48.3	
	comp=Z,772nm,18.5s,baz=150,slow=38						
BCIP	**Isla Barro Col**	**8.84**	**360**	*e*Pn	**Pn**	**00 42 09.2**	**-0.7**
BCIP				*e*Sn	**Sn**	**00 43 44.7**	**-3.5**
NNA	**Nana**	**12.53**	**166**	P	**Pn**	**00 42 59.9**	**-0.4**
	1.4nm,0.3s,baz=343,slow=12,SNR=7.4						
NNA				S	**Sn**	**00 45 16.1**	**-2.3**
	5.7nm,0.3s,baz=228,slow=16,SNR=5.9						
NNA				LR	LR	00 47 49.4	
	comp=Z,273nm,18.9s,baz=326,slow=37						
NNA	**Nana**	**12.53**	**166**	*e*Pn	**Pn**	**00 42 57.8**	**-2.5**
NNA				S	**Sn**	**00 45 16.1**	**-2.3**
NNA				LR	LR	00 47 49.4	
SDV	**Santo Domingo**	**12.54**	**47**	P	**Pn**	**00 43 02.7**	**+2.3**
	0.8nm,0.3s,baz=226,slow=8.8,SNR=5.9						
SDV				LR	LR	00 48 35.1	
	comp=Z,211nm,20.3s,baz=327,slow=40						
TGUH	**Tegucigalpa,Un**	**15.56**	**332**	*e*P	**Pn**	**00 43 40.5**	**-0.2**
	41nm,1.0s						
PCRV	**Puerto La Cruz**	**18.04**	**56**	LR	LR	00 52 10.7	
	comp=Z,323nm,20.8s,baz=97,slow=40						
LPAZ	**La Paz**	**20.09**	**145**	P	**P**	**00 44 34.2**	**+0.2**
	6.1nm,0.7s,baz=335,slow=15,SNR=23						
LPAZ				LR	LR	00 53 02.0	
	comp=Z,121nm,21.2s,MS3.2,baz=100,slow=39						
LPAZ	**La Paz**	**20.09**	**145**	*e*P	**P**	**00 44 33.7**	**-0.3**
	12nm,0.8s						
LPAZ				LR	LR	00 53 02.0	
TEIG	**Tepich**	**21.49**	**338**	LR	LR	00 52 27.5	
	comp=Z,202nm,18.8s,MS3.5,baz=36,slow=34						
SJG	**San Juan**	**22.25**	**36**	P	**P**	**00 44 58.4**	**+1.2**
	9.7nm,0.7s,mb4.3,baz=145,slow=5.3,SNR=5.0						
CMIG	**Matias Romero**	**22.35**	**319**	LR	LR	00 51 45.4	
	comp=Z,233nm,21.4s,MS3.6,baz=152,slow=31						
HUMP	**Col San Antoni**	**22.46**	**37**	*e*P	**P**	**00 44 58.0**	**-1.3**
	32nm,1.1s,mb4.7						
CBYP	**Canovanas**	**22.55**	**37**	*e*P	**P**	**00 45 00.4**	**+0.1**
SIV	**San Ignacio**	**24.57**	**132**	P	**P**	**00 45 19.9**	**+0.1**
	16nm,1.1s,mb4.5,baz=301,slow=11,SNR=20						
LVC	**Limon Verde**	**25.10**	**156**	P	**P**	**00 45 25.2**	**+0.6**
	11nm,0.8s,mb4.4,baz=334,slow=4.1,SNR=7.7						
LVC	**Limon Verde**	**25.10**	**156**	*e*P	**P**	**00 45 25.2**	**+0.7**
	20nm,1.0s,mb4.6						
CPUP	**Villa Florida**	**34.20**	**142**	P	**P**	**00 46 42.9**	**-2.3**
	0.4nm,0.3s,mb3.8,baz=318,slow=13,SNR=4.6						
CPUP				LR	LR	01 03 46.5	
	comp=Z,369nm,20.6s,MS4.1,baz=308,slow=42						
BDFB	**Brasilia**	**35.17**	**118**	*e*P	**P**	**00 46 53.2**	**-0.5**
CPCT	**Cooper Cave**	**35.28**	**353**	*e*P	**P**	**00 46 57.0**	**+2.7**
TXAR	**Lajitas Array**	**36.78**	**324**	P	**P**	**00 47 07.2**	**-0.1**
	0.8nm,0.9s,mb3.5,baz=141,slow=8.1,SNR=6.0						
TXAR				PcP	PcP	00 49 28.1	-0.6
	0.8nm,0.9s,baz=145,slow=4.6,SNR=6.0						
PARMO	**Parma**	**37.37**	**347**	P	**P**	**00 47 12.1**	**0.0**
PLCA	**Paso Flores**	**41.67**	**169**	P	**P**	**00 47 47.9**	**-0.1**
	4.6nm,0.9s,mb4.1,baz=348,slow=11,SNR=9.3						
PLCA				LR	LR	01 03 48.3	
	comp=Z,52nm,18.2s,MS3.5,baz=184,slow=34						
BNM	**Barren Site**	**42.03**	**326**	*e*P	**P**	**00 47 49.8**	**-1.2**
ANMO	**Albuquerque**	**42.53**	**327**	P	**P**	**00 47 55.8**	**+0.7**
	3.4nm,0.8s,mb4.1,baz=154,slow=11,SNR=9.9						
ANMO	**Albuquerque**	**42.53**	**327**	*e*P	**P**	**00 47 56.1**	**+1.1**
	13nm,1.5s,mb4.4						
MIV	**Mineville/With**	**43.98**	**7**	*e*P	**P**	**00 48 08.1**	**+1.5**
SDCO	**Great Sand Dun**	**44.17**	**330**	*e*P	**P**	**00 48 09.7**	**+1.5**
WUAZ	**Wupatki**	**45.74**	**323**	*e*P	**P**	**00 48 23.3**	**+2.5**
	20nm,1.8s,mb4.7						
PDAR	**Pinedale Array**	**50.02**	**332**	P	**P**	**00 48 52.9**	**-0.8**
	0.3nm,0.7s,mb3.4,baz=159,slow=2.8,SNR=2.9						
PDAR	**Pinedale Array**	**50.02**	**332**	P	**P**	**00 48 52.9**	**-0.8**
REDW	**Red Top Meadow**	**51.09**	**331**	*e*P	**P**	**00 49 03.1**	**+1.4**
	12nm,1.6s,mb4.6						
ULM	**Lac du Bonnet**	**51.65**	**347**	P	**P**	**00 49 03.5**	**-2.3**
	2.6nm,0.8s,mb4.2,baz=135,slow=10.0,SNR=4.2						
ULM	**Lac du Bonnet**	**51.65**	**347**	P	**P**	**00 49 03.5**	**-2.3**
NVAR	**Mina Array Bea**	**51.85**	**322**	P	**P**	**00 49 06.2**	**-1.4**
	0.9nm,0.7s,mb3.8,baz=134,slow=6.4,SNR=5.5						
HLID	**Hailey**	**53.01**	**329**	*e*P	**P**	**00 49 17.2**	**+1.1**
	20nm,2.2s,mb4.7						
BOZ	**Bozeman (W)**	**53.17**	**332**	*e*P	**P**	**00 49 18.2**	**+1.0**
	5.4nm,1.4s,mb4.3						
WVOR	**Wild Horse Val**	**54.55**	**325**	*e*P	**P**	**00 49 28.9**	**+1.5**
	4.8nm,1.0s,mb4.5						
SCHQ	**Schefferville**	**55.42**	**9**	LR	LR	01 14 39.4	
	comp=Z,65nm,18.1s,MS3.8,baz=106,slow=37						
RKT	**Rikitea**	**58.38**	**243**	*e*LR	LR	01 07 15.9	
	184nm,25.5s						
TAOE	**Nuku Hiva Isla**	**60.75**	**260**	*e*LR	LR	01 08 18.0	
	550nm,24.4s						
YKA	**Yellowknife Ar**	**67.33**	**343**	P	**P**	**00 50 51.7**	**-2.0**
	1.4nm,0.9s,mb4.0,baz=131,slow=6.2,SNR=5.4						
YKA	**Yellowknife Ar**	**67.33**	**343**	P	**P**	**00 50 51.7**	**-2.0**
PPT	**Papeete**	**70.80**	**251**	*e*S	S	01 00 20.4	-7.1
	103nm,27.5s						
PPT	**Papeete**	**70.80**	**251**	*e*LR	LR	01 12 53.6	
	183nm,24.2s,baz=71						
PPT	**Papeete**	**70.80**	**251**	LR	LR	01 14 36.6	
	comp=Z,188nm,18.1s,MS4.4,baz=51,slow=29						
DBIC	**Dimbokro**	**75.04**	**83**	P	**P**	**00 51 40.1**	**-1.3**
	5.1nm,1.0s,mb4.4,baz=202,slow=5.7,SNR=3.9						
DBIC				LR	LR	01 22 14.1	
	comp=Z,107nm,20.5s,MS4.1,baz=257,slow=34						
ESDC	**Sonseca Array**	**78.97**	**50**	P	**P**	**00 52 03.1**	**+0.2**
	5.0nm,1.0s,mb4.4,baz=263,slow=5.4,SNR=15						
TORD	**Torodi Ar. Bea**	**81.68**	**77**	P	**P**	**00 52 16.9**	**-1.1**
	1.7nm,0.8s,mb4.0,baz=283,slow=5.2,SNR=31						
TORD				LR	LR	01 26 08.8	
	comp=Z,143nm,19.1s,MS4.3,baz=240,slow=34						
GERES	**GERESS Array B**	**92.13**	**41**	P	**P**	**00 53 07.8**	**-0.5**
	0.4nm,0.8s,mb3.8,baz=280,slow=8.0,SNR=4.5						
GERES				LR	LR	01 32 20.8	
	comp=Z,30nm,20.8s,MS3.7,baz=221,slow=34						
KURK	**Kurchatov**	**126.00**	**17**	PKP	PKPdf	00 58 60.0	-0.9
	0.8nm,0.8s,baz=329,slow=2.5,SNR=3.9						
ASAR	**Alice Springs**	**139.85**	**232**	PKP	PKPdf	00 59 25.2	-2.4
	1.1nm,1.0s,baz=134,slow=2.7,SNR=5.9						
WRA	**Warramunga Arr**	**141.26**	**238**	PKP	PKPdf	00 59 28.1	-2.2
	0.3nm,0.4s,baz=116,slow=2.1,SNR=11						
CMAR	**Chiang Mai Arr**	**161.35**	**4**	PKPab	PKPab	01 00 42.8	-1.4
	1.4nm,0.4s,baz=332,slow=4.6,SNR=5.2						

*ISCJB **30** 00:59:50.1±0.5, 3628N±004×7103E±006, h120km±8km, mb3.5/5, Error ellipse: s-maj=8.7km s-min=5.5km az=146.7*
*NEIC **30** 00:59:52.0±0.9, 3632N×7093E, h119km±9km, mb4.3/2, Error ellipse: s-maj=19.7km s-min=9.6km az=120.0*
*IDC **30** 00:59:52.3±10.0, 3624N×7093E, h124km±92km, mb3.3/6, mb1 3.3/9, mb1mx3.1/25, mbtmp3.1/9, ML3.4/3, Error ellipse: s-maj=50.6km s-min=21.7km az=23.0*
*NNC **30** 01:00:01.6±12.0, 37.14N×7103E, h202km±123km, mb2.7, mpv3.9, Error ellipse: s-maj=108.7km s-min=71.6km az=18.0*

ISC 30 00:59:51.4±0.5, 3627N±004×7101E±006, h115km±8km, n28, σ1§09/38, mb3.5/5, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.36**	**224**	*e*Pn	**Pn**	**01 00 30.6**	**+1.4**
KBL				*e*Sn	**Sn**	**01 00 57.5**	**-0.7**
DLH	**Dalhousie**	**5.53**	**131**	*ex*	x	01 01 52.0	
DLH				*e*S	**Sn**	**01 02 16.0**	**+2.2**
AML	**Almayashu**	**6.21**	**19**	*e*Pn	**Pn**	**01 01 20.8**	**+0.3**
AML				*e*Sn	**Sn**	**01 02 22.2**	**-7.9**
UCH	**Uchtor**	**6.54**	**23**	*e*Pn	**Pn**	**01 01 24.9**	**0.0**
	5.3nm,0.5s						
UCH				*e*Sn	**Sn**	**01 02 32.4**	**-5.6**
EKS2	**Erkin-Say**	**6.73**	**18**	*e*Pn	**Pn**	**01 01 27.6**	**+0.1**
EKS2				*e*Sn	**Sn**	**01 02 35.2**	**-7.5**
KK31	**Karatay Array**	**6.83**	**357**	⇓P	**Pn**	**01 01 27.9**	**-1.0**
	6.3nm,0.3s,baz=176,slow=11,SNR=340						
KK31				⇑S	**Sn**	**01 02 40.0**	**-5.2**
	7.2nm,0.4s,baz=185,slow=21,SNR=6.8						
SDNR	**Sundarnagar**	**6.87**	**132**	*e*P	**Pn**	**01 01 29.6**	**+0.1**
SDNR				*ex*	x	01 02 41.4	
SMLA	**Simla**	**7.25**	**133**	*e*P	**Pn**	**01 01 35.9**	**+1.1**
SMLA				*i* S	**Sn**	**01 02 54.3**	**-1.2**
SMLA				*ex*	x	01 02 58.0	
	comp=E,540nm,0.3s						
SMLA				*ex*	x	01 03 00.1	
	comp=N,658nm,0.3s						
TKM2	**Tokmak 2**	**7.52**	**27**	⇓P	**Pn**	**01 01 38.4**	**+0.2**
	comp=N,2.7nm,0.6s						
TKM2				⇓S	**Sn**	**01 02 53.5**	**-8.4**
	comp=N,3.4nm,0.6s						
TKM2	**Tokmak 2**	**7.52**	**27**	*e*Pn	**Pn**	**01 01 38.8**	**+0.5**
	comp=N,3.7nm,0.3s						
KLP	**Kalpa**	**7.65**	**126**	*e*P	**Pn**	**01 01 41.5**	**+1.4**
KLP				*e*S	**Sn**	**01 03 05.2**	**+0.1**
KLP				AML	AML	01 03 13.8	
	comp=N,121nm,0.7s						
KLP				AML	AML	01 03 17.3	
	comp=E,89nm,0.5s						
DDI	**Dehra Dun**	**8.36**	**133**	*e*S	**Sn**	**01 03 21.0**	**-1.4**
JOSI	**Joshimath**	**9.13**	**126**	*e*S	**Sn**	**01 03 38.

KIV				*e*S	**Sb**	**01 21 33.0**	**-0.3**
KIV				smax			
	comp=E,10.0nm,0.6s						
KIV	**Kislovodsk**	**1.42 310**	*i* Pg		**Pg**	**01 21 13.9**	**-1.4**
KIV				*e*Sg	**Sb**	**01 21 33.0**	**-0.3**

*NEIC **30** 01:46:53.5±9.5, 509S×14574E, h36km±49km, mb4.2/3, Error ellipse: s-maj=108.8km s-min=40.1km az=193.0*
*IDC **30** 01:47:00.7±4.2, 540S×14557E, h84km±37km, mb3.8/3, mb1 4.0/4, mb1mx3.5/15, mbtmp3.9/4, Error ellipse: s-maj=60.7km s-min=24.6km az=127.0*

ISC 30 01:46:59.3±2.7, 56S±01×1458E±02, h63km±27km, n10, σ0974/13, mb4.0/3, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.05 160**		*e*Pn	**Pn**	**01 47 59.3**	**+0.5**
PMG				*e*Sn	**Sn**	**01 48 44.3**	**-0.7**
KAKA	**Kakadu**	**14.95 241**		*e*P	**Pn**	**01 50 35.0**	**+7.9**
	9.3nm,0.4s						
WRAB	**Tennant Creek**	**18.09 217**		*e*P	**Pn**	**01 51 06.7**	**+0.3**
	8.4nm,0.5s						
WB2	**Warramunga Arr**	**18.10 217**	⇓	*i*P	**Pn**	**01 51 06.9**	**+0.4**
WB2	**Warramunga Arr**	**18.10 217**		*e*P	**Pn**	**01 51 06.6**	**+0.2**
WRA	**Warramunga Arr**	**18.11 217**		P	**Pn**	**01 51 06.9**	**+0.3**
	2.3nm,0.3s,baz=37,slow=11,SNR=128						
WRA				S	**S**	**01 54 29.4**	**+0.2**
	0.1nm,0.3s,baz=38,slow=19,SNR=4.4						
ASAR	**Alice Springs**	**21.32 211**		P	**P**	**01 51 40.0**	**-1.1**
	4.2nm,0.4s,mb4.1,baz=47,slow=8.6,SNR=32						
ASAR				S	**S**	**01 55 34.6**	**+0.2**
	2.2nm,0.7s,baz=33,slow=23,SNR=8.7						
FITZ	**Fitzroy Crossi**	**23.28 236**		*e*P	**P**	**01 52 00.4**	**-1.3**
	2.4nm,0.4s,mb4.0						
FITZ	**Fitzroy Crossi**	**23.28 236**		P	**P**	**01 52 00.7**	**-1.1**
	1.5nm,0.5s,mb3.7,baz=58,slow=13,SNR=9.9						
STKA	**Stephens Creek**	**26.46 188**		P	**P**	**01 52 31.8**	**+1.2**
	4.3nm,0.7s,mb4.1,baz=9.2,slow=11,SNR=7.3						

*NEIC **30** 02:10:53.7, 1951N×6870W, h151km, MD3.9(RSPR), After RSPR.*

RSPR 30 02:10:53.7, 1951N×6870W, h151km±11km, MD3.9/8, MD3.9/8, 9C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.83 124**	⇑	*e*P	Pn	02 11 26.4	-0.5
AGPR				*e*S	Sn	02 11 52.4	+0.1
CRPR	**Cabo Rojo, PR**	**2.12 135**	⇑	*e*P	Pn	02 11 29.8	-0.6
CRPR				*e*S	Sn	02 11 58.7	+0.2
LRS	**Lares**	**2.13 124**	⇑	*e*P	Pn	02 11 31.6	+1.1
LRS				*e*S	Sn	02 12 00.3	+1.6
AOPR	**Arecibo Observ**	**2.18 122**	⇑	*e*P	Pn	02 11 30.4	-0.5
AOPR				*e*S	Sn	02 12 00.1	+0.5
CELP	**Cerrillos**	**2.47 125**	⇑	*e*P	Pn	02 11 34.9	+0.5
SJG	**San Juan**	**2.79 120**		*e*S	Sn	02 12 12.9	-0.1
SJG	**San Juan**	**2.79 120**	⇑	*e*P	Pn	02 11 39.2	+0.8
CBYP	**Canovanas**	**2.96 114**	⇑	*e*P	Pn	02 11 40.1	-0.5
CBYP				*e*S	Sn	02 12 17.7	+0.9
CPD	**Cerro la Pandu**	**3.02 119**		*e*S	Sn	02 12 19.5	+1.3
HUMP	**Col San Antoni**	**3.02 116**	⇑	*e*P	Pn	02 11 41.8	+0.4
HUMP				*e*S	Sn	02 12 18.9	+0.6
MTP	**Monte Pirata**	**3.30 115**	⇑	*e*P	Pn	02 11 45.4	+0.6
MTP				*e*S	Sn	02 12 25.5	+1.0

*NEIC **30** 02:15:26.1, 2150N×10162W, h20km, MD3.9(MEX), After MEX.*

MEX 30 02:15:25.4±0.7, 2152N×10160W, h15km±11km, MD3.9, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJM	**Santa Fe**	**1.69 233**		*i* P	Pn	02 15 51.0	-3.4
SFJM				*i* S	Sn	02 16 11.5	-4.3
MOIG	**Morelia**	**1.87 168**		*i* P	Pn	02 15 53.5	-3.4
MOIG				*i* S	Sn	02 16 16.1	-4.2
DEIG	**Demacu**	**2.69 116**		*e*P	Pn	02 16 06.7	-1.4
DEIG				*i* S	Sn	02 16 37.4	-3.0
ANIG	**Ahuacatlan**	**2.76 261**		*i* P	Pn	02 16 07.8	-1.3
ANIG				*i* S	Sn	02 16 38.5	-3.8
PTVM	**Pico Tres Padr**	**3.02 129**		*e*P	Pn	02 16 11.5	-1.1
PTVM				*i* S	Sn	02 16 45.8	-2.7
MZVM		**3.21 136**		*e*P	Pn	02 16 13.9	-1.4
MZVM				*i* S	Sn	02 16 51.4	-2.0
IIO	**Organos**	**3.31 125**		*i* P	Pn	02 16 14.9	-1.8
IIO				*i* S	Sn	02 16 52.2	-3.6
IIO	**Organos**	**3.31 125**		*i* P	Pn	02 16 14.9	-1.8
IIO				*i* S	Sn	02 16 58.2	+2.5
PPM	**Popocatepetl**	**3.71 131**		*e*P	Pn	02 16 24.0	+1.9
PPM				*i* S	Sn	02 17 05.5	-0.1
LNIG	**Linares**	**3.89 30**		*i* P	Pn	02 16 24.1	-0.6
LNIG				*i* S	Sn	02 17 05.0	-5.2
UTMO	**Huajuapan**	**5.12 135**		*e*P	Pn	02 16 43.0	+1.3
UTMO				*i* S	Sn	02 17 40.5	0.0

*ISCJB **30** 02:40:56.0±2.8, 1456S×009×764W±0.1, h22km±21km, mb4.0/9, MS3.4/2, Error ellipse: s-maj=21.6km s-min=7.6km az=137.6*
*NEIC **30** 02:40:55.1±4.2, 1445S×7639W, h1km±26km, mb4.4/5, ML4.4(LIM), Error ellipse: s-maj=21.5km s-min=7.5km az=58.0*
NEIC Felt [II] at Ica.
*IDC **30** 02:40:56.3±1.2, 1424S×76.13W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, ML4.4/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/28, Error ellipse: s-maj=43.4km s-min=14.9km az=59.0*

ISC 30 02:40:59.3±2.9, 1453S±010×764W±01, h30km±22km, n24, σ1§16/24, mb4.0/9, MS3.4/2, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.56 350**		Pn	**Pn**	**02 41 35.9**	**-2.9**
	38nm,0.3s,baz=168,slow=12,SNR=22						
NNA				LR	LR	02 42 06.2	
	comp=Z,558nm,21.0s,baz=323,slow=30						
NNA				Lg		02 42 09.3	
	101nm,0.3s,baz=191,slow=18,SNR=8.8						
ARE	**Arequipa**	**5.12 113**		*e*P	**Pn**	**02 42 15.0**	**+1.0**
ARE				*e*S	**Sn**	**02 43 12.0**	**-0.1**
ATAH	**Atahualpa**	**7.73 345**		Pn	**Pn**	**02 42 51.3**	**+1.4**
	2.6nm,0.3s,baz=148,slow=5.5,SNR=15						
ATAH				Sn	**Sn**	**02 44 23.3**	**+6.8**
	1.4nm,0.3s,baz=157,slow=19,SNR=2.5						
LPAZ	**La Paz**	**8.18 103**		Pn	**Pn**	**02 42 58.6**	**+2.7**
	2.1nm,0.3s,baz=287,slow=8.0,SNR=69						
LPAZ				LR	LR	02 45 27.4	
	comp=Z,53nm,19.3s,baz=286,slow=34						
LVC	**Limon Verde**	**10.73 140**		Pn	**Pn**	**02 43 31.6**	**+0.6**
	1.8nm,0.3s,baz=303,slow=12,SNR=12						
LVC				Sn	**Sn**	**02 45 25.1**	**-5.1**
	0.1nm,0.3s,baz=98,slow=22,SNR=2.4						
LVC				Lg		02 46 29.4	
	0.5nm,0.3s,baz=155,slow=14,SNR=5.5						
LVC				LR	LR	02 47 06.6	
	comp=Z,151nm,20.4s,baz=276,slow=34						
OTAV	**Otavalo**	**14.81 352**		*e*Pn	**Pn**	**02 44 25.1**	**-1.7**
	4.0nm,0.8s						
SIV	**San Ignacio**	**14.87 98**		Pn	**Pn**	**02 44 26.6**	**-1.0**
	0.3nm,0.3s,baz=290,slow=13,SNR=6.7						
CFAA	**Coronel Fontan**	**18.57 158**		P	**Pn**	**02 45 12.8**	**-1.6**
	0.1nm,0.3s,baz=0.0,slow=5.1,SNR=3.4						
CPUP	**Villa Florida**	**21.36 126**		P	**P**	**02 45 43.7**	**-0.6**
	0.6nm,0.4s,mb3.2,baz=300,slow=11,SNR=4.8						
CPUP				LR	LR	02 54 13.1	
	comp=Z,94nm,18.8s,MS3.2,baz=58,slow=37						
CPUP	**Villa Florida**	**21.36 126**		P	**P**	**02 45 43.7**	**-0.7**
CPUP				LR	LR	02 54 13.1	
SDV	**Santo Domingo**	**23.96 14**		P	**P**	**02 46 10.1**	**-1.1**
	1.8nm,0.4s,mb3.9,baz=235,slow=18,SNR=3.7						
SDV	**Santo Domingo**	**23.96 14**		*e*P	**P**	**02 46 10.7**	**-0.5**
	5.5nm,0.7s,mb4.1						
PCRV	**Puerto La Cruz**	**27.18 26**		LR	LR	02 58 19.3	
	comp=Z,144nm,19.5s,MS3.5,baz=198,slow=39						
TXAR	**Lajitas Array**	**50.93 329**		P	**P**	**02 49 58.8**	**+0.7**
	0.6nm,0.6s,mb3.7,baz=147,slow=8.1,SNR=7.8						
SDCO	**Great Sand Dun**	**58.74 333**		*e*P	**P**	**02 50 54.9**	**+0.5**
	1.8nm,1.0s,mb4.1						
DUG	**Dugway**	**64.10 330**		*e*P	**P**	**02 51 29.8**	**-0.8**
	2.1nm,0.7s,mb4.3						

HWUT	**Hardware Ranch**	**64.60 331**		*e*P	**P**	**02 51 33.7**	**-0.2**
	2.0nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**64.63 334**		P	**P**	**02 51 35.9**	**+1.8**
	0.2nm,0.4s,mb3.5,baz=123,slow=9.8,SNR=3.1						
RRI2	**Red Ridge**	**65.87 333**		*e*P	**P**	**02 51 42.8**	**+0.7**
	3.6nm,0.9s,mb4.4						
TOA0	**Torodi Ar. Sit**	**82.06 74**		*e*P	**P**	**02 53 16.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**82.06 74**		P	**P**	**02 53 17.4**	**0.0**
	3.8nm,0.8s,mb4.4,baz=264,slow=4.7,SNR=27						
TORD	**Torodi Ar. Bea**	**82.06 74**		P	**P**	**02 53 17.4**	**0.0**
WRA	**Warramunga Arr**	**134.31 222**		PKP	PKPdf	03 00 16.8	+1.7
	0.2nm,0.4s,baz=133,slow=1.6,SNR=4.6						
SONM	**Songino Array**	**146.71 357**		PKPbc	PKPbc	03 00 39.1	+0.8
	1.9nm,0.9s,baz=328,slow=2.1,SNR=6.0						

*ISCJB **30** 03:31:30.5±0.4, 5146N±002×1609E±002, h0km, Error ellipse: s-maj=3.0km s-min=1.8km az=18.5*
*BGR **30** 03:31:30.9±0.4, 5158N×1614E, h1km, ML3.1/13, Error ellipse: s-maj=5.6km s-min=2.2km az=19.0*
*IPEC **30** 03:31:31.2±0.3, 5155N×1621E, h0km±1km, ML2.7/4, Error ellipse: s-maj=2.3km s-min=1.5km az=30.0*
*NEIC **30** 03:31:31.4±0.4, 5157N×1612E, h5km, ML2.5(BRA), ML3.1(SZGRF), Error ellipse: s-maj=5.1km s-min=3.8km az=211.0*
*IDC **30** 03:31:32.5±0.8, 5149N×1601E, h0km, mb3.3/1, mb1 3.3/8, mb1mx3.3/26, mbtmp3.3/8, ML3.1/7, Error ellipse: s-maj=11.8km s-min=7.5km az=103.0*
*WAR **30** 03:31:33.1, 5150N×1609E, ML2.7, Mining Induced*
*CSEM **30** 03:31:33.7±0.1, 5146N×1603E, h1km, ML3.4/8, Error ellipse: s-maj=2.0km s-min=1.1km az=17.0*
*PRU **30** 03:31:33.0, 5148N×1608E, h0km*
*VIE **30** 03:31:34.5±0.7, 5128N×1618E, h1km±3km, mb2.5/7, ML2.9/7, Error ellipse: s-maj=3.9km s-min=2.1km az=170.0, Suspected Mining induced.*

ISC 30 03:31:31.2±0.3, 5153N±002×1612E±002, h0km, n83, σ0§92/159, 9C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70 171**		*i* Pg	**Pg**	**03 31 45.4**	**+0.9**
KSP				*e*Sg	**Sg**	**03 31 54.7**	**+1.2**
KSP	**Ksiaz**	**0.70 171**		*e*Pg	**Pg**	**03 31 45.4**	**+0.9**
KSP				*e*Sg	**Sg**	**03 31 55.0**	**+1.5**
KSP	**Ksiaz**	**0.70 171**		*e*Pg	**Pg**	**03 31 45.2**	**+0.7**
KSP				*e*Sg	**Sg**	**03 31 53.5**	**0.0**
KSP	**Ksiaz**	**0.70 171**	⇓	*i*Pg	**Pg**	**03 31 45.4**	**+0.9**
KSP				*e*Sg	**Sg**	**03 31 54.4**	**+0.9**
KSP				*e*		03 31 57.5	
UPC	**Upice**	**1.03 184**		*e*PG	**Pg**	**03 31 51.5**	**+0.7**
UPC				*e*SG	**Sg**	**03 32 04.6**	**+0.5**
DPC	**Dobruska-Polom**	**1.19 174**		*e*Pn	**Pn**	**03 31 54.3**	**-0.7**
DPC				*e*Sg	**Sg**	**03 32 09.1**	**-0.2**
DPC	**Dobruska-Polom**	**1.19 174**		*e*Pg	**Pg**	**03 31 54.1**	**+0.2**
DPC				Sg	**Sg**	**03 32 09.1**	**-0.2**
DPC	**Dobruska-Polom**	**1.19 174**		*e*PG	**Pg**	**03 31 54.2**	**+0.3**
DPC				*e*SG	**Sg**	**03 32 09.3**	**0.0**
PVCC	**Panska Ves**	**1.40 225**		Pg	**Pg**	**03 31 58.2**	**+0.2**
PVCC				*e*Sg	**Sg**	**03 32 16.6**	**+0.5**
PVCC	**Panska Ves**	**1.40 225**		*e*Pg	**Pg**	**03 31 58.2**	**+0.2**
PVCC				*e*SG	**Sg**	**03 32 16.9**	**+0.8**
BRG	**Berggiesshubel**	**1.52 245**		*e*Pn	**Pn**	**03 31 59.2**	**-0.3**
BRG				*e*Sg	**Sg**	**03 32 21.2**	**+1.3**
BRG	**Berggiesshubel**	**1.52 245**		Pg	**Pg**	**03 32 00.6**	**+0.4**
BRG				Sg	**Sg**	**03 32 21.2**	**+1.4**
BRG	**Berggiesshubel**	**1.52 245**		PN	**Pn**	**03 31 59.1**	**-0.4**
BRG				PG	**Pg**	**03 32 00.6**	**+0.4**
BRG				SG	**Sg**	**03 32 20.7**	**+0.9**
	98nm,0.4s						
RUE	**Ruedersdorf**	**1.73 304**		*e*Pn	**Pn**	**03 32 01.5**	**-0.9**
RUE				*e*Sg	**Sg**	**03 32 26.9**	**+0.3**
RUE	**Ruedersdorf**	**1.73 304**		*e*Pn	**Pn**	**03 32 01.6**	**-0.9**
RUE				*e*Sg	**Sg**	**03 32 26.9**	**+0.3**
FBE	**Freiberg**	**1.84 252**		*e*Pn	**Pn**	**03 32 03.1**	**-0.9**
FBE				*e*Sg	**Sg**	**03 32 30.3**	**+0.1**
PRU	**Pruhonice**	**1.84 214**		*e*PN	**Pn**	**03 32 03.7**	**-0.2**
PRU				*e*PG	**Pg**	**03 32 05.7**	**-0.7**
PRU				*e*SG	**Sg**	**03 32 29.7**	**-0.5**
GKP	**Gorka Klasztor**	**1.87 21**		*e*Pg	**Pg**	**03 32 13.7**	**+6.7**
GKP				*e*Sg	**Sg**	**03 32 38.4**	**+7.1**
GKP	**Gorka Klasztor**	**1.87 21**		*e*Pg	**Pg**	**03 32 13.7**	**+6.7**
GKP				*e*Sg	**Sg**	**03 32 38.4**	**+7.1**
RAC	**Raciborz**	**1.96 137**		*e*Pg	**Pg**	**03 32 09.4**	**+0.7**
RAC				*e*Sg	**Sg**	**03 32 34.8**	**+0.7**
CLL	**Collm**	**1.96 265**		*e*Pn	**Pn**	**03 32 05.4**	**-0.2**
CLL				*e*Sg	**Sg**	**03 32 34.0**	**-0.1**
CLL	**Collm**	**1.96 265**		*e*Pn	**Pn**	**03 32 05.0**	**-0.6**
CLL				*i* Pg	**Pg**	**03 32 08.6**	**-0.1**
CLL				*i* x	x	03 32 11.5	
CLL				*i* Sg	**Sg**	**03 32 34.5**	**+0.4**
	comp=Z,48nm,0.7s						
CLL	**Collm**	**1.96 265**		*e*Pn	**Pn**	**03 32 05.0**	**-0.6**
CLL				*i* Pg	**Pg**	**03 32 08.6**	**-0.1**
CLL				*i* Sg	**Sg**	**03 32 34.5**	**+0.4**
MORC	**Moravsky Berou**	**1.98 152**		*e*Pn	**Pn**	**03 32 06.0**	**+0.2**
MORC				*e*Sg	**Sg**	**03 32 34.2**	**-0.5**
MORC	**Moravsky Berou**	**1.98 152**		*e*Pn	**Pn**	**03 32 05.8**	**0.0**
MORC				*e*Sn	**Sn**	**03 32 31.8**	**+0.5**
MORC				Sg	**Sg**	**03 32 34.2**	**-0.4**
MORC	**Moravsky Berou**	**1.98 152**		*e*Pn	**Pn**	**03 32 05.8**	**0.0**
MORC				*e*Sn	**Sn**	**03 32 31.8**	**+0.5**
OKC	**Ostrava-Krasne**	**2.13 142**		*e*Pn	**Pn**	**03 32 07.6**	**-0.4**
OKC	**Ostrava-Krasne**	**2.13 142**		Pg	**Pg**	**03 32 11.9**	**-0.1**
OKC				Sg	**Sg**	**03 32 39.7**	**+0.1**
OKC	**Ostrava-Krasne**	**2.13 142**		*e*PN	**Pn**	**03 32 08.1**	**+0.1**
OKC				*e*PG	**Pg**	**03 32 11.9**	**-0.1**
OKC				*e*x	x	03 32 33.5	
OKC				*e*SG	**Sg**	**03 32 39.7**	**+0.1**
VRAC	**Vranov**	**2.25 172**		Pn	**Pn**	**03 32 10.0**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=340,slow=16,SNR=9.0						
VRAC				Pg	**Pg**	**03 32 14.3**	**+0.1**
	comp=Z,4.5nm,0.3s,baz=344,slow=17,SNR=16						
VRAC				Lg		03 32 40.5	
	comp=Z,5.1nm,0.3s,baz=77,slow=20,SNR=4.7						
VRAC	**Vranov**	**2.25 172**		*e*Pn	**Pn**	**03 32 09.6**	**+0.1**
VRAC	**Vranov**	**2.25 172**		Pg	**Pg**	**03 32 14.3**	**+0.1**
VRAC				*e*Sg	**Sg**	**03 32 42.0**	**-1.3**
	comp=Z,25nm,0.5s						
TREC	**Trest**	**2.27 190**		*e*PN	**Pn**	**03 32 10.6**	**+0.7**
TREC				*e*PG	**Pg**	**03 32 13.6**	**-1.1**
TREC				*e*SG	**Sg**	**03 32 44.7**	**+0.5**
KRUC	**Moravsky**	**2.48 176**		*e*Pn	**Pn**	**03 32 13.1**	**+0.4**
KRUC				*e*Sg	**Sg**	**03 32 49.0**	**-1.7**
	comp=Z,36nm,0.6s						
WERD	**Werda**	**2.64 247**		*e*Pn	**Pn**	**03 32 15.1**	**+0.2**
WERD				*e*Sg	**Sg**	**03 32 55.3**	**-0.6**
WERD	**Werda**	**2.64 247**		Pn	**Pn**	**03 32 15.1**	**+0.2**
WERD				Sg	**Sg**	**03 32 55.3**	**-0.6**
NKC	**Novy Kostel**	**2.66 242**		*e*PN	**Pn**	**03 32 15.9**	**+0.7**
NKC				*e*PG	**Pg**	**03 32 22.5**	**+0.4**
NKC				*e*SG	**Sg**	**03 32 57.3**	**+0.7**
OJC	**Ojcow**	**2.68 118**		*e*Pg	**Pg**	**03 32 22.0**	**-0.4**
OJC				*e*Sg	**Sg**	**03 32 57.1**	**0.0**
OJC	**Ojcow**	**2.68 118**		*e*Pn	**Pn**	**03 32 14.5**	**-1.0**
OJC				*e*Sg	**Sg**	**03 32 57.1**	**0.0**
OJC	**Ojcow**	**2.68 118**		*e*Pg	**Pg**	**03 32 22.0**	**-0.4**
OJC				Sg	**Sg**	**03 32 57.1**	**0.0**
JAVC	**Velka Javorina**	**2.85 159**		*e*Pn	**Pn**	**03 32 18.9**	**+1.0**
JAVC				*e*Sg	**Sg**	**03 33 03.9**	**+1.1**
	comp=Z,45nm,1.2s						
KHC	**Kasperske Hory**	**2.90 215**		*e*PN	**Pn**	**03 32 18.6**	**+0.1**
KHC				*e*PG	**Pg**	**03 32 25.0**	**-1.7**
KHC				*e*SN	**Sn**	**03 32 54.1**	**0.0**
KHC				*e*SG	**Sg**	**03 33 03.7**	**-0.6**
MOX	**Moxa**	**2.97 254**		*e*Pn	**Pn**	**03 32 19.8**	**+0.3**
MOX	**Moxa**	**2.97 254**		*e*Pn	**Pn**	**03 32 20.6**	**+1.1**
MOX				*e*PG	**Pg**	**03 32 27.8**	**-0.3**
MOX				*e*SG	**Sg**	**03 33 07.9**	**+1.3**
MANZ	**Manzenberg**	**2.98 240**		*e*Pn	**Pn**	**03 32 20.0**	**+0.5**
GEC2	**GERESS Array S**	**3.10 211**		*e*Pn	**Pn**	**03 32 22.0**	**+0.7**
GEC2	**GERESS Array S**	**3.10 211**		*e*Pn	**Pn**	**03 32 22.0**	**+0.7**
GERES	**GERESS Array B**	**3.10 211**		Pn	**Pn**	**03 32 21.7**	**+0.4**
	comp=Z,2.4nm,0.3s,baz=31,slow=12,SNR=72						
GERES				Pg	**Pg**	**03 32 28.6**	**-2.0**
	comp=Z,5.1nm,0.3s,baz=28,slow=17,SNR=36						
GERES				Sn	**Sn**	**03 32 57.6**	**-1.4**
	comp=Z,2.9nm,0.3s,baz=33,slow=27,SNR=6.9						
GERES				Lg		03 33 09.7	
	comp=Z,4.4nm,0.3s,baz=34,slow=29,SNR=5.8						
GERES	**GERESS Array B**	**3.10 211**		Pg	**Pg**	**03 32 28.6**	**-2.0**

WET	**Wettzell**	**3.16 222**		*e*Pn	**Pn**	**03 32 22.4**	**+0.3**
WET	**Wettzell**	**3.16 222**		*e*Pn	**Pn**	**03 32 22.4**	**+0.3**
MODS	**Modra-Piesok**	**3.25 166**		*e*PN	**Pn**	**03 32 24.9**	**+1.6**
MODS				*e*PG	**Pg**	**03 32 33.3**	**-0.1**
MODS				*e*SG	**Sg**	**03 33 14.5**	**-1.0**
MODS	**Modra-Piesok**	**3.25 166**		*e*Pn	**Pn**	**03 32 25.0**	**+1.7**
MODS				*e*Pg	**Pg**	**03 32 33.3**	**-0.1**
MODS				*e*Sg	**Sg**	**03 33 14.5**	**-1.0**
KOLL	**Kolacno**	**3.30 153**		*e*SG	**Sg**	**03 33 16.3**	**-0.9**
ZST	**Bratislava**	**3.40 169**		*e*Pg	**Pg**	**03 32 34.3**	**-2.0**
ZST				*e*Sg	**Sg**	**03 33 18.3**	**-2.0**
NIE	**Niedzica**	**3.42 127**		*e*P	**Pg**	**03 32 36.3**	**-0.3**
NIE				*e*S	**Sg**	**03 33 20.3**	**-0.5**
VYHS	**Vyhne**	**3.51 149**		*e*PN	**Pn**	**03 32 27.0**	**+0.1**
VYHS				*e*PG	**Pg**	**03 32 37.9**	**-0.5**
VYHS				*e*SG	**Sg**	**03 33 25.8**	**+2.0**
CLZ	**Clausthal**	**3.59 277**		*e*Pn	**Pn**	**03 32 27.3**	**-0.7**
CLZ	**Clausthal**	**3.59 277**		*e*Pn	**Pn**	**03 32 27.3**	**-0.7**
CONA	**Conrad Observa**	**3.61 183**	⇑	*i*Pn	**Pn**	**03 32 29.2**	**+0.9**
	SNR=9.7						
CONA			⇑	*i*Sg	**Sg**	**03 33 26.3**	**-0.8**
	comp=Z,34nm,0.5s						
CSNA	**Conrad Observa**	**3.61 183**	⇓	*i*Pn	**Pn**	**03 32 29.2**	**+1.0**
CSNA			⇑	*i*Pg	**Pg**	**03 32 39.4**	**-0.9**
CSNA			⇓	*i*Sg	**Sg**	**03 33 25.9**	**-1.1**
	comp=Z,13nm,0.3s						
GRA1	**Grafenberg Arr**	**3.62 241**		Pn	**Pn**	**03 32 28.5**	**+0.1**
GRA1	**Grafenberg Arr**	**3.62 241**		*e*Pn	**Pn**	**03 32 28.5**	**+0.1**
GRF	**Grafenberg Arr**	**3.62 241**		*e*Pn	**Pn**	**03 32 28.5**	**+0.1**
MOA	**Molln**	**3.88 199**	⇑	*i*Pn	**Pn**	**03 32 32.8**	**+0.9**
	SNR=20						
MOA			⇑	*i*Sg	**Sg**	**03 33 35.8**	**+0.2**
	comp=Z,16nm,0.5s						
STHS	**Stebnicka Huta**	**3.90 121**		*e*PN	**Pn**	**03 32 33.0**	**+0.8**
STHS				*e*PG	**Pg**	**03 32 46.2**	**+0.4**
STHS				*e*SG	**Sg**	**03 33 41.3**	**+4.9**
STHS	**Stebnicka Huta**	**3.90 121**		*e*Pn	**Pn**	**03 32 33.0**	**+0.8**
STHS				*e*Pg	**Pg**	**03 32 46.3**	**+0.5**
STHS				*e*Sg	**Sg**	**03 33 41.3**	**+4.9**
KECS	**Kecovo**	**4.15 136**		*e*PG	**Pg**	**03 32 51.1**	**+0.4**
KECS				*e*SG	**Sg**	**03 33 47.2**	**+2.7**
ARSA	**Arzberg**	**4.30 185**	⇑	*i*Pn	**Pn**	**03 32 38.2**	**+0.4**
ARSA			⇑	*i*Sg	**Sg**	**03 33 48.0**	**-1.3**
	comp=Z,13nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.33 125**		*e*PN	**Pn**	**03 32 40.2**	**+2.1**
CRVS				*e*PG	**Pg**	**03 32 54.0**	**0.0**
KWP	**Kalwaria**	**4.61 112**		*e*Pn	**Pg**	**03 32 57.0**	**-2.5**
KWP				*e*Sn	**Sg**	**03 34 05.9**	**+6.7**
KWP				*e*Sg	x	03 34 15.4	
KWP	**Kalwaria**	**4.61 112**		*e*Pn	**Pg**	**03 32 57.0**	**-2.5**
KWP				*e*Sn	**Sg**	**03 34 05.9**	**+6.7**
KWP				*e*Sg	x	03 34 15.4	
KOLS	**Kolonicke sedl**	**4.73 121**		*e*PN	**Pn**	**03 32 44.3**	**+0.6**
KBA	**Koelnbreinsper**	**4.81 203**	⇑	*i*Pn	**Pn**	**03 32 45.9**	**+1.2**
	SNR=9.2						
KBA			⇓	*i*Sg	**Sg**	**03 34 06.7**	**+1.1**
	comp=Z,9.9nm,0.6s						
RETA	**Reutte**	**5.34 223**	⇑	*i*Pn	**Pn**	**03 32 52.4**	**+0.3**
DAVOX	**Davos/Dischmat**	**6.27 223**		Pn	**Pn**	**03 33 06.6**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=30,slow=16,SNR=3.2						
DAVOX				Lg		03 34 47.2	
	comp=Z,0.3nm,0.3s,baz=319,slow=19,SNR=2.3						
AKASG	**Malin Array Be**	**8.29 91**		Pn	**Pn**	**03 33 31.8**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=278,slow=12,SNR=6.8						
HFS	**Hagfors**	**8.73 352**		Pn	**Pn**	**03 33 38.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=151,slow=22,SNR=3.9						
NOA	**NORSAR Array B**	**9.91 346**		Pn	**Pn**	**03 33 53.3**	**-1.4**
	comp=Z,0.1nm,0.3s

AMTX Amarillo 22.91 338 *eP* **P 04 10 34.2 +0.4**
3.2nm,0.6s,mb3.9
ATAH Atahualpa 24.40 147 P **P 04 10 53.5 +5.5**
3.9nm,0.7s,mb4.0,baz=342,slow=13,SNR=3.5
SJG San Juan 24.57 77 LR LR 04 19 33.1
comp=Z,28nm,18.1s,MS2.8,baz=87,slow=34
WCI Wyandotte Cave 24.67 10 *eP* **P 04 10 49.9 -0.3**
4.0nm,0.7s,mb4.1
LPAZ La Paz 37.74 142 LR LR 04 25 55.4
comp=Z,45nm,19.2s,MS3.3,baz=39,slow=32
SIV San Ignacio 42.14 134 P **P 04 13 22.4 +0.6**
3.8nm,0.8s,mb4.1,baz=314,slow=8.5,SNR=26
SIV pP pP 04 13 37.0 0.0
1.7nm,0.8s,baz=297,slow=10,SNR=3.9
SCHQ Schefferville 45.12 20 LR LR 04 34 48.4
comp=Z,53nm,18.6s,MS3.5,baz=39,slow=39
YKA Yellowknife Ar 51.29 346 P **P 04 14 31.0 -1.7**
0.7nm,0.7s,mb3.7,baz=149,slow=7.6,SNR=4.5
YKA pP pP 04 14 46.6 -1.7
0.8nm,0.7s,baz=145,slow=7.6,SNR=4.2
PPT Papeete 65.40 243 LR LR 04 38 09.5
comp=Z,252nm,18.1s,MS4.5,baz=327,slow=30
ARCES ARCESS Array B 86.05 18 LR LR 04 58 46.2
comp=Z,41nm,18.1s,MS3.9,baz=196,slow=37
WRA Warramunga Arr 135.98 256 PKP PKPdf 04 24 50.6 +0.5
0.3nm,0.8s,baz=92,slow=2.6,SNR=4.2
WRA pPKP pPKPdf 04 25 07.6 -0.1
0.2nm,0.6s,baz=90,slow=2.7,SNR=1.7
WRA Warramunga Arr 135.98 256 PKP PKPdf 04 24 50.6 +0.5
WRA pPKP pPKPdf 04 25 07.6 -0.1
ASAR Alice Springs 136.23 250 PKP PKPdf 04 24 51.8 +1.2
0.5nm,0.9s,baz=112,slow=2.5,SNR=4.1
ASAR pPKP pPKPdf 04 25 08.3 +0.3
0.3nm,0.5s,baz=90,slow=2.3,SNR=1.9
CMAR Chiang Mai Arr 146.31 342 PKPbc PKPbc 04 25 09.2 -0.7
2.0nm,0.5s,baz=333,slow=3.8,SNR=9.1
CMAR pPKPbc pPKPbc 04 25 25.4 -1.8
3.4nm,0.8s,baz=337,slow=3.4,SNR=5.0

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*IDC **30** 04:20:05.3±1.1,4169N×1993E,h0km,mb3.5/6,mb1 3.6/9, mb1mx3.6/27,mbtmp3.6/9,ML3.7/3,MS2.8/2,Ms1 2.8/2, ms1mx2.4/30,Error ellipse: s-maj=22.0km s-min=14.5km az=62.0*
*ATH **30** 04:20:06.8,4192N×1960E,h31km±5km,MD4.0/7*
*TIR **30** 04:20:07.5±4.5,4179N×1985E,h45km±21km,ML3.6*
*THE **30** 04:20:08.3,4185N×1992E,h1km,ML4.5*
*NEIC **30** 04:20:08.3,4181N×1979E,h11km,ML3.7(PDG), ML4.0(ATH),ML4.5(THE),After PDG.*
*CSEM **30** 04:20:08.2±0.0,4187N×1979E,h12km,ML3.7/9,Error ellipse: s-maj=1.3km s-min=0.9km az=40.0*
*LDG **30** 04:20:08.5±0.1,4181N×1977E,h20km,Ml3.9/4,Error ellipse: s-maj=3.2km s-min=2.8km az=39.0*
*PDG **30** 04:20:08.3±0.6,4181N×1979E,h11km±1km,MD3.7/10, ML3.7/9,Error ellipse: s-maj=0.9km s-min=1.6km az=0.0*
*ISCJB **30** 04:20:09.0±0.3,4183N±001×1975E±002,h28km±2km, mb3.5/4,Error ellipse: s-maj=2.4km s-min=1.8km az=142.9*
ISC 30 04:20:08.6±0.3,**4179N**±001×**1979E**±002,**h11**km±2km, **n190**,σ1°**23**/276,**mb3.5**/4,**28C-15D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.26**	**17**	*e*PG	**Pg**	**04 20 14.5**	**+0.6**
QSH	**Qafa e Shtames**	**0.28**	**163**	*e*PG	**Pg**	**04 20 17.1**	**+2.8**
QSH				*i* SG	**Sg**	**04 20 23.2**	**+5.0**
ULC	**Ulcinj**	**0.44**	**293**	⇑*i*Pg	**Pg**	**04 20 17.3**	**+0.1**
ULC				*e*Sg	**Sg**	**04 20 23.7**	**+0.7**
TIR	**Tirane**	**0.45**	**173**	*e*Pg	**Pg**	**04 20 17.1**	**-0.2**
TIR				*e*Sg	**Sg**	**04 20 25.1**	**+1.8**
TIR	**Tirane**	**0.45**	**173**	*e*PG	**Pg**	**04 20 17.5**	**+0.1**
TIR				*i* SG	**Sg**	**04 20 25.1**	**+1.8**
TIR	**Tirane**	**0.45**	**173**	*e*Pg	**Pg**	**04 20 17.1**	**-0.3**
TIR				*e*Sg	**Sg**	**04 20 25.1**	**+1.8**
PHP	**Peshkopia**	**0.50**	**102**	*e*PG	**Pg**	**04 20 14.3**	**-4.0**
BCI	**Bajram Curri**	**0.61**	**20**	*e*PG	**Pg**	**04 20 20.3**	**-0.1**
BCI				*i* SG	**Sg**	**04 20 28.7**	**+0.3**
PDG	**Podgorica**	**0.75**	**328**	*i* PG	**Pg**	**04 20 22.9**	**-0.1**
PDG				*i* SG	**Sg**	**04 20 36.0**	**+3.2**
PDG	**Podgorica**	**0.75**	**328**	⇑*i*Pg	**Pg**	**04 20 22.3**	**-0.7**
TTG	**Podgorica**	**0.75**	**328**	⇑*i*Pg	**Pg**	**04 20 22.3**	**-0.7**
TTG				*e*Sg	**Sg**	**04 20 33.6**	**+0.8**
PVY	**Plav**	**0.81**	**10**	⇑*i*Pg	**Pg**	**04 20 22.9**	**-1.3**
PVY				*e*Sg	**Sg**	**04 20 36.0**	**+1.2**
PVY	**Plav**	**0.81**	**10**	*i* PG	**Pg**	**04 20 22.4**	**-1.8**
PVY				*i* SG	**Sg**	**04 20 33.6**	**-1.2**
BUM	**Brajici-Budva**	**0.84**	**308**	⇓*i*Pg	**Pg**	**04 20 23.8**	**-0.9**
BUM				*e*Sg	**Sg**	**04 20 36.5**	**+0.9**
BUM	**Brajici-Budva**	**0.84**	**308**	*i* PG	**Pg**	**04 20 23.8**	**-0.9**
BUM				*i* SG	**Sg**	**04 20 36.5**	**+0.9**
OHR	**Ohrid**	**1.02**	**132**	*e*Pg	**Pg**	**04 20 26.7**	**-1.5**
OHR				*e*Sg	**Sg**	**04 20 41.6**	**+0.2**
OHR	**Ohrid**	**1.02**	**132**	*i* Pg	**Pg**	**04 20 25.2**	**-2.9**
OHR				*i* Sg	**Sg**	**04 20 41.4**	**0.0**
OHR	**Ohrid**	**1.02**	**132**	*e*Pg	**Pg**	**04 20 26.7**	**-1.5**
OHR				*i* Sg	**Sg**	**04 20 41.4**	**0.0**
BEY	**Berane**	**1.08**	**4**	*i* PG	**Pg**	**04 20 27.9**	**-1.4**
BEY				*i* SG	**Sg**	**04 20 44.7**	**+1.3**
IVA	**Berane**	**1.08**	**4**	⇑*i*Pg	**Pg**	**04 20 27.9**	**-1.4**
IVA				*e*Sg	**Sg**	**04 20 44.7**	**+1.3**
HCY	**Herceg Novi**	**1.16**	**305**	⇓*i*Pg	**Pg**	**04 20 29.7**	**-1.2**
HCY				*e*Sg	**Sg**	**04 20 48.1**	**+2.1**
HCY	**Herceg Novi**	**1.16**	**305**	*i* PG	**Pg**	**04 20 29.7**	**-1.2**
HCY				*i* SG	**Sg**	**04 20 48.1**	**+2.1**
KRUS	**Krusevo**	**1.17**	**111**	⇑*i*Pg	**Pg**	**04 20 29.3**	**-1.8**
KRUS				*i* Sg	**Sg**	**04 20 46.5**	**+0.2**
KRUS	**Krusevo**	**1.17**	**111**	⇑*i*Pg	**Pg**	**04 20 29.3**	**-1.8**
KRUS				*i* Sg	**Sg**	**04 20 46.4**	**+0.1**
NKY	**Niksic**	**1.18**	**330**	⇑*i*Pg	**Pg**	**04 20 29.6**	**-1.6**
NKY				*e*Sg	**Sg**	**04 20 48.0**	**+1.5**
NKY	**Niksic**	**1.18**	**330**	*i* PG	**Pg**	**04 20 29.6**	**-1.6**
NKY				*i* SG	**Sg**	**04 20 48.0**	**+1.5**
SKO	**Skopje**	**1.24**	**81**	*e*Pg	**Pg**	**04 20 31.2**	**-1.3**
SKO				*e*Sg	**Sg**	**04 20 47.9**	**-0.7**
SKO	**Skopje**	**1.24**	**81**	*i* PG	**Pg**	**04 20 31.2**	**-1.2**
SKO				*i* SG	**Sg**	**04 20 47.9**	**-0.7**
SKO	**Skopje**	**1.24**	**81**	⇑*i*Pg	**Pg**	**04 20 31.9**	**-0.6**
SKO				*i* Sg	**Sg**	**04 20 48.9**	**+0.3**
SKO	**Skopje**	**1.24**	**81**	*e*Pg	**Pg**	**04 20 31.2**	**-1.2**
SKO				*i* Sg	**Sg**	**04 20 48.8**	**+0.2**
BIA	**Bitola**	**1.39**	**123**	*e*Pg	**Pg**	**04 20 32.6**	**-2.6**
BIA				*e*Sg	**Sg**	**04 20 53.1**	**-0.1**
BIA	**Bitola**	**1.39**	**123**	*i* Pn	**Pn**	**04 20 32.6**	**-1.3**
TREB	**Trebinje**	**1.41**	**311**	*e*Pn	**Pn**	**04 20 34.9**	**+0.7**
TREB				*e*Sn	**Sn**	**04 20 55.5**	**+2.7**
BRY	**Bratogost**	**1.44**	**320**	⇑*i*Pg	**Pg**	**04 20 34.4**	**-1.8**
BRY				*e*Sg	**Sg**	**04 20 56.7**	**+1.8**
SJES	**Sjenica**	**1.47**	**5**	*e*Pn	**Pn**	**04 20 34.9**	**-0.1**
SJES				*e*Sn	**Sn**	**04 20 56.0**	**+1.7**
UPM	**Unac-Piva**	**1.55**	**335**	*e*Pg	**Pg**	**04 20 36.2**	**-2.1**
UPM				*e*Sg	**Sg**	**04 20 59.3**	**+0.8**
FNA	**Florina**	**1.56**	**130**	*e*Pg	**Pg**	**04 20 35.6**	**-3.0**
FNA				*e*Sg	**Sg**	**04 20 56.9**	**-2.0**
FNA	**Florina**	**1.56**	**130**	*i* PG	**Pg**	**04 20 35.6**	**-2.9**
FNA				*i* SG	**Sg**	**04 20 56.9**	**-1.9**
PLE	**Pljevlja**	**1.56**	**349**	⇑*i*Pg	**Pg**	**04 20 36.6**	**-1.9**
PLE				*e*Sg	**Sg**	**04 20 59.7**	**+0.9**
STIP	**Stip**	**1.79**	**92**	*e*Pb	**Pb**	**04 20 38.0**	**-3.5**
STIP				*e*Sb	**Sb**	**04 21 01.4**	**-2.5**
STIP	**Stip**	**1.79**	**92**	*i* Pn	**Pn**	**04 20 38.2**	**-1.3**
BARS	**Barje**	**1.82**	**55**	*e*Pn	**Pn**	**04 20 39.1**	**-0.6**
STON	**Ston**	**1.89**	**305**	*e*Pn	**Pn**	**04 20 40.5**	**-0.2**
STON				Sn	**Sn**	**04 21 05.6**	**+1.1**
SRN	**Sarande**	**1.92**	**175**	*i* SN	**Pb**	**04 20 44.7**	**+1.1**
PE1	**Pezze di Greco**	**2.04**	**242**	*e*Pn	**Pn**	**04 20 41.9**	**-0.9**
PE1				*e*Sn	**Sn**	**04 21 06.5**	**-1.8**
KEK	**Kerkira**	**2.08**	**180**	*e*PN	**Pn**	**04 20 43.8**	**+0.4**
KEK				*e*SN	**Sn**	**04 21 10.3**	**+1.1**
BBLS	**Lazići**	**2.09**	**352**	*e*Pn	**Pn**	**04 20 45.0**	**+1.5**
KZN	**Kozani**	**2.11**	**134**	*e*PN	**Pn**	**04 20 44.8**	**+1.0**
KZN				*e*SN	**Sn**	**04 21 12.7**	**+2.7**
GRG	**Griva**	**2.13**	**112**	*e*Pn	**Pn**	**04 20 44.0**	**-0.1**
VAY	**Valandovo**	**2.14**	**102**	*e*Pn	**Pn**	**04 20 43.0**	**-1.2**
VAY	**Valandovo**	**2.14**	**102**	⇑*i*Pn	**Pn**	**04 20 43.0**	**-1.1**
VAY	**Valandovo**	**2.14**	**102**	⇑*i*Pn	**Pn**	**04 20 43.0**	**-1.2**
GRUS	**Gruza**	**2.20**	**18**	*e*Pn	**Pn**	**04 20 45.0**	**0.0**
JAN	**Janina**	**2.28**	**159**	*e*PN	**Pn**	**04 20 47.5**	**+1.3**
JAN				*e*SN	**Sn**	**04 21 15.9**	**+1.7**
JAN	**Janina**	**2.28**	**159**	*e*P	**Pn**	**04 20 47.7**	**+1.5**
BAI	**Bari**	**2.29**	**254**	*e*Pn	**Pn**	**04 20 45.7**	**-0.6**
BAI				*e*Sn	**Sn**	**04 21 12.1**	**-2.5**
IGT	**Igoumenitsa**	**2.30**	**170**	*e*Pn	**Pn**	**04 20 46.6**	**+0.3**
IGT	**Igoumenitsa**	**2.30**	**170**	*i* PG	**Pg**	**04 20 46.6**	**-6.0**
DIVS	**Divibare**	**2.31**	**4**	*e*Pn	**Pn**	**04 20 46.6**	**+0.1**
DIVS				*e*Sn	**Sn**	**04 21 16.3**	**+1.4**
KNT	**Kendrikon**	**2.42**	**104**	*e*Pn	**Pn**	**04 20 47.2**	**-0.8**
SG1	**Sgolgore (BA)**	**2.53**	**249**	*e*Pn	**Pn**	**04 20 49.9**	**+0.3**
SG1				*e*Sn	**Sn**	**04 21 17.3**	**-3.1**
BOLS	**Boljevac**	**2.58**	**37**	*e*Pn	**Pn**	**04 20 50.6**	**+0.3**
LIT	**Litokhoron**	**2.65**	**129**	*e*Pn	**Pn**	**04 20 51.9**	**+0.6**
THE	**Thessaloniki**	**2.66**	**115**	*e*Pn	**Pn**	**04 20 51.1**	**-0.2**
VTS	**Vitosha**	**2.66**	**71**	⇓*i*P	**Pn**	**04 20 51.6**	**+0.2**
VTS	**Vitosha**	**2.66**	**71**	⇓P	**Pn**	**04 20 51.6**	**+0.2**
SVIS	**Svilajnac**	**2.68**	**22**	⇑*i*Pn	**Pn**	**04 20 52.6**	**+1.0**
HORT	**Hortiatis**	**2.77**	**114**	*e*Pn	**Pn**	**04 20 52.4**	**-0.4**
THL	**Klokotos Trika**	**2.80**	**142**	*e*PN	**Pn**	**04 20 54.5**	**+1.3**
THL				*e*SN	**Sn**	**04 21 29.3**	**+2.4**
THL	**Klokotos Trika**	**2.80**	**142**	*e*Pn	**Pn**	**04 20 53.8**	**+0.6**
THL	**Klokotos Trika**	**2.80**	**142**	*e*P	**Pn**	**04 20 54.5**	**+1.3**
SOH	**Sokhos**	**2.85**	**109**	*e*Pn	**Pn**	**04 20 53.7**	**-0.3**
FGMS	**Monte Sant'Ang**	**2.87**	**270**	Pn	**Pn**	**04 20 53.7**	**-0.6**
NVR	**Nevrokopi**	**3.09**	**97**	*e*PN	**Pn**	**04 20 58.0**	**+0.8**
NVR				*e*SN	**Sn**	**04 21 36.0**	**+1.9**
PLG	**Polygyros**	**3.10**	**116**	*e*Pn	**Pn**	**04 20 57.8**	**+0.3**
PLG	**Polygyros**	**3.10**	**116**	*e*P	**Pn**	**04 20 58.0**	**+0.5**
RGNG	**Rignano Grg**	**3.15**	**269**	Pn	**Pn**	**04 20 56.9**	**-1.2**
EVR	**Evrytania**	**3.26**	**151**	*e*PN	**Pn**	**04 21 01.3**	**+1.7**
FG4	**Candela**	**3.28**	**260**	Pn	**Pn**	**04 20 59.9**	**0.0**
FGSL	**Fruska Gora**	**3.36**	**0**	*e*Pn	**Pn**	**04 21 00.2**	**-0.8**
FGSL				*e*Sn	**Sn**	**04 21 41.3**	**+0.4**
AGG	**Agios Georgios**	**3.38**	**144**	*e*Pn	**Pn**	**04 21 02.4**	**+1.2**
AGG				*e*Sn	**Sn**	**04 21 43.4**	**+2.1**
MRLC	**Muro Lucano**	**3.41**	**254**	Pn	**Pn**	**04 21 02.3**	**+0.7**
OUR	**Ouranopolis**	**3.49**	**113**	*e*Pn	**Pn**	**04 21 02.1**	**-0.6**
PAIG	**Paliouri**	**3.49**	**121**	*e*Pn	**Pn**	**04 21 02.4**	**-0.4**
TIP	**Timpagrande**	**3.49**	**223**	*e*Pn	**Pn**	**04 21 01.4**	**-1.4**
TIP	**Timpagrande**	**3.49**	**223**	*e*Pn	**Pn**	**04 21 01.4**	**-1.4**
CUC	**Castrocucco**	**3.51**	**240**	*e*Pn	**Pn**	**04 21 02.9**	**-0.1**
CUC				*e*Sn	**Sn**	**04 21 44.4**	**-0.2**
CUC	**Castrocucco**	**3.51**	**240**	*e*Pn	**Pn**	**04 21 02.9**	**-0.2**
CUC				*e*Sn	**Sn**	**04 21 44.4**	**-0.1**
BLY	**Banja Luka**	**3.51**	**328**	*e*Pn	**Pn**	**04 21 04.3**	**+1.2**
XOR	**Xorichti**	**3.55**	**132**	*e*Pn	**Pn**	**04 21 04.0**	**+0.4**
SGO	**Sicignano**	**3.60**	**251**	Pn	**Pn**	**04 21 04.5**	**+0.2**
VLS	**Valsamata**	**3.66**	**170**	P	**Pn**	**04 21 04.1**	**-1.1**
PSB1	**Pescosannita**	**3.78**	**263**	Pn	**Pn**	**04 21 07.2**	**+0.4**
GRI	**Girifalco**	**3.93**	**222**	Pn	**Pn**	**04 21 07.9**	**-0.9**
LKR	**Lokris**	**3.99**	**141**	*e*Pn	**Pn**	**04 21 11.0**	**+1.4**
BZS	**Buzias**	**4.04**	**18**	⇑*i*P	**Pn**	**04 21 10.8**	**+0.4**
BZS	**Buzias**	**4.04**	**18**	⇑P	**Pn**	**04 21 10.8**	**+0.4**
AOS	**Alonnisos**	**4.07**	**129**	*e*Pn	**Pn**	**04 21 11.4**	**+0.6**
RNI2	**Rionero Sannit**	**4.22**	**271**	Pn	**Pn**	**04 21 13.4**	**+0.6**
RHK3	**Tenkes**	**4.24**	**345**	*e*S	**Sn**	**04 22 02.9**	**+0.3**
RDO	**Rodhopi**	**4.37**	**97**	*e*P	**Pn**	**04 21 14.4**	**-0.4**
RFI	**Roccamonfina**	**4.39**	**265**	Pn	**Pn**	**04 21 16.1**	**+1.0**
INTR	**Introdacqua**	**4.40**	**275**	Pn	**Pn**	**04 21 15.5**	**+0.2**
LOS	**Limnos**	**4.42**	**113**	*e*Pn	**Pn**	**04 21 15.0**	**-0.6**
SDI	**San Donato**	**4.48**	**271**	Pn	**Pn**	**04 21 16.9**	**+0.6**
PKSM	**Moragy**	**4.49**	**350**	⇓*i*P	**Pn**	**04 21 17.4**	**+0.9**
PKSM	**Moragy**	**4.49**	**350**	⇓⇑*e*Pn	**Pn**	**04 21 17.3**	**+0.8**
PKSM				*e*Sn	**Sn**	**04 22 11.5**	**+2.7**
PKSM	**Moragy**	**4.49**	**350**	⇓P	**Pn**	**04 21 17.4**	**+0.8**
NVLJ	**Novalja**	**4.54**	**309**	*e*Pn	**Pn**	**04 21 17.0**	**-0.2**
NVLJ				Sn	**Sn**	**04 22 08.0**	**-1.9**
NVLJ	**Novalja**	**4.54**	**309**	*e*Pn	**Pn**	**04 21 17.0**	**-0.2**
NVLJ				Sn	**Sn**	**04 22 07.9**	**-2.0**
CEL	**Celeste**	**4.63**	**222**	*e*Pn	**Pn**	**04 21 16.7**	**-1.7**
CEL				*e*Sn	**Sn**	**04 22 12.4**	**+0.3**
CEL	**Celeste**	**4.63**	**222**	*e*Pn	**Pn**	**04 21 16.7**	**-1.7**
CEL				*e*Sn	**Sn**	**04 22 12.4**	**+0.3**
TERO	**Teramo**	**4.67**	**282**	Pn	**Pn**	**04 21 19.4**	**+0.4**
SOI	**Samo**	**4.70**	**219**	Pn	**Pn**	**04 21 17.9**	**-1.5**
PTQR	**Pietraquaria**	**4.78**	**275**	Pn	**Pn**	**04 21 21.7**	**+1.3**
AQU	**L'Aquila**	**4.79**	**279**	Pn	**Pn**	**04 21 21.4**	**+0.8**
ALN	**Alexandroupoli**	**4.79**	**99**	*e*Pn	**Pn**	**04 21 21.2**	**+0.6**
BOJS	**Bojanci**	**4.96**	**320**	*i* Pn	**Pn**	**04 21 23.6**	**+0.6**
BOJS				*i* Sn	**Sn**	**04 22 19.2**	**-1.1**
FIAM	**Fiamignano**	**4.99**	**278**	Pn	**Pn**	**04 21 24.4**	**+1.0**
NRCA	**Norcia**	**5.06**	**284**	Pn	**Pn**	**04 21 24.7**	**0.4**
	49nm,0.5s						
CERT	**Cerreto**	**5.09**	**274**	Pn	**Pn**	**04 21 25.5**	**+0.8**
	126nm,0.6s						
CING	**Cingoli**	**5.12**	**290**	Pn	**Pn**	**04 21 25.2**	**0.0**
	97nm,0.8s						
PKS7	**Kunszentmiklos**	**5.27**	**355**	*e*S	**Sn**	**04 22 27.0**	**-0.9**
DRGR		**5.42**	**22**	⇑*i*P	**Pn**	**04 21 29.9**	**+0.7**
DRGR		**5.42**	**22**	S	**Sn**	**04 22 19.5**	**-12**
DRGR		**5.42**	**22**	⇑P	**Pn**	**04 21 29.9**	**+0.7**
DRGR				S	**Sn**	**04 22 19.5**	**-12**
FSSB	**Fossombrone**	**5.50**	**293**	Pn	**Pn**	**04 21 30.3**	**-0.1**
	41nm,0.5s						
SKDS	**Skadanscina**	**5.62**	**314**	*i* Pn	**Pn**	**04 21 31.6**	**-0.4**
SKDS				*i* Sn	**Sn**	**04 22 33.6**	**-3.0**
LJU	**Ljubljana**	**5.70**	**320**	*i* Pn	**Pn**	**04 21 34.0**	**+0.9**
LJU				*i* Sn	**Sn**	**04 22 39.0**	**+0.4**
BUD	**Budapest**	**5.71**	**355**	*e*Pn	**Pn**	**04 21 37.7**	**+4.4**
BUD				*e*Sn	**Sn**	**04 22 38.6**	**-0.3**
JAVS	**Javornik**	**5.83**	**317**	*i* Pn	**Pn**	**04 21 34.7**	**-0.2**
JAVS				*e*Sn	**Sn**	**04 22 40.3**	**-1.3**
PERS	**Pernice**	**5.89**	**327**	*i* Pn	**Pn**	**04 21 36.0**	**+0.3**
PERS				*i* Sn	**Sn**	**04 22 36.5**	**-6.7**
PERS	**Pernice**	**5.89**	**327**	*i* Pn	**Pn**	**04 21 36.0**	**+0.3**
SOKA	**Soboth**	**5.96**	**327**	⇑*i*Pn	**Pn**	**04 21 36.5**	**-0.1**
SOKA				⇑*i*Sn	**Sn**	**04 22 43.9**	**-1.0**
PENC	**Penc**	**6.01**	**357**	⇓*e*P	**Pn**	**04 21 38.4**	**+1.1**
PENC				*e*S	**Sn**	**04 22 46.2**	**+0.2**
VOY	**Vojsko**	**6.01**	**317**	*e*Pn	**Pn**	**04 21 37.7**	**+0.4**
VOY				*e*Sn	**Sn**	**04 22 43.4**	**-2.7**
OBKA	**Obir**	**6.04**	**323**	⇓*i*Pn	**Pn**	**04 21 37.1**	**-0.6**
PSZ	**Piszkesteto**	**6.12**	**1**	⇓*e*Pn	**Pn**	**04 21 39.9**	**+1.0**
PSZ				*e*Sn	**Sn**	**04 22 49.7**	**+0.8**
PSZ	**Piszkesteto**	**6.12**	**1**	⇓*i*P	**Pn**	**04 21 39.3**	**+0.4**
PSZ	**Piszkesteto**	**6.12**	**1**	S	**Sn**	**04 22 49.2**	**+0.3**
PSZ	**Piszkesteto**	**6.12**	**1**	⇓*e*Pn	**Pn**	**04 21 39.3**	**+0.4**
PSZ				S	**Sn**	**04 22 49.2**	**+0.3**
PSZ	**Piszkesteto**	**6.12**	**1**	⇓P	**Pn**	**04 21 39.3**	**+0.4**
PSZ				S	**Sn**	**04 22 49.2**	**+0.3**
ARSA	**Arzberg**	**6.25**	**332**	⇑*i*Pn	**Pn**	**04 21 41.3**	**+0.6**
ARSA				⇑*i*Sn	**Sn**	**04 22 50.8**	**-1.3**
KECS	**Kecovo**	**6.71**	**4**	*e*PN	**Pn**	**04 21 48.0**	**+1.1**
KECS				*e*SN	**Sn**	**04 23 01.2**	**-2.1**
VYHS	**Vyhne**	**6.73**	**355**	*e*PN	**Pn**	**04 21 48.6**	**+1.3**
VYHS				*e*SN	**Sn**	**04 23 00.6**	**-3.3**
MODS	**Modra-Piesok**	**6.81**	**346**	*e*PN	**Pb**	**04 21 58.7**	**-8.3**
MODS				*e*SN	**Sn**	**04 23 04.7**	**-1.2**
KOLL	**Kolacno**	**6.86**	**352**	*e*PN	**Pn**	**04 21 56.5**	**+7.5**
KOLL				*e*SN	**Sn**	**04 23 08.1**	**+1.2**
BURAR	**Bucovina Array**	**6.98**	**32**	⇑*i*P	**Pn**	**04 21 49.8**	**-0.9**
BURAR	**Bucovina Array**	**6.98**	**32**	⇑P	**Pn**	**04 21 49.9**	**-0.9**
BUR08	**Bucovina Ar. S**	**7.00**	**32**	*e*Pn	**Pn**	**04 21 50.9**	**-0.1**
BUR08	**Bucovina Ar. S**	**7.00**	**32**	*e*Pn	**Pn**	**04 21 50.9**	**-0.1**
KBA	**Koelnbreinsper**	**7.01**	**321**	⇓*i*Pn	**Pn**	**04 21 51.0**	**-0.1**
KBA				⇑*i*Sn	**Sn**	**04 23 09.0**	**-1.8**
CRVS	**Cervenica-Dubn**	**7.21**	**9**	*e*PN	**Pn**	**04 21 55.3**	**+1.5**
CRVS				*e*SN	**Sn**	**04 23 13.4**	**-2.1**
CRVS	**Cervenica-Dubn**	**7.21**	**9**	*e*Pn	**Pn**	**04 21 55.3**	**+1.5**
CRVS				*e*Sn	**Sn**	**04 23 13.5**	**-2.0**
MOA	**Molln**	**7.22**	**329**	⇓*i*Pn	**Pn**	**04 21 54.3**	**+0.4**
KOLS	**Kolonicke sedl**	**7.35**	**13**	*e*PN	**Pn**	**04 21 57.6**	**+1.9**
IDI	**Anoyia**	**7.62**	**147**	Pn	**Pn**	**04 21 56.8**	**-2.8**
	0.7nm,0.3s,baz=329,slow=12,SNR=4.9						
IDI				Sn	**Sn**	**04 23 19.1**	**-6.9**
	0.8nm,0.3s,baz=120,slow=20,SNR=3.8						
NIE	**Niedzica**	**7.63**	**3**	*e*P	**Pn**	**04 22 01.9**	**+2.3**
STHS	**Stebnicka Huta**	**7.69**	**7**	*e*PN	**Pn**	**04 22 03.9**	**+3.5**
STHS				*e*SN	**Sn**	**04 23 22.8**	**-4.7**
STHS	**Stebnicka Huta**	**7.69**	**7**	*e*Pn	**Pn**	**04 22 04.0**	**+3.6**
STHS				*e*Sn	**Sn**	**04 23 22.8**	**-4.7**
VRAC	**Vranov**	**7.84**	**344**	LR	LR	04 25 12.6	
	comp=Z,60nm,20.2s,baz=166,slow=39						
MABI	**Malga Bissina**	**7.94**	**306**	Pn	**Pn**	**04 22 03.4**	**-0.4**
	2.6nm,0.7s						
WTTA	**Wattenberg**	**7.99**	**316**	⇑*i*Pn	**Pn**	**04 22 04.1**	**-0.4**
WTTA				⇓*i*Sn	**Sn**	**04 23 31.7**	**-3.1**
PGF	**Pioggiola**	**8.05**	**279**	*e*P	**Pn**	**04 22 05.9**	**+0.5**
KWP	**Kalwaria**	**8.10**	**14**	*e*Pn	**Pn**	**04 22 06.5**	**+0.5**
	12nm,1.1s						
GERES	**GERESS Array B**	**8.25**	**331**	Pn	**Pn**	**04 22 08.8**	**+0.7**
	0.5nm,0.3s,baz=144,slow=15,SNR=5.9						
GERES				Sn	**Sn**	**04 23 44.3**	**+3.0**
	0.3nm,0.3s,baz=150,slow=24,SNR=3.6						
GERES				LR	LR	04 25 45.1	
	comp=Z,81nm,19.9s,baz=44,slow=40						
GERES	**GERESS Array B**	**8.25**	**331**	Pn	**Pn**	**04 22 08.8**	**+0.7**
GERES				Sn	**Sn**	**04 23 44.3**	**+3.0**
GERES				LR	LR	04 25 45.1	
MOTA	**Moosalm**	**8.32**	**315**	⇑*i*Pn	**Pn**	**04 22 08.1**	**-1.0**
DAVOX	**Davos/Dischmat**	**8.68**	**308**	Pn	**Pn**	**04 22 14.5**	**+0.5**
	1.2nm,0.3s,baz=108,slow=18,SNR=7.6						
DAVOX				Sn	**Sn**	**04 23 47.8**	**-4.0**
	0.6nm,0.3s,baz=338,slow=19,SNR=4.4						
FRF	**La Foret Royal**	**9.84**	**285**	*e*P	**Pn**	**04 22 32.0**	**+2.1**
FRF	**La Foret Royal**	**9.84**	**285**	*e*Pn	**Pn**	**04 22 26.4**	**-3.5**
FRF				*e*P		04 22 32.0	
MBDF	**Montbardon**	**9.94**	**292**	*e*P	**Pn**	**04 22 34.1**	**+2.8**
MBDF	**Montbardon**	**9.94**	**292**	*e*Pn	**Pn**	**04 22 27.4**	**-3.9**
MBDF				*e*P		04 22 34.1	
LPG	**La Plagne**	**10.15**	**296**	*e*P	**Pn**	**04 22 36.4**	**+2.3**
LPG				*e*Sn	**Sn**	**04 24 17.3**	**-11**
	13nm,0.7s						
LPL	**La Plagne**	**10.17**	**296**	*e*P	**Pn**	**04 22 36.4**	**+2.0**
LPL				*e*Sn	**Sn**	**04 24 17.4**	**-11**
	19nm,0.9s						
ORIF	**Oris-en-Rattie**	**10.60**	**292**	*e*Pn	**Pn**	**04 22 36.3**	**-4.0**
CABF	**La Chapelle**	**10.95**	**301**	*e*Pn	**Pn**	**04 22 41.0**	**-4.1**
HINF	**Hinteralfeld**	**10.98**	**308**	*e*Pn	**Pn**	**04 22 41.0**	**-4.5**
HINF				*e*Sn	**Sn**	**04 24 37.2**	**-11**
	5.5nm,0.6s						
**H

MBWA Marble Bar 143.18 233 *e*PKPdf PKPdf 04 48 54.4 +6.5

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*ISCJB **30** 05:05:03.2±2.8, 099S×006×1316E±02, h59km±27km, mb3.9/5, Error ellipse: s-maj=35.5km s-min=9.4km az=173.2*
*NEIC **30** 05:05:04.6±0.9, 096S×131.13E, h40km, mb3.9/1, Error ellipse: s-maj=53.4km s-min=9.6km az=78.0*
*IDC **30** 05:05:20.0±5.4, 127S×130.91E, h193km±56km, mb3.4/5, mb1 3.6/6, mb1mx3.4/16, mbtmp3.4/6, Error ellipse: s-maj=135.0km s-min=11.0km az=75.0*
ISC 30 05:05:09.9±2.2, 123S±007×1314E±02, h106km±20km, n11, σ1⁹38/16, mb3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.46**	**175**	*e*P		**Pn**		**05 07 48.2**	**-2.1**
KAKA	12nm,0.4s			*e*S		**Sn**		**05 09 55.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**17.68**	**198**	*e*P		**Pn**		**05 09 10.8**	**+1.3**
FITZ	5.1nm,0.5s			*e*S		**S**		**05 12 26.6**	**-0.1**
WRA	**Warramunga Arr**	**18.83**	**171**	P		**P**		**05 09 24.8**	**+3.3**
WRA	0.8nm,0.3s,baz=350,slow=11,SNR=58			S		**S**		**05 12 50.5**	**+0.4**
WRA	**Warramunga Arr**	**18.83**	**171**	P		**P**		**05 09 24.8**	**+3.3**
WRA	0.3nm,0.3s,baz=354,slow=23,SNR=4.5			S		**S**		**05 12 50.5**	**+0.4**
WB2	**Warramunga Arr**	**18.83**	**171**	*e*P		**P**		**05 09 24.9**	**+3.4**
WB2				*e*S		**S**		**05 12 47.5**	**-2.7**
ASAR	**Alice Springs**	**22.44**	**174**	P		**P**		**05 10 03.9**	**+3.7**
	8.8nm,0.7s,mb4.2,baz=352,slow=7.2,SNR=92								
SONM	**Songino Array**	**53.49**	**339**	P		**P**		**05 14 19.9**	**+0.7**
	0.2nm,0.4s,mb3.5,baz=161,slow=9.2,SNR=2.6								
MKAR	**Makanchi Array**	**64.23**	**325**	P		**P**		**05 15 32.9**	**-0.7**
	0.6nm,0.4s,mb3.8,baz=110,slow=7.0,SNR=15								
MKAR	**Makanchi Array**	**64.23**	**325**	P		**P**		**05 15 32.9**	**-0.7**
ZALV	**Zalesovo Beam**	**67.08**	**332**	P		**P**		**05 15 50.6**	**-1.2**
	0.4nm,0.3s,mb3.7,baz=134,slow=4.2,SNR=2.5								
KURK	**Kurchatov**	**68.38**	**327**	P		**P**		**05 15 59.9**	**-0.1**
	1.1nm,0.9s,mb3.7,baz=117,slow=6.0,SNR=3.7								

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*ISCJB **30** 05:20:50.9±0.7, 385N±03×1338E±03, h469km±44km, mb3.2/3, Error ellipse: s-maj=61.2km s-min=14.8km az=138.5*
*NEIC **30** 05:20:50.5, 3853N×13395E, h473km, MG3.2(JMA), After JMA.*
*JMA **30** 05:20:50.5±0.3, 3853N×13395E, h473km, M3.2*
*IDC **30** 05:20:51.2±1.9, 3830N×13383E, h469km±122km, mb2.7/3, mb1 2.7/4, mb1mx2.5/24, mbtmp2.7/4, Error ellipse: s-maj=232.8km s-min=127.9km az=33.0*
ISC 30 05:20:51.8±0.7, 386N±03×1337E±04, h447km±50km, n13, σ0⁹71/17, mb3.2/3, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JWT	**Wachi**	**3.56**	**158**	P		**P**		**05 22 03.4**	**+0.3**
JWT				*e*S		**S**		**05 23 00.2**	**-0.7**
JSD	**Sado**	**3.60**	**97**	P		**P**		**05 22 03.1**	**-0.1**
JNG	**Nsakai**	**4.10**	**121**	P		**P**		**05 22 07.2**	**-0.4**
JNG				*e*S		**S**		**05 23 08.4**	**-0.8**
MAJO	**Matsushiro**	**4.10**	**119**	*e*P		**P**		**05 22 07.2**	**-0.4**
MAT	**Matsushiro**	**4.10**	**119**	P		**P**		**05 22 08.2**	**+0.6**
MAT				*e*S		**S**		**05 23 10.9**	**+1.7**
MJAR	**Matsushiro Arr**	**4.10**	**119**	P		**P**		**05 22 07.2**	**-0.4**
	1.7nm,0.3s,baz=303,slow=8.5,SNR=17								
JFT	**Otama**	**5.32**	**100**	P		**P**		**05 22 18.4**	**-0.6**
JRG	**Rokugo**	**5.43**	**79**	P		**P**		**05 22 21.5**	**+1.4**
JRG				*e*S		**S**		**05 23 31.8**	**-0.5**
JTO	**Tosashimizu**	**5.77**	**188**	P		**P**		**05 22 24.4**	**+0.7**
JMK	**Ichinoseki**	**5.86**	**84**	P		**P**		**05 22 24.4**	**0.0**
SONM	**Songino Array**	**21.87**	**304**	P		**P**		**05 25 10.4**	**+0.3**
	0.6nm,0.5s,mb3.4,baz=107,slow=9.5,SNR=5.4								
MKAR	**Makanchi Array**	**38.10**	**299**	P		**P**		**05 27 29.8**	**-0.8**
	0.4nm,0.5s,mb3.1,baz=91,slow=10,SNR=5.1								
KURK	**Kurchatov**	**40.14**	**306**	P		**P**		**05 27 47.3**	**+0.2**
	0.5nm,0.4s,mb3.3,baz=79,slow=7.6,SNR=4.5								

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*IDC **30** 05:32:16.7±0.7, 1831N×14767E, h0km, mb4.2/13, mb1 4.4/16, mb1mx4.2/24, mbtmp4.2/16, ML4.1/2, Error ellipse: s-maj=22.5km s-min=14.3km az=86.0*
*NEIC **30** 05:32:20.0±4.1, 1831N×14764E, h21km±28km, mb4.7/4, Error ellipse: s-maj=14.1km s-min=7.1km az=81.0*
*ISCJB **30** 05:32:20.0±0.7, 1834N±006×1476E±02, h33km, mb4.3/21, Error ellipse: s-maj=20.9km s-min=8.6km az=179.6*
*MOS **30** 05:32:21.0±1.2, 1834N×14734E, h33km, mb5.1/5, Error ellipse: s-maj=18.7km s-min=12.4km az=99.1*
ISC 30 05:32:17.0±5.9, 1833N±006×1477E±02, h3km±35km, n35, σ0⁹70/33, mb4.3/21, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.44**	**210**	Pn		**Pn**		**05 33 39.6**	**+0.4**
	15nm,0.3s,baz=39,slow=13,SNR=3.9								
CBIJ	**Chichi jima**	**10.09**	**331**	Pn		**Pn**		**05 34 43.3**	**+0.3**
	4.5nm,0.3s,baz=270,slow=14,SNR=3.4								
CBIJ				Sn		**Sn**		**05 36 31.9**	**-4.9**
	6.9nm,0.3s,baz=291,slow=21,SNR=4.6								
MJAR	**Matsushiro Arr**	**19.98**	**337**	P		**Pn**		**05 36 51.2**	**-1.0**
	0.2nm,0.3s,baz=153,slow=9.7,SNR=4.6								
KSRS	**Korea Array**	**25.75**	**322**	P		**P**		**05 37 50.5**	**+1.6**
	6.4nm,0.7s,mb4.2,baz=146,slow=8.7,SNR=18								
WRAB	**Tennant Creek**	**40.22**	**200**	*e*P		**P**		**05 39 54.6**	**-0.5**
WRAB				pmax		pmax			
	comp=Z,37nm,1.1s,mb5.0								
WRAB	**Tennant Creek**	**40.22**	**200**	*e*P		**P**		**05 39 54.6**	**-0.5**
	comp=Z,37nm,1.1s,mb5.0								
WB2	**Warramunga Arr**	**40.23**	**200**	*e*P		**P**		**05 39 55.1**	**-0.1**
WRA	**Warramunga Arr**	**40.23**	**200**	P		**P**		**05 39 54.9**	**-0.3**
	comp=Z,24nm,1.1s,mb4.9,baz=20,slow=9.2,SNR=37								
WRA				PcP		PcP		05 41 59.6	+0.3
	comp=Z,0.6nm,0.5s,baz=17,slow=3.5,SNR=6.5								
FITZ	**Fitzroy Crossi**	**42.20**	**212**	P		**P**		**05 40 11.4**	**-0.1**
	comp=Z,2.2nm,0.7s,mb3.9,baz=2.6,slow=9.4,SNR=7.7								
ASAR	**Alice Springs**	**43.86**	**198**	P		**P**		**05 40 24.9**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.0,baz=22,slow=8.8,SNR=23								
ASAR				PcP		PcP		05 42 09.9	-1.3
	comp=Z,1.2nm,0.8s,baz=12,slow=1.8,SNR=4.7								
SONM	**Songino Array**	**44.62**	**321**	P		**P**		**05 40 30.4**	**-0.2**
	comp=Z,1.3nm,0.7s,mb3.9,baz=122,slow=7.8,SNR=9.5								
CMAR	**Chiang Mai Arr**	**46.15**	**278**	P		**P**		**05 40 43.1**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.1,baz=67,slow=6.6,SNR=9.5								
ZAK	**Zakamensk**	**47.58**	**323**	*e*P		**P**		**05 40 46.2**	**-7.8**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.3s,mb4.0								
PSI	**Prapat**	**50.17**	**258**	P		**P**		**05 41 14.4**	**-0.1**
	comp=Z,4.1nm,0.9s,mb4.5,baz=74,slow=7.4,SNR=4.7								
ZAA0	**Zalesovo Array**	**59.46**	**322**	*e*P		**P**		**05 42 20.5**	**-0.6**
ZALV	**Zalesovo Beam**	**59.46**	**322**	P		**P**		**05 42 20.5**	**-0.6**
	comp=Z,5.5nm,1.0s,mb4.6,baz=103,slow=6.5,SNR=11								
ZALV	**Zalesovo Beam**	**59.46**	**322**	P		**P**		**05 42 20.5**	**-0.6**
ZAL	**Zalesovo**	**59.47**	**322**	P		**P**		**05 42 20.5**	**-0.7**
MK31	**Makanchi Array**	**60.08**	**314**	*e*P		**P**		**05 42 25.7**	**+0.1**
MKAR	**Makanchi Array**	**60.08**	**314**	P		**P**		**05 42 25.8**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.4,baz=86,slow=9.3,SNR=29								
NVS	**Novosibirsk**	**60.53**	**323**	*e*P		**P**		**05 42 27.5**	**-1.0**
NVS				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.9								
NVS				pmax		pmax			
	comp=N,5.0nm,1.1s								
NVS				pmax		pmax			
	comp=E,9.0nm,1.0s								
KURK	**Kurchatov**	**62.81**	**318**	*e*P		**P**		**05 42 43.6**	**-0.3**
KURK				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.8								
KURK	**Kurchatov**	**62.81**	**318**	*e*P		**P**		**05 42 43.6**	**-0.4**
	comp=Z,5.9nm,0.8s,mb4.8								
UCH	**Uchtor**	**65.58**	**309**	*e*P		**P**		**05 43 03.2**	**+0.9**
	comp=Z,6.5nm,1.1s,mb4.6								
AML	**Almayashu**	**66.19**	**309**	*e*P		**P**		**05 43 06.9**	**+0.7**
	comp=Z,5.3nm,1.1s,mb4.5								
AKTK	**Aktyubinsk**	**75.89**	**319**	P		**P**		**05 44 04.3**	**-0.6**
AKTO	**Aktyubinsk**	**75.89**	**319**	P		**P**		**05 44 04.3**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=87,slow=9.1,SNR=3.3								
YKA	**Yellowknife Ar**	**77.42**	**28**	P		**P**		**05 44 13.4**	**0.0**
	comp=Z,0.3nm,0.7s,mb3.4,baz=287,slow=5.2,SNR=4.3								
NVAR	**Mina Array Bea**	**81.87**	**52**	P		**P**		**05 44 38.0**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=290,slow=5.4,SNR=4.2								
ARCES	**ARCESS Array B**	**83.42**	**343**	P		**P**		**05 44 47.3**	**+1.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=72,slow=8.8,SNR=4.1								
OBN	**Obninsk**	**86.61**	**328**	P		**P**		**05 45 03.0**	**+1.2**
OBN				pmax		pmax			
	comp=Z,11nm,0.9s,mb5.1								
KIV	**Kislovodsk**	**87.79**	**316**	P		**P**		**05 45 01.0**	**-6.8**
KIV				*e*				05 55 35.0	
KIV				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb5.0								
CFAA	**Coronel Fontan**	**145.01**	**119**	PKPbc		PKPbc		05 51 55.3	-0.4
	comp=Z,0.4nm,0.8s,baz=255,slow=3.0,SNR=6.4								
LPAZ	**La Paz**	**145.77**	**92**	PKPbc		PKPbc		05 52 00.3	+1.9
	comp=Z,1.4nm,0.9s,baz=256,slow=4.2,SNR=3.9								
LPAZ	**La Paz**	**145.77**	**92**	PKPbc		PKPbc		05 52 00.3	+1.9

IGQ 30 05:41:14.8, 065S×8004W, h9km±4km, Mb4.1, Ms3.9, 3C-3D, Error ellipse: s-maj=1.7km s-min=1.3km az=64.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.79**	**240**	⇓P		Pg		05 41 29.6	-0.5
CHIS	**Cerro-Chispas-**	**0.79**	**240**	⇓S		Sg		05 41 39.8	-0.6
QIL2	**Quilotoa**	**1.15**	**101**	P		Pb		05 41 37.5	+0.6
JUA2	**San Juan 2**	**1.50**	**73**	⇓P		Pn		05 41 43.5	+1.6
PORT	**Chimborazo Vol**	**1.50**	**123**	P		Pn		05 41 43.7	+1.6
PORT	**Chimborazo Vol**	**1.50**	**123**	S		Sn		05 42 03.6	+1.8
TERV	**Terraza Guagua**	**1.51**	**72**	P		Pn		05 41 43.6	+1.5
PINO	**Pino**	**1.52**	**71**	P		Pn		05 41 42.8	+0.6
GGP	**Refugio Guagua**	**1.52**	**72**	P		Pn		05 41 43.2	+0.9
CAMI	**Rancho Maria**	**1.54**	**91**	P		Pn		05 41 44.8	+2.3
IGUA	**Igualata**	**1.63**	**121**	P		Pn		05 41 45.6	+1.8
IGUA	**Igualata**	**1.63**	**121**	S		Sn		05 42 08.1	+3.1
VC1	**Cotopaxi 1**	**1.64**	**90**	P		Pn		05 41 46.6	+2.7
TAMB	**Tambo**	**1.68**	**92**	P		Pn		05 41 47.1	+2.7
PISA	**Pisayambo**	**1.71**	**104**	P		Pn		05 41 47.4	+2.6
JUI6	**Juive**	**1.75**	**116**	P		Pn		05 41 47.4	+2.0
JUI6	**Juive**	**1.75**	**116**	S		Sn		05 42 08.8	+0.9
RUN5	**Runtun**	**1.79**	**115**	P		Pn		05 41 48.4	+2.4
RUN5	**Runtun**	**1.79**	**115**	S		Sn		05 42 11.0	+2.2
ARRY	**Arrayan**	**1.80**	**118**	P		Pn		05 41 48.3	+2.2
ULBA	**Ulba**	**1.82**	**116**	⇑P		Pn		05 41 48.8	+2.4
ULBA	**Ulba**	**1.82**	**116**	⇑S		Sn		05 42 11.9	+2.4
PATA	**Patacocha**	**1.82**	**118**	⇑P		Pn		05 41 49.3	+2.9
ANTI	**Antisana**	**1.89**	**84**	P		Pn		05 41 50.3	+2.9
COTA	**Cotacachi**	**1.96**	**60**	P		Pn		05 41 49.8	+1.5
CAYA	**Cayambe**	**2.17**	**71**	P		Pn		05 41 54.4	+3.2
CAYA	**Cayambe**	**2.17**	**71**	S		Sn		05 42 22.9	+4.5

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*NEIC **30** 05:50:54.5, 3672S×7156W, h0km, ML3.6(GUC), After GUC.*
GUC 30 05:50:54.5±0.6, 3672S×7156W, h0km±7km, MD3.6, ML3.6, 6C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.43**	**286**	⇑*i*P		Pg		05 51 03.4	+0.6
TALC	**Talca**	**1.32**	**357**	*i*P		Pg		05 51 18.7	-1.2
TALC				*i*S		Sg		05 51 37.1	+0.1
TALC				AML		AML		05 51 37.8	
	comp=E,2μm,0.4s								
TALC	**Talca**	**1.32**	**357**	*i*P		Pg		05 51 18.7	-1.2
TALC				*i*S		Sg		05 51 37.1	+0.1
NICH	**Los Niches**	**1.74**	**9**	⇑*i*P		Pn		05 51 25.7	-0.2
NICH				*i*S		Sn		05 51 49.2	+0.4
CICH	**Cipreses**	**2.57**	**22**	⇑*i*P		Pn		05 51 38.5	+1.1
CICH				*i*S		Sn		05 52 12.5	+3.1
CACH	**El Canelo**	**2.72**	**17**	⇑*i*P		Pn		05 51 40.9	+1.5
CACH				*i*S		Sn		05 52 16.1	+3.1
LNV	**Longovilo**	**2.76**	**3**	⇑*i*P		Pn		05 51 41.1	+1.1
LNV				*i*S		Sn		05 52 16.8	+2.7
CHCH	**Chadas Angostu**	**2.88**	**15**	*i*P		Pn		05 51 42.7	+1.1
CHCH				*i*S		Sn		05 52 19.9	+2.9
TACH	**Talagante**	**3.10**	**10**	⇓*i*P		Pn		05 51 45.9	+1.1
TACH				*i*S		Sn		05 52 24.9	+2.4
PCH	**Pirque**	**3.21**	**16**	⇑*i*P		Pn		05 51 47.6	+1.4
PCH				*i*S		Sn		05 52 27.9	+2.8
ANTU	**Antumapu**	**3.24**	**14**	*i*S		Sn		05 52 27.7	+2.0
ANTU				AML		AML		05 52 34.0	
	comp=E,108nm,0.4s								
RCDM	**Rinconada Maip**	**3.29**	**11**	AML		AML		05 52 34.8	
	comp=E,81nm,0.2s								
PLCA	**Paso Flores**	**4.08**	**169**	*e*Pn		Pn		05 51 57.8	-0.3

NNC 30 05:53:22.0±4.8, 3739N×7005E, h0km, mb3.8, mpv3.6, 3C-3D, Error ellipse: s-maj=38.9km s-min=37.9km az=132.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.72**	**3**	⇑Pn		Pn		05 54 50.4	+2.2
	0.8nm,0.3s,baz=174,slow=12,SNR=44								
KK31				⇑Sn		Sn		05 56 01.8	+7.3
	7.2nm,0.6s,baz=178,slow=22,SNR=7.0								
TKM2	**Tokmak 2**	**6.97**	**36**	⇓Pn		Pn		05 55 07.9	+2.5
	5.8nm,0.6s								
TKM2				⇓Sn		Sn		05 56 25.3	0.0
	3.4nm,0.8s								
AB31	**Akbulak array**	**13.94**	**332**	⇓Pn		Pn		05 56 41.5	+0.8
	0.3nm,0.5s								
AB31				⇑Sn		Sn		05 59 14.7	-1.4
	0.5nm,0.6s								

IDC 30 05:57:31.5±2.0, 104S×12742E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/15, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=152.5km s-min=25.7km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.97**	**161**	P		Pn		06 02 05.1	-2.0
	0.1nm,0.3s,baz=339,slow=11,SNR=8.3								
ASAR	**Alice Springs**	**23.35**	**165**	P		P		06 02 42.2	+0.4
	0.4nm,0.5s,baz=348,slow=12,SNR=6.0								
MKAR	**Makanchi Array**	**61.86**	**326**	P		P		06 07 52.6	0.0
	0.2nm,0.3s,baz=107,slow=8.2,SNR=3.4								

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*ISCJB **30** 06:07:40.5±1.1, 3834N±003×2354E±005, h7km±9km, Error ellipse: s-maj=6.3km s-min=4.6km az=164.5*
*NEIC **30** 06:07:41.1, 3834N×2349E, h20km, MD2.7(ATH), After ATH.*
*THE **30** 06:07:41.1, 3837N×2354E, h0km*
*CSEM **30** 06:07:41.5±0.1, 3835N×2352E, h12km, ML2.4, Error ellipse: s-maj=2.9km s-min=2.1km az=85.0*
*ATH **30** 06:07:41.1, 3834N×2349E, h20km±7km, MD2.7/5, ML2.4*
ISC 30 06:07:41.1±0.6, 3835N±003×2351E±005, h15km±5km, n14, σ0⁹56/22, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.41**	**157**	*e*PB		**Pg**		**06 07 48.8**	**-0.5**
ATH				*e*SB		**Sg**		**06 07 54.9**	**0.0**
PTL	**Penteli**	**0.41**	**137**	*e*PB		**Pg**		**06 07 50.0**	**+0.7**
PTL				*e*SB		**Sg**		**06 07 55.0**	**+0.2**
LKR	**Lokris**	**0.50**	**307**	*e*Pg		**Pg**		**06 07 50.6**	**-0.4**
LKR				*e*Sg		**Sg**		**06 07 58.2**	**+0.4**
LKR	**Lokris**	**0.50**	**307**	⇑*i*PB		**Pb**		**06 07 50.5**	**-1.1**
LKR				*e*SB		**Sb**		**06 07 58.8**	**+0.1**
LTK	**Loutraki**	**0.54**	**233**	*e*Pg		**Pb**		**06 07 52.2**	**+0.1**
LTK				*e*Sg		**Sb**		**06 08 00.4**	**+0.6**
KVR	**Kavouri**	**0.56**	**159**	*e*PN		**Pb**		**06 07 52.5**	**0.0**
NAIG	**Nisos Aigina**	**0.59**	**182**	*e*PN		**Pb**		**06 07 52.5**	**-0.6**
NAIG				*e*SN		**Sb**		**06 08 01.0**	**-0.2**
AOS	**Alonnisos**	**0.87**	**19**	*e*Pg		**Pb**		**06 07 57.1**	**-0.7**
AOS				*e*Sg		**Sb**		**06 08 10.0**	**+0.7**
DID	**Didima**	**0.87**	**195**	*e*Pg		**Pn**		**06 07 57.6**	**-1.1**
DID				*e*Sg		**Sn**		**06 08 11.4**	**+0.4**
NEO	**Neokhori**	**0.98**	**347**	*e*PN		**Pn**		**06 08 00.0**	**-0.3**
XOR	**Xorichti**	**1.05**	**346**	*e*Pg		**Pb**		**06 08 01.4**	**+0.5**
VLX	**Vlachokerasia**	**1.33**	**223**	*e*Pg		**Pb**		**06 08 06.5**	**+0.9**
CHOS	**Chios island**	**2.00**	**88**	*e*Pn		**Pn**		**06 08 14.7**	**+0.4**
CHOS	**Chios island**	**2.00**	**88**	*e*Pn		**Pn**		**06 08 14.6**	**+0.3**

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*ATH **30** 06:10:32.7, 3827N×2687E, h74km±1km*
*NEIC **30** 06:10:34.0, 3830N×2662E, h5km, ML3.1(ISK), After ISK.*
*ISCJB **30** 06:10:34.2±1.1, 3827N±003×2656E±005, h0km±8km, Error ellipse: s-maj=7.0km s-min=4.7km az=168.5*
*DDA **30** 06:10:34.9, 3830N×2662E, h7km±2km, Md3.1*
*CSEM **30** 06:10:34.3±0.1, 3829N×2663E, h2km, ML3.1, Error ellipse: s-maj=1.5km s-min=1.0km az=65.0*
*ISK **30** 06:10:35.0, 3830N×2663E, h5km, ML3.1*
ISC 30 06:10:34.5±0.8, 3825N±003×2655E±005, h0km±6km, n26, σ0⁹82/34, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.41**	**70**	*e*PG		**Pg**		**06 10 42.1**	**-0.2**
BLCB				*e*SG		**Sg**		**06 10 47.0**	**-0.5**
BLCB	**Balcova**	**0.41**	**70**	Pg		**Pg**		**06 10 42.2**	**0.0**
IZM	**Izmir**	**0.58**	**75**	PG		**Pg**		**06 10 45.4**	**-0.1**
IZM				*e*SG		**Sg**		**06 10 53.1**	**+0.1**
IZM	**Izmir**	**0.58**	**75**	Pg		**Pg**		**06 10 45.5**	**-0.1**
KDAG	**Bornova**	**0.58**	**74**	*i* P		**Pg**		**06 10 45.4**	**-0.2**
KDAG				*i* S		**Sg**		**06 10 53.1**	**0.0**
SMG	**Samos**	**0.58**	**157**	*e*P		**Pg**		**06 10 46.9**	**+1.3**
SMG				*e*S		**Sg**		**06 10 57.5**	**+4.4**
PRK	**Paraskevi**	**1.02**	**348**	*e*P		**Pg**		**06 10 53.4**	**-0.7**
PRK				*e*S		**Sg**		**06 11 08.3**	**+1.0**
AYVA	**Ayvalik**	**1.06**	**6**	*i* P		**Pg**		**06 10 54.4**	**-0.5**
AYVA				*i* S		**Sg**		**06 11 09.8**	**+1.1**
AKS	**Akhisar**	**1.17**	**57**	*e*PN		**Pn**		**06 10 56.0**	**-2.0**
AYDN	**Tasoluk**	**1.20**	**119**	*i* P		**Pg**		**06 10 56.4**	**-1.0**
AYDN				*i* S		**Sg**		**06 11 13.1**	**+0.1**
BODT	**Bodrum**	**1.33**	**153**	*e*PN		**Pn**		**06 11 00.9**	**+0.7**
MLSB	**Milas**	**1.36**	**134**	*e*PN		**Pn**		**06 11 01.0**	**+0.4**
APE	**Apeiranthos**	**1.43**	**215**	*e*P		**Pn**		**06 11 00.3**	**-1.3**
EZN	**Ezine**	**1.59**	**354**	*e*PN		**Pn**		**06 11 03.8**	**0.0**
KULA	**Kula-Manisa**	**1.68**	**80**	*e*PN		**Pn**		**06 11 04.7**	**-0.3**
BALY	**Balya**	**1.71**	**29**	*i* P		**Pn**		**06 11 04.4**	**-1.0**
BALY				*i* S		**Sn**		**06 11 29.1**	**+1.2**
BALB	**Balikesir**	**1.73**	**36**	*e*PN		**Pn**		**06 11 05.4**	**-0.4**
YER	**Yerkesik**	**1.76**	**128**	*e*PN		**Pn**		**06 11 06.7**	**+0.5**
GADA	**Gvkgeada**	**2.01**	**346**	*e*PN		**Pn**		**06 11 09.8**	**+0.2**
DALT	**Dalyan (Mudla)**	**2.22**	**131**	*e*PN		**Pn**		**06 11 13.2**	**+0.8**
KHL	**Karahalli**	**2.34**	**87**	*e*PN		**Pn**		**06 11 14.3**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.48**	**11**	*e*PN		**Pn**		**06 11 16.2**	**+0.1**
ENEZ	**Enez**	**2.51**	**353**	*e*PN		**Pn**		**06 11 16.9**	**+0.5**
MFT	**Murefte**	**2.60**	**12**	*e*PN		**Pn**		**06 11 18.0**	**+0.3**
RDO	**Rodhopi**	**3.00**	**345**	*e*P		**Pn**		**06 11 20.4**	**-2.8**
YLV	**Yalova**	**3.18**	**42**	*e*PN		**Pn**		**06 11 26.4**	**+0.7**

IDC 30 06:14:51.0±4.5, 3054S×13834E, h0km, mb1 3.1/3, mb1mx3.1/14, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=107.0km s-min=17.0km az=40.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.09**	**116**	Pn		Pn		06 15 42.4	+1.3
	0.2nm,0.3s,baz=304,slow=13,SNR=2.4								
STKA				Sn		Sn		06 16 19.8	+0.9
	1.2nm,0.3s,baz=354,slow=19,SNR=5.8								
STKA				Lg				06 16 28.0	
	1.4nm,0.3s,baz=323,slow=20,SNR=5.8								
ASAR	**Alice Springs**	**7.90**	**329**	Pn		Pn		06 16 47.3	+0.1
	0.0nm,0.3s,baz=150,slow=12,SNR=3.6								
ASAR				Sn		Sn		06 18 17.3	0.0
	0.1nm,0.3s,baz=154,slow=22,SNR=3.6								
WRA	**Warramunga Arr**	**11.15**	**340**	Pn		Pn		06 17 31.7	-0.1
	0.0nm,0.3s,baz=163,slow=12,SNR=4.6								
WRA				Sn		Sn		06 19 30.3	-6.9
	0.0nm,0.3s,baz=162,slow=24,SNR=3.0								

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*SZGRF **30** 06:36:30.4, 2382S×17174E, h30km, mb4.4, Southeast of Loyalty Islands*
*LDG **30** 06:36:30.5±0.2, 2243S×170.17E, h10km, Mb5.7/4, Ms4.4/8*
*BJI **30** 06:36:31.4, 2243S×17007E, h14km, mB5.3, mb5.2, Ms5.0, Msz4.6*
*ISCJB **30** 06:36:32.2±2.2, 2299S±004×16990E±003, h30km±15km, mb5.4/117, MS4.6/183, Error ellipse: s-ma

comp=Z,29nm,0.8s,mb4.8
PMG LR LR
comp=Z,856nm,21.0s,MS4.2
STKA Stephens Creek 26.61 244 ⇓*i*P **P 06 42 10.0 +0.2**
comp=Z,26nm,1.0s,mb4.7
STKA *e*PCP PcP 06 45 33.7 +0.3
STKA *e* 06 45 43.1
STKA *e*S **S 06 46 52.8 +10**
STKA Stephens Creek 26.61 244 P **P 06 42 10.0 +0.2**
comp=Z,22nm,0.8s,mb4.7,baz=89,slow=8.5,SNR=22
STKA PcP PcP 06 45 33.3 -0.1
comp=Z,5.5nm,0.8s,baz=95,slow=4.1,SNR=4.2
STKA LR LR 06 52 08.8
comp=Z,814nm,21.2s,MS4.2,baz=74,slow=35
COEN Coen 26.89 285 *e*P **P 06 42 13.0 +0.5**
comp=Z,39nm,0.8s,mb5.0
RAR Rarotonga 28.09 92 LR LR 06 50 47.6
comp=Z,208nm,19.2s,MS3.7,baz=341,slow=30
ASAR Alice Springs 33.05 262 P **P 06 43 06.2 -0.7**
comp=Z,28nm,0.7s,mb5.3,baz=86,slow=9.7,SNR=209
ASAR PcP PcP 06 45 49.5 -0.6
comp=Z,6.0nm,0.8s,baz=99,slow=2.9,SNR=6.2
ASAR S **S 06 48 24.1 +0.7**
comp=Z,1.8nm,1.0s,baz=78,slow=16,SNR=4.1
ASAR PKiKP PKiKP 06 53 14.8 -1.6
comp=Z,0.9nm,0.7s,baz=90,slow=0.9,SNR=8.7
ASAR Alice Springs 33.05 262 P **P 06 43 06.2 -0.7**
ASAR PcP PcP 06 45 49.5 -0.6
ASAR S **S 06 48 24.1 +0.7**
WB2 Warramunga Arr 33.21 268 ⇓*i*P **P 06 43 06.6 -1.8**
WB2 *e*PCP PcP 06 45 50.3 -0.3
WB2 *e* 06 45 59.2
WB2 *e*S **S 06 48 47.0 +21**
WRAB Tennant Creek 33.22 268 *e*P **P 06 43 07.1 -1.3**
WRAB Tennant Creek 33.22 268 *e*P **P 06 43 06.7 -1.8**
comp=Z,40nm,1.6s,mb5.1
WRAB LR LR
comp=Z,1μm,19.0s,MS4.6
WRA Warramunga Arr 33.22 268 P **P 06 43 06.8 -1.7**
comp=Z,4.0nm,0.6s,mb4.5,baz=97,slow=8.1,SNR=52
WRA PcP PcP 06 45 50.1 -0.6
comp=Z,7.3nm,0.7s,baz=96,slow=2.7,SNR=10
WRA PKiKP PKiKP 06 53 14.8 -1.8
comp=Z,1.3nm,0.7s,baz=14,slow=0.3,SNR=16
WRA LR LR 06 55 09.8
comp=Z,633nm,18.7s,MS4.3,baz=85,slow=34
WRA Warramunga Arr 33.22 268 P **P 06 43 06.8 -1.7**
WRA PcP PcP 06 45 50.1 -0.6
KAKA Kakadu 37.03 279 ⇓*i*P **P 06 43 40.3 -1.1**
comp=Z,26nm,0.5s,mb5.3
KAKA *e*PCP PcP 06 46 01.4 -0.4
KAKA *e* 06 46 10.1
FORT Forrest 37.98 249 *e*P **P 06 43 48.4 -0.9**
comp=Z,80nm,0.6s,mb5.6
FORT *e*PCP PP 06 45 29.5 +13
PPT Papeete 38.27 90 *e*S **S 06 49 46.2 +2.6**
comp=Z,229nm,24.8s
PPT *e*LQ 06 52 37.7
comp=Z,1μm,27.5s
PPT *e*LR LR 06 53 51.7
comp=Z,477nm,32.5s
PPT Papeete 38.27 90 LR LR 06 56 27.3
comp=Z,231nm,18.3s,MS4.0,baz=262,slow=31
XMAS Kiritimati 40.36 56 PFAKE 06 44 20.0 +11
XMAS LR LR
comp=Z,2μm,21.0s,MS4.9
FITZ Fitzroy Crossi 41.65 268 ⇓*i*P **P 06 44 19.5 -0.4**
comp=Z,40nm,0.8s,mb5.1
FITZ *e*PCP PP 06 46 07.2 +11
FITZ Fitzroy Crossi 41.65 268 LR LR 07 00 58.0
comp=Z,402nm,18.1s,MS4.3,baz=264,slow=35
GUMO Guam 43.86 324 LR LR 06 59 12.4
comp=Z,275nm,18.9s,MS4.2,baz=124,slow=31
BATI Baumata 45.95 278 LR LR 07 03 09.5
comp=Z,912nm,19.0s,MS4.7,baz=155,slow=35
MBWA Marble Bar 46.39 262 *e*P **P 06 44 57.5 -0.4**
comp=Z,100nm,0.6s,mb5.9
MBWA LR LR
comp=Z,1μm,19.0s,MS4.9
KLBR Kellerberrin 46.80 248 *e*P **P 06 44 59.2 -1.8**
comp=Z,24nm,0.5s,mb5.4
NWAO Narrogin (SRO) 47.19 246 *e*P **P 06 45 03.2 -0.8**
NWAO pmax pmax
comp=Z,36nm,0.9s
NWAO MLR MLR
comp=Z,1μm,19.0s
NWAO Narrogin (SRO) 47.19 246 *e*P **P 06 45 03.1 -0.8**
comp=Z,36nm,0.9s,mb5.3
NWAO LR LR
comp=Z,1μm,19.0s,MS4.8
MUN Mundaring 48.10 247 *e*P **P 06 45 10.5 -0.5**
RKT Rikitea 50.42 102 *e*LQ 06 57 34.2
comp=Z,1μm,32.0s
RKT *e*LR LR 06 59 28.3
comp=Z,347nm,30.8s
KAPI Kappang 51.58 282 LR LR 07 06 09.4
comp=Z,363nm,21.3s,MS4.4,baz=128,slow=34
KAPI Kappang 51.58 282 *e*P **P 06 45 37.0 -0.7**
comp=Z,69nm,1.0s,mb5.5
KAPI LR LR
comp=Z,395nm,22.0s,MS4.4
DAV Davao City (W) 52.67 299 PFAKE 06 46 00.0 +14
DAV LR LR
comp=Z,270nm,19.0s,MS4.3
KIP Kipapa 54.07 38 PFAKE 06 46 10.0 +14
KIP LR LR
comp=Z,698nm,19.0s,MS4.7
SBA Scott Base 54.95 181 *e*P **P 06 46 02.2 +0.6**
SBA pmax pmax
comp=Z,85nm,0.8s,mb5.8
SBA MLR MLR
comp=Z,604nm,20.0s,MS4.7
SBA Scott Base 54.95 181 *e*P **P 06 46 02.2 +0.7**
comp=Z,85nm,0.8s,mb5.8
SBA LR LR
comp=Z,604nm,20.0s,MS4.7
CBIJ Chichi jima 56.56 330 P **P 06 46 13.3 -0.4**
comp=Z,58nm,0.8s,mb5.6,baz=336,slow=7.2,SNR=4.0
CASY Casey 56.99 205 ⇓*i*P **P 06 46 15.0 -1.3**
CASY LR LR
comp=Z,502nm,22.0s,MS4.6
KKM Kota Kinabalu 59.89 292 *e*P **P 06 46 37.4 +0.1**
KSM Kuching 62.88 284 *e*P **P 06 46 57.3 -0.3**
JOW Kunigami 63.84 319 P **P 06 47 04.3 +0.7**
comp=Z,30nm,0.9s,mb5.3,baz=155,slow=7.7,SNR=7.8
JOW LR LR 07 13 45.7
comp=Z,129nm,18.5s,MS4.1,baz=179,slow=35
MIR Mirnyy 63.95 206 ⇓*i*P **P 06 47 03.5 -0.3**
MIR *i* pP 06 47 14.0 -0.6
MIR *i* 06 47 45.0
MIR pmax pmax
comp=Z,200nm,1.2s,mb6.0
MJAR Matsushiro Arr 66.36 332 P **P 06 47 19.2 -0.5**
comp=Z,22nm,0.8s,mb5.2,baz=168,slow=7.6,SNR=54
MAJO Matsushiro 66.36 332 *e*P **P 06 47 19.6 -0.2**
MAJO pmax pmax
comp=Z,38nm,0.9s,mb5.4
MAJO MLR MLR
comp=Z,163nm,19.0s,MS4.3
MAJO Matsushiro 66.36 332 *e*P **P 06 47 19.6 -0.1**
comp=Z,38nm,0.9s,mb5.4
MAJO LR LR
comp=Z,163nm,19.0s,MS4.3
MAT Matsushiro 66.36 332 P **P 06 47 20.4 +0.6**
MAT S S 06 56 06.0 -1.1
TATO Taipei 66.94 312 PFAKE 06 47 40.0 +16
TATO LR LR
comp=Z,224nm,21.0s,MS4.4
QSPA South Pole Qui 67.09 180 P **P 06 47 23.6 -0.3**
comp=Z,113nm,1.0s,mb5.8,baz=40,slow=4.4,SNR=215
QZH Quanzhou 68.92 311 *i* P **P 06 47 36.3 +0.1**
QZH S S 06 56 37.0 -1.3
QZH AMB AMB
comp=Z,540nm,5.2s
ASAJ Asahikawa 71.32 340 P **P 06 47 51.5 +1.1**
comp=Z,17nm,0.7s,mb5.1,baz=201,slow=6.4,SNR=16
ASAJ LR LR 07 14 24.3
comp=Z,204nm,21.7s,MS4.3,baz=0.0,slow=32
KSRS Korea Array 71.96 326 P **P 06 47 54.9 +0.4**
comp=Z,24nm,0.9s,mb5.1,baz=143,slow=6.2,SNR=58
KSRS PP PP 06 50 43.1 +8.2
comp=Z,1.1nm,0.8s,baz=133,slow=9.2,SNR=4.2
KSRS LR LR 07 17 18.5
comp=Z,116nm,18.8s,MS4.2,baz=325,slow=34
KS15 Wonju Array Si 71.97 326 *e*P **P 06 47 55.0 +0.5**
QIZ Qiongzhong 72.02 300 P **P 06 47 56.5 +1.3**
QIZ S S 06 57 17.5 +2.9
QIZ AMB AMB
comp=Z,27nm,1.2s,mb5.0
QIZ AMB AMB
comp=Z,85nm,5.8s
QIZ LR LR
comp=N,180nm,14.7s
QIZ LR LR
comp=Z,136nm,18.3s,MS4.2
QIZ Qiongzhong 72.02 300 *e*P **P 06 47 56.2 +1.0**
comp=Z,13nm,0.9s,mb4.8
QIZ *e*pP pP 06 48 05.3 -0.9
QIZ LR LR
comp=Z,144nm,19.0s,MS4.3
INCN Inchon 72.65 325 *e*P **P 06 47 59.5 +0.8**
comp=Z,206nm,1.5s,mb5.8
INCN LR LR
comp=Z,412nm,22.0s,MS4.7
NJ2 Nanjing 73.35 316 *e*P **P 06 48 05.5 +2.6**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
PSI Prapat 73.71 280 P **P 06 48 04.1 -1.4**
comp=Z,22nm,0.9s,mb5.1,baz=171,slow=3.3,SNR=14
YSS Yuzh-Sakhalins 73.82 341 ⇓*i*P **P 06 48 06.0 +0.7**
YSS *e* pP 06 48 16.0 -0.3
YSS *e*S S 06 57 40.0 +6.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.5
YSS pmax pmax
comp=Z,300nm,6.0s
YSS smax
comp=N,200nm,8.0s
YSS smax
comp=E,200nm,6.0s
YSS MLR MLR
comp=Z,200nm,16.0s,MS4.5
YSS Yuzh-Sakhalins 73.82 341 *e*P **P 06 48 05.5 +0.2**
comp=Z,56nm,1.5s,mb5.3
YSS LR LR
comp=Z,89nm,20.0s,MS4.0
MAW Mawson 75.23 202 ⇓*i*P **P 06 48 12.8 -0.5**
comp=Z,29nm,0.7s,mb5.3
MAW Mawson 75.23 202 P **P 06 48 13.0 -0.3**
comp=Z,35nm,0.7s,mb5.4,baz=115,slow=7.1,SNR=122
MAW LR LR 07 15 47.8
comp=Z,229nm,20.9s,MS4.5,baz=78,slow=31
MAW Mawson 75.23 202 ⇓*i*P **P 06 48 12.8 -0.5**
MAW pmax pmax
comp=Z,29nm,0.7s
WHN Wuhan 75.35 313 P **P 06 48 14.8 +0.2**
WHN S S 06 57 56.0 +4.1
WHN LR LR
comp=Z,362nm,12.2s,MS4.9
SMY Shemya 75.48 3 PFAKE 06 48 30.0 +15
SMY LR LR
comp=Z,292nm,21.0s,MS4.6
PET Petropavlovsk 76.32 353 *e*P **P 06 48 18.3 -1.2**
PET *e*S S 06 57 56.1 -5.5
PET Petropavlovsk 76.32 353 *e*P **P 06 48 18.8 -0.8**
comp=Z,28nm,0.7s,mb5.3
PET LR LR
comp=Z,301nm,22.0s,MS4.6
DL2 Dalian 76.39 323 P **P 06 48 21.0 +0.7**
DL2 AP pP 06 48 30.3 -1.0
DL2 *e*S S 06 58 03.0 0.0
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
DL2 AMB AMB
comp=Z,150nm,7.1s
DL2 LR LR
comp=N,210nm,13.7s,MS4.7
DL2 LR LR
comp=E,130nm,15.7s,MS4.7
DL2 LR LR
comp=Z,170nm,15.9s,MS4.5
PEA0B Petropavlovsk- 76.51 352 *e*P **P 06 48 20.6 0.0**
PETK Petropavlovsk- 76.51 352 P **P 06 48 20.8 +0.1**
comp=Z,33nm,0.8s,mb5.3,baz=132,slow=6.4,SNR=49
PETK LR LR 07 15 37.5
comp=Z,169nm,20.6s,MS4.3,baz=152,slow=31
PETK Petropavlovsk- 76.51 352 P **P 06 48 20.8 +0.1**
PETK LR LR 07 15 37.5
MDJ Mudanjiang 76.71 332 *e*P **P 06 48 22.6 +0.7**
comp=Z,53nm,1.4s,mb5.3
MDJ LR LR
comp=Z,154nm,20.0s,MS4.3
TIA Tai'an 77.17 319 ⇓P **P 06 48 25.0 +0.2**
TIA AMB AMB
comp=Z,64nm,1.0s,mb5.5
SNY Shenyang 77.45 326 ⇓P **P 06 48 25.8 -0.4**
SNY S S 06 58 19.0 +4.6
SNY AMB AMB
comp=Z,20nm,1.1s,mb5.0
SNY AMB AMB
comp=Z,330nm,5.8s
SNY LR LR
comp=Z,244nm,15.7s,MS4.6
NIKO Nikolski 77.85 13 *e*P **P 06 48 27.1 -1.1**
comp=Z,288nm,0.9s,mb6.2
NIKO *e*PcP PcP 06 48 36.2 -1.8
CN2 Changchun 77.98 329 ⇓P **P 06 48 29.3 +0.2**
CN2 PCP PcP 06 48 38.8 0.0
CN2 *e*S S 06 58 14.8 -5.3
CN2 AMB AMB
comp=Z,50nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,200nm,3.0s
GYA Guiyang 78.50 305 ⇑*i*P **P 06 48 32.8 +0.4**
GYA PCP PcP 06 48 41.3 -0.1
GYA PP PP 06 51 33.0 +2.5
GYA S S 06 58 23.0 -3.4
GYA SKS 06 58 40.3
GYA SCS ScS 06 58 47.0 -3.8
GYA SS SS 07 03 34.3 +3.6
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,230nm,6.3s
GYA LR LR
comp=N,590nm,19.0s,MS5.0
GYA LR LR
comp=E,510nm,20.1s,MS5.0
GYA LR LR
comp=Z,560nm,19.4s,MS4.9
UNV Unalaska Valle 79.17 14 *e*P **P 06 48 34.0 -1.4**
comp=Z,69nm,0.9s,mb5.6
KLR Kul'dur 79.54 336 *e*P **P 06 48 34.3 -3.2**
KLR *e* pP 06 48 43.4 -5.2
KLR *e*S S 06 58 31.5 -4.9
KLR pmax pmax
comp=Z,74nm,1.6s,mb5.4
AKUT Akutan 79.61 14 *e*P **P 06 48 36.3 -1.5**
comp=Z,1.7nm,1.4s
BJT Baijiatuau 80.24 321 *e*P **P 06 48 41.3 -0.3**
BJT pmax pmax
comp=Z,36nm,0.9s
BJT MLR MLR
comp=Z,259nm,20.0s
BJT Baijiatuau 80.24 321 *e*P **P 06 48 41.2 -0.3**
comp=Z,36nm,0.9s,mb5.3
BJT LR LR
comp=Z,259nm,20.0s,MS4.6
BJI Beijing 80.25 321 P **P 06 48 42.0 +0.4**
BJI S S 06 58 47.3 +2.9
BJI AMB AMB
comp=Z,46nm,0.8s,mb5.5
BJI AMB AMB
comp=Z,374nm,4.8s
BJI LR LR
comp=N,150nm,20.1s,MS4.5
BJI LR LR
comp=E,144nm,21.7s,MS4.5
BJI LR LR
comp=Z,123nm,24.4s,MS4.2
CM31 Chiang Mai Arr 80.64 295 *e*P **P 06 48 45.8 +1.6**
comp=Z,32nm,0.8s,mb5.3
CM31 LR LR
comp=Z,214nm,20.0s,MS4.5
CMAR Chiang Mai Arr 80.64 295 P **P 06 48 45.7 +1.5**
comp=Z,34nm,0.8s,mb5.3,baz=135,slow=4.1,SNR=124
CHTO Chiang Mai 80.81 295 *e*P **P 06 48 46.4 +1.3**
CHTO pmax pmax
comp=Z,74nm,0.9s,mb5.6
CHTO MLR MLR
comp=Z,223nm,21.0s,MS4.5
CHTO Chiang Mai 80.81 295 *e*P **P 06 48 46.4 +1.3**
comp=Z,74nm,0.9s,mb5.6
CHTO LR LR
comp=Z,223nm,21.0s,MS4.5
KMI Kunming 80.81 302 P **P 06 48 46.8 +1.8**
KMI AP pP 06 48 56.0 -0.1
KMI XP sP 06 49 01.0 +0.8
KMI PP PP 06 51 54.0 +4.2
KMI S S 06 58 53.5 +2.6
KMI SS SS 07 04 10.8 +5.4
KMI AMB AMB
comp=Z,49nm,1.4s,mb5.2
KMI AMB AMB
comp=Z,168nm,5.3s
KMI LR LR
comp=N,149nm,17.6s,MS4.5
KMI LR LR
comp=E,107nm,17.6s,MS4.5
KMI LR LR
comp=Z,106nm,19.2s,MS4.2
XAN Xi'an 81.12 313 P **P 06 48 47.0 +0.6**
XAN PP PP 06 51 51.5 -0.7
XAN S S 06 58 50.8 -2.9
XAN SKS 06 58 57.0
XAN SS SS 07 04 08.0 -1.7
XAN AMB AMB
comp=Z,28nm,1.2s,mb5.1
XAN AMB AMB
comp=Z,218nm,6.0s
SYO Syowa Base 81.54 196 ⇑*i*P **P 06 48 45.0 -3.1**
SYO Syowa Base 81.54 196 ⇓*e*P **P 06 48 47.2 -0.9**
CD2 Chengdu 83.03 308 P **P 06 48 57.3 +0.8**
CD2 PP PP 06 52 09.3 +1.3
CD2 S S 06 59 12.5 -1.0
CD2 SS SS 07 04 41.0 +2.7
CD2 AMB AMB
comp=Z,30nm,1.4s,mb5.1
CD2 AMB AMB
comp=Z,240nm,7.1s
CD2 LR LR
comp=N,210nm,12.4s,MS4.8
CD2 LR LR
comp=E,160nm,15.6s,MS4.8
CD2 LR LR
comp=Z,230nm,9.9s
PMSA Palmer Station 83.19 160 P **P 06 48 55.6 -1.2**
comp=Z,20nm,0.8s,mb5.2,baz=216,slow=4.1,SNR=15
CHGN Chignik 83.40 17 *e*P **P 06 48 56.8 -1.0**
HIA Hailar 84.66 330 PFAKE 06 49 20.0 +16
HIA LR LR
comp=Z,161nm,19.0s,MS4.4
NVL N'lazarevskaya 85.24 187 *e*P **P 06 49 07.0 -0.2**
NVL pmax pmax
comp=Z,39nm,1.3s,mb5.4
MAIT Maitri 85.25 187 *e*P **P 06 49 03.2 -4.0**
SNAA Sanae 85.47 182 *e*P **P 06 49 06.3 -2.0**
SNAA *e* 06 49 08.8
SNAA *e* pP 06 49 15.5 -4.0
SNAA *e* 06 49 21.5
SNAA Sanae 85.47 182 *e*P **P 06 49 06.5 -1.8**
comp=Z,20nm,0.8s,mb5.3
OHAK Old Harbor 85.65 19 *e*P **P 06 49 08.6 -0.6**
comp=Z,62nm,0.8s,mb5.9
OHAK *e*pP pP 06 49 18.0 -2.3
LZH Lanzhou 85.71 312 ⇑P **P 06 49 11.5 +1.5**
LZH PP PP 06 52 33.0 +3.2
LZH SKS 06 59 27.5
LZH S S 06 59 43.8 +3.7
LZH SS SS 07 05 16.3 -1.5
LZH AMB AMB
comp=Z,103nm,1.6s,mb5.8
LZH AMB AMB
comp=Z,374nm,8.0s
LZH LR LR
comp=Z,1μm,18.3s,MS5.3
VNA2 Neumayer--Watz 86.33 181 *e*P **P 06 49 11.2 -1.4**
VNA2 *e* 06 49 14.0
VNA2 *e* pP 06 49 20.2 -3.6
KDAK Kodiak Island 86.33 19 P **P 06 49 12.5 0.0**
comp=Z,21nm,0.7s,mb5.5,baz=224,slow=6.3,SNR=9.5
KDAK Kodiak Island 86.33 19 *e*P **P 06 49 12.0 -0.5**
comp=Z,34nm,0.9s,mb5.6
VNA1 Neumayer--Stat 86.62 181 *e*P **P 06 49 12.7 -1.3**
VNA1 *e* 06 49 15.1
VNA1 *e* 06 49 28.5
SEY Seymchan 86.75 352 ⇑*e*P **P 06 49 14.0 -0.4**
BNLO Ben Lomond (Sa 87.48 48 ⇑P **P 06 49 18.7 +0.1**
baz=88,SNR=7.7
HAST Hastings Reser 87.53 49 ⇑P **P 06 49 19.1 +0.3**
baz=88,SNR=20
MCCM Marconi Confer 87.53 47 ⇑P **P 06 49 18.7 -0.1**
baz=88
MCCM Marconi Confer 87.53 47 *e*P **P 06 49 19.2 +0.4**
comp=Z,21nm,0.8s,mb5.4
MCCM LR LR
comp=Z,313nm,19.0s,MS4.7
V03C Hunter Liggett 87.56 49 ⇑P **P 06 49 19.7 +0.6**
baz=88,SNR=7.6
JRSC Jasper Ridge 87.58 48 ⇑P **P 06 49 20.7 +1.6**
baz=88,SNR=5.6
V04C Ramage Ranch, 87.62 50 ⇑P **P 06 49 19.4 +0.1**
baz=88
IMP Imphal 87.67 298 *e*P **P 06 49 19.0 -0.8**
IMP *e*S pP 06 49 29.0 -2.1
BSC Santa Cruz Isl 87.68 52 ⇓P **P 06 49 19.7 0.0**
baz=88
SAO San Andreas Ge 87.79 48 *e*P **P 06 49 20.7 +0.6**
SAO MLR MLR
comp=Z,353nm,20.0s,MS4.8
HOPS Hopland 87.85 46 ⇑P **P 06 49 20.6 +0.3**
baz=88,SNR=6.4
HOPS Hopland 87.85 46 *e*P **P 06 49 20.6 +0.3**
comp=Z,28nm,1.0s,mb5.4
HOPS LR LR
comp=Z,222nm,21.0s,MS4.5
KCPM Cahto Peak 87.89 45 *e*P **P 06 49 20.3 -0.2**
NSHM Saint Helena R 87.91 46 *e*P **P 06 49 20.7 0.0**
CVS Carmenet Viney 87.92 47 ⇓P **P 06 49 20.5 -0.2**
baz=88,SNR=6.4
P01C Double 8 Ranch 87.93 45 ⇑P **P 06 49 20.6 -0.2**
baz=88,SNR=7.2
PKM Peak Mountain 87.99 51 ⇑P **P 06 49 21.7 +0.5**
baz=88,SNR=5.2
PKD Parkfield 88.01 50 ⇑P **P 06 49 21.3 +0.1**
baz=88,SNR=11
KIPM Iron Peak 88.02 45 *e*P **P 06 49 22.0 +0.8**
WENL Wente Brothers 88.02 48 ⇑P **P 06 49 21.6 +0.4**
baz=88
PACP Pacheco Peak 88.03 48 ⇑P **P 06 49 21.6 +0.3**
baz=88,SNR=21
U04C Hernandez Rese 88.05 49 ⇑P **P 06 49 21.9 +0.5**
baz=88,SNR=30
SMMC Simmler 88.07 50 ⇓P **P 06 49 22.1 +0.6**
baz=88
PTRM Twissleman Ran 88.09 50 *e*P **P 06 49 22.2 +0.6**
BDM Black Diamond 88.12 47 ⇑P **P 06 49 21.9 +0.2**
baz=88
JCC Jacoby Creek 88.20 44 ⇓P **P 06 49 22.5 +0.6**
baz=88,SNR=5.4
MNRC McLaughlin Nat 88.21 46 ⇓P **P 06 49 22.6 +0.5**
baz=88,SNR=14
S04C Ingram Canyon, 88.25 48 ⇑P **P 06 49 22.6 +0.3**
baz=88,SNR=19
SVW2 Sparrevohn 88.30 16 *e*P **P 06 49 21.2 -0.7**
Q03C Winters 88.37 47 ⇑P **P 06 49 23.7 +0.8**
baz=89,SNR=5.6
T05C Eagle Field, D 88.39 49 ⇑P **P 06 49 23.8 +0.8**
baz=89
V05C Boulder Hill, 88.42 50 ⇑P **P 06 49 23.9 +0.8**
baz=89
KHMM Horse Mountain 88.42 44 *e*P **P 06 49 24.4 +1.4**
GASB Alder Springs 88.44 45 ⇓P **P 06 49 24.1 +1.0**
baz=89,SNR=24
FMP Fort Macarthur 88.52 52 ⇑P **P 06 49 23.7 0.0**
baz=89
O02C Red Bluff 88.66 45 ⇓P **P 06 49 25.1 +0.9**
baz=89,SNR=29
N02C Big Bar 88.67 44 ⇑P **P 06 49 24.7 +0.5**
baz=89,SNR=8.7
M01C Crescent City 88.70 43 ⇓P **P 06 49 24.8 +0.5**
baz=89,SNR=5.5
ARVC Arvin 88.81 51 ⇓P **P 06 49 24.9 -0.1**
baz=89
SUTB Sutter Butte 88.83 46 ⇓P **P 06 49 24.5 -0.5**
baz=89,SNR=15
S05C Merced 88.86 48 ⇓P **P 06 49 25.0 -0.2**
baz=89,SNR=18

Q04C Lincoln 88.90 47 ⇓P P 06 49 25.2 -0.2
baz=89
R04C Big Horse Ranc 88.90 47 ⇑P P 06 49 24.9 -0.4
baz=89
MWC Mount Wilson 88.93 52 *eP* **P 06 49 25.4 -0.2**
MWC pmax pmax
comp=Z,56nm,1.4s,mb5.7
MWC MLR MLR
comp=Z,430nm,20.0s,MS4.9
MWC Mount Wilson 88.93 52 *eP* **P 06 49 25.4 -0.2**
comp=Z,56nm,1.4s,mb5.7
MWC LR LR
comp=Z,430nm,20.0s,MS4.9
VES Vestal, Richgr 88.98 50 ⇓P P 06 49 25.3 -0.5
baz=89,SNR=5.8
109C Camp Elliot, M 89.00 54 ⇓P P 06 49 25.7 -0.3
baz=89
WDC Whiskeytown Da 89.03 45 *eP* **P 06 49 25.8 -0.1**
WDC pmax pmax
comp=Z,38nm,1.3s,mb5.6
WDC MLR MLR
comp=Z,265nm,22.0s,MS4.6
WDC Whiskeytown Da 89.03 45 ⇓P P 06 49 26.1 +0.1
baz=89,SNR=22
WDC Whiskeytown Da 89.03 45 *eP* **P 06 49 25.8 -0.1**
comp=Z,38nm,1.3s,mb5.6
WDC LR LR
comp=Z,265nm,22.0s,MS4.6
O03C Acorn Hollow, 89.06 45 ⇓P P 06 49 26.2 +0.1
baz=89
OHCM Honcut 89.08 46 *eP* **P 06 49 26.2 0.0**
T06C Millerton Lake 89.12 49 ⇑P P 06 49 26.4 0.0
baz=89,SNR=37
CMB Columbia Colle 89.16 48 *eP* **P 06 49 27.0 +0.4**
CMB pmax pmax
comp=Z,22nm,1.0s,mb5.4
CMB MLR MLR
comp=Z,292nm,20.0s,MS4.7
CMB Columbia Colle 89.16 48 ⇓P P 06 49 26.5 -0.1
baz=89,SNR=23
CMB Columbia Colle 89.16 48 *eP* **P 06 49 27.0 +0.4**
comp=Z,22nm,1.0s,mb5.4
CMB LR LR
comp=Z,292nm,20.0s,MS4.7
SEW Seward 89.17 19 *eP* **P 06 49 26.0 -0.1**
ORV Oroville 89.19 46 ⇑P P 06 49 26.7 0.0
baz=89,SNR=20
L02A Cave Junction 89.19 43 ⇑P P 06 49 27.3 +0.7
baz=89,SNR=6.2
BAR Barrett 89.22 54 PFAKE 06 49 40.0 +13
BAR LR LR
comp=Z,415nm,19.0s,MS4.9
BFSC Mount Baldy St 89.23 52 ⇓P P 06 49 26.7 -0.3
baz=89,SNR=6.7
M02C Callahan 89.26 44 ⇓P P 06 49 27.7 +0.8
baz=90,SNR=35
MURC Murrieta 89.26 53 ⇓P P 06 49 27.0 -0.2
baz=89
SLKM Skilak Lake 89.27 18 *eP* **P 06 49 25.4 -1.1**
LAVA Lava Cap Winer 89.29 47 ⇑P P 06 49 27.0 -0.1
baz=90,SNR=12
EDW2 Edwards Air Fo 89.30 51 ⇓P P 06 49 27.4 +0.1
baz=90,SNR=10
ISA Isabella 89.33 51 *eP* **P 06 49 27.6 +0.2**
ISA pmax pmax
comp=Z,36nm,1.0s,mb5.7
ISA MLR MLR
comp=Z,423nm,22.0s,MS4.8
ISA Isabella 89.33 51 ⇓P P 06 49 27.4 0.0
baz=90,SNR=30
ISA Isabella 89.33 51 *eP* **P 06 49 27.6 +0.2**
comp=Z,36nm,1.0s,mb5.7
ISA LR LR
comp=Z,423nm,22.0s,MS4.8
S06C San Francisco 89.45 48 ⇓P P 06 49 28.0 +0.1
baz=90,SNR=50
MONP Monument Peak 89.51 54 ⇑P P 06 49 28.5 +0.2
baz=90,SNR=7.2
YBH Yreka Blue Hor 89.53 44 *eP* **P 06 49 28.7 +0.5**
YBH pmax pmax
comp=Z,20nm,0.9s
YBH MLR MLR
comp=Z,243nm,21.0s
YBH Yreka Blue Hor 89.53 44 ⇑P P 06 49 28.9 +0.7
baz=90,SNR=20
YBH Yreka Blue Hor 89.53 44 *eP* **P 06 49 28.6 +0.4**
comp=Z,20nm,0.9s,mb5.5
YBH LR LR
comp=Z,243nm,21.0s,MS4.6
KCC Kaiser Creek 89.55 49 ⇑P P 06 49 28.3 -0.1
baz=90,SNR=19
K02A Glendale 89.59 43 ⇑P P 06 49 28.7 +0.2
baz=90,SNR=6.6
P05C Yuba Gap, Truc 89.65 47 ⇑P P 06 49 29.3 +0.4
baz=90,SNR=26
M03C McCloud 89.67 44 ⇓P P 06 49 29.1 +0.2
baz=90,SNR=29
SHL Shillong 89.68 298 *i* P **P 06 49 30.0 +0.7**
SHL *ex* x 06 49 39.0
R05C Kirkwood Meado 89.71 47 ⇑P P 06 49 29.3 +0.2
baz=90,SNR=52
TTA Tatalina 89.76 15 *eP* **P 06 49 28.1 -0.7**
BBRC Big Bear Sol-O 89.78 52 ⇑P P 06 49 29.5 -0.1
baz=90
O05C Quincy 89.78 46 ⇑P P 06 49 29.4 -0.1
baz=90,SNR=8.6
LRMC Laurel Mountai 89.80 51 ⇑P P 06 49 29.6 0.0
baz=90,SNR=17
PFO Pinyon Flat Ob 89.82 53 ⇑P P 06 49 29.6 -0.1
baz=90
HUMO Hull Mountain 89.83 43 ⇑P P 06 49 30.0 +0.4
baz=90,SNR=22
HUMO Hull Mountain 89.83 43 *eP* **P 06 49 30.2 +0.6**
comp=Z,31nm,0.9s,mb5.6
HUMO LR LR
comp=Z,216nm,20.0s,MS4.6
O04C Chester 89.85 46 ⇑P P 06 49 30.1 +0.3
baz=90,SNR=30
J02A Umpqua 89.85 42 ⇓P P 06 49 30.1 +0.4
baz=90
HATC Hat Creek Radi 89.86 45 ⇑P P 06 49 30.1 +0.3
baz=90,SNR=14
RC01 Rabbit Creek A 89.88 18 *eP* **P 06 49 28.1 -1.2**
comp=Z,47nm,1.4s,mb5.6
LBCM Butte Creek Ri 89.94 45 P **P 06 49 30.5 +0.3**
CWC Cottonwood Cre 89.98 50 ⇓P P 06 49 30.7 +0.2
baz=90,SNR=6.3
SWSC Sam W. Stewart 90.00 54 ⇑P P 06 49 30.5 -0.1
baz=90,SNR=6.1
RRX Edison Barstow 90.01 52 ⇓P P 06 49 30.6 -0.1
baz=90
MLAC Mammoth Lakes 90.03 49 ⇓P P 06 49 31.0 +0.4
baz=90
I02A Mapleton 90.04 41 ⇑P P 06 49 31.0 +0.5
baz=90
R06C Coleville 90.05 48 ⇑P P 06 49 31.1 +0.4
baz=90,SNR=37
WAKR Walker 90.05 48 *eP* **P 06 49 31.3 +0.6**
MTUM Tungsten Hills 90.08 49 *eP* **P 06 49 29.0 -1.9**
BEKR Beckwourth 90.10 46 ⇑P P 06 49 31.2 +0.2
baz=90,SNR=23
R07C Lee Vining 90.11 48 ⇑P P 06 49 31.4 +0.4
baz=90,SNR=30
M04C Macdoel 90.11 44 ⇓P P 06 49 31.1 +0.1
baz=90,SNR=20
GTA Gaotai 90.16 313 P **P 06 49 32.0 +0.8**
GTA PP PP 06 53 09.5 +4.0
GTA SKS 06 59 57.0
GTA S S 07 00 20.5 -1.9
GTA AMB AMB
comp=Z,11nm,1.3s,mb5.0
GTA AMB AMB
comp=Z,129nm,7.2s
GTA LR LR
comp=N,93nm,14.7s,MS4.6
GTA LR LR
comp=E,140nm,15.0s,MS4.6
GTA LR LR
comp=Z,126nm,13.2s,MS4.5
TIN Tinemaha 90.17 49 ⇑P P 06 49 31.6 +0.2
baz=90,SNR=5.6
MPMC Manual Prospec 90.22 51 ⇑P P 06 49 31.8 +0.2
baz=90,SNR=22
WCN Washoe City 90.22 47 ⇑P P 06 49 31.9 +0.3
baz=90,SNR=21
ELFS Eagle Lake Fie 90.24 45 ⇑P P 06 49 31.9 +0.4
baz=90,SNR=17

HSO Harness Mounta 90.24 42 P **P 06 49 32.4 +0.9**
ULN Ulaanbaatar 90.24 323 *eP* **P 06 49 32.3 +0.9**
ULN pmax pmax
comp=Z,42nm,0.9s,mb5.8
ULN MLR MLR
comp=Z,123nm,19.0s,MS4.4
ULN Ulaanbaatar 90.24 323 *eP* **P 06 49 32.3 +0.9**
comp=Z,42nm,0.9s,mb5.8
ULN LR LR
comp=Z,123nm,19.0s,MS4.4
DAC Darwin (Calif) 90.25 50 PFAKE 06 49 40.0 +8.3
DAC LR LR
comp=Z,488nm,22.0s,MS4.9
L04A Klamath Falls 90.28 44 ⇓P P 06 49 31.9 +0.1
baz=90
H02A Toledo 90.30 41 ⇓P P 06 49 32.1 +0.3
baz=90
P06A Stead Airport, 90.31 47 ⇑P P 06 49 32.3 +0.4
baz=90,SNR=8.8
BELC Belle Mtn. 90.33 53 ⇑P P 06 49 32.4 +0.2
baz=90,SNR=18
M05C Lookout 90.34 45 ⇑P P 06 49 32.3 +0.3
baz=91,SNR=8.0
GSC Goldstone 90.35 52 *eP* **P 06 49 32.6 +0.4**
GSC pmax pmax
comp=Z,32nm,1.4s,mb5.5
GSC MLR MLR
comp=Z,346nm,22.0s,MS4.7
GSC Goldstone 90.35 52 ⇑P P 06 49 32.2 -0.1
baz=90,SNR=9.2
GSC Goldstone 90.35 52 *eP* **P 06 49 32.6 +0.3**
comp=Z,32nm,1.4s,mb5.5
GSC LR LR
comp=Z,346nm,22.0s,MS4.7
I03A Eugene 90.36 42 ⇓P P 06 49 32.3 +0.2
baz=91
S08C White Mtn Res 90.43 49 ⇓P P 06 49 33.2 +0.6
baz=91,SNR=68
HOG Hogback Mounta 90.44 44 P **P 06 49 33.2 +0.8**
PMR Palmer 90.46 18 *eP* **P 06 49 30.6 -1.4**
PMR pmax pmax
comp=Z,31nm,1.4s,mb5.5
PMR MLR MLR
comp=Z,229nm,21.0s,MS4.6
PMR Palmer 90.46 18 *eP* **P 06 49 30.6 -1.4**
comp=Z,31nm,1.4s,mb5.4
PMR LR LR
comp=Z,229nm,21.0s,MS4.6
HEC Hector,Ludlow 90.48 52 ⇓P P 06 49 32.6 -0.3
baz=91,SNR=6.7
MPOR Mary's Peak 90.48 41 P **P 06 49 33.5 +0.9**
BC3 Big Chuckw Mtn 90.58 54 ⇓P P 06 49 33.7 +0.4
baz=91,SNR=7.9
SONM Songino Array 90.59 323 P **P 06 49 33.9 +0.9**
comp=Z,31nm,0.9s,mb5.6,baz=140,slow=4.9,SNR=112
SONM PKKPbc PKKPbc 07 06 59.6 -2.1
comp=Z,0.5nm,0.5s,baz=300,slow=3.2,SNR=5.4
SONM LR LR 07 32 05.2
comp=Z,139nm,18.1s,MS4.4,baz=264,slow=37
SONM Songino Array 90.59 323 P **P 06 49 33.9 +0.9**
SONM PKKPbc PKKPbc 07 06 59.6 -2.1
SONM P'P' 07 15 10.6
O06A Flanigan 90.61 46 ⇓P P 06 49 33.3 +0.1
baz=91,SNR=42
K04A Chilquin 90.61 43 ⇑P P 06 49 33.5 +0.3
baz=91
YAK Yakutsk 90.62 342 *eP* **P 06 49 31.4 -1.4**
YAK pmax pmax
comp=Z,40nm,1.1s,mb5.7
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK Yakutsk 90.62 342 PFAKE 06 49 40.0 +7.2
YAK LR LR
comp=Z,174nm,21.0s,MS4.5
EYAK Cordova Ski Ar 90.67 20 *eP* **P 06 49 31.6 -1.4**
comp=Z,75nm,1.1s,mb5.9
COR Corvallis 90.67 41 PFAKE 06 49 40.0 +6.5
COR LR LR
comp=Z,340nm,20.0s,MS4.8
PAHR Pah Rah Range 90.67 47 *eP* **P 06 49 33.6 0.0**
comp=Z,31nm,0.9s,mb5.6
Q07A Schurz 90.69 48 ⇓P P 06 49 34.0 +0.3
baz=91
J04A Umpqua Nationa 90.70 43 ⇑P P 06 49 34.0 +0.3
baz=91,SNR=18
M06C Likely Place G 90.70 45 ⇑P P 06 49 34.1 +0.4
baz=91,SNR=18
112A Yuma 90.72 55 ⇑P P 06 49 34.3 +0.3
baz=91
H03A Soap Creek Ran 90.73 41 ⇑P P 06 49 34.3 +0.5
baz=91,SNR=10
GRAC Grapevine Rang 90.75 50 ⇑P P 06 49 34.4 +0.4
baz=91,SNR=24
GLA Glamis 90.77 54 *eP* **P 06 49 34.9 +0.7**
GLA pmax pmax
comp=Z,24nm,0.8s,mb5.6
GLA MLR MLR
comp=Z,343nm,22.0s,MS4.7
GLA Glamis 90.77 54 ⇓P P 06 49 34.7 +0.5
baz=91,SNR=10.0
GLA Glamis 90.77 54 *eP* **P 06 49 34.9 +0.7**
comp=Z,24nm,0.8s,mb5.6
GLA LR LR
comp=Z,343nm,22.0s,MS4.7
NVAR Mina Array Bea 90.78 48 PKKPbc PKKPbc 07 07 01.2 +0.5
comp=Z,0.3nm,0.6s,baz=70,slow=3.0,SNR=3.6
NVAR PKPPKP 07 15 10.6
comp=Z,0.7nm,0.8s,baz=87,slow=3.4,SNR=7.6
BILL Bilibino 90.79 359 *d i* P **P 06 49 32.9 -0.6**
BILL pmax pmax
comp=Z,46nm,1.3s,mb5.7
BILL Bilibino 90.79 359 *eP* **P 06 49 33.3 -0.1**
BILL LR LR
comp=Z,98nm,20.0s,MS4.2
I04A Tendick Farm, 90.80 42 ⇓P P 06 49 33.6 -0.5
baz=91,SNR=12
FURC Furnace Creek, 90.86 51 ⇑P P 06 49 34.4 -0.2
baz=91,SNR=20
R08A Mina 90.88 48 ⇓P P 06 49 34.7 +0.1
baz=91
RAGM Ragged Mountai 90.89 21 *eP* **P 06 49 33.0 -1.1**
N06A Buffalo Meadow 90.89 46 ⇓P P 06 49 34.6 0.0
baz=91,SNR=37
L05A Lakeview 90.89 44 ⇑P P 06 49 35.1 +0.5
baz=91,SNR=17
P07A Fallon 90.92 47 ⇑P P 06 49 35.1 +0.3
baz=91
GMRC Granite Mounta 90.94 52 ⇓P P 06 49 35.0 0.0
baz=91,SNR=9.4
SHOC Shoshone 91.01 51 ⇑P P 06 49 35.1 -0.2
baz=91,SNR=12
BROR Big Rock Looko 91.02 42 P **P 06 49 35.4 +0.2**
IRM Iron Mountain 91.03 53 ⇑P P 06 49 35.5 +0.1
baz=91,SNR=18
TUQ Turquoise Mtn. 91.05 52 ⇑P P 06 49 35.2 -0.3
baz=91,SNR=16
DIV Divide 91.11 20 *eP* **P 06 49 34.1 -0.9**
comp=Z,64nm,1.3s,mb5.8
MOD Modoc 91.16 44 ⇑P P 06 49 35.8 -0.1
baz=91,SNR=8.0
MOD Modoc 91.16 44 PFAKE 06 49 50.0 +14
MOD LR LR
comp=Z,163nm,20.0s,MS4.5
S09A Goldfield 91.19 49 ⇓P P 06 49 35.9 -0.2
baz=91,SNR=24
K05A Summer Lake 91.20 44 ⇓P P 06 49 36.5 +0.5
baz=91,SNR=19
U10A Ash Meadows, A 91.22 51 ⇓P P 06 49 36.5 +0.3
baz=91,SNR=13
F03A Seaside 91.23 40 ⇓P P 06 49 36.1 0.0
baz=92
O07A Toulon 91.24 47 ⇓P P 06 49 36.2 0.0
baz=91,SNR=42
Q08A Gabbs 91.25 48 ⇓P P 06 49 36.3 0.0
baz=91,SNR=46
J05A Fort Rock 91.27 43 ⇓P P 06 49 36.7 +0.4
baz=92,SNR=42
Y12C Blythe 91.31 54 ⇑P P 06 49 36.7 0.0
baz=92,SNR=9.8
BMRM Bremner River 91.35 20 *eP* **P 06 49 35.2 -1.0**
TPH Tonopah 91.36 49 *eP* **P 06 49 37.3 +0.4**
TPH pmax pmax
comp=Z,29nm,1.0s,mb5.6
TPH MLR MLR
comp=Z,327nm,20.0s,MS4.8
TPH Tonopah 91.36 49 *eP* **P 06 49 37.3 +0.4**
comp=Z,29nm,1.0s,mb5.6

TPH LR LR
comp=Z,327nm,20.0s,MS4.8
H04A Detroit Lake 91.40 41 ⇑P P 06 49 36.4 -0.5
baz=92,SNR=14
113A Mohawk Valley, 91.44 55 ⇑P P 06 49 37.1 -0.2
baz=92
CHUM Lake Minchumin 91.47 16 *eP* **P 06 49 35.0 -1.7**
comp=Z,21nm,1.4s,mb5.3
N07B Gerlach 91.48 46 ⇓P P 06 49 37.3 0.0
baz=92,SNR=17
LDFC Landfair 91.48 52 *eP* **P 06 49 37.7 +0.2**
comp=Z,33nm,0.8s,mb5.7
G04A Mulino 91.50 41 ⇓P P 06 49 37.0 -0.2
baz=92,SNR=11
BKCOR Black Crater 91.50 42 P **P 06 49 37.9 +0.5**
TPNV Topopah Spring 91.52 50 *eP* **P 06 49 37.8 +0.2**
TPNV pmax pmax
comp=Z,32nm,1.1s,mb5.6
TPNV MLR MLR
comp=Z,552nm,22.0s,MS5.0
TPNV Topopah Spring 91.52 50 ⇑P P 06 49 37.7 +0.1
baz=92
TPNV Topopah Spring 91.52 50 *eP* **P 06 49 37.8 +0.2**
comp=Z,32nm,1.1s,mb5.6
TPNV LR LR
comp=Z,552nm,22.0s,MS5.0
R09A Tonopah 91.55 49 ⇑P P 06 49 37.9 +0.2
baz=92,SNR=20
P08A Dixie Valley 91.55 47 ⇓P P 06 49 38.0 +0.3
baz=92,SNR=6.0
KTH Kantishna Hill 91.55 16 *eP* **P 06 49 34.6 -2.5**
comp=Z,7.8nm,0.9s,mb5.0
E03A Lebam 91.56 39 ⇑P P 06 49 37.7 +0.2
baz=92,SNR=8.6
V11A Goodsprings 91.59 52 ⇓P P 06 49 38.0 0.0
baz=92,SNR=13
M07A Soldier Meadow 91.64 45 ⇑P P 06 49 38.1 +0.1
baz=92,SNR=33
K06A Valley Falls 91.64 44 ⇑P P 06 49 38.4 +0.4
baz=92,SNR=33
I05A Bend 91.70 42 ⇓P P 06 49 38.3 0.0
baz=92,SNR=13
NEE2 Needles Airpor 91.70 53 ⇑P P 06 49 38.7 +0.2
baz=92
S10A Tonopah Range, 91.73 49 ⇑P P 06 49 38.7 +0.1
baz=92,SNR=49
C03A Quillayute Air 91.74 38 ⇑P P 06 49 38.9 +0.5
baz=92
D03A Wishkah Elem. 91.75 39 ⇓P P 06 49 39.1 +0.7
baz=92
Q09A Carvers 91.75 48 ⇑P P 06 49 38.7 +0.1
baz=92
W12A Cal Nev Ari 91.75 52 ⇓P P 06 49 38.9 +0.2
baz=92,SNR=7.4
O08A Rochester Mine 91.78 47 ⇑P P 06 49 39.0 +0.2
baz=92,SNR=29
214A Organ Pipe Nat 91.81 56 ⇑P P 06 49 39.1 +0.1
baz=92,SNR=9.6
NLWA Neilton Lookou 91.84 38 ⇓P P 06 49 39.1 +0.3
baz=92,SNR=8.0
NLWA Neilton Lookou 91.84 38 *eP* **P 06 49 38.4 -0.4**
comp=Z,47nm,1.1s,mb5.7
NLWA LR LR
comp=Z,356nm,22.0s,MS4.8
OOW Octopus West 91.84 38 P **P 06 49 39.9 +1.1**
L07A Adell 91.84 45 ⇑P P 06 49 39.3 +0.3
baz=92,SNR=24
PDMCI Parker Dam,Lak 91.84 53 ⇑P P 06 49 39.2 0.0
baz=92,SNR=10
Y13A Salome 91.86 54 ⇓P P 06 49 39.5 +0.3
baz=92,SNR=10
U11A Corn Creek 91.89 51 ⇑P P 06 49 39.5 +0.2
baz=92
F04A Amboy 91.91 40 ⇑P P 06 49 39.0 -0.2
baz=92,SNR=12
J06A Christmas Vall 91.93 43 ⇑P P 06 49 39.0 -0.3
baz=92,SNR=29
V12A Nelson 91.96 52 ⇑P P 06 49 39.8 +0.1
baz=92,SNR=13
H05A Madras 91.97 42 ⇑P P 06 49 39.3 -0.2
baz=92,SNR=10.0
SIT Sitka 91.97 27 *eP* **P 06 49 39.3 +0.1**
SIT pmax pmax
comp=Z,19nm,0.8s,mb5.5
SIT MLR MLR
comp=Z,349nm,21.0s,MS4.8
SIT Sitka 91.97 27 *eP* **P 06 49 39.3 +0.1**
comp=Z,19nm,0.8s,mb5.5
SIT LR LR
comp=Z,349nm,21.0s,MS4.8
BPAW Bear Paw Mtn. 91.98 16 *eP* **P 06 49 38.2 -0.9**
comp=Z,50nm,1.6s,mb5.6
N08A GE Springer Mi 92.03 46 ⇑P P 06 49 40.0 +0.1
baz=92,SNR=9.8
LSA Lhasa 92.04 301 P **P 06 49 42.0 +1.8**
LSA Lhasa 92.04 301 PFAKE 06 49 50.0 +10
LSA LR LR
comp=Z,146nm,19.0s,MS4.5
HOOD Mount Hood Mea 92.06 41 *eP* **P 06 49 40.2 +0.3**
comp=Z,28nm,1.0s,mb5.5
E04A Onalaska 92.08 40 ⇓P P 06 49 40.4 +0.5
baz=92
SHPR Sheep Range 92.09 51 *eP* **P 06 49 40.7 +0.4**
R10A Warm Springs 92.10 49 ⇓P P 06 49 40.7 +0.4
baz=92,SNR=23
PALK Pallekele 92.10 277 PFAKE 06 49 50.0 +9.1
PALK LR LR
comp=Z,262nm,19.0s,MS4.7
P09A Austin 92.12 48 ⇑P P 06 49 40.0 -0.3
baz=92
M08A Happy Creek Ra 92.19 46 ⇓P P 06 49 41.1 +0.5
baz=92,SNR=12
S11A Rachel 92.19 50 ⇑P P 06 49 40.8 0.0
baz=92,SNR=13
G05A Wamic 92.22 41 ⇓P P 06 49 40.5 -0.1
baz=92
K07A Rock Creek Ran 92.23 44 ⇑P P 06 49 41.2 +0.4
baz=92,SNR=29
I06A Prineville 92.24 43 ⇑P P 06 49 41.2 +0.4
baz=92,SNR=24
VIPM Ingram Point 92.27 42 P **P 06 49 41.0 +0.1**
Q10A Clear Creek Ra 92.28 49 ⇓P P 06 49 41.3 +0.2
baz=92
D04A Dobbs Creek Ra 92.30 39 ⇑P P 06 49 41.7 +0.7
baz=92
Z14A Wintersburg 92.32 55 ⇑P P 06 49 41.6 +0.2
baz=92,SNR=6.7
O09A Fish Creek Ran 92.37 47 ⇑P P 06 49 41.7 +0.2
baz=93,SNR=15
T11A Corn Creek, Al 92.38 50 ⇑P P 06 49 41.9 +0.3
baz=93,SNR=24
W13A Hualapai Mount 92.39 53 ⇓P P 06 49 41.8 +0.2
baz=93,SNR=12
B04A Port Angeles 92.40 38 ⇓P P 06 49 41.8 +0.4
baz=93
F05A White Salmon 92.46 41 ⇑P P 06 49 41.5 -0.2
baz=93,SNR=5.7
N09A Rock Creek Ran 92.47 46 ⇓P P 06 49 42.0 +0.1
baz=93,SNR=9.7
BMN Battle Mountai 92.48 47 *eP* **P 06 49 42.0 +0.1**
BMN pmax pmax
comp=Z,29nm,1.2s,mb5.5
BMN MLR MLR
comp=Z,266nm,21.0s,MS4.7
BMN Battle Mountai 92.48 47 *eP* **P 06 49 42.0 +0.1**
comp=Z,29nm,1.2s,mb5.5
BMN LR LR
comp=Z,266nm,21.0s,MS4.7
WVOR Wild Horse Val 92.50 45 *eP* **P 06 49 42.0 0.0**
WVOR pmax pmax
comp=Z,26nm,1.3s,mb5.5
WVOR MLR MLR
comp=Z,167nm,22.0s,MS4.4
WVOR Wild Horse Val 92.50 45 *eP* **P 06 49 42.0 0.0**
comp=Z,26nm,1.3s,mb5.5
WVOR LR LR
comp=Z,167nm,22.0s,MS4.4
U12A Valley of Fire 92.50 51 ⇑P P 06 49 42.5 +0.3
baz=93,SNR=5.8
T12A Moapa 92.51 51 ⇓P P 06 49 42.3 +0.1
baz=93
C04A Brinnon 92.53 39 ⇓P P 06 49 42.1 +0.1
baz=93,SNR=10
J07A Hines 92.53 44 ⇑P P 06 49 41.9 -0.2
baz=93,SNR=9.1
Y14A Wickenburg 92.53 54 ⇑P P 06 49 42.2 -0.2
baz=93,SNR=8.9
H06A Lindquist Farm 92.56 42 ⇑P P 06 49 42.0 -0.2

baz=93,SNR=58
L08A Fields 92.57 45 ⇑P P 06 49 42.6 +0.2
baz=93,SNR=26
115A Sonoran Desert 92.58 56 ⇓P P 06 49 42.7 +0.1
baz=93,SNR=7.7
P10A Eureka 92.61 48 ⇑P P 06 49 42.7 +0.1
baz=93,SNR=7.1
E05A Randle 92.63 40 ⇓P P 06 49 42.2 -0.3
baz=93,SNR=10
G06A Carlson Farm, 92.63 41 ⇓P P 06 49 42.2 -0.3
baz=93,SNR=11
R11A Troy Canyon, C 92.63 49 ⇑P P 06 49 42.2 -0.5
baz=93,SNR=14
V13A Grand Canyon W 92.65 52 ⇑P P 06 49 43.0 +0.1
baz=93,SNR=21
LON Longmire 92.70 40 *eP* **P 06 49 42.6 -0.2**
LON pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
LON Longmire 92.70 40 *eP* **P 06 49 42.6 -0.2**
comp=Z,10.0nm,1.0s,mb5.2
K08A Mann Creek Ran 92.74 44 ⇓P P 06 49 43.3 +0.1
baz=93,SNR=20
I07A Izee 92.75 43 ⇑P P 06 49 43.3 +0.2
baz=93,SNR=30
M09A Marrel Ranch, 92.79 46 ⇑P P 06 49 43.8 +0.4
baz=93
F06A Goldendale 92.81 41 ⇑P P 06 49 43.1 -0.2
baz=93
Q11A Duckwater 92.81 49 ⇑P P 06 49 43.6 +0.1
baz=93,SNR=21
S12A Delamar Landin 92.81 50 ⇑P P 06 49 44.2 +0.6
baz=93,SNR=31
D05A Enumclaw 92.82 39 ⇓P P 06 49 43.4 0.0
baz=93,SNR=8.9
WRAK Wrangell Islan 92.82 28 *eP* **P 06 49 43.4 +0.2**
comp=Z,31nm,1.1s,mb5.7
WRAK LR LR
comp=Z,273nm,22.0s,MS4.7
X14A Yava 92.84 54 ⇑P P 06 49 44.1 +0.4
baz=93,SNR=18
216A Three Points, 92.87 57 ⇑P P 06 49 44.5 +0.6
baz=93,SNR=6.0
Z15A Gila River Ind 92.88 55 ⇓P P 06 49 43.9 -0.1
baz=93
O10A Cortez Mining, 92.90 47 ⇑P P 06 49 44.1 +0.2
baz=93,SNR=5.3
U13A Pakoon Wash 92.91 52 ⇑P P 06 49 44.4 +0.3
baz=93,SNR=13
116A Eloy 92.92 56 ⇓P P 06 49 44.3 +0.1
baz=93,SNR=10
L09A Wilkinson Ranc 92.93 45 ⇓P P 06 49 44.0 0.0
baz=93
BOD Bodaibo 92.97 334 *eP* **P 06 49 42.3 -1.5**
H07A Lands Inn, Kim 92.97 42 ⇑P P 06 49 43.9 -0.2
baz=93,SNR=35
IMA2 Indian Mountai 92.97 14 *eP* **P 06 49 43.0 -0.6**
W14A Seligman 93.03 53 ⇓P P 06 49 45.1 +0.5
baz=93,SNR=14
Y15A Casa Rosa Ranc 93.04 54 ⇑P P 06 49 44.9 +0.2
baz=93,SNR=23
J08A Circle Bar Ran 93.05 44 ⇑P P 06 49 44.6 +0.1
baz=93,SNR=20
P11A Circle Ranch, 93.07 48 ⇑P P 06 49 44.9 +0.2
baz=93
E06A Yakima 93.08 40 ⇑P P 06 49 44.6 0.0
baz=93,SNR=8.1
N10A Dunphy 93.09 47 ⇓P P 06 49 44.9 +0.1
baz=93
V14A Boquillas Ranc 93.19 53 ⇑P P 06 49 45.9 +0.5
baz=93,SNR=23
A04A Legoe Bay, Lum 93.20 38 ⇑P P 06 49 45.1 0.0
baz=93,SNR=7.3
K09A Rome 93.22 45 ⇑P P 06 49 45.4 +0.1
baz=93,SNR=20
T13A Saint George 93.22 51 ⇑P P 06 49 45.8 +0.3
baz=93,SNR=20
G07A Ruggs Ranch, H 93.24 42 ⇓P P 06 49 45.0 -0.3
baz=94,SNR=15
C05A Tolt Reservoir 93.25 39 ⇑P P 06 49 45.0 -0.4
baz=94
I08A Drewsey 93.26 43 ⇑P P 06 49 45.3 -0.2
baz=94,SNR=8.0
217A Green Valley 93.26 57 ⇓P P 06 49 46.0 +0.2
baz=93,SNR=10
R12A Pony Springs, 93.31 50 ⇑P P 06 49 46.1 +0.3
baz=94,SNR=18
B05A Bryant 93.31 38 ⇓P P 06 49 45.5 -0.1
baz=94
X15A Humboldt 93.34 54 ⇑P P 06 49 46.3 +0.3
baz=94,SNR=19
JCW Jim Creek 93.37 38 *eP* **P 06 49 46.0 +0.2**
F07A Phinny Hill Vi 93.39 41 ⇓P P 06 49 45.7 -0.3
baz=94,SNR=6.0
O11A Cowboy Ranch, 93.40 48 ⇑P P 06 49 46.3 +0.1
baz=94
COLA College 93.42 17 *eP* **P 06 49 44.0 -1.7**
COLA *e**PP pP 06 49 52.8 -4.1
COLA pmax pmax
comp=Z,48nm,1.0s,mb5.9
COLA MLR MLR
comp=Z,171nm,21.0s,MS4.5
COLA College 93.42 17 *eP* **P 06 49 44.0 -1.7**
comp=Z,48nm,1.0s,mb5.9
COLA *e*pP pP 06 49 52.8 -4.2
COLA LR LR
comp=Z,171nm,21.0s,MS4.5
M10A I.L. Ranch, Tu 93.44 46 ⇑P P 06 49 46.8 +0.4
baz=94,SNR=14
Z16A Peralta Trail, 93.46 55 ⇑P P 06 49 46.6 0.0
baz=94,SNR=6.6
Q12A Willow Creek R 93.47 49 ⇑P P 06 49 46.3 -0.3
baz=94,SNR=5.5
U14A Mt Trumbull 93.48 52 ⇑P P 06 49 47.3 +0.6
baz=94,SNR=42
H08A Prairie City 93.49 43 ⇑P P 06 49 45.9 -0.6
baz=94,SNR=7.7
D06A Cle Elum 93.49 40 ⇓P P 06 49 46.4 -0.1
baz=94
S13A Holt Ranch, En 93.50 51 ⇓P P 06 49 47.1 +0.3
baz=94,SNR=10.0
J09A Fry Pan Ranch, 93.51 44 ⇑P P 06 49 46.6 0.0
baz=94,SNR=15
EBG Ellensburg 93.51 40 P P 06 49 46.8 +0.2
TUC Tucson 93.51 56 *eP* **P 06 49 47.4 +0.5**
TUC pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
TUC MLR MLR
comp=Z,295nm,21.0s,MS4.7
TUC Tucson 93.51 56 *eP* **P 06 49 47.4 +0.4**
comp=Z,6.7nm,0.9s,mb5.1
TUC LR LR
comp=Z,295nm,21.0s,MS4.7
SKAG Skagway 93.56 25 *eP* **P 06 49 46.3 -0.2**
comp=Z,19nm,1.0s,mb5.5
P12A McGill 93.61 49 ⇑P P 06 49 47.2 0.0
baz=94,SNR=5.1
W15A Williams 93.61 53 ⇑P P 06 49 47.9 +0.6
baz=94,SNR=7.6
Y16A Circle Bar Ran 93.65 55 ⇓P P 06 49 47.9 +0.4
baz=94,SNR=33
N11A Elko Archery C 93.66 47 ⇓P P 06 49 47.4 0.0
baz=94
117A Oracle 93.66 56 ⇓P P 06 49 48.0 +0.4
baz=94,SNR=15
HYT Haines Junctio 93.66 23 *eP* **P 06 49 47.5 +0.6**
G08A Pilot Rock 93.68 42 ⇓P P 06 49 47.3 -0.1
baz=94,SNR=33
R13A O'Grain Ranch, 93.69 50 ⇑P P 06 49 47.9 +0.3
baz=94,SNR=5.2
A05A Maple Falls 93.70 38 ⇓P P 06 49 46.6 -0.7
baz=94
ZAK Zakamensk 93.70 324 *⇓iP* **P 06 49 47.6 +0.3**
ZAK *e* pP 06 49 56.4 -2.2
ZAK pmax pmax
comp=Z,31nm,1.2s,mb5.6
RPW Rockport 93.74 38 *eP* **P 06 49 46.8 -0.8**
L10A Juniper Basin 93.75 46 ⇓P P 06 49 47.8 +0.1
baz=94,SNR=15
E07A Sunnyside 93.76 41 ⇓P P 06 49 47.6 -0.1
baz=94,SNR=6.3
B06A Marblemount 93.79 38 ⇓P P 06 49 47.1 -0.7
baz=94
K10A MacKenzie Ranc 93.81 45 ⇓P P 06 49 48.1 +0.1
baz=94,SNR=13
I09A Lost Marbles R 93.81 44 ⇑P P 06 49 47.5 -0.5
baz=94
TAPN Taplejung 93.82 298 *eP* **P 06 49 49.1 +0.6**
comp=Z,42nm,1.1s,mb5.8

T14A Hurricane 93.83 51 ⇑P P 06 49 48.4 +0.1
baz=94,SNR=10
RSW Rattlesnake Hi 93.84 41 *eP* **P 06 49 48.0 0.0**
CCUT Cedar City 93.84 51 *eP* **P 06 49 57.4 +9.0**
HAWA Hanford 93.87 41 *eP* **P 06 49 48.2 -0.1**
comp=Z,20nm,1.0s,mb5.5
HAWA LR LR
comp=Z,360nm,19.0s,MS4.8
ODAN Odare 93.89 297 *eP* **P 06 49 49.0 +0.2**
comp=Z,71nm,1.0s,mb6.0
M11A Holland Ranch, 93.90 47 ⇑P P 06 49 48.8 +0.4
baz=94
X16A Lo Mia Camp, P 93.90 54 ⇑P P 06 49 49.1 +0.5
baz=94,SNR=24
218A Dragoon 93.94 57 ⇑P P 06 49 49.2 +0.3
baz=94,SNR=9.6
V15A Kaibab Nationa 93.96 53 ⇓P P 06 49 49.3 +0.4
baz=94,SNR=15
ELK Elko 93.96 47 *eP* **P 06 49 49.2 +0.4**
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK MLR MLR
comp=Z,293nm,21.0s
ELK Elko 93.96 47 *eP* **P 06 49 49.2 +0.5**
comp=Z,5.7nm,0.9s,mb5.0
ELK LR LR
comp=Z,293nm,21.0s,MS4.7
Q13A Wheeler Ranch, 94.00 49 ⇑P P 06 49 49.2 +0.2
baz=94
ETW Entiat 94.00 40 *eP* **P 06 49 48.7 -0.1**
D07A Quincy 94.01 40 ⇓P P 06 49 48.5 -0.3
baz=94,SNR=5.1
F08A Pendleton 94.04 42 ⇑P P 06 49 48.6 -0.4
baz=94
Y17A Roosevelt 94.05 55 ⇑P P 06 49 49.5 +0.1
baz=94,SNR=7.3
O12A Currie 94.08 48 ⇑P P 06 49 49.1 -0.2
baz=94,SNR=7.6
A06A Chilliwack 94.09 38 ⇓P P 06 49 48.6 -0.5
baz=94
W16A Flagstaff 94.12 54 ⇓P P 06 49 50.1 +0.4
baz=94,SNR=7.4
U15A North Rim 94.13 52 ⇑P P 06 49 50.2 +0.5
baz=94,SNR=30
N12A Clover Valley, 94.14 47 ⇑P P 06 49 49.6 -0.1
baz=94,SNR=6.1
Z17A San Carlos Hig 94.16 56 ⇑P P 06 49 50.2 +0.2
baz=94
J10A Berg Farm, Mel 94.18 44 ⇑P P 06 49 49.4 -0.4
baz=94
H09A Durkee 94.19 43 ⇓P P 06 49 49.4 -0.4
baz=94
TLY Talaya 94.20 325 *eP* **P 06 49 48.9 -0.7**
TLY *e* pP 06 49 58.4 -2.4
TLY pmax pmax
comp=Z,26nm,1.4s,mb5.5
TLY Talaya 94.20 325 *eP* **P 06 49 49.4 -0.1**
comp=Z,16nm,0.8s,mb5.5
TLY LR LR
comp=Z,106nm,20.0s,MS4.3
C07A Waterville 94.20 40 ⇑P P 06 49 49.1 -0.6
baz=94
E08A Dider Farm, El 94.21 41 ⇑P P 06 49 49.6 -0.2
baz=94,SNR=7.9
P13A Bates Ranch, G 94.22 49 ⇑P P 06 49 50.1 +0.1
baz=94
L11A Cat Creek Ranc 94.26 46 ⇑P P 06 49 50.2 +0.1
baz=94,SNR=12
118A Homack Ranch, 94.28 56 ⇑P P 06 49 50.8 +0.4
baz=94,SNR=5.4
319A Douglas 94.29 58 ⇑P P 06 49 50.9 +0.3
baz=94,SNR=7.6
T15A Red Dirt Ranch 94.32 52 ⇓P P 06 49 50.9 +0.4
baz=94,SNR=11
X17A Forest Lakes 94.34 55 ⇓P P 06 49 51.2 +0.5
baz=94,SNR=11
K11A Parker Ranch, 94.36 45 ⇓P P 06 49 50.8 +0.2
baz=95,SNR=9.9
G09A Cove 94.41 42 ⇑P P 06 49 50.3 -0.4
baz=95,SNR=7.7
Z18A Geronimo 94.41 56 ⇓P P 06 49 51.0 -0.1
baz=95
WUAZ Wupatki 94.42 53 ⇑P P 06 49 51.3 +0.2
baz=95,SNR=8.3
WUAZ Wupatki 94.42 53 *eP* **P 06 49 51.7 +0.7**
comp=Z,13nm,1.0s,mb5.3
WUAZ LR LR
comp=Z,340nm,21.0s,MS4.8
I10A Payette 94.46 44 ⇑P P 06 49 50.9 -0.1
baz=95
M12A Wells 94.48 47 ⇑P P 06 49 51.0 -0.1
baz=95,SNR=6.4
BMO Blue Mountains 94.50 43 *eP* **P 06 49 50.9 -0.3**
BMO MLR MLR
comp=Z,218nm,20.0s,MS4.6
F09A S2 Ranch, Elgi 94.53 42 ⇑P P 06 49 50.7 -0.6
baz=95,SNR=5.2
Q14A Sevier Lake (B 94.53 50 ⇓P P 06 49 51.2 -0.2
baz=95,SNR=8.8
O13A Hicks Ranch, I 94.54 48 ⇓P P 06 49 51.5 0.0
baz=95
B07A Winthrop 94.55 39 ⇑P P 06 49 50.8 -0.5
baz=95,SNR=5.6
219A White Tail Can 94.56 57 ⇓P P 06 49 51.9 +0.2
baz=95,SNR=7.9
D08A Wollman Farm, 94.57 40 ⇓P P 06 49 50.9 -0.5
baz=95,SNR=8.0
RAMN Ramite 94.57 297 *eP* **P 06 49 52.2 +0.3**
comp=Z,65nm,1.3s,mb5.9
S15A Panguitch 94.61 51 ⇑P P 06 49 52.7 +0.9
baz=95
A07A Ashnola River, 94.69 38 ⇓P P 06 49 51.5 -0.4
baz=95,SNR=5.6
Y18A Canyon Day Jun 94.70 55 ⇑P P 06 49 52.7 +0.4
baz=95,SNR=14
N13A Wendover, West 94.71 48 ⇓P P 06 49 52.3 +0.1
baz=95,SNR=5.9
COLD Coldfoot 94.72 14 *eP* **P 06 49 51.3 -0.3**
comp=Z,21nm,1.0s,mb5.5
W17A Winslow 94.72 54 ⇑P P 06 49 52.8 +0.4
baz=95
H10A Noah's Angus R 94.73 43 ⇑P P 06 49 51.2 -1.0
baz=95,SNR=16
L12A House Creek Ra 94.74 46 ⇓P P 06 49 52.1 -0.2
baz=95,SNR=10
E09A Wood Farm, Sta 94.77 41 ⇓P P 06 49 51.5 -0.9
baz=95,SNR=5.6
MFID Camas Ranch 94.78 45 ⇓P P 06 49 52.1 -0.4
baz=95
G10A Bishop Farm, J 94.83 43 ⇓P P 06 49 51.9 -0.7
baz=95,SNR=7.3
119A Ashpeak Ranch, 94.84 57 ⇓P P 06 49 53.2 +0.2
baz=95,SNR=5.1
OD2 Odessa Site #2 94.85 40 *eP* **P 06 49 52.4 -0.3**
U16A Tuba City 94.86 53 ⇑P P 06 49 53.4 +0.3
baz=95,SNR=14
I11A Placerville 94.92 44 ⇓P P 06 49 52.6 -0.5
baz=95
D09A Jones Farm, Ri 94.93 41 ⇑P P 06 49 52.4 -0.7
baz=95,SNR=12
T16A Glen Canyon Da 94.94 52 ⇓P P 06 49 53.4 0.0
baz=95
B08A Colville Reser 94.95 39 ⇑P P 06 49 52.2 -1.0
baz=95
M13A Montello 94.96 47 ⇓P P 06 49 53.2 -0.2
baz=95,SNR=13
K12A Draper Farm, C 95.04 46 ⇑P P 06 49 53.3 -0.4
baz=95,SNR=5.3
X18A Snowflake 95.07 55 ⇑P P 06 49 54.0 -0.1
baz=95
MVU Marysvale 95.08 50 PFAKE 06 50 10.0 +16
MVU LR LR
comp=Z,440nm,22.0s,MS4.9
F10A Beach Ranch, E 95.08 42 ⇓P P 06 49 52.7 -1.1
baz=95,SNR=14
Z19A T-Link Ranch, 95.08 56 ⇑P P 06 49 54.2 0.0
baz=95
MSU Marysvale 95.10 50 *eP* **P 06 49 54.6 +0.5**
Q15A Fillmore 95.17 50 ⇑P P 06 49 54.2 -0.2
baz=95,SNR=5.4
J12A Stokes Ranch, 95.18 45 ⇑P P 06 49 54.4 0.0
baz=95,SNR=9.5
S16A Weppner Ranch, 95.18 51 ⇓P P 06 49 54.4 -0.1
baz=95,SNR=5.4
EGAK Eagle 95.23 19 *eP* **P 06 49 53.1 -1.0**
comp=Z,28nm,0.8s,mb5.8
EGAK LR LR
comp=Z,189nm,22.0s,MS4.5

H11A Donnelly 95.25 44 ⇓P P 06 49 53.8 -0.7
baz=96,SNR=19
DAWY Dawson 95.27 20 *eP* **P 06 49 53.3 -0.9**
A08A Turner Farm, O 95.28 39 ⇓P P 06 49 54.2 -0.4
baz=96,SNR=6.1
PLCA Paso Flores 95.31 138 P **P 06 49 54.4 -0.8**
comp=Z,4.8nm,1.0s,mb4.9,baz=146,slow=2.0,SNR=7.6
Y19A Nutrioso 95.36 55 ⇓P P 06 49 55.7 +0.3
baz=96,SNR=6.7
DUG Dugway 95.38 49 *eP* **P 06 49 54.5 -0.8**
DUG pmax pmax
comp=Z,1.0nm,0.6s,mb4.4
DUG MLR MLR
comp=Z,283nm,20.0s,MS4.7
DUG Dugway 95.38 49 ⇓P P 06 49 54.8 -0.5
baz=96
DUG Dugway 95.38 49 *eP* **P 06 49 54.5 -0.8**
comp=Z,0.6nm,0.6s,mb4.2
DUG LR LR
comp=Z,283nm,20.0s,MS4.7
E10A Myers Farm, Un 95.39 42 ⇑P P 06 49 55.8 +0.6
baz=96
U17A Shonto 95.39 53 ⇓P P 06 49 55.8 +0.3
baz=96
N14A Grayback Hills 95.40 48 ⇓P P 06 49 55.0 -0.4
baz=96
G11A Walters Elk Ra 95.41 43 ⇓P P 06 49 54.3 -1.0
baz=96,SNR=13
L13A Double Diamond 95.43 47 ⇓P P 06 49 55.8 +0.3
baz=96
T17A Navajo Res., N 95.45 52 ⇑P P 06 49 56.1 +0.3
baz=96,SNR=14
W18A Petrified Fore 95.47 54 ⇑P P 06 49 56.0 +0.2
baz=96
R16A Teasdale 95.50 51 ⇑P P 06 49 56.5 +0.6
baz=96,SNR=7.0
X19A St. Johns 95.52 55 ⇓P P 06 49 56.2 +0.1
baz=96
D10A Wagner Farm, O 95.55 41 ⇑P P 06 49 54.8 -1.1
baz=96,SNR=6.5
V18A Ganado 95.57 54 ⇓P P 06 49 56.4 +0.1
baz=96
M14A Sheep Mountain 95.58 47 ⇓P P 06 49 55.9 -0.3
baz=96
K13A Stover Farm, H 95.58 46 ⇓P P 06 49 56.2 +0.1
baz=96
B09A Rice 95.68 40 ⇓P P 06 49 55.9 -0.6
baz=96
A09A Danville 95.69 39 ⇑P P 06 49 56.2 -0.3
baz=96
F11A Grangeville 95.70 42 ⇑P P 06 49 55.5 -1.1
baz=96
S17A Black Ridge (B 95.72 52 ⇑P P 06 49 56.4 -0.5
baz=96,SNR=5.5
W19A Sanders 95.73 54 ⇓P P 06 49 57.0 0.0
baz=96
HLID Hailey 95.77 45 ⇓P P 06 49 56.5 -0.5
baz=96,SNR=8.8
HLID Hailey 95.77 45 *eP* **P 06 49 57.3 +0.3**
comp=Z,2.9nm,0.8s,mb4.8
HLID LR LR
comp=Z,212nm,20.0s,MS4.6
PKI Pulchoki 95.79 297 *eP* **P 06 49 57.3 -0.2**
comp=Z,32nm,0.8s,mb5.8
PKI Pulchoki 95.79 297 *eP* **P 06 49 57.6 +0.1**
PKI pmax pmax
comp=Z,22nm,0.8s,mb5.6
PKI Pulchoki 95.79 297 *eP* **P 06 49 57.6 +0.1**
comp=Z,22nm,0.8s,mb5.6
PKIN Phulchoki 95.80 297 *eP* **P 06 49 57.6 +0.1**
comp=Z,22nm,0.8s,mb5.7
N15A Stansbury Isla 95.88 48 ⇑P P 06 49 57.3 -0.2
baz=96
L14A Malta 95.88 47 ⇑P P 06 49 57.3 -0.2
baz=96
H12A Diamond D Ranc 95.92 44 ⇑P P 06 49 56.7 -0.9
baz=96,SNR=14
KKN Kakani 95.98 298 *eP* **P 06 49 58.5 +0.2**
comp=Z,51nm,1.0s,mb5.9
KKN Kakani 95.98 298 *eP* **P 06 49 58.5 +0.2**
KKN pmax pmax
comp=Z,51nm,1.0s,mb5.9
DMN Daman 96.05 297 *eP* **P 06 49 58.9 +0.2**
comp=Z,101nm,1.2s,mb6.1
HVU Hansel Valley 96.08 47 *eP* **P 06 49 58.9 +0.4**
R17A Hanksville Air 96.11 51 ⇓P P 06 49 58.5 -0.2
baz=96,SNR=6.1
I13A Wildhorse Cree 96.12 45 ⇓P P 06 49 58.4 -0.1
baz=96,SNR=6.4
TMUT Trail Mountain 96.12 50 *eP* **P 06 50 00.2 +1.5**
D11A Klaveano Farm, 96.12 41 ⇑P P 06 49 57.2 -1.3
baz=96,SNR=5.7
MPU Maple Canyon 96.12 49 PFAKE 06 50 10.0 +11
MPU LR LR
comp=Z,794nm,19.0s,MS5.2
K14A Jones Ranch, D 96.14 46 ⇓P P 06 49 58.7 0.0
baz=96
M15A Larsen Ranch, 96.17 48 ⇓P P 06 49 58.4 -0.5
baz=96,SNR=5.7
T18A Mexican Hat 96.19 52 ⇓P P 06 49 59.0 -0.1
baz=96,SNR=14
F12A Elk City 96.20 43 ⇑P P 06 49 57.8 -1.1
baz=96,SNR=13
NEW Newport 96.21 40 PFAKE 06 50 10.0 +11
NEW LR LR
comp=Z,228nm,20.0s,MS4.7
J14A Carey 96.25 46 ⇑P P 06 49 59.2 0.0
baz=96,SNR=6.1
A10A Northport 96.29 39 ⇑P P 06 49 58.5 -0.7
baz=96
O16A Springville 96.29 49 ⇑P P 06 49 59.2 -0.3
baz=96
H13A Challis 96.31 44 ⇑P P 06 49 59.0 -0.4
baz=96
S18A Hurst Farm, Bl 96.33 52 ⇑P P 06 49 59.1 -0.6
baz=96
JLU Jordanelle 96.49 49 *eP* **P 06 49 59.9 -0.5**
SRU San Rafael 96.53 50 *eP* **P 06 50 00.6 0.0**
SRU pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
SRU San Rafael 96.53 50 ⇓P P 06 50 00.2 -0.3
baz=97,SNR=8.0
SRU San Rafael 96.53 50 *eP* **P 06 50 00.6 0.0**
comp=Z,2.5nm,0.8s,mb4.7
I14A Mackay 96.56 45 ⇓P P 06 50 00.5 0.0
baz=97,SNR=9.8
G13A Cobalt 96.56 44 ⇓P P 06 50 00.0 -0.5
baz=97
GKN Gorkha 96.58 297 *eP* **P 06 50 00.9 -0.2**
K15A Arbon 96.63 46 ⇑P P 06 50 00.4 -0.5
baz=97
M16A Huntsville 96.67 48 ⇑P P 06 50 00.9 -0.2
baz=97
R18A Canyonlands Na 96.68 51 ⇓P P 06 50 00.8 -0.5
baz=97,SNR=5.8
D12A Red Ives Fores 96.72 42 ⇑P P 06 50 00.6 -0.6
baz=97
F13A Darby 96.80 43 ⇓P P 06 50 00.7 -0.9
baz=97
Q18A Rafter H Ranch 96.80 50 ⇑P P 06 50 01.3 -0.5
baz=97
O17A Robinson Place 96.82 49 ⇑P P 06 50 02.1 +0.2
baz=97,SNR=15
HWUT Hardware Ranch 96.83 48 PFAKE 06 50 10.0 +8.1
HWUT LR LR
comp=Z,311nm,21.0s,MS4.8
H14A Leadore 96.91 44 ⇑P P 06 50 02.0 -0.1
baz=97
A11A Hall Mountain, 96.97 40 ⇓P P 06 50 02.6 +0.3
baz=97
J15A Blackfoot 97.00 46 ⇑P P 06 50 02.8 +0.2
baz=97,SNR=5.4
L16A Fish Haven 97.09 47 ⇓P P 06 50 03.1 0.0
baz=97
MVCO Mesa Verde 97.23 53 PFAKE 06 50 10.0 +6.2
MVCO LR LR
comp=Z,379nm,22.0s,MS4.8
K16A Soda Springs 97.32 47 ⇑P P 06 50 03.9 -0.2
baz=98
MCMT McKenzie Canyo 97.33 44 *eP* **P 06 50 04.2 +0.2**
KOLN Koldanda 97.34 297 *eP* **P 06 50 04.3 -0.2**
comp=Z,13nm,0.8s,mb5.4
O18A Roosevelt 97.36 49 ⇑P P 06 50 03.9 -0.4
baz=98
Q19A Hogan Spring (97.36 51 ⇓P P 06 50 04.4 +0.1
baz=98
H15A Lima 97.37 45 ⇓P P 06 50 04.1 -0.1
baz=98

DANN Dangsing 97.43 298 *eP* **P 06 50 04.5 -0.4**
comp=Z,36nm,0.9s,mb5.8

J16A Bone 97.49 46 ⇓P **P 06 50 04.8 0.0**
baz=98

MSO Missoula 97.49 42 PFAKE 06 50 20.0 +15
MSO LR LR
comp=Z,171nm,21.0s,MS4.5

E14A Clinton 97.60 43 ⇓P **P 06 50 04.5 -0.7**
baz=98

AHID Auburn Hatcher 97.62 47 PFAKE 06 50 20.0 +15
AHID LR LR
comp=Z,188nm,21.0s,MS4.5

G15A Dillon 97.70 44 ⇑P **P 06 50 05.5 -0.2**
baz=98

RRI2 Red Ridge 97.72 46 *eP* **P 06 50 06.0 +0.2**
comp=Z,5.8nm,1.1s,mb5.0

DLMT Dillon 97.72 44 *eP* **P 06 50 05.7 -0.1**

I16A Newdale 97.82 46 ⇓P **P 06 50 05.9 -0.4**
baz=98

D14A Greenough 97.87 42 ⇓P **P 06 50 05.0 -1.4**
baz=98

ANMO Albuquerque 97.87 55 *eP* **P 06 50 06.7 -0.1**
ANMO MLR MLR
comp=Z,342nm,20.0s

N18A Larsen Ranch, 97.88 49 ⇑P **P 06 50 05.9 -0.8**
baz=98

TXAR Lajitas Array 97.97 62 P **P 06 50 07.6 +0.3**
comp=Z,1.7nm,0.9s,mb4.6,baz=226,slow=5.0,SNR=16
TXAR PKKPbc PKKPbc 07 06 41.6 +0.4
comp=Z,0.7nm,0.8s,baz=84,slow=3.7,SNR=8.3
TXAR LR LR 07 27 21.3
comp=Z,128nm,18.2s,MS4.5,baz=295,slow=31

REDW Red Top Meadow 98.03 46 *eP* **P 06 50 07.8 +0.6**
comp=Z,5.2nm,1.0s,mb5.0

A13A Flathead Natio 98.12 40 ⇑P **P 06 50 07.1 -0.4**
baz=98

SNOW Snow King Moun 98.14 46 *eP* **P 06 50 08.2 +0.5**
comp=Z,8.3nm,1.3s,mb5.1

IMW Indian Meadow 98.19 46 *eP* **P 06 50 07.7 -0.3**
comp=Z,7.2nm,1.3s,mb5.0

H16A Russell Place, 98.32 45 ⇓P **P 06 50 08.2 -0.3**
baz=98

BOZ Bozeman (W) 98.45 44 ⇑P **P 06 50 08.3 -0.8**
baz=99

BOZ Bozeman (W) 98.45 44 PFAKE 06 50 20.0 +11
BOZ LR LR
comp=Z,197nm,22.0s,MS4.6

D15A Lincoln 98.47 42 ⇓P **P 06 50 08.4 -0.7**
baz=99

YMR Madison River 98.49 45 PFAKE 06 50 20.0 +11
YMR LR LR
comp=Z,2μm,22.0s,MS5.5

TIXI Tiksi 98.52 348 PFAKE 06 50 20.0 +11
TIXI LR LR
comp=Z,125nm,20.0s,MS4.4

BW06 Boulder Array 98.66 47 *eP* **P 06 50 10.1 0.0**
BW06 LR LR
comp=Z,262nm,22.0s,MS4.7

PDAR Pinedale Array 98.67 47 P **P 06 50 09.2 -0.9**
comp=Z,1.5nm,0.9s,mb4.5,baz=239,slow=0.9,SNR=11
PDAR LR LR 07 26 49.6
comp=Z,179nm,21.4s,MS4.5,baz=262,slow=30

LKWY Lake 98.81 45 PFAKE 06 50 20.0 +9.3
LKWY LR LR
comp=Z,241nm,21.0s,MS4.7

SMCO Snowmass 99.09 51 *eP* **P 06 50 16.0 +3.9**
comp=Z,5.9nm,0.7s,mb5.2

SDCO Great Sand Dun 99.63 53 PFAKE 06 50 30.0 +16
SDCO LR LR
comp=Z,284nm,22.0s,MS4.7

RLMT Red Lodge 99.77 45 PFAKE 06 50 30.0 +15
RLMT LR LR
comp=Z,222nm,22.0s,MS4.6

WMQ Urumqi 100.25 313 P Pdif 06 50 18.0 +0.8
WMQ LR LR
comp=N,84nm,20.0s
WMQ LR LR
comp=Z,91nm,20.3s,MS4.3

ISCO Idaho Springs 100.30 51 PFAKE 06 50 30.0 +13
ISCO LR LR
comp=Z,162nm,20.0s,MS4.5

EGMT Eagleton 100.58 42 PFAKE 06 50 30.0 +11
EGMT LR LR
comp=Z,216nm,19.0s,MS4.7

JCT Junction City 101.51 62 PFAKE 06 50 30.0 +7.3
JCT LR LR
comp=Z,207nm,19.0s,MS4.7

AMTX Amarillo 101.51 57 PFAKE 06 50 30.0 +7.2
AMTX LR LR
comp=Z,308nm,20.0s,MS4.8

LAO LASA Array 102.33 44 PFAKE 06 50 40.0 +14
LAO LR LR
comp=Z,286nm,21.0s,MS4.8

YKA Yellowknife Ar 103.67 28 Pdiff Pdif 06 50 31.0 -1.3
comp=Z,1.6nm,0.8s,baz=252,slow=4.5,SNR=8.0
YKA PKiKP PKiKP 06 54 49.1 -0.8
comp=Z,0.5nm,0.5s,baz=246,slow=1.6,SNR=9.0

WMOK Wichita Mounta 103.72 58 PFAKE 06 50 40.0 +7.4
WMOK LR LR
comp=Z,351nm,21.0s,MS4.9

DGMT Dagmar 104.21 43 PFAKE 06 50 50.0 +15
DGMT LR LR
comp=Z,362nm,22.0s,MS4.9

CBKS Cedar Bluff 104.26 54 PFAKE 06 50 50.0 +15
CBKS LR LR
comp=Z,286nm,20.0s,MS4.8

HKT Hockley 104.58 63 PFAKE 06 50 50.0 +14
HKT LR LR
comp=Z,129nm,19.0s,MS4.5

MKAR Makanchi Array 104.84 315 Pdiff Pdif 06 50 37.9 +0.3
comp=Z,0.8nm,0.7s,baz=93,slow=4.9,SNR=6.1
MKAR PKiKP PKiKP 06 54 51.5 -1.0
comp=Z,0.4nm,0.5s,baz=103,slow=1.8,SNR=3.8
MKAR PKKPbc PKKPbc 07 06 19.2 -2.7
comp=Z,1.2nm,0.8s,baz=289,slow=3.7,SNR=8.4

MKAR Makanchi Array 104.84 315 Pdif Pdif 06 50 37.9 +0.3

ZALV Zalesovo Beam 105.48 322 Pdiff Pdif 06 50 40.0 -0.4
comp=Z,0.5nm,0.3s,baz=123,slow=5.5,SNR=4.2
ZALV PKiKP PKiKP 06 54 52.6 -0.9
comp=Z,0.5nm,0.3s,baz=108,slow=1.8,SNR=2.1

ZAL Zalesovo 105.48 322 P Pdif 06 50 40.0 -0.4

NATX Nacogdoches 106.09 62 PFAKE 06 55 10.0 +15
NATX LR LR
comp=Z,242nm,21.0s,MS4.7

KSU1 Kansas State U 106.68 54 PFAKE 06 55 10.0 +14
KSU1 LR LR
comp=Z,262nm,21.0s,MS4.8

TGUH Tegucigalpa,Un 106.95 82 PFAKE 06 55 10.0 +13
TGUH LR LR
comp=Z,114nm,21.0s,MS4.4

FFC Flin Flon 107.36 37 PFAKE 06 55 10.0 +13
FFC LR LR
comp=Z,258nm,20.0s,MS4.8

MIAR Mount Ida 107.76 59 PFAKE 06 55 10.0 +12
MIAR LR LR
comp=Z,314nm,20.0s,MS4.9

ECSD EROS,Sioux Fal 107.91 50 PFAKE 06 55 10.0 +12
ECSD LR LR
comp=Z,303nm,19.0s,MS4.9

TEIG Tepich 108.07 75 PFAKE 06 55 10.0 +11
TEIG LR LR
comp=Z,137nm,19.0s,MS4.5

KURK Kurchatov 108.25 318 PKiKP PKiKP 06 54 58.2 -0.6
comp=Z,0.8nm,0.3s,baz=95,slow=1.9,SNR=5.8

KURK Kurchatov 108.25 318 PKPdf PKiKP 06 54 58.2 -0.6
KURK LR LR
comp=Z,103nm,21.0s,MS4.4

TKM2 Tokmak 2 108.34 309 PFAKE 06 55 10.0 +11
TKM2 LR LR
comp=Z,81nm,20.0s,MS4.3

UCH Uchtor 108.95 309 PFAKE 06 55 10.0 +10
UCH LR LR
comp=Z,89nm,20.0s,MS4.3

AGMN Agassiz Refuge 109.51 45 PFAKE 06 55 10.0 +8.8
AGMN LR LR
comp=Z,308nm,21.0s,MS4.8

AML Almayashu 109.52 308 PFAKE 06 55 10.0 +8.6
AML LR LR
comp=Z,117nm,20.0s,MS4.5

EKS2 Erkin-Say 109.58 309 PFAKE 06 55 10.0 +8.5
EKS2 LR LR
comp=Z,165nm,21.0s,MS4.6

VBMS Vicksburg 109.60 63 PFAKE 06 55 10.0 +8.1
VBMS LR LR
comp=Z,257nm,21.0s,MS4.8

SCIA State Center 109.89 52 PFAKE 06 55 10.0 +7.9
SCIA LR LR
comp=Z,263nm,20.0s,MS4.8

ULM Lac du Bonnet 109.93 43 PFAKE 06 55 10.0 +8.1
ULM LR LR
comp=Z,239nm,20.0s,MS4.8

MSEY Mahe Island 110.42 255 PFAKE 06 55 20.0 +16
MSEY LR LR
comp=Z,315nm,22.0s,MS4.8

OXF Oxford 111.07 60 PFAKE 06 55 20.0 +15
OXF LR LR
comp=Z,144nm,22.0s,MS4.5

BRAL Brewton 112.15 65 PFAKE 06 55 20.0 +13
BRAL LR LR
comp=Z,206nm,22.0s,MS4.7

PLAL Pickwick Lake 112.25 60 PFAKE 06 55 20.0 +13
PLAL LR LR
comp=Z,303nm,21.0s,MS4.9

JFWS Jewell Farm 112.26 51 PFAKE 06 55 20.0 +13
JFWS LR LR
comp=Z,328nm,22.0s,MS4.9

EYMN Ely 112.31 46 PFAKE 06 55 20.0 +13
EYMN LR LR
comp=Z,383nm,21.0s,MS5.0

CPUP Villa Florida 112.95 134 PKiKP PKiKP 06 55 06.6 -1.9
comp=Z,0.2nm,0.4s,baz=358,slow=4.9,SNR=4.0

COWI Conover 113.60 48 PFAKE 06 55 20.0 +11
COWI LR LR
comp=Z,142nm,20.0s,MS4.6

BVAR Borovoye Array 113.69 319 Pdiff Pdif 06 51 19.0 +2.1
comp=Z,1.2nm,0.8s,baz=116,slow=6.6,SNR=5.8
BVAR PKiKP PKiKP 06 55 08.5 -0.5
comp=Z,2.2nm,0.6s,baz=126,slow=2.6,SNR=15

BRVK Borovoye 113.76 319 PFAKE 06 55 20.0 +11
BRVK LR LR
comp=Z,114nm,19.0s,MS4.5

WCI Wyandotte Cave 114.33 57 PFAKE 06 55 20.0 +9.3
WCI LR LR
comp=Z,208nm,21.0s,MS4.7

GOGA Godfrey 115.65 63 PFAKE 06 55 20.0 +6.6
GOGA LR LR
comp=Z,188nm,19.0s,MS4.7

TZTN Tazewell 116.17 59 PFAKE 06 55 30.0 +16
TZTN LR LR
comp=Z,304nm,22.0s,MS4.9

GLMI Grayling 116.57 50 PFAKE 06 55 30.0 +15
GLMI LR LR
comp=Z,411nm,20.0s,MS5.0

ACSO Alum Creek Sta 117.19 55 PFAKE 06 55 30.0 +14
ACSO LR LR
comp=Z,288nm,20.0s,MS4.9

NHSC New Hope 118.30 64 PFAKE 06 55 30.0 +11
NHSC LR LR
comp=Z,244nm,22.0s,MS4.8

BOSA Boshof 118.44 215 PKP PKPdf 06 55 18.8 -0.2
comp=Z,5.7nm,0.6s,baz=163,slow=2.6,SNR=10

BLA Blacksburg 118.75 59 PFAKE 06 55 30.0 +11
BLA LR LR
comp=Z,334nm,22.0s,MS4.9

MCWV Mont Chateau 119.51 56 PFAKE 06 55 30.0 +9.4
MCWV LR LR
comp=Z,321nm,22.0s,MS4.9

SDV Santo Domingo 120.46 93 PFAKE 06 55 30.0 +6.8
SDV LR LR
comp=Z,71nm,19.0s,MS4.3

CNNC Cliffs of the 120.51 62 PFAKE 06 55 30.0 +7.3
CNNC LR LR
comp=Z,239nm,21.0s,MS4.8

ARU Arti 120.63 323 *i* PKIKP PKPdf 06 55 21.5 -0.7
ARU 06 56 49.4
ARU SP SP 07 06 30.0 -6.5
ARU PS PS 07 06 39.8 -1.8
ARU SS SS 07 13 12.7 -5.0

SOKR Solikamsk 121.24 327 *c i* PKIKP PKPdf 06 55 23.2 -0.1
SOKR pmax pmax
comp=Z,50nm,1.2s

BINY Binghamton 122.62 54 PFAKE 06 55 40.0 +13
BINY LR LR
comp=Z,303nm,22.0s,MS4.9

KBS Kingsbay 123.10 355 PFAKE 06 55 40.0 +14
KBS LR LR
comp=Z,119nm,19.0s,MS4.6

LONY Lake Ozonia 123.70 51 PFAKE 06 55 40.0 +11
LONY LR LR
comp=Z,383nm,21.0s,MS5.0

NCB Newcomb 123.96 52 PFAKE 06 55 40.0 +11
NCB LR LR
comp=Z,208nm,20.0s,MS4.8

MDV Middlebury 124.71 52 *e*PKPdf PKPdf 06 55 29.1 -1.4

QUA2 Belchertown 125.32 54 *e*PKPdf PKPdf 06 55 30.9 -0.8

LBNH Lisbon 125.61 51 PFAKE 06 55 40.0 +7.8
LBNH LR LR
comp=Z,286nm,21.0s,MS4.9

HRV Adam Dziewonsk 125.91 53 PFAKE 06 55 40.0 +7.2
HRV LR LR
comp=Z,246nm,20.0s,MS4.9

BRYW Bryant College 125.93 54 *e*PKPdf PKPdf 06 55 32.0 -0.9

WES Weston 126.09 54 PFAKE 06 55 40.0 +6.8
WES LR LR
comp=Z,228nm,22.0s,MS4.8

BDFB Brasilia 126.59 132 PKP PKPdf 06 55 33.9 -1.1
comp=Z,7.8nm,0.9s,baz=197,slow=4.9,SNR=5.4

BDFB Brasilia 126.59 132 PKP PKPdf 06 55 33.9 -1.1
BDFB LR LR
comp=Z,551nm,22.0s,MS5.2

LSZ Lusaka 126.64 228 *e*PKIKP PKPdf 06 55 35.2 +0.1
LSZ MLR MLR
comp=Z,337nm,20.0s,MS5.0

LVZ Lovozero 127.39 340 PFAKE 06 55 50.0 +15
LVZ LR LR
comp=Z,161nm,21.0s,MS4.7

PKME Peaks-Kenny Pk 127.43 50 *e*PKPdf PKPdf 06 55 34.7 -1.0
PKME LR LR
comp=Z,505nm,21.0s,MS5.2

SCHQ Schefferville 127.50 38 PKP PKPdf 06 55 34.1 -1.4
comp=Z,7.7nm,1.1s,baz=328,slow=1.2,SNR=3.9

SCHQ Schefferville 127.50 38 PKP PKPdf 06 55 34.1 -1.4
SCHQ LR LR
comp=Z,501nm,22.0s,MS5.2

SJG San Juan 127.51 84 *e*PKIKP PKPdf 06 55 33.9 -2.7

HUMP Col San Antoni 127.79 84 *e*PKPdf PKPdf 06 55 36.1 -1.0

SUMG Summit 127.91 10 *e*PKPdf PKPdf 06 55 35.2 -0.5

KMBO Kilima Mbogo 128.11 249 PFAKE 06 55 50.0 +12
KMBO LR LR
comp=Z,231nm,19.0s,MS4.9

KEV Kevo 128.31 344 *ep* PKPdf 06 55 36.3 -0.3
comp=Z,8.5nm,0.7s

KEV Kevo 128.31 344 *e*PKIKP PKPdf 06 55 36.3 -0.3
KEV pmax pmax
comp=Z,9.0nm,0.7s

ARCES ARCESS Array B 128.84 345 PKP PKPdf 06 55 37.0 -0.6
comp=Z,18nm,0.7s,baz=74,slow=1.4,SNR=60

ARE0 ARCESS Array S 128.84 345 *e*PKPdf PKPdf 06 55 37.6 0.0

TSUM Tsumeb 130.13 215 *e*PKPdf PKPdf 06 55 41.6 -0.1
TSUM LR LR
comp=Z,564nm,21.0s,MS5.2

GNI Garni 131.04 304 PFAKE 06 55 50.0 +7.3
GNI LR LR
comp=Z,58nm,20.0s,MS4.3

JOF Joensuu 131.43 336 *ep* PKPdf 06 55 41.8 -0.9
comp=Z,17nm,0.7s

JOF Joensuu 131.43 336 *e*PKIKP PKPdf 06 55 41.8 -0.9
JOF pmax pmax
comp=Z,17nm,0.7s

MOS Moscow 132.15 326 *e*PKIKP PKPdf 06 55 53.4 +9.1
MOS pmax pmax
comp=Z,51nm,0.7s

KIV Kislovodsk 132.18 309 *i* PKIKP PKPdf 06 55 46.0 +1.3
KIV *e* 06 55 56.2
KIV *e* 06 58 16.6
KIV pmax pmax
comp=Z,13nm,1.1s

KIV Kislovodsk 132.18 309 PFAKE 06 56 00.0 +15
KIV LR LR
comp=Z,81nm,20.0s,MS4.4

VRSR Storozhevoye 132.86 319 *e*PKIKP PKPdf 06 55 46.7 +1.0
VRSR pmax pmax
comp=Z,2.0nm,0.5s
VRSR pmax pmax
comp=N,1.0nm,0.6s
VRSR pmax pmax
comp=E,4.0nm,1.3s

OBN Obninsk 132.95 325 *c i* PKIKP PKPdf 06 55 46.6 +0.8
OBN *e* 06 55 55.6
OBN pmax pmax
comp=Z,44nm,1.1s
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.6

OBN Obninsk 132.95 325 PFAKE 06 56 00.0 +14
OBN LR LR
comp=Z,138nm,21.0s,MS4.6

KAF Kangasniemi 133.76 337 *ep* PKPdf 06 55 45.8 -1.3
comp=Z,8.3nm,0.7s

KAF Kangasniemi 133.76 337 *e*PKIKP PKPdf 06 55 45.8 -1.3
KAF pmax pmax
comp=Z,8.0nm,0.7s

MALT Malatya 136.07 302 ⇓*i*P PKPdf 06 55 53.9 +1.7

MALT Malatya 136.07 302 ⇓P PKPdf 06 55 53.9 +1.7
MALT LR LR
comp=Z,137nm,20.0s,MS4.7

AKASG Malin Array Be 138.87 322 PKhKP 06 55 46.9
comp=Z,2.3nm,0.9s,baz=43,slow=3.7,SNR=7.4
AKASG PKP PKPdf 06 55 56.5 -0.5
comp=Z,8.6nm,0.9s,baz=60,slow=2.3,SNR=14
AKASG SKPab 06 59 41.5
comp=Z,2.0nm,0.7s,baz=55,slow=2.1,SNR=4.9

AKASG Malin Array Be 138.87 322 PKIKP PKPdf 06 55 56.5 -0.4

AKASG Malin Array Be 138.87 322 PKP PKPdf 06 55 56.5 -0.5
AKASG SKPab 06 59 41.5

AKBB Malin Array Si 138.87 322 *e*PKIKP PKPdf 06 55 55.4 -1.5

KIEV Kiev 138.88 322 *e*PKIKP PKPdf 06 55 55.0 -2.0
KIEV MLR MLR
comp=Z,140nm,21.0s,MS4.7

NOA NORSAR Array B 139.21 344 PKP PKPdf 06 55 58.2 +1.0
comp=Z,8.0nm,0.8s,baz=33,slow=1.9,SNR=21

NOA NORSAR Array B 139.21 344 PKP PKPdf 06 55 58.2 +1.0

BR131 Keskin Array S 139.55 305 *e*PKPdf PKPdf 06 55 55.0 -3.6

ANTO Ankara 140.16 305 P PKPdf 06 56 00.3 +0.7
ANTO LR LR
comp=Z,81nm,20.0s,MS4.5

KIS Kishinev 140.72 317 *e*PKIKP PKPdf 06 55 56.0 -4.4
KIS *e* 06 56 03.0

ISP Isparta 142.32 303 PFAKE 06 56 20.0 +16
ISP LR LR
comp=Z,107nm,19.0s,MS4.6

BUR08 Bucovina Ar. S 142.64 320 *e*PKPdf PKPdf 06 56 01.8 -2.1

BURAR Bucovina Array 142.65 320 ⇓*i*P PKPdf 06 56 03.9 0.0

BURAR Bucovina Array 142.65 320 ⇓P PKPdf 06 56 03.9 0.0

KWP Kalwaria 143.02 324 *e*PKP PKPdf 06 56 01.7 -2.7

KWP Kalwaria 143.02 324 *e*PKP PKPdf 06 56 01.7 -2.8
KWP LR LR
comp=Z,188nm,19.0s,MS4.9

MLR Muntele Rosu 143.17 316 ⇓*i*P PKPdf 06 56 02.9 -1.9

MLR Muntele Rosu 143.17 316 P PKPdf 06 56 02.3 -2.5

GKP Gorka Klasztor 143.35 333 *e*PKP PKPdf 06 56 02.9 -2.0

GKP Gorka Klasztor 143.35 333 *e*PKP PKPdf 06 56 02.9 -2.0

KOLS Kolonicke sedl 143.65 323 *e*PKP PKPdf 06 56 04.0 -1.6

VOIR 143.76 317 ⇓*i*P PKPdf 06 56 05.9 0.0

VOIR 143.76 317 P PKPdf 06 56 07.1 +1.2

UZH Uzhgorod 143.80 323 ⇑*e*PKIKP PKPdf 06 56 04.0 -1.9
UZH *i* 06 56 13.7

STHS Stebnicka Huta 143.93 325 *e*PKP PKPdf 06 56 04.7 -1.4

CRVS Cervenica-Dubn 144.11 324 *e*PKP PKPdf 06 56 05.5 -0.9

OJC Ojcow 144.19 327 *e*PKPdf PKPdf 06 56 04.4 -2.1
OJC *e*PKIKP PKIKP 06 56 08.8 -1.3

ZIMR 144.31 314 PKIKP PKPdf 06 56 06.0 -0.9

NIE Niedzica 144.42 325 *e*PKP PKPdf 06 56 06.5 -0.4
NIE *e* 06 56 15.1

NIE Niedzica 144.42 325 *e*PKP PKPdf 06 56 06.5 -0.4
NIE *i* 06 56 15.1

ARG Arkhangelos 144.51 301 *e*P PKPdf 06 56 07.0 -0.5

DRGR 144.54 320 ⇑*i*P PKPdf 06 56 06.6 -0.6

DRGR 144.54 320 P PKPdf 06 56 06.7 -0.5

ALN Alexandroupoli 144.85 309 *e*P PKPdf 06 56 05.3 -2.6

KECS Kecovo 144.88 324 *i* PKIKP PKPdf 06 56 07.7 0.0
KECS *e* 06 56 17.3

KECS Kecovo 144.88 324 *i* PKP PKPdf 06 56 07.7 0.0
KECS *e* 06 56 17.3
KECS *e* 06 59 11.8

KDZ Kurdzhali 145.03 311 *i* P PKPbc 06 56 07.8 +0.1

CRAR CRAIOVA 145.05 316 PKIKP PKPdf 06 56 09.5 +1.3

PRK Paraskevi 145.20 306 *e*P PKPbc 06 56 07.6 -0.7

OKC Ostrava-Krasne 145.26 328 *e*PKP PKPdf 06 56 08.7 +0.4
OKC *ep*PKP pPKPdf 06 56 18.0 -1.9

KAC Achnashellach 145.35 355 *e*P PKPbc 06 56 06.9 -1.2

RUE Ruedersdorf 145.36 334 *e*PKPbc PKPbc 06 56 08.9 +0.6

RUE Ruedersdorf 145.36 334 *e*PKPbc PKPbc 06 56 09.2 +0.8

PLD Plovdiv 145.36 312 *e*P PKPbc 06 56 07.9 -0.8

KARP Karpathos 145.40 300 *e*P PKPbc 06 56 09.0 -0.1

KSP Ksiaz 145.47 330 *i* PKPdf PKPdf 06 56 09.5 +0.8
KSP *e* 06 56 18.5

KSP Ksiaz 145.47 330 ⇓*i*PKP PKPdf 06 56 09.4 +0.7
KSP *e* 06 56 18.4

BSEG Bad Segeberg 145.48 339 *e*PKPbc PKPbc 06 56 09.0 +0.3
BSEG *ep*PKPbc pPKPbc 06 56 18.3 -1.8

RZN Rozhen 145.51 311 *i* P PKPbc 06 56 09.6 +0.4

PSZ Piszkesteto 145.53 324 ⇓*e*PKP PKPdf 06 56 09.6 +0.7

PSZ Piszkesteto 145.53 324 ⇓*i*P PKPdf 06 56 09.7 +0.8

PSZ Piszkesteto 145.53 324 P PKPdf 06 56 09.3 +0.5
PSZ LR LR
comp=Z,123nm,20.0s,MS4.7

KPL Plockton 145.53 356 *e*P PKPdf 06 56 07.7 -0.9
KPL AMb AMB 06 56 09.4
comp=Z,96nm,1.0s

MORC Moravsky Berou 145.59 328 ⇓*i*P PKPdf 06 56 09.9 +1.0

MORC Moravsky Berou 145.59 328 P PKPdf 06 56 09.3 +0.4

CHOS Chios island 145.60 305 *e*P PKPdf 06 56 09.1 -0.2

KSB Sheil Bridge 145.65 356 *e*P PKPdf 06 56 08.4 -0.3

VYHS Vyhne 145.75 325 *e*PKP PKPdf 06 56 10.5 +1.3
VYHS *e* 07 01 55.9

BZS Buzias 145.79 319 ⇓*i*P PKPdf 06 56 10.3 +0.9

BZS Buzias 145.79 319 P PKPdf 06 56 09.6 +0.2

DPC Dobruska-Polom 145.79 330 *e*PKP PKPdf 06 56 10.6 +1.4
DPC *ep*PKP pPKPdf 06 56 19.7 -1.1

UPC Upice 145.83 330 *e*PKP PKPdf 06 56 10.6 +1.3
UPC *ep*PKP pPKPdf 06 56 20.0 -0.9

LOS Limnos 145.86 308 *e*P PKPdf 06 56 09.0 -0.7

KOLL Kolacno 145.93 326 *e*PKP PKPdf 06 56 10.6 +1.1
KOLL *e* 06 56 21.0

KAR1 Arisaig 145.96 356 *e*P PKPdf 06 56 09.6 +0.2

VTS Vitosha 146.18 313 ⇑PKIKP PKPdf 06 56 10.2 0.0

VTS Vitosha 146.18 313 *i* P PKPdf 06 56 11.9 +1.7

VTS Vitosha 146.18 313 ⇑*i*P PKPdf 06 56 10.1 -0.1

VTS Vitosha 146.18 313 P PKPdf 06 56 10.3 +0.1

MMB Musomiste 146.23 311 *i* P PKPdf 06 56 11.6 +1.3

ZKR Zakros 146.24 299 *e*P PKPab 06 56 12.6 +0.2

BUD Budapest 146.26 324 ⇓*e*PKP PKPdf 06 56 11.7 +1.6

APE Apeiranthos 146.35 303 ⇓*i*P PKPdf 06 56 11.5 +0.9

APE Apeiranthos 146.35 303 ⇓P PKPdf 06 56 11.5 +0.8

VRAC Vranov 146.37 328 ⇑*i*P PKPab 06 56 12.3 -0.1

VRAC Vranov 146.37 328 P PKPdf 06 56 11.0 +0.7

EBH Black Hill 146.43 353 *e*P PKPdf 06 56 10.4 +0.3

PVCC Panska Ves 146.47 331 *e*PKP PKPab 06 56 12.7 -0.1
PVCC *ep*PKP pPKPdf 06 56 21.6 -0.4

BRG Berggiesshubel 146.49 332 *i* PKIKP PKPdf 06 56 10.7 +0.3
BRG *i* 06 56 21.0
BRG *e* 06 59 45.0
BRG pmax pmax
comp=Z,69nm,0.9s
BRG MLR MLR
comp=N,44nm,19.2s,MS4.4
BRG MLR MLR
comp=E,28nm,16.5s,MS4.4

BRG Berggiesshubel 146.49 332 *e*PKPdf PKPdf 06 56 10.7 +0.3
BRG *e*PKPbc PKPbc 06 56 12.4 +0.6

BRG Berggiesshubel 146.49 332 *i* PKP PKPdf 06 56 10.7 +0.3
comp=E,115nm,0.9s
BRG *i* 06 56 21.0
comp=E,126nm,1.0s
BRG *e* 06 59 45.0
BRG PP PP 06 59 59.8 +25
comp=E,2.8nm,0.7s
BRG
comp=N,73nm,19.2s
BRG
comp=E,47nm,16.5s
BRG
comp=Z,159nm,26.7s

BRG Berggiesshubel 146.49 332 *i* PKP PKPdf 06 56 10.7 +0.3
BRG *i* 06 56 21.0
BRG *e* 06 59 45.0
BRG PP PP 06 59 59.8 +25
BRG LR LR
comp=Z,100nm,26.7s,MS4.5

OUR Ouranopolis 146.52 309 *e*P PKPdf 06 56 11.3 +0.5

CLL Collm 146.56 334 ⇓*e*PKIKP PKPdf 06 56 10.0 -0.5
CLL *i* 06 56 12.2
CLL *i* 06 56 20.5

CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 146.56 334 *e*PKPbc PKPbc 06 56 12.3 +0.3
CLL *ep*PKPbc pPKPbc 06 56 20.9 -2.6
CLL Collm 146.56 334 *e*PKPdf PKPdf 06 56 10.0 -0.5
CLL ⇓*i*PKPbc PKPbc 06 56 12.2 +0.2
comp=Z,85nm,1.0s
CLL *i* pPKPbc pPKPbc 06 56 20.5 -3.0
comp=Z,94nm,1.0s
CLL *ex* x 06 56 57.0
CLL *e*PP PP 06 59 38.0 +2.9
CLL Collm 146.56 334 *e*PKP PKPdf 06 56 10.0 -0.5
CLL ⇓*i*PKP PKPdf 06 56 12.2 +1.7
CLL *i* 06 56 20.5
KKB Krupnik 146.56 312 *i* P PKPdf 06 56 12.3 +1.5
EAB Aberfoyle 146.57 354 *e*P PKPdf 06 56 11.4 +1.1
THR1 Thera Island 146.58 302 *e*P PKPdf 06 56 11.5 +0.5
SANT Santorini 146.58 302 *e*P PKPdf 06 56 11.4 +0.4
SANT Santorini 146.58 302 *e*PKPdf PKPdf 06 56 11.1 +0.1
SANT LR LR
comp=Z,97nm,19.0s,MS4.6
THR3 Thira Island, 146.61 302 *e*P PKPdf 06 56 11.8 +0.7
THR6 Thira Island, 146.63 302 *e*P PKPdf 06 56 11.8 +0.6
MODS Modra-Piesok 146.64 326 *e*PKP PKPab 06 56 13.2 -0.3
MODS *e* 06 56 22.2
ESY Stoneypath 146.65 352 *e*P PKPdf 06 56 11.1 +0.5
FBE Freiberg 146.71 333 *e*PKPbc PKPbc 06 56 13.0 +0.5
NRDL Niedersach Rie 146.74 337 *e*PKPdf PKPdf 06 56 11.0 +0.2
NRDL *e*PKPbc PKPbc 06 56 12.8 +0.3
NRDL *ep*PKPbc pPKPbc 06 56 21.6 -2.4
SOH Sokhos 146.79 310 *e*P PKPdf 06 56 11.7 +0.5
EAU Auchinoon 146.82 353 *e*P PKPdf 06 56 11.9 +1.1
LAST Lasithi 146.83 300 *e*P PKPab 06 56 13.6 -1.1
ZST Bratislava 146.84 326 *e*PKP PKPab 06 56 13.6 -0.7
ZST *e* 06 56 23.0
EBL Broad Law 146.84 353 *e*P PKPdf 06 56 11.8 +1.0
PRU Pruhonice 146.87 331 *e*PKP PKPdf 06 56 11.2 +0.1
PRU *ex* x 06 56 13.5
PRU *ep*PKP pPKPdf 06 56 22.8 +0.1
PAIG Paliouri 146.88 309 *e*P PKPdf 06 56 09.6 -1.9
PLG Polygyros 146.89 309 *e*P PKPdf 06 56 11.7 +0.3
PLG Polygyros 146.89 309 *e*P PKPbc 06 56 13.8 +0.4
KNT Kendrikon 146.97 311 *e*P PKPdf 06 56 12.4 +0.8
AOS Alonnisos 146.99 307 *e*P PKPdf 06 56 12.8 +1.2
HORT Hortiatis 147.05 310 *e*P PKPdf 06 56 12.6 +0.9
THE Thessaloniki 147.13 310 *e*P PKPdf 06 56 11.3 -0.6
VAY Valandovo 147.14 312 *e*P PKPdf 06 56 12.6 +0.8
VAY Valandovo 147.14 312 *i* PKP PKPdf 06 56 12.5 +0.6
VAY *i* 06 56 15.2
VAY *i* 1 06 56 21.4
CLZ Clausthal 147.17 336 *e*PKP2 PKPab 06 56 14.1 -1.3
CLZ Clausthal 147.17 336 *e*PKPdf PKPdf 06 56 11.8 +0.3
CLZ *e*PKPbc PKPbc 06 56 14.1 +0.3
PKSM Moragy 147.22 322 ⇑*i*P PKPdf 06 56 12.1 +0.3
PKSM Moragy 147.22 322 P PKPdf 06 56 11.3 -0.5
ESK Eskdalemuir 147.31 353 *e*P PKPdf 06 56 12.9 +1.3
ESK AMb AMB 06 56 15.1
comp=Z,39nm,1.1s
ESK Eskdalemuir 147.31 353 *e*PKPbc PKPbc 06 56 12.4 -1.6
ESK LR LR
comp=Z,70nm,22.0s,MS4.4
PTL Penteli 147.35 305 *e*P PKPdf 06 56 13.5 +1.2
SIVA Sivas 147.39 299 *e*P PKPbc 06 56 14.7 -0.3
GRG Griva 147.40 311 *e*P PKPdf 06 56 13.7 +1.4
NEO Neokhori 147.42 308 *e*P PKPbc 06 56 14.5 -0.4
ECK Cauldkaine Hil 147.43 353 *e*P PKPbc 06 56 14.2 -0.1
KVR Kavouri 147.49 305 *e*P PKPdf 06 56 14.0 +1.5
WERD Werda 147.50 333 *e*PKPbc PKPbc 06 56 15.2 +0.5
GUNZ Gunzen 147.55 333 *e*PKPbc PKPbc 06 56 15.5 +0.6
DIVS Divibare 147.56 318 *e*P PKPbc 06 56 15.4 +0.3
NKC Novy Kostel 147.60 333 *e*PKP PKPbc 06 56 15.7 +0.7
NKC *ep*PKP pPKPdf 06 56 25.0 +1.1
XAL Allendale 147.63 352 *e*P PKPdf 06 56 13.6 +1.4
MOX Moxa 147.63 334 *e*PKP PKPdf 06 56 12.2 -0.1
MOX *e* 06 56 15.3
comp=Z,89nm,1.3s
MOX *e* 06 56 24.0
MOX
comp=Z,100nm,20.0s
MOX Moxa 147.63 334 *e*PKPdf PKPdf 06 56 11.9 -0.4
MOX *e*PKPbc PKPbc 06 56 15.3 +0.2
SKO Skopje 147.63 313 *e*P PKPdf 06 56 13.4 +0.7
SKO Skopje 147.63 313⇑*e*PKP PKPdf 06 56 12.9 +0.3
SKO *i* 06 56 15.8
SKO *i* 1 06 56 24.8
CONA Conrad Observa 147.65 327⇓*i*P PKPbc 06 56 15.8 +0.6
comp=Z,288nm,1.8s
CONA Conrad Observa 147.65 327⇑*i*P pPKPdf 06 56 24.8 +0.8
comp=Z,286nm,1.6s
CONA Conrad Observa 147.65 327⇑*i*PKPdf PKPdf 06 56 11.7 -0.8
comp=Z,51nm,2.0s,SNR=23
CONA ⇓*i*PKPab PKPab 06 56 15.8 -1.6
comp=Z,288nm,1.8s
CONA ⇑*ip*PKPbc pPKPbc 06 56 24.8 -1.9
comp=Z,286nm,1.6s
CONA Conrad Observa 147.65 327⇓*i*P PKPab 06 56 15.8 -1.6
CSNA Conrad Observa 147.65 327⇓*i*P PKPab 06 56 15.8 -1.7
comp=Z,281nm,1.8s
CSNA Conrad Observa 147.65 327⇓*i*P pPKPdf 06 56 24.8 +0.8
comp=Z,274nm,1.7s
CSNA Conrad Observa 147.65 327⇓*i*PKPdf PKPdf 06 56 11.7 -0.8
comp=Z,49nm,2.0s
CSNA ⇓*i*PKPab PKPab 06 56 15.8 -1.7
comp=Z,281nm,1.8s
CSNA ⇓*ip*PKPbc pPKPbc 06 56 24.8 -1.9
comp=Z,274nm,1.7s
LIT Litokhoron 147.67 310 *e*P PKPdf 06 56 14.4 +1.6
IBBN Ibbenburen 147.69 339 *e*PKPbc PKPbc 06 56 15.3 +0.1
IBBN *ep*PKPbc pPKPbc 06 56 24.4 -2.3
NAIG Nisos Aigina 147.72 305 *e*P PKPdf 06 56 14.0 +1.1
VAM Vamos 147.80 300 *e*P PKPbc 06 56 16.0 0.0
LKR Lokris 147.81 307 *e*P PKPdf 06 56 14.0 +1.0
GAL1 Galloway 147.91 354 *e*P PKPbc 06 56 15.0 -0.6
GAL1 AMb AMB 06 56 15.7
comp=Z,91nm,1.0s
KHC Kasperske Hory 147.92 330 *e*PKP PKPdf 06 56 12.8 -0.1
KHC *ex* x 06 56 16.6
KHC *ep*PKP pPKPdf 06 56 25.9 +1.5
MANZ Manzenberg 147.93 333 *e*PKPdf PKPdf 06 56 13.1 +0.2
MANZ *e*PKPbc PKPbc 06 56 16.5 +0.6
DID Didima 147.99 305 *e*P PKPdf 06 56 14.9 +1.5
KARN Karanos 148.02 300 *e*P PKPbc 06 56 16.2 -0.5
KRUS Krusevo 148.02 312⇑*i*PKP PKPdf 06 56 12.8 -0.5
KRUS *i* 06 56 16.4
KRUS *i* 1 06 56 25.4
LTK Loutraki 148.04 306 *e*P PKPdf 06 56 14.5 +1.1
GEC2 GERESS Array S 148.07 330 *e*PKPdf PKPdf 06 56 12.7 -0.4
GEC2 *e*PKPbc PKPbc 06 56 16.7 +0.4
GERES GERESS Array B 148.07 330 PKPbc PKPbc 06 56 16.7 +0.4
comp=Z,51nm,0.8s,baz=48,slow=2.0,SNR=73
UBBA Unterbreizbach 148.13 336 *e*PKPbc PKPbc 06 56 16.6 +0.2
UBBA *ep*PKPbc pPKPbc 06 56 25.6 -2.3
AGG Agios Georgios 148.17 308 *e*P PKPdf 06 56 13.1 -0.5
FNA Florina 148.18 311 *e*P PKPbc 06 56 15.9 -1.0
THL Klokotos Trika 148.21 309 *e*P PKPdf 06 56 12.2 -1.5
WET Wettzell 148.23 331 *e*PKPdf PKPdf 06 56 13.5 +0.1
WET *e*PKPbc PKPbc 06 56 17.2 +0.5
WET *ep*PKPbc pPKPbc 06 56 26.2 -2.0
ARSA Arzberg 148.26 326⇑*i*P PKPbc 06 56 16.8 0.0
comp=Z,195nm,2.2s
ARSA Arzberg 148.26 326⇑*i*P pPKPbc 06 56 25.8 -2.6
comp=Z,169nm,2.2s
ARSA Arzberg 148.26 326⇓*i*PKPdf PKPdf 06 56 12.5 -1.0
comp=Z,36nm,2.2s,SNR=10.0
ARSA ⇑*i*PKPbc PKPbc 06 56 16.8 0.0
comp=Z,195nm,2.2s
ARSA ⇑*ip*PKPbc pPKPbc 06 56 25.8 -2.6
comp=Z,169nm,2.2s
ARSA Arzberg 148.26 326⇑*i*P PKPbc 06 56 16.8 0.0
WTSB Winterswijk 148.29 340 *i* PKPpre PKPbc 06 56 16.7 -0.1
comp=Z,112nm,1.5s
WTSB Winterswijk 148.29 340 *i* PKPab pPKPdf 06 56 25.5 +0.5
comp=Z,110nm,1.4s
OHR Ohrid 148.44 312 *e*P PKPdf 06 56 13.4 -0.6
OHR Ohrid 148.44 312⇑*i*PKP PKPdf 06 56 13.3 -0.7
OHR *i* 06 56 16.8
OHR *i* 1 06 56 23.6
VLI Veliai 148.45 303 *e*P PKPbc 06 56 16.5 -1.2
KYTH Kithira 148.49 302 *e*P PKPbc 06 56 18.0 +0.2
MOA Molln 148.50 328⇓*i*P PKPbc 06 56 17.6 +0.1
comp=Z,202nm,2.2s
MOA Molln 148.50 328⇑*i*P pPKPbc 06 56 26.7 -2.3
comp=Z,91nm,1.7s
MOA Molln 148.50 328⇓*i*P PKPbc 06 56 17.6 +0.1
comp=Z,30nm,2.1s,SNR=15
MOA ⇓*i*PKPbc PKPbc 06 56 17.6 +0.1
comp=Z,202nm,2.2s
MOA ⇑*ip*PKPbc pPKPbc 06 56 26.7 -2.3
comp=Z,91nm,1.7s
MOA Molln 148.50 328⇓*i*P PKPbc 06 56 17.6 +0.1
GRA1 Grafenberg Arr 148.53 333 *e*PKPdf PKPdf 06 56 13.8 0.0
GRA1 *e*PKPbc PKPbc 06 56 17.9 +0.4
GRA1 LR LR
comp=Z,100nm,21.5s,MS4.6
GRF Grafenberg Arr 148.53 333 *e*PKPdf PKPdf 06 56 13.8 0.0
GRF *e*PKPbc PKPbc 06 56 17.9 +0.4
GRF *eL* 08 01 22.4
comp=Z,67nm,21.5s
GRFO Grafenberg 148.53 333 *e*PKPbc PKPbc 06 56 18.0 +0.5
BUG Bochum--Univer 148.59 339 *e*PKPbc PKPbc 06 56 17.5 -0.1
EVR Evrytania 148.59 308 *e*P PKPbc 06 56 17.5 -0.5
VLX Vlachokerasia 148.68 305 *e*P PKPbc 06 56 17.5 -0.8
MEV Metsovon 148.68 310 *e*P PKPbc 06 56 18.8 +0.6
SOKA Soboth 148.89 326⇓*i*P PKPbc 06 56 18.2 -0.3
SOKA Soboth 148.89 326⇑*i*P pPKPbc 06 56 27.1 -2.9
SOKA Soboth 148.89 326⇓*i*PKPdf PKPdf 06 56 13.4 -1.1
SOKA ⇓*i*PKPbc PKPbc 06 56 18.2 -0.3
SOKA ⇑*ip*PKPbc pPKPbc 06 56 27.1 -2.9
SISC Sisak 148.93 323 *i* P PKPbc 06 56 19.2 +0.6
TIR Tirane 148.97 313 *e*P PKPbc 06 56 18.9 0.0
TIR Tirane 148.97 313 *e*PKPbc PKPbc 06 56 19.3 +0.4
TIR LR LR
comp=Z,100nm,21.0s,MS4.6
ASCN Ascension 148.99 172 PFAKE 06 56 30.0 +14
ASCN LR LR
comp=Z,507nm,21.0s,MS5.3
DMUB Kingscourt 149.04 356 *e*P PKPbc 06 56 18.1 -0.5
ITM Ithomi 149.09 305 *e*P PKPbc 06 56 18.0 -1.3
KBI1 Birley Grange 149.09 350 *e*P PKPbc 06 56 18.3 -0.5
TNS Taunus Mts 149.19 337 *e*PKPdf PKPdf 06 56 14.4 -0.5
TNS *e*PKPbc PKPbc 06 56 19.4 +0.3
TNS *ep*PKPbc pPKPbc 06 56 28.8 -1.9
OBKA Obir 149.26 326⇓*i*P PKPbc 06 56 19.0 -0.4
comp=Z,198nm,2.1s
OBKA Obir 149.26 326⇑*i*P pPKPbc 06 56 28.1 -2.8
comp=Z,85nm,1.5s
OBKA Obir 149.26 326⇓*i*PKPdf PKPdf 06 56 11.2 -3.9
comp=Z,84nm,3.4s,SNR=12
OBKA ⇓*i*PKPbc PKPbc 06 56 19.0 -0.4
comp=Z,198nm,2.1s
OBKA ⇑*ip*PKPbc pPKPbc 06 56 28.1 -2.8
comp=Z,85nm,1.5s
OBKA Obir 149.26 326⇓*i*P PKPbc 06 56 19.0 -0.4
STNC Stoke 149.35 351 *e*P PKPbc 06 56 18.5 -0.9
KWE Weaver Farm 149.37 350 *e*P PKPbc 06 56 18.9 -0.6
KBA Koelnbreinsper 149.48 328⇓*i*P PKPbc 06 56 19.5 -0.5
comp=Z,141nm,1.3s
KBA Koelnbreinsper 149.48 328⇑*i*P pPKPbc 06 56 28.6 -2.9
comp=Z,184nm,1.4s
KBA Koelnbreinsper 149.48 328⇓*i*PKPdf PKPdf 06 56 14.0 -1.4
comp=Z,33nm,1.9s,SNR=27
KBA ⇓*i*PKPbc PKPbc 06 56 19.5 -0.5
comp=Z,141nm,1.3s
KBA ⇑*ip*PKPbc pPKPbc 06 56 28.6 -2.9
comp=Z,184nm,1.4s
KBA Koelnbreinsper 149.48 328⇓*i*P PKPbc 06 56 19.5 -0.5
LKD Levkas 149.51 308 *e*P PKPbc 06 56 19.9 -0.5
BOJS Bojanci 149.53 324 *i* PKPdf PKPdf 06 56 15.0 -0.6
BOJS *i* PKPbc PKPbc 06 56 20.7 +0.6
BOJS *e*PKPab PKPab 06 56 29.8 +4.6
CWF Charnwood Fore 149.55 349 *e*P PKPbc 06 56 19.4 -0.6
CWF AMb AMB 06 56 20.7
comp=Z,90nm,1.8s
TOD Tromm 149.56 335 PKHKP 06 56 15.5
LJU Ljubljana 149.57 325 *i* PKPdf PKPdf 06 56 14.9 -0.7
LJU *i* PKPbc PKPbc 06 56 20.4 +0.2
LJU *i* PKPab PKPab 06 56 29.6 +4.3
HGN Heimansgroeve 149.60 340 *i* PKiKP PKPdf 06 56 14.9 -0.6
comp=Z,14nm,1.8s
HGN Heimansgroeve 149.60 340 *i* PKPpre PKPbc 06 56 19.8 -0.3
comp=Z,86nm,1.4s
HGN Heimansgroeve 149.60 340 *i* PKPab PKPab 06 56 28.9 +3.7
comp=Z,6.1nm,0.2s
DCN Croghan 149.61 357 *e*P PKPbc 06 56 19.5 -0.6
KFL Anninata 149.63 307 *e*P PKPbc 06 56 20.6 -0.1
MYKA Terra Mystica 149.64 327⇑*i*P PKPbc 06 56 19.9 -0.5
comp=Z,540nm,1.7s
MYKA Terra Mystica 149.64 327⇑*i*P pPKPbc 06 56 28.9 -3.0
comp=Z,265nm,1.4s
MYKA Terra Mystica 149.64 327⇓*i*PKPdf PKPdf 06 56 13.4 -2.3
comp=Z,914nm,3.2s
MYKA ⇑*i*PKPbc PKPbc 06 56 19.9 -0.5
comp=Z,540nm,1.7s
MYKA ⇑*ip*PKPbc pPKPbc 06 56 28.9 -3.0
comp=Z,265nm,1.4s
BEBN Eben Emael 149.65 340 PKPbc PKPbc 06 56 20.2 -0.1
FUR Furstenfeldbru 149.66 331 *e*PKPbc PKPbc 06 56 20.7 +0.3
MEM Membach 149.71 340 PKPbc PKPbc 06 56 20.5 +0.1
MEM APKP 06 56 29.7
KEK Kerkira 149.72 310 *e*P PKPbc 06 56 20.5 -0.3
VLS Valsamata 149.75 307 *e*P PKPbc 06 56 19.9 -1.1
VLS Valsamata 149.75 307 *e*P PKPbc 06 56 20.5 -0.4
VOY Vojsko 149.91 326 *e*PKP PKPbc 06 56 20.9 -0.2
VOY *e* 06 56 30.2
VOY *e* 06 56 54.8
PTCC Patocco-Chiusa 149.94 327 PKP PKPbc 06 56 19.7 -1.4
UCC Uccle 150.05 342 PKPbc PKPbc 06 56 21.2 0.0
UCC APKP 06 56 30.6
STU Stuttgart 150.08 334 *e*PKPbc PKPbc 06 56 21.8 +0.4
STU Stuttgart 150.08 334 *e*PKPbc PKPbc 06 56 21.9 +0.6
GMNA Gemona 150.09 327 PKP PKPdf 06 56 16.9 +0.4
BCLA Clavier 150.10 340 PKPbc PKPbc 06 56 21.4 0.0
ABTA Abfaltersbach 150.12 328⇓*i*P PKPbc 06 56 21.1 -0.5
comp=Z,186nm,1.4s
ABTA Abfaltersbach 150.12 328⇓*i*P pPKPbc 06 56 30.1 -2.9
comp=Z,186nm,1.5s
ABTA Abfaltersbach 150.12 328⇑*i*PKPdf PKPdf 06 56 15.3 -1.2
comp=Z,39nm,1.4s,SNR=35
ABTA ⇓*i*PKPbc PKPbc 06 56 21.1 -0.5
comp=Z,186nm,1.4s
ABTA ⇓*ip*PKPbc pPKPbc 06 56 30.1 -2.9
comp=Z,186nm,1.5s
RUP Ruppelstein 150.13 337 PKIKP PKPdf 06 56 16.6 +0.2
WATA Walderalm 150.14 330⇓*i*P PKPbc 06 56 21.6 +0.1
comp=Z,103nm,1.1s
WATA Walderalm 150.14 330⇓*i*P pPKPbc 06 56 30.8 -2.3
comp=Z,293nm,1.7s
WATA Walderalm 150.14 330⇑*i*PKPdf PKPdf 06 56 16.2 -0.4
comp=Z,18nm,1.4s,SNR=6.9
WATA ⇓*i*PKiKP PKPbc 06 56 21.6 +0.1
comp=Z,103nm,1.1s
WATA ⇓*ip*PKPbc pPKPbc 06 56 30.8 -2.3
comp=Z,293nm,1.7s
WTTA Wattenberg 150.17 330⇓*i*P PKPbc 06 56 21.9 +0.3
comp=Z,370nm,1.3s
WTTA Wattenberg 150.17 330⇑*i*P pPKPbc 06 56 30.6 -2.6
comp=Z,423nm,1.4s
WTTA Wattenberg 150.17 330⇓*i*PKPdf PKPdf 06 56 16.0 -0.5
comp=Z,78nm,1.8s,SNR=24
WTTA ⇓*i*PKiKP PKPbc 06 56 21.9 +0.3
comp=Z,370nm,1.3s
WTTA ⇑*ip*PKPbc pPKPbc 06 56 30.6 -2.6
comp=Z,423nm,1.4s
SKDS Skadanscina 150.17 325 *i* PKP PKPbc 06 56 21.4 -0.3
TRI Trieste 150.19 325 *e*PKIKP PKPbc 06 56 21.1 -0.7
TRI MLR MLR
comp=Z,122nm,21.0s,MS4.7
NVLJ Novalja 150.33 323 *i* P PKPbc 06 56 21.4 -0.7
MOTA Moosalm 150.35 330⇓*i*P PKPbc 06 56 22.2 +0.1
comp=Z,134nm,1.0s
MOTA Moosalm 150.35 330⇓*i*P PKPab 06 56 31.5 +3.1
comp=Z,67nm,0.9s
MOTA Moosalm 150.35 330⇑*i*PKPdf PKPdf 06 56 16.4 -0.5
comp=Z,13nm,1.1s,SNR=26
MOTA ⇓*i*PKiKP PKPbc 06 56 22.2 +0.1
comp=Z,134nm,1.0s
MOTA ⇓*ip*PKPbc PKPab 06 56 31.5 +3.1
comp=Z,67nm,0.9s
SQTA Sankt Quirin 150.40 330⇑*i*P PKiKP 06 56 22.4 -0.5
SQTA Sankt Quirin 150.40 330⇑*i*P 06 56 31.8
SQTA Sankt Quirin 150.40 330⇓*i*PKPdf PKPdf 06 56 16.7 -0.2
SNR=22
SQTA ⇑*i*PKiKP PKiKP 06 56 22.4 -0.5
SQTA ⇑*ip*PKiKP 06 56 31.8
RETA Reutte 150.40 331⇓*i*P PKiKP 06 56 22.3 -0.7
comp=Z,113nm,1.3s
RETA Reutte 150.40 331⇑*i*P pPKPbc 06 56 31.2 -2.5
comp=Z,155nm,1.3s
RETA Reutte 150.40 331⇓*i*PKPdf PKPdf 06 56 15.7 -1.2
comp=Z,65nm,2.4s,SNR=18
RETA ⇓*i*PKiKP PKiKP 06 56 22.3 -0.7
comp=Z,113nm,1.3s
RETA ⇑*ip*PKPbc pPKPbc 06 56 31.2 -2.5
comp=Z,155nm,1.3s
LANF Langenberg 150.45 336 PKP PKPdf 06 56 17.0 +0.1
WLF Walferdange 150.47 338 PKPbc PKPbc 06 56 23.0 +0.7
WLF APKP 06 56 32.5
WLF Walferdange 150.47 338 *e*PKPdf PKPdf 06 56 16.7 -0.2
WLF *e*PKPbc PKPbc 06 56 22.9 +0.6
WLF Walferdange 150.47 338 *e*PKPbc PKPbc 06 56 22.9 +0.6
WLF LR LR
comp=Z,133nm,19.0s,MS4.8
GIVF Givet 150.53 340 *e*PKIKP PKPdf 06 56 16.4 -0.6
MCH1 Michaelchurch 150.53 351 *e*P PKPbc 06 56 21.7 -0.7
MCH1 AMb AMB 06 56 23.8
comp=Z,92nm,1.7s
DOU Dourbes 150.60 341 PKPbc PKPbc 06 56 22.8 +0.2
DOU APKP 06 56 32.0
BAIF Baives 150.75 341 *e*PKIKP PKPdf 06 56 16.6 -0.8
FETA Feichten 150.76 330⇓*i*P PKiKP 06 56 23.3 -0.4
comp=Z,186nm,1.1s
FETA Feichten 150.76 330⇑*i*P 06 56 32.5
comp=Z,201nm,1.2s
FETA Feichten 150.76 330⇓*i*PKPdf PKPdf 06 56 16.8 -0.7
comp=Z,88nm,2.8s,SNR=32
FETA ⇓*i*PKiKP PKiKP 06 56 23.3 -0.4
comp=Z,186nm,1.1s
FETA ⇑*ip*PKiKP 06 56 32.5
comp=Z,201nm,1.2s
SPAK Spaichingen-Ko 150.78 334 PKP PKPdf 06 56 17.2 -0.3
BFO Black Forest 150.78 334 *e*PKPbc PKPbc 06 56 22.9 -0.2
BFO *e*PKPab PKPab 06 56 32.1 +1.9
BFO Black Forest 150.78 334 *e*PKPbc PKPbc 06 56 22.9 -0.2
BFO *e*PKPab PKPab 06 56 32.1 +1.9
BFO LR LR
comp=Z,103nm,21.0s,MS4.6
SWN1 Swindon 150.81 349 *e*P PKPbc 06 56 21.3 -1.8
DAVA Damuels 150.95 331⇓*i*P PKiKP 06 56 23.6 -0.5
comp=Z,182nm,1.4s
DAVA Damuels 150.95 331⇓*i*PKPdf PKPdf 06 56 17.2 -0.6
comp=Z,63nm,2.5s,SNR=15
DAVA ⇓*i*PKiKP PKiKP 06 56 23.6 -0.5
comp=Z,182nm,1.4s
DAVA Damuels 150.95 331⇓*i*P PKPdf 06 56 17.2 -0.6
CTI Castel Tesino 151.04 328 PKIKP PKPdf 06 56 17.7 -0.2
CDF Champ du Feu 151.12 336 *e*PKIKP PKPdf 06 56 16.8 -1.2
FELD Feldberg im Sc 151.27 334 PKP PKPdf 06 56 17.7 -0.5
ECH Echery 151.33 336 PKP PKPdf 06 56 17.7 -0.6
MOF Molkenrain 151.64 335 PKP PKPdf 06 56 18.1 -0.7
THEF They Montfort 151.75 337 PKP PKPdf 06 56 18.3 -0.7
HINF Hinteralfeld 151.77 336 *e*PKIKP PKPdf 06 56 17.8 -1.2
comp=Z,46nm,1.3s
BBS Basel-Blauen 151.80 334 PKIKP PKPdf 06 56 18.5 -0.6
HAU Haudompre 151.81 336 *e*PKIKP PKPdf 06 56 18.0 -1.0
HAU *e*MLR MLR
comp=Z,131nm,22.2s,MS4.4
HAU Haudompre 151.81 336 *e*PKPdf PKPdf 06 56 18.0 -1.0
HAU LR LR
comp=Z,130nm,22.3s,MS4.7
MEZF Maizieres J'vi 151.84 338 *e*PKIKP PKPdf 06 56 18.5 -0.6
TIP Timpagrande 152.07 312 *e*PKPdf PKPdf 06 56 19.1 -0.6
TIP *e*PKPbc PKPbc 06 56 25.4 -0.9
TIP *e*PKPab PKPab 06 56 33.6 -2.3
TIP LR LR
comp=Z,96nm,20.0s,MS4.6
LOMF Lomont 152.16 335 PKP PKPdf 06 56 18.8 -0.8
SNTG Esanatoglia 152.24 322 PKP PKPdf 06 56 20.9 +1.1
CUC Castrocucco 152.32 314 PFAKE 06 56 30.0 +10
CUC LR LR
comp=Z,116nm,19.0s,MS4.7
SFI Santa Sofia 152.41 324 PKIKP PKPdf 06 56 20.5 +0.4
GRI Girifalco 152.47 311 PKIKP PKPdf 06 56 20.6 +0.3
FNVD Fontana Vidola 152.62 326 PKP PKPdf 06 56 20.8 +0.4
VLC Villacollemand 153.00 326 PFAKE 06 56 30.0 +9.1
VLC LR LR
comp=Z,136nm,21.0s,MS4.7
OG01 Vacheresse 153.06 334 PKP PKPdf 06 56 19.2 -1.7
CABF La Chapelle 153.06 335 *e*PKIKP PKPdf 06 56 20.5 -0.4
comp=Z,73nm,1.4s
CEL Celeste 153.09 310 *e*PKPbc PKPbc 06 56 28.3 -0.4
CEL LR LR
comp=Z,84nm,21.0s,MS4.5
BNI Bardonecchia 154.08 332 PFAKE 06 56 30.0 +7.5
BNI LR LR
comp=Z,150nm,20.0s,MS4.8
MBDF Montbardon 154.30 332 *e*PKIKP PKPdf 06 56 22.0 -0.8
SBF Sospel 154.67 329 *e*PKIKP PKPdf 06 56 23.5 +0.2
comp=Z,88nm,1.3s
SSB Saint Sauveur 154.77 335 PKP PKPdf 06 56 22.9 -0.5
PGF Pioggiola 154.86 325 *e*PKIKP PKPdf 06 56 23.1 -0.5
LMR La Mourre 155.51 330 *e*PKIKP PKPdf 06 56 23.2 -1.3
comp=Z,37nm,1.2s
LASF Ste Croix 156.04 335 *e*PKIKP PKPdf 06 56 24.3 -0.9
VSL Villasalto 156.69 319 PFAKE 06 56 40.0 +14
VSL LR LR
comp=Z,91nm,20.0s,MS4.6
KEST Kesra 158.90 311 PKP PKPdf 06 56 28.5 -0.5
comp=Z,0.9nm,0.6s,baz=234,slow=1.7,SNR=3.7
KEST PKPab PKPab 06 57 06.2 +1.0
comp=Z,2.2nm,0.7s,baz=216,slow=2.2,SNR=4.7
PVIS Viseu 162.23 355 *e*PKPab PKPab 06 57 19.3 -0.1
MTE Manteigas 162.51 354 *e*PKPab PKPab 06 57 20.4 -0.2
ESDC Sonseca Array 162.57 344 PKPab PKPab 06 57 20.5 -0.4
comp=Z,1.7nm,0.6s,baz=10,slow=3.4,SNR=6.2
ESLA Sonseca Array 162.57 344 PFAKE 06 56 40.0 +7.1
ESLA LR LR
comp=Z,774nm,20.0s
LIC Lamto 162.65 197 *e*PKIKP PKPdf 06 56 33.1 -0.7
comp=Z,81nm,1.5s
LIC Lamto 162.65 197⇑*i*PKIKP PKPdf 06 56 33.2 -0.6
comp=Z,87nm,1.4s
LIC *e*MLR MLR
comp=Z,185nm,21.0s
LIC Lamto 162.65 197⇑*i*PKPdf PKPdf 06 56 33.2 -0.6
LIC LR LR
comp=Z,90nm,21.0s
KIC Kosan Boka 162.70 198 *e*PKIKP PKPdf 06 56 32.8 -1.0
comp=Z,181nm,1.5s
PAB San Pablo 162.79 345 PFAKE 06 56 40.0 +6.9
PAB LR LR
comp=Z,171nm,20.0s
DBIC Dimbokro 163.02 198 PKP PKPdf 06 56 32.6 -1.5
comp=Z,13nm,1.1s,baz=150,slow=4.4,SNR=6.4
DBIC PKPab PKPab 06 57 23.0 -0.6
comp=Z,22nm,0.8s,baz=147,slow=6.1,SNR=18
DBIC Dimbokro 163.02 198 PKP PKPdf 06 56 32.6 -1.5
DBIC PKPab PKPab 06 57 23.0 -0.6
DBIC LR LR
comp=Z,309nm,21.0s
TIC Toumodi 163.05 197 *e*PKIKP PKPdf 06 56 33.1 -1.0
comp=Z,106nm,1.4s
PCBR Castelo Branco 163.05 353 *e*PKPab PKPab 06 57 23.1 +0.1
EVO Evora 164.40 354 *e*PKIKP PKPdf 06 56 34.0 -0.6
comp=Z,31nm,1.2s
EVO *e*MLR MLR
comp=Z,148nm,22.0s
EVO Evora 164.40 354 *e*PKPdf PKPdf 06 56 34.1 -0.5
PBAR Barrancos 164.64 351 *e*PKPdf PKPdf 06 56 34.4 -0.5
PBEJ Beja 164.89 353 *e*PKPab PKPab 06 57 31.0 -0.1
TOA0 Torodi Ar. Sit 165.16 231 *e*PKPdf PKPdf 06 56 34.8 -1.1
TORD Torodi Ar. Bea 165.16 231 PKP PKPdf 06 56 35.0 -1.0
comp=Z,13nm,1.0s,baz=8.2,slow=0.6,SNR=48
TORD PKPab PKPab 06 57 32.4 -0.7
comp=Z,9.3nm,1.1s,baz=127,slow=3.9,SNR=9.6
TORD PP PP 07 01 19.6 +0.2
comp=Z,1.0nm,1.0s,baz=121,slow=4.7,SNR=3.5
PVAQ Vaqueiros 165.49 353 *e*PKPab PKPab 06 57 34.1 +0.3
TAM Tamanrasset 165.64 272 *e*PKIKP PKPdf 06 56 36.4 +0.2
TAM *e* 06 57 35.9
PFVI Vila Bisbo 165.86 356 *e*PKPab PKPab 06 57 35.3 -0.1
SFS San Fernando 166.16 347 PFAKE 06 56 50.0 +14
SFS LR LR
comp=Z,286nm,20.0s
RTC Rabat Centre 168.68 346 PFAKE 06 56 50.0 +12
RTC LR LR
comp=Z,185nm,20.0s

IDC 30 06:49:39.7±1.8**,2734S**<**17955W,h425**km±16km**,mb3.3**/3**,**
mb1 3.5/4**,mb1mx3.2**/16**,mbtmp3.4**/4**,Error ellipse:**
s-maj=47.3km s-min=26.1km az=46.0,Kermadec

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.38**	**143**	P	P	06 50 42.2	+1.9
	269nm,0.3s,baz=84,slow=14,SNR=19						
RAO				S	S	06 51 28.9	-0.5
	63nm,0.3s,baz=75,slow=20,SNR=1.5						
URZ	**Urewera**	**11.25**	**194**	P	P	06 52 10.6	+0.2
	3.1nm,0.3s,baz=23,slow=3.6,SNR=28						
URZ				S	S	06 54 15.0	+0.2
	3.4nm,0.3s,baz=14,slow=22,SNR=13						
CTA	**Charters Tower**	**32.06**	**276**	P	P	06 55 30.5	+0.8
	4.0nm,0.3s,baz=96,slow=9.7,SNR=9.1						
ASAR	**Alice Springs**	**41.99**	**264**	P	P	06 56 52.0	0.0
	0.5nm,0.4s,baz=94,slow=8.1,SNR=9.4						
WRA	**Warramunga Arr**	**42.69**	**270**	P	P	06 56 56.9	-0.7
	1.1nm,0.5s,baz=103,slow=8.5,SNR=35						
TORD	**Torodi Ar. Bea**	**165.83**	**185**	PKPab	PKPab	07 09 57.0	-0.4
	0.6nm,1.1s,baz=190,slow=3.9,SNR=3.0						

CASC 30 07:07:08.9±1.9, 778N×8252W, h2km±10km, MD4.4, 10C-3D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBS2		**1.01**	**352**	⇓*i*P	Pg	07 07 34.1	+5.7
TBS2				*e*S	Sg	07 07 48.2	+6.7
BRU2	**Volcan**	**1.02**	**350**	⇑*i*P	Pg	07 07 28.1	-0.4
ACR	**Cerro Adams**	**1.08**	**324**	⇑*e*P	Pg	07 07 28.9	-0.7
CTCR	**Cotoan**	**1.13**	**348**	⇑*i*P	Pg	07 07 29.8	-0.8
BAR1		**1.65**	**332**	⇑*e*P	Pn	07 07 37.8	-1.1
BUS	**Buena Vista**	**2.15**	**325**	⇑*e*P	Pn	07 07 45.3	-0.5
BUS				*e*S	Sn	07 08 13.3	+0.4
LIO	**Limon**	**2.27**	**347**	*e*P	Pn	07 07 47.6	+0.2
LIO				*e*S	Sn	07 08 18.3	+2.4
QCR	**Quepos**	**2.31**	**315**	⇑*e*P	Pn	07 07 46.7	-1.2
URSC	**Urasca**	**2.39**	**329**	⇑*e*P	Pn	07 07 49.0	-0.1
LCR2	**La Lucha 2**	**2.44**	**323**	⇑*e*P	Pn	07 07 49.3	-0.4
SJS	**Escuela Geolog**	**2.63**	**325**	*e*P	Pn	07 07 52.8	+0.5
PRS1	**Puriscal**	**2.81**	**321**	*e*P	Pn	07 07 53.5	-1.4
CGA2	**Cerro Gallo 2**	**2.94**	**319**	*e*P	Pn	07 07 56.7	+0.1
BCIP	**Isla Barro Col**	**2.99**	**62**	⇑*i*P	Pn	07 07 56.8	-0.5
BCIP				*e*S	Sn	07 08 35.1	+1.4
UPIG		**3.19**	**68**	⇑*i*P	Pn	07 08 00.1	0.0
UPIG				*e*S	Sn	07 08 38.8	+0.1
JCR	**Jicaral**	**3.28**	**309**	*e*P	Pn	07 08 00.7	-0.6
2RIO	**Dos Rios de Up**	**3.83**	**316**	*e*P	Pn	07 08 14.1	+5.3
VCR	**Vista de Mar**	**3.86**	**307**	*e*P	Pn	07 08 08.6	-0.6
CUI		**3.88**	**318**	⇓*e*P	Pn	07 08 10.0	+0.4
LAPE	**La Pedrera**	**10.85**	**90**	⇓*e*P		07 08 12.9	

*NEIC **30** 07:11:28.4±8.7, 2585N×14372E, h1km±53km, mb4.7/1, Error ellipse: s-maj=25.3km s-min=12.1km az=93.0*
*IDC **30** 07:11:28.8±0.7, 2591N×14375E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.9/21, mbtmp3.8/10, ML4.0/1, Error ellipse: s-maj=24.9km s-min=16.8km az=59.0*
*JMA **30** 07:11:29.7±0.2, 2605N×14407E, h38km, M4.5*
*ISCJB **30** 07:11:33.2±2.6, 2638N±006×14397E±007, h28km±19km, mb3.8/10, Error ellipse: s-maj=11.1km s-min=9.9km az=141.3*

ISC 30 07:11:33.6±2.7, 2611N±006×14388E±008, h30km±19km, n26, σ1§22/29, mb3.8/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.61**	**289**	P	**Pn**	**07 11 59.2**	**-0.8**
JHHJ				*e*S	**Sn**	**07 12 21.6**	**+1.8**
CBIJ	**Chichi jima**	**1.81**	**303**	P	**Pn**	**07 12 02.0**	**-0.7**
CBIJ				S	**Sn**	**07 12 25.5**	**+0.9**
CBIJ	**Chichi jima**	**1.81**	**303**	Pn	**Pn**	**07 12 02.1**	**-0.6**
	47nm,0.3s,baz=265,slow=22,SNR=22						
CBIJ				Sn	**Sn**	**07 12 25.4**	**+0.8**
	175nm,0.3s,baz=283,slow=22,SNR=16						
JHJ2	**Mitsune**	**7.83**	**334**	*e*S	**Sn**	**07 14 51.9**	**-1.0**
BSO1	**Boso 1**	**8.88**	**344**	P	**Pn**	**07 13 40.4**	**+0.6**
BSO1				*e*S	**Sn**	**07 15 16.9**	**-1.9**
JOD2	**Odawara 2**	**10.01**	**337**	P	**Pn**	**07 13 56.1**	**+0.7**
JHU	**Hanno**	**10.48**	**339**	P	**Pn**	**07 14 01.9**	**+0.1**
JHU				*e*S	**Sn**	**07 15 56.7**	**-1.5**
JHO	**Hitachi**	**10.85**	**346**	P	**Pn**	**07 14 07.0**	**+0.2**
JHO				*e*S	**Sn**	**07 16 02.8**	**-4.3**
MJAR	**Matsushiro Arr**	**11.47**	**336**	Pn	**Pn**	**07 14 15.6**	**+0.3**
	0.9nm,0.3s,baz=153,slow=10,SNR=5.3						
SONM	**Songino Array**	**36.48**	**316**	P	**P**	**07 18 37.4**	**+1.6**
	0.4nm,0.4s,mb3.7,baz=103,slow=6.5,SNR=3.0						
WB2	**Warramunga Arr**	**46.70**	**192**	*e*P	**P**	**07 19 56.1**	**-3.6**
WB2	**Warramunga Arr**	**46.70**	**192**	*e*P	**P**	**07 19 56.8**	**-3.0**
WRA	**Warramunga Arr**	**46.70**	**192**	P	**P**	**07 19 57.0**	**-2.8**
	2.6nm,0.8s,mb4.2,baz=13,slow=8.5,SNR=15						
FITZ	**Fitzroy Crossi**	**47.38**	**204**	*e*P	**P**	**07 20 00.3**	**-4.8**
	5.3nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**47.38**	**204**	P	**P**	**07 20 06.9**	**+1.8**
	2.6nm,0.7s,mb4.3,baz=10,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**50.41**	**192**	P	**P**	**07 20 27.2**	**-1.0**
	0.2nm,0.5s,mb3.4,baz=10,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**52.27**	**310**	P	**P**	**07 20 41.2**	**-0.9**
	0.3nm,0.5s,mb3.5,baz=98,slow=7.5,SNR=2.6						
BVAR	**Borovoye Array**	**59.79**	**318**	P	**P**	**07 21 36.1**	**+0.4**
	2.6nm,0.7s,mb4.3,baz=94,slow=8.9,SNR=14						
YKA	**Yellowknife Ar**	**72.29**	**29**	P	**P**	**07 22 56.6**	**+0.8**
	0.7nm,0.8s,mb3.7,baz=293,slow=5.7,SNR=4.2						
NVAR	**Mina Array Bea**	**79.93**	**52**	P	**P**	**07 23 42.1**	**+2.3**
	0.8nm,0.8s,mb3.7,baz=278,slow=6.9,SNR=8.3						
PDAR	**Pinedale Array**	**83.84**	**45**	P	**P**	**07 24 01.3**	**+1.0**
	0.3nm,0.7s,mb3.5,baz=293,slow=4.5,SNR=3.9						
NB2	**NORSAR Subarra**	**85.08**	**339**	P	**P**	**07 24 06.4**	**+0.2**
	comp=Z,1.0nm,0.8s,mb4.0,baz=43,slow=4.6						
NOA	**NORSAR Array B**	**85.08**	**339**	P	**P**	**07 24 06.3**	**+0.1**
	comp=Z,1.3nm,0.9s,mb4.1,baz=52,slow=4.4,SNR=4.4						
PLCA	**Paso Flores**	**148.00**	**126**	PKPbc	PKPbc	07 31 16.0	-0.1
	comp=Z,1.5nm,0.9s,baz=241,slow=4.4,SNR=3.2						
LPAZ	**La Paz**	**148.67**	**78**	PKPbc	PKPbc	07 31 18.9	+0.4
	comp=Z,1.1nm,0.8s,baz=259,slow=5.0,SNR=7.2						
LPAZ	**La Paz**	**148.67**	**78**	PKPbc	PKPbc	07 31 18.9	+0.4

*ISCJB **30** 07:34:42.6±0.3, 4962S±005×1175E±02, h10km, mb4.8/32, MS4.5/24, Error ellipse: s-maj=14.9km s-min=6.3km az=15.5*
*MOS **30** 07:34:42.8±1.3, 4955S×11747E, h10km, mb5.2/7, Error ellipse: s-maj=31.5km s-min=10.2km az=81.2*
*BJI **30** 07:34:42.8, 4984S×11654E, h22km, mB5.3, mb5.0, Ms4.9, Msz4.6*
*IDC **30** 07:34:42.4±0.5, 4955S×11746E, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.6/15, mbtmp4.4/14, MS4.4/16, Ms1 4.4/16, ms1mx4.3/17, Error ellipse: s-maj=27.0km s-min=13.7km az=113.0*
*GCMT **30** 07:34:43.8±0.2, 4958S×11738E, h12km, MW5.1/89, Moment Tensor Solution. s46,c61; s89,c147; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.07±.12; $M_{\theta\theta}$4.48±.11; $M_{\phi\phi}$1.59±.14; $M_{r\theta}$-0.26±.34; $M_{\theta\phi}$-2.94±.09; $M_{\phi r}$1.40±.40; Best double couple: $M_0$6.35500×10^{16} NP1:ϕ_S292.00000°, δ41.00000°, λ-105.00000°. NP2: ϕ_S132.00000°, δ50.00000°, λ-77.00000°. Principal axes: T 6.3860, Plg4.0000°, Azm213.0000°; N -0.0610, Plg10.0000°, Azm303.0000°; P -6.3250, Plg79.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 07:34:43.8±0.2, 4958S×11740E, h10km, mb5.0/12 Error ellipse: s-maj=11.6km s-min=6.8km az=106.0*
*DJA **30** 07:34:51, 4967S×117.14E, h54km, mb5.1/17*

ISC 30 07:34:44.4±0.3, 4959S±004×1174E±01, h10km, (h16km±1.1km: pP-P), n265, σ1§18/67, mb4.8/32, MS4.5/24, 55C-68D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.65**	**360**	Pn	**Pn**	**07 38 39.5**	**+1.8**
	4.8nm,0.3s,baz=173,slow=13,SNR=38						
NWAO				LR	LR	07 43 22.6	
	comp=Z,3μm,21.7s,baz=182,slow=31						
NWAO	**Narrogin (SRO)**	**16.65**	**360**	*e*P	**Pn**	**07 38 39.5**	**+1.7**
NWAO				pmax	pmax		
	comp=Z,122nm,1.2s						
NWAO	**Narrogin (SRO)**	**16.65**	**360**	*e*Pn	**Pn**	**07 38 39.5**	**+1.7**
	comp=Z,122nm,1.2s						
CASY	**Casey**	**17.10**	**189**	*e*P	**Pn**	**07 38 42.0**	**-1.2**
CASY				*e*S	**Sn**	**07 41 55.0**	**+1.9**
MUN	**Mundaring**	**17.62**	**357**	*e*P	**Pn**	**07 38 48.3**	**-1.6**
MUN				*e*S	Sn	07 42 41.8	+36
KLBR	**Kellerberrin**	**17.98**	**1**	*e*P	**Pn**	**07 39 02.1**	**+7.7**
	comp=Z,12nm,0.7s						
FORT	**Forrest**	**20.45**	**27**	*e*P	**P**	**07 39 26.1**	**+4.2**
	comp=Z,26nm,0.9s						
MIR	**Mirnyy**	**21.08**	**207**	⇓*i*P	**P**	**07 39 32.0**	**+3.6**
MIR				pmax	pmax		
	comp=Z,200nm,2.0s,mb5.1						
TOO	**Toolangi**	**23.51**	**70**	*e*P	**P**	**07 39 57.6**	**+3.1**
TOO				*e*S	**S**	**07 44 18.5**	**+11**
STKA	**Stephens Creek**	**25.33**	**55**	*e*P	**P**	**07 40 09.2**	**-2.0**
	comp=Z,13nm,1.0s,mb4.4						
STKA				*e*S	**S**	**07 44 42.1**	**+4.9**
STKA	**Stephens Creek**	**25.33**	**55**	P	**P**	**07 40 10.9**	**-0.3**
	comp=Z,6.5nm,0.9s,mb4.1,baz=231,slow=1.7,SNR=3.7						
STKA				LR	LR	07 48 34.6	
	comp=Z,1μm,18.2s,MS4.5,baz=218,slow=33						
ASAR	**Alice Springs**	**28.95**	**33**	P	**P**	**07 40 42.6**	**-1.2**
	comp=Z,4.8nm,0.7s,mb4.4,baz=202,slow=7.9,SNR=70						
ASAR				PcP	PcP	07 43 50.1	-2.4
	comp=Z,0.3nm,0.4s,baz=204,slow=2.0,SNR=2.9						
ARMA	**Armidale**	**32.11**	**66**	P	**P**	**07 41 13.5**	**+1.9**
	comp=Z,0.6nm,1.4s						
FITZ	**Fitzroy Crossi**	**32.12**	**15**	*e*P	**P**	**07 41 11.4**	**-0.4**
	comp=Z,25nm,1.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**32.12**	**15**	P	**P**	**07 41 11.6**	**-0.1**
	comp=Z,4.0nm,0.6s,mb4.5,baz=192,slow=12,SNR=25						
MAW	**Mawson**	**32.20**	**216**	*e*P	**P**	**07 41 12.2**	**+0.1**
	comp=Z,15nm,0.8s,mb4.9						
MAW	**Mawson**	**32.20**	**216**	P	**P**	**07 41 12.7**	**+0.6**
	comp=Z,8.3nm,0.7s,mb4.7,baz=82,slow=10,SNR=29						
MAW				LR	LR	07 52 16.6	
	comp=Z,1μm,19.1s,MS4.7,baz=85,slow=33						
MAW	**Mawson**	**32.20**	**216**	*e*P	**P**	**07 41 12.2**	**+0.1**
MAW				pmax	pmax		
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**32.55**	**31**	P	**P**	**07 41 13.9**	**-1.6**
	comp=Z,8.3nm,0.7s,mb4.8,baz=206,slow=11,SNR=124						
WRA				PcP	PcP	07 43 60.0	-2.0
	comp=Z,0.8nm,0.9s,baz=219,slow=2.4,SNR=4.5						
WRA				LR	LR	07 53 16.5	
	comp=Z,1μm,20.0s,MS4.6,baz=200,slow=34						
WRA	**Warramunga Arr**	**32.55**	**31**	P	**P**	**07 41 13.9**	**-1.6**
WRA						07 44 00.0	
WB2	**Warramunga Arr**	**32.55**	**31**	*e*P	**P**	**07 41 13.9**	**-1.7**
WRAB	**Tennant Creek**	**32.56**	**31**	*e*P	**P**	**07 41 14.6**	**-1.1**
WRAB	**Tennant Creek**	**32.56**	**31**	*e*P	**P**	**07 41 14.1**	**-1.5**
	comp=Z,28nm,1.1s,mb5.1						
SBA	**Scott Base**	**33.72**	**163**	*e*P	**P**	**07 41 25.1**	**-0.2**
SBA				pmax	pmax		
	comp=Z,129nm,2.2s,mb5.5						
SBA	**Scott Base**	**33.72**	**163**	*e*P	**P**	**07 41 25.1**	**-0.2**
	comp=Z,129nm,2.2s,mb5.5						
CTA	**Charters Tower**	**37.37**	**48**	P	**P**	**07 42 02.9**	**+5.7**
	comp=Z,12nm,1.0s,mb4.7,baz=221,slow=10.0,SNR=4.0						
QSPA	**South Pole Qui**	**40.53**	**180**	P	**P**	**07 42 23.5**	**+0.5**
	comp=Z,5.3nm,0.8s,mb4.2,baz=309,slow=3.2,SNR=23						
QSPA				PcP	PcP	07 44 24.9	-0.1
	comp=Z,5.7nm,1.1s,baz=319,slow=4.1,SNR=3.4						
QSPA	**South Pole Qui**	**40.53**	**180**	P	**P**	**07 42 23.5**	**+0.5**
QSPA				PcP	PcP	07 44 24.9	-0.2
SYO	**Syowa Base**	**40.72**	**213**	⇓*e*P	**P**	**07 42 22.8**	**-1.9**
SYO	**Syowa Base**	**40.72**	**213**	⇓*e*sP	sP	07 42 28.4	-0.6
NVL	**N'lazarevskaya**	**48.80**	**205**	P	**P**	**07 43 28.6**	**-0.5**
NVL				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
NVL				MLR	MLR		
	comp=N,269nm,17.0s,MS4.6						
NVL				MLR	MLR		
	comp=E,461nm,17.0s,MS4.6						
NVL				MLR	MLR		
	comp=Z,799nm,17.0s,MS4.8						
KSM	**Kuching**	**51.23**	**351**	*e*P	**P**	**07 43 47.9**	**-0.2**
SNAA	**Sanae**	**51.92**	**200**	*e*P	**P**	**07 43 51.6**	**-1.1**
SNAA				*e*		07 43 58.2	
SNAA	**Sanae**	**51.92**	**200**	P	**P**	**07 43 52.5**	**-0.1**
	comp=Z,2.1nm,1.0s,mb4.0,baz=146,slow=8.9,SNR=15						
SNAA	**Sanae**	**51.92**	**200**	*e*P	**P**	**07 43 52.1**	**-0.6**
SNAA				pmax	pmax		
	comp=Z,27nm,1.4s						
SNAA	**Sanae**	**51.92**	**200**	*e*P	**P**	**07 43 52.1**	**-0.5**
	comp=Z,27nm,1.4s,mb5.0						
VNA2	**Neumayer--Watz**	**53.48**	**200**	*e*P	**P**	**07 44 00.9**	**-3.3**
VNA2				*e*		07 44 08.0	
VNA1	**Neumayer--Stat**	**53.88**	**200**	*e*P	**P**	**07 44 06.2**	**-0.9**
DAV	**Davao City (W)**	**56.88**	**10**	LR	LR	08 05 59.8	
	comp=Z,241nm,21.9s,MS4.2,baz=176,slow=33						
CMAR	**Chiang Mai Arr**	**69.69**	**341**	P	**P**	**07 45 53.9**	**-0.2**
	comp=Z,7.3nm,0.8s,mb4.7,baz=189,slow=5.7,SNR=29						
CMAR				LR	LR	08 11 36.5	
	comp=Z,248nm,19.4s,MS4.5,baz=174,slow=32						
CMAR	**Chiang Mai Arr**	**69.69**	**341**	*i*P	**P**	**07 45 53.9**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BOSA	**Boshof**	**70.08**	**249**	P	**P**	**07 45 56.5**	**-0.1**
	comp=Z,4.9nm,1.2s,mb4.3,baz=127,slow=5.1,SNR=2.2						
BOSA				LR	LR	08 11 21.4	
	comp=Z,380nm,18.6s,MS4.7,baz=166,slow=31						
KMI	**Kunming**	**75.51**	**346**	P	**P**	**07 46 29.8**	**+1.2**
KMI				AP	pP	07 46 35.8	+3.9
KMI				XP	sP	07 46 37.3	+4.2
KMI				PCP	PcP	07 46 42.5	+0.9
KMI				PP	PP	07 49 20.5	+2.2
KMI				S	S	07 56 10.8	+1.9
KMI				XS	sS	07 56 20.0	+5.7
KMI				SS	SS	08 01 01.0	+0.6
KMI				AMB	AMB		
	comp=Z,32nm,1.7s,mb5.0						
KMI				AMB	AMB		
	comp=Z,148nm,3.1s						
KMI				LR	LR		
	comp=N,236nm,22.3s,MS4.6						
KMI				LR	LR		
	comp=E,176nm,19.9s,MS4.6						
KMI				LR	LR		
	comp=Z,330nm,21.5s,MS4.6						
GYA	**Guiyang**	**76.30**	**350**	P	**P**	**07 46 35.5**	**+2.4**
GYA				PCP	PcP	07 46 49.3	+4.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
GYA				AMB	AMB		
	comp=Z,200nm,5.1s						
GYA				LR	LR		
	comp=N,490nm,20.0s,MS5.0						
GYA				LR	LR		
	comp=E,450nm,19.1s,MS5.0						
GYA				LR	LR		
	comp=Z,480nm,20.4s,MS4.8						
JOW	**Kunigami**	**76.70**	**10**	LR	LR	08 18 37.1	
	comp=Z,182nm,21.4s,MS4.4,baz=135,slow=34						
LSZ	**Lusaka**	**78.00**	**261**	*e*P	**P**	**07 46 43.5**	**+0.4**
LSZ				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
LSZ	**Lusaka**	**78.00**	**261**	*e*P	**P**	**07 46 43.5**	**+0.4**
	comp=Z,13nm,0.8s,mb4.9						
SHL	**Shillong**	**78.19**	**337**	*i*P	**P**	**07 46 44.0**	**+0.3**
PPT	**Papeete**	**78.78**	**104**	*e*LR	LR	08 11 47.8	
	comp=Z,310nm,28.8s,baz=227						
PPT	**Papeete**	**78.78**	**104**	LR	LR	08 14 29.4	
	comp=Z,237nm,18.4s,MS4.6,baz=141,slow=30						
CBIJ	**Chichi jima**	**79.48**	**22**	LR	LR	08 20 09.7	
	comp=Z,242nm,21.1s,MS4.5,baz=113,slow=34						
WHN	**Wuhan**	**79.82**	**357**	*e*P	**P**	**07 46 51.8**	**-0.8**
CD2	**Chengdu**	**81.05**	**348**	*e*P	**P**	**07 47 00.3**	**+1.1**
CD2				AP	pP	07 47 05.0	+2.5
CD2				XP	sP	07 47 07.5	+3.8
CD2				PP	PP	07 50 08.5	+3.9
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=N,240nm,18.0s,MS4.8						
CD2				LR	LR		
	comp=E,370nm,22.8s,MS4.8						
CD2				LR	LR		
	comp=Z,250nm,20.4s,MS4.6						
NJ2	**Nanjing**	**81.29**	**1**	*e*P	**P**	**07 47 01.0**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
TSUM	**Tsumeb**	**81.73**	**250**	*e*P	**P**	**07 47 03.5**	**+0.2**
	comp=Z,23nm,1.5s,mb4.9						
KMBO	**Kilima Mbogo**	**82.73**	**277**	P	**P**	**07 47 09.7**	**+1.2**
	comp=Z,1.0nm,0.5s,mb4.1,baz=118,slow=10,SNR=7.0						
KMBO				LR	LR	08 15 47.6	
KMBO				pmax	pmax		
	comp=Z,206nm,21.3s,MS4.5,baz=220,slow=30						
KMBO	**Kilima Mbogo**	**82.73**	**277**	*i*P	**P**	**07 47 10.0**	**+1.5**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMBO	**Kilima Mbogo**	**82.73**	**277**	*e*P	**P**	**07 47 08.1**	**-0.5**
	comp=Z,16nm,1.5s,mb4.8						
XAN	**Xi'an**	**83.60**	**353**	P	**P**	**07 47 11.8**	**-0.6**
XAN				AMB	AMB		
	comp=Z,15nm,1.5s,mb4.9						
XAN				AMB	AMB		
	comp=Z,98nm,5.8s						
JHJ	**Hachijo jima 2**	**84.72**	**19**	LR	LR	08 23 22.0	
	comp=Z,221nm,18.2s,MS4.6,baz=19,slow=34						
LZH	**Lanzhou**	**86.14**	**349**	*e*P	**P**	**07 47 25.3**	**+0.1**
LZH				AP	pP	07 47 29.5	+1.0
LZH				XP	sP	07 47 32.0	+2.3
LZH				PP	PP	07 50 49.0	+2.8
LZH				SKS		07 57 49.3	
LZH				*e*S	S	07 58 00.3	+0.9
LZH				XS	sS	07 58 08.5	+3.6
LZH				SS	SS	08 03 43.5	+4.5
LZH				AMB	AMB		
	comp=Z,50nm,1.6s,mb5.5						
LZH				AMB	AMB		
	comp=Z,119nm,4.0s						
LZH				LR	LR		
	comp=N,223nm,16.8s						
LZH				LR	LR		
	comp=Z,410nm,17.9s,MS4.9						
KSRS	**Korea Array**	**87.17**	**8**	P	**P**	**07 47 30.3**	**+0.2**
	comp=Z,0.4nm,0.4s,mb4.0,baz=186,slow=5.4,SNR=3.7						
KSRS				LR	LR	08 30 36.3	
	comp=Z,89nm,18.8s,MS4.2,baz=177,slow=38						
MJAR	**Matsushiro Arr**	**87.73**	**17**	P	**P**	**07 47 32.1**	**-0.8**
	comp=Z,0.7nm,0.4s,mb4.2,baz=192,slow=7.0,SNR=5.7						
MJAR				LR	LR	08 25 37.8	
	comp=Z,169nm,19.5s,MS4.5,baz=145,slow=35						
BJI	**Beijing**	**89.26**	**359**	P	**P**	**07 47 39.8**	**-0.2**
BJI				PP	PP	07 51 10.5	-0.7
BJI				S	S	07 58 32.8	+3.8
BJI				AMB	AMB		
	comp=Z,11nm,1.4s,mb5.0						
BJI				LR	LR		
	comp=N,175nm,23.4s,MS4.5						
BJI				LR	LR		
	comp=E,93nm,24.2s,MS4.5						
BJI				LR	LR		
	comp=Z,252nm,28.5s,MS4.5						
PLCA	**Paso Flores**	**89.79**	**174**	P	**P**	**07 47 42.6**	**-0.3**
	comp=Z,4.6nm,1.1s,mb4.7,baz=195,slow=3.7,SNR=4.2						
PLCA				LR	LR	08 29 46.2	
	comp=Z,228nm,19.4s,MS4.6,baz=176,slow=37						
GTA	**Gaotai**	**89.97**	**346**	*e*P	**P**	**07 47 43.0**	**-0.3**
GTA				AP	pP	07 47 47.3	+0.6
GTA				XP	sP	07 47 50.0	+2.1
GTA				PP	PP	07 51 18.5	+1.6
GTA				SKS		07 58 11.8	
GTA				S	S	07 58 36.0	+0.4
GTA				XS	sS	07 58 44.5	+3.3
GTA				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.8						
GTA				AMB	AMB		
	comp=Z,108nm,5.7s						
GTA				LR	LR		
	comp=N,183nm,15.0s,MS4.7						
GTA				LR	LR		
	comp=E,154nm,17.4s,MS4.7						
GTA				LR	LR		
	comp=Z,131nm,17.1s,MS4.4						
HHC	**Hu-ho-hao-te**	**90.20**	**356**	*e*P	**P**	**07 47 47.3**	**+2.9**
HHC				XP	sP	07 47 53.3	+4.4
HHC				PP	PP	07 51 25.0	+6.2
HHC				SKS		07 58 16.5	
HHC				S	S	07 58 39.0	+1.2
HHC				SS	SS	08 04 43.0	+4.9
HHC				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.5						
HHC				AMB	AMB		
	comp=Z,94nm,6.2s						
HHC				LR	LR		
	comp=N,140nm,22.6s,MS4.4						
HHC				LR	LR		
	comp=E,107nm,22.6s,MS4.4						
HHC				LR	LR		
	comp=Z,194nm,26.2s,MS4.4						
CN2	**Changchun**	**93.28**	**6**	*e*P	**P**	**07 48 01.5**	**+2.9**
MDJ	**Mudanjiang**	**94.43**	**9**	P	**P**	**07 48 04.8**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.4s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,63nm,5.3s						
WMQ	**Urumqi**	**96.58**	**339**	P	**P**	**07 48 13.5**	**-0.2**
WMQ				AP	pP	07 48 18.5	+1.5
WMQ				XP	sP	07 48 20.5	+2.3
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb5.0						
WMQ				LR	LR		
	comp=N,105nm,20.3s						
WMQ				LR	LR		
	comp=Z,113nm,24.0s,MS4.3						
SONM	**Songino Array**	**97.51**	**353**	P	**P**	**07 48 16.8**	**-1.0**
	comp=Z,0.4nm,0.6s,mb4.2,baz=162,slow=5.9,SNR=2.8						
SONM				LR	LR	08 28 56.5	
	comp=Z,82nm,19.4s,MS4.2,baz=357,slow=33						
AKASG	**Malin Array Be**	**124.93**	**309**	PKP	PKPdf	07 53 41.8	-1.8
	comp=Z,0.3nm,0.2s,baz=139,slow=0.8,SNR=6.8

H10A	Noah's Angus R	143.50	77	⇓P	PKPdf	07 54 14.8	-3.6	
	baz=144							
OD2	Odessa Site #2	143.50	71	ePKPdf	PKPdf	07 54 15.2	-3.1	
B08A	Colville Reser	143.52	70	⇓P	PKPdf	07 54 14.8	-3.6	
	baz=144							
M13A	Montello	143.57	83	⇓P	PKPdf	07 54 14.3	-4.4	
	baz=144							
G10A	Bishop Farm, J	143.58	75	⇓P	PKPdf	07 54 14.5	-4.1	
	baz=144							
D09A	Jones Farm, Ri	143.61	72	⇑P	PKPdf	07 54 15.4	-3.2	
	baz=144							
R16A	Teasdale	143.66	89	⇓P	PKPdf	07 54 16.0	-3.0	
	baz=144,SNR=5.9							
I11A	Placerville	143.68	78	⇑P	PKPdf	07 54 15.6	-3.2	
	baz=144,SNR=5.8							
S17A	Black Ridge (B	143.74	91	⇑P	PKPdf	07 54 16.0	-3.1	
	baz=144							
K12A	Draper Farm, C	143.74	81	⇓P	PKPdf	07 54 15.9	-3.0	
	baz=144,SNR=5.9							
A08A	Turner Farm, O	143.79	69	⇓P	PKPdf	07 54 15.9	-2.9	
	baz=144							
F10A	Beach Ranch, E	143.82	74	⇓P	PKPdf	07 54 15.4	-3.6	
	baz=144,SNR=8.6							
DUG	Dugway	143.84	86	⇓P	PKPdf	07 54 16.6	-2.6	
	baz=144,SNR=6.2							
DUG	Dugway	143.84	86	ePKPdf	PKPdf	07 54 17.1	-2.1	
J12A	Stokes Ranch,	143.91	80	⇓P	PKPdf	07 54 16.3	-2.9	
	baz=144,SNR=17							
N14A	Grayback Hills	143.94	84	⇑P	PKPdf	07 54 16.8	-2.5	
	baz=144,SNR=8.2							
C09A	Chrisman Ranch	143.94	71	⇑P	PKPdf	07 54 16.2	-2.9	
	baz=144							
H11A	Donnelly	144.01	77	⇑P	PKPdf	07 54 16.6	-2.7	
	baz=144,SNR=13							
T18A	Mexican Hat	144.05	92	⇑P	PKPdf	07 54 16.8	-2.8	
	baz=144,SNR=13							
BGU	Big Grassy Mou	144.08	84	ePKPdf	PKPdf	07 54 17.7	-1.9	
L13A	Double Diamond	144.08	82	⇓P	PKPdf	07 54 17.4	-2.2	
	baz=144,SNR=6.0							
O15A	The Old Anders	144.11	86	⇓P	PKPdf	07 54 17.4	-2.2	
	baz=144							
E10A	Myers Farm, Un	144.11	74	⇑P	PKPdf	07 54 17.1	-2.3	
	baz=144							
G11A	Walters Elk Ra	144.17	76	⇑P	PKPdf	07 54 16.5	-3.0	
	baz=144,SNR=18							
M14A	Sheep Mountain	144.17	83	⇓P	PKPdf	07 54 17.8	-1.9	
	baz=144,SNR=14							
LAZ	Ladron	144.18	98	ePKPdf	PKPdf	07 54 17.2	-2.8	
NLU	North Lily Min	144.19	86	ePKPdf	PKPdf	07 54 19.0	-0.8	
Q16A	Castle Valley	144.22	89	⇓P	PKPdf	07 54 17.9	-1.9	
	baz=144,SNR=18							
A09A	Danville	144.22	69	⇑P	PKPdf	07 54 17.7	-1.9	
	baz=144,SNR=6.8							
R17A	Hanksville Air	144.24	90	⇓P	PKPdf	07 54 17.5	-2.4	
	baz=144,SNR=16							
D10A	Wagner Farm, O	144.25	73	⇓P	PKPdf	07 54 17.3	-2.4	
	baz=144,SNR=21							
B09A	Rice	144.27	70	⇓P	PKPdf	07 54 17.5	-2.1	
	baz=144,SNR=11							
K13A	Stover Farm, H	144.27	81	⇑P	PKPdf	07 54 18.5	-1.3	
	baz=144,SNR=9.8							
P16A	Fountain Green	144.28	87	⇑P	PKPdf	07 54 18.6	-1.3	
	baz=144							
S18A	Hurst Farm, Bl	144.29	91	⇓P	PKPdf	07 54 18.0	-2.1	
	baz=144,SNR=5.8							
BNM	Barren Site	144.35	99	ePKPdf	PKPdf	07 54 18.8	-1.5	
N15A	Stansbury Isla	144.39	85	⇓P	PKPdf	07 54 18.4	-1.8	
	baz=144,SNR=15							
TMUT	Trail Mountain	144.40	88	ePKPdf	PKPdf	07 54 19.6	-0.6	
T19A	Beclabito	144.43	93	⇑P	PKPdf	07 54 18.1	-2.3	
	baz=144							
F11A	Grangeville	144.45	75	⇓P	PKPdf	07 54 17.8	-2.2	
	baz=145,SNR=6.9							
HLID	Hailey	144.50	80	⇑P	PKPdf	07 54 18.7	-1.5	
	baz=145,SNR=20							
HLID	Hailey	144.50	80	ePKPdf	PKPdf	07 54 18.9	-1.3	
MPU	Maple Canyon	144.51	87	ePKPdf	PKPdf	07 54 19.7	-0.7	
L14A	Malta	144.51	83	⇑P	PKPdf	07 54 19.2	-1.1	
	baz=145,SNR=25							
C10A	Spilker Farm,	144.55	71	⇑P	PKPdf	07 54 18.3	-1.9	
	baz=145							
J13A	Cove Ranch, Pi	144.58	80	⇓P	PKPdf	07 54 19.0	-1.4	
	baz=145,SNR=33							
E11A	Bogner Ranch,	144.62	74	⇓P	PKPdf	07 54 18.3	-2.1	
	baz=145							
SPUT	South Promonto	144.66	84	ePKPdf	PKPdf	07 54 19.6	-1.0	
H12A	Diamond D Ranc	144.68	78	⇑P	PKPdf	07 54 19.2	-1.3	
	baz=145,SNR=16							
HVU	Hansel Valley	144.68	83	ePKIKP	PKPdf	07 54 20.0	-0.6	
O16A	Springville	144.70	86	⇓P	PKPdf	07 54 19.5	-1.2	
	baz=145							
M15A	Larsen Ranch,	144.74	84	⇓P	PKPdf	07 54 19.5	-1.2	
	baz=145,SNR=55							
SRU	San Rafael	144.74	89	⇓P	PKPdf	07 54 19.4	-1.5	
	baz=145,SNR=33							
SRU	San Rafael	144.74	89	ePKPdf	PKPdf	07 54 19.4	-1.4	
R18A	Canyonlands Na	144.75	90	⇓P	PKPdf	07 54 19.3	-1.6	
	baz=145,SNR=22							
B10A	Chitwood Farm,	144.79	71	⇓P	PKPdf	07 54 19.1	-1.5	
	baz=145							
CTU	Camp Tracy	144.79	86	ePKPdf	PKPdf	07 54 20.3	-0.5	
P17A	Butcher Ranch,	144.80	88	⇓P	PKPdf	07 54 19.5	-1.3	
	baz=145,SNR=20							
K14A	Jones Ranch, D	144.81	82	⇑P	PKPdf	07 54 20.0	-0.8	
	baz=145,SNR=20							
D11A	Klaveano Farm,	144.83	73	⇓P	PKPdf	07 54 19.1	-1.6	
	baz=145,SNR=28							
NEW	Newport	144.84	71	ePKIKP	PKPdf	07 54 18.8	-1.8	
A10A	Northport	144.85	69	⇓P	PKPdf	07 54 19.4	-1.2	
	baz=145,SNR=7.4							
I13A	Wildhorse Cree	144.86	79	⇓P	PKPdf	07 54 20.0	-0.8	
	baz=145,SNR=38							
S19A	Harvey Farm, M	144.88	92	⇓P	PKPdf	07 54 20.0	-1.1	
	baz=145,SNR=16							
JLU	Jordanelle	144.94	86	ePKPdf	PKPdf	07 54 20.9	-0.2	
ANMO	Albuquerque	144.96	98	PKP	PKPdf	07 54 20.0	-1.3	
	comp=Z,12nm,1.2s,baz=205,slow=4.1,SNR=22							
ANMO	Albuquerque	144.96	98	ePKPdf	PKPdf	07 54 19.7	-1.6	
J14A	Carey	144.96	80	⇓P	PKPdf	07 54 20.5	-0.5	
	baz=145,SNR=20							
F12A	Elk City	144.96	76	⇓P	PKPdf	07 54 19.7	-1.2	
	baz=145,SNR=46							
DAU	Daniels Canyon	144.97	86	ePKIKP	PKPdf	07 54 21.5	+0.4	
Q18A	Rafter H Ranch	144.99	89	⇑P	PKPbc	07 54 20.1	-0.5	
	baz=145,SNR=24							
L15A	Malad City	145.05	83	⇓P	PKPbc	07 54 20.4	-0.3	
	baz=145,SNR=40							
H13A	Challis	145.07	78	⇓P	PKPbc	07 54 21.0	+0.3	
	baz=145,SNR=31							
N16A	Rees Ranch, Co	145.09	85	⇑P	PKPbc	07 54 20.8	-0.1	
	baz=145,SNR=17							
R19A	Curley Farm, L	145.11	91	⇓P	PKPbc	07 54 20.7	-0.4	
	baz=145,SNR=6.0							
O17A	Robinson Place	145.19	87	⇓P	PKPbc	07 54 20.8	-0.4	
	baz=145,SNR=62							
M16A	Huntsville	145.19	85	⇑P	PKPbc	07 54 20.6	-0.6	
	baz=145,SNR=11							
P18A	Preston Nutter	145.20	88	⇓P	PKPbc	07 54 21.6	+0.3	
	baz=145,SNR=22							
I14A	Mackay	145.29	80	⇓P	PKPbc	07 54 21.7	+0.3	
	baz=145,SNR=82							
K15A	Arbon	145.29	82	⇑P	PKPbc	07 54 21.8	+0.3	
	baz=145,SNR=39							
PV10	Paradox Valley	145.30	91	ePKPbc	PKPbc	07 54 21.5	-0.2	
G13A	Cobalt	145.32	77	⇑P	PKPbc	07 54 21.3	-0.2	
	baz=145,SNR=64							
B11A	Sandpoint	145.37	71	⇑P	PKPbc	07 54 21.4	-0.1	
	baz=146,SNR=11							
HWUT	Hardware Ranch	145.38	84	ePKPdf	PKPdf	07 54 21.7	-0.1	
PV01	Paradox Valley	145.47	92	ePKPbc	PKPbc	07 54 21.9	-0.3	
Q19A	Hogan Spring (	145.48	90	⇑P	PKPdf	07 54 21.7	-0.4	
	baz=146,SNR=28							
N17A	Moffit Pass	145.51	86	⇑P	PKPdf	07 54 22.1	0.0	
	baz=146,SNR=11							
F13A	Darby	145.56	76	⇑P	PKPdf	07 54 21.5	-0.4	
	baz=146,SNR=35							
A11A	Hall Mountain,	145.57	70	⇑P	PKPdf	07 54 22.5	+0.6	
	baz=146							
H14A	Leadore	145.66	79	⇑P	PKPdf	07 54 22.0	-0.1	
	baz=146,SNR=46							
L16A	Fish Haven	145.67	84	⇓P	PKPdf	07 54 22.4	+0.1	
	baz=146,SNR=29							
J15A	Blackfoot	145.69	81	⇓P	PKPdf	07 54 23.2	+0.9	
	baz=146,SNR=19							
O18A	Roosevelt	145.70	87	⇑P	PKPdf	07 54 23.1	+0.6	
	baz=146,SNR=31							
B12A	Libby	145.86	71	⇓P	PKPdf	07 54 23.0	+0.6	
	baz=146							
G14A	Jackson	145.88	77	⇓P	PKPdf	07 54 23.2	+0.7	
	baz=146,SNR=7.0							
E13A	Victor	145.93	75	⇑P	PKPdf	07 54 22.5	-0.1	
	baz=146,SNR=6.9							
I15A	Monteview	145.94	80	⇓P	PKPdf	07 54 23.9	+1.2	
	baz=146,SNR=5.4							
K16A	Soda Springs	145.97	82	⇓P	PKPdf	07 54 23.8	+1.0	
	baz=146							
A12A	Yaak River Ran	146.00	70	⇑P	PKPdf	07 54 23.3	+0.7	
	baz=146							
D13A	Huson	146.02	74	⇑P	PKPdf	07 54 22.8	+0.1	
	baz=146							
P19A	Cripple Cowboy	146.03	89	⇓P	PKPdf	07 54 23.8	+0.8	
	baz=146,SNR=26							
MCMT	McKenzie Canyo	146.08	78	ePKPbc	PKPbc	07 54 23.8	-0.1	
H15A	Lima	146.12	79	⇓P	PKPdf	07 54 24.3	+1.3	
	baz=146,SNR=11							
J16A	Bone	146.16	82	⇑P	PKPdf	07 54 24.5	+1.4	
	baz=146,SNR=9.8							
F14A	Wisdom	146.18	77	⇑P	PKPdf	07 54 24.0	+0.9	
	baz=146							
C13A	Hot Springs	146.18	73	⇓P	PKPdf	07 54 23.4	+0.4	
	baz=146							
JCT	Junction City	146.19	110	ePKP2	PKPab	07 54 23.6	-1.7	
MSO	Missoula	146.24	75	ePKPbc	PKPbc	07 54 23.3	-0.9	
N18A	Larsen Ranch,	146.29	87	⇓P	PKPdf	07 54 24.1	+0.7	
	baz=146,SNR=19							
O19A	Miners Draw (B	146.29	88	⇑P	PKPdf	07 54 24.6	+1.2	
	baz=146,SNR=37							
E14A	Clinton	146.35	76	⇓P	PKPdf	07 54 24.4	+1.1	
	baz=146,SNR=18							
RRI2	Red Ridge	146.38	82	ePKPbc	PKPbc	07 54 25.2	+0.4	
G15A	Dillon	146.46	78	⇓P	PKPdf	07 54 25.1	+1.5	
	baz=147,SNR=14							
DLMT	Dillon	146.48	78	ePKPbc	PKPbc	07 54 24.7	-0.3	
B13A	Whitefish	146.52	72	⇑P	PKPdf	07 54 24.2	+0.7	
	baz=147							
I16A	Newdale	146.52	81	⇓P	PKPdf	07 54 25.5	+1.8	
	baz=147,SNR=16							
N19A	John Jarvie Ra	146.57	87	⇑P	PKPdf	07 54 24.8	+0.9	
	baz=147							
D14A	Greenough	146.62	74	⇓P	PKPdf	07 54 24.7	+1.0	
	baz=147							
TPAW	Teton Pass	146.69	82	ePKPbc	PKPbc	07 54 24.8	-0.9	
REDW	Red Top Meadow	146.69	82	ePKPbc	PKPbc	07 54 25.5	-0.2	
CHMT	Chamberlain Mo	146.71	75	ePKPbc	PKPbc	07 54 25.1	-0.5	
C14A	Swan Lake	146.73	73	⇑P	PKPdf	07 54 25.1	+1.2	
	baz=147							
F15A	Butte	146.75	77	⇓P	PKPdf	07 54 25.6	+1.6	
	baz=147,SNR=13							
A13A	Flathead Natio	146.75	71	⇑P	PKPdf	07 54 25.6	+1.7	
	baz=147							
SNOW	Snow King Moun	146.80	82	ePKPbc	PKPbc	07 54 26.2	+0.2	
IMW	Indian Meadow	146.88	81	ePKPbc	PKPbc	07 54 26.1	-0.1	
E15A	Deer Lodge	146.89	76	⇑P	PKPdf	07 54 26.0	+1.7	
	baz=147							
LOHW	Long Hollow	146.97	82	ePKPbc	PKPbc	07 54 26.0	-0.5	
QLMT	Earthquake Lak	146.99	79	ePKPbc	PKPbc	07 54 27.2	+0.7	
H16A	Russell Place,	147.05	80	⇓P	PKPdf	07 54 26.9	+2.4	
	baz=147,SNR=9.7							
WALA	Waterton Lakes	147.11	71	ePKPbc	PKPbc	07 54 26.8	+0.1	
FLWY	Flagg Ranch	147.12	81	ePKPbc	PKPbc	07 54 27.3	+0.4	
YFT	Old Faithful	147.20	80	ePKPbc	PKPbc	07 54 27.7	+0.6	
BOZ	Bozeman (W)	147.21	78	⇑P	PKPdf	07 54 26.6	+1.8	
	baz=147							
BOZ	Bozeman (W)	147.21	78	ePKPbc	PKPbc	07 54 26.2	-0.9	
YMR	Madison River	147.22	80	ePKPbc	PKPbc	07 54 25.7	-1.4	
D15A	Lincoln	147.22	75	⇓P	PKPbc	07 54 27.1	0.0	
	baz=147							
SDCO	Great Sand Dun	147.24	95	ePKPbc	PKPbc	07 54 27.1	-0.3	
PDAR	Pinedale Array	147.25	84	PKPbc	PKPbc	07 54 27.2	-0.1	
	comp=Z,4.4nm,1.0s,baz=215,slow=1.8,SNR=31							
YNR	Norris Junctio	147.42	80	ePKPbc	PKPbc	07 54 31.1	+3.4	
LKWY	Lake	147.53	80	ePKP2	PKPab	07 54 30.4	+0.2	
AMTX	Amarillo	147.97	102	ePKPbc	PKPbc	07 54 29.6	0.0	
HKT	Hockley	148.19	116	ePKP2	PKPbc	07 54 30.5	+0.3	
RWWY	Rawlins	148.25	87	ePKPbc	PKPbc	07 54 30.5	+0.5	
ISCO	Idaho Springs	148.31	91	ePKP2	PKPbc	07 54 30.8	+0.6	
RLMT	Red Lodge	148.50	80	ePKPbc	PKPbc	07 54 31.4	+0.9	
GCMT	Greycliff	148.52	79	ePKPbc	PKPbc	07 54 31.5	+0.9	
EDM	Edmonton	148.70	64	ePKP2	PKPbc	07 54 30.1	-0.7	
YKA	Yellowknife Ar	149.16	46	PKPbc	PKPbc	07 54 30.8	-0.9	
	comp=Z,3.1nm,0.8s,baz=280,slow=2.2,SNR=21							
PHWY	Pilot Hill	149.19	89	ePKPbc	PKPbc	07 54 32.9	+0.5	
PHWY				ePKPab	PKPab	07 54 39.7	+2.7	
EGMT	Eagleton	149.32	75	⇑P	PKPbc	07 54 32.1	-0.4	
	baz=149							
EGMT	Eagleton	149.32	75	ePKPbc	PKPbc	07 54 32.4	-0.1	
EGMT				ePKPab	PKPab	07 54 37.9	+0.7	
WMOK	Wichita Mounta	149.71	106	ePKHKP		07 54 28.2		
WMOK				e		07 54 33.6		
WMOK	Wichita Mounta	149.71	106	ePKPdf	PKPdf	07 54 28.2	-1.0	
WMOK				ePKPbc	PKPbc	07 54 33.6	-0.4	
WMOK				ePKPab	PKPab	07 54 40.4	+1.2	
NATX	Nacogdoches	150.19	115	ePKPbc	PKPbc	07 54 35.8	+0.6	
LAO	LASA Array	151.07	79	ePKPbc	PKPbc	07 54 37.5	+0.8	
LAO				ePKPab	PKPab	07 54 44.2	-0.3	
RSSD	Black Hills	151.44	85	ePKIKP	PKPdf	07 54 30.5	-1.1	
RSSD				e		07 54 37.2		
RSSD				e		07 54 44.2		
CBKS	Cedar Bluff	151.58	98	ePKIKP	PKPdf	07 54 31.9	-0.1	
CBKS				e		07 54 38.3		
CBKS				e		07 54 45.2		
ULM	Lac du Bonnet	158.69	75	PKPab	PKPab	07 55 16.0	-0.9	
	comp=Z,6.7nm,1.1s,baz=268,slow=7.0,SNR=3.8							
TKL	Tuckaleechee C	159.22	124	PKPab	PKPab	07 55 18.8	-0.8	
	comp=Z,3.5nm,1.0s,baz=182,slow=3.7,SNR=3.6							

*NEIC **30** 07:58:06.0, 3766N×2356E, h10km, ML3.3(ATH), After ATH.*
*ATH **30** 07:58:34.4, 3457N×2499E, h87km±8km*
*ISCJB **30** 07:58:35.7±2.7, 346N±02×2501E±009, h78km±32km, Error ellipse: s-maj=34.9km s-min=11.8km az=171.7*
ISC 30 07:58:34.9±2.7, 346N±02×2503E±010, h86km±30km, n6, σ0°94/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	Lasithi	0.69	32	P	Pn	07 58 50.2	-0.8
IDI	Anoyia	0.72	351	P	Pn	07 58 49.5	-1.8
GVD	Gavdhos	0.82	289	eP	Pn	07 58 53.0	+0.7
GVD				eS	Sn	07 59 05.0	-0.2
NPS	Neapolis	0.84	35	eP	Pn	07 58 52.5	0.0
NPS				eS	Sn	07 59 06.0	+0.4
VAM	Vamos	1.08	321	eP	Pn	07 58 55.2	0.0
VAM				eS	Sn	07 59 11.0	+0.6
ZKR	Zakros	1.12	61	P	Pn	07 58 59.0	+3.3

IDC 30 08:20:03.1±12.0, 2492S×17941E, h625km±170km, mb3.2/8, mb1 3.5/8, mb1mx3.3/15, mbtmp3.2/8, Error ellipse: s-maj=71.6km s-min=49.6km az=27.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	30.96	272	P	P	08 25 32.1	+0.2
	16nm,0.6s,baz=102,slow=11,SNR=25						
STKA	Stephens Creek	33.86	249	P	P	08 25 55.9	-0.2
	2.4nm,0.6s,baz=112,slow=11,SNR=4.7						
ASAR	Alice Springs	41.35	262	P	P	08 26 57.1	+0.3
	4.3nm,1.0s,baz=96,slow=7.6,SNR=20						
WRA	Warramunga Arr	41.81	267	P	P	08 27 00.3	-0.2
	2.5nm,0.3s,baz=99,slow=6.8,SNR=19						
MJAR	Matsushiro Arr	72.43	326	P	P	08 30 27.7	0.0
	1.1nm,0.7s,baz=154,slow=6.5,SNR=4.8						
NVAR	Mina Array Bea	85.85	44	P	P	08 31 37.9	-0.3
	0.6nm,0.8s,baz=225,slow=8.4,SNR=5.1						
TXAR	Lajitas Array	91.42	58	P	P	08 32 04.5	+0.2
	1.0nm,0.8s,baz=211,slow=6.8,SNR=14						
PDAR	Pinedale Array	93.79	44	P	P	08 32 15.6	+0.8
	0.1nm,0.6s,baz=177,slow=1.8,SNR=2.7						

IDC 30 08:47:11.5±2.2, 1573S×17482W, h264km±14km, mb3.4/5, mb1 3.8/6, mb1mx3.4/17, mbtmp3.4/6, Error ellipse: s-maj=178.6km s-min=15.1km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.45	59	P	Pn	08 48 09.4	-0.4
	13nm,0.3s,baz=145,slow=21,SNR=18						
AFI				S	S	08 48 56.9	+0.7
	24nm,0.3s,baz=107,slow=22,SNR=8.3						
WRA	Warramunga Arr	48.44	257	P	P	08 55 27.8	-0.1
	1.1nm,0.6s,baz=94,slow=7.9,SNR=25						
ASAR	Alice Springs	48.71	252	P	P	08 55 30.0	+0.1
	4.8nm,0.6s,baz=87,slow=7.8,SNR=79						
NVAR	Mina Array Bea	75.49	43	P	P	08 58 27.4	+0.5
	0.8nm,0.7s,baz=227,slow=10,SNR=7.2						
TXAR	Lajitas Array	81.93	57	P	P	08 59 02.6	+0.5
	0.4nm,0.8s,baz=202,slow=5.4,SNR=4.4						
PDAR	Pinedale Array	83.42	42	P	P	08 59 09.3	-0.2
	1.1nm,0.6s,baz=215,slow=2.9,SNR=11						

IDC 30 08:51:44.7±1.1, 2319S×17011E, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/15, mbtmp4.0/6, MS3.4/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=35.8km s-min=32.3km az=11.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	26.66	245	LR	LR	09 06 27.5	
	comp=Z,77nm,19.2s,baz=204,slow=33						
ASAR	Alice Springs	33.17	262	P	P	08 58 22.2	-0.9
	1.8nm,1.1s,baz=86,slow=9.4,SNR=5.3						
WRA	Warramunga Arr	33.37	269	P	P	08 58 25.5	+0.6
	0.3nm,0.4s,baz=98,slow=8.4,SNR=8.4						
QSPA	South Pole Qui	66.88	180	P	P	09 02 38.6	+0.5
	2.6nm,0.8s,baz=4.2,slow=2.5,SNR=8.8						
CMAR	Chiang Mai Arr	80.87	295	P	P	09 04 01.8	+0.8
	0.9nm,0.3s,baz=134,slow=2.6,SNR=3.8						
NVAR	Mina Array Bea	90.81	48	P	P	09 04 50.1	+0.2
	0.3nm,0.6s,baz=215,slow=7.9,SNR=4.5						
SONM	Songino Array	90.85	323	P	P	09 04 49.1	-0.7
	0.6nm,0.8s,baz=129,slow=3.9,SNR=3.3						
GERES	GERESS Array B	148.32	330	PKPbc	PKPbc	09 11 32.7	-0.1
	0.5nm,0.2s,baz=356,slow=2.9,SNR=5.7						

*CSEM **30** 08:54:26.9±0.2, 3940N×4050E, h1km±1km, MD3.1, Error ellipse: s-maj=3.6km s-min=1.7km az=125.0*
*DDA **30** 08:54:27.3, 3939N×4046E, h7km±3km, Md3.0*
*ISK **30** 08:54:27.9, 3941N×4051E, h6km, MD3.1*
*ISCJB **30** 08:54:28.5±0.5, 3941N±004×4050E±005, h10km, Error ellipse: s-maj=6.2km s-min=4.2km az=139.1*
ISC 30 08:54:28.6±0.7, 3942N±004×4049E±005, h2km±8km, n12, σ0°82/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	Kop Dagi	0.60	1	iP	Pg	08 54 40.2	+0.1
KOPT				iS	Sg	08 54 52.9	+5.0
EZC	Erzincan	0.62	303	ePG	Pg	08 54 46.5	+6.1
BNGL	BINGOL	0.69	132	iP	Pg	08 54 40.5	-1.5
BNGL				iS	Sg	08 54 51.3	+0.4
EZM	Erzurum	0.83	54	PG	Pg	08 54 44.1	-0.5
EZM				eSG	Sg	08 54 56.1	+0.8
ERZM	Erzurum	0.83	54	iP	Pg	08 54 43.5	-1.1
ERZM				iS	Sg	08 54 56.6	+1.2
ERZM	Erzurum	0.83	54	iP	Pg	08 54 43.5	-1.1
ERZM				iS	Sg	08 54 56.7	+1.3
PTK	Pertek	1.00	239	ePG	Pg	08 54 47.5	-0.3
PTK				eSG	Sg	08 55 02.1	+1.3
GUMT	Gumushane	1.30	324	ePN	Pn	08 54 53.5	-0.3
SVRC	Sivrice-ELAZID	1.39	222	ePN	Pn	08 54 54.4	-0.6
BEST	Besiri	1.64	158	iP	Pn	08 54 57.6	-0.9
BEST				iS	Sn	08 55 21.4	+1.2
MALT	Malatya	1.95	236	ePN	Pn	08 55 03.0	+0.2
BCA	Borcka	2.20	23	ePN	Pn	08 55 06.0	-0.2

*ISCJB **30** 09:20:40.3±0.7, 140S±01×7690W±010, h33km, mb3.7/10, Error ellipse: s-maj=19.1km s-min=6.6km az=41.8*
*NEIC **30** 09:20:43.4±0.7, 1383S×7681W, h35km, mb4.0/2, Error ellipse: s-maj=22.9km s-min=9.7km az=49.0*
*IDC **30** 09:20:43.5±3.8, 1383S×7680W, h35km±28km, mb3.6/7, mb1 3.9/10, mb1mx3.8/18, mbtmp3.6/10, ML3.4/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/34, Error ellipse: s-maj=41.2km s-min=15.2km az=63.0*
ISC 30 09:20:40.6±3.8, 140S±01×769W±02, h21km±27km, n20, σ0°91/21, mb3.7/10, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.02	2	Pn	Pn	09 21 12.3	-1.2
	24nm,0.3s,baz=190,slow=12,SNR=20						
NNA				Lg		09 21 43.0	
	113nm,0.3s,baz=162,slow=7.9,SNR=11						
ARE	Arequipa	5.78	116	eP	Pn	09 22 10.0	+4.

*NEIC **30** 09:45:27.7, 3829N×2161E, h28km, MD3.0(ATH), After ATH.*
*THE **30** 09:45:27.3, 3846N×2167E, h14km*
*ATH **30** 09:45:27.7, 3829N×2161E, h28km±1km, MD3.0/3*
ISC 30 09:45:27.2±1.0, 3840N±005×2169E±006, h10km, n9, σ1§13/15, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.39**	**207**	⇓*i*PB	**Pg**	**09 45 34.8**	**0.0**
RLS				*e*SB	**Sg**	**09 45 39.5**	**-0.4**
EVR	**Evrytania**	**0.52**	**10**	*e*PN	**Pn**	**09 45 40.7**	**+3.3**
KFL	**Anninata**	**0.77**	**248**	*e*Pg	**Pg**	**09 45 41.8**	**-0.3**
KFL				*e*Sg	**Sg**	**09 45 54.0**	**+1.9**
LKD	**Levkas**	**0.87**	**291**	*e*Pg	**Pg**	**09 45 43.5**	**-0.5**
LKD				*e*Sg	**Sg**	**09 45 55.2**	**-0.1**
LKD	**Levkas**	**0.87**	**291**	*e*Pg	**Pg**	**09 45 43.5**	**-0.5**
LKD				*e*Sg	**Sg**	**09 45 55.2**	**-0.1**
VLS	**Valsamata**	**0.90**	**256**	*e*Pg	**Pg**	**09 45 43.8**	**-0.6**
VLS				*e*Sg	**Sg**	**09 45 57.0**	**+0.9**
VLS	**Valsamata**	**0.90**	**256**	*e*PN	**Pn**	**09 45 43.9**	**-1.9**
VLX	**Vlachokerasia**	**1.17**	**152**	*e*Pg	**Pg**	**09 45 49.0**	**-0.6**
VLX				*e*Sg	**Sg**	**09 46 06.3**	**+1.6**
ITM	**Ithomi**	**1.23**	**171**	*e*PN	**Pn**	**09 45 49.2**	**-1.3**

*ATH **30** 09:49:09.9, 3462N×2273E, h5km±3km, MD4.0/16, ML4.2*
*NEIC **30** 09:49:10.1, 3463N×2275E, h5km, mb4.5/1, ML4.2(ATH), After ATH.*
*IDC **30** 09:49:13.0±0.9, 3495N×2312E, h0km, mb4.1/9, mb1 4.1/12, mb1mx3.9/29, mbtmp4.0/12, ML4.1/3, Error ellipse: s-maj=21.3km s-min=18.3km az=29.0*
*ISCJB **30** 09:49:14.2±0.6, 3457N±004×2287E±005, h47km±6km, mb4.2/13, Error ellipse: s-maj=8.7km s-min=4.0km az=139.8*
*CSEM **30** 09:49:14.7±0.1, 3462N×2288E, h30km, ML4.1, Error ellipse: s-maj=3.7km s-min=2.3km az=60.0*
*THE **30** 09:49:15.1, 3486N×2288E, h0km, ML4.1*
*MOS **30** 09:49:16.0±1.0, 3483N×2296E, h33km, mb4.8/6, Error ellipse: s-maj=12.2km s-min=7.2km az=71.7*
*GII **30** 09:49:22.2±0.0, 3438N×2383E, h0km, mb4.4/3, ML4.2/3*
*HLW **30** 09:49:23.1, 3463N×2341E, h32km, Mb3.7*
ISC 30 09:49:11.7±1.1, 3459N±003×2284E±004, h1km±6km, n108, σ1§20/125, mb4.3/13, 6D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.06**	**76**	*e*PB	**Pb**	**09 49 32.0**	**-0.8**
GVD				*e*SB	**Sb**	**09 49 48.0**	**+0.9**
KARN	**Karanos**	**1.20**	**47**	*e*Pg	**Pg**	**09 49 33.3**	**-1.3**
KARN				*e*Sg	**Sg**	**09 49 49.9**	**-0.3**
VAM	**Vamos**	**1.38**	**53**	*e*PG	**Pg**	**09 49 36.8**	**-1.4**
VAM				*e*SB	**Sb**	**09 49 57.5**	**+1.0**
SIVA	**Sivas**	**1.68**	**75**	*e*Pg	**Pg**	**09 49 43.4**	**-0.4**
KYTH	**Kithira**	**1.70**	**5**	*e*PG	**Pg**	**09 49 41.0**	**-3.2**
KYTH				*e*SB	**Sb**	**09 50 05.0**	**-0.5**
IDI	**Anoyia**	**1.82**	**67**	Pn	**Pn**	**09 49 45.5**	**+1.3**
	35nm,0.3s,baz=246,slow=13,SNR=92						
IDI				Sn	**Sn**	**09 50 10.5**	**+2.6**
	39nm,0.3s,baz=312,slow=18,SNR=6.8						
VLI	**Veliai**	**2.13**	**2**	*e*PG	**Pg**	**09 49 49.0**	**-3.4**
VLI				*e*SN	**Sn**	**09 50 17.0**	**+1.6**
VLI	**Veliai**	**2.13**	**2**	*e*Pg	**Pg**	**09 49 49.5**	**-2.9**
LAST	**Lasithi**	**2.24**	**74**	*e*Pn	**Pn**	**09 49 52.0**	**+2.0**
LAST				*e*Sn	**Sn**	**09 50 20.0**	**+1.7**
NPS	**Neapolis**	**2.38**	**73**	*e*PN	**Pn**	**09 49 53.8**	**+2.1**
ITM	**Ithomi**	**2.69**	**344**	*e*PN	**Pn**	**09 49 56.7**	**+0.6**
ITM	**Ithomi**	**2.69**	**344**	*e*Pn	**Pn**	**09 49 57.2**	**+1.1**
THR6	**Thira Island,**	**2.73**	**49**	*e*Pn	**Pn**	**09 49 57.3**	**+0.7**
THR5	**Thira Island,**	**2.74**	**48**	*e*Pn	**Pn**	**09 49 56.8**	**0.0**
SANT	**Santorini**	**2.78**	**49**	*e*Pn	**Pn**	**09 49 57.1**	**-0.3**
THR1	**Thera Island**	**2.78**	**49**	*e*Pn	**Pn**	**09 49 57.8**	**+0.5**
ZKR	**Zakros**	**2.83**	**78**	*e*Pn	**Pn**	**09 50 00.1**	**+2.2**
NAIG	**Nisos Aigina**	**3.21**	**9**	*e*PN	**Pn**	**09 50 04.0**	**+0.8**
APE	**Apeiranthos**	**3.30**	**41**	*e*Pn	**Pn**	**09 50 03.9**	**-0.6**
APE	**Apeiranthos**	**3.30**	**41**	*e*PB	**Pn**	**09 50 05.9**	**+1.4**
APE	**Apeiranthos**	**3.30**	**41**	*d i*P	**Pn**	**09 50 03.3**	**-1.2**
APE	**Apeiranthos**	**3.30**	**41**	*i* P	**Pn**	**09 50 03.3**	**-1.2**
APE	**Apeiranthos**	**3.30**	**41**	*e*Pb	**Pn**	**09 50 03.7**	**-0.8**
APE	**Apeiranthos**	**3.30**	**41**	*e*Pn	**Pn**	**09 50 03.9**	**-0.6**
APE	**Apeiranthos**	**3.30**	**41**	*e*Pb	**Pn**	**09 50 03.7**	**-0.8**
KVR	**Kavouri**	**3.32**	**13**	*e*PB	**Pn**	**09 50 05.0**	**+0.3**
ATH	**Athens Observa**	**3.45**	**12**	*e*PN	**Pn**	**09 50 06.5**	**0.0**
PTL	**Penteli**	**3.55**	**13**	*e*PN	**Pn**	**09 50 08.0**	**+0.1**
RLS	**Riolos of Patr**	**3.64**	**343**	*e*PB	**Pn**	**09 50 10.4**	**+1.3**
RLS	**Riolos of Patr**	**3.64**	**343**	*e*Pb	**Pn**	**09 50 10.9**	**+1.8**
KARP	**Karpathos**	**3.67**	**74**	*e*PN	**Pn**	**09 50 11.5**	**+1.9**
SLUM		**3.67**	**147**	⇓P	**Pn**	**09 50 14.5**	**+4.9**
SLUM				S	**Sn**	**09 50 52.1**	**-1.4**
KFL	**Anninata**	**3.89**	**335**	*e*Pn	**Pn**	**09 50 12.8**	**+0.2**
VLS	**Valsamata**	**4.02**	**334**	*e*Pn	**Pn**	**09 50 14.2**	**-0.1**
VLS	**Valsamata**	**4.02**	**334**	*e*Pn	**Pn**	**09 50 14.7**	**+0.4**
LKR	**Lokris**	**4.06**	**2**	*e*Pn	**Pn**	**09 50 14.3**	**-0.5**
LKR	**Lokris**	**4.06**	**2**	*e*PN	**Pn**	**09 50 15.9**	**+1.0**
EVR	**Evrytania**	**4.40**	**349**	*e*PN	**Pn**	**09 50 20.8**	**+1.2**
EVR	**Evrytania**	**4.40**	**349**	*e*Pb	**Pn**	**09 50 22.4**	**+2.8**
AGG	**Agios Georgios**	**4.45**	**355**	*e*Pn	**Pn**	**09 50 20.1**	**-0.1**
LKD	**Levkas**	**4.47**	**337**	*e*PN	**Pn**	**09 50 21.1**	**+0.5**
LKD	**Levkas**	**4.47**	**337**	*e*Pn	**Pn**	**09 50 21.0**	**+0.4**
CHOS	**Chios island**	**4.59**	**33**	*e*Pn	**Pn**	**09 50 21.7**	**-0.5**
ARG	**Arkhangelos**	**4.61**	**68**	*e*PN	**Pn**	**09 50 24.4**	**+1.9**
AOS	**Alonnisos**	**4.65**	**10**	*e*Pn	**Pn**	**09 50 22.6**	**-0.4**
NEO	**Neokhori**	**4.72**	**4**	*e*PN	**Pn**	**09 50 24.4**	**+0.4**
HMAT	**Matruh**	**5.00**	**133**	⇓P	**Pn**	**09 50 31.4**	**+3.6**
THL	**Klokotos Trika**	**5.01**	**353**	*e*Pn	**Pn**	**09 50 28.5**	**+0.6**
THL	**Klokotos Trika**	**5.01**	**353**	*e*Pn	**Pn**	**09 50 28.3**	**+0.3**
JAN	**Janina**	**5.30**	**343**	*e*PN	**Pn**	**09 50 33.0**	**+1.0**
LOS	**Limnos**	**5.63**	**18**	*e*Pn	**Pn**	**09 50 35.8**	**-0.7**
OUR	**Ouranopolis**	**5.81**	**9**	*e*Pn	**Pn**	**09 50 38.6**	**-0.3**
KRUS	**Krusevo**	**6.89**	**350**	*i* Pn	**Pn**	**09 50 53.4**	**-0.3**
ISP	**Isparta**	**7.00**	**60**	*e*P	**Pn**	**09 50 56.0**	**+0.7**
AWBH		**8.11**	**139**	⇓P	**Pn**	**09 51 13.5**	**+2.9**
HFRF	**Wahat Farafira**	**8.78**	**146**	P	**Pn**	**09 51 22.5**	**+2.8**
KOT	**Kottamia**	**8.92**	**119**	⇓P	**Pn**	**09 51 22.4**	**+0.8**
KOT				S	**Sn**	**09 52 52.6**	**-1.10**
GLL	**Jalalah**	**9.03**	**121**	P	**Pn**	**09 51 24.9**	**+1.7**
SUZ		**9.70**	**116**	P	**Pn**	**09 51 33.1**	**+0.8**
KZIT	**Kziot**	**10.40**	**107**	Sn	**Sn**	**09 53 30.8**	**-8.3**
SLTI	**Sal'it**	**10.46**	**100**	Pn	**Pn**	**09 51 41.4**	**-1.4**
SLTI				Sn	**Sn**	**09 53 31.7**	**-9.0**
MMAI	**Mount Meron Ar**	**10.57**	**95**	Pn	**Pn**	**09 51 44.4**	**+0.1**
	2.9nm,0.3s,baz=279,slow=11,SNR=5.6						
MMAI				Sn	**Sn**	**09 53 41.1**	**-2.2**
	2.4nm,0.3s,baz=262,slow=32,SNR=3.8						
MMLI	**Mount Malkishu**	**10.72**	**98**	Sn	**Sn**	**09 53 38.2**	**-8.8**
HMDT	**Nahal Hemdat**	**10.85**	**99**	Pn	**Pn**	**09 51 47.6**	**-0.6**
HMDT				Sn	**Sn**	**09 53 41.8**	**-8.5**
DSI	**Dead Sea**	**10.94**	**102**	Pn	**Pn**	**09 51 48.9**	**-0.5**
DSI				Sn	**Sn**	**09 53 44.2**	**-8.2**
MZDA	**Masada**	**11.02**	**104**	Pn	**Pn**	**09 51 49.6**	**-0.8**
MZDA				Sn	**Sn**	**09 53 45.7**	**-8.6**
PRNI	**Paran**	**11.11**	**109**	Pn	**Pn**	**09 51 51.0**	**-0.6**
ZFRI	**Zfri**	**11.16**	**108**	Sn	**Sn**	**09 53 48.9**	**-8.9**
HRFI	**Mount Harif**	**11.27**	**110**	Pn	**Pn**	**09 51 53.8**	**0.0**
HRFI				Sn	**Sn**	**09 53 51.4**	**-9.1**
MBRI	**Mt Berech**	**11.29**	**112**	Pn	**Pn**	**09 51 54.1**	**0.0**
MBRI				Sn	**Sn**	**09 53 52.9**	**-8.0**
EIL	**Elat**	**11.38**	**112**	Pn	**Pn**	**09 51 55.7**	**+0.4**
	0.9nm,0.3s,baz=315,slow=14,SNR=9.3						
EIL				Sn	**Sn**	**09 54 03.1**	**+0.1**
	2.2nm,0.3s,baz=48,slow=17,SNR=5.5						
EIL	**Elat**	**11.38**	**112**	Pn	**Pn**	**09 51 55.7**	**+0.4**
EIL				Sn	**Sn**	**09 54 03.1**	**+0.1**
EIL	**Elat**	**11.38**	**112**	Pn	**Pn**	**09 51 54.9**	**-0.4**
EIL				Sn	**Sn**	**09 53 53.7**	**-9.4**
VRAC	**Vranov**	**15.42**	**344**	Pn	**Pn**	**09 52 55.6**	**+5.4**
	0.8nm,0.3s,baz=170,slow=10,SNR=5.8						
AKASG	**Malin Array Be**	**16.76**	**14**	Pn	**Pn**	**09 53 00.8**	**-6.8**
	0.6nm,0.3s,baz=206,slow=12,SNR=5.7						
KIV	**Kislovodsk**	**17.95**	**53**	P	**Pn**	**09 53 19.0**	**-3.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OBN	**Obninsk**	**22.64**	**21**	P	**P**	**09 54 13.0**	**-0.8**
HFS	**Hagfors**	**26.25**	**350**	P	**P**	**09 54 47.1**	**-0.9**
	comp=Z,2.5nm,0.4s,mb4.2,baz=146,slow=11,SNR=19						
EKA	**Eskdalemuir Ar**	**27.45**	**327**	P	**P**	**09 54 58.9**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.0,baz=129,slow=7.9,SNR=5.4						
EKA	**Eskdalemuir Ar**	**27.45**	**327**	P	**P**	**09 54 58.8**	**-0.1**
NB2	**NORSAR Subarra**	**27.51**	**348**	P	**P**	**09 54 59.9**	**+0.5**
	comp=Z,1.3nm,0.5s,mb4.0,baz=151,slow=10						
NOA	**NORSAR Array B**	**27.51**	**348**	P	**P**	**09 54 58.8**	**-0.6**
	comp=Z,0.9nm,0.5s,mb3.9,baz=148,slow=9.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**28.68**	**227**	P	**P**	**09 55 15.8**	**+5.5**
	comp=Z,0.6nm,0.5s,mb3.7,baz=35,slow=9.7,SNR=10						
AKTK	**Aktyubinsk**	**30.04**	**47**	P	**P**	**09 55 19.7**	**-2.3**
AKTK	**Aktyubinsk**	**30.04**	**47**	P	**P**	**09 55 19.6**	**-2.4**
AKTO	**Aktyubinsk**	**30.04**	**47**	P	**P**	**09 55 19.6**	**-2.4**
	comp=Z,0.8nm,0.4s,mb3.9,baz=225,slow=9.5,SNR=4.4						
LVZ	**Lovozero**	**34.04**	**8**	*e*P	**P**	**09 55 52.5**	**-4.4**
LVZ				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
ARCES	**ARCESS Array B**	**35.03**	**2**	P	**P**	**09 56 03.2**	**-2.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=176,slow=8.9,SNR=11						
ARCES	**ARCESS Array B**	**35.03**	**2**	P	**P**	**09 56 03.2**	**-2.3**
KURK	**Kurchatov**	**43.02**	**50**	*d i*P	**P**	**09 57 09.9**	**-2.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
KURK	**Kurchatov**	**43.02**	**50**	*e*P	**P**	**09 57 11.0**	**-1.5**
	comp=Z,6.3nm,0.6s,mb4.5						
KURK	**Kurchatov**	**43.02**	**50**	*e*P	**P**	**09 57 11.0**	**-1.6**
	comp=Z,6.3nm,0.6s,mb4.5						
MK31	**Makanchi Array**	**45.68**	**56**	*e*P	**P**	**09 57 33.0**	**-0.9**
MK31	**Makanchi Array**	**45.68**	**56**	*e*P	**P**	**09 57 33.0**	**-0.9**
MKAR	**Makanchi Array**	**45.68**	**56**	P	**P**	**09 57 32.8**	**-1.1**
	comp=Z,5.8nm,0.6s,mb4.8,baz=286,slow=6.1,SNR=37						
MKAR	**Makanchi Array**	**45.68**	**56**	*i* P	**P**	**09 57 32.7**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR	**Makanchi Array**	**45.68**	**56**	*i* P	**P**	**09 57 32.7**	**-1.2**
	comp=Z,6.0nm,0.6s,mb4.8						
NVS	**Novosibirsk**	**45.84**	**45**	*e*P	**P**	**09 57 33.8**	**-1.2**
NVS				pmax	pmax		
	comp=N,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.2						
ZAA0	**Zalesovo Array**	**46.77**	**46**	*e*P	**P**	**09 57 40.5**	**-1.9**
ZAA0	**Zalesovo Array**	**46.77**	**46**	*e*P	**P**	**09 57 40.5**	**-1.9**
ZAK	**Zakamensk**	**58.55**	**48**	*e*P	**P**	**09 59 09.0**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ZAK	**Zakamensk**	**58.55**	**48**	*e*P	**P**	**09 59 09.0**	**-0.6**
	comp=Z,2.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**61.32**	**50**	P	**P**	**09 59 28.6**	**-0.1**
	comp=Z,1.6nm,0.7s,mb4.3,baz=282,slow=9.0,SNR=9.1						
CMAR	**Chiang Mai Arr**	**68.54**	**82**	*i* P	**P**	**10 00 23.0**	**+6.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**77.39**	**341**	P	**P**	**10 01 08.1**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.7,baz=32,slow=5.9,SNR=3.5						
YKA	**Yellowknife Ar**	**77.39**	**341**	P	**P**	**10 01 08.1**	**+0.2**
WRA	**Warramunga Arr**	**118.43**	**96**	PKP	PKPdf	10 08 01.0	-0.4
	comp=Z,0.2nm,0.4s,baz=320,slow=1.7,SNR=6.1						
ASAR	**Alice Springs**	**119.83**	**99**	PKP	PKPdf	10 08 04.2	+0.2
	comp=Z,0.4nm,0.6s,baz=279,slow=0.8,SNR=4.2						

BUC 30 09:51:16.0±0.1, 4640N×2131E, h24km, MD2.5/2, 2C-1D, Error ellipse: s-maj=0.8km s-min=0.2km az=118.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZS	**Buzias**	**0.81**	**165**	⇑*i*P	Pb	09 51 31.5	+0.1
BZS				*i* S	Sb	09 51 42.7	+0.8
DRGR		**1.04**	**67**	⇑*i*P	Pn	09 51 35.2	+0.2
DRGR				*i* S	Sb	09 51 49.2	+0.7
GZR	**Gura Zlata**	**1.43**	**134**	⇓*i*P	Pn	09 51 41.6	+1.2
GZR				*i* S	Sn	09 51 58.4	-0.1

*ISCJB **30** 09:53:06.8±0.3, 3270N±002×11743W±002, h10km, Error ellipse: s-maj=3.1km s-min=1.9km az=38.6*
*ECX **30** 09:53:08.8±0.5, 3278N×11732W, h4km±2km, MD3.4, ML3.6*
*NEIC **30** 09:53:08.2, 3277N×11734W, h11km, ML3.4(PAS), After PAS.*
NEIC Felt [III] at Carlsbad, La Jolla and San Diego. Also felt at Chula Vista, Coronado, Dana Point, Encinitas, Escondido, Rancho Santa Fe, San Ysidro, Solana Beach and Spring Valley.
ISC 30 09:53:07.6±0.3, 3269N±002×11744W±002, h10km, n92, σ1§15/137, 64C-48D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
109C	**Camp Elliot, M**	**0.34**	**55**	P	**Pg**	**09 53 12.8**	**-1.5**
	baz=0.2,SNR=1000						
109C				⇑S	**Sg**	**09 53 16.6**	**-2.3**
	baz=0.2						
CBX	**Cerro Bola**	**0.76**	**120**	⇑*e*P	**Pg**	**09 53 21.7**	**-0.5**
CBX				*e*S	**Sg**	**09 53 31.7**	**-0.3**
MONP	**Monument Peak**	**0.88**	**77**	P	**Pg**	**09 53 22.4**	**-2.1**
	baz=0.7,SNR=1000						
MONP				⇑S	**Sg**	**09 53 32.8**	**-3.2**
	baz=0.7						
MURC	**Murrieta**	**0.93**	**12**	⇓P	**Pg**	**09 53 23.4**	**-2.1**
	baz=0.8,SNR=231						
MURC				⇑S	**Sg**	**09 53 34.7**	**-2.8**
	baz=0.8						
SCI	**San Clemente I**	**0.98**	**287**	⇓P	**Pg**	**09 53 26.4**	**0.0**
	baz=1.1,SNR=15						
SCI				⇓Sb	**Sb**	**09 53 40.9**	**+1.3**
	baz=1.1						
ENX	**Ensenada**	**1.04**	**141**	⇑*e*P	**Pg**	**09 53 27.4**	**-0.2**
ENX				*e*S	**Sg**	**09 53 41.5**	**+0.4**
ENX				*e*		09 53 43.8	
	comp=N,1μm,0.4s						
CIS	**Catalina Islan**	**1.08**	**312**	⇑P	**Pg**	**09 53 27.1**	**-1.3**
	baz=1.1,SNR=193						
CIS				⇓S	**Sg**	**09 53 40.6**	**-1.8**
	baz=1.1						
PBX	**Punta Banda**	**1.12**	**147**	*e*P	**Pb**	**09 53 28.6**	**-0.6**
PBX				*e*S	**Sb**	**09 53 44.1**	**+0.3**
PBX				⇑*e*		09 53 55.3	
	comp=E,2μm,1.1s						
DVTC	**Desert V Tower**	**1.13**	**91**	⇑P	**Pb**	**09 53 27.1**	**-2.1**
	baz=1.0,SNR=39						
DVTC				⇑S	**Sb**	**09 53 41.3**	**-2.6**
	baz=1.0						
RMX	**La Rumorosa**	**1.15**	**94**	*e*P	**Pb**	**09 53 27.8**	**-1.8**
RMX				*e*S	**Sb**	**09 53 42.1**	**-2.5**
PFO	**Pinyon Flat Ob**	**1.23**	**42**	⇑P	**Pn**	**09 53 28.6**	**-2.2**
	baz=1.1,SNR=856						
PFO				⇓S	**Sb**	**09 53 43.2**	**-3.6**
	baz=1.1						
FMP	**Fort Macarthur**	**1.25**	**325**	⇓P	**Pn**	**09 53 29.1**	**-1.9**
	baz=1.3,SNR=20						
FMP				⇑S	**Sb**	**09 53 46.0**	**-1.2**
	baz=1.3						
ECNX	**Esteban Cantu**	**1.25**	**145**	*e*P	**Pn**	**09 53 31.1**	**-0.1**
ECNX				*e*P		09 53 27.5	
ECNX				*e*S	**Sb**	**09 53 41.6**	**-6.0**
ECNX				*e*S	**Sb**	**09 53 48.3**	**+0.7**
SWSC	**Sam W. Stewart**	**1.40**	**79**	⇑P	**Pn**	**09 53 31.8**	**-1.5**
	baz=1.3,SNR=186						
SWSC				⇓S	**Sn**	**09 53 49.2**	**-2.6**
	baz=1.3						
BFSC	**Mount Baldy St**	**1.55**	**353**	⇓P	**Pn**	**09 53 34.7**	**-0.6**
	baz=1.5,SNR=126						
BFSC				⇑S	**Sn**	**09 53 54.1**	**-1.4**
	baz=1.5						
MWC	**Mount Wilson**	**1.61**	**341**	*e*Pn	**Pn**	**09 53 34.8**	**-1.3**
MWC				*e*Sg	**Sg**	**09 53 57.5**	**-1.9**
BBRC	**Big Bear Sol-O**	**1.62**	**15**	⇑P	**Pn**	**09 53 35.6**	**-0.7**
	baz=1.5,SNR=207						
BBRC				⇑S	**Sn**	**09 53 56.4**	**-0.8**
	baz=1.5						
DECC	**Green Verdugo**	**1.72**	**335**	⇑S	**Sn**	**09 53 59.7**	**+0.1**
	baz=1.7						
BELC	**Belle Mtn.**	**1.77**	**42**	⇑P	**Pn**	**09 53 37.5**	**-0.8**
	baz=1.6,SNR=256						
BELC				⇓S	**Sn**	**09 54 00.4**	**-0.6**
	baz=1.6						
BC3	**Big Chuckw Mtn**	**1.92**	**60**	⇓P	**Pn**	**09 53 39.1**	**-1.3**
	baz=1.8,SNR=82						
BC3				⇑S	**Sn**	**09 54 04.0**	**-0.6**
	baz=1.8						
BLG	**Laguna Peak**	**1.96**	**317**	⇓P	**Pn**	**09 53 39.6**	**-1.3**
	baz=2.0						
OSI	**Osito Adit**	**2.20**	**331**	⇑S	**Sn**	**09 54 11.4**	**0.0**
	baz=2.2						
RRX	**Edison Barstow**	**2.21**	**9**	⇓Sb	**Sb**	**09 54 14.7**	**-0.4**
	baz=2.1						
GLA	**Glamis**	**2.23**	**80**	⇓P	**Pn**	**09 53 43.6**	**-1.0**
	baz=2.1,SNR=20						
GLA				⇑S	**Sn**	**09 54 11.9**	**-0.1**
	baz=2.1						
GLA	**Glamis**	**2.23**	**80**	⇓*i*Pn	**Pn**	**09 53 43.6**	**-1.0**
GLA				*e*Sn	**Sn**	**09 54 13.1**	**+1.0**
GLA				*e*Sg	**Sg**	**09 54 20.5**	**+1.4**
EDW2	**Edwards Air Fo**	**2.23**	**348**	⇑P	**Pn**	**09 53 44.4**	**-0.1**
	baz=2.2,SNR=39						
EDW2				⇑S	**Sn**	**09 54 11.7**	**-0.5**
	baz=2.2						
HEC	**Hector,Ludlow**	**2.32**	**23**	⇑P	**Pn**	**09 53 45.5**	**-0.3**
	baz=2.2,SNR=25						
HEC				⇓Sb	**Sb**	**09 54 17.9**	**-0.4**
	baz=2.2						
IRM	**Iron Mountain**	**2.41**	**52**	⇑P	**Pn**	**09 53 46.3**	**-0.8**
	baz=2.2,SNR=57						
IRM				⇓Sb	**Sb**	**09 54 20.2**	**-0.6**
	baz=2.2						
112A	**Yuma**	**2.42**	**93**	⇑P	**Pn**	**09 53 46.5**	**-0.6**
	baz=2.3,SNR=55						
112A				⇓S	**Sn**	**09 54 15.4**	**-1.4**
	baz=2.3						
GMRC	**Granite Mounta**	**2.56**	**35**	⇑P	**Pn**	**09 53 48.7**	**-0.4**
	baz=2.4,SNR=46						
GMRC				⇑Sb	**Sb**	**09 54 24.9**	**0.0**
	baz=2.4						
GSC	**Goldstone**	**2.65**	**11**	⇓Sb	**Sb**	**09 54 28.2**	**+0.3**
	baz=2.5						
GSC	**Goldstone**	**2.65**	**11**	*e*Pn	**Pn**	**09 53 50.7**	**+0.3**
GSC				*e*Sg	**Sg**	**09 54 28.5**	**-4.4**
Y12C	**Blythe**	**2.66**	**66**	⇓P	**Pn**	**09 53 49.7**	**-0.9**
	baz=2.5						
Y12C				⇑Sb	**Sb**	**09 54 28.1**	**+0.1**
	baz=2.5						
ARVC	**Arvin**	**2.69**	**335**	⇓P	**Pn**	**09 53 50.5**	**-0.4**
	baz=2.7						
ARVC				⇑S	**Sn**	**09 54 23.6**	**0.0**
	baz=2.7						
TUQ	**Turquoise Mtn.**	**3.01**	**24**	⇑P	**Pn**	**09 53 55.1**	**-0.2**
	baz=2.9,SNR=37						
TUQ				⇓Sb	**Sb**	**09 54 38.1**	**0.0**
	baz=2.9						
LDFC	**Landfair**	**3.07**	**39**	⇓*i*Pn	**Pn**	**09 53 56.2**	**+0.1**
LDFC				*e*Sg	**Sg**	**09 54 42.4**	**-3.7**
ISA	**Isabella**	**3.08**	**344**	⇑P	**Pn**	**09 53 56.4**	**+0.1**
	baz=3.0						
ISA				⇓Sb	**Sb**	**09 54 41.3**	**+1.1**
	baz=3.0						
ISA	**Isabella**	**3.08**	**344**	*e*Pn	**Pn**	**09 53 56.5**	**+0.2**
ISA				*e*Sg	**Sg**	**09 54 43.1**	**-3.5**
113A	**Mohawk Valley,**	**3.10**	**88**	⇓P	**Pn**	**09 53 56.0**	**-0.5**
	baz=3.0,SNR=21						
113A				⇑S	**Sn**	**09 54 33.6**	**+0.1**
	baz=3.0						
NEE2	**Needles Airpor**	**3.13**	**48**	⇑P	**Pn**	**09 53 56.4**	**-0.6**
	baz=3.0,SNR=8.4						
NEE2				⇑Sb	**Sb**	**09 54 42.6**	**+1.1**
	baz=3.0						
Y13A	**Salome**	**3.22**	**69**	⇑P	**Pn**	**09 53 57.7**	**-0.5**
	baz=3.1,SNR=6.2						
Y13A				⇑Sb	**Sb**	**09 54 45.0**	**+0.7**
	baz=3.1						
SHOC	**Shoshone**	**3.34**	**16**	⇑Sb	**Sb**	**09 54 50.1**	**+2.5**
	baz=3.2						
MPMC	**Manual Prospec**	**3.36**	**359**	⇑P	**Pn**	**09 54 00.3**	**+0.2**
	baz=3.3						
MPMC				⇑Sb	**Sb**	**09 54 49.6**	**+1.5**
	baz=3.3						
W12A	**Cal Nev Ari**	**3.36**	**39**	⇓P	**Pn**	**09 53 59.9**	**-0.2**
	baz=3.2						
W12A				⇑Sb	**Sb**	**09 54 49.9**	**+1.7**
	baz=3.2						
SMMC	**

baz=6.3
X18A Snowflake 6.51 72 ⇑P **Pn 09 54 44.8 +1.4**
baz=6.3
U17A Shonto 6.81 53 ⇓P **Pn 09 54 49.6 +2.1**
baz=6.6
MSU Marysvale 7.21 35 *e*Pn **Pn 09 54 55.5 +2.4**

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*ISCJB **30** 10:01:59.9±0.8, 490S±0.1×1217E±04, h10km, mb3.8/5, MS3.8/2, Error ellipse: s-maj=40.5km s-min=13.4km az=11.4*
*IDC **30** 10:01:59.9±0.9, 4895S×12157E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/15, mbtmp4.0/6, ML2.3/1, MS3.9/3, Ms1 3.9/3, ms1mx3.6/16, Error ellipse: s-maj=63.6km s-min=18.4km az=109.0*
*NEIC **30** 10:02:01.1±0.6, 4899S×12171E, h10km, Error ellipse: s-maj=34.9km s-min=12.6km az=102.0*
ISC 30 10:02:01.9±0.8, 490S±01×1216E±04, h10km, n12, σ0§50/6, mb3.8/5, MS3.8/2, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.35**	**347**	Pn	**Pn**	**10 05 51.6**	**+0.1**
	0.5nm,0.3s,baz=173,slow=8.1,SNR=4.9						
NWAO				LR	LR	10 10 30.3	
	comp=Z,674nm,20.5s,baz=156,slow=31						
STKA	**Stephens Creek**	**22.75**	**49**	LR	LR	10 14 20.5	
	comp=Z,292nm,20.9s,MS3.7,baz=209,slow=32						
ASAR	**Alice Springs**	**27.05**	**25**	P	**P**	**10 07 44.0**	**-0.3**
	2.2nm,1.0s,mb3.6,baz=184,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	**30.70**	**24**	P	**P**	**10 08 17.0**	**+0.2**
	1.4nm,1.0s,mb3.8,baz=197,slow=8.2,SNR=4.8						
MAW	**Mawson**	**34.34**	**216**	P	**P**	**10 08 48.3**	**+0.1**
	1.1nm,0.8s,mb3.8,baz=70,slow=17,SNR=2.6						
MAW				LR	LR	10 21 40.7	
	comp=Z,169nm,18.9s,MS3.8,baz=59,slow=34						
QSPA	**South Pole Qui**	**41.16**	**180**	P	**P**	**10 09 46.2**	**+0.5**
	5.3nm,1.0s,mb4.1,baz=330,slow=5.7,SNR=16						
SNAA	**Sanae**	**53.45**	**199**	P	**P**	**10 11 20.8**	**-0.6**
	1.2nm,1.1s,mb3.7,baz=140,slow=10,SNR=5.6						
TORD	**Torodi Ar. Bea**	**119.36**	**256**	PKP	PKPdf	10 20 49.7	-1.8
	0.2nm,0.4s,baz=138,slow=0.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**119.36**	**256**	PKP	PKPdf	10 20 49.7	-1.9
PDAR	**Pinedale Array**	**144.40**	**80**	PKP	PKPdf	10 21 35.6	-1.9
	0.7nm,0.8s,baz=158,slow=4.3,SNR=6.6						
YKA	**Yellowknife Ar**	**146.74**	**45**	PKPbc	PKPbc	10 21 41.9	-0.7
	1.8nm,0.9s,baz=270,slow=3.0,SNR=8.8						
YKA	**Yellowknife Ar**	**146.74**	**45**	PKPbc	PKPbc	10 21 41.9	-0.7

NEIC 30 10:08:58.9, 5400N×16355W, h23km, ML3.0(AEIC), ML3.7(PMR), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.86**	**5**	P	Pb	10 09 13.9	-1.3
FALS				S	Sb	10 09 26.0	-0.3
AKUT	**Akutan**	**1.32**	**277**	*e*P	Pn	10 09 19.9	-2.0
AKUT				S	Sn	10 09 37.1	-1.6
AKLV	**Akutan Long Va**	**1.43**	**278**	P	Pn	10 09 21.5	-1.9
AKLV				S	Sn	10 09 39.6	-1.8
AKGG	**Akutan Green G**	**1.45**	**279**	P	Pn	10 09 22.2	-1.6
UNV	**Unalaska Valle**	**1.75**	**266**	P	Pn	10 09 25.5	-2.3
SDPT	**Sand Point**	**2.24**	**52**	*e*P	Pn	10 09 33.5	-1.0
CHGN	**Chignik**	**3.74**	**50**	*e*P	Pn	10 09 54.3	-0.8

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*MOS **30** 10:14:27.8±1.1, 1134S×16621E, h33km, mb5.4/30, MS4.6/7, Error ellipse: s-maj=9.0km s-min=7.8km az=57.2*
*IDC **30** 10:14:28.7±2.2, 1142S×16640E, h33km±15km, mb4.8/18, mb1 4.9/19, mb1mx4.9/20, mbtmp4.8/19, ML6.0/1, MS4.5/14, Ms1 4.4/14, ms1mx4.3/18, Error ellipse: s-maj=17.0km s-min=13.6km az=100.0*
*ISCJB **30** 10:14:31.8±1.1, 1141S±005×166.17E±003, h68km±10km, mb4.9/77, Error ellipse: s-maj=7.9km s-min=4.4km az=172.9*
*BJI **30** 10:14:33.2, 1081S×16642E, h65km, mB4.9, mb4.9, Ms4.9, Msz4.8*
*NEIC **30** 10:14:35.0±1.1, 1144S×166.17E, h86km±10km, mb5.1/39, Error ellipse: s-maj=6.8km s-min=4.5km az=147.0*
*GCMT **30** 10:14:35.0±0.1, 1145S×16607E, h74km±1km, MW5.4/93, Moment Tensor Solution. s82,c149; s93,c180; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr0.47±.02; Mθθ-0.13±.02; Mφφ-0.34±.03; Mrθ-0.21±.01; Mθφ-0.22±.02; Mφr-1.40±.01; Best double couple: Mo1.49100×1017 NP1:φs48.00000°, δ11.00000°, λ127.00000°. NP2:φs190.00000°, δ81.00000°, λ83.00000°. Principal axes: T 1.5210, Plg53.0000°, Azm92.0000°; N -0.0600, Plg7.0000°, Azm191.0000°; P -1.4600, Plg36.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **30** 10:14:37, 1158S×166.16E, h88km, mb5.5/21*
ISC 30 10:14:34.5±1.0, 1143S±005×16621E±003, h80km±9km, h82km±2.2km; pP-P, n647, σ0§62/535, mb4.9/77, 187C-150D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.47**	**287**	Pn	**Pn**	**10 16 05.9**	**-1.3**
	282nm,0.3s,baz=108,slow=4.0,SNR=120						
HNR				Sn	**Sn**	**10 17 13.9**	**-5.7**
	34nm,0.3s,baz=270,slow=14,SNR=2.0						
DZM	**Mont Dzumac**	**10.59**	**179**	*e*P	**Pn**	**10 17 03.7**	**+0.4**
DZM				*e*S	**Sn**	**10 18 55.2**	**-5.0**
PMG	**Port Moresby**	**18.84**	**274**	⇑*e*P	**Pn**	**10 18 50.2**	**+0.5**
PMG	**Port Moresby**	**18.84**	**274**	*e*Pn	**Pn**	**10 18 48.8**	**-1.0**
CTA	**Charters Tower**	**21.03**	**243**	⇓*i*P	**P**	**10 19 12.3**	**+0.3**
	70nm,0.7s,mb5.1						
CTA	**Charters Tower**	**21.03**	**243**	P	**P**	**10 19 12.4**	**+0.4**
	96nm,0.7s,mb5.2,baz=76,slow=11,SNR=25						
CTA				LR	LR	10 25 44.0	
	comp=Z,2μm,20.6s,baz=67,slow=32						
CTA	**Charters Tower**	**21.03**	**243**	P	**P**	**10 19 12.4**	**+0.4**
CTA				pmax	pmax		
	comp=Z,96nm,0.7s						
CTA				MLR	MLR		
	comp=Z,2μm,20.6s						
CTAO	**Charters Tower**	**21.03**	**243**	*e*P	**P**	**10 19 12.3**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,224nm,1.3s,mb5.3						
CTAO	**Charters Tower**	**21.03**	**243**	*e*P	**P**	**10 19 12.3**	**+0.3**
	comp=Z,224nm,1.3s,mb5.3						
AFI	**Afiamalu**	**21.62**	**99**	P	**P**	**10 19 18.1**	**-0.3**
	comp=Z,62nm,0.8s,mb5.0,baz=13,slow=5.6,SNR=4.8						
AFI	**Afiamalu**	**21.62**	**99**	*e*P	**P**	**10 19 20.6**	**+2.3**
AFI				pmax	pmax		
	comp=Z,108nm,1.0s,mb5.1						
AFI	**Afiamalu**	**21.62**	**99**	*e*P	**P**	**10 19 20.6**	**+2.2**
	comp=Z,108nm,1.0s,mb5.1						
COEN	**Coen**	**22.61**	**261**	*e*P	**P**	**10 19 28.3**	**-0.5**
	comp=Z,118nm,1.6s,mb5.0						
ARMA	**Armidale**	**23.25**	**213**	*e*P	**P**	**10 19 35.0**	**0.0**
ARMA				*e*PCP	PcP	10 23 21.7	+1.2
CNB	**Canberra Magne**	**28.27**	**210**	*e*P	**P**	**10 20 21.1**	**+0.7**
CNB				*e*PCP	PcP	10 23 31.4	-0.5
URZ	**Urewera**	**28.44**	**162**	P	**P**	**10 20 21.9**	**+0.1**
	comp=Z,60nm,0.9s,mb5.1,baz=333,slow=6.4,SNR=9.9						
URZ				LR	LR	10 29 54.6	
	comp=Z,1μm,21.3s,baz=338,slow=33						
STKA	**Stephens Creek**	**30.48**	**224**	*e*P	**P**	**10 20 40.3**	**+0.3**
	comp=Z,11nm,0.8s,mb4.5						
STKA				*e*PCP	PcP	10 23 38.0	+0.4
STKA	**Stephens Creek**	**30.48**	**224**	P	**P**	**10 20 39.7**	**-0.3**
	comp=Z,17nm,0.9s,mb4.7,baz=27,slow=6.4,SNR=15						
STKA				PcP	PcP	10 23 37.8	+0.2
	comp=Z,21nm,0.9s,baz=24,slow=4.3,SNR=8.0						
STKA				LR	LR	10 31 44.9	
	comp=Z,2μm,21.1s,baz=43,slow=34						
WRAB	**Tennant Creek**	**31.77**	**251**	P	**P**	**10 20 50.0**	**-1.5**
	comp=Z,323nm,1.5s,mb5.8,SNR=18						
WRAB	**Tennant Creek**	**31.77**	**251**	*e*P	**P**	**10 20 50.4**	**-1.1**
WRAB				*e*		10 23 42.0	
WRAB				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.3						
WRAB	**Tennant Creek**	**31.77**	**251**	*e*P	**P**	**10 20 50.4**	**-1.0**
	comp=Z,80nm,1.2s,mb5.3						
WRAB				*e*PcP	PcP	10 23 42.0	+0.8
WB2	**Warramunga Arr**	**31.77**	**251**	⇓*i*P	**P**	**10 20 50.3**	**-1.2**
WB2				*e*PCP	PcP	10 23 41.4	+0.1
WB2				*e*SCP	ScP	10 27 22.4	+4.7
WRA	**Warramunga Arr**	**31.78**	**251**	P	**P**	**10 20 50.5**	**-1.1**
	comp=Z,43nm,0.9s,mb5.2,baz=81,slow=9.3,SNR=170						
WRA				PcP	PcP	10 23 41.6	+0.3
	comp=Z,13nm,1.0s,baz=81,slow=2.9,SNR=15						
WRA				ScP	ScP	10 27 22.7	+4.9
	comp=Z,7.8nm,1.0s,baz=80,slow=3.7,SNR=19						
WRA				LR	LR	10 32 14.5	
	comp=Z,1μm,21.9s,baz=80,slow=33						
WRA	**Warramunga Arr**	**31.78**	**251**	⇑*e*P	**P**	**10 20 50.5**	**-1.1**
TOO	**Toolangi**	**31.99**	**212**	*e*P	**P**	**10 20 54.3**	**+1.1**
TOO				*e*PCP	PcP	10 23 41.1	-0.4
RPZ	**Rata Peaks**	**32.44**	**173**	P	**P**	**10 20 55.1**	**-1.9**
	comp=Z,99nm,0.8s,mb5.6,baz=296,slow=1.4,SNR=20						
ASAR	**Alice Springs**	**33.03**	**244**	P	**P**	**10 21 01.0**	**-1.5**
	comp=Z,42nm,0.9s,mb5.3,baz=74,slow=9.5,SNR=197						
ASAR				PcP	PcP	10 23 44.5	-0.2
	comp=Z,16nm,0.9s,baz=81,slow=2.6,SNR=22						
ASAR				ScP	ScP	10 27 25.9	+3.9
	comp=Z,10nm,1.0s,baz=79,slow=3.4,SNR=22						
ASAR	**Alice Springs**	**33.03**	**244**	P	**P**	**10 21 01.0**	**-1.5**
ASAR						10 23 44.5	
KAKA	**Kakadu**	**33.04**	**264**	⇓*i*P	**P**	**10 21 01.5**	**-1.1**
	comp=Z,96nm,0.6s,mb5.8						
RAR	**Rarotonga**	**34.00**	**111**	LR	LR	10 32 20.7	
	comp=Z,847nm,18.3s,baz=345,slow=32						
FITZ	**Fitzroy Crossi**	**39.72**	**255**	⇓*i*P	**P**	**10 21 58.5**	**-1.1**
	comp=Z,76nm,0.6s,mb5.7						
FITZ				*e*PCP	PcP	10 24 05.4	+0.6
FITZ	**Fitzroy Crossi**	**39.72**	**255**	LR	LR	10 37 18.1	
	comp=Z,868nm,20.6s,baz=78,slow=34						
FORT	**Forrest**	**40.20**	**235**	*e*P	**P**	**10 22 02.8**	**-0.5**
	comp=Z,28nm,0.8s,mb5.1						
BATI	**Baumata**	**41.78**	**267**	LR	LR	10 39 18.1	
	comp=Z,1μm,21.1s,baz=111,slow=36						
PPT	**Papeete**	**43.16**	**103**	*e*S	**S**	**10 29 03.7**	**+15**
	comp=Z,465nm,30.2s						
PPT				*e*LQ		10 32 46.6	
	comp=Z,793nm,29.5s						
PPT				*e*LR	LR	10 34 44.7	
	comp=Z,4μm,31.0s,baz=275						
PPT	**Papeete**	**43.16**	**103**	LR	LR	10 38 09.8	
	comp=Z,382nm,18.8s,baz=278,slow=33						
MBWA	**Marble Bar**	**45.51**	**252**	*e*P	**P**	**10 22 46.4**	**0.0**
	comp=Z,60nm,1.0s,mb5.3						
KLBR	**Kellerberrin**	**48.89**	**238**	⇑*i*P	**P**	**10 23 11.0**	**-1.6**
	comp=Z,36nm,1.0s,mb5.2						
NWAO	**Narrogin (SRO)**	**49.63**	**236**	*e*P	**P**	**10 23 18.0**	**-0.2**
MUN	**Mundaring**	**50.26**	**238**	*e*P	**P**	**10 23 22.9**	**-0.1**
TSM	**Tawau**	**50.56**	**285**	⇓P	**P**	**10 23 26.3**	**+0.9**
SDKM	**Sandakan**	**51.63**	**287**	⇓P	**P**	**10 23 33.4**	**-0.1**
KKM	**Kota Kinabalu**	**52.68**	**287**	⇓P	**P**	**10 23 33.4**	**-7.9**
KKM	**Kota Kinabalu**	**52.68**	**287**	*e*P	**P**	**10 23 41.4**	**0.0**
MJAR	**Matsushiro Arr**	**54.52**	**332**	P	**P**	**10 23 53.5**	**-0.7**
	comp=Z,4.1nm,0.7s,mb4.5,baz=164,slow=8.9,SNR=15						
MJAR				PcP	PcP	10 24 57.0	+0.3
	comp=Z,0.9nm,0.7s,baz=143,slow=3.2,SNR=4.2						
MAJO	**Matsushiro**	**54.52**	**332**	*e*P	**P**	**10 23 54.0**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,84nm,2.1s,mb5.4						
MAJO	**Matsushiro**	**54.52**	**332**	*e*P	**P**	**10 23 54.0**	**-0.3**
	comp=Z,84nm,2.1s,mb5.4						
MAT	**Matsushiro**	**54.52**	**332**	P	**P**	**10 23 53.8**	**-0.5**
MAT				S	**S**	**10 31 25.0**	**-2.5**
BTM	**Bintulu**	**54.80**	**282**	⇑P	**P**	**10 23 56.1**	**-0.7**
SBUM	**Sibu**	**55.42**	**281**	⇓P	**P**	**10 24 02.1**	**+0.8**
KSM	**Kuching**	**57.01**	**279**	⇑P	**P**	**10 24 13.8**	**+1.1**
KSM	**Kuching**	**57.01**	**279**	*e*P	**P**	**10 24 12.5**	**-0.1**
RKT	**Rikitea**	**57.03**	**110**	*e*LR	LR	10 41 13.8	
	comp=Z,4μm,29.0s,baz=272						
QZH	**Quanzhou**	**58.84**	**308**	P	**P**	**10 24 25.8**	**+0.6**
QZH				S	**S**	**10 32 25.0**	**0.0**
QZH				LR	LR		
	comp=N,250nm,11.2s						
QZH				LR	LR		
	comp=E,320nm,13.0s						
QZH				LR	LR		
	comp=Z,850nm,24.3s						
SSE	**Sheshan**	**60.44**	**316**	P	**P**	**10 24 36.8**	**+0.8**
SSE				S	**S**	**10 32 45.0**	**-0.3**
SSE				SS	SS	10 36 46.0	+1.2
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,154nm,10.7s						
SSE				LR	LR		
	comp=N,243nm,25.0s						
SSE				LR	LR		
	comp=E,349nm,25.0s						
SSE				LR	LR		
	comp=Z,541nm,25.0s						
KSRS	**Korea Array**	**60.45**	**325**	P	**P**	**10 24 36.1**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.3,baz=133,slow=6.9,SNR=8.6						
KSRS				PcP	PcP	10 25 20.3	+0.3
	comp=Z,4.7nm,0.9s,baz=131,slow=5.4,SNR=6.6						
YSS	**Yuzh-Sakhalins**	**61.79**	**342**	⇑*e*P	**P**	**10 24 45.0**	**+0.2**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
YSS				MLR	MLR		
	comp=N,400nm,18.0s						
YSS				MLR	MLR		
	comp=E,300nm,18.0s						
YSS				MLR	MLR		
	comp=Z,400nm,18.0s						
YSS	**Yuzh-Sakhalins**	**61.79**	**342**	*e*P	**P**	**10 24 45.1**	**+0.3**
	comp=Z,30nm,1.2s,mb5.2						
NJ2	**Nanjing**	**62.61**	**315**	*e*P	**P**	**10 24 53.0**	**+2.4**
NJ2				PP	PP	10 27 14.0	+4.6
NJ2				S	**S**	**10 33 10.0**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,50nm,5.3s						
NJ2				LR	LR		
	comp=N,470nm,27.2s						
NJ2				LR	LR		
	comp=E,440nm,27.8s						
NJ2				LR	LR		
	comp=Z,440nm,28.5s						
QIZ	**Qiongzhong**	**63.26**	**298**	P	**P**	**10 24 53.8**	**-1.4**
QIZ				AP	pP	10 25 15.5	-0.1
QIZ				S	**S**	**10 33 20.0**	**-1.3**
QIZ				XS	sS	10 33 53.3	-2.9
QIZ				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.4						
QIZ				AMB	AMB		
	comp=Z,86nm,5.6s						
QIZ				LR	LR		
	comp=E,448nm,23.2s						
QIZ				LR	LR		
	comp=Z,848nm,24.4s						
KGM	**Kluang**	**63.92**	**278**	⇓P	**P**	**10 25 01.5**	**+1.8**
SMY	**Shemya**	**64.25**	**5**	*e*P	**P**	**10 25 00.9**	**-0.1**
PET	**Petropavlovsk**	**64.52**	**355**	*e*P	**P**	**10 25 05.4**	**+2.7**
PET				*e*S	**S**	**10 33 36.0**	**+0.4**
PET				*e**SS	sS	10 34 16.4	+5.8
PET				*e*		10 34 48.1	
PET				MLR	MLR		
	comp=Z,100nm,18.0s						
PETK	**Petropavlovsk-**	**64.69**	**354**	P	**P**	**10 25 03.6**	**-0.2**
	comp=Z,10nm,0.8s,mb4.7,baz=144,slow=7.4,SNR=17						
PETK				LR	LR	10 48 01.7	
	comp=Z,190nm,21.6s,baz=172,slow=31						
MDJ	**Mudanjiang**	**64.90**	**332**	P	**P**	**10 25 05.8**	**+0.4**
MDJ				AP	pP	10 25 28.3	+2.4
MDJ				S	**S**	**10 33 40.3**	**-0.3**
MDJ				SCS	ScS	10 34 51.3	-1.6
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,59nm,4.6s						
MDJ				LR	LR		
	comp=N,266nm,33.5s						
MDJ				LR	LR		
	comp=E,266nm,31.5s						
MDJ				LR	LR		
	comp=Z,501nm,29.0s						
FRIM	**Kepong**	**65.85**	**279**	⇑P	**P**	**10 25 13.0**	**+0.7**
CASY	**Casey**	**66.19**	**201**	*e*P	**P**	**10 25 12.6**	**-0.9**
CN2	**Changchun**	**66.30**	**329**	*e*P	**P**	**10 25 14.8**	**+0.3**
CN2				*e*S	S	10 33 55.5	-2.3
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
SBA	**Scott Base**	**66.42**	**180**	*e*P	**P**	**10 25 15.4**	**+0.6**
IPM	**Ipoh**	**66.73**	**280**	⇓P	**P**	**10 25 19.6**	**+1.7**
KLR	**Kul'dur**	**67.58**	**336**	*e*P	**P**	**10 25 19.2**	**-3.3**
KLR				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.0						
GYA	**Guiyang**	**69.01**	**304**	P	**P**	**10 25 32.5**	**+0.6**
GYA				PCP	PcP	10 25 59.0	+3.4
GYA				PP	PP	10 28 09.5	+4.1
GYA				SCP		10 29 50.5	
GYA				PCS		10 30 04.3	
GYA				S	S	10 34 29.8	-1.1
GYA				SKS		10 35 19.5	
GYA				SS	SS	10 38 59.0	+0.6
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,520nm,19.8s						
GYA				LR	LR		
	comp=E,480nm,19.7s						
GYA				LR	LR		
	comp=Z,510nm,20.0s						
BJI	**Beijing**	**69.06**	**321**	P	**P**	**10 25 32.0**	**+0.1**
BJI				S	S	10 34 33.3	+2.3
BJI				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.1						
BJI				LR	LR		
	comp=N,364nm,26.0s						
BJI				LR	LR		
	comp=E,353nm,28.8s						
BJI				LR	LR		
	comp=Z,1μm,27.9s						
XAN	**Xi'an**	**70.71**	**312**	P	**P**	**10 25 42.5**	**+0.3**
XAN				PP	PP	10 28 21.5	+1.5
XAN				S	S	10 34 47.5	-3.1
XAN				SS	SS	10 39 19.0	-5.4
XAN				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.5						
XAN				AMB	AMB		
	comp=Z,73nm,6.7s						
XAN				LR	LR		
	comp=N,268nm,25.5s						
XAN				LR	LR		
	comp=E,385nm,26.8s						
XAN				LR	LR		
	comp=Z,769nm,26.8s						
KMI	**Kunming**	**71.71**	**301**	P	**P**	**10 25 50.0**	**+1.6**
KMI				PCP	PcP	10 26 07.0	-0.1
KMI				PP	PP	10 28 32.0	+3.3
KMI				S	S	10 35 01.8	-0.6
KMI				SS	SS	10 39 39.8	-0.1
KMI				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,96nm,7.2s						
KMI				LR	LR		
	comp=N,153nm,24.6s						
KMI				LR	LR		
	comp=E,406nm,23.8s						
KMI				LR	LR		
	comp=Z,640nm,26.1s						
HHC	**Hu-ho-hao-te**	**72.42**	**320**	*e*P	**P**	**10 25 53.3**	**+1.0**
HHC				PP	PP	10 28 37.0	+2.6
HHC				S	S	10 35 08.3	-1.6
HHC				SKS		10 35 45.0	
HHC				SS	SS	10 39 48.5	-1.7
HHC				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.9						
HHC				AMB	AMB		
	comp=Z,83nm,5.2s						
HHC				LR	LR		
	comp=N,291nm,32.1s						
HHC				LR	LR		
	comp=E,507nm,27.4s						
HHC				LR	LR		
	comp=Z,1μm,25.0s						
CMAR	**Chiang Mai Arr**	**72.68**	**294**	P	**P**	**10 25 55.6**	**+1.3**
	comp=Z,8.3nm,0.9s,mb4.6,baz=117,slow=4.3,SNR=31						
CMAR	**Chiang Mai Arr**	**72.68**	**294**	*i* P	**P**	**10 25 55.7**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CHTO	**Chiang Mai**	**72.79**	**294**	*e*P	**P**	**10 25 55.9**	**+0.9**
MIR	**Mirnyy**	**72.91**	**204**	*e*P	**P**	**10 25 56.0**	**+1.2**
MIR				*i*	pP	10 26 14.0	-1.7
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.4						
HIA	**Hailar**	**72.92**	**330**	*e*P	**P**	**10 25 55.6**	**+0.5**
CD2	**Chengdu**	**73.19**	**307**	P	**P**	**10 25 57.8**	**+0.7**
CD2				PP	PP	10 28 44.3	+3.0
CD2				S	S	10 35 16.5	-2.7
CD2				SS	SS	10 40 02.5	0.0
CD2				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
CD2				AMB	AMB		
	comp=Z,200nm,5.9s						
CD2				LR	LR		
	comp=N,280nm,20.4s						
CD2				LR	LR		
	comp=E,490nm,20.5s						
CD2				LR	LR		
	comp=Z,660nm,25.1s						
SEY	**Seymchan**	**74.90**	**353**	⇑*e*P	**P**	**10 26 04.5**	**-1.8**
LZH	**Lanzhou**	**75.35**	**312**	*e*P	**P**	**10 26 12.3**	**+2.8**
LZH				PCP	PcP	10 26 27.3	+4.9
LZH				PP	PP	10 29 05.3	+5.8
LZH				*e*S	S	10 35 44.0	+0.9
LZH				SCS	ScS	10 36 12.0	-3.8
LZH				SS	SS	10 40 35.5	+0.4
LZH				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,214nm,4.1s						
LZH				LR	LR		
	comp=E,245nm,15.9s						
LZH				LR	LR		
	comp=Z,495nm,17.6s						
CLNS	**Chul'man**	**76.10**	**338**	*e*P	**P**	**10 26 11.8**	**-1.5**
CLNS				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,4.0nm,1.1s						
SVW2	**Sparrevohn**	**78.33**	**18**	*e*P	**P**	**10 26 25.1**	**-0.6**
YAK	**Yakutsk**	**78.59**	**343**	*e*P	**P**	**10 26 25.7**	**-1.4**
YAK				pmax	pmax		
	comp=E,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.0						
YAK				pmax	pmax		
	comp=N,19nm,1.9s						
ULN	**Ulaanbaatar**	**78.88**	**324**	⇑*e*P	**P**	**10 26 30.0**	**+1.0**
ULN	**Ulaanbaatar**	**78.88**	**324**	*e*P	**P**	**10 26 29.5**	**+0.5**
SONM	**Songino Array**	**79.24**	**324**	P	**P**	**10 26 32.0**	**+1.0**
	comp=N,4.5nm,0.8s,mb4.4,baz=134,slow=5.6,SNR=36						
BILL	**Bilibino**	**79.26**	**0**	*i* P	**P**	**10 26 30.9**	**+0.2**
BILL				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.1						
SEW	**Seward**	**79.58**	**21**	*e*P	**P**	**10 26 31.7**	**-0.8**
GTA	**Gaotai**	**79.65**	**314**	P	**P**	**10 26 35.5**	**+2.1**
GTA				S	S	10 36 29.8	+0.4
GTA				SCS	ScS	10 36 45.5	-5.1
GTA				SS	SS	10 41 44.0	+4.2
GTA				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.7						
GTA				AMB	AMB		
	comp=Z,117nm,6.3s				

comp=Z,16nm,0.8s,mb4.9
KTH *e*PcP PcP 10 26 50.1 +1.0
KTH *e*pP pP 10 27 04.8 +0.2
BMRM Bremner River 81.91 22 *e*P **P 10 26 44.7 -0.3**
BPAW Bear Paw Mtn. 82.00 18 P **P 10 26 48.7 +3.3**
comp=Z,30nm,1.3s,mb5.0
ZAK Zakamensk 82.27 325 *e*P **P 10 26 46.9 -0.2**
ZAK *e* 10 36 58.1
ZAK pmax pmax
comp=Z,13nm,1.2s,mb4.6
MCCM Marconi Confer 82.43 49 ⇑P **P 10 26 47.6 -0.7**
baz=83
MCCM Marconi Confer 82.43 49 *e*P **P 10 26 49.0 +0.7**
KCPM Cahto Peak 82.47 47 *e*P **P 10 26 48.7 +0.3**
P01C Double 8 Ranch 82.57 47 ⇑P **P 10 26 49.2 +0.2**
baz=83
JCC Jacoby Creek 82.57 46 ⇓P **P 10 26 48.9 0.0**
baz=83
HOPS Hopland 82.59 48 ⇓P **P 10 26 49.0 0.0**
baz=83
HOPS Hopland 82.59 48 *e*P **P 10 26 49.0 -0.1**
KIPM Iron Peak 82.59 47 *e*P **P 10 26 49.2 +0.2**
BNLO Ben Lomond (Sa 82.60 50 ⇓P **P 10 26 48.8 -0.3**
baz=83,SNR=7.6
IRK Irkutsk 82.62 327 *e*P **P 10 26 48.7 -0.2**
IRK *e* 10 27 03.6
IRK pmax pmax
comp=Z,32nm,1.1s,mb5.1
JRSC Jasper Ridge 82.64 50 ⇑P **P 10 26 49.2 -0.2**
baz=83
TLY Talaya 82.69 326 *e*P **P 10 26 49.6 +0.3**
TLY *e*S S 10 37 00.1 -0.3
TLY *e* 10 37 57.7
TLY *e*SS SS 10 42 24.1 -0.4
TLY pmax pmax
comp=Z,18nm,1.0s,mb4.9
TLY Talaya 82.69 326 *e*P **P 10 26 49.3 0.0**
comp=Z,5.3nm,0.8s,mb4.4
IMA2 Indian Mountai 82.75 15 *e*P **P 10 26 48.7 -0.6**
NSHM Saint Helena R 82.76 48 *e*P **P 10 26 49.8 -0.2**
CVS Carmenet Viney 82.81 49 ⇑P **P 10 26 50.7 +0.4**
baz=83
HAST Hastings Reser 82.81 51 ⇑P **P 10 26 50.2 -0.1**
baz=83,SNR=7.6
V03C Hunter Liggett 82.93 51 ⇑P **P 10 26 51.0 +0.1**
baz=83,SNR=8.2
MNRC McLaughlin Nat 83.01 48 ⇑P **P 10 26 51.4 +0.2**
baz=83,SNR=7.2
SAO San Andreas Ge 83.02 50 *e*P **P 10 26 52.0 +0.7**
GASB Alder Springs 83.08 47 ⇑P **P 10 26 51.8 +0.2**
baz=83
N02C Big Bar 83.08 46 ⇑P **P 10 26 51.7 +0.1**
baz=83
V04C Ramage Ranch, 83.08 52 ⇓P **P 10 26 51.7 0.0**
baz=83
O02C Red Bluff 83.22 47 ⇑P **P 10 26 52.4 +0.1**
baz=83
PACP Pacheco Peak 83.22 50 ⇑P **P 10 26 52.8 +0.4**
baz=83,SNR=14
S04C Ingram Canyon, 83.36 50 ⇓P **P 10 26 53.1 0.0**
baz=84,SNR=8.3
U04C Hernandez Rese 83.39 51 ⇑P **P 10 26 53.5 +0.2**
baz=84,SNR=7.6
PKD Parkfield 83.44 51 ⇓P **P 10 26 53.9 +0.4**
baz=84,SNR=5.9
COLA College 83.50 18*c i*P **P 10 26 51.8 -1.4**
COLA College 83.50 18 *e*P **P 10 26 51.8 -1.3**
comp=Z,28nm,0.8s,mb5.1
WDC Whiskeytown Da 83.54 47 ⇑P **P 10 26 54.0 +0.1**
baz=84,SNR=6.4
WDC Whiskeytown Da 83.54 47 *e*P **P 10 26 54.2 +0.3**
M02C Callahan 83.61 46 ⇑P **P 10 26 54.4 +0.1**
baz=84,SNR=10
SUTB Sutter Butte 83.61 48 ⇑P **P 10 26 54.0 -0.3**
baz=84,SNR=6.9
K02A Glendale 83.67 44 ⇑P **P 10 26 54.6 0.0**
baz=84
O03C Acorn Hollow, 83.70 47 ⇓P **P 10 26 55.0 +0.2**
baz=84
YBH Yreka Blue Hor 83.83 45 ⇑P **P 10 26 55.4 0.0**
baz=84,SNR=12
YBH Yreka Blue Hor 83.83 45 *e*P **P 10 26 55.8 +0.4**
J02A Umpqua 83.84 44 ⇓P **P 10 26 55.5 +0.2**
baz=84
OHCM Honcut 83.87 48 *e*P **P 10 26 55.8 +0.2**
I02A Mapleton 83.91 43 ⇓P **P 10 26 56.0 +0.3**
baz=84
ORV Oroville 83.93 48 ⇓P **P 10 26 55.9 -0.1**
baz=84,SNR=13
HUMO Hull Mountain 83.98 45 ⇓P **P 10 26 56.5 +0.4**
baz=84,SNR=8.6
HUMO Hull Mountain 83.98 45 *e*P **P 10 26 56.7 +0.6**
comp=Z,14nm,1.0s,mb4.7
S05C Merced 84.06 50 ⇑P **P 10 26 56.8 +0.1**
baz=84,SNR=16
M03C McCloud 84.08 46 ⇓P **P 10 26 56.6 0.0**
baz=84,SNR=14
LAVA Lava Cap Winer 84.22 49 ⇓P **P 10 26 57.4 0.0**
baz=84,SNR=6.0
CMB Columbia Colle 84.24 50 ⇓P **P 10 26 57.1 -0.5**
baz=84,SNR=12
CMB Columbia Colle 84.24 50 *e*P **P 10 26 56.8 -0.7**
CIS Catalina Islan 84.32 54 ⇓P **P 10 26 57.5 -0.5**
baz=84
HATC Hat Creek Radi 84.39 47 ⇑P **P 10 26 58.6 +0.3**
baz=84,SNR=7.1
T06C Millerton Lake 84.42 51 ⇓P **P 10 26 58.3 -0.2**
baz=85,SNR=7.7
WRAK Wrangell Islan 84.44 29 *e*P **P 10 26 57.6 -0.5**
comp=Z,10nm,0.8s,mb4.7
M04C Macdoel 84.46 46 ⇑P **P 10 26 58.3 -0.3**
baz=85,SNR=10.0
LBCM Butte Creek Ri 84.48 47 P **P 10 26 58.9 +0.2**
O04C Chester 84.49 47 ⇑P **P 10 26 58.8 0.0**
baz=85
O05C Quincy 84.49 48 ⇓P **P 10 26 58.8 0.0**
baz=85
P05C Yuba Gap, Truc 84.50 48 ⇑P **P 10 26 59.0 +0.1**
baz=85,SNR=9.0
ARVC Arvin 84.50 53 ⇑P **P 10 26 59.2 +0.3**
baz=85
H03A Soap Creek Ran 84.51 43 ⇓P **P 10 26 58.8 0.0**
baz=85
VES Vestal, Richgr 84.53 52 ⇓P **P 10 26 58.9 -0.2**
baz=85
COLD Coldfoot 84.54 16 *e*P **P 10 26 58.6 +0.2**
comp=Z,5.8nm,0.9s,mb4.5
MAW Mawson 84.54 202 *e*P **P 10 26 58.0 -0.6**
comp=Z,7.3nm,1.4s,mb4.4
MAW Mawson 84.54 202 P **P 10 26 58.6 0.0**
comp=Z,8.2nm,1.2s,mb4.5,baz=80,slow=8.9,SNR=11
MAW LR LR 10 57 25.0
comp=Z,159nm,19.3s,baz=235,slow=30
HYT Haines Junctio 84.55 24 *e*P **P 10 26 59.8 +1.2**
L04A Klamath Falls 84.56 45 ⇑P **P 10 26 58.7 -0.4**
baz=85,SNR=10.0
S06C San Francisco 84.59 50 ⇑P **P 10 26 58.7 -0.6**
baz=85,SNR=12
SKAG Skagway 84.68 26 *e*P **P 10 26 59.8 +0.5**
R05C Kirkwood Meado 84.69 49 ⇓P **P 10 26 59.7 -0.1**
baz=85,SNR=10
I04A Tendick Farm, 84.78 44 ⇓P **P 10 27 00.0 -0.1**
baz=85
J04A Umpqua Nationa 84.79 44 ⇑P **P 10 27 00.0 -0.1**
baz=85,SNR=6.5
M05C Lookout 84.80 46 ⇓P **P 10 27 00.2 -0.1**
baz=85
KCC Kaiser Creek 84.81 50 ⇓P **P 10 27 00.0 -0.4**
baz=85,SNR=9.2
HELL Mitchell Peak 84.83 51 ⇓P **P 10 27 00.2 -0.4**
baz=85
MWC Mount Wilson 84.83 54 *e*P **P 10 27 01.8 +1.2**
MWC pmax pmax
comp=Z,11nm,0.8s,mb4.8
MWC Mount Wilson 84.83 54 *e*P **P 10 27 01.8 +1.1**
comp=Z,11nm,0.8s,mb4.8
ELFS Eagle Lake Fie 84.85 47 ⇓P **P 10 27 00.8 +0.3**
baz=85,SNR=8.0
BEKR Beckwourth 84.86 48 ⇓P **P 10 27 00.6 -0.1**
baz=85,SNR=18
ISA Isabella 84.94 52 ⇑P **P 10 27 01.3 +0.2**
baz=85,SNR=10
ISA Isabella 84.94 52 *e*P **P 10 27 01.3 +0.1**
E03A Lebam 85.04 41 ⇓P **P 10 27 01.5 +0.2**
baz=85
EDW2 Edwards Air Fo 85.08 53 ⇓P **P 10 27 01.8 -0.1**
baz=85,SNR=10

R06C Coleville 85.09 49 ⇑P **P 10 27 02.1 +0.2**
baz=85,SNR=12
WAKR Walker 85.10 49 *e*P **P 10 27 02.2 +0.3**
WCN Washoe City 85.12 48 ⇓P **P 10 27 01.9 0.0**
baz=85,SNR=7.2
P06A Stead Airport, 85.14 48 ⇑P **P 10 27 02.4 +0.4**
baz=85
BFSC Mount Baldy St 85.16 54 ⇑P **P 10 27 02.0 -0.3**
baz=85
TAPN Taplejung 85.19 299 *e*P **P 10 27 04.9 +2.3**
M06C Likely Place G 85.22 46 ⇑P **P 10 27 02.3 -0.1**
baz=85,SNR=6.5
H04A Detroit Lake 85.25 43 ⇓P **P 10 27 02.0 -0.5**
baz=85
L05A Lakeview 85.26 46 ⇑P **P 10 27 02.6 +0.1**
baz=85
R07C Lee Vining 85.26 50 ⇑P **P 10 27 03.1 +0.5**
baz=85
ODAN Odare 85.33 298 *e*P **P 10 27 04.4 +1.1**
comp=Z,21nm,0.7s,mb5.2
MURC Murrieta 85.33 55 ⇓P **P 10 27 03.5 +0.4**
baz=86
O06A Flanigan 85.35 48 ⇑P **P 10 27 03.4 +0.4**
baz=86
MTUM Tungsten Hills 85.39 51 *e*P **P 10 27 04.0 +0.6**
J05A Fort Rock 85.40 44 ⇓P **P 10 27 03.0 -0.3**
baz=86,SNR=13
K05A Summer Lake 85.44 45 ⇑P **P 10 27 03.4 -0.1**
baz=86,SNR=10
CWC Cottonwood Cre 85.48 52 ⇓P **P 10 27 03.6 -0.2**
baz=86,SNR=8.6
PAHR Pah Rah Range 85.52 48 *e*P **P 10 27 04.3 +0.3**
comp=Z,31nm,1.4s,mb5.0
N06A Buffalo Meadow 85.53 47 ⇓P **P 10 27 03.7 -0.2**
baz=86,SNR=14
F04A Amboy 85.55 42 ⇑P **P 10 27 03.8 -0.1**
baz=86
EGAK Eagle 85.58 20 *e*P **P 10 27 03.0 -0.6**
MOD Modoc 85.58 46 ⇑P **P 10 27 03.6 -0.6**
baz=86,SNR=9.3
MOD Modoc 85.58 46 *e*P **P 10 27 04.0 -0.2**
I05A Bend 85.68 44 ⇓P **P 10 27 05.0 +0.3**
baz=86
ERK Elk Rock 85.73 41 P **P 10 27 05.5 +0.7**
S08C White Mtn Res 85.74 51 ⇑P **P 10 27 04.6 -0.4**
baz=86,SNR=9.4
DAWY Dawson 85.75 21 *e*P **P 10 27 03.7 -0.8**
BBRC Big Bear Sol-O 85.75 54 ⇓P **P 10 27 05.2 0.0**
baz=86
MONP Monument Peak 85.76 55 ⇓P **P 10 27 05.5 +0.2**
baz=86
MPMC Manual Prospec 85.83 52 ⇓P **P 10 27 05.4 -0.1**
baz=86,SNR=9.0
TDL Tradedollar La 85.83 41 P **P 10 27 05.7 +0.3**
C04A Brinnon 85.85 40 ⇓P **P 10 27 05.8 +0.4**
baz=86
H05A Madras 85.88 43 ⇑P **P 10 27 05.6 0.0**
baz=86
K06A Valley Falls 85.92 45 ⇑P **P 10 27 05.7 -0.1**
baz=86,SNR=7.0
NVAR Mina Array Bea 85.92 50 P **P 10 27 05.6 -0.4**
comp=Z,6.3nm,1.0s,mb4.5,baz=234,slow=8.4,SNR=24
NVAR Mina Array Bea 85.92 50 P **P 10 27 05.6 -0.4**
PFO Pinyon Flat Ob 85.93 55 ⇓P **P 10 27 06.5 +0.4**
baz=86
O07A Toulon 86.04 48 ⇑P **P 10 27 06.0 -0.5**
baz=86,SNR=11
RAMN Ramite 86.04 298 *e*P **P 10 27 07.9 +1.1**
comp=Z,62nm,1.4s,mb5.3
J06A Christmas Vall 86.13 45 ⇑P **P 10 27 06.7 -0.2**
baz=86,SNR=7.1
GSC Goldstone 86.14 53 ⇑P **P 10 27 07.0 -0.1**
baz=86,SNR=5.1
GSC Goldstone 86.14 53 *e*P **P 10 27 07.6 +0.5**
F05A White Salmon 86.16 42 ⇑P **P 10 27 07.3 +0.4**
baz=86
N07B Gerlach 86.16 47 ⇑P **P 10 27 07.0 -0.1**
baz=86,SNR=13
GRAC Grapevine Rang 86.20 51 ⇑P **P 10 27 07.2 -0.1**
baz=86,SNR=9.2
E05A Randle 86.20 41 ⇑P **P 10 27 07.0 -0.1**
baz=86
SWSC Sam W. Stewart 86.28 56 ⇑P **P 10 27 07.7 -0.1**
baz=86
D05A Enumclaw 86.28 40 ⇓P **P 10 27 07.9 +0.4**
baz=86
L07A Adell 86.30 46 ⇑P **P 10 27 07.5 -0.2**
baz=86,SNR=14
I06A Prineville 86.33 44 ⇑P **P 10 27 08.0 +0.2**
baz=86,SNR=11
Q08A Gabbs 86.33 49 ⇓P **P 10 27 07.8 -0.2**
baz=86,SNR=7.3
HEC Hector,Ludlow 86.38 54 ⇑P **P 10 27 08.2 -0.1**
baz=86,SNR=6.6
BELC Belle Mtn. 86.41 54 ⇑P **P 10 27 08.6 +0.2**
baz=87,SNR=8.5
FURC Furnace Creek, 86.43 52 ⇓P **P 10 27 08.6 +0.1**
baz=87,SNR=9.9
G06A Carlson Farm, 86.48 43 ⇓P **P 10 27 08.5 0.0**
baz=87
H06A Lindquist Farm 86.51 43 ⇓P **P 10 27 08.5 -0.2**
baz=87,SNR=6.9
S09A Goldfield 86.52 51 ⇑P **P 10 27 09.1 +0.1**
baz=87,SNR=9.6
DLBC Dease Lake 86.53 28 *e*P **P 10 27 08.2 -0.3**
TIXI Tiksi 86.55 349 *e*P **P 10 27 06.7 -1.6**
TIXI *e*S S 10 37 25.0 -13
TIXI *e*SS SS 10 43 20.1 -0.5
TIXI pmax pmax
comp=Z,33nm,1.9s,mb4.9
TIXI MLR MLR
comp=Z,194nm,20.0s
TIXI Tiksi 86.55 349 *e*P **P 10 27 07.0 -1.3**
JIRN Jiri 86.57 299 *e*P **P 10 27 11.1 +1.7**
K07A Rock Creek Ran 86.58 45 ⇑P **P 10 27 09.0 -0.1**
baz=87,SNR=14
B05A Bryant 86.60 39 ⇑P **P 10 27 09.1 0.0**
baz=87
O08A Rochester Mine 86.60 48 ⇑P **P 10 27 09.1 -0.2**
baz=87,SNR=10.0
C05A Tolt Reservoir 86.65 40 ⇑P **P 10 27 09.2 -0.1**
baz=87
JCW Jim Creek 86.68 40 *e*P **P 10 27 09.0 -0.4**
E06A Yakima 86.70 41 ⇓P **P 10 27 09.3 -0.3**
baz=87,SNR=5.2
SHOC Shoshone 86.72 53 ⇓P **P 10 27 09.8 -0.1**
baz=87,SNR=5.1
BC3 Big Chuckw Mtn 86.75 55 ⇑P **P 10 27 10.0 -0.1**
baz=87,SNR=5.3
J07A Hines 86.75 45 ⇑P **P 10 27 09.6 -0.3**
baz=87,SNR=7.1
N08A GE Springer Mi 86.77 47 ⇑P **P 10 27 09.9 -0.2**
baz=87,SNR=7.9
R09A Tonopah 86.79 50 ⇓P **P 10 27 09.9 -0.3**
baz=87,SNR=7.5
M08A Happy Creek Ra 86.80 47 ⇑P **P 10 27 10.0 -0.1**
baz=87,SNR=5.3
U10A Ash Meadows, A 86.83 52 ⇑P **P 10 27 10.6 +0.1**
baz=87
I07A Izee 86.85 44 ⇑P **P 10 27 10.5 +0.2**
baz=87,SNR=13
TUQ Turquoise Mtn. 86.87 53 ⇑P **P 10 27 10.5 -0.2**
baz=87,SNR=6.3
GMRC Granite Mounta 86.89 54 ⇑P **P 10 27 10.7 -0.1**
baz=87,SNR=6.7
GUN Gumba 86.90 299 *e*P **P 10 27 11.9 +0.9**
WVOR Wild Horse Val 86.92 46 *e*P **P 10 27 11.0 +0.2**
WVOR pmax pmax
comp=Z,17nm,1.3s,mb4.8
WVOR Wild Horse Val 86.92 46 *e*P **P 10 27 11.0 +0.3**
comp=Z,17nm,1.3s,mb4.8
H07A Lands Inn, Kim 86.98 44 ⇓P **P 10 27 10.3 -0.7**
baz=87,SNR=7.8
D06A Cle Elum 87.01 41 ⇓P **P 10 27 10.8 -0.3**
baz=87
RPW Rockport 87.03 39 P **P 10 27 10.6 -0.5**
TPNV Topopah Spring 87.04 52 ⇓P **P 10 27 11.2 -0.3**
baz=87,SNR=7.6
TPNV Topopah Spring 87.04 52 *e*P **P 10 27 11.0 -0.5**
L08A Fields 87.05 46 ⇑P **P 10 27 11.1 -0.3**
baz=87,SNR=14
S10A Tonopah Range, 87.06 51 ⇑P **P 10 27 11.1 -0.4**
baz=87,SNR=10
GLA Glamis 87.09 56 *e*P **P 10 27 11.7 -0.1**
GLA pmax pmax
comp=Z,14nm,0.8s,mb4.9
GLA Glamis 87.09 56 ⇑P **P 10 27 11.3 -0.5**
baz=87,SNR=12
GLA Glamis 87.09 56 *e*P **P 10 27 11.7 -0.1**
comp=Z,14nm,0.8s,mb4.9
K08A Mann Creek Ran 87.12 46 ⇑P **P 10 27 11.1 -0.6**
baz=87
P09A Austin 87.12 49 ⇑P **P 10 27 11.3 -0.5**
baz=87
IRM Iron Mountain 87.13 54 ⇑P **P 10 27 11.6 -0.3**
baz=87,SNR=9.9
G07A Ruggs Ranch, H 87.13 43 ⇓P **P 10 27 11.0 -0.7**
baz=87,SNR=9.1
PKI Pulchoki 87.22 299 *e*P **P 10 27 13.6 +1.0**
PKIN Phulchoki 87.23 299 *e*P **P 10 27 13.1 +0.5**
comp=Z,28nm,1.1s,mb5.1
O09A Fish Creek Ran 87.27 48 ⇓P **P 10 27 12.3 -0.2**
baz=87,SNR=7.5
A06A Chilliwack 87.28 39 ⇑P **P 10 27 11.9 -0.4**
baz=87
J08A Circle Bar Ran 87.33 45 ⇑P **P 10 27 12.7 0.0**
baz=88,SNR=8.9
V11A Goodsprings 87.36 53 ⇓P **P 10 27 12.5 -0.6**
baz=88
R10A Warm Springs 87.38 50 ⇑P **P 10 27 13.1 0.0**
baz=88,SNR=11
KKN Kakani 87.38 299 *e*P **P 10 27 14.3 +1.0**
LDFC Landfair 87.41 54 *e*P **P 10 27 13.5 +0.2**
E07A Sunnyside 87.44 42 ⇑P **P 10 27 12.9 -0.2**
baz=88
I08A Drewsey 87.44 44 ⇑P **P 10 27 13.1 -0.1**
baz=88,SNR=6.9
M09A Marrel Ranch, 87.46 47 ⇑P **P 10 27 13.2 -0.2**
baz=88
ETW Entiat 87.48 40 *e*P **P 10 27 13.2 -0.1**
L09A Wilkinson Ranc 87.48 46 ⇓P **P 10 27 13.3 -0.2**
baz=88,SNR=6.6
DMN Daman 87.49 299 *e*P **P 10 27 14.8 +0.9**
comp=Z,79nm,1.2s,mb5.5
MDW Midway 87.51 42 P **P 10 27 14.0 +0.5**
Y12C Blythe 87.52 55 ⇑P **P 10 27 13.7 -0.1**
baz=88,SNR=6.3
RSW Rattlesnake Hi 87.55 42 *e*P **P 10 27 13.8 +0.1**
H08A Prairie City 87.56 44 ⇑P **P 10 27 13.8 0.0**
baz=88
D07A Quincy 87.57 41 ⇓P **P 10 27 13.0 -0.8**
baz=88,SNR=6.2
HAWA Hanford 87.59 42 *e*P **P 10 27 14.1 +0.2**
G08A Pilot Rock 87.61 43 ⇑P **P 10 27 13.7 -0.4**
baz=88,SNR=12
S11A Rachel 87.62 51 ⇓P **P 10 27 13.6 -0.7**
baz=88
K09A Rome 87.65 46 ⇑P **P 10 27 14.0 -0.3**
baz=88,SNR=8.3
C07A Waterville 87.68 40 ⇑P **P 10 27 13.0 -1.3**
baz=88
SHPR Sheep Range 87.76 52 *e*P **P 10 27 15.6 +0.6**
V12A Nelson 87.79 53 ⇓P **P 10 27 14.9 -0.2**
baz=88
O10A Cortez Mining, 87.81 48 ⇑P **P 10 27 15.3 +0.3**
baz=88
J09A Fry Pan Ranch, 87.82 45 ⇑P **P 10 27 15.0 0.0**
baz=88,SNR=19
113A Mohawk Valley, 87.88 56 ⇓P **P 10 27 15.2 -0.4**
baz=88
B07A Winthrop 87.90 40 ⇑P **P 10 27 15.3 0.0**
baz=88,SNR=8.0
T11A Corn Creek, Al 87.91 52 ⇓P **P 10 27 15.5 -0.2**
baz=88,SNR=10
E08A Dider Farm, El 87.93 42 ⇑P **P 10 27 15.3 -0.2**
baz=88
A07A Ashnola River, 87.94 39 ⇑P **P 10 27 15.2 -0.3**
baz=88,SNR=5.7
R11A Troy Canyon, C 87.94 50 ⇑P **P 10 27 15.8 +0.1**
baz=88,SNR=9.1
PDMCI Parker Dam,Lak 87.97 55 ⇓P **P 10 27 15.9 -0.1**
baz=88,SNR=7.1
GKN Gorkha 87.99 299 *e*P **P 10 27 17.1 +0.9**
I09A Lost Marbles R 88.03 45 ⇑P **P 10 27 15.9 -0.2**
baz=88
Q11A Duckwater 88.03 50 ⇓P **P 10 27 16.0 -0.2**
baz=88,SNR=13
M10A I.L. Ranch, Tu 88.14 47 ⇑P **P 10 27 16.8 +0.2**
baz=88,SNR=6.2
D08A Wollman Farm, 88.20 41 ⇑P **P 10 27 16.4 -0.3**
baz=88,SNR=5.0
U12A Valley of Fire 88.22 52 ⇓P **P 10 27 17.8 +0.7**
baz=88
K10A MacKenzie Ranc 88.27 46 ⇓P **P 10 27 17.1 -0.1**
baz=88
H09A Durkee 88.29 44 ⇑P **P 10 27 17.2 0.0**
baz=88
S12A Delamar Landin 88.30 51 ⇓P **P 10 27 17.8 +0.3**
baz=88,SNR=13
L10A Juniper Basin 88.35 47 ⇑P **P 10 27 17.3 -0.3**
baz=88,SNR=8.3
C08A Higginbotham F 88.36 41 ⇓P **P 10 27 17.2 -0.3**
baz=88
B08A Colville Reser 88.36 40 ⇓P **P 10 27 17.1 -0.4**
baz=88,SNR=6.1
W13A Hualapai Mount 88.38 54 ⇑P **P 10 27 17.8 -0.1**
baz=88,SNR=14
O11A Cowboy Ranch, 88.38 49 ⇓P **P 10 27 18.0 +0.2**
baz=88,SNR=7.3
G09A Cove 88.40 43 ⇑P **P 10 27 17.7 0.0**
baz=88,SNR=6.3
OD2 Odessa Site #2 88.45 41 *e*P **P 10 27 18.1 +0.2**
214A Organ Pipe Nat 88.45 57 ⇑P **P 10 27 18.7 +0.4**
baz=89,SNR=7.1
V13A Grand Canyon W 88.50 53 ⇑P **P 10 27 18.5 0.0**
baz=89,SNR=15
J10A Berg Farm, Mel 88.53 45 ⇓P **P 10 27 18.2 -0.2**
baz=89
E09A Wood Farm, Sta 88.54 42 ⇑P **P 10 27 17.8 -0.6**
baz=89
BMO Blue Mountains 88.59 44 *e*P **P 10 27 18.6 0.0**
A08A Turner Farm, O 88.60 39 ⇑P **P 10 27 18.1 -0.4**
baz=89,SNR=6.4
D09A Jones Farm, Ri 88.60 41 ⇓P **P 10 27 18.2 -0.5**
baz=89,SNR=5.9
M11A Holland Ranch, 88.65 47 ⇑P **P 10 27 19.2 +0.1**
baz=89,SNR=7.6
U13A Pakoon Wash 88.66 53 ⇓P **P 10 27 19.3 +0.1**
baz=89,SNR=12
R12A Pony Springs, 88.67 51 ⇓P **P 10 27 19.6 +0.4**
baz=89,SNR=19
Z14A Wintersburg 88.69 56 ⇑P **P 10 27 20.2 +0.8**
baz=89
Q12A Willow Creek R 88.70 50 ⇓P **P 10 27 19.4 +0.1**
baz=89,SNR=7.8
I10A Payette 88.70 45 ⇓P **P 10 27 19.7 +0.5**
baz=89
P12A McGill 88.76 49 ⇓P **P 10 27 19.9 +0.3**
baz=89,SNR=8.3
Y14A Wickenburg 88.79 55 ⇓P **P 10 27 19.7 -0.2**
baz=89
DANN Dangsing 88.82 299 *e*P **P 10 27 20.3 +0.2**
comp=Z,39nm,0.9s,mb5.4
KOLN Koldanda 88.82 298 *e*P **P 10 27 20.4 +0.2**
G10A Bishop Farm, J 88.85 43 ⇓P **P 10 27 19.5 -0.4**
baz=89,SNR=19
K11A Parker Ranch, 88.86 46 ⇓P **P 10 27 19.8 -0.2**
baz=89,SNR=8.3
ELK Elko 88.86 48 *e*P **P 10 27 20.8 +0.8**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 88.86 48 *e*P **P 10 27 20.8 +0.7**
comp=Z,2.9nm,0.9s,mb4.3
T13A Saint George 88.86 52 ⇑P **P 10 27 20.3 +0.2**
baz=89,SNR=14
L11A Cat Creek Ranc 88.89 47 ⇑P **P 10 27 20.5 +0.4**
baz=89,SNR=8.0
H10A Noah's Angus R 88.89 44 ⇑P **P 10 27 19.5 -0.5**
baz=89,SNR=13
F10A Beach Ranch, E 88.98 43 ⇑P **P 10 27 20.3 -0.1**
baz=89
X14A Yava 89.01 55 ⇓P **P 10 27 21.2 +0.3**
baz=89,SNR=12
A09A Danville 89.03 40 ⇓P **P 10 27 20.6 -0.1**
baz=89
N12A Clover Valley, 89.04 48 ⇓P **P 10 27 21.1 +0.2**
baz=89,SNR=16
S13A Holt Ranch, En 89.05 51 ⇑P **P 10 27 21.4 +0.4**
baz=89,SNR=22
W14A Seligman 89.05 54 ⇑P **P 10 27 21.0 0.0**
baz=89,SNR=9.5
O12A Currie 89.09 49 ⇓P **P 10 27 21.5 +0.3**
baz=89,SNR=15
115A Sonoran Desert 89.11 57 ⇓P **P 10 27 21.1 -0.3**
baz=89

R13A O'Grain Ranch, 89.12 51 ⇓P P 10 27 21.6 +0.3
baz=89,SNR=14
B09A Rice 89.13 40 ⇑P P 10 27 20.5 -0.6
baz=89
V14A Boquillas Ranc 89.13 54 ⇑P P 10 27 21.4 0.0
baz=89,SNR=9.5
MFID Camas Ranch 89.19 45 ⇓P P 10 27 21.3 -0.2
baz=89,SNR=6.1
I11A Placerville 89.24 45 ⇑P P 10 27 21.8 +0.1
baz=89,SNR=14
D10A Wagner Farm, O 89.27 42 ⇑P P 10 27 20.9 -0.9
baz=89,SNR=6.1
U14A Mt Trumbull 89.27 53 ⇑P P 10 27 22.3 +0.3
baz=89,SNR=28
M12A Wells 89.28 48 ⇓P P 10 27 21.6 -0.4
baz=89,SNR=8.9
Q13A Wheeler Ranch, 89.28 50 ⇓P P 10 27 22.0 -0.1
baz=89,SNR=6.7
Y15A Casa Rosa Ranc 89.33 55 ⇓P P 10 27 22.4 -0.1
baz=90,SNR=14
L12A House Creek Ra 89.41 47 ⇓P P 10 27 22.6 0.0
baz=90,SNR=12
P13A Bates Ranch, G 89.42 50 ⇑P P 10 27 22.6 -0.1
baz=90,SNR=35
H11A Donnelly 89.42 44 ⇑P P 10 27 21.9 -0.7
baz=90,SNR=7.3
G11A Walters Elk Ra 89.45 43 ⇑P P 10 27 22.0 -0.7
baz=90,SNR=13
116A Eloy 89.51 57 ⇑P P 10 27 23.7 +0.4
baz=90,SNR=7.5
T14A Hurricane 89.51 52 ⇑P P 10 27 23.4 +0.3
baz=90,SNR=12
X15A Humboldt 89.54 55 ⇑P P 10 27 23.6 +0.2
baz=90,SNR=13
216A Three Points, 89.58 57 ⇓P P 10 27 24.0 +0.4
baz=90
O13A Hicks Ranch, I 89.62 49 ⇑P P 10 27 23.8 +0.2
baz=90,SNR=12
K12A Draper Farm, C 89.62 46 ⇓P P 10 27 23.8 +0.3
baz=90,SNR=8.5
S14A Cedar City 89.62 51 ⇓P P 10 27 23.5 -0.2
baz=90,SNR=7.5
N13A Wendover, West 89.65 48 ⇓P P 10 27 23.9 +0.2
baz=90
J12A Stokes Ranch, 89.65 46 ⇑P P 10 27 24.2 +0.5
baz=90,SNR=18
F11A Grangeville 89.67 43 ⇑P P 10 27 22.8 -0.9
baz=90,SNR=6.1
A10A Northport 89.68 40 ⇑P P 10 27 23.2 -0.5
baz=90,SNR=6.4
W15A Williams 89.69 54 ⇑P P 10 27 24.5 +0.5
baz=90,SNR=5.4
WMQ Urumqi 89.69 315 P P 10 27 23.5 -0.3
WMQ PP PP 10 30 58.0 +1.0
WMQ SKS 10 37 43.0
WMQ S S 10 38 03.8 -5.1
WMQ SS SS 10 44 04.5 -2.9
WMQ AMB AMB
comp=Z,18nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,61nm,9.8s
WMQ LR LR
comp=N,211nm,25.8s
WMQ LR LR
comp=E,353nm,26.6s
WMQ LR LR
comp=Z,462nm,26.2s
NEW Newport 89.73 41 eP P 10 27 23.3 -0.6
E11A Bogner Ranch, 89.77 43 ⇑P P 10 27 23.5 -0.6
baz=90,SNR=8.1
M13A Montello 89.81 48 ⇓P P 10 27 24.6 +0.1
baz=90,SNR=23
Q14A Sevier Lake (B 89.85 50 ⇓P P 10 27 25.0 +0.3
baz=90,SNR=27
D11A Klaveano Farm, 89.88 42 ⇓P P 10 27 24.0 -0.6
baz=90,SNR=15
V15A Kaibab Nationa 89.92 54 ⇓P P 10 27 25.2 +0.1
baz=90,SNR=15
U15A North Rim 89.97 53 ⇓P P 10 27 25.7 +0.4
baz=90,SNR=24
Y16A Circle Bar Ran 90.01 56 ⇑P P 10 27 25.7 +0.2
baz=90,SNR=15
T15A Red Dirt Ranch 90.04 52 ⇑P P 10 27 25.7 0.0
baz=90,SNR=8.9
217A Green Valley 90.06 58 ⇓P P 10 27 25.6 -0.3
baz=90
L13A Double Diamond 90.16 47 ⇓P P 10 27 26.6 +0.5
baz=90,SNR=8.5
P14A Drum Mountains 90.16 50 ⇓P P 10 27 26.4 +0.3
baz=90,SNR=15
X16A Lo Mia Camp, P 90.16 55 ⇓P P 10 27 26.8 +0.6
baz=90,SNR=12
H12A Diamond D Ranc 90.18 45 ⇑P P 10 27 26.0 -0.1
baz=90,SNR=9.8
K13A Stover Farm, H 90.21 47 ⇑P P 10 27 26.3 0.0
baz=90,SNR=7.1
TUC Tucson 90.21 57 eP P 10 27 27.0 +0.5
TUC pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
TUC Tucson 90.21 57 eP P 10 27 27.0 +0.5
comp=Z,4.8nm,0.8s,mb4.7
HLID Hailey 90.22 46 ⇑P P 10 27 26.4 +0.1
baz=90,SNR=12
HLID Hailey 90.22 46 eP P 10 27 26.5 +0.2
comp=Z,7.2nm,0.9s,mb4.8
S15A Panguitch 90.22 52 ⇓P P 10 27 27.3 +0.9
baz=90,SNR=6.1
F12A Elk City 90.23 43 ⇓P P 10 27 26.2 -0.2
baz=90,SNR=19
W16A Flagstaff 90.25 54 ⇑P P 10 27 26.9 +0.2
baz=90
B11A Sandpoint 90.27 41 ⇓P P 10 27 26.3 -0.1
baz=90
117A Oracle 90.30 57 ⇓P P 10 27 27.2 +0.3
baz=90
J13A Cove Ranch, Pi 90.34 46 ⇑P P 10 27 26.8 -0.1
baz=90,SNR=16
N14A Grayback Hills 90.39 48 ⇓P P 10 27 26.8 -0.4
baz=90,SNR=12
A11A Hall Mountain, 90.42 40 ⇑P P 10 27 27.3 +0.1
baz=91,SNR=15
M14A Sheep Mountain 90.44 48 ⇓P P 10 27 27.6 +0.2
baz=91,SNR=22
WUAZ Wupatki 90.47 54 ⇓P P 10 27 27.8 +0.1
baz=91,SNR=6.5
WUAZ Wupatki 90.47 54 eP P 10 27 28.5 +0.8
comp=Z,16nm,1.3s,mb5.0
Y17A Roosevelt 90.48 56 ⇑P P 10 27 27.9 +0.2
baz=91,SNR=6.9
DUG Dugway 90.50 49 eP P 10 27 28.1 +0.4
DUG pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
DUG Dugway 90.50 49 ⇑P P 10 27 27.7 -0.1
baz=91,SNR=8.8
DUG Dugway 90.50 49 eP P 10 27 28.1 +0.3
comp=Z,5.1nm,0.8s,mb4.7
DUG epP pP 10 27 49.9 +0.6
I13A Wildhorse Cree 90.52 45 ⇑P P 10 27 27.7 0.0
baz=91,SNR=22
BGU Big Grassy Mou 90.53 48 eP P 10 27 27.8 0.0
BGU epP pP 10 27 49.7 +0.3
D12A Red Ives Fores 90.53 42 ⇓P P 10 27 27.3 -0.4
baz=91
MSU Marysvale 90.57 51 eP P 10 27 29.0 +0.9
H13A Challis 90.59 45 ⇓P P 10 27 27.9 -0.1
baz=91,SNR=14
L14A Malta 90.65 47 ⇑P P 10 27 28.3 0.0
baz=91,SNR=20
X17A Forest Lakes 90.66 55 ⇓P P 10 27 29.0 +0.4
baz=91,SNR=7.1
Z17A San Carlos Hig 90.69 56 ⇑P P 10 27 29.0 +0.3
baz=91
T16A Glen Canyon Da 90.72 53 ⇑P P 10 27 29.0 +0.2
baz=91
218A Dragoon 90.74 58 ⇑P P 10 27 29.3 +0.2
baz=91
P15A Leamington 90.75 50 ⇑P P 10 27 29.3 +0.4
baz=91
G13A Cobalt 90.75 44 ⇑P P 10 27 28.7 -0.1
baz=91,SNR=17
J14A Carey 90.78 46 ⇓P P 10 27 29.2 +0.2
baz=91,SNR=6.4
U16A Tuba City 90.81 53 ⇓P P 10 27 29.5 +0.2
baz=91,SNR=10
S16A Weppner Ranch, 90.82 52 ⇓P P 10 27 29.0 -0.3
baz=91,SNR=11
K14A Jones Ranch, D 90.83 47 ⇑P P 10 27 29.2 0.0
baz=91,SNR=12

F13A Darby 90.87 43 ⇑P P 10 27 28.7 -0.6
baz=91,SNR=27
N15A Stansbury Isla 90.89 49 ⇑P P 10 27 29.6 +0.1
baz=91,SNR=17
I14A Mackay 90.98 45 ⇓P P 10 27 30.1 +0.3
baz=91,SNR=14
NLU North Lily Min 90.99 50 eP P 10 27 30.8 +0.8
R16A Teasdale 91.04 51 ⇑P P 10 27 30.9 +0.6
baz=91,SNR=13
SPUT South Promonto 91.05 48 eP P 10 27 31.0 +0.8
M15A Larsen Ranch, 91.08 48 ⇑P P 10 27 30.1 -0.3
baz=91,SNR=14
D13A Huson 91.13 42 ⇓P P 10 27 29.5 -0.9
baz=91,SNR=6.5
E13A Victor 91.14 43 ⇑P P 10 27 29.8 -0.7
baz=91,SNR=9.3
Y18A Canyon Day Jun 91.15 56 ⇑P P 10 27 30.5 -0.4
baz=91
C13A Hot Springs 91.21 42 ⇑P P 10 27 29.8 -1.0
baz=91,SNR=6.2
H14A Leadore 91.22 45 ⇑P P 10 27 30.5 -0.5
baz=91,SNR=16
P16A Fountain Green 91.22 50 ⇓P P 10 27 31.2 +0.1
baz=91
319A Douglas 91.25 58 ⇓P P 10 27 31.7 +0.3
baz=91
L15A Malad City 91.26 47 ⇓P P 10 27 30.8 -0.4
baz=91,SNR=5.2
T17A Navajo Res., N 91.27 53 ⇓P P 10 27 31.4 +0.1
baz=91,SNR=8.6
G14A Jackson 91.31 44 ⇓P P 10 27 31.5 +0.1
baz=91,SNR=14
K15A Arbon 91.32 47 ⇓P P 10 27 31.8 +0.3
baz=92,SNR=5.8
X18A Snowflake 91.39 55 ⇓P P 10 27 32.4 +0.4
baz=92
219A White Tail Can 91.40 58 ⇑P P 10 27 32.3 +0.2
baz=92
S17A Black Ridge (B 91.41 52 ⇓P P 10 27 31.9 -0.1
baz=92,SNR=6.7
B13A Whitefish 91.47 41 ⇓P P 10 27 31.8 -0.2
baz=92,SNR=6.6
O16A Springville 91.48 49 ⇓P P 10 27 32.0 -0.2
baz=92
TMUT Trail Mountain 91.49 50 eP P 10 27 34.2 +1.9
F14A Wisdom 91.52 44 ⇑P P 10 27 32.6 +0.3
baz=92
119A Ashpeak Ranch, 91.53 57 ⇑P P 10 27 32.9 +0.2
baz=92
SYO Syowa Base 91.55 197⇑ eP P 10 27 29.4 -2.7
SYO Syowa Base 91.55 197⇑ ePcP PcP 10 27 32.6 -0.3
J15A Blackfoot 91.57 46 ⇑P P 10 27 32.9 +0.3
baz=92,SNR=6.5
E14A Clinton 91.59 43 ⇑P P 10 27 31.8 -0.8
baz=92,SNR=11
JLU Jordanelle 91.61 49 eP P 10 27 33.8 +0.9
MCMT McKenzie Canyo 91.63 45 eP P 10 27 33.2 +0.3
M16A Huntsville 91.64 48 ⇓P P 10 27 32.9 -0.1
baz=92
R17A Hanksville Air 91.66 51 ⇓P P 10 27 32.8 -0.4
baz=92,SNR=9.0
N16A Rees Ranch, Co 91.69 49 ⇓P P 10 27 33.2 0.0
baz=92
DAU Daniels Canyon 91.71 49 eP P 10 27 34.7 +1.4
H15A Lima 91.72 45 ⇑P P 10 27 33.3 0.0
baz=92,SNR=17
D14A Greenough 91.75 42 ⇑P P 10 27 32.9 -0.4
baz=92,SNR=7.0
HWUT Hardware Ranch 91.76 48 eP P 10 27 33.5 0.0
comp=Z,4.5nm,0.8s,mb4.8
C14A Swan Lake 91.77 42 ⇓P P 10 27 32.6 -0.8
baz=92
Y19A Nutrioso 91.83 56 ⇓P P 10 27 34.8 +0.7
baz=92
CHMT Chamberlain Mo 91.88 43 eP P 10 27 33.5 -0.4
DLMT Dillon 91.94 44 eP P 10 27 34.4 +0.1
G15A Dillon 91.96 44 ⇑P P 10 27 34.1 -0.2
baz=92,SNR=8.9
WALA Waterton Lakes 92.00 40 eP P 10 27 35.2 +0.8
T18A Mexican Hat 92.02 53 ⇑P P 10 27 34.8 -0.1
baz=92,SNR=5.5
K16A Soda Springs 92.03 47 ⇑P P 10 27 34.8 +0.1
baz=92
O17A Robinson Place 92.05 50 ⇓P P 10 27 35.0 +0.1
baz=92,SNR=7.4
S18A Hurst Farm, Bl 92.05 52 ⇓P P 10 27 34.9 0.0
baz=92
J16A Bone 92.12 46 ⇑P P 10 27 35.5 +0.3
baz=92,SNR=5.5
F15A Butte 92.12 44 ⇑P P 10 27 34.6 -0.5
baz=92,SNR=7.5
LRM Limekiln Ridge 92.15 44 eP P 10 27 35.3 +0.1
E15A Deer Lodge 92.17 43 ⇓P P 10 27 35.3 0.0
baz=92
R18A Canyonlands Na 92.28 51 ⇑P P 10 27 35.9 -0.2
baz=92
RRI2 Red Ridge 92.34 46 eP P 10 27 36.6 +0.4
I16A Newdale 92.35 46 ⇓P P 10 27 36.4 +0.2
baz=92,SNR=6.6
D15A Lincoln 92.40 43 ⇓P P 10 27 36.6 +0.3
baz=92
LCCM Lewis and Clar 92.54 44 P P 10 27 37.0 0.0
T19A Beclabito 92.62 53 ⇑P P 10 27 37.9 +0.3
baz=93
TPAW Teton Pass 92.64 46 eP P 10 27 38.4 +0.8
BOZ Bozeman (W) 92.66 44 eP P 10 27 37.9 +0.3
BOZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
BOZ Bozeman (W) 92.66 44 ⇑P P 10 27 37.8 +0.2
baz=93
BOZ Bozeman (W) 92.66 44 eP P 10 27 37.9 +0.3
comp=Z,4.0nm,0.9s,mb4.8
BOZ epP pP 10 27 59.6 +0.4
REDW Red Top Meadow 92.68 46 eP P 10 27 38.4 +0.7
H16A Russell Place, 92.71 45 ⇑P P 10 27 38.0 +0.2
baz=93,SNR=6.5
IMW Indian Meadow 92.74 46 eP P 10 27 38.6 +0.6
SNOW Snow King Moun 92.77 46 eP P 10 27 39.2 +1.0
FLWY Flagg Ranch 92.95 46 eP P 10 27 40.0 +1.0
N18A Laren Ranch, 93.01 49 ⇑P P 10 27 39.1 -0.2
baz=93
P19A Cripple Cowboy 93.24 50 ⇑P P 10 27 41.0 +0.6
baz=93
PV01 Paradox Valley 93.25 52 eP P 10 27 40.4 -0.1
PV01 epP pP 10 28 01.7 -0.4
PDAR Pinedale Array 93.47 47 P P 10 27 40.4 -1.1
comp=Z,1.7nm,0.8s,mb4.4,baz=252,slow=1.3,SNR=15
PDAR PKKP PKKPbc 10 44 47.4 -1.6
comp=Z,0.4nm,0.7s,baz=90,slow=3.0,SNR=5.1
PDAR LR LR 11 03 45.1
comp=Z,125nm,21.3s,baz=260,slow=32
MK31 Makanchi Array 94.11 317 eP P 10 27 44.0 -0.2
MKAR Makanchi Array 94.11 317 P P 10 27 44.0 -0.2
comp=Z,14nm,0.7s,mb5.4,baz=92,slow=6.6,SNR=82
MKAR PKiKP PKiKP 10 32 27.5 -0.6
comp=Z,0.6nm,0.7s,baz=90,slow=3.6,SNR=3.7
MKAR PKKP PKKPbc 10 44 43.7 -3.8
comp=Z,0.8nm,0.8s,baz=268,slow=3.2,SNR=4.4
ZAA0 Zalesovo Array 94.13 324 eP P 10 27 43.7 -0.4
ZALV Zalesovo Beam 94.13 324 P P 10 27 43.7 -0.4
comp=Z,9.5nm,0.7s,mb5.2,baz=110,slow=4.5,SNR=31
ZALV LR LR 11 10 43.5
comp=Z,126nm,21.6s,baz=334,slow=36
ZAL Zalesovo 94.14 324 P P 10 27 43.7 -0.5
EGMT Eagleton 94.44 42 ⇓P P 10 27 45.0 -0.8
baz=95
EGMT Eagleton 94.44 42 eP P 10 27 45.1 -0.6
SMCO Snowmass 94.68 51 eP P 10 27 51.1 +4.1
YKA Yellowknife Ar 95.10 27 P P 10 27 46.3 -2.1
comp=Z,1.9nm,0.6s,mb4.7,baz=259,slow=4.7,SNR=15
YKA PKKP PKKPbc 10 44 42.9 -2.6
comp=Z,0.7nm,0.9s,baz=69,slow=3.5,SNR=3.7
YKA LR LR 11 09 35.6
comp=Z,64nm,18.7s,baz=165,slow=35
YKA Yellowknife Ar 95.10 27 P P 10 27 46.3 -2.1
YKA PKKP PKKPbc 10 44 42.9 -2.6
YKA LR LR 11 09 35.6
NVS Novosibirsk 95.23 325 eP P 10 27 47.8 -1.4
TXAR Lajitas Array 95.61 61 P P 10 27 49.6 -2.0
comp=Z,0.7nm,0.9s,mb4.1,baz=224,slow=5.4,SNR=7.0
TXAR PP PP 10 31 45.5 +1.6
comp=Z,0.5nm,0.9s,baz=227,slow=5.0,SNR=5.0
TXAR PKKP PKKPbc 10 44 43.6 +0.9
comp=Z,0.4nm,0.7s,baz=114,slow=4.5,SNR=7.5
TXAR LR LR 11 01 26.6
comp=Z,381nm,21.6s,baz=180,slow=30
TXAR Lajitas Array 95.61 61 P P 10 27 49.6 -1.9

TXAR 10 31 45.5
TXAR Lajitas Array 95.61 61 P P 10 27 49.6 -2.0
TXAR PP PP 10 31 45.5 +1.6
TXAR PKKP PKKPbc 10 44 43.6 +0.9
TXAR LR LR 11 01 26.6
SNAA Sanae 96.77 183 eP P 10 27 53.8 -2.1
SNAA e 10 28 01.0
SNAA Sanae 96.77 183⇑ eP P 10 27 55.3 -0.6
SNAA Sanae 96.77 183 eP P 10 27 53.8 -2.2
comp=Z,5.8nm,1.1s,mb4.9
SNAA ePKPdf PKiKP 10 32 31.2 -0.9
KURK Kurchatov 97.22 320 eP P 10 27 57.7 -0.6
KURK pmax pmax
comp=Z,17nm,1.5s,mb5.2
KURK Kurchatov 97.22 320 eP P 10 27 57.7 -0.6
comp=Z,17nm,1.5s,mb5.2
KEV Kevo 116.29 345 ep PKPdf 10 33 07.2 -1.0
comp=Z,6.1nm,0.7s
KEV Kevo 116.29 345 ePKIKP PKPdf 10 33 07.2 -1.0
KEV pmax pmax
comp=Z,6.0nm,0.7s
ARCES ARCESS Array B 116.81 346 PKP PKPdf 10 33 08.0 -1.2
comp=Z,7.9nm,0.5s,baz=76,slow=1.8,SNR=51
ARCES ARCESS Array B 116.81 346 PKP PKPdf 10 33 08.0 -1.2
JOF Joensuu 119.45 338 ep PKPdf 10 33 12.8 -1.7
comp=Z,9.1nm,0.7s
JOF Joensuu 119.45 338 ePKIKP PKPdf 10 33 12.8 -1.7
JOF pmax pmax
comp=Z,9.0nm,0.7s
LPAZ La Paz 119.61 116 PKP PKPdf 10 33 17.5 +1.3
comp=Z,1.3nm,0.8s,baz=13,slow=1.9,SNR=4.2
OBN Obninsk 121.36 329 i PKIKP PKPdf 10 33 18.0 -0.4
OBN pmax pmax
comp=Z,19nm,1.2s
OBN MLR MLR
comp=Z,200nm,21.0s
VRSR Storozhevoye 121.62 324 ePKIKP PKPdf 10 33 18.2 -0.8
VRSR pmax pmax
comp=Z,2.0nm,0.6s
VRSR pmax pmax
comp=N,3.0nm,1.0s
VRSR pmax pmax
comp=E,1.0nm,0.4s
KAF Kangasniemi 121.76 339 ep PKPdf 10 33 17.4 -1.5
comp=E,6.7nm,0.8s
KAF Kangasniemi 121.76 339 ePKIKP PKPdf 10 33 17.4 -1.5
KAF pmax pmax
comp=Z,7.0nm,0.8s
CPUP Villa Florida 123.44 132 PKP PKPdf 10 33 22.1 -1.2
comp=Z,3.8nm,0.8s,baz=66,slow=2.2,SNR=7.9
BOSA Boshof 125.15 223 PKP PKPdf 10 33 26.1 -0.5
comp=Z,5.0nm,0.5s,baz=77,slow=0.3,SNR=11
SUR Sutherland 125.31 216 ePKPdf PKPdf 10 33 27.1 +0.4
MALT Malatya 126.44 309 ePKIKP PKPdf 10 33 29.5 +0.8
NOA NORSAR Array B 127.19 345 PKP PKPdf 10 33 28.8 -0.5
comp=Z,7.0nm,0.8s,baz=34,slow=2.0,SNR=24
AKASG Malin Array Be 127.43 327 PKP PKPdf 10 33 29.8 -0.4
comp=Z,3.3nm,0.6s,baz=62,slow=1.7,SNR=12
AKASG Malin Array Be 127.43 327 PKP PKPdf 10 33 29.8 -0.4
KMBO Kilima Mbogo 127.77 260 PKP PKPdf 10 33 33.9 +1.9
comp=Z,5.4nm,0.9s,baz=72,slow=5.0,SNR=7.8
KONO Kongsberg 128.80 345⇑ i PKIKP PKPdf 10 33 32.5 0.0
LSZ Lusaka 130.68 238 ePKPdf PKPdf 10 33 38.1 +0.7
LSZ eSKPbc SKPbc 10 36 57.7 +3.3
KOLS Kolonicke sedl 132.12 328 ePKP PKPdf 10 33 38.6 -0.5
STHS Stebnicka Huta 132.33 330 ePKP PKPdf 10 33 38.8 -0.7
STHS Stebnicka Huta 132.33 330 ePKP PKPdf 10 33 38.8 -0.7
STHS e SKPbc 10 37 03.3 +4.0
STHS Stebnicka Huta 132.33 330 eSKPDF 10 37 03.3
CRVS Cervenica-Dubn 132.55 329 ePKP PKPdf 10 33 38.5 -1.4
KECS Kecovo 133.31 329 ePKP PKPdf 10 33 38.5 -2.9
KECS eSKPDF 10 37 07.4
VYHS Vyhne 134.13 330 ePKP PKPdf 10 33 42.9 0.0
VYHS eSKPDF 10 37 09.5
VYHS Vyhne 134.13 330 ePKP PKPdf 10 33 42.9 0.0
VYHS e 10 37 09.5
KOLL Kolacno 134.28 330 ePKP PKPdf 10 33 44.0 +0.8
BRG Berggiesshubel 134.60 336 ePKP PKPdf 10 33 44.6 +0.9
comp=Z,9.7nm,0.9s
BRG PP PP 10 36 33.0 +16
BRG eSKP 10 37 10.6
comp=Z,7.8nm,1.2s
BRG
comp=N,331nm,30.8s
BRG
comp=E,443nm,24.5s
BRG
comp=Z,240nm,23.1s
BRG Berggiesshubel 134.60 336 ePKP PKPdf 10 33 44.6 +0.9
BRG PP PP 10 36 33.0 +16
BRG eSKP 10 37 10.6
BRG LR LR
comp=Z,140nm,23.1s
CLL Collm 134.63 337 i PKIKP PKPdf 10 33 43.4 -0.4
CLL pmax pmax
comp=Z,85nm,1.0s
CLL MLR MLR
comp=Z,200nm,24.7s
CLL Collm 134.63 337 i PKPdf PKPdf 10 33 43.4 -0.4
comp=Z,9.0nm,1.0s
CLL epPKPdf pPKPdf 10 34 10.0 +3.8
CLL e(PP) 10 36 12.0
CLL epPP 10 36 43.0
CLL i SKPdf SKPdf 10 37 11.1 -0.9
comp=Z,12nm,1.3s
CLL ePPS 10 48 13.0
CLL eSKKSdf SKKSdf 10 50 42.0 +5.7
CLL eSS SS 10 54 06.0 +3.9
CLL eSSS 10 59 00.0
CLL eSSSS 11 02 37.0
CLL Collm 134.63 337 i PKP PKPdf 10 33 43.4 -0.4
CLL i SKP 10 37 11.1
CLL LR LR
comp=Z,200nm,24.7s
MODS Modra-Piesok 134.96 331 ePKP PKPdf 10 33 44.8 +0.3
MODS eSKPDF 10 37 12.7
MODS Modra-Piesok 134.96 331 ePKP PKPdf 10 33 44.8 +0.3
MODS e 10 37 12.7
CONA Conrad Observa 135.95 331⇑ iP PKPdf 10 33 46.1 -0.2
comp=Z,7.4nm,0.8s
CSNA Conrad Observa 135.95 331⇓ iP PKPdf 10 33 46.1 -0.2
comp=Z,7.6nm,0.8s
KHC Kasperske Hory 136.08 334⇑ i PKIKP PKPdf 10 33 47.1 +0.6
GERES GERESS Array B 136.25 334 PKP PKPdf 10 33 45.5 -1.3
comp=Z,3.9nm,0.8s,baz=63,slow=6.1,SNR=13
GERES SKPbc SKPbc 10 37 16.8 +4.8
comp=Z,0.5nm,0.3s,baz=69,slow=4.4,SNR=4.0
GRA1 Grafenberg Arr 136.61 336 ePKPdf PKPdf 10 33 47.4 -0.1
GRF Grafenberg Arr 136.61 336 ePKPdf PKPdf 10 33 47.4 -0.1
TSUM Tsumeb 136.61 226 PKPdf PKPdf 10 33 43.1 -5.3
BDFB Brasilia 136.74 128 PKP PKPdf 10 33 48.4 -0.3
comp=Z,2.7nm,1.0s,baz=8.3,slow=20,SNR=3.0
MEM Membach 137.69 341 PKP PKPdf 10 33 49.4 0.0
RUP Ruppelstein 138.12 340 PKIKP PKPdf 10 33 51.4 +1.1
WTTA Wattenberg 138.35 334⇑ i P PKPdf 10 33 50.5 -0.3
comp=Z,15nm,1.0s
ABTA Abfaltersbach 138.36 333⇑ i P PKPdf 10 33 49.2 -1.7
comp=Z,10nm,0.9s
WLF Walferdange 138.46 340 PKP PKPdf 10 33 53.9 +2.9
DOU Dourbes 138.57 342 PKP PKPdf 10 33 50.3 -0.8
FETA Feichten 138.93 334⇑ i P PKPdf 10 33 51.4 -0.5
comp=Z,14nm,1.0s
CDF Champ du Feu 139.14 339 ePKP1 PKPdf 10 33 51.4 -0.8
comp=Z,24nm,1.2s
FELD Feldberg im Sc 139.32 337 PKP PKPdf 10 33 53.1 +0.5
ECH Echery 139.35 338 PKP PKPdf 10 33 54.9 +2.3
LDF La Druitiere 141.23 345 ePKP1 PKPdf 10 33 54.2 -1.8
TIP Timpagrande 141.27 321 ePKPdf PKPdf 10 33 56.4 +0.1
LPG La Plagne 141.78 336 ePKP1 PKPdf 10 33 55.7 -1.4
BNI Bardonecchia 142.18 336 ePKIKP PKPdf 10 33 54.5 -3.3
PLDF La Plantade 142.52 340 PKP PKPdf 10 33 54.9 -3.5
ORIF Oris-en-Rattie 142.60 337 ePKP1 PKPdf 10 33 54.1 -4.5
comp=Z,21nm,0.9s
ORIF eMLR MLR
comp=Z,301nm,22.5s
AGO Saint Agoulin 142.61 341 PKP PKPdf 10 33 59.2 +0.7
PYM Petit Puy Mans 142.91 340 PKP PKPdf 10 33 56.5 -2.6
MFF Saint Martin d 143.08 344 ePKP1 PKPdf 10 33 55.4 -4.0
VIVF Saint-Julien-l 143.11 338 ePKP1 PKPdf 10 33 55.8 -3.7
comp=Z,71nm,1.4s
LBL Lubilhac 143.29 340 PKP PKPdf 10 33 57.9 -1.9
CORF Corte 143.31 331 PKP PKPdf 10 33 57.2 -2.7
FRF La Foret Royal 143.42 335 ePKP1 PKPdf 10 33 56.3 -3.8
comp=Z,78nm,1.2s

SMRF	**Simiane la Rot**	**143.51**	**336**	*e*PKP1	PKPdf	10 33 57.2	-3.0
LMR	**La Mourre**	**143.66**	**335**	*e*PKP1	PKPdf	10 33 57.3	-3.2
	comp=Z,94nm,1.1s						
RJF	**Les Rejaudoux**	**143.79**	**342**	*e*PKP1	PKPdf	10 33 57.8	-2.8
RJF				*e*MLR	MLR		
	comp=Z,259nm,21.0s						
RJF	**Les Rejaudoux**	**143.79**	**342**	*e*PKP	PKPdf	10 33 57.8	-2.8
RJF				LR	LR		
	comp=Z,260nm,21.0s						
CAF	**Calviac**	**143.95**	**341**	*e*PKP1	PKPdf	10 33 58.7	-2.2
	comp=Z,42nm,1.1s						
LASF	**Ste Croix**	**144.08**	**338**	*e*PKP1	PKPdf	10 33 59.2	-2.0
	comp=Z,81nm,1.1s						
LFF	**La Frestale**	**144.35**	**342**	*e*PKP1	PKPdf	10 33 59.9	-1.7
	comp=Z,62nm,0.9s						
VSL	**Villasalto**	**145.30**	**328**	*e*PKPbc	PKPbc	10 34 03.4	+0.1
MTLF	**Montolieu**	**145.30**	**339**	*e*PKP1	PKPbc	10 34 03.2	0.0
	comp=Z,79nm,1.1s						
FILF	**Fillols**	**145.87**	**338**	PKP	PKPdf	10 34 05.1	+0.8
MLS	**Moulis**	**146.02**	**340**	PKP	PKPdf	10 34 06.2	+1.6
EPF	**Esparros**	**146.20**	**341**	*e*PKP1	PKPbc	10 34 04.7	-1.3
	comp=Z,16nm,1.0s						
RESF	**Ens**	**146.40**	**341**	PKP	PKPab	10 34 08.3	+0.7
VIEF	**Viey**	**146.44**	**341**	PKP	PKPdf	10 34 06.4	+1.1
VIEF	**Viey**	**146.44**	**341**	PKP	PKPdf	10 34 06.6	+1.3
SJPF	**Ste Jean**	**146.60**	**343**	*e*PKP1	PKPbc	10 34 06.9	-0.2
ETSF	**Etsaut**	**146.60**	**342**	*e*PKP1	PKPbc	10 34 07.2	0.0
	comp=Z,97nm,1.4s						
KEST	**Kesra**	**147.99**	**323**	PKPbc	PKPbc	10 34 11.4	+0.1
	comp=Z,20nm,0.9s,baz=287,slow=1.2,SNR=37						
MVO	**Moncorvo**	**149.79**	**350**	*e*PKPbc	PKPbc	10 34 15.3	-0.3
SET	**Setif**	**149.85**	**328**	P	PKPdf	10 34 13.0	+1.9
AKF	**Akfadou**	**149.94**	**330**	P	PKPbc	10 34 16.9	+0.8
PVIS	**Viseu**	**150.37**	**351**	*e*PKPbc	PKPbc	10 34 17.6	+0.6
ABA	**Alger-Bouzarea**	**150.53**	**332**	P	PKPbc	10 34 19.5	+1.9
ESDC	**Sonseca Array**	**150.55**	**344**	PKP	PKPdf	10 34 12.9	+0.8
	comp=Z,4.8nm,0.8s,baz=355,slow=2.9,SNR=7.0						
ESDC					PKPbc	10 34 17.5	0.0
	comp=Z,11nm,0.8s,baz=18,slow=2.5,SNR=33						
ESLA	**Sonseca Array**	**150.55**	**344**	*e*PKPbc	PKPbc	10 34 17.4	-0.2
MTE	**Manteigas**	**150.62**	**350**	*e*PKPbc	PKPbc	10 34 17.8	+0.2
MTE	**Manteigas**	**150.62**	**350**	*e*PKPbc	PKPbc	10 34 17.6	-0.1
ADJB	**Djebel Djouab**	**150.87**	**331**	P	PKPbc	10 34 18.7	+0.3
PCBR	**Castelo Branco**	**151.15**	**350**	*e*PKPbc	PKPbc	10 34 19.3	+0.4
PMRV	**Marv??o**	**151.54**	**350**	*e*PKPbc	PKPbc	10 34 19.9	+0.1
PESTR	**Estremoz**	**152.12**	**350**	*e*PKPbc	PKPbc	10 34 21.2	0.0
PESTR	**Estremoz**	**152.12**	**350**	*e*PKPab	PKPab	10 34 31.4	+0.6
EVO	**Evora**	**152.52**	**350**	⇑*i*PKP1	PKPbc	10 34 21.2	-0.9
	comp=Z,60nm,1.2s						
EVO				*e*MLR	MLR		
	comp=Z,189nm,19.5s						
PBAR	**Barrancos**	**152.69**	**348**	*e*PKPbc	PKPbc	10 34 22.4	-0.1
PBAR	**Barrancos**	**152.69**	**348**	*e*PKPab	PKPab	10 34 33.6	+0.4
PBEJ	**Beja**	**152.99**	**350**	*e*PKPbc	PKPbc	10 34 24.2	+1.1
PVAQ	**Vaqueiros**	**153.56**	**349**	*e*PKPbc	PKPbc	10 34 24.6	+0.2
MORF	**Marmelete**	**153.82**	**351**	*e*PKPbc	PKPbc	10 34 25.5	+0.5
TOA0	**Torodi Ar. Sit**	**164.77**	**278**	*e*PKPdf	PKPdf	10 34 29.9	-0.4
TORD	**Torodi Ar. Bea**	**164.77**	**278**	PKP	PKPdf	10 34 29.9	-0.4
	comp=Z,11nm,1.1s,baz=18,slow=1.0,SNR=40						
TORD				PKPab	PKPab	10 35 30.0	+3.6
	comp=Z,1.1nm,0.9s,baz=81,slow=2.9,SNR=4.1						
KIC	**Kosan Boka**	**169.74**	**241**	*e*PKIKP	PKPdf	10 34 32.8	-1.2
	comp=Z,141nm,1.3s						
LIC	**Lamto**	**169.92**	**240**	*e*PKIKP	PKPdf	10 34 32.8	-1.3
	comp=Z,98nm,1.5s						
LIC	**Lamto**	**169.92**	**240**	*e*PKIKP	PKPdf	10 34 33.2	-0.9
	comp=Z,121nm,1.5s						
LIC				*e*MLR	MLR		
	comp=Z,251nm,22.7s						
LIC	**Lamto**	**169.92**	**240**	*e*PKPdf	PKPdf	10 34 33.2	-0.9
LIC				LR	LR		
	comp=Z,130nm,22.7s						
DBIC	**Dimbokro**	**169.99**	**243**	PKP	PKPdf	10 34 33.0	-1.1
	comp=Z,9.2nm,1.0s,baz=192,slow=2.0,SNR=8.0						
DBIC				PKPab	PKPab	10 35 52.0	+2.5
	comp=Z,9.9nm,1.3s,baz=219,slow=3.3,SNR=3.3						
DBIC	**Dimbokro**	**169.99**	**243**	PKP	PKPdf	10 34 33.0	-1.1
DBIC				PKPab	PKPab	10 35 52.0	+2.5
TIC	**Toumodi**	**170.12**	**242**	*e*PKIKP	PKPdf	10 34 32.8	-1.4
	comp=Z,96nm,1.3s						

*NEIC **30** 10:16:41.9, 1729N×9432W, h159km, MD4.0(MEX), After MEX.*

MEX 30 10:16:42.1±1.1, 1730N×9433W, h157km±19km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.27**	**114**	*i* P	Pn	10 17 08.8	-1.1
TGIG				*i* S	Sn	10 17 28.8	-2.2
HUIG	**Huatulco**	**2.29**	**228**	*i* P	Pn	10 17 18.6	-2.4
HUIG				*i* S	Sn	10 17 50.1	-1.0
OXX	**Oaxaca**	**2.30**	**265**	*i* P	Pn	10 17 19.8	-1.3
OXX				*i* S	Sn	10 17 49.1	-2.1
VHO	**Vista Hermosa**	**2.31**	**265**	*i* P	Pn	10 17 21.1	-0.2
VHO				*i* S	Sn	10 17 51.8	+0.4
VHO	**Vista Hermosa**	**2.31**	**265**	*i* P	Pn	10 17 21.1	-0.2
VHO				*i* S	Sn	10 17 52.1	+0.7
CCIG	**Comitan**	**2.33**	**115**	*i* P	Pn	10 17 21.0	-0.6
CCIG				*i* S	Sn	10 17 52.1	+0.2
CCIG	**Comitan**	**2.33**	**115**	*i* P	Pn	10 17 21.0	-0.6
CCIG				*i* S	Sn	10 17 52.2	+0.3
TPIG	**Tehuac#an**	**3.10**	**291**	*e*P	Pn	10 17 30.7	-0.2
TPIG				*i* S	Sn	10 18 07.6	-1.1
UTMO	**Huajuapan**	**3.36**	**280**	*i* P	Pn	10 17 33.7	-0.5
UTMO				*i* S	Sn	10 18 11.1	-3.6
PNIG	**Pinotepa**	**3.75**	**257**	*i* P	Pn	10 17 36.7	-2.6
PNIG				*i* S	Sn	10 18 19.1	-4.6
PNIG	**Pinotepa**	**3.75**	**257**	*i* P	Pn	10 17 36.7	-2.6
PNIG				*i* S	Sn	10 18 15.0	-8.7
PPM	**Popocatepetl**	**4.45**	**294**	*e*P	Pn	10 17 47.9	-0.5
PPM				*i* S	Sn	10 18 39.4	-0.6

*ISCJB **30** 10:56:09.9±3.0, 189S±0.1×169.1E±0.1, h263km±29km, mb4.0/8, Error ellipse: s-maj=23.2km s-min=21.7km az=144.9*
*NEIC **30** 10:56:10.6±2.1, 1894S×169.16E, h262km±20km, mb4.3/2, Error ellipse: s-maj=15.6km s-min=14.0km az=51.0*
*IDC **30** 10:56:10.6±4.2, 1895S×169.18E, h261km±42km, mb3.8/8, mb1 4.0/9, mb1mx3.7/17, mbtmp3.9/9, Error ellipse: s-maj=22.6km s-min=17.7km az=26.0*

ISC 30 10:56:09.8±2.9, 190S±01×169.1E±01, h249km±29km, n15, σ0:51/13, mb4.1/8, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**12.99**	**315**	P	**Pn**	**10 59 05.7**	**-0.1**
	8.3nm,0.3s,baz=252,slow=2.0,SNR=16						
HNR	**Honiara**	**12.99**	**315**	*e*Pn	**Pn**	**10 59 05.9**	**+0.1**
URZ	**Urewera**	**20.45**	**162**	P	**P**	**11 00 28.6**	**0.0**
	15nm,1.0s,baz=336,slow=10.0,SNR=3.9						
CTA	**Charters Tower**	**21.60**	**263**	P	**P**	**11 00 41.5**	**+1.2**
	3.8nm,0.5s,mb4.2,baz=90,slow=12,SNR=3.8						
WB2	**Warramunga Arr**	**32.79**	**262**	⇓*i*P	**P**	**11 02 19.2**	**-0.8**
WRA	**Warramunga Arr**	**32.80**	**262**	P	**P**	**11 02 19.4**	**-0.8**
	1.3nm,0.3s,mb3.9,baz=82,slow=6.2,SNR=116						
ASAR	**Alice Springs**	**33.11**	**256**	P	**P**	**11 02 22.8**	**0.0**
	17nm,0.5s,mb4.8,baz=81,slow=8.8,SNR=396						
FITZ	**Fitzroy Crossi**	**41.18**	**264**	*e*P	**P**	**11 03 30.3**	**-0.2**
	8.4nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**41.18**	**264**	P	**P**	**11 03 31.0**	**+0.5**
	4.8nm,0.5s,mb4.2,baz=112,slow=7.8,SNR=29						
MBWA	**Marble Bar**	**46.32**	**259**	*e*P	**P**	**11 04 11.6**	**+0.3**
	5.8nm,0.4s,mb4.3						
PETK	**Petropavlovsk-**	**72.44**	**353**	P	**P**	**11 07 08.7**	**-0.1**
	4.0nm,0.7s,mb4.2,baz=130,slow=6.0,SNR=14						
SONM	**Songino Array**	**86.94**	**323**	P	**P**	**11 08 26.6**	**+0.1**
	0.7nm,0.6s,mb3.5,baz=145,slow=7.8,SNR=3.7						
TXAR	**Lajitas Array**	**96.71**	**61**	P	**P**	**11 09 12.3**	**+0.1**
	0.2nm,0.7s,mb3.4,baz=225,slow=8.9,SNR=3.2						
ARCES	**ARCESS Array B 124.77**	**345**	PKP	PKPdf	11 14 37.7	-1.5
	1.0nm,0.5s,baz=77,slow=2.6,SNR=9.8						
GERES	**GERESS Array B 144.20**	**332**	PKP	PKPdf	11 15 14.2	-1.6
	0.8nm,0.4s,baz=33,slow=3.8,SNR=3.6						

*IDC **30** 11:02:47.6±1.5, 637S×122.04E, h0km, mb3.2/2, mb1 3.5/5, mb1mx3.4/18, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=76.3km s-min=19.0km az=49.0*
*ISCJB **30** 11:02:50.7±1.0, 666S±007×1218E±0.1, h33km, Error ellipse: s-maj=14.8km s-min=10.1km az=161.6*

ISC 30 11:02:54.0±1.6, 668S±010×1217E±01, h56km±23km, n6, σ1:25/8, 1D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.52**	**311**	Pn	**Pn**	**11 03 30.9**	**-1.7**
	8.1nm,0.3s,baz=117,slow=7.0,SNR=25						
KAPI				Sn	**Sn**	**11 04 06.6**	**+4.4**
	12nm,0.3s,baz=221,slow=23,SNR=5.7						
WSI	**Waingapu**	**3.27**	**204**	⇓*e*P	**Pn**	**11 03 43.0**	**+0.2**
WSI				*e*S	**Sn**	**11 04 20.3**	**-0.1**
BATI	**Baumata**	**4.02**	**151**	Pn	**Pn**	**11 03 54.2**	**+1.0**
	6.7nm,0.3s,baz=105,slow=2.4,SNR=3.7						
WRA	**Warramunga Arr**	**18.03**	**138**	P	**Pn**	**11 07 00.5**	**-0.2**
	0.1nm,0.3s,baz=308,slow=14,SNR=3.7						
ASAR	**Alice Springs**	**20.58**	**146**	P	**P**	**11 07 27.6**	**-0.9**
	0.9nm,0.7s,baz=330,slow=13,SNR=15						
MKAR	**Makanchi Array**	**63.67**	**331**	P	**P**	**11 13 20.2**	**+0.8**
	0.1nm,0.5s,baz=117,slow=6.0,SNR=2.9						

*NEIC **30** 11:06:24.4, 3495S×7256W, h0km, ML3.1(GUC), After GUC.*

GUC 30 11:06:24.4±0.5, 3495S×7256W, h0km±9km, MD3.5, ML3.1, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.88**	**121**	*i* P	Pg	11 06 42.2	+0.9
TALC				*i* S	Sg	11 06 55.2	+2.4
TALC				AML	AML	11 06 55.9	
	comp=E,1μm,0.2s						
SFDO	**San Fernando**	**1.31**	**76**	*i* P	Pg	11 06 48.5	-1.1
SFDO				*i* S	Sg	11 07 07.5	+0.9
LNV	**Longovilo**	**1.37**	**44**	*i* P	Pg	11 06 49.5	-1.2
LNV				*i* S	Sg	11 07 08.9	+0.5
CACH	**El Canelo**	**1.82**	**63**	*i* P	Pn	11 06 57.2	+0.3
CACH				*i* S	Sn	11 07 22.4	+1.7
TACH	**Talagante**	**1.86**	**47**	⇑*i*P	Pn	11 06 57.7	+0.2
TACH				*i* S	Sn	11 07 22.7	+0.9
CICH	**Cipreses**	**1.87**	**71**	*i* P	Pn	11 06 57.9	+0.2
CICH				*i* S	Sn	11 07 23.2	+1.2
CHCH	**Chadas Angostu**	**1.87**	**58**	*i* P	Pn	11 06 57.6	0.0
CHCH				*i* S	Sn	11 07 23.1	+1.1
PCH	**Pirque**	**2.15**	**53**	⇑*i*P	Pn	11 07 02.2	+0.7
PCH				*i* S	Sn	11 07 31.0	+2.2
PEL	**Peldehue**	**2.38**	**41**	AML	AML	11 07 54.1	
	comp=E,123nm,0.5s						

*MOS **30** 11:07:16.8±1.2, 191N×9940E, h135km, mb5.1/33, MS4.3/7, Error ellipse: s-maj=9.6km s-min=5.0km az=110.4*
*BJI **30** 11:07:16.6, 175N×9925E, h149km, mB4.9, mb4.9*
*ISCJB **30** 11:07:17.9±0.1, 184N±002×9924E±003, h146km, mb5.0/115, Error ellipse: s-maj=4.3km s-min=2.6km az=139.4*
*GCMT **30** 11:07:18.9±0.2, 185N×99.13E, h157km, MW5.4/87, Moment Tensor Solution. s73,c116; s87,c166; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.89±.02; $M_{\theta\theta}$-0.84±.03; $M_{\phi\phi}$-0.05±.03; $M_{r\theta}$-0.16±.02; $M_{\theta\phi}$-0.84±.03; $M_{\phi r}$-0.97±.02; Best double couple: $M_0$1.55400×10^{17} NP1:$\phi_1$88.00000°, $\delta_1$39.00000°, $\lambda_1$44.00000°. NP2:$\phi_2$207.00000°, $\delta_2$68.00000°, $\lambda_2$56.00000°. Principal axes: T 1.5430, Plg54.0000°, Azm75.0000°; N 0.0210, Plg31.0000°, Azm221.0000°; P -1.5640, Plg16.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **30** 11:07:18.9±0.3, 185N×9934E, h148km±2km, mb4.5/23, mb1 4.5/24, mb1mx4.5/25, mbtmp4.5/24, MS4.1/8, Ms1 4.1/8, ms1mx3.8/28 Error ellipse: s-maj=9.6km s-min=6.0km az=60.0*
*NEIC **30** 11:07:18.9±0.1, 180N×9932E, mb5.2/57, Error ellipse: s-maj=5.8km s-min=3.4km az=50.0*
NEIC Felt [III] on Nias. Also felt [III] at Pariaman and [II] at Sibolga.
*DJA **30** 11:07:19, 176N×99.10E, h150km, ML5.4/6*
*SZGRF **30** 11:07:48.2, 195N×97.73E, h33km, mb5.5, Northern Sumatera, Indonesia*

ISC 30 11:07:19.7±0.1, 184N±002×9922E±002, h148km, h148km±.8km: pP-P, n629, σ1:20/383, mb5.0/115, 69C-70D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRSI	**Tarutung**	**0.32**	**305**	P	**Pn**	**11 07 41.1**	**+1.0**
	0.0nm,0.0s						
SBSI	**Sibolga**	**0.44**	**229**	P	**Pn**	**11 07 40.8**	**+0.2**
	0.0nm,0.0s						
PSI	**Prapat**	**1.00**	**343**	P	**Pn**	**11 07 44.0**	**-0.4**
	1μm,0.3s,baz=157,slow=7.6,SNR=5461						
PSI				S	**Sn**	**11 08 01.4**	**-1.7**
	213nm,0.3s,baz=72,slow=21,SNR=6.7						
PSI	**Prapat**	**1.00**	**343**	P	**Pn**	**11 07 44.0**	**-0.4**
PSI				S	**Sn**	**11 08 01.4**	**-1.7**
GSI	**Gunungsitoli**	**1.73**	**252**	⇑*e*P	**Pn**	**11 07 48.0**	**-3.6**
TSI	**Tuntungan**	**1.78**	**338**	P	**Pn**	**11 07 52.6**	**+0.5**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**2.57**	**153**	P	**Pn**	**11 08 02.1**	**+0.5**
	0.0nm,0.0s						
FRIM	**Kepong**	**2.77**	**60**	⇑P	**Pn**	**11 08 05.9**	**+1.8**
KULM	**Kulim**	**3.71**	**23**	⇓P	**Pn**	**11 08 17.3**	**+1.2**
RGRI	**Rengat**	**3.79**	**125**	P	**Pn**	**11 08 18.3**	**+1.1**
	0.0nm,0.0s						
KGM	**Kluang**	**4.10**	**88**	⇓P	**Pn**	**11 08 22.8**	**+1.6**
MYKOM	**Kota Tinggi**	**4.62**	**91**	⇓P	**Pn**	**11 08 30.4**	**+2.3**
KTGM	**Kuala Trenggan**	**5.22**	**48**	⇑P	**Pn**	**11 08 37.7**	**+1.7**
BSI	**Banda Aceh**	**5.34**	**313**	P	**Pn**	**11 08 36.6**	**-1.0**
	0.0nm,0.0s						
JMBI	**JAMBI**	**5.61**	**128**	P	**Pn**	**11 08 42.9**	**+1.8**
	13μm,1.2s						
PPBI	**Pangkal Pinang**	**7.97**	**120**	P	**Pn**	**11 09 14.7**	**+1.9**
	0.0nm,0.0s						
KLI	**Kotabumi**	**8.72**	**140**	P	**Pn**	**11 09 21.6**	**-1.1**
	0.0nm,0.0s						
BLSI	**Bandar Lampung**	**9.35**	**140**	P	**Pn**	**11 09 29.3**	**-1.9**
	0.0nm,0.0s						
TPI	**Tanjungpandan**	**9.58**	**118**	P	**Pn**	**11 09 35.7**	**+1.4**
	0.0nm,0.0s						
TPI	**Tanjungpandan**	**9.58**	**118**	⇓*e*P	**Pn**	**11 09 36.0**	**+1.7**
SBJI	**Serang**	**10.49**	**139**	P	**Pn**	**11 09 43.4**	**-2.9**
	0.0nm,0.0s						
KSM	**Kuching**	**11.09**	**92**	⇓P	**Pn**	**11 09 57.2**	**+3.1**
KSM	**Kuching**	**11.09**	**92**	⇑*i*Pn	**Pn**	**11 09 56.2**	**+2.0**
KSM				*e*Sn	**Sn**	**11 12 02.1**	**+5.4**
CBJI	**Citeko**	**11.19**	**137**	P	**Pn**	**11 09 56.0**	**+0.5**
	0.0nm,0.0s						
DBJI	**Dramaga**	**11.22**	**138**	P	**Pn**	**11 09 52.9**	**-3.0**
	0.0nm,0.0s						
LEM	**Lembang**	**12.01**	**136**	P	**Pn**	**11 10 04.2**	**-2.0**
	0.0nm,0.0s						
STKI	**Sintang**	**12.38**	**98**	P	**Pn**	**11 10 13.4**	**+2.4**
	0.0nm,0.0s						
SBUM	**Sibu**	**13.00**	**87**	⇑P	**Pn**	**11 10 22.0**	**+2.9**
PBKI	**Pangkalan Bun**	**13.24**	**110**	P	**Pn**	**11 10 23.6**	**+1.6**
	0.0nm,0.0s						
BJII	**Banjamegara**	**13.87**	**131**	P	**Pn**	**11 10 29.5**	**-0.7**
	0.0nm,0.0s						
BTM	**Bintulu**	**13.91**	**84**	⇓P	**Pn**	**11 10 33.7**	**+3.0**
PLKI	**Palangkaraya**	**15.26**	**105**	P	**Pn**	**11 10 49.2**	**+1.7**
	0.0nm,0.0s						
SJI	**Sawahan**	**15.72**	**127**	P	**Pn**	**11 10 54.1**	**+1.0**
	0.0nm,0.0s						
TRT	**Tretes**	**16.40**	**125**	⇓*e*P	**Pn**	**11 11 01.5**	**0.0**
BBKI	**Banjar Baru**	**16.48**	**109**	P	**Pn**	**11 11 03.9**	**+1.5**
	0.0nm,0.0s						
CM31	**Chiang Mai Arr**	**16.52**	**359**	⇓*e*P	**Pn**	**11 11 02.7**	**-0.1**
	119nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.52**	**359**	P	**Pn**	**11 11 03.5**	**+0.7**
	10nm,0.3s,baz=194,slow=12,SNR=248						
CMAR				S	**S**	**11 14 04.5**	**-2.2**
	0.5nm,0.3s,baz=316,slow=47,SNR=3.6						
CMAR				LR	LR	11 18 42.1	
	comp=Z,861nm,18.4s,baz=180,slow=41						
CMAR				ScP	ScP	11 19 04.7	-1.4
	0.3nm,0.3s,baz=208,slow=3.3,SNR=4.8						
CMAR	**Chiang Mai Arr**	**16.52**	**359**	P	**Pn**	**11 11 03.5**	**+0.7**
CMAR				S	**S**	**11 14 04.6**	**-2.1**
CHTO	**Chiang Mai**	**16.87**	**359**	P	**Pn**	**11 11 06.5**	**-0.6**
	SNR=90						
CHTO	**Chiang Mai**	**16.87**	**359**	*e*P	**Pn**	**11 11 06.2**	**-0.9**
CHTO				*e*S	**S**	**11 14 15.5**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,203nm,0.9s						
CHTO	**Chiang Mai**	**16.87**	**359**	*e*P	**Pn**	**11 11 06.2**	**-0.9**
	comp=Z,203nm,0.9s						
CHTO				*e*sP	sP	11 11 53.2	+2.1
CHTO				*e*S	**S**	**11 14 15.5**	**+0.7**
KMMI	**Kalianget**	**17.16**	**121**	P	**Pn**	**11 11 12.2**	**+1.5**
	comp=Z,0.0nm,0.0s						
KKM	**Kota Kinabalu**	**17.45**	**76**	⇓P	**Pn**	**11 11 15.8**	**+1.6**
KKM	**Kota Kinabalu**	**17.45**	**76**	⇑*i*P	**Pn**	**11 11 14.6**	**+0.4**
SMKI	**Samarinda**	**18.12**	**97**	P	**P**	**11 11 23.3**	**+2.7**
	comp=Z,0.0nm,0.0s						
KDM	**Kudat**	**18.26**	**73**	⇓P	**P**	**11 11 24.5**	**+2.4**
SDKM	**Sandakan**	**18.32**	**78**	⇓P	**P**	**11 11 25.4**	**+2.7**
KHKI	**Kahang-Kahang**	**19.23**	**122**	P	**P**	**11 11 33.6**	**+1.1**
	comp=Z,0.0nm,0.0s						
PALK	**Pallekele**	**19.23**	**287**	P	**P**	**11 11 34.9**	**+2.3**
	comp=Z,1μm,1.3s,SNR=18						
PALK	**Pallekele**	**19.23**	**287**	⇓P	**P**	**11 11 34.8**	**+2.2**
	SNR=11						
PALK	**Pallekele**	**19.23**	**287**	*e*P	**P**	**11 11 34.1**	**+1.5**
	comp=Z,163nm,1.3s						
MYLDM	**Lahad Datu**	**19.52**	**80**	⇑P	**P**	**11 11 38.4**	**+2.6**
QIZ	**Qiongzhong**	**20.00**	**31**	P	**P**	**11 11 41.3**	**+0.5**
QIZ				S	**S**	**11 15 18.3**	**+0.6**
QIZ				AMB	AMB		
	comp=Z,19nm,1.4s						
QIZ				AMB	AMB		
	comp=Z,232nm,8.6s						
QIZ				LR	LR		
	comp=E,987nm,13.8s						
QIZ				LR	LR		
	comp=Z,729nm,12.2s						
QIZ	**Qiongzhong**	**20.00**	**31**	*e*P	**P**	**11 11 41.0**	**+0.2**
	comp=Z,66nm,1.3s						
PCI	**Palu**	**20.79**	**97**	P	**P**	**11 11 50.3**	**+0.9**
	comp=Z,0.0nm,0.0s						
PCI	**Palu**	**20.79**	**97**	⇓*e*P	**P**	**11 11 50.5**	**+1.1**
KAPI	**Kappang**	**21.61**	**108**	P	**P**	**11 11 58.4**	**+0.3**
	comp=Z,2μm,1.2s,SNR=19						
KAPI	**Kappang**	**21.61**	**108**	P	**P**	**11 11 58.4**	**+0.3**
	SNR=6.9						
KAPI	**Kappang**	**21.61**	**108**	P	**P**	**11 11 57.4**	**-0.7**
	comp=Z,339nm,1.1s,mb5.7,baz=295,slow=7.7,SNR=43						
KAPI	**Kappang**	**21.61**	**108**	*e*P	**P**	**11 11 57.1**	**-1.0**
	comp=Z,322nm,1.2s,mb5.6						
MDRS	**Chennai**	**21.85**	**302**	*e*P	**P**	**11 12 01.7**	**+1.1**
MDRS				AMb	AMB	11 12 04.6	
	comp=Z,326nm,1.2s,mb5.6						
VIS	**Vishakhapatnam**	**22.20**	**316**	*e*P	**P**	**11 12 03.7**	**-0.6**
VIS				AMb	AMB	11 12 06.8	
	comp=Z,158nm,1.8s,mb5.1						
VIS				*i* S	**S**	**11 15 59.1**	**+1.1**
TRD	**Trivandrum**	**23.13**	**287**	*e*P	**P**	**11 12 12.9**	**0.0**
CAL	**Calcutta**	**23.14**	**334**	*e*P	**P**	**11 12 10.9**	**-2.0**
CAL				*ex*	x	11 16 26.0	
KOD	**Kodaikanal**	**23.17**	**292**	*e*P	**P**	**11 12 12.8**	**-0.5**
KOD				AMb	AMB	11 12 19.9	
	comp=Z,166nm,1.4s,mb5.3						
IMP	**Imphal**	**23.37**	**348**	*e*P	**P**	**11 12 14.0**	**-1.0**
IMP				*ex*	x	11 16 14.0	
KMI	**Kunming**	**23.39**	**8**	P	**P**	**11 12 16.0**	**+0.8**
KMI				AP		11 12 43.8	
KMI				PP		11 12 55.0	
KMI				XP	sP	11 13 04.5	+2.2
KMI				S	**S**	**11 16 16.0**	**-1.2**
KMI				XS	sS	11 17 07.5	-1.7
KMI				SS		11 17 18.0	
KMI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.3						
KMI				AMB	AMB		
	comp=Z,87nm,4.6s						
KMI				LR	LR		
	comp=N,874nm,14.5s						
KMI				LR	LR		
	comp=E,943nm,12.6s						
KMI				LR	LR		
	comp=Z,984nm,14.9s						
WSI	**Waingapu**	**23.90**	**119**	⇓*e*P	**P**	**11 12 18.0**	**-2.0**
WSI				*e*S	**S**	**11 16 27.8**	**+2.1**
KDI	**Kendari**	**24.08**	**104**	P	**P**	**11 12 21.7**	**+0.1**
	comp=Z,188nm,1.2s,mb5.5						
KDI	**Kendari**	**24.08**	**104**	⇑*e*P	**P**	**11 12 21.7**	**+0.1**
BBSI	**Bau Bau**	**24.43**	**107**	P	**P**	**11 12 25.6**	**+0.8**
	comp=Z,0.0nm,0.0s						
SHL	**Shillong**	**24.63**	**344**	*i* P	**P**	**11 12 27.0**	**+0.6**
SHL				*i* x	x	11 16 34.0	
BOK	**Bokaro**	**25.36**	**330**	*e*P	**P**	**11 12 34.2**	**+1.1**
BOK				AMb	AM

KKN	Kakani	29.05	334	*e*P	P	11 13 06.0	0.0
KKN	Kakani	29.05	334	*e*P	ScP	11 19 36.3	-2.3
KKN	Kakani	29.05	334	*e*P	ScP	11 19 37.6	-1.0
CD2	Chengdu	29.23	8⇑	*i*P	P	11 13 06.5	-1.0
CD2				PCP	PcP	11 16 12.3	+1.2
CD2				S	S	11 17 51.8	+2.5
CD2				SS	SS	11 19 26.8	-33
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
CD2				AMB	AMB		
	comp=Z,60nm,4.2s						
CD2				LR	LR		
	comp=N,860nm,10.8s						
CD2				LR	LR		
	comp=E,2μm,12.9s						
CD2				LR	LR		
	comp=Z,1μm,12.9s						
AAI	Ambon	29.47	101	P	P	11 13 09.0	-1.0
	comp=Z,0.0nm,0.0s						
GKN	Gorkha	29.52	333	*e*P	P	11 13 10.1	-0.1
GKN	Gorkha	29.52	333	*e*P	ScP	11 19 36.2	-3.9
GKN	Gorkha	29.52	333	*e*P	ScP	11 19 38.1	-2.0
QZH	Quanzhou	29.61	38⇑	*i*P	P	11 13 09.5	-1.5
QZH				S	S	11 17 56.8	+1.3
QZH				AMB	AMB		
	comp=Z,380nm,4.5s						
QZH				LR	LR		
	comp=N,1μm,12.0s						
QZH				LR	LR		
	comp=E,1μm,19.6s						
QZH				LR	LR		
	comp=Z,950nm,14.6s						
KOLN	Koldanda	29.80	331	*e*P	P	11 13 12.9	+0.2
	comp=Z,66nm,0.5s,mb5.6						
KOLN	Koldanda	29.80	331	*e*P	ScP	11 19 39.7	-1.3
KOLN	Koldanda	29.80	331	*e*P	ScP	11 19 39.7	-1.3
	comp=Z,38nm,1.0s						
DANN	Dangsing	30.22	332	*e*P	P	11 13 16.2	-0.1
	comp=Z,360nm,1.1s,mb6.0						
DANN	Dangsing	30.22	332	*e*P	ScP	11 19 37.7	-4.7
DANN	Dangsing	30.22	332	*e*P	ScP	11 19 41.0	-1.4
MBWA	Marble Bar	30.42	140	*e*P	P	11 13 16.3	-1.9
	comp=Z,7.8nm,1.2s,mb4.3						
FITZ	Fitzroy Crossi	32.70	128⇑	*i*P	P	11 13 35.2	-3.0
	comp=Z,35nm,0.9s,mb5.1						
FITZ				*e*		11 14 12.2	
FITZ	Fitzroy Crossi	32.70	128	P	P	11 13 35.4	-2.8
	comp=Z,22nm,0.9s,mb4.9,baz=308,slow=7.4,SNR=24						
FITZ				pP	pP	11 14 07.2	-2.7
	comp=Z,6.1nm,0.9s,baz=350,slow=7.6,SNR=1.7						
PTH	Pithoragarh	32.96	329	*e*P	P	11 13 40.1	-0.2
XAN	Xi'an	33.29	15	P	P	11 13 39.5	-3.6
XAN				S	S	11 18 48.0	-4.6
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
XAN				AMB	AMB		
	comp=Z,99nm,9.2s						
XAN				LR	LR		
	comp=N,132nm,16.0s						
XAN				LR	LR		
	comp=E,415nm,14.2s						
XAN				LR	LR		
	comp=Z,729nm,16.0s						
NDI	New Delhi	33.96	324	*e*P	P	11 13 47.5	-1.5
NDI				*ex*	x	11 19 01.0	
AJM	Ajmer	34.02	318	*e*P	P	11 13 50.1	+0.5
LZH	Lanzhou	34.34	7	*e*P	P	11 13 51.3	-0.9
LZH				S	S	11 19 07.0	-1.8
LZH				SS	SS	11 21 32.0	-12
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,103nm,4.1s						
LZH				LR	LR		
	comp=E,1μm,15.1s						
LZH				LR	LR		
	comp=Z,1μm,16.7s						
NJ2	Nanjing	35.29	30	*e*P	P	11 14 01.8	+1.4
NJ2				PP	PP	11 15 21.8	-1.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,80nm,9.0s						
NJ2				LR	LR		
	comp=N,400nm,32.0s						
NJ2				LR	LR		
	comp=E,370nm,22.5s						
NJ2				LR	LR		
	comp=Z,380nm,22.5s						
SSE	Sheshan	35.75	33	P	P	11 14 03.5	-0.9
SSE				S	S	11 19 36.0	+5.5
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,105nm,4.9s						
SSE				LR	LR		
	comp=N,335nm,15.2s						
SSE				LR	LR		
	comp=E,332nm,15.2s						
SSE				LR	LR		
	comp=Z,540nm,12.0s						
SMLA	Simla	35.83	327	*i* P	P	11 14 05.2	+0.1
SMLA				*ex*	x	11 14 11.2	
	comp=Z,95nm,0.3s						
SMLA				*i* x	x	11 19 27.0	
KAKA	Kakadu	36.00	115	*e*P	P	11 14 04.0	-2.7
	comp=Z,14nm,0.3s,mb5.1						
KAKA	Kakadu	36.00	115⇑	*e*P	P	11 14 04.3	-2.5
	comp=Z,156nm,1.2s,mb5.5						
KAKA				*e*pP	pP	11 14 38.1	-0.8
KAKA				*es*P	sP	11 14 54.1	-1.7
MUN	Mundaring	37.29	156⇑	*i*P	P	11 14 17.6	+0.2
MUN				*i*	pP	11 14 50.6	+0.9
GTA	Gaotai	37.40	1	P	P	11 14 18.0	-0.2
GTA				PCP	PcP	11 16 34.0	+0.1
GTA				S	S	11 19 50.0	-5.3
GTA				SCP	ScP	11 20 06.5	-0.9
GTA				SCS	ScS	11 24 12.5	-3.3
GTA				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.2						
GTA				AMB	AMB		
	comp=Z,149nm,6.9s						
GTA				LR	LR		
	comp=N,228nm,16.2s						
GTA				LR	LR		
	comp=E,266nm,15.9s						
GTA				LR	LR		
	comp=Z,352nm,15.0s						
THN	Thein Dam	37.62	326	*e*P	P	11 14 19.0	-1.2
KLBR	Kellerberrin	37.62	154	*e*P	P	11 14 19.5	-0.7
	comp=Z,70nm,1.2s,mb5.2						
KLBR				*i*	pP	11 14 52.5	0.0
NWAO	Narrogin (SRO)	38.54	155	P	P	11 14 27.4	-0.4
	comp=Z,36nm,0.8s,mb5.0,baz=326,slow=9.5,SNR=29						
NWAO				pP	pP	11 14 59.9	-0.4
	comp=Z,43nm,0.9s,baz=311,slow=8.1,SNR=6.2						
NWAO				LR	LR	11 28 41.1	
	comp=Z,193nm,20.4s,baz=308,slow=33						
NWAO	Narrogin (SRO)	38.54	155	*e*P	P	11 14 27.0	-0.9
NWAO				*e**PP	pP	11 15 01.4	+1.1
NWAO				pmax	pmax		
	comp=Z,71nm,1.1s						
NWAO	Narrogin (SRO)	38.54	155	*e*P	P	11 14 27.0	-0.9
	comp=Z,71nm,1.1s,mb5.2						
NWAO				*e*pP	pP	11 15 01.4	+1.1
NWAO				*es*P	sP	11 15 19.6	+2.4
HHC	Hu-ho-hao-te	40.40	14	*e*P	P	11 14 44.3	+1.1
HHC				PP	PP	11 16 22.0	+2.6
HHC				S	S	11 20 40.0	-0.3
HHC				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,119nm,6.1s						
HHC				LR	LR		
	comp=N,677nm,14.3s						
HHC				LR	LR		
	comp=E,600nm,15.5s						
HHC				LR	LR		
	comp=Z,494nm,14.3s						
WRA	Warramunga Arr	40.68	124	P	P	11 14 43.9	-1.9
	comp=Z,104nm,0.5s,mb5.7,baz=303,slow=9.0,SNR=841						
WRA				pP	pP	11 15 16.8	-1.7
	comp=Z,30nm,0.8s,baz=301,slow=9.1,SNR=2.1						
WRA				ScP	ScP	11 20 17.3	-3.2
	comp=Z,3.8nm,1.1s,baz=302,slow=3.8,SNR=5.4						
WRA				S	S	11 20 37.2	-7.8
	comp=Z,8.7nm,1.1s,baz=295,slow=12,SNR=9.6						
WRA	Warramunga Arr	40.68	124	P	P	11 14 43.9	-1.9
WRA				*PP	pP	11 15 16.8	-1.7
WRA				S	S	11 20 37.2	-7.8
WRAB	Tennant Creek	40.69	124	P	P	11 14 44.3	-1.5
	comp=Z,1μm,0.5s						
WRAB	Tennant Creek	40.69	124	*e*P	P	11 14 44.1	-1.7
WRAB				*e**PP	pP	11 15 17.7	-0.8
WRAB				pmax	pmax		
	comp=Z,220nm,1.0s,mb5.7						
WRAB	Tennant Creek	40.69	124	*e*P	P	11 14 44.1	-1.7
	comp=Z,220nm,1.0s,mb5.7						
WRAB				*e*pP	pP	11 15 17.7	-0.8
WB2	Warramunga Arr	40.69	124⇑	*i*P	P	11 14 43.8	-2.1
WB2				*es*S	S	11 20 29.7	-15
WB2	Warramunga Arr	40.69	124	*e*P	P	11 14 44.0	-1.9
WB2				*e*pP	pP	11 15 17.9	-0.6
WB2				*es*S	S	11 20 29.7	-15
BJT	Baijiatuau	41.00	20	*e*P	P	11 14 48.4	+0.3
BJT				pmax	pmax		
	comp=Z,19nm,0.6s						
BJT	Baijiatuau	41.00	20	*e*P	P	11 14 48.4	+0.3
	comp=Z,19nm,0.6s,mb4.9						
BJI	Beijing	41.02	20	P	P	11 14 49.5	+1.2
BJI				PCP	PcP	11 16 45.0	-0.4
BJI				S	S	11 20 48.0	-1.5
BJI				AMB	AMB		
	comp=Z,28nm,0.6s,mb5.1						
BJI				LR	LR		
	comp=N,243nm,11.4s						
BJI				LR	LR		
	comp=E,291nm,14.3s						
BJI				LR	LR		
	comp=Z,136nm,17.8s						
DL2	Dalian	42.19	26	⇑P	P	11 14 56.3	-1.5
DL2				S	S	11 21 14.3	+7.6
DL2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
DL2				AMB	AMB		
	comp=Z,150nm,6.0s						
DL2				LR	LR		
	comp=N,170nm,14.2s						
DL2				LR	LR		
	comp=E,200nm,13.0s						
DL2				LR	LR		
	comp=Z,210nm,13.4s						
ASAR	Alice Springs	42.19	129	P	P	11 14 56.0	-2.1
	comp=Z,8.1nm,0.4s,mb4.7,baz=296,slow=7.5,SNR=294						
ASAR				pP	pP	11 15 29.2	-1.8
	comp=Z,11nm,0.9s,baz=299,slow=7.6,SNR=3.5						
ASAR				PcP	PcP	11 16 48.5	-1.1
	comp=Z,6.6nm,0.7s,baz=308,slow=3.5,SNR=7.2						
ASAR				pPcP		11 17 25.7	
	comp=Z,14nm,0.9s,baz=310,slow=2.9,SNR=11						
ASAR				ScP	ScP	11 20 23.9	-2.6
	comp=Z,1.4nm,0.7s,baz=302,slow=4.3,SNR=7.0						
ASAR				S	S	11 20 58.8	-8.5
	comp=Z,3.0nm,1.0s,baz=298,slow=14,SNR=5.8						
ASAR	Alice Springs	42.19	129	P	P	11 14 56.0	-2.1
ASAR				*PP	pP	11 15 29.2	-1.8
ASAR						11 16 48.5	
ASAR				S	S	11 20 58.8	-8.5
FORT	Forrest	42.50	142⇑	*i*P	P	11 14 59.1	-1.3
	comp=Z,32nm,0.4s,mb5.3						
KBL	Kabul	43.01	323	*e*P	P	11 15 04.6	+0.1
KBL				*e**PP	pP	11 15 39.9	+2.4
KBL				*e**SP	sP	11 15 54.9	+0.7
KBL				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.9						
KBL	Kabul	43.01	323	*e*P	P	11 15 04.6	+0.1
	comp=Z,18nm,0.6s,mb4.9						
KBL				*e*pP	pP	11 15 39.9	+2.4
KBL				*es*P	sP	11 15 54.9	+0.6
WMQ	Urumqi	43.04	348	P	P	11 15 04.8	+0.2
WMQ				PP	PP	11 16 47.3	-0.3
WMQ				PCP	PcP	11 16 54.8	+2.8
WMQ				SS	SS	11 24 33.5	-3.7
WMQ				AMB	AMB		
	comp=Z,92nm,1.0s,mb5.4						
WMQ				LR	LR		
	comp=N,334nm,24.0s						
WMQ				LR	LR		
	comp=E,285nm,24.1s						
WMQ				LR	LR		
	comp=Z,279nm,26.0s						
KSH	Kashi	43.06	333	*e*P	P	11 15 05.3	+0.4
KSH				PP	PP	11 16 48.3	+0.3
KSH				PCP	PcP	11 16 56.3	+4.1
KSH				PCS	PcS	11 20 47.0	+2.3
KSH				S	S	11 21 28.0	+8.4
KSH				SS	SS	11 24 34.5	-3.4
KSH				LR	LR		
	comp=N,1μm,7.9s						
KSH				LR	LR		
	comp=E,1μm,5.9s						
KSH				LR	LR		
	comp=Z,1μm,6.4s						
KS15	Wonju Array Si	44.16	33	*e*P	P	11 15 13.6	-0.1
WBK	Wadi Bani Khal	44.19	301	P	P	11 15 15.3	+1.2
	SNR=5.7						
KSRS	Korea Array	44.19	33	P	P	11 15 12.9	-1.0
	comp=Z,12nm,0.6s,mb4.7,baz=220,slow=8.3,SNR=72						
KSRS				pP	pP	11 15 46.6	-0.4
	comp=Z,11nm,1.0s,baz=218,slow=8.9,SNR=2.3						
KSRS				LR	LR	11 37 01.6	
	comp=Z,186nm,18.7s,baz=235,slow=40						
BIDO	Bidbid	45.25	302	P	P	11 15 23.4	+0.8
	SNR=8.3						
SNY	Shenyang	45.43	26	⇓P	P	11 15 23.0	-0.7
SNY				S	S	11 21 48.8	-5.0
SNY				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.6						
SNY				AMB	AMB		
	comp=Z,283nm,4.3s						
SNY				LR	LR		
	comp=N,398nm,15.6s						
SNY				LR	LR		
	comp=Z,331nm,15.2s						
KZA	Kyzart	45.48	335	P	P	11 15 24.9	+1.0
	SNR=29						
UCH	Uchtor	45.91	334	P	P	11 15 28.4	+1.0
	SNR=28						
UCH	Uchtor	45.91	334	*e*P	P	11 15 28.4	+0.9
	comp=Z,29nm,0.9s,mb4.9						
UCH				*e*pP	pP	11 16 01.7	+0.9
TKM2	Tokmak 2	46.03	336	*e*P	P	11 15 28.9	+0.6
TKM2				*e**SP	sP	11 16 19.1	+0.8
TKM2				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.0						
TKM2	Tokmak 2	46.03	336	*e*P	P	11 15 28.9	+0.6
	comp=Z,46nm,1.1s,mb5.0						
TKM2				*es*P	sP	11 16 19.1	+0.8
KBK	Karagaybulak	46.08	335	P	P	11 15 29.9	+1.2
	SNR=20						
AML	Almayashu	46.20	334	P	P	11 15 30.6	+1.0
	SNR=30						
AML	Almayashu	46.20	334	*e*P	P	11 15 30.5	+0.9
	comp=Z,12nm,2.5s,mb4.1						
AML				*e*pP	pP	11 16 03.8	+0.8
SONM	Songino Array	46.23	7	P	P	11 15 30.3	+0.5
	comp=Z,17nm,0.5s,mb5.0,baz=191,slow=9.2,SNR=82						
SONM				pP	pP	11 16 02.7	-0.5
	comp=Z,7.4nm,0.7s,baz=187,slow=8.5,SNR=2.9						
SONM				PcP	PcP	11 17 02.3	-0.6
	comp=Z,10nm,0.6s,baz=192,slow=4.0,SNR=9.6						
SONM				ScP	ScP	11 20 40.1	-2.4
	comp=Z,3.6nm,0.9s,baz=200,slow=3.8,SNR=7.4						
SONM				S	S	11 22 05.3	+0.3
	comp=Z,0.8nm,0.8s,baz=186,slow=3.0,SNR=2.4						
SONM	Songino Array	46.23	7	P	P	11 15 30.3	+0.5
SONM				*PP	pP	11 16 02.7	-0.5
SONM						11 17 02.3	
SONM				S	S	11 22 05.3	+0.3
AAK	Ala-Archa	46.25	335	P	P	11 15 30.2	+0.2
	SNR=9.5						
ULN	Ulaanbaatar	46.34	7	P	P	11 15 31.3	+0.6
	SNR=9.7						
ULN	Ulaanbaatar	46.34	7	*e*P	P	11 15 30.7	0.0
ULN				*e**PP	pP	11 16 04.6	+0.5
ULN				*e*		11 17 03.4	
ULN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6						
ULN	Ulaanbaatar	46.34	7	*e*P	P	11 15 30.7	+0.1
	comp=Z,11nm,0.7s,mb4.6						
ULN				*e*pP	pP	11 16 04.6	+0.5
ULN				*e*PcP	PcP	11 17 03.4	+0.1
FRU	Bishkek	46.36	335	*e*P	P	11 15 31.5	+0.6
FRU				*e*		11 17 23.0	
FRU				*e*S	S	11 22 08.0	+0.9
FRU				pmax	pmax		
	comp=Z,330nm,2.5s,mb5.5						
FRU				smax			
	comp=N,640nm,3.5s						
FRU				smax			
	comp=N,2μm,6.0s						
CHMS	Chumysh	46.44	335	P	P	11 15 31.8	+0.2
	SNR=8.0						
EKS2	Erkin-Say	46.59	334	P	P	11 15 33.5	+0.8
	SNR=25						
EKS2	Erkin-Say	46.59	334	*e*P	P	11 15 33.4	+0.7
	comp=N,90nm,0.8s,mb5.5						
EKS2				*e*pP	pP	11 16 06.4	+0.3
EKS2				*es*P	sP	11 16 22.0	-0.7
USP	Ospenovka	46.77	335	P	P	11 15 34.4	+0.3
	SNR=24						
MK31	Makanchi Array	47.15	344	P	P	11 15 36.8	-0.1
MK31				pmax	pmax		
	comp=Z,23nm,0.4s,mb5.2						
MK31	Makanchi Array	47.15	344	*e*P	P	11 15 36.8	-0.1
MK31				*e*pP	pP	11 16 10.7	+0.3
MKAR	Makanchi Array	47.15	344	P	P	11 15 36.8	-0.1
	comp=Z,26nm,0.4s,mb5.2,baz=151,slow=8.6,SNR=316						
MKAR				pP	pP	11 16 09.6	-0.8
	comp=Z,18nm,0.8s,baz=148,slow=7.1,SNR=4.2						
MKAR				ScP	ScP	11 20 44.7	-1.7
	comp=Z,1.7nm,1.0s,baz=175,slow=5.2,SNR=3.9						
MKAR				S	S	11 22 16.8	-1.2
	comp=Z,1.4nm,0.8s,baz=155,slow=14,SNR=4.1						
MKAR	Makanchi Array	47.15	344	P	P	11 15 36.8	-0.1
MKAR				*PP	pP	11 16 09.6	-0.8
MKAR				S	S	11 22 16.8	-1.2
CN2	Changchun	47.84	26	⇓P	P	11 15 41.8	-0.5
CN2				PCP	PcP	11 17 10.0	+1.2
CN2				*e*S	S	11 22 25.5	-2.4
CN2				AMB	AMB		
	comp=Z,40nm,1.3s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,14.0s						
CN2				LR	LR		
	comp=E,300nm,14.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
KK31	Karatay Array	48.41	332	*i* P	P	11 15 46.4	-0.4
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.2						
ZAK	Zakamensk	48.49	3	*e*P	P	11 15 46.8	-0.4
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.2						
MOY	Mondy	49.67	1	*e*P	P	11 15 57.1	+0.9
MOY				*e*		11 17 54.3	
MOY				pmax	pmax		
	comp=Z,40nm,2.7s,mb4.6						
TLY	Talaya	49.80	4	*e*P	P	11 15 58.5	+1.3
TLY				*e*		11 16 46.7	
TLY				*e*S	S	11 22 56.6	+1.4
TLY				*e*		11 22 56.6	
TLY				*e*SS	SS	11 26 26.7	-3.1
TLY				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
TLY				MLR	MLR		
	comp=Z,159nm,15.0s						
TLY	Talaya	49.80	4	*e*P	P	11 15 59.0	+1.8
	comp=Z,7.9nm,0.6s,mb4.5						
TLY				*e*pP	pP	11 16 31.8	+0.8
TLY				*e*ScP	ScP	11 20 56.1	-1.4
MAJO	Matsushiro	49.86	42	*e*P	P	11 15 57.1	-0.8
MAJO				*e*		11 17 15.0	
MAJO				pmax	pmax		
	comp=Z,76nm,1.6s,mb5.1						
MAJO	Matsushiro	49.86	42	*e*P	P	11 15 57.1	-0.8
	comp=Z,76nm,1.6s,mb5.1						
MAJO				*e*PcP	PcP	11 17 15.0	-1.3
MAT	Matsushiro	49.86	42	P	P	11 15 57.1	-0.8
MAT				S	S	11 22 53.0	-3.5
MJAR	Matsushiro Arr	49.86	42	P	P	11 15 56.4	-1.6
	comp=Z,11nm,1.0s,mb4.5,baz=222,slow=7.3,SNR=33						
MJAR				PcP	PcP	11 17 15.7	-0.6
	comp=Z,8.6nm,1.2s,baz=248,slow=3.7,SNR=5.7						
MJAR				PP	PP	11 17 57.3	+3.1
	comp=Z,1.8nm,0.8s,baz=236,slow=4.6,SNR=4.1						
MJAR				ScP	ScP	11 20 56.4	-1.8
	comp=Z,1.6nm,0.7s,baz=206,slow=3.8,SNR=7.2						
MJAR	Matsushiro Arr	49.86	42	P	P	11 15 56.4	-1.5
MJAR						11 17 15.7	
MJAR						11 17 57.3	
MDJ	Mudanjiang	50.34	28	P	P	11 16 01.0	-0.4
MDJ				S	S	11 23 02.3	-0.6
MDJ				AMB	AMB		
	comp=Z,23nm,1.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,144nm,4.5s						
MDJ				LR	LR		
	comp=N,303nm,18.3s						
MDJ				LR	LR		
	comp=E,172nm,13.7s						
MDJ				LR	LR		
	comp=Z,377nm,18.0s						
MDJ	Mudanjiang	50.34	28	*e*P	P	11 16 01.2	-0.2
	comp=Z,4.4nm,0.4s,mb4.4						
MDJ				*e*PP	PP	11 17 55.9	-2.4
VLA	Vladivostok	50.37	31	*e*P	P	11 16 00.0	-1.6
VLA				*e*		11 17 16.6	
VLA				*e*		11 17 55.7	
VLA				*e*S	S	11 23 01.6	-1.8
VLA				pmax	pmax		
	comp=Z,180nm,2.0s,mb5.3						
VLA				MLR	MLR		
	comp=Z,300nm,13.0s						
IRK	Irkutsk	50.41	4⇓	*i*P	P	11 16 02.3	+0.6
IRK				*e*S	S	11 23 05.8	+2.3
IRK				pmax	pmax		
	comp=Z,86nm,2.1s,mb5.0						
HIA	Hailar	50.41	17*c*	*i*P	P	11 16 01.3	-0.5
CTA	Charters Tower	50.99	118	*e*P	P	11 16 05.1	-1.6
	comp=Z,26nm,1.4s,mb4.7						
CTA				*e*	pP	11 16 41.7	+1.0
CTA	Charters Tower	50.99	118	P	P	11 16 05.5	-1.2
	comp=Z,32nm,1.0s,mb4.9,baz=280,slow=8.8,SNR=8.6						
CTA				pP	pP	11 16 39.5	-1.2
	comp=Z,26nm,0.9s,baz=292,slow=8.2,SNR=5.5						
CTA	Charters Tower	50.99	118	*e*P	P	11 16 05.1	-1.6
CTA				pmax	pmax		
	comp=Z,27nm,1.4s						
CTAO	Charters Tower	50.99	118	*e*P	P	11 16 06.2	-0.5
CTAO				*e**PP	pP	11 16 41.6	+0.9
CTAO				*e*		11 17 14.2	
CTAO				*e*		11 18 00.7	
CTAO				pmax	pmax		
	comp=Z,191nm,1.8s,mb5.4						
CTAO	Charters Tower	50.99	118	*e*P	P	11 16 06.2	-0.5
	comp=Z,191nm,1.8s,mb5.4						
CTAO				*e*pP	pP	11 16 41.6	+1.0
CTAO				*e*PcP	PcP	11 17 14.2	-6.5
CTAO				*e*PP	PP	11 18 00.7	-4.0
KURK	Kurchatov	51.73	343	P	P	11 16 11.3	-0.3
	comp=Z,208nm,0.9s,mb5.8,SNR=34						
KURK	Kurchatov	51.73	343	P	P	11 16 11.7	+0.1
	SNR=22						
KURK	Kurchatov	51.73	343	LR	LR	11 42 44.5	
	comp=Z,100nm,18.5s,baz=135,slow=41						
KURK	Kurchatov	51.73	343	*e*P	P	11 16 11.4	-0.2
KURK				*e**PP	pP	11 16 45.7	0.0
KURK				*e*S	S	11 23 21.3	-0.4
KURK				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.9						
KURK	Kurchatov	51.73	343	*e*P	P	11 16 11.3	-0.2
	comp=Z,28nm,0.8s,mb5.0						
KURK				*e*pP	pP	11 16 45.7	0.0
KURK				*e*ScP	ScP	11 21 05.3	-0.5
KURK				*e*S	S	11 23 21.3	-0.5
STKA	Stephens Creek	52.30	134	P	P	11 16 14.5	-1.7
	comp=Z,16nm,0.8s,mb4.7,baz=309,slow=6.7,SNR=37						
STKA				pP	pP	11 16 49.5	-0.9
	comp=Z,15nm,0.8s,baz=323,slow=10,SNR=4.2						
STKA				LR	LR	11 38 53.1	
	comp=Z,227nm,19.4s,baz=27,slow=36						
STKA	Stephens Creek	52.30	134⇑	*i*P	P	11 16 14.2	-2.0
	comp=Z,13nm,1.3s,mb4.4						

STKA *e*pP pP 11 16 47.9 -2.5
ZAL Zalesovo 53.27 349 P **P** **11 16 22.8 -0.1**
ZAL *PP pP 11 16 56.4 -0.7
ZAL S **S** **11 23 40.8 -1.8**
ZAA0 Zalesovo Array 53.27 349 *e*P **P** **11 16 22.8 -0.2**
ZAA0 *e*pP pP 11 16 57.2 0.0
ZALV Zalesovo Beam 53.27 349 P **P** **11 16 22.8 -0.2**
comp=Z,48nm,0.4s,mb5.5,baz=166,slow=6.8,SNR=118
ZALV pP pP 11 16 56.4 -0.8
comp=Z,48nm,0.9s,baz=165,slow=6.2,SNR=2.9
ZALV S **S** **11 23 40.8 -1.9**
comp=Z,6.9nm,0.8s,baz=169,slow=8.8,SNR=8.6
ZALV Zalesovo Beam 53.27 349 P **P** **11 16 22.8 -0.2**
ZALV pP pP 11 16 56.4 -0.8
ZALV S **S** **11 23 40.8 -1.9**
NVS Novosibirsk 54.42 349 *e*P **P** **11 16 30.2 -1.0**
NVS *e* pP 11 17 03.6 -2.0
NVS *i* S **S** **11 23 50.2 -7.9**
NVS pmax pmax
comp=E,28nm,1.5s
NVS pmax pmax
comp=Z,50nm,1.5s,mb5.0
NVS pmax pmax
comp=N,43nm,1.4s
NVS smax
comp=N,160nm,1.8s
KLR Kul'dur 54.79 26κ *i*P **P** **11 16 30.2 -3.8**
KLR *e*S **S** **11 24 00.0 -3.2**
KLR *e*SS SS 11 27 49.0 +0.3
KLR pmax pmax
comp=E,180nm,1.6s
KLR pmax pmax
comp=Z,330nm,1.6s,mb5.8
OPO Ambohidratompo 55.03 246 P **P** **11 16 38.3 +2.0**
comp=Z,1.0nm,0.3s,mb4.0,baz=204,slow=2.1,SNR=6.7
OPO pP pP 11 17 11.0 +0.2
comp=Z,31nm,1.1s,baz=72,slow=8.1,SNR=19
BVA2 Borovoye Array 56.33 340 P **P** **11 16 43.8 -1.1**
BVAR Borovoye Array 56.34 340 LR LR 11 43 31.6
comp=Z,171nm,20.0s,baz=155,slow=38
BRVK Borovoye 56.40 339 P **P** **11 16 44.2 -1.2**
comp=Z,148nm,0.5s,mb6.1,SNR=7.9
BRVK Borovoye 56.40 339 P **P** **11 16 44.9 -0.5**
SNR=8.6
BRVK Borovoye 56.40 339 *e*P **P** **11 16 44.8 -0.6**
BRVK pmax pmax
comp=Z,34nm,1.0s,mb5.1
BRVK Borovoye 56.40 339 *e*P **P** **11 16 44.8 -0.6**
comp=Z,34nm,1.0s,mb5.1
BOD Bodaibo 57.03 9⇓*i*P **P** **11 16 50.0 +0.2**
BOD *e* 11 24 34.8
BOD pmax pmax
comp=Z,116nm,1.4s,mb5.5
AB31 Akbulak array 57.93 331 P **P** **11 16 55.1 -1.1**
AB31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
TOO Toolangi 58.02 137 *e*P **P** **11 16 56.3 -0.8**
CLNS Chul'man 58.55 16*c* *i*P **P** **11 17 00.7 +0.3**
CLNS *e* 11 17 46.7
CLNS *e*S **S** **11 24 54.8 +2.4**
CLNS pmax pmax
comp=Z,95nm,1.3s,mb5.5
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS smax
comp=N,119nm,13.5s
CLNS MLR MLR
comp=Z,289nm,15.0s
CLNS MLR MLR
comp=N,198nm,17.0s
CLNS MLR MLR
comp=E,209nm,14.0s
YSS Yuzh-Sakhalins 58.69 34⇑*e*P **P** **11 17 01.0 -0.6**
YSS *e*S **S** **11 24 54.0 -0.6**
YSS pmax pmax
comp=N,90nm,1.2s
YSS pmax pmax
comp=E,70nm,1.2s
YSS pmax pmax
comp=Z,310nm,1.2s,mb6.0
YSS Yuzh-Sakhalins 58.69 34 *e*P **P** **11 17 01.2 -0.4**
comp=Z,208nm,1.1s,mb5.9
ARMA Armidale 59.29 127⇑*i*P **P** **11 17 06.5 +0.5**
CAN Canberra 59.37 133 *e*P **P** **11 17 05.7 -0.8**
CNB Canberra Magne 59.63 133 *e*P **P** **11 17 07.0 -1.3**
AKTO Aktyubinsk 59.64 331 LR LR 11 45 29.8
comp=Z,106nm,19.4s,baz=310,slow=38
HNR Honiara 61.51 102 P **P** **11 17 18.9 -2.4**
comp=Z,121nm,1.0s,mb5.7,baz=224,slow=2.7,SNR=11
HNR Honiara 61.51 102 P **P** **11 17 18.9 -2.4**
MAK Makhachkala 61.56 319 *e*P **P** **11 17 23.3 +2.1**
MAK *e*S **S** **11 25 32.9 +1.5**
MAK MLR MLR
comp=Z,93nm,12.0s
KMBO Kilima Mbogo 62.03 268 P **P** **11 17 25.6 +0.7**
comp=Z,1.7nm,0.6s,mb4.0,baz=60,slow=14,SNR=4.9
KMBO pP pP 11 18 00.2 0.0
comp=Z,5.5nm,0.9s,baz=58,slow=9.1,SNR=4.6
GNI Garni 62.25 315 P **P** **11 17 26.7 +0.8**
SNR=5.5
GNI Garni 62.25 315 *e*P **P** **11 17 26.4 +0.5**
GNI pmax pmax
comp=Z,49nm,1.3s
GNI Garni 62.25 315 *e*P **P** **11 17 26.4 +0.5**
comp=Z,49nm,1.3s,mb5.2
DGRG David-gareji 62.34 317 P **P** **11 17 26.6 +0.1**
MTA Mtatsminda 62.84 317 P **P** **11 17 28.8 -0.9**
SVE Sverdlovsk 62.86 337⇓*e*P **P** **11 17 29.5 -0.1**
SVE *e*S **S** **11 25 44.5 -2.6**
SVE *e* 11 27 09.3
SVE *e*SSS 11 32 44.5
SVE pmax pmax
comp=Z,32nm,1.4s,mb5.0
TBLG Delisi 62.89 317 P **P** **11 17 29.7 -0.3**
GOR Gori 63.42 317 P **P** **11 17 30.8 -2.8**
ONI Oni 64.11 317 P **P** **11 17 37.7 -0.4**
YAK Yakutsk 64.26 15*c* *i*P **P** **11 17 38.0 -0.6**
YAK *e* pP 11 18 11.1 -3.0
YAK *e*S **S** **11 26 01.3 -2.9**
YAK *e* 11 27 13.6
YAK pmax pmax
comp=Z,156nm,1.2s,mb5.7
YAK pmax pmax
comp=N,74nm,1.2s
YAK pmax pmax
comp=E,75nm,1.4s
YAK smax
comp=N,43nm,1.4s
YAK smax
comp=E,430nm,2.6s
YAK Yakutsk 64.26 15 *e*P **P** **11 17 37.9 -0.7**
comp=E,226nm,1.0s,mb6.0
KIV Kislovodsk 65.16 318*be*P **P** **11 17 44.0 -0.9**
KIV *i* pP 11 18 19.1 -1.3
KIV *e*S S 11 26 17.4 +1.4
KIV 11 27 19.0
KIV SS SS 11 30 40.0 +8.6
KIV pmax pmax
comp=Z,34nm,1.3s,mb5.0
KIV Kislovodsk 65.16 318⇓*i*P pP 11 18 19.3 -1.1
KIV Kislovodsk 65.16 318 *e*P **P** **11 17 45.0 +0.1**
comp=Z,29nm,1.1s,mb5.0
MALT Malatya 66.21 311 *e*P **P** **11 17 52.1 +0.4**
MALT pmax pmax
comp=Z,27nm,1.5s,mb4.9
MALT Malatya 66.21 311⇓*i*P pP 11 18 26.5 -0.9
MALT Malatya 66.21 311 *e*P **P** **11 17 52.1 +0.3**
comp=Z,27nm,1.5s,mb4.8
SKR Severo-Kuril's 68.17 35 *e*P **P** **11 18 01.2 -2.6**
SKR *e* 11 26 48.0
SKR pmax pmax
comp=Z,320nm,1.2s,mb5.9
SKR pmax pmax
comp=N,90nm,1.0s
SKR pmax pmax
comp=E,90nm,1.0s
SKR pmax pmax
comp=N,1μm,2.0s
SKR pmax pmax
comp=E,1μm,2.0s
SKR pmax pmax
comp=Z,1μm,2.0s,mb6.2
MIR Mirnyy 68.38 183⇓*i*P **P** **11 18 06.0 +1.2**

MIR *i* 11 18 58.0
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.3
CASY Casey 68.45 175⇑*i*P **P** **11 18 05.2 0.0**
CASY *e* pP 11 18 41.5 +0.4
VRHR Novokhopersk 68.75 325 *e*P **P** **11 18 05.5 -1.9**
VRHR pmax pmax
comp=Z,30nm,0.9s,mb5.0
VRHR pmax pmax
comp=N,40nm,0.6s
VRHR pmax pmax
comp=E,40nm,0.9s
CSS Prodhromos 69.30 307 *e*P pP 11 18 45.2 -1.9
PEA0B Petropavlovsk- 70.09 33 *e*P **P** **11 18 15.4 -0.2**
PETK Petropavlovsk- 70.09 33 P **P** **11 18 14.7 -0.9**
comp=E,12nm,0.8s,mb4.7,baz=208,slow=3.8,SNR=20
PETK pP pP 11 18 50.6 -1.0
comp=E,8.8nm,0.8s,baz=179,slow=2.6,SNR=4.9
VRSR Storozhevoye 70.20 325 *e*P **P** **11 18 14.1 -2.2**
VRSR pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
VRSR pmax pmax
comp=N,4.0nm,1.4s
VRSR pmax pmax
comp=E,4.0nm,1.2s
PET Petropavlovsk 70.58 33 *e*P **P** **11 18 17.6 -1.0**
PET *e*S S 11 27 24.2 +4.1
PET *e*SS SS 11 31 57.5 +2.8
PET pmax pmax
comp=Z,69nm,0.6s,mb5.6
PET Petropavlovsk 70.58 33 *e*P **P** **11 18 17.9 -0.7**
comp=Z,85nm,1.0s,mb5.4
ANTO Ankara 70.86 312 P **P** **11 18 19.4 -1.1**
ANTO *e**PP pP 11 18 55.1 -1.5
ANTO pmax pmax
comp=Z,52nm,1.2s,mb5.1
ANTO Ankara 70.86 312⇓*i*P pP 11 18 55.0 -1.6
ANTO Ankara 70.86 312 P **P** **11 18 19.4 -1.1**
comp=Z,52nm,1.2s,mb5.1
ANTO *e*pP pP 11 18 55.1 -1.5
ISP Isparta 72.14 309 *e*P pP 11 19 01.6 -2.8
TIXI Tiksi 72.22 9*c* *i*P **P** **11 18 26.8 -1.2**
TIXI *i* pP 11 19 02.3 -2.0
TIXI *i*S S 11 27 34.7 -3.6
TIXI pmax pmax
comp=Z,72nm,1.4s,mb5.2
TIXI MLR MLR
comp=Z,217nm,19.0s
TIXI Tiksi 72.22 9 *e*P **P** **11 18 26.9 -1.1**
comp=Z,105nm,1.4s,mb5.4
SEY Seymchan 72.39 23 *e*P **P** **11 18 28.7 -0.5**
OBN Obninsk 73.15 328/ *e*P **P** **11 18 33.7 -0.2**
OBN *i* pP 11 19 08.6 -1.6
OBN *i* 11 21 19.5
OBN *e*S S 11 27 47.1 -2.3
OBN *e* 11 28 33.6
OBN SS SS 11 32 40.0 +6.2
OBN pmax pmax
comp=Z,17nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,100nm,15.0s
OBN Obninsk 73.15 328 *e*P **P** **11 18 33.1 -0.7**
OBN *i* pP pP 11 19 09.0 -1.1
MAW Mawson 73.80 194⇑*i*P **P** **11 18 37.8 +0.4**
comp=Z,9.0nm,1.5s,mb4.3
MAW *e* pP 11 19 14.6 +0.8
MAW Mawson 73.80 194 LR LR 11 45 45.2
comp=Z,162nm,18.5s,baz=234,slow=31
MAW Mawson 73.80 194⇑*i*P **P** **11 18 37.8 +0.4**
MAW *e* pP 11 19 14.6 +0.8
MAW pmax pmax
comp=Z,9.0nm,1.5s
TLCR 74.96 316 P pP 11 19 20.0 -1.0
TIRR Tirgusor 75.08 316⇓*i*P pP 11 19 20.1 -1.7
TIRR Tirgusor 75.08 316 P pP 11 19 20.7 -1.0
HARR Harsova 75.46 316⇓*i*P pP 11 19 23.1 -0.9
HARR Harsova 75.46 316 P pP 11 19 23.7 -0.3
PRK Paraskevi 75.66 310 *e*P pP 11 19 23.3 -2.0
CHOS Chios island 75.69 309 *e*P pP 11 19 24.4 -1.0
SANT Santorini 75.86 307 *e*P pP 11 19 23.6 -2.8
APE Apeiranthos 75.90 308⇓*i*P pP 11 19 23.8 -2.9
APE Apeiranthos 75.90 308⇓P pP 11 19 23.8 -2.9
THR3 Thira Island, 75.91 307 *e*P pP 11 19 26.0 -0.8
AKASG Malin Array Be 76.00 322 P **P** **11 18 49.3 -1.1**
comp=Z,1.0nm,0.4s,mb3.8,baz=91,slow=4.5,SNR=8.5
AKASG pP pP 11 19 24.9 -2.0
comp=Z,41nm,0.8s,baz=90,slow=4.7,SNR=26
AKASG Malin Array Be 76.00 322 P **P** **11 18 49.3 -1.1**
AKASG *PP pP 11 19 24.9 -2.0
AKASG Malin Array Be 76.00 322 P **P** **11 18 49.3 -1.1**
AKASG pP pP 11 19 24.9 -2.0
AKBB Malin Array Si 76.00 322 *e*P **P** **11 18 48.6 -1.8**
AKBB *e**PP pP 11 19 25.1 -1.8
KIEV Kiev 76.00 322 *e*P **P** **11 18 49.0 -1.4**
KIEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
KIEV Kiev 76.00 322 *e*P **P** **11 18 49.0 -1.4**
comp=Z,2.5nm,0.6s,mb4.0
ALN Alexandroupoli 76.11 312 *e*P pP 11 19 25.5 -2.3
SIVA Sivas 76.19 305 *e*P pP 11 19 26.1 -2.3
VRI Vrincioaia 76.53 317⇓*i*P pP 11 19 29.5 -0.6
VRI Vrincioaia 76.53 317 P pP 11 19 30.0 -0.1
PLOR Plostina 76.58 317⇓*i*P pP 11 19 29.9 -0.5
BOSA Boshof 76.85 240 P **P** **11 18 55.4 -0.3**
comp=Z,3.8nm,0.5s,mb4.3,baz=96,slow=5.1,SNR=13
BOSA pP pP 11 19 31.9 -0.5
comp=Z,15nm,1.0s,baz=101,slow=5.6,SNR=7.4
BOSA Boshof 76.85 240 *e*P **P** **11 18 56.1 +0.4**
BOSA *e**PP pP 11 19 31.3 -1.0
BOSA pmax pmax
comp=Z,37nm,1.4s,mb4.8
BOSA Boshof 76.85 240 *e*P **P** **11 18 56.1 +0.5**
comp=Z,37nm,1.4s,mb4.8
BOSA *e*pP pP 11 19 31.3 -1.0
KARN Karanos 76.97 306 *e*P pP 11 19 32.2 -0.6
MLR Muntele Rosu 77.00 316⇓*i*P pP 11 19 32.0 -0.8
MLR Muntele Rosu 77.00 316 P pP 11 19 32.6 -0.2
PLD Plovdiv 77.30 313 *e*P pP 11 19 32.0 -2.6
AOS Alonnisos 77.49 310 *e*P pP 11 19 33.8 -1.9
VOIR 77.61 316⇑*i*P pP 11 19 34.5 -1.7
VOIR 77.61 316⇑P pP 11 19 34.5 -1.7
PAIG Paliouri 77.75 310 *e*P pP 11 19 34.5 -2.6
DID Didima 77.77 308 *e*P pP 11 19 33.5 -3.8
BURAR Bucovina Array 77.89 318⇓*i*P pP 11 19 37.4 -0.4
BURAR Bucovina Array 77.89 318⇓P pP 11 19 37.4 -0.3
BUR08 Bucovina Ar. S 77.91 318 *e*P **P** **11 19 01.5 +0.3**
PLG Polygyros 77.98 311 *e*P pP 11 19 35.8 -2.7
XOR Xorichti 78.04 310 *e*P pP 11 19 36.1 -2.7
LTK Loutraki 78.05 308 *e*P pP 11 19 35.2 -3.7
LKR Lokris 78.10 309 *e*P pP 11 19 35.5 -3.7
SOH Sokhos 78.11 311 *e*P pP 11 19 36.6 -2.6
RPZ Rata Peaks 78.23 135 P **P** **11 19 01.8 -1.2**
comp=Z,23nm,0.8s,mb4.8,baz=322,slow=1.3,SNR=6.6
HORT Hortiatis 78.28 311 *e*P pP 11 19 37.5 -2.6
VLX Vlachokerasia 78.43 308 *e*P pP 11 19 38.8 -2.3
KNT Kendrikon 78.50 312 *e*P pP 11 19 39.1 -2.2
AGG Agios Georgios 78.67 309 *e*P pP 11 19 38.2 -4.1
LIT Litokhoron 78.67 310 *e*P pP 11 19 38.8 -3.5
VAY Valandovo 78.77 312 *e*P pP 11 19 39.8 -3.1
VAY Valandovo 78.77 312 *i* P pP 11 19 40.4 -2.4
GRG Griva 78.85 311 *e*P pP 11 19 40.4 -2.8
GZR Gura Zlata 79.18 316 P pP 11 19 44.6 -0.4
DRGR 79.44 317⇑*i*P pP 11 19 45.6 -0.8
DRGR 79.44 317 P pP 11 19 46.2 -0.1
FNA Florina 79.60 311 *e*P pP 11 19 44.5 -3.0
SKO Skopje 79.69 312 *i* P pP 11 19 46.3 -1.6
KRUS Krusevo 79.76 312 *i* P pP 11 19 46.5 -1.8
BILL Bilibino 79.85 21 *e*P **P** **11 19 10.8 -0.5**
BILL pmax pmax
comp=Z,65nm,2.5s,mb4.8
KWP Kalwaria 79.88 320 *e*P pP 11 19 47.8 -1.0
KWP Kalwaria 79.88 320⇓*i*P pP 11 19 47.9 -0.8
KWP Kalwaria 79.88 320⇓*e*P pP 11 19 47.8 -0.9
VLS Valsamata 79.93 308 *e*P pP 11 19 46.7 -2.6
LKD Levkas 79.93 309 *e*P pP 11 19 47.0 -2.3
BZS Buzias 80.02 316⇓*i*P pP 11 19 48.4 -1.2
BZS Buzias 80.02 316 P pP 11 19 49.0 -0.6
KOLS Kolonicke sedl 80.05 319 *e*P pP 11 19 49.4 -0.3
KOLS *e*S S 11 29 00.0 -4.8
KOLS *e*S S 11 28 59.9 -4.9
KOLS Kolonicke sedl 80.05 319 *e*pP pP 11 19 49.4 -0.3
OHR Ohrid 80.07 311 *i* P pP 11 19 47.0 -2.9
SUW Suwalki 80.33 324 *e*P pP 11 19 49.4 -1.7

SUW Suwalki 80.33 324 *e*P pP 11 19 49.4 -1.7
CRVS Cervenica-Dubn 80.57 319 *e*pP pP 11 19 53.0 +0.5
CRVS *e*S S 11 29 04.5 -5.7
STHS Stebnicka Huta 80.79 320 *e*P pP 11 19 53.4 -0.3
STHS *e* sP 11 20 06.5 -2.9
STHS Stebnicka Huta 80.79 320 *e*pP pP 11 19 53.4 -0.3
STHS Stebnicka Huta 80.79 320 *e*sP sP 11 20 06.5 -2.9
DIVS Divibare 80.99 314 *e*P pP 11 19 52.7 -2.2
KECS Kecovo 81.16 319 *e*pP pP 11 19 54.7 -1.0
KECS *e*sP sP 11 20 10.9 -0.5
SYO Syowa Base 81.24 198⇓*e*X **P** **11 19 17.4 -1.3**
SYO Syowa Base 81.24 198⇓*e*X PcP 11 19 23.4 -1.1
NIE Niedzica 81.39 320 *e*P pP 11 19 56.6 -0.3
PSZ Piszkesteto 81.48 318⇓*e*pP pP 11 19 56.3 -1.1
PSZ Piszkesteto 81.48 318⇓*i*P pP 11 19 56.5 -0.9
PSZ Piszkesteto 81.48 318⇓P pP 11 19 56.5 -1.0
URZ Urewera 81.64 129 P **P** **11 19 20.1 -1.3**
comp=Z,19nm,1.0s,mb4.7,baz=105,slow=2.8,SNR=6.7
URZ pP pP 11 19 55.9 -2.6
comp=Z,18nm,0.3s,baz=339,slow=19,SNR=5.0
OJC Ojcow 81.82 320 *e*P pP 11 19 57.9 -1.3
BUD Budapest 82.02 318⇓*e*pP pP 11 19 58.4 -1.9
PKSM Moragy 82.15 316⇓*i*P pP 11 19 59.5 -1.5
PKSM Moragy 82.15 316⇓P pP 11 19 59.5 -1.6
VYHS Vyhne 82.25 319 *e*P pP 11 20 00.4 -1.1
VYHS Vyhne 82.25 319 *e*pP pP 11 20 00.4 -1.1
AMKA Amchitka 82.37 39 *e*P **P** **11 19 23.3 -1.7**
AMKA *e*pP pP 11 20 02.9 +0.9
KOLL Kolacno 82.55 319 *e*P pP 11 20 02.2 -0.9
KOLL Kolacno 82.55 319 *e*pP pP 11 20 02.2 -0.9
ARCES ARCESS Array B 82.62 340 P **P** **11 19 26.3 +0.4**
comp=Z,2.0nm,0.4s,mb4.2,baz=101,slow=4.9,SNR=22
ARCES pP pP 11 20 01.8 -1.2
comp=Z,30nm,0.9s,baz=107,slow=4.2,SNR=17
ARCES ARCESS Array B 82.62 340 P **P** **11 19 26.3 +0.4**
ARCES pP pP 11 20 01.8 -1.3
OKC Ostrava-Krasne 82.84 320 *e*P pP 11 20 04.3 -0.3
TIP Timpagrande 83.00 309 P **P** **11 19 26.6 -1.9**
comp=Z,17nm,1.6s,mb4.5
TIP *i* pP pP 11 20 05.2 -0.4
MORC Moravsky Berou 83.22 320⇓*i*P pP 11 20 05.7 -0.9
MORC Moravsky Berou 83.22 320⇓P pP 11 20 05.7 -0.9
MODS Modra-Piesok 83.27 318 *e*P pP 11 20 06.2 -0.7
MODS *e* 11 20 24.7
MODS *e*S S 11 29 34.9 -3.0
MODS *e*sP sP 11 20 24.7 +2.1
MODS *e*S S 11 29 34.9 -3.0
MODS Modra-Piesok 83.27 318 *e*pP pP 11 20 06.2 -0.7
ZST Bratislava 83.38 318 *e*pP pP 11 20 06.9 -0.5
ZST *e*S S 11 29 36.3 -2.6
CEL Celeste 83.62 308 *e*P **P** **11 19 31.9 +0.1**
comp=Z,50nm,0.9s,mb5.2
CEL *i* pP pP 11 20 08.8 -0.1
DPC Dobruska-Polom 84.05 320 *e*P pP 11 20 10.9 0.0
KSP Ksiaz 84.11 321 *e*P pP 11 20 10.4 -0.8
KSP Ksiaz 84.11 321 *e*P **P** **11 19 42.8 +8.9**
KSP *e*pP pP 11 20 10.3 -0.8
KSP *e*S S 11 29 41.0 -5.2
CONA Conrad Observa 84.19 318⇓*i*P pP 11 20 10.1 -1.4
comp=Z,16nm,1.4s
CONA Conrad Observa 84.19 318⇓*i*pP pP 11 20 10.1 -1.4
comp=Z,16nm,1.4s
CSNA Conrad Observa 84.19 318⇑*i*P pP 11 20 10.2 -1.4
comp=Z,15nm,1.4s
CSNA Conrad Observa 84.19 318⇑*i*pP pP 11 20 10.2 -1.4
comp=Z,15nm,1.4s
UPC Upice 84.26 320 *e*P pP 11 20 11.7 -0.2
ARSA Arzberg 84.37 317⇑*i*P pP 11 20 11.3 -1.3
comp=Z,55nm,1.5s,SNR=10
ARSA Arzberg 84.37 317⇑*i*pP pP 11 20 11.3 -1.3
comp=Z,55nm,1.5s,SNR=10
BOJS Bojanci 84.46 315 *i* P pP 11 20 12.3 -0.7
PERS Pernice 84.62 316 *i* P pP 11 20 12.8 -1.0
SOKA Soboth 84.68 317⇓*i*P pP 11 20 13.2 -1.0
SOKA Soboth 84.68 317⇓*i*pP pP 11 20 13.2 -1.0
LJU Ljubljana 85.00 316 *i* P pP 11 20 15.1 -0.7
PRU Pruhonice 85.17 320 *e*P pP 11 20 16.1 -0.5
PVCC Panska Ves 85.18 320 *e*P pP 11 20 16.5 -0.1
MOA Molln 85.25 318⇓*i*P pP 11 20 15.2 -1.8
comp=Z,52nm,2.2s
MOA Molln 85.25 318⇓*i*pP pP 11 20 15.2 -1.8
comp=Z,52nm,2.2s
JAVS Javornik 85.31 316 *i* P pP 11 20 14.6 -2.8
BRG Berggiesshubel 85.60 321 *e*P **P** **11 19 49.2 +7.9**
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
BRG pmax pmax
comp=Z,23nm,1.3s,mb4.8
BRG Berggiesshubel 85.60 321 *e*P pP 11 20 18.2 -0.5
comp=Z,38nm,1.3s
BRG Berggiesshubel 85.60 321 *e*P **P** **11 19 49.2 +7.9**
comp=Z,9.2nm,1.1s,mb4.4
BRG *i* pP pP 11 20 18.5 -0.2
comp=Z,38nm,1.3s
MYKA Terra Mystica 85.63 316⇓*i*P pP 11 20 17.8 -1.2
comp=Z,265nm,2.1s
MYKA Terra Mystica 85.63 316⇓*i*pP pP 11 20 17.8 -1.2
comp=Z,265nm,2.1s
GEC2 GERESS Array S 85.67 319 *e*P pP 11 20 18.6 -0.5
comp=Z,50nm,1.3s
GEC2 GERESS Array S 85.67 319 *e*P **P** **11 19 49.3 +7.5**
GEC2 *e*pP pP 11 20 18.6 -0.5
GERES GERESS Array B 85.67 319 P **P** **11 19 42.5 +0.7**
comp=Z,0.5nm,0.3s,mb3.8,baz=91,slow=5.3,SNR=3.9
GERES pP pP 11 20 18.7 -0.4
comp=Z,17nm,1.0s,baz=100,slow=5.5,SNR=12
KHC Kasperske Hory 85.76 319⇑*e*P **P** **11 19 44.3 +2.1**
KHC Kasperske Hory 85.76 319 *e*P pP 11 20 19.0 -0.6
KHC *e*x x 11 20 40.0
RUE Ruedersdorf 85.77 322 *e*P pP 11 20 19.0 -0.5
comp=Z,119nm,0.9s
KBA Koelnbreinsper 85.85 317⇓*i*P pP 11 20 18.3 -1.8
comp=Z,20nm,1.2s
KBA Koelnbreinsper 85.85 317⇓*i*pP pP 11 20 18.3 -1.8
comp=Z,20nm,1.2s
FBE Freiberg 85.97 321 *e*P pP 11 20 20.1 -0.5
comp=Z,38nm,1.2s
CLL Collm 86.20 321 *e*P pP 11 20 20.8 -0.9
comp=Z,22nm,1.2s
CLL Collm 86.20 321⇓*i*pP pP 11 20 20.9 -0.8
comp=Z,23nm,1.2s
CLL Collm 86.20 321⇓*i*P pP 11 20 20.9 -0.8
WET Wettzell 86.22 319 *e*P pP 11 20 21.2 -0.7
comp=Z,24nm,1.1s
NKC Novy Kostel 86.53 320 *e*P pP 11 20 23.2 -0.1
WERN Wernitzgruen 86.58 320 *e*P pP 11 20 23.1 -0.5
comp=Z,15nm,1.1s
GUNZ Gunzen 86.61 320 *e*P pP 11 20 23.2 -0.5
comp=Z,21nm,1.2s
WERD Werda 86.62 320 *e*P pP 11 20 23.1 -0.7
comp=Z,20nm,1.2s
MANZ Manzenberg 86.74 320 *e*P pP 11 20 24.2 -0.2
comp=Z,32nm,1.1s
SPB4 Spitsbergen Ar 86.75 348 *e*P **P** **11 19 44.1 -2.3**
SPB4 *e*pP pP 11 20 23.0 -0.9
WTTA Wattenberg 87.02 317⇓*i*P pP 11 20 24.1 -1.8
comp=Z,34nm,1.2s,SNR=7.3
WTTA Wattenberg 87.02 317⇓*i*pP pP 11 20 24.1 -1.8
comp=Z,34nm,1.2s,SNR=7.3
MOX Moxa 87.07 320 *e*P pP 11 20 25.3 -0.7
comp=Z,31nm,1.5s
MOX
comp=Z,100nm,22.0s
MOX Moxa 87.07 320 *e*P pP 11 20 25.4 -0.6
comp=Z,37nm,1.5s
SBA Scott Base 87.15 169 *e*P **P** **11 19 48.9 +0.5**
SBA pmax pmax
comp=Z,23nm,1.0s,mb5.0
SBA Scott Base 87.15 169 *e*P **P** **11 19 48.9 +0.4**
comp=Z,23nm,1.0s,mb5.0
FUR Furstenfeldbru 87.27 318 *e*P pP 11 20 26.0 -1.0
comp=Z,26nm,0.6s
GRA1 Grafenberg Arr 87.31 319 *e*P pP 11 20 26.9 -0.3
GRF Grafenberg Arr 87.31 319 *e*P pP 11 20 26.9 -0.3
comp=Z,38nm,1.2s
MOTA Moosalm 87.38 317⇑*i*P pP 11 20 26.4 -1.2
comp=Z,17nm,1.0s
MOTA Moosalm 87.38 317⇑*i*pP pP 11 20 26.4 -1.2
comp=Z,17nm,1.0s
NB2 NORSAR Subarra 87.43 331 P **P** **11 19 50.1 0.0**
comp=Z,8.3nm,1.2s,mb4.4,baz=92,slow=5.1
NOA NORSAR Array B 87.43 331 P **P** **11 19 48.5 -1.5**
comp=Z,1.4nm,0.7s,mb3.9,baz=93,slow=4.9,SNR=4.8
NOA pP pP 11 20 26.0 -1.6
comp=Z,27nm,0.9s,baz=93,slow=5.0,SNR=32

RETA Reutte 87.61 317 ⇓*i*P pP 11 20 27.0 -1.7
comp=Z,41nm,1.3s
RETA Reutte 87.61 317 ⇓*i*pP pP 11 20 27.0 -1.7
comp=Z,41nm,1.3s
FETA Feichten 87.64 317 ⇓*i*P pP 11 20 27.4 -1.4
comp=Z,16nm,1.1s
FETA Feichten 87.64 317 ⇓*i*pP pP 11 20 27.4 -1.4
comp=Z,16nm,1.1s
CLZ Clausthal 87.85 322 *e*P pP 11 20 29.5 -0.3
comp=Z,56nm,1.1s
BSEG Bad Segeberg 87.88 324 *e*P pP 11 20 29.7 -0.2
comp=Z,81nm,1.1s
NRDL Niedersach Rie 88.01 322 *e*P pP 11 20 30.5 -0.1
comp=Z,91nm,1.2s
UBBA Unterbreizbach 88.09 321 *e*P pP 11 20 30.4 -0.6
comp=Z,22nm,1.4s
DAVA Damuels 88.21 317 ⇓*i*P pP 11 20 30.6 -1.0
comp=Z,56nm,1.4s
DAVA Damuels 88.21 317 ⇓*i*pP pP 11 20 30.6 -1.0
comp=Z,56nm,1.4s
STU Stuttgart 88.65 319 *e*P pP 11 20 33.0 -0.7
comp=Z,16nm,0.5s
KEST Kesra 88.84 306 P **P 11 19 55.4 -1.9**
comp=Z,2.0nm,0.8s,mb4.1,baz=300,slow=4.0,SNR=5.6
KEST pP pP 11 20 35.4 +0.5
comp=Z,8.5nm,0.8s,baz=295,slow=3.6,SNR=11
TOD Tromm 88.89 319 *e*P pP 11 20 34.3 -0.5
SPAK Spaichingen-Ko 88.94 318 *e*P pP 11 20 34.5 -0.6
TNS Taunus Mts 89.10 320 *e*P pP 11 20 35.5 -0.3
comp=Z,56nm,1.1s
BFO Black Forest 89.23 318 *e*P pP 11 20 35.3 -1.2
comp=Z,15nm,1.0s
IBBN Ibbenburen 89.46 322 *e*P pP 11 20 37.2 -0.2
comp=Z,84nm,0.9s
FELD Feldberg im Sc 89.47 318 *e*P pP 11 20 36.6 -1.0
LANF Langenberg 89.56 319 *e*P pP 11 20 37.7 -0.3
NIKO Nikolski 89.70 37 *e*P **P 11 19 59.4 -1.5**
comp=Z,53nm,1.1s,mb5.4
BUG Bochum--Univer 89.80 321 *e*P pP 11 20 38.7 -0.3
comp=Z,58nm,0.9s
BBS Basel-Blauen 89.82 317 *e*P pP 11 20 37.5 -1.7
CDF Champ du Feu 89.93 318 ⇑*i*P **P 11 20 02.8 +0.7**
CDF *ep*P pP 11 20 39.1 -0.6
RUP Ruppelstein 90.01 320 *e*P pP 11 20 40.1 0.0
ECH Echery 90.02 318 *e*P pP 11 20 39.5 -0.7
SBF Sospel 90.03 314 ⇑*i*P **P 11 20 03.4 +0.7**
MOF Molkenrain 90.06 318 *e*P pP 11 20 39.7 -0.6
WTSB Winterswijk 90.06 322 *e*P pP 11 20 40.2 0.0
comp=Z,47nm,1.3s
HINF Hinteralfeld 90.25 318 ⇑*i*P **P 11 20 03.9 +0.3**
LOMF Lomont 90.29 317 *e*P pP 11 20 40.1 -1.3
LPG La Plagne 90.44 315 ⇑*i*P **P 11 20 05.8 +1.3**
comp=Z,13nm,0.8s,mb4.6
LPG *ep*P pP 11 20 42.1 -0.1
LPG La Plagne 90.44 315 ⇑*i*P **P 11 20 05.8 +1.3**
LPG *e**PP pP 11 20 42.1 -0.1
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LPG La Plagne 90.44 315 ⇑*i*P **P 11 20 05.8 +1.3**
comp=Z,6.6nm,0.8s,mb4.6
LPG *ep*P pP 11 20 42.1 -0.1
OG01 Vacheresse 90.44 316 *e*P pP 11 20 41.9 -0.3
LPL La Plagne 90.45 315 ⇑*i*P **P 11 20 05.8 +1.2**
comp=Z,18nm,0.7s,mb4.8
LPL La Plagne 90.45 315 ⇑*i*P **P 11 20 05.8 +1.2**
LPL pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LPL La Plagne 90.45 315 ⇑*i*P **P 11 20 05.8 +1.2**
comp=Z,8.8nm,0.7s,mb4.8
MBDF Montbardon 90.47 315 ⇑*i*P **P 11 20 05.0 +0.3**
comp=Z,3.5nm,0.6s,mb4.2
MBDF Montbardon 90.47 315 ⇑*i*P **P 11 20 05.0 +0.3**
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MBDF Montbardon 90.47 315 ⇑*i*P **P 11 20 05.0 +0.3**
comp=Z,1.8nm,0.6s,mb4.2
HAU Haudompre 90.58 318 ⇑*i*P **P 11 20 05.8 +0.7**
HAU *ep*P pP 11 20 42.1 -0.6
WLF Walferdange 90.60 320 P pP 11 20 43.2 +0.4
WLF Walferdange 90.60 320 P **P 11 20 05.1 -0.1**
WLF *e**PP pP 11 20 42.7 -0.1
WLF pmax pmax
comp=Z,32nm,1.0s,mb5.3
WLF Walferdange 90.60 320 *e*P pP 11 20 43.1 +0.3
comp=Z,46nm,1.1s
WLF Walferdange 90.60 320 P **P 11 20 05.1 -0.1**
comp=Z,32nm,1.0s,mb5.3
WLF *ep*P pP 11 20 42.7 -0.1
FRF La Foret Royal 90.62 313 ⇑*i*P **P 11 20 06.5 +1.1**
FRF *ep*P pP 11 20 42.7 -0.4
MEM Membach 90.64 320 P pP 11 20 42.5 -0.5
HGN Heimansgroeve 90.68 321 *e*P pP 11 20 42.9 -0.2
comp=Z,17nm,1.2s
LMR La Mourre 90.73 313 ⇑*i*P **P 11 20 07.0 +1.1**
THEF They Montfort 90.80 318 *e*P pP 11 20 42.9 -0.9
BEBN Eben Emael 90.84 321 P pP 11 20 43.2 -0.7
CABF La Chapelle 90.84 316 ⇑*i*P **P 11 20 07.6 +1.3**
UNV Unalaska Valle 91.06 36 *e*P **P 11 20 06.4 -0.8**
comp=Z,7.3nm,0.8s,mb4.8
ORIF Oris-en-Rattie 91.09 315 ⇑*i*P **P 11 20 08.7 +1.2**
BCLA Clavier 91.10 320 P pP 11 20 44.8 -0.4
OG05 Jujurieux 91.31 316 *e*P pP 11 20 45.9 -0.3
SMRF Simiane la Rot 91.37 314 ⇑*i*P **P 11 20 10.4 +1.5**
MEZF Maizieres J'vi 91.41 318 ⇑*i*P **P 11 20 10.0 +1.1**
GIVF Givet 91.43 320 ⇑*i*P **P 11 20 10.2 +1.2**
GIVF *ep*P pP 11 20 46.5 -0.2
AKUT Akutan 91.46 36 *e*P **P 11 20 08.1 -1.0**
comp=Z,15nm,0.6s,mb5.2
DOU Dourbes 91.58 320 P pP 11 20 47.2 -0.2
BAIF Baives 91.83 320 ⇑*i*P **P 11 20 12.3 +1.4**
VIVF Saint-Julien-l 91.95 315 ⇑*i*P **P 11 20 12.6 +1.1**
VIVF *ep*P pP 11 20 48.9 -0.3
SSB Saint Sauveur 92.01 315 *e*P pP 11 20 49.1 -0.4
LOR Lormes 92.31 317 ⇑*i*P **P 11 20 14.2 +1.1**
LOR *ep*P pP 11 20 50.5 -0.3
SMF Signal de Mont 92.38 317 ⇑*i*P **P 11 20 14.4 +0.9**
SMF *ep*P pP 11 20 50.7 -0.5
SSF Saint Saulge 92.57 317 ⇑*i*P **P 11 20 15.4 +1.1**
COLF Collangettes 92.58 316 *e*P pP 11 20 51.9 -0.2
PLDF La Plantade 92.59 316 *e*P pP 11 20 51.8 -0.4
LASF Ste Croix 92.59 314 ⇑*i*P **P 11 20 15.9 +1.4**
LBL Lubilhac 92.92 315 *e*P pP 11 20 54.1 +0.4
AGO Saint Agoulin 92.92 316 *e*P pP 11 20 53.4 -0.3
PYM Petit Puy Mans 93.04 316 *e*P pP 11 20 54.2 0.0
BGF Bois d'Agland 93.07 317 ⇑*i*P **P 11 20 18.0 +1.3**
BGF *ep*P pP 11 20 54.3 -0.1
TCF Toulx Ste Croi 93.53 316 ⇑*i*P **P 11 20 20.2 +1.4**
TCF *ep*P pP 11 20 56.4 -0.1
CAF Calviac 93.79 315 ⇑*i*P **P 11 20 21.5 +1.5**
CAF *ep*P pP 11 20 57.7 0.0
MTLF Montolieu 93.85 313 ⇑*i*P **P 11 20 21.6 +1.3**
MTLF *ep*P pP 11 20 57.9 -0.1
RJF Les Rejaudoux 94.13 315 ⇑*i*P **P 11 20 23.1 +1.5**
RJF MLR MLR
comp=Z,100nm,22.0s
LFF La Frestale 94.72 315 ⇑*i*P **P 11 20 25.8 +1.5**
IMA2 Indian Mountai 95.20 23 *e*P **P 11 20 25.7 -0.3**
IMA2 *ep*P pP 11 21 04.1 +0.3
SNAA Sanae 95.53 198 pP pP 11 21 04.6 -0.6
comp=Z,1.1nm,1.0s,baz=91,slow=5.8,SNR=6.9
SNAA PKiKP PKiKP 11 25 03.1 -3.6
comp=Z,1.3nm,1.0s,baz=140,slow=10,SNR=9.2
ETSF Etsaut 95.92 313 ⇑*i*P **P 11 20 33.7 +3.9**
COLD Coldfoot 96.16 22 *e*P **P 11 20 29.9 -0.4**
comp=Z,54nm,1.9s,mb5.5
COLD *ep*P pP 11 21 07.9 -0.2
CHUM Lake Minchumin 96.40 25 *e*P **P 11 20 31.6 +0.1**
comp=Z,58nm,1.4s,mb5.7
CHUM *ep*P pP 11 21 09.9 +0.7
CHUM *es*P sP 11 21 26.1 +1.2
PPLA Purkeypile 96.75 26 *e*P **P 11 20 33.0 -0.1**
comp=Z,8.1nm,0.8s,mb5.1
PPLA *ep*P pP 11 21 10.6 -0.3
TORD Torodi Ar. Bea 96.91 283 pP pP 11 21 11.1 -1.6
comp=Z,6.0nm,1.2s,baz=77,slow=3.3,SNR=16
TORD PKiKP PKiKP 11 25 10.7 0.0
comp=Z,1.1nm,1.1s,baz=82,slow=7.5,SNR=4.0
KTH Kantishna Hill 97.09 25 *e*P **P 11 20 34.8 +0.2**
comp=Z,13nm,1.3s,mb5.1
ESDC Sonseca Array 98.96 310 pP pP 11 21 20.9 -0.5
comp=Z,0.3nm,0.3s,baz=47,slow=3.6,SNR=2.5
YKA Yellowknife Ar 110.93 16 PKiKP PKiKP 11 25 36.0 +1.0
comp=Z,0.3nm,0.6s,baz=287,slow=2.1,SNR=4.4
YKA PP PP 11 26 12.1 -2.4
comp=Z,1.0nm,0.8s,baz=328,slow=5.9,SNR=8.7
YKA Yellowknife Ar 110.93 16 PKPdf PKiKP 11 25 36.0 +1.0
YKA PP PP 11 26 12.2 -2.4
HDW Hoodsport 118.46 31 P PKPdf 11 25 50.3 +0.5
JCW Jim Creek 118.67 30 *e*PKPdf PKPdf 11 25 49.6 -0.6
EDM Edmonton 118.75 22 *e*PKIKP PKPdf 11 25 48.3 -1.9
FL2 Flat Top 2 119.76 32 P PKPdf 11 25 52.4 0.0
WTV Waterville 119.99 30 P PKPdf 11 25 52.0 -0.7
EBG Ellensburg 120.22 31 P PKPdf 11 25 52.1 -1.2
NEW Newport 120.94 27 *e*PKIKP PKPdf 11 25 53.5 -1.1
NEW *e* 11 26 33.3
NEW *e* 11 27 23.9
FFC Flin Flon 120.97 14 PKIKP PKPdf 11 25 52.1 -2.3
FFC *e* 11 26 31.8
FFC *e* 11 27 23.0
RSW Rattlesnake Hi 121.06 30 *e*PKPdf PKPdf 11 25 54.6 -0.3
HAWA Hanford 121.09 30 *e*PKPdf PKPdf 11 25 54.1 -0.9
HUMO Hull Mountain 121.69 36 *e*PKPdf PKPdf 11 25 56.1 -0.1
WALA Waterton Lakes 121.77 25 *e*PKPdf PKPdf 11 25 55.0 -1.1
WALA *ep*PKPdf pPKPdf 11 26 35.2 -0.3
WALA *e*PP PP 11 27 29.4 -1.0
LNOR Lincton Mounta 122.08 30 *e*PKPdf PKPdf 11 25 55.2 -1.6
LNOR *ep*PKPdf pPKPdf 11 26 35.9 -0.4
SCHQ Schefferville 122.36 351 PKP PKPdf 11 25 56.0 -1.1
comp=Z,5.0nm,0.7s,baz=47,slow=4.1,SNR=7.4
SCHQ pPKP pPKPdf 11 26 35.1 -1.4
comp=Z,8.9nm,0.9s,baz=9.7,slow=2.5,SNR=5.4
SCHQ PKKP PKKPdf 11 36 29.5 -0.9
comp=Z,3.0nm,0.8s,baz=182,slow=5.3,SNR=3.5
BMO Blue Mountains 123.29 30 *e*PKIKP PKPdf 11 25 58.0 -1.2
BMO *e* 11 26 37.6
BMO Blue Mountains 123.29 30 *e*PKPdf PKPdf 11 25 58.0 -1.2
BMO *ep*PKPdf pPKPdf 11 26 37.6 -1.0
BMO *e*PP PP 11 27 39.4 -1.4
LTIM Timbered Crate 123.43 36 P PKPdf 11 25 59.3 -0.3
MSO Missoula 123.45 27 *e*PKPdf PKPdf 11 25 58.5 -1.0
MOD Modoc 123.66 35 *e*PKPdf PKPdf 11 25 59.5 -0.6
CHMT Chamberlain Mo 123.70 26 *e*PKPdf PKPdf 11 25 58.7 -1.2
WVOR Wild Horse Val 124.25 33 *e*PKIKP PKPdf 11 26 01.2 +0.1
EGMT Eagleton 124.28 23 *e*PKPdf PKPdf 11 26 00.5 -0.5
NSHM Saint Helena R 124.36 39 *e*PKPdf PKPdf 11 26 01.4 -0.1
DLMT Dillon 125.18 27 *e*PKPdf PKPdf 11 26 02.5 -0.4
BOZ Bozeman (W) 125.39 26 *e*PKIKP PKPdf 11 26 02.6 -0.6
MCMT McKenzie Canyo 125.47 28 *e*PKPdf PKPdf 11 26 03.1 -0.3
MCMT *ep*KPPdf pPKPdf 11 26 43.0 +0.2
HLID Hailey 125.66 30 *e*PKPdf PKPdf 11 26 04.0 +0.2
DGMT Dagmar 125.91 19 *e*PKPdf PKPdf 11 26 03.5 -0.6
QLMT Earthquake Lak 126.11 27 *e*PKPdf PKPdf 11 26 05.1 +0.4
GCMT Greycliff 126.12 25 *e*PKPdf PKPdf 11 26 04.3 -0.3
YMR Madison River 126.45 26 *e*PKPdf PKPdf 11 26 06.0 +0.7
ULM Lac du Bonnet 126.52 12 PKP PKPdf 11 26 04.0 -1.3
comp=Z,3.9nm,0.4s,baz=318,slow=2.7,SNR=15
ULM pPKP pPKPdf 11 26 43.1 -1.5
comp=Z,21nm,0.9s,baz=348,slow=2.2,SNR=15
YFT Old Faithful 126.68 27 PKPdf PKPdf 11 26 06.8 +1.1
YFT *ep*PKPdf pPKPdf 11 26 47.1 +2.0
LAO LASA Array 126.74 22 *e*PKPdf PKPdf 11 26 06.2 +0.4
LKWY Lake 126.78 26 *e*PKIKP PKPdf 11 26 07.5 +1.6
RLMT Red Lodge 126.83 25 *e*PKPdf PKPdf 11 26 05.7 -0.3
IMW Indian Meadow 127.06 27 *e*PKPdf PKPdf 11 26 06.6 +0.2
NVAR Mina Array Bea 127.07 37 PKP PKPdf 11 26 06.0 -0.7
comp=Z,2.0nm,0.7s,baz=276,slow=3.0,SNR=22
NVAR pPKP pPKPdf 11 26 46.1 +0.1
comp=Z,9.0nm,1.0s,baz=259,slow=2.4,SNR=15
NVAR PP PP 11 28 02.5 -3.7
comp=Z,0.6nm,1.1s,baz=346,slow=22,SNR=1.7
ELK Elko 127.26 33 *e*PKIKP PKPdf 11 26 06.7 -0.2
RRI2 Red Ridge 127.31 28 *e*PKPdf PKPdf 11 26 06.8 -0.1
TPAW Teton Pass 127.37 27 *e*PKPdf PKPdf 11 26 07.1 +0.1
LOHW Long Hollow 127.44 27 *e*PKPdf PKPdf 11 26 07.2 0.0
SNOW Snow King Moun 127.48 27 *e*PKPdf PKPdf 11 26 07.4 +0.1
SNOW *ep*KPPdf pPKPdf 11 26 47.4 +0.7
SNOW *e*PP PP 11 28 10.3 +1.7
REDW Red Top Meadow 127.52 27 *e*PKPdf PKPdf 11 26 07.2 -0.1
HVU Hansel Valley 127.79 30 *e*PKIKP PKPdf 11 26 07.3 -0.6
HVU *e* 11 26 47.5
BGU Big Grassy Mou 128.29 31 *e*PKPdf PKPdf 11 26 08.9 0.0
AGMN Agassiz Refuge 128.37 13 PKPdf PKPdf 11 26 07.3 -1.5
AGMN *ep*KPPdf pPKPdf 11 26 46.4 -1.8
HWUT Hardware Ranch 128.52 29 *e*PKPdf PKPdf 11 26 08.9 -0.4
PDAR Pinedale Array 128.57 27 PKP PKPdf 11 26 08.2 -1.2
comp=Z,1.5nm,0.5s,baz=243,slow=1.3,SNR=16
PDAR pPKP pPKPdf 11 26 47.5 -1.3
comp=Z,6.3nm,0.8s,baz=0.0,slow=0.3,SNR=16
PDAR PP PP 11 28 13.9 -1.8
comp=Z,1.7nm,1.0s,baz=343,slow=1.5,SNR=3.7
PDAR SKPbc 11 29 10.4
comp=Z,1.3nm,1.0s,baz=88,slow=2.3,SNR=4.3
DUG Dugway 128.94 31 *e*PKIKP PKPdf 11 26 09.9 -0.3
JLU Jordanelle 129.34 30 *e*PKPdf PKPdf 11 26 10.6 -0.3
NLU North Lily Min 129.50 31 *e*PKPdf PKPdf 11 26 11.3 +0.1
EYMN Ely 129.54 9 *e*PKPdf PKPdf 11 26 09.9 -1.2
EYMN *ep*PKPdf pPKPdf 11 26 49.8 -0.7
EYMN *e*SKP 11 29 13.7
DAU Daniels Canyon 129.57 30 *e*PKIKP PKPdf 11 26 12.0 +0.6
MPU Maple Canyon 129.68 31 *e*PKPdf PKPdf 11 26 12.1 +0.5
RSSD Black Hills 129.73 22 *e*PKIKP PKPdf 11 26 10.7 -0.8
RWWY Rawlins 130.48 26 *e*PKPdf PKPdf 11 26 12.8 -0.3
MSU Marysvale 130.50 33 *e*PKIKP PKPdf 11 26 14.1 +0.9
SRU San Rafael 130.93 31 *e*PKIKP PKPdf 11 26 13.3 -0.7
SRU *e* 11 26 53.8
SRU San Rafael 130.93 31 *e*PKPdf PKPdf 11 26 13.3 -0.6
SRU *ep*PKPdf pPKPdf 11 26 53.8 +0.5
SRU *i* SKPbc SKPbc 11 29 22.7 -2.0
PHWY Pilot Hill 131.55 25 *e*PKPdf PKPdf 11 26 14.0 -1.1
PV10 Paradox Valley 132.24 30 *e*PKPdf PKPdf 11 26 16.5 +0.1
PV10 *ep*PKPdf pPKPdf 11 26 56.7 +0.9
PV10 *e*SKPbc SKPbc 11 29 28.5 -0.9
ECSD EROS,Sioux Fal 132.46 16 *e*PKPdf PKPdf 11 26 15.9 -0.8
PV01 Paradox Valley 132.66 30 *e*PKPdf PKPdf 11 26 18.3 +1.0
GLA Glamis 132.70 40 *e*PKIKP PKPdf 11 26 19.0 +1.5
ISCO Idaho Springs 132.72 26 *e*PKIKP PKPdf 11 26 16.8 -0.5
ISCO *e* 11 26 57.2
ISCO *e* 11 28 40.3
ISCO Idaho Springs 132.72 26 *e*PKPdf PKPdf 11 26 16.8 -0.6
ISCO *ep*KPPdf pPKPdf 11 26 57.1 +0.4
ISCO *e*PP PP 11 28 40.3 -2.2
ISCO *e*SKPbc SKPbc 11 29 29.7 -1.4
WUAZ Wupatki 133.11 35 *e*PKPdf PKPdf 11 26 18.7 +0.5
MVCO Mesa Verde 133.41 31 *e*PKPdf PKPdf 11 26 18.9 +0.2
SDCO Great Sand Dun 134.45 28 *e*PKPpre 11 26 10.2
SDCO *e*PKPdf PKPdf 11 26 21.6 +1.0
SDCO *ep*KPPdf pPKPdf 11 27 00.1 0.0
SDCO *e*PP PP 11 28 51.6 -1.9
SDCO *i* SKPbc SKPbc 11 29 34.9 -2.0
TUC Tucson 135.72 37 *e*PKIKP PKPdf 11 26 23.3 +0.1
TUC *e* 11 27 04.1
TUC Tucson 135.72 37 *e*PKPdf PKPdf 11 26 23.3 +0.1
TUC *ep*KPPdf pPKPdf 11 27 04.1 +1.5
TUC *e*SKPbc SKPbc 11 29 39.7 -1.3
ANMO Albuquerque 136.20 31 PKIKP PKPdf 11 26 23.6 -0.4
ANMO *e* 11 27 04.3
ANMO Albuquerque 136.20 31 PKPdf PKPdf 11 26 23.6 -0.4
ANMO *ep*KPPdf pPKPdf 11 27 04.2 +0.8
ANMO *e*SKPbc SKPbc 11 29 40.9 -1.6
LAZ Ladron 136.26 32 *e*PKPdf PKPdf 11 26 24.4 +0.3
KSU1 Kansas State U 136.73 18 *e*PKPdf PKPdf 11 26 23.9 -0.9
WMOK Wichita Mounta 139.88 23 *e*PKHKP 11 26 19.8
WMOK 11 26 30.1
WMOK Wichita Mounta 139.88 23 *e*PKPpre 11 26 19.8
WMOK PKPdf PKPdf 11 26 30.1 -0.7
WMOK *e*PP PP 11 29 22.5 -4.7
WMOK *e*SKPdf SKPdf 11 29 50.0 -1.9
PLCA Paso Flores 140.19 192 PKP PKPdf 11 26 29.9 -1.2
comp=Z,6.9nm,1.2s,baz=316,slow=2.2,SNR=6.7
TXAR Lajitas Array 142.04 34 PKhKP 11 26 29.7
comp=Z,2.0nm,0.7s,baz=335,slow=0.9,SNR=23
TXAR PKP PKPdf 11 26 34.1 -0.7
comp=Z,2.1nm,0.5s,baz=209,slow=1.7,SNR=25
TXAR pPKP pPKPdf 11 27 11.3 -3.0
comp=Z,4.3nm,0.8s,baz=224,slow=0.9,SNR=5.9
TXAR SKPbc SKPbc 11 29 56.1 -2.6
comp=Z,2.6nm,0.5s,baz=206,slow=1.1,SNR=13
TXAR Lajitas Array 142.04 34 PKHKP 11 26 29.7
TXAR 11 26 34.1
TXAR 11 27 11.3
TXAR Lajitas Array 142.04 34 PKP 11 26 29.7
TXAR PKP PKPdf 11 26 34.1 -0.7
TXAR pPKP pPKPdf 11 27 11.3 -3.0
TXAR SKPbc SKPbc 11 29 56.1 -2.6
CPCT Cooper Cave 142.74 5 *e*PKPdf PKPdf 11 26 32.1 -3.8
SWET Sewanee 142.82 7 *e*PKPpre 11 26 30.1
SWET *e*PKPdf PKPdf 11 26 35.3 -0.7
SWET *e* 11 27 09.5
OXF Oxford 142.94 12 *e*PKHKP 11 26 31.7
JCT Junction City 143.09 28 *e*PKIKP PKPdf 11 26 33.6 -3.1
NATX Nacogdoches 144.08 20 *e*PKPdf PKPdf 11 26 36.1 -2.2
GOGA Godfrey 144.85 4 *e*PKIKP PKPdf 11 26 37.9 -1.7
VBMS Vicksburg 144.89 14 *e*PKPbc PKPdf 11 26 39.3 -0.5
BDFB Brasilia 144.92 245 PKPbc PKPdf 11 26 39.6 -0.6
comp=Z,5.8nm,0.5s,baz=78,slow=4.4,SNR=12
BDFB pPKPbc 11 27 17.4
comp=Z,20nm,1.0s,baz=89,slow=9.7,SNR=7.4
HKT Hockley 145.27 23 *e*PKIKP PKPdf 11 26 40.2 -0.3
KVTX Kingsville 146.46 28 *e*PKPdf PKPab 11 26 45.4 +0.1
CPUP Villa Florida 146.82 221 PKPbc PKPbc 11 26 44.0 -1.2
comp=Z,7.8nm,0.7s,baz=84,slow=2.1,SNR=28
CPUP pPKPbc pPKPbc 11 27 22.0 -2.2
comp=Z,49nm,1.1s,baz=92,slow=4.2,SNR=8.2
CFAA Coronel Fontan 148.12 201 PKPbc PKPbc 11 26 48.0 -0.6
comp=Z,3.1nm,0.3s,baz=159,slow=1.8,SNR=46
CFAA pPKPbc pPKPbc 11 27 27.1 -0.5
comp=Z,7.3nm,0.8s,baz=203,slow=1.8,SNR=10
LCO Las Campanas 151.32 199 *e*PKPbc PKPbc 11 26 56.0 -0.5
LPAZ La Paz 161.00 220 PKP PKPdf 11 27 03.3 0.0
comp=Z,3.9nm,1.0s,baz=27,slow=1.7,SNR=10
LPAZ pPKP pPKPdf 11 27 43.2 +0.3
comp=Z,3.1nm,0.9s,baz=106,slow=2.2,SNR=5.0
ROSC El Rosal 170.74 316 PKP PKPdf 11 27 10.7 -0.5
comp=Z,6.5nm,0.7s,baz=90,slow=22,SNR=7.4
ROSC pPKP pPKPdf 11 27 50.1 -0.8
comp=Z,11nm,0.8s,baz=93,slow=23,SNR=2.6
OTAV Otavalo 176.89 312 *e*PKPdf PKPdf 11 27 13.0 -0.4

ISCJB ***30*** *11:12:15.0±1.0,2984N±003×3624E±006,h0km,Error ellipse: s-maj=7.1km s-min=4.9km az=3.0*
GII ***30*** *11:12:15.7±1.3,2987N×3613E,h0km,ML2.0/3, EXPLOSION*
SGS ***30*** *11:12:15.0,3006N×3624E,h8km*
CSEM ***30*** *11:12:15.0,3006N×3624E,h8km,ML2.7,After SNSN*
ISC 30 11:12:15.0±1.1,2984N±003×3629E±006,h0km,n14, σ0:93/24,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.11**	**281**		Pg		**Pg**	**11 12 35.6**	**-0.5**
EIL	**Elat**	**1.18**	**262**		Pg		**Pg**	**11 12 37.5**	**-0.1**
EIL					Sg		**Sg**	**11 12 53.9**	**+1.1**
HQLS		**1.20**	**244**		P		**Pg**	**11 12 37.0**	**-0.9**
HQLS		**1.20**	**244**		P		**Pg**	**11 12 37.0**	**-0.9**
HQLS					S		**Sg**	**11 12 53.8**	**+0.4**
MBRI	**Mt Berech**	**1.20**	**268**		Pg		**Pg**	**11 12 36.7**	**-1.2**
MBRI					Sg		**Sg**	**11 12 54.3**	**+0.9**
ZFRI	**Zfri**	**1.20**	**307**		Pg		**Pg**	**11 12 36.9**	**-1.0**
ZFRI					Sg		**Sg**	**11 12 53.5**	**0.0**
PRNI	**Paran**	**1.23**	**295**		Pg		**Pg**	**11 12 37.6**	**-0.9**
PRNI					Sg		**Sg**	**11 12 54.0**	**-0.4**
JLOS		**1.30**	**213**		P		**Pg**	**11 12 40.0**	**+0.1**
JLOS					S		**Sg**	**11 12 58.5**	**+1.7**
KRMI	**Paran Flat**	**1.39**	**282**		Pg		**Pg**	**11 12 40.0**	**-1.5**
KRMI					Sg		**Sg**	**11 12 59.0**	**-0.5**
MZDA	**Masada**	**1.67**	**332**		Pn		**Pn**	**11 12 45.2**	**-0.2**
MZDA					Sn		**Sn**	**11 13 08.6**	**+1.0**
DSI	**Dead Sea**	**1.90**	**336**		Pn		**Pn**	**11 12 49.4**	**+0.8**
DSI					Sn		**Sn**	**11 13 15.6**	**+2.4**
KZIT	**Kziot**	**1.95**	**304**		Pn		**Pn**	**11 12 49.5**	**+0.1**
KZIT					Sn		**Sn**	**11 13 15.1**	**+0.5**
RSHS		**2.01**	**221**		P		**Pn**	**11 12 49.4**	**-0.8**
RSHS		**2.01**	**221**		P		**Pn**	**11 12 49.3**	**-0.9**

IDC 30 11:15:30.8±1.1,4935S×12511E,h0km,mb4.0/5, mb1 4.3/5,mb1mx4.0/13,mbtmp4.1/5,MS4.0/2,Ms1 4.0/2, ms1mx3.2/17,Error ellipse: s-maj=62.4km s-min=23.4km az=111.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.40**	**41**		P		P	11 20 21.4	+1.4
	5.9nm,0.8s,baz=204,slow=9.8,SNR=3.6								
ASAR	**Alice Springs**	**26.56**	**18**		P		P	11 21 09.2	-1.1
	12nm,1.3s,baz=191,slow=9.4,SNR=6.4								
WRA	**Warramunga Arr**	**30.26**	**17**		P		P	11 21 42.8	-0.5
	0.7nm,0.6s,baz=196,slow=8.7,SNR=2.8								
WRA					LR		LR	11 32 59.9	
	comp=Z,211nm,19.9s,baz=215,slow=35								
BATI	**Baumata**	**39.04**	**358**		LR		LR	11 36 43.1	
	comp=Z,253nm,21.4s,baz=265,slow=33								
SNAA	**Sanae**	**53.81**	**198**	*e*			P	11 24 54.5	0.0
SNAA				*e*				11 25 02.5	
SNAA				*e*				11 25 07.4	
SNAA	**Sanae**	**53.81**	**198**		P		P	11 24 54.3	-0.2
	1.7nm,0.9s,baz=153,slow=8.1,SNR=10								
CMAR	**Chiang Mai Arr**	**71.40**	**334**		P		P	11 26 53.4	+0.9
	0.9nm,0.6s,baz=194,slow=5.8,SNR=4.7								
YKA	**Yellowknife Ar**	**145.41**	**45**		PKPbc		PKPbc	11 35 08.7	-0.5
	2.7nm,0.8s,baz=269,slow=3.3,SNR=17								

IDC 30 11:36:32.2±2.3,5413N×8640E,h0km,mb1 2.8/2, mb1mx2.8/24,mbtmp2.8/2,ML2.9/2,Error ellipse: s-maj=19.4km s-min=4.0km az=78.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.95**	**260**		Pg		Pg	11 36 49.2	-1.2
	1.4nm,0.3s,baz=77,slow=16,SNR=13								
ZALV					Lg			11 37 04.1	
	1.7nm,0.3s,baz=75,slow=30,SNR=11								
KURK	**Kurchatov**	**5.86**	**237**		Pn		Pn	11 38 02.6	+2.5
	0.1nm,0.3s,baz=53,slow=13,SNR=11								
MKAR	**Makanchi Array**	**7.79**	**201**		Pn		Pn	11 38 27.6	+0.8
	0.1nm,0.3s,baz=21,slow=9.0,SNR=7.9								

ISCJB ***30*** *11:45:11.9±0.7,109N±0.1×1386E±02,h33km,mb4.1/10, Error ellipse: s-maj=25.9km s-min=16.1km az=171.3*
NEIC ***30*** *11:45:13.8±0.6,1093N×13869E,h35km,Error ellipse: s-maj=21.0km s-min=13.3km az=81.0*
IDC ***30*** *11:45:31.1±7.1,1076N×13850E,h196km±68km,mb3.5/9, mb1 3.6/10,mb1mx3.5/19,mbtmp3.5/10,MS3.0/2, Ms1 3.0/2,ms1mx2.3/26,Error ellipse: s-maj=34.6km s-min=14.2km az=73.0*
ISC 30 11:45:14.0±0.7,109N±01×1387E±02,h35km,n15, σ0:78/13,mb4.1/10,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.60**	**66**		LR		LR	11 49 35.3	
	comp=Z,75nm,19.9s,baz=196,slow=36								
JOW	**Kunigami**	**18.61**	**330**		P		**Pn**	**11 49 35.2**	**+6.3**
	1.3nm,0.3s,baz=154,slow=17,SNR=10.0								
KAPI	**Kappang**	**24.61**	**231**		LR		LR	11 59 59.6	
	comp=Z,76nm,21.8s,baz=117,slow=36								
WRA	**Warramunga Arr**	**30.97**	**188**		P		**P**	**11 51 26.9**	**-1.2**
	0.6nm,0.9s,mb3.4,baz=4.5,slow=10,SNR=6.5								
ASAR	**Alice Springs**	**34.70**	**188**		P		**P**	**11 52 01.5**	**+0.9**
	1.2nm,0.4s,mb4.2,baz=17,slow=12,SNR=

ellipse: s-maj=6.4km s-min=3.2km az=19.3
*GII **30** 12:05:21.4±0.7, 33.36N×35.37E, h0km±3km, ML2.2/2, EXPLOSION*
ISC 30 12:05:22.2±0.7, 33.43N±0.03×35.31E±0.05, h0km, n19, σ0.85/29, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.06**	**19**	*eP*	**Pg**	**12 05 24.5**	**+1.0**
HNTI	**Hanita**	**0.36**	**198**	Pg	**Pg**	**12 05 28.9**	**-0.2**
HNTI				Sg	**Sg**	**12 05 35.2**	**+1.4**
KSDI	**Kefar Szold**	**0.38**	**128**	Pg	**Pg**	**12 05 28.5**	**-1.0**
KSDI				Sg	**Sg**	**12 05 34.5**	**+0.2**
HRI	**Mount Hermon**	**0.39**	**114**	Pg	**Pg**	**12 05 28.6**	**-1.2**
MMB3	**Mount Meron ar**	**0.41**	**169**	Pg	**Pg**	**12 05 29.5**	**-0.7**
MMA1	**Mount Meron ar**	**0.42**	**168**	Pg	**Pg**	**12 05 29.7**	**-0.5**
MMC3	**Mount Meron ar**	**0.42**	**167**	Pg	**Pg**	**12 05 29.5**	**-0.7**
MMA4	**Mount Meron ar**	**0.42**	**169**	Pg	**Pg**	**12 05 29.5**	**-0.7**
MMA4				Sg	**Sg**	**12 05 36.5**	**+0.9**
MMA0	**Mount Meron ar**	**0.42**	**169**	Pg	**Pg**	**12 05 29.9**	**-0.4**
MMA0				Sg	**Sg**	**12 05 36.5**	**+0.8**
RCY	**Rachaya**	**0.43**	**82**	*eP*	**Pg**	**12 05 29.5**	**-1.0**
RCY				*eS*	**Sg**	**12 05 36.6**	**+0.5**
BHL	**Bhannes**	**0.56**	**31**	*eP*	**Pg**	**12 05 33.3**	**+0.4**
BHL				*eS*	**Sg**	**12 05 43.1**	**+3.0**
KSHT	**Keshet**	**0.61**	**136**	Pg	**Pg**	**12 05 33.6**	**-0.3**
KSHT				Sg	**Sg**	**12 05 43.3**	**+1.3**
MMLI	**Mount Malkishu**	**0.99**	**174**	Pg	**Pg**	**12 05 40.3**	**-0.9**
MMLI				Sg	**Sg**	**12 05 54.5**	**+0.5**
HWQ	**Hawqa**	**1.00**	**32**	*eP*	**Pg**	**12 05 41.0**	**-0.4**
HWQ	**Hawqa**	**1.00**	**32**	*eP*	**Pg**	**12 05 41.0**	**-0.4**
HMDT	**Nahal Hemdat**	**1.19**	**171**	Pg	**Pg**	**12 05 43.8**	**-1.2**
HMDT				Sg	**Sg**	**12 06 00.7**	**+0.4**
SLTI	**Sal'it**	**1.21**	**191**	Sg	**Sg**	**12 06 01.8**	**+0.9**
DSI	**Dead Sea**	**1.85**	**178**	Pn	**Pn**	**12 05 54.5**	**-0.7**
DSI				Sn	**Sn**	**12 06 19.7**	**+0.4**
MZDA	**Masada**	**2.11**	**179**	Pn	**Pn**	**12 05 58.5**	**-0.2**

*IDC **30** 12:15:22.1±1.7, 1505S×17734W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.1/4, Error ellipse: s-maj=170.8km s-min=29.6km az=154.0*
*ISCJB **30** 12:15:25.8±1.6, 151S±10×1774W±05, h33km, mb4.2/5, Error ellipse: s-maj=150.3km s-min=26.9km az=155.1*
ISC 30 12:15:27.6±1.6, 151S±09×1774W±05, h35km, n6, σ0.19/6, mb4.2/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.89**	**239**	P	**P**	**12 23 06.4**	**-0.1**
	2.8nm,0.9s,mb3.9,baz=32,slow=9.5,SNR=2.7						
WB2	**Warramunga Arr**	**46.18**	**257**	*eP*	**P**	**12 23 49.3**	**0.0**
WRA	**Warramunga Arr**	**46.19**	**257**	P	**P**	**12 23 49.2**	**-0.2**
	0.8nm,0.4s,mb4.0,baz=90,slow=6.3,SNR=68						
ASAR	**Alice Springs**	**46.57**	**252**	P	**P**	**12 23 52.5**	**+0.2**
	6.6nm,0.6s,mb4.7,baz=84,slow=7.6,SNR=109						
KAKA	**Kakadu**	**48.71**	**266**	*eP*	**P**	**12 24 14.9**	**+5.9**
	4.0nm,0.6s,mb4.6						
TXAR	**Lajitas Array**	**83.66**	**57**	P	**P**	**12 27 53.0**	**0.0**
	0.3nm,0.6s,mb3.6,baz=236,slow=5.2,SNR=5.7						

*CASC **30** 12:54:25.4±2.6, 1573N×9405W, h20km±144km, MD5.0, ML4.2, mb5.1(NEIC)*
*MOS **30** 12:54:25.6±0.9, 1565N×9352W, h63km, mb5.1/19, Error ellipse: s-maj=11.5km s-min=4.7km az=110.7*
*IDC **30** 12:54:28.6±1.1, 1574N×9370W, h79km±11km, mb4.5/20, mb1 4.7/22, mb1mx4.5/28, mbtmp4.6/22, MS3.6/13, Ms1 3.6/13, ms1mx3.4/27, Error ellipse: s-maj=16.2km s-min=8.6km az=52.0*
*BJI **30** 12:54:28.0, 1575N×9383W, h79km, mB5.2, Ms4.9, Msz4.5*
*NEIC **30** 12:54:29.6±0.5, 1565N×9368W, h83km±3km, mb5.1/49, MD5.0(MEX), Error ellipse: s-maj=6.1km s-min=4.1km az=204.0*
*GCMT **30** 12:54:29.6±0.3, 1583N×9360W, h102km±5km, MW4.9/67, Moment Tensor Solution. s24,c26; s67,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.10±.19; $M_{\theta\theta}$0.83±.19; $M_{\phi\phi}$-0.73±.20; $M_{r\theta}$2.63±.09; $M_{\theta\phi}$-1.14±.19; $M_{r\phi}$0.61±.11; Best double couple: $M_0$3.03200×10^{16} NP1:ϕ_s163.00000°, δ27.00000°, λ-3.00000°. NP2: ϕ_s256.00000°, δ89.00000°, λ-117.00000°. Principal axes: T 3.1030, Plg38.0000°, Azm10.0000°; N -0.1420, Plg27.0000°, Azm257.0000°; P -2.9610, Plg40.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **30** 12:54:30.2±0.3, 1577N±003×9366W±002, h96km±2km, mb4.9/65 Error ellipse: s-maj=5.3km s-min=2.7km az=35.6*
*MEX **30** 12:54:30.8±3.0, 1568N×9391W, h62km±18km, MD5.0*
ISC 30 12:54:31.7±0.3, 1580N±003×9362W±002, h91km±2km, h88km±1.7km: pP-P, n675, σ0.81/667, mb4.9/65, 208C-191D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.08**	**26**	*i* P	**Pn**	**12 54 52.5**	**+0.1**
TGIG				*i* S	**Sn**	**12 55 08.5**	**+3.2**
SCX	**San Cristobal**	**1.33**	**45**	*i* P	**Pn**	**12 54 56.0**	**+0.7**
CCIG	**Comitan**	**1.50**	**71**	*eP*	**Pn**	**12 54 58.5**	**+1.0**
CCIG				*i* S	**Sn**	**12 55 19.4**	**+3.9**
THIG		**1.58**	**124**	*eP*	**Pn**	**12 54 57.5**	**-1.0**
THIG				*i* S	**Sn**	**12 55 18.7**	**+1.4**
CMIG	**Matias Romero**	**1.77**	**317**	P	**Pn**	**12 54 57.7**	**-3.2**
	261nm,0.3s,baz=144,slow=12,SNR=2185						
CMIG				S	**Sn**	**12 55 18.7**	**-3.2**
	2μm,0.3s,baz=120,slow=14,SNR=11						
CMIG				LR	LR	12 55 38.8	
	comp=Z,3μm,20.8s,baz=188,slow=40						
CMIG	**Matias Romero**	**1.77**	**317**	P	**Pn**	**12 54 57.7**	**-3.2**
CMIG				S	**Sn**	**12 55 18.7**	**-3.2**
CMIG				LR	LR	12 55 38.8	
TUIG	**Tuzandepetl**	**2.35**	**341**	*i* P	**Pn**	**12 55 07.2**	**-1.4**
TUIG				*i* S	**Sn**	**12 55 35.0**	**-1.2**
HUIG	**Huatulco**	**2.40**	**270**	*i* P	**Pn**	**12 55 02.3**	**-6.9**
HUIG				*i* S	**Sn**	**12 55 26.5**	**-11**
JAT	**Jato**	**2.42**	**127⇓**	*eP*	**Pn**	**12 55 10.1**	**+0.7**
JAT				*eS*	**Sn**	**12 55 40.8**	**+3.0**
FG6		**2.92**	**115**	*eP*	**Pn**	**12 55 18.2**	**+2.2**
FUG	**Fuego 3**	**3.00**	**116**	*eP*	**Pn**	**12 55 18.6**	**+1.4**
GCG	**Guatemala City**	**3.21**	**112**	*eS*	**Sn**	**12 56 02.3**	**+5.1**
PCG	**Pacaya**	**3.23**	**115**	*eP*	**Pn**	**12 55 23.1**	**+2.9**
PCG				*eS*	**Sn**	**12 56 03.6**	**+6.0**
OXX	**Oaxaca**	**3.24**	**294**	*i* P	**Pn**	**12 55 17.5**	**-3.0**
VHO	**Vista Hermosa**	**3.25**	**293**	*i* P	**Pn**	**12 55 16.5**	**-4.0**
VHO				*i* S	**Sn**	**12 55 50.5**	**-7.5**
VHO	**Vista Hermosa**	**3.25**	**293**	*i* P	**Pn**	**12 55 17.9**	**-2.6**
VHO				*i* S	**Sn**	**12 55 52.5**	**-5.5**
NBG	**Las Nubes**	**3.38**	**110**	*eP*	**Pn**	**12 55 24.3**	**+2.0**
SCIG	**Sabancuy**	**3.91**	**36**	*i* P	**Pn**	**12 55 30.1**	**+0.6**
SCIG				*i* S	**Sn**	**12 56 16.8**	**+2.5**
RBDL	**Robledal**	**4.15**	**113⇓**	*eP*	x	12 55 33.0	
RTR	**El Retiro**	**4.28**	**116**	*eP*	x	12 55 35.1	
RTR				*eS*	x	12 56 30.1	
SBLS	**San Blas**	**4.33**	**116**	*eP*	x	12 55 36.5	
SBLS				*eS*	x	12 56 30.5	
SNJE	**San Jose**	**4.33**	**116⇑**	*eP*	x	12 55 36.0	
SNJE				*eS*	x	12 56 29.8	
MTO2	**Montecristo 2**	**4.34**	**108**	*eP*	x	12 55 35.0	
PNIG	**Pinotepa**	**4.37**	**278**	*i* P	**Pn**	**12 55 30.3**	**-5.5**
PNIG				*i* S	**Sn**	**12 56 16.2**	**-9.4**
TPIG	**Tehuac#an**	**4.43**	**307**	*i* P	**Pn**	**12 55 34.6**	**-1.9**
TPIG				*i* S	**Sn**	**12 56 20.5**	**-6.4**
BOQS	**Boqueron**	**4.67**	**115⇓**	*eP*	x	12 55 40.2	
BOQS				*eS*	x	12 56 39.6	
BOQS				AML	x	12 56 42.6	
	comp=Z,92nm,0.5s						
LVIG	**Laguna Verde**	**4.73**	**326**	*i* P	**Pn**	**12 55 36.9**	**-3.7**
LVIG				*i* S	**Sn**	**12 56 26.6**	**-7.6**
SNET	**Serv Nac Est T**	**4.74**	**116**	*eP*	x	12 55 43.6	
SNET				*eS*	x	12 56 39.5	
SNET				*i*		12 56 52.3	
	comp=Z,3μm,1.1s						
LBRS	**Las Brisas**	**4.88**	**114**	*eP*	x	12 55 43.7	
LFRS	**El Faro**	**4.91**	**116⇑**	*eP*	x	12 55 43.2	
LFRS				*eS*	x	12 56 46.9	
SNVI	**San Vicente**	**5.11**	**115⇑**	*eP*	x	12 55 46.6	
SNVI				*eS*	x	12 56 49.7	
CAHU	**Cacacuatique**	**5.61**	**110⇓**	*eP*	x	12 55 53.0	
VSM	**San Miguel**	**5.69**	**114⇓**	*eP*	x	12 55 54.1	
BLLM	**Bellamira**	**5.71**	**114**	*eP*	x	12 55 54.2	
PPM	**Popocatepetl**	**5.78**	**305**	*eP*	**Pn**	**12 55 54.8**	**-0.1**
PPM				*i* S	**Sn**	**12 56 59.3**	**-0.6**
YAIG	**Yautepec**	**6.03**	**301**	*i* P	**Pn**	**12 55 57.2**	**-1.1**
MEIG	**Mezcala**	**6.12**	**291**	*eP*	**Pn**	**12 55 57.1**	**-2.5**
MEIG				*i* S	**Sn**	**12 57 01.1**	**-7.1**
CNCH	**Conchagua**	**6.14**	**113⇓**	*eP*	x	12 56 00.0	
CNCH				*eS*	x	12 57 13.6	
ACX	**Acapulco**	**6.14**	**281**	*i* P	**Pn**	**12 55 53.5**	**-6.3**
IIO	**Organos**	**6.16**	**309**	*i* P	**Pn**	**12 55 59.9**	**-0.1**
PLIG	**Platanillo**	**6.19**	**295**	*i* P	**Pn**	**12 55 58.2**	**-2.3**
MZVM		**6.33**	**303**	*eP*	**Pn**	**12 56 02.4**	**0.0**
PBVM	**Pinon**	**6.35**	**306**	*eP*	**Pn**	**12 56 02.3**	**-0.4**
TGUH	**Tegucigalpa,Un**	**6.37**	**105⇓**	*iP*	**Pn**	**12 56 03.8**	**+0.8**
TGUH	**Tegucigalpa,Un**	**6.37**	**105**	*ePn*	**Pn**	**12 56 04.4**	**+1.4**
PTVM	**Pico Tres Padr**	**6.45**	**307**	*i* P	**Pn**	**12 56 03.4**	**-0.7**
CAIG	**El Cayaco**	**6.50**	**282**	*i* P	**Pn**	**12 56 00.2**	**-4.5**
CAIG				*i* S	**Sn**	**12 57 09.1**	**-8.4**
TEIG	**Tepich**	**6.72**	**48**	P	**Pn**	**12 56 07.0**	**-0.7**
	comp=Z,68nm,0.3s,baz=236,slow=2.6,SNR=120						
TEIG				S	**Sn**	**12 57 22.3**	**-0.6**
	comp=Z,132nm,0.3s,baz=14,slow=23,SNR=8.7						
TEIG				LR	LR	12 59 10.6	
	comp=Z,383nm,19.2s,baz=116,slow=41						
TEIG	**Tepich**	**6.72**	**48**	*eP*	**Pn**	**12 56 06.7**	**-1.1**
TEIG	**Tepich**	**6.72**	**48**	*ePn*	**Pn**	**12 56 06.9**	**-0.9**
DEIG	**Demacu**	**6.83**	**312**	*i* P	**Pn**	**12 56 08.3**	**-0.9**
TELN	**Telica**	**7.31**	**115**	*eP*	**Pn**	**12 56 15.5**	**-0.3**
LEON	**Leon**	**7.34**	**116**	*eP*	**Pn**	**12 56 15.9**	**-0.3**
COPN	**Copaltepe**	**7.71**	**117⇓**	*iP*	**Pn**	**12 56 20.4**	**-0.8**
ZIIG	**Zihuatanejo**	**7.73**	**285**	*eP*	**Pn**	**12 56 18.2**	**-3.3**
APYN	**Apoyeque**	**7.89**	**116⇓**	*eP*	**Pn**	**12 56 23.6**	**-0.2**
MOIG	**Morelia**	**8.18**	**299**	*i* P	**Pn**	**12 56 27.3**	**-0.3**
SSN	**San Juan del S**	**8.77**	**120**	*eP*	**Pn**	**12 56 35.7**	**0.0**
VCR	**Vista de Mar**	**9.61**	**125**	*eP*	**Pn**	**12 56 47.5**	**+0.3**
SFJM	**Santa Fe**	**10.10**	**299**	*i* P	**Pn**	**12 56 56.0**	**+2.3**
JCR	**Jicaral**	**10.19**	**124⇑**	*eP*	**Pn**	**12 56 55.7**	**+0.7**
LNIG	**Linares**	**10.58**	**330**	*i* P	**Pn**	**12 57 00.2**	**-0.2**
CGA2	**Cerro Gallo 2**	**10.61**	**122**	*eP*	**Pn**	**12 57 00.8**	**0.0**
PRS1	**Puriscal**	**10.76**	**121**	*eP*	**Pn**	**12 57 03.2**	**+0.4**
LCR2	**La Lucha 2**	**11.14**	**122⇑**	*eP*	**Pn**	**12 57 07.7**	**-0.3**
URSC	**Urasca**	**11.28**	**121⇑**	*eP*	**Pn**	**12 57 09.8**	**0.0**
BUS	**Buena Vista**	**11.45**	**122⇑**	*eP*	**Pn**	**12 57 12.6**	**+0.5**
ANIG	**Ahuacatlan**	**11.59**	**298**	*i* P	**Pn**	**12 57 12.4**	**-1.6**
BAR1		**11.98**	**122**	*eP*	**Pn**	**12 57 18.6**	**-0.9**
ACR	**Cerro Adams**	**12.44**	**124**	*eP*	**Pn**	**12 57 24.7**	**-0.7**
HKT	**Hockley**	**14.23**	**352**	*eP*	**Pn**	**12 57 49.0**	**+0.1**
HKT				pmax	pmax		
	comp=Z,130nm,1.6s						
HKT	**Hockley**	**14.23**	**352**	*ePn*	**Pn**	**12 57 49.0**	**+0.1**
	comp=Z,130nm,1.6s						
JCT	**Junction City**	**15.67**	**340**	*eP*	**Pn**	**12 58 07.5**	**+0.2**
JCT				*e*		13 00 50.2	
JCT				pmax	pmax		
	comp=Z,176nm,0.8s						
JCT	**Junction City**	**15.67**	**340**	*ePn*	**Pn**	**12 58 07.5**	**+0.2**
	comp=Z,176nm,0.8s						
JCT				*eSn*	**Sn**	**13 00 50.2**	**-10**
HPIG		**15.76**	**317**	*i* P	**Pn**	**12 58 07.6**	**-0.7**
NATX	**Nacogdoches**	**15.92**	**357**	*ePn*	**Pn**	**12 58 11.3**	**+1.0**
	comp=Z,261nm,1.6s						
BRAL	**Brewton**	**16.29**	**20**	*eP*	**Pn**	**12 58 18.7**	**+3.7**
TXAR	**Lajitas Array**	**16.34**	**327**	P	**Pn**	**12 58 15.1**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=146,slow=14,SNR=230						
TXAR				S	**S**	**13 01 18.3**	**-5.0**
	baz=124,slow=14,SNR=2.5						
VBMS	**Vicksburg**	**16.59**	**9**	*ePn*	**Pn**	**12 58 19.9**	**+1.3**
LPIG	**La Paz**	**17.72**	**300**	P	**Pn**	**12 58 32.7**	**+0.2**
	baz=130,slow=4.0,SNR=7.5						
LPIG				LR	LR	13 05 09.9	
	comp=Z,221nm,19.5s,baz=282,slow=36						
MIAR	**Mount Ida**	**18.67**	**0**	*eP*	**Pn**	**12 58 41.7**	**-2.1**
MIAR				pmax	pmax		
	comp=Z,155nm,1.0s						
MIAR	**Mount Ida**	**18.67**	**0**	*eP*	**Pn**	**12 58 41.7**	**-2.1**
	comp=Z,155nm,1.0s						
UALR	**University of**	**18.93**	**3**	*eP*	**Pn**	**12 58 45.4**	**-1.5**
	comp=Z,97nm,0.8s						
OXF	**Oxford**	**19.01**	**11**	*eP*	**Pn**	**12 58 46.0**	**-1.9**
OXF				pmax	pmax		
	comp=Z,132nm,0.9s						
OXF	**Oxford**	**19.01**	**11**	*eP*	**Pn**	**12 58 46.0**	**-1.9**
	comp=Z,132nm,0.9s						
OXF				*eS*	**S**	**13 02 04.0**	**-13**
GDL2	**Guadalupe Moun**	**19.03**	**331**	*eP*	**Pn**	**12 58 47.2**	**-0.9**
WMOK	**Wichita Mounta**	**19.42**	**347**	*eP*	**Pn**	**12 58 49.8**	**-2.9**
WMOK				pmax	pmax		
	comp=Z,38nm,0.7s						
WMOK	**Wichita Mounta**	**19.42**	**347**	*eP*	**Pn**	**12 58 49.8**	**-2.9**
	comp=Z,38nm,0.7s						
CGIG		**19.58**	**320**	*i* P	**Pn**	**12 58 53.3**	**-1.4**
PLAL	**Pickwick Lake**	**19.74**	**14**	*eP*	**Pn**	**12 58 54.2**	**-2.2**
	comp=Z,65nm,0.9s						
GOGA	**Godfrey**	**19.79**	**26**	*eP*	**Pn**	**12 58 54.8**	**-2.3**
GOGA				pmax	pmax		
	comp=Z,44nm,0.9s						
GOGA	**Godfrey**	**19.79**	**26**	*eP*	**Pn**	**12 58 54.8**	**-2.3**
	comp=Z,44nm,0.9s						
AMTX	**Amarillo**	**20.34**	**341**	*eP*	**P**	**12 59 00.5**	**-0.1**
SWET	**Sewanee**	**20.53**	**18**	*eP*	**P**	**12 58 59.4**	**-3.2**
HSIG		**20.70**	**312**	*i* P	**P**	**12 59 04.3**	**-0.2**
COW	**Cow Castle Cre**	**21.05**	**31**	*eP*	**P**	**12 59 08.4**	**+0.2**
319A	**Douglas**	**21.09**	**320**	⇓P	**P**	**12 59 09.4**	**+0.7**
	baz=21,SNR=61						
NHSC	**New Hope**	**21.09**	**33**	*eP*	**P**	**12 59 14.7**	**+5.9**
	comp=Z,147nm,1.1s,mb5.2						
CPCT	**Cooper Cave**	**21.20**	**21**	*eP*	**P**	**12 59 16.5**	**+6.7**
JSC	**Jenkinsville**	**21.50**	**29**	*eP*	**P**	**12 59 13.0**	**-0.1**
219A	**White Tail Can**	**21.51**	**321**	⇑P	**P**	**12 59 13.8**	**+0.6**
	baz=22,SNR=76						
OTAV	**Otavalo**	**21.52**	**135**	*eP*	**P**	**12 59 14.3**	**+0.8**
TKL	**Tuckaleechee C**	**21.65**	**22**	P	**P**	**12 59 14.8**	**+0.2**
	comp=Z,4.0nm,0.5s,mb4.0,baz=172,slow=12,SNR=3.4						
TKL				LR	LR	13 09 03.3	
	comp=Z,113nm,20.0s,baz=350,slow=40						
TKL	**Tuckaleechee C**	**21.65**	**22**	*eP*	**P**	**12 59 17.1**	**+2.5**
TKL				*e*		13 03 21.9	
TKL				LR	LR	13 09 03.3	
BNM	**Barren Site**	**21.71**	**330**	*eP*	**P**	**12 59 16.1**	**+0.8**
Y22C	**IRIS PASSCAL I**	**21.79**	**329**	⇑P	**P**	**12 59 17.1**	**+0.9**
	baz=22						
LPM	**Los Pinos Moun**	**21.84**	**330**	*eP*	**P**	**12 59 17.5**	**+0.8**
ROSC	**El Rosal**	**21.84**	**118**	P	**P**	**12 59 16.7**	**-0.2**
	comp=Z,22nm,0.7s,mb4.6,baz=94,slow=20,SNR=15						
ROSC	**El Rosal**	**21.84**	**118**	*eP*	**P**	**12 59 19.3**	**+2.4**
218A	**Dragoon**	**21.97**	**320**	⇑P	**P**	**12 59 18.6**	**+0.4**
	baz=22,SNR=18						
119A	**Ashpeak Ranch,**	**22.08**	**323**	⇓P	**P**	**12 59 19.6**	**+0.3**
	baz=22,SNR=28						
LAZ	**Ladron**	**22.16**	**329**	*eP*	**P**	**12 59 20.7**	**+0.6**
SIUC	**Southern Illin**	**22.17**	**9**	*eP*	**P**	**12 59 25.7**	**+5.5**
	comp=Z,146nm,1.0s,mb5.3						
FVM	**French Village**	**22.28**	**7**	*eP*	**P**	**12 59 21.5**	**+0.2**
ANMO	**Albuquerque**	**22.28**	**331**	P	**P**	**12 59 20.9**	**-0.4**
	comp=Z,20nm,0.8s,mb4.5,baz=147,slow=12,SNR=56						
ANMO	**Albuquerque**	**22.28**	**331**	*eP*	**P**	**12 59 21.4**	**+0.1**
217A	**Green Valley**	**22.32**	**318**	⇓P	**P**	**12 59 22.1**	**+0.3**
	baz=22,SNR=60						
118A	**Homack Ranch,**	**22.39**	**321**	⇑P	**P**	**12 59 22.6**	**+0.1**
	baz=22,SNR=42						
Z19A	**T-Link Ranch,**	**22.44**	**324**	⇑P	**P**	**12 59 23.8**	**+0.7**
	baz=22						
CHI2		**22.46**	**117**	*eP*	Px	12 56 13.5	
TZTN	**Tazewell**	**22.52**	**22**	*eP*	**P**	**12 59 25.6**	**+1.7**
	comp=Z,78nm,0.9s,mb5.0						
TZTN				*ep*P		12 59 42.8	
TUC	**Tucson**	**22.66**	**320**	*eP*	**P**	**12 59 24.7**	**-0.7**
TUC				pmax	pmax		
	comp=Z,87nm,1.2s,mb5.0						
TUC	**Tucson**	**22.66**	**320**	*eP*	**P**	**12 59 24.7**	**-0.7**
	comp=Z,88nm,1.2s,mb5.0						
Z18A	**Geronimo**	**22.74**	**322**	⇑P	**P**	**12 59 26.4**	**+0.2**
	baz=23,SNR=9.4						
117A	**Oracle**	**22.81**	**320**	⇓P	**P**	**12 59 27.0**	**+0.1**
	baz=23,SNR=30						
216A	**Three Points,**	**22.88**	**318**	⇓P	**P**	**12 59 27.5**	**-0.2**
	baz=23,SNR=46						
Y19A	**Nutrioso**	**22.93**	**325**	⇑P	**P**	**12 59 28.6**	**+0.5**
	baz=23						
SLM	**Saint Louis**	**22.94**	**7**	*eP*	**P**	**12 59 26.6**	**-1.6**
SLM				*e*PP		12 59 47.0	
SLM				pmax	pmax		
	comp=Z,77nm,0.6s,mb5.2						
SLM	**Saint Louis**	**22.94**	**7**	*eP*	**P**	**12 59 26.6**	**-1.6**
	comp=Z,77nm,0.6s,mb5.2						
SLM				*ep*P		12 59 47.0	
Z17A	**San Carlos Hig**	**23.15**	**322**	⇓P	**P**	**12 59 30.4**	**+0.3**
	baz=23						
Y18A	**Canyon Day Jun**	**23.23**	**323**	⇑P	**P**	**12 59 31.3**	**+0.4**
	baz=23,SNR=45						
WCI	**Wyandotte Cave**	**23.26**	**15**	*eP*	**P**	**12 59 28.9**	**-2.1**
WCI				*e*PP		12 59 49.7	
X19A	**St. Johns**	**23.30**	**326**	⇑P	**P**	**12 59 32.1**	**+0.7**
	baz=23,SNR=34						
OLIL	**Olney**	**23.36**	**11**	*eP*	**P**	**12 59 30.8**	**-1.2**
	comp=Z,130nm,1.0s,mb5.2						
KSU1	**Kansas State U**	**23.36**	**354**	*eP*	**P**	**12 59 30.8**	**-1.2**
	comp=Z,78nm,0.9s,mb5.0						
116A	**Eloy**	**23.41**	**319**	⇓P	**P**	**12 59 32.3**	**-0.2**
	baz=24,SNR=12						
SDV	**Santo Domingo**	**23.47**	**104**	P	**P**	**12 59 32.6**	**-0.6**
	comp=Z,8.7nm,0.6s,mb4.3,baz=37,slow=8.9,SNR=4.5						
CBKS	**Cedar Bluff**	**23.55**	**348**	*eP*	**P**	**12 59 33.0**	**-0.7**
Y17A	**Roosevelt**	**23.65**	**322**	⇑P	**P**	**12 59 34.5**	**-0.2**
	baz=24,SNR=15						
X18A	**Snowflake**	**23.73**	**325**	⇑P	**P**	**12 59 35.9**	**+0.5**
	baz=24,SNR=35						
214A	**Organ Pipe Nat**	**23.74**	**316**	⇓P	**P**	**12 59 35.4**	**-0.1**
	baz=24,SNR=46						
Z16A	**Peralta Trail,**	**23.75**	**321**	⇑P	**P**	**12 59 35.5**	**-0.2**
	baz=24						
115A	**Sonoran Desert**	**23.83**	**318**	⇑P	**P**	**12 59 36.4**	**+0.1**
	baz=24,SNR=32						
W19A	**Sanders**	**23.87**	**327**	⇑P	**P**	**12 59 37.0**	**+0.3**
	baz=24						
W18A	**Petrified Fore**	**24.06**	**326**	⇓P	**P**	**12 59 39.0**	**+0.6**
	baz=24						
X17A	**Forest Lakes**	**24.08**	**323**	⇓P	**P**	**12 59 39.2**	**+0.6**
	baz=24,SNR=33						
V19A	**Window Rock**	**24.15**	**328**	⇑P	**P**	**12 59 39.7**	**+0.5**
	baz=24						
Y16A	**Circle Bar Ran**	**24.15**	**321**	⇑P	**P**	**12 59 39.4**	**+0.1**
	baz=24,SNR=20						
SDCO	**Great Sand Dun**	**24.25**	**337**	*eP*	**P**	**12 59 40.7**	**+0.5**
X16A	**Lo Mia Camp, P**	**24.51**	**322**	⇑P	**P**	**12 59 42.8**	**+0.3**
	baz=25,SNR=25						
W17A	**Winslow**	**24.56**	**325**	⇓P	**P**	**12 59 43.5**	**+0.4**
	baz=25						
V18A	**Ganado**	**24.61**	**327**	⇓P	**P**	**12 59 43.7**	**+0.2**
	baz=25						
Z14A	**Wintersburg**	**24.72**	**319**	⇑P	**P**	**12 59 44.4**	**0.0**
	baz=25,SNR=6.7						
Y15A	**Casa Rosa Ranc**	**24.72**	**320**	⇑P	**P**	**12 59 44.3**	**-0.2**
	baz=25,SNR=27						
113A	**Mohawk Valley,**	**24.88**	**316**	⇑P	**P**	**12 59 45.5**	**-0.4**
	baz=25,SNR=12						
T19A	**Beclabito**	**25.02**	**330**	⇑P	**P**	**12 59 47.0**	**-0.2**
	baz=25						
X15A	**Humboldt**	**25.03**	**321**	⇑P	**P**	**12 59 47.3**	**0.0**
	baz=25,SNR=21						
W16A	**Flagstaff**	**25.04**	**323**	⇑P	**P**	**12 59 47.9**	**+0.6**
	baz=25,SNR=21						
Y14A	**Wickenburg**	**25.13**	**319**	⇑P	**P**	**12 59 48.1**	**0.0**
	baz=25						
WUAZ	**Wupatki**	**25.25**	**324**	⇓P	**P**	**12 59 49.6**	**+0.3**
	baz=25,SNR=24						
WUAZ	**Wupatki**	**25.25**	**324**	*eP*	**P**	**12 59 49.7**	**+0.5**
	comp=Z,42nm,0.9s,mb4.9						
X14A	**Yava**	**25.41**	**321**	⇑P	**P**	**12 59 50.9**	**+0.2**
	baz=26,SNR=12						
W15A	**Williams**	**25.52**	**323**	⇓P	**P**	**12 59 52.3**	**+0.5**
	baz=26,SNR=8.8						
Y13A	**Salome**	**25.57**	**318**

baz=27
U13A Pakoon Wash 27.37 322 ⇑P P 13 00 09.2 +0.8
baz=27,SNR=21
PHWY Pilot Hill 27.40 340 eP P 13 00 08.8 +0.2
V12A Nelson 27.45 320 ⇑P P 13 00 09.3 +0.3
baz=28,SNR=41
SRU San Rafael 27.55 331 ⇓P P 13 00 10.1 +0.2
baz=28,SNR=5.9
SRU San Rafael 27.55 331 eP P 13 00 10.1 +0.2
MURC Murrieta 27.70 314 ⇑P P 13 00 11.7 +0.4
baz=28
Q16A Castle Valley 27.71 330 ⇑P P 13 00 11.8 +0.5
baz=28,SNR=13
R15A Junction 27.73 327 ⇓P P 13 00 11.9 +0.5
baz=28
U12A Valley of Fire 27.73 322 ⇓P P 13 00 11.9 +0.4
baz=28,SNR=12
T13A Saint George 27.76 323 ⇑P P 13 00 12.5 +0.7
baz=28
HEC Hector,Ludlow 27.82 317 ⇑P P 13 00 12.7 +0.3
baz=28
P18A Preston Nutter 27.84 332 ⇑P P 13 00 13.0 +0.6
baz=28,SNR=11
S14A Cedar City 27.87 325 ⇑P P 13 00 13.6 +0.8
baz=28
V11A Goodsprings 27.88 320 ⇑P P 13 00 13.2 +0.3
baz=28
BBRC Big Bear Sol-O 27.88 316 ⇓P P 13 00 13.6 +0.7
baz=28
O19A Miners Draw (B 27.89 334 ⇑P P 13 00 13.1 +0.2
baz=28
MSU Marysvale 27.90 328 eP P 13 00 13.6 +0.6
TUQ Turquoise Mtn. 27.93 319 ⇓P P 13 00 13.4 +0.1
baz=28,SNR=18
P17A Butcher Ranch, 27.94 331 ⇓P P 13 00 13.7 +0.4
baz=28,SNR=8.8
ECSD EROS,Sioux Fal 27.96 355 eP P 13 00 11.5 -2.0
comp=Z,59nm,0.7s,mb5.2
TMUT Trail Mountain 28.02 330 eP P 13 00 14.3 +0.2
S13A Holt Ranch, En 28.12 324 ⇑P P 13 00 15.9 +0.9
baz=28,SNR=28
SHPR Sheep Range 28.15 321 eP P 13 00 15.7 +0.4
O18A Roosevelt 28.25 333 ⇓P P 13 00 16.8 +0.8
baz=28,SNR=5.1
RWWY Rawlins 28.34 338 eP P 13 00 17.8 +0.9
comp=Z,84nm,1.0s,mb5.2
BFSC Mount Baldy St 28.37 315 ⇑P P 13 00 18.1 +0.8
baz=28
Q15A Fillmore 28.37 328 ⇓P P 13 00 17.6 +0.4
baz=28,SNR=6.2
N19A John Jarvie Ra 28.41 335 ⇓P P 13 00 17.5 0.0
baz=28,SNR=15
GSC Goldstone 28.42 317 ⇑P P 13 00 18.1 +0.4
baz=28
GSC Goldstone 28.42 317 eP P 13 00 18.3 +0.6
SHOC Shoshone 28.45 319 ⇑P P 13 00 18.3 +0.3
baz=28
P16A Fountain Green 28.48 330 ⇓P P 13 00 19.0 +0.8
baz=28
O17A Robinson Place 28.52 332 ⇓P P 13 00 19.4 +0.9
baz=29,SNR=24
R13A O'Grain Ranch, 28.61 325 ⇑P P 13 00 20.5 +1.2
baz=29,SNR=17
MWC Mount Wilson 28.63 314 eP P 13 00 20.2 +0.6
T11A Corn Creek, Al 28.67 322 ⇓P P 13 00 20.3 +0.4
baz=29,SNR=9.1
N18A Larsen Ranch, 28.69 334 ⇓P P 13 00 20.2 +0.2
baz=29,SNR=36
S12A Delamar Landin 28.71 323 ⇑P P 13 00 21.2 +1.0
baz=29
P15A Leamington 28.76 329 ⇓P P 13 00 20.7 +0.1
baz=29
U10A Ash Meadows, A 28.81 320 ⇑P P 13 00 21.6 +0.5
baz=29,SNR=11
Q14A Sevier Lake (B 28.83 327 ⇓P P 13 00 21.7 +0.4
baz=29,SNR=7.3
O16A Springville 28.88 331 ⇑P P 13 00 22.3 +0.6
baz=29
DAU Daniels Canyon 28.93 331 eP P 13 00 23.0 +0.9
NLU North Lily Min 28.95 330 eP P 13 00 23.4 +1.1
EDW2 Edwards Air Fo 28.96 316 ⇓P P 13 00 22.4 -0.1
baz=29,SNR=5.1
R12A Pony Springs, 29.07 325 ⇑P P 13 00 23.8 +0.3
baz=29,SNR=17
TPNV Topopah Spring 29.10 321 ⇑P P 13 00 24.6 +0.9
baz=29
TPNV Topopah Spring 29.10 321 eP P 13 00 24.5 +0.9
LRMC Laurel Mountai 29.10 317 ⇓P P 13 00 24.0 +0.2
baz=29
N17A Moffit Pass 29.16 333 ⇓P P 13 00 24.6 +0.4
baz=29,SNR=15
JLU Jordanelle 29.17 331 eP P 13 00 25.2 +1.0
P14A Drum Mountains 29.17 328 ⇓P P 13 00 25.1 +0.8
baz=29,SNR=9.3
FURC Furnace Creek, 29.17 319 ⇑P P 13 00 24.4 +0.1
baz=29,SNR=12
Q13A Wheeler Ranch, 29.20 326 ⇓P P 13 00 25.4 +0.9
baz=29
S11A Rachel 29.25 322 ⇑P P 13 00 26.0 +0.9
baz=29
MPMC Manual Prospec 29.32 318 ⇑P P 13 00 26.0 +0.3
baz=29,SNR=19
N16A Rees Ranch, Co 29.39 332 ⇑P P 13 00 26.6 +0.4
baz=30,SNR=6.1
O15A The Old Anders 29.40 330 ⇑P P 13 00 26.9 +0.6
baz=30
DUG Dugway 29.50 329 ⇓P P 13 00 27.5 +0.3
baz=30
DUG Dugway 29.50 329 eP P 13 00 27.8 +0.6
P13A Bates Ranch, G 29.56 327 ⇑P P 13 00 28.4 +0.7
baz=30,SNR=12
RSSD Black Hills 29.58 345 eP P 13 00 27.9 0.0
R11A Troy Canyon, C 29.64 324 ⇓P P 13 00 28.9 +0.4
baz=30,SNR=12
ARVC Arvin 29.66 315 ⇓P P 13 00 28.9 +0.2
baz=30
Q12A Willow Creek R 29.70 325 ⇓P P 13 00 29.6 +0.6
baz=30
ISA Isabella 29.73 316 ⇑P P 13 00 29.5 +0.2
baz=30,SNR=5.5
ISA Isabella 29.73 316 eP P 13 00 30.1 +0.8
M16A Huntsville 29.82 332 ⇓P P 13 00 30.4 +0.4
baz=30
GRAC Grapevine Rang 29.82 320 ⇑P P 13 00 30.8 +0.7
baz=30,SNR=10
N15A Stansbury Isla 29.89 330 ⇓P P 13 00 30.9 +0.3
baz=30,SNR=5.5
CWC Cottonwood Cre 29.93 318 ⇓P P 13 00 31.6 +0.5
baz=30,SNR=5.8
S10A Tonopah Range, 29.94 322 ⇑P P 13 00 31.8 +0.6
baz=30,SNR=32
R10A Warm Springs 30.01 323 ⇑P P 13 00 32.6 +0.9
baz=30,SNR=6.1
Q11A Duckwater 30.02 324 ⇑P P 13 00 32.4 +0.6
baz=30,SNR=5.8
HWUT Hardware Ranch 30.02 332 eP P 13 00 32.0 +0.2
O13A Hicks Ranch, I 30.04 328 ⇓P P 13 00 32.9 +0.9
baz=30
P12A McGill 30.05 326 ⇓P P 13 00 32.8 +0.8
baz=30,SNR=7.9
BW06 Boulder Array 30.15 336 eP P 13 00 32.7 -0.2
PDAR Pinedale Array 30.15 336 P P 13 00 31.9 -0.9
comp=Z,12nm,0.9s,mb4.5,baz=139,slow=9.6,SNR=39
PDAR LR LR 13 16 32.2
comp=Z,109nm,18.7s,baz=150,slow=44
BGU Big Grassy Mou 30.16 330 eP P 13 00 33.4 +0.3
N14A Grayback Hills 30.18 330 ⇓P P 13 00 33.5 +0.3
baz=30,SNR=19
SPUT South Promonto 30.19 331 eP P 13 00 33.8 +0.6
S09A Goldfield 30.19 321 ⇑P P 13 00 33.6 +0.3
baz=30,SNR=28
PKM Peak Mountain 30.22 314 ⇓P P 13 00 34.0 +0.4
baz=30,SNR=6.4
VES Vestal, Richgr 30.23 316 ⇓P P 13 00 34.1 +0.4
baz=30
L16A Fish Haven 30.29 333 ⇓P P 13 00 34.0 -0.2
baz=30,SNR=18
M15A Larsen Ranch, 30.31 331 ⇑P P 13 00 34.5 +0.1
baz=30,SNR=9.5
TIN Tinemaha 30.40 319 ⇑P P 13 00 36.0 +0.8
baz=30
TPH Tonopah 30.42 321 eP P 13 00 36.0 +0.7
Q10A Clear Creek Ra 30.43 323 ⇑P P 13 00 36.4 +0.9
baz=30,SNR=6.7
R09A Tonopah 30.43 322 ⇓P P 13 00 36.1 +0.6
baz=30,SNR=28
COWI Conover 30.44 6 epP pP 13 00 54.9 -1.3

O12A Currie 30.54 327 ⇓P P 13 00 37.0 +0.6
baz=31,SNR=21
P11A Circle Ranch, 30.57 325 ⇑P P 13 00 37.2 +0.5
baz=31,SNR=8.0
SMMC Simmler 30.57 314 ⇑P P 13 00 37.1 +0.4
baz=31
RCTC Rector, Farmer 30.61 317 ⇓P P 13 00 37.4 +0.4
baz=31,SNR=7.0
S08C White Mtn Res 30.63 320 ⇑P P 13 00 38.3 +1.0
baz=31,SNR=29
HELL Mitchell Peak 30.68 317 ⇑P P 13 00 38.2 +0.5
baz=31
N13A Wendover, West 30.69 328 ⇓P P 13 00 38.5 +0.8
baz=31,SNR=5.4
HVU Hansel Valley 30.71 331 eP P 13 00 38.4 +0.5
L15A Malad City 30.71 332 ⇓P P 13 00 37.6 -0.2
baz=31,SNR=14
M14A Sheep Mountain 30.76 330 ⇓P P 13 00 38.8 +0.4
baz=31,SNR=11
AHID Auburn Hatcher 30.77 334 eP P 13 00 38.7 +0.3
comp=Z,23nm,0.9s,mb4.9
MTUM Tungsten Hills 30.79 319 eP P 13 00 39.3 +0.6
V05C Boulder Hill, 30.80 315 ⇑P P 13 00 39.3 +0.6
baz=31
Q09A Carvers 30.89 323 ⇓P P 13 00 40.6 +1.1
baz=31
O11A Cowboy Ranch, 30.92 326 ⇑P P 13 00 40.4 +0.7
baz=31,SNR=9.7
P10A Eureka 31.01 324 ⇑P P 13 00 41.2 +0.7
baz=31,SNR=6.3
K16A Soda Springs 31.03 334 ⇑P P 13 00 40.9 +0.2
baz=31,SNR=13
M13A Montello 31.05 329 ⇓P P 13 00 41.3 +0.5
baz=31,SNR=24
N12A Clover Valley, 31.11 328 ⇑P P 13 00 42.2 +0.7
baz=31,SNR=7.8
L14A Malta 31.12 331 ⇓P P 13 00 41.9 +0.3
baz=31,SNR=35
R08A Mina 31.12 321 ⇓P P 13 00 42.5 +0.9
baz=31,SNR=22
MLAC Mammoth Lakes 31.13 319 ⇑P P 13 00 42.4 +0.8
baz=31
ELK Elko 31.14 327 eP P 13 00 42.5 +0.8
REDW Red Top Meadow 31.16 335 eP P 13 00 42.3 +0.5
SNOW Snow King Moun 31.20 336 eP P 13 00 43.1 +0.9
KCC Kaiser Creek 31.25 318 ⇑P P 13 00 43.1 +0.3
baz=31,SNR=15
PKD Parkfield 31.28 315 ⇓P P 13 00 42.9 -0.1
baz=31
NVAR Mina Array Bea 31.30 321 P P 13 00 43.2 +0.2
comp=Z,37nm,0.7s,mb5.2,baz=140,slow=8.8,SNR=292
TPAW Teton Pass 31.31 335 eP P 13 00 43.8 +0.7
K15A Arbon 31.32 333 ⇑P P 13 00 43.2 0.0
baz=31,SNR=18
T06C Millerton Lake 31.32 317 ⇓P P 13 00 42.4 -0.9
baz=31
RRI2 Red Ridge 31.34 335 eP P 13 00 43.9 +0.5
V04C Ramage Ranch, 31.34 314 ⇑P P 13 00 44.2 +0.7
baz=31,SNR=6.4
P09A Austin 31.34 324 ⇓P P 13 00 44.0 +0.6
baz=31
Q08A Gabbs 31.35 322 ⇓P P 13 00 44.2 +0.6
baz=31,SNR=5.1
J16A Bone 31.40 334 ⇑P P 13 00 43.9 0.0
baz=32,SNR=17
N11A Elko Archery C 31.45 327 ⇓P P 13 00 45.1 +0.7
baz=32
M12A Wells 31.47 328 ⇓P P 13 00 44.9 +0.4
baz=32,SNR=18
DCID1 Drake Creek 31.49 335 eP P 13 00 39.5 -5.2
O10A Cortez Mining, 31.49 325 ⇓P P 13 00 45.3 +0.5
baz=32,SNR=9.0
K14A Jones Ranch, D 31.50 332 ⇑P P 13 00 44.7 -0.1
baz=32,SNR=10
L13A Double Diamond 31.50 330 ⇑P P 13 00 45.2 +0.4
baz=32
R07C Lee Vining 31.54 320 ⇑P P 13 00 46.1 +0.8
baz=32
IMW Indian Meadow 31.64 336 eP P 13 00 46.4 +0.4
comp=Z,36nm,0.8s,mb5.2
U04C Hernandez Rese 31.67 315 ⇓P P 13 00 46.1 -0.3
baz=32,SNR=14
FLWY Flagg Ranch 31.70 336 eP P 13 00 47.2 +0.7
comp=Z,46nm,0.8s,mb5.3
O09A Fish Creek Ran 31.79 324 ⇑P P 13 00 48.1 +0.7
baz=32,SNR=20
N10A Dunphy 31.79 326 ⇓P P 13 00 47.9 +0.5
baz=32
V03C Hunter Liggett 31.80 314 ⇑P P 13 00 47.7 +0.2
baz=32,SNR=8.0
I16A Newdale 31.84 335 ⇑P P 13 00 48.3 +0.5
baz=32,SNR=14
J15A Blackfoot 31.85 334 ⇓P P 13 00 48.1 +0.2
baz=32,SNR=18
T05C Eagle Field, D 31.89 316 ⇓P P 13 00 48.0 -0.3
baz=32
S05C Merced 31.92 317 ⇓P P 13 00 48.1 -0.4
baz=32,SNR=6.6
S06C San Francisco 31.92 319 ⇑P P 13 00 48.7 +0.1
baz=32,SNR=9.2
Q07A Schurz 31.92 321 ⇑P P 13 00 49.5 +0.9
baz=32
M11A Holland Ranch, 31.93 328 ⇑P P 13 00 49.0 +0.5
baz=32,SNR=11
P08A Dixie Valley 31.98 323 ⇑P P 13 00 49.7 +0.6
baz=32
BMN Battle Mountai 31.99 325 eP P 13 00 49.8 +0.7
BMN e*PP pP 13 01 10.5 +0.5
BMN pmax pmax
comp=Z,16nm,0.8s,mb4.8
BMN Battle Mountai 31.99 325 eP P 13 00 49.8 +0.6
comp=Z,16nm,0.8s,mb4.8
BMN epP pP 13 01 10.5 +0.5
BMN esP sP 13 01 18.7 -1.9
K13A Stover Farm, H 32.00 331 ⇓P P 13 00 49.0 -0.1
baz=32
LKWY Lake 32.00 337 eP P 13 00 50.8 +1.6
LKWY pmax pmax
comp=Z,26nm,1.0s,mb4.9
LKWY Lake 32.00 337 eP P 13 00 50.8 +1.7
comp=Z,26nm,1.0s,mb4.9
WAKR Walker 32.04 320 eP P 13 00 50.6 +1.0
R06C Coleville 32.06 320 ⇑P P 13 00 50.7 +1.0
baz=32,SNR=12
L12A House Creek Ra 32.06 329 ⇓P P 13 00 49.5 -0.2
baz=32
YFT Old Faithful 32.07 336 eP P 13 00 51.5 +1.8
RLMT Red Lodge 32.07 339 eP P 13 00 49.8 +0.1
comp=Z,98nm,1.6s,mb5.3
EYMN Ely 32.10 3 eP P 13 00 47.4 -2.6
comp=Z,42nm,1.8s,mb4.9
HAST Hastings Reser 32.21 315 ⇓P P 13 00 50.8 -0.3
baz=32,SNR=12
YNR Norris Junctio 32.23 337 eP P 13 00 52.6 +1.4
J14A Carey 32.26 332 ⇑P P 13 00 51.6 +0.1
baz=32,SNR=13
YMR Madison River 32.30 337 eP P 13 00 53.0 +1.2
comp=Z,197nm,1.4s,mb5.7
YMR epP pP 13 01 12.3 -0.4
YMR eSP 13 01 22.0
SAO San Andreas Ge 32.34 316 eP P 13 00 52.6 +0.4
P07A Fallon 32.35 322 ⇓P P 13 00 52.7 +0.4
baz=32
CMB Columbia Colle 32.35 318 ⇓P P 13 00 52.2 -0.1
baz=32,SNR=8.7
CMB Columbia Colle 32.35 318 eP P 13 00 52.3 -0.1
I15A Monteview 32.36 334 ⇑P P 13 00 52.8 +0.5
baz=32
PACP Pacheco Peak 32.36 316 ⇓P P 13 00 52.1 -0.3
baz=32,SNR=5.6
K12A Draper Farm, C 32.38 330 ⇑P P 13 00 52.3 -0.2
baz=32,SNR=7.0
M10A I.L. Ranch, Tu 32.38 327 ⇑P P 13 00 53.2 +0.7
baz=32,SNR=13
O08A Rochester Mine 32.42 324 ⇓P P 13 00 53.2 +0.3
baz=32,SNR=10
H16A Russell Place, 32.44 336 ⇑P P 13 00 53.6 +0.6
baz=32,SNR=27
N09A Rock Creek Ran 32.44 325 ⇓P P 13 00 53.7 +0.6
baz=32,SNR=23
L11A Cat Creek Ranc 32.44 329 ⇑P P 13 00 53.3 +0.2
baz=32,SNR=27
AGMN Agassiz Refuge 32.46 357 eP P 13 00 51.2 -1.9
LAO LASA Array 32.54 344 eP P 13 00 53.7 -0.2
comp=Z,42nm,1.0s,mb5.2
R05C Kirkwood Meado 32.56 320 ⇓P P 13 00 55.0 +0.9
baz=33,SNR=14

QLMT Earthquake Lak 32.62 336 eP P 13 00 55.8 +1.2
J13A Cove Ranch, Pi 32.62 332 ⇓P P 13 00 54.5 -0.1
baz=33,SNR=9.8
S04C Ingram Canyon, 32.66 317 ⇑P P 13 00 55.1 0.0
baz=33,SNR=7.5
I14A Mackay 32.71 333 ⇓P P 13 00 56.1 +0.7
baz=33,SNR=13
WCN Washoe City 32.73 321 ⇑P P 13 00 56.2 +0.6
baz=33,SNR=7.8
N08A GE Springer Mi 32.73 324 ⇓P P 13 00 55.8 +0.2
baz=33,SNR=11
L10A Juniper Basin 32.74 328 ⇑P P 13 00 55.9 +0.2
baz=33,SNR=20
O07A Toulon 32.75 323 ⇓P P 13 00 55.9 +0.1
baz=33,SNR=16
PAHR Pah Rah Range 32.76 322 eP P 13 00 56.7 +0.9
comp=Z,18nm,0.9s,mb4.9
GCMT Greycliff 32.79 339 eP P 13 00 55.9 -0.2
M09A Marrel Ranch, 32.80 326 ⇓P P 13 00 56.6 +0.5
baz=33
R04C Big Horse Ranc 32.84 318 ⇑P P 13 00 57.4 +0.8
baz=33,SNR=11
HLID Hailey 32.86 332 ⇓P P 13 00 56.8 +0.1
baz=33,SNR=25
HLID Hailey 32.86 332 eP P 13 00 57.0 +0.4
comp=Z,13nm,0.8s,mb4.8
H15A Lima 32.93 335 ⇑P P 13 00 58.4 +1.2
baz=33,SNR=30
J12A Stokes Ranch, 32.93 331 ⇓P P 13 00 57.1 -0.3
baz=33
I13A Wildhorse Cree 33.00 332 ⇓P P 13 00 58.4 +0.5
baz=33,SNR=17
LAVA Lava Cap Winer 33.00 319 ⇓P P 13 00 58.1 +0.1
baz=33,SNR=6.6
WENL Wente Brothers 33.01 317 ⇑P P 13 00 59.0 +0.9
baz=33
BNLO Ben Lomond (Sa 33.02 315 ⇑P P 13 00 58.0 -0.2
baz=33
K11A Parker Ranch, 33.03 329 ⇑P P 13 00 57.9 -0.3
baz=33,SNR=6.9
P06A Stead Airport, 33.05 321 ⇓P P 13 00 59.1 +0.8
baz=33
MCMT McKenzie Canyo 33.18 335 P P 13 01 00.9 +1.4
N07B Gerlach 33.21 324 ⇑P P 13 00 59.8 +0.1
baz=33
JRSC Jasper Ridge 33.22 316 ⇑P P 13 01 00.1 +0.2
baz=33
H14A Leadore 33.23 334 ⇓P P 13 01 00.7 +0.8
baz=33,SNR=33
P05C Yuba Gap, Truc 33.25 320 ⇑P P 13 01 00.9 +0.7
baz=33,SNR=12
BDM Black Diamond 33.27 317 ⇑P P 13 01 01.1 +0.7
baz=33
O06A Flanigan 33.31 322 ⇑P P 13 01 01.2 +0.5
baz=33,SNR=42
G15A Dillon 33.31 335 ⇓P P 13 01 01.5 +0.9
baz=33,SNR=31
M08A Happy Creek Ra 33.32 325 ⇑P P 13 01 00.9 +0.2
baz=33,SNR=10.0
L09A Wilkinson Ranc 33.33 326 ⇓P P 13 01 00.9 +0.1
baz=33
BOZ Bozeman (W) 33.38 337 eP P 13 01 01.3 +0.1
BOZ pmax pmax
comp=Z,14nm,0.8s,mb4.8
BOZ Bozeman (W) 33.38 337 ⇑P P 13 01 01.3 +0.1
baz=33
BOZ Bozeman (W) 33.38 337 eP P 13 01 01.3 +0.1
comp=Z,14nm,0.8s,mb4.9
MFID Camas Ranch 33.41 330 ⇓P P 13 01 01.4 -0.1
baz=34
BEKR Beckwourth 33.44 321 ⇓P P 13 01 02.3 +0.5
baz=34,SNR=25
K10A MacKenzie Ranc 33.45 328 ⇑P P 13 01 01.5 -0.4
baz=34,SNR=9.8
Q04C Lincoln 33.46 319 ⇑P P 13 01 02.8 +0.8
baz=34
DLMT Dillon 33.52 335 eP P 13 01 03.3 +0.9
H13A Challis 33.57 333 ⇑P P 13 01 03.2 +0.4
baz=34,SNR=40
LCCM Lewis and Clar 33.63 337 P P 13 01 04.0 +0.6
N06A Buffalo Meadow 33.68 323 ⇑P P 13 01 04.2 +0.3
baz=34,SNR=58
DGMT Dagmar 33.72 347 eP P 13 01 03.8 -0.4
M07A Soldier Meadow 33.72 324 ⇑P P 13 01 04.2 0.0
baz=34
Q03C Winters 33.75 318 ⇑P P 13 01 05.4 +0.9
baz=34
G14A Jackson 33.77 334 ⇓P P 13 01 05.1 +0.5
baz=34,SNR=14
L08A Fields 33.81 326 ⇓P P 13 01 05.0 0.0
baz=34,SNR=7.0
OHCM Honcut 33.81 319 eP P 13 01 05.3 +0.3
H12A Diamond D Ranc 33.82 332 ⇓P P 13 01 05.6 +0.5
baz=34,SNR=48
K09A Rome 33.84 327 ⇑P P 13 01 05.4 +0.2
baz=34,SNR=38
O05C Quincy 33.84 321 ⇓P P 13 01 06.1 +0.8
baz=34
LRM Limekiln Ridge 33.84 336 eP P 13 01 05.8 +0.6
I11A Placerville 33.84 330 ⇑P P 13 01 05.5 +0.3
baz=34,SNR=47
F15A Butte 33.87 336 ⇓P P 13 01 05.9 +0.4
baz=34,SNR=67
CVS Carmenet Viney 33.87 317 ⇑P P 13 01 05.8 +0.2
baz=34
J10A Berg Farm, Mel 33.88 329 ⇑P P 13 01 05.5 -0.1
baz=34
FARB Farallon Islan 33.88 316 ⇑P P 13 01 05.3 -0.4
baz=34
SUTB Sutter Butte 33.94 319 ⇓P P 13 01 06.5 +0.3
baz=34
ORV Oroville 33.95 320 ⇑P P 13 01 06.6 +0.3
baz=34,SNR=10
G13A Cobalt 33.98 333 ⇑P P 13 01 06.7 +0.3
baz=34,SNR=21
MCCM Marconi Confer 34.04 316 ⇑P P 13 01 07.1 0.0
baz=34
NSHM Saint Helena R 34.07 317 eP P 13 01 07.7 +0.4
ELFS Eagle Lake Fie 34.13 322 ⇑P P 13 01 08.3 +0.6
baz=34
WVOR Wild Horse Val 34.13 326 P P 13 01 07.7 -0.1
O04C Chester 34.16 321 ⇓P P 13 01 08.7 +0.6
baz=34,SNR=12
MNRC McLaughlin Nat 34.16 318 ⇓P P 13 01 08.5 +0.5
baz=34,SNR=7.2
F14A Wisdom 34.20 335 ⇑P P 13 01 08.2 -0.1
baz=34,SNR=7.4
L07A Adell 34.24 325 ⇓P P 13 01 08.8 +0.1
baz=34,SNR=22
K08A Mann Creek Ran 34.26 327 ⇓P P 13 01 09.1 +0.2
baz=34,SNR=17
J09A Fry Pan Ranch, 34.31 328 ⇑P P 13 01 09.2 -0.1
baz=34,SNR=17
M06C Likely Place G 34.35 323 ⇓P P 13 01 09.9 +0.2
baz=34,SNR=24
HRY Holter Researc 34.35 338 eP P 13 01 04.2 -5.4
I10A Payette 34.38 330 ⇑P P 13 01 10.2 +0.3
baz=34,SNR=9.6
ULM Lac du Bonnet 34.41 357 P P 13 01 07.5 -2.6
comp=Z,44nm,0.7s,mb5.4,baz=178,slow=9.6,SNR=57
ULM LR LR 13 18 01.7
comp=Z,102nm,21.8s,baz=249,slow=41
ULM Lac du Bonnet 34.41 357 P P 13 01 07.5 -2.6
ULM LR LR 13 18 01.7
E15A Deer Lodge 34.41 336 ⇓P P 13 01 10.0 -0.2
baz=34,SNR=23
H11A Donnelly 34.47 331 ⇓P P 13 01 10.8 +0.1
baz=34,SNR=22
F13A Darby 34.58 334 ⇓P P 13 01 11.3 -0.3
baz=35,SNR=30
HOPS Hopland 34.63 318 ⇑P P 13 01 12.6 +0.5
baz=35
LBCM Butte Creek Ri 34.63 322 P P 13 01 12.2 +0.1
K07A Rock Creek Ran 34.64 326 ⇓P P 13 01 12.1 0.0
baz=35,SNR=28
HATC Hat Creek Radi 34.69 321 ⇑P P 13 01 12.8 +0.2
baz=35,SNR=7.8
J08A Circle Bar Ran 34.69 327 ⇓P P 13 01 12.8 +0.2
baz=35,SNR=46
MOD Modoc 34.70 324 ⇑P P 13 01 12.6 -0.1
baz=35,SNR=7.3
MOD Modoc 34.70 324 eP P 13 01 12.5 -0.2
H10A Noah's Angus R 34.73 330 ⇓P P 13 01 12.0 -0.9
baz=35,SNR=10
E14A Clinton 34.74 336 ⇑P P 13 01 12.9 -0.1
baz=35,SNR=15
I09A Lost Marbles R 34.76 329 ⇑P P 13 01 12.9 -0.3
baz=35,SNR=24

GASB **Alder Springs** 34.77 319 ⇓P P 13 01 14.0 +0.7
baz=35,SNR=11
EGMT **Eagleton** 34.78 341 ⇑P P 13 01 13.2 -0.1
baz=35,SNR=21
EGMT **Eagleton** 34.78 341 eP P 13 01 13.2 0.0
M05C **Lookout** 34.84 322 ⇑P P 13 01 13.8 -0.1
baz=35
D15A **Lincoln** 34.88 337 ⇓P P 13 01 14.1 -0.1
baz=35,SNR=16
LTIM **Timbered Crate** 34.93 322 P P 13 01 14.6 -0.1
F12A **Elk City** 34.94 333 ⇑P P 13 01 14.7 -0.1
baz=35,SNR=45
E13A **Victor** 35.04 335 ⇓P P 13 01 15.3 -0.2
baz=35,SNR=38
CHMT **Chamberlain Mo** 35.06 336 eP P 13 01 15.6 -0.1
P01C **Double 8 Ranch** 35.07 318 ⇑P P 13 01 16.2 +0.3
baz=35,SNR=6.0
L05A **Lakeview** 35.09 324 ⇓P P 13 01 16.1 0.0
baz=35,SNR=14
G11A **Walters Elk Ra** 35.12 332 ⇑P P 13 01 15.6 -0.6
baz=35,SNR=20
O02C **Red Bluff** 35.12 320 ⇓P P 13 01 15.9 -0.5
baz=35,SNR=6.0
I08A **Drewsey** 35.13 328 ⇓P P 13 01 15.9 -0.5
baz=35,SNR=5.1
J07A **Hines** 35.14 327 ⇑P P 13 01 16.1 -0.4
baz=35,SNR=5.6
BMO **Blue Mountains** 35.19 330 eP P 13 01 15.8 -1.0
comp=Z,33nm,1.5s,mb4.9
WDC **Whiskeytown Da** 35.20 320 ⇓P P 13 01 14.6 -2.4
baz=35,SNR=5.8
WDC **Whiskeytown Da** 35.20 320 eP P 13 01 15.0 -2.0
H09A **Durkee** 35.22 330 ⇓P P 13 01 16.4 -0.7
baz=35,SNR=5.7
MSO **Missoula** 35.26 336 eP P 13 01 17.2 -0.2
comp=Z,29nm,1.1s,mb5.0
K06A **Valley Falls** 35.26 325 ⇑P P 13 01 16.0 -1.5
baz=35
D14A **Greenough** 35.29 336 ⇓P P 13 01 17.2 -0.5
baz=35,SNR=28
G10A **Bishop Farm, J** 35.43 331 ⇓P P 13 01 17.9 -1.0
baz=36,SNR=18
F11A **Grangeville** 35.44 333 ⇑P P 13 01 17.9 -1.1
baz=36
J06A **Christmas Vall** 35.51 326 ⇓P P 13 01 18.6 -1.0
baz=36,SNR=6.8
M04C **Macdoel** 35.51 322 ⇓P P 13 01 19.5 -0.1
baz=36,SNR=12
K05A **Summer Lake** 35.57 325 ⇑P P 13 01 19.6 -0.5
baz=36
E12A **Beaver Dam Sad** 35.60 334 ⇓P P 13 01 19.5 -0.8
baz=36
H08A **Prairie City** 35.61 329 ⇓P P 13 01 19.7 -0.8
baz=36,SNR=8.6
D13A **Huson** 35.68 335 ⇓P P 13 01 20.5 -0.5
baz=36,SNR=46
G09A **Cove** 35.73 330 ⇑P P 13 01 20.4 -1.1
baz=36,SNR=14
I07A **Izee** 35.73 327 ⇑P P 13 01 20.6 -0.9
baz=36,SNR=7.8
L04A **Klamath Falls** 35.78 323 ⇑P P 13 01 21.2 -0.7
baz=36,SNR=7.3
N02C **Big Bar** 35.81 320 ⇑P P 13 01 21.0 -1.3
baz=36,SNR=7.3
E11A **Bogner Ranch,** 35.83 333 ⇓P P 13 01 21.0 -1.3
baz=36,SNR=14
M02C **Callahan** 35.87 321 ⇑P P 13 01 21.0 -1.8
baz=36,SNR=5.1
C14A **Swan Lake** 35.95 337 ⇑P P 13 01 22.7 -0.6
baz=36,SNR=7.5
K04A **Chilquin** 35.97 324 ⇓P P 13 01 22.9 -0.6
baz=36
F10A **Beach Ranch, E** 35.99 332 ⇑P P 13 01 23.0 -0.7
baz=36,SNR=36
YBH **Yreka Blue Hor** 35.99 322 P P 13 01 21.4 -2.4
comp=Z,5.8nm,0.8s,mb4.6,baz=114,slow=5.0,SNR=15
YBH **Yreka Blue Hor** 35.99 322 ⇓P P 13 01 22.2 -1.6
baz=36,SNR=5.6
YBH **Yreka Blue Hor** 35.99 322 eP P 13 01 21.9 -1.8
I06A **Prineville** 36.01 327 ⇓P P 13 01 23.3 -0.5
baz=36,SNR=5.9
D12A **Red Ives Fores** 36.01 334 ⇓P P 13 01 23.1 -0.8
baz=36
F09A **S2 Ranch, Elgi** 36.11 331 ⇓P P 13 01 24.0 -0.7
baz=36
H07A **Lands Inn, Kim** 36.12 328 ⇓P P 13 01 24.0 -0.8
baz=36,SNR=23
J05A **Fort Rock** 36.12 325 ⇑P P 13 01 24.9 0.0
baz=36,SNR=6.0
C13A **Hot Springs** 36.20 336 ⇓P P 13 01 24.9 -0.5
baz=36,SNR=14
JCC **Jacoby Creek** 36.26 319 ⇑P P 13 01 26.2 +0.1
baz=36
G08A **Pilot Rock** 36.31 329 ⇓P P 13 01 25.5 -0.9
baz=36,SNR=5.7
E10A **Myers Farm, Un** 36.33 332 ⇑P P 13 01 25.3 -1.2
baz=36
LNOR **Lincton Mounta** 36.41 331 eP P 13 01 26.2 -1.0
LNOR e*PP pP 13 01 46.6 -1.8
J04A **Umpqua Nationa** 36.58 324 ⇑P P 13 01 28.5 -0.2
baz=37,SNR=6.0
C12B **Naegeli Ranch,** 36.58 335 ⇑P P 13 01 28.2 -0.5
baz=37
H06A **Lindquist Farm** 36.61 328 ⇓P P 13 01 28.2 -0.8
baz=37,SNR=5.3
G07A **Ruggs Ranch, H** 36.64 329 ⇑P P 13 01 28.4 -0.9
baz=37
I05A **Bend** 36.72 326 ⇓P P 13 01 29.7 -0.2
baz=37
B13A **Whitefish** 36.73 337 ⇑P P 13 01 30.3 +0.4
baz=37,SNR=20
L02A **Cave Junction** 36.78 322 ⇑P P 13 01 30.4 -0.1
baz=37
E09A **Wood Farm, Sta** 36.82 331 ⇓P P 13 01 29.5 -1.2
baz=37,SNR=6.5
D10A **Wagner Farm, O** 36.83 333 ⇑P P 13 01 29.6 -1.3
baz=37,SNR=5.3
M01C **Crescent City** 36.91 321 ⇓P P 13 01 31.4 -0.2
baz=37
C11A **Tepee Creek (N** 37.01 334 ⇓P P 13 01 31.9 -0.4
baz=37
K02A **Glendale** 37.08 323 ⇑P P 13 01 32.6 -0.4
baz=37
WALA **Waterton Lakes** 37.08 338 eP P 13 01 32.5 -0.5
comp=Z,51nm,1.6s,mb5.2
I04A **Tendick Farm,** 37.10 325 ⇓P P 13 01 32.4 -0.7
baz=37
IRO **Indian Ridge** 37.15 325 P P 13 01 33.7 +0.1
A13A **Flathead Natio** 37.16 337 ⇓P P 13 01 33.2 -0.4
baz=37
KBO **Bosley Butte** 37.19 321 eP P 13 01 34.8 +0.8
B12A **Libby** 37.24 336 ⇓P P 13 01 34.3 0.0
baz=37,SNR=9.4
D09A **Jones Farm, Ri** 37.30 332 ⇑P P 13 01 33.7 -1.1
baz=37,SNR=5.6
HAWA **Hanford** 37.38 330 eP P 13 01 34.5 -1.0
C10A **Spilker Farm,** 37.44 334 ⇑P P 13 01 35.3 -0.6
baz=38
G05A **Wamic** 37.47 327 ⇑P P 13 01 36.1 -0.2
baz=38,SNR=7.4
J02A **Umpqua** 37.49 323 ⇑P P 13 01 35.9 -0.6
baz=38
B11A **Sandpoint** 37.52 335 ⇓P P 13 01 36.4 -0.3
baz=38,SNR=25
F06A **Goldendale** 37.55 328 ⇓P P 13 01 36.8 -0.2
baz=38
H04A **Detroit Lake** 37.56 326 ⇑P P 13 01 36.3 -0.7
baz=38,SNR=22
D08A **Wollman Farm,** 37.58 331 ⇓P P 13 01 36.1 -1.0
baz=38
A12A **Yak River Ran** 37.64 336 ⇑P P 13 01 37.5 -0.2
baz=38,SNR=5.4
KEBM **Edson Butte** 37.64 322 eP P 13 01 38.7 +0.9
E07A **Sunnyside** 37.66 330 ⇑P P 13 01 37.0 -0.8
baz=38
HOOD **Mount Hood Mea** 37.70 327 eP P 13 01 38.4 +0.3
I03A **Eugene** 37.70 324 ⇓P P 13 01 37.5 -0.7
baz=38,SNR=8.7
NEW **Newport** 37.70 334 eP P 13 01 37.2 -1.0
NEW e*PP pP 13 01 56.1 -3.3
NEW pmax pmax
comp=Z,23nm,1.3s
NEW **Newport** 37.70 334 eP P 13 01 37.2 -1.0
comp=Z,23nm,1.3s,mb4.8
NEW epP pP 13 01 56.1 -3.3
C09A **Chrisman Ranch** 37.84 333 ⇓P P 13 01 38.8 -0.6
baz=38,SNR=6.3
A11A **Hall Mountain,** 37.94 336 ⇓P P 13 01 40.1 -0.1
baz=38,SNR=18
F05A **White Salmon** 37.98 328 ⇑P P 13 01 40.8 +0.3
baz=38,SNR=12
I02A **Mapleton** 38.03 324 ⇓P P 13 01 41.0 0.0
baz=38
G04A **Mulino** 38.05 326 ⇓P P 13 01 40.6 -0.6
baz=38,SNR=5.2
EPH **Ephrata** 38.11 331 P P 13 01 41.3 -0.3
H03A **Soap Creek Ran** 38.15 325 ⇑P P 13 01 41.8 -0.2
baz=38
D07A **Quincy** 38.17 331 ⇓P P 13 01 41.7 -0.4
baz=38,SNR=6.1
C08A **Higginbotham F** 38.17 332 ⇑P P 13 01 41.9 -0.3
baz=38,SNR=21
E06A **Yakima** 38.19 329 ⇓P P 13 01 42.4 +0.1
baz=38,SNR=12
B09A **Rice** 38.26 333 ⇓P P 13 01 42.3 -0.6
baz=38,SNR=15
A10A **Northport** 38.44 335 ⇑P P 13 01 43.2 -1.2
baz=38,SNR=6.0
G03A **Yamhill** 38.56 326 ⇑P P 13 01 45.4 0.0
baz=39,SNR=7.5
C07A **Waterville** 38.57 331 ⇑P P 13 01 45.2 -0.3
baz=39
D06A **Cle Elum** 38.58 330 ⇑P P 13 01 45.5 -0.1
baz=39
E05A **Randle** 38.59 329 ⇓P P 13 01 45.5 -0.2
baz=39,SNR=6.9
ETW **Entiat** 38.63 331 eP P 13 01 46.1 +0.1
ETW epP pP 13 02 06.3 -1.0
B08A **Colville Reser** 38.73 332 ⇑P P 13 01 45.9 -0.9
baz=39,SNR=7.0
A09A **Danville** 38.87 334 ⇓P P 13 01 47.3 -0.6
baz=39,SNR=15
E04A **Onalaska** 39.10 328 ⇓P P 13 01 49.7 -0.2
baz=39
F03A **Seaside** 39.10 326 ⇓P P 13 01 49.6 -0.4
baz=39
C06A **Tall Timber Ra** 39.13 331 ⇓P P 13 01 49.7 -0.4
baz=39
D05A **Enumclaw** 39.14 329 ⇓P P 13 01 49.8 -0.4
baz=39
A08A **Turner Farm, O** 39.15 333 ⇑P P 13 01 49.8 -0.5
baz=39
B07A **Winthrop** 39.16 332 ⇑P P 13 01 49.7 -0.7
baz=39
C05A **Tolt Reservoir** 39.34 330 ⇑P P 13 01 51.3 -0.7
baz=39
FFC **Flin Flon** 39.38 352 P P 13 01 51.5 -0.6
comp=Z,378nm,0.6s,SNR=17
FFC **Flin Flon** 39.38 352 eP P 13 01 51.1 -1.1
E03A **Lebam** 39.51 327 ⇑P P 13 01 52.9 -0.4
baz=40
A07A **Ashnola River,** 39.71 332 ⇑P P 13 01 54.8 -0.1
baz=40,SNR=15
RPW **Rockport** 39.79 331 eP P 13 01 54.6 -1.0
JCW **Jim Creek** 39.81 330 eP P 13 01 54.7 -1.1
JCW epP pP 13 02 15.6 -1.5
B06A **Marblemount** 39.83 331 ⇑P P 13 01 54.8 -1.1
baz=40,SNR=5.2
B05A **Bryant** 39.94 330 ⇓P P 13 01 55.2 -1.6
baz=40
C04A **Brinnon** 39.99 329 ⇓P P 13 01 56.0 -1.3
baz=40
NLWA **Neilton Lookou** 40.22 328 ⇑P P 13 01 58.8 -0.4
baz=40,SNR=6.2
NLWA **Neilton Lookou** 40.22 328 eP P 13 01 59.5 +0.3
comp=Z,30nm,1.1s,mb5.0
A06A **Chilliwack** 40.24 332 ⇓P P 13 01 58.4 -1.0
baz=40
EDM **Edmonton** 40.44 342 eP P 13 02 00.6 -0.3
A05A **Maple Falls** 40.45 331 ⇓P P 13 02 00.1 -0.9
baz=40
A04A **Legoe Bay, Lum** 40.55 330 ⇑P P 13 02 00.9 -0.9
baz=41
LPAZ **La Paz** 40.61 141 P P 13 02 01.8 -0.9
comp=Z,4.7nm,0.8s,mb4.4,baz=336,slow=8.7,SNR=18
LPAZ LR LR 13 18 05.3
comp=Z,66nm,21.7s,baz=311,slow=35
PGC **Sidney** 40.86 330 eP P 13 02 04.3 -0.2
comp=Z,43nm,0.8s,mb5.3
SCHQ **Schefferville** 44.12 22 LR LR 13 22 34.6
comp=Z,128nm,19.6s,baz=249,slow=38
SIV **San Ignacio** 45.05 133 P P 13 02 36.8 -1.9
comp=Z,28nm,0.6s,mb5.2,baz=308,slow=8.1,SNR=158
LVC **Linton Verde** 45.20 147 P P 13 02 38.7 -1.0
comp=Z,17nm,0.9s,mb4.8,baz=310,slow=5.5,SNR=17
YKA **Yellowknife Ar** 48.93 347 P P 13 03 07.1 -1.1
comp=Z,44nm,0.6s,mb5.5,baz=151,slow=7.4,SNR=213
YKA LR LR 13 24 59.6
comp=Z,20nm,18.8s,baz=230,slow=37
YKA **Yellowknife Ar** 48.93 347 P P 13 03 07.1 -1.1
YKA LR LR 13 24 59.6
YKW3 **Yellowknife Ar** 48.99 347 eP P 13 03 07.6 -1.1
DLBC **Dease Lake** 50.38 336 eP P 13 03 20.4 +1.1
CFAA **Coronel Fontan** 53.06 153 P P 13 03 37.5 -2.0
comp=Z,2.3nm,0.7s,mb4.3,baz=324,slow=6.6,SNR=3.1
CPUP **Villa Florida** 54.76 139 P P 13 03 48.8 -3.3
comp=Z,3.9nm,0.6s,mb4.6,baz=300,slow=7.1,SNR=11
CPUP LR LR 13 27 20.2
comp=Z,100nm,21.5s,baz=303,slow=36
BDFB **Brasilia** 54.80 123 P P 13 03 51.0 -1.6
comp=Z,8.7nm,0.6s,mb5.0,baz=277,slow=15,SNR=17
HYT **Haines Junctio** 54.84 335 eP P 13 03 55.1 +3.0
DAWY **Dawson** 57.43 338 eP P 13 04 09.7 -0.9
DAWY epP pP 13 04 31.3 -1.9
EGAK **Eagle** 58.47 338 eP P 13 04 16.6 -1.2
comp=Z,7.4nm,0.7s,mb4.8
EGAK epP pP 13 04 36.5 -4.0
PMR **Palmer** 60.11 333 eP P 13 04 28.5 -0.7
PMR e*PP pP 13 04 50.8 -1.2
PMR pmax pmax
comp=Z,25nm,1.6s,mb5.0
PMR **Palmer** 60.11 333 eP P 13 04 28.4 -0.7
comp=Z,24nm,1.6s,mb5.0
PMR epP pP 13 04 50.8 -1.1
SLKM **Skilak Lake** 60.18 332 eP P 13 04 28.8 -0.8
SLKM e*PP pP 13 04 51.3 -1.1
PLCA **Paso Flores** 60.18 160 P P 13 04 27.9 -2.0
comp=Z,20nm,1.0s,mb5.1,baz=332,slow=6.7,SNR=9.9
PLCA LR LR 13 24 09.2
comp=Z,144nm,20.4s,baz=183,slow=30
COLA **College** 60.99 337 eP P 13 04 34.3 -0.8
COLA e*PP pP 13 04 56.0 -2.0
COLA pmax pmax
comp=Z,12nm,0.8s,mb5.0
COLA **College** 60.99 337 eP P 13 04 34.3 -0.8
comp=Z,12nm,0.8s,mb5.0
COLA epP pP 13 04 56.0 -2.0
SVW2 **Sparrevohn** 62.85 331 eP P 13 04 45.9 -1.7
SVW2 epP pP 13 05 08.0 -2.6
IMA2 **Indian Mountai** 63.70 337 eP P 13 04 51.2 -2.0
IMA2 epP pP 13 05 13.4 -2.8
DAG **Danmarks Havn** 71.29 14⇑ iP P 13 05 39.9 -0.9
DAG pmax pmax
comp=Z,30nm,1.0s,mb5.1
DAG **Danmarks Havn** 71.29 14⇑ iP P 13 05 39.9 -0.9
comp=Z,30nm,1.0s,mb5.1
BILL **Bilibino** 79.21 338 eP P 13 06 23.5 -2.9
BILL pmax pmax
comp=Z,19nm,1.3s,mb4.8
NB2 **NORSAR Subarra** 83.31 28 P P 13 06 48.3 +0.1
comp=Z,0.7nm,0.7s,baz=296,slow=5.6
NOA **NORSAR Array B** 83.31 28 P P 13 06 46.3 -1.9
comp=Z,6.9nm,0.8s,mb4.5,baz=290,slow=5.3,SNR=20
NOA LR LR 13 42 56.8
comp=Z,17nm,20.4s,baz=70,slow=35
NOA **NORSAR Array B** 83.31 28 P P 13 06 46.3 -1.9
NOA LR LR 13 42 56.8
AVF **Avril sur Loir** 83.32 43 eP P 13 06 46.9 -1.6
comp=Z,12nm,1.0s,mb4.4
AVF **Avril sur Loir** 83.32 43 eP P 13 06 46.9 -1.6
AVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
AVF **Avril sur Loir** 83.32 43 eP P 13 06 46.9 -1.6
comp=Z,5.8nm,1.0s,mb4.4
HAU **Haudompre** 84.92 42 eP P 13 06 55.9 -0.7
comp=Z,14nm,0.7s,mb4.7
HAU **Haudompre** 84.92 42 eP P 13 06 55.9 -0.7
HAU pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
HAU **Haudompre** 84.92 42 eP P 13 06 55.9 -0.7
comp=Z,7.2nm,0.7s,mb4.7
ARCES **ARCESS Array B** 84.92 18 P P 13 06 55.0 -1.2
comp=Z,9.9nm,0.9s,mb4.8,baz=289,slow=5.0,SNR=27
ARCES LR LR 13 45 14.8
comp=Z,52nm,19.1s,baz=72,slow=36
KEV **Kevo** 85.24 17 ep P 13 06 57.1 -0.7
comp=Z,0.7nm,0.4s,mb3.9
KEV **Kevo** 85.24 17 eP P 13 06 57.1 -0.7
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
HINF **Hinteralfeld** 85.30 42 eP P 13 06 57.5 -1.0
CDF **Champ du Feu** 85.38 41 eP P 13 06 58.1 -0.8
comp=Z,7.5nm,0.7s,mb4.5
CDF **Champ du Feu** 85.38 41 eP P 13 06 58.1 -0.8
CDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
CDF **Champ du Feu** 85.38 41 eP P 13 06 58.1 -0.8
comp=Z,3.8nm,0.7s,mb4.4
ORIF **Oris-en-Rattie** 85.55 45 eP P 13 06 58.7 -1.1
comp=Z,9.5nm,0.9s,mb4.4
ORIF **Oris-en-Rattie** 85.55 45 eP P 13 06 58.7 -1.1
ORIF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ORIF **Oris-en-Rattie** 85.55 45 eP P 13 06 58.7 -1.1
comp=Z,4.8nm,0.9s,mb4.4
MBDF **Montbardon** 86.22 45 eP P 13 07 02.8 -0.3
comp=Z,18nm,0.9s,mb4.7
MBDF **Montbardon** 86.22 45 eP P 13 07 02.8 -0.3
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MBDF **Montbardon** 86.22 45 eP P 13 07 02.8 -0.3
comp=Z,8.8nm,0.9s,mb4.7
CLL **Collm** 87.83 37 eP P 13 07 10.0 -0.8
CLL e*PP pP 13 07 39.0 +3.9
CLL pmax pmax
comp=Z,23nm,2.3s,mb4.8
CLL **Collm** 87.83 37 eP P 13 07 10.0 -0.8
comp=Z,47nm,2.3s,mb5.1
CLL epP pP 13 07 39.0 +3.9
CLL ePP PP 13 10 27.0 -10
TIXI **Tiksi** 88.18 348 eP P 13 07 09.9 -2.1
TIXI pmax pmax
comp=Z,12nm,1.2s,mb4.8
GERES **GERESS Array B** 89.21 39 P P 13 07 15.9 -1.4
comp=Z,1.2nm,0.6s,mb4.1,baz=292,slow=3.6,SNR=6.7
GERES LR LR 13 44 40.5
comp=Z,30nm,21.6s,baz=171,slow=34
TORD **Torodi Ar. Bea** 91.47 76 P P 13 07 24.9 -3.6
comp=Z,0.1nm,0.4s,baz=121,slow=36,SNR=2.9
YAK **Yakutsk** 95.26 341 eP P 13 07 43.1 -1.9
YAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
MDJ **Mudanjiang** 108.16 329 PDIF Pdif 13 08 42.0 -0.8
MDJ PP PP 13 13 11.5 -1.3
MDJ LR LR
comp=Z,34nm,10.8s
MKAR **Makanchi Array** 117.59 3 PKP PKPdf 13 13 04.5 -2.6
comp=Z,0.4nm,0.6s,baz=198,slow=2.3,SNR=3.9
MKAR PP PP 13 14 15.2 -4.1
comp=Z,0.9nm,0.8s,baz=32,slow=4.8,SNR=5.9
HHC **Hu-ho-hao-te** 118.99 338 ePKP PKPdf 13 13 09.0 -1.0
HHC PP PP 13 14 33.0 +3.8
HHC PKS 13 16 43.8
HHC SKS SKSdf 13 20 09.5 -4.5
HHC SKKS SKKSac 13 21 13.8 -8.2
HHC SS SS 13 30 37.8 -3.7
HHC LR LR
comp=N,108nm,20.2s
HHC LR LR
comp=E,104nm,21.4s
HHC LR LR
comp=Z,144nm,20.2s
WMQ **Urumqi** 120.66 359 ePKP PKPdf 13 13 12.5 -0.6
WMQ LR LR
comp=N,48nm,21.0s
WMQ LR LR
comp=Z,46nm,22.3s
NJ2 **Nanjing** 123.15 327 ePKP PKPdf 13 13 17.3 -1.0
LZH **Lanzhou** 125.82 343 ePKP PKPdf 13 13 22.0 -1.3
CD2 **Chengdu** 130.65 340 ePKP PKPdf 13 13 31.0 -1.6
CD2 PP PP 13 15 50.5 +3.4
CD2 PKS 13 17 06.0
CD2 SKS SKSdf 13 20 30.0 -6.2
CD2 SKKS SKKSac 13 22 31.5 -5.2
CD2 SS SS 13 33 06.5 -1.6
CD2 PP PP
comp=Z,100nm,10.8s
CD2 LR LR
comp=N,90nm,10.8s
CD2 LR LR
comp=E,170nm,13.2s
CD2 LR LR
comp=Z,80nm,14.3s
GYA **Guiyang** 133.60 335 PDIF Pdif 13 10 33.8 -2.1
GYA PKP PKPdf 13 13 36.5 -1.8
GYA PP PP 13 16 09.5 +3.3
GYA PKS 13 17 12.8
GYA SKS SKSdf 13 20 36.5 -5.2
GYA SKKS SKKSac 13 22 50.8 -4.1
GYA SS SS 13 33 42.5 -1.8
GYA PP PP
comp=Z,120nm,8.7s
GYA LR LR
comp=N,190nm,20.3s
GYA LR LR
comp=E,170nm,22.4s
GYA LR LR
comp=Z,130nm,21.6s
WRA **Warramunga Arr** 134.29 257 PKP PKPdf 13 13 38.1 -1.6
comp=Z,0.7nm,0.7s,baz=87,slow=2.5,SNR=5.4
KMI **Kunming** 136.31 338 PKP PKPdf 13 13 41.3 -2.1
CMAR **Chiang Mai Arr** 143.78 340 PKhKP 13 13 51.6
comp=Z,3.7nm,0.9s,baz=342,slow=3.3,SNR=17
HYB **Hyderabad** 146.10 13 iP PKPdf 13 13 58.5 -2.6
HYB **Hyderabad** 146.10 13 eP PKPdf 13 14 00.0 -1.1

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*IDC **30** 12:56:43.7±2.5,287S×12985E,h0km,mb3.7/2,mb1 4.2/4, mb1mx3.7/15,mbtmp3.9/4,ML4.2/2,Error ellipse: s-maj=131.9km s-min=19.3km az=74.0*
*ISCJB **30** 12:56:47.2±1.5,30S±01×1296E±02,h33km,mb3.7/2, Error ellipse: s-maj=26.0km s-min=14.7km az=146.8*
ISC 30 12:56:46.7±1.5,29S±01×1295E±02,h15km±32km,n7, σ0980/9,mb3.7/2,1D,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	1.50	239	⇓eP	Pn	12 57 12.5	-0.7
FITZ	**Fitzroy Crossi**	15.57	194	eP	Pn	13 00 27.7	+1.9
2.4nm,0.3s							
FITZ	**Fitzroy Crossi**	15.57	194	Pn	Pn	13 00 26.8	+1.0
0.4nm,0.3s,baz=40,slow=14,SNR=14							
WRA	**Warramunga Arr**	17.59	165	P	Pn	13 00 50.7	-0.7
1.1nm,0.3s,baz=353,slow=12,SNR=69							
WRA				S	Sn	13 04 00.0	-7.1
0.1nm,0.3s,baz=344,slow=24,SNR=3.4							
WB2	**Warramunga Arr**	17.59	165	eP	Pn	13 00 50.8	-0.7
ASAR	**Alice Springs**	21.08	169	P	P	13 01 31.4	+0.7
4.8nm,0.5s,mb4.1,baz=346,slow=11,SNR=92							
ASAR				S	S	13 05 24.7	-0.3
0.2nm,0.6s,baz=348,slow=26,SNR=3.9							
MKAR	**Makanchi Array**	64.55	326	P	P	13 07 23.4	+0.1
0.1nm,0.4s,mb3.2,baz=108,slow=7.8,SNR=3.7							

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*ISCJB **30** 12:57:16.7±0.7,1040N±004×6230W±003,h7km±5km, Error ellipse: s-maj=6.3km s-min=3.6km az=154.0*
*NEIC **30** 12:57:16.5,1040N×6228W,h3km,MD3.5(TRN),After TRN.*
*TRN **30** 12:57:16.5,1041N×6229W,h3km,MD3.5*
*FUNV **30** 12:57:17.7,1043N×6235W,h1km,MW3.0*
ISC 30 12:57:17.0±0.5,1042N±003×6231W±002,h5km±4km,n17, σ0878/30,1C-2D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	0.25	20⇑	eP	Pg	12 57 21.8	0.0
GUIV				eS	Sg	12 57 26.9	+1.9
TCE	**Chacachacare**	0.61	63⇓	iP	Pg	12 57 28.2	-0.6
TCE				eS	Sg	12 57 36.6	-0.2
GUNV	**Guanoco**	0.67	248⇓	eP	Pg	12 57 29.6	-0.3
GUNV				eS	Sg	12 57 40.4	+1.8
TPP	**Pointe-a-Pierr**	0.85	96	eP	Pg	12 57 33.1	-0.2
TPP				eS	Sg	12 57 45.5	+1.2
TRN	**Trinidad (W)**	0.92	75	eP	Pg	12 57 33.3	-1.3
TRN				eS	Sg	12 57 46.6	-0.1
CRUV	**Carupano**	0.95	286	eP	Pg	12 57 34.2	-1.0
TBH	**Brigand Hill**	1.22	87	eP	Pg	12 57 39.8	-0.7
ITEV	**Isla Los Testi**	1.24	319	eP	Pg	12 57 40.2	-0.5

ITEV				*e*S		**Sg**	12 57 56.6	-0.2
TPR	**Prospect**	**1.69**	**63**	*e*P		**Pn**	12 57 46.8	-0.4
TPR				*e*S		**Sn**	12 58 09.6	+0.5
TPR	**Prospect**	**1.69**	**63**	*e*P		**Pn**	12 57 46.8	-0.4
TPR				*e*S		**Sn**	12 58 09.6	+0.5
ORIV	**Oritupano**	**1.72**	**219**	*e*P		**Pn**	12 57 48.6	+1.0
ORIV				*e*S		**Sn**	12 58 10.0	+0.1
BOT	**Bacolet**	**1.73**	**64**	*e*P		**Pn**	12 57 47.9	+0.2
GRW	**Mount Saint Ca**	**1.85**	**20**	*e*P		**Pn**	12 57 49.4	+0.1
GRW				*e*S		**Sn**	12 58 13.6	+0.5
GRW	**Mount Saint Ca**	**1.85**	**20**	*e*P		**Pn**	12 57 49.4	+0.1
GRW				*e*S		**Sn**	12 58 10.2	-2.8
GRCU	**Cariacou**	**2.21**	**22**	*e*P		**Pn**	12 57 54.3	0.0
GRCU				*e*S		**Sn**	12 58 22.5	+0.5
PCRV	**Puerto La Cruz**	**2.30**	**264**	*e*P		**Pn**	12 57 55.1	-0.5
PRGV	**PARIAGUAN**	**2.83**	**235**	*e*P		**Pn**	12 58 03.0	+0.1
PRGV				*e*S		**Sn**	12 58 36.8	-0.6

*NEIC **30** 12:59:15.0, 34.19S×69.99W, h10km, ML3.6(GUC), After GUC.*

GUC 30 12:59:15.0±0.5, 3419S×6999W, h10km±5km, MD3.7, ML3.6, 8C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.38**	**249**	⇑*i*P	Pg	12 59 22.5	0.0
CICH				*i* S	Sg	12 59 28.4	+0.7
CACH	**El Canelo**	**0.51**	**277**	⇓*i*P	Pg	12 59 24.6	-0.4
CACH				*i* S	Sg	12 59 31.7	-0.1
CHCH	**Chadas Angostu**	**0.61**	**294**	⇑*i*P	Pg	12 59 26.6	-0.1
CHCH				*i* S	Sg	12 59 35.1	+0.4
PCH	**Pirque**	**0.71**	**322**	⇑*i*P	Pg	12 59 28.7	-0.1
PCH				*i* S	Sg	12 59 38.7	+0.6
ANTU	**Antumapu**	**0.82**	**319**	*i* P	Pg	12 59 30.1	-0.6
ANTU				*i* S	Sg	12 59 41.8	+0.4
ANTU				AML	AML	12 59 43.1	
	comp=E,3μm,0.5s						
ANTU	**Antumapu**	**0.82**	**319**	*i* P	Pg	12 59 30.1	-0.6
ANTU				*i* S	Sg	12 59 41.8	+0.4
FCH	**Farellones**	**0.89**	**343**	⇓*i*P	Pg	12 59 32.0	-0.1
FCH				*i* S	Sg	12 59 45.0	+1.2
FCH				AML	AML	12 59 46.2	
	comp=N,3μm,0.2s						
CLCH	**Cerro Calan**	**0.91**	**330**	⇑*i*P	Pg	12 59 33.2	+0.7
CLCH				*i* S	Sg	12 59 46.3	+1.9
CLCH				AML	AML	12 59 47.6	
	comp=N,7μm,0.6s						
CLCH	**Cerro Calan**	**0.91**	**330**	⇑*i*P	Pg	12 59 33.2	+0.7
CLCH				*i* S	Sg	12 59 46.3	+1.9
SFDO	**San Fernando**	**0.95**	**243**	⇑*i*P	Pg	12 59 32.8	-0.5
SFDO				*i* S	Sg	12 59 45.8	+0.1
TACH	**Talagante**	**0.95**	**304**	⇑*i*P	Pg	12 59 32.7	-0.7
TACH				*i* S	Sg	12 59 45.9	+0.2
RCDM	**Rinconada Maip**	**0.97**	**315**	⇓*i*P	Pg	12 59 33.1	-0.6
RCDM				*i* S	Sg	12 59 46.5	+0.1
RCDM				AML	AML	12 59 46.7	
	comp=E,3μm,0.1s						
RCDM	**Rinconada Maip**	**0.97**	**315**	⇓*i*P	Pg	12 59 33.1	-0.6
RCDM				*i* S	Sg	12 59 46.5	+0.1
PEL	**Peldehue**	**1.19**	**331**	⇑*i*P	Pb	12 59 37.0	-0.7
PEL				*i* S	Sb	12 59 53.4	+0.3
PEL				AML	AML	12 59 55.0	
	comp=E,4μm,0.5s						
LNV	**Longovilo**	**1.20**	**281**	⇓*i*P	Pn	12 59 36.6	-1.2
LNV				*i* S	Sb	12 59 53.8	+0.3
ROCH	**El Roble**	**1.48**	**324**	*i* P	Pn	12 59 42.4	+0.7
JACH	**Jahuel**	**1.58**	**341**	*e*P	Pn	12 59 44.3	+1.2
JACH				*i* S	Sn	13 00 05.9	+2.3

*NEIC **30** 13:05:32.1±1.8, 1840N×148.19E, h10km, Error ellipse: s-maj=59.8km s-min=15.3km az=95.0*
*IDC **30** 13:05:32.6±2.8, 1835N×14788E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/19, mbtmp4.0/8, ML3.8/2, Error ellipse: s-maj=85.6km s-min=17.6km az=85.0*
*ISCJB **30** 13:05:36.6±1.4, 1846N±005×1474E±02, h33km, mb3.8/6, Error ellipse: s-maj=29.6km s-min=7.4km az=178.7*

ISC 30 13:05:38.3±1.4, 1843N±005×1476E±02, h35km, n10, σ1§13/15, mb3.8/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.50**	**209**	Pn	**Pn**	**13 06 57.3**	**-0.5**
	8.4nm,0.3s,baz=339,slow=7.8,SNR=7.8						
GUMO				Sn	**Sn**	**13 08 00.6**	**+0.8**
	5.1nm,0.3s,baz=9.4,slow=22,SNR=2.2						
GUMO	**Guam**	**5.50**	**209**	*e*Pn	**Pn**	**13 06 56.4**	**-1.4**
GUMO				Pn	**Pn**	**13 06 57.3**	**-0.5**
GUMO				*e*Sn	**Sn**	**13 07 59.4**	**-0.4**
GUMO				Sn	**Sn**	**13 08 00.6**	**+0.8**
CBIJ	**Chichi jima**	**9.98**	**331**	Pn	**Pn**	**13 07 58.6**	**-0.7**
	1.7nm,0.3s,baz=296,slow=19,SNR=4.9						
CBIJ				Sn	**Sn**	**13 09 49.1**	**-1.0**
	1.0nm,0.3s,baz=326,slow=20,SNR=3.1						
KSRS	**Korea Array**	**25.64**	**322**	P	**P**	**13 11 07.3**	**+2.6**
	1.6nm,0.7s,mb3.6,baz=142,slow=7.5,SNR=5.7						
WRA	**Warramunga Arr**	**40.30**	**200**	P	**P**	**13 13 11.4**	**-1.0**
	4.5nm,0.9s,mb4.2,baz=21,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**43.93**	**198**	P	**P**	**13 13 41.8**	**-0.2**
	0.8nm,0.6s,mb3.6,baz=20,slow=8.8,SNR=16						
SONM	**Songino Array**	**44.51**	**321**	P	**P**	**13 13 48.0**	**+1.6**
	0.4nm,0.6s,mb3.5,baz=115,slow=7.6,SNR=2.4						
TIXI	**Tiksi**	**54.36**	**353**	P	**P**	**13 14 57.5**	**-3.6**
ZALV	**Zalesovo Beam**	**59.35**	**322**	P	**P**	**13 15 37.2**	**+0.4**
	1.3nm,0.7s,mb4.1,baz=108,slow=6.4,SNR=3.9						
MKAR	**Makanchi Array**	**59.97**	**314**	P	**P**	**13 15 41.6**	**+0.3**
	0.8nm,0.8s,mb3.6,baz=88,slow=9.8,SNR=5.1						

IDC 30 13:11:46.7±1.6, 325N×12548E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=112.2km s-min=22.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.22**	**180**	P	P	13 16 36.1	+1.9
	0.8nm,0.8s,baz=18,slow=15,SNR=2.2						
WRA	**Warramunga Arr**	**24.64**	**160**	P	P	13 17 07.5	-1.5
	1.4nm,0.5s,baz=334,slow=11,SNR=18						
ASAR	**Alice Springs**	**27.98**	**163**	P	P	13 17 40.5	+1.2
	0.2nm,0.3s,baz=344,slow=11,SNR=10						
STKA	**Stephens Creek**	**38.15**	**158**	P	P	13 19 07.2	-0.5
	0.9nm,0.3s,baz=329,slow=13,SNR=2.2						
MKAR	**Makanchi Array**	**57.24**	**326**	P	P	13 21 35.9	-0.1
	0.9nm,0.4s,baz=115,slow=8.6,SNR=10.0						

*ISCJB **30** 13:16:14.8±1.7, 194S±0.1×177.7W±0.1, h338km±25km, mb3.7/10, Error ellipse: s-maj=19.1km s-min=17.3km az=9.0*
*NEIC **30** 13:16:15.6±1.3, 1937S×17771W, h328km±18km, mb4.0/6, Error ellipse: s-maj=17.2km s-min=13.3km az=135.0*
*IDC **30** 13:16:17.6±2.1, 1963S×17752W, h359km±28km, mb3.6/6, mb1 3.7/8, mb1mx3.4/19, mbtmp3.6/8, Error ellipse: s-maj=22.1km s-min=16.7km az=102.0*

ISC 30 13:16:15.3±1.7, 193S±01×1777W±01, h326km±24km, n20, σ0§94/24, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.84**	**47**	P	**Pn**	**13 18 09.4**	**+2.1**
	2.3nm,0.3s,baz=25,slow=21,SNR=14						
AFI				S	**S**	**13 19 35.4**	**-2.9**
	2.9nm,0.3s,baz=113,slow=24,SNR=4.8						
AFI	**Afiamalu**	**7.84**	**47**	*e*Pn	**Pn**	**13 18 08.0**	**+0.8**
AFI				S	**S**	**13 19 35.4**	**-2.9**
AFI				*e*S	**S**	**13 19 35.5**	**-2.8**
URZ	**Urewera**	**19.38**	**192**	P	**P**	**13 20 16.9**	**-1.2**
	0.9nm,0.3s,baz=282,slow=4.7,SNR=11						
URZ				S	**S**	**13 23 31.8**	**-7.6**
	0.4nm,0.3s,baz=195,slow=11,SNR=3.3						
CNB	**Canberra Magne**	**33.12**	**234**	*e*P	**P**	**13 22 23.1**	**+1.3**
CTA	**Charters Tower**	**33.90**	**263**	P	**P**	**13 22 29.4**	**+0.7**
	3.4nm,0.6s,mb3.8,baz=94,slow=15,SNR=4.0						
TOO	**Toolangi**	**36.81**	**233**	*e*P	**P**	**13 22 53.7**	**+0.6**
STKA	**Stephens Creek**	**38.55**	**243**	*e*P	**P**	**13 23 08.5**	**+0.8**
	4.4nm,1.1s,mb3.6						
STKA	**Stephens Creek**	**38.55**	**243**	P	**P**	**13 23 08.1**	**+0.5**
	1.5nm,0.5s,mb3.5,baz=95,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**38.55**	**243**	*e*P	**P**	**13 23 07.4**	**-0.2**
	11nm,1.1s,mb4.0						
WB2	**Warramunga Arr**	**45.04**	**261**	*e*P	**P**	**13 23 59.5**	**-0.4**
WRAB	**Tennant Creek**	**45.04**	**261**	*e*P	**P**	**13 23 59.0**	**-0.9**
WRA	**Warramunga Arr**	**45.05**	**261**	P	**P**	**13 23 59.6**	**-0.4**
	1.0nm,0.3s,mb3.4,baz=97,slow=7.5,SNR=41						
ASAR	**Alice Springs**	**45.07**	**256**	P	**P**	**13 24 00.2**	**+0.2**
	13nm,0.6s,mb4.3,baz=92,slow=8.4,SNR=313						
KAKA	**Kakadu**	**48.24**	**270**	*e*P	**P**	**13 24 24.3**	**-0.3**
	4.6nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	**53.47**	**261**	*e*P	**P**	**13 25 03.6**	**+0.4**
	3.9nm,0.5s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.47**	**261**	P	**P**	**13 25 03.1**	**-0.2**
	1.9nm,0.6s,mb3.6,baz=118,slow=7.8,SNR=16						
MBWA	**Marble Bar**	**58.39**	**257**	*e*P	**P**	**13 25 37.0**	**-0.8**
	7.3nm,0.8s,mb4.1						
SBA	**Scott Base**	**59.04**	**184**	*e*P	**P**	**13 25 42.3**	**+1.0**
	0.7nm,0.5s,mb3.4						
CASY	**Casey**	**65.12**	**205**	P	**P**	**13 26 20.7**	**-0.9**
	1.4nm,0.4s,mb3.9						
NVAR	**Mina Array Bea**	**79.99**	**43**	P	**P**	**13 27 49.4**	**+0.4**
	0.3nm,0.7s,mb3.2,baz=225,slow=10,SNR=3.7						

*ISCJB **30** 13:59:24.7±0.8, 370N±02×1357E±0.1, h384km±13km, mb3.0/2, Error ellipse: s-maj=24.0km s-min=16.2km az=176.0*
*IDC **30** 13:59:25.5±1.2, 3694N×13555E, h371km±18km, mb2.7/2, mb1 2.8/5, mb1mx2.6/24, mbtmp2.7/5, Error ellipse: s-maj=30.5km s-min=20.5km az=49.0*
*JMA **30** 13:59:27.0±0.4, 3695N×136.18E, h408km, M3.2*

ISC 30 13:59:25.8±0.8, 370N±02×1357E±01, h374km±13km, n10, σ1§06/12, mb2.9/2, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**2.10**	**103**	P	**Pn**	**14 00 20.8**	**+0.8**
	0.5nm,0.3s,baz=275,slow=8.5,SNR=5.9						
JRY	**Ryogami san**	**2.80**	**110**	P	**Pn**	**14 00 26.8**	**+1.6**
JFT	**Otama**	**3.76**	**81**	P	**Pn**	**14 00 35.0**	**+1.2**
JMM	**Marumori**	**4.17**	**77**	P	**Pn**	**14 00 38.3**	**+0.5**
JMM				*e*S	**S**	**14 01 34.5**	**-1.6**
JFK	**Kawauchi**	**4.17**	**84**	P	**Pn**	**14 00 37.9**	**0.0**
JFK				*e*S	**S**	**14 01 34.3**	**-1.9**
JMK	**Ichinoseki**	**4.79**	**65**	P	**Pn**	**14 00 44.8**	**+0.6**
KSRS	**Korea Array**	**6.19**	**276**	P	**Pn**	**14 00 58.1**	**-1.4**
	0.4nm,0.3s,baz=94,slow=12,SNR=9.6						
ASAJ	**Asahikawa**	**8.82**	**35**	P	**Pn**	**14 01 30.2**	**+0.5**
	1.3nm,0.3s,baz=232,slow=9.5,SNR=18						
SONM	**Songino Array**	**24.01**	**306**	P	**P**	**14 04 08.3**	**+0.1**
	0.2nm,0.4s,mb2.7,baz=110,slow=8.6,SNR=2.6						
WRA	**Warramunga Arr**	**56.68**	**181**	P	**P**	**14 08 30.9**	**-0.8**
	0.3nm,0.3s,mb3.0,baz=358,slow=7.5,SNR=10.0						

KRSC 30 14:07:50.8±1.0, 5602N×16138E, h108km±38km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.32**	**270**	*e*P	Pn	14 08 07.6	+1.2
ZLN				*i* S	Sn	14 08 19.9	+1.9
CIRR	**Tsirk**	**0.37**	**285**	*e*P	Pn	14 08 07.4	+0.8
CIRR				*i* S	Sn	14 08 19.5	+1.1
KRSR	**Krestovskiy**	**0.50**	**294**	*e*P	Pn	14 08 07.9	+0.6
KRSR				*i* S	Sn	14 08 19.8	0.0
KLY	**Klyuchi**	**0.50**	**306**	*e*P	Pn	14 08 07.4	0.0
KLY				*i* S	Sn	14 08 19.5	-0.4
BZMR	**Bezymyannaya**	**0.51**	**261**	*e*P	Pn	14 08 08.6	+1.2
BZMR				*i* S	Sn	14 08 21.2	+1.3
BDR	**Baidarnaya**	**0.56**	**350**	*e*P	Pn	14 08 08.6	+0.8
BDR				*i* S	Sn	14 08 21.5	+0.9
SMKR	**Semkarok**	**0.57**	**5**	*e*P	Pn	14 08 08.7	+0.9
SMKR				*i* S	Sn	14 08 21.6	+0.9
KIRR	**Kirishev**	**0.59**	**264**	*e*P	Pn	14 08 09.1	+1.1
KIRR				*i* S	Sn	14 08 22.4	+1.5
SRKR	**Sorokina**	**0.65**	**350**	*e*P	Pn	14 08 09.3	+0.8
SRKR				*i* S	Sn	14 08 22.6	+0.8
KPT	**Kopyto**	**0.65**	**266**	*e*P	Pn	14 08 09.3	+0.8
KPT				*i* S	Sn	14 08 22.8	+1.0
KMNR	**Kamenistaya**	**0.70**	**248**	*e*P	Pn	14 08 10.0	+1.1
KMNR				*i* S	Sn	14 08 24.7	+2.2
KBTR	**Krutoberegovo**	**0.83**	**76**	*e*P	Pn	14 08 10.9	+0.9
KBTR				*i* S	Sn	14 08 25.4	+0.8
KOZ	**Kozyrevsk**	**0.85**	**273**	*e*P	Pn	14 08 11.3	+1.1
KOZ				*i* S	Sn	14 08 26.3	+1.4
SRDR	**Sredinnyy**	**0.98**	**288**	*e*P	Pn	14 08 12.1	+0.6
SRDR				*i* S	Sn	14 08 27.4	+0.2
TUMR	**Tumrok**	**1.02**	**224**	*e*P	Pn	14 08 13.9	+1.9
TUMR				*i* S	Sn	14 08 30.3	+2.4
MKZ	**Mys Kozlova**	**1.48**	**172**	*e*P	Pn	14 08 18.4	+1.2
MKZ				*i* S	Sn	14 08 38.6	+1.4
SPN	**Mys Shipunski**	**3.03**	**196**	*e*P	Pn	14 08 38.4	+1.3
SPN				*i* S	Sn	14 09 13.6	+0.8
GNL	**Ganaly**	**3.06**	**222**	*e*P	Pn	14 08 40.0	+2.5
NLC	**Nalytchevo**	**3.09**	**203**	*e*P	Pn	14 08 40.3	+2.4
NLC				*i* S	Sn	14 09 16.5	+2.3
AVH	**Avacha**	**3.16**	**210**	*e*P	Pn	14 08 41.2	+2.4
PET	**Petropavlovsk**	**3.40**	**209**	*e*P	Pn	14 08 43.6	+1.7
PET				*e*S	Sn	14 09 22.0	+0.5
RUS	**Russkaya**	**3.97**	**206**	*e*P	Pn	14 08 51.7	+2.1

IDC 30 14:37:12.3±2.5, 1539S×17711W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.7/15, mbtmp3.5/3, Error ellipse: s-maj=293.8km s-min=33.7km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.36**	**257**	P	P	14 45 40.4	-0.3
	0.1nm,0.4s,baz=92,slow=6.8,SNR=7.4						
ASAR	**Alice Springs**	**46.71**	**252**	P	P	14 45 43.5	+0.1
	0.9nm,0.6s,baz=85,slow=8.2,SNR=21						
TXAR	**Lajitas Array**	**83.60**	**57**	P	P	14 49 43.2	+0.3
	0.2nm,0.6s,baz=224,slow=5.2,SNR=3.8						

*IDC **30** 15:30:39.9±6.0, 3566N×7098E, h48km±55km, mb3.3/6, mb1 3.5/9, mb1mx3.3/24, mbtmp3.4/9, ML3.3/3, Error ellipse: s-maj=39.8km s-min=25.9km az=30.0*
*ISCJB **30** 15:30:44.9±0.4, 3598N±003×7101E±006, h104km±7km, mb3.5/6, Error ellipse: s-maj=8.5km s-min=5.5km az=172.8*
*NEIC **30** 15:30:45.3±1.0, 3591N×7110E, h93km±9km, mb4.4/1, Error ellipse: s-maj=17.1km s-min=9.4km az=126.0*
*NNC **30** 15:30:50.9±1.6, 3691N×7038E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=18.6km s-min=12.8km az=78.0*

ISC 30 15:30:46.3±0.4, 3596N±003×7104E±007, h104km±7km, n41, σ1§13/52, mb3.5/6, 2C-6D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.17**	**230**	*e*Pn	**Pn**	**15 31 20.6**	**-0.6**
KBL				*e*Sn	**Sn**	**15 31 44.5**	**-3.4**
CEP	**Cherat**	**2.25**	**161**	⇓P	**Pn**	**15 31 23.1**	**+0.8**
CEP				S	**Sn**	**15 31 51.0**	**+1.2**
CHCP	**Chirah Chowk**	**2.94**	**141**	P	**Pn**	**15 31 32.9**	**+1.6**
THW	**Thamme Wali**	**3.21**	**169**	P	**Pn**	**15 31 36.0**	**+1.0**
SARP	**Sargodha**	**4.25**	**161**	P	**Pn**	**15 31 49.6**	**+0.6**
SARP				S	**Sn**	**15 32 36.0**	**-1.6**
DRP	**Derazinda**	**4.27**	**190**	P	**Pn**	**15 31 50.8**	**+1.6**
THN	**Thein Dam**	**5.24**	**131**	*e*P	**Pn**	**15 32 01.4**	**-0.9**
THN				*ex*	x	15 33 00.6	
DLH	**Dalhousie**	**5.32**	**129**	*e*P	**Pn**	**15 32 04.0**	**+0.6**
DLH				*e*S	**Sn**	**15 33 01.0**	**-2.4**
AML	**Almayashu**	**6.50**	**18**	P	**Pn**	**15 32 19.6**	**+0.4**
	SNR=40						
AML	**Almayashu**	**6.50**	**18**	*e*Pn	**Pn**	**15 32 19.3**	**+0.1**
	131nm,0.6s						
SDNR	**Sundarnagar**	**6.65**	**130**	*ex*	x	15 32 54.0	
SDNR				*e*S	**Sn**	**15 33 31.0**	**-4.7**
UCH	**Uchtor**	**6.81**	**22**	P	**Pn**	**15 32 23.8**	**+0.2**
	SNR=12						
UCH	**Uchtor**	**6.81**	**22**	*e*Pn	**Pn**	**15 32 23.8**	**+0.2**
	4.4nm,0.4s						
UCH				*e*Sn	**Sn**	**15 33 34.1**	**-5.5**
KZA	**Kyzart**	**6.93**	**27**	P	**Pn**	**15 32 25.5**	**+0.4**
	SNR=7.7						
EKS2	**Erkin-Say**	**7.02**	**17**	P	**Pn**	**15 32 27.7**	**+1.3**
	SNR=6.1						
EKS2	**Erkin-Say**	**7.02**	**17**	*e*Pn	**Pn**	**15 32 24.6**	**-1.8**
	5.6nm,0.6s						
SMLA	**Simla**	**7.03**	**132**	*i* P	**Pn**	**15 32 26.0**	**-0.6**
SMLA				*i* S	**Sn**	**15 33 39.8**	**-5.2**
SMLA				*i* S	**Sn**	**15 33 41.3**	**-3.7**
SMLA				*ex*	x	15 33 45.1	
	comp=E,809nm,0.2s						
SMLA				*ex*	x	15 33 46.0	
	comp=N,522nm,0.3s						
KK31	**Karatay Array**	**7.14**	**357**	⇓Pn	**Pn**	**15 32 26.5**	**-1.5**
	comp=N,3.3nm,0.5s,baz=180,slow=11,SNR=93						
KK31				⇑Sn	**Sn**	**15 33 41.6**	**-5.9**
	comp=N,2.2nm,0.4s,baz=190,slow=16,SNR=6.7						
AAK	**Ala-Archa**	**7.18**	**21**	P	**Pn**	**15 32 29.1**	**+0.6**
	SNR=11						
KLP	**Kalpa**	**7.45**	**124**	*e*P	**Pn**	**15 32 34.5**	**+2.1**
KLP				*e*S	**Sn**	**15 33 49.5**	**-5.8**
USP	**Ospenovka**	**7.77**	**19**	P	**Pn**	**15 32 36.8**	**+0.3**
	SNR=6.1						
TKM2	**Tokmak 2**	**7.79**	**26**	⇓Pn	**Pn**	**15 32 36.9**	**+0.1**
	comp=N,2.6nm,0.4s						
TKM2	**Tokmak 2**	**7.79**	**26**	P	**Pn**	**15 32 36.8**	**0.0**
	SNR=10						
TKM2	**Tokmak 2**	**7.79**	**26**	*e*Pn	**Pn**	**15 32 36.5**	**-0.3**
	comp=N,4.9nm,0.4s						
JOSI	**Joshimath**	**8.94**	**125**	*e*S	**Sn**	**15 34 23.8**	**-7.7**
JOSI				AML	AML	15 35 14.0	
	comp=E,70nm,0.2s						
JOSI				AML	AML	15 35 19.4	
	comp=N,53nm,0.3s						
MK31	**Makanchi Array**	**13.71**	**34**	Pn	**Pn**	**15 33 56.1**	**-0.1**
MKAR	**Makanchi Array**	**13.71**	**34**	P	**Pn**	**15 33 55.7**	**-0.4**
	comp=N,0.1nm,0.3s,baz=229,slow=17,SNR=3.2						
AB31	**Akbulak array**	**15.57**	**332**	⇑Pn	**Pn**	**15 34 16.6**	**-3.3**
	comp=N,1.0nm,0.3s						
AB31				⇓Sn	**Sn**	**15 36 59.0**	**-13**
	comp=N,0.8nm,0.5s						
KURK	**Kurchatov**	**15.73**	**18**	P	**Pn**	**15 34 21.4**	**-0.4**
	comp=N,0.0nm,0.3s,baz=207,slow=10,SNR=3.9						
KURK	**Kurchatov**	**15.73**	**18**	P	**Pn**	**15 34 21.4**	**-0.4**
AKTK	**Aktyubinsk**	**17.26**	**331**	P	**Pn**	**15 34 40.2**	**-0.5**
AKTO	**Aktyubinsk**	**17.26**	**331**	⇓Pn	**Pn**	**15 34 39.7**	**-1.0**
	comp=N,1.3nm,0.8s						
AKTO				⇓Sn	**Sn**	**15 37 39.4**	**-13**
	comp=N,0.8nm,1.8s						
AKTO	**Aktyubinsk**	**17.26**	**331**	P	**Pn**	**15 34 40.2**	**-0.5**
	comp=N,0.4nm,0.3s,baz=146,slow=14,SNR=22						
ZALV	**Zalesovo Beam**	**20.39**	**24**	P	**P**	**15 35 14.6**	**0.0**
	comp=N,0.7nm,0.4s,baz=209,slow=10,SNR=3.6						
ARCES	**ARCESS Array B**	**41.65**	**338**	P	**P**	**15 38 27.0**	**+3.0**
	comp=N,2.1nm,1.0s,mb3.8,baz=109,slow=6.8,SNR=3.4						
ARE0	**ARCESS Array S**	**41.65**	**338**	P	**P**	**15 38 25.6**	**+1.6**
ESLA	**Sonseca Array**	**57.74**	**298**	P	**P**	**15 40 31.9**	**+5.6**
	comp=N,5.0nm,1.3s,mb4.4						
TORD	**Torodi Ar. Bea**	**65.74**	**269**	P	**P**	**15 41 19.1**	**-1.2**
	comp=N,0.2nm,0.3s,mb3.4,baz=53,slow=5.5,SNR=5.4						
WRA	**Warramunga Arr**	**81.68**	**122**	P	**P**	**15 42 52.9**	**-0.4**
	comp=N,0.3nm,0.5s,mb3.4,baz=323,slow=5.0,SNR=11						
YKA	**Yellowknife Ar**	**81.78**	**3**	P	**P**	**15 42 53.6**	**+0.4**
	comp=N,0.1nm,0.3s,mb3.1,baz=180,slow=23,SNR=3.0						
ASAR	**Alice Springs**	**83.92**	**125**	P	**P**	**15 43 04.8**	**0.0**
	comp=N,0.4nm,1.0s,mb3.2,baz=314,slow=5.2,SNR=4.8						

*NEIC **30** 15:57:54.8±1.0, 5156N×16.18E, h5km, ML2.5(SZGRF), Error ellipse: s-maj=11.0km s-min=4.5km az=196.0*
*ISCJB **30** 15:57:54.5±0.6, 5143N±003×16.12E±003, h0km, Error ellipse: s-maj=4.4km s-min=2.5km az=15.4*
*CSEM **30** 15:57:55.9±0.3, 5151N×16.10E, h2km, ML3.1/7, Error ellipse: s-maj=4.5km s-min=2.3km az=31.0*
*IPEC **30** 15:57:55.5±0.3, 5151N×16.18E, h0km, ML2.2/4, Error ellipse: s-maj=1.9km s-min=1.4km az=39.0*
*WAR **30** 15:57:56.5, 5151N×16.12E, ML2.5, Mining Induced*
*PRU **30** 15:57:56.7, 5148N×16.11E, h0km*
*VIE **30** 15:57:57.8±0.5, 5130N×16.12E, h0km, mb2.2/4, ML2.7/4, Error ellipse: s-maj=3.5km s-min=3.2km az=15.0, Suspected Mining induced.*

ISC 30 15:57:55.2±0.6, 5150N±003×1614E±003, h0km, n30, σ0§86/65, 3C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**172**	*e*Pg	**Pg**	**15 58 08.9**	**+0.9**
KSP				*e*Sg	**Sg**	**15 58 18.4**	**+1.8**
KSP	**Ksiaz**	**0.67**	**172**	*e*Pg	**Pg**	**15 58 08.6**	**+0.6**
KSP				*e*Sg	**Sg**	**15 58 16.2**	**-0.4**
KSP	**Ksiaz**	**0.67**	**172**	⇓*i*Pg	**Pg**	**15 58 08.9**	**+0.9**
KSP				*e*Sg	**Sg**	**15 58 18.0**	**+1.4**
UPC	**Upice**	**1.00**	**185**	*e*PG	**Pg**	**15 58 15.1**	**+0.7**
UPC				*e*SG	**Sg**	**15 58 28.3**	**+1.0**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG	**Pg**	**15 58 17.7**	**+0.3**
DPC	

MSLP	**Maasin**	**1.34 283**	*e*P	Pn	16 05 40.9 +0.4
MSLP			*e*S	Sn	16 05 57.5 +0.4
BESP	**Borongan**	**1.89 337**	*e*P	Pn	16 05 48.7 +0.5

BJI ***30*** *16:17:33.6, 350S×12963E, h53km, mB5.2, mb5.0, Ms4.9, Msz4.7*
NEIC ***30*** *16:17:35.9±1.9, 297S×12932E, h23km±13km, mb5.4/40, Error ellipse: s-maj=6.5km s-min=4.4km az=68.0*
IDC ***30*** *16:17:35.8±3.0, 300S×12932E, h19km±18km, mb4.9/19, mb1 4.9/22, mb1mx4.9/24, mbtmp5.0/22, ML5.0/3, MS4.7/19, Ms1 4.7/19, ms1mx4.6/31, Error ellipse: s-maj=16.3km s-min=8.9km az=76.0*
MOS ***30*** *16:17:35.6±1.1, 293S×12927E, h33km, mb5.5/37, MS4.7/13, Error ellipse: s-maj=10.4km s-min=5.8km az=111.6*
ISCJB ***30*** *16:17:35.6±0.5, 291S±002×12937E±003, h33km±4km, mb5.3/109, MS4.7/46, Error ellipse: s-maj=5.2km s-min=3.5km az=159.3*
GCMT ***30*** *16:17:35.9±0.1, 275S×12924E, h16km, MW5.5/91, Moment Tensor Solution. s86,c155; s91,c153; Duration: 1ŝ3 Moment tensor: Scale 10^17^Nm; M_{rr}0.24±.02; $M_{\theta\theta}$-1.00±.02; $M_{\phi\phi}$0.76±.02; $M_{r\theta}$-0.46±.05; $M_{\theta\phi}$0.66±.02; $M_{\phi r}$1.70±.11; Best double couple: $M_0$2.06800×10^17^ NP1:ϕ_s71.00000°, δ33.00000°, λ7.00000°. NP2:ϕ_s335.00000°, δ86.00000°, λ123.00000°. Principal axes: T 2.2360, Plg40.0000°, Azm275.0000°; N -0.3310, Plg33.0000°, Azm153.0000°; P -1.9000, Plg33.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA ***30*** *16:17:39, 280S×12946E, h33km, ML5.6/5*
ISC 30 16:17:37.8±0.4, 295S±002×12938E±003, h37km±3km**, h35**km±1.9km**:pP-P, n321,** σ**1ŝ23**/315**, mb5.3**/109**, MS4.7**/46**, 28C-17D, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi** 0.0nm,0.0s	**0.60**	**229**	P	**Pn**	**16 17 49.5**	**-0.4**
AAI	**Ambon** 0.0nm,0.0s	**1.39**	**238**	P	**Pn**	**16 18 02.7**	**+1.9**
AAI	**Ambon**	**1.39**	**238**	⇑*e*P	**Pn**	**16 18 00.5**	**-0.3**
AAI				*e*S	**Sn**	**16 18 10.5**	**-7.4**
SWI	**Sorong** 0.0nm,0.0s	**2.80**	**42**	P	**Pn**	**16 18 18.4**	**-1.7**
LBMI	**Labuha** 0.0nm,0.0s	**2.96**	**321**	P	**Pn**	**16 18 21.1**	**-1.3**
TNE	**Ternate**	**4.22**	**332**	⇓*e*P	**Pn**	**16 18 34.0**	**-5.7**
TLE	**Tual**	**4.29**	**129**	⇑*e*P	**Pn**	**16 18 42.0**	**+1.4**
MNI	**Manado** 610nm,0.8s	**6.29**	**314**	P	**Pn**	**16 19 08.0**	**-0.2**
KDI	**Kendari** 534nm,0.9s	**6.82**	**261**	P	**Pn**	**16 19 16.5**	**+1.0**
KDI	**Kendari**	**6.82**	**261**	⇑*e*P	**Pn**	**16 19 16.3**	**+0.8**
KDI				*e*S	**Sn**	**16 20 37.3**	**+5.4**
BBSI	**Bau Bau** 948nm,1.0s	**7.24**	**249**	P	**Pn**	**16 19 25.4**	**+4.1**
BATI	**Baumata** 22nm,0.3s,baz=139,slow=1.4,SNR=27	**9.18**	**218**	Pn	**Pn**	**16 19 53.9**	**+6.1**
BATI				LR	LR	16 23 31.3	
	comp=Z,14μm,20.7s,baz=40,slow=39						
PCI	**Palu** 866nm,1.1s	**9.75**	**282**	P	**Pn**	**16 19 56.7**	**+1.0**
PCI	**Palu**	**9.75**	**282**	⇓*e*P	**Pn**	**16 19 57.0**	**+1.3**
KAPI	**Kappang** 3μm,1.1s,SNR=21	**9.82**	**258**	Pn	**Pn**	**16 20 00.9**	**+4.3**
KAPI	**Kappang** SNR=26	**9.82**	**258**	P	**Pn**	**16 19 59.8**	**+3.1**
KAPI	**Kappang** 7.0nm,0.3s,baz=89,slow=9.2,SNR=60	**9.82**	**258**	Pn	**Pn**	**16 19 57.7**	**+1.1**
KAKA	**Kakadu** 160nm,0.5s	**10.16**	**163**	*e*P	**Pn**	**16 20 00.6**	**-0.7**
KAKA				*e*S	**Sn**	**16 21 52.0**	**-2.1**
MATI	**Mati**	**10.31**	**342**	*e*P	**Pn**	**16 20 03.8**	**+0.4**
DAV	**Davao City (W)** 13nm,0.3s,baz=13,slow=7.7,SNR=1.9	**10.65**	**339**	Pn	**Pn**	**16 20 06.5**	**-1.5**
DAV	**Davao City (W)** 320nm,0.8s	**10.65**	**339**	*e*P	**Pn**	**16 20 08.9**	**+0.9**
BUKP	**Musuan**	**11.59**	**338**	*e*P	**Pn**	**16 20 20.8**	**0.0**
SMKI	**Samarinda** 287nm,1.1s	**12.41**	**281**	P	**Pn**	**16 20 34.5**	**+2.3**
BUTP	**Butuan**	**12.42**	**342**	*e*P	**Pn**	**16 20 33.6**	**+1.4**
IPIL	**Ipil**	**12.64**	**328**	*e*P	**Pn**	**16 20 33.6**	**-1.6**
MYLDM	**Lahad Datu**	**13.54**	**307**	⇑P	**Pn**	**16 20 45.1**	**-2.4**
TSM	**Tawau**	**13.56**	**302**	⇓P	**Pn**	**16 20 45.3**	**-2.6**
MSLP	**Maasin**	**13.75**	**341**	*e*P	**Pn**	**16 20 59.3**	**+8.9**
BBKI	**Banjar Baru** 401nm,1.6s	**14.52**	**268**	P	**Pn**	**16 21 04.7**	**+3.7**
KHKI	**Kahang-Kahang** 249nm,1.0s	**14.72**	**248**	P	**Pn**	**16 21 07.2**	**+3.6**
SDKM	**Sandakan**	**14.86**	**305**	⇑P	**Pn**	**16 21 03.6**	**-1.9**
GUIM	**Jordan**	**15.08**	**333**	*e*P	**Pn**	**16 21 05.8**	**-2.6**
DNP	**Denpasar** 590nm,1.0s	**15.20**	**247**	P	**Pn**	**16 21 13.6**	**+3.7**
IGBI	**Denpasar** 694nm,1.0s	**15.31**	**247**	P	**Pn**	**16 21 14.0**	**+2.7**
PLKI	**Palangkaraya** 354nm,1.1s	**15.43**	**272**	P	**Pn**	**16 21 18.2**	**+5.2**
FITZ	**Fitzroy Crossi** 61nm,0.4s	**15.50**	**193**	*e*P	**Pn**	**16 21 12.9**	**-0.9**
FITZ				*e*S	**S**	**16 24 08.0**	**-11**
FITZ	**Fitzroy Crossi** 1.7nm,0.3s,baz=25,slow=12,SNR=61	**15.50**	**193**	Pn	**Pn**	**16 21 12.3**	**-1.5**
FITZ				LR	LR	16 28 18.2	
	comp=Z,3μm,18.4s,baz=23,slow=42						
KKM	**Kota Kinabalu**	**15.89**	**304**	⇑P	**Pn**	**16 21 16.6**	**-2.4**
BATP	**Bataraza**	**16.41**	**315**	*e*P	**Pn**	**16 21 34.9**	**+9.4**
ENPP	**El Nido**	**17.20**	**325**	*e*P	**Pn**	**16 21 36.3**	**+0.9**
PVCP	**Virac**	**17.23**	**343**	*e*P	**Pn**	**16 21 38.0**	**+2.1**
TRT	**Tretes**	**17.32**	**254**	⇑*e*P	**Pn**	**16 21 36.2**	**-0.8**
SJMP	**San Jose**	**17.37**	**332**	*e*P	**Pn**	**16 21 39.1**	**+1.6**
BUSP	**Coron**	**17.43**	**329**	*e*P	**Pn**	**16 21 37.1**	**-1.2**
COEN	**Coen** 111nm,1.0s	**17.47**	**130**	*e*Pn	**Pn**	**16 21 38.2**	**-0.6**
COEN				*e*Sn	**Sn**	**16 24 44.5**	**-8.0**
WRAB	**Tennant Creek** 1μm,0.4s	**17.57**	**164**	Pn	**Pn**	**16 21 38.0**	**-1.9**
WRAB	**Tennant Creek**	**17.57**	**164**	*c i*P	**Pn**	**16 21 39.3**	**-0.6**
WRA	**Warramunga Arr** 12nm,0.3s,baz=344,slow=13,SNR=142	**17.57**	**164**	P	**Pn**	**16 21 38.0**	**-2.0**
WRA				S	**S**	**16 24 54.4**	**-7.1**
	2.3nm,0.3s,baz=338,slow=24,SNR=4.4						
WB2	**Warramunga Arr**	**17.57**	**164**	*e*P	**Pn**	**16 21 37.6**	**-2.4**
WB2				*e*S	**S**	**16 24 50.6**	**-11**
KRKI	**Karangkates** 920nm,1.0s	**17.62**	**252**	P	**Pn**	**16 21 44.8**	**+4.2**
PBKI	**Pangkalan Bun** 364nm,1.2s	**17.69**	**270**	P	**Pn**	**16 21 46.3**	**+4.8**
SBUM	**Sibu**	**17.97**	**287**	⇑P	**Pn**	**16 21 42.6**	**-2.4**
SJI	**Sawahan** 504nm,1.3s	**18.16**	**254**	P	**Pn**	**16 21 48.9**	**+1.6**
PMG	**Port Moresby**	**18.80**	**111**	*d i*P	**Pn**	**16 21 56.2**	**+1.1**
PMG	**Port Moresby** 115nm,0.8s	**18.80**	**111**	*e*Pn	**Pn**	**16 21 56.0**	**+1.0**
LUBP	**Lubang**	**18.89**	**332**	*e*P	**Pn**	**16 21 56.0**	**-0.1**
KSM	**Kuching**	**19.56**	**283**	⇑P	**Pn**	**16 22 00.5**	**-3.8**
BJII	**Banjamegara** 464nm,1.8s	**20.06**	**257**	P	**P**	**16 22 10.3**	**+2.1**
BALP	**Baler**	**20.11**	**338**	*e*P	**P**	**16 22 07.9**	**-0.7**
MBWA	**Marble Bar** SNR=9.7	**20.39**	**207**	⇓P	**P**	**16 22 10.1**	**-1.6**
MBWA	**Marble Bar** 130nm,1.0s	**20.39**	**207**	*e*P	**P**	**16 22 10.2**	**-1.5**
SCZP	**Santa Cruz**	**20.83**	**334**	*e*P	**P**	**16 22 14.6**	**-1.8**
PALP	**Palanan**	**21.04**	**341**	*e*P	**P**	**16 22 16.3**	**-2.3**
ASAR	**Alice Springs** 111nm,0.5s,mb5.4,baz=348,slow=10,SNR=916	**21.06**	**168**	P	**P**	**16 22 19.1**	**+0.3**
ASAR				S	**S**	**16 26 09.7**	**-1.6**
	26nm,0.8s,baz=347,slow=21,SNR=6.8						
BCPH	**Baguio City Da**	**21.08**	**336**	⇓*e*P	**P**	**16 22 15.3**	**-3.8**
CAUP	**Cauayan**	**21.13**	**340**	*e*P	**P**	**16 22 22.1**	**+2.4**
BOLP	**Bolinao**	**21.36**	**334**	*e*P	**P**	**16 22 27.9**	**+5.8**
TPI	**Tanjungpandan** 144nm,1.2s,mb5.3	**21.70**	**270**	P	**P**	**16 22 27.9**	**+2.0**
LEM	**Lembang** 222nm,0.9s,mb5.6	**22.02**	**259**	P	**P**	**16 22 29.4**	**+0.1**
ABRA	**Dolores**	**22.18**	**338**	*e*P	**P**	**16 22 34.9**	**+4.0**
APYP	**Conner**	**22.18**	**339**	*e*P	**P**	**16 22 29.0**	**-1.9**
GUMO	**Guam** 75nm,0.9s,mb5.1,baz=24,slow=21,SNR=4.2	**22.50**	**43**	P	**P**	**16 22 34.7**	**+0.4**
GUMO	**Guam**	**22.50**	**43**	*e*P	**P**	**16 22 34.0**	**-0.4**
	comp=Z,75nm,0.9s,mb5.1						
GUMO	**Guam** comp=Z,313nm,1.1s,mb5.7	**22.50**	**43**	*e*P	**P**	**16 22 34.0**	**-0.4**
CBJI	**Citeko** comp=Z,321nm,0.9s,mb5.8	**22.71**	**260**	P	**P**	**16 22 41.1**	**+4.4**
PPBI	**Pangkal Pinang** comp=Z,207nm,1.0s,mb5.5	**23.23**	**271**	P	**P**	**16 22 43.9**	**+1.7**
CTA	**Charters Tower** comp=Z,58nm,0.8s,mb5.1	**23.70**	**137**	⇓*i*P	**P**	**16 22 47.5**	**+1.0**
CTA				*e*S	**S**	**16 27 01.5**	**+2.5**
CTA	**Charters Tower** comp=Z,58nm,1.1s,mb4.9,baz=325,slow=11,SNR=14	**23.70**	**137**	P	**P**	**16 22 47.9**	**+1.4**
CTA	**Charters Tower**	**23.70**	**137**	⇓*i*P	**P**	**16 22 47.5**	**+1.0**
CTA				*e*S	**S**	**16 27 01.5**	**+2.5**
CTA	comp=Z,58nm,0.8s			pmax	pmax		
CTAO	**Charters Tower**	**23.70**	**137**	*e*P	**P**	**16 22 47.1**	**+0.6**
CTAO	comp=Z,86nm,0.9s,mb5.2			pmax	pmax		
CTAO	**Charters Tower** comp=Z,86nm,0.9s,mb5.2	**23.70**	**137**	*e*P	**P**	**16 22 47.1**	**+0.6**
KLI	**Kotabumi** comp=Z,187nm,1.4s,mb5.4	**24.54**	**265**	P	**P**	**16 22 56.8**	**+2.5**
JMBI	**JAMBI** comp=Z,820nm,0.9s,mb6.3	**25.75**	**272**	P	**P**	**16 23 10.2**	**+4.9**
MYKOM	**Kota Tinggi**	**25.95**	**280**	⇓P	**P**	**16 23 05.1**	**-2.0**
KGM	**Kluang**	**26.51**	**280**	⇓P	**P**	**16 23 11.1**	**-1.1**
RGRI	**Rengat** comp=Z,159nm,0.9s,mb5.5	**27.15**	**275**	P	**P**	**16 23 22.7**	**+4.7**
FORT	**Forrest** comp=Z,47nm,0.6s,mb5.3	**27.71**	**182**	*e*P	**P**	**16 23 22.1**	**-0.6**
FRIM	**Kepong**	**28.41**	**282**	⇑P	**P**	**16 23 27.7**	**-1.5**
PPI	**Padang Panjang** comp=Z,289nm,0.9s,mb6.0	**29.07**	**274**	P	**P**	**16 23 35.7**	**+0.6**
QIZ	**Qiongzhong**	**29.09**	**319**	P	**P**	**16 23 35.0**	**-0.2**
QIZ				S	**S**	**16 28 25.0**	**+0.4**
QIZ	comp=Z,13nm,1.1s,mb4.6			AMB	AMB		
QIZ	comp=Z,240nm,11.4s			AMB	AMB		
QIZ	comp=E,847nm,20.2s			LR	LR		
QIZ	comp=Z,2μm,19.9s,MS4.7			LR	LR		
QIZ	**Qiongzhong** comp=Z,18nm,1.1s,mb4.7	**29.09**	**319**	*e*P	**P**	**16 23 38.0**	**+2.9**
IPM	**Ipoh**	**29.27**	**284**	⇓P	**P**	**16 23 36.0**	**-0.9**
JOW	**Kunigami** comp=Z,4.9nm,0.6s,mb4.4,baz=180,slow=3.0,SNR=3.7	**29.62**	**358**	P	**P**	**16 23 39.6**	**-0.2**
JOW				LR	LR	16 33 51.4	
	comp=Z,2μm,21.7s,MS4.8,baz=43,slow=33						
QZH	**Quanzhou**	**29.64**	**340**	*e*P	**P**	**16 23 41.8**	**+1.9**
QZH				S	**S**	**16 28 30.0**	**-3.1**
QZH	comp=N,1μm,16.2s,MS4.8			LR	LR		
QZH	comp=E,1μm,14.4s,MS4.8			LR	LR		
QZH	comp=Z,3μm,24.6s			LR	LR		
KULM	**Kulim**	**29.84**	**286**	⇓P	**P**	**16 23 41.1**	**-0.9**
KLBR	**Kellerberrin** comp=Z,24nm,0.8s,mb5.1	**30.52**	**200**	*e*P	**P**	**16 23 46.1**	**-1.6**
SBSI	**Sibolga** comp=Z,278nm,0.7s,mb6.2	**30.80**	**278**	P	**P**	**16 23 48.7**	**-1.8**
PSI	**Prapat** comp=Z,89nm,0.9s,mb5.6,baz=101,slow=5.0,SNR=36	**30.97**	**280**	P	**P**	**16 23 51.9**	**-0.1**
STKA	**Stephens Creek** comp=Z,7.1nm,0.3s,mb4.9,baz=343,slow=8.8,SNR=54	**30.99**	**160**	P	**P**	**16 23 52.4**	**+0.5**
STKA	**Stephens Creek** comp=Z,49nm,1.0s,mb5.3	**30.99**	**160**	*e*P	**P**	**16 23 51.9**	**0.0**
HNR	**Honiara** comp=Z,76nm,0.7s,mb5.7,baz=242,slow=0.7,SNR=9.5	**31.05**	**103**	P	**P**	**16 23 53.6**	**+1.0**
HNR	**Honiara**	**31.05**	**103**	P	**P**	**16 23 53.6**	**+1.0**
HNR	comp=Z,77nm,0.7s,mb5.6			pmax	pmax		
HNR	**Honiara** comp=Z,391nm,1.4s,mb6.0	**31.05**	**103**	*e*P	**P**	**16 23 52.3**	**-0.3**
MUN	**Mundaring**	**31.42**	**202**	*e*P	**P**	**16 23 54.2**	**-1.4**
TSI	**Tuntungan** comp=Z,118nm,1.3s,mb5.6	**31.46**	**282**	P	**P**	**16 23 57.6**	**+1.4**
NWAO	**Narrogin (SRO)** comp=Z,8.4nm,0.4s,mb4.9,baz=27,slow=5.8,SNR=18	**31.92**	**200**	P	**P**	**16 23 59.0**	**-1.0**
NWAO	comp=Z,3μm,20.6s,MS4.9,baz=25,slow=38			LR	LR	16 37 51.4	
NWAO	**Narrogin (SRO)**	**31.92**	**200**	P	**P**	**16 23 59.0**	**-1.0**
NWAO	comp=Z,8.0nm,0.4s			pmax	pmax		
NWAO	comp=Z,3μm,20.6s			MLR	MLR		
NWAO	**Narrogin (SRO)** comp=Z,13nm,0.8s,mb4.8	**31.92**	**200**	*e*P	**P**	**16 23 58.1**	**-1.9**
ARMA	**Armidale**	**34.49**	**145**	*e*P	**P**	**16 24 24.4**	**+1.9**
SSE	**Sheshan**	**34.74**	**348**	P	**P**	**16 24 26.5**	**+1.9**
SSE				XP	sP	16 24 42.5	+2.9
SSE				S	**S**	**16 29 55.5**	**+3.0**
SSE	comp=Z,26nm,0.8s,mb5.2			AMB	AMB		
SSE	comp=Z,95nm,6.9s			AMB	AMB		
SSE	comp=N,741nm,21.6s,MS4.6			LR	LR		
SSE	comp=E,920nm,21.6s,MS4.6			LR	LR		
SSE	comp=Z,821nm,22.6s,MS4.4			LR	LR		
BSI	**Banda Aceh** comp=Z,51nm,1.2s,mb5.3	**35.06**	**284**	P	**P**	**16 24 27.4**	**-0.3**
NJ2	**Nanjing**	**36.21**	**345**	*e*P	**P**	**16 24 38.3**	**+1.1**
NJ2				AP	pP	16 24 49.0	+1.2
NJ2				PP	PP	16 26 03.0	+2.9
NJ2				S	**S**	**16 30 16.0**	**+0.9**
NJ2	comp=Z,20nm,0.9s,mb5.0			AMB	AMB		
NJ2	comp=Z,80nm,4.7s			AMB	AMB		
NJ2	comp=N,310nm,29.0s,MS4.4			LR	LR		
NJ2	comp=E,840nm,31.6s,MS4.4			LR	LR		
NJ2	comp=Z,940nm,35.3s,MS4.3			LR	LR		
WHN	**Wuhan**	**36.26**	**338**	P	**P**	**16 24 38.0**	**+0.3**
WHN				S	**S**	**16 30 15.0**	**-0.9**
WHN	comp=N,2μm,33.0s,MS5.1			LR	LR		
WHN	comp=E,5μm,28.3s,MS5.1			LR	LR		
WHN	comp=Z,2μm,12.0s			LR	LR		
GYA	**Guiyang**	**36.56**	**324**	P	**P**	**16 24 40.5**	**+0.2**
GYA				AP	pP	16 24 50.3	-0.6
GYA				PP	PP	16 26 06.0	+1.9
GYA				PCP	PcP	16 27 05.5	+2.2
GYA				S	**S**	**16 30 20.5**	**-0.1**
GYA				SS	SS	16 32 50.5	-11
GYA	comp=Z,20nm,0.8s,mb5.0			AMB	AMB		
GYA	comp=Z,280nm,6.0s			AMB	AMB		
GYA	comp=N,1μm,18.5s,MS4.8			LR	LR		
GYA	comp=E,890nm,19.4s,MS4.8			LR	LR		
GYA	comp=Z,770nm,18.5s,MS4.5			LR	LR		
CM31	**Chiang Mai Arr** comp=Z,19nm,0.8s,mb5.0	**36.75**	**307**	*e*P	**P**	**16 24 42.7**	**+0.7**
CMAR	**Chiang Mai Arr** comp=Z,8.2nm,0.9s,mb4.6,baz=136,slow=7.1,SNR=44	**36.75**	**307**	P	**P**	**16 24 42.8**	**+0.8**
CMAR				PcP	PcP	16 27 06.3	+2.3
	comp=Z,4.0nm,0.9s,baz=161,slow=3.0,SNR=5.9						
CHTO	**Chiang Mai** SNR=21	**36.94**	**307**	P	**P**	**16 24 44.7**	**+1.1**
CHTO	**Chiang Mai**	**36.94**	**307**	*e*P	**P**	**16 24 43.7**	**+0.1**
CHTO				*e*		16 27 04.5	
CHTO	comp=Z,32nm,0.9s,mb5.2			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,32nm,0.9s,mb5.2	**36.94**	**307**	*e*P	**P**	**16 24 43.7**	**+0.1**
CHTO				*e*PcP	PcP	16 27 04.5	-0.1
CNB	**Canberra Magne**	**37.16**	**152**	*e*P	**P**	**16 24 47.1**	**+1.8**
TOO	**Toolangi**	**37.50**	**159**	*e*P	**P**	**16 24 50.4**	**+2.3**
KMI	**Kunming**	**38.03**	**319**	P	**P**	**16 24 52.5**	**-0.3**
KMI				PP	PP	16 26 22.8	+2.5
KMI				S	**S**	**16 30 42.8**	**-0.2**
KMI				AMB	AMB		
KMI	comp=Z,35nm,1.5s,mb4.9			AMB	AMB		
KMI	comp=Z,261nm,4.4s			LR	LR		
KMI	comp=N,905nm,22.9s,MS4.6			LR	LR		
KMI	comp=E,647nm,23.9s,MS4.6			LR	LR		
KMI	comp=Z,761nm,19.8s,MS4.5			LR	LR		
MJAR	**Matsushiro Arr** comp=Z,6.8nm,0.7s,mb4.5,baz=184,slow=9.1,SNR=20	**40.14**	**11**	P	**P**	**16 25 11.0**	**+0.8**
MJAR	comp=Z,1μm,20.6s,MS4.7,baz=200,slow=34			LR	LR	16 40 20.5	
MAJO	**Matsushiro**	**40.14**	**11**	*e*P	**P**	**16 25 08.0**	**-2.3**
MAJO	comp=Z,50nm,0.8s,mb5.3			pmax	pmax		
MAJO	**Matsushiro** comp=Z,50nm,0.8s,mb5.3	**40.14**	**11**	*e*P	**P**	**16 25 08.0**	**-2.2**
MAT	**Matsushiro**	**40.14**	**11**	P	**P**	**16 25 11.0**	**+0.7**
MAT				S	**S**	**16 31 09.0**	**-5.3**
KSRS	**Korea Array** comp=Z,4.9nm,0.7s,mb4.4,baz=174,slow=9.1,SNR=16	**40.22**	**358**	P	**P**	**16 25 09.7**	**-1.2**
KSRS				PcP	PcP	16 27 16.4	+1.9
	comp=Z,2.8nm,0.7s,baz=191,slow=2.6,SNR=7.0						
KSRS				LR	LR	16 41 20.5	
	comp=Z,988nm,19.6s,MS4.7,baz=193,slow=35						
KSRS	**Korea Array**	**40.22**	**358**	P	**P**	**16 25 09.7**	**-1.2**
KSRS						16 27 16.4	
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
KSRS				MLR	MLR		
	comp=Z,988nm,19.6s,MS4.7						
XAN	**Xi'an**	**41.53**	**334**	P	**P**	**16 25 20.5**	**-1.3**
XAN				PP	PP	16 26 59.5	+1.2
XAN				S	**S**	**16 31 31.0**	**-4.2**
XAN	comp=Z,6.0nm,1.5s			AMB	AMB		
XAN	comp=Z,109nm,8.1s			AMB	AMB		
XAN	comp=N,428nm,21.0s,MS4.5			LR	LR		
XAN	comp=E,588nm,23.7s,MS4.5			LR	LR		
XAN	comp=Z,753nm,22.3s,MS4.5			LR	LR		
CD2	**Chengdu**	**41.59**	**326**	P	**P**	**16 25 22.3**	**0.0**
CD2				PP	PP	16 27 01.5	+2.5
CD2				PCP	PcP	16 27 20.5	+1.4
CD2				PCS	PcS	16 31 09.8	-0.7
CD2				S	**S**	**16 31 33.3**	**-2.9**
CD2				SCS	ScS	16 35 21.3	-1.9
CD2	comp=Z,60nm,1.2s,mb5.1			AMB	AMB		
CD2	comp=Z,130nm,4.9s			AMB	AMB		
CD2	comp=N,1μm,19.8s,MS4.9			LR	LR		
CD2	comp=E,1μm,20.4s,MS4.9			LR	LR		
CD2	comp=Z,1μm,19.8s,MS4.8			LR	LR		
DL2	**Dalian**	**42.26**	**351**	*e*P	**P**	**16 25 26.3**	**-1.3**
DL2				S	**S**	**16 31 44.0**	**-1.7**
DL2	comp=Z,10.0nm,1.3s,mb4.3			AMB	AMB		
DL2	comp=Z,150nm,6.0s			AMB	AMB		
DL2	comp=N,350nm,17.2s,MS4.4			LR	LR		
DL2	comp=E,330nm,17.5s,MS4.4			LR	LR		
DL2	comp=Z,470nm,17.7s,MS4.4			LR	LR		
TIY	**Taiyuan**	**43.40**	**340**	*e*P	**P**	**16 25 39.5**	**+2.6**
TIY				AP	pP	16 25 48.8	+1.1
TIY				S	**S**	**16 31 59.5**	**-3.1**
TIY	comp=Z,155nm,5.6s			AMB	AMB		
TIY	comp=Z,949nm,28.8s,MS4.5			LR	LR		
IMP	**Imphal**	**44.09**	**311**	*e*P	**P**	**16 25 41.0**	**-1.7**
BJI	**Beijing**	**44.46**	**346**	P	**P**	**16 25 45.0**	**-0.4**
BJI				PP	PP	16 27 31.5	+1.8
BJI				S	**S**	**16 32 13.3**	**-4.6**
BJI				SS	SS	16 35 32.5	-5.7
BJI	comp=Z,14nm,0.8s,mb4.7			AMB	AMB		
BJI	comp=Z,138nm,4.2s			AMB	AMB		
BJI	comp=N,370nm,18.1s			LR	LR		
BJI	comp=E,769nm,25.5s			LR	LR		
BJI	comp=Z,691nm,25.6s			LR	LR		
SNY	**Shenyang**	**44.88**	**354**	⇑P	**P**	**16 25 49.3**	**+0.7**
SNY				S	**S**	**16 32 22.5**	**-1.4**
SNY				SS	SS	16 35 37.5	-8.7
SNY	comp=Z,10.0nm,2.0s,mb4.3			AMB	AMB		
SNY	comp=Z,240nm,3.5s			AMB	AMB		
SNY	comp=N,869nm,19.8s			LR	LR		
SNY	comp=Z,1μm,19.6s,MS4.8			LR	LR		
LZH	**Lanzhou**	**45.57**	**331**	⇑P	**P**	**16 25 55.0**	**+0.7**
LZH				AP	pP	16 26 08.0	+2.9
LZH				XP	sP	16 26 11.5	+2.0
LZH				PP	PP	16 27 43.0	+1.4
LZH				S	**S**	**16 32 34.0**	**-0.2**
LZH				SS	SS	16 35 52.0	-6.8
LZH	comp=Z,60nm,1.6s,mb5.3			AMB	AMB		
LZH	comp=Z,215nm,4.8s			AMB	AMB		
LZH	comp=E,786nm,14.4s			LR	LR		
LZH	comp=Z,1μm,16.0s,MS4.9			LR	LR		
VLA	**Vladivostok**	**45.91**	**3**	P	**P**	**16 25 53.0**	**-3.8**
VLA				*e**PP	pP	16 26 02.6	-5.0
VLA				*e**SP	sP	16 26 06.7	-5.3
VLA				*i* S	**S**	**16 32 38.0**	**-0.8**
VLA	comp=Z,17nm,1.0s,mb4.9			pmax	pmax		
VLA	comp=Z,1μm,18.0s,MS5.0			MLR	MLR		
SHL	**Shillong**	**46.07**	**310**	*e*P	**P**	**16 26 00.5**	**+2.1**
SHL				*ex*	x	16 32 48.0	
HHC	**Hu-ho-hao-te**	**46.53**	**341**	*e*P	**P**	**16 26 04.5**	**+2.8**
HHC				AP	pP	16 26 14.5	+2.0
HHC				XP	sP	16 26 18.0	+1.1
HHC				PCP	PcP	16 27 36.5	+0.8
HHC				PP	PP	16 27 55.5	+4.0
HHC				S	**S**	**16 32 44.5**	**-3.2**
HHC	comp=Z,31nm,1.0s,mb5.2			AMB	AMB		
HHC	comp=Z,156nm,4.4s			AMB	AMB		
HHC	comp=N,548nm,22.6s,MS4.7			LR	LR		
HHC	comp=E,917nm,26.2s,MS4.7			LR	LR		
HHC	comp=Z,856nm,21.4s,MS4.7			LR	LR		
CN2	**Changchun**	**46.67**	**356**	*e*P	**P**	**16 26 07.5**	**+4.7**
CN2				*e*AP	pP	16 26 17.3	+3.7
CN2				*e*S	**S**	**16 32 45.0**	**-4.7**
CN2				SS	SS	16 36 15.0	-1.5
CN2	comp=Z,10.0nm,1.3s,mb4.6			AMB	AMB		
CN2	comp=Z,200nm,8.0s			AMB	AMB		
CN2	comp=N,900nm,18.0s,MS4.8			LR	LR		
CN2	comp=E,600nm,18.0s,MS4.8			LR	LR		
CN2	comp=Z,800nm,20.0s,MS4.7			LR	LR		
BTO	**Baotou**	**46.82**	**340**	*e*P	**P**	**16 26 09.5**	**+5.5**
MDJ	**Mudanjiang**	**47.35**	**0**	P	**P**	**16 26 07.8**	**-0.3**
MDJ				PP	PP	16 27 58.8	-0.8
MDJ				SCP	ScP	16 31 29.8	-0.1

MDJ PCS PcS 16 31 33.5 -0.1
MDJ S **S** **16 32 59.3 -0.1**
MDJ AMB AMB
comp=Z,5.0nm,1.4s,mb4.2
MDJ AMB AMB
comp=Z,12nm,3.5s
MDJ LR LR
comp=N,449nm,19.0s,MS4.6
MDJ LR LR
comp=E,644nm,23.9s,MS4.6
MDJ LR LR
comp=Z,773nm,23.1s,MS4.6
LSA Lhasa 48.90 314 P **P** **16 26 22.0 +1.7**
VIS Vishakhapatnam 49.82 296 *e*P **P** **16 26 27.9 +0.3**
VIS AMb AMB 16 26 31.2
comp=Z,56nm,1.2s,mb5.5
BOK Bokaro 49.97 305 *e*x x 16 26 24.2
BOK AMb AMB 16 26 31.4
comp=Z,34nm,1.2s,mb5.2
GTA Gaotai 50.16 330 P **P** **16 26 29.3 -0.5**
GTA PP PP 16 28 25.8 +0.5
GTA PCS PcS 16 31 44.0 -1.8
GTA S **S** **16 33 36.8 -2.3**
GTA SS SS 16 37 09.8 -3.2
GTA AMB AMB
comp=Z,19nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,106nm,6.6s
GTA LR LR
comp=N,475nm,19.5s,MS4.7
GTA LR LR
comp=E,501nm,20.4s,MS4.7
GTA LR LR
comp=Z,744nm,19.5s,MS4.7
TAPN Taplejung 50.19 310 *e*P **P** **16 26 30.4 +0.2**
ODAN Odare 50.20 309 *e*P **P** **16 26 30.5 +0.2**
comp=Z,112nm,0.8s,mb6.0
RAMN Ramite 50.85 309 *e*P **P** **16 26 35.8 +0.5**
comp=Z,178nm,0.8s,mb6.1
YSS Yuzh-Sakhalins 51.07 12 *e*P **P** **16 26 41.0 +4.5**
YSS *e*S **S** **16 33 54.0 +2.5**
YSS MLR MLR
comp=Z,400nm,17.0s,MS4.5
YSS MLR MLR
comp=N,400nm,18.0s,MS4.7
YSS MLR MLR
comp=E,500nm,18.0s,MS4.7
YSS Yuzh-Sakhalins 51.07 12 *e*P **P** **16 26 38.1 +1.6**
comp=E,31nm,1.3s,mb5.1
JIRN Jiri 51.52 309 *e*P **P** **16 26 40.6 +0.4**
GUN Gumba 51.88 309 *e*P **P** **16 26 43.5 +0.6**
comp=E,192nm,0.9s,mb6.0
KLR Kul'dur 52.01 2 *e*P **P** **16 26 39.0 -4.5**
KLR *e*S **S** **16 33 58.0 -6.3**
PKI Pulchoki 52.08 309 *e*P **P** **16 26 44.4 0.0**
comp=E,68nm,1.0s,mb5.5
PKI Pulchoki 52.08 309 *e*P **P** **16 26 44.4 0.0**
PKI pmax pmax
comp=Z,68nm,1.0s,mb5.5
PKIN Phulchoki 52.09 309 *e*P **P** **16 26 44.4 -0.1**
comp=Z,94nm,1.3s,mb5.6
KKN Kakani 52.29 309 *e*P **P** **16 26 45.9 0.0**
comp=Z,107nm,0.9s,mb5.8
KKN Kakani 52.29 309 *e*P **P** **16 26 45.9 0.0**
KKN pmax pmax
comp=Z,107nm,0.9s,mb5.8
DMN Daman 52.34 309 *e*P **P** **16 26 46.5 +0.2**
comp=Z,151nm,1.1s,mb5.8
GKN Gorkha 52.89 309 *e*P **P** **16 26 50.8 +0.4**
comp=Z,41nm,1.0s,mb5.3
TRD Trivandrum 53.49 283 *e*P **P** **16 26 53.7 -1.4**
TRD AMb AMB 16 26 59.9
comp=Z,51nm,1.1s,mb5.3
KOLN Koldanda 53.59 308 *e*P **P** **16 26 55.9 +0.3**
comp=Z,213nm,0.9s,mb6.1
DANN Dangsing 53.73 309 *e*P **P** **16 26 56.8 +0.2**
comp=Z,216nm,0.8s,mb6.1
HYB Hyderabad 54.05 294 *i*P **P** **16 26 58.0 -1.1**
HYB Hyderabad 54.05 294 *e*P **P** **16 26 58.0 -1.1**
ULN Ulaanbaatar 54.25 342 ⇑P **P** **16 27 00.7 +0.7**
SNR=34
ULN Ulaanbaatar 54.25 342 *e*P **P** **16 26 59.9 -0.1**
ULN *e* pP 16 27 08.6 -2.4
ULN pmax pmax
comp=Z,60nm,1.3s,mb5.4
ULN Ulaanbaatar 54.25 342 *e*P **P** **16 26 59.9 0.0**
comp=Z,60nm,1.3s,mb5.4
ULN *e* pP 16 27 08.6 -2.4
SONM Songino Array 54.43 341 P **P** **16 27 01.0 -0.3**
comp=Z,7.6nm,1.1s,mb4.5,baz=167,slow=7.5,SNR=30
SONM LR LR 16 52 01.1
comp=Z,510nm,20.3s,MS4.6,baz=160,slow=38
CIT Chita 56.39 348 *e*P **P** **16 27 15.5 +0.2**
CIT *e* 16 27 32.8
CIT *e* 16 28 19.4
CIT pmax pmax
comp=Z,214nm,1.7s,mb5.9
ZAK Zakamensk 57.66 341 *e*P **P** **16 27 23.8 -0.6**
ZAK *e* 16 28 17.3
ZAK pmax pmax
comp=Z,14nm,1.9s,mb4.7
KAD Karad 58.03 292 *e*P **P** **16 27 27.3 -0.3**
KAD AMb AMB 16 27 38.6
comp=Z,34nm,1.0s,mb5.3
SKR Severo-Kuril's 58.13 20 *e*P **P** **16 27 26.0 -1.7**
SKR *e* 16 28 20.0
SKR *e* 16 29 36.0
SKR S **S** **16 35 24.0 -2.3**
SKR pmax pmax
comp=Z,30nm,0.5s,mb5.6
SKR pmax pmax
comp=E,600nm,4.0s
SKR pmax pmax
comp=Z,600nm,4.0s
SKR smax
comp=N,800nm,8.0s
SKR smax
comp=E,1μm,8.0s
SKR MLR MLR
comp=N,900nm,16.0s,MS5.2
SKR MLR MLR
comp=E,1μm,16.0s,MS5.2
SKR MLR MLR
comp=Z,1μm,16.0s,MS5.1
POO Poona 58.66 294 *e*P **P** **16 27 29.7 -2.2**
POO AMb AMB 16 27 34.7
comp=Z,40nm,1.2s,mb5.3
TLY Talaya 58.66 342 P **P** **16 27 32.5 +1.2**
comp=Z,113nm,1.5s,mb5.7,SNR=5.8
TLY Talaya 58.66 342 ⇑P **P** **16 27 32.0 +0.7**
SNR=24
TLY Talaya 58.66 342 *e*P **P** **16 27 31.7 +0.4**
TLY *e*S **S** **16 35 33.7 +0.6**
TLY *e* 16 37 21.6
TLY pmax pmax
comp=Z,37nm,1.4s,mb5.2
TLY MLR MLR
comp=Z,578nm,23.0s,MS4.6
IRK Irkutsk 58.95 342 ⇑*i*P **P** **16 27 32.9 -0.4**
IRK pmax pmax
comp=Z,90nm,1.8s,mb5.5
DDI Dehra Dun 59.07 308 *e*P **P** **16 27 34.4 -0.2**
AFI Afiamalu 59.07 104 LR LR 16 52 55.2
comp=Z,696nm,18.3s,MS4.8,baz=288,slow=36
NDI New Delhi 59.08 306 *e*x **P** **16 27 34.0 -0.7**
NDI *e*x x 16 30 45.0
MOY Mondy 59.52 340 *e*P **P** **16 27 38.0 +0.7**
MOY pmax pmax
comp=Z,113nm,1.8s,mb5.6
WMQ Urumqi 59.69 326 P **P** **16 27 40.5 +1.9**
WMQ AP pP 16 27 50.8 +1.0
WMQ XP sP 16 27 54.8 +0.7
WMQ PCP PcP 16 28 27.3 +1.9
WMQ PP PP 16 29 54.3 +3.5
WMQ S **S** **16 35 47.3 +0.5**
WMQ SCS ScS 16 37 24.5 -1.7
WMQ SS SS 16 39 44.5 +1.3
WMQ AMB AMB
comp=Z,41nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,53nm,10.3s
WMQ LR LR
comp=N,841nm,22.5s,MS4.9
WMQ LR LR
comp=E,631nm,22.6s,MS4.9
WMQ LR LR
comp=Z,673nm,21.6s,MS4.7
CLNS Chul'man 59.70 357 *e*P **P** **16 27 41.7 +3.3**
CLNS pmax pmax
comp=Z,16nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,11nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,0.8s
SMLA Simla 60.10 309 *i*P **P** **16 27 40.2 -1.5**
SMLA *e*x x 16 27 45.2
comp=Z,121nm,0.4s
SMLA *i*x x 16 35 48.3
AJM Ajmer 60.39 303 *e*P **P** **16 27 41.9 -1.8**
PETK Petropavlovsk- 60.71 19 P **P** **16 27 46.2 +0.8**
comp=Z,27nm,0.8s,mb5.4,baz=188,slow=4.8,SNR=35
PETK LR LR 16 51 36.7
comp=Z,170nm,21.1s,MS4.2,baz=210,slow=34
PETK Petropavlovsk- 60.71 19 P **P** **16 27 46.2 +0.8**
PETK LR LR 16 51 36.7
PET Petropavlovsk 60.95 20 *e*P **P** **16 27 47.6 +0.5**
PET *e*S **S** **16 36 02.4 -0.2**
PET *e*PS 16 36 16.5
PET *e*SS SS 16 40 06.1 +3.5
PET *e*SSS 16 42 33.8
PET pmax pmax
comp=Z,100nm,1.1s,mb5.9
PET MLR MLR
comp=Z,500nm,19.0s,MS4.7
PET MLR MLR
comp=Z,400nm,20.0s
PET Petropavlovsk 60.95 20 ⇑*e*P **P** **16 27 47.8 +0.7**
PET pmax pmax
comp=Z,40nm,1.3s,mb5.4
PET Petropavlovsk 60.95 20 *e*P **P** **16 27 47.3 +0.2**
comp=Z,107nm,1.1s,mb5.9
BOD Bodaibo 61.82 351 *e*P **P** **16 27 52.6 -0.2**
BOD pmax pmax
comp=Z,31nm,1.6s,mb5.2
MK31 Makanchi Array 64.53 326 ⇑*i*P **P** **16 28 10.6 -0.4**
MKAR Makanchi Array 64.53 326 P **P** **16 28 11.0 0.0**
comp=Z,15nm,0.7s,mb5.1,baz=132,slow=8.3,SNR=94
MKAR Makanchi Array 64.53 326 *i*P **P** **16 28 11.0 0.0**
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR Makanchi Array 64.53 326 P **P** **16 28 11.0 0.0**
CASY Casey 64.59 188 *e*P **P** **16 28 10.8 -0.3**
KSH Kashi 64.65 317 P **P** **16 28 13.0 +1.0**
KSH AP pP 16 28 23.3 +0.1
KSH PCP PcP 16 28 47.0 +1.4
KSH PP PP 16 30 37.0 +2.4
KSH SCP 16 32 45.3
KSH PCS 16 32 49.8
KSH S **S** **16 36 48.5 -1.0**
KSH SCS ScS 16 38 01.8 -2.0
KSH SS SS 16 41 01.0 0.0
KSH AMB AMB
comp=Z,207nm,1.1s,mb6.1
KSH AMB AMB
comp=Z,747nm,4.5s
KSH LR LR
comp=N,986nm,15.4s,MS5.3
KSH LR LR
comp=E,1μm,13.2s,MS5.3
KSH LR LR
comp=Z,2μm,23.3s
YAK Yakutsk 64.80 0 *e*P **P** **16 28 11.8 -0.7**
YAK *e**PP pP 16 28 19.5 -4.2
YAK *e* 16 28 45.3
YAK *e* 16 30 35.7
YAK *e*S **S** **16 36 50.2 -0.3**
YAK *e**SS sS 16 37 07.3 -1.7
YAK *e* 16 38 02.6
YAK pmax pmax
comp=Z,57nm,0.8s,mb5.7
YAK pmax pmax
comp=N,12nm,1.1s
YAK smax
comp=N,184nm,3.5s
YAK smax
comp=E,660nm,7.8s
YAK MLR MLR
comp=Z,425nm,18.0s,MS4.7
YAK MLR MLR
comp=N,318nm,16.0s
YAK Yakutsk 64.80 0 *e*P **P** **16 28 11.7 -0.8**
comp=N,71nm,0.7s,mb5.8
KRAR Krasnoyarsk 65.88 339 *e*P **P** **16 28 20.8 +1.2**
KRAR pmax pmax
comp=Z,16nm,1.0s,mb5.0
TKM2 Tokmak 2 66.50 320 P **P** **16 28 24.2 +0.3**
SNR=19
KBK Karagaybulak 66.79 319 P **P** **16 28 27.7 +2.0**
SNR=6.5
UCH Uchtor 66.88 319 P **P** **16 28 27.4 +1.1**
SNR=19
FRU Bishkek 67.09 319 *e*P **P** **16 28 28.0 +0.4**
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.1
USP Ospenovka 67.37 320 P **P** **16 28 29.6 +0.3**
SNR=17
AML Almayashu 67.38 318 P **P** **16 28 30.3 +0.9**
SNR=15
EKS2 Erkin-Say 67.56 319 P **P** **16 28 31.3 +0.7**
SNR=15
ZAA0 Zalesovo Array 67.70 333 *e*P **P** **16 28 30.2 -1.0**
ZALV Zalesovo Beam 67.70 333 P **P** **16 28 30.5 -0.7**
comp=Z,19nm,0.7s,mb5.2,baz=108,slow=4.8,SNR=48
ZALV LR LR 16 59 42.9
comp=Z,327nm,22.0s,MS4.5,baz=306,slow=37
ZALV Zalesovo Beam 67.70 333 P **P** **16 28 30.5 -0.7**
ZALV LR LR 16 59 42.9
ZAL Zalesovo 67.70 333 P **P** **16 28 30.5 -0.8**
KBL Kabul 67.72 309 *e*P **P** **16 28 30.7 -1.1**
KBL pmax pmax
comp=Z,13nm,0.8s,mb5.0
KBL Kabul 67.72 309 *e*P **P** **16 28 30.6 -1.1**
comp=Z,13nm,0.8s,mb5.0
SEY Seymchan 67.97 11 ⇑*e*P **P** **16 28 34.0 +1.3**
MIR Mirnyy 68.37 195 *e*P **P** **16 28 31.0 -4.2**
MIR *i* 16 28 45.0
MIR *i* 16 29 06.0
MIR *e*S S 16 37 57.0 +23
MIR pmax pmax
comp=Z,100nm,1.0s,mb5.8
MIR MLR MLR
comp=Z,2μm,18.0s,MS5.3
AMKA Amchitka 68.70 31 *e*P **P** **16 28 37.7 +0.1**
KURK Kurchatov 68.76 328 P **P** **16 28 38.1 +0.1**
comp=Z,362nm,1.0s,mb6.3,SNR=36
KURK Kurchatov 68.76 328 ⇑P **P** **16 28 38.2 +0.2**
SNR=52
KURK Kurchatov 68.76 328 LR LR 16 59 21.9
comp=Z,240nm,22.0s,MS4.4,baz=135,slow=36
KURK Kurchatov 68.76 328 P **P** **16 28 37.6 -0.4**
KURK pmax pmax
comp=Z,90nm,1.1s,mb5.6
NVS Novosibirsk 68.99 333 ⇑*i*P **P** **16 28 38.6 -0.7**
NVS *e* 16 29 07.0
NVS *e*PPP 16 32 47.3
NVS *e*S S 16 37 36.9 -4.4
NVS *e* 16 38 32.6
NVS pmax pmax
comp=Z,100nm,1.4s,mb5.5
NVS pmax pmax
comp=N,80nm,1.5s
NVS pmax pmax
comp=E,94nm,1.6s
NVS smax
comp=N,48nm,2.5s
KK31 Karatay Array 69.92 318 *i*P **P** **16 28 44.2 -1.1**
KK31 pmax pmax
comp=Z,40nm,1.4s,mb5.2
WBK Wadi Bani Khal 73.15 295 ⇑P **P** **16 29 05.8 +0.7**
VOSK Vostochnaya 73.87 327 P **P** **16 29 07.8 -1.0**
VOSK pmax pmax
comp=Z,16nm,0.6s,mb5.1
JMDO Jabal Madar 73.89 294 ⇓P **P** **16 29 08.7 -0.9**
SMDO Samad 74.06 295 ⇑P **P** **16 29 10.3 -0.2**
BIDO Bidbid 74.08 295 ⇓P **P** **16 29 10.8 +0.1**
BVA0 Borovoye Array 74.33 327 *i*P **P** **16 29 10.8 -0.7**
BVA0 pmax pmax
comp=Z,18nm,1.5s,mb4.8
BVAR Borovoye Array 74.33 327 LR LR 17 03 50.0
comp=Z,361nm,21.7s,MS4.6,baz=218,slow=37
BRVK Borovoye 74.40 327 P **P** **16 29 12.0 +0.1**
comp=Z,289nm,1.2s,mb6.1,SNR=8.9
BRVK Borovoye 74.40 327 ⇑P **P** **16 29 12.2 +0.3**
SNR=32
TIXI Tiksi 74.46 360 *e*P **P** **16 29 12.3 +0.4**
TIXI *i*S S 16 38 41.7 -2.1
TIXI *e* 16 39 18.5
TIXI *e*SS SS 16 43 29.9 -1.0
TIXI pmax pmax
comp=Z,11nm,0.6s,mb5.0
TIXI Tiksi 74.46 360 *e*P **P** **16 29 11.1 -0.8**
comp=Z,47nm,1.3s,mb5.3
BILL Bilibino 75.34 13 *e*P **P** **16 29 16.6 -0.4**
BILL pmax pmax
comp=Z,2.0nm,1.0s
SBA Scott Base 77.41 172 *e*P **P** **16 29 29.5 +0.9**
SBA pmax pmax
comp=Z,12nm,1.0s,mb4.8
SBA Scott Base 77.41 172 *e*P **P** **16 29 29.5 +0.9**
comp=Z,12nm,1.0s,mb4.8
AKUT Akutan 77.97 33 *e*P **P** **16 29 32.7 +0.5**
comp=Z,190nm,0.9s,mb6.0
MAW Mawson 78.48 201 *e*P **P** **16 29 35.1 +0.4**
comp=Z,9.2nm,0.8s,mb4.8
MAW Mawson 78.48 201 P **P** **16 29 35.2 +0.5**
comp=Z,11nm,0.8s,mb4.8,baz=72,slow=6.8,SNR=48
MAW LR LR 17 04 22.8
comp=Z,585nm,18.8s,MS4.9,baz=70,slow=36
MAW Mawson 78.48 201 *e*P **P** **16 29 35.1 +0.4**
MAW pmax pmax
comp=Z,9.0nm,0.8s
AB31 Akbulak array 78.97 321 P **P** **16 29 37.0 -0.8**
AB31 pmax pmax
comp=Z,21nm,0.8s,mb5.1
AKTO Aktyubinsk 80.51 322 LR LR 17 11 35.3
comp=Z,315nm,19.6s,MS4.7,baz=275,slow=40
AKTO Aktyubinsk 80.51 322 P **P** **16 29 45.1 -1.0**
AKTO pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
PPT Papeete 80.58 107 *e*S S 16 39 55.9 +3.8
comp=Z,590nm,27.2s
PPT *e*SS SS 16 45 11.6 +6.2
comp=Z,261nm,28.5s
PPT *e*LR LR 16 55 10.4
comp=Z,946nm,27.5s
SVE Sverdlovsk 81.00 329 ⇑*e*P **P** **16 29 49.1 +0.5**
SVE *e*S S 16 39 48.0 -7.0
SVE *e*SS SS 16 45 15.9 +6.0
SVE *e*SSS 16 48 34.2
SVE pmax pmax
comp=Z,64nm,1.4s,mb5.4
SVE MLR MLR
comp=Z,538nm,23.0s,MS4.8
OPO Ambohidratompo 81.67 252 P **P** **16 29 54.6 +1.6**
comp=Z,12nm,0.5s,mb5.1,baz=76,slow=4.5,SNR=18
ARU Arti 81.96 328 P **P** **16 29 53.9 +0.2**
comp=Z,182nm,1.2s,mb5.9,SNR=8.2
ARU Arti 81.96 328*c* *i*P **P** **16 29 53.1 -0.6**
ARU *e* 16 33 00.7
ARU *e*PPP 16 34 54.1
ARU *e*S S 16 40 05.7 +0.8
ARU pmax pmax
comp=Z,29nm,1.7s,mb4.9
SOKR Solikamsk 83.79 331*c* *i*P **P** **16 30 04.4 +1.3**
SOKR S S 16 40 24.2 +0.8
SOKR pmax pmax
comp=Z,50nm,1.1s,mb5.6
KBD Kabd 84.17 300 *e*P **P** **16 29 57.7 -8.0**
baz=300
KBD AMb AMB 16 30 00.2
comp=Z,19nm,0.9s,mb5.2,baz=300
MIB Mutribah 84.55 300 *e*P **P** **16 30 00.6 -7.1**
baz=300
MIB AMb AMB 16 30 19.6
comp=Z,82nm,1.0s,mb5.8,baz=300
NAY Al-Naaiem 84.57 300 *e*P **P** **16 29 59.9 -7.8**
baz=300
NAY AMb AMB 16 30 16.5
comp=Z,36nm,1.0s,mb5.5,baz=300
RST Umm Al-Ruwaisa 84.81 300 *e*P **P** **16 30 01.5 -7.4**
baz=300
RST AMb AMB 16 30 13.6
comp=Z,2.0nm,1.1s,mb4.2,baz=300
SVW2 Sparrevohn 85.38 28 *e*P **P** **16 30 10.7 -0.4**
TTA Tatalina 85.65 26 *e*P **P** **16 30 13.3 +0.9**
TTA pmax pmax
comp=Z,65nm,1.2s,mb5.7
TTA Tatalina 85.65 26 *e*P **P** **16 30 13.3 +0.9**
comp=Z,65nm,1.2s,mb5.7
MAK Makhachkala 86.05 313 *e*P **P** **16 30 10.7 -4.1**
MAK *i* 16 33 37.6
MAK *e*PPP 16 35 32.2
MAK *e*S S 16 40 33.3 -13
MAK pmax pmax
comp=Z,102nm,1.1s,mb6.0
KDAK Kodiak Island 86.12 32 *e*P **P** **16 30 15.5 +0.7**
comp=Z,93nm,1.4s,mb5.8
SYO Syowa Base 87.19 201 ⇓*e*P **P** **16 30 18.4 -1.5**
SYO Syowa Base 87.19 201 ⇓*e*PcP PcP 16 30 19.7 -2.3
SYO Syowa Base 87.19 201 ⇓*e*pP pP 16 30 30.4 -1.1
IMA2 Indian Mountai 87.39 23 *e*P **P** **16 30 21.2 +0.3**
BHD Baghdad 87.42 303 *e*x x 16 30 05.0
BHD Baghdad 87.42 303 *e*x x 16 40 33.0
DGRG David-gareji 87.44 312 P **P** **16 30 22.9 +1.2**
DGRG S S 16 41 12.7 +13
GNI Garni 87.78 310 P **P** **16 30 22.4 -0.9**
GNI pmax pmax
comp=Z,23nm,0.9s
GNI Garni 87.78 310 P **P** **16 30 22.4 -1.0**
comp=Z,23nm,0.9s,mb5.4
SLKM Skilak Lake 87.82 29 *e*P **P** **16 30 22.9 -0.1**
MTA Mtatsminda 87.89 312 P **P** **16 30 24.9 +1.0**
MTA S S 16 41 07.1 +2.7
TBLG Delisi 87.94 312 P **P** **16 30 25.3 +1.2**
TBLG S S 16 41 11.3 +6.4
PMR Palmer 88.52 28 *e*P **P** **16 30 25.1 -1.2**
MSL Mosul 88.73 306 *e*x x 16 30 28.0
MSL Mosul 88.73 306 *e*x x 16 41 00.0
ONI Oni 88.97 313 P **P** **16 30 29.8 +0.8**
ONI S S 16 41 11.3 -3.3
COLA College 89.57 25 *e*P **P** **16 30 32.3 +1.1**
KIV Kislovodsk 89.64 314 ⇑P **P** **16 30 35.0 +3.0**
KIV *e* pP 16 30 46.7 +3.1
KIV *i* 16 41 21.9
KIV pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
SOC Sochi 91.77 313 *e*P **P** **16 30 40.3 -1.6**
SOC *e* 16 34 20.8
SOC *e*S S 16 41 10.1 -30
SOC *e* 16 41 45.7
SOC pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
SOC MLR MLR
comp=Z,129nm,19.0s,MS4.4
KMBO Kilima Mbogo 92.06 269 P **P** **16 30 45.5 +1.5**
comp=Z,4.1nm,0.8s,mb4.8,baz=47,slow=8.1,SNR=4.9
KMBO LR LR 17 08 59.4
comp=Z,891nm,20.3s,MS5.2,baz=279,slow=34
KMBO Kilima Mbogo 92.06 269 *e*P **P** **16 30 44.6 +0.6**
KMBO pmax pmax
comp=Z,19nm,1.7s
KMBO Kilima Mbogo 92.06 269 *e*P **P** **16 30 44.6 +0.6**
comp=Z,20nm,1.7s,mb5.2
EGAK Eagle 92.42 25 *e*P **P** **16 30 45.0 +0.6**
comp=Z,10nm,0.9s,mb5.2
DAWY Dawson 93.17 26 *e*P **P** **16 30 48.1 +0.2**
ASF Jabal al Asfar 93.65 302 LR LR 17 19 18.3
comp=Z,284nm,20.4s,MS4.7,baz=322,slow=40
OBN Obninsk 94.01 325 P **P** **16 30 51.0 -1.0**
OBN *SP sP 16 31 02.0 -5.8
OBN 16 41 29.0
OBN *e* 16 41 59.4
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,400nm,21.0s,MS4.9
HYT Haines Junctio 94.08 29 *e*P **P** **16 30 55.2 +3.1**
MMAI Mount Meron Ar 94.93 303 LR LR 17 20 07.2
comp=Z,450nm,20.7s,MS4.9,baz=130,slow=40
EIL Elat 95.29 299 LR LR 17 14 02.9
comp=Z,119nm,19.5s,MS4.4,baz=104,slow=36
ARCES ARCESS Array B 97.59 340 P **P** **16 31 07.8 -0.1**
comp=Z,3.8nm,0.8s,mb5.0,baz=86,slow=5.0,SNR=11
ARCES PKKPbc PKKPbc 16 47 45.4 -2.0
comp=Z,2.6nm,1.0s,baz=247,slow=2.5,SNR=7.3

ARCES LR LR 17 23 50.7
comp=Z,323nm,19.1s,MS4.8,baz=87,slow=41
AKASG Malin Array Be 98.71 321 *i* P **P 16 31 20.7 +7.3**
SNAA Sanae 99.43 194 *e*Pdiff **P 16 31 24.2 +8.0**
SNAA *e* 16 31 28.7
LSZ Lusaka 100.00 254 *e*P Pdif 16 31 20.6 +1.5
LSZ pmax pmax
comp=Z,4.0nm,0.7s
LSZ Lusaka 100.00 254 *e*Pdif Pdif 16 31 20.6 +1.5
comp=Z,3.9nm,0.7s
BOSA Boshof 100.95 240 P Pdif 16 31 23.8 +0.5
comp=Z,3.6nm,0.7s,baz=103,slow=6.2,SNR=6.9
BOSA Boshof 100.95 240 P Pdif 16 31 23.8 +0.5
BOSA pmax pmax
comp=Z,4.0nm,0.7s
BOSA Boshof 100.95 240 *e*Pdif Pdif 16 31 23.2 -0.1
VNA2 Neumayer--Watz 101.01 193 *e*Pdiff Pdif 16 31 32.8 +9.2
VNA2 *e* 16 31 37.9
VNA3 Neumayer Olymp 101.28 192 *e*Pdiff Pdif 16 31 33.6 +8.8
VNA3 *e* 16 31 39.0
VNA1 Neumayer--Stat 101.41 193 *e*Pdiff Pdif 16 31 34.8 +9.5
VNA1 *e* 16 31 40.4
CRVS Cervenica-Dubn 103.95 320 PDIF Pdif 16 31 40.2 +3.6
CRVS Cervenica-Dubn 103.95 320 *e*Pdif Pdif 16 31 40.2 +3.6
NOA NORSAR Array B 105.91 334 Pdiff Pdif 16 31 44.1 -1.2
comp=Z,1.6nm,0.8s,baz=67,slow=4.5,SNR=6.0
CLL Collm 108.56 324 *e*PP PP 16 36 27.0 -1.0
CLL Lm 16 29 00.0
comp=N,300nm,20.7s
CLL Lm 16 29 00.0
comp=E,200nm,21.4s
CLL Lm 16 29 00.0
comp=Z,500nm,19.8s
CLL *e*Sdif Sdif 16 44 03.0 +0.6
CLL *e*SP SP 16 45 42.0 -6.3
CLL *e*PPS 16 46 48.0
CLL *e*SSS 16 55 46.0
PDAR Pinedale Array 114.46 44 PKP PKiKP 16 36 16.2 +2.1
comp=Z,0.3nm,0.3s,baz=318,slow=2.0,SNR=4.0
PDAR PKKPab PKKPab 16 47 05.8 +6.1
comp=Z,1.4nm,0.7s,baz=72,slow=4.8,SNR=6.0
TXAR Lajitas Array 123.31 57 PKP PKPdf 16 36 33.0 +1.4
comp=Z,1.1nm,0.9s,baz=235,slow=3.0,SNR=8.2
TXAR PKKPbc PKKPbc 16 46 22.7 +0.9
comp=Z,0.7nm,0.8s,baz=103,slow=6.6,SNR=6.3
JCT Junction City 126.11 54 *e*PKIKP PKPdf 16 36 37.8 +0.9
TOA0 Torodi Ar. Sit 127.32 284 *e*PKPdf PKPdf 16 36 39.1 -0.5
TORD Torodi Ar. Bea 127.32 284 PKP PKPdf 16 36 39.8 +0.1
comp=Z,3.0nm,0.9s,baz=59,slow=2.3,SNR=14
PLCA Paso Flores 132.87 159 PKP PKPdf 16 36 51.9 +2.4
comp=Z,5.1nm,0.6s,baz=228,slow=1.1,SNR=18
PLCA SKPbc SKPbc 16 40 17.4 +3.1
comp=Z,3.2nm,1.0s,baz=310,slow=5.9,SNR=3.3
DBIC Dimbokro 134.26 276 PKP PKPdf 16 36 54.1 +1.3
comp=Z,3.6nm,0.8s,baz=248,slow=1.7,SNR=4.9
DBIC Dimbokro 134.26 276 PKIKP PKPdf 16 36 54.1 +1.3
DBIC pmax pmax
comp=Z,4.0nm,0.8s
DBIC Dimbokro 134.26 276 *e*PKPdf PKPdf 16 36 47.6 -5.2
DBIC PKP PKPdf 16 36 54.1 +1.3
LCO Las Campanas 142.84 150 *e*PKPpre PKPdf 16 37 06.5 -1.7
LVC Limon Verde 148.95 146 *e*PKPbc PKPbc 16 37 23.5 +0.8
BCIP Isla Barro Col 150.31 77 *e*PKPbc PKPbc 16 37 26.6 +0.3
ARE Arequipa 151.76 134 *e*PKIKP PKPbc 16 37 32.0 +2.4
LPAZ La Paz 154.22 138 PKP PKPdf 16 37 27.8 +1.0
comp=Z,4.2nm,1.2s,baz=21,slow=2.9,SNR=8.2
LPAZ PKPbc PKPbc 16 37 36.2 +1.2
comp=Z,3.4nm,0.7s,baz=6.9,slow=1.9,SNR=18
LPAZ La Paz 154.22 138 *e*PKPdf PKPdf 16 37 28.8 +2.0
ROSC El Rosal 156.27 85 PKPab PKPab 16 38 00.7 +2.9
comp=Z,5.9nm,0.5s,baz=75,slow=23,SNR=4.4
SDV Santo Domingo 159.25 73 *e*PKPdf PKPdf 16 37 34.7 +1.3

ISCJB ***30*** *16:21:06.9±0.6,3860N±003×2866E±004,h10km, Error ellipse: s-maj=5.3km s-min=4.4km az=142.2*
DDA ***30*** *16:21:06.9,3859N×2864E,h10km±4km,Md2.8*
CSEM ***30*** *16:21:06.3±0.2,3853N×2856E,h2km,MD2.8, Error ellipse: s-maj=5.6km s-min=2.9km az=19.0*
ISC 30 16:21:07.3±0.6,**3857N**±003×**2863E**±004,**h1**km±**8**km,**n7,** σ0**49**/**14**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.06**	**156**	PG	**Pg**	**16 21 08.3**	**-0.2**
KULA				*e*SG	**Sg**	**16 21 09.8**	**+0.3**
AKHS	**Akhisar**	**0.70**	**296**	*i* P	**Pg**	**16 21 20.5**	**-0.3**
AKHS				*i* S	**Sg**	**16 21 30.5**	**+0.5**
AKS	**Akhisar**	**0.71**	**296**	*e*PG	**Pg**	**16 21 20.0**	**-0.9**
AKS				*e*SG	**Sg**	**16 21 30.4**	**+0.4**
KHAL	**Karahalli**	**0.71**	**106**	*i* P	**Pg**	**16 21 20.7**	**-0.2**
KHAL				*i* S	**Sg**	**16 21 30.3**	**+0.2**
AYDN	**Tasoluk**	**1.08**	**213**	*i* P	**Pb**	**16 21 29.0**	**+0.1**
AYDN				*i* S	**Sb**	**16 21 43.7**	**+0.2**
BALY	**Balya**	**1.40**	**326**	*i* P	**Pn**	**16 21 34.2**	**+0.2**
BALY				*i* S	**Sn**	**16 21 53.0**	**-0.2**
ULDT	**Uludag**	**1.62**	**14**	*i* P	**Pg**	**16 21 37.4**	**-0.9**
ULDT				*i* S	**Sg**	**16 22 00.2**	**+1.0**

ISCJB ***30*** *16:21:44.8±0.6, 121S±0.1×6558E±009,h10km, mb4.3/24, MS4.4/3, Error ellipse: s-maj=17.1km s-min=11.2km az=157.5*
IDC ***30*** *16:21:44.8±0.8,1203S×6554E,h0km,mb4.0/14, mb1 4.2/15,mb1mx4.1/23,mbtmp4.0/15,ML4.6/1,MS4.4/2, Ms1 4.4/2,ms1mx3.6/36,Error ellipse: s-maj=25.4km s-min=18.6km az=1.0*
NEIC ***30*** *16:21:46.7±0.5,1205S×6556E,h10km,mb4.7/8,MS4.5/1, Error ellipse: s-maj=14.0km s-min=9.4km az=159.0*
ISC 30 16:21:46.7±0.6,**121S**±01×**6558E**±009,**h10**km,**n49,** σ0**76**/**44**,**mb4.3**/24,**MS4.4**/3,**11C-4D**,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**18.86**	**248**	P	**Pn**	**16 26 07.8**	**+0.1**
1.7nm,0.3s,baz=47,slow=13,SNR=15							
KMBO	**Kilima Mbogo**	**30.13**	**289**	LR	LR	16 38 13.4	
comp=Z,468nm,18.9s,MS4.2,baz=109,slow=33							
LSZ	**Lusaka**	**36.44**	**261**	*e*P	**P**	**16 28 52.2**	**+0.2**
26nm,1.3s,mb5.0							
LBTB	**Lobatse**	**39.87**	**245**	P	**P**	**16 29 20.9**	**+0.1**
3.6nm,1.0s,mb4.0,baz=86,slow=12,SNR=3.8							
LBTB	**Lobatse**	**39.87**	**245**	P	**P**	**16 29 20.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**44.77**	**48**	P	**P**	**16 30 00.5**	**-0.3**
0.4nm,0.7s,mb3.4,baz=243,slow=9.6,SNR=4.5							
TSUM	**Tsumeb**	**46.64**	**255**	P	**P**	**16 30 16.6**	**+1.0**
6.4nm,1.4s,mb4.4							
LSA	**Lhasa**	**48.31**	**30**	*e*P	**P**	**16 30 29.4**	**+1.0**
12nm,1.0s,mb4.9							
ASF	**Jabal al Asfar**	**51.87**	**329**	P	**P**	**16 30 52.7**	**-2.6**
2.8nm,0.8s,mb4.2,baz=124,slow=2.3,SNR=4.8							
FITZ	**Fitzroy Crossi**	**58.09**	**104**	LR	LR	16 51 33.1	
comp=Z,444nm,18.3s,MS4.6,baz=91,slow=31							
MKAR	**Makanchi Array**	**60.49**	**13**	P	**P**	**16 31 57.7**	**+1.0**
1.0nm,0.7s,mb4.0,baz=192,slow=8.5,SNR=3.3							
CASY	**Casey**	**61.95**	**161**	P	**P**	**16 31 59.0**	**-7.4**
32nm,1.5s,mb5.2							
ASAR	**Alice Springs**	**65.53**	**111**	P	**P**	**16 32 29.9**	**-1.0**
2.8nm,0.9s,mb4.3,baz=265,slow=5.7,SNR=5.0							
WRA	**Warramunga Arr**	**66.18**	**107**	P	**P**	**16 32 34.6**	**-0.5**
2.2nm,0.7s,mb4.3,baz=273,slow=5.7,SNR=7.6							
VRI	**Vrincioaia**	**67.45**	**332**	⇓*i*P	**P**	**16 32 43.0**	**+0.4**
VRI	**Vrincioaia**	**67.45**	**332**	⇓P	**P**	**16 32 43.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**68.13**	**290**	P	**P**	**16 32 46.9**	**-0.6**
0.7nm,1.0s,mb3.7,baz=77,slow=6.4,SNR=5.9							
GZR	**Gura Zlata**	**69.02**	**329**	⇑*i*P	**P**	**16 32 52.0**	**-0.4**
GZR	**Gura Zlata**	**69.02**	**329**	⇑P	**P**	**16 32 52.0**	**-0.4**
BZS	**Buzias**	**69.76**	**329**	⇑*i*P	**P**	**16 32 56.8**	**-0.2**
BZS	**Buzias**	**69.76**	**329**	⇑P	**P**	**16 32 56.8**	**-0.2**
SONM	**Songino Array**	**69.82**	**28**	P	**P**	**16 32 56.9**	**-0.4**
2.0nm,0.8s,mb4.1,baz=220,slow=5.9,SNR=6.8							
DRGR		**70.03**	**330**	⇑*i*P	**P**	**16 32 58.8**	**+0.1**
DRGR		**70.03**	**330**	⇑P	**P**	**16 32 58.8**	**+0.1**
AKASG	**Malin Array Be**	**70.10**	**336**	P	**P**	**16 32 57.7**	**-1.2**
0.6nm,0.3s,mb3.9,baz=141,slow=5.1,SNR=8.5							
AKASG	**Malin Array Be**	**70.10**	**336**	P	**P**	**16 32 57.7**	**-1.2**
PKSM	**Moragy**	**71.69**	**328**	⇑*i*P	**P**	**16 33 08.7**	**-0.1**
PKSM	**Moragy**	**71.69**	**328**	⇑P	**P**	**16 33 08.7**	**-0.1**
KOLS	**Kolonicke sedl**	**71.76**	**332**	*e*P	**P**	**16 33 09.8**	**+0.7**
CRVS	**Cervenica-Dubn**	**72.12**	**331**	*e*P	**P**	**16 33 11.0**	**-0.3**
VYHS	**Vyhne**	**73.11**	**330**	*e*P	**P**	**16 33 16.9**	**-0.3**
CONA	**Conrad Observa**	**74.25**	**328**	⇑*i*P	**P**	**16 33 23.8**	**-0.1**
comp=Z,4.6nm,0.9s,mb4.4							
CSNA	**Conrad Observa**	**74.25**	**328**	⇑*i*P	**P**	**16 33 23.7**	**-0.2**
comp=Z,4.7nm,0.9s,mb4.4							
MORC	**Moravsky Berou**	**74.59**	**330**	⇓*i*P	**P**	**16 33 26.2**	**+0.3**
MORC	**Moravsky Berou**	**74.59**	**330**	⇓P	**P**	**16 33 26.2**	**+0.3**
MOA	**Molln**	**75.04**	**327**	⇑*i*P	**P**	**16 33 28.6**	**+0.1**
comp=Z,8.8nm,0.9s,mb4.7							
GERES	**GERESS Array B**	**75.95**	**328**	P	**P**	**16 33 31.6**	**-2.1**
0.3nm,0.3s,mb3.7,baz=96,slow=6.0,SNR=4.8							
BRG	**Berggiesshubel**	**77.07**	**329**	*e*P	**P**	**16 33 40.8**	**+0.8**
12nm,1.5s,mb4.6							
BRG				*e*		16 54 39.2	
5.8nm,1.1s							
BRG							
comp=N,269nm,17.0s							
BRG							
comp=E,197nm,20.3s							
BRG							
comp=Z,376nm,19.7s							
BRG	**Berggiesshubel**	**77.07**	**329**	*e*P	**P**	**16 33 40.8**	**+0.8**
BRG				*e*		16 54 39.2	
comp=Z,7.3nm,1.5s,mb4.4							
BRG				LR	LR		
comp=Z,230nm,19.7s,MS4.5							
CLL	**Collm**	**77.81**	**329**	*e*P	**P**	**16 33 45.0**	**+0.9**
comp=Z,11nm,1.5s,mb4.6							
MDJ	**Mudanjiang**	**80.77**	**41**	P	**P**	**16 34 01.0**	**+0.5**
comp=Z,9.1nm,1.0s,mb4.7							
ESDC	**Sonseca Array**	**82.44**	**313**	P	**P**	**16 34 09.5**	**+0.1**
comp=Z,0.5nm,0.3s,mb3.9,baz=104,slow=4.5,SNR=7.5							
MJAR	**Matsushiro Arr**	**83.58**	**51**	P	**P**	**16 34 16.4**	**+1.0**
comp=Z,0.5nm,0.6s,mb3.9,baz=237,slow=5.5,SNR=2.6							
NOA	**NORSAR Array B**	**84.51**	**337**	P	**P**	**16 34 19.3**	**-0.2**
comp=Z,1.3nm,0.7s,mb4.2,baz=116,slow=5.0,SNR=4.3							
ARCES	**ARCESS Array B**	**86.07**	**347**	P	**P**	**16 34 27.8**	**+0.6**
comp=Z,3.1nm,0.7s,mb4.7,baz=134,slow=3.5,SNR=9.0							
ARCES	**ARCESS Array B**	**86.07**	**347**	P	**P**	**16 34 27.8**	**+0.6**
PDAR	**Pinedale Array**	**149.14**	**353**	PKPbc	PKPbc	16 41 36.2	+0.7
comp=Z,2.3nm,0.7s,baz=58,slow=2.0,SNR=13							
NVAR	**Mina Array Bea**	**153.54**	**7**	PKPbc	PKPbc	16 41 47.5	+1.5
comp=Z,1.0nm,0.9s,baz=290,slow=2.6,SNR=5.5							
NVAR				PKPab	PKPab	16 41 56.7	-1.5
comp=Z,1.0nm,0.6s,baz=287,slow=3.4,SNR=7.3							
TXAR	**Lajitas Array**	**160.13**	**331**	PKPab	PKPab	16 42 24.2	-2.5
comp=Z,0.5nm,0.7s,baz=41,slow=9.8,SNR=4.6							

NEIC ***30*** *16:27:25.7, 1278N×6094W, h81km, MD3.4(TRN), After TRN.*
TRN 30 16:27:24.6,1267N×6070W,h25km,MD3.5,2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCV	**Fort Charlotte**	**0.71**	**313**	*e*P	Pb	16 27 40.5	+2.1
FCV				*e*S	Sb	16 27 51.3	+3.4
GRCU	**Cariacou**	**0.76**	**255**	⇓*e*P	Pb	16 27 41.0	+1.8
GRCU				*e*S	Sb	16 27 52.9	+3.8
SVB	**Belmont**	**0.80**	**318**	*e*P	Pb	16 27 40.9	+1.0
SVB				*e*S	Sb	16 27 52.2	+1.8
SVV	**Soufriere Volc**	**0.81**	**322**	*e*P	Pb	16 27 41.7	+1.6
SVV				*e*S	Sb	16 27 53.4	+2.6
GRIC	**Isle de Caille**	**0.94**	**246**	*e*P	Pn	16 27 43.4	+1.1
GRIC				*e*S	Sb	16 27 56.5	+2.1
GRSS	**Sisters**	**0.96**	**247**	*e*P	Pn	16 27 43.3	+0.7
GRSS				*e*S	Sb	16 27 58.0	+3.1
GRSS	**Sisters**	**0.96**	**247**	*e*P	Pn	16 27 43.3	+0.7
GRSS				*e*S	Sb	16 27 56.1	+1.2
GRHS	**Sauteurs**	**1.02**	**244**	*e*P	Pn	16 27 44.6	+1.3
GRHS				*e*S	Sb	16 27 59.0	+2.4
GRW	**Mount Saint Ca**	**1.06**	**242**	⇓*e*P	Pn	16 27 44.8	+0.8
GRW				*e*S	Sb	16 28 00.2	+2.3
SLB	**Belfond**	**1.20**	**344**	*e*P	Pn	16 27 47.1	+1.3
SLB				*e*S	Sn	16 28 03.2	+1.9
SLB	**Belfond**	**1.20**	**344**	*e*P	Pn	16 27 47.1	+1.3
SLB				*e*S	Sn	16 28 01.4	+0.1
TOSP	**Speyside**	**1.37**	**173**	*e*P	Pn	16 27 47.1	-1.1
TOSP				*e*S	Sn	16 28 04.5	-1.2

IDC ***30*** *16:42:04.7±0.5,2025N×12024E,h0km,mb4.4/22, mb1 4.4/24,mb1mx4.3/32,mbtmp4.4/24,ML4.0/2,MS4.0/3, Ms1 4.0/3,ms1mx3.2/39,Error ellipse: s-maj=17.0km s-min=11.3km az=71.0*
BJI ***30*** *16:42:04.5,2029N×120.14E,h8km,mB4.8,mb4.3,Ms4.4, Msz4.2*
NEIC ***30*** *16:42:06.2±0.3,2027N×12021E,h10km,mb4.6/16,Error ellipse: s-maj=7.4km s-min=6.2km az=100.0*
ISCJB ***30*** *16:42:06.7±1.1,2035N±002×12034E±003,h27km±8km, mb4.4/48,MS4.0/7,Error ellipse: s-maj=4.5km s-min=2.8km az=8.2*
MOS ***30*** *16:42:07.3±1.6,2037N×12031E,h33km,mb4.8/14,Error ellipse: s-maj=11.1km s-min=7.0km az=109.0*
MAN ***30*** *16:42:08,1997N×11996E,h1km,mb5.1,ML4.1,MS4.2*
JMA ***30*** *16:42:10.8±0.4,2055N×120.34E,h144km,M4.0*
DJA ***30*** *16:42:15,2041N×12021E,h62km,mb4.6/14*
ISC 30 16:42:09.2±1.0,**2033N**±002×**12033E**±003,**h33**km±**8**km, **h22**km±4.7km:**pP-P,n127,**σ1**15**/153,**mb4.4**/48,**MS4.0**/7, **7C-5D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.01**	**172**	⇓*i*P	**Pn**	**16 42 38.8**	**-2.1**
PIP				*e*S	**Sn**	**16 43 02.6**	**-2.3**
SIPP	**Brgy, Tapao**	**2.39**	**177**	⇓*e*P	**Pn**	**16 42 44.8**	**-1.4**
SIPP				*i* S	**Sn**	**16 43 15.1**	**+0.7**
APYP	**Conner**	**2.60**	**160**	*e*P	**Pn**	**16 42 48.9**	**-0.1**
APYP				*e*S	**Sn**	**16 43 20.8**	**+1.3**
SGCP	**Mt. Cagua**	**2.63**	**142**	*e*P	**Pn**	**16 42 50.0**	**+0.6**
ABRA	**Dolores**	**2.69**	**172**	*e*P	**Pn**	**16 42 48.9**	**-1.3**
ABRA				*e*S	**Sn**	**16 43 20.8**	**-0.8**
CAUP	**Cauayan**	**3.65**	**157**	*e*P	**Pn**	**16 43 06.3**	**+2.8**
CAUP				*e*S	**Sn**	**16 43 52.9**	**+7.4**
PALP	**Palanan**	**3.81**	**148**	⇑*i*P	**Pn**	**16 43 08.4**	**+2.8**
PALP				*i* S	**Sn**	**16 43 50.2**	**+0.9**
BCPH	**Baguio City Da**	**3.93**	**176**	⇑*i*P	**Pn**	**16 43 07.1**	**-0.3**
BCPH				*i* S	**Sn**	**16 43 50.2**	**-2.1**
BOLP	**Bolinao**	**3.94**	**186**	*e*P	**Pn**	**16 43 05.7**	**-1.8**
BOLP				*e*S	**Sn**	**16 43 49.1**	**-3.5**
SCZP	**Santa Cruz**	**4.54**	**185**	*e*P	**Pn**	**16 43 15.0**	**-0.8**
BALP	**Baler**	**4.71**	**165**	*e*P	**Pn**	**16 43 19.7**	**+1.6**
BALP				*e*S	**Sn**	**16 44 15.8**	**+4.1**
TATO	**Taipei**	**4.75**	**13**	*e*Pn	**Pn**	**16 43 18.3**	**-0.3**
TATO				*e*Sn	**Sn**	**16 44 10.6**	**-2.0**
PCPH	**Palayan**	**4.79**	**171**	⇓*e*P	**Pn**	**16 43 20.9**	**+1.7**
YOJ	**Yonaguni jima**	**4.81**	**31**	P	**Pn**	**16 43 19.6**	**+0.2**
YOJ				S	**Sn**	**16 44 13.6**	**-0.3**
QZH	**Quanzhou**	**4.87**	**341**	P	**Pn**	**16 43 16.0**	**-4.2**
QZH				S	**Sn**	**16 44 07.8**	**-7.6**
QZH				LR	LR		
comp=N,2μm,14.0s							
QZH				LR	LR		
comp=E,2μm,12.0s							
QZH				LR	LR		
comp=Z,2μm,12.8s							
HATJ	**Hateruma jima**	**4.92**	**40**	P	**Pn**	**16 43 21.7**	**+0.8**
HATJ				S	**Sn**	**16 44 15.4**	**-1.2**
IRIF	**Iriomote-Funau**	**5.08**	**38**	P	**Pn**	**16 43 23.4**	**+0.2**
IRIF				S	**Sn**	**16 44 20.5**	**-0.3**
JKRS	**Kuro-shima**	**5.18**	**41**	P	**Pn**	**16 43 25.1**	**+0.7**
JKRS				S	**Sn**	**16 44 22.6**	**-0.4**
JIJ	**Ishigaki jima**	**5.35**	**41**	P	**Pn**	**16 43 26.7**	**-0.1**
JIJ				S	**Sn**	**16 44 25.1**	**-2.2**
POLP	**Polilio Island**	**5.78**	**164**	*e*P	**Pn**	**16 43 33.8**	**+1.1**
JTJ	**Tarama**	**5.90**	**43**	P	**Pn**	**16 43 35.2**	**+0.8**
JTJ				S	**Sn**	**16 44 39.9**	**-1.0**
JMJ	**Miyako jima 2**	**6.41**	**45**	S	**Sn**	**16 44 52.7**	**-0.6**
JOGS	**Gusukube**	**6.44**	**46**	P	**Pn**	**16 43 41.7**	**-0.1**
JOGS				S	**Sn**	**16 44 53.6**	**-0.7**
LUBP	**Lubang**	**6.56**	**181**	*e*P	**Pn**	**16 43 44.4**	**+0.9**
SJMP	**San Jose**	**7.86**	**174**	*e*P	**Pn**	**16 44 02.7**	**+1.4**
BUSP	**Coron**	**8.28**	**181**	*e*P	**Pn**	**16 44 06.6**	**-0.5**
ENPP	**El Nido**	**9.11**	**186**	*e*P	**Pn**	**16 44 16.3**	**-2.2**
JOW	**Kunigami**	**9.75**	**47**	Pn	**Pn**	**16 44 27.1**	**-0.1**
comp=Z,2.9nm,0.3s,baz=218,slow=13,SNR=19							
JOW				LR	LR	16 48 31.7	
comp=Z,700nm,21.4s,baz=144,slow=39							
QIZ	**Qiongzhong**	**9.96**	**264**	P	**Pn**	**16 44 26.3**	**-3.8**
QIZ				AMB	AMB		
comp=Z,8.0nm,1.1s							
QIZ				LR	LR		
comp=E,1μm,12.0s							
QIZ				LR	LR		
comp=Z,1μm,11.8s							
QIZ	**Qiongzhong**	**9.96**	**264**	*e*Pn	**Pn**	**16 44 25.3**	**-4.8**
comp=Z,21nm,1.0s							
QIZ				*e*Sn	**Sn**	**16 46 06.0**	**-15**
NJ2	**Nanjing**	**11.75**	**354**	*e*P	**Pn**	**16 44 57.3**	**+2.7**
NJ2				AMB	AMB		
comp=Z,20nm,0.5s							
GYA	**Guiyang**	**13.94**	**299**	*e*P	**Pn**	**16 45 24.0**	**-0.6**
GYA				PP		16 45 28.5	
GYA				S	**Sn**	**16 47 59.5**	**+1.2**
GYA				SS		16 48 15.3	
GYA				AMB	AMB		
comp=Z,10.0nm,0.6s							
GYA				LR	LR		
comp=N,450nm,14.2s							
GYA				LR	LR		
comp=E,470nm,13.4s							
GYA				LR	LR		
comp=Z,410nm,13.8s							
KMI	**Kunming**	**16.91**	**290**	P	**Pn**	**16 46 02.3**	**-1.1**
KMI				AP	pP	16 46 06.3	-7.5
KMI				XP	sP	16 46 09.0	-9.0
KMI				AMB	AMB		
comp=Z,5.0nm,1.3s							
KMI				LR	LR		
comp=N,617nm,13.3s							
KMI				LR	LR		
comp=E,830nm,14.3s							
KMI				LR	LR		
comp=Z,546nm,15.4s							
XAN	**Xi'an**	**17.00**	**326**	P	**Pn**	**16 46 03.3**	**-1.2**
XAN				AP	pP	16 46 12.3	-2.4
XAN				AMB	AMB		
comp=Z,2.0nm,1.2s							
CD2	**Chengdu**	**18.26**	**309**	P	**Pn**	**16 46 18.8**	**-1.3**
CD2				XP	sP	16 46 25.8	-7.1
CD2				PP		16 46 34.0	
CD2				S	**Sn**	**16 49 39.0**	**-4.1**
CD2				XS	sS	16 49 44.5	-17
CD2				SS		16 50 02.3	
CD2				AMB	AMB		
comp=Z,10.0nm,1.2s							
CD2				LR	LR		
comp=N,800nm,14.4s							
CD2				LR	LR		
comp=E,1μm,10.8s							
CD2				LR	LR		
comp=Z,760nm,10.8s							
KSRS	**Korea Array**	**18.30**	**20**	P	**Pn**	**16 46 21.4**	**+0.9**
comp=Z,0.7nm,0.3s,baz=196,slow=11,SNR=17							
DL2	**Dalian**	**18.55**	**3**	P	**Pn**	**16 46 26.3**	**+2.7**
DL2				AMB	AMB		
comp=Z,30nm,1.1s							
DL2				LR	LR		
comp=N,250nm,11.0s							
DL2				LR	LR		
comp=E,270nm,11.4s							
DL2				LR	LR		
comp=Z,280nm,12.6s							
BJT	**Baijiatuau**	**19.95**	**351**	*e*P	**Pn**	**16 46 40.1**	**-0.2**
BJT				pmax	pmax		
comp=Z,9.0nm,0.7s							
BJT	**Baijiatuau**	**19.95**	**351**	*e*P	**Pn**	**16 46 40.1**	**-0.2**
comp=Z,9.1nm,0.7s							
BJI	**Beijing**	**19.97**	**351**	P	**Pn**	**16 46 39.5**	**-1.0**
BJI				AMB	AMB		
comp=Z,27nm,1.0s							
BJI				AMB	AMB		
comp=Z,130nm,3.4s							
BJI				LR	LR		
comp=N,449nm,18.3s							
BJI				LR	LR		
comp=E,580nm,16.7s							
BJI				LR	LR		
comp=Z,420nm,17.5s							
CHTO	**Chiang Mai**	**20.20**	**269**	*e*P	**P**	**16 46 40.8**	**-0.6**
comp=Z,4.5nm,1.0s							
CMAR	**Chiang Mai Arr**	**20.25**	**268**	P	**P**	**16 46 41.8**	**-0.2**
comp=Z,1.8nm,0.7s,baz=73,slow=9.4,SNR=12							
CMAR				LR	LR	16 54 55.4	
comp=Z,391nm,19.2s,MS3.8,baz=140,slow=38							
CBIJ	**Chichi jima**	**21.10**	**67**	P	**P**	**16 46 52.0**	**+0.9**
comp=Z,22nm,0.6s,mb4.7,baz=270,slow=16,SNR=7.5							
LZH	**Lanzhou**	**21.34**	**321**	⇓P	**P**	**16 46 54.5**	**+0.9**
LZH				AP		16 46 59.0	
LZH				XP	sP	16 47 01.0	-5.5
LZH				PP		16 47 18.0	
LZH				S	**S**	**16 50 47.0**	**-1.7**
LZH				XS	sS	16 50 51.0	-12
LZH				AMB	AMB		
comp=Z,49nm,1.5s,mb4.6							
LZH				AMB	AMB		
comp=Z,106nm,4.0s							
LZH				LR	LR		
comp=N,522nm,10.4s							
LZH				LR	LR		
comp=Z,824nm,12.2s,MS4.3							
HHC	**Hu-ho-hao-te**	**21.78**	**342**	*e*P	**P**	**16 47 00.5**	**+2.3**
HHC				XP	sP	16 47 06.3	-4.9
HHC				PP		16 47 26.0	
HHC				S	**S**	**16 50 56.3**	**-0.9**
HHC				XS	sS	16 51 03.3	-8.0
HHC				SS		16 51 29.0	
HHC				PCS	PcS	16 54 40.3	+4.2
HHC				AMB	AMB		
comp=Z,15nm,0.6s,mb4.6							
HHC				AMB	AMB		
comp=Z,553nm,7.6s							
HHC				LR	LR		
comp=N,729nm,12.9s,MS4.3							
HHC				LR	LR		
comp=E,434nm,15.8s,MS4.3							
HHC				LR	LR		
comp=Z,745nm,19.8s,MS4.1							
MAJO	**Matsushiro**	**22.48**	**40**	*e*P	**P**	**16 47 06.6**	**+0.8**
MAJO				pmax	pmax		
comp=Z,41nm,1.1s,mb4.8							
MAJO	**Matsushiro**	**22.48**	**40**	*e*P	**P**	**16 47 06.6**	**+0.8**
comp=Z,41nm,1.

LSA **Lhasa** 27.97 295 *eP* **P** 16 47 57.7 +0.7
comp=Z,5.2nm,0.9s,mb4.2
HIA **Hailar** 28.88 359 *eP* **P** 16 48 02.2 -2.6
ULN **Ulaanbaatar** 29.50 342 *eP* **P** 16 48 10.3 0.0
ULN pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
ULN **Ulaanbaatar** 29.50 342 *eP* **P** 16 48 10.3 0.0
comp=Z,3.3nm,0.8s,mb4.1
SONM **Songino Array** 29.67 341 P **P** 16 48 13.5 +1.7
comp=Z,0.8nm,0.7s,mb3.2,baz=170,slow=9.7,SNR=3.1
KLR **Kul'dur** 30.25 15 *eP* **P** 16 48 13.8 -3.2
BATI **Baumata** 30.52 174 P **P** 16 48 20.0 +0.4
comp=Z,8.5nm,0.5s,mb4.8,baz=256,slow=0.7,SNR=5.1
YSS **Yuzh-Sakhalins** 32.24 29⇑ *eP* **P** 16 48 34.0 -0.5
YSS pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
YSS **Yuzh-Sakhalins** 32.24 29 *eP* **P** 16 48 35.0 +0.5
ZAK **Zakamensk** 32.89 340 *eP* **P** 16 48 36.4 -3.7
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.9
TLY **Talaya** 33.91 341 *eP* **P** 16 48 56.1 +7.1
TLY pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
WMQ **Urumqi** 35.87 318 *eP* **P** 16 49 06.8 +0.7
WMQ AP pP 16 49 11.5 -4.1
WMQ XP sP 16 49 13.8 -5.8
WMQ AMB AMB
comp=Z,5.0nm,1.2s,mb4.3
FITZ **Fitzroy Crossi** 38.54 172 *eP* **P** 16 49 28.0 -0.9
comp=Z,9.4nm,1.0s,mb4.5
FITZ **Fitzroy Crossi** 38.54 172 P **P** 16 49 28.0 -0.9
comp=Z,4.3nm,0.8s,mb4.2,baz=338,slow=6.3,SNR=9.1
PMG **Port Moresby** 39.62 136 *eP* **P** 16 49 34.8 -3.3
MK31 **Makanchi Array** 40.64 319 *eP* **P** 16 49 46.7 +0.5
MKAR **Makanchi Array** 40.64 319 P **P** 16 49 46.8 +0.6
comp=Z,2.5nm,0.7s,mb4.0,baz=123,slow=10.0,SNR=23
MBWA **Marble Bar** 41.23 181 P **P** 16 49 50.2 -1.0
comp=Z,7.7nm,1.1s,mb4.2
YAK **Yakutsk** 42.17 7⇑ *eP* **P** 16 49 54.8 -3.7
YAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.2
WRAB **Tennant Creek** 42.30 160 *eP* **P** 16 49 59.7 -0.3
WRA **Warramunga Arr** 42.31 160 P **P** 16 49 59.9 -0.1
comp=Z,10nm,0.5s,mb4.7,baz=342,slow=9.0,SNR=102
WRA PcP PcP 16 51 53.7 +0.3
comp=Z,3.0nm,0.6s,baz=344,slow=3.5,SNR=11
WB2 **Warramunga Arr** 42.31 160 *eP* **P** 16 49 59.9 -0.2
WB2 **Warramunga Arr** 42.31 160 *eP* **P** 16 49 59.9 -0.2
ZAA0 **Zalesovo Array** 43.10 330 *eP* **P** 16 50 05.9 -0.3
ZALV **Zalesovo Beam** 43.10 330 P **P** 16 50 06.8 +0.6
comp=Z,2.5nm,0.7s,mb4.1,baz=115,slow=7.4,SNR=11
ZAL **Zalesovo** 43.11 330 P **P** 16 50 06.8 +0.6
PET **Petropavlovsk** 43.95 33 P **P** 16 50 12.0 -1.0
NVS **Novosibirsk** 44.38 330 *eP* **P** 16 50 15.7 -0.7
NVS *e* 16 56 40.8
NVS pmax pmax
comp=Z,13nm,1.7s,mb4.4
NVS pmax pmax
comp=N,9.0nm,1.6s
KURK **Kurchatov** 44.60 323 P **P** 16 50 18.3 0.0
comp=N,4.0nm,0.7s,mb4.3,baz=121,slow=7.7,SNR=40
KURK **Kurchatov** 44.60 323⇑ *eP* **P** 16 50 17.8 -0.5
KURK pmax pmax
comp=Z,13nm,1.5s,mb4.5
ASAR **Alice Springs** 45.69 162 P **P** 16 50 27.2 +0.1
comp=Z,7.9nm,0.9s,mb4.6,baz=332,slow=6.7,SNR=28
ASAR PcP PcP 16 52 05.6 +0.8
comp=Z,1.1nm,0.6s,baz=340,slow=3.2,SNR=4.5
KBL **Kabul** 47.20 299 P **P** 16 50 39.2 +0.2
KBL pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KBL **Kabul** 47.20 299 P **P** 16 50 39.2 +0.2
comp=Z,7.3nm,0.8s,mb4.7
CTA **Charters Tower** 47.52 146 *eP* **P** 16 50 44.2 +2.7
comp=Z,16nm,2.0s,mb4.7
CTA **Charters Tower** 47.52 146 *eP* **P** 16 50 44.2 +2.7
CTA pmax pmax
comp=Z,16nm,2.0s
CTAO **Charters Tower** 47.52 146 *eP* **P** 16 50 44.4 +2.9
SEY **Seymchan** 47.86 19 *eP* **P** 16 50 42.8 -0.9
BVAR **Borovoye Array** 50.20 323 P **P** 16 51 02.7 +0.9
comp=Z,0.9nm,0.7s,mb3.9,baz=98,slow=11,SNR=8.7
BVAR PcP PcP 16 52 20.6 -0.1
comp=Z,1.9nm,0.6s,baz=126,slow=2.6,SNR=6.9
TIXI **Tiksi** 51.57 3 *eP* **P** 16 51 10.4 -1.4
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
TIXI **Tiksi** 51.57 3 *eP* **P** 16 51 11.0 -0.8
comp=Z,3.5nm,0.9s,mb4.3
KLBR **Kellerberrin** 51.68 183 *eP* **P** 16 51 12.0 -1.1
comp=Z,44nm,1.3s,mb5.2
BILL **Bilibino** 55.57 19 *eP* **P** 16 51 41.2 +0.1
BILL pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BILL **Bilibino** 55.57 19 *eP* **P** 16 51 42.2 +1.1
comp=Z,4.3nm,0.3s,mb5.0
STKA **Stephens Creek** 55.77 158 *eP* **P** 16 51 43.5 +0.5
comp=Z,4.5nm,0.6s,mb4.7
STKA **Stephens Creek** 55.77 158 P **P** 16 51 43.6 +0.6
comp=Z,5.6nm,0.5s,mb4.8,baz=333,slow=6.3,SNR=18
STKA **Stephens Creek** 55.77 158 *eP* **P** 16 51 43.2 +0.2
comp=Z,7.2nm,0.6s,mb4.9
SVE **Sverdlovsk** 56.71 325 *eP* **P** 16 51 50.1 +0.6
SVE pmax pmax
comp=Z,18nm,1.3s,mb4.9
AKTK **Aktyubinsk** 57.02 318 P **P** 16 51 52.3 +0.5
AKTO **Aktyubinsk** 57.02 318 P **P** 16 51 52.3 +0.5
comp=Z,1.7nm,0.6s,mb4.3,baz=91,slow=9.1,SNR=7.2
ARU **Arti** 57.74 325*c* *iP* **P** 16 51 56.0 -0.7
ARU *e* 16 52 44.5
ARU *eS* **S** 16 59 54.6 +1.3
ARU *eSS* SS 17 03 43.5 -0.2
ARU pmax pmax
comp=Z,15nm,1.7s,mb4.8
DBC **Dubki** 64.51 309 P **P** 16 52 40.0 -3.0
DBC *eS* sP 16 52 56.5 -0.4
KIV **Kislovodsk** 67.42 310⇑ *eP* **P** 16 53 02.5 +0.9
KIV *e* pP 16 53 12.5 +0.7
KIV *e* 16 53 23.5
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KIV MLR MLR
comp=Z,200nm,18.0s,MS4.4
TTA **Tatalina** 69.24 29 *eP* **P** 16 53 20.6 +8.0
TTA *e* 16 53 26.2
TTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
TTA **Tatalina** 69.24 29 *eP* **P** 16 53 20.6 +8.0
comp=Z,14nm,1.0s,mb4.8
TTA *e* 16 53 26.1
SVW2 **Sparrevohn** 69.59 31 *eP* **P** 16 53 16.6 +1.7
OBN **Obninsk** 70.05 323 P **P** 16 53 18.0 +0.2
OBN *e* pP 16 53 27.4 -0.6
OBN 16 53 37.0
OBN S S 17 02 28.0 +1.9
OBN SS SS 17 06 49.0 -6.5
OBN pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KBS **Kingsbay** 73.65 349*d* *iP* **P** 16 53 37.2 -1.8
ASF **Jabal al Asfar** 74.09 299 P **P** 16 53 43.5 +1.1
comp=Z,1.3nm,0.4s,mb4.3,baz=64,slow=4.2,SNR=4.1
AKASG **Malin Array Be** 75.22 319 P **P** 16 53 48.3 -0.3
comp=Z,0.7nm,0.5s,mb3.9,baz=61,slow=4.9,SNR=6.2
AKASG **Malin Array Be** 75.22 319 *iP* **P** 16 53 48.2 -0.4
AKASG pmax pmax
comp=Z,1.0nm,0.5s
EGAK **Eagle** 75.38 26 *eP* **P** 16 53 49.6 +0.4
comp=Z,2.9nm,0.7s,mb4.3
EIL **Elat** 76.35 297 P **P** 16 53 55.5 0.0
comp=Z,3.6nm,0.9s,mb4.3,baz=130,slow=5.8,SNR=3.8
HYT **Haines Junctio** 78.22 29 *eP* **P** 16 54 09.0 +3.6
OPO **Ambohidratompo** 81.44 247 P **P** 16 54 23.8 +0.3
comp=Z,2.1nm,0.6s,mb4.2,baz=107,slow=1.7,SNR=6.9
GERES **GERESS Array B** 85.30 321 P **P** 16 54 44.1 +1.2
comp=Z,0.3nm,0.3s,mb4.0,baz=64,slow=6.1,SNR=5.4
YKA **Yellowknife Ar** 86.82 22 P **P** 16 54 51.3 +1.2
comp=Z,2.2nm,0.7s,mb4.5,baz=313,slow=4.3,SNR=8.7
YKA **Yellowknife Ar** 86.82 22 P **P** 16 54 51.3 +1.2
LPG **La Plagne** 91.06 320 *eP* **P** 16 55 10.3 -0.2
comp=Z,18nm,1.0s,mb5.0
LPL **La Plagne** 91.06 320 *eP* **P** 16 55 10.1 -0.4
comp=Z,5.4nm,0.6s,mb4.8
LSZ **Lusaka** 97.13 256 P **P** 16 55 38.4 -0.4
comp=Z,0.6nm,0.4s,mb4.4,baz=50,slow=6.4,SNR=4.3
SDV **Santo Domingo** 149.03 21 *e*PKPbc PKPbc 17 01 55.6 +0.7

DJA 30 16:43:43,278S×12945E,h163km,ML3.5/3,1C,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	1.54	234⇑	*eP*	Pn	16 44 19.5	+5.5

*MOS **30** 16:48:57.8±0.2,4328N×4368E,h11km,mb3.7/1,Error ellipse: s-maj=13.6km s-min=8.4km az=117.4*
*ISCJB **30** 16:48:59.0±0.5,4329N±002×4369E±004,h19km±9km, Error ellipse: s-maj=5.2km s-min=3.6km az=147.8*
ISC 30 16:48:58.8±0.4,4329N±002×4366E±004,h15km±5km,n14, σ0=50/27,2C,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNR	**Lesken**	0.11	98	*i* Pg	**Pg**	16 49 02.1	-0.1
LSNR				*i* Sg	**Sg**	16 49 05.5	+1.0
KORR	**Kora**	0.36	124	*i* Pg	**Pg**	16 49 06.0	-0.2
KORR				*e*Sg	**Sg**	16 49 11.1	0.0
DIGR	**Digorskoe uzhe**	0.39	189	*i* Pg	**Pg**	16 49 06.9	+0.1
DIGR				*i* Sg	**Sg**	16 49 12.9	+0.8
ARNR	**Ardon**	0.46	102	*e*Pg	**Pg**	16 49 07.6	-0.4
ARNR				*e*Sg	**Sg**	16 49 14.1	-0.1
KMSR	**Komsomolskaya**	0.47	80	*e*Pg	**Pg**	16 49 08.1	0.0
KMSR				*e*Sg	**Sg**	16 49 14.7	+0.3
KUBR	**Kubataba**	0.54	340	*i* Pg	**Pg**	16 49 09.3	-0.2
KUBR				*i* Sg	**Sg**	16 49 17.8	+1.0
ZEI	**Tsey**	0.55	161	*e*Pg	**Pg**	16 49 08.8	-0.8
ZEI				*i* Sg	**Sg**	16 49 16.4	-0.5
PRTR	**Priterechnaya**	0.65	44	*e*Pg	**Pg**	16 49 11.3	-0.1
PRTR				*e*Sg	**Sg**	16 49 20.3	+0.3
LACR	**Lac**	0.66	135	*i* Pg	**Pg**	16 49 11.2	-0.4
LACR				*i* Sg	**Sg**	16 49 20.1	-0.2
ONI	**Oni**	0.73	192	P	**Pb**	16 49 13.1	0.0
ONI				S	**Sb**	16 49 23.8	+1.1
SHAR	**Shatzhatmas**	0.85	302	*i*PG	**Pg**	16 49 14.8	-0.5
SHAR				*i* S	**Sb**	16 49 26.8	+0.3
PYA	**Pyatigorsk**	0.86	330⇑	*e*PG	**Pg**	16 49 15.4	-0.1
PYA				*e*S	**Sb**	16 49 27.0	+0.2
KIV	**Kislovodsk**	0.97	314	PG	**Pg**	16 49 17.0	-0.6
KIV				*i*		16 49 29.6	
KIV				smax			
comp=E,23nm,0.5s
KIV	**Kislovodsk**	0.97	314	Pg	**Pg**	16 49 17.0	-0.6
KIV				*i* Sg	**Sg**	16 49 29.6	-0.7

*TEH **30** 16:48:41.5,37.12N×5441E,h12km,ML4.0*
*IDC **30** 16:49:26.7±2.1,3697N×5454E,h0km,mb3.6/4,mb1 3.8/7, mb1mx3.5/27,mbtmp3.8/7,ML3.9/2,Error ellipse: s-maj=35.3km s-min=24.2km az=16.0*
*ISCJB **30** 16:49:27.9±1.2,3724N±004×5439E±004,h19km±12km, mb3.6/5,Error ellipse: s-maj=6.8km s-min=4.9km az=176.2*
*CSEM **30** 16:49:28.3±0.1,37.19N×5437E,h25km,ML4.0,Error ellipse: s-maj=2.1km s-min=1.3km az=154.0*
*NEIC **30** 16:49:30.0,37.12N×5441E,h12km,mb3.8/1,ML3.9(THR), MN4.0(TEH),After TEH.*
ISC 30 16:49:28.4±1.0,3720N±004×5439E±003,h8km±8km,n73, σ0=83/76,mb3.6/5,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	0.83	213	*e*Pg	**Pg**	16 49 44.1	-0.2
IGLO				*e*Sg	**Sg**	16 49 54.6	-0.4
IGLO				*e*		16 49 58.0	
IKIA	**Kiasar**	1.14	210	*e*Pg	**Pg**	16 49 49.2	-1.1
IKIA				*e*		16 50 09.8	
ISHM	**Shahmirzad**	1.65	213	*e*Pn	**Pn**	16 49 58.0	+0.4
ISHM				*e*		16 50 23.6	
ISHM	**Shahmirzad**	1.65	213	Pn	**Pn**	16 49 57.9	+0.3
IALA	**Alasht**	1.69	229	*e*Pn	**Pn**	16 49 57.2	-1.0
IALA				*e*		16 50 25.3	
IANJ	**Anjilo**	1.77	193	*e*Pn	**Pn**	16 49 59.3	0.0
IANJ				*e*		16 50 24.1	
IPRN	**Peran**	1.91	241	*e*Pn	**Pn**	16 50 00.7	-0.5
IPRN				*e*		16 50 32.0	
IPRN	**Peran**	1.91	241	Pn	**Pn**	16 50 00.9	-0.6
IFIR	**Firoozkooh**	2.04	221	*e*Pn	**Pn**	16 50 03.9	+0.9
IFIR				*e*		16 50 32.0	
IFIR	**Firoozkooh**	2.04	221	Pn	**Pn**	16 50 03.8	+0.8
ILAS	**Lasjerd**	2.15	213	*e*Pn	**Pn**	16 50 04.4	-0.1
ILAS				*e*		16 50 36.8	
IDMV	**Damavand**	2.50	230	*e*Pn	**Pn**	16 50 10.8	+1.5
IDMV				*e*		16 50 23.9	
IAFJ	**Afjeh**	2.54	239	*e*Pn	**Pn**	16 50 10.0	+0.1
IAFJ				*e*		16 50 53.6	
ISFR	**Sfrayin**	2.89	92	*e*Pn	**Pn**	16 50 15.2	+0.6
ISFR	**Sfrayin**	2.89	92	Pn	**Pn**	16 50 15.1	+0.5
IVRN	**Varamin**	3.08	225	*e*Pn	**Pn**	16 50 17.6	+0.3
IVRN	**Varamin**	3.08	225	*e*Pn	**Pn**	16 50 17.0	-0.3
IVRN				*e*Pn	**Pn**	16 50 17.6	+0.3
IVRN				*e*		16 50 31.0	
IVRN	**Varamin**	3.08	225	Pn	**Pn**	16 50 17.5	+0.2
IR3	**Iran Long-Peri**	3.22	239	*e*Pn	**Pn**	16 50 25.6	+6.4
IKRD	**Kardeh**	3.33	96	*e*Pn	**Pg**	16 50 32.9	+0.8
ISFB	**Sefidab**	3.33	212	*e*Pn	**Pn**	16 50 20.5	-0.3
ISFB				*e*		16 51 17.6	
ISFB	**Sefidab**	3.33	212	Pn	**Pn**	16 50 20.4	-0.4
IMHD	**Mahdasht**	3.36	244	*e*Pn	**Pn**	16 50 22.7	+1.5
IMHD				*e*		16 50 44.8	
IMHD	**Mahdasht**	3.36	244	Pn	**Pn**	16 50 22.6	+1.4
IEMG	**Emamgholi**	3.40	85	*e*Pn	**Pn**	16 50 22.1	+0.4
IEMG				*e*		16 50 41.5	
IEMG	**Emamgholi**	3.40	85	Pn	**Pn**	16 50 22.0	+0.3
IAKL	**Akhelmad**	3.55	98	*e*Pn	**Pn**	16 50 23.9	+0.2
IAKL				*e*		16 50 56.4	
IPAY	**Payeh**	3.77	100	*e*Pn	**Pn**	16 50 26.7	-0.1
IRAZ	**Razeghan**	4.03	245	*e*Pn	**Pn**	16 50 31.8	+1.5
IRAZ				*e*		16 51 45.9	
IRAZ	**Razeghan**	4.03	245	Pn	**Pn**	16 50 31.7	+1.4
IMOG	**Moghan**	4.12	104	*e*Pn	**Pn**	16 50 32.3	+0.7
IMOG				*e*		16 50 56.2	
IMOG	**Moghan**	4.12	104	Pn	**Pn**	16 50 32.2	+0.6
MHI	**Mashad**	4.17	101	*e*Pn	**Pn**	16 50 33.1	+0.8
IKLH	**Kolahrood**	4.50	212	*e*Pn	**Pn**	16 50 36.3	-0.6
IKLH				*e*		16 52 01.8	
NASN	**Na'in**	4.58	197	Pn	**Pn**	16 50 36.0	-1.9
IZEF	**Zefreh**	4.61	202	*e*Pn	**Pn**	16 50 37.7	-0.7
IZEF				*e*		16 51 58.3	
IMYA	**Miami**	4.66	99	*e*Pn	**Pn**	16 50 39.8	+0.7
IMYA	**Miami**	4.66	99	Pn	**Pn**	16 50 39.7	+0.6
ALIB	**Ii-Bayrami**	5.04	305	S	**Sn**	16 51 46.6	+3.9
GLBA	**Ciilabad**	5.15	295	S	**Sn**	16 51 41.4	-3.9
IGAR	**Gharneh**	5.16	203	*e*Pn	**Pn**	16 50 45.7	-0.2
IGAR				*e*		16 52 18.4	
IPIR	**Pirpir**	5.34	214	*e*Pn	**Pn**	16 50 51.0	+2.6
IPIR				*e*		16 52 35.1	
GRMI	**Germi**	5.38	289	Pn	**Pn**	16 50 48.0	-0.9
ISRB	**Sarab**	5.38	279	*e*Pn	**Pn**	16 50 49.0	0.0
ISRB	**Sarab**	5.38	279	Pn	**Pn**	16 50 48.9	-0.1
ITEG	**Tejag**	5.58	139	*e*Pn	**Pn**	16 50 51.8	+0.1
ITEG				*e*		16 51 04.5	
IBAF	**Bafgh**	5.68	170	*e*Pn	**Pn**	16 50 53.0	0.0
IBAF				*e*		16 51 57.9	
IMEH	**Mehriz**	5.79	178	*e*Pn	**Pn**	16 50 54.4	-0.2
IMEH				*e*		16 52 02.2	
IMEH	**Mehriz**	5.79	178	Pn	**Pn**	16 50 54.3	-0.3
IHRS	**Heris**	5.93	283	*e*Pn	**Pn**	16 50 56.5	0.0
IHRS	**Heris**	5.93	283	Pn	**Pn**	16 50 56.4	-0.1
IBST	**Bostanabad**	5.99	277	*e*Pn	**Pn**	16 50 56.2	-1.1
IKOO	**Kooshah**	6.09	140	*e*Pn	**Pn**	16 50 58.5	-0.1
IAZR	**Azarshahr**	6.71	277	*e*Pn	**Pn**	16 51 07.6	+0.4
IMRD	**Marand**	7.03	285	*e*Pn	**Pn**	16 51 12.9	+1.3
IMRD	**Marand**	7.03	285	Pn	**Pn**	16 51 12.8	+1.2
ISHB	**Shabestar**	7.04	282	*e*Pn	**Pn**	16 51 12.8	+1.1
GNI	**Garni**	8.11	294	Pn	**Pn**	16 51 30.7	+4.3
0.9nm,0.3s,baz=3.3,slow=8.9,SNR=3.3
GNI	**Garni**	8.11	294	Pn	**Pn**	16 51 20.4	-5.9
GNI				Pn	**Pn**	16 51 30.7	+4.3
DGRG	**David-gareji**	8.18	304	P	**Pn**	16 51 27.4	+0.1
AKTK	**Aktyubinsk**	13.49	10	Pn	**Pn**	16 52 39.5	-0.4
AKTK	**Aktyubinsk**	13.49	10	Pn	**Pn**	16 52 39.5	-0.5
AKTO	**Aktyubinsk**	13.49	10	Pn	**Pn**	16 52 39.5	-0.5
0.5nm,0.3s,baz=184,slow=13,SNR=6.1
BVAR	**Borovoye Array**	19.37	30	P	**Pn**	16 53 54.7	-0.7
0.3nm,0.3s,baz=208,slow=12,SNR=12
KURK	**Kurchatov**	21.94	44	P	**P**	16 54 21.9	-0.2
2.0nm,0.9s,mb3.6,baz=246,slow=11,SNR=11
MK31	**Makanchi Array**	22.74	56	*eP*	**P**	16 54 30.9	+0.2
MK31	**Makanchi Array**	22.74	56	*eP*	**P**	16 54 30.9	+0.2
MKAR	**Makanchi Array**	22.74	56	P	**P**	16 54 31.2	+0.5
1.5nm,0.6s,mb3.6,baz=242,slow=12,SNR=14
ZALV	**Zalesovo Beam**	26.80	42	P	**P**	16 55 07.5	-1.3
0.3nm,0.3s,mb3.3,baz=258,slow=7.1,SNR=3.0
ULN	**Ulaanbaatar**	39.54	57	*eP*	**P**	16 56 58.8	-0.8
ULN	**Ulaanbaatar**	39.54	57	*eP*	**P**	16 56 58.8	-0.8
2.2nm,0.9s,mb3.9
CMAR	**Chiang Mai Arr**	43.15	103	P	**P**	16 57 28.1	-1.4
0.6nm,0.6s,mb3.5,baz=300,slow=8.7,SNR=4.7
CMAR	**Chiang Mai Arr**	43.15	103	P	**P**	16 57 28.1	-1.5

BER 30 16:56:54.5±0.4,7128N×897W,h10km,MD3.5,ML2.8, MW3.2,4C,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	0.30	144⇑	*iP*	Pg	16 57 00.3	-0.3
JNW				AML	AML	16 57 07.0	
comp=Z,2μm,0.2s
JMI	**Jan Mayen**	0.36	167⇑	*iP*	Pg	16 57 01.0	-0.5
JMI				*eS*	Sg	16 57 05.7	-0.6
JMI				AML	AML	16 57 08.1	
comp=Z,537nm,0.1s
JMI	**Jan Mayen**	0.36	167⇑	*iP*	Pg	16 57 01.0	-0.5
SNR=104
JMI				*eS*	Sg	16 57 05.7	-0.6
comp=Z,537nm,0.1s,SNR=104
JNE	**Jan Mayen East**	0.36	142⇑	*iP*	Pg	16 57 00.9	-0.7
JNE				AML	AML	16 57 07.2	
comp=Z,1μm,0.1s

MAN 30 17:01:49,962N×12270E,h77km,mb3.8,ML2.5,MS2.1, 1C,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	0.59	117⇑	*eP*	Pn	17 02 05.5	+2.2
GUIM	**Jordan**	1.01	354	*eP*	Pn	17 02 09.6	+1.6
GUIM				*eS*	Sn	17 02 23.4	+1.3
IPIL	**Ipil**	1.82	184	*eP*	Pn	17 02 19.6	+1.1
MSLP	**Maasin**	2.19	76	*eP*	Pn	17 02 24.5	+1.2

*ISCJB **30** 17:08:56.3±0.5,3944N±002×2577E±003,h10km±4km, Error ellipse: s-maj=4.4km s-min=4.1km az=159.6*
*ISK **30** 17:08:56.3,3943N×2580E,h9km,MD3.0*
*THE **30** 17:08:57.8,3945N×2584E,h9km,ML2.6*
*CSEM **30** 17:08:57.1±0.1,3947N×2584E,h12km,ML2.6,Error ellipse: s-maj=2.1km s-min=1.7km az=77.0*
*DDA **30** 17:08:58.1,3946N×2599E,h7km±6km,Md3.2*
ISC 30 17:08:57.0±0.5,3945N±002×2577E±003,h12km±3km,n22, σ0=85/36,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	0.43	117	*e*Pg	**Pg**	17 09 05.6	0.0
PRK				*e*Sg	**Sg**	17 09 11.1	-0.2
BOZC	**Bozcaada**	0.45	29	*i* P	**Pg**	17 09 05.7	-0.1
BOZC				*i* S	**Sg**	17 09 12.5	+0.7
EZN	**Ezine**	0.57	48	PG	**Pg**	17 09 07.9	-0.2
EZN				*e*SG	**Sg**	17 09 16.1	+0.5
LOS	**Limnos**	0.72	312	*e*Pg	**Pg**	17 09 12.8	+1.8
AYVA	**Ayvalik**	0.72	101	*i* P	**Pg**	17 09 10.5	-0.5
AYVA				*i* S	**Sg**	17 09 20.2	-0.3
GADA	**Gvkgeada**	0.75	7	PG	**Pg**	17 09 11.5	0.0
GADA				*e*SG	**Sg**	17 09 22.5	+1.2
CHOS	**Chios island**	1.08	168	*e*Pg	**Pg**	17 09 17.6	-0.2
CHOS				*e*Sg	**Sg**	17 09 33.5	+1.7
CHOS	**Chios island**	1.08	168	*e*Pg	**Pg**	17 09 17.6	-0.2
CHOS				*e*Sg	**Sg**	17 09 33.5	+1.6
LPK	**Lapseki**	1.20	39	*e*PN	**Pn**	17 09 19.3	-0.1
LPK				*e*SN	**Sn**	17 09 36.7	+1.1
ENEZ	**Enez**	1.32	13	*e*PN	**Pn**	17 09 21.7	+0.5
ENEZ				*e*SN	**Sn**	17 09 40.2	+1.6
BALY	**Balya**	1.46	78	*i* P	**Pn**	17 09 22.4	-0.7
BALY				*i* S	**Sn**	17 09 40.9	-1.1
ALN	**Alexandroupoli**	1.46	8	*e*Pg	**Pg**	17 09 23.5	-1.6
ALN				*e*Sg	**Sg**	17 09 42.4	-1.6
AOS	**Alonnisos**	1.50	260	*e*Pg	**Pg**	17 09 24.1	-1.5
AOS				*e*Sg	**Sg**	17 09 45.8	+0.7
OUR	**Ouranopolis**	1.64	303	*e*Pb	**Pb**	17 09 26.5	-0.6
BALB	**Balikesir**	1.64	83	*e*PN	**Pn**	17 09 25.8	+0.3
RKY	**Sarkoy-Tekirda**	1.64	41	*e*PN	**Pn**	17 09 25.9	+0.3
SART	**Tekirdag**	1.64	41	*i* P	**Pn**	17 09 25.4	-0.2
SART				*i* S	**Sn**	17 09 45.7	-0.9
AKS	**Akhisar**	1.68	109	*e*PN	**Pn**	17 09 26.5	+0.3
AKHS	**Akhisar**	1.69	109	*i* P	**Pn**	17 09 25.8	-0.4
AKHS				*i* S	**Sn**	17 09 48.0	+0.3
PAIG	**Paliouri**	1.69	287	*e*Pb	**Pb**	17 09 26.7	-1.1
EDC	**Edincik**	1.84	60	*e*PN	**Pn**	17 09 28.8	+0.5
BNT	**Bandirma**	1.88	61	*e*PN	**Pn**	17 09 29.0	+0.1

*ISCJB **30** 17:22:52.4±0.8,1043N±003×7031W±002,h12km±5km, mb3.7/9,Error ellipse: s-maj=4.9km s-min=3.8km az=152.0*
*FUNV **30** 17:22:53.3,1040N×7030W,h1km,MW4.1*
*NEIC **30** 17:22:54.0,1038N×7029W,h5km,MW4.0(CAR),After CAR.*
*IDC **30** 17:22:55.8±3.4,1037N×7032W,h33km±26km,mb3.6/9, mb1 3.9/12,mb1mx3.7/24,mbtmp3.7/12,ML3.6/1,Error ellipse: s-maj=17.7km s-min=14.0km az=118.0*
ISC 30 17:22:53.3±0.6,1041N±003×7030W±002,h10km±4km,n44, σ0=87/59,mb3.7/9,2C-4D,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QARV	**Quebrada Arrib**	0.30	227⇑	*eP*	**Pg**	17 22 58.4	-0.9
QARV				*eS*	**Sg**	17 23 03.4	0.0
QARV	**Quebrada Arrib**	0.30	227	*eP*	**Pg**	17 22 58.3	-1.0
QARV				*eS*	**Sg**	17 23 03.4	0.0
CURV	**Curarigua**	0.52	140⇓	*iP*	**Pg**	17 23 02.7	-0.7
CURV				*eS*	**Sg**	17 23 10.2	-0.1
CURV	**Curarigua**	0.52	140	*eP*	**Pg**	17 23 02.8	-0.7
CURV				*eS*	**Sg**	17 23 10.2	-0.1
SIQV	**Siquisique**	0.54	64⇑	*eP*	**Pg**	17 23 04.2	+0.4
SIQV				*eS*	**Sg**	17 23 12.6	+1.7
SIQV	**Siquisique**	0.54	64	*eP*	**Pg**	17 23 04.2	+0.4
SIQV				*eS*	**Sg**	17 23 12.6	+1.7
DABV	**Dabajuro**	0.61	327⇓	*iP*	**Pg**	17 23 05.7

PCRV	Puerto La Cruz	5.58	92	eP	Pn	17 24 16.9	+0.4
PCRV	Puerto La Cruz	5.58	92	Pn	Pn	17 24 17.5	+1.1
PCRV				Sn	Sn	17 25 21.1	+0.3
PCRV				Lg		17 25 58.3	
ROSC	El Rosal	6.81	216	Pn	Pn	17 24 34.7	+1.3
	4.0nm,0.3s,baz=95,slow=21,SNR=6.3						
ROSC				Sn	Sn	17 25 53.0	+1.8
	2.0nm,0.3s,baz=72,slow=20,SNR=1.9						
SJG	San Juan	8.65	27	Pn	Pn	17 24 57.6	-1.1
	7.0nm,0.3s,baz=208,slow=15,SNR=3.0						
LPAZ	La Paz	26.61	175	P	P	17 28 33.1	+0.9
	1.4nm,0.6s,mb3.7,baz=328,slow=7.4,SNR=5.4						
LPAZ	La Paz	26.61	175	eP	P	17 28 34.2	+2.0
SIV	San Ignacio	27.78	161	P	P	17 28 41.5	-1.1
	0.7nm,0.4s,mb3.6,baz=27,slow=19,SNR=5.0						
TXAR	Lajitas Array	36.40	306	P	P	17 29 58.1	-0.1
	0.1nm,0.5s,mb3.0,baz=91,slow=9.2,SNR=3.4						
PDAR	Pinedale Array	46.97	320	P	P	17 31 24.0	-0.6
	0.7nm,0.5s,mb3.9,baz=124,slow=13,SNR=4.1						
PLCA	Paso Flores	50.88	180	P	P	17 31 52.1	-2.4
	3.1nm,0.8s,mb4.3,baz=354,slow=10,SNR=10						
NVAR	Mina Array Bea	51.09	311	P	P	17 31 56.1	-0.2
	0.6nm,0.6s,mb3.7,baz=128,slow=6.5,SNR=5.2						
TORD	Torodi Ar. Bea	70.32	80	P	P	17 34 06.5	-1.3
	1.0nm,0.6s,mb3.9,baz=291,slow=6.8,SNR=6.3						
GERES	GERESS Array B	78.31	42	P	P	17 34 52.6	-1.2
	0.5nm,0.7s,mb3.6,baz=263,slow=5.4,SNR=5.3						
ARCES	ARCESS Array B	82.35	21	P	P	17 35 15.3	+0.1
	0.4nm,0.4s,mb3.7,baz=272,slow=5.8,SNR=5.5						
CMAR	Chiang Mai Arr	149.41	20	PKPbc	PKPbc	17 42 42.5	-1.1
	1.0nm,0.8s,baz=337,slow=4.1,SNR=5.1						
ASAR	Alice Springs	153.43	237	PKPbc	PKPbc	17 42 50.0	-2.8
	0.4nm,0.7s,baz=106,slow=2.9,SNR=4.8						
WRA	Warramunga Arr	154.43	245	PKPbc	PKPbc	17 42 53.1	-2.0
	0.3nm,0.7s,baz=102,slow=2.6,SNR=8.9						

*DDA **30** 17:30:28.9, 3984N×2870E, h7km±4km, Md2.8*
*CSEM **30** 17:30:29.9±0.1, 3974N×2866E, h8km, MD2.8, Error ellipse: s-maj=2.8km s-min=2.1km az=135.0*
*ISCJB **30** 17:30:30.1±0.5, 3978N±003×2868E±003, h2km±6km, Error ellipse: s-maj=4.4km s-min=4.2km az=139.3*
*ISK **30** 17:30:30.8, 3981N×2863E, h6km, MD2.7*

ISC 30 17:30:30.6±0.5, 3979N±003×2867E±003, h3km±7km, n17, σ0°87/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	Dursunbey	0.24	220	iP	Pg	17 30 34.9	-0.3
DURS				iS	Sg	17 30 39.2	+0.8
BTOK	Tokmak	0.50	267	iP	Pg	17 30 39.4	-0.7
BTOK				iS	Sg	17 30 46.3	-0.3
ULDT	Uludag	0.50	45	iP	Pg	17 30 38.3	-2.0
ULDT				iS	Sg	17 30 43.7	-3.1
BALB	Balikesir	0.63	257	ePG	Pg	17 30 42.8	+0.1
BALB				eSG	Sg	17 30 51.8	+0.9
DEMI	Demirci	0.74	177	iP	Pg	17 30 44.4	-0.4
DEMI				iS	Sg	17 30 55.9	+1.5
GEMT	Gemlik	0.76	31	ePG	Pg	17 30 45.8	+0.6
GEMT				eSG	Sg	17 30 56.9	+1.8
BNT	Bandirma	0.81	315	ePG	Pg	17 30 46.3	+0.1
BALY	Balya	0.81	267	iP	Pg	17 30 45.2	-1.0
BALY				iS	Sg	17 30 56.5	-0.3
EDC	Edincik	0.84	312	ePG	Pg	17 30 46.7	0.0
EDC				eSG	Sg	17 30 58.2	+0.6
GDZ	Gediz	0.94	138	iP	Pg	17 30 47.4	-1.1
GDZ				iS	Sg	17 31 00.3	-0.3
YLV	Yalova	0.95	34	ePG	Pg	17 30 49.4	+0.6
HRT	Hereke	1.28	36	ePN	Pn	17 30 56.0	+0.7
SART	Tekirdag	1.46	309	iP	Pn	17 30 57.3	-0.5
SART				iS	Sb	17 31 16.3	-0.9
RKY	Sarkoy-Tekirda	1.46	309	ePN	Pn	17 30 57.7	-0.1
MFT	Murefte	1.46	314	ePN	Pn	17 30 58.2	+0.4
KLYT	Kilyos	1.49	11	ePN	Pn	17 30 58.5	+0.2
SILT	Sile	1.55	28	ePN	Pn	17 30 59.5	+0.5

*ISCJB **30** 17:52:54.5±1.8, 163S±02×1748W±02, h192km±25km, mb3.9/7, Error ellipse: s-maj=33.1km s-min=24.3km az=167.2*
*IDC **30** 17:52:55.8±2.3, 1646S×17479W, h186km±25km, mb3.8/6, mb1 4.0/7, mb1mx3.7/17, mbtmp3.9/7, Error ellipse: s-maj=32.9km s-min=24.4km az=135.0*
*NEIC **30** 17:52:56.6±1.4, 1639S×17469W, h205km±14km, mb4.2/2, Error ellipse: s-maj=25.6km s-min=15.0km az=150.0*

ISC 30 17:52:55.1±1.8, 164S±02×1747W±02, h184km±25km, n14, σ0°91/15, mb4.1/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.79	49	P	Pn	17 53 55.5	+1.7
	77nm,0.3s,baz=44,slow=1.9,SNR=42						
AFI				S	Sn	17 54 38.6	-1.1
	92nm,0.3s,baz=30,slow=20,SNR=10						
AFI	Afiamalu	3.79	49	P	Pn	17 53 55.5	+1.7
AFI				S	Sn	17 54 38.6	-1.1
URZ	Urewera	22.90	197	P	P	17 57 43.1	+0.2
	3.5nm,0.4s,mb4.1,baz=0.0,slow=7.1,SNR=8.5						
STKA	Stephens Creek	42.42	241	eP	P	18 00 32.1	+0.3
	15nm,1.8s,mb4.3						
STKA	Stephens Creek	42.42	241	P	P	18 00 32.3	+0.5
	6.8nm,0.8s,mb4.3,baz=80,slow=12,SNR=15						
WB2	Warramunga Arr	48.36	258	eP	P	18 01 17.6	-1.0
WRAB	Tennant Creek	48.36	258	eP	P	18 01 18.2	-0.4
WRA	Warramunga Arr	48.37	258	P	P	18 01 18.0	-0.7
	1.0nm,0.5s,mb3.7,baz=93,slow=6.8,SNR=45						
WRA				PcP	PcP	18 02 42.4	0.0
	0.2nm,0.3s,baz=85,slow=3.6,SNR=6.5						
ASAR	Alice Springs	48.58	253	P	P	18 01 19.9	-0.4
	6.2nm,0.6s,mb4.4,baz=89,slow=7.8,SNR=130						
ASAR				PcP	PcP	18 02 43.5	+0.4
	2.0nm,1.2s,baz=87,slow=4.7,SNR=4.3						
KAKA	Kakadu	51.15	267	eP	P	18 01 39.9	+0.2
	3.3nm,0.5s,mb4.2						
MAW	Mawson	86.41	199	P	P	18 05 16.6	+0.2
	1.2nm,0.5s,mb3.9,baz=149,slow=4.8,SNR=13						
CMAR	Chiang Mai Arr	91.72	289	P	P	18 05 44.2	+2.0
	1.0nm,0.7s,mb3.9,baz=76,slow=2.7,SNR=7.2						
LVC	Limon Verde	97.72	116	eP	P	18 06 09.1	-0.6
ARCES	ARCESS Array B	125.44	351	PKP	PKPdf	18 11 32.6	-0.9
	1.0nm,0.8s,baz=330,slow=3.1,SNR=3.8						

IDC 30 18:07:39.8±11.0, 196N×12678E, h166km±108km, mb3.0/3, mb1 3.2/3, mb1mx3.0/15, mbtmp3.0/3, Error ellipse: s-maj=174.9km s-min=27.1km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.00	162	P	P	18 12 30.2	0.0
	1.7nm,0.6s,baz=339,slow=10,SNR=19						
WB2	Warramunga Arr	23.00	162	eP	P	18 12 29.6	-0.6
ASAR	Alice Springs	26.40	165	P	P	18 13 01.4	+0.4
	0.2nm,0.4s,baz=350,slow=7.9,SNR=7.1						
ASAR				PcP	PcP	18 16 21.4	-0.8
	0.2nm,0.5s,baz=360,slow=1.8,SNR=6.4						
MKAR	Makanchi Array	59.03	326	P	P	18 17 22.5	+0.3
	0.2nm,0.4s,baz=109,slow=8.9,SNR=4.3						

IDC 30 18:09:09.6±1.4, 621S×15623E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.6/16, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=39.3km s-min=29.7km az=87.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.88	131	Pn	Pn	18 10 24.3	0.0
	3.0nm,0.3s,baz=270,slow=15,SNR=2.3						
HNR				Sn	Sn	18 11 18.8	-2.8
	6.7nm,0.3s,baz=94,slow=20,SNR=4.3						
WRA	Warramunga Arr	25.27	235	P	P	18 14 38.5	+0.7
	0.7nm,0.8s,baz=60,slow=9.3,SNR=4.0						
ASAR	Alice Springs	27.61	229	P	P	18 14 58.5	-0.4
	0.1nm,0.4s,baz=58,slow=9.2,SNR=4.9						
SONM	Songino Array	69.35	327	P	P	18 20 21.0	+1.9
	0.6nm,0.6s,baz=141,slow=7.3,SNR=4.2						
MKAR	Makanchi Array	83.63	318	P	P	18 21 39.7	-0.4
	1.2nm,0.7s,baz=92,slow=6.2,SNR=12						
ZALV	Zalesovo Beam	84.22	326	P	P	18 21 41.7	-1.2
	0.7nm,0.4s,baz=111,slow=8.1,SNR=3.7						

MAN 30 18:20:32, 1032N×12249E, h14km, mb4.0, ML2.7, MS2.4, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.32	17	eP	Pg	18 20 40.0	+1.3
GUIM				eS	Sg	18 20 45.7	+2.6
SNPH	Sibulan	1.21	143	eP	Pn	18 20 54.0	-0.6
RCP	Roxas	1.26	11⇑	eP	Pn	18 20 55.2	0.0
CUYO	Cuyo Island	1.54	290	eP	Pn	18 20 59.8	+0.7
CUYO				eS	Sn	18 21 20.8	+1.8
MSLP	Maasin	2.33	94	eP	Pn	18 21 01.8	-8.2
SJMP	San Jose	2.52	328	eP	Pn	18 21 14.6	+2.0
BUSP	Coron	2.81	307	eP	Pn	18 21 17.8	+1.3
BUSP				eS	Sn	18 21 51.5	+1.4
ENPP	El Nido	3.14	287	eP	Pn	18 21 22.2	+1.1

*ISCJB **30** 18:33:57.6±4.6, 239S±02×1798E±02, h509km±57km, mb4.1/9, Error ellipse: s-maj=27.5km s-min=18.8km az=41.4*
*IDC **30** 18:33:58.2±2.4, 2400S×17990E, h506km±23km, mb3.5/4, mb1 3.8/5, mb1mx3.3/14, mbtmp3.5/5, Error ellipse: s-maj=40.1km s-min=21.0km az=161.0*
*NEIC **30** 18:34:01.6±3.6, 2424S×17987E, h556km±47km, mb4.4/5, Error ellipse: s-maj=45.9km s-min=13.9km az=187.0*

ISC 30 18:34:00.5±4.3, 242S±02×1799E±02, h538km±55km, n17, σ0°41/14, mb4.1/9, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.24	189	P	P	18 37 02.1	0.0
	1.5nm,0.3s,baz=134,slow=7.5,SNR=12						
URZ				S	S	18 39 31.6	-0.1
	0.4nm,0.3s,baz=55,slow=23,SNR=7.7						
CTA	Charters Tower	31.34	271	eP	P	18 39 38.1	+0.8
	9.6nm,0.4s,mb4.7						
CTAO	Charters Tower	31.34	271	eP	P	18 39 38.0	+0.7
ASAR	Alice Springs	41.85	261	P	P	18 41 04.3	+0.5
	1.9nm,0.4s,mb4.0,baz=98,slow=7.4,SNR=83						
ASAR				ScP	ScP	18 45 51.0	+4.6
	1.7nm,0.9s,baz=106,slow=4.3,SNR=13						
WB2	Warramunga Arr	42.24	266	eP	P	18 41 06.6	-0.3
WRAB	Tennant Creek	42.24	266	eP	P	18 41 06.4	-0.5
	4.0nm,0.5s,mb4.2						
WRA	Warramunga Arr	42.25	266	P	P	18 41 06.7	-0.2
	3.8nm,0.3s,mb4.4,baz=96,slow=8.4,SNR=280						
WRA				ScP	ScP	18 45 52.8	+4.8
	1.2nm,0.8s,baz=96,slow=3.6,SNR=9.5						
FORT	Forrest	46.09	250	eP	P	18 41 36.7	+0.2
	10nm,0.6s,mb4.5						
KAKA	Kakadu	46.20	276	eP	P	18 41 36.8	-0.7
	3.6nm,0.3s,mb4.4						
FITZ	Fitzroy Crossi	50.67	266	eP	P	18 42 11.1	+0.4
	3.1nm,0.8s,mb3.7						
TXAR	Lajitas Array	90.69	58	P	P	18 46 06.5	+0.3
	0.8nm,0.7s,mb3.8,baz=217,slow=6.7,SNR=9.7						
TXAR	Lajitas Array	90.69	58	P	P	18 46 06.5	+0.3
PDAR	Pinedale Array	92.98	44	P	P	18 46 16.1	-0.2
	0.4nm,0.6s,mb3.6,baz=213,slow=6.7,SNR=4.0						
ARCES	ARCESS Array B	132.12	348	PKP	PKPdf	18 52 12.0	-0.4
	3.1nm,1.1s,baz=60,slow=2.9,SNR=5.2						
AKASG	Malin Array Be	145.12	327	PKPbc	PKPbc	18 52 36.0	-1.4
	0.3nm,0.3s,baz=42,slow=4.0,SNR=4.1						
AKASG	Malin Array Be	145.12	327	PKPbc	PKPbc	18 52 36.0	-1.5
CLL	Collm	151.07	343	↓iPKPbc	PKPbc	18 52 52.1	-0.5

*ISCJB **30** 18:49:34.2±0.5, 268S±007×362E±0.1, h10km, mb4.0/15, MS4.0/16, Error ellipse: s-maj=17.9km s-min=7.9km az=23.7*
*IDC **30** 18:49:34.1±0.8, 265S×3619E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.7/24, mbtmp3.7/11, ML3.5/2, MS3.9/17, Ms1 3.9/17, ms1mx3.8/27, Error ellipse: s-maj=29.0km s-min=11.0km az=123.0*
*NEIC **30** 18:49:35.4±0.6, 262S×3625E, h10km, mb4.2/1, Error ellipse: s-maj=20.4km s-min=9.4km az=119.0*

ISC 30 18:49:36.0±0.5, 267S±007×362E±01, h10km, n37, σ0°89/28, mb4.0/15, MS4.0/16, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	1.85	34	Pg	Pg	18 50 07.2	-4.3
	92nm,0.3s,baz=210,slow=17,SNR=347						
KMBO				Lg		18 50 32.5	
	235nm,0.3s,baz=260,slow=23,SNR=15						
KMBO				LR	LR	18 51 02.2	
	comp=Z,2μm,18.0s,baz=77,slow=48						
KMBO	Kilima Mbogo	1.85	34	Pg	Pg	18 50 07.2	-4.3
KMBO				Lg		18 50 32.5	
KMBO				LR	LR	18 51 02.2	
KMBO	Kilima Mbogo	1.85	34	eP	Pn	18 50 07.8	0.0
KMBO				AMb	AMB	18 50 11.6	
	comp=Z,16μm,0.9s						
LSZ	Lusaka	14.82	212	Pn	Pn	18 53 04.7	-1.0
	comp=Z,0.4nm,0.3s,baz=64,slow=12,SNR=5.9						
LSZ				Sn	Sn	18 55 42.9	-7.2
	comp=Z,0.3nm,0.3s,baz=32,slow=7.3,SNR=3.9						
LSZ				Lg		18 57 21.0	
	comp=Z,1.4nm,0.3s,baz=115,slow=7.5,SNR=11						
LSZ				LR	LR	18 58 48.2	
	comp=Z,327nm,20.8s,baz=193,slow=37						
LSZ	Lusaka	14.82	212	eP	Pn	18 52 59.6	-6.1
LSZ				AMb	AMB	18 53 16.0	
	comp=Z,106nm,1.4s						
OPO	Ambohidratompo	19.11	147	P	Pn	18 53 58.8	-1.2
	comp=Z,0.1nm,0.3s,baz=59,slow=12,SNR=2.3						
MSNA	Messina	20.46	197	eP	P	18 54 14.9	+1.0
MSNA				AMb	AMB	18 54 19.6	
	comp=Z,13nm,1.7s						
MOPA	Mopani	21.24	192	eP	P	18 54 22.7	+0.4
MOPA				AMb	AMB	18 54 38.5	
	comp=Z,22nm,1.9s,mb4.2						
SLR	Silverton	24.17	198	eP	P	18 54 53.6	+1.1
SLR				AMb	AMB	18 54 58.5	
	comp=Z,25nm,2.0s,mb4.3						
LBTB	Lobatse	24.46	204	P	P	18 54 54.9	-0.3
	comp=Z,2.5nm,0.7s,mb3.8,baz=53,slow=14,SNR=4.1						
LBTB				LR	LR	19 03 45.9	
	comp=Z,86nm,19.9s,MS3.2,baz=202,slow=35						
LBTB	Lobatse	24.46	204	eP	P	18 54 55.9	+0.7
LBTB				AMb	AMB	18 54 59.2	
	comp=Z,26nm,1.6s,mb4.4						
TSUM	Tsumeb	24.54	227	P	P	18 54 55.8	-0.2
	comp=Z,0.9nm,0.7s,mb3.4,baz=8.7,slow=13,SNR=4.8						
TSUM				LR	LR	19 05 04.8	
	comp=Z,1μm,18.7s,MS4.3,baz=36,slow=38						
TSUM	Tsumeb	24.54	227	eP	P	18 54 56.6	+0.6
TSUM				AMb	AMB	18 54 59.0	
	comp=Z,116nm,1.9s						
KSR	Koster	24.73	200	eP	P	18 54 57.7	+0.1
KSR				AMb	AMB	18 55 32.1	
	comp=Z,22nm,1.8s,mb4.4						
PRYS	Parys	25.57	199	eP	P	18 55 04.0	-1.2
PRYS				AMb	AMB	18 55 21.5	
	comp=Z,24nm,1.5s,mb4.5						
SWZ	Schweizer	26.51	202	eP	P	18 55 13.6	-0.2
SWZ				AMb	AMB	18 55 18.6	
	comp=Z,21nm,1.6s,mb4.4						
BOSA	Boshof	27.83	201	P	P	18 55 25.9	+0.2
	comp=Z,1.9nm,0.8s,mb3.8,baz=10,slow=9.1,SNR=5.6						
BOSA				LR	LR	19 06 35.4	
	comp=Z,234nm,19.6s,MS3.8,baz=28,slow=37						
BOSA	Boshof	27.83	201	P	P	18 55 25.9	+0.2
BOSA				LR	LR	19 06 35.4	
BOSA	Boshof	27.83	201	eP	P	18 55 24.3	-1.4
BOSA				AMb	AMB	18 55 28.6	
	comp=Z,19nm,2.0s,mb4.4						
TORD	Torodi Ar. Bea	37.70	295	P	P	18 56 51.6	-0.4
	comp=Z,0.5nm,1.0s,mb3.2,baz=120,slow=8.5,SNR=4.1						
TORD				LR	LR	19 12 24.8	
	comp=Z,454nm,19.5s,MS4.3,baz=105,slow=36						
DBIC	Dimbokro	42.04	283	LR	LR	19 15 22.9	
	comp=Z,520nm,18.2s,MS4.5,baz=109,slow=37						
KEST	Kesra	45.73	329	LR	LR	19 18 04.8	
	comp=Z,111nm,18.4s,MS3.8,baz=91,slow=37						
AKASG	Malin Array Be	53.50	354	P	P	18 58 56.6	+0.1
	comp=Z,0.1nm,0.3s,mb3.2,baz=180,slow=7.2,SNR=4.2						
GERES	GERESS Array B	54.91	342	LR	LR	19 27 37.0	
	comp=Z,73nm,18.1s,MS3.8,baz=92,slow=42						
MKAR	Makanchi Array	63.74	33	P	P	19 00 07.3	-0.6
	comp=Z,2.3nm,0.4s,mb4.5,baz=226,slow=4.4,SNR=40						
KURK	Kurchatov	64.33	28	P	P	19 00 09.1	-2.7
	comp=Z,0.3nm,0.2s,mb3.9,baz=227,slow=6.8,SNR=3.0						
KURK	Kurchatov	64.33	28	eP	P	19 00 11.5	-0.3
	comp=Z,1.8nm,0.9s,mb4.1						
CMAR	Chiang Mai Arr	65.17	68	P	P	19 00 19.1	+1.2
	comp=Z,0.8nm,0.9s,mb3.8,baz=246,slow=7.9,SNR=4.6						
CMAR				LR	LR	19 26 54.6	
	comp=Z,90nm,18.9s,MS4.0,baz=278,slow=34						
NOA	NORSAR Array B	66.41	347	LR	LR	19 35 12.6	
	comp=Z,24nm,18.6s,MS3.4,baz=85,slow=41						
MAW	Mawson	67.36	169	LR	LR	19 28 19.3	
	comp=Z,95nm,19.6s,MS4.0,baz=71,slow=34						
ZALV	Zalesovo Beam	69.32	28	P	P	19 00 43.1	-0.4
	comp=Z,0.8nm,0.8s,mb3.7,baz=235,slow=5.2,SNR=3.8						
ZALV				LR	LR	19 35 22.5	
	comp=Z,56nm,18.5s,MS3.8,baz=149,slow=40						
ARCES	ARCESS Array B	72.43	356	LR	LR	19 34 58.3	
	comp=Z,44nm,21.0s,MS3.7,baz=179,slow=38						
SONM	Songino Array	78.81	40	P	P	19 01 40.9	+1.7
	comp=Z,0.5nm,0.8s,mb3.5,baz=258,slow=7.2,SNR=3.5						
FITZ	Fitzroy Crossi	88.63	108	LR	LR	19 36 23.6	
	comp=Z,125nm,20.9s,MS4.3,baz=89,slow=32						
KSRS	Korea Array	92.96	53	LR	LR	19 45 02.0	
	comp=Z,38nm,19.1s,MS3.9,baz=230,slow=36						
JOW	Kunigami	93.03	63	LR	LR	19 47 28.0	
	comp=Z,58nm,18.9s,MS4.1,baz=321,slow=37						
WRA	Warramunga Arr	96.72	110	LR	LR	19 41 11.8	
	comp=Z,150nm,18.2s,MS4.5,baz=165,slow=32						

FUNV 30 19:00:12.6, 1002N×7171W, h4km, MW3.6, 3C-1D, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	Villa del Rosa	0.84	305	↓iP	Pg	19 00 28.3	-0.4
VIRV				eS	Sg	19 00 40.1	+0.5
QARV	Quebrada Arrib	1.18	81⇑	iP	Pg	19 00 35.0	-0.3
QARV				eS	Sg	19 00 50.4	-0.3
VIGV	El Vigia	1.22	164⇑	iP	Pg	19 00 35.3	-0.7
DABV	Dabajuro	1.39	49	eP	Pn	19 00 37.8	-0.9
DABV				eS	Sb	19 00 57.2	0.0
CURV	Curarigua	1.72	90	eP	Pn	19 00 43.4	+0.1
CURV				eS	Sn	19 01 05.5	-0.2
SOCV	Socops	1.92	154	eP	Pn	19 00 45.0	-1.0
SOCV				eS	Sn	19 01 09.0	-1.5
SIQV	Siquisique	1.97	71⇑	eP	Pn	19 00 45.7	-1.1
SIQV				eS	Sn	19 01 11.2	-0.8
SANV	Sanarito	2.20	103	eP	Pn	19 00 49.5	-0.4
SANV				eS	Sn	19 01 16.9	-0.7
CAPV	Capacho	2.22	196	eP	Pn	19 00 50.0	-0.1
CAPV				eS	Sn	19 01 17.4	-0.6
TEPV	Terepaima	2.48	91	eP	Pn	19 00 53.9	+0.1
TEPV				eS	Sn	19 01 23.1	-1.4

*ISCJB **30** 19:09:06.3±0.4, 3839N±003×2176E±003, h11km±6km, Error ellipse: s-maj=5.0km s-min=3.7km az=167.2*
*NEIC **30** 19:09:06.5, 3837N×2180E, h15km, MD3.1(ATH), After ATH.*
*ATH **30** 19:09:06.4, 3837N×2179E, h20km±2km, MD3.1/4*
*CSEM **30** 19:09:07.0±0.2, 3838N×2176E, h12km, MD3.1, Error ellipse: s-maj=4.0km s-min=3.0km az=154.0*
*THE **30** 19:09:07.2, 3839N×2174E, h0km, ML2.7*

ISC 30 19:09:07.2±0.4, 3839N±003×2175E±003, h16km±5km, n15, σ0°93/24, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.40	215	ePB	Pg	19 09 14.7	-0.6
RLS				eSB	Sg	19 09 21.3	+0.6
EVR	Evrytania	0.53	5	ePN	Pg	19 09 17.0	-0.7
AGG	Agios Georgios	0.78	35	ePg	Pg	19 09 21.2	-1.2
AGG				eSg	Sg	19 09 34.0	+1.3
KFL	Anninata	0.81	250	ePg	Pg	19 09 22.5	-0.4
KFL				eSg	Sg	19 09 34.5	+0.9
LKD	Levkas	0.92	291	ePg	Pg	19 09 24.2	-0.9
LKD				eSg	Sg	19 09 37.6	+0.4
VLS	Valsamata	0.94	258	ePg	Pg	19 09 24.0	-1.4
VLS				eSg	Sg	19 09 39.1	+1.4
VLS	Valsamata	0.94	258	ePB	Pb	19 09 24.2	-0.8
VLS				eSN	Sn	19 09 39.0	+0.3
LKR	Lokris	1.01	74	ePg	Pg	19 09 25.8	-1.0
LTK	Loutraki	1.02	110	ePg	Pg	19 09 27.5	+0.6
LTK				eSg	Sg	19 09 41.5	+1.1
THL	Klokotos Trika	1.20	10	ePg	Pg	19 09 29.9	-0.4
THL				eSg	Sg	19 09 47.3	+1.4
THL	Klokotos Trika	1.20	10	ePN	Pn	19 09 29.8	+0.7
ITM	Ithomi	1.21	173	ePN	Pn	19 09 29.0	-0.4
DID	Didima	1.47	126	ePg	Pg	19 09 34.3	-1.0
DID				eSg	Sg	19 09 55.2	+0.7
NEO	Neokhori	1.47	51	ePN	Pn	19 09 33.7	+0.8
XOR	Xorichti	1.49	48	ePg	Pg	19 09 34.2	-1.6

*ISCJB **30** 19:32:48.9±0.4, 1228N±004×8864W±003, h50km±4km, mb4.7/63, MS4.1/19, Error ellipse: s-maj=8.4km s-min=3.3km az=31.7*
*MOS **30** 19:32:48.0±1.2, 1237N×8855W, h33km, mb5.1/12, Error ellipse: s-maj=18.2km s-min=6.4km az=110.0*
*IDC **30** 19:32:48.1±0.9, 1244N×8837W, h24km±5km, mb4.1/17, mb1 4.3/19, mb1mx4.2/25, mbtmp4.2/19, ML4.0/1, MS4.0/22, Ms1 4.0/22, ms1mx3.9/35, Error ellipse: s-maj=26.2km s-min=12.5km az=56.0*
*CASC **30** 19:32:49.1±2.3, 1226N×8869W, h58km±84km, MD4.4, ML4.1, mb4.9(NEIC)*
*NEIC **30** 19:32:50.2±0.6, 1227N×8861W, h47km±5km, mb4.9/49, Error ellipse: s-maj=6.9km s-min=4.6km az=213.0*

ISC 30 19:32:50.7±0.4, 1234N±004×8860W±003, h46km±4km, n195, σ0°99/165, mb4.7/63, MS4.1/19, 17C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	1.13	16

LCR2	La Lucha 2	5.19	119	eP	Pn	19 34 06.3 +0.4
CCIG	Comitan	5.21	319	eP	Pn	19 34 06.0 -0.1
CCIG				i S	Sn	19 35 07.4 +2.5
QCR	Quepos	5.23	123⇑	eP	Pn	19 34 06.4 +0.1
URSC	Urasca	5.34	117⇑	eP	Pn	19 34 09.7 +1.8
URSC				eS	Sn	19 35 11.1 +2.9
BUS	Buena Vista	5.50	120⇓	eP	Pn	19 34 11.2 +1.2
SCX	San Cristobal	5.87	319	i P	Pn	19 34 15.0 -0.1
BAR1		6.03	120	eP	Pn	19 34 18.1 +0.6
ACR	Cerro Adams	6.47	124⇑	eP	Pn	19 34 24.3 +0.9
BRU2	Volcan	6.79	121⇓	eP	Pn	19 34 28.3 +0.5
CMIG	Matias Romero	7.70	309	Pn	Pn	19 34 39.0 -1.3
	comp=Z,2.6nm,0.3s,baz=111,slow=9.0,SNR=20					
CMIG				Sn	Sn	19 36 04.0 -2.2
	comp=Z,1.2nm,0.3s,baz=273,slow=21,SNR=2.4					
CMIG	Matias Romero	7.70	309	Pn	Pn	19 34 39.0 -1.3
CMIG				Sn	Sn	19 36 04.0 -2.2
TEIG	Tepich	7.85	2	Pn	Pn	19 34 43.8 +1.6
	comp=Z,2.8nm,0.3s,baz=169,slow=8.6,SNR=22					
TEIG				LR	LR	19 38 05.2
	comp=Z,2μm,18.3s,baz=277,slow=41					
TEIG	Tepich	7.85	2	Pn	Pn	19 34 43.8 +1.5
TEIG				LR	LR	19 38 05.2
BCIP	Isla Barro Col	9.16	109	eP	Pn	19 35 00.1 -0.3
	comp=Z,36nm,1.1s					
OXX	Oaxaca	9.17	302	eP	Pn	19 35 00.0 -0.4
VHO	Vista Hermosa	9.17	302	i P	Pn	19 34 58.0 -2.4
VHO				i S	Sn	19 36 47.0 +4.7
SOR	Soroa	11.68	26	eP	Pn	19 35 39.4 +4.7
PPM	Popocatepetl	11.74	306	i P	Pn	19 35 35.5 -0.1
PPM				i S	Sn	19 37 57.8 +12
IIO	Organos	12.11	308	eP	Pn	19 35 41.5 +0.8
CAIG	El Cayaco	12.22	294	eP	Pn	19 35 42.9 +0.7
MGV	Manicaragua	12.73	39	eP	Pn	19 35 47.9 -1.2
ZIIG	Zihuatanejo	13.49	294	eP	Pn	19 35 58.6 -0.9
LMGC	Las Mercedes	13.52	54	eP	Pn	19 36 02.8 +2.9
RCC	Rio Carpintero	14.54	57	eP	Pn	19 36 14.3 +0.7
ROSC	El Rosal	15.94	117	Pn	Pn	19 36 32.6 +0.7
	comp=Z,1.1nm,0.3s,baz=91,slow=24,SNR=3.6					
ROSC				LR	LR	19 42 41.5
	comp=Z,219nm,20.2s,baz=187,slow=38					
CHI2		16.55	116⇑	eP	Px	19 33 15.7
SDV	Santo Domingo	17.98	99	P	Pn	19 36 56.0 -1.4
	comp=Z,0.6nm,0.3s,baz=300,slow=5.6,SNR=8.7					
SDV				LR	LR	19 44 29.1
	comp=Z,253nm,20.5s,baz=311,slow=39					
HKT	Hockley	18.77	340	eP	Pn	19 37 07.5 +0.7
HKT				pmax	pmax	
	comp=Z,66nm,1.7s					
HKT	Hockley	18.77	340	eP	Pn	19 37 07.5 +0.7
	comp=Z,66nm,1.7s					
VBMS	Vicksburg	19.86	355	eP	Pn	19 37 20.5 +0.7
	comp=Z,102nm,0.6s					
NATX	Nacogdoches	20.12	345	eP	P	19 37 22.2 +1.5
	comp=Z,90nm,0.9s					
JCT	Junction City	20.82	332	eP	P	19 37 28.5 +0.2
JCT				pmax	pmax	
	comp=Z,71nm,0.8s					
JCT	Junction City	20.82	332	eP	P	19 37 28.5 +0.2
	comp=Z,71nm,0.8s					
GOGA	Godfrey	21.49	12	eP	P	19 37 35.8 +0.3
GOGA				pmax	pmax	
	comp=Z,42nm,0.8s,mb4.8					
GOGA	Godfrey	21.49	12	eP	P	19 37 35.8 +0.3
	comp=Z,42nm,0.8s,mb4.8					
ATAH	Atahualpa	21.73	152	P	P	19 37 41.0 +2.8
	comp=Z,3.5nm,0.6s,mb4.0,baz=314,slow=22,SNR=4.3					
ATAH				LR	LR	19 44 36.0
	comp=Z,512nm,20.5s,MS3.9,baz=186,slow=32					
TXAR	Lajitas Array	21.97	323	P	P	19 37 41.0 +0.4
	comp=Z,15nm,0.7s,mb4.5,baz=148,slow=11,SNR=131					
OXF	Oxford	22.09	358	eP	P	19 37 42.3 +0.5
OXF				pmax	pmax	
	comp=Z,92nm,1.2s,mb5.1					
OXF	Oxford	22.09	358	eP	P	19 37 42.3 +0.4
	comp=Z,92nm,1.2s,mb5.1					
COW	Cow Castle Cre	22.16	18	eP	P	19 37 45.3 +2.7
PLAL	Pickwick Lake	22.55	1	eP	P	19 37 46.7 0.0
	comp=Z,11nm,0.7s,mb4.4					
MIAR	Mount Ida	22.57	349	eP	P	19 37 47.2 +0.3
MIAR				pmax	pmax	
	comp=Z,122nm,1.1s,mb5.2					
MIAR	Mount Ida	22.57	349	eP	P	19 37 47.2 +0.2
	comp=Z,122nm,1.1s,mb5.2					
UALR	University of	22.59	352	eP	P	19 37 47.7 +0.5
	comp=Z,75nm,0.6s,mb5.3					
SWET	Sewanee	22.90	6	eP	P	19 37 50.5 0.0
GNAR	Gosnell	23.56	357	eP	P	19 37 58.0 +1.0
TKL	Tuckaleechee C	23.62	10	P	P	19 37 57.9 +0.3
	comp=Z,40nm,0.8s,mb4.9,baz=182,slow=11,SNR=41					
TKL				LR	LR	19 47 17.5
	comp=Z,202nm,20.0s,MS3.6,baz=211,slow=37					
LPIG	La Paz	23.67	303	LR	LR	19 48 40.8
	comp=Z,763nm,18.0s,MS4.2,baz=142,slow=40					
WMOK	Wichita Mounta	24.14	339	eP	P	19 38 01.2 -1.2
WMOK				pmax	pmax	
	comp=Z,13nm,0.9s,mb4.4					
WMOK	Wichita Mounta	24.14	339	eP	P	19 38 01.2 -1.2
	comp=Z,13nm,0.9s,mb4.4					
TZTN	Tazewell	24.52	10	eP	P	19 38 05.5 -0.3
	comp=Z,31nm,1.1s,mb4.8					
SIUC	Southern Illin	25.28	359	eP	P	19 38 12.6 0.0
	comp=Z,49nm,0.6s,mb5.2					
USIN	University of	25.53	2	eP	P	19 38 14.5 -0.4
	comp=Z,30nm,0.6s,mb5.0					
FVM	French Village	25.59	357	eP	P	19 38 14.9 -0.6
FVM				pmax	pmax	
	comp=Z,12nm,0.8s,mb4.5					
FVM	French Village	25.59	357	eP	P	19 38 14.9 -0.6
	comp=Z,12nm,0.8s,mb4.5					
ELN	Prospectdale	25.76	15	eP	P	19 38 17.8 +0.7
BLA	Blacksburg	25.83	15	eP	P	19 38 18.3 +0.6
BLA				pmax	pmax	
	comp=Z,12nm,0.6s,mb4.6					
BLA	Blacksburg	25.83	15	eP	P	19 38 18.3 +0.6
	comp=Z,12nm,0.6s,mb4.6					
WCI	Wyandotte Cave	25.86	4	eP	P	19 38 17.4 -0.6
WCI				pmax	pmax	
	comp=Z,42nm,0.6s,mb5.2					
WCI	Wyandotte Cave	25.86	4	eP	P	19 38 17.4 -0.6
	comp=Z,42nm,0.6s,mb5.1					
BNM	Barren Site	27.22	326	eP	P	19 38 31.2 +0.9
KSU1	Kansas State U	27.59	346	eP	P	19 38 32.8 -0.7
	comp=Z,28nm,0.8s,mb5.0					
LAZ	Ladron	27.69	326	eP	P	19 38 36.3 +1.8
ANMO	Albuquerque	27.74	327	P	P	19 38 35.2 +0.3
	comp=Z,1.1nm,0.7s,mb3.6,baz=114,slow=9.0,SNR=3.2					
ANMO	Albuquerque	27.74	327	P	P	19 38 35.2 +0.3
CBKS	Cedar Bluff	28.17	341	eP	P	19 38 38.1 -0.6
CBKS				pmax	pmax	
	comp=Z,20nm,0.6s,mb4.9					
CBKS	Cedar Bluff	28.17	341	eP	P	19 38 38.1 -0.5
	comp=Z,20nm,0.6s,mb4.9					
ACSO	Alum Creek Sta	28.22	9	eP	P	19 38 38.8 -0.3
	comp=Z,31nm,0.6s,mb5.1					
TUC	Tucson	28.46	318	eP	P	19 38 41.8 +0.4
TUC				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.0					
TUC	Tucson	28.46	318	eP	P	19 38 41.8 +0.5
	comp=Z,2.7nm,0.8s,mb3.9					
SDMD	Soldier's Deli	28.90	19	eP	P	19 38 46.2 +1.0
	comp=Z,19nm,0.7s,mb4.9					
SDCO	Great Sand Dun	29.47	332	eP	P	19 38 50.4 +0.2
	comp=Z,6.7nm,0.9s,mb4.4					
SCIA	State Center	29.73	353	eP	P	19 38 52.0 -0.5
	comp=Z,15nm,0.4s,mb5.1					
JFWS	Jewell Farm	30.50	358	eP	P	19 38 58.9 -0.4
JFWS				pmax	pmax	
	comp=Z,14nm,0.6s,mb4.9					
JFWS	Jewell Farm	30.50	358	eP	P	19 38 58.9 -0.3
	comp=Z,14nm,0.6s,mb4.9					
WUAZ	Wupatki	30.93	322	eP	P	19 39 04.7 +1.5
	comp=Z,6.6nm,0.9s,mb4.5					
ISCO	Idaho Springs	31.21	334	eP	P	19 39 07.2 +1.6
ISCO				pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.5					
ISCO	Idaho Springs	31.21	334	eP	P	19 39 07.2 +1.5
	comp=Z,8.4nm,0.9s,mb4.6					
BINY	Binghamton	31.71	18	eP	P	19 39 09.4 -0.6
	comp=Z,9.9nm,0.8s,mb4.7					
PHWY	Pilot Hill	32.41	336	eP	P	19 39 18.0 +1.8
SRU	San Rafael	33.00	328	eP	P	19 39 22.3 +1.0
SRU				pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.4					
SRU	San Rafael	33.00	328	eP	P	19 39 22.2 +0.9
	comp=Z,4.3nm,0.8s,mb4.4					
RWWY	Rawlins	33.46	334	eP	P	19 39 25.6 +0.3
	comp=Z,15nm,0.9s,mb4.9					
COWI	Conover	33.65	359	eP	P	19 39 25.7 -1.2
	comp=Z,21nm,0.6s,mb5.2					
FFD	Franklin Falls	34.30	22	eP	P	19 39 33.0 +0.5
LONY	Lake Ozonia	34.34	18	eP	P	19 39 32.3 -0.5
	comp=Z,3.7nm,0.5s,mb4.6					
RSSD	Black Hills	34.34	340	eP	P	19 39 32.4 -0.5
RSSD				pmax	pmax	
	comp=Z,7.0nm,0.6s,mb4.8					
RSSD	Black Hills	34.34	340	eP	P	19 39 32.4 -0.5
	comp=Z,6.7nm,0.6s,mb4.8					
DAU	Daniels Canyon	34.35	329	eP	P	19 39 34.9 +1.9
FRNY	Flat Rock	34.84	19	eP	P	19 39 36.3 -0.9
	comp=Z,5.5nm,0.7s,mb4.6					
LPAZ	La Paz	34.91	144	P	P	19 39 38.6 +0.5
	comp=Z,0.8nm,0.7s,mb3.8,baz=317,slow=8.2,SNR=4.2					
LPAZ				LR	LR	19 54 33.5
	comp=Z,215nm,20.9s,MS3.9,baz=300,slow=37					
PDAR	Pinedale Array	35.35	333	P	P	19 39 41.6 0.0
	comp=Z,1.2nm,0.7s,mb3.9,baz=127,slow=9.5,SNR=7.9					
PDAR				PcP	PcP	19 42 12.2 +1.0
	comp=Z,1.4nm,0.7s,baz=135,slow=4.2,SNR=6.1					
HWUT	Hardware Ranch	35.40	330	eP	P	19 39 42.5 +0.5
	comp=Z,13nm,1.2s,mb4.7					
EYMN	Ely	35.58	357	eP	P	19 39 42.0 -1.6
	comp=Z,14nm,0.6s,mb5.1					
BGU	Big Grassy Mou	35.64	327	eP	P	19 39 44.5 +0.4
AGMN	Agassiz Refuge	36.36	352	eP	P	19 39 48.8 -1.3
	comp=Z,21nm,0.6s,mb5.2					
REDW	Red Top Meadow	36.40	332	eP	P	19 39 50.9 +0.3
	comp=Z,66nm,1.3s,mb5.4					
SNOW	Snow King Moun	36.44	332	eP	P	19 39 50.9 -0.1
	comp=Z,22nm,0.8s,mb5.2					
LOHW	Long Hollow	36.49	333	eP	P	19 39 51.0 -0.4
	comp=Z,12nm,0.9s,mb4.8					
TPAW	Teton Pass	36.55	332	eP	P	19 39 51.9 0.0
	comp=Z,48nm,1.4s,mb5.1					
RRI2	Red Ridge	36.61	332	eP	P	19 39 51.7 -0.7
	comp=Z,38nm,1.4s,mb5.0					
ELK	Elko	36.71	325	eP	P	19 39 53.9 +0.6
ELK				pmax	pmax	
	comp=Z,3.0nm,0.8s					
ELK	Elko	36.71	325	eP	P	19 39 53.9 +0.6
	comp=Z,3.3nm,0.8s,mb4.2					
PKME	Peaks-Kenny Pk	36.71	23	eP	P	19 39 53.6 +0.3
	comp=Z,14nm,1.0s,mb4.7					
IMW	Indian Meadow	36.86	333	eP	P	19 39 54.7 +0.2
	comp=Z,4.3nm,0.6s,mb4.5					
NVAR	Mina Array Bea	37.06	320	P	P	19 39 58.1 +1.8
	comp=Z,3.8nm,0.8s,mb4.3,baz=139,slow=7.2,SNR=28					
NVAR				PcP	PcP	19 42 18.9 +2.6
	comp=Z,3.5nm,0.7s,baz=141,slow=4.4,SNR=9.4					
RLMT	Red Lodge	37.13	336	eP	P	19 39 56.2 -0.7
	comp=Z,8.2nm,0.9s,mb4.6					
YFT	Old Faithful	37.25	333	eP	P	19 40 01.2 +3.3
QLMT	Earthquake Lak	37.81	333	eP	P	19 40 03.6 +1.0
GCMT	Greycliff	37.84	336	eP	P	19 40 02.0 -0.9
HLID	Hailey	38.26	329	eP	P	19 40 06.5 +0.1
	comp=Z,3.8nm,1.0s,mb4.1					
ULM	Lac du Bonnet	38.27	352	P	P	19 40 04.8 -1.6
	comp=Z,13nm,0.7s,mb4.8,baz=179,slow=8.8,SNR=11					
ULM				LR	LR	19 56 55.6
	comp=Z,271nm,21.6s,MS4.0,baz=210,slow=38					
DGMT	Dagmar	38.29	343	eP	P	19 40 06.4 -0.2
	comp=Z,36nm,0.7s,mb5.2					
MCMT	McKenzie Canyo	38.45	332	eP	P	19 40 08.9 +0.9
BOZ	Bozeman (W)	38.54	334	eP	P	19 40 08.9 +0.2
BOZ				pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.1					
BOZ	Bozeman (W)	38.54	334	eP	P	19 40 08.9 +0.2
	comp=Z,2.6nm,0.7s,mb4.1					
DLMT	Dillon	38.74	333	eP	P	19 40 09.8 -0.6
EGMT	Eagleton	39.72	338	eP	P	19 40 18.1 -0.5
	comp=Z,20nm,0.6s,mb5.0					
CHMT	Chamberlain Mo	40.23	334	eP	P	19 40 22.1 -0.7
EDM	Edmonton	45.31	339	eP	P	19 41 03.1 -0.7
SCHQ	Schefferville	45.71	17	P	P	19 41 05.8 -1.1
	comp=Z,23nm,0.7s,mb5.3,baz=212,slow=7.0,SNR=33					
SCHQ				LR	LR	20 01 20.0
	comp=Z,584nm,18.7s,MS4.5,baz=292,slow=38					
SCHQ	Schefferville	45.71	17	P	P	19 41 05.8 -1.1
SCHQ				LR	LR	20 01 20.0
BDFB	Brasilia	48.84	124	P	P	19 41 30.9 -0.9
	comp=Z,1.5nm,0.5s,mb4.2,baz=299,slow=17,SNR=3.2					
CPUP	Villa Florida	49.01	142	P	P	19 41 31.4 -1.6
	comp=Z,1.5nm,0.6s,mb4.2,baz=326,slow=11,SNR=3.2					
CPUP				LR	LR	20 03 46.8
	comp=Z,118nm,19.3s,MS3.9,baz=52,slow=38					
YKA	Yellowknife Ar	53.43	345	P	P	19 42 04.7 -0.9
	comp=Z,4.8nm,0.7s,mb4.6,baz=141,slow=7.6,SNR=14					
YKA				pP	pP	19 42 13.3 -5.2
	comp=Z,8.4nm,0.9s,baz=141,slow=7.8,SNR=7.2					
YKA	Yellowknife Ar	53.43	345	P	P	19 42 04.7 -0.9
YKA				pP	pP	19 42 13.3 -5.2
PLCA	Paso Flores	55.38	163	LR	LR	20 02 41.3
	comp=Z,94nm,19.0s,MS3.9,baz=126,slow=32					
DLBC	Dease Lake	55.53	335	eP	P	19 42 21.5 +0.5
PPT	Papeete	67.14	245	LR	LR	20 05 40.6
	comp=Z,119nm,21.1s,MS4.1,baz=21,slow=29					
USHA	Ushuaia	69.05	168	LR	LR	20 08 34.4
	comp=Z,193nm,19.7s,MS4.3,baz=289,slow=31					
JMIC	Jan Mayen	75.18	20	LR	LR	20 17 03.7
	comp=Z,84nm,19.2s,MS4.1,baz=91,slow=35					
RAR	Rarotonga	77.42	245	LR	LR	20 09 26.5
	comp=Z,66nm,22.0s,MS3.9,baz=307,slow=28					
ESDC	Sonseca Array	78.14	52	P	P	19 44 44.0 -1.2
	comp=Z,0.4nm,0.5s,mb3.6,baz=286,slow=4.9,SNR=4.7					
ESDC				LR	LR	20 14 48.3
	comp=Z,83nm,19.6s,MS4.1,baz=255,slow=32					
AMKA	Amchitka	81.78	321	eP	P	19 45 04.8 +0.2
DBIC	Dimbokro	82.51	85	LR	LR	20 18 19.8
	comp=Z,80nm,20.1s,MS4.1,baz=284,slow=33					
NOA	NORSAR Array B	84.00	29	P	P	19 45 15.4 -0.6
	comp=Z,0.6nm,0.6s,mb3.9,baz=286,slow=5.1,SNR=3.4					
NOA				LR	LR	20 17 50.8
	comp=Z,75nm,21.9s,MS4.0,baz=290,slow=32					
ARCES	ARCESS Array B	86.65	19	P	P	19 45 28.2 -0.8
	comp=Z,1.8nm,0.8s,mb4.3,baz=273,slow=3.9,SNR=8.2					
ARCES				LR	LR	20 26 37.6
	comp=Z,100nm,19.5s,MS4.2,baz=359,slow=37					
TORD	Torodi Ar. Bea	87.53	77	P	P	19 45 32.5 -1.8
	comp=Z,0.4nm,0.6s,mb3.8,baz=245,slow=6.1,SNR=9.1					
TORD				LR	LR	20 20 46.7
	comp=Z,108nm,19.7s,MS4.3,baz=280,slow=33					
GERES	GERESS Array B	88.75	40	LR	LR	20 22 32.9
	comp=Z,122nm,19.2s,MS4.3,baz=135,slow=34					
TIXI	Tiksi	92.54	349	eP	P	19 45 54.4 -2.2
TIXI				pmax	pmax	
	comp=Z,9.0nm,1.5s,mb5.0					
PETK	Petropavlovsk-	93.87	326	P	P	19 46 04.0 +0.9
	comp=Z,2.9nm,0.8s,mb4.8,baz=56,slow=6.4,SNR=3.7					
AKASG	Malin Array Be	97.25	35	LR	LR	20 30 43.5
	comp=Z,138nm,19.3s,MS4.5,baz=285,slow=36					
ZALV	Zalesovo Beam	113.74	4	PKiKP	PKiKP	19 51 24.9 +0.8
	comp=Z,1.2nm,0.6s,baz=286,slow=1.1,SNR=6.4					
ZAL	Zalesovo	113.75	4	PKiKP	PKiKP	19 51 24.9 +0.8
BOSA	Boshof	116.65	116	PKP	PKPdf	19 51 31.1 +0.7
	comp=Z,3.7nm,0.7s,baz=263,slow=1.4,SNR=7.7					
SONM	Songino Array	118.63	349	PKP	PKPdf	19 51 34.6 +0.9
	comp=Z,0.7nm,0.6s,baz=18,slow=1.2,SNR=6.5					
KSRS	Korea Array	119.76	327	PKP	PKPdf	19 51 36.5 +0.4
	comp=Z,2.0nm,0.9s,baz=19,slow=1.2,SNR=7.4					
MKAR	Makanchi Array	120.58	7	PKP	PKPdf	19 51 37.4 0.0
	comp=Z,0.1nm,0.3s,baz=324,slow=4.1,SNR=6.1					
WB2	Warramunga Arr	138.15	254	eP	PKPdf	19 52 10.0 -1.5
WRA	Warramunga Arr	138.16	254	PKP	PKPdf	19 52 11.1 -0.4
	comp=Z,1.1nm,0.8s,baz=89,slow=3.3,SNR=9.2					
WRA				pPKP	pPKPdf	19 52 19.6 -6.1
	comp=Z,3.3nm,0.7s,baz=90,slow=1.8,SNR=15					
ASAR	Alice Springs	138.19	248	PKP	PKPdf	19 52 11.1 -0.4
	comp=Z,0.8nm,0.8s,baz=113,slow=3.5,SNR=5.6					
ASAR				pPKP	pPKPdf	19 52 20.0 -5.7
	comp=Z,1.6nm,0.6s,baz=96,slow=1.7,SNR=11					
LSA	Lhasa	138.21	0	ePKIKP	PKPdf	19 52 13.2 +1.8
FITZ	Fitzroy Crossi	146.51	256	eP	PKPdf	19 52 27.6 +1.3
	comp=Z,7.4nm,1.1s					
CHTO	Chiang Mai	148.16	346	ePKP2	PKPbc	19 52 31.8 -0.6
CMAR	Chiang Mai Arr	148.51	346	PKPbc	PKPbc	19 52 31.4 -1.8
	comp=Z,7.2nm,0.9s,baz=335,slow=2.1,SNR=32					

*NEIC **30** 20:03:18.9, 1508N×9182W, h178km, MD4.1(MEX), After MEX.*

MEX 30 20:03:18.9±1.0, 1508N×9182W, h178km±10km, MD4.1, 1D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.47	248	i P	Pn	20 03 41.3	-2.0
THIG				i S	Sn	20 04 00.4	-1.5
CCIG	Comitan	1.23	345	⇓i P	Pn	20 03 47.5	-0.8
CCIG				i S	Sn	20 04 08.7	-2.2
SCX	San Cristobal	1.82	334	eP	Pn	20 03 52.9	-1.0
SCX				i S	Sn	20 04 18.5	-2.6
TGIG		2.10	323	i P	Pn	20 03 56.5	-0.4
TGIG				i S	Sn	20 04 25.4	-1.1
HUIG	Huatulco	4.20	280	i P	Pn	20 04 21.4	-1.1
HUIG				i S	Sn	20 05 06.7	-5.4
VHO	Vista Hermosa	5.12	293	eP	Pn	20 04 35.3	+0.9
VHO				i S	Sn	20 05 31.8	-1.9
PNIG	Pinotepa	6.22	283	i P	Pn	20 04 48.1	-0.6
PNIG				i S	Sn	20 05 55.9	-3.6
UTMO	Huajuapan	6.36	296	i P	Pn	20 04 50.6	0.0
UTMO				i S	Sn	20 05 58.3	-4.6
PPM	Popocatepetl	7.62	302	eP	Pn	20 05 09.9	+2.6
PPM				i S	Sn	20 06 27.8	-5.1
PPM	Popocatepetl	7.62	302	eP	Pn	20 05 19.9	+13
PPM				i S	Sn	20 06 30.4	-2.5

IDC 30 20:07:06.6±1.3, 1486S×17311W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.9/18, mbtmp3.9/7, Error ellipse: s-maj=69.9km s-min=18.0km az=152.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.60	54	Pn	Pn	20 07 35.7	-0.4
	21nm,0.3s,baz=234,slow=21,SNR=13						
AFI				Sn	Sn	20 07 58.7	+1.3
	83nm,0.3s,baz=221,slow=19,SNR=8.6						
WRA	Warramunga Arr	50.24	256	P	P	20 16 05.8	+0.9
	0.7nm,0.9s,baz=87,slow=7.2,SNR=3.8						
ASAR	Alice Springs	50.55	251	P	P	20 16 06.2	-0.9
	1.5nm,0.8s,baz=87,slow=8.1,SNR=17						
TXAR	Lajitas Array	80.08	56	P	P	20 19 19.1	+0.5
	1.7nm,1.1s,baz=224,slow=5.2,SNR=8.9						

MAN 30 20:12:41, 1060N×12235E, h14km, mb4.3, ML3.2, MS3.0, 1C-2D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.24	83	eP	Pg	20 12 47.7	+1.5
GUIM				eS	Sg	20 12 51.8	+2.0
RCP	Roxas	1.03	22⇑	eP	Pb	20 13 01.1	+0.4
RCP				eS	Sb	20 13 16.0	+1.9
KALP	Kalibo	1.07	360⇓	eP	Pb	20 13 00.9	-0.5
CUYO	Cuyo Island	1.33	281	eP	Pn	20 13 05.7	+0.5
CUYO				eS	Sb	20 13 23.3	+0.7
LLP	Lapu-Lapu	1.62	100⇓	eP	Pn	20 13 09.1	-0.1
LLP				eS	Sn	20 13 26.9	-2.9
TBP	Tagbilaran	1.74	121	eP	Pn	20 13 11.7	+0.8
TBP				eS	Sn	20 13 32.9	0.0
OTRP	Odiongan	1.78	350	eP	Pn	20 13 12.8	+1.4
SJMP	San Jose	2.21	327	eP	Pn	20 13 18.2	+0.9
OCLP	Ormoc	2.27	78	eP	Pn	20 13 20.0	+1.9
MSLP	Maasin	2.52	100	eP	Pn	20 13 22.7	+1.2
MSLP				eS	Sn	20 13 53.8	+1.9
BUSP	Coron	2.53	304	eP	Pn	20 13 22.4	+0.8
BUSP				eS	Sn	20 13 52.6	+0.3
IPIL	Ipil	2.80	175	eP	Pn	20 13 27.1	+1.7
IPIL				eS	Sn	20 14 01.4	+2.4
PAGZ	Pagadian	2.92	159	eP	Pn	20 13 30.3	+3.3
ENPP	El Nido	2.93	282	eP	Pn	20 13 28.0	+0.8
ENPP				eS	Sn	20 14 00.8	-1.4
LUBP	Lubang	3.73	327	eP	Pn	20 13 40.1	+1.9

*NEIC **30** 20:18:15.8±0.5, 1979N×12152E, h10km, mb4.1/1, Error ellipse: s-maj=16.5km s-min=8.6km az=73.0*
*MAN **30** 20:18:18, 1999N×12109E, h108km, mb4.4, ML3.2, MS3.0*
*ISCJB **30** 20:18:20.1±1.0, 1993N±006×1217E±01, h61km±11km, mb3.7/8, Error ellipse: s-maj=18.8km s-min=9.7km az=4.1*
*IDC **30** 20:18:20.9±8.1, 1988N×12168E, h49km±89km, mb3.5/7, mb1 3.6/9, mb1mx3.5/23, mbtmp3.6/9, ML3.8/2, MS2.8/2, Ms1 2.9/2, ms1mx2.3/31, Error ellipse: s-maj=89.3km s-min=15.6km az=66.0*

ISC 30 20:18:21.6±0.9, 1991N±006×1217E±01, h58km±11km, n20, σ0°88/21, mb3.7/8, MS2.6/2, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	2.07	191	eP	Pn	20 18 53.2	-0.8
APYP				eS	Sn	20 19 19.8	+1.1
SIPP	Brgy, Tapao	2.28	210⇓	eP	Pn	20 18 55.5	-1.4
SIPP				i S	Sn	20 19 39.6	+16
ABRA	Dolores	2.42	202	eP	Pn	20 18 57.1	-1.6
PALP	Palanan	2.92	165	eP	Pn	20

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PETK                                  S          Sn      20 55 47.7 -6.8
     comp=E,58nm,0.3s,baz=147,slow=15,SNR=25
SKR  Severo-Kuril's        1.68 240 ⇓iPN         Pn      20 55 33.5 -2.2
SKR                                   pmax       pmax
     comp=E,80nm,0.5s
SKR                                   pmax       pmax
     comp=Z,150nm,0.5s
NLC  Nalytchevo            1.72  19 eP           Pn      20 55 34.2 -2.0
AVH  Avacha                1.73   7 eP           Pn      20 55 36.6 +0.3
SPN  Mys Shipunski         1.84  32 eP           Pn      20 55 37.1 -0.7
SPN                                iS            Sn      20 55 58.8 -1.1
ALID Alaid                 1.92 250 P            Pn      20 55 39.3 +0.4
ALID                               iS            Sn      20 56 02.4 +0.5
GNL  Ganaly                2.17 353 eP           Pn      20 55 42.8 +0.5
KII  Karymskiy             2.57  14 eP           Pn      20 55 48.6 +0.8
KII                                iS            Sn      20 56 18.6 +0.8
MKZ  Mys Kozlova           3.62  32 eP           Pn      20 56 02.4 +0.3
MKZ                                iS            Sn      20 56 42.8 -0.7
TUMR Tumrok                3.88  15 eP           Pn      20 56 08.1 +2.4
TUMR                               iS            Sn      20 56 52.3 +2.3
KMNR Kamenistaya           4.35  14 eP           Pn      20 56 16.5 +4.3
KIRR Kirishev              4.56  14 P            Pn      20 56 19.5 +4.5
BZMR Bezymyannaya          4.56  15 eP           Pn      20 56 18.1 +3.0
ZLN  Zelenaya              4.70  17 eP           Pn      20 56 20.9 +4.0
KRSR Krestovskiy           4.85  14 P            Pn      20 56 23.7 +4.7
BDR  Baidarnaya            5.29  17 eP           Pn      20 56 29.4 +4.4
KBTR Krutoberegovo         5.35  27 eP           Pn      20 56 26.9 +1.1
ASAJ Asahikawa            12.95 241 P            Pn      20 58 09.8 +0.1
     comp=Z,0.3nm,0.3s,baz=78,slow=14,SNR=2.8
ASAJ                                LR            LR      21 03 03.1
     comp=Z,25nm,20.4s,baz=16,slow=37
YAK  Yakutsk              18.74 315 eP           Pn      20 59 21.7 -1.9
YAK                                pmax       pmax
     comp=Z,5.0nm,0.7s
MJAR Matsushiro Arr       20.77 232 P            P       20 59 44.6 -0.4
     comp=Z,2.6nm,0.7s,baz=21,slow=9.5,SNR=8.5
MJAR Matsushiro Arr       20.77 232 eP           P       20 59 44.6 -0.5
MJAR                               pmax       pmax
     comp=Z,3.0nm,0.7s
TIXI Tiksi                24.08 337 eP           P       21 00 17.1 -1.5
TIXI                               pmax       pmax
     comp=Z,2.0nm,1.0s,mb3.5
KURK Kurchatov            47.67 302 P            P       21 03 39.2 -0.1
     comp=Z,0.3nm,0.4s,mb3.6,baz=62,slow=7.4,SNR=3.9
MKAR Makanchi Array       47.89 296 P            P       21 03 39.3 -1.8
     comp=Z,0.3nm,0.4s,mb3.6,baz=67,slow=6.2,SNR=5.6
MKAR Makanchi Array       47.89 296 eP           P       21 03 39.3 -1.8
CMAR Chiang Mai Arr       56.84 258 P            P       21 04 48.6 +0.9
     comp=Z,1.7nm,0.6s,mb4.2,baz=34,slow=7.3,SNR=14
PDAR Pinedale Array       59.20  59 P            P       21 05 05.2 +1.3
     comp=Z,1.3nm,0.8s,mb4.0,baz=320,slow=3.2,SNR=9.8
NOA  NORSAR Array B       64.73 343 P            P       21 05 40.3 -0.4
     comp=Z,0.3nm,0.4s,mb3.6,baz=25,slow=5.4,SNR=3.0
TXAR Lajitas Array        72.21  65 P            P       21 06 28.8 +0.8
     comp=Z,0.7nm,0.5s,mb3.9,baz=293,slow=5.0,SNR=15
TXAR Lajitas Array        72.21  65 P            P       21 06 28.8 +0.8
WRA  Warramunga Arr       74.25 203 P            P       21 06 40.1 +0.2
     comp=Z,0.8nm,0.6s,mb3.8,baz=24,slow=6.3,SNR=9.8
GERES GERESS Array B      75.54 337 P            P       21 06 46.3 -0.7
     comp=Z,0.2nm,0.4s,mb3.4,baz=24,slow=10,SNR=4.7
ASAR Alice Springs        77.93 203 P            P       21 07 01.4 +0.8
     comp=Z,0.4nm,0.5s,mb3.6,baz=14,slow=5.2,SNR=5.4
PLCA Paso Flores         145.01  92 PKPbc        PKPbc   21 14 38.7  0.0
     comp=Z,1.5nm,0.7s,baz=260,slow=1.0,SNR=4.3
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*ISCJB **30** 21:46:16.8±0.6, 72S±0.1×6802E±0.09, h10km, mb4.0/20, MS3.6/8, Error ellipse: s-maj=16.9km s-min=11.5km az=24.6*
*IDC **30** 21:46:17.4±0.8, 7.19S×6794E, h0km, mb3.9/15, mb1 4.0/15, mb1mx3.9/25, mbtmp3.9/15, MS3.6/8, Ms1 3.6/8, ms1mx3.2/32, Error ellipse: s-maj=23.6km s-min=18.9km az=172.0*
*NEIC **30** 21:46:18.7±0.4, 7.21S×6799E, h10km, mb4.4/4, Error ellipse: s-maj=13.0km s-min=9.2km az=199.0*

ISC 30 21:46:18.8±0.6, 72S±0.1×6799E±0.09, h10km, n37, σ0.70/29, mb4.0/20, MS3.6/8, Mid-Indian Ridge

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Code Station Name          Δ°   AZ°  Phase ID              Time      Res
                                    Op    ISC             h m s     ISC
KMBO Kilima Mbogo         31.23 280  LR    LR              22 02 18.9
     comp=Z,72nm,20.5s,MS3.3,baz=62,slow=31
CMAR Chiang Mai Arr       39.78  50  P     P               21 53 53.8 +1.6
     0.7nm,0.7s,mb3.5,baz=243,slow=9.3,SNR=5.3
LSZ  Lusaka               39.80 255  P     P               21 53 52.6 +0.2
     2.4nm,0.8s,mb4.0,baz=90,slow=8.5,SNR=7.5
NAY  Al-Naaiem            41.38 332  eP    P               21 54 05.0 -0.3
NAY                                  AMb   AMB             21 54 09.9
     comp=Z,13nm,1.6s,mb4.3
MIB  Mutribah             41.80 333  eP    P               21 54 08.8  0.0
MIB                                  AMb   AMB             21 54 10.8
     comp=Z,29nm,0.5s,mb5.2
KSM  Kuching              43.09  80  eP    P               21 54 17.5 -2.0
BOSA Boshof               45.56 237  LR    LR              22 10 41.1
     comp=Z,95nm,19.0s,MS3.8,baz=359,slow=32
TSUM Tsumeb               50.33 251  LR    LR              22 15 17.4
     comp=Z,65nm,20.3s,MS3.6,baz=319,slow=35
ENH  Enshi                54.52  45  P     P               21 55 47.4 +0.3
MKAR Makanchi Array       55.24  12  P     P               21 55 51.3 -0.6
     comp=Z,0.8nm,0.6s,mb3.9,baz=195,slow=8.8,SNR=7.5
BR131 Keskin Array S      56.46 329  eP    P               21 56 00.9  0.0
     comp=Z,0.4nm,0.4s,mb3.8
FITZ Fitzroy Crossi       57.08 107  eP    P               21 56 05.5 -0.2
AKTK Aktyubinsk           58.05 352  P     P               21 56 11.9  0.0
AKTO Aktyubinsk           58.05 352  P     P               21 56 11.9  0.0
     comp=Z,2.3nm,1.0s,mb4.2,baz=167,slow=6.1,SNR=5.8
KURK Kurchatov            58.41   8  P     P               21 56 14.1 -0.3
     comp=Z,2.8nm,0.9s,mb4.3,baz=207,slow=7.3,SNR=13
KURK                                 LR    LR              22 21 09.7
     comp=Z,35nm,18.7s,MS3.5,baz=190,slow=36
KURK Kurchatov            58.41   8  eP    P               21 56 15.1 +0.7
     comp=Z,4.9nm,1.0s,mb4.5
KURK                                 e                     21 56 21.6
KURK                                 LR    LR              22 21 09.7
SANT Santorini            58.90 320  P     P               21 56 17.7 -0.4
BVAR Borovoye Array       60.03   2  P     P               21 56 25.8 +0.2
     comp=Z,0.7nm,0.7s,mb3.8,baz=156,slow=7.6,SNR=5.4
BVAR                                 LR    LR              22 20 37.3
     comp=Z,50nm,20.2s,MS3.6,baz=244,slow=34
BRVK Borovoye             60.06   2  eP    P               21 56 25.3 -0.5
     comp=Z,2.9nm,1.0s,mb4.3
ZALV Zalesovo Beam        62.55  11  P     P               21 56 42.6  0.0
     comp=Z,1.1nm,0.7s,mb4.1,baz=227,slow=7.9,SNR=6.0
ZALV                                 LR    LR              22 24 37.2
     comp=Z,41nm,20.6s,MS3.6,baz=241,slow=37
ARU  Arti                 63.88 354  eP    P               21 56 51.4  0.0
     comp=Z,5.6nm,1.1s,mb4.5
SONM Songino Array        64.41  28  P     P               21 56 56.3 +1.2
     comp=Z,1.7nm,1.0s,mb4.0,baz=221,slow=5.5,SNR=8.6
SONM                                 LR    LR              22 24 18.7
     comp=Z,56nm,20.9s,MS3.7,baz=283,slow=35
ASAR Alice Springs        65.10 113  P     P               21 57 00.1  0.0
     comp=Z,0.4nm,0.8s,mb3.5,baz=272,slow=5.8,SNR=5.0
WRA  Warramunga Arr       65.38 109  P     P               21 57 02.5 +0.6
     comp=Z,1.2nm,1.0s,mb3.9,baz=278,slow=5.8,SNR=7.5
WB2  Warramunga Arr       65.39 109  P     P               21 57 01.7 -0.3
AKASG Malin Array Be      66.68 334  P     P               21 57 08.0 -1.7
     comp=Z,0.2nm,0.3s,mb3.7,baz=129,slow=5.6,SNR=4.0
AKASG Malin Array Be      66.68 334  P     P               21 57 08.0 -1.7
TORD Torodi Ar. Bea       68.87 287  P     P               21 57 24.2 -0.1
     comp=Z,1.2nm,1.0s,mb3.8,baz=134,slow=3.3,SNR=4.9
TORD Torodi Ar. Bea       68.87 287  P     P               21 57 24.2 -0.1
KSRS Korea Array          71.32  47  LR    LR              22 28 44.6
     comp=Z,53nm,19.1s,MS3.8,baz=314,slow=36
DBIC Dimbokro             73.96 279  P     P               21 57 55.8 +0.7
     comp=Z,4.5nm,1.2s,mb4.3,baz=157,slow=13,SNR=2.1
ESDC Sonseca Array        80.91 312  P     P               21 58 33.7 +0.2
     comp=Z,0.2nm,0.4s,mb3.4,baz=54,slow=2.6,SNR=4.2
NOA  NORSAR Array B       81.03 336  P     P               21 58 34.2 +0.6
     comp=Z,0.9nm,0.9s,mb3.7,baz=106,slow=9.7,SNR=3.3
PDAR Pinedale Array      144.51 357  PKP   PKPdf           22 05 55.1 -0.7
     comp=Z,0.4nm,0.5s,baz=86,slow=2.8,SNR=2.1
HWUT Hardware Ranch      145.74 359  ePKPdf PKPdf          22 05 59.1 +1.1
DUG  Dugway              147.14   1  ePKPdf PKPdf          22 06 01.1 +0.7
TXAR Lajitas Array       156.62 341  PKPab  PKPab          22 06 44.2 +0.5
     comp=Z,1.1nm,0.9s,baz=38,slow=4.7,SNR=6.8
```

*ISCJB **30** 21:57:31.4±0.5, 3008N±0.07×1393E±0.2, h425km±9km, mb3.5/5, Error ellipse: s-maj=25.5km s-min=7.4km az=162.3*
*JMA **30** 21:57:31.6±0.1, 30.15N×13949E, h432km, M3.6*
*IDC **30** 21:57:31.8±0.9, 30.16N×13932E, h409km±17km, mb3.2/5, mb1 3.3/9, mb1mx3.1/23, mbtmp3.2/9, Error ellipse: s-maj=52.7km s-min=11.3km az=70.0*

ISC 30 21:57:32.5±0.5, 30.12N±0.06×1394E±0.2, h418km±10km, n19, σ0.76/22, mb3.5/5, Southeast of Honshu

```
Code Station Name          Δ°   AZ°  Phase ID              Time      Res
                                    Op    ISC             h m s     ISC
JHJ2 Mitsune              3.00   6  P     P               21 58 37.6 +0.6
JHJ  Hachijo jima 2       3.01   6  P     P               21 58 37.1 +0.1
     26nm,0.3s,baz=39,slow=18,SNR=22
CBIJ Chichi jima          3.86 141  P     P               21 58 44.4 -0.1
CBIJ Chichi jima          3.86 141  P     P               21 58 44.5  0.0
     10nm,0.3s,baz=277,slow=24,SNR=16
CBIJ                                S     S               21 59 42.0 -0.8
     22nm,0.3s,baz=286,slow=23,SNR=17
JHHJ Haha-jima-NKT        4.23 145  eS    S               21 59 48.8 -0.3
BSO1 Boso 1               4.71  16  P     P               21 58 53.1 +0.8
BSO1                                S     S               21 59 57.0 -0.4
BSO3 Boso 3               4.76  11  P     P               21 58 52.9 +0.1
BSO3                                S     S               21 59 58.2 -0.1
JIE  Ise                  4.85 332  P     P               21 58 54.5 +0.8
JHMK Hamakita             4.90 344  P     P               21 58 54.5 +0.3
JKN2 Miekihoku            4.91 328  P     P               21 58 54.6 +0.3
BSO4 Boso 4               4.92   9  eS    S               22 00 01.4 +0.2
HMMJ Hamamatsu 2          4.94 343  P     P               21 58 55.2 +0.5
MJAR Matsushiro Arr       6.49 351  P     P               21 59 07.7 -3.1
     0.5nm,0.3s,baz=176,slow=12,SNR=4.4
KSRS Korea Array         12.05 310  P     P               22 00 11.5 -0.6
     0.2nm,0.3s,baz=122,slow=11,SNR=6.3
SONM Songino Array       30.88 314  P     P               22 03 10.5 -1.8
     0.3nm,0.7s,mb2.7,baz=126,slow=8.6,SNR=4.2
WRA  Warramunga Arr      50.01 186  P     P               22 05 46.8 +0.1
     1.8nm,0.4s,mb3.7,baz=2.0,slow=7.7,SNR=73
ASAR Alice Springs       53.74 186  P     P               22 06 14.1 +0.4
     0.9nm,0.3s,mb3.5,baz=0.7,slow=6.1,SNR=27
STKA Stephens Creek      61.69 178  P     P               22 07 09.5 +1.4
     2.5nm,0.7s,mb3.9,baz=93,slow=22,SNR=6.2
ARCES ARCESS Array B     69.90 340  P     P               22 07 59.0 -0.4
     1.0nm,0.6s,mb3.5,baz=67,slow=8.3,SNR=6.4
```

IDC 30 22:32:51.9±2.9, 2805S×13600E, h0km, mb1 3.2/3, mb1mx3.1/14, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=53.2km s-min=15.4km az=54.0, South Australia

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Code Station Name          Δ°   AZ°  Phase ID              Time      Res
                                    Op    ISC             h m s     ISC
ASAR Alice Springs        4.75 336  Pn    Pn              22 34 05.6 +0.8
     0.2nm,0.3s,baz=158,slow=12,SNR=6.6
ASAR                                Pg                    22 34 19.4 -3.7
     0.2nm,0.3s,baz=156,slow=15,SNR=4.7
ASAR                                Sn    Sn              22 34 58.5 -2.1
     0.5nm,0.3s,baz=177,slow=16,SNR=6.0
ASAR                                Lg                    22 35 22.7
     0.4nm,0.3s,baz=159,slow=26,SNR=5.2
STKA Stephens Creek      6.17 130  Pn    Pn              22 34 24.1 -0.2
     0.1nm,0.3s,baz=322,slow=16,SNR=3.4
STKA                                Sn    Sn              22 35 34.5 -1.1
     0.6nm,0.3s,baz=302,slow=21,SNR=5.9
STKA                                Lg                    22 36 08.7
     0.5nm,0.3s,baz=339,slow=14,SNR=2.3
WRA  Warramunga Arr      8.21 349  Pn    Pn              22 34 52.7 +0.3
     0.3nm,0.3s,baz=164,slow=13,SNR=20
WRA                                 Sn    Sn              22 36 22.2 -3.7
     0.1nm,0.3s,baz=167,slow=25,SNR=3.9
WRA                                 Lg                    22 37 10.3
     0.1nm,0.3s,baz=172,slow=25,SNR=2.7
```

NEIC 30 23:07:14.9, 5680N×15555W, h60km, ML3.3(AEIC), ML3.7(PMR), After AEIC., Alaska Peninsula

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Code Station Name          Δ°   AZ°  Phase ID              Time      Res
                                    Op    ISC             h m s     ISC
OHAK Old Harbor           1.31  70  eP    Pn              23 07 36.0 -0.9
CHGN Chignik              1.66 254  eP    Pn              23 07 40.0 -1.7
KDAK Kodiak Island        1.89  57  P     Pn              23 07 43.9 -0.9
KDAK                                Sn    Sn              23 08 01.6 -5.8
SDPT Sand Point           3.12 244  eP    Pn              23 08 00.4 -1.1
SVW2 Sparrevohn           4.31 360  eP    Pn              23 08 17.2 -0.5
SVW2                                eSn   Sn              23 09 05.3 -1.3
SLKM Skilak Lake          4.64  35  ePn   Pn              23 08 22.6 +0.3
SLKM                                Sn    Sn              23 09 09.6 -5.2
TT01 Tatalina             6.13 358  P     Pn              23 08 40.8 -1.9
TTA  Tatalina             6.15 358  ePn   Pn              23 08 42.3 -0.6
     6.2nm,0.6s
TTA                                 eSn   Sn              23 09 54.8 +2.9
AKUT Akutan               6.40 250  eP    Pn              23 08 40.0 -6.3
UNV  Unalaska Valle       6.91 249  P     Pn              23 08 51.8 -1.6
```

*IDC **30** 23:08:36.3±1.0, 3630N×6953E, h39km±7km, mb3.6/11, mb1 3.6/15, mb1mx3.5/28, mbtmp3.5/15, ML3.3/4, MS3.1/5, Ms1 3.1/5, ms1mx2.8/31, Error ellipse: s-maj=18.1km s-min=16.4km az=173.0*
*MOS **30** 23:08:36.4±1.3, 3633N×6962E, h56km, mb4.2/4, Error ellipse: s-maj=13.5km s-min=8.8km az=76.9*
*ISCJB **30** 23:08:36.8±0.6, 3641N±0.03×6957E±0.06, h62km±8km, mb3.8/14, Error ellipse: s-maj=7.8km s-min=4.3km az=3.1*
*NEIC **30** 23:08:37.8±0.7, 3630N×6961E, h58km±8km, mb3.8/5, Error ellipse: s-maj=8.5km s-min=6.7km az=131.0*
*BJI **30** 23:08:40.2, 3580N×7045E, h57km, mb4.1, ML3.7*
*NNC **30** 23:08:41.2±5.5, 3718N×6883E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=43.9km s-min=43.2km az=86.0*

ISC 30 23:08:38.4±0.5, 3637N±0.03×6950E±0.06, h56km±7km, h44km±3.8km: pP-P, n80, σ1.92/26/96, mb3.8/14, MS3.0/4, 6C-7D, Hindu Kush region

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Code Station Name          Δ°   AZ°  Phase ID              Time      Res
                                    Op    ISC             h m s     ISC
KBL  Kabul                1.87 192  ePn   Pn              23 09 07.2 -0.7
KBL                                 eSn   Sn              23 09 27.7 -2.7
CEP  Cherat               3.22 142  ⇓P    Pn              23 09 27.9 +1.5
CEP                                 S     Sn              23 10 08.0 +4.5
CHCP Chirah Chowk         4.11 130  P     Pn              23 09 39.8 +1.2
DRP  Derazinda            4.65 173  P     Pn              23 09 48.2 +2.1
SARP Sargodha             5.16 148  P     Pn              23 09 53.2 +0.2
SARP                                S     Sn              23 10 53.0 +1.8
KSH  Kashi                6.00  57  P     Pn              23 10 06.0 +1.5
KSH                                 S     Sn              23 11 16.5 +4.7
KSH                                 Smax
     comp=N,146nm,0.3s
KSH                                 Smax
     comp=E,207nm,0.6s
THN  Thein Dam            6.47 126  eP    Pn              23 10 11.0 +0.1
THN                                 ex    x               23 11 24.6
DLH  Dalhousie            6.56 124  ex    x               23 10 28.0
DLH                                 ex    x               23 11 26.0
AML  Almayashu            6.61  28  P     Pn              23 10 12.8 +0.1
     SNR=59
AML  Almayashu            6.61  28  ePn   Pn              23 10 13.1 +0.3
     comp=E,61nm,0.6s
AML                                 eSn   Sn              23 11 24.4 -2.3
KK31 Karatay Array        6.77   6  Pn    Pn              23 10 15.1 +0.1
     comp=E,0.8nm,0.2s,baz=198,slow=16,SNR=101
KK31                                ⇑Sn   Sn              23 11 29.0 -1.6
     comp=E,2.7nm,0.2s,baz=204,slow=25,SNR=6.3
UCH  Uchtor               7.02  32  P     Pn              23 10 18.9 +0.5
     SNR=26
UCH  Uchtor               7.02  32  ePn   Pn              23 10 18.6 +0.2
     comp=E,20nm,0.6s
UCH                                 eSn   Sn              23 11 37.8 +1.0
EKS2 Erkin-Say            7.09  26  P     Pn              23 10 20.2 +0.7
     SNR=13
EKS2 Erkin-Say            7.09  26  ePn   Pn              23 10 19.1 -0.4
     comp=E,11nm,0.8s
EKS2                                eSn   Sn              23 11 30.7 -8.0
AAK  Ala-Archa            7.34  30  P     Pn              23 10 23.7 +0.8
     SNR=11
KBK  Karagaybulak         7.55  32  P     Pn              23 10 26.8 +1.0
     SNR=8.3
CHMS Chumysh              7.75  30  P     Pn              23 10 28.4 -0.1
     SNR=17
ULHL Ulahol               7.85  40  P     Pn              23 10 29.9 +0.1
     SNR=23
SDNR Sundarnagar          7.88 126  eP    Pn              23 10 30.5 +0.2
SDNR                                eS    Sn              23 11 53.5 -4.5
USP  Ospenovka            7.88  28  P     Pn              23 10 30.1 -0.2
     SNR=16
TKM2 Tokmak 2             8.05  34  ⇓Pn   Pn              23 10 32.3 -0.3
     comp=E,6.5nm,0.5s
TKM2                                ⇑Sn   Sn              23 12 01.4 -0.7
     comp=E,26nm,1.5s
TKM2 Tokmak 2             8.05  34  eP    Pn              23 10 32.8 +0.2
TKM2                                e                     23 12 01.1
TKM2                                pmax       pmax
     comp=Z,9.0nm,0.5s
TKM2 Tokmak 2             8.05  34  P     Pn              23 10 32.7 +0.1
     SNR=22
TKM2 Tokmak 2             8.05  34  ePn   Pn              23 10 32.8 +0.2
     comp=Z,8.9nm,0.5s
TKM2                                eSn   Sn              23 12 01.1 -1.0
SMLA Simla                8.25 127  eP    Pn              23 10 34.6 -0.8
SMLA                                eS    Sn              23 12 01.6 -5.5
KLP  Kalpa                8.72 121  eP    Pn              23 10 42.9 +1.0
KLP                                 eS    Sn              23 12 15.1 -3.6
KLP                                 AML   AML             23 13 16.8
     comp=E,84nm,0.9s
KLP                                 AML   AML             23 13 17.9
     comp=N,60nm,0.8s
DDI  Dehra Dun            9.36 128  ex    x               23 11 01.6
DDI                                 ex    x               23 12 21.2
NDI  New Delhi           10.05 138  ex    Pn              23 10 58.0 -2.1
NDI                                 eS    Sn              23 12 43.5 -7.9
JOSI Joshimath           10.20 122  eP    Pn              23 11 01.3 -0.8
JOSI                                eS    Sn              23 12 48.8 -6.2
SONA Sohna               10.33 140  ex    x               23 10 58.3
SONA                                eS    Sn              23 12 49.5 -8.5
SONA                                AML   AML             23 12 55.1
     comp=N,22nm,0.4s
SONA                                AML   AML             23 12 57.5
     comp=E,41nm,0.5s
MK31 Makanchi Array      14.12  39  Pn    Pn              23 11 59.7 +4.4
     comp=E,1.2nm,0.6s,baz=224,slow=15,SNR=8.3
MK31 Makanchi Array      14.12  39  ePn   Pn              23 11 52.5 -2.8
MKAR Makanchi Array      14.12  39  Pn    Pn              23 11 52.1 -3.1
     comp=E,0.1nm,0.3s,baz=226,slow=15,SNR=9.3
AB31 Akbulak array       14.64 335  ⇓Pn   Pn              23 11 58.3 -3.9
     comp=E,4.4nm,0.8s
AB31                                ⇓Sn   Sn              23 14 31.4 -12
     comp=E,2.3nm,0.7s
KURBB Kurchatov Arra     15.66  22  ⇑Pn   Pn              23 12 17.0 +1.7
     comp=E,0.7nm,0.8s
KURK Kurchatov           15.77  22  ⇑Pn   Pn              23 12 17.5 +0.9
     comp=E,3.7nm,1.1s
KURK Kurchatov           15.77  22  Pn    Pn              23 12 10.1 -6.5
     comp=E,0.0nm,0.3s,baz=209,slow=12,SNR=5.8
KURK                                LR    LR              23 19 06.0
     comp=E,76nm,19.0s,baz=195,slow=40
KURK Kurchatov           15.77  22  eP    Pn              23 12 18.7 +2.1
KURK                                pmax       pmax
     comp=Z,2.0nm,0.8s
KURK Kurchatov           15.77  22  eP    Pn              23 12 18.7 +2.1
     comp=Z,2.5nm,0.8s
KURK                                LR    LR              23 19 06.0
AKTK Aktyubinsk          16.32 333  Pn    Pn              23 12 19.4 -4.2
AKTO Aktyubinsk          16.32 333  ⇑Pn   Pn              23 12 22.2 -1.4
     comp=Z,2.3nm,1.3s
AKTO                                ⇑Sn   Sn              23 15 13.0 -11
     comp=Z,0.9nm,1.1s
AKTO Aktyubinsk          16.32 333  Pn    Pn              23 12 19.4 -4.2
     comp=Z,0.2nm,0.3s,baz=136,slow=15,SNR=8.2
VOSK Vostochnaya         16.38   3  ⇓Pn   Pn              23 12 21.2 -3.2
     comp=Z,4.1nm,0.8s
BVA0 Borovoye Array      16.66   2  Pn    Pn              23 12 29.7 +1.9
     comp=Z,0.9nm,1.2s,baz=152,slow=13,SNR=5.8
BVA0                                ⇓Sn   Sn              23 15 21.4 -11
     comp=Z,1.1nm,1.4s
BVAR Borovoye Array      16.66   2  Pn    Pn              23 12 21.3 -6.6
     comp=Z,0.2nm,0.3s,baz=171,slow=11,SNR=2.7
BRVK Borovoye            16.69   2  eP    Pn              23 12 27.6 -0.6
BRVK                                pmax       pmax
     comp=Z,3.0nm,0.5s
BRVK Borovoye            16.69   2  eP    Pn              23 12 27.6 -0.7
     comp=Z,2.6nm,0.5s
LSA  Lhasa               19.31 104  P     Pn              23 12 51.5 -8.8
LSA  Lhasa               19.31 104  eP    Pn              23 12 57.6 -2.7
LSA                                 pmax       pmax
     comp=Z,11nm,1.2s
LSA  Lhasa               19.31 104  eP    Pn              23 12 57.6 -2.7
     comp=Z,11nm,1.2s
GNI  Garni               19.79 288  P     Pn              23 13 07.1 +1.2
     comp=Z,0.2nm,0.3s,baz=10.0,slow=17,SNR=3.8
GNI  Garni               19.79 288  eP    Pn              23 13 03.8 -2.1
ZAL  Zalesovo            20.53  26  P     P               23 13 11.3 -0.5
ZAA0 Zalesovo Array      20.55  26  eP    P               23 13 11.8 -0.2
ZALV Zalesovo Beam       20.55  26  P     P               23 13 11.3 -0.7
     comp=Z,1.6nm,0.4s,baz=225,slow=9.4,SNR=11
ZALV                                LR    LR              23 21 53.0
     comp=Z,47nm,20.9s,MS2.8,baz=229,slow=39
ZALV Zalesovo Beam       20.55  26  P     P               23 13 11.3 -0.7
ZALV                                LR    LR              23 21 53.0
ARU  Arti                21.38 343 d iP     P               23 13 20.5 -0.5
ARU                                 e                     23 13 36.3
ARU                                 eS    S               23 17 14.7 -0.2
ARU                                 eSS                   23 17 36.9
ARU                                 pmax       pmax
     comp=Z,8.0nm,1.7s,mb3.8
KIV  Kislovodsk          21.78 299  eP    P               23 13 26.0 +0.6
KIV                                 pmax       pmax
     comp=Z,5.0nm,0.3s,mb4.4
KIV  Kislovodsk          21.78 299  eP    P               23 13 26.0 +0.6
     comp=Z,5.0nm,0.3s,mb4.4
GTA  Gaotai              24.06  74  eP    P               23 13 50.0 +1.8
GTA                                 AP                    23 13 54.3
GTA                                 AMB   AMB             23 13 54.3
     comp=Z,4.0nm,1.4s,mb3.7
MALT Malatya             24.73 284  eP    P               23 13 54.7 +0.4
MALT                                pmax       pmax
     comp=Z,4.0nm,1.1s,mb3.9
MALT Malatya             24.73 284  eP    P               23 13 54.7 +0.4
     comp=Z,3.8nm,1.1s,mb3.8
ASF  Jabal al Asfar      27.20 271  LR    LR              23 27 04.9
     comp=Z,25nm,20.8s,MS2.8,baz=198,slow=41
SONM Songino Array       29.40  55  P     P               23 14 38.0 +1.8
     comp=Z,0.3nm,0.6s,mb3.2,baz=276,slow=13,SNR=3.0
SONM                                LR    LR              23 27 36.8
     comp=Z,88nm,20.5s,MS3.4,baz=68,slow=39
AKASG Malin Array Be     32.09 309  P     P               23 14 59.9 +0.1
     comp=Z,0.4nm,0.2s,mb3.8,baz=83,slow=7.7,SNR=3.6
ARCES ARCESS Array B     40.81 338  P     P               23 16 15.8 +2.0
     comp=Z,1.4nm,0.8s,mb3.7,baz=106,slow=8.6,SNR=3.3
HFS  Hagfors             42.42 322  P     P               23 16 28.1 +0.9
     comp=Z,2.3nm,0.5s,mb4.0,baz=100,slow=12,SNR=13
HFS                                 pP    pP              23 16 38.0 -3.7
     comp=Z,2.1nm,0.7s,baz=81,slow=9.8,SNR=4.4
NB2  NORSAR Subarra      43.76 323  P     P               23 16 38.2 +0.3
     comp=Z,1.4nm,0.6s,mb3.9,baz=98,slow=7.9
NOA  NORSAR Array B      43.76 323  P     P               23 16 38.5 +0.6
     comp=Z,1.2nm,0.6s,mb3.8,baz=97,slow=8.0,SNR=6.6
NOA                                 pP    pP              23 16 50.3 -2.2
     comp=Z,0.8nm,0.6s,baz=99,slow=8.0,SNR=4.2
NOA                                 LR    LR              23 36 44.5
     comp=Z,18nm,18.4s,MS3.0,baz=160,slow=38
NOA  NORSAR Array B      43.76 323  P     P               23 16 38.5 +0.6
NOA                                *PP   pP              23 16 50.3 -2.2
NOA  NORSAR Array B      43.76 323  P     P               23 16 38.5 +0.6
NOA                                pP    pP              23 16 50.3 -2.2
NOA                                LR    LR              23 36 44.5
KSRS Korea Array         46.06  70  P     P               23 16 57.8 +1.2
     comp=Z,0.6nm,0.3s,mb4.0,baz=261,slow=5.6,SNR=3.1
KSRS Korea Array         46.06  70  P     P               23 16 57.8 +1.3
KSRS                                pmax       pmax
     comp=Z,1.0nm,0.3s,mb4.2
NACB Ninganchiao         46.11  90  P     P               23 16 54.4 -2.7
MAJO Matsushiro          54.12  68  P     P               23 17 57.2 -0.4
ESDC Sonseca Array       56.45 297  P     P               23 18 14.4 +0.1
     comp=Z,0.5nm,0.6s,mb3.7,baz=62,slow=8.9,SNR=4.3
LSZ  Lusaka              64.50 225  P     P               23 19 09.1 -0.3
     comp=Z,0.9nm,0.6s,mb4.0,baz=60,slow=8.1,SNR=3.5
TORD Torodi Ar. Bea      64.51 268  P     P               23 19 08.6 -0.9
     comp=Z,0.9nm,0.9s,mb3.8,baz=46,slow=5.8,SNR=8.2
WRA  Warramunga Arr      82.95 121  P     P               23 20 55.5 -1.9
     comp=Z,0.4nm,0.8s,mb3.5,baz=321,slow=5.2,SNR=5.4
WRA                                 pP    pP              23 21 09.6 -3.8
     comp=Z,0.4nm,0.8s,baz=324,slow=5.1,SNR=2.2
```

*NEIC **30** 23:19:03.2, 1573N×9532W, h33km, MD3.9(MEX), After MEX.*

MEX 30 23:19:03.1±1.0, 1572N×9532W, h35km±58km, MD3.9, Near coast of Oaxaca

```
Code Station Name          Δ°   AZ°  Phase ID              Time      Res
                                    Op    ISC             h m s     ISC
HUIG Huatulco             0.76 274  iP    Pn              23 19 16.1 -1.3
HUIG                                iS    Sn              23 19 24.5 -3.0
VHO  Vista Hermosa        1.91 315  eP    Pn              23 19 31.4 -1.8
VHO                                 iS    Sn              23 19 55.2 -0.8
TGIG                      2.36  63  iP    Pn              23 19 37.8 -1.6
```

TGIG				*i* S	Sn	23 20 04.0	-3.2
SCX	**San Cristobal**	**2.77**	**68**	*e*P	Pn	23 19 44.0	-1.1
SCX				*i* S	Sn	23 20 16.1	-1.2
PNIG	**Pinotepa**	**2.78**	**284**	*i* P	Pn	23 19 44.3	-0.8
PNIG				*i* S	Sn	23 20 13.9	-3.6
CCIG	**Comitan**	**3.12**	**79**	*e*P	Pn	23 19 49.2	-0.6
CCIG				*i* S	Sn	23 20 24.0	-1.8
UTMO	**Huajuapan**	**3.17**	**312**	*i* P	Pn	23 19 50.2	-0.3
UTMO				*i* S	Sn	23 20 25.1	-2.1
TPIG	**Tehuac#an**	**3.32**	**324**	*i* S	Sn	23 20 36.5	+5.6
PPM	**Popocatepetl**	**4.59**	**317**	*e*P	Pn	23 20 10.8	+0.8
PPM				*i* S	Sn	23 21 02.1	-0.1

*ISCJB **31** 00:00:42.0±0.3, 3688N±006×135.19E±006, h374km±5km, mb3.3/11, Error ellipse: s-maj=10.3km s-min=6.8km az=145.5*
*NEIC **31** 00:00:42.9±0.7, 3685N×135.17E, h368km±8km, mb3.5/2, Error ellipse: s-maj=16.2km s-min=12.1km az=54.0*
*JMA **31** 00:00:42.6±0.3, 3687N×135.11E, h369km±3km, M3.3*
*IDC **31** 00:00:42.8±0.7, 3683N×135.34E, h369km±10km, mb3.0/9, mb1 3.2/12, mb1mx3.1/29, mbtmp3.1/12, Error ellipse: s-maj=22.0km s-min=15.3km az=59.0*

ISC 31 00:00:43.0±0.3, 3686N±006×13521E±006, h367km±5km, n39, σ0°92/45, mb3.3/11, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**1.23**	**184**	P	**Pn**	**00 01 31.5**	**0.0**
JKY				*e*S	**S**	**00 02 09.9**	**-0.6**
JKSM	**Kasumi**	**1.34**	**200**	P	**Pn**	**00 01 31.8**	**-0.3**
JWT	**Wachi**	**1.58**	**174**	P	**Pn**	**00 01 33.5**	**+0.2**
JWT				*e*S	**S**	**00 02 12.8**	**-0.9**
JGM	**Miyama**	**1.68**	**133**	P	**Pn**	**00 01 34.5**	**+0.7**
MAJO	**Matsushiro**	**2.42**	**97**	*e*Pn	**Pn**	**00 01 39.8**	**+1.0**
MAJO				*e*Pn	**Pn**	**00 01 40.0**	**+1.1**
MAT	**Matsushiro**	**2.42**	**97**	P	**Pn**	**00 01 40.5**	**+1.7**
MJAR	**Matsushiro Arr**	**2.43**	**97**	P	**Pn**	**00 01 39.6**	**+0.7**
	1.5nm,0.3s,baz=280,slow=10,SNR=17						
MJAR				S	**S**	**00 02 23.5**	**-0.4**
	0.3nm,0.3s,baz=248,slow=16,SNR=2.3						
JHS	**Saijyo**	**2.52**	**223**	P	**Pn**	**00 01 39.2**	**-0.4**
JWY	**Kouya**	**2.65**	**173**	P	**Pn**	**00 01 40.9**	**+0.2**
JIE	**Ise**	**2.74**	**153**	P	**Pn**	**00 01 42.1**	**+0.6**
JWZ	**Kozaga**	**3.34**	**173**	P	**Pn**	**00 01 46.6**	**-0.1**
JOD2	**Odawara 2**	**3.52**	**116**	P	**Pn**	**00 01 50.5**	**+2.2**
JFT	**Otama**	**4.14**	**79**	P	**Pn**	**00 01 55.4**	**+1.1**
JTO	**Tosashimizu**	**4.45**	**207**	P	**Pn**	**00 01 57.7**	**+0.1**
JFK	**Kawauchi**	**4.55**	**82**	P	**Pn**	**00 01 58.5**	**0.0**
JFK				*e*S	**S**	**00 02 57.0**	**-2.7**
JMM	**Marumori**	**4.56**	**76**	P	**Pn**	**00 01 59.7**	**+1.1**
JRG	**Rokugo**	**4.97**	**58**	*e*S	**S**	**00 03 07.8**	**+0.1**
BSO1	**Boso 1**	**5.18**	**113**	*e*S	**S**	**00 03 10.3**	**-1.6**
KSRS	**Korea Array**	**5.86**	**278**	P	**Pn**	**00 02 12.9**	**+0.3**
	2.4nm,0.3s,baz=98,slow=12,SNR=57						
MDJ	**Mudanjiang**	**8.85**	**333**	Pn	**Pn**	**00 02 45.8**	**-1.3**
ASAJ	**Asahikawa**	**9.17**	**35**	P	**Pn**	**00 02 50.5**	**-0.5**
	7.9nm,0.3s,baz=227,slow=12,SNR=26						
ASAJ				S	**S**	**00 04 31.6**	**-4.3**
	3.0nm,0.3s,baz=151,slow=27,SNR=4.4						
YSS	**Yuzh-Sakhalins**	**11.54**	**27**	*e*P	**Pn**	**00 03 18.2**	**-0.6**
BJT	**Baijiatuan**	**15.26**	**288**	P	**P**	**00 03 58.4**	**-1.1**
SONM	**Songino Array**	**23.82**	**306**	P	**P**	**00 05 24.5**	**+0.4**
	0.7nm,0.8s,mb2.9,baz=110,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**39.99**	**301**	P	**P**	**00 07 44.5**	**+1.3**
	0.2nm,0.5s,mb2.6,baz=86,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**39.99**	**301**	P	**P**	**00 07 44.5**	**+1.2**
KURK	**Kurchatov**	**42.12**	**308**	P	**P**	**00 08 01.7**	**+1.4**
	0.5nm,0.6s,mb2.8,baz=85,slow=8.4,SNR=3.4						
BRVK	**Borovoye**	**47.06**	**312**	*e*P	**P**	**00 08 36.5**	**-2.4**
	1.5nm,0.8s,mb3.3						
COLA	**College**	**51.87**	**32**	P	**P**	**00 09 14.7**	**+0.1**
AKTK	**Aktyubinsk**	**55.05**	**310**	P	**P**	**00 09 38.1**	**+0.4**
AKTO	**Aktyubinsk**	**55.05**	**310**	P	**P**	**00 09 38.1**	**+0.4**
	0.6nm,0.3s,mb3.4,baz=73,slow=11,SNR=3.1						
WRAB	**Tennant Creek**	**56.49**	**181**	*e*P	**P**	**00 09 47.2**	**-0.8**
	3.8nm,1.1s,mb3.6						
WRA	**Warramunga Arr**	**56.50**	**181**	P	**P**	**00 09 47.6**	**-0.6**
	0.4nm,0.3s,mb3.2,baz=0.1,slow=7.5,SNR=13						
ARCES	**ARCESS Array B**	**62.36**	**338**	P	**P**	**00 10 26.6**	**-0.6**
	2.9nm,1.0s,mb3.8,baz=52,slow=9.2,SNR=7.9						
HFS	**Hagfors**	**72.11**	**333**	P	**P**	**00 11 27.8**	**-0.1**
	3.8nm,1.1s,mb4.0,baz=79,slow=7.9,SNR=7.2						
NB2	**NORSAR Subarra**	**72.34**	**335**	P	**P**	**00 11 29.4**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.5,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**72.34**	**335**	P	**P**	**00 11 29.3**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.6,baz=41,slow=5.7,SNR=4.4						
NOA	**NORSAR Array B**	**72.34**	**335**	P	**P**	**00 11 29.3**	**+0.1**
EKA	**Eskdalemuir Ar**	**81.52**	**337**	P	**P**	**00 12 20.1**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=36,slow=5.3,SNR=2.6						

IDC 31 00:13:51.0±1.0, 5553S×12713W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, MS3.1/1, Ms1 3.1/1, ms1mx2.8/14, Error ellipse: s-maj=241.6km s-min=25.9km az=165.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**47.23**	**159**	LR	LR	00 44 15.8	
	comp=Z,18nm,18.3s,baz=217,slow=39						
LPAZ	**La Paz**	**59.30**	**73**	P	P	00 23 56.0	+1.5
	0.6nm,0.6s,baz=262,slow=3.2,SNR=3.8						
SIV	**San Ignacio**	**63.44**	**79**	P	P	00 24 21.9	-0.5
	1.4nm,0.9s,baz=206,slow=5.0,SNR=4.5						
ASAR	**Alice Springs**	**75.69**	**249**	P	P	00 25 38.7	+0.6
	0.4nm,0.5s,baz=149,slow=5.5,SNR=4.8						
WRA	**Warramunga Arr**	**78.49**	**252**	P	P	00 25 54.2	+0.3
	0.9nm,0.9s,baz=147,slow=5.2,SNR=4.9						
SONM	**Songino Array**	**146.68**	**280**	PKPbc	PKPbc	00 33 32.9	-0.7
	0.6nm,0.5s,baz=124,slow=2.6,SNR=4.2						
MKAR	**Makanchi Array**	**159.71**	**257**	PKPab	PKPab	00 34 28.2	-1.3
	0.4nm,0.7s,baz=129,slow=4.1,SNR=3.3						

*KRSC **31** 00:17:36.6±1.2, 4922N×15607E, h5km±5km, ML4.6*
*MOS **31** 00:17:36.2±2.1, 4921N×15608E, h9km, mb3.9/6, Error ellipse: s-maj=27.9km s-min=9.0km az=72.5*
*ISCJB **31** 00:17:39.2±1.2, 493N±0.1×1555E±02, h73km±10km, mb3.6/10, Error ellipse: s-maj=23.2km s-min=7.8km az=136.2*
*IDC **31** 00:17:39.5±0.9, 4940N×15524E, h53km±8km, mb3.5/10, mb1 3.8/11, mb1mx3.6/23, mbtmp3.6/11, Error ellipse: s-maj=32.2km s-min=17.3km az=152.0*

ISC 31 00:17:40.6±1.0, 4932N±010×1554E±01, h66km±9km, h52km±.4km: pP-P, n32, σ1°19/40, mb3.6/10, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.43**	**17**	⇑*i*PN	**Pn**	**00 18 03.2**	**-1.3**
SKR				*i* S	**Sn**	**00 18 21.8**	**-0.7**
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				pmax	pmax		
	comp=N,80nm,0.3s						
SKR				smax			
	comp=N,390nm,0.5s						
SKR				smax			
	comp=E,400nm,0.5s						
SKR				smax			
	comp=Z,200nm,0.5s						
SKR				smax			
	comp=N,1μm,2.0s						
SKR				smax			
	comp=E,1μm,2.0s						
ALID	**Alaid**	**1.55**	**3**	P	**Pn**	**00 18 06.9**	**+0.8**
ALID				*i* S	**Sn**	**00 18 28.9**	**+3.5**
MIPR	**Malaya Ipel'ka**	**3.08**	**15**	*e*P	**Pn**	**00 18 27.1**	**+0.3**
RUS	**Russkaya**	**3.67**	**31**	*e*P	**Pn**	**00 18 34.7**	**-0.2**
RUS				*i* S	**Sn**	**00 19 17.2**	**+0.3**
PETK	**Petropavlovsk-**	**4.05**	**20**	P	**Pn**	**00 18 41.6**	**+1.6**
	comp=E,2.4nm,0.3s,baz=183,slow=12,SNR=18						
PET	**Petropavlovsk**	**4.22**	**27**	*e*PN	**Pn**	**00 18 43.5**	**+1.1**
PET				*e*S	**Sn**	**00 19 32.2**	**+1.8**
PET				pmax	pmax		
	comp=Z,23nm,0.4s						
PET				smax			
	comp=N,168nm,0.5s						
PET				smax			
	comp=E,239nm,0.6s						
PET	**Petropavlovsk**	**4.22**	**27**	P	**Pn**	**00 18 42.2**	**-0.2**
PET				*i* S	**Sn**	**00 19 29.5**	**-0.9**
NLC	**Nalytchevo**	**4.57**	**31**	*e*P	**Pn**	**00 18 46.3**	**-0.8**
NLC				*i* S	**Sn**	**00 19 37.3**	**-1.6**
GNL	**Ganaly**	**4.65**	**19**	*e*P	**Pn**	**00 18 51.2**	**+3.0**
SPN	**Mys Shipunski**	**4.75**	**36**	*e*P	**Pn**	**00 18 49.5**	**-0.2**
SPN				*i* S	**Sn**	**00 19 42.2**	**-1.2**
MKZ	**Mys Kozlova**	**6.53**	**34**	*e*P	**Pn**	**00 19 12.5**	**-1.4**
MKZ				*i* S	**Sn**	**00 20 22.3**	**-4.5**
TUMR	**Tumrok**	**6.63**	**24**	*e*P	**Pn**	**00 19 18.6**	**+3.3**
KBTR	**Krutoberegovo**	**8.22**	**30**	*e*P	**Pn**	**00 19 36.6**	**-0.4**
ASAJ	**Asahikawa**	**10.24**	**244**	P	**Pn**	**00 20 04.8**	**+0.1**
	comp=E,1.1nm,0.3s,baz=71,slow=12,SNR=10						
ASAJ	**Asahikawa**	**10.24**	**244**	PN	**Pn**	**00 20 04.8**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**17.90**	**231**	P	**Pn**	**00 21 44.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=17,slow=12,SNR=4.6						
KSRS	**Korea Array**	**23.11**	**250**	P	**Pn**	**00 22 41.6**	**+0.8**
	comp=Z,0.5nm,0.4s,mb3.2,baz=51,slow=8.9,SNR=4.2						
KSRS	**Korea Array**	**23.11**	**250**	P	**P**	**00 22 41.6**	**+0.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
MKAR	**Makanchi Array**	**47.18**	**296**	P	**P**	**00 26 05.8**	**-0.4**
	comp=Z,0.5nm,0.8s,mb3.3,baz=55,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**47.18**	**296**	P	**P**	**00 26 05.8**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.49**	**256**	P	**P**	**00 27 01.8**	**+0.3**
	comp=Z,0.6nm,0.3s,mb4.0,baz=28,slow=8.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**54.49**	**256**	P	**P**	**00 27 01.8**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVAR	**Mina Array Bea**	**59.89**	**65**	P	**P**	**00 27 41.2**	**+1.8**
	comp=Z,0.4nm,0.6s,mb3.6,baz=270,slow=9.7,SNR=3.9						
NVAR				pP	pP	00 27 55.0	-1.7
	comp=Z,0.4nm,0.7s,baz=297,slow=6.5,SNR=2.9						
PDAR	**Pinedale Array**	**61.99**	**56**	P	**P**	**00 27 55.5**	**+1.9**
	comp=Z,0.8nm,0.8s,mb3.8,baz=336,slow=3.3,SNR=5.0						
PDAR				pP	pP	00 28 09.3	-1.6
	comp=Z,0.6nm,0.7s,baz=338,slow=6.7,SNR=2.5						
HFS	**Hagfors**	**66.58**	**340**	P	**P**	**00 28 21.8**	**-1.4**
	comp=Z,1.1nm,0.8s,mb3.8,baz=1.9,slow=4.3,SNR=2.7						
HFS	**Hagfors**	**66.58**	**340**	P	**P**	**00 28 21.8**	**-1.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**70.26**	**327**	P	**P**	**00 28 44.6**	**-1.7**
	comp=Z,0.3nm,0.3s,mb3.6,baz=28,slow=4.1,SNR=3.4						
SCHQ	**Schefferville**	**70.33**	**24**	P	**P**	**00 28 46.6**	**-0.1**
	comp=Z,0.9nm,0.4s,mb4.0,baz=0.0,slow=9.1,SNR=3.5						
WRA	**Warramunga Arr**	**71.46**	**201**	P	**P**	**00 28 52.5**	**-1.3**
	comp=Z,0.6nm,0.6s,mb3.6,baz=15,slow=6.3,SNR=3.7						
WRA	**Warramunga Arr**	**71.46**	**201**	P	**P**	**00 28 52.5**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**74.89**	**63**	P	**P**	**00 29 15.5**	**+1.3**
	comp=Z,0.5nm,0.7s,mb3.4,baz=328,slow=6.4,SNR=3.4						
TXAR				pP	pP	00 29 29.9	-2.2
	comp=Z,0.9nm,0.7s,baz=307,slow=4.5,SNR=7.3						
TXAR	**Lajitas Array**	**74.89**	**63**	P	**P**	**00 29 15.5**	**+1.3**
TXAR				*PP	pP	00 29 30.0	-2.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 31 01:09:14.4±2.0, 302S×14243E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/13, mbtmp3.9/5, MS3.1/3, Ms1 3.1/3, ms1mx2.8/20, Error ellipse: s-maj=87.9km s-min=22.9km az=86.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.67**	**8**	LR	LR	01 17 46.7	
	comp=Z,58nm,21.9s,baz=280,slow=31						
CTA	**Charters Tower**	**17.38**	**168**	LR	LR	01 19 42.0	
	comp=Z,107nm,20.0s,baz=233,slow=36						
WRA	**Warramunga Arr**	**18.59**	**205**	P	Pn	01 13 33.2	-0.2
	0.3nm,0.3s,baz=22,slow=13,SNR=9.4						
ASAR	**Alice Springs**	**22.12**	**201**	P	P	01 14 11.4	-0.2
	3.0nm,0.8s,baz=32,slow=10,SNR=12						
STKA	**Stephens Creek**	**28.72**	**181**	P	P	01 15 13.7	+0.2
	3.3nm,1.0s,baz=340,slow=12,SNR=2.0						
KSRS	**Korea Array**	**42.46**	**343**	LR	LR	01 32 02.4	
	comp=Z,21nm,21.7s,baz=200,slow=32						
MKAR	**Makanchi Array**	**72.32**	**321**	P	P	01 20 42.8	+0.8
	0.6nm,0.7s,baz=126,slow=7.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**74.09**	**329**	P	P	01 20 51.4	-0.8
	0.8nm,0.5s,baz=108,slow=4.8,SNR=4.3						

MAN 31 01:33:09, 1104N×12411E, h4km, mb4.0, ML2.8, MS2.5, 2C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.49**	**88**	*e*P	Pg	01 33 19.2	+0.7
OCLP				*e*S	Sg	01 33 27.1	+2.2
LLP	**Lapu-Lapu**	**0.73**	**191**	⇑*e*P	Pg	01 33 23.3	+0.3
LLP				*i* S	Sg	01 33 34.2	+1.8
PLP	**Palo**	**0.87**	**81**	⇓*e*P	Pg	01 33 25.9	+0.3
PLP				*e*S	Sg	01 33 40.4	+3.5
MSLP	**Maasin**	**1.16**	**140**	*e*P	Pg	01 33 31.3	0.0
MSLP				*e*S	Sg	01 33 49.5	+3.1
TBP	**Tagbilaran**	**1.36**	**190**	*e*P	Pn	01 33 34.2	-0.6
TBP				*e*S	Sg	01 33 50.2	-2.5
BESP	**Borongan**	**1.42**	**67**	*e*P	Pn	01 33 38.6	+3.0
RCP	**Roxas**	**1.43**	**291**	⇑*e*P	Pn	01 33 35.9	+0.1
RCP				*e*S	Sb	01 33 55.0	+0.1
GUIM	**Jordan**	**1.54**	**255**	*e*P	Pn	01 33 36.9	-0.4
GUIM				*e*S	Sn	01 33 57.8	0.0
CNP	**Catarman**	**1.56**	**20**	*e*P	Pn	01 33 37.7	+0.1
SCPH	**Surigao**	**1.84**	**132**	⇓*e*P	Pn	01 33 42.5	+1.1
PAGZ	**Pagadian**	**3.25**	**193**	*e*P	Pn	01 33 57.2	-3.5

*NEIC **31** 01:35:53.1, 1646N×9844W, h13km, MD3.8(MEX), After MEX.*

MEX 31 01:35:52.9±0.5, 1649N×9845W, h10km±11km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**106**	*i* P	Pg	01 35 58.8	-0.6
PNIG				*i* S	Sg	01 36 04.0	+0.3
ACX	**Acapulco**	**1.46**	**285**	*i* P	Pn	01 36 15.5	-3.8
ACX				*i* S	Sn	01 36 33.1	-5.3
UTMO	**Huajuapan**	**1.47**	**25**	*i* P	Pn	01 36 15.9	-3.6
UTMO				*i* S	Sn	01 36 34.3	-4.6
VHO	**Vista Hermosa**	**1.75**	**70**	*e*P	Pn	01 36 19.7	-3.5
VHO				*i* S	Sn	01 36 41.5	-4.1
MEIG	**Mezcala**	**1.82**	**322**	*i* P	Pn	01 36 21.5	-2.7
MEIG				*i* S	Sn	01 36 42.9	-4.4
CAIG	**El Cayaco**	**1.83**	**288**	*e*P	Pn	01 36 21.6	-2.8
CAIG				*i* S	Sn	01 36 42.5	-5.1
TPIG	**Tehuac#an**	**2.19**	**28**	*i* P	Pn	01 36 26.1	-3.2
TPIG				*i* S	Sn	01 36 53.3	-3.1
PPM	**Popocatepetl**	**2.57**	**356**	*e*P	Pn	01 36 32.7	-2.0
PPM				*i* S	Sn	01 37 02.1	-3.9
MZVM		**2.79**	**345**	*i* P	Pn	01 36 42.3	+4.7
MZVM				*i* S	Sn	01 37 14.3	+3.0
ZIIG	**Zihuatanejo**	**3.09**	**292**	*e*P	Pn	01 36 37.6	-4.2
ZIIG				*i* S	Sn	01 37 14.6	-4.2

MAN 31 01:40:49, 1103N×12411E, h5km, mb4.3, ML3.1, MS2.9, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.49**	**88**	*e*P	Pg	01 40 59.4	+0.9
OCLP				*e*S	Sg	01 41 06.3	+1.5
LLP	**Lapu-Lapu**	**0.72**	**191**	⇓*i*P	Pg	01 41 03.6	+0.7
LLP				*i* S	Sg	01 41 14.4	+2.1
PLP	**Palo**	**0.86**	**81**	⇓*e*P	Pg	01 41 06.6	+1.1
PLP				*e*S	Sg	01 41 20.6	+3.8
MSLP	**Maasin**	**1.16**	**140**	*e*P	Pg	01 41 12.1	+0.9
MSLP				*e*S	Sg	01 41 29.8	+3.6
TBP	**Tagbilaran**	**1.35**	**190**	*e*P	Pn	01 41 14.4	-0.2
TBP				*e*S	Sb	01 41 32.8	+0.3
RCP	**Roxas**	**1.44**	**292**	⇑*e*P	Pn	01 41 16.0	+0.2
RCP				*e*S	Sb	01 41 35.2	+0.3
GUIM	**Jordan**	**1.55**	**255**	*e*P	Pn	01 41 17.9	+0.6
GUIM				*e*S	Sn	01 41 33.3	-4.4

*ISCJB **31** 01:51:00.3±0.6, 3483N±004×13777E±004, h33km±5km, Error ellipse: s-maj=7.5km s-min=5.2km az=165.3*
*JMA **31** 01:51:00.4, 3489N×13775E, h34km±1km, M4.3 Broadband fault plane solution: P waves. NP1: ϕs223.00000°, δ61.00000°, λ6.00000°. NP2:ϕs130.00000°, δ85.00000°, λ151.00000°. Principal axes: T Plg24.0000°, Azm82.0000°; N Plg60.0000°, Azm300.0000°; P Plg16.0000°, Azm180.0000°;*
JMA Felt III J1.
*NIED **31** 01:51:00, 3490N×13770E, h32km, Mw4.1 Best double couple: M01.43000×10^15 NP1:ϕs130.00000°, δ88.00000°, λ148.00000°. NP2:ϕs221.00000°, δ58.00000°, λ3.00000°.*

ISC 31 01:51:00.4±0.5, 3482N±004×13777E±004, h33km±2km, n13, σ0°59/24, 3C-2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHMK	**Hamakita**	**0.01**	**256**	P	**Pb**	**01 51 05.8**	**0.0**
JHMK				S	**Sb**	**01 51 09.6**	**+0.1**
HMMJ	**Hamamatsu 2**	**0.05**	**314**	⇑P	**Pb**	**01 51 05.9**	**0.0**
HMMJ				S	**Sb**	**01 51 09.9**	**+0.2**
JKKG	**Kakegawa**	**0.17**	**101**	P	**Pb**	**01 51 06.9**	**+0.2**
JKKG				S	**Sb**	**01 51 11.9**	**+1.0**
JYZW	**Yoshizawa**	**0.18**	**351**	P	**Pb**	**01 51 06.2**	**-0.6**
JYZW				S	**Sb**	**01 51 10.3**	**-0.8**
SHZ3	**Shizuoka 3**	**0.44**	**56**	⇓P	**Pb**	**01 51 09.3**	**-0.7**
SHZ3				S	**Sb**	**01 51 16.3**	**-0.4**
TK04	**Tokai 4**	**0.44**	**169**	⇓P	**Pb**	**01 51 11.1**	**+1.0**
JIZS	**Izushimoda**	**0.92**	**96**	P	**Pn**	**01 51 16.0**	**-1.0**
JIZS				*e*S	**Sn**	**01 51 28.3**	**-0.7**
JYN	**Shimob**	**0.93**	**43**	⇑P	**Pn**	**01 51 16.4**	**-0.7**
JYN				*e*S	**Sn**	**01 51 29.9**	**+0.6**
JIE	**Ise**	**0.97**	**244**	P	**Pn**	**01 51 17.3**	**-0.4**
JIE				S	**Sn**	**01 51 29.9**	**-0.5**
TSUJ	**Tsu 2**	**1.12**	**265**	P	**Pn**	**01 51 20.3**	**+0.6**
JOD2	**Odawara 2**	**1.17**	**67**	⇑P	**Pn**	**01 51 20.2**	**-0.2**
JOD2				*e*S	**Sn**	**01 51 35.9**	**+0.7**
JGM	**Miyama**	**1.23**	**316**	P	**Pn**	**01 51 21.2**	**0.0**
JGM				*e*S	**Sn**	**01 51 36.9**	**+0.2**
MAT	**Matsushiro**	**1.76**	**12**	P	**Pn**	**01 51 29.4**	**+0.9**
MAT				S	**Sn**	**01 51 50.2**	**+0.5**

*NEIC **31** 01:57:06.3±2.9, 3621N×7107E, h186km±21km, Error ellipse: s-maj=30.5km s-min=17.6km az=175.0*
*IDC **31** 01:57:07.9±8.0, 3625N×7111E, h201km±83km, mb3.4/3, mb1 3.1/7, mb1mx2.9/25, mbtmp3.0/7, Error ellipse: s-maj=59.6km s-min=44.5km az=106.0*
*ISCJB **31** 01:57:11.3±0.5, 3661N±004×711E±0.1, h236km±11km, mb3.5/3, Error ellipse: s-maj=14.5km s-min=6.9km az=0.8*
*NNC **31** 01:57:13.8±4.5, 3731N×7032E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=39.6km s-min=34.7km az=98.0*

ISC 31 01:57:12.3±0.5, 3662N±004×711E±01, h226km±12km, n23, σ0°88/29, mb3.5/3, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.86**	**167**	⇓P	**Pn**	**01 58 02.5**	**+0.7**
CEP				S	**S**	**01 58 40.0**	**-0.7**
CHCP	**Chirah Chowk**	**3.44**	**149**	P	**Pn**	**01 58 09.9**	**+1.5**
CHCP				S	**S**	**01 58 49.0**	**-3.6**
THW	**Thamme Wali**	**3.85**	**172**	P	**Pn**	**01 58 14.0**	**+0.7**
SARP	**Sargodha**	**4.86**	**164**	P	**Pn**	**01 58 26.7**	**+1.1**
THN	**Thein Dam**	**5.64**	**136**	*e*P	**Pn**	**01 58 35.7**	**+0.2**
THN				*e*S	**S**	**01 59 40.0**	**-1.5**
AML	**Almayashu**	**5.86**	**19**	P	**Pn**	**01 58 37.7**	**-0.3**
	SNR=37						
UCH	**Uchtor**	**6.19**	**24**	P	**Pn**	**01 58 42.3**	**0.0**
	SNR=13						
EKS2	**Erkin-Say**	**6.38**	**18**	P	**Pn**	**01 58 44.7**	**+0.1**
	SNR=5.5						
KK31	**Karatay Array**	**6.50**	**356**	Pn	**Pn**	**01 58 44.8**	**-1.4**
	1.2nm,0.3s,baz=181,slow=13,SNR=35						
KK31				⇑Sn	**S**	**01 59 54.3**	**-6.7**
	7.2nm,0.6s,baz=182,slow=24,SNR=9.4						
AAK	**Ala-Archa**	**6.55**	**22**	P	**Pn**	**01 58 46.5**	**-0.4**
	SNR=7.0						
TKM2	**Tokmak 2**	**7.18**	**27**	⇑Pn	**Pn**	**01 58 54.0**	**-0.9**
	3.6nm,0.8s						
TKM2				⇓Sn	**S**	**02 00 17.6**	**+0.7**
	3.7nm,0.5s						
TKM2	**Tokmak 2**	**7.18**	**27**	P	**Pn**	**01 58 54.7**	**-0.2**
	SNR=6.7						
MKAR	**Makanchi Array**	**13.14**	**36**	P	**Pn**	**02 00 10.7**	**+0.1**
	0.0nm,0.3s,baz=203,slow=12,SNR=2.8						
AB31	**Akbulak array**	**15.03**	**331**	⇓Pn	**Pn**	**02 00 33.6**	**+0.1**
	1.2nm,0.7s						
AB31				⇑Sn	**S**	**02 03 14.1**	**-5.5**
	0.4nm,0.7s						
KURK	**Kurchatov**	**15.09**	**19**	P	**Pn**	**02 00 34.2**	**-0.1**
	0.0nm,0.3s,baz=190,sl

ISC 31 02:08:39.3±6.7, 221S±05×1687E±01, h16km±47km, n11, σ0°44/9, mb4.1/5, New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.05**	**270**	*e*P	**Pn**	**02 09 13.5**	**+0.4**
DZM				*e*S	**Sn**	**02 09 38.1**	**-0.2**
URZ	**Urewera**	**17.70**	**158**	LR	LR	02 18 44.0	
comp=Z,60nm,19.3s,baz=40,slow=34							
AFI	**Afiamalu**	**20.29**	**70**	P	**P**	**02 13 14.2**	**-0.3**
12nm,0.3s,baz=201,slow=22,SNR=4.7							
CTA	**Charters Tower**	**20.99**	**271**	P	**P**	**02 13 21.4**	**-0.7**
3.2nm,0.7s,baz=150,slow=16,SNR=2.0							
RPZ	**Rata Peaks**	**21.68**	**175**	LR	LR	02 19 22.9	
comp=Z,10nm,20.6s,baz=353,slow=30							
ASAR	**Alice Springs**	**32.01**	**260**	P	**P**	**02 15 05.8**	**+0.6**
3.0nm,0.8s,mb4.2,baz=83,slow=8.2,SNR=12							
WRA	**Warramunga Arr**	**32.06**	**267**	P	**P**	**02 15 05.5**	**-0.1**
0.8nm,0.8s,mb3.6,baz=100,slow=8.1,SNR=5.5							
FITZ	**Fitzroy Crossi**	**40.49**	**268**	P	**P**	**02 16 17.5**	**-0.3**
3.1nm,0.7s,mb4.1,baz=119,slow=9.8,SNR=6.3							
PETK	**Petropavlovsk-**	**75.46**	**353**	P	**P**	**02 20 22.1**	**-0.1**
6.5nm,1.1s,mb4.5,baz=122,slow=7.5,SNR=5.1							
SONM	**Songino Array**	**89.15**	**323**	P	**P**	**02 21 34.6**	**+0.8**
1.0nm,0.8s,mb4.2,baz=104,slow=6.1,SNR=3.0							
GERES	**GERESS Array B**	**146.68**	**329**	PKPbc	PKPbc	02 28 20.0	-0.2
0.6nm,0.6s,baz=48,slow=2.9,SNR=6.9							

IDC 31 02:11:14.8±22.0, 1904N×14630E, h97km±187km, mb3.4/7, mb1 3.5/7, mb1mx3.5/18, mbtmp3.4/7, MS2.7/1, Ms1 2.7/1, ms1mx2.3/21, Error ellipse: s-maj=156.6km s-min=19.3km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**24.39**	**323**	P	P	02 16 24.6	+0.5
0.7nm,0.4s,baz=146,slow=8.7,SNR=2.9							
KSRS				LR	LR	02 25 21.4	
comp=Z,19nm,20.7s,baz=235,slow=35							
WRA	**Warramunga Arr**	**40.47**	**197**	P	P	02 18 43.4	-0.7
0.7nm,0.5s,baz=18,slow=8.7,SNR=5.8							
SONM	**Songino Array**	**43.24**	**321**	P	P	02 19 06.6	+0.2
0.5nm,0.5s,baz=136,slow=6.3,SNR=3.2							
ASAR	**Alice Springs**	**44.13**	**196**	P	P	02 19 14.6	+0.8
0.4nm,0.6s,baz=21,slow=11,SNR=4.5							
ZALV	**Zalesovo Beam**	**58.10**	**322**	P	P	02 20 57.1	-0.9
1.6nm,0.6s,baz=111,slow=7.9,SNR=1.8							
MKAR	**Makanchi Array**	**58.64**	**314**	P	P	02 21 02.2	+0.3
0.4nm,0.5s,baz=95,slow=9.3,SNR=4.1							
ARCES	**ARCESS Array B**	**82.35**	**342**	P	P	02 23 25.9	+0.3
0.8nm,0.6s,baz=68,slow=6.7,SNR=5.1							

*THR **31** 02:12:46.3±0.4, 3138N×4772E, h14km±6km, ML3.2*
*ISCJB **31** 02:12:49.6±2.1, 3158N±006×478E±0.1, h11km±16km, Error ellipse: s-maj=20.9km s-min=9.0km az=18.5*
*CSEM **31** 02:12:49.3±0.1, 3160N×4784E, h12km, ML2.1, Error ellipse: s-maj=6.9km s-min=2.2km az=113.0*
*KISR **31** 02:12:50.5, 3131N×4767E, h4km, ML2.1*

ISC 31 02:12:49.6±2.5, 3156N±007×478E±01, h3km±19km, n13, σ0°60/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.03**	**58**	*e*Pg	**Pg**	**02 13 08.1**	**-1.4**
SHGR				*e*Sg	**Sg**	**02 13 24.0**	**+1.1**
SHGR				AML	AML	02 13 28.8	
comp=E,659nm,0.4s							
SHGR				AML	AML	02 13 36.1	
comp=N,600nm,0.7s							
SHGR	**Shooshtar-Gavs**	**1.03**	**58**	*e*Pg	**Pg**	**02 13 08.1**	**-1.3**
SNR=90							
SHGR				*e*Sg	**Sg**	**02 13 24.0**	**+1.1**
SNR=90							
MIB	**Mutribah**	**1.79**	**192**	*e*P	**Pn**	**02 13 21.1**	**-0.2**
MIB				*e*S	**Sn**	**02 13 44.2**	**-0.3**
comp=N,100nm,0.4s							
MIB	**Mutribah**	**1.79**	**192**	*e*P	**Pn**	**02 13 21.1**	**-0.2**
baz=191							
MIB				*e*S	**Sn**	**02 13 44.2**	**-0.3**
baz=191							
MIB				AML	AML	02 13 47.3	
comp=Z,100nm,0.4s,baz=191							
UMR	**Umm Al-Rimmam**	**2.00**	**181**	*e*P	**Pn**	**02 13 24.7**	**+0.4**
baz=179							
UMR				AML	AML	02 13 51.0	
comp=Z,32nm,0.2s,baz=179							
RST	**Umm Al-Ruwaisa**	**2.16**	**198**	*e*P	**Pn**	**02 13 26.7**	**+0.3**
RST				*e*S	**Sn**	**02 13 53.6**	**0.0**
RST	**Umm Al-Ruwaisa**	**2.16**	**198**	*e*P	**Pn**	**02 13 26.7**	**+0.3**
baz=198							
RST				*e*S	**Sn**	**02 13 53.6**	**-0.1**
baz=198							
RST				AML	AML	02 13 53.9	
comp=Z,1.0nm,0.4s,baz=198							
NAY	**Al-Naaiem**	**2.35**	**191**	*e*P	**Pn**	**02 13 29.3**	**+0.3**
baz=190							
NAY				AML	AML	02 14 01.1	
comp=Z,24nm,0.6s,baz=190							
RDF	**Al-Radifah**	**2.63**	**184**	*e*P	**Pn**	**02 13 33.2**	**+0.3**
RDF	**Al-Radifah**	**2.63**	**184**	*e*P	**Pn**	**02 13 33.2**	**+0.3**
baz=182							
RDF				AML	AML	02 14 06.3	
comp=Z,23nm,0.6s,baz=182							
ASAO	**Ashtian**	**3.53**	**32**	*e*Pn	**Pn**	**02 13 45.6**	**+0.3**
ASAO				AML	AML	02 14 49.2	
comp=E,29nm,0.5s							
ASAO				AML	AML	02 15 06.5	
comp=N,33nm,0.6s							
SNGE	**Sanandaj**	**3.54**	**354**	*e*Pn	**Pn**	**02 13 45.5**	**0.0**
SNGE				AML	AML	02 14 32.0	
comp=E,33nm,0.5s							
SNGE				AML	AML	02 14 38.4	
comp=N,44nm,0.6s							
NASN	**Na'in**	**4.45**	**73**	*e*Pn	**Pn**	**02 13 57.0**	**-0.8**

*IDC **31** 02:16:35.8±0.6, 1160S×16576E, h0km, mb4.5/17, mb1 4.7/17, mb1mx4.6/19, mbtmp4.5/17, MS4.2/15, Ms1 4.2/15, ms1mx3.9/35, Error ellipse: s-maj=23.1km s-min=16.2km az=122.0*
*MOS **31** 02:16:39.8±1.4, 1153S×16567E, h33km, mb5.1/13, Error ellipse: s-maj=11.1km s-min=10.0km az=41.4*
*ISCJB **31** 02:16:40.1±2.4, 1160S±006×16570E±008, h38km±20km, mb4.7/44, MS4.3/27, Error ellipse: s-maj=13.0km s-min=9.3km az=171.7*
*DJA **31** 02:16:41, 1198S×166.18E, h26km, mb5.1/15*
*GCMT **31** 02:16:42.6±0.4, 1167S×16560E, h25km±1km, MW5.0/60, Moment Tensor Solution. s33,c37; s60,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.35±.20; $M_{\theta\theta}$-0.07±.14; $M_{\phi\phi}$-3.28±.15; $M_{r\theta}$0.71±.32; $M_{\theta\phi}$0.65±.11; $M_{\phi r}$-2.53±.28; Best double couple: $M_0$4.28100×10^{16} NP1:ϕ_s352.00000°, δ26.00000°, λ95.00000°. NP2: ϕ_s166.00000°, δ64.00000°, λ87.00000°. Principal axes: T 4.2570, Plg71.0000°, Azm70.0000°; N 0.0510, Plg2.0000°, Azm167.0000°; P -4.3050, Plg19.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 02:16:42.6±1.7, 1159S×16573E, h48km±14km, mb4.7/16 Error ellipse: s-maj=10.0km s-min=8.4km az=105.0*
*BJI **31** 02:16:42.3, 1155S×16644E, h77km, mB4.8, mb4.7, Ms4.7, Msz4.3*

ISC 31 02:16:42.0±1.9, 1161S±006×16575E±007, h41km±16km, n144, σ0°96/83, mb4.7/44, MS4.3/27, 11C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.11**	**290**	Pn	**Pn**	**02 18 10.7**	**+1.0**
15nm,0.3s,baz=288,slow=2.3,SNR=4.4							
HNR	**Honiara**	**6.11**	**290**	*e*P	**Pn**	**02 18 10.5**	**+0.7**
HNR				*e*		02 19 18.0	
HNR				pmax	pmax		
comp=Z,376nm,1.1s							
HNR	**Honiara**	**6.11**	**290**	*e*Pn	**Pn**	**02 18 10.5**	**+0.7**
comp=Z,376nm,1.1s							
HNR				*e*Sn	**Sn**	**02 19 18.0**	**-0.4**
PMG	**Port Moresby**	**18.41**	**275⇑**	*e*P	**Pn**	**02 20 59.2**	**+4.9**
PMG	**Port Moresby**	**18.41**	**275**	*e*P	**Pn**	**02 20 52.7**	**-1.6**
comp=Z,31nm,0.9s							
EIDS	**Eidsvold**	**19.49**	**223**	*e*P	**Pn**	**02 21 00.3**	**-6.9**
comp=Z,58nm,0.7s							
EIDS				*e*Pn	**Pn**	**02 21 10.5**	**+3.3**
CTA	**Charters Tower**	**20.55**	**243**	*e*P	**P**	**02 21 18.4**	**+1.1**
comp=Z,20nm,1.0s							
CTA	**Charters Tower**	**20.55**	**243**	P	**P**	**02 21 18.1**	**+0.8**
comp=Z,30nm,1.1s,baz=68,slow=12,SNR=10							
CTA				LR	LR	02 27 48.1	
comp=Z,537nm,21.5s,MS3.9,baz=62,slow=33							
CTA	**Charters Tower**	**20.55**	**243**	*e*P	**P**	**02 21 18.4**	**+1.1**
CTA				pmax	pmax		
comp=Z,21nm,1.0s							
CTAO	**Charters Tower**	**20.55**	**243**	*e*P	**P**	**02 21 18.3**	**+1.0**
CTAO				pmax	pmax		
comp=Z,51nm,1.2s							
CTAO	**Charters Tower**	**20.55**	**243**	*e*P	**P**	**02 21 18.3**	**+1.0**
comp=Z,51nm,1.2s							
AFI	**Afiamalu**	**22.03**	**98**	LR	LR	02 27 50.1	
comp=Z,660nm,21.7s,MS4.0,baz=309,slow=31							
COEN	**Coen**	**22.14**	**262**	*e*P	**P**	**02 21 34.5**	**+0.1**
comp=Z,23nm,1.2s,mb4.5							
ARMA	**Armidale**	**22.85**	**213**	*e*P	**P**	**02 21 42.1**	**+0.3**
RAO	**Raoul Island**	**23.24**	**141**	*e*P	**P**	**02 21 46.4**	**+0.5**
comp=Z,653nm,1.1s							
STKA	**Stephens Creek**	**30.04**	**224**	*e*P	**P**	**02 22 46.7**	**-0.6**
comp=Z,7.6nm,1.1s,mb4.3							
STKA	**Stephens Creek**	**30.04**	**224**	*e*P	**P**	**02 22 46.5**	**-0.7**
comp=Z,6.8nm,0.9s,mb4.4,baz=289,slow=6.2,SNR=4.3							
STKA				LR	LR	02 34 44.4	
comp=Z,615nm,18.6s,MS4.3,baz=32,slow=36							
WRAB	**Tennant Creek**	**31.29**	**251**	*e*P	**P**	**02 22 58.0**	**-0.4**
WB2	**Warramunga Arr**	**31.29**	**251**	*e*P	**P**	**02 22 57.3**	**-1.1**
WRA	**Warramunga Arr**	**31.30**	**251**	P	**P**	**02 22 57.4**	**-1.2**
comp=Z,9.0nm,1.1s,mb4.5,baz=82,slow=8.9,SNR=19							
WRA				LR	LR	02 34 07.9	
comp=Z,263nm,21.6s,MS3.9,baz=80,slow=34							
RPZ	**Rata Peaks**	**32.32**	**173**	P	**P**	**02 23 07.6**	**+0.4**
comp=Z,26nm,0.8s,mb5.1,baz=22,slow=1.0,SNR=8.0							
RPZ				LR	LR	02 34 11.1	
comp=Z,235nm,19.3s,MS3.9,baz=26,slow=33							
ASAR	**Alice Springs**	**32.55**	**244**	P	**P**	**02 23 08.2**	**-1.2**
comp=Z,6.8nm,0.9s,mb4.6,baz=75,slow=9.7,SNR=36							
ASAR				PcP	PcP	02 25 56.0	+0.5
comp=Z,1.4nm,0.9s,baz=73,slow=2.2,SNR=5.0							
ASAR				ScP	ScP	02 29 41.3	+4.9
comp=Z,0.6nm,1.0s,baz=83,slow=3.0,SNR=4.0							
ASAR	**Alice Springs**	**32.55**	**244**	P	**P**	**02 23 08.3**	**-1.2**
ASAR						02 25 56.0	
RAR	**Rarotonga**	**34.35**	**111**	LR	LR	02 34 00.9	
comp=Z,460nm,19.4s,MS4.2,baz=272,slow=30							
FITZ	**Fitzroy Crossi**	**39.25**	**256**	*e*P	**P**	**02 24 06.6**	**-0.3**
comp=Z,12nm,0.9s,mb4.6							
FITZ	**Fitzroy Crossi**	**39.25**	**256**	P	**P**	**02 24 05.5**	**-1.4**
comp=Z,7.6nm,0.9s,mb4.4,baz=93,slow=4.7,SNR=12							
FITZ				LR	LR	02 39 33.5	
comp=Z,204nm,21.1s,MS3.9,baz=165,slow=35							
PPT	**Papeete**	**43.56**	**103**	*e*S	**S**	**02 31 09.0**	**+0.1**
comp=Z,183nm,25.2s							
PPT				*e*LQ		02 35 02.0	
comp=Z,445nm,26.2s							
PPT				*e*LR	LR	02 36 53.5	
comp=Z,561nm,26.8s,baz=286							
PPT	**Papeete**	**43.56**	**103**	LR	LR	02 40 48.9	
comp=Z,434nm,18.0s,MS4.4,baz=8.3,slow=33							
NWAO	**Narrogin (SRO)**	**49.16**	**236**	LR	LR	02 46 47.9	
comp=Z,601nm,21.8s,MS4.5,baz=65,slow=37							
NWAO	**Narrogin (SRO)**	**49.16**	**236**	*e*P	**P**	**02 25 24.6**	**-1.5**
NWAO				pmax	pmax		
comp=Z,45nm,1.4s							
NWAO	**Narrogin (SRO)**	**49.16**	**236**	*e*P	**P**	**02 25 24.6**	**-1.4**
comp=Z,44nm,1.4s,mb5.3							
MJAR	**Matsushiro Arr**	**54.47**	**333**	P	**P**	**02 26 04.1**	**-1.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=172,slow=6.5,SNR=7.7							
MAJO	**Matsushiro**	**54.47**	**333**	*e*P	**P**	**02 26 04.8**	**-0.7**
MAJO				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
MAJO	**Matsushiro**	**54.47**	**333**	*e*P	**P**	**02 26 04.8**	**-0.7**
comp=Z,10nm,0.9s,mb4.8							
RKT	**Rikitea**	**57.39**	**110**	*e*LR	LR	02 43 10.5	
comp=Z,358nm,28.0s							
KSRS	**Korea Array**	**60.34**	**326**	P	**P**	**02 26 46.0**	**-0.9**
comp=Z,1.1nm,0.8s,mb3.9,baz=95,slow=31,SNR=5.0							
KSRS				PcP	PcP	02 27 33.5	+1.8
comp=Z,1.6nm,0.8s,baz=152,slow=5.5,SNR=4.2							
YSS	**Yuzh-Sakhalins**	**61.82**	**342⇑**	*e*P	**P**	**02 26 56.2**	**-0.5**
YSS				pmax	pmax		
comp=Z,9.0nm,1.2s,mb4.8							
NJ2	**Nanjing**	**62.42**	**316**	*e*P	**P**	**02 27 02.3**	**+1.2**
NJ2				AMB	AMB		
comp=Z,20nm,0.5s,mb5.5							
WHN	**Wuhan**	**64.77**	**312**	*e*P	**P**	**02 27 22.0**	**+5.4**
PETK	**Petropavlovsk-**	**64.82**	**355**	P	**P**	**02 27 16.3**	**-0.1**
comp=Z,5.6nm,1.0s,mb4.6,baz=139,slow=12,SNR=6.9							
CASY	**Casey**	**65.86**	**201**	*e*P	**P**	**02 27 22.7**	**-0.4**
comp=Z,18nm,1.3s,mb4.9							
CN2	**Changchun**	**66.22**	**329**	*e*P	**P**	**02 27 26.5**	**+0.8**
CN2				*e*S	S	02 36 15.0	+3.1
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb5.0							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,300nm,14.0s,MS4.8							
CN2				LR	LR		
comp=E,300nm,14.0s,MS4.8							
CN2				LR	LR		
comp=Z,200nm,16.0s,MS4.4							
SBA	**Scott Base**	**66.24**	**180**	*e*P	**P**	**02 27 26.0**	**+0.6**
SBA				pmax	pmax		
comp=Z,12nm,0.8s,mb5.0							
SBA	**Scott Base**	**66.24**	**180**	*e*P	**P**	**02 27 26.0**	**+0.6**
comp=Z,12nm,0.8s,mb5.0							
KLR	**Kul'dur**	**67.57**	**337**	*e*P	**P**	**02 27 29.2**	**-5.0**
PSI	**Prapat**	**67.95**	**278**	LR	LR	02 55 31.0	
comp=Z,219nm,19.5s,MS4.4,baz=270,slow=34							
GYA	**Guiyang**	**68.74**	**304**	*e*P	**P**	**02 27 45.0**	**+3.0**
GYA				PCP	PcP	02 28 09.5	+3.0
GYA				PP	PP	02 30 18.3	+4.0
GYA				S	S	02 36 48.0	+5.3
GYA				SS	SS	02 41 13.5	+5.1
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
GYA				AMB	AMB		
comp=Z,90nm,5.2s							
GYA				LR	LR		
comp=N,450nm,18.9s,MS4.9							
GYA				LR	LR		
comp=E,490nm,19.2s,MS4.9							
GYA				LR	LR		
comp=Z,470nm,18.7s,MS4.8							
BJI	**Beijing**	**68.92**	**321**	P	**P**	**02 27 42.8**	**0.0**
BJI				S	S	02 36 48.5	+4.1
BJI				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.7							
BJI				LR	LR		
comp=N,127nm,16.8s,MS4.4							
BJI				LR	LR		
comp=E,105nm,14.9s,MS4.4							
BJI				LR	LR		
comp=Z,165nm,24.7s							
XAN	**Xi'an**	**70.50**	**312**	P	**P**	**02 27 53.3**	**+0.6**
XAN				AMB	AMB		
comp=Z,6.0nm,0.8s,mb4.6							
XAN				AMB	AMB		
comp=Z,40nm,6.6s							
KMI	**Kunming**	**71.42**	**302**	P	**P**	**02 28 00.5**	**+2.0**
KMI				PP	PP	02 30 41.5	+4.0
KMI				S	S	02 37 19.0	+4.8
KMI				SS	SS	02 41 53.8	+4.1
KMI				AMB	AMB		
comp=Z,10.0nm,1.2s,mb4.6							
KMI				AMB	AMB		
comp=Z,92nm,3.2s							
KMI				LR	LR		
comp=N,116nm,20.1s,MS4.2							
KMI				LR	LR		
comp=E,75nm,21.1s,MS4.2							
KMI				LR	LR		
comp=Z,105nm,21.1s,MS4.1							
HHC	**Hu-ho-hao-te**	**72.26**	**320**	*e*P	**P**	**02 28 04.5**	**+1.3**
HHC				PP	PP	02 30 48.0	+3.6
HHC				S	S	02 37 26.5	+3.2
HHC				SCS	ScS	02 38 05.5	-1.0
HHC				SS	SS	02 42 07.0	+4.9
HHC				AMB	AMB		
comp=Z,12nm,0.8s,mb4.9							
HHC				AMB	AMB		
comp=Z,72nm,4.5s							
HHC				LR	LR		
comp=N,149nm,15.5s,MS4.5							
HHC				LR	LR		
comp=E,181nm,19.0s,MS4.5							
HHC				LR	LR		
comp=Z,155nm,21.4s,MS4.2							
CMAR	**Chiang Mai Arr**	**72.34**	**294**	P	**P**	**02 28 04.8**	**+0.6**
comp=Z,1.4nm,0.3s,mb4.3,baz=117,slow=4.5,SNR=9.3							
CHTO	**Chiang Mai**	**72.46**	**294**	*e*P	**P**	**02 28 05.7**	**+0.9**
CHTO				pmax	pmax		
comp=Z,12nm,1.3s,mb4.7							
CHTO	**Chiang Mai**	**72.46**	**294**	*e*P	**P**	**02 28 05.7**	**+0.9**
comp=Z,12nm,1.3s,mb4.7							
MIR	**Mirnyy**	**72.57**	**204⇓⇓**	*i*P	**P**	**02 28 05.5**	**+0.9**
MIR				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.7							
HIA	**Hailar**	**72.86**	**330**	*e*P	**P**	**02 28 05.8**	**-0.7**
CD2	**Chengdu**	**72.95**	**307**	*e*P	**P**	**02 28 08.3**	**+0.8**
CD2				PP	PP	02 30 52.8	+2.4
CD2				S	S	02 37 33.5	+2.0
CD2				SS	SS	02 42 16.5	+3.5
CD2				AMB	AMB		
comp=Z,20nm,0.7s,mb5.2							
CD2				AMB	AMB		
comp=Z,30nm,6.8s							
CD2				LR	LR		
comp=N,120nm,14.4s,MS4.5							
CD2				LR	LR		
comp=E,140nm,14.4s,MS4.5							
CD2				LR	LR		
comp=Z,130nm,14.4s,MS4.3							
LZH	**Lanzhou**	**75.14**	**312**	*e*P	**P**	**02 28 22.0**	**+1.8**
LZH				PP	PP	02 31 11.0	+2.0
LZH				*e*S	S	02 38 00.0	+4.1
LZH				AMB	AMB		
comp=Z,17nm,1.0s,mb4.9							
LZH				AMB	AMB		
comp=Z,69nm,4.1s							
LZH				LR	LR		
comp=E,187nm,16.8s							
LZH				LR	LR		
comp=Z,290nm,18.0s,MS4.6							
YAK	**Yakutsk**	**78.63**	**344⇑⇑**	*e*P	**P**	**02 28 37.9**	**-1.3**
YAK				pmax	pmax		
comp=Z,25nm,1.1s,mb5.1							
SVW2	**Sparrevohn**	**78.64**	**18**	*e*P	**P**	**02 28 38.3**	**-1.0**
ULN	**Ulaanbaatar**	**78.76**	**324⇑⇑**	*e*P	**P**	**02 28 41.5**	**+1.2**
ULN	**Ulaanbaatar**	**78.76**	**324**	*e*P	**P**	**02 28 41.0**	**+0.8**
comp=Z,12nm,0.9s,mb4.8							
SONM	**Songino Array**	**79.12**	**324**	P	**P**	**02 28 43.4**	**+1.1**
comp=Z,4.0nm,0.7s,mb4.4,baz=138,slow=6.3,SNR=20							
BILL	**Bilibino**	**79.44**	**0**	*e*P	**P**	**02 28 43.4**	**-0.1**
BILL				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.8							
GTA	**Gaotai**	**79.45**	**314**	*e*P	**P**	**02 28 45.5**	**+1.2**
GTA				S	S	02 38 49.0	+6.4
GTA				AMB	AMB		
comp=Z,13nm,1.2s,mb4.7							
GTA				AMB	AMB		
comp=Z,104nm,5.7s							
GTA				LR	LR		
comp=N,99nm,15.6s,MS4.4							
GTA				LR	LR		
comp=E,82nm,15.9s,MS4.4							
GTA				LR	LR		
comp=Z,130nm,16.5s,MS4.3							
ZAK	**Zakamensk**	**82.16**	**325**	*e*P	**P**	**02 28 58.7**	**+0.2**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4							
TLY	**Talaya**	**82.59**	**326**	*e*P	**P**	**02 29 01.2**	**+0.5**
TLY				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.7							
COLA	**College**	**83.81**	**18**	*e*P	**P**	**02 29 04.8**	**-1.9**
COLA				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.8							
COLA	**College**	**83.81**	**18**	*e*P	**P**	**02 29 04.8**	**-1.9**
comp=Z,6.0nm,0.7s,mb4.8							
MAW	**Mawson**	**84.21**	**202**	P	**P**	**02 29 07.9**	**-0.9**
comp=Z,3.4nm,1.0s,mb4.4,baz=51,slow=6.8,SNR=4.8							
MAW				LR	LR	03 00 20.2	
comp=Z,59nm,18.6s,MS4.0,baz=245,slow=31							
MAW	**Mawson**	**84.21**	**202**	P	**P**	**02 29 07.9**	**-0.9**
MAW				LR	LR	03 00 20.2	
CMB	**Columbia Colle**	**84.70**	**50**	*e*P	**P**	**02 29 12.0**	**+0.1**
comp=Z,0.1nm,0.7s							
HYT	**Haines Junctio**	**84.89**	**24**	*e*P	**P**	**02 29 12.9**	**+0.7**
EGAK	**Eagle**	**85.90**	**20**	*e*P	**P**	**02 29 16.4**	**-0.7**
comp=Z,7.1nm,0.9s,mb4.9							
DAWY	**Dawson**	**86.07**	**21**	*e*P	**P**	**02 29 17.1**	**-1.0**
NVAR	**Mina Array Bea**	**86.38**	**50**	P	**P**	**02 29 19.1**	**-1.1**
comp=Z,0.8nm,0.8s,mb4.0,baz=236,slow=8.7,SNR=5.6							
TIXI	**Tiksi**	**86.64**	**349**	*e*P	**P**	**02 29 19.5**	**-1.2**
TIXI				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.7							
WMQ	**Urumqi**	**89.49**	**315**	*e*P	**P**	**02 29 34.5**	**-0.4**
WMQ				AMB	AMB		
comp=Z,8.0nm,1.2s,mb4.9							
WMQ				LR	LR		
comp=N,595nm,28.6s							
WMQ				LR	LR		
comp=Z,371nm,28.0s,MS4.7							
HLID	**Hailey**	**90.66**	**46**	*e*P	**P**	**02 29 41.1**	**+0.7**
comp=Z,1.6nm,0.7s,mb4.5							
PDAR	**Pinedale Array**	**93.92**	**47**	P	**P**	**02 29 54.7**	**-0.8**
comp=Z,0.2nm,0.5s,mb3.8,baz=249,slow=2.5,SNR=3.2							
PDAR				LR	LR	03 08 13.5	
comp=Z,56nm,18.2s,MS4.1,baz=170,slow=33							
MKAR	**Makanchi Array**	**93.93**	**317**	P	**P**	**02 29 56.0**	**+0.6**
comp=Z,5.7nm,0.8s,mb5.0,baz=115,slow=5.8,SNR=30							
ZALV	**Zalesovo Beam**	**94.01**	**324**	P	**P**	**02 29 55.4**	**-0.2**
comp=Z,2.5nm,0.6s,mb4.8,baz=108,slow=3.8,SNR=9.0							
ZALV	**Zalesovo Beam**	**94.01**	**324**	P	**P**	**02 29 55.4**	**-0.2**
ZAL	**Zalesovo**	**94.02**	**324**	P	**P**	**02 29 55.4**	**-0.3**
ANMO	**Albuquerque**	**94.75**	**55**	LR	LR	03 02 20.5	
comp=Z,402nm,20.9s,MS4.9,baz=33,slow=29							
NVS	**Novosibirsk**	**95.12**	**325**	*e*P	**P**	**02 30 00.0**	**-0.7**
SMCO	**Snowmass**	**95.14**	**51**	*e*P	**P**	**02 30 01.1**	**0.0**
YKA	**Yellowknife Ar**	**95.47**	**27**	LR	LR	03 10 16.1	
comp=Z,44nm,18.2s,MS4.0,baz=215,slow=34							
TXAR	**Lajitas Array**	**96.09**	**61**	P	**P**	**02 30 07.5**	**+1.8**

FRF	**La Foret Royal**	**143.39**	**334**	*e*PKP1	PKPdf	02 36 08.5	-3.8
	comp=Z,81nm,1.2s						
SMRF	**Simiane la Rot**	**143.49**	**336**	*e*PKP1	PKPdf	02 36 09.6	-2.8
	comp=Z,54nm,1.1s						
LMR	**La Mourre**	**143.63**	**334**	*e*PKP1	PKPdf	02 36 09.6	-3.1
	comp=Z,202nm,1.5s						
RJF	**Les Rejaudoux**	**143.81**	**341**	*e*PKP1	PKPdf	02 36 10.3	-2.6
RJF				*e*MLR	MLR		
	comp=Z,50nm,22.2s,MS3.9						
RJF	**Les Rejaudoux**	**143.81**	**341**	*e*PKP	PKPdf	02 36 10.3	-2.6
RJF				LR	LR		
	comp=Z,50nm,22.3s,MS4.2						
CAF	**Calviac**	**143.97**	**340**	*e*PKP1	PKPdf	02 36 11.2	-2.0
	comp=Z,26nm,1.2s						
LASF	**Ste Croix**	**144.08**	**338**	*e*PKP1	PKPdf	02 36 11.7	-1.7
	comp=Z,71nm,1.0s						
LFF	**La Frestale**	**144.38**	**342**	*e*PKP1	PKPdf	02 36 12.3	-1.6
	comp=Z,25nm,0.8s						
MTLF	**Montolieu**	**145.31**	**339**	*e*PKP1	PKPbc	02 36 15.7	+0.3
	comp=Z,41nm,0.9s						
EPF	**Ésparros**	**146.22**	**341**	*e*PKP1	PKPbc	02 36 17.2	-1.0
	comp=Z,14nm,1.0s						
ETSF	**Etsaut**	**146.63**	**342**	*e*PKP1	PKPbc	02 36 19.6	+0.2
	comp=Z,29nm,1.2s						
KEST	**Kesra**	**147.86**	**322**	PKPbc	PKPbc	02 36 24.1	+1.0
	comp=Z,14nm,0.9s,baz=54,slow=3.1,SNR=27						
MVO	**Moncorvo**	**149.88**	**349**	*e*PKPbc	PKPbc	02 36 28.3	+0.2
PVIS	**Viseu**	**150.47**	**350**	*e*PKPbc	PKPbc	02 36 29.3	-0.2
ESDC	**Sonseca Array**	**150.59**	**344**	PKP	PKPdf	02 36 23.9	-0.5
	comp=Z,0.7nm,0.7s,baz=321,slow=3.8,SNR=4.7						
ESDC				PKPbc	PKPbc	02 36 30.1	+0.3
	comp=Z,4.2nm,0.9s,baz=16,slow=2.3,SNR=20						
MTE	**Manteigas**	**150.72**	**350**	*e*PKPbc	PKPbc	02 36 30.5	+0.4
MTE	**Manteigas**	**150.72**	**350**	*e*PKPab	PKPab	02 36 35.7	-1.3
PCBR	**Castelo Branco**	**151.25**	**349**	*e*PKPbc	PKPbc	02 36 31.6	+0.2
PTOM	**Tomar**	**151.62**	**350**	*e*PKPbc	PKPbc	02 36 32.4	+0.2
PMRV	**Marv??o**	**151.63**	**349**	*e*PKPbc	PKPbc	02 36 32.3	0.0
EVO	**Evora**	**152.62**	**349**	*e*PKP1	PKPbc	02 36 33.8	-0.7
	comp=Z,32nm,1.2s						
EVO				*e*MLR	MLR		
	comp=Z,44nm,22.7s,MS3.9						
EVO	**Evora**	**152.62**	**349**	*e*PKPbc	PKPbc	02 36 34.5	0.0
PBAR	**Barrancos**	**152.77**	**348**	*e*PKPab	PKPab	02 36 46.5	+0.9
PBEJ	**Beja**	**153.08**	**349**	*e*PKPbc	PKPbc	02 36 35.8	+0.2
PBEJ	**Beja**	**153.08**	**349**	*e*PKPab	PKPab	02 36 47.5	+0.6
PBDV	**Barranco-do-Ve**	**153.85**	**349**	*e*PKPab	PKPab	02 36 49.9	-0.3
MORF	**Marmelete**	**153.92**	**350**	*e*PKPbc	PKPbc	02 36 37.9	+0.5
TORD	**Torodi Ar. Bea**	**164.35**	**277**	PKP	PKPdf	02 36 41.6	-0.6
	comp=Z,3.8nm,1.0s,baz=355,slow=1.8,SNR=17						
DBIC	**Dimbokro**	**169.51**	**243**	PKP	PKPdf	02 36 46.0	-0.1
	comp=Z,3.9nm,0.9s,baz=129,slow=7.0,SNR=3.1						
DBIC	**Dimbokro**	**169.51**	**243**	PKP	PKPdf	02 36 46.0	-0.1

KISR ***31*** *02:19:54.4, 3174N×4849E, h33km, ML2.8*
THR ***31*** *02:19:55.4±0.7, 3140N×4773E, h14km±10km, ML3.3*
ISCJB ***31*** *02:19:57.8±2.5, 3158N±006×478E±02, h7km±20km, Error ellipse: s-maj=23.1km s-min=8.2km az=18.8*
CSEM ***31*** *02:19:57.9±0.1, 3161N×4782E, h10km, ML3.3, Error ellipse: s-maj=7.7km s-min=3.2km az=115.0*
ISC 31 02:19:57.9±2.9, 3156N±007×478E±02, h1km±22km, n10, σ0§65/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.04**	**58**	*e*Pg	**Pg**	**02 20 16.7**	**-1.1**
SHGR				*e*Sg	**Sg**	**02 20 32.4**	**+1.1**
SHGR				AML	AML	02 20 45.0	
	comp=N,616nm,0.4s						
SHGR				AML	AML	02 20 47.3	
	comp=E,781nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.04**	**58**	*e*Pg	**Pg**	**02 20 16.7**	**-1.1**
	SNR=91						
SHGR				*e*Sg	**Sg**	**02 20 32.4**	**+1.1**
	SNR=91						
MIB	**Mutribah**	**1.78**	**192**	*e*P	**Pn**	**02 20 30.0**	**+0.2**
MIB	**Mutribah**	**1.78**	**192**	*e*P	**Pn**	**02 20 30.1**	**+0.2**
	baz=207						
MIB				AML	AML	02 20 55.9	
	comp=Z,97nm,0.5s,baz=207						
NAY	**Al-Naaiem**	**2.34**	**191**	*e*P	**Pn**	**02 20 38.2**	**+0.7**
	baz=204						
NAY				*e*S	**Sb**	**02 21 10.5**	**+0.2**
	baz=204						
NAY				AML	AML	02 21 10.8	
	comp=Z,23nm,0.4s,baz=204						
RDF	**Al-Radifah**	**2.63**	**184**	*e*P	**Pn**	**02 20 40.8**	**-0.6**
	baz=196						
RDF				AML	AML	02 21 13.5	
	comp=Z,28nm,0.4s,baz=196						
ASAO	**Ashtian**	**3.54**	**32**	*e*Pn	**Pn**	**02 20 54.3**	**+0.3**
SNGE	**Sanandaj**	**3.54**	**354**	*e*Pn	**Pn**	**02 20 54.1**	**+0.1**
SNGE				AML	AML	02 21 47.1	
	comp=N,48nm,0.6s						
GHVR	**GHOM**	**4.16**	**45**	*e*Pn	**Pn**	**02 21 02.5**	**0.0**
NASN	**Na'in**	**4.45**	**72**	*e*Pn	**Pn**	**02 21 05.6**	**-0.9**

THR ***31*** *02:32:34.6±0.3, 3134N×4770E, h14km±5km, ML3.1*
KISR ***31*** *02:32:37.0, 3174N×4774E, h40km, ML2.5*
CSEM ***31*** *02:32:37.0±0.1, 3162N×4777E, h2km, ML2.5, Error ellipse: s-maj=5.5km s-min=2.0km az=111.0*
ISCJB ***31*** *02:32:40.5±0.9, 3159N±007×479E±02, h80km±22km, Error ellipse: s-maj=25.0km s-min=7.6km az=24.4*
ISC 31 02:32:41.7±0.9, 3158N±008×479E±02, h70km±28km, n11, σ1§02/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.96**	**56**	*e*Pg	**Pn**	**02 32 56.9**	**-2.7**
SHGR				*e*Sg	**Sn**	**02 33 13.4**	**+0.4**
SHGR				AML	AML	02 33 17.8	
	comp=E,377nm,0.5s						
SHGR				AML	AML	02 33 24.9	
	comp=N,337nm,0.9s						
SHGR	**Shooshtar-Gavs**	**0.96**	**56**	*e*Pg	**Pn**	**02 32 56.9**	**-2.8**
	SNR=90						
SHGR				*e*Sg	**Sn**	**02 33 13.4**	**+0.4**
	SNR=90						
MIB	**Mutribah**	**1.82**	**194**	*e*P	**Pn**	**02 33 10.2**	**-0.8**
MIB				*e*S	**Sn**	**02 33 35.1**	**+1.9**
MIB	**Mutribah**	**1.82**	**194**	*e*P	**Pn**	**02 33 10.2**	**-0.8**
	baz=190						
MIB				*e*S	**Sn**	**02 33 35.1**	**+1.9**
	baz=190						
MIB				AML	AML	02 33 36.2	
	comp=Z,43nm,0.4s,baz=190						
UMR	**Umm Al-Rimmam**	**2.02**	**184**	*e*P	**Pn**	**02 33 13.2**	**-0.4**
RST	**Umm Al-Ruwaisa**	**2.20**	**200**	*e*P	**Pn**	**02 33 15.0**	**-1.0**
NAY	**Al-Naaiem**	**2.38**	**193**	*e*P	**Pn**	**02 33 18.8**	**+0.3**
	baz=190						
NAY				AML	AML	02 33 50.0	
	comp=Z,9.0nm,0.4s,baz=190						
RDF	**Al-Radifah**	**2.66**	**186**	*e*P	**Pn**	**02 33 22.1**	**-0.1**
	baz=183						
RDF				AML	AML	02 34 00.5	
	comp=Z,26nm,0.5s,baz=183						
ASAO	**Ashtian**	**3.48**	**31**	*e*Pn	**Pn**	**02 33 34.4**	**+1.1**
SNGE	**Sanandaj**	**3.53**	**353**	*e*Pn	**Pn**	**02 33 34.3**	**+0.2**
NASN	**Na'in**	**4.37**	**72**	*e*Pn	**Pn**	**02 33 45.8**	**+0.3**

IDC ***31*** *02:44:54.3±1.2, 2795×12955E, h0km, mb4.1/7, mb1 4.4/10, mb1mx4.1/20, mbtmp4.2/10, ML4.2/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/33, Error ellipse: s-maj=40.0km s-min=20.0km az=69.0*
NEIC ***31*** *02:44:55.2±10.0, 275S×12965E, h7km±64km, mb4.1/1, Error ellipse: s-maj=34.4km s-min=10.6km az=223.0*
DJA ***31*** *02:44:59, 271S×12934E, h20km, ML4.1/3*
ISCJB ***31*** *02:45:02.7±2.5, 31S±0.1×1295E±02, h94km±21km, mb3.9/6, Error ellipse: s-maj=32.5km s-min=7.6km az=147.5*
ISC 31 02:45:01.0±2.2, 29S±01×1296E±01, h57km±20km, n17, σ0§75/19, mb4.1/7, 2C, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.59**	**242⇑**	*e*P	**Sn**	**02 45 47.0**	**+0.7**
AAI	**Ambon**	**1.59**	**242⇑**	*e*P	**Sn**	**02 45 47.0**	**+0.7**
KAPI	**Kappang**	**10.04**	**258**	Pn	**Pn**	**02 47 21.7**	**-0.9**
	1.0nm,0.3s,baz=96,slow=5.9,SNR=7.5						
KAPI				LR	LR	02 51 30.7	
	comp=Z,202nm,20.6s,baz=249,slow=40						
KAKA	**Kakadu**	**10.11**	**164**	*e*P	**Pn**	**02 47 23.7**	**+0.3**
	9.8nm,0.5s						
KAKA				*e*S	**Sn**	**02 49 14.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**15.56**	**194**	*e*P	**Pn**	**02 48 38.6**	**+1.7**
	5.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**15.56**	**194**	Pn	**Pn**	**02 48 36.3**	**-0.5**
	0.9nm,0.3s,baz=14,slow=13,SNR=15						
FITZ				LR	LR	02 53 57.2	
	comp=Z,47nm,21.2s,baz=254,slow=35						
WRA	**Warramunga Arr**	**17.52**	**165**	*e*P	**Pn**	**02 49 01.6**	**+0.2**
	1.1nm,0.3s,baz=350,slow=13,SNR=42						
WRA				S	**Sn**	**02 52 08.2**	**-7.6**
	0.2nm,0.3s,baz=342,slow=22,SNR=3.5						
WB2	**Warramunga Arr**	**17.52**	**165**	*e*P	**Pn**	**02 49 01.1**	**-0.3**
WB2				*e*S	**Sn**	**02 52 10.0**	**-5.9**
ASAR	**Alice Springs**	**21.02**	**169**	P	**P**	**02 49 41.4**	**+1.3**
	20nm,0.7s,mb4.6,baz=346,slow=10,SNR=165						
ASAR				S	**S**	**02 53 30.9**	**-0.2**
	3.2nm,0.8s,baz=348,slow=20,SNR=9.8						
PSI	**Prapat**	**31.19**	**280**	P	**P**	**02 51 13.8**	**-1.3**
	7.3nm,0.8s,mb4.6,baz=115,slow=3.1,SNR=6.8						
CMAR	**Chiang Mai Arr**	**36.93**	**306**	P	**P**	**02 52 04.5**	**-0.2**
	0.9nm,0.3s,mb4.0,baz=119,slow=9.4,SNR=4.1						
MKAR	**Makanchi Array**	**64.65**	**326**	P	**P**	**02 55 32.4**	**-0.4**
	0.4nm,0.4s,mb3.8,baz=129,slow=6.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**67.80**	**333**	P	**P**	**02 55 53.0**	**+0.2**
	1.7nm,0.7s,mb4.2,baz=132,slow=6.3,SNR=3.6						
KURK	**Kurchatov**	**68.88**	**328**	P	**P**	**02 55 60.0**	**+0.3**
	1.2nm,0.7s,mb4.0,baz=129,slow=5.8,SNR=7.2						
BVAR	**Borovoye Array**	**74.44**	**327**	P	**P**	**02 56 33.6**	**+0.6**
	0.3nm,0.4s,mb3.6,baz=118,slow=5.7,SNR=3.0						
CPUP	**Villa Florida**	**150.14**	**167**	PKPbc	PKPbc	03 04 49.0	+2.7
	0.6nm,0.5s,baz=0.0,slow=3.0,SNR=3.2						
CPUP	**Villa Florida**	**150.14**	**167**	PKPbc	PKPbc	03 04 49.0	+2.7

MAN 31 02:45:08, 1352N×12157E, h2km, mb3.8, ML2.6, MS2.2, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBPH	**Los Banos**	**0.73**	**329⇑**	*e*P	Pg	02 45 26.6	+4.5
SJMP	**San Jose**	**1.14**	**203**	*e*P	Pg	02 45 32.6	+2.7
OTRP	**Odiongan**	**1.23**	**159**	*e*P	Pg	02 45 31.7	0.0
OTRP				*e*S	Sg	02 45 49.5	+1.8
POLP	**Polilio Island**	**1.25**	**17**	*e*P	Pg	02 45 31.9	-0.1
POLP				*e*S	Sg	02 45 50.6	+2.3
LUBP	**Lubang**	**1.30**	**279**	*e*P	Pg	02 45 33.4	+0.3
LUBP				*e*S	Sg	02 45 51.0	+1.0
NBP	**Mount Natib**	**1.65**	**317**	*e*P	Pn	02 45 38.2	+0.1

NIED ***31*** *02:48:00, 4690N×15280E, h32km, Mw4.0 Best double couple: M0 1.18000×10^15 NP1:φ=129.00000°, δ=86.00000°, λ=-16.00000°. NP2:φ=220.00000°, δ=74.00000°, λ=-176.00000°.*
SKHL ***31*** *02:48:34.5±2.4, 4660N×153.10E, h39km±8km, mb5.0/4*
ISCJB ***31*** *02:48:37.8±0.8, 4678N±007×15280E±008, h60km±8km, mb4.1/23, MS3.9/1, Error ellipse: s-maj=13.5km s-min=6.5km az=144.4*
JMA ***31*** *02:48:37.9±0.8, 4695N×15282E, h30km, M4.8*
MOS ***31*** *02:48:39.3±1.0, 4696N×15276E, h69km, mb4.2/4, Error ellipse: s-maj=13.4km s-min=9.6km az=63.1*
IDC ***31*** *02:48:42.0±2.7, 4695N×15277E, h75km±23km, mb3.8/16, mb1 4.0/19, mb1mx3.9/27, mbtmp3.8/19, MS3.2/4, Ms1 3.2/4, ms1mx3.0/41, Error ellipse: s-maj=17.4km s-min=13.4km az=137.0*
BJI ***31*** *02:48:42.2, 4700N×15280E, h77km, mB4.3, mb4.4*
NEIC ***31*** *02:48:42.2±1.1, 4698N×15279E, h78km±9km, mb4.2/3, Error ellipse: s-maj=9.6km s-min=6.3km az=146.0*
ISC 31 02:48:40.1±0.7, 4681N±007×15277E±009, h62km±7km, n77, σ1§29/85, mb4.1/23, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.76**	**247⇑**	*i*PN	**Pn**	**02 49 33.8**	**-1.7**
KUR				*e*S	**Sn**	**02 50 16.5**	**-1.9**
KUR				pmax	pmax		
	comp=N,160nm,0.4s						
KUR				pmax	pmax		
	comp=E,80nm,0.4s						
KUR				pmax	pmax		
	comp=Z,200nm,0.4s						
KUR				smax			
	comp=N,910nm,0.5s						
KUR				smax			
	comp=E,230nm,0.5s						
KUR				smax			
	comp=N,2μm,1.0s						
KUR	**Kuril'sk**	**3.76**	**247⇑**	*i*P	**Pn**	**02 49 33.8**	**-1.7**
KUR				AMB	AMB	02 49 35.5	
	comp=N,163nm,0.4s						
KUR				AMB	AMB	02 49 35.5	
	comp=N,82nm,0.4s						
KUR				AMB	AMB	02 49 35.5	
	comp=N,204nm,0.4s						
KUR				*e*S	**Sn**	**02 50 16.5**	**-1.9**
KUR				A		02 50 36.0	
	comp=N,2μm,1.0s						
KUR				A		02 50 36.0	
	comp=N,1μm,1.0s						
KUR				A		02 50 36.0	
	comp=N,912nm,0.5s						
KUR				A		02 50 36.0	
	comp=N,228nm,0.5s						
SKR	**Severo-Kuril's**	**4.47**	**29**	*e*PN	**Pn**	**02 49 44.6**	**-0.6**
SKR				*e*S	**Sn**	**02 50 31.6**	**-4.2**
SKR				pmax	pmax		
	comp=Z,50nm,0.7s						
SKR				pmax	pmax		
	comp=N,20nm,0.3s						
SKR				smax			
	comp=N,200nm,0.4s						
SKR				smax			
	comp=E,410nm,0.2s						
SKR	**Severo-Kuril's**	**4.47**	**29**	*e*P	**Pn**	**02 49 44.6**	**-0.6**
SKR				AMB	AMB	02 49 47.0	
	comp=E,20nm,0.3s						
SKR				AMB	AMB	02 49 47.0	
	comp=E,50nm,0.7s						
SKR				*e*S	**Sn**	**02 50 31.6**	**-4.2**
SKR				A		02 50 36.1	
	comp=E,410nm,0.2s						
SKR				A		02 50 36.1	
	comp=E,200nm,0.4s						
SKR				A		02 50 36.1	
	comp=E,40nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.59**	**243**	*e*PN	**Pn**	**02 50 02.3**	**+1.7**
YUK				*i* S	**Sn**	**02 51 10.0**	**+6.5**
YUK				pmax	pmax		
	comp=Z,310nm,0.3s						
YUK				smax			
	comp=E,420nm,0.5s						
YUK				smax			
	comp=N,350nm,0.3s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.59**	**243**	*e*P	**Pn**	**02 50 02.3**	**+1.7**
YUK				AMB	AMB	02 50 03.5	
	comp=E,310nm,0.3s						
YUK				*i* S	**Sn**	**02 51 10.0**	**+6.5**
YUK				A		02 51 26.7	
	comp=E,2μm,1.0s						
YUK				A		02 51 26.7	
	comp=E,2μm,0.8s						
YUK				A		02 51 26.7	
	comp=E,350nm,0.2s						
YUK				A		02 51 26.7	
	comp=E,420nm,0.5s						
NEM2	**Nemuro 2**	**6.05**	**238**	P	**Pn**	**02 50 05.6**	**-1.2**
NEM2				*e*S	**Sn**	**02 51 10.2**	**-4.4**
JRA	**Rausu**	**6.10**	**245**	P	**Pn**	**02 50 09.4**	**+1.8**
JNK	**Nakash**	**6.53**	**243**	P	**Pn**	**02 50 14.7**	**+1.2**
JTKR	**Abashiri--Toko**	**6.85**	**249**	P	**Pn**	**02 50 19.9**	**+2.1**
YSS	**Yuzh-Sakhalins**	**6.86**	**275**	*e*PN	**Pn**	**02 50 21.0**	**+3.0**
YSS				*e*S	**Sn**	**02 51 37.8**	**+3.2**
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,20.0s						
YSS	**Yuzh-Sakhalins**	**6.86**	**275**	*e*P	**Pn**	**02 50 21.0**	**+3.0**
YSS				AMB	AMB	02 50 22.6	
	comp=Z,30nm,1.0s						
YSS				AMB	AMB	02 50 22.6	
	comp=Z,60nm,1.0s						
YSS				*e*S	**Sn**	**02 51 37.8**	**+3.2**
YSS				AMS	AMS	02 52 44.0	
	comp=Z,500nm,20.0s						
JAK	**Akkeshi**	**6.88**	**239**	P	**Pn**	**02 50 17.7**	**-0.5**
JAK				*e*S	**Sn**	**02 51 31.8**	**-3.2**
PETK	**Petropavlovsk-**	**7.06**	**25**	P	**Pn**	**02 50 20.0**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=187,slow=10,SNR=12						
PETK				LR	LR	02 53 32.0	
	comp=Z,59nm,19.3s,baz=33,slow=42						
JMP	**Maruseppu**	**7.19**	**250**	P	**Pn**	**02 50 25.3**	**+2.9**
JAR	**Ashorobuto**	**7.27**	**244**	P	**Pn**	**02 50 24.8**	**+1.2**
JAR				*e*S	**Sn**	**02 51 44.3**	**-0.4**
JOB	**Onbets**	**7.45**	**242**	P	**Pn**	**02 50 25.9**	**-0.1**
JOB				*e*S	**Sn**	**02 51 46.7**	**-2.3**
ASAJ	**Asahikawa**	**7.64**	**253**	P	**Pn**	**02 50 32.0**	**+3.5**
	comp=Z,5.1nm,0.3s,baz=75,slow=13,SNR=17						
ASAJ				LR	LR	02 53 05.7	
	comp=Z,142nm,20.4s,baz=241,slow=34						
JKK2	**Kamakawa 2**	**7.64**	**251**	P	**Pn**	**02 50 31.3**	**+2.6**
JCH	**Churui**	**7.90**	**241**	P	**Pn**	**02 50 31.6**	**-0.6**
JCH				*e*S	**Sn**	**02 51 56.1**	**-3.9**
JEM	**Erimo**	**8.38**	**239**	P	**Pn**	**02 50 38.9**	**+0.2**
JBT2	**Biratori 2**	**8.42**	**245**	P	**Pn**	**02 50 39.9**	**+0.6**
JNBK	**Urakawa-nobuka**	**8.46**	**241**	P	**Pn**	**02 50 38.6**	**-1.2**
JKB	**Kayabe**	**9.73**	**244**	P	**Pn**	**02 50 56.4**	**-0.9**
JSH	**Shimam**	**9.96**	**250**	P	**Pn**	**02 51 01.7**	**+1.3**
JTM	**Tenmabayashi**	**10.37**	**239**	P	**Pn**	**02 51 03.3**	**-2.7**
JANG	**Nango**	**10.38**	**236**	P	**Pn**	**02 51 02.3**	**-3.8**
JTH	**Tanohata**	**10.49**	**233**	*e*S	**Sn**	**02 52 52.3**	**-11**
OFUJ	**Ofunato**	**11.21**	**230**	*e*S	**Sn**	**02 53 10.3**	**-11**
JRG	**Rokugo**	**11.54**	**234**	P	**Pn**	**02 51 19.5**	**-2.5**
JIO	**Ouri**	**11.84**	**229**	*e*S	**Sn**	**02 53 24.9**	**-11**
KLR	**Kul'dur**	**14.27**	**287**	*e*P	**Pn**	**02 52 03.0**	**+4.3**
MJAR	**Matsushiro Arr**	**14.93**	**232**	P	**Pn**	**02 52 11.2**	**+3.9**
	comp=Z,0.7nm,0.3s,baz=40,slow=9.4,SNR=8.5						
MJAR				LR	LR	02 56 58.3	
	comp=Z,81nm,20.3s,baz=220,slow=33						
MJAR	**Matsushiro Arr**	**14.93**	**232**	P	**Pn**	**02 52 11.2**	**+3.9**
MJAR				LR	LR	02 56 58.3	
KSRS	**Korea Array**	**20.59**	**252**	P	**P**	**02 53 15.3**	**+1.5**
	comp=Z,3.8nm,0.6s,baz=62,slow=8.7,SNR=10.0						
KSRS	**Korea Array**	**20.59**	**252**	P	**P**	**02 53 15.4**	**+1.6**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BILL	**Bilibino**	**22.39**	**13**	*e*P	**P**	**02 53 35.4**	**+2.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.7						
ULN	**Ulaanbaatar**	**30.66**	**289⇑**	*e*P	**P**	**02 54 43.0**	**-5.4**
SONM	**Songino Array**	**31.09**	**289**	P	**P**	**02 54 53.1**	**+0.9**
	comp=Z,0.4nm,0.5s,mb3.5,baz=75,slow=8.6,SNR=2.6						
IMA2	**Indian Mountai**	**33.90**	**36**	*e*P	**P**	**02 55 16.7**	**+0.2**
XAN	**Xi'an**	**35.28**	**265**	P	**P**	**02 55 29.8**	**+0.9**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
EGAK	**Eagle**	**39.10**	**38**	*e*P	**P**	**02 56 00.3**	**-0.6**
	comp=Z,4.5nm,0.8s,mb4.2						
INK	**Inuvik**	**41.73**	**32**	P	**P**	**02 56 21.7**	**-0.8**
	comp=Z,4.2nm,0.7s,mb4.2,baz=279,slow=6.7,SNR=17						
INK	**Inuvik**	**41.73**	**32**	P	**P**	**02 56 21.7**	**-0.8**
ZALV	**Zalesovo Beam**	**42.38**	**306**	P	**P**	**02 56 26.9**	**-1.1**
	comp=Z,1.1nm,0.4s,mb3.9,baz=62,slow=5.4,SNR=4.1						
ZAL	**Zalesovo**	**42.40**	**306**	P	**P**	**02 56 26.9**	**-1.2**
MKAR	**Makanchi Array**	**46.70**	**297**	P	**P**	**02 57 02.0**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=84,slow=6.2,SNR=3.8						
MKAR				PcP	PcP	02 58 35.0	0.0
	comp=Z,0.8nm,0.6s,baz=64,slow=3.4,SNR=4.6						
KURK	**Kurchatov**	**47.13**	**303**	P	**P**	**02 57 06.1**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=71,slow=8.5,SNR=7.3						
KURK	**Kurchatov**	**47.13**	**303**	P	**P**	**02 57 06.1**	**+0.3**
BVAR	**Borovoye Array**	**50.64**	**309**	P	**P**	**02 57 32.0**	**-0.6**
	comp=Z,0.5nm,0.3s,mb3.9,baz=52,slow=9.3,SNR=2.7						
BVAR				PcP	PcP	02 58 48.8	-0.4
	comp=Z,1.1nm,0.4s,baz=66,slow=5.0,SNR=4.9						
YKA	**Yellowknife Ar**	**51.02**	**37**	PcP	PcP	02 58 50.4	-0.1
	comp=Z,1.1nm,0.6s,baz=304,slow=3.2,SNR=5.3						
CMAR	**Chiang Mai Arr**	**52.15**	**256**	P	**P**	**02 57 45.8**	**+1.5**
	comp=Z,1.3nm,0.4s,mb4.2,baz=39,slow=7.8,SNR=7.7						
ARCES	**ARCESS Array B**	**57.72**	**341**	P	**P**	**02 58 23.3**	**-0.5**
	comp=Z,1.7nm,0.9s,mb4.1,baz=36,slow=7.3,SNR=6.8						
ARCES	**ARCESS Array B**	**57.72**	**341**	P	**P**	**02 58 23.3**	**-0.5**
CHMT	**Chamberlain Mo**	**60.24**	**52**	*e*P	**P**	**02 58 41.6**	**0.0**
JOF	**Joensuu**	**61.18**	**334**	*e*p	**P**	**02 58 47.4**	**-0.3**
	comp=Z,0.6nm,0.4s,mb4.1						
NVAR	**Mina Array Bea**	**62.62**	**62**	P	**P**	**02 58 58.0**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.9,baz=289,slow=8.5,SNR=5.9						
KAF	**Kangasniemi**	**63.29**	**335**	*e*p	**P**	**02 59 01.5**	**-0.3**
	comp=Z,1.0nm,0.3s,mb4.4						
KAF	**Kangasniemi**	**63.29**	**335**	*e*P	**P**	**02 59 01.5**	**-0.3**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
FINES	**FINESS Array B**	**63.89**	**335**	*e*P	**P**	**02 59 04.1**	**-1.7**
TPNV	**Topopah Spring**	**64.82**	**62**	*e*P	**P**	**02 59 12.4**	**+0.1**
TPNV				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
TPNV	**Topopah Spring**	**64.82**	**62**	*e*P	**P**	**02 59 12.4**	**+0.2**
	comp=Z,0.9nm,0.6s,mb4.0						
NB2	**NORSAR Subarra**	**68.10**	**341**	P

2.5nm,0.7s,mb3.9,baz=348,slow=9.3,SNR=4.5
WRA Warramunga Arr 29.90 164 P **P 03 00 47.8 -2.9**
0.8nm,0.5s,mb3.7,baz=347,slow=9.4,SNR=6.1
ASAR Alice Springs 33.35 166 P **P 03 01 19.9 -1.1**
0.7nm,0.5s,mb3.8,baz=349,slow=6.8,SNR=9.4
MKAR Makanchi Array 52.82 324 P **P 03 03 58.0 -0.2**
0.4nm,0.6s,mb3.5,baz=124,slow=7.6,SNR=4.0
KURK Kurchatov 56.91 326 P **P 03 04 27.3 -0.5**
0.3nm,0.5s,mb3.6,baz=126,slow=7.6,SNR=3.3

MAN 31 03:01:46,982N×12444E,h22km,mb4.5,ML3.4,MS3.3, 1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.52**	**53**	*e*P	Pb	03 01 57.4	+1.0
MSLP				*e*S	Sb	03 02 07.2	+3.8
TBP	**Tagbilaran**	**0.59**	**257**	*i* P	Pb	03 01 57.4	-0.2
TBP				*i* S	Sb	03 02 06.1	+0.6
LLP	**Lapu-Lapu**	**0.68**	**316**	⇓*i*P	Pb	03 02 00.2	+1.0
LLP				*i* S	Sb	03 02 11.2	+3.1
SCPH	**Surigao**	**1.03**	**92**	⇑*e*P	Pn	03 02 03.4	-1.8
OCLP	**Ormoc**	**1.23**	**8**	*e*P	Pn	03 02 11.0	+3.1
SNPH	**Sibulan**	**1.28**	**248**	*i* P	Pn	03 02 08.5	-0.1
PLP	**Palo**	**1.44**	**22**	⇓*e*P	Pn	03 02 13.3	+2.6
PLP				*e*S	Sn	03 02 33.4	+4.5
GUIM	**Jordan**	**1.99**	**294**	*e*P	Pn	03 02 20.2	+1.9
GUIM				*e*S	Sn	03 02 48.1	+5.4
PAGZ	**Pagadian**	**2.22**	**208**	*e*P	Pn	03 02 21.8	+0.2
RCP	**Roxas**	**2.40**	**316**	⇓*e*P	Pn	03 02 26.7	+2.7
RCP				*e*S	Sn	03 02 57.6	+4.8
IPIL	**Ipil**	**2.74**	**223**	*e*P	Pn	03 02 31.5	+2.9

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*MOS **31** 03:04:24.2±1.4,880N×12573E,h33km,mb5.0/4, Error ellipse: s-maj=25.7km s-min=14.6km az=101.8*
*MAN **31** 03:04:25,886N×12574E,h13km,mb5.0,ML3.9,MS4.0*
MAN INTENSITY IV - BUTUAN CITY; INTENSITY III - SOCORRO, SURIGAO DEL SUR; INTENSITY II - CABADBARAN, SDS.
*IDC **31** 03:04:27.7±2.4,879N×12583E,h49km±24km,mb4.2/15, mb1 4.4/17,mb1mx4.3/22,mbtmp4.3/17,ML4.3/2,MS3.8/14, Ms1 3.8/14,ms1mx3.5/34,Error ellipse: s-maj=20.6km s-min=11.6km az=79.0*
*ISCJB **31** 03:04:27.1±0.5,882N±003×12573E±005,h58km±5km, mb4.4/25,MS3.8/12,Error ellipse: s-maj=8.9km s-min=4.3km az=167.2*
*NEIC **31** 03:04:28.8±1.5,878N×12576E,h56km±14km,mb4.7/7, Error ellipse: s-maj=14.5km s-min=7.7km az=81.0*
NEIC Felt [IV PIVS] at Bayugan and Butuan; [II PIVS] at Cabadbaran and Davao.
*DJA **31** 03:04:37,827N×12584E,h84km,mb4.9/5*
ISC 31 03:04:27.9±0.6,883N±003×12576E±006,h48km±6km,n71, σ1°09/77,mb4.4/25,MS3.8/12,1C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.20**	**317**	*e*P	Pn	03 04 30.2	-5.8
BUTP				*e*S	Sn	03 04 35.7	-6.1
SCPH	**Surigao**	**0.99**	**344**	⇑*e*P	Pn	03 04 43.0	-2.4
SCPH				*e*S	Sn	03 05 00.2	+2.0
BUKP	**Musuan**	**1.17**	**216**	*e*P	Pn	03 04 46.4	-1.4
BUKP				*e*S	Sn	03 05 03.5	+0.9
MSLP	**Maasin**	**1.57**	**326**	*e*P	Pn	03 04 51.4	-2.0
DMPH	**Davao City--Mi**	**1.75**	**188**	⇓*i*P	Pn	03 04 56.1	+0.4
DMPH				*i* S	Sn	03 05 19.9	+3.1
DAV	**Davao City (W)**	**1.75**	**186**	P	Pn	03 04 55.4	-0.5
	238nm,0.3s,baz=290,slow=6.2,SNR=11						
DAV				S	Sn	03 05 12.7	-4.3
	448nm,0.3s,baz=105,slow=20,SNR=13						
KCP	**Kidapawan**	**1.92**	**200**	⇓*i*P	Pn	03 04 58.4	+0.3
KCP				*i* S	Sn	03 05 25.0	+3.9
MATI	**Mati**	**1.93**	**165**	*e*P	Pn	03 04 57.3	-1.0
MATI				*e*S	Sn	03 05 23.6	+2.3
TBP	**Tagbilaran**	**2.06**	**295**	*e*P	Pn	03 04 58.9	-1.1
TBP				*e*S	Sn	03 05 25.8	+1.3
CTBH	**Cotabato--PC H**	**2.19**	**223**	*e*P	Pn	03 05 00.8	-1.0
CTBH				*i* S	Sn	03 05 32.0	+4.4
LLP	**Lapu-Lapu**	**2.31**	**310**	⇓*i*P	Pn	03 05 02.6	-0.8
LLP				*e*S	Sn	03 05 31.2	+0.6
PLP	**Palo**	**2.45**	**342**	⇓*e*P	Pn	03 05 05.5	+0.1
PLP				*e*S	Sn	03 05 42.2	+8.1
OCLP	**Ormoc**	**2.48**	**333**	*e*P	Pn	03 05 05.9	0.0
PAGZ	**Pagadian**	**2.54**	**248**	*e*P	Pn	03 05 06.9	+0.3
PAGZ				*e*S	Sn	03 05 40.8	+4.4
SNPH	**Sibulan**	**2.54**	**282**	*e*P	Pn	03 05 05.5	-1.1
BESP	**Borongan**	**2.78**	**354**	*e*P	Pn	03 05 13.4	+3.6
BESP				*e*S	Sn	03 05 51.6	+9.4
GSPH	**General Santos**	**2.84**	**196**	*e*P	Pn	03 05 18.4	+7.7
GUIM	**Jordan**	**3.60**	**300**	*e*P	Pn	03 05 20.7	-0.4
CNP	**Catarman**	**3.82**	**344**	*e*P	Pn	03 05 26.5	+2.4
RCP	**Roxas**	**4.02**	**313**	⇓*e*P	Pn	03 05 26.6	-0.3
ENPP	**El Nido**	**6.67**	**291**	*e*P	Pn	03 06 02.6	-0.7
KAPI	**Kappang**	**14.99**	**204**	P	Pn	03 07 57.4	+0.6
	0.3nm,0.3s,baz=25,slow=9.2,SNR=7.7						
JOW	**Kunigami**	**18.07**	**7**	P	Pn	03 08 38.1	+2.7
	1.4nm,0.3s,baz=213,slow=7.3,SNR=5.6						
JOW				LR	LR	03 14 37.8	
	comp=Z,238nm,21.5s,baz=283,slow=34						
BATI	**Baumata**	**19.02**	**186**	P	Pn	03 08 45.6	-1.4
	4.8nm,0.3s,baz=168,slow=0.7,SNR=5.1						
GUMO	**Guam**	**19.33**	**74**	LR	LR	03 14 43.6	
	comp=Z,190nm,19.0s,baz=263,slow=32						
KAKA	**Kakadu**	**22.40**	**163**	*e*P	P	03 09 22.9	+0.5
	36nm,0.8s,mb4.9						
CBIJ	**Chichi jima**	**23.91**	**38**	P	P	03 09 36.7	-0.7
	52nm,0.5s,mb5.3,baz=265,slow=9.5,SNR=7.2						
CBIJ				LR	LR	03 16 28.4	
	comp=Z,142nm,21.8s,MS3.4,baz=5.1,slow=30						
FITZ	**Fitzroy Crossi**	**26.75**	**180**	*e*P	P	03 10 02.1	-1.1
	14nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**26.75**	**180**	P	P	03 10 01.3	-1.9
	6.9nm,0.7s,mb4.3,baz=19,slow=13,SNR=12						
PSI	**Prapat**	**27.34**	**259**	P	P	03 10 08.3	-0.3
	13nm,1.1s,mb4.3,baz=26,slow=1.8,SNR=5.0						
PSI				LR	LR	03 20 38.3	
	comp=Z,202nm,19.8s,MS3.7,baz=113,slow=35						
PSI	**Prapat**	**27.34**	**259**	P	P	03 10 08.3	-0.3
PSI				LR	LR	03 20 38.3	
JHJ	**Hachijo jima 2**	**27.43**	**26**	LR	LR	03 18 25.9	
	comp=Z,175nm,22.0s,MS3.6,baz=60,slow=30						
CMAR	**Chiang Mai Arr**	**27.73**	**293**	P	P	03 10 13.5	+1.6
	1.0nm,0.3s,mb3.9,baz=120,slow=8.4,SNR=4.2						
KSRS	**Korea Array**	**28.57**	**4**	P	P	03 10 19.5	+0.3
	1.6nm,0.6s,mb3.9,baz=186,slow=10,SNR=6.3						
KSRS				LR	LR	03 20 36.6	
	comp=Z,112nm,20.6s,MS3.5,baz=43,slow=34						
WRA	**Warramunga Arr**	**29.81**	**164**	P	P	03 10 30.0	-0.4
	3.7nm,0.7s,mb4.2,baz=343,slow=9.4,SNR=20						
WRA				LR	LR	03 23 21.9	
	comp=Z,77nm,19.1s,MS3.4,baz=235,slow=38						
WB2	**Warramunga Arr**	**29.81**	**164**	*e*P	P	03 10 30.0	-0.4
WB2				*e*	pP	03 10 43.2	+0.2
MJAR	**Matsushiro Arr**	**29.82**	**20**	P	P	03 10 28.8	-1.6
	3.6nm,0.7s,mb4.2,baz=192,slow=9.4,SNR=10.0						
ASAR	**Alice Springs**	**33.26**	**166**	P	P	03 11 00.1	-0.6
	2.9nm,0.5s,mb4.4,baz=342,slow=6.7,SNR=38						
CTA	**Charters Tower**	**35.11**	**145**	*e*P	P	03 11 16.7	-0.1
	7.5nm,0.7s,mb4.7						
CTA	**Charters Tower**	**35.11**	**145**	P	P	03 11 17.0	+0.2
	11nm,0.9s,mb4.8,baz=332,slow=9.6,SNR=8.2						
CTA	**Charters Tower**	**35.11**	**145**	*e*P	P	03 11 16.7	-0.1
CTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
FORT	**Forrest**	**39.44**	**177**	*e*P	P	03 11 54.5	+1.2
	comp=Z,16nm,0.5s,mb5.0						
SONM	**Songino Array**	**42.20**	**341**	P	P	03 12 17.1	+1.2
	comp=Z,0.4nm,0.5s,baz=148,slow=12,SNR=3.5						
SONM				LR	LR	03 30 20.6	
	comp=Z,129nm,20.4s,MS3.8,baz=4.4,slow=37						
STKA	**Stephens Creek**	**43.21**	**160**	*e*P	P	03 12 26.0	+1.7
	comp=Z,3.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**43.21**	**160**	P	P	03 12 22.6	-1.7
	comp=Z,3.6nm,0.5s,mb4.3,baz=340,slow=11,SNR=8.1						
PETK	**Petropavlovsk-**	**51.15**	**24**	P	P	03 13 26.3	+0.4
	comp=Z,1.9nm,0.7s,mb4.2,baz=193,slow=6.1,SNR=3.6						
PETK	**Petropavlovsk-**	**51.15**	**24**	P	P	03 13 26.3	+0.4
MK31	**Makanchi Array**	**52.87**	**324**	*i* P	P	03 13 39.2	+0.4
MK31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**52.87**	**324**	P	P	03 13 39.8	+1.0
	comp=Z,5.1nm,0.9s,mb4.5,baz=116,slow=8.2,SNR=28						
MKAR				LR	LR	03 38 10.1	
	comp=Z,57nm,19.0s,MS3.6,baz=159,slow=38						
ZALV	**Zalesovo Beam**	**55.65**	**332**	P	P	03 13 58.5	-0.4
	comp=Z,1.6nm,0.4s,mb4.5,baz=104,slow=6.9,SNR=7.8						
ZALV				LR	LR	03 39 19.3	
	comp=Z,62nm,19.3s,MS3.7,baz=252,slow=38						
ZAL	**Zalesovo**	**55.65**	**332**	P	P	03 13 58.5	-0.4
NVS	**Novosibirsk**	**56.93**	**332**	*e*P	P	03 14 06.8	-1.2
KK31	**Karatay Array**	**58.91**	**315**	*i* P	P	03 14 21.1	-1.0
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
TIXI	**Tiksi**	**62.80**	**1**	*e*P	P	03 14 51.3	+3.3
TIXI				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.0						
TIXI	**Tiksi**	**62.80**	**1**	*e*P	P	03 14 49.3	+1.3
	comp=Z,6.1nm,0.6s,mb4.9						
RAO	**Raoul Island**	**66.12**	**127**	LR	LR	03 38 48.6	
	comp=Z,310nm,19.7s,MS4.5,baz=180,slow=31						
AB31	**Akbulak array**	**67.64**	**320**	P	P	03 15 19.7	-0.1
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
AKTO	**Aktyubinsk**	**69.11**	**321**	LR	LR	03 48 47.2	
	comp=Z,63nm,18.1s,MS3.9,baz=279,slow=38						
AKTO	**Aktyubinsk**	**69.11**	**321**	P	P	03 15 28.4	-0.5
AKTO				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
SVW2	**Sparrevohn**	**76.84**	**29**	*e*P	P	03 16 14.1	-0.4
IMA2	**Indian Mountai**	**78.15**	**24**	*e*P	P	03 16 22.2	+0.5
KIV	**Kislovodsk**	**78.96**	**313**	*e*P	P	03 16 27.3	+0.7
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
EGAK	**Eagle**	**83.40**	**26**	*e*P	P	03 16 50.3	+0.6
	comp=Z,4.1nm,0.9s,mb4.5						
DAWY	**Dawson**	**84.25**	**26**	*e*P	P	03 16 55.4	+1.3
ARCES	**ARCESS Array B**	**85.36**	**340**	P	P	03 17 00.0	+0.4
	comp=Z,2.8nm,0.8s,mb4.5,baz=79,slow=6.3,SNR=8.0						
INK	**Inuvik**	**85.81**	**21**	*e*P	P	03 17 01.4	-0.4
	comp=Z,337nm,1.1s						
AKASG	**Malin Array Be**	**87.36**	**321**	P	P	03 17 09.3	-0.4
	comp=Z,0.4nm,0.4s,mb4.0,baz=62,slow=5.7,SNR=4.3						
AKASG				LR	LR	03 58 47.8	
	comp=Z,64nm,18.5s,MS4.1,baz=355,slow=37						
NOA	**NORSAR Array B**	**93.82**	**334**	LR	LR	04 03 17.5	
	comp=Z,74nm,20.4s,MS4.1,baz=70,slow=38						
YKA	**Yellowknife Ar**	**95.28**	**24**	P	P	03 17 46.0	-0.4
	comp=Z,1.9nm,0.8s,mb4.6,baz=298,slow=5.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**120.32**	**291**	PKP	PKPdf	03 23 13.6	-1.2
	comp=Z,0.6nm,0.5s,baz=63,slow=1.9,SNR=22						
PLCA	**Paso Flores**	**145.07**	**158**	PKPbc	PKPbc	03 24 00.5	+0.8
	comp=Z,4.0nm,0.8s,baz=213,slow=4.3,SNR=6.5						

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*ISCJB **31** 03:34:12.7±0.8,3997N±004×295W±0.1,h10km,mb3.8/9, MS3.6/21,Error ellipse: s-maj=11.6km s-min=5.0km az=162.7*
*IDC **31** 03:34:13.2±0.8,4030N×2962W,h0km,mb3.8/9, mb1 4.0/10,mb1mx3.8/28,mbtmp3.8/10,ML4.1/1,MS3.6/22, Ms1 3.6/22,ms1mx3.5/38,Error ellipse: s-maj=27.9km s-min=14.1km az=162.0*
*PDA **31** 03:34:16.3±0.8,4017N×2936W,h0km,MD3.9,ML3.5, Error ellipse: s-maj=5.2km s-min=4.0km az=82.0*
*CSEM **31** 03:34:17.1±0.3,3985N×2904W,h2km,ML3.5,Error ellipse: s-maj=7.7km s-min=3.7km az=109.0*
*INMG **31** 03:34:17.1,3941N×2919W,h0km*
ISC 31 03:34:15.0±0.7,3990N±004×2944W±009,h10km,n47, σ1°21/42,mb3.8/9,MS3.6/21,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.44**	**156**	*e*P	Pn	03 34 42.2	+1.2
CALA				*e*S	Sn	03 35 01.0	+1.1
ROSA	**Rosais**	**1.50**	**141**	*e*P	Pn	03 34 41.9	0.0
ROSA				*e*S	Sn	03 35 01.2	-0.3
HOR	**Horta**	**1.51**	**155**	*e*P	Pn	03 34 43.0	+1.0
HOR				*e*S	Sn	03 35 02.6	+0.9
PICO	**Pico**	**1.60**	**150**	*e*P	Pn	03 34 44.5	+1.2
PICO				*e*S	Sn	03 35 04.7	+0.6
PMAN	**Manadas**	**1.64**	**140**	*e*P	Pn	03 34 43.8	-0.1
PMAN				*e*S	Sn	03 35 04.4	-0.6
PMAN				A		03 35 06.5	
	118nm,0.2s						
PMAN	**Manadas**	**1.64**	**140**	*e*P	Pn	03 34 43.8	-0.1
PMAN				*e*S	Sn	03 35 04.4	-0.6
PSCM	**Serra do Cume**	**2.16**	**123**	*e*P	Pn	03 34 50.1	-0.9
PSCM				*e*S	Sn	03 35 16.0	-1.9
PSCM				A		03 35 24.5	
PSCM	**Serra do Cume**	**2.16**	**123**	*e*P	Pn	03 34 50.1	-0.9
PSCM				*e*S	Sn	03 35 16.0	-1.9
PDA	**Ponta Delgada**	**3.65**	**125**	*e*P	Pn	03 35 10.7	-0.8
PDA				*e*S	Sn	03 35 52.0	-2.5
CMLA	**Cha da Macela**	**3.73**	**124**	*e*P	Pn	03 35 11.9	-0.6
CMLA				*e*S	Sn	03 35 54.0	-2.5
CMLA				A		03 36 02.8	
	64nm,0.3s						
CMLA	**Cha da Macela**	**3.73**	**124**	*e*P	Pn	03 35 11.9	-0.6
CMLA				*e*S	Sn	03 35 54.0	-2.5
PSMN	**Pico do Norte,**	**4.49**	**129**	*e*P	Pn	03 35 22.4	-0.6
PSMN				*e*S	Sn	03 36 12.7	-2.5
PTEO	**Sao Teotonio**	**16.33**	**92**	*e*P	Pn	03 38 05.0	+0.7
	50nm,1.4s						
PFVI	**Vila Bisbo**	**16.36**	**93**	*e*P	Pn	03 38 05.6	+0.9
MORF	**Marmelete**	**16.45**	**92**	*e*P	Pn	03 38 06.7	+0.9
	35nm,1.9s						
EVO	**Evora**	**16.66**	**88**	*e*P	Pn	03 38 09.8	+1.3
	23nm,1.4s						
PBEJ	**Beja**	**16.88**	**89**	*e*P	Pn	03 38 12.8	+1.6
	19nm,1.8s						
PBDV	**Barranco-do-Ve**	**17.02**	**92**	*e*P	Pn	03 38 15.4	+2.3
	36nm,1.2s						
PVAQ	**Vaqueiros**	**17.14**	**91**	*e*P	Pn	03 38 19.5	+4.9
	27nm,1.1s						
PBAR	**Barrancos**	**17.48**	**88**	*e*P	Pn	03 38 20.0	+1.2
ESDC	**Sonseca Array**	**19.56**	**82**	P	Pn	03 38 44.2	+0.1
	0.1nm,0.3s,baz=286,slow=8.8,SNR=7.2						
ESDC				LR	LR	03 45 18.7	
	comp=Z,229nm,18.2s,baz=290,slow=34						
MDT	**Midelt**	**21.16**	**102**	P	P	03 39 01.3	+1.0
	3.6nm,1.0s,mb3.6,baz=307,slow=11,SNR=5.2						
MDT				LR	LR	03 45 21.0	
	comp=Z,218nm,20.7s,MS3.5,baz=184,slow=31						
BORG	**Borgarnes**	**25.33**	**8**	LR	LR	03 46 43.4	
	comp=Z,101nm,20.5s,MS3.3,baz=296,slow=30						
SCHQ	**Schefferville**	**28.99**	**314**	LR	LR	03 50 20.3	
	comp=Z,96nm,18.4s,MS3.5,baz=77,slow=34						
DAVOX	**Davos/Dischmat**	**29.17**	**63**	LR	LR	03 49 55.5	
	comp=Z,83nm,20.3s,MS3.4,baz=283,slow=32						
KEST	**Kesra**	**30.75**	**85**	LR	LR	03 51 16.5	
	comp=Z,62nm,19.5s,MS3.3,baz=23,slow=33						
GERES	**GERESS Array B**	**31.73**	**59**	LR	LR	03 51 48.7	
	comp=Z,86nm,19.9s,MS3.4,baz=270,slow=33						
NOA	**NORSAR Array B**	**32.63**	**36**	LR	LR	03 52 24.6	
	comp=Z,40nm,18.5s,MS3.1,baz=65,slow=34						
HFS	**Hagfors**	**33.48**	**38**	LR	LR	03 53 11.8	
	comp=Z,103nm,18.0s,MS3.6,baz=256,slow=34						
VRAC	**Vranov**	**33.63**	**58**	LR	LR	03 52 27.7	
	comp=Z,64nm,18.8s,MS3.4,baz=244,slow=33						
TORD	**Torodi Ar. Bea**	**38.20**	**125**	P	P	03 41 36.3	+1.4
	0.8nm,0.9s,mb3.5,baz=303,slow=8.2,SNR=3.5						
TORD				LR	LR	03 57 43.5	
	comp=Z,173nm,18.1s,MS3.9,baz=295,slow=37						
DBIC	**Dimbokro**	**39.77**	**140**	LR	LR	03 56 10.5	
	comp=Z,120nm,20.6s,MS3.7,baz=261,slow=33						
ARCES	**ARCESS Array B**	**41.10**	**26**	LR	LR	03 55 45.8	
	comp=Z,49nm,20.8s,MS3.4,baz=195,slow=32						
AKASG	**Malin Array Be**	**41.62**	**55**	P	P	03 42 03.4	+0.4
	1.3nm,0.6s,mb3.8,baz=273,slow=8.4,SNR=6.4						
ULM	**Lac du Bonnet**	**46.59**	**306**	LR	LR	04 01 04.0	
	comp=Z,157nm,18.9s,MS4.0,baz=58,slow=35						
SDV	**Santo Domingo**	**47.93**	**241**	LR	LR	03 59 17.1	
	comp=Z,126nm,21.1s,MS3.9,baz=170,slow=31						
ROSC	**El Rosal**	**53.36**	**241**	LR	LR	04 02 05.3	
	comp=Z,102nm,21.7s,MS3.8,baz=193,slow=31						
YKA	**Yellowknife Ar**	**53.42**	**325**	LR	LR	04 02 44.9	
	comp=Z,25nm,20.9s,MS3.2,baz=150,slow=32						
PDAR	**Pinedale Array**	**58.03**	**301**	P	P	03 44 04.3	-3.7
	1.3nm,0.9s,mb4.0,baz=60,slow=7.0,SNR=9.4						
PDAR				LR	LR	04 08 08.9	
	comp=Z,128nm,18.1s,MS4.1,baz=51,slow=35						
AKTO	**Aktyubinsk**	**59.13**	**48**	P	P	03 44 14.2	-1.2
	1.2nm,0.6s,mb4.1,baz=288,slow=11,SNR=2.3						
TXAR	**Lajitas Array**	**60.40**	**285**	P	P	03 44 22.7	-1.9
	1.5nm,0.8s,mb4.0,baz=69,slow=6.9,SNR=10						
TXAR				LR	LR	04 11 09.6	
	comp=Z,51nm,19.6s,MS3.7,baz=185,slow=37						
BVAR	**Borovoye Array**	**64.54**	**41**	P	P	03 44 51.0	-0.8
	0.6nm,0.6s,mb3.8,baz=308,slow=7.1,SNR=2.8						
LPIG	**La Paz**	**68.22**	**284**	LR	LR	04 15 18.3	
	comp=Z,60nm,20.7s,MS3.8,baz=264,slow=36						
KURK	**Kurchatov**	**70.03**	**40**	P	P	03 45 25.8	-0.9
	1.6nm,0.9s,mb4.0,baz=313,slow=6.3,SNR=7.0						
ZALV	**Zalesovo Beam**	**70.82**	**35**	LR	LR	04 15 40.1	
	comp=Z,21nm,19.7s,MS3.4,baz=56,slow=35						
MKAR	**Makanchi Array**	**74.42**	**42**	P	P	03 45 51.9	-1.1
	0.4nm,0.5s,mb3.6,baz=326,slow=7.9,SNR=4.6						
MKAR				LR	LR	04 18 35.4	
	comp=Z,38nm,18.5s,MS3.7,baz=180,slow=36						
ASAR	**Alice Springs**	**158.55**	**46**	PKPab	PKPab	03 54 46.3	-1.5
	0.4nm,0.8s,baz=343,slow=2.6,SNR=5.2						

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*IDC **31** 03:44:43.0±1.9,2716N×9246E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.4/22,mbtmp3.6/4,Error ellipse: s-maj=69.4km s-min=24.9km az=65.0*
*ISCJB **31** 03:44:44.1±2.5,270N±002×923E±04,h30km±18km, mb3.5/4,Error ellipse: s-maj=69.1km s-min=12.1km az=152.4*
ISC 31 03:44:44.4±4.1,271N±02×925E±04,h15km±27km,n6, σ1°25/6,mb3.5/4,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.56**	**199**	*e*PG	Px	03 44 55.0	
SHL				*e*SG	Sx	03 45 12.0	
IMP	**Imphal**	**2.62**	**149**	*e*P	Pb	03 45 31.0	0.0
IMP				*e*S	Sn	03 45 57.0	-0.7
MKAR	**Makanchi Array**	**21.28**	**340**	P	P	03 49 29.6	-0.5
	1.2nm,0.5s,mb3.5,baz=142,slow=13,SNR=9.8						
SONM	**Songino Array**	**23.45**	**24**	P	P	03 49 53.0	-0.1
	1.3nm,0.6s,mb3.5,baz=220,slow=9.0,SNR=9.4						
KURK	**Kurchatov**	**25.88**	**340**	P	P	03 50 15.2	-0.2
	0.6nm,0.8s,mb3.2,baz=152,slow=10,SNR=2.4						
WRA	**Warramunga Arr**	**61.88**	**135**	P	P	03 55 04.9	+1.6
	0.5nm,0.8s,mb3.7,baz=322,slow=7.5,SNR=4.7						

IDC 31 03:49:18.0±26.0,2387S×17438W,h0km,mb4.4/4, mb1 4.5/4,mb1mx4.0/16,mbtmp4.4/4,Error ellipse: s-maj=482.8km s-min=141.2km az=80.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.62**	**268**	P	P	03 56 27.2	+0.9
	5.6nm,0.5s,baz=103,slow=13,SNR=7.5						
STKA	**Stephens Creek**	**39.52**	**248**	P	P	03 56 50.0	-0.6
	1.6nm,0.5s,baz=98,slow=13,SNR=5.5						
ASAR	**Alice Springs**	**47.11**	**259**	P	P	03 57 51.8	-0.3
	1.6nm,0.4s,baz=89,slow=7.4,SNR=40						
WRA	**Warramunga Arr**	**47.54**	**264**	P	P	03 57 55.4	-0.1
	1.5nm,0.3s,baz=103,slow=7.9,SNR=21						

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*MOS **31** 04:17:39.2±0.9,5189N×17441W,h44km,mb5.0/40,Error ellipse: s-maj=8.9km s-min=6.6km az=66.0*
*NEIC **31** 04:17:40.8,5159N×17442W,h47km,mb4.8/92,After AEIC.*
*BJI **31** 04:17:40.7,5160N×17440W,h46km,mB5.1,mb4.9,Ms4.9, Msz4.6*
*ISCJB **31** 04:17:41.1±0.6,5193N±005×17447W±003,h61km±5km, mb4.7/121,Error ellipse: s-maj=8.1km s-min=3.4km az=6.7*
*IDC **31** 04:17:41.4±2.9,5186N×17439W,h55km±24km,mb4.0/20, mb1 4.2/22,mb1mx4.1/28,mbtmp4.1/22,ML4.8/1,MS3.4/9, Ms1 3.4/9,ms1mx3.2/33,Error ellipse: s-maj=20.5km s-min=11.0km az=171.0*
ISC 31 04:17:42.8±0.6,5193N±005×17449W±003,h61km±5km, h62km±2.4km;pP-P,n566,σ0°66/560,mb4.7/121, 150C-141D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.36**	**269**	⇓*i*Pn	Pn	04 18 04.7	-0.8
ADK				*e*Sn	Sn	04 18 22.2	-0.4
AMKA	**Amchitka**	**3.91**	**264**	*e*P	Pn	04 18 38.8	-1.4
AKUT	**Akutan**	**5.70**	**64**	*e*P	Pn	04 19 05.6	+0.8
SMY	**Shemya**	**7.04**	**281**	*e*P	Pn	04 19 25.0	+1.9
FALS	**False Pass**	**7.24**	**62**	*e*Pn	Pn	04 19 26.4	+0.7
SDPT	**Sand Point**	**9.00**	**62**	*e*P	Pn	04 19 48.7	-1.1
	35nm,0.3s						
CHGN	**Chignik**	**10.39**	**59**	*e*Pn	Pn	04 20 08

comp=Z,49nm,18.4s,baz=125,slow=39
YKA Yellowknife Ar 32.89 48 P P 04 24 09.7 -0.8
YKA 04 26 53.7
YKA Yellowknife Ar 32.89 48 P P 04 24 09.7 -0.8
YKA PcP PcP 04 26 53.7 +0.2
YKA LR LR 04 39 05.3
A05A Maple Falls 32.89 74 ⇑P P 04 24 11.3 +0.6
baz=33,SNR=10
C04A Brinnon 32.93 77 ⇑P P 04 24 12.0 +1.0
baz=33
MBW Mount Baker 33.10 74 P P 04 24 13.3 +0.8
E03A Lebam 33.11 79 ⇑P P 04 24 13.6 +0.9
baz=33,SNR=5.4
B05A Bryant 33.21 75 ⇑P P 04 24 14.1 +0.6
baz=33,SNR=14
A06A Chilliwack 33.21 73 ⇑P P 04 24 13.9 +0.4
baz=33
JCW Jim Creek 33.34 75 eP P 04 24 14.7 0.0
B06A Marblemount 33.46 74 ⇑P P 04 24 15.8 +0.2
baz=33
RPW Rockport 33.47 75 eP P 04 24 15.7 -0.1
E04A Onalaska 33.60 78 ⇑P P 04 24 17.1 +0.2
baz=34
C05A Tolt Reservoir 33.71 76 ⇓P P 04 24 18.5 +0.7
baz=34,SNR=13
D05A Enumclaw 33.76 77 ⇑P P 04 24 19.5 +1.2
baz=34,SNR=8.8
A07A Ashnola River, 33.88 73 ⇓P P 04 24 19.9 +0.6
baz=34,SNR=18
LON Longmire 34.08 77 eP P 04 24 21.6 +0.6
F04A Amboy 34.10 79 ⇓P P 04 24 21.4 +0.1
baz=34
E05A Randle 34.20 78 ⇓P P 04 24 22.0 -0.1
baz=34,SNR=8.5
PNT Penticton 34.22 72 P P 04 24 22.6 +0.4
I02A Mapleton 34.22 83 ⇑P P 04 24 22.9 +0.6
baz=34
B07A Winthrop 34.30 74 ⇓P P 04 24 23.4 +0.5
baz=34,SNR=21
G04A Mulino 34.43 80 ⇑P P 04 24 25.3 +1.2
baz=34
D06A Cle Elum 34.45 76 ⇓P P 04 24 24.4 +0.1
baz=34,SNR=8.3
ETW Entiat 34.56 75 eP P 04 24 25.8 +0.6
A08A Turner Farm, O 34.58 73 ⇑P P 04 24 25.8 +0.5
baz=34,SNR=30
TBM Table Mountain 34.61 76 P P 04 24 26.3 +0.6
E06A Yakima 34.68 77 ⇓P P 04 24 26.5 +0.3
baz=35,SNR=8.2
C07A Waterville 34.69 75 ⇑P P 04 24 26.5 +0.2
baz=35,SNR=12
F05A White Salmon 34.71 79 ⇑P P 04 24 27.3 +0.7
baz=35
J02A Umpqua 34.72 84 ⇓P P 04 24 27.3 +0.7
baz=35
B08A Colville Reser 34.81 74 ⇑P P 04 24 27.6 +0.3
baz=35,SNR=44
H04A Detroit Lake 34.88 81 ⇑P P 04 24 28.2 +0.2
baz=35,SNR=9.7
D07A Quincy 34.97 76 ⇓P P 04 24 28.7 0.0
baz=35,SNR=11
A09A Danville 34.98 72 ⇑P P 04 24 29.8 +1.0
baz=35,SNR=17
G05A Wamic 35.12 79 ⇓P P 04 24 30.9 +0.9
baz=35
EPH Ephrata 35.12 75 P P 04 24 30.2 +0.1
F06A Goldendale 35.18 78 ⇑P P 04 24 31.0 +0.4
baz=35
I04A Tendick Farm, 35.20 82 ⇓P P 04 24 31.4 +0.6
baz=35
C08A Higginbotham F 35.25 74 ⇓P P 04 24 31.2 +0.1
baz=35,SNR=9.8
E07A Sunnyside 35.35 77 ⇑P P 04 24 32.7 +0.7
baz=35,SNR=5.3
L02A Cave Junction 35.36 85 ⇓P P 04 24 33.3 +1.1
baz=35
H05A Madras 35.48 80 ⇑P P 04 24 33.8 +0.6
baz=35
B09A Rice 35.48 73 ⇓P P 04 24 33.7 +0.5
baz=35,SNR=16
HUMO Hull Mountain 35.51 84 ⇑P P 04 24 33.9 +0.5
baz=35
G06A Carlson Farm, 35.54 79 ⇓P P 04 24 33.8 +0.2
baz=35
A10A Northport 35.58 72 ⇑P P 04 24 34.7 +0.7
baz=36,SNR=9.0
HAWA Hanford 35.62 77 eP P 04 24 34.7 +0.4
comp=Z,29nm,0.6s,mb5.4
F07A Phinny Hill Vi 35.63 78 ⇑P P 04 24 34.7 +0.2
baz=36
OD2 Odessa Site #2 35.63 75 eP P 04 24 34.3 -0.2
D08A Wollman Farm, 35.67 75 ⇓P P 04 24 34.6 -0.1
baz=36,SNR=18
C09A Chrisman Ranch 35.70 74 ⇓P P 04 24 35.2 +0.2
baz=36,SNR=11
I05A Bend 35.71 81 ⇑P P 04 24 35.6 +0.5
baz=36
E08A Dider Farm, El 35.86 76 ⇑P P 04 24 36.4 0.0
baz=36
H06A Lindquist Farm 35.98 80 ⇓P P 04 24 37.8 +0.4
baz=36
D09A Jones Farm, Ri 36.03 75 ⇓P P 04 24 37.8 -0.1
baz=36
G07A Ruggs Ranch, H 36.11 78 ⇓P P 04 24 39.0 +0.5
baz=36
YBH Yreka Blue Hor 36.15 85 eP P 04 24 40.0 +1.1
YBH pmax pmax
comp=Z,14nm,1.6s
YBH Yreka Blue Hor 36.15 85 ⇓P P 04 24 39.8 +0.8
baz=36
YBH Yreka Blue Hor 36.15 85 eP P 04 24 39.5 +0.6
comp=Z,14nm,1.6s,mb4.7
NEW Newport 36.16 72 eP P 04 24 39.0 0.0
comp=Z,29nm,0.7s,mb5.3
EDM Edmonton 36.18 63 eP P 04 24 39.5 +0.4
J05A Fort Rock 36.20 82 ⇓P P 04 24 40.3 +1.0
baz=36,SNR=6.4
M02C Callahan 36.26 86 ⇓P P 04 24 40.4 +0.6
baz=36
K04A Chilquin 36.26 84 ⇓P P 04 24 40.3 +0.4
baz=36
C10A Spilker Farm, 36.27 73 ⇑P P 04 24 39.9 +0.1
baz=36,SNR=6.5
A11A Hall Mountain, 36.29 71 ⇑P P 04 24 41.2 +1.2
baz=36,SNR=30
N02C Big Bar 36.30 87 ⇑P P 04 24 40.5 +0.3
baz=36
E09A Wood Farm, Sta 36.40 76 ⇓P P 04 24 41.0 0.0
baz=36
I06A Prineville 36.47 81 ⇑P P 04 24 42.5 +0.9
baz=36
MJAR Matsushiro Arr 36.52 264 LR LR 04 37 16.6
comp=Z,115nm,21.4s,baz=60,slow=32
H07A Lands Inn, Kim 36.52 79 ⇓P P 04 24 42.4 +0.3
baz=36
G08A Pilot Rock 36.53 78 ⇓P P 04 24 42.0 0.0
baz=36,SNR=9.2
B11A Sandpoint 36.53 72 ⇓P P 04 24 42.5 +0.4
baz=36,SNR=16
D10A Wagner Farm, O 36.65 74 ⇑P P 04 24 42.6 -0.5
baz=37,SNR=15
M04C Macdoel 36.66 85 ⇓P P 04 24 43.7 +0.5
baz=37,SNR=7.0
K05A Summer Lake 36.71 83 ⇓P P 04 24 44.5 +0.8
baz=37,SNR=6.7
A12A Yaak River Ran 36.72 71 ⇑P P 04 24 44.4 +0.8
baz=37,SNR=10
M03C McCloud 36.77 86 ⇓P P 04 24 44.5 +0.3
baz=37
I07A Izee 36.83 80 ⇓P P 04 24 45.2 +0.5
baz=37,SNR=18
C11A Tepee Creek (N 36.88 73 ⇓P P 04 24 44.9 -0.1
baz=37
J06A Christmas Vall 36.88 82 ⇑P P 04 24 45.5 +0.4
baz=37,SNR=10
WDC Whiskeytown Da 36.92 87 ⇑P P 04 24 45.7 +0.3
baz=37
F09A S2 Ranch, Elgi 36.95 77 ⇓P P 04 24 45.7 +0.1
baz=37,SNR=8.2
O02C Red Bluff 37.00 88 ⇑P P 04 24 46.8 +0.6
baz=37
K06A Valley Falls 37.07 82 ⇓P P 04 24 47.3 +0.6
baz=37,SNR=7.8
P01C Double 8 Ranch 37.08 89 ⇑P P 04 24 46.4 -0.4
baz=37
H08A Prairie City 37.10 79 ⇓P P 04 24 47.0 0.0
baz=37,SNR=6.1
L05A Lakeview 37.13 84 ⇑P P 04 24 48.2 +0.9
baz=37
D11A Klaveano Farm, 37.22 74 ⇑P P 04 24 47.3 -0.6
baz=37,SNR=25
F10A Beach Ranch, E 37.22 76 ⇓P P 04 24 48.0 0.0
baz=37,SNR=6.7
G09A Cove 37.25 77 ⇑P P 04 24 47.6 -0.6
baz=37,SNR=9.3
M05C Lookout 37.33 85 ⇑P P 04 24 49.4 +0.4
baz=37
GASB Alder Springs 37.35 88 ⇓P P 04 24 49.3 +0.1
baz=37
C12B Naegeli Ranch, 37.40 72 ⇓P P 04 24 49.8 +0.3
baz=37
A13A Flathead Natio 37.44 70 ⇓P P 04 24 50.0 +0.3
baz=37
HATC Hat Creek Radi 37.45 86 ⇑P P 04 24 50.3 +0.4
baz=37,SNR=5.6
I08A Drewsey 37.49 80 ⇓P P 04 24 50.3 0.0
baz=37,SNR=15
MOD Modoc 37.54 84 ⇓P P 04 24 50.9 +0.3
baz=37,SNR=6.9
MOD Modoc 37.54 84 eP P 04 24 50.3 -0.4
comp=Z,4.2nm,0.5s,mb4.4
G10A Bishop Farm, J 37.64 77 ⇓P P 04 24 51.9 +0.4
baz=38,SNR=41
H09A Durkee 37.64 78 ⇑P P 04 24 51.6 +0.1
baz=38
E11A Bogner Ranch, 37.64 75 ⇑P P 04 24 50.7 -0.8
baz=38,SNR=21
WALA Waterton Lakes 37.67 70 eP P 04 24 51.4 -0.3
comp=Z,20nm,1.1s,mb4.8
B13A Whitefish 37.67 71 ⇑P P 04 24 52.0 +0.2
baz=38,SNR=13
K07A Rock Creek Ran 37.74 82 ⇑P P 04 24 52.8 +0.3
baz=38
BMO Blue Mountains 37.76 78 eP P 04 24 52.5 0.0
D12A Red Ives Fores 37.80 73 ⇑P P 04 24 52.7 -0.1
baz=38,SNR=14
J08A Circle Bar Ran 37.85 80 ⇑P P 04 24 53.6 +0.3
baz=38,SNR=15
F11A Grangeville 37.91 75 ⇑P P 04 24 53.3 -0.5
baz=38,SNR=7.6
C13A Hot Springs 37.95 72 ⇓P P 04 24 54.1 +0.1
baz=38,SNR=18
I09A Lost Marbles R 37.96 79 ⇓P P 04 24 54.3 +0.1
baz=38
O04C Chester 37.97 86 ⇓P P 04 24 54.7 +0.3
baz=38
E12A Beaver Dam Sad 37.99 74 ⇓P P 04 24 54.3 -0.2
baz=38
MNRC McLaughlin Nat 37.99 89 ⇑P P 04 24 54.9 +0.4
baz=38
L07A Adell 38.06 83 ⇑P P 04 24 55.5 +0.4
baz=38,SNR=7.4
G11A Walters Elk Ra 38.09 76 ⇑P P 04 24 55.0 -0.3
baz=38,SNR=10
K08A Mann Creek Ran 38.19 81 ⇑P P 04 24 56.3 +0.1
baz=38,SNR=8.3
H10A Noah's Angus R 38.23 78 ⇑P P 04 24 56.7 +0.2
baz=38,SNR=36
WVOR Wild Horse Val 38.26 82 eP P 04 24 56.5 -0.3
WVOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
WVOR Wild Horse Val 38.26 82 eP P 04 24 56.5 -0.3
comp=Z,8.9nm,0.9s,mb4.5
O05C Quincy 38.28 87 ⇓P P 04 24 57.1 +0.1
baz=38
J09A Fry Pan Ranch, 38.29 80 ⇑P P 04 24 57.6 +0.5
baz=38,SNR=12
D13A Huson 38.31 73 ⇓P P 04 24 56.8 -0.3
baz=38,SNR=11
C14A Swan Lake 38.39 71 ⇑P P 04 24 58.2 +0.4
baz=38,SNR=14
I10A Payette 38.47 78 ⇑P P 04 24 59.0 +0.5
baz=38
N06A Buffalo Meadow 38.49 85 ⇑P P 04 24 58.9 +0.2
baz=38,SNR=14
F12A Elk City 38.52 75 ⇓P P 04 24 58.9 0.0
baz=38,SNR=36
M07A Soldier Meadow 38.53 83 ⇓P P 04 24 59.5 +0.5
baz=38,SNR=6.4
L08A Fields 38.58 82 ⇑P P 04 24 59.9 +0.4
baz=38,SNR=13
H11A Donnelly 38.62 77 ⇓P P 04 24 59.9 +0.2
baz=38,SNR=10.0
K09A Rome 38.67 81 ⇓P P 04 25 00.3 +0.1
baz=39,SNR=5.2
BEKR Beckwourth 38.69 86 ⇓P P 04 24 59.9 -0.5
baz=39
MSO Missoula 38.75 73 eP P 04 25 00.3 -0.5
comp=Z,22nm,1.2s,mb4.8
E13A Victor 38.80 73 ⇓P P 04 25 01.1 -0.2
baz=39,SNR=13
O06A Flanigan 38.84 85 ⇓P P 04 25 01.9 +0.3
baz=39
J10A Berg Farm, Mel 38.85 79 ⇓P P 04 25 01.7 0.0
baz=39
D14A Greenough 38.88 72 ⇑P P 04 25 01.9 0.0
baz=39,SNR=48
N07B Gerlach 39.00 84 ⇑P P 04 25 03.2 +0.2
baz=39,SNR=12
JRSC Jasper Ridge 39.03 91 ⇓P P 04 25 03.3 0.0
baz=39
F13A Darby 39.05 74 ⇓P P 04 25 03.5 +0.1
baz=39,SNR=33
I11A Placerville 39.08 78 ⇑P P 04 25 03.4 -0.2
baz=39,SNR=13
L09A Wilkinson Ranc 39.09 82 ⇑P P 04 25 03.7 0.0
baz=39,SNR=5.2
CHMT Chamberlain Mo 39.11 72 eP P 04 25 03.5 -0.3
LAVA Lava Cap Winer 39.12 88 ⇓P P 04 25 03.9 -0.2
baz=39
K10A MacKenzie Ranc 39.15 80 ⇑P P 04 25 04.8 +0.6
baz=39,SNR=14
E14A Clinton 39.22 73 ⇑P P 04 25 05.1 +0.3
baz=39,SNR=25
PAHR Pah Rah Range 39.38 86 eP P 04 25 06.0 -0.3
comp=Z,4.7nm,0.5s,mb4.5
H12A Diamond D Ranc 39.40 76 ⇓P P 04 25 05.9 -0.3
baz=39,SNR=10
WCN Washoe City 39.40 86 ⇑P P 04 25 06.2 -0.1
baz=39
O07A Toulon 39.42 85 ⇓P P 04 25 06.5 0.0
baz=39,SNR=7.5
MFID Camas Ranch 39.43 79 ⇓P P 04 25 06.2 -0.3
baz=39,SNR=6.6
D15A Lincoln 39.48 72 ⇑P P 04 25 06.7 -0.2
baz=39,SNR=33
G13A Cobalt 39.48 75 ⇓P P 04 25 06.6 -0.3
baz=39,SNR=27
N08A GE Springer Mi 39.52 83 ⇑P P 04 25 07.4 +0.1
baz=39,SNR=8.4
R05C Kirkwood Meado 39.56 87 ⇓P P 04 25 07.8 +0.1
baz=40
F14A Wisdom 39.61 74 ⇑P P 04 25 08.3 +0.3
baz=40,SNR=14
E15A Deer Lodge 39.72 73 ⇑P P 04 25 08.9 0.0
baz=40,SNR=21
H13A Challis 39.75 76 ⇑P P 04 25 09.0 -0.1
baz=40,SNR=13
CMB Columbia Colle 39.78 89 ⇑P P 04 25 09.6 0.0
baz=40
L10A Juniper Basin 39.79 81 ⇓P P 04 25 09.4 -0.1
baz=40,SNR=8.8
O08A Rochester Mine 39.79 84 ⇑P P 04 25 09.7 0.0
baz=40,SNR=8.3
N09A Rock Creek Ran 39.85 83 ⇓P P 04 25 10.0 0.0
baz=40
G14A Jackson 39.86 75 ⇑P P 04 25 10.2 +0.1
baz=40,SNR=11
PACP Pacheco Peak 39.87 90 ⇓P P 04 25 10.0 -0.3
baz=40
J12A Stokes Ranch, 39.96 78 ⇑P P 04 25 11.1 +0.1
baz=40,SNR=8.4
R06C Coleville 40.06 87 ⇓P P 04 25 11.9 +0.1
baz=40,SNR=5.9
CN2 Changchun 40.06 283 eP P 04 25 11.5 -0.3
M10A I.L. Ranch, Tu 40.06 81 ⇓P P 04 25 12.0 +0.2
baz=40
WAKR Walker 40.08 87 eP P 04 25 12.5 +0.5
HAST Hastings Reser 40.10 91 ⇑P P 04 25 11.7 -0.5
baz=40
F15A Butte 40.12 73 ⇑P P 04 25 11.8 -0.4
baz=40,SNR=10
LRM Limekiln Ridge 40.15 73 eP P 04 25 12.5 0.0
L11A Cat Creek Ranc 40.17 80 ⇑P P 04 25 13.1 +0.4
baz=40,SNR=20
I13A Wildhorse Cree 40.19 77 ⇑P P 04 25 13.2 +0.3
baz=40,SNR=28
HLID Hailey 40.20 77 ⇑P P 04 25 13.2 +0.2
baz=40,SNR=18
HLID Hailey 40.20 77 eP P 04 25 13.0 +0.1
comp=Z,9.6nm,0.9s,mb4.5
S06C San Francisco 40.21 88 ⇓P P 04 25 13.0 -0.1
baz=40,SNR=7.3
H14A Leadore 40.25 75 ⇑P P 04 25 13.5 +0.2
baz=40,SNR=13
K12A Draper Farm, C 40.42 79 ⇑P P 04 25 15.7 +0.9
baz=40,SNR=6.0
J13A Cove Ranch, Pi 40.44 77 ⇑P P 04 25 15.0 +0.1
baz=40,SNR=34
MCMT McKenzie Canyo 40.45 75 eP P 04 25 14.9 -0.1
O09A Fish Creek Ran 40.46 84 ⇓P P 04 25 15.4 +0.3
baz=40
G15A Dillon 40.48 74 ⇑P P 04 25 14.7 -0.5
baz=40,SNR=23
V03C Hunter Liggett 40.53 92 ⇑P P 04 25 15.7 0.0
baz=40
M11A Holland Ranch, 40.58 81 ⇓P P 04 25 16.1 +0.1
baz=40
R07C Lee Vining 40.58 87 ⇓P P 04 25 16.2 +0.1
baz=40
I14A Mackay 40.58 76 ⇓P P 04 25 16.4 +0.3
baz=40,SNR=42
EGMT Eagleton 40.59 69 ⇑P P 04 25 15.9 -0.2
baz=40
EGMT Eagleton 40.59 69 eP P 04 25 15.8 -0.3
comp=Z,68nm,1.9s,mb5.0
U04C Hernandez Rese 40.59 91 ⇓P P 04 25 16.5 +0.2
baz=40
L12A House Creek Ra 40.64 80 ⇑P P 04 25 17.1 +0.5
baz=40,SNR=21
H15A Lima 40.69 75 ⇓P P 04 25 17.2 +0.3
baz=41,SNR=13
BOZ Bozeman (W) 40.73 73 eP P 04 25 17.5 +0.2
BOZ pmax pmax
comp=Z,18nm,0.7s,mb4.8
BOZ Bozeman (W) 40.73 73 ⇑P P 04 25 17.6 +0.3
baz=41
BOZ Bozeman (W) 40.73 73 eP P 04 25 17.5 +0.2
comp=Z,18nm,0.7s,mb4.8
Q08A Gabbs 40.79 86 ⇓P P 04 25 17.9 0.0
baz=41
O10A Cortez Mining, 40.81 83 ⇑P P 04 25 18.3 +0.3
baz=41
NVAR Mina Array Bea 40.83 86 PcP PcP 04 27 18.0 0.0
comp=Z,0.6nm,0.7s,baz=291,slow=2.6,SNR=3.6
T06C Millerton Lake 40.84 89 ⇑P P 04 25 17.5 -0.8
baz=41
J14A Carey 40.88 77 ⇓P P 04 25 19.4 +0.9
baz=41,SNR=26
K13A Stover Farm, H 40.91 78 ⇓P P 04 25 19.3 +0.5
baz=41,SNR=6.4
N11A Elko Archery C 40.97 82 ⇓P P 04 25 19.9 +0.6
baz=41
I15A Monteview 41.12 76 ⇓P P 04 25 20.8 +0.3
baz=41
M12A Wells 41.12 80 ⇑P P 04 25 21.1 +0.5
baz=41,SNR=7.1
P10A Eureka 41.24 84 ⇑P P 04 25 21.4 -0.1
baz=41
Q09A Carvers 41.27 85 ⇑P P 04 25 21.8 0.0
baz=41
QLMT Earthquake Lak 41.29 74 eP P 04 25 22.1 +0.2
ELK Elko 41.32 82 eP P 04 25 22.4 +0.2
ELK pmax pmax
comp=Z,4.0nm,0.4s
ELK Elko 41.32 82 eP P 04 25 21.9 -0.3
comp=Z,3.5nm,0.4s,mb4.3
L13A Double Diamond 41.32 79 ⇑P P 04 25 22.8 +0.6
baz=41,SNR=12
MTUM Tungsten Hills 41.34 88 eP P 04 25 22.8 +0.5
N12A Clover Valley, 41.38 81 ⇑P P 04 25 23.0 +0.3
baz=41,SNR=11
O11A Cowboy Ranch, 41.42 83 ⇑P P 04 25 23.3 +0.2
baz=41,SNR=5.6
H16A Russell Place, 41.47 74 ⇓P P 04 25 23.7 +0.3
baz=41,SNR=17
J15A Blackfoot 41.49 76 ⇓P P 04 25 24.4 +0.8
baz=41,SNR=8.7
S08C White Mtn Res 41.49 87 ⇑P P 04 25 23.8 +0.2
baz=41
K14A Jones Ranch, D 41.52 78 ⇓P P 04 25 24.9 +1.1
baz=41
M13A Montello 41.61 80 ⇓P P 04 25 24.5 -0.1
baz=42
YMR Madison River 41.66 74 eP P 04 25 23.6 -1.3
comp=Z,16nm,0.6s,mb4.8
R09A Tonopah 41.70 86 ⇓P P 04 25 25.2 -0.2
baz=42,SNR=12
P11A Circle Ranch, 41.71 83 ⇓P P 04 25 25.6 +0.1
baz=42
Q10A Clear Creek Ra 41.76 85 ⇑P P 04 25 25.9 +0.1
baz=42
L14A Malta 41.78 79 ⇓P P 04 25 26.5 +0.6
baz=42,SNR=10
I16A Newdale 41.79 75 ⇑P P 04 25 26.5 +0.5
baz=42,SNR=14
YNR Norris Junctio 41.80 74 eP P 04 25 26.3 +0.2
GCMT Greycliff 41.81 72 eP P 04 25 26.5 +0.3
K15A Arbon 41.84 77 ⇓P P 04 25 26.8 +0.5
baz=42,SNR=11
YFT Old Faithful 41.85 74 eP P 04 25 27.4 +0.9
N13A Wendover, West 41.88 81 ⇓P P 04 25 27.1 +0.3
baz=42
O12A Currie 41.90 82 ⇑P P 04 25 26.9 0.0
baz=42,SNR=17
S09A Goldfield 41.93 87 ⇓P P 04 25 27.4 +0.2
baz=42
M14A Sheep Mountain 42.02 79 ⇓P P 04 25 28.1 +0.1
baz=42,SNR=13
J16A Bone 42.05 76 ⇓P P 04 25 29.0 +0.9
baz=42,SNR=11
LKWY Lake 42.05 74 eP P 04 25 29.6 +1.5
LKWY pmax pmax
comp=Z,19nm,0.7s,mb4.8
LKWY Lake 42.05 74 eP P 04 25 29.6 +1.5
comp=Z,19nm,0.7s,mb4.8
IMW Indian Meadow 42.10 75 eP P 04 25 29.0 +0.5
comp=Z,14nm,0.8s,mb4.6
DCID1 Drake Creek 42.13 75 eP P 04 25 30.1 +1.4
FLWY Flagg Ranch 42.14 74 eP P 04 25 29.4 +0.6
comp=Z,21nm,1.0s,mb4.7
R10A Warm Springs 42.15 85 ⇑P P 04 25 28.7 -0.2
baz=42
RRI2 Red Ridge 42.19 76 eP P 04 25 29.4 +0.1
comp=Z,21nm,0.9s,mb4.8
S10A Tonopah Range, 42.20 86 ⇓P P 04 25 29.1 -0.2
baz=42,SNR=10
Q11A Duckwater 42.21 84 ⇓P P 04 25 29.0 -0.4
baz=42,SNR=13
HVU Hansel Valley 42.21 79 eP P 04 25 29.9 +0.5
comp=Z,9.9nm,0.7s,mb4.5
P12A McGill 42.28 83 ⇑P P 04 25 30.1 +0.1
baz=42,SNR=6.0
GRAC Grapevine Rang 42.30 87 ⇑P P 04 25 30.4 +0.2
baz=42
KSRS Korea Array 42.30 273 P P 04 25 31.2 +1.0
comp=Z,2.4nm,0.4s,mb4.1,baz=54,slow=7.9,SNR=9.3
KSRS LR LR 04 42 53.8
comp=Z,37nm,18.2s,baz=312,slow=36
KSRS Korea Array 42.30 273 P P 04 25 31.3 +1.1
KSRS pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
KSRS MLR MLR
comp=Z,37nm,18.2s
L15A Malad City 42.32 78 ⇓P P 04 25 30.0 -0.3
baz=42,SNR=5.3
K16A Soda Springs 42.32 77 ⇑P P 04 25 32.4 +2.1
baz=42,SNR=27
TPAW Teton Pass 42.33 75 eP P 04 25 30.9 +0.5
comp=Z,10nm,1.0s,mb4.4
RLMT Red Lodge 42.41 72 eP P 04 25 31.5 +0.5
comp=Z,32nm,0.8s,mb5.0
REDW Red Top Meadow 42.46 75 eP P 04 25 31.8 +0.4
comp=Z,15nm,1.2s,mb4.5
SNOW Snow King Moun 42.46 75 eP P 04 25 31.7 +0.3
comp=Z,5.2nm,0.6s,mb4.3
LOHW Long Hollow 42.47 75 eP P 04 25 31.4 0.0
comp=Z,5.0nm,0.7s,mb4.2
ISA Isabella 42.47 90 eP P 04 25 30.4 -1.2
ISA Isabella 42.47 90 ⇓P P 04 25 30.4 -1.2
baz=42
ISA Isabella 42.47 90 eP P 04 25 29.6 -2.1
comp=Z,2.3nm,0.9s,mb3.8
N14A Grayback Hills 42.51 80 ⇓P P 04 25 32.2 +0.4

baz=42,SNR=13
R11A Troy Canyon, C 42.55 85 ⇓P P 04 25 31.8 -0.4
baz=42,SNR=12
BGU Big Grassy Mou 42.56 80 eP P 04 25 32.1 -0.2
Q12A Willow Creek R 42.59 83 ⇓P P 04 25 32.8 +0.2
baz=42
M15A Larsen Ranch, 42.59 79 ⇓P P 04 25 32.6 0.0
baz=42,SNR=8.9
MPMC Manual Prospec 42.82 89 ⇓P P 04 25 34.0 -0.5
baz=43
P13A Bates Ranch, G 42.84 82 ⇑P P 04 25 34.2 -0.3
baz=43,SNR=9.6
L16A Fish Haven 42.89 77 ⇑P P 04 25 35.4 +0.5
baz=43,SNR=13
FURC Furnace Creek, 42.95 88 ⇓P P 04 25 35.1 -0.4
baz=43
TPNV Topopah Spring 43.02 87 ⇑P P 04 25 35.7 -0.3
baz=43
TPNV Topopah Spring 43.02 87 eP P 04 25 35.7 -0.4
comp=Z,8.3nm,0.7s,mb4.6
HWUT Hardware Ranch 43.05 78 eP P 04 25 36.1 -0.1
comp=Z,6.3nm,0.9s,mb4.3
HWUT ePcP PcP 04 27 24.8 -0.5
DUG Dugway 43.13 81 eP P 04 25 36.8 -0.1
DUG pmax pmax
comp=Z,23nm,1.3s,mb4.8
DUG Dugway 43.13 81 ⇑P P 04 25 37.2 +0.3
baz=43
DUG Dugway 43.13 81 eP P 04 25 36.8 -0.1
comp=Z,22nm,1.4s,mb4.7
Q13A Wheeler Ranch, 43.14 83 ⇑P P 04 25 37.1 0.0
baz=43
R12A Pony Springs, 43.17 84 ⇓P P 04 25 36.8 -0.4
baz=43,SNR=5.7
M16A Huntsville 43.18 78 ⇓P P 04 25 37.3 0.0
baz=43,SNR=17
LAO LASA Array 43.33 69 eP P 04 25 38.8 +0.3
comp=Z,18nm,0.6s,mb5.0
P14A Drum Mountains 43.34 81 ⇓P P 04 25 38.4 -0.2
baz=43,SNR=9.5
S12A Delamar Landin 43.47 85 ⇑P P 04 25 39.6 -0.1
baz=43,SNR=6.5
T11A Corn Creek, Al 43.47 86 ⇓P P 04 25 39.6 -0.2
baz=43,SNR=16
DGMT Dagmar 43.53 65 eP P 04 25 39.8 -0.2
comp=Z,60nm,1.7s,mb5.0
BW06 Boulder Array 43.58 75 eP P 04 25 40.4 -0.1
comp=Z,25nm,0.7s,mb5.0
PDAR Pinedale Array 43.58 75 P P 04 25 40.4 -0.1
comp=Z,27nm,0.8s,mb5.0,baz=307,slow=4.2,SNR=216
Q14A Sevier Lake (B 43.58 82 ⇓P P 04 25 40.5 -0.1
baz=44,SNR=8.9
R13A O'Grain Ranch, 43.66 84 ⇑P P 04 25 41.3 +0.1
baz=44
SHOC Shoshone 43.68 88 ⇓P P 04 25 41.1 -0.3
baz=44
JLU Jordanelle 43.71 79 eP P 04 25 41.7 +0.1
NLU North Lily Min 43.72 80 eP P 04 25 41.9 +0.2
GSC Goldstone 43.74 89 ⇑P P 04 25 41.1 -0.7
baz=44,SNR=7.5
GSC Goldstone 43.74 89 eP P 04 25 41.2 -0.6
comp=Z,6.9nm,0.8s,mb4.4
P15A Leamington 43.83 81 ⇑P P 04 25 43.2 +0.6
baz=44
N17A Moffit Pass 43.88 78 ⇓P P 04 25 42.5 -0.5
baz=44
BFSC Mount Baldy St 43.91 91 ⇓P P 04 25 42.6 -0.7
baz=44
O16A Springville 43.92 80 ⇓P P 04 25 43.5 +0.3
baz=44,SNR=6.4
DAU Daniels Canyon 43.95 79 eP P 04 25 44.3 +0.8
DAU Daniels Canyon 43.95 79 eP P 04 25 43.6 +0.1
S13A Holt Ranch, En 44.10 84 ⇓P P 04 25 44.4 -0.3
baz=44,SNR=9.2
Q15A Fillmore 44.12 82 ⇑P P 04 25 44.6 -0.3
baz=44
TUQ Turquoise Mtn. 44.20 88 ⇑P P 04 25 44.6 -0.9
baz=44
V11A Goodsprings 44.24 87 ⇓P P 04 25 45.7 -0.2
baz=44
HEC Hector,Ludlow 44.34 89 ⇓P P 04 25 46.4 -0.3
baz=44
O17A Robinson Place 44.39 79 ⇓P P 04 25 47.1 +0.1
baz=44
U12A Valley of Fire 44.41 86 ⇑P P 04 25 46.9 -0.3
baz=44,SNR=6.8
T13A Saint George 44.42 85 ⇑P P 04 25 47.0 -0.3
baz=44
MSU Marysvale 44.55 82 eP P 04 25 48.7 +0.4
TMUT Trail Mountain 44.66 80 eP P 04 25 50.0 +0.9
V12A Nelson 44.67 87 ⇓P P 04 25 49.3 0.0
baz=45
U13A Pakoon Wash 44.77 86 ⇓P P 04 25 49.9 -0.2
baz=45,SNR=9.3
GMRC Granite Mounta 44.79 89 ⇑P P 04 25 49.3 -0.9
baz=45
O18A Roosevelt 44.79 79 ⇓P P 04 25 50.5 +0.3
baz=45
T14A Hurricane 44.91 84 ⇑P P 04 25 51.0 -0.1
baz=45
Q16A Castle Valley 44.91 81 ⇓P P 04 25 51.3 +0.1
baz=45,SNR=7.2
N19A John Jarvie Ra 44.91 77 ⇑P P 04 25 50.8 -0.4
baz=45,SNR=8.2
LDFC Landfair 44.94 88 eP P 04 25 50.3 -1.1
comp=Z,7.5nm,0.8s,mb4.6
P18A Preston Nutter 45.04 79 ⇓P P 04 25 52.6 +0.4
baz=45,SNR=13
BELC Belle Mtn. 45.10 90 ⇓P P 04 25 51.7 -1.0
baz=45
R16A Teasdale 45.12 82 ⇓P P 04 25 53.3 +0.5
baz=45,SNR=8.6
V13A Grand Canyon W 45.13 86 ⇑P P 04 25 52.8 -0.2
baz=45
SRU San Rafael 45.19 80 eP P 04 25 53.5 +0.1
SRU San Rafael 45.19 80 ⇑P P 04 25 53.6 +0.2
baz=45,SNR=8.1
SRU San Rafael 45.19 80 eP P 04 25 53.1 -0.3
comp=Z,6.2nm,0.9s,mb4.4
U14A Mt Trumbull 45.26 85 ⇑P P 04 25 53.7 -0.3
baz=45
O19A Miners Draw (B 45.31 78 ⇑P P 04 25 54.3 0.0
baz=45,SNR=21
T15A Red Dirt Ranch 45.36 84 ⇓P P 04 25 54.7 -0.1
baz=45
S16A Weppner Ranch, 45.40 82 ⇑P P 04 25 55.0 -0.1
baz=45
Q18A Rafter H Ranch 45.43 80 ⇓P P 04 25 55.2 -0.1
baz=45,SNR=12
R17A Hanksville Air 45.51 81 ⇑P P 04 25 55.2 -0.7
baz=45,SNR=7.9
IRM Iron Mountain 45.52 89 ⇓P P 04 25 55.2 -0.8
baz=45
RWWY Rawlins 45.62 75 eP P 04 25 56.5 -0.3
comp=Z,17nm,0.8s,mb5.0
BC3 Big Chuckw Mtn 45.66 90 ⇑P P 04 25 56.4 -0.8
baz=46
W13A Hualapai Mount 45.68 87 ⇑P P 04 25 56.8 -0.5
baz=46
U15A North Rim 45.80 84 ⇑P P 04 25 58.3 0.0
baz=46,SNR=8.5
P19A Cripple Cowboy 45.80 79 ⇓P P 04 25 58.0 -0.2
baz=46,SNR=11
V14A Boquillas Ranc 45.81 86 ⇓P P 04 25 58.3 0.0
baz=46
S17A Black Ridge (B 45.94 82 ⇑P P 04 25 59.0 -0.3
baz=46,SNR=7.1
R18A Canyonlands Na 46.02 81 ⇑P P 04 25 59.2 -0.8
baz=46
Q19A Hogan Spring (46.05 80 ⇓P P 04 25 59.0 -1.2
baz=46,SNR=7.8
RSSD Black Hills 46.05 71 eP P 04 25 59.5 -0.6
comp=Z,4.8nm,0.5s,mb4.7
W14A Seligman 46.10 86 ⇓P P 04 26 00.3 -0.3
baz=46
V15A Kaibab Nationa 46.27 85 ⇑P P 04 26 01.3 -0.6
baz=46
T17A Navajo Res., N 46.35 83 ⇓P P 04 26 01.8 -0.8
baz=46
S18A Hurst Farm, Bl 46.40 81 ⇑P P 04 26 02.5 -0.5
baz=46,SNR=10
X14A Yava 46.71 87 ⇓P P 04 26 04.9 -0.5
baz=47
T18A Mexican Hat 46.83 82 ⇓P P 04 26 05.0 -1.4
baz=47,SNR=7.3
S19A Harvey Farm, M 46.89 81 ⇑P P 04 26 06.3 -0.5
baz=47,SNR=7.6
WUAZ Wupatki 46.95 85 ⇓P P 04 26 07.1 -0.2
baz=47
Y14A Wickenburg 46.99 87 ⇑P P 04 26 07.1 -0.5
baz=47
PV01 Paradox Valley 46.99 80 eP P 04 26 06.8 -0.7
X15A Humboldt 47.10 86 ⇓P P 04 26 08.2 -0.2
baz=47
ULM Lac du Bonnet 47.11 59 P P 04 26 07.4 -1.0
comp=Z,5.1nm,0.4s,mb4.8,baz=302,slow=7.1,SNR=21
W16A Flagstaff 47.13 85 ⇑P P 04 26 08.7 0.0
baz=47
Y15A Casa Rosa Ranc 47.40 87 ⇑P P 04 26 10.0 -0.7
baz=47
T19A Beclabito 47.55 82 ⇑P P 04 26 11.3 -0.6
baz=47,SNR=9.9
MVCO Mesa Verde 47.62 81 ⇑P P 04 26 12.3 -0.2
baz=48
MVCO Mesa Verde 47.62 81 eP P 04 26 12.1 -0.4
X16A Lo Mia Camp, P 47.64 86 ⇑P P 04 26 12.1 -0.5
baz=48
ISCO Idaho Springs 47.73 76 eP P 04 26 13.7 +0.4
comp=Z,1.5nm,0.5s,mb4.3
AGMN Agassiz Refuge 48.24 61 eP P 04 26 16.0 -1.1
comp=Z,25nm,1.0s,mb5.2
ULN Ulaanbaatar 48.40 298 eP P 04 26 18.1 -0.2
ULN pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ULN Ulaanbaatar 48.40 298 eP P 04 26 18.1 -0.2
comp=Z,1.7nm,0.5s,mb4.3
214A Organ Pipe Nat 48.45 89 ⇑P P 04 26 17.9 -1.0
baz=48
X18A Snowflake 48.48 85 ⇓P P 04 26 19.1 -0.1
baz=48
Y17A Roosevelt 48.49 86 ⇓P P 04 26 18.5 -0.7
baz=48,SNR=5.2
SONM Songino Array 48.77 298 P P 04 26 21.4 +0.2
comp=Z,1.1nm,0.5s,mb4.2,baz=47,slow=7.7,SNR=12
SONM PcP PcP 04 27 45.3 +0.1
comp=Z,0.7nm,0.6s,baz=52,slow=3.3,SNR=3.8
SONM ScP ScP 04 31 36.1 +1.5
comp=Z,0.8nm,0.8s,baz=43,slow=4.3,SNR=5.5
SONM Songino Array 48.77 298 P P 04 26 21.4 +0.2
SONM 04 27 45.3
Y18A Canyon Day Jun 48.93 85 ⇑P P 04 26 22.6 0.0
baz=49
X19A St. Johns 48.96 84 ⇑P P 04 26 22.7 -0.1
baz=49
Z17A San Carlos Hig 48.98 86 ⇑P P 04 26 23.1 +0.1
baz=49
SDCO Great Sand Dun 49.10 78 eP P 04 26 24.0 +0.1
comp=Z,5.0nm,0.9s,mb4.5
Y19A Nutrioso 49.29 85 ⇑P P 04 26 25.1 -0.3
baz=49
117A Oracle 49.31 87 ⇑P P 04 26 25.2 -0.3
baz=49
TUC Tucson 49.46 87 eP P 04 26 26.1 -0.6
TUC Tucson 49.46 87 eP P 04 26 25.2 -1.5
comp=Z,2.5nm,0.9s,mb4.2
217A Green Valley 49.81 88 ⇑P P 04 26 28.3 -0.9
baz=50
119A Ashpeak Ranch, 50.07 86 ⇓P P 04 26 31.0 -0.3
baz=50
HHC Hu-ho-hao-te 50.10 288 eP P 04 26 31.0 -0.4
HHC AP pP 04 26 45.3 -1.8
HHC XP sP 04 26 53.5 -0.5
HHC PP PP 04 28 27.5 +0.9
HHC PCS PcS 04 31 46.0 -1.1
HHC S S 04 33 36.8 -1.3
HHC SCS ScS 04 36 13.5 -3.2
HHC AMB AMB
comp=Z,14nm,0.7s,mb5.1
HHC LR LR
comp=N,141nm,19.0s
HHC LR LR
comp=E,311nm,17.8s
HHC LR LR
comp=Z,94nm,16.7s
218A Dragoon 50.15 87 ⇑P P 04 26 31.6 -0.3
baz=50
LAZ Ladron 50.30 83 eP P 04 26 32.7 -0.3
ANMO Albuquerque 50.35 82 eP P 04 26 32.6 -0.8
ECSD EROS,Sioux Fal 50.56 67 eP P 04 26 33.5 -1.4
comp=Z,13nm,0.7s,mb5.0
219A White Tail Can 50.62 87 ⇑P P 04 26 34.9 -0.5
baz=50
KRAR Krasnoyarsk 50.68 314 eP P 04 26 35.2 -0.3
KRAR pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
EYMN Ely 50.80 59 eP P 04 26 34.9 -1.6
comp=Z,23nm,1.1s,mb5.0
NJ2 Nanjing 51.46 275 eP P 04 26 44.5 +2.8
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CBKS Cedar Bluff 51.87 73 eP P 04 26 44.0 -0.8
comp=Z,39nm,0.6s,mb5.5
COWI Conover 53.21 60 eP P 04 26 53.3 -1.2
comp=Z,14nm,0.4s,mb5.2
KSU1 Kansas State U 53.53 71 eP P 04 26 55.7 -1.2
comp=Z,28nm,0.9s,mb5.2
SCIA State Center 53.66 66 eP P 04 26 57.4 -0.5
comp=Z,30nm,0.4s,mb5.6
JFWS Jewell Farm 54.66 64 eP P 04 27 03.6 -1.5
JFWS pmax pmax
comp=Z,18nm,0.7s,mb5.2
JFWS Jewell Farm 54.66 64 eP P 04 27 03.6 -1.5
comp=Z,18nm,0.7s,mb5.2
WMOK Wichita Mounta 55.16 77 eP P 04 27 08.2 -0.6
WMOK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WMOK Wichita Mounta 55.16 77 eP P 04 27 08.2 -0.6
comp=Z,9.6nm,0.9s,mb4.8
WHN Wuhan 55.28 277 eP P 04 27 12.3 +2.5
ZALV Zalesovo Beam 55.57 315 LR LR 04 52 47.3
comp=Z,24nm,19.4s,baz=3.3,slow=38
TXAR Lajitas Array 55.92 85 P P 04 27 13.2 -1.2
comp=Z,1.4nm,0.4s,mb4.3,baz=296,slow=4.6,SNR=30
GLMI Grayling 56.45 59 eP P 04 27 17.1 -0.8
KEV Kevo 57.62 351 ep P 04 27 26.2 +0.4
comp=Z,0.7nm,0.4s,mb4.0
KEV Kevo 57.62 351 eP P 04 27 26.2 +0.4
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
LZH Lanzhou 57.78 289 eP P 04 27 28.5 +1.1
LZH AP pP 04 27 46.0 +2.5
LZH XP sP 04 27 50.3 -0.1
LZH PCP PcP 04 28 20.8 +1.3
LZH PP PP 04 29 41.0 +5.3
LZH eS S 04 35 18.0 -3.9
LZH AMB AMB
comp=Z,19nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,69nm,4.0s
LZH LR LR
comp=E,741nm,16.2s
LZH LR LR
comp=Z,962nm,18.5s
FVM French Village 57.87 68 eP P 04 27 25.5 -2.6
comp=Z,14nm,0.5s,mb5.2
SCHQ Schefferville 57.87 41 P P 04 27 26.8 -1.0
comp=Z,1.4nm,0.4s,mb4.4,baz=315,slow=8.6,SNR=5.3
SCHQ PcP PcP 04 28 18.7 -0.8
comp=Z,3.2nm,0.7s,baz=314,slow=3.6,SNR=3.0
ARCES ARCESS Array B 57.97 352 P P 04 27 27.9 -0.3
comp=Z,2.5nm,0.7s,mb4.3,baz=17,slow=7.7,SNR=14
MIAR Mount Ida 58.40 73 eP P 04 27 31.0 -0.8
MIAR pmax pmax
comp=Z,18nm,0.8s,mb5.2
OLIL Olney 58.68 66 eP P 04 27 32.7 -1.0
comp=Z,46nm,0.8s,mb5.5
SIUC Southern Illin 58.75 68 eP P 04 27 33.0 -1.2
PARMO Parma 59.17 69 eP P 04 27 36.0 -1.1
BLO Bloomington 59.27 65 eP P 04 27 36.7 -1.0
USIN University of 59.46 66 eP P 04 27 38.1 -0.9
comp=Z,52nm,0.7s,mb5.7
WCI Wyandotte Cave 60.05 65 eP P 04 27 42.2 -1.0
comp=Z,29nm,0.8s,mb5.4
KURK Kurchatov 60.54 316 P P 04 27 46.2 -0.1
comp=Z,0.5nm,0.5s,mb3.9,baz=40,slow=6.5,SNR=3.9
OXF Oxford 60.88 70 eP P 04 27 47.6 -1.2
comp=Z,23nm,0.4s,mb5.7
ALLY Alegheny Colle 61.01 59 eP P 04 27 49.8 +0.2
comp=Z,49nm,0.7s,mb5.8
WMQ Urumqi 61.26 305 eP P 04 27 53.5 +2.2
WMQ AP pP 04 28 09.5 +2.0
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
WMQ LR LR
comp=N,594nm,24.6s
WMQ LR LR
comp=Z,374nm,24.4s
PLAL Pickwick Lake 61.32 69 eP P 04 27 49.8 -2.0
comp=Z,14nm,0.7s,mb5.2
CD2 Chengdu 61.47 284 eP P 04 27 53.3 +0.4
CD2 AP pP 04 28 09.3 +0.2
CD2 XP sP 04 28 16.5 +0.6
CD2 PCP PcP 04 28 34.5 +0.2
CD2 PP PP 04 30 10.8 +2.4
CD2 PCS PcS 04 32 36.0 -1.4
CD2 S S 04 36 07.8 -1.6
CD2 SCS ScS 04 37 35.3 -3.5
CD2 SS SS 04 40 10.8 +0.2
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,40nm,8.2s
CD2 LR LR
comp=E,210nm,15.6s
CD2 LR LR
comp=Z,110nm,15.6s
MKAR Makanchi Array 61.76 311 P P 04 27 53.6 -1.0
comp=Z,0.5nm,0.3s,mb4.1,baz=48,slow=7.4,SNR=11
MKAR Makanchi Array 61.76 311 i P P 04 27 54.5 -0.1
MKAR pmax pmax
comp=Z,1.0nm,0.3s
FRNY Flat Rock 62.07 52 eP P 04 27 54.5 -2.1
comp=Z,2.1nm,0.5s,mb4.5
BVAR Borovoye Array 62.16 322 P P 04 27 57.2 0.0
comp=Z,0.6nm,0.4s,mb4.1,baz=67,slow=6.1,SNR=4.6
BVAR LR LR 04 58 08.4
comp=Z,61nm,19.0s,baz=74,slow=39
SWET Sewanee 62.38 67 eP P 04 27 56.6 -2.4
MCWV Mont Chateau 62.58 60 eP P 04 28 00.1 -0.1
BINY Binghamton 62.78 56 eP P 04 28 01.5 0.0
comp=Z,32nm,0.8s,mb5.5
TZTN Tazewell 62.78 65 eP P 04 28 01.1 -0.5
comp=Z,16nm,0.7s,mb5.2
CPCT Cooper Cave 63.02 66 eP P 04 28 02.5 -0.7
LBNH Lisbon 63.31 52 eP P 04 28 03.7 -1.3
LBNH pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
LBNH Lisbon 63.31 52 eP P 04 28 03.7 -1.3
comp=Z,2.6nm,0.6s,mb4.5
JOF Joensuu 63.70 347 ep P 04 28 06.8 -0.5
comp=Z,1.0nm,0.4s,mb4.2
ELN Prospectdale 63.84 63 eP P 04 28 08.0 -0.6
BLA Blacksburg 64.04 62 eP P 04 28 09.6 -0.3
BLA pmax pmax
comp=Z,23nm,0.8s,mb5.3
BLA Blacksburg 64.04 62 eP P 04 28 09.6 -0.2
comp=Z,23nm,0.8s,mb5.3
SDMD Soldier's Deli 64.36 58 eP P 04 28 11.5 -0.5
comp=Z,32nm,0.9s,mb5.3
PAL Palisades 64.71 55 eP P 04 28 14.6 +0.4
PAL pmax pmax
comp=Z,22nm,0.8s,mb5.2
PAL Palisades 64.71 55 eP P 04 28 14.6 +0.4
comp=Z,22nm,0.8s,mb5.2
CPNY Central Park 64.84 56 eP P 04 28 15.5 +0.4
comp=Z,26nm,0.9s,mb5.3
GOGA Godfrey 65.09 67 eP P 04 28 15.4 -1.4
GOGA pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
GOGA Godfrey 65.09 67 eP P 04 28 15.4 -1.4
comp=Z,10.0nm,0.6s,mb5.0
KAF Kangasniemi 65.11 349 ep P 04 28 16.4 -0.1
comp=Z,1.2nm,0.3s,mb4.4
KAF Kangasniemi 65.11 349 eP P 04 28 16.4 -0.1
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
URVA University of 65.34 60 eP P 04 28 18.1 -0.3
JSC Jenkinsville 65.71 65 eP P 04 28 20.4 -0.4
NHSC New Hope 67.18 65 eP P 04 28 30.6 +0.4
comp=Z,46nm,1.1s,mb5.4
NB2 NORSAR Subarra 67.29 357 P P 04 28 30.3 -0.1
comp=Z,2.0nm,0.6s,mb4.3,baz=4.9,slow=6.5
NOA NORSAR Array B 67.29 357 P P 04 28 30.6 +0.1
comp=Z,3.1nm,0.7s,mb4.5,baz=4.1,slow=6.4,SNR=14
AKTO Aktyubinsk 68.74 327 LR LR 05 00 58.0
comp=Z,30nm,21.1s,baz=196,slow=38
CMAR Chiang Mai Arr 73.60 279 P P 04 29 10.2 +0.6
comp=Z,3.9nm,0.9s,mb4.3,baz=29,slow=7.5,SNR=7.8
CMAR LR LR 05 02 39.7
comp=Z,27nm,18.7s,baz=165,slow=37
AKASG Malin Array Be 75.79 345 P P 04 29 21.0 -0.7
comp=Z,2.1nm,0.4s,mb4.4,baz=16,slow=5.9,SNR=6.9
AKASG Malin Array Be 75.79 345 i P P 04 29 21.0 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.4s
GIVF Givet 78.34 0 eP P 04 29 37.1 +1.1
BAIF Baives 78.38 1 eP P 04 29 36.7 +0.5
comp=Z,7.4nm,0.6s,mb4.5
BAIF Baives 78.38 1 eP P 04 29 36.7 +0.5
BAIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BAIF Baives 78.38 1 eP P 04 29 36.7 +0.5
comp=Z,3.7nm,0.6s,mb4.5
GERES GERESS Array B 79.36 355 P P 04 29 41.4 -0.3
comp=Z,0.6nm,0.7s,mb3.7,baz=40,slow=2.3,SNR=5.2
FLN La Foliniere 79.56 4 eP P 04 29 42.6 -0.1
comp=Z,6.5nm,0.4s,mb4.6
FLN La Foliniere 79.56 4 eP P 04 29 42.6 -0.1
FLN pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
FLN La Foliniere 79.56 4 eP P 04 29 42.6 -0.1
comp=Z,3.3nm,0.4s,mb4.6
LDF La Druitiere 79.74 4 eP P 04 29 43.5 -0.2
comp=Z,16nm,0.6s,mb4.8
LDF La Druitiere 79.74 4 eP P 04 29 43.5 -0.2
LDF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LDF La Druitiere 79.74 4 eP P 04 29 43.5 -0.2
comp=Z,8.2nm,0.6s,mb4.8
ROSF Rostrenen 79.83 6 eP P 04 29 44.1 -0.1
comp=Z,7.0nm,0.5s,mb4.5
ROSF Rostrenen 79.83 6 eP P 04 29 44.1 -0.1
ROSF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
ROSF Rostrenen 79.83 6 eP P 04 29 44.1 -0.1
comp=Z,3.5nm,0.5s,mb4.5
GRR Gorron 79.91 4 eP P 04 29 44.7 +0.1
comp=Z,16nm,0.5s,mb4.9
GRR Gorron 79.91 4 eP P 04 29 44.7 +0.1
GRR pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
GRR Gorron 79.91 4 eP P 04 29 44.7 +0.1
comp=Z,8.0nm,0.5s,mb4.9
SGMF Saint Gilles 79.96 5 eP P 04 29 44.8 -0.1
comp=Z,15nm,0.5s,mb4.9
SGMF Saint Gilles 79.96 5 eP P 04 29 44.8 -0.1
SGMF pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
SGMF Saint Gilles 79.96 5 eP P 04 29 44.8 -0.1
comp=Z,7.6nm,0.5s,mb4.9
CDF Champ du Feu 80.03 359 eP P 04 29 45.6 +0.4
comp=Z,5.8nm,0.6s,mb4.4
CDF Champ du Feu 80.03 359 eP P 04 29 45.6 +0.4
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CDF Champ du Feu 80.03 359 eP P 04 29 45.6 +0.4
comp=Z,2.9nm,0.6s,mb4.4
QUIF Quistinic 80.26 6 eP P 04 29 46.8 +0.3
HAU Haudompre 80.44 359 eP P 04 29 47.8 +0.3
comp=Z,12nm,0.7s,mb4.6
HAU Haudompre 80.44 359 eP P 04 29 47.8 +0.3
HAU pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
HAU Haudompre 80.44 359 eP P 04 29 47.8 +0.3
comp=Z,5.9nm,0.7s,mb4.6
HINF Hinteralfeld 80.63 359 eP P 04 29 48.7 +0.2
comp=Z,5.7nm,0.6s,mb4.4
HINF Hinteralfeld 80.63 359 eP P 04 29 48.7 +0.2
HINF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
HINF Hinteralfeld 80.63 359 eP P 04 29 48.7 +0.2
comp=Z,2.8nm,0.6s,mb4.4
LOR Lormes 81.17 1 eP P 04 29 51.8 +0.4
comp=Z,13nm,0.7s,mb4.7
LOR Lormes 81.17 1 eP P 04 29 51.8 +0.4
LOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LOR Lormes 81.17 1 eP P 04 29 51.8 +0.4
comp=Z,6.4nm,0.7s,mb4.7
SSF Saint Saulge 81.37 1 eP P 04 29 52.8 +0.3
comp=Z,14nm,0.6s,mb4.8

SSF	**Saint Saulge**	**81.37**	**1**	*e*P	**P**		**04 29 52.8**	**+0.3**
SSF				pmax	pmax			
comp=Z,7.0nm,0.6s,mb4.8								
SSF	**Saint Saulge**	**81.37**	**1**	*e*P	**P**		**04 29 52.8**	**+0.3**
comp=Z,6.9nm,0.6s,mb4.8								
AVF	**Avril sur Loir**	**81.64**	**1**	*e*P	**P**		**04 29 54.1**	**+0.2**
comp=Z,15nm,0.8s,mb4.7								
AVF	**Avril sur Loir**	**81.64**	**1**	*e*P	**P**		**04 29 54.1**	**+0.2**
AVF				pmax	pmax			
comp=Z,8.0nm,0.8s,mb4.7								
AVF	**Avril sur Loir**	**81.64**	**1**	*e*P	**P**		**04 29 54.1**	**+0.2**
comp=Z,7.6nm,0.8s,mb4.7								
MFF	**Saint Martin d**	**81.73**	**4**	*e*P	**P**		**04 29 54.7**	**+0.4**
comp=Z,21nm,0.8s,mb4.8								
MFF	**Saint Martin d**	**81.73**	**4**	*e*P	**P**		**04 29 54.7**	**+0.4**
MFF				pmax	pmax			
comp=Z,10.0nm,0.8s,mb4.8								
MFF	**Saint Martin d**	**81.73**	**4**	*e*P	**P**		**04 29 54.7**	**+0.4**
comp=Z,10nm,0.8s,mb4.8								
SMF	**Signal de Mont**	**81.79**	**1**	*e*P	**P**		**04 29 54.9**	**+0.2**
comp=Z,20nm,0.8s,mb4.8								
SMF	**Signal de Mont**	**81.79**	**1**	*e*P	**P**		**04 29 54.9**	**+0.2**
SMF				pmax	pmax			
comp=Z,10.0nm,0.8s,mb4.8								
SMF	**Signal de Mont**	**81.79**	**1**	*e*P	**P**		**04 29 54.9**	**+0.2**
comp=Z,9.9nm,0.8s,mb4.8								
CABF	**La Chapelle**	**81.84**	**360**	*e*P	**P**		**04 29 55.7**	**+0.8**
comp=Z,30nm,1.0s,mb4.8								
CABF	**La Chapelle**	**81.84**	**360**	*e*P	**P**		**04 29 55.7**	**+0.8**
CABF				pmax	pmax			
comp=Z,15nm,1.0s,mb4.9								
CABF	**La Chapelle**	**81.84**	**360**	*e*P	**P**		**04 29 55.7**	**+0.8**
comp=Z,15nm,1.0s,mb4.9								
TCF	**Toulx Ste Croi**	**82.12**	**2**	*e*P	**P**		**04 29 56.6**	**+0.2**
comp=Z,12nm,0.7s,mb4.6								
TCF	**Toulx Ste Croi**	**82.12**	**2**	*e*P	**P**		**04 29 56.6**	**+0.2**
TCF				pmax	pmax			
comp=Z,6.0nm,0.7s,mb4.6								
TCF	**Toulx Ste Croi**	**82.12**	**2**	*e*P	**P**		**04 29 56.6**	**+0.2**
comp=Z,6.2nm,0.7s,mb4.7								
RJF	**Les Rejaudoux**	**83.08**	**3**	*e*P	**P**		**04 30 02.0**	**+0.6**
comp=Z,5.7nm,0.7s,mb4.4								
RJF	**Les Rejaudoux**	**83.08**	**3**	*e*P	**P**		**04 30 02.0**	**+0.6**
RJF				pmax	pmax			
comp=Z,3.0nm,0.6s,mb4.5								
RJF	**Les Rejaudoux**	**83.08**	**3**	*e*P	**P**		**04 30 02.0**	**+0.6**
comp=Z,2.8nm,0.6s,mb4.5								
LFF	**La Frestale**	**83.42**	**3**	*e*P	**P**		**04 30 03.6**	**+0.4**
comp=Z,8.7nm,0.6s,mb4.7								
LFF	**La Frestale**	**83.42**	**3**	*e*P	**P**		**04 30 03.6**	**+0.4**
LFF				pmax	pmax			
comp=Z,4.0nm,0.6s,mb4.6								
LFF	**La Frestale**	**83.42**	**3**	*e*P	**P**		**04 30 03.6**	**+0.4**
comp=Z,4.3nm,0.6s,mb4.7								
CAF	**Calviac**	**83.48**	**2**	*e*P	**P**		**04 30 04.0**	**+0.5**
ORIF	**Oris-en-Rattie**	**83.53**	**360**	*e*P	**P**		**04 30 03.9**	**+0.2**
MBDF	**Montbardon**	**83.72**	**359**	*e*P	**P**		**04 30 06.1**	**+1.4**
comp=Z,7.0nm,0.6s,mb4.6								
MBDF	**Montbardon**	**83.72**	**359**	*e*P	**P**		**04 30 06.1**	**+1.4**
MBDF				pmax	pmax			
comp=Z,4.0nm,0.6s,mb4.7								
MBDF	**Montbardon**	**83.72**	**359**	*e*P	**P**		**04 30 06.1**	**+1.4**
comp=Z,3.5nm,0.6s,mb4.7								
WRA	**Warramunga Arr**	**84.32**	**227**	P	**P**		**04 30 05.7**	**-2.2**
comp=Z,0.7nm,0.7s,mb3.9,baz=33,slow=5.7,SNR=4.6								
MTLF	**Montolieu**	**85.07**	**2**	*e*P	**P**		**04 30 12.2**	**+0.7**
SJPF	**Ste Jean**	**85.16**	**5**	*e*P	**P**		**04 30 13.6**	**+1.6**
comp=Z,15nm,0.8s,mb4.9								
SJPF	**Ste Jean**	**85.16**	**5**	*e*P	**P**		**04 30 13.6**	**+1.6**
SJPF				pmax	pmax			
comp=Z,8.0nm,0.8s,mb4.9								
SJPF	**Ste Jean**	**85.16**	**5**	*e*P	**P**		**04 30 13.6**	**+1.6**
comp=Z,7.7nm,0.8s,mb4.9								
ETSF	**Etsaut**	**85.40**	**4**	*e*P	**P**		**04 30 14.1**	**+0.9**
comp=Z,8.5nm,0.6s,mb4.7								
ETSF	**Etsaut**	**85.40**	**4**	*e*P	**P**		**04 30 14.1**	**+0.9**
ETSF				pmax	pmax			
comp=Z,4.0nm,0.6s,mb4.7								
ETSF	**Etsaut**	**85.40**	**4**	*e*P	**P**		**04 30 14.1**	**+0.9**
comp=Z,4.3nm,0.6s,mb4.8								
ASAR	**Alice Springs**	**87.76**	**226**	P	**P**		**04 30 23.4**	**-1.3**
comp=Z,1.5nm,0.8s,mb4.3,baz=39,slow=4.3,SNR=11								
ESDC	**Sonseca Array**	**88.40**	**7**	P	**P**		**04 30 26.8**	**-1.1**
comp=Z,1.0nm,0.6s,mb4.2,baz=348,slow=4.4,SNR=6.4								
TORD	**Torodi Ar. Bea**	**115.11**	**4**	PKP	PKiKP		04 36 15.4	-1.7
comp=Z,0.3nm,0.6s,baz=336,slow=2.7,SNR=5.6								
DBIC	**Dimbokro**	**120.96**	**12**	PKP	PKPdf		04 36 26.9	-1.5
comp=Z,2.5nm,0.8s,baz=356,slow=1.7,SNR=3.6								
CPUP	**Villa Florida**	**126.87**	**87**	PKP	PKPdf		04 36 37.0	-2.3
comp=Z,0.5nm,0.5s,baz=6.3,slow=9.2,SNR=2.7								
PLCA	**Paso Flores**	**128.59**	**109**	PKP	PKPdf		04 36 41.4	-0.8
comp=Z,2.8nm,1.1s,baz=235,slow=9.7,SNR=3.8								
TSUM	**Tsumeb**	**145.99**	**339**	*e*PKPdf	PKPdf		04 37 15.6	+0.9
MAW	**Mawson**	**148.57**	**218**	PKPbc	PKPbc		04 37 20.2	-1.0
comp=Z,6.0nm,0.8s,baz=80,slow=2.7,SNR=15								

*KISR **31** 04:20:00.3,3188N×4723E,h44km,ML2.7*
*THR **31** 04:20:01.3±0.5,3140N×4773E,h14km±7km,ML3.4*
*ISCJB **31** 04:20:03.7±0.9,3161N±006×478E±01,h10km, Error ellipse: s-maj=15.0km s-min=4.6km az=32.6*
*CSEM **31** 04:20:03.7±0.3,3159N×4779E,h8km,ML2.7, Error ellipse: s-maj=13.1km s-min=4.8km az=119.0*

ISC 31 04:20:04.8±0.9,3160N±006×478E±01,h10km,n12, σ1§04/18,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.01**	**59**	*e*Pg	**Pg**	**04 20 22.7**	**-1.5**
SHGR				*e*Sg	**Sg**	**04 20 38.5**	**+1.1**
SHGR				AML	AML	04 20 40.5	
comp=E,929nm,0.7s							
SHGR				AML	AML	04 20 40.7	
comp=N,855nm,0.3s							
SHGR	**Shooshtar-Gavs**	**1.01**	**59**	*e*Pg	**Pg**	**04 20 22.7**	**-1.6**
SNR=90							
SHGR				*e*Sg	**Sg**	**04 20 38.5**	**+1.0**
SNR=90							
MIB	**Mutribah**	**1.82**	**192**	*e*P	**Pn**	**04 20 35.1**	**-1.1**
MIB				*e*S	**Sn**	**04 21 00.3**	**+1.0**
comp=N,55nm,0.5s							
MIB	**Mutribah**	**1.82**	**192**	*e*P	**Pn**	**04 20 35.1**	**-1.1**
baz=177							
MIB				*e*S	**Sn**	**04 21 00.3**	**+0.9**
baz=177							
MIB				AML	AML	04 21 00.9	
comp=Z,55nm,0.5s,baz=177							
RST	**Umm Al-Ruwaisa**	**2.19**	**198**	*e*S	**Sn**	**04 21 08.2**	**-0.2**
NAY	**Al-Naaiem**	**2.38**	**191**	*e*P	**Pn**	**04 20 42.5**	**-1.4**
NAY				*e*S	**Sn**	**04 21 15.0**	**+1.9**
comp=Z,15nm,0.6s							
NAY	**Al-Naaiem**	**2.38**	**191**	*e*P	**Pn**	**04 20 42.5**	**-1.4**
baz=180							
NAY				*e*S	**Sn**	**04 21 15.0**	**+1.9**
baz=180							
NAY				AML	AML	04 21 15.2	
comp=Z,15nm,0.6s,baz=180							
RDF	**Al-Radifah**	**2.67**	**184**	*e*P	**Pn**	**04 20 47.2**	**-0.5**
baz=175							
RDF				AML	AML	04 21 26.8	
comp=Z,45nm,0.5s,baz=175							
SNGE	**Sanandaj**	**3.51**	**354**	*e*Pn	**Pn**	**04 21 00.2**	**+0.9**
SNGE				AML	AML	04 21 46.6	
comp=E,43nm,0.1s							
GHVR	**GHOM**	**4.13**	**45**	*e*P	**Pn**	**04 21 08.2**	**+0.4**
GHVR	**GHOM**	**4.13**	**45**	*e*P	**Pn**	**04 21 08.2**	**+0.4**
SNR=52							
NASN	**Na'in**	**4.43**	**73**	*e*Pn	**Pn**	**04 21 11.8**	**-0.2**

BJI 31 04:24:58.1,3929N×10632E,h12km,mB4.5,mb4.5, ML3.1,Ms3.2,Msz3.1,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**3.13**	**64**	*e*PG	Pg	04 25 56.5	-1.6
BTO				SG	Sg	04 26 39.0	+0.3
BTO				Smax			
comp=N,35nm,0.2s							
BTO				Smax			
comp=E,13nm,0.1s							
LZH	**Lanzhou**	**3.75**	**212**	PG	Pg	04 26 07.0	-3.0
LZH				SG	Sg	04 26 47.5	-11
LZH				Smax			
comp=N,76nm,0.5s							
LZH				Smax			
comp=E,54nm,0.6s							
HHC	**Hu-ho-hao-te**	**4.31**	**67**	*e*PG	Pg	04 26 10.0	-11
HHC				Smax			
comp=N,100nm,0.4s							
HHC				Smax			
comp=E,96nm,0.3s							
GTA	**Gaotai**	**5.04**	**273**	PG	Pg	04 26 24.3	-10
GTA				Smax			
comp=N,41nm,1.0s							
GTA				Smax			
comp=E,20nm,1.1s							
XAN	**Xi'an**	**5.64**	**157**	PG	Pg	04 26 36.8	-9.3
XAN				SG	Sg	04 27 48.3	-11
XAN				Smax			
comp=N,16nm,0.7s							
XAN				Smax			
comp=E,13nm,0.6s							
GYA	**Guiyang**	**12.80**	**179**	P	Pn	04 28 02.8	+2.9
GYA				AMB	AMB		
comp=Z,20nm,0.8s							
GYA				LR	LR		
comp=Z,480nm,19.7s							
KMI	**Kunming**	**14.44**	**193**	P	Pn	04 28 25.0	+2.7
KMI				AMB	AMB		
comp=Z,6.0nm,0.8s							
KMI				AMB	AMB		
comp=Z,67nm,4.0s							
KMI				LR	LR		
comp=N,64nm,15.0s							
KMI				LR	LR		
comp=E,93nm,18.0s							
KMI				LR	LR		
comp=Z,85nm,19.0s							

IDC 31 04:36:31.2±1.7,240N×12546E,h0km,mb3.8/4,mb1 4.0/4, mb1mx3.7/16,mbtmp3.8/4,Error ellipse: s-maj=179.9km s-min=22.8km az=63.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.85**	**159**	P	P	04 41 46.3	-0.1
1.3nm,0.4s,baz=337,slow=11,SNR=6.3							
ASAR	**Alice Springs**	**27.18**	**163**	P	P	04 42 17.8	+1.2
0.2nm,0.4s,baz=336,slow=9.0,SNR=3.5							
STKA	**Stephens Creek**	**37.37**	**157**	P	P	04 43 45.0	-0.7
2.2nm,0.7s,baz=336,slow=10.0,SNR=4.5							
MKAR	**Makanchi Array**	**57.94**	**326**	P	P	04 46 24.9	-0.4
0.8nm,0.4s,baz=120,slow=8.3,SNR=8.1							
TORD	**Torodi Ar. Bea**	**122.11**	**287**	PKP	PKPdf	04 55 29.1	+0.2
0.3nm,1.0s,baz=113,slow=1.9,SNR=4.2							

*CSEM **31** 04:41:46.2±0.2,4107N×4286E,h30km,mb4.0, Error ellipse: s-maj=5.7km s-min=2.5km az=157.0*
*ISCJB **31** 04:41:47.1±0.9,4129N±004×4296E±009,h24km±15km, Error ellipse: s-maj=11.1km s-min=7.1km az=170.2*
*MOS **31** 04:41:54.7±0.7,4177N×4364E,h10km,mb4.0/1, Error ellipse: s-maj=31.0km s-min=11.9km az=82.2*

ISC 31 04:41:46.9±1.9,4129N±005×4296E±006,h18km±15km, n16,σ1§03/28,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARTV	**Artvin**	**0.79**	**263**	*i*P	**Pb**	**04 42 00.7**	**-1.2**
ARTV				*i*S	**Sb**	**04 42 11.7**	**-0.6**
GOR	**Gori**	**1.11**	**51**	S	**Sn**	**04 42 20.5**	**-1.7**
ONI	**Oni**	**1.34**	**16**	P	**Pn**	**04 42 09.2**	**-1.5**
ONI				S	**Sn**	**04 42 26.5**	**-1.5**
TBLG	**Delisi**	**1.41**	**71**	Pg	**Pn**	**04 42 11.0**	**-0.6**
TBLG				Sg	**Sn**	**04 42 28.5**	**-1.1**
MTA	**Mtatsminda**	**1.44**	**73**	P	**Pn**	**04 42 11.3**	**-0.7**
MTA				S	**Sn**	**04 42 29.3**	**-1.0**
HOMI	**Horasan**	**1.48**	**213**	*i*P	**Pb**	**04 42 13.9**	**+0.1**
ZEI	**Tsey**	**1.64**	**25**	*e*Pg	**Pn**	**04 42 14.9**	**+0.2**
ZEI				*e*Sg	**Sn**	**04 42 36.8**	**+1.5**
DIGR	**Digorskoe uzhe**	**1.67**	**16**	*i*Pg	**Pn**	**04 42 15.4**	**+0.1**
DIGR				*i*Sg	**Sn**	**04 42 37.1**	**+0.9**
DGRG	**David-gareji**	**1.82**	**84**	P	**Pn**	**04 42 18.4**	**+1.1**
DGRG				S	**Sn**	**04 42 42.1**	**+2.2**
LACR	**Lac**	**1.83**	**33**	*i*Pg	**Pn**	**04 42 17.5**	**+0.1**
KORR	**Kora**	**1.98**	**24**	*e*Pg	**Pn**	**04 42 19.5**	**+0.1**
KORR				*e*Sg	**Sn**	**04 42 44.3**	**+0.6**
KOPT	**Kop Dagi**	**2.26**	**237**	*i*P	**Pb**	**04 42 29.1**	**+1.9**
KOPT	**Kop Dagi**	**2.26**	**237**	*i*P	**Pb**	**04 42 29.1**	**+1.9**
KOPT				*i*S	**Sb**	**04 43 04.4**	**+10**
BTKR	**Batakoyurt**	**2.39**	**29**	*e*Pn	**Pn**	**04 42 25.2**	**+0.1**
BTKR				*e*Sg	**Sn**	**04 42 55.0**	**+1.1**
KIV	**Kislovodsk**	**2.67**	**356**	*e*PN	**Pb**	**04 42 34.4**	**+0.2**
KIV				*e*	**Sb**	**04 43 06.7**	**+0.1**
KIV				pmax	pmax		
comp=Z,3.0nm,0.8s							
KIV				smax			
comp=N,15nm,1.1s							
KIV	**Kislovodsk**	**2.67**	**356**	*e*Pn	**Pb**	**04 42 34.4**	**+0.2**
comp=N,3.0nm,0.8s							
KIV				*e*Sn	**Sb**	**04 43 06.7**	**+0.1**
comp=N,15nm,1.1s							

MAN 31 04:42:24,972N×12443E,h9km,mb4.0,ML2.8,MS2.5, 1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.56**	**267**	*e*P	Pg	04 42 35.5	+0.6
TBP				*e*S	Sg	04 42 43.5	+1.2
MSLP	**Maasin**	**0.59**	**46**	*e*P	Pg	04 42 35.6	+0.2
MSLP				*e*S	Sg	04 42 45.2	+2.1
LLP	**Lapu-Lapu**	**0.74**	**322**	*i*P	Pg	04 42 38.3	-0.1
LLP				*e*S	Sg	04 42 47.8	-0.4
SCPH	**Surigao**	**1.05**	**87↑**	*e*P	Pg	04 42 36.9	-7.3
SCPH				*e*S	Sg	04 42 56.6	-1.1
SNPH	**Sibulan**	**1.24**	**252**	*i*P	Pn	04 42 47.5	0.0
PLP	**Palo**	**1.53**	**21↓**	*e*P	Pn	04 42 50.6	-1.0
PLP				*e*S	Sn	04 43 12.7	+1.1
BUKP	**Musuan**	**1.94**	**161**	*e*P	Pn	04 42 57.1	0.0
GUIM	**Jordan**	**2.02**	**296**	*e*P	Pn	04 42 58.4	+0.1
PAGZ	**Pagadian**	**2.13**	**209**	*e*P	Pn	04 42 59.9	+0.1
PAGZ				*e*S	Sn	04 43 27.8	+1.3
RCP	**Roxas**	**2.46**	**318↓**	*e*P	Pn	04 43 04.7	+0.3
RCP				*e*S	Sn	04 43 37.1	+2.5

*DJA **31** 04:51:53,051S×12402E,h0km,ML4.2/1*
*IDC **31** 04:51:54.2±1.9,179N×12586E,h0km,mb3.8/4,mb1 4.0/4, mb1mx3.7/15,mbtmp3.8/4,Error ellipse: s-maj=176.7km s-min=25.5km az=64.0*
*ISCJB **31** 04:51:55.6±1.3,23N±01×12697E±008,h33km,mb3.7/4, Error ellipse: s-maj=21.2km s-min=11.6km az=2.5*

ISC 31 04:51:57.9±1.3,23N±01×12693E±008,h35km,n7,σ0§74/8, mb3.7/4,1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.25**	**248↓**	*e*P	**Pn**	**04 52 31.0**	**-1.6**
MNI				*e*S	**Sn**	**04 53 00.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.29**	**184**	*e*P	**P**	**04 56 31.1**	**+0.3**
2.0nm,0.4s							
WRA	**Warramunga Arr**	**23.25**	**162**	P	**P**	**04 57 01.8**	**-0.6**
1.2nm,0.3s,mb3.8,baz=338,slow=11,SNR=6.4							
WB2	**Warramunga Arr**	**23.25**	**162**	*e*P	**P**	**04 57 02.2**	**-0.2**
ASAR	**Alice Springs**	**26.66**	**166**	P	**P**	**04 57 33.8**	**+0.1**
0.4nm,0.6s,mb3.1,baz=345,slow=8.1,SNR=7.8							
STKA	**Stephens Creek**	**36.71**	**159**	P	**P**	**04 59 02.5**	**+0.8**
2.5nm,0.7s,mb4.2,baz=349,slow=12,SNR=3.7							
MKAR	**Makanchi Array**	**58.86**	**326**	P	**P**	**05 01 53.5**	**+0.3**
0.4nm,0.4s,mb3.8,baz=114,slow=7.7,SNR=4.2							

*IDC **31** 04:51:52.7±1.1,3537N×7001E,h0km,mb3.8/4,mb1 3.9/6, mb1mx3.6/23,mbtmp3.8/6,ML3.8/2,Error ellipse: s-maj=32.4km s-min=26.4km az=166.0*
*ISCJB **31** 04:52:18.4±0.6,3649N±004×7022E±008,h229km±7km, mb3.4/3,Error ellipse: s-maj=11.5km s-min=4.7km az=160.8*
*MOS **31** 04:52:20.6±0.8,3655N×7001E,h265km,mb4.7/1,Error ellipse: s-maj=31.2km s-min=23.9km az=123.6*
*NEIC **31** 04:52:22.6±2.5,3662N×7011E,h268km±28km,mb4.7/1, Error ellipse: s-maj=25.8km s-min=11.2km az=52.0*
*NNC **31** 04:52:26.1±7.4,3757N×6957E,h0km,mb3.9,mpv3.8, Error ellipse: s-maj=59.2km s-min=54.7km az=143.0*

ISC 31 04:52:19.0±0.6,3653N±004×7014E±008,h209km±7km, n46,σ1§12/43,mb3.4/3,8C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.06**	**151**	⇑P	**Pn**	**04 53 11.1**	**+1.2**
CEP				S		04 53 50.0	
CHCP	**Chirah Chowk**	**3.84**	**137**	⇑P	**Pn**	**04 53 20.2**	**+1.0**
THW	**Thamme Wali**	**3.95**	**160**	⇑P	**Pn**	**04 53 21.0**	**+0.4**
SARP	**Sargodha**	**5.05**	**155**	P	**Pn**	**04 53 34.9**	**+0.6**
THN	**Thein Dam**	**6.16**	**130**	*e*P	**Pn**	**04 53 47.5**	**-0.9**
THN				*e*S		04 54 56.1	
AML	**Almayashu**	**6.24**	**25**	P	**Pn**	**04 53 49.8**	**+0.4**
SNR=80							
DLH	**Dalhousie**	**6.24**	**128**	*e*P	**Pn**	**04 53 48.0**	**-1.5**
DLH				*e*S		04 54 58.0	
KK31	**Karatay Array**	**6.58**	**2**	⇑Pn	**Pn**	**04 53 54.6**	**+0.9**
1.6nm,0.3s,baz=180,slow=10,SNR=10							
KK31				⇑Sn		04 55 01.0	
4.1nm,0.5s,baz=191,slow=23,SNR=5.1							
UCH	**Uchtor**	**6.63**	**29**	P	**Pn**	**04 53 54.9**	**+0.6**
SNR=23							
EKS2	**Erkin-Say**	**6.74**	**24**	P	**Pn**	**04 53 56.3**	**+0.5**
SNR=13							
AAK	**Ala-Archa**	**6.96**	**28**	P	**Pn**	**04 53 59.5**	**+0.8**
SNR=11							
CHMS	**Chumysh**	**7.38**	**27**	P	**Pn**	**04 54 04.5**	**+0.5**
SNR=7.9							
ULHL	**Ulahol**	**7.41**	**38**	P	**Pn**	**04 54 04.8**	**+0.2**
SNR=18							
USP	**Ospenovka**	**7.52**	**25**	P	**Pn**	**04 54 05.4**	**-0.5**
SNR=9.0							
SDNR	**Sundarnagar**	**7.57**	**129**	*e*P	**Pn**	**04 54 05.0**	**-1.7**
SDNR				*e*S		04 55 25.0	
TKM2	**Tokmak 2**	**7.65**	**32**	⇑Pn	**Pn**	**04 54 07.4**	**-0.1**
7.4nm,0.5s							
TKM2				⇑Sn		04 55 33.0	
7.9nm,0.7s							
TKM2	**Tokmak 2**	**7.65**	**32**	P	**Pn**	**04 54 07.7**	**+0.2**
SNR=23							
SMLA	**Simla**	**7.95**	**131**	*i*P	**Pn**	**04 54 10.1**	**-1.5**
SMLA				*i*S		04 55 34.6	
SMLA				*ex*	x	04 55 39.1	
comp=N,536nm,0.2s							
SMLA				*ex*	x	04 55 39.4	
comp=E,660nm,0.3s							
KLP	**Kalpa**	**8.38**	**124**	*ex*	x	04 54 11.7	
KLP				*e*S		04 55 44.2	
KLP				AML	AML	04 55 53.8	
comp=N,133nm,0.8s							
KLP				AML	AML	04 55 57.0	
comp=E,155nm,0.6s							
NDI	**New Delhi**	**9.84**	**141**	*e*S		04 56 16.0	
JOSI	**Joshimath**	**9.86**	**124**	*e*P	**Pn**	**04 54 35.5**	**-0.8**
JOSI				*e*S		04 56 17.6	
KUDL	**Kundal**	**9.93**	**145**	*e*S		04 56 21.3	
SONA	**Sohna**	**10.12**	**143**	*e*S		04 56 22.8	
MKAR	**Makanchi Array**	**13.69**	**38**	Pn	**Pn**	**04 55 23.4**	**-1.2**
comp=E,0.3nm,0.3s,baz=225,slow=13,SNR=9.4							
KOLN	**Koldanda**	**14.35**	**124**	*e*P	**Pn**	**04 55 35.1**	**+2.2**
AB31	**Akbulak array**	**14.73**	**333**	⇓Pn	**Pn**	**04 55 37.5**	**+0.2**
comp=E,1.8nm,0.7s							
AB31				⇓Sn	**S**	**04 58 18.5**	**-2.2**
comp=E,0.5nm,0.6s							
DMN	**Daman**	**15.48**	**121**	*e*P	**Pn**	**04 55 48.4**	**+1.7**
comp=E,11nm,0.3s							
KKN	**Kakani**	**15.49**	**120**	*e*P	**Pn**	**04 55 48.3**	**+1.5**
comp=E,42nm,0.5s							
KKN	**Kakani**	**15.49**	**120**	*e*P	**Pn**	**04 55 48.3**	**+1.5**
KKN				pmax	pmax		
comp=Z,42nm,0.5s							
PKIN	**Phulchoki**	**15.70**	**120**	*e*P	**Pn**	**04 55 51.1**	**+1.8**
comp=Z,19nm,0.3s							
PKI	**Pulchoki**	**15.71**	**120**	*e*P	**Pn**	**04 55 50.6**	**+1.1**
comp=Z,20nm,0.3s							
PKI	**Pulchoki**	**15.71**	**120**	*e*P	**Pn**	**04 55 51.1**	**+1.6**
PKI				pmax	pmax		
comp=Z,19nm,0.3s							
PKI	**Pulchoki**	**15.71**	**120**	*e*P	**Pn**	**04 55 51.1**	**+1.6**
comp=Z,19nm,0.3s							
GUN	**Gumba**	**15.84**	**118**	*e*P	**Pn**	**04 55 52.2**	**+1.2**
comp=Z,24nm,0.4s							
JIRN	**Jiri**	**16.21**	**118**	*e*P	**P**	**04 55 55.6**	**+1.0**
AKTK	**Aktyubinsk**	**16.42**	**332**	P	**P**	**04 55 57.0**	**+0.3**
AKTO	**Aktyubinsk**	**16.42**	**332**	⇑Pn	**Pn**	**04 55 56.9**	**-0.8**
comp=Z,0.3nm,0.7s							
AKTO	**Aktyubinsk**	**16.42**	**332**	P	**P**	**04 55 57.0**	**+0.3**
comp=Z,0.6nm,0.3s,baz=148,slow=13,SNR=9.5							
RAMN	**Ramite**	**16.93**	**120**	*e*P	**P**	**04 56 02.8**	**+0.2**
comp=Z,34nm,0.6s							
TAPN	**Taplejung**	**17.48**	**117**	*e*P	**P**	**04 56 09.1**	**+0.6**
comp=Z,23nm,0.5s							
ODAN	**Odare**	**17.54**	**118**	*e*P	**P**	**04 56 09.7**	**+0.5**
comp=Z,30nm,0.7s							
SONM	**Songino Array**	**28.89**	**56**	P	**P**	**04 57 58.6**	**+0.4**
comp=Z,0.9nm,0.7s,mb3.5,baz=268,slow=7.9,SNR=6.6							
TORD	**Torodi Ar. Bea**	**65.02**	**268**	P	**P**	**05 02 34.0**	**-3.0**
comp=Z,0.7nm,0.7s,mb3.4,baz=49,slow=6.0,SNR=8.7							
WRA	**Warramunga Arr**	**82.60**	**121**	P	**P**	**05 04 15.4**	**-3.4**
comp=Z,0.5nm,0.7s,mb3.4,baz=319,slow=5.7,SNR=3.2							
WRA	**Warramunga Arr**	**82.60**	**121**	P	**P**	**05 04 15.4**	**-3.4**
WRA				pmax	pmax		
comp=Z,20nm,0.3s							
ASAR	**Alice Springs**	**84.84**	**124**	P	**P**	**05 04 27.0**	**-3.2**
comp=Z,0.2nm,0.5s,baz=311,slow=5.2,SNR=8.0							

*ISCJB **31** 05:20:45.2±0.8,2125S±004×7067W±0.10,h53km±9km, mb4.5/10,Error ellipse: s-maj=15.6km s-min=6.5km az=169.1*
*NEIC **31** 05:20:46.5±0.9,21.19S×7

OTAV Otavalo 22.67 340 *e*P **P 05 25 45.8 +2.0**
5.1nm,0.9s,mb4.0
AOPR Arecibo Observ 39.55 6 *e*P **P 05 28 15.3 +2.3**
91nm,2.1s,mb5.3
LIC Lamto 69.94 75 *e*P **P 05 32 00.6 +7.4**
3.6nm,0.4s,mb4.7
LIC Lamto 69.94 75 *e*P **P 05 32 00.7 +7.5**
8.0nm,0.2s,mb5.2
TIC Toumodi 70.12 74 *e*P **P 05 32 01.2 +6.9**
2.3nm,0.6s,mb4.3,baz=196,slow=13,SNR=3.9
TIC Toumodi 70.12 74 *e*P **P 05 32 01.6 +7.3**
32nm,0.5s,mb5.5
KIC Kosan Boka 70.25 75 *e*P **P 05 32 02.6 +7.5**
5.5nm,0.4s,mb4.8
KIC Kosan Boka 70.25 75 *e*P **P 05 32 02.8 +7.7**
2.2nm,0.6s,mb4.3,baz=196,slow=13,SNR=3.9
DBIC Dimbokro 70.28 74 P **P 05 31 53.1 -2.1**
2.3nm,0.9s,mb4.3,baz=257,slow=4.6,SNR=11
SYO Syowa Base 77.31 160⇑*e*P **P 05 32 35.0 -0.5**
TORD Torodi Ar. Bea 78.86 71 P **P 05 32 43.2 -1.8**
2.3nm,0.8s,mb4.2,baz=257,slow=4.6,SNR=11
TSUM Tsumeb 81.72 107 P **P 05 32 58.4 -1.9**
2.0nm,0.8s,mb4.1
MAW Mawson 85.03 164 P **P 05 33 17.9 +1.4**
1.0nm,0.4s,mb4.3,baz=216,slow=6.5,SNR=6.7
YKA Yellowknife Ar 90.41 341 P **P 05 33 42.5 +0.3**
0.8nm,0.5s,mb4.3,baz=138,slow=4.9,SNR=3.8
ASAR Alice Springs 129.32 210 PKP PKPdf 05 39 50.6 +0.4
0.6nm,0.9s,baz=142,slow=1.8,SNR=7.1
WRA Warramunga Arr 132.28 213 PKP PKPdf 05 39 57.4 +1.5
1.1nm,0.8s,baz=193,slow=1.4,SNR=4.1
KURK Kurchatov 142.03 32 PKP PKPdf 05 40 11.1 -1.8
0.1nm,0.4s,baz=313,slow=2.1,SNR=2.5
ZALV Zalesovo Beam 142.43 24 PKP PKPdf 05 40 14.3 +0.8
1.2nm,0.6s,baz=266,slow=3.8,SNR=3.3
ZALV Zalesovo Beam 142.43 24 PKP PKPdf 05 40 14.3 +0.8
MKAR Makanchi Array 146.41 34 PKPbc PKPbc 05 40 21.7 -0.3
1.5nm,0.8s,baz=336,slow=2.7,SNR=9.3
MJAR Matsushiro Arr 150.60 307 PKPbc PKPbc 05 40 32.2 -1.1
0.5nm,0.3s,baz=161,slow=1.3,SNR=4.2
SONM Songino Array 153.39 4 PKPbc PKPbc 05 40 39.6 +0.4
0.3nm,0.5s,baz=317,slow=1.2,SNR=3.6

TEH ***31*** *05:23:55.4,2687N×5581E,h5km,ML3.9*
CSEM ***31*** *05:23:55.3±0.1,2688N×5568E,h10km,mb4.6/13,Ms4.3, Error ellipse: s-maj=2.8km s-min=2.5km az=24.0*
IDC ***31*** *05:23:56.8±2.0,2694N×5569E,h0km,mb3.9/13, mb1 4.1/16,mb1mx4.0/29,mbtmp4.0/16,ML3.9/2,MS2.9/2, Ms1 2.9/2,ms1mx2.5/30,Error ellipse: s-maj=43.4km s-min=18.2km az=162.0*
THR ***31*** *05:23:58.6±0.4,2696N×5584E,h15km,ML3.7*
NEIC ***31*** *05:23:58.6,2695N×5584E,h15km,mb4.6/12, ML3.7(THR),MN3.9(TEH),After THR.*
MOS ***31*** *05:23:58.7±0.9,2681N×5561E,h33km,mb4.8/11,Error ellipse: s-maj=14.7km s-min=6.7km az=125.7*
ISCJB ***31*** *05:23:59.4±0.4,2679N±003×5571E±004,h44km±5km, mb4.2/25,Error ellipse: s-maj=6.8km s-min=4.7km az=154.1*

ISC 31 05:24:01.1±0.4,2676N±003×5575E±004,h45km±4km, n111,σ0§99/118,mb4.2/25,8C-3D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**0.97**	**149**	⇑P	**Pn**	**05 24 16.0**	**-2.3**
	SNR=1076						
BANOM				⇑S	**Sn**	**05 24 30.6**	**-0.4**
BANOM	**Banah**	**0.97**	**149**	Pn	**Pn**	**05 24 15.0**	**-3.3**
BANOM	**Banah**	**0.97**	**149**	P	**Pn**	**05 24 16.0**	**-2.3**
	SNR=1000						
BANOM				Sn	**Sn**	**05 24 29.3**	**-1.6**
BANOM				S	**Sn**	**05 24 30.6**	**-0.3**
NAZ	**Nazwa, Dubai**	**1.77**	**182**	Pn	**Pn**	**05 24 30.4**	**+1.2**
HATD	**Hatta, Dubai**	**1.96**	**170**	Pn	**Pn**	**05 24 31.9**	**+0.1**
	SNR=149						
FAQ	**Al Faqa, Dubai**	**2.01**	**184**	Pn	**Pn**	**05 24 33.7**	**+1.1**
	SNR=5.7						
ASHO	**Ashiyiah**	**2.09**	**172**	P	**Pn**	**05 24 34.2**	**+0.6**
	SNR=22						
GHIR	**Ghir-Karzin**	**2.88**	**302**	*e*Pn	**Pn**	**05 24 45.8**	**+1.3**
GHIR				AML	AML	05 25 42.2	
	comp=E,406nm,0.7s						
GHIR				AML	AML	05 25 54.9	
	comp=N,423nm,1.4s						
GHIR	**Ghir-Karzin**	**2.88**	**302**	Pn	**Pn**	**05 24 45.0**	**+0.5**
KRBR	**Kerman**	**3.33**	**15**	*e*Pn	**Pn**	**05 24 49.5**	**-1.2**
KRBR				AML	AML	05 25 44.0	
	comp=E,94nm,0.4s						
KRBR	**Kerman**	**3.33**	**15**	Pn	**Pn**	**05 24 49.0**	**-1.7**
ISRV	**Sarvestan**	**3.50**	**319**	Pn	**Pn**	**05 24 54.8**	**+1.9**
ISRV	**Sarvestan**	**3.50**	**319**	*e*Pn	**Pn**	**05 24 54.9**	**+2.0**
ISRV				*e*		05 26 11.9	
BIDO	**Bidbid**	**3.88**	**146**	P	**Pn**	**05 24 57.1**	**-1.1**
	SNR=8.1						
IPAR	**Pars**	**3.88**	**323**	*e*Pn	**Pn**	**05 24 59.8**	**+1.6**
IPAR				*e*		05 25 50.4	
IMEH	**Mehriz**	**4.72**	**348**	*e*Pn	**Pn**	**05 25 10.7**	**+1.0**
IMEH				*e*		05 26 11.3	
IBAF	**Bafgh**	**4.81**	**358**	Pn	**Pn**	**05 25 11.3**	**+0.3**
IBAF	**Bafgh**	**4.81**	**358**	*e*Pn	**Pn**	**05 25 11.4**	**+0.4**
IBAF				*e*		05 26 58.2	
SLWS		**5.00**	**248**	P	**Pn**	**05 25 13.6**	**0.0**
WBK	**Wadi Bani Khal**	**5.07**	**144**	P	**Pn**	**05 25 13.4**	**-1.2**
	SNR=24						
BTHS		**5.19**	**240**	P	**Pn**	**05 25 15.5**	**-0.7**
ZHSF	**Zahedan**	**5.27**	**56**	*e*Pn	**Pn**	**05 25 16.8**	**-0.5**
ZHSF	**Zahedan**	**5.27**	**56**	Pn	**Pn**	**05 25 16.0**	**-1.3**
IKOO	**Kooshah**	**6.32**	**26**	*e*	**Pn**	**05 25 33.2**	**+1.6**
IGAR	**Gharneh**	**6.48**	**331**	*e*Pn	**Pn**	**05 25 35.2**	**+1.3**
IGAR				*e*Sn	**Sn**	**05 26 44.6**	**-1.9**
IGAR				*e*		05 26 52.9	
NASN	**Na'in**	**6.54**	**338**	*e*Pn	**Pn**	**05 25 35.1**	**+0.4**
NASN				AML	AML	05 26 55.5	
	comp=E,11nm,0.7s						
NASN	**Na'in**	**6.54**	**338**	Pn	**Pn**	**05 25 35.0**	**+0.3**
IZEF	**Zefreh**	**6.80**	**335**	*e*Pn	**Pn**	**05 25 38.6**	**+0.4**
IZEF				*e*		05 25 42.0	
IZEF				*e*Sn	**Sn**	**05 26 52.6**	**-1.6**
HRDDS		**6.87**	**238**	P	**Pn**	**05 25 38.5**	**-0.7**
IPIR	**Pirpir**	**7.25**	**326**	Pn	**Pn**	**05 25 45.2**	**+0.7**
IPIR				*e*Sn	**Sn**	**05 27 03.2**	**-2.4**
IPIR	**Pirpir**	**7.25**	**326**	*e*Pn	**Pn**	**05 25 45.3**	**+0.8**
IPIR				*e*Sn	**Sn**	**05 27 03.2**	**-2.4**
IPIR				*e*		05 27 09.2	
IKLH	**Kolahrood**	**7.47**	**332**	Pn	**Pn**	**05 25 47.4**	**0.0**
IKLH	**Kolahrood**	**7.47**	**332**	*e*Pn	**Pn**	**05 25 47.5**	**+0.1**
IKLH				*e*		05 27 23.6	
RDF	**Al-Radifah**	**7.57**	**288**	*e*P	**Pn**	**05 25 49.5**	**+0.7**
	baz=288						
RDF				AML	AML	05 27 13.2	
	comp=Z,28nm,0.3s,baz=288						
UMR	**Umm Al-Rimmam**	**7.61**	**293**	*e*P	**Pn**	**05 25 49.2**	**-0.2**
NAY	**Al-Naaiem**	**7.91**	**290**	*e*P	**Pn**	**05 25 53.1**	**-0.4**
	baz=289						
NAY				AML	AML	05 27 21.6	
	comp=Z,16nm,0.2s,baz=289						
MIB	**Mutribah**	**8.01**	**294**	*e*P	**Pn**	**05 25 54.8**	**0.0**
	baz=293						
MIB				AML	AML	05 27 23.2	
	comp=Z,38nm,0.4s,baz=293						
RST	**Umm Al-Ruwaisa**	**8.19**	**291**	*e*P	**Pn**	**05 25 57.0**	**-0.3**
	baz=291						
RST				AML	AML	05 27 27.4	
	comp=Z,0.6nm,0.3s,baz=291						
ASYS		**10.19**	**277**	S	**Sn**	**05 28 12.0**	**-5.6**
GNI	**Garni**	**16.19**	**328**	Pn	**Pn**	**05 27 44.5**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=163,slow=15,SNR=3.6						
GNI				LR	LR	05 34 34.0	
	comp=Z,34nm,20.2s,baz=131,slow=40						
GNI	**Garni**	**16.19**	**328**	P	**Pn**	**05 27 42.9**	**-2.4**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GNI	**Garni**	**16.19**	**328**	P	**Pn**	**05 27 42.9**	**-2.4**
	comp=Z,9.0nm,0.7s						
GNI	**Garni**	**16.19**	**328**	Pn	**Pn**	**05 27 42.9**	**-2.4**
	comp=Z,9.5nm,0.7s						
GNI				LR	LR	05 34 34.0	
ASF	**Jabal al Asfar**	**17.27**	**293**	Pn	**Pn**	**05 28 00.2**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=320,slow=1.5,SNR=6.0						
MMAI	**Mount Meron Ar**	**18.70**	**294**	P	**Pn**	**05 28 17.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=102,slow=16,SNR=7.5						
KIV	**Kislovodsk**	**20.15**	**332**	⇓*i*P	**P**	**05 28 33.8**	**+2.4**
KIV				*i*		05 28 47.7	
KIV				pmax	pmax		
	comp=Z,22nm,0.8s						
KIV	**Kislovodsk**	**20.15**	**332**	*i* P	**P**	**05 28 33.8**	**+2.4**
	comp=Z,22nm,0.8s						
AKTK	**Aktyubinsk**	**23.70**	**4**	P	**P**	**05 29 09.1**	**+0.5**
AKTK	**Aktyubinsk**	**23.70**	**4**	P	**P**	**05 29 09.1**	**+0.5**
AKTK				LR	LR	05 39 02.1	
AKTO	**Aktyubinsk**	**23.70**	**4**	P	**P**	**05 29 09.1**	**+0.5**
	comp=Z,1.9nm,0.6s,mb3.7,baz=184,slow=9.6,SNR=9.7						
AKTO				LR	LR	05 39 02.1	
	comp=Z,32nm,18.6s,baz=98,slow=38						
BVAR	**Borovoye Array**	**28.42**	**19**	P	**P**	**05 29 51.6**	**+0.4**
	comp=Z,1.7nm,0.6s,mb3.8,baz=189,slow=7.5,SNR=8.5						
MKAR	**Makanchi Array**	**28.96**	**39**	P	**P**	**05 29 56.8**	**+0.7**
	comp=Z,0.4nm,0.5s,mb3.4,baz=229,slow=10,SNR=3.5						
KURK	**Kurchatov**	**29.61**	**30**	P	**P**	**05 30 00.9**	**-0.9**
	comp=Z,0.5nm,0.8s,mb3.3,baz=231,slow=8.3,SNR=4.9						
AKASG	**Malin Array Be**	**31.31**	**327**	P	**P**	**05 30 16.6**	**-0.2**
	comp=Z,1.5nm,0.4s,mb4.1,baz=136,slow=8.5,SNR=13						
KIEV	**Kiev**	**31.31**	**327**	*e*P	**P**	**05 30 16.6**	**-0.2**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.6						
KIEV	**Kiev**	**31.31**	**327**	*e*P	**P**	**05 30 16.6**	**-0.2**
	comp=Z,3.8nm,0.4s,mb4.6						
KIEV	**Kiev**	**31.31**	**327**	*e*P	**P**	**05 30 16.6**	**-0.2**
	comp=Z,3.8nm,0.4s,mb4.6						
ZAL	**Zalesovo**	**34.58**	**30**	P	**P**	**05 30 45.7**	**+0.4**
ZALV	**Zalesovo Beam**	**34.60**	**30**	P	**P**	**05 30 45.7**	**+0.2**
	comp=Z,1.2nm,0.3s,mb4.2,baz=229,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**34.60**	**30**	P	**P**	**05 30 45.7**	**+0.2**
GERES	**GERESS Array B**	**39.21**	**316**	P	**P**	**05 31 24.3**	**-0.4**
	comp=Z,0.5nm,0.3s,mb3.8,baz=108,slow=8.6,SNR=3.9						
WTTA	**Wattenberg**	**40.08**	**313**⇑*i*P		**P**	**05 31 32.4**	**+0.4**
	comp=Z,8.0nm,0.9s,mb4.5						
WTTA	**Wattenberg**	**40.08**	**313**⇑*i*P		**P**	**05 31 32.4**	**+0.4**
WTTA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
SQTA	**Sankt Quirin**	**40.35**	**312**⇑*i*P		**P**	**05 31 34.4**	**+0.2**
MOTA	**Moosalm**	**40.45**	**313**⇓*i*P		**P**	**05 31 35.4**	**+0.4**
	comp=Z,3.5nm,0.5s,mb4.4						
MOTA	**Moosalm**	**40.45**	**313**⇓*i*P		**P**	**05 31 35.4**	**+0.4**
MOTA				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
FETA	**Feichten**	**40.62**	**312**⇑*i*P		**P**	**05 31 37.0**	**+0.5**
	comp=Z,8.0nm,0.6s,mb4.5						
DAVA	**Damuels**	**41.24**	**312**⇑*i*P		**P**	**05 31 41.6**	**0.0**
	comp=Z,16nm,0.5s,mb5.0						
DAVA	**Damuels**	**41.24**	**312**⇑*i*P		**P**	**05 31 41.5**	**-0.1**
	comp=Z,16nm,0.4s,mb5.0						
MBDF	**Montbardon**	**42.91**	**308**	*e*P	**P**	**05 31 54.8**	**-0.4**
	comp=Z,28nm,1.2s,mb4.6						
MBDF	**Montbardon**	**42.91**	**308**	*e*P	**P**	**05 31 54.8**	**-0.4**
MBDF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.6						
MBDF	**Montbardon**	**42.91**	**308**	*e*P	**P**	**05 31 54.8**	**-0.4**
	comp=Z,14nm,1.2s,mb4.6						
LPG	**La Plagne**	**43.03**	**309**	*e*P	**P**	**05 31 55.9**	**-0.3**
LPL	**La Plagne**	**43.05**	**309**	*e*P	**P**	**05 31 55.4**	**-0.9**
CDF	**Champ du Feu**	**43.20**	**313**	*e*P	**P**	**05 31 56.7**	**-0.8**
HINF	**Hinteralfeld**	**43.36**	**312**	*e*P	**P**	**05 31 58.2**	**-0.6**
CABF	**La Chapelle**	**43.66**	**310**	*e*P	**P**	**05 32 01.1**	**-0.1**
HAU	**Haudompre**	**43.73**	**312**	*e*P	**P**	**05 32 01.0**	**-0.8**
SONM	**Songino Array**	**44.53**	**48**	P	**P**	**05 32 10.8**	**+2.6**
	comp=Z,0.8nm,0.8s,mb3.6,baz=232,slow=7.3,SNR=4.8						
LASF	**Ste Croix**	**44.91**	**307**	*e*P	**P**	**05 32 11.2**	**-0.1**
SMF	**Signal de Mont**	**45.20**	**310**	*e*P	**P**	**05 32 13.2**	**-0.3**
	comp=Z,23nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**45.20**	**310**	*e*P	**P**	**05 32 13.2**	**-0.3**
SMF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**45.20**	**310**	*e*P	**P**	**05 32 13.2**	**-0.3**
	comp=Z,12nm,1.0s,mb4.7						
LOR	**Lormes**	**45.27**	**311**	*e*P	**P**	**05 32 12.7**	**-1.4**
NB2	**NORSAR Subarra**	**45.46**	**331**	P	**P**	**05 32 15.5**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.6,baz=120,slow=7.9						
NOA	**NORSAR Array B**	**45.46**	**331**	P	**P**	**05 32 15.2**	**-0.1**
	comp=Z,1.3nm,0.7s,mb3.8,baz=118,slow=7.9,SNR=4.6						
SSF	**Saint Saulge**	**45.48**	**311**	*e*P	**P**	**05 32 14.7**	**-1.0**
	comp=Z,8.0nm,0.7s,mb4.4						
SSF	**Saint Saulge**	**45.48**	**311**	*e*P	**P**	**05 32 14.7**	**-1.0**
SSF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
SSF	**Saint Saulge**	**45.48**	**311**	*e*P	**P**	**05 32 14.7**	**-1.0**
	comp=Z,4.0nm,0.7s,mb4.4						
AVF	**Avril sur Loir**	**45.55**	**310**	*e*P	**P**	**05 32 15.0**	**-1.3**
BGF	**Bois d'Agland**	**45.87**	**310**	*e*P	**P**	**05 32 17.9**	**-0.9**
MTLF	**Montolieu**	**46.05**	**305**	*e*P	**P**	**05 32 20.3**	**0.0**
	comp=Z,20nm,1.0s,mb4.7						
MTLF	**Montolieu**	**46.05**	**305**	*e*P	**P**	**05 32 20.3**	**0.0**
MTLF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
MTLF	**Montolieu**	**46.05**	**305**	*e*P	**P**	**05 32 20.3**	**0.0**
	comp=Z,10.0nm,1.0s,mb4.7						
CAF	**Calviac**	**46.26**	**308**	*e*P	**P**	**05 32 22.2**	**+0.3**
	comp=Z,13nm,1.0s,mb4.5						
CAF	**Calviac**	**46.26**	**308**	*e*P	**P**	**05 32 22.2**	**+0.3**
CAF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CAF	**Calviac**	**46.26**	**308**	*e*P	**P**	**05 32 22.2**	**+0.3**
	comp=Z,6.4nm,1.0s,mb4.5						
TCF	**Toulx Ste Croi**	**46.28**	**309**	*e*P	**P**	**05 32 21.3**	**-0.7**
ARCES	**ARCESS Array B**	**46.30**	**346**	P	**P**	**05 32 22.6**	**+0.8**
	comp=Z,1.8nm,0.9s,mb4.0,baz=153,slow=9.0,SNR=5.3						
RJF	**Les Rejaudoux**	**46.67**	**308**	*e*P	**P**	**05 32 24.9**	**-0.3**
	comp=Z,18nm,0.9s,mb4.7						
RJF	**Les Rejaudoux**	**46.67**	**308**	*e*P	**P**	**05 32 24.9**	**-0.3**
RJF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
RJF	**Les Rejaudoux**	**46.67**	**308**	*e*P	**P**	**05 32 24.9**	**-0.3**
	comp=Z,8.9nm,0.9s,mb4.7						
LFF	**La Frestale**	**47.20**	**308**	*e*P	**P**	**05 32 28.8**	**-0.5**
ETSF	**Etsaut**	**48.07**	**305**	*e*P	**P**	**05 32 38.4**	**+2.4**
	comp=Z,18nm,0.9s,mb4.8						
ETSF	**Etsaut**	**48.07**	**305**	*e*P	**P**	**05 32 38.4**	**+2.4**
ETSF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ETSF	**Etsaut**	**48.07**	**305**	*e*P	**P**	**05 32 38.4**	**+2.4**
	comp=Z,8.8nm,0.9s,mb4.8						
LDF	**La Druitiere**	**48.09**	**312**	*e*P	**P**	**05 32 35.4**	**-0.7**
FLN	**La Foliniere**	**48.34**	**313**	*e*P	**P**	**05 32 36.8**	**-1.3**
ESDC	**Sonseca Array**	**50.74**	**301**	P	**P**	**05 32 57.5**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=56,slow=7.7,SNR=4.5						
MDT	**Midelt**	**52.13**	**292**	P	**P**	**05 33 08.6**	**+1.6**
	comp=Z,3.0nm,1.0s,mb4.2,baz=80,slow=11,SNR=3.9						
DBIC	**Dimbokro**	**60.81**	**262**	P	**P**	**05 34 10.2**	**+1.2**
	comp=Z,3.8nm,1.0s,mb4.5,baz=60,slow=8.1,SNR=3.5						

MOS ***31*** *05:24:33.0±1.2,1170N×8729W,h33km,mb5.1/12,Error ellipse: s-maj=11.3km s-min=5.3km az=111.9*
IDC ***31*** *05:24:34.0±3.4,1174N×8719W,h33km±25km,mb4.2/18, mb1 4.5/19,mb1mx4.4/25,mbtmp4.3/19,ML4.5/1,MS4.3/23, Ms1 4.3/23,ms1mx4.2/29,Error ellipse: s-maj=21.8km s-min=10.1km az=61.0*
ISCJB ***31*** *05:24:35.0±0.8,1171N±004×8727W±003,h52km±6km, mb4.8/64,MS4.4/32,Error ellipse: s-maj=7.6km s-min=4.3km az=14.8*
GCMT ***31*** *05:24:35.5±0.3,1125N×8766W,h12km,MW5.1/74, Moment Tensor Solution. s40,c47; s74,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.95±.09; $M_{\theta\theta}$-1.76±.07; $M_{\phi\phi}$-1.19±. 10; $M_{r\theta}$3.42±.27; $M_{\theta\phi}$1.40±.07; $M_{\phi r}$-2.79±.29; Best double couple: $M_0$5.29600×10^{16} NP1:ϕ_s309.00000°,δ17.00000°,λ90.00000°. NP2: ϕ_s129.00000°,δ73.00000°,λ90.00000°. Principal axes: T 5.3190, Plg62.0000°, Azm39.0000°; N -0.0460, Plg0.0000°, Azm129.0000°; P -5.2730, Plg28.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***31*** *05:24:35.5±0.6,1159N×8738W,h51km±4km,mb4.9/51 Error ellipse: s-maj=6.1km s-min=3.8km az=202.0*
BJI ***31*** *05:24:35.5,1160N×8740W,h51km,mb5.1,Ms5.1,Msz4.8*

ISC 31 05:24:36.9±0.6,1172N±004×8726W±003,h53km±5km, n506,σ0§89/463,mb4.8/64,MS4.4/32,126C-116D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**2.32**	**360**	*e*Pn	**Pn**	**05 25 12.6**	**-0.1**
CCIG	**Comitan**	**6.55**	**314**	*i* P	**Pn**	**05 26 10.8**	**0.0**
SCX	**San Cristobal**	**7.21**	**314**	*e*P	**Pn**	**05 26 18.5**	**-1.2**
BCIP	**Isla Barro Col**	**7.73**	**108**	*e*Pn	**Pn**	**05 26 26.0**	**-1.0**
TEIG	**Tepich**	**8.51**	**354**	Pn	**Pn**	**05 26 40.2**	**+2.6**
	0.3nm,0.3s,baz=158,slow=19,SNR=5.2						
TEIG				LR	LR	05 30 31.7	
	comp=Z,1μm,18.2s,baz=273,slow=42						
TEIG	**Tepich**	**8.51**	**354**	*e*Pn	**Pn**	**05 26 39.2**	**+1.6**
CMIG	**Matias Romero**	**9.11**	**307**	Pn	**Pn**	**05 26 42.7**	**-3.0**
	4.4nm,0.3s,baz=113,slow=9.8,SNR=37						
CMIG				Sn	**Sn**	**05 28 33.5**	**+6.6**
	1.2nm,0.3s,baz=315,slow=19,SNR=2.5						
CMIG	**Matias Romero**	**9.11**	**307**	Pn	**Pn**	**05 26 42.7**	**-3.0**
CMIG				Sn	**Sn**	**05 28 33.5**	**+6.6**
OXX	**Oaxaca**	**10.60**	**301**	*e*P	**Pn**	**05 27 07.2**	**+1.0**
VHO	**Vista Hermosa**	**10.60**	**301**	*e*P	**Pn**	**05 27 07.3**	**+1.1**
VHO				*i* S	**Sn**	**05 28 45.5**	**-18**
PNIG	**Pinotepa**	**11.52**	**295**	*e*P	**Pn**	**05 27 14.3**	**-4.4**
SOR	**Soroa**	**11.73**	**20**	*e*P	**Pn**	**05 27 27.4**	**+5.8**
LMGC	**Las Mercedes**	**12.88**	**49**	*e*P	**Pn**	**05 27 42.9**	**+5.5**
LMGC				*e*			
	comp=E,2μm,20.4s						
PPM	**Popocatepetl**	**13.16**	**305**	*i* P	**Pn**	**05 27 41.4**	**+0.2**
ACX	**Acapulco**	**13.28**	**294**	*e*P	**Pn**	**05 27 38.5**	**-4.4**
YAIG	**Yautepec**	**13.41**	**303**	*e*P	**Pn**	**05 27 42.8**	**-1.8**
IIO	**Organos**	**13.52**	**307**	*e*P	**Pn**	**05 27 44.0**	**-2.1**
PLIG	**Platanillo**	**13.55**	**301**	*e*P	**Pn**	**05 27 44.2**	**-2.3**
CAIG	**El Cayaco**	**13.66**	**294**	*e*P	**Pn**	**05 27 45.0**	**-3.0**
PBVM	**Pinon**	**13.72**	**305**	*e*P	**Pn**	**05 27 46.4**	**-2.4**
PTVM	**Pico Tres Padr**	**13.83**	**306**	*e*P	**Pn**	**05 27 50.5**	**+0.3**
RCC	**Rio Carpintero**	**13.83**	**52**	*e*P	**Pn**	**05 27 51.8**	**+1.5**
RCC				*e*			
	comp=E,13nm,1.5s						
OTAV	**Otavalo**	**14.38**	**142**	*e*Pn	**Pn**	**05 28 01.9**	**+4.2**
ROSC	**El Rosal**	**14.50**	**117**	Pn	**Pn**	**05 28 00.3**	**+1.1**
	comp=E,0.1nm,0.3s,baz=277,slow=17,SNR=2.6						
ROSC				LR	LR	05 33 37.0	
	comp=E,642nm,19.4s,baz=164,slow=38						
ROSC	**El Rosal**	**14.50**	**117**	Pn	**Pn**	**05 28 00.3**	**+1.1**
ROSC				LR	LR	05 33 37.0	
MOAC	**Moa**	**14.78**	**51**	*e*P	**Pn**	**05 27 57.9**	**-4.9**
ZIIG	**Zihuatanejo**	**14.93**	**295**	*e*P	**Pn**	**05 28 03.2**	**-1.6**
MASC	**Masc**	**15.08**	**55**	*e*P	**Pn**	**05 28 09.5**	**+2.7**
MOIG	**Morelia**	**15.56**	**302**	*e*P	**Pn**	**05 28 11.8**	**-1.1**
SDV	**Santo Domingo**	**16.60**	**98**	Pn	**Pn**	**05 28 26.2**	**0.0**
	comp=E,3.3nm,0.3s,baz=345,slow=11,SNR=14						
SDV	**Santo Domingo**	**16.60**	**98**	*e*Pn	**Pn**	**05 28 26.3**	**0.0**
	comp=E,43nm,0.9s						
DWPF	**Disney**	**17.19**	**18**	*e*Pn	**Pn**	**05 28 34.9**	**+1.4**
	comp=E,67nm,1.1s						
SFJM	**Santa Fe**	**17.47**	**302**	*e*P	**Pn**	**05 28 31.7**	**-5.3**
KVTX	**Kingsville**	**18.64**	**329**	*e*Pn	**Pn**	**05 28 51.1**	**0.0**
KVTX				*e*		05 28 58.8	
BRAL	**Brewton**	**19.20**	**1**	*e*Pn	**Pn**	**05 28 59.4**	**+1.6**
	comp=E,104nm,0.8s						
HKT	**Hockley**	**19.81**	**338**	*e*P	**Pn**	**05 29 03.4**	**-1.7**
HKT				pmax	pmax		
	comp=Z,41nm,1.2s						
HKT	**Hockley**	**19.81**	**338**	*e*P	**Pn**	**05 29 03.4**	**-1.7**
	comp=Z,41nm,1.2s						
ATAH	**Atahualpa**	**20.59**	**154**	P	**P**	**05 29 13.6**	**+1.9**
	comp=Z,4.2nm,0.7s,baz=291,slow=7.4,SNR=3.7						
ATAH				LR	LR	05 35 57.6	
	comp=Z,1μm,21.4s,MS4.3,baz=177,slow=33						
VBMS	**Vicksburg**	**20.62**	**352**	*e*P	**P**	**05 29 14.0**	**+2.2**
AOPR	**Arecibo Observ**	**20.86**	**69**	*e*P	**P**	**05 29 15.1**	**+0.4**
	comp=Z,30nm,0.8s						
NATX	**Nacogdoches**	**21.08**	**342**	*e*P	**P**	**05 29 18.2**	**+1.4**
SJG	**San Juan**	**21.36**	**70**	P	**P**	**05 29 19.2**	**-0.8**
	comp=Z,42nm,0.7s,mb4.8,baz=265,slow=2.2,SNR=17						
SJG				LR	LR	05 38 00.6	
	comp=Z,1μm,19.1s,MS4.4,baz=264,slow=38						
SJG	**San Juan**	**21.36**	**70**	*e*P	**P**	**05 29 22.1**	**+2.1**
CPD	**Cerro la Pandu**	**21.55**	**71**	*e*P	**P**	**05 29 22.5**	**+0.4**
CPD				pmax	pmax		
	comp

SDMD **Soldier's Deli** 29.09 17 eP P 05 30 33.0 +0.5
comp=Z,24nm,0.8s,mb5.0
SDMD eP cP P cP 05 33 40.7 +1.1
218A **Dragoon** 29.09 317 ⇑P P 05 30 33.6 +0.9
baz=29
217A **Green Valley** 29.49 316 ⇑P P 05 30 37.8 +1.7
baz=29
MVL **Millersville** 29.77 17 eP P 05 30 30.3 -8.3
comp=Z,17nm,0.8s,mb4.8
TUC **Tucson** 29.79 317 eP P 05 30 39.7 +0.8
TUC e 05 33 44.5
117A **Oracle** 29.92 318 ⇓P P 05 30 41.3 +1.2
baz=30
X19A **St. Johns** 30.22 322 ⇑P P 05 30 43.8 +1.2
baz=30
SCIA **State Center** 30.52 351 eP P 05 30 43.4 -1.7
comp=Z,26nm,1.1s,mb5.0
SCIA eP cP cP 05 33 43.9 +0.7
116A **Eloy** 30.56 317 ⇓P P 05 30 46.8 +1.2
baz=30
SDCO **Great Sand Dun** 30.63 331 eP P 05 30 45.8 -0.4
214A **Organ Pipe Nat** 30.97 315 ⇓P P 05 30 50.2 +1.0
baz=31
115A **Sonoran Desert** 31.00 316 ⇑P P 05 30 50.1 +0.6
baz=31
X17A **Forest Lakes** 31.09 320 ⇑P P 05 30 51.3 +1.0
baz=31
JFWS **Jewell Farm** 31.18 356 eP P 05 30 49.6 -1.4
JFWS pmax pmax
comp=Z,23nm,1.1s,mb4.9
JFWS **Jewell Farm** 31.18 356 eP P 05 30 49.6 -1.3
comp=Z,22nm,1.1s,mb4.9
PAL **Palisades** 31.44 20 eP P 05 30 53.9 +0.6
PAL pmax pmax
comp=Z,21nm,0.8s,mb5.0
PAL **Palisades** 31.44 20 eP P 05 30 53.9 +0.6
comp=Z,21nm,0.8s,mb5.0
V18A **Ganado** 31.48 323 ⇓P P 05 30 54.3 +0.5
baz=31
X16A **Lo Mia Camp, P** 31.54 320 ⇑P P 05 30 55.2 +0.9
baz=32
MVCO **Mesa Verde** 31.74 327 ⇑P P 05 30 56.2 +0.2
baz=32
MVCO **Mesa Verde** 31.74 327 eP P 05 30 56.4 +0.4
comp=Z,10nm,0.8s,mb4.7
Y15A **Casa Rosa Ranc** 31.83 318 ⇑P P 05 30 58.4 +1.6
baz=32
BINY **Binghamton** 31.92 16 eP P 05 30 57.7 +0.2
W16A **Flagstaff** 32.04 321 ⇑P P 05 30 59.6 +1.0
baz=32
113A **Mohawk Valley,** 32.09 315 ⇓P P 05 31 00.7 +1.5
baz=32
X15A **Humboldt** 32.09 319 ⇓P P 05 31 00.3 +1.2
baz=32
WUAZ **Wupatki** 32.22 321 eP P 05 30 54.5 -5.7
comp=Z,8.5nm,0.9s,mb4.6
Y14A **Wickenburg** 32.26 317 ⇓P P 05 31 01.3 +0.7
baz=32
ISCO **Idaho Springs** 32.34 333 eP P 05 31 01.0 -0.2
ISCO e 05 33 49.8
T18A **Mexican Hat** 32.45 325 ⇑P P 05 31 02.5 +0.3
baz=32
PV01 **Paradox Valley** 32.47 328 eP P 05 30 59.7 -2.6
SMCO **Snowmass** 32.47 331 eP cP cP 05 33 45.9 -2.5
SMCO eS cP S cP 05 37 31.1 +3.1
S19A **Harvey Farm, M** 32.48 327 ⇑P P 05 31 02.4 -0.1
baz=32
U16A **Tuba City** 32.48 322 ⇑P P 05 31 03.2 +0.7
baz=32
X14A **Yava** 32.51 318 ⇓P P 05 31 03.0 +0.2
baz=32
U17A **Shonto** 32.52 324 ⇑P P 05 31 03.1 +0.2
baz=32
PV10 **Paradox Valley** 32.89 328 eP P 05 31 04.8 -1.3
ECSD **EROS,Sioux Fal** 32.90 347 eP P 05 31 04.0 -2.0
comp=Z,15nm,0.8s,mb5.0
ECSD eP cP cP 05 33 50.4 +0.8
V15A **Kaibab Nationa** 32.91 321 ⇓P P 05 31 07.0 +0.8
baz=33
S18A **Hurst Farm, Bl** 32.91 326 ⇑P P 05 31 06.4 +0.2
baz=33,SNR=7.5
R19A **Curley Farm, L** 32.95 327 ⇓P P 05 31 06.5 0.0
baz=33
GLA **Glamis** 32.99 314 ⇓P P 05 31 07.7 +0.7
baz=33
GLA **Glamis** 32.99 314 eP P 05 31 07.0 0.0
GLMI **Grayling** 33.06 3 eP P 05 31 06.0 -1.4
GLMI e 05 31 13.5
BRYW **Bryant College** 33.07 22 eP P 05 31 07.5 -0.1
comp=Z,18nm,0.8s,mb5.0
QUA2 **Belchertown** 33.10 20 eP P 05 31 08.2 +0.3
comp=Z,16nm,0.8s,mb5.0
Y12C **Blythe** 33.17 316 ⇑P P 05 31 09.9 +1.3
baz=33
PDMCI **Parker Dam,Lak** 33.23 317 ⇓P P 05 31 10.2 +1.1
baz=33
R18A **Canyonlands Na** 33.36 327 ⇓P P 05 31 09.9 -0.2
baz=33
V14A **Boquillas Ranc** 33.37 320 ⇓P P 05 31 10.8 +0.5
baz=33
U15A **North Rim** 33.38 322 ⇓P P 05 31 11.0 +0.7
baz=33
Q19A **Hogan Spring (** 33.44 328 ⇑P P 05 31 10.4 -0.4
baz=33,SNR=7.6
WES **Weston** 33.56 22 eP P 05 31 12.6 +0.8
LPAZ **La Paz** 33.66 145 P P 05 31 12.5 -0.4
comp=Z,1.5nm,0.6s,mb4.1,baz=319,slow=2.9,SNR=8.1
LPAZ P cP P cP 05 33 53.4 +1.2
comp=Z,1.0nm,0.8s,baz=358,slow=7.3,SNR=3.2
LPAZ L R L R 05 45 42.1
comp=Z,447nm,21.0s,MS4.2,baz=301,slow=38
LPAZ **La Paz** 33.66 145 P P 05 31 12.5 -0.4
LPAZ 05 33 53.4
LPAZ **La Paz** 33.66 145 P P 05 31 12.5 -0.4
LPAZ P cP P cP 05 33 53.4 +1.2
LPAZ L R L R 05 45 42.1
ACCN **Adirondack Com** 33.67 18 eP P 05 31 14.5 +1.7
comp=Z,14nm,0.8s,mb4.9
BC3 **Big Chuckw Mtn** 33.76 315 ⇓P P 05 31 14.6 +0.9
baz=34,SNR=7.4
T15A **Red Dirt Ranch** 33.82 322 ⇑P P 05 31 14.7 +0.5
baz=34
R17A **Hanksville Air** 33.82 326 ⇓P P 05 31 14.4 +0.2
baz=34
S16A **Weppner Ranch,** 33.83 324 ⇓P P 05 31 14.9 +0.6
baz=34
U14A **Mt Trumbull** 33.91 321 ⇓P P 05 31 15.9 +0.9
baz=34
Q18A **Rafter H Ranch** 34.01 327 ⇑P P 05 31 16.7 +0.9
baz=34
MONP **Monument Peak** 34.03 313 ⇑P P 05 31 17.2 +1.2
baz=34
NCB **Newcomb** 34.05 17 eP P 05 31 16.2 +0.2
comp=Z,18nm,0.9s,mb5.0
V13A **Grand Canyon W** 34.06 319 ⇓P P 05 31 17.3 +1.1
baz=34
BAR **Barrett** 34.10 312 eP cP cP 05 33 57.5 +4.2
R16A **Teasdale** 34.16 325 ⇓P P 05 31 17.4 +0.3
baz=34,SNR=9.7
SRU **San Rafael** 34.22 327 eP P 05 31 17.6 0.0
SRU e pP 05 31 29.4 -1.7
SRU e 05 33 56.4
SRU pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
SRU **San Rafael** 34.22 327 ⇑P P 05 31 17.8 +0.2
baz=34
SRU **San Rafael** 34.22 327 eP P 05 31 17.6 0.0
comp=Z,5.6nm,0.9s,mb4.5
SRU e pP 05 31 29.4 -1.7
SRU eP cP cP 05 33 56.4 +3.0
T14A **Hurricane** 34.27 322 ⇓P P 05 31 18.6 +0.6
baz=34
COWI **Conover** 34.30 358 eP P 05 31 16.2 -1.9
COWI eS cP S cP 05 37 41.9 +7.6
BELC **Belle Mtn.** 34.33 315 ⇓P P 05 31 19.4 +0.8
baz=34,SNR=5.7
LDFC **Landfair** 34.33 317 eP P 05 31 19.8 +1.1
LDFC eP cP cP 05 33 55.1 +1.3
MDV **Middlebury** 34.38 18 eP P 05 31 18.7 -0.2
O19A **Miners Draw (B** 34.38 330 ⇑P P 05 31 18.7 -0.3
baz=34
HNH **Hanover** 34.40 19 eP P 05 31 18.9 -0.2
FFD **Franklin Falls** 34.40 20 eP P 05 31 20.0 +1.0
comp=Z,33nm,0.9s,mb5.3
U13A **Pakoon Wash** 34.40 320 ⇓P P 05 31 19.4 +0.2
baz=34

PFO **Pinyon Flat Ob** 34.43 314 ⇑P P 05 31 19.7 +0.1
baz=34
P18A **Preston Nutter** 34.45 328 ⇓P P 05 31 19.4 -0.2
baz=34,SNR=8.7
GMRC **Granite Mounta** 34.53 316 ⇑P P 05 31 21.4 +1.1
baz=34
LONY **Lake Ozonia** 34.54 16 eP P 05 31 19.5 -0.8
V12A **Nelson** 34.55 318 ⇑P P 05 31 21.4 +0.9
baz=34
RWWY **Rawlins** 34.58 333 eP P 05 31 20.7 0.0
comp=Z,20nm,1.2s,mb4.9
P17A **Butcher Ranch,** 34.60 327 ⇓P P 05 31 21.3 +0.5
baz=34,SNR=9.1
MSU **Marysvale** 34.71 325 eP P 05 31 24.5 +2.7
T13A **Saint George** 34.75 321 ⇓P P 05 31 22.6 +0.4
baz=35
S14A **Cedar City** 34.78 323 ⇓P P 05 31 23.5 +1.0
baz=35
O18A **Roosevelt** 34.80 329 ⇑P P 05 31 23.3 +0.7
baz=35,SNR=8.7
N19A **John Jarvie Ra** 34.87 330 ⇓P P 05 31 22.6 -0.5
baz=35,SNR=7.9
MURC **Murrieta** 34.96 313 ⇓P P 05 31 25.2 +1.2
baz=35
LBNH **Lisbon** 34.99 19 eP P 05 31 24.7 +0.5
LBNH pmax pmax
comp=Z,15nm,0.8s,mb5.0
LBNH **Lisbon** 34.99 19 eP P 05 31 24.6 +0.5
comp=Z,15nm,0.8s,mb5.0
HEC **Hector,Ludlow** 35.01 316 ⇓P P 05 31 25.4 +0.9
baz=35
FRNY **Flat Rock** 35.02 17 eP P 05 31 23.8 -0.6
comp=Z,21nm,1.0s,mb5.0
FRNY eP cP cP 05 33 55.3 -0.3
S13A **Holt Ranch, En** 35.08 322 ⇑P P 05 31 25.3 +0.3
baz=35
TUQ **Turquoise Mtn.** 35.08 317 ⇑P P 05 31 26.1 +1.0
baz=35
BBRC **Big Bear Sol-O** 35.11 315 ⇑P P 05 31 25.6 +0.2
baz=35
O17A **Robinson Place** 35.12 328 ⇑P P 05 31 25.1 -0.3
baz=35,SNR=7.3
Q15A **Fillmore** 35.16 325 ⇑P P 05 31 25.7 0.0
baz=35
N18A **Larsen Ranch,** 35.17 330 ⇓P P 05 31 25.5 -0.3
baz=35,SNR=6.3
P16A **Fountain Green** 35.19 326 ⇓P P 05 31 26.2 +0.2
baz=35
RSSD **Black Hills** 35.37 339 eP P 05 31 27.8 +0.4
MPU **Maple Canyon** 35.47 327 eP P 05 31 28.7 +0.4
P15A **Leamington** 35.50 326 ⇓P P 05 31 29.1 +0.4
baz=35
R13A **O'Grain Ranch,** 35.53 322 ⇓P P 05 31 29.0 +0.1
baz=36
O16A **Springville** 35.53 327 ⇓P P 05 31 28.3 -0.7
baz=36,SNR=8.9
DAU **Daniels Canyon** 35.55 328 eP P 05 31 28.5 -0.6
GSC **Goldstone** 35.60 316 ⇑P P 05 31 30.6 +1.0
baz=36
GSC **Goldstone** 35.60 316 eP P 05 31 30.9 +1.3
GSC eP cP cP 05 33 58.7 +1.2
BFSC **Mount Baldy St** 35.62 314 ⇑P P 05 31 30.8 +1.1
baz=36
SCI **San Clemente I** 35.62 311 ⇓P P 05 31 31.6 +1.8
baz=36
Q14A **Sevier Lake (B** 35.66 324 ⇑P P 05 31 30.6 +0.6
baz=36
N17A **Moffit Pass** 35.72 329 ⇓P P 05 31 30.6 0.0
baz=36
JLU **Jordanelle** 35.79 328 eP P 05 31 31.3 +0.1
MWC **Mount Wilson** 35.89 314 eP P 05 31 33.2 +1.1
MWC pmax pmax
comp=Z,43nm,1.9s,mb5.0
MWC **Mount Wilson** 35.89 314 eP P 05 31 33.2 +1.1
comp=Z,43nm,1.9s,mb5.1
U10A **Ash Meadows, A** 35.92 318 ⇓P P 05 31 32.6 +0.3
baz=36
P14A **Drum Mountains** 35.95 325 ⇑P P 05 31 33.0 +0.4
baz=36,SNR=8.2
R12A **Pony Springs,** 36.01 322 ⇑P P 05 31 33.8 +0.7
baz=36
Q13A **Wheeler Ranch,** 36.07 323 ⇑P P 05 31 34.0 +0.5
baz=36
O15A **The Old Anders** 36.10 326 ⇑P P 05 31 34.1 +0.3
baz=36
TPNV **Topopah Spring** 36.18 319 ⇓P P 05 31 35.6 +1.1
baz=36
TPNV **Topopah Spring** 36.18 319 eP P 05 31 35.6 +1.1
TPNV eP cP cP 05 34 00.5 +1.3
EDW2 **Edwards Air Fo** 36.19 315 ⇑P P 05 31 35.3 +0.7
baz=36,SNR=5.6
DUG **Dugway** 36.23 326 ⇑P P 05 31 35.1 +0.3
baz=36
DUG **Dugway** 36.23 326 eP P 05 31 35.0 +0.2
EYMN **Ely** 36.28 355 eP P 05 31 33.0 -2.2
S11A **Rachel** 36.28 320 ⇓P P 05 31 36.2 +0.9
baz=36
FURC **Furnace Creek,** 36.30 318 ⇓P P 05 31 36.4 +0.9
baz=36
P13A **Bates Ranch, G** 36.40 324 ⇑P P 05 31 36.7 +0.4
baz=36,SNR=13
M16A **Huntsville** 36.41 328 ⇑P P 05 31 36.1 -0.3
baz=36,SNR=5.7
MPMC **Manual Prospec** 36.48 317 ⇑P P 05 31 37.2 +0.1
baz=36,SNR=5.5
PDAR **Pinedale Array** 36.49 332 P P 05 31 35.8 -1.3
comp=Z,5.1nm,0.7s,mb4.5,baz=134,slow=8.3,SNR=49
PDAR P cP P cP 05 34 00.3 +0.3
comp=Z,1.1nm,0.7s,baz=164,slow=3.7,SNR=3.9
BW06 **Boulder Array** 36.50 332 eP P 05 31 36.3 -0.8
HWUT **Hardware Ranch** 36.59 329 eP P 05 31 37.5 -0.4
comp=Z,15nm,0.8s,mb4.9
HWUT eP cP cP 05 34 00.8 +0.5
Q12A **Willow Creek R** 36.60 323 ⇑P P 05 31 38.1 0.0
baz=36
R11A **Troy Canyon, C** 36.62 321 ⇓P P 05 31 38.7 +0.5
baz=36
PKME **Peaks-Kenny Pk** 36.79 21 eP P 05 31 39.8 +0.3
comp=Z,838nm,1.6s
L16A **Fish Haven** 36.82 329 ⇑P P 05 31 39.6 -0.3
baz=37,SNR=18
BGU **Big Grassy Mou** 36.86 327 eP P 05 31 40.1 -0.2
N14A **Grayback Hills** 36.89 326 ⇓P P 05 31 40.5 0.0
baz=37,SNR=5.6
ARVC **Arvin** 36.90 314 ⇑P P 05 31 42.2 +1.5
baz=37
P12A **McGill** 36.93 323 ⇑P P 05 31 41.6 +0.7
baz=37
M15A **Larsen Ranch,** 36.94 328 ⇑P P 05 31 40.7 -0.2
baz=37,SNR=6.0
ISA **Isabella** 36.94 315 ⇑P P 05 31 41.1 +0.1
baz=37
ISA **Isabella** 36.94 315 eP P 05 31 41.0 +0.1
ISA eP cP cP 05 34 02.9 +1.4
GRAC **Grapevine Rang** 36.94 318 ⇓P P 05 31 42.0 +1.0
baz=37
Q11A **Duckwater** 36.97 322 ⇓P P 05 31 41.8 +0.6
baz=37
S10A **Tonopah Range,** 36.98 320 ⇓P P 05 31 41.9 +0.6
baz=37,SNR=5.3
AGMN **Agassiz Refuge** 37.16 350 eP P 05 31 40.6 -2.0
comp=Z,26nm,1.1s,mb5.0
AGMN eP cP cP 05 34 02.5 +0.6
AHID **Auburn Hatcher** 37.22 331 eP P 05 31 43.6 +0.3
comp=Z,16nm,0.6s,mb5.0
S09A **Goldfield** 37.27 319 ⇑P P 05 31 44.8 +1.1
baz=37
L15A **Malad City** 37.30 329 ⇑P P 05 31 43.3 -0.6
baz=37,SNR=14
HVU **Hansel Valley** 37.33 328 eP P 05 31 44.8 +0.6
O12A **Currie** 37.36 324 ⇑P P 05 31 44.4 -0.1
baz=37
M14A **Sheep Mountain** 37.44 327 ⇓P P 05 31 45.2 +0.1
baz=37,SNR=22
VES **Vestal, Richgr** 37.45 315 ⇓P P 05 31 46.0 +0.6
baz=37,SNR=6.8
N13A **Wendover, West** 37.45 326 ⇑P P 05 31 45.8 +0.6
baz=37,SNR=5.6
R09A **Tonopah** 37.47 320 ⇑P P 05 31 46.4 +0.9
baz=37
PKM **Peak Mountain** 37.48 313 ⇑P P 05 31 46.2 +0.6
baz=37
K16A **Soda Springs** 37.51 330 ⇑P P 05 31 45.4 -0.3
baz=37
REDW **Red Top Meadow** 37.56 331 eP P 05 31 45.5 -0.6
SNOW **Snow King Moun** 37.59 332 eP P 05 31 45.7 -0.7
LOHW **Long Hollow** 37.63 332 eP P 05 31 46.6 -0.1

comp=Z,16nm,0.9s,mb4.8
TPAW **Teton Pass** 37.70 331 eP P 05 31 47.2 -0.1
comp=Z,19nm,0.8s,mb4.9
S08C **White Mtn Res** 37.75 318 ⇓P P 05 31 48.6 +0.8
baz=38,SNR=7.2
L14A **Malta** 37.76 328 ⇓P P 05 31 47.1 -0.7
baz=38,SNR=12
RRI2 **Red Ridge** 37.77 331 eP P 05 31 47.7 -0.2
comp=Z,17nm,0.8s,mb4.8
M13A **Montello** 37.78 326 ⇓P P 05 31 48.1 +0.1
baz=38
O11A **Cowboy Ranch,** 37.80 323 ⇑P P 05 31 48.4 +0.2
baz=38
SIV **San Ignacio** 37.81 136 P P 05 31 46.8 -1.8
comp=Z,20nm,0.7s,mb5.0,baz=309,slow=9.1,SNR=54
SIV P cP P cP 05 34 04.2 -0.2
comp=Z,8.3nm,0.7s,baz=331,slow=2.1,SNR=7.0
SMMC **Simmler** 37.82 314 ⇑P P 05 31 48.3 -0.2
baz=38
J16A **Bone** 37.85 331 ⇑P P 05 31 49.0 +0.4
baz=38,SNR=7.2
K15A **Arbon** 37.87 329 ⇑P P 05 31 48.4 -0.3
baz=38,SNR=10
DCID1 **Drake Creek** 37.89 331 eP P 05 31 49.2 +0.3
N12A **Clover Valley,** 37.92 325 ⇑P P 05 31 49.6 +0.4
baz=38
ELK **Elko** 37.96 325 eP P 05 31 49.8 +0.3
ELK e 05 34 04.2
IMW **Indian Meadow** 38.01 332 eP P 05 31 48.9 -1.0
comp=Z,7.4nm,0.7s,mb4.5
IMW eP cP cP 05 34 06.4 +1.8
FLWY **Flagg Ranch** 38.04 332 eP P 05 31 51.1 +0.9
comp=Z,14nm,0.8s,mb4.8
K14A **Jones Ranch, D** 38.09 328 ⇓P P 05 31 49.8 -0.8
baz=38,SNR=34
L13A **Double Diamond** 38.17 327 ⇓P P 05 31 51.1 -0.2
baz=38,SNR=7.3
M12A **Wells** 38.23 326 ⇑P P 05 31 52.3 +0.5
baz=38
RLMT **Red Lodge** 38.24 335 eP P 05 31 51.4 -0.4
I16A **Newdale** 38.25 331 ⇑P P 05 31 52.0 +0.1
baz=38
J15A **Blackfoot** 38.34 330 ⇑P P 05 31 52.1 -0.6
baz=38,SNR=7.2
LAO **LASA Array** 38.36 339 eP P 05 31 52.0 -0.9
LAO eP cP cP 05 34 06.0 +0.4
NVAR **Mina Array Bea** 38.37 319 P P 05 31 53.2 +0.2
comp=Z,2.6nm,0.7s,mb4.1,baz=132,slow=6.7,SNR=28
NVAR P cP P cP 05 34 06.9 +1.1
comp=Z,5.1nm,0.7s,baz=143,slow=4.3,SNR=12
Q08A **Gabbs** 38.38 320 ⇓P P 05 31 53.0 -0.1
baz=38
YFT **Old Faithful** 38.39 333 eP P 05 31 53.6 +0.5
T06C **Millerton Lake** 38.50 316 ⇑P P 05 31 53.9 -0.2
baz=38
PKD **Parkfield** 38.52 314 ⇓P P 05 31 54.9 +0.6
baz=38
LVC **Limon Verde** 38.57 152 LR LR 05 47 39.5
comp=Z,324nm,21.6s,MS4.1,baz=315,slow=36
YMR **Madison River** 38.62 333 eP P 05 31 55.8 +0.8
comp=Z,18nm,0.8s,mb4.9
K13A **Stover Farm, H** 38.63 328 ⇑P P 05 31 54.5 -0.7
baz=39
O09A **Fish Creek Ran** 38.73 322 ⇓P P 05 31 56.0 0.0
baz=39
H16A **Russell Place,** 38.77 332 ⇑P P 05 31 56.6 +0.3
baz=39,SNR=13
L12A **House Creek Ra** 38.78 326 ⇓P P 05 31 56.7 +0.3
baz=39
J14A **Carey** 38.83 329 ⇓P P 05 31 56.9 +0.1
baz=39,SNR=9.2
U04C **Hernandez Rese** 38.90 315 ⇓P P 05 31 58.1 +0.6
baz=39
GCMT **Greycliff** 38.94 335 eP P 05 31 57.1 -0.6
QLMT **Earthquake Lak** 38.95 332 eP P 05 31 58.6 +0.8
V03C **Hunter Liggett** 39.04 314 ⇑P P 05 32 00.1 +1.3
baz=39
K12A **Draper Farm, C** 39.06 327 ⇑P P 05 31 58.7 0.0
baz=39
ULM **Lac du Bonnet** 39.06 351 P P 05 31 56.2 -2.5
comp=Z,9.1nm,0.8s,mb4.6,baz=155,slow=7.0,SNR=11
ULM P cP P cP 05 34 07.5 -0.2
comp=Z,9.3nm,0.8s,baz=141,slow=2.5,SNR=7.7
ULM L R L R 05 51 26.3
comp=Z,272nm,18.7s,MS4.1,baz=52,slow=41
ULM **Lac du Bonnet** 39.06 351 P P 05 31 56.2 -2.5
ULM P cP P cP 05 34 07.5 -0.2
ULM L R L R 05 51 26.3
S06C **San Francisco** 39.06 317 ⇓P P 05 31 59.4 +0.5
baz=39
WAKR **Walker** 39.14 319 eP P 05 32 00.4 +0.9
R06C **Coleville** 39.16 319 ⇓P P 05 32 00.5 +0.8
baz=39
L11A **Cat Creek Ranc** 39.20 326 ⇓P P 05 31 59.9 -0.1
baz=39
M10A **I.L. Ranch, Tu** 39.21 324 ⇓P P 05 32 00.1 +0.1
baz=39
J13A **Cove Ranch, Pi** 39.21 329 ⇑P P 05 31 59.5 -0.5
baz=39,SNR=6.1
I14A **Mackay** 39.23 330 ⇑P P 05 32 00.0 -0.1
baz=39,SNR=15
DGMT **Dagmar** 39.27 342 eP P 05 31 59.5 -0.9
comp=Z,25nm,0.7s,mb5.0
H15A **Lima** 39.35 331 ⇓P P 05 32 01.6 +0.5
baz=39,SNR=13
N09A **Rock Creek Ran** 39.35 323 ⇑P P 05 32 01.7 +0.4
baz=39
HAST **Hastings Reser** 39.45 314 ⇑P P 05 32 02.2 +0.1
baz=39
HLID **Hailey** 39.45 329 ⇓P P 05 32 01.5 -0.5
baz=39,SNR=8.8
HLID **Hailey** 39.45 329 eP P 05 32 00.9 -1.1
CMB **Columbia Colle** 39.50 317 ⇓P P 05 32 03.2 +0.7
baz=39
L10A **Juniper Basin** 39.53 325 ⇓P P 05 32 02.8 +0.1
baz=40
I13A **Wildhorse Cree** 39.55 329 ⇑P P 05 32 03.3 +0.4
baz=40,SNR=14
J12A **Stokes Ranch,** 39.59 328 ⇓P P 05 32 03.2 0.0
baz=40
MCMT **McKenzie Canyo** 39.61 331 eP P 05 32 03.1 -0.2
R05C **Kirkwood Meado** 39.66 318 ⇑P P 05 32 04.8 +0.9
baz=40,SNR=5.8
BOZ **Bozeman (W)** 39.67 333 ⇓P P 05 32 03.6 -0.2
baz=40
BOZ **Bozeman (W)** 39.67 333 eP P 05 32 02.6 -1.1
G15A **Dillon** 39.69 332 ⇑P P 05 32 03.8 -0.1
baz=40,SNR=17
H14A **Leadore** 39.70 331 ⇑P P 05 32 04.0 0.0
baz=40,SNR=26
O07A **Toulon** 39.75 321 ⇓P P 05 32 05.2 +0.7
baz=40
S04C **Ingram Canyon,** 39.86 316 ⇑P P 05 32 06.5 +1.0
baz=40
DLMT **Dillon** 39.89 332 eP P 05 32 05.8 +0.1
R04C **Big Horse Ranc** 39.99 317 ⇓P P 05 32 07.6 +1.0
baz=40
MFID **Camas Ranch** 40.09 327 ⇑P P 05 32 07.5 +0.2
baz=40
H13A **Challis** 40.09 330 ⇓P P 05 32 07.0 -0.3
baz=40,SNR=18
LAVA **Lava Cap Winer** 40.13 318 ⇓P P 05 32 08.0 +0.3
baz=40
LRM **Limekiln Ridge** 40.17 333 eP P 05 32 08.3 +0.3
G14A **Jackson** 40.20 331 ⇑P P 05 32 08.3 +0.1
baz=40,SNR=6.6
F15A **Butte** 40.21 333 ⇑P P 05 32 08.9 +0.6
baz=40,SNR=7.6
O06A **Flanigan** 40.34 320 ⇓P P 05 32 09.4 0.0
baz=40
H12A **Diamond D Ranc** 40.38 329 ⇑P P 05 32 09.6 -0.1
baz=40
G13A **Cobalt** 40.46 330 ⇑P P 05 32 09.9 -0.5
baz=40,SNR=8.8
I11A **Placerville** 40.50 328 ⇓P P 05 32 10.6 -0.1
baz=40,SNR=7.4
F14A **Wisdom** 40.59 332 ⇓P P 05 32 10.8 -0.6
baz=40
K09A **Rome** 40.65 325 ⇓P P 05 32 12.4 +0.5
baz=41,SNR=12
M07A **Soldier Meadow** 40.66 322 ⇑P P 05 32 12.3 +0.2
baz=41
L08A **Fields** 40.67 324 ⇓P P 05 32 12.3 +0.2
baz=41
N06A **Buffalo Meadow** 40.68 321 ⇑P P 05 32 12.8 +0.6
baz=41
E15A **Deer Lodge** 40.72 333 ⇓P P 05 32 11.9 -0.6

baz=41,SNR=8.1
EGMT Eagleton 40.79 337 ⇓P P 05 32 12.9 -0.1
baz=41
EGMT Eagleton 40.79 337 *e*P P 05 32 11.6 -1.5
EGMT *e*PcP PcP 05 34 14.5 +1.1
OHCM Honcut 40.93 318 *e*P P 05 32 14.0 -0.3
F13A Darby 41.02 331 ⇓P P 05 32 14.4 -0.6
baz=41,SNR=17
ORV Oroville 41.06 319 ⇑P P 05 32 15.6 +0.2
baz=41
I10A Payette 41.06 327 ⇑P P 05 32 15.2 -0.1
baz=41
SUTB Sutter Butte 41.07 318 ⇓P P 05 32 15.4 -0.1
baz=41
H11A Donnelly 41.07 329 ⇓P P 05 32 14.9 -0.5
baz=41,SNR=10
J09A Fry Pan Ranch, 41.08 326 ⇓P P 05 32 15.4 -0.1
baz=41,SNR=9.1
K08A Mann Creek Ran 41.10 324 ⇓P P 05 32 15.7 +0.1
baz=41,SNR=25
E14A Clinton 41.10 332 ⇑P P 05 32 15.3 -0.3
baz=41,SNR=6.5
D15A Lincoln 41.14 334 ⇑P P 05 32 15.8 -0.2
baz=41,SNR=5.9
L07A Adell 41.15 323 ⇓P P 05 32 16.0 -0.1
baz=41,SNR=10
ELFS Eagle Lake Fie 41.16 320 ⇑P P 05 32 16.3 +0.1
baz=41,SNR=6.9
O04C Chester 41.22 320 ⇓P P 05 32 16.8 +0.2
baz=41
CHMT Chamberlain Mo 41.37 333 *e*P P 05 32 17.2 -0.6
H10A Noah's Angus R 41.37 328 ⇑P P 05 32 17.1 -0.8
baz=41,SNR=6.8
E13A Victor 41.44 332 ⇑P P 05 32 17.4 -0.9
baz=41,SNR=17
F12A Elk City 41.44 330 ⇑P P 05 32 17.8 -0.6
baz=41,SNR=41
I09A Lost Marbles R 41.49 326 ⇓P P 05 32 18.8 0.0
baz=41
J08A Circle Bar Ran 41.49 325 ⇓P P 05 32 19.2 +0.3
baz=41
K07A Rock Creek Ran 41.51 324 ⇑P P 05 32 18.9 -0.1
baz=41
D14A Greenough 41.61 333 ⇓P P 05 32 19.2 -0.6
baz=42
MSO Missoula 41.61 332 *e*P P 05 32 18.4 -1.4
G11A Walters Elk Ra 41.69 329 ⇓P P 05 32 19.1 -1.4
baz=42,SNR=8.5
M05C Lookout 41.84 321 ⇑P P 05 32 21.4 -0.3
baz=42
BMO Blue Mountains 41.84 328 *e*P P 05 32 20.3 -1.4
H09A Durkee 41.91 327 ⇑P P 05 32 21.6 -0.6
baz=42
F11A Grangeville 41.98 330 ⇓P P 05 32 21.6 -1.2
baz=42,SNR=5.7
D13A Huson 42.05 332 ⇑P P 05 32 22.6 -0.7
baz=42,SNR=7.0
G10A Bishop Farm, J 42.05 328 ⇑P P 05 32 22.4 -1.0
baz=42,SNR=11
L05A Lakeview 42.05 322 ⇑P P 05 32 23.8 +0.3
baz=42
E12A Beaver Dam Sad 42.07 331 ⇓P P 05 32 22.7 -0.8
baz=42
O02C Red Bluff 42.23 319 ⇑P P 05 32 24.8 -0.1
baz=42
E11A Bogner Ranch, 42.33 330 ⇑P P 05 32 24.3 -1.4
baz=42,SNR=9.5
H08A Prairie City 42.35 326 ⇑P P 05 32 25.0 -0.8
baz=42
G09A Cove 42.38 328 ⇑P P 05 32 24.7 -1.4
baz=42
M03C McCloud 42.40 320 ⇑P P 05 32 25.4 -0.9
baz=42
D12A Red Ives Fores 42.43 331 ⇓P P 05 32 25.5 -1.0
baz=42
M04C Macdoel 42.51 321 ⇓P P 05 32 26.6 -0.6
baz=42
I07A Izee 42.53 325 ⇑P P 05 32 26.8 -0.5
baz=42
C13A Hot Springs 42.53 333 ⇑P P 05 32 26.6 -0.7
baz=42
F10A Beach Ranch, E 42.57 329 ⇑P P 05 32 26.8 -0.8
baz=42,SNR=7.4
F09A S2 Ranch, Elgi 42.74 328 ⇓P P 05 32 28.4 -0.6
baz=43
I06A Prineville 42.84 325 ⇓P P 05 32 29.4 -0.4
baz=43
E10A Myers Farm, Un 42.87 330 ⇓P P 05 32 29.1 -0.9
baz=43
H07A Lands Inn, Kim 42.88 326 ⇑P P 05 32 29.8 -0.4
baz=43
D11A Klaveano Farm, 42.89 331 ⇑P P 05 32 29.1 -1.1
baz=43,SNR=6.8
B13A Whitefish 43.01 333 ⇑P P 05 32 30.5 -0.6
baz=43
YBH Yreka Blue Hor 43.02 320 ⇑P P 05 32 30.1 -1.3
baz=43
WALA Waterton Lakes 43.29 335 *e*P P 05 32 32.8 -0.6
WALA *e*PcP PcP 05 34 20.6 -1.0
D10A Wagner Farm, O 43.35 330 ⇓P P 05 32 32.3 -1.6
baz=43,SNR=7.6
A13A Flathead Natio 43.41 334 ⇓P P 05 32 34.1 -0.2
baz=43
C11A Tepee Creek (N 43.42 332 ⇑P P 05 32 34.2 -0.2
baz=43
B12A Libby 43.58 333 ⇓P P 05 32 35.1 -0.6
baz=44
D09A Jones Farm, Ri 43.86 329 ⇓P P 05 32 37.9 -0.1
baz=44
B11A Sandpoint 43.91 332 ⇓P P 05 32 38.0 -0.3
baz=44
A12A Yaak River Ran 43.95 333 ⇑P P 05 32 38.4 -0.3
baz=44
I04A Tendick Farm, 44.02 323 ⇑P P 05 32 38.8 -0.6
baz=44
NEW Newport 44.13 331 *e*P P 05 32 38.1 -2.0
NEW *e* 05 34 21.9
D08A Wollman Farm, 44.17 329 ⇑P P 05 32 40.4 0.0
baz=44,SNR=5.1
G05A Wamic 44.26 325 ⇑P P 05 32 41.6 +0.4
baz=44
A11A Hall Mountain, 44.28 333 ⇓P P 05 32 41.1 -0.3
baz=44,SNR=12
OD2 Odessa Site #2 44.29 329 *e*P P 05 32 40.5 -1.0
E07A Sunnyside 44.31 328 ⇑P P 05 32 41.8 +0.2
baz=44
C09A Chrisman Ranch 44.35 330 ⇓P P 05 32 41.5 -0.4
baz=44
H04A Detroit Lake 44.41 324 ⇑P P 05 32 42.3 -0.2
baz=44
C08A Higginbotham F 44.72 330 ⇓P P 05 32 44.8 -0.1
baz=45
B09A Rice 44.73 331 ⇓P P 05 32 44.4 -0.5
baz=45,SNR=12
A10A Northport 44.84 332 ⇑P P 05 32 45.3 -0.5
baz=45
G04A Mulino 44.89 325 ⇓P P 05 32 46.5 +0.3
baz=45
E06A Yakima 44.90 327 ⇓P P 05 32 46.1 -0.2
baz=45
I02A Mapleton 44.98 323 ⇑P P 05 32 47.9 +0.9
baz=45
C07A Waterville 45.17 329 ⇑P P 05 32 48.6 +0.2
baz=45
D06A Cle Elum 45.24 328 ⇑P P 05 32 48.9 -0.1
baz=45
ETW Entiat 45.25 329 *e*P P 05 32 48.5 -0.6
B08A Colville Reser 45.25 330 ⇑P P 05 32 48.2 -0.9
baz=45,SNR=6.2
A09A Danville 45.32 331 ⇓P P 05 32 49.0 -0.6
baz=45,SNR=7.4
E05A Randle 45.32 327 ⇑P P 05 32 49.7 0.0
baz=45
LON Longmire 45.47 327 *e*P P 05 32 51.0 +0.2
A08A Turner Farm, O 45.63 331 ⇑P P 05 32 51.5 -0.6
baz=46,SNR=5.8
SCHQ Schefferville 45.92 16 P P 05 32 52.7 -1.5
comp=Z,16nm,0.8s,mb5.0,baz=205,slow=5.9,SNR=18
SCHQ PcP PcP 05 34 28.9 -1.6
comp=Z,4.4nm,0.7s,baz=211,slow=2.8,SNR=3.9
SCHQ LR LR 05 53 44.7
comp=Z,647nm,18.1s,MS4.6,baz=25,slow=38
SCHQ Schefferville 45.92 16 P P 05 32 52.7 -1.5
SCHQ PcP PcP 05 34 28.9 -1.6
SCHQ LR LR 05 53 44.7
C05A Tolt Reservoir 46.00 328 ⇑P P 05 32 54.9 -0.2
baz=46
A07A Ashnola River, 46.23 330 ⇑P P 05 32 56.6 -0.2
baz=46,SNR=6.6
EDM Edmonton 46.35 339 *e*P P 05 32 56.2 -1.5
RPW Rockport 46.40 329 *e*P P 05 32 56.1 -2.0
B06A Marblemount 46.43 329 ⇓P P 05 32 57.9 -0.5
baz=46
JCW Jim Creek 46.45 328 *e*P P 05 32 56.8 -1.7
B05A Bryant 46.58 328 ⇓P P 05 32 58.5 -1.0
baz=46
CFAA Coronel Fontan 46.78 158 LR LR 05 47 52.6
comp=Z,15nm,21.7s,baz=148,slow=30
BDFB Brasilia 47.42 124 P P 05 33 06.2 -0.3
comp=Z,17nm,0.8s,mb5.0,baz=283,slow=12,SNR=27
BDFB LR LR 05 53 42.5
comp=Z,652nm,20.1s,MS4.6,baz=296,slow=37
CPUP Villa Florida 47.73 143 P P 05 33 06.7 -2.1
comp=Z,2.1nm,0.6s,mb4.3,baz=301,slow=9.1,SNR=8.9
CPUP PcP PcP 05 34 39.1 +1.7
comp=Z,2.8nm,0.8s,baz=320,slow=1.5,SNR=5.0
CPUP LR LR 05 53 20.2
comp=Z,184nm,18.9s,MS4.1,baz=310,slow=36
CPUP Villa Florida 47.73 143 P P 05 33 06.7 -2.1
CPUP 05 34 39.1
YKA Yellowknife Ar 54.36 345 P P 05 33 57.1 -0.9
comp=Z,3.1nm,0.7s,mb4.4,baz=141,slow=7.8,SNR=9.0
YKA LR LR 06 02 01.2
comp=Z,164nm,19.9s,MS4.1,baz=165,slow=41
PLCA Paso Flores 54.44 164 P P 05 33 56.1 -2.7
comp=Z,1.6nm,0.7s,mb4.1,baz=330,slow=9.9,SNR=6.3
PLCA LR LR 05 52 16.2
comp=Z,207nm,21.2s,MS4.2,baz=1.0,slow=30
DLBC Dease Lake 56.64 335 *e*P P 05 34 13.8 -0.6
RKT Rikitea 58.13 233 *e*LR LR 05 51 34.6
comp=Z,490nm,26.5s
HYT Haines Junctio 61.12 335 *e*P P 05 34 47.1 +1.6
DAWY Dawson 63.53 337 *e*P P 05 35 00.0 -1.5
INK Inuvik 63.95 343 *e*P P 05 35 02.8 -1.4
SLKM Skilak Lake 66.69 331 P P 05 35 21.1 -1.0
COLA College 67.17 336 ⇓*i*P P 05 35 24.0 -1.1
KIP Kipapa 68.03 288 *i*P P 05 35 31.9 +0.6
PPT Papeete 68.06 246 *e*S S 05 44 30.9 +3.3
comp=Z,543nm,28.0s
PPT Papeete 68.06 246 *e*LR LR 05 55 54.2
comp=Z,603nm,25.5s,baz=62
CHGN Chignik 69.88 326 *e*P P 05 35 42.7 +0.6
JMIC Jan Mayen 75.32 19 AMS AMS 06 13 16.6
comp=Z,99nm,16.8s,MS4.2
ESDC Sonseca Array 77.49 52 P P 05 36 25.4 -1.7
comp=Z,0.4nm,0.4s,mb3.7,baz=274,slow=5.2,SNR=4.0
ESDC LR LR 06 06 56.7
comp=Z,188nm,19.6s,MS4.4,baz=255,slow=33
KBS Kingsbay 80.34 11 *e*P P 05 36 43.4 +1.4
KBS *e*SKS 05 46 55.7
KBS AMS AMS 06 16 46.6
comp=Z,300nm,17.0s,MS4.7
ADK Adak 80.53 321 *e*P P 05 36 43.6 +0.1
BER Bergen 81.19 30 *e*P P 05 36 50.2 +3.3
BER *e*PP PP 05 39 54.1 +1.7
BER AMS AMS 06 09 20.9
comp=Z,137nm,20.3s,MS4.3
DBIC Dimbokro 81.27 85 LR LR 06 11 26.4
comp=Z,162nm,21.0s,MS4.4,baz=249,slow=35
AMKA Amchitka 83.08 321 *e*P P 05 36 57.6 +0.7
KONO Kongsberg 83.43 30 AMS AMS 06 11 00.7
comp=Z,143nm,20.7s,MS4.3
NB2 NORSAR Subarra 83.91 29 P P 05 36 59.8 -1.2
comp=Z,1.0nm,0.8s,mb4.0,baz=281,slow=5.1
NOA NORSAR Array B 83.91 29 P P 05 36 59.8 -1.2
comp=Z,1.1nm,0.8s,mb4.0,baz=286,slow=5.0,SNR=4.5
NOA LR LR 06 11 26.2
comp=Z,132nm,19.2s,MS4.3,baz=270,slow=34
TRO Tromso 84.64 20 *e*P P 05 37 02.8 -1.7
TRO AMS AMS 06 18 04.9
comp=Z,143nm,16.8s,MS4.4
TORD Torodi Ar. Bea 86.39 77 P P 05 37 11.8 -2.5
comp=Z,0.6nm,0.8s,mb3.9,baz=297,slow=6.3,SNR=3.4
TORD LR LR 06 13 50.5
comp=Z,169nm,18.3s,MS4.5,baz=290,slow=34
ARCES ARCESS Array B 86.81 19 LR LR 06 20 23.1
comp=Z,116nm,18.8s,MS4.3,baz=7.3,slow=39
CLL Collm 87.27 38 *e*S S 05 47 51.0 -3.0
CLL LmV 05 13 00.0
comp=Z,200nm,19.4s
CLL *e*PS 05 48 59.0
BRG Berggiesshubel 87.96 38 *e*(P) P 05 37 26.0 +4.8
BRG *e* 05 47 55.0
BRG
comp=Z,341nm,16.7s
BRG
comp=N,87nm,19.4s
BRG
comp=E,266nm,19.4s
BRG Berggiesshubel 87.96 38 P P 05 37 26.0 +4.8
BRG *e* 05 47 55.0
BRG LR LR
comp=Z,200nm,16.7s,MS4.6
KHC Kasperske Hory 88.21 40 *e*P P 05 37 22.5 +0.1
GERES GERESS Array B 88.37 40 LR LR 06 12 15.2
comp=Z,296nm,21.5s,MS4.7,baz=284,slow=32
KEST Kesra 88.53 54 LR LR 06 10 58.8
comp=Z,70nm,21.3s,MS4.0,baz=200,slow=32
SEY Seymchan 92.69 337 *e*P P 05 37 44.5 +1.5
TIXI Tiksi 93.39 349 *e*P P 05 37 46.1 0.0
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
PETK Petropavlovsk- 95.10 327 LR LR 06 26 24.5
comp=Z,32nm,18.0s,MS3.8,baz=290,slow=39
AKASG Malin Array Be 97.01 35 LR LR 06 20 40.7
comp=Z,265nm,19.2s,MS4.7,baz=300,slow=35
KURK Kurchatov 116.62 10 PKP PKPdf 05 43 14.4 -0.8
comp=Z,1.0nm,0.8s,baz=349,slow=2.2,SNR=6.8
CN2 Changchun 117.22 334 *e*PKP PKPdf 05 43 09.0 -7.6
LSZ Lusaka 117.33 101 PKP PKPdf 05 43 19.8 +2.3
comp=Z,1.3nm,0.6s,baz=185,slow=2.8,SNR=3.0
LSZ Lusaka 117.33 101 P PKPdf 05 43 19.8 +2.3
SONM Songino Array 119.47 349 PKP PKPdf 05 43 20.5 -0.3
comp=Z,0.9nm,0.7s,baz=344,slow=0.7,SNR=6.1
SONM PKKPbc PKKPbc 05 53 29.9 -4.2
comp=Z,0.4nm,0.6s,baz=186,slow=3.4,SNR=3.5
KSRS Korea Array 120.98 328 PKP PKPdf 05 43 24.6 +0.6
comp=Z,2.5nm,0.7s,baz=4.7,slow=1.5,SNR=11
MKAR Makanchi Array 121.00 8 PKP PKPdf 05 43 21.8 -1.9
comp=Z,0.8nm,0.8s,baz=28,slow=2.9,SNR=4.3
WMQ Urumqi 124.53 4 *e*PKP PKPdf 05 43 32.0 +1.3
HHC Hu-ho-hao-te 124.87 343 *e*PKP PKPdf 05 43 32.3 +0.9
HHC PP PP 05 45 24.3 +5.7
HHC PKS 05 47 07.8
HHC SKS SKSdf 05 50 39.5 +0.4
HHC SKKS SKKSac 05 52 12.3 -1.5
HHC SS SS 06 02 12.0 +3.0
HHC PP PP
comp=Z,61nm,11.9s
HHC LR LR
comp=N,117nm,20.2s,MS4.9
HHC LR LR
comp=E,214nm,20.2s,MS4.9
HHC LR LR
comp=Z,113nm,23.8s,MS4.5
GTA Gaotai 128.71 353 *e*PKP PKPdf 05 43 39.5 +0.7
GTA XPKP 05 43 53.5
GTA PP PP 05 45 44.5 +0.7
GTA PKS 05 47 14.5
GTA SKKS SKKSac 05 52 30.5 -7.5
GTA PP PP
comp=Z,59nm,8.1s
GTA LR LR
comp=N,72nm,18.3s,MS4.7
GTA LR LR
comp=E,139nm,19.2s,MS4.7
GTA LR LR
comp=Z,95nm,17.4s,MS4.5
NJ2 Nanjing 129.80 331 *e*PKP PKPdf 05 43 44.5 +3.4
STKA Stephens Creek 130.87 238 *e*PKP PKPdf 05 43 48.9 +5.9
comp=Z,3.9nm,0.9s
STKA Stephens Creek 130.87 238 PKP PKPdf 05 43 47.9 +4.8
comp=Z,2.9nm,0.7s,baz=45,slow=1.4,SNR=4.0
LZH Lanzhou 131.31 348 *e*PKP PKPdf 05 43 45.3 +1.5
LZH XPKP 05 44 03.0
LZH PP PP 05 46 05.5 +4.7
LZH SKS SKSdf 05 50 51.5 +0.3
LZH SKKS SKKSac 05 52 52.3 -1.9
LZH SS SS 06 03 31.0 +2.3
LZH PP PP
comp=Z,111nm,5.4s
LZH LR LR
comp=E,213nm,18.3s
LZH LR LR
comp=Z,398nm,19.5s,MS5.1
WHN Wuhan 133.12 334 *e*PKP PKPdf 05 43 48.8 +1.4
OPO Ambohidratompo135.60 105 PKP PKPdf 05 43 55.6 +3.4
comp=Z,2.5nm,0.8s,baz=180,slow=4.0,SNR=4.4
CD2 Chengdu 136.31 346 *e*PKP PKPdf 05 43 53.5 +0.1
CD2 PP PP 05 46 36.8 +4.2
CD2 PKS 05 47 28.5
CD2 SKS SKSdf 05 50 59.0 -1.2
CD2 SKKS SKKSac 05 53 23.5 -1.2
CD2 SS SS 06 04 31.0 +1.8
CD2 PP PP
comp=Z,120nm,10.8s
CD2 LR LR
comp=N,150nm,21.4s
CD2 LR LR
comp=Z,130nm,22.4s,MS4.6
ASAR Alice Springs 139.16 247 PKP PKPdf 05 43 57.0 -1.8
comp=Z,1.8nm,0.8s,baz=107,slow=3.4,SNR=11
WB2 Warramunga Arr 139.23 253 *e*PKP PKPdf 05 43 58.2 -0.7
WRAB Tennant Creek 139.23 253 *i*PKIKP PKPdf 05 43 58.2 -0.7
WRA Warramunga Arr 139.24 253 PKhKP 05 43 53.3
comp=Z,2.3nm,0.8s,baz=90,slow=2.9,SNR=5.1
GYA Guiyang 139.71 341 *e*PDIF Pdif 05 41 13.3 +0.5
GYA PKP PKPdf 05 44 01.0 +1.3
GYA XPKP 05 44 16.8
GYA PP PP 05 46 58.5 +4.6
GYA PKS 05 47 35.0
GYA SKS SKSdf 05 51 04.3 -1.8
GYA SKKS SKKSac 05 53 44.8 -0.2
GYA SS SS 06 05 10.8 +1.2
GYA PP PP
comp=Z,120nm,8.4s
GYA LR LR
comp=N,190nm,22.9s,MS4.9
GYA LR LR
comp=E,170nm,21.2s,MS4.9
GYA LR LR
comp=Z,180nm,22.7s,MS4.8
KMI Kunming 142.10 345 PKP PKPdf 05 44 02.0 -2.1
QIZ Qiongzhong 145.10 331 *e*PKPdf PKPdf 05 44 08.7 -0.7
FITZ Fitzroy Crossi 147.61 255 *e*PKP PKPdf 05 44 15.3 +1.6
comp=Z,11nm,0.8s
HYB Hyderabad 147.83 26 *i*PKP PKPdf 05 44 16.0 +1.9
HYB Hyderabad 147.83 26 *e*P PKPdf 05 44 16.0 +1.9
CHTO Chiang Mai 149.05 349 *e*PKIKP PKPdf 05 44 17.7 +1.6
CHTO *e* 05 44 20.0
CMAR Chiang Mai Arr 149.39 348 PKP PKPdf 05 44 16.7 0.0
comp=Z,3.9nm,0.8s,baz=304,slow=2.0,SNR=17
CMAR PKPbc PKPbc 05 44 20.9 -0.1
comp=Z,15nm,0.8s,baz=342,slow=3.5,SNR=31
KLBR Kellerberrin 149.61 226 *e*PKP PKPbc 05 44 19.1 -2.1
comp=Z,19nm,0.9s
MUN Mundaring 150.44 223 *e*PKP PKPbc 05 44 22.6 -0.6

KRSC 31 05:58:33.6±1.0, 5126N×15844E, h38km±37km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.18**	**2**	*e*P	Pn	05 58 55.1	+1.6
RUS				*i*S	Sn	05 59 10.9	+2.6
MIPR	**Malaya Ipel'ka**	**1.46**	**315**	*e*P	Pn	05 58 58.2	+0.8
MIPR				*i*S	Sn	05 59 16.5	+1.2
PET	**Petropavlovsk**	**1.77**	**4**	*e*P	Pn	05 59 03.5	+1.8
PET				*i*S	Sn	05 59 25.3	+2.3
ALID	**Alaid**	**1.86**	**259**	*e*P	Pn	05 59 02.4	-0.6
ALID				*i*S	Sn	05 59 23.3	-2.0
NLC	**Nalytchevo**	**1.99**	**16**	*e*P	Pn	05 59 05.4	+0.7
NLC				*i*S	Sn	05 59 28.6	+0.2
AVH	**Avacha**	**2.02**	**5**	*e*P	Pn	05 59 07.8	+2.7
AVH				*i*S	Sn	05 59 32.7	+3.7
SPN	**Mys Shipunski**	**2.08**	**27**	*e*P	Pn	05 59 08.1	+2.1
SPN				*i*S	Sn	05 59 33.2	+2.6
GNL	**Ganaly**	**2.46**	**353**	*e*P	Pn	05 59 13.2	+2.1
GNL				*i*S	Sn	05 59 42.6	+2.7
MKZ	**Mys Kozlova**	**3.86**	**30**	*e*P	Pn	05 59 31.1	+0.8
MKZ				*i*S	Sn	06 00 13.9	-0.4
KBTR	**Krutoberegovo**	**5.60**	**26**	*e*P	Pn	05 59 55.7	+1.5

*IDC **31** 06:09:06.0±0.8, 3273S×17909W, h0km, mb4.3/7, mb1 4.5/9, mb1mx4.3/19, mbtmp4.4/9, ML3.3/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/23, Error ellipse: s-maj=23.2km s-min=20.5km az=123.0*
*ISCJB **31** 06:09:08.4±1.5, 3287S±0.06×1792W±0.1, h25km±36km, mb4.4/13, Error ellipse: s-maj=18.5km s-min=8.4km az=20.5*
*NEIC **31** 06:09:09.2±7.8, 3275S×179.10W, h20km±48km, mb4.5/7, Error ellipse: s-maj=18.1km s-min=14.9km az=119.0*
ISC 31 06:09:10.2±5.2, 3285S±006×1791W±01, h26km±37km, h27km±1.1km: pP-P, n28, σ1§11/23, mb4.4/13, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.73**	**17**	Sn	**Sn**	**06 10 49.8**	**+0.4**
61nm,0.3s,baz=91,slow=23,SNR=3.1							
URZ	**Urewera**	**6.21**	**208**	Pn	**Pn**	**06 10 40.5**	**+0.3**
4.5nm,0.3s,baz=293,slow=3.5,SNR=31							
URZ				Sn	**Sn**	**06 11 49.5**	**-0.7**
16nm,0.3s,baz=166,slow=22,SNR=11							
RPZ	**Rata Peaks**	**13.29**	**212**	Sn	**Sn**	**06 14 31.8**	**-12**
0.7nm,0.3s,baz=108,slow=22,SNR=5.9							
AFI	**Afiamalu**	**20.01**	**21**	P	**P**	**06 13 39.0**	**-2.1**
0.9nm,0.3s,baz=96,slow=19,SNR=2.0							
STKA	**Stephens Creek**	**33.05**	**261**	P	**P**	**06 15 45.0**	**+1.3**
2.2nm,0.8s,mb4.1,baz=121,slow=12,SNR=2.4							
CTA	**Charters Tower**	**33.33**	**284**	P	**P**	**06 15 46.1**	**0.0**
3.8nm,0.4s,mb4.6,baz=97,slow=12,SNR=9.6							
CTA				LR	LR	06 27 30.5	
comp=Z,112nm,22.0s,baz=133,slow=33							
CTAO	**Charters Tower**	**33.33**	**284**	*e*P	**P**	**06 15 48.4**	**+2.2**
5.1nm,0.5s,mb4.7							
ASAR	**Alice Springs**	**42.07**	**270**	P	**P**	**06 17 00.4**	**+0.3**
6.1nm,0.8s,mb4.3,baz=110,slow=7.4,SNR=50							
WB2	**Warramunga Arr**	**43.27**	**275**	⇑*i*P	**P**	**06 17 09.9**	**+0.1**
WRA	**Warramunga Arr**	**43.28**	**275**	P	**P**	**06 17 09.7**	**-0.2**
1.9nm,0.3s,mb4.3,baz=116,slow=6.5,SNR=23							
SBA	**Scott Base**	**45.53**	**184**	*e*P	**P**	**06 17 29.6**	**+2.4**
1.6nm,0.7s,mb4.1							
FITZ	**Fitzroy Crossi**	**51.43**	**272**	*e*P	**P**	**06 18 13.4**	**0.0**
2.8nm,0.9s,mb4.2							
CASY	**Casey**	**52.53**	**209**	*e*P	**P**	**06 18 19.1**	**-1.8**
6.3nm,0.7s,mb4.7							
KLBR	**Kellerberrin**	**52.67**	**253**	*e*P	**P**	**06 18 20.9**	**-1.6**
4.4nm,0.3s,mb4.9							
QSPA	**South Pole Qui**	**57.27**	**180**	P	**P**	**06 18 56.7**	**+1.7**
5.1nm,0.7s,mb4.7,baz=33,slow=2.0,SNR=37							
MAW	**Mawson**	**69.68**	**201**	P	**P**	**06 20 16.8**	**-0.4**
0.6nm,0.4s,mb3.8,baz=128,slow=7.8,SNR=11							
SNAA	**Sanae**	**75.74**	**179**	*e*	**P**	**06 20 52.5**	**-0.6**
SNAA				*e*		06 20 57.0	
SNAA				*e*	pP	06 21 00.4	-0.9
VNA2	**Neumayer--Watz**	**76.36**	**177**	*e*	**P**	**06 20 56.7**	**+0.1**
VNA2				*e*		06 21 01.6	
VNA2				*e*	pP	06 21 05.6	+0.8
VNA1	**Neumayer--Stat**	**76.59**	**177**	*e*	**P**	**06 20 57.8**	**-0.2**
VNA1				*e*		06 21 02.4	
VNA1				*e*	pP	06 21 05.5	-0.7
ISA	**Isabella**	**88.71**	**45**	*e*P	**P**	**06 22 02.5**	**+1.1**
1.5nm,0.7s,mb4.4							
CMB	**Columbia Colle**	**89.22**	**42**	P	**P**	**06 22 02.1**	**-1.5**
1.6nm,0.8s,mb4.4							
NVAR	**Mina Array Bea**	**90.69**	**43**	P	**P**	**06 22 11.1**	**+0.6**
0.8nm,0.8s,mb4.1,baz=224,slow=7.8,SNR=7.5							
NB2	**NORSAR Subarra**	**151.00**	**350**	PKP	PKPbc	06 28 58.2	-1.7
comp=Z,0.9nm,0.6s,baz=15,slow=2.6							
NOA	**NORSAR Array B**	**151.00**	**350**	PKPbc	PKPbc	06 28 58.5	-1.4
comp=Z,1.6nm,0.7s,baz=14,slow=4.1,SNR=6.4							
AKASG	**Malin Array Be**	**152.58**	**319**	PKPbc	PKPbc	06 29 01.8	-2.1
comp=Z,0.2nm,0.3s,baz=60,slow=2.0,SNR=4.1							
DBIC	**Dimbokro**	**153.42**	**167**	PKPbc	PKPbc	06 29 08.3	+1.4
comp=Z,4.2nm,1.0s,baz=126,slow=4.0,SNR=4.0							
TORD	**Torodi Ar. Bea**	**160.38**	**182**	PKPab	PKPab	06 29 48.3	-0.4
comp=Z,0.6nm,0.4s,baz=164,slow=4.6,SNR=16							
ESDC	**Sonseca Array**	**172.15**	**28**	PKPab	PKPab	06 30 40.0	-0.1
comp=Z,0.4nm,0.3s,baz=300,slow=12,SNR=7.3							

CASC 31 06:25:21.2±2.1, 1152N×8752W, h26km±15km, MD4.2, ML2.5, 6C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.08**	**35⇑**	*eP*	Pn	06 25 40.4	-0.2
COPN	**Copaltepe**	**1.12**	**54⇓**	*eP*	Pn	06 25 40.9	-0.3
TEL3	**Telica 3**	**1.24**	**32**	*eP*	Pn	06 25 42.4	-0.4
CNGN	**Cerro Negro**	**1.26**	**40⇑**	*eP*	Pn	06 25 42.7	-0.4
CSAN		**1.26**	**59**	*eP*	Pn	06 25 43.1	0.0
TELN	**Telica**	**1.27**	**32⇓**	*eP*	Pn	06 25 43.6	+0.3
CRUN	**El Crucero**	**1.28**	**69**	*eP*	Pn	06 25 45.4	+2.0
XAVN	**Gruta Xavier**	**1.33**	**62**	*eP*	Pn	06 25 44.1	+0.1
APYN	**Apoyeque**	**1.35**	**58**	*eP*	Pn	06 25 43.6	-0.7
TISN	**Laguna Tiscapa**	**1.37**	**63⇓**	*eP*	Pn	06 25 44.2	-0.4
MGAN	**Managua**	**1.39**	**63**	*eP*	Pn	06 25 44.5	-0.5
MGAN				AML	AML	06 26 15.3	
	comp=N,62nm,0.6s						
WILN	**Americas 2**	**1.45**	**64⇓**	*eP*	Pn	06 25 45.8	0.0
APON	**Apoyo**	**1.48**	**75⇑**	*eP*	Pn	06 25 46.3	+0.2
HUEN		**1.55**	**58⇑**	*eP*	Pn	06 25 46.7	-0.4
CNCH	**Conchagua**	**1.77**	**350⇑**	*eP*	x	06 25 50.1	
CNCH				*eS*	x	06 26 12.9	
CONN	**Concepcion**	**1.86**	**89**	*eP*	Pn	06 25 50.4	-0.9
VSM	**San Miguel**	**2.03**	**339**	*eP*	x	06 25 53.5	
BLLM	**Bellamira**	**2.03**	**340⇓**	*eP*	x	06 25 53.6	
BLLM				*eS*	x	06 26 18.7	
CAHU	**Cacacuatique**	**2.33**	**343**	*eP*	x	06 25 58.4	
SNVI	**San Vicente**	**2.44**	**328**	*eP*	x	06 25 58.6	
SNVI				*eS*	x	06 26 31.4	
CUI		**2.46**	**110**	*eP*	Pn	06 25 59.4	-0.2
TGUH	**Tegucigalpa,Un**	**2.53**	**6⇓**	*eP*	Pn	06 26 00.8	+0.2
LFRS	**El Faro**	**2.57**	**324⇓**	*eP*	x	06 26 01.0	
LFRS				*eS*	x	06 26 32.3	
LBRS	**Las Brisas**	**2.66**	**326**	*eP*	x	06 26 02.8	
BOQS	**Boqueron**	**2.79**	**322**	*eP*	x	06 26 04.9	
SNJE	**San Jose**	**3.09**	**319**	*eP*	x	06 26 08.5	
RTR	**El Retiro**	**3.14**	**319**	*eP*	x	06 26 09.5	
RBDL	**Robledal**	**3.33**	**321**	*eP*	x	06 26 12.5	
RBDL				*eS*	x	06 26 50.7	
CGA2	**Cerro Gallo 2**	**3.36**	**116**	*eP*	Pn	06 26 13.2	+1.3
CGA2				*eS*	Sn	06 26 52.8	+1.9
PRS1	**Puriscal**	**3.51**	**116**	*eP*	Pn	06 26 14.7	+0.7
LCR2	**La Lucha 2**	**3.89**	**117⇓**	*eP*	Pn	06 26 19.9	+0.7
URSC	**Urasca**	**4.04**	**114**	*eP*	Pn	06 26 22.6	+1.2
URSC				*eS*	Sn	06 27 08.8	+0.8
BUS	**Buena Vista**	**4.19**	**117⇑**	*eP*	Pn	06 26 24.6	+1.3
BAR1		**4.72**	**118**	*eP*	Pn	06 26 31.5	+0.8
CHI2		**15.26**	**116**	*eP*		06 25 42.3	
LAPE	**La Pedrera**	**16.21**	**103**	*eP*		06 25 55.9	

*ISCJB **31** 06:29:27.6±2.4, 53S±0.1×1472E±04, h88km±33km, mb3.6/5, Error ellipse: s-maj=63.7km s-min=16.0km az=11.7*
*NEIC **31** 06:29:32.5±2.6, 544S×14737E, h134km±38km, mb4.1/1, Error ellipse: s-maj=68.8km s-min=20.1km az=113.0*
*IDC **31** 06:29:34.5±4.7, 550S×14753E, h155km±31km, mb3.4/5, mb1 3.5/6, mb1mx3.4/15, mbtmp3.4/6, Error ellipse: s-maj=113.5km s-min=15.0km az=108.0*

ISC 31 06:29:32.0±1.8, 55S±02×1475E±05, h133km±30km, n12, σ0°88/13, mb3.6/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.90**	**185**	Pn	**Pn**	**06 30 31.4**	**+0.8**
PMG				*e*Sn	**Sn**	**06 31 14.9**	**-1.1**
WB2	**Warramunga Arr**	**19.25**	**221**	*eP*	**P**	**06 33 46.7**	**+0.5**
WRA	**Warramunga Arr**	**19.26**	**221**	P	**P**	**06 33 47.1**	**+0.8**
	0.4nm,0.3s,baz=47,slow=10,SNR=11						
ASAR	**Alice Springs**	**22.33**	**215**	P	**P**	**06 34 19.7**	**+0.6**
	1.4nm,0.4s,mb3.7,baz=48,slow=8.8,SNR=36						
ASAR				S	**S**	**06 38 14.7**	**-0.2**
	1.0nm,0.9s,baz=30,slow=21,SNR=6.0						
FITZ	**Fitzroy Crossi**	**24.78**	**238**	*eP*	**P**	**06 34 40.5**	**-1.2**
	3.7nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**24.78**	**238**	P	**P**	**06 34 42.1**	**+0.4**
	1.5nm,0.5s,mb3.8,baz=49,slow=11,SNR=10						
FITZ	**Fitzroy Crossi**	**24.78**	**238**	*eP*	**P**	**06 34 39.4**	**-2.3**
	4.0nm,0.6s,mb4.1						
ENH	**Enshi**	**50.91**	**317**	P	**P**	**06 38 18.7**	**-1.1**
SONM	**Songino Array**	**64.22**	**331**	P	**P**	**06 39 53.8**	**+1.1**
	0.6nm,0.6s,mb3.6,baz=145,slow=7.7,SNR=4.8						
MKAR	**Makanchi Array**	**77.45**	**320**	P	**P**	**06 41 12.7**	**0.0**
	0.3nm,0.6s,mb3.1,baz=66,slow=8.2,SNR=2.6						
ZALV	**Zalesovo Beam**	**78.87**	**328**	P	**P**	**06 41 19.6**	**-0.8**
	0.6nm,0.3s,mb3.6,baz=116,slow=3.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**145.47**	**285**	PKPbc	PKPbc	06 48 55.1	-0.6
	0.5nm,0.5s,baz=71,slow=3.0,SNR=6.7						

JMA 31 06:34:53.6±0.1, 2650N×14214E, h44km, M3.7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.13**	**15**	P	Pn	06 35 00.1	-0.8
JHHJ				S	Sn	06 35 04.9	-1.1
CBIJ	**Chichi jima**	**0.59**	**4**	P	Pn	06 35 05.2	-0.5
CBIJ				S	Sn	06 35 13.7	-0.7

IDC 31 06:41:54.1±31.0, 1567S×17378W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/17, mbtmp4.1/4, Error ellipse: s-maj=622.1km s-min=165.4km az=85.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.58**	**240**	P	P	06 50 00.3	+0.2
	2.2nm,0.5s,baz=88,slow=11,SNR=6.0						
WRA	**Warramunga Arr**	**49.43**	**257**	P	P	06 50 45.3	-1.0
	0.6nm,0.7s,baz=91,slow=6.6,SNR=7.1						
ASAR	**Alice Springs**	**49.68**	**252**	P	P	06 50 48.0	-0.1
	5.9nm,0.5s,baz=89,slow=8.1,SNR=108						
FITZ	**Fitzroy Crossi**	**57.80**	**258**	P	P	06 51 48.5	+0.8
	0.7nm,0.6s,baz=90,slow=7.1,SNR=3.8						

*BNS **31** 06:50:53.8±2.9, 5026N×902E, h1km, ML2.2*
*ISCJB **31** 06:50:56.1±0.3, 4935N±001×672E±003, h0km, Error ellipse: s-maj=2.7km s-min=2.0km az=2.4*
*NEIC **31** 06:50:57.6, 4937N×678E, h1km, ML2.4(SZGRF), ML2.8(STR), ML3.2(LDG), After STR.*
*CSEM **31** 06:50:57.9±0.1, 4939N×683E, h1km, ML3.2/16, Error ellipse: s-maj=2.0km s-min=1.5km az=78.0*
*STR **31** 06:50:57.6±0.4, 4937N×678E, h1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **31** 06:50:58.1±0.1, 4940N×683E, h1km, Md2.9/3, Ml3.2/18, Error ellipse: s-maj=2.5km s-min=2.2km az=160.0, Suspected Mining induced.*
*BGR **31** 06:50:59.0±0.5, 4935N×681E, h1km, ML2.4/3, Error ellipse: s-maj=7.8km s-min=4.4km az=35.0*

ISC 31 06:50:57.3±0.3, 4936N±001×676E±003, h0km, n57, σ1°16/105, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.40**	**30**	Pg	**Pg**	**06 51 04.8**	**-0.1**
RUP				Sg	**Sg**	**06 51 09.9**	**-0.2**
WLF	**Walferdange**	**0.50**	**308**	*e*Pg	**Pg**	**06 51 08.8**	**+2.0**
WLF				*e*Sg	**Sg**	**06 51 16.0**	**+2.6**
LANF	**Langenberg**	**0.79**	**118**	Pg	**Pg**	**06 51 12.0**	**-0.4**
LANF				Sg	**Sg**	**06 51 23.6**	**+1.1**
BGG	**Burgeitz**	**0.93**	**24**	*e*Pg	**Pg**	**06 51 15.1**	**0.0**
HILG	**Hillesheim**	**0.94**	**357**	*e*Pg	**Pg**	**06 51 16.3**	**+1.1**
CDF	**Champ du Feu**	**1.01**	**160**	*e*Pn	**Pn**	**06 51 17.5**	**-1.2**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**06 51 30.8**	**-2.7**
	61nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**1.01**	**160**	*e*Pn	**Pn**	**06 51 17.5**	**-1.2**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**06 51 30.8**	**-2.7**
	30nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**1.01**	**160**	*e*Pg	**Pg**	**06 51 16.7**	**+0.1**
CDF				*e*Pn	**Pn**	**06 51 17.5**	**-1.2**
CDF				*e*Sn	**Sn**	**06 51 30.8**	**-2.7**
RFYF	**Reffroy**	**1.12**	**230**	*e*Pn	**Pn**	**06 51 20.5**	**+0.3**
	baz=40						
RFYF				*e*Sg	**Sg**	**06 51 36.0**	**+2.9**
	73nm,0.2s						
RFYF	**Reffroy**	**1.12**	**230**	*e*Pn	**Pn**	**06 51 20.5**	**+0.3**
RFYF				*e*Sg	**Sg**	**06 51 36.0**	**+2.9**
	37nm,0.2s						
ECH	**Echery**	**1.17**	**167**	Pg	**Pg**	**06 51 20.3**	**+0.5**
ECH				Sg	**Sg**	**06 51 36.8**	**+1.8**
STB	**Steinbach**	**1.24**	**2**	*e*Pg	**Pg**	**06 51 21.4**	**+0.4**
STB				*e*Sg	**Sg**	**06 51 37.6**	**+0.5**
	30nm,0.4s						
THEF	**They Montfort**	**1.24**	**204**	Pg	**Pg**	**06 51 21.7**	**+0.6**
KLL	**Kalltalsperre**	**1.32**	**348**	*e*Pg	**Pg**	**06 51 22.4**	**-0.2**
HAU	**Haudompre**	**1.38**	**191**	*e*Pg	**Pg**	**06 51 23.8**	**0.0**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**06 51 42.8**	**+1.2**
	56nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**1.38**	**191**	*e*Pg	**Pg**	**06 51 23.8**	**0.0**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**06 51 42.8**	**+1.2**
	28nm,0.3s,SNR=1.0						
TNS	**Taunus Mts**	**1.40**	**51**	*e*Pg	**Pg**	**06 51 22.6**	**-1.5**
TNS				*e*Sg	**Sg**	**06 51 43.2**	**+1.0**
TNS	**Taunus Mts**	**1.40**	**51**	*e*Pg	**Pg**	**06 51 22.6**	**-1.5**
TNS				*e*Sg	**Sg**	**06 51 43.2**	**+1.0**
MEZF	**Maizieres J'vi**	**1.41**	**233**	*e*Pg	**Pg**	**06 51 26.3**	**+1.9**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**06 51 42.5**	**-1.0**
	59nm,0.5s,baz=55,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.41**	**233**	*e*Pg	**Pg**	**06 51 26.3**	**+1.9**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**06 51 42.5**	**-1.0**
	30nm,0.5s,SNR=1.0						
GIVF	**Givet**	**1.46**	**301**	*e*Pg	**Pg**	**06 51 25.2**	**-0.1**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**06 51 42.4**	**-2.3**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**06 51 44.9**	**+0.7**
	35nm,0.3s,SNR=1.0						
GIVF	**Givet**	**1.46**	**301**	*e*Pg	**Pg**	**06 51 25.2**	**-0.1**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**06 51 42.4**	**-2.3**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**06 51 44.9**	**+0.7**
	17nm,0.3s,SNR=1.0						
GIVF	**Givet**	**1.46**	**301**	*e*Pn	**Pn**	**06 51 23.8**	**-1.1**
GIVF				*e*Pg	**Pg**	**06 51 25.2**	**-0.1**
GIVF				*e*Sn	**Sn**	**06 51 42.4**	**-2.3**
GIVF				*e*Sg	**Sg**	**06 51 44.9**	**+0.7**
BFO	**Black Forest**	**1.46**	**134**	*e*Pg	**Pg**	**06 51 24.8**	**-0.6**
BFO				*e*Sg	**Sg**	**06 51 44.6**	**+0.4**
BFO	**Black Forest**	**1.46**	**134**	Pg	**Pg**	**06 51 24.8**	**-0.5**
BFO				Sg	**Sg**	**06 51 44.6**	**+0.3**
BFO	**Black Forest**	**1.46**	**134**	*e*Pg	**Pg**	**06 51 24.8**	**-0.5**
BFO				*e*Sg	**Sg**	**06 51 44.6**	**+0.3**
HGN	**Heimansgroeve**	**1.50**	**340**	*e*Pg	**Pg**	**06 51 26.6**	**+0.4**
	18nm,1.1s						
HGN				*e*Sg	**Sg**	**06 51 45.6**	**0.0**
HGN	**Heimansgroeve**	**1.50**	**340**	*e*Rg		06 52 09.3	
	1.7nm,0.2s						
MOF	**Molkenrain**	**1.53**	**170**	Pg	**Pg**	**06 51 27.0**	**+0.4**
MOF				Sg	**Sg**	**06 51 46.1**	**-0.3**
HINF	**Hinteralfeld**	**1.54**	**178**	*e*Pg	**Pg**	**06 51 27.0**	**+0.1**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**06 51 47.3**	**+0.4**
	91nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**1.54**	**178**	*e*Pg	**Pg**	**06 51 27.0**	**+0.1**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**06 51 47.3**	**+0.4**
	46nm,0.3s,SNR=1.0						
FELD	**Feldberg im Sc**	**1.70**	**150**	Pg	**Pg**	**06 51 28.9**	**-1.0**
BAIF	**Baives**	**1.80**	**294**	*e*Pg	**Pg**	**06 51 32.3**	**+0.6**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**06 51 54.4**	**-0.6**
	38nm,0.4s,SNR=1.0						
BAIF	**Baives**	**1.80**	**294**	*e*Pg	**Pg**	**06 51 32.3**	**+0.6**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**06 51 54.4**	**-0.6**
	19nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pn	**Pn**	**06 51 42.5**	**-0.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**06 52 28.1**	**+1.3**
	26nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pn	**Pn**	**06 51 42.5**	**-0.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**06 52 28.1**	**+1.3**
	13nm,0.6s,SNR=1.0						
LOR	**Lormes**	**2.85**	**224**	*e*Pn	**Pn**	**06 51 42.9**	**-1.1**
	baz=50,SNR=1.0						
LOR				*e*Sn	**Sn**	**06 52 18.5**	**-0.4**
	26nm,0.4s,baz=41,SNR=1.0						
LOR	**Lormes**	**2.85**	**224**	*e*Pn	**Pn**	**06 51 42.9**	**-1.1**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**06 52 18.5**	**-0.4**
	13nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.16**	**225**	*e*Pn	**Pn**	**06 51 47.9**	**-0.4**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**06 52 24.6**	**-2.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**06 52 42.0**	**+3.1**
	30nm,0.6s						
SSF	**Saint Saulge**	**3.16**	**225**	*e*Pn	**Pn**	**06 51 47.9**	**-0.4**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**06 52 24.6**	**-2.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**06 52 42.0**	**+3.1**
	15nm,0.6s						
SMF	**Signal de Mont**	**3.35**	**217**	*e*Pg	**Pg**	**06 52 04.0**	**+2.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**06 52 30.1**	**-1.1**
	15nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.35**	**217**	*e*Pg	**Pg**	**06 52 04.0**	**+2.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**06 52 30.1**	**-1.1**
	7.5nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.35**	**217**	*e*Pn	**Pn**	**06 51 49.8**	**-1.0**
SMF				*e*Pg	**Pg**	**06 52 04.0**	**+2.6**
SMF				*e*Sn	**Sn**	**06 52 30.1**	**-1.1**
AVF	**Avril sur Loir**	**3.44**	**223**	*e*Pn	**Pn**	**06 51 51.4**	**-0.7**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**06 52 47.9**	**+0.2**
	9.4nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	**3.44**	**223**	*e*Pn	**Pn**	**06 51 51.4**	**-0.7**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**06 52 47.9**	**+0.2**
	4.7nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**3.84**	**225**	*e*Sn	**Sn**	**06 52 41.7**	**-1.7**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**06 53 03.2**	**+2.5**
	40nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.84**	**225**	*e*Sn	**Sn**	**06 52 41.7**	**-1.7**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**06 53 03.2**	**+2.5**
	20nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.48**	**188**	*e*Sn	**Sn**	**06 52 55.2**	**-4.0**
	3.6nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.48**	**188**	*e*Sn	**Sn**	**06 52 55.2**	**-4.0**
	1.8nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**4.59**	**263**	*e*Sg	**Sg**	**06 53 24.3**	**-0.5**
	6.9nm,0.5s						
LDF	**La Druitiere**	**4.59**	**263**	*e*Sg	**Sg**	**06 53 24.3**	**-0.5**
	3.5nm,0.5s						
VIVF	**Saint-Julien-l**	**4.72**	**198**	*e*Sn	**Sn**	**06 53 04.8**	**-0.4**
	8.2nm,0.7s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.72**	**198**	*e*Sn	**Sn**	**06 53 04.8**	**-0.4**
	4.1nm,0.7s,SNR=1.0						
BRG	**Berggiesshubel**	**4.87**	**69**	SG	**Sg**	**06 53 42.7**	**+9.1**
	1.7nm,0.2s						
GRR	**Gorron**	**5.12**	**262**	*e*Sn	**Sn**	**06 53 10.6**	**-4.3**
	5.6nm,0.3s						
GRR	**Gorron**	**5.12**	**262**	*e*Sn	**Sn**	**06 53 10.6**	**-4.3**
	2.8nm,0.3s						
MFF	**Saint Martin d**	**5.39**	**242**	*e*Pn	**Pn**	**06 52 16.5**	**-2.4**
	SNR=1.0						

*NEIC **31** 06:51:50.0, 1731N×9464W, h148km, MD4.4(MEX), After MEX.*

MEX 31 06:51:50.0±0.9, 1731N×9464W, h148km±11km, MD4.4, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.74**	**16**	*i* P	Pn	06 52 10.8	-1.8
TUIG				*i* S	Sn	06 52 27.8	-2.2
TGIG		**1.54**	**110**	*i* P	Pn	06 52 19.4	-0.5
TGIG				*i* S	Sn	06 52 41.0	-1.7
SCX	**San Cristobal**	**2.00**	**106**	*i* P	Pn	06 52 23.4	-1.6
SCX				*i* S	Sn	06 52 49.8	-2.0
OXX	**Oaxaca**	**2.01**	**264**	*i* P	Pn	06 52 23.7	-1.4
OXX				*i* S	Sn	06 52 50.2	-1.9
VHO	**Vista Hermosa**	**2.02**	**264**	*i* P	Pn	06 52 24.7	-0.6
VHO				*i* S	Sn	06 52 52.2	-0.1
HUIG	**Huatulco**	**2.09**	**223**	*e*P	Pn	06 52 23.4	-2.6
HUIG				*i* S	Sn	06 52 52.2	-1.6
CCIG	**Comitan**	**2.60**	**113**	*i* P	Pn	06 52 32.1	-0.2
CCIG				*i* S	Sn	06 53 02.7	-2.2
TPIG	**Tehuac#an**	**2.82**	**293**	*e*P	Pn	06 52 34.5	-0.5
TPIG				*i* S	Sn	06 53 07.6	-2.2
UTMO	**Huajuapan**	**3.07**	**280**	*e*P	Pn	06 52 37.5	-0.6
UTMO				*i* S	Sn	06 53 13.3	-2.0
THIG		**3.30**	**136**	*e*P	Pn	06 52 41.4	+0.2
PNIG	**Pinotepa**	**3.47**	**255**	*i* P	Pn	06 52 40.6	-2.7
PNIG				*i* S	Sn	06 53 22.4	-2.1
PPM	**Popocatepetl**	**4.18**	**295**	*i* P	Pn	06 52 54.0	+1.5
PPM				*i* S	Sn	06 53 41.0	-0.1
PLIG	**Platanillo**	**4.76**	**284**	*i* P	Pn	06 53 00.1	-0.1
PLIG				*i* S	Sn	06 53 53.2	-1.7
MEIG	**Mezcala**	**4.79**	**278**	*i* P	Pn	06 53 00.2	-0.4
MEIG				*i* S	Sn	06 53 52.1	-3.5
ACX	**Acapulco**	**5.07**	**266**	*i* P	Pn	06 52 59.6	-4.7
CAIG	**El Cayaco**	**5.39**	**268**	*i* P	Pn	06 53 05.9	-2.7
CAIG				*i* S	Sn	06 54 06.3	-3.6
ZIIG	**Zihuatanejo**	**6.53**	**274**	*i* P	Pn	06 53 23.0	-0.7

MAN 31 07:12:11, 1031N×12603E, h1km, mb4.4, ML3.2, MS3.1, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.74**	**225⇓**	*e*P	Pg	07 12 26.9	+1.7
SCPH				*e*S	Sg	07 12 38.7	+3.8
MSLP	**Maasin**	**1.16**	**262**	*e*P	Pg	07 12 33.8	+0.5
MSLP				*e*S	Sg	07 12 51.1	+2.8
PLP	**Palo**	**1.34**	**310⇓**	*e*P	Pg	07 12 35.6	-1.1
PLP				*e*S	Sg	07 12 54.9	+0.9
BUTP	**Butuan**	**1.39**	**197**	*e*P	Pn	07 12 33.1	-4.4
BESP	**Borongan**	**1.41**	**336**	*e*P	Pn	07 12 38.1	+0.2
BESP				*e*S	Sg	07 12 58.3	+1.9
TBP	**Tagbilaran**	**2.22**	**254**	*e*P	Pn	07 12 49.8	+0.9
TBP				*e*S	Sn	07 13 19.5	+2.5
BUKP	**Musuan**	**2.59**	**202**	*e*P	Pn	07 12 55.4	+1.3

*ISCJB **31** 07:21:35.2±0.6, 4024N±004×27.17E±004, h7km±10km, Error ellipse: s-maj=7.6km s-min=5.0km az=165.3*
*ISK **31** 07:21:35.2, 4026N×27.17E, h5km, MD2.9*
*CSEM **31** 07:21:35.2, 4026N×27.17E, h5km, MD2.9, After ISK*

ISC 31 07:21:35.7±0.6, 4024N±004×2717E±004, h8km±10km, n13, σ0°38/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.34**	**293**	*e*PG	**Pg**	**07 21 42.3**	**0.0**
LPK				*e*SG	**Sg**	**07 21 47.5**	**+0.7**
RKY	**Sarkoy-Tekirda**	**0.45**	**1**	*e*PG	**Pg**	**07 21 44.1**	**-0.3**
RKY				*e*SG	**Sg**	**07 21 50.2**	**-0.1**
SART	**Tekirdag**	**0.45**	**1**	*i* P	**Pg**	**07 21 44.3**	**-0.1**
MRMT	**Marmara Adasi**	**0.49**	**42**	*e*PG	**Pg**	**07 21 45.2**	**+0.1**
MRMT				*e*SG	**Sg**	**07 21 52.0**	**+0.5**
MFT	**Murefte**	**0.55**	**9**	*e*PG	**Pg**	**07 21 46.2**	**-0.2**
BNT	**Bandirma**	**0.59**	**78**	*e*PG	**Pg**	**07 21 46.4**	**-0.7**
BNT				*e*SG	**Sg**	**07 21 54.8**	**+0.1**
BALY	**Balya**	**0.61**	**145**	*i* P	**Pg**	**07 21 47.8**	**+0.4**
EZN	**Ezine**	**0.77**	**238**	*e*PG	**Pg**	**07 21 50.6**	**+0.2**
ENEZ	**Enez**	**0.92**	**303**	*e*PG	**Pg**	**07 21 53.1**	**-0.2**
BOZC	**Bozcaada**	**0.94**	**245**	*i* P	**Pg**	**07 21 53.0**	**-0.7**
GADA	**Gvkgeada**	**0.97**	**268**	*e*PG	**Pg**	**07 21 54.4**	**+0.1**
SLVT	**Silivri**	**1.27**	**38**	*e*PN	**Pn**	**07 21 59.5**	**-0.3**
YLV	**Yalova**	**1.72**	**78**	*e*PN	**Pn**	**07 22 06.4**	**+0.5**

IDC 31 07:29:33.9±6.1, 1326S×7508W, h86km±77km, mb3.4/2, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, ML3.5/2, Error ellipse: s-maj=412.1km s-min=35.0km az=28.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.37**	**115**	P	Pn	07 31 19.4	+0.5
	0.4nm,0.3s,baz=299,slow=11,SNR=21						
SIV	**San Ignacio**	**13.83**	**103**	P	Pn	07 32 46.4	+0.2
	0.1nm,0.3s,baz=274,slow=14,SNR=3.9						
TXAR	**Lajitas Array**	**50.54**	**327**	P	P	07 38 23.8	+0.1
	0.3nm,0.7s,baz=144,slow=8.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**80.48**	**74**	P	P	07 41 37.1	+0.1
	1.4nm,0.7s,baz=259,slow=4.9,SNR=6.9						

*ISCJB **31** 07:32:42.9±0.7, 2602S±009×1798E±01, h450km, mb3.8/5, Error ellipse: s-maj=14.4km s-min=11.0km az=24.4*
*NEIC **31** 07:32:44.8±1.2, 2618S×17999W, h474km±19km, mb3.9/4, Error ellipse: s-maj=17.4km s-min=10.8km az=146.0*
*IDC **31** 07:32:44.7±2.8, 2613S×17998E, h469km±40km, mb3.3/4, mb1 3.5/8, mb1mx3.3/19, mbtmp3.5/8, Error ellipse: s-maj=28.8km s-min=16.9km az=161.0*

ISC 31 07:32:44.5±2.0, 261S±01×1799E±02, h464km±39km, n16, σ0°63/15, mb3.8/5, South of Fiji Islands

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

DPC	**Dobruska-Polom**	**1.19 174**	*e*PG	**Pg**	**07 37 37.6**	**+0.3**
DPC			*e*SG	**Sg**	**07 37 52.5**	**-0.1**
comp=Z,50nm,0.4s						
PVCC	**Panska Ves**	**1.40 225**	*e*PG	**Pg**	**07 37 41.5**	**+0.1**
PVCC			*e*SG	**Sg**	**07 38 00.2**	**+0.6**
comp=Z,135nm,0.3s						
BRG	**Berggiesshubel**	**1.52 245**	Pg	**Pg**	**07 37 43.9**	**+0.2**
BRG			Sg	**Sg**	**07 38 04.1**	**+0.7**
BRG			SG	**Sg**	**07 38 04.1**	**+0.7**
comp=Z,77nm,0.5s						
BRG	**Berggiesshubel**	**1.52 245**	PG	**Pg**	**07 37 43.9**	**+0.2**
PRU	**Pruhonice**	**1.84 214**	*e*PG	**Pg**	**07 37 49.0**	**-0.8**
PRU			*e*SG	**Sg**	**07 38 13.0**	**-0.6**
comp=Z,43nm,0.3s						
CLL	**Collm**	**1.97 265**	*i* Pn	**Pn**	**07 37 48.7**	**-0.4**
CLL			*e*Pg	**Pg**	**07 37 52.0**	**-0.2**
CLL			*i* x	x	07 37 54.9	
CLL			*i* Sg	**Sg**	**07 38 18.1**	**+0.4**
comp=Z,53nm,0.6s						
CLL	**Collm**	**1.97 265**	*i* Pn	**Pn**	**07 37 48.7**	**-0.4**
CLL			*e*Pg	**Pg**	**07 37 52.0**	**-0.2**
CLL			*i* Sg	**Sg**	**07 38 18.1**	**+0.4**
MORC	**Moravsky Berou**	**1.97 152**	*e*Pn	**Pn**	**07 37 49.1**	**-0.1**
MORC			*e*Sg	**Sg**	**07 38 17.4**	**-0.5**
comp=Z,18nm,0.2s						
OKC	**Ostrava-Krasne**	**2.13 142**	*e*PG	**Pg**	**07 37 55.8**	**+0.5**
OKC			*e*SG	**Sg**	**07 38 21.4**	**-1.4**
comp=Z,62nm,0.8s						
VRAC	**Vranov**	**2.24 172**	Pn	**Pn**	**07 37 54.8**	**+2.0**
comp=Z,1.6nm,0.3s,baz=350,slow=15,SNR=6.5						
VRAC			Lg		07 38 26.3	
comp=Z,7.3nm,0.3s,baz=92,slow=17,SNR=9.4						
VRAC	**Vranov**	**2.24 172**	*e*Pn	**Pn**	**07 37 54.3**	**+1.4**
VRAC			*e*Sg	**Sg**	**07 38 25.7**	**-0.8**
comp=Z,20nm,0.3s						
TREC	**Trest**	**2.27 191**	*e*PN	**Pn**	**07 37 53.7**	**+0.4**
TREC			*e*PG	**Pg**	**07 37 57.4**	**-0.7**
KRUC	**Moravsky**	**2.48 176**	*e*Pn	**Pn**	**07 37 57.7**	**+1.6**
KRUC			*e*Sg	**Sg**	**07 38 33.4**	**-0.6**
comp=Z,13nm,0.2s						
NKC	**Novy Kostel**	**2.67 242**	*e*PN	**Pn**	**07 37 59.5**	**+0.8**
NKC			*e*PG	**Pg**	**07 38 05.8**	**+0.2**
NKC			*e*SG	**Sg**	**07 38 40.5**	**+0.4**
comp=Z,51nm,0.4s						
OJC	**Ojcow**	**2.67 118**	*e*Pg	**Pg**	**07 38 05.1**	**-0.6**
OJC			*e*Sg	**Sg**	**07 38 39.7**	**-0.6**
JAVC	**Velka Javorina**	**2.85 159**	*e*Sg	**Sg**	**07 38 47.7**	**+1.6**
comp=Z,16nm,0.6s						
KHC	**Kasperske Hory**	**2.90 215**	*e*PN	**Pn**	**07 38 02.5**	**+0.6**
KHC			*e*PG	**Pg**	**07 38 08.3**	**-1.8**
KHC			*e*SN	**Sn**	**07 38 33.0**	**-4.5**
KHC			*e*SG	**Sg**	**07 38 45.5**	**-2.2**
comp=Z,16nm,0.6s						
MOX	**Moxa**	**2.98 254**	*e*PG	**Pg**	**07 38 11.8**	**+0.2**
MOX			*e*SG	**Sg**	**07 38 51.6**	**+1.4**
GEC2	**GERESS Array S**	**3.10 211**	*e*Pn	**Pn**	**07 38 05.4**	**+0.7**
GEC2			*e*Sg	**Sg**	**07 38 52.9**	**-1.3**
GERES	**GERESS Array B**	**3.10 211**	Pn	**Pn**	**07 38 04.1**	**-0.6**
comp=Z,0.9nm,0.3s,baz=33,slow=12,SNR=12						
GERES			Pg	**Pg**	**07 38 11.4**	**-2.6**
comp=Z,1.8nm,0.3s,baz=28,slow=17,SNR=29						
GERES			Sn	**Sn**	**07 38 42.3**	**-0.2**
comp=Z,1.5nm,0.3s,baz=36,slow=25,SNR=4.0						
GERES			Lg		07 38 53.0	
comp=Z,4.5nm,0.3s,baz=33,slow=27,SNR=8.3						
GERES	**GERESS Array B**	**3.10 211**	Pg	**Pg**	**07 38 11.4**	**-2.6**
GERES	**GERESS Array B**	**3.10 211**	Pn	**Pn**	**07 38 04.1**	**-0.6**
GERES			Pg	**Pg**	**07 38 11.4**	**-2.6**
GERES			Sn	**Sn**	**07 38 42.3**	**-0.2**
GERES			Lg		07 38 53.0	
MODS	**Modra-Piesok**	**3.24 166**	*e*PG	**Pg**	**07 38 17.4**	**+0.7**
MODS			*e*SG	**Sg**	**07 38 57.9**	**-0.8**
NIE	**Niedzica**	**3.41 127**	*e*P	**Pg**	**07 38 19.5**	**-0.3**
NIE			*e*S	**Sg**	**07 39 03.8**	**-0.2**
VYHS	**Vyhne**	**3.50 149**	*e*SG	**Sg**	**07 39 10.4**	**+3.3**
CONA	**Conrad Observa**	**3.61 183**	⇑*i*Pn	**Pn**	**07 38 12.6**	**+1.0**
CONA			⇓*i*Sg	**Sg**	**07 39 09.9**	**-0.4**
comp=Z,14nm,0.4s						
MOA	**Molin**	**3.88 199**	⇑*i*Pn	**Pn**	**07 38 16.1**	**+0.8**
MOA			⇑*i*Sg	**Sg**	**07 39 19.4**	**+0.4**
comp=Z,28nm,0.7s						
STHS	**Stebnicka Huta**	**3.89 121**	*e*PG	**Pg**	**07 38 30.5**	**+1.4**
STHS			*e*SG	**Sg**	**07 39 24.0**	**+4.5**
CRVS	**Cervenica-Dubn**	**4.32 125**	*e*PG	**Pg**	**07 38 36.0**	**-1.3**
CRVS			*e*SG	**Sg**	**07 39 36.2**	**+3.0**
DAVOX	**Davos/Dischmat**	**6.27 223**	Sn	**Sn**	**07 39 56.7**	**-3.8**
comp=Z,0.2nm,0.3s,baz=179,slow=21,SNR=2.4						
DAVOX			Lg		07 40 32.6	
comp=Z,0.3nm,0.3s,baz=158,slow=22,SNR=1.6						
AKASG	**Malin Array Be**	**8.29 91**	Pn	**Pn**	**07 39 15.9**	**0.0**
comp=Z,0.7nm,0.3s,baz=277,slow=12,SNR=5.3						
AKASG			Sn	**Sn**	**07 40 44.5**	**-5.6**
comp=Z,0.4nm,0.3s,baz=164,slow=1.8,SNR=3.3						
AKASG	**Malin Array Be**	**8.29 91**	Pn	**Pn**	**07 39 15.9**	**0.0**
AKASG			Sn	**Sn**	**07 40 44.5**	**-5.6**
HFS	**Hagfors**	**8.73 352**	Pn	**Pn**	**07 39 20.5**	**-1.4**
comp=Z,0.1nm,0.3s,baz=183,slow=22,SNR=2.9						
ARCES	**ARCESS Array B**	**18.60 10**	Pn	**Pn**	**07 41 31.9**	**-1.2**
comp=Z,0.1nm,0.3s,baz=198,slow=11,SNR=3.4						

*ISCJB **31** 07:39:57.4±0.8, 276N±02×4407W±008, h10km, mb4.3/23, MS3.6/16, Error ellipse: s-maj=26.0km s-min=10.4km az=4.8*
*IDC **31** 07:39:57.2±1.2, 2740N×4414W, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/26, mbtmp3.9/10, MS3.6/16, Ms1 3.6/16, ms1mx3.3/41, Error ellipse: s-maj=39.6km s-min=18.4km az=7.0*
*NEIC **31** 07:39:59.1±0.7, 2757N×4408W, h10km, mb4.6/13, Error ellipse: s-maj=24.8km s-min=10.0km az=184.0*

ISC 31 07:39:59.3±0.8, 276N±02×4406W±008, h10km, n49, σ1°00/38, mb4.3/23, MS3.6/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**22.40**	**250**	LR	LR	07 51 29.9	
comp=Z,122nm,20.8s,MS3.3,baz=102,slow=31							
BBTS	**Babate**	**28.63**	**111**	LR	LR	07 54 57.8	
comp=Z,122nm,19.0s,MS3.5,baz=114,slow=31							
SCHQ	**Schefferville**	**31.89**	**335**	LR	LR	07 57 06.0	
comp=Z,87nm,19.6s,MS3.4,baz=80,slow=32							
MDT	**Midelt**	**34.35**	**71**	LR	LR	07 57 17.0	
comp=Z,132nm,18.5s,MS3.7,baz=336,slow=30							
TKL	**Tuckaleechee C**	**34.59**	**294**	P	**P**	**07 46 48.8**	**+0.4**
2.5nm,0.9s,mb4.1,baz=103,slow=6.0,SNR=3.2							
DBIC	**Dimbokro**	**42.57**	**112**	P	**P**	**07 47 55.9**	**+0.2**
4.0nm,0.9s,mb4.1,baz=97,slow=23,SNR=3.2							
DBIC				LR	LR	08 03 00.5	
comp=Z,121nm,19.7s,MS3.8,baz=272,slow=32							
TORD	**Torodi Ar. Bea**	**44.97**	**99**	P	**P**	**07 48 14.2**	**-0.8**
1.1nm,0.9s,mb3.7,baz=313,slow=7.3,SNR=5.3							
TORD				LR	LR	08 05 53.7	
comp=Z,111nm,19.3s,MS3.8,baz=300,slow=35							
ULM	**Lac du Bonnet**	**45.15**	**315**	LR	LR	08 04 43.4	
comp=Z,53nm,21.5s,MS3.4,baz=90,slow=33							
WMOK	**Wichita Mounta**	**46.89**	**293**	*e*P	**P**	**07 48 29.1**	**-0.8**
10.0nm,1.6s,mb4.5							
GERES	**GERESS Array B**	**48.82**	**48**	LR	LR	08 04 52.9	
comp=Z,27nm,21.1s,MS3.2,baz=301,slow=30							
LPAZ	**La Paz**	**49.45**	**211**	LR	LR	08 08 59.6	
comp=Z,31nm,20.7s,MS3.3,baz=48,slow=35							
NB2	**NORSAR Subarra**	**49.59**	**32**	P	**P**	**07 48 51.9**	**+1.5**
comp=Z,1.1nm,0.8s,mb3.9,baz=253,slow=7.9							
NOA	**NORSAR Array B**	**49.59**	**32**	P	**P**	**07 48 51.5**	**+1.1**
comp=Z,2.2nm,0.9s,mb4.2,baz=254,slow=7.6,SNR=4.6							
NOA				LR	LR	08 08 34.8	
comp=Z,23nm,18.3s,MS3.2,baz=325,slow=34							
NOA	**NORSAR Array B**	**49.59**	**32**	P	**P**	**07 48 51.5**	**+1.1**
NOA				LR	LR	08 08 34.8	
HFS	**Hagfors**	**50.54**	**33**	P	**P**	**07 48 59.8**	**+2.2**
comp=Z,2.2nm,0.8s,mb4.1,baz=235,slow=6.5,SNR=3.1							
SDCO	**Great Sand Dun**	**51.90**	**298**	*e*P	**P**	**07 49 09.3**	**+1.1**
comp=Z,6.7nm,1.8s,mb4.3							
TXAR	**Lajitas Array**	**51.94**	**287**	P	**P**	**07 49 08.1**	**-0.5**
comp=Z,0.6nm,0.8s,mb3.6,baz=98,slow=7.7,SNR=8.4							
TXAR				LR	LR	08 09 18.9	
comp=Z,43nm,18.8s,MS3.5,baz=180,slow=34							
ANMO	**Albuquerque**	**53.10**	**294**	LR	LR	08 09 30.2	
comp=Z,98nm,19.3s,MS3.9,baz=338,slow=33							
ANMO	**Albuquerque**	**53.10**	**294**	*e*P	**P**	**07 49 18.6**	**+1.4**
comp=Z,3.6nm,1.3s,mb4.1							
LAZ	**Ladron**	**53.76**	**294**	*e*P	**P**	**07 49 23.4**	**+1.5**
RLMT	**Red Lodge**	**53.94**	**307**	*e*P	**P**	**07 49 23.9**	**+0.8**
comp=Z,7.2nm,1.4s,mb4.4							
GCMT	**Greycliff**	**54.17**	**308**	P	**P**	**07 49 23.9**	**-0.9**
PV01	**Paradox Valley**	**54.24**	**299**	P	**P**	**07 49 27.0**	**+1.5**
PDAR	**Pinedale Array**	**54.37**	**304**	P	**P**	**07 49 26.6**	**+0.2**
comp=Z,2.7nm,0.9s,mb4.2,baz=79,slow=8.0,SNR=18							
PDAR				LR	LR	08 10 37.2	
comp=Z,91nm,19.3s,MS3.9,baz=57,slow=34							
FLWY	**Flagg Ranch**	**55.05**	**306**	*e*P	**P**	**07 49 31.1**	**-0.2**
comp=Z,14nm,1.5s,mb4.8							
SNOW	**Snow King Moun**	**55.16**	**305**	*e*P	**P**	**07 49 32.7**	**+0.6**
comp=Z,8.1nm,1.3s,mb4.6							
REDW	**Red Top Meadow**	**55.24**	**305**	*e*P	**P**	**07 49 31.0**	**-1.6**
comp=Z,17nm,1.7s,mb4.8							
TPAW	**Teton Pass**	**55.30**	**305**	*e*P	**P**	**07 49 32.9**	**-0.1**
comp=Z,6.0nm,1.3s,mb4.5							
RRI2	**Red Ridge**	**55.59**	**305**	*e*P	**P**	**07 49 35.6**	**+0.5**
comp=Z,8.8nm,1.2s,mb4.7							
SRU	**San Rafael**	**55.60**	**300**	*e*P	**P**	**07 49 35.8**	**+0.6**
comp=Z,4.4nm,1.1s,mb4.4							
HWUT	**Hardware Ranch**	**56.00**	**303**	*e*P	**P**	**07 49 38.4**	**+0.4**
comp=Z,7.0nm,1.5s,mb4.5							
MCMT	**McKenzie Canyo**	**56.50**	**307**	*e*P	**P**	**07 49 39.3**	**-2.3**
WALA	**Waterton Lakes**	**56.78**	**312**	*e*P	**P**	**07 49 43.1**	**-0.4**
MSU	**Marysvale**	**56.97**	**300**	P	**P**	**07 49 45.0**	**-0.1**
YKA	**Yellowknife Ar**	**56.98**	**329**	LR	LR	08 13 25.6	
comp=Z,101nm,19.4s,MS3.9,baz=60,slow=35							
DUG	**Dugway**	**57.16**	**302**	*e*P	**P**	**07 49 46.7**	**+0.3**
comp=Z,7.1nm,1.3s,mb4.5							
BGU	**Big Grassy Mou**	**57.20**	**303**	*e*P	**P**	**07 49 47.1**	**+0.5**
ARCES	**ARCESS Array B**	**57.32**	**23**	P	**P**	**07 49 47.4**	**+0.4**
comp=Z,2.9nm,0.9s,mb4.3,baz=269,slow=4.5,SNR=4.7							
KEV	**Kevo**	**57.87**	**23**	P	**P**	**07 49 49.9**	**-1.0**
AKASG	**Malin Array Be**	**58.83**	**45**	P	**P**	**07 49 57.6**	**-0.3**
comp=Z,0.2nm,0.3s,mb3.6,baz=270,slow=5.8,SNR=4.1							
LNOR	**Lincton Mounta**	**60.14**	**309**	*e*P	**P**	**07 50 06.7**	**-0.3**
NVAR	**Mina Array Bea**	**61.69**	**301**	P	**P**	**07 50 16.7**	**-1.0**
comp=Z,0.9nm,0.9s,mb3.9,baz=85,slow=5.3,SNR=6.0							
MOD	**Modoc**	**62.36**	**305**	*e*P	**P**	**07 50 22.1**	**0.0**
comp=Z,15nm,1.5s,mb4.9							
ISA	**Isabella**	**62.52**	**298**	P	**P**	**07 50 22.2**	**-1.2**
OHCM	**Honcut**	**63.86**	**303**	*e*P	**P**	**07 50 32.8**	**+0.6**
INK	**Inuvik**	**64.50**	**336**	P	**P**	**07 50 33.1**	**-2.7**
DAWY	**Dawson**	**67.84**	**332**	*e*P	**P**	**07 50 55.9**	**-1.5**
BOSA	**Boshof**	**86.77**	**125**	LR	LR	08 24 24.2	
comp=Z,34nm,21.0s,MS3.7,baz=145,slow=31							
PETK	**Petropavlovsk-**	**97.46**	**347**	LR	LR	08 35 36.5	
comp=Z,21nm,19.5s,MS3.6,baz=168,slow=34							

*ISCJB **31** 07:43:38.9±0.8, 2007S±005×685W±0.1, h124km±9km, mb4.0/3, Error ellipse: s-maj=16.8km s-min=7.2km az=17.6*
*IDC **31** 07:43:39.3±1.1, 2005S×6859W, h113km±10km, mb3.7/5, mb1 3.8/9, mb1mx3.5/22, mbtmp3.7/9, Error ellipse: s-maj=23.9km s-min=8.3km az=104.0*
*NEIC **31** 07:43:40.0±0.8, 2007S×6862W, h121km±8km, mb4.0/1, Error ellipse: s-maj=15.2km s-min=8.2km az=107.0*

ISC 31 07:43:40.2±0.8, 2007S±005×685W±01, h117km±9km, n16, σ0°73/21, mb4.0/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.56**	**188**	P	**Pn**	**07 44 20.7**	**0.0**
39nm,0.3s,baz=10,slow=10,SNR=184							
LVC				S	**Sn**	**07 44 51.5**	**-0.2**
175nm,0.3s,baz=336,slow=8.4,SNR=26							
LVC	**Limon Verde**	**2.56**	**188**	*e*Pn	**Pn**	**07 44 20.4**	**-0.2**
LVC				*e*Sn	**Sn**	**07 44 51.4**	**-0.3**
LPAZ	**La Paz**	**3.78**	**6**	P	**Pn**	**07 44 38.0**	**+1.2**
4.7nm,0.3s,baz=188,slow=5.7,SNR=148							
LPAZ				S	**Sn**	**07 45 19.9**	**-0.6**
0.8nm,0.3s,baz=164,slow=20,SNR=3.7							
SIV	**San Ignacio**	**8.18**	**61**	P	**Pn**	**07 45 36.3**	**+0.2**
1.6nm,0.3s,baz=256,slow=11,SNR=55							
SIV				S	**Sn**	**07 47 06.0**	**-0.9**
baz=272,slow=21,SNR=2.8							
LCO	**Las Campanas**	**9.12**	**192**	*e*Pn	Px	07 46 02.4	
LCO				*e*Sn	**Sn**	**07 47 21.0**	**-8.7**
CFAA	**Coronel Fontan**	**11.49**	**179**	P	**Pn**	**07 46 16.4**	**-4.3**
0.0nm,0.3s,baz=353,slow=14,SNR=2.7							
CFAA				S	**Sn**	**07 48 15.5**	**-12**
0.1nm,0.3s,baz=220,slow=21,SNR=5.4							
CFAA	**Coronel Fontan**	**11.49**	**179**	P	**Pn**	**07 46 16.4**	**-4.3**
CFAA				S	**Sn**	**07 48 15.5**	**-12**
CPUP	**Villa Florida**	**12.04**	**123**	P	**Pn**	**07 46 28.9**	**+0.9**
1.1nm,0.3s,baz=281,slow=12,SNR=24							
TRQA	**Tornquist**	**18.81**	**164**	*e*P	**P**	**07 47 50.6**	**0.0**
9.1nm,1.2s							
BDFB	**Brasilia**	**20.02**	**81**	P	**P**	**07 48 05.2**	**+1.2**
2.5nm,0.6s,baz=261,slow=15,SNR=3.1							
PLCA	**Paso Flores**	**20.67**	**184**	P	**P**	**07 48 09.9**	**-0.8**
3.0nm,0.8s,baz=350,slow=13,SNR=8.5							
DBIC	**Dimbokro**	**68.00**	**74**	P	**P**	**07 54 26.6**	**-0.8**
4.2nm,0.7s,mb4.3,baz=212,slow=6.4,SNR=5.7							
PSMN	**Pico do Norte,**	**70.02**	**36**	*e*P	**P**	**07 54 44.0**	**+4.7**
QSPA	**South Pole Qui**	**70.12**	**180**	P	**P**	**07 54 39.8**	**+0.5**
0.9nm,0.6s,mb3.8,baz=132,slow=0.6,SNR=11							
TORD	**Torodi Ar. Bea**	**76.55**	**70**	P	**P**	**07 55 17.8**	**-0.3**
0.9nm,0.5s,mb3.8,baz=257,slow=5.4,SNR=13							
SONM	**Songino Array**	**152.00**	**7**	PKPbc	PKPbc	08 03 21.0	-0.6
0.2nm,0.4s,baz=302,slow=3.3,SNR=3.6							

MAN 31 07:57:55, 1059N×12609E, h101km, mb3.8, ML2.6, MS2.2, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.99**	**216**	⇓*e*P	Pn	07 58 15.5	+0.1
SCPH				*e*S	Sn	07 58 30.0	-0.8
PLP	**Palo**	**1.23**	**298**	⇓*e*P	Pn	07 58 17.6	-0.5
PLP				*e*S	Sn	07 58 33.1	-2.4
MSLP	**Maasin**	**1.29**	**250**	*e*P	Pn	07 58 20.1	+1.3
MSLP				*e*S	Sn	07 58 38.5	+1.7
CNP	**Cataman**	**2.37**	**324**	*e*P	Pn	07 58 33.9	+1.5
CNP				*e*S	Sn	07 59 02.1	+1.1

*NEIC **31** 07:58:01.6, 3833N×2048E, h16km, MD3.5(ATH), After ATH.*
*ATH **31** 07:58:01.6, 3833N×2048E, h16km, MD3.5/6*
*ISCJB **31** 07:58:02.6±1.1, 3831N±004×205E±0.1, h11km±4km, Error ellipse: s-maj=13.9km s-min=5.0km az=163.9*
*CSEM **31** 07:58:02.6±0.1, 3836N×2049E, h2km, MD3.5, Error ellipse: s-maj=3.8km s-min=1.8km az=76.0*
*THE **31** 07:58:02.4, 3832N×2041E, h0km, ML3.2*

ISC 31 07:58:02.8±1.2, 3833N±004×205E±01, h8km±6km, n15, σ0°82/22, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.19**	**146**	*e*Pg	**Pg**	**07 58 06.2**	**-0.4**
VLS				*e*Sg	**Sg**	**07 58 09.4**	**+0.2**
VLS	**Valsamata**	**0.19**	**146**	*e*Pb	**Pg**	**07 58 06.4**	**-0.2**
VLS				*e*Sg	**Sg**	**07 58 09.4**	**+0.2**
VLS				*e*Sb	**Sg**	**07 58 09.7**	**+0.5**
KFL	**Anninata**	**0.34**	**130**	*e*Pg	**Pg**	**07 58 09.0**	**-0.5**
KFL				*e*Sg	**Sg**	**07 58 15.0**	**+0.9**
LKD	**Levkas**	**0.40**	**22**	*e*Pg	**Pg**	**07 58 10.1**	**-0.6**
LKD				*e*Sg	**Sg**	**07 58 16.7**	**+0.7**
RLS	**Riolos of Patr**	**0.84**	**109**	*e*PN	**Pn**	**07 58 17.5**	**-3.4**
RLS				*e*SN	**Sn**	**07 58 28.4**	**-5.1**
EVR	**Evrytania**	**1.21**	**61**	*e*PN	**Pn**	**07 58 24.3**	**-1.7**
KEK	**Kerkira**	**1.47**	**340**	*e*PN	**Pn**	**07 58 29.5**	**-0.1**
KEK				*e*SN	**Sn**	**07 58 49.7**	**+0.7**
AGG	**Agios Georgios**	**1.62**	**64**	*e*Pb	**Pb**	**07 58 32.1**	**-0.8**
ITM	**Ithomi**	**1.64**	**134**	*e*PN	**Pn**	**07 58 31.6**	**-0.3**
THL	**Klokotos Trika**	**1.73**	**44**	*e*Pb	**Pb**	**07 58 34.0**	**-0.8**
LTK	**Loutraki**	**2.00**	**98**	*e*Pn	**Pn**	**07 58 37.3**	**+0.4**
DID	**Didima**	**2.35**	**110**	*e*Pn	**Pn**	**07 58 42.2**	**+0.6**
XOR	**Xorichti**	**2.37**	**63**	*e*Pn	**Pn**	**07 58 43.3**	**+1.3**
VLI	**Veliai**	**2.55**	**128**	⇑*i*PN	**Pn**	**07 58 44.3**	**-0.1**
AOS	**Alonnisos**	**2.81**	**72**	*e*Pn	**Pn**	**07 58 48.7**	**+0.8**

IDC 31 08:00:08.2±3.8, 5201N×3563E, h0km, mb1 4.1/1, mb1mx3.3/22, mbtmp4.0/1, ML3.2/1, Error ellipse: s-maj=53.6km s-min=19.0km az=136.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**4.22**	**254**	Pn	Pn	08 01 12.3	-1.4
1.5nm,0.3s,baz=56,slow=11,SNR=3.1							
AKASG				Pg	Pg	08 01 23.2	-5.9
3.2nm,0.3s,baz=58,slow=15,SNR=11							
AKASG				Sn	Sn	08 02 02.1	-1.6
3.7nm,0.3s,baz=135,slow=30,SNR=5.0							
AKASG				Lg		08 02 20.2	
5.0nm,0.3s,baz=66,slow=29,SNR=7.6							
ARCES	**ARCESS Array B**	**18.22**	**349**	Pn	Pn	08 04 16.4	-5.6
0.4nm,0.3s,baz=159,slow=10,SNR=18							

IDC 31 08:25:45.1±1.6, 376N×12718E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=149.4km s-min=20.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.59**	**164**	P	P	08 31 06.8	-0.2
2.7nm,0.8s,baz=344,slow=10,SNR=15							
ASAR	**Alice Springs**	**28.04**	**167**	P	P	08 31 37.9	-0.3
0.2nm,0.6s,baz=354,slow=8.4,SNR=4.4							
STKA	**Stephens Creek**	**38.00**	**160**	P	P	08 33 05.8	+0.8
1.0nm,0.4s,baz=337,slow=17,SNR=3.7							
MKAR	**Makanchi Array**	**57.78**	**325**	P	P	08 35 37.8	-0.3
0.3nm,0.5s,baz=110,slow=8.8,SNR=5.3							
KURK	**Kurchatov**	**61.95**	**327**	P	P	08 36 07.0	+0.2
0.3nm,0.5s,baz=127,slow=6.8,SNR=2.3							

*ISCJB **31** 08:26:36.4±0.8, 4215N±004×4590E±005, h2km±6km, Error ellipse: s-maj=8.6km s-min=3.8km az=137.7*
*CSEM **31** 08:26:36.3, 4211N×4599E, h14km, mb3.9, Error ellipse: s-maj=13.5km s-min=9.2km az=330.0, After OBN*
*MOS **31** 08:26:36.3±1.2, 4211N×4599E, h14km, mb3.9/1, Error ellipse: s-maj=13.5km s-min=9.2km az=123.0*
*TIF **31** 08:26:37.1, 4228N×4576E, h20km±3km*

ISC 31 08:26:37.1±0.7, 4216N±004×4591E±005, h7km±5km, n18, σ0°92/29, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.56**	**25**	*i* PG	**Pg**	**08 26 47.7**	**-0.2**
BTLR				*i* S	**Sg**	**08 26 55.2**	**+0.1**
BTLR				pmax	pmax		
comp=Z,196nm,0.3s							
BTLR	**Botlikh**	**0.56**	**25**	*i* Pg	**Pg**	**08 26 47.7**	**-0.2**
comp=Z,196nm,0.3s							
BTLR				*i* Sg	**Sg**	**08 26 55.2**	**+0.1**
DGRG	**David-gareji**	**0.81**	**210**	P	**Pn**	**08 26 55.8**	**+0.9**
DGRG				S	**Sn**	**08 27 07.8**	**+0.6**
MTA	**Mtatsminda**	**0.95**	**241**	P	**Pg**	**08 26 55.4**	**-0.1**
MTA				S	**Sg**	**08 27 07.7**	**-0.1**
TBLG	**Delisi**	**0.97**	**244**	Pg	**Pg**	**08 26 55.8**	**0.0**
TBLG				Sg	**Sg**	**08 27 08.2**	**-0.2**
KRNR	**Karanay**	**1.00**	**48**	*e*PG	**Pg**	**08 26 56.5**	**+0.2**
KRNR				*i* S	**Sg**	**08 27 10.5**	**+1.3**
DBC	**Dubki**	**1.10**	**38**	*i* PG	**Pg**	**08 26 56.0**	**-2.4**
DBC				*i* S	**Sb**	**08 27 12.0**	**-0.9**
DBC				pmax	pmax		
comp=Z,48nm,0.3s							
DBC	**Dubki**	**1.10**	**38**	*i* Pg	**Pb**	**08 26 56.0**	**-2.4**
comp=Z,48nm,0.3s							
DBC				*i* Sg	**Sb**	**08 27 12.0**	**-0.9**
GOR	**Gori**	**1.35**	**263**	P	**Pn**	**08 27 01.4**	**-0.9**
GOR				S	**Sb**	**08 27 18.4**	**-1.7**
LACR	**Lac**	**1.36**	**300**	*i* Pg	**Pn**	**08 27 00.5**	**-2.0**
BTKR	**Batakoyurt**	**1.57**	**321**	*e*Pn	**Pb**	**08 27 06.8**	**+0.3**
BTKR				*e*Sg	**Sb**	**08 27 27.2**	**+0.6**
ARNR	**Ardon**	**1.58**	**311**	*e*Pn	**Pn**	**08 27 06.0**	**+0.5**
ZEI	**Tsey**	**1.61**	**293**	*e*Pn	**Pn**	**08 27 04.9**	**-0.9**
KORR	**Kora**	**1.64**	**305**	*e*Pn	**Pn**	**08 27 06.3**	**0.0**
KMSR	**Komsomolskaya**	**1.70**	**316**	*e*Pn	**Pb**	**08 27 08.8**	**+0.2**
ONI	**Oni**	**1.87**	**284**	P	**Pn**	**08 27 10.5**	**+1.0**
ONI				S	**Sn**	**08

VLX	Vlachokerasia	0.83 213	*e*Pg	Pg	08 43 46.6	-1.0
VLX			*e*Sg	Sg	08 43 58.4	-0.1
AGG	Agios Georgios	1.06 333	*e*Pg	Pg	08 43 52.5	+0.5
RLS	Riolos of Patr	1.17 270	*e*PN	Pn	08 43 53.7	+0.5
ITM	Ithomi	1.21 222	⇑/*e*PN	Pn	08 43 53.9	+0.2
NEO	Neokhori	1.25 10	*e*PN	Pn	08 43 55.0	+0.6
XOR	Xorichti	1.30 8	*e*Pg	Pg	08 43 55.4	-1.1
AOS	Alonnisos	1.32 33	*e*Pg	Pg	08 43 56.1	-0.6
VLI	Veliai	1.35 180	⇓/*e*PN	Pn	08 43 56.9	+1.1

ISCJB ***31*** *08:56:55.8±0.6, 569S±01×270W±02, h10km, mb4.2/11, Error ellipse: s-maj=19.1km s-min=13.6km az=18.9*
IDC ***31*** *08:57:07.0±6.6, 5694S×2707W, h94km±60km, mb3.9/8, mb1 3.9/8, mb1mx3.8/16, mbtmp3.9/8, MS3.9/1, Ms1 3.9/1, ms1mx3.0/16, Error ellipse: s-maj=23.3km s-min=16.8km az=38.0*
NEIC ***31*** *08:57:08.9±4.3, 5696S×2709W, h112km±41km, mb4.3/3, Error ellipse: s-maj=14.3km s-min=9.8km az=201.0*

ISC 31 08:56:57.8±0.6, 569S±01×270W±02, h10km, n17, σ0.54/14, mb4.2/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**32.26**	**281**	P	**P**	**09 03 25.9**	**-0.3**
2.9nm,0.9s,mb4.1,baz=79,slow=2.4,SNR=4.5							
PLCA	**Paso Flores**	**32.26**	**281**	P	**P**	**09 03 25.9**	**-0.3**
QSPA	**South Pole Qui**	**33.37**	**180**	P	**P**	**09 03 36.3**	**+0.7**
2.2nm,0.9s,mb4.1,baz=189,slow=1.6,SNR=11							
QSPA	**South Pole Qui**	**33.37**	**180**	P	**P**	**09 03 36.3**	**+0.7**
CPUP	**Villa Florida**	**37.44**	**312**	P	**P**	**09 04 10.5**	**-0.6**
1.4nm,0.5s,mb4.0,baz=150,slow=7.1,SNR=7.8							
CPUP				PcP	PcP	09 06 27.1	-2.3
0.6nm,0.5s,baz=150,slow=8.1,SNR=2.6							
MAW	**Mawson**	**39.42**	**143**	P	**P**	**09 04 26.3**	**-1.0**
1.1nm,0.6s,mb3.8,baz=199,slow=5.0,SNR=6.4							
LVC	**Limon Verde**	**45.81**	**301**	P	**P**	**09 05 19.6**	**0.0**
2.9nm,0.4s,mb4.6							
BOSA	**Boshof**	**46.08**	**75**	P	**P**	**09 05 21.6**	**-0.1**
2.3nm,0.6s,mb4.3,baz=243,slow=11,SNR=5.6							
TSUM	**Tsumeb**	**50.00**	**60**	*e*P	**P**	**09 05 53.0**	**+0.9**
2.8nm,0.6s,mb4.5							
LPAZ	**La Paz**	**50.94**	**306**	P	**P**	**09 05 59.8**	**+0.5**
3.1nm,0.6s,mb4.4,baz=144,slow=4.6,SNR=26							
LPAZ				PcP	PcP	09 07 14.4	-1.1
1.0nm,0.5s,baz=162,slow=2.8,SNR=3.3							
LSZ	**Lusaka**	**58.58**	**68**	*e*P	**P**	**09 06 54.5**	**-0.1**
DBIC	**Dimbokro**	**65.88**	**24**	P	**P**	**09 07 42.9**	**-0.6**
1.5nm,0.4s,mb4.3,baz=195,slow=12,SNR=3.6							
OTAV	**Otavalo**	**70.20**	**304**	P	**P**	**09 08 11.1**	**+0.4**
2.2nm,0.9s,mb4.1							
TORD	**Torodi Ar. Bea**	**73.72**	**29**	P	**P**	**09 08 31.9**	**+0.1**
2.3nm,0.6s,mb4.3,baz=200,slow=6.7,SNR=26							
INK	**Inuvik**	**146.51**	**320**	PKPbc	PKPbc	09 16 35.3	-2.3
2.1nm,0.5s,baz=254,slow=2.0,SNR=8.0							
SONM	**Songino Array**	**150.66**	**88**	PKPbc	PKPbc	09 16 46.3	-2.7
1.3nm,0.4s,baz=230,slow=3.9,SNR=7.3							
KDAK	**Kodiak Island**	**151.27**	**295**	PKPbc	PKPbc	09 16 47.6	-2.5
3.3nm,0.5s,baz=273,slow=4.3,SNR=5.8							

IDC 31 09:10:27.1±2.1, 302N×12763E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=157.6km s-min=25.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75**	**164**	P	P	09 15 41.0	-0.4
0.3nm,0.4s,baz=345,slow=11,SNR=16							
ASAR	**Alice Springs**	**27.22**	**167**	P	P	09 16 12.1	-0.7
0.3nm,0.5s,baz=353,slow=7.7,SNR=6.4							
STKA	**Stephens Creek**	**37.15**	**160**	P	P	09 17 41.0	+1.2
2.4nm,0.7s,baz=321,slow=6.5,SNR=3.5							
MKAR	**Makanchi Array**	**58.65**	**325**	P	P	09 20 26.3	+0.1
0.4nm,0.5s,baz=116,slow=8.2,SNR=3.8							

IDC 31 09:44:17.9±1.0, 4975N×2888W, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.9/7/28, mbtmp3.8/7, ML3.5/1, MS3.4/22, Ms1 3.4/22, ms1mx3.2/49, Error ellipse: s-maj=32.8km s-min=25.1km az=179.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.56**	**60**	Pn	Pn	09 48 10.7	-0.6
0.1nm,0.3s,baz=258,slow=14,SNR=3.5							
ESDC	**Sonseca Array**	**20.28**	**110**	LR	LR	09 55 20.4	
comp=Z,84nm,19.4s,baz=310,slow=33							
JMIC	**Jan Mayen**	**23.32**	**17**	LR	LR	09 56 17.7	
comp=Z,84nm,18.2s,baz=225,slow=31							
SCHQ	**Scheefferville**	**23.55**	**297**	LR	LR	09 56 30.4	
comp=Z,57nm,19.4s,baz=53,slow=31							
NOA	**NORSAR Array B**	**24.99**	**48**	LR	LR	09 58 50.5	
comp=Z,94nm,18.1s,baz=265,slow=35							
DAVOX	**Davos/Dischmat**	**25.78**	**82**	LR	LR	09 59 25.3	
comp=Z,131nm,18.7s,baz=81,slow=35							
HFS	**Hagfors**	**26.11**	**50**	LR	LR	09 59 43.7	
comp=Z,89nm,18.1s,baz=266,slow=36							
GERES	**GERESS Array B**	**27.52**	**75**	LR	LR	10 00 31.4	
comp=Z,96nm,19.6s,baz=280,slow=35							
VRAC	**Vranov**	**29.18**	**73**	LR	LR	10 01 21.8	
comp=Z,102nm,19.2s,baz=291,slow=35							
KEST	**Kesra**	**31.01**	**102**	LR	LR	10 01 56.6	
comp=Z,23nm,21.6s,baz=238,slow=34							
ARCES	**ARCESS Array B**	**32.30**	**32**	P	P	09 50 47.4	-0.6
3.0nm,0.9s,baz=253,slow=7.0,SNR=8.2							
ARCES				LR	LR	10 00 43.3	
comp=Z,36nm,21.6s,baz=272,slow=30							
SPITS	**Spitsbergen Ar**	**32.98**	**16**	LR	LR	10 01 05.6	
comp=Z,48nm,19.4s,baz=35,slow=31							
TORD	**Torodi Ar. Bea**	**44.27**	**135**	P	P	09 52 29.1	-0.1
1.1nm,0.7s,baz=333,slow=7.8,SNR=8.2							
TORD				LR	LR	10 09 45.6	
comp=Z,48nm,18.5s,baz=310,slow=34							
MMAI	**Mount Meron Ar**	**49.52**	**84**	LR	LR	10 12 23.4	
comp=Z,27nm,19.9s,baz=80,slow=34							
ASF	**Jabal al Asfar**	**51.02**	**84**	LR	LR	10 15 08.5	
comp=Z,24nm,18.4s,baz=99,slow=36							
GNI	**Garni**	**51.02**	**71**	LR	LR	10 15 36.6	
comp=Z,30nm,18.5s,baz=179,slow=37							
AKTO	**Aktyubinsk**	**52.59**	**54**	LR	LR	10 13 37.0	
comp=Z,42nm,21.9s,baz=123,slow=34							
PDAR	**Pinedale Array**	**53.68**	**296**	P	P	09 53 41.1	0.0
0.6nm,0.7s,baz=62,slow=6.9,SNR=6.6							
BVAR	**Borovoye Array**	**57.08**	**45**	LR	LR	10 16 48.3	
comp=Z,64nm,20.3s,baz=145,slow=34							
TXAR	**Lajitas Array**	**58.70**	**280**	P	P	09 54 17.4	+0.2
0.2nm,0.9s,baz=14,slow=4.1,SNR=2.4							
TXAR				LR	LR	10 19 37.9	
comp=Z,41nm,19.3s,baz=105,slow=36							
KURK	**Kurchatov**	**62.39**	**43**	LR	LR	10 21 07.0	
comp=Z,55nm,21.1s,baz=300,slow=35							
ZALV	**Zalesovo Beam**	**62.63**	**38**	LR	LR	10 21 46.9	
comp=Z,23nm,18.3s,baz=346,slow=36							
MKAR	**Makanchi Array**	**66.92**	**44**	P	P	09 55 11.8	0.0
1.3nm,0.6s,baz=335,slow=6.1,SNR=11							
MKAR				LR	LR	10 22 51.0	
comp=Z,51nm,21.2s,baz=355,slow=35							
SONM	**Songino Array**	**75.41**	**29**	P	P	09 56 04.8	+1.6
0.7nm,0.9s,baz=326,slow=7.5,SNR=3.6							
CMAR	**Chiang Mai Arr**	**97.94**	**49**	LR	LR	10 46 55.3	
comp=Z,14nm,19.8s,baz=210,slow=38							
WRA	**Warramunga Arr**	**147.38**	**30**	PKPbc	PKPbc	10 04 02.8	-0.8
0.4nm,0.6s,baz=340,slow=3.2,SNR=6.9							
ASAR	**Alice Springs**	**150.68**	**34**	PKPbc	PKPbc	10 04 11.6	-0.3
1.5nm,0.8s,baz=350,slow=2.1,SNR=18							

ISCJB ***31*** *09:54:31.2±2.9, 5741S×009×259W±0.1, h60km±28km, mb4.4/17, Error ellipse: s-maj=16.5km s-min=11.1km az=29.5*
NEIC ***31*** *09:54:33.2±2.4, 5743S×2591W, h64km±20km, mb4.4/5, Error ellipse: s-maj=10.7km s-min=8.5km az=210.0*
IDC ***31*** *09:54:33.5±0.7, 5749S×2596W, h64km±6km, mb4.1/13, mb1 4.2/14, mb1mx4.1/19, mbtmp4.1/14, MS3.7/1, Ms1 3.6/1, ms1mx3.0/15, Error ellipse: s-maj=16.3km s-min=13.9km az=33.0*

ISC 31 09:54:33.0±2.5, 5746S±010×260W±01, h62km±25km, n58, σ0.84/29, mb4.4/17, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.23**	**157**	*e*	**Pn**	**09 58 03.5**	**-0.5**
VNA3	**Neumayer Olymp**	**15.43**	**160**	*e*	**Pn**	**09 58 06.5**	**-0.1**
VNA2	**Neumayer--Watz**	**15.63**	**157**	*e*	**Pn**	**09 58 08.6**	**-0.4**
SNAA	**Sanae**	**17.18**	**155**	*e*	**Pn**	**09 58 29.4**	**+1.0**
PMSA	**Palmer Station**	**19.53**	**232**	P	**Pn**	**09 58 56.7**	**-0.1**
0.9nm,0.3s,baz=316,slow=20,SNR=3.8							
PMSA	**Palmer Station**	**19.53**	**232**	*e*P	**Pn**	**09 58 56.4**	**-0.4**
34nm,1.1s							
USHA	**Ushuaia**	**23.53**	**258**	P	**P**	**09 59 37.2**	**0.0**
10nm,0.9s,mb4.2,baz=56,slow=16,SNR=2.5							
TRQA	**Tornquist**	**30.51**	**294**	*e*P	**P**	**10 00 39.8**	**-0.2**
2.7nm,0.6s,mb4.2							
QSPA	**South Pole Qui**	**32.79**	**180**	P	**P**	**10 01 00.9**	**+1.3**
20nm,1.1s,mb4.9,baz=216,slow=1.9,SNR=90							
QSPA				PcP	PcP	10 03 43.5	+0.4
1.3nm,0.6s,baz=332,slow=1.9,SNR=4.0							
PLCA	**Paso Flores**	**32.93**	**281**	P	**P**	**10 01 01.3**	**+0.1**
2.7nm,0.8s,mb4.2,baz=126,slow=6.9,SNR=5.3							
PLCA	**Paso Flores**	**32.93**	**281**	P	**P**	**10 01 01.3**	**+0.1**
CPUP	**Villa Florida**	**38.25**	**311**	P	**P**	**10 01 47.2**	**+0.3**
1.0nm,0.3s,mb4.0,baz=142,slow=8.7,SNR=7.4							
MAW	**Mawson**	**38.62**	**142**	P	**P**	**10 01 49.5**	**-0.1**
1.1nm,0.5s,mb3.9,baz=202,slow=6.2,SNR=8.8							
CFAA	**Coronel Fontan**	**38.74**	**293**	P	**P**	**10 01 49.5**	**-1.5**
0.2nm,0.5s,baz=141,slow=16,SNR=3.9							
CFAA				PcP	PcP	10 04 01.7	+0.2
0.2nm,0.4s,baz=44,slow=0.6,SNR=3.7							
CFAA	**Coronel Fontan**	**38.74**	**293**	P	**P**	**10 01 49.5**	**-1.5**
CFAA				PcP	PcP	10 04 01.7	+0.2
SBA	**Scott Base**	**44.72**	**184**	*e*P	**P**	**10 02 40.3**	**+1.0**
4.5nm,0.9s,mb4.3							
BDFB	**Brasilia**	**44.92**	**329**	P	**P**	**10 02 42.7**	**+1.1**
3.3nm,0.5s,mb4.4,baz=136,slow=5.6,SNR=5.7							
BOSA	**Boshof**	**45.69**	**73**	P	**P**	**10 02 47.6**	**+0.1**
1.4nm,0.5s,mb4.2,baz=172,slow=3.2,SNR=4.7							
BOSA				LR	LR	10 18 33.9	
comp=Z,83nm,19.1s,baz=50,slow=32							
LVC	**Limon Verde**	**46.59**	**300**	*e*P	**P**	**10 02 53.6**	**-1.0**
2.9nm,0.3s,mb4.7							
LBTB	**Lobatse**	**48.80**	**71**	P	**P**	**10 03 11.9**	**+0.1**
2.0nm,0.5s,mb4.4,baz=228,slow=9.6,SNR=5.5							
LPAZ	**La Paz**	**51.74**	**305**	P	**P**	**10 03 35.2**	**+1.1**
7.1nm,0.6s,mb4.8,baz=164,slow=5.8,SNR=48							
LPAZ				PcP	PcP	10 04 48.0	+1.5
1.2nm,0.4s,baz=194,slow=4.2,SNR=2.4							
LPAZ	**La Paz**	**51.74**	**305**	P	**P**	**10 03 35.2**	**+1.1**
LPAZ				PcP	PcP	10 04 48.0	+1.5
LSZ	**Lusaka**	**58.28**	**67**	P	**P**	**10 04 19.1**	**-2.1**
2.9nm,1.0s,mb4.3							
DBIC	**Dimbokro**	**66.18**	**23**	P	**P**	**10 05 14.2**	**+0.2**
1.1nm,0.5s,mb4.2,baz=199,slow=19,SNR=4.7							
TORD	**Torodi Ar. Bea**	**73.97**	**28**	P	**P**	**10 06 02.9**	**+1.3**
7.6nm,0.6s,mb4.8,baz=199,slow=6.7,SNR=110							
TORD				pP	pP	10 06 19.9	+1.5
4.6nm,0.7s,baz=197,slow=6.4,SNR=6.7							
GRGR	**Grenville**	**75.31**	**324**	*e*P	**P**	**10 06 09.3**	**-0.1**
50nm,0.6s							
STKA	**Stephens Creek**	**90.39**	**169**	P	**P**	**10 07 26.3**	**-1.1**
1.2nm,0.7s,mb4.3,baz=253,slow=14,SNR=2.8							
STKA	**Stephens Creek**	**90.39**	**169**	P	**P**	**10 07 26.3**	**-1.1**
ASAR	**Alice Springs**	**97.44**	**161**	P	**P**	**10 07 59.2**	**-0.6**
0.6nm,0.6s,mb4.2,baz=185,slow=3.7,SNR=10							
WRA	**Warramunga Arr**	**101.16**	**161**	P	Pdif	10 08 15.5	-1.0
0.5nm,0.8s,baz=200,slow=4.2,SNR=3.8							
MSU	**Marysvale**	**119.59**	**296**	*e*PKPdf	PKPdf	10 13 15.1	+0.2
DUG	**Dugway**	**121.21**	**297**	*e*PKPdf	PKPdf	10 13 17.1	-0.9
BW06	**Boulder Array**	**121.66**	**301**	*e*PKPdf	PKPdf	10 13 18.3	-0.4
PDAR	**Pinedale Array**	**121.66**	**301**	PKP	PKPdf	10 13 18.4	-0.3
0.6nm,0.5s,baz=110,slow=5.1,SNR=9.3							
HWUT	**Hardware Ranch**	**121.70**	**298**	*e*PKPdf	PKPdf	10 13 18.7	-0.2
ULM	**Lac du Bonnet**	**121.73**	**315**	PKP	PKPdf	10 13 18.3	-0.3
3.0nm,0.7s,baz=186,slow=7.6,SNR=4.5							
ULM	**Lac du Bonnet**	**121.73**	**315**	PKP	PKPdf	10 13 18.3	-0.3
NVAR	**Mina Array Bea**	**122.56**	**291**	PKP	PKPdf	10 13 22.2	+1.6
0.6nm,0.6s,baz=146,slow=3.2,SNR=6.3							
NVAR	**Mina Array Bea**	**122.56**	**291**	PKP	PKPdf	10 13 22.2	+1.6
LOHW	**Long Hollow**	**122.80**	**301**	*e*PKPdf	PKPdf	10 13 21.3	+0.4
TPAW	**Teton Pass**	**122.86**	**300**	*e*PKPdf	PKPdf	10 13 21.9	+0.9
CMAR	**Chiang Mai Arr**	**123.94**	**110**	PKP	PKPdf	10 13 23.8	-0.1
0.7nm,0.5s,baz=237,slow=4.4,SNR=4.2							
CMAR				pPKP	pPKPdf	10 13 42.5	+0.6
0.4nm,0.3s,baz=228,slow=3.7,SNR=2.4							
WVOR	**Wild Horse Val**	**125.75**	**294**	*e*PKPdf	PKPdf	10 13 27.1	+0.5
MSO	**Missoula**	**126.77**	**301**	*e*PKPdf	PKPdf	10 13 28.9	+0.6
AKTK	**Aktyubinsk**	**127.63**	**53**	PKP	PKPdf	10 13 29.6	-0.3
AKTO	**Aktyubinsk**	**127.63**	**53**	PKP	PKPdf	10 13 29.6	-0.3
0.6nm,0.5s,baz=96,slow=9.2,SNR=2.9							
ARCES	**ARCESS Array B**	**132.00**	**22**	PKP	PKPdf	10 13 37.4	-0.2
1.1nm,0.6s,baz=237,slow=2.3,SNR=6.3							
KURK	**Kurchatov**	**137.39**	**65**	PKP	PKPdf	10 13 48.3	0.0
0.4nm,0.3s,baz=240,slow=0.8,SNR=5.0							
YKA	**Yellowknife Ar**	**137.67**	**316**	PKP	PKPdf	10 13 48.6	+0.2
3.1nm,0.7s,baz=136,slow=1.9,SNR=16							
SPITS	**Spitsbergen Ar**	**137.81**	**12**	PKP	PKPdf	10 13 50.6	+2.3
8.4nm,0.9s,baz=116,slow=4.5,SNR=3.2							
HYT	**Haines Junctio**	**146.17**	**305**	*e*PKPab	PKPab	10 14 07.7	+2.1
INK	**Inuvik**	**147.32**	**319**	*e*PKPbc	PKPbc	10 14 08.4	+0.6
DAWY	**Dawson**	**148.23**	**310**	*e*PKPbc	PKPbc	10 14 10.2	-0.2
DAWY				*e*PKPab	PKPab	10 14 14.3	+0.6
EGAK	**Eagle**	**149.18**	**311**	*e*PKPbc	PKPbc	10 14 11.6	-1.2
SONM	**Songino Array**	**150.12**	**88**	PKPbc	PKPbc	10 14 15.2	-0.4
2.6nm,0.5s,baz=231,slow=2.5,SNR=12							
SONM				pPKPbc	pPKPbc	10 14 33.6	+0.1
2.9nm,0.8s,baz=223,slow=3.4,SNR=6.5							
SLKM	**Skilak Lake**	**151.85**	**300**	*e*PKPbc	PKPbc	10 14 19.9	+0.7
COLA	**College**	**151.97**	**310**	*e*PKPbc	PKPbc	10 14 19.2	-0.1
COLA				*e*PKPab	PKPab	10 14 29.2	+0.1
OHAK	**Old Harbor**	**152.16**	**292**	*e*PKPbc	PKPbc	10 14 20.3	+0.3

IDC 31 10:10:18.3±11.0, 1602S×7754W, h44km±64km, mb3.3/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=220.7km s-min=37.4km az=24.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.04**	**93**	P	Pn	10 12 26.8	+0.4
0.2nm,0.3s,baz=299,slow=10,SNR=8.3							
LPAZ				S	Sn	10 14 08.7	+1.7
0.1nm,0.3s,baz=6.4,slow=23,SNR=1.9							
TXAR	**Lajitas Array**	**51.67**	**331**	P	P	10 19 20.9	+0.1
0.1nm,0.6s,baz=150,slow=11,SNR=2.4							
TORD	**Torodi Ar. Bea**	**83.51**	**74**	P	P	10 22 42.1	0.0
1.3nm,0.7s,baz=249,slow=5.2,SNR=8.1							

HEL 31 10:29:59.7±0.2, 6795N×2585E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGF	**Sodankyl**	**0.57**	**153**	*e*P	Pg	10 30 09.2	-1.3
SGF				*e*S	Sg	10 30 16.4	-1.5
SGF	**Sodankyl**	**0.57**	**153**	PG	Pg	10 30 16.9	+6.4
SGF				SG	Sg	10 30 18.3	+0.4
HEF	**Hetta**	**0.94**	**300**	*e*P	Pg	10 30 15.4	-2.3
HEF				*e*S	Sg	10 30 27.5	-2.4
HEF	**Hetta**	**0.94**	**300**	PG	Pg	10 30 15.9	-1.8
baz=125							
HEF				SG	Sg	10 30 29.3	-0.6
KEV	**Kevo**	**1.86**	**12**	*e*P	Pn	10 30 32.1	-0.7
KEV				*e*S	Sn	10 30 55.0	-2.0
KEV	**Kevo**	**1.86**	**12**	PN	Pn	10 30 31.7	-1.1
baz=195							
KEV				SG	Sg	10 30 56.7	-2.8
KEV				MSG		10 30 56.7	
comp=Z,1.4nm,0.1s							
KIF	**Kilpisjarvi**	**2.14**	**302**	*e*P	Pn	10 30 35.2	-1.4
KIF				*e*S	Sn	10 31 01.9	-2.0
KIF	**Kilpisjarvi**	**2.14**	**302**	PN	Pn	10 30 36.2	-0.4
KIF				SG	Sg	10 31 05.1	-3.4
KIF				MSG		10 31 05.1	
comp=Z,1.5nm,0.2s							
MSF	**Maaselka**	**2.40**	**147**	*e*P	Pn	10 30 38.7	-1.5
MSF				*e*S	Sn	10 31 08.8	-1.4
MSF	**Maaselka**	**2.40**	**147**	SG	Sg	10 31 12.2	-4.5
MSF				MSG		10 31 12.2	
comp=Z,0.6nm,0.4s							
KU6	**Riekki**	**2.50**	**139**	*e*P	Pn	10 30 41.3	-0.2
KU6				*e*S	Sn	10 31 14.0	+1.4
KU6	**Riekki**	**2.50**	**139**	PN	Pn	10 30 42.7	+1.2
baz=324							
KU6				SG	Sg	10 31 15.0	-4.9
OUL	**Oulu**	**2.88**	**180**	SG	Sg	10 31 26.9	-5.1
OUL				MSG		10 31 26.9	
comp=Z,0.3nm,0.2s							

ISCJB ***31*** *10:44:15.0±3.6, 68S±01×1547E±02, h57km±31km, mb4.1/15, MS3.7/3, Error ellipse: s-maj=28.4km s-min=16.9km az=20.0*
NEIC ***31*** *10:44:17.2±2.5, 686S×15471E, h66km±22km, mb4.4/2, Error ellipse: s-maj=21.6km s-min=13.2km az=113.0*
IDC ***31*** *10:44:18.4±7.3, 692S×15476E, h76km±63km, mb3.8/13, mb1 4.0/14, mb1mx4.0/16, mbtmp3.8/14, ML3.8/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/18, Error ellipse: s-maj=32.1km s-min=19.7km az=95.0*

ISC 31 10:44:17.2±2.9, 69S±01×1547E±02, h64km±25km, n25, σ0.95/23, mb4.1/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.88**	**251**	*e*Pn	**Pn**	**10 46 07.9**	**-1.2**
17nm,0.7s							
PMG				*e*Sn	**Sn**	**10 47 30.2**	**-6.6**
CTA	**Charters Tower**	**15.49**	**211**	P	**Pn**	**10 47 53.9**	**+2.0**
0.3nm,0.3s,baz=42,slow=13,SNR=5.8							
WB2	**Warramunga Arr**	**23.64**	**235**	*e*P	**P**	**10 49 22.2**	**-0.6**
WRA	**Warramunga Arr**	**23.65**	**235**	P	**P**	**10 49 22.9**	**-0.1**
4.6nm,0.6s,mb4.1,baz=59,slow=9.7,SNR=59							
WRA				PcP	PcP	10 53 06.5	+0.3
1.0nm,0.5s,baz=59,slow=2.3,SNR=13							
ASAR	**Alice Springs**	**26.04**	**228**	P	**P**	**10 49 44.3**	**-0.3**
1.7nm,0.6s,mb3.8,baz=62,slow=8.8,SNR=36							
STKA	**Stephens Creek**	**27.73**	**204**	P	**P**	**10 50 00.0**	**+0.3**
3.5nm,0.8s,mb4.1,baz=25,slow=13,SNR=3.0							
STKA				LR	LR	10 59 21.8	
comp=Z,138nm,19.2s,baz=205,slow=33							
FITZ	**Fitzroy Crossi**	**30.43**	**246**	*e*P	**P**	**10 50 23.9**	**0.0**
4.2nm,0.8s,mb4.2							
KSRS	**Korea Array**	**50.68**	**332**	P	**P**	**10 53 10.3**	**+0.1**
0.4nm,0.3s,mb3.8,baz=12,slow=38,SNR=3.5							
PETK	**Petropavlovsk-**	**59.79**	**2**	P	**P**	**10 54 16.4**	**+0.9**
0.9nm,0.6s,mb4.0,baz=168,slow=7.4,SNR=2.6							
PETK	**Petropavlovsk-**	**59.79**	**2**	P	**P**	**10 54 16.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**60.45**	**296**	P	**P**	**10 54 22.3**	**+1.5**
3.1nm,0.6s,mb4.5,baz=116,slow=4.9,SNR=12							
SONM	**Songino Array**	**69.06**	**327**	P	**P**	**10 55 17.6**	**+1.4**
0.3nm,0.3s,mb3.6,baz=128,slow=3.1,SNR=5.1							
IMA2	**Indian Mountai**	**81.77**	**19**	*e*P	**P**	**10 56 28.4**	**-0.3**
MKAR	**Makanchi Array**	**83.10**	**319**	P	**P**	**10 56 35.6**	**-0.5**
0.7nm,0.7s,mb3.8,baz=101,slow=6.2,SNR=8.2							
MKAR				LR	LR	11 32 43.7	
comp=Z,25nm,21.3s,baz=360,slow=35							
ZALV	**Zalesovo Beam**	**83.90**	**326**	P	**P**	**10 56 39.0**	**-1.0**
0.6nm,0.5s,mb4.0,baz=56,slow=5.8,SNR=2.9							
MAW	**Mawson**	**84.41**	**203**	P	**P**	**10 56 41.6**	**-0.7**
1.0nm,0.6s,mb4.1,baz=124,slow=9.0,SNR=5.2							
HYT	**Haines Junctio**	**85.39**	**27**	*e*P	**P**	**10 56 49.0**	**+1.6**
EGAK	**Eagle**	**85.51**	**23**	*e*P	**P**	**10 56 46.1**	**-1.7**
5.1nm,1.2s,mb4.6							
NVAR	**Mina Array Bea**	**91.87**	**52**	P	**P**	**10 57 18.7**	**0.0**
0.9nm,0.9s,mb4.1,baz=251,slow=7.3,SNR=8.8							
NVAR	**Mina Array Bea**	**91.87**	**52**	P	**P**	**10 57 18.7**	**0.0**
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**10 57 38.5**	**-0.2**
2.2nm,0.9s,mb4.6,baz=181,slow=34,SNR=4.2							
LPIG	**La Paz**	**97.31**	**67**	LR	LR	11 35 28.4	
comp=Z,60nm,18.2s,baz=5.2,slow=32							
PDAR	**Pinedale Array**	**98.83**	**48**	P	**P**	**10 57 49.6**	**-0.7**
0.4nm,0.6s,mb4.1,baz=296,slow=4.1,SNR=3.9							
BDFB	**Brasilia**	**148.29**	**135**	PKPbc	PKPbc	11 03 56.8	-0

Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.67**	**321**	P	Pn	11 32 25.4	+0.2
JHJ2				S	Sn	11 32 46.8	+0.5
JHU	**Hanno**	**4.29**	**340**	P	Pn	11 33 03.6	+2.4
JHU				S	Sn	11 33 51.1	+0.2
JHO	**Hitachi**	**4.80**	**355**	P	Pn	11 33 09.8	+1.6

*ISCJB **31** 11:44:41.0±1.3, 2985N±004×3628E±008, h0km, Error ellipse: s-maj=10.2km s-min=6.3km az=1.9*
*SGS **31** 11:44:41.4, 3005N×3623E, h6km*
*CSEM **31** 11:44:41.4, 3005N×3623E, h6km, ML2.7, After SNSN*
*GII **31** 11:44:42.2±1.4, 2983N×3618E, h0km, ML1.9/4, EXPLOSION*

ISC 31 11:44:41.1±1.3, 2984N±004×3632E±008, h0km, n13, σ0§91/17, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.13**	**280**	Pg	**Pg**	**11 45 02.4**	**-0.5**
EIL	**Elat**	**1.21**	**262**	Pg	**Pg**	**11 45 03.7**	**-0.5**
EIL				Sg	**Sg**	**11 45 21.1**	**+1.2**
ZFRI	**Zfri**	**1.22**	**306**	Pg	**Pg**	**11 45 04.2**	**-0.3**
ZFRI				Sg	**Sg**	**11 45 21.2**	**+0.9**
HQLS		**1.22**	**244**	P	**Pg**	**11 45 03.7**	**-0.9**
HQLS		**1.22**	**244**	P	**Pg**	**11 45 03.7**	**-0.8**
HQLS				S	**Sg**	**11 45 20.2**	**-0.2**
MBRI	**Mt Berech**	**1.23**	**268**	Pg	**Pg**	**11 45 03.9**	**-0.7**
PRNI	**Paran**	**1.25**	**294**	Pg	**Pg**	**11 45 04.1**	**-1.0**
JLOS		**1.32**	**214**	P	**Pg**	**11 45 06.3**	**-0.1**
JLOS		**1.32**	**214**	P	**Pg**	**11 45 06.3**	**-0.1**
JLOS				S	**Sg**	**11 45 25.2**	**+1.7**
KRMI	**Paran Flat**	**1.41**	**282**	Pg	**Pg**	**11 45 07.1**	**-1.1**
MZDA	**Masada**	**1.68**	**331**	Pn	**Pn**	**11 45 12.5**	**+0.8**
DSI	**Dead Sea**	**1.91**	**335**	Pn	**Pn**	**11 45 16.4**	**+1.6**
RSHS		**2.04**	**221**	P	**Pn**	**11 45 16.0**	**-0.6**

*IDC **31** 12:06:26.4±1.4, 2290N×9025E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/24, mbtmp4.0/8, ML4.5/1, Error ellipse: s-maj=73.6km s-min=16.5km az=54.0*
*MOS **31** 12:06:29.6±0.6, 2307N×9064E, h33km, mb4.9/1, Error ellipse: s-maj=22.7km s-min=10.9km az=44.9*
*NEIC **31** 12:06:32.8±0.5, 2306N×9061E, h42km±5km, mb4.5/1, Error ellipse: s-maj=9.0km s-min=4.5km az=222.0*
*ISCJB **31** 12:06:33.3±0.8, 2309N±005×9024E±006, h66km±9km, mb3.9/8, Error ellipse: s-maj=10.1km s-min=6.1km az=139.0*
*DMN **31** 12:06:34.4±0.2, 2313N×9047E, h10km, Ml4.9/4, Error ellipse: s-maj=10.4km s-min=3.9km az=47.0*

ISC 31 12:06:35.4±0.7, 2308N±005×9025E±005, h65km±8km, n35, σ1§13/53, mb3.9/8, Bangladesh

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**3.77**	**63**	*e*x	x	12 07 23.0	
IMP				*e*x	x	12 08 56.0	
ODAN	**Odare**	**4.57**	**326**	*e*Pn	**Pn**	**12 07 42.7**	**+0.7**
ODAN				*e*Sn	**Sn**	**12 08 33.5**	**-0.3**
547nm,0.3s							
TAPN	**Taplejung**	**4.83**	**332**	*e*Pn	**Pn**	**12 07 45.9**	**+0.3**
TAPN				*e*Sn	**Sn**	**12 08 38.7**	**-1.5**
BWNR	**Bhubaneshwar**	**4.98**	**237**	*e*P	**Pn**	**12 07 45.0**	**-2.6**
BWNR				*e*S	**Sn**	**12 08 40.0**	**-3.8**
RAMN	**Ramite**	**5.08**	**320**	*e*Pn	**Pn**	**12 07 50.4**	**+1.5**
RAMN				*e*Sn	**Sn**	**12 08 46.0**	**-0.3**
278nm,0.4s							
JIRN	**Jiri**	**5.85**	**322**	*e*Pn	**Pn**	**12 08 00.8**	**+1.3**
JIRN				*e*Sn	**Sn**	**12 09 04.6**	**-0.7**
329nm,0.3s							
GUN	**Gumba**	**6.22**	**322**	*e*Pn	**Pn**	**12 08 06.0**	**+1.4**
GUN				*e*Sn	**Sn**	**12 09 13.8**	**-0.5**
PKI	**Pulchoki**	**6.26**	**317**	*e*Pn	**Pn**	**12 08 06.4**	**+1.3**
PKI				*e*Sn	**Sn**	**12 09 14.9**	**-0.3**
PKI	**Pulchoki**	**6.26**	**317**	*e*Pn	**Pn**	**12 08 06.4**	**+1.3**
PKI				*e*Sn	**Sn**	**12 09 14.8**	**-0.4**
PKIN	**Phulchoki**	**6.27**	**317**	*e*Pn	**Pn**	**12 08 06.4**	**+1.2**
PKIN				*e*Sn	**Sn**	**12 09 14.8**	**-0.7**
174nm,0.4s							
DMN	**Daman**	**6.48**	**315**	*e*Pn	**Pn**	**12 08 09.4**	**+1.3**
DMN				*e*Sn	**Sn**	**12 09 20.2**	**-0.4**
KKN	**Kakani**	**6.49**	**317**	*e*Pn	**Pn**	**12 08 09.0**	**+0.7**
KKN				*e*Sn	**Sn**	**12 09 20.6**	**-0.3**
LSA	**Lhasa**	**6.64**	**7**	*e*P	**Pn**	**12 08 08.0**	**-2.3**
LSA				*e*		12 09 18.2	
LSA				pmax	pmax		
comp=Z,42nm,0.3s							
LSA	**Lhasa**	**6.64**	**7**	*e*Pn	**Pn**	**12 08 08.0**	**-2.3**
comp=Z,42nm,0.3s							
LSA				*e*Sn	**Sn**	**12 09 18.2**	**-6.4**
GKN	**Gorkha**	**7.05**	**315**	*e*Pn	**Pn**	**12 08 17.0**	**+1.1**
GKN				*e*Sn	**Sn**	**12 09 33.3**	**-1.3**
KOLN	**Koldanda**	**7.61**	**309**	*e*Pn	**Pn**	**12 08 24.5**	**+0.9**
KOLN				*e*Sn	**Sn**	**12 09 47.0**	**-1.3**
DANN	**Dangsing**	**7.86**	**313**	*e*Pn	**Pn**	**12 08 27.9**	**+0.9**
DANN				*e*Sn	**Sn**	**12 09 53.0**	**-1.4**
CHTO	**Chiang Mai**	**9.17**	**116**	*e*P	**Pn**	**12 08 37.5**	**-7.4**
CHTO				*e*		12 10 14.3	
CHTO				pmax	pmax		
comp=Z,8.0nm,0.9s							
CHTO	**Chiang Mai**	**9.17**	**116**	*e*Pn	**Pn**	**12 08 37.5**	**-7.4**
comp=Z,8.3nm,0.9s							
CHTO				*e*Sn	**Sn**	**12 10 14.3**	**-12**
CMAR	**Chiang Mai Arr**	**9.34**	**118**	Pn	**Pn**	**12 08 41.0**	**-6.4**
comp=Z,1.3nm,0.3s,baz=297,slow=14,SNR=63							
CMAR				Sn	**Sn**	**12 10 29.2**	**-1.7**
comp=Z,0.5nm,0.3s,baz=292,slow=19,SNR=4.0							
CMAR	**Chiang Mai Arr**	**9.34**	**118**	Pn	**Pn**	**12 08 41.0**	**-6.4**
CMAR				Sn	**Sn**	**12 10 29.2**	**-1.7**
NGP	**Nagpur**	**10.56**	**262**	*e*P	**Pn**	**12 09 04.0**	**+0.1**
NGP				*e*S	**Sn**	**12 10 59.6**	**-1.0**
NGP				AML	AML	12 11 00.8	
comp=N,44nm,0.5s							
NGP				AML	AML	12 11 01.6	
comp=E,18nm,0.4s							
HYB	**Hyderabad**	**12.34**	**245**	*i* P	**Pn**	**12 09 30.0**	**+1.8**
HYB	**Hyderabad**	**12.34**	**245**	*e*P	**Pn**	**12 09 30.0**	**+1.8**
MKAR	**Makanchi Array**	**24.51**	**347**	P	**P**	**12 11 49.6**	**+1.1**
comp=E,5.3nm,0.6s,mb4.2,baz=153,slow=11,SNR=44							
KURK	**Kurchatov**	**29.04**	**345**	P	**P**	**12 12 29.2**	**+0.1**
comp=E,1.8nm,0.8s,mb3.8,baz=169,slow=8.4,SNR=12							
ZALV	**Zalesovo Beam**	**31.09**	**354**	P	**P**	**12 12 47.0**	**-0.3**
comp=E,0.6nm,0.3s,mb3.8,baz=189,slow=8.6,SNR=4.2							
ZALV	**Zalesovo Beam**	**31.09**	**354**	P	**P**	**12 12 47.0**	**-0.3**
GNI	**Garni**	**41.84**	**305**	*e*P	**P**	**12 14 20.4**	**+1.5**
GNI				pmax	pmax		
comp=Z,7.0nm,0.7s							
GNI	**Garni**	**41.84**	**305**	*e*P	**P**	**12 14 20.4**	**+1.5**
comp=Z,7.0nm,0.7s,mb4.5							
ARCES	**ARCESS Array B**	**59.79**	**338**	P	**P**	**12 16 34.5**	**+1.2**
comp=Z,1.6nm,0.9s,mb4.1,baz=98,slow=7.5,SNR=6.7							
WRA	**Warramunga Arr**	**60.65**	**131**	P	**P**	**12 16 38.7**	**-1.3**
comp=Z,0.3nm,0.5s,mb3.6,baz=322,slow=7.1,SNR=7.1							
MODS	**Modra-Piesok**	**61.94**	**314**	*e*SG	**S**	**12 25 06.2**	**-1.2**
ASAR	**Alice Springs**	**62.91**	**135**	P	**P**	**12 16 54.1**	**-1.0**
comp=Z,0.4nm,0.8s,mb3.4,baz=312,slow=6.6,SNR=8.6							
HFS	**Hagfors**	**63.60**	**327**	P	**P**	**12 16 59.7**	**+0.6**
comp=Z,1.2nm,0.6s,mb3.9,baz=103,slow=11,SNR=4.4							

*NEIC **31** 12:46:51.4±1.1, 1586S×7430W, h53km±11km, mb4.2/4, Error ellipse: s-maj=16.1km s-min=8.8km az=57.0*
*IDC **31** 12:46:51.1±2.2, 1586S×7426W, h45km±21km, mb3.9/6, mb1 4.0/10, mb1mx3.8/19, mbtmp3.9/10, ML4.6/3, MS3.5/7, Ms1 3.5/7, ms1mx3.2/21, Error ellipse: s-maj=25.3km s-min=18.1km az=53.0*
*ISCJB **31** 12:46:53.6±1.1, 1597S±008×742W±0.1, h86km±12km, mb3.9/10, Error ellipse: s-maj=19.5km s-min=8.0km az=143.7*

ISC 31 12:46:54.9±0.9, 1595S±008×7413W±009, h82km±10km, n24, σ1§19/27, mb3.9/10, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.59**	**102**	⇑*i* P	**Pn**	**12 47 34.4**	**-0.3**
ARE				*e*S	**Sn**	**12 48 14.0**	**+8.7**
NNA	**Nana**	**4.74**	**326**	P	**Pn**	**12 47 58.1**	**-5.8**
17nm,0.3s,baz=128,slow=14,SNR=18							
NNA				S	**Sn**	**12 48 58.5**	**+0.9**
114nm,0.3s,baz=234,slow=16,SNR=9.3							
LPAZ	**La Paz**	**5.78**	**94**	P	**Pn**	**12 48 22.0**	**+3.9**
6.1nm,0.3s,baz=276,slow=9.9,SNR=121							
LPAZ				S	**Sn**	**12 49 37.6**	**+15**
baz=198,slow=24,SNR=3.2							
LPAZ				LR	LR	12 50 53.6	
comp=Z,291nm,20.4s,baz=64,slow=41							
LPAZ	**La Paz**	**5.78**	**94**	P	**Pn**	**12 48 22.0**	**+3.9**
LPAZ				S	**Sn**	**12 49 37.6**	**+15**
LPAZ				LR	LR	12 50 53.6	
LVC	**Limon Verde**	**8.26**	**144**	P	**Pn**	**12 48 51.1**	**-0.8**
2.6nm,0.3s,baz=307,slow=10.0,SNR=20							
LVC				S	**Sn**	**12 50 20.3**	**-3.3**
2.9nm,0.3s,baz=113,slow=15,SNR=5.9							
LVC				LR	LR	12 51 49.8	
comp=Z,218nm,21.6s,baz=103,slow=36							
LVC	**Limon Verde**	**8.26**	**144**	P	**Pn**	**12 48 51.1**	**-0.8**
LVC				S	**Sn**	**12 50 20.3**	**-3.3**
LVC				LR	LR	12 51 49.8	
ATAH	**Atahualpa**	**9.83**	**334**	P	**Pn**	**12 49 13.2**	**-0.1**
1.7nm,0.3s,baz=163,slow=12,SNR=8.0							
ATAH				S	**Sn**	**12 51 08.6**	**+6.6**
1.5nm,0.3s,baz=336,slow=18,SNR=6.5							
ATAH				LR	LR	12 52 47.3	
comp=Z,149nm,21.7s,baz=75,slow=37							
SIV	**San Ignacio**	**12.56**	**92**	P	**Pn**	**12 49 48.3**	**-2.3**
0.9nm,0.3s,baz=267,slow=14,SNR=12							
SIV				S	**Sn**	**12 52 07.0**	**-1.7**
0.1nm,0.3s,baz=205,slow=19,SNR=3.1							
CFAA	**Coronel Fontan**	**16.48**	**162**	P	**Pn**	**12 50 41.8**	**+0.7**
0.1nm,0.3s,baz=332,slow=9.0,SNR=6.7							
CPUP	**Villa Florida**	**18.75**	**126**	LR	LR	12 59 55.0	
comp=Z,112nm,19.4s,baz=59,slow=42							
TRQA	**Tornquist**	**24.49**	**156**	P	**P**	**12 52 06.0**	**-0.4**
1.4nm,0.7s,mb3.4							
PLCA	**Paso Flores**	**24.89**	**174**	P	**P**	**12 52 10.8**	**+0.9**
1.7nm,0.8s,mb3.6,baz=346,slow=9.8,SNR=5.7							
SDV	**Santo Domingo**	**24.92**	**8**	P	**P**	**12 52 10.5**	**0.0**
4.0nm,0.4s,mb4.2,baz=198,slow=11,SNR=3.3							
BDFB	**Brasilia**	**25.13**	**93**	P	**P**	**12 52 13.0**	**+0.5**
2.7nm,0.6s,mb3.9,baz=241,slow=16,SNR=4.3							
BDFB				LR	LR	13 01 55.6	
comp=Z,81nm,19.4s,baz=107,slow=36							
TEIG	**Tepich**	**38.55**	**338**	*e*P	**P**	**12 54 08.1**	**-1.6**
5.1nm,1.0s,mb4.3							
TXAR	**Lajitas Array**	**53.29**	**328**	P	**P**	**12 56 03.7**	**-1.8**
0.2nm,0.6s,mb3.4,baz=156,slow=9.1,SNR=3.2							
RLMT	**Red Lodge**	**68.65**	**334**	*e*P	**P**	**12 57 45.4**	**-3.9**
0.6nm,0.4s,mb3.8							
SAO	**San Andreas Ge**	**68.84**	**321**	P	**P**	**12 57 50.7**	**0.0**
3.8nm,0.8s,mb4.3							
DBIC	**Dimbokro**	**72.15**	**77**	P	**P**	**12 58 12.3**	**+1.0**
2.4nm,0.8s,mb4.0,baz=221,slow=6.8,SNR=4.8							
DBIC				LR	LR	13 28 48.0	
comp=Z,68nm,18.7s,baz=90,slow=35							
TORD	**Torodi Ar. Bea**	**80.35**	**73**	P	**P**	**12 58 59.1**	**+1.4**
5.1nm,0.7s,mb4.5,baz=264,slow=5.7,SNR=30							
TORD				LR	LR	13 31 07.5	
comp=Z,56nm,20.1s,baz=175,slow=33							
ASAR	**Alice Springs**	**132.03**	**215**	PKP	PKPdf	13 05 59.2	**-0.6**
0.2nm,0.5s,baz=119,slow=1.7,SNR=6.2							
WRA	**Warramunga Arr**	**134.66**	**219**	PKP	PKPdf	13 06 04.4	-0.5
0.4nm,0.5s,baz=133,slow=1.9,SNR=8.0							
ZALV	**Zalesovo Beam**	**138.68**	**19**	PKP	PKPdf	13 06 12.3	+1.1
0.6nm,0.4s,baz=264,slow=3.0,SNR=4.4							
KSRS	**Korea Array**	**151.04**	**322**	PKPbc	PKPbc	13 06 39.2	+0.5
1.4nm,1.0s,baz=327,slow=2.1,SNR=4.8							

*TIF **31** 12:49:27.1, 4151N×4398E, h19km±1km*
*CSEM **31** 12:49:31.2, 4162N×4389E, h15km, mb3.7, After OBN*
*MOS **31** 12:49:31.2±2.2, 4162N×4389E, h15km, mb3.7/1, Error ellipse: s-maj=40.0km s-min=14.0km az=83.2*

ISC 31 12:49:26.6±1.7, 4149N±007×4388E±008, h16km±25km, n10, σ0§99/19, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOR	**Gori**	**0.53**	**19**	P	**Pg**	**12 49 37.4**	**+0.3**
GOR				S	**Sg**	**12 49 45.8**	**+1.6**
TBLG	**Delisi**	**0.69**	**69**	Pg	**Pg**	**12 49 39.4**	**-0.8**
TBLG				Sg	**Sg**	**12 49 48.9**	**-0.4**
MTA	**Mtatsminda**	**0.72**	**73**	P	**Pg**	**12 49 39.5**	**-1.2**
MTA				S	**Sg**	**12 49 49.6**	**-0.6**
DGRG	**David-gareji**	**1.13**	**91**	P	**Pg**	**12 49 47.6**	**-0.8**
DGRG				S	**Sg**	**12 50 04.6**	**+1.5**
ONI	**Oni**	**1.14**	**344**	P	**Pg**	**12 49 48.7**	**+0.1**
ONI				S	**Sg**	**12 50 05.3**	**+1.9**
ZEI	**Tsey**	**1.28**	**1**	*e*Pg	**Pg**	**12 49 51.7**	**+0.4**
ZEI				*i* Sg	**Sg**	**12 50 08.1**	**+0.1**
LACR	**Lac**	**1.37**	**13**	*i* Pg	**Pg**	**12 49 52.8**	**-0.2**
LACR				*e*Sg	**Sg**	**12 50 09.9**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.43**	**351**	*e*Pg	**Pg**	**12 49 54.0**	**-0.1**
DIGR				*e*Sg	**Sg**	**12 50 11.1**	**-1.6**
ARNR	**Ardon**	**1.73**	**10**	*e*Pg	**Pg**	**12 49 59.1**	**-0.7**
ARNR				*e*Sg	**Sg**	**12 50 20.3**	**-1.9**
BTKR	**Batakoyurt**	**1.95**	**14**	*e*Pn	**Pb**	**12 50 02.0**	**+0.4**

*ISK **31** 13:14:33.8, 4057N×3498E, h5km, MD2.7*
*CSEM **31** 13:14:34.0±0.3, 4060N×3495E, h8km, MD2.7, Error ellipse: s-maj=9.7km s-min=5.2km az=93.0*
*ISCJB **31** 13:14:35.1±0.9, 4056N±004×3501E±009, h11km±7km, Error ellipse: s-maj=11.2km s-min=5.9km az=172.8*

ISC 31 13:14:35.6±0.8, 4056N±004×3496E±010, h15km±6km, n8, σ0§95/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.14**	**295**	*i* P	**Pg**	**13 14 38.2**	**-1.1**
CTKT	**Corum**	**0.14**	**295**	*i* P	**Pg**	**13 14 38.2**	**-1.1**
CTKT				*i* S	**Sg**	**13 14 42.3**	**+0.5**
CORM	**Corum**	**0.46**	**213**	PG	**Pg**	**13 14 43.7**	**-1.0**
CORM				*e*SG	**Sg**	**13 14 52.4**	**+1.5**
YOZ	**Yozgat**	**0.96**	**163**	*e*PG	**Pg**	**13 14 54.3**	**+0.1**
YOZ				*e*SG	**Sg**	**13 15 07.5**	**+0.7**
CDAG	**Cicekdag**	**1.04**	**206**	*i* P	**Pb**	**13 14 54.3**	**-1.0**
CDAG	**Cicekdag**	**1.04**	**206**	*i* P	**Pb**	**13 14 54.3**	**-1.0**
CDAG				*i* S	**Sb**	**13 15 08.3**	**-0.4**
DIKM	**Dikmen**	**1.11**	**12**	*e*PN	**Pn**	**13 14 55.4**	**-1.2**
DIKM				*e*SN	**Sn**	**13 15 12.8**	**+1.1**
BALT	**Daday**	**1.53**	**310**	*i* P	**Pn**	**13 15 03.3**	**+0.9**

SKHL 31 13:17:42.4±0.5, 4920N×13196E, h15km±2km, mb3.6/2, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**0.14**	**282**	*e*Pg	Pg	13 17 46.7	+0.5
KLR				*e*Sg	Sg	13 17 50.1	+1.4
GRNR	**Gornyy**	**3.28**	**60**	*e*Pn	Pn	13 18 32.0	-1.2
GRNR				*e*Pg	Pg	13 18 41.6	-3.6
GRNR				AMB	AMB	13 18 42.1	
24nm,0.5s							
GRNR				*e*Sg	Sg	13 19 25.0	-2.7
GRNR				A		13 19 26.8	
76nm,0.5s							
EKMR	**Ekimchan**	**3.92**	**9**	*e*Pg	Pg	13 18 53.5	-4.0
EKMR				AMB	AMB	13 18 57.8	
5.0nm,0.5s							
EKMR				*e*Sg	Sg	13 19 45.0	-3.3
EKMR				A		13 19 53.5	
31nm,0.8s							
TEY	**Ternei**	**5.23**	**141**	*e*Sg	Sg	13 20 25.5	-4.8
KROS	**Kirovskiy**	**6.08**	**331**	*e*Sg	Sg	13 20 52.0	-5.5
KROS				A		13 21 02.7	
8.0nm,0.5s							

NEIC 31 13:23:23.7±1.1, 5202N×17968W, h46km±22km, mb3.6/4, Error ellipse: s-maj=28.4km s-min=13.6km az=160.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.90**	**225**	P	Pn	13 23 39.5	-0.4
FX1	**Attu Island--F**	**4.46**	**284**	P	Pn	13 24 29.2	+0.4
FX1				S	Sn	13 25 17.6	-1.7
NIKO	**Nikolski**	**6.68**	**77**	P	Pn	13 25 03.5	+4.3
SPIA	**Saint Paul Isl**	**7.53**	**43**	P	Pn	13 25 16.9	+6.1
UNV	**Unalaska Valle**	**8.18**	**72**	P	Pn	13 25 23.8	+4.1
SDPT	**Sand Point**	**11.86**	**66**	*e*P	Pn	13 26 11.2	+1.2
17nm,0.6s							
OHAK	**Old Harbor**	**16.09**	**61**	*e*Pn	Pn	13 27 05.3	-1.2
4.7nm,0.4s							
KDAK	**Kodiak Island**	**16.55**	**59**	*e*Pn	Pn	13 27 11.7	-0.6
1.3nm,0.5s							
COLA	**College**	**20.76**	**39**	*e*P	P	13 28 01.0	+0.8
3.5nm,1.2s							
EGAK	**Eagle**	**23.44**	**42**	*e*P	P	13 28 27.1	-1.3
1.3nm,0.5s							
LPM	**Los Pinos Moun**	**53.83**	**79**	*e*P	P	13 32 43.2	+1.5

*NNC **31** 13:59:09.8±8.0, 3708N×6824E, h33km±101km, mb3.6, mpv3.3, Error ellipse: s-maj=98.0km s-min=58.9km az=1.0*

ISC 31 13:59:04.5±2.1, 365N±02×687E±01, h35km, n9, σ0§77/12, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.76**	**11**	⇑Pn	**Pn**	**14 00 42.4**	**+1.3**
0.2nm,0.2s,baz=194,slow=12,SNR=17							
KK31				⇑Sn	**Sn**	**14 01 56.0**	**-0.9**
2.1nm,0.5s,baz=205,slow=19,SNR=3.9							
KK31				⇑Lg		14 02 32.0	
5.8nm,0.5s,baz=202,slow=31							
AML	**Almayashu**	**6.85**	**33**	P	**Pn**	**14 00 42.6**	**+0.3**
SNR=23							
UCH	**Uchtor**	**7.30**	**36**	P	**Pn**	**14 00 48.6**	**+0.1**
SNR=16							
AAK	**Ala-Archa**	**7.61**	**34**	P	**Pn**	**14 00 53.0**	**+0.3**
SNR=8.0							
CHMS	**Chumysh**	**8.01**	**34**	P	**Pn**	**14 00 58.1**	**-0.1**
SNR=8.7							
USP	**Ospenovka**	**8.12**	**32**	P	**Pn**	**14 00 58.8**	**-0.9**
SNR=7.8							
TKM2	**Tokmak 2**	**8.35**	**38**	⇑Pn	**Pn**	**14 01 01.6**	**-1.3**
4.3nm,0.9s							
TKM2				⇓Sn	**Sn**	**14 02 37.0**	**+1.1**
4.3nm,1.0s							
AB31	**Akbulak array**	**14.27**	**336**	⇓Pn	**Pn**	**14 02 23.6**	**-0.2**
1.5nm,0.5s							
AB31				⇓Sn	**Sn**	**14 04 55.6**	**-5.1**
0.3nm,0.5s							
AKTO	**Aktyubinsk**	**15.93**	**334**	⇑Pn	**Pn**	**14 02 46.2**	**+0.5**
0.3nm,0.8s							

*IDC **31** 14:03:00.8±4.6, 184N×9570E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=177.9km s-min=28.3km az=57.0*
*ISCJB **31** 14:03:04.3±1.2, 19N±02×958E±02, h33km, mb3.8/5, Error ellipse: s-maj=34.8km s-min=25.5km az=144.6*
*NEIC **31** 14:03:06.5±0.9, 193N×9585E, h35km, mb4.8/1, Error ellipse: s-maj=27.7km s-min=20.2km az=55.0*

ISC 31 14:03:06.7±1.2, 19N±02×959E±02, h35km, n6, σ0§45/6, mb3.8/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.55**	**122**	P	**P**	**14 11 07.3**	**-0.1**
0.1nm,0.4s,mb2.9,baz=298,slow=9.3,SNR=2.7							
WRA	**Warramunga Arr**	**43.55**	**122**	P	**P**	**14 11 07.3**	**-0.1**
MKAR	**Makanchi Array**	**46.22**	**347**	P	**P**	**14 11 28.0**	**-0.3**
0.4nm,0.5s,mb3.6,baz=150,slow=7.5,SNR=5.9							
SONM	**Songino Array**	**46.62**	**10**	P	**P**	**14 11 31.9**	**+0.5**
0.6nm,0.6s,mb3.7,baz=208,slow=8.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**52.64**	**352**	P	**P**	**14 12 16.8**	**-0.3**
0.9nm,0.5s,mb4.0,baz=182,slow=7.1,SNR=5.4							
KMBO	**Kilima Mbogo**	**58.69**	**268**	*e*P	**P**	**14 13 01.4**	**+0.1**
13nm,1.8s,mb4.7							

*CSEM **31** 14:10:51.8±0.1, 3924N×4107E, h15km, MD3.2, Error ellipse: s-maj=3.0km s-min=1.9km az=120.0*
*ISK **31** 14:10:51.3, 3923N×4103E, h5km, MD3.2, ML3.1*
*ISCJB **31** 14:10:52.6±0.7, 3928N±003×4103E±005, h7km±6km, Error ellipse: s-maj=6.3km s-min=4.2km az=12.5*
*DDA **31** 14:10:52.4, 3926N×4105E, h7km±4km, Md3.3*

ISC 31 14:10:53.2±0.6, 3927N±003×4106E±005, h10km±6km, n16, σ1§15/26, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.33**	**167**	⇓*i*P	**Pg**	**14 10 59.1**	**-0.6**
BNGL				*i* S	**Sg**	**14 11 04.6**	**+0.5**
ERZM	**Erzurum**	**0.67**	**21**	⇓*i*P	**Pg**	**14 11 05.5**	**-0.7**
ERZM				*i* S	**Sg**	**14 11 16.6**	**+1.5**
EZM	**Erzurum**	**0.67**	**20**	PG	**Pg**	**14 11 05.7**	**-0.6**
EZM				*e*SG	**Sg**	**14 11 16.3**	**+1.2**
HOMI	**Horasan**	**1.01**	**40**	*i* P	**Pg**	**14 11 11.6**	**-1.0**
HOMI				*i* S	**Sg**	**14 11 26.9**	**+1.1**
EZC	**Erzincan**	**1.07**	**297**	*e*PN	**Pn**	**14 11 17.9**	**+3.6**
TATV	**Tatvan**	**1.21**	**129**	*i* P	**Pn**	**14 11 13.8**	**-2.4**
TATV				*i* S	**Sb**	**14 11 30.4**	**-1.5**
PTK	**Pertek**	**1.35**	**254**	*e*PN	**Pn**	**14 11 16.2**	**-1.9**
PTK				*e*SN	**Sn**	**14 11 35.7**	**-0.4**
BEST	**Besiri**	**1.39**	**173**	*i* P	**Pn**	**14 11 18.2**	**-0.4**
BEST				*i* S	**Sn**	**14 11 38.8**	**+1.9**
AGRB	**Hanur-Agry**	**1.53**	**78**	*e*PN	**Pn**	**14 11 20.3**	**-0.2**
DIYA	**Diyarbakir**	**1.54**	**209**	*i* P	**Pn**	**14 11 21.2**	**+0.6**
DIYA				*i* S	**Sn**	**14 11 42.9**	**+2.3**
SVRC	**Sivrice-ELAZID**	**1.63**	**237**	*e*PN	**Pn**	**14 11 21.0**	**-0.9**
GUMT	**Gumushane**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.70**	**11**	⇓Pn	**Pn**	**14 18 39.4**	**+2.0**
	4.2nm,0.8s,baz=197,slow=13,SNR=18						
KK31				⇑Sn	**Sn**	**14 19 52.5**	**+0.1**
	0.7nm,0.3s,baz=204,slow=25						
KK31				⇑Lg		14 20 27.5	
	6.5nm,0.6s,baz=198,slow=30,SNR=8.4						
AML	**Almayashu**	**6.79**	**33**	P	**Pn**	**14 18 38.8**	**+0.2**
	SNR=18						
UCH	**Uchtor**	**7.24**	**37**	P	**Pn**	**14 18 44.7**	**0.0**
	SNR=14						
AAK	**Ala-Archa**	**7.54**	**34**	P	**Pn**	**14 18 49.2**	**+0.2**
	SNR=6.6						
CHMS	**Chumysh**	**7.95**	**34**	P	**Pn**	**14 18 54.3**	**-0.1**
	SNR=5.5						
USP	**Ospenovka**	**8.05**	**32**	P	**Pn**	**14 18 55.1**	**-0.8**
	SNR=6.0						
TKM2	**Tokmak 2**	**8.29**	**38**	⇓Pn	**Pn**	**14 18 51.7**	**-7.4**
	2.5nm,0.8s						
TKM2				⇑Sn	**Sn**	**14 20 31.0**	**-0.4**
	5.4nm,0.8s						
AB31	**Akbulak array**	**14.23**	**336**	⇑Pn	**Pn**	**14 20 19.4**	**-1.0**
	2.2nm,0.6s						
AB31				⇑Sn	**Sn**	**14 22 50.4**	**-6.5**
	2.1nm,0.9s						
AKTO	**Aktyubinsk**	**15.89**	**334**	⇓Pn	**Pn**	**14 20 42.5**	**+0.1**
	0.2nm,0.6s						

CASC 31 14:26:00.0±2.9, 1135N×8778W, h0km±19km, MD4.1, ML3.4, 2C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.37**	**39**	⇑eP	Pg	14 26 25.6	-0.7
LEON				eS	Sg	14 26 46.4	+2.3
COPN	**Copaltepe**	**1.43**	**54**	eP	Pn	14 26 25.9	-1.3
COPN				eS	Sg	14 26 48.2	+2.4
COPN				AML	AML	14 26 49.2	
	comp=Z,605nm,0.5s						
TEL3	**Telica 3**	**1.52**	**37**	eP	Pn	14 26 27.4	-1.1
CNGN	**Cerro Negro**	**1.56**	**43**	eP	Pn	14 26 27.8	-1.2
CSAN		**1.57**	**58**	eP	Pn	14 26 28.3	-0.8
XAVN	**Gruta Xavier**	**1.63**	**61**	eP	Pn	14 26 29.1	-0.9
APYN	**Apoyeque**	**1.65**	**58**	eP	Pn	14 26 28.9	-1.4
APON	**Apoyo**	**1.77**	**71**	eP	Pn	14 26 30.4	-1.5
HUEN		**1.85**	**58**	eP	Pn	14 26 31.5	-1.6
CONN	**Concepcion**	**2.12**	**84**	eP	Pn	14 26 35.9	-0.9
MADN	**Villa Maderas**	**2.20**	**88**	eP	Pn	14 26 35.8	-2.1
TGUH	**Tegucigalpa,Un**	**2.74**	**10**	eP	Pn	14 26 46.1	+0.9
JCR	**Jicaral**	**3.01**	**119**	eP	Pn	14 26 48.7	-0.3
CGA2	**Cerro Gallo 2**	**3.51**	**112**	eP	Pn	14 26 56.6	+0.7
PRS1	**Puriscal**	**3.67**	**111**	eP	Pn	14 26 59.2	+1.2
LCR2	**La Lucha 2**	**4.04**	**113**	eP	Pn	14 27 04.7	+1.6
URSC	**Urasca**	**4.21**	**111**	⇑eP	Pn	14 27 07.8	+2.4
BUS	**Buena Vista**	**4.33**	**114**	eP	Pn	14 27 08.7	+1.5
ACR	**Cerro Adams**	**5.27**	**120**	eP	Pn	14 27 21.4	+1.3
CHI2		**15.41**	**114**	eP		14 26 26.1	

JMA 31 14:36:06.2, 3724N×13676E, h10km, M1.3, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.32**	**177**	P	Pg	14 36 12.7	+0.2
JJH				S	Sg	14 36 17.5	+0.8
JSZ	**Suzu**	**0.52**	**66**	P	Pg	14 36 16.2	-0.2
JSZ				S	Sg	14 36 23.5	+0.2
JTT	**Ttatey**	**0.78**	**144**	P	Pg	14 36 21.0	-0.3
JTT				S	Sg	14 36 32.3	+0.8

*TEH **31** 14:36:23.9, 3479N×5467E, h5km, ML3.6*
*ISCJB **31** 14:36:45.9±0.5, 3485N±003×5473E±004, h10km, Error ellipse: s-maj=4.6km s-min=4.0km az=149.7*
*CSEM **31** 14:36:46.1±0.1, 3483N×5469E, h18km, ML3.6, Error ellipse: s-maj=1.4km s-min=1.2km az=3.0*
*THR **31** 14:36:50.0±0.5, 3475N×5426E, h14km±7km, ML3.3*
ISC 31 14:36:45.9±1.0, 3480N±004×5470E±004, h0km±7km, n33, σ0°93/52, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjilo**	**0.92**	**316**	ePg	**Pg**	**14 37 03.0**	**-0.5**
IANJ				eSg	**Sg**	**14 37 15.6**	**+0.1**
IANJ	**Anjilo**	**0.92**	**316**	ePg	**Pg**	**14 37 03.0**	**-0.5**
IANJ				eSg	**Sg**	**14 37 15.6**	**+0.1**
IANJ				e		14 37 16.6	
ISHM	**Shahmirzad**	**1.52**	**311**	ePg	**Pn**	**14 37 13.8**	**-0.5**
ISHM				e	**Sn**	**14 37 37.0**	**+2.1**
ILAS	**Lasjerd**	**1.54**	**293**	ePg	**Pn**	**14 37 13.3**	**-1.2**
ILAS				eSg	**Sn**	**14 37 34.3**	**-0.8**
ILAS	**Lasjerd**	**1.54**	**293**	ePg	**Pn**	**14 37 13.3**	**-1.2**
ILAS				eSg	**Sn**	**14 37 34.3**	**-0.8**
ILAS				e		14 37 39.3	
IKIA	**Kiasar**	**1.62**	**330**	ePn	**Pg**	**14 37 15.9**	**-1.1**
IKIA				eSn	**Sg**	**14 37 38.7**	**+0.6**
IKIA	**Kiasar**	**1.62**	**330**	ePn	**Pg**	**14 37 15.9**	**-1.1**
IKIA				eSn	**Sg**	**14 37 38.7**	**+0.6**
IKIA				e		14 37 43.1	
IFIR	**Firoozkooh**	**1.80**	**298**	ePn	**Pn**	**14 37 17.9**	**-0.2**
IFIR				eSn	**Sn**	**14 37 41.1**	**-0.5**
IFIR	**Firoozkooh**	**1.80**	**298**	ePn	**Pn**	**14 37 17.9**	**-0.2**
IFIR				eSn	**Sn**	**14 37 41.1**	**-0.5**
IFIR				e		14 37 47.9	
IGLO	**Ghaloghah**	**1.83**	**338**	ePn	**Pg**	**14 37 20.6**	**-0.5**
IGLO				e		14 37 55.4	
IALA	**Alasht**	**2.00**	**310**	ePn	**Pn**	**14 37 21.6**	**+0.7**
IALA				e		14 37 50.9	
ISFB	**Sefidab**	**2.08**	**258**	ePn	**Pn**	**14 37 17.5**	**-4.4**
ISFB				eSn	**Sn**	**14 37 48.0**	**-0.4**
ISFB				e		14 38 03.5	
IDMV	**Damavand**	**2.31**	**290**	ePn	**Pn**	**14 37 25.1**	**-0.1**
IDMV				eSn	**Sn**	**14 37 53.6**	**-0.7**
IDMV	**Damavand**	**2.31**	**290**	ePn	**Pn**	**14 37 25.1**	**-0.1**
IDMV				eSn	**Sn**	**14 37 53.6**	**-0.7**
IDMV				e		14 38 06.6	
DAMV	**Damavand**	**2.38**	**291**	ePg	**Pn**	**14 37 27.8**	**+1.7**
DAMV				AML	AML	14 38 13.2	
	comp=N,256nm,0.6s						
IPRN	**Peran**	**2.40**	**307**	ePn	**Pn**	**14 37 27.0**	**+0.6**
IPRN				e		14 38 04.9	
IVRN	**Varamin**	**2.45**	**275**	ePn	**Pn**	**14 37 27.0**	**0.0**
IVRN				eSn	**Sn**	**14 37 56.5**	**-1.1**
IVRN	**Varamin**	**2.45**	**275**	ePn	**Pn**	**14 37 27.2**	**+0.2**
IVRN				eSn	**Sn**	**14 37 56.5**	**-1.1**
IVRN				e		14 38 16.2	
NASN	**Na'in**	**2.54**	**219**	ePn	**Pn**	**14 37 29.5**	**+1.2**
NASN				eSg	**Sn**	**14 38 02.2**	**+2.2**
NASN				AML	AML	14 38 11.3	
	comp=N,85nm,0.5s						
ICHK	**Chekchek**	**2.56**	**185**	ePn	**Pn**	**14 37 29.3**	**+0.7**
ICHK				e		14 38 13.9	
IAFJ	**Afjeh**	**2.66**	**294**	ePn	**Pn**	**14 37 33.3**	**+3.4**
IAFJ				e		14 38 16.3	
IZEF	**Zefreh**	**2.74**	**227**	ePn	**Pn**	**14 37 31.2**	**+0.2**
IZEF				eSn	**Sn**	**14 38 04.3**	**-0.5**
IZEF	**Zefreh**	**2.74**	**227**	ePn	**Pn**	**14 37 31.6**	**+0.6**
IZEF				eSn	**Sn**	**14 38 02.7**	**-2.1**
IZEF				e		14 38 18.7	
GHVR	**GHOM**	**2.82**	**264**	ePn	**Pn**	**14 37 32.3**	**+0.1**
GHVR				AML	AML	14 38 29.0	
	comp=E,103nm,0.5s						
GHVR				AML	AML	14 38 31.2	
	comp=N,85nm,0.4s						
IKLH	**Kolahrood**	**2.98**	**241**	ePn	**Pn**	**14 37 34.6**	**+0.2**
IKLH				e		14 38 33.6	
THKV	**Tehran--Karaj**	**3.31**	**291**	ePn	**Pn**	**14 37 39.5**	**+0.6**
THKV				AML	AML	14 38 44.8	
	comp=N,172nm,0.7s						
THKV				AML	AML	14 38 47.8	
	comp=E,146nm,0.9s						
IMEH	**Mehriz**	**3.41**	**181**	ePn	**Pn**	**14 37 40.0**	**-0.2**
IMEH				eSn	**Sn**	**14 38 19.8**	**-1.5**
IMEH	**Mehriz**	**3.41**	**181**	ePn	**Pn**	**14 37 40.0**	**-0.2**
IMEH				eSn	**Sn**	**14 38 19.8**	**-1.5**
IMEH				e		14 38 51.0	
ISFR	**Sfrayin**	**3.50**	**49**	ePn	**Pn**	**14 37 41.7**	**+0.2**
ISFR				e		14 38 53.0	
IAKL	**Akhelmad**	**3.76**	**60**	ePn	**Pn**	**14 37 44.9**	**-0.2**

IPIR	**Pirpir**	**3.81**	**237**	ePn	**Pn**	**14 37 50.0**	**+4.2**
IPIR				e		14 38 54.5	
IMOG	**Moghan**	**4.01**	**70**	ePn	**Pn**	**14 37 48.5**	**0.0**
IMOG				e		14 38 03.6	
IMYA	**Miami**	**4.67**	**69**	ePn	**Pn**	**14 37 56.9**	**-0.6**
IMYA				e		14 39 44.3	

*NIED **31** 14:36:00, 3590N×13570E, h14km, Mw4.0 Best double couple: M0=1.22000×10^15 NP1:φs=334.00000°, δ80.00000°, λ12.00000°. NP2:φs=241.00000°, δ78.00000°, λ170.00000°.*
*ISCJB **31** 14:36:56.5±0.7, 3592N±003×13569E±003, h11km±5km, mb3.6/9, Error ellipse: s-maj=5.7km s-min=3.4km az=153.0*
*IDC **31** 14:36:56.1±0.8, 3569N×13566E, h0km, mb3.6/8, mb1 3.8/12, mb1mx3.7/24, mbtmp3.6/12, ML3.1/3, MS2.8/4, Ms1 2.8/4, ms1mx2.6/27, Error ellipse: s-maj=17.4km s-min=11.8km az=164.0*
*NEIC **31** 14:36:57.2, 3592N×13570E, h16km, mb4.1/1, After JMA.*
NEIC Felt at Gifu, Moriyama and Nagoya. Recorded [2 JMA] in Fukui, Gifu, Hyogo, Kyoto and Mie; [1 JMA] in Aichi, Ishikawa, Nagano, Nara, Okayama, Shiga, Shizuoka and Tottori Prefectures.
*JMA **31** 14:36:57.2, 3592N×13570E, h16km±1km, M4.4*
JMA Felt II J1.
*MOS **31** 14:36:58.8±1.8, 3584N×13566E, h33km, mb4.5/1, Error ellipse: s-maj=14.8km s-min=11.7km az=68.9*
ISC 31 14:36:57.5±0.5, 3588N±003×13569E±003, h9km±4km, n34, σ0°95/44, mb3.6/9, 4C-2D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.42**	**146**	⇓P	**Pg**	**14 37 06.0**	**+0.2**
JFM				S	**Sg**	**14 37 12.3**	**+0.9**
JKY	**Yasaka**	**0.54**	**243**	⇑P	**Pg**	**14 37 08.0**	**0.0**
JKY				S	**Sg**	**14 37 15.6**	**+0.5**
JWT	**Wachi**	**0.64**	**202**	⇑P	**Pg**	**14 37 10.0**	**+0.1**
JWT				S	**Sg**	**14 37 19.2**	**+0.9**
JKG	**Kaga**	**0.65**	**52**	⇑P	**Pg**	**14 37 09.2**	**-0.9**
JKG				S	**Sg**	**14 37 17.9**	**-0.7**
JGM	**Miyama**	**0.85**	**102**	P	**Pg**	**14 37 12.9**	**-1.0**
JGM				eS	**Sg**	**14 37 25.6**	**+0.6**
JKSM	**Kasumi**	**0.89**	**251**	⇓P	**Pg**	**14 37 13.8**	**-0.8**
JKSM				S	**Sg**	**14 37 25.9**	**-0.3**
JKS	**Kasai**	**1.13**	**218**	⇑P	**Pb**	**14 37 18.3**	**-0.9**
JKS				S	**Sg**	**14 37 33.8**	**-0.2**
MAJO	**Matsushiro**	**2.14**	**71**	ePn	**Pn**	**14 37 32.6**	**-0.7**
MAJO				eSg	**Sg**	**14 38 07.2**	**+1.0**
MAT	**Matsushiro**	**2.14**	**71**	P	**Pn**	**14 37 33.8**	**+0.5**
MAT				S	**Sn**	**14 37 59.1**	**-0.8**
MJAR	**Matsushiro Arr**	**2.14**	**71**	Pn	**Pn**	**14 37 33.7**	**+0.4**
	26nm,0.3s,baz=259,slow=14,SNR=44						
MJAR				Pg	**Pg**	**14 37 37.3**	**-1.2**
	28nm,0.3s,baz=257,slow=16,SNR=96						
MJAR				Sn	**Sn**	**14 38 04.8**	**+4.8**
	40nm,0.3s,baz=341,slow=30,SNR=9.9						
MJAR				Lg		14 38 07.1	
	51nm,0.3s,baz=236,slow=32,SNR=13						
MJAR	**Matsushiro Arr**	**2.14**	**71**	P	**Pn**	**14 37 33.7**	**+0.4**
MJAR						14 38 04.8	
JHJ	**Hachijo jima 2**	**4.36**	**128**	Pn	**Pn**	**14 38 04.4**	**+0.6**
	2.0nm,0.3s,baz=65,slow=22,SNR=4.8						
JHJ				Sn	**Sn**	**14 38 54.2**	**-0.5**
	6.5nm,0.3s,baz=77,slow=21,SNR=2.8						
KSRS	**Korea Array**	**6.44**	**286**	Pn	**Pn**	**14 38 31.9**	**-0.5**
	1.0nm,0.3s,baz=100,slow=14,SNR=12						
KSRS				Sn	**Sn**	**14 39 42.0**	**-4.0**
	1.4nm,0.3s,baz=102,slow=24,SNR=8.5						
KSRS				LR	LR	14 40 55.9	
	comp=Z,49nm,21.2s,baz=162,slow=37						
KSRS	**Korea Array**	**6.44**	**286**	P	**Pn**	**14 38 32.0**	**-0.5**
KSRS						14 39 42.1	
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.78**	**31**	Pn	**Pn**	**14 39 19.8**	**+1.5**
	comp=N,0.2nm,0.3s,baz=202,slow=26,SNR=2.4						
ASAJ				LR	LR	14 42 59.4	
	comp=N,71nm,18.5s,baz=152,slow=36						
CBIJ	**Chichi jima**	**10.36**	**146**	LR	LR	14 43 14.8	
	comp=N,66nm,18.8s,baz=55,slow=37						
JOW	**Kunigami**	**11.02**	**217**	Pn	**Pn**	**14 39 35.9**	**+0.5**
	comp=N,0.7nm,0.3s,baz=57,slow=12,SNR=5.8						
YSS	**Yuzh-Sakhalins**	**12.26**	**23**	eP	**Pn**	**14 39 52.2**	**0.0**
YSS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**12.26**	**23**	ePn	**Pn**	**14 39 52.2**	**0.0**
	comp=Z,8.3nm,0.6s						
KLR	**Kul'dur**	**13.65**	**349**	eP	**Pn**	**14 40 11.9**	**+0.7**
PETK	**Petropavlovsk-**	**23.15**	**35**	P	**P**	**14 42 06.4**	**+2.5**
	comp=Z,2.9nm,0.8s,mb3.8,baz=226,slow=9.7,SNR=4.0						
GUMO	**Guam**	**23.68**	**157**	LR	LR	14 51 10.6	
	comp=Z,18nm,18.4s,baz=70,slow=36						
SONM	**Songino Array**	**24.72**	**308**	P	**P**	**14 42 19.7**	**+0.8**
	comp=Z,0.9nm,0.7s,mb3.4,baz=114,slow=9.3,SNR=5.0						
TIXI	**Tiksi**	**36.02**	**356**	eP	**P**	**14 44 00.0**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TIXI	**Tiksi**	**36.02**	**356**	ePn	**P**	**14 43 57.0**	**-1.5**
	comp=Z,2.1nm,0.8s,mb4.1						
CMAR	**Chiang Mai Arr**	**36.75**	**252**	P	**P**	**14 44 05.8**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.6,baz=43,slow=7.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**39.33**	**314**	PcP	PcP	14 46 33.8	-1.3
	comp=Z,0.5nm,0.3s,baz=116,slow=3.4,SNR=2.7						
MKAR	**Makanchi Array**	**40.83**	**302**	P	**P**	**14 44 38.3**	**-1.0**
	comp=Z,0.1nm,0.5s,mb2.7,baz=99,slow=6.3,SNR=2.5						
KURK	**Kurchatov**	**43.03**	**309**	P	**P**	**14 44 58.2**	**+1.0**
	comp=Z,0.1nm,0.4s,mb2.9,baz=87,slow=8.6,SNR=2.3						
KURK	**Kurchatov**	**43.03**	**309**	P	**P**	**14 44 58.2**	**+1.0**
WRA	**Warramunga Arr**	**55.53**	**182**	P	**P**	**14 46 31.1**	**-1.9**
	comp=Z,0.7nm,0.4s,mb4.0,baz=358,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**59.24**	**182**	P	**P**	**14 46 57.6**	**-1.6**
	comp=Z,0.8nm,0.6s,mb3.9,baz=0.3,slow=6.1,SNR=17						
NB2	**NORSAR Subarra**	**73.38**	**335**	P	**P**	**14 48 29.2**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=44,slow=6.2						
NOA	**NORSAR Array B**	**73.38**	**335**	P	**P**	**14 48 32.3**	**+2.9**
	comp=Z,0.6nm,0.7s,mb3.7,baz=42,slow=6.0,SNR=4.0						

*CSEM **31** 15:13:41.4±0.1, 4131N×2274E, h12km, ML3.0, Error ellipse: s-maj=2.8km s-min=1.6km az=37.0*
*SKO **31** 15:13:41.6, 4129N×2269E, h8km, M1.7, ML2.1*
*THE **31** 15:13:41.9, 4128N×2270E, h1km, ML3.0*
*NEIC **31** 15:13:41.9, 4128N×2270E, h1km, ML3.0(THE), After THE.*
*ISCJB **31** 15:13:41.1±0.4, 4128N±003×2270E±003, h9km±4km, Error ellipse: s-maj=5.9km s-min=3.2km az=37.8*
*ATH **31** 15:13:50.2, 4096N×2376E, h10km*
ISC 31 15:13:41.5±0.4, 4129N±003×2272E±003, h8km±5km, n25, σ0°77/43, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.12**	**285**	ePg	**Pg**	**15 13 43.7**	**-0.5**
VAY				eSg	**Sg**	**15 13 45.6**	**-0.4**
VAY	**Valandovo**	**0.12**	**285**	iPg	**Pg**	**15 13 43.7**	**-0.5**
VAY				eLg		15 13 45.8	
	comp=E,1μm,0.2s						
VAY				iSg	**Sg**	**15 13 45.8**	**-0.2**
VAY				eLg		15 13 45.8	
	comp=N,1μm,0.5s						
VAY	**Valandovo**	**0.12**	**285**	iPg	**Pg**	**15 13 43.7**	**-0.5**
VAY				eSg	**Sg**	**15 13 45.6**	**-0.4**
VAY				eLg		15 13 45.7	
	comp=N,1μm,0.2s						
KNT	**Kendrikon**	**0.18**	**134**	ePg	**Pg**	**15 13 45.9**	**+0.6**
KNT				eSg	**Sg**	**15 13 48.9**	**+1.0**
GRG	**Griva**	**0.41**	**216**	ePg	**Pg**	**15 13 49.6**	**0.0**
GRG				eSg	**Sg**	**15 13 55.4**	**+0.4**
STIP	**Stip**	**0.57**	**315**	iPg	**Pg**	**15 13 52.7**	**+0.2**
STIP				iSg	**Sg**	**15 14 00.9**	**+0.9**
STIP				eLg		15 14 01.5	
	comp=E,109nm,0.2s						
STIP				eLg		15 14 01.6	
	comp=N,98nm,0.2s						
STIP	**Stip**	**0.57**	**315**	ePg	**Pg**	**15 13 52.5**	**0.0**
STIP				eSg	**Sg**	**15 14 00.9**	**+0.9**
SOH	**Sokhos**	**0.67**	**134**	ePg	**Pg**	**15 13 54.3**	**-0.1**
SOH				eSg	**Sg**	**15 14 04.5**	**+1.3**
THE	**Thessaloniki**	**0.68**	**164**	ePg	**Pg**	**15 13 54.4**	**-0.3**
THE				eSg	**Sg**	**15 14 03.9**	**+0.4**
THE	**Thessaloniki**	**0.68**	**164**	ePg	**Pg**	**15 13 54.3**	**-0.4**
THE				eSg	**Sg**	**15 14 03.9**	**+0.3**
HORT	**Hortiatis**	**0.75**	**157**	ePg	**Pg**	**15 13 55.8**	**-0.1**
HORT				eSg	**Sg**	**15 14 06.7**	**+1.0**
NVR	**Nevrokopi**	**0.86**	**86**	ePB	**Pb**	**15 13 58.0**	**-0.7**
NVR	**Nevrokopi**	**0.86**	**86**	eP	**Pg**	**15 13 58.1**	**0.0**
NVR				eS	**Sg**	**15 14 08.4**	**-0.8**
PLG	**Polygyros**	**1.07**	**149**	ePB	**Pb**	**15 14 01.9**	**-0.3**
PLG	**Polygyros**	**1.07**	**149**	ePg	**Pg**	**15 14 01.5**	**-0.5**
PLG				eS	**Sg**	**15 14 16.6**	**+0.7**
PLG	**Polygyros**	**1.07**	**149**	P	**Pg**	**15 14 01.5**	**-0.5**
PLG				eP		15 14 01.9	
PLG				eS	**Sg**	**15 14 16.6**	**+0.7**
BIA	**Bitola**	**1.09**	**256**	ePg	**Pg**	**15 14 02.5**	**+0.1**
BIA	**Bitola**	**1.09**	**256**	iPg	**Pg**	**15 14 02.5**	**+0.1**
BIA				iSg	**Sg**	**15 14 16.5**	**-0.1**
BIA				eLg		15 14 16.8	
	comp=N,5.1nm,0.2s						
BIA				eLg		15 14 16.8	
	comp=E,8.4nm,0.2s						
KRUS	**Krusevo**	**1.11**	**275**	iPg	**Pg**	**15 14 03.0**	**+0.1**
KRUS				iSg	**Sg**	**15 14 16.3**	**-1.0**
KRUS				eLg		15 14 17.2	
	comp=E,6.5nm,0.3s						
KRUS				eLg		15 14 18.1	
	comp=N,5.9nm,0.2s						
FNA	**Florina**	**1.14**	**244**	ePg	**Pg**	**15 14 03.1**	**-0.2**
LIT	**Litokhoron**	**1.20**	**189**	ePg	**Pg**	**15 14 03.7**	**-0.8**
OUR	**Ouranopolis**	**1.35**	**135**	ePg	**Pg**	**15 14 06.9**	**-0.5**
PAIG	**Paliouri**	**1.54**	**152**	ePg	**Pg**	**15 14 09.8**	**-1.4**
BARS	**Barje**	**1.67**	**336**	ePn	**Pn**	**15 14 12.5**	**+1.5**
BARS				eSn	**Sn**	**15 14 34.0**	**+1.4**
RDO	**Rodhopi**	**2.13**	**93**	eP	**Pn**	**15 14 15.7**	**-1.7**
RDO				eS	**Sn**	**15 14 39.2**	**-4.8**

*ISK **31** 15:29:54.7, 3776N×3635E, h3km, MD3.5*
*CSEM **31** 15:29:54.5±0.1, 3774N×3632E, h2km, MD3.5, Error ellipse: s-maj=1.8km s-min=1.2km az=136.0*
*DDA **31** 15:29:54.8, 3773N×3630E, h7km±4km, Md3.5*
*ISCJB **31** 15:29:55.9±0.3, 3774N±002×3635E±003, h10km, Error ellipse: s-maj=3.3km s-min=3.0km az=154.4*
ISC 31 15:29:55.9±0.5, 3775N±002×3631E±003, h5km±4km, n33, σ1°00/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.17**	**172**	iP	**Pg**	**15 29 58.3**	**-0.8**
ANDN				iS	**Sg**	**15 30 01.3**	**-0.1**
KOZT	**Kozan**	**0.47**	**236**	PG	**Pg**	**15 30 05.1**	**+0.2**
KOZT				eSG	**Sg**	**15 30 13.1**	**+2.1**
KMRS	**Kahramanmaras**	**0.52**	**117**	PG	**Pg**	**15 30 05.0**	**-0.9**
KMRS				eSG	**Sg**	**15 30 12.0**	**-0.7**
GAZ	**Gaziantep**	**0.92**	**129**	ePG	**Pg**	**15 30 12.9**	**-0.5**
PINB	**Pinarbasi**	**0.93**	**4**	iP	**Pg**	**15 30 13.0**	**-0.7**
PINB				iS	**Sg**	**15 30 26.2**	**+0.4**
PINB	**Pinarbasi**	**0.93**	**4**	iP	**Pg**	**15 30 13.0**	**-0.7**
PINB				iS	**Sg**	**15 30 26.2**	**+0.4**
SARI	**SarD1z-Kayseri**	**0.98**	**18**	ePG	**Pg**	**15 30 08.2**	**-6.5**
GZT	**Gaziantep**	**1.07**	**111**	iP	**Pg**	**15 30 15.7**	**-0.6**
GZT				iS	**Sg**	**15 30 31.3**	**+1.2**
YURE	**YUREGIR**	**1.07**	**211**	iP	**Pg**	**15 30 16.3**	**-0.1**
YURE				iS	**Sg**	**15 30 36.4**	**+6.2**
BNN	**Bunyan**	**1.16**	**342**	ePN	**Pn**	**15 30 17.0**	**-1.8**
BNN				eSN	**Sn**	**15 30 34.2**	**-0.9**
COBT	**Iskenderun**	**1.23**	**182**	iP	**Pg**	**15 30 17.7**	**-1.6**
COBT				iS	**Sg**	**15 30 35.7**	**+0.4**
AKCD	**Akcadag**	**1.38**	**66**	iP	**Pn**	**15 30 21.3**	**-0.5**
AKCD				iS	**Sb**	**15 30 42.4**	**+2.2**
AKCD	**Akcadag**	**1.38**	**66**	iP	**Pn**	**15 30 21.3**	**-0.5**
AKCD				iS	**Sb**	**15 30 42.3**	**+2.1**
NIG	**Nigde**	**1.40**	**286**	ePN	**Pn**	**15 30 21.4**	**-0.7**
ATAB	**Bozova**	**1.60**	**99**	iP	**Pn**	**15 30 25.5**	**+0.7**
ATAB				iS	**Sn**	**15 30 44.7**	**-1.1**
HTY	**Hatay**	**1.63**	**185**	ePN	**Pn**	**15 30 25.5**	**+0.2**
MERS	**Mersin**	**1.68**	**239**	ePN	**Pn**	**15 30 25.5**	**-0.4**
DARE	**Darende-Malaty**	**1.68**	**44**	ePN	**Pn**	**15 30 18.0**	**-7.9**
YAYL	**Yayladag**	**1.72**	**186**	iP	**Pn**	**15 30 25.9**	**-0.6**
YAYL				iS	**Sn**	**15 30 49.2**	**+0.4**
MALT	**Malatya**	**1.76**	**71**	ePN	**Pn**	**15 30 27.4**	**+0.4**
MYA	**Malataya**	**1.76**	**70**	ePN	**Pn**	**15 30 27.1**	**0.0**
URFA	**Urfa**	**2.02**	**98**	ePN	**Pn**	**15 30 30.6**	**+0.1**
YOZ	**Yozgat**	**2.04**	**338**	ePN	**Pn**	**15 30 31.3**	**+0.4**
SVSK	**Karacayir**	**2.23**	**14**	ePN	**Pn**	**15 30 33.8**	**+0.3**
SVRC	**Sivrice-ELAZID**	**2.44**	**74**	ePN	**Pn**	**15 30 36.7**	**+0.3**
IKL	**Isikli**	**2.59**	**235**	ePN	**Pn**	**15 30 39.2**	**+0.8**
PTK	**Pertek**	**2.68**	**64**	ePN	**Pn**	**15 30 40.3**	**+0.6**
CORM	**Corum**	**2.76**	**332**	ePN	**Pn**	**15 30 41.7**	**+0.9**
RSDY	**Resadiye-TOKAT**	**2.76**	**16**	ePN	**Pn**	**15 30 41.6**	**+0.8**
DIYA	**Diyarbakir**	**3.02**	**85**	iP	**Pg**	**15 30 52.0**	**-1.7**
DIYA				iS	**Sg**	**15 31 34.1**	**+1.3**
HDMB	**Hadim**	**3.15**	**257**

STV Sg **Sg** **16 21 23.3 -0.3**
576nm,0.3s
SURF Saint Ours 0.23 317 Pg **Pg** **16 21 20.0 -0.4**
SURF Sg **Sg** **16 21 23.5 -0.2**
DOI San Damiano 0.24 39 Pg **Pg** **16 21 20.7 0.0**
DOI Sg **Sg** **16 21 24.3 +0.1**
875nm,0.2s
ENR Entracque 0.29 108 P **Pg** **16 21 21.5 0.0**
TOUF Mont Tournerai 0.34 153 Pg **Pg** **16 21 22.2 -0.2**
MVIF Mont Vial 0.43 168 Pg **Pg** **16 21 23.8 -0.2**
MVIF Sg **Sg** **16 21 30.5 +0.8**
AUTN L'Aution 0.43 138 Pg **Pg** **16 21 23.9 -0.1**
AUTN Sg **Sg** **16 21 30.1 +0.4**
MBDF Montbardon 0.45 336 *e*Pg **Pg** **16 21 24.3 -0.1**
SNR=1.0
MBDF *e*Sg **Sg** **16 21 30.8 +0.4**
107nm,0.2s
MBDF Montbardon 0.45 336 *e*Pg **Pg** **16 21 24.3 -0.1**
SNR=1.0
MBDF *e*Sg **Sg** **16 21 30.8 +0.4**
54nm,0.2s
LUCF Luceram 0.48 152 Pg **Pg** **16 21 25.1 +0.2**
LUCF Sg **Sg** **16 21 31.7 +0.4**
SAOF Saorge 0.50 131 Pg **Pg** **16 21 25.3 0.0**
SAOF Sg **Sg** **16 21 32.0 0.0**
OG22 Abries 0.51 353 Pg **Pg** **16 21 25.3 -0.2**
OG22 Sg **Sg** **16 21 32.2 -0.1**
SBF Sospel 0.54 147 *e*Pg **Pg** **16 21 26.0 0.0**
SNR=1.0
SBF *e*Sg **Sg** **16 21 33.0 -0.2**
228nm,0.3s
SBF Sospel 0.54 147 *e*Pg **Pg** **16 21 26.0 0.0**
SNR=1.0
SBF *e*Sg **Sg** **16 21 33.0 -0.2**
114nm,0.3s
CALN Calern 0.57 190 Pg **Pg** **16 21 26.7 +0.1**
CALN Sg **Sg** **16 21 34.6 +0.4**
ROB Robourent 0.60 92 P **Pg** **16 21 27.5 +0.3**
ROB S **Sg** **16 21 35.2 0.0**
REVF Revere 0.62 157 Pg **Pg** **16 21 27.8 +0.2**
RRL Rocca Remolon 0.63 344 P **Pg** **16 21 27.5 -0.2**
NEGI Seborga 0.68 134 P **Pg** **16 21 28.5 -0.1**
NEGI S **Sg** **16 21 37.3 -0.1**
RORO Rocca Rossa 0.77 105 P **Pg** **16 21 30.6 +0.2**
RORO S **Sg** **16 21 40.9 +0.4**
BNI Bardonecchia 0.78 341 Pg **Pg** **16 21 30.4 -0.1**
37nm,0.7s
FRF La Foret Royal 0.81 200 *e*Pg **Pg** **16 21 30.5 -0.5**
SNR=1.0
FRF *e*Sg **Sg** **16 21 40.9 -0.7**
245nm,0.3s,SNR=1.0
FRF *e*Sn **Sn** **16 21 44.1 -0.1**
SNR=1.0
FRF La Foret Royal 0.81 200 *e*Pg **Pg** **16 21 30.5 -0.5**
SNR=1.0
FRF *e*Sg **Sg** **16 21 40.9 -0.7**
123nm,0.3s,SNR=1.0
FRF *e*Sn **Sn** **16 21 44.1 -0.1**
SNR=1.0
RSP Reno Superiore 0.85 11 Pg **Pg** **16 21 31.4 -0.5**
RSP Sg **Sg** **16 21 42.9 -0.2**
117nm,0.3s
FIN Finale Ligure 0.85 97⇑ *i*Pg **Pg** **16 21 31.8 -0.1**
FIN S **Sg** **16 21 42.8 -0.3**
QLNO Quiliano 0.94 89 Pg **Pg** **16 21 33.5 -0.2**
QLNO Sg **Sg** **16 21 45.8 -0.2**
77nm,0.3s
MONC Moncucco Torin 0.99 40 Pg **Pg** **16 21 35.1 +0.5**
144nm,0.4s
ORIF Oris-en-Rattie 1.02 307 *e*Pg **Pg** **16 21 34.2 -0.9**
ORIF *e*Sg **Sg** **16 21 49.4 +1.0**
86nm,0.3s,SNR=1.0
ORIF Oris-en-Rattie 1.02 307 *e*Pg **Pg** **16 21 34.2 -0.9**
ORIF *e*Sg **Sg** **16 21 49.4 +1.0**
43nm,0.3s,SNR=1.0
LMR La Mourre 1.05 201 *e*Pg **Pg** **16 21 34.8 -0.9**
SNR=1.0
LMR *e*Sg **Sg** **16 21 48.5 -0.9**
134nm,0.2s,SNR=1.0
LMR La Mourre 1.05 201 *e*Pg **Pg** **16 21 34.8 -0.9**
SNR=1.0
LMR *e*Sg **Sg** **16 21 48.5 -0.9**
67nm,0.2s,SNR=1.0
SMRF Simiane la Rot 1.10 253 *e*Pg **Pg** **16 21 37.0 +0.3**
SNR=1.0
SMRF *e*Sn **Sn** **16 21 52.0 +0.5**
128nm,0.2s,SNR=1.0
SMRF Simiane la Rot 1.10 253 *e*Pg **Pg** **16 21 37.0 +0.3**
SNR=1.0
SMRF *e*Sn **Sn** **16 21 52.0 +0.5**
64nm,0.2s,SNR=1.0
PCP Piancastagn 1.11 78 Pg **Pg** **16 21 36.9 +0.1**
PCP S **Sb** **16 21 50.3 -0.4**
PCP Sg **Sg** **16 21 51.6 +0.4**
101nm,0.3s
LSD Lago del Serru 1.15 4 Pg **Pg** **16 21 37.3 -0.2**
LSD Sg **Sg** **16 21 51.5 -0.9**
114nm,0.3s
LPG La Plagne 1.20 351 *e*Pn **Pn** **16 21 38.0 +0.2**
SNR=1.0
LPG *e*Sn **Sn** **16 21 54.6 +0.7**
48nm,0.2s,SNR=1.0
LPG La Plagne 1.20 351 *e*Pn **Pn** **16 21 38.0 +0.2**
SNR=1.0
LPG *e*Sn **Sn** **16 21 54.6 +0.7**
24nm,0.2s,SNR=1.0
LPL La Plagne 1.22 350 *e*Pn **Pn** **16 21 38.3 +0.2**
SNR=1.0
LPL *e*Sg **Sg** **16 21 55.6 +0.8**
67nm,0.3s
LPL La Plagne 1.22 350 *e*Pn **Pn** **16 21 38.3 +0.2**
SNR=1.0
LPL *e*Sg **Sg** **16 21 55.6 +0.8**
34nm,0.3s
OCF Saint Nazaire 1.27 283 Pg **Pg** **16 21 40.0 +0.2**
OG26 St.-Nazaire-De 1.27 283 Pg **Pg** **16 21 40.0 +0.2**
TRAV Traversella 1.30 23 P **Pn** **16 21 37.6 -1.6**
TRAV S **Sb** **16 21 54.0 -2.3**
MRGE Morge 1.45 1 Pg **Pg** **16 21 43.3 -0.1**
54nm,0.6s
VIVF Saint-Julien-l 1.77 289 *e*Pn **Pn** **16 21 46.6 +0.9**
SNR=1.0
VIVF *e*Sn **Sn** **16 22 08.5 +0.5**
36nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 1.77 289 *e*Pn **Pn** **16 21 46.6 +0.9**
SNR=1.0
VIVF *e*Sn **Sn** **16 22 08.5 +0.5**
18nm,0.3s,SNR=1.0
CODM Codolo 2.02 87 P **Pn** **16 21 49.9 +0.7**
GRAM Graiana 2.18 84 P **Pn** **16 21 48.1 -3.3**
PGF Pioggiola 2.28 140 *e*Pn **Pn** **16 21 52.7 +0.1**
SNR=1.0
PGF *e*Sn **Sn** **16 22 19.6 -0.9**
7.5nm,0.2s,SNR=1.0
PGF Pioggiola 2.28 140 *e*Pn **Pn** **16 21 52.7 +0.1**
SNR=1.0
PGF *e*Sn **Sn** **16 22 19.6 -0.9**
3.8nm,0.2s,SNR=1.0
LASF Ste Croix 2.29 265 *e*Pg **Pg** **16 21 58.9 -0.5**
LASF *e*Sn **Sn** **16 22 20.6 -0.4**
6.0nm,0.2s,SNR=1.0
LASF Ste Croix 2.29 265 *e*Pg **Pg** **16 21 58.9 -0.5**
LASF *e*Sn **Sn** **16 22 20.6 -0.4**
3.0nm,0.2s,SNR=1.0
LASF Ste Croix 2.29 265 *e*Pn **Pn** **16 21 53.2 +0.3**
LASF *e*Pg **Pg** **16 21 58.9 -0.5**
LASF *e*Sn **Sn** **16 22 20.6 -0.4**
CABF La Chapelle 2.39 344 *e*Pg **Pg** **16 22 01.5 +0.3**
SNR=1.0
CABF *e*Sg **Sg** **16 22 32.5 +0.3**
14nm,0.6s,SNR=1.0
CABF La Chapelle 2.39 344 *e*Pg **Pg** **16 22 01.5 +0.3**
SNR=1.0
CABF *e*Sg **Sg** **16 22 32.5 +0.3**
7.1nm,0.6s,SNR=1.0
CABF La Chapelle 2.39 344 *e*Pn **Pn** **16 21 55.4 +1.2**
CABF *e*Pg **Pg** **16 22 01.5 +0.3**
CABF *e*Sg **Sg** **16 22 32.5 +0.3**
SMF Signal de Mont 3.23 317 *e*Pg **Pg** **16 22 16.6 -0.8**
SNR=1.0
SMF *e*Sn **Sn** **16 22 43.7 -0.4**
SNR=1.0
SMF *e*Sg **Sg** **16 22 58.7 -0.6**
7.5nm,0.3s,SNR=1.0
SMF Signal de Mont 3.23 317 *e*Pg **Pg** **16 22 16.6 -0.8**
SNR=1.0
SMF *e*Sn **Sn** **16 22 43.7 -0.4**
SNR=1.0
SMF *e*Sg **Sg** **16 22 58.7 -0.6**
3.8nm,0.3s,SNR=1.0
SMF Signal de Mont 3.23 317 *e*Pn **Pn** **16 22 07.4 +1.6**
SMF *e*Pg **Pg** **16 22 16.6 -0.8**
SMF *e*Sn **Sn** **16 22 43.7 -0.4**
SMF *e*Sg **Sg** **16 22 58.7 -0.6**
HINF Hinteralfeld 3.50 358 *e*Pn **Pn** **16 22 10.0 +0.5**
SNR=1.0
HINF *e*Sn **Sn** **16 22 50.2 -0.6**
SNR=1.0
HINF *e*Sg **Sg** **16 23 07.1 -0.8**
4.7nm,0.4s,SNR=1.0
HINF Hinteralfeld 3.50 358 *e*Pn **Pn** **16 22 10.0 +0.5**
SNR=1.0
HINF *e*Sn **Sn** **16 22 50.2 -0.6**
SNR=1.0
HINF *e*Sg **Sg** **16 23 07.1 -0.8**
2.3nm,0.4s,SNR=1.0
AVF Avril sur Loir 3.58 315 *e*Pn **Pn** **16 22 11.5 +1.0**
SNR=1.0
AVF *e*Sn **Sn** **16 22 51.5 -1.1**
10.0nm,0.7s,SNR=1.0
AVF Avril sur Loir 3.58 315 *e*Pn **Pn** **16 22 11.5 +1.0**
SNR=1.0
AVF *e*Sn **Sn** **16 22 51.5 -1.1**
5.0nm,0.7s,SNR=1.0
CAF Calviac 3.60 281 *e*Pn **Pn** **16 22 11.6 +0.8**
SNR=1.0
CAF *e*Sn **Sn** **16 22 52.2 -0.9**
2.6nm,0.2s,SNR=1.0
CAF Calviac 3.60 281 *e*Pn **Pn** **16 22 11.6 +0.8**
SNR=1.0
CAF *e*Sn **Sn** **16 22 52.2 -0.9**
1.3nm,0.2s,SNR=1.0
MTLF Montolieu 3.62 256 *e*Pn **Pn** **16 22 11.2 +0.1**
SNR=1.0
MTLF *e*Sn **Sn** **16 22 51.2 -2.4**
1.8nm,0.2s,SNR=1.0
MTLF Montolieu 3.62 256 *e*Pn **Pn** **16 22 11.2 +0.1**
SNR=1.0
MTLF *e*Sn **Sn** **16 22 51.2 -2.4**
0.9nm,0.2s,SNR=1.0
LOR Lormes 3.69 324 *e*Pn **Pn** **16 22 13.7 +1.6**
SNR=1.0
LOR *e*Sn **Sn** **16 22 54.4 -1.0**
3.0nm,0.2s,SNR=1.0
LOR Lormes 3.69 324 *e*Pn **Pn** **16 22 13.7 +1.6**
SNR=1.0
LOR *e*Sn **Sn** **16 22 54.4 -1.0**
1.5nm,0.2s,SNR=1.0
SSF Saint Saulge 3.69 319 *e*Pn **Pn** **16 22 13.7 +1.6**
SNR=1.0
SSF *e*Sn **Sn** **16 22 54.8 -0.6**
4.4nm,0.4s,SNR=1.0
SSF Saint Saulge 3.69 319 *e*Pn **Pn** **16 22 13.7 +1.6**
SNR=1.0
SSF *e*Sn **Sn** **16 22 54.8 -0.6**
2.2nm,0.4s,SNR=1.0
BGF Bois d'Agland 3.70 309 *e*Pn **Pn** **16 22 13.9 +1.7**
SNR=1.0
HAU Haudompre 3.72 353 *e*Pn **Pn** **16 22 13.9 +1.4**
SNR=1.0
HAU *e*Sn **Sn** **16 22 55.4 -0.7**
7.9nm,0.4s,SNR=1.0
HAU Haudompre 3.72 353 *e*Pn **Pn** **16 22 13.9 +1.4**
SNR=1.0
HAU *e*Sn **Sn** **16 22 55.4 -0.7**
4.0nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 3.93 302 *e*Pn **Pn** **16 22 16.0 +0.6**
SNR=1.0
TCF *e*Sn **Sn** **16 23 00.4 -0.9**
4.2nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 3.93 302 *e*Pn **Pn** **16 22 16.0 +0.6**
SNR=1.0
TCF *e*Sn **Sn** **16 23 00.4 -0.9**
2.1nm,0.4s,SNR=1.0
CDF Champ du Feu 4.10 2 *e*Pn **Pn** **16 22 19.5 +1.8**
SNR=1.0
CDF *e*Sn **Sn** **16 23 04.8 -0.7**
3.4nm,0.3s,SNR=1.0
CDF Champ du Feu 4.10 2 *e*Pn **Pn** **16 22 19.5 +1.8**
SNR=1.0
CDF *e*Sn **Sn** **16 23 04.8 -0.7**
1.7nm,0.3s,SNR=1.0
SFTF Sexfontaines 4.13 341 *e*Pn **Pn** **16 22 19.3 +1.2**
EPF Esparros 5.02 257 *e*Pn **Pn** **16 22 30.4 0.0**

NEIC 31 16:39:37.8,3770S×17839E,h53km,ML3.8(WEL),After WEL.,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.15**	**334**	P	Pn	16 39 46.1	-0.1
MXZ				S	Sn	16 39 51.8	-0.3
PUZ	**Puketiti**	**0.39**	**196**	P	Pn	16 39 47.7	-0.3
PUZ				S	Sn	16 39 54.8	-0.6
MWZ	**Matawai**	**0.93**	**227**	P	Pn	16 39 54.7	0.0
URZ	**Urewera**	**1.16**	**241**	P	Pn	16 39 57.8	+0.1
MARZ	**Manawahe**	**1.39**	**258**	P	Pn	16 40 00.4	-0.4
KNZ	**Kokohu**	**1.43**	**203**	P	Pn	16 40 00.6	-0.8
BKZ	**Black Stump Fm**	**2.09**	**225**	P	Pn	16 40 10.6	+0.2
KUZ	**Kuaotunu**	**2.33**	**293**	P	Pn	16 40 13.2	-0.5
MKAZ	**Moumakai**	**2.63**	**282**	P	Pn	16 40 17.7	-0.1
NGZ	**Ngauruhoe**	**2.64**	**235**	P	Pn	16 40 18.2	+0.3
MOVZ	**Moawhango**	**2.68**	**230**	P	Pn	16 40 18.0	-0.4
WPVZ	**Whakapapa**	**2.69**	**235**	P	Pn	16 40 18.9	+0.3
OTAZ	**Otara**	**2.86**	**284**	P	Pn	16 40 21.5	+0.6
TSZ	**Takapari Road**	**3.02**	**218**	P	Pn	16 40 21.3	-1.9
VRZ	**Vera Road**	**3.19**	**242**	P	Pn	16 40 26.3	+0.9
WAZ	**Wanganui**	**3.36**	**231**	P	Pn	16 40 28.0	+0.2
WCZ	**Waipu Caves**	**3.69**	**297**	P	Pn	16 40 33.2	+0.9
OUZ	**Omahuta**	**4.59**	**301**	P	Pn	16 40 46.3	+1.7
THZ	**Tophouse**	**5.86**	**224**	P	Pn	16 40 58.1	-3.9

IDC 31 17:23:04.1±10.0,205N×12782E,h154km±97km,mb3.2/4,mb1 3.3/4,mb1mx3.1/14,mbtmp3.2/4,Error ellipse: s-maj=129.7km s-min=21.4km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.77**	**164**	P	P	17 27 53.5	0.0
	0.7nm,0.4s,baz=344,slow=10,SNR=18						
ASAR	**Alice Springs**	**26.24**	**167**	P	P	17 28 25.1	+0.2
	0.3nm,0.9s,baz=353,slow=8.1,SNR=4.9						
ASAR				PcP	PcP	17 31 47.4	-0.3
	0.2nm,0.5s,baz=355,slow=2.1,SNR=10						
STKA	**Stephens Creek**	**36.19**	**160**	P	P	17 29 51.8	-0.1
	2.0nm,0.9s,baz=9.5,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**59.54**	**325**	P	P	17 32 51.3	+0.1
	0.5nm,0.3s,baz=123,slow=7.6,SNR=15						

*IDC **31** 17:26:31.4±3.6,1025N×12595E,h0km,mb3.3/3,mb1 3.4/3,mb1mx3.3/17,mbtmp3.3/3,Error ellipse: s-maj=292.6km s-min=29.0km az=65.0*
*ISCJB **31** 17:26:37.3±1.1,1027N±004×12625E±009,h59km±13km,mb3.2/3,Error ellipse: s-maj=14.5km s-min=7.3km az=174.4*
*MAN **31** 17:26:38,1033N×12620E,h30km,mb4.4,ML3.3,MS3.1*
ISC 31 17:26:38.5±1.1,1026N±004×12624E±009,h51km±14km,n17,σ1$21/25,mb3.2/3,2C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.88**	**237⇓**	*e*P	Pn	**17 26 52.3**	**-2.4**
SCPH				*e*S	Sn	**17 27 05.0**	**-1.5**
MSLP	**Maasin**	**1.36**	**265**	*e*P	Pn	**17 26 59.9**	**-1.3**
MSLP				*e*S	Sn	**17 27 17.9**	**-0.2**
BUTP	**Butuan**	**1.42**	**205**	*e*P	Pn	**17 27 01.6**	**-0.4**
PLP	**Palo**	**1.53**	**306⇓**	*e*P	Pn	**17 27 01.9**	**-1.5**
PLP				*e*S	Sn	**17 27 19.1**	**-3.0**
BESP	**Borongan**	**1.54**	**330**	*e*P	Pn	**17 27 04.8**	**+1.1**
BESP				*e*S	Sn	**17 27 25.1**	**+2.5**
OCLP	**Ormoc**	**1.78**	**296**	*e*P	Pn	**17 27 06.8**	**-0.1**
OCLP				*e*S	Sn	**17 27 30.1**	**+1.7**
LLP	**Lapu-Lapu**	**2.23**	**272⇑**	*e*P	Pn	**17 27 13.3**	**+0.2**
TBP	**Tagbilaran**	**2.41**	**257**	*e*P	Pn	**17 27 16.4**	**+1.0**
TBP				*e*S	Sn	**17 27 44.8**	**+1.0**
BUKP	**Musuan**	**2.64**	**206**	*e*P	Pn	**17 27 20.5**	**+1.8**
BUKP				*e*S	Sn	**17 27 56.5**	**+7.1**
CNP	**Catarman**	**2.71**	**326**	*e*P	Pn	**17 27 19.1**	**-0.6**
CNP				*e*S	Sn	**17 27 50.2**	**-1.1**
GUIM	**Jordan**	**3.61**	**276**	*e*P	Pn	**17 27 32.6**	**+0.7**
RCP	**Roxas**	**3.66**	**291⇑**	*e*P	Pn	**17 27 33.2**	**+0.5**
PAGZ	**Pagadian**	**3.70**	**230**	*e*P	Pn	**17 27 34.5**	**+1.2**
PVCP	**Virac**	**3.89**	**329**	*e*P	Pn	**17 27 36.4**	**+0.5**
WRA	**Warramunga Arr**	**31.06**	**165**	P	P	**17 32 51.6**	**-0.2**
	0.1nm,0.4s,mb3.0,baz=344,slow=9.0,SNR=2.6						
ASAR	**Alice Springs**	**34.54**	**168**	P	P	**17 33 22.6**	**+0.3**
	0.1nm,0.3s,mb3.2,baz=349,slow=7.2,SNR=7.6						
MKAR	**Makanchi Array**	**52.01**	**323**	P	P	**17 35 41.5**	**-1.4**
	0.6nm,0.9s,mb3.5,baz=126,slow=7.6,SNR=4.1						

*JMA **31** 17:54:12.1±0.2,2905N×13974E,h491km,M3.8*
*ISCJB **31** 17:54:14.3±0.6,2919N±006×1395E±02,h438km±10km,mb3.1/5,Error ellipse: s-maj=32.9km s-min=6.2km az=168.1*
*NEIC **31** 17:54:14.5±1.7,2934N×14008E,h440km±20km,mb4.1/1,Error ellipse: s-maj=43.0km s-min=19.6km az=89.0*
*IDC **31** 17:54:14.6±0.9,2923N×13942E,h421km±18km,mb2.9/5,mb1 3.1/8,mb1mx2.9/20,mbtmp3.0/8,Error ellipse: s-maj=55.9km s-min=9.6km az=75.0*
ISC 31 17:54:15.5±0.6,2927N±006×1397E±02,h438km±10km,n26,σ1$21/35,mb3.1/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.05**	**134**	P	P	**17 55 22.4**	**+0.3**
CBIJ				S	S	**17 56 16.2**	**+0.1**
CBIJ	**Chichi jima**	**3.05**	**134**	P	P	**17 55 22.2**	**+0.1**
	15nm,0.3s,baz=306,slow=21,SNR=54						
CBIJ				S	S	**17 56 15.6**	**-0.5**
	43nm,0.3s,baz=260,slow=23,SNR=26						
JHHJ	**Haha-jima-NKT**	**3.40**	**140**	P	P	**17 55 25.1**	**+0.2**
JHHJ				S	S	**17 56 20.5**	**-0.6**
JHJ2	**Mitsune**	**3.83**	**1**	P	P	**17 55 31.9**	**+3.5**
JHJ	**Hachijo jima 2**	**3.84**	**1**	P	P	**17 55 26.8**	**-1.7**
	28nm,0.3s,baz=204,slow=11,SNR=22						
JHJ				S	S	**17 56 24.9**	**-2.9**
	12nm,0.3s,baz=82,slow=23,SNR=7.0						
BSO2	**Boso 2**	**5.54**	**9**	*e*S	S	**17 56 58.8**	**+1.6**
BSO3	**Boso 3**	**5.56**	**7**	P	P	**17 55 46.6**	**+1.8**
BSO3				*e*S	S	**17 56 57.6**	**0.0**
JOD2	**Odawara 2**	**6.01**	**355**	P	P	**17 55 52.1**	**+2.8**
JNY	**Yasuok**	**6.28**	**346**	P	P	**17 55 52.9**	**+0.7**
JRY	**Ryogami san**	**6.77**	**354**	P	P	**17 55 57.7**	**+0.3**
JRY				S	S	**17 57 20.9**	**+0.2**
JAG	**Ashikaga**	**7.14**	**358**	P	P	**17 56 00.7**	**-0.7**
JHO	**Hitachi**	**7.36**	**5**	P	P	**17 56 04.3**	**+0.6**
JHO				S	S	**17 57 30.2**	**-2.1**
MJAR	**Matsushiro Arr**	**7.37**	**350**	P	P	**17 56 03.5**	**-0.3**
	1.4nm,0.3s,baz=170,slow=11,SNR=16						
MJAR				S	S	**17 57 32.8**	**+0.3**
	0.3nm,0.3s,baz=105,slow=33,SNR=3.0						
MAJO	**Matsushiro**	**7.37**	**350**	*e*Pn	P	**17 56 02.2**	**-1.5**
	5.9nm,0.4s						
MAT	**Matsushiro**	**7.37**	**350**	P	P	**17 56 04.3**	**+0.5**
MAT	**Matsushiro**	**7.37**	**350**	P	P	**17 56 03.9**	**+0.1**
JFK	**Kawauchi**	**8.13**	**6**	P	P	**17 56 13.7**	**+1.6**
JFK				S	S	**17 57 46.0**	**-1.8**
JMK	**Ichinoseki**	**9.74**	**7**	P	P	**17 56 32.7**	**+3.1**
PET	**Petropavlovsk**	**27.51**	**25**	P	P	**17 59 20.7**	**-3.9**
MKAR	**Makanchi Array**	**47.44**	**308**	P	P	**18 02 07.5**	**-1.2**
	0.2nm,0.3s,mb2.9,baz=105,slow=9.3,SNR=5.0						
MKAR				PcP	PcP	18 03 30.7	-0.1
	0.1nm,0.6s,baz=106,slow=3.1,SNR=2.4						
WRA	**Warramunga Arr**	**49.20**	**187**	P	P	**18 02 22.0**	**-0.2**
	0.4nm,0.3s,mb3.2,baz=2.8,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**52.92**	**187**	P	P	**18 02 49.2**	**-0.2**
	0.2nm,0.6s,mb2.6,baz=15,slow=13,SNR=5.5						
ARCES	**ARCESS Array B**	**70.78**	**340**	P	P	**18 04 46.7**	**+0.8**
	0.9nm,0.4s,mb3.6,baz=71,slow=8.8,SNR=11						
ARCES	**ARCESS Array B**	**70.78**	**340**	P	P	**18 04 46.7**	**+0.8**
NOA	**NORSAR Array B**	**80.80**	**337**	P	P	**18 05 41.5**	**-0.4**
	0.8nm,0.8s,mb3.5,baz=45,slow=5.4,SNR=3.0						
NOA	**NORSAR Array B**	**80.80**	**337**	P	P	**18 05 41.5**	**-0.4**

*NEIC **31** 19:15:08.6±9.9,806S×10896E,h26km±70km,mb3.8/3,Error ellipse: s-maj=43.4km s-min=19.0km az=53.0*
NEIC Felt [II] at Cilacap.
*IDC **31** 19:15:13.8±7.0,791S×10909E,h66km±61km,mb3.8/7,mb1 3.9/9,mb1mx3.7/18,mbtmp3.8/9,ML3.9/2,Error ellipse: s-maj=46.6km s-min=16.9km az=58.0*
*DJA **31** 19:15:14,826S×10897E,h52km,ML4.4/10*
*ISCJB **31** 19:15:15.0±0.7,807S±010×10906E±006,h97km±7km,mb4.0/8,Error ellipse: s-maj=17.7km s-min=7.9km az=22.9*
ISC 31 19:15:15.9±0.7,811S±010×10905E±006,h86km±7km,n27,σ1$03/30,mb4.0/8,2C-2D,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**0.39**	**355**	P	Pn	**19 15 27.4**	**-2.1**
	0.0nm,0.0s						
BJII	**Banjamegara**	**1.01**	**40**	P	Pn	**19 15 35.1**	**-0.4**
	0.0nm,0.0s						
BJII	**Banjamegara**	**1.01**	**40⇓**	*e*P	Pn	**19 15 35.4**	**-0.1**
BJII				*e*S	Sn	**19 15 51.5**	**+1.3**
LEM	**Lembang**	**1.91**	**312**	P	Pn	**19 15 47.5**	**+0.7**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**2.71**	**294**	P	Pn	**19 15 57.1**	**-0.3**
	0.0nm,0.0s						
SJI	**Sawahan**	**2.72**	**82**	P	Pn	**19 15 57.7**	**+0.2**
	0.0nm,0.0s						
DBJI	**Dramaga**	**2.76**	**304**	P	Pn	**19 15 58.4**	**+0.3**
	0.0nm,0.0s						
KRKI	**Karangkates**	**3.37**	**91**	P	Pn	**19 16 06.5**	**+0.2**
	0.0nm,0.0s						
KRKI	**Karangkates**	**3.37**	**91⇓**	*e*P	Pn	**19 16 08.5**	**+2.2**
KRKI				*e*S	Sn	**19 16 49.5**	**+4.2**
TRT	**Tretes**	**3.57**	**84⇑**	*e*P	Pn	**19 16 07.0**	**-2.1**
TRT				*e*S	Sn	**19 16 46.0**	**-4.3**
TPI	**Tanjungpandan**	**5.50**	**345⇑**	*e*P	Pn	**19 16 36.5**	**+1.2**
BATI	**Baumata**	**14.58**	**99**	P	Pn	**19 18 38.0**	**+0.2**
	2.3nm,0.3s,baz=292,slow=16,SNR=4.0						
MBWA	**Marble Bar**	**16.57**	**143**	*e*Pn	Pn	**19 18 57.7**	**-5.3**
MBWA				*e*Sn	Sn	**19 21 45.9**	**-21**
FITZ	**Fitzroy Crossi**	**18.95**	**123**	*e*P	Pn	**19 19 31.0**	**-0.8**
	2.5nm,0.6s						
FITZ				*e*S	S	**19 22 45.3**	**-16**
FITZ	**Fitzroy Crossi**	**18.95**	**123**	P	Pn	**19 19 30.6**	**-1.2**
	0.1nm,0.3s,baz=307,slow=11,SNR=7.3						
WRA	**Warramunga Arr**	**27.16**	**118**	P	P	**19 20 51.7**	**+0.4**
	3.1nm,0.7s,mb4.0,baz=290,slow=11,SNR=32						
WRA				PcP	PcP	19 24 10.2	+0.2
	0.7nm,0.5s,baz=300,slow=1.9,SNR=10						
WB2	**Warramunga Arr**	**27.17**	**118**	*e*P	P	**19 20 51.8**	**+0.4**
ASAR	**Alice Springs**	**28.39**	**126**	P	P	**19 21 02.9**	**+0.6**
	1.7nm,0.9s,mb3.6,baz=304,slow=9.3,SNR=26						
ASAR				PcP	PcP	19 24 13.5	+0.6
	0.8nm,0.4s,baz=307,slow=2.1,SNR=12						
STKA	**Stephens Creek**	**38.39**	**133**	*e*P	P	**19 22 29.5**	**+0.5**
	2.8nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**38.39**	**133**	P	P	**19 22 29.5**	**+0.5**
	3.0nm,0.5s,mb4.4,baz=302,slow=8.5,SNR=18						
STKA				PcP	PcP	19 24 41.6	+0.7
	1.3nm,0.5s,baz=304,slow=4.0,SNR=4.2						
LSA	**Lhasa**	**41.35**	**336**	P	P	**19 22 54.0**	**+0.6**
	1.3nm,0.7s,mb3.9						
SONM	**Songino Array**	**55.75**	**358**	P	P	**19 24 42.4**	**-1.1**
	0.4nm,0.6s,mb3.6,baz=174,slow=8.2,SNR=3.8						
SONM				PcP	PcP	19 25 42.2	+0.4
	0.4nm,0.3s,baz=175,slow=5.0,SNR=5.8						
MKAR	**Makanchi Array**	**59.63**	**339**	P	P	**19 25 09.5**	**-1.3**
	1.1nm,0.4s,mb4.3,baz=155,slow=7.8,SNR=23						
ZALV	**Zalesovo Beam**	**65.12**	**344**	P	P	**19 25 46.3**	**-1.0**
	1.0nm,0.3s,mb4.1,baz=151,slow=6.0,SNR=7.5						
BOSA	**Boshof**	**80.74**	**242**	P	P	**19 27 21.6**	**+1.4**
	1.1nm,0.4s,mb4.0,baz=113,slow=4.6,SNR=4.0						
TXAR	**Lajitas Array**	**142.72**	**51**	PKP	PKPdf	19 34 37.9	-1.9
	0.2nm,0.4s,baz=209,slow=3.5,SNR=5.6						
JCT	**Junction City**	**145.03**	**47**	*e*PKPdf	PKPdf	19 34 44.1	+0.3

*IDC **31** 19:39:58.1±3.7,683S×12471E,h179km±37km,mb3.5/2,mb1 3.6/6,mb1mx3.3/17,mbtmp3.4/6,Error ellipse: s-maj=77.9km s-min=13.4km az=59.0*
*ISCJB **31** 19:40:05.0±0.9,78S±0.1×1232E±0.1,h267km±10km,mb3.4/2,Error ellipse: s-maj=25.9km s-min=9.6km az=143.6*

NEIC ***31*** *19:40:05.9±1.0, 7.92S×123.18E, h262km±15km, mb3.9/3, Error ellipse: s-maj=34.5km s-min=11.3km az=50.0*
ISC 31 19:40:06.3±0.9, 80S±01×1232E±01, h266km±9km, n12, σ0§83/20, mb3.5/2, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**		**2.29 169**	P			**Pn**	**19 40 52.5**	**-0.3**
	86nm,0.3s,baz=26,slow=1.7,SNR=65								
BATI				S			**S**	**19 41 29.8**	**+0.2**
	54nm,0.3s,baz=189,slow=23,SNR=14								
WSI	**Waingapu**		**3.34 239**	⇓P	*e*	P	**Pn**	**19 41 04.5**	**+1.0**
WSI				S	*e*	S	**S**	**19 41 42.0**	**-7.0**
KAPI	**Kappang**		**4.50 310**	P			**Pn**	**19 41 16.1**	**-0.7**
	2.0nm,0.3s,baz=133,slow=4.5,SNR=6.8								
KAKA	**Kakadu**		**10.24 118**	P	*e*	P	**Pn**	**19 42 27.8**	**0.0**
	7.8nm,0.8s								
KAKA				S	*e*	S	**S**	**19 44 14.8**	**-8.2**
FITZ	**Fitzroy Crossi**		**10.37 167**	P	*e*	P	**Pn**	**19 42 28.7**	**-0.6**
	2.6nm,0.2s								
FITZ				S	*e*	S	**S**	**19 44 23.9**	**-1.9**
FITZ	**Fitzroy Crossi**		**10.37 167**	P			**Pn**	**19 42 30.2**	**+0.9**
	0.9nm,0.3s,baz=357,slow=12,SNR=28								
FITZ				S			**S**	**19 44 24.7**	**-1.1**
	0.6nm,0.3s,baz=106,slow=12,SNR=12								
WRA	**Warramunga Arr**		**16.08 139**	P			**P**	**19 43 31.9**	**-5.2**
	0.1nm,0.3s,baz=319,slow=11,SNR=8.9								
WRA				S			**S**	**19 46 31.3**	**-0.9**
	0.1nm,0.3s,baz=322,slow=26,SNR=3.4								
WB2	**Warramunga Arr**		**16.09 139**	P	*e*	P		**19 43 37.0**	**-0.2**
WB2				S	*e*	S		**19 46 33.1**	**+0.7**
ASAR	**Alice Springs**		**18.70 148**	P			**P**	**19 44 06.9**	**+1.4**
	0.8nm,0.3s,baz=338,slow=14,SNR=44								
ASAR				S			**S**	**19 47 32.0**	**+7.9**
	0.1nm,0.3s,baz=330,slow=22,SNR=5.2								
STKA	**Stephens Creek**		**29.32 147**	P	*e*	P		**19 45 45.4**	**+0.8**
	2.4nm,0.9s,mb3.6								
STKA	**Stephens Creek**		**29.32 147**	P			**P**	**19 45 45.5**	**+0.9**
	1.9nm,0.3s,mb4.0,baz=316,slow=10,SNR=19								
MKAR	**Makanchi Array**		**65.51 330**	P			**P**	**19 50 20.6**	**-0.7**
	0.2nm,0.5s,mb3.1,baz=136,slow=7.4,SNR=5.8								

CSEM ***31*** *19:48:23.7±0.2, 38.11N×26.62E, h12km, MD3.0, Error ellipse: s-maj=5.6km s-min=4.8km az=109.0*
DDA ***31*** *19:48:23.3, 38.15N×26.55E, h7km±7km, Md2.9*
ISCJB ***31*** *19:48:24.7±0.6, 38.16N±003×26.62E±003, h9km±5km, Error ellipse: s-maj=4.7km s-min=4.2km az=160.4*
ATH ***31*** *19:48:24.0, 38.11N×26.71E, h49km±11km, MD3.2/3*
ISK ***31*** *19:48:26.3, 38.29N×26.69E, h4km, MD3.0*
ISC 31 19:48:25.2±0.5, 38.15N±003×26.62E±004, h11km±5km, n22, σ1§05/36, 1C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BLCB	**Balcova**		**0.41 55**	P	*e*	PG	**Pg**	**19 48 32.6**	**-0.6**
BLCB					*e*	SG	**Sg**	**19 48 37.7**	**-1.0**
SMG	**Samos**		**0.48 158**	⇑P	*i*	P	**Pg**	**19 48 34.5**	**0.0**
SMG					*e*	S	**Sg**	**19 48 42.7**	**+1.9**
CHOS	**Chios island**		**0.50 298**	P	*e*	P	**Pg**	**19 48 34.7**	**-0.2**
CHOS					*e*	S	**Sg**	**19 48 42.5**	**+0.9**
IZM	**Izmir**		**0.56 64**	P	*e*	PG	**Pg**	**19 48 35.8**	**-0.4**
IZM					*e*	SG	**Sg**	**19 48 42.8**	**-0.8**
KDAG	**Bornova**		**0.57 64**	P	*i*	P	**Pg**	**19 48 35.8**	**-0.5**
KDAG					*i*	S	**Sg**	**19 48 44.2**	**+0.4**
GCAM	**G?zelcaml?**		**0.67 133**	P	*i*	P	**Pg**	**19 48 37.9**	**-0.2**
GCAM					*i*	S	**Sg**	**19 48 47.0**	**+0.2**
GCAM	**G?zelcaml?**		**0.67 133**	P	*i*	P	**Pg**	**19 48 37.8**	**-0.3**
GCAM					*i*	S	**Sg**	**19 48 47.0**	**+0.2**
AYDN	**Tasoluk**		**1.11 116**	P	*i*	P	**Pb**	**19 48 45.6**	**-0.7**
AYDN					*i*	S	**Sg**	**19 49 00.6**	**-0.5**
PRK	**Paraskevi**		**1.12 346**	P	*e*	P	**Pn**	**19 48 45.8**	**-1.0**
PRK					*e*	S	**Sn**	**19 49 01.8**	**-0.4**
PRK	**Paraskevi**		**1.12 346**	⇓P	*i*	P	**Pn**	**19 48 45.4**	**-1.4**
PRK	**Paraskevi**		**1.12 346**	⇓P			**Pn**	**19 48 45.4**	**-1.4**
PRK					*e*	S	**Sn**	**19 49 01.8**	**-0.4**
AKS	**Akhisar**		**1.19 52**	P	*e*	PG	**Pg**	**19 48 47.6**	**-0.4**
BODT	**Bodrum**		**1.22 153**	P	*e*	PN	**Pn**	**19 48 52.3**	**+4.2**
MLSB	**Milas**		**1.26 133**	P	*e*	PN	**Pn**	**19 48 52.0**	**+3.4**
APE	**Apeiranthos**		**1.38 219**	P	*e*	P	**Pn**	**19 48 48.5**	**-1.8**
APE					*e*	S	**Sb**	**19 49 07.3**	**-1.3**
APE	**Apeiranthos**		**1.38 219**	P	*e*	P	**Pn**	**19 48 47.8**	**-2.5**
APE					*e*	S	**Sb**	**19 49 06.5**	**-2.1**
KULA	**Kula-Manisa**		**1.65 77**	P	*e*	PN	**Pn**	**19 48 55.6**	**+1.6**
EZN	**Ezine**		**1.69 352**	P	*e*	PN	**Pn**	**19 48 55.4**	**+0.9**
BOZC	**Bozcaada**		**1.74 346**	P	*i*	P	**Pn**	**19 48 54.1**	**-1.2**
BOZC					*i*	S	**Sn**	**19 49 21.6**	**+4.2**
BALY	**Balya**		**1.77 26**	P	*i*	P	**Pn**	**19 48 55.4**	**-0.2**
BALY					*i*	S	**Sg**	**19 49 23.5**	**+1.5**
BALB	**Balikesir**		**1.78 33**	P	*e*	PN	**Pn**	**19 48 56.5**	**+0.6**
GADA	**Gvkgeada**		**2.11 345**	P	*e*	PN	**Pn**	**19 49 01.8**	**+1.5**

BJI ***31*** *19:51:50.4, 2.18N×127.13E, h52km, mB5.3, mb5.4, Ms4.5, Msz4.5*
ISCJB ***31*** *19:51:51.1±0.2, 2.38N±002×127.19E±003, h41km, mb5.5/112, MS4.4/37, Error ellipse: s-maj=3.7km s-min=2.4km az=179.5*
GCMT ***31*** *19:51:52.4±0.1, 2.43N×127.29E, h15km, MW5.6/80, Moment Tensor Solution. s69,c124; s80,c166; Duration: 1§5 Moment tensor: Scale 10^17Nm; Mrr0.21±.02; Mθθ0.08±.01; Mφφ-0.28±.02; Mrθ-1.85±.08; Mθφ-0.09±.01; Mφr-2.26±.08; Best double couple: M0 2.93300×10^17 NP1:φs343.00000°, δ4.00000°, λ34.00000°. NP2:φs219.00000°, δ88.00000°, λ93.00000°. Principal axes: T 2.9240, Plg47.0000°, Azm132.0000°; N 0.0170, Plg3.0000°, Azm39.0000°; P -2.9420, Plg43.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***31*** *19:51:52.4±0.8, 2.38N×127.12E, h38km±7km, mb5.4/41 Error ellipse: s-maj=6.0km s-min=3.4km az=71.0*
MOS ***31*** *19:51:53.5±1.1, 2.43N×127.12E, h40km, mb5.6/38, MS4.3/7, Error ellipse: s-maj=10.6km s-min=5.3km az=111.5*
IDC ***31*** *19:51:54.3±1.0, 2.38N×127.18E, h54km±7km, mb5.0/24, mb1 5.0/26, mb1mx5.0/26, mbtmp5.0/26, MS4.3/13, Ms1 4.3/13, ms1mx4.1/24, Error ellipse: s-maj=15.5km s-min=6.4km az=74.0*
DJA ***31*** *19:51:56, 2.52N×127.14E, h69km, mb5.6/46*
ISC 31 19:51:53.0±0.2, 2.36N±002×127.21E±003, h43km, h43km±2.5km: pP-P, n400, σ1§12/391, mb5.5/112, MS4.4/37, 48C-35D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNE	**Ternate**		**1.57 174**	⇓P	*e*	P	**Pn**	**19 52 17.0**	**-1.5**
TNE					*e*	S	**Sn**	**19 52 34.0**	**-3.6**
MNI	**Manado**		**2.54 249**	P			**Pn**	**19 52 34.6**	**+2.9**
	0.0nm,0.0s								
MNI	**Manado**		**2.54 249**	⇓P	*e*	P	**Pn**	**19 52 34.5**	**+2.8**
MNI					*e*	S	**Sn**	**19 53 00.0**	**-1.4**
LBMI	**Labuha**		**2.99 174**	P			**Pn**	**19 52 42.1**	**+4.1**
	0.0nm,0.0s								
GSPH	**General Santos**		**4.33 329**	P	*e*	P	**Sn**	**19 53 49.1**	**+3.4**
MATI	**Mati**		**4.65 348**	P	*e*	P	**Pn**	**19 53 02.8**	**+2.0**
DAV	**Davao City (W)**		**4.95 341**	P			**Pn**	**19 53 06.5**	**+1.6**
	72nm,0.3s,baz=224,slow=9.7,SNR=21								
DAV				S			**Sn**	**19 54 02.6**	**+1.6**
	180nm,0.3s,baz=325,slow=22,SNR=3.7								
DAV	**Davao City (W)**		**4.95 341**	P			**Pn**	**19 53 00.7**	**-4.2**
DAV	**Davao City (W)**		**4.95 341**	ePn			**Pn**	**19 53 03.5**	**-1.5**
DAV				P				19 53 06.5	
DAV					*e*	Sn	**Sn**	**19 54 01.4**	**+0.4**
DAV				S			**Sn**	**19 54 02.6**	**+1.6**
SWI	**Sorong**		**5.16 128**	P			**Pn**	**19 53 11.9**	**+4.1**
	0.0nm,0.0s								
CTBH	**Cotabato--PC H**		**5.66 329**	*e*P			**Pn**	**19 53 14.6**	**0.0**
CTBH					*i*	S	**Sn**	**19 54 18.5**	**+0.1**
BUKP	**Musuan**		**5.88 339**	*e*P			**Pn**	**19 53 18.7**	**+0.9**
AAI	**Ambon**		**6.09 171**	P			**Pn**	**19 53 26.2**	**+5.7**
	0.0nm,0.0s								
AAI	**Ambon**		**6.09 171**	⇑P	*e*	P	**Pn**	**19 53 27.0**	**+6.5**
AAI	**Ambon**		**6.09 171**	⇑P	*e*	P	**Pn**	**19 53 27.0**	**+6.5**
PAGZ	**Pagadian**		**6.65 325**	*e*P			**Pn**	**19 53 27.4**	**-0.9**
BUTP	**Butuan**		**6.75 347**	*e*P			**Pn**	**19 53 30.9**	**+1.3**
ZMPH	**Zamboanga City**		**6.86 312**	⇓P	*e*	P	**Pn**	**19 53 30.6**	**-0.6**
IPIL	**Ipil**		**7.10 320**	⇑P	*i*	P	**Pn**	**19 53 34.6**	**+0.1**
IPIL					*i*	S	**Sn**	**19 54 51.2**	**-2.6**
SCPH	**Surigao**		**7.57 347**	⇑P	*e*	P	**Pn**	**19 53 42.9**	**+2.1**
KDI	**Kendari**		**7.77 216**	P			**Pn**	**19 53 46.7**	**+3.0**
	0.0nm,0.0s								
KDI	**Kendari**		**7.77 216**	⇑P	*e*	P	**Pn**	**19 53 44.8**	**+1.1**
KDI	**Kendari**		**7.77 216**	⇑P	*e*	P	**Pn**	**19 53 47.0**	**+3.3**
KDI					*e*	S	**Sn**	**19 55 11.1**	**+0.7**
KDI	**Kendari**		**7.77 216**	⇑P	*e*	P	**Pn**	**19 53 47.0**	**+3.3**
KDI					*e*	S	**Sn**	**19 55 11.1**	**+0.7**
TBP	**Tagbilaran**		**8.01 336**	*e*P			**Pn**	**19 53 46.6**	**-0.3**
PCI	**Palu**		**8.05 246**	P			**Pn**	**19 53 50.9**	**+3.4**
	0.0nm,0.0s								
MSLP	**Maasin**		**8.07 343**	*e*P			**Pn**	**19 53 47.7**	**-0.1**
LLP	**Lapu-Lapu**		**8.54 338**	⇑P	*e*	P	**Pn**	**19 53 55.0**	**+0.8**
OCLP	**Ormoc**		**9.01 343**	*e*P			**Pn**	**19 54 02.9**	**+2.2**
MYLDM	**Lahad Datu**		**9.13 288**	⇑P			**Pn**	**19 54 06.0**	**+3.7**
GUIM	**Jordan**		**9.41 331**	*e*P			**Pn**	**19 54 05.4**	**-0.7**
TSM	**Tawau**		**9.52 282**	⇓P			**Pn**	**19 54 08.8**	**+1.2**
TLE	**Tual**		**9.67 145**	⇓P			**Pn**	**19 54 17.5**	**+7.7**
RCP	**Roxas**		**10.16 334**	⇑P	*e*	P	**Pn**	**19 54 17.0**	**+0.6**
CNP	**Catarman**		**10.39 346**	*e*P			**Pn**	**19 54 22.0**	**+2.4**
CUYO	**Cuyo Island**		**10.44 324**	*e*P			**Pn**	**19 54 20.1**	**-0.1**
KALP	**Kalibo**		**10.44 333**	⇓P	*e*	P	**Pn**	**19 54 25.7**	**+5.4**
KAPI	**Kappang**		**10.45 225**	Pn			**Pn**	**19 54 22.0**	**+1.7**
	373nm,0.5s,SNR=18								
KAPI	**Kappang**		**10.45 225**	P			**Pn**	**19 54 22.2**	**+1.8**
	8.5nm,0.3s,baz=16,slow=6.4,SNR=28								
KAPI				S			**Sn**	**19 56 14.0**	**-2.1**
	5.5nm,0.3s,baz=148,slow=22,SNR=4.3								
SDKM	**Sandakan**		**10.51 288**	⇑P			**Pn**	**19 54 22.5**	**+1.4**
MKS	**Makassar**		**10.79 226**	⇓P	*e*	P	**Pn**	**19 54 28.6**	**+3.6**
MKS					*e*	S	**Sn**	**19 56 24.3**	**-0.2**
KDM	**Kudat**		**11.29 294**	⇓P			**Pn**	**19 54 37.0**	**+5.2**
BATP	**Bataraza**		**11.34 305**	*e*P			**Pn**	**19 54 32.9**	**+0.4**
KKM	**Kota Kinabalu**		**11.56 289**	⇑P			**Pn**	**19 54 38.4**	**+2.8**
PVCP	**Virac**		**11.56 345**	*e*P			**Pn**	**19 54 37.1**	**+1.5**
ENPP	**El Nido**		**11.70 319**	*e*P			**Pn**	**19 54 37.6**	**+0.2**
BUSP	**Coron**		**11.83 324**	*e*P			**Pn**	**19 54 40.4**	**+1.0**
BATI	**Baumata**		**12.97 196**	P			**Pn**	**19 54 58.8**	**+3.9**
	0.0nm,0.0s								
BATI	**Baumata**		**12.97 196**	P			**Pn**	**19 55 02.3**	**+7.4**
	3.9nm,0.3s,baz=240,slow=2.9,SNR=12								
LUBP	**Lubang**		**13.23 329**	*e*P			**Pn**	**19 54 58.8**	**+0.4**
POLP	**Polilio Island**		**13.35 337**	*e*P			**Pn**	**19 55 00.1**	**+0.1**
BBKI	**Banjar Baru**		**13.65 245**	P			**Pn**	**19 55 06.1**	**+2.0**
	0.0nm,0.0s								
WSI	**Waingapu**		**13.79 210**	⇓P	*e*	P	**Pn**	**19 55 12.8**	**+6.8**
PLKI	**Palangkaraya**		**14.02 251**	P			**Pn**	**19 55 10.7**	**+1.5**
	0.0nm,0.0s								
BTM	**Bintulu**		**14.13 274**	⇑P			**Pn**	**19 55 12.5**	**+1.8**
JAY	**Jayapura**		**14.33 110**	P			**Pn**	**19 55 17.6**	**+4.1**
	0.0nm,0.0s								
BALP	**Baler**		**14.41 338**	*e*P			**Pn**	**19 55 13.7**	**-0.7**
SBUM	**Sibu**		**14.98 271**	⇑P			**Pn**	**19 55 23.9**	**+1.9**
PALP	**Palanan**		**15.35 342**	*e*P			**Pn**	**19 55 25.2**	**-1.6**
CAUP	**Cauayan**		**15.43 340**	*e*P			**Pn**	**19 55 25.4**	**-2.5**
KHKI	**Kahang-Kahang**		**15.73 227**	P			**Pn**	**19 55 36.7**	**+5.0**
	0.0nm,0.0s								
KAKA	**Kakadu**		**15.85 161**	⇓*i*P			**Pn**	**19 55 33.7**	**+0.5**
	190nm,0.6s								
STKI	**Sintang**		**15.89 262**	P			**Pn**	**19 55 35.8**	**+2.0**
	190nm,1.0s								
PBKI	**Pangkalan Bun**		**16.33 252**	P			**Pn**	**19 55 39.3**	**-0.1**
	0.0nm,0.0s								
ABRA	**Dolores**		**16.48 338**	*e*P			**Pn**	**19 55 39.4**	**-1.8**
APYP	**Conner**		**16.48 340**	*e*P			**Pn**	**19 55 38.8**	**-2.5**
KSM	**Kuching**		**16.91 267**	⇑P			**Pn**	**19 55 48.6**	**+1.8**
TRT	**Tretes**		**17.64 235**	⇑P	*e*	P	**Pn**	**19 55 54.0**	**-1.8**
KRKI	**Karangkates**		**18.05 234**	P			**Pn**	**19 56 02.1**	**+1.3**
	0.0nm,0.0s								
KRKI	**Karangkates**		**18.05 234**	⇓P	*e*	P	**Pn**	**19 55 57.3**	**-3.5**
SJI	**Sawahan**		**18.38 237**	P			**Pn**	**19 56 04.5**	**-0.3**
	0.0nm,0.0s								
BJII	**Banjamegara**		**19.94 241**	P			**Pn**	**19 56 21.9**	**-1.6**
	0.0nm,0.0s								
TPI	**Tanjungpandan**		**20.20 256**	P			**P**	**19 56 24.3**	**-0.1**
	0.0nm,0.0s								
TPI	**Tanjungpandan**		**20.20 256**	⇑P	*e*	P	**P**	**19 56 24.0**	**-0.4**
FITZ	**Fitzroy Crossi**		**20.39 184**	⇑P	*i*	P	**P**	**19 56 25.9**	**-0.4**
	132nm,0.6s								
FITZ				S	*e*	S	**S**	**20 00 06.1**	**-6.4**
FITZ	**Fitzroy Crossi**		**20.39 184**	P			**P**	**19 56 26.6**	**+0.3**
	64nm,0.6s,baz=20,slow=10,SNR=217								
GUMO	**Guam**		**20.72 56**	LR			LR	20 04 41.0	
	comp=Z,249nm,18.7s,MS3.6,baz=235,slow=37								
GUMO	**Guam**		**20.72 56**	*e*P			**P**	**19 56 31.2**	**+1.2**
GUMO					pmax		pmax		
	comp=Z,310nm,1.3s								
GUMO	**Guam**		**20.72 56**	*e*P			**P**	**19 56 30.1**	**+0.1**
	comp=Z,305nm,1.3s								
PPBI	**Pangkal Pinang**		**21.54 258**	P			**P**	**19 56 39.9**	**+1.1**
	comp=Z,0.0nm,0.0s								
LEM	**Lembang**		**21.58 245**	P			**P**	**19 56 39.3**	**0.0**
	comp=Z,0.0nm,0.0s								
CBJI	**Citeko**		**22.12 247**	P			**P**	**19 56 44.6**	**-0.4**
	comp=Z,0.0nm,0.0s								
DBJI	**Dramaga**		**22.26 246**	P			**P**	**19 56 45.8**	**-0.7**
	comp=Z,0.0nm,0.0s								
SKJI	**Sukabumi**		**22.61 246**	P			**P**	**19 56 52.0**	**+1.7**
	comp=Z,0.0nm,0.0s								
SBJI	**Serang**		**22.67 248**	P			**P**	**19 56 53.3**	**+2.4**
	comp=Z,0.0nm,0.0s								
PMG	**Port Moresby**		**23.06 121**	*e*P			**P**	**19 56 56.0**	**+1.0**
PMG					pmax		pmax		
	comp=Z,129nm,1.3s								
PMG	**Port Moresby**		**23.06 121**	*e*P			**P**	**19 56 56.0**	**+1.0**
	comp=Z,129nm,1.3s,mb5.2								
TATO	**Taipei**		**23.15 347**	*e*P			**P**	**19 56 54.2**	**-1.6**
	comp=Z,107nm,1.0s,mb5.2								
WRAB	**Tennant Creek**		**23.24 163**	P			**P**	**19 56 56.0**	**-0.7**
	comp=Z,2μm,0.6s								
WRAB	**Tennant Creek**		**23.24 163**	*c i*P			**P**	**19 56 56.2**	**-0.5**
WRA	**Warramunga Arr**		**23.24 163**	P			**P**	**19 56 56.3**	**-0.5**
	comp=Z,197nm,0.6s,mb5.7,baz=343,slow=10,SNR=409								
WRA				PcP			PcP	20 00 43.5	-0.1
	comp=Z,4.5nm,0.5s,baz=334,slow=2.2,SNR=4.8								
WRA				S			**S**	**20 01 05.3**	**-0.4**
	comp=Z,14nm,1.0s,baz=341,slow=13,SNR=4.7								
WRA				ScP			ScP	20 04 17.2	-1.1
	comp=Z,2.7nm,0.6s,baz=339,slow=3.0,SNR=6.0								
WRA				ScS			ScS	20 08 01.8	-2.9
	comp=Z,1.2nm,0.9s,baz=341,slow=5.6,SNR=5.7								
WRA	**Warramunga Arr**		**23.24 163**	P			**P**	**19 56 56.3**	**-0.5**
WRA								20 00 43.5	
WRA				S			**S**	**20 01 05.3**	**-0.4**
WRA								20 08 01.8	
WB2	**Warramunga Arr**		**23.25 163**	⇑*i*P			**P**	**19 56 56.1**	**-0.7**
WB2					*e*P			19 57 05.6	
WB2				*e*S			**S**	**20 00 59.7**	**-6.0**
WB2				*e*SCS			ScS	20 08 00.4	-4.3
MYKOM	**Kota Tinggi**		**23.35 269**	⇑P			**P**	**19 56 58.0**	**0.0**
KLI	**Kotabumi**		**23.46 252**	P			**P**	**19 56 58.7**	**-0.3**
	comp=Z,0.0nm,0.0s								
QIZ	**Qiongzhong**		**23.74 315**	P			**P**	**19 56 59.3**	**-2.2**
QIZ				XP			sP	19 57 13.5	-4.7
QIZ				S			**S**	**20 01 15.5**	**+1.7**
QIZ				XS			sS	20 01 28.3	-4.8
QIZ				AMB			AMB		
	comp=Z,106nm,1.4s,mb5.1								
QIZ				AMB			AMB		
	comp=Z,634nm,3.3s								
QIZ				LR			LR		
	comp=N,581nm,19.8s								
QIZ				LR			LR		
	comp=Z,872nm,23.3s,MS4.2								
QIZ	**Qiongzhong**		**23.74 315**	*e*P			**P**	**19 57 00.0**	**-1.5**
	comp=Z,178nm,1.4s,mb5.3								
KGM	**Kluang**		**23.88 270**	⇑P			**P**	**19 57 02.7**	**-0.1**
QZH	**Quanzhou**		**23.94 340**	P			**P**	**19 57 01.5**	**-1.8**
QZH				S			**S**	**20 01 14.5**	**-2.5**
QZH				AMB			AMB		
	comp=Z,180nm,0.9s,mb5.5								
QZH				AMB			AMB		
	comp=Z,560nm,4.0s								
QZH				LR			LR		
	comp=Z,3μm,28.4s,MS4.6								
KTGM	**Kuala Trenggan**		**24.20 278**	⇑P			**P**	**19 57 05.6**	**-0.2**
JOW	**Kunigami**		**24.35 2**	P			**P**	**19 57 07.7**	**+0.6**
	comp=Z,181nm,1.1s,mb5.4,baz=186,slow=8.1,SNR=52								
MBWA	**Marble Bar**		**24.49 197**	⇓P			**P**	**19 57 08.8**	**+0.5**
	SNR=15								
MBWA	**Marble Bar**		**24.49 197**	*e*P			**P**	**19 57 08.5**	**+0.1**
	comp=Z,172nm,1.0s,mb5.4								
FRIM	**Kepong**		**25.57 273**	⇑P			**P**	**19 57 17.8**	**-0.5**
IPM	**Ipoh**		**26.22 275**	⇑P			**P**	**19 57 23.3**	**-0.8**
ASAR	**Alice Springs**		**26.68 166**	P			**P**	**19 57 27.7**	**-0.4**
	comp=Z,44nm,0.5s,mb5.2,baz=349,slow=7.6,SNR=1313								
ASAR				PcP			PcP	20 00 51.5	+0.3
	comp=Z,15nm,0.6s,baz=345,slow=2.5,SNR=10								
ASAR				S			**S**	**20 02 00.8**	**+0.3**
	comp=Z,6.1nm,0.8s,baz=347,slow=19,SNR=4.8								
ASAR				ScP			ScP	20 04 26.6	-1.3
	comp=Z,5.6nm,0.6s,baz=345,slow=2.7,SNR=12								
ASAR				ScS			ScS	20 08 14.9	-3.7
	comp=Z,0.7nm,0.7s,baz=15,slow=3.8,SNR=5.4								
ASAR	**Alice Springs**		**26.68 166**	P			**P**	**19 57 27.7**	**-0.4**
ASAR								20 00 51.5	
ASAR				S			**S**	**20 02 00.9**	**+0.4**
ASAR								20 08 15.0	
PPI	**Padang Panjang**		**26.95 264**	P			**P**	**19 57 30.2**	**-0.5**
	comp=Z,0.0nm,0.0s								
PSI	**Prapat**		**28.26 272**	⇓P	*e*	P	**P**	**19 57 40.8**	**-1.7**
SBSI	**Sibolga**		**28.31 269**	P			**P**	**19 57 44.5**	**+1.6**
	comp=Z,0.0nm,0.0s								
CBIJ	**Chichi jima**		**28.48 29**	P			**P**	**19 57 43.3**	**-0.9**
	comp=Z,25nm,0.4s,mb5.2,baz=170,slow=12,SNR=7.0								
CBIJ				LR			LR	20 07 04.6	
	comp=Z,690nm,21.1s,MS4.2,baz=243,slow=32								
CTA	**Charters Tower**		**29.10 141**	*e*P			**P**	**19 57 50.8**	**+1.0**
	comp=Z,13nm,0.8s,mb4.7								
CTA	**Charters Tower**		**29.10 141**	P			**P**	**19 57 50.7**	**+0.8**
	comp=Z,11nm,0.7s,mb4.7,baz=314,slow=12,SNR=7.9								
CTA				LR			LR	20 11 11.2	
	comp=Z,2μm,19.0s,MS4.8,baz=318,slow=40								
CTA	**Charters Tower**		**29.10 141**	*e*P			**P**	**19 57 50.8**	**+1.0**
CTA				pmax			pmax		
	comp=Z,13nm,0.8s								
CTAO	**Charters Tower**		**29.10 141**	*e*P			**P**	**19 57 50.9**	**+1.1**
SSE	**Sheshan**		**29.14 349**	P			**P**	**19 57 51.0**	**+0.9**
SSE				AP			pP	19 58 01.5	-0.2
SSE				S			**S**	**20 02 40.3**	**+1.0**
SSE				XS			sS	20 02 59.0	+0.2
SSE				AMB			AMB		
	comp=Z,63nm,0.9s,mb5.3								
SSE				AMB			AMB		
	comp=Z,238nm,6.9s								
SSE				LR			LR		
	comp=N,166nm,19.9s,MS4.0								
SSE				LR			LR		
	comp=E,336nm,19.9s,MS4.0								
SSE				LR			LR		
	comp=Z,478nm,19.4s,MS4.1								
WHN	**Wuhan**		**30.56 338**	P			**P**	**19 58 02.5**	**-0.1**
WHN				XP			sP	19 58 23.5	+4.0
WHN				S			**S**	**20 03 02.0**	**+0.4**
WHN				XS			sS	20 03 18.0	-3.2
WHN				AMB			AMB		
	comp=Z,215nm,1.7s,mb5.7								
WHN				AMB			AMB		
	comp=Z,334nm,4.6s								
WHN				LR			LR		
	comp=N,4μm,26.9s,MS5.0								
WHN				LR			LR		
	comp=E,3μm,27.5s,MS5.0								
WHN				LR			LR		
	comp=Z,5μm,30.5s,MS5.0								
NJ2	**Nanjing**		**30.57 346**	*e*P			**P**	**19 58 03.8**	**+1.2**
NJ2				AP			pP	19 58 14.3	0.0
NJ2				XP			sP	19 58 16.8	-2.7
NJ2				PP			PP	19 59 02.3

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CD2                                   AMB     AMB
      comp=Z,80nm,0.8s,mb5.7
CD2                                   AMB     AMB
      comp=Z,160nm,6.0s
CD2                                   LR      LR
      comp=N,490nm,27.4s,MS4.4
CD2                                   LR      LR
      comp=E,670nm,26.4s,MS4.4
CD2                                   LR      LR
      comp=Z,490nm,20.5s
NWAO  Narrogin (SRO)      36.34 194   P       P       19 58 53.3 +0.4
      comp=Z,54nm,0.6s,mb5.7,baz=24,slow=8.6,SNR=57
NWAO  Narrogin (SRO)      36.34 194   eP      P       19 58 53.3 +0.4
NWAO                                  pmax    pmax
      comp=Z,46nm,0.6s
NWAO  Narrogin (SRO)      36.34 194   eP      P       19 58 52.9  0.0
      comp=Z,46nm,0.6s,mb5.6
STKA  Stephens Creek      36.69 159   eP      P       19 58 55.6 -0.2
      comp=Z,40nm,0.6s,mb5.4
STKA                                  ePP     PP      20 00 19.3 -0.8
STKA                                  eS      S       20 04 34.5 -1.8
STKA  Stephens Creek      36.69 159   P       P       19 58 55.9 +0.1
      comp=Z,50nm,0.6s,mb5.5,baz=332,slow=8.5,SNR=184
STKA                                  LR      LR      20 15 11.7
      comp=Z,541nm,21.9s,MS4.3,baz=331,slow=38
DL2   Dalian              36.73 353   i P     P       19 58 57.0 +0.9
DL2                                   S       S       20 04 37.0 +0.2
DL2                                   AMB     AMB
      comp=Z,110nm,0.6s,mb5.9
DL2                                   AMB     AMB
      comp=Z,100nm,5.2s
DL2                                   LR      LR
      comp=N,170nm,16.0s,MS4.0
DL2                                   LR      LR
      comp=E,150nm,16.8s,MS4.0
DL2                                   LR      LR
      comp=Z,220nm,17.4s,MS4.0
TIY   Taiyuan             37.71 341   P       P       19 59 02.8 -1.7
TIY                                   S       S       20 04 53.3 +1.5
TIY                                   PCS     PcS     20 05 05.8 -3.8
TIY                                   LR      LR
      comp=Z,1µm,29.9s,MS4.6
BJT   Baijiatuau          38.80 346   eP      P       19 59 14.0 +0.4
BJT                                   pmax    pmax
      comp=Z,242nm,1.0s
BJT   Baijiatuau          38.80 346   eP      P       19 59 14.0 +0.4
      comp=Z,242nm,1.0s,mb5.9
BJI   Beijing             38.82 346   P       P       19 59 14.3 +0.5
BJI                                   XP      sP      19 59 29.5 -1.3
BJI                                   S       S       20 05 08.0 -0.5
BJI                                   AMB     AMB
      comp=Z,203nm,1.1s,mb5.8
BJI                                   LR      LR
      comp=N,198nm,31.8s,MS4.0
BJI                                   LR      LR
      comp=E,294nm,29.0s,MS4.0
BJI                                   LR      LR
      comp=Z,536nm,27.6s,MS4.2
SNY   Shenyang            39.43 356 ⇓P          P       19 59 19.0 +0.2
SNY                                   S       S       20 05 18.0 +0.4
SNY                                   AMB     AMB
      comp=Z,111nm,0.8s,mb5.6
SNY                                   LR      LR
      comp=E,443nm,19.2s
SNY                                   LR      LR
      comp=Z,401nm,34.1s
LZH   Lanzhou             39.92 330 ⇑P          P       19 59 23.0  0.0
LZH                                   AP      pP      19 59 33.3 -1.6
LZH                                   XP      sP      19 59 37.3 -2.8
LZH                                   PP      PP      20 00 57.0 +1.6
LZH                                   eS      S       20 05 28.0 +2.9
LZH                                   AMB     AMB
      comp=Z,133nm,1.8s,mb5.4
LZH                                   AMB     AMB
      comp=Z,340nm,4.1s
LZH                                   LR      LR
      comp=E,515nm,15.3s
LZH                                   LR      LR
      comp=Z,720nm,16.0s,MS4.6
ARMA  Armidale            40.07 146   eP      P       19 59 24.8 +0.5
VLA   Vladivostok         40.80   5   eP      P       19 59 30.2 +0.1
VLA                                   e*PP    pP      19 59 44.5 +2.4
VLA                                   e*SP    sP      19 59 50.6 +3.3
VLA                                   i S     S       20 05 38.2 +0.2
VLA                                   pmax    pmax
      comp=Z,54nm,1.6s,mb4.9
VLA   Vladivostok         40.80   5⇑i P     P       19 59 30.6 +0.5
HHC   Hu-ho-hao-te        40.84 342   eP      P       19 59 31.5 +1.0
HHC                                   AP      pP      19 59 42.0 -0.5
HHC                                   XP      sP      19 59 45.5 -2.1
HHC                                   PP      PP      20 01 10.0 +4.6
HHC                                   S       S       20 05 38.8 +0.1
HHC                                   SS      SS      20 08 35.0 -6.3
HHC                                   SCS     ScS     20 09 32.0  0.0
HHC                                   AMB     AMB
      comp=Z,48nm,1.7s,mb4.8
HHC                                   AMB     AMB
      comp=Z,498nm,5.4s
HHC                                   LR      LR
      comp=N,460nm,26.2s,MS4.3
HHC                                   LR      LR
      comp=E,353nm,23.8s,MS4.3
HHC                                   LR      LR
      comp=Z,1µm,25.0s,MS4.6
BTO   Baotou              41.12 340   eP      P       19 59 30.5 -2.4
CN2   Changchun           41.29 358   eP      P       19 59 34.0 -0.2
CN2                                   PCP     PcP     20 01 34.0 +1.8
CN2                                   eS      S       20 05 48.3 +2.9
CN2                                   SS      SS      20 08 47.5 -2.7
CN2                                   AMB     AMB
      comp=Z,10.0nm,1.3s,mb4.3
CN2                                   AMB     AMB
      comp=Z,200nm,4.0s
CN2                                   LR      LR
      comp=N,200nm,23.0s,MS4.2
CN2                                   LR      LR
      comp=E,300nm,23.0s,MS4.2
CN2                                   LR      LR
      comp=Z,300nm,24.0s,MS4.1
MDJ   Mudanjiang          42.13   3   P       P       19 59 41.3 +0.2
MDJ                                   AP      pP      19 59 52.5 -0.6
MDJ                                   XP      sP      19 59 56.5 -1.7
MDJ                                   PP      PP      20 01 22.0 +2.7
MDJ                                   PCP     PcP     20 01 36.8 +1.8
MDJ                                   PCS     PcS     20 05 28.8 +2.2
MDJ                                   S       S       20 06 03.0 +5.2
MDJ                                   XS      sS      20 06 18.3 +0.5
MDJ                                   AMB     AMB
      comp=Z,47nm,1.2s,mb5.0
MDJ                                   AMB     AMB
      comp=Z,109nm,5.3s
MDJ                                   LR      LR
      comp=N,281nm,33.6s
MDJ                                   LR      LR
      comp=E,198nm,24.5s
MDJ                                   LR      LR
      comp=Z,366nm,25.2s
MDJ   Mudanjiang          42.13   3   eP      P       19 59 41.1 +0.1
      comp=Z,54nm,1.0s,mb5.1
CNB   Canberra Magne      42.84 153   eP      P       19 59 48.9 +2.0
TOO   Toolangi            43.20 159   eP      P       19 59 50.8 +1.0
LSA   Lhasa               43.70 312   P       P       19 59 54.5 +0.5
LSA   Lhasa               43.70 312   eP      P       19 59 54.4 +0.4
LSA                                   pmax    pmax
      comp=Z,82nm,0.6s,mb5.6
LSA   Lhasa               43.70 312   eP      P       19 59 54.4 +0.3
      comp=Z,82nm,0.6s,mb5.6
ASAJ  Asahikawa           43.76  16   LR      LR      20 16 22.0
      comp=Z,572nm,21.6s,MS4.5,baz=216,slow=34
GTA   Gaotai              44.51 329   P       P       20 00 00.3 -0.1
GTA                                   AP      pP      20 00 09.5 -2.9
GTA                                   XP      sP      20 00 13.8 -3.8
GTA                                   PP      PP      20 01 44.3 -0.6
GTA                                   S       S       20 06 30.8 -2.0
GTA                                   SS      SS      20 09 40.5  -13
GTA                                   SCS     ScS     20 09 52.8 -2.0
GTA                                   AMB     AMB
      comp=Z,28nm,1.6s,mb4.8
GTA                                   AMB     AMB
      comp=Z,133nm,6.6s
GTA                                   LR      LR
      comp=N,468nm,27.0s,MS4.4
GTA                                   LR      LR
      comp=E,315nm,24.3s,MS4.4
GTA                                   LR      LR
      comp=Z,983nm,27.6s,MS4.6
TAPN  Taplejung           45.21 307   eP      P       20 00 05.7 -0.5
      comp=Z,247nm,0.9s,mb6.0
ODAN  Odare               45.26 306   eP      P       20 00 05.8 -0.7
      comp=Z,373nm,0.7s,mb6.3
RAMN  Ramite              45.93 306   eP      P       20 00 11.5 -0.3
      comp=Z,386nm,0.7s,mb6.4
YSS   Yuzh-Sakhalins      46.43  15   eP      P       20 00 15.0 -0.4
YSS                                   e*SP    sP      20 00 35.0 +2.3
YSS                                   ePPP            20 02 45.0
YSS                                   eS      S       20 07 10.0 +10
YSS                                   pmax    pmax
      comp=Z,40nm,1.1s,mb5.3
YSS   Yuzh-Sakhalins      46.43  15   eP      P       20 00 15.2 -0.3
      comp=Z,19nm,0.6s,mb5.2
JIRN  Jiri                46.56 307   eP      P       20 00 16.4 -0.4
      comp=Z,347nm,0.7s,mb6.4
KLR   Kul'dur             46.86   4   eP      P       20 00 13.8 -4.9
KLR                                   eS      S       20 06 55.0 -11
KLR                                   pmax    pmax
      comp=Z,59nm,1.6s,mb5.3
GUN   Gumba               46.92 307   eP      P       20 00 19.1 -0.5
      comp=Z,509nm,0.7s
PKI   Pulchoki            47.15 306   eP      P       20 00 20.5 -0.9
      comp=Z,117nm,0.7s,mb5.9
PKI   Pulchoki            47.15 306   eP      P       20 00 20.5 -0.9
PKI                                   pmax    pmax
      comp=Z,117nm,0.7s,mb5.9
PKIN  Phulchoki           47.16 306   eP      P       20 00 20.3 -1.2
      comp=Z,74nm,0.6s,mb5.8
HIA   Hailar              47.17 353   eP      P       20 00 21.2 +0.1
HIA                                   pmax    pmax
      comp=Z,67nm,1.1s
HIA   Hailar              47.17 353   eP      P       20 00 21.2 +0.1
      comp=Z,66nm,1.1s,mb5.5
KKN   Kakani              47.35 306   eP      P       20 00 22.0 -0.9
      comp=Z,196nm,0.7s,mb6.2
KKN   Kakani              47.35 306   eP      P       20 00 22.0 -0.9
KKN                                   pmax    pmax
      comp=Z,196nm,0.7s,mb6.2
DMN   Daman               47.41 306   eP      P       20 00 22.6 -0.8
      comp=Z,246nm,0.8s,mb6.2
GKN   Gorkha              47.95 306   eP      P       20 00 27.0 -0.6
      comp=Z,38nm,1.0s,mb5.4
ULN   Ulaanbaatar         48.56 342   P       P       20 00 33.2 +1.3
      SNR=96
ULN   Ulaanbaatar         48.56 342   eP      P       20 00 32.9 +0.9
ULN                                   eScP    ScP     20 05 47.6 -1.1
KOLN  Koldanda            48.70 306   eP      P       20 00 33.0 -0.4
      comp=Z,407nm,0.7s
SONM  Songino Array       48.74 341   P       P       20 00 34.1 +0.8
      comp=Z,36nm,0.7s,mb5.5,baz=155,slow=8.5,SNR=262
SONM                                  ScP     ScP     20 05 48.1 -1.4
      comp=Z,2.3nm,1.1s,baz=163,slow=1.5,SNR=3.8
SONM                                  LR      LR      20 21 50.6
      comp=Z,353nm,19.8s,MS4.3,baz=149,slow=37
DANN  Dangsing            48.80 306   eP      P       20 00 33.6 -0.6
      comp=Z,535nm,0.6s
HYB   Hyderabad           50.03 291   i P     P       20 00 43.0 -0.7
HYB   Hyderabad           50.03 291   eP      P       20 00 42.5 -1.2
CIT   Chita               50.79 349   eP      P       20 00 50.1 +1.3
CIT                                   pmax    pmax
      comp=Z,187nm,1.5s,mb5.8
ZAK   Zakamensk           51.97 341⇑i P         P       20 00 57.9 +0.2
ZAK                                   pmax    pmax
      comp=Z,31nm,1.4s,mb5.0
TLY   Talaya              52.97 342   P       P       20 01 06.4 +1.3
      comp=Z,208nm,0.7s,mb6.2,SNR=14
TLY   Talaya              52.97 342   P       P       20 01 06.6 +1.5
      SNR=25
TLY   Talaya              52.97 342   eP      P       20 01 06.0 +0.9
TLY                                   e       e       20 03 11.1
TLY                                   eS      S       20 08 33.0 +1.6
TLY                                   pmax    pmax
      comp=Z,109nm,1.9s,mb5.5
TLY                                   MLR     MLR
      comp=Z,430nm,23.0s,MS4.4
TLY   Talaya              52.97 342   i P     P       20 01 06.2 +1.1
JOSI  Joshimath           53.04 307   eP      P       20 01 05.4 -0.5
JOSI                                  eS      sP      20 01 28.9 +5.5
JOSI                                  AML     AML     20 01 36.2
      comp=N,110nm,0.5s
JOSI                                  AML     AML     20 01 36.5
      comp=E,102nm,0.6s
IRK   Irkutsk             53.27 343⇓i P         P       20 01 07.6 +0.3
IRK                                   e               20 01 24.9
IRK                                   pmax    pmax
      comp=Z,169nm,1.9s,mb5.7
MOY   Mondy               53.82 340   eP      P       20 01 12.7 +1.4
MOY                                   pmax    pmax
      comp=Z,298nm,2.1s,mb5.8
WMQ   Urumqi              54.11 325   P       P       20 01 15.0 +1.4
WMQ                                   AP      pP      20 01 25.3 -0.7
WMQ                                   XP      sP      20 01 29.0 -2.0
WMQ                                   PCP     PcP     20 02 20.0 +2.0
WMQ                                   PP      PP      20 03 18.0 +2.4
WMQ                                   S       S       20 08 47.0 -0.2
WMQ                                   SCS     ScS     20 10 58.3 -1.1
WMQ                                   SS      SS      20 12 28.0 -1.4
WMQ                                   AMB     AMB
      comp=Z,42nm,1.0s,mb5.3
WMQ                                   AMB     AMB
      comp=Z,89nm,8.6s
WMQ                                   LR      LR
      comp=N,555nm,24.8s,MS4.7
WMQ                                   LR      LR
      comp=E,723nm,26.0s,MS4.7
WMQ                                   LR      LR
      comp=Z,799nm,26.4s,MS4.7
DDI   Dehra Dun           54.15 306   eP      P       20 01 11.0 -3.2
DDI                                   eS      pP      20 01 26.0 -0.5
SONA  Sohna               54.24 303   eP      P       20 01 12.9 -2.0
SONA                                  eS      sP      20 01 34.0 +1.8
SONA                                  AML     AML     20 01 34.6
      comp=N,9.4nm,0.5s
SONA                                  AML     AML     20 01 41.2
      comp=E,13nm,0.6s
NDI   New Delhi           54.27 304   ex      P       20 01 13.0 -2.1
AYAN  Aya Nagar           54.28 304   eP      P       20 01 11.3 -3.8
AYAN                                  eS      pP      20 01 29.2 +1.7
AYAN                                  AML     AML     20 01 42.2
      comp=Z,7.3nm,0.2s
CLNS  Chul'man            54.35 358   eP      P       20 01 14.2 -0.9
CLNS                                  pmax    pmax
      comp=Z,27nm,1.1s,mb5.1
CLNS                                  pmax    pmax
      comp=N,18nm,1.3s
CLNS                                  pmax    pmax
      comp=E,14nm,1.0s
KLP   Kalpa               54.45 308   eP      P       20 01 15.7 -0.6
KLP                                   eS      sP      20 01 40.6 +6.9
KLP                                   AML     AML     20 01 50.4
      comp=N,68nm,0.8s
KLP                                   AML     AML     20 01 51.1
      comp=E,54nm,0.7s
KUDL  Kundal              54.70 303   eP      P       20 01 16.1 -2.1
KUDL                                  eS      sP      20 01 38.0 +2.4
KUDL                                  AML     AML     20 01 45.6
      comp=N,11nm,0.5s
SMLA  Simla               55.16 307   i P     P       20 01 20.9 -0.5
SMLA                                  eS      x       20 01 28.1
SMLA                                  AML     AML     20 01 56.5
      comp=N,23nm,0.7s
SMLA                                  AML     AML     20 01 59.1
      comp=E,35nm,0.5s
BOD   Bodaibo             56.28 352⇑i P         P       20 01 29.1 +0.1
BOD                                   pmax    pmax
      comp=Z,35nm,1.2s,mb5.3
PETK  Petropavlovsk-      56.52  22   P       P       20 01 31.3 +0.6
      comp=Z,12nm,0.7s,mb5.0,baz=186,slow=3.5,SNR=12
PETK                                  LR      LR      20 26 42.3
      comp=Z,98nm,19.4s,MS3.9,baz=116,slow=37
DLH   Dalhousie           56.62 308   ex      P       20 01 30.0 -1.9
THN   Thein Dam           56.78 308   eP      P       20 01 31.0 -2.0
PET   Petropavlovsk       56.80  22   eP      P       20 01 33.3 +0.5
PET                                   e*SP    sP      20 01 56.2 +6.0
PET                                   e               20 02 27.2
PET                                   e               20 03 42.4
PET                                   i S     S       20 09 22.8  0.0
PET                                   e               20 11 17.2
PET                                   pmax    pmax
      comp=Z,21nm,0.8s,mb5.2
PET                                   MLR     MLR
      comp=Z,200nm,26.0s,MS4.1
PET   Petropavlovsk       56.80  22   eP      P       20 01 33.2 +0.4
      comp=Z,63nm,1.2s,mb5.5
MK31  Makanchi Array      58.95 326   P       P       20 01 47.8 -0.1
MK31                                  pmax    pmax
      comp=Z,17nm,0.4s,mb5.4
MK31  Makanchi Array      58.95 326   i P     P       20 01 47.8 -0.1
MKAR  Makanchi Array      58.95 326   P       P       20 01 47.9  0.0
      comp=Z,25nm,0.5s,mb5.5,baz=126,slow=8.7,SNR=407
MKAR                                  ScP     ScP     20 06 32.4 -1.6
      comp=Z,1.2nm,0.7s,baz=128,slow=5.9,SNR=3.3
MKAR                                  S       S       20 09 53.1 +2.0
      comp=Z,1.7nm,1.1s,baz=141,slow=12,SNR=3.9
MKAR                                  LR      LR      20 29 31.1
      comp=Z,238nm,21.8s,MS4.3,baz=118,slow=38
MKAR  Makanchi Array      58.95 326   P       P       20 01 47.9  0.0
MKAR                                  S       S       20 09 53.1 +2.0
KSH   Kashi               59.35 315   P       P       20 01 52.5 +1.6
KSH                                   PCP     PcP     20 02 42.0 +3.5
KSH                                   PP      PP      20 04 03.8 +1.5
KSH                                   PCS     PcS     20 06 42.0 +1.5
KSH                                   S       S       20 09 53.0 -3.5
KSH                                   SS      SS      20 13 48.3 -3.7
KSH                                   AMB     AMB
      comp=Z,54nm,0.3s,mb6.1
KSH                                   AMB     AMB
      comp=Z,714nm,3.5s
KSH                                   LR      LR
      comp=N,391nm,4.9s
KSH                                   LR      LR
      comp=E,416nm,5.8s
KSH                                   LR      LR
      comp=Z,891nm,18.4s,MS4.9
YAK   Yakutsk             59.56   1d i P     P       20 01 51.8 -0.1
YAK                                   pmax    pmax
      comp=Z,63nm,0.8s,mb5.7
YAK   Yakutsk             59.56   1 eP      P       20 01 51.9  0.0
KRAR  Krasnoyarsk         60.19 339   eP      P       20 01 56.3  0.0
KRAR                                  pmax    pmax
      comp=Z,90nm,0.4s,mb6.2
KZA   Kyzart              60.94 318   P       P       20 02 03.3 +1.5
      SNR=5.1
TKM2  Tokmak 2            61.08 319   P       P       20 02 02.9 +0.2
      SNR=34
KBK   Karagaybulak        61.40 318   P       P       20 02 05.4 +0.6
      SNR=12
UCH   Uchtor              61.50 318   P       P       20 02 06.6 +1.1
      SNR=46
CHMS  Chumysh             61.67 319   P       P       20 02 06.4 -0.3
      SNR=10
AAK   Ala-Archa           61.69 318   P       P       20 02 07.6 +0.9
      SNR=6.8
FRU   Bishkek             61.69 318⇓i P         P       20 02 06.0 -0.8
FRU                                   i               20 02 30.0
FRU                                   pmax    pmax
      comp=Z,40nm,2.0s,mb5.2
USP   Ospenovka           61.96 319   P       P       20 02 08.6  0.0
      SNR=23
AML   Almayashu           62.01 317   P       P       20 02 09.9 +0.9
      SNR=42
ZALV  Zalesovo Beam       62.02 333   P       P       20 02 08.3 -0.5
      comp=Z,33nm,0.6s,mb5.7,baz=129,slow=6.7,SNR=149
ZALV                                  S       S       20 10 26.9 -3.2
      comp=Z,1.9nm,1.0s,baz=149,slow=6.9,SNR=4.6
ZALV                                  PKP2bc          20 31 23.8
      comp=Z,0.3nm,0.3s,baz=258,slow=4.4,SNR=5.1
ZALV                                  LR      LR      20 33 35.5
      comp=Z,81nm,19.1s,MS3.9,baz=134,slow=40
ZALV  Zalesovo Beam       62.02 333   P       P       20 02 08.3 -0.5
ZALV                                  S       S       20 10 26.9 -3.2
ZALV                                  ⇑e              20 31 23.8
ZALV                                  LR      LR      20 33 35.5
ZAL   Zalesovo            62.02 333   P       P       20 02 08.3 -0.5
ZAL                                   S       S       20 10 26.9 -3.2
EKS2  Erkin-Say           62.18 318   P       P       20 02 10.7 +0.6
      SNR=28
KURK  Kurchatov           63.15 328   P       P       20 02 16.6 +0.3
      comp=Z,1µm,0.7s
KURK  Kurchatov           63.15 328   P       P       20 02 16.7 +0.4
      SNR=92
KURK  Kurchatov           63.15 328   P       P       20 02 16.3  0.0
      comp=Z,96nm,0.8s,mb6.0,baz=129,slow=6.2,SNR=598
KURK  Kurchatov           63.15 328   P       P       20 02 16.3  0.0
KURK                                  pmax    pmax
      comp=Z,163nm,0.8s,mb6.2
SEY   Seymchan            63.25  13c i P     P       20 02 17.3 +0.5
NVS   Novosibirsk         63.30 333⇓i P         P       20 02 16.6 -0.7
NVS                                   e               20 02 37.9
NVS                                   i S     S       20 10 43.0 -3.2
NVS                                   ePS             20 11 17.3
NVS                                   eSS     SS      20 14 44.7 -8.6
NVS                                   pmax    pmax
      comp=N,124nm,1.4s
NVS                                   pmax    pmax
      comp=E,95nm,1.4s
NVS                                   pmax    pmax
      comp=Z,160nm,1.4s,mb6.0
NVS                                   smax
      comp=N,51nm,1.9s
NVS                                   smax
      comp=E,64nm,1.7s
VOSK  Vostochnaya         68.27 327   P       P       20 02 48.9 -0.4
VOSK                                  pmax    pmax
      comp=Z,103nm,0.5s,mb6.1
BVA0  Borovoye Array      68.72 327   i P     P       20 02 52.0 -0.2
BVA0                                  pmax    pmax
      comp=Z,75nm,1.6s,mb5.4
BVAR  Borovoye Array      68.72 327   P       P       20 02 52.4 +0.2
      comp=Z,58nm,0.7s,mb5.6,baz=139,slow=8.7,SNR=284
BVAR                                  S       S       20 11 50.0 -2.3
      comp=Z,1.6nm,1.0s,baz=118,slow=16,SNR=6.2
BRVK  Borovoye            68.79 327   P       P       20 02 52.4 -0.2
      comp=Z,914nm,0.5s,SNR=76
BRVK  Borovoye            68.79 327   P       P       20 02 53.2 +0.6
      SNR=89
BRVK  Borovoye            68.79 327   i P     P       20 02 52.5 -0.1
TIXI  Tiksi               69.20   1   eP      P       20 02 54.3 -0.5
TIXI                                  eS      S       20 11 51.9 -5.3
TIXI                                  pmax    pmax
      comp=Z,11nm,0.4s,mb5.1
TIXI  Tiksi               69.20   1   eP      P       20 02 53.8 -1.0
      comp=Z,18nm,0.5s,mb5.3
CASY  Casey               69.52 187   eP      P       20 02 57.4 +0.5
      comp=Z,34nm,0.8s,mb5.3
BIDO  Bidbid              69.90 294   P       P       20 02 59.5 -0.5
      SNR=8.1
ABKT  Ailbek              72.12 309   P       P       20 03 12.7 -0.6
      comp=Z,288nm,0.7s,mb6.3,SNR=30
MIR   Mirnyy              72.95 194⇑i P         P       20 03 19.0 +1.5
MIR                                   i               20 03 40.0
MIR                                   pmax    pmax
      comp=Z,200nm,1.0s,mb6.0
AB31  Akbulak array       73.51 321   i P     P       20 03 20.5 -0.7
AKUT  Akutan              74.77  34   eP      P       20 03 27.9 -0.6
AKTK  Aktyubinsk          75.02 322   P       P       20 03 30.2 +0.2
AKTK                                  S       S       20 13 03.7 -1.1
AKTO  Aktyubinsk          75.02 322   P       P       20 03 30.2 +0.2
      comp=Z,21nm,0.6s,mb5.2,baz=106,slow=7.4,SNR=62
AKTO                                  S       S       20 13 03.7 -1.1
      comp=Z,0.3nm,0.3s,baz=187,slow=23,SNR=7.0
SVE   Sverdlovsk          75.37 329⇑eP          P       20 03 31.9  0.0
SVE                                   e       pP      20 03 44.5 -0.3
SVE                                   pmax    pmax
      comp=Z,47nm,0.6s,mb5.6
ARU   Arti                76.34 328   P       P       20 03 36.9 -0.5
      comp=Z,418nm,0.5s,SNR=24
ARU   Arti                76.34 328d i P     P       20 03 36.7 -0.7
ARU                                   e*PP    pP      20 03 52.6 +2.3
ARU                                   e*SP    sP      20 04 00.0 +4.7
ARU                                   e               20 06 23.5
ARU                                   eS      S       20 13 15.5 -3.6
ARU                                   e*SS    sS      20 13 38.4 -2.2
ARU                                   pmax    pmax
      comp=Z,27nm,0.6s,mb5.3
ARU                                   MLR     MLR
      comp=Z,269nm,25.0s,MS4.5
ARU   Arti                76.34 328   i P     P       20 03 36.9 -0.5
SDPT  Sand Point          78.06  34   eP      P       20 03 46.7 -0.4
      comp=Z,49nm,0.7s,mb5.5
SOKR  Solikamsk           78.13 331   eP      P       20 03 45.4 -2.0
SOKR                                  pmax    pmax
      comp=Z,30nm,1.6s,mb5.0
KBD   Kabd                79.70 299   eP      P       20 03 56.3 -0.4
      baz=299
KBD                                   AMb     AMB     20 03 57.3
      comp=Z,153nm,0.7s,mb6.0,baz=299
UMR   Umm Al-Rimmam       79.70 299   eP      P       20 03 56.1 -0.6
      baz=299
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UMR AMb AMB 20 03 57.3
comp=Z,289nm,0.7s,mb6.3,baz=299
RDF Al-Radifah 79.81 299 *eP* **P 20 03 57.2 -0.1**
baz=299
RDF AMb AMB 20 03 58.2
comp=Z,259nm,0.7s,mb6.3,baz=299
MIB Mutribah 80.04 300 *eP* **P 20 03 58.0 -0.5**
baz=300
MIB AMb AMB 20 03 59.5
comp=Z,474nm,0.7s,mb6.5,baz=300
NAY Al-Naaiem 80.10 299 *eP* **P 20 03 58.0 -0.8**
baz=299
NAY AMb AMB 20 03 59.7
comp=Z,215nm,0.7s,mb6.2,baz=299
RST Umm Al-Ruwaisa 80.32 299 *eP* **P 20 03 59.4 -0.7**
baz=299
RST AMb AMB 20 04 00.7
comp=Z,14nm,0.7s,mb5.0,baz=299
MAK Makhachkala 80.86 313 *eP* **P 20 04 01.6 -1.0**
MAK *e* 20 07 10.9
MAK *e*S S 20 14 06.0 -2.0
MAK pmax pmax
comp=Z,70nm,0.9s,mb5.6
SVW2 Sparrevohn 81.77 29 *eP* **P 20 04 08.3 +1.3**
TTA Tatalina 81.90 27 *eP* **P 20 04 08.6 +0.9**
TTA pmax pmax
comp=Z,26nm,1.0s,mb5.1
TTA Tatalina 81.90 27 *eP* **P 20 04 08.6 +0.9**
comp=Z,26nm,1.0s,mb5.1
DGRG David-gareji 82.32 311 P **P 20 04 11.6 +1.2**
MAW Mawson 82.64 200 *eP* **P 20 04 12.1 +0.6**
comp=Z,9.8nm,0.6s,mb5.0
MAW Mawson 82.64 200 P **P 20 04 12.2 +0.7**
comp=Z,12nm,0.7s,mb5.0,baz=62,slow=5.3,SNR=49
MAW Mawson 82.64 200 P **P 20 04 12.2 +0.7**
MAW pmax pmax
comp=Z,12nm,0.7s
BHD Baghdad 82.71 303 *ex* x 20 04 09.8
BHD Baghdad 82.71 303 *ex* x 20 14 14.0
GNI Garni 82.72 310 P **P 20 04 14.6 +2.1**
SNR=19
GNI Garni 82.72 310 P **P 20 04 14.6 +2.1**
comp=Z,13nm,0.7s,mb5.1,baz=25,slow=7.5,SNR=17
GNI Garni 82.72 310 P **P 20 04 14.1 +1.6**
GNI pmax pmax
comp=Z,95nm,1.2s
MTA Mtatsminda 82.77 312 P **P 20 04 12.8 +0.1**
KDAK Kodiak Island 82.79 32 P **P 20 04 13.0 +0.6**
comp=Z,178nm,0.7s,mb6.2,SNR=12
TBLG Delisi 82.81 312 P **P 20 04 13.7 +0.8**
TBLG Delisi 82.81 312 P **P 20 04 13.7 +0.8**
SBA Scott Base 82.92 172 P **P 20 04 14.1 +1.3**
SBA pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SBA Scott Base 82.92 172 *eP* **P 20 04 13.6 +0.9**
comp=Z,10nm,0.7s,mb5.0
GOR Gori 83.30 312 P **P 20 04 17.2 +1.8**
GOR Gori 83.30 312 P **P 20 04 18.9 +3.5**
IMA2 Indian Mountai 83.43 24 *eP* **P 20 04 16.7 +1.1**
MSL Mosul 83.87 306 *i* x x 20 04 20.0
MSL Mosul 83.87 306 *ex* x 20 14 33.0
PPT Papeete 84.24 108 *e*PP PP 20 07 30.4 -5.4
comp=Z,67nm,27.8s
PPT *e*S S 20 14 44.6 +1.2
comp=Z,233nm,25.8s
PPT *e*SS SS 20 20 17.0 +3.2
comp=Z,162nm,27.2s
PPT Papeete 84.24 108 *e*LR LR 20 31 02.8
comp=Z,1μm,31.8s
PPT Papeete 84.24 108 LR LR 20 37 18.6
comp=Z,238nm,19.7s,MS4.6,baz=280,slow=32
SLKM Skilak Lake 84.29 30 P **P 20 04 20.4 +0.3**
SLKM Skilak Lake 84.29 30 *eP* **P 20 04 20.1 0.0**
KIV Kislovodsk 84.42 314 P **P 20 04 23.2 +2.1**
comp=Z,151nm,0.8s,mb6.2,SNR=5.2
KIV Kislovodsk 84.42 314 P **P 20 04 21.5 +0.4**
SNR=9.6
KIV Kislovodsk 84.42 314 *c i*P **P 20 04 20.6 -0.5**
KIV pmax pmax
comp=Z,78nm,2.5s,mb5.4
PMR Palmer 84.91 29 *eP* **P 20 04 22.8 -0.4**
PMR pmax pmax
comp=Z,44nm,1.3s,mb5.4
PMR Palmer 84.91 29 *eP* **P 20 04 22.8 -0.4**
comp=Z,44nm,1.3s,mb5.4
VRHR Novokhopersk 85.40 321 *eP* **P 20 04 25.3 -0.6**
VRHR pmax pmax
comp=Z,100nm,0.5s,mb6.2
VRHR pmax pmax
comp=N,80nm,0.9s
VRHR pmax pmax
comp=E,40nm,0.5s
COLA College 85.72 25⇑ *i*P **P 20 04 28.9 +1.7**
SOC Sochi 86.57 313 *eP* **P 20 04 32.9 +1.1**
SOC *e*PPP 20 09 50.9
SOC *e*S S 20 14 49.6 -16
SOC *e*SS SS 20 20 45.4 -1.4
SOC pmax pmax
comp=Z,25nm,0.4s,mb5.8
SOC Sochi 86.57 313 *i* P **P 20 04 33.3 +1.5**
VRSR Storozhevoye 86.93 321 *eP* **P 20 04 31.7 -1.7**
VRSR pmax pmax
comp=N,2.0nm,0.5s
VRSR pmax pmax
comp=Z,5.0nm,0.5s,mb5.0
VRSR pmax pmax
comp=E,5.0nm,0.6s
MALT Malatya 87.59 308⇓ *i*P **P 20 04 39.6 +2.7**
MOS Moscow 87.83 326 *eP* **P 20 04 32.8 -4.9**
MOS *e**PP pP 20 04 54.8 +4.0
MOS *e* 20 15 03.3
MOS *e* 20 15 14.2
MOS pmax pmax
comp=Z,81nm,1.3s,mb5.8
MOS MLR MLR
comp=Z,600nm,20.0s,MS5.0
ANN Anapa 88.19 315 *eP* **P 20 04 38.4 -1.2**
ANN *e**PP pP 20 04 55.7 +2.9
ANN *e* 20 15 01.3
ANN pmax pmax
comp=Z,64nm,0.7s,mb6.0
ANN MLR MLR
comp=Z,203nm,20.0s,MS4.5
OBN Obninsk 88.45 325⇑ *i*P **P 20 04 39.3 -1.3**
OBN *e*S S 20 15 14.7 -8.3
OBN *i* PS 20 16 33.8
OBN pmax pmax
comp=Z,73nm,1.6s,mb5.7
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.2
EGAK Eagle 88.58 25 *eP* **P 20 04 40.6 -0.5**
comp=Z,4.9nm,0.8s,mb4.9
DAWY Dawson 89.39 26 *eP* **P 20 04 45.1 +0.3**
KMBO Kilima Mbogo 90.00 269 P **P 20 04 50.4 +1.6**
comp=Z,5.1nm,0.8s,mb4.9,baz=57,slow=12,SNR=7.1
KMBO Kilima Mbogo 90.00 269 P **P 20 04 50.4 +1.6**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 90.00 269 *eP* **P 20 04 49.7 +0.9**
comp=Z,12nm,1.1s,mb5.1
HYT Haines Junctio 90.54 29 *eP* **P 20 04 52.7 +2.4**
SIM Simferopol' 90.54 315 *eP* **P 20 04 50.9 +0.2**
SIM *e**PP pP 20 05 06.0 +2.2
SIM *e* 20 15 14.0
SIM *e*S S 20 15 41.0 -1.9
SIM pmax pmax
comp=Z,17nm,0.6s,mb5.5
SIM MLR MLR
comp=Z,300nm,26.0s,MS4.6
JOF Joensuu 90.61 333 *ep* **P 20 04 48.9 -1.6**
comp=Z,2.4nm,0.4s,mb4.9
INK Inuvik 91.25 22 P **P 20 04 55.1 +1.7**
INK Inuvik 91.25 22 *eP* **P 20 04 54.1 +0.6**
SYO Syowa Base 91.33 201⇑ *eP* **P 20 04 52.4 -1.3**
KEV Kevo 91.33 340 *ep* **P 20 04 52.2 -1.6**
comp=Z,1.1nm,0.4s,mb4.5
KEV Kevo 91.33 340 *eP* **P 20 04 52.2 -1.6**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.5
ARCES ARCESS Array B 91.89 340 P **P 20 04 55.4 -1.0**
comp=Z,10nm,0.6s,mb5.4,baz=77,slow=6.5,SNR=82
QSPA South Pole Qui 92.28 180 P **P 20 04 57.8 -0.1**
comp=Z,4.9nm,0.7s,mb4.9,baz=295,slow=2.4,SNR=39
QSPA S SKSac 20 15 26.1 -1.2
comp=Z,1.5nm,1.1s,baz=187,slow=22,SNR=15
QSPA South Pole Qui 92.28 180 P **P 20 04 57.8 -0.1**
QSPA S SKSac 20 15 26.1 -1.2
KBS Kingsbay 92.43 350 P **P 20 04 54.2 -4.5**
KBS pmax pmax
comp=Z,12nm,0.9s,mb5.2
KBS Kingsbay 92.43 350 P **P 20 04 54.2 -4.5**
comp=Z,12nm,0.9s,mb5.2
KAF Kangasniemi 93.03 332 *ep* **P 20 04 59.9 -1.8**
comp=Z,1.6nm,0.4s,mb4.8
KAF Kangasniemi 93.03 332 *eP* **P 20 04 59.9 -1.8**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.9
AKASG Malin Array Be 93.25 321 P **P 20 05 01.8 -1.3**
comp=Z,6.3nm,0.6s,mb5.2,baz=70,slow=4.6,SNR=25
KIEV Kiev 93.26 321 *eP* **P 20 05 02.5 -0.6**
KIEV pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
KIEV Kiev 93.26 321 *eP* **P 20 05 02.5 -0.6**
comp=Z,6.6nm,0.8s,mb5.1
TLCR 94.26 315⇓ *i*P **P 20 05 07.3 -0.5**
TLCR 94.26 315⇓ P **P 20 05 07.2 -0.6**
VRI Vrincioaia 95.61 316⇑ *i*P **P 20 05 14.1 +0.1**
VRI Vrincioaia 95.61 316⇑ P **P 20 05 14.1 +0.1**
PLOR Plostina 95.67 316⇓ *i*P **P 20 05 13.9 -0.3**
MLR Muntele Rosu 96.21 316⇓ *i*P **P 20 05 15.9 -0.8**
MLR Muntele Rosu 96.21 316⇓ P **P 20 05 15.9 -0.8**
BURAR Bucovina Array 96.33 318⇓ *i*P **P 20 05 17.0 -0.2**
BURAR Bucovina Array 96.33 318⇓ P **P 20 05 17.1 -0.2**
VOIR 96.84 316⇓ *i*P **P 20 05 21.6 +2.0**
VOIR 96.84 316⇓ P **P 20 05 21.6 +2.0**
KWP Kalwaria 97.56 321⇑ *i*P **P 20 05 22.8 +0.1**
KWP Kalwaria 97.56 321⇑ P **P 20 05 22.8 +0.1**
UZH Uzhgorod 98.05 320 *eP* **P 20 05 30.0 +5.0**
UZH *e* 20 05 49.7
RKT Rikitea 98.11 113 *e*LR LR 20 37 29.5
comp=Z,479nm,38.2s
DRGR 98.17 318⇓ *i*P **P 20 05 25.0 -0.6**
DRGR 98.17 318⇓ P **P 20 05 25.0 -0.5**
DAG Danmarks Havn 98.67 352⇓ *i*P **P 20 05 26.4 -0.8**
DAG pmax pmax
comp=Z,2.0nm,0.5s,mb4.9
DAG Danmarks Havn 98.67 352⇓ *i*P **P 20 05 26.4 -0.8**
comp=Z,2.1nm,0.5s,mb4.9
BZS Buzias 99.17 317⇓ *i*P **P 20 05 28.4 -1.6**
LSZ Lusaka 99.32 255 *eP* **P 20 05 31.0 -0.3**
PSZ Piszkesteto 99.77 319⇑ *i*P Pdif 20 05 35.0 +2.5
PSZ Piszkesteto 99.77 319⇑ P Pdif 20 05 35.0 +2.5
NB2 NORSAR Subarra 100.22 334 P Pdif 20 05 32.4 -2.1
comp=Z,2.9nm,0.7s,baz=67,slow=4.6
NOA NORSAR Array B 100.22 334 P Pdif 20 05 32.8 -1.7
comp=Z,2.1nm,0.6s,baz=67,slow=4.6,SNR=9.7
NOA PP PP 20 09 25.8 -14
comp=Z,0.7nm,0.6s,baz=73,slow=8.6,SNR=4.1
NOA NORSAR Array B 100.22 334 P Pdif 20 05 32.8 -1.7
NOA PP PP 20 09 25.8 -14
YKA Yellowknife Ar 100.54 25 P Pdif 20 05 34.5 -1.3
comp=Z,0.6nm,0.6s,baz=299,slow=4.6,SNR=4.8
YKA PKiKP PKiKP 20 10 02.9 +0.9
comp=Z,0.8nm,0.5s,baz=292,slow=2.0,SNR=6.5
YKA Yellowknife Ar 100.54 25 P Pdif 20 05 34.5 -1.4
PKSM Moragy 101.04 318⇑ *i*P Pdif 20 05 40.0 +1.9
PKSM Moragy 101.04 318⇑ P Pdif 20 05 40.0 +1.9
RPW Rockport 102.17 39 *e*Pdif Pdif 20 05 38.2 -4.9
BRG Berggiesshubel 102.62 323 *eP* Pdif 20 05 45.1 0.0
BRG *e* 20 16 23.0
BRG *e* 20 18 59.0
BRG *e* 20 24 46.0
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG Berggiesshubel 102.62 323 *e*(P) Pdif 20 05 45.1 0.0
comp=Z,2.7nm,0.7s
BRG *e* 20 16 23.0
BRG *e* 20 18 59.0
BRG *e* 20 24 46.0
CLL Collm 103.02 324 *e*SKSac SKSac 20 16 30.0 +6.6
CLL *e*SP SP 20 19 00.0 -4.8
CLL *e*PPS 20 20 01.0
CLL *ex* x 20 26 54.0
GERES GERESS Array B 103.45 321 Pdiff Pdif 20 05 50.5 +1.6
comp=Z,0.6nm,0.6s,baz=52,slow=6.9,SNR=5.9
GERES PP PP 20 10 02.8 -2.0
comp=Z,0.9nm,0.8s,baz=76,slow=8.6,SNR=5.1
ELK Elko 108.94 45 PKiKP PKiKP 20 10 19.6 +1.5
comp=Z,0.4nm,0.4s,baz=194,slow=20,SNR=4.0
LPG La Plagne 109.10 320 *e*PKIKP PKiKP 20 10 18.3 0.0
comp=Z,6.4nm,0.9s
LPL La Plagne 109.10 320 *e*PKIKP PKiKP 20 10 18.8 +0.5
MBDF Montbardon 109.40 319 *e*PKIKP PKiKP 20 10 17.7 -1.2
ORIF Oris-en-Rattie 109.90 320 *e*PKIKP PKiKP 20 10 20.1 +0.3
comp=Z,9.2nm,1.0s
PDAR Pinedale Array 112.06 42 PKiKP PKiKP 20 10 25.1 +1.1
comp=Z,0.4nm,0.5s,baz=302,slow=2.0,SNR=5.4
RSSD Black Hills 114.97 38 *e*PKIKP PKiKP 20 10 29.8 +0.3
ULM Lac du Bonnet 115.92 29 PKP PKPdf 20 10 30.6 -0.6
comp=Z,1.3nm,0.5s,baz=339,slow=8.4,SNR=3.2
ANMO Albuquerque 117.58 48 PKP PKPdf 20 10 35.2 +0.4
comp=Z,1.2nm,0.6s,baz=66,slow=4.0,SNR=3.1
ANMO Albuquerque 117.58 48 PKP PKPdf 20 10 35.2 +0.4
ESDC Sonseca Array 118.79 318 PP PP 20 11 59.9 +4.7
comp=Z,0.4nm,0.6s,baz=66,slow=6.2,SNR=3.3
ECSD EROS,Sioux Fal 119.63 35 *e*PKPdf PKPdf 20 10 38.0 -0.5
SCHQ Schefferville 121.83 10 PKP PKPdf 20 10 41.4 -1.0
comp=Z,2.1nm,0.6s,baz=270,slow=17,SNR=4.4
TXAR Lajitas Array 122.05 53 PKP PKPdf 20 10 44.5 +0.9
comp=Z,1.4nm,0.6s,baz=241,slow=1.7,SNR=15
TXAR PKKPbc PKKPbc 20 20 44.5 +3.4
comp=Z,0.5nm,0.8s,baz=110,slow=5.2,SNR=4.0
TXAR Lajitas Array 122.05 53 PKP PKPdf 20 10 44.5 +0.9
TXAR PKKPbc PKKPbc 20 20 44.5 +3.4
WMOK Wichita Mounta 123.27 45 *e*PKIKP PKPdf 20 10 45.6 -0.2
TORD Torodi Ar. Bea 123.79 287 PKP PKPdf 20 10 47.0 -0.2
comp=Z,2.8nm,0.7s,baz=39,slow=2.0,SNR=12
TORD PP PP 20 12 23.1 -7.4
comp=Z,2.5nm,0.8s,baz=54,slow=6.3,SNR=4.5
JCT Junction City 124.58 50 *e*PKIKP PKPdf 20 10 48.9 +0.5
USHA Ushuaia 126.16 169 PKP PKPdf 20 10 50.4 -0.2
comp=Z,9.7nm,1.0s,baz=15,slow=1.4,SNR=5.4
MIAR Mount Ida 126.97 42 *e*PKIKP PKPdf 20 10 53.0 +0.1
PLAL Pickwick Lake 130.27 38 *e*PKPdf PKPdf 20 10 59.1 -0.1
DBIC Dimbokro 131.32 281 PKP PKPdf 20 11 02.2 +0.6
comp=Z,2.0nm,0.6s,baz=185,slow=18,SNR=4.3
LIC Lamto 131.55 280 *e*PKIKP PKPdf 20 11 01.5 -0.6
comp=Z,4.2nm,0.6s
PLCA Paso Flores 138.56 159 PKP PKPdf 20 11 15.7 +1.3
comp=Z,5.1nm,0.6s,baz=309,slow=2.2,SNR=23
PLCA SKPbc SKPbc 20 14 46.3 +0.6
comp=Z,2.3nm,0.6s,baz=179,slow=6.3,SNR=8.5
TRQA Tornquist 143.49 168 *e*PKPpre 20 11 20.1
LCO Las Campanas 148.48 149 *e*PKPbc PKPbc 20 11 36.4 +0.6
BCIP Isla Barro Col 150.72 67 *e*PKPdf PKPdf 20 11 35.5 -0.6
BCIP *e*PKPbc PKPbc 20 11 42.2 +0.6
ATAH Atahualpa 154.08 101 PKPbc PKPbc 20 11 49.3 0.0
comp=Z,7.3nm,0.7s,baz=129,slow=1.6,SNR=4.5
LVC Limon Verde 154.50 143 PKPbc PKPbc 20 11 51.5 +1.7
comp=Z,4.7nm,0.6s,baz=299,slow=2.2,SNR=7.7
LVC Limon Verde 154.50 143 PKPbc PKPbc 20 11 51.5 +1.7
CPUP Villa Florida 155.77 170 PKPbc PKPdf 20 11 53.3 +10
comp=Z,2.7nm,0.6s,baz=224,slow=1.5,SNR=7.0
LPAZ La Paz 159.52 133 PKP PKPdf 20 11 49.8 +1.8
comp=Z,4.4nm,1.1s,baz=49,slow=1.4,SNR=8.7
LPAZ PKPab PKPab 20 12 27.5 +1.5
comp=Z,6.6nm,1.1s,baz=203,slow=3.1,SNR=6.7
LPAZ La Paz 159.52 133 PKP PKPdf 20 11 49.8 +1.8
LPAZ PKPab PKPab 20 12 27.5 +1.5
SIV San Ignacio 164.19 149 PKP PKPdf 20 11 53.3 +0.5
comp=Z,2.2nm,0.8s,baz=286,slow=3.3,SNR=9.1
SIV PKPab PKPab 20 12 47.0 +0.6
comp=Z,4.0nm,0.9s,baz=230,slow=4.0,SNR=6.5
BDFB Brasilia 165.99 199 PKPab PKPab 20 12 55.1 +0.9
comp=Z,3.1nm,0.7s,baz=219,slow=11,SNR=3.3
BDFB Brasilia 165.99 199 PKP2 PKPab 20 12 55.1 +0.9
BDFB pmax pmax
comp=Z,3.0nm,0.7s

ISCJB ***31*** *20:14:15.9±0.4, 4469N×004×14105E±008, h264km±3km, mb3.2/7, Error ellipse: s-maj=9.1km s-min=6.3km az=12.0*
JMA ***31*** *20:14:15.9±0.2, 4470N×14105E, h267km±2km, M3.6*
MOS ***31*** *20:14:15.3±1.1, 4467N×14089E, h259km, mb3.9/1, Error ellipse: s-maj=26.3km s-min=13.2km az=82.8*
NEIC ***31*** *20:14:16.2±0.8, 4468N×14095E, h248km±10km, MG3.6(JMA), Error ellipse: s-maj=16.9km s-min=9.2km az=110.0*
IDC ***31*** *20:14:16.9±0.7, 4470N×14104E, h255km±7km, mb3.1/8, mb1 3.2/10, mb1mx3.1/20, mbtmp3.1/10, Error ellipse: s-maj=16.6km s-min=13.7km az=100.0*

ISC 31 20:14:16.8±0.4, 4468N±004×14103E±008, h258km±3km, n40, σ0°91/58, mb3.2/7, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.38**	**131**	P		**Pn**	**Pn**	**20 14 50.5**	**+0.2**
JYG				*e*S			**S**	**20 15 17.0**	**+0.3**
JRR	**Rishiri**	**0.50**	**24**	P		**Pn**	**Pn**	**20 14 51.1**	**+0.6**
JSS	**Shosan**	**0.65**	**115**	P		**Pn**	**Pn**	**20 14 51.9**	**+0.8**
JSS				*e*S			**S**	**20 15 19.5**	**+1.4**
JWK2	**Keihoku**	**0.89**	**44**	P		**Pn**	**Pn**	**20 14 52.0**	**0.0**
JWK2				*e*S			**S**	**20 15 19.4**	**-0.5**
JHR	**Hokuryu**	**1.06**	**151**	P		**Pn**	**Pn**	**20 14 53.7**	**+0.7**
JHR				*e*S			**S**	**20 15 23.0**	**+1.4**
JSE	**Soyaes**	**1.14**	**75**	P		**Pn**	**Pn**	**20 14 52.5**	**-0.9**
JSE				*e*S			**S**	**20 15 21.2**	**-1.1**
ASAJ	**Asahikawa**	**1.26**	**116**	P		**Pn**	**Pn**	**20 14 54.0**	**-0.2**
ASAJ				*e*S			**S**	**20 15 23.3**	**-0.3**
ASAJ	**Asahikawa**	**1.26**	**116**	P		**Pn**	**Pn**	**20 14 54.1**	**0.0**
	3.5nm,0.3s,baz=289,slow=7.1,SNR=36								
ASAJ				S			**S**	**20 15 23.4**	**-0.3**
	1.3nm,0.3s,baz=34,slow=33,SNR=6.1								
ASAJ	**Asahikawa**	**1.26**	**116**	PN		**Pn**	**Pn**	**20 14 54.2**	**0.0**
ASAJ				S			**S**	**20 15 23.4**	**-0.2**
ASAJ				pmax		pmax			
	comp=Z,4.0nm,0.3s								
ASAJ				smax					
	comp=N,1.0nm,0.3s								
JSK	**Shakotan**	**1.38**	**197**	P		**Pn**	**Pn**	**20 14 55.1**	**0.0**
JSK				*e*S			**S**	**20 15 25.3**	**+0.1**
JKK2	**Kamakawa 2**	**1.48**	**122**	P		**Pn**	**Pn**	**20 14 56.0**	**+0.3**
JKK2				*e*S			**S**	**20 15 26.5**	**+0.2**
JEW	**Eniwo**	**1.86**	**170**	P		**Pn**	**Pn**	**20 14 59.3**	**+0.5**
JEW				*e*S			**S**	**20 15 32.7**	**+0.8**
JFR	**Furan**	**1.89**	**143**	P		**Pn**	**Pn**	**20 14 59.3**	**+0.3**
JFR				*e*S			**S**	**20 15 32.7**	**+0.4**
JTKR	**Abashiri--Toko**	**2.19**	**108**	P		**Pn**	**Pn**	**20 15 02.1**	**+0.5**
JTKR				*e*S			**S**	**20 15 37.9**	**+0.9**
JAR	**Ashorobuto**	**2.41**	**124**	P		**Pn**	**Pn**	**20 15 04.2**	**+0.4**
JAR				*e*S			**S**	**20 15 41.8**	**+0.9**
YSS	**Yuzh-Sakhalins**	**2.58**	**27**	⇓ *i*PN		**Pn**	**Pn**	**20 15 05.0**	**-0.3**
YSS				*e*S			**S**	**20 15 42.0**	**-1.7**
YSS				pmax		pmax			
	comp=Z,80nm,0.6s								
YSS				pmax		pmax			
	comp=N,50nm,0.5s								
YSS				pmax		pmax			
	comp=E,50nm,0.5s								
YSS				smax					
	comp=N,80nm,0.9s								
YSS				smax					
	comp=E,170nm,0.9s								
YSS	**Yuzh-Sakhalins**	**2.58**	**27**	*e*Pn		**Pn**	**Pn**	**20 15 04.7**	**-0.6**
YSS				*e*Sn			**S**	**20 15 42.7**	**-1.0**
JCH	**Churui**	**2.67**	**140**	P		**Pn**	**Pn**	**20 15 05.8**	**-0.5**
JCH				*e*S			**S**	**20 15 42.3**	**-3.2**
JNBK	**Urakawa-nobuka**	**2.71**	**152**	P		**Pn**	**Pn**	**20 15 07.1**	**+0.4**
JKB	**Kayabe**	**2.79**	**180**	P		**Pn**	**Pn**	**20 15 06.9**	**-0.7**
JOSM	**Okushiri--Mats**	**2.83**	**204**	P		**Pn**	**Pn**	**20 15 07.6**	**-0.4**
JAK	**Akkeshi**	**3.14**	**121**	*e*S		**S**	**Pn**	**20 15 52.1**	**-2.4**
JOT	**Ohata**	**3.29**	**180**	P		**Pn**	**Pn**	**20 15 12.1**	**-0.9**
JOT				*e*S			**S**	**20 15 56.7**	**-0.8**
NEM2	**Nemuro 2**	**3.65**	**109**	*e*S		**S**	**S**	**20 16 00.9**	**-3.7**
MAJO	**Matsushiro**	**8.40**	**196**	*e*PN		**Pn**	**Pn**	**20 16 13.3**	**-1.9**
MAT	**Matsushiro**	**8.40**	**196**	P		**Pn**	**Pn**	**20 16 14.5**	**-0.7**
MJAR	**Matsushiro Arr**	**8.40**	**196**	P		**Pn**	**Pn**	**20 16 14.0**	**-1.2**
	comp=E,0.5nm,0.3s,baz=7.2,slow=13,SNR=7.7								
PETK	**Petropavlovsk-**	**13.81**	**46**	P		**Pn**	**Pn**	**20 17 23.7**	**+1.6**
	comp=E,0.4nm,0.3s,baz=231,slow=8.5,SNR=6.0								
YAK	**Yakutsk**	**18.61**	**343**	P		**P**	**P**	**20 18 13.4**	**-1.6**
JOW	**Kunigami**	**20.55**	**214**	P		**P**	**P**	**20 18 37.5**	**+1.5**
	comp=E,1.6nm,0.4s,baz=151,slow=25,SNR=5.5								
SONM	**Songino Array**	**24.03**	**290**	P		**P**	**P**	**20 19 09.5**	**+1.1**
	comp=E,0.6nm,0.5s,mb3.1,baz=90,slow=8.3,SNR=6.9								
ZALV	**Zalesovo Beam**	**36.90**	**305**	P		**P**	**P**	**20 21 00.2**	**-0.5**
	comp=E,0.3nm,0.3s,mb3.1,baz=70,slow=12,SNR=3.5								
ZAL	**Zalesovo**	**36.91**	**305**	P		**P**	**P**	**20 21 00.2**	**-0.5**
MKAR	**Makanchi Array**	**40.22**	**295**	P		**P**	**P**	**20 21 28.6**	**+0.3**
	comp=E,0.2nm,0.7s,mb2.6,baz=90,slow=7.6,SNR=3.4								
YKA	**Yellowknife Ar**	**57.43**	**32**	P		**P**	**P**	**20 23 38.0**	**-0.1**
	comp=E,1.0nm,0.6s,mb3.4,baz=306,slow=6.5,SNR=6.7								
YKA	**Yellowknife Ar**	**57.43**	**32**	P		**P**	**P**	**20 23 38.0**	**-0.1**
WRA	**Warramunga Arr**	**64.59**	**187**	P		**P**	**P**	**20 24 26.8**	**+0.2**
	comp=E,0.6nm,0.7s,mb3.3,baz=7.8,slow=7.7,SNR=17								
WRA	**Warramunga Arr**	**64.59**	**187**	P		**P**	**P**	**20 24 26.8**	**+0.2**
WRA				pmax		pmax			
	comp=Z,4.0nm,0.3s								
ASAR	**Alice Springs**	**68.32**	**187**	P		**P**	**P**	**20 24 51.0**	**+1.0**
	comp=Z,0.8nm,0.7s,mb3.6,baz=5.0,slow=5.7,SNR=11								
PDAR	**Pinedale Array**	**72.58**	**47**	P		**P**	**P**	**20 25 16.4**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.5,baz=333,slow=1.3,SNR=4.4								

IDC ***31*** *20:50:59.3±1.4, 1168N×14274E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/19, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=62.2km s-min=21.5km az=119.0*
ISCJB ***31*** *20:51:01.4±8.5, 116N±03×1428E±04, h24km±63km, mb4.0/3, Error ellipse: s-maj=71.4km s-min=16.3km az=35.6*

ISC 31 20:51:01.8±8.5, 117N±03×1427E±03, h16km±54km, n4, σ0°37/5, mb4.0/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.82**	**47**	Pn		**Pn**	**Pn**	**20 51 46.2**	**0.0**
	39nm,0.3s,baz=266,slow=3.9,SNR=34								
GUMO				Sn			**Sn**	**20 52 19.9**	**0.0**
	31nm,0.3s,baz=146,slow=21,SNR=6.6								
WRA	**Warramunga Arr**	**32.49**	**195**	P		**P**	**P**	**20 57 31.6**	**-0.3**
	1.6nm,0.7s,mb3.9,baz=18,slow=9.6,SNR=13								
ASAR	**Alice Springs**	**36.17**	**194**	P		**P**	**P**	**20 58 04.0**	**+0.3**
	0.5nm,0.5s,mb3.7,baz=20,slow=11,SNR=15								
ARCES	**ARCESS Array B**	**88.24**	**342**	P		**P**	**P**	**21 03 52.0**	**0.0**
	2.1nm,0.8s,mb4.4,baz=72,slow=8.6,SNR=3.8								

BJI ***31*** *20:52:36.1, 3635N×2541E, h25km, mB5.1, mb5.1, Ms4.9, Msz4.6*
DDA ***31*** *20:52:40.0, 3674N×2602E, h26km, Md5.1*
SZGRF ***31*** *20:52:40.6, 3598N×2579E, h10km, mb4.7, MS4.0, Crete, Greece*
ISCJB ***31*** *20:52:41.2±0.3, 3666N±001×2627E±001, h21km±2km, mb4.9/152, MS4.5/52, Error ellipse: s-maj=2.2km s-min=1.5km az=26.9*
THE ***31*** *20:52:41.4, 3673N×2629E, h2km, ML5.4*
PDG ***31*** *20:52:41.0±0.8, 3681N×2631E, h3km±4km, ML4.5/10, Error ellipse: s-maj=2.6km s-min=2.0km az=90.0*
ATH ***31*** *20:52:42.1, 3673N×2625E, h40km±2km, MD4.7/25, ML4.9*
MOS ***31*** *20:52:42.2±0.9, 3675N×2622E, h21km, mb5.2/55, MS4.5/27, Error ellipse: s-maj=4.4km s-min=2.2km az=114.7*
IDC ***31*** *20:52:42.4±3.4, 3670N×2625E, h18km±21km, mb4.5/25, mb1 4.5/33, mb1mx4.5/34, mbtmp4.5/33, ML3.6/5, MS4.4/24, Ms1 4.4/24, ms1mx4.2/37, Error ellipse: s-maj=11.7km s-min=10.3km az=153.0*
CSEM ***31*** *20:52:42.9±0.0, 3674N×2626E, h32km, mb5.0/98, Ms4.2, Mw4.8, Error ellipse: s-maj=1.1km s-min=0.9km az=177.0*
GCMT ***31*** *20:52:43.4±0.2, 3659N×2632E, h16km, MW5.2/88, Moment Tensor Solution. s58,c81; s88,c160; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-5.68±.17; $M_{\theta\theta}$4.70±.12; $M_{\phi\phi}$0.98±.11; $M_{r\theta}$4.04±.35; $M_{\phi\phi}$1.94±.09; $M_{\theta\phi}$2.30±.37; Best double couple: $M_0$7.28100×10^16 NP1:ϕ_s71.00000°, δ25.00000°, λ-83.00000°. NP2: ϕ_s243.00000°, δ65.00000°, λ-93.00000°. Principal axes: T 7.1910, Plg20.0000°, Azm335.0000°; N 0.1860, Plg3.0000°, Azm244.0000°; P -7.3710, Plg70.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***31*** *20:52:43.4±0.4, 3666N×2627E, h25km, 3km, mb4.9/123, MS4.2/1, ML4.6(NIC), ML4.7(ATH), ML5.4(THE) Error ellipse: s-maj=2.7km s-min=2.1km az=198.0*
*NEIC Felt [IV] at Kos. Also felt at Astipalaia, Kardamaina, Kef

NIC **31** *20:52:46.3±0.2,3671N×2654E,h55km,mb5.0,ML4.6, MW4.3*
HLW **31** *20:52:59.6,3562N×2686E,h35km,Mb4.6*
DJA **31** *20:53:07,36.13N×2824E,h144km,mb5.0/13*
ISC 31 20:52:42.7±0.3,3664N±001×2626E±001,h18km±2km, n920,σ1⇧14/1029,mb4.9/152,MS4.5/52,44C-25D,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	**Santorini**	**0.69**	**248**	*e*Pg	**Pg**	**20 52 56.0**	**-0.3**
SANT				*e*Sg	**Sg**	**20 53 06.8**	**+1.2**
THR1	**Thera Island**	**0.69**	**248**	*e*Pg	**Pg**	**20 52 55.8**	**-0.5**
NISR	**Nisiros**	**0.70**	**92**	*e*P	**Pb**	**20 52 56.5**	**+0.1**
THR4	**Thira Island,**	**0.71**	**256**	*e*Pg	**Pg**	**20 52 56.3**	**-0.4**
APE	**Apeiranthos**	**0.72**	**307**	*e*Pg	**Pg**	**20 52 55.1**	**-1.8**
APE				*e*Sg	**Sg**	**20 53 05.7**	**-0.9**
APE	**Apeiranthos**	**0.72**	**307**	⇧*i*P	**Pb**	**20 52 55.1**	**-1.7**
APE				*e*S	**Sb**	**20 53 06.2**	**-0.1**
THR3	**Thira Island,**	**0.72**	**252**	*e*Pg	**Pg**	**20 52 56.5**	**-0.4**
THR6	**Thira Island,**	**0.75**	**248**	*e*Pg	**Pg**	**20 52 57.0**	**-0.3**
THR5	**Thira Island,**	**0.76**	**254**	*e*Pg	**Pg**	**20 52 57.3**	**-0.3**
BODT	**Bodrum**	**0.95**	**63**	*e*PG	**Pg**	**20 53 00.4**	**-0.7**
BODT				*e*SG	**Sg**	**20 53 12.7**	**-0.9**
SMG	**Samos**	**1.17**	**23**	*e*P	**Pn**	**20 53 02.4**	**-1.7**
SMG				*e*S	**Sb**	**20 53 16.8**	**-2.3**
KARP	**Karpathos**	**1.31**	**146**	*e*P	**Pn**	**20 53 06.6**	**+0.5**
KARP				*e*S	**Sn**	**20 53 24.1**	**+1.0**
MLSB	**Milas**	**1.39**	**61**	*e*PN	**Pn**	**20 53 06.8**	**-0.3**
NPS	**Neapolis**	**1.47**	**201**	*e*P	**Pn**	**20 53 07.9**	**-0.3**
NPS				*e*S	**Sn**	**20 53 27.8**	**+0.9**
ZKR	**Zakros**	**1.52**	**181**	*e*Pg	**Pg**	**20 53 09.3**	**-2.6**
ZKR				*e*Sg	**Sg**	**20 53 31.6**	**-0.1**
ZKR	**Zakros**	**1.52**	**181**	*e*Pg	**Pg**	**20 53 09.3**	**-2.6**
ZKR				*e*Sg	**Sg**	**20 53 31.6**	**-0.1**
ARG	**Arkhangelos**	**1.57**	**105**	*e*P	**Pn**	**20 53 10.1**	**+0.5**
ARG				*e*S	**Sn**	**20 53 29.2**	**-0.2**
AYDN	**Tasoluk**	**1.65**	**51**	*i*P	**Pn**	**20 53 10.4**	**-0.4**
AYDN				*i*S	**Sn**	**20 53 35.7**	**+4.2**
AYDN	**Tasoluk**	**1.65**	**51**	P	**Pn**	**20 53 10.3**	**-0.5**
YER	**Yerkesik**	**1.70**	**72**	*e*PN	**Pn**	**20 53 12.6**	**+1.2**
IDI	**Anoyia**	**1.74**	**220**	Pn	**Pn**	**20 53 11.6**	**-0.4**
	28nm,0.3s,baz=33,slow=12,SNR=307						
IDI				Sn	**Sn**	**20 53 40.6**	**+6.8**
	666nm,0.3s,baz=297,slow=14,SNR=14						
IDI				LR	LR	20 53 51.9	
	comp=Z,7μm,18.1s,baz=134,slow=39						
IDI	**Anoyia**	**1.74**	**220**	Pn	**Pn**	**20 53 11.6**	**-0.4**
IDI				Sn	**Sn**	**20 53 40.5**	**+6.8**
CHOS	**Chios island**	**1.75**	**355**	*e*Pb	**Pb**	**20 53 10.0**	**-4.3**
CHOS				*e*Sb	**Sb**	**20 53 32.3**	**-3.7**
BLCB	**Balcova**	**1.85**	**19**	*e*PN	**Pn**	**20 53 11.7**	**-1.8**
DALT	**Dalyan (Mudla)**	**1.92**	**85**	*e*PN	**Pn**	**20 53 15.8**	**+1.3**
IZM	**Izmir**	**1.93**	**24**	*e*PN	**Pn**	**20 53 13.1**	**-1.5**
VAM	**Vamos**	**2.07**	**234**	P	**Pg**	**20 53 27.2**	**+4.8**
VAM	**Vamos**	**2.07**	**234**	*e*P	**Pn**	**20 53 16.0**	**-0.5**
VAM				P		20 53 27.2	
KVR	**Kavouri**	**2.31**	**302**	*e*P	**Pn**	**20 53 19.0**	**-0.8**
PTL	**Penteli**	**2.37**	**307**	*e*P	**Pn**	**20 53 19.5**	**-1.1**
ATH	**Athens Observa**	**2.42**	**304**	*e*P	**Pn**	**20 53 20.4**	**-1.0**
ATH				*e*S	**Sn**	**20 53 48.4**	**-2.1**
NAIG	**Nisos Aigina**	**2.48**	**298**	*e*P	**Pn**	**20 53 21.5**	**-0.6**
DENT	**Denizli**	**2.48**	**62**	*e*PN	**Pn**	**20 53 22.2**	**0.0**
GVD	**Gavdhos**	**2.52**	**225**	*e*P	**Pn**	**20 53 24.0**	**+1.4**
AKHS	**Akhisar**	**2.56**	**28**	*i*P	**Pn**	**20 53 22.1**	**-1.1**
AKHS				*i*S	**Sg**	**20 54 04.1**	**-0.8**
AKS	**Akhisar**	**2.56**	**28**	*e*PN	**Pn**	**20 53 21.9**	**-1.3**
DID	**Didima**	**2.57**	**291**	*e*Pn	**Pn**	**20 53 22.2**	**-1.1**
PRK	**Paraskevi**	**2.61**	**0**	*e*P	**Pn**	**20 53 22.0**	**-1.9**
PRK				*e*S	**Sn**	**20 53 51.0**	**-4.0**
PRK	**Paraskevi**	**2.61**	**0**	*e*Pn	**Pn**	**20 53 21.7**	**-2.2**
PRK	**Paraskevi**	**2.61**	**0**	*e*P	**Pn**	**20 53 22.0**	**-1.9**
PRK				*e*S	**Sn**	**20 53 51.0**	**-4.0**
KYTH	**Kithira**	**2.62**	**263**	*e*P	**Pn**	**20 53 24.0**	**0.0**
VLI	**Veliai**	**2.67**	**273**	*e*P	**Pn**	**20 53 24.9**	**+0.2**
KULA	**Kula-Manisa**	**2.68**	**45**	*e*PN	**Pn**	**20 53 24.2**	**-0.6**
AYVA	**Ayvalik**	**2.69**	**7**	*i*P	**Pn**	**20 53 23.3**	**-1.7**
AYVA				*i*S	**Sg**	**20 54 09.6**	**+0.4**
KSL	**Kastellorizon**	**2.73**	**99**	*e*P	**Pn**	**20 53 27.0**	**+1.4**
AKAS	**Kas**	**2.73**	**97**	*i*P	**Pn**	**20 53 27.6**	**+2.0**
AKAS				*i*S	**Sg**	**20 54 16.0**	**+5.6**
AKAS	**Kas**	**2.73**	**97**	*i*P	**Pn**	**20 53 27.5**	**+1.9**
AKAS				*i*S	**Sg**	**20 54 16.0**	**+5.5**
ELL	**Elmali**	**2.94**	**87**	*e*PN	**Pn**	**20 53 30.1**	**+1.6**
LTK	**Loutraki**	**2.96**	**299**	*e*Pn	**Pn**	**20 53 28.5**	**-0.3**
LTK				*e*Sn	**Sn**	**20 54 05.5**	**+1.7**
KHL	**Karahalli**	**3.10**	**56**	*e*PN	**Pn**	**20 53 30.6**	**0.0**
AOS	**Alonnisos**	**3.15**	**324**	*e*Pn	**Pn**	**20 53 30.5**	**-0.9**
EZN	**Ezine**	**3.19**	**1**	*e*PN	**Pn**	**20 53 30.6**	**-1.2**
VLX	**Vlachokerasia**	**3.19**	**284**	*e*Pn	**Pn**	**20 53 32.0**	**+0.1**
BOZC	**Bozcaada**	**3.21**	**357**	*i*P	**Pn**	**20 53 29.9**	**-2.2**
BOZC				*i*S	**Sg**	**20 54 27.4**	**+1.7**
BOZC	**Bozcaada**	**3.21**	**357**	P	**Pn**	**20 53 29.8**	**-2.3**
BALB	**Balikesir**	**3.26**	**23**	*e*PN	**Pn**	**20 53 31.7**	**-1.2**
LKR	**Lokris**	**3.27**	**309**	*e*Pn	**Pn**	**20 53 32.4**	**0.7**
LKR	**Lokris**	**3.27**	**309**	*e*P	**Pn**	**20 53 32.6**	**-0.5**
LOS	**Limnos**	**3.42**	**345**	*e*Pn	**Pn**	**20 53 33.7**	**-1.3**
ITM	**Ithomi**	**3.51**	**280**	*e*P	**Pn**	**20 53 37.0**	**+0.7**
ANTB	**Antalya**	**3.54**	**84**	*e*PN	**Pn**	**20 53 39.1**	**+2.3**
GADA	**Gvkgeada**	**3.56**	**356**	*e*PN	**Pn**	**20 53 35.9**	**-1.1**
BCK	**Bucak**	**3.56**	**75**	*e*PN	**Pn**	**20 53 38.5**	**+1.5**
NEO	**Neokhori**	**3.58**	**319**	⇧*i*P	**Pn**	**20 53 36.7**	**-0.6**
XOR	**Xorichti**	**3.65**	**319**	*e*Pn	**Pn**	**20 53 37.4**	**-0.7**
LPK	**Lapseki**	**3.75**	**6**	*e*PN	**Pn**	**20 53 38.5**	**-1.1**
PAIG	**Paliouri**	**3.86**	**329**	*e*Pn	**Pn**	**20 53 39.8**	**-1.3**
PAIG				*e*Sn	**Sn**	**20 54 24.7**	**-1.3**
AGG	**Agios Georgios**	**3.92**	**309**	*e*Pn	**Pn**	**20 53 42.2**	**+0.3**
AGG				*e*Sn	**Sn**	**20 54 27.3**	**0.0**
RLS	**Riolos of Patr**	**4.07**	**292**	*e*P	**Pn**	**20 53 44.4**	**+0.4**
OUR	**Ouranopolis**	**4.10**	**335**	*e*Pn	**Pn**	**20 53 43.0**	**-1.5**
EVR	**Evrytania**	**4.19**	**304**	*e*P	**Pn**	**20 53 45.5**	**-0.2**
ALN	**Alexandroupoli**	**4.26**	**358**	*e*Pn	**Pn**	**20 53 44.8**	**-1.8**
ALN				*e*Sn	**Sn**	**20 54 35.0**	**-0.8**
PLG	**Polygyros**	**4.33**	**330**	*e*Pn	**Pn**	**20 53 46.7**	**-0.9**
PLG	**Polygyros**	**4.33**	**330**	*e*P	**Pn**	**20 53 47.0**	**-0.6**
THL	**Klokotos Trika**	**4.44**	**312**	*e*Pn	**Pn**	**20 53 49.0**	**-0.1**
THL				*e*Sn	**Sn**	**20 54 40.4**	**+0.1**
THL	**Klokotos Trika**	**4.44**	**312**	*e*P	**Pn**	**20 53 49.3**	**+0.2**
THL	**Klokotos Trika**	**4.44**	**312**	*e*Pn	**Pn**	**20 53 49.0**	**-0.1**
THL				*e*Sn	**Sn**	**20 54 40.4**	**+0.1**
RDO	**Rodhopi**	**4.54**	**353**	*e*P	**Pn**	**20 53 49.1**	**-1.3**
LIT	**Litokhoron**	**4.55**	**321**	*e*Pn	**Pn**	**20 53 50.1**	**-0.5**
LIT				*e*Sn	**Sn**	**20 54 43.8**	**+0.8**
HORT	**Hortiatis**	**4.66**	**329**	*e*Pn	**Pn**	**20 53 51.8**	**-0.3**
THE	**Thessaloniki**	**4.75**	**328**	*e*Pn	**Pn**	**20 53 53.0**	**-0.3**
THE	**Thessaloniki**	**4.75**	**328**	*e*Pn	**Pn**	**20 53 53.0**	**-0.3**
SOH	**Sokhos**	**4.75**	**332**	*e*Pn	**Pn**	**20 53 52.6**	**-0.8**
SOH				*e*Sn	**Sn**	**20 54 46.9**	**-1.1**
VLS	**Valsamata**	**4.77**	**291**	*e*Pn	**Pn**	**20 53 54.3**	**+0.8**
VLS	**Valsamata**	**4.77**	**291**	*e*P	**Pn**	**20 53 53.4**	**-0.2**
VLS	**Valsamata**	**4.77**	**291**	*e*Pn	**Pn**	**20 53 54.3**	**+0.7**
LKD	**Levkas**	**4.90**	**297**	P	**Pn**	**20 53 58.2**	**+2.8**
KDZ	**Kurdzhali**	**5.05**	**353**	*i*P	**Pn**	**20 53 55.8**	**-1.6**
MEV	**Metsovon**	**5.05**	**310**	*e*Pn	**Pn**	**20 53 58.1**	**+0.6**
NVR	**Nevrokopi**	**5.06**	**339**	*e*P	**Pn**	**20 53 57.4**	**-0.2**
NVR	**Nevrokopi**	**5.06**	**339**	*e*P	**Pn**	**20 53 58.0**	**+0.4**
NVR	**Nevrokopi**	**5.06**	**339**	*e*P	**Pn**	**20 53 58.0**	**+0.4**
KZN	**Kozani**	**5.08**	**318**	*e*P	**Pn**	**20 53 58.3**	**+0.4**
RZN	**Rozhen**	**5.18**	**347**	*i*P	**Pn**	**20 53 58.0**	**-1.3**
AKMC	**Akamas**	**5.19**	**106**	P	**Pn**	**20 54 00.0**	**+0.6**
JAN	**Janina**	**5.22**	**307**	⇧*i*P	**Pn**	**20 53 59.9**	**+0.1**
KNT	**Kendrikon**	**5.22**	**331**	*e*Pn	**Pn**	**20 53 59.5**	**-0.4**
PPCY	**Paphos**	**5.25**	**108**	P	**Pn**	**20 54 00.8**	**+0.6**
GRG	**Griva**	**5.26**	**326**	*e*Pn	**Pn**	**20 54 00.4**	**0.0**
MMB	**Musomiste**	**5.32**	**339**	*i*P	**Pn**	**20 54 00.0**	**-1.2**
ALFC	**Alevga**	**5.36**	**104**	⇧*i*P	**Pn**	**20 54 02.3**	**+0.6**
	26nm,0.5s						
ALFC				S	**Sn**	**20 55 01.3**	**-1.6**
VAY	**Valandovo**	**5.49**	**330**	*e*Pn	**Pn**	**20 54 02.7**	**-0.8**
VAY	**Valandovo**	**5.49**	**330**	*i*Pn	**Pn**	**20 54 03.1**	**-0.3**
HMAT	**Matruh**	**5.57**	**173**	P	**Pn**	**20 54 04.9**	**+0.2**
PLD	**Plovdiv**	**5.59**	**348**	*e*Pn	**Pn**	**20 54 04.2**	**-0.6**
PLD	**Plovdiv**	**5.59**	**348**	*e*Pn	**Pn**	**20 54 04.2**	**-0.7**
FNA	**Florina**	**5.63**	**319**	*e*Pn	**Pn**	**20 54 05.8**	**+0.4**
SZAC	**Souni-Zanaja**	**5.71**	**107**	P	**Pn**	**20 54 07.1**	**+0.6**
SZAC				S	**Sn**	**20 55 10.4**	**-1.2**
KKB	**Krupnik**	**5.77**	**336**	*i*P	**Pn**	**20 54 07.2**	**-0.2**
BIA	**Bitola**	**5.83**	**320**	*i*Pn	**Pn**	**20 54 11.6**	**+3.5**
JMB	**Yambol**	**5.83**	**2**	*e*Pn	**Pn**	**20 54 06.7**	**-1.5**
JMB	**Yambol**	**5.83**	**2**	*i*P	**Pn**	**20 54 09.5**	**+1.4**
MAMC	**Mammari**	**5.84**	**102**	⇧*i*P	**Pn**	**20 54 08.7**	**+0.4**
SRN	**Sarande**	**5.89**	**305**	*e*PN	**Pb**	**20 54 24.4**	**-0.4**
KEK	**Kerkira**	**5.94**	**303**	*e*P	**Pn**	**20 54 11.0**	**+1.3**
STIP	**Stip**	**5.96**	**329**	*e*Pn	**Pn**	**20 54 09.2**	**-0.7**
STIP	**Stip**	**5.96**	**329**	*i*Pn	**Pn**	**20 54 10.5**	**+0.6**
CSS	**Prodhromos**	**5.99**	**104**	P	**Pn**	**20 54 10.5**	**+0.1**
	22nm,1.0s						
CSS				S	**Sn**	**20 55 17.3**	**-1.1**
ANTO	**Ankara**	**6.07**	**56**	P	**Pn**	**20 54 14.0**	**+2.4**
	SNR=20						
ANTO	**Ankara**	**6.07**	**56**	*e*P	**Pn**	**20 54 13.5**	**+2.0**
ANTO				pmax	pmax		
	comp=Z,261nm,1.1s						
ANTO	**Ankara**	**6.07**	**56**	⇧*i*P	**Pn**	**20 54 13.6**	**+2.1**
ANTO	**Ankara**	**6.07**	**56**	P	**Pn**	**20 54 14.0**	**+2.5**
	SNR=20						
ANTO				*e*Sn	**Sb**	**20 55 58.1**	**+18**
ANTO	**Ankara**	**6.07**	**56**	*e*Pn	**Pn**	**20 54 13.5**	**+2.0**
	comp=Z,261nm,1.1s						
ANTO				*e*Sn	**Sb**	**20 55 58.1**	**+18**
PGB	**Panagyurishte**	**6.12**	**345**	*i*P	**Pn**	**20 54 11.0**	**-1.2**
KRUS	**Krusevo**	**6.13**	**322**	*i*Pn	**Pn**	**20 54 14.5**	**+2.2**
OHR	**Ohrid**	**6.17**	**318**	*e*Pn	**Pn**	**20 54 12.7**	**-0.2**
OHR	**Ohrid**	**6.17**	**318**	*i*Pn	**Pn**	**20 54 15.8**	**+3.0**
SKO	**Skopje**	**6.51**	**326**	*i*Pn	**Pn**	**20 54 18.5**	**+1.0**
PHNC	**Paralimni**	**6.53**	**102**	⇧P	**Pn**	**20 54 19.4**	**+1.7**
	comp=Z,34nm,1.1s						
PHNC				S	**Sn**	**20 55 31.7**	**0.0**
SZH	**Strazhica**	**6.63**	**358**	*i*P	**Pn**	**20 54 14.0**	**-5.1**
PHP	**Peshkopia**	**6.77**	**320**	*e*PN	**Pn**	**20 54 30.7**	**+10**
TIR	**Tirane**	**6.85**	**315**	*e*PN	**Pn**	**20 54 24.6**	**+2.5**
QSH	**Qafa e Shtames**	**6.94**	**317**	*e*PN	**Pn**	**20 54 28.0**	**+4.6**
ZIMR		**7.05**	**355**	⇩*i*P	**Pb**	**20 54 41.5**	**-3.0**
PSN	**Preselentsi**	**7.19**	**11**	*i*P	**Pn**	**20 54 22.8**	**-4.0**
PUK	**Puka**	**7.31**	**320**	*e*PN	**Pn**	**20 54 30.9**	**+2.4**
SWA1		**7.37**	**184**	P	**Pn**	**20 54 30.5**	**+1.2**
SWA1				S	**Sn**	**20 55 38.3**	**-14**
SWA2		**7.40**	**185**	⇧P	**Pn**	**20 54 30.5**	**+0.7**
SWA2				S	**Sn**	**20 55 38.3**	**-15**
BCI	**Bajram Curri**	**7.46**	**322**	*e*PN	**Pn**	**20 54 33.2**	**+2.7**
ULC	**Ulcinj**	**7.60**	**317**	⇧*i*Pn	**Pn**	**20 54 33.6**	**+1.1**
ULC				*e*Sn	**Sn**	**20 55 57.5**	**-0.6**
PVY	**Plav**	**7.67**	**323**	⇧*i*Pn	**Pn**	**20 54 33.8**	**+0.3**
PVY				*e*Sn	**Sn**	**20 55 59.7**	**-0.2**
HNAT	**Natroun**	**7.88**	**151**	P	**Pn**	**20 54 35.4**	**-1.0**
PDG	**Podgorica**	**7.92**	**319**	⇧*i*Pn	**Pn**	**20 54 37.3**	**+0.5**
PDG				*e*Sn	**Sn**	**20 56 05.6**	**-0.2**
TTG	**Podgorica**	**7.92**	**319**	⇧*i*Pn	**Pn**	**20 54 37.3**	**+0.5**
TTG				*e*Sn	**Sn**	**20 56 05.6**	**-0.2**
BEY	**Berane**	**7.92**	**324**	⇩*i*Pn	**Pn**	**20 54 38.0**	**+1.2**
BEY				*e*Sn	**Sn**	**20 56 04.8**	**-1.1**
IVA	**Berane**	**7.92**	**324**	⇩*i*Pn	**Pn**	**20 54 38.0**	**+1.2**
IVA				*e*Sn	**Sn**	**20 56 04.8**	**-1.1**
TIP	**Timpagrande**	**7.92**	**292**	P	**Pn**	**20 54 37.2**	**+0.3**
TIRR	**Tirgusor**	**7.98**	**11**	⇩*i*P	**Pn**	**20 54 36.6**	**-1.1**
TIRR	**Tirgusor**	**7.98**	**11**	P	**Pn**	**20 54 38.1**	**+0.4**
TIRR	**Tirgusor**	**7.98**	**11**	P	**Pn**	**20 54 38.1**	**+0.4**
FYM	**Al Fayyum**	**8.00**	**149**	P	**Pn**	**20 54 36.6**	**-1.5**
FYM				S	**Sn**	**20 55 49.3**	**-19**
BUM	**Brajici-Budva**	**8.02**	**317**	⇩*i*Pn	**Pn**	**20 54 38.4**	**+0.2**
BUM				*e*Sn	**Sn**	**20 56 07.0**	**-1.4**
AYT	**Al 'Ayyat**	**8.04**	**148**	P	**Pn**	**20 54 37.5**	**-1.0**
HARR	**Harsova**	**8.15**	**8**	⇧*i*P	**Pn**	**20 54 38.9**	**-1.0**
HARR	**Harsova**	**8.15**	**8**	P	**Pn**	**20 54 40.4**	**+0.5**
HARR	**Harsova**	**8.15**	**8**	P	**Pn**	**20 54 40.4**	**+0.5**
BHL	**Bhannes**	**8.15**	**107**	*e*Pn	**Pn**	**20 54 38.5**	**-1.6**
KOT	**Kottamia**	**8.15**	**144**	⇩P	**Pn**	**20 54 39.5**	**-0.7**
SOI	**Samo**	**8.25**	**283**	P	**Pn**	**20 54 41.2**	**-0.2**
SOI				pmax	pmax		
	comp=Z,31nm,0.6s						
SOI	**Samo**	**8.25**	**283**	Pn	**Pn**	**20 54 41.2**	**-0.2**
	comp=Z,31nm,0.6s						
HWQ	**Hawqa**	**8.25**	**104**	*e*Pn	**Pn**	**20 54 41.8**	**+0.3**
HHAG	**Hagoal**	**8.27**	**142**	P	**Pn**	**20 54 40.8**	**-0.9**
HSAF	**As Saff**	**8.29**	**146**	P	**Pn**	**20 54 40.9**	**-1.1**
HSAF	**As Saff**	**8.29**	**146**	P	**Pn**	**20 54 40.8**	**-1.1**
NKY	**Niksic**	**8.32**	**320**	⇧*i*Pn	**Pn**	**20 54 42.6**	**+0.2**
NKY				*e*Sn	**Sn**	**20 56 14.2**	**-1.7**
HCY	**Herceg Novi**	**8.34**	**316**	⇩*i*Pn	**Pn**	**20 54 43.0**	**+0.4**
HCY				*e*Sn	**Sn**	**20 56 15.8**	**-0.5**
MMAI	**Mount Meron Ar**	**8.34**	**113**	Pn	**Pn**	**20 54 41.5**	**-1.2**
	comp=Z,16nm,0.3s,baz=304,slow=12,SNR=50						
MMAI				Sn	**Sn**	**20 56 12.7**	**-3.7**
	comp=Z,51nm,0.3s,baz=302,slow=26,SNR=13						
GLL	**Jalalah**	**8.39**	**145**	P	**Pn**	**20 54 42.4**	**-1.0**
CEL	**Celeste**	**8.40**	**284**	Pn	**Pn**	**20 54 43.7**	**+0.3**
	comp=Z,70nm,0.7s						
ORI	**Oriolo Calabro**	**8.43**	**297**	Pn	**Pn**	**20 54 44.2**	**+0.4**
RCY	**Rachaya**	**8.45**	**109**	*e*Pn	**Pn**	**20 54 43.4**	**-0.8**
PLE	**Pljevlja**	**8.51**	**324**	⇧*i*Pn	**Pn**	**20 54 45.4**	**+0.5**
PLE				*e*Sn	**Sn**	**20 56 19.1**	**-1.3**
MTTG	**Motta San Giov**	**8.53**	**282**	Pn	**Pn**	**20 54 45.0**	**-0.2**
	comp=Z,322nm,1.1s						
AWBH		**8.59**	**164**	P	**Pn**	**20 54 45.1**	**-1.0**
BRY	**Bratogost**	**8.62**	**319**	⇩*i*Pn	**Pn**	**20 54 47.2**	**+0.7**
BRY				*e*Sn	**Sn**	**20 56 21.5**	**-1.7**
UPM	**Unac-Piva**	**8.65**	**322**	⇧*i*Pn	**Pn**	**20 54 47.4**	**+0.6**
UPM				*e*Sn	**Sn**	**20 56 22.8**	**-1.1**
HBNS	**Bani Suwayf**	**8.72**	**150**	P	**Pn**	**20 54 46.7**	**-1.2**
SUZ		**8.73**	**139**	P	**Pn**	**20 54 47.4**	**-0.6**
SCHR	**S. Chirico Rap**	**8.74**	**297**	P	**Pn**	**20 54 53.7**	**+5.5**
TLCR		**8.76**	**12**	⇧*i*P	**Pn**	**20 54 47.5**	**-0.8**
TLCR		**8.76**	**12**	P	**Pn**	**20 54 48.4**	**+0.1**
TLCR		**8.76**	**12**	P	**Pn**	**20 54 48.4**	**+0.1**
VOIR		**8.84**	**354**	⇧*i*P	**Pn**	**20 54 50.0**	**+0.6**
VOIR		**8.84**	**354**	⇧P	**Pn**	**20 54 50.0**	**+0.5**
VOIR				P		20 54 57.7	
MLR	**Muntele Rosu**	**8.85**	**359**	⇧*i*P	**Pn**	**20 54 49.3**	**-0.3**
MLR	**Muntele Rosu**	**8.85**	**359**	P	**Pn**	**20 54 50.6**	**+1.0**
DIVS	**Divibare**	**8.85**	**329**	*e*Pn	**Pn**	**20 54 49.8**	**+0.2**
CUC	**Castrocucco**	**8.86**	**295**	Pn	**Pn**	**20 54 50.8**	**+1.0**
	comp=Z,318nm,1.1s						
PTRP	**Pietrapertosa**	**8.88**	**299**	Pn	**Pn**	**20 54 50.8**	**+0.9**
	comp=Z,251nm,0.6s						
BBLS	**Lazići**	**8.92**	**326**	P	**Pn**	**20 54 53.0**	**+2.5**
ZAF		**9.04**	**142**	P	**Pn**	**20 54 51.2**	**-1.0**
ZNM		**9.12**	**141**	P	**Pn**	**20 54 53.3**	**-0.1**
PLOR	**Plostina**	**9.21**	**2**	⇧*i*P	**Pn**	**20 54 56.1**	**+1.6**
VRI	**Vrincioaia**	**9.23**	**2**	⇩*i*P	**Pn**	**20 54 54.6**	**-0.2**
VRI	**Vrincioaia**	**9.23**	**2**	P	**Pn**	**20 54 55.0**	**+0.2**
VRI	**Vrincioaia**	**9.23**	**2**	P	**Pn**	**20 54 55.0**	**+0.3**
HVZN	**Vizzini**	**9.26**	**277**	Pn	**Pn**	**20 54 54.3**	**-1.0**
HNKL	**Nakhl**	**9.30**	**134**	P	**Pn**	**20 54 55.7**	**-0.1**
MRLC	**Muro Lucano**	**9.37**	**299**	Pn	**Pn**	**20 54 57.0**	**+0.3**
	comp=Z,155nm,1.4s						
SGO	**Sicignano**	**9.42**	**298**	P	**Pn**	**20 54 57.9**	**+0.4**
SGO				pmax	pmax		
	comp=Z,34nm,0.3s						
SGO	**Sicignano**	**9.42**	**298**	Pn	**Pn**	**20 54 57.9**	**+0.4**
	comp=Z,34nm,0.3s						
FGMS	**Monte Sant'Ang**	**9.46**	**305**	Pn	**Pn**	**20 54 57.3**	**-0.7**
FG4	**Candela**	**9.50**	**301**	P	**Pn**	**20 54 59.0**	**+0.5**
FG4				pmax	pmax		
	comp=Z,95nm,0.6s						
FG4	**Candela**	**9.50**	**301**	Pn	**Pn**	**20 54 59.0**	**+0.5**
	comp=Z,94nm,0.6s						
VAE	**Valguarnera**	**9.51**	**279**	Pn	**Pn**	**20 54 59.5**	**+0.9**
	comp=Z,2.6nm,0.3s,baz=149,slow=2.0,SNR=6.5						
HFRF	**Wahat Farafira**	**9.62**	**169**	⇩P	**Pn**	**20 54 59.3**	**-0.9**
BZS	**Buzias**	**9.63**	**340**	⇧*i*P	**Pn**	**20 54 59.1**	**-1.1**
BZS	**Buzias**	**9.63**	**340**	P	**Pn**	**20 54 58.6**	**-1.6**
BZS	**Buzias**	**9.63**	**340**	P	**Pn**	**20 54 58.6**	**-1.7**
RGNG	**Rignano Grg**	**9.69**	**305**	Pn	**Pn**	**20 54 59.9**	**-1.2**
SEV	**Sevastopol'**	**9.70**	**33**	*e*P	**Pn**	**20 55 02.3**	**+1.0**
SEV				*e*S	**Sn**	**20 56 44.1**	**-5.6**
SEV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SEV				smax			
	comp=E,21nm,1.0s						
SEV				smax			
	comp=N,22nm,0.9s						
SEV	**Sevastopol'**	**9.70**	**33**	*e*P	**Pn**	**20 55 02.3**	**+1.0**
	comp=N,4.0nm,0.9s						
SEV				*e*S	**Sn**	**20 56 44.1**	**-5.6**
	comp=N,22nm,0.9s						
FG5	**Orsara di Pugl**	**9.73**	**302**	P	**Pn**	**20 55 02.5**	**+0.8**
FG5				pmax	pmax		
	comp=Z,145nm,1.0s						
FG5	**Orsara di Pugl**	**9.73**	**302**	Pn	**Pn**	**20 55 02.5**	**+0.8**
	comp=Z,145nm,1.0s						
CSSN	**Cassano Irpino**	**9.73**	**299**	Pn	**Pn**	**20 55 01.7**	**0.0**
	comp=Z,52nm,0.7s						
MALT	**Malatya**	**9.82**	**77**	⇧*i*P	**Pn**	**20 55 06.8**	**+3.9**
MALT	**Malatya**	**9.82**	**77**	⇧P	**Pn**	**20 55 06.8**	**+3.9**
ASF	**Jabal al Asfar**	**9.85**	**114**	LR	LR	20 59 38.1	
	comp=Z,755nm,18.4s,slow=42						
YAL	**Yalta**	**9.88**	**35**	*e*P	**Pn**	**20 55 07.5**	**+3.9**
YAL				*e*S	**Sn**	**20 56 52.5**	**-1.5**
YAL				pmax	pmax		
	comp=Z,25nm,0.9s						
YAL				smax			
	comp=N,19nm,0.9s						
YAL				smax			
	comp=E,9.0nm,0.8s						
YAL	**Yalta**	**9.88**	**35**	*e*P	**Pn**	**20 55 07.5**	**+3.9**
	comp=E,25nm,0.9s						
YAL				*e*S	**Sn**	**20 56 52.5**	**-1.5**
	comp=E,19nm,0.9s						
HRDS	**Abu Rudays**	**9.88**	**141**	P	**Pn**	**20 55 02.5**	**-1.2**
GRB	**Gharib**	**10.00**	**145**	⇧P	**Pn**	**20 55 04.3**	**-1.1**
PSB1	**Pescosannita**	**10.02**	**301**	Pn	**Pn**	**20 55 06.6**	**+0.9**
	comp=E,360nm,1.4s						
EIL	**Elat**	**10.06**	**131**	Pn	**Pn**	**20 55 05.2**	**-1.1**
	comp=E,9.8nm,0.3s,baz=299,slow=3.

OKC	**Ostrava-Krasne**	**14.45 339**	*e*P	**Pn**	**20 56 06.6 +0.6**
OKC			*ex*	x	20 56 14.5
OKC			AMS	AMS	21 02 40.0
	comp=Z,11µm,10.5s				
OKC	**Ostrava-Krasne**	**14.45 339**	*e*P	**Pn**	**20 56 06.6 +0.6**
OKC			*e*		20 56 14.5
VRAC	**Vranov**	**14.49 334**	Pn	**Pn**	**20 56 08.7 +2.1**
	comp=Z,0.1nm,0.3s,baz=139,slow=9.8,SNR=3.4				
VRAC			LR	LR	21 02 09.5
	comp=Z,860nm,18.3s,baz=179,slow=39				
VRAC	**Vranov**	**14.49 334**	‖*i*P	**Pn**	**20 56 10.2 +3.5**
KIV	**Kislovodsk**	**14.50 55**	P	**Pn**	**20 56 10.4 +3.5**
	comp=Z,1µm,1.0s,SNR=11				
KIV	**Kislovodsk**	**14.50 55**	P	**Pn**	**20 56 09.6 +2.8**
	SNR=87				
KIV	**Kislovodsk**	**14.50 55***d i*P		**Pn**	**20 56 09.0 +2.1**
KIV			MLR	MLR	
	comp=Z,2µm,16.0s				
KIV	**Kislovodsk**	**14.50 55**⇑*i*P		**Pn**	**20 56 08.5 +1.6**
KIV	**Kislovodsk**	**14.50 55** ⇑P		**Pn**	**20 56 08.5 +1.7**
ONI	**Oni**	**14.51 61**	P	**Pn**	**20 56 08.6 +1.6**
PGF	**Pioggiola**	**14.55 299**	*e*P	**Pn**	**20 56 08.8 +1.3**
	comp=Z,314nm,1.7s				
PGF	**Pioggiola**	**14.55 299**	*e*P	**Pn**	**20 56 08.8 +1.3**
PGF			pmax	pmax	
	comp=Z,157nm,1.7s				
PGF	**Pioggiola**	**14.55 299**	*e*P	**Pn**	**20 56 08.8 +1.3**
	comp=Z,157nm,1.7s				
GOR	**Gori**	**14.81 63**	P	pP	20 56 24.2 +2.2
TREC	**Trest**	**14.88 332**	*e*P	pP	20 56 25.9 +3.1
	comp=Z,4µm,12.1s				
TREC	**Trest**	**14.88 332**	*e*pP	pP	20 56 25.9 +3.1
TREC			AMS	AMS	21 04 20.0
	comp=Z,4µm,12.1s				
GNI	**Garni**	**14.91 71**	Pn	**Pn**	**20 56 15.7 +3.2**
	comp=Z,0.3nm,0.3s,baz=148,slow=3.0,SNR=13				
GNI	**Garni**	**14.91 71***d i*P		**Pn**	**20 56 15.9 +3.4**
GNI			pmax	pmax	
	comp=Z,2µm,17.0s				
GNI	**Garni**	**14.91 71**	P	**Pn**	**20 56 15.8 +3.3**
	SNR=22				
GNI	**Garni**	**14.91 71**	*e*Pn	**Pn**	**20 56 15.9 +3.4**
ABSA	**Djebel Ababsia**	**15.12 274**	P	pP	20 56 30.0 +4.5
CMAH	**Djebel Manchou**	**15.13 276**	P	pP	20 56 28.0 +2.4
TBLG	**Delisi**	**15.20 65**	P	**Pn**	**20 56 20.0 +3.7**
MTA	**Mtatsminda**	**15.23 65**	P	**Pn**	**20 56 18.6 +1.9**
BHD	**Baghdad**	**15.24 97**	*ex*	x	20 56 14.7
BHD			*ex*	x	20 59 02.0
GEC2	**GERESS Array S**	**15.27 327**	*e*P	**Pn**	**20 56 16.8 -0.3**
GEC2			pmax	pmax	
	comp=Z,120nm,1.8s				
GEC2	**GERESS Array S**	**15.27 327**	*e*P	**Pn**	**20 56 16.8 -0.3**
	comp=Z,120nm,1.8s				
GEC2			*e*S	**Sn**	**20 59 22.5 +17**
GERES	**GERESS Array B**	**15.27 327**	Pn	**Pn**	**20 56 17.2 0.0**
	comp=Z,0.1nm,0.3s,baz=159,slow=11,SNR=8.5				
NAX	**Nakhchivan**	**15.40 75**	P	**Pn**	**20 56 22.5 +3.6**
	SNR=76				
DPC	**Dobruska-Polom**	**15.47 336**	*e*P	**Pn**	**20 56 22.8 +3.1**
DPC			*e*pP	pP	20 56 29.4 +0.2
DPC			*e*S	**Sn**	**20 59 16.0 +5.5**
DPC			AMS	AMS	21 03 50.0
	comp=Z,4µm,10.7s				
DPC	**Dobruska-Polom**	**15.47 336**	*e*P	**Pn**	**20 56 22.8 +3.1**
DPC			*e*		20 56 29.4
DPC			*e*S	**Sn**	**20 59 16.0 +5.5**
LGHD	**Ghdames**	**15.52 250**	*i* P	**Pn**	**20 56 26.2 +5.7**
	SNR=43				
KHC	**Kasperske Hory**	**15.54 327**	*e*P	**Pn**	**20 56 19.8 -0.8**
KHC			*ex*	x	20 56 26.6
KHC			*e*S	**Sn**	**20 59 21.7 +9.5**
KHC			AMS	AMS	21 03 00.0
	comp=Z,6µm,11.4s				
KHC	**Kasperske Hory**	**15.54 327**	*e*P	**Pn**	**20 56 19.8 -0.8**
KHC			*e*		20 56 26.6
KHC			*e*		21 26 41.0
CAEH	**'Ain El Ouahch**	**15.57 276**	P	pP	20 56 32.0 +1.5
DGRG	**David-gareji**	**15.61 66**	P	**Pn**	**20 56 19.0 -2.6**
UPC	**Upice**	**15.71 335**	*e*P	**Pn**	**20 56 26.7 +3.9**
UPC			*e*pP	pP	20 56 32.2 +0.3
CKFL	**Kef-Lekhel**	**15.71 275**	P	pP	20 56 34.0 +1.9
PRU	**Pruhonice**	**15.81 331**	*e*P	**Pn**	**20 56 23.6 -0.6**
PRU			*e*pP	pP	20 56 32.2 -0.8
PRU			*e*S	**Sn**	**20 59 23.5 +4.7**
PRU			AMS	AMS	21 03 20.0
	comp=Z,3µm,8.9s				
PRU	**Pruhonice**	**15.81 331**	*e*P	**Pn**	**20 56 23.6 -0.6**
PRU			*e*		20 56 32.2
PRU			*e*S	**Sn**	**20 59 23.5 +4.7**
DAVOX	**Davos/Dischmat**	**15.85 315**	Pn	**Pn**	**20 56 25.2 +0.4**
	comp=Z,0.1nm,0.3s,baz=143,slow=15,SNR=3.2				
WET	**Wettzell**	**15.86 326**	*e*P	**Pn**	**20 56 28.5 +3.7**
WET			pmax	pmax	
	comp=Z,120nm,1.7s				
WET	**Wettzell**	**15.86 326**	*e*P	**Pn**	**20 56 28.5 +3.7**
	comp=Z,120nm,1.7s				
WET			*e*S	**Sn**	**20 59 33.7 +14**
KSP	**Ksiaz**	**15.90 336**	*e*P	**Pn**	**20 56 25.4 +0.1**
KSP	**Ksiaz**	**15.90 336**	*e*P	**Pn**	**20 56 24.8 -0.5**
KSP			*e*pP	pP	20 56 30.3 -3.7
KSP			*e*S	**Sn**	**20 59 26.0 +5.0**
CASM	**Ain Smara**	**15.91 275**	P	**Pn**	**20 56 35.0 +9.4**
DAVOS	**Davos**	**15.94 315**	P	**Pn**	**20 56 25.2 -0.6**
FUR	**Furstenfeldbru**	**15.94 321**	*e*P	**Pn**	**20 56 30.3 +4.4**
FUR			pmax	pmax	
	comp=Z,107nm,1.2s				
FUR	**Furstenfeldbru**	**15.94 321**	*e*P	**Pn**	**20 56 30.3 +4.4**
	comp=Z,107nm,1.2s				
CTEI	**Djebel Teioual**	**16.01 274**	P	**Pn**	**20 56 35.0 +8.2**
SAOF	**Saorge**	**16.02 303**	*e*P	**Pn**	**20 56 27.9 +0.9**
SBF	**Sospel**	**16.06 302**	*e*P	**Pn**	**20 56 31.7 +4.2**
	comp=Z,368nm,1.0s				
SBF	**Sospel**	**16.06 302**	*e*P	**Pn**	**20 56 31.7 +4.2**
SBF			pmax	pmax	
	comp=Z,184nm,1.0s				
SBF	**Sospel**	**16.06 302**	*e*P	**Pn**	**20 56 31.7 +4.2**
	comp=Z,184nm,1.0s				
REVF	**Revere**	**16.07 302**	*e*P	**Pn**	**20 56 28.4 +0.9**
AUTN	**L'Aution**	**16.11 303**	*e*P	**Pn**	**20 56 29.3 +1.2**
LUCF	**Luceram**	**16.13 303**	*e*P	**Pn**	**20 56 30.2 +1.8**
DAVA	**Damuels**	**16.14 316**⇑*i*P		**Pn**	**20 56 28.7 +0.2**
	comp=Z,40nm,0.9s				
DAVA	**Damuels**	**16.14 316**⇑*i*P		**Pn**	**20 56 28.6 +0.1**
	comp=Z,40nm,0.9s				
GANJ	**Ganja**	**16.18 70**	P	**Pn**	**20 56 31.2 +2.2**
	SNR=32				
PVCC	**Panska Ves**	**16.23 332**	*e*P	**Pn**	**20 56 27.0 -2.6**
PVCC			*e*pP	pP	20 56 34.5 -3.2
PVCC			AMS	AMS	21 04 40.0
	comp=Z,4µm,10.2s				
PVCC	**Panska Ves**	**16.23 332**	*e*P	**Pn**	**20 56 27.0 -2.6**
PVCC			*e*		20 56 34.5
TOUF	**Mont Tournerai**	**16.24 303**	*e*P	**Pn**	**20 56 30.0 +0.2**
DFRA	**Djebel Bou Aff**	**16.37 276**	P	**Pn**	**20 56 38.0 +6.5**
ORO	**Oropa**	**16.41 309**	P	**Pn**	**20 56 35.8 +3.9**
FRF	**La Foret Royal**	**16.50 301**	*e*P	**Pn**	**20 56 32.9 -0.2**
	comp=Z,73nm,1.1s				
FRF	**La Foret Royal**	**16.50 301**	*e*P	**Pn**	**20 56 32.9 -0.2**
FRF			pmax	pmax	
	comp=Z,36nm,1.1s				
FRF	**La Foret Royal**	**16.50 301**	*e*P	**Pn**	**20 56 32.9 -0.2**
	comp=Z,36nm,1.1s				
ROTZ	**Rotzenmuhle**	**16.61 327**	*e*P	**Pn**	**20 56 35.8 +1.4**
	comp=Z,34nm,1.2s				
ROTZ			*e*S	**Sn**	**20 59 48.1 +10**
BRG	**Berggiesshubel**	**16.75 332**	*e*P	**Pn**	**20 56 43.9 +7.7**
	comp=Z,11nm,1.1s				
BRG			*e*		20 56 52.9
	comp=Z,29nm,1.4s				
BRG			*e*		20 57 07.2
	comp=Z,31nm,1.3s				
BRG					
	comp=Z,4µm,11.7s				
BRG					
	comp=N,3µm,12.0s				
BRG					
	comp=E,2µm,12.0s				
BRG	**Berggiesshubel**	**16.75 332**	*e*P	**Pn**	**20 56 43.9 +7.7**
	comp=E,6.5nm,1.0s				
BRG			*e*		20 56 52.9
BRG			*e*		20 57 07.2
BRDA	**Brd**	**16.78 71**	P	**Pn**	**20 56 40.4 +3.7**
	SNR=60				
SET	**Setif**	**16.80 275**	P	**Pn**	**20 56 43.0 +6.1**
MANZ	**Manzenberg**	**16.81 327**	*e*S	**Sn**	**20 59 52.3 +9.1**
MBDF	**Montbardon**	**16.82 305**	*e*P	**Pn**	**20 56 38.4 +1.3**
	comp=E,103nm,0.9s				
MBDF	**Montbardon**	**16.82 305**	*e*P	**Pn**	**20 56 38.4 +1.3**
MBDF			pmax	pmax	
	comp=Z,52nm,0.9s				
MBDF	**Montbardon**	**16.82 305**	*e*P	**Pn**	**20 56 38.4 +1.3**
	comp=Z,52nm,0.9s				
NKC	**Novy Kostel**	**16.85 328**	*e*P	**Pn**	**20 56 37.2 -0.3**
NKC			AMS	AMS	21 05 00.0
	comp=Z,6µm,12.8s				
NKC	**Novy Kostel**	**16.85 328**	*e*	**Pn**	**20 56 37.2 -0.3**
SEKA	**Sheki**	**16.92 68**	P	**Pn**	**20 56 40.1 +1.7**
	SNR=28				
GRA1	**Grafenberg Arr**	**17.00 325**	*e*P	**Pn**	**20 56 40.0 +0.6**
	comp=Z,334nm,2.4s				
GRA1			*e*S	**Sn**	**20 59 52.0 +4.2**
GRF	**Grafenberg Arr**	**17.00 325**	*e*P	**Pn**	**20 56 40.0 +0.6**
	comp=Z,334nm,2.4s				
GRF			*e*S	**Sn**	**20 59 52.0 +4.2**
GRF			*e*L		21 03 25.0
	comp=Z,808nm,20.1s				
GRF	**Grafenberg Arr**	**17.00 325**	*e*P	**Pn**	**20 56 40.0 +0.6**
	comp=Z,334nm,2.4s				
GRF			*e*S	**Sn**	**20 59 52.0 +4.2**
LPG	**La Plagne**	**17.13 307**	*e*P	**Pn**	**20 56 43.9 +2.9**
	comp=Z,117nm,1.2s				
LPG	**La Plagne**	**17.13 307**	*e*P	**Pn**	**20 56 43.9 +2.9**
LPG			pmax	pmax	
	comp=Z,59nm,1.2s				
LPG	**La Plagne**	**17.13 307**	*e*P	**Pn**	**20 56 43.9 +2.9**
	comp=Z,59nm,1.2s				
LPL	**La Plagne**	**17.15 307**	*e*P	**Pn**	**20 56 43.4 +2.1**
	comp=Z,42nm,0.9s				
LPL	**La Plagne**	**17.15 307**	*e*P	**Pn**	**20 56 43.4 +2.1**
LPL			pmax	pmax	
	comp=Z,21nm,0.9s				
LPL	**La Plagne**	**17.15 307**	*e*P	**Pn**	**20 56 43.4 +2.1**
	comp=Z,21nm,0.9s				
SPAK	**Spaichingen-Ko**	**17.21 317**	*e*P	**Pn**	**20 56 41.5 -0.5**
VRSR	**Storozhevoye**	**17.26 28**	*e*P	**Pn**	**20 56 41.5 -1.0**
VRSR			*e*S	**Sn**	**20 59 56.3 +2.4**
VRSR			pmax	pmax	
	comp=Z,10.0nm,1.3s				
VRSR			pmax	pmax	
	comp=N,10.0nm,1.1s				
VRSR			pmax	pmax	
	comp=E,10.0nm,1.1s				
VRSR			smax		
	comp=Z,80nm,4.9s				
VRSR			smax		
	comp=E,50nm,3.5s				
VRSR			MLR	MLR	
	comp=N,150nm,12.0s				
VRSR			MLR	MLR	
	comp=Z,380nm,12.0s				
VRSR			MLR	MLR	
	comp=E,290nm,11.0s				
VRSR	**Storozhevoye**	**17.26 28**	*e*P	**Pn**	**20 56 41.5 -1.0**
	comp=E,10.0nm,1.3s				
VRSR			*e*S	**Sn**	**20 59 56.3 +2.4**
	comp=E,80nm,4.9s				
SMRF	**Simiane la Rot**	**17.37 301**	*e*P	**Pn**	**20 56 47.8 +3.8**
	comp=E,58nm,1.1s				
SMRF	**Simiane la Rot**	**17.37 301**	*e*P	**Pn**	**20 56 47.8 +3.8**
	comp=E,29nm,1.1s				
STU	**Stuttgart**	**17.40 320**	*e*S	**Sn**	**21 00 03.3 +6.0**
CLL	**Collm**	**17.45 331**	*e*P	**Pn**	**20 56 46.0 +1.0**
CLL			*e*S	**Sn**	**21 00 00.0 +1.3**
CLL			pmax	pmax	
	comp=Z,9.0nm,1.2s				
CLL	**Collm**	**17.45 331**	*e*P	**Pn**	**20 56 46.2 +1.2**
	comp=Z,66nm,1.6s				
CLL			*e*S	**Sn**	**21 00 07.4 +8.7**
CLL	**Collm**	**17.45 331**	*e*P	**Pn**	**20 56 46.0 +1.0**
	comp=Z,9.0nm,1.2s				
CLL			*i* sP	sP	20 56 54.0 +0.4
CLL			*i* (PP)		20 56 58.7
CLL			*i* sPP		20 57 02.7
	comp=Z,66nm,1.6s				
CLL			*ex*	x	20 57 13.0
CLL			*ex*	x	20 57 18.0
CLL			*ex*	x	20 57 28.0
CLL			*e*S	**Sn**	**21 00 00.0 +1.3**
CLL			*ex*	x	21 01 26.0
CLL	**Collm**	**17.45 331**	*e*P	**Pn**	**20 56 46.0 +1.0**
	comp=Z,9.0nm,1.2s				
CLL			*i* pP	pP	20 56 54.0 +2.8
CLL	**Collm**	**17.45 331**	*e*P	**Pn**	**20 56 46.0 +1.0**
	comp=Z,9.0nm,1.2s				
CLL			*i* pP	pP	20 56 54.0 +2.8
CLL			*i*		20 57 02.7
CLL			*e*S	**Sn**	**21 00 00.0 +1.3**
ORIF	**Oris-en-Rattie**	**17.48 305**	*e*P	**Pn**	**20 56 48.0 +2.7**
	comp=Z,84nm,1.2s				
ORIF			*e*MLR	MLR	
	comp=Z,3µm,18.8s				
ORIF	**Oris-en-Rattie**	**17.48 305**	*e*P	**Pn**	**20 56 48.0 +2.7**
ORIF			pmax	pmax	
	comp=Z,42nm,1.2s				
ORIF	**Oris-en-Rattie**	**17.48 305**	*e*P	**Pn**	**20 56 48.0 +2.7**
	comp=Z,42nm,1.2s				
MAK	**Makhachkala**	**17.49 62***c i*P		**Pn**	**20 56 49.7 +4.2**
MAK			pmax	pmax	
	comp=Z,270nm,1.4s				
MAK			MLR	MLR	
	comp=Z,866nm,16.0s				
MAK	**Makhachkala**	**17.49 62** *i* P		**Pn**	**20 56 49.7 +4.2**
	comp=Z,866nm,16.0s				
SUW	**Suwalki**	**17.51 354**	*e*P	**Pn**	**20 56 47.3 +1.6**
MOX	**Moxa**	**17.51 328**	*e*P	**Pn**	**20 56 48.4 +2.7**
	comp=Z,161nm,2.0s				
MOX					
	comp=Z,4µm,16.0s				
MOX	**Moxa**	**17.51 328**	*e*P	**Pn**	**20 56 47.2 +1.5**
	comp=Z,212nm,2.0s				
MOX			*e*S	**Sn**	**21 00 06.5 +6.4**
FELD	**Feldberg im Sc**	**17.52 316**	*e*P	**Pn**	**20 56 45.8 -0.1**
BFO	**Black Forest**	**17.60 317**	*e*P	**Pn**	**20 56 46.2 -0.6**
BFO			*e*S	**Sn**	**21 00 07.2 +5.0**
BFO			pmax	pmax	
	comp=Z,26nm,1.3s				
BFO	**Black Forest**	**17.60 317**	*e*P	**Pn**	**20 56 46.2 -0.6**
	comp=Z,26nm,1.3s				
BFO			*e*S	**Sn**	**21 00 07.2 +5.0**
GLBA	**Cilabad**	**17.65 75**	P	**Pn**	**20 56 49.9 +2.4**
	SNR=8.6				
VOR	**Voronezh**	**17.68 27**	*e*P	**Pn**	**20 56 48.0 +0.3**
VOR			pmax	pmax	
	comp=Z,120nm,1.4s				
VOR	**Voronezh**	**17.68 27**	*e*P	**Pn**	**20 56 48.0 +0.3**
	comp=Z,120nm,1.4s				
GKP	**Gorka Klasztor**	**17.79 342**	*e*P	**Pn**	**20 56 50.8 +1.7**
MNK	**Minsk**	**17.90 3**‖	*e*P	**Pn**	**20 56 46.0 -4.5**
MNK			pmax	pmax	
	comp=Z,150nm,1.5s				
MNK	**Minsk**	**17.90 3**	*e*P	**Pn**	**20 56 46.0 -4.5**
	comp=Z,150nm,1.5s				
PQL	**Pirkuli**	**17.91 70**	P	**Pn**	**20 56 53.0 +2.3**
	SNR=21				
LOMF	**Lomont**	**17.93 313**	*e*P	**Pn**	**20 56 54.2 +3.3**
MOF	**Molkenrain**	**18.00 314**	*e*P	**Pn**	**20 56 51.6 -0.2**
CABF	**La Chapelle**	**18.03 310**	*e*P	**Pn**	**20 56 51.3 -0.8**
	comp=Z,200nm,1.2s				
CABF	**La Chapelle**	**18.03 310**	*e*P	**Pn**	**20 56 51.3 -0.8**
CABF			pmax	pmax	
	comp=Z,100nm,1.2s				
CABF	**La Chapelle**	**18.03 310**	*e*P	**Pn**	**20 56 51.3 -0.8**
	comp=Z,100nm,1.2s				
HINF	**Hinteralfeld**	**18.15 314**	*e*P	**Pn**	**20 56 53.7 +0.1**
	comp=Z,18nm,0.7s				
HINF	**Hinteralfeld**	**18.15 314**	*e*P	**Pn**	**20 56 53.7 +0.1**
HINF			pmax	pmax	
	comp=Z,9.0nm,0.7s				
HINF	**Hinteralfeld**	**18.15 314**	*e*P	**Pn**	**20 56 53.7 +0.1**
	comp=Z,8.9nm,0.7s				
ALIB	**Ii-Bayraml**	**18.15 73**	P	**Pn**	**20 56 57.3 +3.6**
	SNR=10				
SIZA	**Siyzn**	**18.17 69**	P	**Pn**	**20 56 56.4 +2.5**
	SNR=17				
OG05	**Jujurieux**	**18.18 308**	*e*P	**Pn**	**20 56 53.3 -0.7**
ECH	**Echery**	**18.18 315**	*e*P	**Pn**	**20 56 54.2 +0.2**
CDF	**Champ du Feu**	**18.22 316**	*e*P	**Pn**	**20 56 55.0 +0.5**
	comp=Z,62nm,1.2s				
CDF	**Champ du Feu**	**18.22 316**	*e*P	**Pn**	**20 56 55.0 +0.5**
CDF			pmax	pmax	
	comp=Z,31nm,1.2s				
CDF	**Champ du Feu**	**18.22 316**	*e*P	**Pn**	**20 56 55.0 +0.5**
	comp=Z,31nm,1.2s				
LANF	**Langenberg**	**18.26 318**	*e*P	**Pn**	**20 56 56.8 +1.9**
VIVF	**Saint-Julien-l**	**18.26 303**	*e*P	**Pn**	**20 56 55.4 +0.4**
	comp=Z,54nm,1.2s				
VIVF	**Saint-Julien-l**	**18.26 303**	*e*P	**Pn**	**20 56 55.4 +0.4**
VIVF			pmax	pmax	
	comp=Z,27nm,1.2s				
VIVF	**Saint-Julien-l**	**18.26 303**	*e*P	**Pn**	**20 56 55.4 +0.4**
	comp=Z,27nm,1.2s				
UBBA	**Unterbreizbach**	**18.35 326**	*e*P	**Pn**	**20 56 56.4 +0.4**
	comp=Z,36nm,1.5s				
UBBA			*e*S	**Sn**	**21 00 25.6 +5.2**
HAU	**Haudompre**	**18.54 314**	*e*P	**Pn**	**20 56 58.8 +0.5**
	comp=Z,37nm,0.9s				
HAU			*e*MLR	MLR	
	comp=Z,3µm,17.0s				
HAU	**Haudompre**	**18.54 314**	*e*P	**Pn**	**20 56 58.8 +0.5**
HAU			pmax	pmax	
	comp=Z,19nm,0.9s				
HAU	**Haudompre**	**18.54 314**	*e*P	**Pn**	**20 56 58.8 +0.5**
	comp=Z,19nm,0.9s				
LASF	**Ste Croix**	**18.58 300**	*e*P	**Pn**	**20 57 01.6 +2.7**
ETOS	**Mallorca**	**18.68 287**	P	**Pn**	**20 57 02.4 +2.3**
	comp=Z,21nm,0.9s				
ETOS	**Mallorca**	**18.68 287**	P	**Pn**	**20 57 02.4 +2.3**
	comp=Z,21nm,0.9s				
TNS	**Taunus Mts**	**18.69 322**	*e*P	**Pn**	**20 57 00.9 +0.8**
TNS			*e*S	**Sn**	**21 00 33.4 +4.9**
TNS			pmax	pmax	
	comp=Z,73nm,1.2s				
TNS	**Taunus Mts**	**18.69 322**	*e*P	**Pn**	**20 57 00.9 +0.8**
	comp=Z,73nm,1.2s				
TNS			*e*S	**Sn**	**21 00 33.4 +4.9**
GOBA	**Gobu**	**18.74 71**	P	**Pn**	**20 57 04.1 +3.3**
	SNR=4.7				
RST	**Umm Al-Ruwaisa**	**18.77 106**	*e*P	**Pn**	**20 57 01.4 +0.1**
	baz=107				
RST			AMb	AMB	20 57 10.8
	comp=Z,4.0nm,1.1s,baz=107				
THEF	**They Montfort**	**18.86 314**	*e*P	**Pn**	**20 57 02.5 +0.3**
MIB	**Mutribah**	**18.89 105**	*e*P	**Pn**	**20 57 02.9 +0.1**
	baz=105				
MIB			AMb	AMB	20 57 05.0
	comp=Z,178nm,1.5s,baz=105				
EJON	**La Jonquera**	**18.91 295**	P	**Pn**	**20 57 04.8 +1.9**
	comp=Z,13nm,0.8s				
EJON	**La Jonquera**	**18.91 295**	P	**Pn**	**20 57 04.8 +1.9**
	comp=Z,13nm,0.8s				
CLZ	**Clausthal**	**18.92 328**	*e*P	**Pn**	**20 57 04.0 +1.0**
CLZ			*e*S	**Sn**	**21 00 37.9 +3.7**
CLZ			pmax	pmax	
	comp=Z,191nm,2.1s				
CLZ	**Clausthal**	**18.92 328**	*e*P	**Pn**	**20 57 04.0 +1.0**
	comp=Z,191nm,2.1s				
CLZ			*e*S	**Sn**	**21 00 37.9 +3.7**
NAY	**Al-Naaiem**	**19.07 107**	*e*P	**Pn**	**20 57 05.3 +0.3**
	baz=107				
NAY			AMb	AMB	20 57 12.6
	comp=Z,76nm,1.4s,baz=107				
RUP	**Ruppelstein**	**19.07 319**	*e*P	**Pn**	**20 57 06.3 +1.5**
COLF	**Collangettes**	**19.14 305**	*e*P	**Pn**	**20 57 04.8 -0.8**
UMR	**Umm Al-Rimmam**	**19.30 105**	*e*P	**Pn**	**20 57 07.5 -0.1**
	baz=106				
UMR			AMb	AMB	20 57 21.1
	comp=Z,190nm,1.3s,baz=106				
PLDF	**La Plantade**	**19.34 306**	*e*P	**Pn**	**20 57 05.0 -3.0**
LBL	**Lubilhac**	**19.34 303**	*e*P	**Pn**	**20 57 05.3 -2.8**
SMF	**Signal de Mont**	**19.45 308**	*e*P	**Pn**	**20 57 08.0 -1.3**
	comp=Z,33nm,0.8s				
SMF	**Signal de Mont**	**19.45 308**	*e*P	**Pn**	**20 57 08.0 -1.3**
SMF			pmax	pmax	
	comp=Z,17nm,0.8s				
SMF	**Signal de Mont**	**19.45 308**	*e*P	**Pn**	**20 57 08.0 -1.3**
	comp=Z,16nm,0.8s				
KBD	**Kabd**	**19.45 106**	*e*P	**Pn**	**20 57 09.7 +0.2**
	baz=107				
KBD			AMb	AMB	20 57 12.2
	comp=Z,108nm,1.2s,baz=107				
RDF	**Al-Radifah**	**19.46 107**	*e*P	**Pn**	**20 57 10.1 +0.5**
	baz=107				
RDF			AMb	AMB	20 57 12.6
	comp=Z,154nm,1.5s,baz=107				
MEZF	**Maizieres J'vi**	**19.54 314**	*e*P	**Pn**	**20 57 10.8 +0.5**
	comp=Z,208nm,1.3s				
MEZF	**Maizieres J'vi**	**19.54 314**	*e*P	**Pn**	**20 57 10.8 +0.5**
	comp=Z,104nm,1.3s				
WLF	**Walferdange**	**19.54 318**	P	**Pn**	**20 57 09.8 -0.6**
	comp=Z,40nm,2.0s				
WLF	**Walferdange**	**19.54 318**	*e*P	**Pn**	**20 57 12.9 +2.6**
	comp=Z,94nm,1.7s				
WLF			*e*S	**Sn**	**21 00 46.3 -2.7**
LOR	**Lormes**	**19.69 310**	*e*P	**Pn**	**20 57 11.0 -1.2**
	comp=Z,79nm,1.1s				
LOR			*e*MLR	MLR	
	comp=Z,850nm,20.1s				
LOR	**Lormes**	**19.69 310**	*e*P	**Pn**	**20 57 11.0 -1.2**
LOR			pmax	pmax	
	comp=Z,40nm,1.1s				
LOR	**Lormes**	**19.69 310**	*e*P	**Pn**	**20 57 11.0 -1.2**
	comp=Z,40nm,1.1s				
OBN	**Obninsk**	**19.79 18***c i*P		**Pn**	**20 57 11.1 -2.2**
OBN			*i* S	**Sn**	**21 00 54.1 -0.9**
OBN			pmax	pmax	
	comp=Z,47nm,1.2s				
OBN			MLR	MLR	
	comp=Z,2µm,15.0s				
OBN	**Obninsk**	**19.79 18** *i* P		**Pn**	**20 57 11.1 -2.2**
	comp=Z,2µm,15.0s				
EIBI	**Ibiza**	**19.81 284**	P	**Pn**	**20 57 15.4 +1.7**
	comp=Z,22nm,0.9s				
EIBI	**Ibiza**	**19.81 284**	P	**Pn**	**20 57 15.4 +1.7**
	comp=Z,22nm,0.9s				
AVF	**Avril sur Loir**	**19.82 308**	*e*P	**Pn**	**20 57 12.3 -1.4**
	comp=Z,78nm,1.0s				
AVF	**Avril sur Loir**	**19.82 308**	*e*P	**Pn**	**20 57 12.3 -1.4**
AVF			pmax	pmax	
	comp=Z,39nm,1.0s				
AVF	**Avril sur Loir**	**19.82 308**	*e*P	**Pn**	**20 57 12.3 -1.4**
	comp=Z,39nm,1.0s				
SSF	**Saint Saulge**	**19.82 309**	*e*P	**Pn**	**20 57 12.2 -1.6**
	comp=Z,169nm,1.0s				
SSF	**Saint Saulge**	**19.82 309**	*e*P	**Pn**	**20 57 12.2 -1.6**
SSF			pmax	pmax	
	comp=Z,84nm,1.0s				
SSF	**Saint Saulge**	**19.82 309**	*e*P	**Pn**	**20 57 12.2 -1.6**
	comp=Z,84nm,1.0s				
EMIR	**Miracle**	**19.83 293**	P	**Pn**	**20 57 13.1 -0.8**
	comp=Z,52nm,1.1s				
EMIR	**Miracle**	**19.83 293**	P	**Pn**	**20 57 13.1 -0.8**
	comp=Z,52nm,1.1s				
EBNR	**Beni Rached**	**19.88 276**	P	**Pn**	**20 57 24.0 +9.4**
ECHA	**Ech Chlef**	**20.03 276**	P	**P**	**20 57 23.0 +8.4**
BUG	**Bochum--Univer**	**20.04 324**	*e*S	**S**	**21 01 00.3 +1.3**
CAF	**Calviac**	**20.05 302**	*e*P	**P**	**20 57 15.2 +0

IBBN	Ibbenburen	20.39 326	eS	S	21 01 08.7	+2.8
BCLA	Clavier	20.41 319	P	P	20 57 19.4	+0.9
	comp=Z,18nm,1.1s					
HYF	Humbligny	20.45 309	eP	P	20 57 19.9	+0.9
GIVF	Givet	20.49 318	eP	P	20 57 20.2	+0.8
	comp=Z,112nm,1.2s					
GIVF	Givet	20.49 318	eP	P	20 57 20.2	+0.8
GIVF			pmax	pmax		
	comp=Z,56nm,1.2s					
GIVF	Givet	20.49 318	eP	P	20 57 20.2	+0.8
	comp=Z,56nm,1.2s					
RJF	Les Rejaudoux	20.53 303	eP	P	20 57 22.4	+2.5
	comp=Z,143nm,1.4s					
RJF			eMLR	MLR		
	comp=Z,3µm,17.0s,MS4.4					
RJF	Les Rejaudoux	20.53 303	eP	P	20 57 22.4	+2.5
RJF			pmax	pmax		
	comp=Z,71nm,1.4s					
RJF			MLR	MLR		
	comp=Z,3µm,17.0s,MS4.7					
RJF	Les Rejaudoux	20.53 303	eP	P	20 57 22.4	+2.5
	comp=Z,71nm,1.4s					
RJF			LR	LR		
	comp=Z,3µm,17.0s,MS4.7					
BSEG	Bad Segeberg	20.53 332	eS	S	21 01 10.7	+2.1
WTSB	Winterswijk	20.61 324	eP	P	20 57 21.7	+1.1
	comp=Z,57nm,1.4s					
MOS	Moscow	20.61 18	eP	P	20 57 21.3	+0.6
MOS			e		20 57 34.0	
MOS			eS	S	21 01 11.4	+1.2
MOS			e		21 01 54.1	
MOS			e		21 08 41.0	
MOS			pmax	pmax		
	comp=Z,147nm,1.7s					
MOS			pmax	pmax		
	comp=Z,300nm,2.0s					
MOS			MLR	MLR		
	comp=Z,3µm,13.0s,MS4.8					
MOS			MLR	MLR		
	comp=N,2µm,12.0s,MS4.7					
MOS			MLR	MLR		
	comp=E,700nm,13.0s,MS4.7					
MOS	Moscow	20.61 18	eP	P	20 57 21.3	+0.6
	comp=E,300nm,2.0s					
DOU	Dourbes	20.61 318	P	P	20 57 21.5	+0.8
	comp=Z,15nm,1.1s					
ERTA	Horta de San J	20.63 290	P	P	20 57 21.7	+0.7
	comp=Z,75nm,1.2s					
ERTA	Horta de San J	20.63 290	P	P	20 57 21.7	+0.7
	comp=Z,75nm,1.2s					
BAIF	Baives	20.81 317	eP	P	20 57 23.7	+0.9
	comp=Z,173nm,1.1s					
BAIF	Baives	20.81 317	eP	P	20 57 23.7	+0.9
BAIF			pmax	pmax		
	comp=Z,87nm,1.1s					
BAIF	Baives	20.81 317	eP	P	20 57 23.7	+0.9
	comp=Z,87nm,1.1s					
RESF	Ens	20.82 295	eP	P	20 57 23.2	+0.1
EPF	Esparros	20.86 296	eP	P	20 57 25.9	+2.5
	comp=Z,58nm,1.3s					
EPF	Esparros	20.86 296	eP	P	20 57 25.9	+2.5
EPF			pmax	pmax		
	comp=Z,29nm,1.3s					
EPF	Esparros	20.86 296	eP	P	20 57 25.9	+2.5
	comp=Z,29nm,1.3s					
EBIE	Bielsa	20.95 295	P	P	20 57 24.4	0.0
	comp=Z,42nm,1.2s					
EBIE	Bielsa	20.95 295	P	P	20 57 24.4	-0.1
	comp=Z,42nm,1.2s					
LFF	La Frestale	20.96 301	eP	P	20 57 25.1	+0.5
	comp=Z,48nm,0.9s					
LFF	La Frestale	20.96 301	eP	P	20 57 25.1	+0.5
LFF			pmax	pmax		
	comp=Z,24nm,0.9s					
LFF	La Frestale	20.96 301	eP	P	20 57 25.1	+0.5
	comp=Z,24nm,0.9s					
EBEN	Beniarda	21.04 284	P	P	20 57 27.7	+2.2
	comp=Z,38nm,0.9s,mb4.7					
EBEN	Beniarda	21.04 284	P	P	20 57 27.7	+2.2
	comp=Z,38nm,0.9s,mb4.7					
LABF	Labassere	21.05 296	eP	P	20 57 26.3	+0.8
UCC	Uccle	21.12 319	P	P	20 57 27.8	+1.5
	comp=Z,66nm,1.4s,mb4.8					
EMOS	Mosqueruela	21.22 288	P	P	20 57 28.3	+0.9
	comp=Z,40nm,1.3s,mb4.6					
COP	Copenhagen	21.25 338	i P	P	20 57 31.0	+3.5
COP			i S	S	21 01 24.1	+1.3
COP			pmax	pmax		
	comp=Z,68nm,1.1s,mb4.9					
COP			MLR	MLR		
	comp=Z,570nm,15.0s,MS4.1					
COP	Copenhagen	21.25 338	i P	P	20 57 31.0	+3.5
	comp=Z,68nm,1.1s,mb4.9					
COP			i S	S	21 01 24.1	+1.3
COP						
	comp=Z,560nm,15.0s					
COP	Copenhagen	21.25 338	i P	P	20 57 31.0	+3.5
	comp=Z,68nm,1.1s,mb4.9					
COP			i S	S	21 01 24.1	+1.3
ESAC	San Caprasio	21.29 292	P	P	20 57 30.3	+2.2
	comp=Z,79nm,1.4s,mb4.8					
ESAC	San Caprasio	21.29 292	P	P	20 57 30.3	+2.2
	comp=Z,79nm,1.4s,mb4.8					
SLAT	Slait	21.48 163	i P	P	20 57 32.1	+1.9
SLAT			i S	S	21 01 39.1	+11
ETSF	Etsaut	21.49 295	eP	P	20 57 31.7	+1.4
	comp=Z,52nm,1.0s,mb4.5					
ETSF	Etsaut	21.49 295	eP	P	20 57 31.7	+1.4
ETSF			pmax	pmax		
	comp=Z,26nm,1.0s,mb4.5					
ETSF	Etsaut	21.49 295	eP	P	20 57 31.7	+1.4
	comp=Z,26nm,1.0s,mb4.5					
MRKH	Merkhyat	21.55 164	i S	S	21 01 34.0	+4.8
EMUR	La Murta	21.90 281	P	P	20 57 30.4	-4.3
	comp=Z,47nm,2.1s,mb4.5					
EMUR	La Murta	21.90 281	P	P	20 57 30.4	-4.3
	comp=Z,47nm,2.1s,mb4.5					
SJPF	Ste Jean	22.00 296	eP	P	20 57 36.6	+0.8
	comp=Z,91nm,1.2s,mb4.8					
SJPF	Ste Jean	22.00 296	eP	P	20 57 36.6	+0.8
SJPF			pmax	pmax		
	comp=Z,45nm,1.2s,mb4.8					
SJPF	Ste Jean	22.00 296	eP	P	20 57 36.6	+0.8
	comp=Z,45nm,1.2s,mb4.8					
MFF	Saint Martin d	22.01 305	eP	P	20 57 36.0	+0.1
	comp=Z,49nm,0.8s,mb4.7					
MFF	Saint Martin d	22.01 305	eP	P	20 57 36.0	+0.1
MFF			pmax	pmax		
	comp=Z,25nm,0.8s,mb4.7					
MFF	Saint Martin d	22.01 305	eP	P	20 57 36.0	+0.1
	comp=Z,25nm,0.8s,mb4.7					
JAWL	J.Aulia	22.02 164	i P	P	20 57 29.5	-6.7
JAWL			AMb	AMB	20 57 40.2	
	comp=Z,115nm,1.5s,mb5.1					
EALK	Alkurruntz	22.22 296	P	P	20 57 39.4	+1.3
	comp=Z,36nm,2.1s,mb4.4					
EALK	Alkurruntz	22.22 296	P	P	20 57 39.4	+1.3
	comp=Z,36nm,2.1s,mb4.4					
ELIZ	Elizondo	22.23 296	P	P	20 57 38.6	+0.4
ELIZ			pmax	pmax		
	comp=Z,19nm,0.8s,mb4.6					
ELIZ	Elizondo	22.23 296	P	P	20 57 38.6	+0.4
	comp=Z,19nm,0.8s,mb4.6					
ELIZ	Elizondo	22.23 296	P	P	20 57 38.6	+0.4
	comp=Z,19nm,0.8s,mb4.6					
ETOR	Torete	22.43 289	P	P	20 57 40.6	+0.2
ETOR			pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5					
ETOR	Torete	22.43 289	P	P	20 57 40.6	+0.2
	comp=Z,13nm,0.7s,mb4.5					
ETOR	Torete	22.43 289	P	P	20 57 40.6	+0.2
	comp=Z,13nm,0.7s,mb4.5					
LDF	La Druitiere	22.67 310	eP	P	20 57 41.5	-1.3
	comp=Z,162nm,1.3s,mb5.0					
LDF	La Druitiere	22.67 310	eP	P	20 57 41.5	-1.3
LDF			pmax	pmax		
	comp=Z,81nm,1.3s,mb5.0					
LDF	La Druitiere	22.67 310	eP	P	20 57 41.5	-1.3
	comp=Z,81nm,1.3s,mb5.0					
EVIA	Vianos	22.82 284	P	P	20 57 45.8	+1.2
EVIA			pmax	pmax		
	comp=Z,22nm,0.7s,mb4.7					
EVIA	Vianos	22.82 284	P	P	20 57 45.8	+1.2
	comp=Z,22nm,0.7s,mb4.7					
EVIA	Vianos	22.82 284	P	P	20 57 45.8	+1.3
	comp=Z,22nm,0.7s,mb4.7					
FLN	La Foliniere	22.96 310	eP	P	20 57 45.0	-0.8
FLN			eMLR	MLR		
	comp=Z,2µm,17.5s,MS4.2					
FLN	La Foliniere	22.96 310	eP	P	20 57 45.0	-0.8
FLN			LR	LR		
	comp=Z,2µm,17.5s,MS4.5					
EHUE	Huescar	22.97 282	P	P	20 57 48.4	+2.3
EHUE			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1					
EHUE	Huescar	22.97 282	P	P	20 57 48.4	+2.3
	comp=Z,7.3nm,0.9s,mb4.1					
EHUE	Huescar	22.97 282	P	P	20 57 48.4	+2.4
	comp=Z,7.3nm,0.9s,mb4.1					
GRR	Gorron	23.05 309	eP	P	20 57 46.1	-0.8
	comp=Z,81nm,1.0s,mb4.8					
GRR	Gorron	23.05 309	eP	P	20 57 46.1	-0.8
GRR			pmax	pmax		
	comp=Z,41nm,1.0s,mb4.8					
GRR	Gorron	23.05 309	eP	P	20 57 46.1	-0.8
	comp=Z,41nm,1.0s,mb4.8					
EBER	Berja	23.31 279	P	P	20 57 49.7	0.0
	comp=Z,81nm,1.7s,mb4.9					
EQES	Quesada	23.34 282	P	P	20 57 50.2	+0.2
	comp=Z,22nm,0.9s,mb4.6					
EQES	Quesada	23.34 282	P	P	20 57 50.2	+0.2
	comp=Z,22nm,0.9s,mb4.6					
ELAN	Lanestosa	23.62 295	P	P	20 57 52.7	0.0
	comp=Z,48nm,1.1s,mb4.8					
ELAN	Lanestosa	23.62 295	P	P	20 57 52.7	0.0
	comp=Z,48nm,1.1s,mb4.8					
ECOG	Cogollos-Vega	23.80 281	P	P	20 57 54.7	+0.3
ECOG			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3					
ECOG	Cogollos-Vega	23.80 281	P	P	20 57 54.7	+0.3
	comp=Z,6.8nm,0.6s,mb4.2					
ECOG	Cogollos-Vega	23.80 281	P	P	20 57 54.7	+0.3
	comp=Z,6.8nm,0.6s,mb4.2					
EGUA	Guajares	23.86 279	P	P	20 57 55.3	+0.3
EGUA			pmax	pmax		
	comp=Z,77nm,1.0s,mb5.1					
EGUA	Guajares	23.86 279	P	P	20 57 55.3	+0.3
	comp=Z,77nm,1.0s,mb5.1					
EGUA	Guajares	23.86 279	P	P	20 57 55.3	+0.3
	comp=Z,77nm,1.0s,mb5.1					
EBAN	Banos Encina	23.87 283	P	P	20 57 54.6	-0.4
EBAN			pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.2					
EBAN	Banos Encina	23.87 283	P	P	20 57 54.6	-0.4
	comp=Z,5.0nm,0.5s,mb4.2					
EBAN	Banos Encina	23.87 283	P	P	20 57 54.6	-0.5
	comp=Z,5.0nm,0.5s,mb4.2					
ESDC	Sonseca Array	23.90 287	P	P	20 57 54.9	-0.5
	comp=Z,10nm,0.8s,mb4.3,baz=80,slow=9.8,SNR=37					
ESDC			LR	LR	21 07 52.0	
	comp=Z,468nm,19.1s,MS4.0,baz=95,slow=38					
ESDC	Sonseca Array	23.90 287	P	P	20 57 54.0	-1.3
	comp=Z,15nm,0.7s,mb4.5					
ESDC	Sonseca Array	23.90 287	P	P	20 57 54.0	-1.4
	comp=Z,15nm,0.7s,mb4.5					
GUD	Guadarrama	24.03 289	P	P	20 57 56.5	+0.1
GUD			pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2					
GUD	Guadarrama	24.03 289	P	P	20 57 56.5	+0.1
	comp=Z,5.9nm,0.6s,mb4.2					
GUD	Guadarrama	24.03 289	P	P	20 57 56.5	+0.1
	comp=Z,5.9nm,0.6s,mb4.2					
PAB	San Pablo	24.20 286	eP	P	20 57 57.5	-0.6
PAB			pmax	pmax		
	comp=Z,17nm,1.0s,mb4.4					
PAB	San Pablo	24.20 286	eP	P	20 57 57.5	-0.6
	comp=Z,17nm,1.0s,mb4.4					
PAB	San Pablo	24.20 286	eP	P	20 57 57.5	-0.6
	comp=Z,17nm,1.0s,mb4.4					
ELOJ	Sierra Loja	24.28 280	P	P	20 57 58.0	-0.8
ELOJ			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1					
ELOJ	Sierra Loja	24.28 280	P	P	20 57 58.0	-0.8
	comp=Z,5.8nm,0.8s,mb4.1					
ELOJ	Sierra Loja	24.28 280	P	P	20 57 58.0	-0.8
	comp=Z,5.8nm,0.8s,mb4.1					
ELUQ	Luque	24.32 281	P	P	20 57 58.3	-0.8
ELUQ			pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2					
ELUQ	Luque	24.32 281	P	P	20 57 58.3	-0.8
	comp=Z,5.9nm,0.6s,mb4.2					
ELUQ	Luque	24.32 281	P	P	20 57 58.3	-0.8
	comp=Z,5.9nm,0.6s,mb4.2					
QUIF	Quistinic	24.37 307	eP	P	20 57 58.4	-1.1
	comp=Z,60nm,1.0s,mb4.7					
QUIF	Quistinic	24.37 307	eP	P	20 57 58.4	-1.1
QUIF			pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7					
QUIF	Quistinic	24.37 307	eP	P	20 57 58.4	-1.1
	comp=Z,30nm,1.0s,mb4.7					
EADA	Adamuz	24.49 283	P	P	20 58 01.1	+0.4
	comp=Z,16nm,1.2s,mb4.3					
EADA	Adamuz	24.49 283	P	P	20 58 01.1	+0.4
	comp=Z,16nm,1.2s,mb4.3					
ROSF	Rostrenen	24.56 308	eP	P	20 57 59.8	-1.4
	comp=Z,53nm,0.8s,mb4.8					
ROSF	Rostrenen	24.56 308	eP	P	20 57 59.8	-1.4
ROSF			pmax	pmax		
	comp=Z,27nm,0.8s,mb4.8					
ROSF	Rostrenen	24.56 308	eP	P	20 57 59.8	-1.4
	comp=Z,27nm,0.8s,mb4.8					
EMIJ	Mijas	24.86 279	P	P	20 58 02.4	-1.7
	comp=Z,35nm,1.4s,mb4.7					
EMIJ	Mijas	24.86 279	P	P	20 58 02.4	-1.7
	comp=Z,35nm,1.4s,mb4.7					
HFS	Hagfors	24.86 345	P	P	20 58 03.2	-0.6
	comp=Z,17nm,0.9s,mb4.6,baz=153,slow=11,SNR=17					
HFS			LR	LR	21 09 12.6	
	comp=Z,1µm,19.8s,MS4.4,baz=168,slow=40					
EARI	Arriondas	24.92 295	P	P	20 58 02.3	-2.3
	comp=Z,52nm,1.3s,mb4.9					
ECAB	El Cabril	25.16 283	P	P	20 58 05.9	-0.9
	comp=Z,50nm,1.1s,mb5.0					
ECAB	El Cabril	25.16 283	P	P	20 58 05.9	-0.9
	comp=Z,50nm,1.1s,mb5.0					
KONO	Kongsberg	25.42 340	eP	P	20 58 08.4	-0.5
EJIF	Jimena Fronter	25.43 279	P	P	20 58 08.5	-0.8
EJIF			pmax	pmax		
	comp=Z,49nm,1.2s,mb4.9					
EJIF	Jimena Fronter	25.43 279	P	P	20 58 08.5	-0.8
	comp=Z,48nm,1.2s,mb4.9					
EJIF	Jimena Fronter	25.43 279	P	P	20 58 08.5	-0.8
	comp=Z,48nm,1.2s,mb4.9					
KAF	Kangasniemi	25.50 0	ep	P	20 58 09.3	-0.3
	comp=Z,9.0nm,0.7s,mb4.4,baz=177,slow=9.2					
KAF	Kangasniemi	25.50 0	eP	P	20 58 09.3	-0.3
KAF			pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.4					
MDT	Midelt	25.60 271	P	P	20 58 11.4	+0.5
	comp=Z,9.1nm,0.8s,mb4.4,baz=86,slow=13,SNR=20					
ESPR	Espera	25.67 280	P	P	20 58 10.6	-0.8
	comp=Z,31nm,1.5s,mb4.6					
ESPR	Espera	25.67 280	P	P	20 58 10.6	-0.9
	comp=Z,31nm,1.5s,mb4.6					
ECAL	Calabor	25.98 292	P	P	20 58 18.9	+4.7
	comp=Z,33nm,1.3s,mb4.7					
ECAL	Calabor	25.98 292	P	P	20 58 18.9	+4.7
	comp=Z,33nm,1.3s,mb4.7					
EMIN	Mina Concepcio	26.18 282	P	P	20 58 15.3	-0.8
	comp=Z,11nm,1.2s,mb4.3					
EMIN	Mina Concepcio	26.18 282	P	P	20 58 15.3	-0.8
	comp=Z,11nm,1.2s,mb4.3					
MVO	Moncorvo	26.20 290	eP	P	20 58 17.2	+1.0
	comp=Z,38nm,2.0s,mb4.6					
MVO			eS	S	21 02 50.7	+3.4
MVO			eLR	LR	21 10 12.2	
	comp=Z,380nm,16.9s					
MVO	Moncorvo	26.20 290	eP	P	20 58 17.6	+1.4
MVO			eS	S	21 02 50.7	+3.4
NB2	NORSAR Subarra	26.22 343	P	P	20 58 15.9	-0.3
	comp=Z,30nm,1.4s,mb4.6,baz=159,slow=9.3					
NOA	NORSAR Array B	26.22 343	P	P	20 58 16.7	+0.5
	comp=Z,11nm,1.2s,mb4.3,baz=147,slow=8.9,SNR=8.1					
NOA			LR	LR	21 09 29.2	
	comp=Z,497nm,19.4s,MS4.1,baz=150,slow=38					
EBAD	Badajoz	26.33 285	P	P	20 58 16.1	-1.3
	comp=Z,40nm,1.5s,mb4.7					
EBAD	Badajoz	26.33 285	P	P	20 58 16.1	-1.4
	comp=Z,40nm,1.5s,mb4.7					
EPON	Pontenova	26.33 295	P	P	20 58 18.6	+1.2
	comp=Z,53nm,1.4s,mb4.9					
EPON	Pontenova	26.33 295	P	P	20 58 18.6	+1.2
	comp=Z,53nm,1.4s,mb4.9					
PBAR	Barrancos	26.42 283	eP	P	20 58 18.1	-0.1
	comp=Z,54nm,1.5s,mb4.9					
PBAR			eS	S	21 02 48.2	-2.6
PBAR			A		21 12 01.6	
	comp=Z,325nm,16.7s					
PBAR	Barrancos	26.42 283	eP	P	20 58 18.1	-0.1
	comp=Z,54nm,1.5s,mb4.9					
PBAR			eS	S	21 02 48.2	-2.6
	comp=Z,325nm,16.7s					
JOF	Joensuu	26.50 5	ep	P	20 58 17.9	-0.7
	comp=Z,10nm,0.8s,mb4.4					
PMRV	Marv??o	26.56 286	eP	P	20 58 20.2	+0.7
	comp=Z,24nm,1.2s,mb4.6					
PMRV			eS	S	21 02 56.6	+3.5
PMRV			A		21 14 24.0	
	comp=Z,447nm,14.1s					
PMRV	Marv??o	26.56 286	eP	P	20 58 20.2	+0.7
	comp=Z,24nm,1.2s,mb4.6					
PMRV			eS	S	21 02 56.6	+3.5
	comp=Z,447nm,14.1s					
PMRV	Marv??o	26.56 286	eP	P	20 58 19.9	+0.4
PCBR	Castelo Branco	26.60 287	eP	P	20 58 20.8	+1.0
	comp=Z,27nm,1.0s,mb4.7					
AKTK	Aktyubinsk	26.60 49	P	P	20 58 20.1	+0.4
AKTK			LR	LR	21 11 34.8	
AKTO	Aktyubinsk	26.60 49	P	P	20 58 20.1	+0.4
	comp=Z,50nm,1.0s,mb5.0,baz=251,slow=9.3,SNR=71					
AKTO			LR	LR	21 11 34.7	
	comp=Z,445nm,19.7s,MS4.0,baz=57,slow=43					
MTE	Manteigas	26.62 289	eS	S	21 02 54.5	+0.6
PESTR	Estremoz	26.77 285	eP	P	20 58 20.9	-0.5
	comp=Z,26nm,1.2s,mb4.6					
PESTR			eS	S	21 02 55.4	-1.0
PESTR			A		21 14 37.3	
	comp=Z,316nm,16.0s					
PESTR	Estremoz	26.77 285	eP	P	20 58 20.9	-0.5
	comp=Z,26nm,1.2s,mb4.6					
PESTR			eS	S	21 02 55.4	-1.0
	comp=Z,316nm,16.0s					
EGRO	El Granado	26.85 282	P	P	20 58 20.6	-1.5
	comp=Z,29nm,1.0s,mb4.8					
EGRO	El Granado	26.85 282	P	P	20 58 20.6	-1.5
	comp=Z,29nm,1.0s,mb4.8					
PVAQ	Vaqueiros	27.05 282	eP	P	20 58 24.7	+0.7
	comp=Z,48nm,1.2s,mb4.9					
PVAQ			eS	S	21 03 00.1	-0.8
PVAQ			A		21 14 10.5	
	comp=Z,241nm,16.0s					
PVAQ	Vaqueiros	27.05 282	eP	P	20 58 24.7	+0.7
	comp=Z,48nm,1.2s,mb4.9					
PVAQ			eS	S	21 03 00.1	-0.8
	comp=Z,241nm,16.0s					
EVO	Evora	27.13 284	eP	P	20 58 26.6	+1.9
	comp=Z,19nm,1.1s,mb4.2					
EVO			eMLR	MLR		
	comp=Z,374nm,17.2s,MS3.7					
EVO	Evora	27.13 284	eP	P	20 58 26.7	+2.0
	comp=Z,16nm,1.4s,mb4.4					
EVOP	Sao Brissos	27.22 284	eP	P	20 58 26.6	+1.2
	comp=Z,9.4nm,1.1s,mb4.2					
PBDV	Barranco-do-Ve	27.25 282	eP	P	20 58 25.1	-0.6
	comp=Z,59nm,1.4s,mb4.9					
PBDV			eS	S	21 03 02.8	-1.2
PBDV			A		21 14 18.0	
	comp=Z,263nm,17.0s					
PBDV	Barranco-do-Ve	27.25 282	eP	P	20 58 25.1	-0.6
	comp=Z,59nm,1.4s,mb4.9					
PBDV			eS	S	21 03 02.8	-1.2
	comp=Z,263nm,17.0s					
EKA	Eskdalemuir Ar	27.38 322	P	P	20 58 26.8	+0.1
	comp=Z,3.8nm,0.8s,mb4.0,baz=118,slow=9.6,SNR=12					
NAZ	Nazwa, Dubai	27.69 106	P	P	20 58 31.3	+1.6
	SNR=5.4					
MORF	Marmelete	27.80 282	eS	S	21 03 18.0	+5.3
MORF			eLR	LR	21 12 40.5	
	comp=Z,296nm,14.4s					
PFVI	Vila Bisbo	27.97 282	eS	S	21 03 16.9	+1.5
PFVI			eLR	LR	21 12 44.2	
	comp=Z,337nm,15.5s					
ARU	Arti	29.34 37	P	P	20 58 44.4	+0.3
	comp=Z,137nm,1.2s,mb5.6,SNR=6.9					
ARU	Arti	29.34 37	d i P	P	20 58 43.7	-0.4
ARU			e		20 59 37.4	
ARU			ePPP		20 59 50.1	
ARU			e		21 01 46.7	
ARU			eS	S	21 03 36.4	-0.1
ARU			eSS	SS	21 05 03.3	-38
ARU			pmax	pmax		
	comp=Z,57nm,1.7s,mb5.0					
ARU			MLR	MLR		
	comp=Z,868nm,14.0s,MS4.5					
ARU	Arti	29.34 37	i P	P	20 58 43.7	-0.4
	comp=Z,57nm,1.7s,mb5.0					
SOKR	Solikamsk	30.22 31	eP	sP	20 59 09.9	+10
SOKR					21 09 30.3	
SOKR			pmax	pmax		
	comp=Z,40nm,1.3s,mb5.0					
SOKR			MLR	MLR		
	comp=Z,360nm,10.0s,MS4.3					
SOKR	Solikamsk	30.22 31	eP	sP	20 59 09.9	+10
	comp=Z,40nm,1.3s					
MOR8	Moi Rana	30.37 351	eP	P	20 58 53.5	+0.4
MOR8			AMb	AMB	20 58 58.8	
	comp=Z,26nm,2.2s,mb4.6					
MOR8	Moi Rana	30.37 351	eP	P	20 58 53.5	+0.4
	comp=Z,26nm,2.2s,mb4.6,SNR=29					
MOR8	Moi Rana	30.37 351	eP	P	20 58 53.5	+0.4
	comp=Z,26nm,2.2s,mb4.6					
SVE	Sverdlovsk	30.54 38⇑	eP	P	20 58 55.1	+0.3
SVE			eS	S	21 03 54.1	-1.2
SVE			pmax	pmax		
	comp=Z,41nm,1.0s,mb5.2					
SVE			MLR	MLR		
	comp=Z,1µm,13.0s,MS4.7					
SVE	Sverdlovsk	30.54 38	eP	P	20 58 55.1	+0.3
	comp=Z,41nm,1.0s,mb5.2					
SMDO	Samad	30.56 107	P	P	20 58 56.2	+0.9
	SNR=6.1					
APA	Apatity	31.25 5⇑	i P	P	20 59 05.5	+4.7
APA			i S	S	21 04 10.0	+3.9
APA			pmax	pmax		
	comp=Z,14nm,0.5s,mb5.0					
APA	Apatity	31.25 5	i P	P	20 59 05.5	+4.7
	comp=Z,14nm,0.5s,mb5.0					
TORD	Torodi Ar. Bea	32.12 230	P	P	20 59 08.8	-0.3
	comp=Z,4.8nm,0.4s,mb4.7,baz=31,slow=8.8,SNR=86					
TORD			LR	LR	21 15 00.3	
	comp=Z,657nm,18.5s,MS4.3,baz=30,slow=42					
TORD	Torodi Ar. Bea	32.12 230	P	P	20 59 08.8	-0.3
TORD			LR	LR	21 15 00.3	
KTK1	Kautokeino	32.47 358	eP	P	20 59 11.5	-0.1
KTK1			AMb	AMB	20 59 13.8	
	comp=Z,63nm,1.5s,mb5.2					
KTK1	Kautokeino	32.47 358	eP	P	20 59 11.5	-0.1
	comp=Z,63nm,1.5s,mb5.2,SNR=29					
KTK1	Kautokeino	32.47 358	eP	P	20 59 11.5	-0.1
	comp=Z,63nm,1.5s,mb5.2					
ARCES	ARCESS Array B	32.96 360	P	P	20 59 14.7	-1.2
	comp=Z,19nm,1.0s,mb5.0,baz=186,slow=7.3,SNR=27					
ARCES			LR	LR	21 12 36.6	
	comp=Z,572nm,19.3s,MS4.3,baz=184,slow=36					
TRO	Tromso	33.30 355	eP	P	20 59 18.6	-0.2
TRO			AMb	AMB	20 59 24.1	
	comp=Z,57nm,1.4s,mb5.3					
TRO	Tromso	33.30 355	eP	P	20 59 18.6	-0.2
	comp=Z,57nm,1.4s,mb5.3,SNR=29					
TRO	Tromso	33.30 355	eP	P	20 59 18.6	-0.2
	comp=Z,57nm,1.4s,mb5.3					
BRVK	Borovoye	34.63 48	P	P	20

AAK	**Ala-Archa**	**37.22**	**66**	P	**P**	**20 59 54.4 +1.5**
	SNR=14					
FRU	**Bishkek**	**37.29**	**65**	⇓*i*P	**P**	**20 59 54.0 +0.5**
FRU				*i*		21 01 20.0
FRU				*i*		21 01 40.0
FRU				*e*S	**S**	**21 05 44.0 +4.1**
FRU				*e*		21 08 43.0
FRU				pmax	pmax	
	comp=Z,220nm,1.9s,mb5.7					
FRU				MLR	MLR	
	comp=E,600nm,15.0s					
FRU				MLR	MLR	
	comp=Z,600nm,15.0s,MS4.5					
FRU	**Bishkek**	**37.29**	**65**	*i* P	**P**	**20 59 54.0 +0.5**
	comp=Z,220nm,1.9s,mb5.7					
UCH	**Uchtor**	**37.29**	**66**	P	**P**	**20 59 55.1 +1.6**
	SNR=9.9					
CHMS	**Chumysh**	**37.37**	**65**	P	**P**	**20 59 55.0 +0.9**
	SNR=21					
KBK	**Karagaybulak**	**37.55**	**65**	P	**P**	**20 59 57.3 +1.6**
	SNR=8.2					
KZA	**Kyzart**	**37.85**	**66**	P	**P**	**21 00 00.0 +1.8**
	SNR=38					
TKM2	**Tokmak 2**	**37.99**	**65**	P	**P**	**21 00 00.3 +0.9**
	SNR=15					
ULHL	**Ulahol**	**38.56**	**66**	P	**P**	**21 00 04.0 -0.2**
	SNR=12					
KSH	**Kashi**	**38.85**	**70**	P	**P**	**21 00 08.5 +1.8**
KSH				PP	PP	21 01 41.5 +5.9
KSH				PCP	PcP	21 02 19.5 +2.0
KSH				S	**S**	**21 06 04.5 +0.9**
KSH				AMB	AMB	
	comp=Z,111nm,0.8s,mb5.6					
KSH				AMB	AMB	
	comp=Z,614nm,3.1s					
KSH				LR	LR	
	comp=N,812nm,6.6s					
KSH				LR	LR	
	comp=E,1μm,11.0s					
KSH				LR	LR	
	comp=Z,1μm,14.3s,MS4.9					
KMBO	**Kilima Mbogo**	**38.94**	**162**	P	**P**	**21 00 09.6 +2.0**
	comp=Z,1.9nm,0.7s,mb4.0,baz=16,slow=18,SNR=3.8					
KMBO				LR	LR	21 16 57.4
	comp=Z,635nm,18.6s,MS4.5,baz=45,slow=37					
KMBO	**Kilima Mbogo**	**38.94**	**162**	P	**P**	**21 00 09.6 +2.0**
KMBO				pmax	pmax	
	comp=Z,2.0nm,0.7s					
KMBO				MLR	MLR	
	comp=Z,635nm,18.6s					
KMBO	**Kilima Mbogo**	**38.94**	**162**	P	**P**	**21 00 10.0 +2.4**
KURK	**Kurchatov**	**39.57**	**52**	P	**P**	**21 00 12.5 0.0**
	comp=Z,214nm,1.1s,mb5.8,SNR=34					
KURK	**Kurchatov**	**39.57**	**52**	P	**P**	**21 00 13.2 +0.7**
	SNR=30					
KURK	**Kurchatov**	**39.57**	**52**	*d i*P	**P**	**21 00 12.7 +0.2**
KURK				pmax	pmax	
	comp=Z,90nm,1.7s,mb5.2					
KURK				MLR	MLR	
	comp=Z,300nm,15.0s,MS4.2					
KURK	**Kurchatov**	**39.57**	**52**	*i* P	**P**	**21 00 12.7 +0.2**
	comp=Z,300nm,15.0s					
DBIC	**Dimbokro**	**41.18**	**231**	P	**P**	**21 00 26.0 -0.3**
	comp=Z,9.2nm,0.7s,mb4.5,baz=33,slow=9.4,SNR=14					
TIC	**Toumodi**	**41.30**	**231**	*e*P	**P**	**21 00 26.9 -0.4**
	comp=Z,156nm,1.3s,mb5.5					
TIC	**Toumodi**	**41.30**	**231**	*e*P	**P**	**21 00 26.9 -0.4**
TIC				pmax	pmax	
	comp=Z,156nm,1.3s,mb5.5					
KIC	**Kosan Boka**	**41.35**	**231**	*e*P	**P**	**21 00 27.3 -0.3**
	comp=Z,94nm,1.0s,mb5.4					
LIC	**Lamto**	**41.63**	**231**	*e*P	**P**	**21 00 29.4 -0.6**
	comp=Z,46nm,0.9s,mb4.8					
LIC				*e*MLR	MLR	
	comp=Z,706nm,21.0s,MS4.2					
LIC	**Lamto**	**41.63**	**231**	*e*P	**P**	**21 00 29.7 -0.3**
	comp=Z,65nm,0.9s,mb5.2					
LIC	**Lamto**	**41.63**	**231**	*e*P	**P**	**21 00 29.4 -0.6**
	comp=Z,23nm,0.9s,mb4.8					
LIC				LR	LR	
	comp=Z,350nm,21.0s,MS4.2					
SMLA	**Simla**	**42.22**	**82**	*i* P	**P**	**21 00 35.1 +0.5**
SMLA				*ex*	x	21 00 39.4
	comp=Z,81nm,0.8s					
SMLA				*i* S	**S**	**21 06 57.3 +3.2**
SMLA				*i* S	**S**	**21 06 59.9 +5.7**
MK31	**Makanchi Array**	**42.23**	**58**	*i* P	**P**	**21 00 34.7 +0.2**
MK31				pmax	pmax	
	comp=Z,20nm,0.6s,mb4.9					
MK31	**Makanchi Array**	**42.23**	**58**	*i* P	**P**	**21 00 34.7 +0.2**
	comp=Z,20nm,0.6s,mb4.9					
MKAR	**Makanchi Array**	**42.23**	**58**	P	**P**	**21 00 35.1 +0.6**
	comp=Z,14nm,0.6s,mb4.8,baz=274,slow=8.4,SNR=146					
MKAR				ScP	ScP	21 06 17.6 -0.3
	comp=Z,0.6nm,0.8s,baz=268,slow=3.8,SNR=4.1					
MKAR				LR	LR	21 22 38.4
	comp=Z,257nm,18.4s,MS4.1,baz=272,slow=43					
MKAR	**Makanchi Array**	**42.23**	**58**	*i* P	**P**	**21 00 35.0 +0.5**
MKAR				pmax	pmax	
	comp=Z,14nm,0.6s					
NVS	**Novosibirsk**	**42.42**	**46**	⇓*i*P	**P**	**21 00 36.8 +0.8**
NVS				*i*		21 02 13.2
NVS				*e*S	**S**	**21 06 50.8 -5.7**
NVS				pmax	pmax	
	comp=N,43nm,1.6s					
NVS				pmax	pmax	
	comp=E,49nm,1.6s					
NVS				pmax	pmax	
	comp=Z,110nm,1.6s,mb5.2					
NVS				pmax	pmax	
	comp=Z,94nm,2.0s,mb5.1					
NVS				pmax	pmax	
	comp=N,27nm,1.9s					
NVS				pmax	pmax	
	comp=E,45nm,1.9s					
NVS				smax		
	comp=N,40nm,2.4s					
NVS				smax		
	comp=E,28nm,2.6s					
NVS	**Novosibirsk**	**42.42**	**46**	*i* P	**P**	**21 00 36.8 +0.8**
NVS				*e*S	**S**	**21 06 50.8 -5.7**
	comp=E,40nm,2.4s					
KBS	**Kingsbay**	**42.81**	**356**	*e*P	**P**	**21 00 42.3 +3.5**
KBS	**Kingsbay**	**42.81**	**356**	*e*P	**P**	**21 00 42.3 +3.4**
DDI	**Dehra Dun**	**43.23**	**83**	*ex*	**P**	**21 00 40.2 -2.7**
ZAL	**Zalesovo**	**43.34**	**47**	P	**P**	**21 00 43.3 -0.1**
ZAL						21 02 30.3
ZAL	**Zalesovo**	**43.34**	**47**	PcP	PcP	21 02 30.3 -1.5
ZALV	**Zalesovo Beam**	**43.35**	**47**	P	**P**	**21 00 43.3 -0.2**
	comp=E,7.3nm,0.7s,mb4.5,baz=270,slow=8.9,SNR=42					
ZALV				PcP	PcP	21 02 30.2 -1.6
	comp=E,4.2nm,0.9s,baz=270,slow=7.2,SNR=3.6					
ZALV				LR	LR	21 22 49.9
	comp=E,162nm,18.6s,MS4.0,baz=7.1,slow=42					
WMQ	**Urumqi**	**46.51**	**61**	P	**P**	**21 01 10.3 +1.5**
WMQ				PCP	PcP	21 02 44.8 +1.8
WMQ				PP	PP	21 02 59.8 +1.9
WMQ				SCS	ScS	21 11 02.3 -0.5
WMQ				SS	SS	21 11 16.5 -5.3
WMQ				AMB	AMB	
	comp=Z,62nm,1.0s,mb5.5					
WMQ				AMB	AMB	
	comp=Z,47nm,7.3s					
WMQ				LR	LR	
	comp=N,429nm,24.0s,MS4.5					
WMQ				LR	LR	
	comp=E,292nm,19.0s,MS4.5					
WMQ				LR	LR	
	comp=Z,258nm,17.0s,MS4.2					
DANN	**Dangsing**	**48.58**	**82**	*e*P	**P**	**21 01 26.1 +1.0**
	comp=Z,250nm,0.8s					
KOLN	**Koldanda**	**48.70**	**83**	*e*P	**P**	**21 01 26.5 +0.4**
	comp=Z,34nm,0.6s,mb5.5					
GKN	**Gorkha**	**49.43**	**82**	*e*P	**P**	**21 01 32.0 +0.4**
	comp=Z,31nm,1.0s,mb5.3					
HYB	**Hyderabad**	**49.73**	**98**	*i* P	**P**	**21 01 34.5 +0.5**
HYB	**Hyderabad**	**49.73**	**98**	*e*P	**P**	**21 01 34.5 +0.5**
DMN	**Daman**	**49.98**	**83**	*e*P	**P**	**21 01 36.2 +0.4**
	comp=Z,132nm,0.9s,mb6.0					
KKN	**Kakani**	**50.03**	**82**	*e*P	**P**	**21 01 36.3 +0.1**
	comp=Z,58nm,0.7s,mb5.7					
KKN	**Kakani**	**50.03**	**82**	*e*P	**P**	**21 01 36.3 +0.1**
KKN				pmax	pmax	
	comp=Z,58nm,0.7s,mb5.7					
PKIN	**Phulchoki**	**50.22**	**83**	*e*P	**P**	**21 01 37.8 +0.2**
	comp=Z,150nm,1.4s,mb5.8					
PKI	**Pulchoki**	**50.23**	**83**	*e*P	**P**	**21 01 37.9 +0.2**
	comp=Z,199nm,1.3s,mb6.0					
PKI	**Pulchoki**	**50.23**	**83**	*e*P	**P**	**21 01 37.9 +0.2**
PKI				pmax	pmax	
	comp=Z,199nm,1.3s,mb6.0					
GUN	**Gumba**	**50.46**	**82**	*e*P	**P**	**21 01 39.8 +0.3**
	comp=Z,210nm,1.2s,mb6.0					
JIRN	**Jiri**	**50.82**	**82**	*e*P	**P**	**21 01 42.6 +0.5**
	comp=Z,51nm,0.7s,mb5.6					
RAMN	**Ramite**	**51.46**	**83**	*e*P	**P**	**21 01 46.7 -0.3**
	comp=Z,326nm,1.4s,mb6.1					
LSZ	**Lusaka**	**51.66**	**178**	LR	LR	21 24 26.1
	comp=Z,263nm,19.9s,MS4.3,baz=206,slow=37					
LSZ	**Lusaka**	**51.66**	**178**	*e*P	**P**	**21 01 49.2 +0.8**
LSZ				pmax	pmax	
	comp=Z,20nm,1.5s,mb4.8					
LSZ	**Lusaka**	**51.66**	**178**	*e*P	**P**	**21 01 49.2 +0.8**
	comp=Z,20nm,1.5s,mb4.8					
LSZ	**Lusaka**	**51.66**	**178**	*e*P	**P**	**21 01 49.2 +0.8**
	comp=Z,20nm,1.5s,mb4.8					
LSZ				*e*		21 02 06.1
ODAN	**Odare**	**52.13**	**82**	*e*P	**P**	**21 01 51.9 -0.1**
	comp=Z,137nm,1.3s,mb5.7					
TAPN	**Taplejung**	**52.16**	**82**	*e*P	**P**	**21 01 51.9 -0.3**
	comp=Z,133nm,1.3s,mb5.7					
MOY	**Mondy**	**53.37**	**48**	*e*P	**P**	**21 02 01.8 +1.1**
MOY				pmax	pmax	
	comp=Z,61nm,2.0s,mb5.2					
MOY	**Mondy**	**53.37**	**48**	*e*P	**P**	**21 02 01.8 +1.1**
	comp=Z,61nm,2.0s,mb5.2					
LSA	**Lhasa**	**53.86**	**77**	*e*P	**P**	**21 02 05.4 +0.7**
LSA				pmax	pmax	
	comp=Z,49nm,1.3s,mb5.3					
LSA	**Lhasa**	**53.86**	**77**	*e*P	**P**	**21 02 05.4 +0.7**
	comp=Z,49nm,1.3s,mb5.3					
LSA	**Lhasa**	**53.86**	**77**	*e*P	**P**	**21 02 05.3 +0.7**
	comp=Z,49nm,1.3s,mb5.3					
TLY	**Talaya**	**54.95**	**48**	P	**P**	**21 02 13.4 +1.1**
	comp=Z,98nm,1.4s,mb5.7,SNR=9.5					
TLY	**Talaya**	**54.95**	**48**	P	**P**	**21 02 13.8 +1.5**
	SNR=19					
TLY	**Talaya**	**54.95**	**48**	*e*P	**P**	**21 02 13.4 +1.1**
TLY				*e*		21 04 11.6
TLY				*e*S	**S**	**21 09 51.2 -1.8**
TLY				*e*		21 11 59.0
TLY				pmax	pmax	
	comp=Z,49nm,1.7s,mb5.3					
TLY				MLR	MLR	
	comp=Z,207nm,14.0s,MS4.4					
TLY	**Talaya**	**54.95**	**48**	P	**P**	**21 02 13.8 +1.5**
	SNR=19					
TLY				*e*S	**S**	**21 09 51.2 -1.8**
TLY				*e*ScS	ScS	21 11 59.0 -1.4
	comp=Z,207nm,14.0s					
ZAK	**Zakamensk**	**55.11**	**50**	*e*P	**P**	**21 02 14.0 +0.5**
ZAK				pmax	pmax	
	comp=Z,21nm,1.5s,mb5.0					
ZAK	**Zakamensk**	**55.11**	**50**	*e*P	**P**	**21 02 14.0 +0.5**
	comp=Z,21nm,1.5s,mb5.0					
IRK	**Irkutsk**	**55.16**	**47**	⇓*i*P	**P**	**21 02 13.3 -0.5**
IRK				*e*		21 05 36.8
IRK				pmax	pmax	
	comp=Z,83nm,1.7s,mb5.5					
IRK	**Irkutsk**	**55.16**	**47**	*i* P	**P**	**21 02 13.3 -0.5**
	comp=Z,83nm,1.7s,mb5.5					
TSUM	**Tsumeb**	**56.13**	**190**	LR	LR	21 27 41.4
	comp=Z,720nm,19.4s,MS4.8,baz=12,slow=37					
TSUM	**Tsumeb**	**56.13**	**190**	*e*P	**P**	**21 02 21.3 +0.2**
	comp=Z,8.1nm,1.0s,mb4.7					
TSUM	**Tsumeb**	**56.13**	**190**	*e*P	**P**	**21 02 21.3 +0.2**
	comp=Z,8.1nm,1.0s,mb4.7					
GTA	**Gaotai**	**56.49**	**63**	P	**P**	**21 02 24.0 +0.4**
GTA				PP	PP	21 04 31.3 +2.2
GTA				S	**S**	**21 10 14.5 +0.5**
GTA				SS	SS	21 14 01.8 +0.9
GTA				AMB	AMB	
	comp=Z,25nm,1.1s,mb5.2					
GTA				AMB	AMB	
	comp=Z,148nm,6.6s					
GTA				LR	LR	
	comp=N,270nm,19.2s,MS4.5					
GTA				LR	LR	
	comp=E,163nm,15.6s,MS4.5					
GTA				LR	LR	
	comp=Z,386nm,15.9s,MS4.6					
SONM	**Songino Array**	**57.87**	**52**	P	**P**	**21 02 33.5 +0.3**
	comp=Z,6.5nm,0.6s,mb4.8,baz=286,slow=7.6,SNR=52					
SONM				LR	LR	21 31 13.5
	comp=Z,524nm,18.2s,MS4.7,baz=286,slow=40					
ULN	**Ulaanbaatar**	**58.27**	**51**	P	**P**	**21 02 36.7 +0.7**
	SNR=16					
ULN	**Ulaanbaatar**	**58.27**	**51**	*d i*P	**P**	**21 02 36.4 +0.4**
ULN	**Ulaanbaatar**	**58.27**	**51**	*i* P	**P**	**21 02 36.4 +0.4**
ULN	**Ulaanbaatar**	**58.27**	**51**	*e*P	**P**	**21 02 36.3 +0.3**
	comp=Z,7.5nm,0.8s,mb4.8					
BOD	**Bodaibo**	**58.75**	**39**	⇓*i*P	**P**	**21 02 38.2 -0.9**
BOD				pmax	pmax	
	comp=Z,14nm,1.6s,mb4.7					
BOD	**Bodaibo**	**58.75**	**39**	*i* P	**P**	**21 02 38.2 -0.9**
	comp=Z,14nm,1.6s,mb4.7					
TIXI	**Tiksi**	**59.48**	**21**	*e*P	**P**	**21 02 42.9 -1.1**
TIXI				*e*S	**S**	**21 10 52.2 +0.1**
TIXI				pmax	pmax	
	comp=Z,20nm,1.5s,mb4.9					
TIXI				MLR	MLR	
	comp=Z,867nm,16.0s,MS5.0					
TIXI	**Tiksi**	**59.48**	**21**	*e*P	**P**	**21 02 43.7 -0.3**
	comp=Z,15nm,1.2s,mb4.9					
TIXI				*e*S	**S**	**21 10 52.2 +0.1**
	comp=Z,867nm,16.0s					
TIXI	**Tiksi**	**59.48**	**21**	*e*P	**P**	**21 02 43.7 -0.3**
	comp=Z,15nm,1.2s,mb4.9					
LZH	**Lanzhou**	**60.76**	**65**	⇑P	**P**	**21 02 54.0 +0.6**
LZH				PP	PP	21 05 10.0 +2.9
LZH				*e*S	**S**	**21 11 09.0 -0.6**
LZH				AMB	AMB	
	comp=Z,83nm,1.5s,mb5.6					
LZH				AMB	AMB	
	comp=Z,304nm,4.6s					
LZH				LR	LR	
	comp=N,1μm,14.6s					
LZH				LR	LR	
	comp=Z,2μm,15.3s,MS5.3					
SCHQ	**Schefferville**	**62.64**	**319**	P	**P**	**21 03 04.7 -1.1**
	comp=Z,10nm,0.6s,mb5.1,baz=53,slow=5.9,SNR=14					
SCHQ				LR	LR	21 31 43.0
	comp=Z,324nm,18.0s,MS4.5,baz=114,slow=37					
CD2	**Chengdu**	**63.05**	**70**	P	**P**	**21 03 09.0 +0.2**
CD2				PCP	PcP	21 03 46.8 +0.2
CD2				PP	PP	21 05 29.3 +2.0
CD2				PCS	PcS	21 07 48.8 -1.4
CD2				S	**S**	**21 11 37.3 -1.3**
CD2				SCS	ScS	21 12 57.5 -3.4
CD2				SS	SS	21 15 44.8 +0.7
CD2				AMB	AMB	
	comp=Z,70nm,1.2s,mb5.7					
CD2				AMB	AMB	
	comp=Z,160nm,5.2s					
CD2				LR	LR	
	comp=N,650nm,14.4s,MS5.1					
CD2				LR	LR	
	comp=E,650nm,14.4s,MS5.1					
CD2				LR	LR	
	comp=Z,210nm,13.2s,MS4.5					
HHC	**Hu-ho-hao-te**	**64.09**	**57**	*e*P	**P**	**21 03 16.0 +0.5**
HHC				PP	PP	21 05 40.3 +4.1
HHC				PCS		21 07 53.5
HHC				S	**S**	**21 11 50.0 -1.3**
HHC				XS	sS	21 12 10.3 +9.3
HHC				SCS	ScS	21 13 05.0 -3.6
HHC				AMB	AMB	
	comp=Z,31nm,0.9s,mb5.3					
HHC				AMB	AMB	
	comp=Z,218nm,4.6s					
HHC				LR	LR	
	comp=N,309nm,23.8s,MS4.5					
HHC				LR	LR	
	comp=E,200nm,19.0s,MS4.5					
HHC				LR	LR	
	comp=Z,247nm,19.0s,MS4.4					
YAK	**Yakutsk**	**64.16**	**31**	*d i*P	**P**	**21 03 14.1 -1.5**
YAK				pmax	pmax	
	comp=Z,47nm,1.7s,mb5.2					
YAK				MLR	MLR	
	comp=Z,200nm,21.0s,MS4.3					
YAK	**Yakutsk**	**64.16**	**31**	*i* P	**P**	**21 03 14.1 -1.5**
	comp=Z,200nm,21.0s					
YAK	**Yakutsk**	**64.16**	**31**	*e*P	**P**	**21 03 13.5 -2.1**
	comp=Z,30nm,1.1s,mb5.2					
BOSA	**Boshof**	**64.91**	**181**	P	**P**	**21 03 21.6 +0.8**
	comp=Z,7.3nm,0.8s,mb4.7,baz=17,slow=6.6,SNR=8.7					
BOSA				LR	LR	21 33 15.5
	comp=Z,323nm,18.4s,MS4.5,baz=116,slow=37					
KMI	**Kunming**	**65.08**	**76**	P	**P**	**21 03 22.3 0.0**
KMI				PP	PP	21 05 47.3 +1.9
KMI				S	S	21 12 04.0 -0.1
KMI				AMB	AMB	
	comp=Z,22nm,1.2s,mb5.1					
KMI				AMB	AMB	
	comp=Z,188nm,5.3s					
KMI				LR	LR	
	comp=N,204nm,18.7s,MS4.4					
KMI				LR	LR	
	comp=E,154nm,22.8s,MS4.4					
KMI				LR	LR	
	comp=Z,265nm,23.6s,MS4.4					
CHTO	**Chiang Mai**	**65.34**	**84**	⇑P	**P**	**21 03 24.0 -0.1**
	SNR=6.5					
CHTO	**Chiang Mai**	**65.34**	**84**	*e*P	**P**	**21 03 23.7 -0.3**
CHTO				pmax	pmax	
	comp=Z,47nm,1.4s,mb5.3					
CHTO	**Chiang Mai**	**65.34**	**84**	*e*P	**P**	**21 03 23.7 -0.4**
	comp=Z,47nm,1.4s,mb5.3					
HIA	**Hailar**	**65.36**	**46**	*e*P	**P**	**21 03 23.7 0.0**
HIA				pmax	pmax	
	comp=Z,58nm,1.5s					
HIA	**Hailar**	**65.36**	**46**	*e*P	**P**	**21 03 23.6 -0.1**
	comp=Z,58nm,1.5s,mb5.4					
HIA	**Hailar**	**65.36**	**46**	*e*P	**P**	**21 03 23.6 -0.1**
	comp=Z,58nm,1.5s,mb5.4					
XAN	**Xi'an**	**65.40**	**65**	P	**P**	**21 03 24.0 -0.2**
XAN				PP	PP	21 05 51.0 +3.1
XAN				S	S	21 12 08.5 +0.8
XAN				SCS	ScS	21 13 15.5 -3.4
XAN				SS	SS	21 16 23.5 +2.9
XAN				AMB	AMB	
	comp=Z,22nm,1.5s,mb5.0					
XAN				AMB	AMB	
	comp=Z,126nm,6.4s					
XAN				LR	LR	
	comp=N,97nm,18.1s,MS4.5					
XAN				LR	LR	
	comp=E,235nm,16.3s,MS4.5					
XAN				LR	LR	
	comp=Z,288nm,16.8s,MS4.5					
CMAR	**Chiang Mai Arr**	**65.53**	**85**	P	**P**	**21 03 24.9 -0.3**
	comp=Z,19nm,1.1s,mb5.0,baz=301,slow=7.9,SNR=54					
GYA	**Guiyang**	**67.45**	**73**	⇓*i*P	**P**	**21 03 37.0 -0.5**
GYA				PP	PP	21 06 11.0 +5.0
GYA				S	S	21 12 32.0 -0.8
GYA				SS	SS	21 16 57.0 +4.2
GYA				AMB	AMB	
	comp=Z,20nm,1.3s,mb5.0					
GYA				AMB	AMB	
	comp=Z,10.0nm,4.5s					
GYA				LR	LR	
	comp=N,250nm,18.1s,MS4.6					
GYA				LR	LR	
	comp=E,230nm,19.0s,MS4.6					
GYA				LR	LR	
	comp=Z,260nm,18.0s,MS4.5					
BJI	**Beijing**	**67.57**	**56**	P	**P**	**21 03 38.0 0.0**
BJI				PP	PP	21 06 06.0 -0.7
BJI				S	S	21 12 33.0 -0.8
BJI				AMB	AMB	
	comp=Z,20nm,1.5s,mb4.9					
BJI				LR	LR	
	comp=N,217nm,19.1s,MS4.7					
BJI				LR	LR	
	comp=E,298nm,14.9s,MS4.7					
BJI				LR	LR	
	comp=Z,243nm,23.1s					
BJT	**Baijiatuau**	**67.58**	**56**	*e*P	**P**	**21 03 37.3 -0.7**
BJT				pmax	pmax	
	comp=Z,45nm,1.4s					
BJT	**Baijiatuau**	**67.58**	**56**	*e*P	**P**	**21 03 37.3 -0.7**
	comp=Z,45nm,1.4s,mb5.3					
BJT	**Baijiatuau**	**67.58**	**56**	*e*P	**P**	**21 03 37.3 -0.8**
	comp=Z,45nm,1.4s,mb5.3					
WHN	**Wuhan**	**71.12**	**66**	P	**P**	**21 03 59.5 -0.7**
WHN				S	S	21 13 15.0 -1.1
WHN				LR	LR	
	comp=Z,398nm,13.5s,MS4.8					
HNH	**Hanover**	**71.19**	**311**	*e*P	**P**	**21 04 06.2 +5.9**
HNH	**Hanover**	**71.19**	**311**	*e*P	**P**	**21 04 06.2 +5.9**
FRNY	**Flat Rock**	**71.36**	**312**	*e*P	**P**	**21 03 59.9 -1.4**
	comp=Z,13nm,1.2s,mb4.7					
FRNY	**Flat Rock**	**71.36**	**312**	*e*P	**P**	**21 03 59.9 -1.4**
	comp=Z,13nm,1.2s,mb4.7					
CN2	**Changchun**	**71.53**	**49**	*e*P	**P**	**21 04 02.0 -0.4**
CN2				PCP	PcP	21 04 22.5 +0.8
CN2				*e*S	S	21 13 18.0 -2.4
CN2				AMB	AMB	
	comp=Z,10.0nm,1.3s,mb4.6					
CN2				AMB	AMB	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=N,200nm,15.0s,MS4.8					
CN2				LR	LR	
	comp=E,300nm,15.0s,MS4.8					
CN2				LR	LR	
	comp=Z,500nm,15.0s,MS4.9					
SEY	**Seymchan**	**71.86**	**23**	*c i*P	**P**	**21 04 03.3 -0.7**
LONY	**Lake Ozonia**	**72.07**	**313**	*e*P	**P**	**21 04 05.8 +0.2**
KLR	**Kul'dur**	**72.07**	**42**	*e*P	**P**	**21 04 00.0 -5.5**
ACCN	**Adirondack Com**	**72.21**	**311**	*e*P	**P**	**21 04 13.6 +7.2**
MDJ	**Mudanjiang**	**73.54**	**46**	P	**P**	**21 04 13.8 -0.5**
MDJ				PCP	PcP	21 04 24.8 -5.5
MDJ				PP	PP	21 07 02.3 +4.5
MDJ				S	S	21 13 43.0 -0.3
MDJ				AMB	AMB	
	comp=Z,4.0nm,0.8s,mb4.4					
MDJ				AMB	AMB	
	comp=Z,81nm,5.5s					
MDJ				LR	LR	
	comp=N,303nm,20.0s					
MDJ				LR	LR	
	comp=E,197nm,14.6s					
MDJ				LR	LR	
	comp=Z,354nm,15.5s,MS4.8					
NJ2	**Nanjing**	**73.57**	**62**	*e*P	**P**	**21 04 17.5 +2.7**
NJ2				AMB	AMB	
	comp=Z,20nm,0.5s,mb5.3					
INK	**Inuvik**	**74.28**	**352**	LR	LR	21 41 02.8
	comp=Z,266nm,18.1s,MS4.6,baz=40,slow=39					
INK	**Inuvik**	**74.28**	**352**	*e*P	**P**	**21 04 21.1 +2.9**
PSI	**Prapat**	**74.44**	**98**	⇓*e*P	**P**	**21 04 19.8 -0.3**
SSE	**Sheshan**	**75.76**	**62**	P	**P**	**21 04 26.5 -0.9**
SSE				S	S	21 14 06.0 -2.5
SSE				AMB	AMB	
	comp=Z,35nm,0.7s,mb5.4					
SSE				AMB	AMB	
	comp=Z,87nm,4.9s					
SSE				LR	LR	
	comp=N,34nm,16.3s,MS4.4					
SSE				LR	LR	
	comp=E,138nm,16.2s,MS4.4					
SSE				LR	LR	
	comp=Z,87nm,15.1s,MS4.2					
VLA	**Vladivostok**	**75.77**	**47**	*i* P	**P**	**21 04 26.7 -0.6**
VLA				MLR	MLR	
	comp=Z,300nm,20.0s,MS4.6					
VLA	**Vladivostok**	**75.77**	**47**	*i* P	**P**	**21 04 26.7 -0.6**
	comp=Z,300nm,20.0s					
YKA	**Yellowknife Ar**	**76.32**	**342**	P	**P**	**21 04 28.1 -1.9**
	comp=Z,1.8nm,0.8s,mb4.0,baz=40,slow=5.5,SNR=5.6					
YKA				LR	LR	21 41 44.5
	comp=Z,185nm,19.3s,MS4.4,baz=165,slow=39					
YKA	**Yellowknife Ar**	**76.32**	**342**	P	**P**	**21 04 28.1 -1.9**
YKA				LR	LR	21 41 44.5
KSRS	**Korea Array**	**76.68**	**53**	P	**P**	**21 04 32.3 -0.3**
	comp=Z,12nm,1.0s,mb4.8,baz=306,slow=5.1,SNR=20					
KSRS				LR	LR	21 42 56.5
	comp=Z,210nm,18.3s,MS4.5,baz=306,slow=39					
KSRS	**Korea Array**	**76.68**	**53**	P	**P**	**21 04 32.3 -0.3**
KSRS				pmax	pmax	
	comp

DAWY **Dawson** 78.99 354 *e*P P 21 04 43.2 -1.7
DAWY **Dawson** 78.99 354 *e*P P 21 04 43.2 -1.8
YSS **Yuzh-Sakhalins** 79.22 39 *e*P P 21 04 45.2 -1.3
YSS *e*S S 21 14 43.0 -2.5
YSS pmax pmax
comp=Z,60nm,1.3s,mb5.4
YSS MLR MLR
comp=Z,400nm,18.0s,MS4.8
YSS **Yuzh-Sakhalins** 79.22 39 *e*P P 21 04 46.1 -0.4
comp=Z,68nm,1.6s,mb5.3
YSS *e*S S 21 14 43.0 -2.5
YSS **Yuzh-Sakhalins** 79.22 39 *e*P P 21 04 46.1 -0.5
comp=Z,68nm,1.6s,mb5.3
COWI **Conover** 79.24 320 *e*P P 21 04 46.0 -0.6
comp=Z,33nm,1.2s,mb5.1
COWI **Conover** 79.24 320 *e*P P 21 04 46.0 -0.6
comp=Z,33nm,1.2s,mb5.1
ULM **Lac du Bonnet** 79.58 326 P P 21 04 47.2 -1.2
comp=Z,5.8nm,0.8s,mb4.6,baz=358,slow=1.9,SNR=8.1
ULM LR LR 21 41 26.4
comp=Z,232nm,20.7s,MS4.5,baz=48,slow=37
ULM **Lac du Bonnet** 79.58 326 P P 21 04 47.2 -1.2
ULM LR LR 21 41 26.4
TTA **Tatalina** 80.76 1 *e*P P 21 04 54.4 -0.1
TTA **Tatalina** 80.76 1 *e*P P 21 04 54.4 -0.1
HUMP **Col San Antoni** 81.04 286 *e*P P 21 05 02.5 +5.7
comp=Z,37nm,1.1s,mb5.2
HUMP **Col San Antoni** 81.04 286 *e*P P 21 05 02.5 +5.7
comp=Z,37nm,1.1s,mb5.2
PETK **Petropavlovsk-** 81.20 27 P P 21 04 55.7 -1.4
comp=Z,1.8nm,0.7s,mb4.1,baz=308,slow=3.5,SNR=4.4
PETK LR LR 21 48 33.9
comp=Z,159nm,18.0s,MS4.4,baz=139,slow=41
PETK **Petropavlovsk-** 81.20 27 P P 21 04 55.7 -1.4
PETK LR LR 21 48 33.9
JOW **Kunigami** 83.28 62 P P 21 05 07.8 -0.6
comp=Z,4.0nm,0.7s,mb4.6,baz=313,slow=5.4,SNR=5.2
OLIL **Olney** 83.64 314 *e*P P 21 05 08.4 -1.7
comp=Z,64nm,2.3s,mb5.3
OLIL **Olney** 83.64 314 *e*P P 21 05 08.4 -1.7
comp=Z,64nm,2.3s,mb5.3
CPCT **Cooper Cave** 83.68 310 *e*P P 21 05 10.2 -0.2
CPCT **Cooper Cave** 83.68 310 *e*P P 21 05 10.2 -0.2
MJAR **Matsushiro Arr** 83.68 49 P P 21 05 09.9 -0.4
comp=Z,4.1nm,1.0s,mb4.5,baz=279,slow=4.2,SNR=9.8
MJAR LR LR 21 46 55.0
comp=Z,240nm,18.6s,MS4.6,baz=320,slow=39
GOGA **Godfrey** 84.34 308 *e*P P 21 05 13.2 -0.6
GOGA pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
GOGA **Godfrey** 84.34 308 *e*P P 21 05 13.2 -0.6
comp=Z,7.8nm,1.1s,mb4.8
GOGA **Godfrey** 84.34 308 *e*P P 21 05 13.2 -0.6
comp=Z,7.8nm,1.1s,mb4.8
ECSD **EROS,Sioux Fal** 84.67 322 *e*P P 21 05 14.1 -1.2
comp=Z,17nm,1.0s,mb5.1
ECSD **EROS,Sioux Fal** 84.67 322 *e*P P 21 05 14.1 -1.1
comp=Z,17nm,1.0s,mb5.1
SWET **Sewanee** 84.70 310 *e*P P 21 05 19.2 +3.6
SWET **Sewanee** 84.70 310 *e*P P 21 05 19.2 +3.7
FVM **French Village** 85.48 315 *e*P P 21 05 18.9 -0.5
FVM pmax pmax
comp=Z,18nm,1.2s,mb5.1
FVM **French Village** 85.48 315 *e*P P 21 05 18.9 -0.5
comp=Z,18nm,1.2s,mb5.1
CCM **Cathedral Cave** 85.90 315 *e*P P 21 05 20.0 -1.5
CCM pmax pmax
comp=Z,13nm,1.0s,mb5.1
CCM **Cathedral Cave** 85.90 315 *e*P P 21 05 20.0 -1.5
comp=Z,14nm,1.0s,mb5.1
CCM **Cathedral Cave** 85.90 315 *e*P P 21 05 20.0 -1.5
comp=Z,14nm,1.0s,mb5.1
LAO **LASA Array** 86.73 329 *e*P P 21 05 24.8 -0.6
comp=Z,24nm,0.8s,mb5.5
LAO **LASA Array** 86.73 329 *e*P P 21 05 24.8 -0.7
comp=Z,24nm,0.8s,mb5.5
EGMT **Eagleton** 87.03 332 *e*P P 21 05 26.2 -0.6
EGMT **Eagleton** 87.03 332 *e*P P 21 05 26.2 -0.6
BDFB **Brasilia** 87.08 248 P P 21 05 28.7 +1.2
comp=Z,4.7nm,0.6s,mb4.9,baz=109,slow=3.9,SNR=6.6
OXF **Oxford** 87.28 312 *e*P P 21 05 28.3 0.0
OXF pmax pmax
comp=Z,74nm,1.2s,mb5.8
OXF **Oxford** 87.28 312 *e*P P 21 05 28.2 -0.1
comp=Z,74nm,1.2s,mb5.8
OXF **Oxford** 87.28 312 *e*P P 21 05 28.2 -0.1
comp=Z,74nm,1.2s,mb5.8
WALA **Waterton Lakes** 87.64 335 *e*P P 21 05 27.5 -2.3
WALA **Waterton Lakes** 87.64 335 *e*P P 21 05 27.5 -2.3
RSSD **Black Hills** 87.85 327 *e*P P 21 05 30.3 -0.6
RSSD **Black Hills** 87.85 327 *e*P P 21 05 30.3 -0.5
GCMT **Greycliff** 88.84 331 *e*P P 21 05 34.8 -0.7
GCMT **Greycliff** 88.84 331 *e*P P 21 05 34.8 -0.7
HRY **Holter Researc** 88.90 333 *e*P P 21 05 33.1 -2.7
HRY **Holter Researc** 88.90 333 *e*P P 21 05 33.1 -2.7
RLMT **Red Lodge** 89.24 330 *e*P P 21 05 37.1 -0.3
comp=Z,20nm,1.6s,mb5.2
RLMT **Red Lodge** 89.24 330 *e*P P 21 05 37.1 -0.4
comp=Z,20nm,1.6s,mb5.2
CHMT **Chamberlain Mo** 89.24 334 *e*P P 21 05 36.5 -0.9
NEW **Newport** 89.39 337 *e*P P 21 05 36.9 -1.1
NEW **Newport** 89.39 337 *e*P P 21 05 36.9 -1.2
MSO **Missoula** 89.56 334 *e*P P 21 05 37.7 -1.2
MSO **Missoula** 89.56 334 *e*P P 21 05 37.6 -1.2
MIAR **Mount Ida** 89.71 314 *e*P P 21 05 39.4 -0.4
MIAR pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
MIAR **Mount Ida** 89.71 314 *e*P P 21 05 39.4 -0.4
comp=Z,9.6nm,1.1s,mb5.0
MIAR **Mount Ida** 89.71 314 *e*P P 21 05 39.4 -0.4
comp=Z,9.6nm,1.1s,mb5.0
BOZ **Bozeman (W)** 89.72 332 *e*P P 21 05 39.7 0.0
BOZ **Bozeman (W)** 89.72 332 *e*P P 21 05 39.7 +0.1
LRM **Limekiln Ridge** 89.88 333 *e*P P 21 05 39.9 -0.5
LRM **Limekiln Ridge** 89.88 333 *e*P P 21 05 39.9 -0.5
DLMT **Dillon** 90.33 332 *e*P P 21 05 40.7 -1.8
comp=Z,19nm,1.4s,mb5.2
DLMT **Dillon** 90.33 332 *e*P P 21 05 40.7 -1.7
comp=Z,19nm,1.4s,mb5.2
FLWY **Flagg Ranch** 90.67 331 *e*P P 21 05 40.2 -3.9
comp=Z,9.8nm,0.7s,mb5.2
FLWY **Flagg Ranch** 90.67 331 *e*P P 21 05 40.2 -3.9
comp=Z,9.8nm,0.7s,mb5.2
PHWY **Pilot Hill** 90.72 326 *e*P P 21 05 44.2 -0.2
PHWY **Pilot Hill** 90.72 326 *e*P P 21 05 44.1 -0.3
MCMT **McKenzie Canyo** 90.87 332 *e*P P 21 05 44.9 -0.1
MCMT **McKenzie Canyo** 90.87 332 *e*P P 21 05 44.9 -0.2
IMW **Indian Meadow** 90.92 331 *e*P P 21 05 45.9 +0.6
comp=Z,16nm,1.6s,mb5.1
IMW **Indian Meadow** 90.92 331 *e*P P 21 05 45.9 +0.6
comp=Z,16nm,1.6s,mb5.1
RWWY **Rawlins** 91.19 327 *e*P P 21 05 50.5 +3.9
comp=Z,9.1nm,1.0s,mb5.1
RWWY **Rawlins** 91.19 327 *e*P P 21 05 50.5 +4.0
comp=Z,9.1nm,1.0s,mb5.1
PDAR **Pinedale Array** 91.31 329 P P 21 05 45.5 -1.5
comp=Z,1.5nm,0.9s,mb4.3,baz=56,slow=5.6,SNR=7.6
PDAR LR LR 21 48 25.7
comp=Z,196nm,18.9s,MS4.6,baz=46,slow=37
PDAR **Pinedale Array** 91.31 329 P P 21 05 45.5 -1.6
RRI2 **Red Ridge** 91.53 331 *e*P P 21 05 45.3 -2.8
ISCO **Idaho Springs** 91.99 325 *e*P P 21 05 49.6 -0.7
ISCO pmax pmax
comp=Z,12nm,1.3s,mb5.1
ISCO **Idaho Springs** 91.99 325 *e*P P 21 05 49.6 -0.7
comp=Z,12nm,1.3s,mb5.1
ISCO **Idaho Springs** 91.99 325 *e*P P 21 05 49.6 -0.7
comp=Z,12nm,1.3s,mb5.1
NLWA **Neilton Lookou** 92.18 340 *e*P P 21 05 51.4 +0.4
NLWA **Neilton Lookou** 92.18 340 *e*P P 21 05 51.4 +0.3
BMO **Blue Mountains** 92.45 335 *e*P P 21 05 50.2 -2.1
BMO **Blue Mountains** 92.45 335 *e*P P 21 05 50.2 -2.1
WMOK **Wichita Mounta** 92.48 318 *e*P P 21 05 50.7 -2.0
WMOK pmax pmax
comp=Z,12nm,1.4s,mb5.0
WMOK **Wichita Mounta** 92.48 318 *e*P P 21 05 50.7 -2.0
comp=Z,12nm,1.4s,mb5.0
WMOK **Wichita Mounta** 92.48 318 *e*P P 21 05 50.7 -2.0
comp=Z,12nm,1.4s,mb5.0
SDCO **Great Sand Dun** 93.58 324 *e*P P 21 05 56.5 -1.2
comp=Z,7.9nm,1.1s,mb5.1
SDCO **Great Sand Dun** 93.58 324 *e*P P 21 05 56.5 -1.2
comp=Z,7.9nm,1.1s,mb5.1
PV01 **Paradox Valley** 94.69 326 *e*P P 21 06 02.2 -0.6
PV01 **Paradox Valley** 94.69 326 *e*P P 21 06 02.2 -0.6

DUG **Dugway** 94.79 330 *e*P P 21 06 03.0 -0.2
DUG **Dugway** 94.79 330 *e*P P 21 06 03.0 -0.2
MSU **Marysvale** 95.95 328 *e*P P 21 06 07.0 -1.5
MSU **Marysvale** 95.95 328 *e*P P 21 06 07.0 -1.6
KHMM **Horse Mountain** 98.10 337 *e*P P 21 06 18.2 0.0
KHMM **Horse Mountain** 98.10 337 *e*P P 21 06 18.2 0.0
TXAR **Lajitas Array** 99.28 317 P P 21 06 24.2 +0.5
comp=Z,1.0nm,0.9s,mb4.3,baz=59,slow=4.8,SNR=6.2
TXAR LR LR 21 53 09.8
comp=Z,204nm,18.4s,MS4.7,baz=0.0,slow=37
LVC **Limon Verde** 107.10 254 *e*PKIKP PKiKP 21 11 09.5 +1.7
LVC **Limon Verde** 107.10 254 *e*PKP PKiKP 21 11 09.5 +1.7
WRA **Warramunga Arr** 115.87 96 PKP PKPdf 21 11 23.8 -0.7
comp=Z,0.9nm,0.8s,baz=308,slow=2.3,SNR=7.5
PLCA **Paso Flores** 117.30 238 PKP PKPdf 21 11 27.2 +0.6
comp=Z,2.4nm,1.1s,baz=204,slow=2.4,SNR=3.3
ASAR **Alice Springs** 117.44 100 PKP PKPdf 21 11 26.6 -0.8
comp=Z,1.1nm,0.7s,baz=318,slow=1.2,SNR=17

*IDC **31** 21:09:43.0±0.6, 1260N×4801E, h0km, mb4.0/21, mb1 4.2/22, mb1mx4.1/31, mbtmp4.0/22, ML3.6/1, MS4.0/14, Ms1 4.0/14, ms1mx3.8/27, Error ellipse: s-maj=17.2km s-min=13.7km az=105.0*
*MOS **31** 21:09:42.7±1.1, 1261N×4797E, h10km, mb4.8/4, Error ellipse: s-maj=17.8km s-min=8.9km az=76.8*
*DHMR **31** 21:09:43.8±2.7, 1318N×4776E, h10km, ML4.4*
*GCMT **31** 21:09:44.3±0.4, 1283N×4797E, h25km±2km, MW5.1/56, Moment Tensor Solution. s23,c30; s56,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.43±.19; $M_{\theta\theta}$2.61±.14; $M_{\phi\phi}$-3.04±.16; $M_{r\theta}$-3.14±.46; $M_{\theta\phi}$1.41±.16; $M_{\phi r}$1.65±.42; Best double couple: $M_0$4.76100×10^{16} NP1:ϕ_s209.00000°, δ42.00000°, λ174.00000°. NP2: ϕ_s303.00000°, δ86.00000°, λ48.00000°. Principal axes: T 4.8490, Plg35.0000°, Azm178.0000°; N -0.1760, Plg42.0000°, Azm306.0000°; P -4.6730, Plg29.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 21:09:44.3±0.5, 1261N×4799E, h10km Error ellipse: s-maj=13.4km s-min=9.3km az=109.0*
*CSEM **31** 21:09:44.3±0.1, 1267N×4779E, h20km, mb4.6/5, Mw5.1, Error ellipse: s-maj=3.9km s-min=3.2km az=171.0*
*ISCJB **31** 21:09:46.3±1.9, 1263N±005×4775E±004, h33km±14km, mb4.1/25, MS3.9/14, Error ellipse: s-maj=8.5km s-min=6.0km az=11.6*
ISC 31 21:09:47.9±2.0, 1262N±005×4774E±004, h31km±14km, n72, σ1°24/79, mb4.1/25, MS3.9/14, 3C-7D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.23**	**34**	*i* P	**Pn**	**21 10 15.3**	**-7.3**
MUKL				*i* S	**Sn**	**21 10 39.8**	**-9.3**
MUKL				AML	AML	21 10 42.6	
	comp=N,2μm,0.3s						
BDHA	**Al Bayda'**	**2.50**	**303**	⇓*i* P	**Pn**	**21 10 25.7**	**-0.7**
BDHA				*i* S	**Sn**	**21 10 54.8**	**-1.1**
	comp=N,7μm,0.6s						
BDHA	**Al Bayda'**	**2.50**	**303**	⇓*i* P	**Pn**	**21 10 25.7**	**-0.7**
BDHA				*i* S	**Sn**	**21 10 54.8**	**-1.1**
BDHA				AML	AML	21 10 58.1	
	comp=N,14μm,0.6s						
BDHA	**Al Bayda'**	**2.50**	**303**	⇓*i* P	**Pn**	**21 10 25.7**	**-0.7**
BDHA				*i* S	**Sn**	**21 10 56.0**	**0.0**
BDHA				AML	AML	21 10 58.1	
	comp=N,14μm,0.6s						
LBOS		**2.72**	**297**	*i* P	**Pn**	**21 10 28.5**	**-0.9**
LBOS				*i* S	**Sn**	**21 11 01.1**	**-0.2**
LBOS		**2.72**	**297**	⇓*i* P	**Pn**	**21 10 28.6**	**-0.9**
LBOS				*i* S	**Sn**	**21 11 01.2**	**-0.1**
TRBA	**At Turbah**	**3.58**	**280**	*i* P	**Pn**	**21 10 39.9**	**-1.4**
TRBA				AML	AML	21 11 42.8	
	comp=N,2μm,0.7s						
TRBA	**At Turbah**	**3.58**	**280**	⇓*i* P	**Pn**	**21 10 40.0**	**-1.3**
TRBA				*i* S	**Sn**	**21 11 20.9**	**-1.6**
TRBA				AML	AML	21 11 42.8	
	comp=N,2μm,0.7s						
DHBB	**Dhamar BB**	**3.79**	**301**	*i* P	**Pn**	**21 10 43.2**	**-0.9**
DHBB	**Dhamar BB**	**3.79**	**301**	*i* P	**Pn**	**21 10 44.3**	**+0.2**
DHBB				*i* S	**Sn**	**21 11 28.9**	**+1.3**
UDYN	**Al 'Udayn**	**3.91**	**290**	*i* P	**Pn**	**21 10 44.8**	**-1.0**
UDYN				*i* S	**Sn**	**21 11 30.7**	**+0.2**
UDYN				AML	AML	21 11 52.9	
	comp=N,667nm,0.7s						
UDYN	**Al 'Udayn**	**3.91**	**290**	⇑*i* P	**Pn**	**21 10 45.7**	**-0.1**
UDYN				*i* S	**Sn**	**21 11 29.0**	**-1.6**
UDYN				AML	AML	21 11 52.9	
	comp=N,667nm,0.7s						
SANA	**San'a**	**4.39**	**309**	*i* S	**Sn**	**21 11 40.6**	**-1.9**
SANA	**San'a**	**4.39**	**309**	*i* S	**Sn**	**21 11 44.4**	**+1.8**
HAJJ	**Hajjah**	**5.05**	**308**	*i* S	**Sn**	**21 11 55.2**	**-3.5**
HAJJ	**Hajjah**	**5.05**	**308**	*i* S	**Sn**	**21 11 59.5**	**+0.9**
RDF	**Al-Radifah**	**16.22**	**359**	*e*P	**Pn**	**21 13 36.0**	**+2.6**
	baz=2.0						
RDF				AMb	AMB	21 13 41.3	
	comp=Z,105nm,1.3s,baz=2.0						
KBD	**Kabd**	**16.47**	**360**	*e*P	**Pn**	**21 13 38.0**	**+1.4**
	baz=3.0						
KBD				AMb	AMB	21 13 41.6	
	comp=Z,61nm,1.2s,baz=3.0						
NAY	**Al-Naaiem**	**16.55**	**358**	*e*P	**Pn**	**21 13 35.6**	**-2.0**
	baz=1.0						
NAY				AMb	AMB	21 13 42.7	
	comp=Z,60nm,1.2s,baz=1.0						
RST	**Umm Al-Ruwaisa**	**16.81**	**358**	*e*P	**Pn**	**21 13 42.4**	**+1.5**
	baz=1.0						
RST				AMb	AMB	21 13 45.7	
	comp=Z,5.0nm,1.2s,baz=1.0						
UMR	**Umm Al-Rimmam**	**16.84**	**360**	*e*P	**Pn**	**21 13 41.4**	**0.0**
	comp=Z,148nm,0.9s						
UMR	**Umm Al-Rimmam**	**16.84**	**360**	*e*P	**Pn**	**21 13 41.4**	**+0.1**
	baz=3.0						
UMR				AMb	AMB	21 13 44.9	
	comp=Z,148nm,0.9s,baz=3.0						
MIB	**Mutribah**	**17.10**	**359**	*e*P	**Pn**	**21 13 44.0**	**-0.6**
	comp=Z,129nm,1.3s						
MIB	**Mutribah**	**17.10**	**359**	*e*P	**Pn**	**21 13 44.0**	**-0.5**
	baz=2.0						
MIB				AMb	AMB	21 13 48.7	
	comp=Z,129nm,1.3s,baz=2.0						
KMBO	**Kilima Mbogo**	**17.18**	**218**	P	**Pn**	**21 13 47.0**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=36,slow=12,SNR=8.7						
KMBO	**Kilima Mbogo**	**17.18**	**218**	P	**Pn**	**21 13 47.0**	**+1.4**
EIL	**Elat**	**20.70**	**327**	P	**P**	**21 14 27.9**	**+2.3**
	comp=Z,15nm,1.0s,baz=87,slow=3.7,SNR=9.9						
EIL				LR	LR	21 21 22.8	
	comp=Z,631nm,20.2s,MS4.0,baz=144,slow=34						
ASF	**Jabal al Asfar**	**21.86**	**335**	LR	LR	21 22 17.2	
	comp=Z,164nm,20.0s,MS3.4,slow=34						
MMAI	**Mount Meron Ar**	**23.22**	**333**	P	**P**	**21 14 54.9**	**+2.4**
	comp=Z,3.4nm,0.8s,mb3.8,baz=164,slow=12,SNR=4.9						
MMAI				LR	LR	21 24 26.6	
	comp=Z,606nm,18.6s,MS4.1,baz=135,slow=38						
GNI	**Garni**	**27.55**	**355**	P	**P**	**21 15 32.4**	**+0.6**
	comp=Z,3.2nm,0.4s,mb4.3,baz=128,slow=12,SNR=4.6						
GNI				LR	LR	21 27 57.3	
	comp=Z,448nm,20.2s,MS4.0,baz=156,slow=40						
KIV	**Kislovodsk**	**31.52**	**353**	*d* P	**P**	**21 16 08.8**	**+1.8**
KIV				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.6						
KIV	**Kislovodsk**	**31.52**	**353**	*i* P	**P**	**21 16 08.8**	**+1.8**
	comp=Z,14nm,1.3s,mb4.6						
LSZ	**Lusaka**	**33.81**	**215**	P	**P**	**21 16 28.0**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.8,baz=29,slow=10,SNR=2.9						
AKTK	**Aktyubinsk**	**38.63**	**11**	P	**P**	**21 17 07.6**	**-0.6**
AKTK	**Aktyubinsk**	**38.63**	**11**	P	**P**	**21 17 07.6**	**-0.5**
AKTO	**Aktyubinsk**	**38.63**	**11**	P	**P**	**21 17 07.6**	**-0.5**
	comp=Z,1.7nm,0.8s,mb3.8,baz=210,slow=7.8,SNR=6.8						
AKASG	**Malin Array Be**	**40.87**	**342**	P	**P**	**21 17 27.0**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.3,baz=155,slow=7.2,SNR=8.9						
KEST	**Kesra**	**41.52**	**310**	LR	LR	21 35 23.8	
	comp=Z,146nm,19.6s,MS3.9,baz=12,slow=37						
LBTB	**Lobatse**	**43.20**	**210**	P	**P**	**21 17 45.5**	**-0.6**
	comp=Z,3.6nm,0.9s,mb4.1,baz=54,slow=12,SNR=4.8						
OBN	**Obninsk**	**43.29**	**351**	*e*P	**P**	**21 17 47.1**	**+0.7**
OBN				*e*		21 19 28.4	
OBN				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.7						
OBN	**Obninsk**	**43.29**	**351**	*e*P	**P**	**21 17 47.1**	**+0.7**
	comp=Z,22nm,1.3s,mb4.7						
ARU	**Arti**	**44.50**	**9**	*d* P	**P**	**21 17 56.0**	**-0.2**
ARU				*e*		21 19 41.2	
ARU				*e*PPP		21 20 12.8	
ARU				*e*S	**S**	**21 24 29.5**	**+0.2**
ARU				*e*SS	SS	21 27 41.5	-7.8
ARU				pmax	pmax		
	comp=Z,15nm,2.5s,mb4.4						
ARU	**Arti**	**44.50**	**9**	*i* P	**P**	**21 17 56.0**	**-0.2**
	comp=Z,15nm,2.5s,mb4.4						
ARU				*e*S	**S**	**21 24 29.5**	**+0.2**
MKAR	**Makanchi Array**	**44.75**	**34**	P	**P**	**21 17 56.3**	**-2.0**
	comp=Z,1.2nm,0.8s,mb3.8,baz=217,slow=8.3,SNR=11						
MKAR				LR	LR	21 38 19.7	
	comp=Z,126nm,20.6s,MS3.8,baz=339,slow=38						
MKAR	**Makanchi Array**	**44.75**	**34**	‖*e*P	**P**	**21 17 56.2**	**-2.1**
MKAR	**Makanchi Array**	**44.75**	**34**	P	**P**	**21 17 56.3**	**-2.0**
TORD	**Torodi Ar. Bea**	**44.84**	**276**	P	**P**	**21 18 00.8**	**+1.3**
	comp=Z,1.8nm,0.7s,mb4.0,baz=86,slow=6.8,SNR=12						
TORD				PcP	PcP	21 19 42.6	+1.5
	comp=Z,0.7nm,0.7s,baz=77,slow=3.1,SNR=2.6						
SVE	**Sverdlovsk**	**45.21**	**10**	*e*P	**P**	**21 18 01.8**	**0.0**
SVE				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.6						
SVE	**Sverdlovsk**	**45.21**	**10**	*e*P	**P**	**21 18 01.8**	**0.0**
	comp=Z,13nm,1.3s,mb4.6						
KURK	**Kurchatov**	**45.56**	**27**	*c* P	**P**	**21 18 05.5**	**+0.8**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
KURK	**Kurchatov**	**45.56**	**27**	*i* P	**P**	**21 18 05.5**	**+0.8**
	comp=Z,7.0nm,1.3s,mb4.4						
GERES	**GERESS Array B**	**45.78**	**329**	P	**P**	**21 18 09.1**	**+2.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=139,slow=6.5,SNR=8.6						
GERES				PcP	PcP	21 19 47.2	+3.4
	comp=Z,0.3nm,0.5s,baz=151,slow=2.2,SNR=4.0						
GERES				LR	LR	21 37 39.4	
	comp=Z,90nm,18.9s,MS3.7,baz=283,slow=36						
GERES	**GERESS Array B**	**45.78**	**329**	P	**P**	**21 18 09.1**	**+2.6**
GERES						21 19 47.2	
BOSA	**Boshof**	**46.41**	**208**	P	**P**	**21 18 12.1**	**+0.4**
	comp=Z,3.4nm,0.8s,mb4.3,baz=45,slow=7.4,SNR=9.2						
CMAR	**Chiang Mai Arr**	**49.54**	**76**	P	**P**	**21 18 33.0**	**-3.1**
	comp=Z,3.2nm,0.9s,mb4.3,baz=271,slow=8.5,SNR=14						
CMAR				LR	LR	21 38 52.6	
	comp=Z,116nm,21.4s,MS3.9,baz=280,slow=36						
CMAR	**Chiang Mai Arr**	**49.54**	**76**	P	**P**	**21 18 33.0**	**-3.2**
ZAL	**Zalesovo**	**50.53**	**27**	P	**P**	**21 18 41.6**	**-1.4**
ZALV	**Zalesovo Beam**	**50.54**	**27**	P	**P**	**21 18 41.6**	**-1.6**
	comp=Z,1.1nm,0.5s,mb4.0,baz=229,slow=8.2,SNR=7.4						
ZALV				LR	LR	21 40 06.4	
	comp=Z,71nm,20.4s,MS3.7,baz=62,slow=36						
DBIC	**Dimbokro**	**52.12**	**269**	LR	LR	21 43 03.8	
	comp=Z,74nm,18.1s,MS3.8,baz=78,slow=38						
ESDC	**Sonseca Array**	**52.77**	**310**	P	**P**	**21 19 00.3**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=98,slow=9.2,SNR=3.5						
HFS	**Hagfors**	**53.64**	**340**	P	**P**	**21 19 05.0**	**-1.1**
	comp=Z,1.9nm,0.9s,mb4.0,baz=143,slow=13,SNR=2.8						
NB2	**NORSAR Subarra**	**55.15**	**339**	P	**P**	**21 19 15.4**	**-1.6**
	comp=Z,2.1nm,0.8s,mb4.2,baz=134,slow=7.4						
NOA	**NORSAR Array B**	**55.15**	**339**	P	**P**	**21 19 16.4**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.7,baz=42,slow=22,SNR=3.2						
NOA				LR	LR	21 47 44.7	
	comp=Z,117nm,18.1s,MS4.0,baz=95,slow=41						
NOA	**NORSAR Array B**	**55.15**	**339**	P	**P**	**21 19 16.4**	**-0.6**
NOA				LR	LR	21 47 44.7	
EKA	**Eskdalemuir Ar**	**57.99**	**328**	P	**P**	**21 19 39.1**	**+1.8**
	comp=Z,0.9nm,0.7s,mb3.9,baz=115,slow=6.0,SNR=4.9						
ARCES	**ARCESS Array B**	**58.60**	**351**	P	**P**	**21 19 41.8**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.2,baz=167,slow=5.5,SNR=3.7						
ARCES				LR	LR	21 47 15.4	
	comp=Z,92nm,19.3s,MS3.9,baz=194,slow=38						
SONM	**Songino Array**	**59.83**	**42**	P	**P**	**21 19 49.0**	**-1.3**
	comp=Z,1.2nm,0.9s,mb3.9,baz=253,slow=7.9,SNR=7.0						
ULN	**Ulaanbaatar**	**60.27**	**42**	*e*P	**P**	**21 19 51.7**	**-1.6**
MAW	**Mawson**	**80.76**	**174**	LR	LR	21 55 35.7	
	comp=Z,160nm,18.6s,MS4.4,baz=272,slow=34						
WRA	**Warramunga Arr**	**91.10**	**110**	P	**P**	**21 22 50.6**	**+0.6**
	comp=Z,1.8nm,0.6s,mb4.6,baz=298,slow=3.8,SNR=21						
ASAR	**Alice Springs**	**91.54**	**114**	P	**P**	**21 22 52.2**	**+0.2**
	comp=Z,0.7nm,0.5s,mb4.2,baz=288,slow=4.6,SNR=12						
STKA	**Stephens Creek**	**99.79**	**121**	LR	LR	22 05 12.2	
	comp=Z,130nm,19.2s,MS4.5,baz=215,slow=33						

*IDC **31** 21:13:48.2±1.8, 4344N×10527W, h0km, mb4.0/1, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, ML3.3/4, Error ellipse: s-maj=43.1km s-min=7.7km az=152.0*
*ISCJB **31** 21:13:49.4±0.4, 4360N±003×10526W±004, h0km, Error ellipse: s-maj=4.3km s-min=3.6km az=25.3*
*NEIC **31** 21:13:50.7±0.5, 4364N×105.18W, h0km, ML3.3, Error ellipse: s-maj=8.1km s-min=5.6km az=131.0, Suspected Mining explosion.*
NEIC 75 km [50 miles] SSE of Gillette.
ISC 31 21:13:50.8±0.4, 4363N±003×10516W±004, h0km, n29, σ0°98/49, 1C, Wyoming

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**59**	⇑*i* Pg	**Pg**	**21 14 09.4**	**+0.4**
RSSD				*e*Sn	**Sn**	**21 14 26.3**	**+0.6**
PHWY	**Pilot Hill**	**2.34**	**185**	*e*Pn	**Pn**	**21 14 30.3**	**0.0**
PHWY				*e*Sg	**Sg**	**21 15 02.8**	**-3.0**
RWWY	**Rawlins**	**2.46**	**219**	*e*Pn	**Pn**	**21 14 33.0**	**+0.9**
RWWY				*e*Sg	**Sg**	**21 15 03.1**	**-6.6**
LAO	**LASA Array**	**3.15**	**347**	*e*Pn	**Pn**	**21 14 41.8**	**+0.2**
LAO				*e*Sn	**Sn**	**21 15 20.2**	**+0.4**
RLMT	**Red Lodge**	**3.30**	**298**	*e*Pn	**Pn**	**21 14 42.7**	**-0.9**
BW06	**Boulder Array**	**3.33**	**256**	*e*Pn	**Pn**	**21 14 43.6**	**-0.4**
BW06				*e*S	**Sn**	**21 15 30.9**	**+6.7**
PDAR	**Pinedale Array**	**3.33**	**256**	Pn	**Pn**	**21 14 43.8**	**-0.2**
	2.8nm,0.3s,baz=81,slow=15,SNR=55						
PDAR				Pg	**Pg**	**21 14 49.0**	**-5.5**
	15nm,0.3s,baz=70,slow=18,SNR=98						
PDAR				Lg		21 15 28.6	
	26nm,0.3s,baz=80,slow=29,SNR=15						
ISCO	**Idaho Springs**	**3.84**	**185**	*e*Pn	**Pn**	**21 14 52.1**	**+1.0**
ISCO		

n19,σ0°64/19,1D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.03**	**56**	*e*Pg	**Pg**	**21 22 11.0**	**-1.4**
SHGR				*e*Sg	**Sg**	**21 22 26.7**	**+0.9**
SHGR				AML	AML	21 22 33.0	
	comp=E,650nm,0.7s						
SHGR				AML	AML	21 22 38.6	
	comp=N,679nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.03**	**56**	*e*Pg	**Pg**	**21 22 11.0**	**-1.4**
	SNR=90						
SHGR				*e*Sg	**Sg**	**21 22 26.7**	**+0.9**
	SNR=90						
MIB	**Mutribah**	**1.77**	**193**	*e*P	**Pn**	**21 22 23.2**	**-0.2**
	baz=192						
MIB				AML	AML	21 22 49.0	
	comp=Z,35nm,0.4s,baz=192						
RST	**Umm Al-Ruwaisa**	**2.15**	**199**	*e*P	**Pn**	**21 22 28.4**	**-0.1**
NAY	**Al-Naaiem**	**2.33**	**192**	*e*P	**Pn**	**21 22 30.9**	**-0.2**
	baz=192						
NAY				AML	AML	21 23 03.8	
	comp=Z,10.0nm,0.6s,baz=192						
RDF	**Al-Radifah**	**2.61**	**185**	*e*P	**Pn**	**21 22 35.5**	**+0.6**
	baz=184						
RDF				AML	AML	21 23 08.1	
	comp=Z,21nm,0.4s,baz=184						
IKOM	**Komasi**	**2.64**	**355**	*e*Pn	**Pn**	**21 22 34.4**	**-0.8**
IPIR	**Pirpir**	**2.87**	**66**	*e*Pn	**Pn**	**21 22 39.3**	**+0.9**
BHD	**Baghdad**	**3.36**	**302**	*ex*	x	21 22 45.0	
BHD				*ex*	x	21 22 27.0	
ILIN	**Lien**	**3.44**	**349**	*e*Pn	**Pn**	**21 22 46.0**	**-0.3**
ASAO	**Ashtian**	**3.54**	**31**	*e*Pn	**Pn**	**21 22 48.6**	**+1.0**
SNGE	**Sanandaj**	**3.56**	**354**	*e*Pn	**Pn**	**21 22 48.3**	**+0.4**
SNGE				AML	AML	21 23 40.8	
	comp=N,46nm,0.7s						
IGAR	**Gharneh**	**3.71**	**75‖**	*e*Pn	**Pn**	**21 22 50.4**	**+0.4**
IZEF	**Zefreh**	**4.08**	**69**	*e*Sn	**Sn**	**21 23 41.9**	**-0.9**
IRAZ	**Razeghan**	**4.25**	**24**	*e*Pn	**Pn**	**21 22 57.6**	**+0.2**
NASN	**Na'in**	**4.44**	**72**	*e*Pn	**Pn**	**21 22 59.9**	**-0.1**
IPAR	**Pars**	**4.83**	**109**	*e*Pn	**Pn**	**21 23 05.2**	**-0.3**
MSL	**Mosul**	**6.14**	**322**	*ex*	x	21 23 24.0	
MSL				*ex*	x	21 24 35.0	
ISHM	**Shahmirzad**	**6.25**	**46**	*e*Pn	**Pn**	**21 23 24.7**	**-0.2**

*ISK **31** 21:38:35.0, 34.74N×32.05E, h3km, MD3.5*
*CSEM **31** 21:38:37.4±1.0, 34.80N×32.15E, h15km, Mw3.0, Error ellipse: s-maj=20.0km s-min=12.2km az=36.0*
*NEIC **31** 21:38:39.2, 34.74N×32.26E, h19km, ML3.3(NIC), After NIC.*
*NIC **31** 21:38:39.2±0.3, 34.74N×32.26E, h19km, ML3.3, MW3.0*
ISC 31 21:38:37.0±1.9,3465N±009×3214E±009,h12km±6km,n15,σ1°00/23,2D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.29**	**36**	‖P	**Pg**	**21 38 44.3**	**+1.4**
PPCY				S	**Sg**	**21 38 48.5**	**+1.6**
PPCY	**Paphos**	**0.29**	**36**	‖*iP*	**Pg**	**21 38 44.3**	**+1.4**
PPCY				S	**Sg**	**21 38 48.5**	**+1.6**
SZAC	**Souni-Zanaja**	**0.62**	**80**	P	**Pg**	**21 38 49.2**	**+0.1**
	28nm,0.2s						
SZAC				S	**Sg**	**21 38 57.8**	**+0.5**
ALFC	**Alevga**	**0.63**	**37**	P	**Pg**	**21 38 49.0**	**-0.3**
	26nm,0.2s						
ALFC				S	**Sg**	**21 38 57.4**	**-0.2**
LEF	**Lefka**	**0.78**	**53**	*e*PG	**Pg**	**21 38 50.1**	**-1.9**
LEF				*e*SG	**Sg**	**21 39 01.4**	**-0.7**
MAMC	**Mammari**	**1.03**	**59**	P	**Pb**	**21 38 55.9**	**-0.8**
CSS	**Prodhromos**	**1.03**	**72**	P	**Pb**	**21 38 55.5**	**-1.2**
	4.7nm,0.2s						
CSS				S	**Sb**	**21 39 09.0**	**-1.2**
CSS	**Prodhromos**	**1.03**	**72**	*e*PG	**Pg**	**21 38 56.1**	**-0.7**
CSS	**Prodhromos**	**1.03**	**72**	*e*Pg	**Pg**	**21 38 56.1**	**-0.7**
CSS				S	**Sb**	**21 39 09.0**	**-1.2**
LFK	**Lefkose**	**1.30**	**61**	*e*PN	**Pn**	**21 39 01.6**	**+0.6**
PHNC	**Paralimni**	**1.60**	**77**	P	**Pn**	**21 39 06.0**	**+0.9**
PHNC				S	**Sn**	**21 39 27.5**	**+1.9**
EREN	**Erenkoy**	**1.88**	**62**	*e*PN	**Pn**	**21 39 09.9**	**+0.9**
IKL	**Isikli**	**2.02**	**38**	*e*PN	**Pn**	**21 39 10.8**	**-0.2**
HDMB	**Hadim**	**2.32**	**7**	*e*PN	**Pn**	**21 39 14.1**	**-0.9**
MERS	**Mersin**	**2.94**	**41**	*e*PN	**Pn**	**21 39 23.9**	**+0.4**

NEIC 31 21:38:54.2,1280N×5980W,h3km,MD3.8(TRN),After TRN.,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRSS	**Sisters**	**1.84**	**254**	*e*P	Pn	21 39 28.4	+1.7
GRSS				*e*S	Sn	21 39 55.1	+4.6
TPR	**Prospect**	**1.87**	**211**	*e*P	Pn	21 39 29.5	+2.4
TPR				*e*S	Sn	21 39 54.3	+3.0
GRHS	**Sauteurs**	**1.89**	**252**	*e*P	Pn	21 39 30.3	+2.9
GRHS				*e*S	Sn	21 39 55.1	+3.4
GRW	**Mount Saint Ca**	**1.93**	**251**	*e*P	Pn	21 39 29.2	+1.3
GRW				*e*S	Sn	21 39 55.8	+3.1
BIM	**Bigot**	**2.11**	**324**	*e*P	Pn	21 39 37.3	+6.9
BIM				*e*S	Sn	21 40 09.3	+12
FDF	**Fort de France**	**2.33**	**326**	*e*P	Pn	21 39 40.6	+7.3
FDF				*e*S	Sn	21 40 15.1	+13
TRN	**Trinidad (W)**	**2.66**	**216**	*e*P	Pn	21 39 40.5	+2.6
TRN				*e*S	Sn	21 39 56.3	-14

*NEIC **31** 21:47:51.7, 38.08N×21.98E, h98km, MG3.2(ATH), After ATH.*
*ATH **31** 21:47:51.7, 38.08N×21.98E, h98km±4km*
*ISCJB **31** 21:47:54.4±1.0, 38.11N±003×22.04E±004, h69km±13km, Error ellipse: s-maj=5.7km s-min=5.4km az=156.4*
*CSEM **31** 21:47:54.0±0.1, 38.12N×22.04E, h60km, ML2.2, Error ellipse: s-maj=2.0km s-min=1.8km az=28.0*
*THE **31** 21:47:55.4, 38.14N×22.04E, h23km, ML2.2*
ISC 31 21:47:54.8±1.0,3811N±003×2205E±004,h69km±13km,n20,σ0°82/34,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.46**	**264**	P	**Pn**	**21 48 05.0**	**-2.1**
LTK	**Loutraki**	**0.73**	**96**	*e*Pg	**Pn**	**21 48 09.5**	**-0.5**
LTK				*e*Sg	**Sn**	**21 48 20.0**	**-1.1**
VLX	**Vlachokerasia**	**0.78**	**160**	*e*Pg	**Pn**	**21 48 10.8**	**+0.3**
VLX				*e*Sg	**Sn**	**21 48 22.5**	**+0.4**
EVR	**Evrytania**	**0.83**	**347**	*e*P	**Pn**	**21 48 10.7**	**-0.4**
EVR				*e*S	**Sn**	**21 48 25.4**	**+2.2**
LKR	**Lokris**	**0.93**	**54**	*e*Pg	**Pn**	**21 48 12.2**	**-0.1**
LKR				*e*Sg	**Sn**	**21 48 25.1**	**-0.1**
LKR	**Lokris**	**0.93**	**54**	*e*Pg	**Pn**	**21 48 12.1**	**-0.2**
LKR	**Lokris**	**0.93**	**54**	P	**Pn**	**21 48 12.7**	**+0.4**
LKR				*e*Sg	**Sn**	**21 48 25.1**	**-0.2**
LKR	**Lokris**	**0.93**	**54**	P	**Pn**	**21 48 12.7**	**+0.4**
ITM	**Ithomi**	**0.93**	**186**	*e*P	**Pn**	**21 48 12.1**	**-0.2**
ITM				*e*S	**Sn**	**21 48 26.0**	**+0.7**
AGG	**Agios Georgios**	**0.94**	**14**	*e*Pg	**Pn**	**21 48 12.6**	**+0.1**
AGG				*e*Sg	**Sn**	**21 48 24.4**	**-1.3**
KFL	**Anninata**	**0.99**	**271**	*e*Pg	**Pn**	**21 48 12.8**	**-0.3**
KFL				*e*Sg	**Sn**	**21 48 27.1**	**+0.4**
DID	**Didima**	**1.12**	**122**	*e*Pg	**Pn**	**21 48 14.8**	**+0.1**
DID				*e*Sg	**Sn**	**21 48 30.8**	**+1.3**
VLS	**Valsamata**	**1.15**	**274**	*e*Pg	**Pn**	**21 48 14.2**	**-0.9**
VLS				*e*Sg	**Sn**	**21 48 31.1**	**+0.9**
VLS	**Valsamata**	**1.15**	**274**	*e*P	**Pn**	**21 48 14.2**	**-0.9**
VLS				*e*S	**Sn**	**21 48 30.4**	**+0.1**
VLS	**Valsamata**	**1.15**	**274**	*e*Pg	**Pn**	**21 48 14.2**	**-0.9**
VLS				*e*S	**Sn**	**21 48 30.4**	**+0.1**
VLS				*e*Sg	**Sn**	**21 48 31.1**	**+0.8**
LKD	**Levkas**	**1.25**	**299**	*e*Pg	**Pn**	**21 48 16.4**	**0.0**
THL	**Klokotos Trika**	**1.46**	**359**	*e*Pg	**Pn**	**21 48 19.9**	**+0.8**
THL				*e*Sg	**Sn**	**21 48 37.5**	**0.0**
NEO	**Neokhori**	**1.51**	**37**	P	**Pn**	**21 48 20.6**	**+0.7**
XOR	**Xorichti**	**1.55**	**35**	*e*Pg	**Pn**	**21 48 20.5**	**+0.3**
VLI	**Veliai**	**1.56**	**153**	*e*P	**Pn**	**21 48 19.6**	**-0.8**

*IDC **31** 21:48:33.8±0.9, 36.66N×26.24E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.7/27, mbtmp3.8/11, ML3.7/3, Error ellipse: s-maj=20.2km s-min=16.7km az=156.0*
*DDA **31** 21:48:34.5, 36.62N×26.23E, h6km±3km, Md3.4*
*ATH **31** 21:48:35.6, 36.68N×26.20E, h26km±2km, MD3.9/11, ML4.1*
*NEIC **31** 21:48:35.6, 36.68N×26.20E, h26km, ML3.9(ATH), ML4.1(THE), After ATH.*
*THE **31** 21:48:35.7, 36.74N×26.26E, h3km, ML4.1*
*ISK **31** 21:48:35.9, 36.91N×26.13E, h6km, MD3.6, ML3.7*
*CSEM **31** 21:48:36.4±0.1, 36.71N×26.25E, h20km, MD3.9, Error ellipse: s-maj=1.5km s-min=1.1km az=154.0*
*ISCJB **31** 21:48:36.7±0.4, 36.72N±002×26.16E±002, h26km±4km, mb3.7/8, Error ellipse: s-maj=3.7km s-min=3.0km az=172.8*
ISC 31 21:48:36.5±0.4,3668N±002×2619E±002,h16km±3km,n85,σ1°13/114,mb3.7/8,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APE	**Apeiranthos**	**0.66**	**306**	*e*Pg	**Pg**	**21 48 48.6**	**-0.8**
APE				*e*Sg	**Sg**	**21 48 58.6**	**+0.5**
APE	**Apeiranthos**	**0.66**	**306**	*e*PN	**Pn**	**21 48 48.5**	**-2.6**
APE				*e*SN	**Sg**	**21 48 58.8**	**+0.7**
SANT	**Santorini**	**0.67**	**243**	*e*Pg	**Pg**	**21 48 49.4**	**-0.2**
SANT				*e*Sg	**Sg**	**21 49 00.6**	**+2.1**
SANT	**Santorini**	**0.67**	**243**	*e*Pg	**Pg**	**21 48 49.3**	**-0.3**
SANT				*e*Sg	**Sg**	**21 49 00.6**	**+2.2**
THR1	**Thera Island**	**0.67**	**242**	*e*Pg	**Pg**	**21 48 49.7**	**+0.2**
THR4	**Thira Island,**	**0.68**	**251**	*e*Pg	**Pg**	**21 48 50.0**	**+0.3**
THR3	**Thira Island,**	**0.69**	**247**	*e*Pg	**Pg**	**21 48 50.3**	**+0.2**
THR6	**Thira Island,**	**0.72**	**243**	*e*Pg	**Pg**	**21 48 50.9**	**+0.3**
THR5	**Thira Island,**	**0.73**	**249**	*e*Pg	**Pg**	**21 48 51.0**	**+0.3**
THR5	**Thira Island,**	**0.73**	**249**	*e*Pg	**Pg**	**21 48 51.0**	**+0.3**
NISR	**Nisiros**	**0.76**	**95**	*e*PN	**Pn**	**21 48 51.0**	**-1.4**
BODT	**Bodrum**	**0.97**	**67**	*e*PG	**Pg**	**21 48 54.5**	**-0.8**
BODT				*e*SG	**Sg**	**21 49 08.7**	**+0.6**
BDRM	**Kayabasi**	**1.07**	**69**	*i* P	**Pb**	**21 48 55.8**	**-0.9**
BDRM				*i* S	**Sb**	**21 49 12.0**	**+1.6**
SMG	**Samos**	**1.15**	**26**	*e*PN	**Pn**	**21 48 57.0**	**-0.8**
SMG				*e*SN	**Sn**	**21 49 14.0**	**+0.8**
GCAM	**G?zelcaml?**	**1.31**	**39**	*i* P	**Pn**	**21 49 00.6**	**+0.5**
GCAM				*i* S	**Sn**	**21 49 18.6**	**+1.3**
KARP	**Karpathos**	**1.38**	**145**	*e*PN	**Pn**	**21 49 01.0**	**0.0**
KARP				*e*SN	**Sn**	**21 49 19.1**	**+0.2**
MLSB	**Milas**	**1.41**	**64**	*e*PN	**Pn**	**21 49 01.8**	**+0.3**
MLSB				*e*SN	**Sn**	**21 49 21.4**	**+1.8**
MLSB	**Milas**	**1.41**	**64**	*e*Sn	**Sn**	**21 49 21.4**	**+1.8**
NPS	**Neapolis**	**1.49**	**199**	*e*PN	**Pn**	**21 49 02.5**	**-0.1**
ZKR	**Zakros**	**1.56**	**179**	*e*Pb	**Pb**	**21 49 04.0**	**-1.0**
LAST	**Lasithi**	**1.62**	**201**	*e*Pb	**Pb**	**21 49 04.3**	**-1.7**
ARG	**Arkhangelos**	**1.63**	**106**	*e*PB	**Pb**	**21 49 04.0**	**-2.1**
AYDN	**Tasoluk**	**1.66**	**54**	*i* P	**Pn**	**21 49 04.7**	**-0.3**
AYDN				*i* S	**Sn**	**21 49 30.3**	**+4.4**
CHOS	**Chios island**	**1.71**	**356**	*e*Pb	**Pb**	**21 49 03.6**	**-3.9**
CHOS				*e*Sb	**Sb**	**21 49 25.9**	**-2.7**
YER	**Yerkesik**	**1.73**	**74**	*e*PN	**Pn**	**21 49 07.7**	**+1.8**
IDI	**Anoyia**	**1.75**	**218**	Pn	**Pn**	**21 49 05.7**	**-0.4**
	2.8nm,0.3s,baz=15,slow=6.5,SNR=76						
IDI				Sn	**Sn**	**21 49 32.3**	**+4.3**
	32nm,0.3s,baz=295,slow=21,SNR=9.7						
BLCB	**Balcova**	**1.83**	**21**	*e*PN	**Pn**	**21 49 06.1**	**-1.1**
IZM	**Izmir**	**1.91**	**26**	*e*PN	**Pn**	**21 49 07.3**	**-1.0**
KDAG	**Bornova**	**1.92**	**26**	*i* P	**Pn**	**21 49 10.8**	**+2.4**
KDAG				*i* S	**Sg**	**21 49 38.6**	**+0.4**
KDAG	**Bornova**	**1.92**	**26**	*i* S	**Sg**	**21 49 38.6**	**+0.4**
TURN	**Turunc**	**1.94**	**84**	*i* P	**Pn**	**21 49 04.3**	**-4.5**
TURN				*i* S	**Sn**	**21 49 31.7**	**-1.2**
DALT	**Dalyan (Mudla)**	**1.96**	**87**	*e*PN	**Pn**	**21 49 11.8**	**+2.7**
SIVA	**Sivas**	**2.01**	**214**	*e*Pn	**Pn**	**21 49 10.8**	**+1.1**
VAM	**Vamos**	**2.06**	**232**	*e*PB	**Pb**	**21 49 11.5**	**-1.9**
KARN	**Karanos**	**2.24**	**236**	*e*Pn	**Pn**	**21 49 13.6**	**+0.7**
PTL	**Penteli**	**2.30**	**307**	*e*PN	**Pn**	**21 49 14.0**	**+0.3**
ATH	**Athens Observa**	**2.36**	**304**	*e*PN	**Pn**	**21 49 15.0**	**+0.5**
NAIG	**Nisos Aigina**	**2.41**	**297**	*e*PN	**Pn**	**21 49 16.0**	**+0.8**
NAIG	**Nisos Aigina**	**2.41**	**297**	*e*Pn	**Pn**	**21 49 14.0**	**-1.2**
DID	**Didima**	**2.50**	**290**	*e*Pn	**Pn**	**21 49 16.2**	**-0.3**
DENT	**Denizli**	**2.51**	**64**	*e*PN	**Pn**	**21 49 17.8**	**+1.2**
AKHS	**Akhisar**	**2.54**	**30**	*i* P	**Pn**	**21 49 16.8**	**-0.2**
AKHS				*i* S	**Sg**	**21 49 58.6**	**+0.5**
AKHS	**Akhisar**	**2.54**	**30**	*i* S	**Sg**	**21 49 58.6**	**+0.5**
AKS	**Akhisar**	**2.54**	**30**	*e*PN	**Pn**	**21 49 16.7**	**-0.3**
PRK	**Paraskevi**	**2.56**	**1**	*e*Pn	**Pn**	**21 49 16.4**	**-0.8**
PRK				*e*Sn	**Sn**	**21 49 46.2**	**-1.9**
VLI	**Veliai**	**2.62**	**272**	*e*PN	**Pn**	**21 49 18.0**	**-0.1**
AYVA	**Ayvalik**	**2.65**	**8**	*i* P	**Pn**	**21 49 24.6**	**+6.1**
AYVA				*i* S	**Sg**	**21 50 02.6**	**+1.0**
KULA	**Kula-Manisa**	**2.68**	**46**	*e*PN	**Pn**	**21 49 19.1**	**+0.1**
GOLH	**Golhisar**	**2.75**	**77**	*i* P	**Pn**	**21 49 22.3**	**+2.4**
GOLH				*i* S	**Sg**	**21 59 11.2**	**+6.2**
AKAS	**Kas**	**2.79**	**98**	*i* P	**Pn**	**21 49 22.1**	**+1.7**
AKAS				*i* S	**Sn**	**21 49 59.1**	**+5.5**
AKAS	**Kas**	**2.79**	**98**	*i* P	**Pn**	**21 49 22.0**	**+1.6**
LTK	**Loutraki**	**2.90**	**298**	*e*Pn	**Pn**	**21 49 22.2**	**+0.3**
ELL	**Elmali**	**2.98**	**88**	*e*Pn	**Pn**	**21 49 25.9**	**+2.7**
AOS	**Alonnisos**	**3.08**	**324**	*e*Pn	**Pn**	**21 49 24.6**	**+0.1**
DEMI	**Demirci**	**3.09**	**40**	*i* P	**Pg**	**21 49 33.4**	**-2.2**
DEMI				*i* S	**Sg**	**21 50 21.7**	**+6.0**
KHAL	**Karahalli**	**3.12**	**56**	*i* P	**Pn**	**21 49 24.7**	**-0.2**
KHAL				*i* S	**Sg**	**21 50 20.7**	**+4.2**
VLX	**Vlachokerasia**	**3.13**	**284**	*e*Pn	**Pn**	**21 49 26.0**	**+0.9**
BOZC	**Bozcaada**	**3.16**	**358**	*i* P	**Pn**	**21 49 23.8**	**-1.7**
BOZC				*i* S	**Sn**	**21 49 58.6**	**-4.2**
LKR	**Lokris**	**3.21**	**309**	*e*Pn	**Pn**	**21 49 25.7**	**-0.5**
BALB	**Balikesir**	**3.24**	**24**	*e*PN	**Pn**	**21 49 26.2**	**-0.4**
BALY	**Balya**	**3.25**	**20**	*i* P	**Pg**	**21 49 36.2**	**-2.6**
BALY				*i* S	**Sg**	**21 50 22.1**	**+1.2**
LOS	**Limnos**	**3.36**	**345**	*e*Pn	**Pn**	**21 49 27.7**	**-0.6**
GADA	**Gvkgeada**	**3.51**	**356**	*e*PN	**Pn**	**21 49 29.2**	**-1.1**
XOR	**Xorichti**	**3.58**	**319**	*e*Pn	**Pn**	**21 49 31.3**	**+0.1**
PAIG	**Paliouri**	**3.80**	**329**	*e*Pn	**Pn**	**21 49 33.6**	**-0.6**
AGG	**Agios Georgios**	**3.85**	**309**	*e*Pn	**Pn**	**21 49 35.7**	**+0.8**
AGG				*e*Sn	**Sn**	**21 50 21.6**	**+1.8**
OUR	**Ouranopolis**	**4.04**	**335**	*e*Pn	**Pn**	**21 49 37.1**	**-0.5**
ENEZ	**Enez**	**4.05**	**360**	*e*PN	**Pn**	**21 49 37.2**	**-0.5**
ALN	**Alexandroupoli**	**4.21**	**358**	*e*Pn	**Pn**	**21 49 38.7**	**-1.2**
ALN				*e*Sn	**Sn**	**21 50 27.7**	**-1.1**
PLG	**Polygyros**	**4.27**	**331**	*e*Pn	**Pn**	**21 49 40.5**	**-0.3**
THL	**Klokotos Trika**	**4.38**	**312**	*e*Pn	**Pn**	**21 49 43.2**	**+1.0**
LIT	**Litokhoron**	**4.49**	**321**	*e*Pn	**Pn**	**21 49 44.2**	**+0.5**
HORT	**Hortiatis**	**4.60**	**329**	*e*Pn	**Pn**	**21 49 45.9**	**+0.6**
GRG	**Griva**	**5.20**	**326**	*e*Pn	**Pn**	**21 49 54.2**	**+0.7**
MMAI	**Mount Meron Ar**	**8.41**	**113**	Pn	**Pn**	**21 50 34.6**	**-3.0**
	1.8nm,0.3s,baz=304,slow=12,SNR=14						
MMAI				Sn	**Sn**	**21 52 08.1**	**-4.0**
	1.9nm,0.3s,baz=304,slow=27,SNR=6.0						
EIL	**Elat**	**10.13**	**131**	Pn	**Pn**	**21 51 00.7**	**-0.6**
	1.2nm,0.3s,baz=292,slow=4.7,SNR=16						
EIL				Sn	**Sn**	**21 52 48.9**	**-5.7**
	1.1nm,0.3s,baz=281,slow=18,SNR=5.6						
GERES	**GERESS Array B**	**15.20**	**327**	Pn	**Pn**	**21 52 11.9**	**+1.5**
	0.1nm,0.3s,baz=146,slow=13,SNR=2.6						
GERES				Sn	**Sn**	**21 55 02.0**	**+3.7**
	0.3nm,0.3s,baz=141,slow=28,SNR=7.3						
ESDC	**Sonseca Array**	**23.84**	**286**	P	**P**	**21 53 49.8**	**+1.0**
	0.3nm,0.5s,mb3.0,baz=90,slow=10,SNR=3.7						
AKTO	**Aktyubinsk**	**26.61**	**49**	P	**P**	**21 54 13.9**	**0.0**
	1.8nm,0.7s,mb3.7,baz=234,slow=7.1,SNR=6.6						
EKA	**Eskdalemuir Ar**	**27.32**	**322**	P	**P**	**21 54 20.9**	**+0.8**
	2.3nm,1.0s,mb3.7,baz=110,slow=10.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**32.11**	**229**	P	**P**	**21 55 02.9**	**-0.2**
	0.3nm,0.3s,mb3.5,baz=31,slow=8.8,SNR=11						
ARCES	**ARCESS Array B**	**32.91**	**360**	P	**P**	**21 55 08.8**	**-0.7**
	2.0nm,0.9s,mb4.0,baz=177,slow=7.0,SNR=6.2						
MKAR	**Makanchi Array**	**42.25**	**58**	P	**P**	**21 56 29.4**	**+0.6**
	0.6nm,0.4s,mb3.6,baz=267,slow=8.5,SNR=17						
SONM	**Songino Array**	**57.88**	**52**	P	**P**	**21 58 27.1**	**-0.3**
	0.4nm,0.4s,mb3.8,baz=285,slow=6.9,SNR=5.0						
SCHQ	**Schefferville**	**62.58**	**319**	P	**P**	**21 58 58.5**	**-0.8**
	2.5nm,0.6s,mb4.5,baz=63,slow=13,SNR=5.1						

*ISCJB **31** 22:17:52.2±0.5, 277N±01×44.06W±0.10, h10km, mb4.1/19, MS3.5/7, Error ellipse: s-maj=15.9km s-min=11.4km az=157.4*
*MOS **31** 22:17:52.0±1.1, 27.63N×44.06W, h10km, mb4.6/7, Error ellipse: s-maj=28.7km s-min=15.9km az=24.6*
*IDC **31** 22:17:52.3±0.8, 27.67N×44.11W, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/25, mbtmp3.9/11, MS3.5/7, Ms1 3.5/7, ms1mx3.1/25, Error ellipse: s-maj=27.3km s-min=18.1km az=134.0*
*NEIC **31** 22:17:53.9±0.4, 27.64N×44.05W, h10km, mb4.3/4, Error ellipse: s-maj=11.0km s-min=9.1km az=156.0*
ISC 31 22:17:54.1±0.5,277N±01×4402W±010,h10km,n33,σ0°59/28,mb4.1/19,MS3.5/7,1C,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**22.46**	**250**	LR	LR	22 29 27.9	
	comp=Z,71nm,21.9s,MS3.0,baz=94,slow=31						
BBTS	**Babate**	**28.63**	**111**	LR	LR	22 32 38.8	
	comp=Z,72nm,19.1s,MS3.3,baz=25,slow=31						
MDT	**Midelt**	**34.30**	**72**	LR	LR	22 34 55.4	
	comp=Z,88nm,19.6s,MS3.5,baz=171,slow=30						
DBIC	**Dimbokro**	**42.57**	**112**	LR	LR	22 40 42.7	
	comp=Z,102nm,18.8s,MS3.7,baz=224,slow=32						
TORD	**Torodi Ar. Bea**	**44.95**	**99**	P	**P**	**22 26 10.2**	**+0.5**
	0.6nm,0.8s,mb3.5,baz=289,slow=0.9,SNR=2.4						
TORD				LR	LR	22 43 05.4	
	comp=Z,81nm,18.9s,MS3.7,baz=270,slow=34						
SIV	**San Ignacio**	**46.42**	**203**	P	**P**	**22 26 20.9**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=24,slow=20,SNR=5.0						
GERES	**GERESS Array B**	**48.74**	**48**	P	**P**	**22 26 39.2**	**+0.3**
	0.7nm,0.8s,mb3.7,baz=284,slow=5.4,SNR=4.7						
NB2	**NORSAR Subarra**	**49.50**	**32**	P	**P**	**22 26 45.1**	**+0.6**
	comp=Z,8.3nm,1.0s,mb4.7,baz=253,slow=7.9						
NOA	**NORSAR Array B**	**49.50**	**32**	P	**P**	**22 26 45.2**	**+0.7**
	comp=Z,2.9nm,0.8s,mb4.3,baz=254,slow=7.8,SNR=10						
NOA	**NORSAR Array B**	**49.50**	**32**	P	**P**	**22 26 45.2**	**+0.7**
LPAZ	**La Paz**	**49.54**	**211**	P	**P**	**22 26 45.9**	**+0.7**
	comp=Z,0.6nm,0.6s,mb3.8,baz=45,slow=2.9,SNR=3.4						
LPAZ	**La Paz**	**49.54**	**211**	P	**P**	**22 26 45.9**	**+0.7**
TXAR	**Lajitas Array**	**51.95**	**287**	P	**P**	**22 27 02.5**	**-1.0**
	comp=Z,0.6nm,0.8s,mb3.6,baz=83,slow=9.2,SNR=5.1						
PDAR	**Pinedale Array**	**54.35**	**304**	P	**P**	**22 27 20.6**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.2,baz=85,slow=8.4,SNR=22						
PDAR				LR	LR	22 47 46.5	
	comp=Z,47nm,20.5s,MS3.5,baz=330,slow=33						
IMW	**Indian Meadow**	**55.22**	**306**	*e*P	**P**	**22 27 27.7**	**+0.4**
	comp=Z,3.5nm,1.0s,mb4.3						
RRI2	**Red Ridge**	**55.56**	**305**	*e*P	**P**	**22 27 29.9**	**+0.2**
	comp=Z,3.9nm,0.9s,mb4.4						
SRU	**San Rafael**	**55.59**	**300**	*e*P	**P**	**22 27 30.2**	**+0.2**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
SRU	**San Rafael**	**55.59**	**300**	*e*P	**P**	**22 27 30.2**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**56.92**	**328**	LR	LR	22 50 49.3	
	comp=Z,44nm,20.2s,MS3.5,baz=160,slow=35						
DUG	**Dugway**	**57.14**	**302**	*e*P	**P**	**22 27 41.4**	**+0.3**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
DUG	**Dugway**	**57.14**	**302**	*e*P	**P**	**22 27 41.4**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.1						
BGU	**Big Grassy Mou**	**57.18**	**303**	*e*P	**P**	**22 27 41.5**	**+0.2**
ARCES	**ARCESS Array B**	**57.23**	**23**	P	**P**	**22 27 40.2**	**-1.0**
	comp=Z,2.7nm,0.8s,mb4.3,baz=259,slow=4.3,SNR=5.1						
AKASG	**Malin Array Be**	**58.74**	**45**	P	**P**	**22 27 51.4**	**-0.7**
	comp=Z,0.9nm,0.5s,mb4.1,baz=274,slow=6.2,SNR=8.4						
AKASG	**Malin Array Be**	**58.74**	**45**	P	**P**	**22 27 51.4**	**-0.7**
OBN	**Obninsk**	**62.54**	**40**	*e*P	**P**	**22 28 17.4**	**-0.5**
OBN				pmax	pmax		

NEW				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NEW	**Newport**	**58.75**	**312**	*e*P	**P**	**23 11 05.2**	**-0.1**
	comp=Z,4.0nm,1.0s,mb4.4						
TPNV	**Topopah Spring**	**60.28**	**299**	*e*P	**P**	**23 11 17.2**	**+1.1**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
TPNV	**Topopah Spring**	**60.28**	**299**	*e*P	**P**	**23 11 17.2**	**+1.1**
	comp=Z,3.8nm,0.6s,mb4.6						
OBN	**Obninsk**	**62.40**	**40**	*e*P	**P**	**23 11 34.7**	**+4.5**
OBN				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.2						
KIV	**Kislovodsk**	**69.05**	**51**	*c i*P	**P**	**23 12 20.2**	**+7.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
GNI	**Garni**	**71.79**	**54**	⇑*e*P	**P**	**23 12 36.6**	**+6.5**
GNI				pmax	pmax		
	comp=Z,20nm,1.7s						
ARU	**Arti**	**73.80**	**34**	*c i*P	**P**	**23 12 48.0**	**+6.3**
ARU				*e*		23 15 28.7	
ARU				PPP		23 17 13.7	
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
KURK	**Kurchatov**	**86.85**	**32**	*d i*P	**P**	**23 13 58.8**	**+6.8**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.6						
ZAL	**Zalesovo**	**87.33**	**27**	P	**P**	**23 13 53.9**	**-0.4**
ZALV	**Zalesovo Beam**	**87.33**	**27**	P	**P**	**23 13 53.9**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.9,baz=294,slow=8.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**87.33**	**27**	P	**P**	**23 13 53.9**	**-0.4**
MKAR	**Makanchi Array**	**91.31**	**34**	P	**P**	**23 14 13.4**	**+0.3**
	comp=Z,0.3nm,0.8s,mb3.7,baz=305,slow=5.1,SNR=3.0						

*ISCJB **31** 23:05:39.7±0.8, 5.10N±005×76.50W±005, h90km±9km, mb4.0/10, Error ellipse: s-maj=8.4km s-min=7.7km az=177.5*
*NEIC **31** 23:05:42.0±0.9, 5.06N×76.57W, h95km±9km, mb4.7/2, Error ellipse: s-maj=13.0km s-min=9.3km az=73.0*
*IDC **31** 23:05:45.1±2.6, 5.10N×76.28W, h120km±23km, mb3.6/8, mb1 3.7/9, mb1mx3.5/20, mbtmp3.6/9, Error ellipse: s-maj=27.0km s-min=13.9km az=83.0*

ISC 31 23:05:41.3±0.7, **509N**±005×**7649W**±005, **h86**km±8km, **n19**, σ**0**§**92**/20, **mb4.0**/10, **Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.16**	**96**	P	**Pn**	**23 06 19.2**	**+3.7**
	20nm,0.3s,baz=294,slow=4.2,SNR=22						
ROSC				S	**Sn**	**23 06 41.6**	**-0.1**
	51nm,0.3s,baz=90,slow=20,SNR=8.9						
OTAV	**Otavalo**	**5.20**	**202**	*e*Pn	**Pn**	**23 06 57.1**	**+0.3**
	34nm,0.4s						
OTAV				*e*Sn	**Sn**	**23 07 55.3**	**-0.2**
BCIP	**Isla Barro Col**	**5.24**	**321**	*e*Pn	**Pn**	**23 06 56.6**	**-0.7**
	65nm,0.4s						
BCIP				*e*Sn	**Sn**	**23 07 56.2**	**-0.2**
SDV	**Santo Domingo**	**6.93**	**57**	P	**Pn**	**23 07 21.6**	**+1.3**
	5.8nm,0.3s,baz=285,slow=4.1,SNR=4.7						
SDV				S	**Sn**	**23 08 36.8**	**-0.8**
	7.9nm,0.3s,baz=74,slow=22,SNR=8.8						
SIV	**San Ignacio**	**25.91**	**144**	P	**P**	**23 11 05.0**	**-0.6**
	4.4nm,0.6s,mb4.1,baz=321,slow=9.6,SNR=28						
WCI	**Wyandotte Cave**	**34.17**	**346**	*e*Pn	**P**	**23 12 17.9**	**-0.5**
	15nm,0.6s,mb5.0						
CCM	**Cathedral Cave**	**35.46**	**340**	*e*P	**P**	**23 12 29.1**	**-0.4**
	3.6nm,0.8s,mb4.2						
CPUP	**Villa Florida**	**36.34**	**150**	P	**P**	**23 12 34.6**	**-2.5**
	1.1nm,0.4s,mb4.2,baz=316,slow=10,SNR=7.6						
CFAA	**Coronel Fontan**	**37.33**	**168**	P	**P**	**23 12 46.2**	**+0.8**
	0.6nm,0.5s,mb3.8,baz=331,slow=5.8,SNR=9.6						
PLCA	**Paso Flores**	**45.92**	**174**	P	**P**	**23 13 56.1**	**+0.7**
	1.6nm,0.7s,mb3.9,baz=355,slow=9.7,SNR=7.2						
PDAR	**Pinedale Array**	**47.60**	**327**	P	**P**	**23 14 10.0**	**+1.4**
	0.1nm,0.3s,mb3.1,baz=140,slow=13,SNR=3.2						
SCHQ	**Schefferville**	**50.20**	**7**	P	**P**	**23 14 29.4**	**+1.2**
	2.1nm,0.8s,mb4.1,baz=220,slow=12,SNR=2.7						
SCHQ	**Schefferville**	**50.20**	**7**	P	**P**	**23 14 29.4**	**+1.2**
NVAR	**Mina Array Bea**	**50.39**	**317**	PcP	PcP	23 15 48.6	+1.3
	0.6nm,0.8s,baz=151,slow=3.6,SNR=3.9						
YKA	**Yellowknife Ar**	**63.77**	**341**	P	**P**	**23 16 03.5**	**-0.4**
	1.1nm,0.6s,mb3.9,baz=138,slow=6.7,SNR=8.4						
YKA	**Yellowknife Ar**	**63.77**	**341**	P	**P**	**23 16 03.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**77.37**	**78**	P	**P**	**23 17 27.1**	**-0.4**
	0.4nm,0.5s,mb3.4,baz=280,slow=5.8,SNR=11						
ASAR	**Alice Springs**	**145.39**	**235**	PKPbc	PKPbc	23 25 09.5	-0.7
	2.1nm,0.6s,baz=116,slow=3.9,SNR=38						
WRA	**Warramunga Arr**	**146.57**	**241**	PKPbc	PKPbc	23 25 13.2	-0.7
	0.8nm,0.3s,baz=109,slow=3.1,SNR=5.1						

*ISCJB **31** 23:13:14.2±0.6, 22.32S±006×68.4W±0.1, h122km±6km, mb4.0/8, Error ellipse: s-maj=17.8km s-min=9.1km az=13.3*
*NEIC **31** 23:13:14.9±0.7, 22.30S×68.35W, h111km±7km, mb4.0/3, Error ellipse: s-maj=15.4km s-min=9.1km az=108.0*
*IDC **31** 23:13:15.0±0.5, 22.24S×68.43W, h110km±6km, mb3.8/6, mb1 3.9/9, mb1mx3.7/17, mbtmp3.8/9, MS3.2/1, Ms1 3.1/1, ms1mx2.4/24, Error ellipse: s-maj=20.1km s-min=17.8km az=128.0*

ISC 31 23:13:15.3±0.6, **22.30S**±006×**68.3W**±01, **h114**km±6km, **n24**, σ**1**§**06**/22, **mb4.0**/8, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.62**	**239**	P	**Pn**	**23 13 34.2**	**+0.8**
	302nm,0.3s,baz=29,slow=6.4,SNR=5100						
LVC				S	**Sn**	**23 13 47.5**	**+0.4**
	2μm,0.3s,baz=216,slow=19,SNR=147						
LPAZ	**La Paz**	**5.98**	**2**	P	**Pn**	**23 14 42.1**	**+0.6**
	3.1nm,0.3s,baz=193,slow=5.7,SNR=63						
ARE	**Arequipa**	**6.53**	**332**	*e*P	**Pn**	**23 14 55.0**	**+6.1**
ARE				*e*S	**Sn**	**23 15 50.0**	**-12**
LCO	**Las Campanas**	**7.02**	**197**	*e*Pn	**Pn**	**23 14 53.0**	**-2.5**
	27nm,0.3s						
LCO				*e*Sn	**Sn**	**23 16 13.7**	**0.0**
CFAA	**Coronel Fontan**	**9.27**	**179**	P	**Pn**	**23 15 25.4**	**-0.7**
	0.1nm,0.3s,baz=8.4,slow=15,SNR=11						
SIV	**San Ignacio**	**9.29**	**49**	P	**Pn**	**23 15 24.8**	**-1.6**
	12nm,0.3s,baz=236,slow=12,SNR=184						
SIV				S	**Sn**	**23 17 03.6**	**-5.6**
	0.9nm,0.3s,baz=300,slow=23,SNR=4.2						
PLCA	**Paso Flores**	**18.48**	**185**	P	**P**	**23 17 23.9**	**+1.7**
	0.2nm,0.3s,baz=2.4,slow=14,SNR=6.8						
PLCA	**Paso Flores**	**18.48**	**185**	P	**P**	**23 17 23.9**	**+1.7**
BDFB	**Brasilia**	**20.31**	**75**	P	**P**	**23 17 43.1**	**+0.7**
	8.7nm,0.4s,baz=233,slow=13,SNR=17						
BDFB				LR	LR	23 26 02.7	
	comp=Z,66nm,22.0s,baz=261,slow=38						
ANMO	**Albuquerque**	**67.46**	**327**	P	**P**	**23 23 58.6**	**-0.2**
	1.5nm,0.7s,mb4.0,baz=139,slow=4.8,SNR=7.3						
DBIC	**Dimbokro**	**68.45**	**73**	P	**P**	**23 24 07.0**	**+1.4**
	4.6nm,0.8s,mb4.4,baz=222,slow=9.8,SNR=6.1						
SDCO	**Great Sand Dun**	**69.20**	**329**	*e*P	**P**	**23 24 09.7**	**0.0**
	1.7nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	**75.06**	**330**	P	**P**	**23 24 44.3**	**-0.1**
	0.2nm,0.4s,mb3.2,baz=162,slow=9.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**77.12**	**70**	P	**P**	**23 24 57.0**	**+0.3**
	1.1nm,0.3s,mb4.0,baz=260,slow=5.2,SNR=62						
TORD				pP	pP	23 25 28.5	+2.9
	1.9nm,0.6s,baz=248,slow=5.8,SNR=5.0						
BOZ	**Bozeman (W)**	**78.23**	**331**	*e*P	**P**	**23 25 02.8**	**+0.6**
	2.3nm,0.6s,mb4.1						
EGMT	**Eagleton**	**79.25**	**333**	*e*P	**P**	**23 25 04.7**	**-3.1**
	1.3nm,0.6s,mb3.9						
YKA	**Yellowknife Ar**	**92.11**	**340**	P	**P**	**23 26 10.5**	**-0.7**
	0.6nm,0.5s,mb4.1,baz=137,slow=4.3,SNR=7.4						
YKA	**Yellowknife Ar**	**92.11**	**340**	P	**P**	**23 26 10.5**	**-0.7**
ASAR	**Alice Springs**	**129.45**	**207**	PKP	PKPdf	23 32 10.6	-0.7
	0.9nm,0.8s,baz=123,slow=1.2,SNR=7.0						
WRA	**Warramunga Arr**	**132.53**	**209**	PKP	PKPdf	23 32 17.3	+0.1
	0.7nm,0.8s,baz=148,slow=1.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**142.44**	**26**	PKP	PKPdf	23 32 34.5	+0.2
	1.0nm,0.5s,baz=326,slow=4.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**142.44**	**26**	PKP	PKPdf	23 32 34.5	+0.2
MKAR	**Makanchi Array**	**145.95**	**37**	PKPbc	PKPbc	23 32 41.5	-0.1
	1.6nm,0.8s,baz=298,slow=2.6,SNR=16						
MKAR	**Makanchi Array**	**145.95**	**37**	PKPbc	PKPbc	23 32 41.5	-0.1

ISC Computed Locations for August 2007

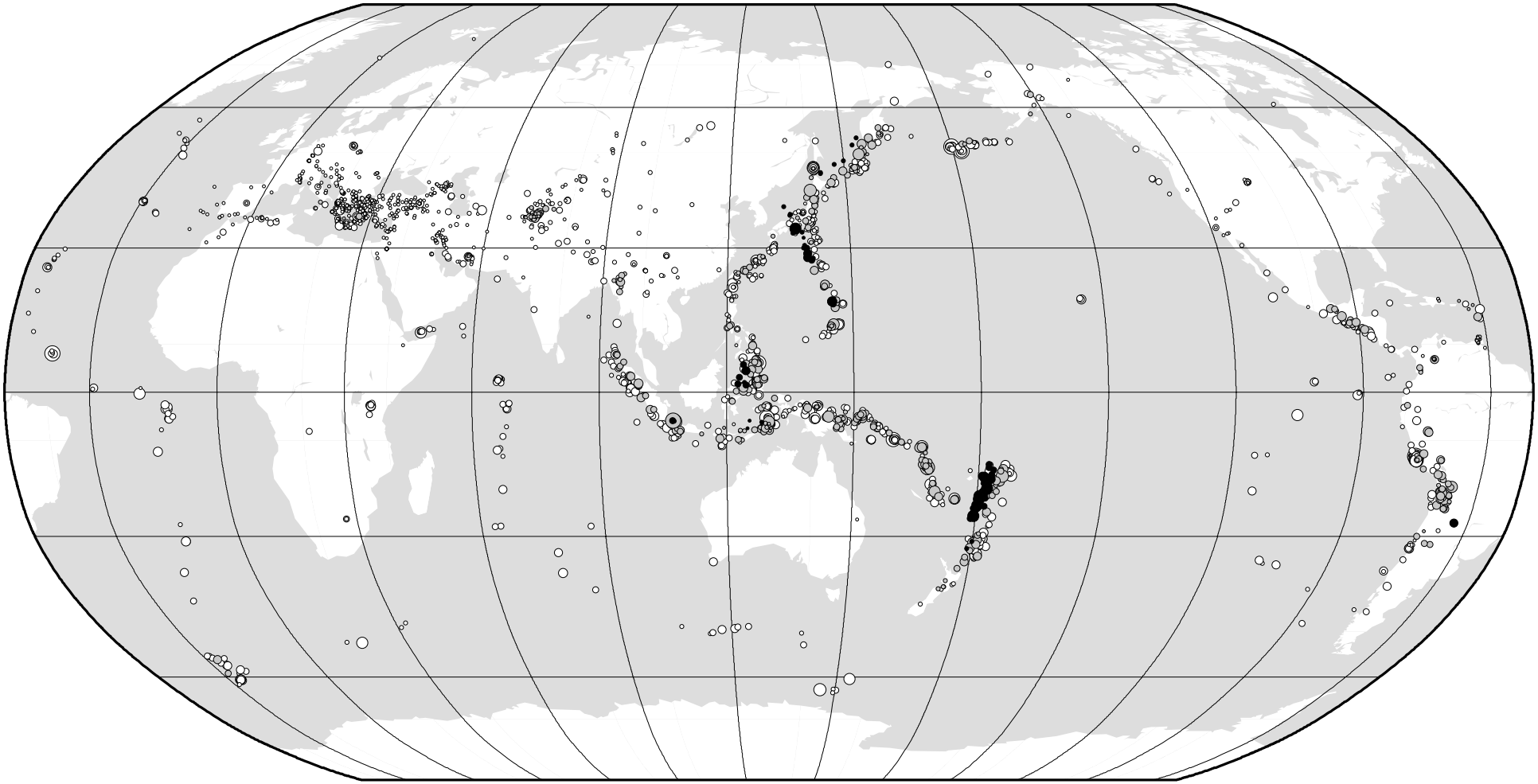

Depth (km)	0-70	70-300	>300
M=8			
M=6.5			
M=4			

Robinson Projection, centred on 0˚N,130˚E

2592 Events